Contract Routing Form

ROUTING: Urgent Rush printed on: 12/12/2023

Contract between: Stevens Construction Corp
and Dept. or Division: Engineering Division
Name/Phone Number:

Project: State Street Campus garage Mixed-Use Project

Contract No.: 9361
Enactment No.: RES-23-00714
Dollar Amount: 36,494,866.00

File No.: 80751
Enactment Date: 11/22/2023

(Please DATE before routing)

Signatures Required	Date Received	Date Signed
City Clerk	12/12/2023	12/12/2023
Director of Civil Rights	12/12/2023	12/13/2023
Risk Manager	12/13/23	12/15/2023
Finance Director	12/15/23	12/15/23
City Attorney	12/15/23	12/18/23
Mayor	12/19/23	12/19/23

Please return signed Contracts to the City Clerk's Office
Room 103, City-County Building for filing.

Original + 2 Copies

12/12/2023 14:17:56 enjls - Brent Pauba bpauba@cityofmadison.com

City of Madison

City of Madison
Madison, WI 53703
www.cityofmadison.com

Legislation Details (With Text)

File #:	80751	**Version:** 1	**Name:**	Awarding Public Works Contract No. 9361, State Street Campus Garage Mixed-Use Project (District 2)
Type:	Resolution		**Status:**	Passed
File created:	11/9/2023		**In control:**	Engineering Division
On agenda:	11/21/2023		**Final action:**	11/21/2023
Enactment date:	11/22/2023		**Enactment #:**	RES-23-00714
Title:	Awarding Public Works Contract No. 9361, State Street Campus Garage Mixed-Use Project (District 2)			
Sponsors:	BOARD OF PUBLIC WORKS			
Indexes:				
Code sections:				
Attachments:	1. 9361BidOpeningTab.pdf, 2. 9361.pdf			

Date	Ver.	Action By	Action	Result
11/21/2023	1	COMMON COUNCIL	Adopt Unanimously	Pass
11/20/2023	1	BOARD OF PUBLIC WORKS		
11/10/2023	1	Engineering Division	Refer	

Fiscal Note
Budget authority is available in the Acct. Nos. listed on the attached.

Title
Awarding Public Works Contract No. 9361, State Street Campus Garage Mixed-Use Project (District 2)

Body
BE IT RESOLVED, that the following low bids for miscellaneous improvements be accepted and that the Mayor and City Clerk be and are hereby authorized and directed to enter into a contract with the low bidder and proceed with a contract for work identified as part of the base bid and additive alternate #1 (Hawthorne Court Bridges), subject to the Contractor's compliance with Section 39.02 of the Madison General Ordinances concerning compliance with the Affirmative Action provisions **and subject to the Contractor's compliance with Section 33.07 of the Madison General Ordinances regarding Best Value Contracting**

BE IT FURTHER RESOLVED, that the award and execution of this contract has the following contingencies: City of Madison Common Council approval of the 2024 Capital Improvement Plan and Budget, City of Madison closing on the real estate transaction for the sale of property to the Developer, and procurement of temporary land use easements with the adjacent private property owners. If any of these contingencies are not met, the contract shall not be executed by the City.

See attached document (Contract No. 9361) for itemization of bids.

PROJECT	CONTRACTOR	AMOUNT OF BID

CONTRACT NO. 9361
STATE STREE CAMPUS GARAGE MIXED-USE PROJECT

STEVENS CONSTRUCTION CORP. $36,494,866.00

Acct. No. 14145-82-140: 53310 (90924)	$36,494,866.00
Contingency 8%±	2,919,594.00
GRAND TOTAL	$39,414,460.00

NAIC National Association of Insurance Commissioners

Wisconsin
State Based Systems

Demographics

Company Name: Hartford Fire Insurance Company
NAIC CoCode: 19682
State of Domicile: Connecticut
Short Name:
Country of Domicile: United States
SBS Company Number: 54218946
Domicile Type: Foreign
NAIC Group Number: 91 - HARTFORD FIRE & CAS GRP
Organization Type: Stock
Date of Incorporation: 01/01/1810
Merger Flag: No

Address

Business Address
ONE HARTFORD PLZ
HARTFORD, CT 06155
United States

Mailing Address
ONE HARTFORD PLZ
HARTFORD, CT 06155
United States

Statutory Home Office Address
ONE HARTFORD PLZ
HARTFORD, CT 06155
United States

Main Administrative Office Address
ONE HARTFORD PLZ
HARTFORD, CT 06155
United States

Phone, Email, Website

Phone

Type	Number

Email
No results found.

Website
No results found.

Company Type

Company Type: Property and Casualty
Status: Active
Effective Date: 11/02/1999
Status Reason:
SBS Legacy Number: 111012
Status Date: 05/14/1851
Expiration Date:

Company Type: Property and Casualty

Appointments

Show 10 entries

Showing **1** to **2** of **2** entries

stillin

Licensee Name	License Number	NPN	License Type	Line of Authority	Appointment Date	Effective Date	Expiration Date
NICOLE STILLINGS	6966174	6966174	Intermediary (Agent) Individual	Property	10/10/2019	02/13/2023	03/15/2024
NICOLE STILLINGS	6966174	6966174	Intermediary (Agent) Individual	Casualty	10/10/2019	02/13/2023	03/15/2024

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First | Previous | 1 | Next | Last

Line Of Business

Show 10 entries

Showing **1** to **10** of **12** entries

Filter

Line of Business	Citation Type	Effective Date
Aircraft	Aircraft	05/14/1851
Automobile	Automobile	05/14/1851
Credit Insurance	Credit Insurance	05/14/1851
Disability Insurance	Disability Insurance	05/14/1851
Fidelity Insurance	Fidelity Insurance	05/14/1851
Fire, Inland Marine and Other Property Insurance	Fire, Inland Marine and Other Property Insurance	05/14/1851
Legal Expense Insurance	Legal Expense Insurance	11/02/1999
Liability and Incidental Medical Expense Insurance (other than automobile)	Liability and Incidental Medical Expense Insurance (other than automobile)	05/14/1851
Miscellaneous	Miscellaneous	05/14/1851
Ocean Marine Insurance	Ocean Marine Insurance	05/14/1851

First | Previous | 1 | 2 | Next | Last

Contact

Contact Type	Preferred Name	Name	E-mail	Phone	Address
Registered Agent for Service of Process		*			Other CT CORPORATION SYSTEM 301 S BEDFORD ST STE 1 MADISON, WI United States County 53703

Company Merger

No results found.

Name Change History

Previous Name	New Name	Effective Date
	Hartford Fire Insurance Company	

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$36,494,866.00
FILE COPY

BID OF **STEVENS CONSTRUCTION CORP.**

2023

PROPOSAL, CONTRACT, BOND AND SPECIFICATIONS

FOR

STATE STREET CAMPUS GARAGE MIXED-USE PROJECT

CONTRACT NO. 9361

MUNIS NO. 14145

IN

MADISON, DANE COUNTY, WISCONSIN

AWARDED BY THE COMMON COUNCIL
MADISON, WISCONSIN ON **NOVEMBER 21, 2023**

CITY ENGINEERING DIVISION
1600 EMIL STREET
MADISON, WISCONSIN 53713

https://bidexpress.com/login

STATE STREET CAMPUS GARAGE MIXED-USE PROJECT
CONTRACT NO. 9361

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SECTION I: PAYMENT AND PERFORMANCE BOND I-1

Exhibits available in Bid Express for Bidding Purposes

a. Exhibit-A: Drawings Volume 1, dated 10/2/2023
b. Exhibit-B: Drawings Volume 2, dated 10/2/2023
c. Exhibit-C: Specifications Volume 1, dated 10/2/2023
d. Exhibit-D: Specifications Volume 2, dated 10/2/2023

Exhibits available in Bid Express for Bidding Reference

a. Reference-1: ALTA Survey
b. Reference-2: Geotechnical Exploration Report
c. Reference-3: Construction Logistics Plan with Developer
d. Reference-4: Construction Logistics for adjacent Right of Way projects
e. Reference-5: Construction drawings for existing building
f. Reference-6: Bid checklist
g. Reference-7: Construction Cost Estimate

This Proposal, and Agreement have
been prepared by:

CITY ENGINEERING DIVISION
CITY OF MADISON
MADISON, DANE COUNTY, WISCONSIN

James M. Wolfe, P.E., City Engineer

JMW: bp

SECTION A: ADVERTISEMENT FOR BIDS AND INSTRUCTIONS TO BIDDERS

REQUEST FOR BID FOR PUBLIC WORKS CONSTRUCTION
CITY OF MADISON, WISCONSIN

A BEST VALUE CONTRACTING MUNICIPALITY

PROJECT NAME:	STATE STREET CAMPUS GARAGE MIXED-USE PROJECT
CONTRACT NO.:	9361
SBE GOAL	8%
BID BOND	5%
SBE PRE BID MEETING	See Pre Bid Meeting info below
SITE TOUR (2:00 P.M.)	10/13/2023
BID TALK – VIRTUAL (1:00 P.M.)	10/16/2023
BID QUESTIONS/CLARIFICATIONS/SUBSTITUTIONS DUE	10/26/2023
PREQUALIFICATION APPLICATION DUE (2:00 P.M.)	11/2/2023
BID SUBMISSION (2:00 P.M.)	11/9/2023
BID OPEN (2:30 P.M.)	11/9/2023
PUBLISHED IN WSJ	10/5, 10/12, 10/19, 10/26 & 11/2/2023

SBE PRE BID MEETING: Small Business Enterprise Pre-Bid Meetings are being held virtually. Advance registration is required. Visit the SBE Meeting web page on Engineering's web site: https://www.cityofmadison.com/engineering/developers-contractors/contractors/how-to-bid-public-works-contracts/small-business-enterprise-sbe-meetings . Questions regarding SBE Program requirements may be directed to Tracy Lomax, Affirmative Action Division. Tracy may be reached at (608) 267-8634, or by email, TLomax@cityofmadison.com.

BID TALK (VIRTUAL): The City of Madison Engineering Division is hosting virtual live (and later recording posted) sessions called "Bid Talks." This is an opportunity for you to learn about the project to help with your bid and estimating numbers. During our "Bid Talks" session for this project, the project staff will present information about the project specific to your bidding process. Staff will answer any questions you have. You will also be able to see who is attending. This meeting will be held in a more informal format, where you'll be able to ask questions and have a conversation. Please send your estimators and bidders to these Bid Talks, as they take the place of in-person site visits for specific projects. Registration prior is required. Please register by visiting the State Street Campus Garage project page at https://www.cityofmadison.com/engineering/projects/state-street-campus-garage-mixed-use-project
A recording link will also be posted to the project page after the meeting.

SITE TOUR: The City of Madison will be holding one Pre-Bid Site Tour as indicated in the schedule above, at the existing facility, located at 415 North Lake St. All bidding contractors are encouraged to attend. This will be an opportunity for bidding contractors to ask questions regarding the project and become fully aware of existing site conditions.

Please be aware of the following:

- All participants are required to sign-in with the City Project/Construction Manager prior to attending the site tour. Sign-ins will occur onsite at the Northwest entry of the 415 North Lake St. garage (near the Post Office).
- Contractors are highly encouraged to attend this meeting. Relevant questions/concerns presented will be recorded and published, in an addendum, to all bidding contractors.
- Most of the parking garage is open to the public and can be visited by bidders on their own as desired. The formal site tour will provide access to several rooms that are locked from the public, including mechanical rooms and storage rooms.

BIDDER QUESTIONS, CLARIFICATIONS, AND REQUESTS FOR SUBSTITUTIONS:

- Responses that change the contract scope and/or schedule will be published in the form of a bidding addendum. If needed, the Architect consultant and the City contacts shall publish addenda to respond to any questions, clarifications, or requests for substitutions.
- Any questions or requests for clarifications regarding plans and specifications shall be submitted directly to Eppstein Uhen Architects and the City Project and Construction Managers. See the contract contact information at the end of Section D – Special Provisions for contact information. All questions and/or substitution requests shall be sent via email, reference State Street Campus Garage Mixed-Use Project, Contract 9361.
- Requests for substitutions shall be done according to Specification 01 25 13 – Product Substitution Procedures and other specifications as necessary. Use the form at the end of the specification. Contractors are cautioned to review all specifications and note whether substitutions for specific products will be allowed or not.
- See the contract contact information at the end of Section D – Special Provisions for contact information. All questions and/or substitution requests shall be sent via email, reference State Street Campus Garage Mixed-Use Project, Contract 9361.

The deadline for receiving all questions, clarifications, and requests for substitutions shall be as indicated in the schedule table above.

PREQUALIFICATION APPLICATION: Forms are available on our website, www.cityofmadison.com/engineering/developers-contractors/contractors/how-to-get-prequalified. If not currently prequalified in the categories listed in Section A, an amendment to your Prequalification will need to be submitted prior to the same due date. Postmark is not applicable.

BIDS TO BE SUBMITTED: by hand to 1600 EMIL ST., MADISON, WI 53713 or online at www.bidexpress.com.

Bids may be submitted on line through Bid Express or in person at 1600 Emil St. The bids will be posted on line after the bid opening. If you have any questions, please call Alane Boutelle at (608) 267-1197, or John Fahrney at (608) 266-9091.

STANDARD SPECIFICATIONS

The City of Madison's Standard Specifications for Public Works Construction - 2023 Edition, as supplemented and amended from time to time, forms a part of these contract documents as if attached hereto.

These standard specifications are available on the City of Madison Public Works website, www.cityofmadison.com/engineering/developers-contractors/standard-specifications.

The Contractor shall review these Specifications prior to preparation of proposals for the work to be done under this contract, with specific attention to Article 102, "BIDDING REQUIREMENTS AND CONDITIONS" and Article 103, "AWARD AND EXECUTION OF THE CONTRACT." For the convenience of the bidder, below are highlights of three subsections of the specifications.

SECTION 102.1: PRE-QUALIFICATION OF BIDDERS

In accordance with Wisconsin State Statutes 66.0901 (2) and (3), all bidders must submit to the Board of Public Works proof of responsibility on forms furnished by the City. The City requires that all bidders be qualified on a biennial basis.

Bidders must present satisfactory evidence that they have been regularly engaged in the type of work specified herein and they are fully prepared with necessary capital, materials, machinery and supervisory personnel to conduct the work to be contracted for to the satisfaction of the City. All bidders must be pre-qualified by the Board of Public Works for the type of construction on which they are bidding prior to the opening of the bid.

In accordance with Section 39.02(9)(a)I. of the General Ordinances, all bidders shall submit in writing to the Affirmative Action Division Manager of the City of Madison, a Certificate of Compliance or an Affirmative Action Plan at the same time or prior to the submission of the proof of responsibility forms.

The bidder shall be disqualified if the bidder fails to or refuses to, prior to opening of the bid, submit a Certificate of compliance, Affirmative Action Plan or Affirmative Action Data Update, as applicable, as defined by Section 39.02 of the General Ordinances (entitled Affirmative Action) and as required by Section 102.11 of the Standard Specifications.

SECTION 102.4 PROPOSAL

No bid will be accepted that does not contain an adequate or reasonable price for each and every item named in the Schedule of Unit Prices.

A lump sum bid for the work in accordance with the plans and specifications is required. The lump sum bid must be the same as the total amounts bid for the various items and it shall be inserted in the space provided.

All papers bound with or attached to the proposal form are considered a part thereof and must not be detached or altered when the proposal is submitted. The plans, specifications and other documents designated in the proposal form will be considered a part of the proposal whether attached or not.

A proposal submitted by an individual shall be signed by the bidder or by a duly authorized agent. A proposal submitted by a partnership shall be signed by a member/partner or by a duly authorized agent thereof. A proposal submitted by a corporation shall be signed by an authorized officer or duly authorized registered agent of such corporation, and the proposal shall show the name of the State under the laws of which such corporation was chartered. The required signatures shall in all cases appear in the space provided thereof on the proposal.

Each proposal shall be placed, together with the proposal guaranty, in a sealed envelope, so marked as to indicate name of project, the contract number or option to which it applies, and the name and address of the Contractor or submitted electronically through Bid Express (www.bidexpress.com). Proposals will be accepted at the location, the time and the date designated in the advertisement. Proposals received after the time and date designated will be returned to the bidder unopened.

SECTION 102.5: BID DEPOSIT (PROPOSAL GUARANTY)

All bids, sealed or electronic, must be accompanied with a Bid Bond (City of Madison form) equal to at least 5% of the bid or a Certificate of Annual/Biennial Bid Bond or certified check, payable to the City Treasurer. Bid deposit of the successful bidders shall be returned within forty-eight (48) hours following execution of the contract and bond as required.

MINOR DISCREPENCIES

Bidder is responsible for submitting all forms necessary for the City to determine compliance with State and City bidding requirements. Nothwithstanding any language to the contrary contained herein, the City may exercise its discretion to allow bidders to correct or supplement submissions after bid opening, if the minor discrepancy, bid irregularity or omission is insignificant and not one related to price, quality, quantity, time of completion or performance of the contract.

Bidders for this Contract(s) must be Pre-Qualified for at least one of the following type(s) of construction denoted by an ☒

Building Demolition

101 ☐ Asbestos Removal
120 ☐ House Mover
110 ☐ Building Demolition

Street, Utility and Site Construction

201 ☐ Asphalt Paving
205 ☐ Blasting
210 ☐ Boring/Pipe Jacking
215 ☐ Concrete Paving
220 ☐ Con. Sidewalk/Curb & Gutter/Misc. Flat Work
221 ☐ Concrete Bases and Other Concrete Work
222 ☐ Concrete Removal
225 ☐ Dredging
230 ☐ Fencing
235 ☐ Fiber Optic Cable/Conduit Installation
240 ☐ Grading and Earthwork
241 ☐ Horizontal Saw Cutting of Sidewalk
242 ☐ Hydro Excavating
243 ☐ Infrared Seamless Patching
245 ☐ Landscaping, Maintenance
246 ☐ Ecological Restoration
250 ☐ Landscaping, Site and Street
251 ☐ Parking Ramp Maintenance
252 ☐ Pavement Marking
255 ☐ Pavement Sealcoating and Crack Sealing
260 ☐ Petroleum Above/Below Ground Storage Tank Removal/Installation
262 ☐ Playground Installer
265 ☐ Retaining Walls, Precast Modular Units
270 ☐ Retaining Walls, Reinforced Concrete
275 ☐ Sanitary, Storm Sewer and Water Main Construction
276 ☐ Sawcutting
280 ☐ Sewer Lateral Drain Cleaning/Internal TV Insp.
285 ☐ Sewer Lining
290 ☐ Sewer Pipe Bursting
295 ☐ Soil Borings
300 ☐ Soil Nailing
305 ☐ Storm & Sanitary Sewer Laterals & Water Svc.
310 ☐ Street Construction
315 ☐ Street Lighting
318 ☐ Tennis Court Resurfacing
320 ☐ Traffic Signals
325 ☐ Traffic Signing & Marking
332 ☐ Tree pruning/removal
333 ☐ Tree, pesticide treatment of
335 ☐ Trucking
340 ☐ Utility Transmission Lines including Natural Gas, Electrical & Communications
399 ☐ Other_____

Bridge Construction

501 ☐ Bridge Construction and/or Repair

Building Construction

401 ☐ Floor Covering (including carpet, ceramic tile installation, rubber, VCT
402 ☐ Building Automation Systems
403 ☐ Concrete
404 ☐ Doors and Windows
405 ☐ Electrical - Power, Lighting & Communications
410 ☐ Elevator - Lifts
412 ☐ Fire Suppression
413 ☐ Furnishings - Furniture and Window Treatments
415 ☐ General Building Construction, Equal or Less than $250,000
420 ☐ General Building Construction, $250,000 to $1,500,000
425 ☒ General Building Construction, Over $1,500,000
428 ☐ Glass and/or Glazing
429 ☐ Hazardous Material Removal
430 ☐ Heating, Ventilating and Air Conditioning (HVAC)
433 ☐ Insulation - Thermal
435 ☐ Masonry/Tuck pointing
437 ☐ Metals
440 ☐ Painting and Wallcovering
445 ☐ Plumbing
450 ☐ Pump Repair
455 ☐ Pump Systems
460 ☐ Roofing and Moisture Protection
464 ☐ Tower Crane Operator
461 ☐ Solar Photovoltaic/Hot Water Systems
465 ☐ Soil/Groundwater Remediation
466 ☐ Warning Sirens
470 ☐ Water Supply Elevated Tanks
475 ☐ Water Supply Wells
480 ☐ Wood, Plastics & Composites - Structural & Architectural
499 ☐ Other_____

State of Wisconsin Certifications

1 ☐ Class 5 Blaster - Blasting Operations and Activities 2500 feet and closer to inhabited buildings for quarries, open pits and road cuts.
2 ☐ Class 6 Blaster - Blasting Operations and Activities 2500 feet and closer to inhabited buildings for trenches, site excavations, basements, underwater demolition, underground excavations, or structures 15 feet or less in height.
3 ☐ Class 7 Blaster - Blasting Operations and Activities for structures greater than 15 ' in height, bridges, towers, and any of the objects or purposes listed as "Class 5 Blaster or Class 6 Blaster".
4 ☐ Petroleum Above/Below Ground Storage Tank Removal and Installation (Attach copies of State Certifications.)
5 ☐ Hazardous Material Removal (Contractor to be certified for asbestos and lead abatement per the Wisconsin Department of Health Services, Asbestos and Lead Section (A&LS).) See the following link for application: www.dhs.wisconsin.gov/Asbestos/Cert. State of Wisconsin Performance of Asbestos Abatement Certificate must be attached.
6 ☐ Certification number as a Certified Arborist or Certified Tree Worker as administered by the International Society of Arboriculture
7 ☐ Pesticide application (Certification for Commercial Applicator For Hire with the certification in the category of turf and landscape (3.0) and possess a current license issued by the DATCP)
8 ☐ State of Wisconsin Master Plumbers License.

SECTION B: PROPOSAL

Please refer to the Bid Express Website at https://bidexpress.com look up contract number and go to Section B: Proposal Page

You can access all City of Madison bid solicitations for FREE at www.bidexpress.com

Click on the "Register for Free" button and follow the instructions to register your company and yourself. You will be asked for a payment subscription preference, since you may wish to bid online someday. Simply choose the method to pay on a 'per bid' basis. This requires no payment until / unless you actually bid online. You can also choose the monthly subscription plan at this time. You will, however, be asked to provide payment information. Remember, you can change your preference at anytime. You will then be able to complete your free registration and have full access to the site. Your free access does not require completion of the 'Digital ID' process, so you will have instant access for viewing and downloading. To be prepared in case you ever do wish to bid online, you may wish to establish your digital ID also, since you cannot bid without a Digital ID.

If you have any problems with the free registration process, you can call the bidexpress help team, toll free at 1-888-352-2439 (option 1, option1).

SECTION C: SMALL BUSINESS ENTERPRISE

Instructions to Bidders
City of Madison
SBE Program Information

2 Small Business Enterprise (SBE) Program Information

2.1 Policy and Goal

The City of Madison reaffirms its policy of nondiscrimination in the conduct of City business by maintaining a procurement process which remains open to all who have the potential and ability to sell goods and services to the City. It is the policy of the City of Madison to allow Small Business Enterprises (SBE) maximum feasible opportunity to participate in City of Madison contracting. The bidder acknowledges that its bid has been submitted in accordance with the SBE program and is for the public's protection and welfare.

Please refer to the "ADVERTISEMENT FOR BIDS" for the goal for the utilization of SBEs on this project. SBEs may participate as subcontractors, vendors and/or suppliers, which provide a commercially useful function. The dollar value for SBE suppliers or 'materials only' vendors shall be discounted to 60% for purposes of meeting SBE goals.

A bidder which achieves or exceeds the SBE goal will be in compliance with the SBE requirements of this project. In the event that the bidder is unable to achieve the SBE goal, the bidder must demonstrate that a good faith effort to do so was made. Failure to either achieve the goal or demonstrate a good faith effort to do so will be grounds for the bidder being deemed a non-responsible contractor ineligible for award of this contract.

A bidder may count towards its attainment of the SBE goal only those expenditures to SBEs that perform a commercially useful function. For purposes of evaluating a bidder's responsiveness to the attainment of the SBE goal, the contract participation by an SBE is based on the percentage of the total base bid proposed by the Contractor. The total base bid price is inclusive of all addenda.

Work performed by an SBE firm in a particular transaction can be counted toward the goal only if it involves a commercially useful function. That is, in light of industry practices and other relevant considerations, does the SBE firm have a necessary and useful role in the transaction, of a kind for which there is a market outside the context of the SBE Program, or is the firm's role a superfluous step added in an attempt to obtain credit towards goals? If, in the judgment of the Affirmative Action Division, the SBE firm will not perform a commercially useful function in the transaction, no credit towards goals will be awarded.

The question of whether a firm is performing a commercially useful function is completely separate from the question of whether the firm is an eligible SBE. A firm is eligible if it meets the definitional criteria and ownership and control requirements, as set forth in the City of Madison's SBE Program.

If the City of Madison determines that the SBE firm is performing a commercially useful function, then the City of Madison must then decide what that function is. If the commercially useful function is that of an SBE vendor / supplier that regularly transacts business with the respective product, then the City of Madison will count 60% of the value of the product supplied toward SBE goals.

To be counted, the SBE vendor / supplier must be engaged in selling the product in question to the public. This is important in distinguishing an SBE vendor / supplier, which has a regular trade with a variety of customers, from a firm which performs supplier-like functions on an ad hoc basis or for only one or two contractors with whom it has a special relationship.

A supplier of bulk goods may qualify as an eligible SBE vendor / supplier if it either maintains an inventory or owns or operates distribution equipment. With respect to the distribution equipment; e.g., a fleet of trucks, the term "operates" is intended to cover a situation in which the supplier leases the equipment on a regular basis for its entire business. It is not intended to cover a situation in which the firm simply provides drivers for trucks owned or leased by another party; e.g., a prime contractor, or leases such a party's trucks on an ad hoc basis for a specific job.

If the commercially useful function being performed is not that of a qualified SBE vendor / supplier, but rather that of delivery of products, obtaining bonding or insurance, procurement of personnel, acting as a broker or manufacturer's representative in the procurement of supplies, facilities, or materials, etc., only the fees or commissions will apply towards the goal.

For example, a business that simply transfers title of a product from manufacturer to ultimate purchaser; e. g., a sales representative who re-invoices a steel product from the steel company to the Contractor, or a firm that puts a product into a container for delivery would not be considered a qualified SBE vendor / supplier. The Contractor would not receive credit based on a percentage of the cost of the product for working with such firms.

Concerning the use of services that help the Contractor obtain needed supplies, personnel, materials or equipment to perform a contract: only the fee received by the service provider will be counted toward the goal. For example, use of a SBE sales representative or distributor for a steel company, if performing a commercially useful function at all, would entitle the Contractor receiving the steel to count only the fee paid to the representative or distributor toward the goal. This provision would also govern fees for professional and other services obtained expressly and solely to perform work relating to a specific contract.

Concerning transportation or delivery services: if an SBE trucking company picks up a product from a manufacturer or a qualified vendor / supplier and delivers the product to the Contractor, the commercially useful function it is performing is not that of a supplier, but simply that of a transporter of goods. Unless the trucking company is itself the manufacturer or a qualified vendor / supplier in the product, credit cannot be given based on a percentage of the cost of the product. Rather, credit would be allowed for the cost of the transportation service.

The City is aware that the rule's language does not explicitly mention every kind of business that may contribute work on this project. In administering these programs, the City would, on a case-by-case basis, determine the appropriate counting formula to apply in a particular situation.

2.2 Contract Compliance

Questions concerning the SBE Program shall be directed to the Contract Compliance Officer of the City of Madison Department of Civil Rights, Affirmative Action Division, 210 Martin Luther King, Jr. Blvd., Room 523, Madison, WI 53703; telephone (608) 266-4910.

2.3 Certification of SBE by City of Madison

The Affirmative Action Division maintains a directory of SBEs which are currently certified as such by the City of Madison. Contact the Contract Compliance Officer as indicated in Section 2.2 to receive a copy of the SBE Directory or you may access the SBE Directory online at www.cityofmadison.com/civil-rights/contract-compliance/targeted-business-enterprise-programs/targeted-business-enterprise.

All contractors, subcontractors, vendors and suppliers seeking SBE status must complete and submit the **Targeted Business Certification Application** to the City of Madison Affirmative Action Division by the time and date established for receipt of bids. A copy of the Targeted Business Certification Application is available by contacting the Contract Compliance Officer at the address and telephone indicated in Section 2.2 or you may access the Targeted Business Certification Application online at www.cityofmadison.com/civil-rights/contract-compliance/targeted-business-enterprise-programs/targeted-business-enterprise. Submittal of the Targeted Business Certification Application by the time specified does not guarantee that the applicant will be certified as a SBE eligible to be utilized towards meeting the SBE goal for this project.

2.4 Small Business Enterprise Compliance Report

2.4.1 Good Faith Efforts

Bidders shall take all necessary affirmative steps to assure that SBEs are utilized when possible and that the established SBE goal for this project is achieved. A contractor who self performs a portion of the work, and is pre-qualified to perform that category of work, may subcontract that portion of the work, but shall not be required to do so. When a bidder is unable to achieve the established SBE goal, the bidder must demonstrate that a good faith effort to do so was made. Such a good faith effort should include the following:

2.4.1.1 Attendance at the pre-bid meeting.

2.4.1.2 Using the City of Madison's directory of certified SBEs to identify SBEs from which to solicit bids.

2.4.1.3 Assuring that SBEs are solicited whenever they are potential sources.

2.4.1.4 Referring prospective SBEs to the City of Madison Affirmative Action Division for certification.

2.4.1.5 Dividing total project requirements into smaller tasks and/or quantities, where economically feasible, to permit maximum feasible SBE participation.

2.4.1.6 Establishing delivery schedules, where requirements permit, which will encourage participation by SBEs.

2.4.1.7 Providing SBEs with specific information regarding the work to be performed.

2.4.1.8 Contacting SBEs in advance of the deadline to allow such businesses sufficient time to prepare a bid.

2.4.1.9 Utilizing the bid of a qualified and competent SBE when the bid of such a business is deemed reasonable (i.e. 5% above the lowest bidder), although not necessarily low.

2.4.1.10 Contacting SBEs which submit a bid, to inquire about the details of the bid and confirm that the scope of the work was interpreted as intended.

2.4.1.11 Completion of Cover Page (page C-6), Summary Sheet (page C-7) and SBE Contact Reports (pages C-8 and C9) if applicable.

2.4.2 **Reporting SBE Utilization and Good Faith Efforts**

The Small Business Enterprise Compliance Report is to be submitted by the bidder with the bid: This report is due by the specified bid closing time and date. Bids submitted without a completed SBE Compliance Report as outlined below may be deemed non-responsible and the bidder ineligible for award of this contract. Nothwithstanding any language to the contrary contained herein, the City may exercise its discretion to allow bidders to correct or supplement submissions after bid opening, if the minor discrepancy, bid irregularity or omission is insignificant and not one related to price, quality, quantity, time of completion, performance of the contract, or percentage of SBE utilization.

2.4.2.1 If the Bidder meets or exceeds the goal established for SBE utilization, the Small Business Enterprise Compliance Report shall consist of the following:

2.4.2.1.1 **Cover Page,** Page C-6; and
2.4.2.1.2 **Summary Sheet,** C-7.

2.4.2.2 If the bidder does not meet the goal established for SBE utilization, the Small Business Enterprise Compliance Report shall consist of the following:

2.4.2.2.1 **Cover Page,** Page C-6;
2.4.2.2.2 **Summary Sheet,** C-7; and
2.4.2.2.3 **SBE Contact Report,** C-8 and C-9. (A separate Contact Report must be completed for each applicable SBE which is not utilized.)

2.5 Appeal Procedure

A bidder which does not achieve the established goal and is found non-responsible for failure to demonstrate a good faith effort to achieve such goal and subsequently denied eligibility for award of contract may appeal that decision to the Small Business Enterprises Appeals Committee. All appeals shall be made in writing, and shall be delivered to and received by the City Engineer no later than 4:30 PM on the third business day following the bidder's receipt of the written notification of ineligibility by the Affirmative Action Division Manager. Postmark not acceptable. The notice of appeal shall state the basis for the appeal of the decision of the Affirmative Action Division Manager. The Appeal shall take place in accordance with Madison General Ordinance 33.54.

2.6 SBE Requirements After Award of the Contract

The successful bidder shall identify SBE subcontractors, suppliers and vendors on the subcontractor list in accordance with the specifications. The Contractor shall submit a detailed explanation of any variances between the listing of SBE subcontractors, vendors and/or suppliers on the subcontractor list and the Contractor's SBE Compliance Report for SBE participation.

No change in SBE subcontractors, vendors and/or suppliers from those SBEs indicated in the SBE Compliance Report will be allowed without prior approval from the Engineer and the Affirmative Action Division. The contractor shall submit in writing to the City of Madison Affirmative Action Division a request to change any SBE citing specific reasons which necessitate such a change. The Affirmative Action Division will use a general test of reasonableness in approving or rejecting the contractor's request for change. If the request is approved, the Contractor will make every effort to utilize another SBE if available.

The City will monitor the project to ensure that the actual percentage commitment to SBE firms is carried out.

2.7 SBE Definition and Eligibility Guidelines

A Small Business Enterprise is a business concern awarded certification by the City of Madison. For the purposes of this program a Small Business Enterprise is defined as:

A. An independent business operated under a single management. The business may not be a subsidiary of any other business and the stock or ownership may not be held by any individual or any business operating in the same or a similar field. In determining whether an entity qualifies as a SBE, the City shall consider all factors relevant to being an independent business including, but not limited to, the date the business was established, adequacy of its resources for the work in which it proposes to involve itself, the degree to which financial, equipment leasing and other relationships exist with other ineligible firms in the same or similar lines of work. SBE owner(s) shall enjoy the customary incidents of ownership and shall share in the risks and profits commensurate with their enjoyment interests, as demonstrated by an examination of the substance rather than form or arrangements that may be reflected in its ownership documents.

B. A business that has averaged no more than $4.0 million in annual gross receipts over the prior three year period and the principal owner(s) do not have a personal net worth in excess of $1.32 million.

Firm and/or individuals that submit fraudulent documents/testimony may be barred from doing business with the City and/or forfeit existing contracts.

SBE certification is valid for one (1) year unless revoked.

SECTION D: SPECIAL PROVISIONS

STATE STREET CAMPUS GARAGE MIXED-USE PROJECT
CONTRACT NO. 9361

It is the intent of these Special Provisions to set forth the final contractual intent as to the matter involved and shall prevail over the Standard Specifications and plans whenever in conflict therewith. In order that comparisons between the Special Provisions can be readily made, the numbering system for the Special Provisions is equivalent to that of the Specifications.

Whenever in these Specifications the term "Standard Specifications" appears, it shall be taken to refer to the City of Madison Standard Specifications for Public Works Construction and Supplements thereto.

SECTION 102.4 PROPOSALS

This bid consists of:

1. ITEM 90000, STATE STREET CAMPUS GARAGE MIXED-USE PROJECT (EXCLUDING ALTERNATE 1)
2. ITEM 90001, ALTERNATE NO. 1: Add all work to supply and install the bridges above Hawthorne Court connecting the two City of Madison garages.

The contractor must do all of the following:

1. Provide a total bid for each bid item
2. Provide a GRAND TOTAL of the BASE BID TOTAL plus Alternate #1 (#90001)

SECTION 102.9 BIDDERS UNDERSTANDING

All Contractors are reminded that this is a Public Works contract for the City of Madison and is exempt from State Sales Tax. Refer to this section of the City Standard Specification for Public Works and Specification 00 62 76.13 in Exhibit B for more information.

SECTION 102.11 BEST VALUE CONTRACTING

This Contract shall be considered a Best Value Contract if the Contractor's bid is equal to or greater than $74,000 for a single trade contract; or equal to or greater than $360,500 for a multi-trade contract pursuant to MGO 33.07(7).

ARTICLE 103 AWARD AND EXECUTION OF THE CONTRACT

In addition to the formal approval of "Award and Execution of the Contract" by the Common Council, the formal award of contract is contingent upon the following,

1. City of Madison Common Council approving the 2024 Capital Improvement Plan,
2. City of Madison closing on the sale of the property to the Developer, currently scheduled for December 15, 2023,
3. Procurement of temporary land use easements with adjacent private property owners.

The Awarded Contractor shall completely execute the signing of all contract documents and submit them to City Engineering (1600 Emil St) prior to 12:00pm on Thursday, December 07. Delays in turning in the required completed contract documents will not adjust the project completion date.

Payment and Performance Bonds shall be dated no sooner than Wednesday, December 06.

ARTICLE 104 SCOPE OF WORK

The City of Madison is pursuing a new public and private development opportunity that includes the demolition and replacement of the existing State Street Campus Garage (SSCG) at 415 North Lake Street. The proposed building project will be completed in two construction phases. Phase 1 –the Public Works project titled State Street Campus Garage Mixed-Use Project - includes demolition of the existing SSCG and proposed construction will include an intercity bus terminal, public parking structure, and "gray box" spaces for final build out by a private Developer (i.e. Mortenson Development, Inc.). Phase 2 – constructed by the Developer and not included in the scope of this contract- will include private housing components built on top and within the Phase 1 construction.

The scope of work for the bidding contractor and all sub-contractors includes the furnishing of all labor, materials, equipment, tools, and other services necessary to complete the work in accordance with the intent of this contract. All Contractors shall use properly functioning equipment capable of performing the tasks required. All Contractors shall furnish workers who perform quality work and who are experienced and knowledgeable in the work proposed.

In addition, the Contractors shall include all costs of disposal, equipment rental, utility service installations, temporary services, and any other costs whatsoever which may be required for execution of this contract.

SECTION 104.1 LANDS FOR WORK

General outlines for the Lands for Work for this contract are represented on the Civil drawings. All use of the City Lands for Work – by the Contractor - shall be reviewed and approved by the City's Project Manager and/or Construction Manager.

Lands for work shall include areas within the property boundaries of the site. The Contractor awarded this project shall be required to coordinate its work with all other contractors on site including City Right of Way and Developer contractors under separate contracts.

The east and west sides of the project site are bordered by City Right of Way, including pedestrian sidewalks and streets. This is a high traffic area for both pedestrians and vehicles and the Contractor will maintain access to the public right of way throughout the construction duration on Lake Street and Hawthorne Court. There will be a limited amount of street occupancy allowed along the Lake Street side of the project site.

> Please note – If this street occupancy is utilized, the Contractor is responsible for grinding/removing the existing street markings, installation of temporary street markings for the duration of construction.

The north and south sides of the project site are bordered by shared property boundaries. No work or workers shall occupy adjacent property to complete the scope of this project. Exception: The City is in process of acquiring temporary land use easements for air rights for a tower crane boom and for swing stage use to complete final masonry miscellaneous masonry work, sealants, and cleaning on the north and south faces of the project elevations.

Street occupancy permits will need to be coordinated with and procured from City of Madison Traffic Engineering/Parking Utility. Fees for street occupancy permits, street occupancy use, and parking meter fees will be waived for permits associated with this contract. Any penalties or citations associated with the street occupancy are the responsibility of the Contractor and shall be coordinated with Traffic Engineering/Parking Utility. Contact Michael Duhr, Department of Transportation Traffic Engineering Division, (608) 267-1158, mduhr@cityofmadison.com).

SECTION 104.2 INTENT AND COORDINATION OF CONTRACT DOCUMENTS

The contract documents are complimentary of each other and consist of all of the following:

1. The City of Madison Standard Specifications for Public Works Construction, 2023 Edition
2. These Special Provisions including all plans and specifications as noted by the exhibits list below
3. All Addenda to the bidding documents
4. EXHIBITS FOR BIDDING PURPOSES:
    a. Exhibit-A: Drawings Volume 1, dated 10/2/2023
    b. Exhibit-B: Drawings Volume 2, dated 10/2/2023
    c. Exhibit-C: Specifications Volume 1, dated 10/2/2023
    d. Exhibit-D: Specifications Volume 2, dated 10/2/2023
5. EXHIBITS FOR BIDDING REFERENCE:
    a. Reference-1: ALTA Survey
    b. Reference-2: Geotechnical Exploration Report
    c. Reference-3: Construction Logistics Plan with Developer
    d. Reference-4: Construction Logistics for adjacent Right of Way projects
    e. Reference-5: Construction drawings for existing building
    f. Reference-6: Bid checklist
    g. Reference-7: Construction Cost Estimate. This document provided for reference only. All quantities and unit costs are the responsibility of the bidders.

SECTION 105.5 INSPECTION OF WORK

The Contractor shall be responsible for coordinating all required regulatory inspections associated with items and installations during the execution of this contract.

All Contractors shall be familiar with Specification 01 45 16 – Field Quality Control Procedures regarding City of Madison policies and procedures for Quality Assurance and Quality Control.

SECTION 105.6 CONTRACTORS RESPONSIBILITY FOR WORK

The Contractor shall not take advantage of any discrepancy in the plans or specifications. This shall include but not be limited to apparent errors, omissions, and interpretations involving codes, regulations, and standards. Any Contractor who identifies such a discrepancy during the bidding process shall notify the Project Architect and the City Project Manager of the discrepancy as soon as possible. Review Specification 01 31 13 Project Coordination for additional responsibilities.

SECTION 105.7 CONTRACT DOCUMENTS

The General Contractor is responsible for reproducing all construction documents necessary to complete the Work at their own cost. This shall include plans, specifications, and addenda for the General Contractor and all Sub-contractors. The Contractor shall keep one copy of all drawings and Specifications on the project site, in good order, available to the Project Designers and all City representatives.

SECTION 105.9 SURVEYS, POINTS, AND INSTRUCTIONS

The General Contractor is responsible for providing all survey, benchmarks, points, and elevations required for this project.

SECTION 105.12 COOPERATION BY THE CONTRACTOR

As indicated in section 104.1 LANDS FOR WORK there will be a separate Right of Way and Developer contracts on and adjacent to the project site. The Contractor for this Work must coordinate with the adjacent contractor to assist in access for both parties and shall comply with the terms of any right of way agreements entered into by the City with adjacent property owners, copies of which shall be provided to

Contractor prior to executing the Agreement. Contractor must also comply with any requirements agreed upon between the City and the Developer with regard to site access and coordination, copies of which shall be provided to Contractor prior to executing the Agreement. Please review all applicable bidding and reference documents to confirm the scope, locations, and durations of related projects.

The area around the State Street Campus Garage Mixed-Use Project is a major public zone for the City of Madison and the University of Wisconsin Madison Campus. The Contractor must coordinate with the City Project Manager/Construction Manager(s) and other City Officials as applicable to confirm the work of this contract will not adversely affect or interrupt major civic activities/events in the area.

The Contractor shall notify adjacent property owners for any work affecting neighboring facilities. Contractor shall provide sufficient notification time to avoid any disruption to neighboring facility operations.

SECTION 107 – INSURANCE/INDEMNIFICATION/LIABILITY

107.3 Indemnification.
To the fullest extent permitted by law, the Contractor shall indemnify, defend and hold harmless the City, its officials, officers, agents, employees, and consultants from and against all suits, claims, damages, losses and expenses, direct, indirect or consequential (including but not limited to fees and charges of engineers, architects, attorneys and other professionals and court and arbitration costs) arising out of or resulting from the performance of the work, provided that any such claim, damage, loss or expense: (a) is attributable to bodily injury, sickness, disease, death, personal injury, or to injury to or destruction of tangible property (other than the work itself) including the loss of use resulting therefrom; (b) is caused in whole or in part by any negligent act or omission of the Contractor, any subcontractor, any person or organization directly or indirectly employed by any of them to perform or furnish any of the work or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in part by a party indemnified hereunder or arises by or is imposed by law regardless of the negligence of any such party, or (c) results or arises from the Contractor, its subcontractor(s), suppliers or any of their employees (d) results or arises from the failure of Contractor, its subcontractor(s), suppliers or any of their employees to comply with the terms of the Lease, Work Letter or construction easements to which the City is a party with respect to this property.

To the fullest extent permitted by law, Contractor shall also indemnify and hold harmless all persons or entities who have granted the City of Madison an easement relating to the construction of the Project against claims, damages, losses and expenses, including but not limited to attorney's fees, arising out of or resulting from any activities in the easement areas or any use of this easement rights, provided that such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property, but only to the extent caused by the negligent acts or omissions of the contractor, any subcontractor, anyone directly or indirectly employed by the contractor or any subcontractor or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss or expense is caused in part by the grantor of the easement.

107.4(b) General Liability.
The Contractor shall procure and maintain during the life of this Contract, Commercial General Liability insurance including, but not limited to, products liability, completed operations, contractual liability, and explosion, collapse and underground coverage in an amount not less than $2,000,000 per occurrence/$4,000,000 aggregate on a per project basis. Products-completed operations coverage shall be carried for two years after completion of work. Contractor's coverage shall be primary and list all of the following as Additional Insureds: the City of Madison, its officers, officials, agents and employees, Mortenson Development, Inc., its lender, and all persons or entities who have granted the City of Madison an easement relating to the construction of the Project.

107.4(d) Umbrella Liability Insurance.
The Contractor shall procure and maintain during the life of this Contract Umbrella Liability coverage at least as broad as the underlying Commercial General Liability, Business Automobile Liability and Employers Liability with minimum limits of $10,000,000 per occurrence and aggregate.

SECTION 109.7 **TIME OF COMPLETION**

Work shall begin only after the contract is completely executed and the Start Work Letter (SWL) is received. It is anticipated that the start work letter shall be issued on or about December 22, 2023

Interim Completion Date #1 - The Contractor shall complete all of the following by January 06, 2025.

Scopes of Work and Site Access Conditions:

1. Demolition of existing parking garage is complete
2. Footings and foundation for proposed parking garage are complete
3. Structure – 100% complete (decks, cores, slab on grade); needs to include sleeves for rough-in that will be completed in Phase 2
4. All utilities into building and including systems under slab
5. Building storm lines rough-in to parking garage cap
6. Electrical feeder conduit complete
7. Electrical vault complete
8. Parking garage barrier cable on east side
9. Shafts ready for elevator installation
10. Stairs as shown on Contract Drawings
11. All delineation walls, doors, enclosure required between garage and housing
12. Sleeves for podium level for water and waste
13. Contractor ensures that Developer tower crane locations are free from any encroachments that would prevent the future construction of tower crane foundations
14. Contractor demobilizes from Lake Street
15. Contractor permanently vacates podium roof (for Developer mobilization and staging)
16. Contractor temporarily vacates P5 and P6 for Developer to perform re-shoring (Contractor can occupy these levels upon removal of Developer re-shoring)
17. Shores in place on 5th and 6th floor starting 1/6/25
18. 5th floor shores removed – 2/15/25
19. 6th floor shores removed – 3/1/25
20. Contractor will permanently vacate ground floor housing program space
21. Developer controls air space moving forward (Contractor hoisting will not utilize a crane)
22. Developer mobilizes on Lake Street, within L1 housing program, P5/P6 (for reshoring) and podium roof and has exclusive access to housing stairwells and elevator shafts.

Interim Completion Date #2 - The Contractor shall substantially complete all remaining work (excluding final occupancy inspections, Alternate #1, and two exceptions below) between April 1, 2025 and June 1, 2025

Exceptions:

1. Second floor MEPs at Bus Terminal and Parking Garage Lake Street entries – Final drops to be installed in June 2025. See "Reference-3 Construction Logistics Plan with Developer" document for specific locations.
2. Sixth floor MEPs - Final drops to be installed in August 2025. See "Reference-3 Construction Logistics Plan with Developer" document for specific locations.

Interim Completion Date #3 - This Contractor shall return to the site in March 1, 2026 through May 31, 2026 to complete any remaining responsibilities related to final occupancy sign off. Final occupancy work will likely require interface/coordination with the Developer's contractor(s) to complete all final occupancy and commissioning compliance with City of Madison.

Interim Completion Date #4 – The Contractor shall complete Alternate #1 work in June 1, 2026 through June 30, 2026.

The Contractor shall have reached a level of Construction Closeout **NO LATER THAN** June 30, 2026. See Exhibit B, Specification 01 77 00 for the definition of Construction Closeout. The Construction Closeout date will commence the one year warranty period for this project.

SECTION 109.9 LIQUIDATED DAMAGES

The fixed, agreed, and liquidated damages due the City from the Contractor for failure to complete all work by Interim Completion Date #1, #2, #3, or #4 or Construction Closeout is $10,000 per calendar day.

Time is of the essence for all critical path activities and the Interim Completion Dates. Contractor acknowledges and understand that its failure to complete the required work by the Interim Completion Dates set forth above will result in the City suffering loss and damages and that it would be difficult if not impossible to determine with any reasonable degree of certainty the amount of loss and/or damage which the City would suffer in that event. Any liquidated damages owed by Contractor pursuant to this section may be deducted by the City from any unpaid portion of the Contract Price. Such deduction shall constitute liquidated damages, not a penalty. The liquidated damages shall be the City's sole remedy for losses arising from the Contractor's failure to complete the work by the Interim Completion Dates set forth herein, however, the City is not otherwise precluded from pursuing other rights or remedies as expressly provided in the Contract Documents or at law, including with respect to any right of termination, acceleration, or exercise of remedies with respect to the performance of the work or correction of non-conforming work.

SECTION 110.2 PARTIAL PAYMENTS

With each Application for Payment, the Contractor shall submit a lien waiver for all Work provided under this Agreement through the date covered by such Application, along with lien waivers from each of Contractor's subcontractors and suppliers for all work performed through the date covered by the previous Application. With each Application, the Contractor shall also provide any other documentation reasonably requested by the City or any lenders or title companies.

STANDARD BID ITEMS

Note: The Contractor shall be responsible for reviewing the descriptions, methods of measurement, and basis of payment of all standard bid items as described in the City of Madison Standard Specifications for Public Works Construction, 2023 Edition. The following Standard Bid Items described in these special provisions have been modified for this contract.

NON STANDARD BID ITEMS

ITEM 90000, State Street Campus Garage Mixed-Use Project

DESCRIPTION

BID ITEM shall be for the following work:

- Selective site and building demolition as described in contract Exhibits
- Construction of site and building systems as described in contract Exhibits

The Contractor shall be aware that the following work IS NOT included in this bid item:

- ITEM 90001 – Alternate No. 1: Hawthorne Court Bridges - Add all work to supply and install the bridges above Hawthorne Court connecting the two City of Madison garages.

METHOD OF MEASUREMENT

Bid Item shall be measured as LUMP SUM for a complete installation of the work described above.

BASIS OF PAYMENT

Bid Item shall be paid at the contract unit price for all labor, materials, equipment, and incidentals associated with completing the work described above. Partial payments for this bid item shall be permitted based on the percentage of bid item work completed on site.

ITEM 90001, ALTERNATE No. 1: Hawthorne Court Bridges

DESCRIPTION

BID ITEM shall be for the following work:

Add all work to supply and install the bridges above Hawthorne Court connecting the two City of Madison garages.

The Contractor shall be aware that the following work IS NOT included in this bid item:

- ITEM 90000 State Street Campus Garage Mixed-Use Project

METHOD OF MEASUREMENT

Bid Item shall be measured as LUMP SUM for a complete installation of the work described above.

BASIS OF PAYMENT

Bid Item shall be paid at the contract unit price for all labor, materials, equipment, and incidentals associated with completing the work described above. Partial payments for this bid item shall be permitted based on the percentage of bid item work completed on site.

POINT OF CONTACT

The Construction Manager for City Engineering, Facility Management for this contract is:

Maria Delestre
PH: (608) 243-5891
Email: MDelestre@CityofMadison.com
210 Martin Luther King Jr. Blvd
Room 115

The Project Manager for City Engineering, Facility Management for this contract is:

Brent Pauba
PH: (608) 266-4092
Email: BPauba@CityofMadison.com
210 Martin Luther King Jr. Blvd
Room 115
Madison, WI 53703

The Architect for Eppstein Uhen Architects (EUA)

Mike Oates, RA, CDT
Senior Project Manager
EUA
PH: (414) 298-2221
Email: mikeo@eua.com
333 East Chicago Street
Milwaukee, WI 53202

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Engineering Division
James M. Wolfe, P.E., City Engineer
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engineering@cityofmadison.com
www.cityofmadison.com/engineering

Assistant City Engineer
Bryan Cooper, AIA
Gregory T. Fries, P.E.
Chris Petykowski, P.E.
Deputy Division Manager
Kathleen M. Cryan
Principal Engineer 2
John S. Fahrney, P.E.
Janet Schmidt, P.E.
Principal Engineer 1
Mark D. Moder, P.E.
Andrew J. Zwieg, P.E.
Financial Manager
Steven B. Danner-Rivers

October 26, 2023

ADDENDUM NO. 1
City of Madison, Engineering Division

CONTRACT NO. 9361
STATE STREET CAMPUS GARAGE MIXED-USE PROJECT

This addendum is issued to modify, explain or correct the original Drawings, Specifications, or Contract Documents marked as **State Street Campus Garage Mixed-Use Project, Contract #9361, as issued on October 2, 2023** and is hereby made a part of the contract documents.

Please acknowledge this addendum on page E1 of the contract documents and/or in Section E: Bidder's Acknowledgement on Bid Express.

Electronic version of these documents can be found on Bid Express at https://www.bidexpress.com/ and the City of Madison web site at http://www.cityofmadison.com/business/PW/contracts/openforBid.cfm

If you are unable to download plan revisions associated with the addendum, please contact the Engineering office at (608) 266-4751 to receive the material by another method.

For questions regarding this bid, contact:
Maria Delestre
PH: (608) 243-5891
Email: MDelestre@CityofMadison.com
210 Martin Luther King Jr. Blvd
Room 115
Madison, WI 53703

Sincerely,

James M. Wolfe, P.E.
City Engineer

This addendum modifies the following documents:

1. 9361contractBoilerplateSBE.pdf
   - **A.** Section H: Agreement
   - **B.** Section I: Payment and Performance Bond

This addendum adds the following documents to the bid package:

1. Reference-8 Hazardous Materials Report
2. Reference-9 Neighboring Building Historical Documents
3. Reference-10 Sign-In Sheets
4. Reference-11 Narrative of Adjacent Property Conditions

Please attach these Addendum documents to the Drawings and Project manual in your possession.

1. GENERAL CONTRACT CONDITIONS

- **A.** Revise the following sections as stated below:
  - **i.** Section H: Agreement
    - **(1)** Page H-4: Removed Item 7. Counterparts, Electronic, Signature and Delivery
    - **(2)** Page H-5: City of Madison signatures required updated
  - **ii.** Section I: Payment and Performance Bond
    - **(1)** Page I-1: City of Madison signatures required updated

2. GENERAL QUESTIONS AND ANSWERS

- **A.** See EUA – Bidder Questions and Answers

3. ACCEPTABLE EQUIVALENTS

- **A.** No change

4. SPECIFICATIONS

- **A.** Updated specifications addressing comments and questions during bidding will be included in an upcoming Addendum

5. DRAWINGS

- **A.** Updated drawings addressing comments and questions during bidding will be included in an upcoming Addendum

6. PROPOSAL

- **A.** No Change

[illegible] – Bidder Question and Answers
State Street Campus Garage Mixed Use Project - Addendum No. 1

Date: 2023.10.26

No.	Bidder Question	Source	Response
01	Addendum No. 1		
01.1	What are the structural loads imposed by adjacent buildings?	10-5-23 email from Chris Havey	The imposed loads cannot be calculated with the existing building information that is available. You will have to make assumptions at this time based on the existing building drawings that have been provided. See Reference-9 Neighboring Building Historical Documents and Reference-11 Narrative of Adjacent Property Conditions included in Addendum No. 1.
01.2	Will an earth retention specification be provided?	10-16-23 email from David Schroeder	An earth retention system specification will not be issued. Refer to the bidding documents for delegated design requirements.
01.3	Plan sheets S1000-A-1 and S1000-B-1 have a note that reads "TEMPORARY EARTH RETENTION SYSTEM TO BE DESIGNED, INSTALLED, MAINTAINED AND REMOVED BY CONTRACTOR TYPICAL". Does the entire length of piling need to be removed or just the top of the piling to a low enough elevation to allow for install of site work and site utilities?	10-16-23 email from David Schroeder	All earth retention systems/components must be located within the property boundaries of the project site. Exception 1: Earth retention tiebacks along the east and west property boundary may extend into the City Right of Way. Exception 2: Earth retention systems are allowed in the City Right of Way at the perimeter of the electrical vault at the southwest corner of the site. Contractor will remove all earth retention systems to a minimum of four (4) feet below grade and/or as required for utility connections. Allowance of these types of systems would be under a set of conditions determined by the City Engineer, based upon the Contractor's proposal. All final earth retention design and calculations must be stamped by a Professional Engineer Licensed in the State of Wisconsin and approved by the City of Madison City Engineer prior to installation.
01.4	Are all MEPFP penetrations required for phase 2 work currently shown on the phase 1 drawings?	10-16-23 email from David Schroeder	MEPFP lateral penetrations through foundation walls are shown but may vary when actual connections are made. Penetrations not shown on the drawings for Phase 2 work will be laid out and installed by the Phase 2 MEP contractors. The Public Works contractor must coordinate access for the phase 2 contractors.
01.5	Please provide documentation indicating the lowest developed space elevation (basement depth) of ALL adjacent properties	10-16-23 Bid Talk	See Reference-9 Neighboring Building Historical Documents and Reference-11 Narrative of Adjacent Property Conditions included in Addendum No. 1.
01.6	Please provide the drawings for the Frances St. Parking for reference.	10-16-23 Bid Talk	Please see Reference-9 Neighboring Building Historical Documents included in Addendum No. 1.
01.7	Please indicate the actual adjacent property conditions inclusive of footing depths	10-16-23 Bid Talk	See Reference-9 Neighboring Building Historical Documents and Reference-11 Narrative of Adjacent Property Conditions included in Addendum No. 1.
01.8	Please provide an architectural and structural roof plan for Elevator 01 overrun.	10-16-23 Bid Talk	Elevator roof decks (RD-1) and bearing angle to masonry wall attachment detail (8/S4030-1) called out on S1007-1. Roof deck info is provided in Metal Deck Schedule on S4020-1. Elevator hoist beam elevation and location to be coordinated with elevator supplier and attached to CMU wall per 6/S4030-1. Architectural roof plan to be included in upcoming Addendum.

01.9	Please provide an architectural and structural roof plan for Elevator 03 overrun	10-16-23 Bid Talk	Elevator roof decks (RD-1) and bearing angle to masonry wall attachment detail (8/S4030-1) called out on S1007-1. Roof deck info is provided in Metal Schedule on S4020-1. Elevator hoist beam elevation and location to be coordinated with elevator supplier and attached to CMU wall per 6/S4030-1. Architectural roof plan to be included in upcoming Addendum.
01.10	will attendees from this meeting also be included in the addenda. This meeting was not officially mentioned.	10-16-23 Bid Talk	Please see Reference-10 Sign-In Sheets included in Addendum No. 1
01.11	Details A1, A2, A3 and A6 indicate that some exterior elements on the West Elevation are intended to be installed by the Phase 1 contractor. Please confirm that no exterior skin materials on the West elevation are to be included in Phase 1.	10-16-23 Bid Talk	There are portions of ground floor walls that need to be included in Phase 1. The concrete stub wall at the base of wall and CMU backup wall at fire pump room and city office will be included in phase 1. All other components will be installed in Phase 2. See updated drawings to be included in a forth coming Addendum for more information.
01.12	Will the contract be issued through City of Madison, or will the overall contract be issued through a CM?	10-16-23 Bid Talk	The contract will be issued through the city of Madison.
01.13	As discussed, the Phase 1 contractor (and affected subcontractors) will need to re-mobilize for final completion at the end of the Phase 2 portion of the work which is more than a year after the Phase 1 substantial completion date. Will retainage be significantly reduced at the end of the Phase 1 work while Phase 2 work is executed? If yes, what will define substantial completion as some of the Phase 1 work will not be able to be tested/inspected until Phase 2 work is complete?	10-16-23 Bid Talk	Response will be included in an upcoming Addendum
01.14	Is there a drawing overlay of the existing footings and how they will line up with the structures proposed footings? This would help determine means and methods to avoid obstructions and/or conflicts.	10-16-23 email from Brian Ring	This overlay drawing cannot be developed with the existing building information that is available. You will have to make assumptions at this time. See Reference-9 Neighboring Building Historical Documents and Reference-11 Narrative of Adjacent Property Conditions included in Addendum No. 1.
01.15	Do the adjacent structure foundations contact the existing parking structure foundations?	10-16-23 email from Brian Ring	This cannot be determined with the existing building information that is available. You will have to make assumptions at this time.
01.16	Are we allowed to underpin adjacent structures if we do not have neighboring property easements?	10-16-23 email from Brian Ring	Refer to response to question 01.3
01.17	Is the City able to obtain as-built documentation of the adjacent structures and the adjoining parking structure?	10-16-23 email from Brian Ring	See Reference-9 Neighboring Building Historical Documents included in Addendum No. 1
01.18	Based on the existing structure drawings, the continuous footing elevation is 843.9 and the column footings are 842.4. Please confirm our understanding is correct.	10-16-23 email from Brian Ring	See the bid drawings.
01.19	Attached is a layout of the proposed footing elevation. Please confirm the elevations noted are correct.	10-16-23 email from Brian Ring	See the bid drawings.
01.20	The plan indicates that the shoring is to be removed. Site constraints and shoring type required will not allow for this. Please confirm that removal of shoring 4' below proposed grade will be acceptable.	10-16-23 email from Brian Ring	Refer to response to question 01.3

01.21	Is it acceptable for the shoring required along N Lake Street and Hawthorn Court to extend into the bordering sidewalk? The intent would be to miss the existing footing conflicts. If there is a limit to on how far the shoring can extend east and west, please indicate constraints.	10-16-23 email from Brian Ring	Refer to response to question 01.3
01.22	Confirm who will demo, salvage, and install existing parking equipment.	10-13-23 Bid Walk	Owner will demo, salvage, and install existing parking equipment that will be reused. Upcoming Addendum will update drawing to reflect this change.
01.23	Confirm scope of required protection at bridge openings after bridges are removed.	10-13-23 Bid Walk	Use the detail that is used for the wall infill at other bridge removal locations. Upcoming Addendum will update drawing to reflect this change.
01.24	Can you provide clarification on the following. The person that went to the prebid meeting for Terra mentioned at the prebid meeting. it was brought up that there are locations around the site that tiebacks are not allowed to be installed. Can you provide where this information is located in the documents or will this be sent out as an addendum.	10-17-23 email from Chris H.	Refer to response to question 01.3

SECTION H: AGREEMENT

THIS AGREEMENT made this _____ day of _____ in the year Two Thousand and Twenty-Three between _____ hereinafter called the Contractor, and the City of Madison, Wisconsin, hereinafter called the City.

WHEREAS, the Common Council of the said City of Madison under the provisions of a resolution adopted _____, and by virtue of authority vested in the said Council, has awarded to the Contractor the work of performing certain construction.

NOW, THEREFORE, the Contractor and the City, for the consideration hereinafter named, agree as follows:

1. **Scope of Work.** The Contractor shall, perform the construction, execution and completion of the following listed complete work or improvement in full compliance with the Plans, Specifications, Standard Specifications, Supplemental Specifications, Special Provisions and contract, all of which are incorporated into this Agreement by reference. The Contractor shall perform all items of work covered or stipulated in the proposal; perform all altered or extra work; and shall furnish, unless otherwise provided in the contract, all materials, implements, machinery, equipment, tools, supplies, transportation, and labor necessary to the prosecution and completion of the work or improvements:

STATE STREET GARAGE MIXED-USE PROJECT
CONTRACT NO. 9361

2. **Completion Date/Contract Time.** Construction work must begin within seven (7) calendar days after the date appearing on mailed written notice to do so shall have been sent to the Contractor and shall be carried on at a rate so as to secure full completion according to the project schedule provided by the City (SEE SPECIAL PROVISIONS), with the rate of progress and the time of completion being essential conditions of this Agreement.

3. **Contract Price.** The City shall pay to the Contractor at the times, in the manner and on the conditions set forth in said specifications, the sum of _____($_____) Dollars being the amount bid by such Contractor and which was awarded to him/her as provided by law.

4. **Affirmative Action.** In the performance of the services under this Agreement the Contractor agrees not to discriminate against any employee or applicant because of race, religion, marital status, age, color, sex, disability, national origin or ancestry, income level or source of income, arrest record or conviction record, less than honorable discharge, physical appearance, sexual orientation, gender identity, political beliefs, or student status. The Contractor further agrees not to discriminate against any subcontractor or person who offers to subcontract on this contract because of race, religion, color, age, disability, sex, sexual orientation, gender identity or national origin.

   The Contractor agrees that within thirty (30) days after the effective date of this agreement, the Contractor will provide to the City Affirmative Action Division certain workforce utilization statistics, using a form to be furnished by the City.

   If the contract is still in effect, or if the City enters into a new agreement with the Contractor, within one year after the date on which the form was required to be provided, the Contractor will provide updated workforce information using a second form, also to be furnished by the City. The second form will be submitted to the City Affirmative Action Division no later than one year after the date on which the first form was required to be provided.

   The Contractor further agrees that, for at least twelve (12) months after the effective date of this contract, it will notify the City Affirmative Action Division of each of its job openings at facilities in

Dane County for which applicants not already employees of the Contractor are to be considered. The notice will include a job description, classification, qualifications and application procedures and deadlines. The Contractor agrees to interview and consider candidates referred by the Affirmative Action Division if the candidate meets the minimum qualification standards established by the Contractor, and if the referral is timely. A referral is timely if it is received by the Contractor on or before the date started in the notice.

Articles of Agreement

Article I

The Contractor shall take affirmative action in accordance with the provisions of this contract to insure that applicants are employed, and that employees are treated during employment without regard to race, religion, color, age, marital status, disability, sex, sexual orientation, gender identity or national original and that the employer shall provide harassment free work environment for the realization of the potential of each employee. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination, rates of pay or other forms of compensation and selection for training including apprenticeship insofar as it is within the control of the Contractor. The Contractor agrees to post in conspicuous places available to employees and applicants notices to be provided by the City setting out the provisions of the nondiscrimination clauses in this contract.

Article II

The Contractor shall in all solicitations or advertisements for employees placed by or on behalf of the Contractors state that all qualified or qualifiable applicants will be employed without regard to race, religion, color, age, marital status, disability, sex, sexual orientation, gender identity or national origin.

Article III

The Contractor shall send to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding a notice to be provided by the City advising the labor union or worker's representative of the Contractor's equal employment opportunity and affirmative action commitments. Such notices shall be posted in conspicuous places available to employees and applicants for employment.

Article V

The Contractor agrees that it will comply with all provisions of the Affirmative Action Ordinance of the City of Madison, including the contract compliance requirements. The Contractor agrees to submit the model affirmative action plan for public works contractors in a form approved by the Affirmative Action Division Manager.

Article VI

The Contractor will maintain records as required by Section 39.02(9)(f) of the Madison General Ordinances and will provide the City Affirmative Action Division with access to such records and to persons who have relevant and necessary information, as provided in Section 39.02(9)(f). The City agrees to keep all such records confidential, except to the extent that public inspection is required by law.

Article VII

In the event of the Contractor's or subcontractor's failure to comply with the Equal Employment Opportunity and Affirmative Action Provisions of this contract or Section 39.03 and 39.02 of the Madison General Ordinances, it is agreed that the City at its option may do any or all of the following:

1. Cancel, terminate or suspend this Contract in whole or in part.

2. Declare the Contractor ineligible for further City contracts until the Affirmative Action requirements are met.

3. Recover on behalf of the City from the prime Contractor 0.5 percent of the contract award price for each week that such party fails or refuses to comply, in the nature of liquidated damages, but not to exceed a total of five percent (5%) of the contract price, or ten thousand dollars ($10,000), whichever is less. Under public works contracts, if a subcontractor is in noncompliance, the City may recover liquidated damages from the prime Contractor in the manner described above. The preceding sentence shall not be construed to prohibit a prime Contractor from recovering the amount of such damage from the non-complying subcontractor.

Article VIII

The Contractor shall include the above provisions of this contract in every subcontract so that such provisions will be binding upon each subcontractor. The Contractor shall take such action with respect to any subcontractor as necessary to enforce such provisions, including sanctions provided for noncompliance.

Article IX

The Contractor shall allow the maximum feasible opportunity to small business enterprises to compete for any subcontracts entered into pursuant to this contract. (In federally funded contracts the terms "DBE, MBE and WBE" shall be substituted for the term "small business" in this Article.)

5. Substance Abuse Prevention Program Required. Prior to commencing work on the Contract, the Contractor, and any Subcontractor, shall have in place a written program for the prevention of substance abuse among its employees as required under Wis. Stat. Sec. 103.503.

6. **Contractor Hiring Practices.**

Ban the Box - Arrest and Criminal Background Checks. (Sec. 39.08, MGO)

This provision applies to all prime contractors on contracts entered into on or after January 1, 2016, and all subcontractors who are required to meet prequalification requirements under MGO 33.07(7)(I), MGO as of the first time they seek or renew pre-qualification status on or after January 1, 2016. The City will monitor compliance of subcontractors through the pre-qualification process.

a. **Definitions.** For purposes of this section, "Arrest and Conviction Record" includes, but is not limited to, information indicating that a person has been questioned, apprehended, taken into custody or detention, held for investigation, arrested, charged with, indicted or tried for any felony, misdemeanor or other offense pursuant to any law enforcement or military authority.

"Conviction record" includes, but is not limited to, information indicating that a person has been convicted of a felony, misdemeanor or other offense, placed on probation, fined, imprisoned or paroled pursuant to any law enforcement or military authority.

"Background Check" means the process of checking an applicant's arrest and conviction record, through any means.

b. **Requirements.** For the duration of this Contract, the Contractor shall:

1. Remove from all job application forms any questions, check boxes, or other inquiries regarding an applicant's arrest and conviction record, as defined herein.

2. Refrain from asking an applicant in any manner about their arrest or conviction record until after conditional offer of employment is made to the applicant in question.

3. Refrain from conducting a formal or informal background check or making any other inquiry using any privately or publicly available means of obtaining the arrest or conviction record of an applicant until after a conditional offer of employment is made to the applicant in question.

4. Make information about this ordinance available to applicants and existing employees, and post notices in prominent locations at the workplace with information about the ordinance and complaint procedure using language provided by the City.

5. Comply with all other provisions of Sec. 39.08, MGO.

c. **Exemptions:** This section shall not apply when:

1. Hiring for a position where certain convictions or violations are a bar to employment in that position under applicable law, or

2. Hiring a position for which information about criminal or arrest record, or a background check is required by law to be performed at a time or in a manner that would otherwise be prohibited by this ordinance, including a licensed trade or profession where the licensing authority explicitly authorizes or requires the inquiry in question.

To be exempt, Contractor has the burden of demonstrating that there is an applicable law or regulation that requires the hiring practice in question, if so, the contractor is exempt from all of the requirements of this ordinance for the position(s) in question.

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IN WITNESS WHEREOF, the Contractor has hereunto set his/her hand and seal and the City has caused this contract to be sealed with its corporate seal and to be executed by its Mayor and City Clerk on the dates written below.

Countersigned:

Company Name

Witness Date

President Date

Witness Date

Secretary Date

CITY OF MADISON, WISCONSIN

Provisions have been made to pay the liability that will accrue under this contract.

Approved as to form:

Finance Director Date

City Attorney Date

Witness Date

Mayor Date

Witness Date

City Clerk Date

SECTION I: PAYMENT AND PERFORMANCE BOND

LET ALL KNOW BY THESE DOCUMENTS PRESENTED, that we _____ as principal, and _____ Company of _____ as surety, are held and firmly bound unto the City of Madison, Wisconsin, in the sum of _____ ($_____) Dollars, lawful money of the United States, for the payment of which sum to the City of Madison, we hereby bind ourselves and our respective executors and administrators firmly by these presents.

The condition of this Bond is such that if the above bounden shall on his/her part fully and faithfully perform all of the terms of the Contract entered into between him/herself and the City of Madison for the construction of:

STATE STREET GARAGE MIXED-USE PROJECT
CONTRACT NO. 9361

in Madison, Wisconsin, and shall pay all claims for labor performed and material furnished in the prosecution of said work, and save the City harmless from all claims for damages because of negligence in the prosecution of said work, and shall save harmless the said City from all claims for compensation (under Chapter 102, Wisconsin Statutes) of employees and employees of subcontractor, then this Bond is to be void, otherwise of full force, virtue and effect.

Signed and sealed this _____ day of _____

Countersigned:

_____
Witness

_____
Secretary

_____
Company Name (Principal)

_____
President Seal

Approved as to form:

_____
City Attorney

_____
Surety Seal
☐ Salary Employee ☐ Commission

By _____
Attorney-in-Fact

This certifies that I have been duly licensed as an agent for the above company in Wisconsin under National Producer Number _____ for the year _____, and appointed as attorney-in-fact with authority to execute this payment and performance bond which power of attorney has not been revoked.

_____
Date

_____
Agent Signature

KEYSTONE
ENVIRONMENTAL

October 12, 2023

Ms. Maria Delestre
City of Madison - Engineering Division
City-County Building Room 115
210 Martin Luther King, Jr. Boulevard
Madison, Wisconsin 53703

Re: **Pre-Demolition Report – Asbestos Testing**
Parking Garage
415 North Lake Street
Madison, Wisconsin 53715

Dear Ms. Delestre,

In response to your request, Keystone Environmental LLC. (Keystone) has completed testing of suspect asbestos-containing materials. The assessment was performed on the parking garage located at 415 North Lake Street, in Madison, Wisconsin. This report provides an executive summary, an outline of the scope-of-work, and analytical results for the materials tested.

We are pleased to be of service to you. If you have any questions, comments, or require additional services, feel free to contact us at (608) 480-8822, or by e-mail at contact@keystone-env.com.

Sincerely,

T. Ryckman

Tucker Ryckman
Owner

1.0 Executive Summary

On September 27, 2023, Keystone collected forty-seven (55) samples (resulting in 55 analysis) of suspect asbestos-containing materials (ACMs) from the above referenced structure. **Analytical results indicated that the following building materials submitted for testing contain asbestos:**

- **Black Mastic – Ground Floor Main Office**
- **Hard Gray Caulking on Parapets – Roof/Top Level**
- **Black Interior Window Caulk – Ground Floor/Stairwell Windows**

Building materials containing less than 1% asbestos, while not classified as an ACM by the United States Environmental Protection Agency (USEPA), do fall under the Occupational Safety and Health Administration (OSHA) Asbestos Construction Standard (29 CFR §1926.1101) and should be handled accordingly. Keystone did not identify any materials containing <1% asbestos during this assessment.

See table below for estimated quantities of identified ACMs. Photos of positive materials can be found in Attachment C.

Keystone notes that this executive summary is not intended to be a stand-alone document and it is strongly recommended that this report be read in its entirety.

2.0 Scope-of-Work

The scope of services included a survey for asbestos-containing materials in compliance with the USEPA regulation 40 CFR 61, Subpart M, National Emission Standards for Hazardous Air Pollutants (NESHAP), and Wisconsin Statute NR 447, which prohibit the release of asbestos fibers to the atmosphere during renovation or demolition activities.

Keystone representative Mr. Tucker Ryckman completed the sampling. Mr. Ryckman is a state of Wisconsin accredited asbestos inspector. Keystone inspector certifications are located in Attachment A.

3.0 Analytical Testing

Samples were sent for analysis to San Air Technologies Laboratory (San Air), located in North Chesterfield, Virginia. San Air is recognized under the National Voluntary Laboratory Accreditation Program (NVLAP) as Laboratory #200870-0. All samples were analyzed via EPA

600/R-93/116 Method using Polarized Light Microscopy. PLM is an Environmental Protection Agency (EPA)-recognized method for determining asbestos content in bulk samples.

Analytical results and laboratory certifications are located in Attachment B.

4.0 Inspection Results

The USEPA defines asbestos-containing materials (ACMs) as those materials containing greater than 1% asbestos by weight. Samples containing less than 1% asbestos are not considered ACMs.

The following table summarizes the results of the inspection. Materials containing more than 1% asbestos are highlighted in **bold.**

ID	MATERIAL SAMPLED	LOCATION	% ASBESTOS	ESTIMATED TOTAL QUANTITY OF MATERIAL IN BUILDING
N	Beige 2'x2' Flooring	Lower Level – North Storage Room	None Detected	200 sq/ft
KEY-02	Gray Mastic Beneath Flooring	Lower Level – North Storage Room	None Detected	200 sq/ft
KEY-03	Black Vinyl Baseboard	Lower Level – North Storage Room	None Detected	25 l/ft
KEY-04	Mastic Behind Baseboard	Lower Level – North Storage Room	None Detected	25 l/ft
KEY-05	Paper Fiberglass Pipe Wrap	Lower Level – North Storage Room	None Detected	2,000 l/ft
KEY-06	Beige 2'x2' Flooring	Lower Level Bathroom	None Detected	200 sq/ft
KEY-07	Gray Mastic Beneath Flooring	Lower Level Bathroom	None Detected	200 sq/ft
KEY-08	Gray Door Caulk	Lower Level Bathroom	None Detected	100 l/ft
KEY-09	Black 2'x2' Flooring	Gound Floor Main Office	None Detected	50 sq/ft
KEY-10	Gray Mastic Beneath Flooring	Gound Floor Main Office	None Detected	60 sq/ft
KEY-11	White Floor Tile Beneath Black Flooring	Gound Floor Main Office	None Detected	60 sq/ft
KEY-12	**Black Mastic Beneath White Floor Tile**	**Gound Floor Main Office**	**5% Chrysotile**	**60 sq/ft**
KEY-13	Gray/Yellow Mastic Above Tile	Gound Floor Main Office	None Detected	60 sq/ft

ID	MATERIAL SAMPLED	LOCATION	% ASBESTOS	ESTIMATED TOTAL QUANTITY OF MATERIAL IN BUILDING
KEY-14	White 2'x4' Ceiling Tile	Gound Floor Main Office	None Detected	60 sq/ft
KEY-15	Black Vinyl Baseboard	Gound Floor Main Office	None Detected	40 l/ft
KEY-16	Brown Mastic Behind Baseboard	Gound Floor Main Office	None Detected	40 l/ft
KEY-17	White Door Caulk	Gound Floor Main Office	None Detected	10 l/ft
KEY-18	White Window Caulk	Gound Floor Main Office	None Detected	20 l/ft
KEY-19	Gray HVAC Caulk	HVAC/Storage Closets	None Detected	70 sq/ft
KEY-20	Black HCAV Caulk	HVAC/Storage Closet Near Office	None Detected	2 sq/ft
KEY-21	Red HVAC Caulk	HVAC/Storage Closets	None Detected	20 sq/ft
KEY-22	Brown Door Caulk	HVAC/Storage Closet Near Office	None Detected	20 l/ft
KEY-23	Yellow Conduit Caulk	HVAC/Storage Closet Near Office	None Detected	5 sq/ft
KEY-24	Gray HVAC Caulk	HVAC/Storage Closets	None Detected	70 sq/ft
KEY-25	Gray Door Caulk	Center HVAC/Storage Closet	None Detected	10 l/ft
KEY-26	Teal Flooring	Cashiers Stations	None Detected	50 sq/ft
KEY-27	Gray Mastic Beneath Flooring	Cashiers Stations	None Detected	50 sq/ft
KEY-28	Gray Vinyl Baseboard	Cashiers Stations	None Detected	60 l/ft
KEY-29	Tan Mastic Behind Baseboards	Cashiers Stations	None Detected	60 l/ft
KEY-30	White Drywall	Cashiers Stations	None Detected	75 sq/ft
KEY-31	Gray Concrete Surfacing on Floors	Roof Parking Area	None Detected	10,000 sq/ft
KEY-32	Gray Caulking Along Base of Walls	Roof Parking Area	None Detected	1,000 l/ft
KEY-33	Gray Caulking in Concrete Seams	Roof Parking Area	None Detected	1,000 sq/ft
KEY-34	**Hard Gray Parapet Caulking**	**Roof Parking Area**	**2% Chrysotile**	**500 l/ft**

ID	MATERIAL SAMPLED	LOCATION	% ASBESTOS	ESTIMATED TOTAL QUANTITY OF MATER IN BUILDING
KEY-35	Gray Window Caulking	Exterior Ground Floor/Stairwell Windows	None Detected	100 l/ft
KEY-36	**Black Window Caulking**	**Interior Ground Floor/Stairwell Windows – South Side**	**3% Chrysotile**	**100 l/ft**
KEY-37	**Black Window Caulking**	**Interior Ground Floor/Stairwell Windows – North Side**	**3% Chrysotile**	**100 l/ft**
KEY-38	Black Window Glazing	Interior Ground Floor/Stairwell Windows	None Detected	300 l/ft
KE8-39	Gray Concrete Block	Entrance Area	None Detected	20,000 sq/ft
KEY-40	Gray Concrete Block	Entrance Area	None Detected	20,000 sq/ft
KEY-41	Gray Concrete Block	Upper Level	None Detected	20,000 sq/ft
KEY-42	Associated Mortar	Entrance Area	None Detected	20,000 sq/ft
KEY-43	Associated Mortar	Entrance Area	None Detected	20,000 sq/ft
KEY-44	Associated Mortar	Upper Level	None Detected	20,000 sq/ft
KEY-45	Concrete Foundation/Structure	Upper Level	None Detected	100,000 sq/ft
KEY-46	Cream Brick	Entrance Area	None Detected	5,000 sq/ft
KEY-47	Associated Mortar	Entrance Area	None Detected	5,000 sq/ft
KEY-01R	Asphalt Roofing	Stairwell Vestibule Roofs	None Detected	250 sq/ft
KEY-02R	Asphalt Roofing	Stairwell Vestibule Roofs	None Detected	250 sq/ft
KEY-03R	Gray Window Caulking Along Walls	Ground Level Stairwell Areas	None Detected	50 l/ft
KEY-04R	Black Flashing	Stairwell Vestibule Roofs	None Detected	100 sq/ft
KEY-05R	Black Flashing	Stairwell Vestibule Roofs	None Detected	100 sq/ft
KEY-06R	Gray Window Caulking Along Base of Windows	Ground Level Stairwell Areas	None Detected	50 l/ft
KEY-07R	Gray Caulking Along Walls	Interior Stairwells	None Detected	400 l/ft
KEY-08R	Caulking Along Stairs	Interior Stairwells	None Detected	500 l/ft

5.0 Conclusions

As the results of this survey indicated the presence of ACM in connection with the subject structure, Keystone recommends that the identified ACM be removed and disposed of by a Wisconsin-licensed asbestos abatement contractor prior to any renovation or demolition activity that will disturb the asbestos containing materials identified into friable asbestos.

This asbestos survey was conducted in a manner consistent with the level of care and skill ordinarily exercised by members of the profession currently practicing under similar conditions in the same locale. The results, findings, conclusions and recommendations expressed in this report are based on conditions observed during our survey of the building. The information contained in this report is relevant to the date on which this survey was performed and should not be relied upon to represent conditions at a later date. This report is not a bidding document. Contractors or consultants reviewing this report must draw their own conclusions regarding further investigation or remediation deemed necessary.

If you have any questions, comments, or require additional services, feel free to contact us at (608) 480-8822, or by e-mail at contact@keystone-env.com.

Sincerely,

Keystone Environmental LLC.

T. Ryckman

Tucker Ryckman
Owner

Attachments

Attachment A – Keystone Inspector Certifications
Attachment B – Analytical Results and Lab Certifications
Attachment C – Photos

Attachment A

Keystone Inspector Certifications

KEYSTONE ENVIRONMENTAL LLC

4705 FERRIS AVE, MADISON, WI 53716-1413 | (231) 651-0791

is a

Certified Asbestos Company
DHS ID 2542250

under Wisconsin Admin. Code ch. DHS 159.

Issued Date: September 21, 2022
Expiration Date: August 20, 2024

Miriam Hasan

Miriam Hasan
Supervisor, Lead & Asbestos Certification Unit

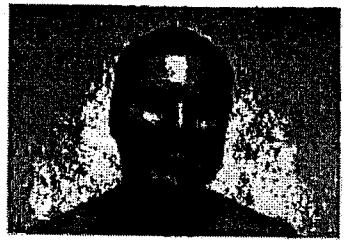
Wisconsin Department of Health Services
1 W Wilson Street
Madison, WI 53701
608-261-6876 | dhsasbestoslead@dhs.wisconsin.gov

Materials Report

Materials Report

Milwaukee Lead/Asbestos Information Center, Inc.

A Division of Midweest Certificated Training, Inc.
3495 North 124th Street, Brookfield, WI 53005 Phone: 414-481-9070



G Tucker Ryckman

Has successfully completed a course and passed the examination on July 18, 2023
with a minimum score of 70 percent, that meets all criteria for
the State of Illinois and the State of Wisconsin Recertification as an

Asbestos Inspector Refresher Course - English

Date of Course: July 18, 2023

Date Issued: July 18, 2023

Date of Expiration: July 18, 2024

Certification Number: AIR23071868101

Location: Milwaukee Lead/Asbestos Information Center, 3495 North 124th Street,

Rocky Everly

Rocky Everly, Director of Milwaukee Lead/Asbestos Information Center, Inc.
3495 North 124th Street
Brookfield, WI 53005
414-481-9070

This training course complies with the requirements of TSCA Title II and is accredited by the State of Illinois Department of Health and is .accredited by the State of Wisconsin Department of Health Services under ch. DHS 159, Wis. Admin.Code.

Attachment B

Analytical Results and Lab Certifications

SanAir Technologies Laboratory

The Identification Specialists

Analysis Report prepared for Keystone Environmental, LLC

Report Date: 10/6/2023

Project Name: MAD 926

SanAir ID#: 23054247

NVLAP TESTING

NVLAP LAB CODE 200870-0

10501 Trade Court I North Chesterfield, Virginia 23236
888.895.1177 I 804.897.1177 I fax: 804.897.0070 I IAQ@SanAir.com I SanAir.com

SanAir ID Number
23054247
FINAL REPORT
10/6/2023 5:24:33 PM

SanAir Technologies Laboratory

Name: Keystone Environmental, LLC
Address: 4705 Ferris Ave
Madison, WI 53716
Phone: 231-651-0791

Project Number:
P.O. Number:
Project Name: MAD 926
Collected Date: 9/26/2023
Received Date: 9/29/2023 10:50:00 AM

Dear Tucker Ryckman,

We at SanAir would like to thank you for the work you recently submitted. The 47 sample(s) were received on Friday, September 29, 2023 via UPS. The final report(s) is enclosed for the following sample(s): Key-01, Key-02, Key-03, Key-04, Key-05, Key-06, Key-07, Key-08, Key-09, Key-10, Key-11, Key-12, Key-13, Key-14, Key-15, Key-16, Key-17, Key-18, Key-19, Key-20, Key-21, Key-22, Key-23, Key-24, Key-25, Key-26, Key-27, Key-28, Key-29, Key-30, Key-31, Key-32, Key-33, Key-34, Key-35, Key-36, Key-37, Key-38, Key-39, Key-40, Key-41, Key-42, Key-43, Key-44, Key-45, Key-46, Key-47.

These results only pertain to this job and should not be used in the interpretation of any other job. This report is only complete in its entirety. Refer to the listing below of the pages included in a complete final report.

Sincerely,

Sandra Sobrino

Sandra Sobrino
Asbestos & Materials Laboratory Manager
SanAir Technologies Laboratory

Final Report Includes:
- Cover Letter
- Analysis Pages
- Disclaimers and Additional Information

Sample conditions:
- 47 samples in Good condition.

SanAir Technologies Laboratory

SanAir ID Number
23054247
FINAL REPORT
10/6/2023 5:24:33 PM

Name: Keystone Environmental, LLC
Address: 4705 Ferris Ave
Madison, WI 53716
Phone: 231-651-0791

Project Number:
P.O. Number:
Project Name: MAD 926
Collected Date: 9/26/2023
Received Date: 9/29/2023 10:50:00 AM

Analyst: Mayes, Jean | Drakes, Renaldo

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	% Non-fibrous	Asbestos Fibers
Key-01 / 23054247-001 2'x2' Flooring-Lower Level N. Storage Room	Beige Non-Fibrous Homogeneous		100% Other	None Detected
Key-02 / 23054247-002 Mastic Beneath Flooring-Lower Level N. Storage Room	Gray Non-Fibrous Homogeneous		100% Other	None Detected
Key-03 / 23054247-003 Vinyl Baseboard-Lower Level N. Storage Room	Black Non-Fibrous Homogeneous		100% Other	None Detected
Key-04 / 23054247-004 Mastic Behind Baseboard-Lower Level N. Storage Room	Tan Non-Fibrous Homogeneous		100% Other	None Detected
Key-05 / 23054247-005 Paper Pipe Wrap-Lower Level N. Storage Room	White Fibrous Heterogeneous	50% Cellulose 5% Glass	45% Other	None Detected
Key-06 / 23054247-006 2'x2' Flooring-Bathroom	Beige Non-Fibrous Homogeneous		100% Other	None Detected
Key-07 / 23054247-007 Mastic Beneath Flooring-Bathroom	Gray Non-Fibrous Homogeneous		100% Other	None Detected
Key-08 / 23054247-008 Door Caulk-Bathroom	Gray Non-Fibrous Homogeneous		100% Other	None Detected
Key-09 / 23054247-009 2'x2' Flooring-Office	Black Non-Fibrous Homogeneous		100% Other	None Detected
Key-10 / 23054247-010 Mastic Beneath Flooring-Office	Gray Non-Fibrous Homogeneous		100% Other	None Detected

Analyst: Jean Mayes
Analysis Date: 10/6/2023

Approved Signatory: Johnathan Wilson
Date: 10/6/2023

SanAir Technologies Laboratory

SanAir ID Number
23054247
FINAL REPORT
10/6/2023 5:24:33 PM

Name: Keystone Environmental, LLC
Address: 4705 Ferris Ave
Madison, WI 53716
Phone: 231-651-0791

Project Number:
P.O. Number:
Project Name: MAD 926
Collected Date: 9/26/2023
Received Date: 9/29/2023 10:50:00 AM

Analyst: Mayes, Jean | Drakes, Renaldo

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	% Non-fibrous	Asbestos Fibers
Key-11 / 23054247-011 Floor Tile Beneath Flooring-Office	White Non-Fibrous Homogeneous		100% Other	None Detected
Key-12 / 23054247-012 Mastic Beneath Tile-Office	Black Non-Fibrous Homogeneous		95% Other	5% Chrysotile
Key-13 / 23054247-013 Mastic Above Tile-Office	Yellow Non-Fibrous Homogeneous		100% Other	None Detected
-14 / 23054247-014 _ x4' Ceiling Tile-Office	White Fibrous Heterogeneous	40% Cellulose 30% Glass	30% Other	None Detected
Key-15 / 23054247-015 Vinyl Baseboard-Office	Black Non-Fibrous Homogeneous		100% Other	None Detected
Key-16 / 23054247-016 Mastic Behind Baseboard-Office	Brown Non-Fibrous Homogeneous		100% Other	None Detected
Key-17 / 23054247-017 Door Caulk-Office	Gray Non-Fibrous Homogeneous		100% Other	None Detected
Key-18 / 23054247-018 Window Caulk-Office	Gray Non-Fibrous Homogeneous		100% Other	None Detected
Key-19 / 23054247-019 HVAC Caulk-On HVAC Ducts/Mechanical-In HVAC Room	Gray Non-Fibrous Homogeneous		100% Other	None Detected
Key-20 / 23054247-020 HVAC Caulk-On HVAC Ducts/Mechanical-In HVAC Room	Black Non-Fibrous Homogeneous		100% Other	None Detected

Analyst: Jean Mayes
Analysis Date: 10/6/2023

Approved Signatory: Johnathan Wilson
Date: 10/6/2023

SanAir Technologies Laboratory

SanAir ID Number
23054247
FINAL REPORT
10/6/2023 5:24:33 PM

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Received Date: 9/29/2023 10:50:00 AM

Analyst: Mayes, Jean | Drakes, Renaldo

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	% Non-fibrous	Asbestos Fibers
Key-21 / 23054247-021 HVAC Caulk-On HVAC Ducts/Mechanical-In HVAC Room	Red Non-Fibrous Homogeneous		100% Other	None Detected
Key-22 / 23054247-022 Door Caulk-On HVAC Ducts/Mechanical-In HVAC Room	Brown Non-Fibrous Homogeneous		100% Other	None Detected
Key-23 / 23054247-023 Conduit Caulk-Outside HVAC Room	Yellow Non-Fibrous Homogeneous		100% Other	None Detected
Key-24 / 23054247-024 HVAC Caulk-On Ductwork/Mechanical-Center Storage Room	Gray Non-Fibrous Homogeneous		100% Other	None Detected
Key-25 / 23054247-025 Door Caulk-On Ductwork/Mechanical-Center Storage Room	Gray Non-Fibrous Homogeneous		100% Other	None Detected
Key-26 / 23054247-026 Flooring-Cashiers/Assistants Room	Blue Non-Fibrous Heterogeneous		100% Other	None Detected
Key-27 / 23054247-027 Mastic Beneath Flooring/Cashiers/Assistants Room	Gray Non-Fibrous Homogeneous		100% Other	None Detected
Key-28 / 23054247-028 Vinyl Baseboard-Cashiers/Assistants Room	Gray Non-Fibrous Homogeneous		100% Other	None Detected
Key-29 / 23054247-029 Mastic Behind Baseboard-Cashiers/Assistants Room	Tan Non-Fibrous Homogeneous		100% Other	None Detected
Key-30 / 23054247-030 Drywall-Cashiers/Assistants Room	Various Non-Fibrous Heterogeneous	10% Cellulose	90% Other	None Detected

Analyst: Jean Mayes
Analysis Date: 10/6/2023

Approved Signatory: Johnathan Wilson
Date: 10/6/2023

SanAir Technologies Laboratory

SanAir ID Number
23054247
FINAL REPORT
10/6/2023 5:24:33 PM

Name: Keystone Environmental, LLC
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Project Name: MAD 926
Collected Date: 9/26/2023
Received Date: 9/29/2023 10:50:00 AM

Analyst: Mayes, Jean | Drakes, Renaldo

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	% Non-fibrous	Asbestos Fibers
Key-31 / 23054247-031 Concrete Coating/Surfacing-Parking Area	Gray Non-Fibrous Homogeneous		100% Other	None Detected
Key-32 / 23054247-032 Caulking Along Base Of Walls-Parking Areas	Gray Non-Fibrous Homogeneous		100% Other	None Detected
Key-33 / 23054247-033 Caulking In Concrete Seams-Parking Areas	Gray Non-Fibrous Homogeneous		100% Other	None Detected
-34 / 23054247-034 ırd Parapit Caulking-On Parapits	Gray Non-Fibrous Homogeneous		98% Other	2% Chrysotile
Key-35 / 23054247-035 Window Caulking-Exterior Windows	Grey Non-Fibrous Homogeneous	< 1% Glass	100% Other	None Detected
Key-36 / 23054247-036 Window Caulking-Interior Windows N. Side	Black Non-Fibrous Homogeneous		97% Other	3% Chrysotile
Key-37 / 23054247-037 Window Caulking-Interior Windows N. Side	Black Non-Fibrous Homogeneous		97% Other	3% Chrysotile
Key-38 / 23054247-038 Window Glazing-Interior Windows	Black Non-Fibrous Homogeneous		100% Other	None Detected
Key-39 / 23054247-039 Concrete Block-Entrance Area	Grey Non-Fibrous Homogeneous		100% Other	None Detected
Key-40 / 23054247-040 Concrete Block-Entrance Area	Grey Non-Fibrous Homogeneous		100% Other	None Detected

Analyst: J. Mayes
Analysis Date: 10/6/2023

Approved Signatory: Johnathan Wilson
Date: 10/6/2023

SanAir
Technologies Laboratory

SanAir ID Number
23054247
FINAL REPORT
10/6/2023 5:24:33 PM

Name: Keystone Environmental, LLC
Address: 4705 Ferris Ave
Madison, WI 53716
Phone: 231-651-0791

Project Number:
P.O. Number:
Project Name: MAD 926
Collected Date: 9/26/2023
Received Date: 9/29/2023 10:50:00 AM

Analyst: Mayes, Jean | Drakes, Renaldo

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	% Non-fibrous	Asbestos Fibers
Key-41 / 23054247-041 Concrete Block-Upper Level	Grey Non-Fibrous Homogeneous		100% Other	None Detected
Key-42 / 23054247-042 Associated Mortar-Entrance Area	Grey Non-Fibrous Homogeneous		100% Other	None Detected
Key-43 / 23054247-043 Associated Mortar-Entrance Area	Grey Non-Fibrous Homogeneous		100% Other	None Detected
Key-44 / 23054247-044 Associated Mortar-Upper Level	Grey Non-Fibrous Homogeneous		100% Other	None Detected
Key-45 / 23054247-045 Concrete Foundation-Upper Level	Grey Non-Fibrous Homogeneous		100% Other	None Detected
Key-46 / 23054247-046 Brick-Entrance Area	White Non-Fibrous Homogeneous		100% Other	None Detected
Key-47 / 23054247-047 Associated Mortar-Entrance Area	Grey Non-Fibrous Homogeneous		100% Other	None Detected

Analyst: Jean Mayes
Analysis Date: 10/6/2023

Approved Signatory: Johnathan Wilson
Date: 10/6/2023

Disclaimer

This report is the sole property of the client named on the SanAir Technologies Laboratory chain-of-custody (COC). Results in the report are confidential information intended only for the use by the customer listed on the COC. Neither results nor reports will be discussed with or released to any third party without our client's written permission. The final report shall not be reproduced except in full without written approval of the laboratory to assure that parts of the report are not taken out of context. This report and any information contained within shall not be edited, altered, or modified in any way by any persons or agencies receiving, viewing, distributing, or otherwise possessing a copy of this final report. The laboratory reserves the right to perform amendments to any finalized report, of which shall supersede and make obsolete any previous editions. Such changes, modifications, additions, or deletions shall be effective immediately upon notice thereof, which may be given by means including but not limited to posting on the SanAir client portal website, electronic or conventional mail, or by any other means. The information provided in this report applies only to the samples submitted and is relevant only for the date, time, and location of sampling. The accuracy of the results is dependent upon the client's sampling procedure and information provided to the laboratory by the client on the COC. SanAir assumes no responsibility for the sampling procedure and will provide evaluation reports based solely on the sample(s) in the condition in which they arrived at the laboratory and information provided by the client on the COC, such as: project number, project name, collection dates, po number, special instructions, samples collected by, sample numbers, sample identifications, sample type, selected analysis type, flow rate, total volume or area, and start stop times that may affect the validity of the results in this report. Samples were received in good condition unless otherwise noted on the report. SanAir assumes no responsibility or liability for the manner in which the results are used or interpreted. This report does not constitute nor shall not be used by the client to claim product, process, system, or person certification, approval, or endorsement by NVLAP, NIST, NELAC, AIHA LAP, LLC or any other U.S. governmental agencies and may not be accredited by every local, state, and federal regulatory agencies. Samples are held for a period of 60 days. Fibers smaller than 5 microns cannot be seen with this method due to scope limitations. For NY state samples, method EPA 600/M4-82-020 is performed.

NYELAP Disclaimer:
Polarized- light microscopy is not consistently reliable in detecting asbestos in floor covering and similar non-friable organically bound materials. Quantitative transmission electron microscopy is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos containing.

Asbestos Accreditations
National Voluntary Laboratory Accreditation Program (NVLAP) Lab Code 200870-0
City of Philadelphia Department of Public Health Air Management Services, Certification#ALL-460
Commonwealth of Pennsylvania Department of Environmental Protection Number 68-05397
California State Environmental Laboratory Accreditation Program Certificate Number 2915
Colorado Department of Public Health and Environment Registration Number AL-23143
Connecticut Department of Public Health Environmental Laboratory Registration Number PH-0105
Massachusetts Department of Labor Standards Asbestos Analytical Services License Number: AA000222
State of Maine Department of Environmental Protection License Number: LB-0075, LA-0084
New York State Department of Health Laboratory ID: 11983
State of Rhode Island Department of Health Certification No.: PCM00126, PLM00126, TEM00126
Texas Department of State Health Services License Number: 300440
Commonwealth of Virginia Department of Professional and Occupational Regulation Number: 3333000323
State of Washington Department of Ecology Laboratory ID: C989
State of West Virginia Bureau for Public Health Analytical Laboratory Number: LT000616
Vermont Department of Health License Number: Asb-Co-An-000006
Louisiana Department of Environmental Quality AI Number 212253, Certificate #05088

SanAir Technologies Laboratory
1551 Oakbridge Dr. STE B
Powhatan, VA 23139
804.897.1177 / 888.895.1177
Fax 804.897.0070
sanair.com

Asbestos Chain of Custody

Form 140, Rev 1, 1/20/2017

SanAir ID Number: 230542477

Company: Keystone Environmental LLC	Project #:	Collect by:
Address: 4705 Ferris Ave	Project Name: MAD926	Phone #: 2316510791
City, St., Zip: Madison	Date Collected: 9/26/23	Fax #:
State of Collection: WI Account#:	P.O. Number:	Email: contact@keystone-env.com

Bulk

ABB	PLM EPA 600/R-93/116	☒
	Positive Stop ☐	
ABEPA	PLM EPA 400 Point Count	☐
ABB1K	PLM EPA 1000 Point Count	☐
ABBEN	PLM EPA NOB**	☐
ABBCH	TEM Chatfield**	☐
ABBTM	TEM EPA NOB**	☐
ABQ	PLM Qualitative	☐

** Available on 24-hr. to 5-day TAT

Water

ABHE	EPA 100.2	☐

Air

ABA	PCM NIOSH 7400	☐
ABA-2	OSHA w/ TWA*	☐
ABTEM	TEM AHERA	☐
ABATN	TEM NIOSH 7402	☐
ABT2	TEM Level II	☐
Other:		☐

New York ELAP

PLM NY	PLM EPA 600/M4-82-020	☐
ABEPA2	NY ELAP 198.1	☐
ABENY	NY ELAP 198.6 PLM NOB	☐
ABBNY	NY ELAP 198.4 TEM NOB	☐

Soil

ABSE	PLM EPA 600/R-93/116 (Qual.)	☐

Vermiculite & Soil

ABSP	PLM CARB 435 (LOD <1%)	☐
ABSP1	PLM CARB 435 (LOD 0.25%)	☐
ABSP2	PLM CARB 435 (LOD 0.1%)	☐

Dust

ABWA	TEM Wipe ASTM D-6480	☐
ABDMV	TEM Microvac ASTM D-5755	☐

Matrix	Other	
		☐

Turn Around Times	3 HR (4 HR TEM) ☐	6 HR (8HR TEM) ☐	12 HR ☐	24 HR ☐
	2 Days	☐ 3 Days	☐ 4 Days	☐ 5 Days

Special Instructions

Sample #	Sample Identification/Location	Volume or Area	Sample Date	Flow Rate*	Start – Stop Time*	
Key-01	Beige 2'x2' Flooring - Lower Level N. Storage Room	50	9/26/23	—	—	—
-02	Gray Mastic Beneath Flooring -	↓				
-03	Black vinyl Baseboard -	25				
-04	Mastic Behind Baseboard -	↓				
-05	Paper Pipe WRAP -					
-06	Beige 2'x2' Flooring - Bathroom.	50				
-07	Gray/Brown Mastic Beneath Flooring -	↓				
-08	Gray Door Caulk -					
-09	Black 2'x2' Flooring - Office	50				
-10	Gray Mastic Beneath Flooring -					
-11	White Floor tile Beneath Flooring -					
-12	Black Mastic Beneath Tile -	↓	↓	↓	↓	↓

Relinquished by	Date	Time	Received by	Date	Time
T. Ryan	9/27/23		IRM	9/29/23	10:50a

If no technician is provided, then the primary contact for your account will be selected. Unless scheduled, the turnaround time for all samples received after 3 pm EST Friday will begin at 8 am Monday morning. Weekend or holiday work must be scheduled ahead of time and is charged for rush turnaround time. SanAir covers Standard Overnight FedEx shipping. Shipments billed to SanAir with a faster shipping rate will result in additional charges.

Sample #	Sample Identification/Location	Volume or Area	Sample Date	Flow Rate*	Start – Stop Time*	
-13	Gray/Yellow Mastic Above Tile - office	50	9/25/23	–	–	–
-14	White 2'x4' Ceiling Tile -	↓	↓	↓	↓	↓
-15	Black vinyl Baseboard -	40				
-16	Brown Mastic Behind Baseboard	↓				
-17	White Door Caulk —					
-18	↓ - Window Caulk -					
-19	Gray HVAC Caulk - GN HVAC Ducts/Mechanical - In HVAC	70				
-20	Black HVAC Caulk — ↓ — ↓	Room 2				
-21	Red HVAC Caulk - ↓ - ↓	10				
-22	Brown Door Caulk — ↓					
-23	Yellow Conduit Caulk - outside HVAC Room					
-24	Gray HVAC Caulk - GN Network/Mechanical - Center Storage Room	70				
-25	Gray Door Caulk — ↓					
-26	Teal Flooring - Cashiers/Assistants Rooms	50				
-27	Gray Mastic Beneath Flooring - ↓	↓				
-28	Gray vinyl Baseboard — ↓	60				
-29	TAN Mastic Behind Baseboard - ↓	↓				
-30	White Drywall — ↓	75				
-31	Gray Concrete Coating/Surfacing - Parking Areas					
-32	Gray Caulking Along Base of Walls -					
-33	↓ - In concrete Seams -					
-34	Hard Gray Parapit Caulking - On Parapits					
-35	Gray window Caulking - Exterior windows					
-36	Black window Caulking - Interior Windows - S. Side					
-37	↓ ↓ - N. Side					
-38	Black window Glazing - Interior Windows					
-39	Gray Concrete Block - Entrance Area					
-40	↓ - ↓					
-41	↓ - UPPER Level					
-42	Associated Mortar - Entrance Area					
-43	↓ - ↓			↓	↓	↓

Special Instructions	

Relinquished by	Date	Time	Received by	Date	Time
T. Ley	9/26/23		TRM	9/29/23	10:15 am

If no technician is provided, then the primary contact for your account will be selected. Unless scheduled, the turnaround time for all samples received after 3 pm EST Friday will begin at 8 am Monday morning. Weekend or holiday work must be scheduled ahead of time and is charged for rush turnaround time. SanAir covers Standard Overnight FedEx shipping. Shipments billed to SanAir with a faster shipping rate will result in additional charges.

Gray + Red

Sample #	Sample Identification/Location	Volume or Area	Sample Date	Flow Rate*	Start – Stop Time*	
44	Associated Mortar - UPPER Level		9/26/23	—	—	—
45	Concrete Foundation - ↓		↓	↓	↓	↓
46	Cream Brick - Entrance Area					
47	Associated Mortar - ↓					

Special Instructions	

Relinquished by	Date	Time	Received by	Date	Time
	9/26/23		IRM	9/29/23	10:50 am

If no technician is provided, then the primary contact for your account will be selected. Unless scheduled, the turnaround time for all samples received after 3 pm EST Friday will begin at 8 am Monday morning. Weekend or holiday work must be scheduled ahead of time and is charged for rush turnaround time. SanAir covers Standard Overnight FedEx shipping. Shipments billed to SanAir with a faster shipping rate will result in additional charges.

Page 2 of 3

SanAir Technologies Laboratory

The Identification Specialists

Analysis Report prepared for Keystone Environmental, LLC

Report Date: 10/19/2023

Project Name: MAD 1018

SanAir ID#: 23058154

NVLAP TESTING

NVLAP LAB CODE 200870-0

10501 Trade Court I North Chesterfield, Virginia 23236
888.895.1177 I 804.897.1177 I fax: 804.897.0070 I IAQ@SanAir.com I SanAir.com

SanAir
Technologies Laboratory

SanAir ID Number
23058154
FINAL REPORT
10/19/2023 2:03:58 PM

Name: Keystone Environmental, LLC
Address: 4705 Ferris Ave
Madison, WI 53716
Phone: 231-651-0791

Project Number:
P.O. Number:
Project Name: MAD 1018
Collected Date: 10/18/2023
Received Date: 10/19/2023 10:35:00 AM

Dear Tucker Ryckman,

We at SanAir would like to thank you for the work you recently submitted. The 8 sample(s) were received on Thursday, October 19, 2023 via UPS. The final report(s) is enclosed for the following sample(s): Key-01, Key-02, Key-03, Key-04, Key-05, Key-06, Key-07, Key-08.

These results only pertain to this job and should not be used in the interpretation of any other job. This report is only complete in its entirety. Refer to the listing below of the pages included in a complete final report.

Sincerely,

Sandra Sobrino

Sandra Sobrino
Asbestos & Materials Laboratory Manager
SanAir Technologies Laboratory

Final Report Includes:
- Cover Letter
- Analysis Pages
- Disclaimers and Additional Information

Sample conditions:
- 8 samples in Good condition.

SanAir Technologies Laboratory

SanAir ID Number
23058154
FINAL REPORT
10/19/2023 2:03:58 PM

Name: Keystone Environmental, LLC
Address: 4705 Ferris Ave
Madison, WI 53716
Phone: 231-651-0791

Project Number:
P.O. Number:
Project Name: MAD 1018
Collected Date: 10/18/2023
Received Date: 10/19/2023 10:35:00 AM

Analyst: Hogrefe, Sarah

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	% Non-fibrous	Asbestos Fibers
Key-01 / 23058154-001 Asphalt Roofing - Stairwell Vestibules	Black Non-Fibrous Heterogeneous		100% Other	None Detected
Key-02 / 23058154-002 Asphalt Roofing - Stairwell Vestibules	Black Non-Fibrous Heterogeneous		100% Other	None Detected
Key-03 / 23058154-003 Window Caulking Along Walls - Ground Level	Gray Non-Fibrous Homogeneous		100% Other	None Detected
-04 / 23058154-004 Flashing - Stairwell Vestibules	Black Non-Fibrous Heterogeneous		100% Other	None Detected
Key-05 / 23058154-005 Flashing - Stairwell Vestibules	Black Non-Fibrous Heterogeneous	10% Cellulose	90% Other	None Detected
Key-06 / 23058154-006 Caulking Along Base Of Windows - Ground Level	Gray Non-Fibrous Homogeneous		100% Other	None Detected
Key-07 / 23058154-007 Interior Window Caulking Along Walls - Stairwells	Gray Non-Fibrous Homogeneous		100% Other	None Detected
Key-08 / 23058154-008 Stairwell Caulking - Stairwells	Gray Non-Fibrous Homogeneous		100% Other	None Detected

Analyst: S Hogrefe

Analysis Date: 10/19/2023

Approved Signatory: Johnathan Wilson

Date: 10/19/2023

Disclaimer

This report is the sole property of the client named on the SanAir Technologies Laboratory chain-of-custody (COC). Results in the report are confidential information intended only for the use by the customer listed on the COC. Neither results nor reports will be discussed with or released to any third party without our client's written permission. The final report shall not be reproduced except in full without written approval of the laboratory to assure that parts of the report are not taken out of context. This report and any information contained within shall not be edited, altered, or modified in any way by any persons or agencies receiving, viewing, distributing, or otherwise possessing a copy of this final report. The laboratory reserves the right to perform amendments to any finalized report, of which shall supersede and make obsolete any previous editions. Such changes, modifications, additions, or deletions shall be effective immediately upon notice thereof, which may be given by means including but not limited to posting on the SanAir client portal website, electronic or conventional mail, or by any other means. The information provided in this report applies only to the samples submitted and is relevant only for the date, time, and location of sampling. The accuracy of the results is dependent upon the client's sampling procedure and information provided to the laboratory by the client on the COC. SanAir assumes no responsibility for the sampling procedure and will provide evaluation reports based solely on the sample(s) in the condition in which they arrived at the laboratory and information provided by the client on the COC, such as: project number, project name, collection dates, po number, special instructions, samples collected by, sample numbers, sample identifications, sample type, selected analysis type, flow rate, total volume or area, and start stop times that may affect the validity of the results in this report. Samples were received in good condition unless otherwise noted on the report. SanAir assumes no responsibility or liability for the manner in which the results are used or interpreted. This report does not constitute nor shall not be used by the client to claim product, process, system, or person certification, approval, or endorsement by NVLAP, NIST, NELAC, AIHA LAP, LLC or any other U.S. governmental agencies and may not be accredited by every local, state, and federal regulatory agencies. Samples are held for a period of 60 days. Fibers smaller than 5 microns cannot be seen with this method due to scope limitations. For NY state samples, method EPA 600/M4-82-020 is performed.

NYELAP Disclaimer:
Polarized- light microscopy is not consistently reliable in detecting asbestos in floor covering and similar non-friable organically bound materials. Quantitative transmission electron microscopy is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos containing.

Asbestos Accreditations
National Voluntary Laboratory Accreditation Program (NVLAP) Lab Code 200870-0
City of Philadelphia Department of Public Health Air Management Services, Certification#ALL-460
Commonwealth of Pennsylvania Department of Environmental Protection Number 68-05397
California State Environmental Laboratory Accreditation Program Certificate Number 2915
Colorado Department of Public Health and Environment Registration Number AL-23143
Connecticut Department of Public Health Environmental Laboratory Registration Number PH-0105
Massachusetts Department of Labor Standards Asbestos Analytical Services License Number: AA000222
State of Maine Department of Environmental Protection License Number: LB-0075, LA-0084
New York State Department of Health Laboratory ID: 11983
State of Rhode Island Department of Health Certification No.: PCM00126, PLM00126, TEM00126
Texas Department of State Health Services License Number: 300440
Commonwealth of Virginia Department of Professional and Occupational Regulation Number: 3333000323
State of Washington Department of Ecology Laboratory ID: C989
State of West Virginia Bureau for Public Health Analytical Laboratory Number: LT000616
Vermont Department of Health License Number: Asb-Co-An-000006
Louisiana Department of Environmental Quality AI Number 212253, Certificate #05088

SanAir Technologies Laboratory
1551 Oakbridge Dr. STE B
Powhatan, VA 23139
804.897.1177 / 888.895.1177
Fax 804.897.0070
sanair.com

Asbestos Chain of Custody
Form 140, Rev 1, 1/20/2017

SanAir ID Number: 23058154

Company: Keystone Environmental LLC
Address: 4705 Ferris Ave
City, St., Zip: Madison
State of Collection: WI Account#:

Project #:
Project Name: MAD1018
Date Collected: 10/18/23
P.O. Number:

Collect by:
Phone #: 2316510791
Fax #:
Email: contact@keystone-env.com

Bulk

ABB	PLM EPA 600/R-93/116	☒
	Positive Stop ☐	
ABEPA	PLM EPA 400 Point Count	☐
ABB1K	PLM EPA 1000 Point Count	☐
ABBEN	PLM EPA NOB**	☐
ABBCH	TEM Chatfield**	☐
ABBTM	TEM EPA NOB**	☐
ABQ	PLM Qualitative	☐

** Available on 24-hr. to 5-day TAT

Air

ABA	PCM NIOSH 7400	☐
ABA-2	OSHA w/ TWA*	☐
ABTEM	TEM AHERA	☐
ABATN	TEM NIOSH 7402	☐
ABT2	TEM Level II	☐
Other:		☐

New York ELAP

PLM NY	PLM EPA 600/M4-82-020	☐
ABEPA2	NY ELAP 198.1	☐
ABENY	NY ELAP 198.6 PLM NOB	☐
ABBNY	NY ELAP 198.4 TEM NOB	☐

Soil

ABSE	PLM EPA 600/R-93/116 (Qual.)	☐

Vermiculite & Soil

ABSP	PLM CARB 435 (LOD <1%)	☐
ABSP1	PLM CARB 435 (LOD 0.25%)	☐
ABSP2	PLM CARB 435 (LOD 0.1%)	☐

Dust

ABWA	TEM Wipe ASTM D-6480	☐
ABDMV	TEM Microvac ASTM D-5755	☐

Water

ABHE	EPA 100.2	☐

Matrix	Other	
		☐

Turn Around Times				
	3 HR (4 HR TEM) ☐	6 HR (8HR TEM) ☐	12 HR ☒	24 HR ☒
	☐ 2 Days	☐ 3 Days	☐ 4 Days	☐ 5 Days

Special Instructions

Sample #	Sample Identification/Location	Volume or Area	Sample Date	Flow Rate*	Start – Stop Time*	
Key-01	Black Asphalt Roofing - Stairwell Vestibules	Bulk	10/18/23	—	—	—
-02						
-03	Gray Window Caulking Along Walls - Ground Level					
-04	Black Flashing - Stairwell Vestibules					
-05						
-06	Gray Caulking Along Bay of Windows - Ground Level					
-07	Exterior Window Caulking Along Walls - Staircases					
-08	Stairwell Caulking - Stairwell					
-09						
-10						
-11						
-12						

Relinquished by	Date	Time	Received by	Date	Time
[illegible]	10/19/23		EDR	10/19/23	10:35 a.m.

If no technician is provided, then the primary contact for your account will be selected. Unless scheduled, the turnaround time for all samples received after 3 pm EST Friday will begin at 8 am Monday morning. Weekend or holiday work must be scheduled ahead of time and is charged for rush turnaround time. SanAir covers Standard Overnight FedEx shipping. Shipments billed to SanAir with a faster shipping rate will result in additional charges.

United States Department of Commerce
National Institute of Standards and Technology

Certificate of Accreditation to ISO/IEC 17025:2017

NVLAP LAB CODE: 200870-0

SanAir Technologies Laboratory, Inc.

N. Chesterfield, VA

is accredited by the National Voluntary Laboratory Accreditation Program for specific services, listed on the Scope of Accreditation, for:

Asbestos Fiber Analysis

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communique dated January 2009).

2023-04-01 through 2024-03-31

Effective Dates

For the National Voluntary Laboratory Accreditation Program

National Voluntary Laboratory Accreditation Program

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

SanAir Technologies Laboratory, Inc.
10501 Trade Court
N. Chesterfield, VA 23236
Ms. Sandra Sobrino
Phone: 804-897-1177 Fax: 804-897-0070
Email: ssobrino@sanair.com
http://www.sanair.com

ASBESTOS FIBER ANALYSIS **NVLAP LAB CODE 200870-0**

Bulk Asbestos Analysis

Code	*Description*
18/A01	EPA -- 40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples
18/A03	EPA 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

Airborne Asbestos Analysis

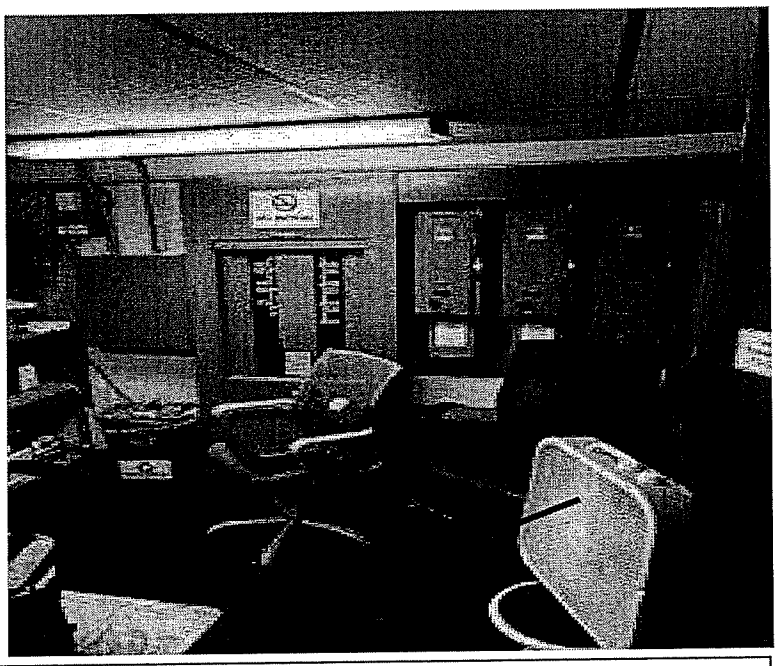
Code	*Description*
18/A02	U.S. EPA's "Interim Transmission Electron Microscopy Analytical Methods-Mandatory and Nonmandatory-and Mandatory Section to Determine Completion of Response Actions" as found in 40 CFR, Part 763, Subpart E, Appendix A.

For the National Voluntary Laboratory Accreditation Program

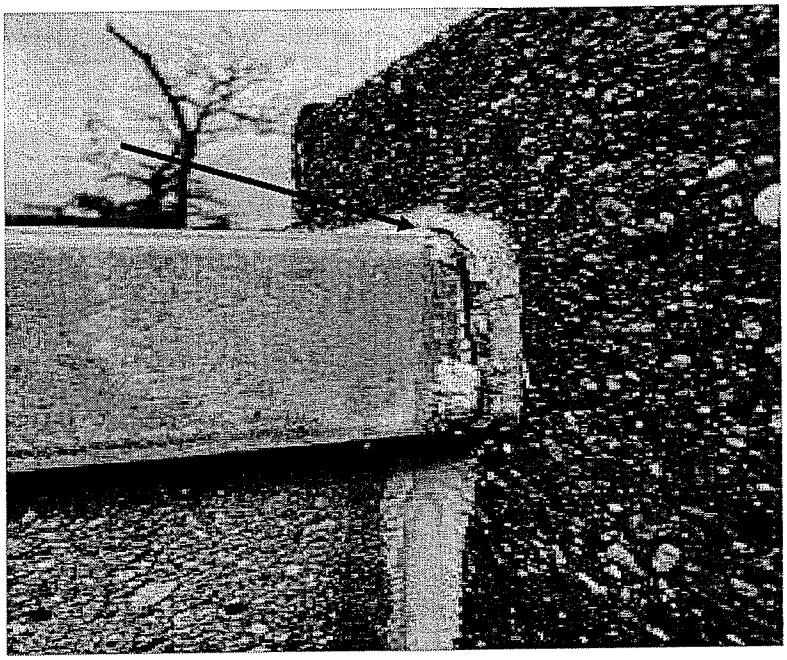
Effective 2023-04-01 through 2024-03-31

Attachment C

Photos

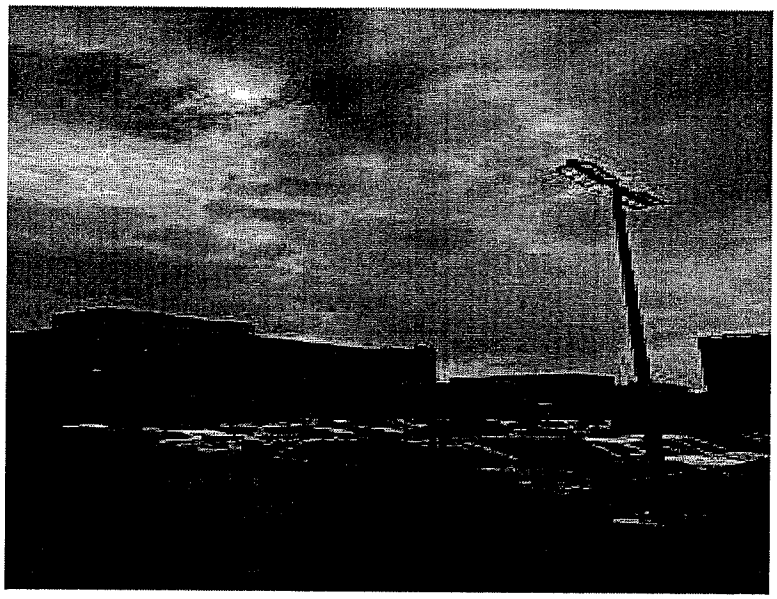


Photograph 1 – A view of the office with asbestos-containing mastic beneath flooring.

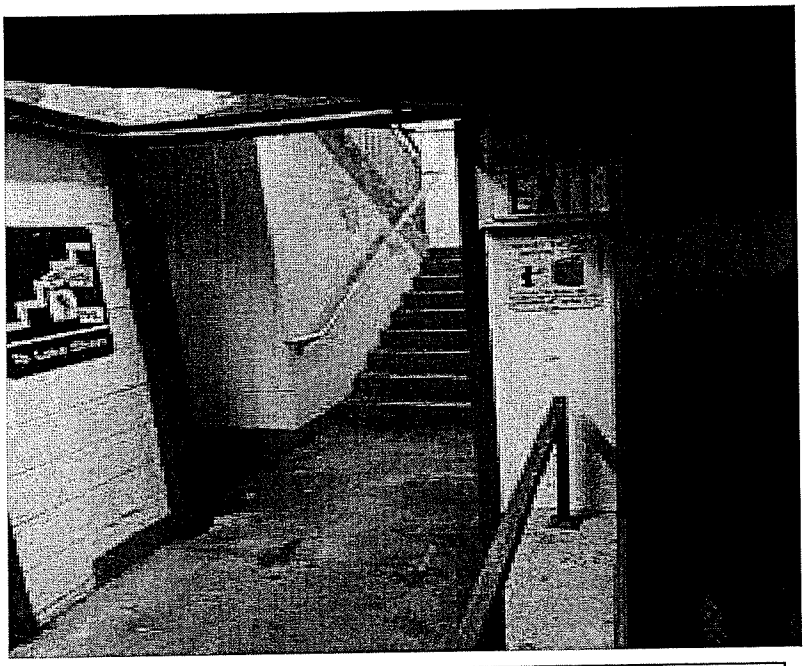


Photograph 2 – A view of the asbestos-containing hard gray parapet caulking.

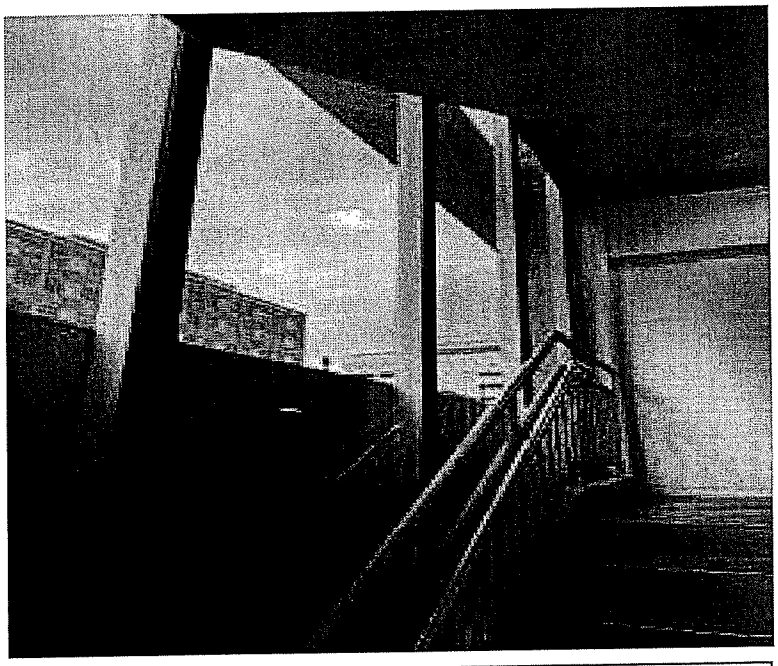
Photograph 3 – A view the asbestos-containing black interior window caulk.



Photograph 4 – A view of the upper level/roof parking area.



Photograph 5 – A view a lower-level stairwell entrance.



Photograph 6 – A view of the stairwell windows.

KEYSTONE
ENVIRONMENTAL

October 12, 2023

Ms. Maria Delestre
City of Madison - Engineering Division
City-County Building Room 115
210 Martin Luther King, Jr. Boulevard
Madison, Wisconsin 53703

Re: **Pre-Demolition Report – Lead Paint Testing**
Parking Garage
415 North Lake Street
Madison, Wisconsin 53715

Dear Ms. Delestre,

In response to your request, Keystone Environmental LLC. (Keystone) has completed testing of suspect lead-based paint. The assessment was performed on the parking structure located at 415 North Lake Street, in Madison, Wisconsin. This report provides an executive summary, an outline of the scope-of-work, and analytical results for the materials tested.

We are pleased to be of service to you. If you have any questions, comments, or require additional services, feel free to contact us at (608) 480-8822, or by e-mail at contact@keystone-env.com.

Sincerely,

T. Ryckman

Tucker Ryckman
Owner

1.0 Executive Summary

On September 27, 2023, Keystone collected nine (9) suspect lead-based paint (LBP) chips from the subject building as part of the pre-demolition process. Keystone was provided access to the interior and exterior spaces of the structure.

Analytical results indicated that none of the paint chip samples collected were greater than the EPA lead standard for lead concentrations in paint, which is greater than or equal to 0.5% lead by weight.

Keystone notes that this executive summary is not intended to be a stand-alone document and it is strongly recommended that this report be read in its entirety.

2.0 Scope-of-Work

The purpose of the survey was to determine the presence or absence of LBP on surfaces of accessible building materials observed during the inspection. Keystone representative Mr. Tucker Ryckman completed the sampling on September 27, 2023. Mr. Ryckman is a state of Wisconsin accredited lead inspector/risk assessor (license number LRA-253634).

Keystone certifications are located in Attachment A.

3.0 Analytical Testing

Samples were sent for analysis to San Air Technologies Laboratory (San Air), located in North Chesterfield, Virginia. San Air is recognized under the National Voluntary Laboratory Accreditation Program (NVLAP) as Laboratory #200870-0. The analysis for lead content was conducted in accordance with AIHA and ELLAP protocol for analyzing lead content in paint and dust by using Flame Atomic Absorption Spectroscopy.

Analytical results and laboratory certifications are located in Attachment B.

4.0 Inspection Results

Lead Paint Chip Sampling

The EPA lead standard for lead concentrations in paint is greater than or equal to 0.5% lead by weight. Paints exceeding this number a classified as LBP.

The following table summarizes the results of the lead paint sampling.

SAMPLE ID	Color/Location	Component/Material	Condition	RESULT (%)
KEY-01	Silver – Bathroom	Wall – Concrete	Intact	<0.010%
KEY-02	Beige – Bathroom	Wall – Concrete	Intact	<0.009%
KEY-03	Gray – MG&E Closet	Wall – Concrete	Deteriorated	<0.010%
KEY-04	Beige – Main Office	Wall - Concrete	Intact	<0.009%
KEY-05	White – Closet Next to HVAC Room	Wall – Concrete	Intact	<0.009%
KEY-06	Yellow – Posts/Entrance Lanes	Posts – Concrete	Intact	<0.010%
KEY-07	Gray – Entrance Area	Walls – Concrete	Intact	<0.009%
KEY-08	White – Throughout	Ceilings – Concrete	Deteriorated	<0.009%
KEY-09	Blue – Stairwells	Doors – Metal	Intact	<0.009%

5.0 Conclusions

On September 27, 2023, Keystone collected nine (9) suspect LBP chips from the subject building.

Analytical results indicated that none of the paint chip samples collected were greater than the EPA lead standard for lead concentrations in paint, which is greater than or equal to 0.5% lead by weight.

If you have any questions or comments, please contact our office.

Keystone Environmental LLC.

T. Ryckman

Tucker Ryckman
Owner

Attachment A - Keystone Certifications
Attachment B – Analytical Results and Laboratory Certifications

Attachment A

Keystone Inspector Certifications

KEYSTONE ENVIRONMENTAL LLC

4705 FERRIS AVE, MADISON, WI 53716-1413 | (231) 651-0791

is a

Certified Lead Company
DHS ID 2542250

under Wisconsin Admin. Code ch. DHS 163.

Issued Date: September 21, 2022
Expiration Date: August 20, 2024

Miriam Hasan

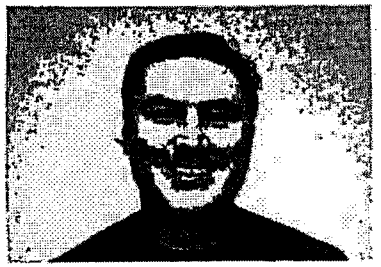
Miriam Hasan
Supervisor, Lead & Asbestos Certification Unit

Wisconsin Department of Health Services
1 W Wilson Street
Madison, WI 53701
608-261-6876 | dhsasbestoslead@dhs.wisconsin.gov

Materials Report

Milwaukee Lead/Asbestos Information Center

A division of Midwest Certified Training, Inc.
3495 North 124th Street, Brookfield, WI 53005 Phone: 414-481-9070



G. Tucker Ryckman

has successfully passed the required course test and completed all other requirements for the 8-hour

Lead Risk Assessor Refresher Course

on September 19, 2023 *in* Milwaukee Lead/Asbestos Information Center, 3495 North 124th Street, Brookfield, WI 53005.

Course Test Date: September 19, 2023

Date Course Certificate Issued: September 19, 2023

Course Certificate #: LRAR23091968541

Rocky Everly

Rocky Everly, Training Manager MLAIC

DCQ Course ID #: 10965

This training course complies with the requirements of and is accredited by the State of Wisconsin, Department of Health and Family Services under ch. HFS 163, Wis. Admin. Code.

Materials Report

Attachment B

Analytical Results and Lab Certifications

SanAir Technologies Laboratory

The Identification Specialists

Analysis Report prepared for Keystone Environmental, LLC

Report Date: 10/3/2023

Project Name: MAD 926

SanAir ID#: 23054251

10501 Trade Court I North Chesterfield, Virginia 23236
888.895.1177 I 804.897.1177 I fax: 804.897.0070 I IAQ@SanAir.com I SanAir.com

SanAir
Technologies Laboratory

SanAir ID Number
23054251
FINAL REPORT
10/3/2023 5:12:19 PM

Name: Keystone Environmental, LLC
Address: 4705 Ferris Ave
Madison, WI 53716
Phone: 231-651-0791

Project Number:
P.O. Number:
Project Name: MAD 926
Collected Date: 9/26/2023
Received Date: 9/29/2023 10:50:00 AM

Dear GTR,

We at SanAir would like to thank you for the work you recently submitted. The 9 sample(s) were received on Friday, September 29, 2023 via UPS. The final report(s) is enclosed for the following sample(s): KEY-01, KEY-02, KEY-03, KEY-04, KEY-05, KEY-06, KEY-07, KEY-08, KEY-09.

These results only pertain to this job and should not be used in the interpretation of any other job. This report is only complete in its entirety. Refer to the listing below of the pages included in a complete final report.

Sincerely,

Abisola Kasali
Metals Laboratory Director
SanAir Technologies Laboratory

Final Report Includes:
- Cover Letter
- Analysis on Test Family AA
- Disclaimers and Additional Information

Sample conditions:
- 9 samples in Good condition.

SanAir Technologies Laboratory

SanAir ID Number
23054251
FINAL REPORT
10/3/2023 5:12:19 PM

Name: Keystone Environmental, LLC
Address: 4705 Ferris Ave
Madison, WI 53716
Phone: 231-651-0791

Project Number:
P.O. Number:
Project Name: MAD 926
Collected Date: 9/26/2023
Received Date: 9/29/2023 10:50:00 AM

Analyst: Rivera, Shirley
Test Method: SW846/M3050B/7000B

Lead Paint Analysis

PAINT Sample	Description	µg Pb In Sample	Sample Size (grams)	Calculated RL	Sample Results	Sample Results
23054251 - 1	KEY-01 Silver Paint-Bathroom	< 10	0.1026	97.5	<97.5 µg/g (ppm)	<0.010 % By Weight
23054251 - 2	KEY-02 Beige Paint-Bathroom-Wall	< 10	0.107	93.5	<93.5 µg/g (ppm)	<0.009 % By Weight
23054251 - 3	KEY-03 Grey Paint On Mechanical-MGSE Closet	< 10	0.1026	97.5	<97.5 µg/g (ppm)	<0.010 % By Weight
23054251 - 4	KEY-04 Beige Paint-Office	< 10	0.1065	93.9	<93.9 µg/g (ppm)	<0.009 % By Weight
23054251 - 5	KEY-05 White Paint-Closet Next To HVAC Room	< 10	0.1114	89.8	<89.8 µg/g (ppm)	<0.009 % By Weight
23054251 - 6	KEY-06 Yellow Paint-Concrete Posts/Entrance Lones	< 10	0.1047	95.5	<95.5 µg/g (ppm)	<0.010 % By Weight
23054251 - 7	KEY-07 Grey Paint-Base Of Walls	< 10	0.1086	92.1	<92.1 µg/g (ppm)	<0.009 % By Weight
23054251 - 8	KEY-08 White Paint-Concrete Ceilings	< 10	0.1105	90.5	<90.5 µg/g (ppm)	<0.009 % By Weight
23054251 - 9	KEY-09 Blue Paint-Exterior/Doors	< 10	0.108	92.6	<92.6 µg/g (ppm)	<0.009 % By Weight

Method Reporting Limit <10 µg/0.1 g paint

Signature: Shirley Rivera
Date: 10/2/2023

Reviewed: Alissa Galarneau
Date: 10/3/2023

Disclaimer

SanAir Technologies Laboratory, Inc. participates in the Environmental Lead Accreditation Program (ELAP) administered by AIHA LAP, LLC (Laboratory ID LAP-162952). Refer to our accreditation certificate and scope on our website or www.aihaaccreditedlabs.org for an up to date list of the Fields of Testing for which we are accredited. SanAir also participates in the State of New York's DOH-ELAP (Lab Id 11983), and has met the EPA's NLLAP program standards. This report does not constitute nor shall be used by the client to claim product, process, system, or person certification, approval, or endorsement by AIHA LAP, LLC, NELAC, NIST, and/or any other U.S. governmental agencies; and test results in this report may not be accredited by every local, state or federal regulatory agency.

This report is the sole property of the client named on the SanAir Technologies Laboratory chain-of-custody (COC). Results in the report are confidential information intended only for the use by the customer listed on the chain of custody. Neither results nor reports will be discussed with or released to any third party without our client's written permission. Final reports cannot be reproduced, except in full, without written authorization from SanAir Technologies Laboratory, Inc. This report and any information contained within shall not be edited, altered, or modified in any way by any persons or agencies receiving, viewing, distributing, or otherwise possessing a copy of this final report. The laboratory reserves the right to perform amendments to any finalized report, of which shall supersede and make obsolete any previous editions. Such changes, modifications, additions, or deletions shall be effective immediately upon notice thereof, which may be given by means including but not limited to posting on the SanAir client portal website, electronic or conventional mail, or by any other means. The information provided in this report applies only to the samples submitted and is relevant only for the date, time, and location of sampling. The accuracy of the results of the analysis is dependent upon the method of sample procurement and information provided by the client on the COC. SanAir is not responsible for the method of sample procurement. SanAir assumes no responsibility for information provided by the client on the COC such as project number, project name, collect dates, po number, special instructions, samples collected by, sample numbers, sample identifications, sample type, selected analysis type, flow rate, total volume or area, and start stop times that may affect the validity of the results in this report. SanAir Technologies Laboratory, Inc only assures the precision and accuracy of the data it generates and assumes no responsibility for errors or biasing that occur during collection prior to SanAir's receipt of the sample(s). Evaluation reports are based solely on the sample(s) in the condition in which they arrived at the laboratory and on the information provided by the client on the COC. Sample(s) were received in good condition unless otherwise noted on the report. SanAir assumes no responsibility or liability for the manner in which the results are used or interpreted. SanAir's Method Detection Limits (MDL) and Reporting Limits (RL) have been derived using various materials meeting each accrediting agencies' standards. All quality control results are acceptable unless otherwise noted. SanAir does not make contamination corrections to reports based upon analysis of laboratory and/or field blanks. All samples are disposed of after 90 days unless otherwise requested by the client. For Lead Exposure Limits, refer to HUD Guidelines for the Evaluation and Control of Lead-Based Paint Hazards and State and Federal Regulations, where applicable. For Lead Exposure Limits in Air, refer to EPA National Ambient Air Quality Standards, OSHA Action Levels & Permissible Exposure Limits (General Industry & Construction), and relative state or federal requirements where applicable.

AIHA LAP, LLC Lab ID: LAP-162952
Commonwealth of VA Department of General Services DCLS, VELAP Laboratory ID#460251
New York State Department of Health Laboratory ID No: 11983
California State Environmental Laboratory Accreditation Program Certificate No: 2915
State of Connecticut Department of Public Health Environmental Laboratory Registration Number: PH-0105
New Jersey Department of Environment Protection Environmental Laboratory Certification ID# VA014
Ohio Department of Health Environmental Lead Laboratory Approval Number E10049
State of Rhode Island Department of Health Environmental Lead Laboratory No LAO00371

SanAir Technologies Laboratory
10501 Trade Ct.
N. Chesterfield, VA 23236-3993
804.897.1177 / 888.895.1177
Fax 804.897.0070
sanair.com

Metals & Lead Chain of Custody
Form 70, Revision 11, 09/21/21

SanAir ID Number: 23054251

Company: Keystone Environmental	Project #:	Phone #:
Address: 4705 Ferris Ave	Project Name: MAD926	Phone #: 2316510791
City, St., Zip: Madison	Date Collected: 9/26/23	Fax #:
Samples Collected By: GTR	P.O. Number:	Email: contact@keystone-env.com
Account #:	U.S. State Collected in: WI	Email:

Matrix Types

- ☐ Air (ug/m³)
- ☐ Wipe (ug/ft²)
- ☒ Paint ☐ Soil ☐ Bulk (ug/g or ppm)
- ☐ Other:

Metals Analysis Types

- Total Concentration of Lead ☒
- Total Concentration of RCRA 8 Metals ☐
- TCLP for Lead ☐
- TCLP for RCRA 8 Metals ☐
- ☐ ICP-total concentration of metals (please list metals):

Turn Around Time				
	Same Day ☐	1 Day ☐	2 days ☒	3 Days ☐
	☐ 4 Days	☐ Standard (5 day)	☐ Other Test:	

Sample #	Collection Date & Time	Sample Identification/Location	Flow Rate	Start Time	Stop Time	Volume (L) Area (Sq ft)
KEY-01	9/26/23	Silver Paint - Bathroom	—	—	—	—
-02	↓	Beige Paint - ↓ - Wall				
-03		Gray Paint on Mechanical - MGSE Closet				
-04		Beige Paint - Office				
-05		White Paint - Closet Next to HVAC Room				
-06		Yellow Paint - Concrete Posts / Entrance Cones				
-07		Gray Paint - Base of Walls				
-08		White Paint - Concrete Ceilings	↓	↓	↓	↓
-09		Blue Paint - Exterior Doors				

Special Instructions

Relinquished by	Date	Time	Received by	Date	Time
TC	9/26/23		RM	9/29/23	10:50 am

If no technician is provided, then the primary contact for your account will be selected. Unless scheduled, the turnaround time for all samples received after 3 pm EST will be logged in the next business day. Weekend or holiday work must be scheduled ahead of time and is charged at 150% of the 3hr TAT or a minimum charge of $150. A courier charge will be applied for same day and one-day turnaround times for offsite work. SanAir covers Ground and Next Day Air shipping. Shipments billed to SanAir with a faster shipping rate will result in additional charges.

Page 1 of 1

AIHA Laboratory Accreditation Programs, LLC

acknowledges that

SanAir Technologies Laboratory, Inc.

10501 Trade Court N. Chesterfield, VA 23236

Laboratory ID: LAP-162952

along with all premises from which key activities are performed, as listed above, has fulfilled the requirements of the AIHA Laboratory Accreditation Programs (AIHA LAP), LLC accreditation to the ISO/IEC 17025:2017 international standard, General Requirements for the Competence of Testing and Calibration Laboratories in the following:

LABORATORY ACCREDITATION PROGRAMS

☑	INDUSTRIAL HYGIENE	Accreditation Expires: June 01, 2024
☑	ENVIRONMENTAL LEAD	Accreditation Expires: June 01, 2024
☑	ENVIRONMENTAL MICROBIOLOGY	Accreditation Expires: June 01, 2024
☐	FOOD	Accreditation Expires:
☐	UNIQUE SCOPES	Accreditation Expires:

Specific Field(s) of Testing (FoT)/Method(s) within each Accreditation Program for which the above named laboratory maintains accreditation is outlined on the attached Scope of Accreditation. Continued accreditation is contingent upon successful on-going compliance with ISO/IEC 17025:2017 and AIHA LAP, LLC requirements. This certificate is not valid without the attached Scope of Accreditation. Please review the AIHA LAP, LLC website (www.aihaaccreditedlabs.org) for the most current Scope.

Cheryl O. Morton

Cheryl O Morton
Managing Director, AIHA Laboratory Accreditation Programs, LLC

Revision20: 06/07/2022

Date Issued: 06/09/2022

AIHA LAP™

AIHA Laboratory Accreditation Programs, LLC

SCOPE OF ACCREDITATION

SanAir Technologies Laboratory, Inc.
10501 Trade Court N. Chesterfield, VA 23236

Laboratory ID: LAP-162952
Issue Date: 06/09/2022

The laboratory is approved for those specific field(s) of testing/methods listed in the table below. Clients are urged to verify the laboratory's current accreditation status for the particular field(s) of testing/Methods, since these can change due to proficiency status, suspension and/or withdrawal of accreditation.

The EPA recognizes the AIHA LAP, LLC ELLAP program as meeting the requirements of the National Lead Laboratory Accreditation Program (NLLAP) established under Title X of the Residential Lead-Based Paint Hazard Reduction Act of 1992 and includes paint, soil and dust wipe analysis. Air and composited wipes analyses are not included as part of the NLLAP.

Environmental Lead Laboratory Accreditation Program (ELLAP)

Initial Accreditation Date: 01/01/2012

Component, parameter or characteristic tested	Technology sub-type/Detector	Method	Method Description *(for internal methods only)*
Airborne Dust	AA	NIOSH 7082 Modified	N/A
	ICP	NIOSH 7300 Modified	N/A
Paint	AA	EPA SW-846 3050B	N/A
		EPA SW-846 7000B	N/A
	ICP	EPA SW-846 6010C	N/A
Settled Dust by Wipe	AA	EPA SW-846 3050B	N/A
		EPA SW-846 7000B	N/A
	ICP	EPA SW-846 3050B	N/A
		EPA SW-846 6010C	N/A
Soil	AA	EPA SW-846 3050B	N/A
		EPA SW-846 7000B	N/A
	ICP	EPA SW-846 3050B	N/A
		EPA SW-846 6010C	N/A
Paint	ICP	EPA SW-846 3050B	N/A

AIHA LAP™

A complete listing of currently accredited ELLAP laboratories is available on the AIHA LAP, LLC website at: *http://www.aihaaccreditedlabs.org*

AIHA LAP™

AIHA Laboratory Accreditation Programs, LLC
SCOPE OF ACCREDITATION

SanAir Technologies Laboratory, Inc.
10501 Trade Court N. Chesterfield, VA 23236

Laboratory ID: LAP-162952
Issue Date: 06/09/2022

The laboratory is approved for those specific field(s) of testing/methods listed in the table below. Clients are urged to verify the laboratory's current accreditation status for the particular field(s) of testing/Methods, since these can change due to proficiency status, suspension and/or withdrawal of accreditation.

Environmental Microbiology Laboratory Accreditation Program (EMLAP)

Initial Accreditation Date: 03/01/2004

EMLAP Scope Category	Field of Testing (FOT)	Component, parameter or characteristic tested	Method	Method Description *(for internal methods only)*
Bacterial	Air - Culturable	Viable Impaction Samples	SOP 101	In House: Analysis of Culturable Air Samples for Bacterial
Bacterial	Bulk - Culturable	Bulks	SOP 102	In House: Analysis of Culturable Bulk Samples for Bacterial
Bacterial	Surface - Culturable	Sponges, swabs, contact plates	SOP 103	In House: Analysis of Culturable Surface Samples for Bacterial
Fungal	Air - Culturable	Viable Impaction Samples	SOP 101	In House: Analysis of Culturable Air Samples for Fungi
Fungal	Air - Direct Examination	Spore Trap Air Samples	SOP 105C	In House: Analysis of Spore Traps for Air Direct Examination
Fungal	Air - Direct Examination	Spore Trap Air Samples	SOP 106	In House: Analysis of Spore Traps for Air Direct Examination
Fungal	Air - Direct Examination	Spore Trap Air Samples	SOP 107C	In House: Analysis of Spore Traps for Air Direct Examination
Fungal	Bulk - Culturable	Bulks	SOP 102	In House: Analysis of Culturable Bulk Samples of Fungi
Fungal	Bulk - Direct Examination	Tape, Bulk, Swab, etc.	SOP 104	In House: Analysis of Bulk Samples for Direct Fungal Identification
Fungal	Bulk - Direct Examination	Tape, Bulk, Swab, etc.	SOP 112	In House: Analysis of Bulk Samples for Direct Fungal Identification
Fungal	Surface - Culturable	Sponges, swabs, contact plates	SOP 103	In House: Analysis of Culturable Surface Samples for Fungi

AIHA LAP™

EMLAP Scope Category	Field of Testing (FOT)	Component, parameter or characteristic tested	Method	Method Description *(for internal methods only)*
Fungal	Surface - Direct Examination	Tape, Bulk, Swab, etc.	SOP 104	In House: Analysis of Surface Samples for Direct Fungal Identification
Fungal	Surface - Direct Examination	Tape, Bulk, Swab, etc.	SOP 112	In House: Analysis of Surface Samples for Direct Fungal Identification

A complete listing of currently accredited EMLAP laboratories is available on the AIHA LAP, LLC website at: *http://www.aihaaccreditedlabs.org*

AIHA LAP™

AIHA Laboratory Accreditation Programs, LLC
SCOPE OF ACCREDITATION

SanAir Technologies Laboratory, Inc.
10501 Trade Court N. Chesterfield, VA 23236

Laboratory ID: LAP-162952
Issue Date: 06/09/2022

The laboratory is approved for those specific field(s) of testing/methods listed in the table below. Clients are urged to verify the laboratory's current accreditation status for the particular field(s) of testing/Methods, since these can change due to proficiency status, suspension and/or withdrawal of accreditation.

Industrial Hygiene Laboratory Accreditation Program (IHLAP)

Initial Accreditation Date: 06/01/2016

IHLAP Scope Category	Field of Testing (FOT)	Technology sub-type/Detector	Published Reference Method/Title of In-house Method	Component, parameter or characteristic tested
Asbestos/Fiber Microscopy Core	Phase Contrast Microscopy (PCM)	-	NIOSH 7400	Asbestos/Fibers
Spectrometry Core	Atomic Absorption	CVAA	NIOSH 6009	Mercury vapor
Spectrometry Core	Atomic Absorption	CVAA	OSHA ID-145	Mercury particulate
Spectrometry Core	Inductively-Coupled Plasma	ICP/AES	NIOSH 7303	Metals, Antimony, Arsenic, Barium, Beryllium, Cadmium, Selenium, Silver, Zinc, Chromium, Cobalt, Lead, Aluminum, Iron, Molybdenum, Manganese, Nickel, Titanium, Thallium, Vanadium, Copper

A complete listing of currently accredited IHLAP laboratories is available on the AIHA LAP, LLC website at: *http://www.aihaaccreditedlabs.org*

KEYSTONE
ENVIRONMENTAL

October 24, 2023

Ms. Maria Delestre
City of Madison - Engineering Division
City-County Building Room 115
210 Martin Luther King, Jr. Boulevard
Madison, Wisconsin 53703

Re: **Pre-Demolition Report – Universal Waste**
Parking Garage
415 North Lake Street
Madison, Wisconsin 53715

Dear Ms. Delestre,

In response to your request, Keystone Environmental LLC. (Keystone) has completed an inventory of universal waste. The assessment was performed on the parking structure located at 415 North Lake Street, in Madison, Wisconsin. This report provides an executive summary, an outline of the scope-of-work and quantities for the materials observed.

We are pleased to be of service to you. If you have any questions, comments, or require additional services, feel free to contact us at (608) 480-8822, or by e-mail at contact@keystone-env.com.

Sincerely,

T. Ryckman

Tucker Ryckman
Owner

1.0 Executive Summary

Keystone was contracted to perform an inventory of universal hazardous waste prior to the demolition of the above reference structure. Keystone performed the inventory on September 27, 2023.

2.0 Scope of Work

The inspection included interior and exterior observations of the subject property. Keystone also made note of the general site layout and looked for signs of existing and potential contamination sources. Site reconnaissance activities were limited to accessible areas only.

2.1 Mercury-Containing Equipment, Pesticides and Batteries

Mercury-containing equipment and batteries fall under the Environmental Protection Agency's (EPA's) Universal Waste Rule (40 CFR part 273). The rule streamlines hazardous waste management standards for federally designated "universal wastes," which include batteries, pesticides, and mercury-containing equipment. The regulations govern the collection and management of these widely generated wastes, thus facilitating environmentally sound collection and proper recycling or treatment.

The following table lists the quantity and location of mercury-containing thermostats observed by Keystone.

Location of Thermostats	Approximate Quantity
None Identified	0

During the site inspection, Keystone noted the presence of several batteries throughout the facility. The batteries are associated with exit signs. The following table lists the quantity and location of exit signs observed by Keystone.

Location of Exit Signs	Approximate Quantity
Stairwells	6

Keystone did not observe any pesticides during its observations of the interior or exterior of the subject property

2.3 Hazardous Substances and Petroleum Products/Drums

Keystone did not observe any evidence of stained soil, dead vegetation, corrosion, or any other indications of improper use, storage, or disposal of hazardous substances or petroleum products at the property. During the site inspection, Keystone did not observe any totes, containers, hazardous substances, petroleum products, solid waste disposal, or unnatural fill areas on the subject property, except for several small containers of general maintenance fluids.

2.4 Polychlorinated Biphenyls

The facility's lighting systems consist of fluorescent lights. In many cases, fluorescent light ballasts may contain labels indicating "No PCB Containing Oil." However, many light fixtures contain ballasts with no information on whether or not they contain PCB-containing oil.

Therefore, during demolition, unless the ballasts are labeled as "No PCB Containing Oil," the fluorescent light ballasts should be treated as PCB-containing equipment and disposed of off-site at a proper disposal facility. The following table lists the quantity and location of fluorescent lights observed by Keystone.

Location of Fluorescent Bulbs	Approximate Quantity of Bulbs
Parking Areas/Offices/Stairwells	230

If you have any questions, comments, or require additional services, feel free to contact us at (608) 480-8822, or by e-mail at contact@keystone-env.com.

Sincerely,

Keystone Environmental LLC.

T. Ryckman

Tucker Ryckman
Owner

FRANCES ST PARKING RAMP

430 N. Frances St., Madison, WI 53703

N, STATE STREET CAMPUS GARAGE MIXED-USE PROJECT, CONTRACT NO. 9361, Reference Of Neighboring Building Historical Documents

PLUMBING 416

417

E5 SCHEDULES & DETAILS

DETAILS

ICAL PLAN

= STAIR ENCLOSURE SHOP DRAWINGS

AS-

FRANCES RAMP

APPROVED BY THE COMMON COUNCIL ON 5-19-81

MAYOR JOEL SKORNICKA

CITY CLERK ELDON L. HOEL

TRAFFIC ENGINEERING

CITY ENGINEERING

FIRE DEPARTMENT

Gary R. Erdman 5-19-81
WATER UTILITY

5-14-81
PLANNING & DEVELOPMENT DEPARTMENT

FRANCES STREET PARKING RAMP

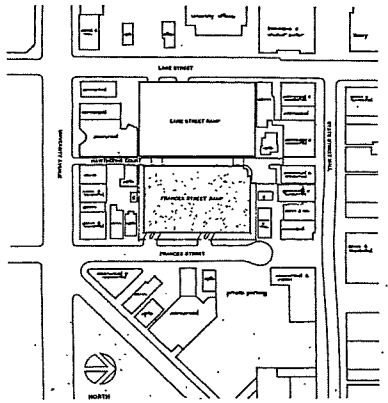
CITY OF MADISON
PARKING UTILITY

MADISON
WISCONSIN

ARCHITECT: MARTINSONS/ZECK, INC.
ENGINEER: ARNOLD & O'SHERIDAN, INC.

AS BUILT PH# 59

CITY OF MADISON, STATE STREET CAMPUS GARAGE MIXED-USE PROJECT, CONTRACT NO. 9361, Reference-9 Neighboring Building Historical Documents



AREA MAP

SHEET INDEX

	COVER SHEET
SS1	SITE SURVEY
L1	SITE LAYOUT PLAN
L2	EAST PLAZA - GRADING & LAYOUT PLAN EAST PLAZA - LANDSCAPING PLAN
L3	NORTH PLAZA - GRADING & LAYOUT PLAN SOUTH SIDEYARD - GRADING & LAYOUT PLAN SITE DETAILS
S1	FOUNDATION PLAN - LEVELS 1 & 2
S2	FLOOR FRAMING PLAN - LEVELS 3 & 4
S3	ROOF FRAMING PLAN - LEVELS 5 & 6
S4	CONNECTING LINK DETAILS
S5	COLUMN & WALL SECTIONS
S6	BEAM ELEVATIONS & DETAILS
S7	STAIR DETAILS
SN1-SN3	SIGNAGE PLANS & DETAILS - SIGN SWITCHING SCHEDULE
A1	EAST & WEST BUILDING ELEVATIONS
A2	NORTH & SOUTH BUILDING ELEVATIONS
A3	BUILDING SECTION / WALL SECTIONS
A4	EXTERIOR BUILDING DETAILS, SNOW CHUTE DETAILS
A5	BOTTOM FLOOR PLAN - LEVELS 1 & 2
A6	GROUND FLOOR PLAN - LEVELS 3 & 4
A7	ROOF PLAN - LEVELS 5 & 6
A8	STAIR #1 - PLANS, ELEVATIONS, SECTION & DETAILS, GRAPHICS
A9	STAIR #2 - PLANS, ELEVATIONS, SECTION, GRAPHICS
A10	OFFICE & STORAGE ENCLOSURES ATTENDANT'S BOOTHS - PLAN & DETAILS, REVISIONS, ROOF CAPS TRAFFIC EQUIPMENT LAYOUT
M1	SITE UTILITIES PLAN
M2	FOUNDATION PLAN
M3	MECHANICAL PLAN - LEVELS 1 & 2
M4	MECHANICAL PLAN - LEVELS 3 & 4
M5	MECHANICAL PLAN - LEVELS 5 & 6
E1	ELECTRICAL PLAN - LEVELS 1 & 2
E2	ELECTRICAL PLAN - LEVELS 3 & 4
E3	ELECTRICAL PLAN - LEVELS 5 & 6
E4	TRAFFIC EQUIPMENT - ELECTRICAL PLAN EQUIPMENT DETAILS
E5	SCHEDULES & DETAILS
	STAIR ENCLOSURE SHOP DRAWINGS

MULTIPLE CONTRACT : **NUMBER**

GENERAL	414
ELECTRICAL	415
HTG/VENTING	416
PLUMBING	417

APPROVED BY THE COMMON COUNCIL ON 5-19-81

MAYOR JOEL SKORNICKA

CITY CLERK ELDON L. HOEL

TRAFFIC ENGINEERING

CITY ENGINEERING

FIRE DEPARTMENT 5/14/81

WATER UTILITY Gary R. Graham 5-14-81 by MB

PLANNING & DEVELOPMENT DEPARTMENT 5-14-81

FRANCES RAMP AS-BUILT Drawings

FRANCES STREET PARKING RAMP

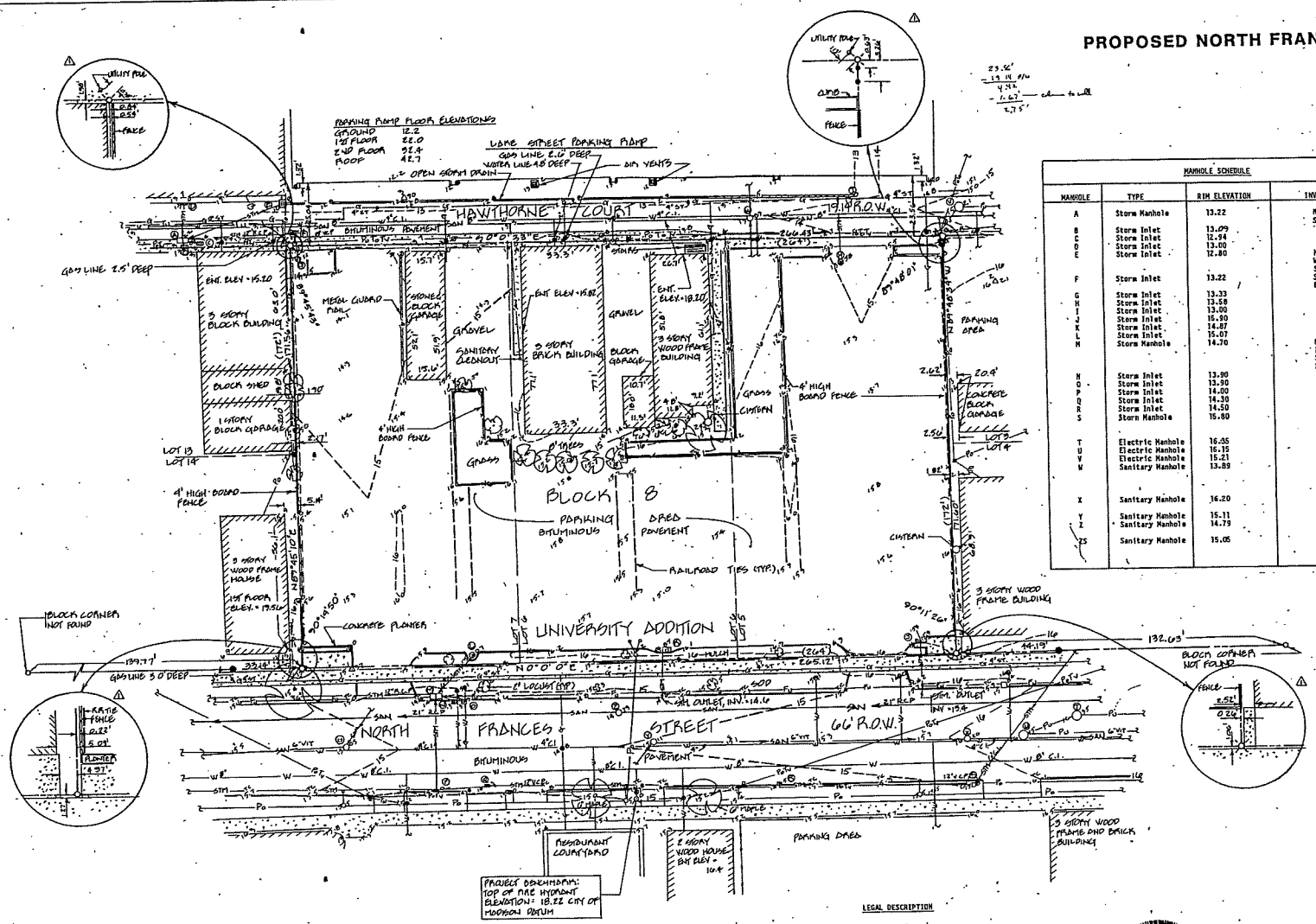
CITY OF MADISON PARKING UTILITY · **MADISON WISCONSIN**

ARCHITECT: MARTINSONS/ZECK, INC.
ENGINEER: ARNOLD & O'SHERIDAN, INC.

AS BUILT PH 5

OF MADISON, STATE STREET CAMPUS GARAGE MIXED-USE PROJECT CONTRACT NO. 8561, Reference 9 Neighboring Building Historical Documents

PROPOSED NORTH FRANCES STREET PARKING RAMP



MANHOLE SCHEDULE

MANHOLE	TYPE	RIM ELEVATION	INVERT ELEVATION
A	Storm Manhole	13.22	N 11.00
			S 10.70
B	Storm Inlet	13.09	11.30
C	Storm Inlet	12.94	11.04
D	Storm Inlet	13.00	11.60
E	Storm Inlet	12.80	N 11.50
			W 11.50
			SE 13.40
F	Storm Inlet	13.22	S 11.12
			E 11.23
G	Storm Inlet	13.33	11.33
H	Storm Inlet	13.58	12.63
I	Storm Inlet	13.00	12.50
J	Storm Inlet	16.30	15.40
K	Storm Inlet	14.87	14.60
L	Storm Inlet	15.07	13.82
M	Storm Manhole	14.70	N 12.65
			NW 12.55
			S 11.55
			E 12.00
N	Storm Inlet	13.90	11.66
O	Storm Inlet	13.90	11.75
P	Storm Inlet	14.00	12.10
Q	Storm Inlet	14.30	12.60
R	Storm Inlet	14.50	12.90
S	Storm Manhole	15.80	NW 13.50
			E 13.65
			S 13.40
T	Electric Manhole	16.35	Not Verified
U	Electric Manhole	16.15	Not Verified
V	Electric Manhole	15.21	Not Verified
W	Sanitary Manhole	13.89	N 6.29
			S 6.30
			E 8.09
			W 8.89
X	Sanitary Manhole	16.20	N 10.80
			S 10.85
Y	Sanitary Manhole	15.11	N 11.51
Z	Sanitary Manhole	14.79	N 0.57
			S 0.54
ZS	Sanitary Manhole	15.05	W 9.35
			S 9.05

LEGEND

- TRAVERSE POINT
- EXISTING CONTOUR
- SPOT ELEVATION
- TOP OF CURB SPOT ELEVATION
- DECIDUOUS TREE WITH TRUNK DI
- FENCE LINE
- LOT LINE
- PROPERTY LINE, RIGHT OF WAY
- EXISTING BUILDING
- CONCRETE PAVEMENT
- FIRE HYDRANT
- UTILITY VALVE
- MANHOLE
- CATCH BASIN
- CURB INLET
- UTILITY POLE
- UTILITY POLE WITH LIGHT
- STREET LIGHT
- SANITARY SEWER
- STORM SEWER
- WATER MAIN
- GAS MAIN
- OVERHEAD POWER LINE
- UNDERGROUND POWER LINE
- OVERHEAD TELEPHONE LINE
- UNDERGROUND TELEPHONE LINE
- RIGHT OF WAY
- PROPERTY IRON SET
- PROPERTY IRON FOUND
- UTILITY POLE WITH RISER
- UNDERGROUND FIRE ALARM
- C.I. CAST IRON
- R.C.P. REINFORCED CONCRETE PIPE
- V.C.P. VITRIFIED CLAY PIPE
- STAR DRILL IN CONCRETE
- CHANNEL T.V. CABLE
- (172') ORIGINALLY PLATTED DISTANCE

NOTES

1. PROJECT BENCHMARK: TOP OF FIRE HYDRANT ON NORTH FRANCES STREET AS SHOWN ON THIS DRAWING. ELEVATION = 18.22 CITY OF MADISON DATUM (ADD 845.60 TO OBTAIN USGS DATUM).
2. CONTOUR INTERVAL IS ONE FOOT.
3. SEWER AND BENCHMARK INFORMATION WAS OBTAINED FROM THE CITY ENGINEERS OFFICE, MADISON, WISCONSIN.
4. GAS AND ELECTRIC INFORMATION WAS OBTAINED FROM MADISON GAS AND ELECTRIC, MADISON, WISCONSIN.
5. TELEPHONE INFORMATION WAS OBTAINED FROM WISCONSIN TELEPHONE COMPANY MADISON, WISCONSIN.
6. UNDERGROUND FIRE ALARM INFORMATION WAS OBTAINED FROM THE TRAFFIC ENGINEERING DEPARTMENT, MADISON, WISCONSIN.
7. WATER LINE INFORMATION WAS OBTAINED FROM MADISON WATER UTILITY, MADISON, WISCONSIN.
8. OVERHEAD TELEVISION CABLE INFORMATION WAS OBTAINED FROM COMPLETE CHANNEL T.V., MADISON, WISCONSIN.
9. SURFICIAL FEATURES OF UNDERGROUND UTILITY LINES WERE FIELD LOCATED. SEWER MANHOLE RIM AND INVERT ELEVATIONS WERE ALSO FIELD VERIFIED.
10. PRIOR TO EXCAVATION CONTACT APPROPRIATE UTILITY COMPANIES FOR STAKE-OUT.
11. TOPOGRAPHIC AND BOUNDARY SURVEY WAS PERFORMED BY WARZYN ENGINEERING INC., ON DECEMBER 12, 15 AND 16, 1980.
12. BEARINGS ARE REFERENCED TO THE WEST RIGHT-OF-WAY LINE OF NORTH FRANCES STREET, RECORDED AS N00°00'00"E.
13. WATER AND GAS LINE DEPTHS ARE SHOWN WHERE IT WAS POSSIBLE TO REMOVE VALVE COVERS AND DETERMINE DEPTH TO TOP OF VALVE NUT.

LEGAL DESCRIPTION

ALL OF LOTS 5, 6 AND 7 OF BLOCK 8 OF THE UNIVERSITY ADDITION TO THE CITY OF MADISON, DANE COUNTY, WISCONSIN.

SAID PARCEL CONTAINS 45,601 SQUARE FEET OR 1.0469 ACRES.

I, SAMUEL E. WOLFE, CERTIFY THAT I HAVE SURVEYED THE PARCEL OF LAND SHOWN, AND THAT THIS PLAT IS A CORRECT REPRESENTATION OF THE EXTERIOR BOUNDARIES OF THE LAND SURVEYED.

Samuel E. Wolfe

REGISTERED SURVEYOR #S-1507

DATE DEC. 30, 1980

WISCONSIN SAMUEL E. WOLFE S-1507 MADISON, WIS. LAND SURVEYOR

north

NO	BY	DATE	REVISION
1	CPS	1/16/81	ADDITIONAL BOUNDARY INFORMATION

BOUNDARY, TOPOGRAPHIC AND UTILITY SURVEY OF LOTS 5, 6, AND 7 OF BLOCK 8 OF THE UNIVERSITY ADDITION, MADISON, WISCONSIN

SURVEYED FOR THE CITY OF MADISON, WISCONSIN

WARZYN ENGINEERING INC

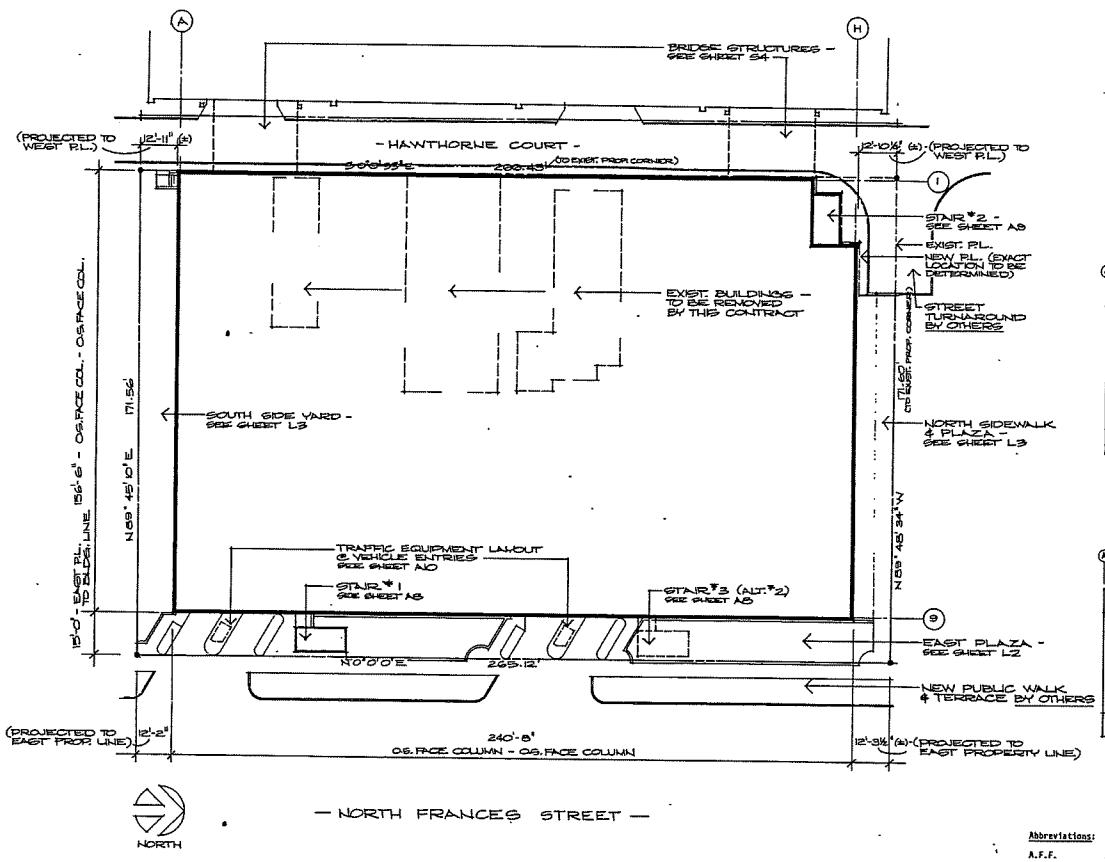
DRAWN GM, CPS | SCALE 1"=20' | SHEET 1 OF 1
CHECKED GM, SEW | DATE 12/30/80 | DRAWING NO C9615-1
APPROVED Samuel E. Wolfe | REFERENCE | PRINTED AS-BUILT

SHEET SS1

FRANCES STREET PARKING RAMP
CITY OF MADISON PARKING UTILITY
MADISON, WISCONSIN

PROJECT NO. 9615
DATE 12/7/80

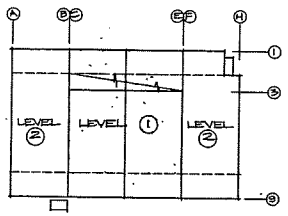
MARKHAM ZECK INC.
CIVIL ENGINEERS & SURVEYORS
MADISON, WISCONSIN 53703
608 256 2002



SITE LAYOUT PLAN

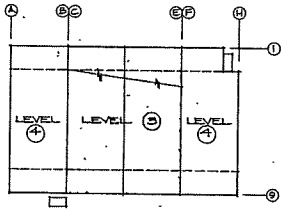
1" = 20'-0"

KEY PLAN



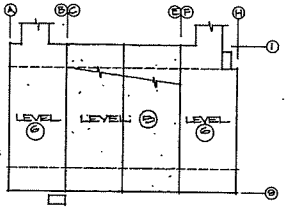
BOTTOM FLOOR

SEE SHEETS S1 & A5



GROUND FLOOR

SEE SHEETS S2 & A6



ROOF

SEE SHEETS S5 & A7

Abbreviations:

A.F.F.	Above Finish Floor	FIN.	Finish	P.L.	Property Line
ALT.	Alternate	FL., FLR.	Floor	RAD.	Radius
ALUM.	Aluminum	FTG.	Footing	REINF.	Reinforced
A.B.	Anchor Bolt	FDN.	Foundation	RET.	Retaining
APT.	Apartment	GALV.	Galvanized	SHT.	Sheet
BLK.	Block	GA.	Gauge	SHT. MTL.	Sheet Metal
BOT.	Bottom	G.C.	General Contractor	SIM.	Similar
BLDG.	Building	H.C.	Heating Contractor	STD.	Standard
C.B.	Catch Basin	H.P.	High Point	STL.	Steel
COL.	Column	H.M.	Hollow Metal	SQ.	Square
CONC.	Concrete	I.S.	Inside	T.O.S.	Top of Slab
CONT.	Continuous	INSUL.	Insulation	T.O.W.	Top of Wall
C.J.	Control or Construction Joint (as applicable)	MFR.	Manufacturer	TYP.	Typical
DET., DTL.	Detail	NOM.	Nominal	WD.	Wood
E.C.	Electrical Contractor	OPG.	Opening		
EL., ELEV.	Elevation	OPP.	Opposite		
ENCLO.	Enclosure/Enclose	O.S.	Outside		
E.J., EXP.JT.	Expansion Joint				

AS BUILT

Building Issue/Use Documents

CITY OF MADISON, STATE STREET CAMPUS GARAGE MIXED-USE PROJECT, CONTRACT NO. 9561, Reference-9 Neighboring

FRANCES STREET PARKING RAMP

SHEET L1

ARNOLD & O'SHERIDAN, INC. CONSULTING ENGINEERS

AMBIENSONS 2006, INC.

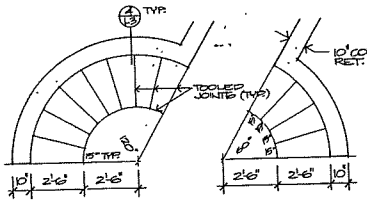
PROJECT NUMBER 0508
DATE 9/27/06

PLANT SCHEDULE

JH	JUNIPERUS HORIZONTALIS 'HUGHES' (HUGHES JUNIPER)	B&B/CG BALL DIA. 10" MIN.	15"-24" DIA. 24" SPACING
JCP	JUNIPERUS CHINENSIS PFITZERIANA 'HETZ' (HETZ JUNIPER)	B&B/CG BALL DIA. 22" MIN.	24"-30" DIA. 48" SPACING
* GT	GLEDITSIA TRIACANTHOS INERMIS 'SKYLINE' (SKYLINE LOCUST)	B&B BALL DIA. 32" MIN.	2½"-3½" CALIPER
AG	ACER GINNALA (AMUR MAPLE)	B&B BALL DIA. 24" MIN.	2"-2½" CALIPER TREE FORM - SPECIMEN

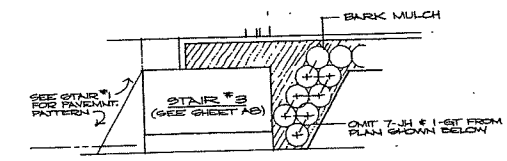
* PLACEMENT TO BE COORDINATED W/ PLANTINGS (BY OTHERS) IN STREET TERRACE

TREES SHALL BE WELL MATCHED SPECIMENS W/ UNIFORM CROWNS & BRANCHING LAYER BRANCHES SHALL BE A MIN. OF 2½ FT ± NO MORE THAN 6 FT. FROM THE GROUND.



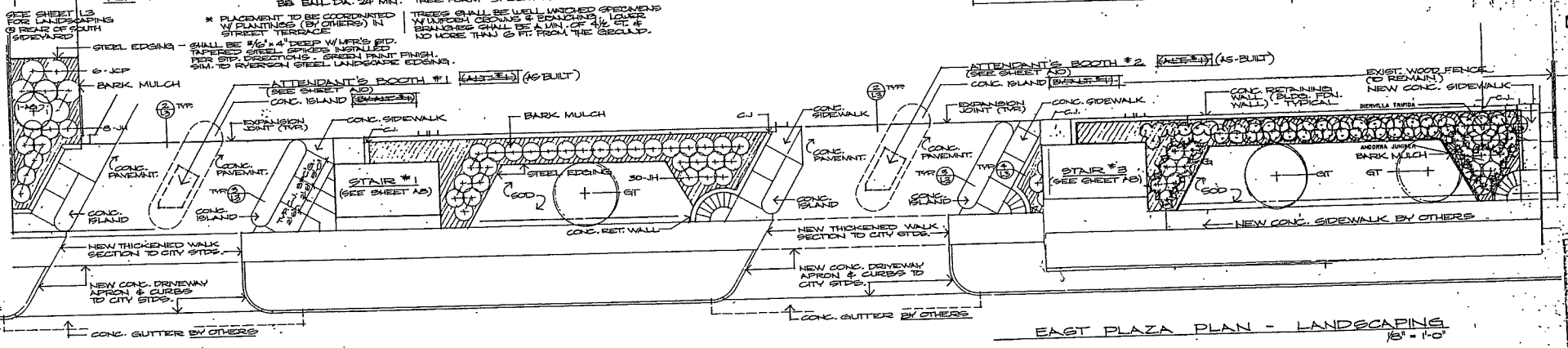
PAVEMENT DETAIL

3/8" = 1'-0"



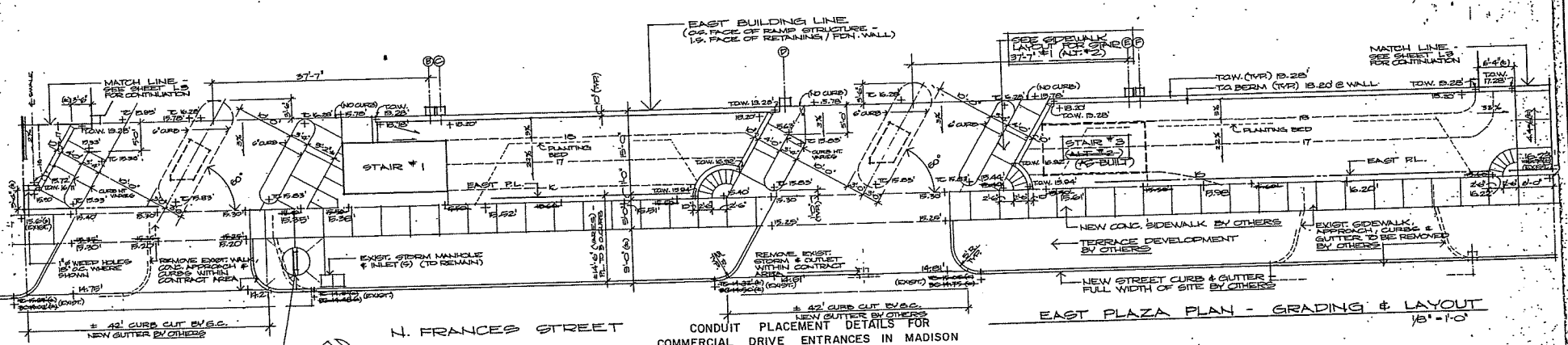
AS-BUILT ALTERNATE LANDSCAPING PLAN @ STAIR #3

1/8" = 1'-0"



EAST PLAZA PLAN - LANDSCAPING

1/8" = 1'-0"



N. FRANCES STREET

EAST PLAZA PLAN - GRADING & LAYOUT

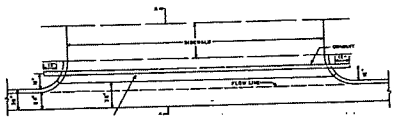
1/8" = 1'-0"

NORTH

BUILDING SIGN (TYPE M1), CONC. FDN. & RAISED CURB BY G.C./ PAVEMENT BY OTHERS.

CONDUIT PLACEMENT DETAILS FOR COMMERCIAL DRIVE ENTRANCES IN MADISON

MADISON GENERAL ORDINANCE SECTION 10.08 (5) 7b (h)



NOTE: CONDUIT PLACED @ EACH DRIVEWAY APRON

AS BUILT

FRANCES STREET PARKING RAMP

CITY OF MADISON PARKING UTILITY MADISON, WISCONSIN

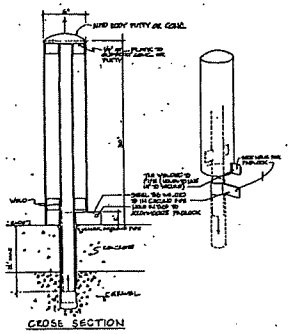
SHEET L2

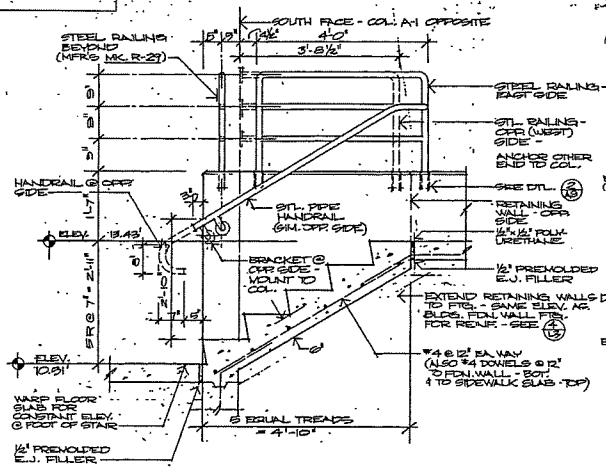
PROJECT NUMBER 9361a DATE 3/21/06

MARKINSON ZECK, INC. 605 WEST WASHINGTON AVE. MADISON, WISCONSIN 53703 608 255 2002

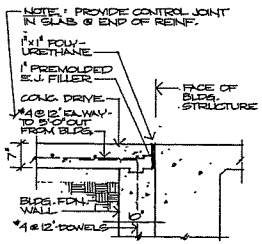
ARNOLD & O'SHERIDAN, INC. CONSULTING ENGINEERS

REMOVABLE BOLLARD
NOT TO SCALE



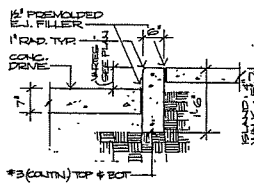


NOTE: REVISED BY SUPPL. DRWGS. C4 & C5

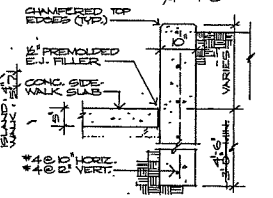


2/L3 PAVEMNT JT @ BLDG. 3/4" = 1'-0"

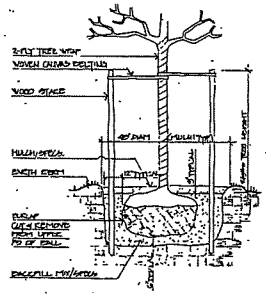
1/L3 EXTERIOR STEPS 3/4" = 1'-0"



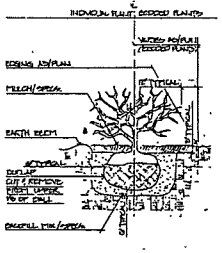
3/L3 TYPICAL CURB 3/4" = 1'-0"



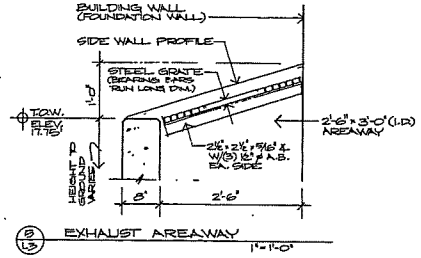
4/L3 TYP. RETAINING WALL 3/4" = 1'-0"



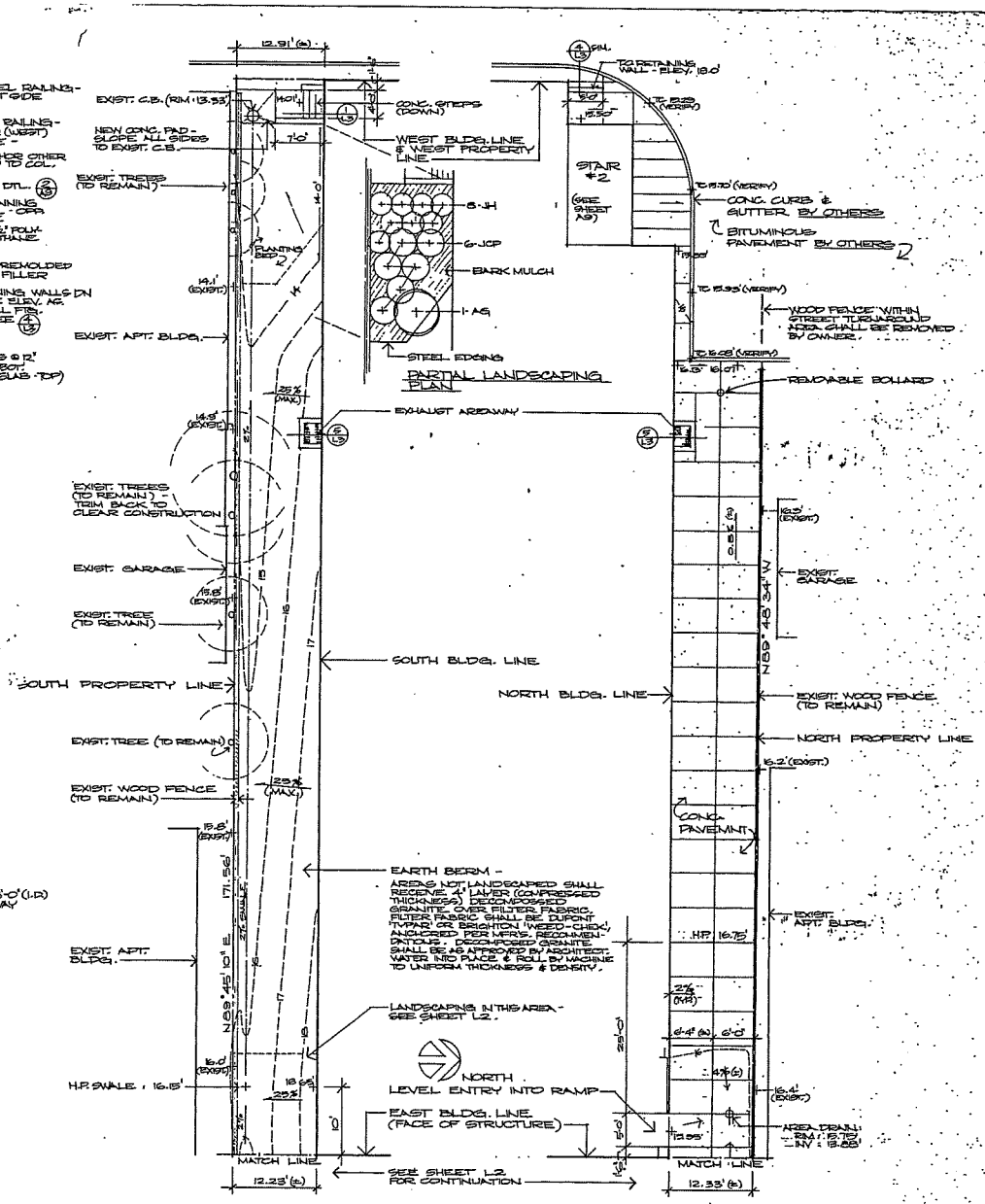
6/L3 TREE PLANTING DETAIL



7/L3 SHRUB PLANTING DETAIL



8/L3 EXHAUST AREAWAY 1" = 1'-0"



SOUTH SIDEYARD - GRADING & LAYOUT PLAN 1/8" = 1'-0"

NORTH PLAZA - GRADING & LAYOUT PLAN 1/8" = 1'-0"

AS BUILT

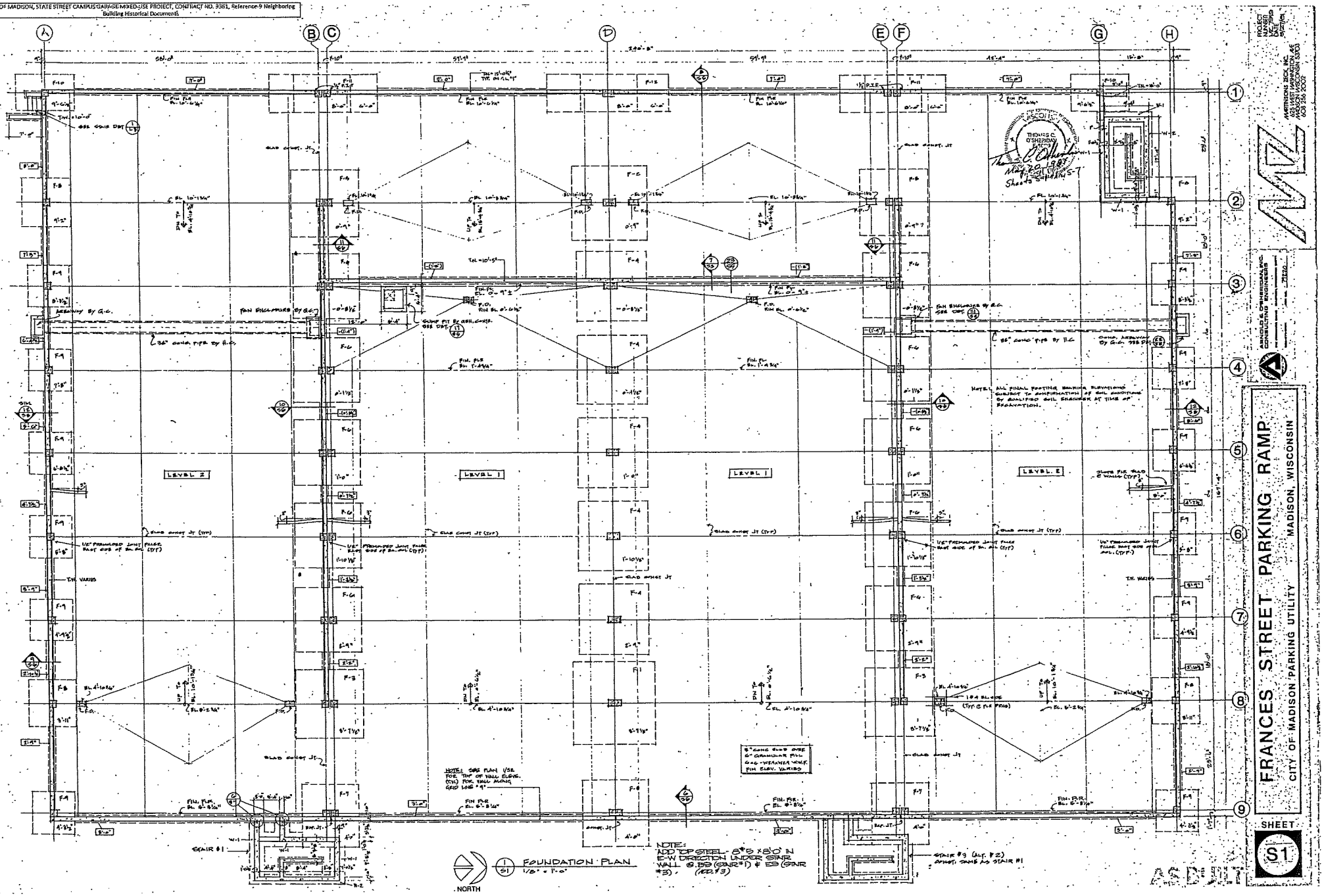
PROJECT NUMBER 0515
DATE 6/27/06

ARNESON ZECK, INC. 425 WEST WASHINGTON AVE. MADISON, WISCONSIN 608 255 2002

ARNOLD'S OPHEIDIAN, INC. CONSULTING ENGINEERS

FRANCES STREET PARKING RAMP
CITY OF MADISON PARKING UTILITY
MADISON, WISCONSIN

SHEET L3



1/S1 FOUNDATION PLAN
1/8" = 1'-0"

THOMAS C. O'SHERIDAN
E-29019
May 20, 1987
Sheets S-1 through S-7

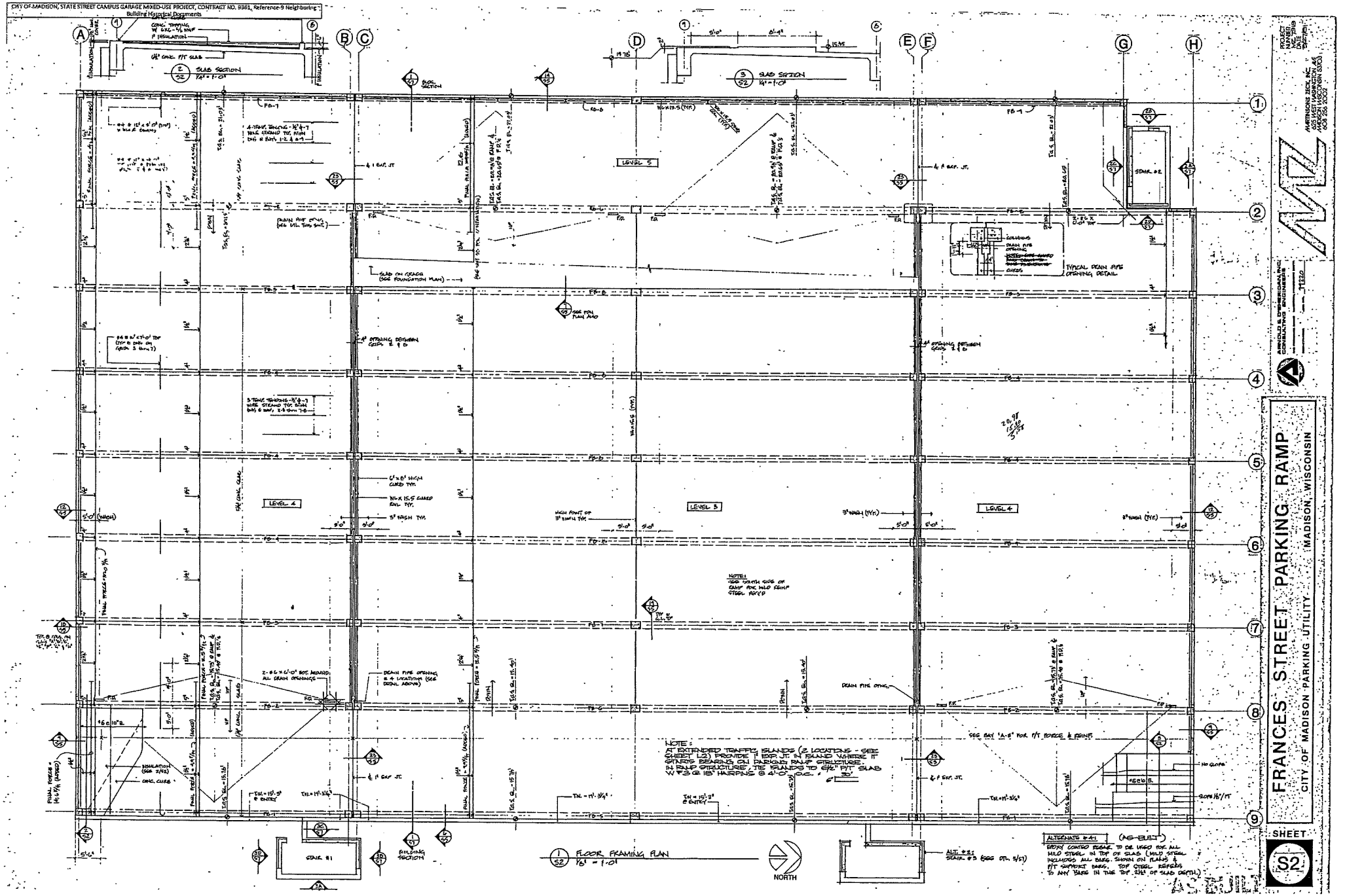
ARNOLD & O'SHERIDAN, INC.
CONSULTING ENGINEERS

MADISON, WISCONSIN
608 256 0003

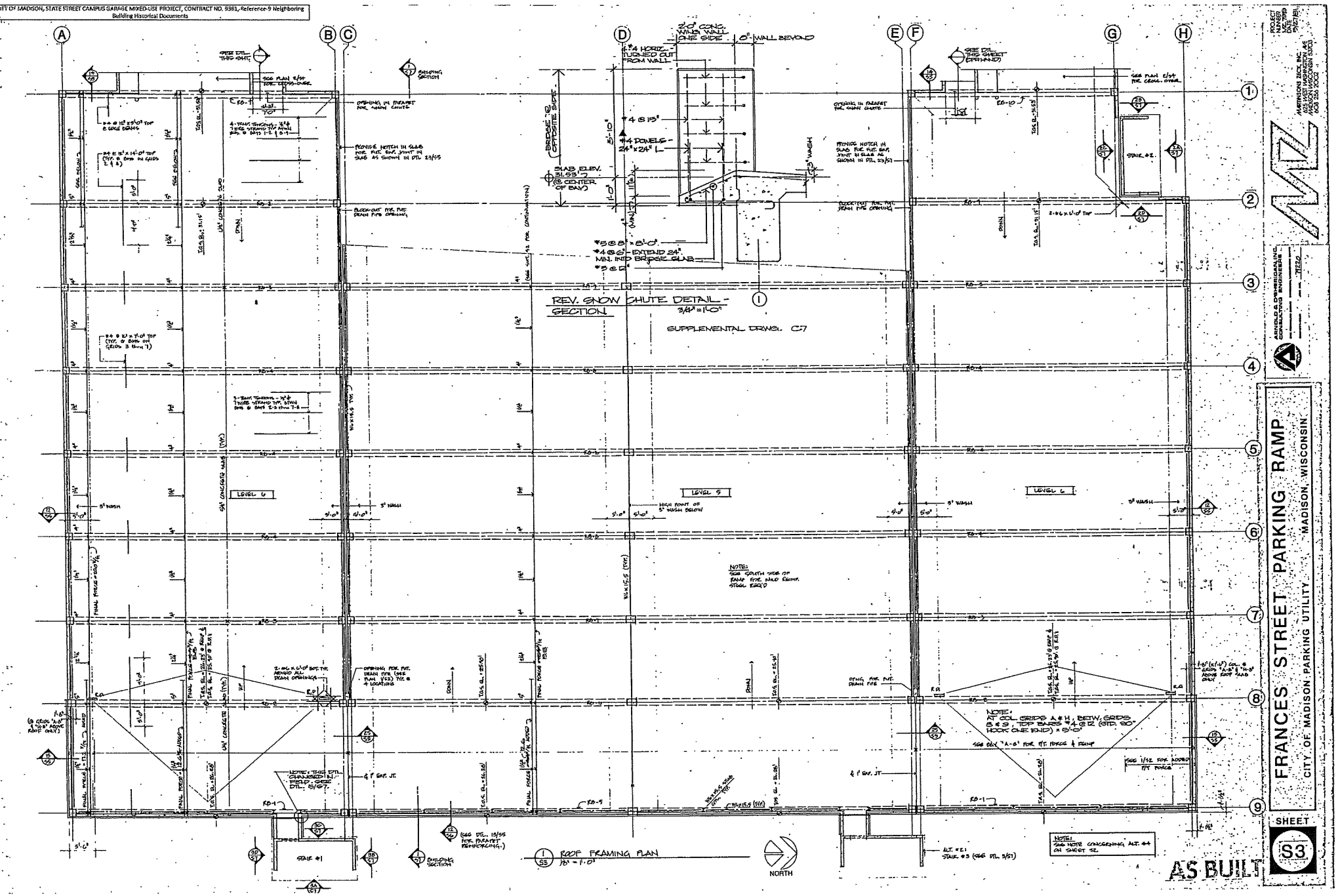
PROJECT NO. 7858
DATE 5/20/87

FRANCES STREET PARKING RAMP
CITY OF MADISON PARKING UTILITY
MADISON, WISCONSIN

SHEET
S1


CITY OF MADISON, STATE STREET CAMPUS GARAGE MIXED-USE PROJECT, CONTRACT NO. 9361, Reference-9 Neighboring Building Historical Documents
FRANCES STREET PARKING RAMP
CITY OF MADISON · PARKING UTILITY · MADISON, WISCONSIN
SHEET S2
1 FLOOR FRAMING PLAN 1/8" = 1'-0"
2 SLAB SECTION 1/4" = 1'-0"
3 SLAB SECTION 1/4" = 1'-0"
LEVEL 5
LEVEL 4
LEVEL 3
LEVEL 4
NOTE: AT EXTENDED TAPERS SEE SHEET S2 PROVIDE 1 BAR IN FILLED WHERE IT STEPS BEARING ON PARKING RAMP STRUCTURE. AT RAMP STRUCTURE, TOP BARS TO BE 6#6 PIT SLAB W 3 #5 HAIRPINS @ 4'-0" O.C.
NORTH
STAIR #1
STAIR #2
ALTERNATE #41 (AS-BUILT)
EPOXY COATED REBAR TO BE USED FOR ALL MILD STEEL IN TOP OF SLAB (MILD STEEL INCLUDES ALL BARS SHOWN ON PLANS & PIT SURFACE BARS. TOP STEEL REFERS TO ANY BARS IN THE TOP 3/4" OF SLAB DEPTH.)
ARNOLD & O'SHERIDAN, INC. CONSULTING ENGINEERS
MARTINSONS 2ECX, INC. 633 WEST WASHINGTON AVE MADISON, WISCONSIN 53703 608 256 2003

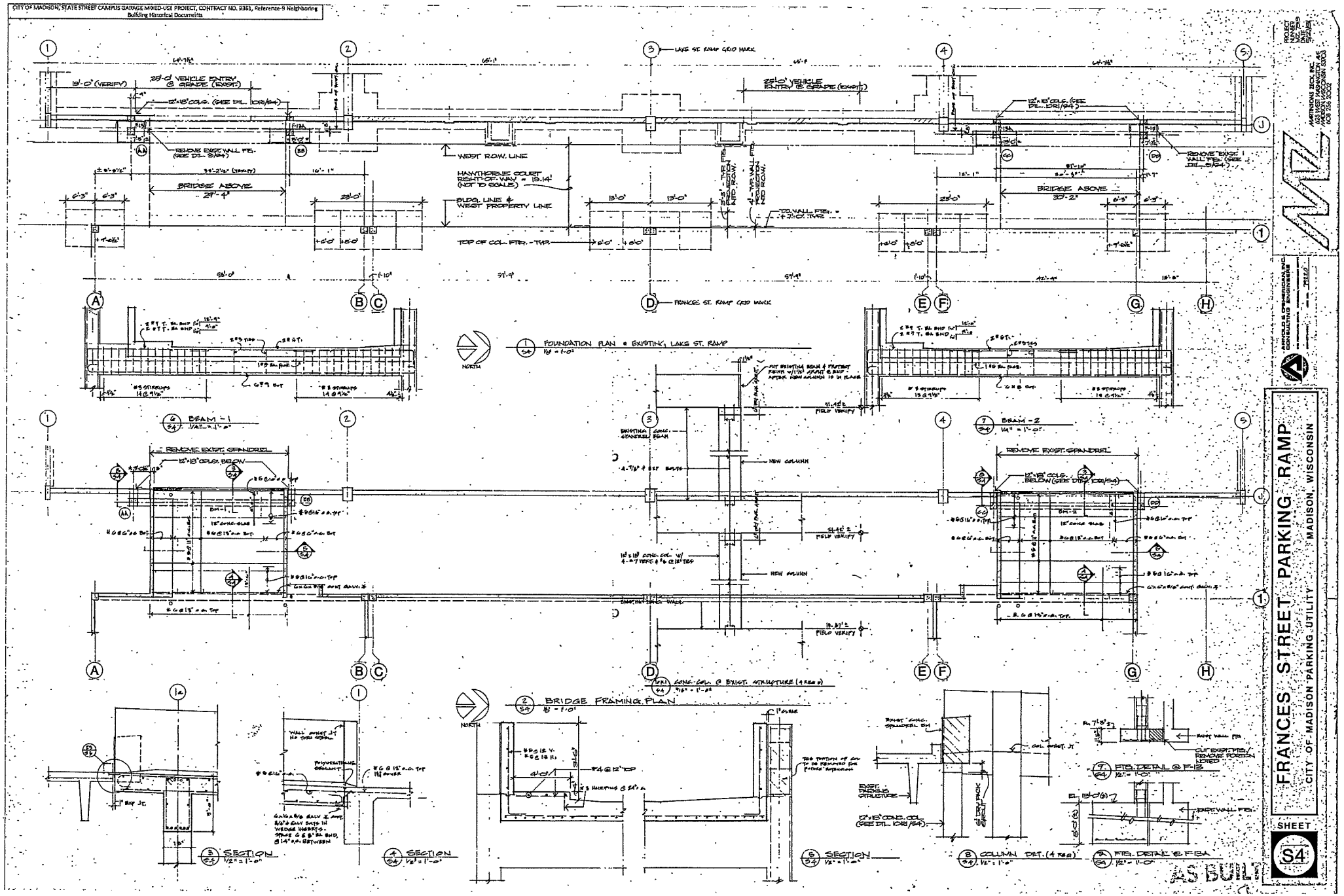
CITY OF MADISON, STATE STREET CAMPUS GARAGE MIXED-USE PROJECT, CONTRACT NO. 9361, Reference-9 Neighboring Building Historical Documents



FRANCES STREET PARKING RAMP
CITY OF MADISON PARKING UTILITY - MADISON, WISCONSIN

SHEET S3

AS BUILT



ARNESON BECK, INC.
ARNOLD & O'BRIEN, INC.
MADISON, WISCONSIN
608 256 2002

PROJECT NUMBER
DRAWN BY
DATE
SCALE

FRANCES STREET PARKING RAMP

CITY OF MADISON PARKING UTILITY - MADISON, WISCONSIN

SHEET S4

AS BUILT

TY OF MADISON, STATE STREET CAMPUS GARAGE MIXED-USE PROJECT, CONTRACT NO. 9361, Reference-9 Neighboring Building Historical Documents

COLUMN SCHEDULE

COL MK	A1(NO.T,A1 (S1,S1BOUT,S1 C1,S1BOUT,S1 E1,S1BOUT,S1 F1,S1BOUT,S1 R1BOUT,R1	A1; A1,A2, F2, B8,F8	C6,B2	A2,A6 H2,H8	C8,E8	P1.	D2 -	D3,D4,D5 D6,D7.	D8	D9	BRIDGE AB AA,.DD, CC,DD
SIZE REINF. TIES DET	18x18 4 #9 #3@18 A	18 x18 4#9 #3@18 A	X	18 x18 4#9 #3@18 A	18x18 4#9 #3@18 A	X	X	30x18 8 #11 #5@18 F	30x18 18#11 #4@18 G	30x18 10#10 #3@18 D	X
SIZE REINF. TIES DET	18x18 4#9 #5@18 A	18x18 4#10 #5@18 A	18x18 4#10 #5@18 A.	18x18 6#10 #3@18 B	18x18 8#11 #4@18 C	30x18 10#10 #5@18 D	30x18 10#11 #4@18 F	30x18 12#11 #4@18 E	30x18 14#11 #4@18 H	30x18 10#10 #3@18 D.	18x18 4#9 #3@18 A
PIG TAILS	4'-6	4'-6	4'-6	4'-6	8'-6	10'-6	16'-7	16'-7	16'-7	20'-9	10'-6	4'-6

A B C D E F G H

COLUMN TYPES

I

(19/55) 1/2"=1'-0"

(22/55) FUTURE COL SPLICE 1/2"=1'-0"

(16/55) 1/2"=1'-0"

(14/55) 1/2"=1'-0"

(21/55) FAN ENCLOSURE 1/2"=1'-0"

(17/55) 1/2"=1'-0"

(1/55) 1/2"=1'-0"

(5/55) 1/2"=1'-0"

(11/55) 1/2"=1'-0"

(4/55) 1/2"=1'-0"

(12/55) 1/2"=1'-0"

(6/55) 1/2"=1'-0"

(7/55) 1/2"=1'-0"

(10/55) 1/2"=1'-0"

(22/55) AREAWAY SECT. 1/2"=1'-0"

(23/55) TYPICAL EXPANSION JOINT DETAIL NOT TO SCALE

(25/55) ROOF EXPANSION JOINT

(18/55) ADDITIONAL TIES @ EM ENDS 1/2"=1'-0"

(13/55) COL DET. @ LINE (D) 1/2"=1'-0"

DESIGN STRESSES

CAST-IN-PLACE CONCRETE:
- FTGS, WALLS & SLAB ON GRADE ..... f'_c = 3 ksi
- POST TENSIONED SLABS & BEAMS @ TRANSFER ..... f'_c = 5 ksi
- @ 28 DAYS ..... f'_c = 6 ksi
- COLUMNS & OTHER ..... f'_c = 6 ksi

PRESTRESSING STEEL ..... f_{pu} = 270 ksi

REINFORCING STEEL:
- COL. TIES, STIRRUPS & HOOKING ..... f_y = 40 ksi
- OTHER ..... f_y = 60 ksi

STRUCTURAL STEEL ..... F_y = 36 ksi

SOIL BEARING PRESSURE ..... = 3 ksf

DESIGN LIVE LOADS

ROOF LEVEL PARKING	60 psf
OTHER STRUCTURAL LEVELS	50 psf
STAIRS	100 psf
GARAGE ROOF	50 psf
WIND	20 psf
PARKING FLOOR (LOAD #7)	80 psf

FOOTING SCHEDULE

F-1	11'-6"x11'-6"x 41" — 17 # 10 EA WAY
F-2	16'-6"x16'-6"x 44" — 14 # 10 EA WAY
F-3	18'-6"x18'-6"x 45" — 14 # 10 EA WAY
F-4	19'-0"x19'-0"x 41" — 15 # 10 EA WAY
F-5	14'-6"x 14'-6"x 40" — 12 # 10 EA WAY
F-6	13'-0"x13'-0"x 36" — 12 # 9 EA WAY
F-7	18'-6"x18'-0"x 58" — 18 # 10 EA WAY
F-8 *	10'-6"x10'-0"x 36" — 10 # 8 EA WAY
F-A	9'-0"x 9'-0"x 21" — 7 # 8 EA WAY
F-B	12'-0"x 8'-0"x 34" — 11 # 8 LONG WAY, 8 # 8 SHORT WAY
F-11	25'-0"x18'-0"x 62" — SEE DET. (5)
F-12	20'-0"x 9'-0"x 46" — SEE DET. (4)
F-13	9'-6"x 9'-6"x 17" — 7 # 8 SHORT WAY, 7 # 8 LONG WAY

FOR 30"x8'-0"x8'-0" GUIDEWALL SEE S3

W1	8'-0" x 12"		90° @ 12" THICK, 8'-0" LONG
W-2	2'-0" x 12"		90° @ 12" THICK, 2'-0" LONG

* AT COL H-2, NS DIMENSION TO BE 11'-0" AND SIDES OF F-8 TO BE N-S DIRECTION UNDER STAIR WALL.

(4/55) Footing MK F-12 1/8"=1'-0"

(5/55) Footing MK F-11 1/8"=1'-0"

(24) ADDED REINF.

REINFORCING NOTES

1) Reinforcing shall be detailed in accordance with ACI 315-74.
2) All laps shall be Class "C" unless noted otherwise on the design drawings or unless the detailer takes special care to provide staggered laps. Use top bar lap lengths for all horizontal wall bars and for top bars in slabs and beams over 16" deep.
3) Lap length shall be specifically noted on placing drawings where more than one bar makes up a continuous string.
4) Corner bars with Class "C" laps shall be provided at all wall corners and intersections per ACI 315-74 figure 2-9, excluding top corner details.
5) Horizontal bars, except for continuous strings from one corner or opening to another, shall be detailed to show the distance from at least one end of the bar to the nearest building grid line or wall.
6) Welded Wire fabric shall be lapped and/or anchored to develop f_y per ACI 315-74.

Minimum

(1/55) TYP. COLUMN FOOTING NO SCALE

(2/55) SLAB CONST. JT. NO SCALE

(3/55) WALL CONST. JT. NO SCALE

FOUNDATION LEGEND

- COL. FOOTING MARK
- COL. GRID MARK
- TOP OF COLUMN FOOTING ELEVATION
- CONC. WALL & FOOTING
- TOP OF FOOTING ELEVATION — TF=--'-0"
- TOP OF LOWER ELEVATION — TL=110'-0"
- TOP OF WALL ELEVATION — TW=110'-0"
- FOOTING STEP — S-0
- FOOTING DIM. — WIDTH x DEPTH

ARCHITECT: MARTINSON SECK, INC. 1121 WILLIAMSON ST. MADISON, WISCONSIN 53703 608 256 8002

CONSULTANTS: STRUCTURAL ENGINEER: CIVIL ENGINEER: MECHANICAL ENGINEER:

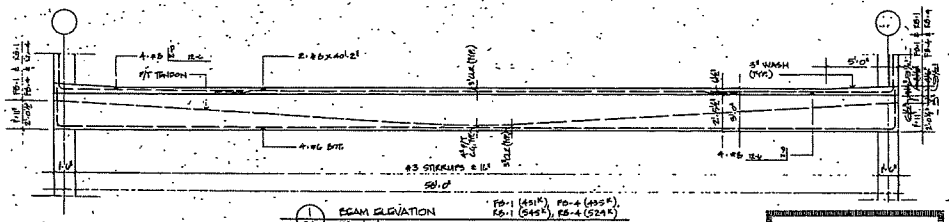
PROJECT NUMBER 9361 DATE ISSUED DRAWN BY CHECKED BY

FRANCES STREET PARKING RAMP

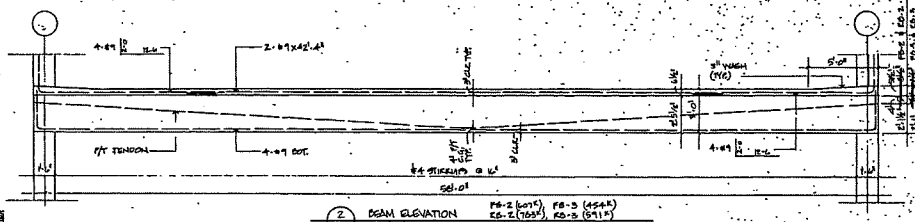
CITY OF MADISON PARKING UTILITY — MADISON, WISCONSIN

SHEET S5

AS BUILT

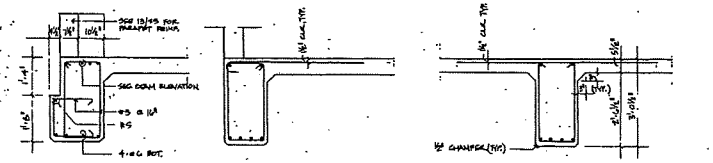


1/S6 BEAM ELEVATION 1/4"=1'-0" — F8-1 (451K), F8-4 (495K), F8-1 (545K), F8-4 (524K)

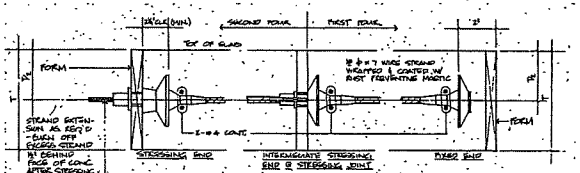


2/S6 BEAM ELEVATION 1/4"=1'-0" — F8-2 (607K), F8-3 (454K), F8-2 (705K), F8-3 (591K)

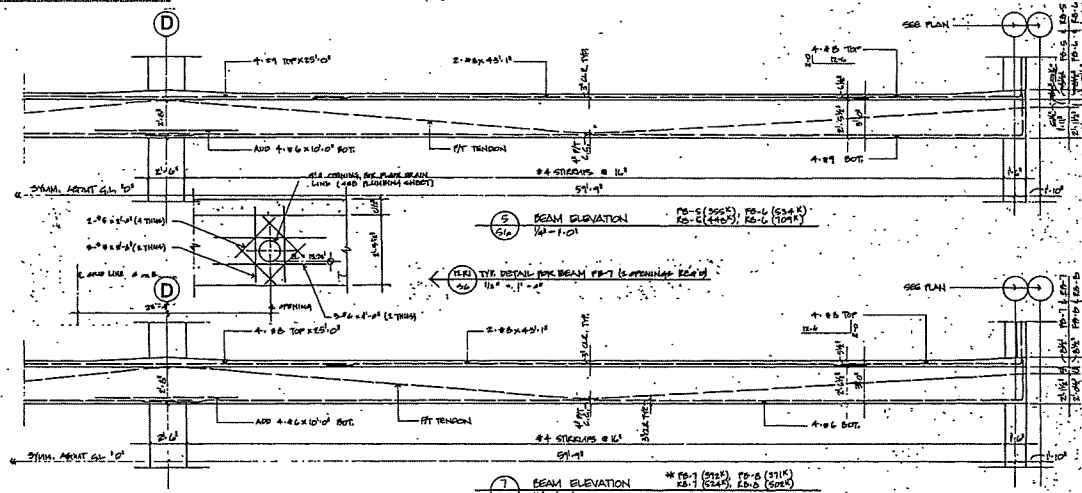
NOTE: ALL FORCES SHOWN ARE FINAL STRESSING FORCES.



12/S6 SM. SECTION @ FRONT 1/2"=1'-0" — 3/S6 BEAM SECTION @ EXTERIOR 1/2"=1'-0" — 4/S6 BEAM SECTION @ INTERIOR 1/2"=1'-0"



6/S6 TYPICAL TENDON ANCHORING DETAIL NO SCALE



5/S6 BEAM ELEVATION 1/4"=1'-0" — F8-5 (395K), F8-6 (534K), F8-5 (445K), F8-6 (701K)

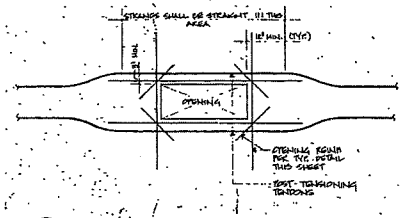
15.2/S6 TYP. DETAIL FOR BEAM F8-7 @ OPENINGS 1/2"=1'-0"

7/S6 BEAM ELEVATION 1/4"=1'-0" — * F8-7 (892K), F8-8 (971K), F8-7 (824K), F8-8 (1024K)

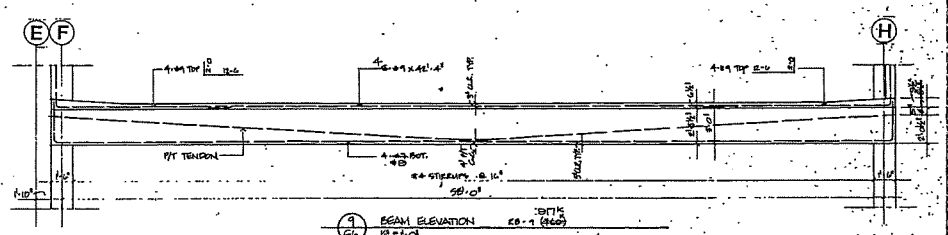
* SEE DETAIL ABOVE

POST TENSIONED CONCRETE NOTES

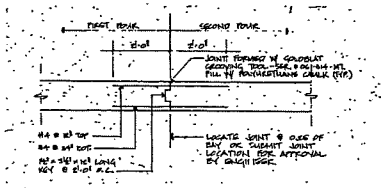
1. See Sheet S-1 for design stresses and loads.
2. Forces as shown on Plan are the final forces required after all losses.
3. All work to be done in accordance with ACI 318 building code requirements for reinforced concrete (most currently adopted edition). All post tensioning materials and construction shall comply with PTI (Post Tensioning Institute) specification and post tensioning manual.
4. All tendons shall be placed on a parabolic curve with the high points and low points as shown in slab tendon profiles.
5. For slab tendon profiles: 1) High point ordinates are at column centerlines, 2) low point ordinates are @ midspan for interior spans, 3) low point ordinates are at 1/4 point from the outside edge for end spans. These three typical ordinate locations shall apply unless specifically noted otherwise.
6. Reversal of curvature for parabolic tendon profiles to occur at the 1/12 point of span.
7. Post tensioning contractor shall supply all support accessories for this work in accordance with Section 3200 of the specification.
8. Provide 2 - #4 continuously around the perimeter of the slab behind the end anchorages.
9. Prestressing steel (unbonded) for slabs shall be coated seven wire stresses relieved strand having a minimum ultimate strength of 270,000 PSI and shall conform to ASTM A-421.
10. All anchorage hardware shall meet the requirements of PCI and ACI. Anchors shall be designed for 3000 PSI concrete strength. Submit all calculations to the architect for review.
11. Construction joints may be located at 1/4 or 3/4 of the span length. General Contractor to coordinate these with P/T fabricator and to submit pouring and stressing sequence to Architect for review.
12. Provide adequate chairs to support tendons securely, maximum spacing of chairs to be 48" O.C. Support bars shall not be less than #5 bars.
13. Maximum length of tendons which can be pulled from one end to be 120 ft. Jacking from both ends shall be performed when there is excessive frictional loss. P/T fabricator to submit all calculations showing P/T losses.
14. 3/4" long power driven fasteners may be used anywhere on post tensioned slabs. Longer fasteners will be allowed at certain locations with prior approval by the Engineer.
15. For future penetrations of post tensioned slabs, the following procedure should be used:
    A. Obtain size and location of opening.
    B. Review the structure design calculations.
    C. After receiving approval of opening, tendons and re-bar steel should be located by using pachometer equipment.
    D. Use a low speed drill for coring concrete in order to reduce risk of tendons and re-bar steel being cut or damaged.
    E. The work should be supervised by a competent person so the structural system is not damaged.



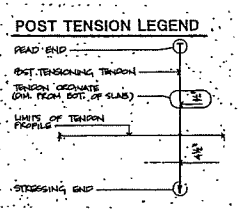
8/S6 TYPICAL POST-TENSIONING at OPENINGS NO SCALE

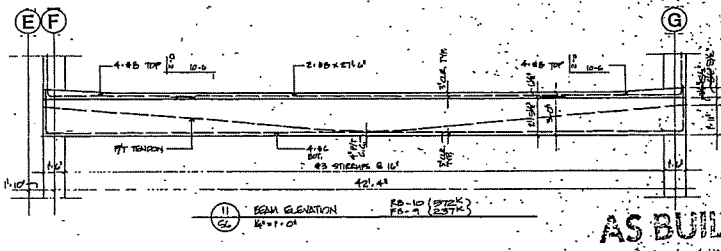


9/S6 BEAM ELEVATION 1/4"=1'-0" — F8-9 (986K)



10/S6 TYPICAL SLAB CONST. JOINT NO SCALE





11/S6 BEAM ELEVATION 1/4"=1'-0" — F8-10 (892K), F8-9 (937K)

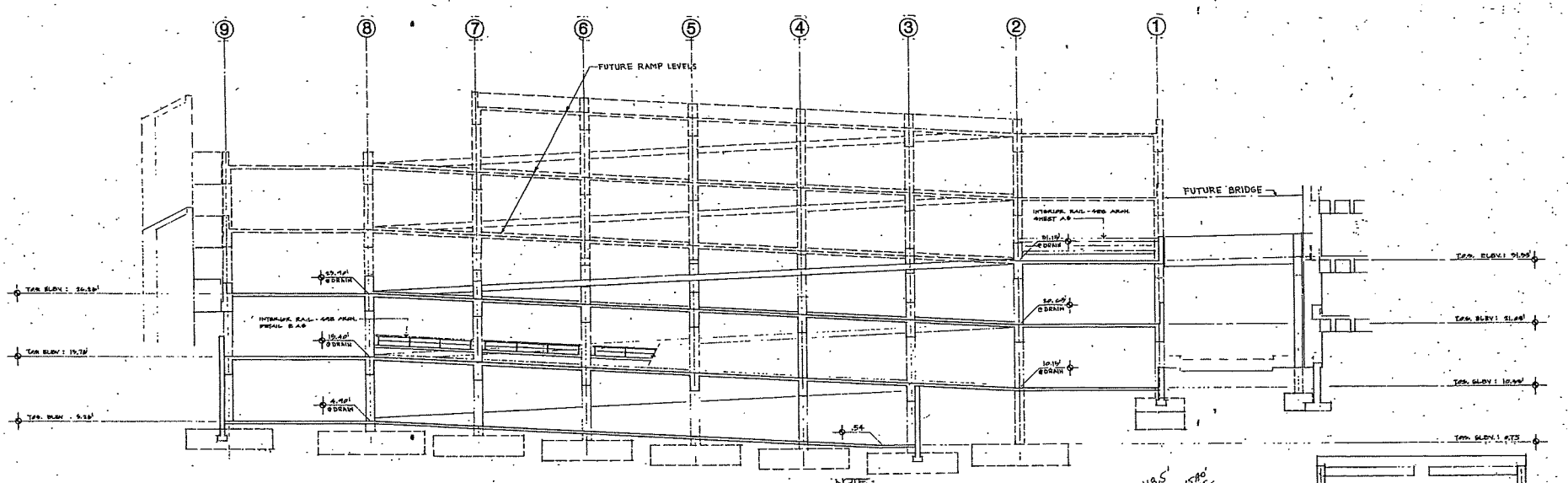
AS BUILT

PROJECT NUMBER 0709
DATE 09/27/01
MARTINSON BECK, INC.
405 WEST WASHINGTON AVE.
MADISON, WISCONSIN 53703
608 255 2000
ARNOLD & SCHMIDT/ALINC CONSULTING ENGINEERS
TRESO

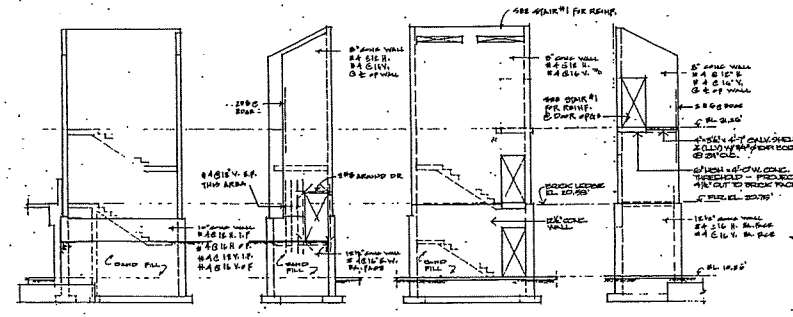
FRANCES STREET PARKING RAMP

CITY OF MADISON, PARKING UTILITY, MADISON, WISCONSIN

SHEET S6



1 / S1 BUILDING SECTION
1/8" = 1'-0"



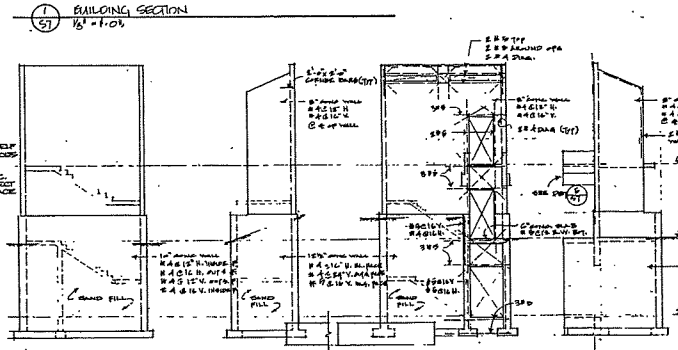
2A / S7 NORTH WALL
1/8" = 1'-0"

2B / S7 WEST WALL
1/8" = 1'-0"

2C / S7 SOUTH WALL
1/8" = 1'-0"

2D / S7 EAST WALL
1/8" = 1'-0"

2 / S7 STAIR # 2



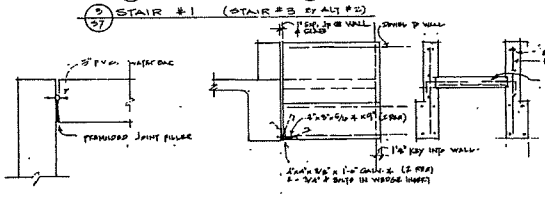
3A / S7 EAST WALL
1/8" = 1'-0"

3B / S7 NORTH WALL
1/8" = 1'-0"

3C / S7 WEST WALL
1/8" = 1'-0"

3D / S7 SOUTH WALL
1/8" = 1'-0"

5 / S7 STAIR #1 (STAIR #3 BY ALT #2)



4 / S7 TYP. STAIR REINF.
1/4" = 1'-0"

6 / S7 WALL EXP. JT.
3/4" = 1'-0"

9 / S7 BRIDGE DET.
3/8" = 1'-0"

AS BUILT

ARNOLD & O'NEIL ARCHITECTS, INC.
ARCHITECTURE
INTERIOR DESIGN
PLANNING
1120

PROJECT NUMBER 9361
DATE 9/27/01

JOHNSON ZICK, INC.
1025 WEST WASHINGTON AVE
MADISON, WISCONSIN 53703
608/251-2000

FRANCES STREET PARKING RAMP

CITY OF MADISON PARKING UTILITY MADISON, WISCONSIN

SHEET S7

CITY OF MADISON, STATE STREET CAMPUS GARAGE MIXED-USE PROJECT, CONTRACT NO. 8381, References/Neighboring Building Historical Documents

Illuminated Parking Signs - Switching Schedule
Frances Street Ramp/Lake Street Ramp
Madison, Wisconsin

Refer to attached diagram for general sign locations. See drawings SN-1 through SN-5 for sign descriptions.

A. Exit/Directional Signs - Frances St. Ramp:

SIGN NO.	LOCATION	MESSAGE	COMMENTS
1	South Exit	NO/EXIT	"EXIT" on 24 hrs./day "NO" by manual switch and master clock
2	North Exit	NO/EXIT	"EXIT" on 24 hrs./day "NO" automatic by master clock or by manual override switch
3	Level 5, west Wall, C - D	←EXIT (left arrow)	"EXIT" on 24 hrs./day arrow by switch
4	Part of Sign F3	→ (right arrow)	arrow by switch
5	Level 5, west Wall, D - E	EXIT→ (right arrow)	"EXIT" on 24 hrs./day arrow by switch
6	Part of Sign F5	← (left arrow)	arrow by switch

1. "NO/EXIT" and directional sign will operate in one of three (3) modes:

   a. When "NO" portion of Sign 1 is off, and "NO" portion of Sign 2 is on, then Signs 3 and 6 are on.

   b. When "NO" portion of Sign 2 is off, and "NO" portion of Sign 1 is on, then signs 4 and 5 are on.

   c. When "NO" portion of both Signs 1 and 2 are off, then signs 3 and 5 are on.

CITY OF MADISON, STATE STREET CAMPUS GARAGE, MARKED-SIS PROJECT, CONTRACT NO. 9385, Reference & Neighboring Building Historical Documents

8. Exit/Directional Signs - Lake St. Ramp:

SIGN NO.	LOCATION	MESSAGE	COMMENTS
A	South Exit (pedestal on island)	NO/EXIT	"EXIT" on 24 hrs./day "NO" by manual switch and master clock
B	North Exit (pedestal on island)	NO/EXIT	"EXIT" on 24 hrs./day "NO" automatic by master clock or by manual override switch
C	Mid-level opp. Sign 3/4	EXIT→ (right arrow)	"EXIT" on 24 hrs./day arrow by switch
D	Part of Sign C	← (left arrow)	arrow by switch
E	Mid-level opp. Sign 5/6	←EXIT (left arrow)	"EXIT" on 24 hrs./day arrow by switch
F	Part of Sign E	→ (right arrow)	arrow by switch

1. "NO/EXIT" and directional signs will operate in one of three modes:

   a. When "NO" portion of Sign A is off, and "NO" portion of Sign B is on, then Signs C and F are on.

   b. When "NO" portion of Sign B is off, and "NO" portion of Sign A is on, then Signs D and E are on.

   c. When "NO" portion of both Signs A and B are off, then Signs C and E are on.

2. Signs A through F to be furnished and installed by others at a future time. Parking Equipment supplier to furnish and install all switches, relays, contacts, etc. at the Frances Street control booth (#1), plus all wiring between booths #1 and the existing Lake St. booth to control these future signs.

CITY OF MADISON, STATE STREET CAMPUS GARAGE RENEWAL PROJECT, CONTRACT NO. 9361, Reference-9 Neighborhood
Building Historical Documents

C. Building Sign

1. One sign to be located in the terrace between the Frances Street entrances. Lighted copy and "FULL" sign to be separately illuminated.

2. "FULL" sign to be controlled by audit counters in gates.

3. Rest of copy to be controlled as follows:

   a. Turn on with photocell (may be linked with photocell-controlled ramp lights).

   b. Turn off with master clock at beginning of "night" operation.

   c. Manual switch in control booth (#1) to override the photocell.

D. Control/Interface with Parking Equipment:

1. Master Clock - to control exit signs as follows:

   a. "NO" portion of Signs 2 and B: Master clock to turn off for "night" operation and on for "regular" operation.

   b. "NO" portion of Signs 1 and A: Master clock to only turn off at beginning of "night" operation, whether the manual switch for these signs is turned on or off.

   c. Master Clock shall also control gates at all four exits to switch from "regular" to "night" operation (and vice-versa) as outlined in the specifications.

2. Manual Switches:

   a. Provide toggle or other manual switches to control "NO" portion of exit signs 1 and A.

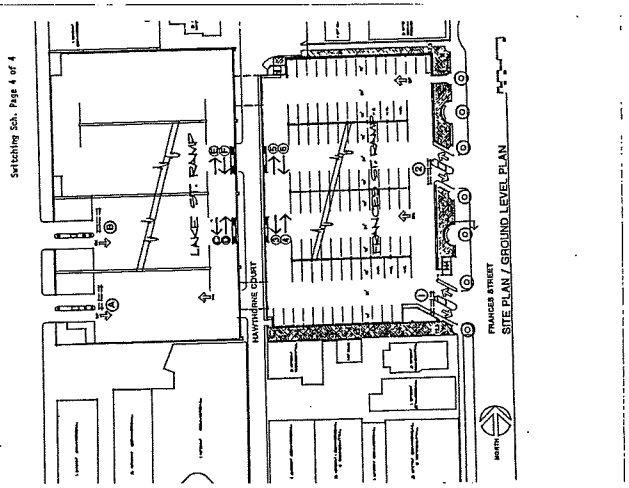
   b. Install the switch for each sign in the booth at that respective location.

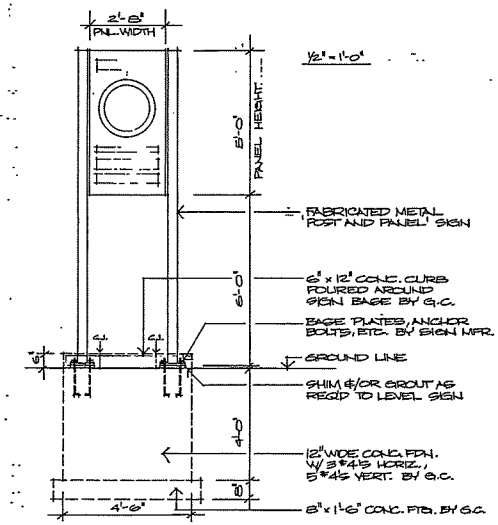
3. Override Switches - Manual or Automatic:

   a. Provide override switches to turn off "NO" portion of Signs 2 and B. If possible, have switch automatically operate by activating fee computer or other equipment related to the exit operation.

   b. If manual, install the switch for each sign in the booth at that respective location.

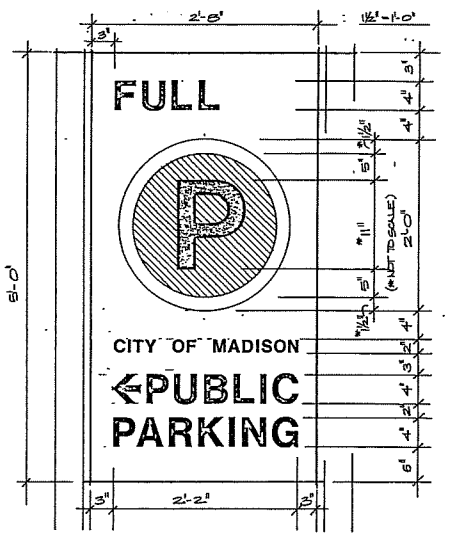
4. Provide master clock and manual switch control for Building Sign. See previous paragraph.


Switching Sch. Page 4 of 4
LAKE ST. RAMP
HAWTHORNE COURT
FRANCES STREET
SITE PLAN / GROUND LEVEL PLAN



TYPE M1 - BUILDING SIGN (1 REQUIRED):

- SIGN TO BE MANUFACTURER'S STANDARD "POST AND PANEL" SYSTEM, INTERNALLY ILLUMINATED, DOUBLE-FACED, WITH ALL DIMENSIONS AS NOTED ON THE DRAWINGS.
- PANEL FACES SHALL BE 0.125 "THICK. PROVIDE TOP AND BOTTOM PANELS FOR ACCESS TO LIGHTING. POSTS SHALL BE EXTRUDED ALUMINUM PREPARED FOR BASE PLATE-TYPE MOUNTING. POSTS SHALL BE MAXIMUM OF 4" WIDE x 8" DEEP, WITH POSTS AND PANEL THE SAME DEPTH. POSTS SHALL HAVE 1" WIDE REVEAL JOINT AT PANEL CONNECTION.
- POSTS AND PANEL SHALL RECEIVE BAKED ENAMEL FINISH. COLOR TO BE SELECTED FROM STANDARD MANUFACTURER'S COLOR CHART.
- ALL LETTERS TO BE HELVETICA MEDIUM IN SIZES NOTED. ARROW TO HAVE SAME STROKE WIDTH AS LETTERS. ALL COPY TO BE INTERNALLY ILLUMINATED. WORD "FULL" ON BOTH SIDES OF SIGN TO BE SEPARATELY ILLUMINATED FROM REST OF COPY. PROVIDE INTERNAL, LIGHT-TIGHT DIVIDER BETWEEN SECTIONS. ALL LETTERS TO BE JIGGED-OUT W/1/8" THICK ACRYLIC BACK-UP. WORDS "CITY OF MADISON", "PUBLIC PARKING" AND ARROW TO HAVE TRANSLUCENT WHITE BACK-UP. WORD "FULL" TO HAVE TRANSLUCENT BRONZE BACK-UP OR CLEAR BACK-UP WITH RED NEON LIGHTING TO APPEAR RED WHEN LIT (LETTERS SHALL NOT BE VISIBLE WHEN UNLIT).



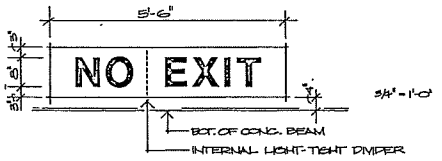
- DOUBLE CIRCLE WITH "P" SHALL BE 1/8" THICK TRANSLUCENT ACRYLIC SHEET. OUTER CIRCLE AND LETTER TO BE WHITE: INNER CIRCLE TO BE STANDARD "TRAFFIC GREEN" TRANSLUCENT COLOR APPLIED TO BACK-UP (MATCH 'NAZDAR' COLORS "MEDIUM GREEN", #59144).
- REVERSE SIDE OF SIGN SHALL HAVE SAME COPY AS SIDE SHOWN IN DRAWINGS. WORD "FULL" SHALL BE MOVED TO RIGHT MARGIN. ARROW AND "PUBLIC" SHALL BE INTERCHANGED, AND ARROW DIRECTION CHANGED TO POINT TO RIGHT SIDE.

BUILDING SIGNAGE

FRANCES ST. RAMP
MADISON, WI.

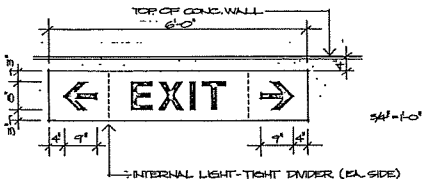
MDM 4/20/82

SN-1
AS BUILT



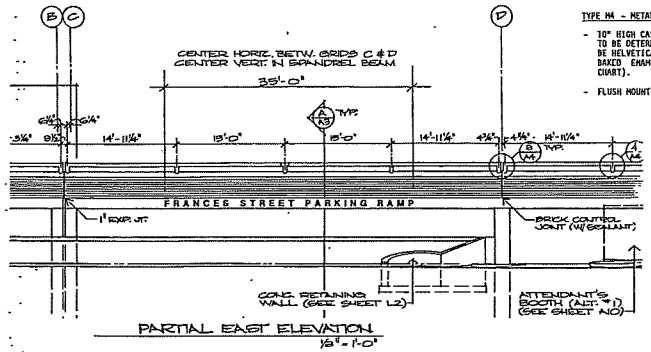
TYPE M2 - NO/EXIT SIGNS (2 REQUIRED):

- SIGN TO BE SURFACE-MOUNTED BOX W/HINGED FRONT ACCESS PANEL, 6" MAXIMUM DEPTH. ARRANGE INTERNAL ILLUMINATION SO THAT "NO" AND "EXIT" CAN BE SEPARATELY LIT. BAKED ENAMEL FINISH ON 0.125" THICK ALUMINUM FACES. COLOR TO BE SELECTED FROM STANDARD MANUFACTURER'S COLOR CHART.
- ALL LETTERS TO BE HELVETICA MEDIUM, JIGGED-OUT W/1/8" THICK ACRYLIC BACK-UP. "EXIT" TO HAVE TRANSLUCENT WHITE BACK-UP. "NO" TO HAVE TRANSLUCENT BRONZE BACK-UP (LETTERS SHALL NOT BE VISIBLE WHEN UNLIT).



TYPE M3 - DIRECTIONAL SIGNS (2 REQUIRED):

- SIGN TO BE SURFACE-MOUNTED BOX W/HINGED FRONT ACCESS PANEL, 6" MAXIMUM DEPTH. ARRANGE INTERNAL ILLUMINATION SO THAT "EXIT" AND ARROWS CAN ALL BE SEPARATELY LIT. BAKED ENAMEL FINISH ON 0.125" THICK ALUMINUM FACES. COLOR TO BE SELECTED FROM STANDARD, MANUFACTURER'S COLOR CHART.
- ALL LETTERS TO BE HELVETICA MEDIUM. ARROWS AND LETTERS TO HAVE SAME STROKE WIDTH. ALL COPY TO BE JIGGED-OUT W/1/8" THICK ACRYLIC BACK-UP. "EXIT" TO HAVE TRANSLUCENT WHITE BACK-UP. ARROWS TO HAVE TRANSLUCENT BRONZE BACK-UP (ARROWS SHALL NOT BE VISIBLE WHEN UNLIT).



PARTIAL EAST ELEVATION
1/8" = 1'-0"

TYPE M4 - METAL LETTERS:

- 10" HIGH CAST ALUMINUM, THICKNESS NOT TO EXCEED 1". SPACING TO BE DETERMINED EXACTLY BY SIGN MANUFACTURER. LETTERS TO BE HELVETICA MEDIUM. FINISH TO BE DARK BRONZE OXIDE STAIN OR BAKED ENAMEL (COLOR TO BE SELECTED FROM STANDARD MANUFACTURER'S CHART).
- FLUSH MOUNT TO CONCRETE BEAM (ONE LOCATION ONLY).

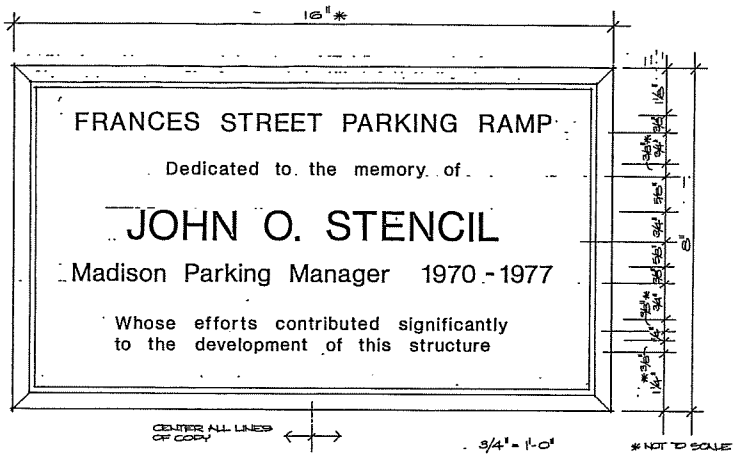
BUILDING SIGNAGE

FRANCES ST. RAMP
MADISON, WI.

MZM 4/20/82

SN-2

AS BUILT



TYPE MS - CAST METAL PLAQUE (1 REQUIRED):

- CAST PLAQUE SHALL BE SOLID BRONZE TO DIMENSIONS SHOWN, WITH CONCEALED STUDS FOR MOUNTING TO CONCRETE OR BRICK WALL.
- ALL LETTERS TO BE HELVETICA REGULAR, UPPER AND LOWER CASE, AND IN SIZES AS NOTED. LETTERS TO BE RAISED 1/8" OVER MANUFACTURER'S STANDARD "LEATHERETTE" BACKGROUND. BORDER TO BE SINGLE LINE/BEVEL EDGE (OR FLAT BAND BEVEL) OF APPROXIMATE WIDTH SHOWN.
- FINISH TO BE MANUFACTURER'S STANDARD LIGHT BRONZE OXIDE STAIN.

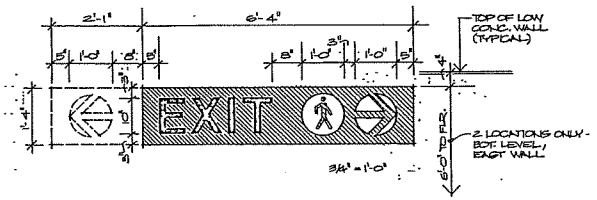
BUILDING SIGNAGE

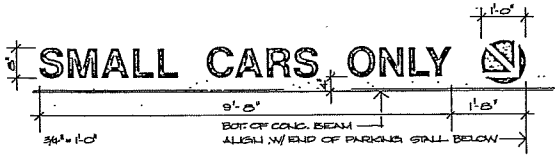
FRANCES ST. RAMP
MADISON, WI.

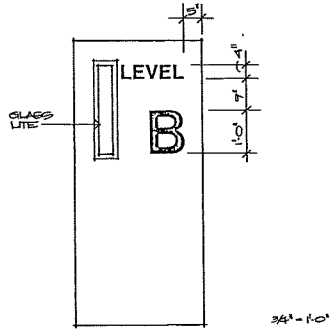
MZM 4/20/82

SN-3
AS BUILT

CITY OF MADISON, STATE STREET CAMPUS GARAGE MIXED-USE PROJECT, CONTRACT NO. 9361, Reference-9 Neighboring Building Historical Documents







TYPE P1 - PEDESTRIAN EXIT SIGNS (6 REQUIRED):

- BACKGROUND, ARROW AND PEDESTRIAN SYMBOL TO BE BLACK. WORD "EXIT" AND CIRCLES TO BE WHITE. LETTERS TO BE HELVETICA MEDIUM. ARROW AND LETTERS TO HAVE SAME STROKE WIDTH.
- WHERE INDICATED ON PLANS, REVERSE POSITION OF ARROW AND "EXIT"; REVERSE DIRECTION OF ARROW AND PEDESTRIAN SYMBOL TO POINT LEFT.
- WHERE INDICATED ON PLANS, ADD SECOND ARROW TO INDICATE TWO EXIT DIRECTIONS.
- PAINTED ON CONCRETE WALLS.

TYPE P2 - SMALL CAR PARKING SIGN (24 REQUIRED):

- BLACK LETTERS AND CIRCLE. NO BACKGROUND COLOR. LETTERS TO BE HELVETICA MEDIUM. ARROW AND LETTERS TO HAVE SAME STROKE WIDTH.
- WHERE INDICATED ON PLANS, REVERSE POSITION OF ARROW AND TEXT; REVERSE DIRECTION OF ARROW TO POINT LEFT.
- PAINTED ON CONCRETE BEAMS.

TYPE P3 - STAIR DOOR SIGNS (18 REQUIRED):

- WHITE LETTERS OVER DOOR COLOR, BOTH SIDES OF STAIR ENTRY DOORS. LETTERS TO BE HELVETICA MEDIUM IN SIZES SHOWN.
- FLOOR LEVELS ARE: 'A' - LOWEST LEVEL; 'B' - MIDDLE LEVEL; 'C' - ROOF LEVEL. DOOR TO GRADE AT WEST SIDE OF STAIR #2 IS NOT LETTERED.
- ON REVERSE SIDE OF DOOR FROM THAT SHOWN, ALL COPY TO ALIGN AT A LEFT MARGIN 5" FROM LEFT EDGE OF DOOR.

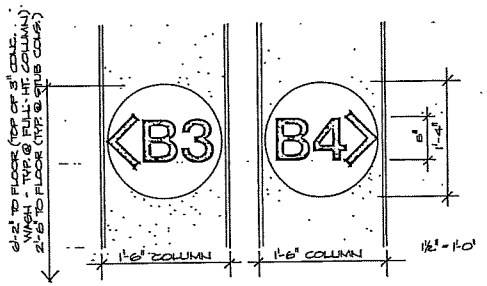
BUILDING SIGNAGE

FRANCES ST. RAMP
MADISON, WI.

MZM 4/20/82

SN-4

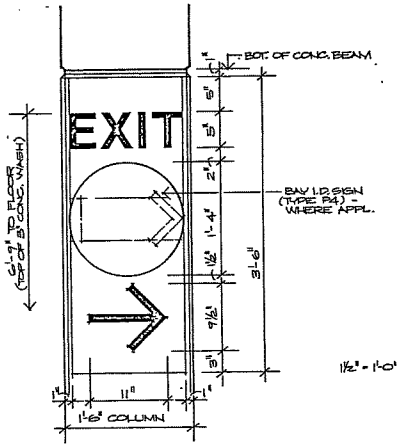
AS BUILT



~~NOT USED~~

~~TYPE N - BAY IDENTIFICATION SIGNS (40 REQUIRED):~~

- WHITE LETTERS, NUMBERS AND ARROWS OVER COLORED BACKGROUND. COLORS TO BE SELECTED. LOCATION AND COPY FOR EACH SIGN SHOWN ON THE PLANS.
- PAINTED ON CONCRETE COLUMNS.



TYPE P5 - PAINTED EXIT SIGNS (2 REQUIRED):

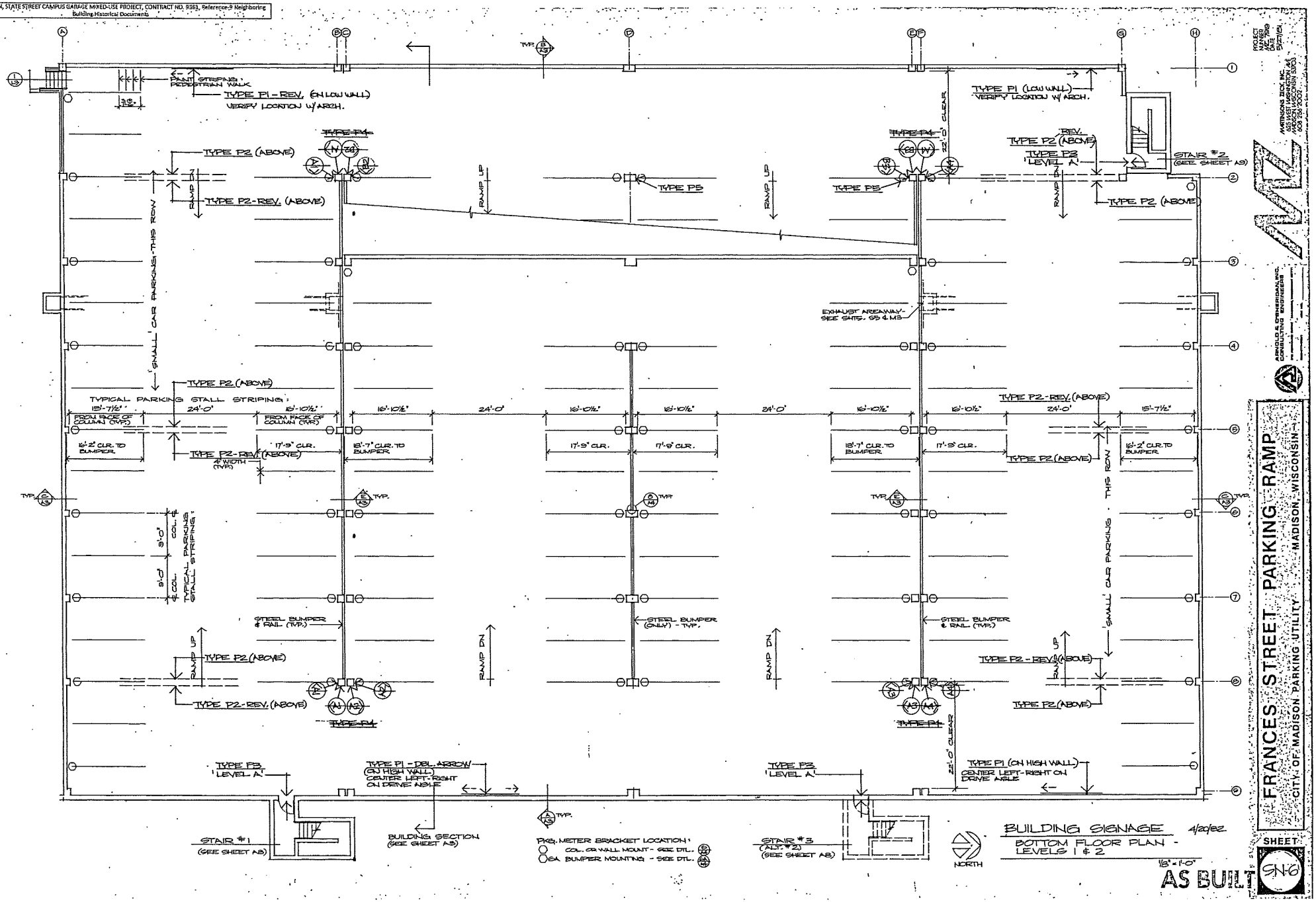
- LETTERS AND ARROW TO BE BLACK OVER WHITE BACKGROUND. LETTERS HELVETICA MEDIUM: ARROW AND LETTERS TO HAVE SAME STROKE WIDTH.
- AT COLUMN E2, INTERRUPT "EXIT" AND ARROW WITH BAY I.D. SIGN, AS SHOWN. AT COLUMN D2, MOVE ARROW UP TO 5" BELOW LETTERS AND REVERSE DIRECTION OF ARROW. END WHITE BACKGROUND 6" BELOW ARROW.

BUILDING SIGNAGE

FRANCES ST. RAMP
MADISON, WI.

MZM 4/20/82

SN-5
AS BUILT



BUILDING SIGNAGE 4/20/12

BOTTOM FLOOR PLAN - LEVELS 1 & 2

1/8" = 1'-0"

AS BUILT

FRANCES STREET PARKING RAMP

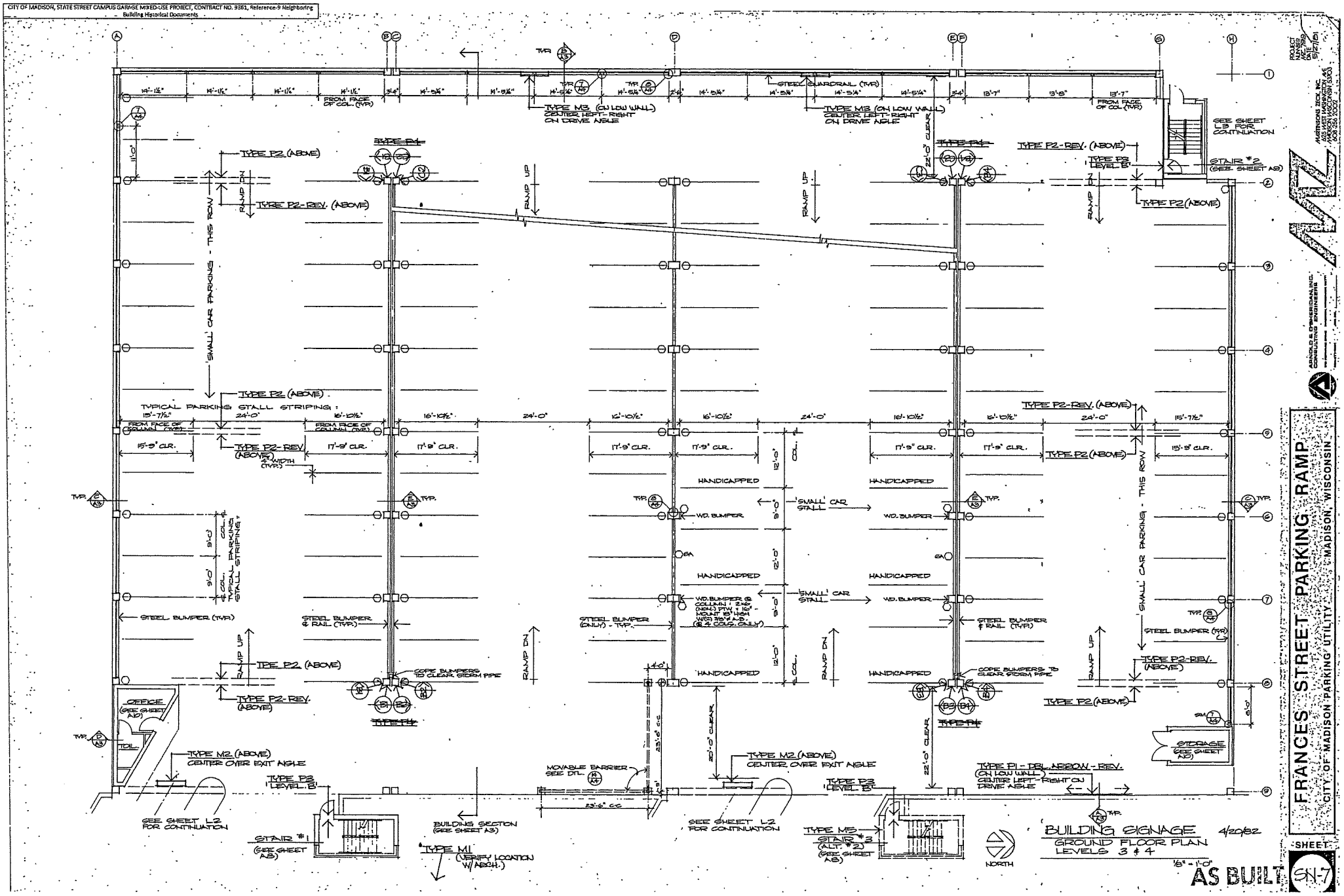
CITY OF MADISON PARKING UTILITY - MADISON, WISCONSIN

SHEET S6

PROJECT ARE 9380 DATE 5/27/04

MARTENSON BECK INC. 1 S. PINCKNEY ST. SUITE 616 MADISON WISCONSIN 53703 608 258 7007

ARNOLD & O'SHERIDAN, INC. CONSULTING ENGINEERS



BUILDING SIGNAGE
GROUND FLOOR PLAN LEVELS 3 & 4

4/20/82

AS BUILT

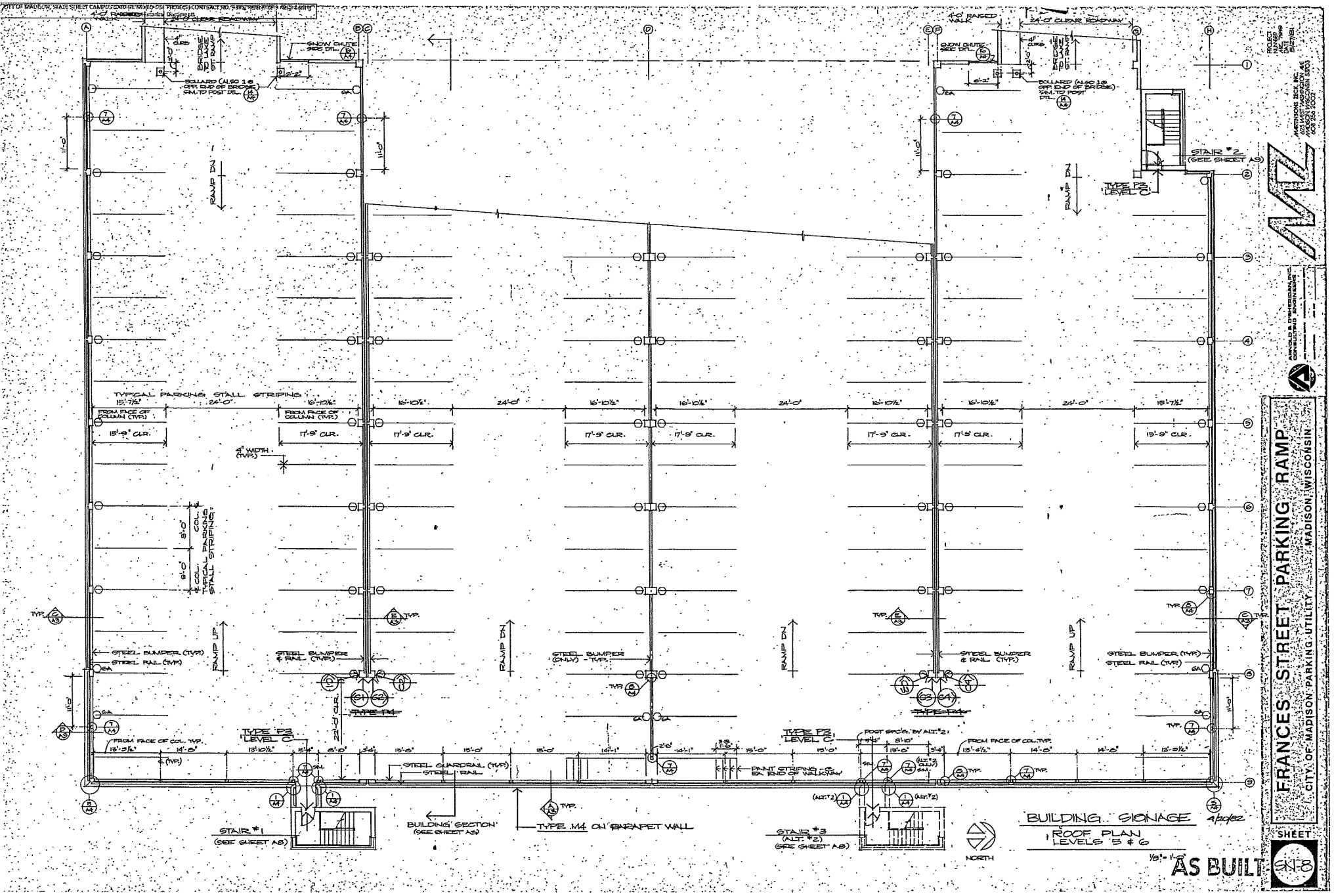
MADISON ZEOL INC.
ARCHITECTURE
222 WEST WASHINGTON AVE.
MADISON, WISCONSIN
608 256 2002

ARNOLD & O'SHERIDAN, INC.
CONSULTING ENGINEERS

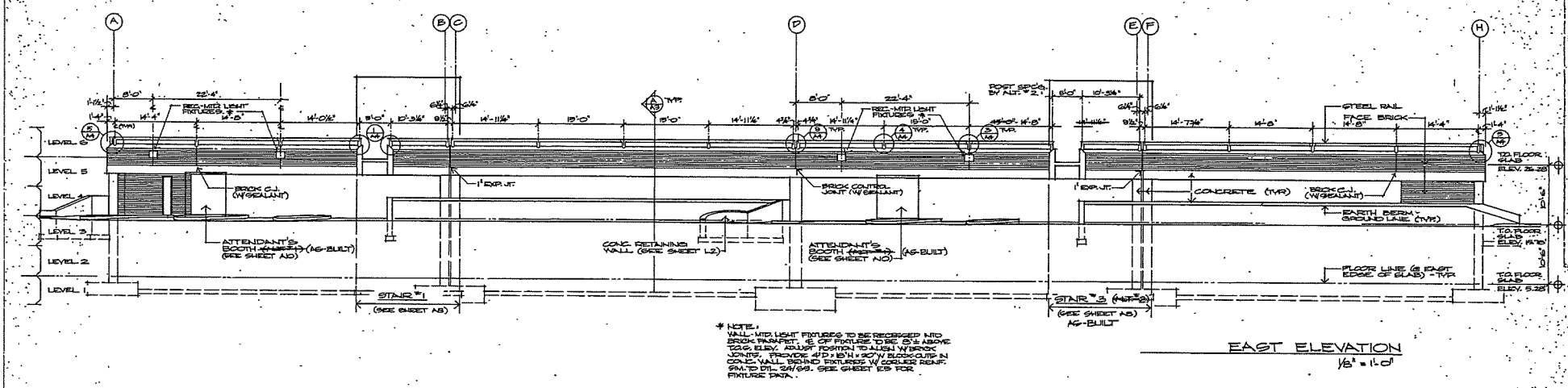
PROJECT NUMBER 7902
DATE 5/27/82

FRANCES STREET PARKING RAMP
CITY OF MADISON PARKING UTILITY - MADISON, WISCONSIN

SHEET SN-7

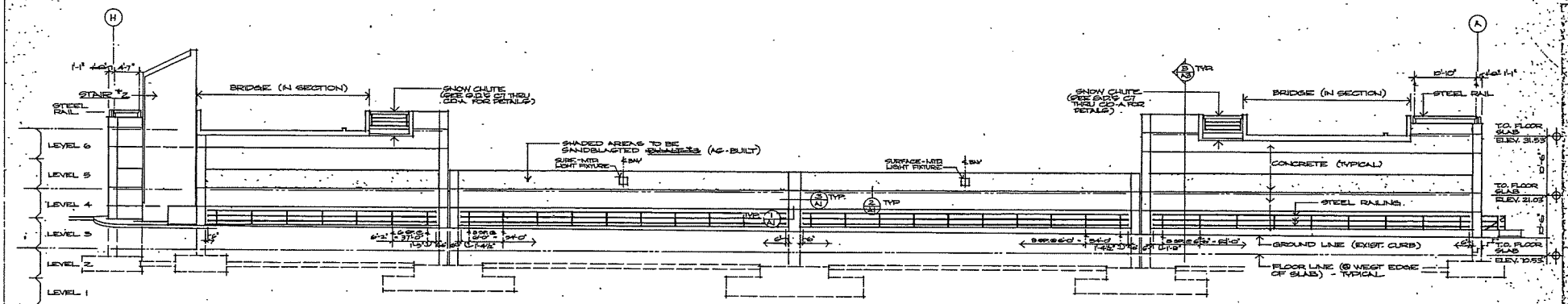

TYPICAL PARKING STALL STRIPING
24'-0"
15'-7½"
16'-10½"
FROM FACE OF COLUMN (TYP.)
15'-9" CLR.
17'-9" CLR.
4" WIDTH (TYP.)
RAMP DN
RAMP UP
STEEL BUMPER (TYP.)
STEEL RAIL (TYP.)
STEEL BUMPER & RAIL (TYP.)
STEEL BUMPER (ONLY) - TYP.
TYPE P3 LEVEL 2
TYPE M4
TYPE M2
TYPE M1
STAIR #1 (SEE SHEET A8)
STAIR #2 (SEE SHEET A8)
STAIR #3 (ALT. #2) (SEE SHEET A8)
BUILDING SECTION (SEE SHEET A3)
STEEL GUARDRAIL (TYP.)
STEEL RAIL
PAINT STRIPING @ EX. END OF WALKWAY
BOLLARD (ALSO 1 @ OPP. END OF BRIDGE) - SEE M-TO POST DTL.
SNOW CHUTE SEE DTL.
BRIDGE TO LEVEL 2 RAMP
4'-0" RAISED WALK
24'-0" CLEAR ROADWAY
NORTH
BUILDING SIGNAGE
ROOF PLAN LEVELS 5 & 6
1/8"= 1'-0"
AS BUILT
FRANCES STREET PARKING RAMP
CITY OF MADISON PARKING UTILITY - MADISON, WISCONSIN
SHEET
A2.0

CITY OF MADISON, STATE STREET CAMPUS GARAGE MIXED-USE PROJECT, CONTRACT NO. 9561, Reference-9 Neighboring Building Historical Documents

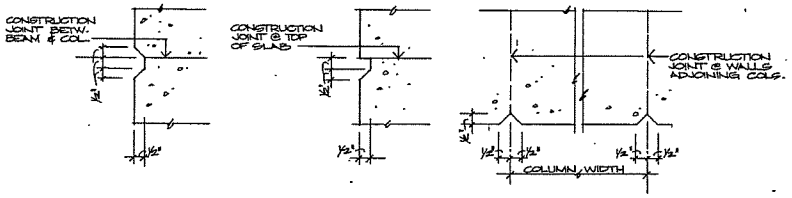


* NOTE:
WALL-MTD. LIGHT FIXTURES TO BE RECESSED INTO BRICK FACE PER DET. 6 ON SHEET A5. TOP OF FIXTURE TO BE 6" U. ABOVE TOP OF ELEV. ADJUST POSITION TO FLUSH W BRICK JOINTS. PROVIDE 4"D x 16"H x 20"W BLOCK OUT IN CONC. WALL BEHIND FIXTURES W COOLER REINF. SIM. TO DTL. 24/S3. SEE SHEET E5 FOR FIXTURE DATA.

EAST ELEVATION
1/8" = 1'-0"



WEST ELEVATION
1/8" = 1'-0"



1/A1 TYP. C.J. DETAIL 3" = 1'-0"

2/A1 TYP. C.J. DETAIL 3" = 1'-0"

3/A1 TYP. C.J. DETAIL 3" = 1'-0"

AS BUILT

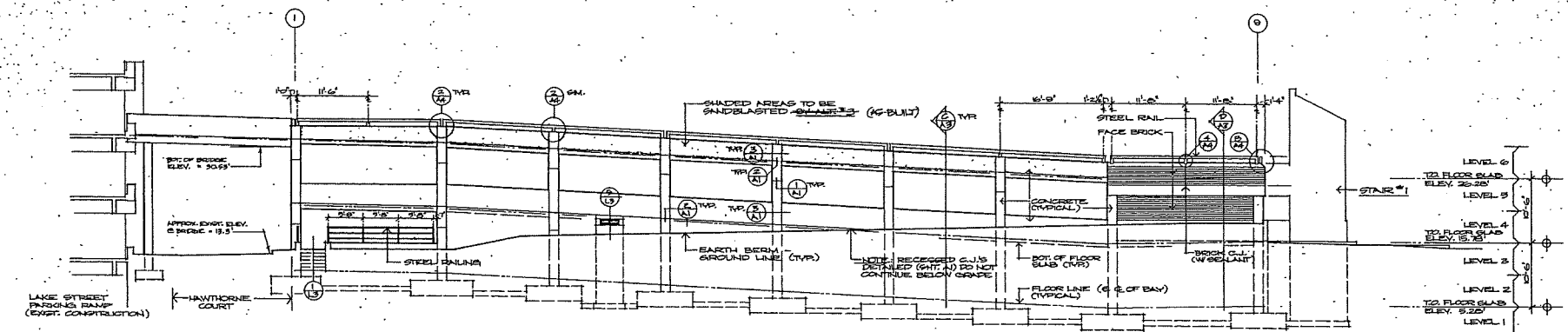
PROJECT NUMBER 0615.78 DATE 5/27/04

ARNOLD & O'SHEIDAN, INC. CONSULTING ENGINEERS
MADISON 25CK, INC.
425 WEST WASHINGTON AVE.
MADISON, WISCONSIN 53703
608 255 3002

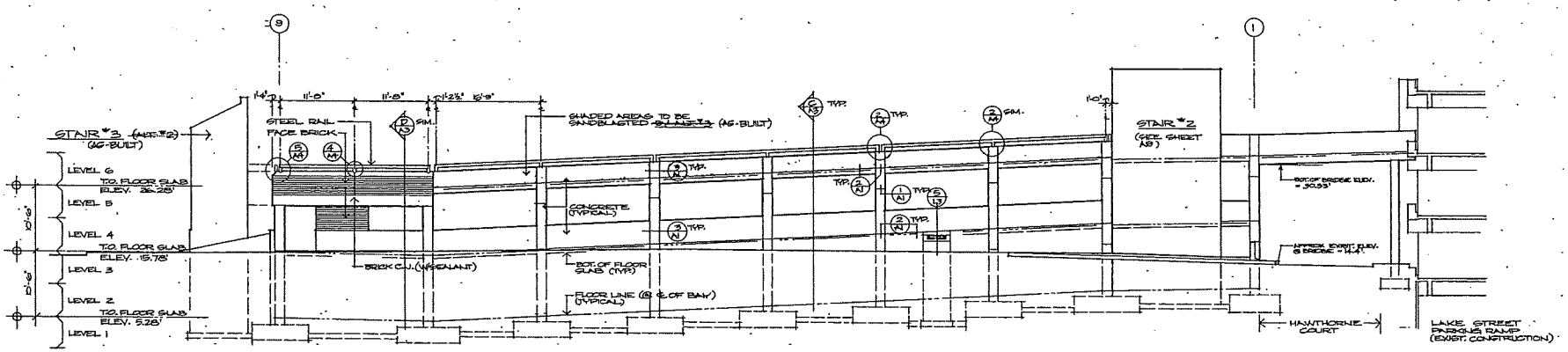
FRANCES STREET PARKING RAMP

CITY OF MADISON PARKING UTILITY — MADISON, WISCONSIN

SHEET A1



SOUTH ELEVATION
1/8" = 1'-0"



NORTH ELEVATION
1/8" = 1'-0"

AS BUILT

PROJECT MANAGER: ABE TEPPE 847.391.2121

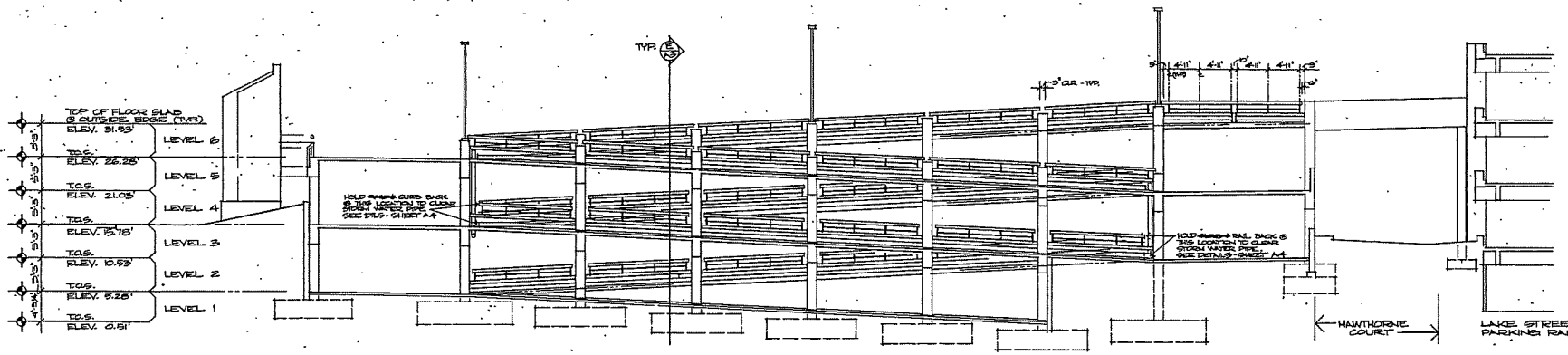
ARNOLD & O'SHERIDAN, INC. CONSULTING ENGINEERS

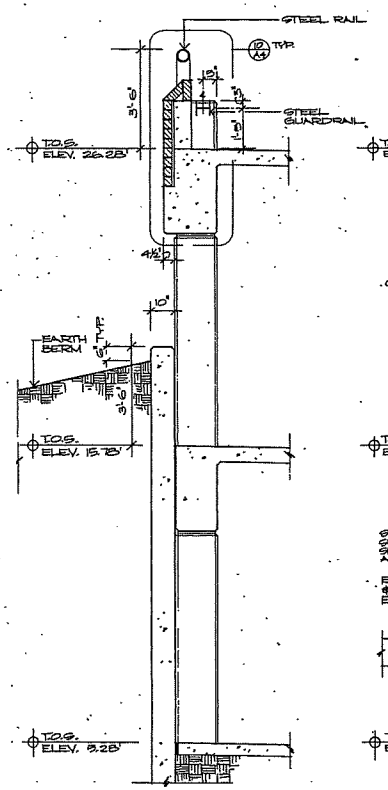
ARNOLD & O'SHERIDAN, INC. 2314 INNSBRUCK DRIVE MADISON WISCONSIN 53713 608.256.3002

FRANCES STREET PARKING RAMP

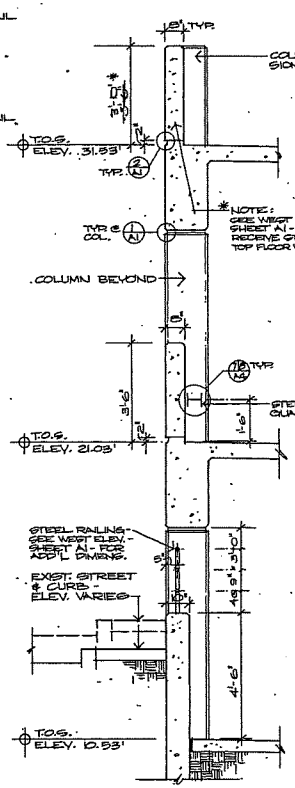
CITY OF MADISON PARKING UTILITY MADISON, WISCONSIN

SHEET A2

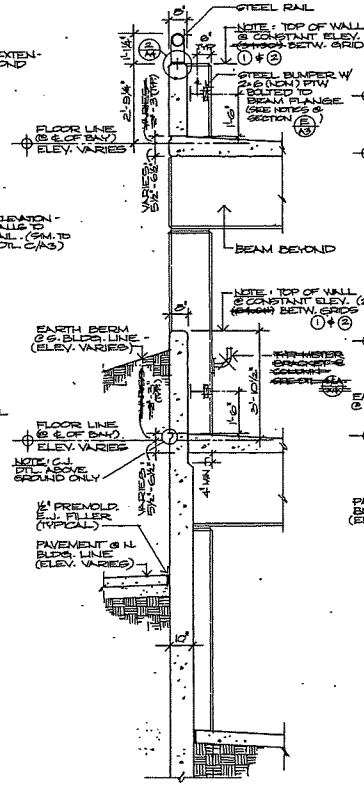




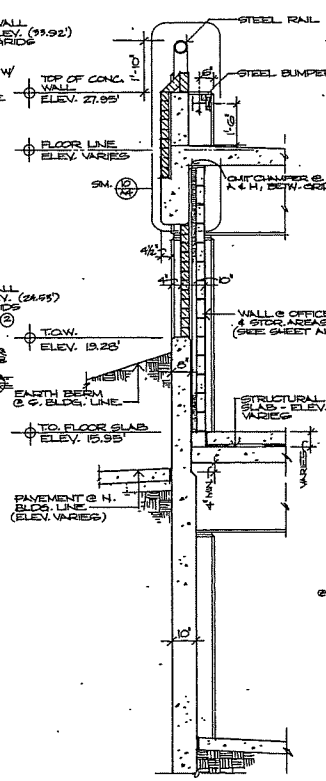
A/A3 FRONT (EAST) WALL 1/2" = 1'-0"



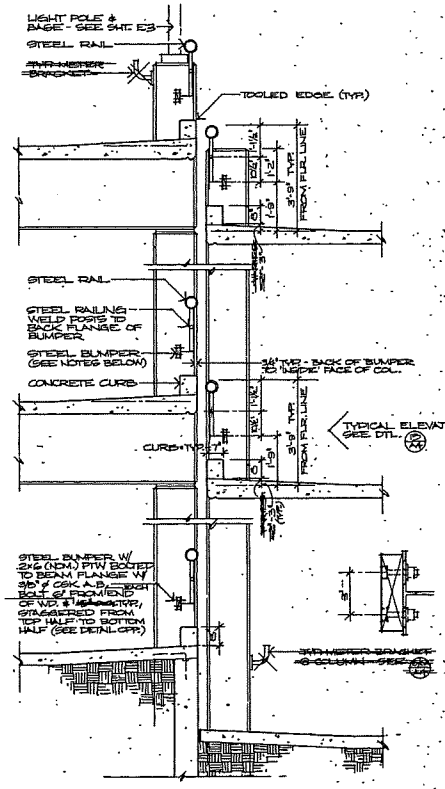
B/A3 REAR (WEST) WALL 1/2" = 1'-0"



C/A3 TYP. SIDE (N. OR S.) WALL 1/2" = 1'-0"



D/A3 SIDE WALL @ FRONT 1/2" = 1'-0"



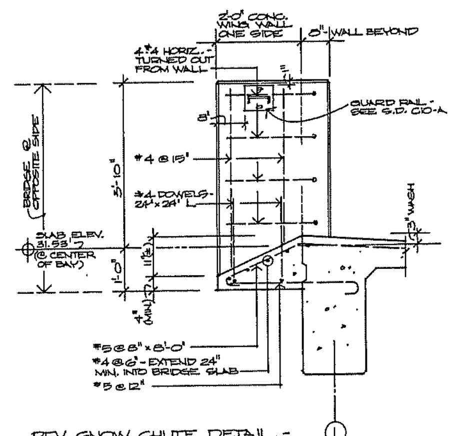
E/A3 INTERIOR SECTION 1/2" = 1'-0"

AS BUILT

ARNOLD & O'SHERIDAN, INC. CONSULTING ENGINEERS
MADISONS ZECK INC. ARCHITECTS
PROJECT MANAGER
DRAWN BY
DATE 5/27/11

FRANCES STREET PARKING RAMP
CITY OF MADISON PARKING UTILITY MADISON, WISCONSIN

SHEET A3



REV. SNOW CHUTE DETAIL - SECTION 3/4" = 1'-0"

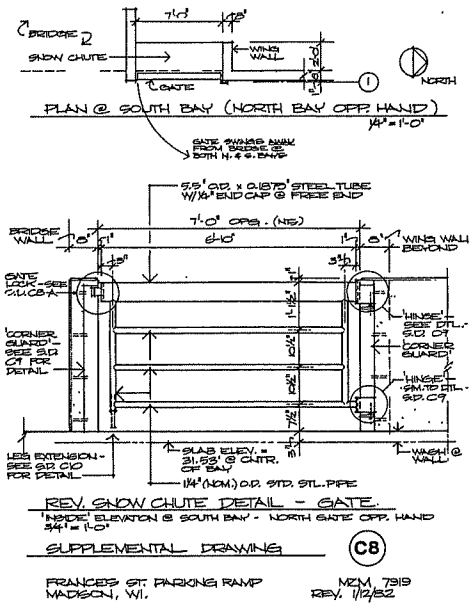
SUPPLEMENTAL DRAWING (C7)

FRANCES ST. PARKING RAMP
MADISON, WI.

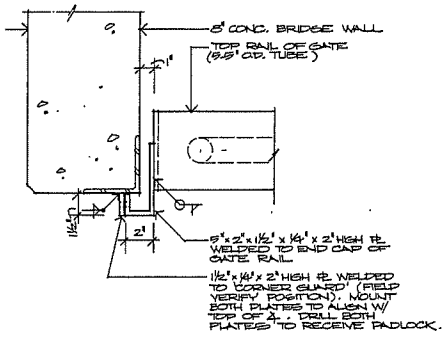
MZM 7919
REV 1/12/82

CITY OF MADISON, STATE STREET CAMPUS GARAGE MIXED-USE PROJECT, CONTRACT NO. 9361, Reference-9 Neighboring Building Historical Documents

CITY OF MADISON, STATE STREET CAMPUS GARAGE MIXED-USE PROJECT, CONTRACT NO. 7391, Reference-9 Neighboring Building Historical Documents



CITY OF MADISON, STATE STREET CAMPUS GARAGE MIXED-USE PROJECT, CONTRACT NO. 8982, Reference 9 Neighboring Building Historical Documents



PLAN SECTION THRU GATE LOCK.
DTL. SHOWN FOR GATE @ S. BAY - N. GATE OPP HAND
3" = 1'-0"

REVISED SNOW CHUTE DETAIL
SEE SUPPLEMENTAL DRWG C7-010

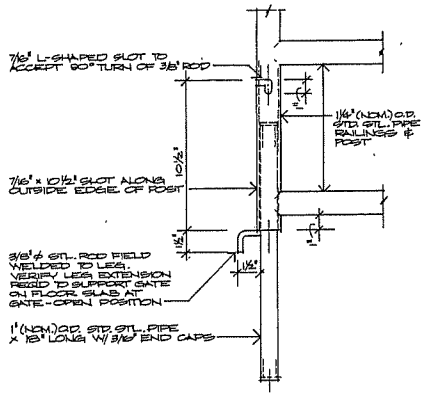
SUPPLEMENTAL DRAWING C8-A

FRANCES ST. PARKING RAMP
MADISON, WI.

MDM 7919
1/12/02

REV. GNOW CHUTE - HINGE DETAILS
SUPPLEMENTAL DRAWING
C9
TRAUGER ST. PARKING RAMP
MADISON, WI.
MAY 2010
VERTICAL SECTION (BOT HINGE SIM.)
PLAN SECTION THRU TOP HINGE (BOT HINGE SIM.)
SEE VERT. SECT.
TOP RAIL
TOP PLATE
BOTTOM PLATE
HINGE PLATE
HINGE PLATE
SHEET METAL CHUTE
SHEET METAL CHUTE
CONC. WALL
CONC. WALL

CITY OF MADISON, STATE STREET CAMPUS GARAGE, MAKERSPACE PROJECT, CONTRACT NO. 9351, Reference 9 Neighborhood
Building Historical Documents



REV. SNOW CHUTE - LEG DETAIL
3" = 1'-0"

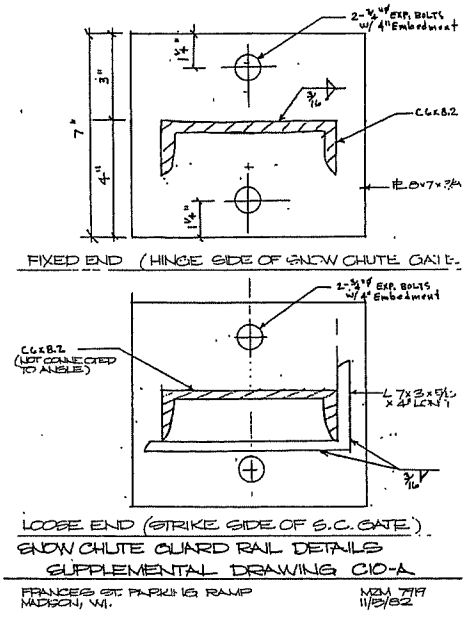
SUPPLEMENTAL DRAWING

C10

FRANCES ST. PARKING RAMP
MADISON, WI.

MDM 7918

CITY OF MADISON, STATE STREET CAMPUS GARAGE MIXED-USE PROJECT, CONTRACT NO. 9886, Reference-3 Neighboring Building & Historical Documents

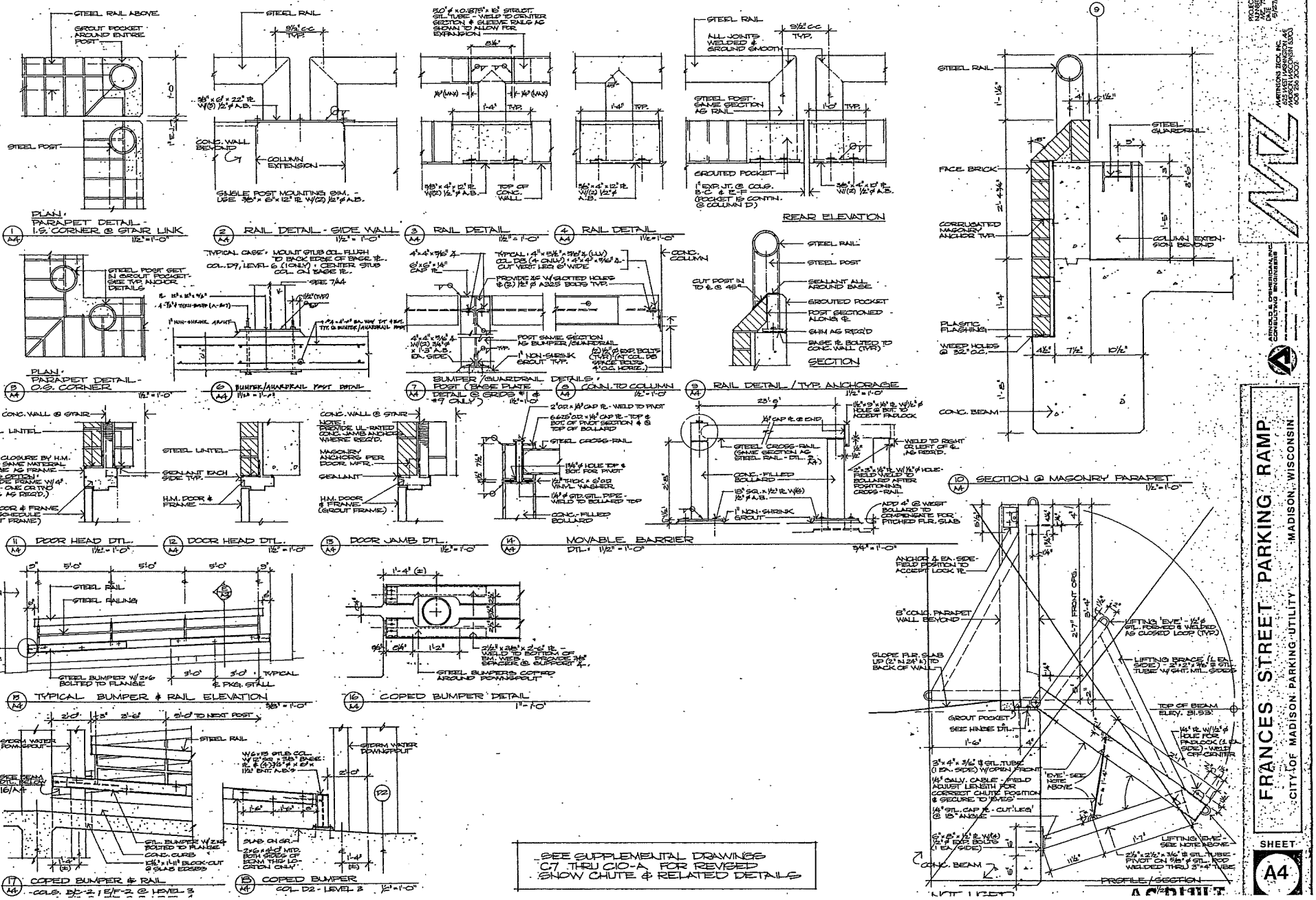


SNOW CHUTE GUARD RAIL DETAILS
SUPPLEMENTAL DRAWING C10-A

FRANCES ST. PARKING RAMP
MADISON, WI.

MDM 7719
11/21/82

CITY OF MADISON, STATE STREET CAMPUS GARAGE MIXED-USE PROJECT, CONTRACT NO. 9361, Reference-9 Neighboring Building Historical Documents



PROJECT MANAGER: DATE: 7/5/19 9/27/21

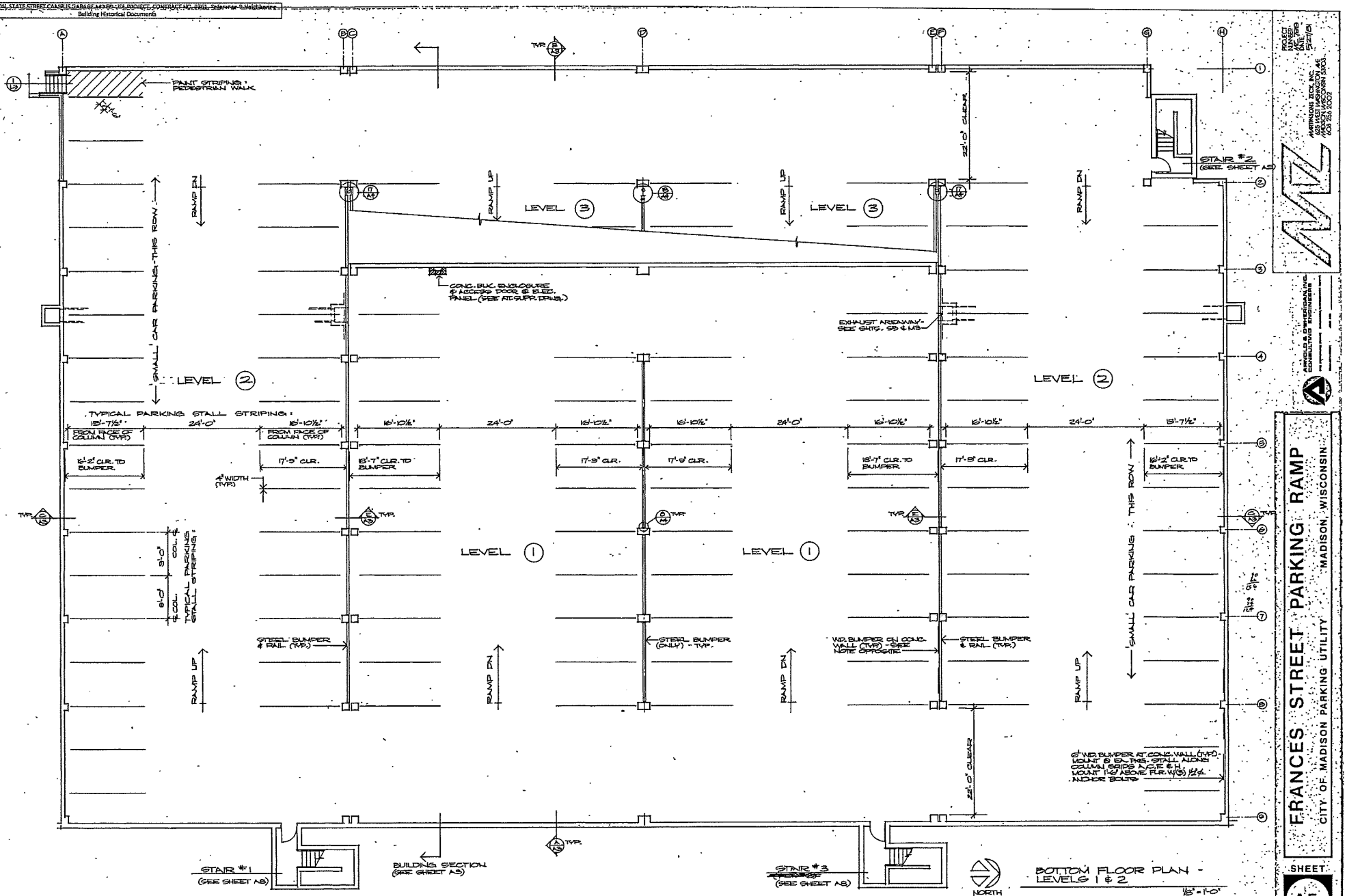
MARTINSON ZICK INC. 625 WEST WASHINGTON AVE MADISON WISCONSIN 53703 (608) 256-2000

ARNOLD & O'REILLY ASSOCIATES, INC. CONSULTING ENGINEERS

FRANCES STREET PARKING RAMP

CITY OF MADISON · PARKING · UTILITY · MADISON, WISCONSIN

SHEET A4



BOTTOM FLOOR PLAN - LEVELS 1 & 2

1/8" = 1'-0"

FRANCES STREET PARKING RAMP

CITY OF MADISON PARKING UTILITY · MADISON, WISCONSIN

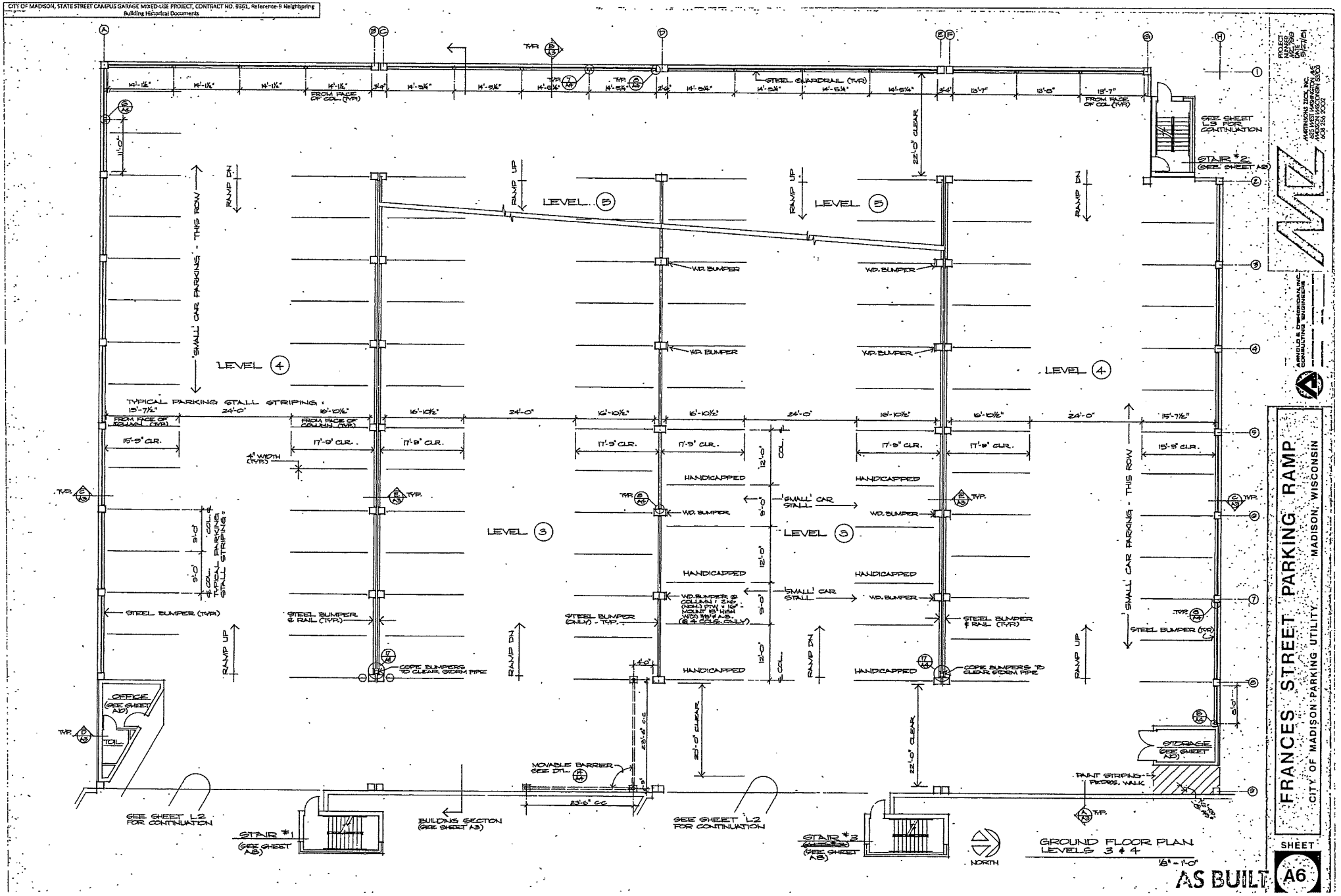
SHEET A5

AS BUILT

TRAFFIC OFFICE PARKING RAMP

MAY ... 7/24/92

CITY OF MADISON, STATE STREET CAMPUS GARAGE MIXED-USE PROJECT, CONTRACT NO. 9351, Reference-9 Neighboring Building Historical Documents



GROUND FLOOR PLAN
LEVELS 3 & 4

1/8" = 1'-0"

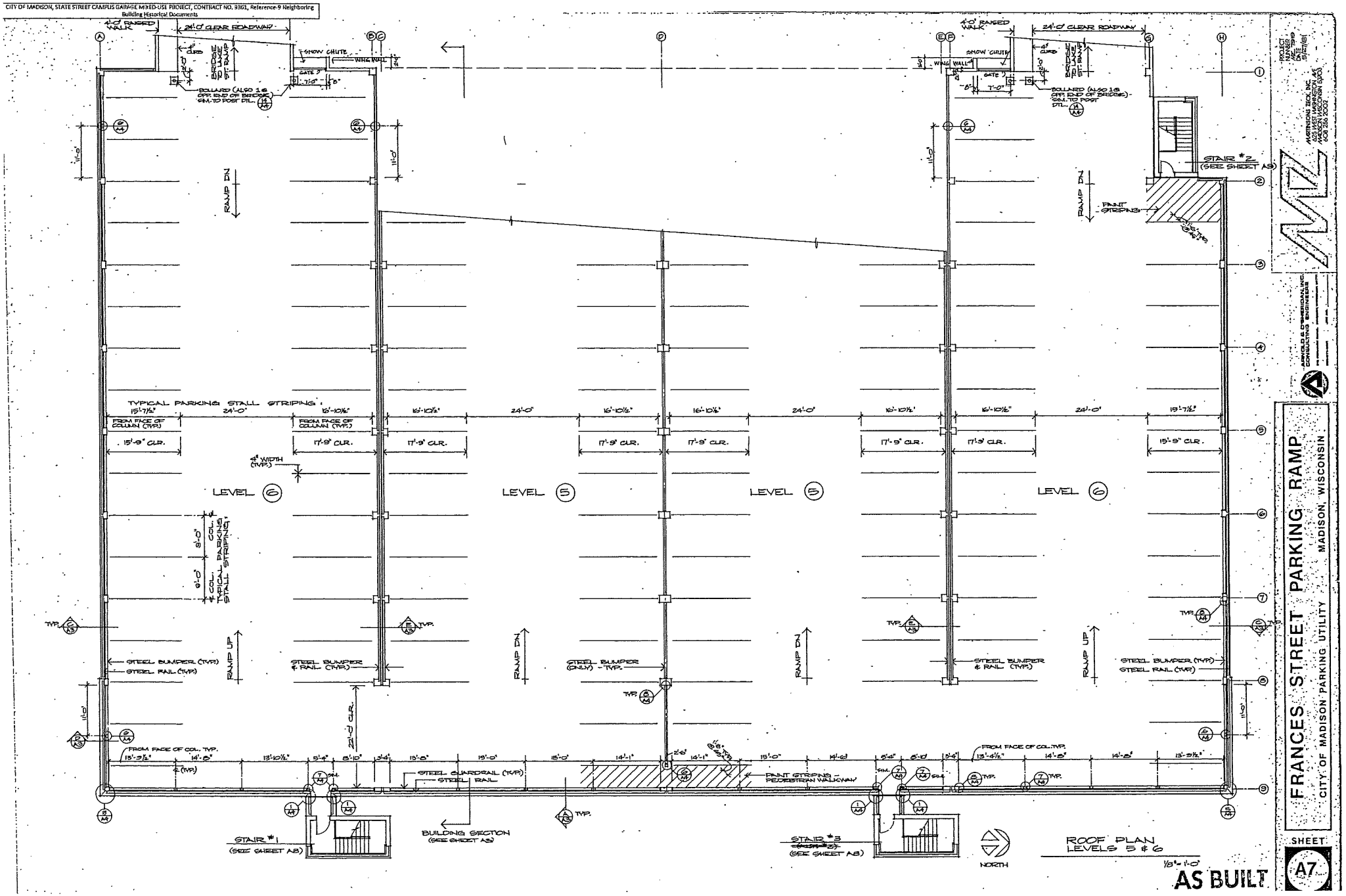
AS BUILT

FRANCES STREET PARKING RAMP
CITY OF MADISON PARKING UTILITY · MADISON, WISCONSIN

SHEET A6

ARNOLD & O'SHERIDAN, INC.
CONSULTING ENGINEERS

MARTENSON ZICK, INC.
ARCHITECTS
MADISON, WISCONSIN 53703
608 256 2002



ROOF PLAN
LEVELS 5 & 6

1/8" = 1'-0"

AS BUILT

FRANCES STREET PARKING RAMP
CITY OF MADISON PARKING UTILITY MADISON, WISCONSIN

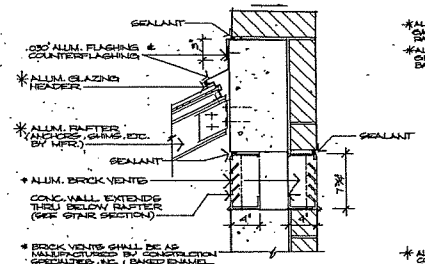
SHEET A7

PROJECT NO. 1559
ARCHITECT SITE/BLDG
MADISON SEIBERT
MADISON WISCONSIN 53703
608 256 2002

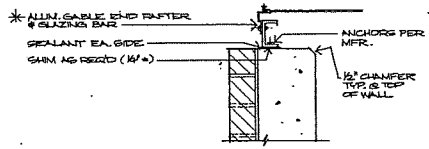
ARCHITECTS SEIBERT, INC.
ARCHITECTURE
MADISON WISCONSIN 53703
608 256 2002

ARNOLD & O'SHERIDAN, INC.
CONSULTING ENGINEERS

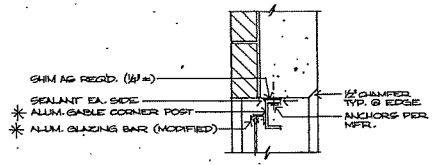
CITY OF MADISON, STATE STREET CAMPUS GARAGE MIXED-USE PROJECT, CONTRACT NO. 7361, Reference-9 Neighboring Building Historical Documents



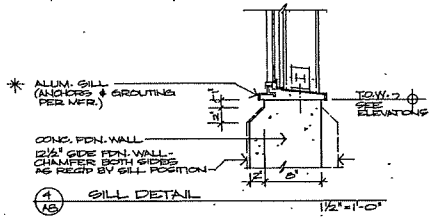
1/A8 STAIR TOWER - TOP OF WALL 1½" = 1'-0"



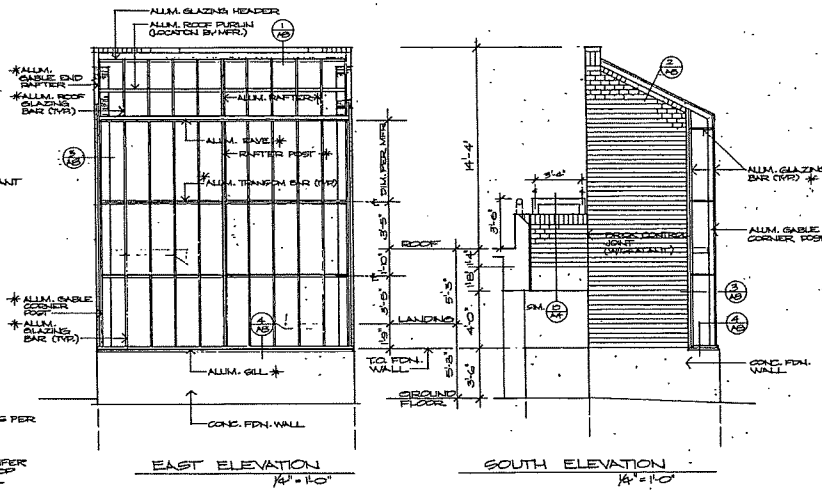
2/A8 TOP OF SIDE WALL 1½" = 1'-0"



3/A8 END DTL. - SIDE WALL 1½" = 1'-0"



4/A8 SILL DETAIL 1½" = 1'-0"



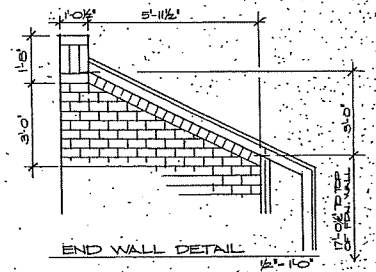
EAST ELEVATION 1/4" = 1'-0"

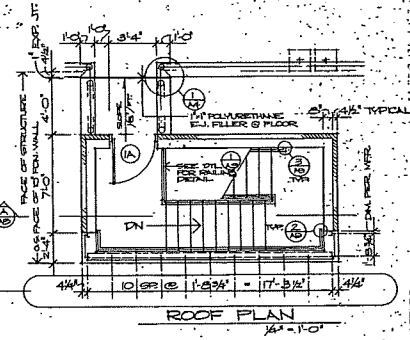
SOUTH ELEVATION 1/4" = 1'-0"

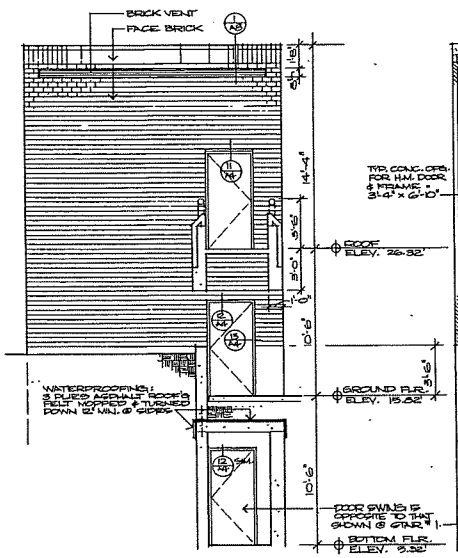
STAIR #1 & #3

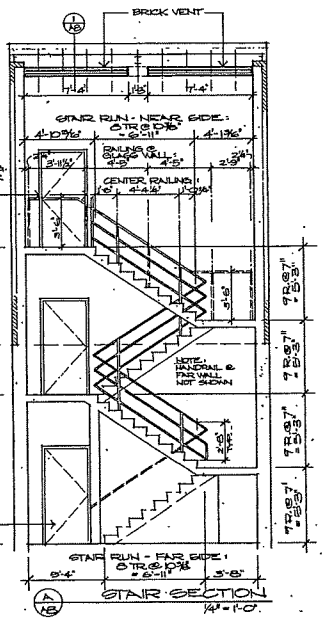
NOTE: THE TERM "MFR." USED ON SHEETS A8 & A9 REFERS TO THE "STAIR ENCLOSURE" MANUFACTURER. ALL ALUMINUM GLAZING COMPONENTS NOTED OR DETAILED HERE SHALL BE BY THIS MANUFACTURER.

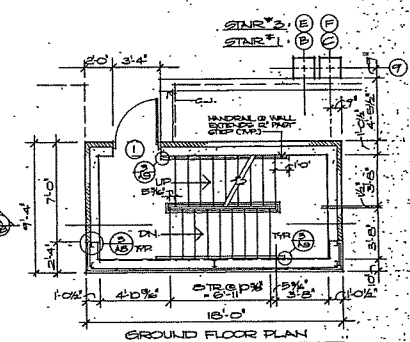
NOTE: ALUM. STAIR ENCLOSURE, COUNTERWEIGHTS & SPACING OF MEMBERS REVISED PER SHOP DRAWINGS ATTACHED AT THE END OF THIS SET.

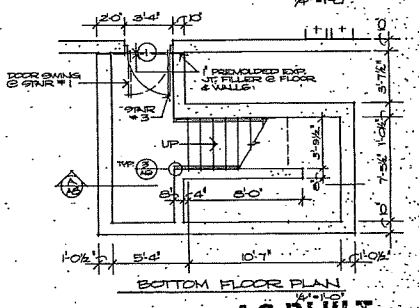












AS BUILT

ARCHITECTURAL RESOURCES, INC.
ARCHITECTS, PLANNERS & INTERIOR DESIGNERS
MADISON, WISCONSIN 53703
608 256 2002

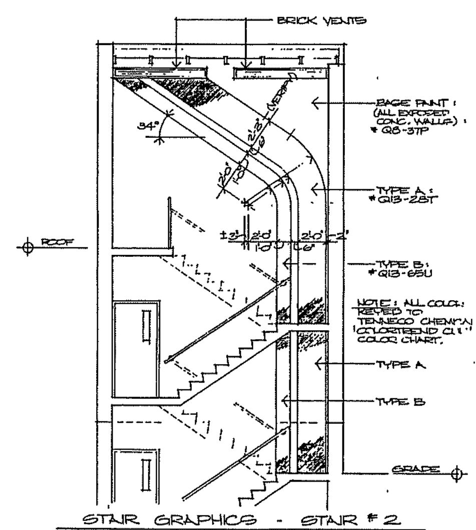
ARNOLD & O'SHERIDAN, INC.
CONSULTING ENGINEERS

PROJECT NO. 7919
DATE 5/21/01

FRANCES STREET PARKING RAMP
CITY OF MADISON PARKING UTILITY · MADISON, WISCONSIN

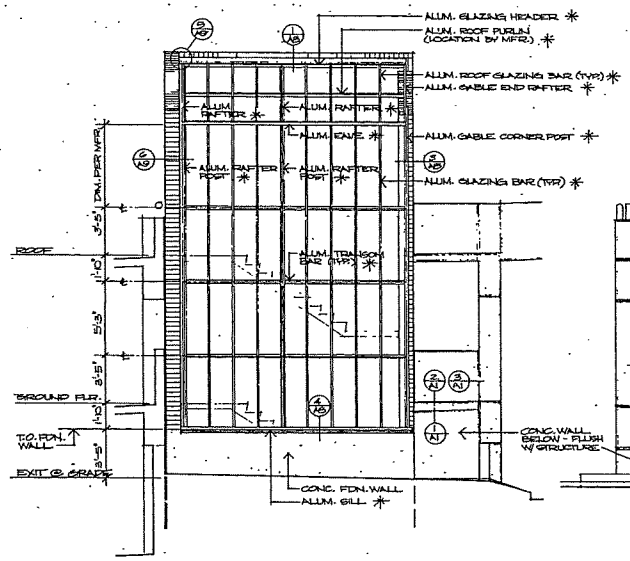
SHEET A8

CITY OF MADISON, STATE STREET CAMPUS GARAGE MIXED-USE PROJECT, CONTRACT NO. 9381, Reference-9 Neighboring Building Historical Documents

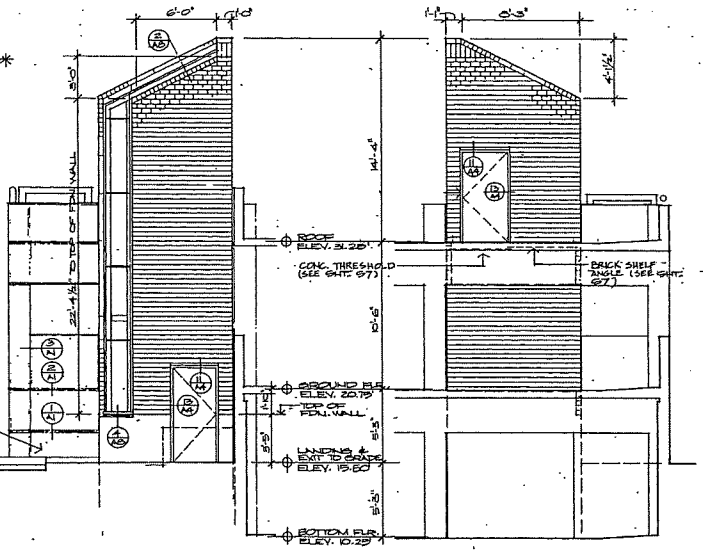


STAIR GRAPHICS - STAIR # 2
1/4" = 1'-0"

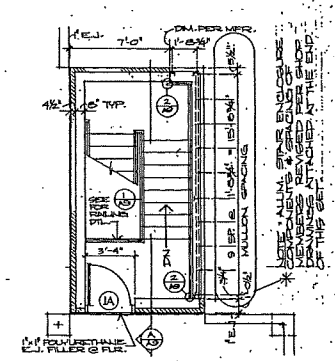
SUPPLEMENTAL DRAWING (C18)
FRANCES ST. PARKING RAMP
MADISON, WI.
MRM 7919
5/13/82



NORTH ELEVATION
1/4" = 1'-0"



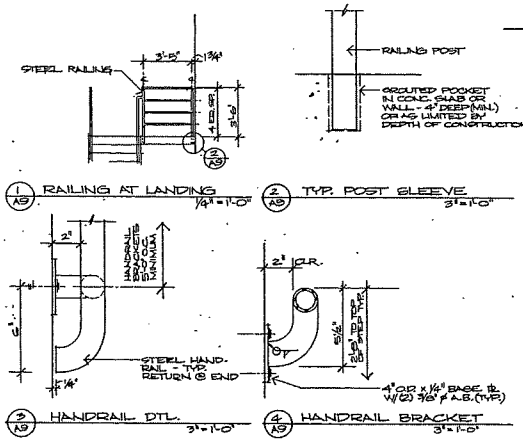
WEST ELEVATION
1/4" = 1'-0"



EAST ELEVATION
1/4" = 1'-0"

NOTE: ALUM. STAIR ENCLOSURE SHOP DRAWINGS REVISED PER SHOP DRAWINGS ATTACHED AT THE END OF THIS SET.

STAIR #2

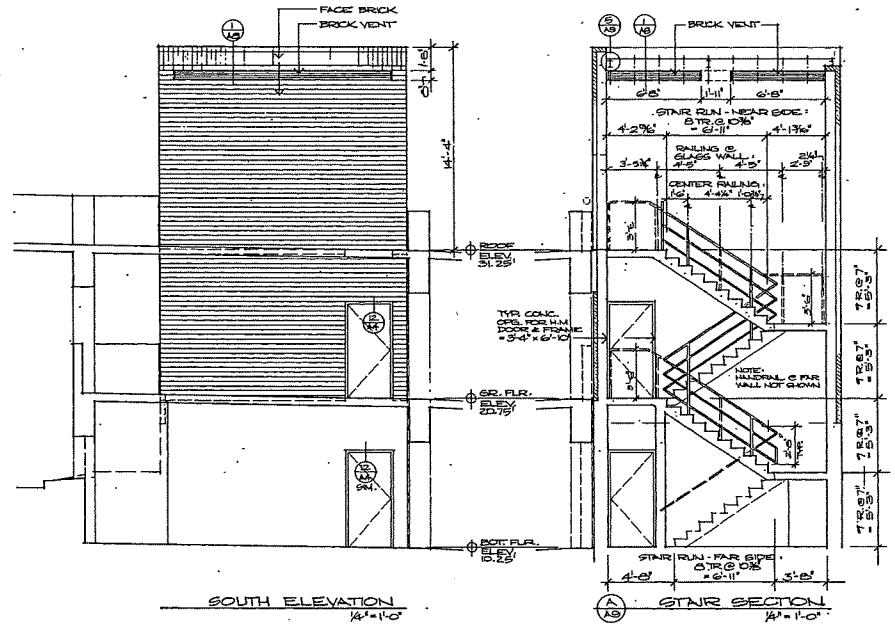


1/A9 RAILING AT LANDING 1/4" = 1'-0"

2/A9 TYP. POST SLEEVE 3" = 1'-0"

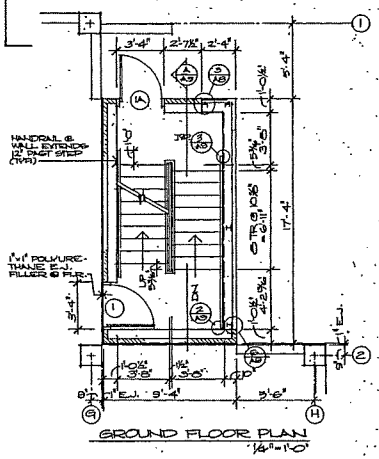
3/A9 HANDRAIL DTL. 3" = 1'-0"

4/A9 HANDRAIL BRACKET 3" = 1'-0"

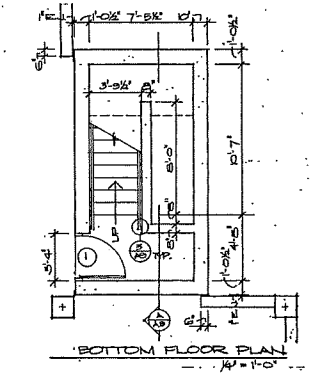


SOUTH ELEVATION
1/4" = 1'-0"

STAIR SECTION
1/4" = 1'-0"



GROUND FLOOR PLAN
1/4" = 1'-0"



BOTTOM FLOOR PLAN
1/4" = 1'-0"

PROJECT NO. 7759
DATE 5/21/21

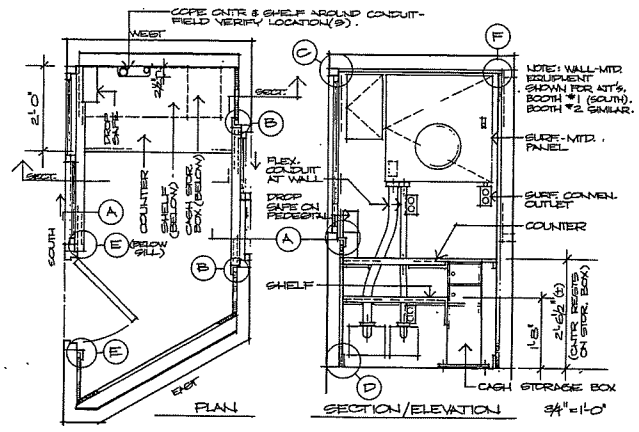
MARTINSON ZEICK INC.
ARCHITECTURE
MADISON WISCONSIN 53703
608 256 2002

DENOLA & SWENSEN INC.
STRUCTURAL ENGINEERS
MADISON, WISCONSIN

FRANCES STREET PARKING RAMP
CITY OF MADISON PARKING UTILITY
MADISON, WISCONSIN

SHEET A9

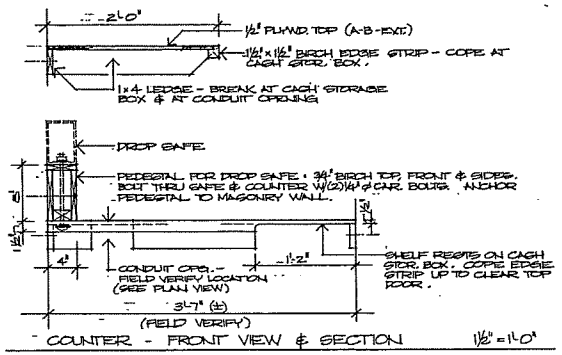
AS BUILT



FRANCES STREET PARKING RAMP
MADISON, WI.
MDA

ATTENDANT'S BOOTH MILLWORK & TRIM DETAILS

6/11/02
DRAWING 1 OF 4

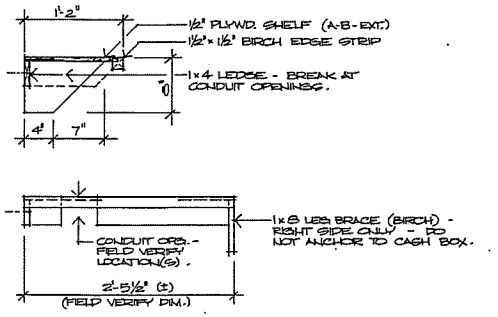


COUNTER - FRONT VIEW & SECTION 1½" = 1'-0"

FRANCES STREET PARKING RAMP
MADISON, WI. MZH

ATTENDANT'S BOOTH MILLWORK & TRIM DETAILS

6/11/82
DRAWING 2 OF 4

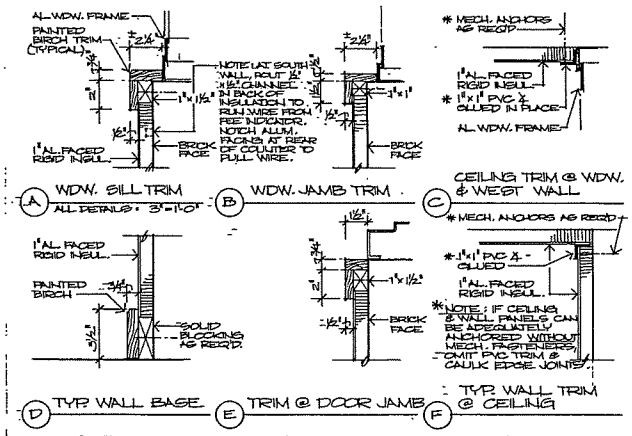


SHELF - FRONT VIEW & SECTION 1½" = 1'-0"

FRANCES STREET PARKING RAMP
MADISON, WI. MZM

ATTENDANT'S BOOTH MILLWORK & TRIM DETAILS

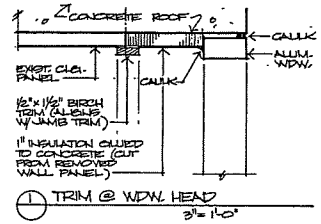
6/11/82
DRAWING 3 OF 4



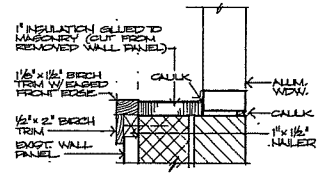
FRANCES STREET PARKING RAMP — ATTENDANT'S BOOTH MILLWORK & TRIM DETAILS — 6/11/82

MADISON, WI. — HZM — DRAWING 4 OF 4

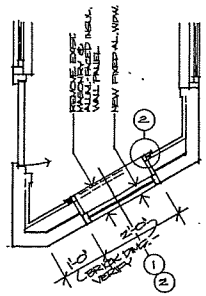
CITY OF MADISON, STATE STREET CAMPUS GARAGE MIXED-USE PROJECT, CONTRACT NO. 9361, Reference-9 Neighboring Building Historical Documents



1 TRIM @ WDW. HEAD
3" = 1'-0"



2 TRIM @ WDW. SILL & JAMB
3" = 1'-0"



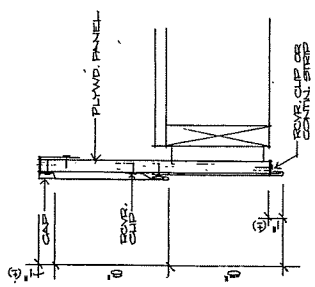
PLAN @ EAST WALL - ATTENDANT'S BOOTH
¾" = 1'-0"

NOTES:
1. EXIST. WALL PANEL TO BE REMOVED & REOUT AS NEATLY AS POSSIBLE. REINSTALL W/ ALUMINUM FACE EXPOSED.
2. ALL WOOD TRIM TO BE PAINTED TO MATCH EXISTING TRIM. INTERIOR CAULKING SHALL BE WHITE.

FRANLOPP CT. PARKING RAMP
MADISON, WI.

NEW WINDOW TRIM DETAILS

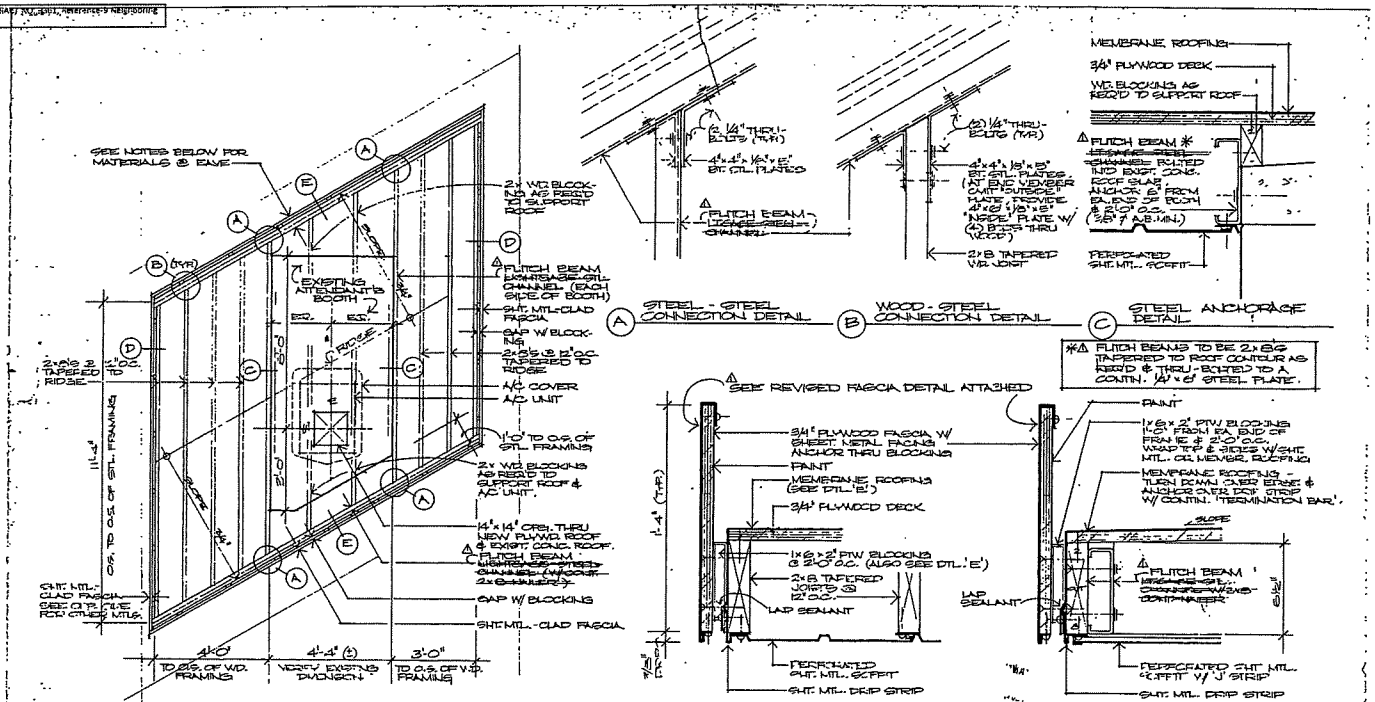
MDM
9/27/02



REVISION TO FASCIA DETAILS
3/4" = 1'-0"
7/15/83

ATTENDANT BOOTH ROOF CAPS
FRANCES ST. RAMP MADISON, WI.

CITY OF MADISON, STATE STREET CAMPUS GARAGE MIXED-USE PROJECT, CONTRACT NO. 8911, Attachment 9 Neighboring Building Historical Documents



ATTENDANT'S BOOTH ROOF FRAMING PLAN

1/2" = 1'-0"

A STEEL - STEEL CONNECTION DETAIL

B WOOD - STEEL CONNECTION DETAIL

C STEEL ANCHORAGE DETAIL

D FASCIA @ GABLE ENDS

E FASCIA @ EAVE ENDS

ALL DETAILS @ 3" = 1'-0"

Work to be furnished and installed for attendant booth roof caps (2 required) shall include the following:

1. All wood joists shall be 2x8 southern pine, surface dry, No. 2, or equivalent species with minimum F_b (repetitive) = 1,400 PSI and E = 1,600,000 PSI. Taper all joists from 6¼ inches at eave end to full 7½ inch at roof ridge. Provide with decay resistant "Osmose" or equivalent pressure treatment. Miscellaneous wood nailers and blocking shall be pressure-treated.

2. Lightgage steel channels shall be 6" deep, 14 gauge galvanized "Super-C" studs by Chicago Metallic Corporation. Equivalent steel sections with same physical and structural properties are acceptable. Miscellaneous connecting plates and anchor bolts shall receive one coat of rust inhibitive primer.

3. Plywood for roof deck and fascia shall be 3/4" thick exterior grade APA C-C plugged with exterior glue. Provide solid blocking under all panel edges.

4. Sheet metal facing on fascias shall be fabricated aluminum sheet, .032 gauge (minimum) with duranodic finish (dark bronze) as manufactured by Petersen Aluminum Corporation, Schiller Park, Illinois. Anchor 8" o.c. with color matched aluminum screws. Miter and butt all joints at corners. Other butt joints shall occur at center point of fascia panels.

5. Perforated sheet metal soffit panels shall be .020 guage aluminum, V-groove ventilating type, with acrylic baked enamel finish to match fascia panels. Anchor panels with concealed or color-matched fasteners as recommended by the soffit manufacturer. Provide perimeter "J" strips or other extrusions as manufactured for the system. Sheet metal drip strips shall be of the same material and finish as the soffit.

6. Membrane roofing shall be 60 mil E.P.D.M. solidly-adhered system as manufactured by Carlisle Tile and Rubber. Adhesive and perimeter anchorage shall be as recommended by the manufacturer.

7. Rooftop air conditioning unit shall be model no. SCH-10A60 as manufactured by Intertherm, Inc., St. Louis, MO. Provide complete with A/C unit, gaskets, fiberglass cover, interior ceiling grille, sleeve (& sleeve adaptor for 8"(±) roof thickness), and other accessories standard with this unit. Installation of air conditioner shall include cutting a 14" square opening in the existing 4" concrete roof cap, extending 115 volt/1 phase service from the booth*, cutting existing ceiling insulation to recess ceiling grille, caulking around base of air conditioner, caulking around ceiling grille, general clean-up and touch-up repair of adjacent surfaces.

8. Paint back of fascia panels w/ 2 coats exterior enamel before erection.

* Electric service to A.B. shall be separate from that serving attendant parking equipment.

ATTENDANT BOOTH ROOF CAPS

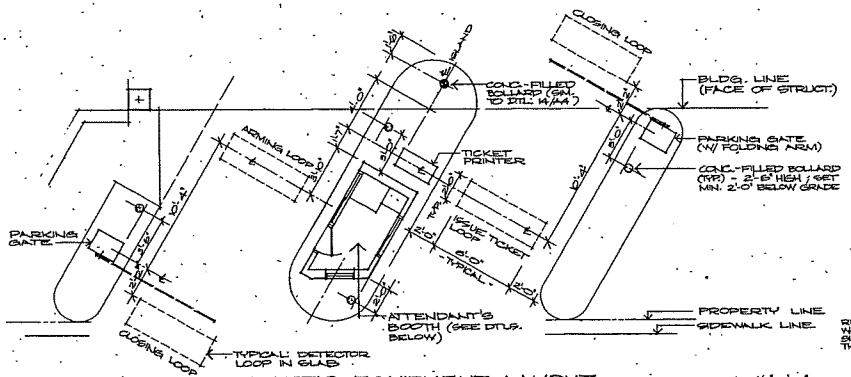
FRANCES STREET PARKING RAMP
MADISON, WI.
MADISON PARKING UTILITY

AS BUILT

Marlinsons / Zeck / Mayer
Planning-Architecture-Engineering
525 West Washington Avenue
Madison Wisconsin 53703

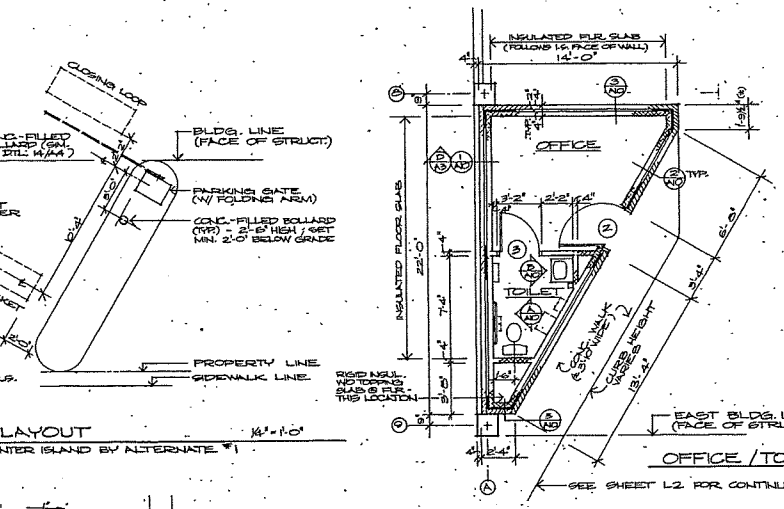
Project Number: 7917-S
Date: 8/22/83
Drawing Number: 1 of 1
Δ REV. 7/15/82

CITY OF MADISON, STATE STREET CAMPUS GARAGE MIXED-USE PROJECT, CONTRACT NO. 8881, Reference-9 Neighboring Building Historical Documents

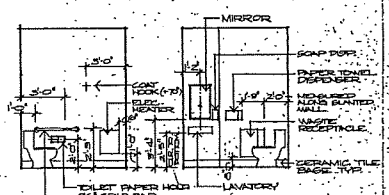


TRAFFIC EQUIPMENT LAYOUT 1/4" = 1'-0"

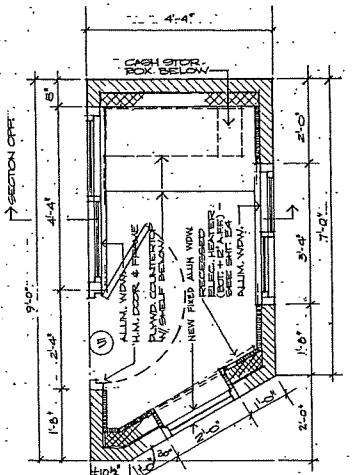
EQUIPMENT, ATTENDANT'S BOOTH & CENTER ISLAND BY ALTERNATE #1



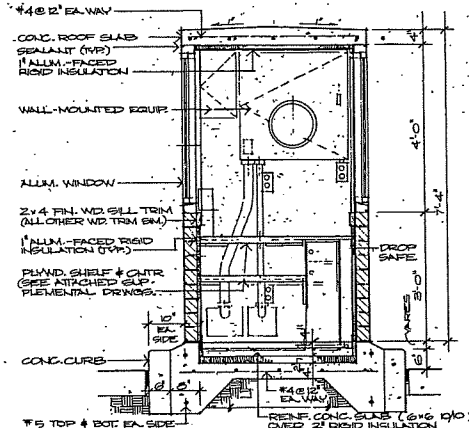
OFFICE / TOILET ENCLOSURE 1/4" = 1'-0"



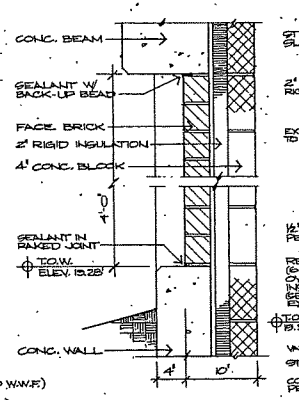
PROVIDE 2" THICK ALUMINUM-FACED RIGID INSULATION AT OFFICE & TOILET CEILINGS. INSULATION SHALL BE SIMILAR TO THERMAX, FOIL-FACED SYSTEM BY CELOTEX CORP. W/ MFRS. STD. SEAM FINISH & PVC. JOINT TREATMENT. ANCHOR DIRECTLY TO CONCRETE SOFFITS W/ MECHANICAL FASTENERS OR ADHESIVE AS RECOMMENDED BY THE MANUFACTURER.



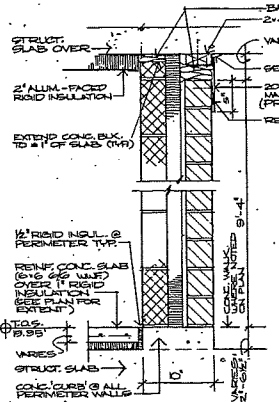
ATTENDANT'S BOOTH - PLAN 3/4" = 1'-0"



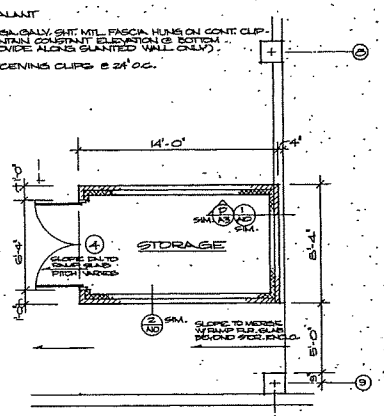
SECTION / ELEV. 3/4" = 1'-0"



1/NO WALL SECTION 1½" = 1'-0"



2/NO WALL SECTION 1½" = 1'-0"



3/NO WALL SECTION 1½" = 1'-0"

STORAGE ENCLOSURE 1/4" = 1'-0"

ATTENDANT'S BOOTH - FINISH NOTES:

1. PLYWOOD SHELVES TO BE ½" TYPE A-B W/ EXTERIOR GLUE.
2. COUNTERTOPS & SHELVES TO HAVE 8x2 WOOD EDGE GLUED & NAILED TO PLYWD. AT ALL EXPOSED EDGES. MOUNT TO WALL THRU CONTINUOUS WOOD CLEATS.
3. ALL WOOD TRIM & WOOD EDGINGS TO BE BIRCH, PAINTED TO MATCH WALL & CEILING PANELS.
4. ALUMINUM-FACED RIGID INSULATION TO BE SIMILAR TO THERMAX-PLUS SYSTEM BY CELOTEX CORP. W/ MFRS. .032" THICK ALUM. FINISH & PVC. JOINT & EDGE TREATMENT. ANCHOR DIRECTLY TO CONCRETE OR MASONRY SURFACES W/ MECHANICAL FASTENERS OR JOINT SYSTEM AS RECOMMENDED BY MANUFACTURER.

NOTE: SEE ATTACHED SUP. DRWGS. DATED 6/11/82 & 9/30/82 FOR COMPLETE REVISIONS TO ATTENDANT BOOTH INTERIORS.
SEE ATTACHED SUP. DRWGS. DATED 5/25/83 FOR ADDITION OF ATT. BOOTH ROOF CAPS & UNIT AIR CONDITIONERS.

AS BUILT

PROJECT NUMBER 9
ISSUE DATE 5/27/83

MARKHAM ZECK, INC.
ARCHITECTS
ADDISON, WISCONSIN 53003
608 256 2003

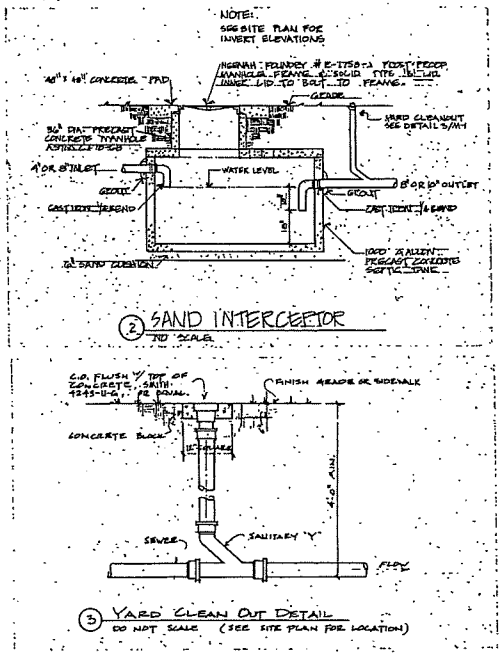
ARNOLD & O'NEIL ENGINEERING
CONSULTING ENGINEERS

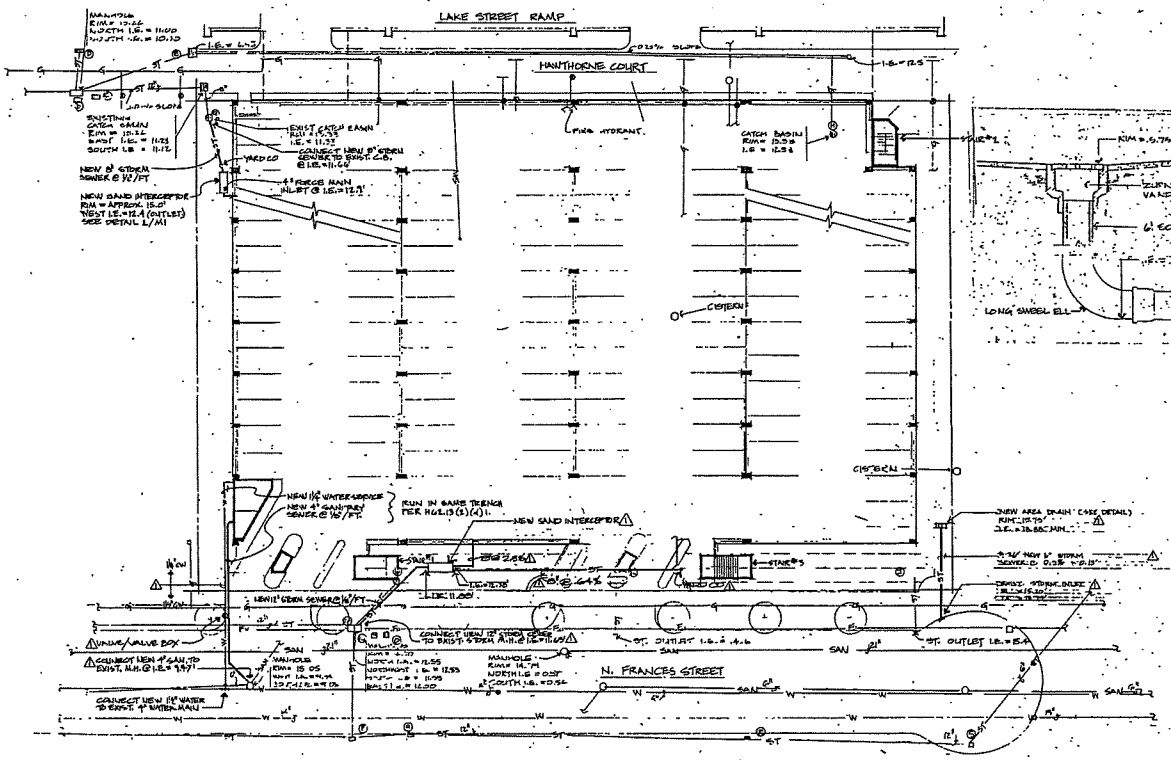
FRANCES STREET PARKING RAMP
CITY OF MADISON PARKING UTILITY . MADISON, WISCONSIN

SHEET A10

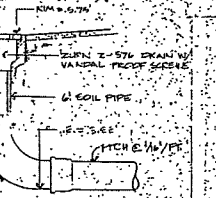
PLUMBING SYMBOL SCHEDULE

———	SANITARY SEWER
ST	STORM SEWER
———	WASTE
———	VENT
———	COLD WATER
———	HOT WATER
F	FIRE PROTECTION WATER
G	GAS
○	RISER UP
○	RISER DOWN
⊣	BALL VALVE
⊣	CHECK VALVE
⊣	GATE VALVE
⊣	UNION
⊣	HOSE BIBB
⊣	CLEANOUT
AP	ACCESS PANEL
L	LAVATORY
MH	MANHOLE
CB	CATCH BASIN
CO	CLEANOUT
CW	COLD WATER
DFU	DRAINAGE FIXTURE UNITS
SFU	SUPPLY FIXTURE UNITS
EC	ELECTRICAL CONTRACTOR
EWC	ELECTRIC WATER COOLER
PC	PLUMBING CONTRACTOR
FD	FLOOR DRAIN
GC	GENERAL CONTRACTOR
HC	HEATING CONTRACTOR
HB	HOSE BIBB
WC	WATER CLOSET
HW	HOT WATER
I.E.	INVERT





1 MECHANICAL SITE PLAN
1" = 20'



NOTES:
1. PLUMBING CONTRACTOR SHALL BE RESPONSIBLE TO REMOVE FROM SITE ALL ABANDONED OR EXISTING GAS, WATER & SEWER SERVICES UNCOVERED AND/OR UNCOVERED & BROKEN AS NECESSARY TO SATISFY UTILITIES OR AUTHORITIES HAVING JURISDICTION.
2. PLUMBING CONTRACTOR SHALL VERIFY THE SIZE AND LOCATION OF ALL UTILITIES RELEVENT TO THE INSTALLATION OF ALL NEW SYSTEMS.
3. ALL WORK SHOWN ON SHEETS M-1 THROUGH M-5 SHALL BE BY PLUMBING CONTRACTOR UNLESS NOTED OTHERWISE IN CIRCLED AREAS.

MARTINSON BECK, INC.
635 WEST WASHINGTON AVE.
MADISON, WISCONSIN 53703

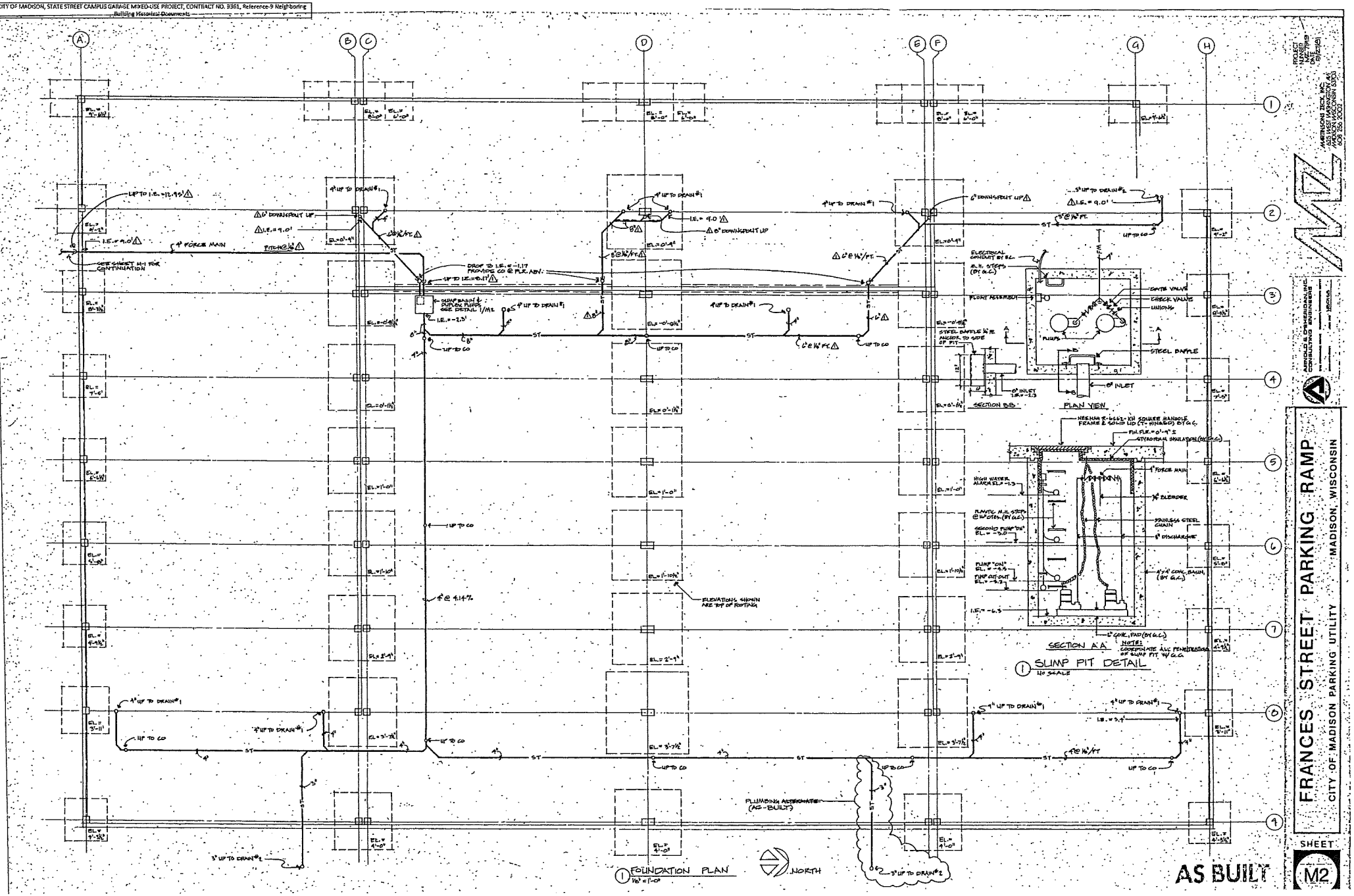
ARNOLD & O'CONNELL ARCHITECTS, INC.

FRANCES STREET PARKING RAMP
CITY OF MADISON PARKING UTILITY, MADISON, WISCONSIN

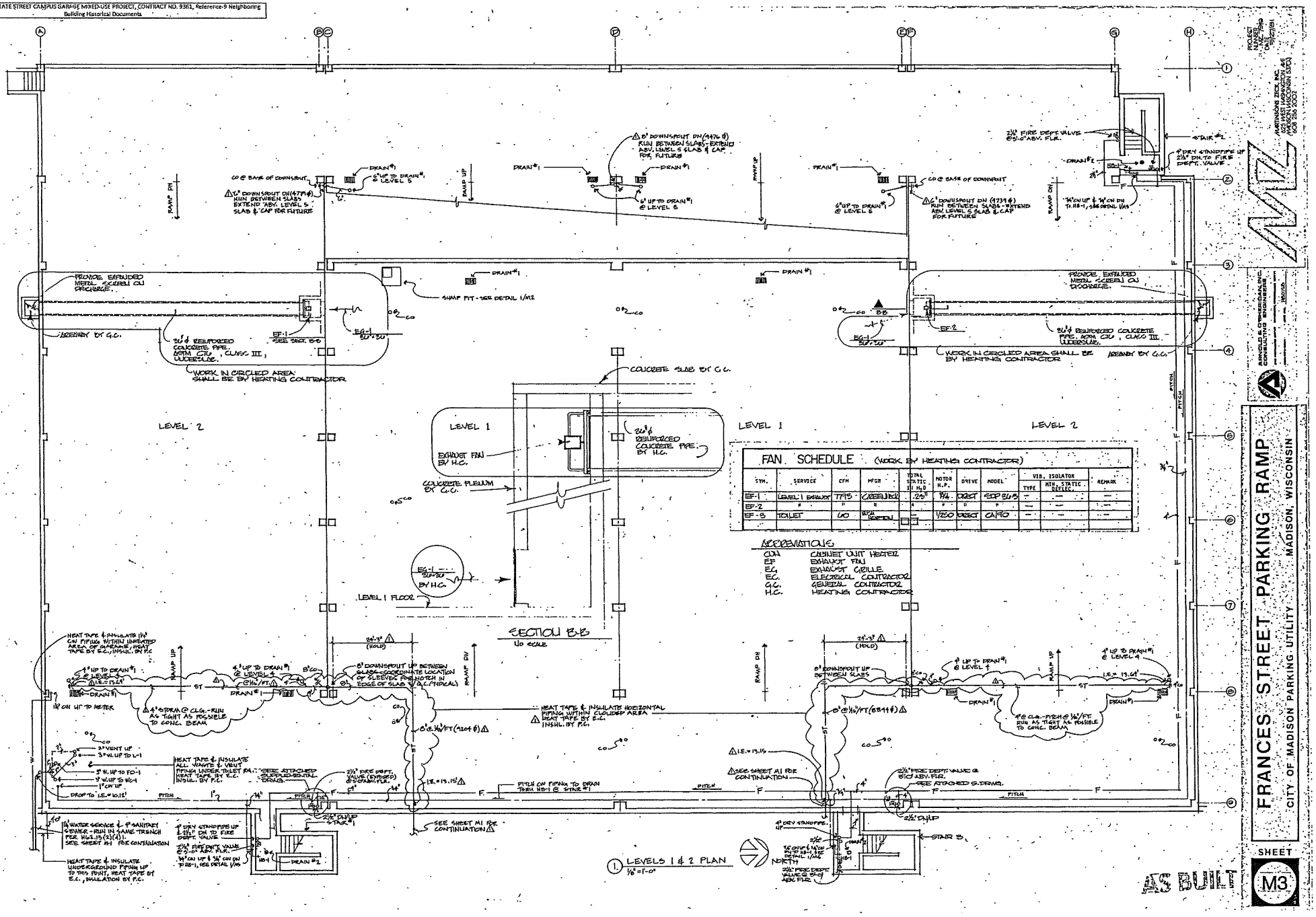
SHEET M1

WISCONSIN
WILLIAM F. SHARP
E-17489
MADISON
WI

AS BUILT
M1 thru M5


FOUNDATION PLAN
1/8" = 1'-0"
SLUMP PIT DETAIL
NO SCALE
SECTION AA
PLAN VIEW
SECTION BB
NORTH
AS BUILT
FRANCES STREET PARKING RAMP
CITY OF MADISON PARKING UTILITY
MADISON, WISCONSIN
SHEET
M2
ARNOLD & O'SHERIDAN, INC
CONSULTING ENGINEERS
MADISON, WISCONSIN
PROJECT MANAGER
DATE 05/17/01

TRAFFICKED BY: PARKING RAMP
ADJACENT TO:
SUPPLEMENTAL DRAWING
C3
10/04/19
FIRE DEPT. VALVE OFFSET
NO SCALE
REF. DWG. M4 & DET. 6/E6
FIRE DEPT. VALVE
@ 90° ABV. FLR.
KEEP PIPES AS CLOSE TO BEAM AS POSSIBLE
4" FIRE MAIN
LEVEL 3-4
FRONT WALL
FIRE DEPT. VALVE
@ 90° ABV. FLR.
COLUMN NEXT TO RISER # VALVES
G



FAN SCHEDULE (WORK BY HEATING CONTRACTOR)

SYM.	SERVICE	CFM	MFGR	TOTAL STATIC IN. H2O	MOTOR H.P.	DRIVE	MODEL	VIB. ISOLATOR TYPE	VIB. ISOLATOR MIN. STATIC DEFLEC.	REMARK
EF-1	LEVEL 1 EXHAUST	7775	GREENHECK	.25"	¾	DIRECT	SQP 21/5	—	—	—
EF-2	"	"	"	"	"	"	"	—	—	—
EF-5	TOILET	60	GPM IMPERIAL	"	VESO	DIRECT	CAP10	—	—	—

ABBREVIATIONS

CUH	CABINET UNIT HEATER
EF	EXHAUST FAN
EG	EXHAUST GRILLE
E.C.	ELECTRICAL CONTRACTOR
G.C.	GENERAL CONTRACTOR
H.C.	HEATING CONTRACTOR

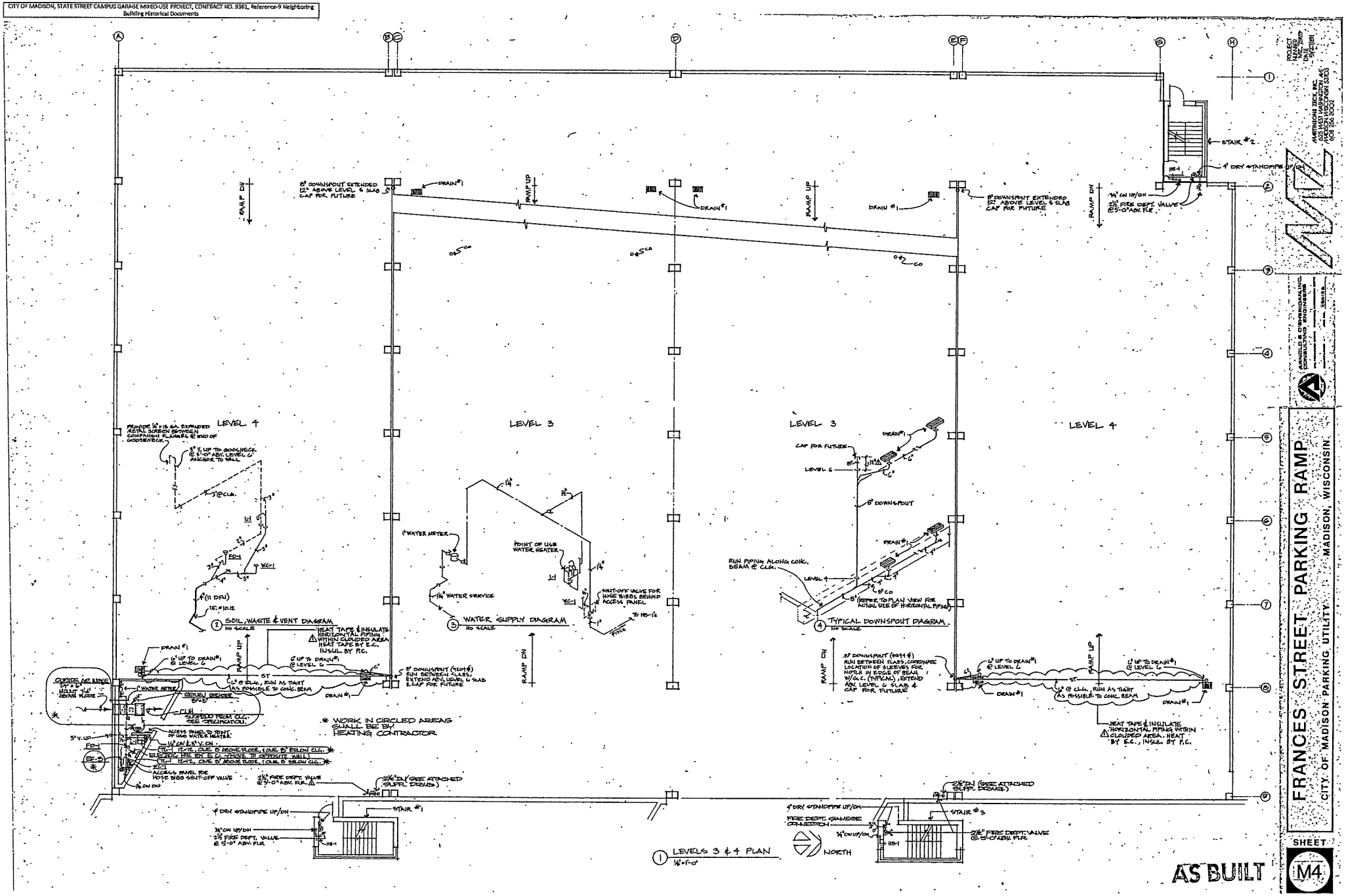
ARCHITECTURAL RESOURCES, INC.
ARCHITECTURE PLANNING INTERIORS
635 WEST WASHINGTON AVE
MADISON, WISCONSIN 53703
608.255.3988

FRANCES STREET PARKING RAMP

CITY OF MADISON PARKING UTILITY - MADISON, WISCONSIN

SHEET M3

AS BUILT



PROJECT MANAGER: TYE ZIMMERMAN
DATE: 5/27/11
MADISON ZEIL INC.
222 WEST WASHINGTON AVE
MADISON, WISCONSIN 53703
608 256 0002

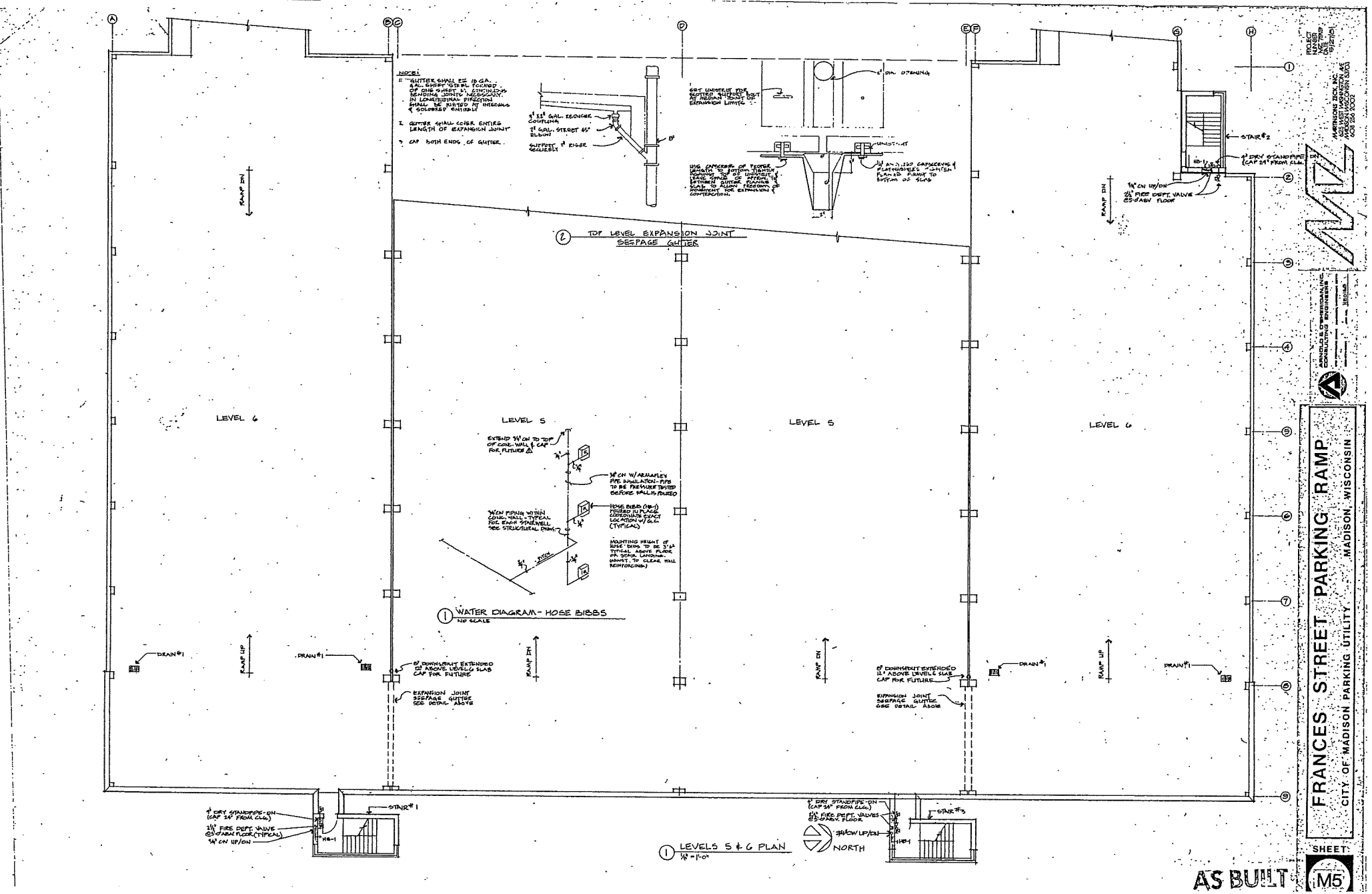
STATE OF WISCONSIN
REGISTERED PROFESSIONAL ENGINEER
Mario

FRANCES STREET PARKING RAMP

CITY OF MADISON PARKING UTILITY · MADISON, WISCONSIN.

SHEET M4

AS BUILT



2 TOP LEVEL EXPANSION JOINT SEEPAGE GUTTER

1 WATER DIAGRAM - HOSE BIBBS
NO SCALE

1 LEVELS 5 & 6 PLAN
1/8" = 1'-0"

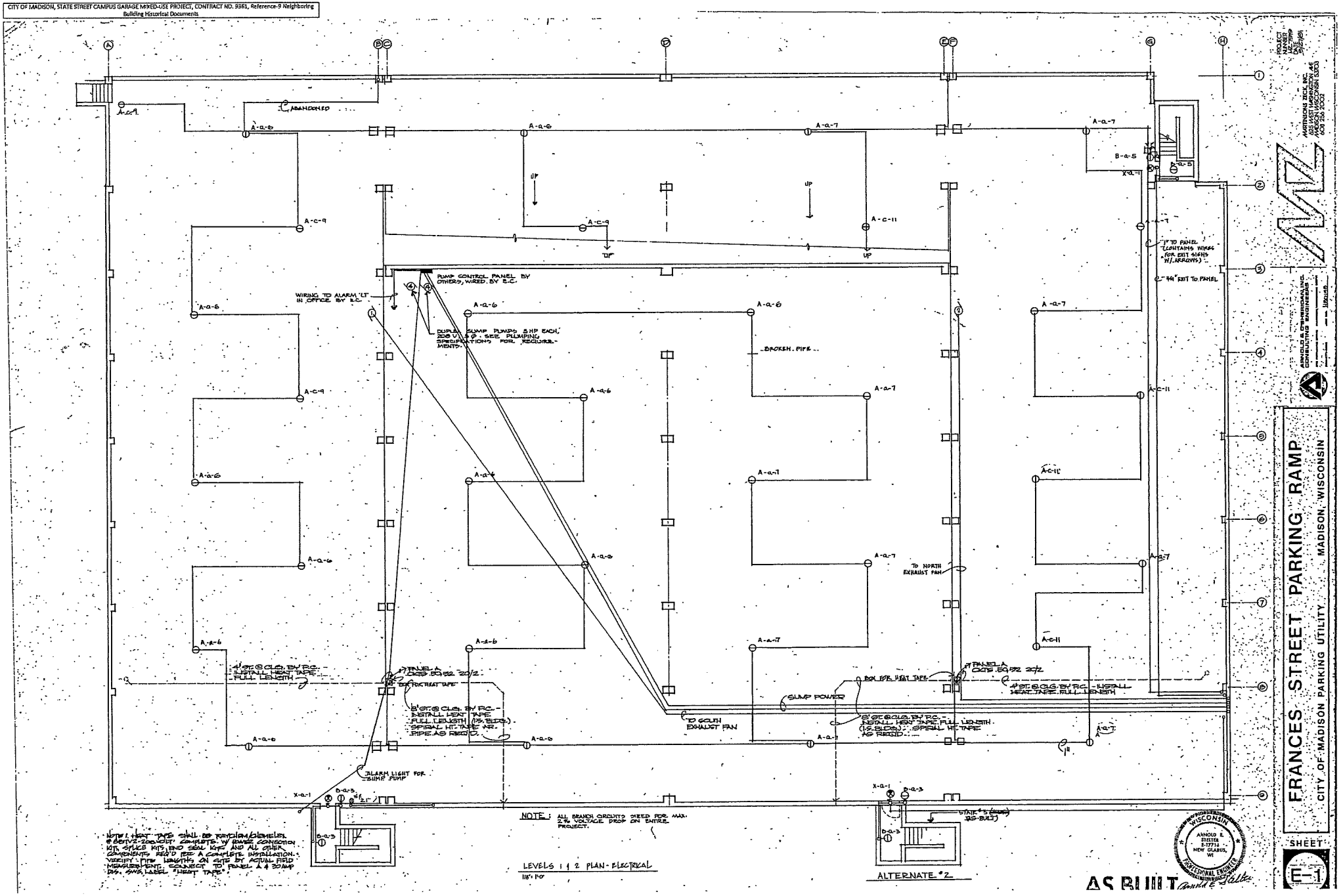
ARNOLD & O'SHERIDAN, INC. CONSULTING ENGINEERS
MADISON, WISCONSIN

FRANCES STREET PARKING RAMP
CITY OF MADISON PARKING UTILITY, MADISON, WISCONSIN

SHEET M5

AS BUILT

CITY OF MADISON, STATE STREET CAMPUS GARAGE MIXED-USE PROJECT, CONTRACT NO. 9361, Reference-9 Neighboring Building Historical Documents



LEVELS 1 & 2 PLAN - ELECTRICAL

ALTERNATE #2

AS BUILT

ARNOLD E. STEITZ E-17716 NEW GLARUS, WI PROFESSIONAL ENGINEER WISCONSIN

ARNOLD & O'SHERIDAN INC. CONSULTING ENGINEERS

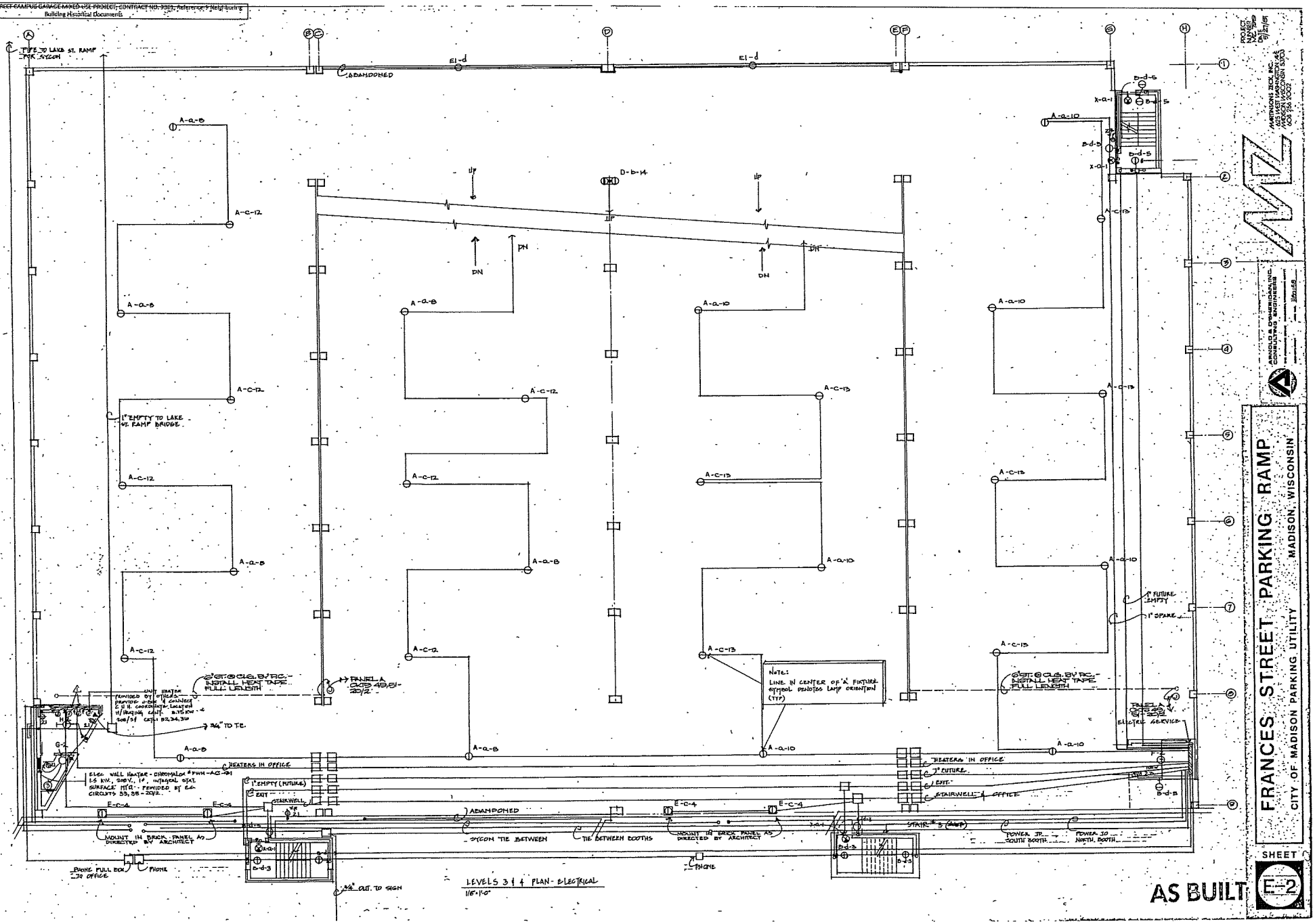
MADISONS ZECK, INC. 426 EAST WASHINGTON AVE. MADISON, WISCONSIN 53703 608 255 2002

PROJECT NUMBER 9516 SCALE 1/16"=1'-0" DATE 5/2/96

FRANCES STREET PARKING RAMP

CITY OF MADISON PARKING UTILITY MADISON, WISCONSIN

SHEET E-1.1



LEVELS 3 & 4 PLAN - ELECTRICAL
1/16" = 1'-0"

AS BUILT

PROJECT NUMBER 9981
DATE 9/21/01

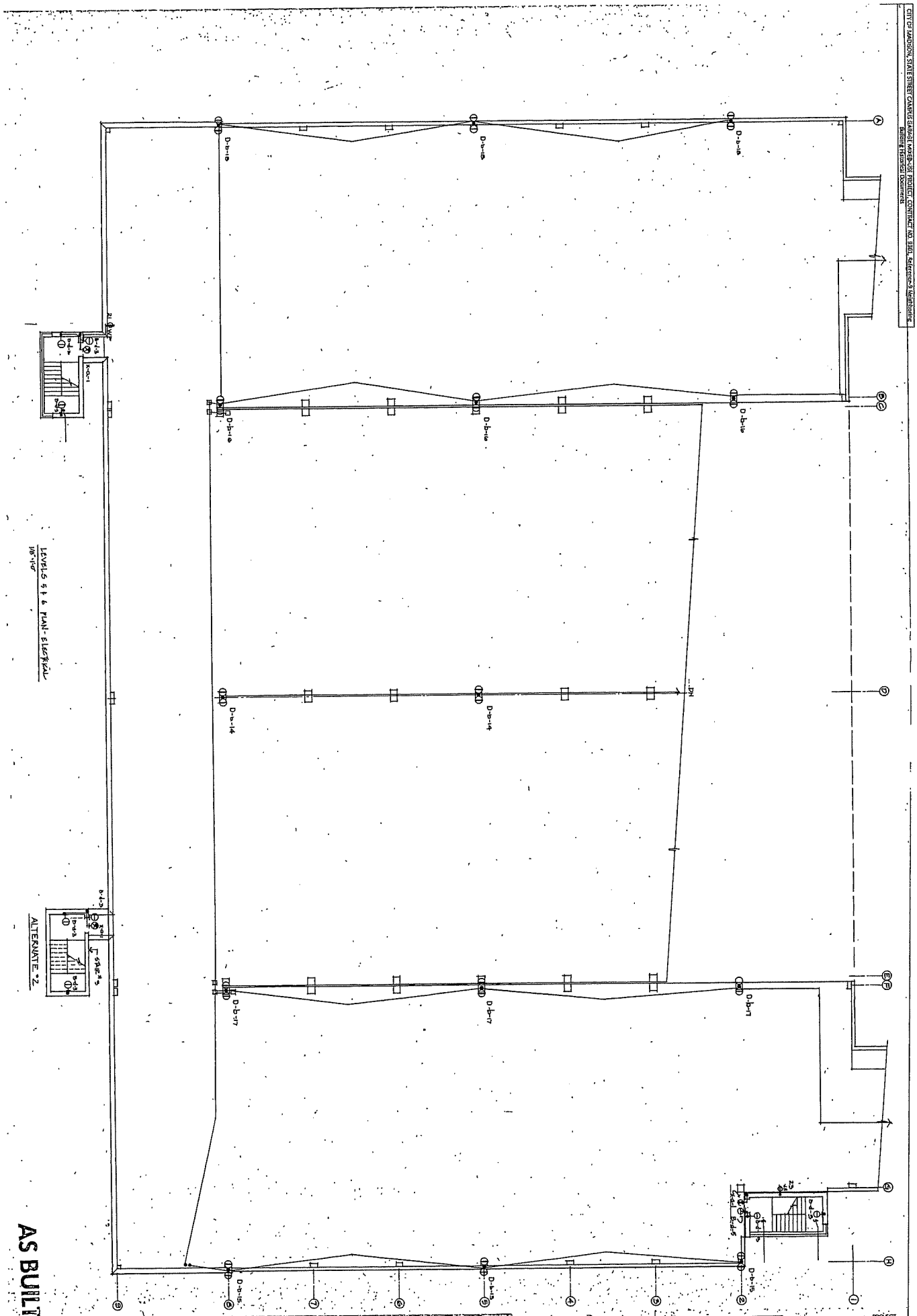
MARTINSON ZECK, INC.
A/E/S WEST WASHINGTON AVE
MADISON, WISCONSIN 53703
608 256 2002

ARNOLD & O'BRIEN JAN, INC.
CONSULTING ENGINEERS
MADISON, WISCONSIN

FRANCES STREET PARKING RAMP
CITY OF MADISON PARKING UTILITY
MADISON, WISCONSIN

SHEET E-2

CITY OF MADISON, STATE STREET CAMPUS GARAGE, MAREB-358 PROJECT, CONTRACT NO. 3980, Reference-3 Neighboring Building Historical Documents



SHEET E-3

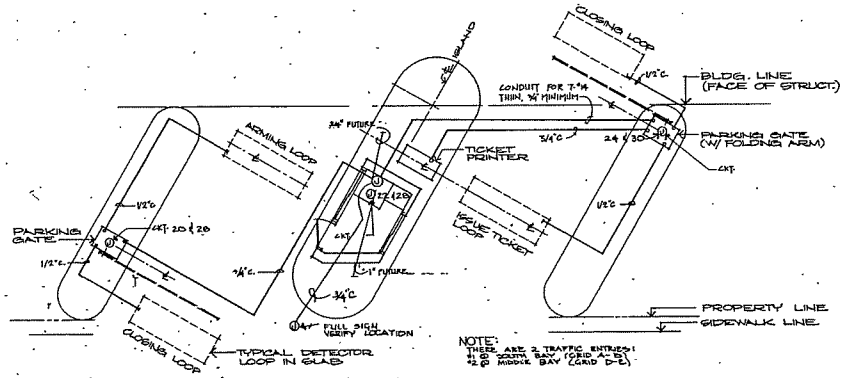
FRANCES STREET PARKING RAMP

CITY OF MADISON PARKING UTILITY — MADISON, WISCONSIN

ARNOLD & O'SHERIDAN, INC.
CONSULTING ENGINEERS

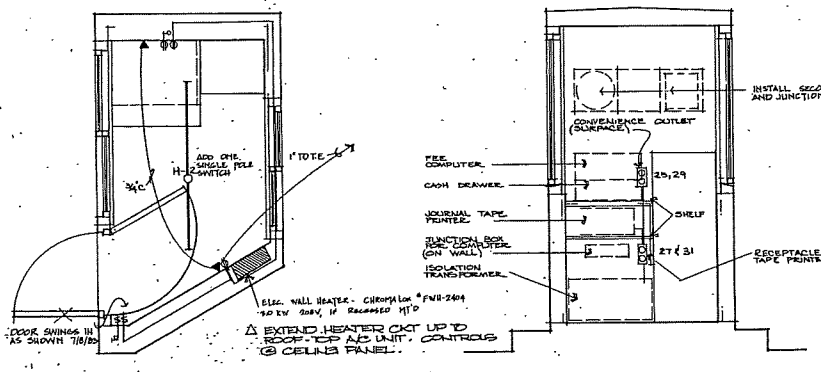
MARTINSONS ZECK, INC.
625 WEST WASHINGTON AVE.
MADISON WISCONSIN 53703
608 256 2002

PROJECT NUMBER 92-709
DATE 5/27/93



TYPICAL PARKING EQUIPMENT DETAIL

SCALE 1/4"=1'0"



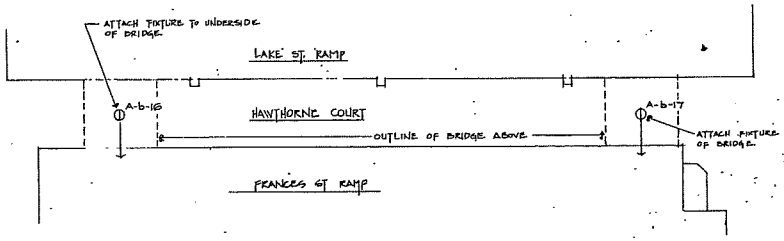
PLAN

SECTION ELEVATION

NOTE: BOOTH #1 & #2 IDENTICAL EXCEPT FOR EQUIP. NOTED

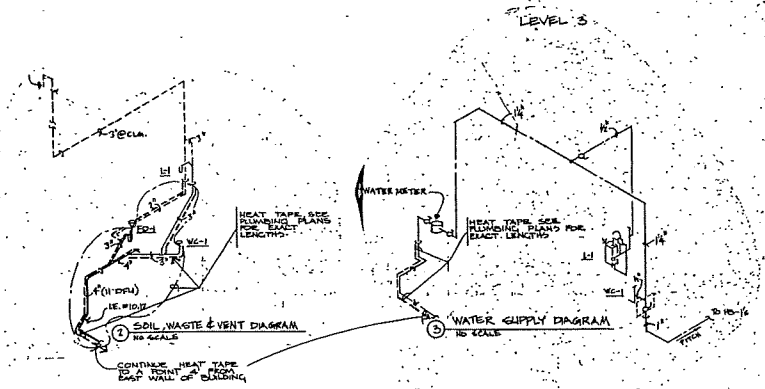
ATTENDANT'S BOOTH

3/4" = 1'-0"



BRIDGE LIGHTING

1"=20'-0"



MADISON-SEIDL, INC.
MADISON, WISCONSIN
608 256 2002

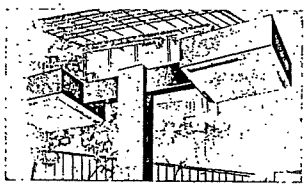
ARNOLD & O'SHERIDAN, INC.
CONSULTING ENGINEERS
MADISON, WISCONSIN

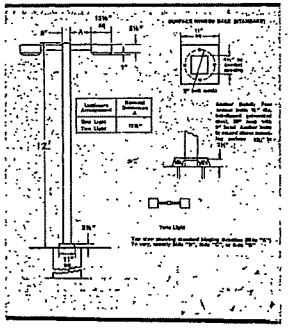
FRANCES STREET PARKING RAMP

CITY OF MADISON PARKING UTILITY - MADISON, WISCONSIN

SHEET E-4

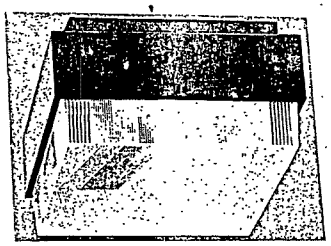
AS BUILT





FIXTURE TYPE 'D'

MOLDCAST #2246A-150-12-120V w/150 WATT HPS AND ACRYLIC LENS. MOUNT ON TOP OF COLUMNS E.C. TO GIVE G.C. ANCHOR BOLTS FOR INSTALLATION IN COLUMNS.



FIXTURE TYPE 'A'

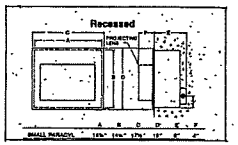
GUTH #DIT-624/120/FF. 100 WATT HPS w/ACRYLIC LENS

SYMBOLS

- INCANDESCENT FIXTURE, SURFACE, RECESSED, WALL MOUNT
- HIGH INTENSITY DIS. FIXTURE, SURFACE, RECESSED, WALL MOUNT
- FLUORESCENT FIXTURE, SURFACE OR SUSPENDED, WALL MOUNT.
- EXIT FIXTURE, SINGLE FACE, DOUBLE FACE, WALL MOUNT, ARROWS AS INDICATED FAIL SAFE # 1600 E
- A-1-E — UPPER CASE LETTER INDICATES FIX. TYPE, LOWER CASE INDICATES SWITCH, NUMBER INDICATES CIRCUIT
- $ — SINGLE POLE SWITCH, P-PILOT LIGHT
- $P — SWITCH & RECEPTACLE IN SAME OUTLET BOX
- W.P. — WEATHER PROOF
- T.E. — TELEPHONE EQUIPMENT
- E.C. — ELECTRICAL CONTRACTOR
- MGE — MADISON GAS & ELECTRIC CO.
- TELEPHONE OUTLET

LIGHTING CONTROL KEY

a - 24 HOUR OPERATION, CONTROLLED BY BREAKER IN PANEL
b - PHOTO-CELL ON & OFF FROM LIGHT CONTROL CENTER
c - PHOTO-CELL ON TIME SWITCH OFF FROM LIGHT CONTROL CENTER
d - PHOTO-CELL ON & OFF, PHOTO CELL W/ FIXTURE.



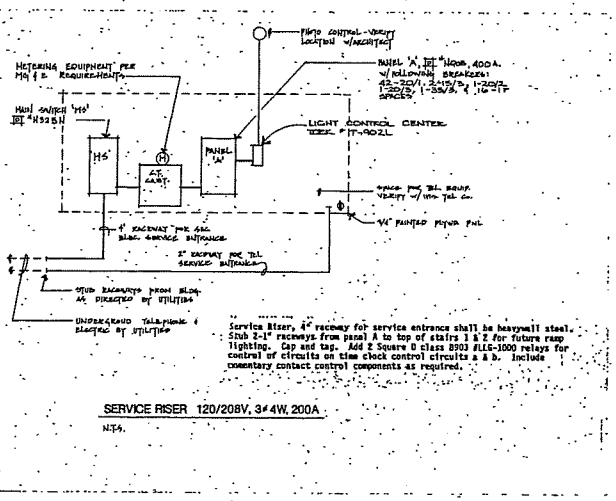
FIXTURE TYPE 'E'

MOLDCAST #59022-72-BL-K2-F2 w/150 WATT HPS AND PROJECTING LENS.
FIXTURE TYPE 'E' SIMILAR TO TYPE E EXCEPT SURFACE-WALL MOUNT.

FIXTURE SCHEDULE

TYPE	MANUFACTURER	CAT. NO.	LAMPS NO.	LAMPS ORD. NO.	REMARKS
B	SYLVANIA	AK3-P-50HPS-C681	1	LU50	VERTICAL MOUNT
F	F&S	44	1	100A*	PORC. SOCKET
G	STARLIGHT	SL-210	1	76A	TOILET FIXTURE
H	DAY BRITE	14WA2EA	2	F0W/RA/MH	14" WRAPAROUND *
X	EXIT FIXTURE, SEE SYMBOLS				

* FIXTURE TYPE H TO HAVE 2-1 LAMP BALLASTS FOR TWO LEVEL CONTROL. (ADD'L 3)



Service Riser, 4" raceway for service entrance shall be heavywall steel. Stub 2-1" raceways from panel A to top of stairs 1 & 2 for future ramp lighting. Cap and tag. Add 2 Square D class 8903 FLG6-1000 relays for control of circuits on time clock control circuits a & b. Include momentary contact control components as required.

SERVICE RISER 120/208V, 3Ø 4W, 200A

N.T.S.

MOTOR & SPECIAL EQUIPMENT SCHEDULE

NO.	DESCRIPTION	KW	HP	VOLT	PH.	CIR NO	PANEL PROTECT DEVICE AMP	PANEL PROTECT DEVICE POLE	START. SIZE	EQUIPMENT TO FURNISH	LOC.	REMARKS
1	E.F. 1	–	3/4	208	3	33 34 41	15	3	0	DISC. SW	LEVEL 1	
2	E.F. 2	–	3/4	208	3	35 36 42	15	3	0	DISC. SW	LEVEL 1	
3	TOILET EXHT. FAN	–	1/8	120	1	43	20	1	–		TOILET	CONTROL W/ LIGHT SW
4	DUPLEX SUMP PUMP (2)	–	1/2 EA	208	3	44 45 46	30	3	–	CONTROLS & ALARM WIRING	LEVEL 1	EACH PUMP SHALL BE CONNECTED TO ITS OWN SEPARATE CIRCUIT (ADD'L 3)

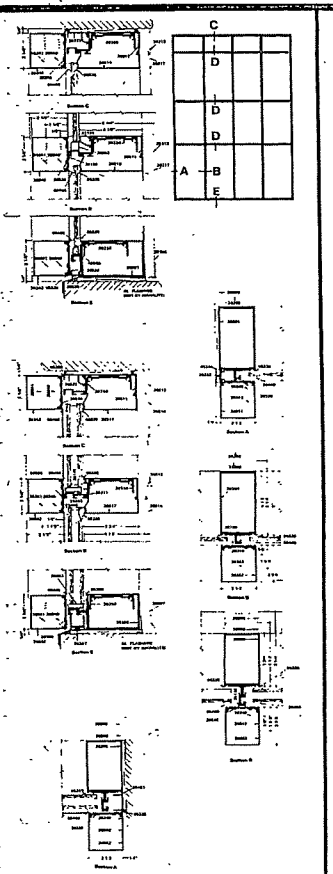
PROJECT NUMBER 9808
DATE 12/21/01

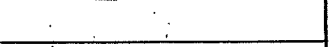
ARNESON & SHERIDAN, INC.
CONSULTING ENGINEERS
MADISON, WISCONSIN
608 250 2000

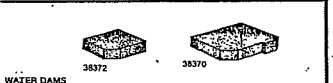
FRANCES STREET PARKING RAMP
CITY OF MADISON PARKING UTILITY MADISON, WISCONSIN

SHEET E-5

AS BUILT







WATER DAMS

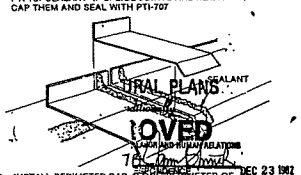
SETTING BLOCKS

PBS-383 NEOPRENE SELECTION

INFILL	ADAPTER	EXTERIOR GLAZING EXTERIOR	EXTERIOR GLAZING INTERIOR 2	INTERIOR GLAZING EXTERIOR 2	INTERIOR GLAZING INTERIOR
1/8"	38331 31165	05474	05478	05478	05474
7/32",1/4"	38331 31165	05481	05478	05478	05335
5/16"	38331 31165	05473	05478	05478	05472
3/8"	38331 31165	05477	05478	05478	05469
3/4"	38332 31164	05477	05478	05478	05469
5/8",1"	38332 31164	05481	05478	05478	05335

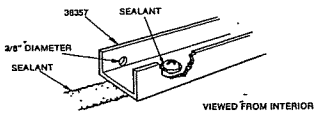
PBS-383 INSTALLATION INSTRUCTIONS ARE INTENDED TO BE USED AS A GUIDE IN CONJUNCTION WITH JOB DRAWINGS AND DETAILS SPECIAL CONDITIONS AND CUSTOM ADAPTATIONS OF PBS-383 ARE NOT INCLUDED IN THESE INSTRUCTIONS
FAMILIARIZE YOURSELF WITH THE JOB DRAWINGS AND CONDITIONS BEFORE BEGINNING ERECTION

1. INSTALL SILL FLASHING ACROSS ENTIRE WIDTH OF MASONRY OPENING SEAL UNDER FLASHING WITH PTI-707 SEALANT IF SPLICE JOINTS ARE REQUIRED, CAP THEM AND SEAL WITH PTI-707



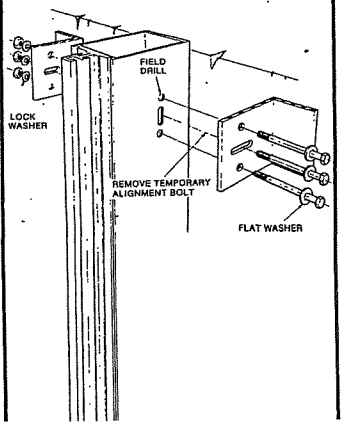
TRIAL PLANS
APPROVED
DEC 23 1982

2 INSTALL PERIMETER BAR ALONG PERIMETER OF OPENING SET IN SEALANT -- PTI-707 OR EQUAL DRILL 3/8" DIAMETER WEEP HOLES IN EXTERIOR LEG OF PERIMETER BAR.

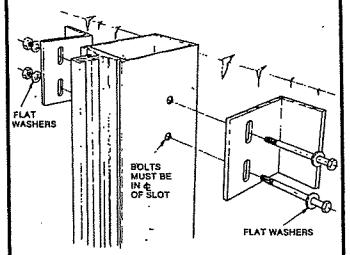


VERTICAL PERIMETER BAR MUST BE INSTALLED USING A PLUMB LINE TO ASSURE THAT THE CURTAIN WALL IS PLUMB AND LEVEL

3 INSTALL ONE SIDE OF DEADLOAD ANCHORS. BEGIN ERECTING VERTICAL MULLIONS AT CENTER OF CURTAIN WALL. INSTALL OTHER SIDE OF DEADLOAD ANCHORS AFTER MULLION IS LOCATED AND ALIGNED. CHECK THE OPENING DIMENSIONS BEFORE ERECTING. IT IS IMPORTANT TO WORK FROM THE BENCH MARKS AND TO USE A PLUMB LINE TO ASSURE THAT THE WALL IS INSTALLED PLUMB AND TRUE

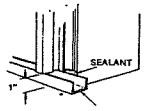


4 PLUMB MULLIONS AND INSTALL WINDLOAD ANCHORS

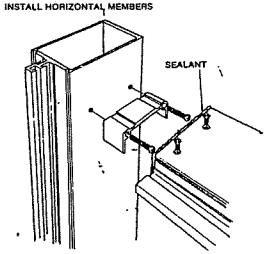


WINDLOAD ANCHOR

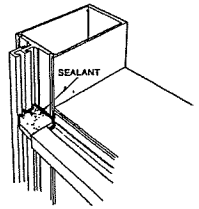
5 AT SILL, SEAL VERTICAL MULLIONS TO PERIMETER BAR WITH PTI-707 OR EQUAL.



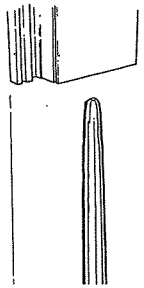
6. INSTALL HORIZONTAL MEMBERS



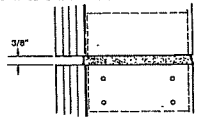
INSTALL WATER DAMS AT EACH HORIZONTAL



7 SET 2ND RUN OF VERTICALS DOWN OVER EXPANSION SLEEVES SEAL SLEEVES WITH PTI-707 SEALANT



8 LOWER VERTICAL MULLION ONTO SLEEVE AND LEAVE 3/8" MINIMUM OR AS SPECIFIED AS EXPANSION JOINT SEAL WITH PTI-707



IF THE CURTAIN WALL IS EXTERIOR GLAZED:

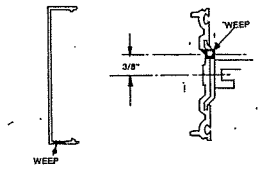
9 INSERT NEOPRENE INTO BACK MEMBERS ALLOW AN ADDITIONAL 1/4" PER FOOT WHEN CUTTING NEOPRENE TO ALLOW FOR COMPRESSION. SEE GLAZING CHART FOR CORRECT COMBINATIONS

9a. Vertical Neoprene (Front and Back) to be cut Daylite Opening + 1". Gaskets are to overlap 3/4" at each corner.
DO NOT run neoprene continuous at pressure bar or mullions.

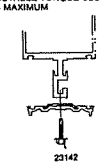
10 INSTALL SETTING BLOCKS WITH CENTERLINE 8" FROM EDGE OF DAYLITE OPENING

11 SET GLASS ON SETTING BLOCKS, FORCING GLASS AGAINST INTERIOR NEOPRENE INSTALL 38399 TEMPORARY DUTCHMAN TO HOLD GLASS IN PLACE SIZE = DAYLIGHT OPENING + (PLUS)

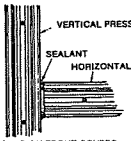
12 CUT FRONT PRESSURE BARS TO LENGTH. DRILL 1/4" DIAMETER WEEP HOLES IN HORIZONTAL PRESSURE BARS 3" FROM EACH END AND AT CENTERLINE AND HORIZONTAL FRONT COVERS AT QUARTER POINTS.



13 INSTALL FRONT PRESSURE BAR USING 23142 SELF DRILLING SCREW INSTALL USING A POWER DRILL WITH A SPEED OF 2500 RPM AND EQUIPPED WITH AN ADJUSTABLE TORQUE CLUTCH SET AT 65 INCH POUNDS MAXIMUM



14 SEAL FRONT PRESSURE BARS

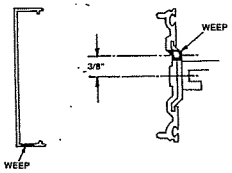


15 INSTALL SNAP ON FRONT COVERS.

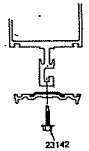
IF THE CURTAIN WALL IS INTERIOR GLAZED.

9 INSERT NEOPRENE INTO FRONT PRESSURE BARS ALLOW AN ADDITIONAL 1/4" PER FOOT WHEN CUTTING TO ALLOW FOR COMPRESSION SEE GLAZING CHART FOR CORRECT NEOPRENE COMBINATIONS

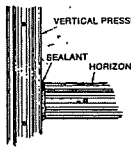
10 CUT FRONT PRESSURE BARS TO LENGTH DRILL 1/4" DIAMETER WEEP HOLES IN HORIZONTAL PRESSURE BARS, 3" FROM EACH END AND AT CENTERLINE, AND HORIZONTAL FRONT COVERS AT QUARTER POINTS



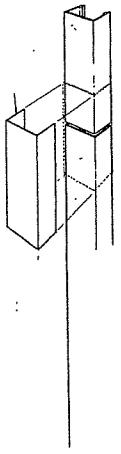
11 INSTALL FRONT PRESSURE BAR USING 23142 SELF DRILLING SCREW INSTALL USING A POWER DRILL WITH A SPEED OF 2500 RPM AND EQUIPPED WITH AN ADJUSTABLE TORQUE CLUTCH SET AT 65 INCH POUNDS MAXIMUM NOTE PRESSURE BAR WITH NEOPRENE MAY BE ATTACHED TO MULLIONS PRIOR TO ERECTION IF WALL IS ENTIRELY INTERIOR GLAZED. SEAL NEOPRENE JOINTS.



12 SEAL FRONT PRESSURE BARS.

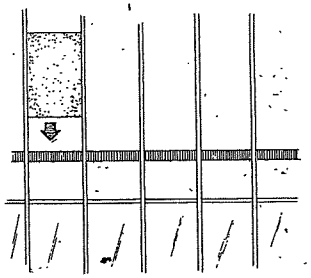


13 INSTALL SNAP ON FRONT COVERS

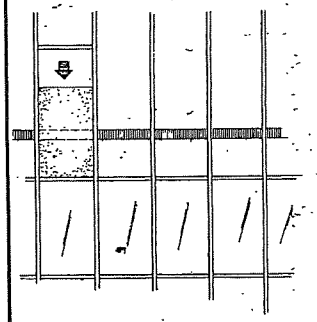


15 SET GLASS ONTO SETTING BLOCKS

NOTE AT SPANDREL AREA, BUILDING DESIGN CONDITIONS MAY MAKE IT NECESSARY TO "STACK GLAZE" THE SPANDREL PANELS AS SHOWN



A SLIDE SPANDREL PANEL DOWN PAST FLOOR SLAB AND SET ON SETTING BLOCKS AT LOWER HORIZONTAL



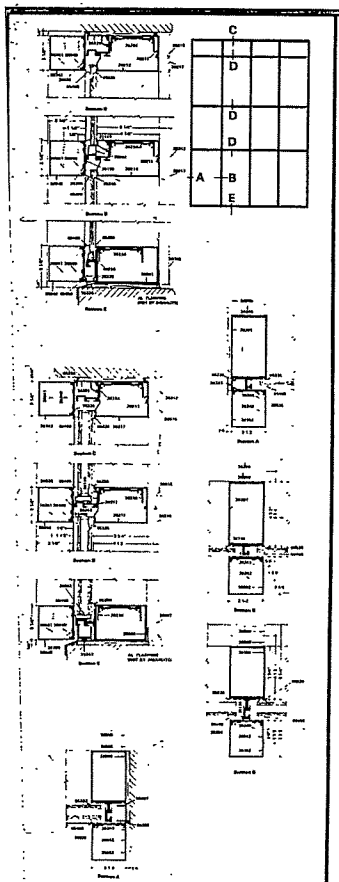
B. SET HORIZONTAL MEMBER OVER TOP OF SPANDREL PANEL AND ATTACH TO VERTICAL MULLIONS

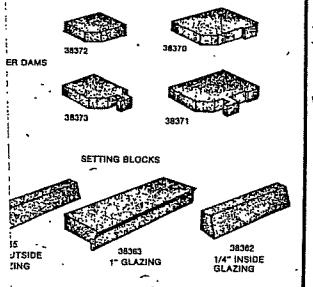
16 SNAP-ON INTERIOR GLAZING BEADS

17 INSTALL ROLL IN NEOPRENE AT INTERIOR

RCTD - MZM
DEC 23 1982

CITY OF MADISON, STATE STREET CAMPUS GARAGE MIXED-USE PROJECT, CONTRACT NO. 9361, Reference-9 Neighboring Building Historical Documents





PBS-383 NEOPRENE SELECTION

INFILL	ADAPTER	EXTERIOR GLAZING		INTERIOR GLAZING	
		EXTERIOR	INTERIOR	EXTERIOR	INTERIOR
1/8"	38331 31165	05474	05478	05474	05474
7/32",1/4"	38331 31165	05481	05478	05478	05335
5/16"	38331 31165	05473	05478	05478	05472
3/8"	38331 31165	05477	05478	05478	05469
3/4"	38332 31164	05477	05478	05478	05469
5/8",1"	38332 31164	05481	05478	05478	05335

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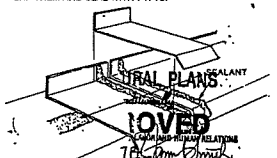
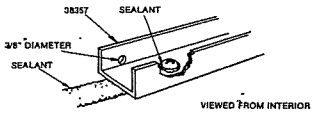


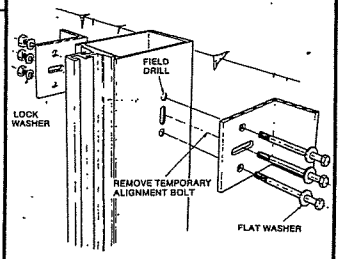
ARCHITECTURAL PLANS
APPROVED
DEPT. OF ADMIN. - HUMAN RELATIONS
DEC 23 1982

2 INSTALL PERIMETER BAR ALONG PERIMETER OF OPENING SET IN SEALANT -- PTI-707 OR EQUAL DRILL 3/8" DIAMETER WEEP HOLES IN EXTERIOR LEG OF PERIMETER BAR.



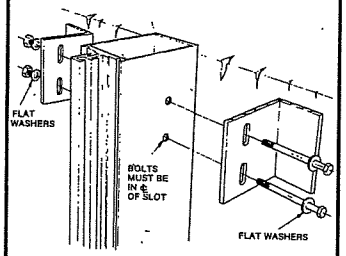
VERTICAL PERIMETER BAR MUST BE INSTALLED USING A PLUMB LINE TO ASSURE THAT THE CURTAIN WALL IS PLUMB AND LEVEL

3 INSTALL ONE SIDE OF DEADLOAD ANCHORS. BEGIN ERECTING VERTICAL MULLIONS AT CENTER OF CURTAIN WALL. INSTALL OTHER SIDE OF DEADLOAD ANCHORS AFTER MULLION IS LOCATED AND ALIGNED. CHECK THE OPENING DIMENSIONS BEFORE ERECTING. IT IS IMPORTANT TO WORK FROM THE BENCH MARKS AND TO USE A PLUMB LINE TO ASSURE THAT THE WALL IS INSTALLED PLUMB AND TRUE



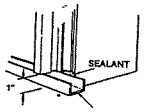
DEAD LOAD ANCHOR

4 PLUMB MULLIONS AND INSTALL WINDLOAD ANCHORS

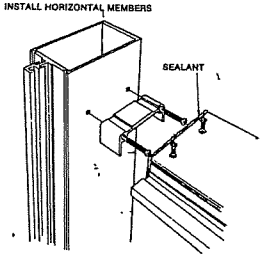


WINDLOAD ANCHOR

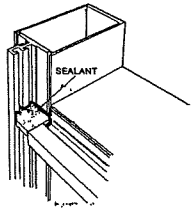
5. AT SILL, SEAL VERTICAL MULLIONS TO PERIMETER BAR WITH PTI-707 OR EQUAL



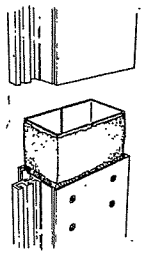
6. INSTALL HORIZONTAL MEMBERS



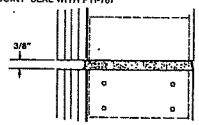
INSTALL WATER DAMS AT EACH HORIZONTAL



7. SET 2ND RUN OF VERTICALS DOWN OVER EXPANSION SLEEVES. SEAL SLEEVES WITH PTI-707 SEALANT.



8 LOWER VERTICAL MULLION ONTO SLEEVE AND LEAVE 3/8" MINIMUM OR AS SPECIFIED AS EXPANSION JOINT. SEAL WITH PTI-707



IF THE CURTAIN WALL IS EXTERIOR GLAZED:

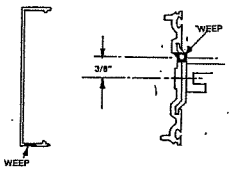
9 INSERT NEOPRENE INTO BACK MEMBERS. ALLOW AN ADDITIONAL 1/4" PER FOOT WHEN CUTTING NEOPRENE TO ALLOW FOR COMPRESSION. SEE GLAZING CHART FOR CORRECT COMBINATIONS.

9a. Vertical Neoprenes (Front and Back) to be cut Daylite Opening + 1". Gaskets are to overlap 3/4" at each corner. DO NOT run neoprene continuous at pressure bar or mullions.

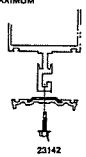
10 INSTALL SETTING BLOCKS WITH CENTERLINE 8" FROM EDGE OF DAYLITE OPENING

11 SET GLASS ON SETTING BLOCKS, FORCING GLASS AGAINST INTERIOR NEOPRENE. INSTALL 38399 TEMPORARY DUTCHMAN TO HOLD GLASS IN PLACE SIZE = DAYLIGHT OPENING + (PLUS)

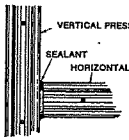
12 CUT FRONT PRESSURE BARS TO LENGTH. DRILL 1/4" DIAMETER WEEP HOLES IN HORIZONTAL PRESSURE BARS 3" FROM EACH END AND AT CENTERLINE AND HORIZONTAL FRONT COVERS AT QUARTER POINTS.



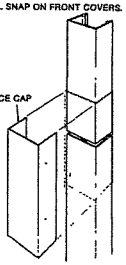
13 INSTALL FRONT PRESSURE BAR USING 23142 SELF DRILLING SCREW. INSTALL USING A POWER DRILL WITH A SPEED OF 2500 RPM AND EQUIPPED WITH AN ADJUSTABLE TORQUE CLUTCH SET AT 65 INCH POUNDS MAXIMUM



14 SEAL FRONT PRESSURE BARS



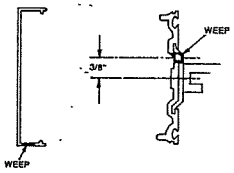
15 INSTALL SNAP ON FRONT COVERS.



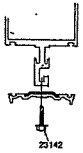
IF THE CURTAIN WALL IS INTERIOR GLAZED.

9 INSERT NEOPRENE INTO FRONT PRESSURE BARS. ALLOW AN ADDITIONAL 1/4" PER FOOT WHEN CUTTING TO ALLOW FOR COMPRESSION. SEE GLAZING CHART FOR CORRECT NEOPRENE COMBINATIONS

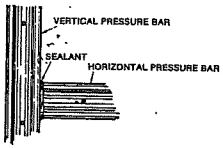
10 CUT FRONT PRESSURE BARS TO LENGTH. DRILL 1/4" DIAMETER WEEP HOLES IN HORIZONTAL PRESSURE BARS, 3" FROM EACH END AND AT CENTERLINE, AND HORIZONTAL FRONT COVERS AT QUARTER POINTS



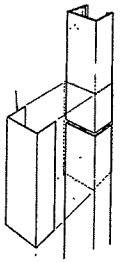
11 INSTALL FRONT PRESSURE BAR USING 23142 SELF DRILLING SCREW. INSTALL USING A POWER DRILL WITH A SPEED OF 2500 RPM AND EQUIPPED WITH AN ADJUSTABLE TORQUE CLUTCH SET AT 65 INCH POUNDS MAXIMUM. NOTE: PRESSURE BAR WITH NEOPRENE MAY BE ATTACHED TO MULLIONS PRIOR TO ERECTION IF WALL IS ENTIRELY INTERIOR GLAZED. SEAL NEOPRENE JOINTS



12 SEAL FRONT PRESSURE BARS.



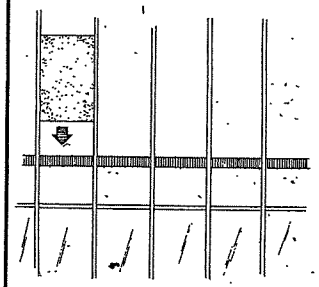
13 INSTALL SNAP ON FRONT COVERS



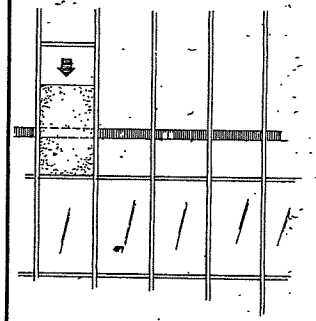
14 INSTALL SETTING BLOCKS WITH CENTERLINE 8" FROM EDGE OF DAYLIGHT OPENING

15 SET GLASS ONTO SETTING BLOCKS

NOTE AT SPANDREL AREA, BUILDING DESIGN CONDITIONS MAY MAKE IT NECESSARY TO "STACK GLAZE" THE SPANDREL PANELS AS SHOWN



A SLIDE SPANDREL PANEL DOWN PAST FLOOR SLAB AND SET ON SETTING BLOCKS AT LOWER HORIZONTAL



B. SET HORIZONTAL MEMBER OVER TOP OF SPANDREL PANEL AND ATTACH TO VERTICAL MULLIONS

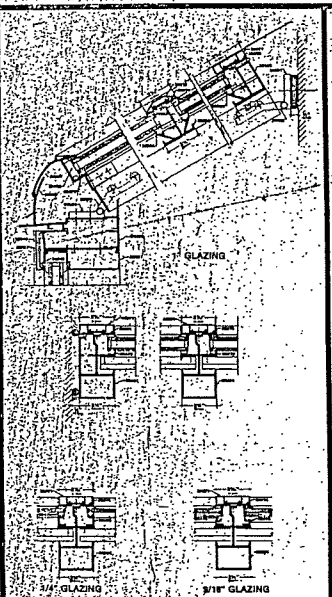
16 SNAP-ON INTERIOR GLAZING BEADS

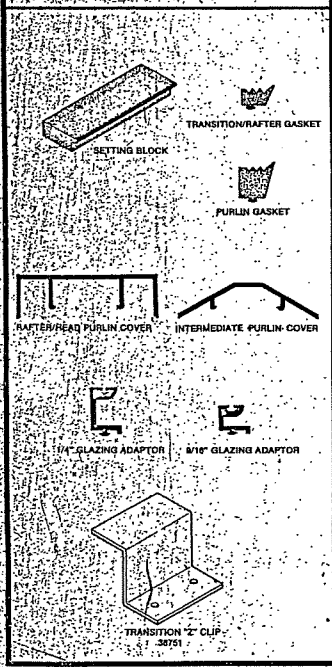
17 INSTALL ROLL IN NEOPRENE AT INTERIOR.

PBS-383
INSTALLATION INSTRUCTIONS

JOB NO _____

ANACONDA



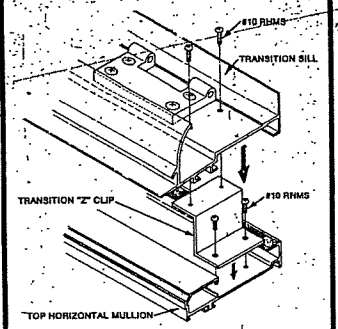


ATTACH TRANSITION SILL TO PBS-386

A. LOCATE AND ATTACH TRANSITION "Z" CLIPS TO THE TOP HORIZONTAL MULLION AS PER APPROVED SHOP DRAWINGS.

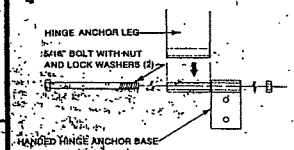
B. LOCATE AND ATTACH TRANSITION SILL TO "Z" CLIPS.

C. SEAL OVER HEADS OF ALL ATTACHMENT SCREWS.

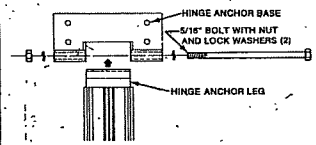


2. INSTALL RAFTERS

A. ATTACH HANDED HINGE ANCHOR BASES TO HINGE ANCHOR LEGS IN JAMB RAFTERS, UPPER AND LOWER.

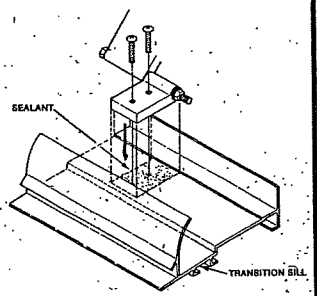


B. ATTACH HINGE ANCHOR BASES TO UPPER HINGE ANCHOR LEGS AT UPPER RAFTERS.

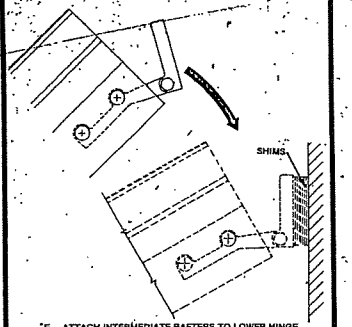


*C. SEAL, LOCATE, AND ATTACH JAMB RAFTERS TO TRANSITION SILL.

*NOTE: BEFORE THIS STEP, SLIDE IN ANY ADAPTORS TO BE USED.

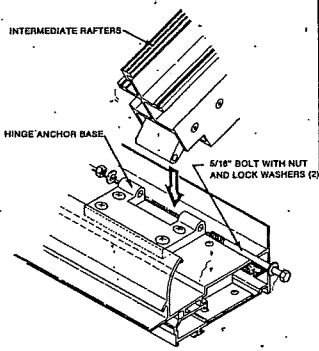


D. ALIGN JAMB RAFTERS TO PROPER ANGLE OF SLOPE PER APPROVED SHOP DRAWINGS, SHIM AS REQUIRED, AND ANCHOR TO UPPER STRUCTURE.

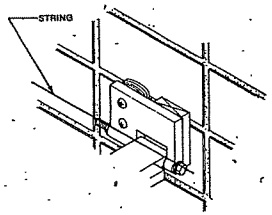


*E. ATTACH INTERMEDIATE RAFTERS TO LOWER HINGE ANCHOR BASES.

*NOTE: BEFORE THIS STEP, SLIDE IN ANY ADAPTORS TO BE USED.



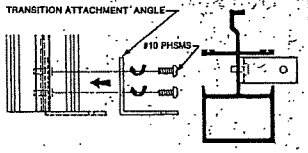
F. PULL STRING BETWEEN UPPER JAMB RAFTER ANCHOR BASES.



G. ALIGN UPPER INTERMEDIATE RAFTER ANCHOR BASE IN THE SAME PLAN AS THE STRING; SHIM AS REQUIRED AND ATTACH BASES TO UPPER STRUCTURE.

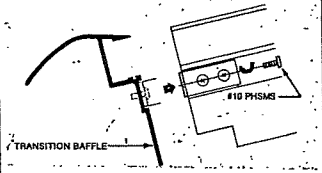
3. ATTACH TRANSITION BAFFLE

A. LOCATE AND FASTEN TRANSITION ATTACHMENT ANGLES TO RAFTERS AS PER APPROVED SHOP DRAWINGS.



*B. ATTACH TRANSITION BAFFLE TO ANGLES.

**INSTALL SETTING BLOCKS FIRST AND THEN ADAPTOR IN TRANSITION BAFFLE IF ADAPTOR IS GOING TO BE USED.



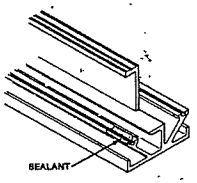
C. SEAL COMPLETELY THE OVERLAP BETWEEN TRANSITION MEMBERS.

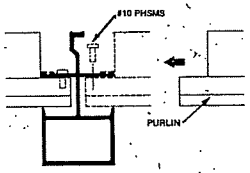
4. INSTALL PURLINS TO RAFTERS

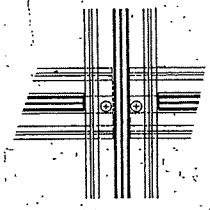
*A. ATTACH HEAD PURLINS.

B. ATTACH INTERMEDIATE PURLINS MAKING SURE SETTING BLOCK LEDGE IS POINTING UPWARD.

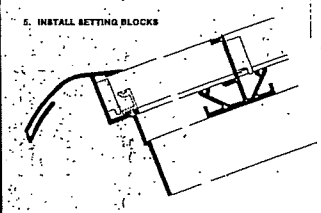
*NOTE: BEFORE THIS STEP, SLIDE IN ANY ADAPTORS TO BE USED.







5. INSTALL SETTING BLOCKS



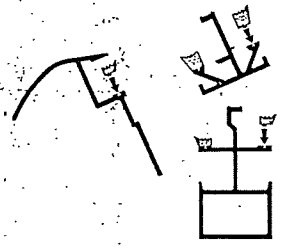
6. INSTALL GLAZING GASKETS

A. CUT ALL GASKETS 1/16" PER FOOT LONGER THAN REQUIRED.

B. PUSH IN RAFTER AND TRANSITION GASKETS BY STARTING AT ONE END AND WORKING IN UNDER COMPRESSION THE REMAINDER OF GASKET. RUN RAFTER NEOPRENES CONTINUOUS WHERE POSSIBLE.

C. PUSH PURLIN GASKET IN AT EACH END AND IN THE CENTER AND WORK THE REMAINDER IN UNDER COMPRESSION.

D. SEAL INTERSECTIONS OF ALL GASKETS AT EACH LIGHT WITH PTI-707 OR EQUAL QUALITY BUTYL SEALANT.

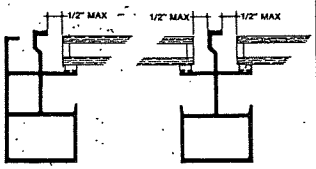


7. SET INFILLS

A. CENTER INFILLS IN THE CENTERS OF THE OPENINGS WITH BOTTOM EDGE ON THE SETTING BLOCKS.

B. ON MULTIPLE LIGHT OPENINGS IT MAY BE ADVISABLE TO START AT THE UPPER LIGHTS AND WORK DOWN TO AVOID STANDING ON THE INFILL.

C. GLASS SIZE = DAYLIGHT OPENING + 1".

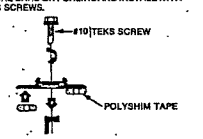


8. INSTALL PRESSURE BARS

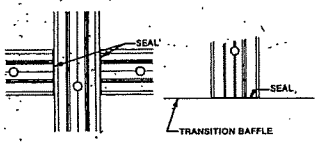
A. APPLY PRE-SHIMMED GLAZING TAPE (1/4" BY 1/2" POLYSHIM TAPE WITH 3/16" ROD; TREMCO 722-ESJ-760 OR EQUAL) TO PRESSURE BARS.

B. ALIGN PRESSURE BARS ON RAFTERS AND ATTACH WITH SEALING TEKS SCREWS.

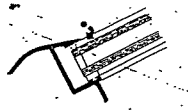
C. ALIGN PRESSURE BARS ON PURLINS AND INSTALL WITH SEALING TEKS SCREWS.



D. SEAL INTERSECTION OF PRESSURE BARS AND AT BOTTOM OF RAFTER PRESSURE BARS.

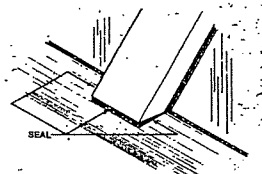


9. INSTALL WEDGE IN BAFFLE



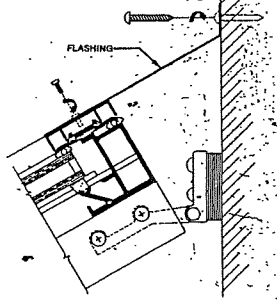
10. PRESS ON RAFTER AND PURLIN COVERS

*IF ANGLE OF SLOPE IS UNDER 30°, PURLIN COVERS ARE NOT USED; SEAL OVER HEADS OF TEKS SCREWS.



11. WET SEAL AROUND ENTIRE PERIMETER OF EACH LIGHT WITH PTI-707 OR AN EQUAL QUALITY BUTYL SEALANT; TOOL IMMEDIATELY.

12. INSTALL FLASHING AT TOP OF SLOPE, RUNNING A BEAD OF SEALANT ALONG HEAD OF SLOPE UNDER FLASHING; SEAL OVER SCREW HEADS.



THESE INSTALLATION INSTRUCTIONS ARE INTENDED TO BE USED AS A GUIDE IN CONJUNCTION WITH JOB DRAWINGS. SPECIAL CONDITIONS AND CUSTOM ADAPTATIONS OF ARE NOT INCLUDED IN THESE INSTRUCTIONS.

THE CONSTANTLY CHANGING TECHNOLOGY WITHIN THE ARCHITECTURAL METALS INDUSTRY DEMANDS THAT AMARLITE ANACONDA RESERVE THE RIGHT TO REVISE, DISCONTINUE, OR CHANGE ANY PRODUCT LINE OR SPECIFICATION WITHOUT PRIOR WRITTEN NOTICE.

THERE ARE WIDE VARIATIONS IN STATE, LOCAL, AND FEDERAL LAWS AND BUILDING CODES THAT GOVERN THE DESIGN AND USE OF ARCHITECTURAL ALUMINUM PRODUCTS.

IT IS THE RESPONSIBILITY OF THE ARCHITECT, OWNER, AND INSTALLER TO ASSURE THAT THE PRODUCTS SELECTED FOR USE ON EACH SPECIFIC PROJECT COMPLY WITH ALL APPLICABLE BUILDING CODES AND LAWS.

AMARLITE ANACONDA DOES NOT CONTROL THE SELECTION OF PRODUCT CONFIGURATIONS AND ASSUMES NO RESPONSIBILITY THEREFOR.

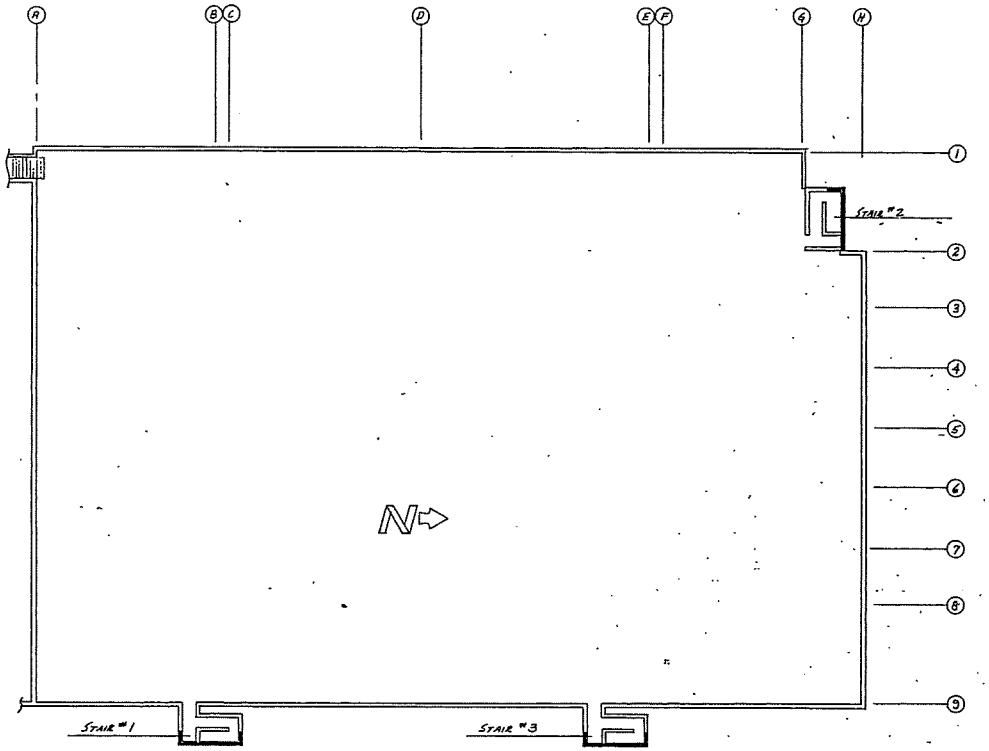
DATE	REVISION

OBLIQUE WALL INSTALLATION INSTRUCTIONS AS APPLIED TO PBS-386

JOB NO._____

AMARLITE

ANACONDA Aluminum
Division of Anaconda Industries



AMARLITE/ANACONDA DOES NOT ASSUME RESPONSIBILITY FOR HAND OR SWING OF DOORS SHOWN ON THESE DRAWINGS. ARCHITECT, GENERAL CONTRACTOR OR THE DEALER TO VERIFY THE CORRECTNESS OF HAND OR SWING SHOWN.

-This drawing prepared by Anaconda for use by Anaconda in fabricating material as shown on drawing.

-Anaconda assumes no responsibility for use of this drawing by any party for obtaining glass sizes, cut material sizes, or fabrication of materials.

-Anaconda does not accept the responsibility for the accuracy of this drawing with respect to the masonry conditions of this job. The [illegible] be verified in the field by both the general contractor and the installer.

-Anaconda's responsibility for accuracy is soley limited to the shapes detailed to make up a frame (s), as shown in the elevation (s) of the same height (s) and width (s).

GENERAL NOTES

MATERIALS NOT BY AMARLITE UNLESS OTHERWISE NOTED ON DRAWINGS

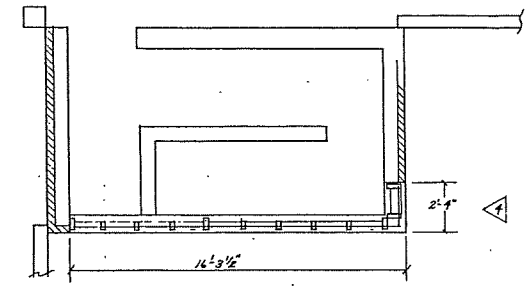
A. GLASS OR PANELS
B. WOOD SHIMS AND BLOCKING
C. STEEL SHAPES
D. CAULKS AND SEALANTS
E. METAL FLASHINGS

NOTE: ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR BEFORE FABRICATION WILL START.

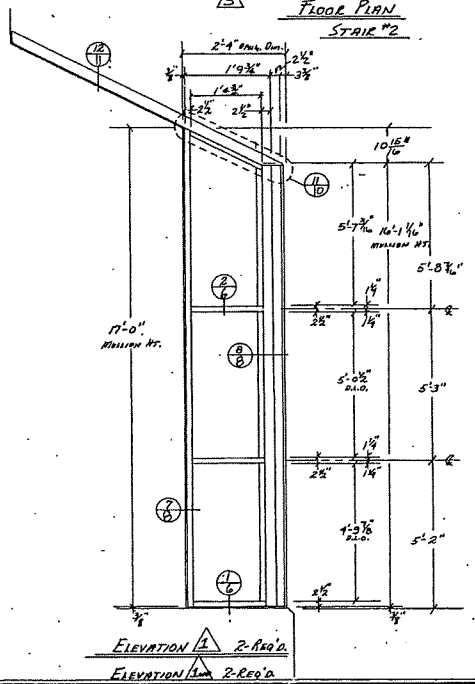
NO.	REVISIONS	DATE	BY
A	STAIR #2 WAS #3 - VISA VERSA	6/16/62	JPE

PROJECT: FRANCES STREET PARKING GARAGE
LOCATION: MADISON, WISCONSIN
ARCHITECT: MARTINSONS ZECK, INC.
CUSTOMER: KLEIN + DICKERT
AMARLITE Anaconda
JOB NO. CT-966
DRAWN T.B. | DATE 3-8-62 | SHEET NO 30F11

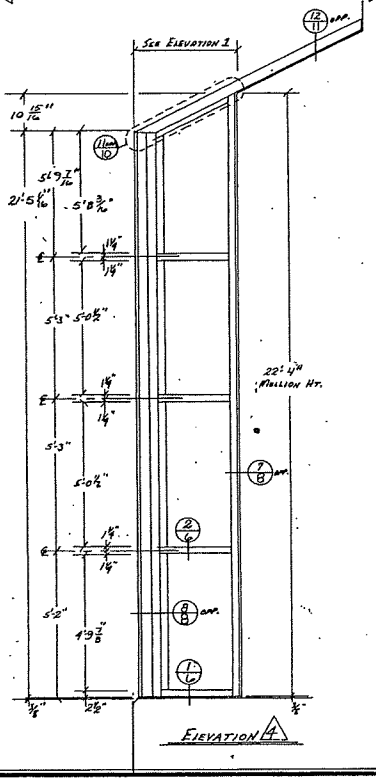
TY OF MADISON, STATE STREET CAMPUS GARAGE MIXED-USE PROJECT, CONTRACT NO. 9361, Reference-9 Neighboring Building Historical Documents



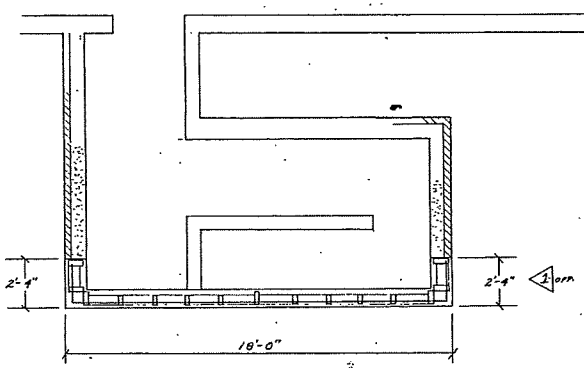
3 FLOOR PLAN
STAIR #2



ELEVATION 1 2-REQ'D.
ELEVATION 1 opp. 2-REQ'D.



ELEVATION 4



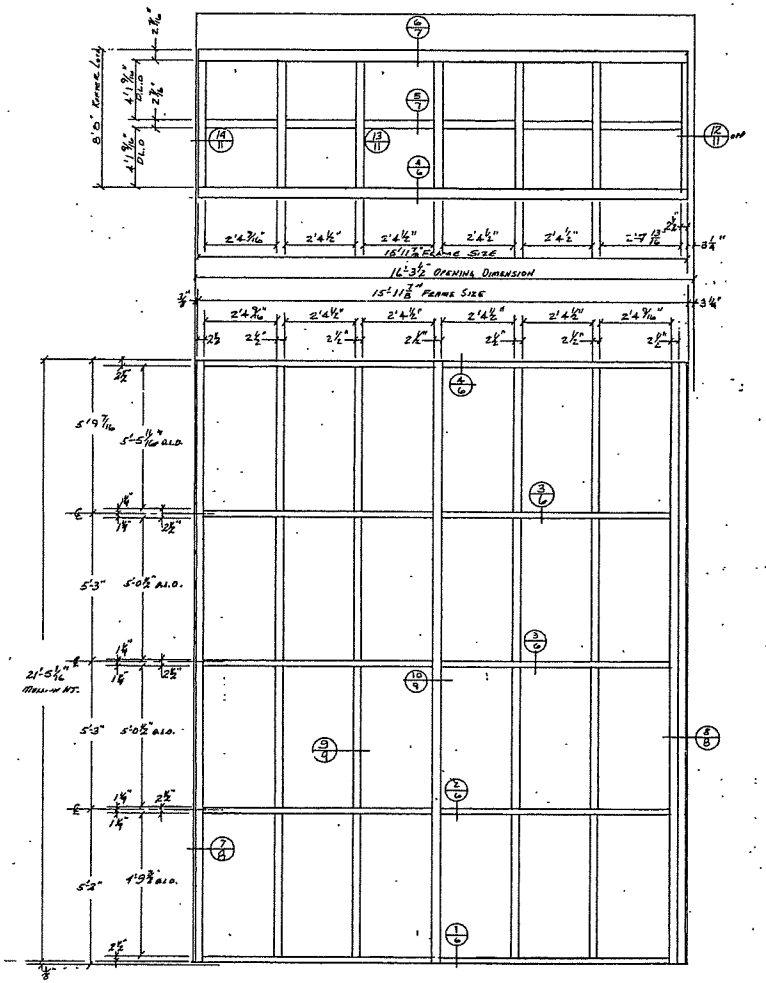
2 FLOOR PLAN
STAIR #1 = 1-REQ'D.
STAIR #3 = 1-REQ'D.

FINISH TO BE
#150 DARK BRONZE

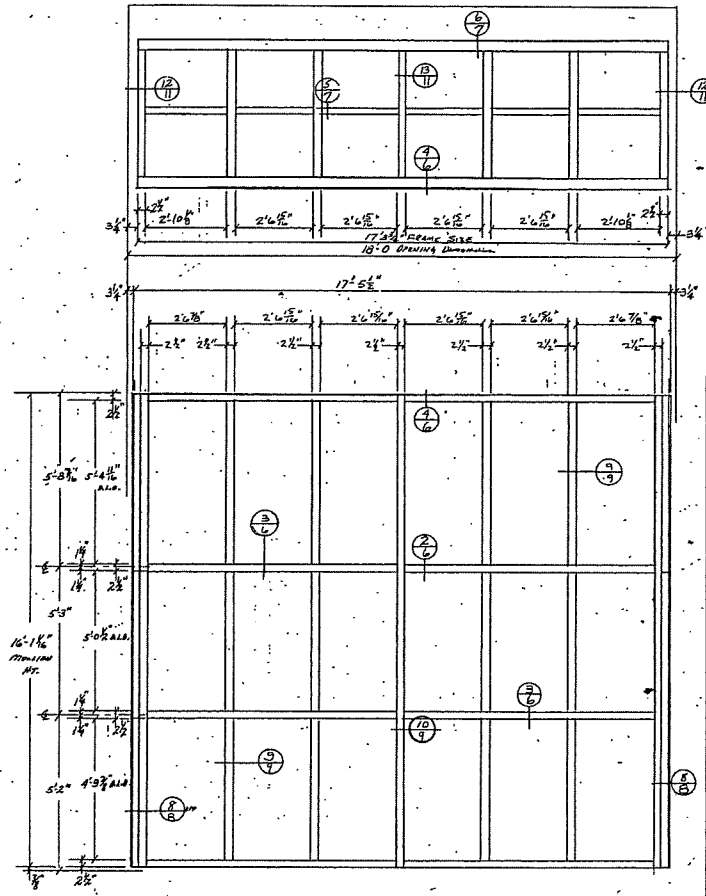
NO.	REVISIONS	DATE	BY
A	ADDENDUM CANOPIES, REF. HEADS, TRANS.	5/16/82	PJE

PROJECT: FRANCES STREET PARKING GARAGE
LOCATION: MADISON, WISCONSIN
ARCHITECT: MARTINSONS ZECK, INC.
CUSTOMER: KLEIN + DICKERT
AMARLITE Anaconda
JOB NO: CT-966.
DRAWN: T.B. | DATE: 3-8-82 | SHEET NO: 4 of 11

CITY OF MADISON, STATE STREET CAMPUS GARAGE MIXED-USE PROJECT, CONTRACT NO. 9881, Reference-9 Neighboring Building Historical Documents



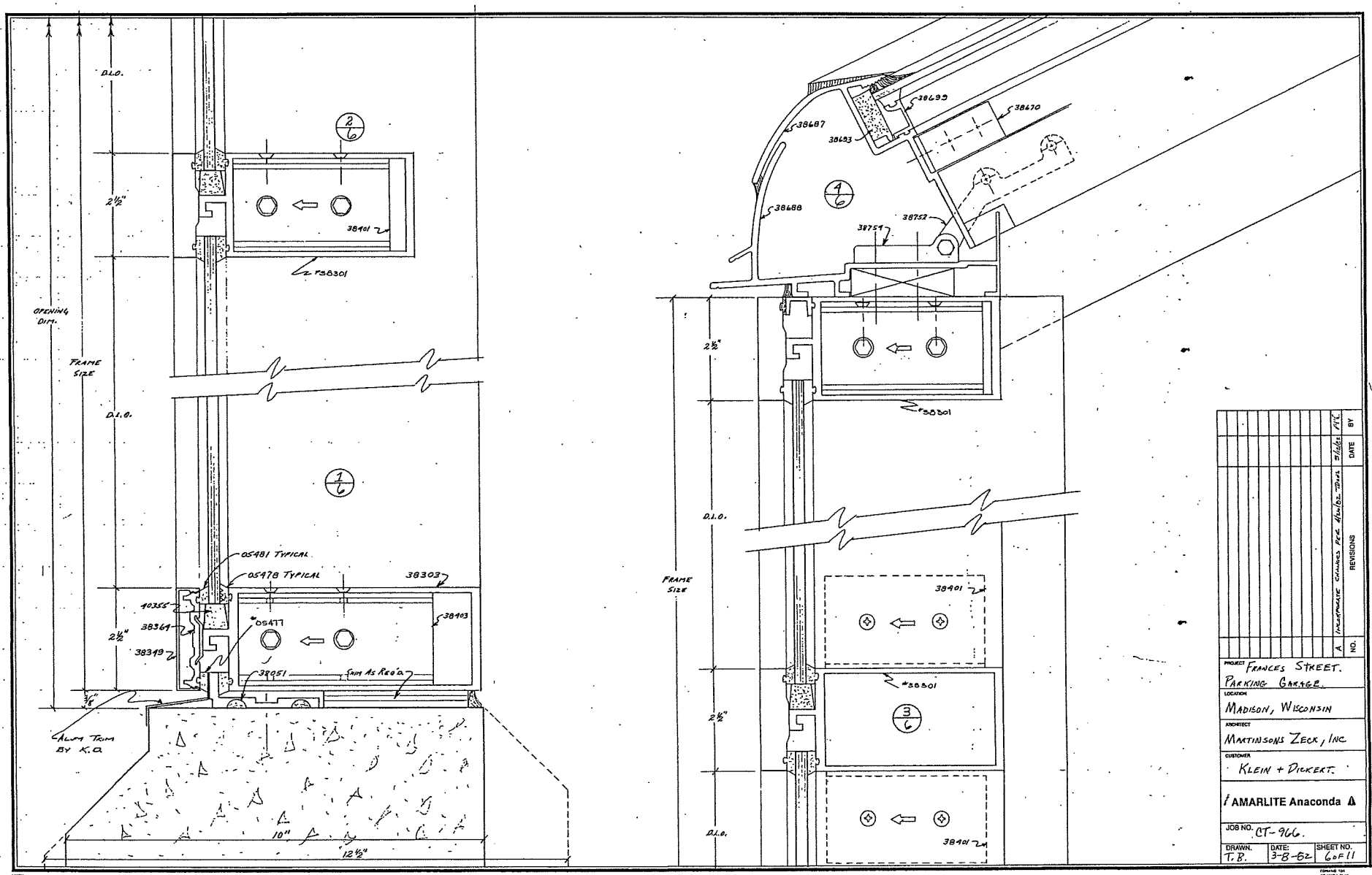
ELEVATION 3



ELEVATION 2
2-REQ'D.

NO.	REVISIONS	DATE	BY
A	Incorporate Changes per Architect Memo	5/16/82	RM

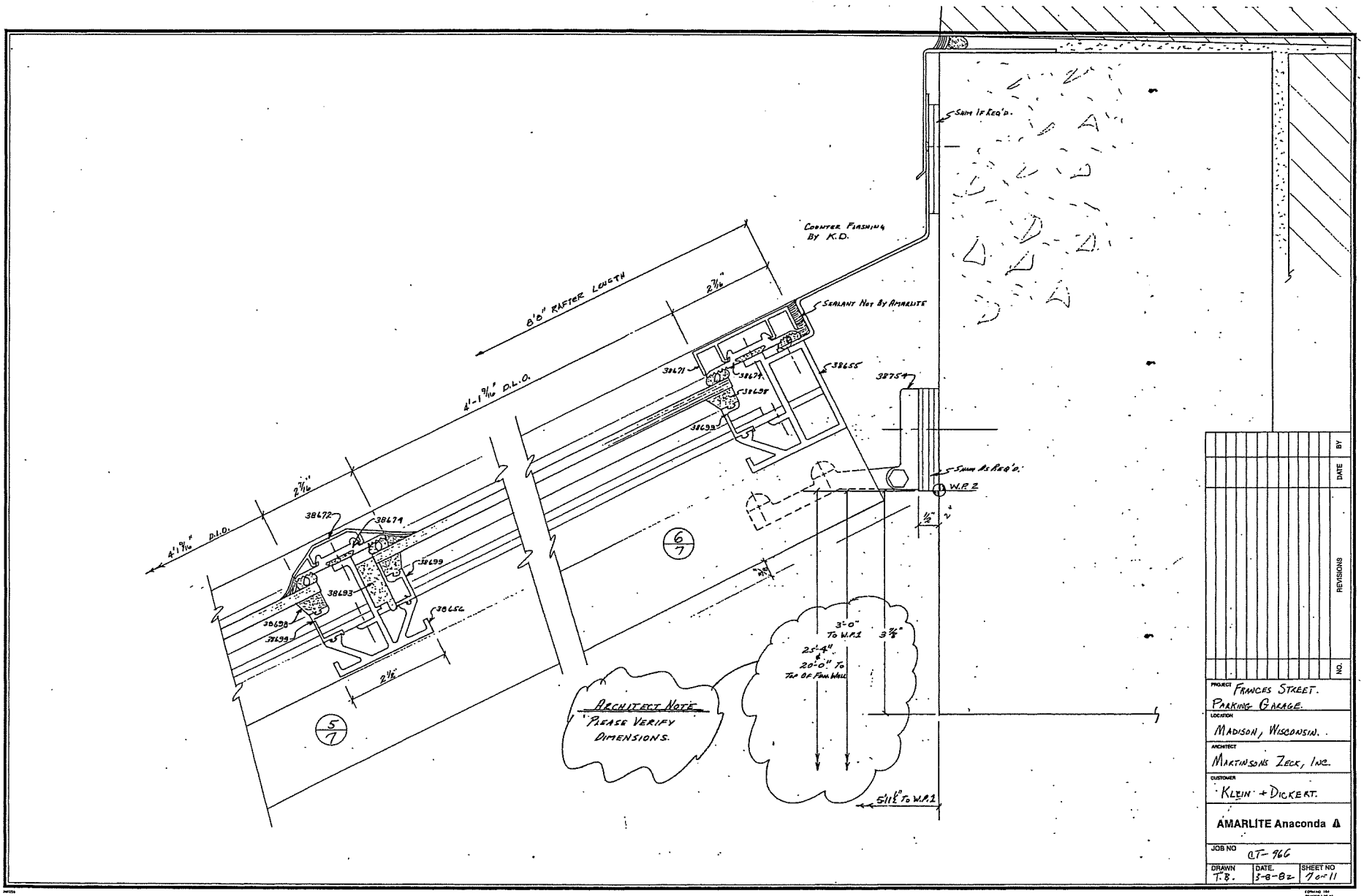
PROJECT: FRANCES STREET PARKING GARAGE.
LOCATION: MADISON, WISCONSIN.
ARCHITECT: MARTINSONS ZECK, INC
CUSTOMER: KLEIN + DICKERT.
AMARLITE Anaconda
JOB NO. CT-966..
DRAWN T.P. | DATE 5-5-82 | SHEET NO 5 OF 11.



NO.	REVISIONS	DATE	BY
A	INCORPORATE CHANGES PER ALBERICI TEAM	9/16/81	M.K.

PROJECT: FRANCES STREET. PARKING GARAGE.
LOCATION: MADISON, WISCONSIN
ARCHITECT: MARTINSONS ZECK, INC.
CUSTOMER: KLEIN + DICKERT.
AMARLITE Anaconda
JOB NO. CT-966.
DRAWN: T.B. | DATE: 3-8-82 | SHEET NO. 6 OF 11

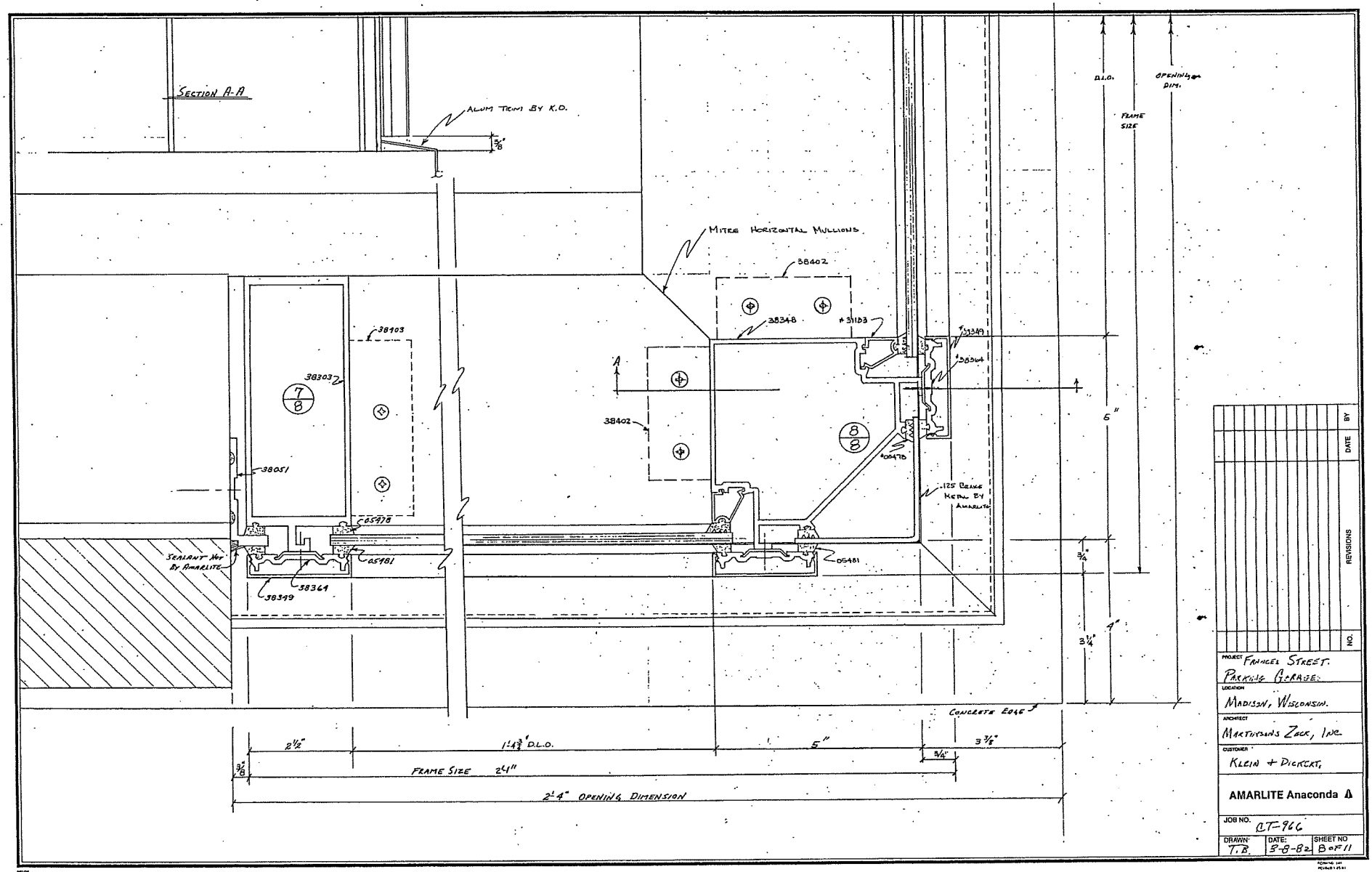
CITY OF MADISON, STATE STREET CAMPUS GARAGE MIXED-USE PROJECT, CONTRACT NO. 9361, Reference-9 Neighboring Building Historical Documents



NO.	REVISIONS	DATE	BY

PROJECT: FRANCES STREET. PARKING GARAGE.
LOCATION: MADISON, WISCONSIN.
ARCHITECT: MARTINSONS ZECK, INC.
CUSTOMER: KLEIN + DICKERT.
AMARLITE Anaconda
JOB NO: QT-966
DRAWN: T.B. | DATE: 3-8-82 | SHEET NO: 7 of 11

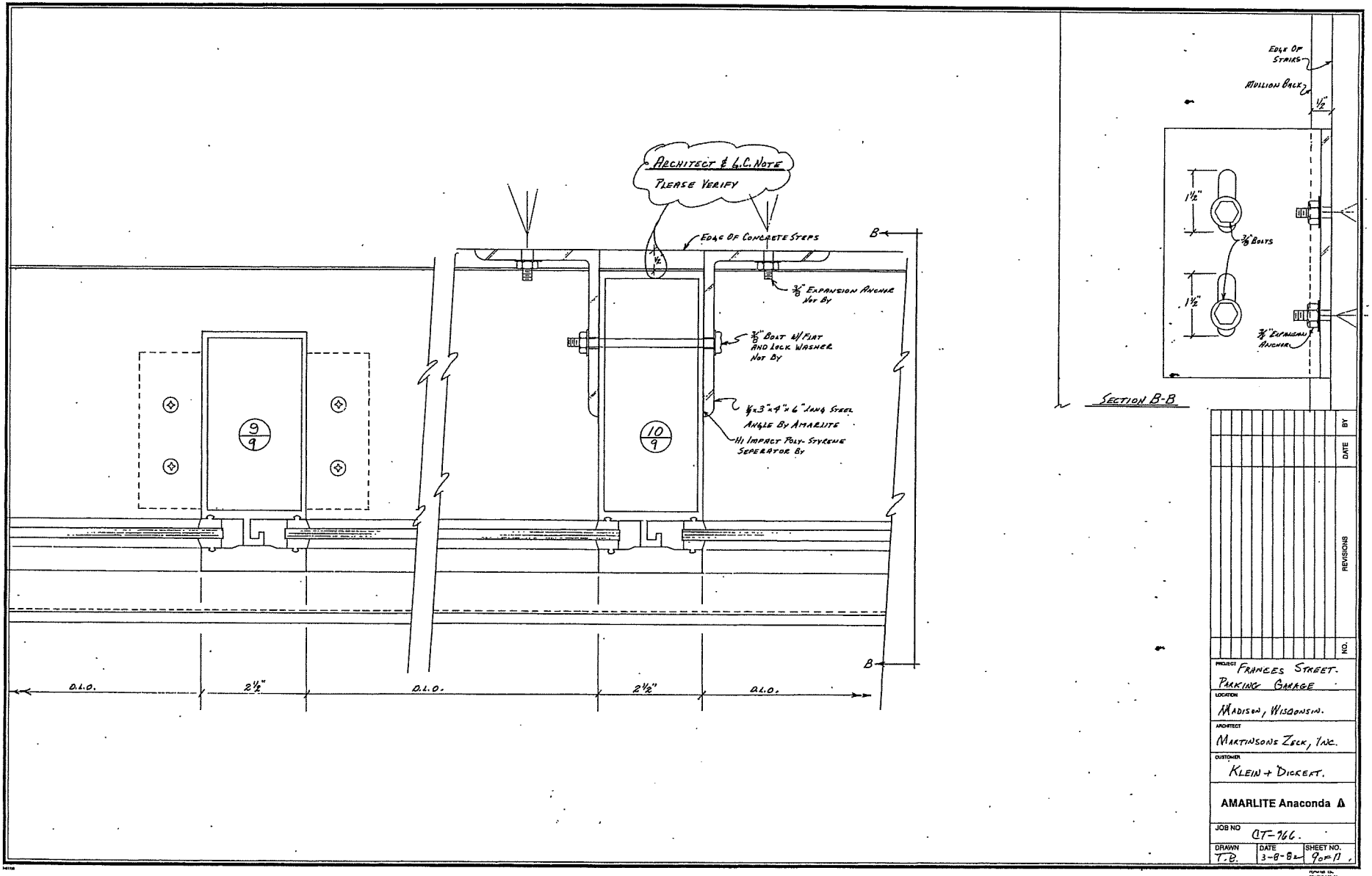
OF MADISON, STATE STREET CAMPUS GARAGE MIXED-USE PROJECT, CONTRACT NO. 9361, Reference-9 Neighboring Building Historical Documents



NO.	REVISIONS	DATE	BY

PROJECT: FRANCES STREET PARKING GARAGE
LOCATION: MADISON, WISCONSIN.
ARCHITECT: MARTINSONS ZACK, INC.
CUSTOMER: KLEIN + DICKERT,
AMARLITE Anaconda
JOB NO. CT-966
DRAWN: T.B. DATE: 8-8-82 SHEET NO. 8 OF 11

CITY OF MADISON, STATE STREET CAMPUS GARAGE MIXED-USE PROJECT, CONTRACT NO. 9361, Reference 8 Neighboring Building Historical Documents



SECTION B-B

NO.	REVISIONS	DATE	BY

PROJECT: FRANCES STREET PARKING GARAGE

LOCATION: MADISON, WISCONSIN.

ARCHITECT: MARTINSONS ZECK, INC.

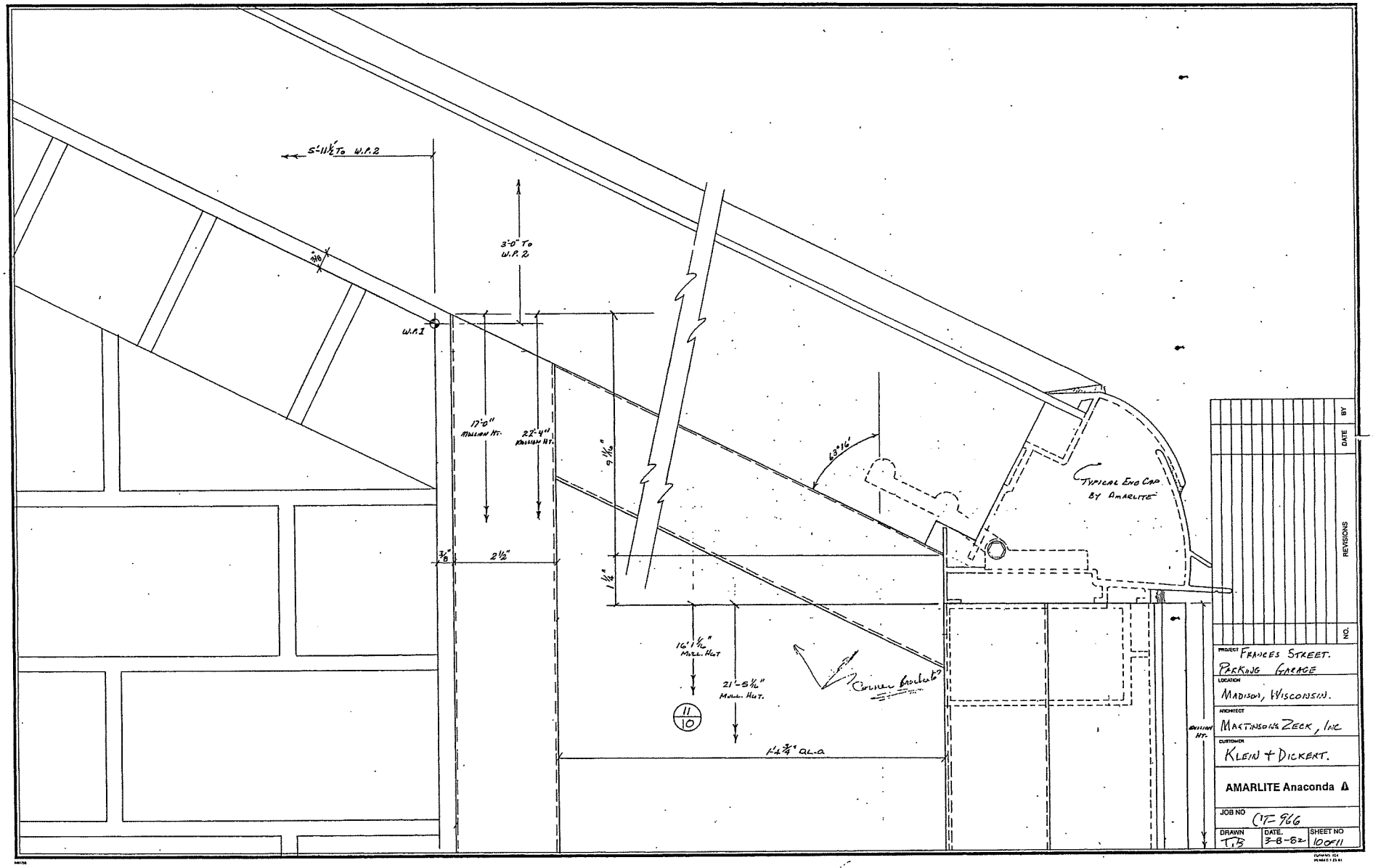
CUSTOMER: KLEIN + DICKERT.

AMARLITE Anaconda

JOB NO: 87-766.

DRAWN	DATE	SHEET NO.
T.B.	3-8-88	9 OF 11

OF MADISON, STATE STREET CAMPUS GARAGE MIXED-USE PROJECT, CONTRACT NO. 9361, "Reference 9 Neighboring Building Historical Documents

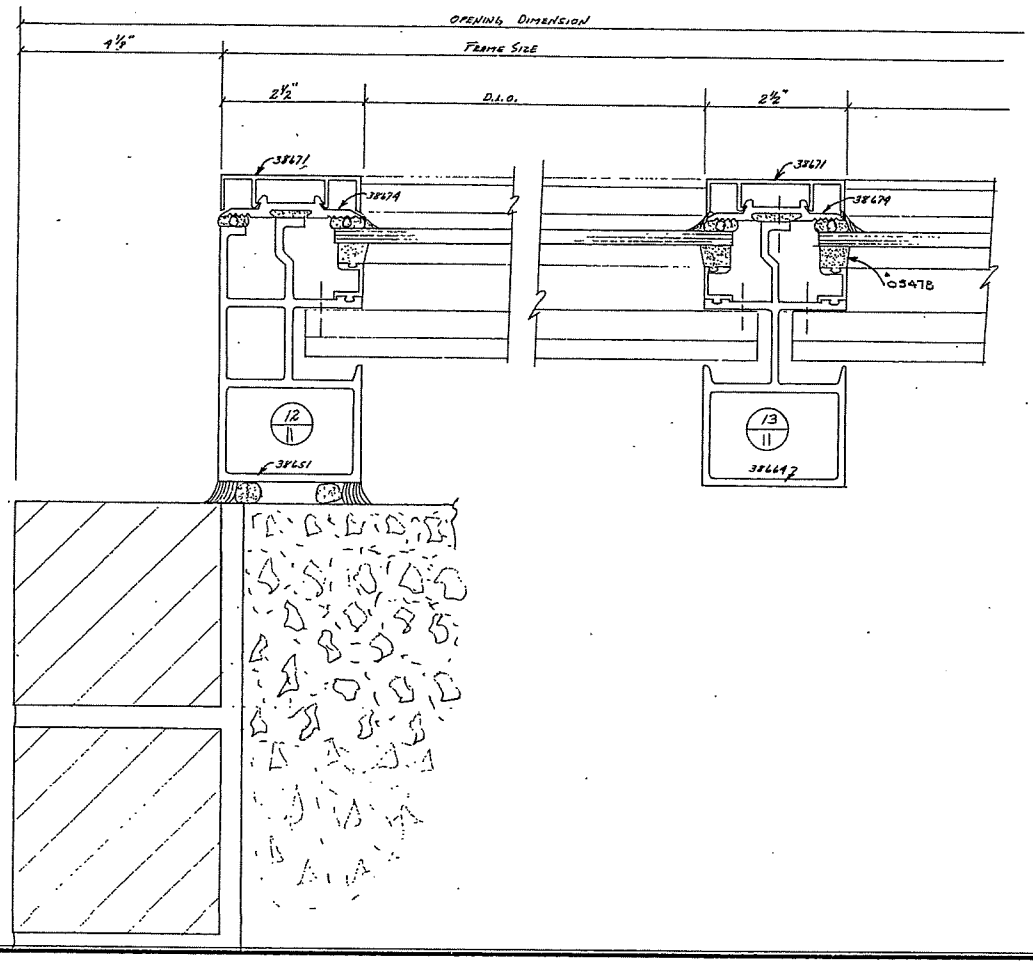


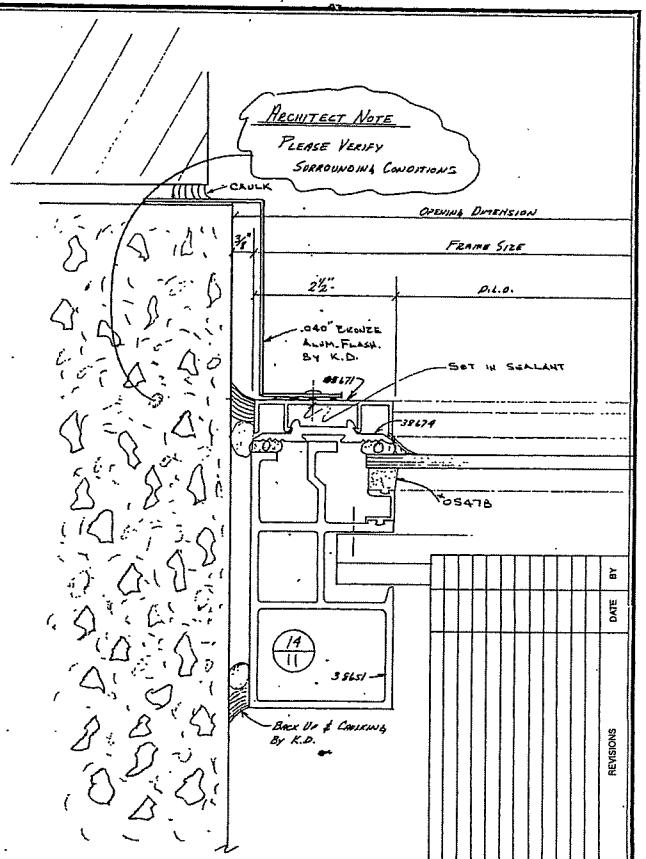
NO.	REVISIONS	DATE	BY

PROJECT: FRANCES STREET. PARKING GARAGE
LOCATION: MADISON, WISCONSIN.
ARCHITECT: MARTINSON & ZECK, INC
CUSTOMER: KLEIN + DICKERT.

AMARLITE Anaconda

JOB NO: CT-966
DRAWN: T.B
DATE: 3-8-82
SHEET NO: 10 of 11





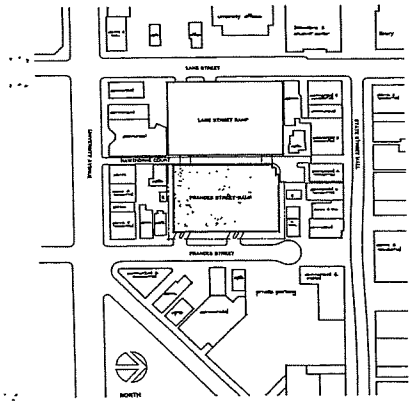
NO	REVISIONS	DATE	BY

PROJECT: FRANCES STREET PARKING GARAGE
LOCATION: MADISON, WISCONSIN.
ARCHITECT: MARTINSONS ZECK, INC
CUSTOMER: KLEIN + DICKERT.
AMARLITE Anaconda
JOB NO: CT-966.
DRAWN: T.B. | DATE: 3-8-82 | SHEET NO: 11 of 11

FRANCES ST PARKING PARKING RAMP
(PHASE 2 ADDITION)

430 N. Frances St., Madison, WI 53703

CITY OF MADISON, STATE STREET CAMPUS GARAGE MIXED-USE PROJECT, CONTRACT NO. 8361, Reference-9 Neighboring Building Historical Documents



VICINITY MAP

ABBREVIATIONS

(Applicable to sheets A1 through A12. See sheets S8, P5 and E5 for abbreviations applicable to other sheets.)

AL	ALUMINUM	INSUL	INSULATION
ALT	ALTERNATE	I.S.	INSIDE
ASSY	ASSEMBLY	JT	JOINT
BD	BOARD	LLH	LONG LEG HORIZONTAL
BETW	BETWEEN	LLV	LONG LEG VERTICAL
BLDG	BUILDING	LTR	LETTER
BM	BEAM	MFR	MANUFACTURER
BOT	BOTTOM	MTD	MOUNTED
B.S.	BOTH SIDES	MTG	MOUNTING
BT	BENT	MTL	METAL
CH	CHANNEL	MULL	MULLION
C.J.	CONTROL JOINT	O.C.	ON CENTER
CLR	CLEAR	OPP	OPPOSITE
CNTR	CENTER	O.S.	OUTSIDE
COL	COLUMN	P.C.	PLUMBING CONTRACTOR
CONC	CONCRETE	P/C	PRECAST CONCRETE
CONN	CONNECTION	PERIM	PERIMETER
CONT	CONTINUOUS	PKG	PARKING
CSK	COUNTERSUNK	PLAS.LAM.	PLASTIC LAMINATE
C.W.	CURTAIN WALL	PLYWD	PLYWOOD
DIAM	DIAMETER	PTD	PAINTED
DIM	DIMENSION	PTW	PRESSURE-TREATED WOOD
DN	DOWN	R	RISER
DRWG	DRAWING	RCVE	RECEIVE
DTL	DETAIL	RCVR	RECEIVER
EA	EACH	RD	ROUND
E.C.	ELECTRIC CONTRACTOR	REQD	REQUIRED
E.J.	EXPANSION JOINT	SECT	SECTION
ELEV	ELEVATION	SHT	SHEET
EQ	EQUAL	SIM	SIMILAR
EXIST	EXISTING	SL	SLIDING
EXP	EXPANSION	S.S.	STAINLESS STEEL
FLR	FLOOR	STL	STEEL
G.C.	GENERAL CONTRACTOR	STRUC.	STRUCTURAL
GL	GLASS	SQ	SQUARE
GYP	GYPSUM	TEMP	TEMPERED
H.M.	HOLLOW METAL	T.O.	TOP OF
HORIZ	HORIZONTAL	TR	TREAD
		TYP	TYPICAL
		VERT	VERTICAL
		WD	WOOD

SHEET INDEX

	COVER SHEET
L1	SITE LAYOUT PLAN / KEY PLANS
S1	FRAMING PLAN: EXISTING LEVELS 5 & 6
S2	FRAMING PLAN: LEVELS 7 & 8
S3	FRAMING PLAN: LEVELS 9 & 10
S4	FRAMING PLAN: LEVEL 11
S5	BRIDGE FRAMING PLAN
S6	STRUCTURAL DETAILS
S7	STAIR SECTIONS & ELLVATIONS
S8	STRUCTURAL DETAILS
A1	ARCHITECTURAL PLAN: LEVELS 7 & 8
A2	ARCHITECTURAL PLAN: LEVELS 9 & 10
A3	ARCHITECTURAL PLAN: LEVEL 11
A4	ARCHITECTURAL PLAN: BRIDGES / SIGNAGE
A5	BUILDING ELEVATIONS
A6	BUILDING ELEVATIONS
A7	BUILDING ELEVATIONS / BUILDING SECTION
A8	WALL SECTIONS
A9	DETAILS
A10	STAIRS 1 & 3
A11	STAIR 2
A12	ATTENDANT'S BOOTH
ME1	ATTENDANT'S BOOTH: MECHANICAL / ELECTRICAL
P1	PLUMBING PLAN: EXISTING LEVELS 5 & 6
P2	PLUMBING PLAN: LEVELS 7 & 8
P3	PLUMBING PLAN: LEVELS 9 & 10
P4	PLUMBING PLAN: LEVEL 11
P5	PLUMBING ISOMETRICS
E1	ELECTRICAL PLAN: EXISTING LEVELS 5 & 6
E2	ELECTRICAL PLAN: LEVELS 7 & 8
E3	ELECTRICAL PLAN: LEVELS 9 & 10
E4	ELECTRICAL PLAN: LEVEL 11
E5	ELECTRICAL PLAN: BRIDGES

DILHR + City Approved Set

FEB 24 1997

HEATING AND VENTILATING BUILDING PLANS Conditionally APPROVED
DEPARTMENT OF INDUSTRY, LABOR AND HUMAN RELATIONS
SEE CORRESPONDENCE
86-12-0330-B

BUILDING PLANS Conditionally APPROVED
CITY OF MADISON FIRE INSPECTOR
BY: D. Allen 4/4/97

GENERAL CONSTRUCTION CONTRACT NO. 135

APPROVED BY THE COMMON COUNCIL ON : _____

MAYOR F. JOSEPH SENSENBRENNER _____

PARKING MANAGER DUANE HINZ _____

CITY CLERK ANDRE BLUM _____

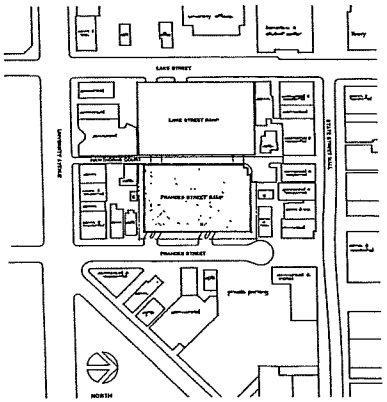
FRANCES STREET PARKING RAMP PHASE 2 ADDITION

CITY OF MADISON PARKING UTILITY
MADISON , WISCONSIN

ARCHITECT : MARTINSONS / ZECK / MEYER , INC.
ENGINEER : ARNOLD & O'SHERIDAN , INC.

SEE AS BUILT FOR PLAN SHEETS PH #3

OF MADISON, STATE STREET CAMPUS GARAGE MIXED-USE PROJECT, CONTRACT NO. 9361, Reference-9 Neighboring Building Historical Documents



VICINITY MAP

ABBREVIATIONS

(Applicable to sheets A1 through A12. See sheets S8, P5 and E5 for abbreviations applicable to other sheets.)

AL	ALUMINUM
ALT	ALTERNATE
ASS'Y	ASSEMBLY
BD	BOARD
BETW	BETWEEN
BLDG	BUILDING
BM	BEAM
BOT	BOTTOM
B.S.	BOTH SIDES
BT	BENT
CH	CHANNEL
C.J.	CONTROL JOINT
CLR	CLEAR
CNTR	CENTER
COL	COLUMN
CONC	CONCRETE
CONN	CONNECTION
CONT	CONTINUOUS
CSK	COUNTERSUNK
C.W.	CURTAIN WALL
DIAM	DIAMETER
DIM	DIMENSION
DN	DOWN
DRWG	DRAWING
DTL	DETAIL
EA	EACH
E.C.	ELECTRIC CONTRACTOR
E.J.	EXPANSION JOINT
ELEV	ELEVATION
EQ	EQUAL
EXIST	EXISTING
EXP	EXPANSION
FLR	FLOOR
G.C.	GENERAL CONTRACTOR
GL	GLASS
GYP	GYPSUM
H.M.	HOLLOW METAL
HORIZ	HORIZONTAL
INSUL	INSULATION
I.S.	INSIDE
JT	JOINT
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LTR	LETTER
MFR	MANUFACTURER
MTD	MOUNTED
MTG	MOUNTING
MTL	METAL
MULL	MULLION
O.C.	ON CENTER
OPP	OPPOSITE
O.S.	OUTSIDE
P.C.	PLUMBING CONTRACTOR
P/C	PRECAST CONCRETE
PERIM	PERIMETER
PKG	PARKING
PLAS.LAM.	PLASTIC LAMINATE
PLYWD	PLYWOOD
PTD	PAINTED
PTW	PRESSURE-TREATED WOOD
R	RISER
RCVE	RECEIVE
RCVR	RECEIVER
RD	ROUND
REQ'D	REQUIRED
SECT	SECTION
SHT	SHEET
SIM	SIMILAR
SL	SLIDING
S.S.	STAINLESS STEEL
STL	STEEL
STRUC.	STRUCTURAL
SQ	SQUARE
TEMP	TEMPERED
T.O.	TOP OF
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TYP	TYPICAL
VERT	VERTICAL
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A11	STAIR 2
A12	ATTENDANT'S BOOTH
A13	LAKE STREET ENTRY A14 MISC. DETAILS
ME1	ATTENDANT'S BOOTH: MECHANICAL / ELECTRICAL
P1	PLUMBING PLAN: EXISTING LEVELS 5 & 6
P2	PLUMBING PLAN: LEVELS 7 & 8
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E4	ELECTRICAL PLAN: LEVEL 11
E5	ELECTRICAL PLAN: BRIDGES

PARKING FACILITY APPROVAL / CONDITIONAL USE APPROVAL:

PLANNING & DEVELOPMENT _____

TRAFFIC ENGINEERING Floyd T. Jones, Asst. 1/16/87

CITY ENGINEERING _____ 1/16/87

FIRE DEPARTMENT Clair M. Durenza 1-16-87

WATER UTILITY James R. Eckert 1/16/87

GENERAL CONSTRUCTION CONTRACT NO. 135

APPROVED BY THE COMMON COUNCIL ON : _____

MAYOR F. JOSEPH SENSENBRENNER _____

PARKING MANAGER DUANE HINZ _____

CITY CLERK ANDRE BLUM _____

AS BUILT

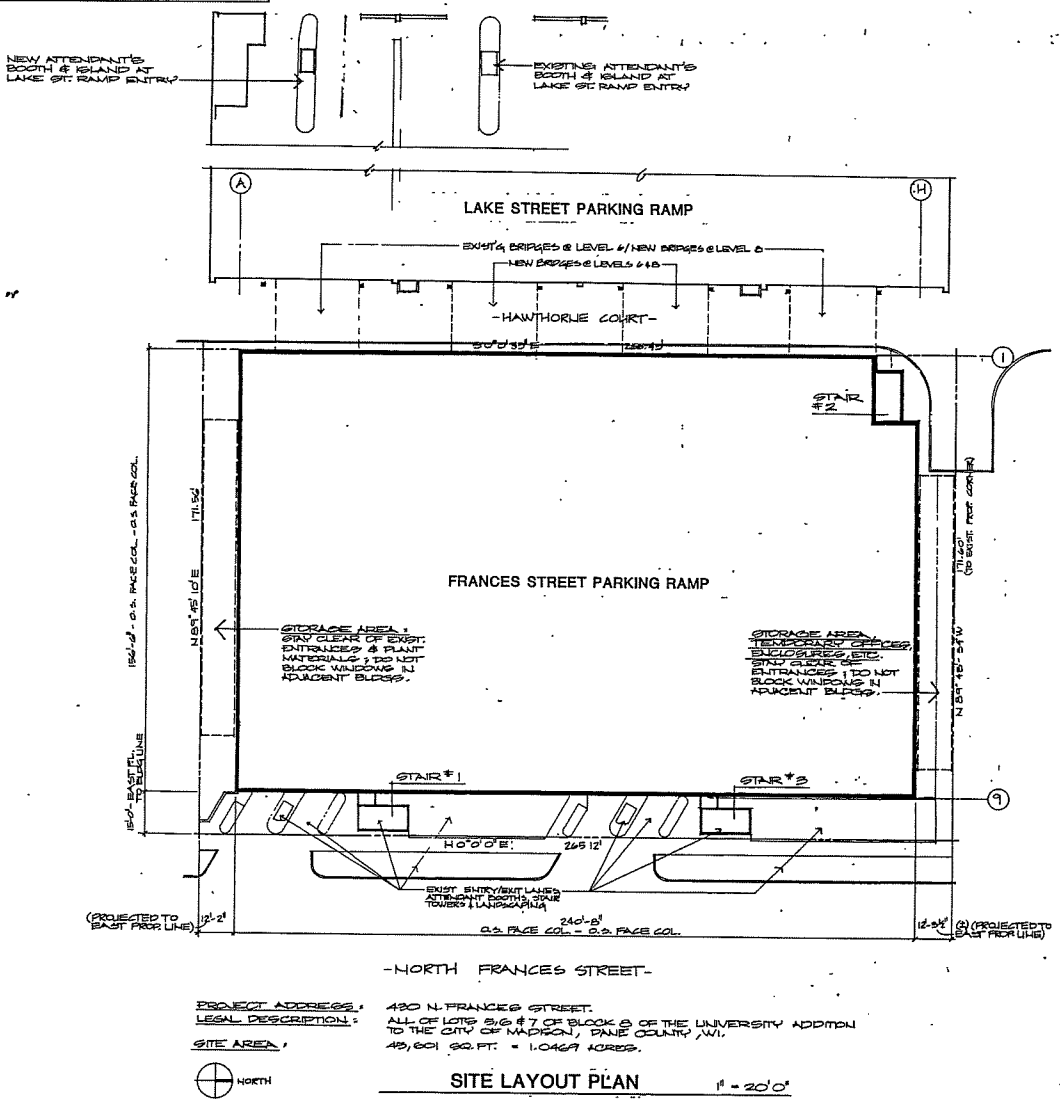
FRANCES STREET PARKING RAMP PHASE 2 ADDITION

AS-BUILTS
Frances Ramp Addition 1/6/87
PH #59

CITY OF MADISON PARKING UTILITY
MADISON , WISCONSIN

ARCHITECT : MARTINSONS / ZECK / MEYER , INC.
ENGINEER : ARNOLD & O'SHERIDAN , INC.

CITY OF MADISON, STATE STREET CAMPUS GARAGE MIXED-USE PROJECT, CONTRACT NO. 9361, Reference-9 Neighboring Building Historical Documents



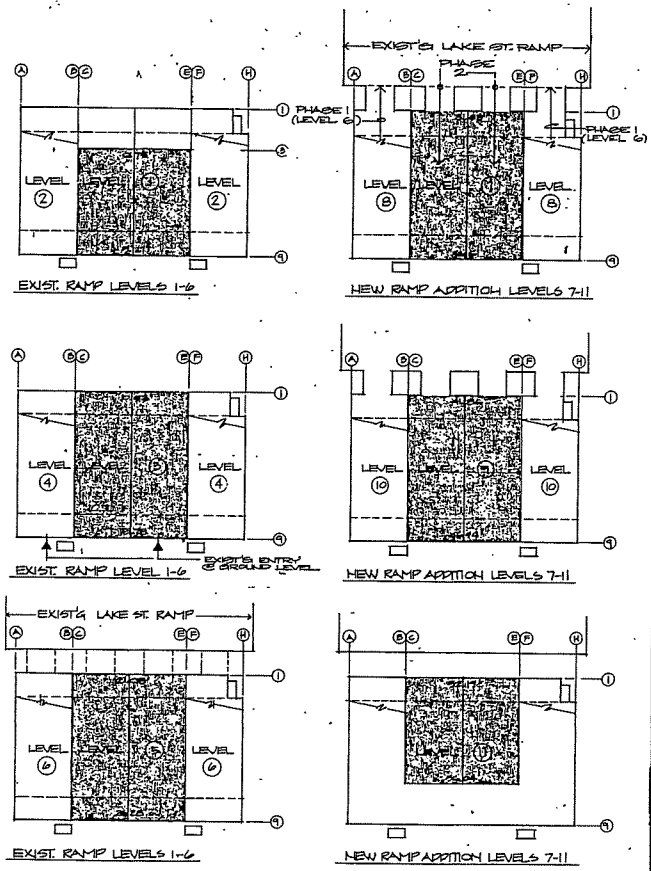
PROJECT ADDRESS: 430 N. FRANCES STREET.

LEGAL DESCRIPTION: ALL OF LOTS 5, 6 & 7 OF BLOCK 8 OF THE UNIVERSITY ADDITION TO THE CITY OF MADISON, DANE COUNTY, WI.

SITE AREA: 45,601 SQ. FT. = 1.0469 ACRES.

NORTH

SITE LAYOUT PLAN 1" = 20'-0"



KEY PLANS

Martinsons / Zeck / Meyer
Planning Architecture Engineering
625 West Washington Avenue
Madison Wisconsin 53703

Project Number 8610
Date 11.3.88
Drawing Number

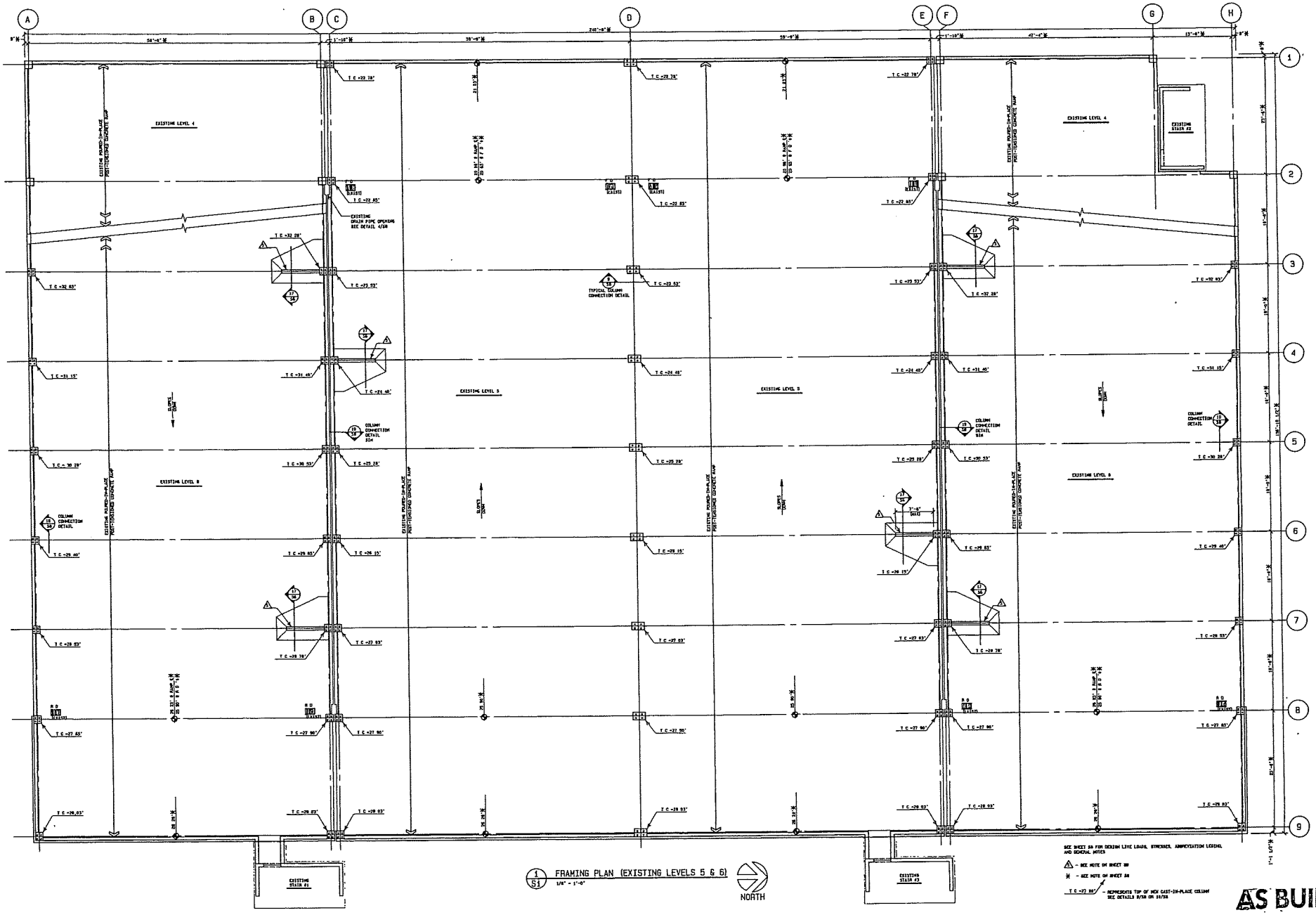
ARNOLD & O'NEIL ASSOCIATES, INC.
CONSULTING ENGINEERS

PHASE 2 ADDITION
FRANCES STREET PARKING RAMP
CITY OF MADISON PARKING UTILITY

AS BUILT

L1

OF MADISON, STATE STREET CAMPUS GARAGE MIXED-USE PROJECT, CONTRACT NO. 8361, Reference-9 Neighboring Building Historical Documents



1/S1 FRAMING PLAN (EXISTING LEVELS 5 & 6)
1/8" = 1'-0"

SEE SHEET S0 FOR DESIGN LIVE LOADS, SYMBOLS, ABBREVIATION LEGEND, AND GENERAL NOTES

△ - SEE NOTE ON SHEET S0

✱ - SEE NOTE ON SHEET S0

T C =72.86' - REPRESENTS TOP OF NEW CAST-IN-PLACE COLUMN SEE DETAILS 8/S8 OR 10/S8

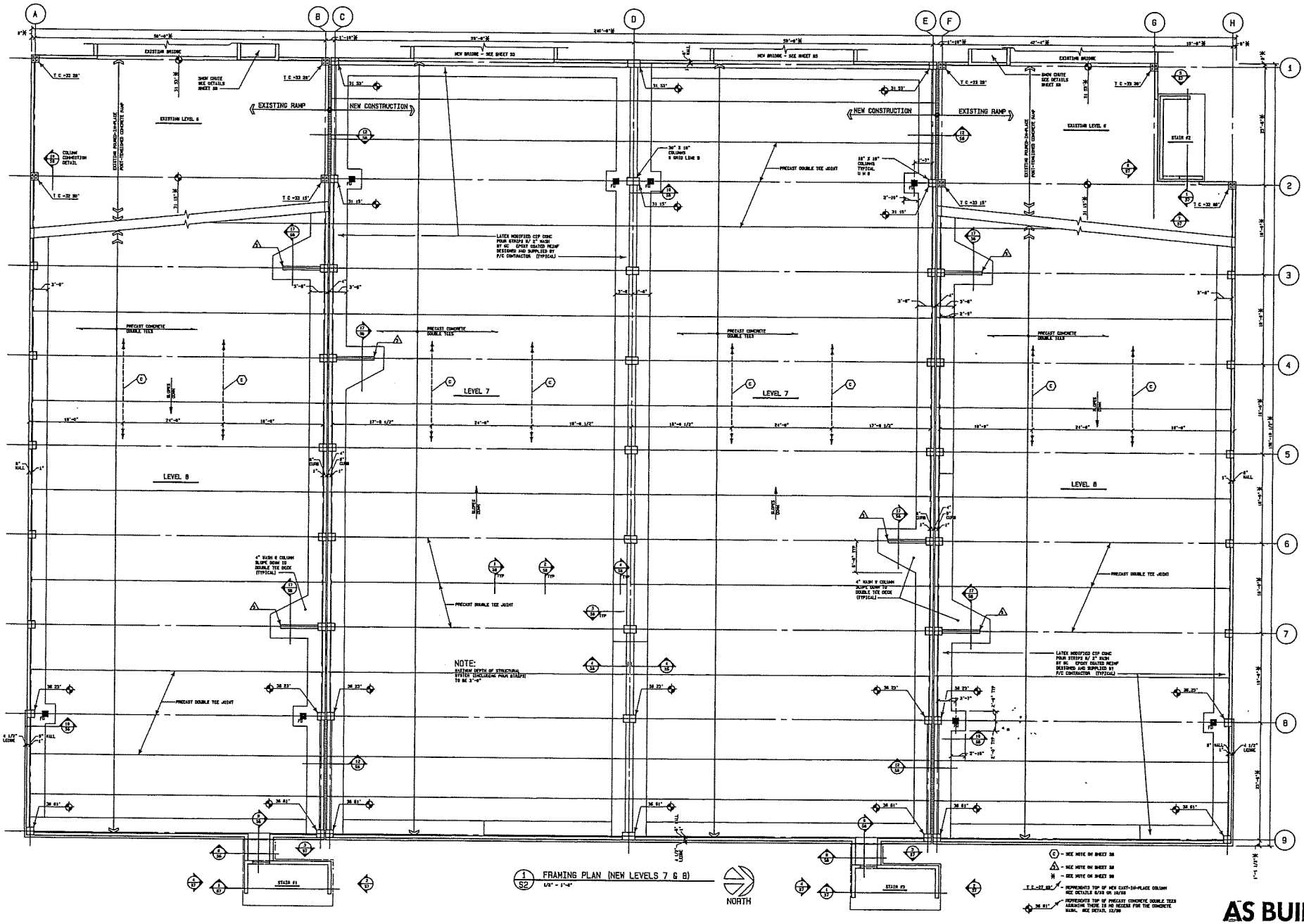
Mathisons / Zeck / Meyer
Planning & Architecture Engineering
425 West Washington Avenue
Madison Wisconsin 53703

Project Number 8610
Date 11.3.86
Drawing Number

ARNOLD AND O'SHERIDAN INC.
CONSULTING ENGINEERS
815 Forest Street
Madison, Wisconsin 53715
608 251-8851

PHASE 2 ADDITION
FRANCES STREET PARKING RAMP
CITY OF MADISON PARKING UTILITY

AS BUILT S1



1 S2 FRAMING PLAN (NEW LEVELS 7 & 8)
1/8" = 1'-0"

C - SEE NOTE ON SHEET S6
△ - SEE NOTE ON SHEET S8
✳ - SEE NOTE ON SHEET S8
T.C.=32.88' - REPRESENTS TOP OF NEW CAST-IN-PLACE COLUMN SEE DETAILS S/S8 ON 10/S8
36.81' - REPRESENTS TOP OF PRECAST CONCRETE DOUBLE TEES ASSUMING THERE IS NO RECESS FOR THE CONCRETE RUNS. SEE DETAIL 12/S8

Project Number 6610
Date - 11.3.86
Drawing Number

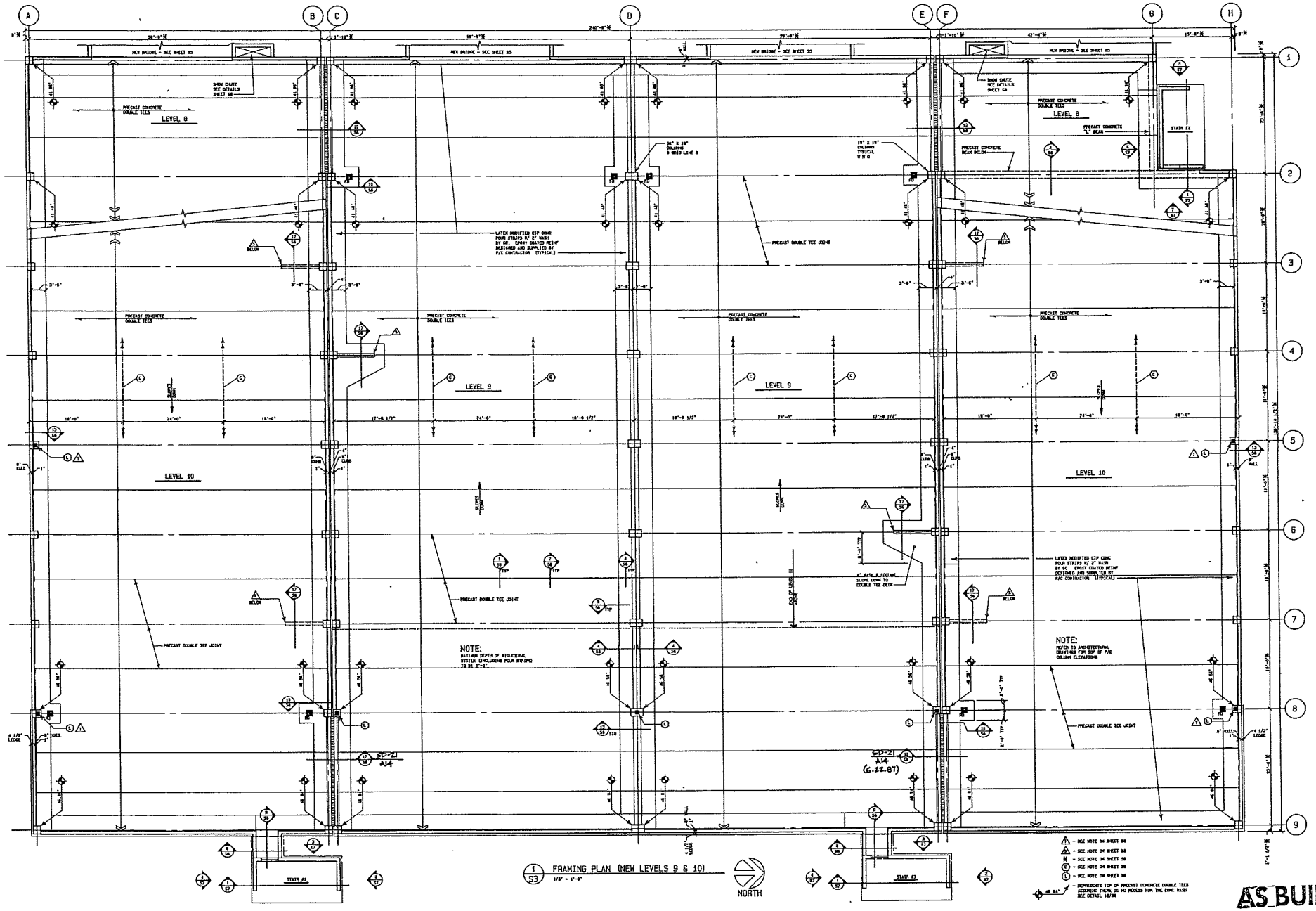
Mortinsons / Zeck / Meyer
Planning architecture Engineering
425 West Washington Avenue
Madison Wisconsin 53703

ARNOLD AND O'SHERIDAN, INC.
CONSULTING ENGINEERS

PHASE 2 ADDITION
FRANCES STREET PARKING RAMP
CITY OF MADISON PARKING UTILITY

AS BUILT S2

OF MADISON, STATE STREET CAMPUS GARAGE MIXED-USE PROJECT, CONTRACT NO. 8561, Reference-9 Neighboring Building Historical Documents



1 S3 FRAMING PLAN (NEW LEVELS 9 & 10)
1/8" = 1'-0"

NORTH

△ - SEE NOTE ON SHEET S8
△ - SEE NOTE ON SHEET S8
* - SEE NOTE ON SHEET S8
C - SEE NOTE ON SHEET S8
L - SEE NOTE ON SHEET S8
REPRESENTS TOP OF PRECAST CONCRETE DOUBLE TEES ASSUMING THERE IS NO RECESS FOR THE CONC WASH SEE DETAIL 10/S8

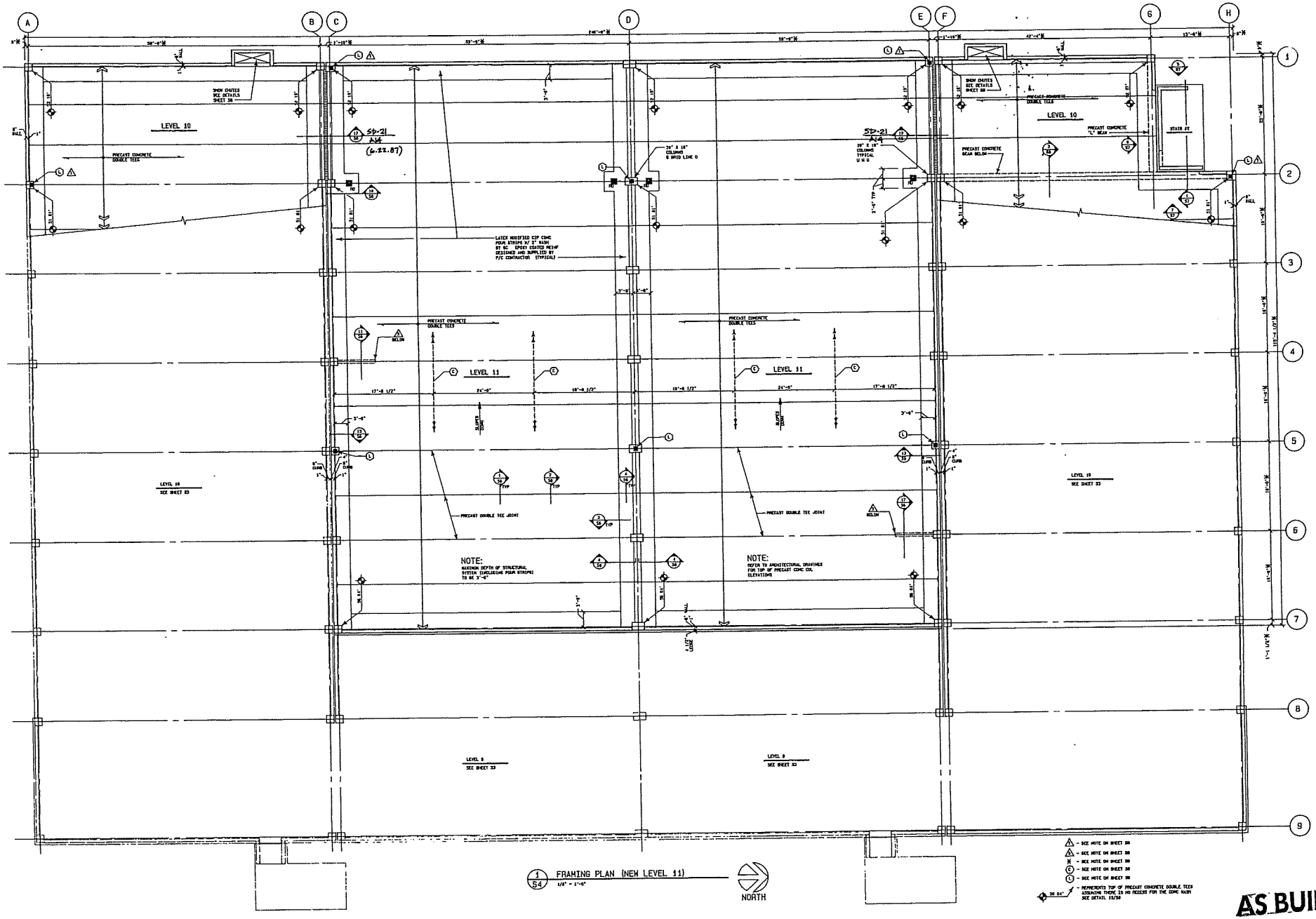
MSA Professional Services, Inc.
Mad Hibbons / Zeck / Meyer
Planning Architecture Engineering
626 West Washington Avenue
Madison Wisconsin 53703

ARNOLD AND O'SHERIDAN, INC.
CONSULTING ENGINEERS
113 Fitzrovia Street
Madison, Wisconsin 53711
608.251.4843

Project Number 8610
Date 11.3.88
Drawing Number

PHASE 2 ADDITION
FRANCES STREET PARKING RAMP
CITY OF MADISON PARKING UTILITY

AS BUILT S3



1/S4 FRAMING PLAN (NEW LEVEL 11)
1/8" = 1'-0"

- SEE NOTE ON SHEET S4
- SEE NOTE ON SHEET S5
- SEE NOTE ON SHEET S6
- SEE NOTE ON SHEET S7
- SEE NOTE ON SHEET S8
- REPRESENTS TOP OF PRECAST CONCRETE DOUBLE TEES ASSUMING THERE IS NO RECESS FOR THE CONC MASH SEE DETAIL 13/S8

Project Number 8610
Date 11.3.88
Drawing Number

Mortinsons / Zack / Meyer
Planning Architecture Engineering
425 West Washington Avenue
Madison Wisconsin 53703

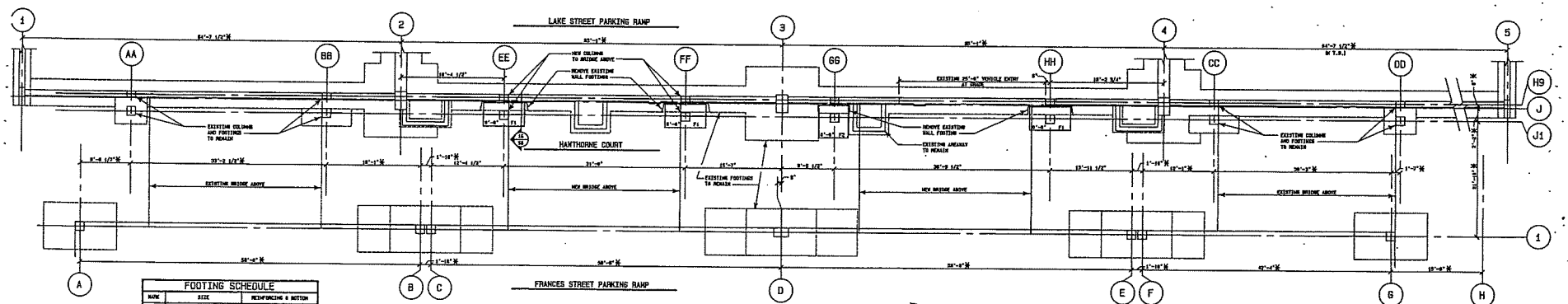
ARNOLD AND O'SHERIDAN, INC.
CONSULTING ENGINEERS

PHASE 2 ADDITION
FRANCES STREET PARKING RAMP

CITY OF MADISON PARKING UTILITY

AS BUILT S4

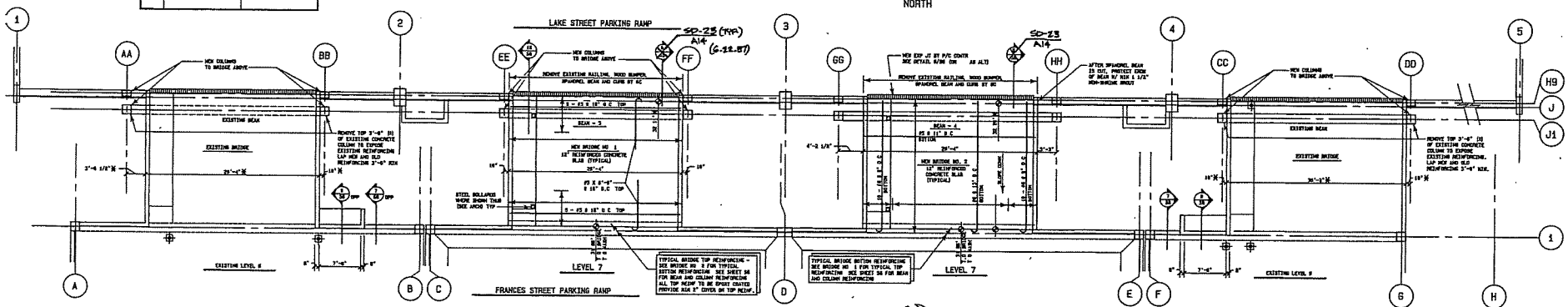
CITY OF MADISON, STATE STREET CAMPUS GARAGE MIXED-USE PROJECT, CONTRACT NO. 9361, Reference-9 Neighboring Building Historical Documents



FOOTING SCHEDULE		
MARK	SIZE	REINFORCING & BOTTOM
F1	3'-6" X 7'-6" X 1'-6"	9 – #8 LONG WAY 5 – #5 SHORT WAY
F2	6'-6" X 7'-6" X 1'-6"	8 – #8 EACH WAY

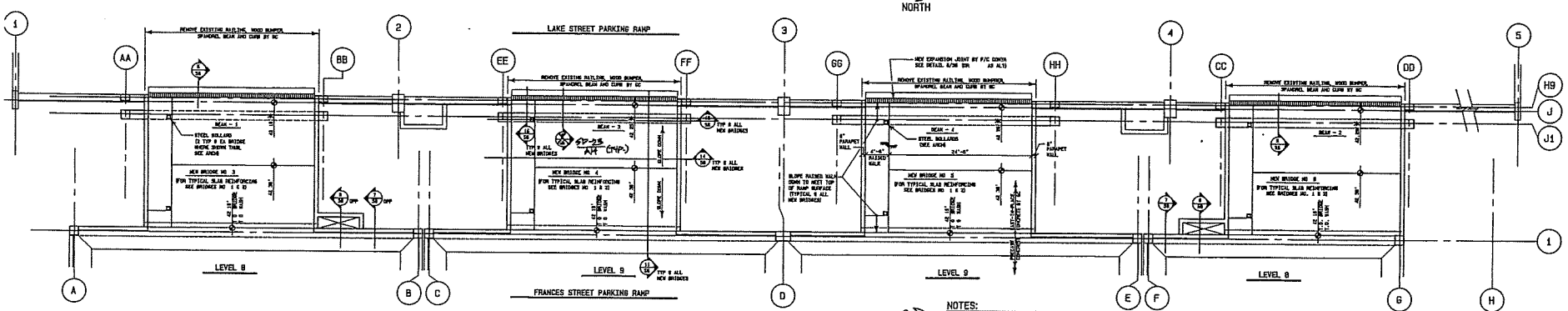
1 S5 FOUNDATION PLAN @ NEW BRIDGES
1/8" = 1'-0"

NORTH



2 S5 BRIDGE FRAMING PLAN @ LEVELS 6 & 7
1/8" = 1'-0"

NORTH



3 S5 BRIDGE FRAMING PLAN @ LEVELS 8 & 9
1/8" = 1'-0"

NORTH

NOTES:

* – SEE NOTE ON SHEET S8

ALL CAST-IN-PLACE CONCRETE MASONRY CONSTRUCTION BY GENERAL CONTRACTOR UNLESS NOTED OTHERWISE

Mortinsons / Zeck / Meyer
Planning Architecture Engineering
653 West Washington Avenue
Madison Wisconsin 53703

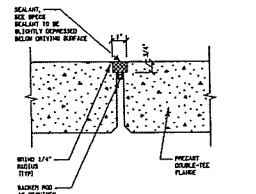
Project Number 8610
Date 11.3.88
Drawing Number

ARNOLD AND O'SHERIDAN, INC.
CONSULTING ENGINEERS
122 STATE STREET
MADISON, WISCONSIN 53703
(608) 251-4843

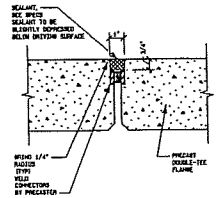
PHASE 2 ADDITION
FRANCES STREET PARKING RAMP
CITY OF MADISON PARKING UTILITY

AS BUILT S5

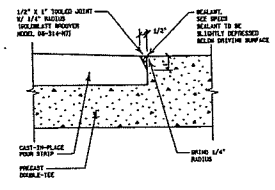
SP 5400604, STATE STREET CAMPUS GARAGE MIXED-USE PROJECT, CONTRACT NO. 9361, Reference-5 Neighboring Building Historical Documents



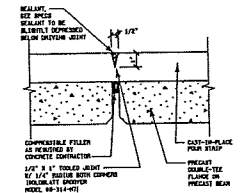
1 S6 JOINT DETAIL BETWEEN DBL TEES
3" = 1'-0"
BETWEEN WELD CONNECTIONS



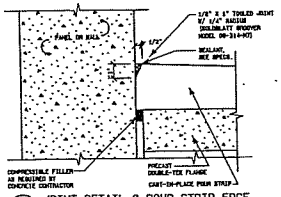
2 S6 JOINT DETAIL BETWEEN DBL TEES
3" = 1'-0"
AT WELD CONNECTIONS



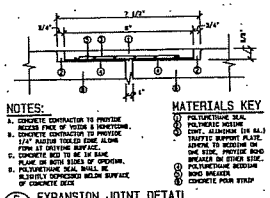
3 S6 JOINT DETAIL @ POUR STRIP EDGE
3" = 1'-0"



4 S6 POUR STRIP JOINT DETAIL
3" = 1'-0"
AT FLANGES



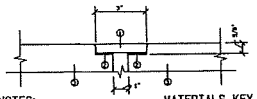
5 S6 JOINT DETAIL @ POUR STRIP EDGE
3" = 1'-0"



NOTES:
A. CONCRETE CONTRACTOR TO PROVIDE RECESS FACE OF VOIDS & HOMECOMB.
B. CONCRETE CONTRACTOR TO PROVIDE 1/4" RADIUS TOOLED EDGE ALONG FORM AT EXISTING SURFACE.
C. CONCRETE BOD TO BE 3/4 BAKE BACKER ON BOTH SIDES OF OPENING.
D. POLYURETHANE SEAL SHALL BE SLIGHTLY DEPRESSED BELOW SURFACE OF CONCRETE DECK

MATERIALS KEY
① POLYURETHANE SEAL
POLYMERIC HOUSING
② EXPT. ALUMINUM (SEE DET.) TRAFFIC SUPPORT PLATE. CENTER TO SECURE ONE SIDE, PROVIDE ROOM FOR MOVEMENT ON OTHER SIDE.
③ POLYURETHANE BOND BREAKER. CONCRETE POUR STRIP

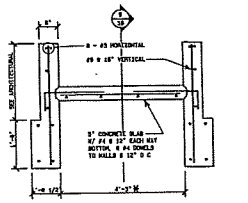
6 S6 EXPANSION JOINT DETAIL
N.T.S.



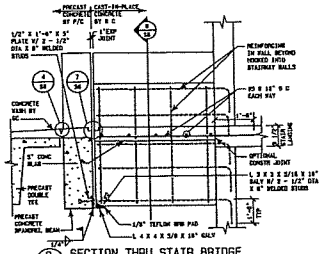
NOTES:
A. CONCRETE CONTRACTOR TO PROVIDE RECESS FACE OF VOIDS & HOMECOMB.
B. CONCRETE CONTRACTOR TO PROVIDE 1/4" RADIUS TOOLED EDGE ALONG FORM AT EXISTING SURFACE.
C. CONCRETE BOD TO BE 3/4 BAKE BACKER ON BOTH SIDES OF OPENING.
D. POLYURETHANE SEAL SHALL BE SLIGHTLY DEPRESSED BELOW SURFACE OF CONCRETE DECK.

MATERIALS KEY
① POLYURETHANE SEAL
POLYMERIC HOUSING
② POLYURETHANE BOND BREAKER
③ CONCRETE DECK

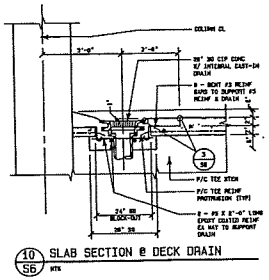
7 S6 EXPANSION JOINT DETAIL
N.T.S.



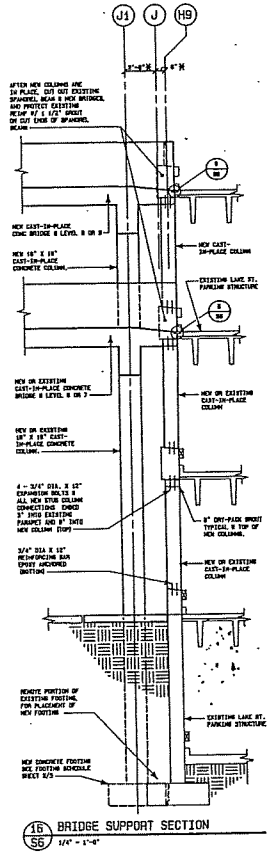
8 S6 SECTION THRU STAIR BRIDGE
1/2" = 1'-0"



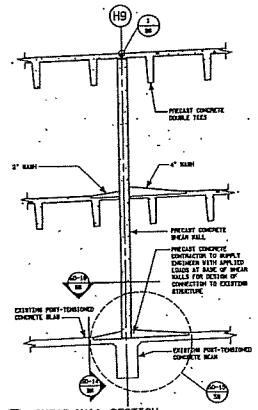
9 S6 SECTION THRU STAIR BRIDGE
1/2" = 1'-0"



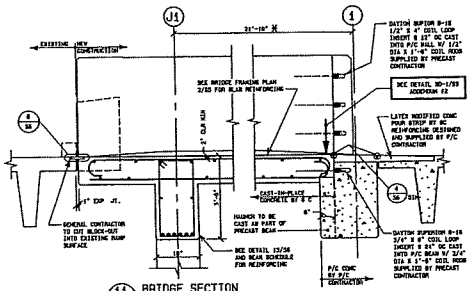
10 S6 SLAB SECTION @ DECK DRAIN
NTS



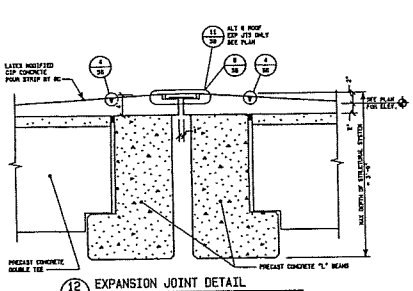
16 S6 BRIDGE SUPPORT SECTION
1/4" = 1'-0"



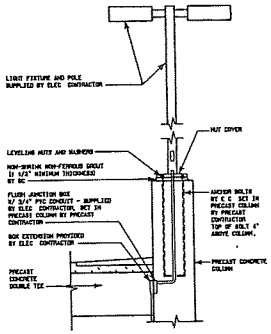
17 S6 SHEAR WALL SECTION
1/4" = 1'-0"



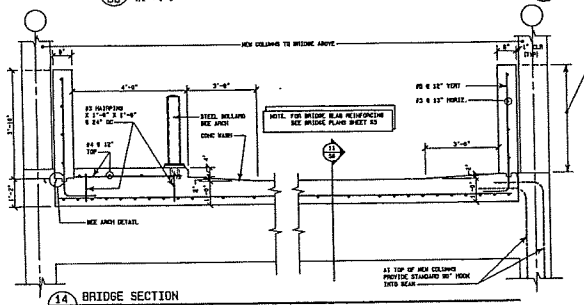
11 S6 BRIDGE SECTION
1/2" = 1'-0"



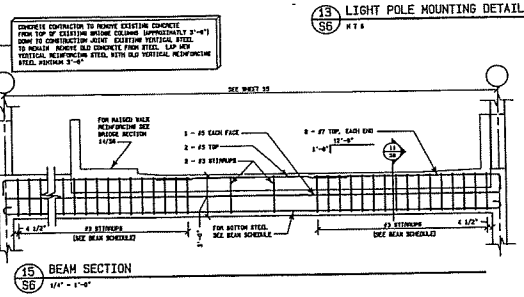
12 S6 EXPANSION JOINT DETAIL
1" = 1'-0"



13 S6 LIGHT POLE MOUNTING DETAIL
NTS



14 S6 BRIDGE SECTION
1/2" = 1'-0"



15 S6 BEAM SECTION
1/4" = 1'-0"

BEAM SCHEDULE
SEE DETAILS 11/S4 & 13/S6 FOR BEAM STIRR & ADDITIONAL REINFORCING

BEAM DESIGNATION	BEAM - 1	BEAM - 2	BEAM - 3	BEAM - 4
BOTTOM STEEL (EACH END)	6 - #6	6 - #6	6 - #6	8 - #8
#3 STIRRUPS @ EACH END	44 @ 1 1/2" O/C	13 @ 1 1/2" O/C	13 @ 1 1/2" O/C	15 @ 1" O/C

COLUMN SCHEDULE

COLUMN DESIGNATION		A2-A3, B2-B3 C2-C3, D2-D3	E2-E3, F2-F3 G2-G3, H2-H3
UPPER BRIDGE TO LOWER BRIDGE	SIZE REINFORCING TIES	16" X 16" 8 - #8 #3 @ 18"	16" X 16" 8 - #8 #3 @ 18"
LOWER BRIDGE TO FOOTING	SIZE REINFORCING TIES	EXISTING	16" X 16" 8 - #8 #3 @ 18"
	FOOTING DOWELS	EXISTING	4'-0" X 4'-0" X 1'-0" MAT

COLUMN SCHEDULE

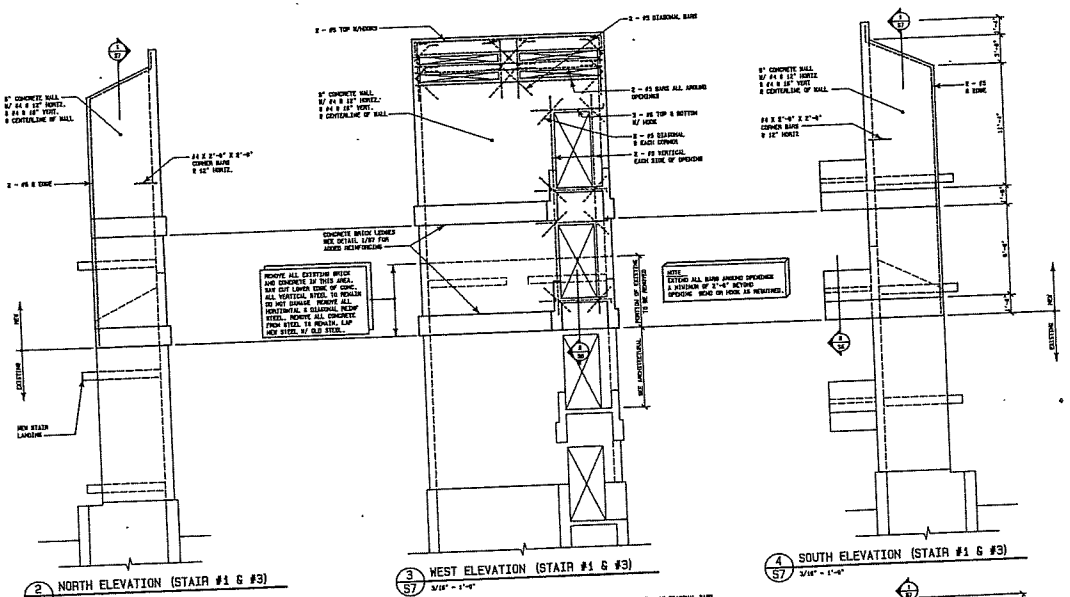
COLUMN DESIGNATION		A2-A3, B2-B3 C2-C3, D2-D3	E2-E3, F2-F3 G2-G3, H2-H3
THIRD LEVEL TO FOURTH LEVEL	SIZE REINFORCING TIES	EXISTING	12" X 12" 4 - #7 #3 @ 12"
SECOND LEVEL TO THIRD LEVEL	SIZE REINFORCING TIES	EXISTING	12" X 12" 4 - #7 #3 @ 12"
FOUNDATION WALL TO SECOND LEVEL	SIZE REINFORCING TIES	12" X 12" 4 - #7 #3 @ 12"	12" X 12" 4 - #7 #3 @ 12"

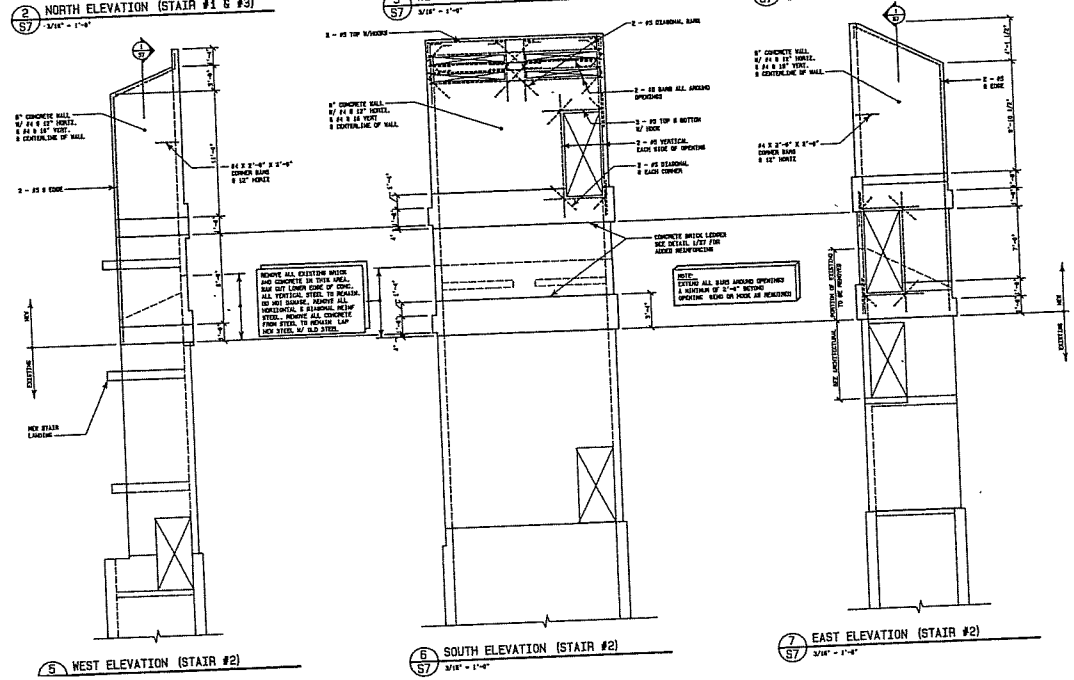
Mad Dog Architecture Engineering
Madison / Zack / Meyer
Planning
105 West Washington Avenue
Madison Wisconsin 53703
ARNOLD AND O'SHERIDAN, INC.
CONSULTING ENGINEERS
MADISON, WISCONSIN 53711
608 271-9811
JON MEYER

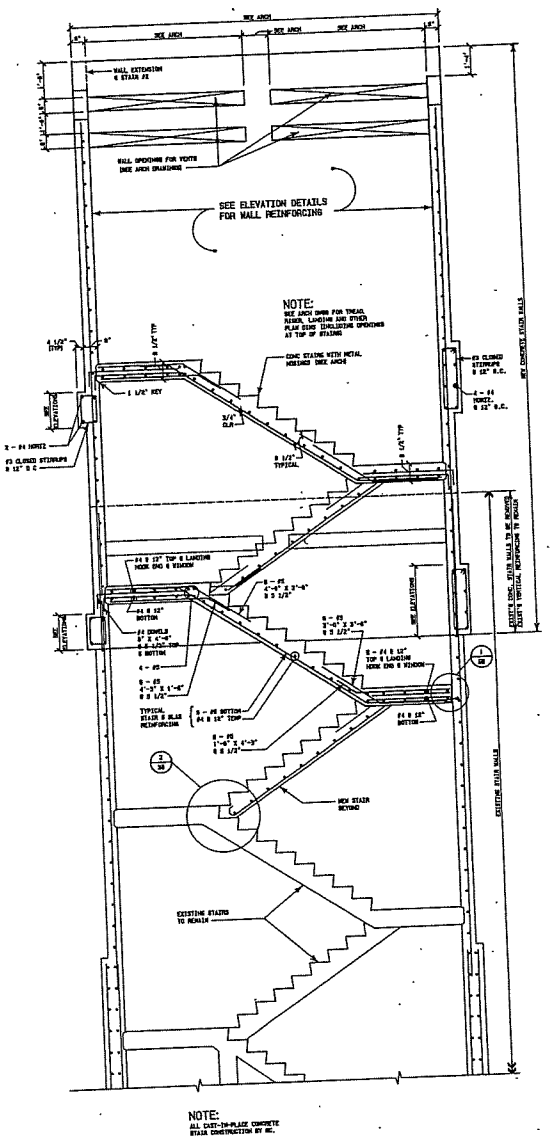
Project Number 8610
Date 11.3.86
Drawing Number

PHASE 2 ADDITION
FRANCES STREET PARKING RAMP
CITY OF MADISON PARKING UTILITY

AS BUILT S6







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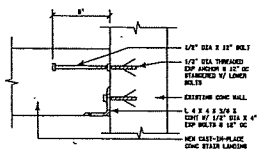
Mathisons/Zack/Meyer
Planning Architecture Engineering
455 West Washington Avenue
Madison Wisconsin 53703

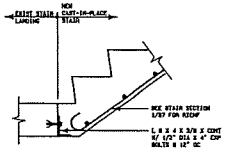
ARNOLD AND O'SHERIDAN, INC.
CONSULTING ENGINEERS
Madison, Wisconsin

PHASE 2 ADDITION
FRANCES STREET PARKING RAMP

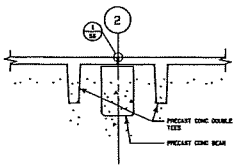
AS BUILTS



1 STAIR LANDING SUPPORT DETAIL
1 1/2" = 1'-0"

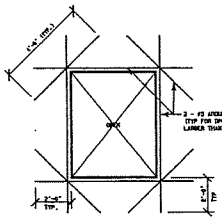


2 STAIR SUPPORT DETAIL
3/4" = 1'-0"

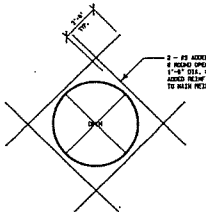


3 SECTION THRU PRECAST BEAM
3/8" = 1'-0"

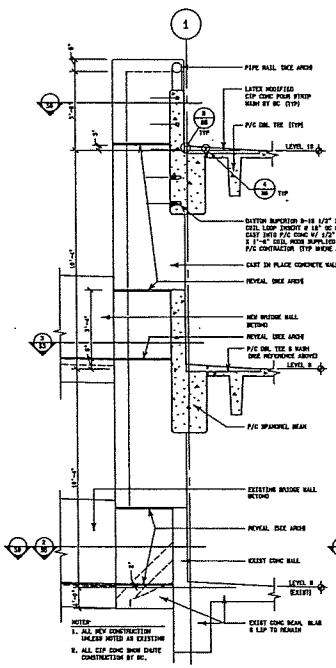
4 DELETED ADDENDUM #2



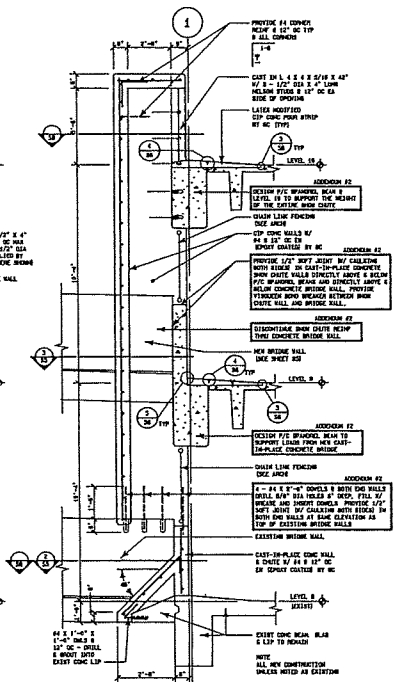
5 ADDED REINFORCING @ RECTANGULAR OPENINGS



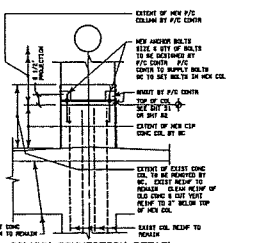
6 ADDED REINF. @ ROUND OPENINGS



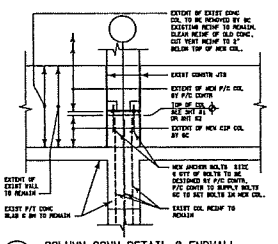
7 ELEVATION OF SNOW-CHUTE WALL
3/8" = 1'-0"



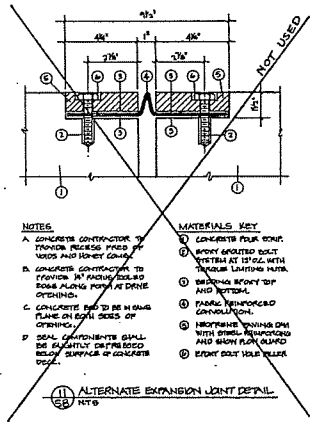
8 SECTION THRU SNOW-CHUTE



9 COLUMN CONNECTION DETAIL



10 COLUMN CONN DETAIL @ ENDWALL
3/8" = 1'-0"

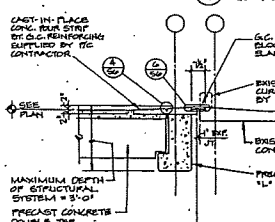


ABBREVIATION LEGEND

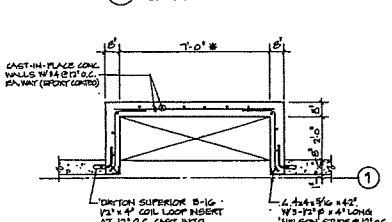
ALT	ALTERNATE	HORIZ	HORIZONTAL
ASB	ASPHESTOS	HT	HEIGHT
ALUM	ALUMINUM	HVAC	HEATING, VENTILATING & AIR CONDITIONING
ARCH	ARCHITECT / ARCHITECTURAL	INSUL	INSULATION
		INT	INTERIOR
BLDG	BUILDING		
BLK	BLOCK WALL	JT	JOINT
BM	BEAM		
BOT	BOTTOM	LLH	LONG LEG HORIZ
BRG	BEARING	LLV	LONG LEG VERT
CI	CAST IRON	MAS	MASONRY
CIP	CAST-IN-PLACE	MBM	MASONRY BEARING WALL
CJ	CONSTRUCTION JOINT	MIN	MINIMUM
CL	CENTER LINE	MTL	METAL
CLJ	CONTROL JOINT		
CLR	CLEAR DISTANCE	NIC	NOT IN CONTRACT
CMU	CONC MASONRY UNIT	NOM	NOMINAL
COL	COLUMN	NTS	NOT TO SCALE
CONC	CONCRETE	N-S	NORTH-SOUTH DIRECTION
CONT	CONTINUOUS		
CONSTR	CONSTRUCTION	OC	ON CENTER
		OH	OPEN HOLE
D	DEPTH	OPP	OPPOSITE
DIA	DIAMETER		
DIM	DIMENSION		
DN	DOWN	PERIM	PERIMETER
DTL	DETAIL	PC	PLUMBING CONTRACTOR
DWL	DOWEL	P/C	PRECAST / PRESTRESSED
		PL	PLATE
EA	EACH	P/T	POST TENSIONED
EC	ELECTRICAL CONTR		
EJ	EXPANSION JOINT	QTY	QUANTITY
EL	ELEVATION		
ELEV	ELEVATOR	R	RADIUS
EMB	EMBEDDED	REINF	REINFORCING
EQ	EQUAL	REQD	REQUIRED
ES	EDGE		
E-W	EAST-WEST DIRECTION	SCHED	SCHEDULE
EXIST	EXISTING	SIM	SIMILAR
EXP	EXPANSION	SHT	SHEET
EXT	EXTERIOR	SPA	SPACE / SPACES
		SPEC	SPECIFICATION
FD	FLOOR DRAIN	SS	STAINLESS STEEL
FDN	FOUNDATION	STL	STEEL
FF	FINISH FLOOR		
FTG	FOOTING	THK	THICK / THICKNESS
FUT	FUTURE	TYP	TYPICAL
GA	GAUGE	UNO	UNLESS NOTED OTHERWISE
GC	GENERAL CONTRACTOR	VERT	VERTICAL
GL	GRID LINE / COL LINE		
		W	WIDTH
HC	HVAC CONTRACTOR	W/	WITH
HK	HOOK	WD	WOOD
		WWF	WELDED WIRE FABRIC

MILD STEEL REINFORCING PROTECTION

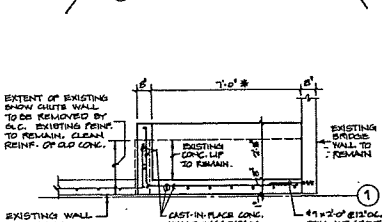
FOOTINGS - BOTTOM & SIDES	3"
FOOTINGS - TOP	1"
PERIMETER WALLS - #5 & SMALLER	1 1/2"
PERIMETER WALLS - #6 & LARGER	2"
BEAMS, PIERS & COLUMNS OVER TIES & STIRRUPS	1 1/2"
BEAMS - BOTTOM & SIDES	2"
BEAMS - TOP:	
FOUR STRIPS & STAIRWAYS	1"
BRIDGES	2"



12 EXPANSION JOINT DETAIL
3/8" = 1'-0"



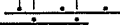
13 PLAN AT SNOW CHUTE - LEVEL 10
3/8" = 1'-0"



14 PLAN AT SNOW CHUTE - LEVEL 6
3/8" = 1'-0"

REINFORCING NOTES

1. REINFORCING SHALL BE DETAILED IN ACCORDANCE WITH ACI 318-74.
2. ALL LAPS SHALL BE CLASS "C" UNLESS OTHERWISE NOTED ON THE CONTRACT DRAWINGS OR UNLESS THE DETAILER TAKES SPECIAL CARE TO PROVIDE STAGGERED LAPS. USE TOP BAR LAP LENGTHS FOR ALL HORIZONTAL WALL BARS AND FOR TOP BARS IN SLABS AND BEAMS OVER 24" DEEP.
3. LAP LENGTH SHALL BE SPECIFICALLY NOTED ON PLACING DRAWINGS WHERE MORE THAN ONE BAR MAKES UP A CONTINUOUS STRAND.
4. CORNER BARS WITH CLASS "C" LAPS SHALL BE PROVIDED AT ALL WALL CORNERS AND INTERSECTIONS PER ACI 318-71 FIGURE 7-6, EXCLUDING TOP CORNER DETAIL.
5. HORIZONTAL BARS, EXCEPT FOR CONTINUOUS STRAND FROM ONE CORNER OR OPENING TO ANOTHER, SHALL BE DETAILED TO SHOW THE DISTANCE FROM AT LEAST ONE END OF THE BAR TO THE NEAREST BUILDING GRID LINE OR WALL.
6. WELDED WIRE FABRIC SHALL BE LAPPED AND/OR ANCHORED TO DEVELOP f_y PER ACI 318-74



DESIGN LIVE LOADS

UPPER LEVEL	80	PSF
TYPICAL LEVEL	80	PSF
STAIRWAYS	100	PSF
RAMP	80	PSF
BUMPER RAILS	10 KIPS (ULTIMATE) FORCE 18" ABOVE FLOOR	

DESIGN STRESSES

CAST-IN-PLACE CONCRETE:		
FOOTINGS	f'_c = 3000	PSI
SUSPENDED SLABS, STAIRS & BEAMS	f'_c = 5000	PSI
CHUTE POUR STRIPS	f'_c = 5000	PSI
SLAB ON GRADE	f'_c = 3000	PSI
WALLS, PIERS & COLUMNS	f'_c = 4000	PSI
OTHER	f'_c = 3000	PSI
REINFORCING STEEL:		
TIES, STIRRUPS & TRIMMING	f_y = 40,000	PSI
OTHER	f_y = 60,000	PSI
STRUCTURAL STEEL:		
TUBE	f_y = 46,000	PSI
OTHER	f_y = 36,000	PSI
WELDING ELECTRODES	E70XX	
NET SOIL BEARING PRESSURE	= 3000	PSF *

* ALLOWABLE SOIL BEARING PRESSURE AT BOTTOM OF MCH FOOTINGS TO BE VERIFIED BY INDEPENDENT SOILS TESTING AGENCY AFTER EXCAVATION

GENERAL NOTES:

1. (A) REPRESENTS LOCATION OF PRECAST CONCRETE SHEAR WALLS PRECAST CONCRETE CONTRACTOR IS RESPONSIBLE TO DESIGN THE QUANTITY, LENGTH, THICKNESS, CONNECTIONS AND REINFORCING FOR ALL REMOVED SHEAR WALLS. ALL REMOVED SHEAR WALLS ARE DESIGNED UNDER THE DIRECT SUPERVISION OF A STRUCTURAL ENGINEER REGISTERED IN THE DESIGN OF PRECAST CONCRETE UNITS AND REGISTERED IN THE STATE OF WISCONSIN. SHEAR WALLS SHALL BE DESIGNED TO WITHSTAND WIND PRESSURES OF 20 PSF. PRECAST CONCRETE ENGINEER SHALL MINIMIZE THE LENGTH OF ALL SHEAR WALLS WHERE POSSIBLE.
2. (L) REPRESENTS LOCATIONS OF LIGHT POLES ON TOP OF PRECAST CONCRETE CEILINGS. SEE DETAIL 23/86 AND ELECTRICAL DRAWINGS. PRECAST CONCRETE SUPPLIED TO DESIGN CEILING FOR ADDED STRESSES DUE TO LIGHT POLES. PRECAST CONTRACTOR TO COORDINATE LOCATION OF PERIMETER LIGHT POLES WITH HANDRAIL CONNECTION DETAIL. SEE SPECIFICATIONS.
3. (C) REPRESENTS APPROXIMATE LOCATION OF PVC ELECTRICAL CONDUITS OR UNDERSIDE OF DOUBLE TEE DECK FOR LIGHT FIXTURES. CONDUITS TO EXTEND FROM GRID LINE "1" TO GRID LINE "8". PRECAST CONCRETE CONTRACTOR TO PROVIDE HOLES THROUGH TEES DIRECTLY BELOW DECK FOR CONDUITS. VERIFY EXACT LOCATION AND SIZE OF HOLES WITH ELECTRICAL CONTRACTOR. TYPICAL OF UNDERSIDE OF ALL PRECAST DECKS.
4. (*) PRECAST CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A CERTIFIED SURVEY SHOWING THE EXACT LOCATION OF ALL EXISTING COLUMNS, WALLS AND STAIRWELLS. THE ELEVATIONS OF THE EXISTING RAMPS AND OTHER EXISTING CONDITIONS WHICH WOULD AFFECT THE FABRICATION AND PLACEMENT OF NEW WORK. THE PRECAST CONTRACTOR SHALL BE REQUIRED TO SUPPLY COPIES OF THIS SURVEY TO THE MCHCRAL CONTRACTOR FOR BID USE. COPIES SHALL BE SUBMITTED TO THE ARCHITECT AND ENGINEER. MCHCRAL CONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND ELEVATIONS, WHICH ARE NOT RELATED TO PRECAST WORK, PRIOR TO CONSTRUCTION OR FABRICATION.
5. (1) PRECAST CONCRETE CONTRACTOR TO HOOK COLUMNS AT 8 TOP FOR LIGHT POLE BASES FROM TOP OF COLUMN DOWN TO TOP OF ROOF SLAB. COLUMNS "1-1" TO "1-5" AND "1-8" TO BE HOOKED 4" TO THE NORTH FACE. COLUMNS "8-1" AND "8-8" TO BE HOOKED 4" TO THE SOUTH FACE. COLUMN "1-8" TO BE HOOKED 4" TO THE EAST & SOUTH FACES COLUMNS "C-1" AND "C-1" TO BE HOOKED 4" TO THE EAST FACE.

ADDENDUM #2

6. LIGHTWEIGHT CONC. WILL NOT BE PERMITTED ANYWHERE ON THIS PROJECT
7. PRECAST CONCRETE CONTRACTOR TO COORDINATE ELECTRICAL JUNCTION BOX AND PVC CONDUIT SUPPLIED BY ELECTRICAL CONTRACTOR INTO PRECAST CONCRETE COLUMNS FOR PERIMETER LIGHT FIXTURES LOCATED 5'-0" LEVEL "A" & "B". LIGHT FIXTURES SHALL BE LOCATED APPROX 2'-6" BELOW TOP OF LEVEL & FLUSH WITH COLUMN. 2'-0" x 2'-0" x 2'-0" & 2'-0" x 2'-0" x 3'-0". PVC CONDUIT SHALL EXTEND FROM JUNCTION BOX AT LIGHT FIXTURE UP THRU COLUMN AND COME OUT OF COLUMN ON INSIDE FACE OF COLUMN APPROX 2'-0" BELOW BOTTOM OF LEVEL OF PRECAST DECK PROVIDE PVC COUPLING @ FACE OF COLUMN. VERIFY EXACT LOCATION AND SIZES W/ ELECTRICAL CONTRACTOR.

Mathisons / Zeck / Meyer
Planning Architecture Engineering
ASS Hall Meeting Rooms
Addition/Remodel 1990

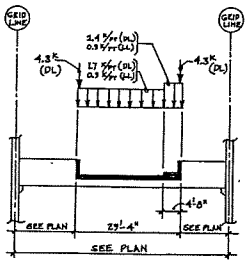
Project Number 8610
Date 11.3.86
Drawing Number

ARNOLD AND O'BRIEN, INC. CONSULTING ENGINEERS
115 STORMS DRIVE, MADISON, WISCONSIN 53711
PHONE 271-9451 JOB NUMBER 8610-1

PHASE 2 ADDITION
FRANCES STREET PARKING RAMP
CITY OF MADISON PARKING UTILITY

AS BUILTS8

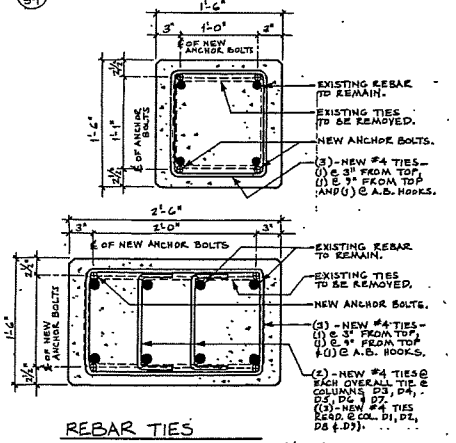
NOTE: LOADS SHOWN ARE REACTIONS FROM CAST-IN-PLACE BRIDGE ON PRECAST CONCRETE SPANDREL BEAM. ALL LOADS ARE UNFACTORED.



SECTION THRU BRIDGE AT SPANDREL BEAM

REVISED BRIDGE LOADING DIAGRAM

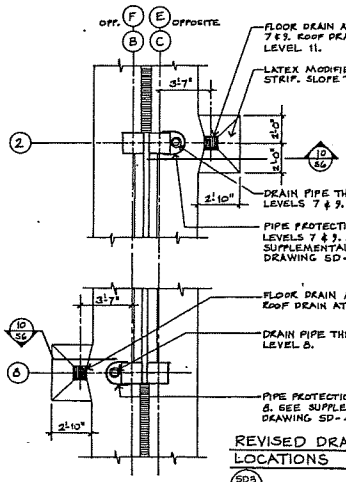
SD1 S9



REBAR TIES IN STUB COLUMNS 1½"=1'0"

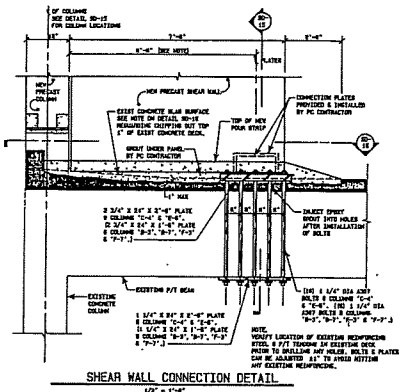
SD1B S9

REFERENCE SHEETS S2, S3 & MODIFY THE DRAIN AND DRAIN PIPE LOCATIONS AS SHOWN.



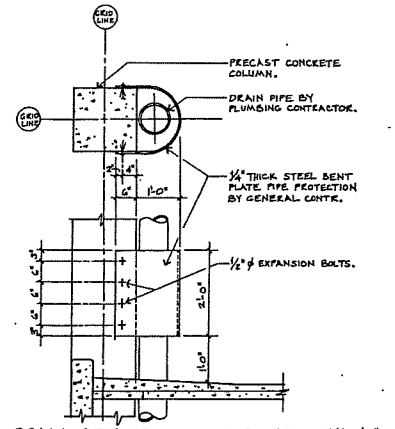
REVISED DRAIN LOCATIONS 1/4"=1'0"

SD3 S9



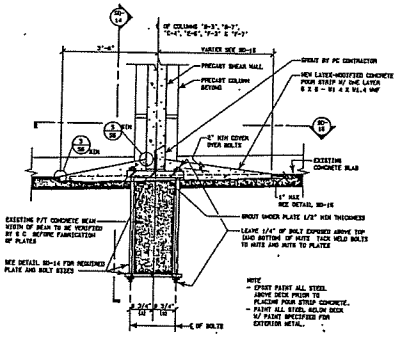
SHEAR WALL CONNECTION DETAIL

SD4 S9



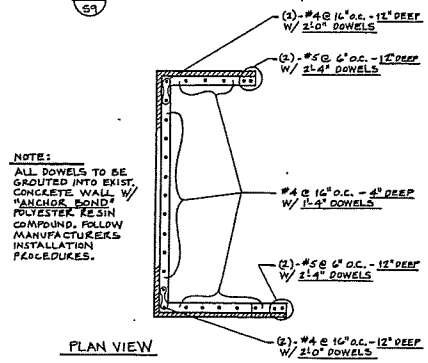
DRAIN PIPE PROTECTION DETAIL 3/4"=1'0"

SD4 S9



SHEAR WALL CONNECTION DETAIL

SD5 S9

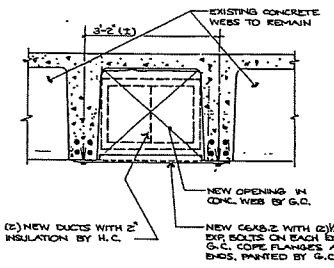


NOTE:
ALL DOWELS TO BE GROUTED INTO EXIST. CONCRETE WALL W/ "ANCHOR BOND" POLYESTER RESIN COMPOUND. FOLLOW MANUFACTURERS INSTALLATION PROCEDURES.

PLAN VIEW

NEW REBAR DOWELS @ CUT OFF STAIR WALLS 1/4"=1'0"

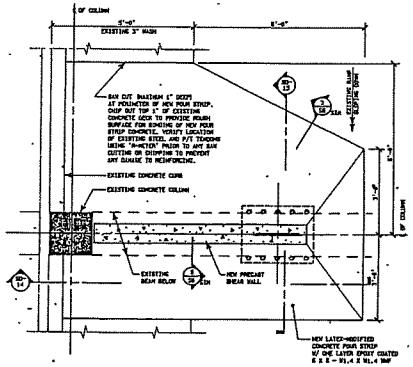
SD1B S9



SECTION THROUGH CONCRETE JOISTS AT REMOVED CONCRETE WEB 3/4"=1'0"

SD1C S9

LAKE ST. RAMP ATTENDANT'S BOOTH - REVISIONS



SHEAR WALL CONNECTION PLAN

SD1C S9

PHASE 2 ADDITION
FRANCES STREET PARKING RAMP
CITY OF MADISON PARKING UTILITY

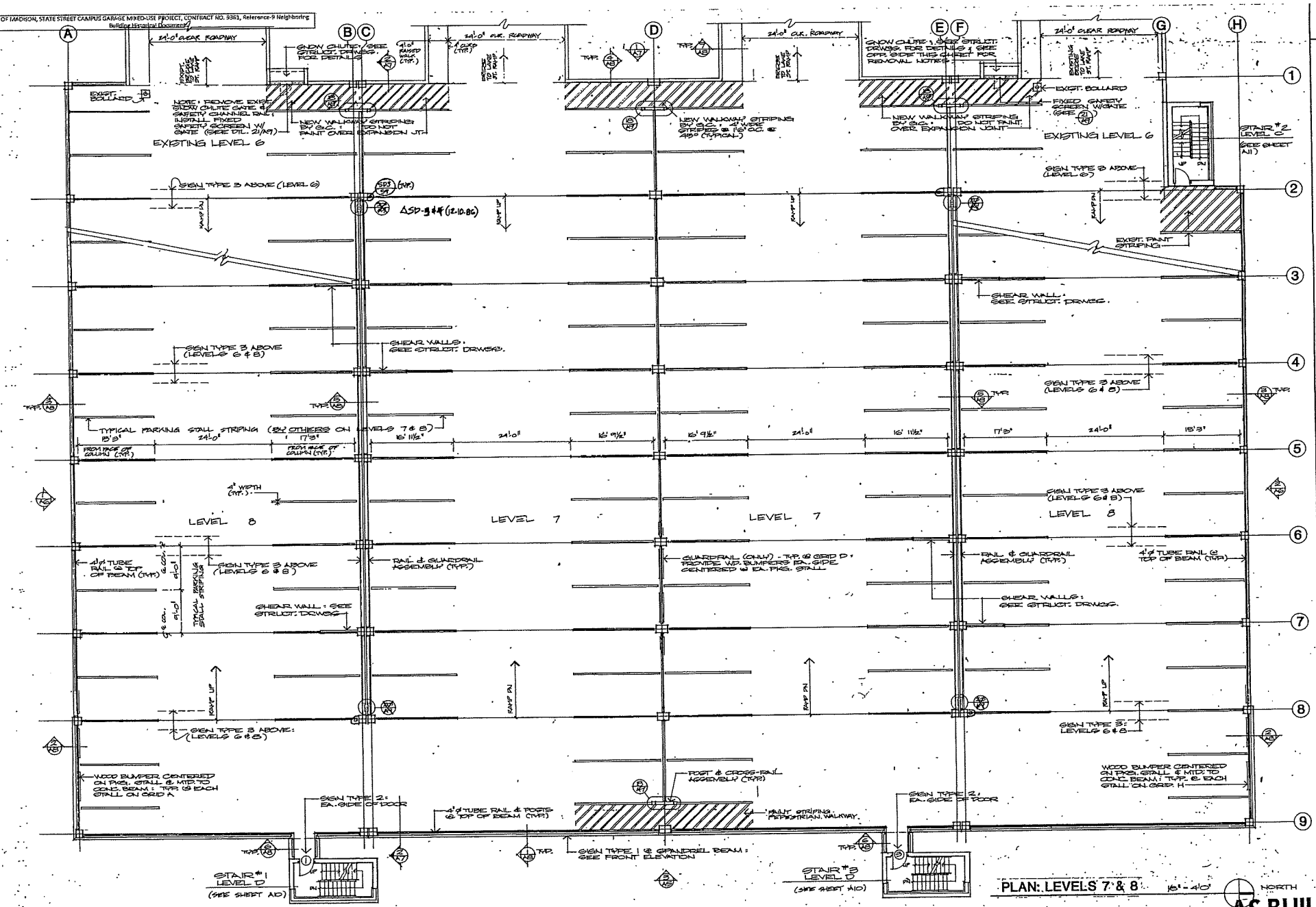
Mortensen / Zeck / Meyer
Planning Architecture Engineering
625 West Washington Avenue
Madison, Wisconsin 53703

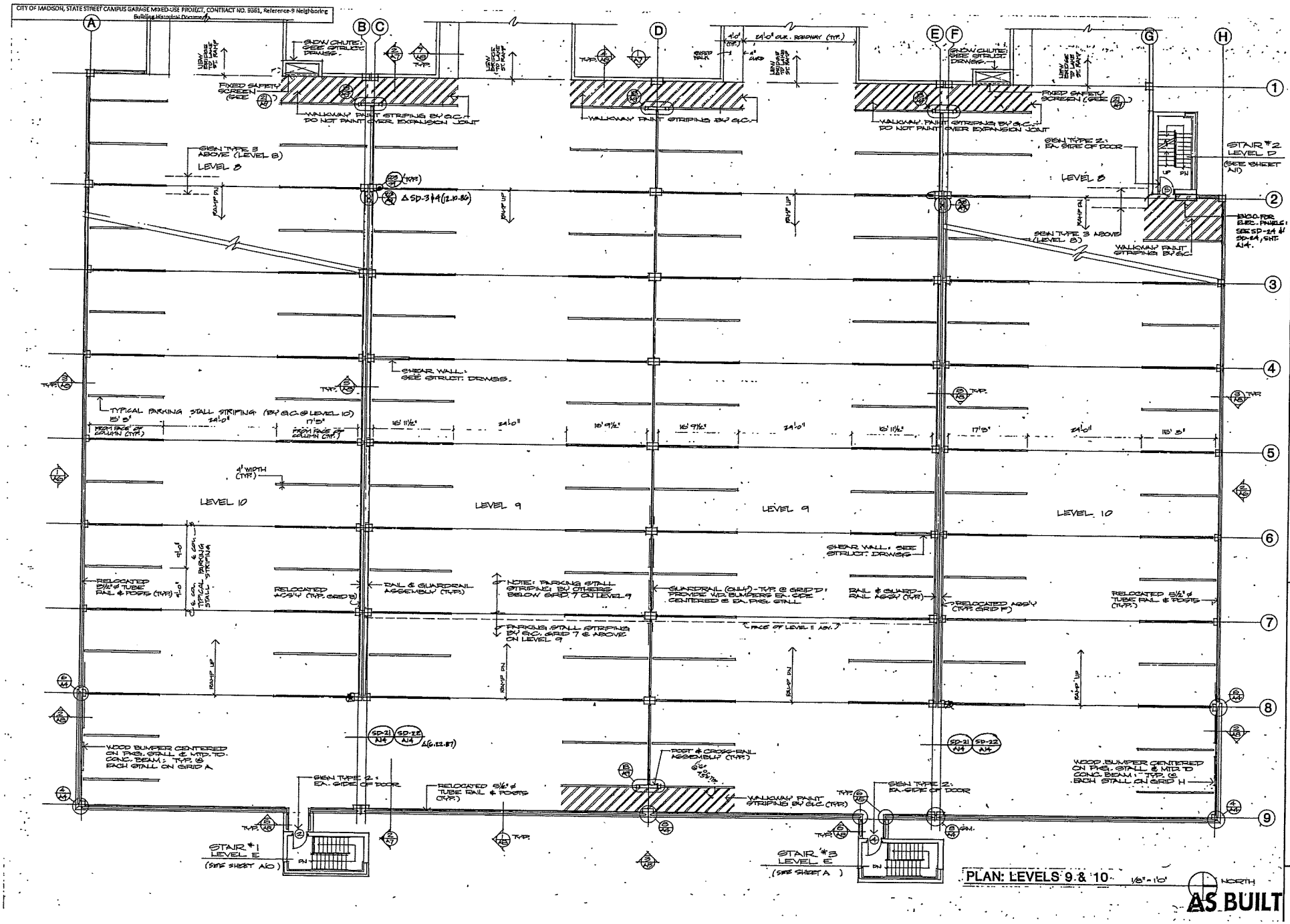
Project Number 8810
Date 11.3.08
Drawing Number

ARNOLD & O'SHERIDAN, INC.
CONSULTING ENGINEERS
MADISON, WISCONSIN
86.05-S

AS BUILT

S9


EXISTING LEVEL 6
LEVEL 8
LEVEL 7
LEVEL 7
LEVEL 8
24'-0" CLR. ROADWAY
SNOW CHUTE - SEE STRUCT. DRWGS. FOR DETAILS
NOTE: REMOVE EXIST. SNOW CHUTE, GATE & SAFETY CHANNEL RAIL; INSTALL FIXED SAFETY SCREEN W/ GATE (SEE DTL. 2/A9)
NEW WALKWAY STRIPING 24" O.C. - DO NOT PAINT OVER EXPANSION JT.
EXIST. BOLLARD
FIXED SAFETY SCREEN W/GATE (SEE DTL. 2/A9)
STAIR #2 LEVEL D (SEE SHEET A11)
SIGN TYPE 3 ABOVE (LEVEL 6)
SIGN TYPE 3 ABOVE (LEVELS 6 & 8)
SHEAR WALLS: SEE STRUCT. DRWGS.
EXIST. PAINT STRIPING
TYPICAL PARKING STALL STRIPING (BY OTHERS ON LEVELS 7 & 8)
8'-9" 24'-0" 17'-3" 16'-11½" 24'-0" 16'-9½" 16'-9½" 24'-0" 16'-11½" 17'-3" 24'-0" 15'-3"
FROM FACE OF COLUMN (TYP.)
4" WIDTH (TYP.)
4" TUBE RAIL @ TOP OF BEAM (TYP.)
RAIL & GUARDRAIL ASSEMBLY (TYP.)
GUARDRAIL (ONLY) - TYP. @ GRID D; PROVIDE WOOD BUMPERS BA. SIDE CENTERED @ EA. PKG. STALL
TYPICAL PARKING STALL STRIPING
WOOD BUMPER CENTERED ON PKG. STALL & MTD. TO CONC. BEAM; TYP. @ EACH STALL ON GRID A
WOOD BUMPER CENTERED ON PKG. STALL & MTD. TO CONC. BEAM; TYP. @ EACH STALL ON GRID H
POST & CROSS-RAIL ASSEMBLY (TYP.)
4" TUBE RAIL & POSTS @ TOP OF BEAM (TYP.)
PAINT STRIPING PEDESTRIAN WALKWAY
SIGN TYPE 1 @ GRANDREL BEAM: SEE FRONT ELEVATION
SIGN TYPE 2: EA. SIDE OF DOOR
STAIR #1 LEVEL D (SEE SHEET A10)
STAIR #3 LEVEL D (SEE SHEET A10)
RAMP UP
RAMP DN
TYP.
PLAN: LEVELS 7 & 8
16'-4½"
NORTH
AS BUILT
A1
PHASE 2 ADDITION
FRANCES STREET PARKING RAMP
CITY OF MADISON PARKING UTILITY
Project Number 8610
Date 11.3.86
Martinsons / Zack / Meyer
Planning Architecture Engineering
455 West Washington Avenue
Madison Wisconsin 53703
ARNOLD & O'SHERIDAN, INC.
CONSULTING ENGINEERS



PLAN: LEVELS 9 & 10 1/8"=1'-0"

NORTH

AS BUILT

A2

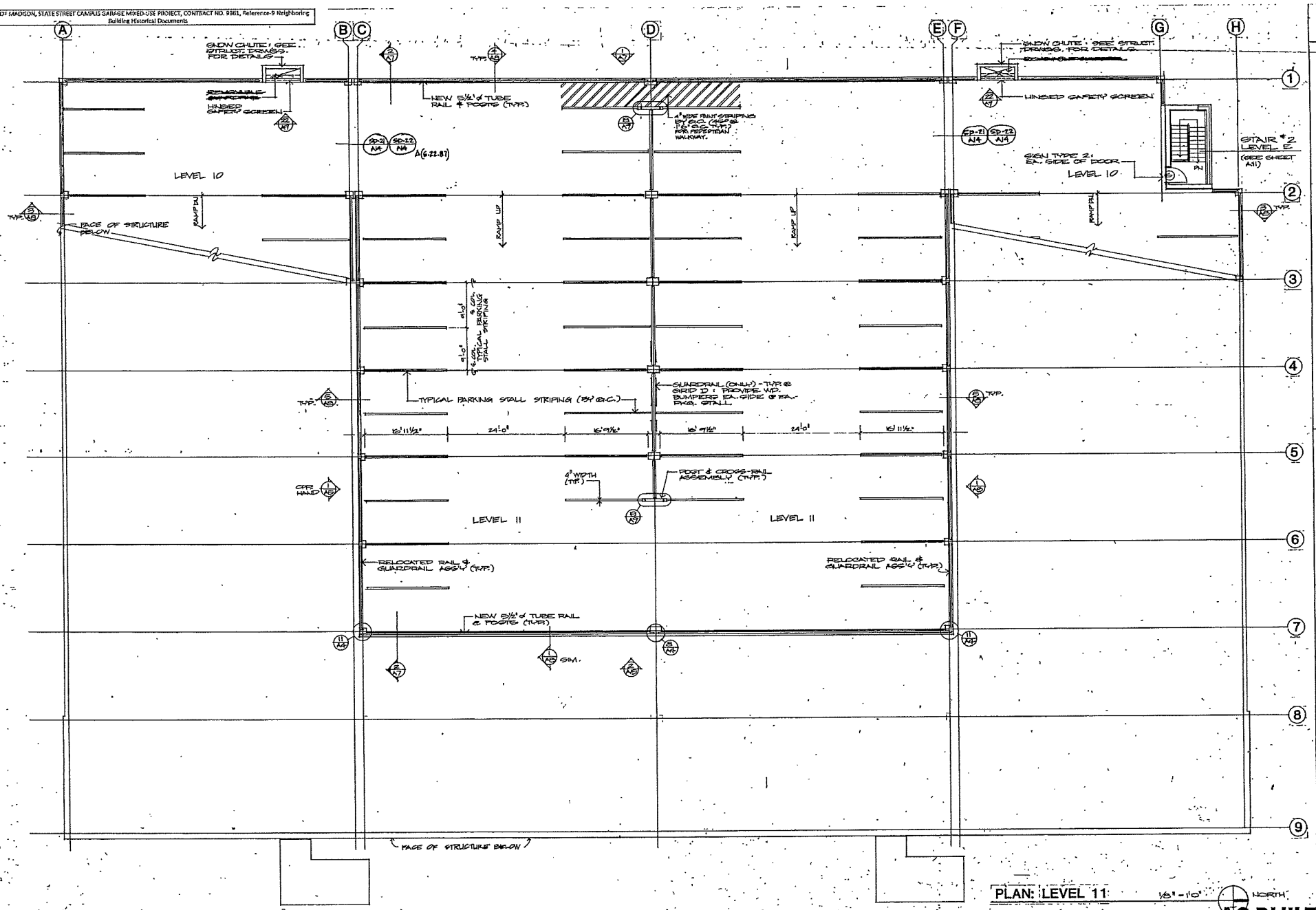
PHASE 2 ADDITION
FRANCES STREET PARKING RAMP
CITY OF MADISON PARKING UTILITY

Project Number 8610
Date 11.3.88

Mortimore / Zeck / Meyer
Planning Architecture Engineering
405 West Washington Avenue
Madison Wisconsin 53703

ARNOLD & O'SHERIDAN, INC.
CONSULTING ENGINEERS

OF MADISON, STATE STREET CAMPUS GARAGE MIXED-USE PROJECT, CONTRACT NO. 9361, Reference-9 Neighboring Building Historical Documents



PLAN: LEVEL 11 1/8" - 1'-0" NORTH

AS BUILT

Project Number 7 8 8 1 0

Date 11.3.88

Martinsons / Zack / Meyer
Perrey Architecture Engineering
625 West Washington Avenue
Madison Wisconsin 53703

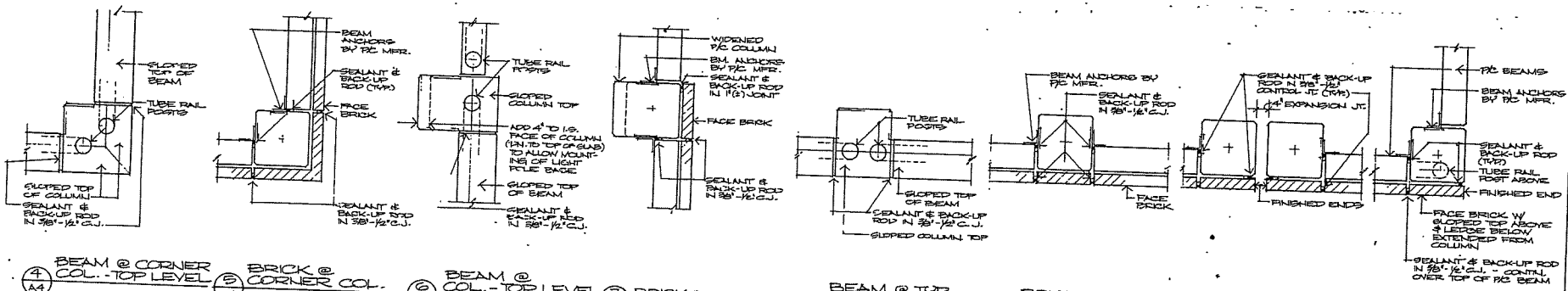
ARNOLD & O'SHERIDAN, INC.
CONSULTING ENGINEERS

PHASE 2 ADDITION
FRANCES STREET PARKING RAMP

CITY OF MADISON PARKING UTILITY

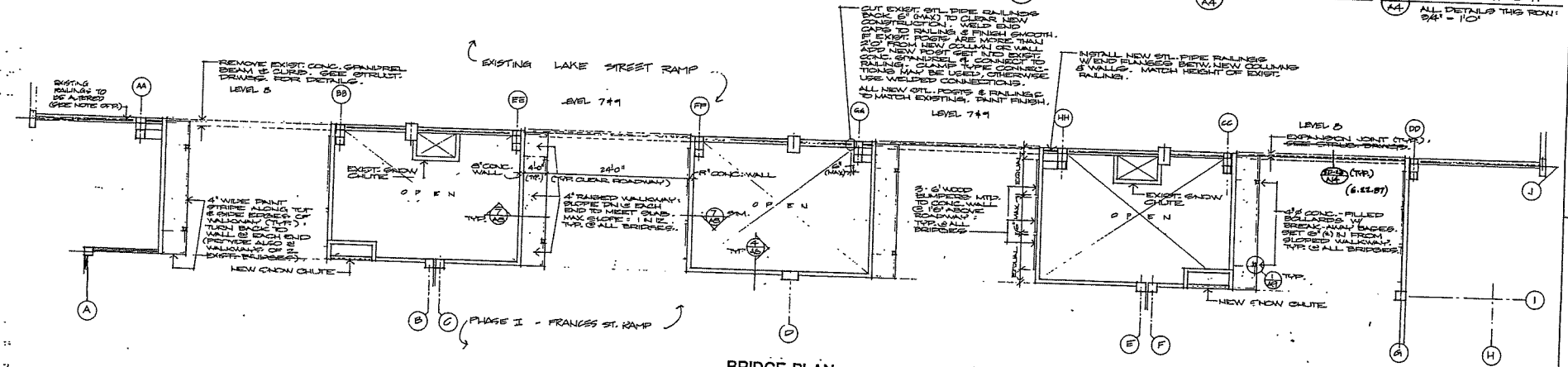
A3

CITY OF MADISON, STATE STREET CAMPUS GARAGE MIXED-USE PROJECT, CONTRACT NO. 9881, Reference-9 Neighboring Building Historical Documents

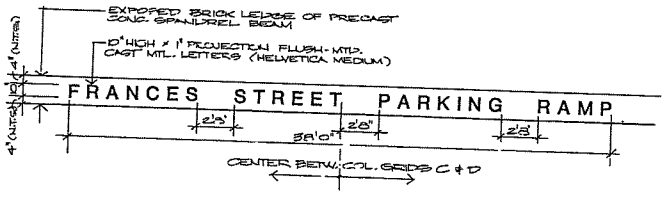


A4 BEAM @ CORNER COL. - TOP LEVEL | B4 BRICK @ CORNER COL. | G4 BEAM @ COL. - TOP LEVEL | 7 A4 BRICK @ COL. | D4 BEAM @ TYP. COL. - TOP LEVEL | 9 A4 BRICK @ TYP. COLUMN | D A4 BRICK @ DBL. COLUMN | 11 A4 BRICK @ CORNER COL. - LEVEL II

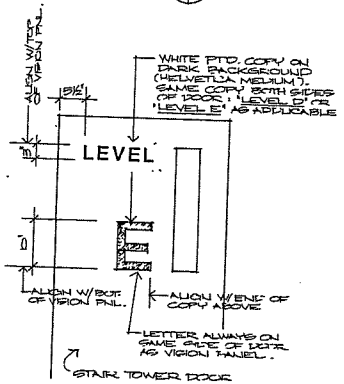
ALL DETAILS THIS ROW: 3/4" = 1'0"



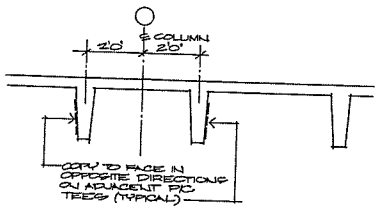
BRIDGE PLAN 16'-10' NORTH

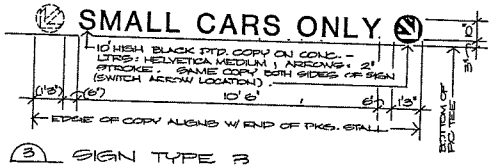


1 A4 SIGN TYPE 1 1/4" = 1'0"



2 A4 SIGN TYPE 2





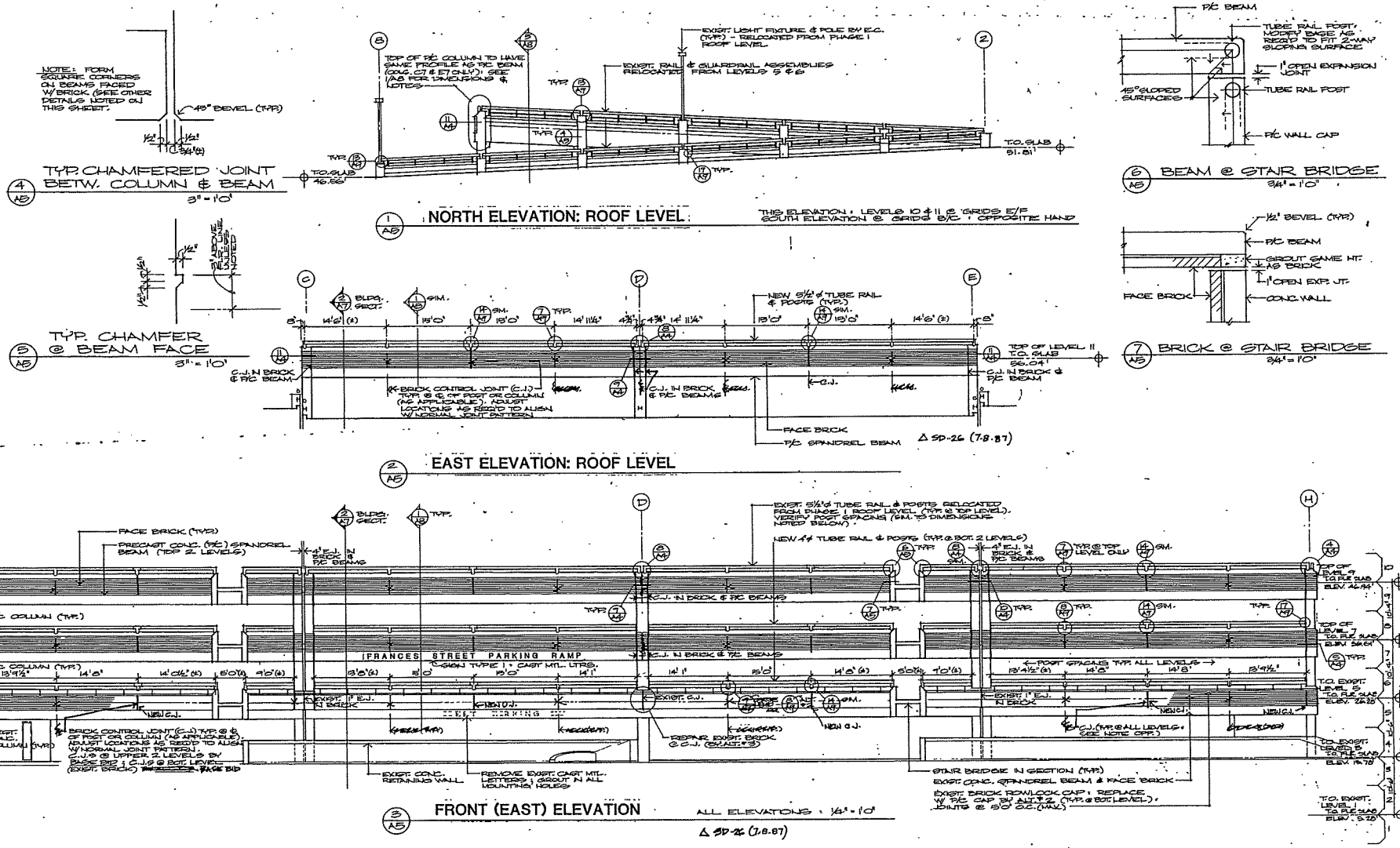
3 SIGN TYPE 3

PHASE 2 ADDITION
FRANCES STREET PARKING RAMP
CITY OF MADISON PARKING UTILITY

Mortinsons / Zack / Meyer
Planning Architecture Engineering
635 West Washington Avenue
Madison Wisconsin 53703

ARNOLD & O'SHERIDAN, INC.
CONSULTING ENGINEERS

Project Number 8810
Date 11.3.88
Drawing Number



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Project Number 8810
Date 1.13.88
Drawing Number

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PHASE 2 ADDITION
FRANCES STREET PARKING RAMP
CITY OF MADISON PARKING UTILITY

AS BUILT

A5

AS BUILT

A6

PHASE 2 ADDITION
FRANCES STREET PARKING RAMP

CITY OF MADISON PARKING UTILITY

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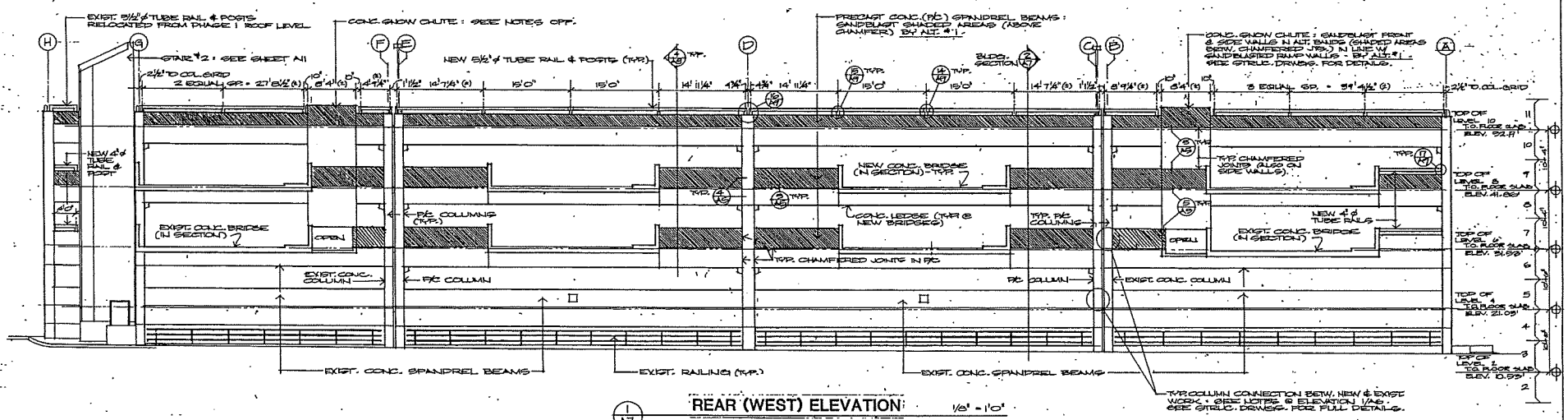
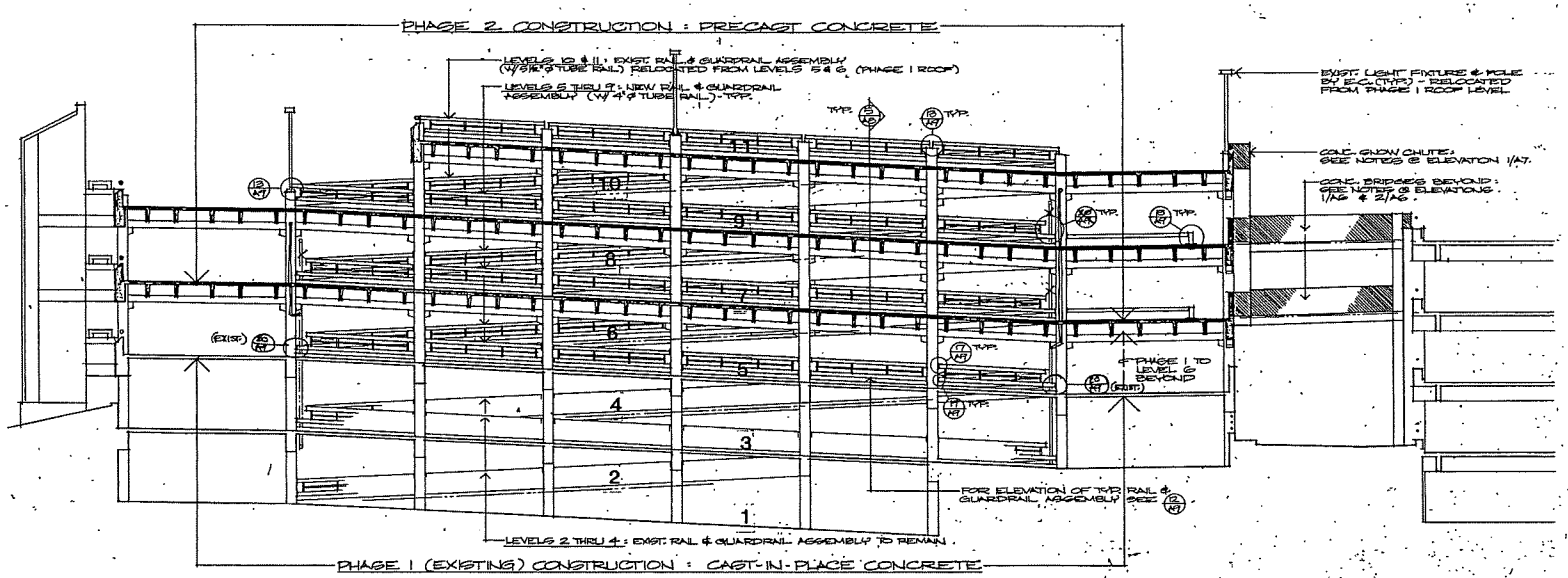
625 West Washington Avenue

Project Number 9810
Date 11.13.98
Drawing Number

CITY OF MADISON, STATE STREET CAMPUS GARAGE MIXED-USE PROJECT, CONTRACT NO. 3581, Reference & Neighboring Building Historical Documents



1/A7 REAR (WEST) ELEVATION 1/8" = 1'-0"



2/A7 BUILDING SECTION 1/8" = 1'-0"

AS BUILT

A7

PHASE 2 ADDITION
FRANCES STREET PARKING RAMP
CITY OF MADISON PARKING UTILITY

Project Number 8810
Date 11.3.86
Drawing Number

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Plans Architects Engineers
455 West Washington Avenue
Madison, Wisconsin 53703

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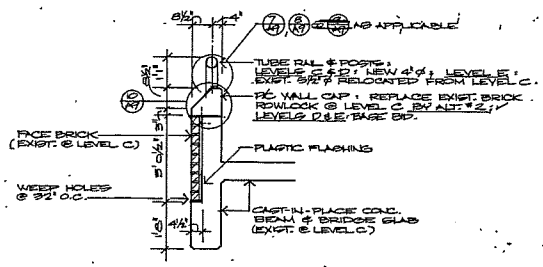
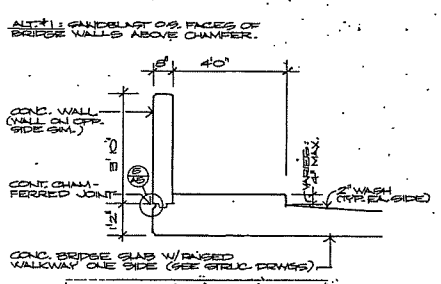


E/A8 WALL AT STAIR BRIDGE

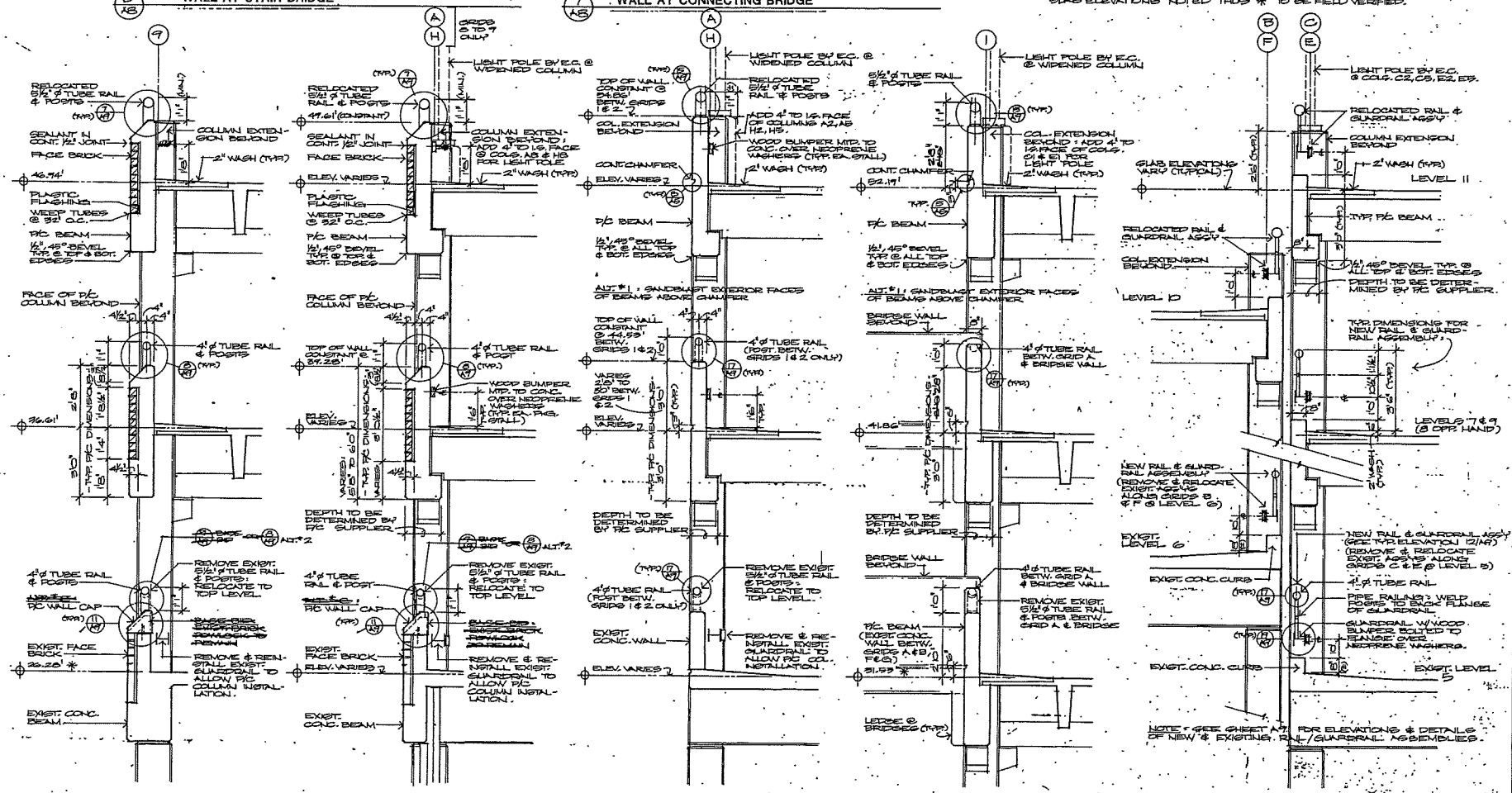


7/A8 WALL AT CONNECTING BRIDGE

WALL SECTIONS

ALL SECTIONS - ½" = 1'-0"

SLAB ELEVATIONS NOTED THUS * TO BE FIELD VERIFIED.



1/A8 FRONT (EAST) WALL

2/A8 SIDE (N/S) WALL - 1ST BAY

3/A8 SIDE (NORTH OR SOUTH) WALL

4/A8 REAR (WEST) WALL

5/A8 SECTION AT DOUBLE COLUMN

AS BUILT

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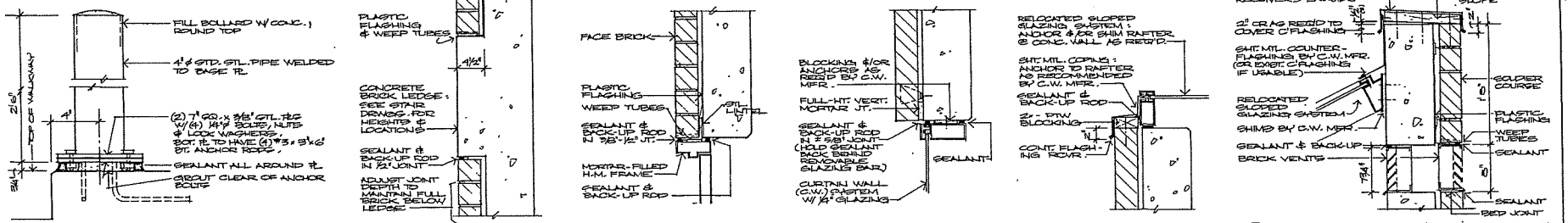
Project Number 9510
Date 11.3.86
Drawing Number

PHASE 2 ADDITION
FRANCES STREET PARKING RAMP
CITY OF MADISON PARKING UTILITY

A8



1 A9 BREAK-AWAY BOLLARD 3"=1'0"

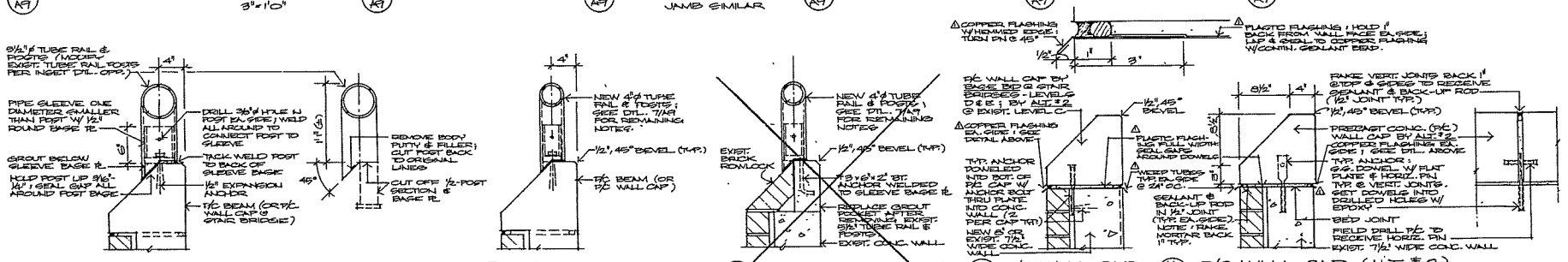
2 A9 BRICK LEDGE

3 A9 TYP. DOOR HEAD JAMB SIMILAR

4 A9 CURT. WALL DTL.

5 A9 WALL COPING

6 A9 WALL COPING / BRICK VENT



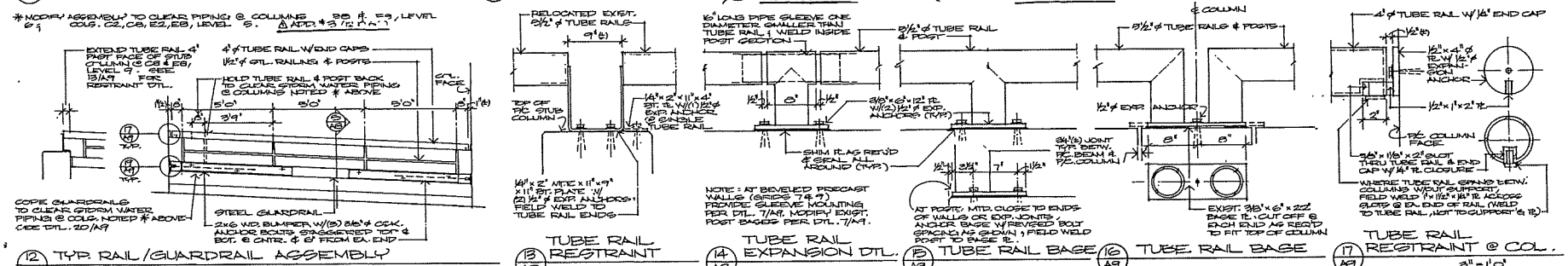
7 A9 5½" ø TUBE RAIL @ BEVELED BEAM

8 A9 4½" ø TUBE RAIL

9 A9 RAIL @ EXIST. BRICK
NOT USED

10 A9 P/C WALL CAP
⚠ CD-28 (7.15.87)

11 A9 P/C WALL CAP ~~ALT #2~~



12 A9 TYP. RAIL/GUARDRAIL ASSEMBLY 3/8"=1'0"

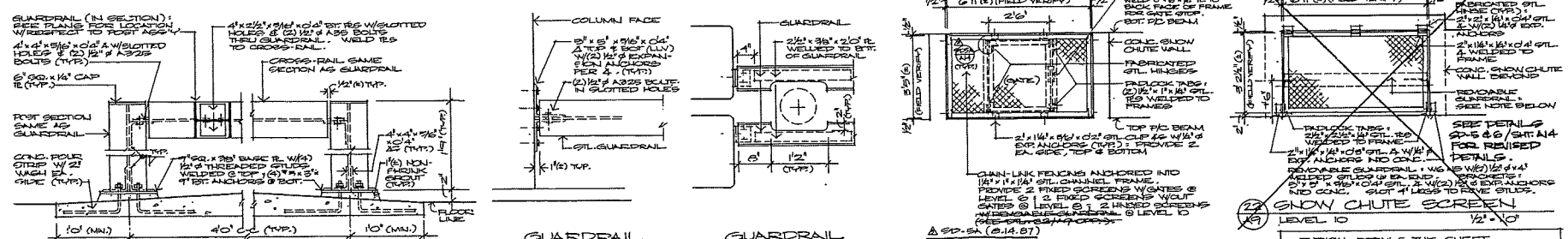
13 A9 TUBE RAIL RESTRAINT

14 A9 TUBE RAIL EXPANSION DTL.

15 A9 TUBE RAIL BASE

16 A9 TUBE RAIL BASE

17 A9 TUBE RAIL RESTRAINT @ COL. 3"=1'0"



18 A9 POST/CROSS-RAIL ASSEMBLY

19 A9 GUARDRAIL CONN. @ COL.

20 A9 GUARDRAIL COPED @ PIPING 1"=1'0"

21 A9 SNOW CHUTE SAFETY SCREEN LEVELS 6 & 8 ½"=1'0"

⚠ SD-5A (8.14.87)

22 A9 SNOW CHUTE SCREEN LEVEL 10 ½"=1'0"

TYPICAL DETAILS THIS SHEET @ ½"=1'0" UNLESS NOTED OTHERWISE

AS BUILT A9

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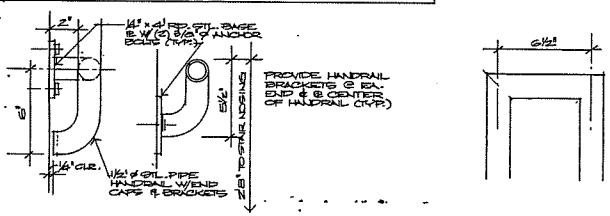
Madison Wisconsin 53703

Project Number 8610
Date 11.3.88
Drawing Number

ARNOLD & O'SHEIDAN, INC. CONSULTING ENGINEERS

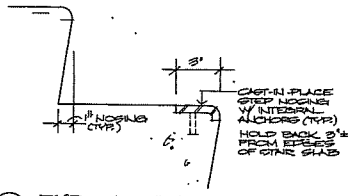
PHASE 2 ADDITION
FRANCES STREET PARKING RAMP
CITY OF MADISON PARKING UTILITY

CITY OF MADISON, STATE STREET CAMPUS GARAGE MIXED-USE PROJECT, CONTRACT NO. 9381, Reference 9 Neighboring Building Historical Documents

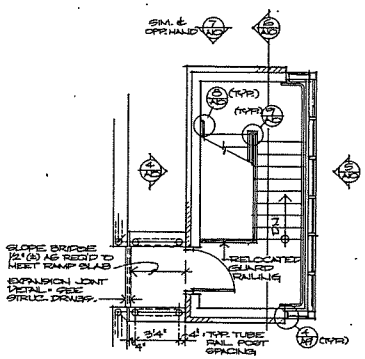


A10 8 HANDRAIL DTL. 3" = 1'-0"

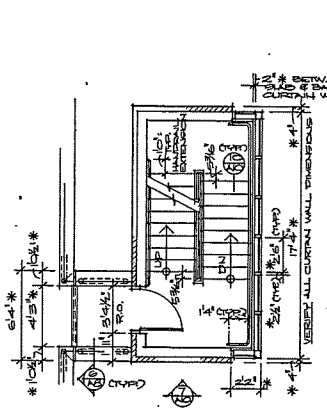
A10 9 RAILING TURN 3" = 1'-0"



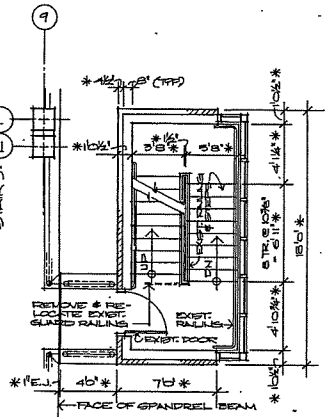
A10 10 TYP. STEP DTL. 3" = 1'-0"



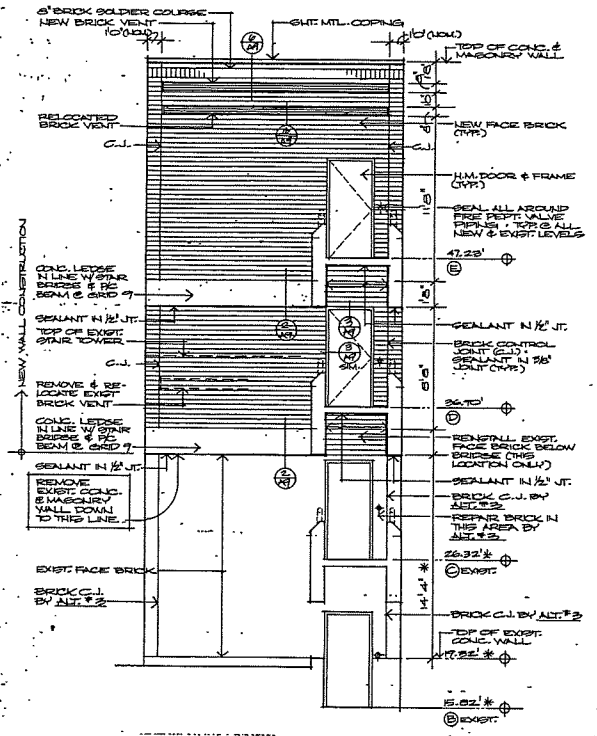
A10 1 LEVEL (E) PLAN



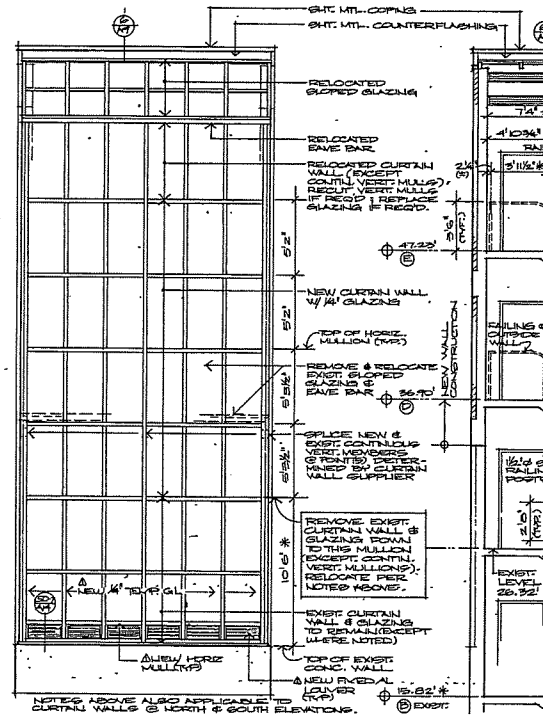
A10 2 LEVEL (D) PLAN



A10 3 LEVEL (C) PLAN 1/4" = 1'-0"

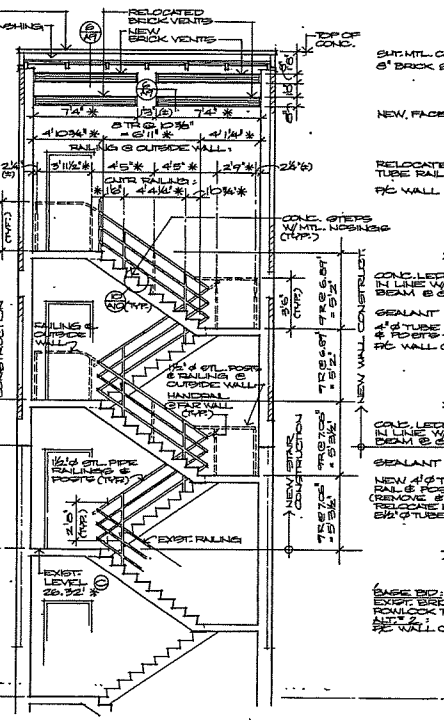


A10 4 WEST ELEVATION (ALL ELEVATIONS 1/8" = 1'-0")

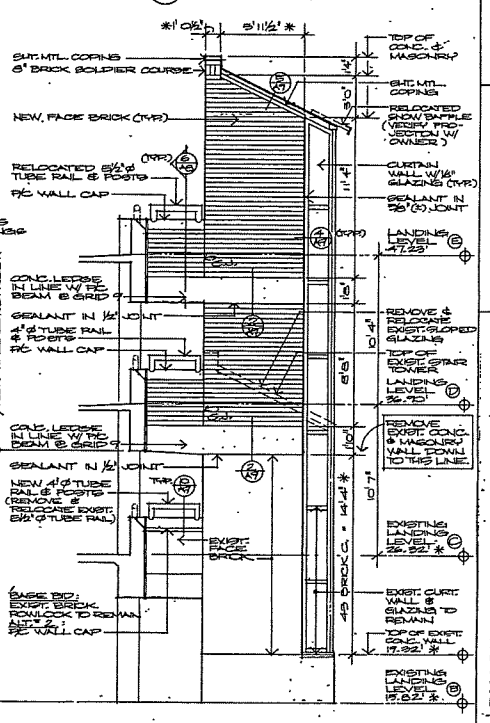


NOTES ABOVE ALSO APPLICABLE TO CURTAIN WALLS @ NORTH & SOUTH ELEVATIONS.

A10 5 EAST ELEVATION – CURTAIN WALL Δ SD-7 (12.10.86)



A10 6 EAST ELEVATION – STAIR SECTION



A10 7 SOUTH ELEVATION NORTH ELEVATION SIMILAR & OPP. HAND

STAIRS 1 & 3

NOTE: G.C. SHALL VERIFY ALL EXISTING DIMENSIONS & ELEVATIONS (THOSE NOTED * ABOVE) PRIOR TO CONSTRUCTION OR FABRICATION.

AS BUILT

Mattinson / Zack / Meyer
Planning Architecture Engineering
205 West Washington Avenue
Madison Wisconsin 53703

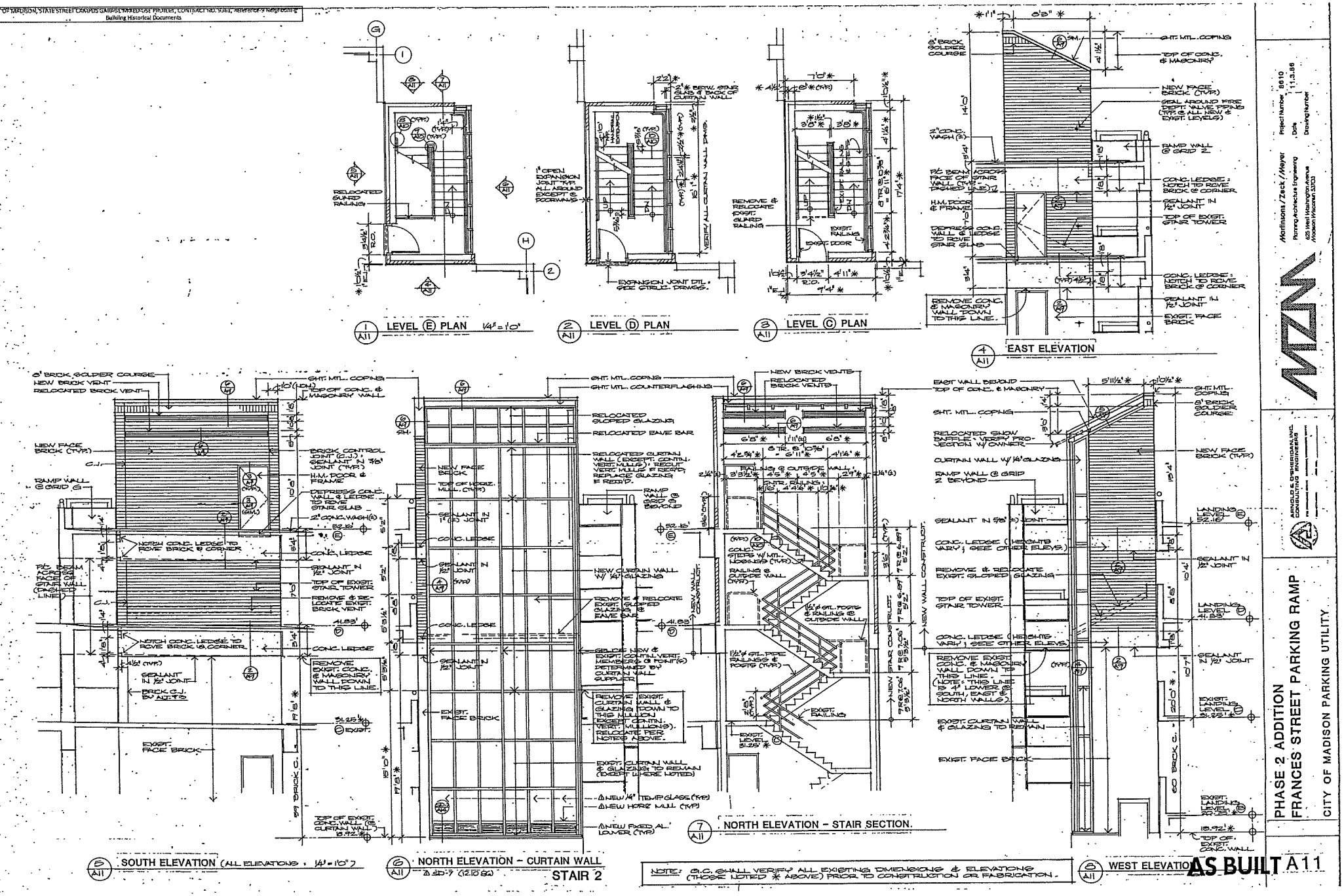
Project Number 8910
Date 11.3.86
Drawing Number

ARNOLD & S/PHERSIAN, INC.
CONSULTING ENGINEERS

PHASE 2 ADDITION
FRANCES STREET PARKING RAMP
CITY OF MADISON PARKING UTILITY

A10

OF MADISON, STATE STREET CAMPUS GARAGE MIXED-USE PROJECT, CONTRACT NO. 9311, Alexander's Negotiating & Building Historical Documents



Mortinsons / Zeck / Meyer
Planning Architecture Engineering
625 West Washington Avenue
Madison Wisconsin 53703

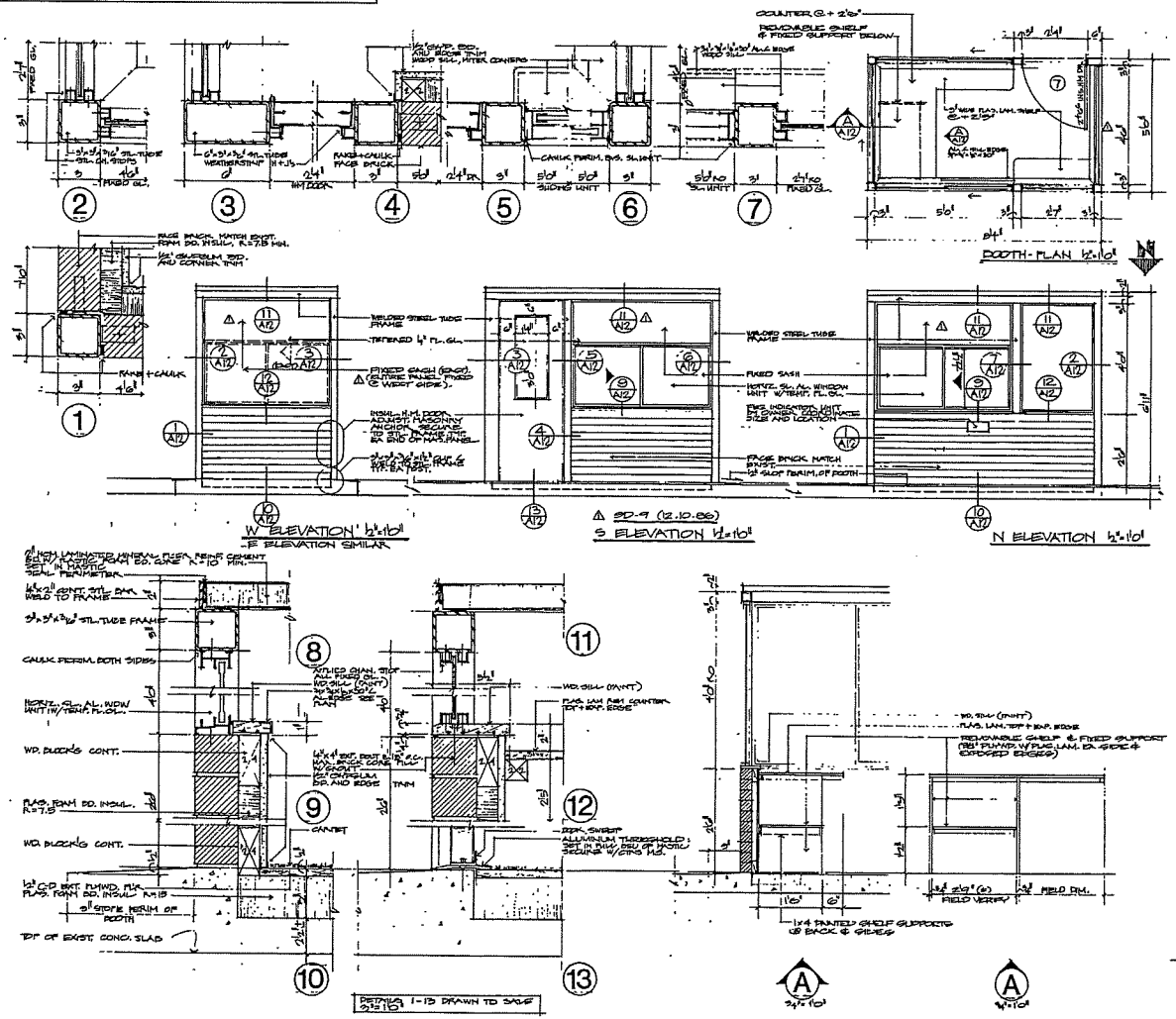
Project Number 8810
Date 11.3.88
Drawing Number

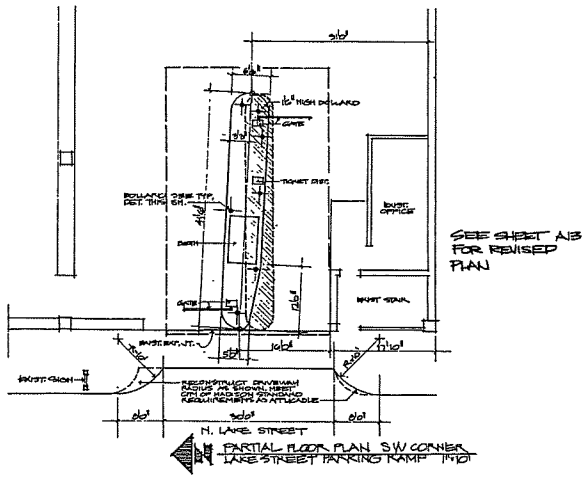
ARNOLD & O'SHERIDAN, INC.
CONSULTING ENGINEERS

PHASE 2 ADDITION
FRANCES STREET PARKING RAMP
CITY OF MADISON PARKING UTILITY

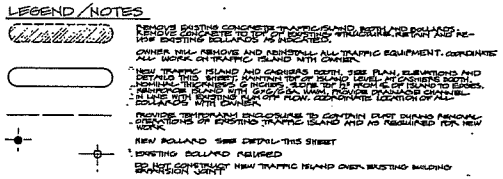
AS BUILT A11

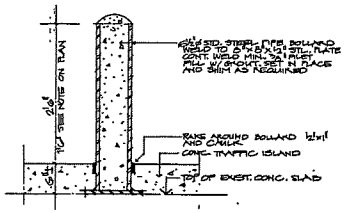
CITY OF MADISON, STATE STREET CAMPUS GARAGE MIXED-USE PROJECT, CONTRACT NO. 9361, Reference-9 Neighboring Building Historical Documents





LEGEND / NOTES





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Planning Architecture Engineering
625 West Washington Avenue
Madison Wisconsin 53703

Project Number 8610
Date 11.3.86
Drawing Number

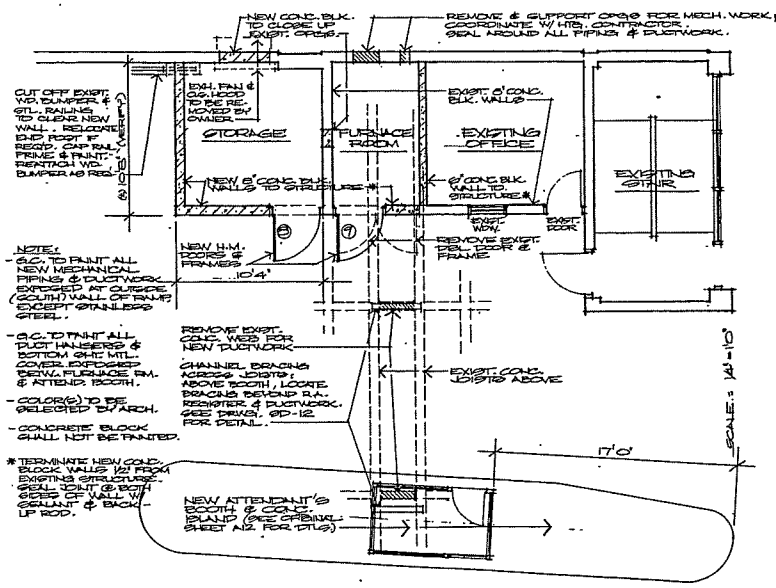
ARNOLD & O'SHERIDAN, INC.
CONSULTING ENGINEERS

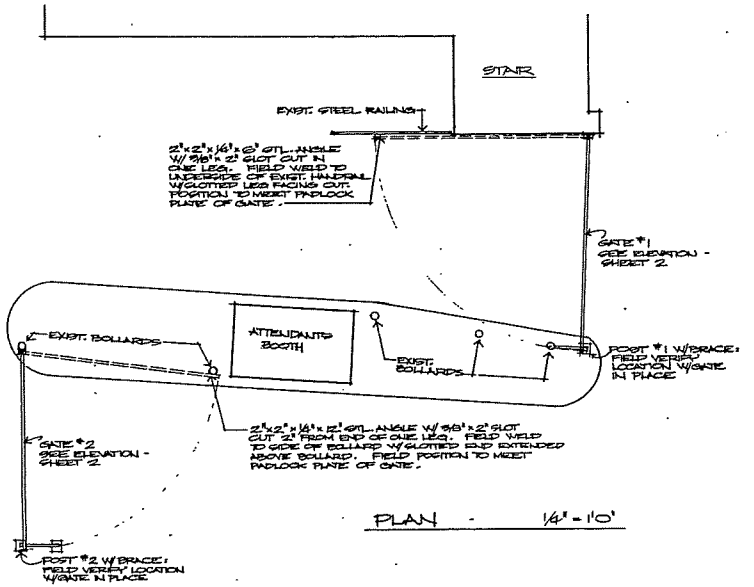
PHASE 2 ADDITION
FRANCES STREET PARKING RAMP
CITY OF MADISON PARKING UTILITY

AS BUILT

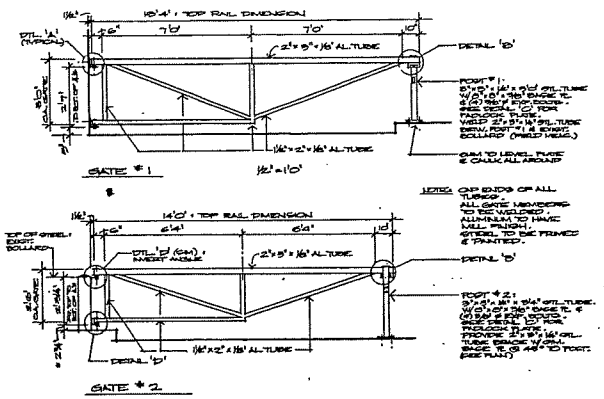
A12

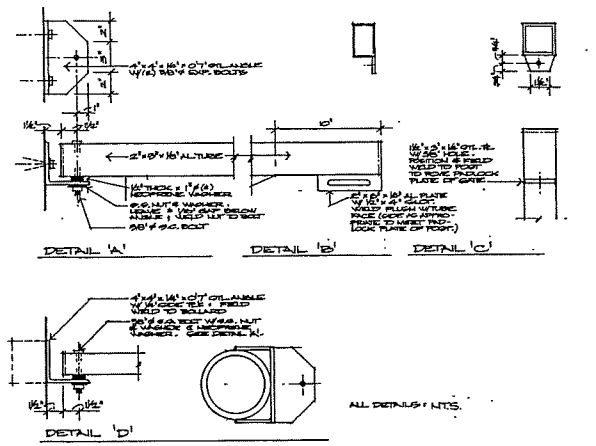
F MADISON, STATE STREET CAMPUS GARAGE MIXED-USE PROJECT, CONTRACT NO. 9381, Reference-9 Neighboring Building Historical Documents





PLAN - 1/4" = 1'0"





Page 1 of 2

FRANCES STREET PARKING RAMP-PHASE 2 ADDITION
MADISON, WI

Lake Street Ramp Attendant's Booth Revisions.

SPECIFICATIONS: GENERAL CONSTRUCTION:
Refer to applicable sections of the Project Manual for related materials and installation instructions.

Section 04200-MASONRY:

CONCRETE MASONRY UNITS (CMU):

Size: Manufacturer's standard units with nominal face dimensions of 16" long x 8" wide (15-5/8" x 7-5/8" actual) & nominal thickness as shown on the drawings.

Hollow Load Bearing (NL) CMU: ASTM C 90, Grade N-1, made with approved aggregate conforming to ASTM C 331.

Moisture Classification: Light weight units unless otherwise indicated (105 lbs. per cu. ft. or less, oven dry weight of concrete).

MASONRY ACCESSORIES:

Horizontal Joint Reinforcing and Ties for Masonry:

Provide welded wire units prefabricated in straight lengths of not less than 10' with matching corner ("L") and intersection ("T") units. Fabricate from cold-drawn steel wire complying with ASTM A 82, with deformed continuous side rods and plain cross rods. Join units with widths of approximately 2" less than nominal widths of walls and partitions as required to position side rods for full embedment in mortar with mortar coverage of not less than 5/8" on joint faces exposed to exterior and not less than 1/2" elsewhere. Provide the following type of joint reinforcing unless otherwise indicated.

Truss type with diagonal cross rods spaced not more than 16" o.c.

Number of Side Rods: Single pair for single-wythe masonry, with one side rod for each face shell of each concrete masonry wythe.

Wire Size: Fabricate with 9-gage side and cross rods, unless otherwise indicated.

Wire Finish: Provide manufacturer's standard mill galvanized finish except as otherwise indicated.

For exterior walls hot-dip galvanize joint reinforcing after fabrication to comply with ASTM A 153, Class B-2 coating (1.5 oz. per sq. ft.).

Page 2 of 2

CONCRETE MASONRY WALLS:

Lay hollow concrete masonry units with full mortar coverage on horizontal and vertical face shells. For starting courses where cells are not grouted, spread out full mortar bed including webs under cells.

Install steel lintels at all openings. Provide minimum bearing of 8" at each jamb. At lintel bearing points fill masonry cores with grout for the full height of the masonry opening & 12" back from each edge of the opening.

Section 05500-METAL FABRICATIONS:

Steel Lintels: Provide two (2) 3-1/2" x 3-1/2" x 1/4" galvanized angles for each door opening. Provide to lengths 16" wider than rough opening.

Channel Bracing: Provide steel shapes with anchorage devices as detailed on Supplemental Drawing SD-12.

Section 07900-JOINT SEALERS:

Refer to original specification for sealants around frames, ductwork, piping, and other items installed in masonry openings.

Section 08110-STEEL DOORS AND FRAMES:

Steel Frames: 5-3/4" wide, masonry types, galvanized, with following face dimensions:

Jambs: 2" Heads 2"

Steel Doors: 3'-0" x 7'-0" x 1-3/4", flush construction, galvanized. Verify height of existing door opening for Door B. Hold door frames 2" up from floor slab.

Section 08710-FINISH HARDWARE:

Doors B and D to receive Hardware Set 2, less mill shoes and thresholds (see original specification). Match manufacturer and function of lockset on existing office door.

Mattinsons/Zieck/Meyer
Planning Architecture Engineering
425 West Washington Avenue
Madison, Wisconsin 53703

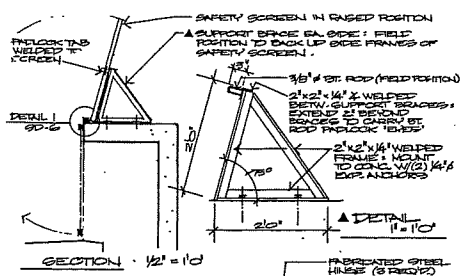
Project Number: 8610
Date: 11.5.86
Drawing Number:

PHASE 2 ADDITION
FRANCES STREET PARKING RAMP
CITY OF MADISON PARKING UTILITY

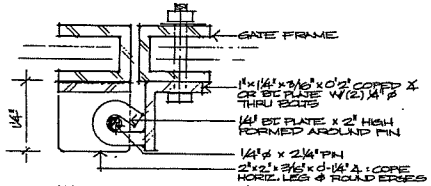
AS BUILT

A13

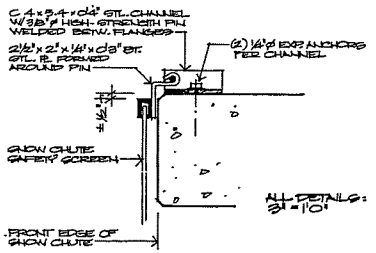
CITY OF MADISON, STATE STREET CAMPUS GARAGE MIXED-USE PROJECT, CONTRACT NO. 3301, Reference 2 Neighboring Building Historical Documents



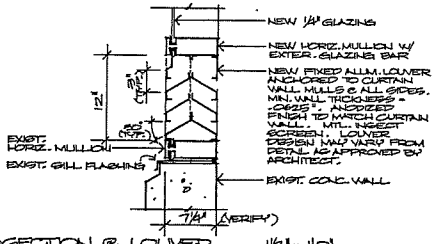
SD-5 / A14 REV. SNOW CHUTE SAFETY SCREEN (2-14-07)

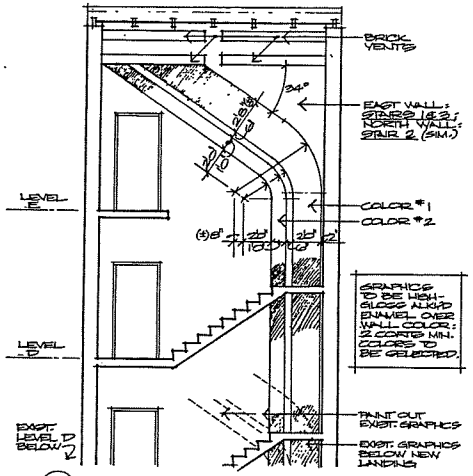


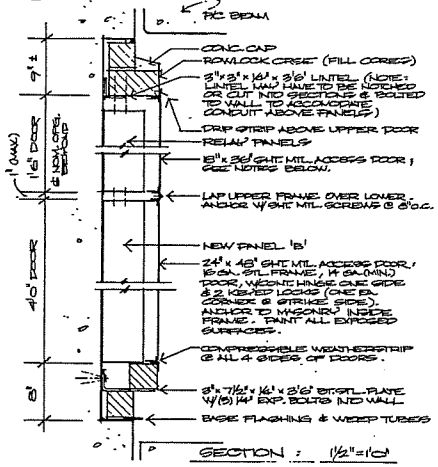
SD-5 / A14 HINGE DETAIL: LEVEL 6 SAFETY SCREEN (2-14-07) FULL SIZE - 1"=1'0"

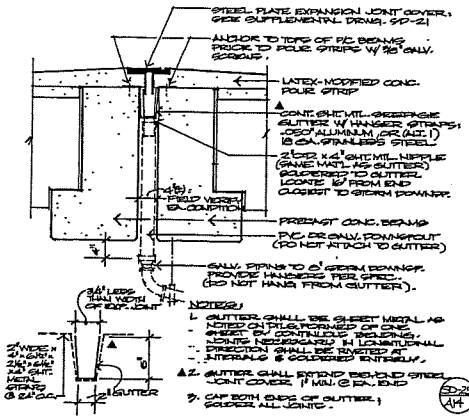


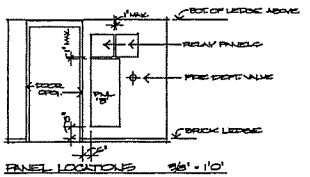
SD-6 / A14 SNOW CHUTE SAFETY SCREEN DETAILS (2-10-06)

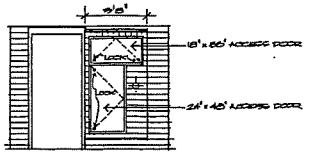






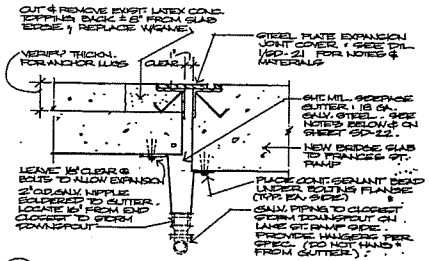




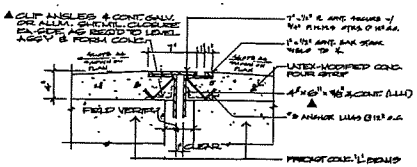


SD-26 / A14 ENCLOSURE @ ELECTRIC PANELS (7-7-87)

▲ REVISED 7.2.87



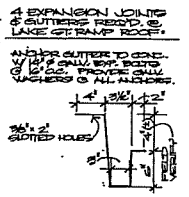
SD-23 / A14 ROOF EXPANSION JOINT @ BRIDGE (G-22-87) 1 1/2" = 1'0"



SD-21 / A14 ROOF EXPANSION JOINT @ RAMP (G-22-87) 1 1/2" = 1'0"
REPLACES DETAIL 11/A8 (GUTTER NOT SHOWN FOR CLARITY)

4 EXPANSION JOINTS & GUTTERS REQ'D. @ LAKE ST. RAMP ROOF.

4 OUTER GUTTER TO COND. W/ (2) 3/4"ø GALV. BOLTS @ 12" o.c. PROVIDE GALV. WASHERS @ ALL HOLDERS.



4 EXPANSION JOINTS & GUTTERS REQ'D @ PHASE 2 ROOF:
GRIDLINE COLS. B3/P8 - B7/P8, LEVEL 10
GRIDLINE COLS. B7/P8 - B7/P1, LEVEL 10
GRIDLINE COLS. B1/P1 - B2/P2, LEVEL 11 & COLS. B1/P1 - B2/P2, LEVEL 11

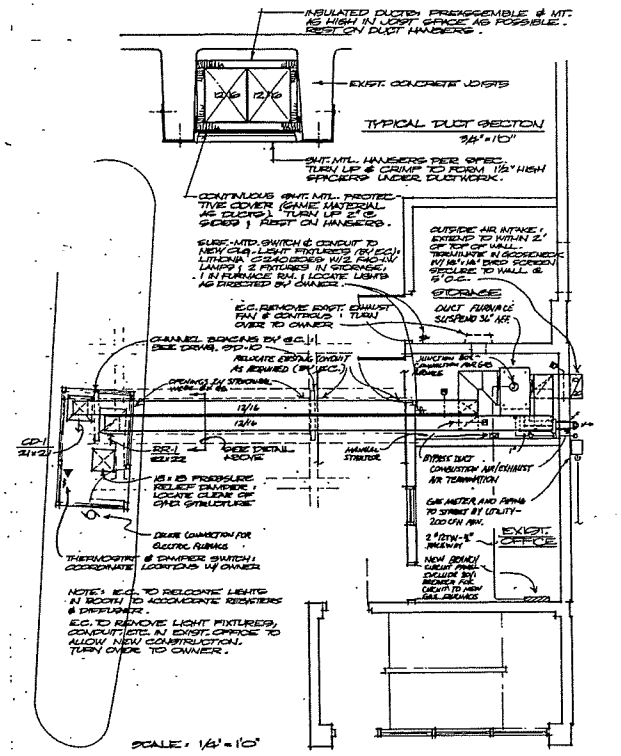
Mortinsons / Zeeck / Mayer
Planning Architecture Engineering
625 West Washington Avenue
Madison Wisconsin 53703

Project Number 8610
Date 11.3.88
Drawing Number

PHASE 2 ADDITION
FRANCES STREET PARKING RAMP
CITY OF MADISON PARKING UTILITY

AS BUILT

A14



LAKE ST. RAMP ATTENDANT'S BOOTH REVISION
-: HVAC / ELECTRICAL WORK

FRANCES STREET PARKING RAMP
PHASE 2
MADISON, WISCONSIN

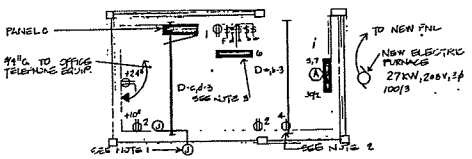
LAKE STREET RAMP ATTENDANT'S BOOTH

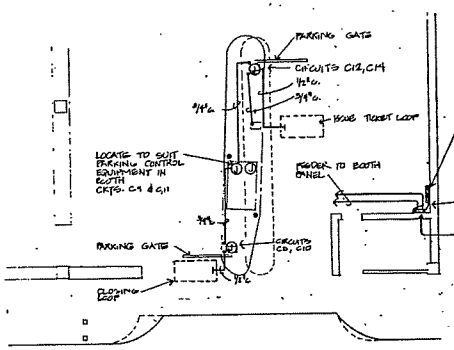
HEATING, VENTILATING AND ELECTRICAL SPECIFICATIONS REVISIONS
Refer to applicable Work of Project
Manual for Related Materials and
Installation Instructions

HVAC SPECIFICATION REVISIONS

1. Generals
   - Cutting, patching, flashing, etc., as required shall be included unless indicated otherwise.
   - Motors 1/3 HP and smaller shall be 120V, 1 phase; 1/2 HP and larger shall be 230 volt, 1 phase unless otherwise noted. Starters and disconnects shall be by Electrical Contractor except where they are provided with packaged equipment.
   - Test and balance air systems.
   - All power wiring shall be by Electrical Contractor. All control wiring shall be by Heating Contractor and shall be per code.
   - Duct, thermostat, diffuser and equipment locations shown are approximate and shall be adjusted to suit lighting, partitions and structural conditions as required by the Architect. Coordinate location of thermostat and damper switch with Owner.
   - Contractor shall arrange for the local gas utility to install a new gas meter, sized to deliver 8" w.g. natural gas (quantity shown on plans) at 1,000 BTU per cubic foot heat content.
   - Owner shall pay for all gas service and meter charges levied by the Utility Company.
2. Basic Materials
   - Gas piping shall be ASTM A-120 black steel.
   - Piping 2" and smaller shall have 13 lb. screwed malleable iron fittings.
   - Provide gas cock and union at each gas appliance.
   - Test piping to 100 lbs. pressure for 48 hours with no loss of pressure. Test in accordance with gas utility, in presence of the Architect.
   - Registers, grilles and diffusers shall be Barber-Colman, Carnes, Krueger or Titus with factory enamel finish, equal to the following: (color selected by Architect).
   - Provide backdraft damper in return air with adjustable counterweight.
   - CD-1: Carnes Model 9740 with opposed blade damper.
   - RR-1: Carnes Model 600H return register with adjustable barometric backdraft damper.
3. Gas Fired Duct Furnace
   - Provide gas fired separated combustion duct heater, Reznor Model SCE 200.
   - Units shall be AGA approved, spark-ignited intermittent safety pilot with electronic flame supervision, high limit safety cut-out, redundant single-stage combination gas valves, pre-purge and post-purge control sequence, 409 stainless steel heat exchanger and burner, and electronic modulated gas controls. Unit shall provide 1645 cfm with 200 MBH input. Discharge air sensor to modulate

burner. Provide stainless steel all fuel vent and galvanized combustion air piping.
   - Provide throwaway filter section and filter.
   - Provide manufacturers screened exhaust vent and combustion inlet terminals.
   - Provide bypass duct and dampers. Unit shall be designed for 100% outside air. Unit to operate at 1645 cfm (low speed) with supply air to attendant booth to vary between 730 cfm and 1300 cfm. Remaining air to bypass back to unit. Speed selector on thermostat to control supply air and bypass dampers to allow 730 cfm on low speed, 1000 cfm on medium speed, and 1300 cfm on high speed. Amount of outside air to vary from 10% to 100% by rheostat located in attendant booth. Outside air to be relieved through attendant window.
   - When unit is off outside air damper is closed.
4. Refer to original spec sections 15250 and 15840 for ducts and insulation.





ATTENDANT BOOTH PLAN
1/2"=1'-0" ELECTRICAL

SITE PLAN
1/32"=1'-0" ELECTRICAL

NOTES:

1. PROVIDE BLANK J-BOX 3:2:2 AS REQUIRED W/ ¾" CONDUIT TO FEE INDICATOR. RUN VERTICAL CONDUIT IN BRICK WALL CENTERED ON CENTER OF WINDOW OPENING FOR INDICATOR. MOUNT J-BX & FEE INDICATOR AS DIRECTED BY ARCHITECT/OWNER.
2. PROVIDE A SINGLE GROUNDED 15AMP, 125 VOLT RECEPTACLE FOR JOURNAL PRINTER. VERIFY LOCATION W/ ARCHITECT.
3. PROVIDE ALARM PANEL: ALL CAT. NO. ARE ADEMCO. #4412 CONTROL PNL; #1163 TRANSMITTER; #714 SIREN & TAMPER BOX; #1270 SMOKE DETECTOR; #324 ROLL-UP SWITCH. ALSO PROVIDE CONTACTS ON ALL WINDOW & DOOR. MONITORING TO BE DONE BY CAPITAL LOCK & SECURITY.

b. Note 3 (Electrical): Change catalog numbers to the following: #1023 Control Panel: #215 Touchpad. Add: #693, Dialer.

c. Add Note 4 (Electrical): "Coordinate and verify locations of outlets, junction boxes, conduit, etc. serving parking equipment, both in the booth and in the traffic island. Coordinate all such work with the Owner's Parking Equipment Contractor. Parking equipment is not a part of this contract."

d. Site Plan – Electrical: - "Parking gates", "closing loop" and "issue ticket loops" shall be furnished and installed by the Parking Equipment Contractor.

WISCONSIN
WILLIAM F. SHARP
E 12273
Madison
Wis.
PROFESSIONAL ENGINEER

AS BUILT

Mattinsons / Zeck / Meyer
Planning, Architecture, Engineering
426 West Washington Avenue
Madison, Wisconsin 53703

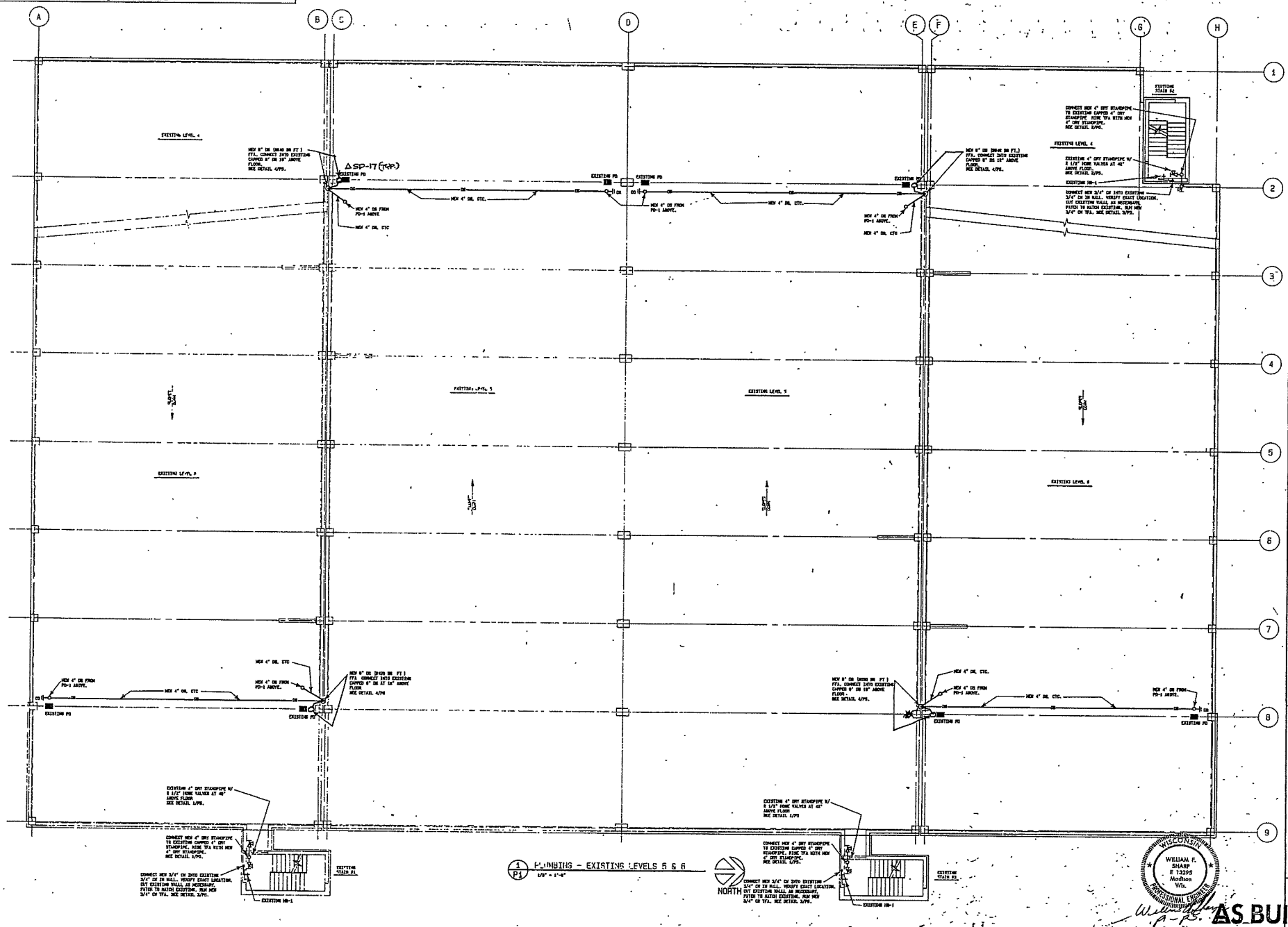
Project Number 8610
Date 11.3.86
Drawing Number

ARNOLD & O'SHEIDAN, P.C.
CONSULTING ENGINEERS

PHASE 2 ADDITION
FRANCES STREET PARKING RAMP
CITY OF MADISON PARKING UTILITY

ME 1

CITY OF MADISON, STATE STREET CAMPUS GARAGE MIXED-USE PROJECT, CONTRACT NO. 9361, Reference-9 Neighboring Building Historical Documents



1 P1 PLUMBING - EXISTING LEVELS 5 & 6
1/8" = 1'-0"

Madisons/Zack/Meyer - Project Number 16610
Planning/Architecture/Engineering - Date 11.3.16
425 West Washington Avenue - Drawing Number
Madison Wisconsin 53703

ARNOLD & O'SHEIDA, INC.
CONSULTING ENGINEERS

PHASE 2 ADDITION
FRANCES STREET PARKING RAMP
CITY OF MADISON PARKING UTILITY

WILLIAM F. SHARP
E 13295
Madison
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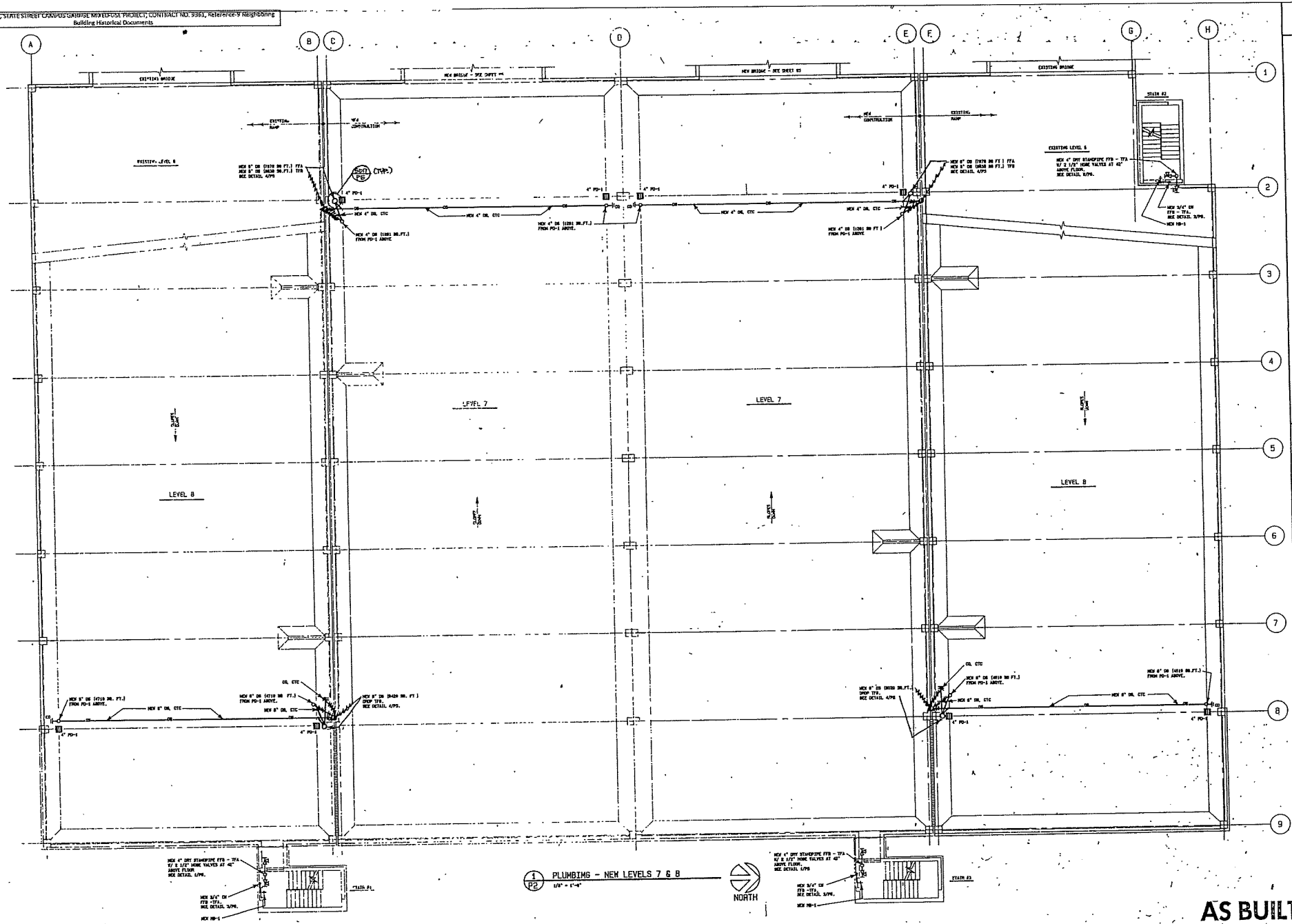
AS BUILT

P1



1 P2 PLUMBING - NEW LEVELS 7 & 8
1/8" = 1'-0"

AS BUILT

Project Number 9510
Date 11.3.86
Drawing Number
P2

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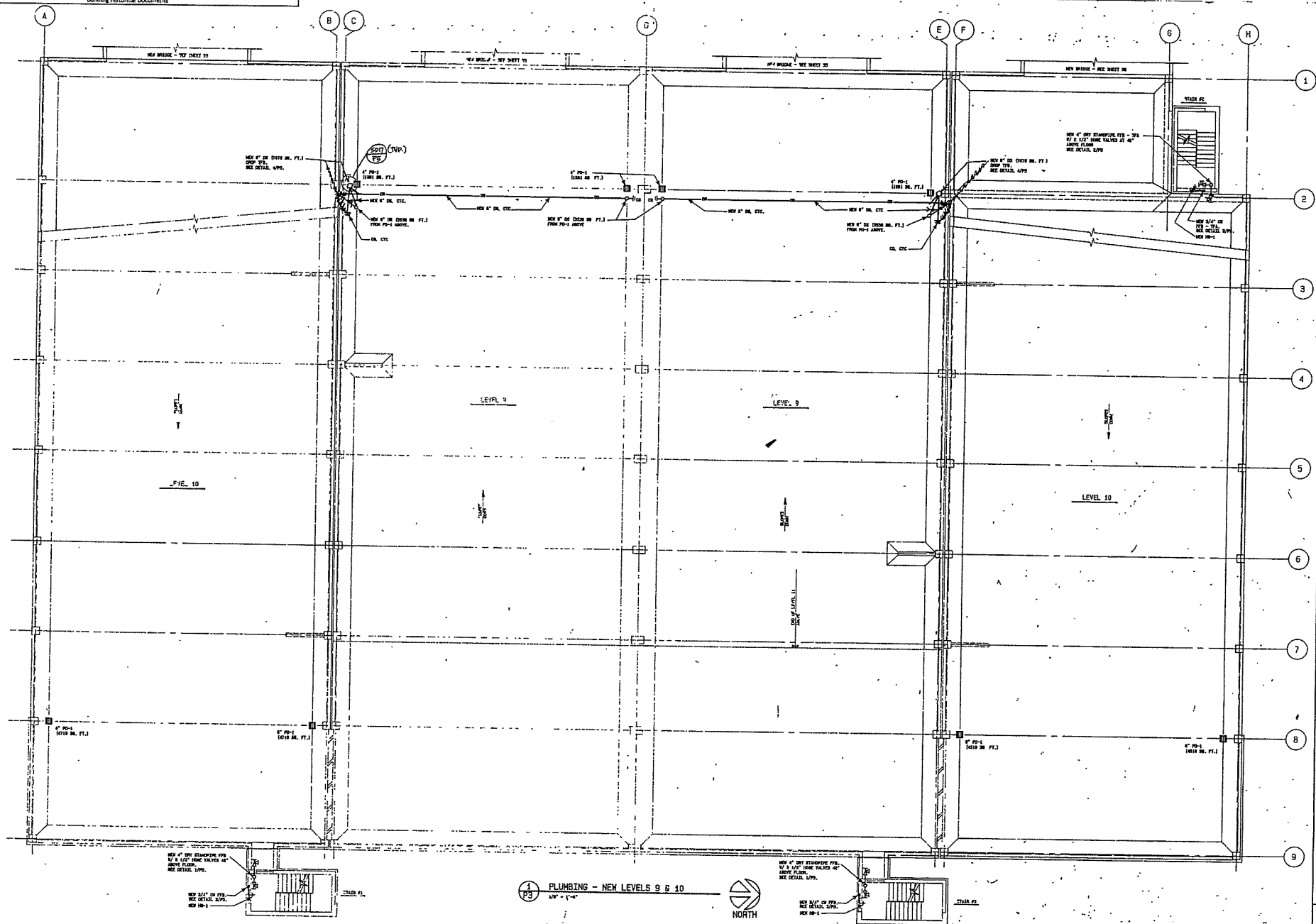
Madison, Wisconsin 53703

ARNOLD & O'SHERIDAN, INC.
CONSULTING ENGINEERS

PHASE 2 ADDITION
FRANCES STREET PARKING RAMP
CITY OF MADISON PARKING UTILITY

CITY OF MADISON, STATE STREET CAMPUS GARAGE MIXED-USE PROJECT, CONTRACT NO. 9361, Reference-9 Neighboring Building Historical Documents



1/P3 PLUMBING - NEW LEVELS 9 & 10
1/8" = 1'-0"

AS BUILT

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Planning/Architecture Engineering
Madison Wisconsin

Project Number 9610
Date 11.3.86
Drawing Number

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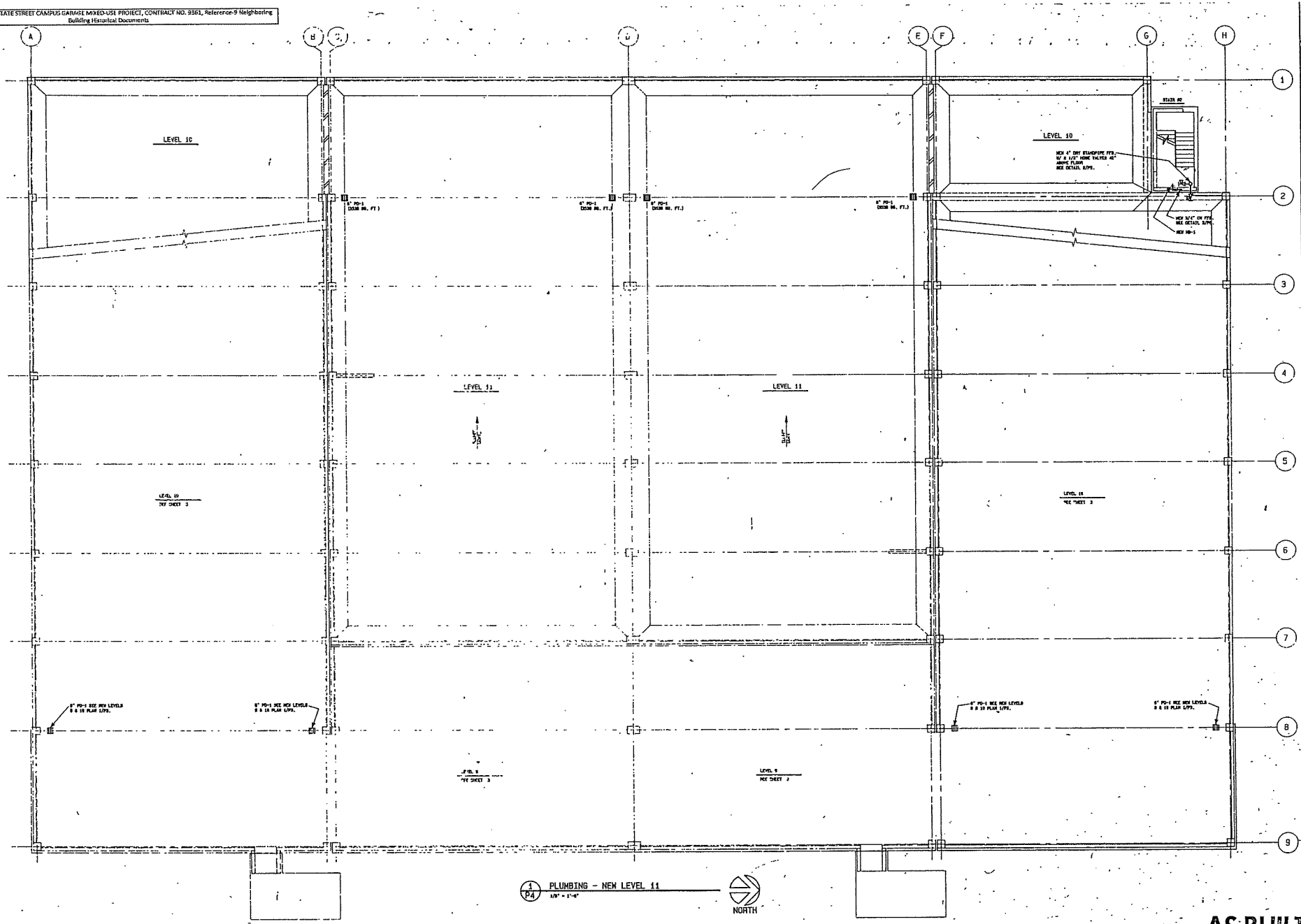
PHASE 2 ADDITION
FRANCES STREET PARKING RAMP
CITY OF MADISON PARKING UTILITY

P3

OF MADISON, STATE STREET CAMPUS GARAGE MIXED-USE PROJECT, CONTRACT NO. 9561, Reference-9 Neighboring Building Historical Documents



1/P4 PLUMBING - NEW LEVEL 11
1/8" = 1'-0"

AS BUILT

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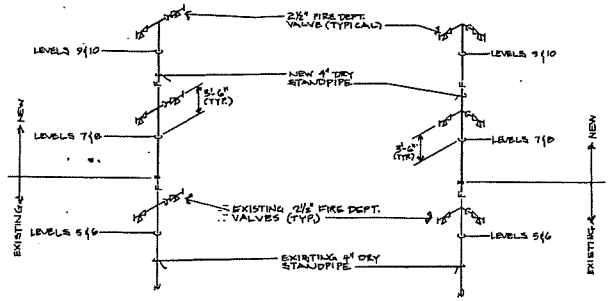
Planning Architecture Engineering
625 West Washington Avenue
Madison Wisconsin 53703

Project Number 3810
Date 11.3.08
Drawing Number

ARNOLD & SWEREIDA/LVC.
CONSULTING ENGINEERS

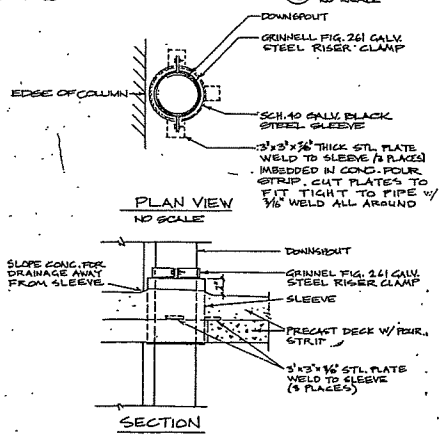
PHASE 2 ADDITION
FRANCES STREET PARKING RAMP
CITY OF MADISON PARKING UTILITY

P4



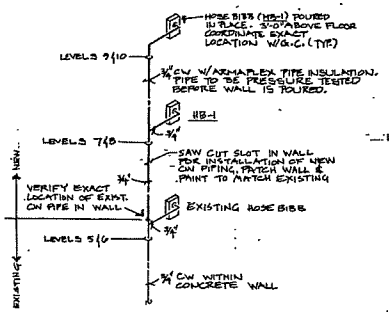
1 P5 FIRE PROTECTION DIAGRAM
NO SCALE

2 P5 FIRE PROTECTION DIAGRAM
NO SCALE

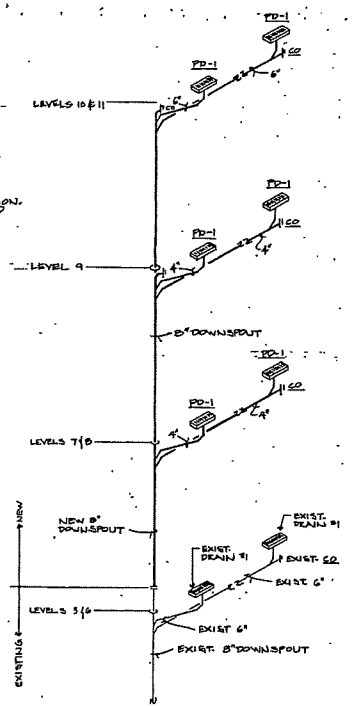


NOTE: STANDPIPE SLEEVE DETAIL SIMILAR. STANDPIPE SLEEVES EXTEND 3'6" ± ABOVE STAIR FLOORS. ANCHOR STANDPIPE SLEEVES TO SLAB REINFORCING.

SD-5 P5 DOWNSPOUT SLEEVE DETAIL



3 P5 WATER SUPPLY DIAGRAM - HOSE BIBBS
NO SCALE



4 P5 TYPICAL DOWNSPOUT DIAGRAM
NO SCALE

PLUMBING ABBREVIATIONS

CO	CLEANOUT
CTC	CLOSE TO CEILING
CTF	CLOSE TO FLOOR
CW	COLD WATER
DN	DOWN
DS	DOWNSPOUT
EC	ELECTRICAL CONTRACTOR
GC	GENERAL CONTRACTOR
HC	HEATING CONTRACTOR
INV	INVERT
INV EL	INVERT ELEVATION
PC	PLUMBING CONTRACTOR
PD	PARKING DECK
SP	STANDPIPE
ST	STORM SEWER
SQ.FT.	SQUARE FOOT
UF	UNDERFLOOR
FFA	FROM FLOOR ABOVE
FFB	FROM FLOOR BELOW
TFA	TO FLOOR ABOVE
TFB	TO FLOOR BELOW

PLUMBING SYMBOLS

SP	STANDPIPE
DS	DOWNSPOUT
ST	STORM SEWER
	UNION
	RISER UP
	RISER DOWN
	CLEANOUT
	PITCH
	FLOW
	PARKING DRAIN
	DOME SPRINT
	FIRE DEPARTMENT ANGLE VALVE

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Project Number 88810
Date 11.3.88
Drawing Number

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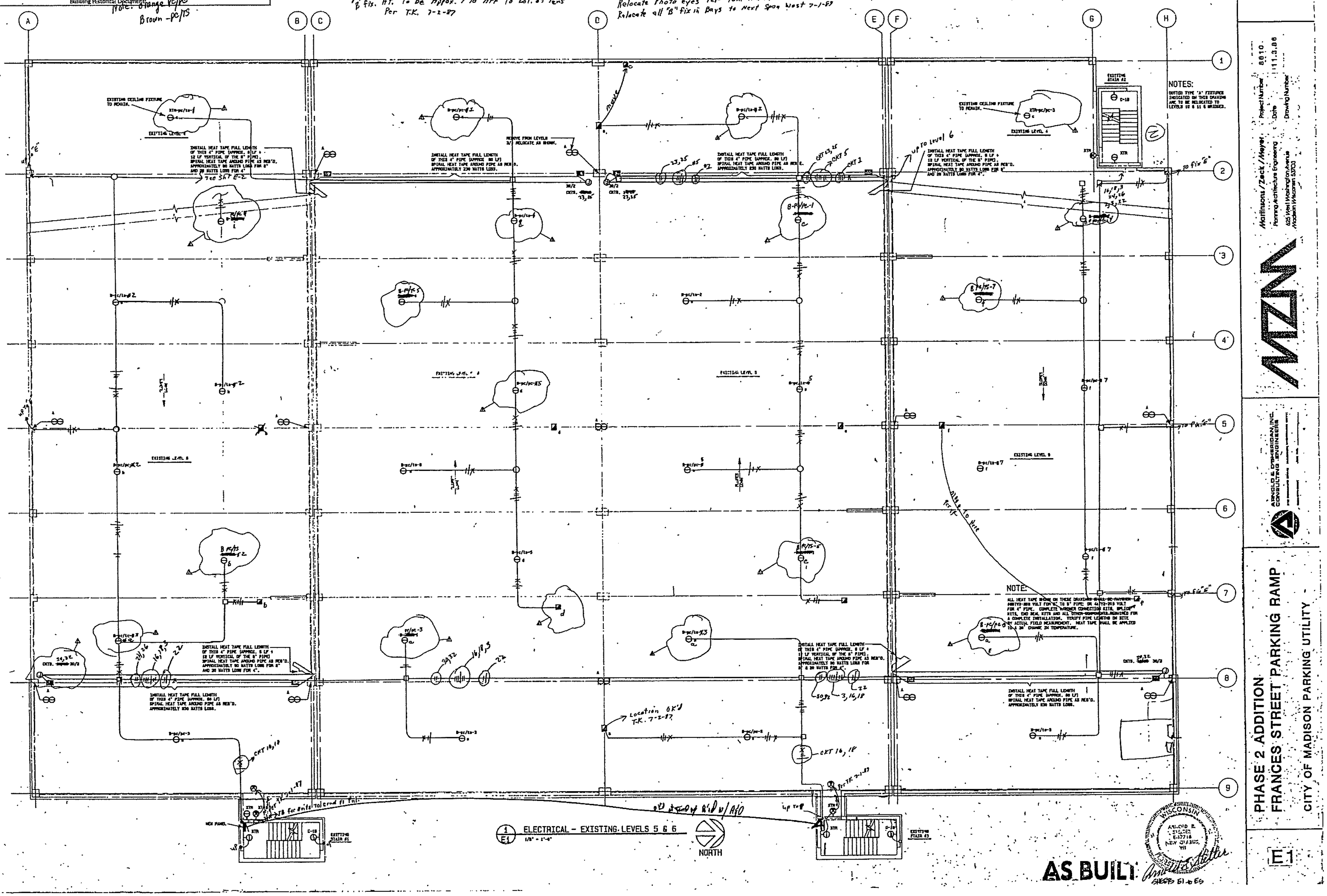
PHASE 2 ADDITION
FRANCES STREET PARKING RAMP
CITY OF MADISON PARKING UTILITY

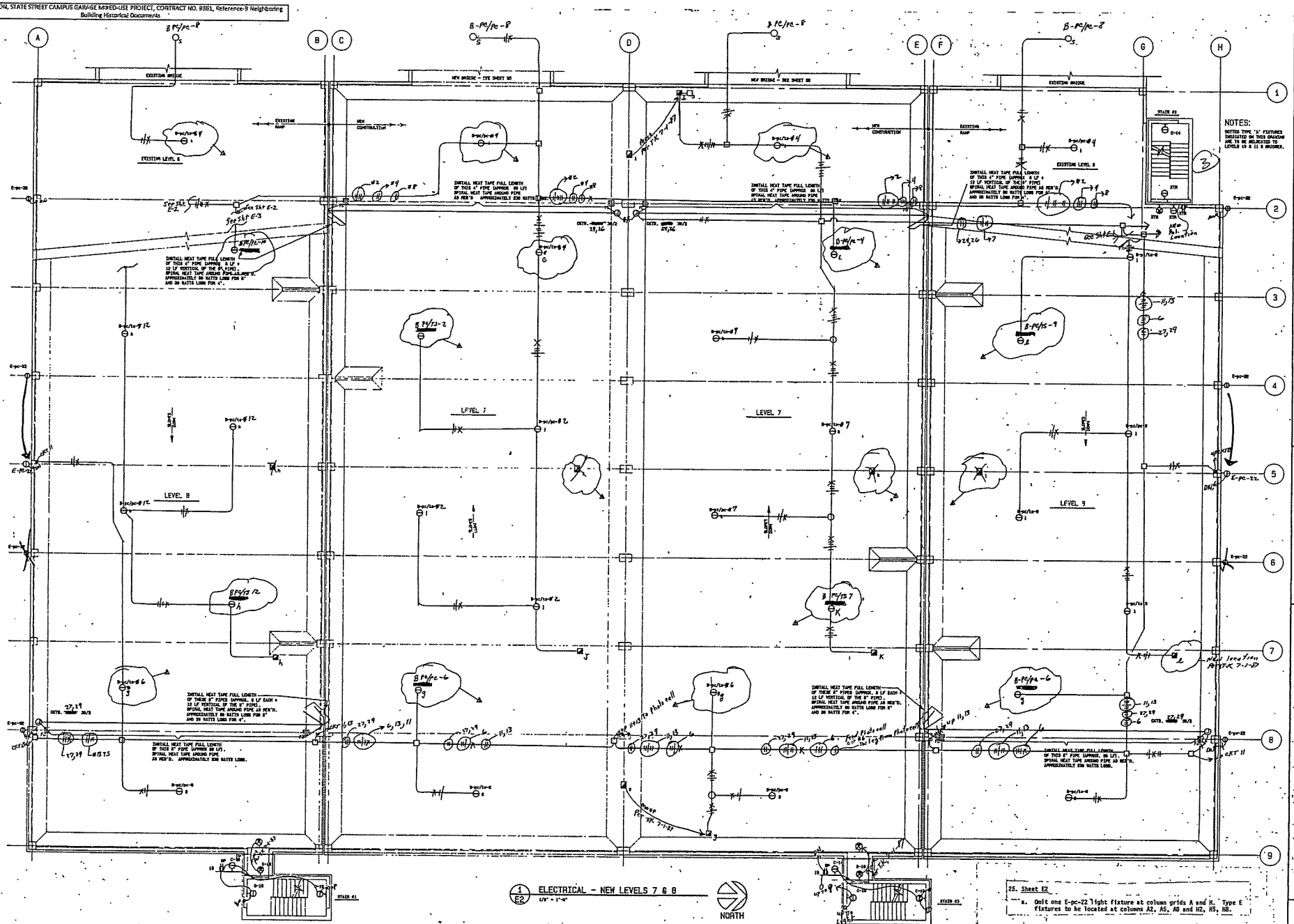
AS BUILT

P5

OF MADISON, STATE STREET CAMPUS GARAGE MIXED-USE PROJECT, CONTRACT NO. 9361, Reference-9 Neighboring Building Historical Documents



CITY OF MADISON, STATE STREET CAMPUS GARAGE MIXED-USE PROJECT, CONTRACT NO. 9381, Reference-8 Neighboring Building Historical Documents



NOTES:
MOTION TYPE 'A' FIXTURES INDICATED ON THIS DRAWING ARE TO BE INSTALLED TO LEVELS 6 & 11 & UNDERNEATH.

1 E2 ELECTRICAL - NEW LEVELS 7 & 8
1/8" = 1'-0"

25. Sheet E2
a. Omit one E-pc-22 light fixture at column grids A and H. Type E fixtures to be located at columns A2, A5, A8 and H2, H5, H8.

AS BUILT

Project Number 8610
Date 11.3.88
Drawing Number

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Madison Wisconsin 53703

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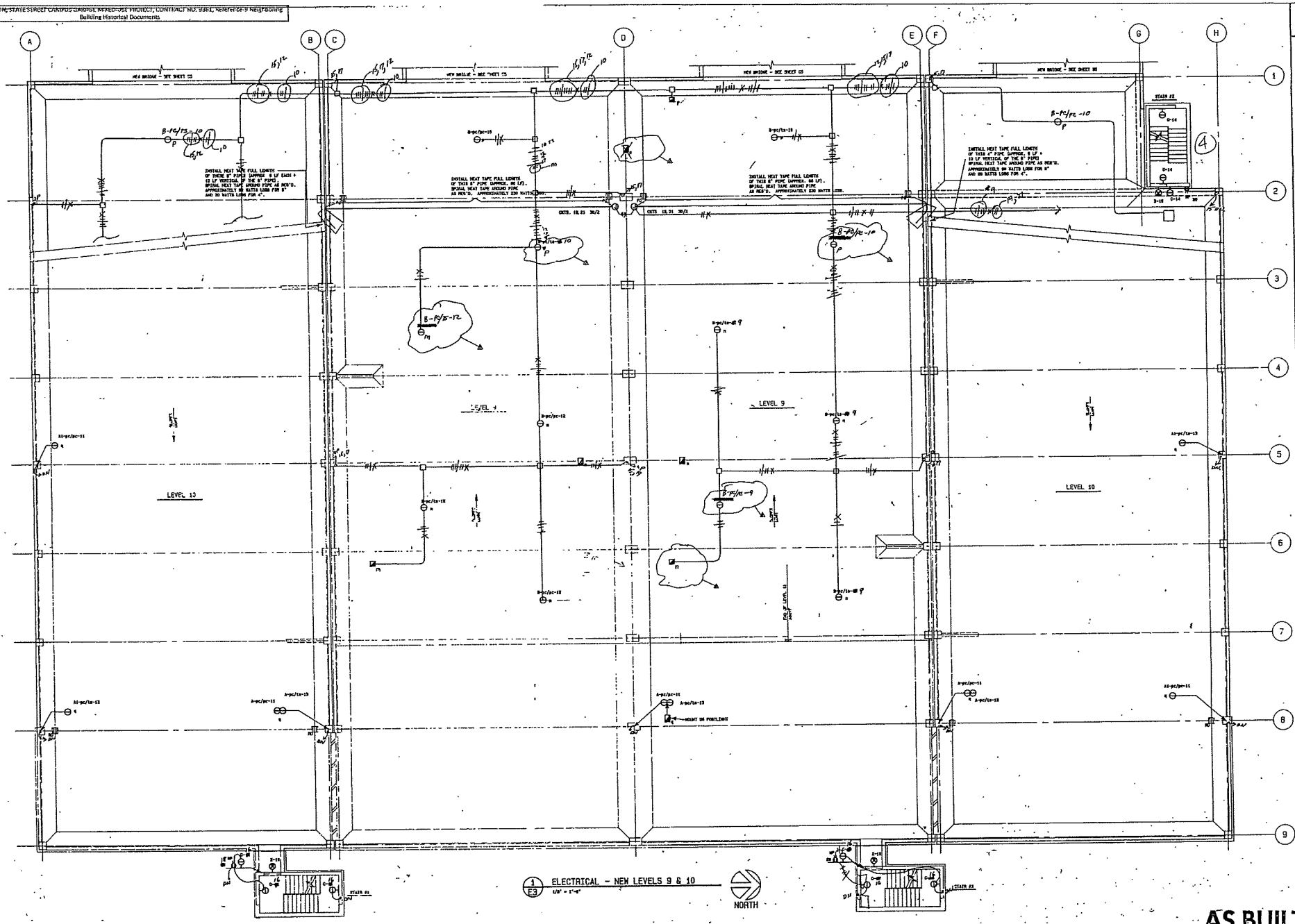
PHASE 2 ADDITION
FRANCES STREET PARKING RAMP
CITY OF MADISON PARKING UTILITY

E2

OF MADISON, STATE STREET CAMPUS GARAGE MIXED-USE PROJECT, CONTRACT NO. 9381, Reference 9 Neighboring Building Historical Documents



1 E3 ELECTRICAL - NEW LEVELS 9 & 10
1/8" = 1'-0"

AS BUILT

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Planning Architecture Engineering
625 West Washington Avenue
Madison Wisconsin 53703

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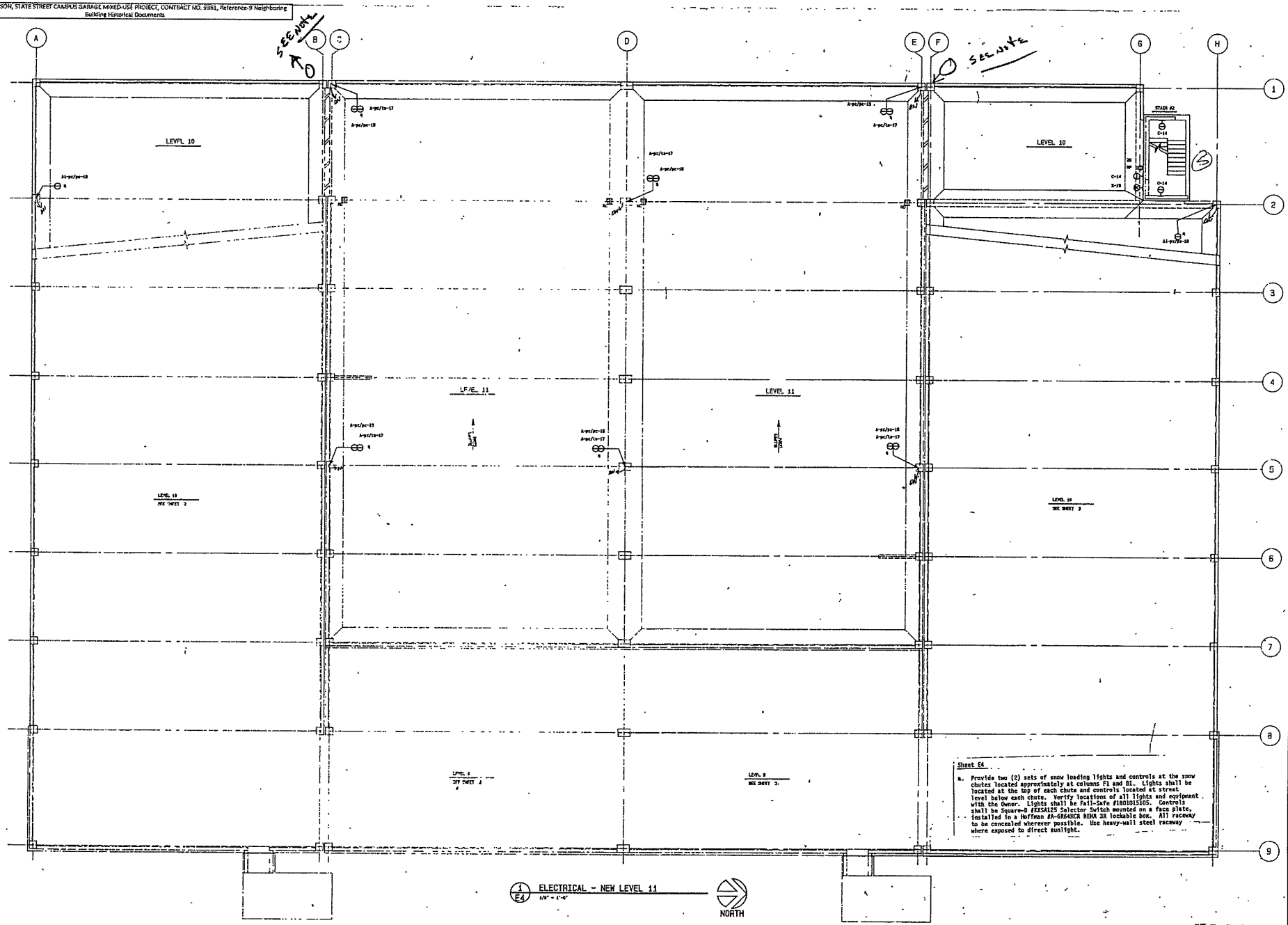
Project Number 8810
Date 11.3.88
Drawing Number

PHASE 2 ADDITION
FRANCES STREET PARKING RAMP
CITY OF MADISON PARKING UTILITY

E3

CITY OF MADISON, STATE STREET CAMPUS GARAGE MIXED-USE PROJECT, CONTRACT NO. 9361, Reference-9 Neighboring Building Historical Documents



1/E4 ELECTRICAL - NEW LEVEL 11

NORTH

AS BUILT

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Madison Wisconsin 53703

Project Number 8610
Date 11.3.86
Drawing Number

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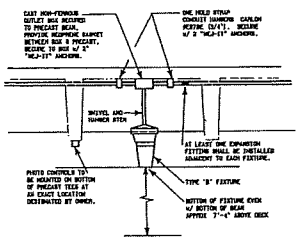
PHASE 2 ADDITION
FRANCES STREET PARKING RAMP
CITY OF MADISON PARKING UTILITY

E4

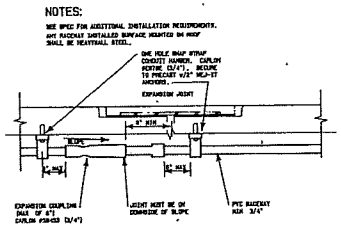


TYPE 'B' FIXTURE MOUNTING DETAIL

N.T.S.

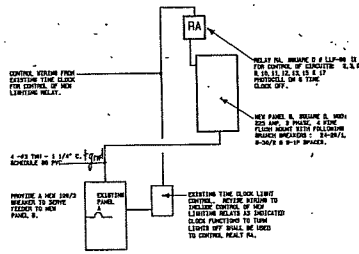
NOTES:

SEE SPEC FOR ADDITIONAL INSTALLATION REQUIREMENTS.
ANY RACEWAY INSTALLED SURFACE MOUNTED ON ROOF SHALL BE WEATHERTIGHT RIGID.



TYPICAL EXPANSION JOINT DETAIL

N.T.S.



PARTIAL SERVICE RISER

N.T.S

FIXTURE SCHEDULE

Number	Manufacturer	Catalog No.	Lamps No.	Lamps Order No.	Mounting	Description
A	EXISTING FOOTLIGHT		E	SEE NOTE 2	SEE DETAIL	SEE NOTE 3
A1	EXISTING FOOTLIGHT		1	SEE NOTE 2	SEE DETAIL	SEE NOTES 3 & 4
B	SEE NOTE 1		1	SEE NOTE 2 LUMINUS	SURFACED	SEE NOTE 1 FLUORESCENT FIXTURE
C	SYLVANIA	ACS-P-SRPS-120-H-PC	1	w/FIXTURE	SURF-WALL	SECURITY/STAIR FIXTURE
D	CROUSE HINDS	MC 240	2	F40WW/RS/RH	SURF-CLG	ATTENDANT BOOTH FIXTURE
E	SYLVANIA	ACSP-1WSPS-120-H-PC	1	w/FIXTURE	SURF-WALL	SECURITY BRACKET
X	EXIT RITE	1001 MATCH EXISTING	E	20 TO 1/2	SURF-WALL	EXIT FIXTURE

FIXTURE SCHEDULE NOTES:

1. Owner shall provide all type 'B' fixtures to C.C. for complete installation See Spec for additional information.
2. Owner will furnish lamps to Contractor who will install in fixtures.
3. Remove existing postlight & reinstall at new locations indicated. Clean & repair as required to restore postlight to proper working condition.
4. Existing postlight to be reused w/ one of the 8 luminaires energized. Contractor shall disconnect luminaire ballast.

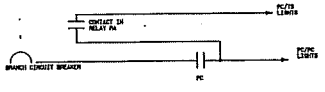
SYMBOLS & ABBREVIATIONS

- HIGH INTENSITY DISCHARGE - SURFACE, WALL MOUNTED
- FLUORESCENT FIXTURE - SURFACE
- EXIT FIXTURE - SINGLE FACE, WALL MOUNTED
- A — UPPER CASE LETTER INDICATES FIXTURE TYPE. LIGHTING CONTROL & CIRCUIT NO. ALSO INDICATED
- PHOTOCELL, TORK #2181
- SINGLE POLE SWITCH
- DUPLEX GROUNDED RECEPTACLE
- SINGLE RECEPTACLE - VOLTAGE, AMPS INDICATED, TYPE TO MATCH EQUIP., NOTED
- JUNCTION BOX, SIZE AS REQUIRED BY CODE
- PANELBOARD
- TELEPHONE OUTLET, WALL
- ELECTRIC HEATER
- E.C. — ELECTRICAL CONTRACTOR
- W.P. — WEATHER PROOF
- XTH — EXISTING TO REMAIN

Sheet E5

a. Type 'B' Fixture Mounting Detail: Change note at upper left to read "In part "cast non-ferrous outlet box secured to precast slab . . ." Note "swivel and hanger stem" to be "by E.C." Change note at lower right to read "bottom of fixture to be 2'4" below bottomof slab."

b. Fixture Schedule: For contractor's information only, Type B fixture will be Holophane Petrolux II (cat. no. PETL100HP00545). Note 1 is still applicable.



TYPICAL LIGHTING CONTROL DIAGRAM

N.T.S.

ELECTRIC HEATER SCHEDULE

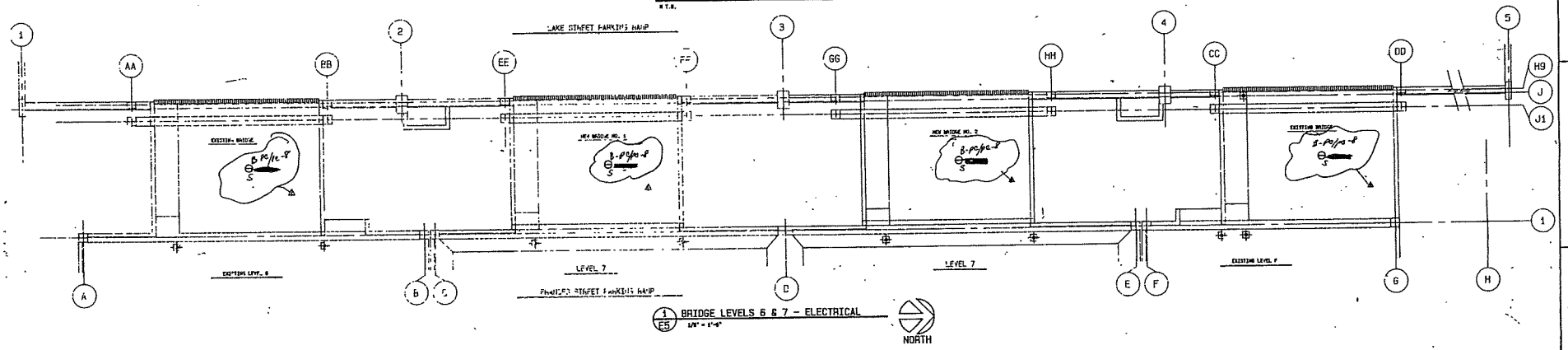
No.	Type of Heater	BTU	Watts	Volts	Phase	Manufacturer Model Catalog No.	Remarks
A	WALL HEATER	13,652	4000	208	1	FFH-1-P	NEMA-RECESSED

LIGHTING CONTROL KEY

24 HR — LIGHTS ON 24 HOURS/DAY. CONTROL FROM PANEL ONLY.

pc/pc — LIGHTS TURNED ON & OFF FROM PHOTOCELL. LOWER CASE LETTER IDENTIFIED PHOTOCELL

pc/tc — LIGHTS TURNED ON w/PHOTOCELL & OFF w/TIMECLOCK



1/E5 BRIDGE LEVELS 6 & 7 - ELECTRICAL

1/8" = 1'-0"

NORTH

AS BUILT

E5

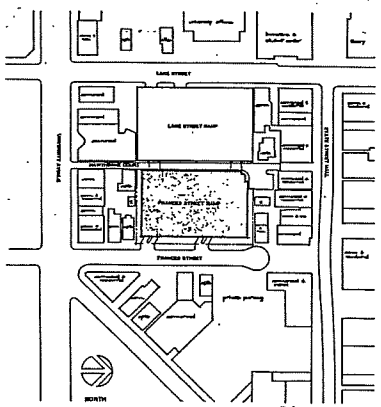
PHASE 2 ADDITION
FRANCES STREET PARKING RAMP
CITY OF MADISON PARKING UTILITY

Project Number 8610
Date 11-3-86
Drawing Number

Mortensons / Zeck / Meyer
Planning Architecture Engineering
435 West Washington Avenue
Madison Wisconsin (53703)

ARNOLD & O'NEIL ASSOCIATES, INC.
CONSULTING ENGINEERS

CITY OF MADISON, STATE STREET CAMPUS GARAGE MIXED-USE PROJECT, CONTRACT NO. 9361, Reference-9 Neighboring Building Historical Documents



VICINITY MAP

ABBREVIATIONS

(Applicable to sheets A1 through A12. See sheets S8, P5 and E5 for abbreviations applicable to other sheets.)

AL	ALUMINUM
ALT	ALTERNATE
ASSY	ASSEMBLY
BD	BOARD
BETW	BETWEEN
BLDG	BUILDING
BM	BEAM
BOT	BOTTOM
B.S.	BOTH SIDES
BT	BENT
CH	CHANNEL
C.J.	CONTROL JOINT
CLR	CLEAR
CNTR	CENTER
COL	COLUMN
CONC	CONCRETE
CONN	CONNECTION
CONT	CONTINUOUS
CSK	COUNTERSUNK
C.W.	CURTAIN WALL
DIAM	DIAMETER
DIM	DIMENSION
DN	DOWN
DRWG	DRAWING
DTL	DETAIL
EA	EACH
E.C.	ELECTRIC CONTRACTOR
E.J.	EXPANSION JOINT
ELEV	ELEVATION
EQ	EQUAL
EXIST	EXISTING
EXP	EXPANSION
FLR	FLOOR
G.C.	GENERAL CONTRACTOR
GL	GLASS
GYP	GYPSUM
H.M.	HOLLOW METAL
HORIZ	HORIZONTAL
INSUL	INSULATION
I.S.	INSIDE
JT	JOINT
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LTR	LETTER
MFR	MANUFACTURER
MTD	MOUNTED
MTG	MOUNTING
MTL	METAL
MULL	MULLION
O.C.	ON CENTER
OPP	OPPOSITE
O.S.	OUTSIDE
P.C.	PLUMBING CONTRACTOR
P/C	PRECAST CONCRETE
PERIM	PERIMETER
PKG	PARKING
PLAS.LAM.	PLASTIC LAMINATE
PLYWD	PLYWOOD
PTD	PAINTED
PTW	PRESSURE-TREATED WOOD
R	RISER
RCVE	RECEIVE
RCVR	RECEIVER
RD	ROUND
REQ'D	REQUIRED
SECT	SECTION
SHT	SHEET
SIM	SIMILAR
SL	SLIDING
S.S.	STAINLESS STEEL
STL	STEEL
STRUC.	STRUCTURAL
SQ	SQUARE
TEMP	TEMPERED
T.O.	TOP OF
TR	TREAD
TYP	TYPICAL
VERT	VERTICAL
WD	WOOD

SHEET INDEX

	COVER SHEET
L1	SITE LAYOUT PLAN / KEY PLANS
S1	FRAMING PLAN: EXISTING LEVELS 5 & 6
S2	FRAMING PLAN: LEVELS 7 & 8
S3	FRAMING PLAN: LEVELS 9 & 10
S4	FRAMING PLAN: LEVEL 11
S5	BRIDGE FRAMING PLAN
S6	STRUCTURAL DETAILS
S7	STAIR SECTIONS & ELEVATIONS
S8	STRUCTURAL DETAILS
A1	ARCHITECTURAL PLAN: LEVELS 7 & 8
A2	ARCHITECTURAL PLAN: LEVELS 9 & 10
A3	ARCHITECTURAL PLAN: LEVEL 11
A4	ARCHITECTURAL PLAN: BRIDGES / SIGNAGE
A5	BUILDING ELEVATIONS
A6	BUILDING ELEVATIONS
A7	BUILDING ELEVATIONS / BUILDING SECTION
A8	WALL SECTIONS
A9	DETAILS
A10	STAIRS 1 & 3
A11	STAIR 2
A12	ATTENDANT'S BOOTH
ME1	ATTENDANT'S BOOTH: MECHANICAL / ELECTRICAL
P1	PLUMBING PLAN: EXISTING LEVELS 5 & 6
P2	PLUMBING PLAN: LEVELS 7 & 8
P3	PLUMBING PLAN: LEVELS 9 & 10
P4	PLUMBING PLAN: LEVEL 11
P5	PLUMBING ISOMETRICS
E1	ELECTRICAL PLAN: EXISTING LEVELS 5 & 6
E2	ELECTRICAL PLAN: LEVELS 7 & 8
E3	ELECTRICAL PLAN: LEVELS 9 & 10
E4	ELECTRICAL PLAN: LEVEL 11
E5	ELECTRICAL PLAN: BRIDGES

CITY OF MADISON PARKING FACILITIES APPROVED		Conditionally	Date
Zoning	Kathy Voeck		11-26-06
Plan			
Traffic Eng.			12/1/06
Police			
City Eng.	Arnold E. Mitte		12/3/06

PARKING FACILITY APPROVAL / CONDITIONAL USE APPROVAL:

PLANNING & DEVELOPMENT _____ FIRE DEPARTMENT _____

TRAFFIC ENGINEERING _____ WATER UTILITY _____

CITY ENGINEERING _____

GENERAL CONSTRUCTION CONTRACT NO. 135

412
430 N.

FRANCES STREET PARKING RAMP PHASE 2 ADDITION

APPROVED BY THE COMMON COUNCIL ON : _____

MAYOR F. JOSEPH SENSENBRENNER _____

PARKING MANAGER DUANE HINZ _____

CITY CLERK ANDRE BLUM _____

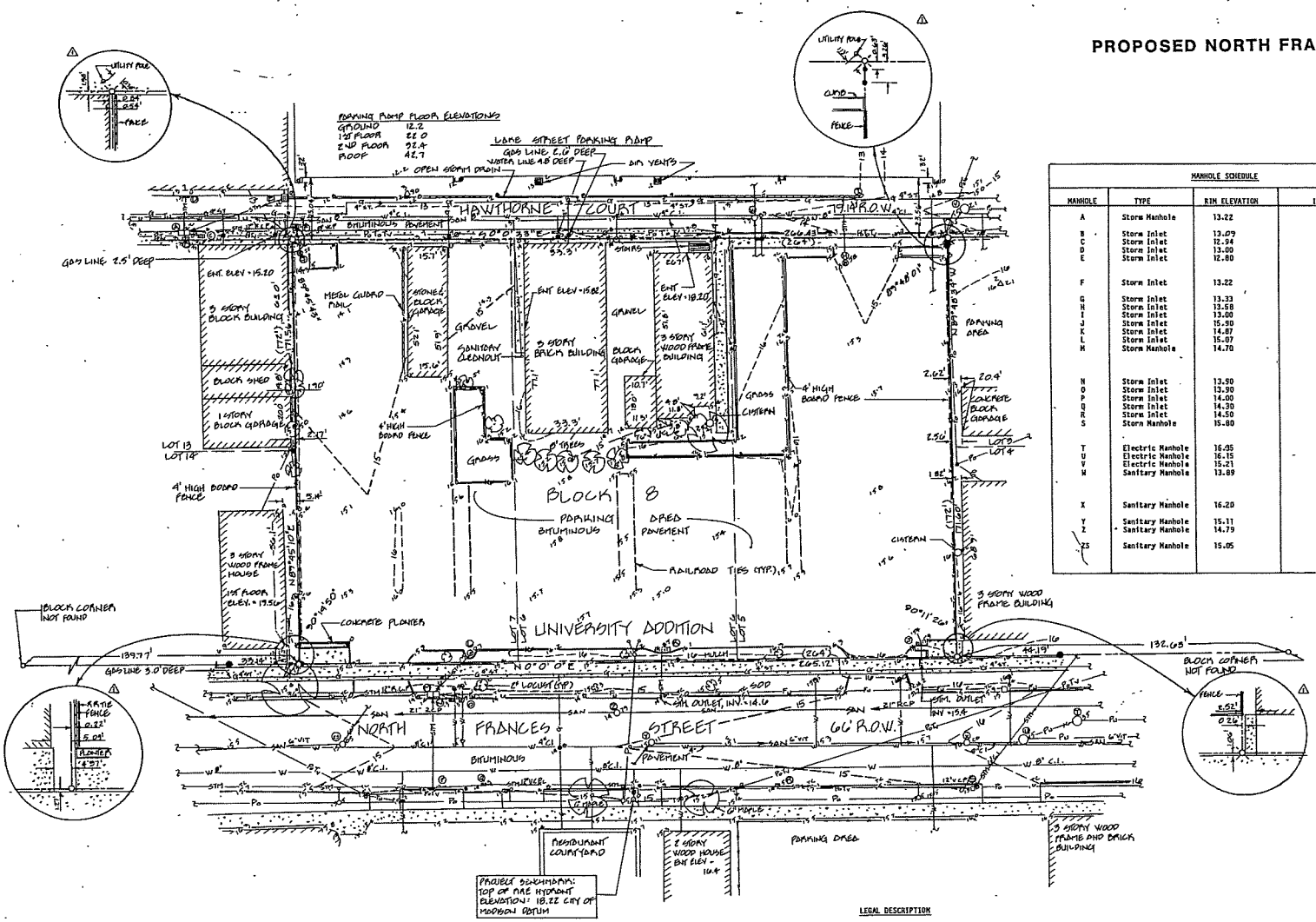
CITY OF MADISON PARKING UTILITY
MADISON , WISCONSIN

WISCONSIN GUSTAVE W. MARTINSONS 5-2200 REGISTERED ARCHITECT

ARCHITECT : MARTINSONS / ZECK / MEYER , INC.
ENGINEER : ARNOLD & O'SHERIDAN , INC.

P.H. #25

PROPOSED NORTH FRANCES STREET PARKING RAMP



MANHOLE SCHEDULE

MANHOLE	TYPE	RIM ELEVATION	INVERT ELEVATION
A	Storm Manhole	13.22	N 11.00
			S 10.70
B	Storm Inlet	13.09	11.30
C	Storm Inlet	12.94	11.04
D	Storm Inlet	13.00	11.50
E	Storm Inlet	12.80	N 11.95
			W 11.50
			SE 11.40
F	Storm Inlet	13.22	S 11.12
			E 11.23
G	Storm Inlet	13.33	11.33
H	Storm Inlet	13.58	12.53
I	Storm Inlet	13.00	12.00
J	Storm Inlet	15.90	15.40
K	Storm Inlet	14.87	14.60
L	Storm Inlet	15.07	13.82
M	Storm Manhole	14.70	N 12.55
			NW 12.55
			S 11.55
			E 12.00
N	Storm Inlet	13.50	11.66
O	Storm Inlet	13.30	11.75
P	Storm Inlet	14.00	12.10
Q	Storm Inlet	14.30	12.60
R	Storm Inlet	14.50	12.90
S	Storm Manhole	15.80	NW 13.50
			E 13.55
			S 13.40
T	Electric Manhole	16.05	Not Verified
U	Electric Manhole	16.15	Not Verified
V	Electric Manhole	15.21	Not Verified
W	Sanitary Manhole	13.89	N 6.29
			S 6.30
			E 8.09
			W 8.89
X	Sanitary Manhole	16.20	N 10.80
			S 10.85
Y	Sanitary Manhole	15.11	N 11.51
Z	Sanitary Manhole	14.79	N 0.57
			S 0.54
ZS	Sanitary Manhole	15.05	W 9.35
			S 9.05

LEGEND

- TRAVERSE POINT
- EXISTING CONTOUR
- SPOT ELEVATION
- TOP OF CURB SPOT ELEVATION
- DECIDUOUS TREE WITH TRUNK DIA.
- FENCE LINE
- LOT LINE
- PROPERTY LINE, RIGHT OF WAY
- EXISTING BUILDING
- CONCRETE PAVEMENT
- FIRE HYDRANT
- UTILITY VALVE
- MANHOLE
- CATCH BASIN
- CURB INLET
- UTILITY POLE
- UTILITY POLE WITH LIGHT
- STREET LIGHT
- SANITARY SEWER
- STORM SEWER
- WATER MAIN
- GAS MAIN
- OVERHEAD POWER LINE
- UNDERGROUND POWER LINE
- OVERHEAD TELEPHONE LINE
- UNDERGROUND TELEPHONE LINE
- RIGHT OF WAY
- PROPERTY IRON SET
- PROPERTY IRON FOUND
- UTILITY POLE WITH RISER
- UNDERGROUND FIRE ALARM
- CAST IRON
- REINFORCED CONCRETE PIPE
- VITRIFIED CLAY PIPE
- STAR DRILL IN CONCRETE
- CHANNEL T.V. CABLE
- ORIGINALLY PLATTED DISTANCE

NOTES

1. PROJECT BENCHMARK: TOP OF FIRE HYDRANT ON NORTH FRANCES STREET AS SHOWN ON THIS DRAWING. ELEVATION = 18.22 CITY OF MADISON DATUM (ADD 845.60 TO OBTAIN USGS DATUM).
2. CONTOUR INTERVAL IS ONE FOOT.
3. SEWER AND BENCHMARK INFORMATION WAS OBTAINED FROM THE CITY ENGINEERS OFFICE, MADISON, WISCONSIN.
4. GAS AND ELECTRIC INFORMATION WAS OBTAINED FROM MADISON GAS AND ELECTRIC, MADISON, WISCONSIN.
5. TELEPHONE INFORMATION WAS OBTAINED FROM WISCONSIN TELEPHONE COMPANY MADISON, WISCONSIN.
6. UNDERGROUND FIRE ALARM INFORMATION WAS OBTAINED FROM THE TRAFFIC ENGINEERING DEPARTMENT, MADISON, WISCONSIN.
7. WATER LINE INFORMATION WAS OBTAINED FROM MADISON WATER UTILITY, MADISON, WISCONSIN.
8. OVERHEAD TELEVISION CABLE INFORMATION WAS OBTAINED FROM COMPLETE CHANNEL T.V., MADISON, WISCONSIN.
9. SURFICIAL FEATURES OF UNDERGROUND UTILITY LINES WERE FIELD LOCATED. SEWER MANHOLE RIM AND INVERT ELEVATIONS WERE ALSO FIELD VERIFIED.
10. PRIOR TO EXCAVATION CONTACT APPROPRIATE UTILITY COMPANIES FOR STAKE-OUT.
11. TOPOGRAPHIC AND BOUNDARY SURVEY WAS PERFORMED BY WARZYN ENGINEERING INC., ON DECEMBER 12, 15 AND 16, 1980.
12. BEARINGS ARE REFERENCED TO THE WEST RIGHT-OF-WAY LINE OF NORTH FRANCES STREET, RECORDED AS N00°00'00"E.
13. WATER AND GAS LINE DEPTHS ARE SHOWN WHERE IT WAS POSSIBLE TO REMOVE VALVE COVERS AND DETERMINE DEPTH TO TOP OF VALVE NUT.

LEGAL DESCRIPTION

ALL OF LOTS 5, 6 AND 7 OF BLOCK 8 OF THE UNIVERSITY ADDITION TO THE CITY OF MADISON, DANE COUNTY, WISCONSIN.

SAID PARCEL CONTAINS 45,601 SQUARE FEET OR 1.0469 ACRES.

I, SAMUEL E. WOLFE, CERTIFY THAT I HAVE SURVEYED THE PARCEL OF LAND SHOWN, AND THAT THIS PLAT IS A CORRECT REPRESENTATION OF THE EXTERIOR BOUNDARIES OF THE LAND SURVEYED.

Samuel E. Wolfe

REGISTERED SURVEYOR #S-1507

DATE DEC. 30, 1980

WISCONSIN SAMUEL E. WOLFE S-1507 MADISON, WIS. LAND SURVEYOR

north

NO	BY	DATE	REVISION
1	CPS	1/6/81	ADDITIONAL BOUNDARY INFORMATION

BOUNDARY, TOPOGRAPHIC AND UTILITY SURVEY OF LOTS 5, 6, AND 7 OF BLOCK 8 OF THE UNIVERSITY ADDITION, MADISON, WISCONSIN

SURVEYED FOR THE CITY OF MADISON, WISCONSIN

WARZYN ENGINEERING INC

DRAWN GM, CPS | SCALE 1"=20' | SHEET 1 OF 1
CHECKED GM, SEW | DATE 12/30/80 | DRAWING NO C9615-1
APPROVED Samuel E. Wolfe | REFERENCE | PRINTED

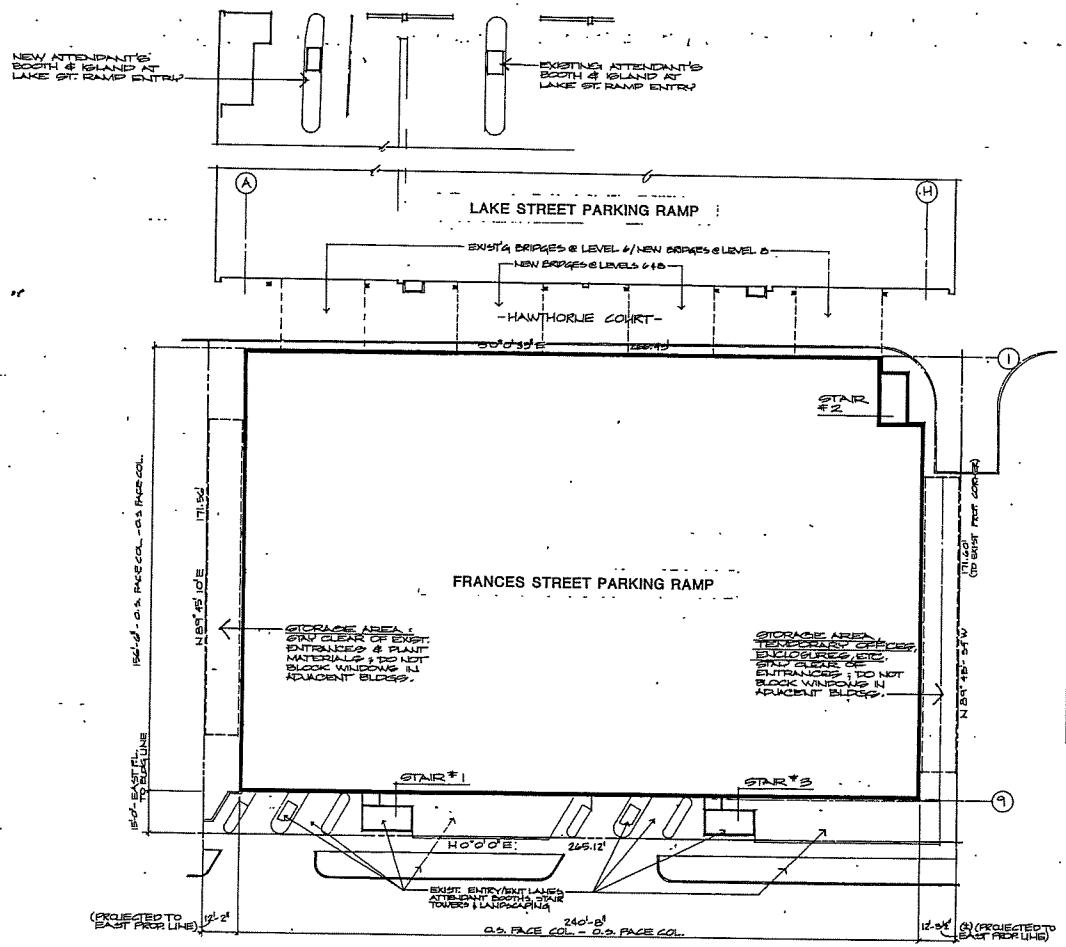
SHEET SS1

PROJECT MANAGER: DATE 5/27/81

MARTINSONS ZECK, INC. 323 WEST WASHINGTON AVE. MADISON, WISCONSIN 53703 608 256 2002

FRANCES STREET PARKING RAMP
CITY OF MADISON PARKING UTILITY MADISON, WISCONSIN

AS BUILT



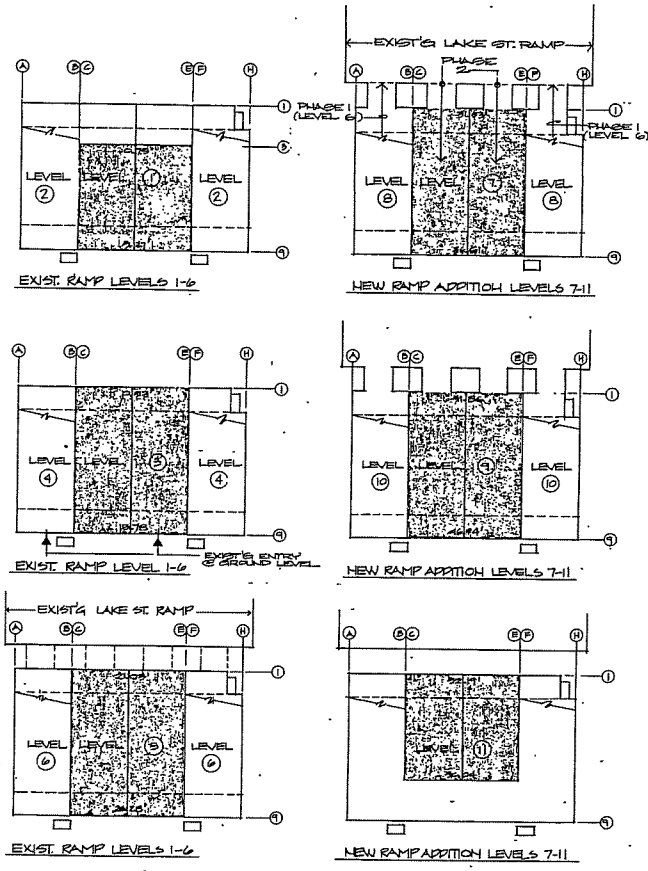
PROJECT ADDRESS: 430 N. FRANCES STREET.

LEGAL DESCRIPTION: ALL OF LOTS 5, 6 & 7 OF BLOCK 9 OF THE UNIVERSITY ADDITION TO THE CITY OF MADISON, DANE COUNTY, WI.

SITE AREA: 45,601 SQ. FT. = 1.0469 ACRES.

NORTH

SITE LAYOUT PLAN 1" = 20'-0"



KEY PLANS

Project Number 8610
Date 11.3.88
Drawing Number L1

Mortinsons / Zeck / Mayer
Planning Architecture Engineering
425 West Washington Avenue
Madison Wisconsin 53703

ARNOLD & O'SHERIDAN, INC. CONSULTING ENGINEERS

PHASE 2 ADDITION
FRANCES STREET PARKING RAMP
CITY OF MADISON PARKING UTILITY

L1

PLANT SCHEDULE

JH	JUNIPERUS HORIZONTALIS 'HUGHES' (HUGHES JUNIPER)	B&B/CG BALL DIA. 10" MIN.	5'-24" DIA. 3d SPACING
JCP	JUNIPERUS CHINENSIS PFITZERIANA 'HETZI' (HETZ JUNIPER)	B&B/CG BALL DIA. 12" MIN.	24"-30" DIA. 48" SPACING
* GT	GLEDITSIA TRIACANTHOS INERMIS 'SKYLINE' (SKYLINE LOCUST)	FB, BALL DIA. 32" MIN.	3"-3½" CALIPER
AG	ACER GINNALA (AMUR MAPLE)	BB BALL DIA. 24" MIN.	2"-2½" CALIPER TREE FORM - SPECIMEN

* PLACEMENT TO BE COORDINATED W/ PLANTINGS (BY OTHERS) IN STREET TERRACE

TREES SHALL BE WELL MATCHED SPECIMENS W/ UNIFORM CROWNS & DOMINANT LOWER BRANCHES SHALL BE A MIN. OF 7½ FT. & NO MORE THAN 9 FT. FROM THE GROUND.

PAVEMENT DETAIL
3/8" = 1'-0"

ALTERNATE LANDSCAPING PLAN @ STAIR #3
1/8" = 1'-0"

EAST PLAZA PLAN - LANDSCAPING
1/8" = 1'-0"

EAST PLAZA PLAN - GRADING & LAYOUT
1/8" = 1'-0"

N. FRANCES STREET

CONDUIT PLACEMENT DETAILS FOR COMMERCIAL DRIVE ENTRANCES IN MADISON
MADISON GENERAL ORDINANCE SECTION 10.08 (5) 7b (4)

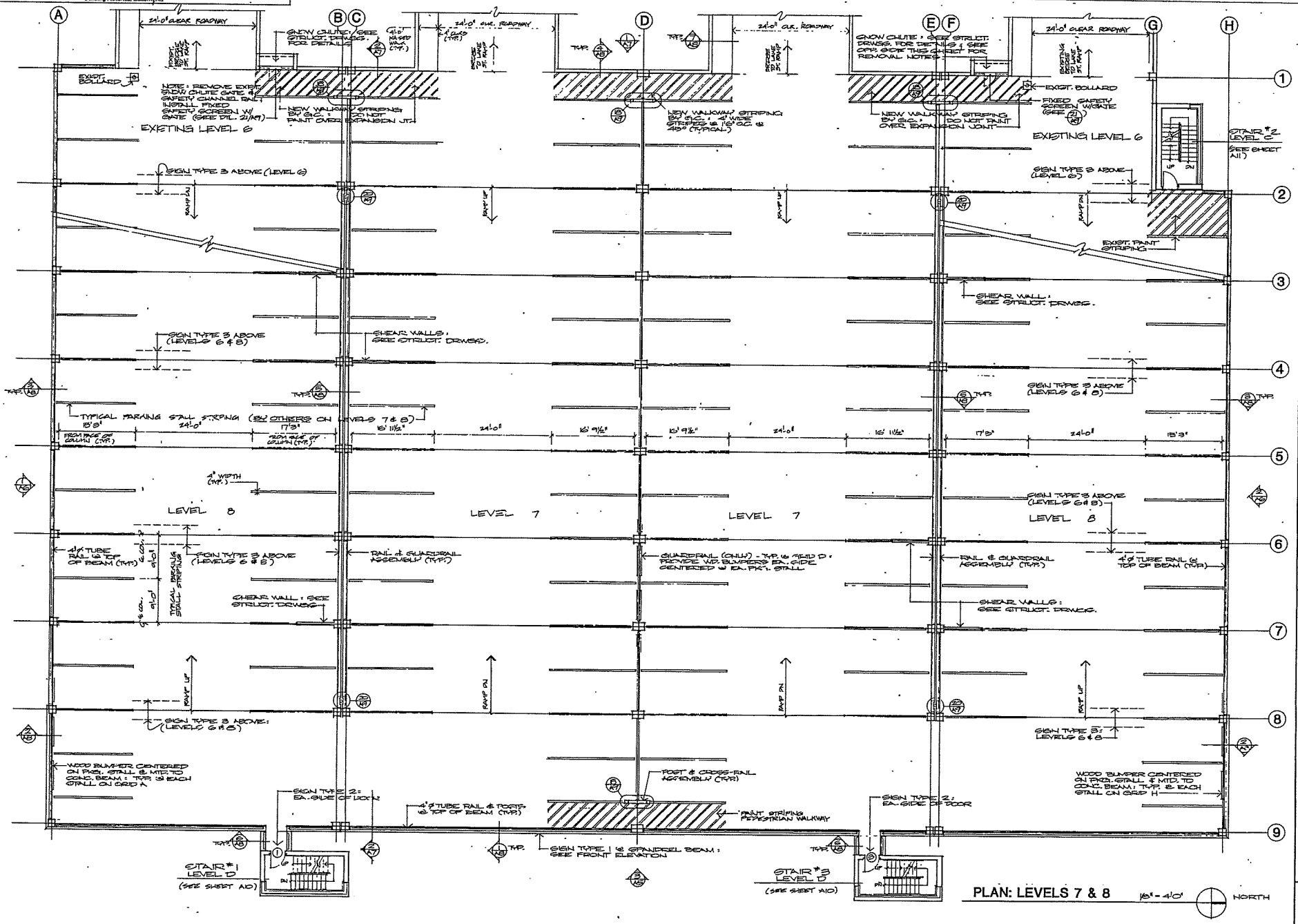
NOTE: CONDUIT PLACED @ EACH DRIVEWAY APPRON

AS BUILT

FRANCES STREET PARKING RAMP
CITY OF MADISON PARKING UTILITY - MADISON, WISCONSIN

SHEET L2

CITY OF MADISON, STATE STREET CAMPUS GARAGE MIXED-USE PROJECT, CONTRACT NO. 9361, Reference-9 Neighboring Building Historical Documents



PLAN: LEVELS 7 & 8 16'-4'-0" NORTH

Mortinsons / Zeck / Meyer
Planning Architecture Engineering
425 West Washington Avenue
Madison Wisconsin 53703

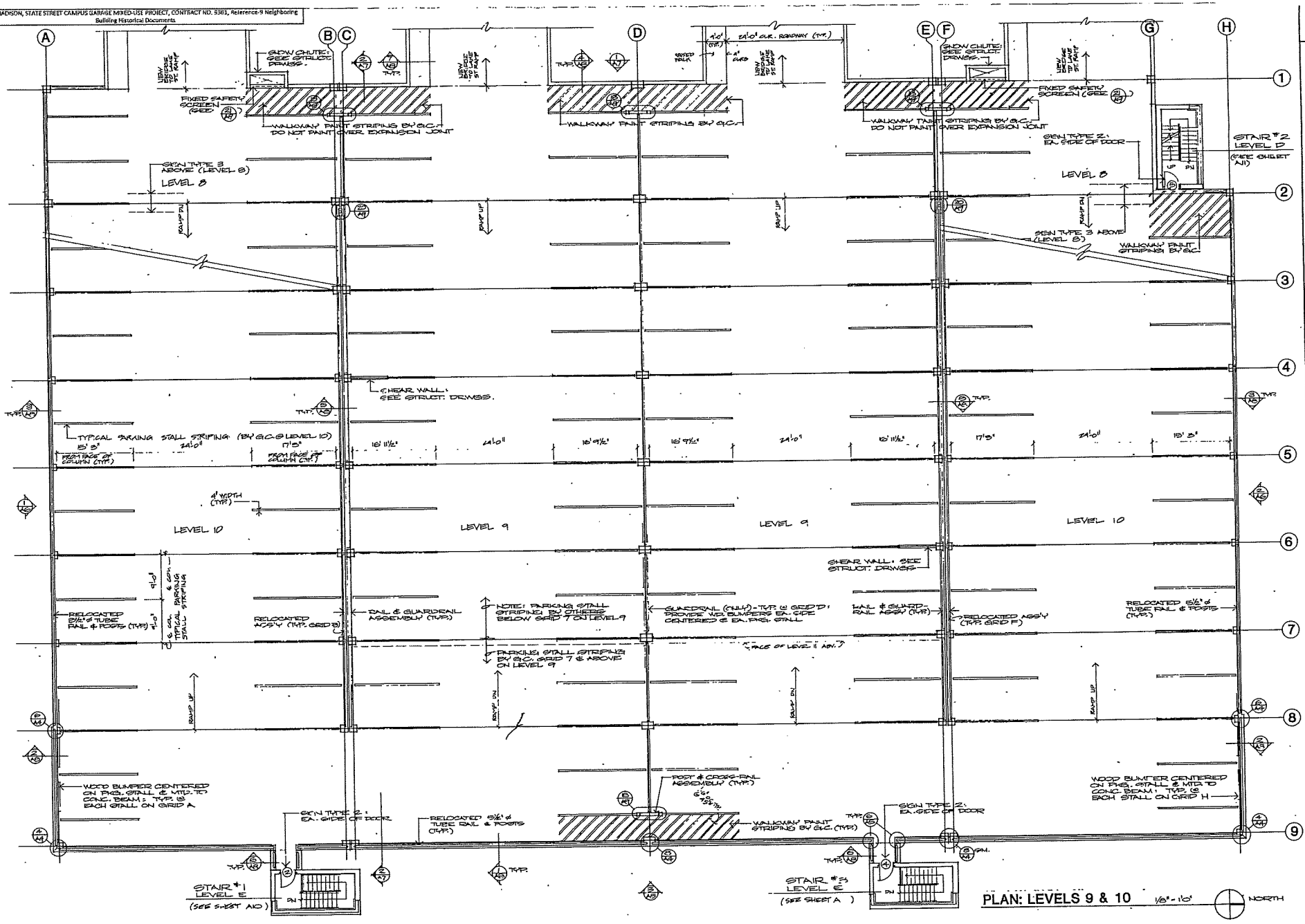
Project Number 8810
Date 11.3.88

ARNOLD & O'SHERIDAN, INC.
CONSULTING ENGINEERS

PHASE 2 ADDITION
FRANCES STREET PARKING RAMP

A1

F MADISON, STATE STREET CAMPUS GARAGE MIXED-USE PROJECT, CONTRACT NO. 5361, Reference-9 Neighboring Building Historical Documents



PLAN: LEVELS 9 & 10 1/8"-1'0" NORTH

Mortinsons / Zeck / Meyer
Planning/Architecture Engineering
625 West Washington Avenue
Madison Wisconsin 53703

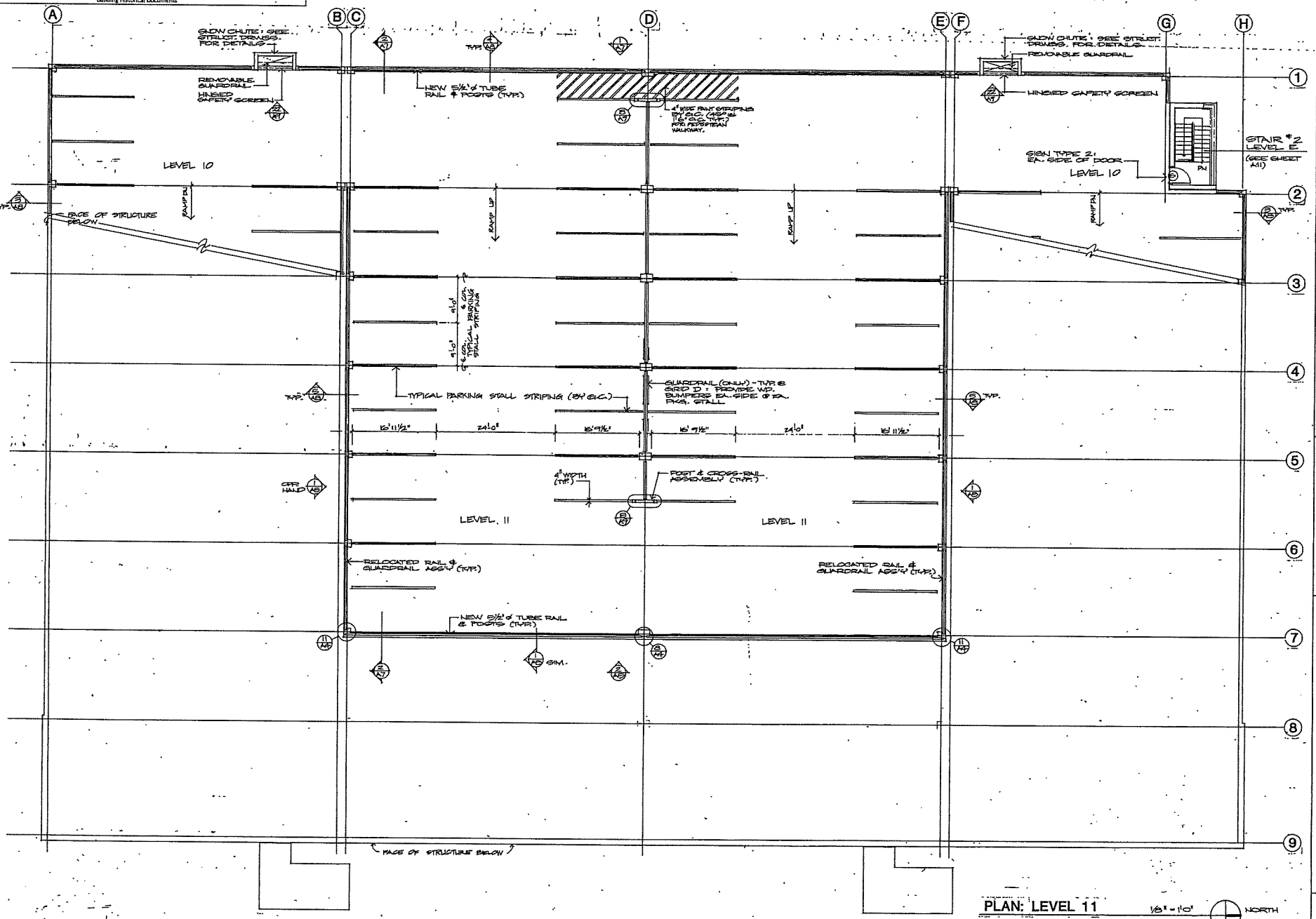
Project Number 8610
Date 11.3.88

ARNDT, ENGEBRETSON, INC.
CONSULTING CIVIL AND STRUCTURAL ENGINEERS

PHASE 2 ADDITION
FRANCES STREET PARKING RAMP
CITY OF MADISON PARKING UTILITY

A2

CITY OF MADISON, STATE STREET CAMPUS GARAGE MIXED-USE PROJECT, CONTRACT NO. 8981, Reference-9 Neighboring Building Historical Documents



PLAN: LEVEL 11 1/8" - 1'-0" NORTH

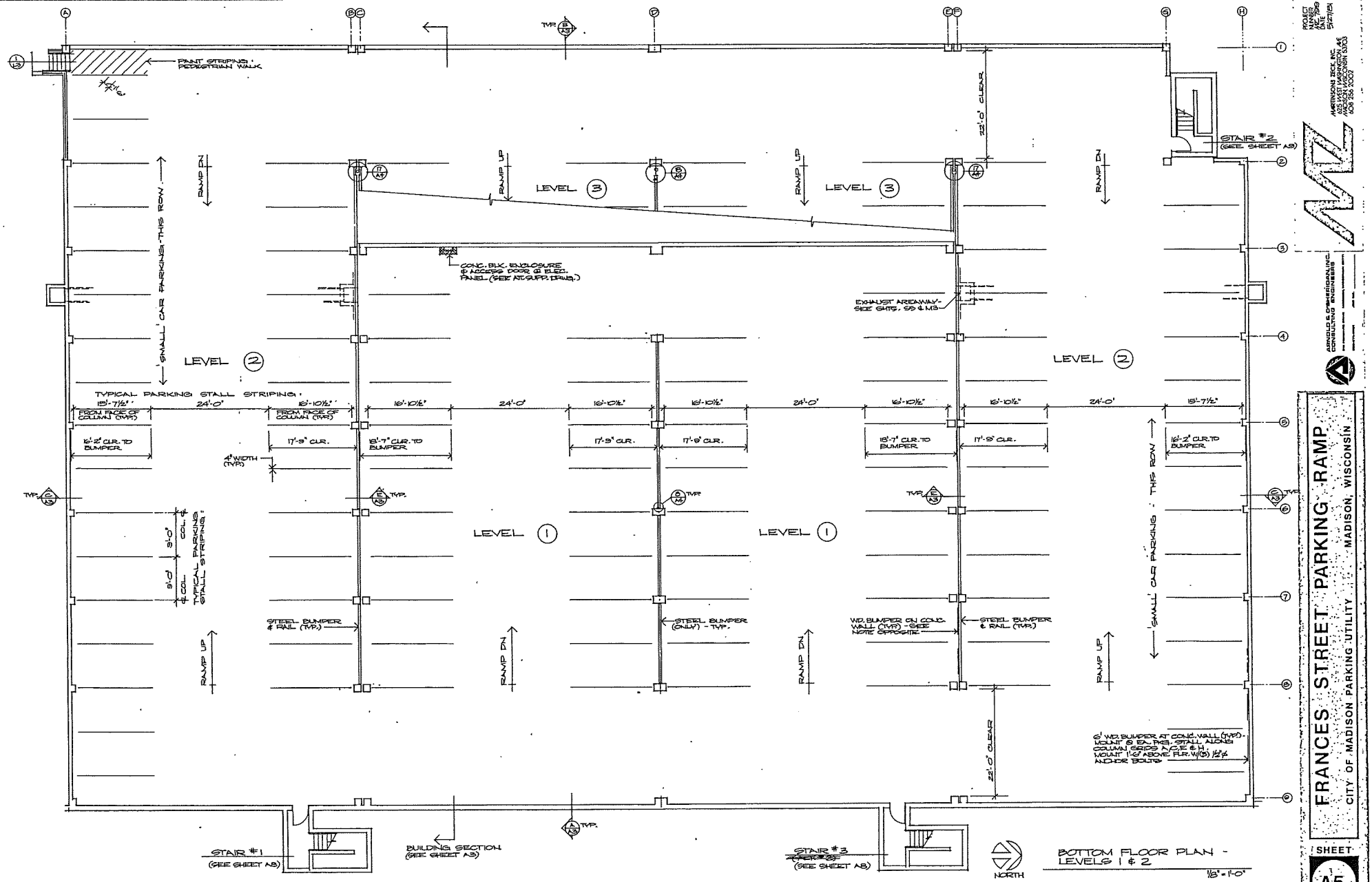
PHASE 2 ADDITION
FRANCES STREET PARKING RAMP
CITY OF MADISON PARKING UTILITY

A3

Project Number 8610
Date 11.3.88

Martinsons / Zack / Meyer
Planning Architecture Engineering
625 West Washington Avenue
Madison Wisconsin 53703

ARNOLD & O'NEIL JOHNSON INC.
CONSULTING ENGINEERS



BOTTOM FLOOR PLAN - LEVELS 1 & 2

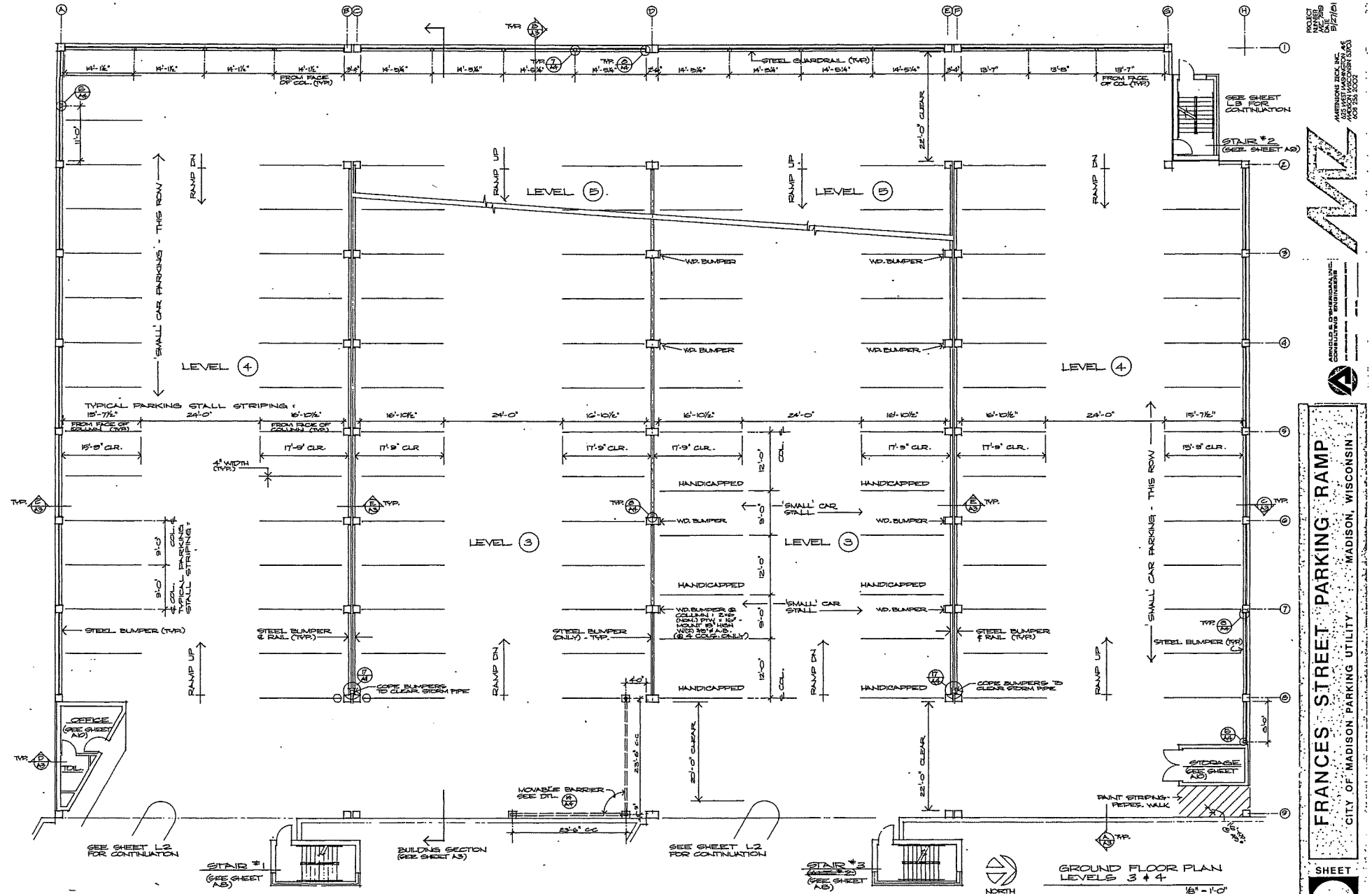
1/8"=1'-0"

AS BUI

FRANCES STREET PARKING RAMP

CITY OF MADISON PARKING UTILITY - MADISON, WISCONSIN

SHEET A5

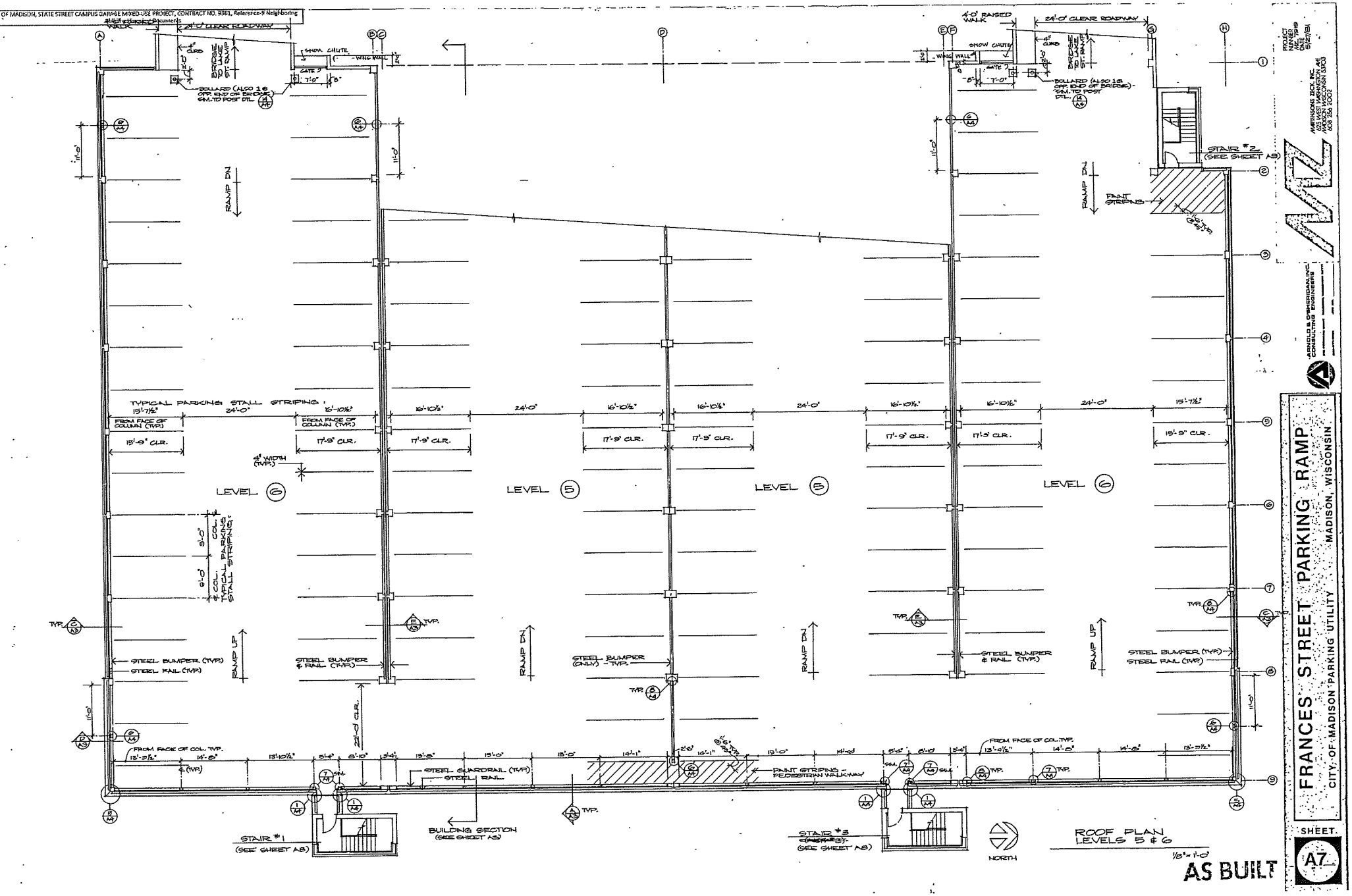


GROUND FLOOR PLAN
LEVELS 3 & 4
1/8" = 1'-0"

AS BUILT

FRANCES STREET PARKING RAMP
CITY OF MADISON PARKING UTILITY MADISON, WISCONSIN

SHEET A6



ROOF PLAN
LEVELS 5 & 6

1/8"=1'-0"

AS BUILT

FRANCES STREET PARKING RAMP

CITY OF MADISON PARKING UTILITY MADISON, WISCONSIN

SHEET A7

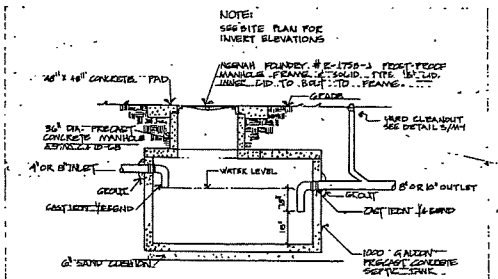
ARNOLD & O'SHERIDAN, INC. CONSULTING ENGINEERS

MARTINSONS ZECK, INC. ARCHITECTS & PLANNERS MADISON WISCONSIN 53703 608 256 2002

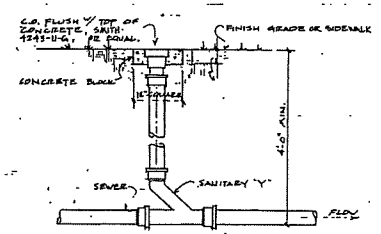
CITY OF MADISON, STATE STREET CAMPUS GARAGE MIXED-USE PROJECT, CONTRACT NO. 9361, Reference-9 Neighboring Building Historical Documents

PLUMBING SYMBOL SCHEDULE

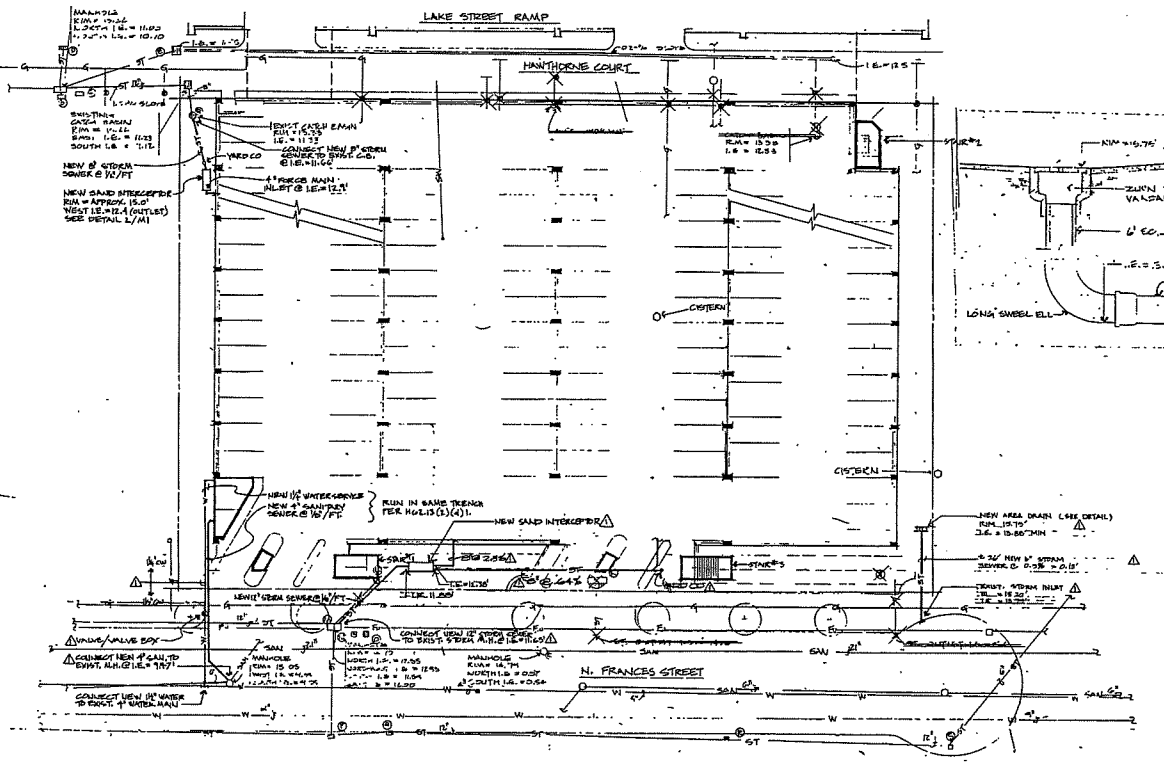
	SANITARY SEWER
ST	STORM SEWER
	WASTE
	VENT
	COLD WATER
	HOT WATER
F	FIRE PROTECTION WATER
G	GAS
	RISER UP
	RISER DOWN
	BALL VALVE
	CHECK VALVE
	GATE VALVE
	UNION
	HOSE BIBB
	CLEANOUT
AP	ACCESS PANEL
L	LAVATORY
MH	MANHOLE
CB	CATCH BASIN
CO	CLEANOUT
CW	COLD WATER
DFU	DRAINAGE FIXTURE UNITS
SFU	SUPPLY FIXTURE UNITS
EC	ELECTRICAL CONTRACTOR
EWC	ELECTRIC WATER COOLER
PC	PLUMBING CONTRACTOR
FD	FLOOR DRAIN
GC	GENERAL CONTRACTOR
HC	HEATING CONTRACTOR
HB	HOSE BIBB
WC	WATER CLOSET
HW	HOT WATER
I.E.	INVERT



2 SAND INTERCEPTOR
NO SCALE



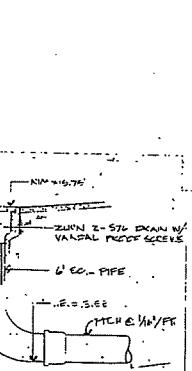
3 YARD CLEAN OUT DETAIL
DO NOT SCALE (SEE SITE PLAN FOR LOCATION)



1 MECHANICAL SITE PLAN
1" = 20'

NORTH

NOTES:
1. PLUMBING CONTRACTOR SHALL BE RESPONSIBLE TO REMOVE, CAP & ETC. ALL ABANDONED OR EXISTING GAS, WATER & SEWER SERVICES UNCOVERED AND/OR UNCOVERED & BROKEN AS NECESSARY TO SATISFY UTILITIES OR AUTHORITIES HAVING JURISDICTION.
2. PLUMBING CONTRACTOR SHALL VERIFY THE SIZE AND LOCATION OF ALL UTILITIES ADJACENT TO THE INSTALLATION OF ALL NEW SYSTEMS.
3. ALL WORK SHOWN ON SHEETS M-1 THROUGH M-5 SHALL BE DW PLUMBING CONTRACTOR UNLESS NOTED OTHERWISE IN CIRCLED AREAS.



PROJECT NO. 2007 DATE 09/21/01

MARIMONT ZICK, INC. 625 WEST WASHINGTON AVE MADISON WISCONSIN 53703 608 256 4022

CONSULTING ENGINEERS, INC. MADISON, WISCONSIN

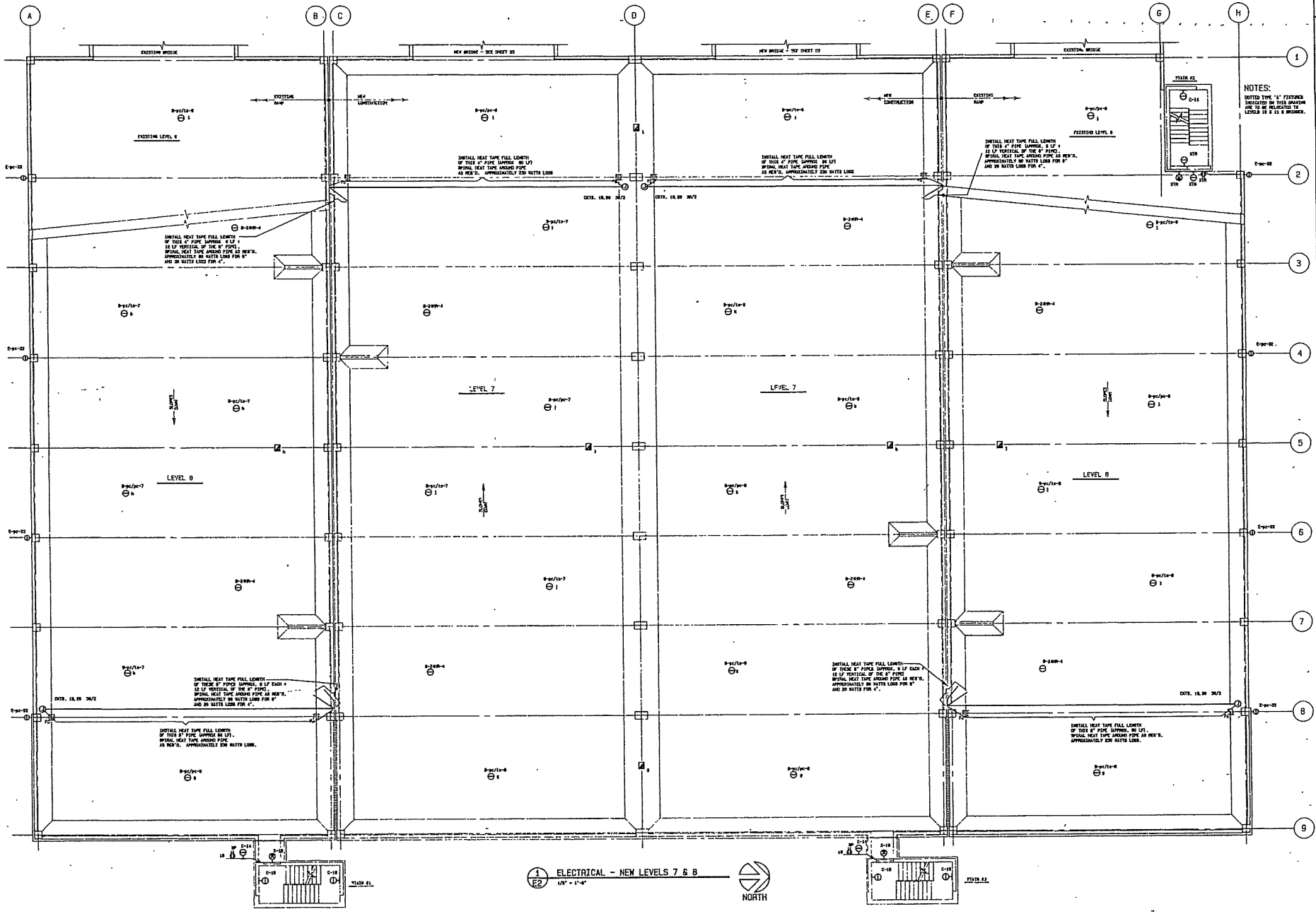
FRANCES STREET PARKING RAMP

CITY OF MADISON PARKING UTILITY MADISON, WISCONSIN

WISCONSIN WILLIAM F. SHARP E-11,475 MADISON WI

William F. Sharp M1 thru M5

SHEET M1



1/E2 ELECTRICAL - NEW LEVELS 7 & 8
1/8" = 1'-0"

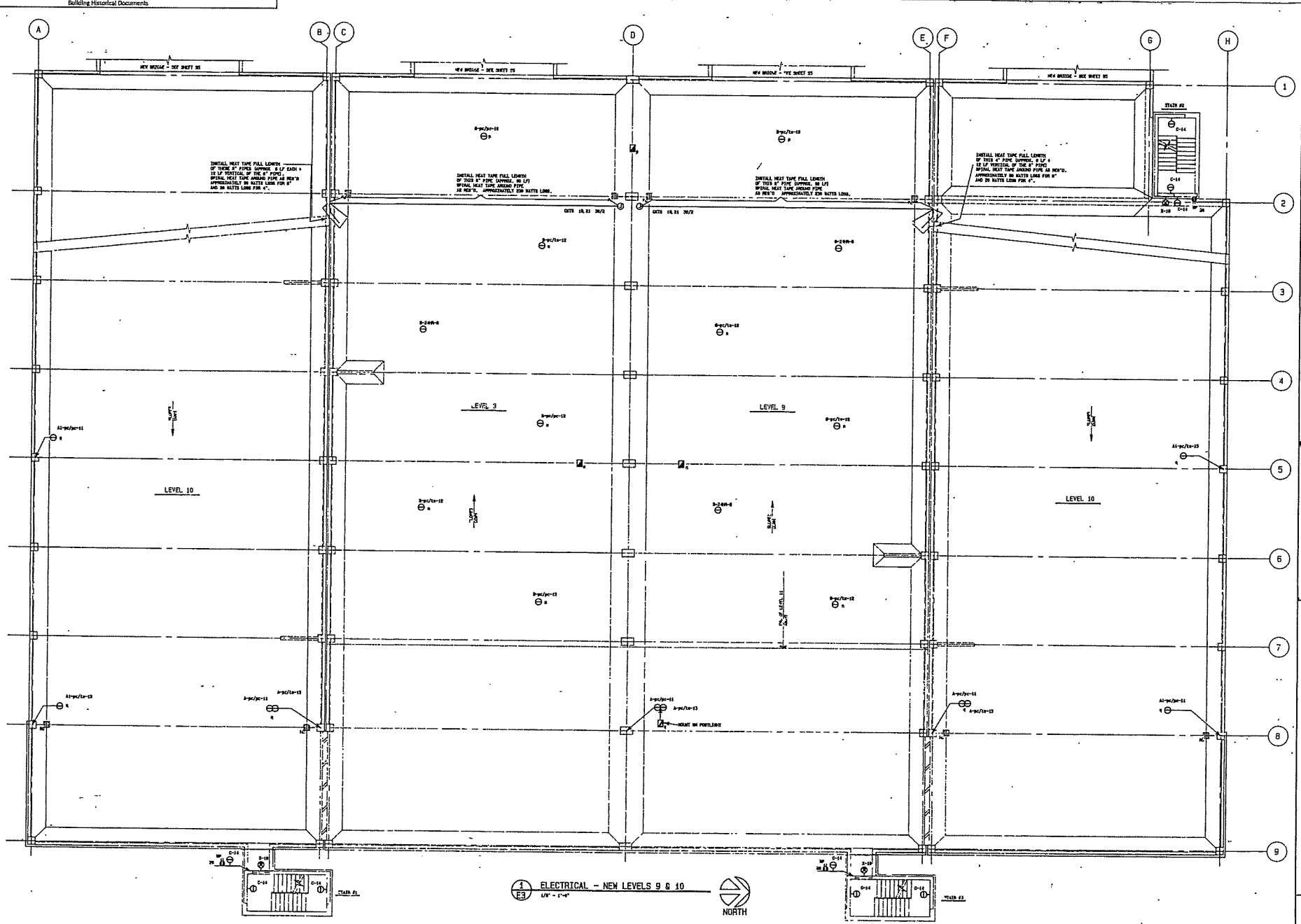
Mattmsons / Zack / Meyer
Planning Architecture Engineering
635 West Washington Avenue
Madison Wisconsin 53703

Project Number 8610
Date 11.3.88
Drawing Number

ARNOLD & O'SHERIDAN, INC.
CONSULTING ENGINEERS

PHASE 2 ADDITION
FRANCES STREET PARKING RAMP
CITY OF MADISON PARKING UTILITY

E2



1 / E3 ELECTRICAL – NEW LEVELS 9 & 10
1/8" = 1'-0"

Martinsons/Zack/Meyer
Planning/Architecture/Engineering
405 West Washington Avenue
Madison, Wisconsin 53703

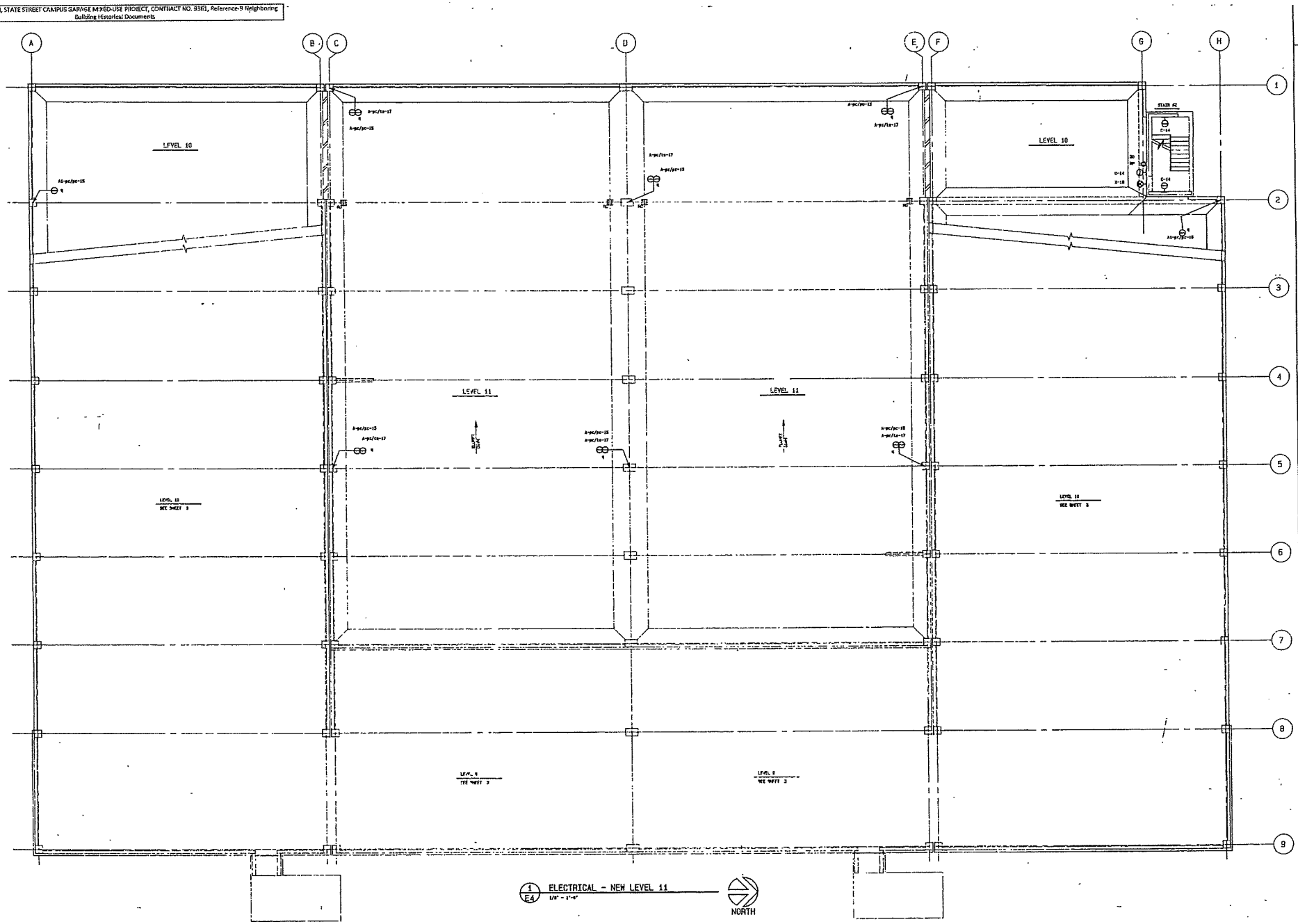
Project Number 8810
Date 11.3.08
Drawing Number

ARNOLD & O'MEARA, INC.
CONSULTING ENGINEERS

PHASE 2 ADDITION
FRANCES STREET PARKING RAMP
CITY OF MADISON PARKING UTILITY

E3

F MADISON, STATE STREET CAMPUS GARAGE MIXED-USE PROJECT, CONTRACT NO. 9361, Reference-9 Neighboring Building Historical Documents



1/E4 ELECTRICAL - NEW LEVEL 11
1/8" = 1'-0"

NORTH

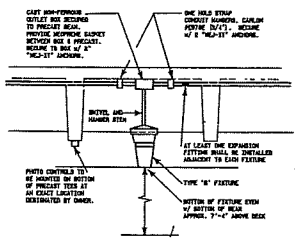
Matthews / Zack / Meyer
Planning Architecture Engineering
425 West Washington Avenue
Madison Wisconsin 53703

Project Number 8810
Date 11.3.88
Drawing Number

ARNOLD & O'SHERIDAN, INC.
CONSULTING ENGINEERS

PHASE 2 ADDITION
FRANCES STREET PARKING RAMP
CITY OF MADISON PARKING UTILITY

E4

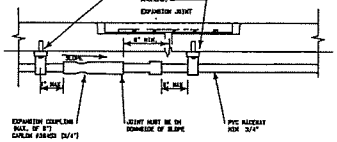


TYPE 'B' FIXTURE MOUNTING DETAIL

N.T.S.

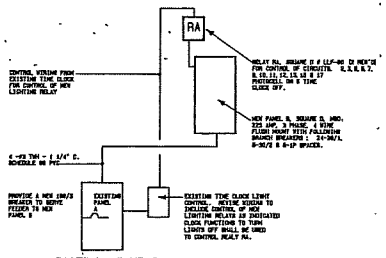
NOTES:

1. SEE SPEC FOR ADDITIONAL INSTALLATION REQUIREMENTS
2. ANY RACEWAY INSTALLED SURFACE MOUNTED ON ROOF SHALL BE HEAVYWALL STEEL.



TYPICAL EXPANSION JOINT DETAIL

N.T.S.



PARTIAL SERVICE RISER

N.T.S.

FIXTURE SCHEDULE

Number	Manufacturer	Catalog No.	Lamps No.	Lamps Order No.	Mounting	Description
A	EXISTING POSTLIGHT		2	SEE NOTE 2	SEE DETAIL	SEE NOTE 3
A1	EXISTING POSTLIGHT		1	SEE NOTE 2	SEE DETAIL	SEE NOTES 3 & 4
B	SEE NOTE 1		1	SEE NOTE 5 LUMALUX	RECESSED	SEE NOTE 1 PARKING RAMP FIXTURE
C	SYLVANIA	ACS-P-SSPS-IES-H-PC	1 -	w/FIXTURE	SURF-WALL	SECURITY/STAIR FIXTURE
D	CROUSE HINDS	WC 240	2	F42WL/SE/SW	SURF-CLG -	ATTENDANT BOOTH FIXTURE
E	SYLVANIA	ACS-1SSPS-IES-H-PC	1	w/FIXTURE	SURF-WALL	SECURITY BRACKET
F	FAIL SAFE	1861 MATCH EXISTING	2	25 TO 1/2	SURF-WALL	EXIT FIXTURE

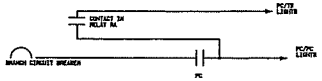
FIXTURE SCHEDULE NOTES:

1. Owner shall provide all type 'B' fixtures to E.C for complete installation. See Spec for additional information.
2. Owner will furnish lamps to Contractor who will install in fixtures.
3. Remove existing postlight & reinstall at new locations indicated. Clean & repair as required to restore postlight to proper working condition.
4. Existing postlight to be re-wired w/ one of the 2 luminaires energized. Contractor shall disconnect luminaire ballast

SYMBOLS & ABBREVIATIONS

- HIGH INTENSITY DISCHARGE – SURFACE, WALL MOUNTED
- FLUORESCENT FIXTURE – SURFACE
- EXIT FIXTURE – DOUBLE FACE, WALL MOUNTED
- A — UPPER CASE LETTER INDICATES FIXTURE TYPE, LIGHTING CONTROL & CIRCUIT NO. ALSO INDICATED
- PHOTOCELL, TORK 4016S
- DOUBLE POLE SWITCH
- DUPLEX GROUNDED RECEPTACLE
- DOUBLE RECEPTACLE – VOLTAGE AMPS INDICATED, TYPE TO MATCH EQUIP., BOONDER
- JUNCTION BOX, SIZE AS REQUIRED BY CODE
- PANELBOARD
- TELEPHONE OUTLET, WALL
- ELECTRIC HEATER

E.C. ELECTRICAL CONTRACTOR
W.P. WEATHER PROOF
XTR EXISTING TO REMAIN



TYPICAL LIGHTING CONTROL DIAGRAM

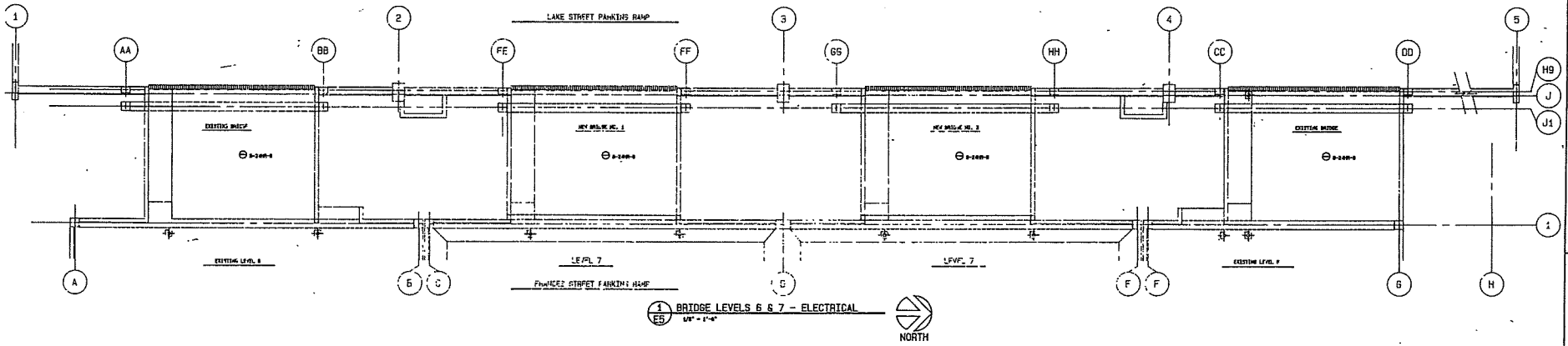
N.T.S.

ELECTRIC HEATER SCHEDULE

No.	Type of Heater	BTU	Watts	Volts	Phase	Manufacturer MODEL Catalog No	Remarks
A	WALL HEATER	13,652	4000	208	1	TRANCENTER/DAY/ERA-1-P	SEMI-RECESSED

LIGHTING CONTROL KEY

24 HR — LIGHTS ON 24 HOURS/DAY. CONTROL FROM PANEL ONLY.
pc/pc — LIGHTS TURNED ON & OFF FROM PHOTOCELL. LOWER CASE LETTER IDENTIFIES PHOTOCELL
pc/tc — LIGHTS TURNED ON w/PHOTOCELL & OFF w/TIMECLOCK



1/E5 BRIDGE LEVELS 6 & 7 – ELECTRICAL

1/8" = 1'-0"

NORTH

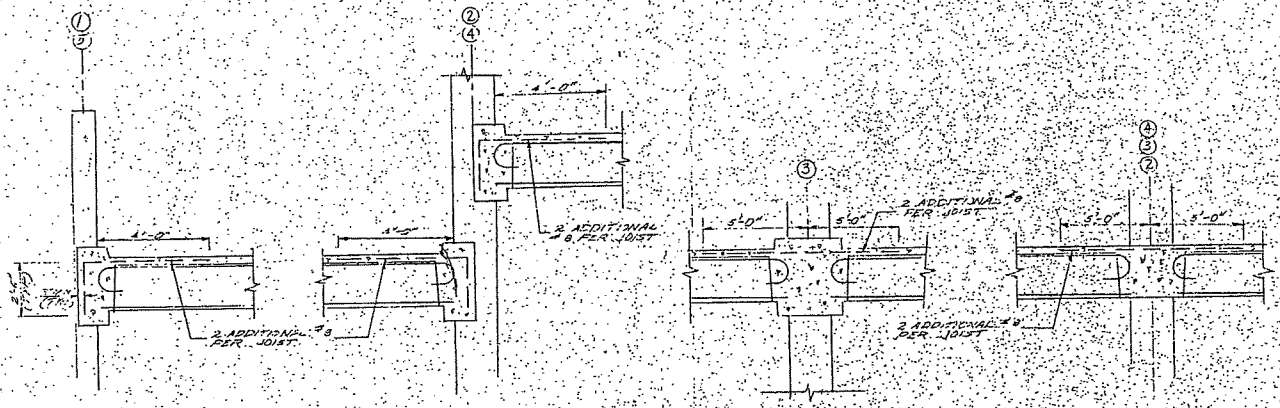
Martinsons / Zack / Meyer
Planning-Architecture-Engineering
625 West Washington Avenue
Madison Wisconsin 53703

Project Number 8610
Date 11.13.86
Drawing Number

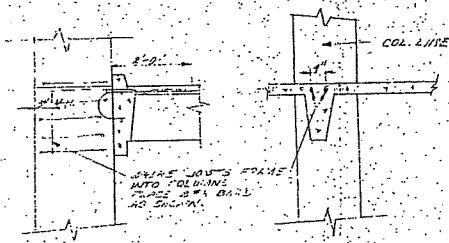
ARNOLD & O'MENDAHL, INC. CONSULTING ENGINEERS

PHASE 2 ADDITION
FRANCES STREET PARKING RAMP
CITY OF MADISON PARKING UTILITY

E5

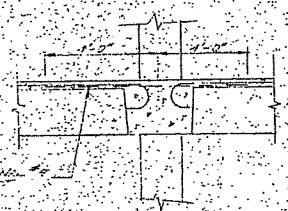


TOP LEVEL DETAILS



SECTIONS AT COLUMNS B C G & H

NOTE: FOR COLUMNS B, C, G & H WHICH ARE UNSUPPORTED, ADD TWO ADDITIONAL SET OF COLUMN TIES SO AS TO PROVIDE 5 COLUMN TIES IN THE DEPTH OF THE FLOOR SYSTEM OR BEAM.



TYPICAL SECTION THRU AISLE BEAM

INTERMEDIATE LEVEL DETAILS

NOTES

JOIST STEEL SHALL BE ASTM A36.
COLUMN TIES MAY BE ASTM A615.
A 1'-0" LAP OF SLAB MESH OVER BEAMS IS ALSO RECOMMENDED.

RECEIVED
WILSON, ANDROS, ROBERTS & HOLL
MAR 29 1965

ISSUED MAR 26 1965

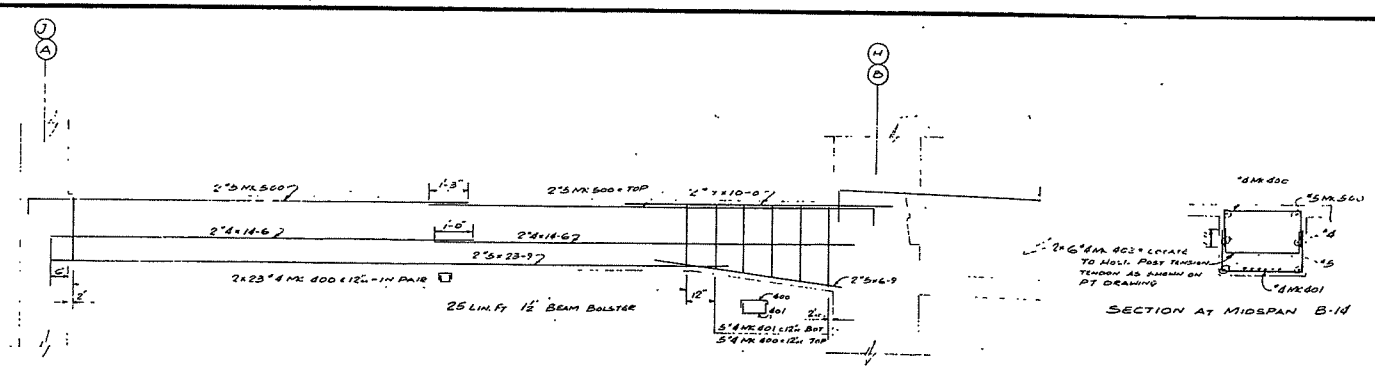
ADDITIONAL REINFORCING STEEL FOR LAKE STREET RAMP

DATE	DESIGNED BY	DRAWN BY	JOB NO.
3-24-65	F.L.L.	W.H.P.	6604

CHARLES W. YODER AND ASSOCIATES
CONSULTING ENGINEERS
MILWAUKEE

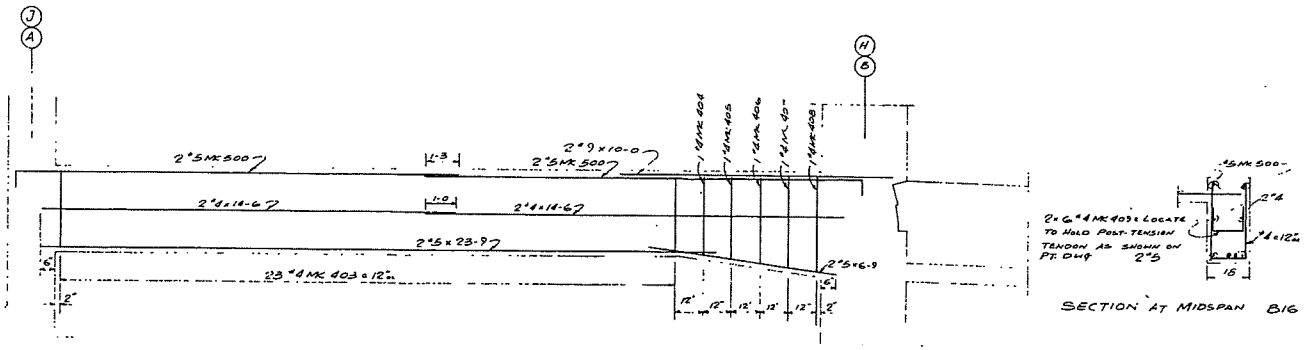
Building Restriction Documents

S. LAMON AVE. STATE STREET CHARLIE GRAHAM MIXED-USE PROJECT. CONTRACT NO. Basic Reference Redlining



SECTION AT MIDSPAN B-14

ELEVATION BEAM-B14



SECTION AT MIDSPAN B16

ELEVATION B-16

NO	DATE	REVISION
1	1/14	ADD'L ALT. 6

CONESCO MIDCONTINENT INC.
CONSTRUCTION ENGINEERING & SERVICES
197 AVENUE AND ROUTE 66
McCOOK, ILLINOIS

ARCHITECT LAW, LAW, POTTER & NEWTON
MADISON, WI

CONTRACTOR SUTTER

ENGINEER

☒ CORRECT AS PRESENTED
☐ REVISE AND RESUBMIT
☐ CONTENTS NOTED

REVIEW OF THIS DRAWING IS LIMITED TO COMPLIANCE WITH INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR DETAILS RELATING TO FABRICATION AND CONSTRUCTION TECHNIQUES AND FOR VERIFICATION OF CONDITIONS AND DIMENSIONS AT THE PROJECT SITE.

CHARLES W. YODER
AND ASSOCIATES
CONSULTING ENGINEERS

DATE 2-10-64 BY [illegible]

☐ CORRECT AS PRESENTED
☐ REVISE AND RESUBMIT
☐ CONTENTS NOTED

REVIEW OF THIS DRAWING IS LIMITED TO COMPLIANCE WITH INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR DETAILS RELATING TO FABRICATION AND CONSTRUCTION TECHNIQUES AND FOR VERIFICATION OF CONDITIONS AND DIMENSIONS AT THE PROJECT SITE.

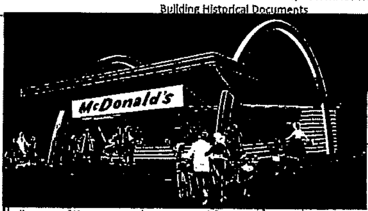
CHARLES W. YODER
AND ASSOCIATES
CONSULTING ENGINEERS

DATE BY

UNITED STATES POST OFFICE
(Previous McDonald's)

441 N. Lake St., Madison, WI 53703

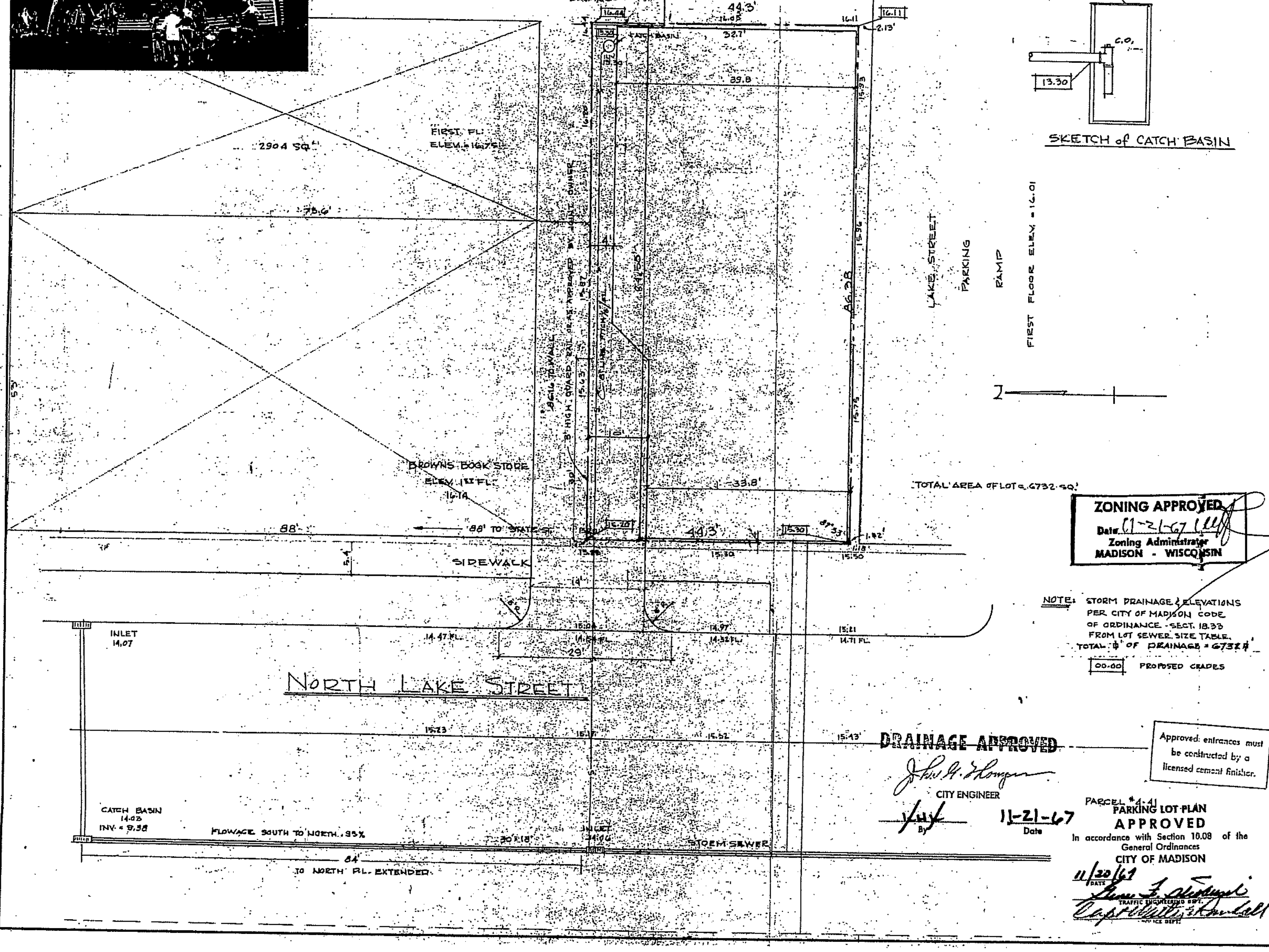
CITY OF MADISON, STATE STREET CAMPUS GARAGE MIXED-USE PROJECT, CONTRACT NO. 9361, Reference-9 Neighboring Building Historical Documents



McDONALD'S SYSTEM INCORPORATED

221 No. LA SALLE STREET CHICAGO 1, ILL.

	NAME	DATE
LESSOR		
LESSEE		
CONTRACTOR		



GENERAL INFORMATION:

1. — THESE PLANS AND SPECIFICATIONS ARE THE PROPERTY OF McDONALD'S SYSTEM, INC., 221 NORTH LA SALLE STREET, CHICAGO 1, ILLINOIS, AND SHALL NOT BE REPRODUCED OR COPIED WITHOUT THEIR WRITTEN PERMISSION.
2. — FRANCHISE OPERATOR SHALL FURNISH AND MAINTAIN ALL STRIPINGS, SIGN, INCINERATOR AND ITS ENCLOSURE.
3. — IN THE EVENT ANY LANDSCAPING, BUFFER ZONES AND OTHER SITE IMPROVEMENTS ARE SPECIFICALLY REQUIRED BY ANY LAW, CODES OR ORDINANCES, THESE SHALL BE THE OBLIGATION OF THE OWNER.
4. — WHEN SANITARY SEWER IS NOT AVAILABLE, AN ADEQUATE SEPTIC SYSTEM MUST BE SHOWN ON THIS PLOT PLAN IN DETAIL. THIS SYSTEM TO BE APPROVED BY LOCAL SANITATION AUTHORITIES AND THE McDONALD'S SYSTEM, INC.
5. — McDONALD'S CONSTRUCTION SUPERINTENDENT TO ESTABLISH FINAL ELEVATIONS AT SITE.
6. — FINISHED SIDEWALK ELEVATION TO BE 6" ABOVE FINISHED BLACKTOP SURFACE AND SHALL PITCH TO MEET FINISHED ELEVATION OF BUILDING SIDEWALK SLAB.
7. — WHEN THIS PLAN IS ACCEPTED BY STATE AND LOCAL GOVERNING AUTHORITIES WITHOUT CHANGES IT CAN BE STAMPED BY THESE AUTHORITIES AS APPROVED.

NOTES:

1. — PARKING FOR ________ CARS.
2. — PARKING SPACES ________ @ ________
3. — ESTIMATED BLACKTOP AREA ________ SQ. FT.
4. — PLOT PLAN REQUESTED BY: J. KALLY
5. — SITE CHECK OUT PREPARED BY: E. CURTIS
6. — INFORMATION TAKEN FROM SURVEY PREPARED BY A. THOUSAND OF MADISON, WISC. ON 6-9-65
7. — ENT. SIGN BASES BY GEN. CONTRACTOR
8. — SIGN BASES TO BE 18" ABOVE FINISHED GRADE
9. — FOR DETAILS OF 6" x 18" CONC. CURBS & 2' WIDE CONC. WALKS, SEE SITE IMPROVEMENT SHEET.

UTILITIES:

SANITARY SEWER 14" Ø C.I. 23' ± W. of R.
CITY WATER 4" @ 85# @ ℄ of LAKE ST.
GAS - BTU/CF 1000 Low Press. SP. GR. .65 CLIMATE ZONE #1
ELECTRICAL 120/208 3Ø - 4 WIRE DELTA

REVISIONS	
B	ADDED APPROACH & GUARD RAIL 11-16-67 FES

DRAWN FES	DATE 8-18-67	DRAWING NUMBER
SCALE 1" = 10'		P-1385/B
CHECKED		
APPROVED		

FINAL PLOT PLAN
for
NORTH LAKE ST.
MADISON, WISC.

441 N Lake St

CHURCH KEY, LIQUID LOUNG, THE DOUBLE U

620/622/624/626 University Ave., Madison, WI 53703

21

JOHNNY O'S

PRELIMINARY DESIGN

OWNER / DEVELOPER

JON OKONEK
UNIVERSITY SPORTS, INC.
620 UNIVERSITY AVE
MADISON, WISCONSIN
608-215-5811

PROJECT LOCATION:

620 UNIVERSITY AVE
MADISON, WISCONSIN

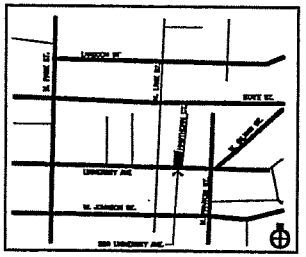
GENERAL CONTRACTOR:

DATE: JANUARY 30, 2007

ABBREVIATIONS:

AC	AIR CONDITIONING	FHC	FIRE HOSE CABINET	P.C.	PRECAST CONCRETE
ACT.	ACCESS FLOOR	FR.	FIRE RATED	P.LAM.	PLASTIC LAMINATE
ACT	ACOUSTICAL CEILING TILE	FLR.	FLOORING	PERF.	PERFORATED
AD	AREA DRAIN	FLR.	FLOOR	PT.	PAINT
ADJ.	ADJUSTABLE	FRT.	FIRE RETARDENT TREATED	PTL.	PHASE
AFF	ABOVE FINISHED FLOOR	FUT.	FUTURE	PL.	PLATE
AL.	ALUMINUM	FVC	FIRE VALVE CABINET	PLAS.	PLASTER
AUT.	AUTOMATIC	FEC	FIRE EXTINGUISHER CABINET	PLWD.	PLYWOOD
ANOD.	ANODIZED	GA.	GAUGE	PLYWD.	PLYWOOD
APT.	APARTMENT	GALV.	GALVANIZED	PNL.	PANEL
APPRD.	APPROVED	GB	GRAB BAR	PNTD.	PAINTED
ARCH.	ARCHITECT	GWB	GLASS FIBER REINFORCED CONC.	PR.	PAIR
ARCH.	ARCHITECTURAL	GFRP	GLASS FIBER REPOL PLASTER	PREFT.	PREFECT (tm)
BM.	BENCH MARK	GL.	GLASS, GLAZING	PT.	PAINT
BTWN.	BETWEEN	GYP.BD.	GYPSUM WALL BOARD	PTD.	PAINTED
BT.	BITUMINOUS			PTN.	PARTITION
BLDG.	BUILDING	HCB	HOLLOW CORE	PVMT.	PAVEMENT
BLK.	BLOCK	HM.	HOLLOW METAL		
BLKG.	BLOCKING	HPT.	HIGH POINT	QT.	QUARRY TILE
BM.	BEAM	HD.	HEAD	QTY.	QUANTITY
BOT.	BOTTOM	HDWR.	HARDWARE		
BRG.	BEARING	HDWD.	HARDWOOD	R	RADIUS
BSMT.	BASEMENT	HORIZ.	HORIZONTAL	RB.	RUBBER BASE
		HT.	HEIGHT	R.C.P.	REFLECTED CEILING PLAN
CB	CERAMIC BASE	HVAC	HEATING, VENTILATING AND AIR CONDITIONING	R.D.	ROOF DRAIN
C.B.	CORNER GUARD			R.O.	ROUGH OPENING
CBT.	CERAMIC TILE	INCL.	INCLUDE (D) (ING)	RT.	RUBBER TILE
CAB.	CABINET	INFO.	INFORMATION	RF	ROOF DRAIN
CL.	CENTER LINE	INSUL.	INSULATED or INSULATION	RFG.	ROOFING
CER.	CEILING	INT.	INTERIOR	REINFD.	REINFORCED (ING)
CLG.	CEILING			REINFD.	REINFORCED
CLO.	CLOSET	JAN.	JANITOR'S CLOSET	REQ'D.	REQUIRED
CLR.	CLEAR	JNT.	JOINT	REQ'MT.	REQUIREMENT
CMU	CONCRETE MASONRY UNIT			REV.	REVISION or REVISED
COL.	COLUMN	LAM.	LAMINATE	RF.	ROOF
CONC.	CONCRETE	LAV.	LAVATORY	RTG.	ROOFING
CONN.	CONNECTION	LT.	LIGHT	RH	RIGHT HAND
CONST.	CONSTRUCTION	LVR.	LOUVER	RM.	ROOM
CONT.	CONTINUOUS				
CPT.	CARPET	MAS.	MASONRY OPENING	SCBD	SOLID CORE WOOD
		MACH.	MACHINE	S.S.	STAINLESS STEEL
DBL.	DOUBLE	MAHG.	MAHOGANY	SHT.	SHEET
DET.	DETAIL	MFR.	MANUFACTURER	SIM.	SIMILAR
DIA.	DIAMETER	MFRS.	MANUFACTURERS	STD.	STANDARD
DIM.	DIMENSION	MECH.	MECHANICAL	STL.	STEEL
DN.	DOWN	MED.	MEDIUM	STOR.	STORAGE
DR.	DOOR	MDF.	MEDIUM DENSITY FIBREBOARD	SUSP.	SUSPENDED
DS	DOWNSPOUT	MECH.	MECHANICAL		
DWG.	DRAWING	MED.	MEDIUM	T/	TOP OF
EA.	EACH	MEC.	MECHANIC	TBE	TOP AND BOTTOM
EL.	ELEVATION	MFR.	MANUFACTURER	TEG	TONGUE AND GROOVE
ELEC.	ELECTRIC(AL)	MIN.	MINIMUM	TEL.	TELEPHONE
ELEV.	ELEVATOR	MISC.	MISCELLANEOUS	TEMP.	TEMPORARY
EMER.	EMERGENCY	MTD.	MOUNTED	TERR.	TERRAZZO
ENCL.	ENCLOSED (URE)	MTG.	MOUNTING	THK.	THICK
ENGR.	ENGINEER	MTL.	METAL	TYP.	TYPICAL
EQ.	EQUAL	MULL.	MULLION		
EQUIPT.	EQUIPMENT	MRBL.	MILLWORK	UL.	UNDERWRITERS LABORATORY
EXC.	EXCAVATION			U.N.O.	UNLESS NOTED OTHERWISE
EWC	ELECTRIC WATER COOLER	NIC	NOT IN CONTRACT		
EX	EXISTING	NOM.	NOMINAL	V.B.	VAPOR BARRIER
EXH.	EXHAUST	NTS.	NOT TO SCALE	VCT	VINYL COMPOSITION TILE
EXIST.	EXISTING			VAP. BAR.	VAPOR BARRIER
EXP.	EXPANSION OR EXPOSED	OC	ON CENTER	VERT.	VERTICAL
EXT.	EXTERIOR	OPNG.	OPENING	VEST.	VESTIBULE
		OPP.	OPPOSITE	VIF	VERIFY IN FIELD
FD	FLOOR DRAIN			VWC	VINYL WALL COVERING
FEVC	FIRE EXIT VALVE CABINET	PAN.	PANEL		
FE	FIRE EXTINGUISHER	PERF.	PERFORATED	W/	WITH
FEVC	FIRE EXTINGUISHER AND VALVE CABINET	PERP.	PERPENDICULAR	W/O	WITHOUT
		PNT.	PAINT	WD.	WOOD
		PTD.	PAINTED	WP	WATERPROOFING

PROJECT LOCATION MAP:



GENERAL PROJECT NOTES:

ALL WORK SHALL CONFORM TO ALL APPLICABLE CODES AND ORDINANCES OF THE CITY OF MADISON, STATE OF WISCONSIN, AND THE AMERICANS WITH DISABILITIES ACT.

ALL WORK SHALL CONFORM TO THE SPECIFICATIONS AND QUALITY STANDARDS EXPRESSED IN THESE DRAWINGS AND WHICH FORM THE BASIS FOR THE CONTRACT DOCUMENTS.

THE GENERAL CONTRACTOR SHALL VERIFY AT THE JOB SITE, ALL DIMENSIONS AND CONDITIONS SHOWN ON THE DRAWINGS, AND SHALL NOTIFY THE ARCHITECT OF ANY DISCREPANCIES, OMISSIONS AND/OR CONFLICTS BEFORE PROCEEDING WITH THIS PROJECT.

THE GENERAL CONTRACTOR SHALL NOT SCALE DRAWINGS. THE DIMENSIONS SHALL GOVERN. LARGE SCALE DRAWINGS SHALL GOVERN OVER SMALL SCALE DRAWINGS.

COMMENCEMENT OF WORK BY THE GENERAL CONTRACTOR SHALL CONSTITUTE THE ACCEPTANCE OF THE SITE CONDITIONS.

ON COMPLETION OF THE WORK AND BEFORE ACCEPTANCE BY THE ARCHITECT, THOROUGHLY CLEAN THE AREAS AFFECTED (INCLUDING ANY AREAS OUTSIDE THE LIMITS OF CONSTRUCTION WHERE AREA, WHERE PERMISSION HAS BEEN GRANTED BY THE ARCHITECT IN EACH AREAS) REMOVE ALL SURPLUS CONSTRUCTION MATERIAL OR DEBRIS RESULTING FROM THE WORK AND DISPOSE OF THE SAME OFF SITE.

ALL MATERIALS TO BE ASB APPROVED.

ALL FIRE ALARM WORK SHALL BE IN ACCORDANCE WITH NFPA 72.

ALL STRUCTURAL WALLS TO HAVE FIRESTOPPED OR FIRE RESISTANT MATERIALS

INDEX OF DRAWINGS

A1.1 ROOF PLAN - FIRST FLOOR PLAN
A1.2 PROPOSED ELEVATIONS

CONSULTANTS:

PROJECT DESCRIPTION:

DESCRIPTION OF WORK:

INTERIOR STUD BUILD OUT TO ACCESS NEW ROOF TERRACE DECK TO MAKE 1340 SF. OF OUT DOOR SEATING SPACE.

ZONING: CITY OF MADISON

BUILDING TYPE: TYPE II METAL FRAME - UNPROTECTED

BUILDING FOOTPRINT AREA: 11,710.0 S.F.

PROJECT CONTRACT AREA: 9,330 S.F.

BUILDING CAPACITY: 270 PERSONS 30 EXTERIOR TERRACE

CODE SUMMARY:

OCCUPANCY TYPE: ASSEMBLY A2
FIRE RESISTIVE REQUIREMENTS: FIRE ALARM SMOKE DETECTION NON COMBUSTIBLE
TOTAL NUMBER OF STORIES: 1
TOTAL NUMBER OF FLOOR LEVELS: 1

APPLICABLE CODES:

2003 WISCONSIN COMMERCIAL BUILDING CODE W/ACCA AMENDMENTS
2003 INTERNATIONAL BUILDING CODE (IBC)
2003 INTERNATIONAL MECHANICAL CODE (IMC)
2003 INTERNATIONAL ENERGY CONSERVATION CODE (IECC)
NATIONAL FIRE CODE NFPA 101
THE AMERICANS WITH DISABILITIES ACT.
ALL APPLICABLE STATE, CITY, COUNTY AND LOCAL CODES
ALL APPLICABLE STATE, COUNTY, CITY HEALTH DEPARTMENT CODES

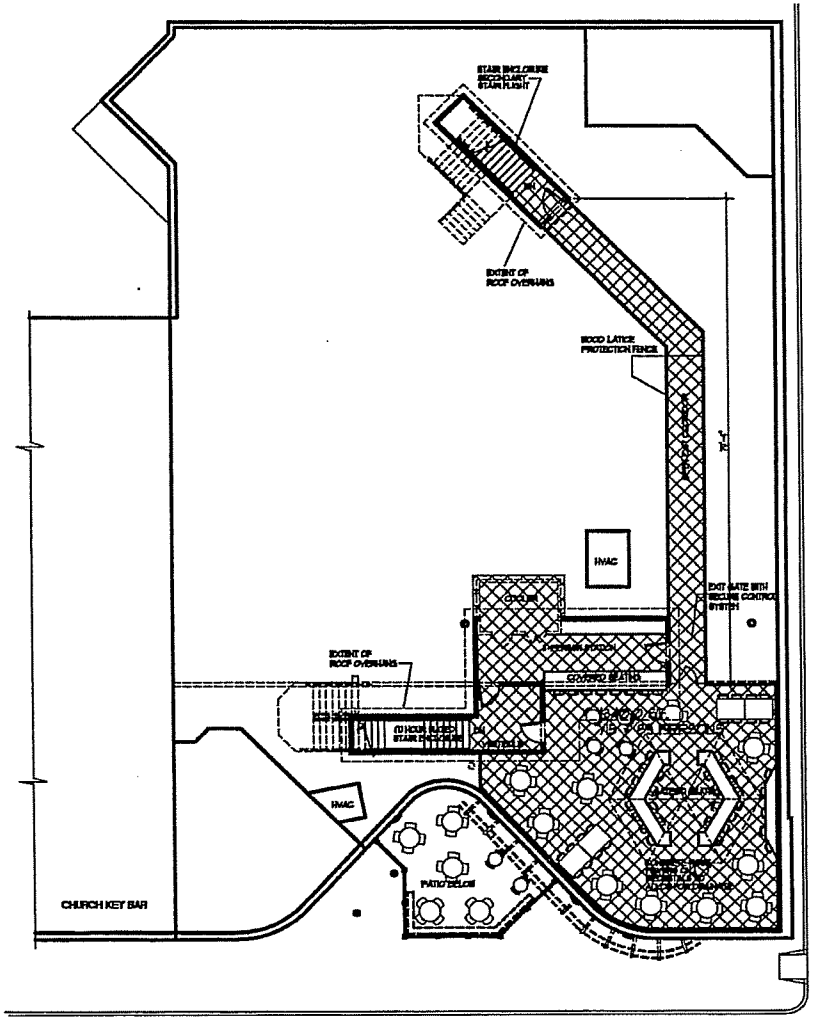
VERIFY ALL HVAC, ELECTRICAL, PLUMBING DESIGN AND LOCATIONS WITH OWNER.

ALL UTILITIES, GRADING, EROSION CONTROL AND SITE CONDITIONS TO BE PROVIDED BY THE CIVIL ENGINEER OR RECORD AND APPROVED BY OTHERS.

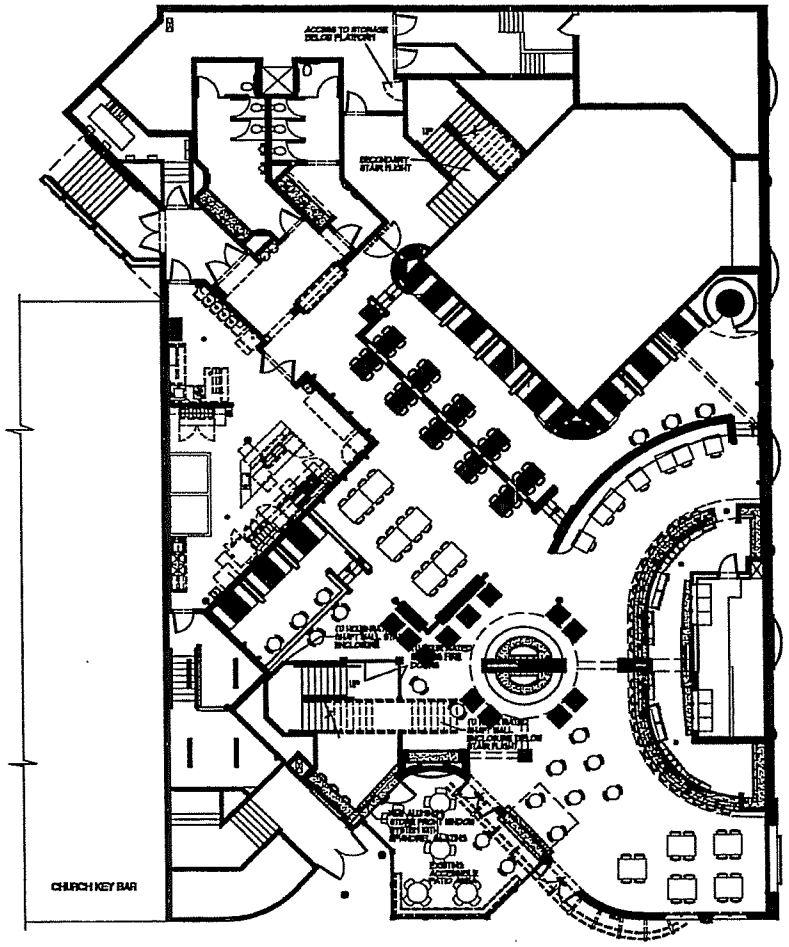
SHOP DRAWINGS ARE TO BE SUBMITTED TO THE OWNER AND ARCHITECT FOR APPROVAL.

ALL MATERIALS AND GOODS TO BE INSTALLED AS PER MANUFACTURERS REQUIREMENTS AND INSTRUCTIONS.

ZINGG DESIGN Inc. ARCHITECTURE ▪ INTERIOR DESIGN ▪ PLANNING
6603 UNIVERSITY AVENUE ▪ MIDDLETON, WISCONSIN 53562 PH: 608-836-1128 FAX: 608-836-1148



2 ROOF PLAN
SCALE: 1/8" = 1'-0"



1 MAIN FLOOR PLAN
SCALE: 1/8" = 1'-0"

REVISIONS
X-X-XX

CONSULTANT

ZINGG Inc.
ARCHITECTURE
INTERIOR DESIGN
PLANNING
6602 University Avenue
Middleton, Wisconsin 53562
Phone: 608-829-1678
Fax: 608-829-1648
www.zinggdesign.com

PROJECT
PROPOSED ROOF TERRACE JOHNNY O'S BAR AND RESTAURANT
633 UNIVERSITY AVENUE
MADISON, WISCONSIN

SHEET TITLE
ROOF PLAN
MAIN FLOOR PLAN

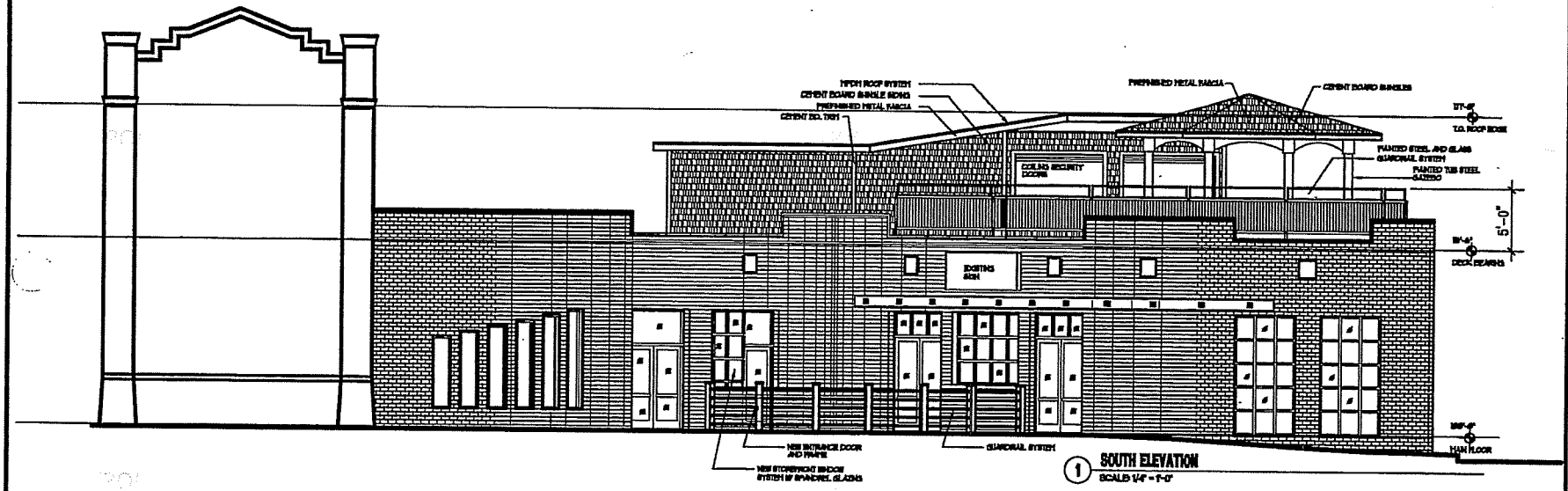
NOTES

DATE: 06/26/07
DATE:
DATE:
FILE NUMBER: 0000
DRAWN BY: MZ/DS
SCALE: SEE PLAN

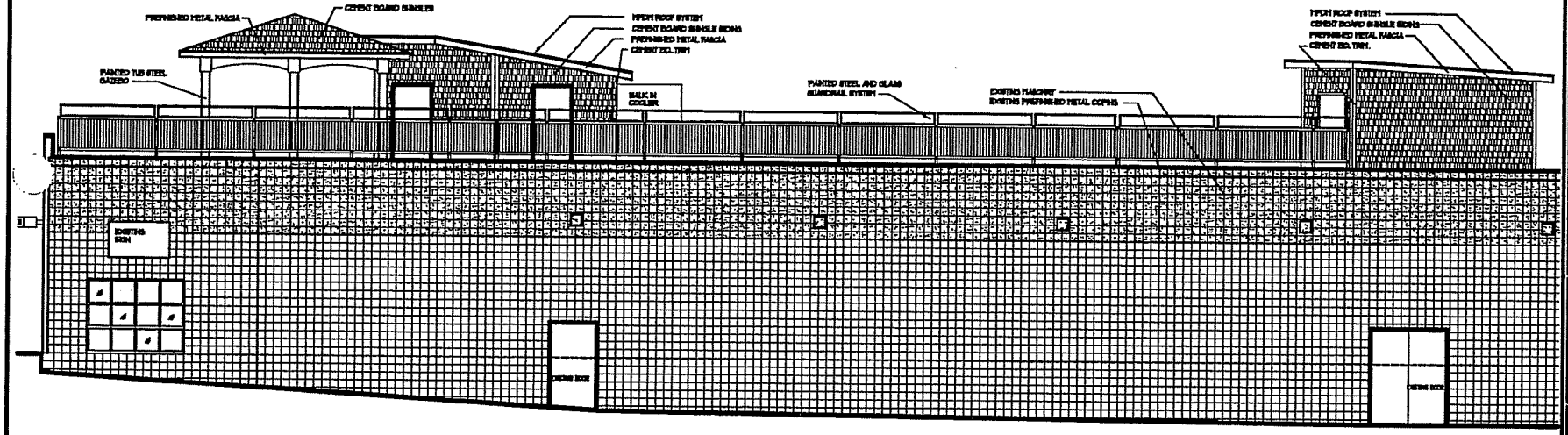
SHEET NUMBER
A1.1

ZINGG DESIGN Inc. © 2007

21



1 SOUTH ELEVATION
SCALE: 1/4" = 1'-0"



2 WEST ELEVATION
SCALE: 1/4" = 1'-0"

REVISIONS
1-11-08

CONSULTANT

ZINGG Inc.
ARCHITECTURE
INTERIOR DESIGN
PLANNING
8003 University Avenue
Middleton, Wisconsin 53562
Phone: 608-836-1888
Fax: 608-836-1818
www.zinggdesign.com

PROJECT
PROPOSED ROOF TERRACE JOHNNY O'S BAR AND RESTAURANT
420 UNIVERSITY AVENUE
MADISON, WISCONSIN

SHEET TITLE
ELEVATIONS

NOTES

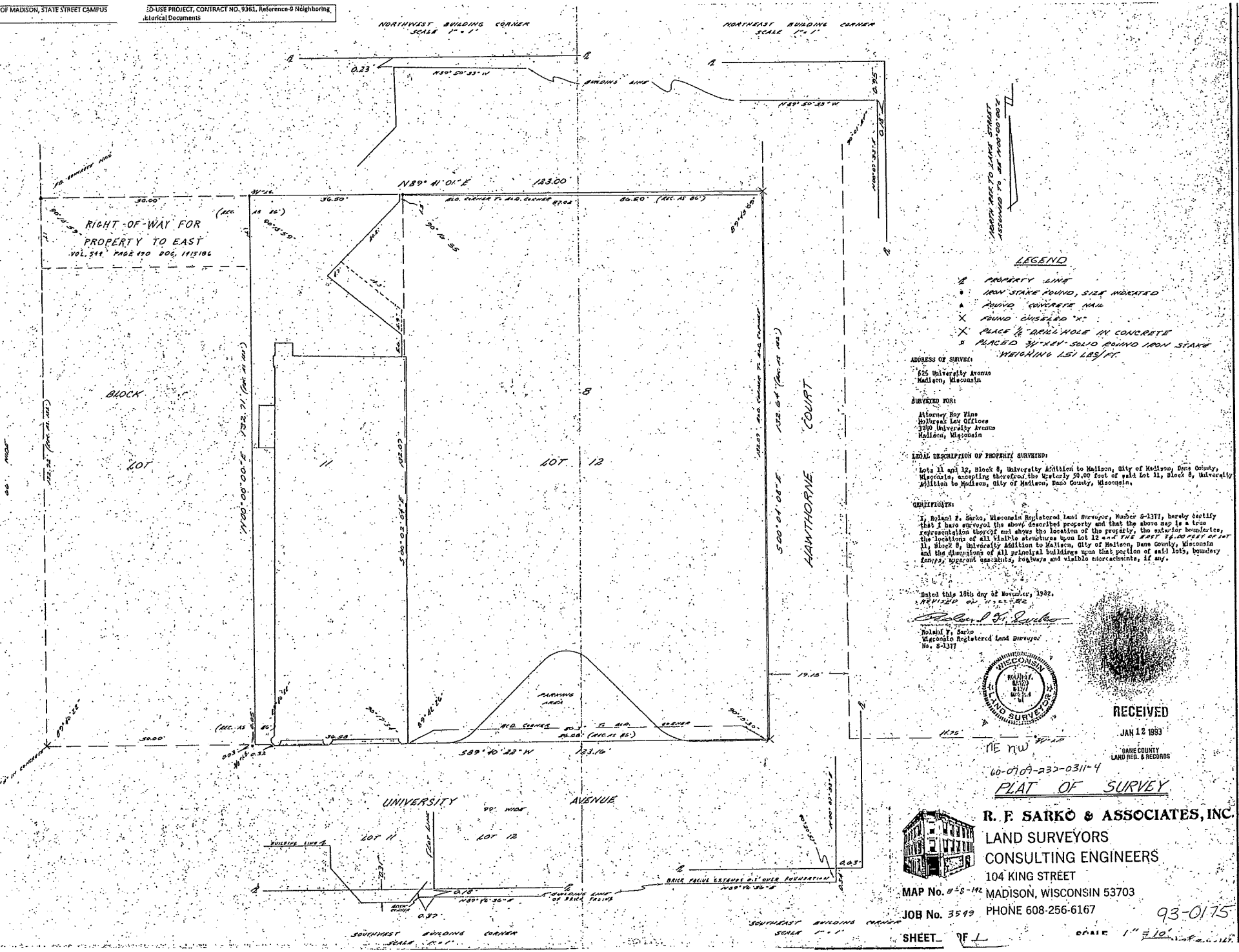
DATE: 04/04/07
DATE:
DATE:
FILE NUMBER: 0606
DRAWN BY: MZ/DS
SCALE: SEE PLAN

SHEET NUMBER
A1.2

ZINGG DESIGN Inc. © 2007

OF MADISON, STATE STREET CAMPUS

D-USE PROJECT, CONTRACT NO. 9361, Reference-9 Neighboring
istorical Documents



LEGEND

- ⊥ PROPERTY LINE
- ● IRON STAKE FOUND, SIZE NOTATED
- ▲ FOUND CONCRETE NAIL
- X FOUND CHISELED "X"
- X PLACED ½" DRILL HOLE IN CONCRETE
- ○ PLACED ¾"x24"-SOLID ROUND IRON STAKE WEIGHING 1.51 LBS/FT.

ADDRESS OF SURVEY:

625 University Avenue
Madison, Wisconsin

SURVEYED FOR:

Attorney Roy Pine
Pollyrak Law Offices
3210 University Avenue
Madison, Wisconsin

LEGAL DESCRIPTION OF PROPERTY SURVEYED:

Lots 11 and 12, Block 8, University Addition to Madison, City of Madison, Dane County, Wisconsin, excepting therefrom the Westerly 20.00 feet of said Lot 11, Block 8, University Addition to Madison, City of Madison, Dane County, Wisconsin.

CERTIFICATE:

I, Roland F. Sarko, Wisconsin Registered Land Surveyor, Number S-1377, hereby certify that I have surveyed the above described property and that the above map is a true representation thereof and shows the location of the property, the exterior boundaries, the locations of all visible structures upon Lot 12 and THE EAST 86.00 FEET OF LOT 11, Block 8, University Addition to Madison, City of Madison, Dane County, Wisconsin and the dimensions of all principal buildings upon that portion of said lots, boundary fences, apparent easements, roadways and visible encroachments, if any.

Dated this 18th day of November, 1982.
REVISED 12-1-82

Roland F. Sarko
Wisconsin Registered Land Surveyor
No. S-1377

WISCONSIN REGISTERED LAND SURVEYOR

RECEIVED
JAN 12 1993
DANE COUNTY
LAND REG. & RECORDS

NE NW

60-0709-232-0311-4

PLAT OF SURVEY

R. F. SARKO & ASSOCIATES, INC.
LAND SURVEYORS
CONSULTING ENGINEERS
104 KING STREET
MADISON, WISCONSIN 53703
PHONE 608-256-6167

MAP No. 8-8-192
JOB No. 3549

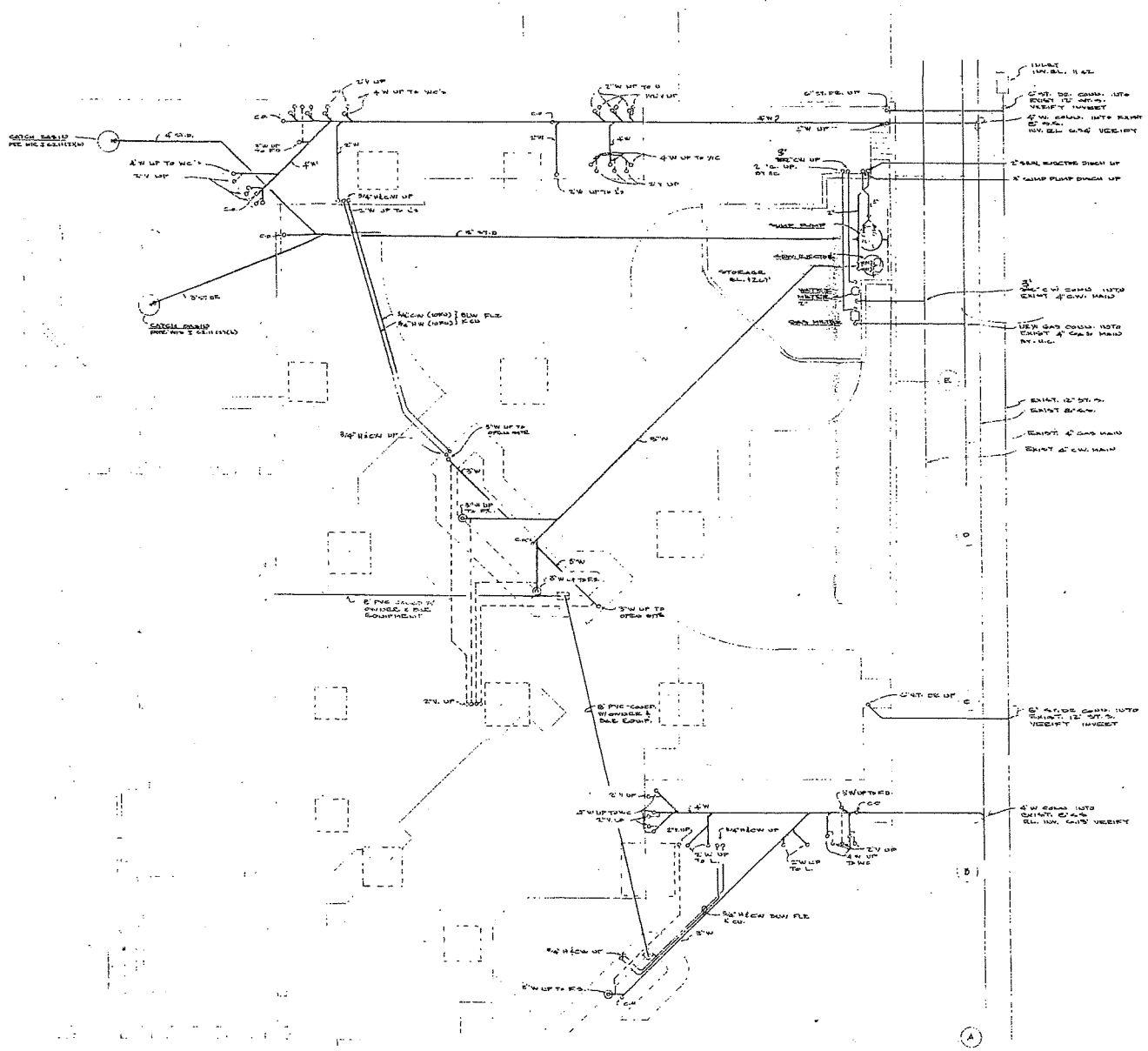
93-0175

SHEET 1 OF 1

SCALE 1" = 10'

REVISIONS	BY

Date 11-17-82
Scale 1"=10'
Drawn HK/RS
Job 3549
Sheet 1
Of 1 Sheets



FOUNDATION & LOWER LEVEL PLAN

SCALE: 1/16" = 1'-0"

MATERIAL SPECIFICATIONS

FIXTURES : AS SHOWN.

L. LAVATORY: K-2196 PENNINGTON, E-4085 FRAME, MODEL 4618 COMPLETE.

U. URINAL: K-4950-T 21 3 BANTERY W/ EXTRA NO. 7-K 96-718 AND FLUSHING W/ SINGLE CIRCUIT TIMER CONTR. IN WALL W/ LIGHT SWITCH.

WC. WATER CLOSET: K-4422ETA W/ EXTRA-TUFFY K-4666-96 WHITE SEAT

FD. FLOOR DRAIN: JOSAM 32000A

FS. FLOOR SINK: JOSAM 45020-5 W/ 12" GRATE

ED. EMP DRAIN: JOSAM 21560-1 W/ POLY DOME.

EQUIPMENT:

HW. CIRC. PUMP: SIZE TO CIRCULATE 4 GPM AT 30' H.D. SAME AS B&W #2 OR EQUAL.

SEWAGE EJECTOR: WEIL SEE TO, DUPLEX 40 GPM 30' H.D. SHUTOFF VALVE 3" CHECK VALVE 3" W 30" DIA 18' DEEP FIBERGLASS W/ MERCOWATCH LEVEL CONTROL, ALTERNATING & HIGH WATER ALARM.

SUMP PUMP: WEIL SEE TO, DUPLEX 50 GPM AT 30' H.D. SHUT OFF VALVE 3" CHECK VALVE 3" 1750 RPM W/ 30" DIA X 60" DEEP FIBERGLASS W/ MERCOWATCH LEVEL CONTROL, ALTERNATE & HIGH WATER ALARM.

CATCH BASINS: PRECAST MANHOLE 48" DEEP W/ URBAN R-2512 FRAME & GRATE; PMC WINC. 1100-6111-0100.

HOT WATER HEATER: RHEEM 100 GAL. 3 GAL SIDE. 80 GPH RECOVERY AT 100°F.

WATER SOFTENER: STATELITE F-100 101,000 GR., 32 GPM PEAK, 5'-6" H. 1 1/4" FPT HIGH FLOW AUTOMATIC, FIBERGLASS TANK.

MATERIALS

W&V. BELOW GRADE: C.I. PUSH-ON.

W&V. ABOVE GRADE: PLASTIC SCHED. 40

WATER PIPING, ABOVE GRADE: COPPER, TYPE 'L' HARD / SOLDER JOINT FITTINGS

WATER PIPING, BELOW GRADE: COPPER, TYPE 'K' SOFT, NO FITTINGS BELOW GRADE.

EJECTOR & SUMP PUMP PIPING, SCHED. 40 GALV. STEEL W/ CI DRAINAGE FITTINGS.

GATE VALVES: NIBCO TRIM II

CHECK VALVES: NIBCO TRIM 413

GLOBE VALVES: NIBCO TRIM 211

BALANCING VALVES: CRANE 1350 TR, PAUL.

INSULATION: 1" FIBERGLASS ON ALL HW, HWC PIPING & FITTINGS W/ FSJ.

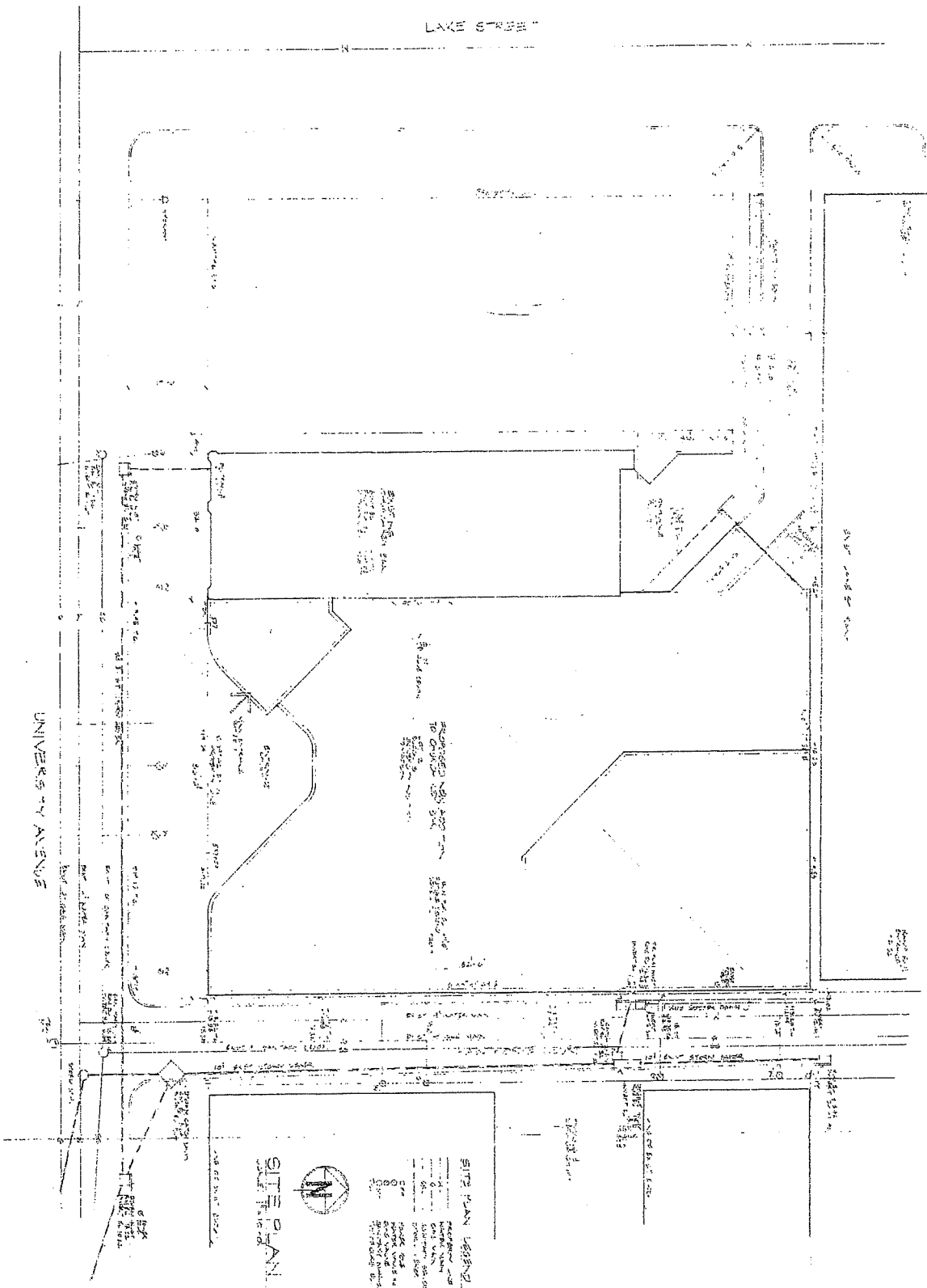
1" FIBERGLASS ON ALL CW, WATER DRAIN & EQUIP DRAIN BODIES, PIPING & FITTINGS W/ FSJ VAPOR BARRIER JACKET.

ALL WORK MUST CONFORM TO ALL REQUIREMENTS OF LOCAL & STATE OF WISCONSIN CODES.

CHURCH KEY BAR
UNIVERSITY AVE
MADISON WIS
7/21/77

CITY ENG.
DON HUMMER.

P-1



CITY OF MADISON			
PARKING FACILITIES APPROVED		Conditionally	Date
Zoning	[illegible]		7/14/77
Plan			
Traffic Eng.	[illegible]		7/14/77
Police			
Bldg. Insp.	[illegible]		7/14/77

space partnership
ARCHITECTURE BUILDING RECYCLING INTERIOR DESIGN

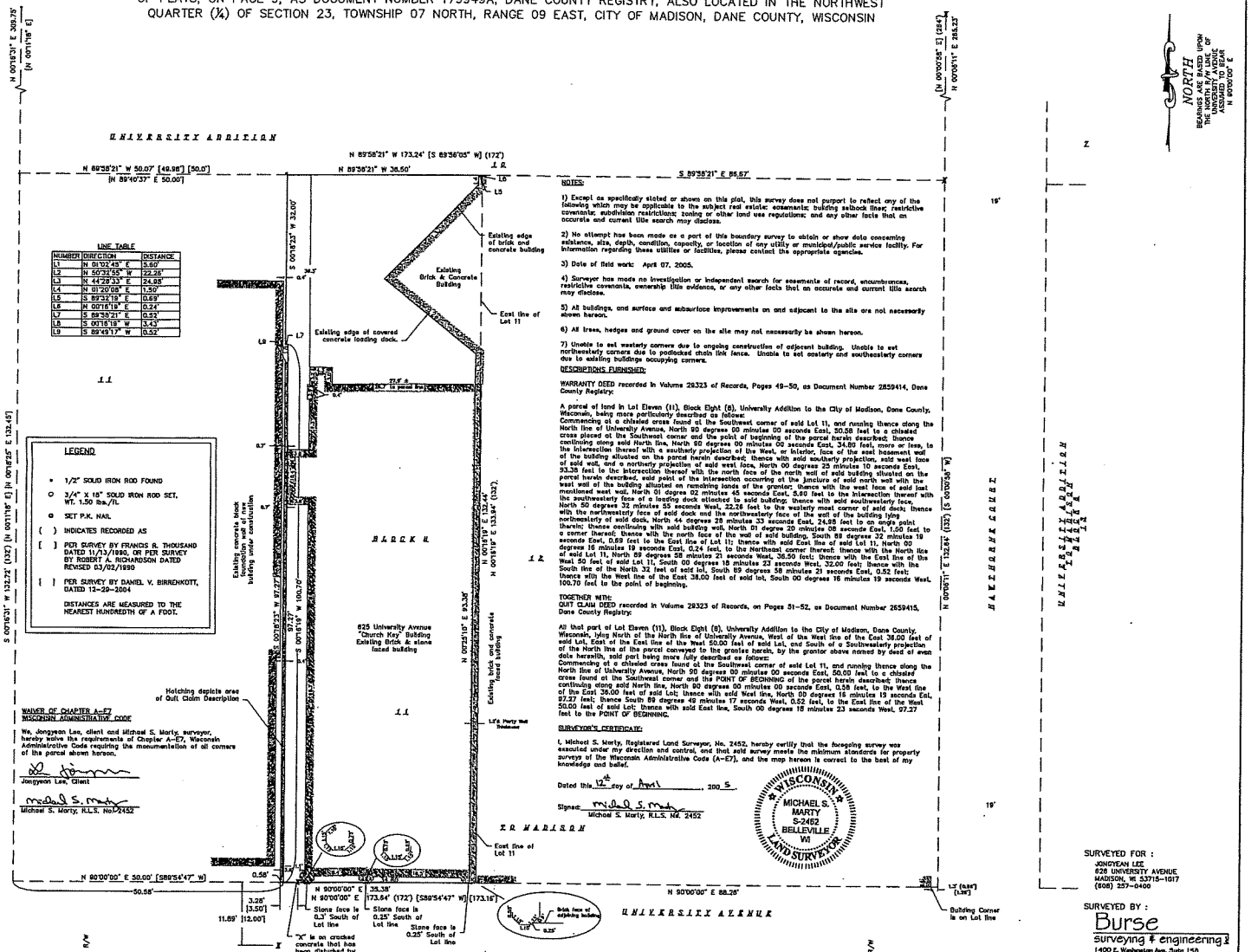
PROPOSED ADDITION TO THE CHURCH KEY BAR

7 MAY 1977
7615

CITY OF MADISON, STATE STREET CAMPUS GARAGE MIXED-USE PROJECT, CONTRACT NO. 9981, Reference 9 Neighboring Building Historical Description

PLAT OF SURVEY

PART OF LOT ELEVEN (11), BLOCK EIGHT (8), UNIVERSITY ADDITION TO THE CITY OF MADISON, AS RECORDED IN VOLUME A OF PLATS, ON PAGE 9, AS DOCUMENT NUMBER 179949A, DANE COUNTY REGISTRY, ALSO LOCATED IN THE NORTHWEST QUARTER (¼) OF SECTION 23, TOWNSHIP 07 NORTH, RANGE 09 EAST, CITY OF MADISON, DANE COUNTY, WISCONSIN



SURVEYED FOR :
JONGYEON LEE
626 UNIVERSITY AVENUE
MADISON, WI 53715-1017
(608) 257-0400

SURVEYED BY :
Burse surveying & engineering
1400 E. Washington Ave, Suite 158
Madison, WI 53703 608.250.9263
Fax: 608.250.9266
email: burse@chorus.net
www.burseengineering.com

SHEET 1 OF 1

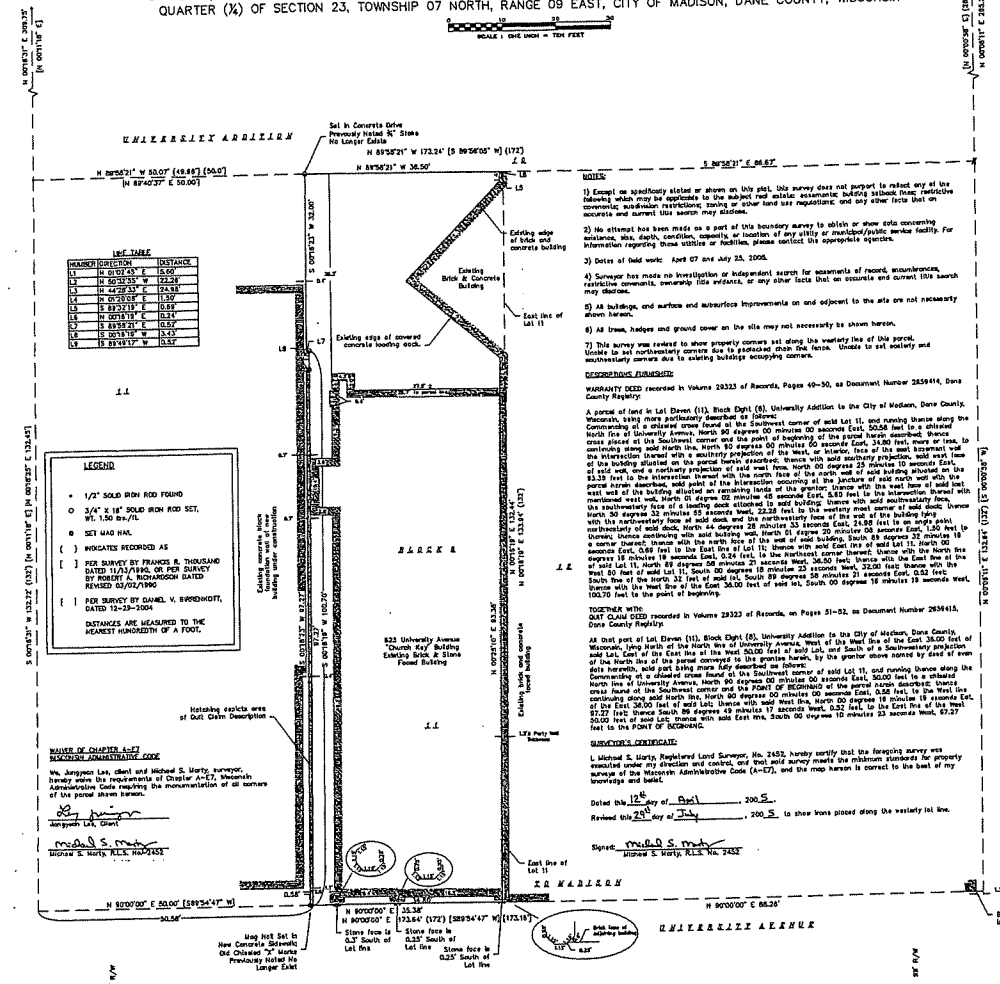
Date: April 12, 2005
Plot View: Sheet1
\Projects\BSE805\PSBSE805.dwg

2005-00373

N, STATE STREET CAMPUS GARAGE MIXED-USE PROJECT, CONTRACT NO. 9361, Reference-9 Neighboring Building Historical Documents

PLAT OF SURVEY

PART OF LOT ELEVEN (11), BLOCK EIGHT (8), UNIVERSITY ADDITION TO THE CITY OF MADISON, AS RECORDED IN VOLUME A OF PLATS, ON PAGE 9, AS DOCUMENT NUMBER 179949A, DANE COUNTY REGISTRY, ALSO LOCATED IN THE NORTHWEST QUARTER (¼) OF SECTION 23, TOWNSHIP 07 NORTH, RANGE 09 EAST, CITY OF MADISON, DANE COUNTY, WISCONSIN



NOTES:

1) Except as specifically stated or shown on this plat, this survey does not purport to reflect any of the following which may be applicable to the subject real estate: easements; building setback lines; restrictive covenants; subdivision restrictions; zoning or other land use regulations; and any other facts that an accurate and current title search may disclose.

2) No attempt has been made as a part of this boundary survey to obtain or show data concerning existence, size, depth, condition, capacity, or location of any utility or municipal/public service facility. For information regarding those utilities or facilities, please contact the appropriate agencies.

3) Dates of field work: April 07 and July 25, 2005.

4) Surveyor has made no investigation or independent search for easements of record, encumbrances, restrictive covenants, ownership title evidence, or any other facts that an accurate and current title search may disclose.

5) All buildings, and surface and subsurface improvements on and adjacent to the site are not necessarily shown hereon.

6) All trees, hedges and ground cover on the site may not necessarily be shown hereon.

7) This survey was revised to show property corners set along the westerly line of this parcel. Unable to set northwesterly corners due to protected chain link fence. Unable to set easterly and southwesterly corners due to existing buildings occupying corners.

DESCRIPTIONS FURNISHED:

WARRANTY DEED recorded in Volume 29323 of Records, Pages 49–50, as Document Number 2659414, Dane County Registry:

A parcel of land in Lot Eleven (11), Block Eight (8), University Addition to the City of Madison, Dane County, Wisconsin, being more particularly described as follows:
Commencing at a chiseled cross found at the Southwest corner of said Lot 11, and running thence along the North line of University Avenue, North 90 degrees 00 minutes 00 seconds East, 50.58 feet to a chiseled cross placed at the Southwest corner and the point of beginning of the parcel herein described; thence continuing along said North line, North 90 degrees 00 minutes 00 seconds East, 34.90 feet, more or less, to the intersection thereof with a southerly projection of the west, or interior, face of the east basement wall of the building situated on the parcel herein described; thence with said southerly projection, said west face of the building situated on the parcel herein described; thence with said southerly projection, said west face of said wall, and a northerly projection of said west face, North 00 degrees 25 minutes 10 seconds East, 83.39 feet to the intersection thereof with the north face of the north wall of said building situated on the parcel herein described, said point of the intersection occurring at the juncture of said north wall with the west wall of the building situated on remaining lands of the grantor; thence with the west face of said last mentioned west wall, North 01 degree 02 minutes 48 seconds East, 0.10 feet to the intersection thereof with the southwesterly face of a loading dock attached to said building; thence with said southwesterly face, the southwesterly face of a loading dock attached to said building; thence with said southwesterly face, North 50 degrees 32 minutes 55 seconds West, 22.28 feet to the westerly most corner of said dock; thence with the northwesterly face of said dock and the northwesterly face of the west face of the building lying northeasterly of said dock, North 44 degrees 28 minutes 33 seconds East, 24.93 feet to an angle point; thence, continuing with said building wall, North 01 degree 20 minutes 08 seconds East, 1.50 feet to a corner thereof; thence with the north face of the west of said building, South 88 degrees 32 minutes 19 seconds East, 0.69 feet to the East line of Lot 11; thence with said East line of said Lot 11, North 00 degrees 19 minutes 19 seconds East, 0.24 feet, to the Northwest corner thereof; thence with the North line of said Lot 11, North 89 degrees 58 minutes 21 seconds West, 36.50 feet; thence with the East line of the West 20 feet of said Lot 11, South 00 degrees 19 minutes 23 seconds West, 32.00 feet; thence with the South line of the North 32 feet of said lot, South 89 degrees 58 minutes 21 seconds East, 0.52 feet; thence with the West line of the East 36.00 feet of said lot, South 00 degrees 19 minutes 19 seconds West, 100.70 feet to the point of beginning.

TOGETHER WITH:
QUIT CLAIM DEED recorded in Volume 29323 of Records, on Pages 51–52, as Document Number 2659415, Dane County Registry:

All that part of Lot Eleven (11), Block Eight (8), University Addition to the City of Madison, Dane County, Wisconsin, lying North of the North line of University Avenue, West of the West line of the East 36.00 feet of said Lot, East of the East line of the West 50.00 feet of said Lot, and South of a Southwesterly projection said Lot, East of the East line of the West 50.00 feet of said Lot, and South of a Southwesterly projection of the North line of the parcel conveyed to the grantee herein, by the grantor above named by deed of even date herewith, said part being more fully described as follows:
Commencing at a chiseled cross found at the Southwest corner of said Lot 11, and running thence along the North line of University Avenue, North 90 degrees 00 minutes 00 seconds East, 50.00 feet to a chiseled cross found at the Southwest corner and the POINT OF BEGINNING of the parcel herein described; thence continuing along said North line, North 90 degrees 00 minutes 00 seconds East, 0.58 feet, to the West line of the East 36.00 feet of said Lot; thence with said West line, North 00 degrees 19 minutes 19 seconds East, 97.27 feet; thence South 89 degrees 19 minutes 17 seconds West, 0.52 feet, to the East line of the West 50.00 feet of said Lot; thence with said East line, South 00 degrees 19 minutes 23 seconds West, 97.27 feet to the POINT OF BEGINNING.

WAIVER OF CHAPTER A-E7
WISCONSIN ADMINISTRATIVE CODE

We, Jongyeon Lee, client and Michael S. Marty, surveyor, hereby waive the requirements of Chapter A-E7, Wisconsin Administrative Code requiring the monumentation of all corners of the parcel shown hereon.

Jongyeon Lee, Client

Michael S. Marty, R.L.S. No. 2452

SURVEYOR'S CERTIFICATE:

I, Michael S. Marty, Registered Land Surveyor, No. 2452, hereby certify that the foregoing survey was executed under my direction and control, and that said survey meets the minimum standards for property surveys of the Wisconsin Administrative Code (A-E7), and the map hereon is correct to the best of my knowledge and belief.

Dated this 12th day of April, 2005.
Revised this 29th day of July, 2005 to show irons placed along the westerly lot line.

Signed: Michael S. Marty
Michael S. Marty, R.L.S. No. 2452

WISCONSIN
MICHAEL S. MARTY
S-2452
BELLEVILLE
WI
LAND SURVEYOR

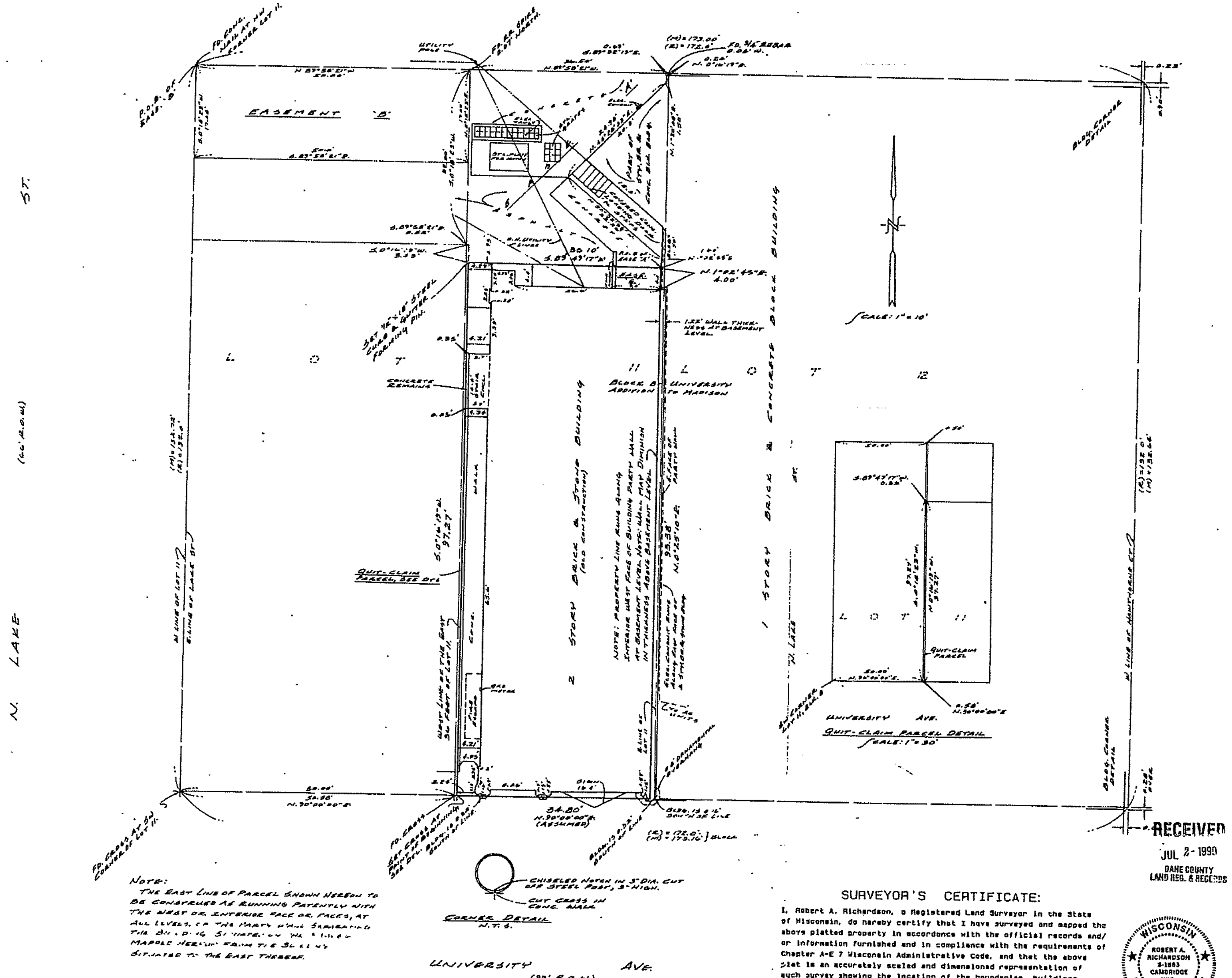
SURVEYED FOR :
JONGYEON LEE
828 UNIVERSITY AVENUE
MADISON, WI 53715-1017
(608) 257-0400

SURVEYED BY :
Burse
surveying & engineering
1400 E. Washington Ave, Suite 158
Madison, WI 53703 608.250.9363
Fax 608.250.9166
email: burse@chorus.net
www.burseengineering.com

Rev: July 28, 2005
Date: April 12, 2005
Plot View: Sheet1
\Projects\05E606\PS05E606.dwg

SHEET 1 OF 1

2005-00906



RECEIVED
JUL 2 - 1990
DANE COUNTY
LAND REG. & RECORDS

SURVEYOR'S CERTIFICATE:

I, Robert A. Richardson, a Registered Land Surveyor in the State of Wisconsin, do hereby certify that I have surveyed and mapped the above platted property in accordance with the official records and/or information furnished and in compliance with the requirements of Chapter A-E 7 Wisconsin Administrative Code, and that the above plat is an accurately scaled and dimensioned representation of such survey showing the location of the boundaries, buildings, improvements, recorded and apparent easements, roadways, and visible encroachments, if any.

Dated this 13th Day of February 1990. [signature]
Robert A. Richardson R.L.S. S-1583

WISCONSIN ROBERT A. RICHARDSON S-1583 CAMBRIDGE WIS. LAND SURVEYOR

REVISED 16 FEB., 1990 - CHANGED NORTH & EAST LINES & ADDED QUIT-CLAIM PARCEL.
REVISED 2 MARCH, 1990 - ADDED DETAILS OF CORNER STAKING AND ADDITIONAL BUILDING TIES

LEGAL DESCRIPTION

A parcel of land lying in Lot Eleven (11), Block 8, University Addition to the City of Madison, Dane County, Wisconsin, being more particularly described as follows:

Commencing at a chiseled cross found at the Southwest corner of said Lot 11, and running thence along the North line of University Avenue, N 90-00-00 E, 50.58 feet to a chiseled cross placed at the Southwest corner and the POINT OF BEGINNING of the parcel herein described; thence continuing along said North line, N 90-00-00 E, 34.80 feet, more or less, to the intersection thereof with a Southerly projection of the West, or interior, face of the East basement wall of the building situated on the parcel herein described; thence with said Southerly projection, said West face of said wall, and a Northerly projection of said West face, N 00-25-10 E, 93.38 feet to the intersection thereof with the North face of the North wall of said building situated on the parcel herein described, said point of intersection occurring at the juncture of said North wall with the West wall of the building situated on remaining lands of the grantor; thence with the West face of said last mentioned West wall, N 01-02-45 E, 4.00 feet; thence parallel with and 4.00 feet distant from the aforesaid North face of the building situated on the parcel herein described, S 89-49-17 W, 35.10 feet, to a 3/4" rebar set; thence S 00-16-19 W, 98.07 feet to the Point of Beginning.

CONTAINING: 3382 Square Feet.

TOGETHER WITH all right, title, and interest in and unto that air space, or spaces, if any, which may exist and extend Easterly beyond a vertical projection of the West face of the basement wall herein above cited, said air space, or spaces, if any, occurring due to the possibility of an Easterly diminishment in the thickness of said west wall at or above said basement level.

RESERVING, however, from the above described parcel those air spaces, if any, together with the lands below them, which may exist and lie West of said basement wall and said vertical projection thereof, said spaces, if any, occurring due to a Westerly thickening of said wall at or above said basement level, said thickening to be construed as inclusive of all columns and/or pilasters which are incorporated within and form an integral part of said wall, but only to the limited North-South extent which said columns or pilasters protrude Westerly beyond said wall and said vertical projection thereof.

MEANING AND INTENDING, hereby to describe all of the lands of said grantor bounded on the South by the North line of University Avenue, on the West by the West line of the East 36.00 feet of the aforesaid Lot 11, on the North by a line drawn parallel with and 4.00 feet North of the North face of the North wall of said building situated on the parcel herein described, such relationship of parallelism to be construed as pertaining only to the main, or 36.6 foot East-West portion of, said wall and not the 3.05 foot North-South by 4.23 foot East-West chimney projection located at the Northwest corner of said building, and on the East by the South 4.00 feet of the aforesaid West face of the West wall of the building situated on remaining lands of said grantor, said 4.00 feet extending North from the Southerly origin thereof at the juncture of said grantors building with said building on the parcel herein described, and further on the East by the West or interior face, or faces, at all levels, of the common or party wall separating said building situated on the parcel herein described, from the building situated on remaining lands of the grantor, as well as by Northerly and Southerly basement level projections thereof extending from the interior Northeast and Southeast corners of said building situated on the parcel herein described to intersect with the North face of the North wall of said building and with the North line of University Avenue.

QUIT-CLAIM PARCEL

All of that part of Lot 11, Block 8, University Addition of the City of Madison, Dane County, Wisconsin, lying North of the North line of University Avenue, West of the West line of the East 36.00 feet of said lot East of the East line of West 50.00 feet of said lot, and South of a Southwesterly projection of the North line of the parcel conveyed to the grantee herein, by the grantor above named by deed of even date herewith, said part being more particularly described as follows:

Commencing at a chiseled cross found at the Southwest corner of said lot 11, and running thence along the North line of University Avenue, N 90-00-00 E, 50.00 feet to a chiseled cross found at the Southeast corner and the POINT OF BEGINNING of the parcel herein described; thence continuing along said North line, N 90-00-00 E, 0.58 feet, to the West line of East 36.00 feet of said lot; thence with said west line, N 00-16-19 E, 97.27 feet; thence S 89-49-17 W, 0.52 feet, to the East line of the West 50.00 feet of said lot; thence with said East line, S 00-18-23 W, 97.27 feet, to the POINT OF BEGINNING.

EASEMENT A

Together with an easement for ingress, egress, public utilities, and building maintenance over the remaining land of the grantor lying within the aforesaid Lot 11, said Easement being more particularly described as follows:

Beginning at the Northwest corner of the parcel herein above described and continuing with the aforesaid west face of the wall of building situated on remaining lands of said grantor N 01-02-45 E, 1.60 feet to the intersection thereof with the Southwesterly face of a loading dock attached to said building; thence with said Southwesterly face, N 50-32-55 W, 22.26 feet to the Westernmost corner of said dock; thence with the Northwesterly face of said dock and the Northwesterly face of the wall of the building lying Northeasterly of said dock, N 44-28-33 E, 24.98 feet to an angle point thereof; thence continuing with said building wall, N 01-20-08 E, 1.50 feet to a corner thereof; thence with the North face of the wall of said building, S 89-32-19 E, 0.69 feet to the East line of Lot 11; thence with said East line of said Lot, N 00-16-19 E, 0.24 feet, to the Northeast corner thereof; thence with the North line of said Lot 11, N 89-58-21 W, 36.50 feet, thence with the East line of the west 50 feet of said Lot 11, S 00-18-23 W, 32.00 feet; thence with the South line of the North 32 feet of said lot, S 89-58-21 E, 0.52 feet; thence with the West line of the East 36.00 feet of said lot, S 00-16-19 W, 3.43 feet to the Northwest corner of the herein above described parcel; thence with the North line thereof, N 89-49-17 E, 35.10 feet, to the Point of Beginning.

EASEMENT B

Also granting the right of use in common of a certain right-of-way for unimpeded access across the North 17 feet of the West 50 feet of said Lot 11, said easement being reserved for the use of said grantor, his heirs, executors, administrators, personal representatives and assigns, in a deed from S.D. Sanfilippo to Biagio Gargano, Date Nov.21,1976 and recorded in Volume 544 of Records at Page 490, as document # 1415186.

Said easement being more particularly described as follows: Being at the Northwest corner of said Lot 11, and running thence along the North line thereof, S 89-58-21 E, 50.00 feet to the Northwest corner of the Easement herein above described; thence with the West line of said Easement S 00-18-23 W, 17.00 feet; thence N 89-58-21 W, 50.00 feet to the East line of Lake Street; thence with said East line N 00-18-23 E, 17.00 feet to the Point Of Beginning.

EASEMENT C

Also reserving an easement for building maintenance purposes over the East 9 feet of the North 4.00 feet of the parcel above here described.

PLAT of SURVEY

of

The premises located at 626 University Ave.
Being part of Lots 11 and 12; Block 8; University Addition to the City of Madison; Dane County; Wisconsin
Prepared for:
Mr. Jongyean Lee

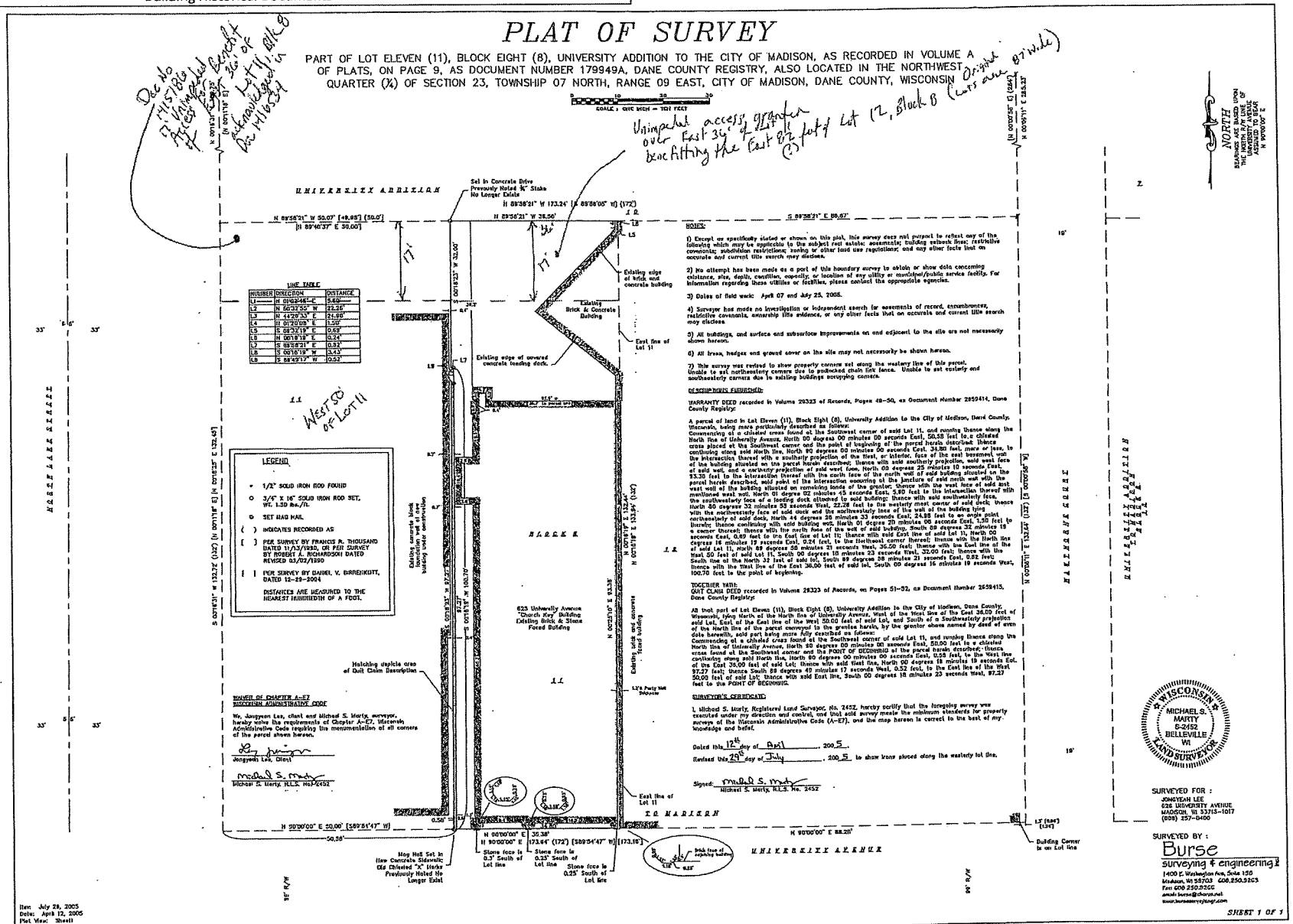
Prepared by:
THE LANDMARK SURVEY GROUP
6326 Monona Drive Madison Wisconsin 53716

Scale: 1"=10'	Approved by:	Drawn by:
Date: 2/13/90		Revised:
Note:		
Job No.: 2569	Map No.: 2559	Sheet 1 of 1

541-C

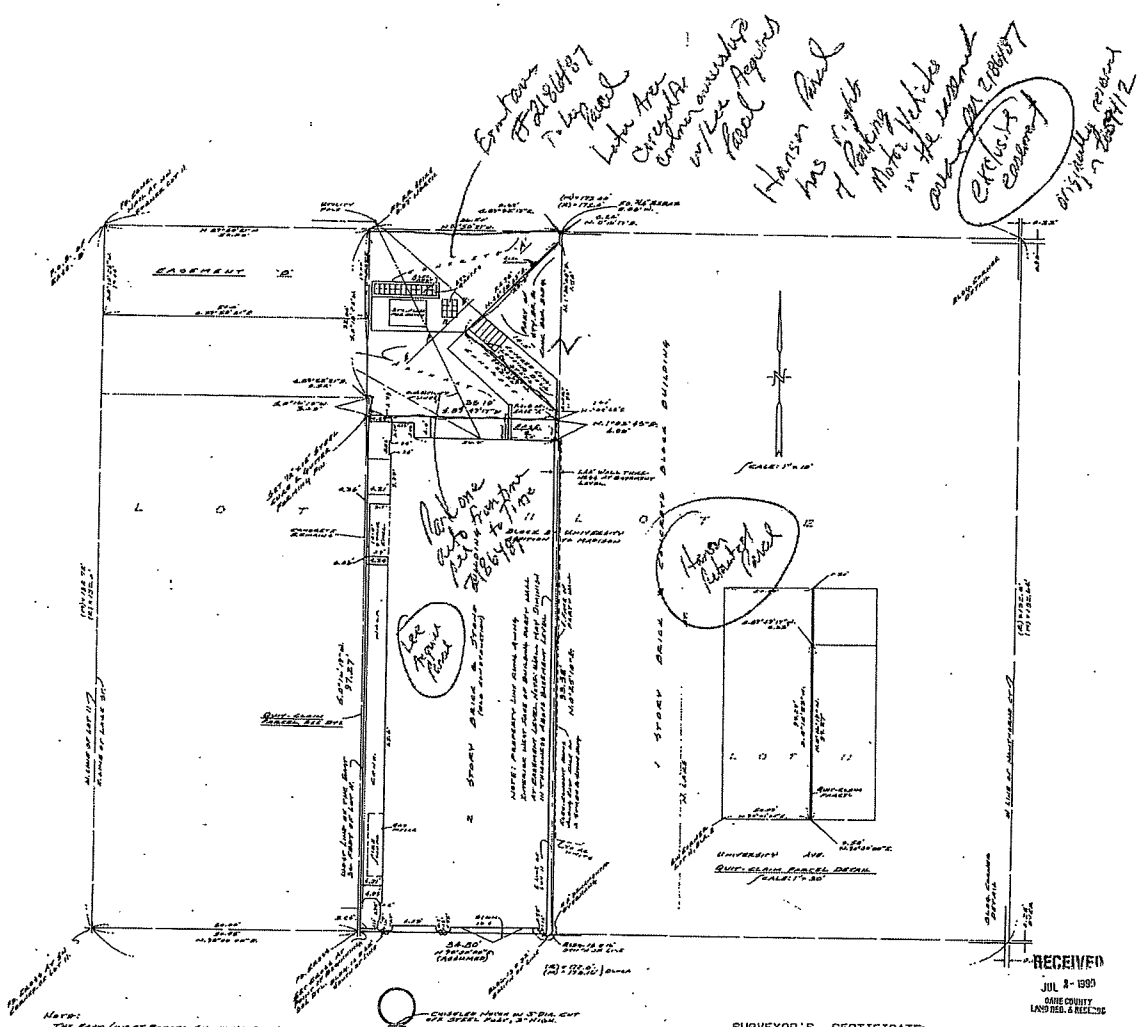
PLAT OF SURVEY

PART OF LOT ELEVEN (11), BLOCK EIGHT (8), UNIVERSITY ADDITION TO THE CITY OF MADISON, AS RECORDED IN VOLUME A OF PLATS, ON PAGE 9, AS DOCUMENT NUMBER 179949A, DANE COUNTY REGISTRY, ALSO LOCATED IN THE NORTHWEST QUARTER (¼) OF SECTION 23, TOWNSHIP 07 NORTH, RANGE 09 EAST, CITY OF MADISON, DANE COUNTY, WISCONSIN



2005-00906

CITY OF MADISON, STATE STREET CAMPUS GARAGE MIXED-USE PROJECT, CONTRACT NO. 9361, Reference-9 Neighboring Building Historical Documents



RECEIVED
JUL 8 - 1993
DANE COUNTY
LAND REG. & RECORDS

SURVEYOR'S CERTIFICATE:

I, Robert A. Richgreen, a Registered Land Surveyor in the State of Wisconsin, do hereby certify that I have surveyed and mapped the above plotted property in accordance with the official records and/or information furnished and in compliance with the requirements of Chapter A-E 7 Wisconsin Administrative Code, and that the above plat is an accurately scaled and dimensioned representation of such survey showing the location of the boundaries, buildings, improvements, recorded and apparent easements, roadways, and visible encroachments, if any.

Dated this 13th Day of February 1990.

ROBERT A. RICHGREEN S-1383 CAMBRIDGE WIS. LAND SURVEYOR

Revised 16 Feb, 1990- Changed North & East Lines & added Quit-Claim Parcel.
Revised 2 March, 1990- Added Details of Corner & Curb and Additional Building Ties.

PLAT of SURVEY
OF
The premises located at 626 University Ave.
Being part of Lots 11 and 12; Block 8; University Addition to the City of Madison; Dane County; Wisconsin
Prepared for:
Mr. Jongyeon Lee

Prepared by:
THE LANDMARK SURVEY GROUP
5328 Hamons Drive Madison Wisconsin 53718

Scale: 1"=10'	Approved by:	Drawn by:
Date: 2/13/90		Revised:
Note:		
Job No.: 2068	Map No.: 2558	Sheet 1 of 1

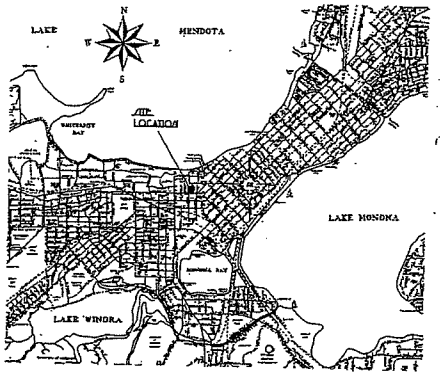
M.541-4

VARSITY APARTMENTS

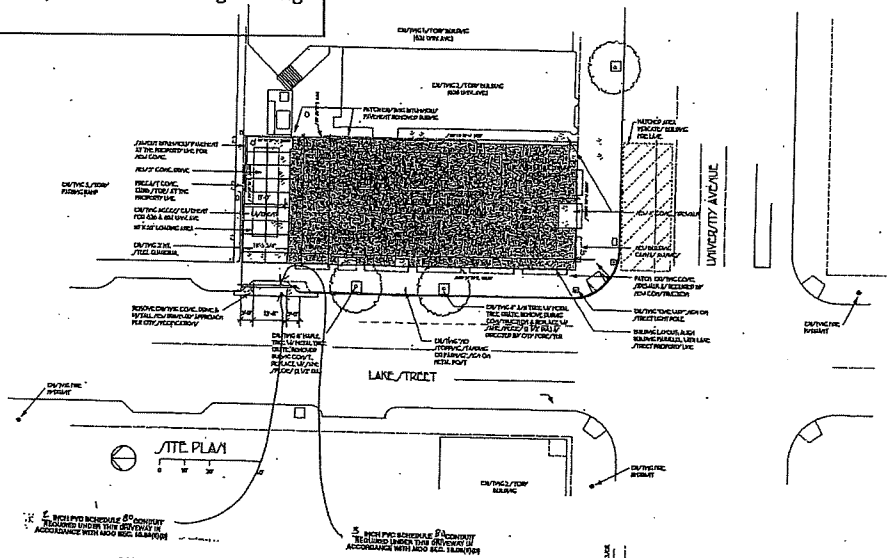
632 University Ave., Madison, WI 53703

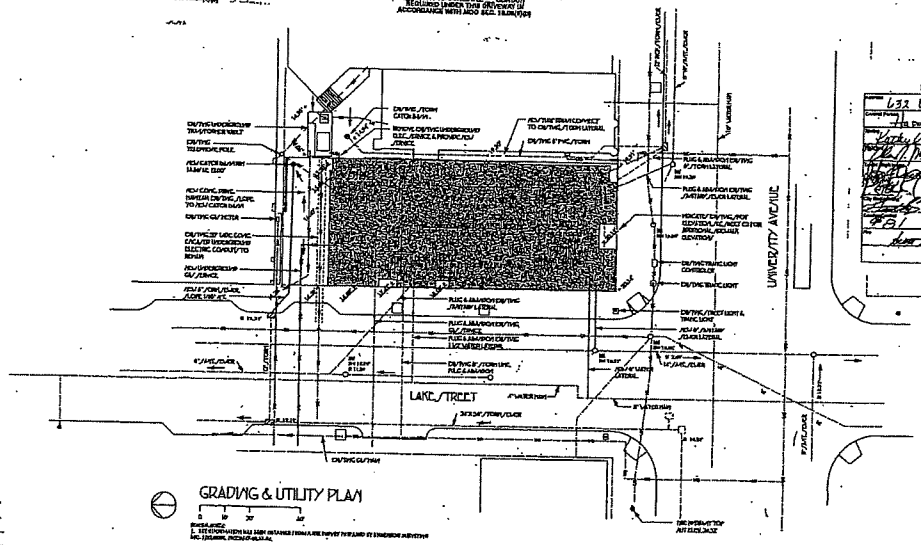
CITY OF MADISON, STATE STREET CAMPUS GARAGE MIXED-USE PROJECT, CONTRACT NO. 9361, Reference-9 Neighboring Building Historical Documents

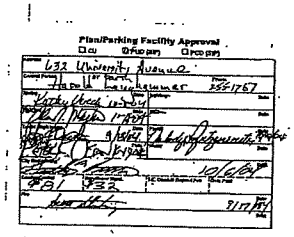
Viewers are advised to ignore the illegible text on this map. It is presented to show spatial relationships only.
Authorized by: Christine M. Nelson



SITE MAP







SHEET INDEX

C1 SITE PLAN, GRADING PLAN
C2 SIDEWALK GRADE

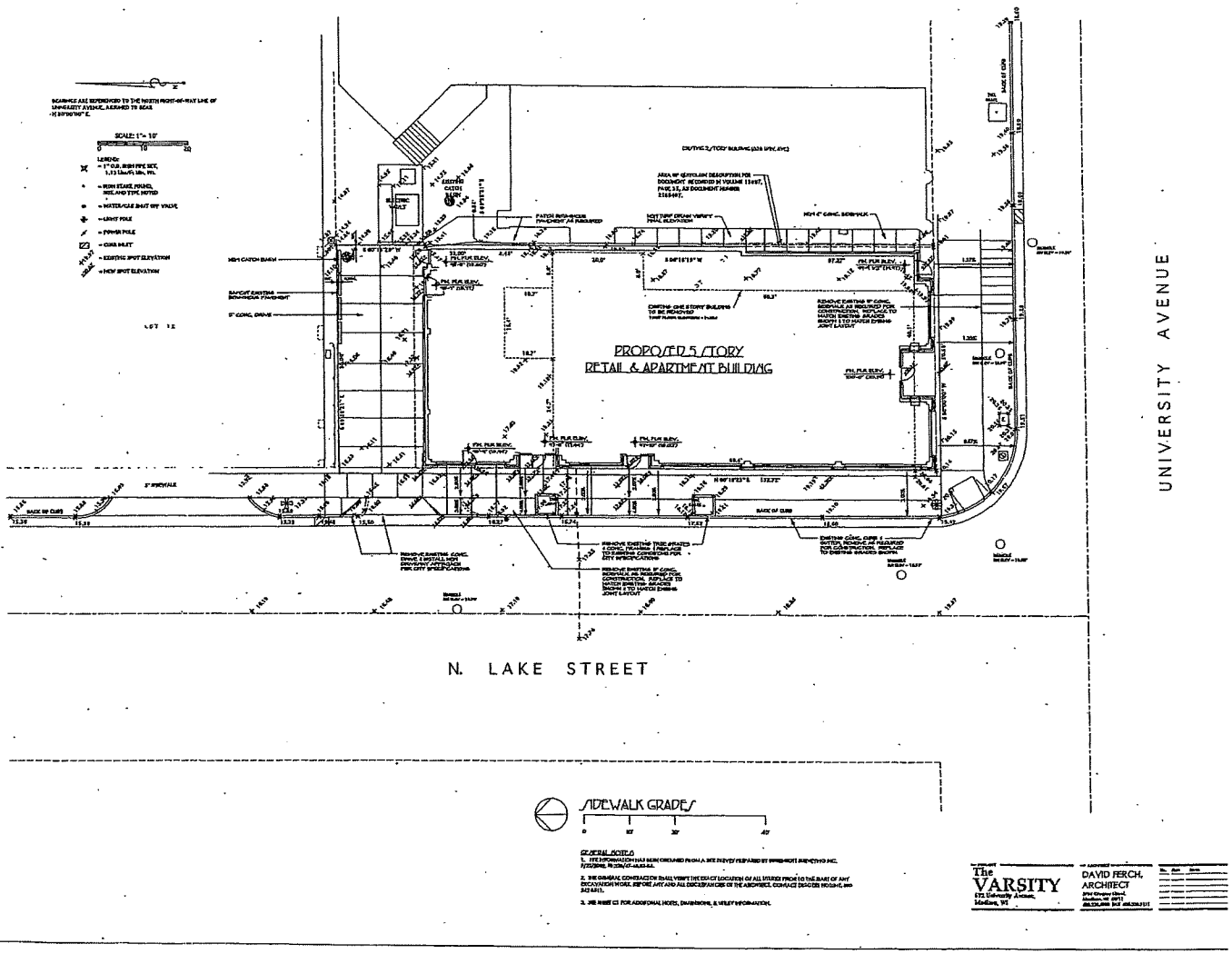
A1 SITE LIGHTING ILLUMINATION PLAN

A1 BASEMENT & 1ST FLOOR PLAN
A2 2ND & 3RD FLOOR PLAN
A3 4TH & 5TH FLOOR PLAN
A4 BUILDING ELEVATIONS
A5 BLDG MATERIAL & IMAGE DETAILS

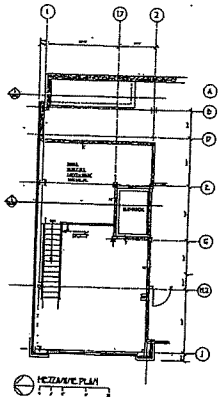
The VARSITY
DAVID FERCH, ARCHITECT
C1

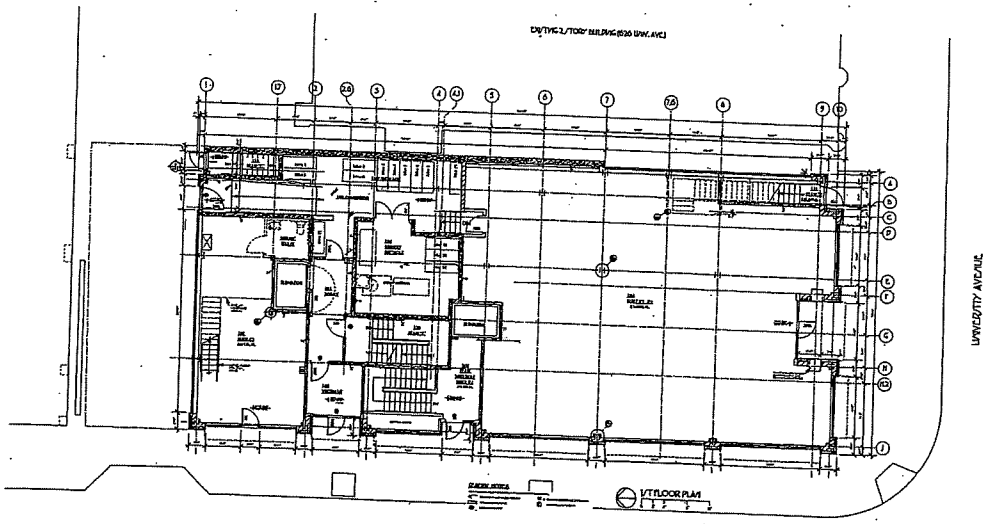
TY OF MADISON, STATE STREET CAMPUS GARAGE MIXED-USE PROJECT, CONTRACT NO. 9361, Reference-9 Neighboring Building Historical Documents

Viewers are advised to ignore the illegible text on this map. It is presented to show spatial relationships only.
Authorized by: Christine M. Mullen

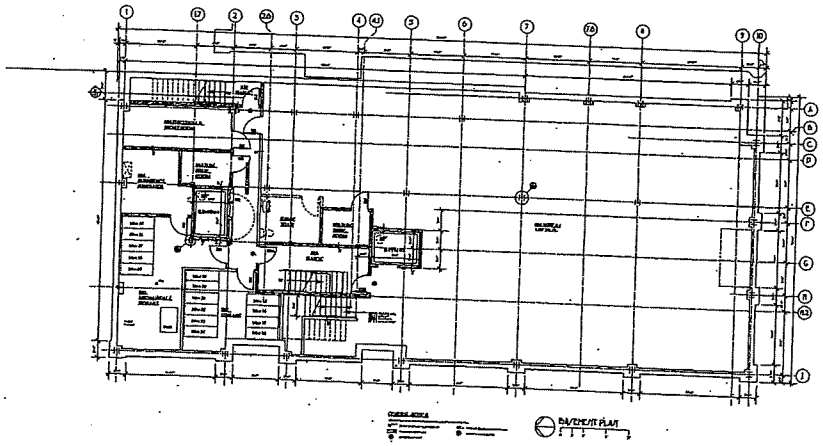


CITY OF MADISON, STATE STREET CAMPUS GARAGE MIXED-USE PROJECT, CONTRACT NO. 9361, Reference-9 Neighboring Building Historical Documents





LAKE STREET

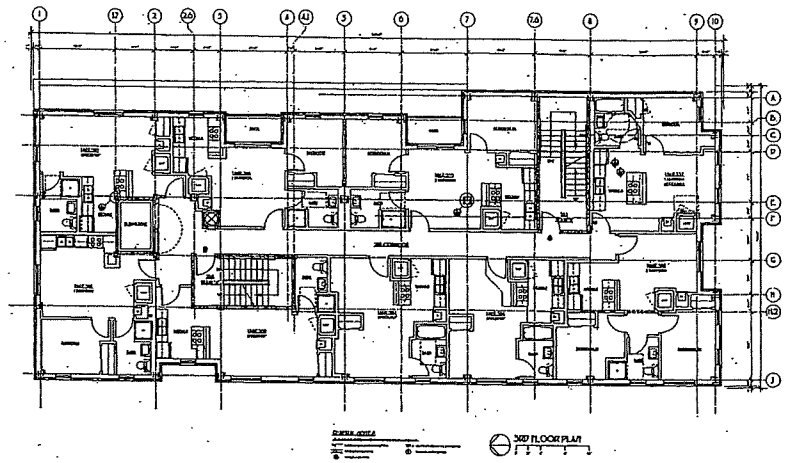


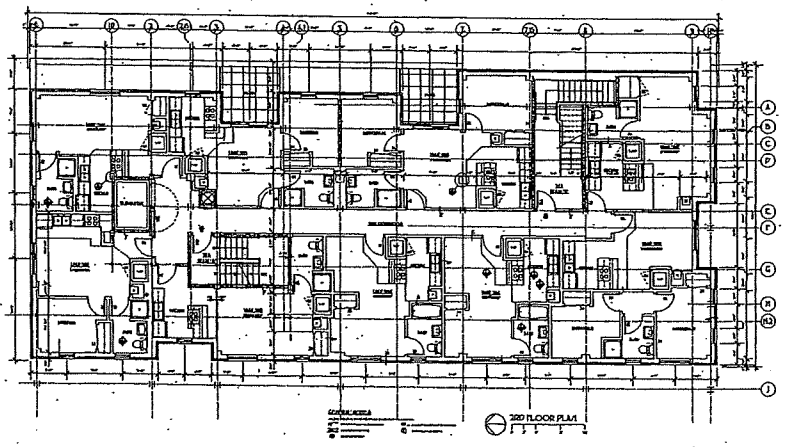
Viewers are advised to ignore the illegible text on this map. It is presented to show spatial relationships only.
Authorized by: Christine M. Mullen

The VARSITY
DAVID FERCH, ARCHITECT
A1

TY OF MADISON, STATE STREET CAMPUS GARAGE MIXED-USE PROJECT, CONTRACT NO. 9361, Reference-9 Neighboring Building Historical Documents

Viewers are advised to ignore the illegible text on this map. It is presented to show spatial relationships only.
Authorized by: Christine M. Mahon

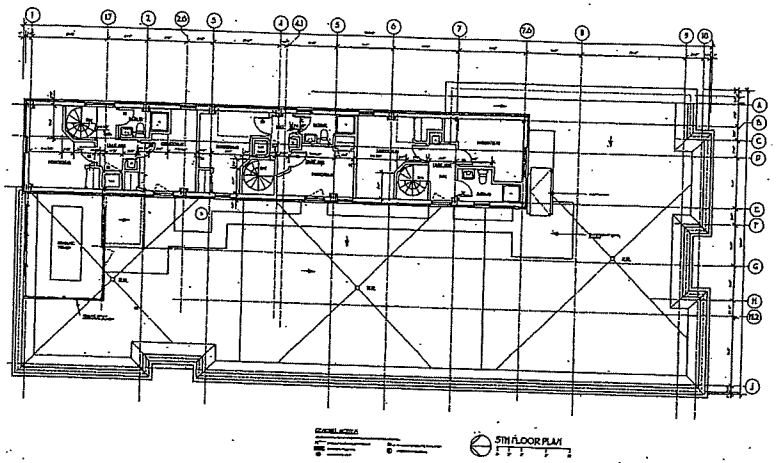


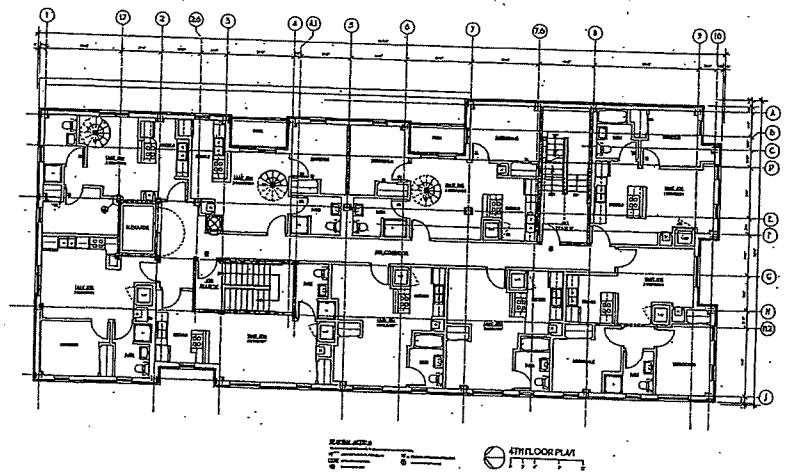


The VARSITY
DAVID FERCH, ARCHITECT
A2

CITY OF MADISON, STATE STREET CAMPUS GARAGE MIXED-USE PROJECT, CONTRACT NO. 9361, Reference-9 Neighboring Building Historical Documents

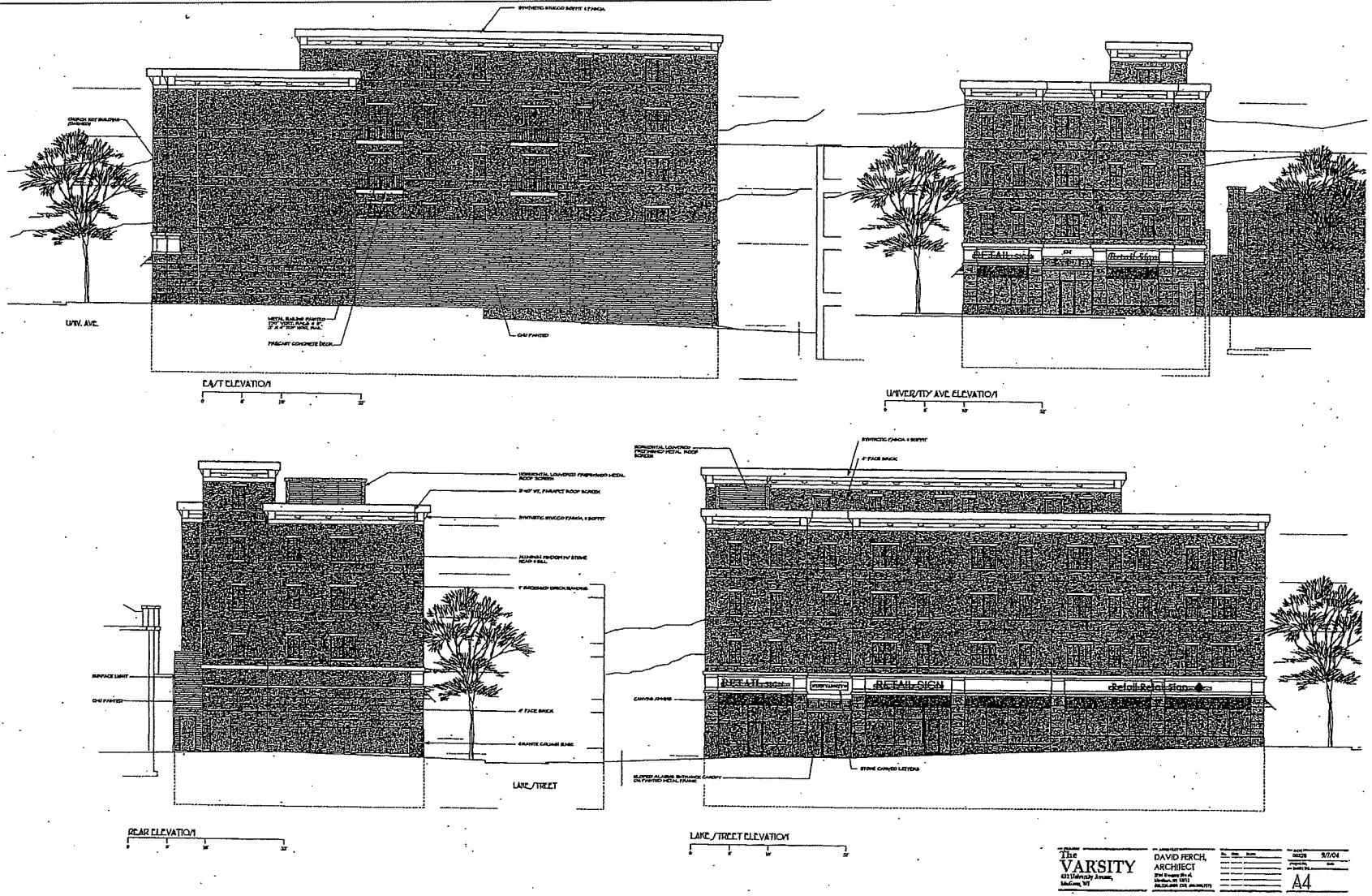
Viewers are advised to ignore the illegible text on this map. It is presented to show spatial relationships only.
Authorized by: Christine M. Nelson





THE VARSITY
DAVID FERCH, ARCHITECT
A3

Viewers are advised to ignore the illegible text on this map. It is presented to show spatial relationships only.
Authorized by: Christine M. Mullen



The VARSITY
633 University Avenue, Madison, WI

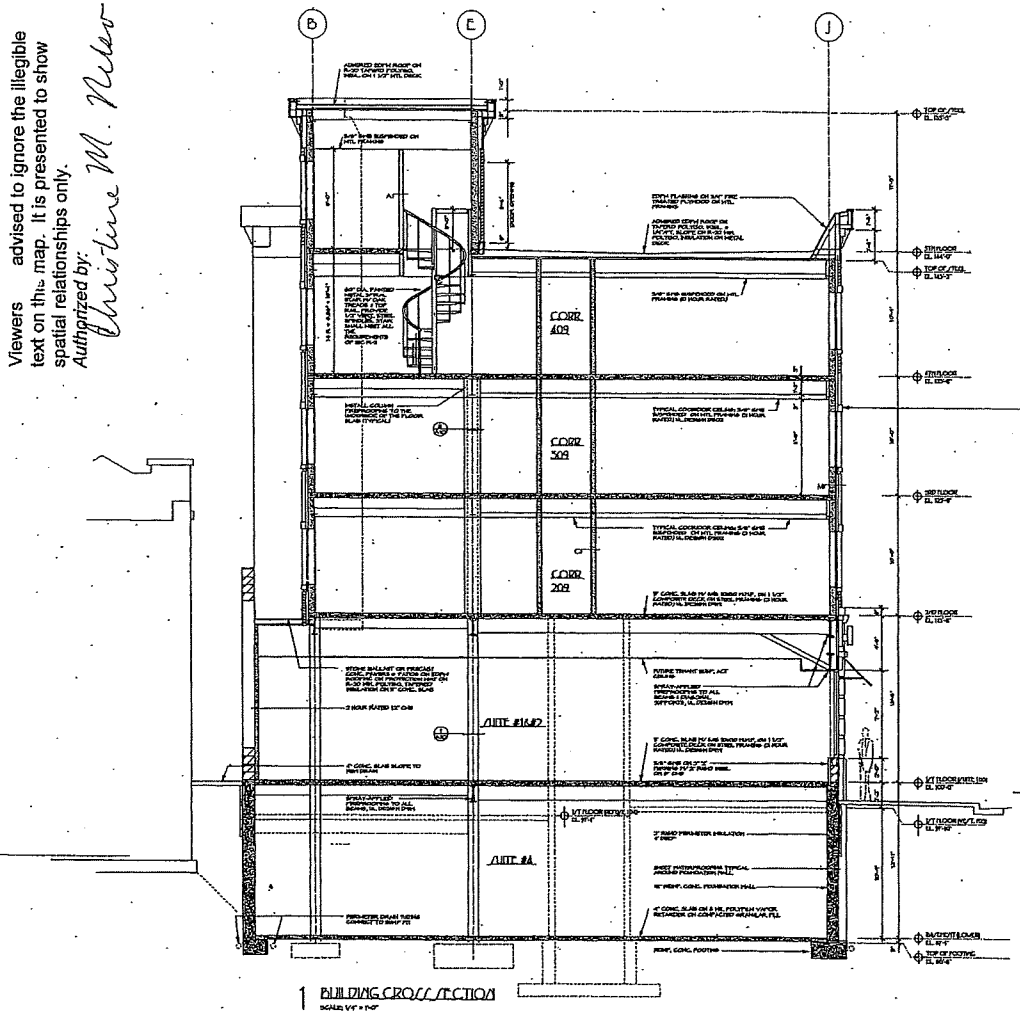
DAVID FERCH, ARCHITECT

08028 9/7/04

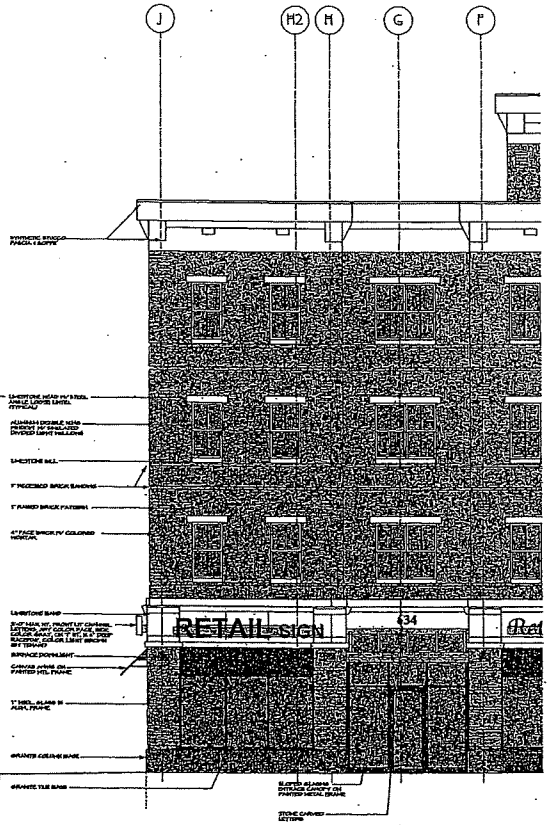
A4

TY OF MADISON, STATE STREET CAMPUS GARAGE MIXED-USE PROJECT, CONTRACT NO. 9361, Reference-9 Neighboring Building Historical Documents

Viewers advised to ignore the illegible text on this map. It is presented to show spatial relationships only.
Authorized by: Christine M. Meier



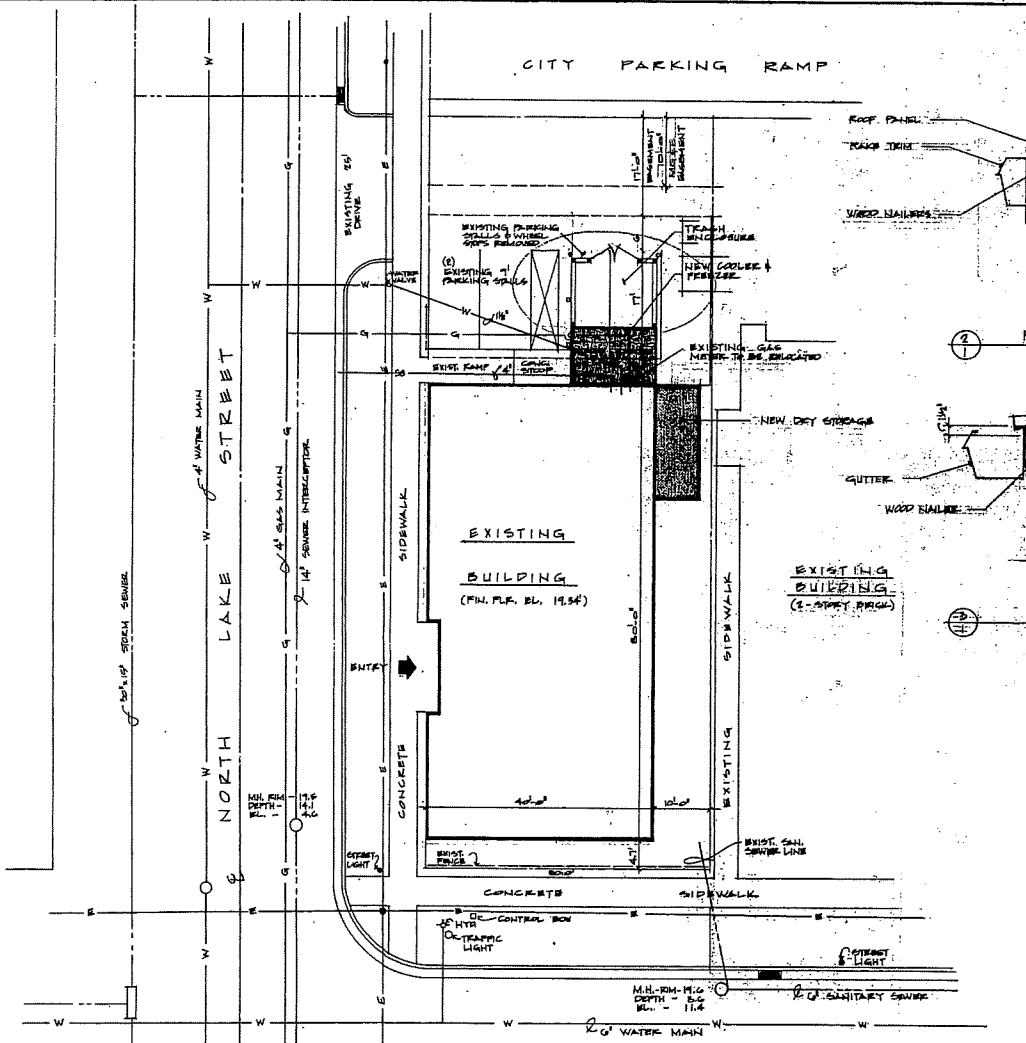
1 BUILDING CROSS SECTION



2 BUILDING MATERIAL & IMAGE DETAIL

The VARSITY
DAVID FERCH, ARCHITECT
5/1/01
A5

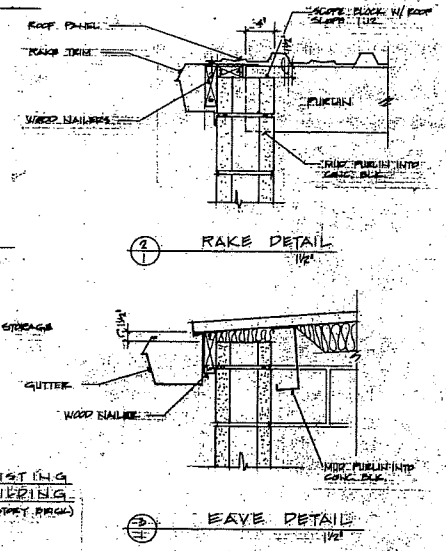
- CITY OF MADISON, STATE STREET CAMPUS GARAGE MIXED-USE PROJECT, CONTRACT NO. 9351, Reference-9 Neighboring Building Historical Documents

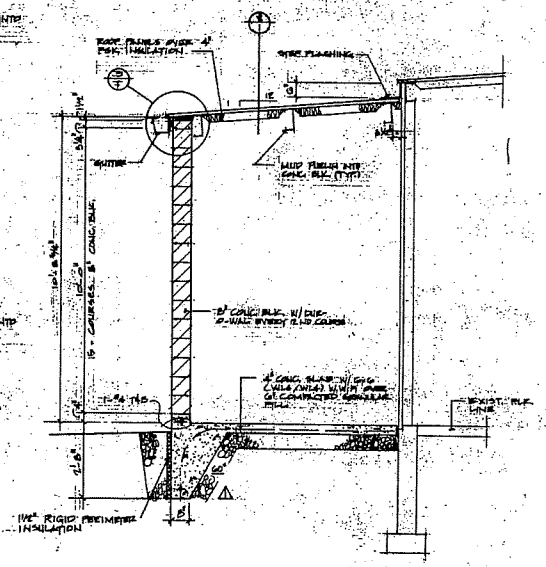


SITE PLAN

SCALE : 1"=10'

NORTH





INDEX TO DRAWINGS

1 SITE PLAN
2 DEMOLITION PLAN
3 FLOOR PLAN
4 EQUIPMENT PLAN
5 ELEVATION & SCHEDULES
6 ELEVATIONS
S1 FOUNDATION PLAN & (COOLER - FREEZER) (DRY STORAGE)

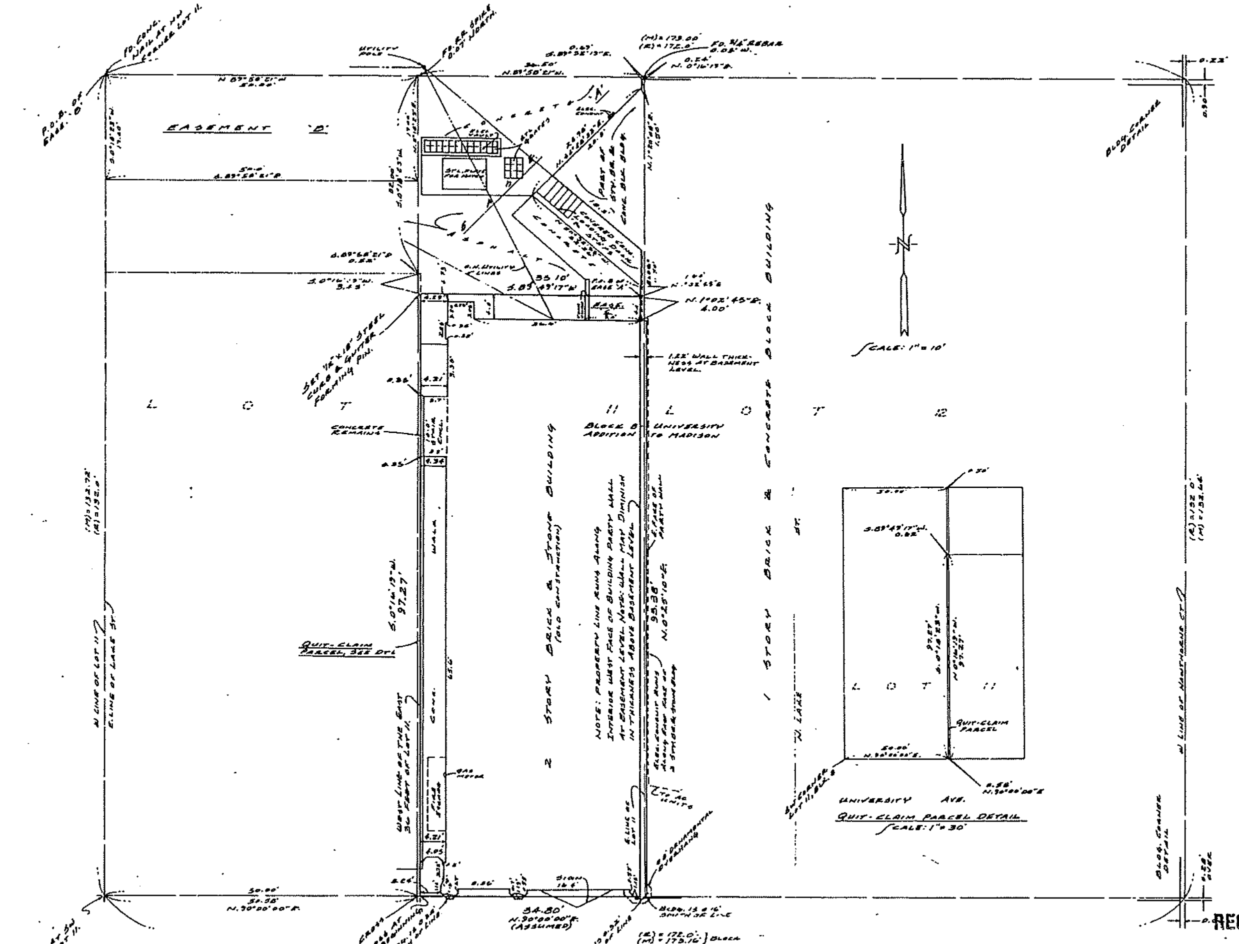
BURGER KING
632 UNIVERSITY AVE.
MADISON, WISCONSIN

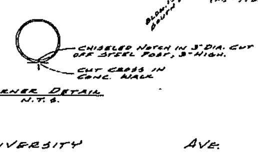
Kenneth Sullivan General Contractors Co.
1314 SAUK STREET MADISON, WIS. 53713 AREA 608/257-3339

SHEET 1
DRAWING NO. A-615-85
DRAWN BY G.H.
DATE 11-27-85

REVISED 12-10, 12-21-85

Permit Approved





NOTE:
THE EAST LINE OF PARCEL SHOWN HEREON TO BE CONSTRUED AS RUNNING PATENTLY WITH THE WEST OR INTERIOR FACE OR FACES, AT ALL LEVELS, OF THE PARTY WALL SEPARATING THE BUILDING SITUATED ON THE LANDS [illegible] HEREON FROM THE BUILDING SITUATED TO THE EAST THEREOF.

UNIVERSITY AVE.
(99' R.O.W.)

N. LAKE ST. (66' R.O.W.)

SURVEYOR'S CERTIFICATE:

I, Robert A. Richardson, a Registered Land Surveyor in the State of Wisconsin, do hereby certify that I have surveyed and mapped the above platted property in accordance with the official records and/or information furnished and in compliance with the requirements of Chapter A-E 7 Wisconsin Administrative Code, and that the above plat is an accurately scaled and dimensioned representation of such survey showing the location of the boundaries, buildings, improvements, recorded and apparent easements, roadways, and visible encroachments, if any.

Dated this 13th Day of February 1990. [signature]

REVISED 16 FEB., 1990 - CHANGED NORTH & EAST LINES & ADDED QUIT-CLAIM PARCEL.
REVISED 2 MARCH, 1990 - ADDED DETAILS OF CORNER STAKING AND ADDITIONAL BUILDING TIES

WISCONSIN ROBERT A. RICHARDSON S-1003 CAMBRIDGE WIS. LAND SURVEYOR

RECEIVED
JUL 2 - 1990
DANE COUNTY
LAND REG. & RECORDS

LEGAL DESCRIPTION

A parcel of land lying in Lot Eleven (11), Block 8, University Addition to the City of Madison, Dane County, Wisconsin, being more particularly described as follows:

Commencing at a chiseled cross found at the Southwest corner of said Lot 11, and running thence along the North line of University Avenue, N 90-00-00 E, 50.38 feet to a chiseled cross placed at the Southwest corner and the POINT OF BEGINNING of the parcel herein described; thence continuing along said North line, N 90-00-00 E, 34.80 feet, more or less, to the intersection thereof with a Southerly projection of the West, or interior, face of the East basement wall of the building situated on the parcel herein described; thence with said Southerly projection, said West face of said wall, and a Northerly projection of said West face, N 00-25-10 E, 93.38 feet to the intersection thereof with the North face of the North wall of said building situated on the parcel herein described, said point of intersection occurring at the juncture of said North wall with the West wall of the building situated on remaining lands of the grantor; thence with the West face of said last mentioned West wall, N 01-02-45 E, 4.00 feet; thence parallel with and 4.00 feet distant from the aforesaid North face of the building situated on the parcel herein described, S 89-49-17 W, 35.10 feet, to a 3/4" rebar set; thence S 00-16-19 W, 98.07 feet to the Point of Beginning.

CONTAINING: 3382 Square Feet.

TOGETHER WITH all right, title, and interest in and unto that air space, or spaces, if any, which may exist and extend Easterly beyond a vertical projection of the West face of the basement wall herein above cited, said air space, or spaces, if any, occurring due to the possibility of an Easterly diminishment in the thickness of said west wall at or above said basement level.

RESERVING, however, from the above described parcel those air spaces, if any, together with the lands below them, which may exist and lie West of said basement wall and said vertical projection thereof, said spaces, if any, occurring due to a Westerly thickening of said wall at or above said basement level, said thickening to be construed as inclusive of all columns and/or pilasters which are incorporated within and form an integral part of said wall, but only to the limited North-South extent which said columns or pilasters protrude Westerly beyond said wall and said vertical projection thereof.

MEANING AND INTENDING, hereby to describe all of the lands of said grantor bounded on the South by the North line of University Avenue, on the West by the West Line of the East 36.00 feet of the aforesaid Lot 11, on the North by a line drawn parallel with and 4.00 feet North of the North face of the North wall of said building situated on the parcel herein described, such relationship of parallelism to be construed as pertaining only to the main, or 26.6 foot East-West portion of, said wall and not the 3.05 foot North-South by 4.21 foot East-West chimney projection located at the Northwest corner of said building, and on the East by the South 4.00 feet of the aforesaid West face of the West wall of the building situated on remaining lands of said grantor, said 4.00 feet extending North from the Southerly origin thereof at the juncture of said grantors building with said building on the parcel herein described, and further on the East by the West or interior face, or faces, at all levels, of the common or party wall separating said building situated on the parcel herein described, from the building situated on remaining lands of the grantor, as well as by Northerly and Southerly basement level projections thereof extending from the interior Northeast and Southeast corners of said building situated on the parcel herein described to intersect with the North face of the North wall of said building and with the North line of University Avenue.

QUIT-CLAIM PARCEL

All of that part of Lot 11, Block 8, University Addition of the City of Madison, Dane County, Wisconsin, lying North of the North line of University Avenue, West of the West line of the East 36.00 feet of said lot East of the East line of West 50.00 feet of said lot, and South of a Southwesterly projection of the North line of the parcel conveyed to the grantee herein, by the grantor above named by deed of even date herewith, said part being more particularly described as follows:

Commencing at a chiseled cross found at the Southwest corner of said lot 11, and running thence along the North line of University Avenue, N 90-00-00 E, 50.00 feet to a chiseled cross found at the Southwest corner and the POINT OF BEGINNING of the parcel herein described; thence continuing along said North line, N 90-00-00 E, 0.38 feet, to the West line of East 36.00 feet of said lot; thence with said west line, N 00-16-19 E, 97.27 feet; thence S 89-49-17 W, 0.52 feet, to the East line of the West 50.00 feet of said lot; thence with said East line, S 00-18-23 W, 97.27 feet, to the POINT OF BEGINNING.

EASEMENT A

Together with an easement for ingress, egress, public utilities, and building maintenance over the remaining land of the grantor lying within the aforesaid Lot 11, said Easement being more particularly described as follows:

Beginning at the Northwest corner of the parcel herein above described and continuing with the aforesaid west face of the wall of building situated on remaining lands of said grantor N 01-02-45 E, 1.60 feet to the intersection thereof with the Southwesterly face of a loading dock attached to said building; thence with said Southwesterly face, N 50-32-55 W, 22.26 feet to the Westernmost corner of said dock; thence with the Northwesterly face of said dock and the Northwesterly face of the wall of the building lying Northeasterly of said dock, N 44-28-33 E, 24.98 feet to an angle point thereof; thence continuing with said building wall, N 01-20-06 E, 1.50 feet to a corner thereof; thence with the North face of the wall of said building, S 89-32-19 E, 0.69 feet to the East line of Lot 11; thence with said East line of said Lot, N 00-16-19 E, 0.26 feet, to the Northeast corner thereof; thence with the North line of said Lot 11, N 89-34-21 W, 36.50 feet, thence with the East line of the west 50 feet of said Lot 11, S 00-18-23 W, 32.00 feet; thence with the South line of the North 32 feet of said lot, S 89-38-21 E, 0.57 feet; thence with the West line of the East 36.00 feet of said lot, S 00-16-19 W, 3.43 feet to the Northwest corner of the herein above described parcel; thence with the North line thereof, N 89-49-17 E, 35.10 feet, to the Point of Beginning.

EASEMENT B

Also granting the right of use in common of a certain right-of-way for unimpeded access across the North 17 feet of the West 50 feet of said Lot 11, said easement being reserved for the use of said grantor, his heirs, executors, administrators, personal representatives and assigns, in a deed from S.D. Sanfillippo to Biagio Cargano, Date Nov.21,1974 and recorded in Volume 544 of Records at Page 490, as document # 1415186.

Said easement being more particularly described as follows: Being at the Northwest corner of said Lot 11, and running thence along the North line thereof, S 89-38-21 E, 50.00 feet to the Northwest corner of the Easement herein above described; thence with the West line of said Easement S 00-18-23 W, 17.00 feet; thence N 89-38-21 W, 50.00 feet to the East line of Lake Street; thence with said East line N 00-18-23 E, 17.00 feet to the Point Of Beginning.

EASEMENT C

Also reserving an easement for building maintenance purposes over the East 9 feet of the North 4.00 feet of the parcel above here described.

PLAT of SURVEY

of

The premises located at 626 University Ave.
Being part of Lots 11 and 12; Block 8; University Addition to the City of Madison; Dane County; Wisconsin
Prepared for:
Mr. Jongyean Lee

Prepared by:
THE LANDMARK SURVEY GROUP
6326 Monona Drive Madison Wisconsin 53716

Scale: 1"=10'	Approved by:	Drawn by:
Date: 2/13/90		Revised:
Note:		
Job No.: 2569	Map No.: 2559	Sheet 1 of 1

M 541-C

Contract #9361 State Street Campus Garage Mixed-Use Project
Pre-Bid Building/Site Tour Date: 10/13/23

Name	Company Representing	Email	Phone
Jason Pieton	Terra	JPieton@whyterra.com	608-396-1125
Brett Parpart	Universal Power Systems	bparpa*@e-pwrs.com	608-226-8600
Nate Petersen	CD Smith Const.	npetersen@cdsmith.com	414-810-9980
Moly Nemcek	CD Smith Const.	MNemcek@cdsmith.com	920-204-4009
Ben Slaby	JP Cullen	ben.slaby@jpcullen.com	608-797-3735
Rob Myers	Mortenson	rob.myers@mortenson.com	262 349 1918
Dustin Blackburn	Wolter inc	dustin.blackburn@wolterinc.com	262-525-8011
Pete Schumann	New Berlin Trading Dock	Pete@newberlintrading.com	815-403-6653
Lou Olson	FINDORFF	lolson@findorff.com	608-442-7363
Ben Prosch	United Rentals	bprosch@ur.com	608-395-1135
Isaac Gehman	Stevens	igehman@stevensconstruction.com	608-886-0825
Bill LaBeau	IGE	William.LaBeau@integrityge.com	715 391 5378
Paul Wyszkowski	VEIT	paul.wyszkowski@veitusa.com	773 636 4596
DAVE SCHROEDER	STEVENS CONST.	dschroeder@stevensconstruction.com	608-286-0990

Contract #9361 State Street Campus Garage Mixed-Use Project
Pre-Bid Building/Site Tour Date: 10/13/23

Name	Company Representing	Email	Phone
Steve Vogt	Stevens	svog@stevensconstruction.com	608-444-26
BRIAN RING	MICHELS	bring@MICHELS.US	920-344-2742

Registration Report

Report Generated: 10/16/2023 13:35

Topic	Webinar ID	Scheduled Time	Duration (minutes)
Bid Talk: State Stree	815 0122 2320	10/16/2023 13:00	120

Attendee Details

First Name	Last Name	Email	Registration Time
Josh	Coppernoll	jcoppernoll@mononapfp.com	10/3/2023 15:30
Robert	Myers	rob.myers@mortenson.com	10/4/2023 9:51
Ryan	Bartel	Ryan.Bartel@nextelwctricllc.com	10/5/2023 20:00
Ryan	Bartel	Ryan.Bartel@nextelectricllc.com	10/5/2023 20:01
Chris	Raeder	chris.raeder@nextelectricllc.com	10/6/2023 8:16
J.H. Findorff	Lou Olson	lolson@findorff.com	10/9/2023 8:19
Deanne	Goodlaxson	dgoodlaxson@cdsmith.com	10/10/2023 6:13
Collin	Zuehlke	collin@kmi-construction.com	10/11/2023 7:58
Adam	Mentink	adam.mentink@jpcullen.com	10/13/2023 14:22
Stephanie	Schuette	stephanie.schuette@jpcullen.com	10/13/2023 14:57
Brett	Parpart	bparpart@upands.com	10/14/2023 20:16
David	Schroeder	dschroeder@stevensconstruction.com	10/15/2023 8:02
Jake	Kolczaski	jkolczaski@rghuston.com	10/16/2023 12:31
Katie	Lichtie	katie@speedwaysg.com	10/16/2023 12:48
Brent	Pauba	bpauba@cityofmadison.com	10/16/2023 12:50
Dane	Bernau	dbernau@cdsmith.com	10/16/2023 12:54
Michael	Muehrcke	mike.muehrcke@nextelectricllc.com	10/16/2023 12:56

Narrative of adjacent property conditions

624 University Ave

Existing 2 story above grade building with a partial depth and multiple level basement and unknown structural framing type. The extents and depth of the basement levels are unknown. The building is currently operating multiple bars. Refer to available documentation provided by the City of Madison.

626 University Ave

Existing 2 story above grade building with a partial depth basement and unknown structural framing. Extents and depth of the basement are unknown. The building was formerly a religious facility and is currently operating as pub.

401 N Lake Street/632 University Ave.

Refer to available documentation provided by the City of Madison.

430 N. Frances St

Refer to available documentation provided by the City of Madison.

440 Hawthorne Ct

Existing 3 story residence, with a partial depth basement. Full extents and depth of the basement are unknown.

441 N Lake Street

Existing single story above grade building with full basement with approximately a 9'-6" basement depth and unknown structural framing type. Building was formerly a McDonalds restaurant and is currently operating as a United States Postal Service branch. Refer to available documentation provided by the City of Madison.

Department of Public Works
Engineering Division
James M. Wolfe, P.E., City Engineer

City-County Building, Room 115
210 Martin Luther King, Jr. Boulevard
Madison, Wisconsin 53703
Phone: (608) 266-4751
Fax: (608) 264-9275
engineering@cityofmadison.com
www.cityofmadison.com/engineering

Assistant City Engineer
Bryan Cooper, AIA
Gregory T. Fries, P.E.
Chris Petykowski, P.E.

Deputy Division Manager
Kathleen M. Cryan

Principal Engineer 2
John S. Fahrney, P.E.
Janet Schmidt, P.E.

Principal Engineer 1
Mark D. Moder, P.E.
Andrew J. Zwieg, P.E.

Financial Manager
Steven B. Danner-Rivers

November 3, 2023

ADDENDUM NO. 2
City of Madison, Engineering Division

CONTRACT NO. 9361
STATE STREET CAMPUS GARAGE MIXED-USE PROJECT

This addendum is issued to modify, explain or correct the original Drawings, Specifications, or Contract Documents marked as **State Street Campus Garage Mixed-Use Project, Contract #9361, as issued on October 2, 2023** and is hereby made a part of the contract documents.

Please acknowledge this addendum on page E1 of the contract documents and/or in Section E: Bidder's Acknowledgement on Bid Express.

Electronic version of these documents can be found on Bid Express at https://www.bidexpress.com/ and the City of Madison web site at http://www.cityofmadison.com/business/PW/contracts/openforBid.cfm

If you are unable to download plan revisions associated with the addendum, please contact the Engineering office at (608) 266-4751 to receive the material by another method.

For questions regarding this bid, contact:

Maria Delestre
PH: (608) 243-5891
Email: MDelestre@CityofMadison.com
210 Martin Luther King Jr. Blvd
Room 115
Madison, WI 53703

Sincerely,

James M. Wolfe, P.E.
City Engineer

This addendum modifies the following documents:

1. Exhibit A Drawings Volume 1 dated 10_2_2023
   A. See EUA Document Addendum P1_AD02
2. Exhibit B Drawings Volume 2 dated 10_2_2023
   A. See EUA Document Addendum P1_AD02
3. Exhibit C Specifications Volume 1 dated 10_2_2023
   A. See EUA Document Addendum P1_AD02
4. Exhibit D Specifications Volume 2 dated 10_2_2023
   A. See EUA Document Addendum P1_AD02

This addendum adds the following documents to the bid package:

1. Reference-12 Open Cell Insulating Units
2. Reference-13 Substitution Requests

Please attach these Addendum documents to the Drawings and Project manual in your possession.

1. **GENERAL CONTRACT CONDITIONS**
   A. No Change

2. **GENERAL QUESTIONS AND ANSWERS**
   A. See EUA – Bidder Questions and Answers

3. **ACCEPTABLE EQUIVALENTS**
   A. See updated 03 30 00 CAST-IN-PLACE CONCRETE
      i. Added additional crystalline water proofing admixture
   B. See updated 08 51 13 ALUMINUM WINDOWS
      i. Added Tubelite as an additional acceptable alternate manufacturer
   C. REJECTED – Common Work Results for Flooring Preparation – Remedial Floor Coating for Spec Section 09 05 61
      i. Reason for rejection: We do not permit substitutions to the slab moisture mitigation materials listed in the common work results for floor prep spec.
   D. REJECTED - Fire Rated Aluminum Window substitution request for Spec Section 08 41 24
      i. Reason for rejection: All the the required information and products were not included with and listed in the substitution request. The substitution request was only written for Aluflam (did not include VDS) and appeared to only include Aluflam window products with up to a 60 minute fire rating. The fire rated aluminum windows in the stairs at the Northeast and Southeast corners of the building are required to be 2-hr rated. The substitution request did not include the 2-hr rated Aluflam curtain wall product. A revised substitution request listing all applicable products and supporting comparative documents would be considered post bid if submitted by the successful bidder, assuming the design team determines the proposed substitutions are equal to or better than the specified basis of design products.

4. **SPECIFICATIONS**
   A. See EUA Document Addendum P1_AD02

5. **DRAWINGS**
   A. See EUA Document Addendum P1_AD02

6. PROPOSAL

A. No Change

Bidder Question and Answers

State Street Campus Garage Mixed Use Project - Addendum No. 2

Date: 2023.11.02

No.	Bidder Question	Source	Response
02	Addendum No. 2		
02.1	Specification section 22 05 33 Heat Tracing For Plumbing Piping parts 2.1 and 2.2 have not been modified for project specific requirements.	10-17-23 Email from Darren Schumacher	Revised 22 05 33 Heat Tracing For Plumbing Piping included in this Addendum
02.2	Plumbing drawing is showing (qty 3) 4"TD-1 serving the elevators in the elevator lobby 246. There is no reference to TD-1 on the plumbing drain schedule on P0000-1 or in the plumbing specification. 4"TD-1 are also shown on P1003-A-1 and P1004-A-1.	10-17-23 Email from Darren Schumacher	Revised plumbing drain schedule to include TD-1.
02.3	TLT 181A is showing a WC-2 watercloset that is scheduled to have a battery operated flush valve with a L-1 that is scheduled to have a hardwired faucet. Should both fixtures have battery operated valves?	10-17-23 Email from Darren Schumacher	Revised lavatory in TLT 181A to be L-2 battery operated faucet.
02.4	TLT 185A is showing a WC-2 watercloset that is scheduled to have a battery operated flush valve with a L-1 that is scheduled to have a hardwired faucet. Electrical drawing E8001-1 is showing a wired connection to this location. Should both fixtures have battery operated valves or hardwired.	10-17-23 Email from Darren Schumacher	Revised lavatory in TLT 185A to be L-2 battery operated faucet.
02.5	The motor connection schedule has the ERH-2a thru ERH-2f are scheduled as 480V/3ph per the schedule on mechanical drawing M8001-1 those units are scheduled as 208V/1PH.	10-17-23 Email from Darren Schumacher	Revised ERH-2a thru ERH-2f schedule on M8001-1 to correct electrical requirements (480V/3ph).
02.6	The motor connection schedule is showing an EWH-11 serving the plumbing room. The schedule on mechanical drawing M8001-1 does not have this electric wall heater.	10-17-23 Email from Darren Schumacher	Removed EWH-11 from motor connection schedule on E8002-1. EWH-11 will not be provided per drawings.
02.7	The motor connection schedule is showing an EWH-TB that is serving room 180. The schedule on mechanical drawing M8000-1 does not have this electric wall heater.	10-17-23 Email from Darren Schumacher	Removed EWH-TB from motor connection schedule on E8002-1. EWH-TB will not be provided per drawings.
02.8	The motor connection schedule is not showing the plumbing circulation pumps CP- 1, CP-2, and CP-3.	10-17-23 Email from Darren Schumacher	Added electrical connections for CP-1, CP-2, and CP-3 in motor connection schedule one E80002-1.
02.9	The motor connection schedule has the following electric wall heaters EWH-5,6,7, 12,14 scheduled as 208v/1ph. Per the schedule on mechanical drawing M8000-1 those electrical wall heaters are scheduled as 208v/3ph.	10-17-23 Email from Darren Schumacher	Revised EWH-5,6,7,12,14 in motor connection schedule on E8002-1 to correct electrical requirements (208V/3ph).
02.10	The motor connection schedule has the transfer fan TF-1 scheduled as 208v/1ph. Per the mechanical schedule on drawing M8000-1 the TF-1 is schedule as 115V/1ph.	10-17-23 Email from Darren Schumacher	Revised TF-1 in motor connection schedule on E8002-1 to correct electrical requirements (115V/1ph).
02.11	The electrical drawing is not showing the power connection for plumbing CP-1 in room 191 and plumbing CP-2 in room 185A.	10-17-23 Email from Darren Schumacher	Added electrical connections for CP-1, CP-2, and CP-3 in motor connection schedule one E80002-1.
02.12	The electrical drawing is not showing the power connection for plumbing CP-3 in room 181A.	10-17-23 Email from Darren Schumacher	Added electrical connections for CP-1, CP-2, and CP-3 in motor connection schedule one E80002-1.

02.13	In case of conflicts between the CITY OF MADISON Standard Specifications for Public Works Construction 2023 Edition and the AE project-specific specs (9361 Exhibit-C Specifications Volume 1 dated 10_2_2023), could you provide clear direction on which takes precedence?	10-26-23 Email from Lou Olson	In the event of a conflict in the documents that Contractor will provide the greater quantity and/or greater quality.
02.14	We suspect that an Earth Retention System (ERS) was likely incorporated in the original 1962 Ramp project. Where can we find historical records or information about this within the city's archives? Is there a designated office or contact for this?	10-26-23 Email from Lou Olson	All available historical records of the existing building and neighboring buildings have been provided in the Bid Documents and Addendum No. 1.
02.15	Is there a way to verify the foundation of existing adjacent buildings prior to bidding, if reference is not noted on the as-builts? As of this question I have not seen the as builts that contractors were going to be able to have access to.	10-26-23 Email from Lou Olson	All available historical records of the existing building and neighboring buildings have been provided in the Bid Documents and Addendum No. 1.
02.16	Has the City of Madison secured easements for the use of aerial work platforms with neighbors to both the North and South (different than air rights)?	10-26-23 Email from Lou Olson	Provide bid based on assumption neighboring easements will allow swing stage equipment.
02.17	Regarding Section D-6 109.9 Questions and or clarifications relating for liquidated damages. Are liquidated damages compounding? • If Interim Date 1 Completion is missed, and the Developer work starts later but planned duration remains the same, Interim Completion Date #3 will likely also be missed. Would the $10,000 per calendar day be applied to the Interim Completion Date #1, and then also Interim Completion Date #2. • In addition, how will LD's be handled if Interim Completion Date #1 is made, and Interim Completion Date #3 is not made because the Developer has not completed their work which impacts the ability for Phase 1 to receive final occupancy sign off?	10-26-23 Email from Lou Olson	The max the Contractor will be charged is $10,000 per calendar day. If the Contractor misses Completion Date #1, liquidated damages will be charged until work is complete per the Contract. If the delay related to Completion Date #1 results in Completion Date #3 not being made then the Contractor would be charged liquidated damages for every day after Completion Date #3 until work is complete per the Contract. If the Developer causes a delay to the Contractor and Contractor is unable to meet Completion Dates #2, #3 or #4 as a result, the Contractor is required to notify the City of Madison formally, and should seek an extension of time under Sec. 109.8 (for work delayed because of conditions beyond the control of the Contractor). If an extension is granted, the Developer caused delay will not result in the imposition of liquidated damages.
02.18	Sections 104.1, 105.12, etc., mandate coordination with various stakeholders. Could you provide more clarity on how conflict resolution will be managed, especially when coordination is not in the best interest of certain stakeholders? Sub-Questions: • How should we navigate scheduling around major public events like Badger Game Day, Maxwell Street Days, etc.? • Is a list of what the major civic/public events available or a metric that is used to understand better? • What's the protocol for ensuring our work doesn't disrupt these events? (What guidelines should we follow for scheduling around major public events.)	10-26-23 Email from Lou Olson	The Contractor will have control of the site per the drawings and Reference-3 Construction Logistics Plan with Developer. Any Street occupancy permits will need to be coordinated and procured from City of Madison Traffic Engineering/Parking Utility. Knowledge of events surrounding the project is the responsibility of the Contractor. Scheduling of deliveries and ensuring those deliveries follow City of Madison Ordinances is the responsibility of the Contractor.

02.19	To proceed with the demolition of the bridges, we'll need both access and a designated safe area within the Frances Street ramp. Could you clarify the City's specific expectations and or provisions afforded to the contractor for this specific work?	10-26-23 Email from Lou Olson	The Contractor shall provide the City's Construction Manager a proposed schedule and details of the required area needed at least 2 week ahead of the proposed demo activity start date. City Staff will coordinate with Contractor to provide access. It is understood that some parking stalls in the Frances St. Garage may need to be blocked off to complete this work. Contractor is expected to provide a safe work area separate from the public. Once work is started the Contractor will complete the work without delay. Once demolition is complete the openings should be addressed per the details in the Contract Drawings.
02.20	Please confirm. Would the City be open to negotiating mutually agreeable language relating to a mutual waiver of claims for consequential damages with the successful contractor?	10-26-23 Email from Lou Olson	No - the City may not negotiate contractual terms with the successful bidder.
02.21	Sheet A3203-1 labels one wall of the elevator shaft to be B2010-00 burnished block. Please clarify whether all the walls of the elevator shaft shall be burnished. Should the Stair shaft be burnished block as well and if so, should the stairwell be burnished inside and out?	10-26-23 Email from Lou Olson	The referenced wall of the elevator and stairwell is not to be burnished block. Addendum No. 2 revises this annotation.
02.22	Is phase 1 considered a prevailing wage project?	10-25-23 Email from Collin Zuehlke	No – prevailing wage not required.
02.23	In looking at the exterior walls being single wythe burnished block. a. Is there any possibility of utilizing a swing stage to strike joints effectively on the outside or are the limits of the construction going to be too tight That we will?	10-25-23 Email from Collin Zuehlke	See response to 02.16.
02.24	On the north and South Elevations there appears to be (2) colors of burnish block veneer. Is there a shaded exterior elevation deviating the (2) apart?	10-25-23 Email from Collin Zuehlke	Wall sections show the deviation
02.25	Shown on elevations C3/A2004-1 & D4/A2005-1. There is burnished block veneer that is within L1. I assume that the CMU BU is to be within the Phase 1 contract and the veneer/insulation/AVB is to be within the Phase 2 contract.	10-25-23 Email from Collin Zuehlke	Updated drawings A2004-1 & A2005-1 included in Addendum No. 2 to clarify exterior work Phasing responsibility.
02.26	Insulated units – I have a proposed solution to help achieve an insulated wall for this as they (County Materials) don't make a burnished block insulated unit if there's any openness to hearing about this?	10-25-23 Email from Collin Zuehlke	According to Reference-12 Open Cell Insulating Units, County Materials has the open cell insulating units and Thermal Block units in Burnished. Other manufacturers' products or other insulating options can be submitted for review/approval by the awarded contractor.
02.27	On structural drawings for levels P2 through P6 (P7 is not identified); Between column lines 1-3 on column line K; can you confirm that this is an MW-1 and not a MW-2 as both are shown, but no schedule is identified for a MW-2.	10-25-23 Email from Collin Zuehlke	MW-2 labeling was in error and this has been addressed in Addendum 02
02.28	Is there any thought into providing the current concrete shear wall into 12" Masonry walls?	10-25-23 Email from Collin Zuehlke	Not at this time
02.29	Detail 6,7, and 8 on Sheet S4001-1 reference back to sheets S1000A-1 through S1007B-1 for deck elevations. Change in deck elevations at slab transitions	10-26-23 Adam Mastalir	Overall framing plans (i.e. S1001-1, S1002-1, S1003-1…) contain the slab information requested – elevations, slab diagrams/thicknesses.

	are not noted on plans (see images below). Can you please clarify what the tops of deck elevation would be for these conditions?		
02.30	Please clarify the extent of cut section 4/S3002-1 and 5/S3002-1 as it relates to Gridline K between gride lines 1 and 8 on sheet S1000-B-1?	10-26-23 Adam Mastalir	Added extent arrows and a slab edge detail (11/S4000-1) at the 7th floor to address question.
02.31	Please clarify unmarked column shown on grideline H of Concrete Column Key Plan of sheet S2000-1.	10-26-23 Adam Mastalir	See updated S2000-1 calling out detail 9/S4010-1. Detail 9/S4010-1 has also been updated in Addendum No. 2.
02.32	Please clarify the deck thickness on P4 between gridelines 1 and 3 and A and K as the plans appear to indicate that there is a Top of Slab Offset plan east of Gridline 3	10-26-23 Adam Mastalir	Overall framing plans (i.e. S1001-1, S1002-1, S1003-1…) contain the slab information requested – elevations, slab diagrams/thicknesses.
02.33	Please clarify if a structural detail will be provided as part of Phase 1 for the Phase 2 exterior wall system that is bearing on the 7th floor concrete deck. We would be expecting embeds in the top of 7th floor and/or curb wall for this system to bear on.	10-26-23 Adam Mastalir	Added extent arrows and a slab edge detail (11/S4000-1) at the 7th floor to address question.
02.34	As discussed, the Phase 1 contractor (and affected subcontractors) will need to re-mobilize for final completion at the end of the Phase 2 portion of the work which is more than a year after the Phase 1 substantial completion date. Will retainage be significantly reduced at the end of the Phase 1 work while Phase 2 work is executed? If yes, what will define substantial completion as some of the Phase 1 work will not be able to be tested/inspected until Phase 2 work is complete?	10-16-23 Bid Talk	Retainage will be released based on Contract Documents. Please review Spec Section 01 29 73 and 01 29 76.

Addendum P1_AD02

STATE STREET CAMPUS GARAGE
MADISON, WI
20448

OWNER:	CITY OF MADISON
From ARCHITECT:	EPPSTEIN UHEN ARCHITECTS, INC
To CONTRACTOR:	BIDDERS
DATE OF ISSUANCE	11/02/2023

This Addendum is issued to modify, explain or correct the original drawings and project manual and is hereby made a part of the Contract Documents. Please attach this Addendum to the specifications in your possession.

Each Bidder shall carefully read all items in their entirely and thoroughly examine the Contract Documents to determine what extent various clarifications, changes, and conditions will affect their bid.

I. PROJECT MANUAL

SPECIFICATIONS

03 30 00	CAST-IN-PLACE CONCRETE
2.04 F 7	ADD additional crystalline water proofing admixture.
08 51 13	ALUMINUM WINDOWS
2.01 A 1 b	ADD Tubelite as an additional acceptable alternate manufacturer.
2.02 A	REVISE various aluminum window performance requirements.
08 71 00	DOOR HARDWARE
1.03 B 6	ADD Pre-procurement/Installation meeting requirements paragraph
22 05 33	HEAT TRACING FOR PLUMBING PIPING
	REVISE SECTIONS 2.1, 2.2, 2.3, 3.1, AND 3.2
23 05 20	VARIABLE FREQUENCY DRIVES
	REVISE UNIT OPERATING REQUIREMENTS RELATED TO AMBIENT TEMPERTURE RATING
23 09 03	CONTROL INSTRUMENTATION
	REVISE ANALOG ELECTRONIC INSTRUMENTATION SECTION
	ADD AIRFLOW STATION SECTION

23 83 23 ELECTRIC INFRARED RADIANT HEATER

ADD ELECTRIC INFRARED RADIANT HEATER SPECIFICATION SECTION

26 06 33 RACEWAY AND BOXES FOR ELECTRICAL SYSTEMS

ADD CLARIFICATION TO UTILIZE RMC CONDUIT FOR EXPOSED VERTICAL RISERS AND TRANSITION TO EMT WHEN ROUTING CONDUIT ACROSS PARKING DECK.

II. CONSTRUCTION DOCUMENTS

STRUCTURAL Sheets (S)

S0002-1 DESIGN CRITERIA

REVISED allowable bearing pressure

S1000-A-1 FOUNDATION PLAN – ZONE A – PHASE 1

REVISED spread footing sizes

REVISED mat footing sizes

ADDED bottom bar at column

REVISED top of wall elevation

REVISED the elevator core footing thickness

REVISED quantity of bottom bars for the elevator core footing

REVISED the top bars for the elevator core footing

S1000-B-1 FOUNDATION PLAN – ZONE B – PHASE 1

REVISED spread footing sizes

REVISED mat footing sizes

REVISED top bars from mat footing

REVISED bottom bars from mat footing

REVISED quantity of bottom bars from mat footing

REVISED thickness of mat footing

REVISED spacing of east-west bottom bars

REVISED column offset from gridlines

ADDED column offset from gridlines

ADDED continuous footing

ADDED top bars in mat footing

S1001-1 1st FLR FRAMING PLAN – OVERALL – PHASE 1

ADDED top of wall elevations

ADDED similar callout for detail

ADDED detail cut callouts

ADDED brick ledge callout

S1001-A-1 1st FLR FRAMING PLAN – ZONE A – PHASE 1
ADDED top and bottom reinforcement
ADDED spacing of top bar callout

S1001-B-1 1st FLR FRAMING PLAN – ZONE B – PHASE 1
ADDED top and bottom reinforcement
REVISED force of PT cables
REVISED path of PT cables
REVISED hooked top and bottom bars
ADDED spacing to hooked top bars

S1002-1 2nd FLR FRAMING PLAN – OVERALL – PHASE 1
ADDED detail cut callout
ADDED brick ledge callout
ADDED typical dimension callout

S1002-A-1 2nd FLR FRAMING PLAN – ZONE A – PHASE 1
REVISED force of PT cables
REVISED quantity of bottom bars
ADDED additional PT cables

S1002-B-1 2nd FLR FRAMING PLAN – ZONE B – PHASE 1
ADDED slab opening
REVISED spacing of top and bottom bars
ADDED slab opening bars
ADDED hooked top and bottom bars
REVISED force of PT cables
REVISED path of PT cables

S1003-1 P3 FLR FRAMING PLAN – OVERALL – PHASE 1
ADDED detail cut callout
REVISED detail callout number
ADDED steel braces and corresponding detail
REVISED opening at Stair 4

S1003-A-1 P3 FLR FRAMING PLAN – ZONE A – PHASE 1
REVISED force of PT cables
REVISED slab opening bar location
REVISED slab opening
ADDED additional top and bottom bar near slab opening
REVISED quantity of column top bars

S1003-B-1 P3 FLR FRAMING PLAN – ZONE B – PHASE 1

REVISED force of PT cables

REVISED path of PT cables

ADDED slab opening

ADDED reinforcing bars for slab opening

ADDED bottom bar

REVISED Location of additional PT tendons

S1004-1 P4 FLR FRAMING PLAN – OVERALL – PHASE 1

ADDED detail cut callout at beams

ADDED detail at split ramp

ADDED slab diagrams

REVISED opening at Stair 4

S1004-A-1 P4 FLR FRAMING PLAN – ZONE A – PHASE 1

REVISED force of PT tendon

REVISED quantity of top column bars

ADDED bottom column bars

ADDED callout for hooked top and bottom bars

ADDED top bar between slab openings

REVISED location of slab opening bars

ADDED bottom bars along slab opening

REVISED extents of the slab opening

S1004-B-1 P4 FLR FRAMING PLAN – ZONE B – PHASE 1

REVISED force of PT tendon

REVISED quantity of top column bars

ADDED bottom column bars

REVISED PT tendon path

ADDED uniform PT tendons

ADDED additional PT tendons

ADDED top and bottom hooked bars

ADDED slab opening

ADDED slab opening bars

ADDED bottom bars near slab opening

S1005-1 P5 FLR FRAMING PLAN – Overall – PHASE 1

REMOVED detail 2/S4021-1

ADDED detail cut callout at beams

ADDED slab diagrams

REVISED "typ" note at detail 3/S4021-1

S1005-A-1 P5 FLR FRAMING PLAN – ZONE A – PHASE 1

REVISED force of PT tendons

ADDED column bottom bar

ADDED top and bottom bar along slab opening

REVISED location of slab opening bars

REVISED extents of slab opening

S1005-B-1 P5 FLR FRAMING PLAN – ZONE B – PHASE 1

REVISED force of PT tendons

REVISED path of PT tendons

ADDED slab opening

ADDED slab opening bars

ADDED top and bottom hooked bars

ADDED bottom bar along slab opening

S1006-1 P6 FLR FRAMING PLAN – OVERALL – PHASE 1

ADDED detail at beams

ADDED slab diagrams

ADDED detail at split ramp

S1006-A-1 P6 FLR FRAMING PLAN – ZONE A – PHASE 1

REVISED force of PT tendons

ADDED bottom bar

ADDED top and bottom hooked bars between slab openings

REVISED location of slab opening bars

REVISED extents of slab opening

S1006-B-1 P6 FLR FRAMING PLAN – ZONE B – PHASE 1

REVISED force of PT tendons

REVISED path of PT tendons

ADDED uniform PT tendons

REVISED the profile of the PT tendons

ADDED top and bottom hooked rebar

ADDED slab opening

ADDED slab opening bar

ADDED bottom bar

S1007-1 7^{th} FLR FRAMING PLAN – OVERALL – PHASE 1

ADDED detail cut callout at beams

ADDED and clarified quantity of details clarified
ADDED dimensions and details
ADDED detail at transfer beam
ADDED Phase 2 steel and detail
REMOVED detail 2/S4021-1
REVISED "typ" note at detail 3/S4021-1

S1007-B-1 7th FLR FRAMING PLAN – ZONE B – PHASE 1
ADDED stud rail callout

S2000-1 CONCRETE COULMN SCHEDULE – PHASE 1
ADDED and revise column schedule
ADDED a detail number to the schedule notes
ADDED note regarding the phase 2 columns
REVISED notes
REVISED column type 7
REVISED concrete column key plan
ADDED phase 2 column splice detail

S2001-1 TRANSFER COLUMN ELEVATIONS – PHASE 1
REVISED annotation of future concrete columns in Phase 2
ADDED dimensions in annotations

S2010-1 CONCRETE SHEAR WALL ELEVATIONS – PHASE 1
REVISED link beam schedule quantity of bars and stirrup spacing
ADDED detail callout to the general notes
REVISED shear wall reinforcement extents in elevations

S3000-1 FOOTING SCHEDULE AND DETAILS – PHASE 1
REVISED isolated footing schedule

S3002-1 FOUNDATION WALL SECTIONS
REVISED Basement wall section detail

S4000-1 POST-TENSIONED CONCRETE FRAMING DETAILS
ADDED "Sim" note for slab step to Detail 11

S4001-1 CONCRETE FRAMING DETAILS
ADDED CIP Wall Reinforcement Detail
REVISED details in embed schedule

ADDED EP14-1 to embed schedule

S4010-1 CONCRETE BEAM SCHEDULE AND DETAILS
REVISED details to the concrete beam schedule
ADDED new transfer beam column detail

S4020-1 STEEL FRAMING DETAILS – PHASE 1
ADDED detail 7

S4021-1 STEEL FRAMING DETAILS – PHASE 1
REVISED details
REVISED slab embeds for phase 2 framing detail
ADDED detail 12, 13, and 14

ARCHITECTURAL Sheets (A)/General Sheets (G)

G0000-1.1 INDEX VOLUME 1 - PHASE 1
REMOVES Duplicate M9002-1 Sheet name
ADD penetration plan sheet to index

G000-1.2 INDEX VOLUME 2 - PHASE 1
REMOVES Duplicate M9002-1 Sheet name
ADD penetration plan sheet to index

G1002 P3 & P4 FLR LIFE SAFETY PLAN
ADD Fire Extinguisher

G1003 P5 & P6 FLR LIFE SAFETY PLAN
ADD Fire Extinguisher

G4001 CODE CALCS
REVISE ADA Parking

A1000-1 LOWER LEVEL OVERALL - PHASE 1
REVISE compact space removed
REVISE ADA Parking
REVISE dimensions in Parking

A1000-A-1 LOWER LEVEL - ZONE A - PHASE 1
REVISES -3" note. EL to be 85'-9"

REVISE dimensions in Parking

A1000-B-1 LOWER LEVEL - ZONE B - PHASE 1

REVISE compact space removed

A1001-1 1ST FLR OVERALL - PHASE 1

REVISES location of lavatories

REVISE length of curb and safety rail

REVISE dimensions for phase clarifications

REVISE door type

REVISE column sizes

REVISE stoop and adds handrail

A1001-A-1 1ST FLR - ZONE A - PHASE 1

ADD Fire Extinguisher

REVISE ADA Parking

ADD stop sign to floor plan

ADD one way signage

REVISES location of lavatories

ADD wall tag

REVISE dimensions for phase clarifications

REVISE stoop at northwest exit

REVISE PARKING EQUIPMENT

ADD note for phase clarification

A1001-B-1 1ST FLR - ZONE B - PHASE 1

REVISE door type

REVISE column sizes

REVISE length of curb and safety rail

REVISE parking equipment

REVISE pay station location

A1002-1 P2 FLR OVERALL - PHASE 1

ADD Fire Extinguisher

REVISE cable railings

REVISE wall type

REVISE ADA Parking

A1002-A-1 P2 FLR - ZONE A - PHASE 1

ADD Fire Extinguisher

REVISE cable railings

REVISE wall type

REVISE parking equipment
ADD note for phase clarification

A1002-B-1 P2 FLR - ZONE B - PHASE 1
REVISE parking equipment
ADD Fire Extinguisher
REVISE cable railings
REVISE wall type
REVISE ADA Parking

A1003-1 P3 FLR OVERALL - PHASE 1
REVISE add Fire Extinguisher
REVISE cable railings
REVISE wall type
REVISE ADA Parking

A1003-A-1 P3 FLR - ZONE A - PHASE 1
REVISE parking equipment
ADD Fire Extinguisher
REVISE cable railings
REVISE wall type
REVISE ADA Parking
ADD note for phase clarification

A1003-B-1 P3 FLR - ZONE B - PHASE 1
REVISE parking equipment
REVISE wall type
REVISE cable railings
ADD Fire Extinguisher
REVISE ADA Parking

A1004-1 P4 FLR OVERALL - PHASE 1
ADD Fire Extinguisher
REVISE wall type
REVISE ADA Parking

A1004-A-1 P4 FLR - ZONE A - PHASE 1
REVISE parking equipment
REVISE wall type
ADD Fire Extinguisher
REVISE cable railings
REVISE ADA Parking
ADD note for phase clarification

A1004-B-1 P4 FLR - ZONE B - PHASE 1
REVISE parking equipment
REVISE wall type
ADD Fire Extinguisher
REVISE cable railings
REVISE ADA Parking

A1005-1 P5 FLR OVERALL - PHASE 1
ADD Fire Extinguisher
REVISE wall type
REVISE ADA Parking
REVISE cable railings

A1005-A-1 P5 FLR - ZONE A - PHASE 1
REVISE parking equipment
REVISE wall type
ADD Fire Extinguisher
REVISE cable railings
REVISE ADA Parking
ADD note for phase clarification

A1005-B-1 P5 FLR - ZONE B - PHASE 1
REVISE parking equipment
REVISE wall type
ADD Fire Extinguisher
REVISE cable railings
REVISE ADA Parking

A1006-1 P6 FLR OVERALL - PHASE 1
ADD Fire Extinguisher
REVISE cable railings
REVISE wall type
REVISE ADA Parking

A1006-A-1 P6 FLR - ZONE A - PHASE 1
REVISE parking equipment
REVISE wall type
ADD Fire Extinguisher
REVISE cable railings
REVISE ADA Parking
ADD note for phase clarification

A1006-B-1 P6 FLR - ZONE B - PHASE 1

REVISE parking equipment
REVISE wall type
ADD Fire Extinguisher
REVISE cable railings
REVISE ADA Parking

A1007-A-1 7TH FLR - ZONE A - PHASE 1
ADD annotations for clarification

A1007-B-1 7TH FLR - ZONE B - PHASE 1
ADD annotations for clarification

A1102-1 P2 FLR OVERALL CEILING PLAN - PHASE 1
REVISE ceiling to phase 2

A1200-1 LOWER LEVEL OVERALL FINISH PLANS - PHASE 1
ADD finish plan annotations

A1201-1 1ST FLR FINISH PLAN - ZONE B - PHASE 1
DELETE finish notes from rooms

A2000-1 EXTERIOR ELEVATIONS - PHASE 1
ADDS do not enter signage to elevation
REVISE elevations annotations for clarification to phase scope

A2004-1 EXTERIOR ELEVATIONS - PHASE 1
REVISE depth of elevation view to include more information
ADDS one way signage to elevation
REVISE elevations annotations for clarification to phase scope

A2005-1 EXTERIOR ELEVATIONS - PHASE 1
REVISE elevations annotations for clarification to phase scope

A2200-1 EXTERIOR FRAME TYPES - PHASE 1
DELETE FX05 from legend

A3102-1 WALL SECTIONS - PHASE 1
REVISE section for phasing clarification

A3200-1 STAIR & ELEVATOR PLANS & SECTIONS - PHASE 1
REVISE dimensions
ADD elevator overrun detail and spray applied waterproofing to exertior cmu
ADD details E4/A3200-1 and C4/A3200-1

A3202-1 STAIR & ELEVATOR PLANS & SECTIONS - PHASE 1
ADD legend

A3203-1 STAIR & ELEVATOR PLANS & SECTIONS - PHASE 1
REVISE handrails
REVISE masonry wall to concrete wall
REVISE stair keynote
ADD legend
REVISE wall tag

A3204-1 STAIR & ELEVATOR PLANS & SECTIONS - PHASE 1
REVISE stair keynote
ADD legend

A5100-1 EXTERIOR DETAILS - PHASE 1
REVISE waterproofing/earth retention detail

A5101-1 EXTERIOR DETAILS - PHASE 1
DELETE plywood and metal sill
REVISE to aluminum angle
REVISE waterproofing keynote
REVISE waterproofing/earth retention detail

A5102-1 EXTERIOR DETAILS - PHASE 1
REVISE waterproofing keynote
DELETE plywood and metal sill
ADD aluminum angle
REVISE detail for phase clarification
DELETE metal trim at window
REVISE window location
REVISE waterproofing/earth retention detail

A5103-1 EXTERIOR DETAILS - PHASE 1
REVISE detail for phase clarification
DELETE detail D4/A5103-1 and detail C3/A5103-1
REVISE extents of waterproofing
REVISE to aluminum angle
ADD keynote
REVISE waterproofing/earth retention detail

A5104-1 EXTERIOR DETAILS - PHASE 1
REVISE detail for phase clarification
REVISE concrete stem wall to cmu
DELETE A6/A5104-1

A5105-1 EXTERIOR DETAILS - PHASE 1

REVISE waterproofing/earth retention detail

A5106-1 EXTERIOR DETAILS - PHASE 1

REVISE slab extents at trough

REVISE waterproofing keynote

A5110-1 EXTERIOR DETAILS - PHASE 1

REVISE detail for phase clarification

REVISE jamb trim and flashing

REVISE metal trim and flashing

A5111-1 EXTERIOR DETAILS - PHASE 1

REVISE detail for phase clarification

DELETE detail A5/A5111-1 and B5/A5111-1

FIRE PROTECTION Sheets (F)

F1000-1 LOWER LEVEL OVERALL - PHASE 1 - FIRE PROTECTION

REVISE HAZARD CLASSIFICATIONS BOUNDARY FOR CLARIFICATION.

ADD NOTE F18 "PROVIDE SPRINKLER HEADS AT TOP OF ELEVATOR SHAFT."

ADD NOTE F22 "PROTECT ELEVATOR LOBBY OFF OF PHASE 1 WET SYSTEM."

ADD NOTE F23 "PROVIDE SPRINKLER HEADS AT THE BOTTOM OF STAIR SHAFT."

ADD NOTE F24 "SPRINKLER COVERAGE IN SHADED AREA TO BE COMPLETED BY PHASE 2 CONTRACTOR. IF PHASE 2 DOES NOT PROCEED, PIPING WITHIN THE SHADED AREA WILL THEN BE FED OF THE WET SPRINKLER SYSTEM BY THE PHASE 1 CONTRACTOR."

F1001-1 1ST FLR OVERALL – PHASE 1 – FIRE PROTECTION

REVISE NOTE F9 TO "SPRINKLER COVERAGE IN SHADED AREA TO BE COMPLETED BY PHASE 2 CONTRACTOR. IF PHASE 2 DOES NOT PROCEED, PIPING WITHIN THE SHADED AREA WILL THEN BE FED OF THE DRY SPRINKLER SYSTEM BY THE PHASE 1 CONTRACTOR.

ADD NOTE F17 "FIRE SUPPRESSION ONLY REQUIRED AT TOP AND BOTTOM OF STAIR SHAFT."

ADD NOTE F18 "PROVIDE SPRINKLER HEADS AT TOP OF ELEVATOR SHAFT."

ADD NOTE F19 "PROTECT ELEVATOR LOBBY OFF OF PHASE 1 DRY SYSTEM."

REVISE HAZARD CLASSIFICATIONS BOUNDARY FOR CLARIFICATION.

REVISE BOUNDARY FOR AREA OF WORK TO BE DONE BY PHASE 2 CONTRACTOR.

REVISE LOCATION OF FDC AND ASSOCIATED PIPING.

F1002-1 P2 FLR OVERALL – PHASE 1 – FIRE PROTECTION

REVISE NOTE F9 TO "SPRINKLER COVERAGE IN SHADED AREA TO BE COMPLETED BY PHASE 2 CONTRACTOR. IF PHASE 2 DOES NOT PROCEED, PIPING WITHIN THE SHADED AREA WILL THEN BE FED OF THE DRY SPRINKLER SYSTEM BY THE PHASE 1 CONTRACTOR.

ADD NOTE F17 "FIRE SUPPRESSION ONLY REQUIRED AT TOP AND BOTTOM OF STAIR SHAFT."

ADD NOTE F18 "PROVIDE SPRINKLER HEADS AT TOP OF ELEVATOR SHAFT."

ADD NOTE F19 "PROTECT ELEVATOR LOBBY OFF OF PHASE 1 DRY SYSTEM."

REVISE HAZARD CLASSIFICATIONS BOUNDARY FOR CLARIFICATION.

REVISE BOUNDARY FOR AREA OF WORK TO BE DONE BY PHASE 2 CONTRACTOR.

REVISE LOCATION OF FDC AND ASSOCIATED PIPING.

F1003-1 P3 FLR OVERALL – PHASE 1 – FIRE PROTECTION

REVISE NOTE F9 TO "SPRINKLER COVERAGE IN SHADED AREA TO BE COMPLETED BY PHASE 2 CONTRACTOR. IF PHASE 2 DOES NOT PROCEED, PIPING WITHIN THE SHADED AREA WILL THEN BE FED OF THE DRY SPRINKLER SYSTEM BY THE PHASE 1 CONTRACTOR.

ADD NOTE F17 "FIRE SUPPRESSION ONLY REQUIRED AT TOP AND BOTTOM OF STAIR SHAFT."

ADD NOTE F18 "PROVIDE SPRINKLER HEADS AT TOP OF ELEVATOR SHAFT."

ADD NOTE F19 "PROTECT ELEVATOR LOBBY OFF OF PHASE 1 DRY SYSTEM."

REVISE HAZARD CLASSIFICATIONS BOUNDARY FOR CLARIFICATION.

F1004-1 P4 FLR OVERALL – PHASE 1 – FIRE PROTECTION

REVISE NOTE F9 TO "SPRINKLER COVERAGE IN SHADED AREA TO BE COMPLETED BY PHASE 2 CONTRACTOR. IF PHASE 2 DOES NOT PROCEED, PIPING WITHIN THE SHADED AREA WILL THEN BE FED OF THE DRY SPRINKLER SYSTEM BY THE PHASE 1 CONTRACTOR.

ADD NOTE F17 "FIRE SUPPRESSION ONLY REQUIRED AT TOP AND BOTTOM OF STAIR SHAFT."

ADD NOTE F18 "PROVIDE SPRINKLER HEADS AT TOP OF ELEVATOR SHAFT."

ADD NOTE F19 "PROTECT ELEVATOR LOBBY OFF OF PHASE 1 DRY SYSTEM."

REVISE HAZARD CLASSIFICATIONS BOUNDARY FOR CLARIFICATION.

F1005-1 P5 FLR OVERALL – PHASE 1 – FIRE PROTECTION

REVISE NOTE F9 TO "SPRINKLER COVERAGE IN SHADED AREA TO BE COMPLETED BY PHASE 2 CONTRACTOR. IF PHASE 2 DOES NOT PROCEED, PIPING WITHIN THE SHADED AREA WILL THEN BE FED OF THE DRY SPRINKLER SYSTEM BY THE PHASE 1 CONTRACTOR.

ADD NOTE F17 "FIRE SUPPRESSION ONLY REQUIRED AT TOP AND BOTTOM OF STAIR SHAFT."

ADD NOTE F18 "PROVIDE SPRINKLER HEADS AT TOP OF ELEVATOR SHAFT."

ADD NOTE F19 "PROTECT ELEVATOR LOBBY OFF OF PHASE 1 DRY SYSTEM."

REVISE HAZARD CLASSIFICATIONS BOUNDARY FOR CLARIFICATION.

F1006-1 P6 FLR OVERALL – PHASE 1 – FIRE PROTECTION

REVISE NOTE F9 TO "SPRINKLER COVERAGE IN SHADED AREA TO BE COMPLETED BY PHASE 2 CONTRACTOR. IF PHASE 2 DOES NOT PROCEED, PIPING WITHIN THE SHADED AREA WILL THEN BE FED OF THE DRY SPRINKLER SYSTEM BY THE PHASE 1 CONTRACTOR.

ADD NOTE F18 "PROVIDE SPRINKLER HEADS AT TOP OF ELEVATOR SHAFT."

ADD NOTE F19 "PROTECT ELEVATOR LOBBY OFF OF PHASE 1 DRY SYSTEM."

REVISE HAZARD CLASSIFICATIONS BOUNDARY FOR CLARIFICATION.

PLUMBING Sheets (P)

P0000-1 SYMBOLS, ABBREV. & SCHEDULES - PLUMBING

REVISE PLUMBING DRAIN AND CLEANOUT SCHEDULE.

ADD FOLLOWING SHEETS TO SHEET INDEX, P4200-1 – STORM ISOMETRICS – PLUMBING, P4201-1 – STORM ISOMETR PLUMBING, AND P4202-1 STORM ISOMETRICS – PLUMBING.

P1000-1 LOWER LEVEL - PHASE 1 - PLUMBING

REVISE PIPING DUE TO COORDINATION WITH PHASE 2 WORK.

ADD SANITARY PIPING DUE THE ADDITION OF 4"TD-1 ON 1ST FLOOR.

REVISE LOCATION OF SANITARY LATERAL DUE TO COORDINATION WITH CIVIL.

DELETE ANY SLEEVES ASSOCIATED WITH PHASE 2.

ADD CLEARWATER WASTE SYSTEM.

P1000-A-1 LOWER LEVEL - ZONE A - PHASE 1 - PLUMBING

REVISE PIPING DUE TO COORDINATION WITH PHASE 2 WORK.

ADD SANITARY PIPING DUE THE ADDITION OF 4"TD-1 ON 1ST FLOOR.

REVISE LOCATION OF SANITARY LATERAL DUE TO COORDINATION WITH CIVIL.

DELETE ANY SLEEVES ASSOCIATED WITH PHASE 2.

ADD CLEARWATER WASTE SYSTEM.

DELETE NOTE P14 "RISER TO BE INSTALLED AS PART OF PHASE 2 CONSTRUCTION."

P1000-B-1 LOWER LEVEL - ZONE B - PHASE 1 - PLUMBING

REVISE PIPING DUE TO COORDINATION WITH PHASE 2 WORK.

DELETE ANY SLEEVES ASSOCIATED WITH PHASE 2.

ADD CLEARWATER WASTE SYSTEM.

DELETE NOTE P14 "RISER TO BE INSTALLED AS PART OF PHASE 2 CONSTRUCTION."

P1001-1 1ST FLR OVERALL - PHASE 1 - PLUMBING

REVISE PIPING DUE TO COORDINATION WITH PHASE 2 WORK.

ADD TRENCH DRAIN (TD-1) ON 1ST FLOOR.

REVISE FLOOR DRAIN TYPES.

DELETE ANY SLEEVES ASSOCIATED WITH PHASE 2.

ADD CLEARWATER WASTE SYSTEM.

P1001-A-1 1ST FLR - ZONE A - PHASE 1 - PLUMBING

REVISE PIPING DUE TO COORDINATION WITH PHASE 2 WORK.

ADD TRENCH DRAIN (TD-1) ON 1ST FLOOR.

REVISE FLOOR DRAIN TYPES.

DELETE ANY SLEEVES ASSOCIATED WITH PHASE 2.

ADD CLEARWATER WASTE SYSTEM.

DELETE NOTE P14 "RISER TO BE INSTALLED AS PART OF PHASE 2 CONSTRUCTION."

REVISE to L-2 in TLT 185A

P1001-B-1 1ST FLR - ZONE B - PHASE 1 - PLUMBING

REVISE PIPING DUE TO COORDINATION WITH PHASE 2 WORK.

REVISE FLOOR DRAIN TYPES.

DELETE ANY SLEEVES ASSOCIATED WITH PHASE 2.

ADD CLEARWATER WASTE SYSTEM.

DELETE NOTE P14 "RISER TO BE INSTALLED AS PART OF PHASE 2 CONSTRUCTION."

REVISE to L-2 in TLT 181A

P1002-1 P2 FLR OVERALL – PHASE 1 – PLUMBING

REVISE PIPING DUE TO COORDINATION WITH PHASE 2 WORK.

DELETE ANY SLEEVES ASSOCIATED WITH PHASE 2.

ADD CLEARWATER WASTE SYSTEM.

P1002-A-1 P2 FLR - ZONE A - PHASE 1 - PLUMBING

REVISE PIPING DUE TO COORDINATION WITH PHASE 2 WORK.

DELETE ANY SLEEVES ASSOCIATED WITH PHASE 2.

ADD CLEARWATER WASTE SYSTEM.

DELETE NOTE P14 "RISER TO BE INSTALLED AS PART OF PHASE 2 CONSTRUCTION."

ADD NOTE P11 "CAP SANITARY FOR FUTURE EXTENSION BY PHASE 2 PC."

P1002-B-1 P2 FLR - ZONE B - PHASE 1 - PLUMBING

REVISE PIPING DUE TO COORDINATION WITH PHASE 2 WORK.

DELETE ANY SLEEVES ASSOCIATED WITH PHASE 2.

ADD CLEARWATER WASTE SYSTEM.

DELETE NOTE P14 "RISER TO BE INSTALLED AS PART OF PHASE 2 CONSTRUCTION."

ADD NOTE P11 "CAP SANITARY FOR FUTURE EXTENSION BY PHASE 2 PC."

P1003-1 P3 FLR OVERALL – PHASE 1 – PLUMBING

REVISE PIPING DUE TO COORDINATION WITH PHASE 2 WORK.

DELETE ANY SLEEVES ASSOCIATED WITH PHASE 2.

ADD CLEARWATER WASTE SYSTEM.

P1003-A-1 P3 FLR - ZONE A - PHASE 1 - PLUMBING

REVISE PIPING DUE TO COORDINATION WITH PHASE 2 WORK.

DELETE ANY SLEEVES ASSOCIATED WITH PHASE 2.

ADD CLEARWATER WASTE SYSTEM.

DELETE NOTE P14 "RISER TO BE INSTALLED AS PART OF PHASE 2 CONSTRUCTION."

P1003-B-1 P3 FLR - ZONE B - PHASE 1 - PLUMBING

REVISE PIPING DUE TO COORDINATION WITH PHASE 2 WORK.
DELETE ANY SLEEVES ASSOCIATED WITH PHASE 2.
ADD CLEARWATER WASTE SYSTEM.
DELETE NOTE P14 "RISER TO BE INSTALLED AS PART OF PHASE 2 CONSTRUCTION."

P1004-1 P4 FLR OVERALL – PHASE 1 – PLUMBING
REVISE PIPING DUE TO COORDINATION WITH PHASE 2 WORK.
DELETE ANY SLEEVES ASSOCIATED WITH PHASE 2.
ADD CLEARWATER WASTE SYSTEM.

P1004-A-1 P4 FLR - ZONE A - PHASE 1 - PLUMBING
REVISE PIPING DUE TO COORDINATION WITH PHASE 2 WORK.
DELETE ANY SLEEVES ASSOCIATED WITH PHASE 2.
ADD CLEARWATER WASTE SYSTEM.
DELETE NOTE P14 "RISER TO BE INSTALLED AS PART OF PHASE 2 CONSTRUCTION."

P1004-B-1 P4 FLR - ZONE B - PHASE 1 - PLUMBING
REVISE PIPING DUE TO COORDINATION WITH PHASE 2 WORK.
DELETE ANY SLEEVES ASSOCIATED WITH PHASE 2.
ADD CLEARWATER WASTE SYSTEM.
DELETE NOTE P14 "RISER TO BE INSTALLED AS PART OF PHASE 2 CONSTRUCTION."

P1005-1 P5 FLR OVERALL – PHASE 1 – PLUMBING
REVISE PIPING DUE TO COORDINATION WITH PHASE 2 WORK.
DELETE ANY SLEEVES ASSOCIATED WITH PHASE 2.
ADD CLEARWATER WASTE SYSTEM.

P1005-A-1 P5 FLR - ZONE A - PHASE 1 - PLUMBING
REVISE PIPING DUE TO COORDINATION WITH PHASE 2 WORK.
DELETE ANY SLEEVES ASSOCIATED WITH PHASE 2.
ADD CLEARWATER WASTE SYSTEM.
DELETE NOTE P14 "RISER TO BE INSTALLED AS PART OF PHASE 2 CONSTRUCTION."

P1005-B-1 P5 FLR - ZONE B - PHASE 1 - PLUMBING
REVISE PIPING DUE TO COORDINATION WITH PHASE 2 WORK.
DELETE ANY SLEEVES ASSOCIATED WITH PHASE 2.
ADD CLEARWATER WASTE SYSTEM.
DELETE NOTE P14 "RISER TO BE INSTALLED AS PART OF PHASE 2 CONSTRUCTION."

P1006-1 P6 FLR OVERALL – PHASE 1 – PLUMBING

REVISE PIPING DUE TO COORDINATION WITH PHASE 2 WORK.

DELETE ANY SLEEVES ASSOCIATED WITH PHASE 2.

ADD CLEARWATER WASTE SYSTEM.

ADD CLEARWATER WASTE HUB DRAIN.

P1006-A-1 P6 FLR - ZONE A - PHASE 1 - PLUMBING

REVISE PIPING DUE TO COORDINATION WITH PHASE 2 WORK.

DELETE ANY SLEEVES ASSOCIATED WITH PHASE 2.

ADD CLEARWATER WASTE SYSTEM.

DELETE NOTE P14 "RISER TO BE INSTALLED AS PART OF PHASE 2 CONSTRUCTION."

ADD 3" CLEARWATER WASTE HUB DRAIN.

P1006-B-1 P6 FLR - ZONE B - PHASE 1 - PLUMBING

REVISE PIPING DUE TO COORDINATION WITH PHASE 2 WORK.

DELETE ANY SLEEVES ASSOCIATED WITH PHASE 2.

ADD CLEARWATER WASTE SYSTEM.

DELETE NOTE P14 "RISER TO BE INSTALLED AS PART OF PHASE 2 CONSTRUCTION."

ADD 3" CLEARWATER WASTE HUB DRAIN.

P4000-1 WASTE AND VENT ISOMETRICS - PLUMBING

REVISE WASTE AND VENT ISOMETRIC TO REFLECT CHANGES MADE ON FLOOR PLANS.

P4001-1 WASTE AND VENT ISOMETRICS - PLUMBING

REVISE WASTE AND VENT ISOMETRIC TO REFLECT CHANGES MADE ON FLOOR PLANS.

P4002-1 WASTE AND VENT ISOMETRICS - PLUMBING

REVISE WASTE AND VENT ISOMETRIC TO REFLECT CHANGES MADE ON FLOOR PLANS.

P4003-1 WASTE AND VENT ISOMETRICS - PLUMBING

REVISE WASTE AND VENT ISOMETRIC TO REFLECT CHANGES MADE ON FLOOR PLANS.

P4200-1 STORM ISOMETRICS - PLUMBING

REVISE STORM ISOMETRIC TO REFLECT CHANGES MADE ON FLOOR PLANS.

P4201-1 STORM ISOMETRICS - PLUMBING

ADD STORM ISOMETRIC TO PLAN SET TO REFLECT CHANGES MADE ON FLOOR PLANS.

P4202-1 STORM ISOMETRICS - PLUMBING

ADD STORM ISOMETRIC TO PLAN SET TO REFLECT CHANGES MADE ON FLOOR PLANS.

MECHANICAL Sheets (M)

M0000-1 SYMBOLS AND ABBREVIATIONS – HVAC
ADD AFMS TO ABBREVIATIONS LIST

M1001-1 1ST FLR OVERALL – PHASE 1 – HVAC
REVISE MAU-1 ELEVATION AND OUTSIDE AIR DUCT ROUTING
ADD COOLING COIL CONDENSATE FROM FCU-1 TO HUB DRAIN
ADD COOLING COIL CONDENSATE FROM FCU-3 TO HUB DRAIN
ADD COOLING COIL CONDENSATE FROM FCU-4 TO HUB DRAIN

M1001-A-1 1ST FLR – ZONE A – PHASE 1 – HVAC
ADD COOLING COIL CONDENSATE FROM FCU-1 TO HUB DRAIN

M1001-B-1 1ST FLR – ZONE B – PHASE 1 – HVAC
REVISE MAU-1 ELEVATION AND OUTSIDE AIR DUCT ROUTING
ADD COOLING COIL CONDENSATE FROM FCU-3 TO HUB DRAIN
ADD COOLING COIL CONDENSATE FROM FCU-4 TO HUB DRAIN

M1002-1 P2 FLR OVERALL – PHASE 1 – HVAC
REVISE OUTSIDE AIR DUCT ROUTING
REVISE EXHAUST DUCT ON INLET OF EF-P2-2
REVISE EXHAUST DUCT TO RESOLVE CONFLICT WITH BEAM

M1002-A-1 P2 FLR – ZONE A – PHASE 1 – HVAC
REVISE EXHAUST DUCT ON INLET OF EF-P2-2
REVISE EXHAUST DUCT TO RESOLVE CONFLICT WITH BEAM

M1002-B-1 P2 FLR – ZONE B – PHASE 1 – HVAC
REVISE OUTSIDE AIR DUCT ROUTING

M1003-1 P3 FLR OVERALL – PHASE 1 – HVAC
REVISE EXHAUST DUCT ON INLET OF EF-P3-2

M1003-A-1 P3 FLR – ZONE A – PHASE 1 – HVAC
REVISE EXHAUST DUCT ON INLET OF EF-P3-2

M1004-1 P4 FLR OVERALL – PHASE 1 – HVAC

REVISE EXHAUST DUCT ON INLET OF EF-P4-2
REVISE EXHAUST DUCT TO RESOLVE CONFLICT WITH HOLLOW COLUMN

M1004-A-1 P4 FLR – ZONE A – PHASE 1 – HVAC
REVISE EXHAUST DUCT ON INLET OF EF-P4-2
REVISE EXHAUST DUCT TO RESOLVE CONFLICT WITH HOLLOW COLUMN

M1005-1 P5 FLR OVERALL – PHASE 1 – HVAC
REVISE EXHAUST DUCT ON INLET OF EF-P5-2
REVISE EXHAUST DUCT TO RESOLVE CONFLICT WITH HOLLOW COLUMN

M1005-A-1 P5 FLR – ZONE A – PHASE 1 – HVAC
REVISE EXHAUST DUCT ON INLET OF EF-P5-2
REVISE EXHAUST DUCT TO RESOLVE CONFLICT WITH HOLLOW COLUMN

M1006-1 P6 FLR OVERALL – PHASE 1 – HVAC
ADD COOLING COIL CONDENSATE FROM ACU-1 TO HUB DRAIN
ADD COOLING COIL CONDENSATE FROM ACU-2 TO HUB DRAIN
ADD EWH-15 TO 647 – ELEVATOR CONTROL ROOM
ADD EWH-16 TO 649 – ELEVATOR CONTROL ROOM

M1006-A-1 P6 FLR – ZONE A – PHASE 1 – HVAC
ADD COOLING COIL CONDENSATE FROM ACU-2 TO HUB DRAIN
ADD EWH-15 TO 647 – ELEVATOR CONTROL ROOM

M1006-B-1 P6 FLR – ZONE B – PHASE 1 – HVAC
ADD COOLING COIL CONDENSATE FROM ACU-1 TO HUB DRAIN
ADD EWH-16 TO 649 – ELEVATOR CONTROL ROOM

M4002-1 SECTIONS – HVAC
REVISE SECTION 1 OUTSIDE AIR DUCT ROUTING TO MAU-1

M5001-1 CONTROL DIAGRAMS, POINTS LISTS, SEQ – HVAC
REVISE SEQUENCE OF OPERATIONS TO INCLUDE OUTDOOR AIRFLOW MONITORING
REVISE POINTS LIST TO INCLUDE OUTDOOR AIRFLOW MEASUREMENT
REVISE CONTROL DIAGRAM TO INCLUDE OUTDOOR AIRFLOW MEASUREMENT

M8001-1 SCHEDULES – HVAC
REVISE ELECTRIC WALL HEATER SCHEDULE

REVISE ELECTRIC RADIANT HEATER SCHEDULE

REVISE DUCT SOUND ATTENUATOR SCHEDULE

REVISE SPLIT SYSTEM HEAT PUMP SCHEDULE

M8002-1 SCHEDULES – HVAC

ADD AIRFLOW MEASURING STATION SCHEDULE

ELECTRICAL Sheets (E)

E6000-1 ONE-LINE DIAGRAM – ELECTRICAL

REVISE PANEL H-BT TO BE FED FROM MG&E VAULT.

E8000-1 SCHEDULES – LIGHTING AND DEVICES

REVISE LIGHTING CONTROLS SCHEDULE MODEL SERIES.

ADD CONNECTIONS FOR LOT FULL SIGNAGE: LFS-1a, LFS-1b.

E8002-1 SCHEDULES – CONNECTIONS

ADD CONNECTIONS FOR CIRCULATION PUMPS: CP-1, CP-2, CP-3.

ADD CONNECTIONS FOR ELECTRIC WALL HEATERS: EWH-15, EWH-16.

REVISE ELECTRICAL REQUIREMENTS FOR ELECTRIC WALL HEATERS: EWH-5, EWH-6, EWH-7, EWH-12, EWH-14.

REMOVE CONNECTIONS FOR ELECTRIC WALL HEATERS: EWH-11, EWH-TB.

REVISE ELECTRICAL REQUIREMENTS FOR ELECTRIC RADIANT HEATERS: ERH-1a, ERH-1b, ERH-2a, ERH-2b, ERH-2c, ERH-2d, ERH-2e, ERH-2f.

E8003-1 SCHEDULES – PANELS

REVISE PANEL SCHEDULE FOR PANEL L-1A

E8004-1 SCHEDULES – PANELS

REVISE PANEL SCHEDULE FOR PANEL L-BT

REVISE PANEL SCHEDULE FOR PANEL H-BT

E8005-1 SCHEDULES – PANELS

REVISE PANEL SCHEDULE FOR PANEL L-P5

E8006-1 SCHEDULES – PANELS

REVISE PANEL SCHEDULE FOR PANEL OL-1A

E9000-1 DETAILS

ADD DETAIL 7/E9000-1 FOR ENTRY/EXIT CONDUIT/WIRE INSTALLAION.

EP1001-1 1ST FLR OVERALL – PHASE 1 – POWER/SYSTEMS

ADD CONNECTIONS FOR CP-1, CP-2, CP3.

ADD DETAIL CALLOUT 7/E9000-1.

REMOVE CONNECTIONS EWH-11, EWH-TB.

EP1001-A-1 1ST FLR – ZONE A – PHASE 1 – POWER/SYSTEMS

ADD CONNECTIONS FOR CP-1, CP-2.

EP1001-B-1 1ST FLR – ZONE B – PHASE 1 – POWER/SYSTEMS

ADD CONNECTIONS FOR CP-3.

ADD DETAIL CALLOUT 7/E9000-1.

REMOVE CONNECTIONS EWH-11, EWH-TB.

EP1006-1 P6 FLR OVERALL – PHASE 1 – POWER/SYSTEMS

ADD CONNECTION FOR EWH-15.

ADD CONNECTION FOR EWH-16.

EP1006-A-1 P6 FLR – ZONE A – PHASE 1 – POWER/SYSTEMS

ADD CONNECTION FOR EWH-15.

EP1006-B-1 P6 FLR – ZONE B – PHASE 1 – POWER/SYSTEMS

ADD CONNECTION FOR EWH-16.

EP1007-1 7TH FLR – OVERALL – PHASE 1 – POWER/SYSTEMS

ADD KEYED NOTE TO PROVIDE BONIDNG LEADS TO POOL REBAR DEPRESSION.

PARKING Sheets (PG)

PG1001-1 LOWER LEVEL STRIPING PLAN

REVISE ADA STALL LOCATION

REVISE STALL FROM COMPACT TO STANDARD STALL

PG1002-1 P2 STRIPING PLAN

ADD SCOS STALL

REVISE ADA STALL LOCATION LOSS OF ONE STANDARD STALL

PG1003-1 P3 STRIPING PLAN

REVISE TWO STALL FROM COMPACT TO SCOS

ADD SCOS STALL

ADD SCOS STALL

REVISE ADA STALL LOCATION LOSS OF ONE STANDARD STALL

PG1004-1 P4 STRIPING PLAN

REVISE TWO STALL FROM COMPACT TO SCOS

ADD SCOS STALL

REVISE ADA STALL LOCATION AND REVISE STALL FROM STANDARD STALL TO COMPACT

REVISE ADA STALL LOCATION

PG1005-1 P5 STRIPING PLAN

REVISE TWO STALL FROM COMPACT TO SCOS

ADD SCOS STALL

REVISE ADA STALL LOCATION

PG1006-1 P6 STRIPING PLAN

REVISE TWO STALL FROM COMPACT TO SCOS

ADD SCOS STALL

REVISE ADA STALL LOCATION

*Penetration plan added for reference

END OF ADDENDUM

MATERIAL STRENGTHS:
UNLESS NOTED OTHERWISE, THE FOLLOWING MATERIALS SHALL BE USED. REFER TO MATERIAL NOTES AND SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

CONCRETE MATERIALS SCHEDULE								
TYPE OF CONSTRUCTION	COMPRESSIVE STRENGTH (psi) (28TH DAY)	EQUIL. DENSITY (pcf)	EXPOSURE CATEGORIES F	S	W	C	MAXIMUM w/cm	AIR CONTENT
FOOTINGS	3000	145					–	–
FROST WALLS	4000	145	F1				0.55	6%
BASEMENT WALLS	4000	145	F1				0.55	–
INTERIOR WALLS	4000	145					–	–
EXTERIOR WALLS	4500	145	F2				0.45	6%
INTERIOR COLUMNS AND SHEAR WALLS	REFER TO PLAN	145					–	–
EXTERIOR COLUMNS AND SHEAR WALLS	4500 MIN. REFER TO PLAN	145	F2				0.45	6%
INTERIOR NONPARKING SLAB ON GROUND	4000	145					–	–
INTERIOR PARKING SLAB ON GROUND	5000	145				C2	0.4	–
EXTERIOR SLAB ON GROUND	5000	145	F3			C2	0.4	6%
ELEVATED INTERIOR NONPARKING SLABS AND BEAMS	6000	145					–	–
ELEVATED PARKING SLABS AND BEAMS	6000	145	F3			C2	0.4	6%
ELEVATED EXTERIOR SLABS AND BEAMS	6000	145	F3			C2	0.4	6%
INTERIOR CONCRETE TOPPING AND STAIR LANDINGS/TREADS	4000	145					–	–
EXTERIOR CONCRETE TOPPING AND STAIR LANDINGS/TREADS	5000	145	F3			C2	0.4	6%
SLABS ON METAL DECK	4000	145					–	–
LEAN CONCRETE	1000	145					–	–

CONCRETE MATERIALS SCHEDULE NOTES:

1. CUSTOMER EXPOSURE SHALL BE F0, S0, W0, AND C0 UNLESS NOTED OTHERWISE IN THE EXPOSURE CATEGORIES COLUMN.
2. MAXIMUM AGGREGATE SIZE FOR ALL MIXES TO BE 3/4 INCHES. FOOTINGS MAY BE 1 1/2 INCHES.
3. PROVIDE 6% AIR CONTENT AT ALL EXPOSED CONDITIONS NOT EXPLICITLY INDICATED ABOVE. TOLERANCE OF AIR CONTENT AS DELIVERED SHALL BE +/-1.5%.
4. PROVIDE CRYSTALLINE WATERPROOFING ADMIXTURE IN ALL PARKING SLABS AND BEAMS.
5. CONCRETE SUPPLIER AND FINISHER SHALL COORDINATE PROPERTIES OF PROPOSED MIX DESIGN UNDER VARIOUS WEATHER CONDITIONS TO COMPLETE PLACING AND FINISHING OF SLABS PER THE PROJECT REQUIREMENTS AND IN A TIMELY MANNER. APPROVED CHEMICAL ADMIXTURES MAY BE USED TO INCREASE WORKABILITY PROVIDED THE ADMIXTURE-TREATED CONCRETE HAS THE SAME OR LOWER WATER-CEMENT RATIO AND DOES NOT EXHIBIT SEGREGATION POTENTIAL OR EXCESSIVE BLEEDING. IF PROPOSED SLUMP WILL EXCEED 8", PROVIDE DOCUMENTATION OF PAST PERFORMANCE OF MIX DESIGN.

[illegible]

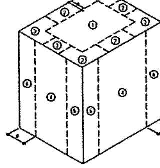
DESIGN DATA:

[illegible]

ULTIMATE WIND LOADS COMPONENTS & CLADDING:

ROOF SURFACE PRESSURE			
AREA	10 SF	20 SF	100 SF
NEGATIVE ZONE 1	[illegible]	[illegible]	[illegible]
NEGATIVE ZONE 2	[illegible]	[illegible]	[illegible]
NEGATIVE ZONE 3	[illegible]	[illegible]	[illegible]
POSITIVE ALL ZONES	16.0 PSF	16.0 PSF	16.0 PSF

WALL SURFACE PRESSURE			
AREA	10 SF	100 SF	500 SF
NEGATIVE ZONE 4	[illegible]	[illegible]	[illegible]
NEGATIVE ZONE 5	[illegible]	[illegible]	[illegible]
POSITIVE ZONE 4&5	[illegible]	[illegible]	[illegible]



WIND LOADS COMPONENTS AND CLADDING ZONE DIAGRAM (ASCE 7-16)

PARAPET SURFACE PRESSURE				
CASE	SOLID PARAPET PRESSURE	10 SF	100 SF	500 SF
CASE A PRESSURE TOWARDS BUILDING	CASE A INTERIOR ZONE	[illegible]	[illegible]	[illegible]
CASE A PRESSURE TOWARDS BUILDING	CASE A CORNER ZONE	[illegible]	[illegible]	[illegible]
CASE B PRESSURE AWAY FROM BUILDING	CASE B INTERIOR ZONE	[illegible]	[illegible]	[illegible]
CASE B PRESSURE AWAY FROM BUILDING	CASE B CORNER ZONE	[illegible]	[illegible]	[illegible]

EARTHQUAKE DESIGN DATA

SEISMIC IMPORTANCE FACTOR (Ie) — 1.0
SITE CLASSIFICATION — C
SEISMIC DESIGN CATEGORY — A
BASIC SEISMIC-FORCE-RESISTING SYSTEM — ORDINARY REINFORCED CONCRETE SHEAR WALLS

[illegible]

DELEGATED DESIGN NOTES:

[illegible]

B. CONNECTIONS FOR INTERMEDIATE LANDINGS ARE ASSUMED TO BE MADE AT THE FAR END OF THE STAIR STRINGER OPPOSITE THE CONNECTION AT THE FLOOR LEVELS, UNLESS NOTED OTHERWISE. IT IS SUGGESTED THAT ALTERNATE SUPPORT LOCATIONS BE SUBMITTED FOR REVIEW PRIOR TO COMPLETION OF THE STAIR SHOP DRAWINGS.

C. ALL LOADS APPLIED TO BASE BUILDING SHALL BE ATTACHED SUCH THAT ROTATION OF THE BASE BUILDING STEEL FRAMING IS RESTRAINED, UNLESS NOTED OTHERWISE. PROVIDE CONCENTRIC CONNECTIONS WHERE POSSIBLE, OR DESIGN AND PROVIDE KICKERS OR OTHER MEANS OF RESTRAINT IF NECESSARY.

D. POST-INSTALLED ATTACHMENT TO POST-TENSIONED BEAMS AND SLABS SHALL BE AVOIDED.

DELEGATED DESIGN PERFORMANCE CRITERIA DEFLECTION LIMITS			
MEMBERS	L/E	SNOW OR WIND	DEAD + LIVE OR SNOW
ROOF MEMBERS			
SUPPORTING GYPSUM BOARD CEILINGS	L/360	L/360	L/240
SUPPORTING FLEXIBLE CEILINGS	L/360	L/360	L/240
NOT SUPPORTING CEILINGS	L/240	L/240	L/180
SUPPORTING RIGID MATERIALS (BRICK, MASONRY, ETC.)	L/600	L/600	L/600
FLOOR MEMBERS			
SUPPORTING RIGID MATERIALS (BRICK, MASONRY, ETC.)	L/600	N/A	L/600
SUPPORTING FLEXIBLE MATERIALS	L/360	N/A	L/240
LINTEL / HEADER / BEAM MEMBERS			
SUPPORTING RIGID MATERIALS (BRICK, MASONRY, ETC.)	L/600	L/600	L/600
SUPPORTING FLEXIBLE MATERIALS	L/360	L/360	L/240
EXTERIOR WALLS (LATERAL DEFLECTION)			
WITH RIGID FINISHES (BRICK, MASONRY, ETC.)	N/A	L/600	N/A
WITH FLEXIBLE FINISHES (EIFS, SIDING, ETC.)	N/A	L/360	N/A

COORDINATION WITH OTHER TRADES:

[illegible]

ABBREVIATIONS

[illegible]

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PIERCE ENGINEERS, INC.
PE Project: 23019

PROJECT INFORMATION

STATE STREET
CAMPUS GARAGE
MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
[illegible]	SCHEMATIC DESIGN PH1
[illegible]	SCHEMATIC DESIGN PH2
[illegible]	DESIGN DEVELOPMENT PH1
[illegible]	DESIGN DEVELOPMENT PH2
[illegible]	CONSTRUCTION DOCUMENTS PH1
[illegible]	PH1_ADD2

KEY PLAN

SHEET INFORMATION

PROJECT MANAGER

PROJECT NUMBER 720448

DESIGN CRITERIA

S0002-1

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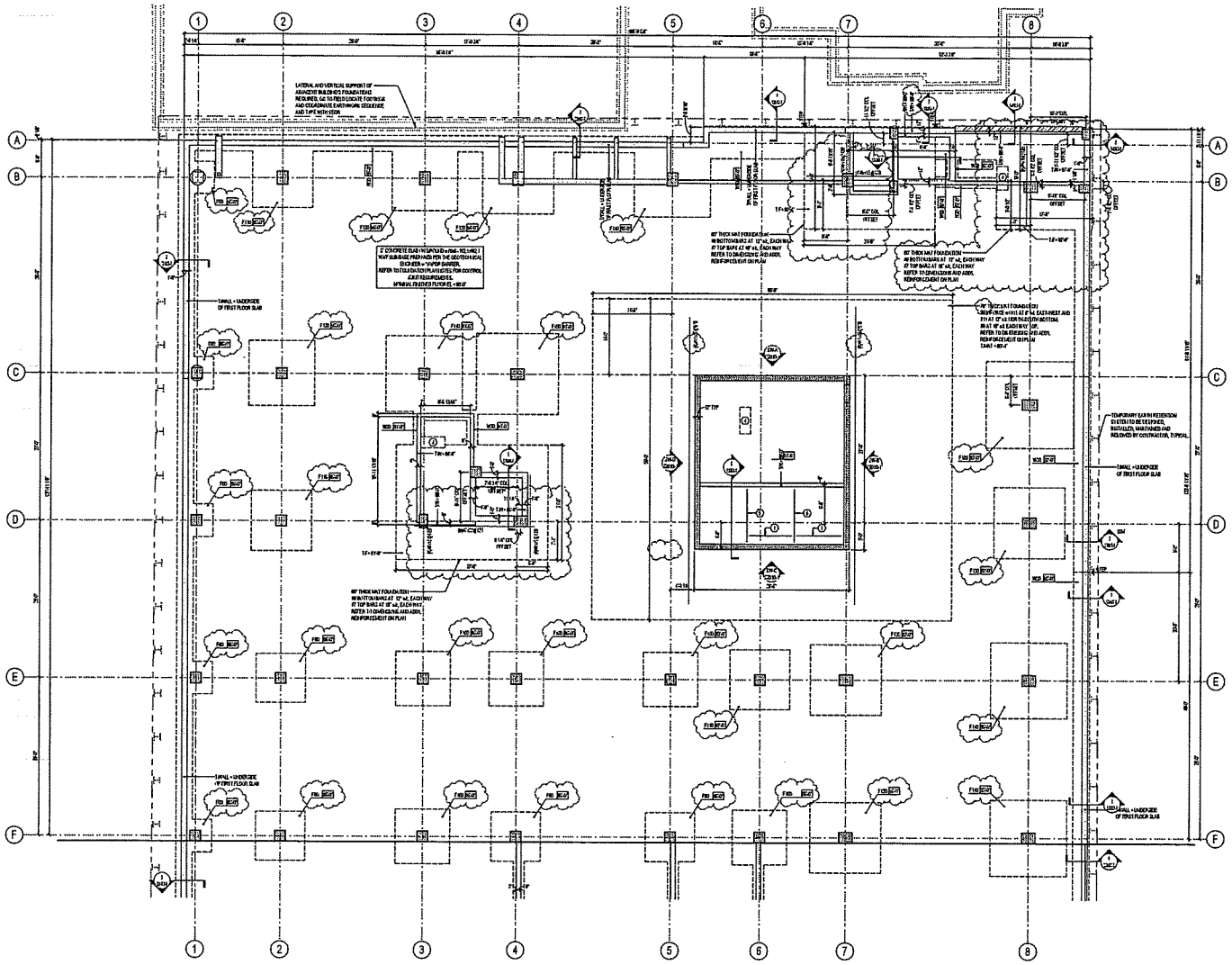

1 FOUNDATION PLAN - ZONE A - PHASE 1
SCALE: 1/8" = 1'-0"

FOUNDATION PLAN NOTES:

PLAN NOTES APPLY TO ALL FOUNDATION PLANS.
INDIVIDUAL NOTES MAY NOT NECESSARILY APPLY TO ALL SHEETS.

1. REFER TO S0101 SERIES SHEETS FOR GENERAL NOTES AND SCHEDULES.
2. REFER TO S1001 SERIES SHEETS FOR TYPICAL FOUNDATION DETAILS AND CUT OUT PLAN.
3. ELEVATIONS NOTED ON STRUCTURAL DRAWINGS SHOW RESPONSIBLE TYP ELEVATION. REFER TO CIVIL DRAWINGS FOR SITE PLAN. TYPICAL.
4. SLAB ON GROUND CONTROL JOINTS:
   PROVIDE SAW CUT CONTROL JOINTS IN CONCRETE SLAB ON GROUND CONSTRUCTION WITHIN 12 HOURS OF INITIAL POUR. CONTROL JOINTS SHALL BE SPACED AT 36 TIMES THE SLAB THICKNESS, UP TO A MAXIMUM SPACING OF 15'-0". THE ASPECT RATIO OF SLAB PANELS SHALL BE A MAXIMUM OF 1.5 TO 1. CONTROL JOINTS SHALL BE PLACED ON CIRCULAR COLUMN BASES, RADIUS CORNERS, AND FLOOR DEPRESSIONS AT PITS, EQUIPMENT PADS, TRENCHES, DEPRESSED SLABS, ETC.). COORDINATE SLAB CONTROL JOINTS LAYOUT WITH ARCHITECT. SLAB ON GROUND CONSTRUCTION SHALL CONFORM TO ACI 302.1R "GUIDE FOR CONCRETE FLOOR AND SLAB CONSTRUCTION". REFER TO TYPICAL DETAILS FOR SLAB ON GROUND CONSTRUCTION.
5. SLAB DEPRESSIONS: VERIFY ALL SLAB DEPRESSIONS (SIZE, DEPTH, LOCATION) w/ ARCHITECTURAL DRAWINGS.
6. CONTINUOUS FOUNDATION WALL OPENINGS WITH ARCHITECTURAL AND MECHANICAL DRAWINGS. PROVIDE PER OPENING PER DETAIL ACCESS AT OPENINGS LESS THAN 8'-0" WIDE. COORDINATE WITH SIZES FOR OPENINGS LARGER THAN 8'-0".
7. BASED ON THE 2018 REPORT, CONTRACTOR TO BE AWARE OF AREAS OF POSSIBLE OVEREXCAVATION TO PROVIDE PROOF ROLL, ADD. BEARING CAPACITY IS TO BE FIELD VERIFIED BY GEOTECHNICAL ENGINEER PRIOR TO POURING ANY FOOTINGS.
8. REFER TO PHASING PLANS FOR LOCATION, SIZE, & SPACING OF SHORING WALL AND REFER PER CONSTRUCT.
9. COORDINATE FOOTING ELEVATIONS w/ ALL OTHER PLANNED UTILITY WORK. NOTIFY ENGR OF ANY CONFLICTS.

FOUNDATION PLAN KEYED NOTES:

KEYED NOTES APPLY TO ALL FOUNDATION PHASE.
ALL NOTES ON SHEET MAY NOT NECESSARILY APPEAR ON ALL SHEETS.

1. ADDITIONAL REINFORCEMENT (1-#5 BAR) REQUIRED AT REAR OF ELEVATORS. BEAM SIZE TO BE VERIFIED, OR TO COORDINATE LOCATION AND ADDITIONAL REINFORCEMENT WITH ELEVATOR PROVIDER. PROVIDE EMBED PER MANUFACT. PROVIDE STEEL DOWELS TO BE PER 2/S401-1.
2. 36 W x 6'-0" DEPRESSED IN THICKNESS OF SLAB ON GRADE AND LOCATED AT PIT/EQUIP DURATION, TYPICAL.
3. REFER TO DETAIL 4/S2001-1 FOR REINFORCING AT WALL OPENING.
4. DEPRESSED STAIR FOOTING PER S2001-1, REFER TO ARCHITECTURAL DRAWINGS FOR LOCATIONS.
5. NEW 8" W (LRFD) CHANNEL HEADERS, PROVIDE EMBED FOR ELEVATOR DOOR HEADER (SEE 4/S2001-1). OR TO COORDINATE GREATER HEADERS, LOCATIONS, AND ADDITIONAL STEEL REQUIREMENTS w/ ELEVATOR SUPPLIER.

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CIVIL & STRUCTURAL
PE Project: 22019

PROJECT INFORMATION

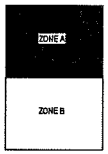
STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

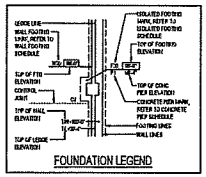
ISSUANCE AND REVISIONS

DATE	DESCRIPTION
08/04/2023	SCHEMATIC DESIGN PH1
09/29/2023	DESIGN DEVELOPMENT PH1
10/02/2023	CONSTRUCTION DOCUMENTS PH1
11/02/2023	PH1 ADD1

KEY PLAN



SHEET INFORMATION



FOUNDATION LEGEND

PROJECT MANAGER

PROJECT NUMBER 720448

FOUNDATION PLAN - ZONE A - PHASE 1

S1000-A-1

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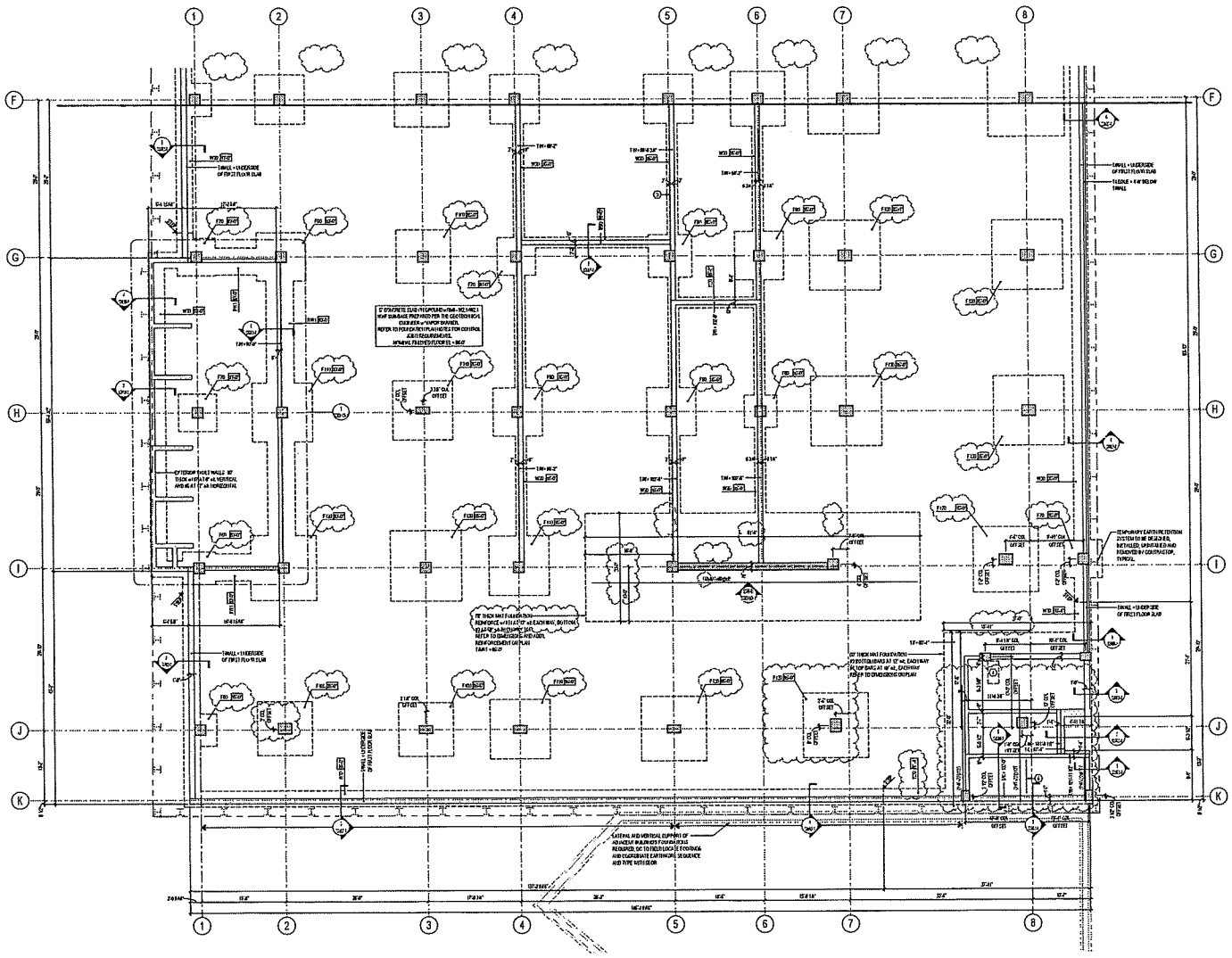


1 FOUNDATION PLAN - ZONE B - PHASE 1
SCALE: 1/8" = 1'-0"

FOUNDATION PLAN NOTES:

PLAN NOTES APPLY TO ALL FOUNDATION PLANS.
INDIVIDUAL NOTES DO NOT NECESSARILY APPLY TO ALL SHEETS.

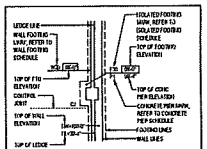
1. REFER TO G0010 ZONE B SHEET FOR GENERAL NOTES AND SCHEDULES.
2. REFER TO S0000 ZONE B SHEET FOR TYPICAL FOUNDATION DETAILS NOT CUT ON PLAN.
3. ELEVATIONS NOTED ON STRUCTURAL DRAWINGS CORRESPOND TO FF ELEVATION NOTED SHOWN ON SITE PLAN, TYPICAL.
4. SLAB ON GROUND JOINTING, TYP.
   PLEASE SAW CUT CONTROL JOINTS IN CONCRETE SLAB ON GROUND CONSTRUCTION WITHIN 24 HOURS OF INITIAL POUR. CONTROL JOINTS SHALL BE CUT MIN AT 25% D.E. THE SLAB THICKNESS. UP TO A MAXIMUM SPACING OF 18'-0". THE ASPECT RATIO OF SLAB PANELS SHALL BE A MAXIMUM OF 1.5 TO 1. CONTROL JOINTS SHALL BE PLACED ON COLUMN CENTERLINES, INSIDE CORNERS, AND FLOOR RECESS/OPENINGS (PIT, EQUIPMENT PADS, TRENCHES, DEPRESSED SLABS, ETC.). CONTINUOUS SLAB CONTROL JOINTS LAYOUT WITH ARCHITECT. SLAB ON GROUND CONSTRUCTION SHOWN ON PLAN FOR SLAB FOR CONCRETE FLOOR AND SLAB CONSTRUCTION, REFER TO TYPICAL DETAILS FOR SLAB ON GROUND CONSTRUCTION.
5. SLAB DEPRESSIONS: VERIFY ALL SLAB DEPRESSIONS (SIZE, DEPTH, LOCATION) WITH ARCHITECTURAL DRAWINGS.
6. CURTAINWALL FOUNDATION WALL OPENINGS WITH ARCHITECTURAL AND MECHANICAL DRAWINGS. PRECISE PERFORMED PER DETAIL 4/S2000-1 AT CAISSONS LESS THAN 8'-0" MAX. COORDINATE WITH MECHANICAL FOR OPENINGS LARGER THAN 10".
7. BASED ON THE SOILS REPORT, CONTRACTOR TO BE AWARE OF AREAS OF POSSIBLE OVEREXCAVATION TO PROVIDE PROPER SOILS BEARING CAPACITY. TO BE FIELD VERIFIED BY GEOTECHNICAL ENGINEER PRIOR TO POURING ANY FOUNDATIONS.
8. REFER TO FRAMING PLANS FOR LOCATION, SIZE, & SPACING OF MASONRY WALL AND PIER REINFORCEMENT.
9. *VC TO COORDINATE FOOTING ELEVATIONS w/ WALL OR EMPOURED UTILITY WORK. NOTIFY ENGR OF ANY DISCREPANCIES.

FOUNDATION PLAN KEYED NOTES:

KEYED NOTES APPLY TO ALL FOUNDATION PLANS.
ALL NOTES DO NOT NECESSARILY APPEAR ON ALL SHEETS.

1. ADDITIONAL W 18X 40 (U.N.O.) BEAM AS REQUIRED AT REAR OF ELEVATORS. BEAM TO BE LEVELED TO ELEVATOR MANUFACTURER'S REQUIREMENTS WITH ELEVATOR PROVIDED, PROVIDE ELEVATOR PER PLAN A201-1, PROVIDE STEEL DUNNAGE PER S2 400-1.
2. 24 in ø x 60" CAISSONS IN THICKNESS OF SLAB OR GRADE AND LOCATED AT PLENUM CHAMBERS, TYPICAL.
3. REFER TO DETAIL 4/S2000-1 FOR REINFORCING AT WALL OPENINGS.
4. SHEETED STAIR FOOTING PER 1/S2000-1, REFER TO ARCHITECTURAL DRAWINGS FOR LOCATIONS.
5. HSS8X8X1/4 STEEL BEAM WALL, PROVIDE EMBED FOR ELEVATOR SLIDER REQUIRED. VERIFY W/ ELEVATOR MANUFACTURER'S REQUIREMENTS FOR SLIDER BEAM SIZES, LOCATIONS, AND ADDITIONAL STEEL REQUIREMENTS W/ ELEVATOR SUPPLIER.

FOUNDATION LEGEND



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PE Project: 23019

PROJECT INFORMATION

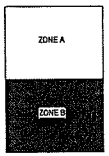
STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05/05/2023	SCHEMATIC DESIGN PHASE
07/28/2023	DESIGN DEVELOPMENT PHASE
10/02/2023	CONSTRUCTION DOCUMENTS PHASE
11/02/2023	PHASE 1 REVISED

KEY PLAN



SHEET INFORMATION

PROJECT MANAGER

PROJECT NUMBER 720448

FOUNDATION PLAN - ZONE B - PHASE 1

S1000-B-1

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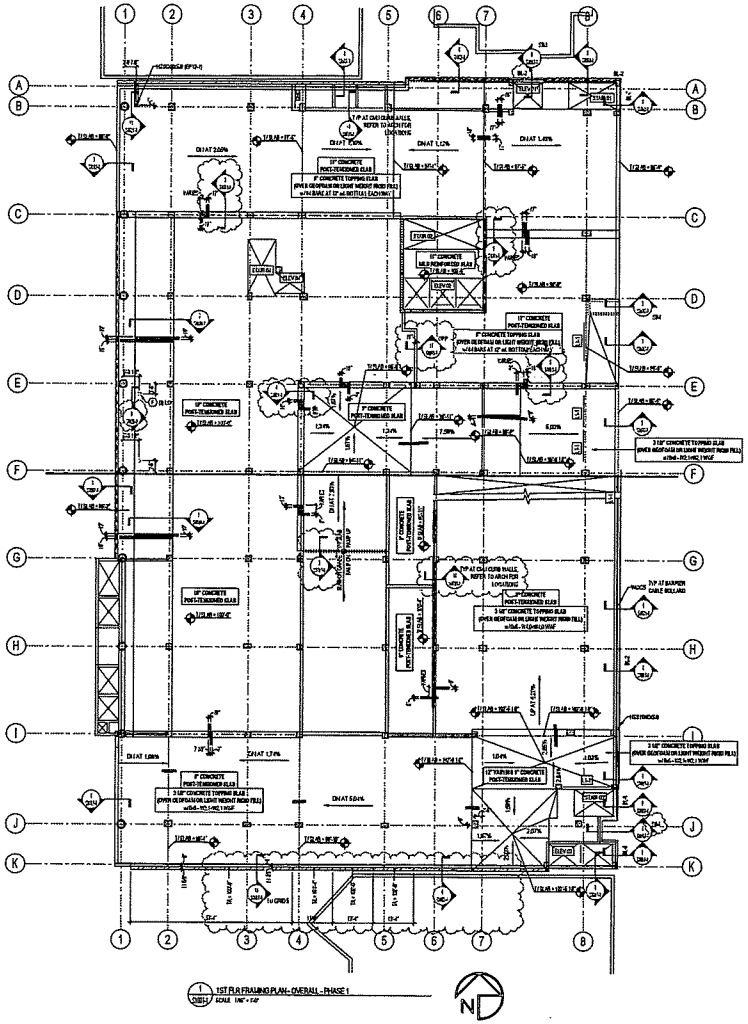

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PE Project: 22015

PROJECT INFORMATION

STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
10-02-2023	75% SUPPLEMENT DOCUMENTS PH1
11-02-2023	PH1 ADD

KEY PLAN

SHEET INFORMATION

PROJECT MANAGER

PROJECT NUMBER 720448

1ST FLR FRAMING PLAN - OVERALL - PHASE 1

S1001-1

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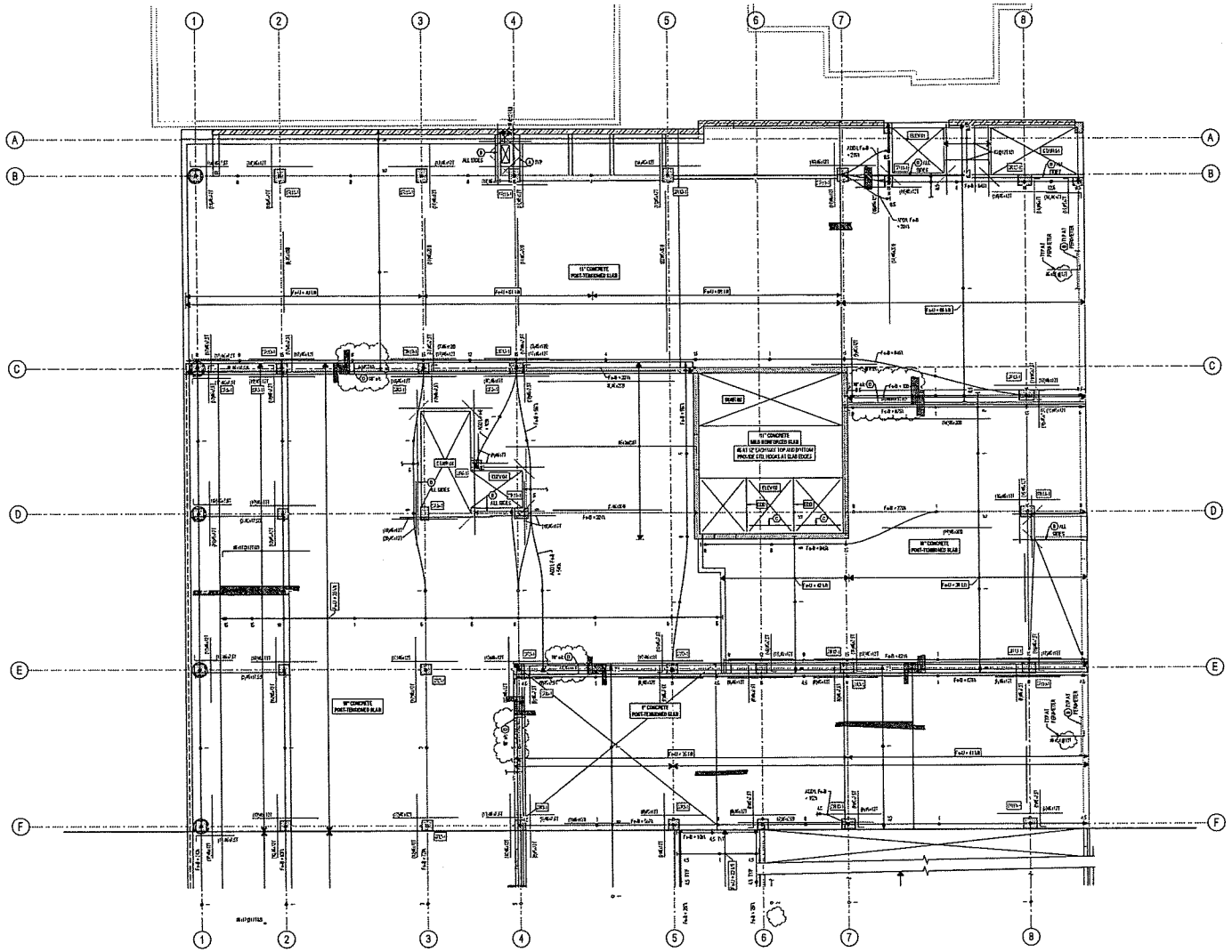


1 1ST FLR FRAMING PLAN - ZONE A - PHASE 1
SCALE: 1/8" = 1'-0"

CONCRETE FRAMING PLAN GENERAL NOTES - PHASE 1

TOP OF SLAB ELEVATIONS UNLESS NOTED OTHERWISE ON PHASE DIAGRAM

L1	88'-0"	P4	124'-0"
L2/ P1A - LAYL C1	100'-0"	P5	140'-0"
P2	112'-0"	P6	156'-0"
P3	124'-0"	P7/P7.5	167'-0"

1. REFER TO S100-1 SERIES FOR ADDITIONAL STRUCTURAL NOTES, INCLUDING COMPLIMENT DESIGN CRITERIA.
2. REFER TO S120-1 SERIES FOR CONCRETE CUSHION SCHEDULE.
3. REFER TO S130-1 SERIES FOR CONCRETE SHEAR WALL ELEVATIONS.
4. REFER TO S150-1 SERIES FOR CONCRETE SCHEDULES AND DETAILS NOT CUT ON PLAN.
5. REFER TO S160-1.1 FOR PERFORMANCE AT SLAB OPENINGS, TYP.
6. REFER TO ARCHITECTURAL, CIVIL, AND LANDSCAPE DRAWINGS FOR ALL EXTERIOR SITE CONCRETE INCLUDING PLANTERS, STAIRS, AND RAMPS.
7. REFER TO ARCHITECTURAL DRAWINGS FOR MASONRY WALL LOCATIONS, UNLESS NOTED OTHERWISE. PROVIDE MASONRY WALL REINFORCING PER MASONRY WALL SCHEDULE, UNLESS NOTED OTHERWISE.
8. SLAB TENDON AND REBAR PLACEMENT NOTES
   a. REFER TO S160-1.1 FOR TYPICAL SLAB TOP REBAR PLACEMENT AT CONCRETE.
   b. BOTTOM BARS BETWEEN COLUMNS SHALL BE CENTERED AT MIDSPAN.
   c. PUNCHED BARS SHOWN PERPENDICULAR TO SLAB EDGES, OPENINGS, OR WALLS SHALL BE PROVIDED ALONG ENTIRE LENGTH.
   d. BANDED TENDON GROUPS SHALL BE CENTERED OVER COLUMNS TO THE GREATEST EXTENT POSSIBLE.
   e. TENDON ANCHORS AT SLAB EDGES SHALL BE LOCATED AT SLAB MIDDEPTH, U.N.O.
   f. ALL P.T. LOCATIONS ARE REFERENCED FROM BOTTOM OF LOWEST SLAB, U.N.O.
9. REFER TO DELEGATED DESIGN ITEMS AS NOTED FOR STAIR CONSTRUCTION.
10. "EDGE" INDICATES HIGH POINT / LOW ELEVATION OF CURB OR BEAM LINE. PROVIDE EMBED EACH END PER S210-1. COORDINATE DEPARTURE, LOCATION, AND ADDITIONAL STEEL REQUIREMENTS w/ ELEVATOR SUPPLIER.
11. PROVIDE CONCRETE WASH PER S210-1 AT ALL PLANTER SLABS.
12. SLOPE TOP AND BOTTOM OF PLANTER SLABS FOR DRAINAGE (2.0%) TO BE CONSTANT THICKNESS EXCEPT WHERE OTHERWISE ARE SHOWN.
13. ALL PLANTER AND EXTERIOR EXPOSED SLABS, ALL EMBED STEEL SHALL BE EPOXY COATED (INCLUDING CANOPY BEAM, BACKUP BEAM, AND HANGER). BEAM STIRRUPS SHALL BE GALVANIZED. SLAB SHALL RECEIVE A SLURRY SEALER, REFER TO ARCHITECTURAL SPECIFICATIONS.
14. REFER TO PLAN FOR BUILDUP w/ SLOPED SLAB OR DECK AND LIGHTWEIGHT INSERTS, TO ACHIEVE ARCHITECTURAL FINISH FLOOR ELEVATION. PROVIDE CONCRETE TOPPING AS INDICATED ON PLAN. PROVIDE CONTROL JOINTS IN TOPPING AS PER S110-1, U.N.O. REFER TO NON-STRUCTURAL FOR SPECIAL LAYOUTS. EDGES OF BUILDUP TO RECEIVE CURB PER S210-1, U.N.O.

CONCRETE FRAMING PLAN KEYED NOTES - PHASE 1

A. PROVIDE DIAGONAL BARS AT ALL RE-ENTRANT CORNERS
   SLABS UP TO 12" THICK: (3) #5 @ TOP AND BOTTOM
   SLABS UP TO 22" THICK: (3) #7 x 9'-0" TOP AND BOTTOM

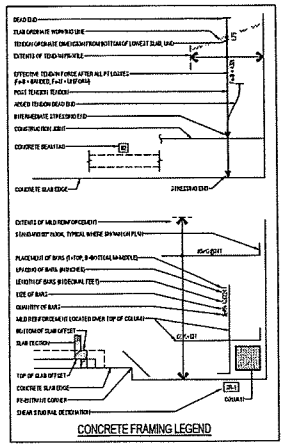
B. TOP AND BOTTOM BARS ARE ALONG ENTIRE LENGTH OF WALL OR OPENING PLUS 40d EMBED WHERE POSSIBLE
   SLABS UP TO 12" THICK: (5) #5 @ TOP AND 1 @ BOTTOM
   SLABS UP TO 22" THICK: (5) #7 @ TOP AND 4 @ BOTTOM

C. ADDITIONAL TENDON (1) BEAM REQUIRED AT REAR OF ELEVATORS. REANKSIZE TO BE VERIFIED, OC TO COORDINATE LOCATION AND ADDITIONAL REQUIREMENTS WITH ELEVATOR PROVIDER. PROVIDE EMBED PER S110-1. PROVIDE STEEL CONNECTIONS PER S210-1.

D. #3 STIRRUPS AT 12" o/c, FULL LENGTH OF OPENING.

E. MEDIUM ELEVATOR HOISTWAY BEAM. VERIFY LOCATION AND OPENING SIZE OVER ELEVATOR SHAFT w/ ELEVATOR SUPPLIER. COORDINATE BOTTOM OF BEAM w/ ELEVATOR CLEARANCE REQUIREMENTS. BEAM HAS BEEN DESIGNED FOR A 15 KIPS POINT LOAD.

F. INACTIVE STEEL EMBED PART OF PHASE 2. SITED SHOWN FOR PHASE 1 SLAB BLEED PLACEMENT, REFER TO DETAILS.



CONCRETE FRAMING LEGEND

eu:a
milwaukee | madison | green bay | denver | atlanta

PE
PEARCE ENGINEERING, INC.
PE Project: 23019

PROJECT INFORMATION

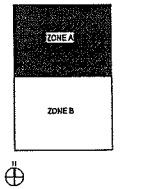
STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05-05-2023	SCHEMATIC DESIGN PH1
07-28-2023	DESIGN DEVELOPMENT PH1
10-02-2023	100% REVISION DOCUMENTS PH1
11-02-2023	PH1_ADD2

KEY PLAN



SHEET INFORMATION

PROJECT MANAGER

PROJECT NUMBER 720448

1ST FLR FRAMING PLAN - ZONE A - PHASE 1

S1001-A-1

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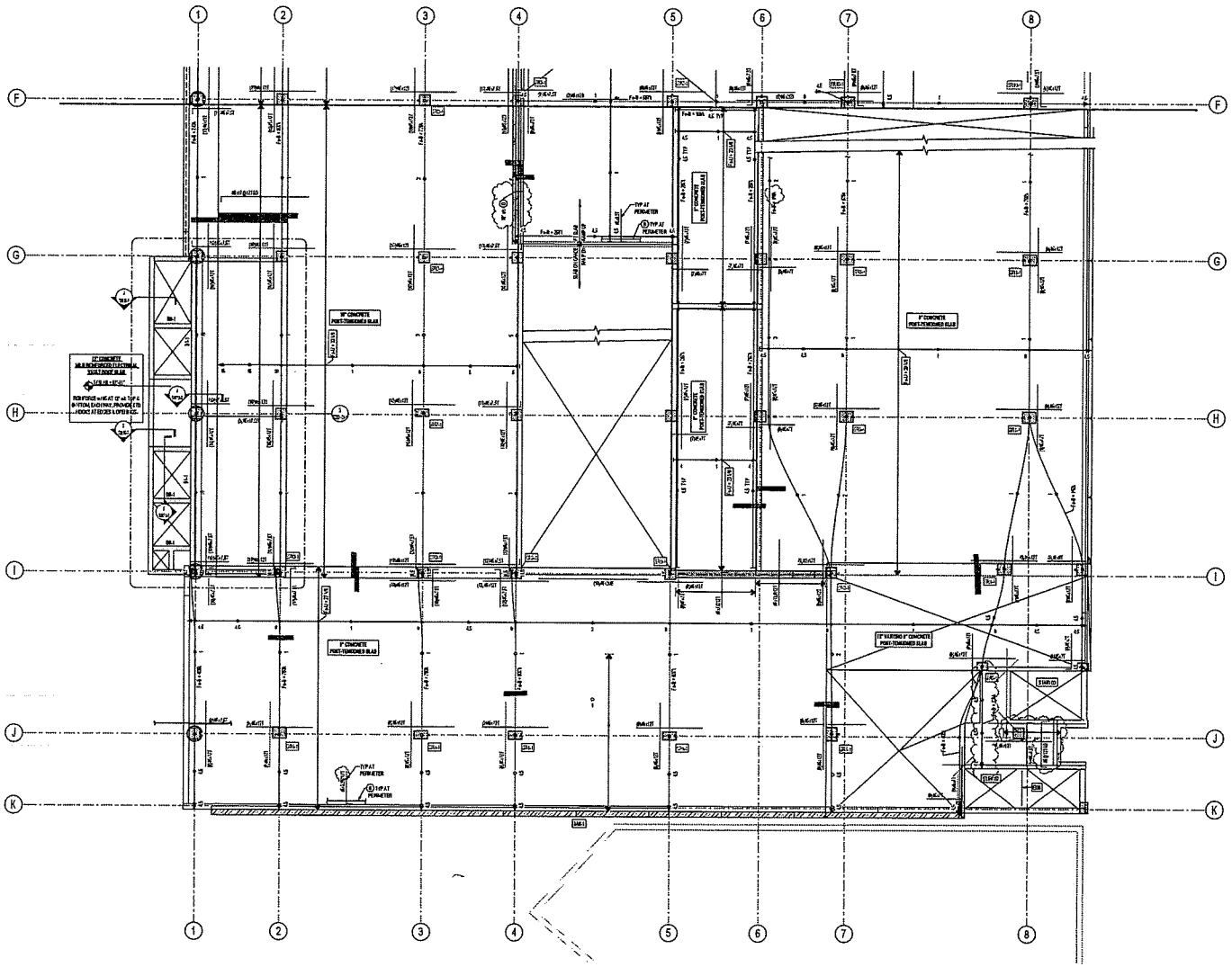


1 1ST FLR FRAMING PLAN - ZONE B - PHASE 1
SCALE: 1/8" = 1'-0"

CONCRETE FRAMING PLAN GENERAL NOTES - PHASE 1

TOP OF SLAB ELEVATIONS UNLESS NOTED OTHERWISE ON PLAN

L1	99'-0"	P4	114'-0"
L2/3 FOR LAYER 01	105'-0"	P5	114'-0"
P2	114'-0"	P6	114'-0"
P3	114'-0"	ZONE B/B	107'-0"

1. REFER TO S002-1 SERIES FOR GENERAL & STRUCTURAL NOTES, INCLUDING EQUIPMENT DESIGN CRITERIA.
2. REFER TO S200-1 SERIES FOR CONCRETE COLUMN SCHEDULE.
3. REFER TO S200-1 SERIES FOR CONCRETE SHEAR WALL ELEVATIONS.
4. REFER TO S400-1 SERIES FOR CONCRETE SCHEDULES AND DETAILS NOT CUT ON PLAN.
5. REFER TO S400-4 FOR FOR EQUIPMENT AT SLAB OPENINGS, U.N.O.
6. REFER TO ARCHITECTURAL, CIVIL, AND LANDSCAPE DRAWINGS FOR ALL EXTERIOR SITE CONCRETE INCLUDING PLANTERS, STAIRS, AND RAMPS.
7. REFER TO ARCHITECTURAL DRAWINGS FOR MASONRY WALL LOCATIONS, U.N.O.T.E. NOTED OTHERWISE, PROVIDE MASONRY WALL SUPPORT AND FOR MASONRY WALL 20'-0" HIGH, U.N.O.T.E. NOTED OTHERWISE.
8. SLAB TENSION AND REBAR PLACEMENT NOTES:
   a. REFER TO A2-4 AND A2-5 FOR TYPICAL SLAB TOP REBAR PLACEMENT AT COLUMNS.
   b. BOTTOM BARS BETWEEN COLUMNS SHALL BE CENTERED AT MIDSPAN.
   c. REBARS BAR SHOWN PERPENDICULAR TO SLAB EDGES, OR PARALLEL ON WALLS SHALL BE PROVIDED ALSO ENTIRE LENGTH.
   d. BANDED TENDON GROUPS SHALL BE CENTERED OVER COLUMNS TO THE GREATEST EXTENT POSSIBLE.
   e. TENDON ANCHORS AT SLAB EDGES SHALL BE LOCATED AT SLAB MIDDEPTH, U.N.O.
   f. ALL PT OPENINGS ARE REFERENCED FROM BOTTOM OF UNLESS SLAB, U.N.O.
9. REFER TO DEDICATED DESIGN NOTES ON SHOP FOR START CONSTRUCTION.
10. "DDR" INDICATES NEGATIVE (-EL) ELEVATION UNDER BEAM U.N.O. PROVIDE DUMED EACH SIDE BEAM, C.C. TO ELIMINATE BEAMTER, LOCATION, AND ADDITIONAL STEEL REQUIREMENTS BY ELEVATOR SUPPLIER.
11. PROVIDE CONCRETE MASS PER A2-4 AT ALL PARKING SLABS.
12. SLOPE TOP AND BOTTOM OF PARKING SLABS FOR DRAINAGE (4) MIN TO BE CONSTANT THICKNESS EXCEPT WHERE CONCRETE ARE SHOWN.
13. AT PARKING AND EXTERIOR EXPOSED SLABS, ALL HEAD STEEL SHALL BE EPOXY COATED (INCLUDED CURRY BARS, BACKUP BARS, AND WHIPPINGS). ENTIRE SLAB EDGES SHALL BE GALVANIZED. SLAB SHALL RECEIVE A SEALER, REFER TO ARCHITECTURAL SPECIFICATIONS.
14. REFER TO PLAN FOR BUILDUP w/ TOPPING SLAB ON DECK PAN OR LIGHTWEIGHT AGGREGATE TO ACHIEVE ARCHITECTURAL FINISH FLOOR ELEVATIONS. PROVIDE CONCRETE TOPPING AS INDICATED ON PLAN. PROVIDE CONTROL JOINTS IN TOPPING SLAB AT ± 16'-0" ctr, REFER TO ARCHITECTURAL FOR SPECIAL LAYOUTS. EDGES OF BUILDUP TO RECEIVE CURB PER S02-03A-1, U.N.O.

CONCRETE FRAMING PLAN KEYED NOTES - PHASE 1

A. PROVIDE CRADDLE BUMPS AT ALL PC CURTAIN CONNECTS
   SLABS UP TO 12" THICK: (2) #5 x 6'-0" TOP AND BOTTOM
   SLABS UP TO 22" THICK: (2) #5 x 7'-6" TOP AND BOTTOM

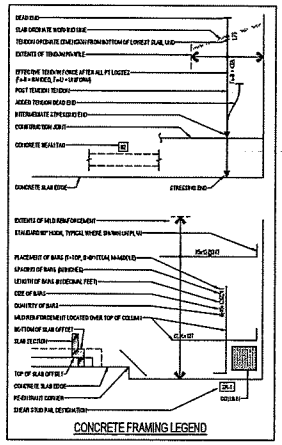
B. TOP AND BOTTOM BARS ALONG ENTIRE LENGTH OF WALL OR OPENINGS PLUS 4'-0" EACH END WHERE POSSIBLE.
   SLABS UP TO 12" THICK: (5) #5 (3@ TOP AND 1@ BOTTOM)
   SLABS UP TO 22" THICK: (8) #7 (5@ TOP AND 1@ BOTTOM)

C. ADDITIONAL REBAR (SEE S-2.0) REQUIRED AT REAR OF ELEVATORS. REQUIRED TO BE VERIFIED, OR TO COORDINATE LOCATION AND ADDITIONAL REQUIREMENTS WITH ELEVATOR PROVIDER. PROVIDE EMBED PER A2-4.0-1, PROVIDE STEEL CONNECTIONS PER S2-4.0-1.

D. #3 STIRRUPS AT 12" ctr ALL FOUR SIDES OF OPENING.

E. WHERE ELEVATOR HOIST BEAM, VERIFY LOCATION AND DIMENSIONS OVER ELEVATOR SHAFT w/ ELEVATOR SUPPLIER. COORDINATE BOTTOM OF BEAM w/ ELEVATOR CLEARANCE REQUIREMENTS. BEAM HAS BEEN DESIGNED FOR L = 6'-0" LOAD POINTS EACH.

F. WELDED WIRE STEEL, FINISHED PART OF PHASE 2. STEEL SHOWN FOR PHASE 1 SLAB IS BEED PLACEMENT, REFER TO DETAILS.



CONCRETE FRAMING LEGEND

eu:a
milwaukee | madison | green bay | denver | atlanta

PE
PEARCE ENGINEERING
Structural Engineers
222 West Washington Ave., Ste 675W
Madison, WI 53703
608.257.2444
www.pearceengineers.com
PE Project: 22019

PROJECT INFORMATION

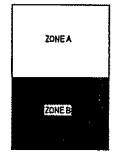
STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05/16/2022	SCHEMATIC DESIGN PHI
07/29/2022	DESIGN DEVELOPMENT PHI
10/07/2022	CONSTRUCTION DOCUMENTS PHI
11/07/2022	PHI - ADD

KEY PLAN



SHEET INFORMATION

PROJECT MANAGER

PROJECT NUMBER 720449

1ST FLR FRAMING PLAN - ZONE B - PHASE 1

S1001-B-1

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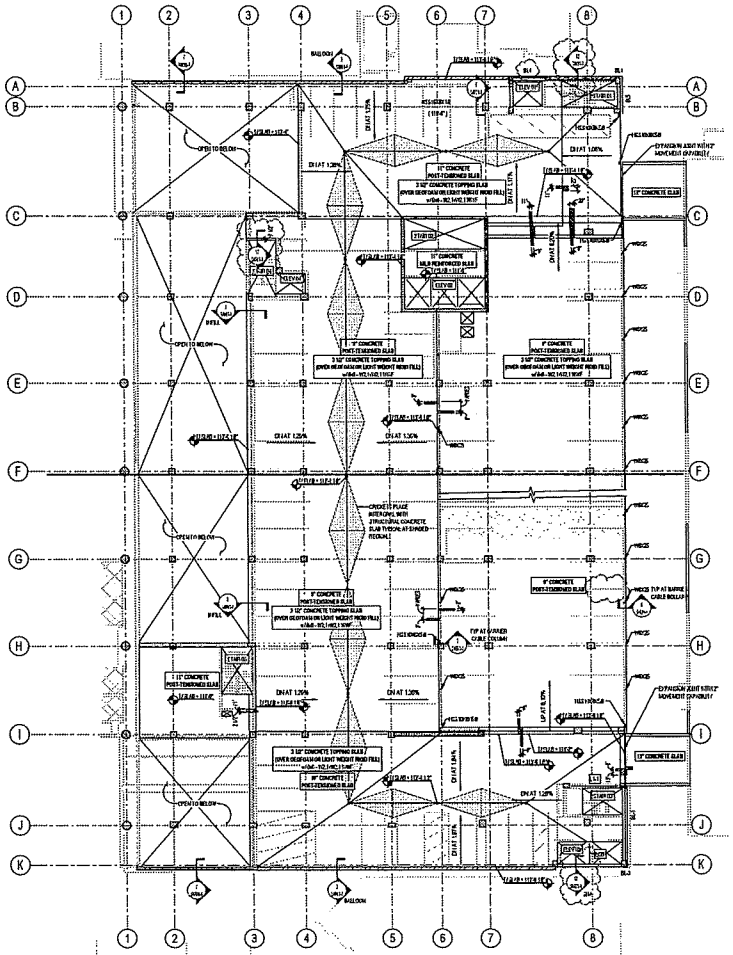


1 P2 FLR FRAMING PLAN - OVERALL - PHASE 1
SCALE: 1/16" = 1'-0"

eu:a

milwaukee | madison | green bay | denver | atlanta

PE

PE Project: 22019

PROJECT INFORMATION

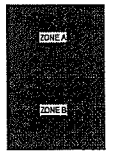
STATE STREET
CAMPUS GARAGE
MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
10/03/2023	CONSTRUCTION DOCUMENTS PH1
11/03/2023	PH1_ADD

KEY PLAN



SHEET INFORMATION

PROJECT MANAGER

PROJECT NUMBER 72046

P2 FLR FRAMING PLAN - OVERALL - PHASE 1

S1002-1

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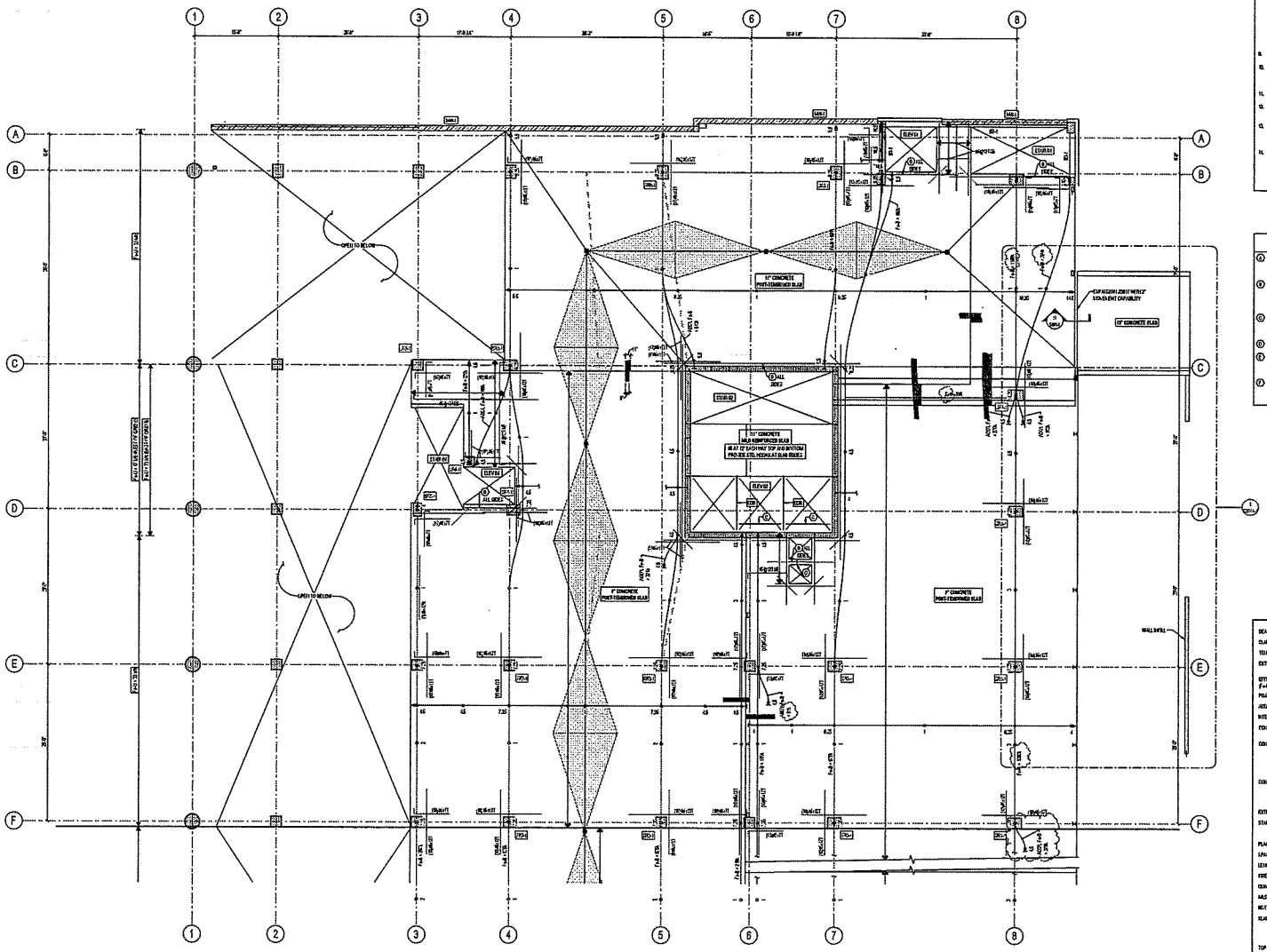


1 P2 FLR FRAMING PLAN - ZONE A - PHASE 1
SCALE: 1/8" = 1'-0"

CONCRETE FRAMING PLAN GENERAL NOTES - PHASE 1

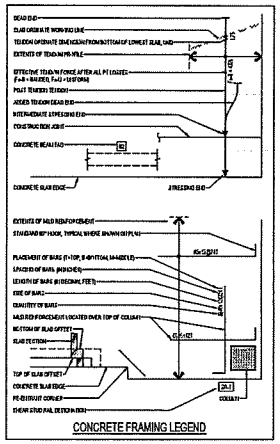
TOP OF SLAB ELEVATIONS UNLESS NOTED OTHERWISE ON PLAN

EL	[illegible]	P4	[illegible]
LOT P1/P2 - LAYOUT	[illegible]	P3	[illegible]
P2	[illegible]	P4	[illegible]
P3	[illegible]	P3 FLR	[illegible]

1. REFER TO S100-1 SERIES FOR GENERAL & STRUCTURAL NOTES, INCLUDING SOIL PAVEMENT DESIGN CRITERIA.
2. REFER TO S200-1 SERIES FOR CONCRETE COLUMN SCHEDULE.
3. REFER TO S300-1 SERIES FOR CONCRETE SHEAR WALL ELEVATIONS.
4. REFER TO S400-1 SERIES FOR CONCRETE SCHEDULES AND DETAILS NOT CUT ON PLAN.
5. REFER TO S0.40A-1 FOR REINFORCEMENT AT SLAB OPENINGS, U.N.O.
6. REFER TO ARCHITECTURAL, CIVIL, AND LANDSCAPE DRAWINGS FOR ALL EXTERIOR SITE CONCRETE INCLUDING PLANTERS, STAIRS, AND RAMPS.
7. REFER TO ARCHITECTURAL DRAWINGS FOR MASONRY WALL LOCATIONS, UNLESS NOTED OTHERWISE, PROVIDE MASONRY WALLS IN PLACES PER MASONRY WALL SCHEDULES, UNLESS NOTED OTHERWISE.
8. SLAB TENDON AND REBAR PLACEMENT NOTES:
   a. REFER TO S0.40A-1 FOR TYPICAL SLAB TOP REBAR PLACEMENT AT COLUMNS.
   b. BOTTOM BARS BETWEEN COLUMNS SHALL BE CENTERED AT MIDSPAN.
   c. HOOKED BARS DURING PERIMETER COLUMN TO SLAB STRIKE, OPENING, OR WALLS SHALL BE PROVIDED ALONG ENTIRE LENGTH.
   d. BANDED TENDON GROUPS SHALL BE CENTERED OVER COLUMN OR TO THE GREATEST EXTENT POSSIBLE.
   e. TENDON TERMINATIONS AT SLAB EDGES SHALL BE LOCATED AT SLAB MIDDEPTH, U.N.O.
   f. ALL PT CONDUITS ARE INTERPOLATED FROM BOTTOM OF LOWEST SLAB, U.N.O.
9. REFER TO DELEGATED DESIGN NOTES ON SHEET FOR PT/UPC CONSTRUCTION.
10. "EDF" INDICATES MEDIUM DUTY (LDV) ELEVATOR UNDER SLAB, U.N.O. PROVIDE SLEEVES EACH SIDE PER ACI 318-14, 6.7.7.2 TO ACCOMMODATE SEPARATE, VACATION, AND ADDITIONAL STEEL REQUIREMENTS w/ ELEVATOR SUPPLIER.
11. PROVIDE CONCRETE WASH PER 4/S0.40A-1 AT ALL PAN HEAD SLABS.
12. SLOPE TOP AND BOTTOM OF PAN HEAD SLABS FOR DRAINAGE SLABS TO BE CONSTANT THICKNESS EXCEPT WHERE CRICKETS ARE SHOWN.
13. AT PARKING AND EXTERIOR EXPOSED SLABS, ALL MILD STEEL SHALL BE EPOXY COATED (INCLUDES CURB BARS, BACKUP BARS, AND HAIRPINS). CHEAIR SUPPORTS SHALL BE GALVANIZED. SLAB SHALL RECEIVE A SLURRY SEALER. REFER TO ARCHITECTURAL SPECIFICATIONS.
14. REFER TO PLAN KEY NUMBER 1 FOR 5" PAN HEAD SLAB OR DEEP DOMINO UNDERMOUNT RECESS TO ACHIEVE ARCHITECTURAL FINISH FLOOR ELEVATION. PROVIDE CONCRETE TOPPING AS INDICATED ON PLANS. PROVIDE CONTROL JOINTS IN TOPPING SLAB AT ± 15'-0" o/c. REFER TO ARCHITECTURAL FOR SPECIAL LAYOUTS. EDGES OF BLACKOUT FORMED BY SLAB PER S0.40A-1, U.N.O.

CONCRETE FRAMING PLAN KEYED NOTES - PHASE 1

A. PROVIDE BLADDER BARS AT ALL RE-ENTRANT CORNERS
   - SLABS UP TO 12" THICK: (3) #6 x 6'-0" TOP AND BOTTOM
   - SLABS UP TO 22" THICK: (3) #7 x 7'-0" TOP AND BOTTOM
B. TOP AND BOTTOM BARS ALONG ENTIRE LENGTH OF WALL OR OPENING PLUS 60" EACH END WHERE POSSIBLE
   - SLABS UP TO 12" THICK: (5) #5 (3 @ TOP AND 2 @ BOTTOM)
   - SLABS UP TO 22" THICK: (5) #7 (3 @ TOP AND 2 @ BOTTOM)
C. ADDITIONAL HOOKED (L2A) BEAMS REQUIRED AT REAR OF ELEVATORS. MEASURE TO BE VERIFIED, OR TO COORDINATE LOCATION AND ADDITIONAL REQUIREMENTS WITH ELEVATOR PROVIDER. PROVIDE #5 BARS PER S0.40A-1. PROVIDE STEEL CONNECTION PER S2.40A-1.
D. #3 STIRRUPS AT 12" o/c, FULL LENGTH OF OPENING.
E. WOOD ELEVATOR HOIST BEAM. VERIFY LOCATION AND ORIENTATION OVER ELEVATOR SHAFT w/ ELEVATOR SUPPLIER. COORDINATE BOTTOM OF BEAM w/ ELEVATOR CLEARANCE REQUIREMENTS. BEAM HAS BEEN DESIGNED FOR A 10 KIPS/LB POINT LOAD.
F. HALF TIME STEEL FRAMING PART OF PHASE 2. STEEL SHOWN FOR PHASE 1 SLAB IS SLEEVED PLACEHOLDER, REFER TO DETAILS.



CONCRETE FRAMING LEGEND

eu:a
milwaukee | madison | green bay | denver | atlanta

PE
PETER EBERT MEDIA, INC.
PE Project: 22019

PROJECT INFORMATION

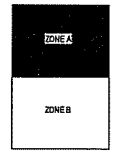
STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05/04/2022	CONCEPTUAL DESIGN PHASE
10/28/2022	ADDED LEVEL UPLIFT PHASE
12/02/2022	SCHEMATIC DESIGN DOCUMENTS PHASE
11/22/2023	PHASE 1 DESIGN

KEY PLAN



SHEET INFORMATION

PROJECT MANAGER

PROJECT NUMBER 720148

P2 FLR FRAMING PLAN - ZONE A - PHASE 1

S1002-A-1

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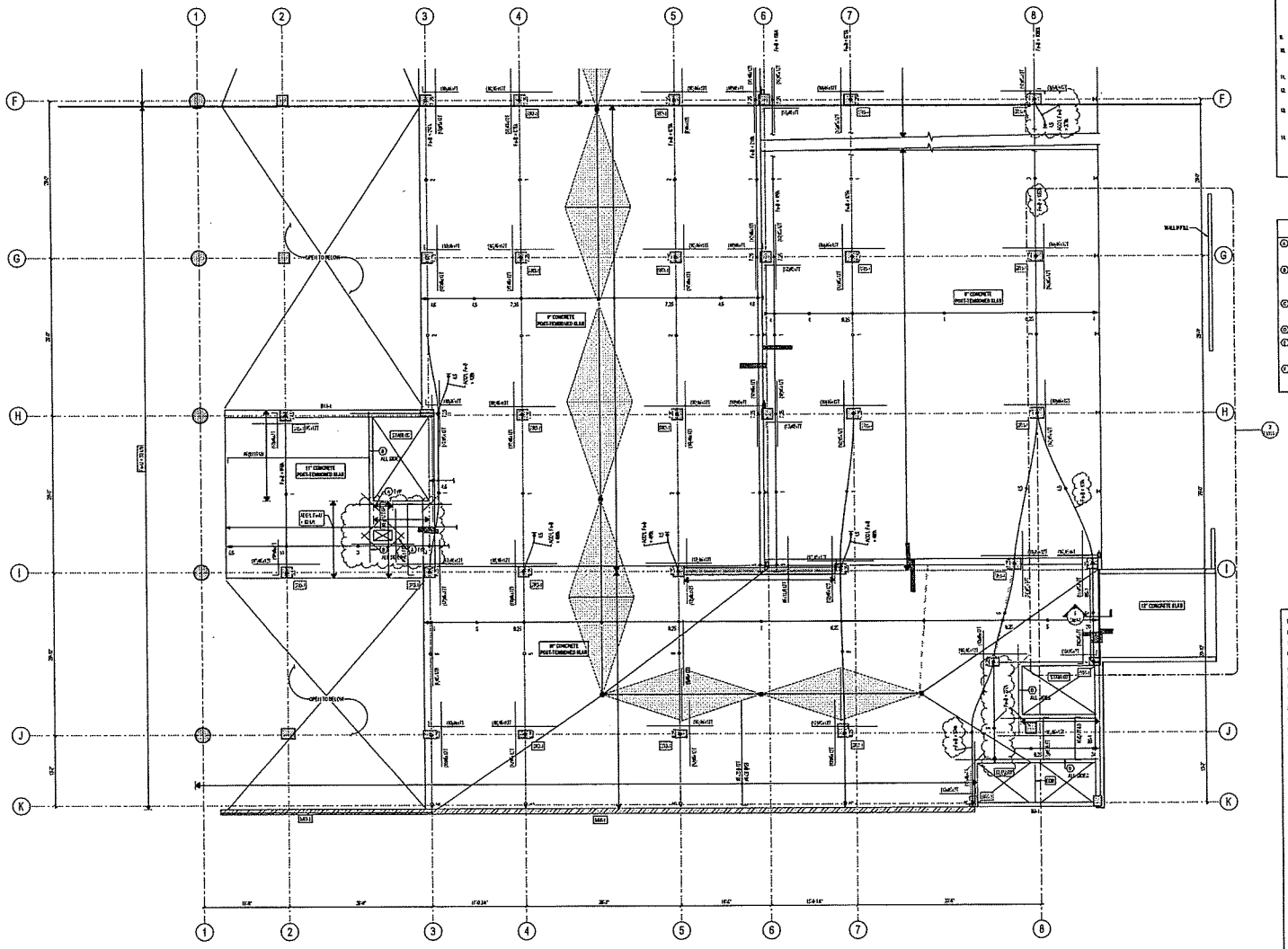


1 P2 FLR FRAMING PLAN - ZONE B - PHASE 1
SCALE: 1/8" = 1'-0"

CONCRETE FRAMING PLAN GENERAL NOTES - PHASE 1

TOP OF SLAB ELEVATIONS UNLESS NOTED OTHERWISE ON PLAN

LL	88'-0"
1ST FLR - LVL P1	100'-0"
P2	110'-0"
P3	120'-0"

P4	130'-0"
P5	140'-0"
P6	150'-0"
PENTHOUSE	160'-0"

1. REFER TO 0100-1 SERIES FOR GENERAL ARCHITECTURAL NOTES, INCLUDING CONFIGURATION CRITERIA.
2. REFER TO 0200-1 SERIES FOR CONCRETE COLUMN SCHEDULE.
3. REFER TO 0200-1 SERIES FOR CONCRETE SHEAR WALL ELEVATIONS.
4. REFER TO 0400-1 SERIES FOR CONCRETE SCHEDULES AND DETAILS NOT CUT ON PLAN.
5. REFER TO 0600-1 FOR REINFORCEMENT AT SLAB OPENINGS, U.N.O.
6. REFER TO ARCHITECTURAL, CIVIL, AND LANDSCAPE DRAWINGS FOR ALL EXTERIOR SITE CONCRETE INCLUDING PLANTER, STAIRS, PATHWAYS.
7. REFER TO ARCHITECTURAL DRAWINGS FOR MASONRY WALL LOCATIONS. UNLESS NOTED OTHERWISE, PROVIDE MASONRY WALL REINFORCING PER MASONRY WALL ELEVATIONS, UNLESS NOTED OTHERWISE.
8. SLAB TENSION AND REBAR PLACEMENT NOTES
   a. REFER TO 0400-1 FOR TYPICAL SLAB TOP REBAR PLACEMENT AT COLUMNS.
   b. BOTTOM BARS BETWEEN COLUMNS SHALL BE CENTERED AT MIDSPAN.
   c. HAUNCH BARS SHOWN PERPENDICULAR TO SLAB EDGES, OPENINGS, OR WALLS SHALL BE PROVIDED ACROSS ENTIRE LENGTH.
   d. BANDED TENSION BARS SHALL BE CENTERED OVER COLUMNS TO THE GREATEST EXTENT POSSIBLE.
   e. TENSION HOOKS AT SLAB EDGES SHALL BE LOCATED AT SLAB MID-DEPTH, U.N.O.
   f. ALL PT ANCHORAGES ARE NOT SHOWN FOR CLARITY IN PLAN OF LOWEST SLAB, U.N.O.
9. REFER TO COORDINATED DESIGN NOTES ON SHEET S1001 FOR STAIR CONSTRUCTION.
10. "TOP" INDICATES HIGH HOOK (-DH) ELEVATOR DIVIDER BEAM, U.N.O. PROVIDE EMBED EXTENDED PER M1400-1, CC TO COORDINATE BEAM SIZE, LOCATION, AND ADDITIONAL STEEL REQUIREMENTS w/ ELEVATOR SUPPLIER.
11. PROVIDE CONCRETE WASHER PER 1040-1 AT ALL PARKING SLABS.
12. SLOPE TOP AND BOTTOM OF PARKING SLABS FOR DRAINAGE SLOPES TO BE CONSTANT THICKNESS EXCEPT WHERE CHANGES ARE SHOWN.
13. ALL PARKING AND EXTERIOR EXPOSED SLABS, ALL HALO STEEL SHALL BE EPOXY COATED (INCLUDES CAPPED BEAM, BACKUP BARS, AND HANGERS). ZINC ENRICHED SHALL BE GALVANIZED. SLAB SHALL RECEIVE A SLAB SEALER. REFER TO ARCHITECTURAL SPECIFICATIONS.
14. REFER TO PLAN FOR SLAB BUILD-UP AT RAMPED SLAB OR DEPRESSION FOR LIGHTWEIGHT INFILL TO ACHIEVE ARCHITECTURAL FINISH FLOOR ELEVATION. PROVIDE CONCRETE TOPPING AS INDICATED ON PLAN. PROVIDE CONTROL JOINTS ON TOPPING SLAB AT ≤ 15'-0" o/c. REFER TO ARCHITECTURAL FOR SPECIAL LAYOUTS. EDGES OF BUILD-UP TO RECEIVE CURB PER 1040-1, U.N.O.

CONCRETE FRAMING PLAN KEYED NOTES - PHASE 1

A. PROVIDE DIAGONAL BARS AT ALL RE-ENTRANT CORNERS
   SLABS UP TO 10" THICK: (2) #5 x 6'-0" TOP AND BOTTOM
   SLABS UP TO 20" THICK: (2) #7 x 7'-0" TOP AND BOTTOM

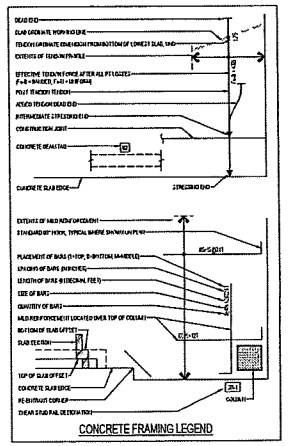
B. TOP AND BOTTOM BARS ALONG ENTIRE LENGTH OF WALL OR OPENING PLUS 4'-0" EACH END WHERE MISSING
   SLABS UP TO 10" THICK: (2) #5 @ 18" TOP AND @ 18" BOTTOM
   SLABS UP TO 20" THICK: (2) #7 @ 18" TOP AND @ 18" BOTTOM

C. ADDITIONAL HIGH HOOK (-DH) BEAMS REQUIRED AT REAR OF ELEVATORS. BEAM SIZE TO BE VERIFIED, CC TO COORDINATE LOCATION AND ADDITIONAL REQUIREMENTS WITH ELEVATOR PROVIDER. PROVIDE EMBED PER M1400-1. PROVIDE STEEL CONNECTIONS PER M1400-1.

D. #3 STIRRUPS AT 12" o/c, FULL LENGTH OF OPENING.

E. IN SLAB LOCATIONS WHERE BEAM VERIFY LOCATION AND CONFIGURATION OVER ELEVATOR SHAFT w/ ELEVATOR SUPPLIER. COORDINATE BOTTOM OF BEAM w/ELEVATOR CLEARANCE REQUIREMENTS. BEAM HAS BEEN DESIGNED FOR A 15 KIP/FT POINT LOAD.

F. UNLESS NOTED, REMAINING PART OF PHASE 2 STEEL SHOWN FOR PHASE 1 SLAB EDGE PLACEMENT, REFER TO DETAILS.



CONCRETE FRAMING LEGEND

eu:a
milwaukee | madison | green bay | denver | atlanta

PE
PIERCE ENGINEERS, INC.
PE Project: 22015

PROJECT INFORMATION

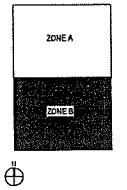
STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05/15/2023	SCHEMATIC DESIGN (PH1)
09/29/2023	DESIGN DEVELOPMENT PH1
10/02/2023	CONSTRUCTION DOCUMENTS PH1
11/02/2023	PH1 ADD2

KEY PLAN



SHEET INFORMATION

PROJECT MANAGER

PROJECT NUMBER 72048

P2 FLR FRAMING PLAN - ZONE B - PHASE 1

S1002-B-1

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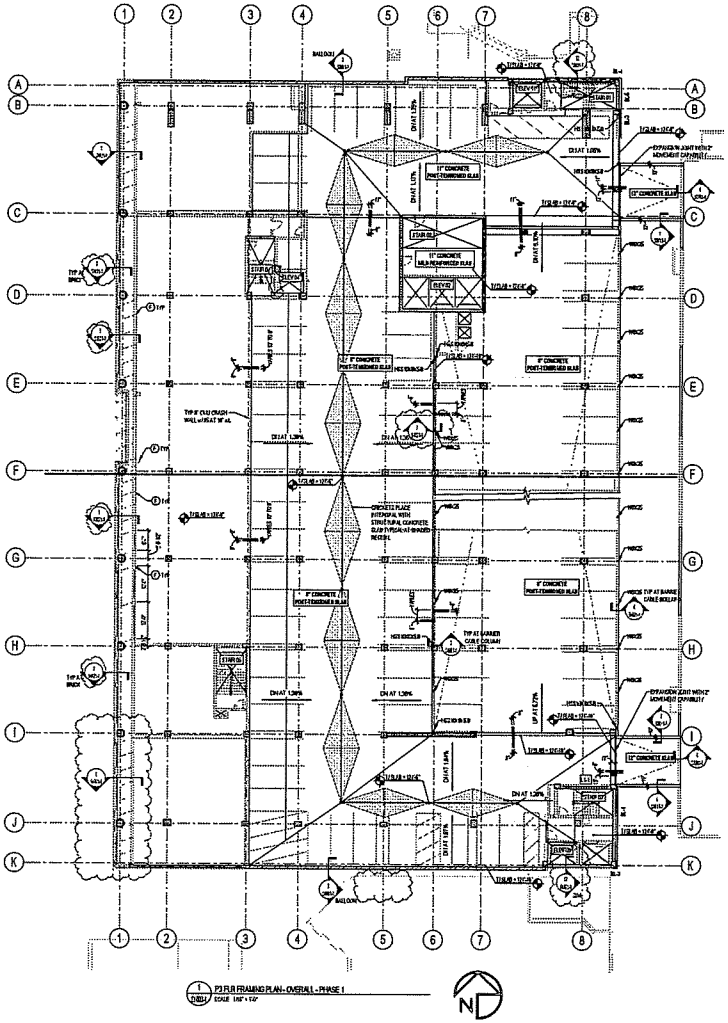


1 P3 FLR FRAMING PLAN - OVERALL - PHASE 1

CONCRETE FRAMING PLAN GENERAL NOTES - PHASE 1

TOP OF SLAB ELEVATIONS UNLESS NOTED OTHERWISE ON PLAN

LL	96'-6"	P4	114'-6"
L2 FOR LAKE ST	100'-0"	P5	118'-6"
P2	110'-6"	P6	126'-6"
P3	122'-6"	P7/ELEV.	130'-6"

1. REFER TO S000-I SERIES FOR GENERAL STRUCTURAL NOTES, INCLUDED CONCRETE DESIGN CRITERIA.
2. REFER TO S001-I SERIES FOR CONCRETE COLUMN SCHEDULE.
3. REFER TO S201-I SERIES FOR CONCRETE SHEAR WALL ELEVATIONS.
4. REFER TO S100-I SERIES FOR CONCRETE SCHEDULES AND DETAILS NOT CUT ON PLAN.
5. REFER TO S0101-I FOR PERFORMANCE AT SLAB OPENINGS, U.N.O.
6. REFER TO ARCHITECTURAL, CIVIL, AND LANDSCAPE DRAWINGS FOR ALL EXTERIOR SITE CONCRETE INCLUDING PLANTERS, STAIRS, AND RAMPS.
7. REFER TO ARCHITECTURAL DRAWINGS FOR MASONRY WALL LOCATIONS, UNLESS NOTED OTHERWISE, PROVIDE MASONRY WALL REINFORCING PER MASONRY WALL SCHEDULES, UNLESS NOTED OTHERWISE.
8. SLAB TEE (SOG) AND BEAM PLACEMENT NOTES
   a. REFER TO S0102-I FOR TYPICAL SLAB TOP REBAR PLACEMENT AT COLUMNS.
   b. BOTTOM MAT BETWEEN COLUMNS SHALL BE CENTERED AT MIDSPAN.
   c. HOLMES BARS SHOWN PERPENDICULAR TO SLAB EDGES, OPENINGS, OR WALLS SHALL BE PROVIDED AS SLAB EDGE BARS.
   d. BANDED TENDON GROUPS SHALL BE CENTERED OVER COLUMNS TO THE GREATEST EXTENT POSSIBLE.
   e. TENDON HEIGHTS AT SLAB EDGES SHALL BE LOCATED AT SLAB MID-DEPTH, U.N.O.
   f. ALL PT OFFSETS ARE REFERENCED FROM BOTTOM OF LOWEST SLAB, U.N.O.
9. REFER TO DESIGNATED DEMOLITION PLANS FOR PHASE CONSTRUCTION.
10. "EOR" INDICATES NEW CROSS SLOPE ELEVATION OVER BEAM LINE. PROVIDE DOWEL EACH SIDE PER S0102-I, LC TO COORDINATE BEAM SIZE, LOCATION, AND ADDITIONAL STEEL REQUIREMENTS w/ ELEVATOR SUPPLIER.
11. PROVIDE CONCRETE WASHPANS AS S0101-I AT ALL PANNED SLABS.
12. SLOPE TOP AND BOTTOM OF PANNED SLABS FOR DRAINAGE SLABS TO BE CONSTANT THICKNESS EXCEPT WHERE CONCRETE ARE SHOWN.
13. AT PANNED AND EXTERIOR EXPOSED SLABS, ALL U.N.O. STEEL SHALL BE EPOXY COATED (INCLUDES CHAIRS, BACKUP BARS, AND HANGERS). (NEAR STEEL SHALL BE GALVANIZED. SLAB SHALL RECEIVE A SLAB SEALER, REFER TO ARCHITECTURAL SPECIFICATIONS.
14. REFER TO PLAN FOR BUILDUP w/ SLOPING SLAB ON GEOFOAM OR LIGHTWEIGHT INSERT FILL TO ACHIEVE ARCHITECTURAL FINISH FLOOR ELEVATION. PROVIDE CONCRETE TOPPING AS INDICATED ON PLAN. PROVIDE CONTROL JOINTS IN TOPPING SLAB AT ± 10'-0" o/c, REFER TO ARCHITECTURAL FOR SPECIAL LAYOUTS. EDGES OF BUILDUP TO RECEIVE EDGE PER S0102-I, U.N.O.

CONCRETE FRAMING PLAN KEYED NOTES - PHASE 1

A. PROVIDE DIAGONAL BARS AT ALL RE-ENTRANT CORNERS
   SLABS UP TO 12" THICK: (3) #6 x 6'-0" TOP AND BOTTOM
   SLABS UP TO 22" THICK: (3) #7 x 7'-0" TOP AND BOTTOM

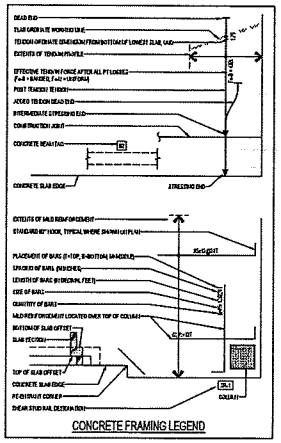
B. TOP AND BOTTOM BARS ALTERNATE LENGTH OF WALL OR OPENING PLUS 40" EACH END WHERE POSSIBLE
   SLABS UP TO 12" THICK: (5) #6 (3# TOP AND 2# BOTTOM)
   SLABS UP TO 22" THICK: (5) #7 (3# TOP AND 2# BOTTOM)

C. ADDITIONAL HORIZONTAL BARS REQUIRED AT REAR OF ELEVATOR, REMAINDER TO BE VERIFIED, LC TO COORDINATE LOCATION AND ADDITIONAL REQUIREMENTS WITH ELEVATOR PROVIDER. PROVIDE SLEEVES PER S0102-I, PROVIDE STEEL CONNECTIONS PER S0102-I.

D. #3 STIRRUPS AT 12" o/c, FULL LENGTH OF OPENING.

E. VERIFY ELEVATOR INSERT BEAM. VERIFY LOCATION AND ORIENTATION ONCE ELEVATOR SHOP DRAWINGS BY ELEVATOR SUPPLIER. COORDINATE BOTTOM OF BEAM w/ SLEEVE FOR CLEARANCE REQUIREMENTS. BEAM HAS BEEN DESIGNED FOR A 40 KIP UPLIFT LOAD.

F. HALF TUBE STEEL FRAMING PART OF PHASE 2. STEEL SHOWN FOR PHASE 1 SLAB EDGE PLACEMENT. REFER TO DETAILS.



eu:a
milwaukee | madison | green bay | denver | atlanta

PE
PETERSON ENGINEERING, INC.
Structural Engineers
PE Project: 22018

PROJECT INFORMATION

STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
8/03/2023	CD CONSTRUCTION DOCUMENTS PH1
11/02/2023	PH1_ADD

KEY PLAN

SHEET INFORMATION

PROJECT MANAGER

PROJECT NUMBER 720448

P3 FLR FRAMING PLAN - OVERALL - PHASE 1

S1003-1

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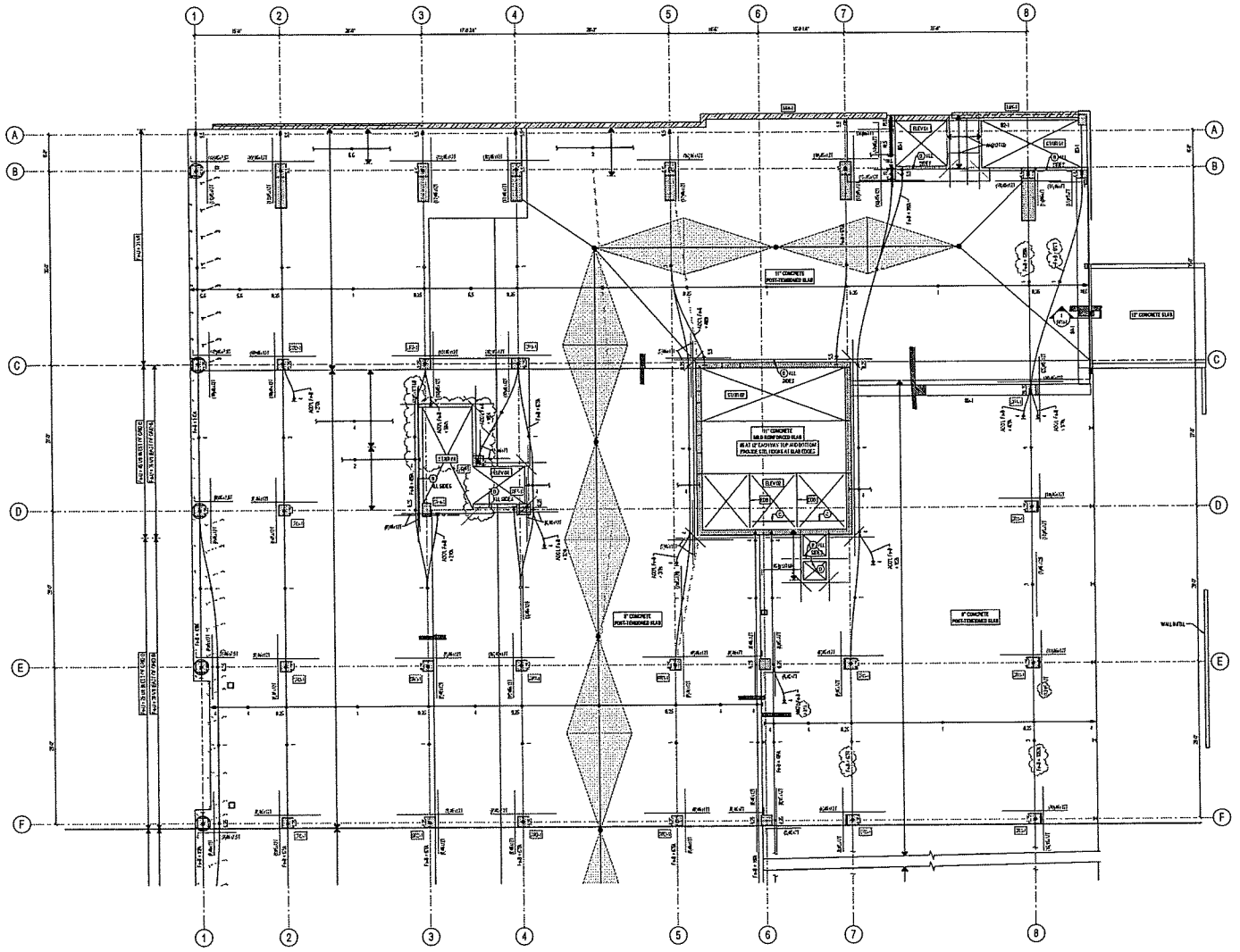


1 P3 FLR FRAMING PLAN - ZONE A - PHASE 1
SCALE: 1/8" = 1'-0"

CONCRETE FRAMING PLAN GENERAL NOTES - PHASE 1

TOP OF SLAB ELEVATIONS UNLESS NOTED OTHERWISE ON PLAN

G	98'-8"
G2 FOR LEVEL 2	108'-8"
P2	114'-8"
P3	120'-8"

P4	126'-8"
P5	132'-8"
P6	138'-8"
P7/ROOF	144'-8"

1. REFER TO S000-1 SERIES FOR GENERAL STRUCTURAL NOTES, INCLUDING CONCRETE PATCH AND REPAIR CRITERIA.
2. REFER TO S200-1 SERIES FOR CONCRETE COLUMN SCHEDULE.
3. REFER TO S201-1 SERIES FOR CONCRETE SHEAR WALL ELEVATIONS.
4. REFER TO S101-1 SERIES FOR CONCRETE SCHEDULES AND DETAILS NOT CUT ON PLAN.
5. REFER TO S010-1 FOR PREPARATION OF SLAB OPENINGS, U.N.O.
6. REFER TO ARCHITECTURAL, CIVIL, AND LANDSCAPE DRAWINGS FOR ALL EXTERIOR SITE CONCRETE INCLUDING PLANTERS, STAIRS, AND RAMPS.
7. REFER TO ARCHITECTURAL DRAWINGS FOR MASONRY WALL LOCATIONS. UNLESS NOTED OTHERWISE, PROVIDE MASONRY WALL RESTRAINTS PER MASONRY WALL DETAILS, UNLESS NOTED OTHERWISE.
8. SLAB TENDON AND REBAR PLACEMENT NOTES:
   a. REFER TO S040-1 SERIES FOR TYPICAL SLAB TOP REBAR PLACEMENT AT COLUMNS.
   b. BOTTOM BARS BETWEEN COLUMNS SHALL BE CENTERED AT MID-SPAN.
   c. TENDONS SHOWN PERPENDICULAR TO SLAB EDGES, OPENINGS, OR WALLS SHALL BE PROVIDED ALONG ENTIRE LENGTH.
   d. BANDED TENDON GROUPS SHALL BE CENTERED OVER COLUMNS TO THE GREATEST EXTENT POSSIBLE.
   e. TENDONS TERMINATED AT SLAB EDGES SHALL BE LOCATED AT SLAB MID-DEPTH, U.N.O.
   f. ALL P.T. ELEVATIONS ARE REFERENCED FROM BOTTOM OF LOWEST SLAB, U.N.O.
9. REFER TO DESIGNATED DESIGN NOTES AND NOTES FOR P.T. SLAB CONSTRUCTION.
10. "EDGE" INDICATES HEIGHT OF EDGE BEAM OR ELEVATION OF SLAB EDGE. PROVIDE CHAMFER EACH SIDE PER S010-1, U.N.O. TO ACCOMMODATE SLAB EDGE, LOCATION, AND ADDITIONAL STEEL REQUIREMENTS OF ELEVATOR SUPPLIER.
11. PROVIDE CONCRETE WALLS PER S201-1 AT ALL PLANTED ZONES.
12. SLOPE TOP AND BOTTOM OF PARAPET WALLS FOR DRAINAGE U.N.O. TO BE CONSTANT THICKNESS EXCEPT WHERE OTHERWISE NOTED.
13. AT PITCHED AND EXTERIOR EXPOSED SLABS, ALL MILD STEEL SHALL BE EPOXY COATED (INCLUDING CAMPY BARS, BACKUP BAR, AND WHIPPINGS). UNLESS OTHERWISE SHALL BE GALVANIZED. SLAB SHALL RECEIVE A SILANE SEALER. REFER TO ARCHITECTURAL SPECIFICATIONS.
14. REFER TO PLAN FOR BUILDUP AT SUNKEN SLAB OR DEPRESSED LIGHTWEIGHT AGGREGATE TO ACHIEVE ARCHITECTURAL FINISH FLOOR ELEVATION. PROVIDE CONCRETE TOPPING AS INDICATED ON PLAN. PROVIDE CONTROL JOINTS BY TOPPING SLAB AT 12'-0" o.c. REFER TO ARCHITECTURAL FOR SPECIAL LAYOUTS. EDGES OF BUILDUP TO RECEIVE CURB PER S040-1, U.N.O.

CONCRETE FRAMING PLAN KEYED NOTES - PHASE 1

A. PROVIDE DIAGONAL BARS AT ALL RE-ENTRANT CORNERS
   SLABS UP TO 12" THICK: (3) #6 x 6'-0" TOP AND BOTTOM
   SLABS UP TO 20" THICK: (3) #7 x 7'-6" TOP AND BOTTOM

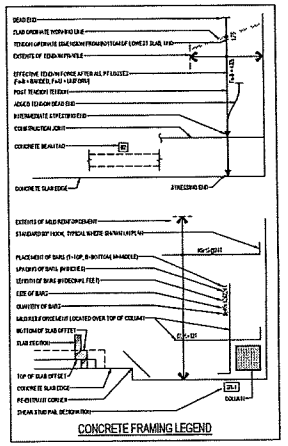
B. TOP AND BOTTOM BARS ALONG ENTIRE LENGTH OF WALL OR OPENING PLUS 6'-0" EACH END WHERE POSSIBLE
   SLABS UP TO 12" THICK: (3) #6 TOP AND 1 BOTTOM
   SLABS UP TO 20" THICK: (3) #7 TOP AND 1 BOTTOM

C. ADDITIONAL HEIGHT OF 2.75 BEAM REQUIRED AT REAR OF ELEVATORS. BEAM SIZE TO BE VERIFIED, OC TO COORDINATE LOCATION AND ADDITIONAL REQUIREMENTS WITH ELEVATOR PROVIDER. PROVIDE EMBED PER S040-1. PROVIDE 2 STEEL CONNECTORS PER S040-1.

D. 45 DEGREE PT AT 12" o.c. FULL LENGTH OF OPENING.

E. WIDE BELLY BEAM HORIZONTAL VERTICAL LOCATION AND CONFIGURATION OVER ELEVATOR SHAFT w/ ELEVATOR SUPPLIER. COORDINATE BOTTOM OF BEAM w/ELEVATOR CLEARANCE REQUIREMENTS. BEAM TO BE DESIGNED FOR A 15 KIP/FT POINT LOAD.

F. PARTIAL STEEL FRAMING PART OF PHASE 2. STEEL SHOWN FOR PHASE 1 SLAB EDGES PLACEHOLDER, REFER TO DETAILS.



CONCRETE FRAMING LEGEND

eu:a
milwaukee | madison | green bay | denver | atlanta

PE
PEARCE ENGINEERING, INC.
PE Project: 22013

PROJECT INFORMATION

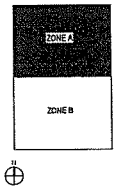
STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05/04/2023	SCHEMATIC DESIGN PH1
07/28/2023	DESIGN DEVELOPMENT PH1
10/02/2023	100% PERMIT SET DOCUMENTS PH1
11/02/2023	PH1_ADD2

KEY PLAN



SHEET INFORMATION

PROJECT MANAGER

PROJECT NUMBER 720446

P3 FLR FRAMING PLAN - ZONE A - PHASE 1

S1003-A-1

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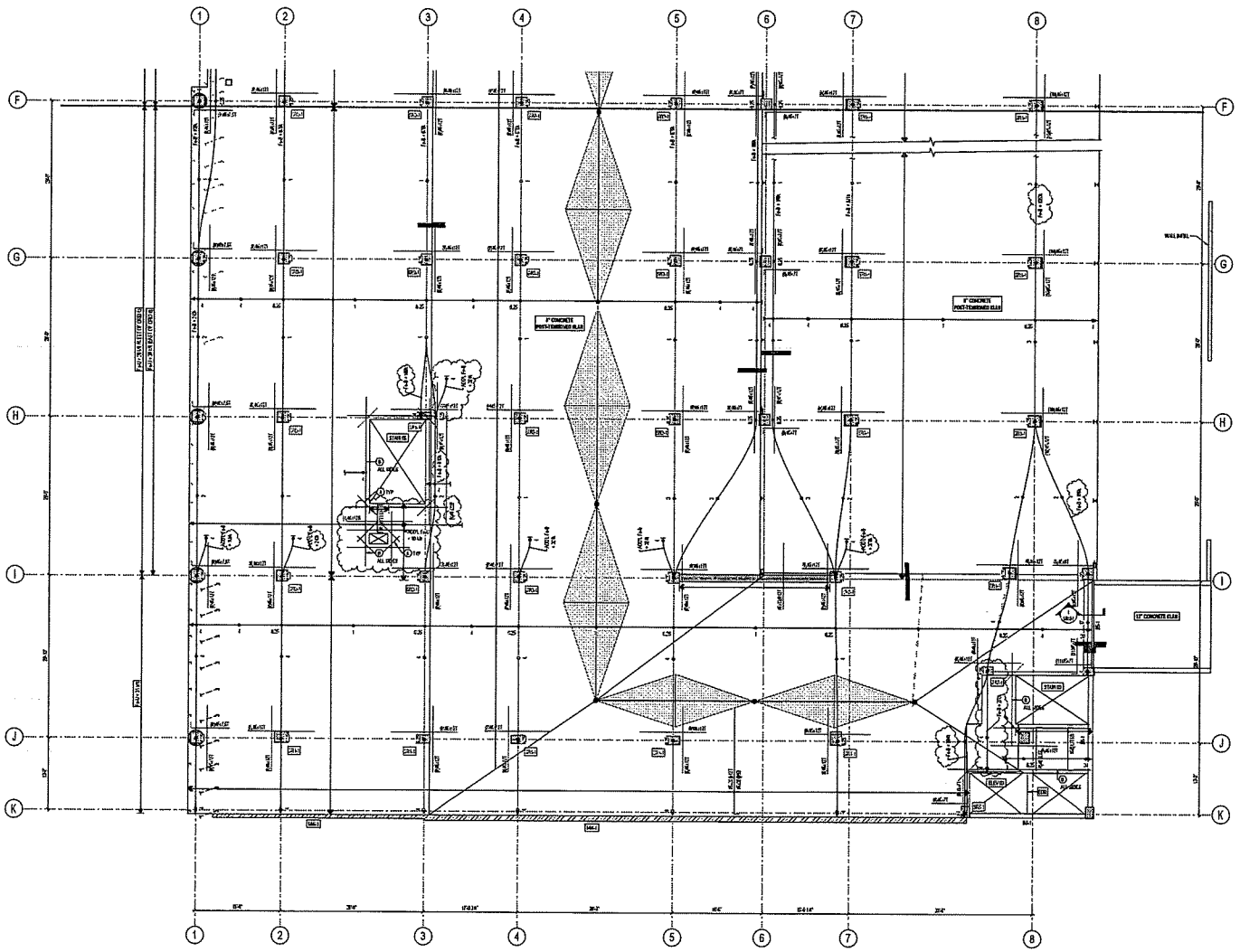


P3 FLR FRAMING PLAN - ZONE B - PHASE 1
SCALE: 1/8" = 1'-0"

CONCRETE FRAMING PLAN GENERAL NOTES - PHASE 1

TOP OF SLAB ELEVATIONS UNLESS NOTED OTHERWISE ON PLAN

G1	864'-8"	P4	834'-8"
G2/ FLR - LAKE ST	858'-8"	P5	844'-8"
P2	848'-8"	P6	854'-8"
P3	838'-8"	7TH FLR	864'-8"

1. REFER TO S001-1 SERIES FOR GENERAL STRUCTURAL NOTES, INCLUDING CONCRETE DESIGN CRITERIA.
2. REFER TO S101-1 SERIES FOR CONCRETE COLUMN SCHEDULE.
3. REFER TO S201-1 SERIES FOR CONCRETE SHEAR WALL ELEVATIONS.
4. REFER TO S401-1 SERIES FOR CONCRETE SCHEDULES AND DETAILS NOT CUT ON PLAN.
5. REFER TO S0401-1 FOR PER FORMENT AT SLAB OPENINGS, U.N.O.
6. REFER TO ARCHITECTURAL, CIVIL, AND LANDSCAPE DRAWINGS FOR ALL EXTERIOR SITE CONCRETE INCLUDING PLANTERS, STAIRS, AND RAMPS.
7. REFER TO ARCHITECTURAL DRAWINGS FOR MASONRY WALL LOCATIONS, UNLESS NOTED OTHERWISE, PROVIDE 16" SOLDIER WALL REINFORCED PER MASONRY WALL SCHEDULES, UNLESS NOTED OTHERWISE.
8. SLAB TENDON AND REBAR PLACEMENT NOTES
   a. REFER TO S4401-1 FOR TYPICAL SLAB TOP REBAR PLACEMENT AT COLUMNS.
   b. BOTTOM BARS BETWEEN COLUMNS SHALL BE CENTERED AT MIDSPAN.
   c. HOLMES BARS SHOWN PERPENDICULAR TO SLAB EDGE, OPENINGS, OR WALLS SHALL BE PROVIDED ALIGNED FOR FULL LENGTH.
   d. BANDED TENDON GROUPS SHALL BE CENTERED OVER COLUMNS TO THE GREATEST EXTENT POSSIBLE.
   e. STUDDED ANCHORS AT SLAB EDGES SHALL BE LOCATED AT SLAB MIDDEPTH, U.N.O.
   f. ALL PT GEOMETRIES ARE REFERENCED TO A BOTTOM OF LOWEST SLAB, U.N.O.
9. REFER TO DELEGATED DESIGN NOTES ON SHEET FOR STAIR CONSTRUCTION.
10. "ESW" INDICATES HIGH EDGE & DROP ELEVATION AT KEYED BEAM LINES. PROVIDE TAPERED EACH END PER DETAIL 6/S4401-1 FOR TYPICAL BEAM SIZE, LOCATION, AND ADDITIONAL STEEL REQUIREMENTS w/ ELEVATOR SUPPLIER.
11. PROVIDE CONCRETE WASHOVER HEADERS AT ALL PARKING SLABS.
12. SLOPE TOP AND BOTTOM OF PARKING SLABS FOR DRAINAGE (SLABS TO BE CONSTANT THICKNESS EXCEPT WHERE GRADES ARE SHOWN).
13. AT PARKING AND EXTERIOR EXPOSED SLABS, ALL MILD STEEL SHALL BE EPOXY COATED (INCLUDING CARRY BARS, BACKUP BARS, AND STIRRUPS). SHEAR STUDS RAILS SHALL BE GALVANIZED. SLAB SHALL RECEIVE A SEALANT SEALER, REFER TO ARCHITECTURAL SPECIFICATIONS.
14. REFER TO PLAN FOR BUILDUP w/ TAPERED SLAB OR EQUIVALENT LIGHTWEIGHT INSERTS, TO ACHIEVE ARCHITECTURAL FINISH FLOOR ELEVATION. PROVIDE CONCRETE TOPPING AS NOTED ON PLAN. PROVIDE CONTROL JOINTS IN TOPPING SLABS AT 15'-0" o.c. REFER TO ARCHITECTURAL FOR SPECIAL LAYOUTS. EDGES OF BUILDUP TO RECEIVE CURB PER S0401-1, U.N.O.

CONCRETE FRAMING PLAN KEYED NOTES - PHASE 1

A. PROVIDE DIAGONAL BARS AT ALL RE-ENTRANT CORNERS
   SLABS UP TO 12" THICK: (6) #5 x 6'-0" TOP AND BOTTOM
   SLABS UP TO 22" THICK: (7) #7 x 7'-6" TOP AND BOTTOM

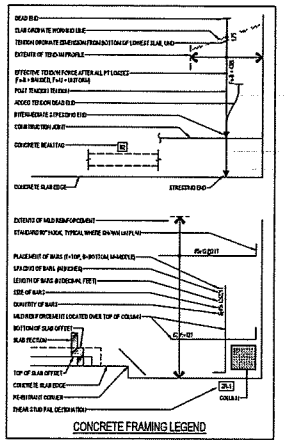
B. TOP AND BOTTOM BARS ALONG ENTIRE LENGTH OF WALL OR OPENING PLUS 40" EACH END WHERE POSSIBLE
   SLABS UP TO 12" THICK: (6) #5 (10 TOP AND 10 BOTTOM)
   SLABS UP TO 22" THICK: (5) #7 (10 TOP AND 10 BOTTOM)

C. ADDITIONAL REINFORCING (LCR) MAY BE REQUIRED AT REAR OF ELEVATORS, BEAM SIZE TO BE VERIFIED, GC TO COORDINATE LOCATION AND ADDITIONAL REQUIREMENTS WITH ELEVATOR PROVIDER. PROVIDE CLOSED PER 4/S401-1. PROVIDE STEEL CONNECTION PER 2/S401-1.

D. (2) STIRRUPS AT 12" o.c. FULL LENGTH OF OPENING.

E. SPECIAL ELEVATOR HOISTBEAM VERIFY LOCATION AND ORIENTATION OVER ELEVATOR SHAFT w/ ELEVATOR SUPPLIER. COORDINATE BOTTOM OF BEAM w/ELEVATOR CLEARANCE REQUIREMENTS. BEAM HAS BEEN DESIGNED FOR A 45 KIP POINT LOAD.

F. SHUTTLE STEEL, ENGAGED PART OF PHASE 2. STEEL SHOWN FOR PHASE 1 SLAB EDGE PLACEMENT, REFER TO DETAILS.



CONCRETE FRAMING LEGEND

eu:a
milwaukee | madison | green bay | denver | atlanta

PE
PE Project: 22013

PROJECT INFORMATION

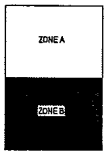
STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05-03-2023	SCHEMATIC DESIGN PH1
07-26-2023	DESIGN DEVELOPMENT PH1
10-20-2023	CONSTRUCTION DOCUMENTS PH1
11-02-2023	PH1_ 4332

KEY PLAN



SHEET INFORMATION

PROJECT MANAGER

PROJECT NUMBER 720648

P3 FLR FRAMING PLAN - ZONE B - PHASE 1

S1003-B-1

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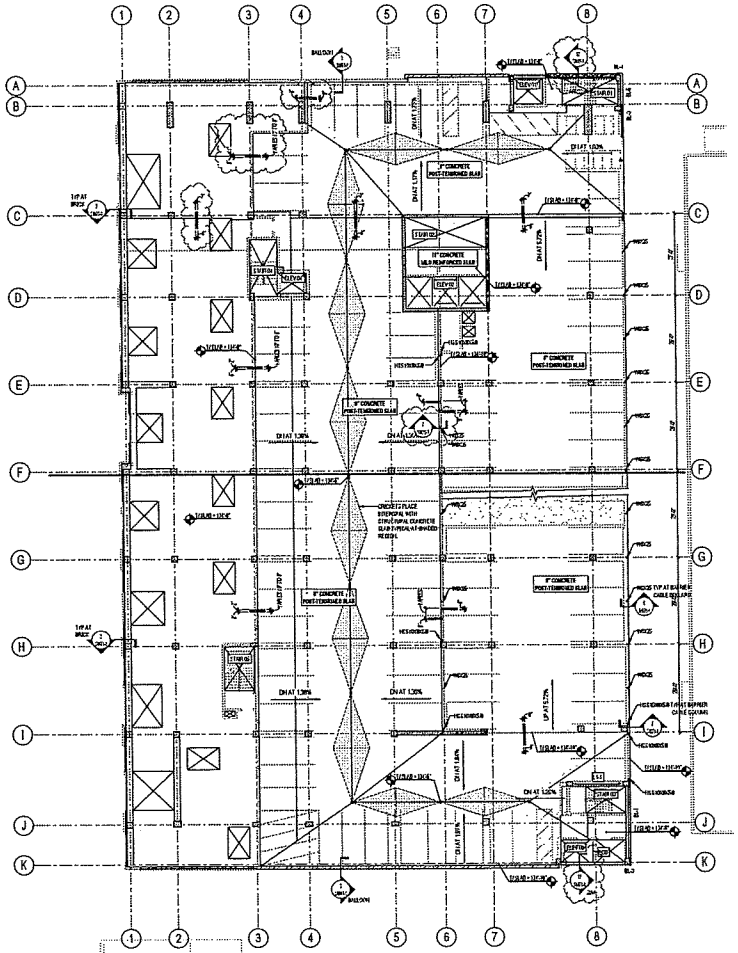

1 P4 FLR FRAMING PLAN - OVERALL - PHASE 1

eu:a

milwaukee | madison | green bay | denver | atlanta

PE

PE Project: 22013

PROJECT INFORMATION

STATE STREET
CAMPUS GARAGE
MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
6-23-23	100% PLEDGE DOCUMENTS PH1
11-02-2023	PH1_ADD2

KEY PLAN

SHEET INFORMATION

PROJECT MANAGER

PROJECT NUMBER 720448

P4 FLR FRAMING PLAN - OVERALL - PHASE 1

S1004-1

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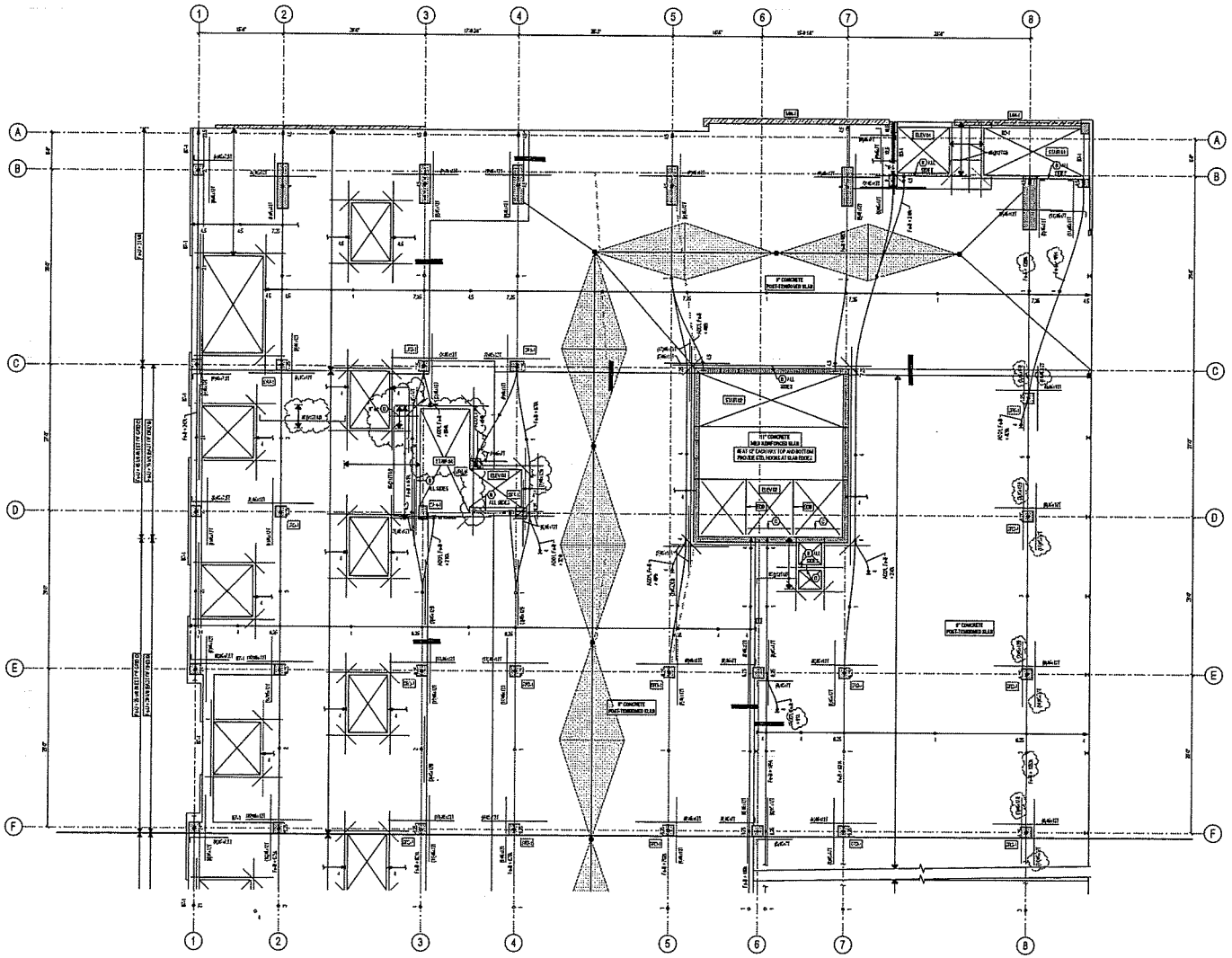


1 P4 FLR FRAMING PLAN - ZONE A - PHASE 1
SCALE: 1/8" = 1'-0"

CONCRETE FRAMING PLAN GENERAL NOTES - PHASE 1

TOP OF SLAB ELEVATIONS UNLESS NOTED OTHERWISE (on Plan)

B1	[illegible]	P4	[illegible]
L2/3 FLR - L4FLR	[illegible]	P5	[illegible]
P2	[illegible]	P6	[illegible]
P3	[illegible]	P7/8 FLR	[illegible]

1. REFER TO S000-1 SERIES FOR GENERAL STRUCTURAL NOTES, INCLUDING CONCRETE DESIGN CRITERIA.
2. REFER TO S001-1 SERIES FOR CONCRETE COLUMN SCHEDULE.
3. REFER TO S201-1 SERIES FOR CONCRETE SHEAR WALL ELEVATIONS.
4. REFER TO S400-1 SERIES FOR CONCRETE SCHEDULES AND DETAILS NOT CUT ON PLAN.
5. REFER TO S400-4 FOR POST-TENSIONED AT SLAB OPENINGS, U.N.O.
6. REFER TO ARCHITECTURAL, CIVIL, AND LANDSCAPE DRAWINGS FOR ALL EXTERIOR SITE CONCRETE INCLUDING PLANTERS, STAIRS, AND RAMPS.
7. REFER TO ARCHITECTURAL DRAWINGS FOR MASONRY WALL LOCATIONS, UNLESS NOTED OTHERWISE, PROVIDE MASONRY WALL REINFORCING PER MASONRY WALL SCHEDULES, UNLESS NOTED OTHERWISE.
8. SLAB TENDON AND REBAR PLACEMENT NOTES:
   a. REFER TO S2.40-A1 FOR TYPICAL SLAB TOP REBAR PLACEMENT AT COLUMNS.
   b. BOTTOM BARS BETWEEN COLUMNS SHALL BE CENTERED AT MID-SPAN.
   c. HOUSED BARS SHOWN PERPENDICULAR TO SLAB EDGES, OPENINGS, OR WALLS SHALL BE PROVIDED ALONG ENTIRE LENGTH.
   d. BANDED TENDON GROUPS SHALL BE CENTERED OVER COLUMNS OR TO THE GREATEST EXTENT POSSIBLE.
   e. TENDON TERMINATE AT SLAB EDGES SHALL BE LOCATED AT SLAB MIDDEPTH, U.N.O.
   f. ALL PT CENTROIDS ARE REFERENCED FROM BOTTOM OF LOWEST SLAB, U.N.O.
9. REFER TO DELEGATED DESIGN NOTES ON SHEET FOR STAIR CONSTRUCTION.
10. "ZERO" INDICATES HIGH KNOB @ 0'-0" ELEVATION (CENTER BEAM LINE). PROVIDE EVENLY EACH SIDE PER MEDIUM, U.N.O. TO COORDINATE BEAM SIZE, LOCATION, AND ADDITIONAL STEEL REQUIREMENTS w/ ELEVATOR SUPPLIER.
11. PROVIDE CONCRETE WASHER AT 45 KSI AT ALL PARKING SLABS.
12. SLOPE TOP AND BOTTOM OF PARKED SLABS FOR DRAINAGE (SLABS TO BE CONSTANT THICKNESS EXCEPT WHERE CREDITED AND SHOWN).
13. AT PARKED AND EXTERIOR EXPOSED SLABS, ALL MILD STEEL SHALL BE EPOXY COATED (INCLUDED CAPPY BARS, BACKUP BARS, AND WIRE MESH, SHEAR STUD RAILS SHALL BE GALVANIZED. SLAB SHALL ACCEPT A SEALANT, REFER TO ARCHITECTURAL SPECIFICATIONS.
14. REFER TO P1 LEVEL PLAN FOR SLAB DEPRESSIONS AT ELEVATOR PITS. P2 SLAB TO BE 6" THICK WITH 4" SLOPE TO DRAIN. PROVIDE CONTROL JOINTS IN TOPPING SLAB AT 4'-0" o.c. REFER TO ARCHITECTURAL FOR SPECIAL LAYOUTS. EDGES OF BUILDUP TO RECEIVE CURB PER S2.40-B1.4, U.N.O.

CONCRETE FRAMING PLAN KEYED NOTES - PHASE 1

(A) PROVIDE DIAGONAL BARS AT ALL RE-ENTRANT CORNERS
   STAIRS UP TO 12" THICK — (3) #5 x 6'-0" TOP AND BOTTOM
   STAIRS UP TO 20" THICK — (3) #7 x 7'-6" TOP AND BOTTOM

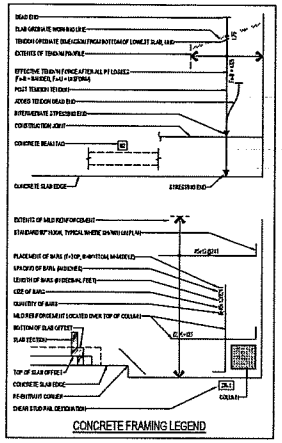
(B) TOP AND BOTTOM BARS ALONG ENTIRE LENGTH OF WALL OR OPENING PLUS 40" EACH END WHERE POSSIBLE
   STAIRS UP TO 12" THICK — (5) #5 (NO TOP AND NO BOTTOM)
   STAIRS UP TO 20" THICK — (5) #7 (NO TOP AND NO BOTTOM)

(C) ADDITIONAL REINFORCING (OR) BEAMS REQUIRED AT REAR OF ELEVATORS. REINFORCE TO BE VERIFIED OR TO COORDINATE LOCATION AND ADDITIONAL REQUIREMENTS WITH ELEVATOR PROVIDER. PROVIDE CLOSED TIES AT 4.0 c.c., PROVIDE STEEL DOWELS PER S2.40-A.1.

(D) (2) STIRRUPS AT 12" o.c. FULL LENGTH OF OPENING.

(E) WIDEN ELEVATOR HOIST BEAM. VERIFY LOCATION AND DIMENSION WITH ELEVATOR SHOP or ELEVATOR SUPPLIER. COORDINATE BOTTOM OF BEAM w/ELEVATOR CLEARANCE REQUIREMENTS. BEAM MAY BE REDUCED DEPTH AT ELEVATOR PIT FLOOR.

(F) HALF TONE STEEL FRAMED PART OF PHASE 2. STEEL SHOWN FOR PHASE 1 SLAB ELEVATION KEY. REFER TO DETAILS.



CONCRETE FRAMING LEGEND

eua
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PE
PE Project: 23003

PROJECT INFORMATION

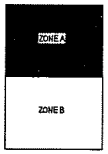
STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05/03/2023	SCHEMATIC DESIGN PHI
07/28/2023	DESIGN DEVELOPMENT PHI
10/02/2023	CONSTRUCTION DOCUMENTS PHI
11/01/2023	PHI 1/202

KEY PLAN



SHEET INFORMATION

PROJECT MANAGER

PROJECT NUMBER 720448

P4 FLR FRAMING PLAN - ZONE A - PHASE 1

S1004-A-1

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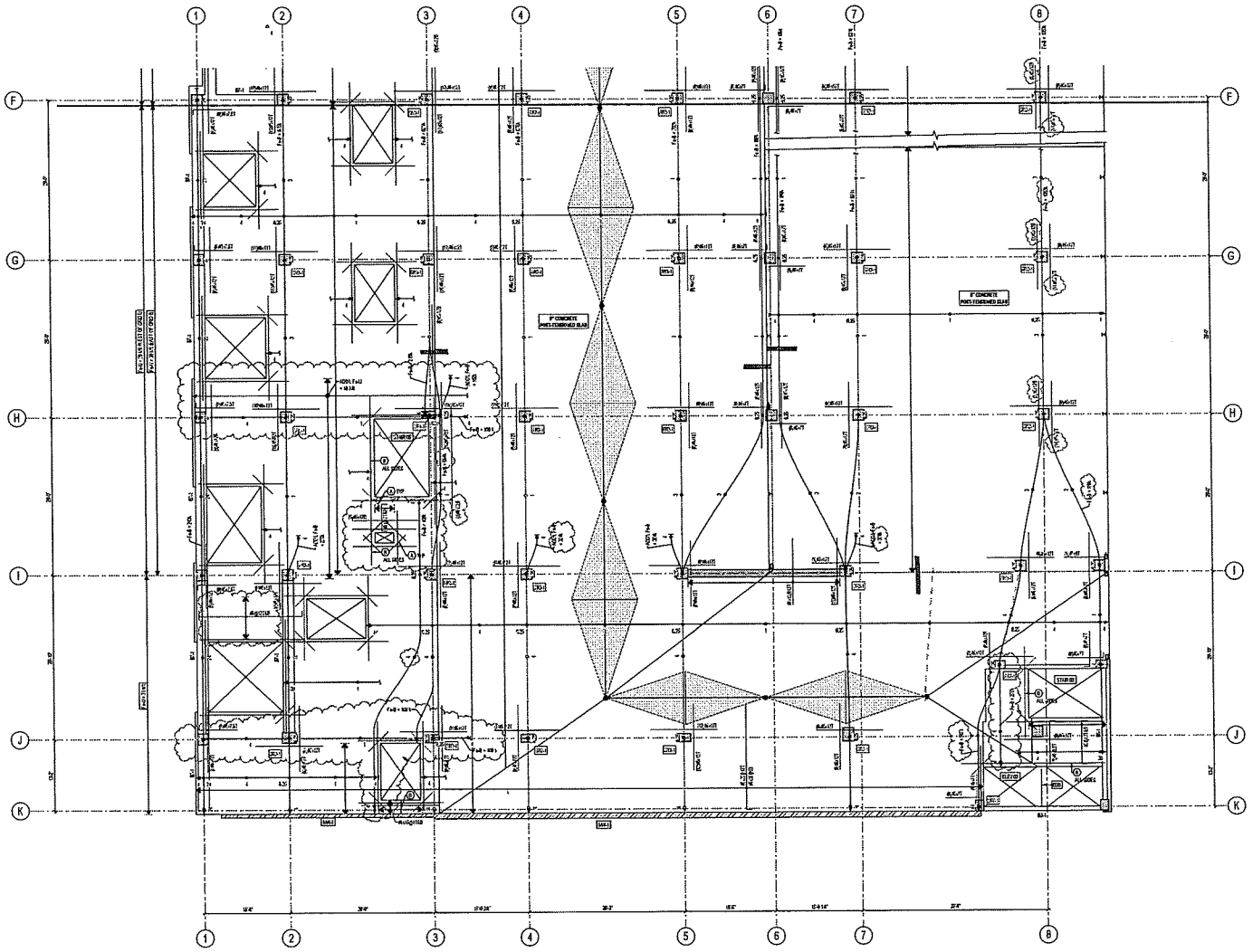


1 P4 FLR FRAMING PLAN - ZONE B - PHASE 1
SCALE: 1/8" = 1'-0"

CONCRETE FRAMING PLAN GENERAL NOTES - PHASE 1

TOP OF SLAB ELEVATIONS UNLESS NOTED OTHERWISE ON PLAN:

LL	160'-0"	P4	134'-8"
CUT FOR - LIFT 3	159'-0"	P3	146'-8"
P2	152'-8"	P2	158'-8"
P1	170'-8"	PENTHOUSE	170'-8"

1. REFER TO S000-1 SERIES FOR GENERAL STRUCTURAL NOTES, INCLUDING CONFINEMENT DESIGN CRITERIA.
2. REFER TO S201-1 SERIES FOR CONCRETE COLUMN SCHEDULE.
3. REFER TO S201-1 SERIES FOR CONCRETE SHEAR WALL ELEVATIONS.
4. REFER TO S400-1 SERIES FOR CONCRETE SCHEDULES AND DETAILS NOT CUT ON PLAN.
5. REFER TO M-601.1 FOR PENTHOUSE SLAB AT ELEVATOR EQUIPMENT.
6. REFER TO ARCHITECTURAL, CIVIL, AND LANDSCAPE DRAWINGS FOR ALL EXTERIOR SITE CONCRETE INCLUDING PLANTERS, STAIRS, AND RAMPS.
7. REFER TO ARCHITECTURAL DRAWINGS FOR MASONRY WALL LOCATIONS, UNLESS NOTED OTHERWISE. PROVIDE MASONRY WALL FROM FURRED PER MASONRY WALL DETAILS, UNLESS NOTED OTHERWISE.
8. SLAB TENSION AND REBAR PLACEMENT NOTES
   a. REFER TO S-601.01 FOR TYPICAL SLAB TOP REBAR PLACEMENT AT EDGE #'S.
   b. BOTTOM REBAR BETWEEN COLUMNS SHALL BE CENTERED AT MIDSPAN.
   c. STAGGER BARS SHOWN PERPENDICULAR TO SLAB EDGES, OPPOSITE, PER WALLS SHALL BE PROVIDED ALTERNATE LENGTHS.
   d. BUNDLED TENDON GROUPS SHALL BE CENTERED OVER CENTERING TO THE GREATEST EXTENT POSSIBLE.
   e. TENDON ANCHORS AT SLAB EDGES SHALL BE LOCATED AT SLAB MIDDEPTH, U.N.O.
   f. ALL PT HARDWARE ARE REFERENCED PT LAMINATIONS OF LOWEST SLAB, U.N.O.
9. REFER TO DEDICATED DESIGN NOTES (S1) NOTES FOR STAIR CORE STRUCTURE.
10. "EQ#" INDICATES HEIGHT FROM LOCAL ELEVATOR PIT/HOIST BEAM, U.N.O. PROVIDE EMBED EACH END PER M-601.1. GC TO CONFIRM SIZE, LOCATION, AND ADDITIONAL STEEL REQUIRED EXACT w/ ELEVATOR SUPPLIER.
11. PROVIDE CONCRETE MASONRY PER M-601.1 AT ALL PARAPET SLABS.
12. SLOPE TOP AND BOTTOM OF PARAPET SLAB FOR DRAINAGE SLABS TO BE CONSTANT THICKNESS EXCEPT WHERE CONCRETE ARE SHOWN.
13. ALL PARAPET AND EXTERIOR EXPOSED SLABS, ALL LAID STEEL SHALL BE EPOXY COATED (INCLUDES CANOPY SLAB, BACKUP BARS, AND WELDING). SHEAR STUD RAILS SHALL BE GALVANIZED. SLAB SHALL RECEIVE A SEALANT SEALER, REFER TO ARCHITECTURAL SPECIFICATIONS.
14. REFER TO PLAN FOR BUILDUP w/ 3" MIN SLAB OR DEEPER AT UPTURNED WALL PERIMETER TO ACHIEVE ARCHITECTURAL FINISH FLOOR ELEVATION. PROVIDE CONCRETE TOPPING AS INDICATED ON PLAN. PROVIDE CONTROL JOINTS IN TOPPING SLAB AT 1.5X 0" MIN. REFER TO ARCHITECTURAL FOR SPECIAL LAYOUTS. EDGE OF BUILDUP TO RECEIVE CURB PER S001-1, U.N.O.

CONCRETE FRAMING PLAN KEYED NOTES - PHASE 1

A PROVIDE CHAMFER STRIPS AT ALL RE-ENTRANT CORNERS
SLAB LIP TO 12" THICK: (2) #5 x 6'-0" TOP AND BOTTOM
SLAB LIP TO 22" THICK: (3) #7 x 7'-0" TOP AND BOTTOM

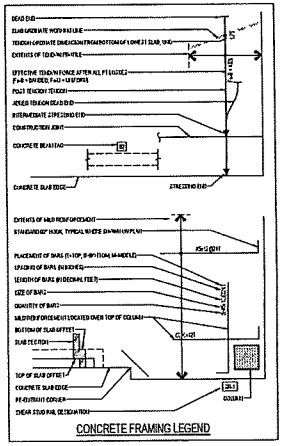
B TOP AND BOTTOM REBAR ALONG ENTIRE LENGTH OF WALL OR OPENING PLUS 4x0" EACH END WHERE POSITIVE
SLAB LIP TO 12" THICK: (2) #5 (#3 TOP AND #3 BOTTOM)
SLAB LIP TO 22" THICK: (3) #7 (#3 TOP AND #3 BOTTOM)

C ADDITIONAL HIGH CHAIR (LIFT) BEAMS PROVIDED AT REAR OF ELEVATORS, BEAM SIZE TO BE VERIFIED, GC TO COORDINATE LOCATION AND ADDITIONAL REQUIREMENTS WITH ELEVATOR PACKAGES. PROVIDE CLOSED TIES AS SHOWN, PROVIDE STEEL CONNECTIONS PER S2-601.1.

D #3 STIRRUPS AT 12" o.c. FOR 3 SERIES OF OPENINGS.

E VERIFY ELEVATOR HOIST BEAM HEIGHT, LOCATION AND ORIENTATION WITH ELEVATOR SHAFT w/ ELEVATOR SUPPLIER. COORDINATE BOTTOM OF BEAM w/ ELEVATOR CLEARANCE REQUIREMENTS. BEAM MAY NEED TO BE RAISED FOR A 15,000 LB POINT LOAD.

F HALF-TONE STEEL FRAMING PART OF PHASE 2. STEEL SHOWN FOR PHASE 1 SLAB EDGE PLACEMENT, REFER TO DETAILS.



CONCRETE FRAMING LEGEND

eua
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PE
PE Project: 22019

PROJECT INFORMATION

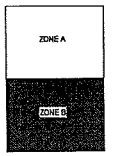
STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05/05/2023	SCHEMATIC DESIGN PH1
07/28/2023	DESIGN DEVELOPMENT PH1
10/02/2023	CONSTRUCTION DOCUMENTS PH1
11/02/2023	PH1_ADD2

KEY PLAN



SHEET INFORMATION

PROJECT MANAGER

PROJECT NUMBER 720448

P4 FLR FRAMING PLAN - ZONE B - PHASE 1

S1004-B-1

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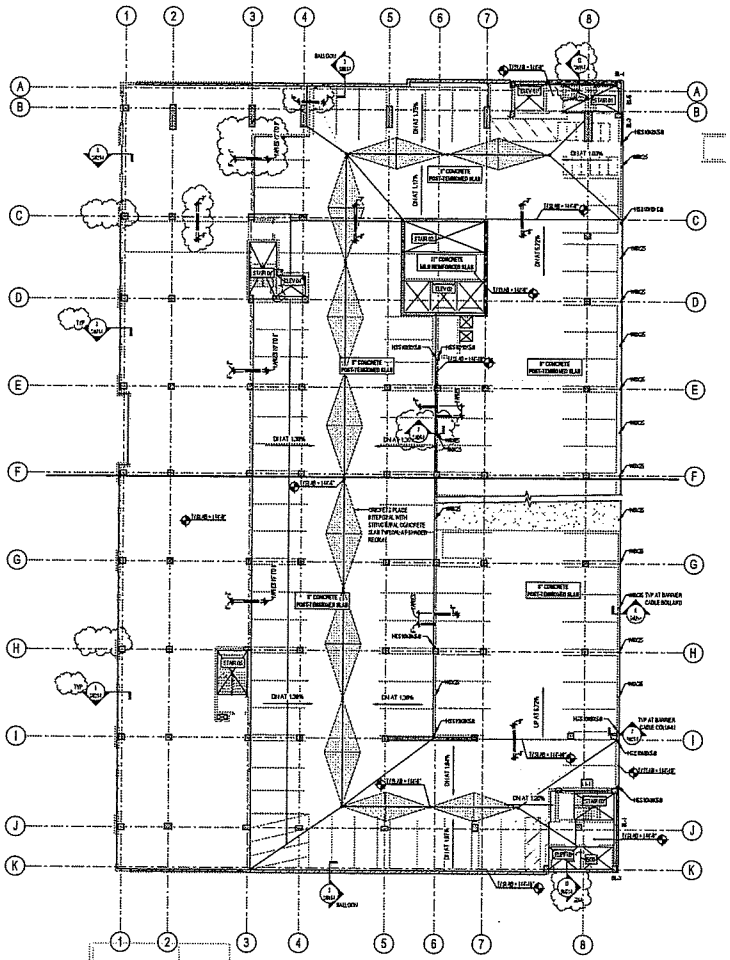

1 P5 FLR FRAMING PLAN - OVERALL - PHASE 1
SCALE: 1/16" = 1'-0"

eu:a

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PE

PE Project: 23019

PROJECT INFORMATION

STATE STREET
CAMPUS GARAGE
MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
10/02/2023	CD SUBJECTION / DOCUMENTS PH1
11/02/2023	PH1_ADD

KEY PLAN

SHEET INFORMATION

PROJECT MANAGER

PROJECT NUMBER 720448

P5 FLR FRAMING PLAN - OVERALL - PHASE 1

S1005-1

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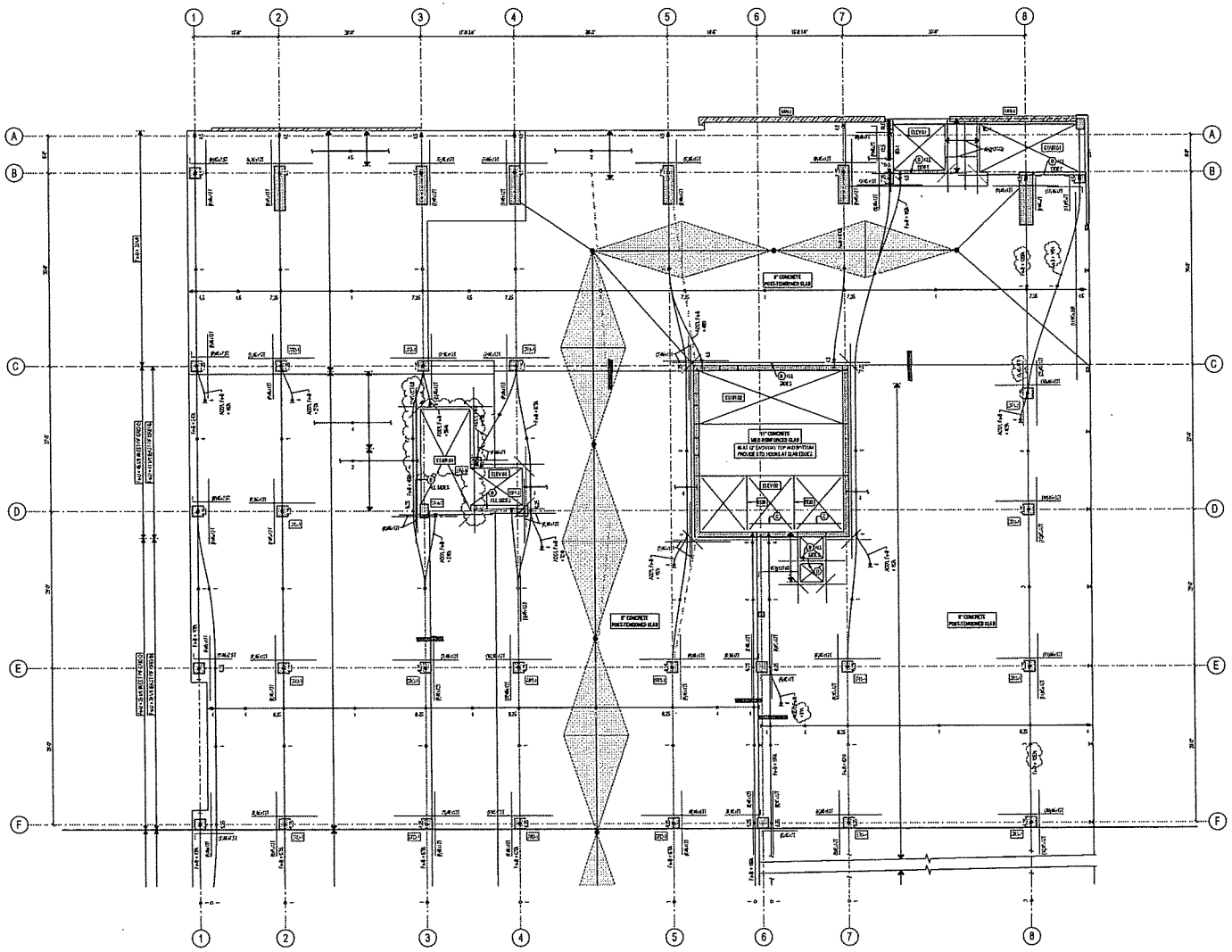


P5 FLR FRAMING PLAN - ZONE A - PHASE 1
SCALE: 1/8" = 1'-0"

CONCRETE FRAMING PLAN GENERAL NOTES - PHASE 1

TOP OF SLAB ELEVATIONS UNLESS NOTED OTHERWISE ON PLAN

LL	1818'-0"	P4	1141'-0"
1ST FLR - LAPPE ST	1830'-0"	P5	1141'-0"
P2	1154'-0"	P6	1141'-0"
P3	1154'-0"	3 FIFTH FLR	1141'-0"

1. REFER TO S000-A SERIES FOR GENERAL & STRUCTURAL NOTES, INCLUDING CONVENTIONAL DESIGN CRITERIA.
2. REFER TO S200-A SERIES FOR CONCRETE COLUMN SCHEDULE.
3. REFER TO S210-A SERIES FOR CONCRETE SHEAR WALL ELEVATIONS.
4. REFER TO S400-A SERIES FOR CONCRETE SCHEDULES AND DETAILS NOT CUT ON PLAN.
5. REFER TO SECTION 03 FOR REINFORCEMENT AT SLAB OPENINGS, U.N.O.
6. REFER TO ARCHITECTURAL, CIVIL, AND LANDSCAPE DRAWINGS FOR ALL EXTERIOR SITE CONCRETE INCLUDING PLANTERS, STAIRS, PATIO PAVERS.
7. REFER TO ARCHITECTURAL DRAWINGS FOR MASONRY WALL LOCATIONS, UNLESS NOTED OTHERWISE, PROVIDE MASONRY WALL REINFORCING PER MASONRY WALL SCHEDULES, UNLESS NOTED OTHERWISE.
8. SLAB TENDON AND REBAR PLACEMENT NOTES
   a. REFER TO S400-A SERIES FOR TYPICAL SLAB TOP REBAR PLACEMENT AT COLUMNS.
   b. BOTTOM BARS BETWEEN COLUMNS SHALL BE CENTERED AT MID-SPAN.
   c. BALANCE BARS ON TWO FACES OF SLAB TO SLAB EDGE, OPENINGS, OR WALLS SHALL BE PROVIDED AS INDICATED LENGTHS.
   d. BANDED TENDON GROUPS SHALL BE CENTERED OVER COLUMNS TO THE GREATEST EXTENT POSSIBLE.
   e. TENDON WEDGES AT SLAB EDGES SHALL BE LOCATED AT SLAB MID-DEPTH, U.N.O.
   f. ALL PT LOCATIONS ARE REFERENCED FROM BOTTOM OF LOWEST SLAB, U.N.O.
9. REFER TO COLD-JOINT DESIGNATIONS ON PLAN FOR PHASE 1 CONSTRUCTION.
10. "EDP" INDICATES HIGH-STRENGTH (5 KSI) ELEVATION OVER BEAM LINE. PROVIDE EDGES EACH END PER S400-A-1, LOC TO COORDINATE BEAM SIZE, LOCATION, AND ADDITIONAL STEEL REQUIREMENTS w/ ELEVATOR SUPPLIER.
11. PROVIDE CONCRETE WASH PER S400-A-1 AT ALL PARKING SLABS.
12. SLOPE TOP AND BOTTOM OF PARKING SLABS FOR DRAINAGE (SLOPE TO BE CONSTANT THICKNESS EXCEPT WHERE OTHERWISE ARE SHOWN).
13. AT EXPOSED AND EXTERIOR EXPOSED SLABS, ALL MILD STEEL SHALL BE EPOXY COATED (INCLUDING CHAIRS, BACKUP BARS, AND HANGERS). SHEAR STUD RAILS SHALL BE GALVANIZED. SLAB SHALL RECEIVE A SILANE SEALER, REFER TO ARCHITECTURAL SPECIFICATIONS.
14. REFER TO PLAN FOR BUILDUP w/ SLOPED SLAB ON GRADE (MIN 150 PSF) AT PERIMETER, TO ACHIEVE ARCHITECTURAL FINISH FLOOR ELEVATIONS. PROVIDE CONCRETE TOPPING AS INDICATED ON PLANS. PROVIDE CONTROL JOINTS AT TOPPING SLAB AT 10'-0" o.c. REFER TO ARCHITECTURAL FOR OPTIONAL LOCATIONS. EDGES OF BUILDUP TO RECEIVE CURB PER S00-A-1, U.N.O.

CONCRETE FRAMING PLAN KEYED NOTES - PHASE 1

(A) PROVIDE DIAGONAL BARS AT ALL RE-ENTRANT CORNERS
   10 LAYS UP TO 12" THICK: (2) #5 x 6'-0" TOP AND BOTTOM
   12 LAYS UP TO 22" THICK: (2) #7 x 7'-6" TOP AND BOTTOM

(B) TOP AND BOTTOM BARS ALONG ENTIRE LENGTH OF WALL OR OPENING PLUS 4'-0" EACH SIDE WHERE POSSIBLE
   10 LAYS UP TO 12" THICK: (2) #5 (10" OF TOP AND 10" BOTTOM
   12 LAYS UP TO 22" THICK: (2) #7 (10" OF TOP AND 10" BOTTOM

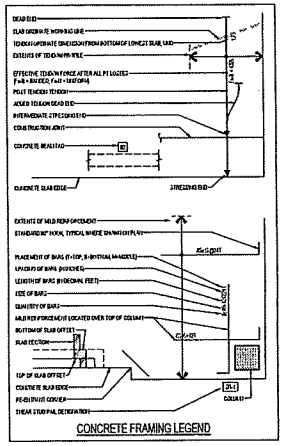
(C) ADDITIONAL MILD REBAR (U.N.O) REQUIRED AT EACH SIDE OF ELEVATOR. SEE ASSIST TO BE VERIFIED, CC TO COORDINATE LOCATION AND ADDITIONAL REQUIREMENTS WITH ELEVATOR PROVIDER. PROVIDE EDGES PER S400-A-1, PHASE 2 STEEL CONNECTIONS PER S0-400-A-1.

(D) #3 STIRRUPS AT 12" o.c. FULL LENGTH OF OPENING.

(E) MOUNTING LOCATION OF MULTI BEAM VERTICAL LOCATION AND OPERATION USER ELEVATOR SHAFT w/ ELEVATOR SUPPLIER, COORDINATE BOTTOM OF BEAM + ELEVATOR CLEARANCE REQUIREMENTS. BEAM HAS BEEN DESIGNED FOR A 5 KSI DROP IN LOAD.

(F) HALF TONE STEEL FRAMING PART OF PHASE 2. STEEL SHOWN IS FOR PHASE 1 SLAB CLOSED PLACEMENT, REFER TO SET STEEL.

CONCRETE FRAMING LEGEND



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PE
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PE Project: 22019

PROJECT INFORMATION

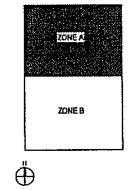
STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05-15-2023	SCHEMATIC DESIGN PH1
07-26-2023	DESIGN DEVELOPMENT PH1
10-02-2023	CONSTRUCTION DOCUMENTS PH1
11-02-2023	PH1_ADD1

KEY PLAN



SHEET INFORMATION

PROJECT MANAGER

PROJECT NUMBER 72048

P5 FLR FRAMING PLAN - ZONE A - PHASE 1

S1005-A-1

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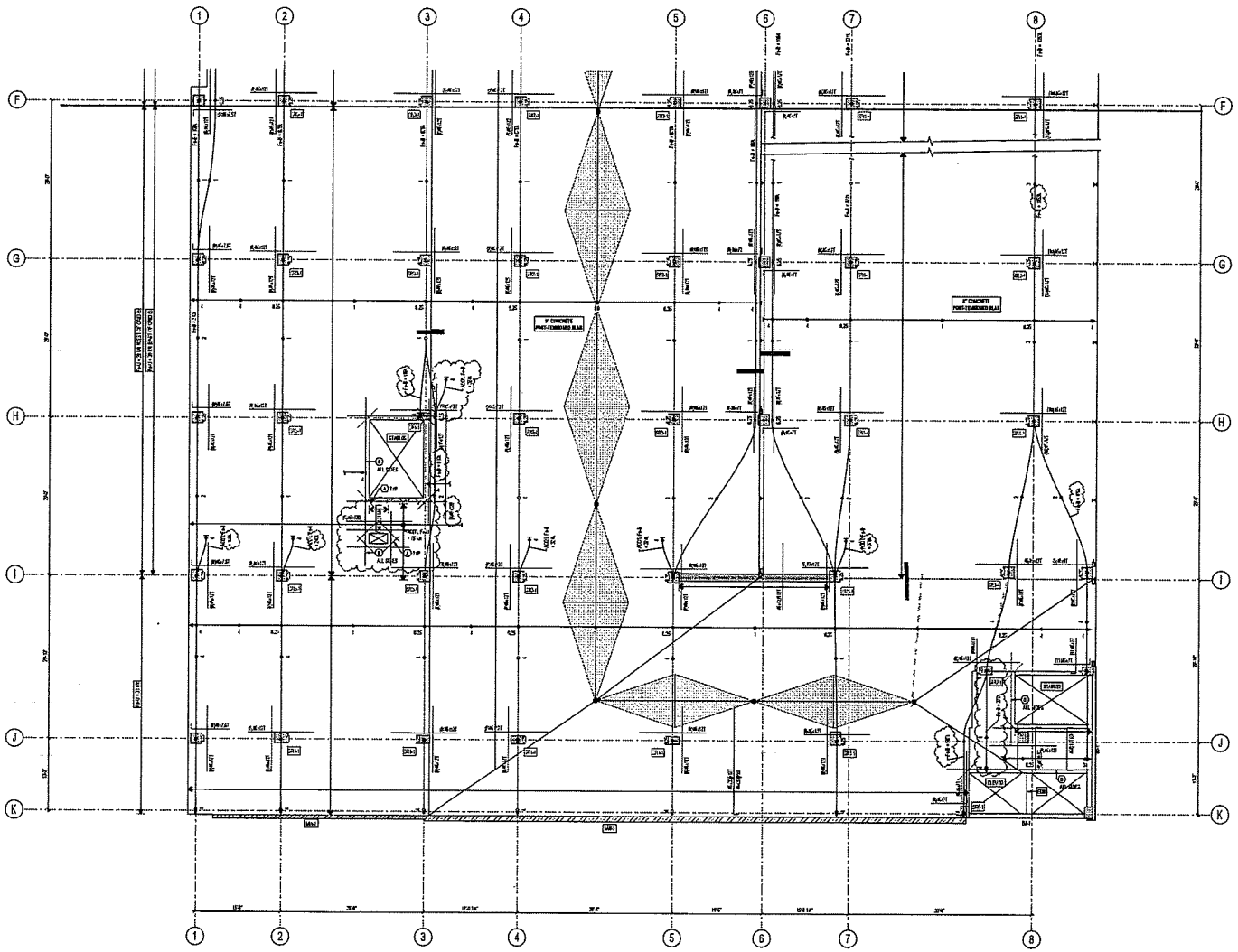


1 P5 FLR FRAMING PLAN - ZONE B - PHASE 1
SCALE: 1/8" = 1'-0"

CONCRETE FRAMING PLAN GENERAL NOTES - PHASE 1

TOP OF SLAB ELEVATIONS UNLESS NOTED OTHERWISE ON PLAN

G	484'-8"	P4	476'-8"
1ST FLR - SLAB LEVEL	488'-8"	P5	448'-8"
P2	464'-8"	P6	436'-8"
P3	452'-8"	P7/P8 TYP.	424'-8"

1. REFER TO S000-A SERIES FOR GENERAL STRUCTURAL NOTES, INCLUDED CONCRETE DESIGN CRITERIA.
2. REFER TO S200-A SERIES FOR CONCRETE COLUMN SCHEDULE.
3. REFER TO S210-A SERIES FOR CONCRETE SHEAR WALL ELEVATIONS.
4. REFER TO S400-A SERIES FOR CONCRETE SCHEDULES AND DETAILS NOT CUT ON PLAN.
5. REFER TO S610-A FOR REINFORCEMENT AT SLAB OPENINGS, U.N.O.
6. REFER TO ARCHITECTURAL, CIVIL, AND LANDSCAPE DRAWINGS FOR ALL EXTERIOR SITE CONCRETE INCLUDING PLANTERS, STAIRS, AND RAMPS.
7. REFER TO ARCHITECTURAL DRAWINGS FOR MASONRY WALL LOCATIONS. UNLESS NOTED OTHERWISE, PROVIDE MASONRY WALL BEAM LOADS PER MASONRY WALL SCHEDULES, UNLESS NOTED OTHERWISE.
8. SLAB TENDON AND REBAR PLACEMENT NOTES:
   a. REFER TO S610-A FOR TYPICAL SLAB TOP REBAR PLACEMENT AT COLUMNS.
   b. BOTTOM BARS BETWEEN COLUMNS SHALL BE OFFSET AT MID-SPAN.
   c. STAGGER BARS BETWEEN OPPOSITE FACES OF SLAB EDGES, OPENINGS, OR WALLS SHALL BE PROVIDED ALONG ENTIRE LENGTH.
   d. BANDED TENDON GROUPS SHALL BE CENTERED OVER COLUMNS TO THE GREATEST EXTENT POSSIBLE.
   e. TENDON TERMINATIONS AT SLAB EDGES SHALL BE LOCATED AT SLAB MID-DEPTH, U.N.O.
   f. ALL PT ORDINATES ARE REFERENCED FROM BOTTOM OF SLAB (BOS), U.N.O.
9. REFER TO COORDINATED DESIGN NOTES OR DETAILS FOR STAIR CONSTRUCTION.
10. "EDGE" INDICATES HIGH EDGE OF SLAB ELEVATION (LOWER BEAM LINE), PROVIDE EDGES EACH SIDE PER S610-A, GC TO COORDINATE BEAM SIZE, LOCATION, AND ADDITIONAL STEEL REQUIREMENTS w/ ELEVATOR SUPPLIER.
11. PROVIDE CONCRETE WALL PER S610-A AT ALL PARKING SLABS.
12. SLOPE TOP AND BOTTOM OF PARKED SLABS FOR DRAINAGE (4.5MM) TO BE CONSTANT THICKNESS, EXCEPT WHERE CHECKED AS SHOWN.
13. AT PRIMED AND EXTERIOR EXPOSED SLABS, ALL MILD STEEL SHALL BE EPOXY COATED (INCLUDING CHAIRS, BACKUP BARS, AND HANGERS). SHEAR STUD RAILS SHALL BE GALVANIZED. SLAB SHALL RECEIVE A SLURRY SEALER, REFER TO ARCHITECTURAL SPECIFICATIONS.
14. REFER TO PLAN FOR BUILD-UP / TAPERING SLAB OR DEPRESSION ELEVATIONS (IF ANY) FILL TO ACHIEVE ARCHITECTURAL FINISH FLOOR ELEVATIONS. PROVIDE CONCRETE TOPPING AS INDICATED ON PLAN. PROVIDE CONTROL JOINTS IN TOPPING SLAB AT 12'-0" MAX. REFER TO ARCHITECTURAL FOR SPECIAL LAYOUTS. EDGES OF BUILD-UP TO RECEIVE CURB PER S610-A, U.N.O.

CONCRETE FRAMING PLAN KEYED NOTES - PHASE 1

A. PROVIDE DIAGONAL BAPT AT ALL RE-ENTRANT CORNERS
   SLAB UP TO 12" THICK: (2) #5 x 6'-0" TOP AND BOTTOM
   SLAB UP TO 22" THICK: (3) #7 x 7'-0" TOP AND BOTTOM

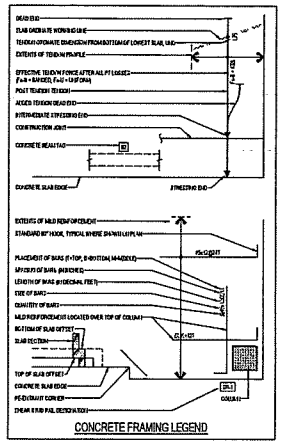
B. TOP AND BOTTOM BARS ALIGNED ENTIRE LENGTH OF WALL OR GRID LINE. RAP EACH END WHERE POSSIBLE
   SLAB UP TO 12" THICK: (6) #5 (3 EA TOP AND BOTTOM)
   SLAB UP TO 22" THICK: (9) #7 (3 EA TOP AND BOTTOM)

C. ADDITIONAL REINFORCING (2) BEAMS PICKED AS NEAR OF ELEVATOR, BEAM SIZE TO BE VERIFIED, GC TO COORDINATE LOCATION AND ADDITIONAL REQUIREMENTS WITH ELEVATOR PROVIDER. PROVIDE CURED PER S610-A-1, PROVIDE STEEL CONNECTIONS PER S610-A-1.

D. #3 STIRRUPS AT 12" o.c. FULL LENGTH OF OPENING.

E. MOUNT ELEVATOR HOIST BEAM VERIFY LOCATION AND ORIENTATION OVER ELEVATOR SHAFT w/ ELEVATOR SUPPLIER, COORDINATE BOTTOM OF BEAM w/ ELEVATOR CLEARANCE REQUIREMENTS, BEAM HAS BEEN DESIGNED FOR 4 W-GIRDER POINT LOADS.

F. HALF SIZE STEEL FRAMING PART OF PHASE 2. STEEL SHOWN FOR PHASE 1 SLAB EDGE PLACEMENT, REFER TO DETAILS.



CONCRETE FRAMING LEGEND

eu:a
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PE
PIERCE ENGINEERS, INC.
PE Project: 22010

PROJECT INFORMATION

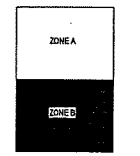
STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05-26-2023	SCHEMATIC DESIGN PH1
07-28-2023	DESIGN DEVELOPMENT PH1
10-02-2023	CD SET PLS 100% DOCUMENTS PH1
11-02-2023	PH1_ADD2

KEY PLAN



SHEET INFORMATION

PROJECT MANAGER

PROJECT NUMBER 720448

P5 FLR FRAMING PLAN - ZONE B - PHASE 1

S1005-B-1

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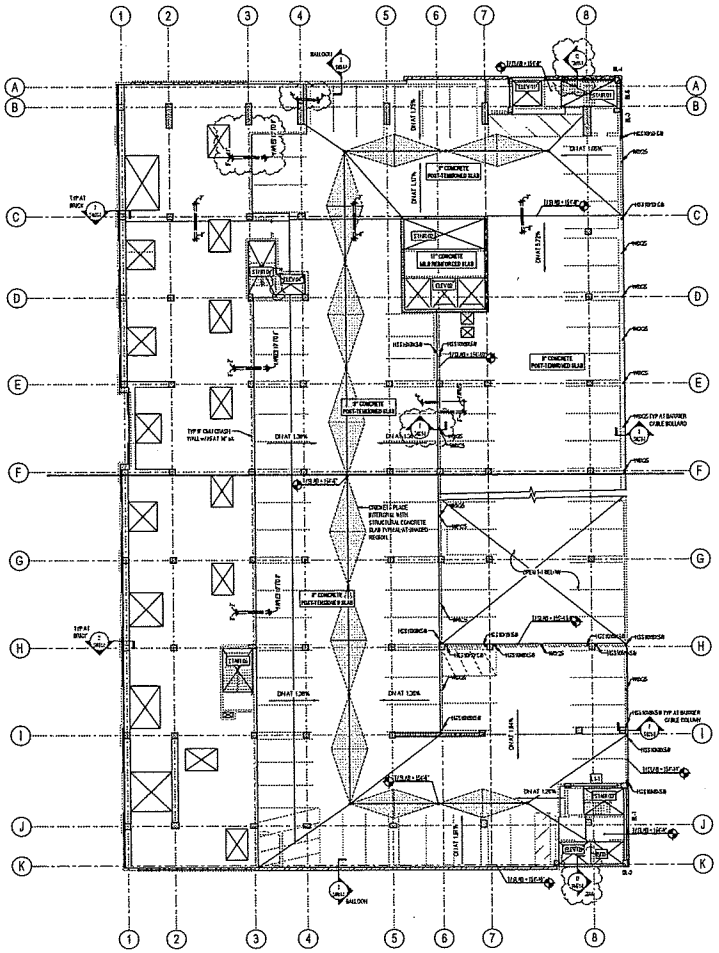


1 P6 FLR FRAMING PLAN - OVERALL - PHASE 1
SCALE: 1/16" = 1'-0"

eu:a

eppstein uhen | madison | green bay | denver | atlanta

PE

PE Project: 22019

PROJECT INFORMATION

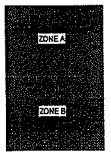
STATE STREET
CAMPUS GARAGE
MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
9/15/2023	CD COMPLETED DOCUMENTS PHI
11/2/2023	PHI_ADD2

KEY PLAN



SHEET INFORMATION

PROJECT MANAGER

PROJECT NUMBER 720448

P6 FLR FRAMING PLAN - OVERALL - PHASE 1

S1006-1

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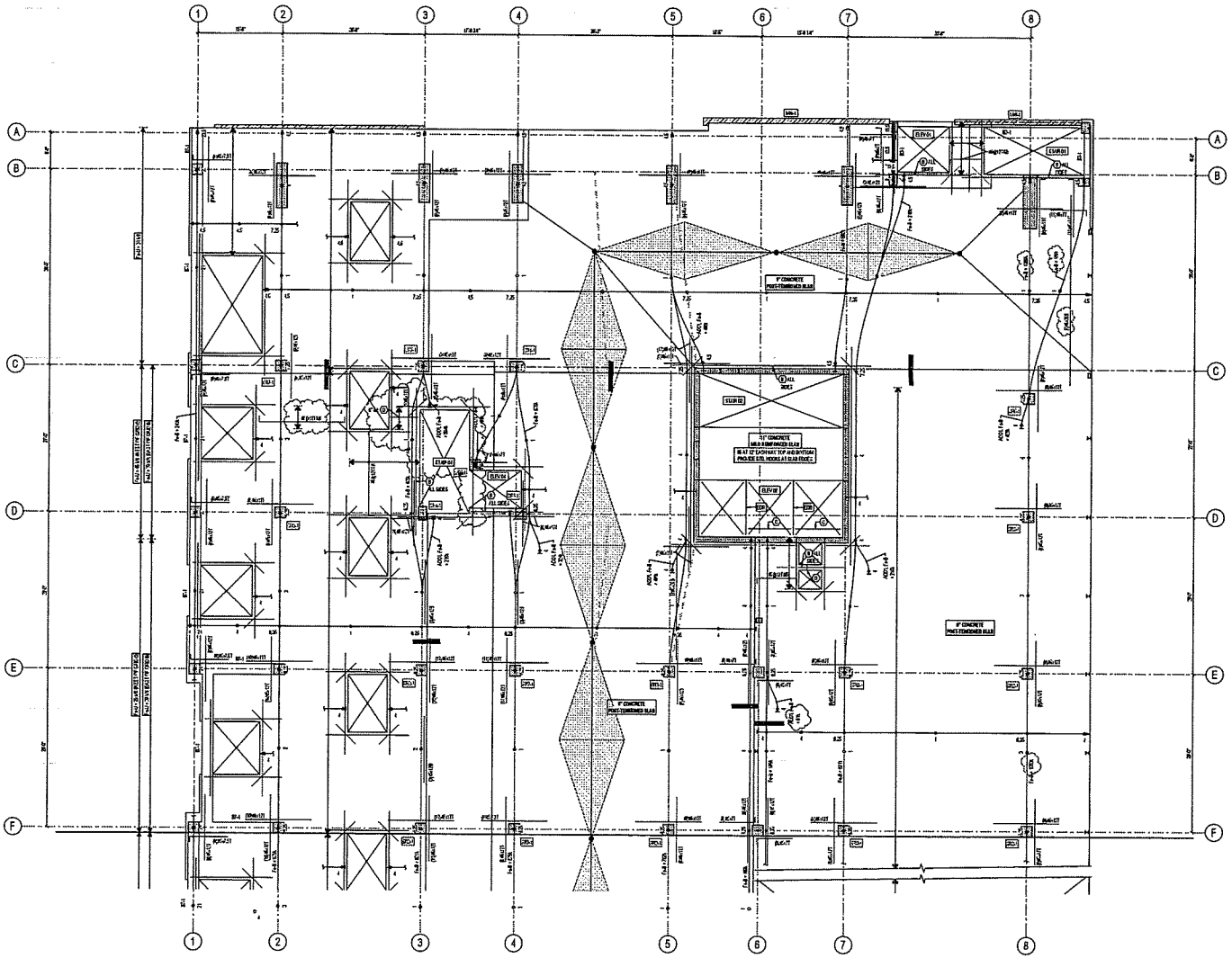


P6 FLR FRAMING PLAN - ZONE A - PHASE 1
SCALE: 1/8" = 1'-0"

CONCRETE FRAMING PLAN GENERAL NOTES - PHASE 1

TOP OF SLAB ELEVATIONS UNLESS NOTED OTHERWISE ON PLAN

P1	100'-0"	P4	134'-0"
P2 (TOP LAYER 2)	109'-0"	P5	144'-0"
P2	119'-0"	P6	154'-0"
P3	129'-0"	P7/ROOF	167'-0"

1. REFER TO S001-x SERIES FOR GENERAL STRUCTURAL NOTES, INCLUDING CONCRETE DESIGN CRITERIA.
2. REFER TO S100-x SERIES FOR CONCRETE COLUMN SCHEDULE.
3. REFER TO S101-x SERIES FOR CONCRETE SHEAR WALL ELEVATIONS.
4. REFER TO S102-x SERIES FOR CONCRETE SCHEDULES AND DETAILS NOT ON PLAN.
5. REFER TO S104.01-x FOR PERFORMANCE SPEC AT SLAB OPENINGS, U.O.N.
6. REFER TO ARCHITECTURAL, CIVIL, AND LANDSCAPE DRAWINGS FOR ALL EXTERIOR SITE CONCRETE INCLUDING PLANTERS, STAIRS, AND RAMPS.
7. REFER TO ARCHITECTURAL DRAWINGS FOR MASONRY WALL LOCATIONS, UNLESS NOTED OTHERWISE. PROVIDE MASONRY WALL WEIGHT (PSF/SF) PER MASONRY WALL SCHEDULE, UNLESS NOTED OTHERWISE.
8. SLAB TERMINATION PLACEMENT NOTES:
   a. REFER TO S6.02-x FOR TYPICAL SLAB TOP REBAR PLACEMENT AT COLUMNS.
   b. BOTTOM BARS BETWEEN COLUMNS SHALL BE CENTERED AT MID-SPAN.
   c. HOOKED BARS SHOWN PERPENDICULAR TO SLAB EDGES, OPENINGS, OR WALLS SHALL BE PROVIDED ALONG ENTIRE LENGTH.
   d. BANDED TENDON GROUPS SHALL BE CENTERED OVER COLUMNS TO THE GREATEST EXTENT POSSIBLE.
   e. TENDON TERMINATIONS AT SLAB EDGES SHALL BE LOCATED AT SLAB MID-DEPTH, U.O.N.
   f. ALL PT ORDINATES ARE REFERENCED FROM BOTTOM OF LOWEST SLAB, U.O.N.
9. REFER TO DELEGATED DESIGN NOTES ON SHEET FOR STAIR CONSTRUCTION.
10. "EDR" INDICATES HEIGHT OF EQUIPMENT DEAD LOAD, PROVIDE EMBED BACKING PER MANUAL. SEE S6.10 FOR CONCRETE REQUIRED, LOCATION, AND ADDITIONAL STEEL REQUIREMENTS of ELEVATOR SUPPLIER.
11. PROVIDE CONCRETE WASHOVER HAUNCH AT ALL PLANTED SLABS.
12. SLOPE TOP AND BOTTOM OF PLANTED SLABS FOR DRAINAGE SLOPES TO BE CONSTANT THICKNESS EXCEPT WHERE CONCRETE SLOPE SHOWN.
13. ALL PLANTED AND EXTERIOR EXPOSED SLABS, ALL SLAB EDGES, SHALL BE EPOXY COATED (INCLUDED CURB BASE, BACKUP BARS, AND HAUNCHES). SLAB EDGE BARS SHALL BE GALVANIZED. SLAB SHALL RECEIVE A SILANE SEALER. REFER TO ARCHITECTURAL SPECIFICATIONS.
14. REFER TO PLAN FOR SLAB DROP w/ TAPERED SLAB ON DECK (MAY BE LIGHTWEIGHT INFILL) TO ACHIEVE ARCHITECTURAL FINISH FLOOR ELEVATION. PROVIDE CONCRETE TOPPING AS SPECIFIED ON PLAN. PROVIDE CONTROL JOINTS IN TOPPING SLAB AT ± 16'-0" o/c. REFER TO ARCHITECTURAL FOR SPECIAL LAYOUTS. EDGES OF BUILDUP TO RECEIVE CURB PER S6.02-x, U.N.O.

CONCRETE FRAMING PLAN KEYED NOTES - PHASE 1

(A) PROVIDE TRADITIONAL BAPS AT ALL RE-ENTRANT CORNERS
   SLABS UP TO 12" THICK: (3) #6 x 6'-0" TOP AND BOTTOM
   SLABS UP TO 22" THICK: (3) #7 x 7'-0" TOP AND BOTTOM

(B) TOP AND BOTTOM BARS ALIGNED IN ONE LAYER AT MIDDLE OF WALL OR OPENING PLUS 4'-0" EACH END WHERE POSSIBLE.
   SLABS UP TO 12" THICK: (4) #6 (2@ TOP AND 2@ BOTTOM)
   SLABS UP TO 22" THICK: (4) #7 (2@ TOP AND 2@ BOTTOM)

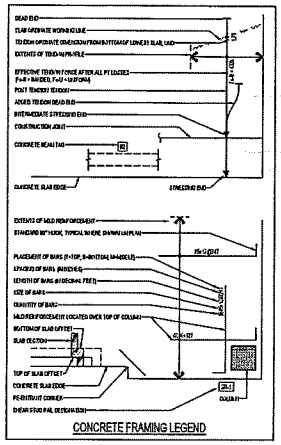
(C) ADDITIONAL HAUNCH REBAR (LIKE) REQUIRED AT REAR OF ELEVATORS, SEE S6.10 TO BE VERIFIED, DO TO COORDINATE LOCATION AND ADDITIONAL REQUIREMENTS WITH ELEVATOR PROVIDER. PROVIDE EMBED PER S6.10-x. PROVIDE STEEL CONNECTIONS PER S6.10-x.

(D) 10 STIRRUPS AT 12" o/c, FULL LENGTH OF OPENING.

(E) WIDEN ELEVATOR HOISTBEAM VERIFY LOCATION AND ORIENTATION OVER ELEVATOR SHAFT w/ ELEVATOR SUPPLIER. COORDINATE BOTTOM OF BEAM w/ ELEVATOR CLEARANCE REQUIREMENTS. BEAM HAS BEEN DESIGNED FOR (4) 5 KIP/FT POINT LOADS.

(F) HALF TONE STEEL FRAMING PART OF PHASE 2. STEEL SHOWN FOR PHASE 1 SLABS EMBED PLACEMENT, REFER TO DETAILS.

CONCRETE FRAMING LEGEND



eu:a
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PE
PETERSON ENGINEERING, INC.
Structural Engineers
PE Project: 22019

PROJECT INFORMATION

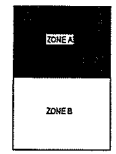
STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05-05-2023	SCHEMATIC DESIGN PH1
07-28-2023	DESIGN DEVELOPMENT PH1
10-02-2023	CONSTRUCTION DOCUMENTS PH1
11-02-2023	PH1_ASI01

KEY PLAN



SHEET INFORMATION

PROJECT MANAGER

PROJECT NUMBER 720448

P6 FLR FRAMING PLAN - ZONE A - PHASE 1

S1006-A-1

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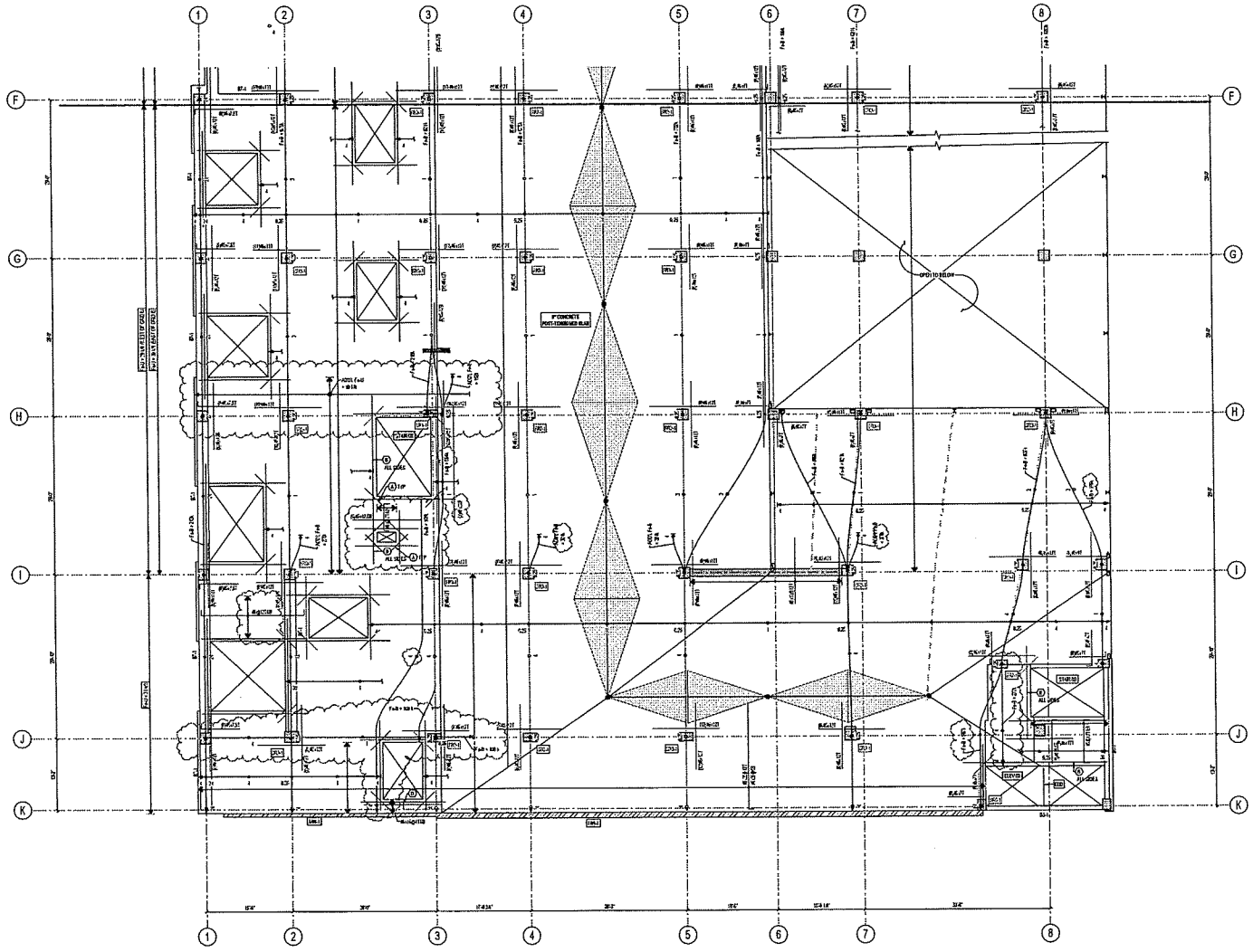


1 P6 FLR FRAMING PLAN - ZONE B - PHASE 1
SCALE: 1/8" = 1'-0"

CONCRETE FRAMING PLAN GENERAL NOTES - PHASE 1

TOP OF SLAB ELEVATIONS UNLESS NOTED OTHERWISE ON PLAN

L1	858'-0"	P4	874'-0"
L2/ P3A - LEVEL 02	862'-0"	P5	886'-0"
P2	874'-0"	P6	898'-0"
P3	886'-0"	P7/ P7A	910'-0"

1. REFER TO S100-1 SERIES FOR GENERAL STRUCTURAL NOTES, INCLUDING CONCRETE DESIGN CRITERIA.
2. REFER TO S201-1 SERIES FOR CONCRETE COLUMN SCHEDULE.
3. REFER TO S201-1 SERIES FOR CONCRETE SHEAR WALL ELEVATIONS.
4. REFER TO S400-1 SERIES FOR CONCRETE SCHEDULES AND DETAILS NOT CUT ON PLAN.
5. REFER TO S040-1 FOR PERIMETER AT SLAB OPENINGS, U.N.O.
6. REFER TO ARCHITECTURAL, CIVIL, AND LANDSCAPE DRAWINGS FOR ALL EXTERIOR SITE CONCRETE INCLUDING PLANTER, STEPS, AND RAMPS.
7. REFER TO ARCHITECTURAL DRAWINGS FOR MASONRY WALL LOCATIONS, UNLESS NOTED OTHERWISE. PROVIDE MASONRY WALL PER UFC 4-010-01 FOR MASONRY WALL SCHEDULE, UNLESS NOTED OTHERWISE.
8. SLAB TENDON AND REBAR PLACED ENTIRE NOTES
   a. REFER TO S040-1 SERIES FOR TYPICAL SLAB TOP REBAR PLACEMENT AT CONSTR. JTS.
   b. BOTTOM BAR SETBACK FROM COLUMN LINES SHALL BE CENTERED AT MID-SPAN.
   c. MOLDED DUCT DOWN PERPENDICULAR TO SLAB EDGES, OPENINGS, OR WALLS SHALL BE PROVIDED ALONG ENTIRE LENGTH.
   d. BANDED TENDON GROUPS SHALL BE CENTERED OVER COLUMNS TO THE GREATEST EXTENT POSSIBLE.
   e. TENDON ANCHORS AT SLAB EDGE SHALL BE LOCATED AT SLAB MID-DEPTH, U.N.O.
   f. ALL PT LOCATIONS ARE REFERENCED FROM BOTTOM FACE OF LOWEST SLAB, U.N.O.
9. REFER TO GEOTECHNICAL RECOMMENDATIONS FOR SITE PREPARATION.
10. "STEP" INDICATES HIGH HOOR (LOW) ELEVATION OF HIGHER (LOWER) SLAB. PROVIDE STEPPED CONCRETE PER S040-1, DETAIL 1/S040-1, OR TO COORDINATE BEAM SIZE, LOCATION, AND ADDITIONAL STEEL REQUIREMENTS WITH ELEVATION SUPPLIED.
11. PROVIDE CONCRETE WHEELSTOP PER S040-1 AT ALL PARKING STALLS.
12. SLOPE TOP AND BOTTOM OF PARKED SLABS FOR DRAINAGE (SLABS TO BE CONSTANT THICKNESS) EXCEPT WHERE CROSS-FALLS ARE SHOWN.
13. AT PARKED AND EXTERIOR EXPOSED SLABS, ALL MILD STEEL SHALL BE EPOXY COATED (INCLUDING CAPPY BARS, BACKER BARS, AND HAIRPINS). DRAIN STRIPPERS SHALL BE GALVANIZED. SLAB SHALL RECEIVE A SLANE SEALER. REFER TO ARCHITECTURAL SPECIFICATIONS.
14. REFER TO PLAN FOR BUILDUP AT SLOPED FLAB OR ROOF DRAIN OR LIGHTWEIGHT INSERTS, TO ACHIEVE ARCHITECTURAL FINISH FLOOR ELEVATION. PROVIDE CONCRETE TOPPING AS INDICATED ON PLAN. PROVIDE CONTROL JOINTS IN TOPPING SLAB AT 12'-0" MAX. REFER TO ARCHITECTURAL FOR SPECIAL LAYOUTS. EDGES OF BUILDUP TO RECEIVE CURB PER S040-1, U.N.O.

CONCRETE FRAMING PLAN KEYED NOTES - PHASE 1

A. PROVIDE DIAGONAL BARS AT ALL RE-ENTRANT CORNERS
   SLAB UP TO 12" THICK: (3) #5 @ TOP AND BOTTOM
   SLABS UP TO 22" THICK: (3) #7 @ TOP AND BOTTOM

B. TOP AND BOTTOM BARS @ FLOOR ENTIRE LENGTH OF WALL OR OPENING PLUS 4'-0" EACH END WHERE POSSIBLE
   SLAB UP TO 12" THICK: (3) #5 @ TOP AND BOTTOM
   SLABS UP TO 22" THICK: (3) #7 @ TOP AND BOTTOM

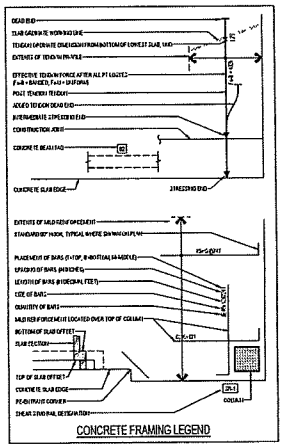
C. ADDITIONAL REBAR OVER BEAM REQUIRED AT REAR OF ELEVATORS. MEASURE TO BE VERIFIED, OC TO COORDINATE LOCATION AND ADDITIONAL REQUIREMENTS WITH ELEVATOR PROVIDER. PROVIDE DABED PER S040-1. PROVIDE 3 TIES. DIMENSIONS PER S040-1.

D. 4 STIRRUPS AT 12" c/c, FULL LENGTH OF OPENING.

E. REBAR ELEVATION INDICATED ON VERIFY LOCATION AND OPERATION WITH ELEVATOR SHOP. w/ ELEVATOR SUPPLIER, COORDINATE BOTTOM OF BEAM w/ ELEVATOR CLEARANCE REQUIREMENTS. BEAM MAY BE REDESIGNED FOR A 1B SPACER POINT LOAD.

F. PAINTABLE STEEL ENGAGED PART OF PHASE 2. STEEL SHOWN FOR PHASE 1 SLAB EDGE PLACEMENT, REFER TO DETAILS.

CONCRETE FRAMING LEGEND



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PIERCE ENGINEERS, INC.
PE Project: 22015

PROJECT INFORMATION

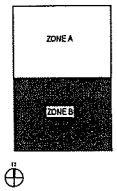
STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05/16/2022	SCHEMATIC DESIGN PH1
07/29/2022	DESIGN DEVELOPMENT PH1
10/07/2022	CD SET/PLAN DOCUMENTS PH1
11/02/2022	PH1_ADD2

KEY PLAN



SHEET INFORMATION

PROJECT MANAGER

PROJECT NUMBER 720448

P6 FLR FRAMING PLAN - ZONE B - PHASE 1

S1006-B-1

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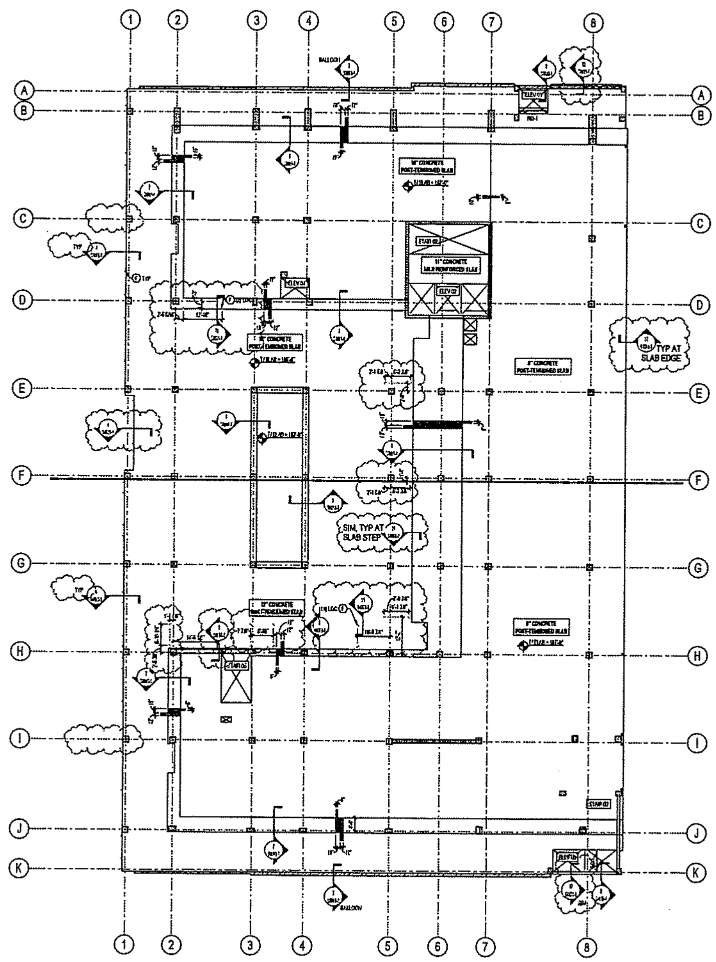

1 S1007-1 7TH FLR FRAMING PLAN - OVERALL - PHASE 1
SCALE: 1/16" = 1'-0"

eua

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PE
PIERCE ENGINEERS, INC.
PE Project: 22319

PROJECT INFORMATION

STATE STREET
CAMPUS GARAGE
MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
[illegible]	CONSTRUCTION DOCUMENTS PH1
[illegible]	PH1_ADD2

KEY PLAN

ZONE A
ZONE B

SHEET INFORMATION

PROJECT MANAGER
PROJECT NUMBER 720448

7TH FLR FRAMING
PLAN - OVERALL -
PHASE 1

S1007-1

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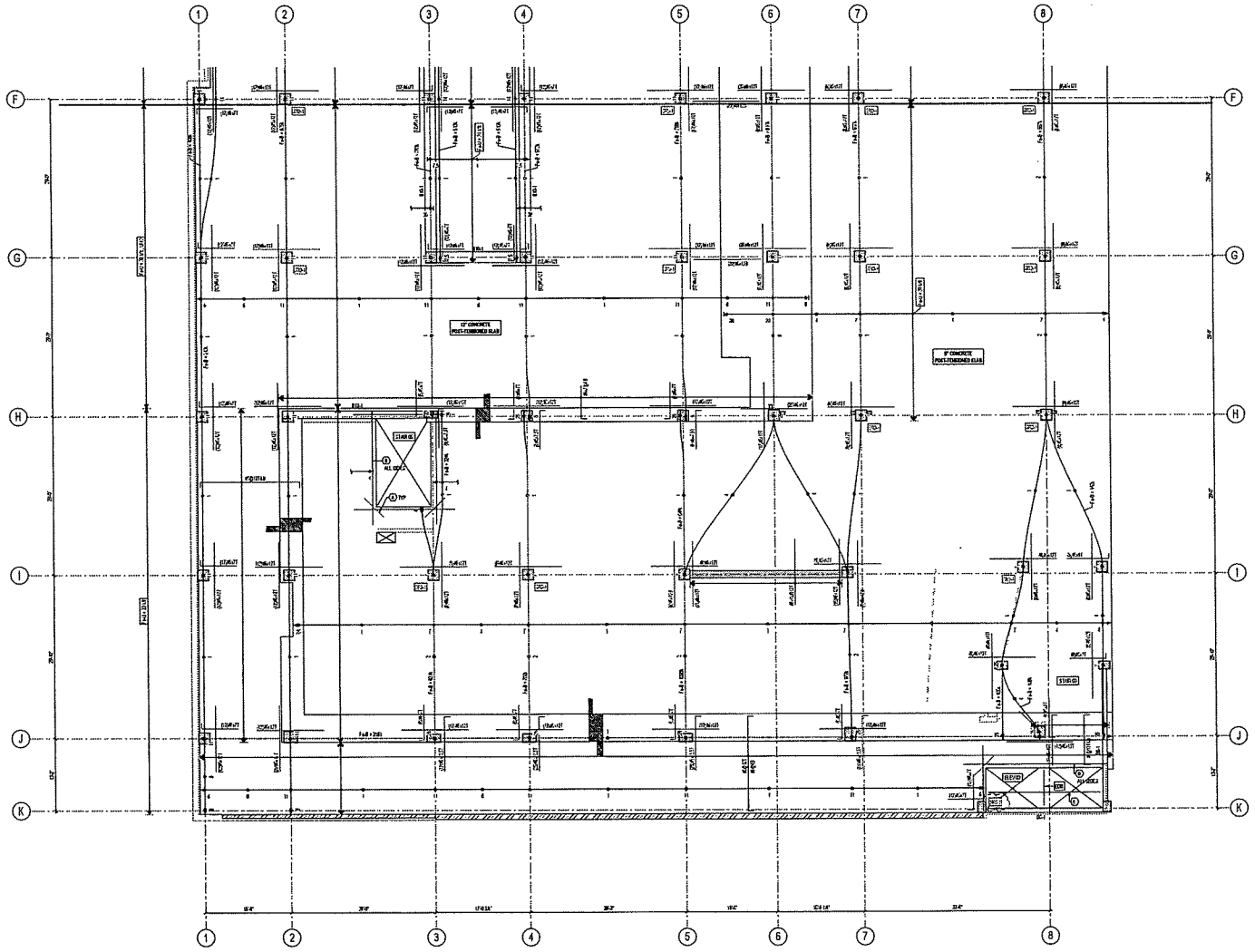


1 7TH FLR FRAMING PLAN - ZONE B - PHASE 1
SCALE: 1/8" = 1'-0"

CONCRETE FRAMING PLAN GENERAL NOTES - PHASE 1

TOP OF SLAB ELEVATIONS UNLESS NOTED OTHERWISE ON PLAN

GL	99'-0"	P4	174'-0"
2ND FLR - LEVEL 01	100'-0"	P3	164'-0"
P1	111'-0"	P2	154'-0"
P2	121'-0"	P1	144'-0"
P3	131'-0"	PENTHOUSE	107'-0"
P4	141'-0"		

1. REFER TO S100-x SERIES FOR GENERAL STRUCTURAL NOTES, INCLUDING CONCRETE MIX DESIGN CRITERIA.
2. REFER TO S200-x SERIES FOR CONCRETE COLUMN SCHEDULE.
3. REFER TO S200-x SERIES FOR CONCRETE SHEAR WALL ELEVATIONS.
4. REFER TO S400-x SERIES FOR CONCRETE SCHEDULES AND DETAILS NOT ON PLAN.
5. REFER TO S100-x FOR REINFORCEMENT AT SLAB OPENINGS, U.N.O.
6. REFER TO ARCHITECTURAL, CIVIL, AND LANDSCAPE DRAWINGS FOR ALL EXTERIOR SITE CONCRETE INCLUDING PLANTER, STAIRS, AND RAMPS.
7. REFER TO ARCHITECTURAL DRAWINGS FOR MASONRY WALL LOCATIONS. UNLESS NOTED OTHERWISE, PROVIDE MASONRY WALL PER CONCRETE PER MASONRY WALL SCHEDULE, UNLESS NOTED OTHERWISE.
8. SLAB TENDON AND REBAR PLACEMENT NOTES
   a. REFER TO S100-x FOR TYPICAL SLAB TOP REBAR PLACEMENT AT COLUMNS.
   b. BOTTOM BARS BETWEEN COLUMNS SHALL BE CENTERED AT MIDSPAN.
   c. BANDED BARS CANNOT PERPENDICULAR TO SLAB EDGES, OPENINGS, OR WALLS SHALL BE PROVIDED ALLOWABLE DEVELOPMENT LENGTH.
   d. BANDED TENDON GROUPS SHALL BE CENTERED OVER COLUMNS TO THE GREATEST EXTENT POSSIBLE.
   e. TENDON ANCHORS AT SLAB EDGES SHALL BE LOCATED AT SLAB MID-DEPTH, U.N.O.
   f. ALL PT LOW POINTS ARE REFERENCED FROM BOTTOM OF LOWEST SLAB, U.N.O.
9. REFER TO DRAWINGS BETWEEN FOR SLAB OPENINGS FOR ETHER CONSTRUCTION.
10. "SDB" INDICATES HSS HSS8.5X8.5X5/16 ELEVATOR OUTRIGGER BEAM, U.N.O. PROVIDE EMBED EACH END PER S100-x. COORDINATE BEAM SIZE, LOCATION, AND ADDITIONAL STEEL REQUIREMENTS w/ ELEVATOR SUPPLIER.
11. PROVIDE CONCRETE WASHOUT AT ALL PLANTER ZONES.
12. SLOPE TOP AND BOTTOM OF PLANTER SLABS FOR DRAINAGE (3.0%), TO BE CONSTANT THICKNESS EXCEPT WHERE DETAILED ARE SHOWN.
13. ALL EXPOSED AND EXTERIOR EXPOSED BARS, ALL HSS STEEL SHALL BE EPOXY COATED (INCLUDING COPE BOX, BACKUP BAR) AND WELDS. ALL STEEL SHALL BE GALVANIZED. SLAB SHALL RECEIVE A SLURRY SEALER, REFER TO ARCHITECTURAL SPECIFICATIONS.
14. REFER TO PLAN HVH BUILDUP w/ TAPERED SLAB ON STEEL FRAMING FOR LIGHTWEIGHT INSERTS, TO ACHIEVE ARCHITECTURAL FINISH FLOOR ELEVATIONS. PROVIDE CONCRETE TOPPING AS INDICATED ON PLAN. PROVIDE CONTROL JOINTS IN TOPPING SLAB AT 15'-0" MAX. REFER TO ARCHITECTURAL FOR LAYOUT. EDGES OF BUILDUP TO RECEIVE EDGE PER S100-x-1, U.N.O.

CONCRETE FRAMING PLAN KEYED NOTES - PHASE 1

A. PROVIDE DIAGONAL BARS AT ALL RE-ENTRANT CORNERS
   12x12 UP TO 12" THICK: (3) #5 x 6'-0" TOP AND BOTTOM
   12x12 UP TO 22" THICK: (3) #7 x 7'-0" TOP AND BOTTOM

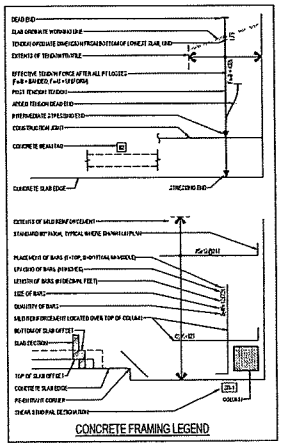
B. TOP AND BOTTOM BARS ALONG ENTIRE LENGTH OF WALL OR OPENING PLUS 4d' EACH END WHERE MISSING.
   12x12 UP TO 12" THICK: (5) #5 TOP AND U-BOTTOMS
   12x12 UP TO 22" THICK: (5) #7 TOP AND U-BOTTOMS

C. ADDITIONAL HSS8.5X8.5X5/16 BEAMS REQUIRED AT HEAD OF ELEVATORS. BEAMS SIZE TO BE VERIFIED, OC TO COORDINATE LOCATION AND ADDITIONAL REQUIREMENTS WITH ELEVATOR PROVIDER. PROVIDE EMBED PER S100-x-1. PROVIDE STEEL CONNECTIONS PER S100-x-2.

D. 4x STIRRUPS AT 12" o.c. FULL LENGTH OF OPENING.

E. MOUNT ELEVATOR HOISTBEAM W/ APPROPRIATE RAM AND SPECIFICATION OVER ELEVATOR SHAFT w/ ELEVATOR SUPPLIER. COORDINATE BOTTOM OF HOISTBEAM w/ ELEVATOR CLEARANCE REQUIREMENTS. BEAM HAS BEEN DESIGNED FOR A 15 KIP POINT LOAD.

F. PARTIAL STEEL FRAMED PART OF PHASE 2. STEEL SHOWN FOR PHASE 1 SLAB EDGE PLACEMENT, REFER TO DETAILS.



CONCRETE FRAMING LEGEND

eu:a
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PE
PETTIS ENGINEERING, PLLC
Madison, WI 53562
PE Project: 22019

PROJECT INFORMATION

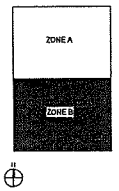
STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05/05/2023	SCHEMATIC DESIGN PH1
05/26/2023	DESIGN DEVELOPMENT PH1
10/02/2023	CONSTRUCTION DOCUMENTS PH1
11/02/2023	PH1 ADD2

KEY PLAN



SHEET INFORMATION

PROJECT MANAGER

PROJECT NUMBER 720448

7TH FLR FRAMING PLAN - ZONE B - PHASE 1

S1007-B-1

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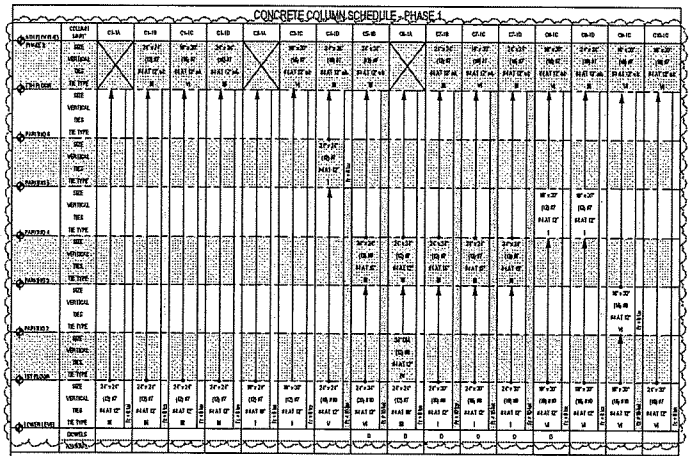
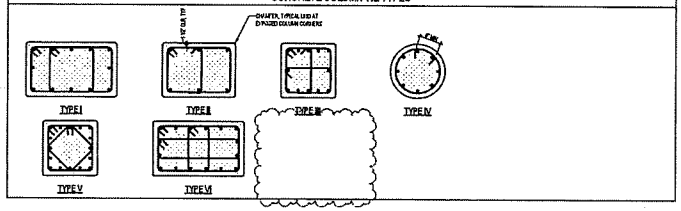
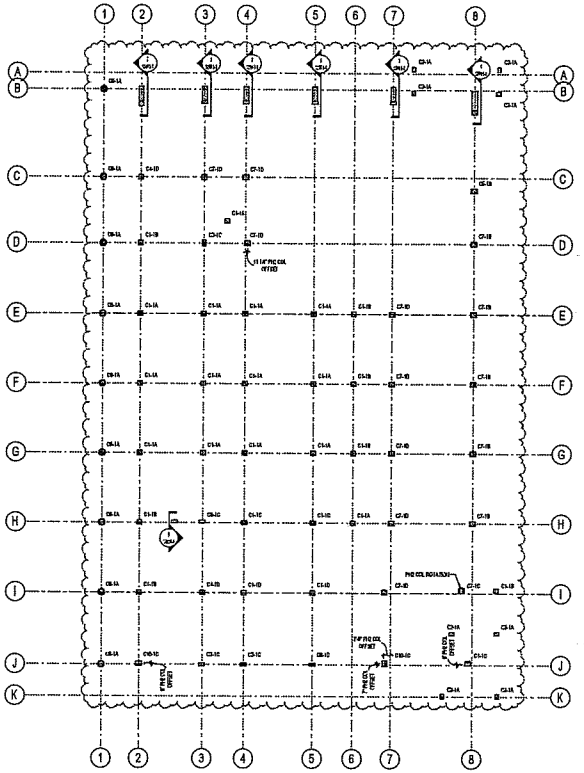
CONCRETE COLUMN SCHEDULE - PHASE 1



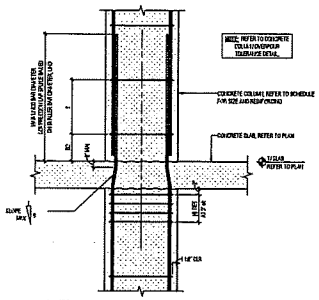
CONCRETE COLUMN SCHEDULE NOTES:
A. REFER TO TYPICAL TIE DETAILS FOR COLUMN DOWELS AND TERMINATION AT TOP/BOT.
B. REFER TO 4/S2000-1 AND SCHEDULE FOR COLUMN REINFORCEMENT SPLICE AND SPLICE LOCATION.
C. PROVIDE EPOXY COATED VERTICALS AND TIES IN PARKING AREAS AND AREAS EXPOSED TO WEATHER.
D. REFER TO A/S2000-1 FOR SHAPES OF COLUMNS NOTED IN SCHEDULE.
E. FUTURE PHASE 2 COLUMNS AT STRUCTURE SEAM SHOWN FOR REFERENCE. REFER TO A/S2000-1 FOR COLUMN OFFSET DETAIL. ALL PHASE 2 COLUMNS CENTERED ON PHASE 1 COLUMNS, SEE GRADE PLAN FOR OFFSETS ON LEVEL PLAN ARE REFERENCED FROM NEAREST GRID LINE. REFER TO S2000-1 FOR COLUMN TOP REINFORCEMENT WHERE NO FUTURE COLUMN ABOVE.

CONCRETE COLUMN TIE TYPES

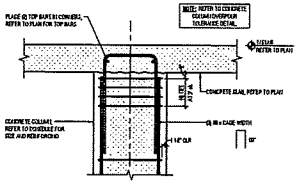




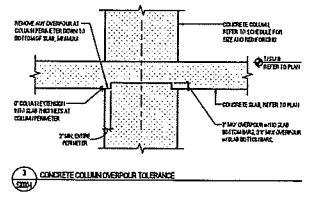
CONCRETE COLUMN KEY PLAN - PHASE 1



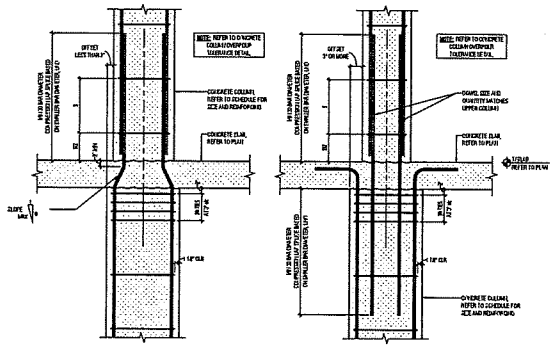
1 S2000-1 CONCRETE COLUMN REINFORCING SPLICE



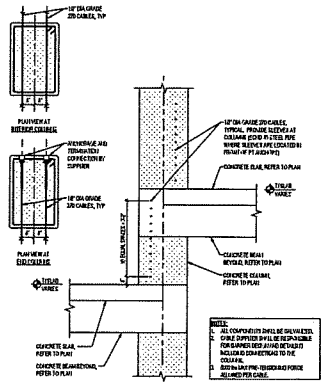
2 S2000-1 REINFORCING AT TOP OF COLUMN



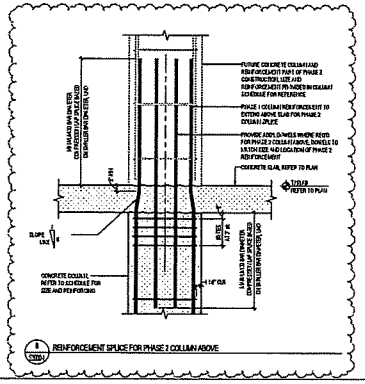
3 S2000-1 CONCRETE COLUMN OVERPOUR TOLERANCE



4 S2000-1 CONCRETE COLUMN SIZE TRANSITION REINFORCING DOWELS



5 S2000-1 BARRIER CABLE AT SPEED RAMP



6 S2000-1 REINFORCEMENT SPLICE FOR PHASE 2 COLUMN ABOVE

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PE
PEDC ENGINEERS, INC.
PE Project: 22020

PROJECT INFORMATION

STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05-03-2022	SCHEMATIC DESIGN PH1
01-30-2023	DESIGN DEVELOPMENT PH1
10-02-2023	CONSTRUCTION DOCUMENTS PH1
11-02-2023	PH1_ADD1

KEY PLAN

SHEET INFORMATION

PROJECT MANAGER

PROJECT NUMBER 720448

CONCRETE COLUMN SCHEDULE - PHASE 1

S2000-1

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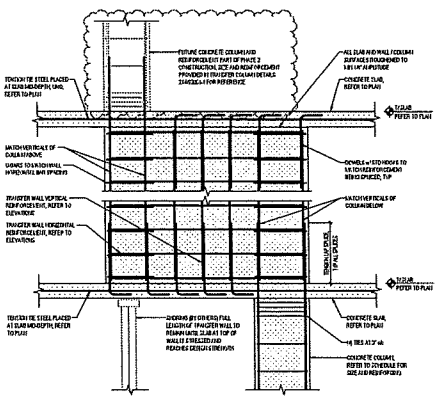
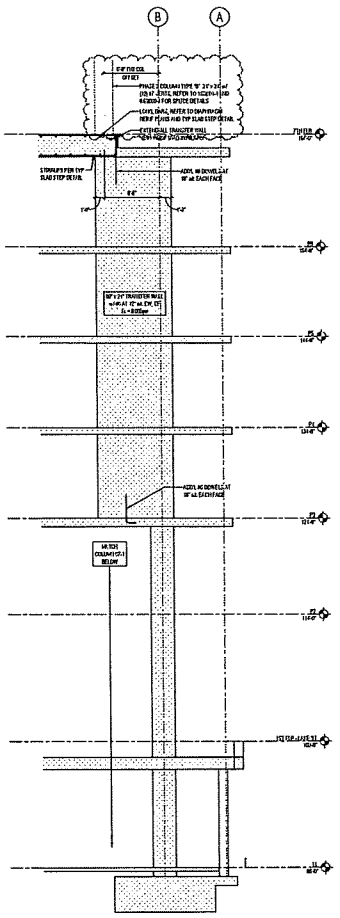
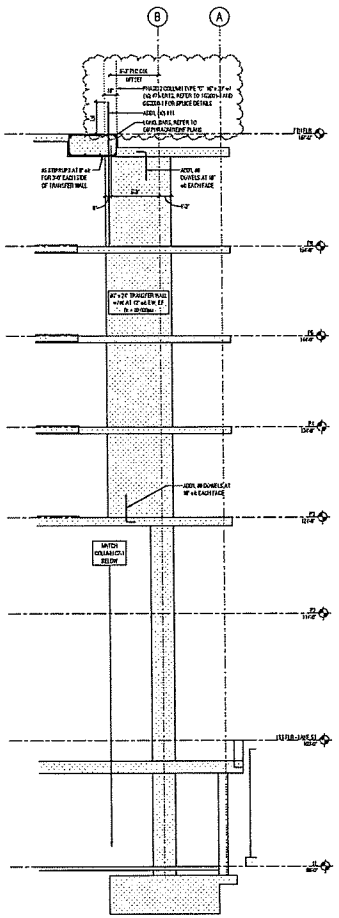


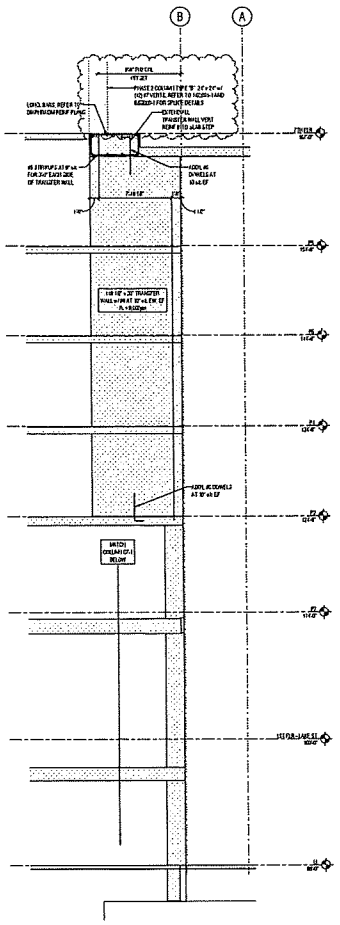
1 TYPICAL TRANSFER WALL DETAIL



2 TRANSFER COLUMN



3 TRANSFER COLUMN



4 TRANSFER COLUMN

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PE

PE Project: 23013

PROJECT INFORMATION

STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
04/03/2023	VOLUNTARY DESIGN REVIEW
11/03/2023	PHASE REVIEW

KEY PLAN

SHEET INFORMATION

PROJECT MANAGER

PROJECT NUMBER 720448

TRANSFER COLUMN ELEVATIONS - PHASE 1

S2001-1

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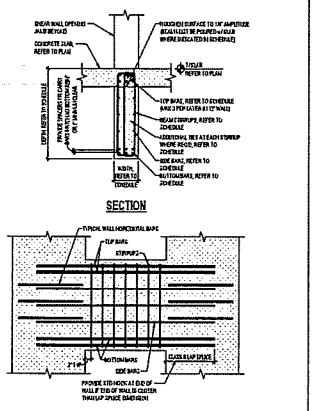
LINK BEAM SCHEDULE - PHASE 1

MARK	SHEAR WALL		MAIN REINFORCING			STIRRUPS		REMARKS
	WIDTH	DEPTH	TOP BARS	BOTTOM BARS	SIDE BARS (EACH FACE)	SIZE	QUANTITY AND SPACING AT EACH END OF BEAM	
LB1.1	12"	20"	(2) #6	(2) #6	#3 AT 12" o.c.	#5	FULL LENGTH AT 4" o.c.	
LB1.2	12"	40"	(2) #6	(2) #6	#3 AT 12" o.c.	#5	FULL LENGTH AT 4" o.c.	
LB2.1	12"	60"	(2) #6	(2) #6	#3 AT 12" o.c.	#5	FULL LENGTH AT 4" o.c.	
LB4.1	12"	20"	(4) #8	(4) #8	#3 AT 12" o.c.	#5	FULL LENGTH AT 4" o.c.	(1) #5 CPL #5 TIE
LB5.1	12"	40"	(4) #8	(4) #8	#3 AT 12" o.c.	#5	FULL LENGTH AT 4" o.c.	(2) #5 CPL #5 TIE
LB6.1	12"	60"	(4) #8	(4) #8	#3 AT 12" o.c.	#5	FULL LENGTH AT 4" o.c.	

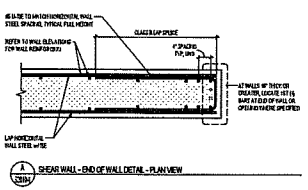


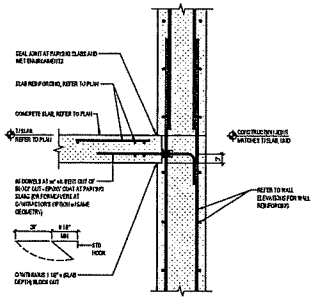
CONCRETE SHEAR WALL GENERAL NOTES - PHASE 1

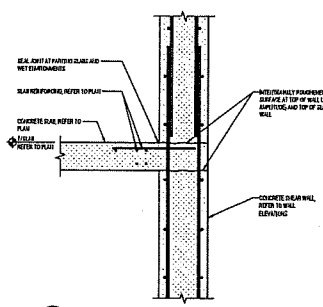
1. PROVIDE DOWELS - PROVIDE AT SAME SIZE AND SPACING AS TYPICAL VERTICAL WALL REINFORCING AND/OR OVERTURNING STEEL QUANTITY PER NOTES. REFER TO SECTION 4.3.
2. REFER TO SECTION 5.1 FOR TYPICAL SECTION AT FOUNDATION.
3. WALLS ARE 8" = 8'-0" UNLESS NOTED OTHERWISE.
4. UPSTAND HEIGHT = 7'-0" ABOVE FINISH FLOOR ELEVATION, UNO.
5. REFER TO ELEVATIONS FOR WALL REINFORCEMENT.
6. REFER TO ELEVATIONS FOR ADDITIONAL OVERTURNING STEEL REQUIREMENTS. VERTICAL BARS SHALL BE LAP SPLICED W/ ADJACENT WALL BARS. SHALL BE LAP SPLICED 24" AT 45° BARS.
7. PROVIDE (4) #5 BARS AT 18" OF 18" AS ANCHOR/ESSENTIAL BAR SPACING AT END OF WALLS AND AT DOOR JAMBS PER ADJOINS / TYPICAL, UNO. AT WALL CORNERS, (2) #5 BARS REQUIRED at BARS ALONG EACH DIRECTION.
8. REFER TO SECTION 6 FOR SLIP FORMED SHEAR WALL AT PT SLAB.

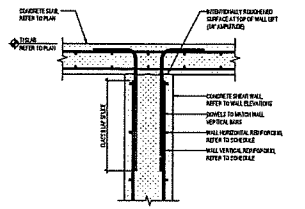
CONCRETE SHEAR WALL ELEVATION KEYED NOTES - PHASE 1

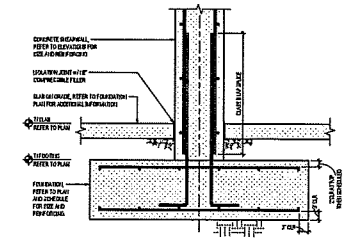
(A) 8" VERTICAL (6" LAP)
(B) 10" VERTICAL (6" LAP)
SHEAR WALL OVERTURNING STEEL - REFER TO ELEVATIONS FOR QUANTITY. REFER TO ADJOIN 4 FOR SPACING, LAPS, AND ADDITIONAL TIE REQUIREMENTS. PROVIDE CLASS B LAP SPLICE LENGTH AT CONSTRUCTION JOINTS.
(C) TOP OF WALL at = 30'-0 SEE. SET TOP 2" CLEAR OF TOP OF SLAB. UNO OTHERWISE. WALL REINFORCED SPACING, UNO.
(D) TOP OF BEAM = TOP OF SLAB. PROVIDE SLEEVES OR DRILL THROUGH WALLS AS NEEDED FOR PT TENDONS TO PASS THROUGH.
(E) 24 x 42" DIAGONAL CORNER BAR EACH FACE, TYPICAL AT ALL OPENINGS.

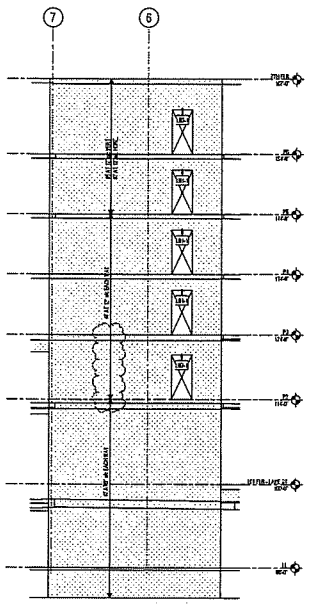


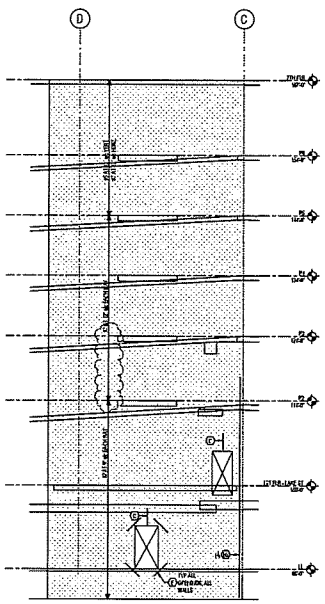


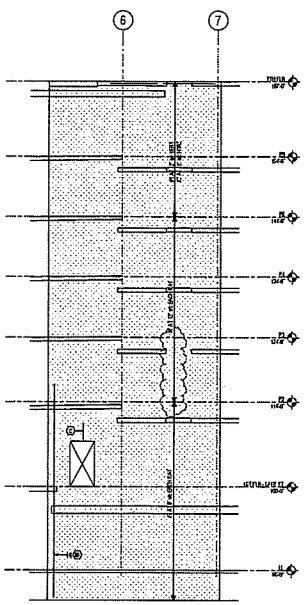


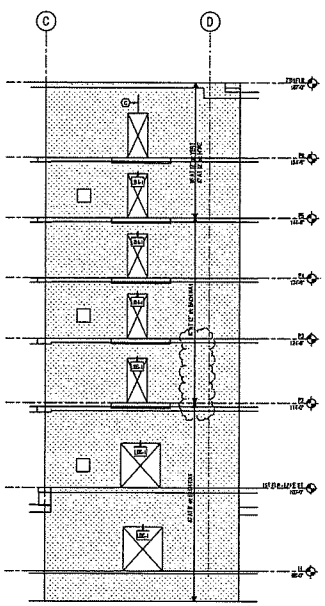


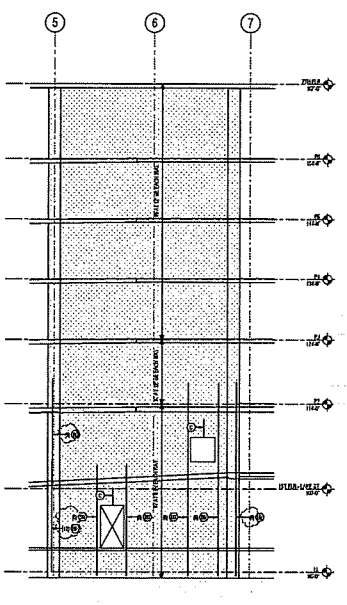












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PE
PEYCE ENGINEERING, INC.
PE Project: 220113

PROJECT INFORMATION

STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05-06-2022	SCHEMATIC DESIGN SUBMITTAL
07-08-2022	DESIGN DEVELOPMENT SUBMITTAL
10-07-2022	CONSTRUCTION DOCUMENTS SUBMITTAL
11-02-2022	PHASE 1 ADDENDUM

KEY PLAN

SHEET INFORMATION

PROJECT MANAGER

PROJECT NUMBER 720448

CONCRETE SHEAR WALL ELEVATIONS - PHASE 1

S2010-1

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ISOLATED FOOTING SCHEDULE

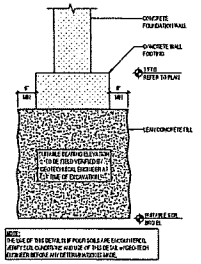
MARK	DIMENSIONS: WIDTH	LENGTH	THICKNESS	REINFORCING: LONG	SHORT	TOP REINFORCING: LONG	SHORT	REMARKS
F1B	6'-0"	6'-0"	2'-0"	(5) #8	(5) #8			
F1A	7'-0"	7'-0"	2'-0"	(6) #8	(6) #8			
F2B	8'-0"	8'-0"	2'-6"	(7) #8	(7) #8			
F3B	9'-0"	9'-0"	3'-0"	(8) #8	(8) #8			
F1AB	10'-0"	10'-0"	3'-3"	(9) #8	(9) #8			
F1C	11'-0"	11'-0"	3'-6"	(9) #9	(9) #9			
F1CB	12'-0"	12'-0"	4'-0"	(10) #9	(10) #9			
F1D	12'-0"	12'-0"	4'-3"	(10) #9	(10) #9			
F1AD	13'-0"	13'-0"	4'-6"	(11) #9	(11) #9			
F1DB	13'-0"	13'-0"	5'-0"	(11) #9	(11) #9			
F1AB	14'-0"	14'-0"	5'-3"	(12) #9	(12) #9			

FOUNDATION NOTES:
1. REFER TO STRUCTURAL NOTES SHEET FOR MINIMUM COVER REQUIREMENTS.
2. REFER TO FOUNDATION PLAN FOR TOP OF FOOTING ELEVATIONS.
3. REFER TO FOUNDATION AND EARTHWORK GENERAL NOTES AND DESIGN CRITERIA FOR ADDITIONAL REQUIREMENTS.
4. ALL LAPS IN STEEL REINFORCEMENT SHALL BE CLASS 'B' LAP SPLICES UNLESS NOTED OTHERWISE.

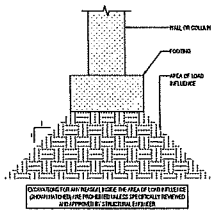
CONTINUOUS FOOTING SCHEDULE

MARK	DIMENSIONS: WIDTH & DEPTH	THICKNESS	REINFORCEMENT: LONGITUDINAL	TRANSVERSE	REMARKS
WCB	2'-0"	1'-0"	(3) #5		
WCB	2'-0"	1'-0"	(3) #5		
WAB	3'-0"	1'-0"	(4) #5	#5 @ 12" o.c.	

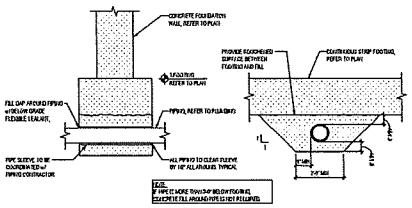
CONTINUOUS FOOTING SCHEDULE NOTES:
1. REFER TO STRUCTURAL NOTES SHEET FOR MINIMUM COVER REQUIREMENTS.
2. REFER TO FOUNDATION PLAN FOR TOP OF FOOTING ELEVATIONS.
3. REFER TO FOUNDATION AND EARTHWORK GENERAL NOTES AND DESIGN CRITERIA FOR ADDITIONAL REQUIREMENTS.
4. ALL LAPS IN STEEL REINFORCEMENT SHALL BE CLASS 'B' LAP SPLICES UNLESS NOTED OTHERWISE.



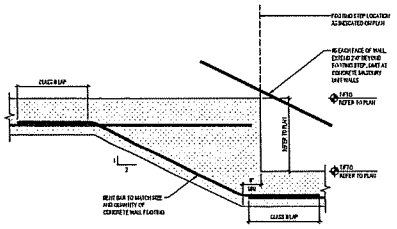
1 / 2/3/24 TYPICAL OVER-EXCAVATION DETAIL



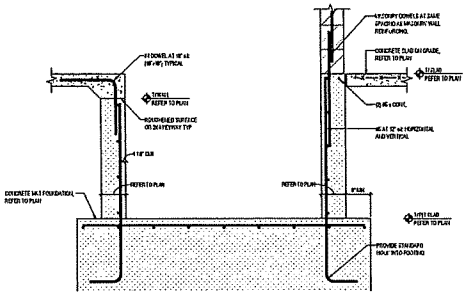
2 / 2/3/24 TYPICAL PROHIBITED EXCAVATIONS AT FOUNDATIONS



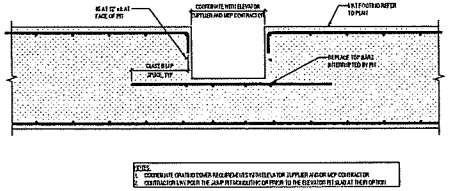
3 / 2/3/24 PIPE PENETRATION UNDER STRIP FOOTING



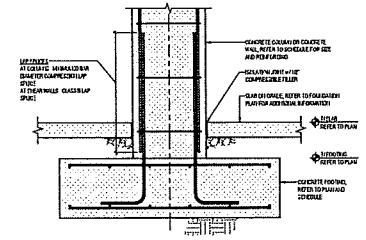
4 / 2/3/24 FOOTING STEP DETAIL



5 / 2/3/24 ELEVATOR PIT SECTION



6 / 2/3/24 ELEVATOR SUMP PIT DETAIL



7 / 2/3/24 TYPICAL COLUMN AND FOOTING DETAIL

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PE

PE Project: 22010

PROJECT INFORMATION

STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05/31/2023	CONCEPTUAL DESIGN PHASE
07/28/2023	DESIGN DEVELOPMENT PHASE
10/02/2023	CONSTRUCTION DOCUMENTS PHASE
11/02/2023	PHASE 1 PERMIT

KEY PLAN

SHEET INFORMATION

PROJECT MANAGER

PROJECT NUMBER 720148

FOOTING SCHEDULE AND DETAILS

S3000-1

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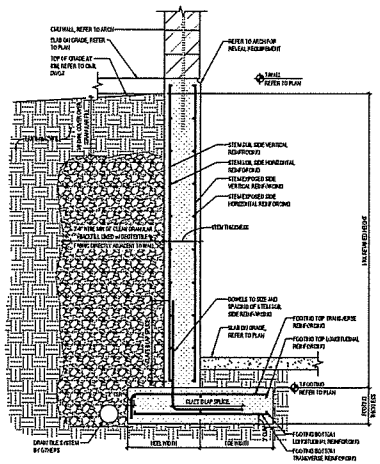
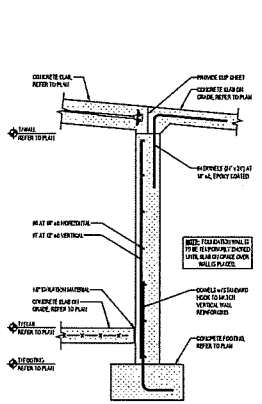


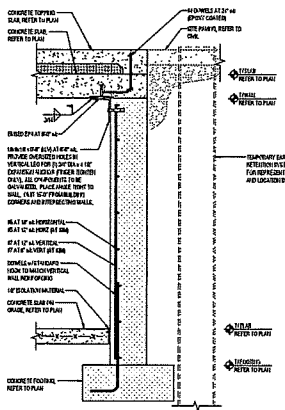
RETAINING WALL SCHEDULE				
RETAINING WALL MARK	RW-1			
MAX RETAINED HEIGHT	6'-0"			
FOOTING THICKNESS	18"			
HEEL WIDTH	3'-0"			
TOE WIDTH	2'-6"			
FOOTING BOTTOM TRANSVERSE REINFORCING	#5 AT 12" o.c.			
FOOTING BOTTOM LONGITUDINAL REINFORCING	(4) #5 + CONT			
FOOTING TOP LONGITUDINAL REINFORCING	(3) #5 + CONT			
FOOTING TOP TRANSVERSE REINFORCING	#5 AT 12" o.c.			
STEM THICKNESS, MIN	REFER TO PLAN			
STEM EXPOSED SIDE VERTICAL REINFORCING	#5 AT 9" o.c.			
STEM EXPOSED SIDE HORIZONTAL REINFORCING	#5 AT 12" o.c. + CONT			
STEM EXPOSED SIDE VERTICAL REINFORCING	NOT REQUIRED			
STEM EXPOSED SIDE HORIZONTAL REINFORCING	NOT REQUIRED			

GENERAL NOTES:
1. REFER TO GENERAL NOTES ON SHEET S0.1 FOR ADDITIONAL STRUCTURAL CRITERIA.
2. REFER TO SITE GRADING PLAN FOR TOP OF FOOTINGS & TOP OF WALL ELEVATIONS.
3. REFER TO GEOTECHNICAL REPORT FOR DESIGN VALUES & RECOMMENDATIONS FOR INSTALLATION, BEARING CAPACITIES.
4. ALL LAPS IN STEEL REINFORCING SHALL BE CLASS "B" LAP SPLICES UNLESS NOTED OTHERWISE.

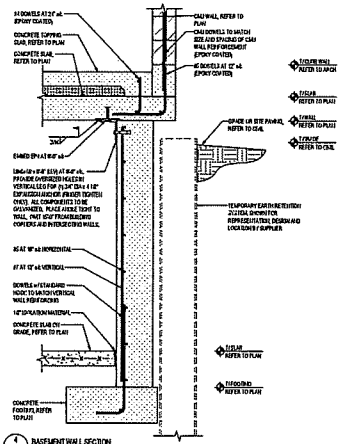
1 RETAINING WALL DETAIL/SCHEDULE



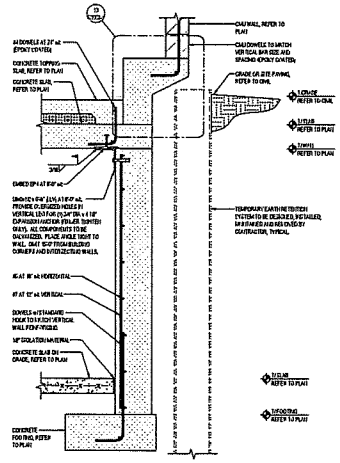
2 FOUNDATION WALL AT RAMP



3 BASEMENT WALL SECTION



4 BASEMENT WALL SECTION



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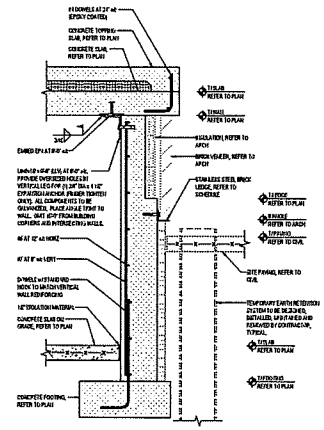

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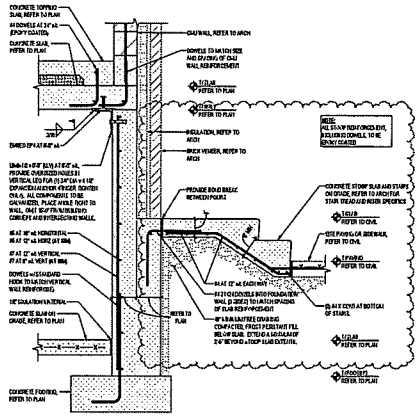

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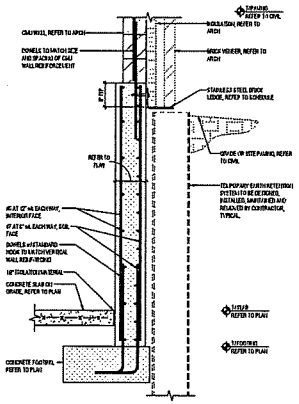

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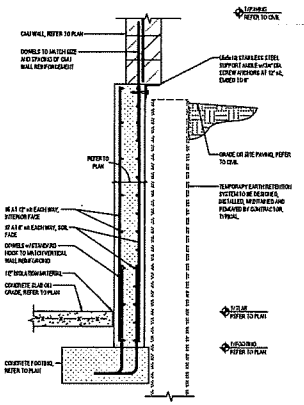

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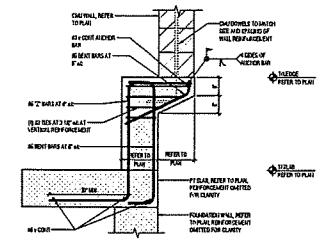

10 CORBEL AT CONCRETE WALL

eu:a

mikeclark | theclean | green bay | darlene | alaska

PE

PE Project: 22019

PROJECT INFORMATION

STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
10-07-2022	CD SUBMISSION / DOCUMENTS PHI
11-07-2022	PHI_ADD

KEY PLAN

SHEET INFORMATION

PROJECT MANAGER

PROJECT NUMBER 720448

FOUNDATION WALL SECTIONS

S3002-1

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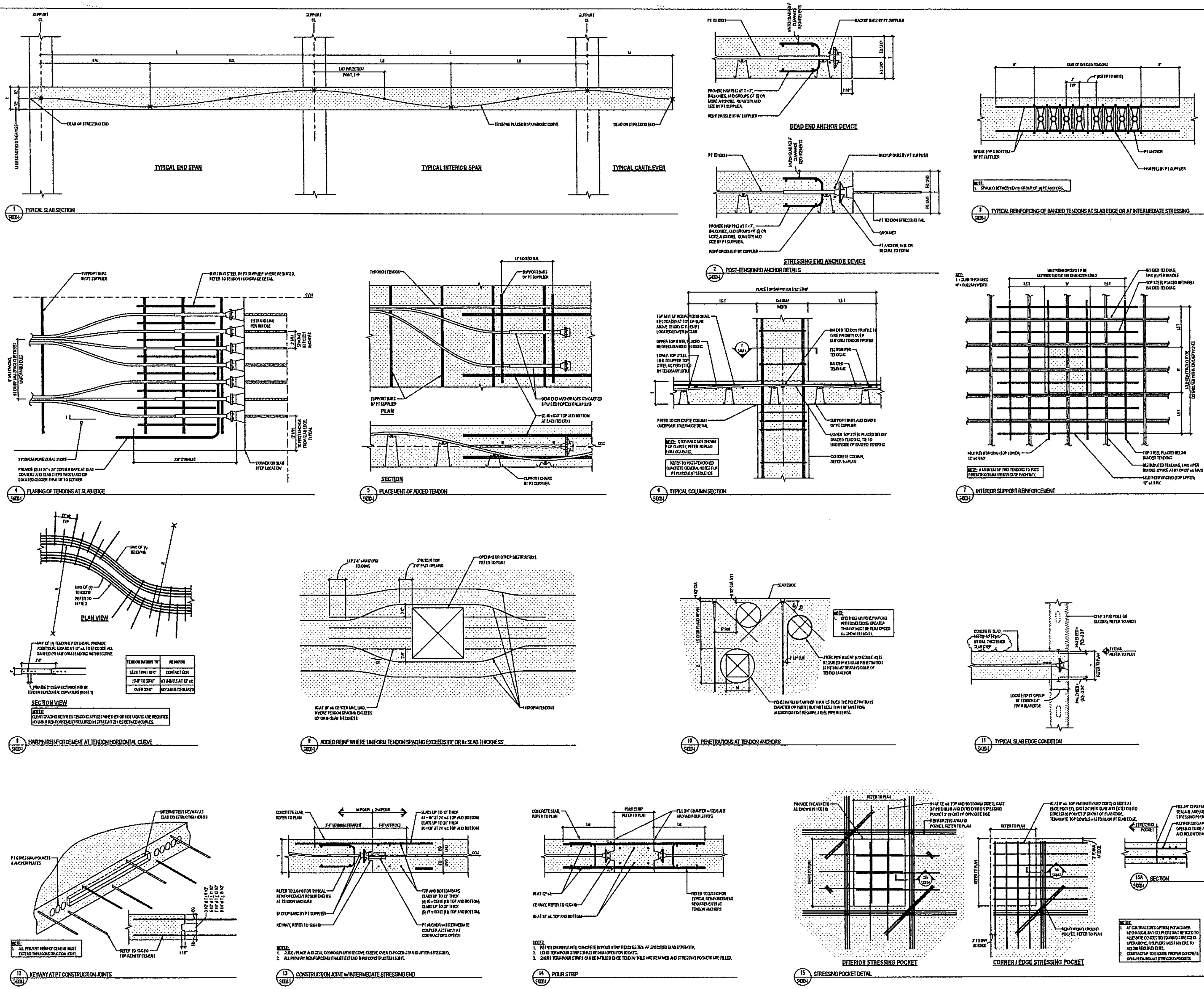

eua

milwaukee | madison | green bay | denver | atlanta

PE
PIERCE ENGINEERS, INC.
PE Project: 23015

PROJECT INFORMATION

STATE STREET
CAMPUS GARAGE
MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
[illegible]	SCHEMATIC DESIGN PH1
07-28-2023	DESIGN DEVELOPMENT PH1
[illegible]	CONSTRUCTION DOCUMENTS PH1
[illegible]	PH1_ADD2

KEY PLAN

SHEET INFORMATION

PROJECT MANAGER
PROJECT NUMBER 720448

POST-TENSIONED
CONCRETE
FRAMING DETAILS

S4000-1

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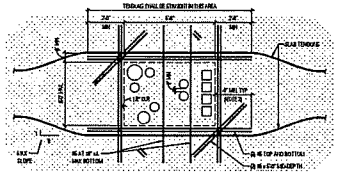
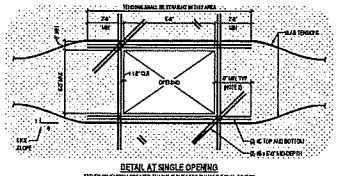
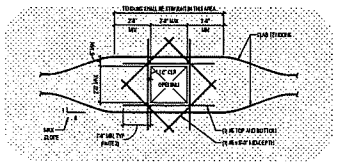


DETAIL AT MULTIPLE PENETRATIONS



DETAIL AT SINGLE OPENING

(EITHER DIMENSION GREATER THAN 24" BUT LESS THAN OR EQUAL TO 60")

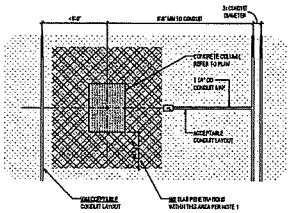


DETAIL AT SINGLE OPENING

(BOTH DIMENSIONS LESS THAN OR EQUAL TO 24")

NOTES:
1. NO PT TENDON WITHIN 6" OF OPENING AS SHOWN ON PLAN OR AT OPENINGS NOT COVERED BY THESE DETAILS.
2. PROVIDE STANDARD TOOK WHERE LAP SLICE IS INTERRUPTED AT EDGE OF OPENING AS NOT POSSIBLE.
3. ADDITIONAL REINFORCEMENT NOT REQUIRED FOR SLAB OPENINGS LESS THAN 6" x 6".
4. TOP OPENINGS TO BE LOCATED WITHIN 6" OF COLUMN WITHOUT APPROVAL OF ENGR.
5. WHERE OPENINGS EXCEED TOOTH DIMENSION THAN 6", PROVIDE ADDITIONAL REINFORCEMENT PER LEVEL.
6. WHERE ADDITIONAL REINFORCEMENT IS REQUIRED BY LAYOUT, REFER TO REINFORCING AT CONCRETE OPENINGS" DETAIL ON S4001.

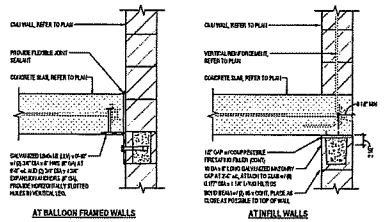
1 ADDED REINFORCEMENT AT OPENINGS IN PT SLAB



2 POST-TENSIONED SLAB PENETRATION AND CONDUIT PLACEMENT PLAN CRITERIA

SLAB PENETRATIONS & RE: CAST-IN CONDUIT / PIPING CRITERIA

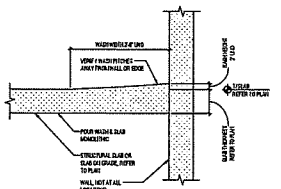
1. VALUES SHOWN ON STRUCTURAL DRAWINGS, NO SLAB PENETRATIONS ARE PERMITTED WITHIN 24" OF COLUMN FACE WITHOUT PRIOR WRITTEN APPROVAL FROM ENGINEER.
2. EMBEDDED CONDUIT / PIPING NOTES:
   a. WHERE SLAB MAINTENANCE OPENINGS FROM BOTTOM OCCUR, RE-LOCATE CONDUIT LOCATION WHERE CONDUIT IS REQUIRED NEAR A COLUMN, ROUTE CONDUIT EACH WAY IT APPROACHES PERPENDICULAR TO COLUMN FACE.
   b. CONDUIT SHALL BE IN THE MIDDLE 1/3 OF THE SLAB DEPTH.
   c. COVER TO CENTER OF PIPES BETWEEN SLAB CONDUIT SHALL BE AT LEAST 3 CONDUIT DIAMETERS.
   d. MAXIMUM OF (8) 2" CONDUITS PER 4'-0" OF SLAB WIDTH PERMITTED.
   e. LARGEST OUTSIDE DIAMETER SHALL NOT EXCEED 1 1/4".
   f. ALUMINUM CONDUIT OR OTHER ACCESSORIES SHALL NOT BE PERMITTED.
3. POST-TENSIONING, MILD REINFORCING, AND STUD RAIL PLACEMENT TAKES PRECEDENCE OVER CONDUIT AND PENETRATION PLACEMENT SHALL CASES. NOTIFY IN WRITING AT BEGINNING OF TENSIONING WITH PRIOR APPROVAL FROM ENGR.
4. REFER TO TYPICAL DETAILS FOR REINFORCEMENT AT OPENINGS.
5. REFER TO 4/S4001 FOR ADDITIONAL REQUIREMENTS AT OPENINGS NEAR TENDON ANCHORS.



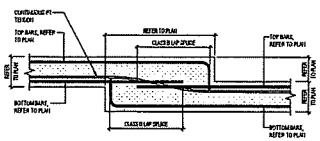
AT BALLOON FRAMED WALLS

AT INFILL WALLS

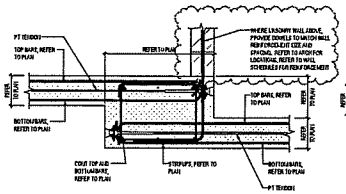
3 CMU WALL / SLAB CONNECTIONS



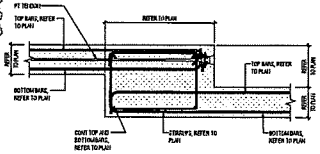
4 SLAB WASH DETAIL



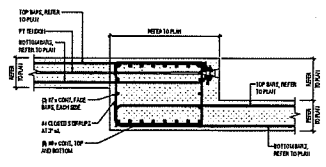
5 REINFORCING AT SLAB ELEVATION TRANSITION w/ CONTINUOUS PT



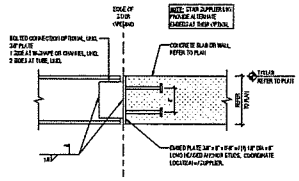
6 REINFORCING AT SLAB ELEVATION TRANSITION w/ DISCONTINUOUS PT



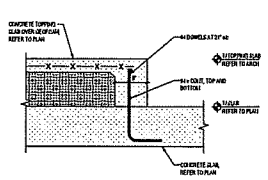
7 REINFORCING AT SLAB ELEVATION TRANSITION w/ DISCONTINUOUS PT



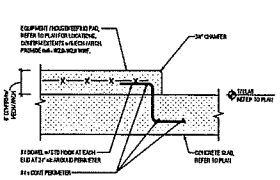
8 REINFORCING AT SLAB ELEVATION TRANSITION w/ DISCONTINUOUS PT



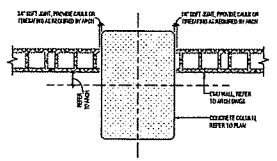
9 EMBED AT STAIR & ELEVATOR GIRT



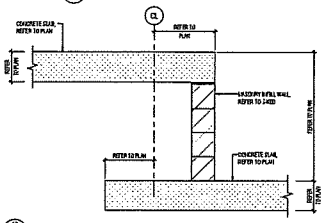
10 TYPICAL TOPPING SLAB TO PT SLAB



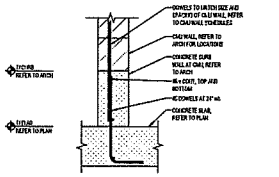
11 HOUSEKEEPING PAD ON CONCRETE SLAB



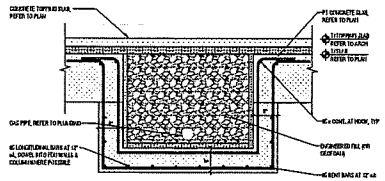
12 SOFT JOINT AT CMU TO COLUMN FACE



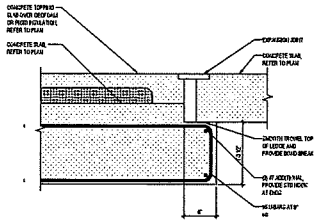
13 MASONRY INFILL AT SLAB ELEVATION TRANSITION w/ VOID



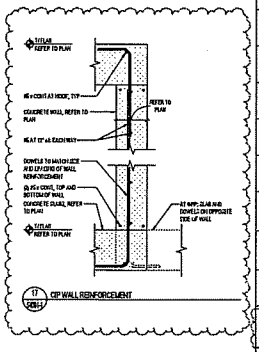
14 TYPICAL CURB WALL REINFORCEMENT



15 CONCRETE TROUGH DETAIL



16 SLAB AT BRIDGE SUPPORT



17 CIP WALL REINFORCEMENT

EMBED SCHEDULE - PHASE 1

MARK	PLATE ANGLE	CONNECTIONS	CONFIGURATION
EP3-1	PLATE 1/2" x 3'-0" x 1'-0"	(6) 3/4" DIA x 8" HSS	22" GAGE
EP3-2	PLATE 1/2" x 9" x 0'-6"	(2) 1/2" DIA x 4" HSS	
EP3-3	PLATE 3'-0" x 9" x 1'-0"	(6) 1/2" DIA x 4" HSS	8" GAGE
EP3-4	PLATE 1'-3" x 9" x 0'-6"	(2) 1/2" DIA x 4" HSS	
EP3-5	PLATE 3'-0" x 1'-0" x 1'-0"	(6) 1/2" DIA x 8" HSS	8" GAGE
EP3-6	PLATE 3'-0" x 1'-0" x 1'-0"	(6) 3/4" DIA x 8" HSS	10" GAGE
EP3-7	PLATE 3'-0" x 1'-0" x 1'-0"	(6) 3/4" DIA x 8" HSS	8" GAGE
EP3-8	PLATE 1'-3" x 1'-0" x 1'-0"	(6) 3/4" DIA x 8" HSS	8" GAGE
EP3-9	PLATE 3'-0" x 1'-3" x 1'-0"	(6) 3/4" DIA x 8" HSS	10" GAGE
EP3-10	PLATE 1'-0" x 10" x 0'-0"	(2) 3/4" DIA x 4 1/2" HSS	7" GAGE
EP3-11	PLATE 3'-0" x 1'-0" x 0'-0"	(6) 3/4" DIA x 8" HSS	12" GAGE
EP3-12	PLATE 1'-0" x 1'-0" x 0'-0"	(3) 7/8" DIA x 12" HSS	8" GAGE
EP3-13	PLATE 3'-0" x 1'-0" x 0'-0"	(3) 1/2" ANCHOR BAR x 2'-0"	8" GAGE
EP3-14	PLATE 1'-0" x 1'-0" x 0'-0"	(6) 1/2" DIA x 8" HSS	8" GAGE

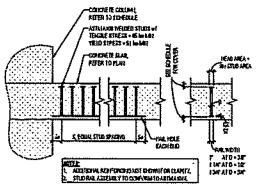
GENERAL NOTES:
1. SUPPLIER TO PROVIDE EMBED LAYOUT DRAWINGS FOR ALL EMBEDS.
2. ALL EMBEDS IN PARKING DECKS, WALKWAYS, AND EXPOSED TO WEATHER SHALL BE GALVANIZED.
3. REFER TO TYPICAL DETAILS ON S4001 AND S4011 FOR TYPICAL EMBEDS NOT INCLUDED.

HEADED SHEAR STUD REINFORCEMENT SCHEDULE - PHASE 1

PLAN NAME	EP3-1	EP3-2	EP3-3	EP3-4	EP3-5	EP3-6	EP3-7	EP3-8	EP3-9	EP3-10	EP3-11	EP3-12	EP3-13	EP3-14
TYPE	A-1	A-1	B-1	C-1	C-1	A-1	A-1	B-1	B-1	A-1	B-1	A-1	B-1	A-1
NUMBER OF RAILS / COLUMN	14	12	8	10	20	8	12	24	16	16	12	8	20	8
NUMBER OF STUDS / RAIL	11	11	11	11	19	20	20	10	11	10	20	20	20	11
STUD SPACING	10"	10"	10"	10"	10"	10"	10"	10"	10"	10"	10"	10"	10"	10"
STUD SPACING, S	4	4	4	4	2	3	3	4	4	3	4	4	4	4
DISTANCE TO FIRST STUD, So	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"	4"	4"	2'-0"
TOP COVER	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1"	1"
BOTTOM COVER	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"

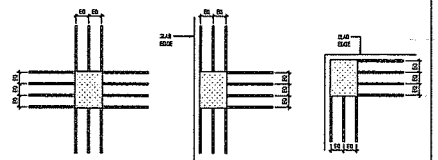
HEADED SHEAR STUD REINFORCEMENT NOTES:
1. GALVANIZE ALL STUD RAILS AT PARKING SLABS AND LOCATIONS FALLING IN BALCONY.
2. PROVIDE 1 1/2" TOP COVER AT GALVANIZED STUD RAILS.

HEADED SHEAR STUD REINFORCEMENT DETAIL



NOTES:
A. ADDITIONAL REINFORCEMENT NOT SHOWN FOR CLARITY.
B. STUD RAIL ASSEMBLY TO CONFORM TO ASTM A1044.

HEADED SHEAR STUD REINFORCEMENT TYPES



TYPE A-1 TYPE B-1 TYPE C-1

TYPE D-1 TYPE E-1 TYPE F-1

eu:a

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PE

PROJECT INFORMATION

STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05-06-2022	SCHEMATIC DESIGN PH1
06-29-2022	DESIGN DEVELOPMENT PH1
11-02-2022	CONSTRUCTION DOCUMENTS PH1
11-02-2022	PH1A_ADD

KEY PLAN

SHEET INFORMATION

PROJECT MANAGER

PROJECT NUMBER 720448

CONCRETE FRAMING DETAILS

S4001-1

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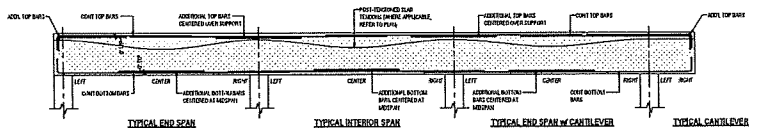
CONCRETE BEAM SCHEDULE - PHASE 1

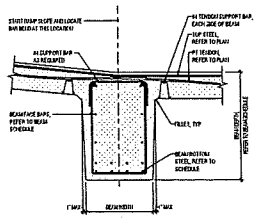
MARK	BEAM DIMENSIONS		STIRRUPS		LONGITUDINAL REINFORCEMENT			REMARKS
	WIDTH	DEPTH	SIZE	QUANTITY & SPACING AT EACH END OF BEAM	TOP BARS$_{TOP}$	BOTTOM BARS$_{BOT}$	BEAM FACE BARS$_{FACE}$	
B1-1	24"	27"	#4	FULL LENGTH AT 6" o.c.	(5) #6	(4) #9	47 AT 8" o.c.	REFER TO S5010-1
B2-1	12"	48"	#4	FULL LENGTH AT 6" o.c.	(3) #7	(3) #9	45 AT 8" o.c.	
B3-1	18"	24"	#3	FULL LENGTH AT 6" o.c.	(5) #7	(5) #8	45 AT 7" o.c.	REFER TO S5010-1
B4-1	24"	33"	#4	FULL LENGTH AT 10" o.c.	(5) #7	(5) #8	47 AT 8" o.c.	REFER TO S5010-1
B5-1	18"	24"	#4	FULL LENGTH AT 6" o.c.	(4) #7	(4) #9	47 AT 8" o.c.	REFER TO S5010-1 AND S5010-1
B6-1	18"	36"	#3	FULL LENGTH AT 6" o.c.	(5) #7	(4) #8	45 AT 6" o.c.	BOTTOM BARS IN (2) LAYERS
B7-1	24"	36"	#4	FULL LENGTH AT 10" o.c.	(6) #7	(6) #9	N/A	
B8-1	12"	24"	#3	FULL LENGTH AT 6" o.c.	(3) #7	(3) #7	N/A	EPOXY COATED BARS
B9-1	24"	28"	#3	FULL LENGTH AT 6" o.c.	(10) #8	(6) #9	N/A	TOP BARS IN (2) LAYERS
B10-1	24"	42"	#4	FULL LENGTH AT 6" o.c.	(8) #7	(6) #9	45 AT 8" o.c.	EPOXY COATED BARS REFER TO S5010-1
B11-1	18"	24"	#4	FULL LENGTH AT 6" o.c.	(3) #8	(3) #8	N/A	
B12-1	18"	24"	#4	FULL LENGTH AT 6" o.c.	(5) #7	(5) #8	45 AT 6" o.c.	TOP BARS IN (2) LAYERS BOTTOM BARS IN (2) LAYERS

CONCRETE BEAM SCHEDULE NOTES:
1. CONCRETE STRENGTH TO MATCH SLAB CONCRETE STRENGTH, U.N.O.
2. SPLICE TOP AND BOTTOM BARS AT MIDSPAN TYPICAL. PROVIDE STD HOOKS AT BEAM ENDS.
3. SPLICE BOTTOM BARS AT COLUMN LOCATIONS. PROVIDE STD HOOKS AT EVERY OTHER BAR.
4. BEAM FACE BARS, TYPICAL BE PLACED ALONG FACE OF BEAM AND SPACED EQUALLY BETWEEN TOP AND BOTTOM BARS. BARS SHALL BE CONTINUOUS w/ CLASS B LAP SPLICES AS REQUIRED.
5. EPOXY COAT ALL REBAR IN PLACES EXPOSED TO DECK AREAS AND EXPOSED CONCRETE EDGES.
6. WHERE REQUIRED, BARS IN (2) LAYERS SHALL HAVE A MINIMUM OF 1" CLEAR BAR DIAMETER CLEAR BETWEEN LAYERS.
7. TYPICAL BEAM WIDTH INCLUDES STUB THICKNESS.

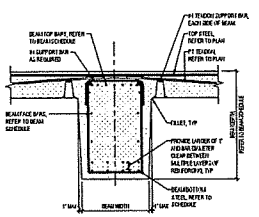
TYPE I TYPE II TYPE III



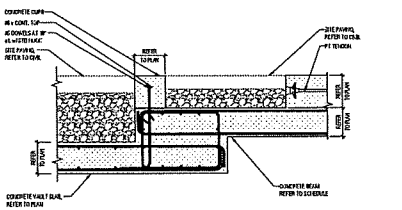
1 S4010-1 BEAM ELEVATIONS



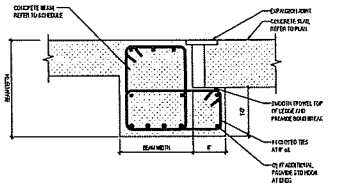
2 S4010-1 PT AT RAMP BEAM



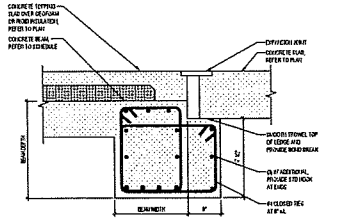
3 S4010-1 PT AT BEAM



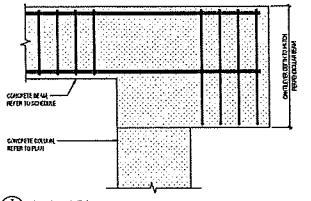
4 S4010-1 BEAM AT VAULT ROOF TRANSITION



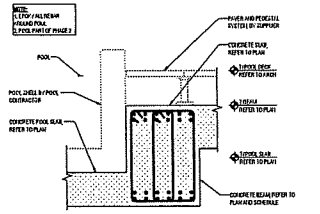
5 S4010-1 BEAM AT BRIDGE SUPPORT



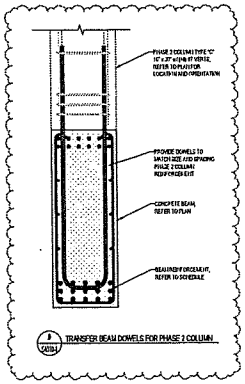
6 S4010-1 BEAM AT BRIDGE SUPPORT



7 S4010-1 BEAM AT CANTILEVER



8 S4010-1 BEAM AT POOL



9 S4010-1 TRANSFER BEAM DOWELS FOR PHASE 2 COLUMN

eu:a
eskuta | madison | green bay | denver | atlanta

PE
PETERS ENGINEERING, INC.
Structural Engineering
PE Project: 23019

PROJECT INFORMATION

STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
07-26-2023	CD100 FOR DEVELOPER'S PHII
10-02-2023	CD FOR CITY/UTILITY/LOCAL AGENCIES PHII
11-02-2023	PHII_ADD2

KEY PLAN

SHEET INFORMATION

PROJECT MANAGER

PROJECT NUMBER 720448

CONCRETE BEAM SCHEDULE AND DETAILS

S4010-1

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BEAM DEPTH	N	PLATE	WELD
W8, W10	2	5/16" x 4 1/2" x 0'-6 1/2"	1/4"
W12, W14	3	5/16" x 4 1/2" x 0'-8 1/2"	1/4"
W16	4	5/16" x 4 1/2" x 0'-10 1/2"	1/4"
W18	5	5/16" x 4 1/2" x 1'-0 1/2"	1/4"
W21	6	5/16" x 4 1/2" x 1'-2 1/2"	1/4"
W24	7	5/16" x 4 1/2" x 1'-4 1/2"	1/4"
W27	8	5/16" x 4 1/2" x 1'-5 1/2"	1/4"
W30, W33	9	5/16" x 4 1/2" x 1'-7 1/2"	1/4"

1 TYPICAL SHEAR PLATE CONNECTION

2 TYPICAL ANGLE CONNECTIONS

WELDED CONNECTION

BOLTED CONNECTION

CONNECTION SCHEDULE

BEAM DEPTH	N	ANGLE LENGTH	WELD SIZE
W8, W10	2	5 1/2"	1/4"
W12, W14	3	8 1/2"	1/4"
W16	4	11 1/2"	1/4"
W18	5	14 1/2"	1/4"
W21	6	17 1/2"	1/4"
W24	7	20 1/2"	1/4"
W27	8	23 1/2"	1/4"
W30, W33	9	26 1/2"	1/4"

CONNECTION DETAILS NOTES:
- PROVIDE DOUBLE ANGLE CONNECTIONS AT ALL BEAMS TO WF COLUMNS.
- PROVIDE DOUBLE ANGLE CONNECTIONS AT ALL BEAMS WITH BOTTOM FLANGE COPE, UNO.

METAL DECK SCHEDULE - PHASE 1

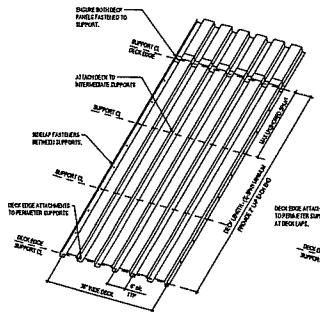
LOCATION/USE	STEEL DECK PROFILE	GAUGE	DECK THICKNESS (in)	F_y (ksi)	FINISH	STEEL DECK ATTACHMENT		
						DECK TO SUPPORTING STEEL SUPPORTS	SIDELAP FASTENERS	DECK EDGE ATTACHMENT
NO ELEVATOR PENT	1.5L	19	7	40 KSI	GALVANIZED	5/8" DIA. PUDDLE WELDS @ 12" o.c. PATTERN	#12-14 TEK SCREWS	5/8" DIA PUDDLE WELDS @ 18" o.c.

TYPE DR

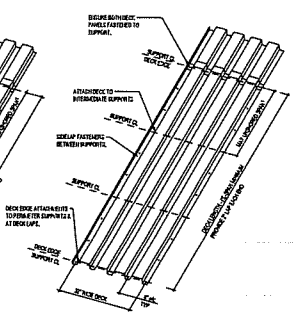
TYPE WR

NOTES:
1. REFER TO GENERAL NOTES FOR ADDITIONAL INFORMATION.
2. WELDED NOTED OTHERWISE ON PLAN.
3. GO TO REFER TO SEE REQUIRED EXTRA FOR MAXIMUM UNBRACED DECK SPAN AND PROVIDE SHORING AS REQUIRED.
4. AT CONTRACTOR OPTION DECK SUPPLIER MAY PROVIDE HILTI OR OTHER PROPRIETARY POWDER ACTUATED FASTENER LAYOUT TO MEET OR EXCEED SHOWN LOAD ATTACHMENT STRENGTH, STIFFNESS, AND MEASURED WIND UPLIFT PERFORMANCE ON VALUES STATED ON THESE DRAWINGS AND SPECIFICATIONS. ALL PERCUSSION INSTALLED PROPANE DRIVEN FASTENERS SHALL BE ENGINEERED AND DEPICTED IN THE FASTENER SYSTEM MANUFACTURER'S AND FOLLOW ALL MANUFACTURER'S REQUIREMENTS. ADDITIONAL CARE MUST BE TAKEN IN THE EVENT THAT THE SUPPORTING SUBSTRATE BELOW THE DECK IS LIGHT GAUGE STEEL (I.E. COLD FORMED TOP AND BOTTOM JOIST CHORDS). CONTRACTOR SHALL SUBMIT VALID CERTIFICATION FROM THE MANUFACTURER OF ALL PERSONNEL.
5. REFER TO METAL DECK PROPERTY TABLES FOR MOMENT OF INERTIA PROPERTIES.

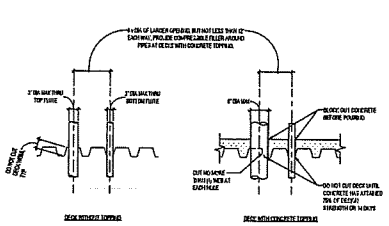
3 METAL DECK SCHEDULE



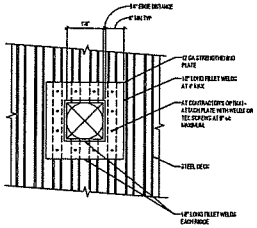
36" WIDE DECK



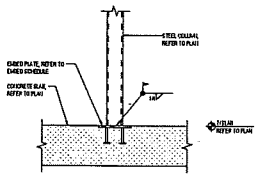
32" WIDE DECK



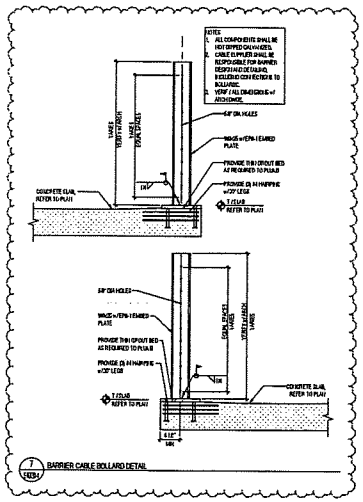
4 FLOOR DECK OPENINGS LESS THAN 6"



5 FLOOR DECK OPENINGS 6" TO 12"



6 TYPICAL COLUMN EMBED CONNECTION



7 BARRIER CABLE BOLLARD DETAIL

eua
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PE
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Madison, WI 53703
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www.pierceengineers.com
PE Project: 22019

PROJECT INFORMATION

STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
07-28-2023	DESIGN DEVELOPMENT (Phil)
10-02-2023	DESIGN DEVELOPMENT ADDENDUM #1 (Phil)
11-02-2023	PHIL ADDED

KEY PLAN

SHEET INFORMATION

PROJECT MANAGER

PROJECT NUMBER 720448

STEEL FRAMING DETAILS - PHASE 1

S4020-1

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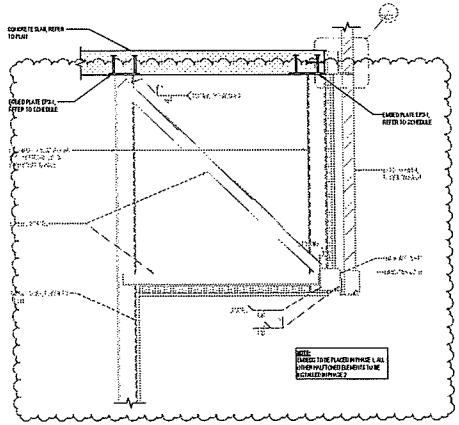
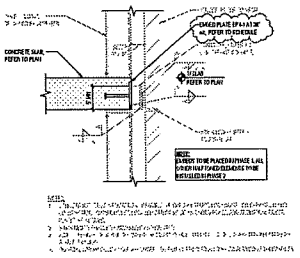
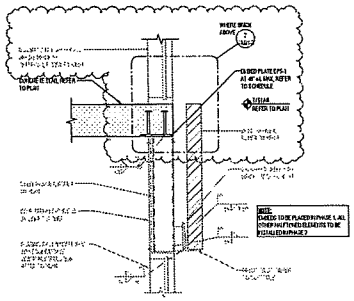


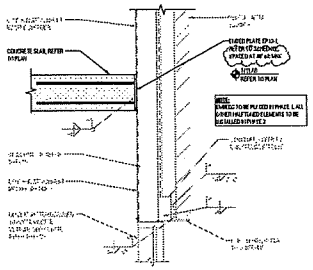
1 S4021-1 STEEL BRACING DETAIL



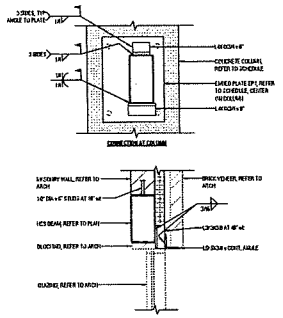
2 S4021-1 SLAB EMBED FOR PHASE 2 FRAMING



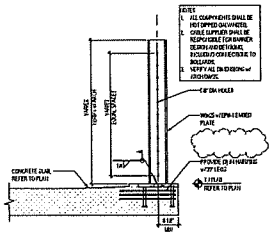
3 S4021-1 BRICK LEDGE DETAIL



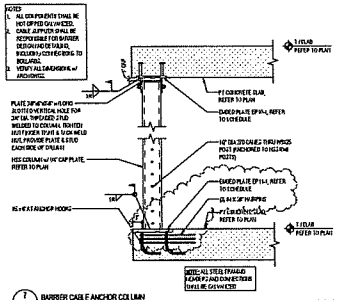
4 S4021-1 SLAB EMBED FOR PHASE 2 FRAMING



5 S4021-1 BEAM DETAIL



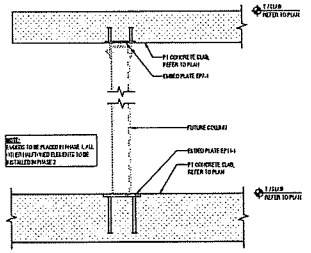
6 S4021-1 BARRIER CABLE BOLLARD DETAIL



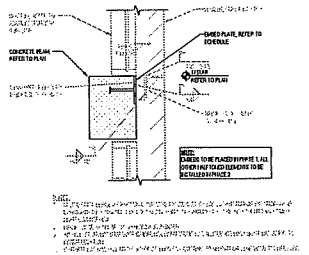
7 S4021-1 BARRIER CABLE ANCHOR COLUMN

NOT USED

8 S4021-1 NOT USED



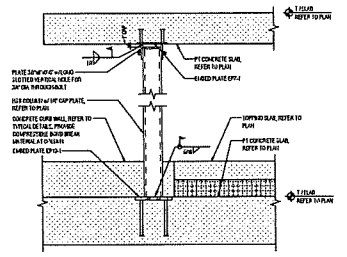
9 S4021-1 SLAB EMBEDS FOR PHASE 2 FRAMING



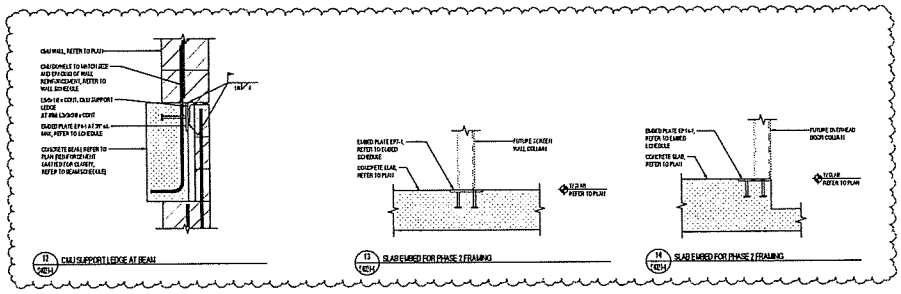
10 S4021-1 BEAM EMBED

BRICK LEDGE SCHEDULE				
MARK	SIZE	EMBED PLATE/ANCHOR	STIRRUPS	REMARKS
BL1	L3x3x1/2	EP1 @ 1'-10" o.c.	L1	2'-0" - S4021-1
BL2	L3x3x1/2	5/8" STUD HEAD ANCHOR AT 3'-0" o.c. EMBED TO 4" MIN		10' - S4021-1
BL3	L3x3x1/2	EP1 @ 1'-10" o.c.		2'-5" - S4021-1
BL4	L5x3x1/2	EP1 @ 1'-10" o.c.		2'-5" - S4021-1
BL5	HC BEAM PLATE 5/8" x 8"	EP1 @ 1'-10" o.c.		2'-0" - S4021-1
BL6	HP BEAM PLATE 1/2" x 12"	5/8" STUD HEAD ANCHOR AT 3'-0" o.c. EMBED TO 4" MIN		8' - S4021-1
BL7	L3x3x1/2	5/8" STUD HEAD ANCHOR AT 3'-0" o.c. EMBED TO 4" MIN		8' - S4021-1

BRICK LEDGE LOCATION NOTES:
1. AT BRICK LEDGE, PROVIDE CONTROL JOINT LEAVE 1/4" GAPS AT 20'-0" o.c. MAX FOR EXPANSION AND CONSTRUCTION. GAPS MUST BE LOCATED WITHIN 4'-0" OF AN EMBED PLATE. ADD ADDITIONAL EMBED PLATES AS NEEDED.
2. ALL LEDGES SHALL BE GALVANIZED AND PAINTED.
3. STAINLESS STEEL BRICK LEDGES REQUIRED WHERE CALLED OUT BY DETAILS.
4. PROJECT SETBACK OF STANDOFF WHERE NECESSARY DUE TO BRICK LEDGE LOCATION IS PRIMARY TO SLAB ELEVATION. AT LOCATIONS OPTION, LEDGE WITH A LONGER LEG MAY BE USED TO ALLOW FOR OUTSET TO ADJUST FOR LEDGE TREATMENT.



11 S4021-1 COLUMN DETAIL



12 S4021-1 CMU SUPPORT LEDGE AT BEAM

13 S4021-1 SLAB EMBED FOR PHASE 2 FRAMING

14 S4021-1 SLAB EMBED FOR PHASE 2 FRAMING

eua

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PE

PIERCE EYKHOLT, INC.
Madison, WISCONSIN

PE Project: 22019

PROJECT INFORMATION

STATE STREET
CAMPUS GARAGE
MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
01-20-2023	DESIGN REVIEW - UPDATED PHII
10-07-2022	DESIGN REVIEW SUBMITTAL PHII
11-02-2022	PHII_ X220

KEY PLAN

SHEET INFORMATION

PROJECT MANAGER

PROJECT NUMBER 720448

STEEL FRAMING
DETAILS - PHASE 1

S4021-1

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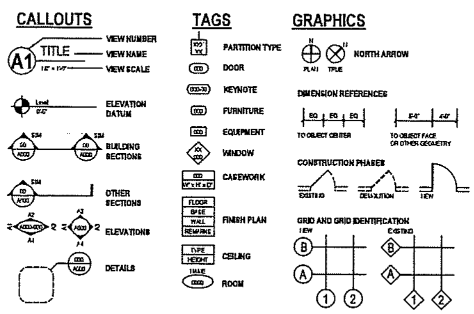
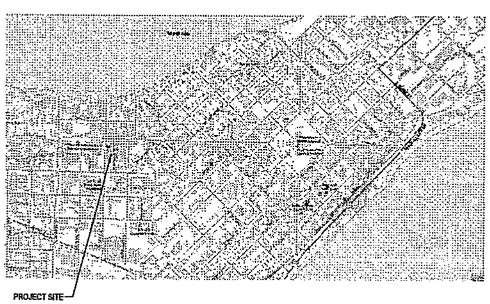
ABBREVIATIONS

SYMBOL LEGEND



VICINITY MAP



MAP DATA ©2022

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SHEET INDEX

VOLUME 1

GENERAL
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G1000 LOWER LEVEL FLR LIFE SAFETY PLAN
G1001 1ST & P2 FLR LIFE SAFETY PLAN
G1002 P3 & P4 FLR LIFE SAFETY PLAN
G1003 P5 & P6 FLR LIFE SAFETY PLAN
G1004 7TH & 8TH FLR LIFE SAFETY PLAN
G1005 9TH-15TH FLR LIFE SAFETY PLAN
G1012 ROOF LIFE SAFETY PLAN
G2000 LIFE SAFETY SECTION
G2001 LIFE SAFETY SECTION
G4000 CODE CALCS
G4001 CODE CALCS
G4002 CODE CALCS

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C100 EXISTING CONDITIONS PLAN
C200 DEMOLITION PLAN
C300 SITE PLAN
C400 GRADING PLAN
C401 EROSION CONTROL PLAN
C500 UTILITY PLAN
C600 DETAILS 1
C601 DETAILS 2
C602 DETAILS 3
L1.0 LANDSCAPE PLAN
L1.1 LANDSCAPE PLAN

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S0002-1 DESIGN CRITERIA
S0010-1 LOADING PLANS
S0011-1 LOADING PLANS
S1000-1 FOUNDATION PLAN - OVERALL - PHASE 1
S1000-A-1 FOUNDATION PLAN - ZONE A - PHASE 1
S1000-B-1 FOUNDATION PLAN - ZONE B - PHASE 1
S1001-1 1ST FLR FRAMING PLAN - OVERALL - PHASE 1
S1001-A-1 1ST FLR FRAMING PLAN - ZONE A - PHASE 1
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STATE STREET
CAMPUS GARAGE
MIXED-USE

415 N. LAKE STREET
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CONTRACT #9361

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05/06/2022	SCHEMATIC DESIGN PH1
07/28/2022	DESIGN DEVELOPMENT PH1
10/03/2022	CONSTRUCTION DOCUMENTS PH 1
11/02/2022	P1_AD02

KEY PLAN

SHEET INFORMATION

PROJECT MANAGER MO
PROJECT NUMBER 720448

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G0000-1.1

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ABBREVIATIONS

SYMBOL LEGEND

CALLOUTS

- TITLE — VIEW NUMBER / VIEW NAME / VIEW SCALE
- ELEVATION DATUM
- BUILDING SECTIONS
- OTHER SECTIONS
- ELEVATIONS
- DETAILS

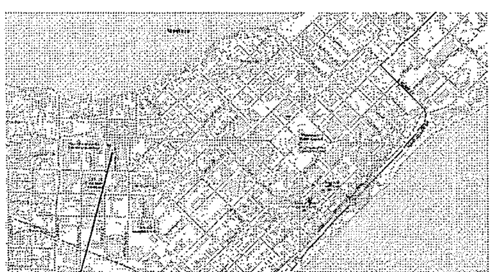
TAGS

- PARTITION TYPE
- DOOR
- KEYNOTE
- FURNITURE
- EQUIPMENT
- WINDOW
- CASEWORK
- FINISH PLAN (FLOOR / BASE / WALL / REMARKS)
- CEILING (TYPE / HEIGHT)
- ROOM

GRAPHICS

- NORTH ARROW (PLAN / TRUE)
- DIMENSION REFERENCES (TO OBJECT CENTER; TO OBJECT FACE OR OTHER GEOMETRY)
- CONSTRUCTION PHASES (EXISTING / DEMOLITION / NEW)
- GRID AND GRID IDENTIFICATION (NEW / EXISTING)

VICINITY MAP



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M1003-A-1	P3 FLR - ZONE A - PHASE 1 - HVAC
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M1005-B-1	P5 FLR - ZONE B - PHASE 1 - HVAC
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EP1003-A-1	P3 FLR - ZONE A - PHASE 1 - POWER/SYSTEMS
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EP1003-B-1	P3 FLR - ZONE B - PHASE 1 - POWER/SYSTEMS
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EP1005-A-2	P5 FLR - ZONE A - PHASE 2 - POWER/SYSTEMS
EP1005-B-1	P5 FLR - ZONE B - PHASE 1 - POWER/SYSTEMS
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eua
milwaukee | madison | green bay | denver | atlanta

PROJECT INFORMATION

STATE STREET
CAMPUS GARAGE
MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

CONTRACT #9361

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
10/07/2022	2023 CONSTRUCTION DOCS/SETS PH 1
11/02/2023	P1_ADD7

KEY PLAN

SHEET INFORMATION

PROJECT MANAGER: MO
PROJECT NUMBER: 720448

INDEX VOLUME 2 - PHASE 1

G0000-1.2

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KEYNOTES PER SHEET

104401	SURFACE MOUNTED FIRE EXTINGUISHER CABINET
104402	RECESSED FIRE EXTINGUISHER CABINET

FIRE RESISTIVE LEGEND

FIRE WALLS

4FW 4FW 4FW 4FW 4FW 4FW 4FW	4 HOUR FIRE WALL
3FW 3FW 3FW 3FW 3FW 3FW 3FW	3 HOUR FIRE WALL
2FW 2FW 2FW 2FW 2FW 2FW 2FW	2 HOUR FIRE WALL

FIRE BARRIERS

4FB 4FB 4FB 4FB 4FB 4FB 4FB	4 HOUR FIRE BARRIER
3FB 3FB 3FB 3FB 3FB 3FB 3FB	3 HOUR FIRE BARRIER
2FB 2FB 2FB 2FB 2FB 2FB 2FB	2 HOUR FIRE BARRIER
1FB 1FB 1FB 1FB 1FB 1FB 1FB	1 HOUR FIRE BARRIER

SHAFT ENCLOSURES

2SE 2SE 2SE 2SE 2SE 2SE 2SE	2 HOUR SHAFT ENCLOSURE
1SE 1SE 1SE 1SE 1SE 1SE 1SE	1 HOUR SHAFT ENCLOSURE

SMOKE BARRIERS

4SB 4SB 4SB 4SB 4SB 4SB 4SB	4 HOUR SMOKE BARRIER
3SB 3SB 3SB 3SB 3SB 3SB 3SB	3 HOUR SMOKE BARRIER
2SB 2SB 2SB 2SB 2SB 2SB 2SB	2 HOUR SMOKE BARRIER
1SB 1SB 1SB 1SB 1SB 1SB 1SB	1 HOUR SMOKE BARRIER

FIRE PARTITIONS

1FP 1FP 1FP 1FP 1FP 1FP 1FP	1 HOUR FIRE PARTITION
0.5FP 0.5FP 0.5FP 0.5FP 0.5FP 0.5FP 0.5FP	0.5 HOUR FIRE PARTITION
1C 1C 1C 1C 1C 1C 1C	1 HOUR CORRIDOR PARTITION (FOR DISTINCTION HOSPITAL CONSTRUCTION ONLY)

SMOKE TIGHT PARTITIONS

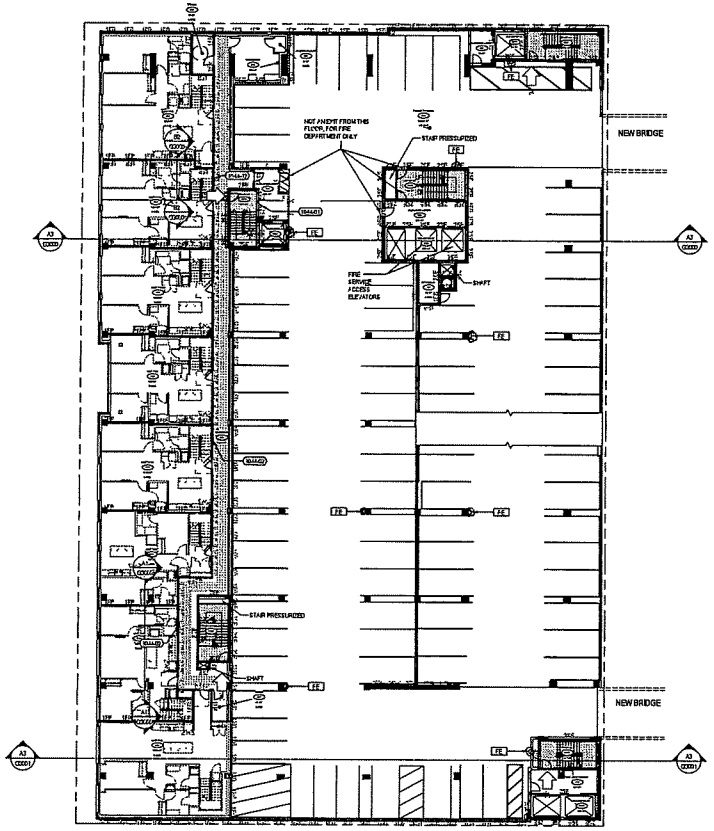
S S S S S S S	SMOKE TIGHT PARTITION
ST ST ST ST ST ST ST	SMOKE TIGHT PARTITION (1/0 SMOKE TIGHT CEILING)
SP SP SP SP SP SP SP	SMOKE TIGHT PARTITION (WITH PUBLAN ABOVE CEILING)
S S S S S S S	SMOKE TIGHT PARTITION (ELEVATION OF INTERSTITIAL SPACES)

BEARING WALLS

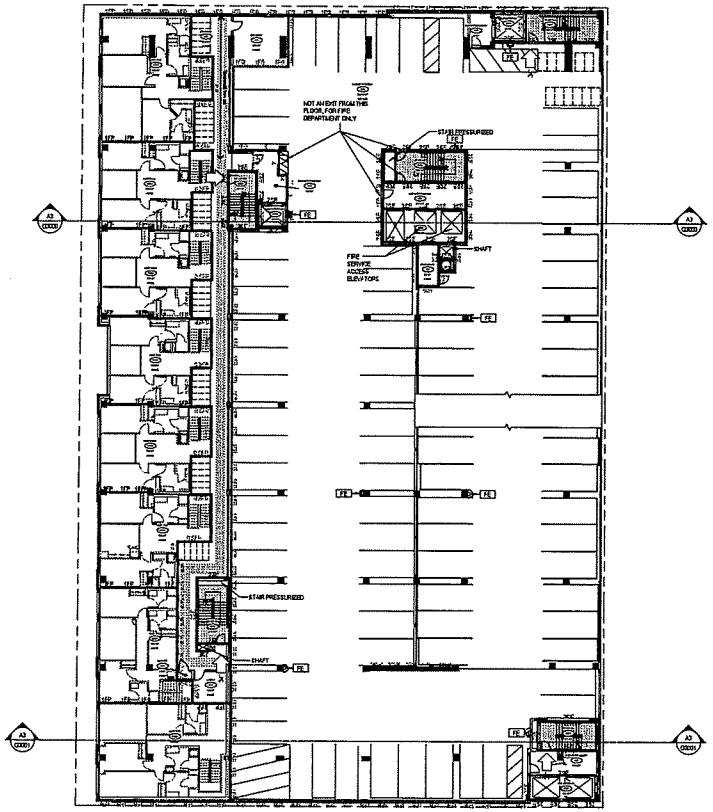
2BW 2BW 2BW 2BW 2BW 2BW 2BW	2 HOUR BEARING WALL
1BW 1BW 1BW 1BW 1BW 1BW 1BW	1 HOUR BEARING WALL

MEANS OF EGRESS

- EXIT DOOR OR LEVEL: X = CLEAR WIDTH OF DOOR IN INCHES
- EXIT DOORWAY: X = CLEAR WIDTH OF OPENING IN INCHES
- MARKER REQUIRED
- HORIZONTAL EXIT
- HORIZONTAL EXIT
- AREA OF REFUGE ASSISTANCE
- ACCESSIBLE EGRESS COMPONENT
- EXIT ACCESS CORRIDOR
- EXIT PASSAGEWAY
- EXIT PASSAGE - SUITE
- SUITE DESIGNATIONS
- VERTICAL EXIT ENCLOSURE
- STAIRWAY (EXIT/EGRESS MEANS OF EGRESS)
- HORIZONTAL RATED ASSEMBLY



A1 P3 FLR LIFE SAFETY PLAN



A5 P4 FLR LIFE SAFETY PLAN

eu:a
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PROJECT INFORMATION

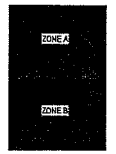
STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05/05/2021	SCHEMATIC DESIGN PHS
06/21/2021	SCHEMATIC DESIGN PHS
01/28/2022	DESIGN DEVELOPMENT PHS
09/01/2022	DESIGN DEVELOPMENT PHS
10/10/2022	100% STRUCTURAL CONSTRUCTION PH 1
11/02/2022	PH_A002

KEY PLAN



SHEET INFORMATION

PROJECT MANAGER	MO
PROJECT NUMBER	720448

P3 & P4 FLR LIFE SAFETY PLAN

G1002

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KEYNOTES PER SHEET

15.4401	SURFACE MOUNTED FIRE EXTINGUISHER CABINET
10.4402	SEMI-RECESSED FIRE EXTINGUISHER CABINET

FIRE RESISTIVE LEGEND

FIRE WALLS

4FW 4FW 4FW 4FW 4FW 4FW 4FW	4 HOUR FIRE WALL
3FW 3FW 3FW 3FW 3FW 3FW 3FW	3 HOUR FIRE WALL
2FW 2FW 2FW 2FW 2FW 2FW 2FW	2 HOUR FIRE WALL

FIRE BARRIERS

4FB 4FB 4FB 4FB 4FB 4FB 4FB	4 HOUR FIRE BARRIER
3FB 3FB 3FB 3FB 3FB 3FB 3FB	3 HOUR FIRE BARRIER
2FB 2FB 2FB 2FB 2FB 2FB 2FB	2 HOUR FIRE BARRIER
1FB 1FB 1FB 1FB 1FB 1FB 1FB	1 HOUR FIRE BARRIER

SHAFT ENCLOSURES

2SE 2SE 2SE 2SE 2SE 2SE 2SE	2 HOUR SHAFT ENCLOSURE
1SE 1SE 1SE 1SE 1SE 1SE 1SE	1 HOUR SHAFT ENCLOSURE

SMOKE BARRIERS

4SB 4SB 4SB 4SB 4SB 4SB 4SB	4 HOUR SMOKE BARRIER
3SB 3SB 3SB 3SB 3SB 3SB 3SB	3 HOUR SMOKE BARRIER
2SB 2SB 2SB 2SB 2SB 2SB 2SB	2 HOUR SMOKE BARRIER
1SB 1SB 1SB 1SB 1SB 1SB 1SB	1 HOUR SMOKE BARRIER

FIRE PARTITIONS

1FP 1FP 1FP 1FP 1FP 1FP 1FP	1 HOUR FIRE PARTITION
0.5FP 0.5FP 0.5FP 0.5FP 0.5FP 0.5FP 0.5FP	0.5 HOUR FIRE PARTITION
0.5 0.5 0.5 0.5 0.5 0.5 0.5	0.5 HOUR CORRIDOR PARTITION (FOR EXISTING HOSPITAL CONSTRUCTION ONLY)

SMOKE TIGHT PARTITIONS

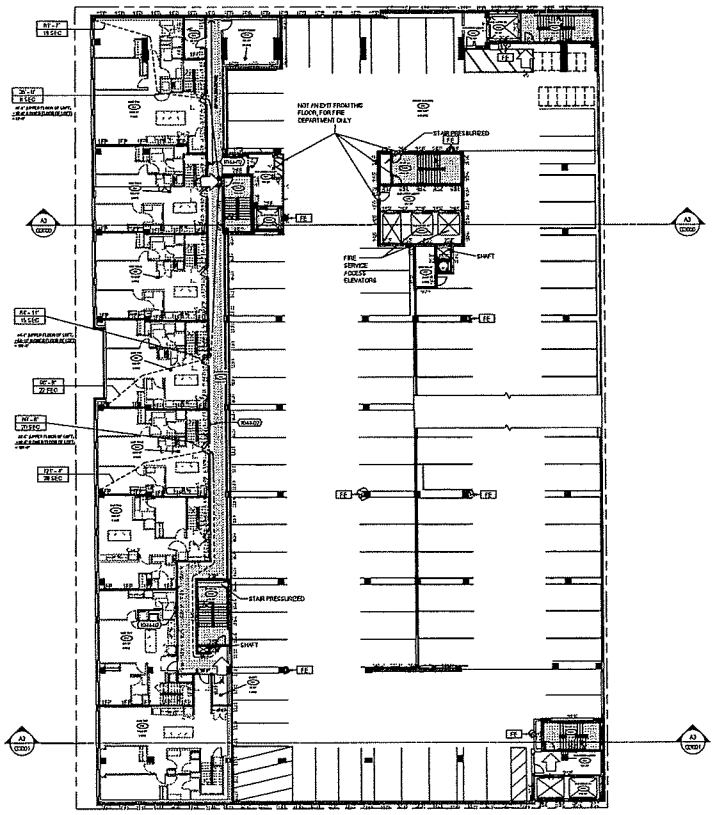
S S S S S S S	SMOKE TIGHT PARTITION
ST ST ST ST ST ST ST	SMOKE TIGHT PARTITION (TO NEXT TIGHT COURSE)
STP STP STP STP STP STP STP	SMOKE TIGHT PARTITION (WITH PIPES RUN ABOVE CEILING)
SS SS SS SS SS SS SS	SMOKE TIGHT PARTITION (SEPARATION OF HYPERBARICAL SPACES)

BEARING WALLS

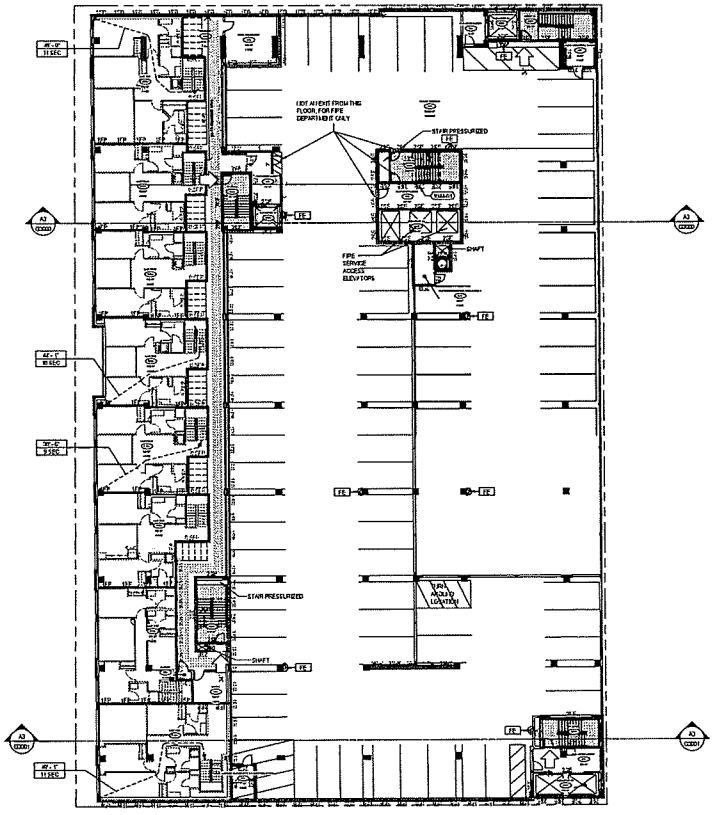
2BW 2BW 2BW 2BW 2BW 2BW 2BW	2 HOUR BEARING WALL
1BW 1BW 1BW 1BW 1BW 1BW 1BW	1 HOUR BEARING WALL

MEANS OF EGRESS

- EXIT DISCHARGE (EXIT AT LEVEL OF EXIT DISCHARGE) X = CLEAR WIDTH OF OPENING IN INCHES
- EXIT DISCHARGE (EXIT AT LEVEL OF EXIT DISCHARGE) X = CLEAR WIDTH OF OPENING IN INCHES
- HANDRAIL REQUIRED
- HORIZONTAL EXIT
- HORIZONTAL EXIT
- AREA OF RESCUE ASSISTANCE
- ACCESSIBLE EGRESS COMPONENT
- EXIT ACCESS CORRIDOR
- EXIT PASSAGEWAY
- EXIT PASSAGE – SUITE
- SUITE DESIGNATIONS
- VERTICAL EXIT ENCLOSURE
- STAIRWAY (EXISTING/NEW) HOME OF EXIT (S)
- HORIZONTAL RATED ASSEMBLY



A1 P5 LIFE SAFETY PLAN
1/16" = 1'-0"



A4 P6 FLR LIFE SAFETY PLAN
1/16" = 1'-0"

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PROJECT INFORMATION

STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05-06-2022	SCHEMATIC DESIGN PKG
05-13-2022	SCHEMATIC DESIGN PKG
07-29-2022	DESIGN DEVELOPMENT PKG
09-09-2022	DESIGN DEVELOPMENT PKG
10-07-2022	CITY & UTILITY SUBMISSIONS PKG 1
11-02-2022	PH_ADDD

KEY PLAN

SHEET INFORMATION

PROJECT MANAGER	MO
PROJECT NUMBER	72048

P5 & P6 FLR LIFE SAFETY PLAN

G1003

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KEYNOTES PER SHEET

09440	SEMI-RECESSED FIRE EXTINGUISHER CABINET

FIRE RESISTIVE LEGEND

FIRE WALLS

4FW 4FW 4FW 4FW 4FW 4FW 4FW	4 HOUR FIRE WALL
3FW 3FW 3FW 3FW 3FW 3FW 3FW	3 HOUR FIRE WALL
2FW 2FW 2FW 2FW 2FW 2FW 2FW	2 HOUR FIRE WALL

FIRE BARRIERS

4FB 4FB 4FB 4FB 4FB 4FB 4FB	4 HOUR FIRE BARRIER
3FB 3FB 3FB 3FB 3FB 3FB 3FB	3 HOUR FIRE BARRIER
2FB 2FB 2FB 2FB 2FB 2FB 2FB	2 HOUR FIRE BARRIER
1FB 1FB 1FB 1FB 1FB 1FB 1FB	1 HOUR FIRE BARRIER

SHAFT ENCLOSURES

2SE 2SE 2SE 2SE 2SE 2SE 2SE	2 HOUR SHAFT ENCLOSURE
1SE 1SE 1SE 1SE 1SE 1SE 1SE	1 HOUR SHAFT ENCLOSURE

SMOKE BARRIERS

4SB 4SB 4SB 4SB 4SB 4SB 4SB	4 HOUR SMOKE BARRIER
3SB 3SB 3SB 3SB 3SB 3SB 3SB	3 HOUR SMOKE BARRIER
2SB 2SB 2SB 2SB 2SB 2SB 2SB	2 HOUR SMOKE BARRIER
1SB 1SB 1SB 1SB 1SB 1SB 1SB	1 HOUR SMOKE BARRIER

FIRE PARTITIONS

1FP 1FP 1FP 1FP 1FP 1FP 1FP	1 HOUR FIRE PARTITION
0.5FP 0.5FP 0.5FP 0.5FP 0.5FP 0.5FP 0.5FP	0.5 HOUR FIRE PARTITION
0.5 0.5 0.5 0.5 0.5 0.5 0.5	0.5 HOUR CORRIDOR PARTITION (FOR EXISTING HOSPITAL CONSTRUCTION ONLY)

SMOKE TIGHT PARTITIONS

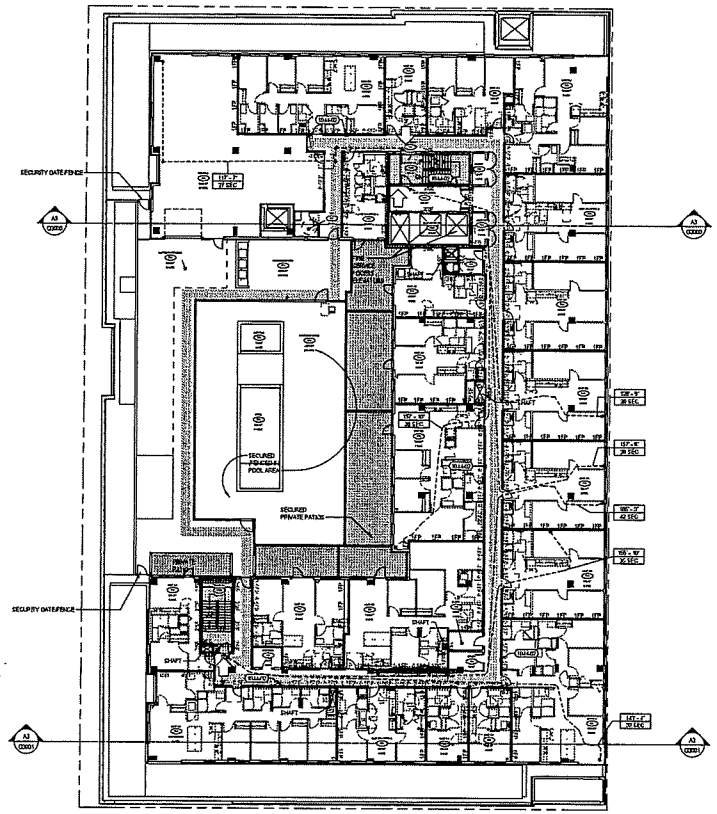
Y Y Y Y Y Y Y	SMOKE TIGHT PARTITION
STC STC STC STC STC STC STC	SMOKE TIGHT PARTITION (TO SMOKE TIGHT CEILING)
STP STP STP STP STP STP STP	SMOKE TIGHT PARTITION (WITH FULL STC ABOVE CEILING)
0.5 0.5 0.5 0.5 0.5 0.5 0.5	SMOKE TIGHT PARTITION (SEPARATION OF INTERSTITIAL SPACES)

BEARING WALLS

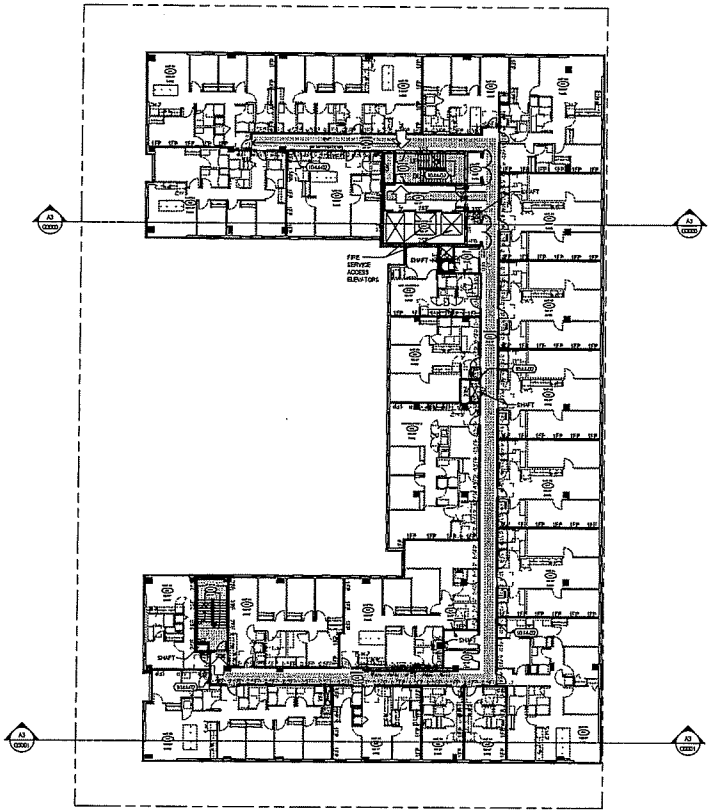
2BW 2BW 2BW 2BW 2BW 2BW 2BW	2 HOUR BEARING WALL
1BW 1BW 1BW 1BW 1BW 1BW 1BW	1 HOUR BEARING WALL

MEANS OF EGRESS

- FROM ROOM OR LEVEL: X = CLEAR WIDTH OF OPENING IN INCHES
- EXIT DISCHARGE: X = CLEAR WIDTH OF OPENING IN INCHES
- MAJOR REQUIRED
- HORIZONTAL EXIT
- HORIZONTAL EXIT
- AREA OF REFUGE ASSISTANCE
- ACCESSIBLE EGRESS COMPONENT
- ID IT ACCESS CORRIDOR
- ID IT PASSAGEWAY
- ID IT PASSAGE – ELITE
- SUITE DESIGN PATTERN
- VERTICAL EXIT ENCLOSURE
- STAIRWAY REQUIRED AREA OF EGRESS
- HORIZONTAL RATED ASSEMBLY



N A1 7TH FLR LIFE SAFETY PLAN
1/16" = 1'-0"



N A5 8TH FLR LIFE SAFETY PLAN
1/16" = 1'-0"

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PROJECT INFORMATION

STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05-16-2022	SCHEMATIC DESIGN PH1
05-20-2022	SCHEMATIC DESIGN PH2
07-28-2022	DESIGN DEVELOPMENT PH2
09-01-2022	DESIGN DEVELOPMENT PH2
10-12-2022	CONSTRUCTION DOCUMENTS PH1

KEY PLAN

SHEET INFORMATION

PROJECT MANAGER	MD
PROJECT NUMBER	720448

7TH & 8TH FLR LIFE SAFETY PLAN

G1004

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BIKE STALLS

LEVEL	TYPE	COUNT	Phase Created
LL		2	Phase 1
LL		12	Phase 2
LL	BIKE STALL-CROSS STACKED/ANGLED CORRAL STYLE (BIKE BACK)	132	Phase 2
		146	
1ST FLR - LAKE ST	BIKE STALL-CROSS STACKED/ANGLED CORRAL STYLE (BIKE BACK)	28	Phase 2
		28	
P4	BIKE STALL - STRUCTURED	84	Phase 2
		84	
P6	BIKE STALL - STRUCTURED	84	Phase 2
		84	
Grand total: 340		340	

MOPED STALL

LEVEL	TYPE	COUNT	STALL SIZE	PHASE CREATED
LL	MOPED PARKING	10	3'-0" WIDTH X 6'-0" LENGTH	Phase 2
		10		
P4	MOPED PARKING	11	3'-0" WIDTH X 6'-0" LENGTH	Phase 1
		11		
P6	MOPED PARKING	11	3'-0" WIDTH X 6'-0" LENGTH	Phase 1
		11		
Grand total: 32		32		

PARKING

LEVEL	TYPE	COUNT
LL	ADA	3
LL	ADA EV READY	1
LL	COMPACT	12
LL	COMPACT EV	2
LL	EV	11
LL	EV READY	11
LL	SHORT COMPACT	16
LL	SHORT COMPACT EV	5
LL	STANDARD PARKING	32
LL 81		93
1ST FLR - LAKE ST	COMPACT	1
1ST FLR - LAKE ST	EV	5
1ST FLR - LAKE ST	EV READY	7
1ST FLR - LAKE ST	STANDARD PARKING	18
1ST FLR - LAKE ST 31		31
P2		2
P2	ADA	2
P2	COMPACT	9
P2	EV READY	22
P2	SHORT COMPACT	7
P2	STANDARD PARKING	37
P2 78		78
P3	ADA	2
P3	COMPACT	6
P3	EV READY	23
P3	SHORT COMPACT	9
P3	STANDARD PARKING	39
P3 79		79
P4		1
P4	ADA	2
P4	COMPACT	16
P4	EV READY	23
P4	SHORT COMPACT	7
P4	STANDARD PARKING	46
P4 94		93
P5	ADA	1
P5	COMPACT	9
P5	EV READY	4
P5	SHORT COMPACT	9
P5	STANDARD PARKING	107
P5 130		130
P6	ADA	1
P6	COMPACT	10
P6	SHORT COMPACT	7
P6	STANDARD PARKING	47
P6 65		65
Grand total: 525		525

UPPER FLOORS OF LOFT UNITS, WHICH DOES NOT COUNT TOWARD TOTAL NUMBER OF UNITS BUT ARE INCLUDED IN THE TOTAL NUMBER FOR SF AREA AND BEDS/BATHROOMS/UNIT

UNIT SCHEDULE P4

LEVEL	NUMBER	ROOM NAME	BED COUNT	BATHROOM COUNT	AREA
P4	304U	LOFT THIA	2	2	739 SF
P4	305U	LOFT THIB	2	2	745 SF
P4	306U	LOFT THIB	2	2	750 SF
P4	307U	LOFT TH2	2	2	755 SF
P4	310U	LOFT TH2	2	2	754 SF
P4	311U	LOFT TH4	3	3	731 SF
P4	312U	LOFT TH5	3	3	1,074 SF
P4	313U	LOFT TH5	3	3	986 SF
P4 8			15	15	
Grand total: 8			15	15	

UNIT SCHEDULE P6

LEVEL	NUMBER	ROOM NAME	BED COUNT	BATHROOM COUNT	AREA
P6	304U	LOFT THIA	2	2	739 SF
P6	305U	LOFT THIB	2	2	745 SF
P6	306U	LOFT THIB	2	2	750 SF
P6	307U	LOFT TH2	2	2	755 SF
P6	310U	LOFT TH2	2	2	754 SF
P6	311U	LOFT TH4	3	3	731 SF
P6	312U	LOFT TH5	3	3	1,074 SF
P6	313U	LOFT TH5	3	3	986 SF
P6 8			19	19	
Grand total: 8			19	19	

UNIT SCHEDULE

LEVEL	NUMBER	ROOM NAME	BED COUNT	BATHROOM COUNT	AREA
P2	202	LOFT TH5	3	2	1,307 SF
P3	304	LOFT TH1A	2	2	1,094 SF
P3	305	LOFT TH1B	2	2	1,094 SF
P3	308	LOFT TH2	2	2	940 SF
P3	309	LOFT TH1B	2	2	1,115 SF
P3	312	LOFT TH3	2	2	889 SF
P3	314	LOFT TH4	2	2	907 SF
P3	315	LOFT TH5	3	2	1,348 SF
P3 9			18	16	
P5	502	LOFT TH5	3	3	1,307 SF
P5	504	LOFT TH1A	2	2	1,094 SF
P5	505	LOFT TH1B	2	2	1,094 SF
P5	508	LOFT TH2	2	2	940 SF
P5	509	LOFT TH1B	2	2	1,115 SF
P5	512	LOFT TH3	2	2	889 SF
P5	514	LOFT TH4	2	2	907 SF
P5	515	LOFT TH5	3	2	1,348 SF
P5 9			18	16	
P1/FLR	103	LOFT CD	4	4	1,160 SF
P1/FLR	104	LOFT B1 - TYPE A	1	1	514 SF
P1/FLR	105	LOFT B1	1	1	556 SF
P2/FLR	107	LOFT B1	2	1	920 SF
P2/FLR	108	LOFT B1	4	3	1,210 SF
P2/FLR	111	LOFT B2 - TYPE A	4	2	1,163 SF
P2/FLR	112	LOFT A2	1	1	495 SF
P2/FLR	113	LOFT B1	4	2	1,155 SF
P2/FLR	114	LOFT B2	3	2	957 SF
P2/FLR	116	LOFT B2	4	2	976 SF
P2/FLR	116	LOFT B2	5	4	1,410 SF
P2/FLR	117	LOFT B1	4	2	995 SF
P2/FLR	118	LOFT B2	4	2	958 SF
P2/FLR	121	LOFT E1	6	5	1,481 SF
P3/FLR	123	LOFT S1	1	1	512 SF
P3/FLR	126	LOFT S1	1	1	524 SF
P3/FLR	127	LOFT B1 - TYPE A	2	2	980 SF
P3/FLR	128	LOFT B2	5	4	1,410 SF
P3/FLR	129	LOFT B4	2	2	972 SF
P4/FLR	131	LOFT E2	5	5	See Enclosed
P4/FLR	132	LOFT A1	1	1	511 SF
P4/FLR 21			83	68	
P5/FLR	502	LOFT B2	4	2	980 SF
P5/FLR	504	LOFT B2	4	3	1,210 SF
P5/FLR	505	LOFT B2	4	4	1,277 SF
P5/FLR	508	LOFT B1	4	2	970 SF
P5/FLR	509	LOFT B1	4	2	1,105 SF
P5/FLR	512	LOFT B2	4	3	1,163 SF
P5/FLR	513	LOFT A2	1	1	495 SF
P5/FLR	514	LOFT B1	4	2	964 SF
P5/FLR	515	LOFT A2 - TYPE A	1	1	520 SF
P5/FLR	516	LOFT B1	4	2	955 SF
P5/FLR	517	LOFT B1 - TYPE A	5	4	1,204 SF
P5/FLR	518	LOFT B1	4	2	958 SF
P5/FLR	519	LOFT B2	4	2	958 SF
P5/FLR	521	LOFT E1	6	5	1,468 SF
P5/FLR	523	LOFT S1	1	1	512 SF
P5/FLR	525	LOFT S1	1	1	517 SF
P5/FLR	528	LOFT C2	5	5	1,430 SF
P5/FLR	529	LOFT B1	4	2	1,155 SF
P5/FLR	531	LOFT E2	5	5	1,542 SF
P5/FLR	532	LOFT A1	1	1	502 SF
P5/FLR 22			73	68	
P6/FLR	601	LOFT B2	4	4	1,210 SF
P6/FLR	602	LOFT B2	4	4	1,277 SF
P6/FLR	604	LOFT B2	4	4	872 SF
P6/FLR	605	LOFT B2	4	4	1,188 SF
P6/FLR	606	LOFT B2	4	4	1,188 SF
P6/FLR	607	LOFT B1	4	2	970 SF
P6/FLR	608	LOFT B1	4	2	1,105 SF
P6/FLR	609	LOFT B2	4	3	1,163 SF
P6/FLR	612	LOFT A3	1	1	495 SF
P6/FLR	613	LOFT B2	4	2	955 SF
P6/FLR	614	LOFT B2	3	2	700 SF
P6/FLR	615	LOFT B2	14	2	930 SF
P6/FLR	616	LOFT B2	5	4	1,364 SF
P6/FLR	617	LOFT B2	4	2	958 SF
P6/FLR	618	LOFT B2	4	2	955 SF
P6/FLR	621	LOFT E1	6	5	1,468 SF
P6/FLR	623	LOFT S1	1	1	512 SF
P6/FLR	624	LOFT S1	1	1	524 SF
P6/FLR	627	LOFT B1	2	2	991 SF
P6/FLR	628	LOFT B1	5	4	1,410 SF
P6/FLR	630	LOFT B1	4	2	1,161 SF
P6/FLR	631	LOFT E2	5	5	1,542 SF
P6/FLR	632	LOFT A1	1	1	502 SF
P6/FLR 22			73	68	
10TH FLR	1001	LOFT D2	4	4	1,210 SF
10TH FLR	1002	LOFT D1	4	4	1,277 SF
10TH FLR	1004	LOFT B2	2	2	872 SF
10TH FLR	1005	LOFT D2	4	4	1,188 SF
10TH FLR	1007	LOFT B1	2	1	970 SF
10TH FLR	1008	LOFT B1	4	3	1,215 SF
10TH FLR	1009	LOFT B1	4	3	1,163 SF
10TH FLR	1010	LOFT D4	4	3	1,210 SF
10TH FLR	1011	LOFT B1	2	1	955 SF
10TH FLR	1012	LOFT A3	1	1	491 SF
10TH FLR	1013	LOFT B2	4	2	955 SF
10TH FLR	1014	LOFT B2	3	2	698 SF
10TH FLR	1015	LOFT B2	14	2	926 SF
10TH FLR	1016	LOFT B2	4	2	956 SF
10TH FLR	1017	LOFT D2	5	4	1,378 SF
10TH FLR	1018	LOFT B2	4	2	955 SF
10TH FLR	1019	LOFT B2	4	2	955 SF
10TH FLR	1021	LOFT E1	6	5	1,468 SF
10TH FLR	1023	LOFT S1	1	1	520 SF
10TH FLR	1025	LOFT S1	1	1	517 SF
10TH FLR	1027	LOFT B1	2	0	991 SF
10TH FLR	1028	LOFT D4	5	4	1,408 SF
10TH FLR	1030	LOFT D1	4	2	1,161 SF
10TH FLR	1031	LOFT E2	5	5	1,542 SF
10TH FLR	1032	LOFT A1	1	1	502 SF
10TH FLR 22			73	68	
11TH FLR	1101	LOFT D2	4	4	1,210 SF
11TH FLR	1102	LOFT D1	4	4	1,277 SF
11TH FLR	1104	LOFT B2	2	2	872 SF
11TH FLR	1105	LOFT D2	4	4	1,188 SF
11TH FLR	1107	LOFT B1	2	1	970 SF
11TH FLR	1108	LOFT D4	4	3	1,215 SF
11TH FLR	1111	LOFT B2	4	2	955 SF
11TH FLR	1112	LOFT A3	1	1	491 SF
11TH FLR	1113	LOFT B2	4	2	955 SF
11TH FLR	1114	LOFT B2	3	2	700 SF
11TH FLR	1115	LOFT B2	14	2	930 SF
11TH FLR	1116	LOFT B2	5	4	1,364 SF
11TH FLR	1117	LOFT B2	4	2	958 SF
11TH FLR	1119	LOFT B2	4	2	955 SF
11TH FLR	1121	LOFT E1	6	5	1,468 SF
11TH FLR	1123	LOFT S1	1	1	520 SF
11TH FLR	1125	LOFT S1	1	1	517 SF
11TH FLR	1127	LOFT B2	2	2	991 SF
11TH FLR	1128	LOFT D2	5	4	1,430 SF
11TH FLR	1130	LOFT D1	4	2	1,161 SF
11TH FLR	1131	LOFT E2	5	5	1,542 SF
11TH FLR	1132	LOFT A1	1	1	502 SF
11TH FLR 23			73	68	

UNIT SCHEDULE

LEVEL	NUMBER	ROOM NAME	BED COUNT	BATHROOM COUNT	AREA
12TH FLR	1201	LOFT D2	4	4	1,210 SF
12TH FLR	1202	LOFT D6	4	4	1,277 SF
12TH FLR	1204	LOFT B2	2	2	872 SF
12TH FLR	1205	LOFT D1	4	4	1,188 SF
12TH FLR	1207	LOFT B1	2	1	970 SF
12TH FLR	1208	LOFT D4	4	3	1,215 SF
12TH FLR	1211	LOFT B2	4	2	955 SF
12TH FLR	1212	LOFT A3	1	1	491 SF
12TH FLR	1213	LOFT B2	4	2	955 SF
12TH FLR	1214	LOFT D5	3	2	700 SF
12TH FLR	1215	LOFT B2	14	2	926 SF
12TH FLR	1216	LOFT D3	5	4	1,365 SF
12TH FLR	1217	LOFT B2	4	2	956 SF
12TH FLR	1218	LOFT B2	4	2	955 SF
12TH FLR	1221	LOFT E1	6	5	1,468 SF
12TH FLR	1223	LOFT S1	1	1	520 SF
12TH FLR	1225	LOFT S1	1	1	517 SF
12TH FLR	1227	LOFT D6	2	2	991 SF
12TH FLR	1228	LOFT D4	5	4	1,410 SF
12TH FLR	1230	LOFT D1	4	2	1,161 SF
12TH FLR	1231	LOFT E2	5	5	1,542 SF
12TH FLR	1232	LOFT A1	1	1	502 SF
12TH FLR 22			73	68	
13TH FLR	1301	LOFT D2	4	4	1,210 SF
13TH FLR	1302	LOFT D6	4	4	1,277 SF
13TH FLR	1304	LOFT B2	2	2	872 SF
13TH FLR	1305	LOFT D3	4	4	1,188 SF
13TH FLR	1307	LOFT B1	2	1	970 SF
13TH FLR	1308	LOFT D4	4	3	1,215 SF
13TH FLR	1311	LOFT B2	4	2	955 SF
13TH FLR	1312	LOFT A2	1	1	495 SF
13TH FLR	1313	LOFT B2	4	2	955 SF
13TH FLR	1314	LOFT D5	3	2	700 SF
13TH FLR	1315	LOFT B2	14	2	926 SF
13TH FLR	1316	LOFT D2	5	4	1,365 SF
13TH FLR	1317	LOFT B2	4	2	956 SF
13TH FLR	1318	LOFT B2	4	2	955 SF
13TH FLR	1321	LOFT E1	6	5	1,468 SF
13TH FLR	1323	LOFT S1	1	1	520 SF
13TH FLR	1325	LOFT S1	1	1	517 SF
13TH FLR	1327	LOFT D6	2	2	991 SF
13TH FLR	1328	LOFT D4	5	4	1,410 SF
13TH FLR	1330	LOFT D1	4	2	1,161 SF
13TH FLR	1331	LOFT E2	5	5	1,542 SF
13TH FLR	1332	LOFT A1	1	1	502 SF
13TH FLR 22			73	68	
14TH FLR	1401	LOFT D2	4	4	1,210 SF
14TH FLR	1402	LOFT D6	4	4	1,277 SF
14TH FLR	1404	LOFT B2	2	2	872 SF
14TH FLR	1405	LOFT D3	4	4	1,188 SF
14TH FLR	1407	LOFT B1	2	1	970 SF
14TH FLR	1408	LOFT D4	4	3	1,215 SF
14TH FLR	1411	LOFT B2	4	2	955 SF
14TH FLR	1412	LOFT A2	1	1	495 SF
14TH FLR	1413	LOFT B2	4	2	955 SF
14TH FLR	1414	LOFT D5	3	2	700 SF
14TH FLR	1415	LOFT B2	14	2	926 SF
14TH FLR	1416	LOFT D2	5	4	1,365 SF
14TH FLR	1417	LOFT B2	4	2	956 SF
14TH FLR	1418	LOFT B2	4	2	955 SF
14TH FLR	1421	LOFT E1	6	5	1,468 SF
14TH FLR	1423	LOFT S1	1	1	520 SF
14TH FLR	1425	LOFT S1	1	1	517 SF
14TH FLR	1427	LOFT B2	2	2	991 SF
14TH FLR	1428	LOFT D1	5	4	1,410 SF
14TH FLR	1430	LOFT D1	4	2	1,161 SF
14TH FLR	1431	LOFT E2	5	5	1,542 SF
14TH FLR	1432	LOFT A1	1	1	502 SF
14TH FLR 22			73	68	
15TH FLR	1501	LOFT D2	4	4	1,210 SF
15TH FLR	1502	LOFT D6	4	4	1,210 SF
15TH FLR	1504	LOFT B2	2	2	872 SF
15TH FLR	1505	LOFT D3	4	4	1,188 SF
15TH FLR	1507	LOFT B1	2	1	970 SF
15TH FLR	1508	LOFT D4	4	3	1,215 SF
15TH FLR	1511	LOFT B2	4	2	955 SF
15TH FLR	1512	LOFT A3	1	1	491 SF
15TH FLR	1513	LOFT B2	4	2	955 SF
15TH FLR	1514	LOFT D5	3	2	700 SF
15TH FLR	1515	LOFT B2	14	2	926 SF
15TH FLR	1516	LOFT D2	5	4	1,365 SF
15TH FLR	1517	LOFT B2	4	2	956 SF
15TH FLR	1518	LOFT B2	4	2	955 SF
15TH FLR	1521	LOFT E1	6	5	1,468 SF
15TH FLR	1523	LOFT S1	1	1	520 SF
15TH FLR	1525	LOFT S1	1	1	517 SF
15TH FLR	1527	LOFT D6	2	2	991 SF
15TH FLR	1528	LOFT D4	5	4	1,408 SF
15TH FLR	1530	LOFT D1	4	2	1,161 SF
15TH FLR	1531	LOFT E2	5	5	1,542 SF
15TH FLR	1532	LOFT A1	1	1	514 SF
15TH FLR 22			73	68	
Grand total: 313			878	828	

AREA FOR UNITS IN CHART ARE FROM FACE OF INTERIOR SIDE OF EXTERIOR WALL, CORRIDOR AND DEMISING WALL

TOTAL WITH UPPER FLOORS OF LOFTS

UNITS: 313 BEDS: 917 BATHROOMS: 856

eu:a

milwaukee | madison | green bay | denver | atlanta

PROJECT INFORMATION

STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05-04-2023	SCHEMATIC DESIGN PHI
05-12-2023	SCHEMATIC DESIGN PHI
07-28-2023	DESIGN DEVELOPMENT PHI
09-04-2023	DESIGN DEVELOPMENT PHI
10-03-2023	CD & PERMITTING DOCUMENTS PH1
11-02-2023	DP1_ADD2

KEY PLAN

SHEET INFORMATION

PROJECT MANAGER	MO
PROJECT NUMBER	720448

CODE CALCS

G4001

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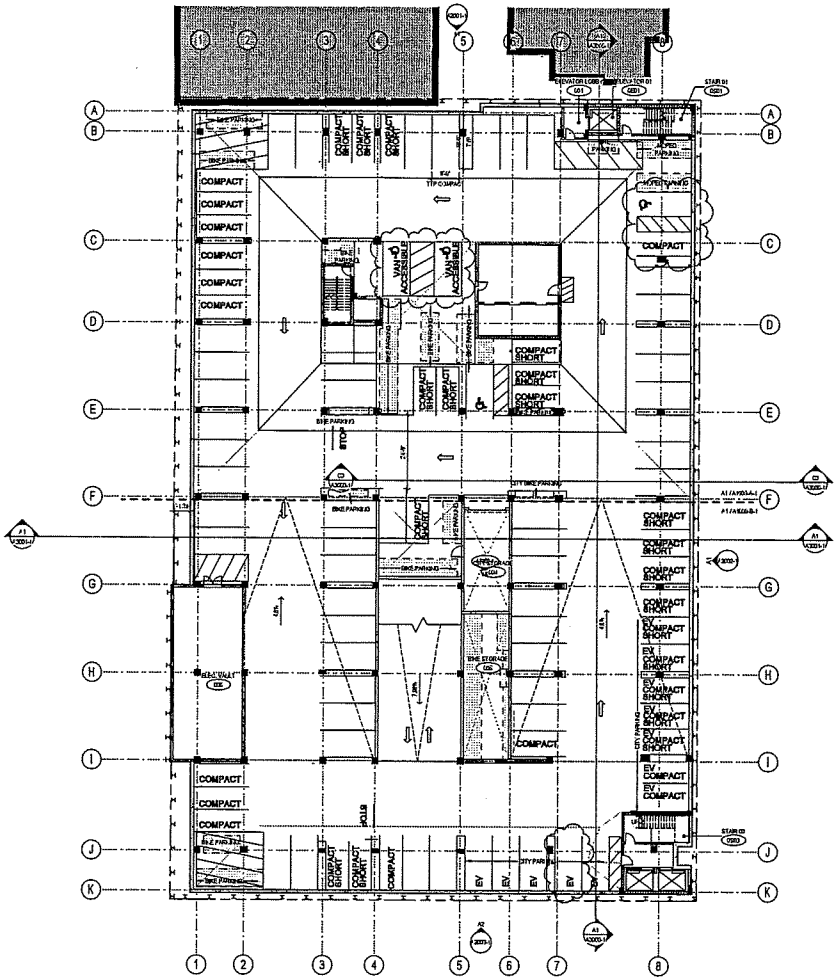

A3 LOWER LEVEL OVERALL - PHASE 1

SHEET NOTES - FLOOR PLAN

1. SEE GFC SHEET A1.0 FOR KEYNOTES PER SHEET
2. SEE GFC SHEET A1.0 FOR KEYNOTES PER SHEET
3. SEE GFC SHEET A1.0 FOR KEYNOTES PER SHEET
4. SEE GFC SHEET A1.0 FOR KEYNOTES PER SHEET
5. SEE GFC SHEET A1.0 FOR KEYNOTES PER SHEET
6. SEE GFC SHEET A1.0 FOR KEYNOTES PER SHEET
7. SEE GFC SHEET A1.0 FOR KEYNOTES PER SHEET
8. SEE GFC SHEET A1.0 FOR KEYNOTES PER SHEET
9. SEE GFC SHEET A1.0 FOR KEYNOTES PER SHEET
10. SEE GFC SHEET A1.0 FOR KEYNOTES PER SHEET
11. SEE GFC SHEET A1.0 FOR KEYNOTES PER SHEET
12. SEE GFC SHEET A1.0 FOR KEYNOTES PER SHEET
13. SEE GFC SHEET A1.0 FOR KEYNOTES PER SHEET
14. SEE GFC SHEET A1.0 FOR KEYNOTES PER SHEET

DIMENSIONING NOTES

17. SEE GFC SHEET A1.0 FOR KEYNOTES PER SHEET
18. SEE GFC SHEET A1.0 FOR KEYNOTES PER SHEET
19. SEE GFC SHEET A1.0 FOR KEYNOTES PER SHEET

WALL NOTES

21. SEE GFC SHEET A1.0 FOR KEYNOTES PER SHEET
22. SEE GFC SHEET A1.0 FOR KEYNOTES PER SHEET
23. SEE GFC SHEET A1.0 FOR KEYNOTES PER SHEET

KEYNOTES PER SHEET

eu:a

milwaukee | madison | green bay | denver | atlanta

PROJECT INFORMATION

STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05/05/2023	SCHEMATIC DESIGN PHI
07/26/2023	DESIGN DEVELOPMENT PHI
10/02/2023	CONSTRUCTION DOCUMENTS PH I
11/02/2023	PLANS

KEY PLAN

SHEET INFORMATION

PROJECT MANAGER	MO
PROJECT NUMBER	720448

LOWER LEVEL OVERALL - PHASE 1

A1000-1

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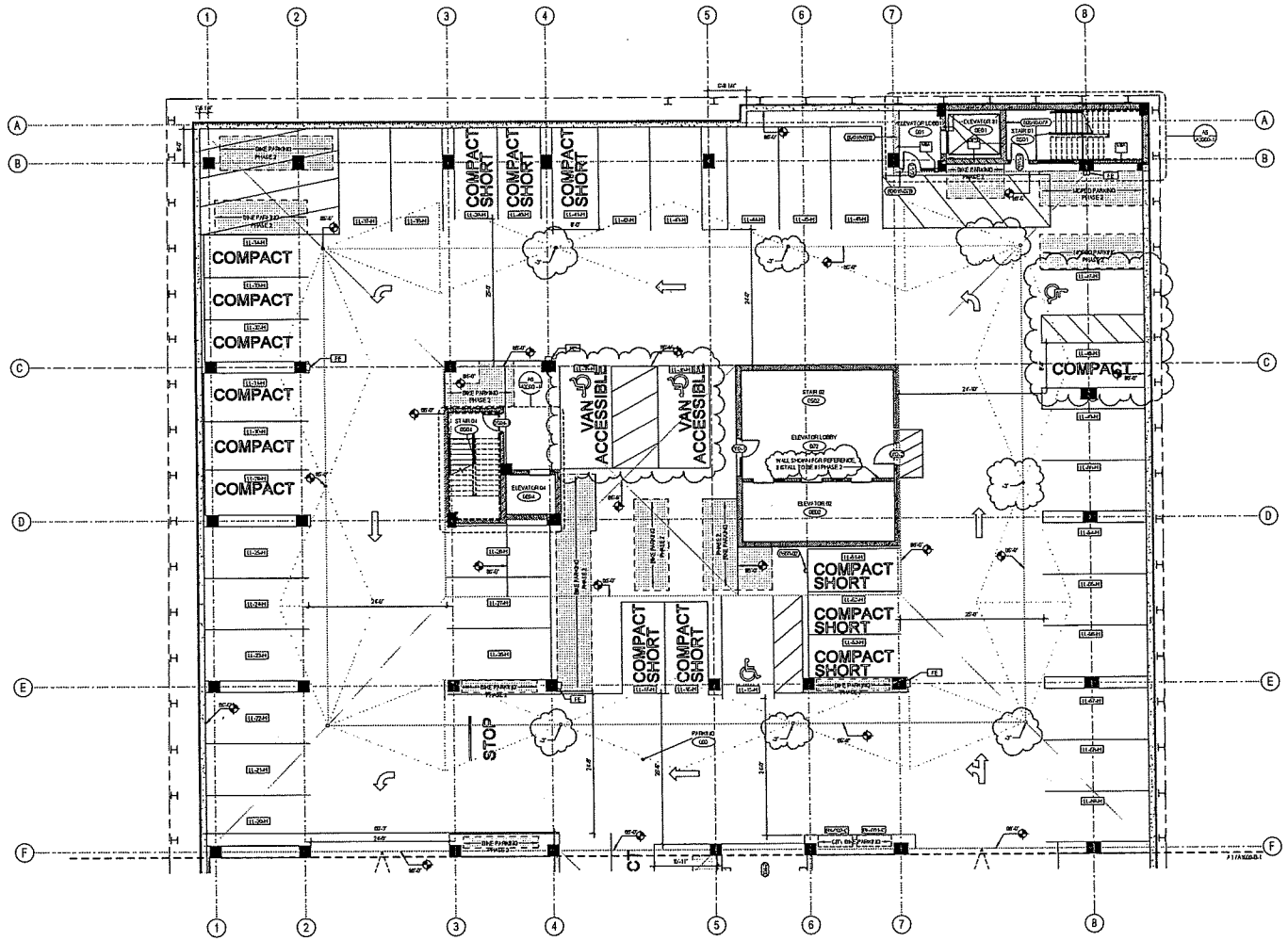


A1 LOWER LEVEL - ZONE A - PHASE 1

PHASE 2 - DOOR COORDINATION

DOORS SHOWN IN BLUE ARE NOT IN PHASE 1 SCOPE. OPENINGS AND CUT-OUT, IF APPLICABLE, ARE TO BE COORDINATED IN PHASE 1. DOOR, FRAME AND HARDWARE ARE TO BE INCLUDED IN PHASE 2 SCOPE.

THIS INCLUDES BUT NOT LIMITED TO OVERHEAD DOORS.

SEE "DOOR SCHEDULE - PHASE 1 / PHASE 2" ON A6220-1 FOR MORE INFORMATION

SHEET NOTES - FLOOR PLAN

1. SEE GRID DESIGN WORK. VERIFY THE EXISTENCE AND LOCATION OF PLUMBING, MECHANICAL AND ELECTRICAL SYSTEMS, AND OTHER CONSTRUCTION AFFECTED BY THIS WORK. IF DISCREPANCIES ARE DISCOVERED, NOTIFY ARCHITECT IMMEDIATELY.
2. NOTIFY ARCHITECT IMMEDIATELY OF ANY DISCREPANCIES, OR ALLOWANCE FOR DISCREPANCIES, PRIOR TO PROCEEDING WITH WORK.
3. VERIFY STRUCTURAL ELEMENTS, INCLUDING BUT NOT LIMITED TO POST TENSION CABLES OR OTHER RESTRAINT (EMBEDDED) IN FLOOR SLABS PRIOR TO COORDINATION OF OUTLET LOCATIONS WITH OWNER.
4. REFER TO SHEET A7001-1 FOR EXTERIOR ELEVATION KEYNOTES AND DETAILS.
5. ALL WALLS OR SOFFITS BEHIND OR ADJACENT TO PLUMBING FIXTURES SHALL RECEIVE MOISTURE- AND MOLD-RESISTANT GYPSUM BOARD, UNLESS NOTED OTHERWISE.
6. SEE ENLARGED FLOOR PLANS FOR ADDITIONAL NOTES, DIMENSIONS AND WALL TAGS.
7. PREPARE, PRIME AND CLEAN ALL EXISTING SURFACES SCHEDULED TO REMAIN THAT ARE AFFECTED BY DEMOLITION OR NEW CONSTRUCTION. USING APPROVED NEW, MATCHING AND/OR ECO STRUCTURAL PREPARE ALL SURFACES AS REQUIRED FOR FLAWLESS FINISHES. SEAL CAST AND PREPARE ALL DAMAGED OR UNFINISHED SURFACES.
8. LOCATE ALL DOOR JAMBS 4" FROM ADJACENT PERPENDICULAR WALL, UNLESS NOTED OTHERWISE.
9. WORK REQUIRED FOR FIRE SPRINKLERS, PLUMBING, HVAC, ELECTRICAL AND LIFE SAFETY ARE NOT FULLY REFERENCED AND DETAILED IN THESE PLANS. THE DESIGN OF THE FULL SCOPE OF WORK FOR FIRE SPRINKLERS, PLUMBING, HVAC, ELECTRICAL AND LIFE SAFETY IS THE RESPONSIBILITY OF THE DESIGN-BUILD SUBCONTRACTOR AND APPROVED BY THE OWNER. ANY INFORMATION SHOWN ON THESE ARCHITECTURAL DRAWINGS IS PROVIDED TO THESE DESIGN-BUILDS ARE A REFERENCE ONLY.
10. PREPARE FLOOR LEVEL AND SMOOTH FOR NEW WORK SURFACE FINISHES. PATCH ED STAIR PENETRATIONS AS AND AS REQUIRED IN CONCRETE FLOOR.
11. PROVIDE BLOCKING BEHIND FUTURE GRAB BARS. DO NOT INSTALL UNLESS PER ADA 4.17.1. ALL UNITS ARE ADA 1107.7 TYPE B UNITS UNLESS NOTED OTHERWISE (2 ACCESSIBLE, 2 TYPE A UNITS). SEE SHEET A001 FOR MORE INFORMATION.
12. PROVIDE BLOCKING AND UTILITIES LOCATED AS REQUIRED TO SUPPORT FACADE MATERIALS, FIXTURES, SPECIALTY ITEMS, MILLWORK AND TRIM.
13. PROVIDE 3/4" FIRE-RATED ANCHOR TREATED PLYWOOD AS BACKING PANELS FOR TELEPHONE & ELECTRICAL EQUIPMENT. INSTALL AT 72" AFF TO FINISHED CEILING. PAINT PLYWOOD TO MATCH ADJACENT WALL FINISH. COORDINATE FINAL SIZE AND LOCATION WITH OWNER.
14.

DIMENSIONING NOTES

17. INTERIOR METAL STUD WALLS ARE DIMENSIONED TO FINISHED FACE OF GYPSUM BOARD UNLESS NOTED OTHERWISE.
18. CMU BLOCK METAL STUD WALLS ARE DIMENSIONED TO EXTERIOR FACE OF STUD UNLESS NOTED OTHERWISE.
19. CMU WALLS ARE DIMENSIONED TO FACE OF CMU.

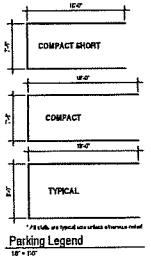
WALL NOTES

21. ALL CONCRETE MASONRY WALLS ARE 8" (203.2) UNLESS NOTED OTHERWISE.
22. ALL SHAFT ENCLOSURE WALLS ARE 2HR-RATED UNLESS NOTED OTHERWISE.
23. ALL WALLS NOT RATED OR LESS THAN 1HR-RATED UNLESS NOTED OTHERWISE.

KEYNOTES PER SHEET

XXXX-02	RESERVED
1000-A04-A	1HR RATED METAL STUD WALL WITH INSULATED CORES - SEE RATED ASSEMBLIES SHEET
1000-A04-B	2HR RATED METAL STUD WALL WITH INSULATED CORES - SEE RATED ASSEMBLIES SHEET

Parking Legend



eu:a

PROJECT INFORMATION

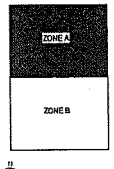
STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05/05/2023	SCHEMATIC DESIGN PH1
06/26/2023	DESIGN DEVELOPMENT PH1
8/02/2023	CONSTRUCTION DOCUMENTS PH1
11/02/2023	PH 1 ADD

KEY PLAN



SHEET INFORMATION

PROJECT MANAGER	MD
PROJECT NUMBER	720148

LOWER LEVEL - ZONE A - PHASE 1

A1000-A-1

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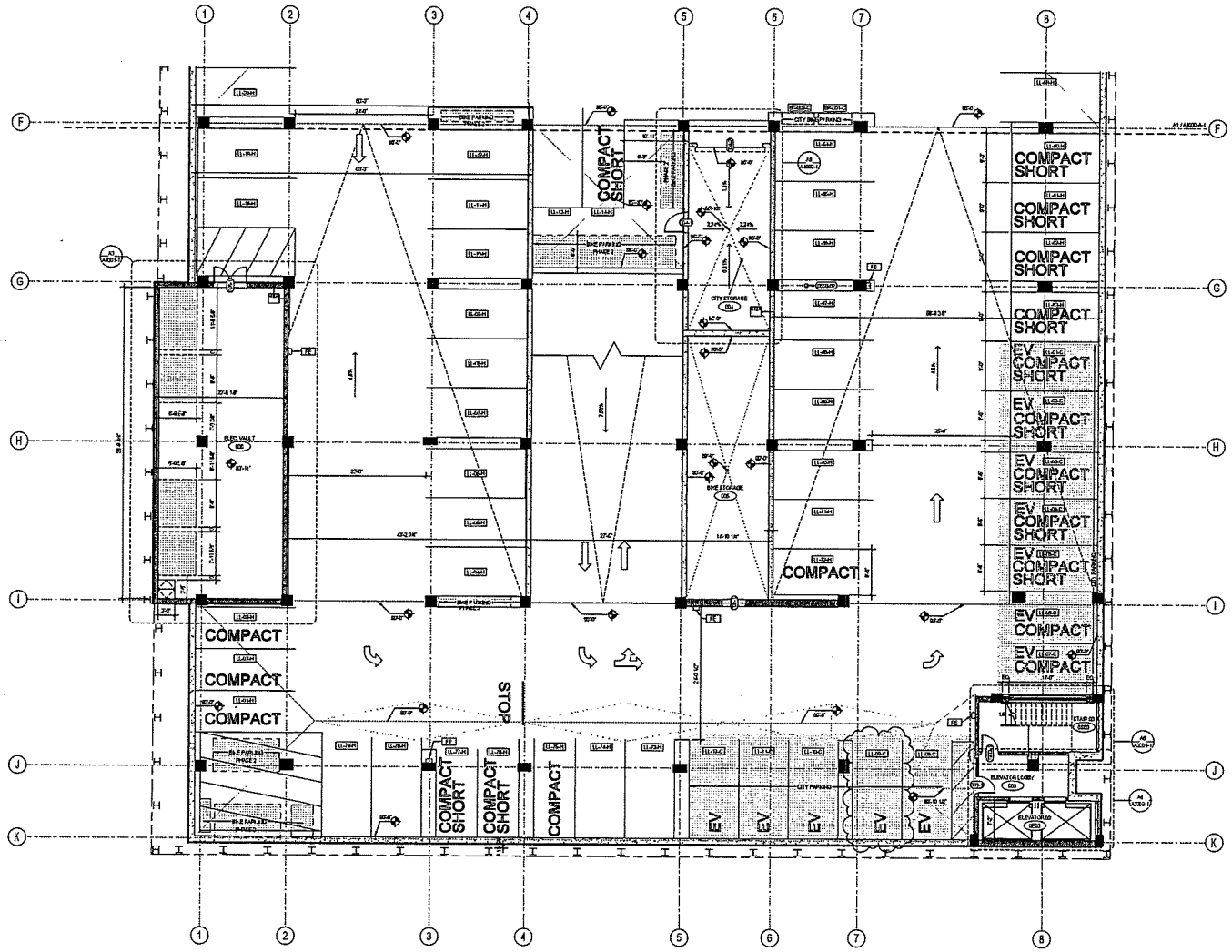


PHASE 2 - DOOR COORDINATION

DOORS SHOWN IN BLUE ARE NOT IN PHASE 1 SCOPE. OPENINGS AND CONDUIT, IF APPLICABLE, ARE TO BE COORDINATED IN PHASE 1. DOOR, FRAME AND HARDWARE ARE TO BE INCLUDED IN PHASE 2 SCOPE.

THIS INCLUDES BUT NOT LIMITED TO OVERHEAD DOORS.

SEE "DOOR SCHEDULE - PHASE 1 / PHASE 2" ON A600-1 FOR MORE INFORMATION

SHEET NOTES - FLOOR PLAN

1. BEFORE BEGINNING WORK, VERIFY THE EXISTENCE AND LOCATION OF PLUMBING, MECHANICAL, AND ELECTRICAL SYSTEMS AND OTHER CONSTRUCTION AFFECTED BY THE WORK. IF DISCREPANCIES ARE DISCOVERED, NOTIFY ARCHITECT IMMEDIATELY.
2. NOTIFY ARCHITECT IMMEDIATELY OF ANY DISCREPANCIES, OR FLAG SHEET ON CHECK-PRINTS PRIOR TO PROCEEDING WITH WORK.
3. VERIFY STRUCTURAL ELEMENTS, INCLUDING BUT NOT LIMITED TO POST TENSION CABLES OR OTHER REINFORCEMENT EMBEDDED IN FLOOR SLABS PRIOR TO COMMENCEMENT OF CUTTING. COORDINATE VERIFICATION METHOD WITH OWNER.
4. REFER TO SHEET A010.1 FOR DIFFERENT CEILING HEIGHTS & LEVELS AND DETAILS.
5. ALL WALLS DIRECTLY BEHIND DOOR ADJACENT TO PLUMBING FIXTURES SHALL RECEIVE MOISTURE- AND MOLD-RESISTANT GYPSUM BOARD, UNLESS NOTED OTHERWISE.
6. SEE ENLARGED FLOOR PLANS FOR ADDITIONAL NOTES, DIMENSIONS AND WALL TAGS.
7. REPAIR, PATCH AND CLEAN ALL EXISTING SURFACES SCHEDULED TO REMAIN THAT ARE AFFECTED BY DEMOLITION OR NEW CONSTRUCTION. WHERE APPEAR NEW, SMOOTHLY ADJACENT CONSTRUCTION. PREPARE ALL SURFACES AS REQUIRED FOR NEW FINISHES WITH ADHESIVES. SUBSTANTIALLY AND PREPARE ALL DAMAGED OR UNFINISHED SURFACES.
8. LOCATE ALL DOOR JAMBS 4" FROM ADJACENT PERPENDICULAR WALL, U.N.O.
9. WORK REQUIRED FOR FIRE SPRINKLERS, PLUMBING, HVAC, ELECTRICAL AND LIFE SAFETY ARE NOT FULLY REPRESENTED ON THESE PLANS. THE DESIGN OF THE FULL SCOPE OF WORK FOR FIRE SPRINKLERS, PLUMBING, HVAC, ELECTRICAL, AND LIFE SAFETY IS THE RESPONSIBILITY OF THE CONTRACTOR, AND SHOULD BE COORDINATED AND APPROVED BY THE OWNER. ANY INFORMATION SHOWN ON THE ARCHITECTURAL DRAWINGS IS PROVIDED TO THOSE DISCIPLINES ARE PROVIDED FOR GENERAL REFERENCE ONLY.
10. PREPARE FLOOR LEVEL AND SMOOTH OFF NEW PATCH SURFACE FINISHED, PATCHED AND PREPARED AS NEEDED TO RECEIVE NEW FLOOR FINISH.
11. PROVIDE BLOCKING BEHIND FUTURE GRAB BARS AT LOCATIONS INDICATED ON ELEVATIONS AND DETAILS. ALL GRAB BARS ARE AS PER A11.1, TYPE OF USE UNLESS NOTED OTHERWISE AS AMBULATORY TYPE AT UNITS. SEE SHEET A601 FOR MORE INFORMATION.
12. PROVIDE BLOCKING BEHIND TOILET PAPER DISPENSER AND TOWEL RECEPTACLE TO SUPPORT FACING MATERIALS, FIXTURES, SPECIALTY ITEMS, MILLWORK AND TRIM.
13. PROVIDE 3/4" PRESERVATIVE TREATED PLYWOOD AS BACKED PANELS FOR TELEPHONE & ELECTRICAL EQUIPMENT, 8' STARTING AT 1'0" FROM FINISHED CEILING. PAINT PLYWOOD TO MATCH ADJACENT WALL FINISH. COORDINATE FINAL SIZE AND LOCATION WITH OWNER.

DIMENSIONING NOTES

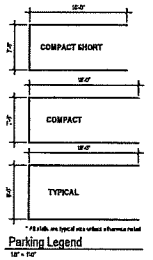
17. INTERIOR METAL STUD WALLS ARE DIMENSIONED TO FINISHED FACE OF GYPSUM BOARD UNLESS NOTED OTHERWISE.
18. EXTERIOR METAL STUD WALLS ARE DIMENSIONED TO EXTERIOR FACE OF STUD UNLESS NOTED OTHERWISE.
19. CMU WALLS ARE DIMENSIONED TO FACE OF CMU.

WALL NOTES

21. ALL CORNER WALLS ARE SHARP UNLESS NOTED OTHERWISE.
22. ALL CAST DEMISING WALLS ARE SOUND RATED UNLESS NOTED OTHERWISE.
23. ALL WALLS WITH PLUMBING PIPES ARE 2" UNLESS NOTED OTHERWISE.

KEYNOTES PER SHEET

XXXX-XX [KEYNOTE]



Parking Legend

1/8" = 1'-0"

A1 LOWER LEVEL - ZONE B - PHASE 1

1/8" = 1'-0"

eu:a

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PROJECT INFORMATION

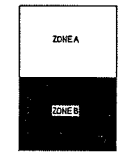
STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05/05/2023	SCHEMATIC DESIGN PH1
07/28/2023	DESIGN DEVELOPMENT PH1
10/02/2023	CONSTRUCTION DOCUMENTS PH 1
11/02/2023	PH_A102

KEY PLAN



SHEET INFORMATION

PROJECT MANAGER	MO
PROJECT NUMBER	720448

LOWER LEVEL - ZONE B - PHASE 1

A1000-B-1

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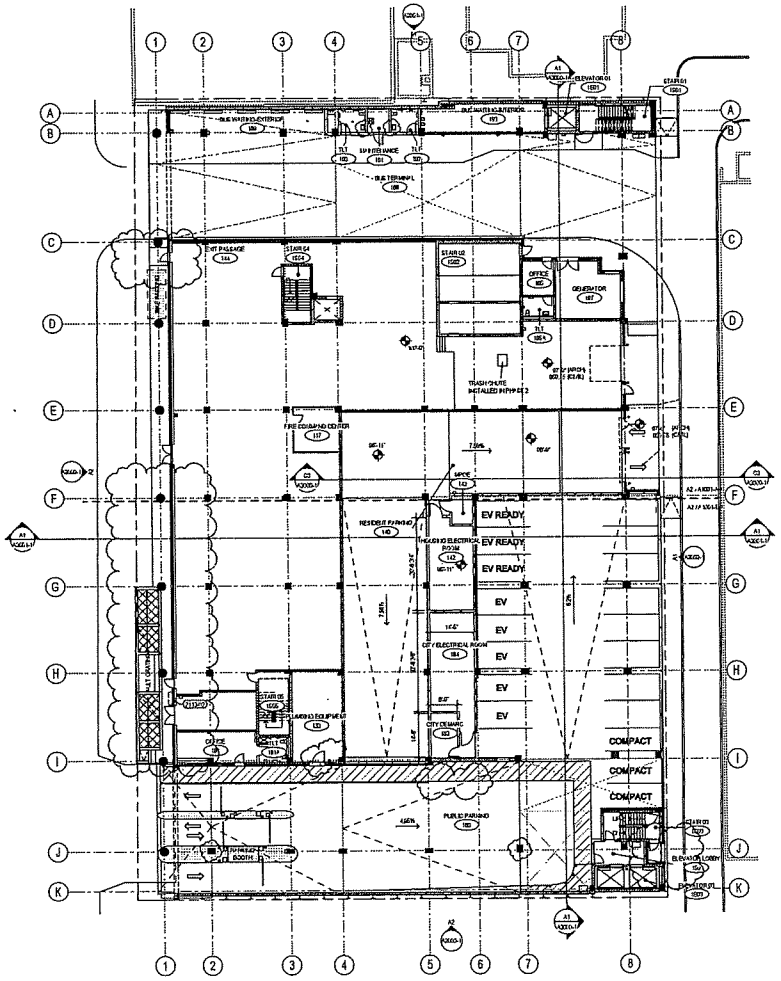

1ST FLR OVERALL - PHASE 1
1/16" = 1'-0"

SHEET NOTES - FLOOR PLAN

1. VERIFY DESIGN AND WORK. VERIFY THE EXISTING SITE AND LOCATION OF PLUMBING, HEATING/HVAC, AND ELECTRICAL SYSTEMS AND OTHER CONSTRUCTION AFFECTED BY THE WORK. IF DISCREPANCIES ARE DISCOVERED, NOTIFY ARCHITECT PROMPTLY.
2. NOTIFY ARCHITECT IMMEDIATELY OF ANY CONDITION, OR FIELD MEASUREMENTS, PRIOR TO PROCEEDING WITH WORK.
3. VERIFY STRUCTURAL ELEMENTS, INCLUDING BUT NOT LIMITED TO POST TENSION CABLES OR OTHER BELT CONDUCTS EMBEDDED IN FLOOR SLABS PRIOR TO CUTTING OR CUTTING. COORDINATE VERIFICATION METHOD WITH OWNER.
4. REFER TO SHEET A1000-2 FOR REFERENCED PARTITION TYPES AND DETAILS.
5. ALL WALLS DIRECTLY BEHIND OR ADJACENT TO PLUMBING FIXTURES SHALL RECEIVE MOISTURE-RESISTANT GYPSUM BOARD, UNLESS NOTED OTHERWISE.
6. SEE RCP FOR REFLECTED CEILING PLAN INFORMATION.
7. REPAIR, PATCH AND CLEAN ALL EXISTING SURFACES SCHEDULED TO REMAIN IN FINAL SITE, AFFECTED BY DEMOLITION OR NEW CONSTRUCTION, WHERE APPLICABLE. WHERE NEW, MATCHING ADJACENT CONSTRUCTION. PREPARE ALL SURFACES AS REQUIRED FOR SCHEDULED FINISHES. PRIME, PAINT AND PREPARE ALL DRAWINGS OR UNFINISHED SURFACES.
8. LOCATE ALL DOOR JAMBS 4" FROM ADJACENT PERPENDICULAR WALL, UNLESS NOTED OTHERWISE.
9. WORK REQUIRED FOR FIRE SPRINKLERS, PLUMBING, HVAC, ELECTRICAL AND LIFE SAFETY ARE NOT FULLY REPRESENTED ON THESE PLANS. THE DESIGN OF THE FULL SCOPE OF WORK FOR FIRE SPRINKLERS, PLUMBING, HVAC, ELECTRICAL AND LIFE SAFETY IS THE RESPONSIBILITY OF THE CONTRACTOR, AND SHOULD BE COORDINATED AND APPROVED BY THE OWNER. ANY INFORMATION SHOWN ON THE ARCHITECTURAL DRAWINGS RELATED TO THESE DISCIPLINES ARE TO BE USED FOR DESIGN REFERENCE ONLY.
10. PREPARE FLOOR LEVEL AND SMOOTH OFF NEW INFILL SURFACE TO RECEIVE PATCHED STRUCTURE PENETRATIONS AND AS REQUIRED AT DOOR OPENINGS FROM ADJACENT FLOOR.
11. PROVIDE BLOCKING BEHIND FIXTURE GRAB BARS, FLOOR MOUNTED EQUIPMENT, AS PER A1.01.11. ALL GRAB BARS ARE 1.5" DIA. TYPICAL UNLESS NOTED OTHERWISE. SEE A1.01.11, TYPICAL UNITS, SEE SHEET A2.01 FOR MORE INFORMATION.
12. PROVIDE BLOCKING BEHIND PARTITIONS AS REQUIRED TO SUPPORT CASEWORK, FIXTURES, SPECIALTY ITEMS, MILLWORK AND TRIM.
13. PROVIDE 3/4" FIRE-RETARDANT TREATED PLYWOOD AS BACKED PANELS FOR TELEPHONE & ELECTRICAL EQUIPMENT, INSTALL AT 7'-0" AFF TO FINISHED CEILING. PAINT PLYWOOD TO MATCH ADJACENT WALL FINISH. COORDINATE FINAL SIZE AS USED FOR EQUIPMENT WITH OWNER.
14.

DIMENSIONING NOTES

17. INTERIOR METAL STUD WALLS ARE DIMENSIONED TO FINISHED FACE OF GYPSUM BOARD UNLESS NOTED OTHERWISE.
18. EXTERIOR METAL STUD WALLS ARE DIMENSIONED TO EXTERIOR FACE OF STUD UNLESS NOTED OTHERWISE.
19. CMU WALLS ARE DIMENSIONED TO FACE OF CMU.

WALL NOTES

21. ALL CORRIDOR WALLS ARE 2HR RATING UNLESS NOTED OTHERWISE.
22. ALL UNIT DEMISING WALLS ARE 1HR RATING UNLESS NOTED OTHERWISE.
23. ALL WALLS WITHIN UNITS ARE 1/2HR RATING UNLESS NOTED OTHERWISE.

KEYNOTES PER SHEET

21.01.02	FIRE PROTECTION TEST, HEADER AND VALVES, SEE PLUMBING DRAWINGS (PHASE 1)

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PROJECT INFORMATION

STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05/05/2023	SCHEMATIC DESIGN PH1
07/28/2023	DESIGN DEVELOPMENT PH1
10/02/2023	CONSTRUCTION DOCUMENTS PH 1
11/02/2023	PLANS

KEY PLAN

SHEET INFORMATION

PROJECT MANAGER	MO
PROJECT NUMBER	72048

1ST FLR OVERALL - PHASE 1

A1001-1

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PHASE 2 - DOOR COORDINATION

DOORS SHOWN IN BLUE ARE NOT IN PHASE 1 SCOPE. OPENINGS AND CJ3 CUT, IF APPLICABLE, ARE TO BE COORDINATED IN PHASE 1. DOOR, FRAME AND HARDWARE ARE TO BE INCLUDED IN PHASE 2 SCOPE.

THIS INCLUDES BUT NOT LIMITED TO OVERHEAD DOORS.

SEE "DOOR SCHEDULE - PHASE 1 / PHASE 2" ON A6020-1 FOR MORE INFORMATION

SHEET NOTES - FLOOR PLAN

1. VERIFY THE EXISTING AND DESIGN OF PLUMBING, MECHANICAL AND ELECTRICAL SYSTEMS AND OTHER CONSTRUCTION AFFECTED BY THE WORK. IF DISCREPANCIES ARE DISCOVERED, NOTIFY ARCHITECT PROMPTLY.
2. NOTIFY ARCHITECT IMMEDIATELY OF ANY CHANGES IN, OR DISCREPANCIES FROM, THE PROCEDURES DESCRIBED IN THIS WORK.
3. VERIFY STRUCTURAL ELEMENTS, INCLUDING BUT NOT LIMITED TO POST TENSION CABLES OR OTHER REINFORCEMENT EMBEDDED IN WALLS OR SLABS PRIOR TO CORING OR CUTTING. COORDINATE VERIFICATION WITH OWNER.
4. REFER TO SHEET A0110-1 FOR REFERENCED PARTITION TYPES AND DETAILS.
5. ALL WALLS DIRECTLY BEHIND OR ADJACENT TO PLUMBING FIXTURES SHALL RECEIVE MOISTURE- AND MOLD-RESISTANT GYPSUM BOARD, UNLESS NOTED OTHERWISE.
6. SEE ENLARGED FLOOR PLANS FOR ADDITIONAL NOTES, DIMENSIONS AND WALL TAGS.
7. REPAIR, PATCH AND CLEAN ALL EXISTING SURFACES SCHEDULED TO REMAIN THAT ARE AFFECTED BY DEMOLITION OR NEW CONSTRUCTION. ALL WORK IN NEW, EXISTING AND ADJACENT CONSTRUCTION. PREPARE ALL SURFACES AS REQUIRED FOR SCHEDULED FINISHES. SEAL, PRIME AND PAINT ALL DRYWALL OR UNFINISHED SURFACES.
8. LOCATE ALL DOOR STRIKES 4" FROM JAMBS IF PERPENDICULAR WALL, U.N.O.
9. WORK REQUIRED FOR FIRE SPRINKLERS, PLUMBING, HVAC, ELECTRICAL AND LIFE SAFETY ARE NOT FULLY REPRESENTED ON THESE PLANS. THE DESIGN OF THE FULL SCOPE OF WORK FOR FIRE SPRINKLERS, PLUMBING, HVAC, ELECTRICAL AND LIFE SAFETY IS THE RESPONSIBILITY OF THE CONTRACTOR, AND SHOULD BE COORDINATED AND APPROVED BY THE OWNER. ANY INFORMATION SHOWN ON THE ARCHITECTURAL DRAWINGS RELATED TO THESE DISCIPLINES ARE INTENDED FOR GENERAL REFERENCE ONLY.
10. PREPARE FLOOR LEVEL AT EXISTING OF NEW HARD SURFACE FINISHES, PATCHED WITH MATERIALS TO MATCH ADJACENT FINISHES FOR A CONCRETE FLOOR.
11. PROVIDE BLOCKING AND FUTURE GRAB BAR BLOCKING AT ALL LIFTS PER A18.10.7.1. ALL LIFTS ARE AT 6'-11" TYPICAL U.N.O. SEE SHEET A0110 FOR MORE INFORMATION.
12. PROVIDE BLOCKING AND FUTURE GRAB BARS AS INDICATED AT LIFTS AS REQUIRED TO SUPPORT FACING MATERIALS, FIXTURES, SPECIALTY ITEMS, MILLWORK AND TRIM.
13. PROVIDE 3/4" FIRE RETARDANT TREATED PLYWOOD AS BACKBOARD PANELS FOR TELEPHONE & ELECTRICAL EQUIPMENT. INSTALL AT 1'-0" AFF TO 7'-0" FINISHED CEILING. PAINT PLYWOOD TO MATCH ADJACENT WALL FINISH. COORDINATE FINAL SIZE AND LOCATION WITH OWNER.
14. [illegible]

DIMENSIONING NOTES

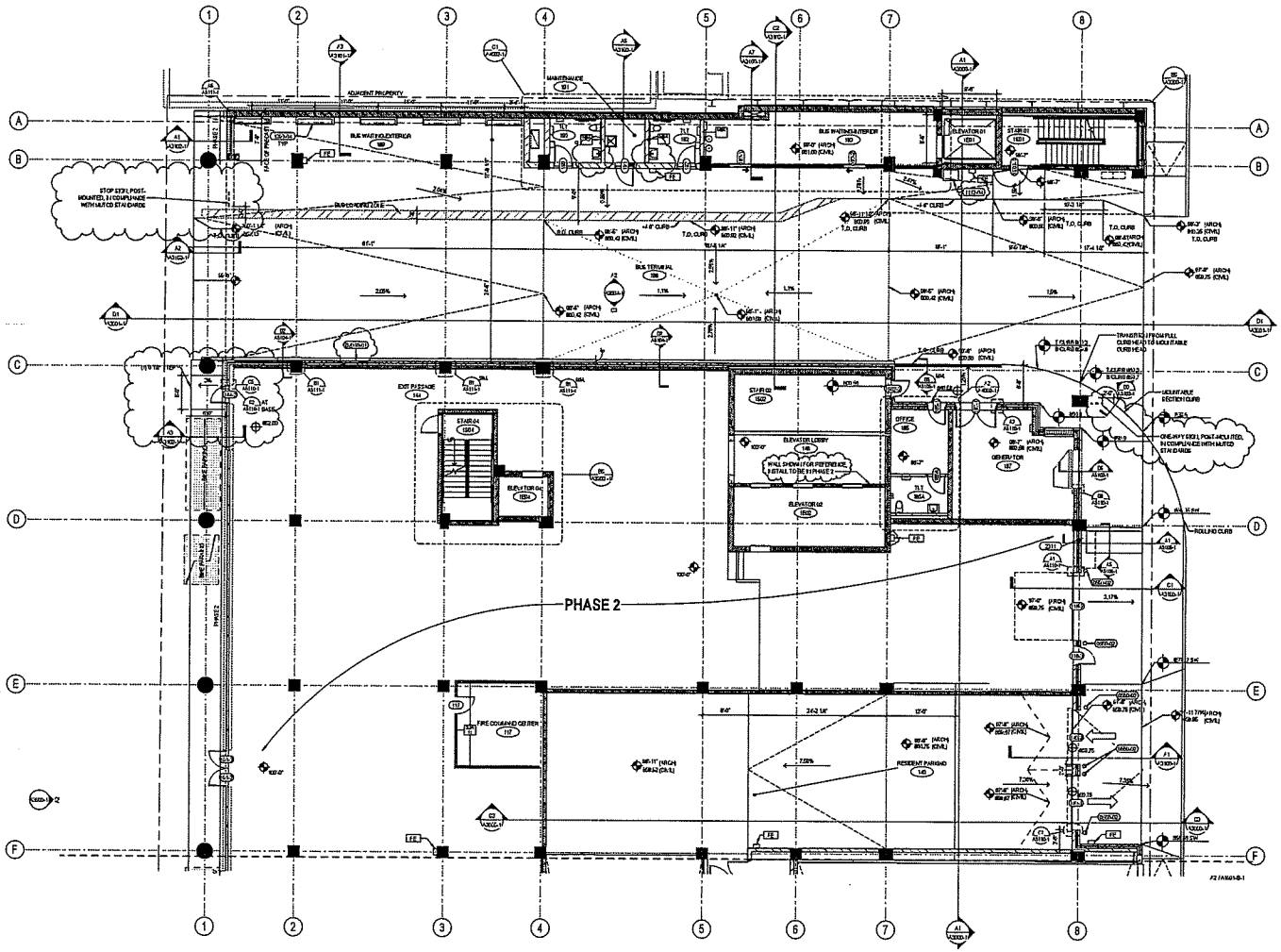
17. INTERIOR METAL STUD WALLS ARE DIMENSIONED TO FINISHED FACE OF GYPSUM BOARD UNLESS NOTED OTHERWISE.
18. EXTERIOR METAL STUD WALLS ARE DIMENSIONED TO EXTERIOR FACE OF STUD UNLESS NOTED OTHERWISE.
19. [illegible]

WALL NOTES

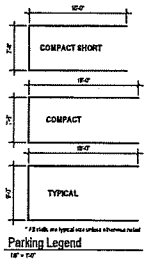
21. ALL CONCRETE WALLS ARE 8" U.N.O. UNLESS NOTED OTHERWISE.
22. ALL UNIT DEMISING WALLS ARE 8" U.N.O. UNLESS NOTED OTHERWISE.
23. ALL WALLS WITHIN UNITS ARE 4" U.N.O. UNLESS NOTED OTHERWISE.

KEYNOTES PER SHEET

[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]



N A2 1ST FLR - ZONE A - PHASE 1



Parking Legend

eu:a

milwaukee | madison | green bay | denver | atlanta

PROJECT INFORMATION

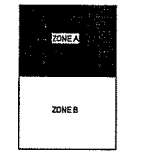
STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
06-06-2023	SCHEMATIC DESIGN (PH1
07-26-2023	DESIGN DEVELOPMENT (PH1
10-02-2023	CONSTRUCTION DOCUMENTS (PH 1
11-02-2023	PT. ADDD

KEY PLAN



SHEET INFORMATION

PROJECT MANAGER	MO
PROJECT NUMBER	720448

1ST FLR - ZONE A - PHASE 1

A1001-A-1

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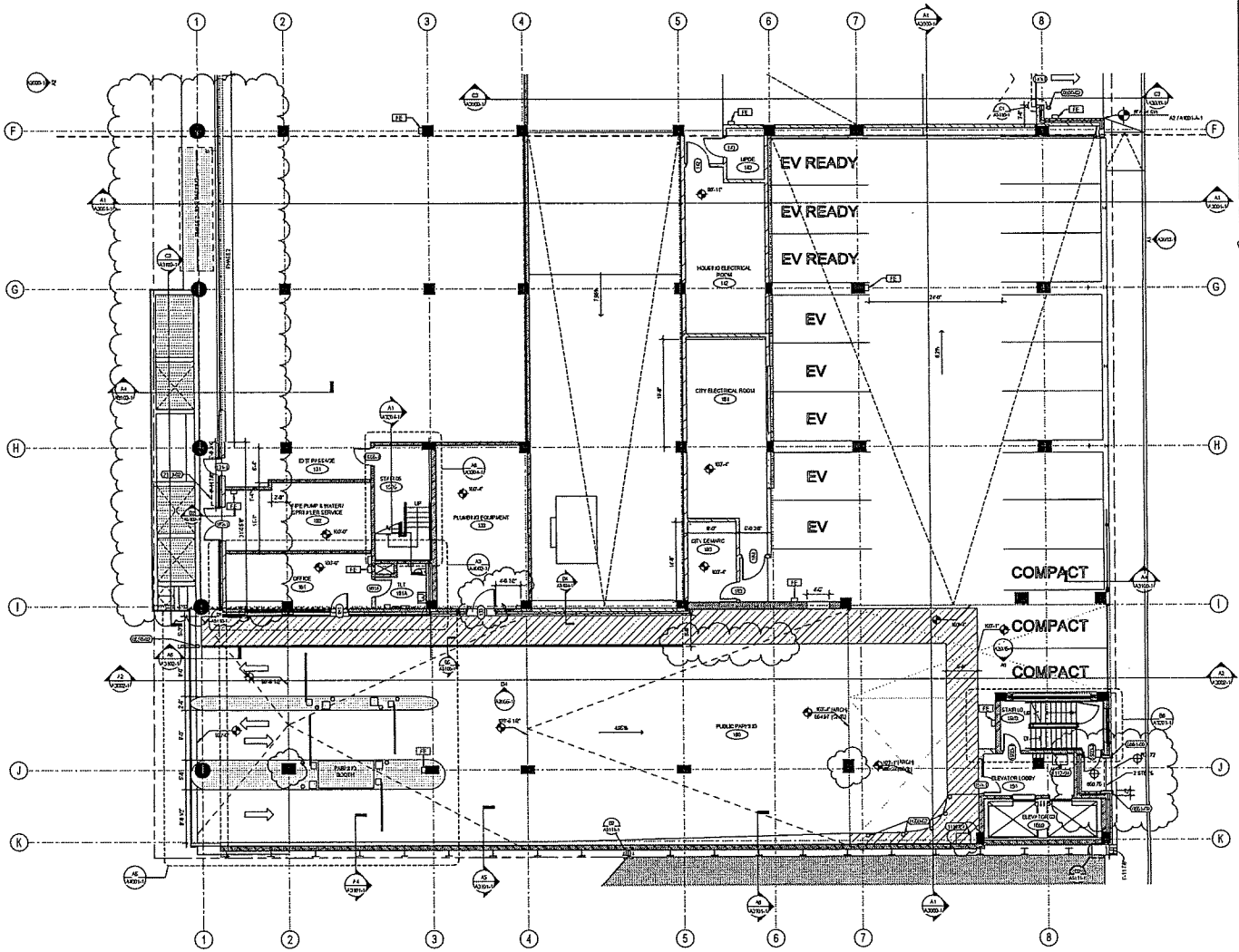


PHASE 2 - DOOR COORDINATION

DOORS SHOWN IN BLUE ARE NOT IN PHASE 1 SCOPE. OPENINGS AND CURBS, IF APPLICABLE, ARE TO BE COORDINATED IN PHASE 1. DOOR, FRAME AND HARDWARE ARE TO BE INCLUDED IN PHASE 2 SCOPE.

THIS INCLUDES BUT NOT LIMITED TO OVERHEAD DOORS.

SEE "DOOR SCHEDULE - PHASE 1 / PHASE 2" ON A603-1 FOR MORE INFORMATION

SHEET NOTES - FLOOR PLAN

1. DO NOT SCALE DRAWINGS. VERIFY THE EXISTENCE AND LOCATION OF PLUMBING, MECHANICAL AND ELECTRICAL SYSTEMS AND OTHER CONSTRUCTION AFFECTED BY THE WORK. IF DISCREPANCIES ARE DISCOVERED, NOTIFY ARCHITECT PROMPTLY.
2. NOTIFY ARCHITECT IMMEDIATELY OF ANY DEVIATION FROM LAYOUT SHOWN OR DISCREPANCIES PRIOR TO PROCEEDING WITH WORK.
3. VERIFY STRUCTURAL CLEAR HEIGHTS. INTERIOR PARTITIONS LIMITED TO POSITIONS CLEAR OF CONCRETE REINFORCEMENT EMBEDDED IN FLOOR SLABS PRIOR TO COORDINATION WITH STRUCTURAL ENGINEER.
4. REFER TO SHEET A1.0 FOR RATED WALLS AND ASSEMBLIES.
5. ALL WALLS OR CELLS NEW OR OF ADJACENT TOILETS OR FIXTURES SHALL RECEIVE MOISTURE-RESISTANT GYPSUM BOARD, U.N.O.
6. SEE ENLARGED FLOOR PLANS FOR ADDITIONAL NOTES, DIMENSIONS AND WALL TAGS.
7. REPAIR, PATCH AND CLEAN ALL EXISTING SURFACES SCHEDULED TO REMAIN THAT ARE AFFECTED BY DEMOLITION OR NEW CONSTRUCTION. PATCH AND REPAIR TO MATCH ADJACENT SURFACES. PREPARE ALL SURFACES AS REQUIRED FOR SCHEDULED FINISHES, SKIM COAT AND PREPARE ALL GYP BOARD ON EXPOSED SURFACES.
8. LOCATE ALL DOOR JAMBS 4" FROM ADJACENT PERPENDICULAR WALL, U.N.O.
9. WORK REQUIRED FOR FIRE SPRINKLERS, PLUMBING, HVAC, ELECTRICAL AND LIFE SAFETY ARE NOT FULLY REPRESENTED ON THESE PLANS. THE DESIGN OF THE FULL SCOPE OF WORK FOR FIRE SPRINKLERS, PLUMBING, HVAC, ELECTRICAL AND LIFE SAFETY IS THE RESPONSIBILITY OF THE CONTRACTOR WHO SHALL BE COORDINATED AND APPROVED BY THE OWNER. ANY INFORMATION SHOWN ON LINE AND ARCHITECTURAL DRAWINGS OR RELATED TO THOSE DISCIPLINES ARE STATED FOR CLARIFICATION PURPOSES ONLY.
10. PREPARE FLOOR LEVEL AND SMOOTH OFF ITEMS PROJECTING ABOVE FINISHED PATCHING STRUCTURAL SLAB AS AND AS NECESSARY TO ACCEPT FINISHES.
11. PROVIDE BLOCKING BEHIND FUTURE GRAB BARS AT TOILETS AS INDICATED ON A1.0 AND A1.1. ALL LINEN CLOSETS AT FLOOR U.N.O.
12. PROVIDE BLOCKING AT ALL DRYWALL PARTITIONS AT TOILET UNITS, SEE SHEET A1.0 FOR MORE INFORMATION.
13. PROVIDE 3/4" PLYWOOD BACKING BEHIND ALL DOORS AS REQUIRED FOR TELEPHONE & ELECTRICAL EQUIPMENT, INSTALL AT 7'-0" AFF TO FINISHED CEILING. PAINT PLYWOOD TO MATCH ADJACENT WALL FINISH. COORDINATE WITH ELECTRICAL CONTRACTOR.
14.

DIMENSIONING NOTES

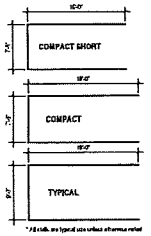
17. INTERIOR METAL STUD WALLS ARE DIMENSIONED TO FINISHED FACE OF GYPSUM BOARD U.N.O. ELSEWHERE.
18. EXTERIOR METAL STUD WALLS ARE DIMENSIONED TO EXTERIOR FACE OF STUD U.N.O. ELSEWHERE.
19. CMU WALLS ARE DIMENSIONED TO FACE OF CMU.

WALL NOTES

21. ALL CORNERS IN WALLS ARE 90 DEG U.N.O. ELSEWHERE.
22. ALL UNIT DEMISING WALLS ARE 2 HR RATED U.N.O. ELSEWHERE.
23. ALL WALLS ARE 8" U.N.O. ELSEWHERE.

KEYNOTES PER SHEET

02200-01	DEMOLISH EXISTING CONCRETE SLAB AS REQUIRED FOR NEW ELEVATOR PIT
03300-01	CAST-IN-PLACE CONCRETE SLAB
11100-04	PROVIDE AND INSTALL OWNER FURNISHED, OWNER INSTALLED EQUIPMENT. REFER TO SHEET A1.0 FOR ADDITIONAL INFORMATION.



Parking Legend

1ST FLR - ZONE B - PHASE 1

eu:a

milwaukee | madison | green bay | denver | atlanta

PROJECT INFORMATION

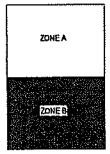
STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05/15/2023	SCHEMATIC DESIGN (PH1)
07/28/2023	DESIGN DEVELOPMENT (PH1)
10/02/2023	CONSTRUCTION DOCUMENTS PH 1
11/03/2023	PT1_ADD2

KEY PLAN



SHEET INFORMATION

PROJECT MANAGER	MO
PROJECT NUMBER	720448

1ST FLR - ZONE B - PHASE 1

A1001-B-1

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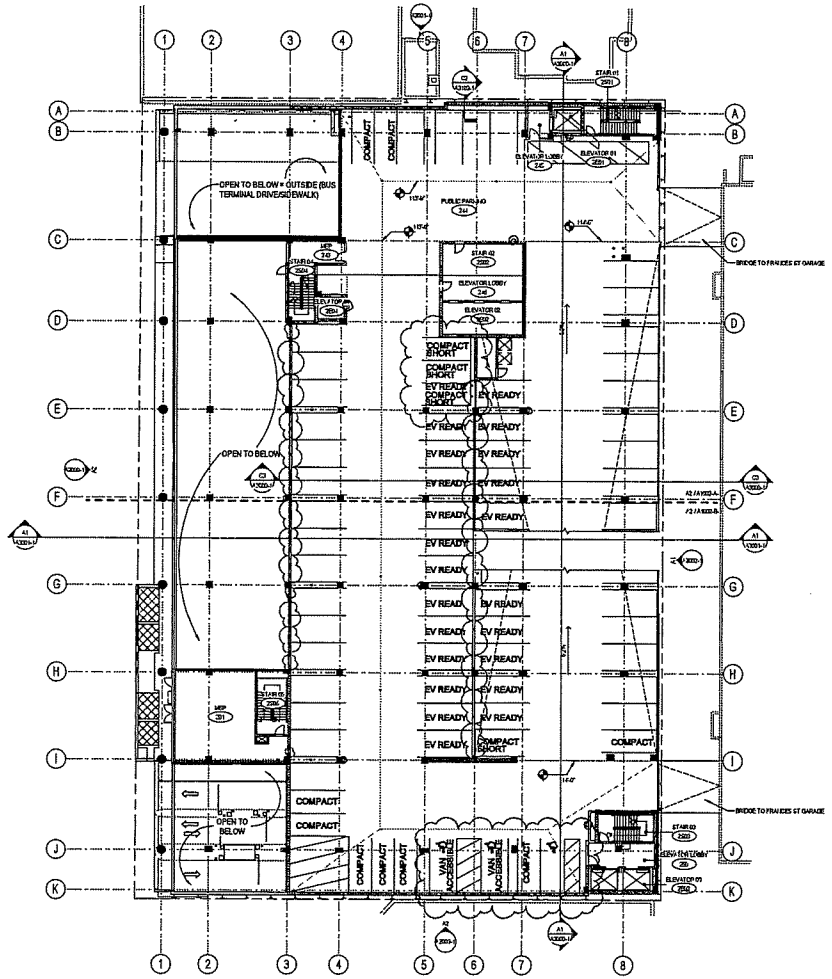


N A3 P2 FLR OVERALL - PHASE 1
1/16" = 1'-0"

SHEET NOTES - FLOOR PLAN

1. BEFORE BEGINNING WORK, VERIFY THE EXISTENCE AND LOCATIONS OF PLUMBING, MECHANICAL AND ELECTRICAL SYSTEMS AND OTHER CONSTRUCTION AFFECTED BY THE WORK. IF DISCREPANCIES ARE ENCOUNTERED, NOTIFY ARCHITECT PROMPTLY.
2. VERIFY ARCHITECT AMENDMENTS OF ANY CHANGES IN DIMENSIONS OR BUILDING MODES PRIOR TO PROCEEDING WITH WORK.
3. VERIFY STRUCTURAL ELEMENTS, INCLUDING BUT NOT LIMITED TO POST TENSION CABLES OR OTHER REINFORCEMENT EMBEDDED IN FLOOR SLABS PRIOR TO COMMENCEMENT OF CUTTING. COORDINATE VERIFICATION METHOD WITH OWNER.
4. REFER TO SHEET A1110.17 FOR REFERENCED PARTITION TYPES AND DETAILS.
5. ALL WALLS SPECIFY TO BE FIRE RATED OR ADJACENT TO PLUMBING FIXTURES SHALL RECEIVE MOISTURE AND MOLD RESISTANT GYPSUM BOARD, U.L.E.S.S NOTED OTHERWISE.
6. SEE ENLARGED FLOOR PLANS FOR ADDITIONAL NOTES, DIMENSIONS AND WALL TAGS.
7. REPAIR PATCH AND SMOOTH ALL EXISTING SURFACES SCHEDULED TO REMAIN THAT ARE AFFECTED BY DEMOLITION OR NEW CONSTRUCTION. WHERE APPEARANCE AND DIMENSIONAL ADJUSTMENT OF A STRUCTURAL ITEM IS NEEDED, PREPARE ALL SURFACES AS NEEDED FOR SCHEDULED FINISHES. SEE SECTION 09 29 00 GYPSUM BOARD FOR PREPARATION OF GYPSUM BOARD SURFACES.
8. LOCATE ALL DOOR JAMBS 4" FROM ADJACENT PERPENDICULAR WALL, U.L.E.S.S NOTED OTHERWISE.
9. TRADES REQUIRED FOR FIRE SPRINKLERS, PLUMBING, HVAC, ELECTRICAL AND LIFE SAFETY ARE NOT FULLY REPRESENTED ON THESE PLANS. THE DESIGN OF THE FULL SCOPE OF WORK FOR FIRE SPRINKLERS, PLUMBING, HVAC, ELECTRICAL, AND LIFE SAFETY IS THE RESPONSIBILITY OF THE CONTRACTOR, AND SHOULD BE COORDINATED AND APPROVED BY THE OWNER'S AND MEP CONSULTANTS OF THE ARCHITECTURAL DRAWINGS ARE PREPARED TO THESE DISCIPLINES ARE INTENDED FOR GENERAL REFERENCE ONLY.
10. PROVIDE FLOOR LEVEL TRANSITIONS FOR NEW FINISHES AS NEEDED. PATCH AND REPAIR PENETRATIONS AND ADJACENT SURFACES TO CONCRETE FLOOR.
11. PROVIDE BLOCKING AND/OR FUTURE GRAB BARS LOCATED IN WALLS PER A10.31 P.1. ALL GRAB BARS AT 33.5" TYPICAL U.N.O. U.L.E.S.S NOTED OTHERWISE OR INDICATED AT TYPE-A UNITS. SEE SHEET A20.11 FOR MORE INFORMATION.
12. PROVIDE BLOCKING AND REPAIRS TO ALL SURFACES AS REQUIRED TO SUPPORT FACED MATERIALS, FIXTURES, SPECIALTY ITEMS, MILLWORK AND TRIM.
13. PROVIDE 3/4" FIRE RETARDANT TREATED PLYWOOD ACROSS OPPOSING WALLS FOR TELEPHONE & ELECTRICAL EQUIPMENT. SEE DETAIL AT 1/4" AFF TO BE INSTALLED AT 8'-0" AFF. PAINT PLYWOOD TO MATCH ADJACENT WALL FINISH. COORDINATE WITH OWNER.
14.

DIMENSIONING NOTES

15. INTERIOR METAL STUD WALLS ARE DIMENSIONED TO FINISHED FACE OF GYPSUM BOARD U.L.E.S.S NOTED OTHERWISE.
16. EXTERIOR METAL STUD WALLS ARE DIMENSIONED FROM EXTERIOR FACE OF STUD U.L.E.S.S NOTED OTHERWISE.
17. CMU WALLS ARE DIMENSIONED TO FACE OF CMU.

WALL NOTES

21. ALL PARTITIONS WALLS ARE SHOWN U.N.O. U.L.E.S.S NOTED OTHERWISE.
22. ALL UNIT DEMISING WALLS ARE 1HR-STC 50 U.N.O. U.L.E.S.S NOTED OTHERWISE.
23. ALL WALLS WITHIN U.N.O. ARE STC 45 U.N.O. U.L.E.S.S NOTED OTHERWISE.

KEYNOTES PER SHEET

eu:a
mkeuhaus | madison | green bay | denver | atlanta

PROJECT INFORMATION

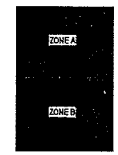
STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05-15-2023	SCHEMATIC DESIGN PKG
07-28-2023	DESIGN DEVELOPMENT PKG
10-02-2023	CONSTRUCTION DOCUMENTS PH 1
11-02-2023	PH. ADDS

KEY PLAN



SHEET INFORMATION

PROJECT MANAGER	MO
PROJECT NUMBER	720448

P2 FLR OVERALL - PHASE 1

A1002-1

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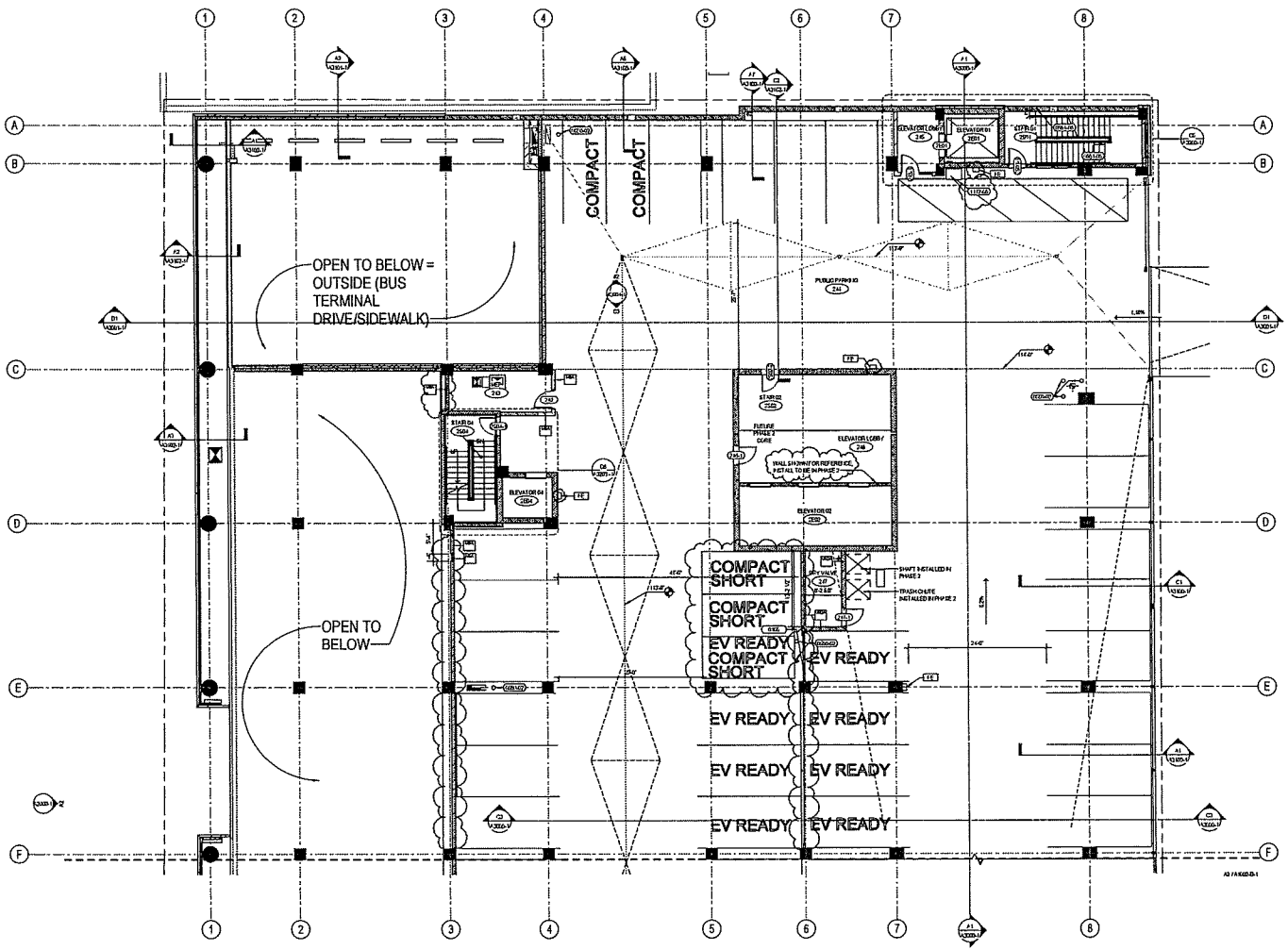


A2 P2 FLR - ZONE A - PHASE 1

1/8" = 1'-0"

PHASE 2 - DOOR COORDINATION

DOORS SHOWN IN BLUE ARE NOT IN PHASE 1 SCOPE. OPENINGS AND CURTAIL, IF APPLICABLE, ARE TO BE COORDINATED IN PHASE 1. DOOR, FRAME AND HARDWARE ARE TO BE INCLUDED IN PHASE 2 SCOPE.

THIS INCLUDES BUT NOT LIMITED TO OVERHEAD DOORS.

SEE "DOOR SCHEDULE - PHASE 1 / PHASE 2" ON A6.03-1 FOR MORE INFORMATION

SHEET NOTES - FLOOR PLAN

1. BEFORE BEGINNING WORK, VERIFY THE EXISTING AND LOCATION OF PLUMBING, MECHANICAL AND ELECTRICAL SYSTEMS AND OTHER CONSTRUCTION AFFECTING THE WORK. IF DISCREPANCIES ARE DISCOVERED, NOTIFY ARCHITECT PROMPTLY.
2. NOTIFY ARCHITECT IMMEDIATELY OF ANY CONCEALED OR CONCEALMENT DISCREPANCIES PRIOR TO PROCEEDING WITH WORK.
3. VERIFY STRUCTURAL ELEMENTS, INCLUDE BUT NOT LIMITED TO POST TENSION CABLES OR OTHER REINFORCEMENT EMBEDDED IN FLOOR SLABS PRIOR TO COORDINATION OF CUTTING. COORDINATE VERIFICATION WITH CONSTRUCTION MANAGER.
4. REFER TO SHEET A0.11-2 FOR DEFINED TERMINOLOGY AND ABBREVIATIONS.
5. ALL WALLS DIRECTLY BEHIND OR ADJACENT TO PLUMBING FIXTURES SHALL BE MOISTURE- AND MOLD RESISTANT GYPSUM BOARD, UNLESS NOTED OTHERWISE.
6. SEE ENLARGED FLOOR PLANS FOR ADDITIONAL NOTES, DIMENSIONS AND WALL TYPES.
7. REPAIR, PATCH AND CLEAN ALL EXISTING SURFACES SCHEDULED TO REMAIN THAT ARE AFFECTED BY DEMOLITION OR NEW CONSTRUCTION TO MAKE REPAIR NEW, MATCHING ADJACENT CONSTRUCTION. PREPARE ALL SURFACES AS REQUIRED FOR NEW FINISHES. SKIM COAT AND PREPARE ALL CHANGED OR UNFINISHED SURFACES.
8. LOCATE ALL DOOR JAMBS 4" FROM ADJACENT PERPENDICULAR WALL, UNLESS NOTED OTHERWISE.
9. WORK REQUIRED FOR FIRE SPRINKLERS, PLUMBING, HVAC, ELECTRICAL AND LIFE SAFETY ARE NOT FULLY REPRESENTED ON THESE PLANS. THE DESIGN OF THE FULL SCOPE OF WORK FOR FIRE SPRINKLERS, PLUMBING, HVAC, ELECTRICAL, AND LIFE SAFETY IS THE RESPONSIBILITY OF THE CONTRACTOR, WHO SHALL BE RESPONSIBLE AND ACCOUNTABLE BY THE OWNER. ANY INFORMATION SHOWN ON THE ARCHITECTURAL DRAWINGS RELATED TO THESE DISCIPLINES ARE INTENDED FOR DESIGN REFERENCE ONLY.
10. PREPARE FLOOR LEVEL AND SMOOTH OFF NEW PATCHED SURFACES TO MATCH PATCHED WITH PATCHING COMPOUND AS REQUIRED FOR A FINISH SIZE AT DEMOLITION WITH OWNER.
11. PROVIDE BLOCKING BEHIND FUTURE GRAB BAR LOCATIONS AT ALL ELEVATOR CABS. ALL UNITS ARE ANSI A117.1 TYPE B UNLESS NOTED OTHERWISE PER ANSI A117.1 TYPE A UNITS. SEE SHEET A0.11 FOR MORE INFORMATION.
12. PROVIDE BLOCKING AND ITEMS AS INDICATED AT DETAILS REQUIRED TO SUPPORT FACES MATERIALS, FIXTURES, EFFECTIVELY RENT, MILLWORK AND TRIM.
13. PROVIDE 3/4" FIRE-RETARDANT TREATED PLYWOOD AS BACKING PANELS FOR TELEPHONE & ELECTRICAL EQUIPMENT, INSTALL AT 1/4" AFF TO FINISHED CEILING. PAINT PLYWOOD TO MATCH ADJACENT WALL FINISH. COORDINATE FINAL SIZE AND LOCATION WITH OWNER.

DIMENSIONING NOTES

17. INTERIOR METAL STUD WALLS ARE DIMENSIONED TO FINISHED FACE OF GYPSUM BOARD UNLESS NOTED OTHERWISE.
18. EXTERIOR METAL STUD WALLS ARE DIMENSIONED TO EXTERIOR FACE OF STUD UNLESS NOTED OTHERWISE.
19. CURTAIN WALLS ARE DIMENSIONED TO FACE OF SLAB.

WALL NOTES

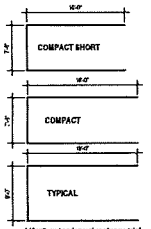
21. ALL CAST IRON WALLS ARE 8" U.N.O.
22. ALL UNIT DEMISING WALLS ARE 10" U.N.O.
23. ALL WALLS WITH LINERS ARE 2" U.N.O.

KEYNOTES PER SHEET

03105	VEHICLE CABLE BARRIER, REFER TO STRUCTURAL.
05500-A10	BOLLARD
05510-A05	VERTICAL STEEL PIPE RAILING OR HORIZONTAL CABLE RAILING, TO BE DETERMINED - 2ND FLOOR
11100-A05	FUTURE WALL-UP PAY STATION, OWNER FURNISHED, CONTRACTOR INSTALLED

Parking Legend

1/8" = 1'-0"



* All units are typical size unless otherwise noted

eu:a

milwaukee | madison | green bay | denver | atlanta

PROJECT INFORMATION

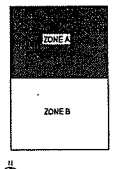
STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05/15/2023	SCHEMATIC DESIGN PH1
07/28/2023	DESIGN DEVELOPMENT PH1
10/02/2023	CONSTRUCTION DOCUMENTS PH1
11/02/2023	P1.4002

KEY PLAN



SHEET INFORMATION

PROJECT MANAGER	MO
PROJECT NUMBER	720148

P2 FLR - ZONE A - PHASE 1

A1002-A-1

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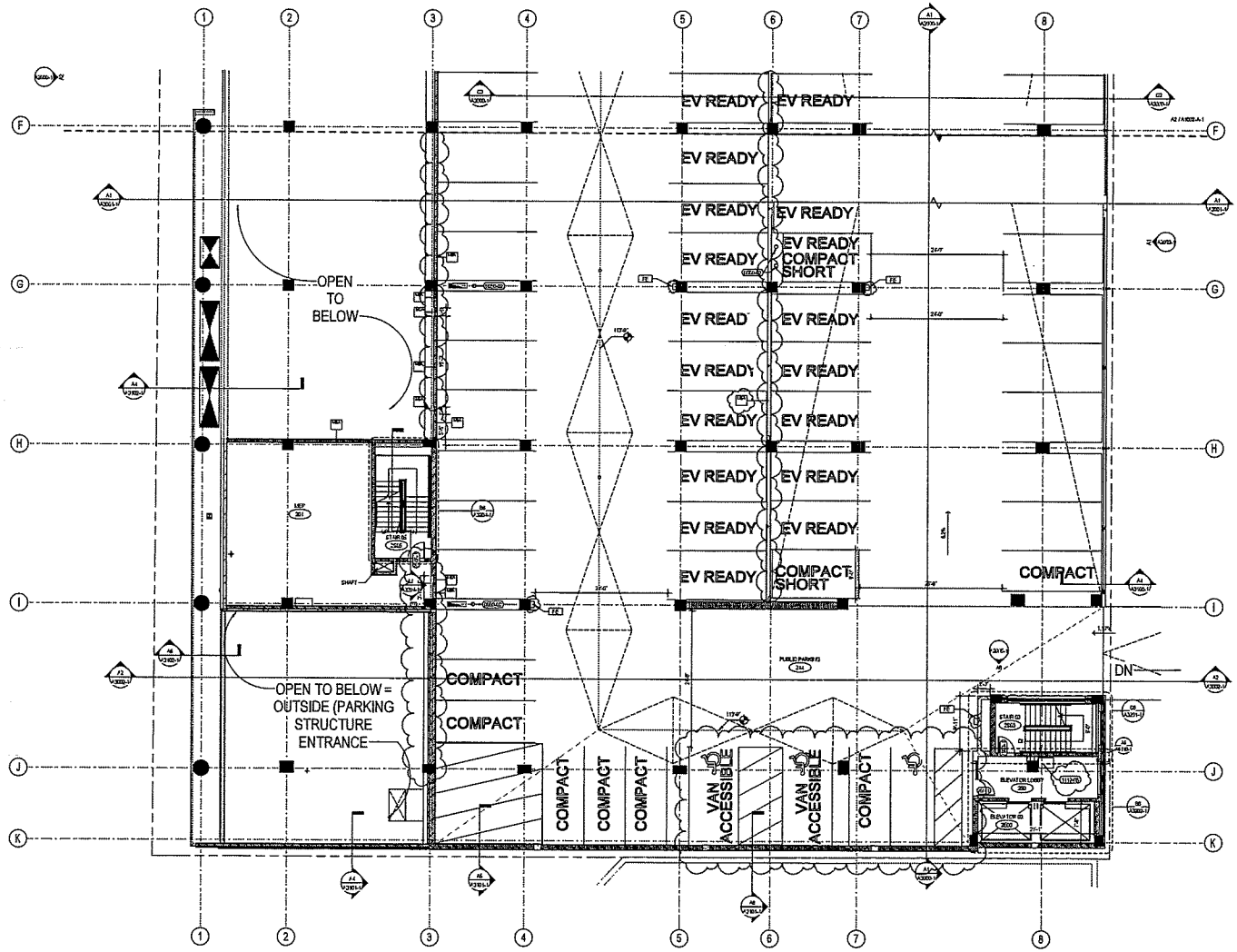


A2 P2 FLR - ZONE B - PHASE 1
1/8" = 1'-0"

PHASE 2 - DOOR COORDINATION

DOORS SHOWN IN BLUE ARE NOT IN PHASE 1 SCOPE. OPENINGS AND CUT-OUT, IF APPLICABLE, ARE TO BE COORDINATED IN PHASE 1. DOOR, FRAME AND HARDWARE ARE TO BE INCLUDED IN PHASE 2 SCOPE.

THIS INCLUDES BUT NOT LIMITED TO OVERHEAD DOORS.

SEE 'DOOR SCHEDULE - PHASE 1 / PHASE 2' ON A6220-1 FOR MORE INFORMATION

SHEET NOTES - FLOOR PLAN

1. SEE CIVIL DRAWINGS FOR WORK WITHIN THE PUBLIC RIGHT-OF-WAY.
2. VERIFY STRUCTURAL ELEMENTS, INCLUDING STUD TRACK LOCATIONS, WITH STRUCTURAL DRAWINGS PRIOR TO INSTALLATION OF ANY MEP EQUIPMENT.
3. ALL WALLS DIRECTLY BEHIND OR ADJACENT TO PLUMBING FIXTURES SHALL BE MOISTURE-RESISTANT GYPSUM BOARD, UNLESS NOTED OTHERWISE.
4. SEE ENLARGED FLOOR PLANS FOR ADDITIONAL NOTES, DIMENSIONS AND WALL TAGS.
5. PATCH, REPAIR AND PREPARE ALL EXISTING SURFACES SCHEDULED TO REMAIN THAT ARE AFFECTED BY DEMOLITION OR NEW CONSTRUCTION. LEVEL, PREPARE, MATCH AND ADJACENT CONSTRUCTION. PREPARE FOR NEW FINISHES AS SCHEDULED FOR EXISTING SURFACES. BLEND NEW PATCH AND PREPARE ALL EXPOSED OR LIGHTLY FINISHED SURFACES.
6. LOCATE ALL DOOR JAMBS 4" FROM ADJACENT PERPENDICULAR WALL, UNLESS NOTED OTHERWISE.
7. WORK REQUIRED FOR FIRE SPRINKLERS, PLUMBING, HVAC, ELECTRICAL AND LIFE SAFETY ARE NOT FULLY REFLECTED INTO OUR THESE PLANS. THE DESIGN OF THE FULL SCOPE OF WORK FOR FIRE SPRINKLERS, PLUMBING, HVAC, ELECTRICAL AND LIFE SAFETY IS THE RESPONSIBILITY OF THE CONTRACTOR, AND SHOULD BE COORDINATED AND APPROVED BY THE OWNER. ANY INFORMATION SHOWN ON THE ARCHITECTURAL DRAWINGS RELATED TO THESE DISCIPLINES ARE INTENDED FOR GENERAL REFERENCE ONLY.
8. PREPARE FLOOR LEVEL AT DOORWAYS FOR NEW HARD SURFACE FINISH, PATCH AND FILL AS REQUIRED TO MATCH ADJACENT FINISHES WITH CONCRETE FLOOR.
9. PROVIDE BLOCKING BEHIND FUTURE GRAB BARS, EQUIPMENT AND ALL LIFE PER A1101, A1102, ALL UNITS ARE A1117, 2 TYPE-B UNITS LESS NOTED OTHERWISE AT A1118, 1 TYPE-A UNITS. SEE SHEET A0110 FOR UNIT INFORMATION.
10. PROVIDE BLOCKING AND PREP AT ALL 3 LOCATIONS AT ELEVATORS REQUIRED TO SUPPORT FACIA MATERIALS, FIXTURES, SPECIALTY ITEMS, MILLWORK AND TRIM.
11. PROVIDE 3/4" FIRE-RETARDANT TREATED PLYWOOD AS BACKER BOARDS FOR TELEPHONE & ELECTRICAL EQUIPMENT. INSTALL AT 0'-0" AFF TO 8'-0" ABOVE CEILING. PAINT PLYWOOD TO MATCH ADJACENT WALL FINISH. COORDINATE WITH SIZE AS DIRECTED BY OWNER.

DIMENSIONING NOTES

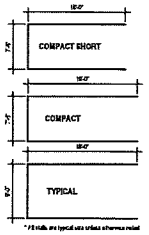
17. INTERIOR METAL STUD WALLS ARE DIMENSIONED TO FINISHED FACE OF STUD/GYP.BD U.N.O.
18. EXTERIOR METAL STUD WALLS ARE DIMENSIONED TO EXTERIOR FACE OF STUD UNLESS NOTED OTHERWISE.
19. CMU WALLS ARE DIMENSIONED TO FACE OF CMU.

WALL NOTES

21. ALL DEMOLITION WALLS ARE 6W-B11 U.N.O.
22. ALL UNIT DEMISING WALLS ARE 8W-S22 U.N.O.
23. ALL WALLS SURROUNDING ARE 8W-S11 U.N.O.

KEYNOTES PER SHEET

KEYNOTE	DESCRIPTION
11 12 26	FUTURE WHO-UP PAY STATION, OWNER FURNISHED, CONTRACTOR INSTALLED



Parking Legend
1/8" = 1'-0"

eu:a
milwaukee | madison | green bay | denver | atlanta

PROJECT INFORMATION

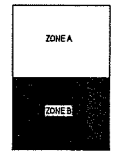
STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
02-05-2021	SCHEMATIC DESIGN (PH1)
07-30-2021	DESIGN DEVELOPMENT (PH1)
10-05-2021	CONSTRUCTION DOCUMENTS, PH1
11-05-2021	PH1_ADD2

KEY PLAN



SHEET INFORMATION

PROJECT MANAGER	MD
PROJECT NUMBER	720448

P2 FLR - ZONE B - PHASE 1

A1002-B-1

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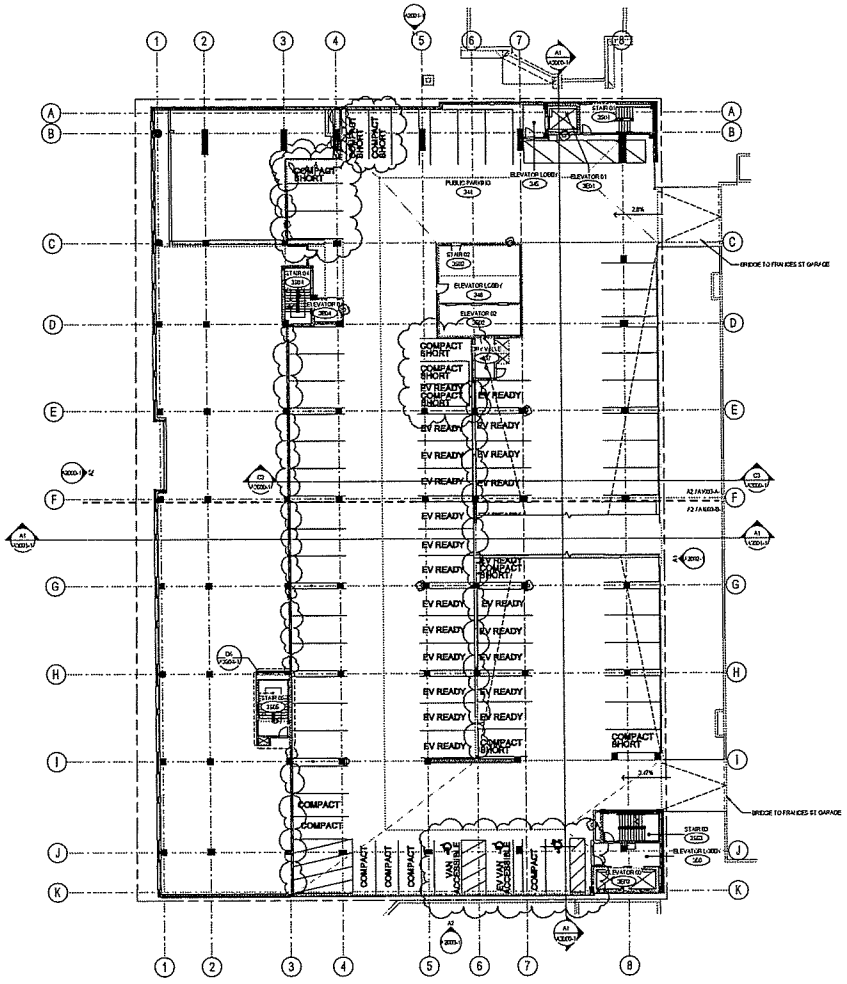

SHEET NOTES - FLOOR PLAN

1. SEE CIVIL DRAWINGS FOR ADDITIONAL NOTES, DIMENSIONS AND WALL TYPES.
2. PREPARE, PATCH AND CLEAN ALL EXISTING SURFACES SCHEDULED TO REMAIN THAT ARE AFFECTED BY DEMOLITION OR NEW CONSTRUCTION, INCLUDING EXISTING, ADJACENT CONSTRUCTION. PREPARE ALL SURFACES AS NEEDED FOR SMOOTH, SEAMLESS FINISHES. BLANKET AND PREPARE ALL DAMAGED OR UNFINISHED SURFACES.
3. SEE SHEET A0.003 FOR ACCESSIBLE PARKING DIAGRAMS.
4. PROVIDE BLOCKING BEHIND FUTURE GRAB BARS, LOCATION & WALL LIMITS PER ANSI A117.1. ALL LIFTS ARE ASSUMED TO BE 3500LB CAPACITY, 6'-8" WIDE X 5'-8" DEEP.
5. PROVIDE BLOCKING AND FIRE RATING AS INDICATED IN DOOR SCHEDULE.
6. PROVIDE SLOPED SURFACE AT ALL EXTERIOR DOORS TO DRAIN AWAY FROM BUILDING.
7. PROVIDE 5/8" FIRE RETARDANT TREATED PLYWOOD AS BACKING PANELS FOR TELEPHONE & ELECTRICAL EQUIPMENT, AT LEAST AT 4'-0" AFF TO 8'-0" ABOVE CEILING. PAINT PLYWOOD TO MATCH ADJACENT WALL FINISH. COORDINATE FINAL SIZE AS DIRECTED WITH OWNER.

DIMENSIONING NOTES

17. INTERIOR METAL STUD WALLS ARE DIMENSIONED TO FINISHED FACE OF GYPSUM BOARD UNLESS NOTED OTHERWISE.
18. EXTERIOR METAL STUD WALLS ARE DIMENSIONED TO EXTERIOR FACE OF STUD UNLESS NOTED OTHERWISE.
19. CMU WALLS ARE DIMENSIONED TO FACE OF CMU.

WALL NOTES

21. ALL CONCRETE WALLS ARE 8" UNLESS NOTED OTHERWISE.
22. ALL LIFT DEMISING WALLS ARE 8" GYP BOARD UNLESS NOTED OTHERWISE.
23. ALL WALLS IN PUBLIC AREAS ARE 2 HOUR RATED UNLESS NOTED OTHERWISE.

KEYNOTES PER SHEET

eu:a
milwaukee | madison | green bay | denver | atlanta

PROJECT INFORMATION

STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05-06-2022	SCHEMATIC DESIGN PH1
07-08-2022	DESIGN DEVELOPMENT PH1
10-03-2022	CONSTRUCTION DOCUMENTS PH 1
11-07-2022	PH 1 ARB

KEY PLAN

SHEET INFORMATION

PROJECT MANAGER	MD
PROJECT NUMBER	72048

P3 FLR OVERALL - PHASE 1

A1003-1

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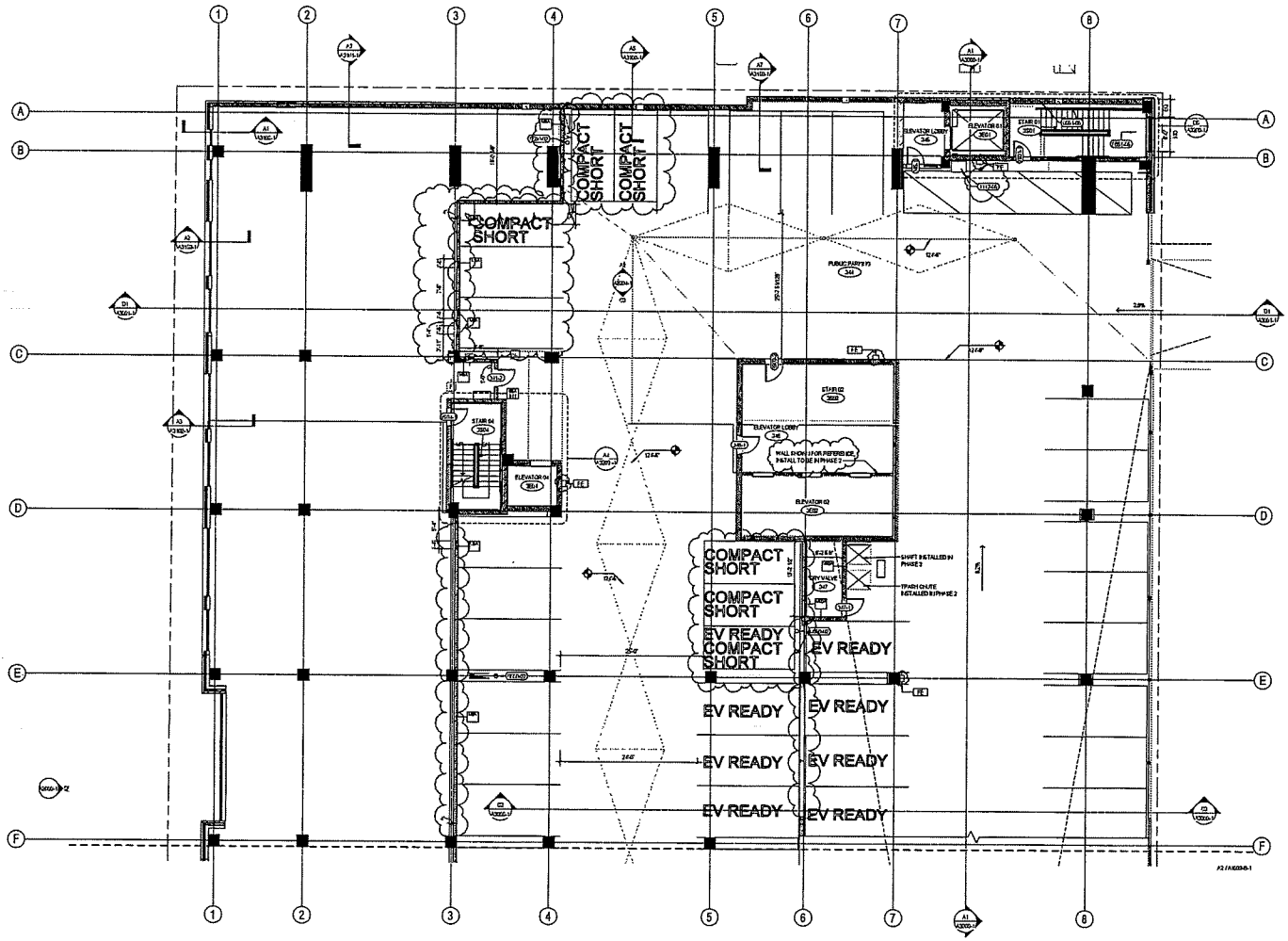
A3 P3 FLR OVERALL - PHASE 1
1/40" = 1'-0"



PHASE 2 - DOOR COORDINATION

DOORS SHOWN IN BLUE ARE NOT IN PHASE 1 SCOPE. OPENINGS AND CAST-OUT, IF APPLIED BLE, ARE TO BE COORDINATED IN PHASE 1 DOOR, FRAME AND HARDWARE ARE TO BE INCLUDED IN PHASE 2 SCOPE.

THIS INCLUDES BUT NOT LIMITED TO OVERHEAD DOORS.

SEE "DOOR SCHEDULE - PHASE 1 / PHASE 2" ON A9000-1 FOR MORE INFORMATION

SHEET NOTES - FLOOR PLAN

1. BEFORE BEGINNING WORK, VERIFY THE EXISTENCE AND LOCATION OF PLUMBING, MECHANICAL AND ELECTRICAL SYSTEMS, AND OTHER CONSTRUCTION AFFECTED BY THE WORK. IF DISCREPANCIES ARE DISCOVERED, NOTIFY ARCHITECT PROMPTLY.
2. NOTIFY ARCHITECT IMMEDIATELY OF ANY DISAGREEMENT OR DISCREPANCIES PRIOR TO PROCEEDING WITH WORK.
3. VERIFY STRUCTURAL BLOCKING, NAILER STRIPS, AND OTHER SUPPORTS REQUIRED TO INSTALL CABINETS, EQUIPMENT, FIXTURES, AND SPECIALTIES.
4. REFER TO SHEET A0102 FOR REFERENCED PARTITION TYPES AND DETAILS.
5. ALL WALLS DIRECTLY BEHIND OR ADJACENT TO PLUMBING FIXTURES SHALL RECEIVE MOISTURE-RESISTANT GYPSUM BOARD, UNLESS NOTED OTHERWISE.
6. SEE STRUCTURAL FLOOR PLANS FOR ADDITIONAL NOTES, DIMENSIONS, AND WALL TYPES.
7. REPAIR, PATCH AND SMOOTH ALL EXISTING SURFACES SCHEDULED TO REMAIN THAT ARE AFFECTED BY DEMOLITION OR NEW CONSTRUCTION SO THEY APPEAR NEW, UNIFORM IN ADJACENT CONSTRUCTION. PREPARE ALL SURFACES AS REQUIRED FOR NEW FINISHES AS NOTED. PRIME, SEAL COAT AND PREPARE ALL OPENINGS OR LAYERED SURFACES.
8. LOCATE ALL DOOR JAMBS 4" FROM ADJACENT PERPENDICULAR WALL, UNLESS NOTED OTHERWISE.
9. WORK REQUIRED FOR FIRE EXTINGUISHERS, PLUMBING, HVAC, ELECTRICAL AND LIFE SAFETY ARE NOT FULLY REPRESENTED ON THESE PLANS. THE DESIGN OF THE FULL SCOPE OF WORK FOR FIRE EXTINGUISHERS, PLUMBING, HVAC, ELECTRICAL AND LIFE SAFETY IS THE RESPONSIBILITY OF THE CONTRACTOR, AND SHOULD BE COORDINATED AND APPROVED BY THE OWNER. ANY INFORMATION SHOWN ON THE ARCHITECTURAL DRAWINGS IS RELATED TO THESE DISCIPLINES ARE PROVIDED FOR GENERAL REFERENCE ONLY.
10. PREPARE FLOOR LEVEL AND SMOOTH FOR NEW RESILIENT FLOOR FINISHES, PATCH TO WITHSTAND PENETRATIONS AND ADJACENCIES TO CONCRETE FLOOR.
11. PROVIDE BLOCKING BEHIND FUTURE GRAB BARS, DOCTOR'S HALL LINES PER A1.0, ALL LOCATIONS AS NOTED ON PLANS, TYPICAL UNLESS NOTED OTHERWISE AS FOLLOWS: 1. TYPICAL UNITS - SEE SHEET A2011 FOR MORE INFORMATION.
12. PROVIDE BLOCKING AT TOILET PARTITIONS AS REQUIRED TO SUPPORT FACING MATERIALS, FIXTURES, SPECIALTY ITEMS, MILLWORK AND TRIM.
13. PROVIDE 3/4" FIRE RETARDANT TREATED PLYWOOD ACROSS BACK PANELS FOR ITS OR ANY ELECTRICAL EQUIPMENT. INSTALL AT 1/4" OFF TO FINISHED CEILING. PAINT PLYWOOD TO MATCH ADJACENT WALL FINISH. COORDINATE WITH ELECTRICAL SIZE AND LOCATION WITH OWNER.
14.

DIMENSIONING NOTES

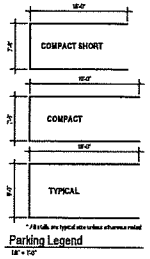
12. EXTERIOR METAL STUD WALLS ARE DIMENSIONED TO FINISHED FACE OF GYPSUM BOARD UNLESS NOTED OTHERWISE.
13. INTERIOR METAL STUD WALLS ARE DIMENSIONED TO CENTERLINE OF STUD UNLESS NOTED OTHERWISE.
14. COLUMNS ARE DIMENSIONED TO FACE OF CMU.

WALL NOTES

21. ALL CORNER WALLS ARE 90° UNLESS NOTED OTHERWISE.
22. ALL UNIT DEMISING WALLS ARE 90° OR 22.5° UNLESS NOTED OTHERWISE.
23. ALL WALLS NOT DIMENSIONED ARE 90° OR 135° UNLESS NOTED OTHERWISE.

KEYNOTES PER SHEET

X2040-02	SOLID
X2040-05	VERTICAL STEEL PIPE RAILING ON HORIZONTAL CURB RAILING TO BE DETERMINED BY OWNER
X1110-05	FUTURE WALL OF PAY STATION, OWNER FURNISHED, CONTRACTOR INSTALLED



Parking Legend

P3 FLR - ZONE A - PHASE 1

eu:a

milwaukee | madison | green bay | denver | atlanta

PROJECT INFORMATION

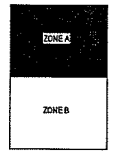
STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05/15/2025	SCHEMATIC DESIGN PHASE
07/30/2025	DESIGN DEVELOPMENT PHASE
10/03/2025	100% DESIGN DEVELOPMENT PHASE
11/07/2025	PHASE 1 ADDENDUM

KEY PLAN



SHEET INFORMATION

PROJECT MANAGER	MO
PROJECT NUMBER	720448

P3 FLR - ZONE A - PHASE 1

A1003-A-1

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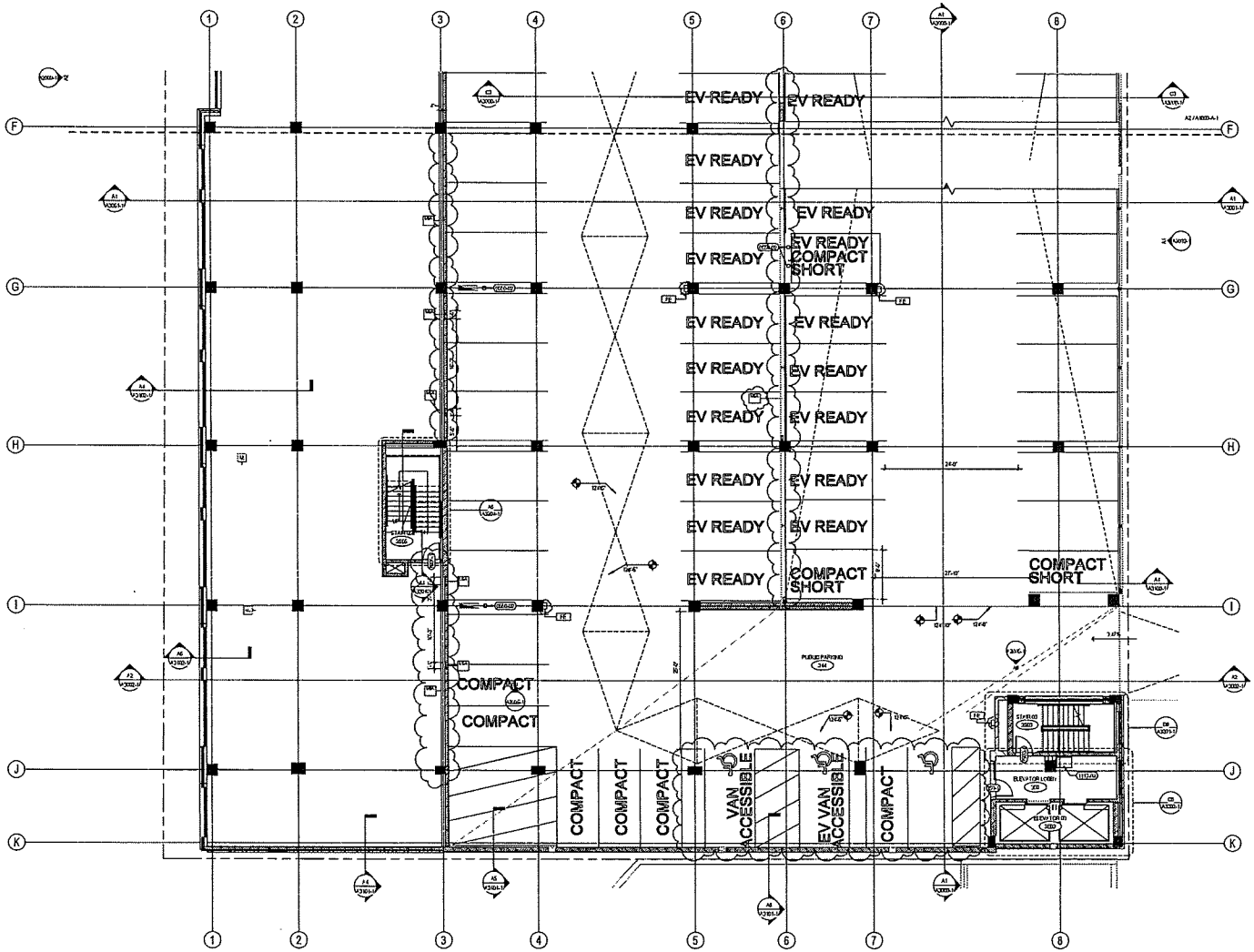


A2 P3 FLR - ZONE B - PHASE 1
1/8" = 1'-0"

PHASE 2 - DOOR COORDINATION

DOORS SHOWN IN BLUE ARE NOT IN PHASE 1 SCOPE. OPENINGS AND CAN EXIST, IF APPLICABLE, FIRE TO BE COVERED WITH PHASE 1 DOOR, FRAME AND HARDWARE ARE TO BE INCLUDED IN PHASE 2 SCOPE.

THIS INCLUDES BUT IS NOT LIMITED TO OVERHEAD DOORS.

SEE "DOOR SCHEDULE - PHASE 1 / PHASE 2" CAN NEED-1 FOR MORE INFORMATION

SHEET NOTES - FLOOR PLAN

1. REFUSE BEGINNING WORK, VERIFY THE EXISTENCE AND LOCATION OF PLUMBING, MECHANICAL AND ELECTRICAL SYSTEMS AND OTHER CONSTRUCTION AFFECTED BY THE WORK. IF DISCREPANCIES ARE DISCOVERED, NOTIFY ARCHITECT IMMEDIATELY.
2. NOTIFY ARCHITECT IMMEDIATELY OF ANY CONDITIONS, OR ALLOWANCES OR CASES THAT IS TO PROCEED AS INDICATED.
3. VERIFY STRUCTURAL ELEMENTS, INCLUDING BUT NOT LIMITED TO POST TENSIONED CABLES OR OTHER REINFORCEMENT EMBEDDED IN FLOOR SLABS PRIOR TO COMMENCEMENT OF CUTTING. COORDINATE VERIFICATION EFFORTS WITH OWNER.
4. REFER TO SHEET A9100-1 FOR REFERENCED KEYNOTES, LEGENDS AND DETAILS.
5. ALL WALLS DIRECTLY BEHIND ADJACENT TO PLUMBING FIXTURES SHALL RECEIVE MOISTURE- AND MOLD-RESISTANT GYPSUM BOARD, UNLESS NOTED OTHERWISE.
6. SEE ENLARGED FLOOR PLANS FOR ADDITIONAL NOTES, DIMENSIONS AND WALL TAGS.
7. REPAIR, PATCH AND BLEND ALL EXISTING SURFACES SCHEDULED TO REMAIN THAT ARE AFFECTED BY DEMOLITION OR NEW CONSTRUCTION TO LIKE-NEW CONDITION AS DIRECTED BY ARCHITECT. PREPARE ALL SURFACES AS REQUIRED FOR SCHEDULED FINISHES. IN AREAS TO BE PAINTED, PREPARE ALL SURFACES OR UNFINISHED SURFACES.
8. LOCATE ALL DOOR JAMBS 4" FROM ADJACENT PERPENDICULAR WALL, U.N.O.
9. WORK REQUIRED FOR FIRE SPRINKLERS, PLUMBING, HVAC, ELECTRICAL AND LIFE SAFETY ARE NOT FULLY REPRESENTED OUTSIDE PLANS. THE DESIGN OF THE FULL SCOPE OF WORK FOR FIRE SPRINKLING, PLUMBING, HVAC, ELECTRICAL, AND LIFE SAFETY IS THE RESPONSIBILITY OF THE SUBCONTRACTOR, AND SHOULD BE COORDINATED AND APPROVED BY THE OWNER. ANY INFORMATION SHOWN ON THE ARCHITECTURAL DRAWINGS RELATED TO THESE DISCIPLINES ARE INTENDED FOR GENERAL REFERENCE ONLY.
10. PREPARE FLOOR LEVEL AS NECESSARY OF NEW HPD SURFACES FINISHED, PATCHED, BLEND, PENETRATIONS, AND ADJACENT SURFACES TO FLOOR.
11. PROVIDE BLOCKING BEHIND FUTURE GRAB BARS, LOCATIONS AS ALL LIGHTS PER ANSI A117.1. ALL LIGHTS ARE IN ELEVATION 1, TYPICAL UNLESS NOTED OTHERWISE AS INDICATED, TYPICAL UNLESS. SEE SHEET A9011 FOR MORE INFORMATION.
12. PROVIDE BLOCKING AND PANELING AS EXCAVATED FLOORS REQUIRED TO SUPPORT FACING MATERIALS, FIXTURES, SPECIALTY ITEMS, MILLWORK AND TRIM.
13. PROVIDE 3/4" FIRE-RETARDANT TREATED PLYWOOD AS SPECIFIED PANELS FOR TELEPHONE & ELECTRICAL EQUIPMENT, INSTALL AT 1'-6" AFF TO FINISHED CEILING. PAINT PLYWOOD TO MATCH ADJACENT WALL FINISH. COORDINATE FINAL SIZE IN FIELD PRIOR TO INSTALLATION WITH OWNER.
14. [illegible]

DIMENSIONING NOTES

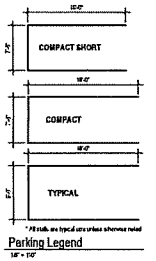
17. INTERIOR METAL STUD WALLS ARE DIMENSIONED TO FINISHED FACE OF GYPSUM BOARD U.N.O. OTHERWISE.
18. EXTERIOR METAL STUD WALLS ARE DIMENSIONED TO EXTERIOR FACE OF STUD U.N.O. UNLESS NOTED OTHERWISE.
19. CURTAIN WALLS ARE DIMENSIONED TO FACE OF SLAB.

WALL NOTES

21. ALL CONCRETE WALLS ARE 24" U.N.O. UNLESS NOTED OTHERWISE.
22. ALL UNIT DEMISING WALLS ARE 3HR, 2HR U.N.O. UNLESS NOTED OTHERWISE.
23. ALL WALLS NOT LISTED ARE 2HR, 1HR U.N.O. UNLESS NOTED OTHERWISE.

KEYNOTES PER SHEET

KEYNOTE	KEYNOTE TEXT
12.01.40	WALK-UP PKT STATION, OWNER FURNISHED, OWNER INSTALLED



Parking Legend
1/8" = 1'-0"

eu:a
mikyoung | mackey | greenbay | denver | atlanta

PROJECT INFORMATION

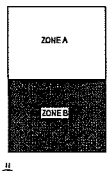
STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05-06-2022	SCHEMATIC DESIGN (PKT)
07-29-2022	DESIGN DEVELOPMENT (PKT)
10-03-2022	CONSTRUCTION DOCUMENTS PKT 1
11-03-2023	PKT ADD2

KEY PLAN



SHEET INFORMATION

PROJECT MANAGER	MO
PROJECT NUMBER	720448

P3 FLR - ZONE B - PHASE 1

A1003-B-1

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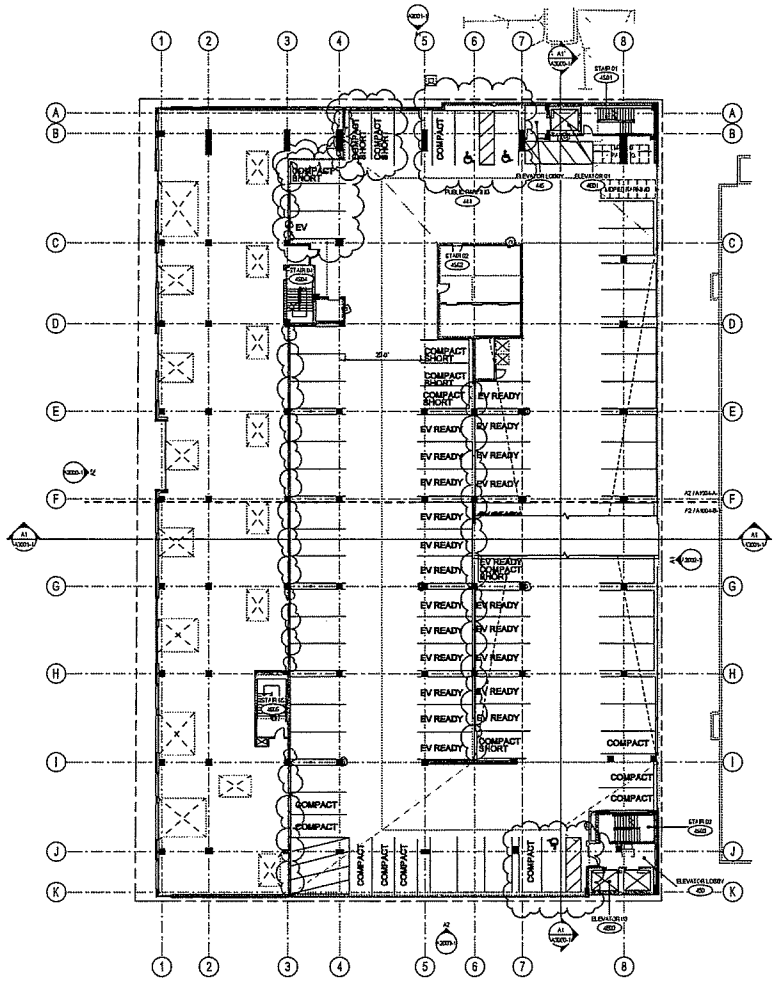

N A3 P4 FLR OVERALL - PHASE 1
1/16" = 1'-0"

SHEET NOTES - FLOOR PLAN

1. BEFORE BEGINNING WORK, VERIFY THE EXISTENCE AND LOCATION OF PLUMBING, MECHANICAL AND ELECTRICAL SYSTEMS AND OTHER CONSTRUCTION AFFECTED BY THE WORK. IF DISCREPANCIES ARE OBSERVED, NOTIFY ARCHITECT PROMPTLY.
2. NOTIFY ARCHITECT IMMEDIATELY OF ANY CONFLICTION, OR FIELD WHICH MAY AFFECT WORK PRIOR TO PROCEEDING WITH WORK.
3. VERIFY STRUCTURAL ELEMENTS, INCLUDING BUT NOT LIMITED TO POST TENSION CABLES OR OTHER REINFORCEMENT EMBEDDED IN FLOOR SLABS PRIOR TO COORING OR CUTTING. COORDINATE VERIFICATION METHOD WITH OWNER.
4. REFER TO SHEET A010.2 FOR RESTRICTED PARTITION TYPES AND DETAILS.
5. ALL WALLS DIRECTLY BEHIND OR ADJACENT TO PLUMBING FIXTURES SHALL RECEIVE MOISTURE AND MOLD RESISTANT GYPSUM BOARD, UNLESS NOTED OTHERWISE.
6. SEE ENLARGED FLOOR PLANS FOR ADDITIONAL NOTES, DIMENSIONS AND WALL TAGS.
7. PATCH, PATCH AND REPAIR ALL EXISTING SURFACES SCHEDULED TO REMAIN THAT ARE AFFECTED BY DEMOLITION OR NEW CONSTRUCTION. MAKE REPAIRS, MATCHING ADJACENT CONSTRUCTION. PREPARE ALL SURFACES AS REQUIRED FOR NEW FINISHES, INCLUDING PAINTING ALL UNFINISHED OR UNFINISHED SURFACES.
8. LOCATE ALL DOOR JAMBS 4" FROM ADJACENT PERPENDICULAR WALL, UNLESS NOTED OTHERWISE.
9. WORK SCHEDULED FOR FIRE SPRINKLERS, PLUMBING, HVAC, ELECTRICAL AND LIFE SAFETY ARE NOT FULLY REPRESENTED ON THESE PLANS. THE DESIGN OF THE FULL SCOPE OF WORK FOR FIRE SPRINKLERS, PLUMBING, HVAC, ELECTRICAL, AND LIFE SAFETY IS THE RESPONSIBILITY OF THE CONTRACTOR, AND SHOULD BE COORDINATED AND APPROVED BY THE OWNER'S AHJ. INFORMATION SHOWN ON THE ARCHITECTURAL DRAWINGS RELATED TO THESE DISCIPLINES ARE PROVIDED FOR GENERAL REFERENCE ONLY.
10. PREPARE FLOOR LEVEL AND SMOOTH FOR VERTICAL SURFACE FINISHES. PATCH AND INFILL PENETRATIONS AND ABRASIVE FINISHES IN CONCRETE FLOOR.
11. PROVIDE BLOCKING BEHIND FUTURE GRAB BAR LOCATIONS IN ALL UNITS PER ANSI A117.1. ALL UNITS ARE ANSI A117.1 TYPE A UNITS UNLESS NOTED OTHERWISE AS ANSI A117.1 TYPE A1 UNITS. SEE SHEET A003.1 FOR MORE INFORMATION.
12. PROVIDE BLOCKING AND INSTALL AS REQUIRED AND AS REQUIRED TO SUPPORT FACING MATERIALS, FIXTURES, ESPECIALLY ITEMS, MILLWORK AND TRIM.
13. PROVIDE 3/4" FIRE RETARDANT TREATED PLYWOOD AS SHEATHING PANELS FOR TELEPHONE & ELECTRICAL EQUIPMENT. 8' X 4'-0" ALL AT 1/4" AFF TO 7'-0" BEHIND CEILING. PAINT PLYWOOD TO MATCH ADJACENT WALL FINISH. COORDINATE WITH OWNER.
14.

DIMENSIONING NOTES

17. INTERIOR METAL STUD WALLS ARE DIMENSIONED TO FURRED FACE OF GYPSUM BOARD U.N.O.
18. EXTERIOR METAL STUD WALLS ARE DIMENSIONED TO EXTERIOR FACE OF STUD UNLESS NOTED OTHERWISE.
19. CMU WALLS ARE DIMENSIONED TO FACE OF CMU.

WALL NOTES

21. ALL CORRIDOR WALLS ARE 1HR RATED U.N.O.
22. ALL UNIT DEMISING WALLS ARE 1HR-STC RATED U.N.O.
23. ALL WALL ENTRY LINES ARE 3/0 STC RATED U.N.O.

KEYNOTES PER SHEET

eu:a
mkeurban | madison | green bay | denver | atlanta

PROJECT INFORMATION

STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05-15-2023	SCHEMATIC DESIGN PH1
07-28-2023	DESIGN DEVELOPMENT PH1
10-02-2023	CONSTRUCTION DOCUMENTS PH 1
11-02-2023	P1_ASI2

KEY PLAN

SHEET INFORMATION

PROJECT MANAGER	MO
PROJECT NUMBER	720448

P4 FLR OVERALL - PHASE 1

A1004-1

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PHASE 2 - DOOR COORDINATION

DOORS SHOWN IN BLUE ARE NOT IN PHASE 1 SCOPE. OPENINGS AND DOOR, IF APPLICABLE, ARE TO BE COORDINATED IN PHASE 1. DOOR, FRAME AND HARDWARE ARE TO BE INCLUDED IN PHASE 2 SCOPE.

THIS INCLUDES BUT NOT LIMITED TO OVERHEAD DOORS.

SEE "DOOR SCHEDULE - PHASE 1 / PHASE 2" ON A6001-1 FOR MORE INFORMATION

SHEET NOTES - FLOOR PLAN

1. DEFINE BEGINNING OF WORK. VERIFY THE EXISTING GRADE AND LOCATION OF PLUMBING, MECHANICAL AND ELECTRICAL SYSTEMS AND ADVISE CONSTRUCTION MANAGER IF THE WORK, IF DISCREPANCIES ARE DISCOVERED, NOTIFY ARCHITECT PROMPTLY.
2. NOTIFY ARCHITECT IMMEDIATELY OF ANY CONDITIONS, OR PLANS NOT DISCREPANCIES PRIOR TO PROCEEDING WITH WORK.
3. VERIFY EXISTING STRUCTURAL ELEMENTS, INCLUDING BUT NOT LIMITED TO POST TENSIONED CABLES OR OTHER REINFORCEMENT EMBEDDED IN FLOOR SLABS PRIOR TO CORING OR CUTTING. COORDINATE VERIFICATION METHOD WITH OWNER.
4. REFER TO SHEET A1000-2 FOR EXISTING FIRE RATED PARTITION TYPES AND DETAILS.
5. ALL WALLS DIRECTLY BEHIND OR ADJACENT TO PLUMBING FIXTURES SHALL RECEIVE MOISTURE- AND MOLD-RESISTANT GYPSUM BOARD, UNLESS NOTED OTHERWISE.
6. SEE A1-A1000 FLOOR PLANS FOR ADDITIONAL NOTES, DIMENSIONS AND WALL TAGS.
7. REPAIR, PATCH AND CLEAN ALL EXISTING SURFACES SCHEDULED TO REMAIN THAT ARE AFFECTED BY DEMOLITION OR NEW CONSTRUCTION. LIKE APPEARANCE, MATCHING ADJACENT CONSTRUCTION. PREPARE ALL SURFACES AS REQUIRED FOR SCHEDULED FINISHES. PRIME AND PAINT ALL EXPOSED OR UNFINISHED SURFACES.
8. LOCATE ALL DOOR JAMBS 4" FROM ADJACENT PERPENDICULAR WALL, UNLESS NOTED OTHERWISE.
9. WORK REQUIRED FOR FIRE SPRINKLERS, PLUMBING, HVAC, ELECTRICAL AND LIFE SAFETY ARE NOT FULLY REPRESENTED ON THESE PLANS. THE DESIGN OF THE FULL SCOPE OF WORK FOR FIRE SPRINKLERS, PLUMBING, HVAC, ELECTRICAL AND LIFE SAFETY IS THE RESPONSIBILITY OF THE CONTRACTOR, AND SHOULD BE COORDINATED AND APPROVED BY THE OWNER. ANY INFORMATION SHOWN ON THE ARCHITECTURAL DRAWINGS RELATED TO THOSE DISCIPLINES ARE INTENDED FOR CONCEPTUAL REFERENCE ONLY.
10. PREPARE FLOOR LEVEL AND SMOOTH OFF ANY PATCHED SURFACE REPAIRS, PATCHED STRAPPING, PENETRATIONS AND ANY IRREGULARITIES IN CONCRETE FLOOR.
11. PROVIDE BLOCKING BETWEEN STUDS, GRADE AS NOTED OR AS WALLS ARE PER A1-A1.1. ALL WALLS ARE A1-A1.1 TYPE W1 EIS UNLESS NOTED OTHERWISE. AT A1-A1.1 TYPE W1 UNITS, SEE SHEET A2.1 FOR MORE INFORMATION.
12. PROVIDE BLOCKING AT ALL STRUCTURAL AS INDICATED AND AS REQUIRED TO SUPPORT FACADE MATERIALS, FIXTURES, SPECIALTY ITEMS, MILLWORK AND TRIM.
13. PROVIDE 3/4" FIRE RETARDANT TREATED PLYWOOD AT 8'-0" O.C. FOR USE BY TELEPHONE & ELECTRICAL EQUIPMENT. INSTALL AT 6'-0" FFF TO FINISHED CEILING. PAINT PLYWOOD TO MATCH ADJACENT WALL FINISH. COORDINATE FINISH WITH OWNER.
14.

DIMENSIONING NOTES

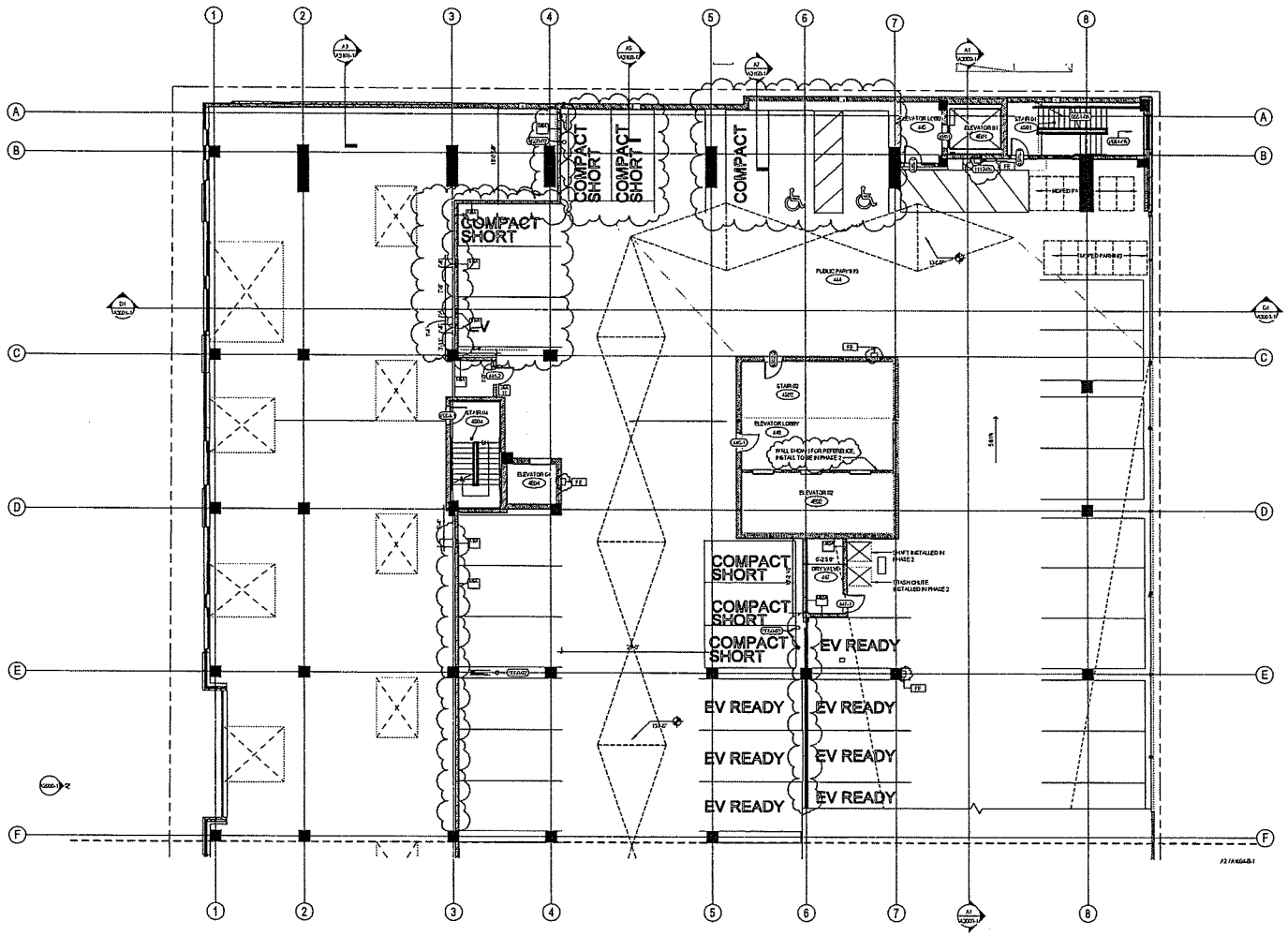
17. INTERIOR METAL STUD WALLS ARE DIMENSIONED TO FINISHED FACE OF GYPSUM BOARD UNLESS NOTED OTHERWISE.
18. EXTERIOR METAL STUD WALLS ARE DIMENSIONED TO EXTERIOR FACE OF STUD UNLESS NOTED OTHERWISE.
19. CMU WALLS ARE DIMENSIONED TO FACE OF CMU.

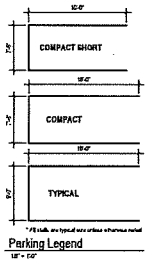
WALL NOTES

21. ALL CORNERS WALLS ARE 90° UNLESS NOTED OTHERWISE.
22. ALL PARTITION WALLS ARE 3'-6" UNLESS NOTED OTHERWISE.
23. ALL WALLS ALIGN FLUSH UNLESS NOTED OTHERWISE.

KEYNOTES PER SHEET

03300-02	INSTALL PEDESTAL
05500-05	VERTICAL STEEL PIPE RAILING OR HORIZONTAL CABLE RAILING, TO BE DETERMINED AT DESIGN
11700-01	FUTURE WALL-UP PAY STATION, OWNER FURNISHED, CONTRACTOR INSTALLED





Parking Legend

P4 FLR - ZONE A - PHASE 1

eu:a

cincinnati | madison | green bay | denver | atlanta

PROJECT INFORMATION

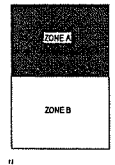
STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05/03/2023	SCHEMATIC DESIGN PH1
07/28/2023	DESIGN DEVELOPMENT PH1
10/20/2023	CONSTRUCTION DOCUMENTS PH 1
11/02/2023	P1_A002

KEY PLAN



SHEET INFORMATION

PROJECT MANAGER	MO
PROJECT NUMBER	72D448

P4 FLR - ZONE A - PHASE 1

A1004-A-1

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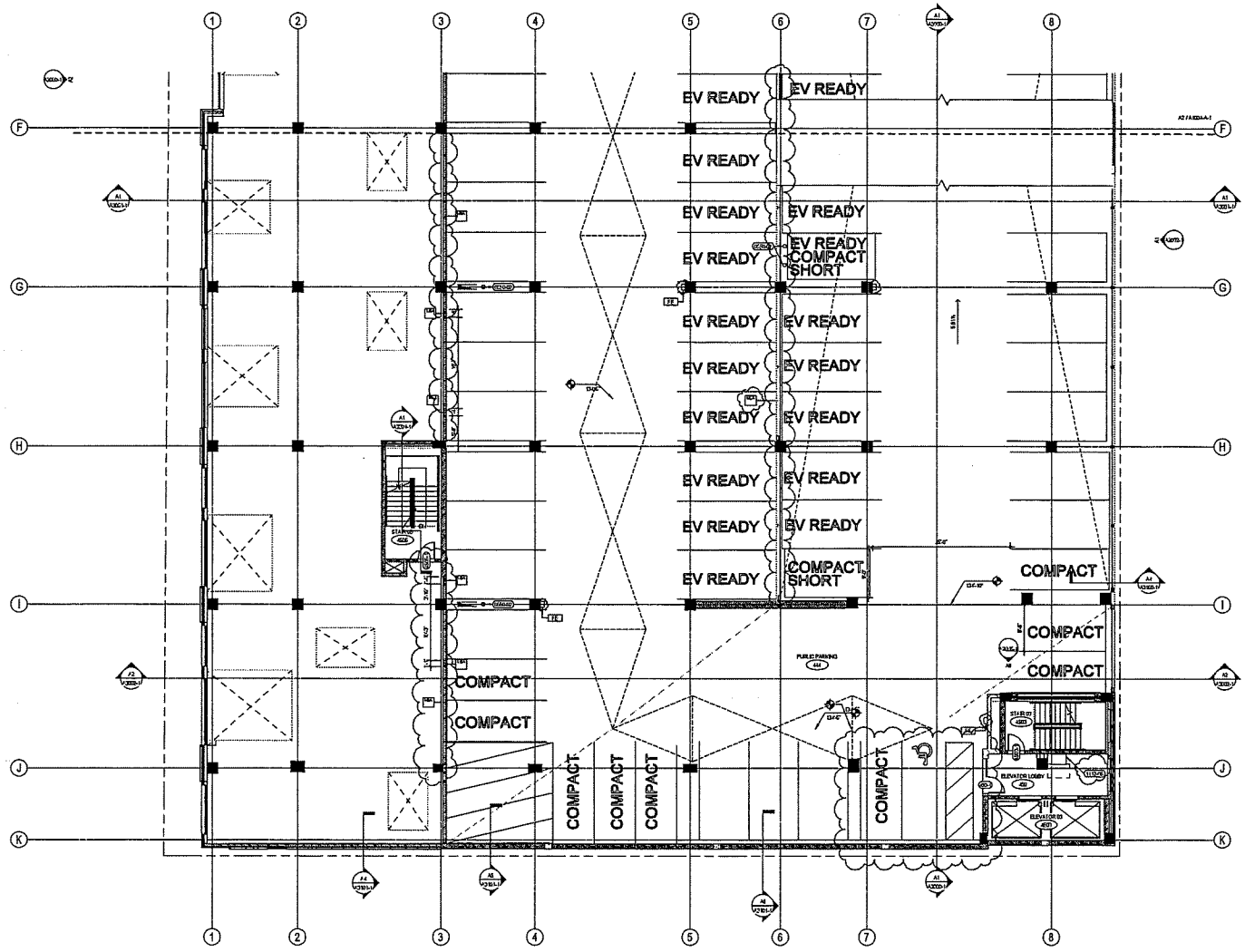


PHASE 2 - DOOR COORDINATION

DOORS SHOWN IN BLUE ARE NOT IN PHASE 1 SCOPE, OPEN FACE AND CAB SILL IF APPLICABLE, ARE TO BE COORDINATED WITH PHASE 1, DOOR, FRAME AND HARDWARE ARE TO BE INCLUDED IN PHASE 2 SCOPE.

THIS INCLUDES BUT NOT LIMITED TO OVERHEAD DOORS.

SEE "DOOR SCHEDULE - PHASE 1 / PHASE 2" ON A6020-1 FOR MORE INFORMATION

SHEET NOTES - FLOOR PLAN

1. BEFORE BEGINNING WORK, VERIFY THE EXISTING LOCATION OF PLUMBING, MECHANICAL AND ELECTRICAL SYSTEMS AND OTHER CONSTRUCTION AFFECTED BY THE WORK. IF DISCREPANCIES ARE DISCOVERED, NOTIFY ARCHITECT PROMPTLY.
2. NOTIFY ARCHITECT IMMEDIATELY OF ANY DAMAGED, DEFECTIVE OR FAULTY WORK DISCOVERED PRIOR TO PROCEEDING WITH WORK.
3. VERIFY STRUCTURAL ELEMENTS, SPECIALLY (BUT NOT LIMITED TO) SLAB EDGES, CABLES OR OTHER ITEMS FORESHORT EMBEDDED WITHIN DOOR SLABS PRIOR TO COPING OF CUTTING. COORDINATE VERIFICATION METHOD WITH OWNER.
4. REFER TO SHEET A0100 FOR REFERENCED PARTITION TYPES AND DETAILS.
5. ALL WALLS DIRECTLY ADJACENT TO OR ADJACENT TO PLUMBING FIXTURES SHALL RECEIVE MOISTURE-RESISTANT GYPSUM BOARD, UNLESS NOTED OTHERWISE.
6. SEE ENLARGED FLOOR PLANS FOR ADDITIONAL NOTES, DIMENSIONS AND WALL TAGS.
7. PREPARE, PATCH AND CLEAN ALL EXISTING SURFACES SCHEDULED TO REMAIN THAT ARE AFFECTED BY DEMOLITION OR NEW CONSTRUCTION. WHERE NEW WORK MEETS ADJACENT CONSTRUCTION, PREPARE ALL SURFACES AS NEEDED FOR SCHEDULED FINISHES, SEALCOAT AND REPREPARE ALL GRAY OR UNFINISHED SURFACES.
8. LOCATE ALL DOOR JAMBS 4" FROM ADJACENT PERPENDICULAR WALL, UNLESS NOTED OTHERWISE.
9. WORK REQUIRED FOR FIRE SPRINKLERS, PLUMBING, HVAC, ELECTRICAL AND LIFE SAFETY ARE NOT FULLY REPRESENTED ON THESE PLANS. THE DESIGN OF THE FULL SCOPE OF WORK FOR FIRE SPRINKLERS, PLUMBING, HVAC, ELECTRICAL, AND LIFE SAFETY IS THE RESPONSIBILITY OF THE CONTRACTOR, AND SHOULD BE COORDINATED AND APPROVED BY THE OWNER, ANY INFORMATION SHOWN ON THE ARCHITECTURAL DRAWINGS RELATED TO THESE DISCIPLINES ARE PROVIDED FOR DESIGN INTENT ONLY.
10. PREPARE FLOOR LEVEL AND SMOOTH OF NEW HARD SURFACE FINISHES, PATCH TO STRUCTURE AS REQUIRED FOR A SMOOTH AND LEVEL FLOOR.
11. PROVIDE BLOCKING AND FUTURE GRAB BAR LOCATIONS AT ALL SITE PER A161 & T.1. ALL UNITS ARE A161 & T.1 TYPE-A UNITS UNLESS NOTED OTHERWISE AS A161 & T.1 TYPE-A1 UNITS. SEE SHEET A001 FOR MORE INFORMATION.
12. PROVIDE BLOCKING AT ENTRY DOORS AS INDICATED AND AS REQUIRED TO SUPPORT FACING MATERIALS, FIXTURES, SPECIALTY ITEMS, MILLWORK AND TRIM.
13. PROVIDE 3/4" FIRE RETARDANT TREATED PLYWOOD AS BACKING PANELS FOR TELEPHONE & ELECTRICAL EQUIPMENT. INSTALL AT 72" AFF TO TOP OF PANEL UNLESS NOTED OTHERWISE. PAINT PLYWOOD TO MATCH ADJACENT WALL FINISH. COORDINATE FINAL SIZE AND LOCATION WITH OWNER.
14.

DIMENSIONING NOTES

17. INTERIOR METAL STUD WALLS ARE DIMENSIONED TO FURRED FACE OF GYPSUM BOARD UNLESS NOTED OTHERWISE.
18. EXTERIOR METAL STUD WALLS ARE DIMENSIONED TO EXTERIOR FACE OF STUD UNLESS NOTED OTHERWISE.
19. CMU WALLS ARE DIMENSIONED TO FACE OF CMU.

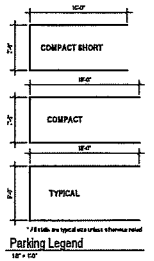
WALL NOTES

A1. ALL CONCRETE WALLS ARE 250-A1111 UNLESS NOTED OTHERWISE.
A2. ALL MASONRY WALLS ARE 150-A2111A UNLESS NOTED OTHERWISE.
A3. ALL WALLS ADJACENT TO ARE 250-A1111 UNLESS NOTED OTHERWISE.

KEYNOTES PER SHEET

KEYNOTE	KEYNOTE TEXT
01 03 00	FUTURE WALL BY PV STATE L OWNER OR LESSEE CONTRACTOR INSTALLED

Parking Legend



* All units are typical size unless otherwise noted

P4 FLR - ZONE B - PHASE 1

eu:a

milwaukee | madison | green bay | denver | atlanta

PROJECT INFORMATION

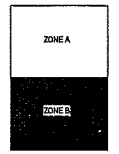
STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
04-04-2023	SCHEMATIC DESIGN (PM)
07-26-2023	DESIGN DEVELOPMENT (PM)
10-02-2023	CONSTRUCTION DOCUMENTS PH 1
11-02-2023	P1_A001

KEY PLAN



SHEET INFORMATION

PROJECT MANAGER	MD
PROJECT NUMBER	720448

P4 FLR - ZONE B - PHASE 1

A1004-B-1

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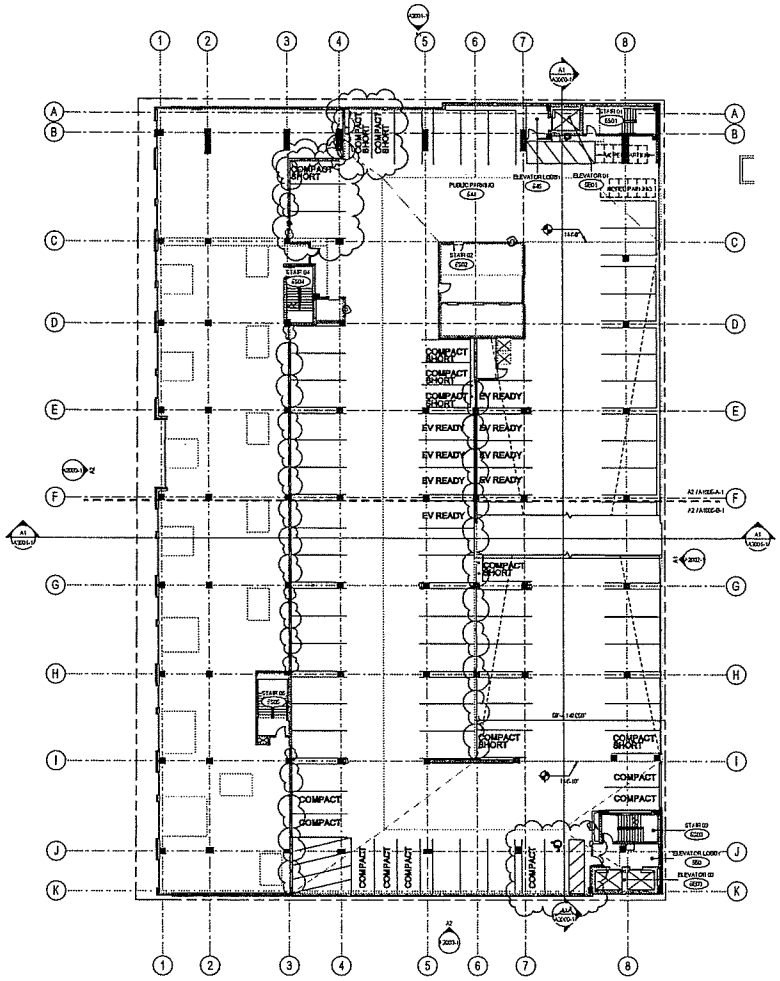

A3 P5 FLR OVERALL - PHASE 1
1/16" = 1'-0"

SHEET NOTES - FLOOR PLAN

1.	SEE CASE DESIGN SCOPE, VERIFY THE EXISTENCE AND LOCATION OF ALL BASE BUILDING MECHANICAL AND ELECTRICAL SYSTEMS AND OTHER CONSTRUCTION AFFECTED BY THE WORK. IF DISCREPANCIES ARE DISCOVERED, NOTIFY ARCHITECT IMMEDIATELY.
2.	NOTIFY ARCHITECT IMMEDIATELY OF ANY OBSTRUCTION, OR PLACEMENT DISCREPANCIES PRIOR TO PROCEEDING WITH WORK.
3.	VERIFY STRUCTURAL ELEMENTS, INCLUDING BUT NOT LIMITED TO POST TENSION CABLES OR OTHER REINFORCEMENT EMBEDDED IN FLOOR SLABS PRIOR TO COORING OR CUTTING. COORDINATE VERIFICATION METHOD WITH OWNER.
4.	REFER TO SHEET A1003-2 FOR REMAINED EXPANSION JOINTS AND DETAILS.
5.	ALL WALLS DIRECTLY BEHIND OR ADJACENT TO PLUMBING FIXTURES SHALL RECEIVE MOISTURE- AND MOLD-RESISTANT GYPSUM BOARD, UNLESS NOTED OTHERWISE.
6.	SEE REFLECTED CEILING PLANS FOR ADDITIONAL NOTES, DIMENSIONS AND WALL TAGS.
7.	REPAIR, PATCH AND CLEAN ALL EXISTING SURFACES SCHEDULED TO REMAIN THAT ARE AFFECTED BY DEMOLITION OR NEW CONSTRUCTION, USING APPROVED, MATCHING OR SIMILAR MATERIALS. PREPARE ALL SURFACES AS REQUIRED FOR SCHEDULED FINISHES. SKIM COAT AND PREPARE ALL DAMAGED OR UNFINISHED SURFACES.
8.	LOCATE ALL DOOR JAMBS 4" FROM ADJACENT PERPENDICULAR WALL, UNLESS NOTED OTHERWISE.
9.	WORK REQUIRED FOR FIRE SPRINKLERS, PLUMBING, HVAC, ELECTRICAL AND LIFE SAFETY ARE NOT FULLY REPRESENTED ON THESE PLANS. THE DESIGN OF THE FULL SCOPE OF WORK FOR FIRE SPRINKLERS, PLUMBING, HVAC, ELECTRICAL, FIRE LIFE SAFETY IS THE RESPONSIBILITY OF THE CONTRACTOR, AND SHOULD BE COORDINATED AND APPROVED BY THE OWNER. ANY INFORMATION SHOWN ON THE ARCHITECTURAL DRAWINGS ARE PROVIDED TO THOSE DISCIPLINES ARE STRICTLY FOR GENERAL REFERENCE ONLY.
10.	PROVIDE FLOOR LEVEL AND DIRECTION OF NEW PAVED RAMPS AT ENTRANCES. MATCH EXISTING PENETRATIONS AND AIR DRAINAGE IN NON-CONCRETE FLOOR.
11.	PROVIDE BLOCKING BEHIND FUTURE GRAB BARS AT TOILET ROOMS PER ANSI A117.1. ALL GRAB BARS SHALL BE 1-1/2" DIAMETER UNLESS NOTED OTHERWISE PER ANSI A117.1 TYPE B UNITS. SEE SHEET A0.5 FOR MORE INFORMATION.
12.	PROVIDE BLOCKING AND REPAIR AS NEEDED AND AS REQUIRED TO SUPPORT FACING MATERIALS, FIXTURES, SPECIALTY ITEMS, MILLWORK AND TRIM.
13.	PROVIDE 3/4" FIRE-RETARDANT TREATED PLYWOOD AS BACKING PANELS FOR TELEPHONE & ELECTRICAL EQUIPMENT. INSTALL AT THE 4TH TO FINISHED CEILING. PAINT PLYWOOD TO MATCH ADJACENT WALL FINISH. COORDINATE FINAL SIZE AND LOCATION WITH OWNER.
14.	
DIMENSIONING NOTES	
17.	INTERIOR METAL STUD WALLS ARE DIMENSIONED TO FINISHED FACE OF GYPSUM BOARD UNLESS NOTED OTHERWISE.
18.	EXTERIOR METAL STUD WALLS ARE DIMENSIONED TO EXTERIOR FACE OF STUD UNLESS NOTED OTHERWISE.
19.	CURTAIN WALLS ARE DIMENSIONED TO FACE OF GLASS.
WALL NOTES	
21.	ALL CORRIDOR WALLS ARE 2HR RATED UNLESS NOTED OTHERWISE.
22.	ALL LIMIT DEMISING WALLS ARE 1HR RATED UNLESS NOTED OTHERWISE.
23.	ALL WALLS IN RETAIL UNITS ARE 2HR RATED UNLESS NOTED OTHERWISE.

KEYNOTES PER SHEET

eu:a
Milwaukee | Madison | green bay | denver | atlanta

PROJECT INFORMATION

STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05/16/2022	SCHEMATIC DESIGN PH1
07/29/2022	DESIGN DEVELOPMENT PH1
10/03/2022	CD SET/PLANNING DOCUMENTS PH 1
11/02/2022	BP_ADD2

KEY PLAN

SHEET INFORMATION

PROJECT MANAGER	MO
PROJECT NUMBER	720448

P5 FLR OVERALL - PHASE 1

A1005-1

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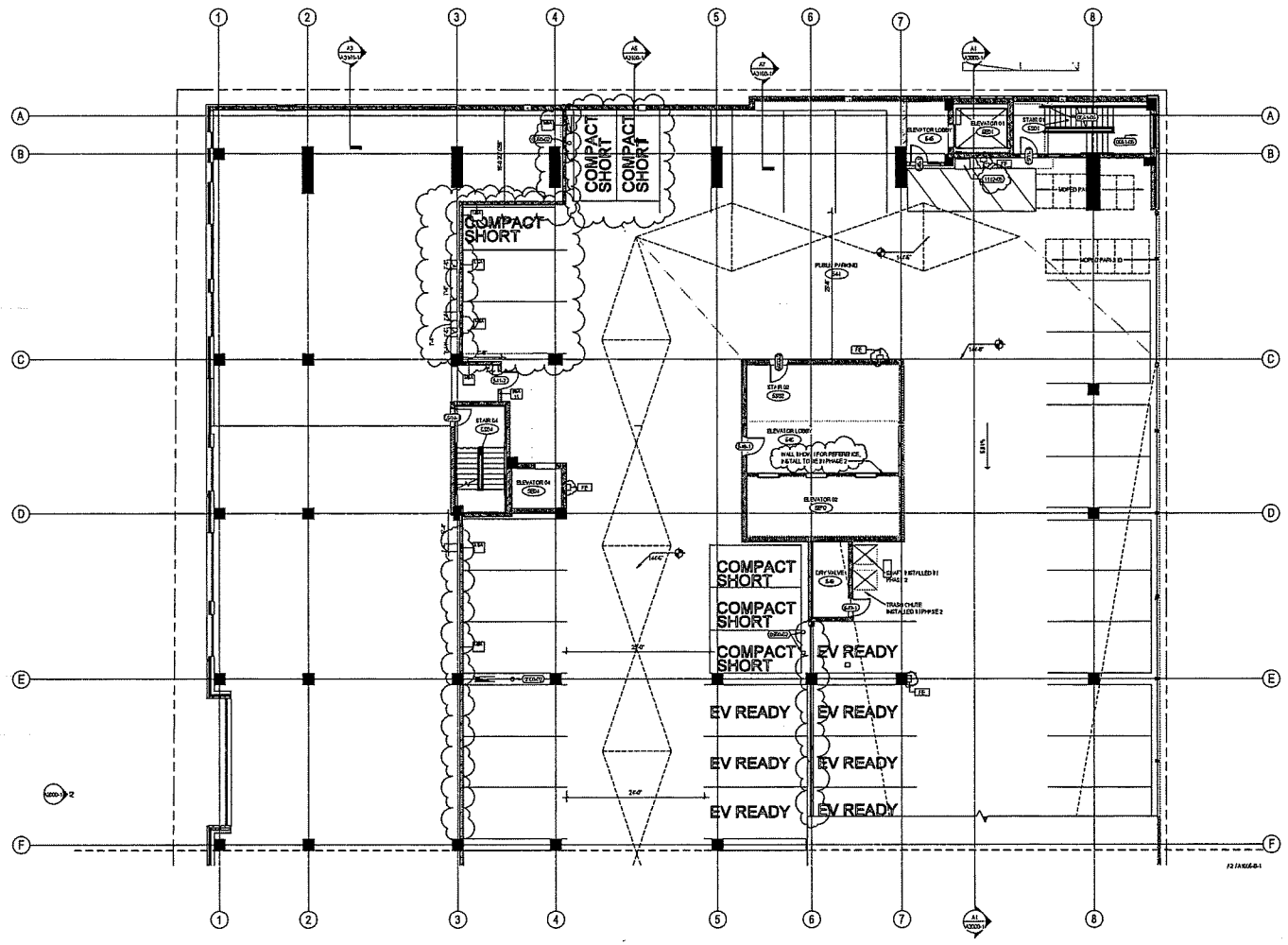


PHASE 2 - DOOR COORDINATION

DOORS SHOWN IN BLUE ARE NOT IN PHASE 1 SCOPE. OVERHEAD AND COILING, IF APPLICABLE, ARE TO BE COORDINATED IN PHASE 1 DOOR, FRAME AND HARDWARE ARE TO BE A CLUDED IN PHASE 2 SCOPE.

THIS INCLUDES BUT NOT LIMITED TO OVERHEAD DOORS.

SEE DOOR SCHEDULE - PHASE 1 / PHASE 2 ON A600-1 FOR MORE INFORMATION

SHEET NOTES - FLOOR PLAN

1. BEFORE BEGINNING WORK, VERIFY THE EXISTING AND LOCATIONS OF PLUMBING, MECHANICAL AND ELECTRICAL SYSTEMS AND OTHER CONSTRUCTION AFFECTED BY THE WORK. IF DISCREPANCIES ARE DISCOVERED, NOTIFY ARCHITECT PROMPTLY.
2. NOTIFY ARCHITECT IMMEDIATELY OF ANY CRACKS, DEFECTS, OR ALLOWANCE DEVIATIONS FROM TOPOGRAPHY WITH THIS PLAN.
3. VERIFY STRUCTURAL BEAMS, ETC., INCLUDING BUT NOT LIMITED TO, FURR DOWNS, CHASES OR OTHER ITEMS TO BE CLEARLY DIMENSIONED ON FLOOR SLABS PRIOR TO COPING OR CUTTING. COORDINATE VERIFICATION METHOD WITH OWNER.
4. REFER TO SHEET A1100-1 FOR REFERENCED PARTITION TYPES AND DETAILS.
5. ALL WALLS DIRECTLY BEHIND OR ADJACENT TO PLUMBING FIXTURES SHALL RECEIVE MOISTURE- AND MOLD-RESISTANT GYPSUM BOARD, UNLESS NOTED OTHERWISE.
6. SEE ENLARGED FLOOR PLANS FOR ADDITIONAL NOTES, DIMENSIONS AND WALL TAGS.
7. REPAIR, PATCH AND CLEAN ALL EXISTING SURFACES DISTURBED TO REMAIN IN PHASE 1 OR AFFECTED BY DEMOLITION OR NEW CONSTRUCTION. LEVEL (FEATHER) EXISTING ADJACENT CONSTRUCTION, PREPARE FULL SURFACES AS NEEDED FOR SPECIFIED FINISHES. SAND SMOOTH AND PREPARE ALL PAINTED OR UNFINISHED SURFACES.
8. LOCATE ALL DOOR JAMBS 4" FROM ADJACENT PERPENDICULAR WALL, U.N.O.
9. WORK REQUIRED FOR FIRE SPRINKLERS, PLUMBING, HVAC, ELECTRICAL AND LIFE SAFETY ARE NOT FULLY REPRESENTED ON THESE PLANS. THE DESIGN OF THE FULL SCOPE OF WORK FOR FIRE SPRINKLERS, PLUMBING, HVAC, ELECTRICAL, AND LIFE SAFETY IS THE RESPONSIBILITY OF THE SUB-CONTRACTOR, AND SHOULD BE COORDINATED AND APPROVED BY THE OWNER. ANY INFORMATION SHOWN ON THE ARCHITECTURAL DRAWINGS IS FOR REFERENCE ONLY. REFER TO THOSE DISCIPLINES ARE LISTED ABOVE FOR GENERAL REFERENCE ONLY.
10. PREPARE FLOOR LEVEL AND SMOOTH OFF HIGH SPOTS IN SLAB AS NECESSARY. PATCH AND REPAIR CRACKS AND HOLES IN SLAB AS NECESSARY TO PROVIDE FLAT, SMOOTH CONCRETE FLOOR.
11. PROVIDE BLOCKING BEHIND FUTURE GRAB BAR LOCATIONS IN WALL UNITS PER A1100-01. ALL UNITS ARE A1100-1, TYPICAL UNLESS NOTED OTHERWISE. SEE A1100-1, TYPICAL UNITS, SEE SHEET A001-1 FOR MORE INFORMATION.
12. PROVIDE BLOCKING AND SUPPORTS AS INDICATED AND AS REQUIRED TO SUPPORT FACING MATERIALS, FIXTURES, SPECIALTY ITEMS, MILLWORK AND TRIM.
13. PROVIDE 3/4" FIRE-RETARDANT TREATED PLYWOOD ACCESS PANELS FOR TELEPHONE & ELECTRICAL EQUIPMENT, TYP. ALL AT 1'-0" AFF TO FINISHED FLOOR. PAINT PLYWOOD TO MATCH ADJACENT WALL FINISH. COORDINATE FINAL SIZE AND LOCATION WITH OWNER.
14.

DIMENSIONING NOTES

17. INTERIOR METAL STUD WALLS ARE DIMENSIONED TO FINISHED FACE OF GYPSUM BOARD U.N.O. (UNLESS NOTED OTHERWISE).
18. EXTERIOR METAL STUD WALLS ARE DIMENSIONED TO EXTERIOR FACE OF STUD (UNLESS NOTED OTHERWISE).
19. CURTAINWALLS ARE DIMENSIONED TO FACE OF SLAB.

WALL NOTES

21. ALL CORNER WALLS ARE 90° U.N.O.
22. ALL LAFT DEMISING WALLS ARE 90° U.N.O.
23. ALL WALLS WITH NO DIMENSIONS ARE 90° U.N.O.

KEYNOTES PER SHEET

A001-02	SKILLARD
1005-06	VERTICAL STEEL PIPE RAILING OR HORIZONTAL CABLE RAILING, TO BE DETERMINED, 36" OR HIGHER
1112-05	FUTURE WALL BY PAY STATION, OWNER FURNISHED, CONTRACTOR INSTALLED

eu:a

milwaukee | madison | green bay | denver | atlanta

PROJECT INFORMATION

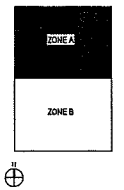
STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
10/23/23	SCHEMATIC DESIGN PHASE
07/26/2023	DESIGN DEVELOPMENT PHASE
10/02/2023	CONSTRUCTION DOCUMENTS PHASE
11/02/2023	PLANNING

KEY PLAN



SHEET INFORMATION

PROJECT MANAGER	MO
PROJECT NUMBER	720445

P5 FLR - ZONE A - PHASE 1

A1005-A-1

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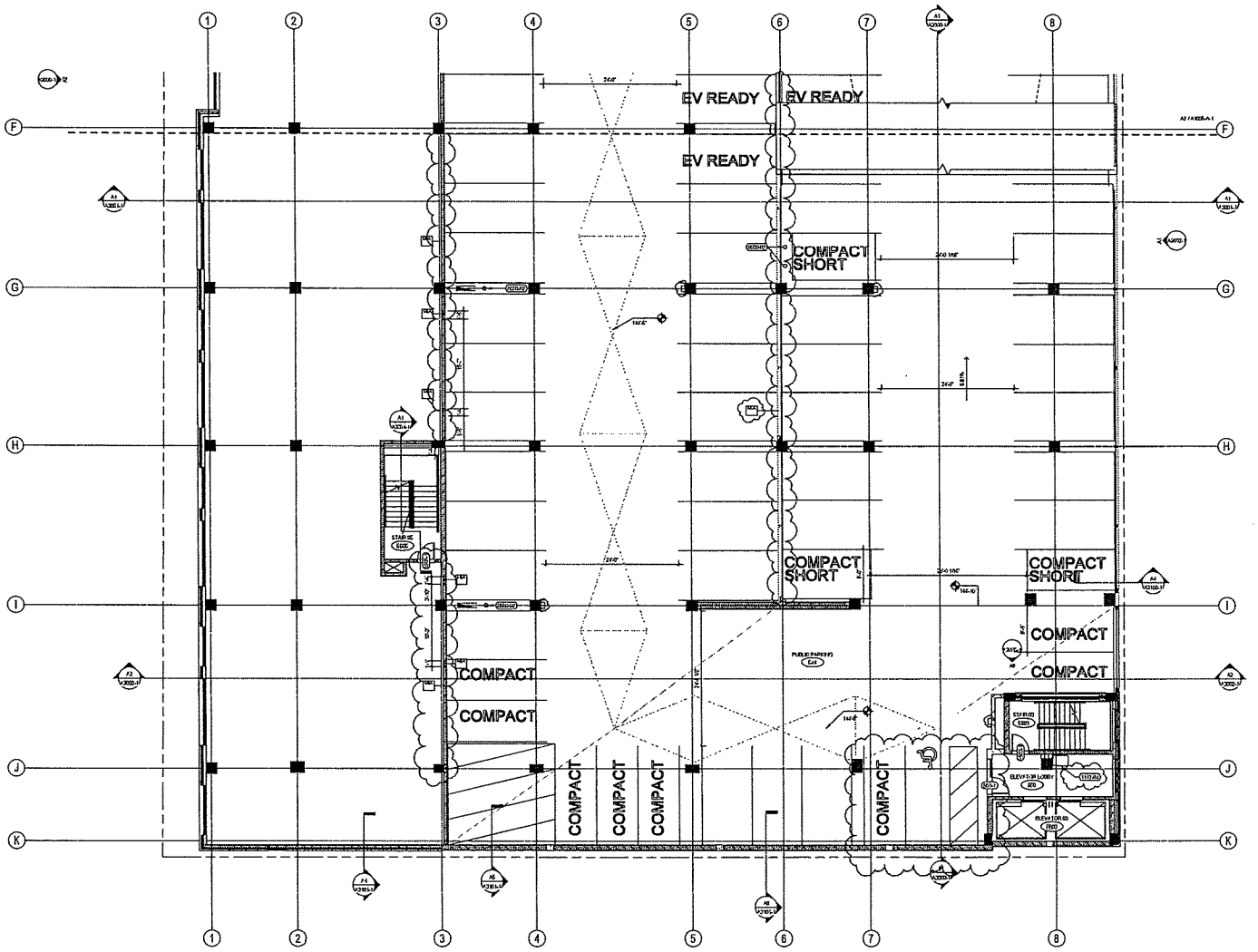
N A2 P5 FLR - ZONE A - PHASE 1
1/8" = 1'-0"



PHASE 2 - DOOR COORDINATION

DOORS SHOWN IN BLUE ARE NOT IN PHASE 1 SCOPE. OPENINGS AND SUBSET, IF APPLICABLE, ARE TO BE COORDINATED IN PHASE 1. DOOR, FRAME AND HARDWARE ARE TO BE INCLUDED IN PHASE 2 SCOPE.

THIS INCLUDES BUT NOT LIMITED TO OVERHEAD DOORS.

SEE "DOOR SCHEDULE - PHASE 1 / PHASE 2" ON SHEET A6001 FOR MORE INFORMATION

SHEET NOTES - FLOOR PLAN

1. SEE GEN. BLDG. F. & S. NOTES. VERIFY THE EXISTENCE AND LOCATION OF PLUMBING, MECHANICAL AND ELECTRICAL SYSTEMS AND OTHER CONSTRUCTION AFFECTING THE WORK. IF DISCREPANCIES ARE DISCOVERED, NOTIFY ARCHITECT PROMPTLY.
2. NOTIFY ARCHITECT IMMEDIATELY OF ANY DIMENSIONAL OR LEVEL DISCREPANCIES PRIOR TO PROCEEDING WITH WORK.
3. VERIFY STRUCTURAL ELEMENTS, INCLUDE (BUT NOT LIMITED TO) POST TENSION CABLES OR OTHER REINFORCEMENT EMBEDDED IN FLOOR SLABS PRIOR TO COMMENCEMENT OF CUTTING. COORDINATE VERIFICATION WITH OWNER.
4. REFER TO SHEET A1110.2 FOR WINDOW LEGEND TYPES #1 & #2 DETAILS.
5. ALL WALLS DIRECTLY BEHIND OR ADJACENT TO PLUMBING FIXTURES SHALL RECEIVE MOISTURE- AND MOLD-RESISTANT GYPSUM BOARD, U.N.O.
6. SEE ENLARGED FLOOR PLANS FOR ADDITIONAL NOTES, DIMENSIONS AND WALL TAGS.
7. REPAIR, PATCH AND CLEAN ALL EXISTING SURFACES SCHEDULED TO REMAIN THAT ARE AFFECTED BY DEMOLITION OR NEW CONSTRUCTION U.N.O. TYPICAL NEW, MATCHING AND EXISTING CONSTRUCTION. PREPARE ALL SURFACES AS REQUIRED FOR SCHEDULED FINISHES. RE-SHEETROCK AND PREPARE ALL DAMAGED OR UNFINISHED SURFACES.
8. LOCATE ALL DOOR JAMBS 4" FROM ADJACENT PERPENDICULAR WALL, U.N.O. NOTED OTHERWISE.
9. WORK REQUIRED FOR FIRE SPRINKLERS, PLUMBING, HVAC, ELECTRICAL AND LIFE SAFETY ARE NOT FULLY REPRESENTED ON THESE PLANS. THE DESIGN OF THE FULL SCOPE OF WORK FOR FIRE SPRINKLERS, PLUMBING, HVAC, ELECTRICAL, AND LIFE SAFETY IS THE RESPONSIBILITY OF THE CONTRACTOR, AND SHOULD BE COORDINATED AND APPROVED BY THE OWNER. ANY INFORMATION SHOWN ON THE ARCHITECTURAL DRAWINGS RELATED TO THESE DISCIPLINES ARE INTENDED FOR GENERAL REFERENCE ONLY.
10. PREPARE FLOOR LEVEL IN ALL LOCATIONS WHERE NEW SURFACE FINISHES, PATCH AND STAIR PENETRATIONS OCCUR. ALIGN NEW SURFACES FLUSH WITH EXISTING FLOOR.
11. PROVIDE BLOCKING BEHIND FUTURE GRAB BAR LOCATIONS IN ALL UNITS PER A1101.1. ALL UNITS ARE A1B1-1 (TYP.) TYPES OF UNITS UNLESS NOTED OTHERWISE PER A1101.1. TYPES A1 UNITS, SEE SHEET A0211 FOR UNIT INFORMATION.
12. PROVIDE BLOCKING AND SUPPORTS AS REQUIRED TO ACCOMMODATE ALL CASEWORK, EQUIPMENT, FIXTURES, SPECIALTY ITEMS, MILLWORK AND TRIM.
13. PROVIDE 3/4" FIRE RETARDANT TREATED PLYWOOD BACKING ON WALLS FOR TELEPHONE & ELECTRICAL EQUIPMENT. INSTALL AT 7'-0" (TYP.) TO EACH CEILING. PAINT PLYWOOD TO MATCH ADJACENT WALL FINISH. COORDINATE FINAL SIZE AND LOCATION WITH OWNER.
14.

DIMENSIONING NOTES

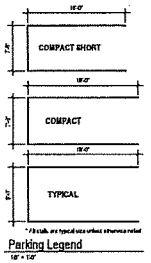
17. INTERIOR METAL STUD WALLS ARE DIMENSIONED TO FINISHED FACE OF GYPSUM BOARD U.N.O. LISTED OTHERWISE.
18. EXTERIOR METAL STUD WALLS ARE DIMENSIONED TO EXTERIOR FACE OF STUD UNLESS NOTED OTHERWISE.
19. CMU WALLS ARE DIMENSIONED TO FACE OF CMU.

WALL NOTES

21. ALL CORRIDOR WALLS ARE 5/8-RATED U.N.O. LISTED OTHERWISE.
22. ALL UNIT DEMISING WALLS ARE 1HR-RATED U.N.O. LISTED OTHERWISE.
23. ALL SHAFT WALLS ARE 2HR-RATED U.N.O. LISTED OTHERWISE.

KEYNOTES PER SHEET

KEYNOTE	KEYNOTE TEXT
11.12.24	MAKE-UP PIT STATION (OWNER FURNISHED, CONTRACTOR INSTALLED)



Parking Legend

eu:a
milwaukee | madison | green bay | denver | atlanta

PROJECT INFORMATION

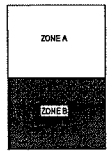
STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05.04.2023	SCHEMATIC DESIGN PH1
07.28.2023	DESIGN DEVELOPMENT PH1
10.02.2023	CD'S CONSTRUCTION DOCUMENTS PH 1
11.02.2023	PH_ADD2

KEY PLAN



SHEET INFORMATION

PROJECT MANAGER	MO
PROJECT NUMBER	720449

P5 FLR - ZONE B - PHASE 1

A1005-B-1

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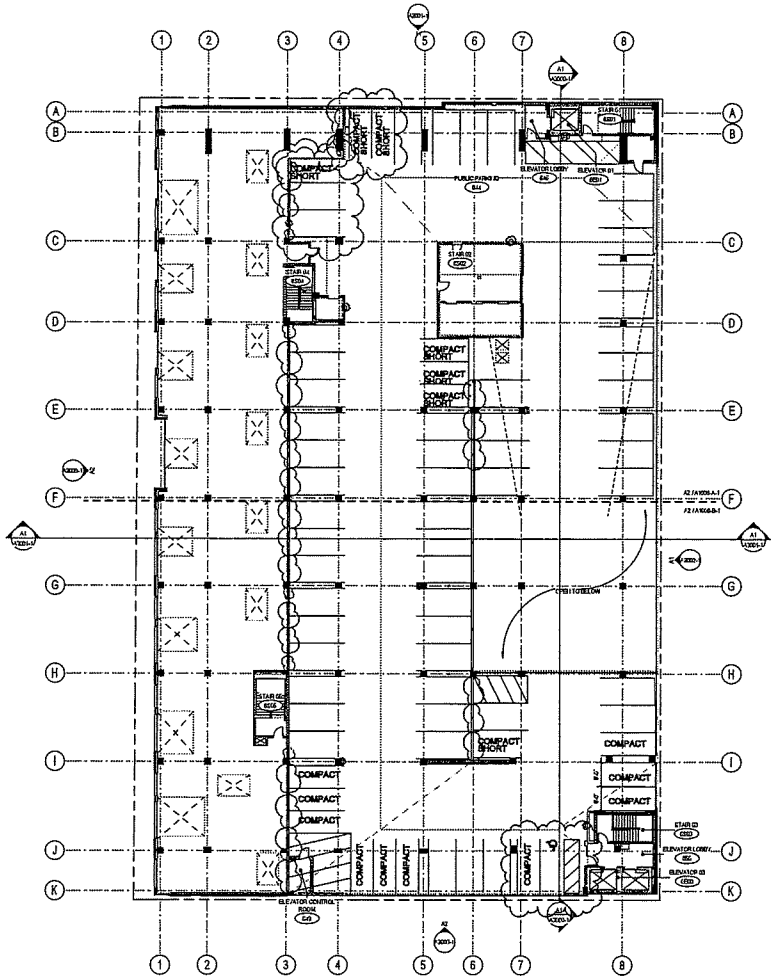
N A2 P5 FLR - ZONE B - PHASE 1
1/8" = 1'-0"



A3 P6 FLR OVERALL - PHASE 1

1/16" = 1'-0"

SHEET NOTES - FLOOR PLAN

1. VERIFY ALL FIELD WORK. VERIFY THE EXISTENCE AND LOCATION OF PLUMBING, MECHANICAL AND ELECTRICAL SYSTEMS AND OTHER CONSTRUCTION AFFECTING THE WORK. IF DISCREPANCIES ARE DISCOVERED, NOTIFY ARCHITECT PROMPTLY.
2. NOTIFY ARCHITECT IMMEDIATELY OF ANY OMISSIONS OR ALLOWABLE DISCREPANCIES PRIOR TO PROCEEDING WITH WORK.
3. VERIFY STRUCTURAL ELEMENTS, INCLUDING BUT NOT LIMITED TO POST TENSION CABLES OR OTHER REINFORCEMENT EMBEDDED IN FLOOR SLABS PRIOR TO CORING OR CUTTING. COORDINATE VERIFICATION METHOD WITH OWNER.
4. REFER TO SHEET A0100 FOR DIFFERENTIATION BETWEEN TYPES AND DETAILS.
5. ALL WALLS SPECIFICALLY SHOWN OR DESCRIBED AS TO PLUMB OR FIXTURES SHALL RECEIVE MOISTURE- AND MOLD-RESISTANT GYPSUM BOARD, UNLESS NOTED OTHERWISE.
6. SEE STRUCTURAL FLOOR PLANS FOR ADDITIONAL NOTES, DIMENSIONS AND WALL TAGS.
7. REPAIR, PATCH AND CLEAN ALL EXISTING SURFACES SCHEDULED TO REMAIN THAT ARE AFFECTED BY DEMOLITION OR NEW CONSTRUCTION. LIVING APPEARANCE, MATCHING ADJACENT CONSTRUCTION. PREPARE ALL SURFACES AS REQUIRED FOR SCHEDULED FINISHES. SUBSTRATE PREPARATION SHALL BE COMPLETED PRIOR TO INSTALLATION OF FINISHES.
8. LOCATE ALL DOOR JAMBS 4" FROM ADJACENT PERPENDICULAR WALL, UNLESS NOTED OTHERWISE.
9. WORK REQUIRED FOR FIRE SPRINKLERS, PLUMBING, HVAC, ELECTRICAL AND LIFE SAFETY ARE NOT FULLY REPRESENTED ON THESE PLANS. THE DESIGN OF THE FULL SCOPE OF WORK FOR FIRE SPRINKLERS, PLUMBING, HVAC, ELECTRICAL AND LIFE SAFETY IS THE RESPONSIBILITY OF THE CONTRACTOR, AND SHOULD BE COORDINATED AND APPROVED BY THE OWNER. ANY EQUIPMENT SHOWN ON THE ARCHITECTURAL DRAWINGS ARE RELATED TO THOSE DISCIPLINES ARE PROVIDED FOR GENERAL REFERENCE ONLY.
10. PREPARE FLOOR LEVEL AND SMOOTH FOR NEW FINISH SURFACE, REPAIR, PATCH AND RE-FINISH AS REQUIRED TO MATCH EXISTING FLOOR.
11. PROVIDE BLOCKING BEHIND FUTURE GRAB BAR LOCATIONS IN ALL LIFE PER ANSI A117.1. ALL LIFE PER ANSI A117.1 TYPE A UNITS UNLESS NOTED OTHERWISE AS PER ANSI A117.1 TYPE B UNITS. SEE SHEET A0011 FOR MORE INFORMATION.
12. PROVIDE BLOCKING IN ALL PARTITIONS AS INDICATED AND REQUIRED TO SUPPORT FACING MATERIALS, FIXTURES, SPECIALTY ITEMS, MILLWORK AND TRIM.
13. PROVIDE 3/4" FIRE-RETARDANT TREATED PLYWOOD AS BACKING PANELS FOR TELEPHONE & ELECTRICAL EQUIPMENT, INSTALL AT 0'-6" AFF TO 7'-0" AS NOTED. SEAL AND PAINT PLYWOOD TO MATCH ADJACENT WALL FINISH. COORDINATE FINAL SIZE AND LOCATION WITH OWNER.

DIMENSIONING NOTES

17. INTERIOR METAL STUD WALLS ARE DIMENSIONED TO FINISHED FACE OF GYPSUM BOARD UNLESS NOTED OTHERWISE.
18. EXTERIOR METAL STUD WALLS ARE DIMENSIONED TO EXTERIOR FACE OF STUD UNLESS NOTED OTHERWISE.
19. ICM WALLS ARE DIMENSIONED TO FACE OF CMU.

WALL NOTES

20. ALL CONCRETE WALLS ARE 8" UNLESS NOTED OTHERWISE.
21. ALL CMU DEMISING WALLS ARE 8" UNLESS NOTED OTHERWISE.
22. ALL WALLS WITH STAIRS ARE 12" UNLESS NOTED OTHERWISE.

KEYNOTES PER SHEET

eu:a

milwaukee | madison | green bay | denver | atlanta

PROJECT INFORMATION

STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05/05/2023	SCHEMATIC DESIGN PKG
07/28/2023	DESIGN DEVELOPMENT PKG
10/02/2023	CONSTRUCTION DOCUMENTS PH 1
11/02/2023	PLANNING

KEY PLAN

SHEET INFORMATION

PROJECT MANAGER MO

PROJECT NUMBER 72048

P6 FLR OVERALL - PHASE 1

A1006-1

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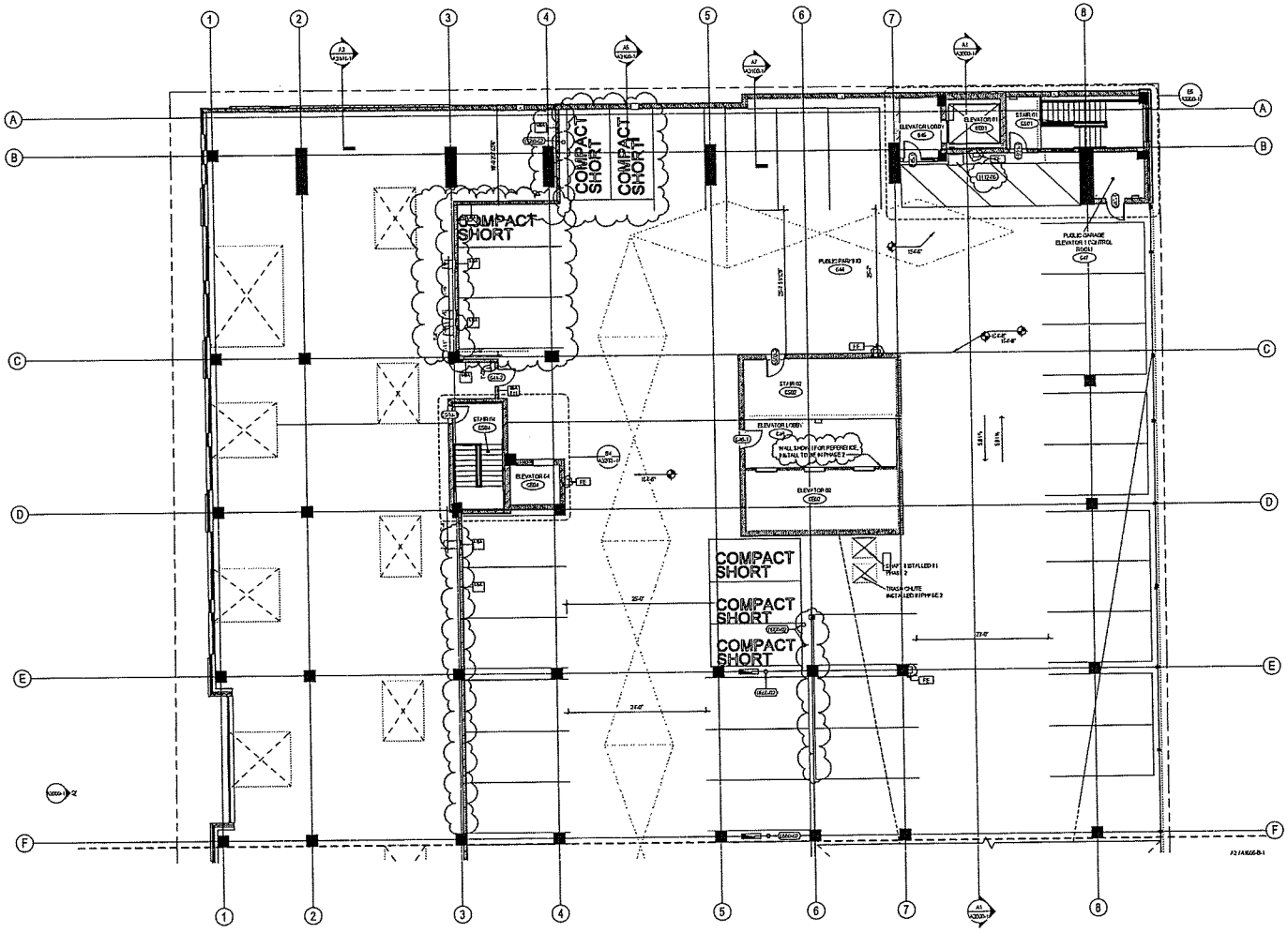


PHASE 2 - DOOR COORDINATION

DOORS SHOWN IN BLUE ARE NOT IN PHASE 1 SCOPE. OPENINGS AND SUB-SLAB, IF APPLICABLE, ARE TO BE COORDINATED IN PHASE 1. DOOR, FRAME AND HARDWARE ARE TO BE INCLUDED IN PHASE 2 SCOPE.

THIS INCLUDES BUT NOT LIMITED TO OVERHEAD DOORS.

SEE "DOOR SCHEDULE - PHASE 1 / PHASE 2" ON A6.00-1 FOR MORE INFORMATION

SHEET NOTES - FLOOR PLAN

1. BEFORE BEGINNING WORK, VERIFY THE EXISTENCE AND LOCATION OF PLUMBING, MECHANICAL AND ELECTRICAL SYSTEMS AND OTHER CONSTRUCTION AFFECTED BY THE WORK. IF DISCREPANCIES ARE DISCOVERED, NOTIFY ARCHITECT PROMPTLY.
2. NOTIFY ARCHITECT IMMEDIATELY OF ANY OBSTRUCTION OR FUTURE WORK DISCREPANCIES PRIOR TO PROCEEDING WITH WORK.
3. VERIFY STRUCTURAL ELEMENTS, INCLUDING BUT NOT LIMITED TO POST TENSION CABLES, OR OTHER RESTRICTIONS, EMBEDDED WITHIN CONCRETE SLABS PRIOR TO COREDRILLING OR CUTTING. COORDINATE VERIFICATION METHOD WITH OWNER.
4. REFER TO EXPERT ADVICE FOR PROPER DEEP WATER PROOFING SYSTEMS AS SPECIFIED.
5. ALL WALLS, OPENINGS, RECESSES AND ADJACENT SURFACES TO BE FREE OF EXISTING MOISTURE AND MOLD. REPAIR OR REMOVE ANY GYPSUM BOARD, UNLESS NOTED OTHERWISE.
6. SEE ENLARGED FLOOR PLANS FOR ADDITIONAL NOTES, DIMENSIONS AND WALL TAGS.
7. REPAIR, PATCH AND RELEVEL ALL EXISTING SURFACES SCHEDULED TO REMAIN THAT ARE AFFECTED BY DEMOLITION OR NEW CONSTRUCTION. LIKE APPEARANCE, WHERE EXISTING ADJACENT TO CONSTRUCTION. PREPARE ALL SURFACES AS REQUIRED FOR SCHEDULED FINISHES. DEMOLISH AND PREPARE ALL EXPOSED OR UNFINISHED SURFACES.
8. CONCRETE ALL DOOR JAMBS 3" FROM ADJACENT PERPENDICULAR WALL, U.N.O.
9. WORK REQUIRED FOR FIRE SPRINKLERS, PLUMBING, HVAC, ELECTRICAL AND LIFE SAFETY ARE NOT FULLY REPRESENTED ON THESE PLANS. THE DESIGN OF THE FULL SCOPE OF WORK FOR FIRE SPRINKLERS, PLUMBING, HVAC, ELECTRICAL, AND LIFE SAFETY IS THE RESPONSIBILITY OF THE CONTRACTOR, AND SHOULD BE COORDINATED AND APPROVED BY THE OWNER. ANY INFORMATION SHOWN ON THE ARCHITECTURAL DRAWINGS RELATED TO THESE DISCIPLINES ARE INTENDED FOR CONCEPTUAL REFERENCE ONLY.
10. PREPARE FLOOR LEVEL AND SMOOTH OPTIMUM PATCH SURFACE FOR RESILIENT FLOORING AS SPECIFIED. PATCH AND FEATHER ALL HOLES AND ADJACENT SURFACES IN CONCRETE FLOOR.
11. PROVIDE BLOCKING BEHIND FUTURE GRAB BARS AT LOCATIONS AS SHOWN ON A11.01, A11.02, A11.03 AND A11.04. ALL GRAB BARS ARE 42" AFF TO TOP OF GRAB BAR, U.N.O.
12. PROVIDE BLOCKING IN ALL WALLS AT 42" AFF TO SUPPORT FUTURE MILLWORK AND TRIM.
13. PROVIDE 3/4" FIRE-RETARDANT TREATED PLYWOOD AS SPECIFIED FOR TELEPHONE & ELECTRICAL EQUIPMENT, 8' TALL AT 60" AFF TO TOP OF PLYWOOD. PAINT PLYWOOD TO MATCH ADJACENT WALL FINISH. COORDINATE FINAL SIZE IN FIELD WITH OWNER.

DIMENSIONING NOTES

17. UNLESS NOTED OTHERWISE, METAL STUD WALLS ARE DIMENSIONED TO THE FINISHED FACE OF METAL STUD WALL.
18. UNLESS NOTED OTHERWISE, EXTERIOR METAL STUD WALLS ARE DIMENSIONED TO EXTERIOR FACE OF STUD WALL.
19. ALL WALLS ARE DIMENSIONED TO FACE OF CMU.

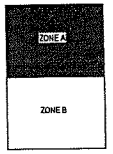
WALL NOTES

20. ALL CORRIDOR WALLS ARE 1 HOUR RATED, U.N.O.
21. ALL LIFT ENCLOSURE WALLS ARE 2 HOUR RATED, U.N.O.
22. ALL WALLS WITH PLUMBING FIXTURES ARE 2" METAL STUD, U.N.O.

KEYNOTES PER SHEET

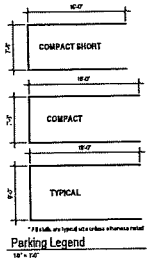
KEYNOTE	DESCRIPTION
11.01.A10	FUTURE WALL-UP PAY STATION BY OWNER. FURNISHED, NOT INSTALLED

KEY PLAN



SHEET INFORMATION

PROJECT MANAGER	MD
PROJECT NUMBER	72D448



Parking Legend

eu:a

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PROJECT INFORMATION

STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05-06-2022	SCHEMATIC DESIGN PH1
07-29-2022	DESIGN DEVELOPMENT PH1
10-03-2022	CD SET PLUS HOD DOCUMENTS PH 1
11-02-2022	PLANNING

A1006-A-1

P6 FLR - ZONE A - PHASE 1

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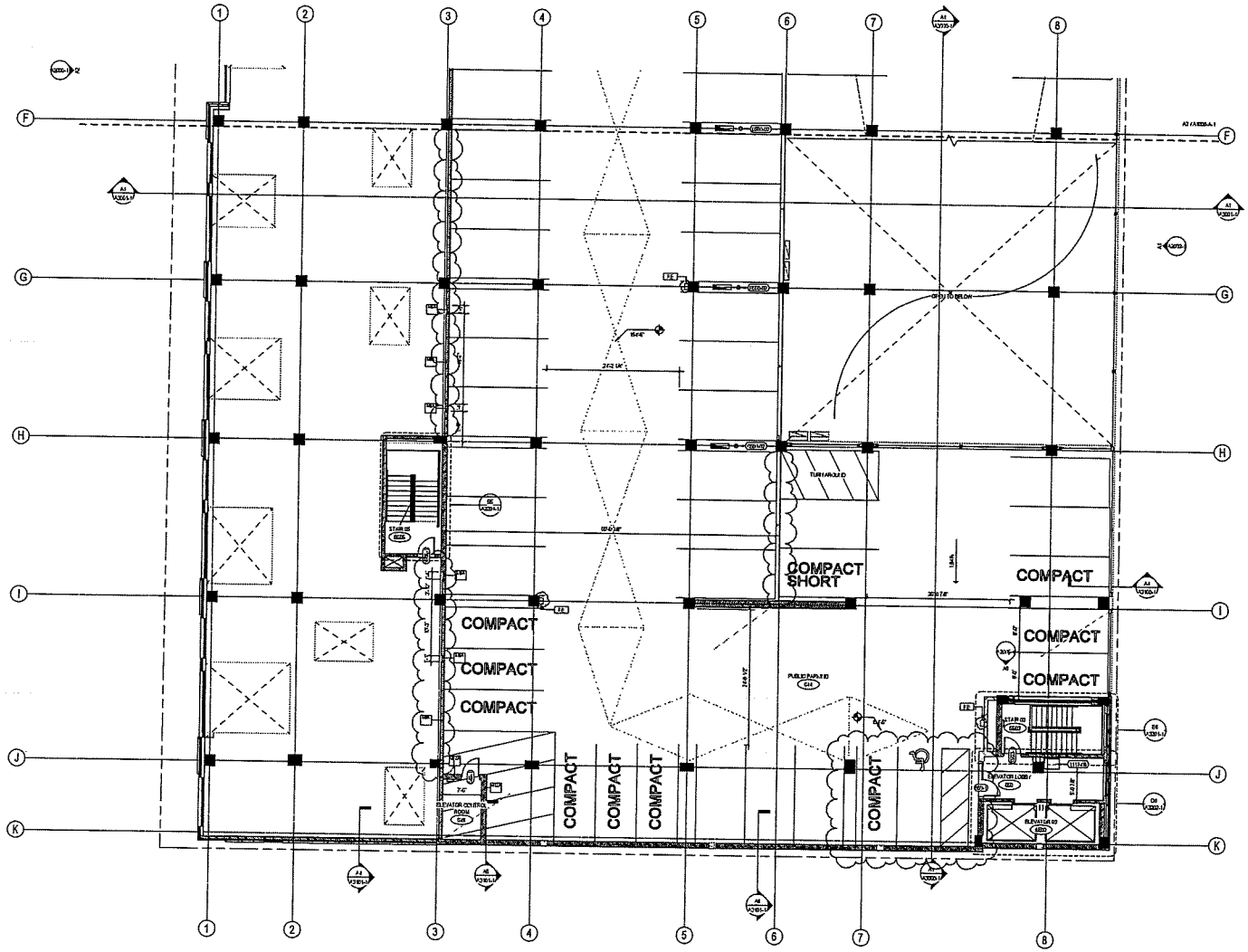
N A2 P6 FLR - ZONE A - PHASE 1
1/8" = 1'-0"



A2 P6 FLR - ZONE B - PHASE 1
1/8" = 1'-0"

PHASE 2 - DOOR COORDINATION

DOORS SHOWN IN BLUE ARE NOT IN PHASE 1 SCOPE. OPERATOR AND CUT-OUT, IF APPLICABLE, ARE TO BE COORDINATED IN PHASE 1. DOOR, FRAME AND HARDWARE ARE TO BE INCLUDED IN PHASE 2 SCOPE.

THIS INCLUDES BUT NOT LIMITED TO OVERHEAD DOORS.

SEE "DOOR SCHEDULE - PHASE 1 / PHASE 2" ON A003-1 FOR MORE INFORMATION

SHEET NOTES - FLOOR PLAN

1. BEFORE BEGINNING WORK, VERIFY THE EXISTENCE AND LOCATION OF PLUMBING, MECHANICAL AND ELECTRICAL SYSTEMS, AND OTHER CONSTRUCTION AFFECTED BY THE WORK. IF DISCREPANCIES ARE ENCOUNTERED, NOTIFY ARCHITECT PROMPTLY.
2. NOTIFY ARCHITECT IMMEDIATELY OF ANY DISCREPANCIES OR CLARIFICATIONS NEEDED PRIOR TO PROCEEDING WITH WORK.
3. VERIFY STRUCTURAL ELEMENTS, INCLUDING BUT NOT LIMITED TO POST TENSION CABLES, BEFORE ANY DRILLING OR EQUIPMENT EMBEDDED IN FLOOR SLABS PRIOR TO COPING OF CUTTING. COORDINATE VERIFICATION EFFORTS WITH OWNER.
4. REFER TO SHEET A0.1-1 FOR REFERENCED PARTITION TYPES AND DETAILS.
5. ALL WALLS DIRECTLY ABOVE OR ADJACENT TO PLUMBING FIXTURES SHALL RECEIVE MOISTURE- AND MOLD-RESISTANT GYPSUM BOARD, UNLESS NOTED OTHERWISE.
6. SEE DIMENSIONED FLOOR PLANS FOR ADDITIONAL NOTES, DIMENSIONS AND WALL TAGS.
7. REPAIR, PATCH AND CLEAN ALL EXISTING SURFACES SCHEDULED TO REMAIN THAT ARE AFFECTED BY DEMOLITION OR NEW CONSTRUCTION. LEVEL / REPLACE, AND SHIM ADJACENT CONSTRUCTION, PREPARE ALL SURFACES AS NEEDED FOR SCHEDULED FINISHES. BLEND CUT AND PREPARE ALL SHIMMED OR LEVELED SURFACES.
8. LOCATE ALL DOOR JAMBS 7" FROM ADJACENT PERPENDICULAR WALL, U.O.N. NOTED OTHERWISE.
9. WORK REQUIRED FOR FIRE SPRINKLERS, PLUMBING, HVAC, ELECTRICAL AND LIFE SAFETY ARE NOT FULLY REPRESENTED ON THESE PLANS. THE DESIGN OF THE FULL SCOPE OF WORK FOR FIRE SPRINKLERS, PLUMBING, HVAC, ELECTRICAL AND LIFE SAFETY IS THE RESPONSIBILITY OF THE CONTRACTOR, AND SHOULD BE COORDINATED AND APPROVED BY THE OWNER. ANY EQUIPMENT SHOWN ON THE ARCHITECTURAL DRAWINGS ARE FOR REFERENCE TO THOSE DISCIPLINES AND IS NEEDED FOR DESIGNAL REFERENCE ONLY.
10. PREPARE FLOOR LEVEL AS NECESSARY FOR NEW FINISHES. REPAIR, PATCH TO ACHIEVE PENETRATIONS AND AS OTHERWISE INDICATED ON CONCRETE FLOOR.
11. PROVIDE BLOCKING WITHIN FUTURE GRAB BAR LOCATIONS IF WALL IS NOT PER IBC 610.2. ALL LIFTS ARE AS PER A117.1 TYPE OF LIFT U.O.N. LESS NOTED OTHERWISE AS AMENABLE TYPE 4A UNITS. SEE SHEET A001 FOR MORE INFORMATION.
12. PROVIDE BLOCKING AS PER MANUFACTURER'S DETAILS AS REQUIRED TO SUPPORT FACING MATERIALS, FIXTURES, SPECIALTY ITEMS, MILLWORK AND TRIM.
13. PROVIDE 3/4" FIRE RETARDANT TREATED PLYWOOD AS SHOWN OR AS REQUIRED FOR TELEPHONE & ELECTRICAL BOARDS IF INSTALLED AT 108" TO FINISHED CEILING. PAINT PLYWOOD TO MATCH ADJACENT WALL FINISH. COORDINATE FINAL SIZE AS LOCATED WITH OWNER.

DIMENSIONING NOTES

17. PARTITION METAL STUD WALLS ARE DIMENSIONED TO FINISHED FACE OF GYPSUM BOARD U.O.N. LESS NOTED OTHERWISE.
18. EXTERIOR METAL STUD WALLS ARE DIMENSIONED TO EXTERIOR FACE OF STUD U.O.N. LESS NOTED OTHERWISE.
19. CMU WALLS ARE DIMENSIONED TO FACE OF CMU.

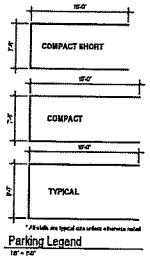
WALL NOTES

21. ALL CORRIDOR WALLS ARE 1HR RATED U.O.N. LESS NOTED OTHERWISE.
22. ALL UNIT DEMISING WALLS ARE 1HR RATED U.O.N. LESS NOTED OTHERWISE.
23. ALL WALLS WITHIN UNITS ARE 1HR RATED U.O.N. LESS NOTED OTHERWISE.

KEYNOTES PER SHEET

KEYNOTE	DESCRIPTION
111045	FUTURE WIRELESS PAY STATION, OWNER FURNISHED, CONTRACTOR INSTALLED

Parking Legend



1/8" = 1'-0"

eu:a
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PROJECT INFORMATION

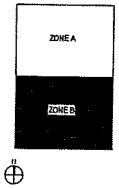
STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05-05-2025	SCHEMATIC DESIGN (PH1)
07-28-2025	DESIGN DEVELOPMENT (PH1)
10-03-2025	LCD & PERMIT SET / BOUNDARY (PH1)
11-07-2025	P1_A003

KEY PLAN



SHEET INFORMATION

PROJECT MANAGER	MO
PROJECT NUMBER	72048

P6 FLR - ZONE B - PHASE 1

A1006-B-1

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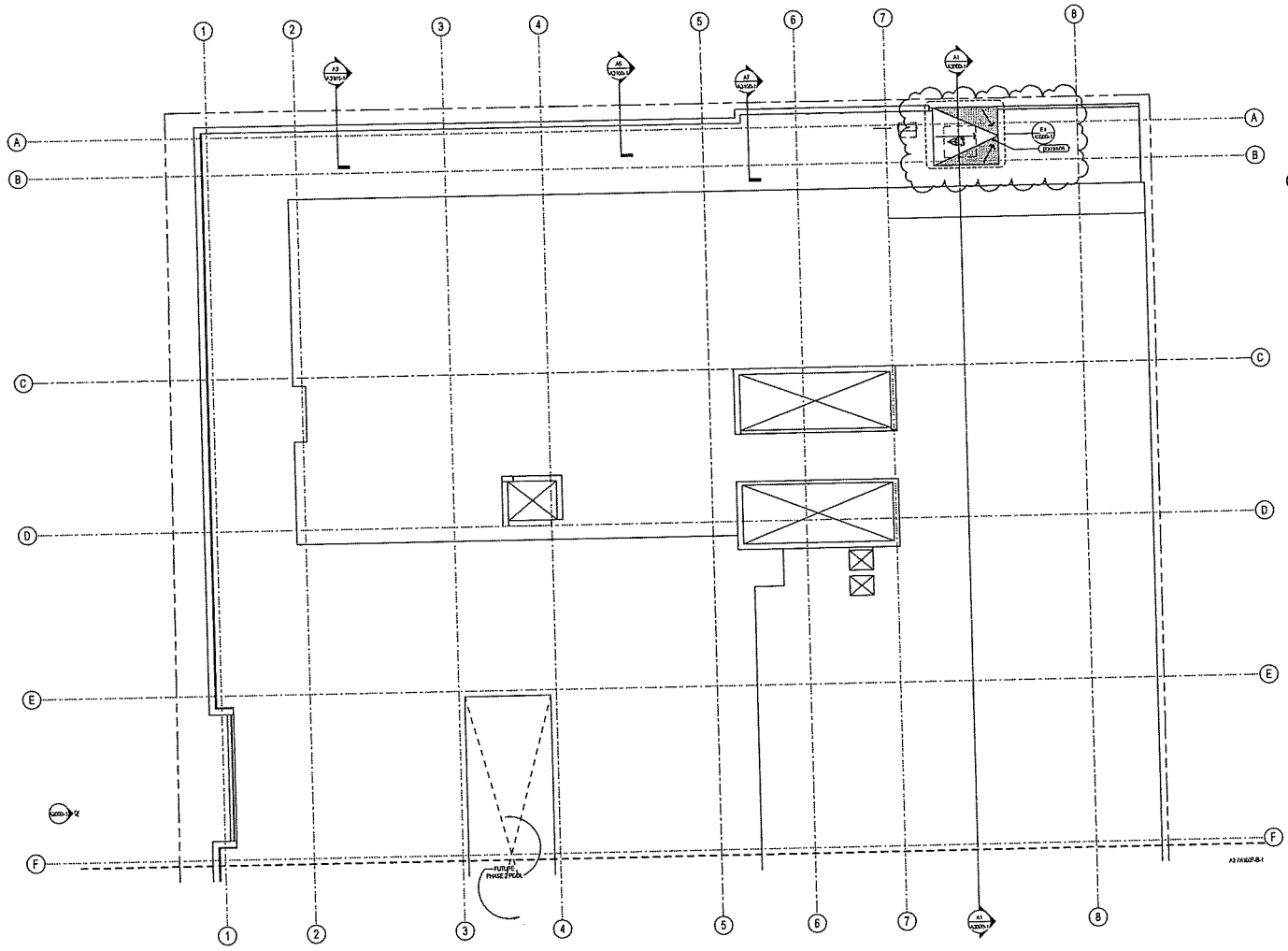

ROOF PLAN LEGEND

RD	ROOF DRAIN
OFD	OVERFLOW DRAIN
x"	INSULATION THICKNESS
←	SLOPE DIRECTION OF ROOF & TAPERED INSULATION
	CRICKETS AND SADDLES

SEE SHEET A0.1-1 FOR ROOF ASSEMBLY INFORMATION

SHEET NOTES - FLOOR PLAN

1. VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD BEFORE ORDERING MATERIALS OR PROCEEDING WITH WORK. NOTIFY ARCHITECT IMMEDIATELY OF ANY DISCREPANCIES FOUND.
2. NOTIFY ARCHITECT IMMEDIATELY OF ANY EXISTING CONDITIONS, OR PURCHASED EQUIPMENT OR FIXTURES THAT WILL REQUIRE DEVIATIONS FROM THE CONSTRUCTION DOCUMENTS PRIOR TO PROCEEDING WITH WORK.
3. VERIFY STRUCTURAL ELEMENTS, INCLUDING BUT NOT LIMITED TO POST TENSION CABLES OR OTHER REINFORCEMENT EMBEDDED IN FLOOR SLABS PRIOR TO COORING OR CUTTING. COORDINATE VERIFICATION METHOD WITH OWNER.
4. REFER TO SHEET A0.1-2 FOR REFERENCED PARTITION TYPE MATERIALS & ASSEMBLIES.
5. ALL WALLS DIRECTLY BEHIND OR ADJACENT TO PLUMBING FIXTURES SHALL RECEIVE MOISTURE-RESISTANT GYPSUM BOARD, UNLESS NOTED OTHERWISE.
6. SEE RCP FOR REFLECTED CEILING PLANS.
7. SEE ENLARGED FLOOR PLANS FOR ADDITIONAL NOTES, DIMENSIONS, AND WALL TAGS.
8. REPAIR, PATCH AND CLEAN ALL EXISTING SURFACES TO BE USED IN AREAS THAT ARE AFFECTED BY DEMOLITION OR NEW CONSTRUCTION TO LIKE-NEW CONDITION, MATCHING ADJACENT CONSTRUCTION. PREPARE ALL SURFACES AS REQUIRED FOR SCHEDULED FINISHES. BLEND AND PREPARE ALL DAMAGED OR ALTERED SURFACES.
9. LOCATE ALL DOOR JAMBS 4" FROM ADJACENT PERPENDICULAR WALL, UNLESS NOTED OTHERWISE.
10. WORK REQUIRED FOR FIRE SPRINKLERS, PLUMBING, HVAC, ELECTRICAL AND LIFE SAFETY ARE NOT FULLY REPRESENTED ON THESE PLANS. THE DESIGN OF THE FULL SCOPE OF WORK FOR FIRE SPRINKLERS, PLUMBING, HVAC, ELECTRICAL AND LIFE SAFETY IS THE RESPONSIBILITY OF THE DESIGN FACTOR, AND SHOULD BE COORDINATED AND APPROVED BY THE OWNER. ANY INFORMATION SHOWN ON THE ARCHITECTURAL DRAWINGS ARE HELPFUL TO THESE DISCIPLINES ARE INTENDED FOR DESIGN REFERENCE ONLY.
11. PREPARE FLOOR LEVEL WITH SLAB DEPRESSIONS AT WET AREAS TO RECEIVE FINISHES. PATCH AND STAIN PENETRATIONS THROUGH SLAB AS REQUIRED TO ACHIEVE FINISHED FLOOR.
12. PROVIDE BLOCKING BEHIND FUTURE GRAB BAR LOCATIONS & WALL LAYERS PER A1.0-1 & A1.1. ALL LIFTS ARE 42 EACH (+/-). TYPICAL 1 LIFT IS LESS NOTED OTHERWISE AS INDICATED. TYPICAL UNITS. SEE SHEET A0.1-1 FOR MORE INFORMATION.
13. PROVIDE BLOCKING AT BATHROOM ACCESSORIES & WALL LAYERS PER A1.0-1 & A1.1. ALL LIFTS ARE 42 EACH (+/-). TYPICAL 1 LIFT IS LESS NOTED OTHERWISE AS INDICATED. TYPICAL UNITS. SEE SHEET A0.1-1 FOR MORE INFORMATION.
14. PROVIDE BLOCKING AT FIRE EXTINGUISHER CABINETS PER A1.0-1 & A1.1. ALL LIFTS ARE 42 EACH (+/-). TYPICAL 1 LIFT IS LESS NOTED OTHERWISE AS INDICATED. TYPICAL UNITS. SEE SHEET A0.1-1 FOR MORE INFORMATION.
15. PROVIDE BLOCKING AT CASEWORK PER A1.0-1 & A1.1. ALL LIFTS ARE 42 EACH (+/-). TYPICAL 1 LIFT IS LESS NOTED OTHERWISE AS INDICATED. TYPICAL UNITS. SEE SHEET A0.1-1 FOR MORE INFORMATION.
16. PROVIDE BLOCKING AT MILLWORK PER A1.0-1 & A1.1. ALL LIFTS ARE 42 EACH (+/-). TYPICAL 1 LIFT IS LESS NOTED OTHERWISE AS INDICATED. TYPICAL UNITS. SEE SHEET A0.1-1 FOR MORE INFORMATION.
17. PROVIDE BLOCKING AT SIGNAGE PER A1.0-1 & A1.1. ALL LIFTS ARE 42 EACH (+/-). TYPICAL 1 LIFT IS LESS NOTED OTHERWISE AS INDICATED. TYPICAL UNITS. SEE SHEET A0.1-1 FOR MORE INFORMATION.
18. PROVIDE BLOCKING AT WINDOW TREATMENTS PER A1.0-1 & A1.1. ALL LIFTS ARE 42 EACH (+/-). TYPICAL 1 LIFT IS LESS NOTED OTHERWISE AS INDICATED. TYPICAL UNITS. SEE SHEET A0.1-1 FOR MORE INFORMATION.
19. PROVIDE BLOCKING AT WALL MOUNTED EQUIPMENT PER A1.0-1 & A1.1. ALL LIFTS ARE 42 EACH (+/-). TYPICAL 1 LIFT IS LESS NOTED OTHERWISE AS INDICATED. TYPICAL UNITS. SEE SHEET A0.1-1 FOR MORE INFORMATION.
20. PROVIDE BLOCKING AT WALL MOUNTED FURNISHINGS PER A1.0-1 & A1.1. ALL LIFTS ARE 42 EACH (+/-). TYPICAL 1 LIFT IS LESS NOTED OTHERWISE AS INDICATED. TYPICAL UNITS. SEE SHEET A0.1-1 FOR MORE INFORMATION.

DIMENSIONING NOTES

17. UNLESS NOTED, STUD WALLS ARE DIMENSIONED TO FINISHED FACE OF DRYWALL BEHIND (+ LESS) NOTED OTHERWISE.
18. EXTERIOR METAL STUD WALLS ARE DIMENSIONED TO EXTERIOR FACE OF STUD UNLESS NOTED OTHERWISE.
19. CURTAIN WALLS ARE DIMENSIONED TO FACE OF SLAB.

WALL NOTES

21. ALL CORRIDOR WALLS ARE 2HR RATED UNLESS NOTED OTHERWISE.
22. ALL SHAFT ENCLOSURE WALLS ARE 2HR RATED UNLESS NOTED OTHERWISE.
23. ALL EXTERIOR WALLS ARE 1HR RATED UNLESS NOTED OTHERWISE.

KEYNOTES PER SHEET

03.10-03 FULLY ADHERED EPDM MEMBRANE ROOFING ON TAPERED INSULATION OVER STEEL ROOF DECK - SEE BUILDING ASSEMBLIES SHEET

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PROJECT INFORMATION

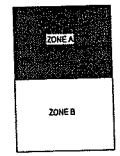
STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05/15/2020	SCHEMATIC DESIGN PHASE
07/29/2020	DESIGN DEVELOPMENT PHASE
11/02/2020	PLANNING

KEY PLAN



SHEET INFORMATION

PROGRESS DOCUMENTS NOT FOR CONSTRUCTION

These documents are incomplete and may be subject to change, and may not be used for construction, bidding or permit purposes. Any use of these documents is at the user's sole risk.

PROJECT MANAGER	MO
PROJECT NUMBER	720448

7TH FLR - ZONE A - PHASE 1

A1007-A-1

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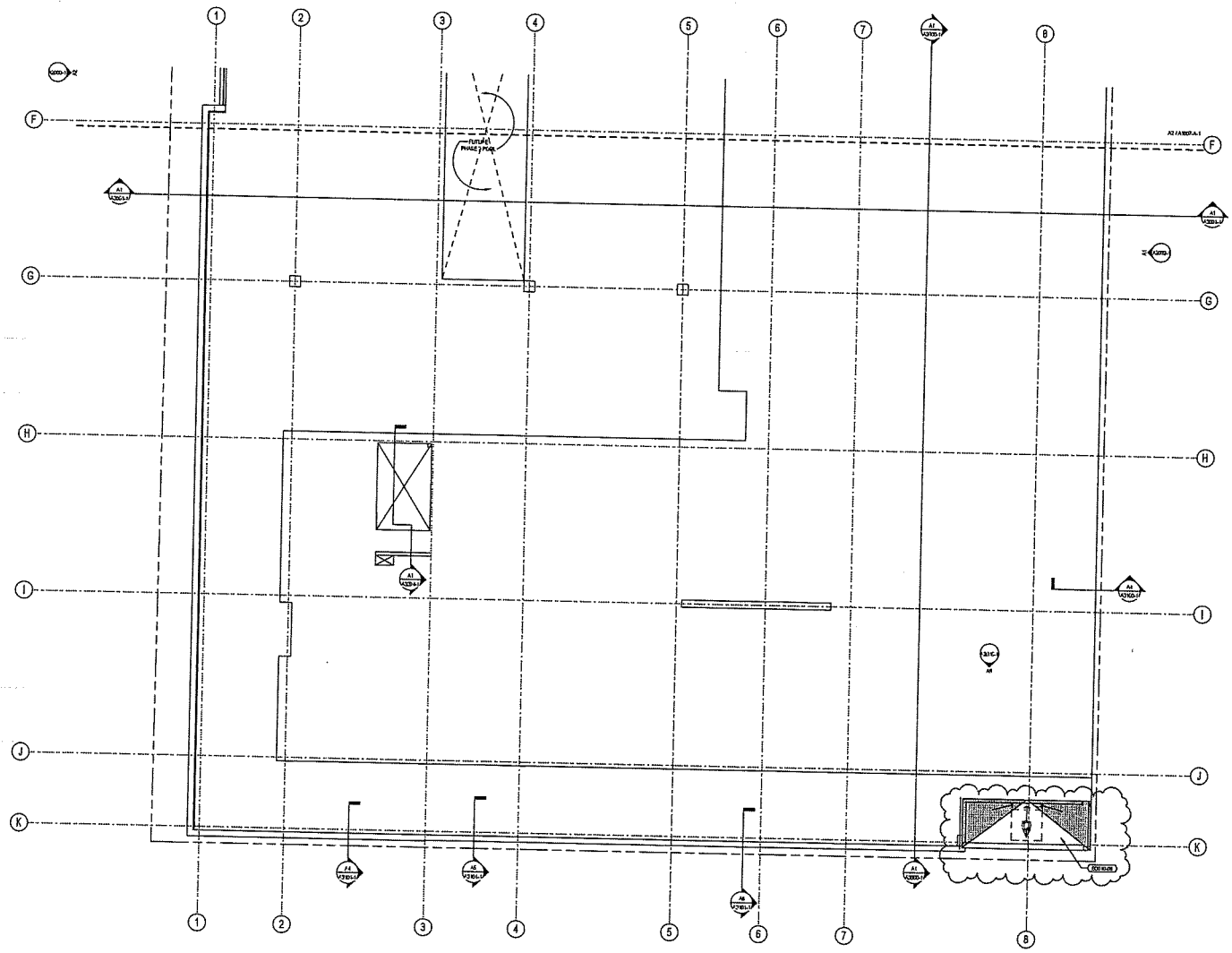
A2 7TH FLR - ZONE A - PHASE 1
1/8" = 1'-0"



ROOF PLAN LEGEND

RD	ROOF DRAIN
OFD	OVERFLOW DRAIN
X"	INSULATION THICKNESS
	SLOPE/DIRECTION OF ROOF & TAPERED INSULATION
	CRICKETS AND SADDLES

SEE SHEET A0702-1 FOR ROOF ASSEMBLY INFORMATION

SHEET NOTES - FLOOR PLAN

1. BEFORE BEGINNING WORK, VERIFY THE EXISTENCE AND LOCATION OF PLUMBING, MECHANICAL AND ELECTRICAL SYSTEMS AND OTHER CONSTRUCTION AFFECTING THE WORK. IF DISCREPANCIES ARE DISCOVERED, NOTIFY ARCHITECT PROMPTLY.
2. NOTIFY ARCHITECT IMMEDIATELY OF ANY DOMESTIC OR FOREIGN MATERIALS OR OBJECTS FOUND PRIOR TO PROCESSING ANY PAINTING.
3. VERIFY STRUCTURAL ELEMENTS, INCLUDING BUT NOT LIMITED TO POST TENSIONED CABLES OR OTHER KEY CONCEALMENT EMBEDDED WITHIN SLAB PRIOR TO CORING OR CUTTING. COORDINATE VERIFICATION METHODS WITH OWNER.
4. REFER TO SHEET A0701-1 FOR WATERPROOFING PARTITION TYPES AND DETAILS.
5. ALL WALLS DIRECTLY BEHIND OR ADJACENT TO PLUMBING FIXTURES SHALL PREVENT MOISTURE- AND MOLD-RESISTANT GYPSUM BOARD, UNLESS NOTED OTHERWISE.
6. SEE ENLARGED FLOOR PLANS FOR ADDITIONAL NOTES, DIMENSIONS AND WALL TAGS.
7. PATCH, REPAIR AND CLEAN ALL EXISTING SURFACES SCHEDULED TO REMAIN THAT ARE AFFECTED BY DEMOLITION OR NEW CONSTRUCTION. LINE UP NEW WORK WITH ADJACENT CONSTRUCTION. PREPARE ALL SURFACES AS REQUIRED FOR SCHEDULED FINISHES. BLANKOUT AND PREPARE ALL CHANGED OR EXPOSED SURFACES.
8. LOCATE ALL DOOR JAMBS 4" FROM ADJACENT PERPENDICULAR WALL, U.N.O.
9. WORK DESIGNED FOR FIRE SPRINKLERS, PLUMBING, HVAC, ELECTRICAL AND LIFE SAFETY ARE NOT FULLY REPRESENTED ON THESE PLANS. THE DESIGN OF THE FULL SCOPE OF WORK FOR FIRE SPRINKLERS, PLUMBING, HVAC, ELECTRICAL, AND LIFE SAFETY IS THE RESPONSIBILITY OF THE CONTRACTOR, AND SHOULD BE COORDINATED AS APPROVED BY THE OWNER. ANY INFORMATION SHOWN ON THE ARCHITECTURAL DRAWINGS ARE PROVIDED TO THOSE DISCIPLINES ARE PROVIDED FOR DESIGN REFERENCE ONLY.
10. PREPARE FLOOR LEVEL AND SMOOTH OF NEW INFILL SURFACE FINISHER, PATCH IN SETBACK PENETRATIONS AND ANY IRREGULARITIES IN CONCRETE FLOOR.
11. PROVIDE BLOCKING BEHIND FUTURE GRAB BARS, TOILET PARTITIONS, WALL LEVELS PER ANSI A117.1. ALL GRAB BARS AT ACCESSIBLE TYPE A UNITS UNLESS NOTED OTHERWISE. AT ACCESSIBLE TYPE A UNITS, SEE SHEET A0511 FOR MORE INFORMATION.
12. PROVIDE BLOCKING AT ALL BATHROOMS AS REQUIRED TO SUPPORT FACING MATERIALS, FIXTURES, SPECIALTY ITEMS, MILLWORK, AND TRIM.
13. PROVIDE 3/4" FIRE RETARDANT TREATED PLYWOOD AS SHOWN ON WALLS FOR TELEPHONE & ELECTRICAL EQUIPMENT, INSTALL AT 1'-0" AFF TO FINISHED CEILING. PAINT PLYWOOD TO MATCH ADJACENT WALL FINISH. COORDINATE FINAL SIZE AS DIRECTED WITH OWNER.
14.

DIMENSIONING NOTES

17. INTERIOR METAL STUD WALLS ARE DIMENSIONED TO FINISHED FACE OF GYPSUM BOARD U.N.O. OTHERWISE.
18. EXTERIOR METAL STUD WALLS ARE DIMENSIONED TO EXTERIOR FACE OF STUD UNLESS NOTED OTHERWISE.
19. CMU WALLS ARE DIMENSIONED TO FACE OF CMU.

WALL NOTES

21. ALL CONCRETE WALLS ARE 8" THICK U.N.O. UNLESS NOTED OTHERWISE.
22. ALL UNIT DEMISING WALLS ARE 2HR-2 HOUR U.N.O. UNLESS NOTED OTHERWISE.
23. ALL INTERIOR WALLS ARE 1HR-1 HOUR U.N.O. UNLESS NOTED OTHERWISE.

KEYNOTES PER SHEET

07241-02	FULLY ADHERED EPDM MEMBRANE ON TAPERED RIGID INSULATION OVER STEEL ROOF DECK - SEE BUILDUP ASSEMBLIES ON A0702 SHEET

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PROJECT INFORMATION

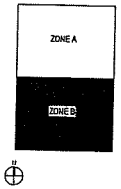
STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05-05-2023	SCHEMATIC DESIGN PHI
07-28-2023	DESIGN DEVELOPMENT PHI
11-02-2023	PT. ADD

KEY PLAN



SHEET INFORMATION

PROGRESS DOCUMENTS NOT FOR CONSTRUCTION

This is a working document in progress and may be subject to change, including additional detail. It may not be used for construction, and shall not be used for bidding or permit/construction purposes.

PROJECT MANAGER	MD
PROJECT NUMBER	720648

7TH FLR - ZONE B - PHASE 1

A1007-B-1

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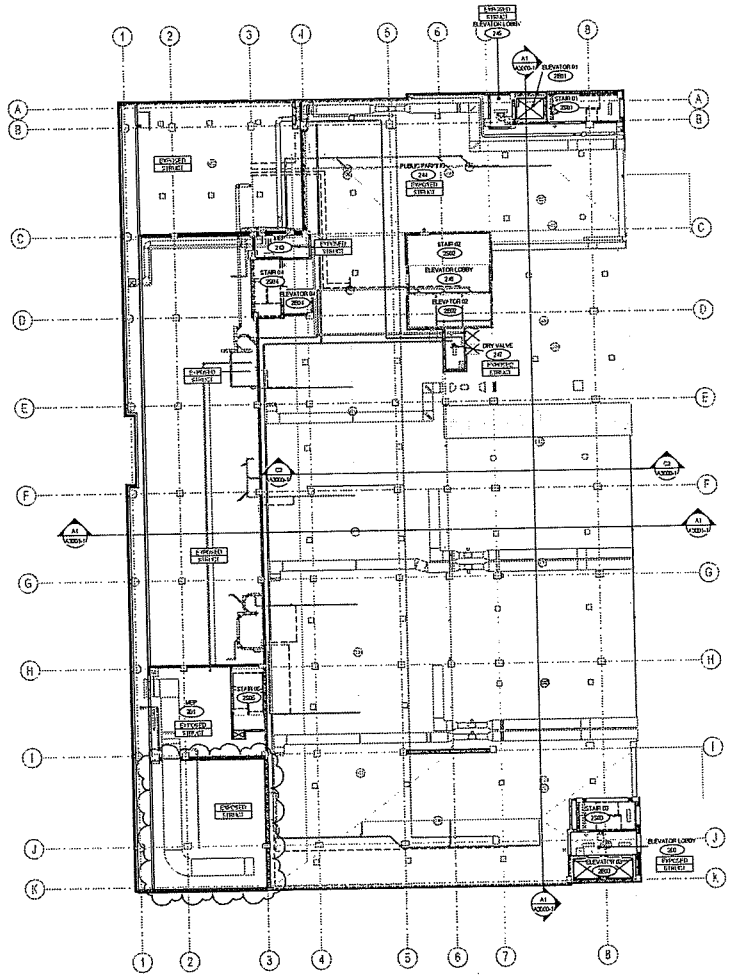
A2 7TH FLR - ZONE B - PHASE 1
1/8" = 1'-0"

SHEET NOTES - CEILING PLAN

1.	CONTRACTOR SHALL NOTIFY ARCHITECT OF ANY MEP CONFLICTS WHICH IMPACT CEILING CONSTRUCTION PRIOR TO EXECUTION OF WORK.
2.	MEP EQUIPMENT FOR REFERENCE ONLY. REFER TO DRAWINGS NOT LESS THAN 1/4" SCALE.
3.	REFER TO ARCHITECTURAL SPECIFICATIONS FOR ADDITIONAL CEILING REQUIREMENTS.

KEYNOTES PER SHEET



P2 FLR CEILING PLAN - PHASE 1
1/16" = 1'-0"

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PROJECT INFORMATION

STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
12.20.23	CD SUBMITTAL (REVISED - STAGED PHASE)
10.07.2025	CD SET REVISIONS
11.07.2025	P1_ADD

KEY PLAN

SHEET INFORMATION

PROJECT MANAGER	MO
PROJECT NUMBER	720448

P2 FLR OVERALL CEILING PLAN - PHASE 1

A1102-1

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MATERIAL SCHEDULE

CODE	DESCRIPTION	MANUFACTURER	PRODUCT #	COLOR	FINISH	SIZE	CONTACT	COMMENTS
A								
ACT-1	ACOUSTICAL CEILING TILE	TBD		WHITE		2X2	TBD BY CREATIVE ARCH ASSOC	
ACT-2	ACOUSTICAL CEILING TILE	TBD		WHITE		2X2	TBD BY CREATIVE ARCH ASSOC	
B								
PT-1	PAINT 1 - MAJOR COLOR	SHERWIN WILLIAMS	SW 0060	RAZZLE RED			CLEAR TO BE APPROVED BY ARCH. SEE SHEET A0.01	
PT-2	PAINT 2 - MAJOR COLOR	SHERWIN WILLIAMS	SW 0062	CALYPSO			CLEAR TO BE APPROVED BY ARCH. SEE SHEET A0.01	
PT-3	PAINT 3 - MAJOR COLOR	SHERWIN WILLIAMS	SW 0018	LOLLIPOP			CLEAR TO BE APPROVED BY ARCH. SEE SHEET A0.01	
PT-4	PAINT 4 - MAJOR COLOR	SHERWIN WILLIAMS	SW 0018	HEATHERLY GREEN			CLEAR TO BE APPROVED BY ARCH. SEE SHEET A0.01	
PT-5	PAINT 5 - MAJOR COLOR	SHERWIN WILLIAMS	SW 0018	PASSIONATE PURPLE			CLEAR TO BE APPROVED BY ARCH. SEE SHEET A0.01	
PT-6	PAINT 6 - MAJOR COLOR	SHERWIN WILLIAMS	SW 0067	SMOKE			CLEAR TO BE APPROVED BY ARCH. SEE SHEET A0.01	
PT-7	PAINT 7 - MAJOR COLOR	SHERWIN WILLIAMS	SW 0051	GREEN VILLA			CLEAR TO BE APPROVED BY ARCH. SEE SHEET A0.01	
PT-8	PAINT 8 - DOORS	SHERWIN WILLIAMS	SW 0048	URBANE BRONZE			CLEAR TO BE APPROVED BY ARCH. SEE SHEET A0.01	
PT-9	PAINT 9 - EXTERIOR DOORS	SHERWIN WILLIAMS	SW 9030	SITE WHITE			CLEAR TO BE APPROVED BY ARCH. SEE SHEET A0.01	
PT-10	PAINT 10 - INTERIOR DOORS	SHERWIN WILLIAMS	SW 7642	GATEWAY GRAY			CLEAR TO BE APPROVED BY ARCH. SEE SHEET A0.01	
PT-11	PAINT - HANDRAILS	SHERWIN WILLIAMS	SW 7674	PEPPERCORN			CLEAR TO BE APPROVED BY ARCH. SEE SHEET A0.01	
B								
RB-1	REGAL BOY BASE	TARKETT	4 INCH (10.2CM) MITERED CUT	TOE SW PW 7771 CO		4" COVELESS	3.5MM RUBBER BASE WITH 1/8 ADHESIVE	
RB-2	RUBBER FLOORING	TBD/FA	GRAND	CONTRAST 2 STAIR		2X2	STYLE AND COLOR TBD BY ARCH	
B								
SC-1	STAINED CONCRETE	SEE SPEC SECTION 033L11						
SC-2	STAINED CONCRETE	SEE SPEC SECTION 033L11						
SS MTL	STAINLESS STEEL METAL							
ST-C1	STAINED CMU	TBD	EXPANDED LIGHT GRAY STAIN	0511			STAIN TO BE APPROVED BY ARCHITECT PRIOR TO INSTALLATION	

FINISH PLAN SYMBOLS

FLOOR / BASE / WALL / REMARKS — FINISH TAG

EXTENT OF MATERIAL AT ACCENT WALL

INSTALLATION DIRECTION

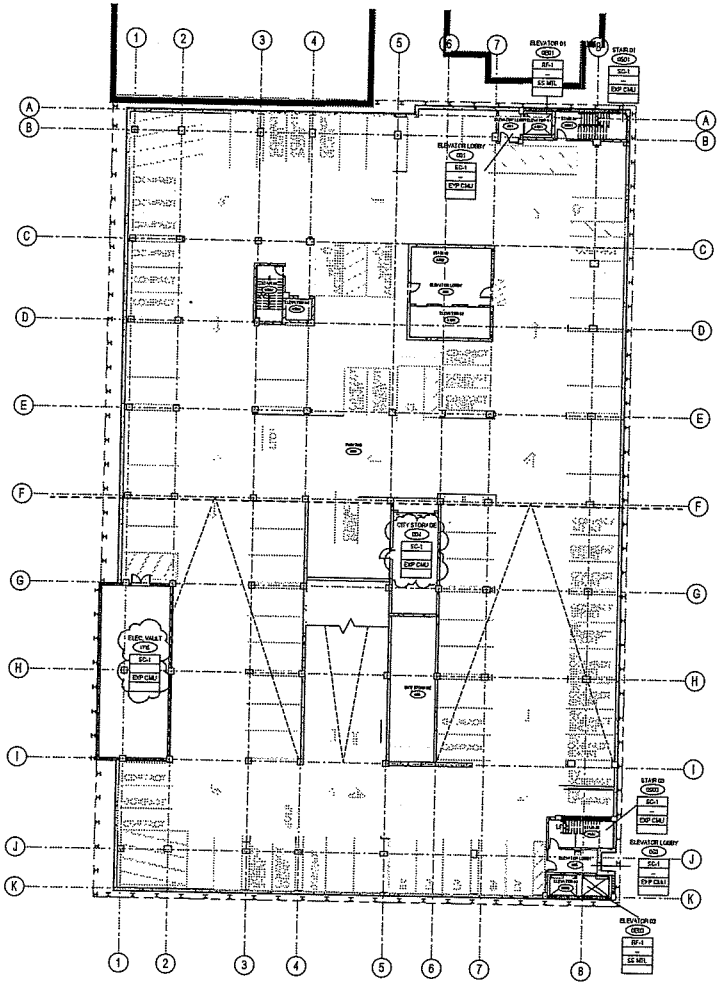
CPT-01 / CPT-02 — MATERIAL TRANSITION

MJ — MOVEMENT JOINT

SHEET NOTES - FINISHES

1. REFER TO SHEET A0.01.1 FOR ARCHITECTURAL AND MEP/FP ABBREVIATIONS.
2. SEE SHEET A0.02.1 FOR PROPER ACCESSIBLE MOUNTING HEIGHTS OF WALL MOUNTED FIXTURES AND / OR DEVICES.
3. SEE SHEET A0.01.1 FOR INTERIOR MATERIAL SCHEDULE.
4. REFER TO FINALIZED FLOOR PLAN ON SHEET A4.00-1 FOR INTERIOR ELEVATION TAGS.
5. ALL DRYWALL BOARD CEILINGS TO BE PAINTED PT-7 UNLESS NOTED OTHERWISE.
6. PAINT ALL DRYLINER, DRYLINER JAMB AND REVEALS TO MATCH ADJACENT CEILING OR WALL COLOR UNLESS NOTED OTHERWISE.
7. ELECTRICAL OUTLET AND SWITCH PLATE COLORS AS SELECTED BY ARCHITECT FROM MANUFACTURER'S STANDARD OFFERINGS.
8. ALL STEEL STAIR PARTS & HANDRAILS TO BE PAINTED PT-11.
9. ALL FLOORS AT TRANSITIONS BETWEEN PROMENADE / PE TO OCCUR CENTERED BELOW THE DOOR. SEE DETAIL 03/A5.00-1.
10. CMU ZONE PE FLOORS AT 1ST PE TO BE SMOOTH AND LEVEL, BEFORE INSTALLATION OF PT-6.

KEYNOTES PER SHEET



A3 LOWER LEVEL OVERALL FINISH PLAN - PHASE 1
1/8" = 1'-0"

eu:a
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PROJECT INFORMATION

STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05/05/2023	SCHEMATIC DESIGN PH1
07/24/2023	DESIGN DEVELOPMENT PH1
11/07/2023	PI_ASSD

KEY PLAN

SHEET INFORMATION

PROJECT MANAGER	MO
PROJECT NUMBER	720448

LOWER LEVEL OVERALL FINISH PLANS - PHASE 1

A1200-1

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FINISH PLAN SYMBOLS

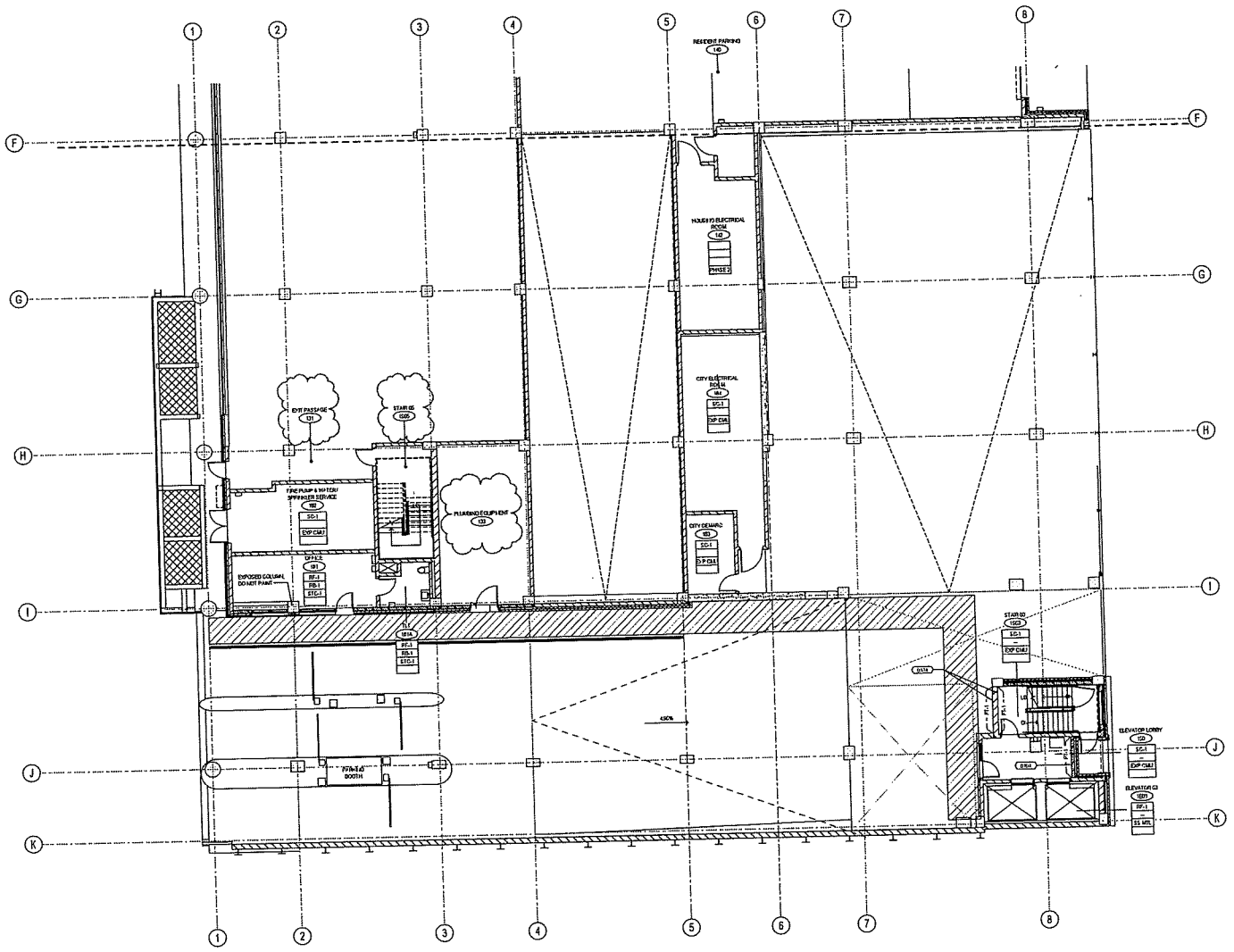
FLOOR / BASE / WALL / REMARKS	FINISH TAG
	EXTENT OF WATERPLAT AT ACCENT WALL
	INSTALLATION DIRECTION
CPT-01 CPT-02	MATERIAL TRANSITION
MJ	MOVEMENT JOINT

SHEET NOTES - FINISHES

1.	REFER TO SHEET G000-1 LETTER ADJUSTMENT TO ACCURATELY DIRECT CONTRACTOR.
2.	SEE SHEET A000-1 FOR PROPER ACCESSIBLE MOUNTING HEIGHTS OF WALL MOUNTED FIXTURES AND ACCESSORIES.
3.	SEE SHEET A010-1 FOR EXTERIOR MATERIAL SCHEDULE.
4.	REFER TO ENLARGED FLOOR PLAN ON SHEET A102-1 FOR INTERIOR ELEVATION TAGS.
5.	PAINT ALL GRILLES, DIFFUSERS, AND REGISTERS TO MATCH ADJACENT CEILING OR WALL, O.S.O.P. UNLESS NOTED OTHERWISE.
6.	ELECTRICAL OUTLET & SWITCH PLATE COLORS AS SELECTED BY ARCHITECT FROM MANUFACTURERS STANDARD OFFERINGS.
7.	ALL SIDES, STRUCTURES & MATERIALS TO BE PAINTED P-1.
8.	ALL FLOOR PENETRATIONS OCCURRING BETWEEN ROOMS ARE TO OCCUR CENTERED BELOW THE DOOR. SEE DETAIL 02/A501-1.
9.	CONCRETE TO BE FINISHED TO BE SMOOTH AND LEVEL. SEE CORE BATA ALLIED RP-1.

KEYNOTES PER SHEET

01/04	PAINTED GRAPHIC TO BE ADDED AT PAINTED DOORS AND STAIRS



A2 1ST FLR OVERALL FINISH PLAN - PHASE 1
1/8" = 1'-0"

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PROJECT INFORMATION

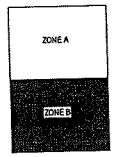
STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
07.28.2023	DESIGN DEVELOPMENT PH1
09.01.2023	CITY SUBMITTAL / CONVENERS PH 1
11.02.2023	PH_A002

KEY PLAN



SHEET INFORMATION

PROJECT MANAGER MO
PROJECT NUMBER 720448

1ST FLR FINISH PLAN - ZONE B - PHASE 1

A1201-B-1

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EXTERIOR MATERIAL

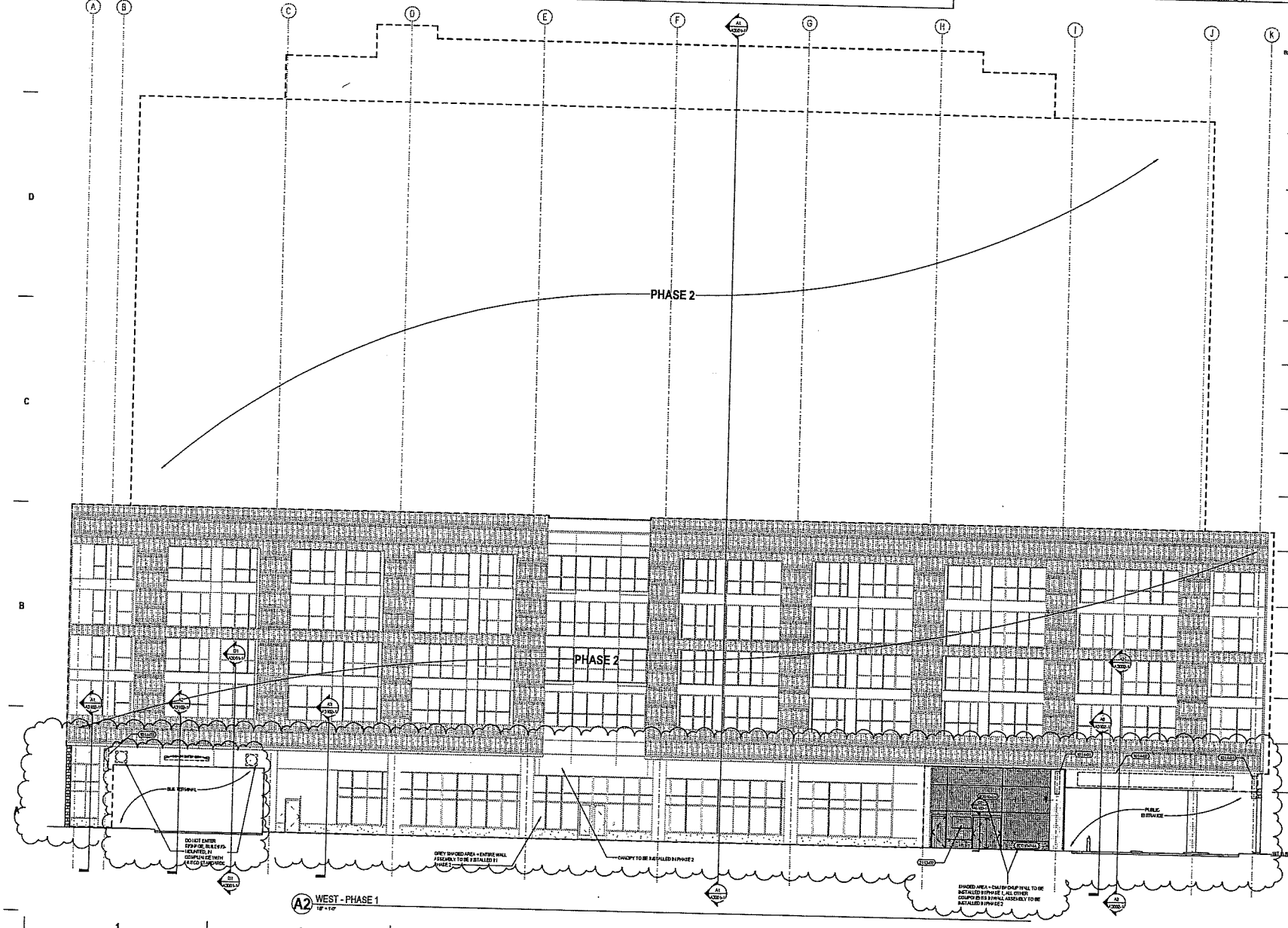
- METAL PANEL - COLOR 1
- METAL PANEL - COLOR 2
- BRICK
- DECORATIVE BLOCK
- PRECAST
- FIBER CEMENT - COLOR 1
- FIBER CEMENT - COLOR 2
- MECHANICAL SCREENING
- TEMPERED GLASS

KEYNOTES PER SHEET

051401	PUBLIC PARKING GARAGE EXPANSION, BY OTHERS - COORDINATION UNDER WITH OWNER
051402	PUBLIC PARKING GARAGE EXPANSION, BY OTHERS - COORDINATION UNDER WITH OWNER
051403	BLUE TERMINUS, BLADES BY OTHERS - COORDINATION UNDER WITH OWNER
210100	FIRE PROTECTION SYSTEM, HEADER AND VALVES, SEE PLUMBING DRAWINGS FOR PHASE 1
220100-01	METAL PANEL CEILING/SOFFIT/WALL (FSEIA) - SEE BUILDING ASSEMBLIES SHEET
220100-04	PRECAST CONCRETE MEMBER CEILING/SOFFIT/WALL - SEE BUILDING ASSEMBLIES SHEET

SHEET NOTES - EXTERIOR ELEVATIONS

1.	SEE SHEET A2201 FOR EXTERIOR FINISH LEGEND AND ADDITIONAL NOTES.
2.	PROVIDE CONTINUOUS SEALANT AT DISSIMILAR MATERIALS AND CONCRETE JOINTS.
3.	ALL EXPOSED AND EXPOSED CORNERS OF PRECAST TO HAVE BEVELED CHAMFER.
4.	EXPANSION JOINTS TO BE CAULKED AND TOOLED AS INDICATED AND VERIFIED WITH ARCHITECT. CONTRACTOR TO SUBMIT JOINT LAYOUT FOR REVIEW.
5.	ALL VERTICAL EDGES ON FIBER CEMENT PANEL TO BE COVERED WITH TRIM.
6.	ALL EXPOSED METAL FLASHING TO BE PAINTED TO MATCH ADJACENT FINISH.
7.	ALL EXPOSED METAL FLASHING TO BE PAINTED TO MATCH ADJACENT FINISH.



A2 WEST - PHASE 1
1/8" = 1'-0"

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PROJECT INFORMATION

STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05-15-2020	SCHEMATIC DESIGN PH1
02-26-2021	DESIGN DEVELOPMENT PH1
10-01-2021	CONSTRUCTION DOCUMENTS PH 1
11-02-2021	PH 1 ADDI

KEY PLAN

SHEET INFORMATION

PROJECT MANAGER MO
PROJECT NUMBER 720448

EXTERIOR ELEVATIONS - PHASE 1

A2000-1

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EXTERIOR MATERIAL

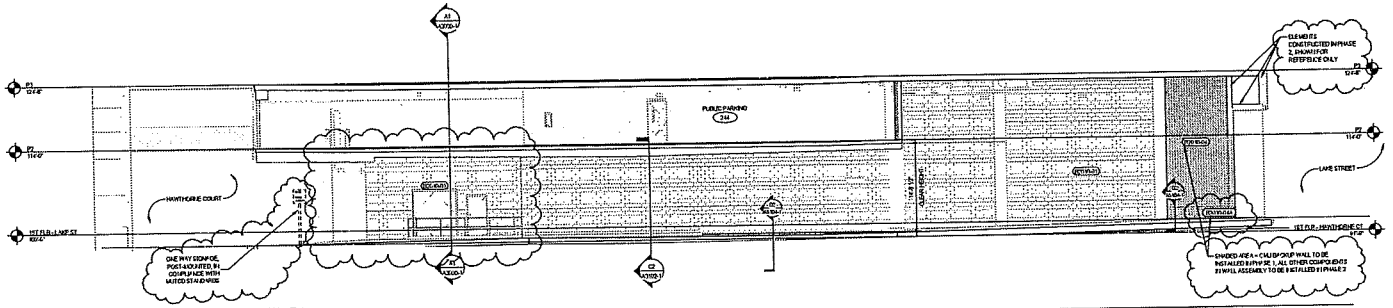
METAL PANEL - COLOR 1	METAL PANEL - COLOR 2	BRICK	DECORATIVE BLOCK	PRECAST
FIBER CEMENT - COLOR 1	FIBER CEMENT - COLOR 2	MECHANICAL SCREEN #03	TEMPERED GLASS	

KEYNOTES PER SHEET

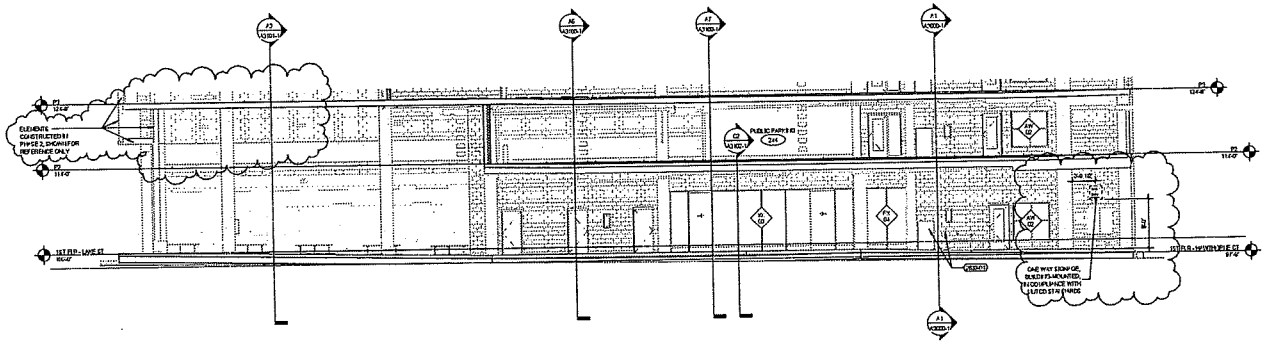
4003-01	GENERATOR HOOKUP, SEE ELECTRICAL DRAWINGS
4003A001	WEDGE WIRE MESH ART OVER CMU BACKUP WALL (REF ELV) - SEE BUILDING ASSEMBLIES SHEET
4003A004	METAL PANEL OVER CMU BACKUP WALL (REF ELV) - SEE BUILDING ASSEMBLIES SHEET
4007A004	PRECAST CONCRETE VENEER ON CMU BACKUP WALL - SEE BUILDING ASSEMBLIES SHEET

SHEET NOTES - EXTERIOR ELEVATIONS

1.	SEE SHEET A2004-1 FOR EXTERIOR MATERIAL TYPES AND DIMENSIONS.
2.	PROVIDE CONTINUOUS SEALANT AND BACKER ROD AT ALL PRECAST CONCRETE JOINTS.
3.	ALL FIXTURE AND OUTLET CURRENTLY PRECAST ITEMS TO BE MITERED.
4.	EXTERIOR SIGNAGE BY OTHERS. COORDINATE AND VERIFY WITH ARCHITECT. OWNER IN DESIGN PHASE VENDOR.
5.	ALL VERTICAL REVEALS TO ALIGN AT LEVEL JOINTS.
6.	ALL EXPOSED METAL PANEL JOINTS - 1/4" REF.
7.	P1 = EXPOSED METAL PANEL JOINTS - 1/4" REF.



C3 NORTH - BUS TERMINAL - PHASE 1
1/8" = 1'-0"



A2 SOUTH - BUS TERMINAL - PHASE 1
1/8" = 1'-0"

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PROJECT INFORMATION

STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05/03/23	SCHEMATIC DESIGN PH2
07/28/2023	DESIGN DEVELOPMENT PH2
10/02/2023	CD SET/PLANNING DOCUMENTS PH 1
11/02/2023	P1_40/02

KEY PLAN

SHEET INFORMATION

PROJECT MANAGER MD
PROJECT NUMBER 720448

EXTERIOR ELEVATIONS - PHASE 1

A2004-1

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EXTERIOR MATERIAL

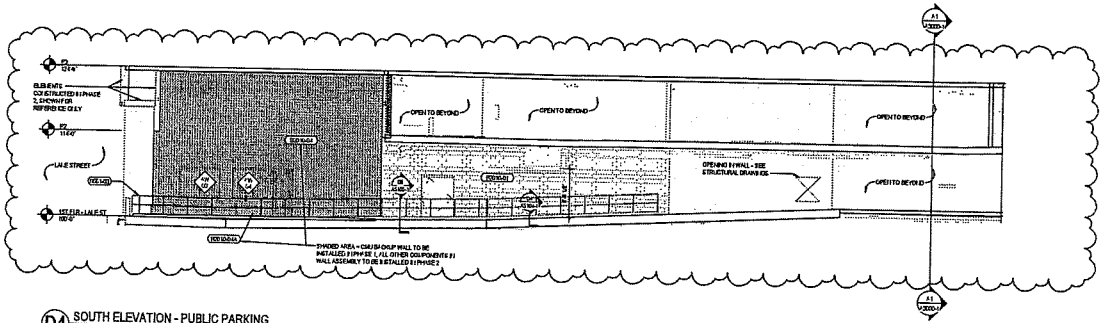
- METAL PANEL - COLOR 1
- METAL PANEL - COLOR 2
- BRICK
- DECORATIVE BLOCK
- PRECAST
- FIBER CEMENT - COLOR 1
- FIBER CEMENT - COLOR 2
- MECHANICAL SCREENING
- TEMPERED GLASS

KEYNOTES PER SHEET

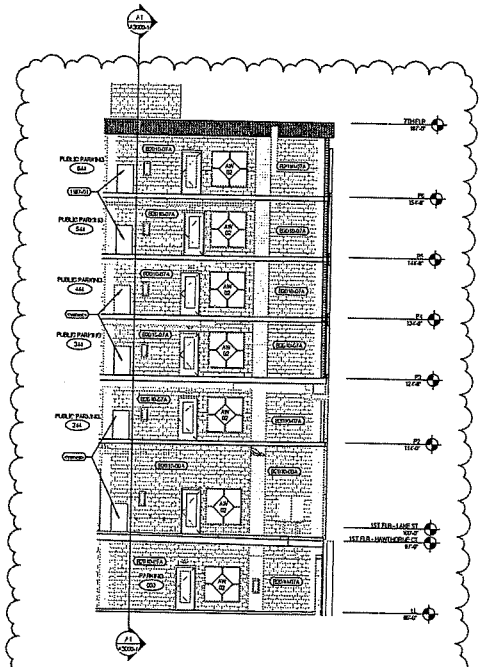
4 055 1 C03	STEEL PIPE GUARDRAIL
5 057 0 01	
6 061 0 00	
7 070 0 C01A	CONCRETE WITH DECORATIVE CEILING AND INSULATED CORES - SEE BUILDING ASSEMBLIES SHEET
8 070 0 01	MASONRY VENEER ON CMU BACKUP WALL (METAL) - SEE BUILDING ASSEMBLIES SHEET
9 070 0 01	METAL PANEL ON CMU BACKUP WALL (FLAT) - SEE BUILDING ASSEMBLIES SHEET
10 070 0 04A	PRECAST CONCRETE VENEER ON CMU BACKUP WALL - SEE BUILDING ASSEMBLIES SHEET
11 070 0 07A	METAL PANEL WITH CONCRETE CEILING AND INSULATED CORES - SEE BUILDING ASSEMBLIES SHEET

SHEET NOTES - EXTERIOR ELEVATIONS

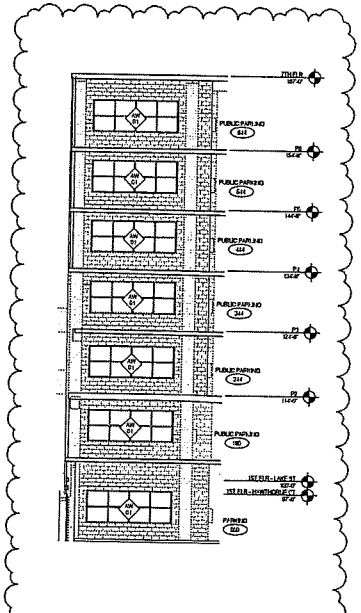
1	SEE SHEET A2001-1 FOR EXTERIOR FINISH TYPES AND DIMENSIONS
2	TYLO WIRE JOINTS CLEAR SEALANT AND BACKER ROD AT ALL PRECAST CONCRETE JOINTS
3	ALL WORK AND ASSEMBLIES COMPRISED OF PRECAST TERRAZZO TO BE MITERED
4	EXTERIOR SIGNAGE ON BUILDING TO BE COORDINATED AND VERIFIED WITH ARCHITECT. ONE BY AT DOOR PACKAGE HOUSE
5	ALL VERTICAL FLASH CONTROL JOINTS AT 10'-0" O.C. UNLESS NOTED OTHERWISE
6	MU = MECHANICAL MEASUREMENT AT 8'-0" - 12'-0"
7	PC = PRECAST CONCRETE PANEL AT 4'-0" - 12'-0"



D4 SOUTH ELEVATION - PUBLIC PARKING
1/8" = 1'-0"



A4 SOUTH ELEVATION - STAIR 01
1/8" = 1'-0"



A6 NORTH ELEVATION - STAIR 03
1/8" = 1'-0"

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PROJECT INFORMATION

STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05/04/2022	SCHEMATIC DESIGN PH1
07/26/2022	DESIGN DEVELOPMENT PH1
10/07/2022	CONSTRUCTION DOCUMENTS PH 1
11/02/2022	PH 1 ADD

KEY PLAN

SHEET INFORMATION

PROJECT MANAGER	MO
PROJECT NUMBER	720448

EXTERIOR ELEVATIONS - PHASE 1

A2005-1

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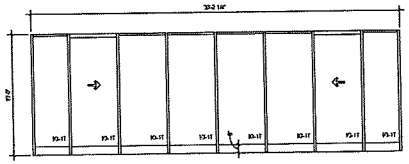
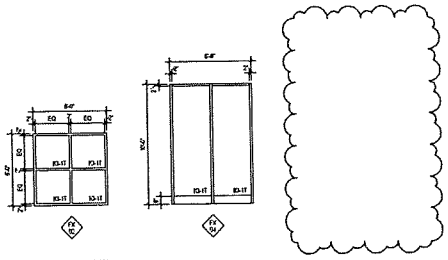
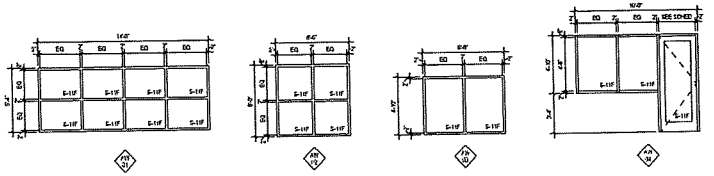


XX0B



ALUMINUM WINDOW WALL



FIRE RATED ALUMINUM WINDOWS

WINDOW TYPES - PHASE 1

1/4" = 1'-0"

* WHERE LOCATED IN RATED WALL PROVIDED RATED GLASS
*TEMPERED GLASS WHERE REQUIRED BY CODE

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PROJECT INFORMATION

STATE STREET
CAMPUS GARAGE
MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05/05/2023	SCHEMATIC DESIGN PHI
07/28/2023	DESIGN DEVELOPMENT PHI
9/01/2023	CONSTRUCTION DOCUMENTS PH 1
11/01/2023	P1 ADD

KEY PLAN

SHEET INFORMATION

PROJECT MANAGER	MD
PROJECT NUMBER	720448

EXTERIOR FRAME TYPES - PHASE 1

A2200-1

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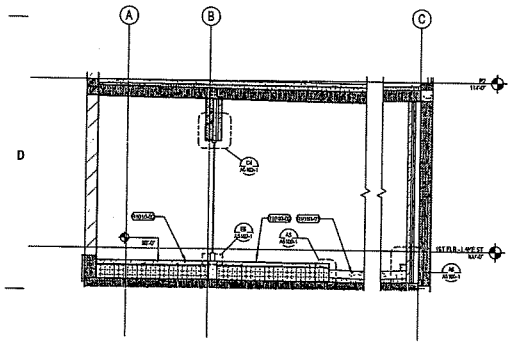
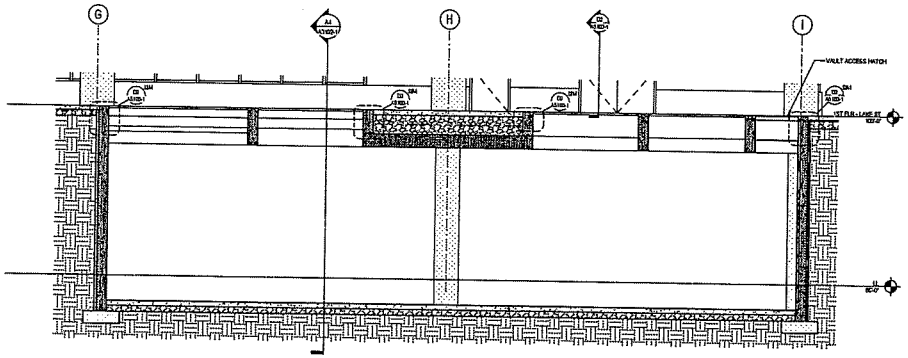
KEYNOTES PER SHEET

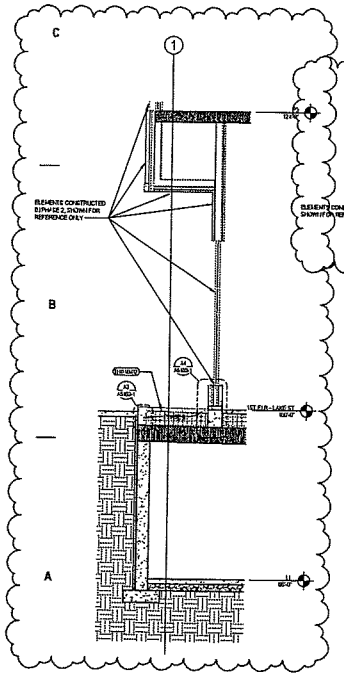
03 10 00.01	SPLIT SLAB TYPICAL - 7 BELLTOWN INSULATION TOPPING SLAB ON POST-TENSIONED CONCRETE SLAB - SEE BUILDING ASSEMBLIES SHEET
03 10 00.02	SPLIT SLAB AT BUS LANE SIDEWALK - INSULATION AND TOPPING SLAB ON POST-TENSIONED CONCRETE SLAB - SEE BUILDING ASSEMBLIES SHEET
03 10 00.03	SPLIT SLAB AT BIKE SPINE LANE - INSULATION AND TOPPING SLAB ON POST-TENSIONED CONCRETE SLAB - SEE BUILDING ASSEMBLIES SHEET
03 10 00.04	SPLIT SLAB AT SIDEWALK - INSULATED SLAB TOPPING SLAB ON POST-TENSION CONCRETE SLAB - SEE BUILDING ASSEMBLIES SHEET



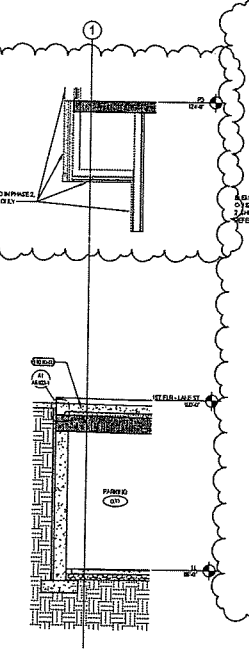
C2 NORTH-SOUTH SECTION @ BUS TERMINAL
1/8" = 1'-0"



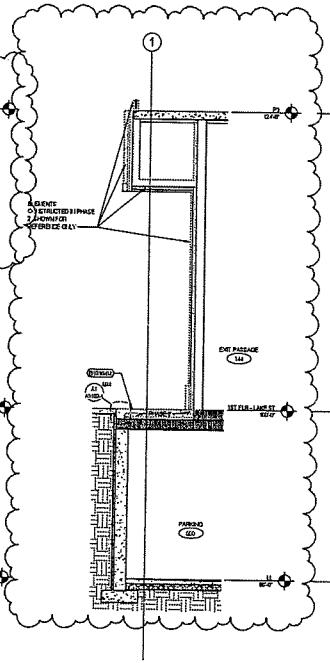
C3 NORTH-SOUTH SECTION @ ELEC VAULT
1/8" = 1'-0"



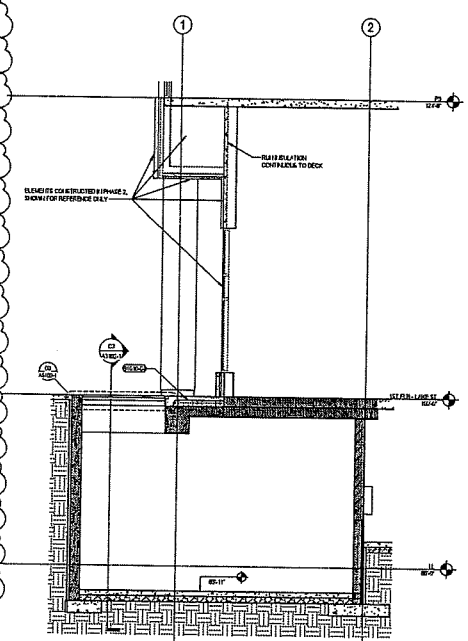
A1 WEST WALL @ BUS TERMINAL STOREFRONT
1/8" = 1'-0"



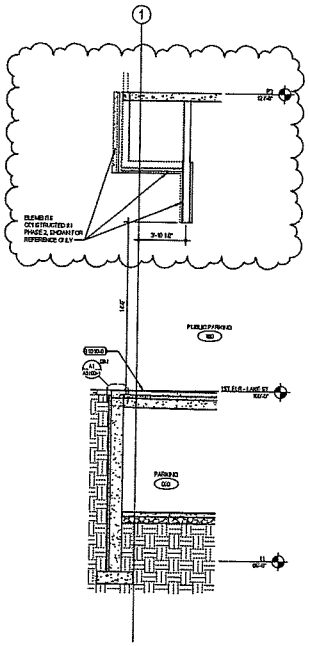
A2 WEST WALL @ BUS TERMINAL EXIT
1/8" = 1'-0"



A3 WEST WALL BETWEEN GRID C/D
1/8" = 1'-0"



A4 WEST WALL @ ELEC VAULT
1/8" = 1'-0"



A6 WEST WALL @ PARKING RAMP
1/8" = 1'-0"

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PROJECT INFORMATION

STATE STREET
CAMPUS GARAGE
MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05/15/2020	SCHEMATIC DESIGN PHASE
07/28/2020	DESIGN DEVELOPMENT PHASE
10/02/2020	CONSTRUCTION DOCUMENTS PHASE
11/02/2020	BPL ADDENDUM

KEY PLAN

SHEET INFORMATION

PROJECT MANAGER	MD
PROJECT NUMBER	720448

WALL SECTIONS - PHASE 1

A3102-1

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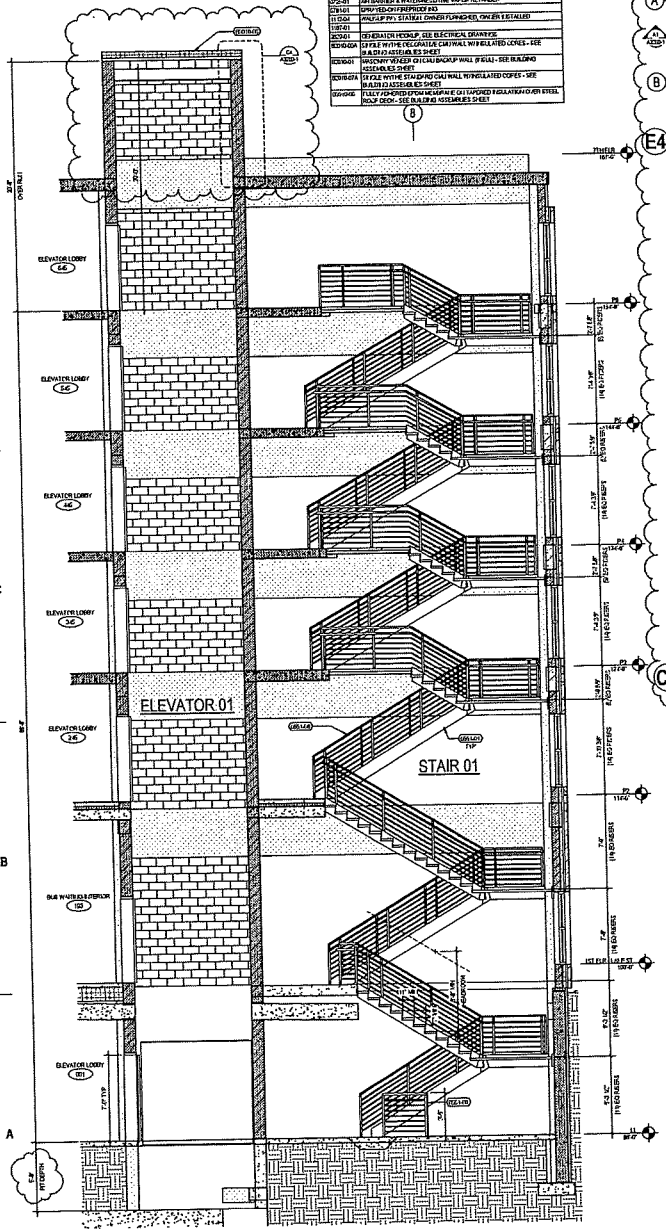
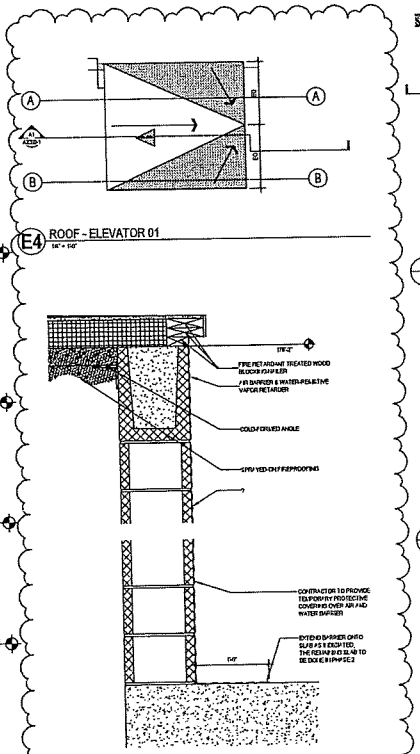
KEYNOTES PER SHEET

034-400	COLD-FORMED ANGLE
032-001	METAL STAIRS WITH CONCRETE TREADS
055-145	VERTICAL STEEL PIPE RAILING ON HORIZONTAL CABLE RAILING, TO BE DETERMINED - 3'-6" HEIGHT
055-145	STEEL PIPE GUARDRAIL, PAINTED
055-148	STEEL PIPE HANDRAIL
061-145	FIRE RETARDANT TREATED WOOD BLOCKING/FURRING
072-001	AIR BARRIER & WATER-RESISTIVE VAPOR RETARDER
078-101	SPRAY-ON FIREPROOFING
113-004	ANGLE UP BY STAIRS, OWNER FURNISHED, OWNER INSTALLED
260-001	GENERATOR HOOKUP, SEE ELECTRICAL DRAWINGS
600-100-004	STEEL STUD WITH EXTERIOR GYPSUM, WITH INSULATED CORES - SEE BUILDING ASSEMBLIES SHEET
600-100-001	MASONRY VENEER ON CMU BACKUP WALL (FIELD) - SEE BUILDING ASSEMBLIES SHEET
600-100-007A	12" CMU WITH THE STAND AND CMU WALL WITH INSULATED CORES - SEE BUILDING ASSEMBLIES SHEET
600-100-008	FULLY ADHERED EPDM MEMBRANE ON TAPERED INSULATION OVER STEEL ROOF DECK - SEE BUILDING ASSEMBLIES SHEET

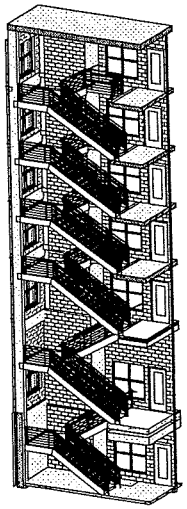


A1 STAIR/ELEVATOR 01

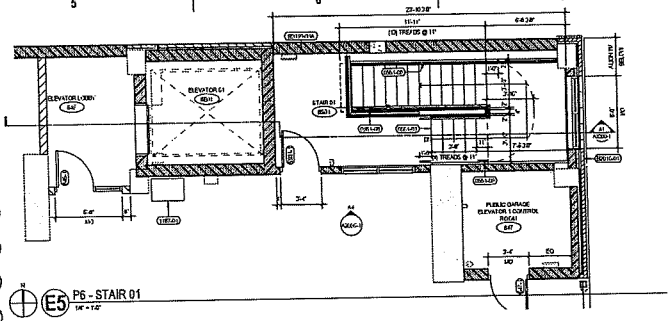


E4 ROOF - ELEVATOR 01

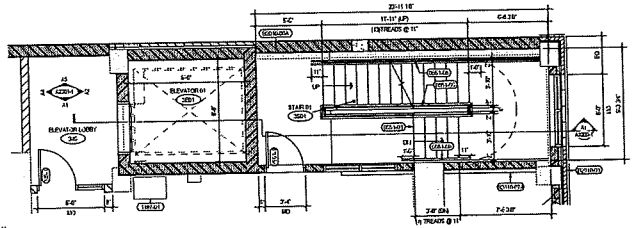
C4 ELEVATOR OVERRUN @ 7TH FLR - ROOF DETAIL - PHASE 1



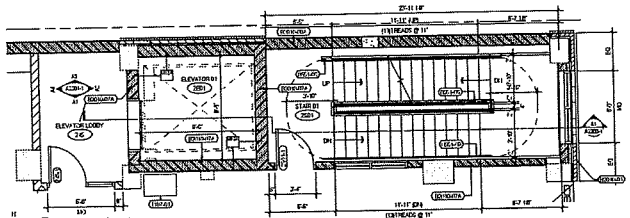
A4 STAIR 01 (FOR REFERENCE ONLY)



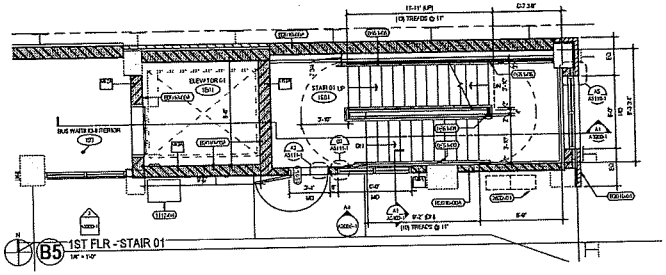
E5 P6 - STAIR 01



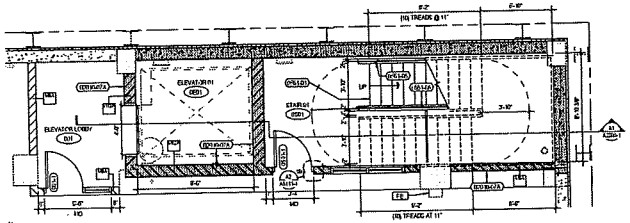
D5 P3-P5 - STAIR 01



C5 P2 - STAIR 01



B5 1ST FLR - STAIR 01



A5 LOWER LEVEL - STAIR 01

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PROJECT INFORMATION

STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05.03.2021	SCHEMATIC DESIGN PH1
07.30.2021	DESIGN DEVELOPMENT PH1
10.05.2021	CONSTRUCTION DOCUMENTS PH1
11.05.2021	PLANS

KEY PLAN

SHEET INFORMATION

PROJECT MANAGER MO
PROJECT NUMBER 720448

STAIR & ELEVATOR PLANS & SECTIONS - PHASE 1

A3200-1

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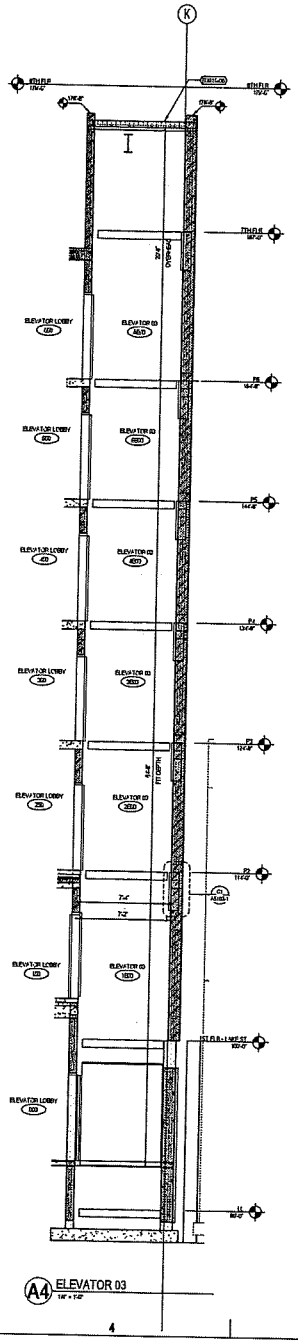
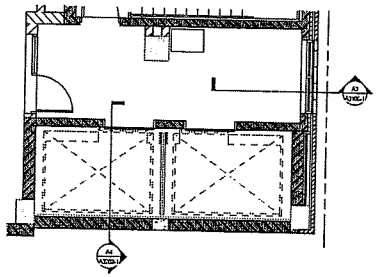
KEYNOTES PER SHEET

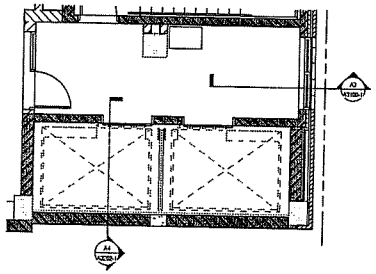
020160-09	FULLY ADHERED EPDM MEMBRANE OVER TAPERED INSULATION OVER STEEL ROOF DECK - SEE DRAWING ASSEMBLIES SHEET



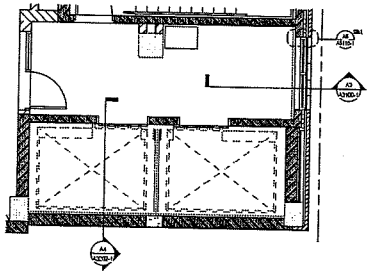
A4 ELEVATOR 03



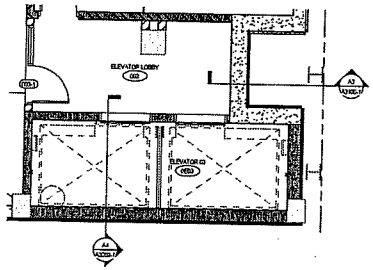
D6 P6 FLR - ELEVATOR 03



C6 P3 FLR - ZONE B - PHASE 1 - Callout 2



B6 P2 FLR - ELEVATOR 03



A6 LOWER LEVEL - ELEVATOR 03

eu:a

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PROJECT INFORMATION

STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
6/10/2020	CDS STRUCTURE DOCUMENTS PH 1
11/6/2020	P1_ADD

KEY PLAN

SHEET INFORMATION

PROJECT MANAGER	MD
PROJECT NUMBER	720448

STAIR & ELEVATOR PLANS & SECTIONS - PHASE 1

A3202-1

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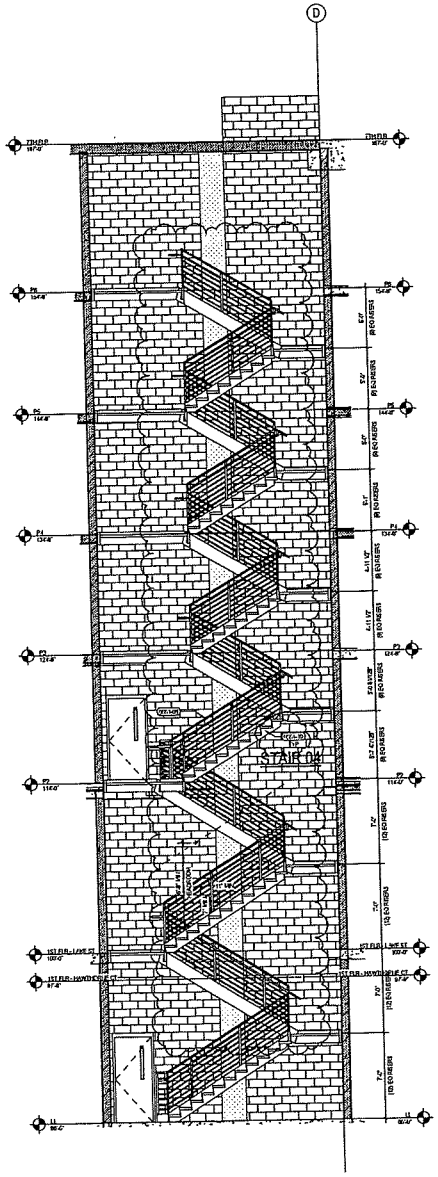
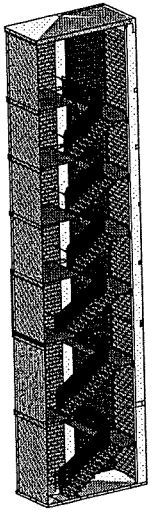
KEYNOTES PER SHEET

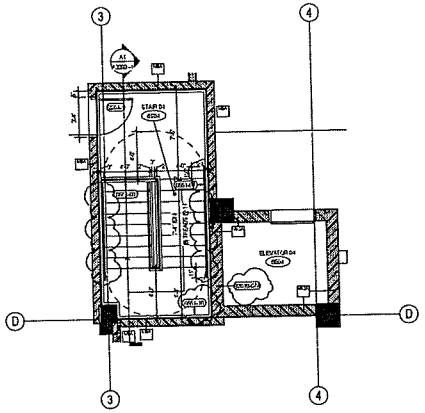
[illegible]	STEEL PIPE GUARDRAIL W/HANDRAIL
[illegible]	STEEL PIPE HANDRAIL
[illegible]	METAL STRUT W/METAL TREADS
[illegible]	TYPICAL W/THE STANDARD DRYWALL W/RECESSED CURES - SEE BUILDING ASSEMBLIES SHEET



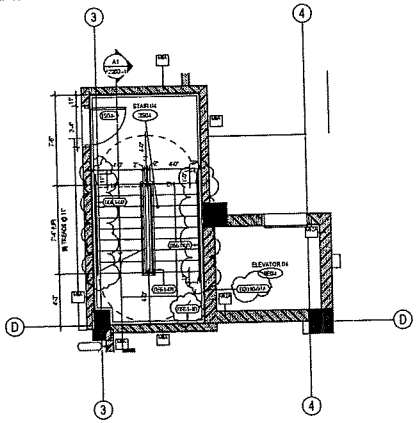
A1 STAIR 04- PHASE 1



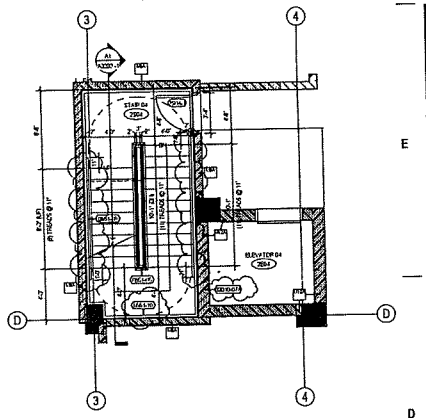
A3 STAIR 4



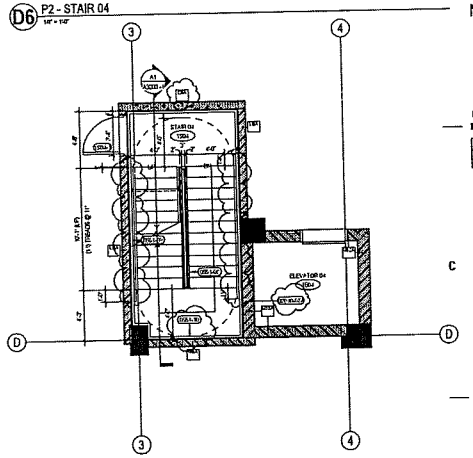
B4 P6 - STAIR 04



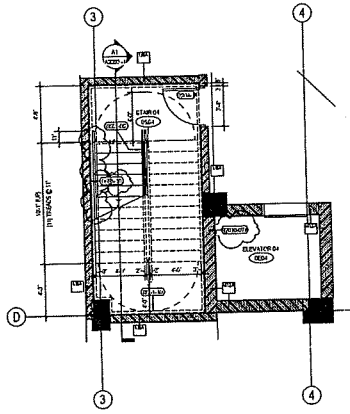
A4 P3-P5 - STAIR 04



D6 P2 - STAIR 04



B6 1ST FLR - STAIR 04



A6 LOWER LEVEL - STAIR 04

eu:a

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PROJECT INFORMATION

STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
6/26/2023	[illegible]
11/6/2023	P1_A3203

KEY PLAN

SHEET INFORMATION

PROJECT MANAGER	MO
PROJECT NUMBER	720448

STAIR & ELEVATOR PLANS & SECTIONS - PHASE 1

A3203 -1

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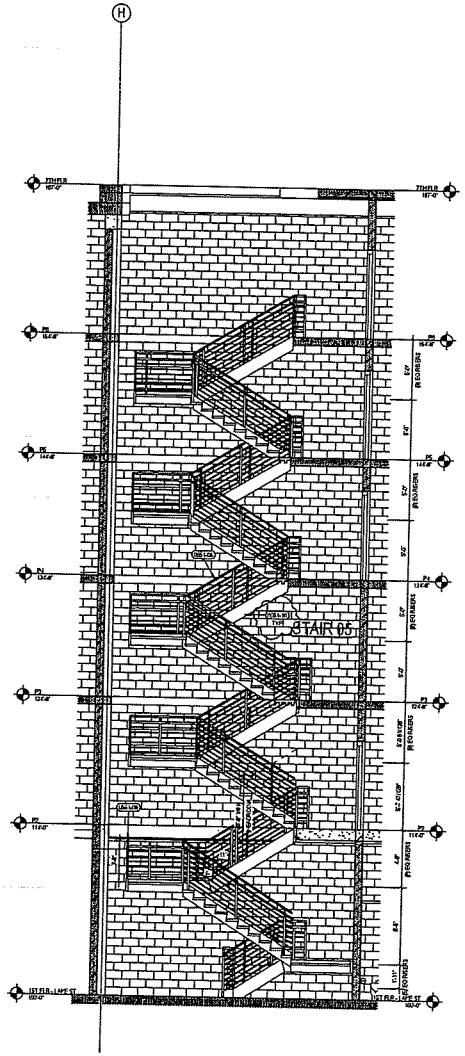
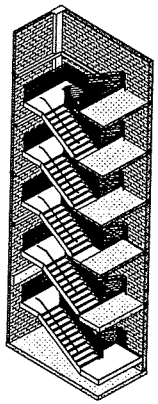
KEYNOTES PER SHEET

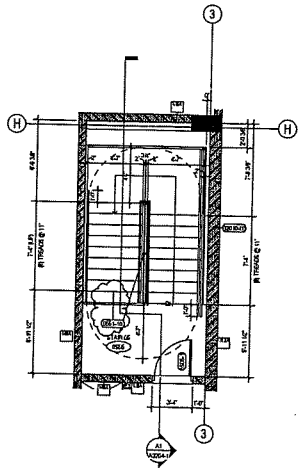
[illegible]	STEEL PIPE GUARDRAIL WITH HANDRAIL
[illegible]	STEEL PIPE SUPERSION RAIL
[illegible]	STEEL PIPE HAN DRAIL
[illegible]	METAL STAIRS WITH METAL TREADS
[illegible]	



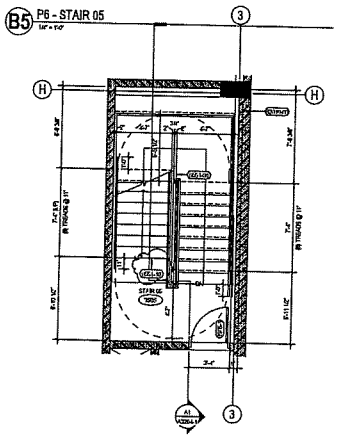
A1 STAIR 5
1/4" = 1'-0"



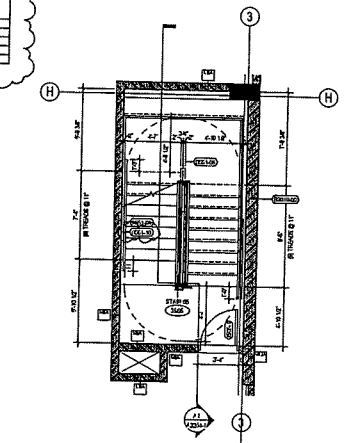
A3 STAIR 5



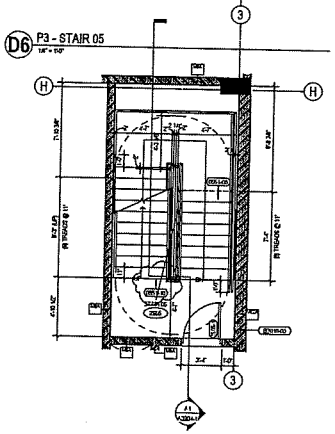
B5 P6 - STAIR 05
1/4" = 1'-0"



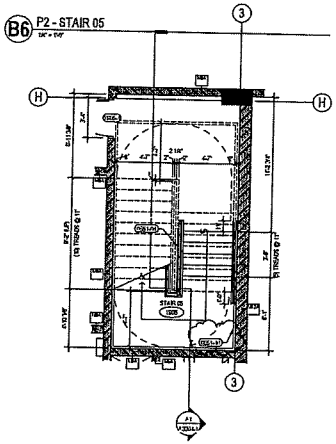
A5 P4-P5 - STAIR 05
1/4" = 1'-0"



D6 P3 - STAIR 05
1/4" = 1'-0"



B6 P2 - STAIR 05
1/4" = 1'-0"



A6 1ST FLR - STAIR 5
1/4" = 1'-0"

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PROJECT INFORMATION

STATE STREET
CAMPUS GARAGE
MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
6/C/2-3/0	CD & STRUCTURAL DOCUMENTS PH 1
11/02/2022	PLANS

KEY PLAN

SHEET INFORMATION

PROJECT MANAGER	MO
PROJECT NUMBER	720048

STAIR & ELEVATOR
PLANS & SECTIONS
- PHASE 1

A3204-1

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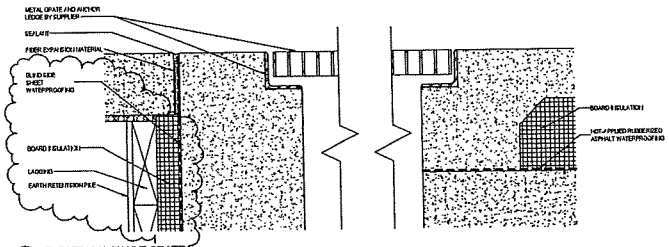
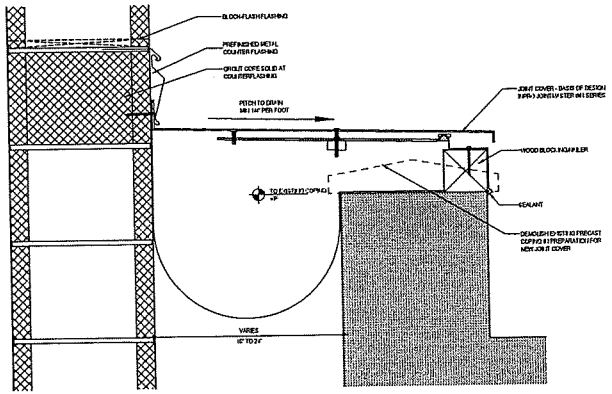
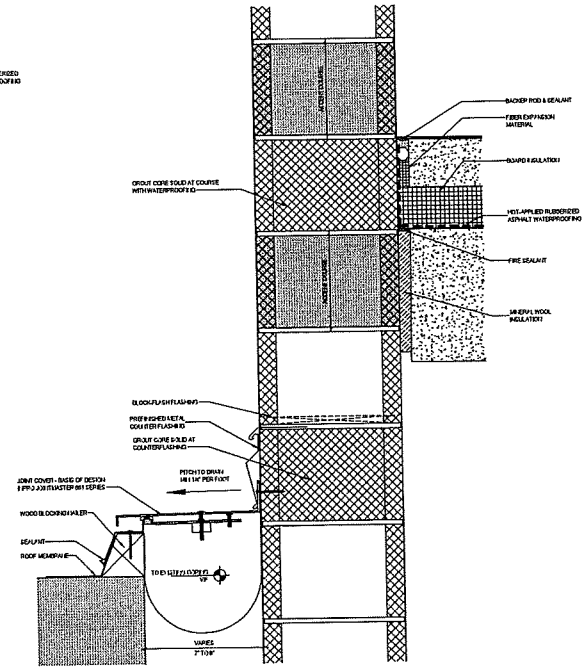


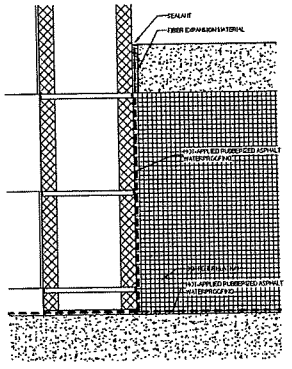
D3 ELECTRICAL VAULT GRATE



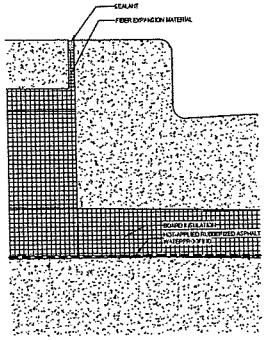
C3 SOUTH WALL @ EXISTING COPING



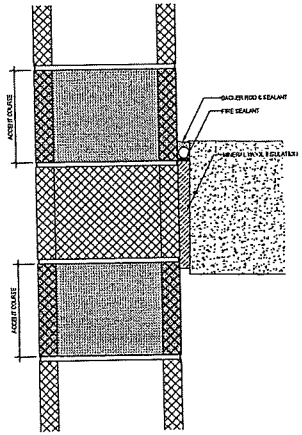
C6 NORTH WALL @ EXISTING COPING, FLASHING



A3 BASE OF NORTH WALL @ SPLIT SLAB



A5 BUS TERMINAL @ CURB, TYP



A6 NORTH WALL @ SINGLE WYTHE, FLOOR, TYP.

eu:a

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PROJECT INFORMATION

STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
04/02/2025	CD SUBMITTAL (100% MEETING) PH 1
11/05/2025	BP1_ADD2

KEY PLAN

SHEET INFORMATION

PROJECT MANAGER	MO
PROJECT NUMBER	720448

EXTERIOR DETAILS - PHASE 1

A5100-1

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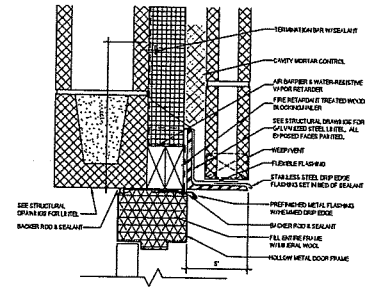
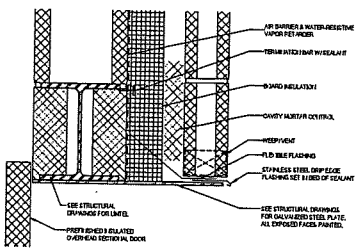
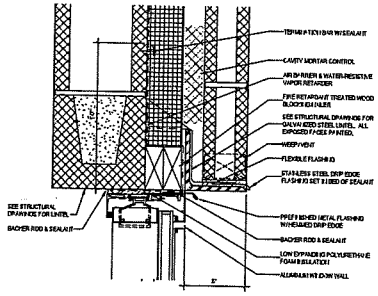


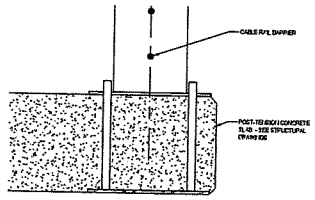
E1 EAST WALL @ OVERHEAD GARAGE DOOR JAMB
3" = 1'-0"



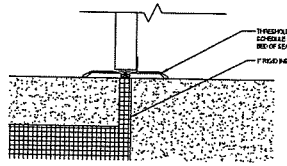
E2 EAST WALL @ OVERHEAD GARAGE DOOR HEAD
3" = 1'-0"



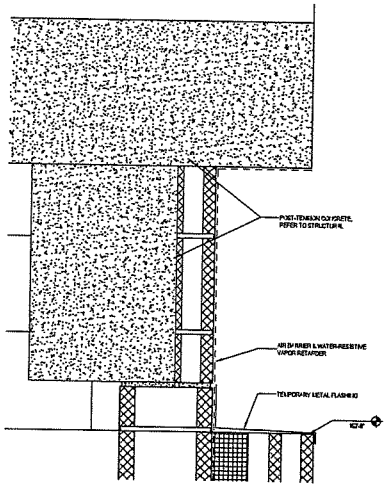
E4 WINDOW HEAD @ MASONRY
3" = 1'-0"



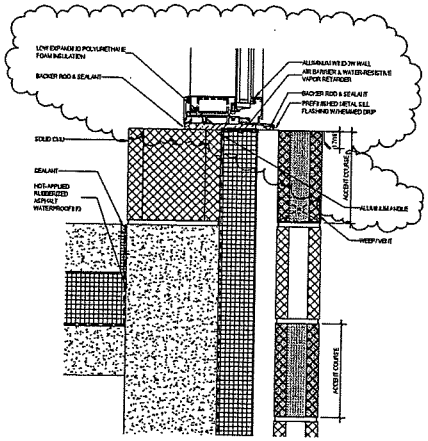
E6 EAST WALL @ VEHICLE BARRIER, TYP
3" = 1'-0"



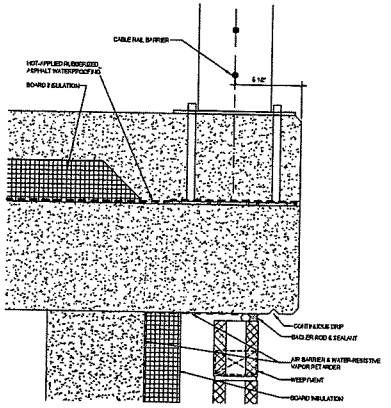
D1 HM DOOR FRAME HEAD & SILL @ MASONRY
3" = 1'-0"



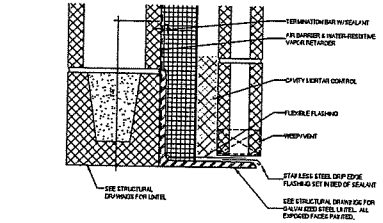
C2 EAST WALL @ T/O WALL AT 7TH
3" = 1'-0"



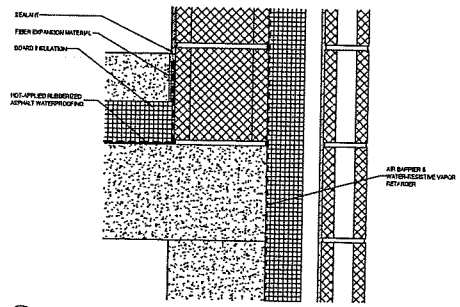
C4 EAST WALL @ FLOOR, WINDOW SILL
3" = 1'-0"



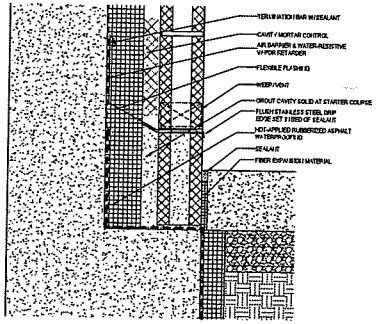
C6 EAST WALL @ VEHICLE BARRIER, MASONRY
3" = 1'-0"



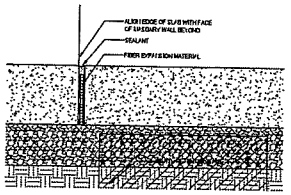
C1 EAST WALL @ MASONRY HEADER
3" = 1'-0"



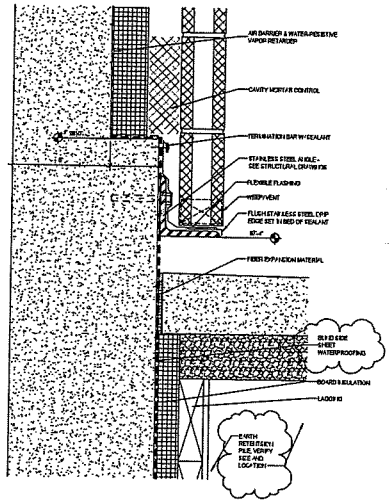
A1 STAIR 3 ALCOVE @ SPLIT SLAB
3" = 1'-0"



A3 BASE OF EAST WALL @ SLAB ON GRADE
3" = 1'-0"



A5 EAST WALL @ STAIR 3 ALLEY STOOP
3" = 1'-0"



A6 BASE OF EAST WALL @ HAWTHORNE CT
3" = 1'-0"

eu:a
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PROJECT INFORMATION

STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
10-03-22	DD SUBMITTAL
11-10-22	DD SUBMITTAL PH 1
12-16-22	PLANS

KEY PLAN

SHEET INFORMATION

PROJECT MANAGER	MD
PROJECT NUMBER	720448

EXTERIOR DETAILS - PHASE 1

A5101-1

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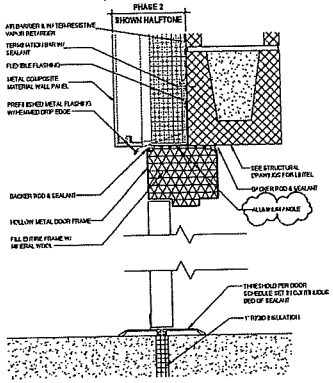
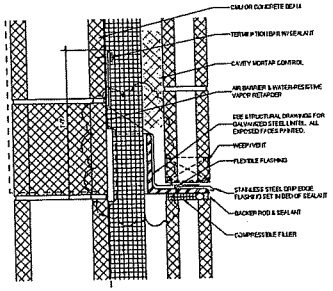
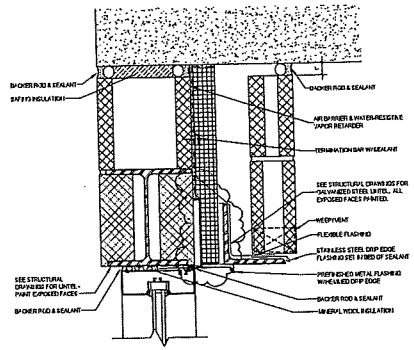
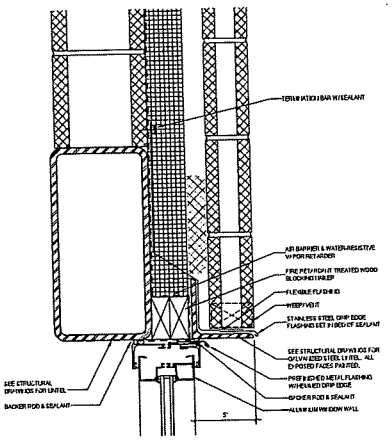


D2 HM DOOR FRAME HEAD @ METAL PANEL
3" = 1'-0"

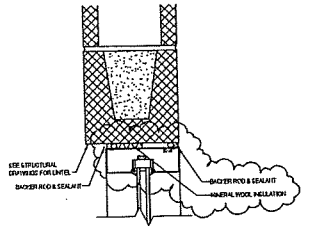


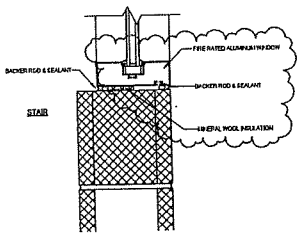
C1 LINTEL ANGLE @ CMU
3" = 1'-0"



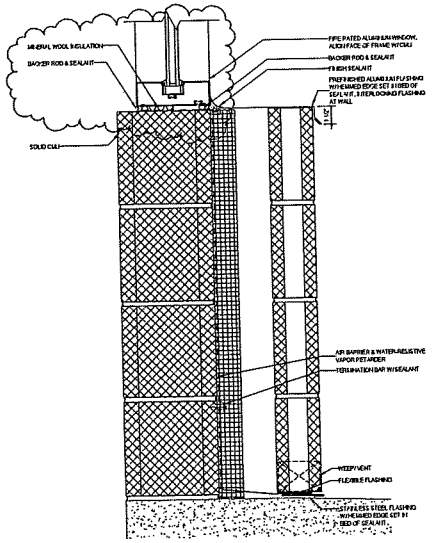


C4 STOREFRONT HEAD @ BUS TERMINAL
3" = 1'-0"

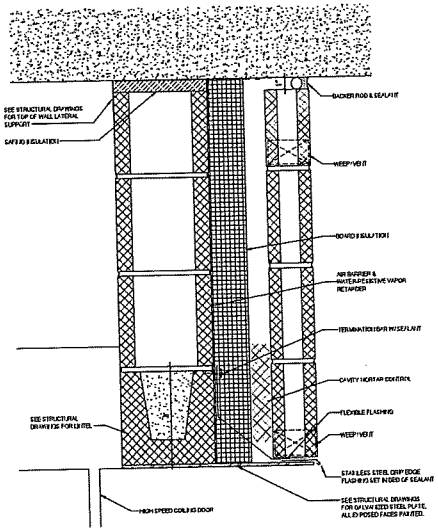




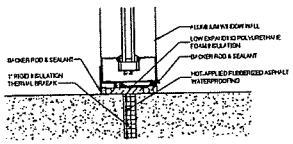
A1 FIRE RATED ALUMINUM WINDOW HEAD & SILL
3" = 1'-0"



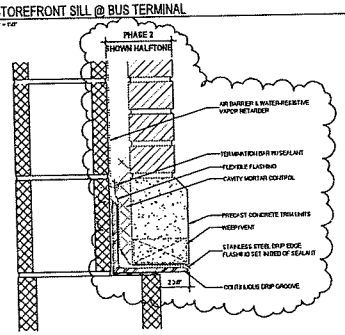
A2 FIRE RATED ALUMINUM WINDOW HEAD & SILL @ MASONRY
3" = 1'-0"



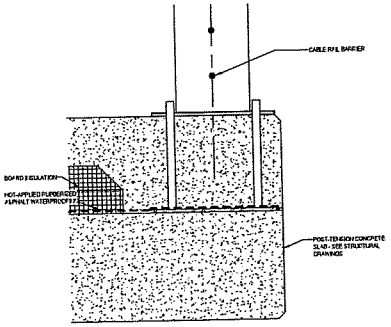
A4 EAST WALL @ COILING DOOR HEAD
3" = 1'-0"



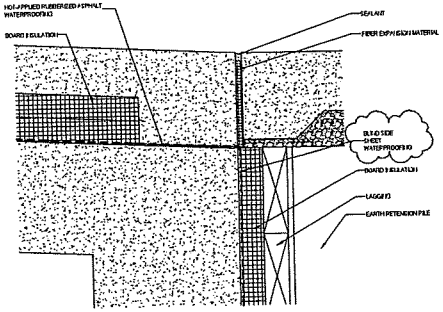
E6 STOREFRONT SILL @ BUS TERMINAL
3" = 1'-0"



D6 SOUTH WALL @ PRECAST TRIM
3" = 1'-0"



B6 EAST WALL @ SPLIT SLAB VEHICLE BARRIER
3" = 1'-0"



A6 EAST WALL @ GARAGE ENTRANCE
3" = 1'-0"

eu:a
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PROJECT INFORMATION

STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
9/6/2023	CD SET/STORMWATER PH 1
11/6/2023	PLACED

KEY PLAN

SHEET INFORMATION

PROJECT MANAGER	MD
PROJECT NUMBER	720448

EXTERIOR DETAILS - PHASE 1

A5102-1

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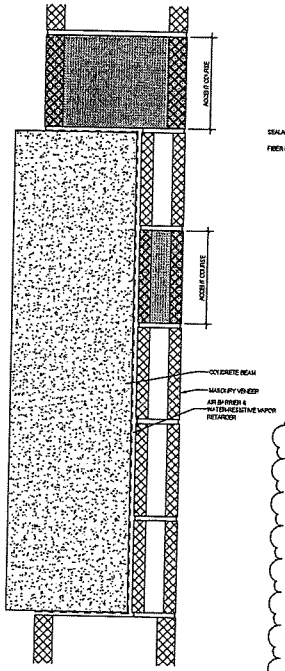
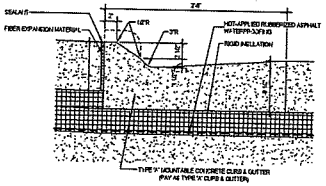
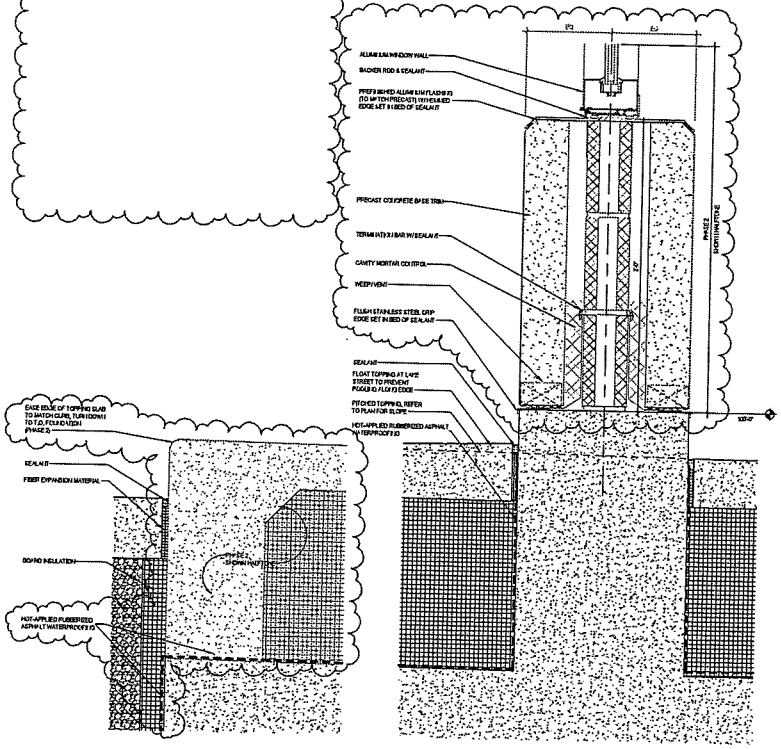
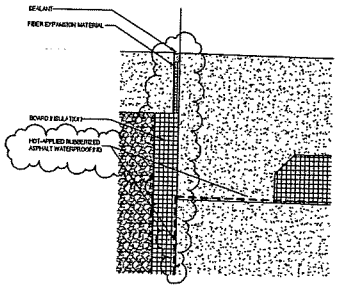


C1 MASONRY VENEER @ CONCRETE BEAM
3" = 1'-0"



D3 MOUNTABLE CONCRETE CURB & GUTTER
1 1/2" = 1'-0"

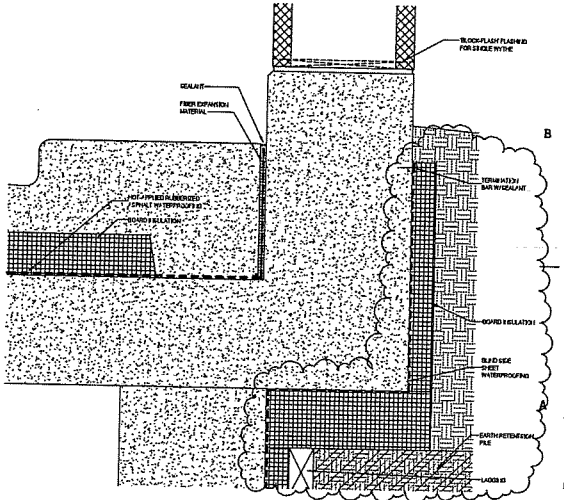




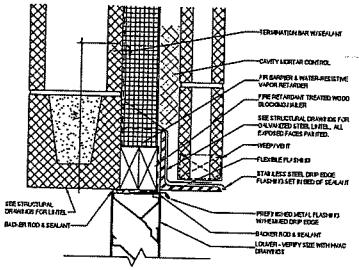
A1 WEST WALL @ BUS LANE
3" = 1'-0"

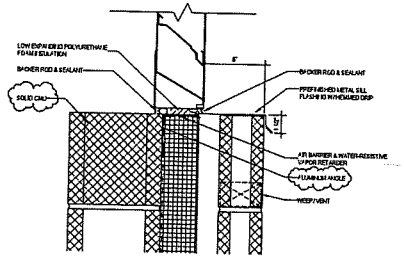
A3 WEST WALL @ SPLIT SLAB SIDEWALK
3" = 1'-0"

A4 BASE OF WEST WALL @ BUS TERMINAL STOREFRONT
3" = 1'-0"



A6 BASE OF SOUTH WALL @ ENTRANCE RAMP
3" = 1'-0"





D6 LOUVER HEAD & SILL @ MASONRY
3" = 1'-0"

eua

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PROJECT INFORMATION

STATE STREET
CAMPUS GARAGE
MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
10-CC-2023	CD SUBMITTAL (100% SMD) (SS PH 1)
11-CC-2023	PC_ADD1

KEY PLAN

SHEET INFORMATION

PROJECT MANAGER	MD
PROJECT NUMBER	720448

EXTERIOR DETAILS - PHASE 1

A5103-1

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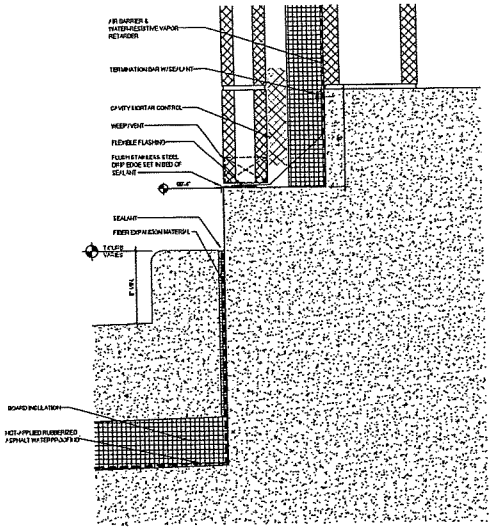
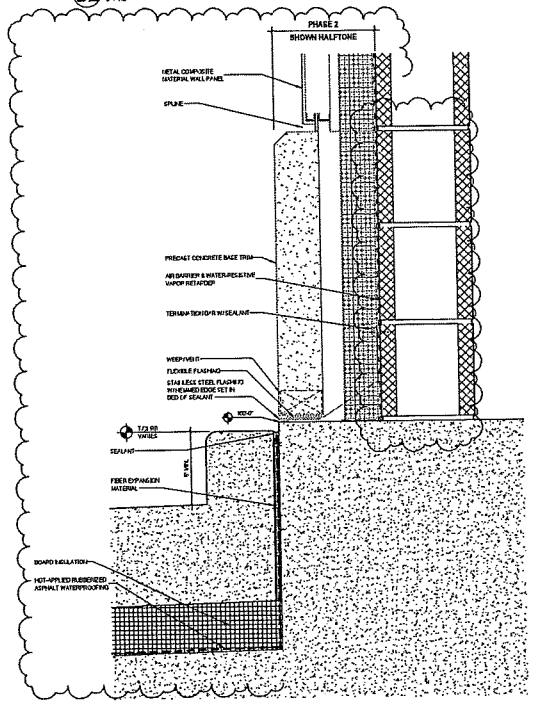
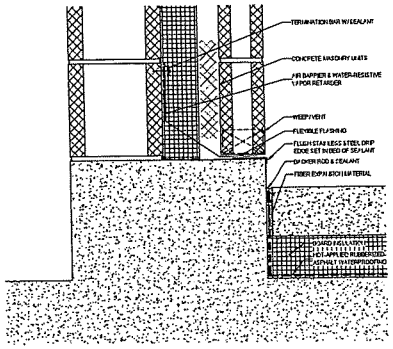
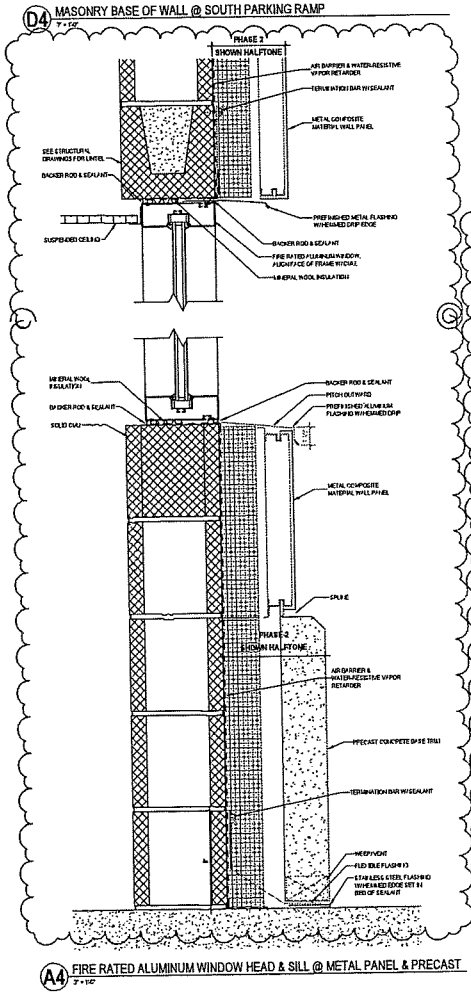


D2 BUS TERMINAL CURB @ SOUTH DRIVE LANE
3" = 1'-0"

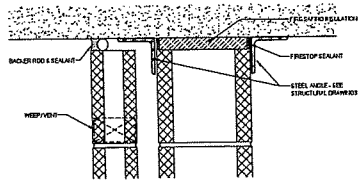


B2 BUS TERMINAL CURB @ PRECAST
3" = 1'-0"

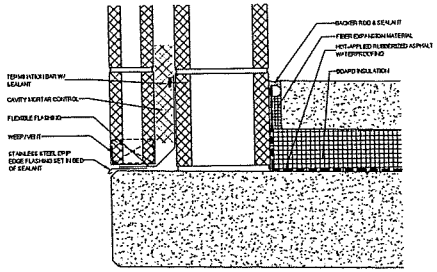




A4 FIRE RATED ALUMINUM WINDOW HEAD & SILL @ METAL PANEL & PRECAST
3" = 1'-0"



E6 MASONRY WALL @ UNDERSIDE OF SLAB
3" = 1'-0"



D6 MASONRY BASE OF WALL @ PT SLAB1
3" = 1'-0"

eua
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PROJECT INFORMATION

STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
11/07/2022	DCS SUBMITTAL / 100% CD SET PH 1
11/07/2022	PH_ADD

KEY PLAN

SHEET INFORMATION

PROJECT MANAGER	MO
PROJECT NUMBER	72048

EXTERIOR DETAILS - PHASE 1

A5104-1

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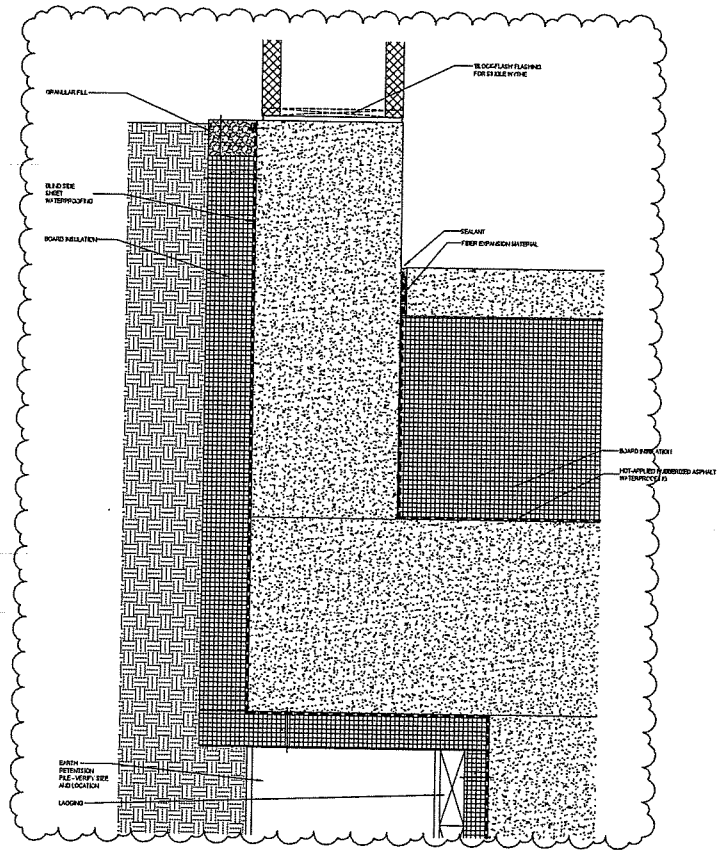
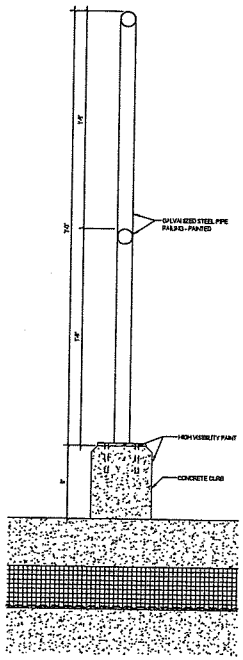
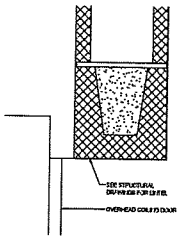


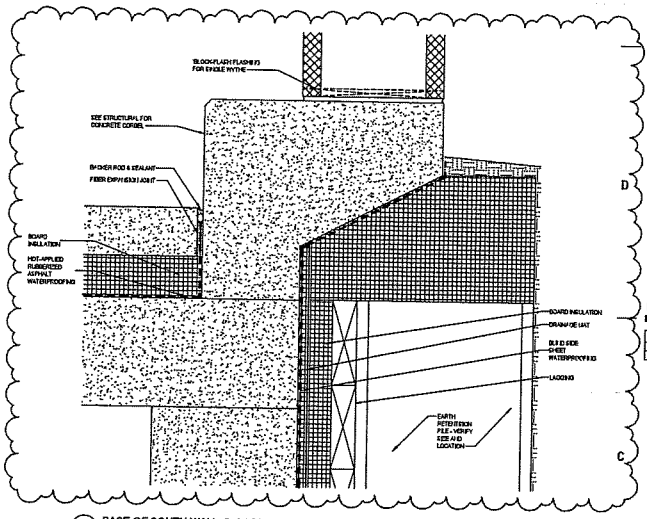
A2 BASE OF NORTH WALL @ EXISTING FOUNDATION
3" = 1'-0"



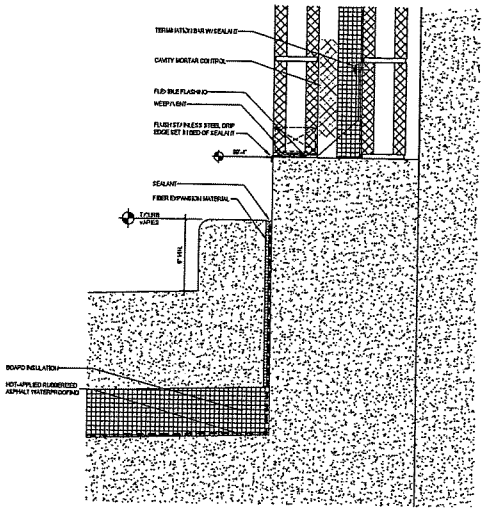
B5 RAILING/CURB DETAIL @ VEHICLE ENTRY/EXIT
3" = 1'-0"



A5 OVERHEAD COILING DOOR HEAD
3" = 1'-0"



C6 BASE OF SOUTH WALL @ CORBEL
3" = 1'-0"



A6 BUS TERMINAL CURB @ STAIR 2
3" = 1'-0"

eu:a
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PROJECT INFORMATION

STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
10-20-2022	CD SUBMITTAL FOR CONSTRUCTION PH 1
11-10-2022	BP ADDENDUM

KEY PLAN

SHEET INFORMATION

PROJECT MANAGER	MD
PROJECT NUMBER	720448

EXTERIOR DETAILS - PHASE 1

A5105-1

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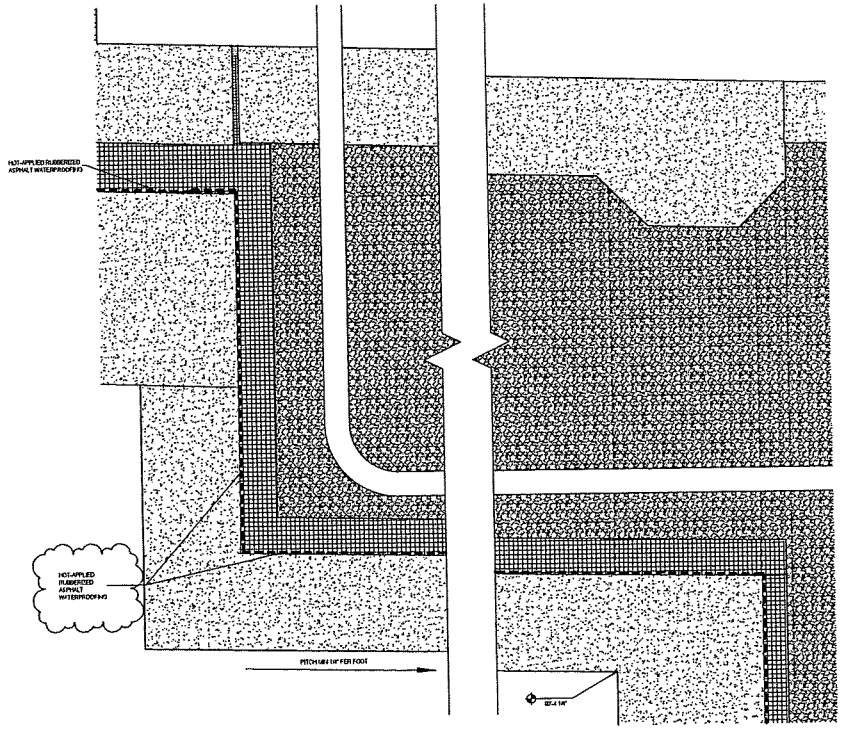
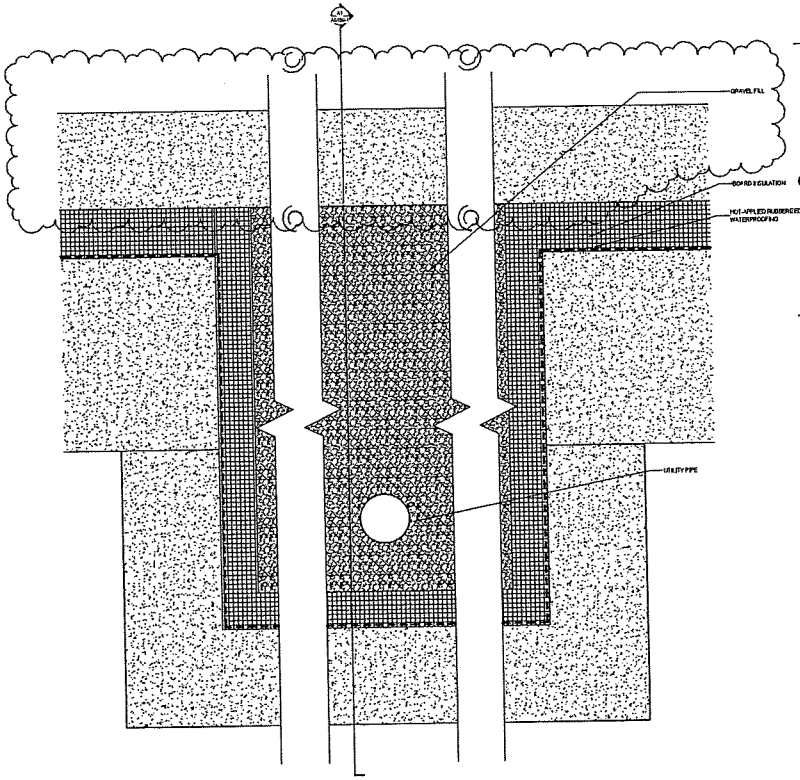


A1 UTILITY TROUGH - LONGITUDINAL
3" = 1'-0"



A5 UTILITY TROUGH - TRANSVERSE
3" = 1'-0"

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PROJECT INFORMATION

STATE STREET
CAMPUS GARAGE
MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
10/10/2025	ADD ALTERNATE / DOCUMENTS PH 1
11/03/2025	PLANS

KEY PLAN

SHEET INFORMATION

PROJECT MANAGER	MD
PROJECT NUMBER	72044

EXTERIOR DETAILS - PHASE 1

A5106-1

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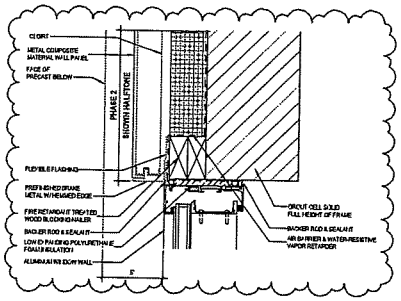
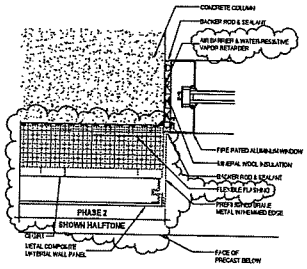
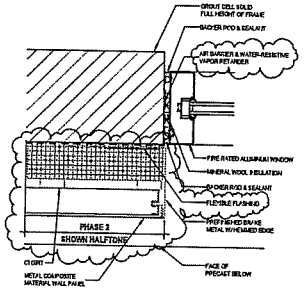


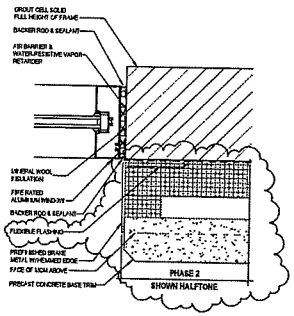
D1 STOREFRONT JAMB @ MCM PNL
3" = 1'-0"



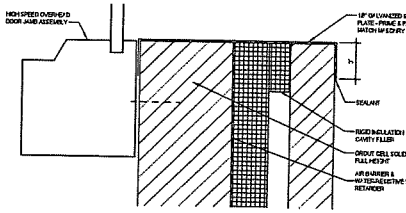
D2 FIRE RATED ALUM WINDOW JAMB @ MCM PANEL @ COLUMN
3" = 1'-0"



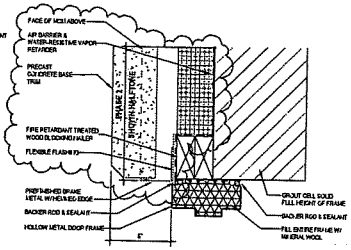
D5 FIRE RATED ALUMINUM WINDOW JAMB @ MCM PANEL
3" = 1'-0"



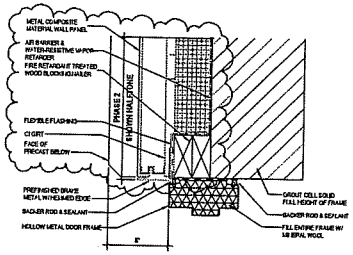
D6 FIRE RATED ALUMINUM WINDOW JAMB @ PRECAST BASE
3" = 1'-0"



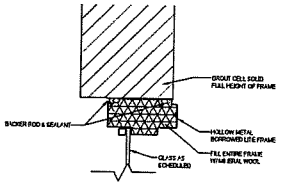
C1 EAST WALL @ HIGH SPEED GARAGE DOOR JAMB
3" = 1'-0"



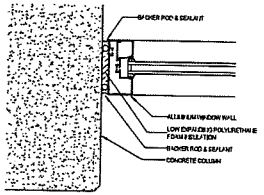
C2 HM DOOR FRAME JAMB @ PRECAST BASE
3" = 1'-0"



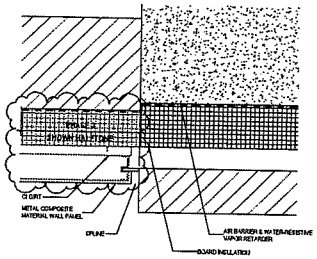
C5 HM DOOR FRAME JAMB @ METAL PANEL
3" = 1'-0"



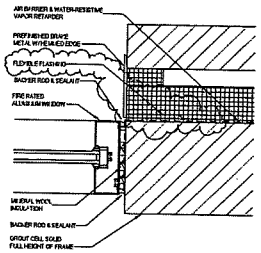
C6 HM BORROWED LITE FRAME JAMB @ CMU
3" = 1'-0"



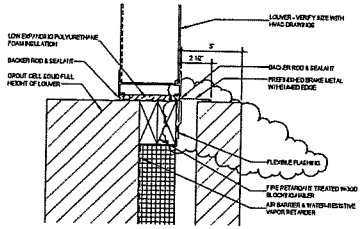
B1 STOREFRONT JAMB @ BUS TERMINAL
3" = 1'-0"



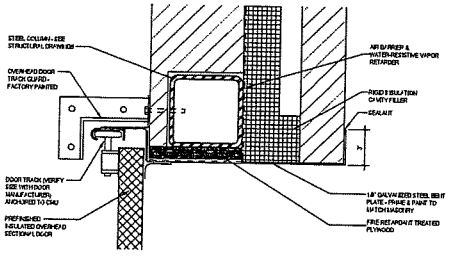
B2 METAL PANEL @ MASONRY TRANSITION
3" = 1'-0"



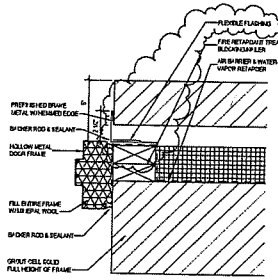
B5 FIRE RATED ALUMINUM WINDOW JAMB
3" = 1'-0"



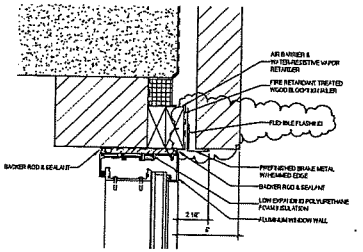
B6 LOUVER JAMB @ MASONRY
3" = 1'-0"



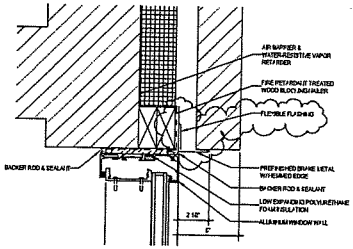
A1 EAST WALL @ OVERHEAD GARAGE DOOR JAMB
3" = 1'-0"



A2 HM DOOR FRAME JAMB @ MASONRY
3" = 1'-0"



A5 WINDOW JAMB @ MASONRY & COLUMN
3" = 1'-0"



A6 WINDOW JAMB @ MASONRY
3" = 1'-0"

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PROJECT INFORMATION

STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
10/03/23	222 ELEVATION DOOR/MATERIAL PH 1
11/01/2023	PLANS

KEY PLAN

SHEET INFORMATION

PROJECT MANAGER	MO
PROJECT NUMBER	720448

EXTERIOR DETAILS - PHASE 1

A5110-1

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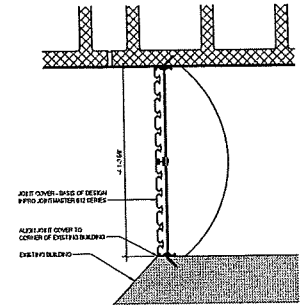
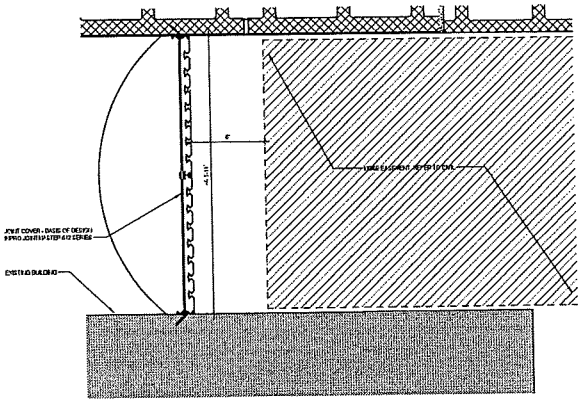
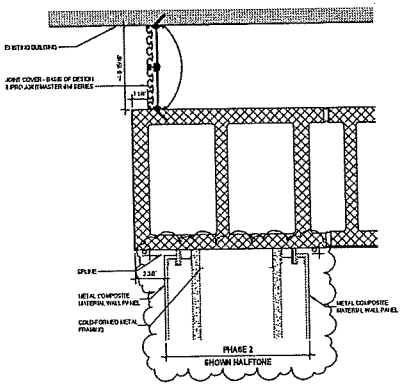


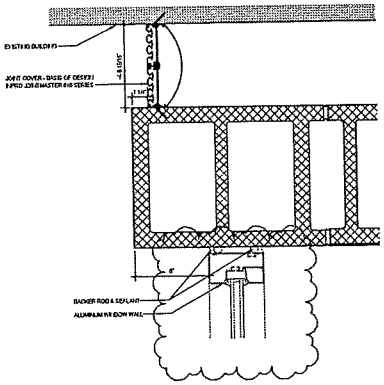
D2 SOUTH WALL @ EXPANSION COVER 1
3" = 1'-0"



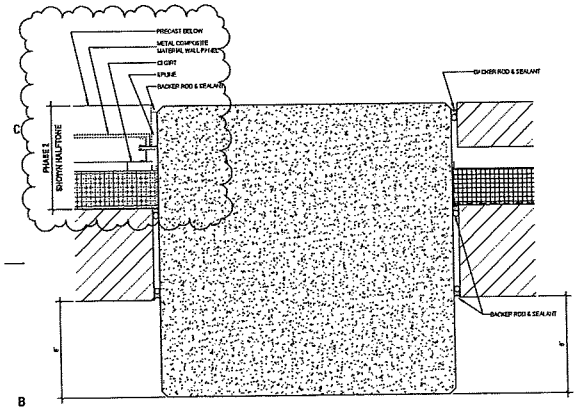
D3 SOUTH WALL @ EXPANSION COVER 2
3" = 1'-0"



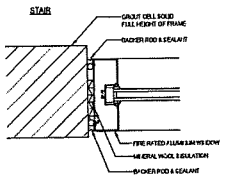
D6 BUS TERMINAL EXPANSION JOINT @ CORNER - 16'-0" AFF
3" = 1'-0"



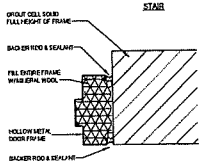
B6 BUS TERMINAL EXPANSION JOINT @ CORNER - 4'-0" AFF
3" = 1'-0"



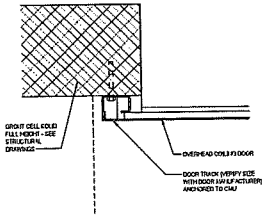
B1 WALL TERMINATION @ COLUMN @ BUS TERMINAL
3" = 1'-0"



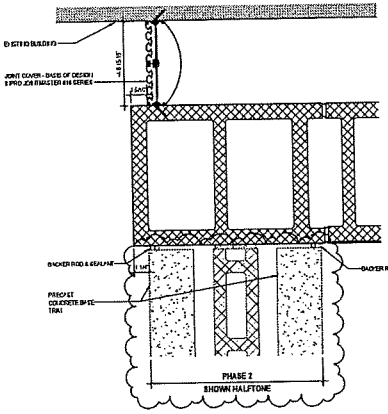
B3 FIRE RATED ALUMINUM WINDOW FRAME JAMB
3" = 1'-0"



A2 HOLLOW METAL DOOR FRAME JAMB
3" = 1'-0"



A3 COILING GARAGE DOOR JAMB
3" = 1'-0"



A6 BUS TERMINAL EXPANSION JOINT @ CORNER - 2'-0" AFF
3" = 1'-0"

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PROJECT INFORMATION

STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
11-02-2022	CD SET/CITY SUBMITTAL PH 1
11-02-2022	PH_ADD2

KEY PLAN

SHEET INFORMATION

PROJECT MANAGER MD
PROJECT NUMBER 720448

EXTERIOR DETAILS - PHASE 1

A5111-1

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HAZARD CLASSIFICATIONS:

LIGHT HAZARD CLASSIFICATION (NFPA 13) - MAXIMUM AREA PER ZONE = 52,000 SF. SPRINKLER HEADS: SEMI-RECESSED CHROME PENDANT W/ CEILINGS, BRONZE UPRIGHTS OR PENDANTS WHERE THERE ARE NO CEILINGS OR EXPOSED PIPING

ORDINARY GROUP 1 HAZARD CLASSIFICATION (NFPA 13) - MAXIMUM AREA PER ZONE = 52,000 SF. SPRINKLER HEADS: SEMI-RECESSED CHROME PENDANT W/ CEILINGS, BRONZE UPRIGHTS OR PENDANTS WHERE THERE ARE NO CEILINGS OR EXPOSED PIPING

ORDINARY GROUP 2 HAZARD CLASSIFICATION (NFPA 13) - MAXIMUM AREA PER ZONE = 52,000 SF. SPRINKLER HEADS: SEMI-RECESSED CHROME PENDANT W/ CEILINGS, BRONZE UPRIGHTS OR PENDANTS WHERE THERE ARE NO CEILINGS OR EXPOSED PIPING

SPRINKLER COVERAGE TO BE COMPLETED BY PHASE 2 CONTRACTOR.

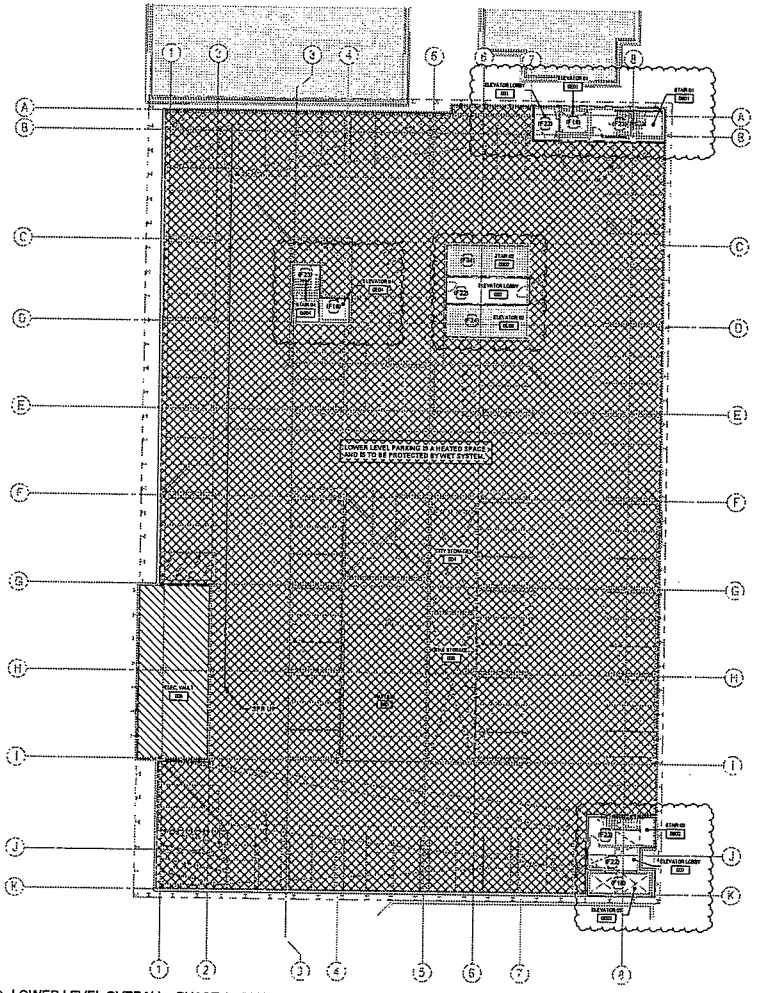
GENERAL NOTES:

1. ALL WORK TO BE DONE IN COMPLIANCE WITH ALL STATE AND LOCAL CODES AND ALL MANUFACTURER'S INSTRUCTIONS.
2. ALL PIPING SHALL RUN STRAIGHT AND TRUE AND SHALL BE INSTALLED IN A WORKMANLIKE MANNER.
3. ALL EQUIPMENT IS TO BE PROVIDED COMPLETE WITH OPERATION & MAINTENANCE MANUALS.

KEYED NOTES

CONTINUED ON PG 2

P18 PROVIDE SPRINKLER HEADS AT TOP OF ELEVATOR SHAFT.
P22 PROTECT ELEVATOR LOBBY OFF OF PHASE 1 WET SYSTEM.
P23 PROVIDE SPRINKLER HEADS AT THE BOTTOM OF STAIR SHAFT.
P24 SPRINKLER COVERAGE IN SHADED AREA TO BE COMPLETED BY PHASE 2 CONTRACTOR. IF PHASE 2 DOES NOT PROCEED, PIPING WITHIN THE SHADED AREA WILL THEN BE FED OFF THE WET SPRINKLER SYSTEM BY THE PHASE 1 CONTRACTOR. ANY ASSOCIATED COST DUE TO PHASE 2 NOT PROCEEDING, PHASE 1 PPC TO FOLLOW CHANGE ORDER PROCEDURES IN CONTRACT DOCUMENTS.



1 F1000-1 LOWER LEVEL OVERALL - PHASE 1 - PLUMBING

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JDR ENGINEERING, INC.
5535 NOBLE DRIVE
SUITE 110
MADISON, WI 53711
PH: 608.277.7728 | FX: 608.277.7046
JDR Project No: 22.0249

PROJECT INFORMATION

STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
10-05-2022	SCHEMATIC DESIGN PKG
01-09-2023	DEVELOPED DESIGN PKG
10-02-2023	CONSTRUCTION DOCUMENTS PKG
11-02-2023	PHS_ADD2

KEY PLAN

SHEET INFORMATION

PROJECT MANAGER

PROJECT NUMBER 720448

LOWER LEVEL OVERALL - PHASE 1 - FIRE PROTECTION

F1000-1

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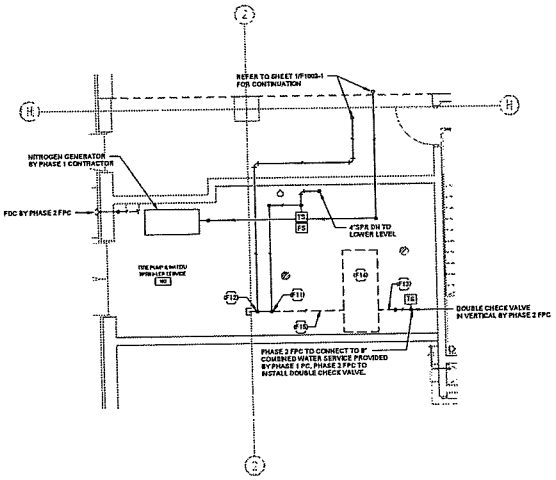
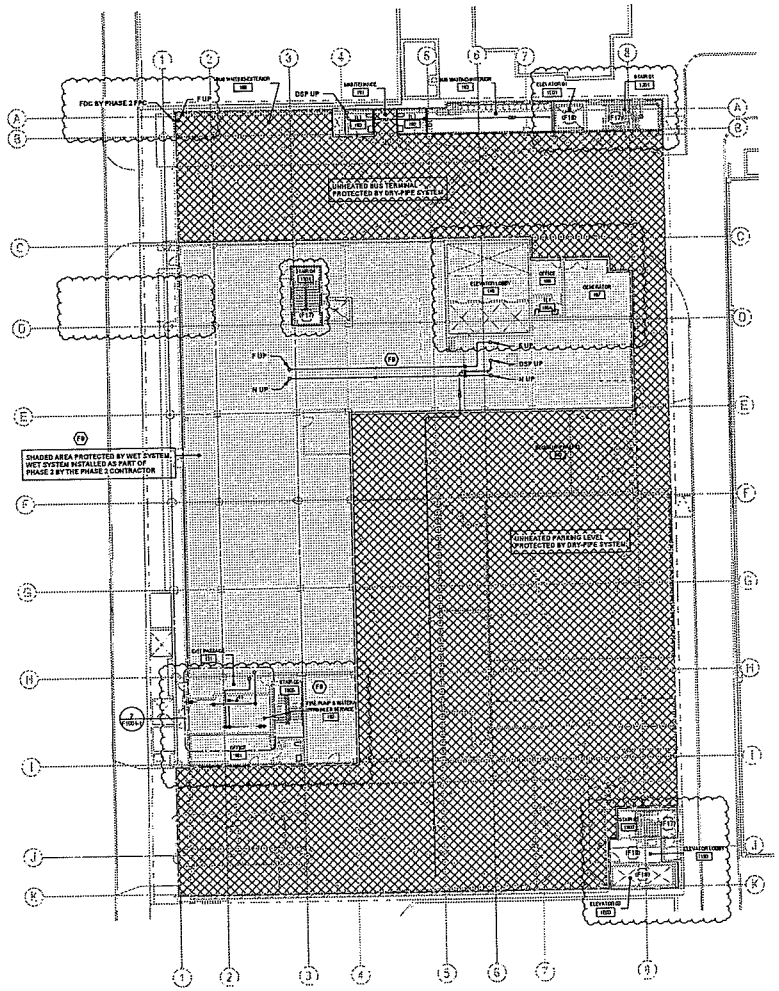


2 F1001-1 ENLARGED FIRE PROTECTION WATER ROOM - FIRE PROTECTION



1 F1001-1 1ST FLR OVERALL - PHASE 1 - FIRE PROTECTION

HAZARD CLASSIFICATIONS:

LIGHT HAZARD CLASSIFICATION (NFPA 13) - MAXIMUM AREA PER ZONE = 52,000 SF. SPRINKLER HEADS: SEMI-RECESSED CHROME PENDANT IN CEILINGS, BRONZE UPRIGHTS OR PENDANTS WHERE THERE ARE NO CEILINGS OR EXPOSED PIPING

ORDINARY GROUP 1 HAZARD CLASSIFICATION (NFPA 13) - MAXIMUM AREA PER ZONE = 52,000 SF. SPRINKLER HEADS: SEMI-RECESSED CHROME PENDANT IN CEILINGS, BRONZE UPRIGHTS OR PENDANTS WHERE THERE ARE NO CEILINGS OR EXPOSED PIPING

ORDINARY GROUP 2 HAZARD CLASSIFICATION (NFPA 13) - MAXIMUM AREA PER ZONE = 52,000 SF. SPRINKLER HEADS: SEMI-RECESSED CHROME PENDANT IN CEILINGS, BRONZE UPRIGHTS OR PENDANTS WHERE THERE ARE NO CEILINGS OR EXPOSED PIPING

SPRINKLER COVERAGE TO BE COMPLETED BY PHASE 2 CONTRACTOR.

GENERAL NOTES:

1. ALL WORK TO BE DONE IN COMPLIANCE WITH ALL STATE AND LOCAL CODES AND ALL MANUFACTURER'S INSTRUCTIONS.
2. ALL PIPING SHALL RUN STRAIGHT AND TRUE AND SHALL BE INSTALLED IN A WORKMANLIKE MANNER.
3. ALL EQUIPMENT IS TO BE PROVIDED COMPLETE WITH OPERATION & MAINTENANCE MANUALS.

KEYED NOTES

KEYED NOTES FOR PROJECT:

F8 SPRINKLER COVERAGE IN SHADED AREA TO BE COMPLETED BY PHASE 2 CONTRACTOR. IF PHASE 2 DOES NOT PROCEED, PIPING WITHIN THE SHADED AREA WILL THEN BE FED OFF THE DRY SPRINKLER SYSTEM BY THE PHASE 1 CONTRACTOR. ANY ASSOCIATED COST DUE TO PHASE 2 NOT PROCEEDING, PHASE 1 FPC TO FOLLOW CHANGE ORDER PROCEDURES IN CONTRACT DOCUMENTS.

F11 CONNECT FIRE MAIN FOR LOWER LEVEL SPRINKLER TO PRV AND EXTENSION PROVIDED BY THE PHASE 2 FIRE PROTECTION CONTRACTOR.

F12 CONNECT FIRE MAIN FOR DRY SPRINKLER SYSTEM TO EXTENSION PROVIDED BY THE PHASE 2 FIRE PROTECTION CONTRACTOR.

F13 FIRE MAIN FROM DOUBLE CHECK VALVE TO FIRE PUMP PROVIDED BY PHASE 2 FIRE PROTECTION CONTRACTOR.

F14 FIRE PUMP PROVIDED BY PHASE 2 CONTRACTOR.

F15 FIRE MAIN BY PHASE 2 CONTRACTOR.

F17 FIRE SUPPRESSION ONLY REQUIRED AT TOP AND BOTTOM OF STAIR SHAFT.

F18 PROVIDE SPRINKLER HEADS AT TOP OF ELEVATOR SHAFT.

F19 PROTECT ELEVATOR LOBBY OFF OF PHASE 1 DRY SYSTEM.

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JDR ENGINEERING, INC.
5525 NOBEL DRIVE
SUITE 110
MADISON, WI 53711
PH: 608.277.0728 | FX: 608.277.0746
JDR Project No: 22.0249

PROJECT INFORMATION

STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05/15/2023	SCHEMATIC DESIGN PHASE
07/28/2023	DEPT. REVIEW SET
10/20/2023	100% CONSTRUCTION DOCUMENTS PHASE
11/02/2023	PHASE XXXX

KEY PLAN

SHEET INFORMATION

PROJECT MANAGER

PROJECT NUMBER 720448

1ST FLR OVERALL – PHASE 1 – FIRE PROTECTION

F1001-1

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HAZARD CLASSIFICATIONS:

LIGHT HAZARD CLASSIFICATION (NFPA 13) - MAXIMUM AREA PER ZONE = 52,000 SF. SPRINKLER HEADS: SEMI-RECESSED CHROME PENDANT W/ CEILINGS, BRONZE UPRIGHTS OR PENDANTS WHERE THERE ARE NO CEILINGS OR EXPOSED FPNG

ORDINARY GROUP 1 HAZARD CLASSIFICATION (NFPA 13) - MAXIMUM AREA PER ZONE = 52,000 SF. SPRINKLER HEADS: SEMI-RECESSED CHROME PENDANT W/ CEILINGS, BRONZE UPRIGHTS OR PENDANTS WHERE THERE ARE NO CEILINGS OR EXPOSED FPNG

ORDINARY GROUP 2 HAZARD CLASSIFICATION (NFPA 13) - MAXIMUM AREA PER ZONE = 52,000 SF. SPRINKLER HEADS: SEMI-RECESSED CHROME PENDANT W/ CEILINGS, BRONZE UPRIGHTS OR PENDANTS WHERE THERE ARE NO CEILINGS OR EXPOSED FPNG

SPRINKLER COVERAGE TO BE COMPLETED BY PHASE 2 CONTRACTOR.

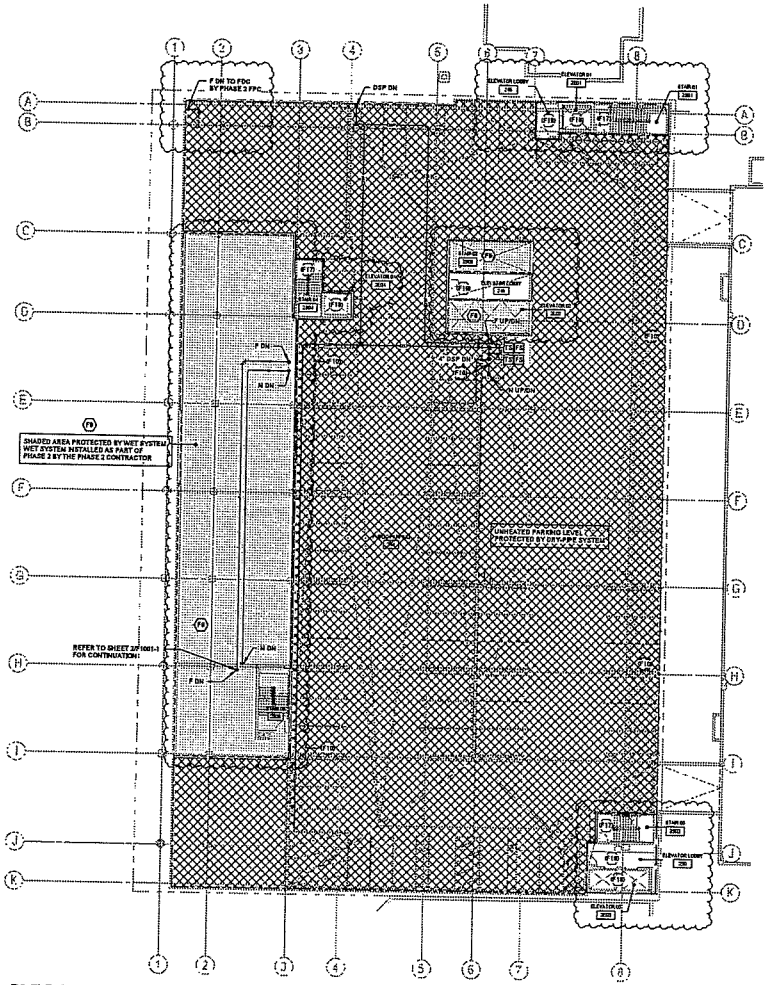
GENERAL NOTES:

1. ALL WORK TO BE DONE IN COMPLIANCE WITH ALL STATE AND LOCAL CODES AND ALL MANUFACTURER'S INSTRUCTIONS.
2. ALL PIPING SHALL RUN STRAIGHT AND TRUE AND SHALL BE INSTALLED IN A WORKMANLIKE MANNER.
3. ALL EQUIPMENT IS TO BE PROVIDED COMPLETE WITH OPERATION & MAINTENANCE MANUALS.

KEYED NOTES:

KEYED NOTES PER PROJECT:

- F8 SPRINKLER COVERAGE IN SHADED AREA TO BE COMPLETED BY PHASE 2 CONTRACTOR. IF PHASE 2 DOES NOT PROCEED, PIPING WITHIN THE SHADED AREA WILL THEN BE FED OFF THE DRY SPRINKLER SYSTEM BY THE PHASE 1 CONTRACTOR. ANY ASSOCIATED COST DUE TO PHASE 2 NOT PROCEEDING, PHASE 1 PPC TO FOLLOW CHANGE ORDER PROCEDURES IN CONTRACT DOCUMENTS.
- F10 SHADED AREA IN PUBLIC PARKING INDICATES PREFERRED LOCATION OF DRY SPRINKLER MAIN. THIS LOCATION MINIMIZE CONFLICTS BETWEEN OTHER TRADES.
- F16 NITROGEN LINE TO DRY VALVE SYSTEM.
- F17 FIRE SUPPRESSION ONLY REQUIRED AT TOP AND BOTTOM OF STAIR SHAFT.
- F18 PROVIDE SPRINKLER HEADS AT TOP OF ELEVATOR SHAFT.
- F19 PROTECT ELEVATOR LOBBY OFF OF PHASE 1 DRY SYSTEM.



1 P2 FLR OVERALL - PHASE 1 - FIRE PROTECTION
F1002-1

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JDR ENGINEERING, INC.
5525 NOBLE DRIVE
SUITE 110
MADISON, WI 53711
PH: 608.277.7728 | FAX: 608.277.7046
JDR Project No: 22.0249

PROJECT INFORMATION

STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05-25-2022	SCHEMATIC DESIGN PH1
07-29-2022	DESIGN DEVELOPMENT PH1
8-02-2022	CONSTRUCTION DOCUMENTS PH1
11-02-2022	PH1_ASI2

KEY PLAN

SHEET INFORMATION

PROJECT MANAGER

PROJECT NUMBER 720448

P2 FLR OVERALL – PHASE 1 – FIRE PROTECTION

F1002-1

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HAZARD CLASSIFICATIONS:

LIGHT HAZARD CLASSIFICATION (NFPA 13) - MAXIMUM AREA PER ZONE = 52,000 SF.
SPRINKLER HEADS: SEMI-RECESSED CHROME PENDANT IN CEILINGS, BRONZE UPRIGHTS OR PENDANTS WHERE THERE ARE NO CEILINGS OR EXPOSED PIPING

ORDINARY GROUP 1 HAZARD CLASSIFICATION (NFPA 13) - MAXIMUM AREA PER ZONE = 52,000 SF.
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SPRINKLER COVERAGE TO BE COMPLETED BY PHASE 2 CONTRACTOR.

GENERAL NOTES:

1. ALL WORK TO BE DONE IN COMPLIANCE WITH ALL STATE AND LOCAL CODES AND ALL MANUFACTURER'S INSTRUCTIONS.
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KEYED NOTES:

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F10 SHADED AREA IN PUBLIC PARKING INDICATES PREFERRED LOCATION OF DRY SPRINKLER MAIN. THIS LOCATION UNIQUE CONFLICTS BETWEEN OTHER TRADES.

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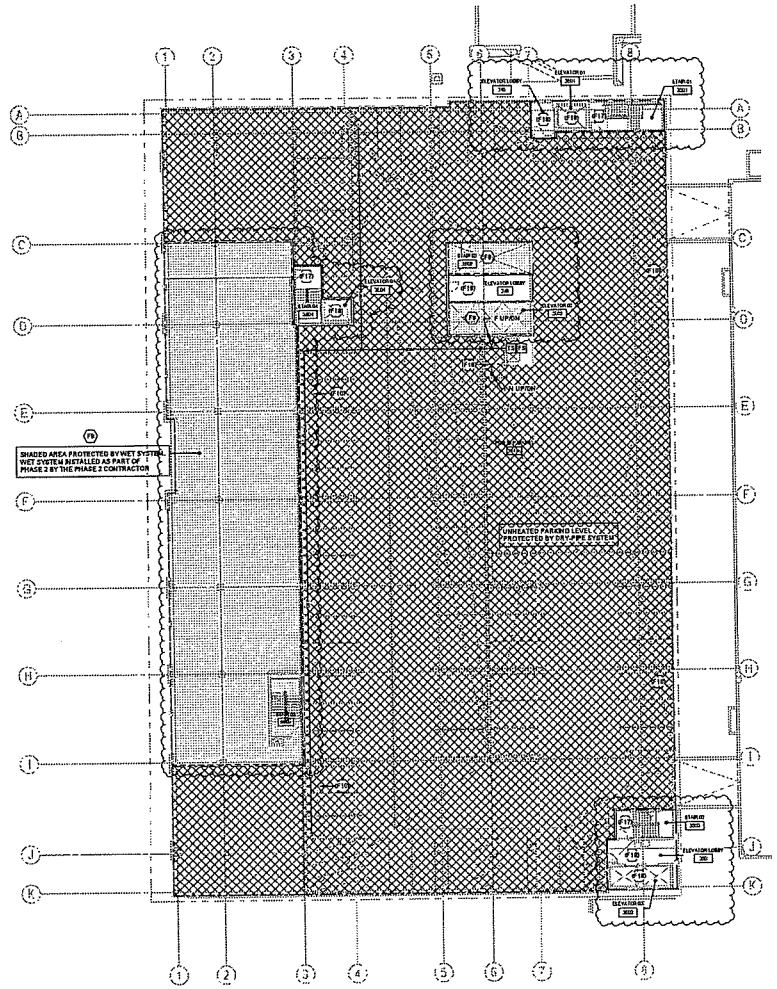
F18 PROVIDE SPRINKLER HEADS AT TOP OF ELEVATOR SHAFT.

F19 PROTECT ELEVATORS LOBBY OFF OF PHASE 1 DRY SYSTEM.



P3 FLR OVERALL - PHASE 1 - FIRE PROTECTION

eu:a
milwaukee | madison | green bay | denver | atlanta

JDR ENGINEERING, INC.
5525 NOBEL DRIVE
SUITE 110
MADISON, WI 53711
PH: 608.277.7728 | FX: 608.277.7746
JDR Project No: 22.0249

PROJECT INFORMATION

STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
10-16-2020	SCHEMATIC DESIGN PH1
01-28-2021	DEVELOPED DESIGN PH1
6-02-2021	CONSTRUCTION DOCUMENTS PH1
11-05-2021	PH1_ADD

KEY PLAN

SHEET INFORMATION

PROJECT MANAGER

PROJECT NUMBER 720448

P3 FLR OVERALL – PHASE 1 – FIRE PROTECTION

F1003-1

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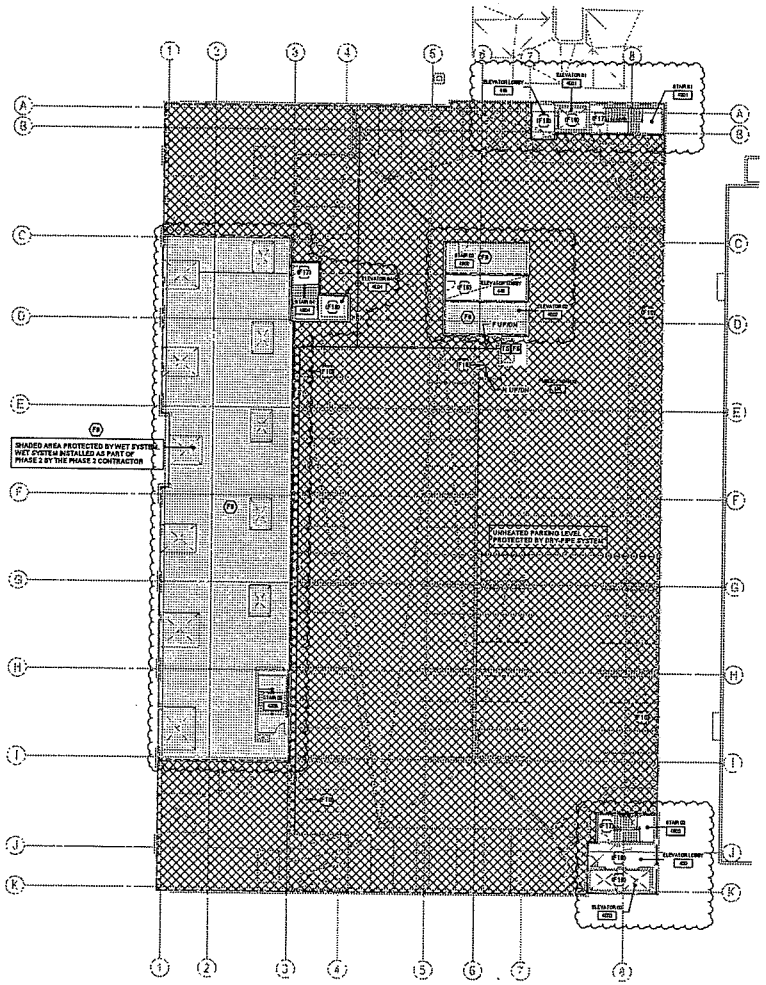

1 P4 FLR OVERALL - PHASE 1 - FIRE PROTECTION
F1004-1 SCALE: 1/8"= 1'-0"

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MADISON, WI 53711
PH: 608.277.7728 | FX: 608.277.7046
JDR Project No: 22.0249

PROJECT INFORMATION

STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05/04/2023	SCHEMATIC DESIGN PHS
07/28/2023	DEVELOPED DESIGN PHS
10/02/2023	CD SET/PLETION DOCUMENTS PHS
11/02/2023	PHS_ADDS

KEY PLAN

SHEET INFORMATION

PROJECT MANAGER

PROJECT NUMBER 720148

P4 FLR OVERALL – PHASE 1 – FIRE PROTECTION

F1004-1

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HAZARD CLASSIFICATIONS:

LIGHT HAZARD CLASSIFICATION (NFPA 13) - MAXIMUM AREA PER ZONE = 52,000 SF.
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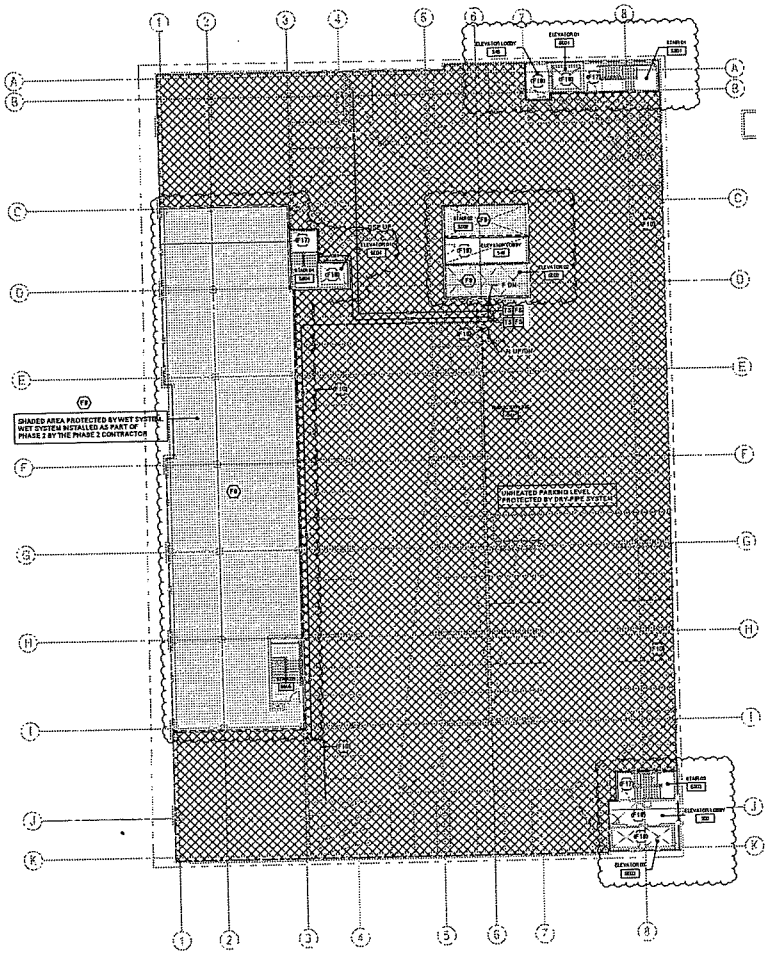

1 F1005-1 P5 FLR OVERALL - PHASE 1 - FIRE PROTECTION
SCALE: 1/16" = 1'-0"

eu:a
urbanbuilt | madison | green bay | denver | atlanta

JDR ENGINEERING, INC.
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SUITE 110
MADISON, WI 53711
PH: 608.277.0728 | FX: 608.270.7046
JDR Project No: 22.0249

PROJECT INFORMATION

STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05/16/2023	SCHEMATIC DESIGN PHASE
07/28/2023	DESIGN DEVELOPMENT PHASE
10/02/2023	CONSTRUCTION DOCUMENTS PHASE
11/02/2023	PHASE 1 PERMIT

KEY PLAN

SHEET INFORMATION

PROJECT MANAGER
PROJECT NUMBER 720448

P5 FLR OVERALL – PHASE 1 – FIRE PROTECTION

F1005-1

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HAZARD CLASSIFICATIONS:

LIGHT HAZARD CLASSIFICATION (NFPA 13) - MAXIMUM AREA PER ZONE = 52,000 SF.
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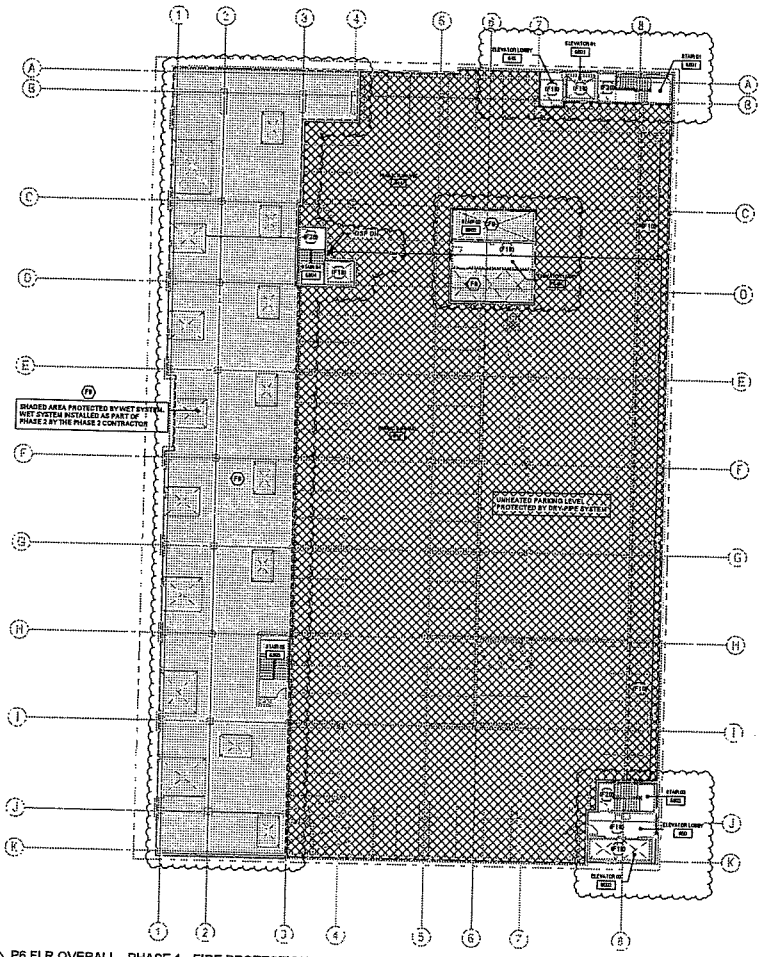

1 F1006-1 P6 FLR OVERALL - PHASE 1 - FIRE PROTECTION

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JDR ENGINEERING, INC.
5515 NOBLE DRIVE
SUITE 110
MADISON, WI 53711
PH: 608.277.7728 | FX: 608.270.9416
JDR Project No: 22.0249

PROJECT INFORMATION

STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05-06-2023	SCHEMATIC DESIGN PHI
07-28-2023	DETAILED DESIGN PHI
10-02-2023	CD SET/PUBLIC HOT DOCUMENTS PHI
11-02-2023	PHI ADDS

KEY PLAN

SHEET INFORMATION

PROJECT MANAGER

PROJECT NUMBER 720448

P6 FLR OVERALL – PHASE 1 – FIRE PROTECTION

F1006-1

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PLUMBING FIXTURES SCHEDULE

ID	FIXTURE	WASTE DFU	WASTE TRAP	WASTE VENT (MIN)	WATER COLD CWFU	WATER COLD SIZE	WATER HOT HWFU	WATER HOT SIZE	DETAIL / SHEET	DESCRIPTION / REMARKS
DF-1	DRINKING FOUNTAIN	0.5	1 1/4"	1 1/2"	0.25	1/2"	—	—	—	FIXTURE: HAWS 1011-1820 VANDAL-RESISTANT DRINKING FOUNTAIN AND BOTTLE FILLER, 18 GAUGE 304 STAINLESS STEEL, 14 GAUGE 304 STAINLESS STEEL BOTTLE FILLER, PUSH BUTTON OPERATION, 3/16" THICK STEEL MOUNTING PLATE. PROVIDE OPTIONAL TRAP ACCESS PANEL HAWS MODEL 6903.
L-1	LAVATORY	1	1 1/4"	1 1/2"	0.5	1/2"	0.5	1/2"	7/P5001-1	FIXTURE: KOHLER CHESAPEAKE K-1728 WALL MOUNTED LAVATORY SINK, WHITE VITREOUS CHINA, 4" CENTER SET FAUCET HOLES, WITH OVERFLOW, ADA COMPLIANT. FAUCET: ZURN Z6915-XL HARDWIRED ELECTRONIC FAUCET, 0.35 GPM AERATOR, 4" CENTER SET MOUNTING, CHROME FINISH, SENSOR OPERATED, HARDWIRE POWER CONVERTER. INCLUDE BELOW DECK MIXING VALVE. TRAP & DRAIN: CHROME PLATED 17 GAUGE CAST BRASS TRAP, PRE-WRAPPED OFFSET DRAIN AND P-TRAP, WITH GRID STRAINER DRAIN. STOPS & SUPPLIES: QUARTER TURN ANGLE STOPS WITH CHROME PLATED ESCUTCHEONS & CHROME PLATED COPPER RISER SUPPLIES.
L-2	LAVATORY	1	1 1/4"	1 1/2"	0.5	1/2"	0.5	1/2"	7/P5001-1	FIXTURE: KOHLER CHESAPEAKE K-1728 WALL MOUNTED LAVATORY SINK, WHITE VITREOUS CHINA, 4" CENTER SET FAUCET HOLES, WITH OVERFLOW, ADA COMPLIANT. FAUCET: ZURN Z6915-XL BATTERY OPERATED ELECTRONIC FAUCET, 0.35 GPM AERATOR, 4" CENTER SET MOUNTING, CHROME FINISH, SENSOR OPERATED. INCLUDE BELOW DECK MIXING VALVE. TRAP & DRAIN: CHROME PLATED 17 GAUGE CAST BRASS TRAP, PRE-WRAPPED OFFSET DRAIN AND P-TRAP, WITH GRID STRAINER DRAIN. STOPS & SUPPLIES: QUARTER TURN ANGLE STOPS WITH CHROME PLATED ESCUTCHEONS & CHROME PLATED COPPER RISER SUPPLIES.
MB-1	MOP BASIN	3	3"	2"	2	1/2"	2	1/2"	—	FIXTURE: MUSTEE 63M 24"x24"x10" HIGH BASIN, ONE PIECE MOLDED DURASTONE, INTEGRAL MOLDED-IN DRAIN, 3" DRAIN CONNECTION. FAUCET: CHICAGO FAUCETS SERVICE SINK FAUCET 305-RRCF WITH ROUGH CHROME FINISH, 3/4" MALE HOSE THREADED OUTLET, PAIL HOOK, ADJUSTABLE SUPPLY ARMS WITH INTEGRAL SERVICE STOPS AND LEVER HANDLES. PROVIDE WATTS MODEL 8AC NON-REMOVABLE CHROME VACUUM BREAKER. TRAP & DRAIN: P-TRAP WITH STRAINER DRAIN. ACCESSORIES: HOSE & HOSE HOLDER 65.700, & MOP HANGER 65.600.
WC-1	WATER CLOSET (WALL MOUNT, ADA HEIGHT)	5	4"	2"	5.5	1 1/2"	—	—	—	FIXTURE: KOHLER KINGSTON K-4325, WALL HUNG, FLUSH VALVE TOILET, WHITE VITREOUS CHINA, ELONGATED BOWL, 1.28 GPF MAX, 2.25" TRAPWAY, 1-1/2" REAR SPUD, ADA HEIGHT. FLUSH VALVE: SLOAN ROYAL 152 ESS-1.28, CONCEALED SENSOR OPERATED HARDWIRED FLUSH VALVE, INFRARED SENSOR, 1-1/2" REAR SPUD, 1.28 GPF, DIAPHRAGM TYPE, ELECTRICAL OVERRIDE, BRUSHED STAINLESS FINISH, ADA COMPLIANT. SEAT: KOHLER LUSTRA K-4670-CA, OPEN FRONT TOILET SEAT, WHITE INJECTION MOLDED, SELF SUSTAINING CHECK HINGES, ANTI-MICROBIAL AGENT. SUPPORT: COMMERCIAL GRADE WATER CLOSET CARRIER.
WC-2	WATER CLOSET (FLOOR MOUNT, ADA HEIGHT)	5	4"	2"	5.5	1 1/2"	—	—	—	FIXTURE: KOHLER HIGHCLIFF ULTRA K-96057-SS, FLOOR MOUNTED WATER CLOSET, 1.28 GPF, FLUSHOMETER TYPE, 1 1/2" TOP SPUD, WHITE VITREOUS CHINA, 2.125" TRAPWAY, ELONGATED BOWL, ADA HEIGHT. FLUSH VALVE: SLOAN G2 8111-1.28 WATER CLOSET FLUSH VALVE, ELECTRONIC SENSOR OPERATION, BATTERY POWERED, 1-1/2" TOP SPUD, 1.28 GPF, CHROME FINISH, ADA COMPLIANT. SEAT: KOHLER LUSTRA K-4670-CA, OPEN FRONT TOILET SEAT, WHITE INJECTION MOLDED, SELF SUSTAINING CHECK HINGES, ANTI-MICROBIAL AGENT. SUPPORT: COMMERCIAL GRADE WATER CLOSET CARRIER.
WH-1	WALL HYDRANT	—	—	—	4	3/4"	—	—	—	FIXTURE: WOODFORD MODEL B67, EXTERNAL FREEZELESS WALL HYDRANT BOX TYPE, AUTOMATIC DRAINING, INTEGRAL VACUUM BREAKER, 3/4" HOSE CONNECTION, LOOSE TEE KEY WITH TAMPER RESISTANT BOX.
WH-2	WALL HYDRANT	—	—	—	5	2"	—	—	—	FIXTURE: 2" CAM LOCK HOSE CONNECTION, BRASS CONSTRUCTION. INCLUDE SHUTOFF VALVE WITH LOCKABLE HANDLE.

EJECTORS AND SUMP PUMPS SCHEDULE

ID	MANUFACTURER MODEL #	ELECTRICAL HP	ELECTRICAL AMPS	ELECTRICAL VOLTS	ELECTRICAL PHASE	RPM	VFD	DISCHARGE GPM	DISCHARGE HD FT	BASIN DIA	BASIN DEPTH	DETAIL / SHEET	DESCRIPTION / REMARKS
EE-1	WEIL 1507 (DUPLEX)	1.5	3	480	3	1750	NO	50	34	48"	72"	12/P5001-1	FLOOR MOUNTED EJECTOR, CAST IRON CASE, CAST BRONZE IMPELLER, 304 STAINLESS STEEL STRAINER & HARDWARE, DOUBLE SEAL MOTOR, DOUBLE SEALED BEARINGS, AIR FILLED HERMETICALLY SEALED SHAFT, STAINLESS STEEL LIFTING CABLE, 3" DISCHARGE, 15 FT POWER CORD, OVERLOAD PROTECTION. CONTROLS: WEIL 8130 FACTORY WIRED WALL MOUNTED DUPLEX ALTERNATING PUMP CONTROL PANEL, POLY ENCLOSURE RATED TYPE, THREE PHASE, MANUAL DISCONNECT & MOTOR CIRCUIT PROTECTION, THROUGH THE DOOR RESET, RUNNING PILOT LIGHT, HIGH WATER ALARM LIGHT & BUZZER WITH DISABLING SWITCH. INCLUDE WEIL 8234 TETHER POLE WITH THREE PRESSURE DIAPHRAGM SWITCHES: OFF, ON, STANDBY, & HIGH WATER ALARM. WEIL 8251 JUNCTION BOX LOCATED IN PIT, NEMA-4P CONSTRUCTION. BASIN & COVER: TOP INDUSTRIES FIBERGLASS BASIN WITH ANTI-FLOTATION FLANGE ON BOTTOM OF BASIN. WEIL 8904 ROUND WET WELL COVER, GASKETED LID, ONE PUMP OPENING, LEVEL CONTROL PLATE, BELOW COVER DISCHARGE, PEDESTRIAN RATED.
SE-1	B&G SE253MN (SINGLE CAR ELEVATOR)	1/2	3.5	208	3	3500	NO	30	40	24"	36"	11/P5001-1	FLOOR MOUNTED EJECTOR, CAST IRON CASE, CAST IRON 4.44" DIAMETER IMPELLER, SINGLE SEAL MOTOR, DOUBLE SEALED BEARINGS, AIR FILLED HERMETICALLY SEALED SHAFT, 2" DISCHARGE, 20 FT POWER CORD, OVERLOAD PROTECTION. CONTROLS: B&G SSFB6610 FACTORY WIRED WALL MOUNTED SIMPLEX CONTROL PANEL, STEEL CONSTRUCTION, THREE PHASE, 6-10 AMPS, NEMA 4X ENCLOSURE, HIGH WATER ALARM LIGHT AND BUZZER WITH DISABLING SWITCH. INCLUDE THREE FLOATS: OFF, ON, AND HIGH WATER ALARM. BASIN & COVER: TOP INDUSTRIES FIBERGLASS BASIN WITH ANTI-FLOTATION FLANGE ON BOTTOM OF BASIN, AND PERFORATED LID WITH GROMMETS FOR PIPE AND CONDUIT.
SE-2	B&G 2EC103B (DOUBLE CAR ELEVATOR)	1	4.8	208	3	3500	NO	50	48	24"	36"	11/P5001-1	FLOOR MOUNTED EJECTOR, CAST IRON CASE, CAST IRON 4.44" DIAMETER IMPELLER, SINGLE SEAL MOTOR, DOUBLE SEALED BEARINGS, AIR FILLED HERMETICALLY SEALED SHAFT, 2" DISCHARGE, 20 FT POWER CORD, OVERLOAD PROTECTION. CONTROLS: B&G SSFB6610 FACTORY WIRED WALL MOUNTED SIMPLEX CONTROL PANEL, STEEL CONSTRUCTION, THREE PHASE, 6-10 AMPS, NEMA 4X ENCLOSURE, HIGH WATER ALARM LIGHT AND BUZZER WITH DISABLING SWITCH. INCLUDE THREE FLOATS: OFF, ON, AND HIGH WATER ALARM. BASIN & COVER: TOP INDUSTRIES FIBERGLASS BASIN WITH ANTI-FLOTATION FLANGE ON BOTTOM OF BASIN, AND PERFORATED LID WITH GROMMETS FOR PIPE AND CONDUIT.
SP-1	WEIL 1534 (SUB-SOIL DRAINAGE) (DUPLEX)	7.5	11	480	3	1750	NO	345	41	60"	96"	13/P5001-1	FLOOR MOUNTED EJECTOR, CAST IRON CASE, CAST BRONZE IMPELLER, 304 STAINLESS STEEL STRAINER & HARDWARE, DOUBLE SEAL MOTOR, DOUBLE SEALED BEARINGS, AIR FILLED HERMETICALLY SEALED SHAFT, STAINLESS STEEL LIFTING CABLE, 4" DISCHARGE, 15 FT POWER CORD, OVERLOAD PROTECTION. CONTROLS: WEIL 8130 FACTORY WIRED WALL MOUNTED DUPLEX ALTERNATING PUMP CONTROL PANEL, POLY ENCLOSURE RATED TYPE, THREE PHASE, MANUAL DISCONNECT & MOTOR CIRCUIT PROTECTION, THROUGH THE DOOR RESET, RUNNING PILOT LIGHT, HIGH WATER ALARM LIGHT & BUZZER WITH DISABLING SWITCH. INCLUDE WEIL 8234 TETHER POLE WITH THREE PRESSURE DIAPHRAGM SWITCHES: OFF, ON, STANDBY, & HIGH WATER ALARM. WEIL 8251 JUNCTION BOX LOCATED IN PIT, NEMA-4P CONSTRUCTION. BASIN & COVER: TOP INDUSTRIES FIBERGLASS BASIN WITH ANTI-FLOTATION FLANGE ON BOTTOM OF BASIN. WEIL 8904 ROUND WET WELL COVER, GASKETED LID, TWO PUMP OPENING, LEVEL CONTROL PLATE, BELOW COVER DISCHARGE, PEDESTRIAN RATED.

PLUMBING DRAIN AND CLEANOUT SCHEDULE

ID	FIXTURE	WASTE DFU	WASTE TRAP	WASTE VENT	DETAIL / SHEET	DESCRIPTION / REMARKS
FD-1	FLOOR DRAIN (ROUND)	2 3 4	2" 3" 4"	1 1/2" 1 1/2" 2"	8/P5001-1	FIXTURE: ZURN ZN415-B, CAST IRON BODY, 6" DIAMETER NICKEL BRONZE STRAINER, COMBINATION INVERTIBLE MEMBRANE CLAMP, AND ADJUSTABLE COLLAR.
FD-2	FLOOR DRAIN (ROUND, HEAVY DUTY)	4	4"	2"	8/P5001-1	FIXTURE: ZURN Z633-Y, CAST IRON BODY, 9" DIAMETER TOP, SEEPAGE PAN, HEAVY DUTY DEEP FLANGE SLOTTED GRATE, WITH SOLID BOTTOM SEDIMENT BUCKET.
FD-3	FLOOR DRAIN (ROUND, HEAVY DUTY)	2 3 4	2" 3" 4"	1 1/2" 1 1/2" 2"	8/P5001-1	FIXTURE: ZURN Z631-Y HEAVY-DUTY ISOLATION DECK DRAIN, CAST IRON BODY, 9" DIAMETER TOP, SEEPAGE PAN, HEAVY DUTY DEEP FLANGE SLOTTED GRATE WITH SOLID BOTTOM SEDIMENT BUCKET.
FD-4	FLOOR DRAIN (ROUND)	2 3 4	2" 3" 4"	1 1/2" 1 1/2" 2"	8/P5001-1	FIXTURE: ZURN ZN630-U ADJUSTABLE ISOLATION DECK DRAIN, CAST IRON BODY, 6" DIAMETER NICKEL BRONZE STRAINER, COMBINATION INVERTIBLE MEMBRANE CLAMP, HIGH EXTENSION ADAPTOR, AND ADJUSTABLE COLLAR.
FD-5	FLOOR DRAIN (ROUND)	2 3 4	2" 3" 4"	1 1/2" 1 1/2" 2"	8/P5001-1	FIXTURE: ZURN ZN629-U-VP ADJUSTABLE ISOLATION DECK DRAIN, CAST IRON BODY, 6" DIAMETER NICKEL BRONZE STRAINER, VANDAL-PROOF SECURED TOP, COMBINATION INVERTIBLE MEMBRANE CLAMP, HIGH EXTENSION ADAPTOR, AND ADJUSTABLE COLLAR.
HD-1	HUB DRAIN - ABOVE GRADE	3 4 6	2" 3" 4"	1 1/2" 1 1/2" 2"	8/P5001-1	FIXTURE: ZURN Z415 LESS STRAINER WITH ZURN Z415BU ADJUSTABLE STRAINER EXTENSION, CAST IRON BODY WITH SEEPAGE PAN, COMBINATION MEMBRANE FLASHING CLAMP, EXTEND HUB 2" AFF (MIN), INSTALL PIPE INCREASER ONE PIPE SIZE LARGER.
HD-2	HUB DRAIN - AT GRADE	4 6	3" 4"	1 1/2" 2"	—	EXTEND HUB 2" (MIN) ABOVE FLOOR, INSTALL PIPE INCREASER ONE PIPE SIZE LARGER MINIMUM.
TD-1	TRENCH DRAIN	18	4"	2"	—	FIXTURE: ZURN Z833-100 ELEVATOR TRENCH DRAIN SYSTEM, STAINLESS STEEL CONSTRUCTION, STAINLESS STEEL GRATE, VANDAL PROOF GRATE, MEETS ADA AND HEEL-PROOF REQUIREMENTS.
FCO	FLOOR CLEANOUT	—	—	—	—	FINISHED AREAS (WITH HARD FLOORS): ZURN ZN1400-BT, CAST IRON, ADJUSTABLE FLOOR CLEANOUT WITH NICKEL BRONZE TOP AND BRONZE PLUG. UNFINISHED AREAS: ZURN ZN1400-BP, CAST IRON, ADJUSTABLE FLOOR CLEANOUT WITH NICKEL BRONZE TOP AND BRONZE PLUG. PARKING AREAS: ZURN ZN1474-N, CAST IRON BODY, HEAVY DUTY CLEANOUT HOUSING, WITH NICKEL BRONZE TOP & INTERNAL CLEANOUT.

REDUCED PRESSURE BACKFLOW PREVENTERS SCHEDULE

ID	MANUFACTURER MODEL #	SIZE	GPM	PRESSURE DROP	SERVES	DETAIL / SHEET	DESCRIPTION / REMARKS
RPBP-1	WATTS 919QT8	3"	78	19	WH-2	10/P5001-1	BRONZE BODY, SILICONE RUBBER DISC IN BOTH CHECK SEATS, STAINLESS STEEL RELIEF VALVE SEATS, INCLUDE AIR GAP FITTING, AND STRAINER.

PUMP SCHEDULE

ID	MANUFACTURER MODEL #	ELECTRICAL HP	ELECTRICAL AMPS	ELECTRICAL VOLTS	ELECTRICAL PHASE	RPM	VFD	DISCHARGE GPM	DISCHARGE HD FT	DETAIL / SHEET	DESCRIPTION / REMARKS
CP-1 CP-2 CP-3	B&G NBF-8U	FRAC.	0.4	120	1	2800	NO	1	8	5/P5001-1	IN-LINE PUMP, SINGLE SPEED, LUBRICATED, BRONZE LEAD-FREE BODY RATED FOR POTABLE WATER, CERAMIC SHAFT, CARBON BEARINGS, NORYL IMPELLER, STAINLESS STEEL COMPONENTS, INCLUDE TIMER KIT TC-1.

ELECTRIC WATER HEATERS SCHEDULE

ID	MANUFACTURER MODEL #	ELECTRICAL AMPS	ELECTRICAL VOLTS	ELECTRICAL WATTS	ELECTRICAL PHASE	RECOVERY GPH	RECOVERY RISE °F	TANK CAP GAL	DETAIL / SHEET	DESCRIPTION / REMARKS
WWH-1	AO SMITH DEL-20	12	208	2500	1	13	80	19	5/P5001-1	GLASS LINED TANK, ZINC PLATED ELEMENTS, ADJUSTABLE TEMPERATURE CONTROLS, ONE 2500 WATT ELEMENT.
WWH-2 WWH-3	AO SMITH DEL-6	7.3	208	1500	1	8	80	6	5/P5001-1	GLASS LINED TANK, ZINC PLATED ELEMENTS, ADJUSTABLE TEMPERATURE CONTROLS, ONE 1500 WATT ELEMENT.

WATER CALCULATION WORKSHEET

Water Calculation Worksheet For: 415 N. Lake Street (1st - 8th Floor) Phase 1
(Name/Address of Project)

INFORMATION REQUIRED TO SIZE WATER SERVICE AND WATER DISTRIBUTION:

1. Demand of building in water supply fixture units (WSFU) = 18 (GPM) 31
1.a. Demand of equipment requiring Gallons Per Minute: (GPM) 78
1.b. Total Building Demand Gallons Per Minute: (GPM) 181
2. Elevation difference from main or external pressure tank to building control valve: (feet) 0
3. Size of water meter (when required) 5/8" ___ 3/4" ___ 1" ___ other 3
4. Developed length from main or external pressure tank to building control valve: (feet) 82
5. Low pressure at main in street or external pressure tank. (psi) 80

CALCULATE WATER SERVICE PRESSURE LOSS
(unnecessary for internal pressure tanks)

6. Low pressure at main in street or external pressure tank. (value of # 5 above) — 80
7. Determine pressure loss due to friction in 4 inch diameter water service. Water service piping material is DUCTILE IRON. Pressure loss per 100 ft. = 0.315 X 0.82 — Subtract value of "7" 0.2583; Subtotal 79.74
(decimal equivalent of service length, i.e. 68 ft = 0.68)
8. Determine pressure loss or gain due to elevation, (multiply the value of # 2 above by .434) — Subtract value of "8" 0.00
9. Available pressure after the building control valve. — Subtotal 79.74

CALCULATE THE PRESSURE AVAILABLE FOR UNIFORM LOSS (VALUE OF "A")

B. Available pressure after the building control valve. (from "9" above) — Value of "B" 79.74
C. Pressure loss of water meter (when meter is required) — Subtract value of "C" 3.8; Subtotal 75.74
D. Pressure at controlling fixture*. (Controlling fixture is: WATER CLOSET). (*Controlling fixture is the fixture with the most demanding pressure to operate properly, which includes the following when determining fixture performance, loss due to instantaneous water heaters, water treatment devices, and backflow preventers which serve the controlling fixture.) — Subtract value of "D" 25; Subtotal 51.74
E. Difference in elevation between building control valve and the controlling fixture in feet: 0 X .434 psi/ft. — Subtract value of "E" 0; Subtotal 51.74
F. Pressure loss due to water treatment devices and backflow preventers which serve the controlling fixture. (Water softeners, filters, etc.) (Pressure loss due to: N/A). — Subtract value of "F" 12; Subtotal 39.74
G. Pressure loss through tankless water heaters, combination boiler / hot water heaters, heat exchangers which serve the controlling fixture; (Pressure loss due to: N/A). — Subtract value of "G" 8; Subtotal 31.74
H. Developed length from building control valve to controlling fixture in feet 275 X 1.5. Water distribution piping is: Copper — Divide by value "H" 412.50; Subtotal 0.0983; Multiply by: 100
A. Pressure available for uniform loss — "A" = 9.83

$$\text{Formula: } A = \frac{B-(C+D+E+F+G)}{H} \times 100$$

ABBREVIATIONS:

A	COMPRESSED AIR
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
BFF	BELOW FINISHED FLOOR
BFG	BELOW FINISHED GRADE
CB	CATCH BASIN
CO	CLEANOUT
CS	COLD SOFT WATER
CW	COLD WATER
CWV	CLEAR WATER VENT
CWW	CLEAR WATER WASTE
DCV	DOUBLE DETECTOR CHECK VALVE
DF	DRINKING FOUNTAIN
DSN	DOWNSPOUT NOZZLE
DSP	DRY STANDPIPE
DW	DISHWASHER
EC	ELECTRICAL CONTRACTOR
ESEW	EMERGENCY SHOWER/EYEWASH
F	FIRE PROTECTION WATER SERVICE
FCO	FLOOR CLEANOUT
FEC	FOOD EQUIPMENT CONTRACTOR
FM	FORCE MAIN
FPC	FIRE PROTECTION CONTRACTOR
FPTC	FIRE PUMP TEST CONNECTION
G	NATURAL GAS
GC	GENERAL CONTRACTOR
HB	HOSE BIBB
HC	HVAC CONTRACTOR
HW	HOT WATER
HWT	HOT WATER WITH HEAT TRACE
HWR	HOT WATER RECIRCULATION
IE	INVERT ELEVATION
JS	JANITOR SINK
L	LAVATORY
MB	MOP BASIN
MH	MANHOLE
N	NITROGEN
NO	NITROUS OXIDE
NPC	NON-POTABLE COLD WATER
NPCS	NON-POTABLE COLD SOFT WATER
OD	OVERFLOW DRAIN
ORD	OVERFLOW ROOF DRAIN
PC	PLUMBING CONTRACTOR
PCS	PROCESS COLD SOFT WATER
RPBP	REDUCED PRESSURE ZONE BACKFLOW PREVENTER
S	SINK
SAN	SANITARY
SD	SUBSOIL DRAIN
SPR	SPRINKLER PIPING
ST	STORM
T	TEMPERED WATER
TMV	THERMOSTATIC MIXING VALVE
TYP	TYPICAL
UR	URINAL
V	VENT
VAC	VACUUM
VB	VACUUM BREAKER
VTR	VENT THRU ROOF
W	DOMESTIC WATER SERVICE
WC	WATER CLOSET
WCO	WALL CLEAN OUT
WF	WASH FOUNTAIN
WM	WASHING MACHINE WALL BOX
WH	WALL HYDRANT
WHA	WATER HAMMER ARRESTOR
WHR	WATER HEATER
WS	WATER SOFTENER
WSP	WET STANDPIPE

GENERAL SYMBOLS:

- TEE (BRANCH TO SIDE)
- TEE (BRANCH DOWN)
- RISER UP
- RISER DOWN
- CLEANOUT (CO) / WALL CLEANOUT (WCO) OR FLOOR CLEANOUT (FCO) / YARD CLEANOUT (YCO)
- DOWNSPOUT NOZZLE (DSN)
- UNION
- FLANGE
- FLOW
- CHECK VALVE
- PRESSURE REGULATING VALVE
- SOLENOID VALVE
- HOSE BIBB (HB) OR WALL HYDRANT (WH)
- CAP
- BALANCING VALVE
- SHUTOFF VALVE
- PIPE STRAINER
- FLOW SWITCH
- TAMPER SWITCH
- OS&Y GATE VALVE
- FIRE DEPARTMENT CONNECTION (FDC)
- FIRE HYDRANT (HYD)
- FIXTURE STOP
- VALVE IN RISER
- THERMOMETER
- PRESSURE GAUGE
- WATER HAMMER ARRESTOR
- RPBP - REDUCED PRESSURE ZONE BACKFLOW PREVENTER OR DCV - DOUBLE DETECTOR CHECK VALVE ASSEMBLY
- FLOOR DRAIN (FD)
- HUB DRAIN (HD)
- AREA DRAIN (AD)
- ROOF DRAIN (RD) OR OVERFLOW DRAIN (ORD)
- FLOOR SINK (FS)
- FINISHED FLOOR ELEVATION
- FIXTURE UNITS - DRAINAGE OR SUPPLY (DFU OF WSFU)
- DEMOLITION KEYED NOTE
- NEW WORK KEYED NOTE
- REVISION KEYED NOTE
- TAG FOR CONTINUATION MATCH POINTS

PLUMBING LEGEND:

——CW——	COLD WATER
——CS——	COLD SOFT WATER
——HW——	HOT WATER
——HWR——	HOT WATER RECIRCULATION
——NPC——	NON-POTABLE COLD WATER
——W——	DOMESTIC WATER SERVICE
——G——	NATURAL GAS
——SAN——	SANITARY DRAIN, WASTE OR SEWER (SAN)
— — V — —	VENT (V)
— — CWV — —	CLEAR WATER VENT
——CWW——	CLEAR WATER WASTE
— — SD — —	SUBSOIL DRAIN (FOOTING DRAIN)
——ST——	STORM DRAIN CONDUCTOR OR SEWER
——OD——	OVERFLOW DRAIN

NOTE:
KEYED NOTES ARE USED TWO WAYS. PER PROJECT AND PER PLAN.

LEGENDS INDICATED AS "KEYED NOTES PER PROJECT" REFERENCE A COMMON, OVERALL PROJECT KEYED NOTE LIST. THEREFORE, KEYED NOTES MAY NOT APPEAR IN SEQUENTIAL ORDER. DISCIPLINE SPECIFIC DESIGNATIONS HAVE BEEN ADDED FOR CLARITY.

KEYED NOTES LEGENDS INDICATED AS "KEYED NOTES PER SHEET" ARE SPECIFIC PER SHEET AND ARE NUMBERED ACCORDINGLY.

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P0999-B-1	UNDERFLOOR - ZONE B - PHASE 1 - PLUMBING
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JDR Project No: 22.0249

PROJECT INFORMATION

STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05/16/2022	SCHEMATIC DESIGN PH1
07/29/2022	DETAILED DESIGN PH1
10/02/2022	CONSTRUCTION DOCUMENTS PH1
11/02/2023	PH1_AD02

KEY PLAN

ZONE A

ZONE B

SHEET INFORMATION

PROJECT MANAGER

PROJECT NUMBER 720448

SYMBOLS, ABBREV. & SCHEDULES - PLUMBING

P0000-1

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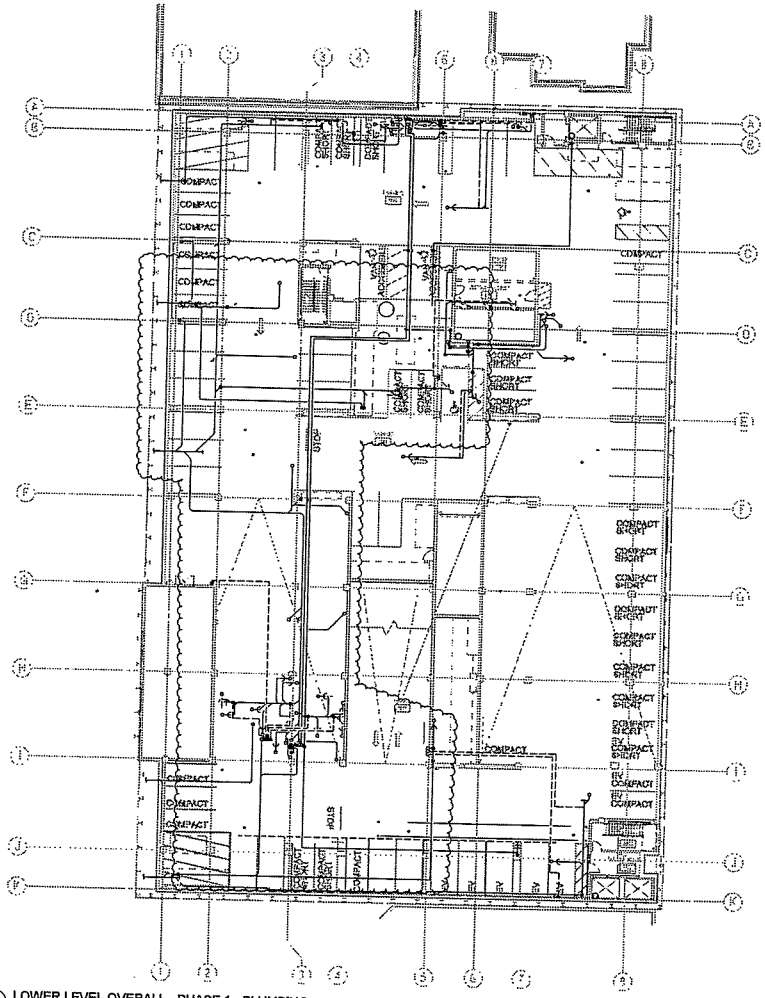
GENERAL NOTES:

1. ALL WORK TO BE DONE IN COMPLIANCE WITH ALL STATE AND LOCAL CODES AND ALL MANUFACTURER'S INSTRUCTIONS.
2. ALL PIPING SHALL RUN STRAIGHT AND TRUE AND SHALL BE INSTALLED IN A WORKMANLIKE MANNER.
3. ALL PIPING THAT REQUIRES INSULATION SHALL CONFORM WITH ALL APPLICABLE CODES.
4. ALL EQUIPMENT IS TO BE PROVIDED COMPLETE WITH OPERATION & MAINTENANCE MANUALS.
5. ALL PIPING IN PARKING AREA SHALL BE HEAT TRACED AND INSULATED. PIPE INSULATION TO BE ROXUL FIBEROLASE.



1 P1000-1 LOWER LEVEL OVERALL - PHASE 1 - PLUMBING

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PROJECT INFORMATION

STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05-05-2023	SCHEMATIC DESIGN PH1
07-28-2023	DESIGN DEVELOPMENT PH1
10-02-2023	CONSTRUCTION DOCUMENTS PH1
11-02-2023	PH1 ADD

KEY PLAN

SHEET INFORMATION

PROJECT MANAGER

PROJECT NUMBER 720046

LOWER LEVEL OVERALL - PHASE 1 - PLUMBING

P1000-1

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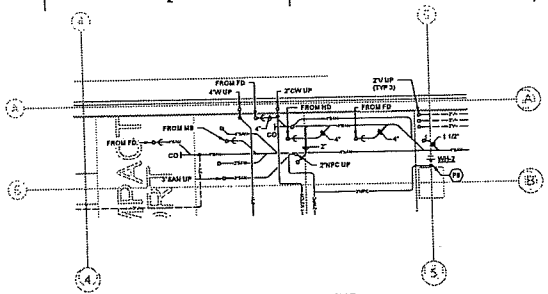
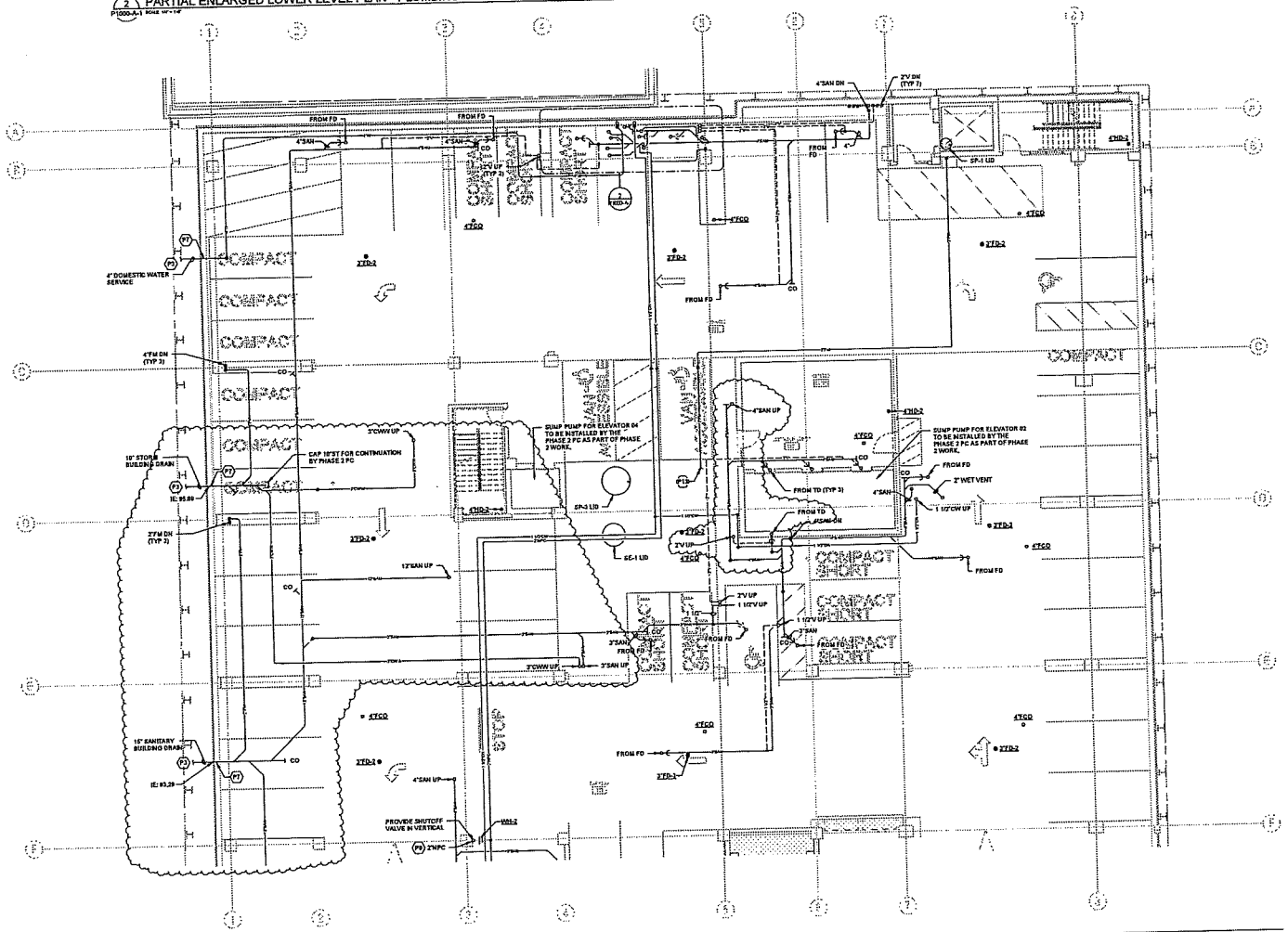


2 PARTIAL ENLARGED LOWER LEVEL PLAN - PLUMBING
P1000-A-1 SCALE: 1/8" = 1'-0"



1 LOWER LEVEL - ZONE A - PHASE 1 - PLUMBING
P1000-A-1 SCALE: 1/8" = 1'-0"

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5. ALL PIPING IN PARKING AREA SHALL BE HEAT TRACED AND INSULATED. PIPE INSULATION TO BE RIGID FIBERGLASS.

KEYED NOTES
(KEYED NOTES PER PROJECT)

P3 PC SHALL ROUTE SERVICE TO 5'-0" OUTSIDE OF BUILDING STRUCTURE, CONTINUATION BY SITE UTILITY CONTRACTOR.
P7 PROVIDE LINK SEAL FOR FOUNDATION PENETRATIONS.
P9 LOCATE LOCKABLE SHUTOFF VALVE IN VERTICAL.
P13 PHASE 1 PC TO CONNECT FORCE MAIN (FM) TO NEAREST ADEQUATELY SIZED STORM IN LOWER LEVEL PROVIDED IN PHASE 2PC. COORDINATE EXACT LOCATION OF CONNECTION WITH PHASE 2 PC.

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PROJECT INFORMATION

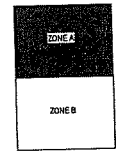
STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05/15/2023	SCHEMATIC DESIGN PHI
01/26/2023	DETAILED DESIGN PHI
10/02/2023	ADDITIONAL DOCUMENTS PHI
11/02/2023	PHI, CITY

KEY PLAN



SHEET INFORMATION

PROJECT MANAGER
PROJECT NUMBER 720448

LOWER LEVEL - ZONE A - PHASE 1 - PLUMBING

P1000-A-1

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(KEYED NOTES PER PROJECT)

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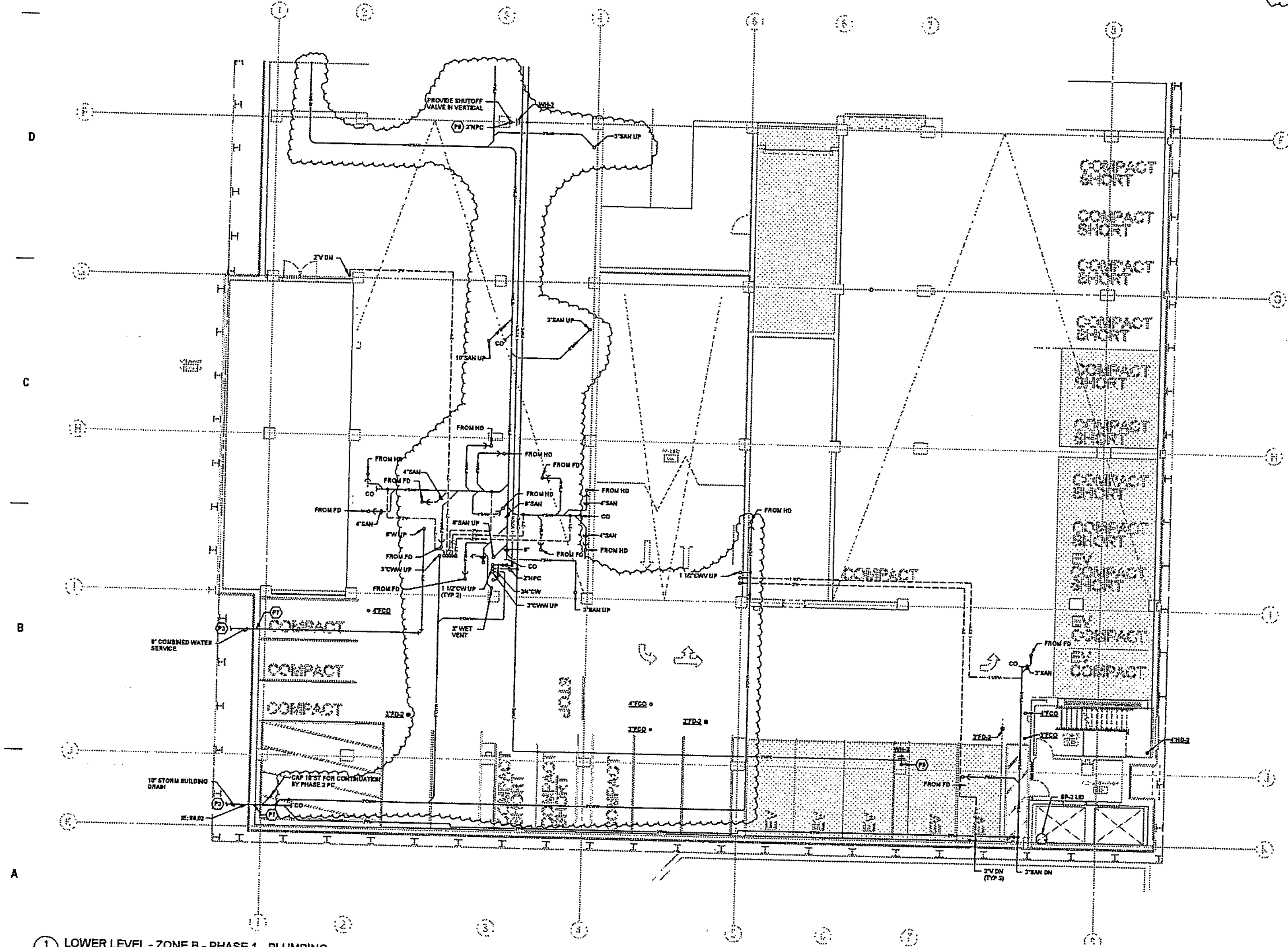
- P8 LOCATE LOCKABLE SHUTOFF VALVE IN VERTICAL.



1 LOWER LEVEL - ZONE B - PHASE 1 - PLUMBING
P1000-B-1

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PROJECT INFORMATION

STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05-16-2022	SCHEMATIC DESIGN PH1
07-28-2022	DETAILED DESIGN PH1
10-07-2022	CONSTRUCTION DOCUMENTS PH1
11-07-2023	PH1_4002

KEY PLAN

ZONE A
ZONE B

SHEET INFORMATION

PROJECT MANAGER
PROJECT NUMBER 720448

LOWER LEVEL - ZONE B - PHASE 1 - PLUMBING

P1000-B-1

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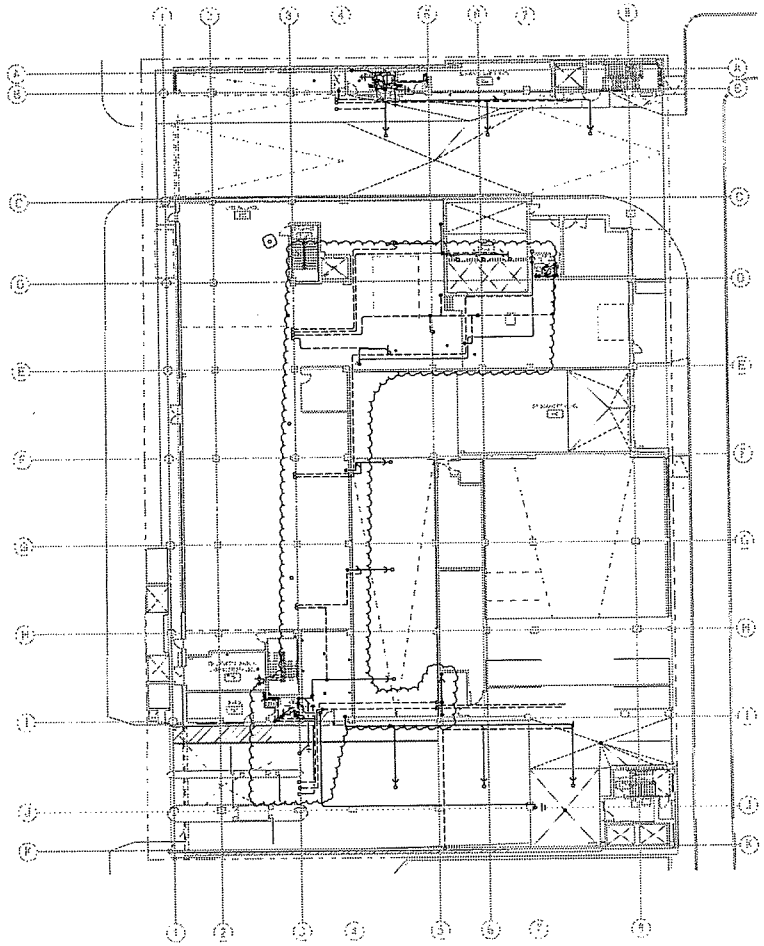

1 P1001-1 1ST FLR OVERALL - PHASE 1 - PLUMBING

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JDR Project No: 22.0249

PROJECT INFORMATION

STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05-06-2022	SCHEMATIC DESIGN PH1
01-26-2023	DETAILED DESIGN PH1
10-02-2023	CD SET/ELECTION DOCUMENTS PH1
11-02-2023	PH1_ADD2

KEY PLAN

SHEET INFORMATION

PROJECT MANAGER

PROJECT NUMBER 720448

1ST FLR OVERALL - PHASE 1 - PLUMBING

P1001-1

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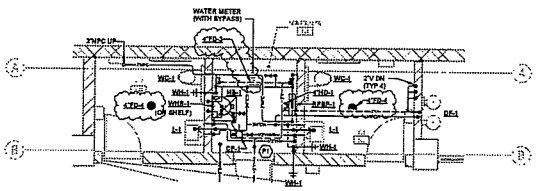
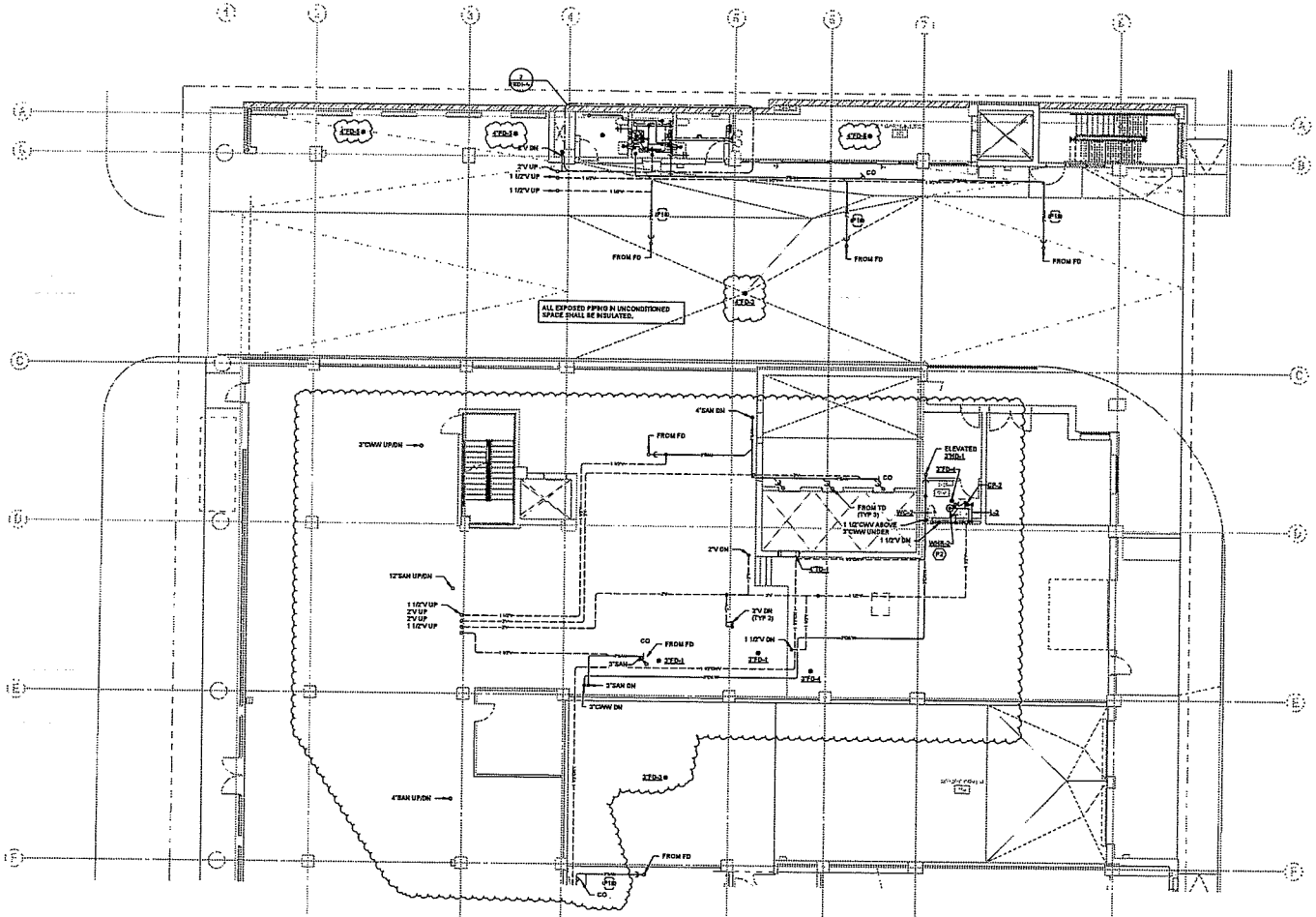


2 ENLARGED PLAN - TLT 122, TLT 124, MAINTENANCE 123 - PLUMBING
P1001-A-1 SCALE: 1/8" = 1'-0"



1 1ST FLR - ZONE A - PHASE 1 - PLUMBING
P1001-A-1 SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. ALL WORK TO BE DONE IN COMPLIANCE WITH ALL STATE AND LOCAL CODES AND ALL MANUFACTURER'S INSTRUCTIONS.
2. ALL PIPING SHALL RUN STRAIGHT AND TRUE AND SHALL BE INSTALLED IN A WORKMANLIKE MANNER.
3. ALL PIPING THAT REQUIRES INSULATION SHALL CONFORM WITH ALL APPLICABLE CODES.
4. ALL EQUIPMENT IS TO BE PROVIDED COMPLETE WITH OPERATION & MAINTENANCE MANUALS.
5. ALL PIPING IN PARKING AREA SHALL BE HEAT TRACED AND INSULATED. PIPE INSULATION TO BE REID FIBERGLASS.

KEYED NOTES
KEYED NOTES PER PROJECT

- P1 ALL WATER PIPING AND COMPONENTS SHALL BE ABLE TO FULLY DRAINED FOR COLD WEATHER SEASONS. PC SHALL NOT TRAP ANY WATER PIPING
- P2 LOCATE WATER HEATER ON SHELF ABOVE CEILING.
- P1b HEAT-TRACE PIPING IN UNCONDITIONED SPACE. PC TO PROVIDE THERMON BSX 2-2 SELF-REGULATING HEAT TRACE CABLE AT 208V. HEAT TRACE CABLE TO BE LOCATED ON ANY EXPOSED SANITARY AND VENT. PROVIDE THERMON EST-2 FREEZE PROTECTION THERMOSTAT. COORDINATE FINAL ELECTRICAL CONNECTION TO THERMON EST-2 FREEZE PROTECTION THERMOSTAT WITH EC.

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JDR ENGINEERING, INC
5525 NOBEL DRIVE
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PH: 608.277.0728 | VN: 608.277.0746
JDR Project No: 22.0249

PROJECT INFORMATION

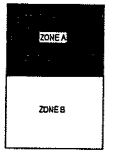
STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05/16/2025	SCHEMATIC DESIGN PHI
07/28/2025	DCI PHASE DESIGN PHI
10/02/2025	CONSTRUCTION DOCUMENTS PHI
11/07/2025	PHI_ADD

KEY PLAN



SHEET INFORMATION

PROJECT MANAGER
PROJECT NUMBER 720448

1ST FLR - ZONE A – PHASE 1 – PLUMBING

P1001-A-1

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GENERAL NOTES:

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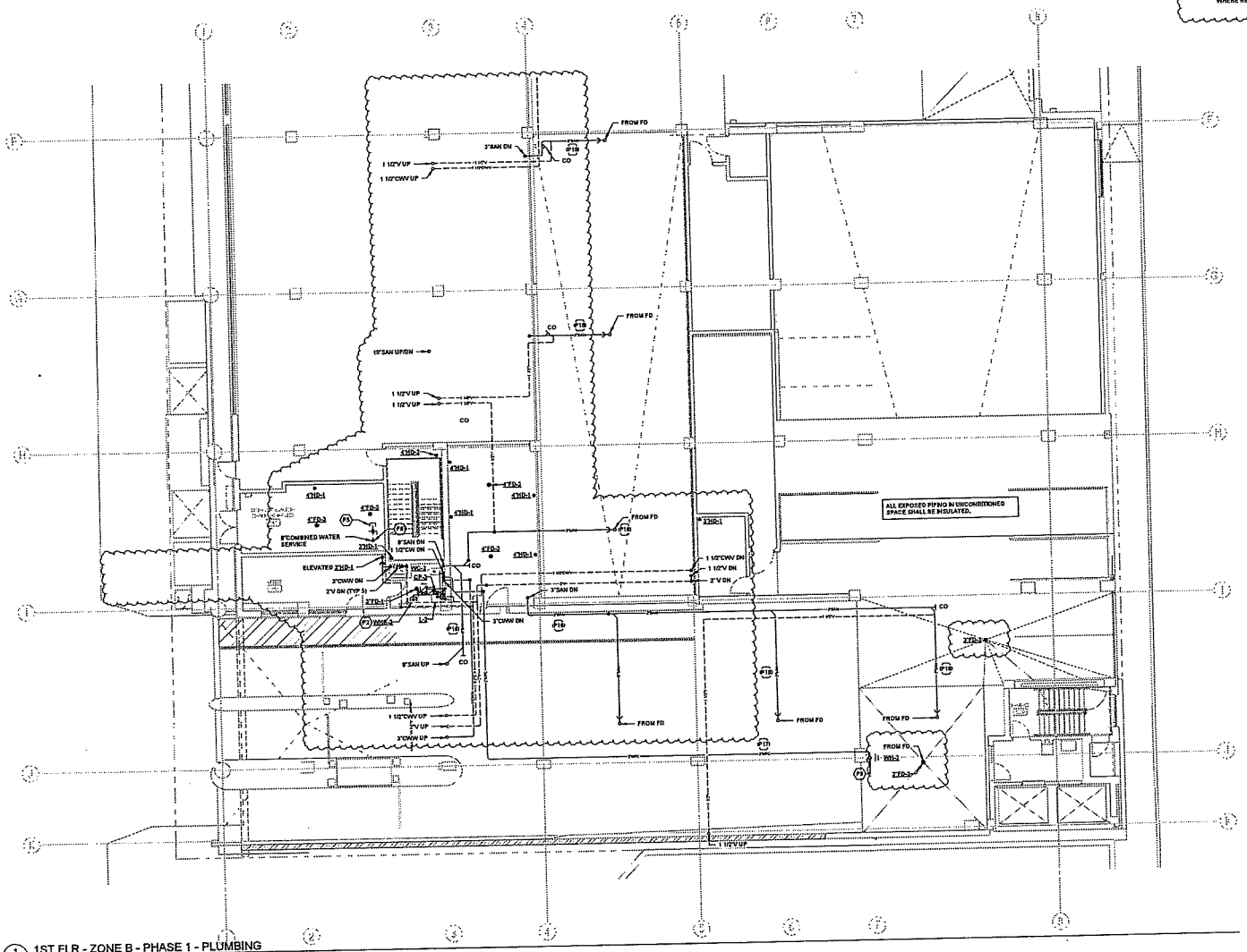
5. ALL PIPING IN PARKING AREA SHALL BE HEAT TRACED AND INSULATED. PIPE INSULATION TO BE RIGID FIBERGLASS.

KEYED NOTES

KEYED NOTES PER PROJECT:

- P2 LOCATE WATER HEATER ON SHELF ABOVE CEILING.
- P5 PROVIDE 6" BUTTERFLY VALVE AND CAP 6" DOMESTIC WATER LINE FOR CONTINUATION AS PART OF PHASE 2.
- P6 FPC TO LOCATE DOUBLE CHECK VALVE IN VERTICAL. CONTINUATION BY FPC.
- P8 LOCATE LOCKABLE SHUTOFF VALVE IN VERTICAL.
- P10 HEAT-TRACE PIPING IN UNCONDITIONED SPACE. PC TO PROVIDE THERMON BSX 2-2 SELF-REGULATING HEAT TRACE CABLE AT 240V. HEAT TRACE CABLE TO BE LOCATED ON ANY EXPOSED SANITARY AND VENT. PROVIDE THERMON SST-2 FREEZE PROTECTION THERMOSTAT. COORDINATE FINAL ELECTRICAL CONNECTION TO THERMON SST-2 FREEZE PROTECTION THERMOSTAT WITH EC.
- P17 ALL WATER PIPING AND COMPONENTS SHALL BE ABLE TO BE FULLY DRAINED FOR COLD WEATHER SEASONS. PC SHALL NOT TRAP ANY WATER PIPING. PROVIDE DRAIN VALVES WHERE REQUIRED.



1 1ST FLR - ZONE B - PHASE 1 - PLUMBING
P1001-B-1 SCALE: 1/8" = 1'-0"

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JDR Project No: 22.0249

PROJECT INFORMATION

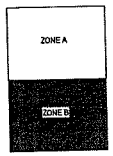
STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05/15/2023	SCHEMATIC DESIGN PH1
07/28/2023	DESIGN DEVELOPMENT PH1
10/02/2023	CONSTRUCTION DOCUMENTS PH1
11/02/2023	PHS_ADD2

KEY PLAN



SHEET INFORMATION

PROJECT MANAGER

PROJECT NUMBER 720448

1ST FLR - ZONE B - PHASE 1 - PLUMBING

P1001-B-1

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GENERAL NOTES:

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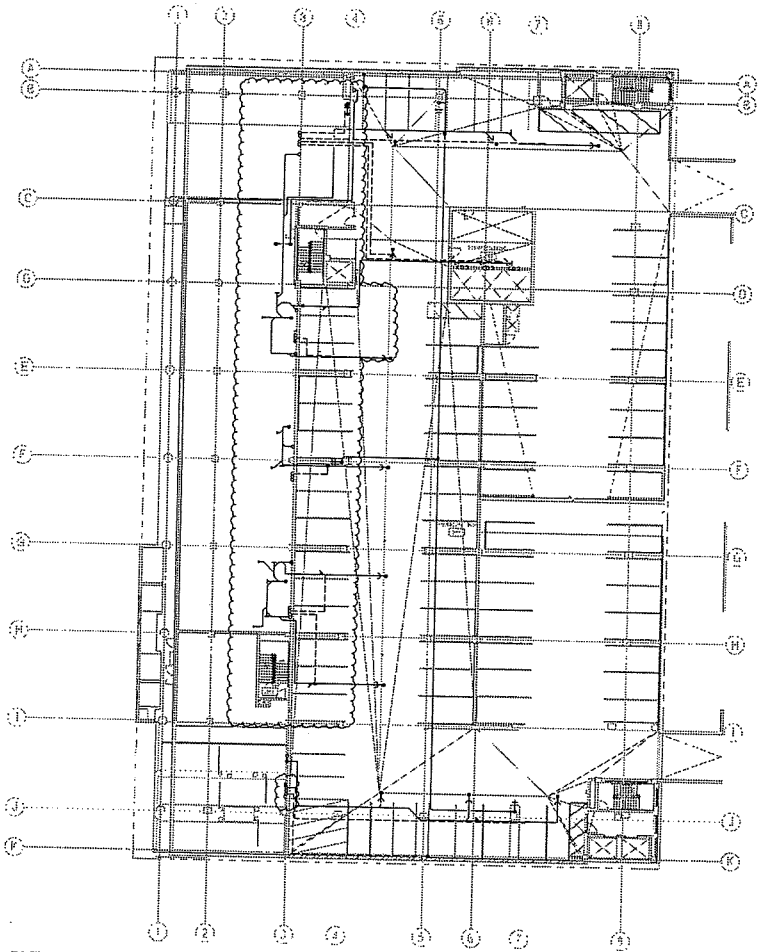

1 P1002-1 P2 FLR OVERALL - PHASE 1 - PLUMBING

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JDR Project No: 22.0249

PROJECT INFORMATION

STATE STREET
CAMPUS GARAGE
MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05-06-2023	SCHEMATIC DESIGN PH1
05-26-2023	DETAILED DESIGN PH1
10-02-2023	CONSTRUCTION DOCUMENTS PH1
11-02-2023	PH1_ADD

KEY PLAN

SHEET INFORMATION

PROJECT MANAGER

PROJECT NUMBER 720448

P2 FLR OVERALL – PHASE 1 – PLUMBING

P1002-1

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KEYED NOTES

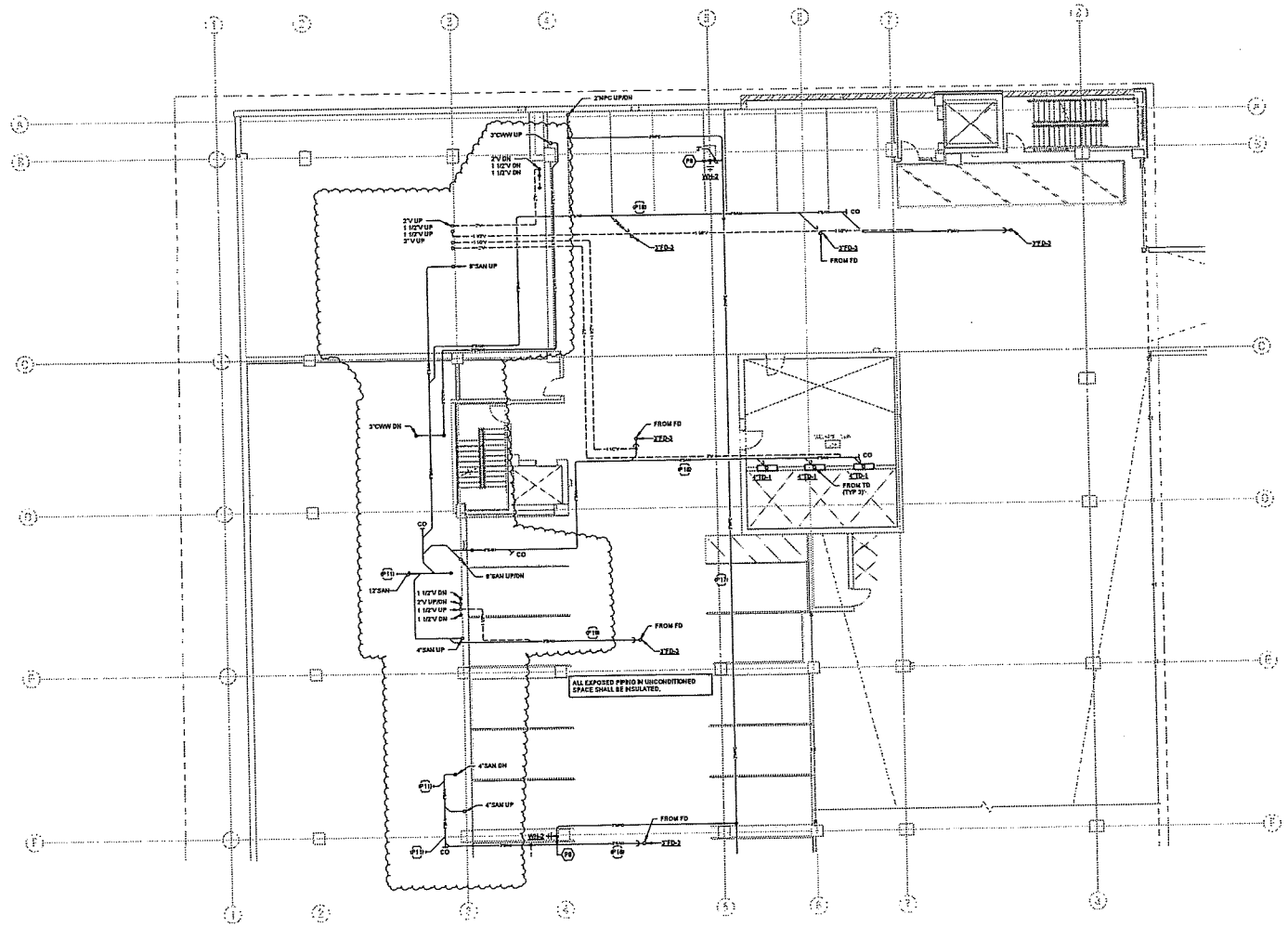
KEYED NOTES PER PROJECT:

P9 LOCATE LOCKABLE SHUTOFF VALVE IN VERTICAL.

P11 CAP SANITARY FOR FUTURE EXTENSION BY PHASE 2 PC.

P18 HEAT-TRACE PIPING IN UNCONDITIONED SPACE. PC TO PROVIDE THERMON BSX 3-3 SELF-REGULATING HEAT TRACE CABLE AT 24HV. HEAT TRACE CABLE TO BE LOCATED ON ANY EXPOSED SANITARY AND VENT. PROVIDE THERMON SST-2 FREEZE PROTECTION THERMOSTAT. COORDINATE FINAL ELECTRICAL CONNECTION TO THERMON SST-2 FREEZE PROTECTION THERMOSTAT WITH EC.

P17 ALL WATER PIPING AND COMPONENTS SHALL BE ABLE TO BE FULLY DRAINED FOR COLD WEATHER SEASONS. PC SHALL NOT TRAP ANY WATER PIPING. PROVIDE DRAIN VALVES WHERE REQUIRED.



1 P2 FLR - ZONE A - PHASE 1 - PLUMBING
P1002-A-1 SCALE: 1/8" = 1'-0"

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JDR Project No: 22.0249

PROJECT INFORMATION

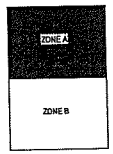
STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05/13/22	SCHEMATIC DESIGN PHASE
07/28/2023	DESIGN DEVELOPMENT PHASE
10/02/2023	100% STYLE-FIDELITY DOCUMENTS PHASE
11/02/2023	PHASE 1 CDS

KEY PLAN



SHEET INFORMATION

PROJECT MANAGER

PROJECT NUMBER 720448

P2 FLR - ZONE A - PHASE 1 - PLUMBING

P1002-A-1

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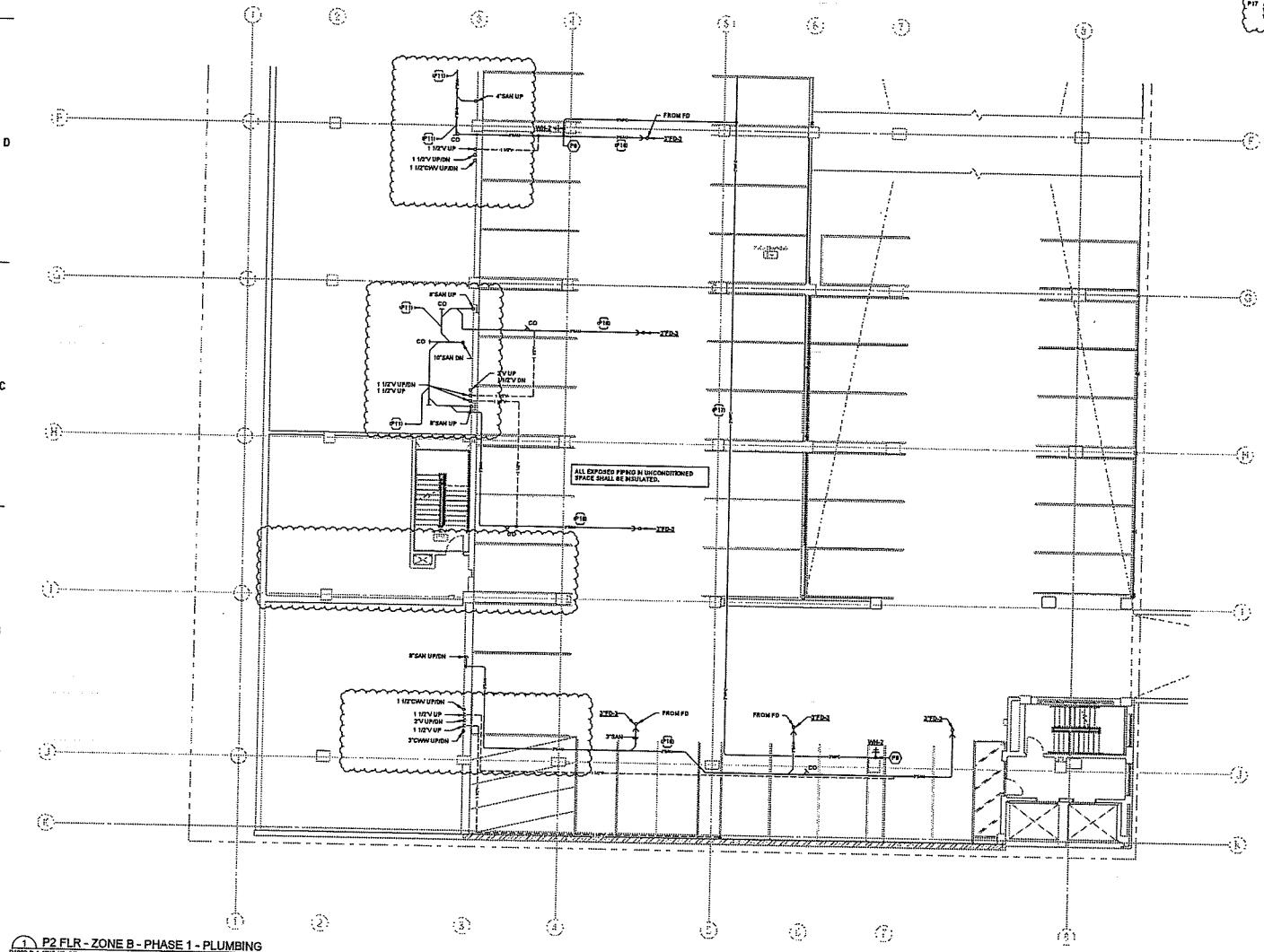

1 P2 FLR - ZONE B - PHASE 1 - PLUMBING
P1002-B-1 SCALE: 1/8" = 1'-0"

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KEYED NOTES
(KEYED NOTES PER PROJECT)

P9 LOCATE LOCKABLE SHUTOFF VALVE IN VESTIBULE.
P11 CAP SANITARY FOR FUTURE EXTENSION BY PHASE 2 PC.
P16 HEAT-TRACE PIPING IN UNCONDITIONED SPACE. PC TO PROVIDE THERMON BSX 3-3 SELF-REGULATING HEAT TRACE CABLE AT MIN. HEAT TRACE CABLE TO BE LOCATED ON ANY EXPOSED SANITARY AND VENT. PROVIDE THERMON SST-2 FREEZE PROTECTION THERMOSTAT. COORDINATE FINAL ELECTRICAL CONNECTION TO THERMON SST-2 FREEZE PROTECTION THERMOSTAT WITH EC.
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MADISON, WI 53711
PH 608.277.7728 | FX 608.271.7046
JDR Project No: 22.0249

PROJECT INFORMATION

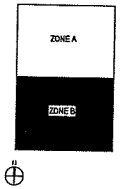
STATE STREET
CAMPUS GARAGE
MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05-15-2023	SCHEMATIC DESIGN PHI
07-19-2023	DETAILED DESIGN PHI
10-02-2023	CONSTRUCTION DOCUMENTS PHI
11-02-2023	PHI_ADD

KEY PLAN



SHEET INFORMATION

PROJECT MANAGER
PROJECT NUMBER 720448

P2 FLR - ZONE B – PHASE 1 – PLUMBING

P1002-B-1

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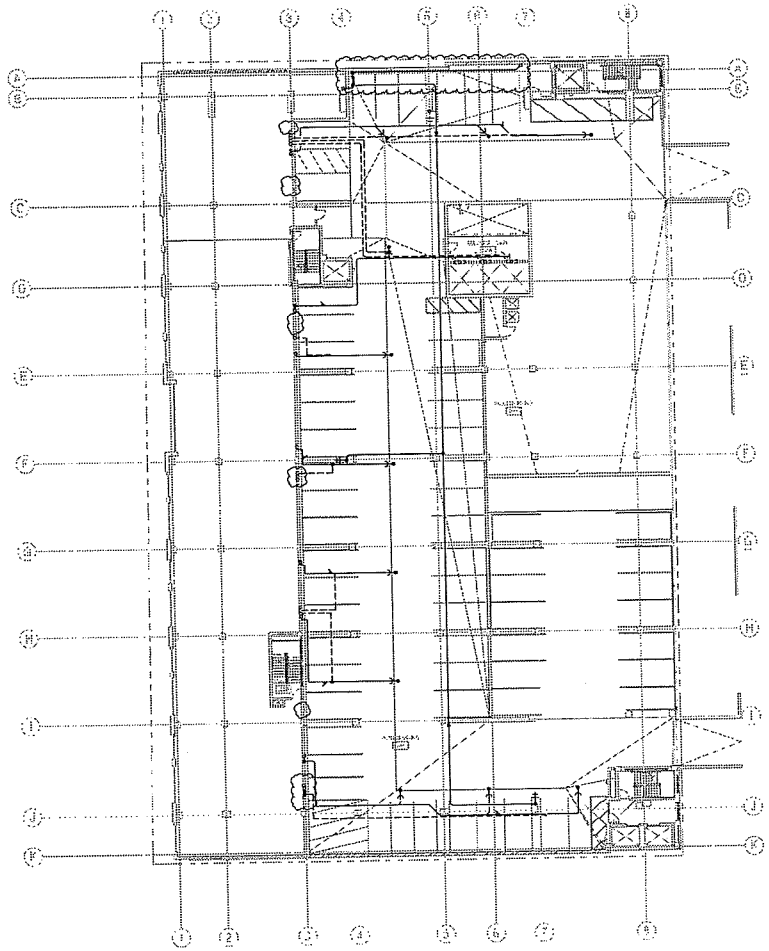

1 P1003-1 P3 FLR OVERALL - PHASE 1 - PLUMBING

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JDR ENGINEERING, INC.
5515 NOBLE DRIVE
SUITE 110
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PH: 608.277.0728 | FX: 608.277.0946
JDR Project No: 22.0249

PROJECT INFORMATION

STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05/15/2023	SCHEMATIC DESIGN PHASE
07/26/2023	DETAILED DESIGN PHASE
10/02/2023	CONSTRUCTION DOCUMENTS PHASE
11/02/2023	PHASE 100%

KEY PLAN

SHEET INFORMATION

PROJECT MANAGER

PROJECT NUMBER 720448

P3 FLR OVERALL – PHASE 1 – PLUMBING

P1003-1

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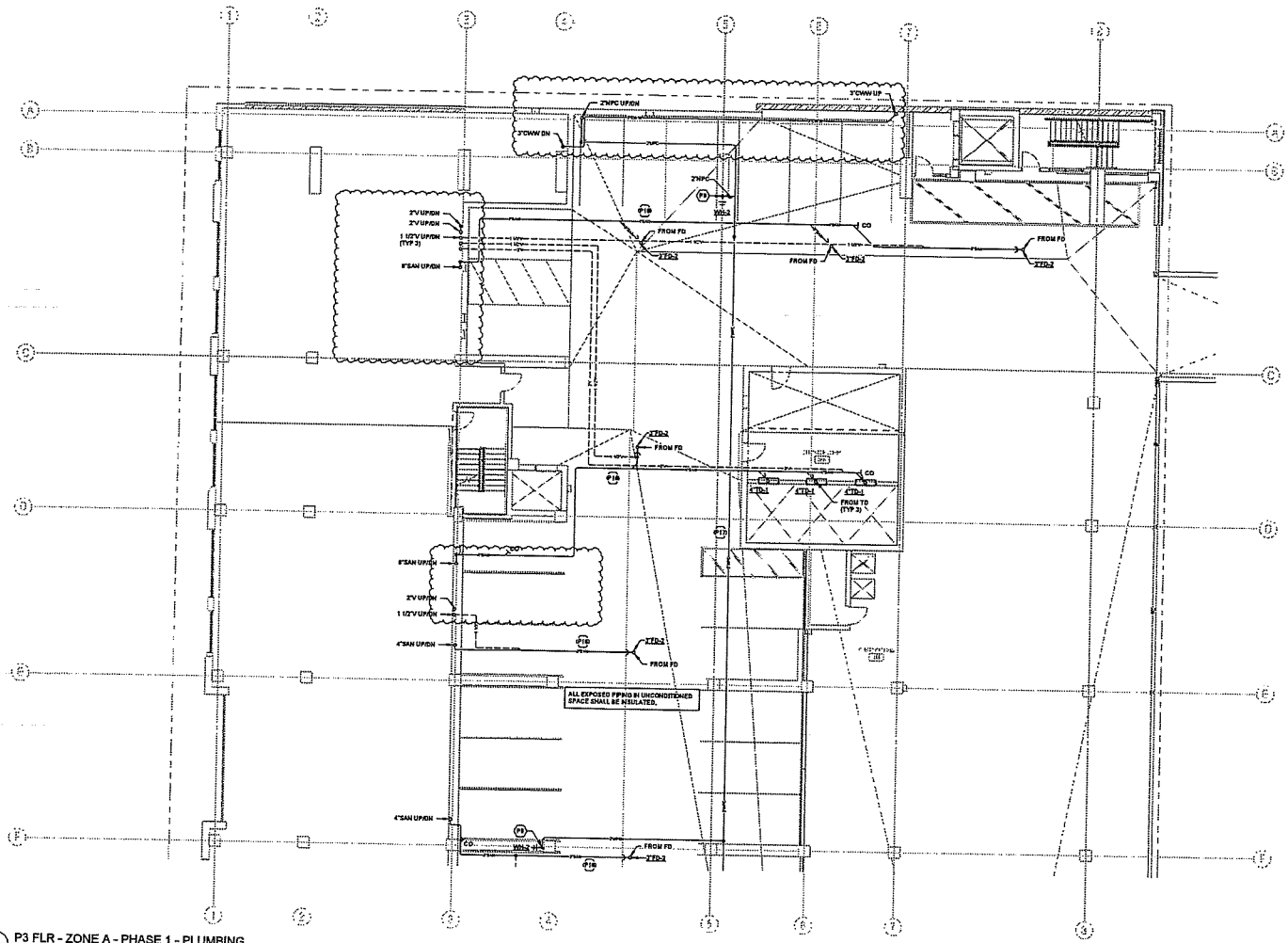
KEYED NOTES

KEYED NOTES PER PROJECT:

P9 LOCATE LOCKABLE SHUTOFF VALVE IN VESTIBULE.

P18 HEAT-TRACE PIPING IN UNCONDITIONED SPACE. PC TO PROVIDE THERMON BEX 3-2 SELF-REGULATING HEAT TRACE CABLE AT 3WH. HEAT TRACE CABLE TO BE LOCATED ON ANY EXPOSED SANITARY AND VENT. PROVIDE THERMON SST-2 FREEZE PROTECTION THERMOSTAT. COORDINATE FINAL ELECTRICAL CONNECTION TO THERMON SST-2 FREEZE PROTECTION THERMOSTAT WITH EC.

P17 ALL WATER PIPING AND COMPONENTS SHALL BE ABLE TO BE FULLY DRAINED FOR COLD WEATHER SEASONS. PC SHALL NOT TRAP ANY WATER PIPING. PROVIDE DRAIN VALVES WHERE REQUIRED.



1 P3 FLR - ZONE A - PHASE 1 - PLUMBING
P1003-A-1 SCALE: 1/8" = 1'-0"

eu:a
mkrzukas | madison | green bay | denver | atlanta

JDR ENGINEERING, INC
5535 NOBEL DRIVE
SUITE 110
MADISON, WI 53711
PH: 608.277.0728 | FAX: 608.271.7046
JDR Project No: 22.0249

PROJECT INFORMATION

STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05-05-2023	SCHEMATIC DESIGN PHI
07-28-2023	DETAILED DESIGN PHI
10-02-2023	CONSTRUCTION DOCUMENTS PHI
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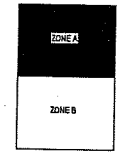
KEY PLAN



SHEET INFORMATION

PROJECT MANAGER

PROJECT NUMBER 720448

P3 FLR - ZONE A – PHASE 1 – PLUMBING

P1003-A-1

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GENERAL NOTES:

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KEYED NOTES
(KEYED NOTES PER PROJECT)

P8 LOCATE LOCKABLE SHUTOFF VALVE IN VERTICAL.

P16 HEAT-TRACE PIPING IN UNCONDITIONED SPACE. PC TO PROVIDE THERMON BSX 3-3 SELF-REGULATING HEAT TRACE CABLE AT 208V. HEAT TRACE CABLE TO BE LOCATED ON ANY EXPOSED SANITARY AND VENT. PROVIDE THERMON ST-2 FREEZE PROTECTION THERMOSTAT. COORDINATE FINAL ELECTRICAL CONNECTION TO THERMON ST-2 FREEZE PROTECTION THERMOSTAT WITH EC.

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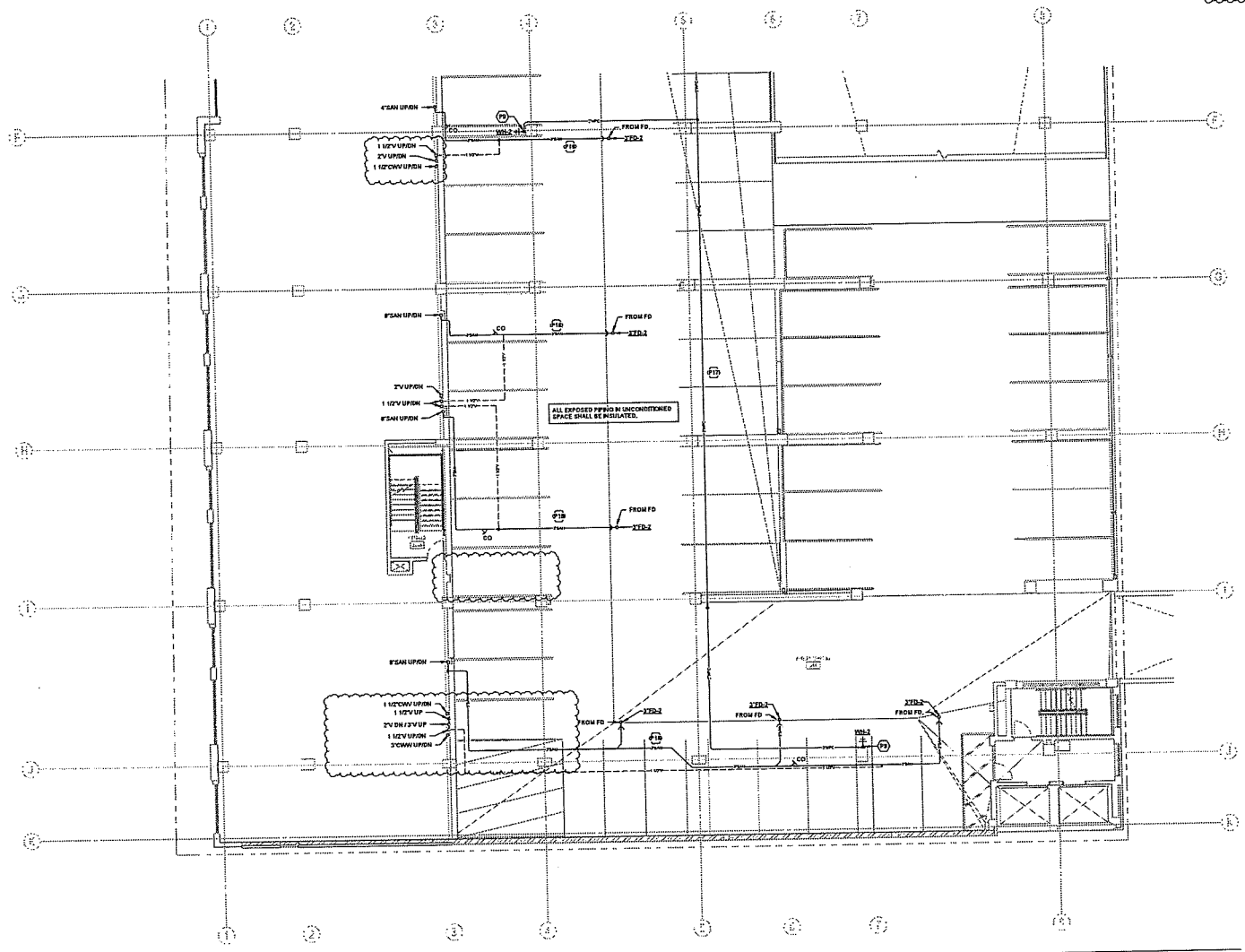

P3 FLR - ZONE B - PHASE 1 - PLUMBING
P1003-B-1 SCALE: 1/8" = 1'-0"

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JDR Project No: 22.0249

PROJECT INFORMATION

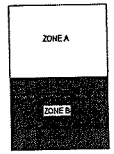
STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05-06-2025	SCHEMATIC DESIGN PHASE
07-28-2025	DETAILED DESIGN PHASE
10-07-2025	CONSTRUCTION DOCUMENTS PHASE
11-07-2025	PHASE 1 CDS

KEY PLAN



SHEET INFORMATION

PROJECT MANAGER

PROJECT NUMBER 720448

P3 FLR - ZONE B – PHASE 1 – PLUMBING

P1003-B-1

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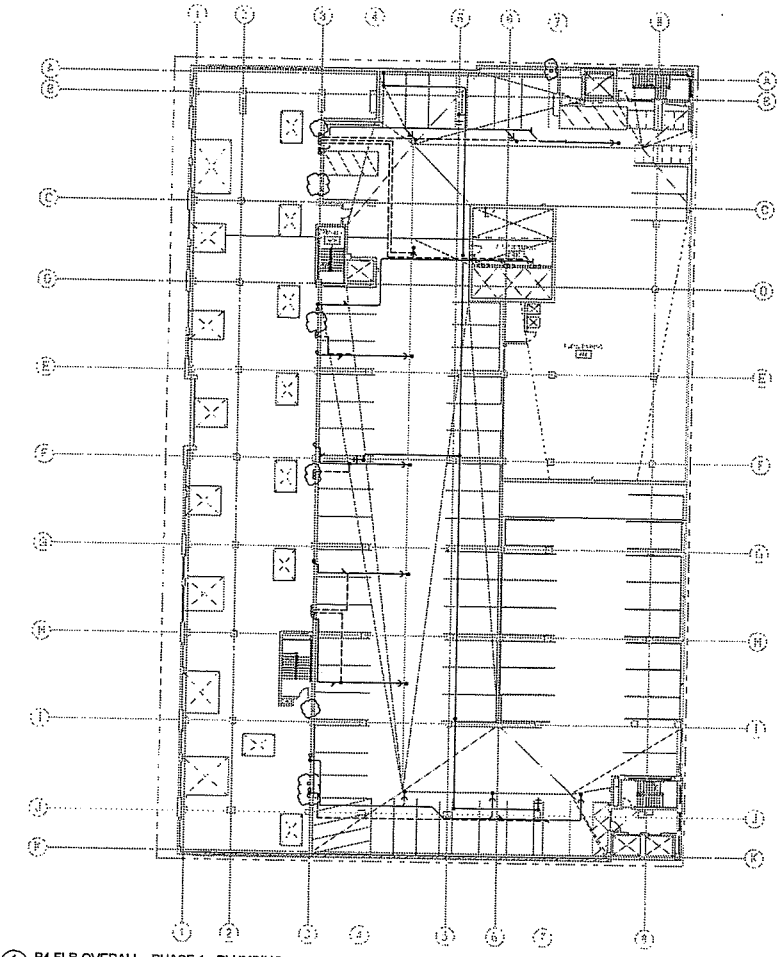

1 P1004-1 P4 FLR OVERALL - PHASE 1 - PLUMBING
SCALE: 1/8" = 1'-0"

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JDR ENGINEERING, INC.
5525 NOBEL DRIVE
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PH 608.277.7728 | FX 608.277.7916
JDR Project No: 22.0248

PROJECT INFORMATION

STATE STREET
CAMPUS GARAGE
MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05-15-2023	SCHEMATIC DESIGN PHI
07-06-2023	DESIGN DEVELOPMENT PHI
10-02-2023	CONSTRUCTION DOCUMENTS PHI
11-02-2023	PHI ADD

KEY PLAN

SHEET INFORMATION

PROJECT MANAGER
PROJECT NUMBER 720448

P4 FLR OVERALL – PHASE 1 – PLUMBING

P1004-1

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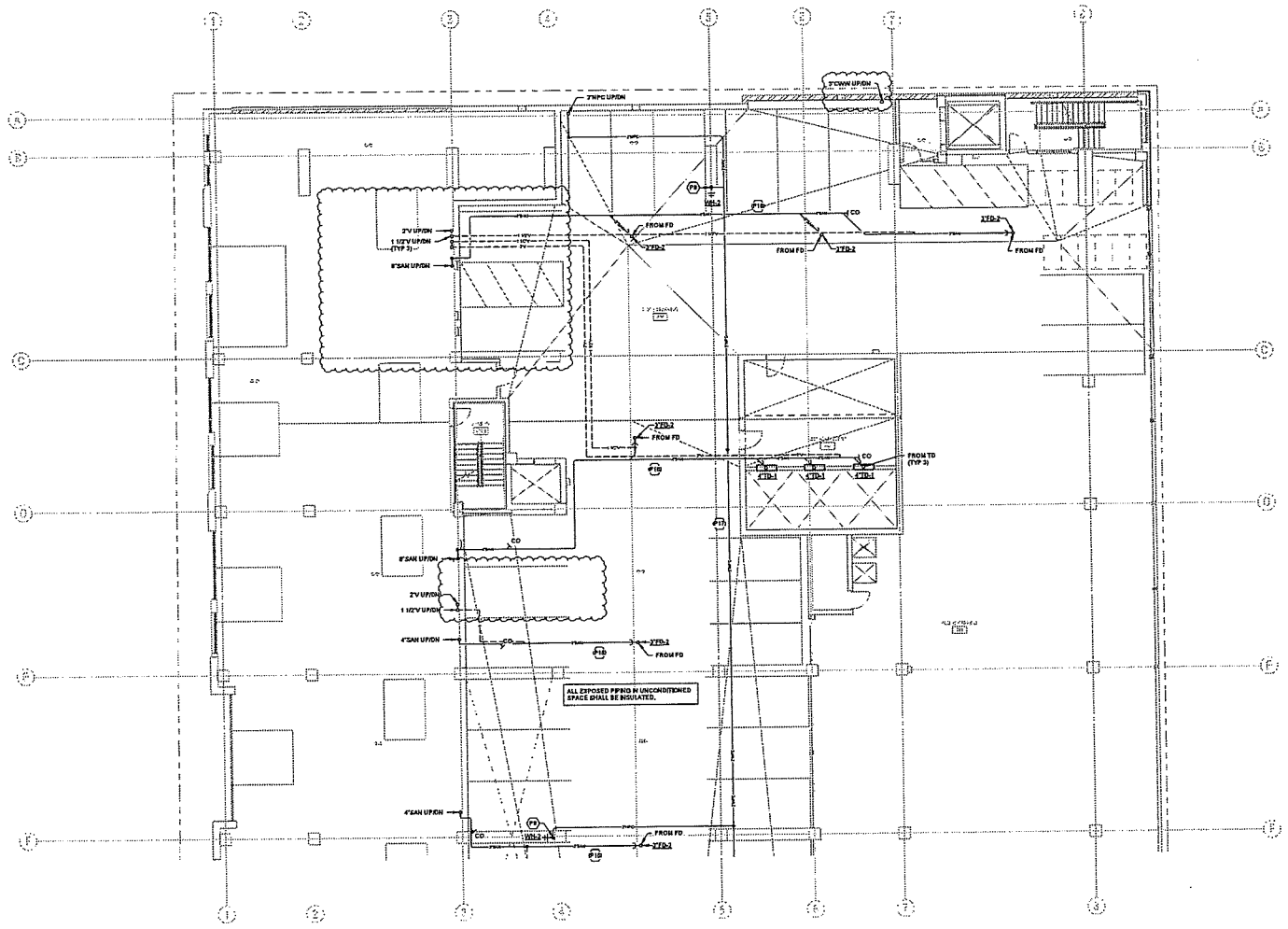
4. ALL EQUIPMENT IS TO BE PROVIDED COMPLETE WITH OPERATION & MAINTENANCE MANUALS.
5. ALL PIPING IN PARKING AREA SHALL BE HEAT TRACED AND INSULATED. PIPE INSULATION TO BE RIGID FIBERGLASS.

KEYED NOTES
(KEYED NOTES PER PROJECT)

P9 LOCATE LOCKABLE SHUTOFF VALVE IN VERTICAL.

P16 HEAT-TRACE PIPING IN UNCONDITIONED SPACE. PC TO PROVIDE THERMON BSX 3-3 SELF-REGULATING HEAT TRACE CABLE AT 208V. HEAT TRACE CABLE TO BE LOCATED ON ANY EXPOSED SANITARY AND VENT. PROVIDE THERMON SST-3 FREEZE PROTECTION THERMOSTAT. COORDINATE FINAL ELECTRICAL CONNECTION TO THERMON SST-3 FREEZE PROTECTION THERMOSTAT WITH EC.

P17 ALL WATER PIPING AND COMPONENTS SHALL BE ABLE TO BE FULLY DRAINED FOR COLD WEATHER SEASONS. PC SHALL NOT TRAP ANY WATER PIPING. PROVIDE DRAIN VALVES WHERE REQUIRED.



1 P4 FLR - ZONE A - PHASE 1 - PLUMBING
P1004-A-1 SCALE: 1/8" = 1'-0"

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JDR ENGINEERING, INC.
5535 NOBLE DRIVE
SUITE 110
MADISON, WI 53711
PH: 608.277.7728 | FX: 608.277.7046
JDR Project No: 22.0249

PROJECT INFORMATION

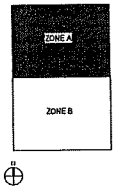
STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05/13/22	SCHEMATIC DESIGN PHI
07/29/2022	DETAILED DESIGN PHI
10/07/2022	CONSTRUCTION DOCUMENTS PHI
11/02/2022	PHI_ADD2

KEY PLAN



SHEET INFORMATION

PROJECT MANAGER
PROJECT NUMBER 720448

P4 FLR - ZONE A – PHASE 1 – PLUMBING

P1004-A-1

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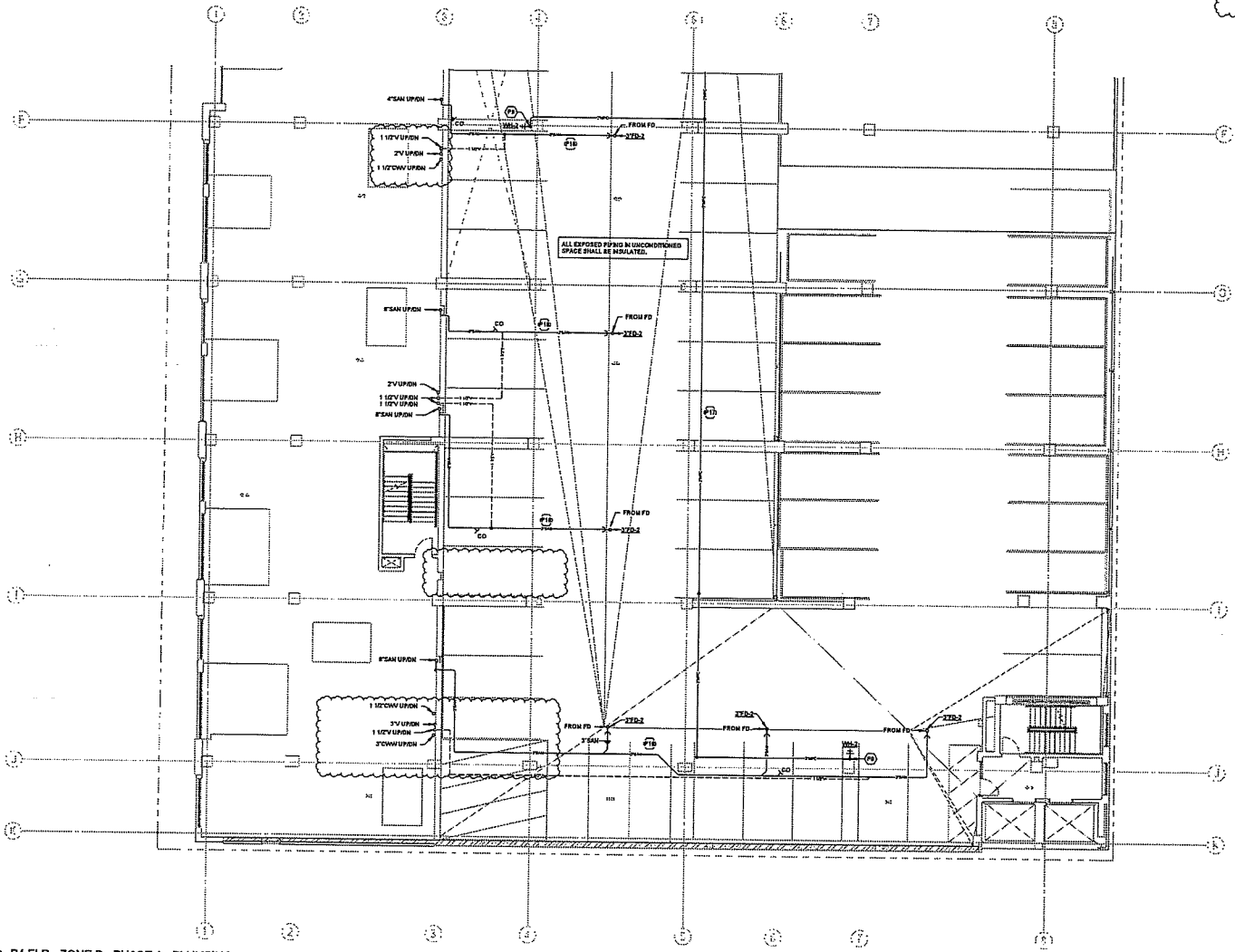

1 P4 FLR - ZONE B - PHASE 1 - PLUMBING
P1004-B-1 SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. ALL WORK TO BE DONE IN COMPLIANCE WITH ALL STATE AND LOCAL CODES AND ALL MANUFACTURER'S INSTRUCTIONS.
2. ALL PIPING SHALL RUN STRAIGHT AND TRUE AND SHALL BE INSTALLED IN A WORKMANLIKE MANNER.
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4. ALL EQUIPMENT IS TO BE PROVIDED COMPLETE WITH OPERATION & MAINTENANCE MANUALS.
5. ALL PIPING IN PARKING AREA SHALL BE HEAT TRACED AND INSULATED. PIPE INSULATION TO BE RIGID FIBERGLASS.

KEYED NOTES

KEYED NOTES PER PROJECT

P9 LOCATE LOCKABLE SHUTOFF VALVE IN VERTICAL.

P18 HEAT-TRACE PIPING IN UNCONDITIONED SPACE. PC TO PROVIDE THERMON BXX 3-3 SELF-REGULATING HEAT TRACE CABLE AT 240V. HEAT TRACE CABLE TO BE LOCATED ON ANY EXPOSED SANITARY AND VENT. PROVIDE THERMON SET-3 FREEZE PROTECTION THERMOSTAT. COORDINATE FINAL ELECTRICAL CONNECTION TO THERMON SET-3 FREEZE PROTECTION THERMOSTAT WITH EC.

P17 ALL WATER PIPING AND COMPONENTS SHALL BE ABLE TO BE FULLY DRAINED FOR COLD WEATHER SEASONS. PC SHALL NOT TRAP ANY WATER PIPING. PROVIDE DRAIN VALVES WHERE REQUIRED.

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JDR ENGINEERING, INC.
5525 NOBEL DRIVE
SUITE 110
MADISON, WI 53711
PH 608.277.1728 | FX 608.277.1746
JDR Project No: 22.0249

PROJECT INFORMATION

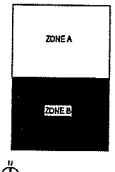
STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
06/04/2021	SCHEMATIC DESIGN PH1
07/26/2021	DETAILED DESIGN PH1
10/20/2021	100% REVIEW DOCUMENTS PH1
11/12/2021	PH1 ADD

KEY PLAN



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PROJECT MANAGER

PROJECT NUMBER 720448

P4 FLR - ZONE B – PHASE 1 – PLUMBING

P1004-B-1

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GENERAL NOTES:

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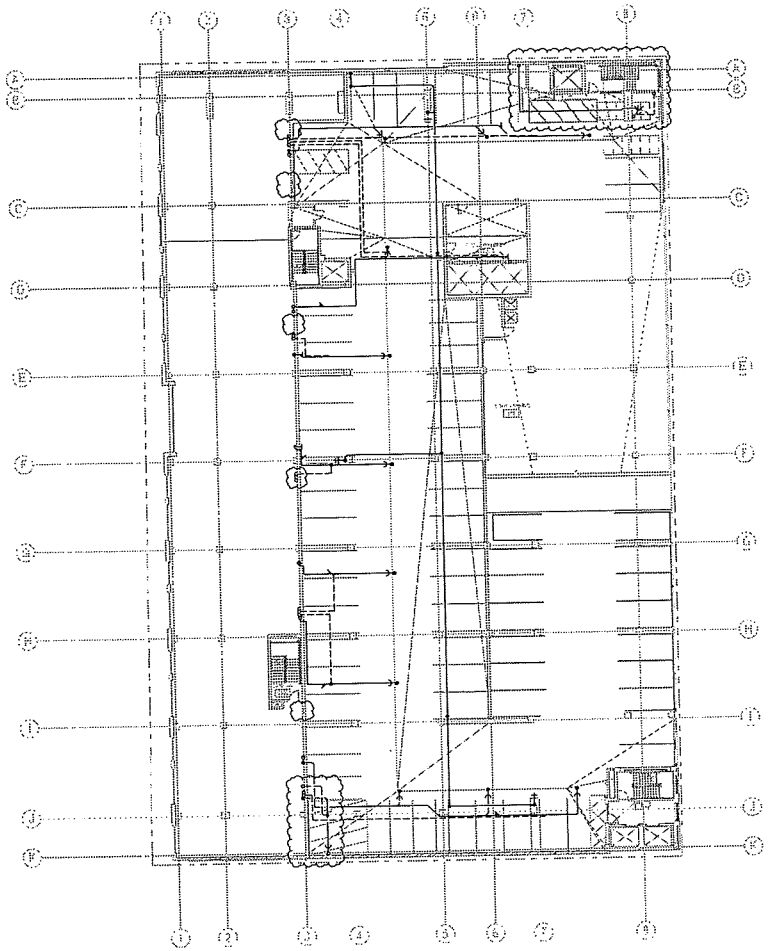
5. ALL PIPING IN PARKING AREA SHALL BE HEAT TRACED AND INSULATED. PIPE INSULATION TO BE RIGID FIBEROLASE.



1 P1005-1 P5 FLR OVERALL - PHASE 1 - PLUMBING

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JDR ENGINEERING, INC.
5515 NOBEL DRIVE
SUITE 110
MADISON, WI 53711
PH: 608.277.7728 | FX: 608.277.7946
JDR Project No: 22.0249

PROJECT INFORMATION

STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05/26/2023	SCHEMATIC DESIGN PH1
07/28/2023	DETAILED DESIGN PH1
9/22/2023	ADDITIONAL DOCUMENTS PH1
11/22/2023	PH1_4223

KEY PLAN

SHEET INFORMATION

PROJECT MANAGER

PROJECT NUMBER 720448

P5 FLR OVERALL – PHASE 1 – PLUMBING

P1005-1

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GENERAL NOTES:

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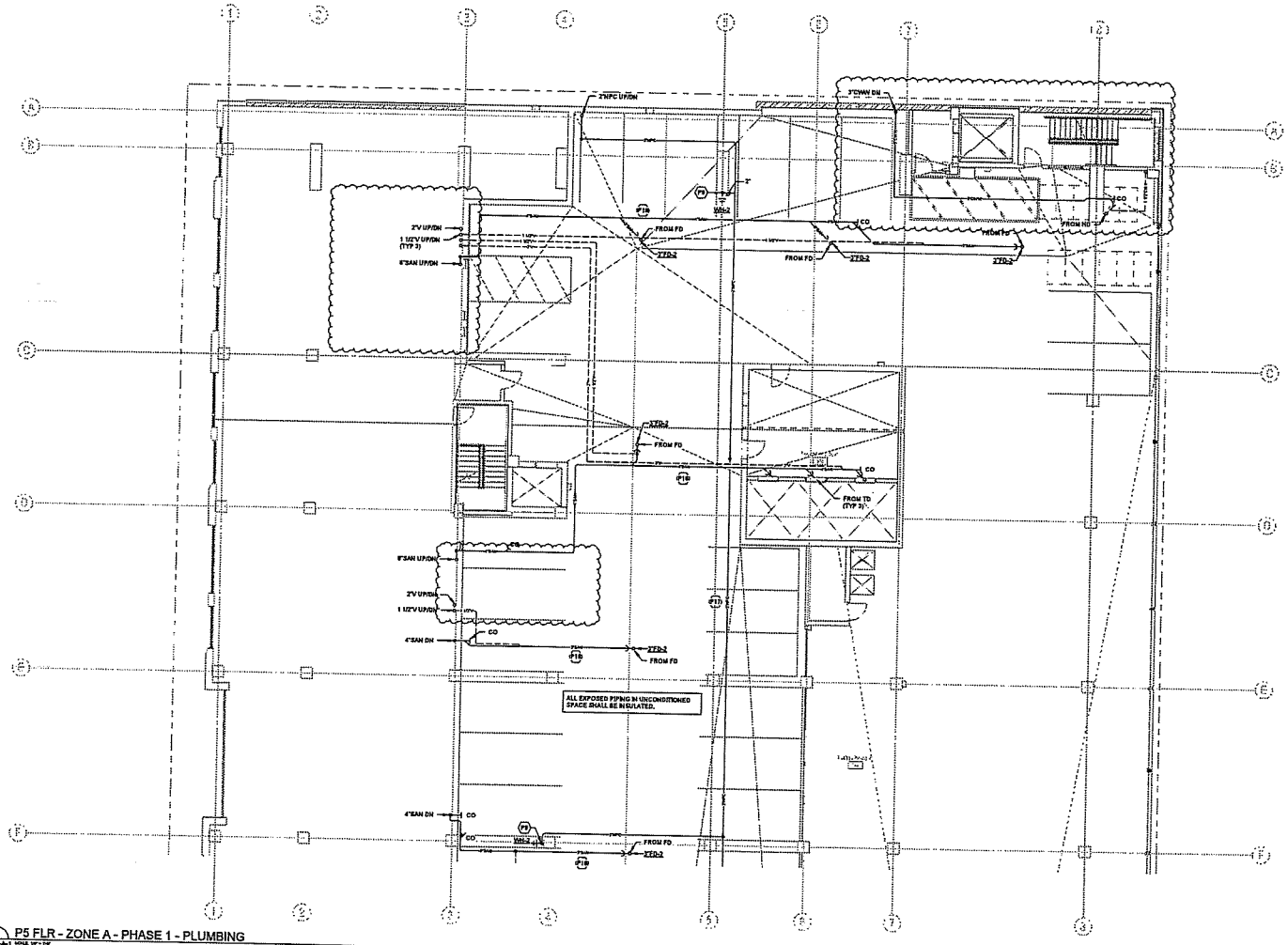
KEYED NOTES
(KEYED NOTES PER PROJECT)

P9 LOCATE LOCKABLE SHUTOFF VALVE IN VERTICAL.

P16 HEAT-TRACE PIPING IN UNCONDITIONED SPACE. PC TO PROVIDE THERMON BSX 3-2 SELF-REGULATING HEAT TRACE CABLE AT 240V. HEAT TRACE CABLE TO BE LOCATED ON ANY EXPOSED SANITARY AND VENT. PROVIDE THERMON BST-2 FREEZE PROTECTION THERMOSTAT. COORDINATE FINAL ELECTRICAL CONNECTION TO THERMON BST-2 FREEZE PROTECTION THERMOSTAT WITH EC.

P17 ALL WATER PIPING AND COMPONENTS SHALL BE ABLE TO BE FULLY DRAINED FOR COLD WEATHER SEASONS. PC SHALL NOT TRAP ANY WATER PIPING. PROVIDE DRAIN VALVES WHERE REQUIRED.



1 P5 FLR - ZONE A - PHASE 1 - PLUMBING
P1005-A-1 SCALE: 1/8" = 1'-0"

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JDR ENGINEER, INC.
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MADISON, WI 53711
PH 608.277.7728 | WWW.JDRENG.COM
JDR Project No: 22.0249

PROJECT INFORMATION

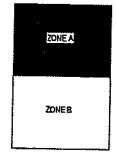
STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05/06/2022	SCHEMATIC DESIGN PHASE
07/29/2022	DETAILED DESIGN PHASE
10/03/2022	CONSTRUCTION DOCUMENTS PHASE
11/02/2022	PHASE 1 ADDENDUM

KEY PLAN



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PROJECT MANAGER
PROJECT NUMBER 720448

P5 FLR - ZONE A - PHASE 1 - PLUMBING

P1005-A-1

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GENERAL NOTES:

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5. ALL PIPING IN PARKING AREA SHALL BE HEAT TRACED AND INSULATED. PIPE INSULATION TO BE RIGID FIBERGLASS.

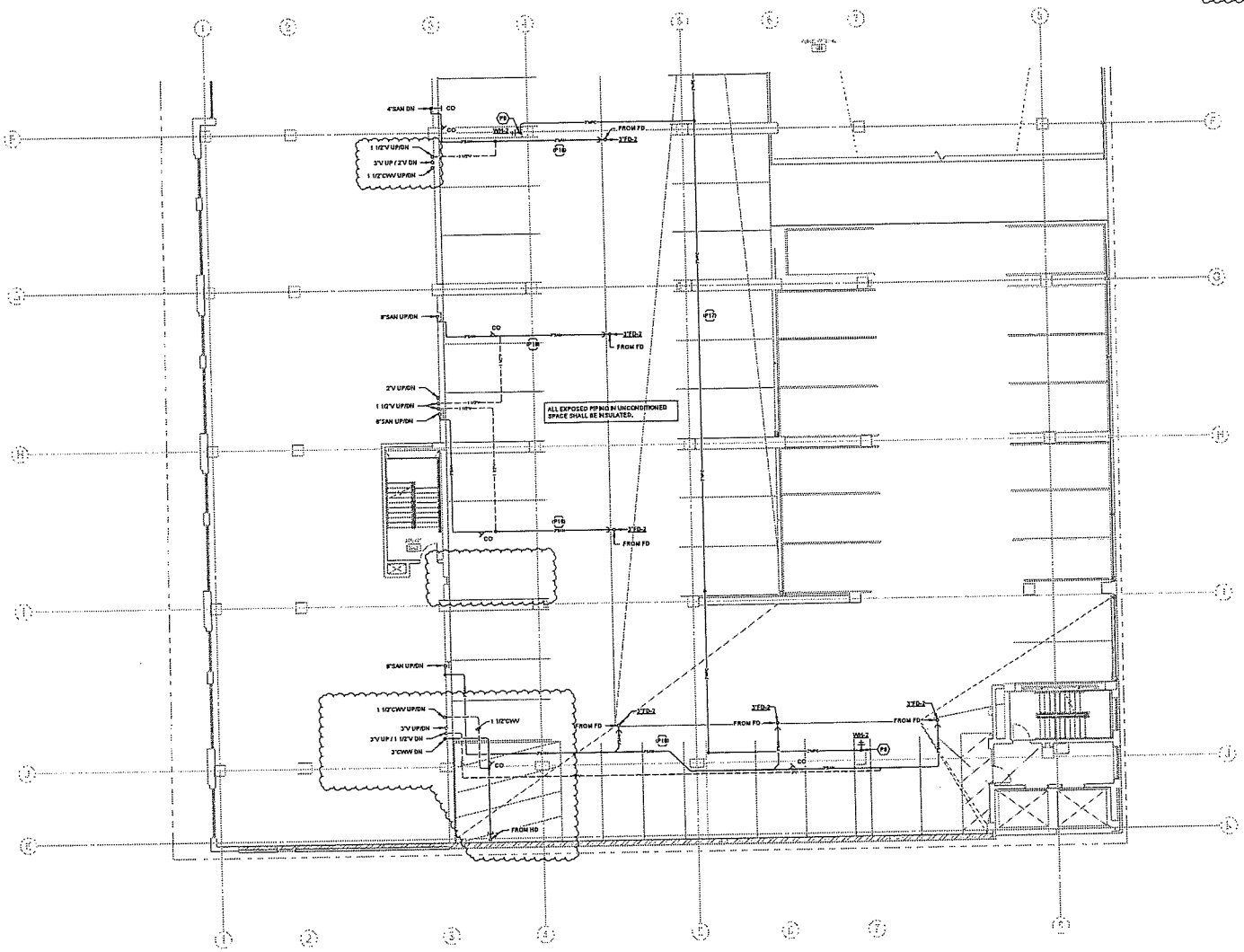
KEYED NOTES

(KEYED NOTES PER PROJECT)

P9 LOCATE LOCKABLE SHUTOFF VALVE IN VERTICAL.

P16 HEAT-TRACE PIPING IN UNCONDITIONED SPACE. PC TO PROVIDE THERMON BSX 3-2 SELF-REGULATING HEAT TRACE CABLE AT 240V. HEAT TRACE CABLE TO BE LOCATED ON ANY EXPOSED SANITARY AND VENT. PROVIDE THERMON 6ST-2 FREEZE PROTECTION THERMOSTAT. COORDINATE FINAL ELECTRICAL CONNECTION TO THERMON 5ST-2 FREEZE PROTECTION THERMOSTAT WITH EC.

P17 ALL WATER PIPING AND COMPONENTS SHALL BE ABLE TO BE FULLY DRAINED FOR COLD WEATHER SEASONS. PC SHALL NOT TRAP ANY WATER PIPING. PROVIDE DRAIN VALVES WHERE REQUIRED.



1 P5 FLR - ZONE B - PHASE 1 - PLUMBING
P1005-B-1 | SCALE: 1/8" = 1'-0"

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JDR ENGINEERING, INC.
5535 NOBEL DRIVE
SUITE 310
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PH: 608.277.1728 | FAX: 608.270.0046
JDR Project No: 22.0248

PROJECT INFORMATION

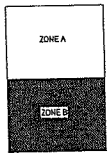
STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05-15-2020	SCHEMATIC DESIGN PH1
07-30-2021	DETAILED DESIGN PH1
10-22-2021	CONSTRUCTION DOCUMENTS PH1
11-12-2021	PH1 ADD

KEY PLAN



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PROJECT MANAGER

PROJECT NUMBER 720448

P5 FLR - ZONE B – PHASE 1 – PLUMBING

P1005-B-1

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GENERAL NOTES:

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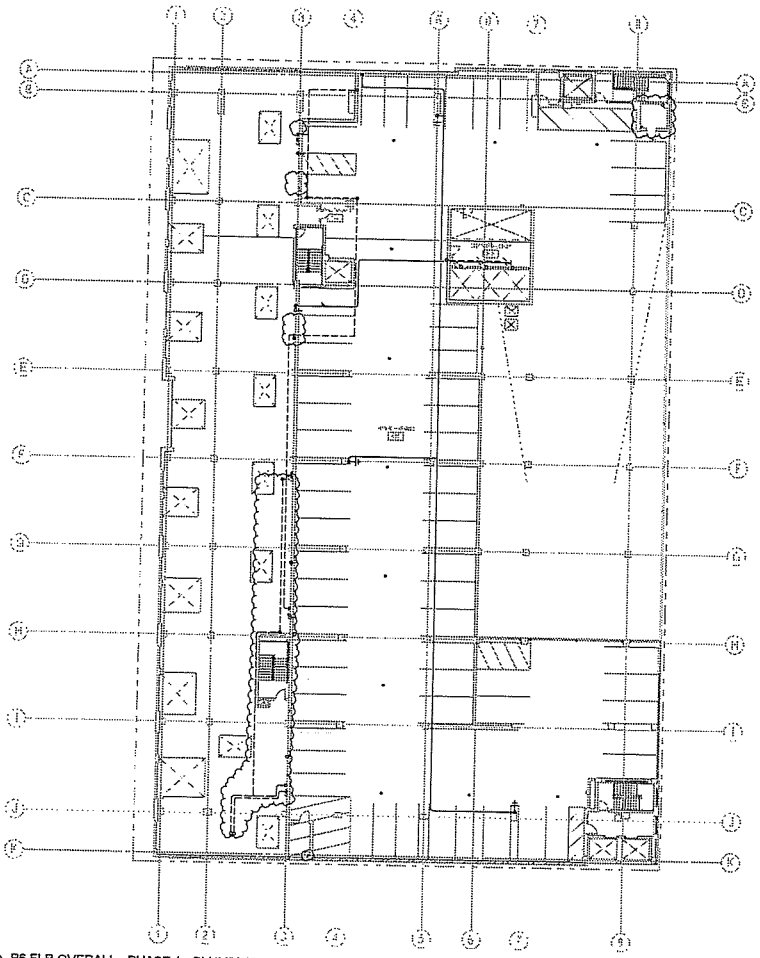
5. ALL PIPING IN PARKING AREA SHALL BE HEAT TRACED AND INSULATED. PIPE INSULATION TO BE RIGID FIBERGLASS.



1 P1006-1 P6 FLR OVERALL - PHASE 1 - PLUMBING

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JDR ENGINEERING, INC.
5525 NOBEL DRIVE
SUITE 110
MADISON, WI 53711
PH: 608.277.0728 | FX: 608.277.0746
JDR Project No: 22.0249

PROJECT INFORMATION

STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05-03-2023	SCHEMATIC DESIGN PH1
07-28-2023	DETAILED DESIGN PH1
10-02-2023	CONSTRUCTION DOCUMENTS PH1
11-03-2023	PH1 ADD

KEY PLAN

SHEET INFORMATION

PROJECT MANAGER

PROJECT NUMBER 720448

P6 FLR OVERALL – PHASE 1 – PLUMBING

P1006-1

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GENERAL NOTES:

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5. ALL PIPING IN PARKING AREA SHALL BE HEAT TRACED AND INSULATED. PIPE INSULATION TO BE RIGID FIBERGLASS.

KEYED NOTES

KEYED NOTES FOR PROJECT:

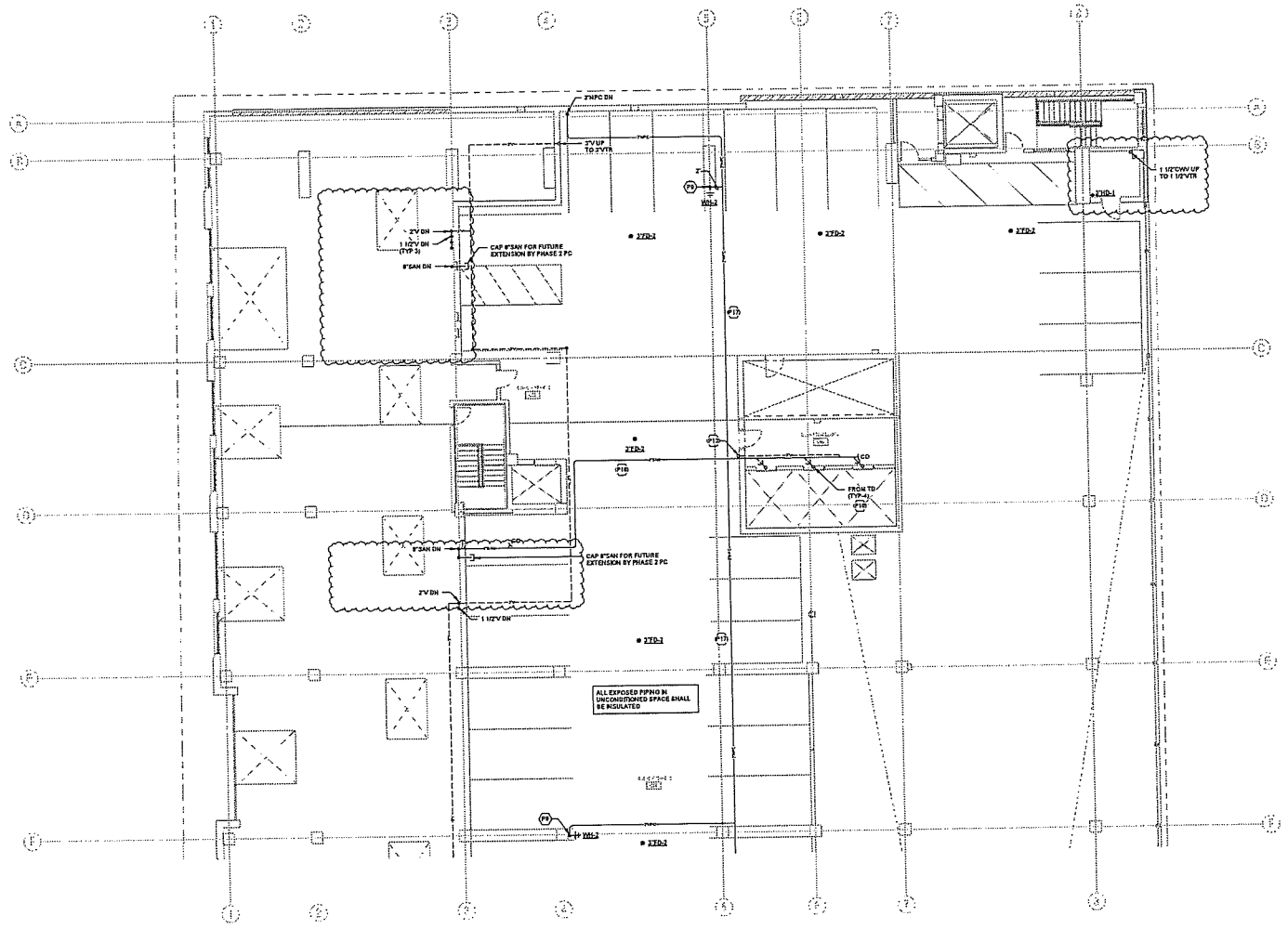
P8 LOCATE LOCKABLE SHUTOFF VALVE IN VERTICAL.

P15 TRENCH DRAINS (TD-1) LOCATED ON 7TH FLOOR TO BE INSTALLED DURING PHASE 1. COORDINATE EXACT LOCATION OF TRENCH DRAIN (TD-1) WITH GC.

P12 PHASE 1 PC TO CONNECT 2" VENT TO NEAREST ADEQUATELY SIZED VENT MAIN IN 7TH FLOOR CEILING SPACE PROVIDED BY PHASE 2 PC. COORDINATE EXACT LOCATION WITH PHASE 2 PC.

P18 HEAT-TRACE PIPING IN UNCONDITIONED SPACE. PC TO PROVIDE THERMON BSX 3-2 SELF-REGULATING HEAT TRACE CABLE AT 240V. HEAT TRACE CABLE TO BE LOCATED ON ANY EXPOSED SANITARY AND VENT. PROVIDE THERMON ST-2 FREEZE PROTECTION THERMOSTAT. COORDINATE FINAL ELECTRICAL CONNECTION TO THERMON EST-2 FREEZE PROTECTION THERMOSTAT WITH EC.

P17 ALL WATER PIPING AND COMPONENTS SHALL BE ABLE TO BE FULLY DRAINED FOR COLD WEATHER SEASONS. PC SHALL NOT TRAP ANY WATER PIPING. PROVIDE DRAIN VALVES WHERE REQUIRED.



1 P6 FLR - ZONE A - PHASE 1 - PLUMBING
P1006-A-1 SCALE: 1/8" = 1'-0"

eu:a
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JDR ENGINEERING, INC.
5535 NOBEL DRIVE
SUITE 110
MADISON, WI 53711
PH: 608.277.7728 | FX: 608.277.7046
JDR Project No: 22.0249

PROJECT INFORMATION

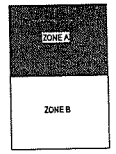
STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05-15-2020	SCHEMATIC DESIGN PHI
07-30-2020	DETAILED DESIGN PHI
10-02-2020	CONSTRUCTION DOCUMENTS PHI
11-02-2020	PHI KEY

KEY PLAN



SHEET INFORMATION

PROJECT MANAGER

PROJECT NUMBER 720448

P6 FLR - ZONE A – PHASE 1 – PLUMBING

P1006-A-1

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GENERAL NOTES:

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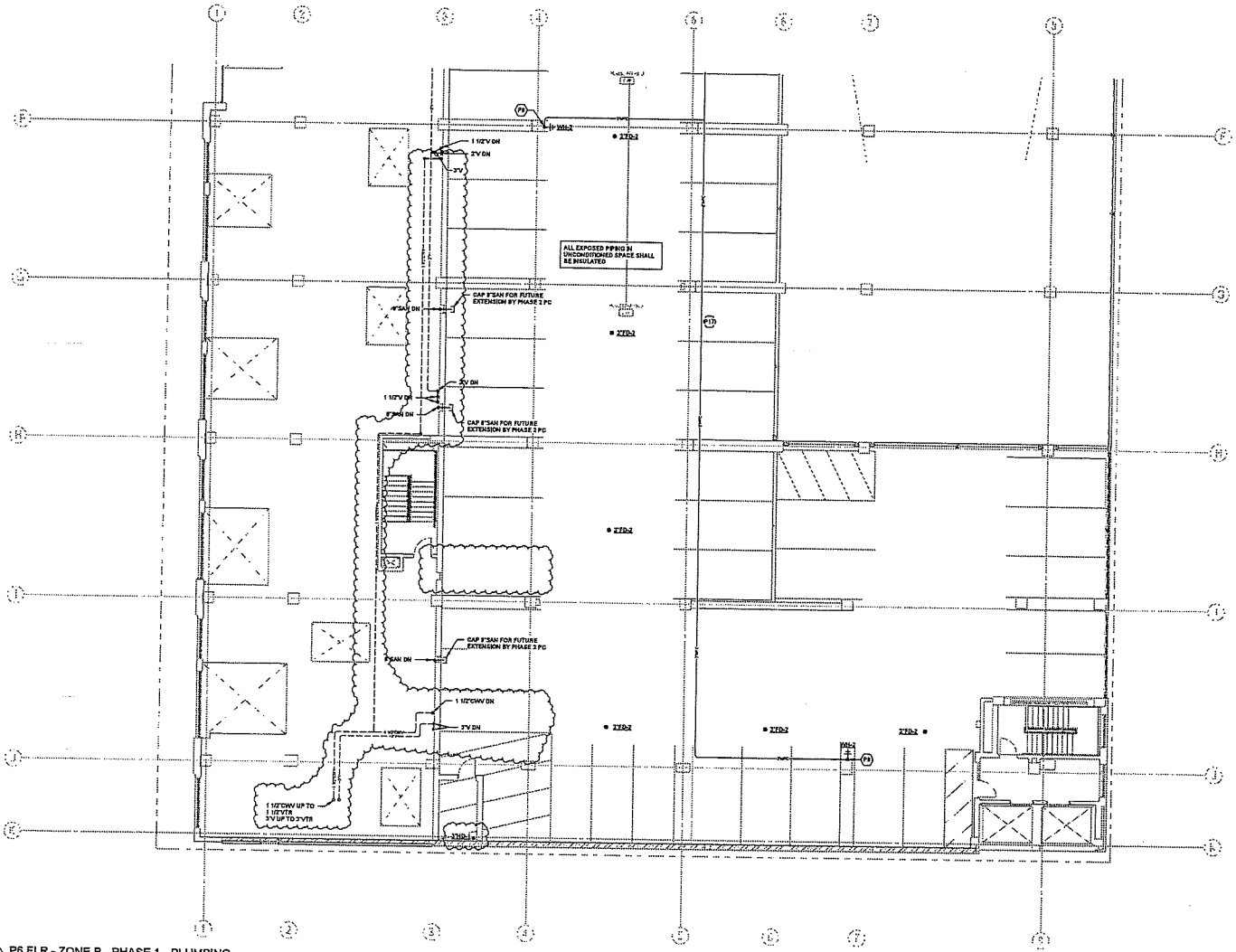
5. ALL PIPING IN PARKING AREA SHALL BE HEAT TRACED AND INSULATED. PIPE INSULATION TO BE RIGID FIBERGLASS.

KEYED NOTES

KEYED NOTES PER PROJECT:

P8 LOCATE LOCKABLE SHUTOFF VALVE IN VERTICAL.

P17 ALL WATER PIPING AND COMPONENTS SHALL BE ABLE TO BE FULLY DRAINED FOR COLD WEATHER SEASONS. PC SHALL NOT TRAP ANY WATER PIPING. PROVIDE DRAIN VALVES WHERE REQUIRED.



1 P6 FLR - ZONE B - PHASE 1 - PLUMBING
P1006-B-1 SCALE: 1/8" = 1'-0"

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JDR ENGINEERING, INC
5525 NOBLE DRIVE
SUITE 110
MADISON, WI 53711
PH: 608.277.7728 | FX: 608.277.7946
JDR Project No: 22.0249

PROJECT INFORMATION

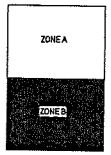
STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05-15-2020	SCHEMATIC DESIGN PH1
07-29-2020	DEVELOPED DESIGN PH1
10-02-2020	50% CONSTRUCTION DOCUMENTS PH1
11-02-2020	PH1 - 100%

KEY PLAN



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PROJECT MANAGER

PROJECT NUMBER 720448

P6 FLR - ZONE B – PHASE 1 – PLUMBING

P1006-B-1

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GENERAL NOTES:

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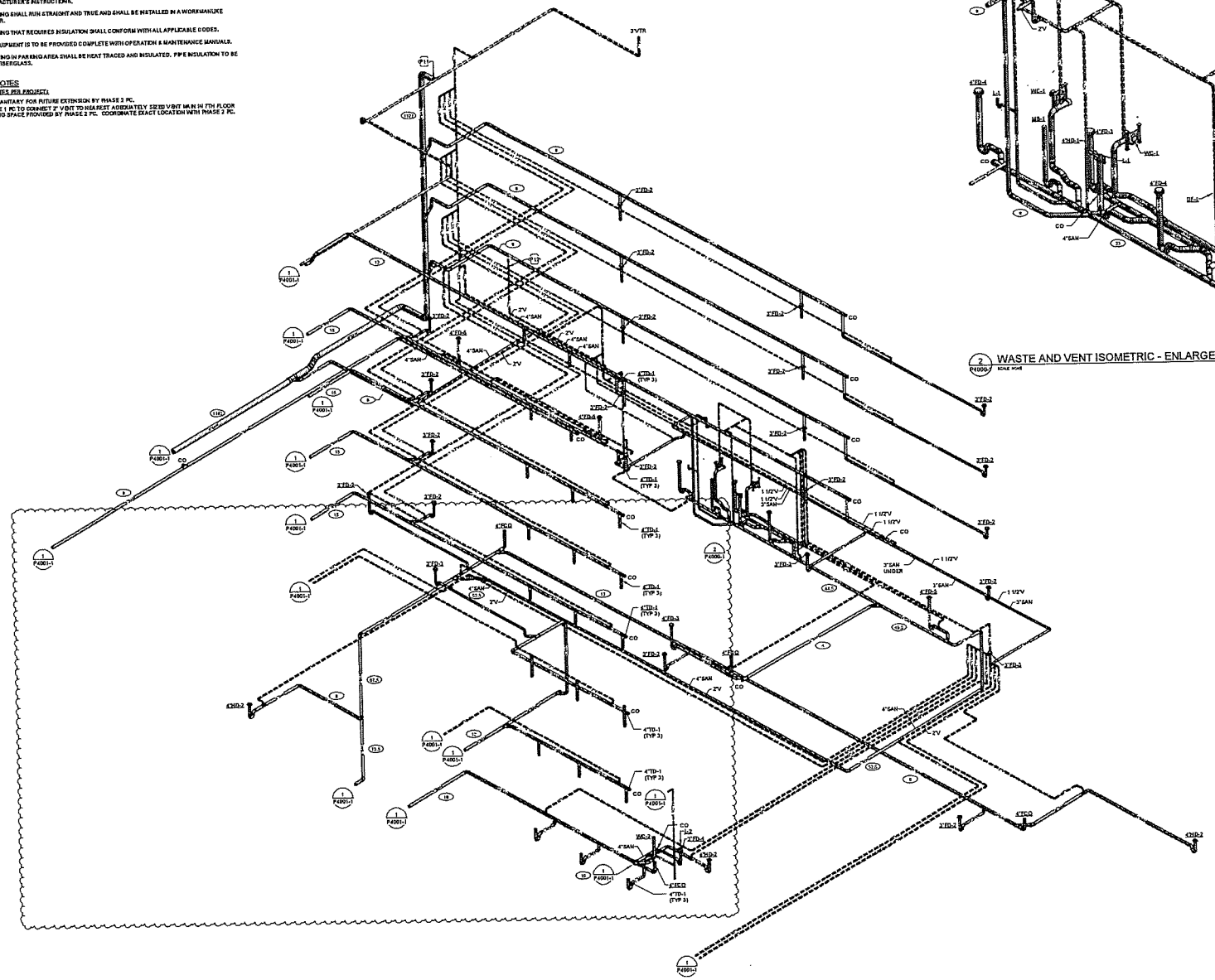
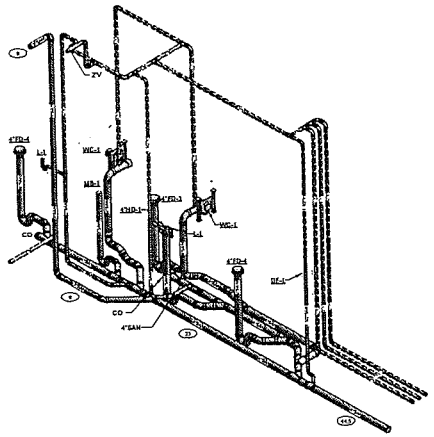
KEYED NOTES
(KEYED NOTES PER PROJECT)

P11 CAP SANITARY FOR FUTURE EXTENSION BY PHASE 2 PC.
P12 PHASE 1 PC TO CONNECT 2" VENT TO NEAREST ADEQUATELY SIZED VENT MAIN IN 7TH FLOOR CEILING SPACE PROVIDED BY PHASE 2 PC. COORDINATE EXACT LOCATION WITH PHASE 2 PC.



1 P4000-1 WASTE AND VENT ISOMETRIC - AREA A - PLUMBING



2 P4000-1 WASTE AND VENT ISOMETRIC - ENLARGED AREA A - PLUMBING

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JDR Project No: 22.0249

PROJECT INFORMATION

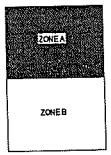
STATE STREET
CAMPUS GARAGE
MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
10-03-2023	CONSTRUCTION DOCUMENTS PHI
11-03-2023	PHI ADD2

KEY PLAN



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PROJECT MANAGER
PROJECT NUMBER 720448

WASTE AND VENT ISOMETRICS - PLUMBING

P4000-1

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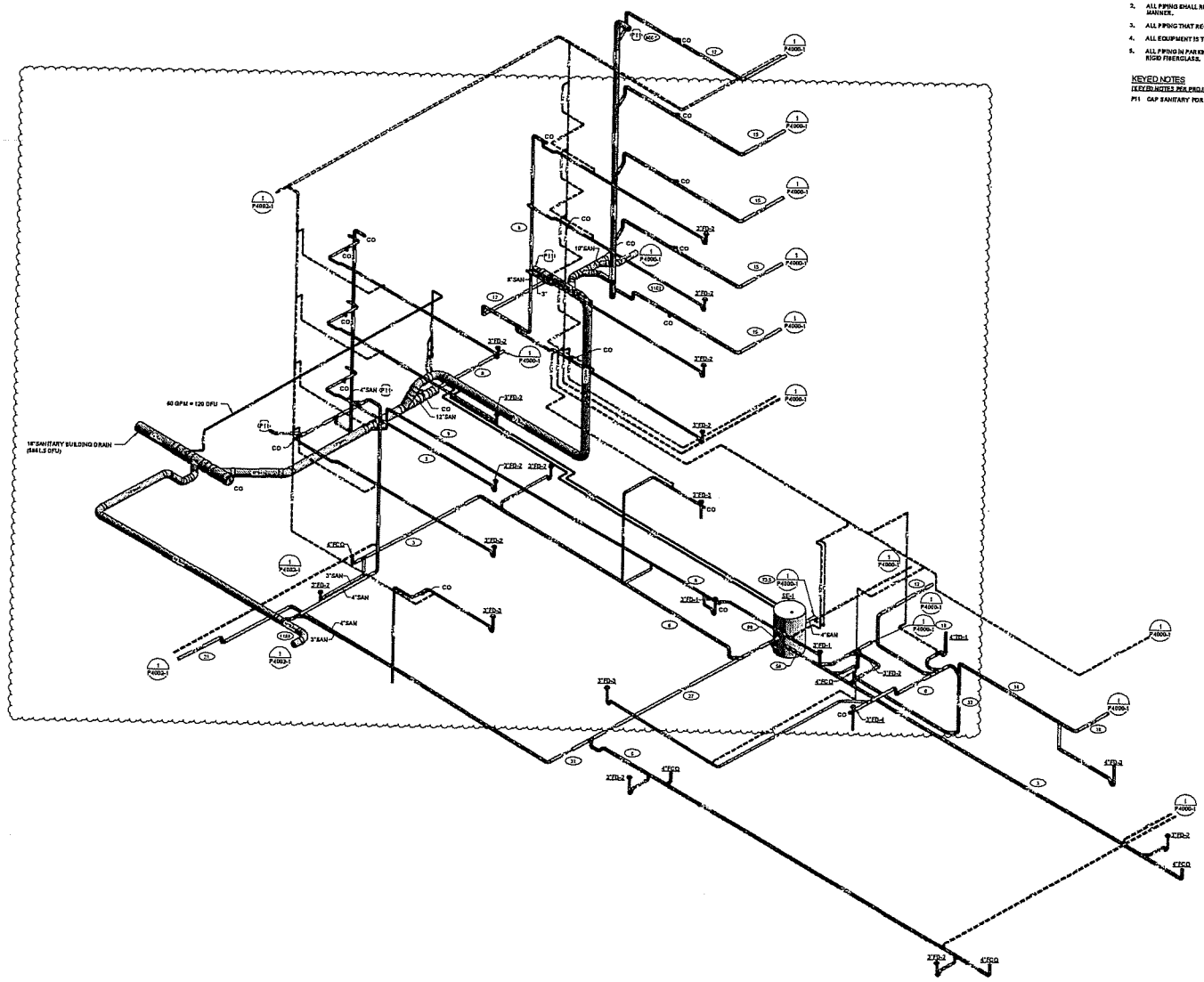


1 P4001-1 WASTE AND VENT ISOMETRIC - AREA A - PLUMBING

GENERAL NOTES:

1. ALL WORK TO BE DONE IN COMPLIANCE WITH ALL STATE AND LOCAL CODES AND ALL MANUFACTURER'S INSTRUCTIONS.
2. ALL PIPING SHALL RUN STRAIGHT AND TRUE AND SHALL BE INSTALLED IN A WORKMANLIKE MANNER.
3. ALL PIPING THAT REQUIRES INSULATION SHALL CONFORM WITH ALL APPLICABLE CODES.
4. ALL EQUIPMENT IS TO BE PROVIDED COMPLETE WITH OPERATION & MAINTENANCE MANUALS.
5. ALL PIPING IN PARKING AREA SHALL BE HEAT TRACED AND INSULATED. PIPE INSULATION TO BE RIGID FIBERGLASS.

KEYED NOTES

KEYED NOTES PER PROJECT:

P11 CAP SANITARY FOR FUTURE EXTENSION BY PHASE 2 PC.

eua
milwaukee | madison | green bay | denver | atlanta

JDR ENGINEERING, INC.
5525 NOBLE DRIVE
SUITE 80
MADISON, WI 53711
PH: 608.277.1728 FAX: 608.277.1046
JDR Project No: 22.0249

PROJECT INFORMATION

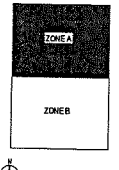
STATE STREET
CAMPUS GARAGE
MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
8-03-2023	CONSTRUCTION DOCUMENTS PH1
11-03-2023	PH1 ADD1

KEY PLAN



SHEET INFORMATION

PROJECT MANAGER

PROJECT NUMBER 720448

WASTE AND VENT ISOMETRICS - PLUMBING

P4001-1

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GENERAL NOTES:

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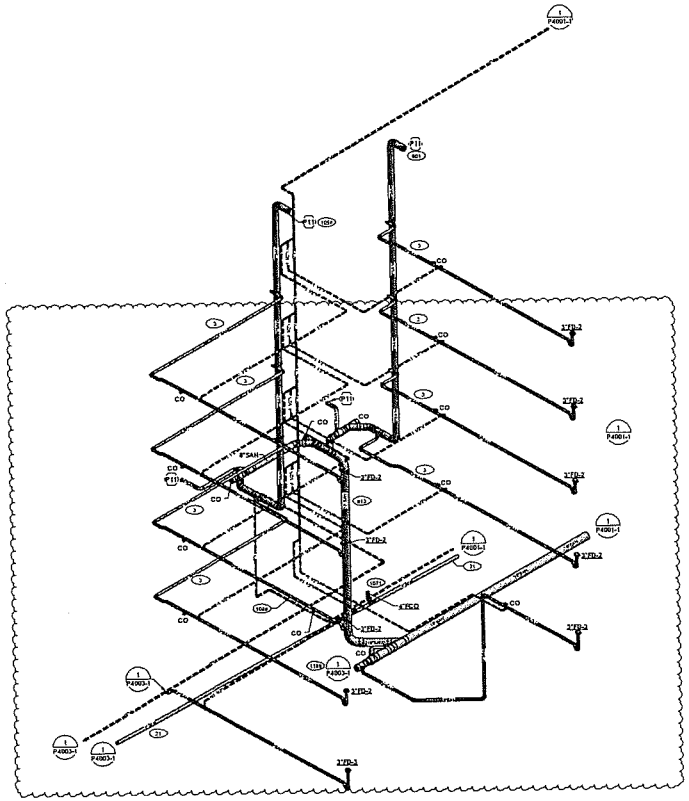
KEYED NOTES
(KEYED NOTES PER PROJECT)

P11 CAP SANITARY FOR FUTURE EXTENSION BY PHASE 2 PC.



1 P4002-1 WASTE AND VENT ISOMETRIC - AREA B - PLUMBING
SCALE: NONE

eu:a
urbanism | madison | grant bay | denver | atlanta

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JDR Project No: 22.0249

PROJECT INFORMATION

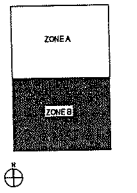
STATE STREET
CAMPUS GARAGE
MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
8-07-2023	CONSTRUCTION DOCUMENTS PH2
11-03-2023	PHF ADD2

KEY PLAN



SHEET INFORMATION

PROJECT MANAGER

PROJECT NUMBER 720448

WASTE AND VENT ISOMETRICS - PLUMBING

P4002-1

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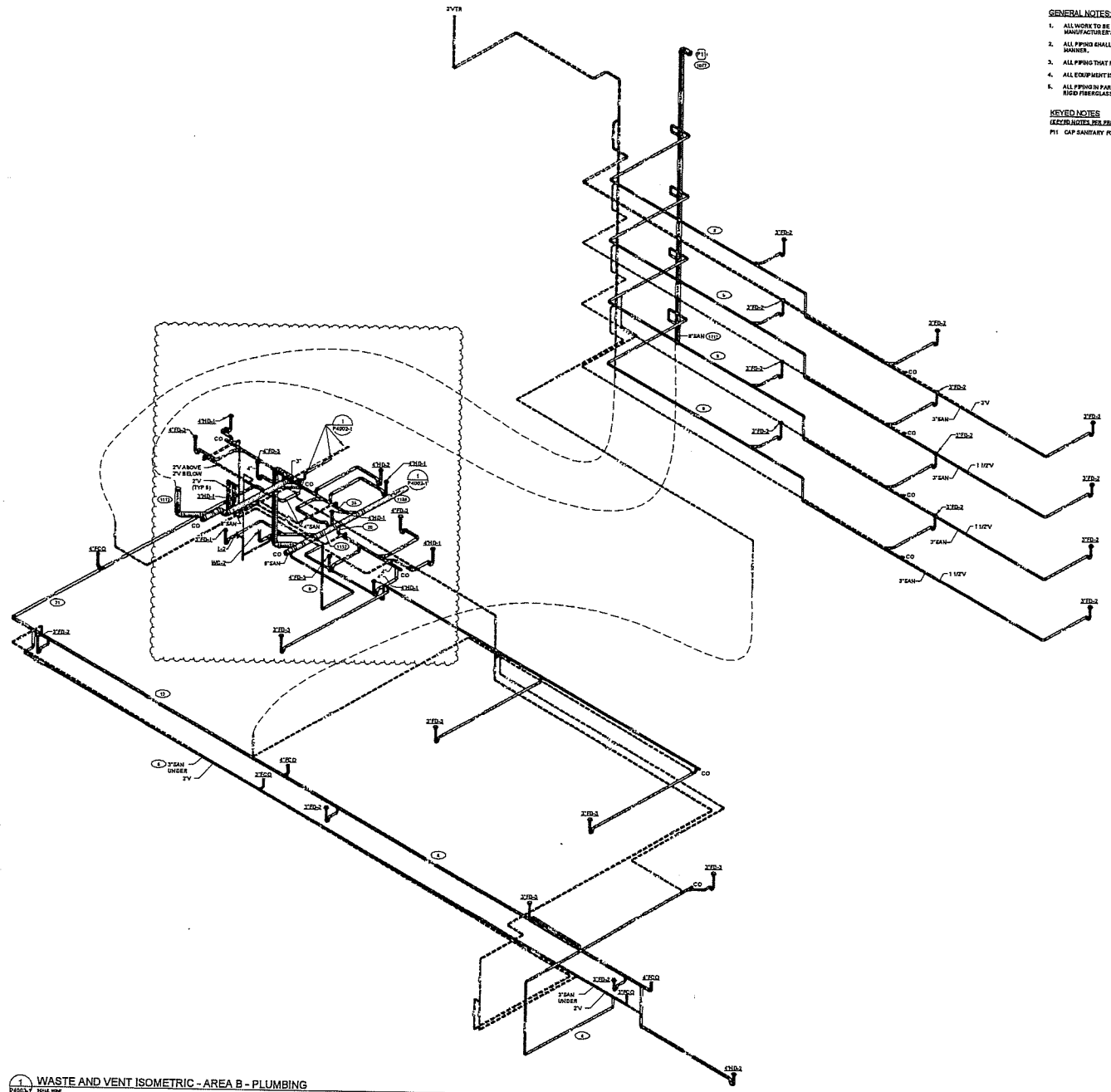

1 P4003-1 WASTE AND VENT ISOMETRIC - AREA B - PLUMBING

GENERAL NOTES:

1. ALL WORK TO BE DONE IN COMPLIANCE WITH ALL STATE AND LOCAL CODES AND ALL MANUFACTURER'S INSTRUCTIONS.
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5. ALL PIPING IN PARKING AREA SHALL BE HEAT TRACED AND INSULATED. PIPE INSULATION TO BE RIGID FIBERGLASS.

KEYED NOTES

(KEYED NOTES PER PROJECT)

P1 CAP SANITARY FOR FUTURE EXTENSION BY PHASE 2 PC.

eu:a
eukowski | madison | green bay | denver | atlanta

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JDR Project No: 22.0249

PROJECT INFORMATION

STATE STREET
CAMPUS GARAGE
MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
9-02-2023	CONSTRUCTION DOCUMENTS PH1
11-03-2023	PH1_ADD

KEY PLAN

SHEET INFORMATION

PROJECT MANAGER

PROJECT NUMBER 720448

WASTE AND VENT ISOMETRICS - PLUMBING

P4003-1

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GENERAL NOTES:

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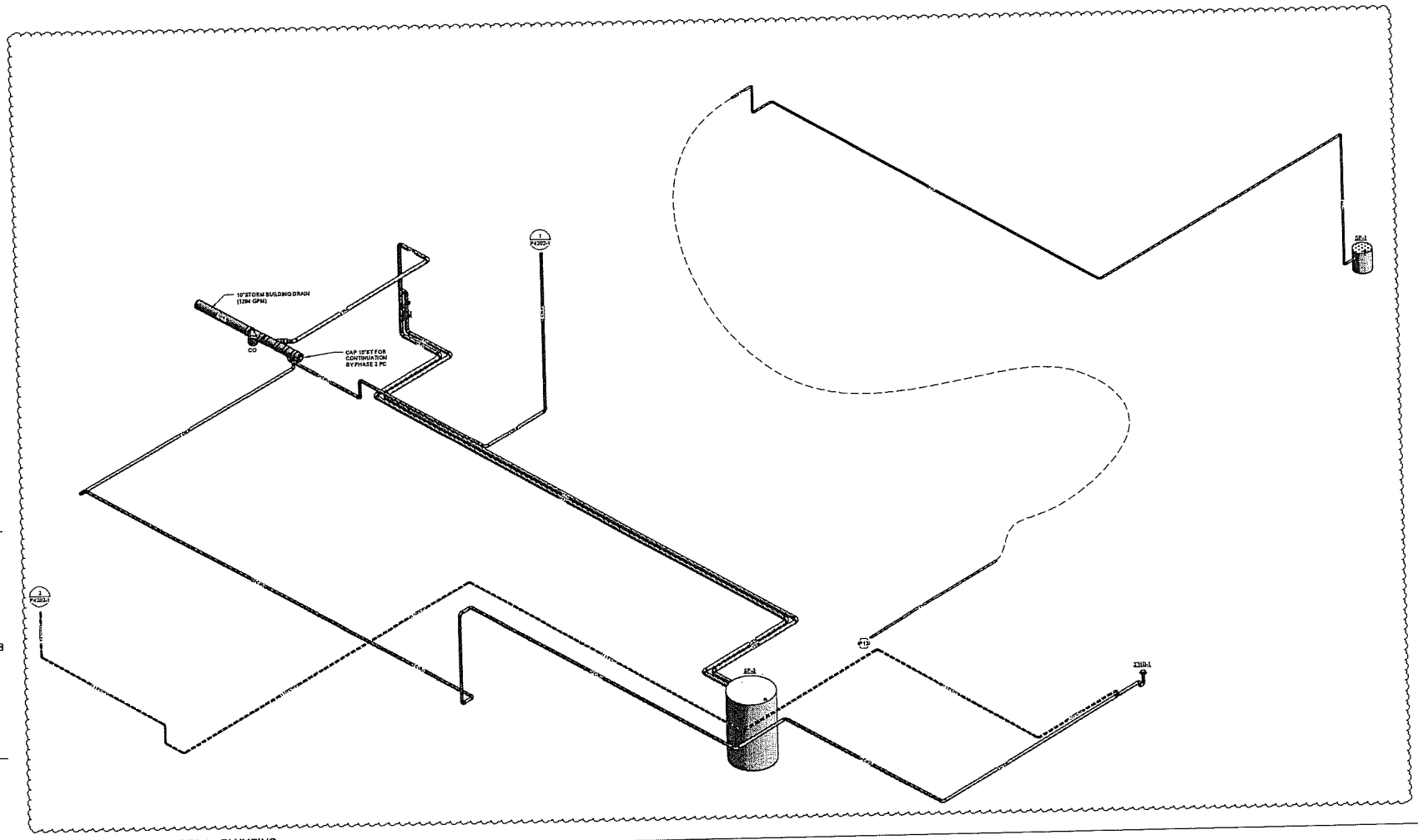
KEYED NOTES
(KEYED NOTES PER PROJECT)

P13 PHASE 1 PC TO CONNECT FORCE MAIN (FM) TO NEAREST ADEQUATELY SIZED STORM IN LOWER LEVEL PROVIDED BY PHASE 2 PC. COORDINATE EXACT LOCATION OF CONNECTION WITH PHASE 2 PC.



1 P4200-1 STORM ISOMETRIC - AREA A - PLUMBING
SCALE: NONE

eua
infrastructure | stormwater | green energy | landscape | urban design

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JDR Project No: 22.0249

PROJECT INFORMATION

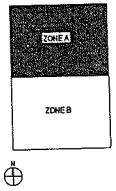
STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
8/4/2023	CONSTRUCTION DOCUMENTS PH1
11/3/2023	PH1 ADD2

KEY PLAN



SHEET INFORMATION

PROJECT MANAGER

PROJECT NUMBER 720448

STORM ISOMETRICS - PLUMBING

P4200-1

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GENERAL NOTES:

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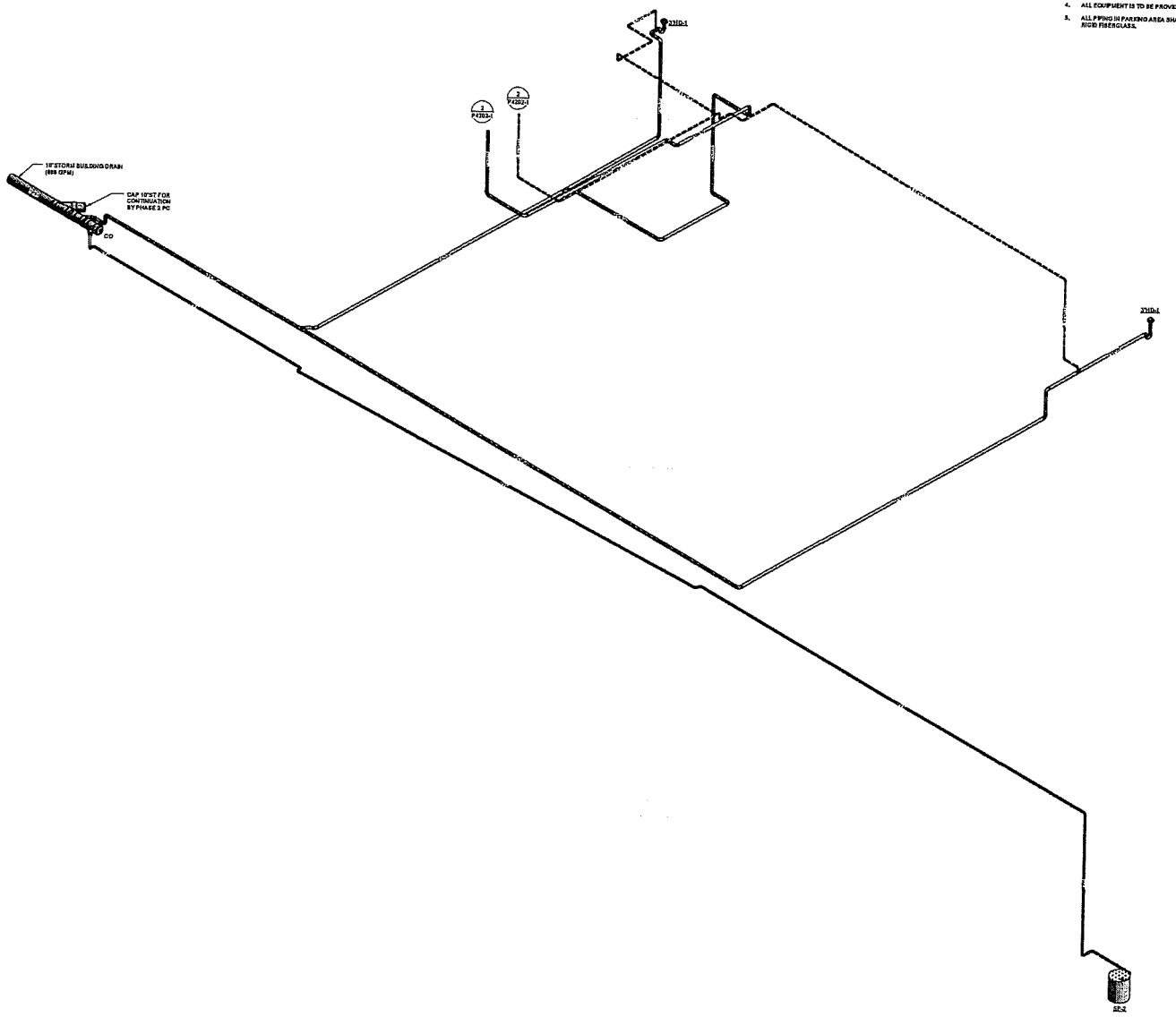

1 STORM ISOMETRIC - AREA B - PLUMBING

eua
milwaukee | madison | green bay | denver | atlanta

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JDR Project No: 22.0249

PROJECT INFORMATION

STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
10-03-2023	CONSTRUCTION DOCUMENTS PHI
11-03-2023	PHI ADD1

KEY PLAN

SHEET INFORMATION

PROJECT MANAGER

PROJECT NUMBER 720446

STORM ISOMETRICS - PLUMBING

P4201-1

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GENERAL NOTES:

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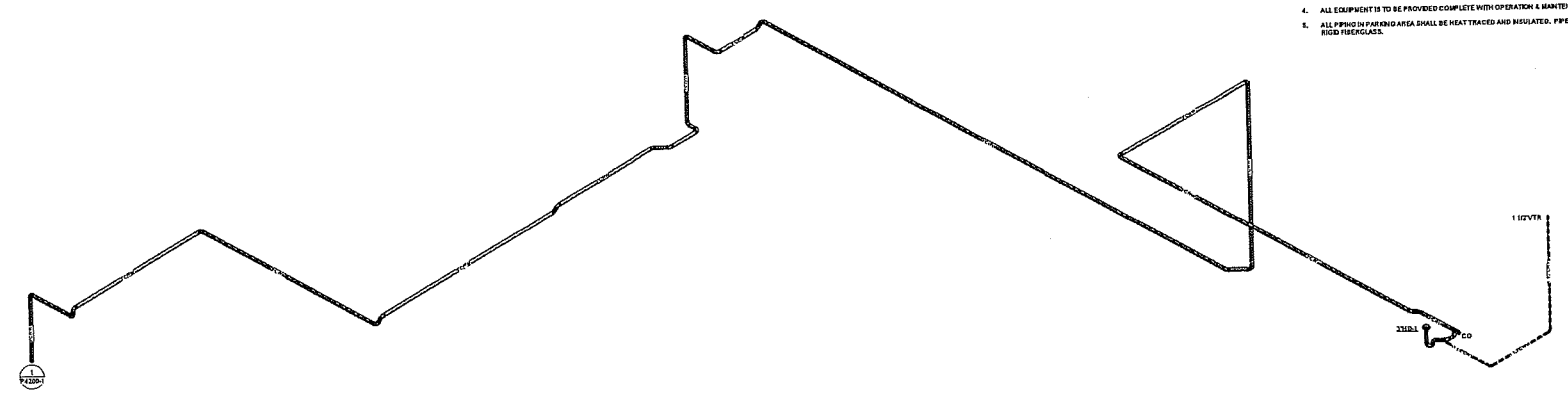
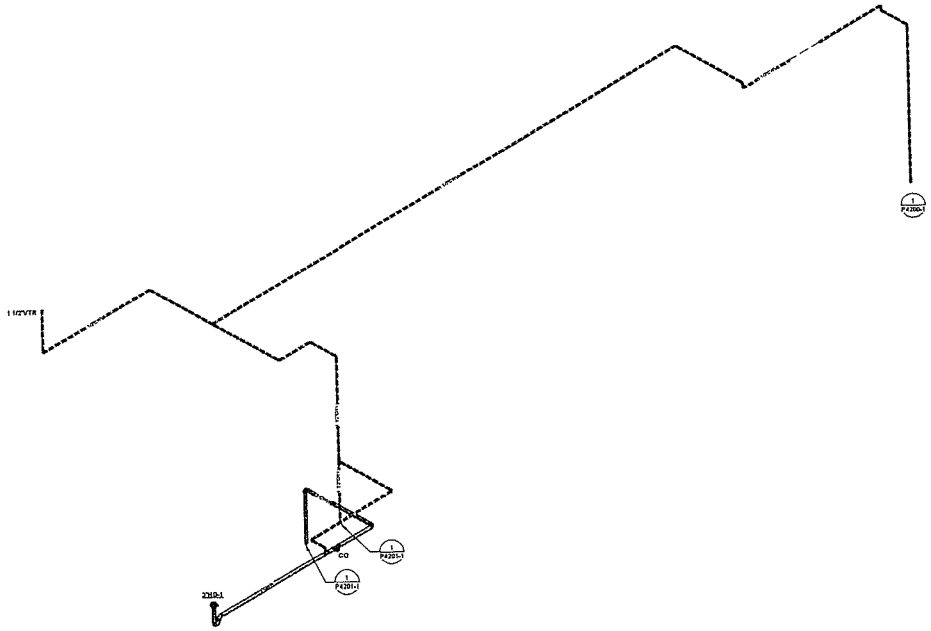


1 STORM ISOMETRIC - AREA A - PLUMBING
P4202-1



2 STORM ISOMETRIC - AREA B - PLUMBING
P4202-1

eu:a
civil/urban | madison | green bay | denver | atlanta

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PROJECT INFORMATION

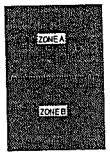
STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
10/03/2025	CONSTRUCTION DOCUMENTS PH1
11/03/2025	PH1 ADD1

KEY PLAN



SHEET INFORMATION

PROJECT MANAGER
PROJECT NUMBER 720448

STORM ISOMETRICS - PLUMBING

P4202-1

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ABBREVIATIONS

ACC	AIR COOLED CONDENSER
ACCU	AIR COOLED CONDENSING UNIT
ACU	AIR CONDITIONING UNIT
AD	ACCESS DOOR
ADJ	ADJUSTABLE
AFF	ABOVE FINISHED FLOOR
AFMS	AIR FLOW MEASURING STATION
AHU	AIR HANDLING UNIT
AL	ALUMINUM
AMP	AMPERE
AP	ACCESS PANEL
APD	AIR PRESSURE DROP
ASC	ABOVE SUSPENDED CEILING
AUTO	AUTOMATIC
BDD	BACK DRAFT DAMPER
BHP	BRAKE HORSEPOWER
BI	BACKWARD INCLINED
BLDG	BUILDING
BOD	BOTTOM OF DUCT
BOP	BOTTOM OF PIPE
BOS	BOTTOM OF STRUCTURE
BRG	BEARING
BSMT	BASEMENT
BTU	BRITISH THERMAL UNIT
CA	COMBUSTION AIR
CAB	CABINET
CCC	COOLING COIL CONDENSATE
CD	CEILING DIFFUSER
CFM	CUBIC FEET PER MINUTE
CI	CAST IRON OR CUBIC INCH
CL	CENTERLINE
CLG	CEILING
CMU	CONCRETE MASONRY UNIT
CONC	CONCRETE
COND	CONDENSATE
CONTR	CONTRACTOR
COP	COEFFICIENT OF PERFORMANCE
CP	CONDENSATE PUMP
CU	COPPER
CUH	CABINET UNIT HEATER
DB	DRY BULB
DDC	DIRECT DIGITAL CONTROL
DEPT	DEPARTMENT
DIA	DIAMETER
DN	DOWN
DSA	DUCT SOUND ATTENUATOR
DWG	DRAWING
EAT	ENTERING AIR TEMPERATURE
EC	ELECTRICAL CONTRACTOR
EF	EXHAUST FAN
EER	ENERGY EFFICIENCY RATIO
EG	EXHAUST GRILLE
EL	ELEVATION
ELEC	ELECTRICAL
EQUIP	EQUIPMENT
ERH	ELECTRIC RADIANT HEATER
ERV	ENERGY RECOVERY VENTILATOR
EWH	ELECTRIC WALL HEATER
EXH	EXHAUST
EXT	EXTERIOR OR EXTERNAL
°F	DEGREES FAHRENHEIT
FA	FREE AREA
FC	FORWARD CURVED
FCU	FAN COIL UNIT
FD	FLOOR DRAIN OR FIRE DAMPER
FLA	FULL LOAD AMPS
FLEX	FLEXIBLE
FPC	FIRE PROTECTION CONTRACTOR
FPM	FEET PER MINUTE
FT	FOOT OR FEET
G	GAS
GA	GAUGE
GAL	GALLON
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GRH	GAS FIRED RADIANT HEAT
GPM	GALLONS PER MINUTE
GUH	GAS FIRED UNIT HEATER
GV	GAS VENT
HC	HEATING CONTRACTOR
HD	HUB DRAIN
HGT	HEIGHT
HP	HORSEPOWER
HPU	HEAT PUMP UNIT
HR	HOUR
HVAC	HEATING VENTILATING AND AIR CONDITIONING
HX	HEAT EXCHANGER
HZ	HERTZ
IN	INCH
IPLV	INTEGRATED PART LOAD VALUE
KW	KILOWATT
LAT	LEAVING AIR TEMPERATURE
LBS	POUNDS
LD	LINEAR DIFFUSER
LR	LINEAR RETURN
M	MOTOR OPERATED DAMPER
MAT	MIXED AIR TEMPERATURE
MA	MIXED AIR
MAU	MAKE-UP AIR UNIT
MAX	MAXIMUM
MBH	1000 BRITISH THERMAL UNITS/HOUR
MCA	MINIMUM CIRCUIT AMPS
MECH	MECHANICAL
MEZZ	MEZZANINE
MIN	MINIMUM
MOCP	MAXIMUM OVERCURRENT PROTECTION
MUA	MAKE-UP AIR UNIT
NC	NOISE CRITERIA
NC	NORMALLY CLOSED
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NPLV	NOMINAL PART LOAD VALUE
NTS	NOT TO SCALE
OA	OUTDOOR AIR
OAT	OUTDOOR AIR TEMPERATURE
OC	ON CENTER
OED	OPEN ENDED DUCT
OPD	OPPOSED BLADE DAMPER
P	PUMP
PC	PLUMBING CONTRACTOR
PLBG	PLUMBING
POC	POINT OF CONNECTION
PRELIM	PRELIMINARY
PRESS	PRESSURE
PSI	POUNDS PER SQUARE INCH
PVC	POLYVINYL CHLORIDE
R	REFRIGERANT
RA	RETURN AIR
REQD	REQUIRED
RG	RETURN GRILLE
RL	REFRIGERANT LIQUID
RPM	REVOLUTIONS PER MINUTE
RS	REFRIGERANT SUCTION
S	SUPPLY
SA	SUPPLY AIR
SCR	SILICONE CONTROLLED RECTIFIERS
SD	SLOT DIFFUSER
SEER	SEASONAL ENERGY EFFICIENCY RATIO
SF	SUPPLY FAN
SG	SUPPLY GRILLE
SM	SHEET METAL
SQ FT	SQUARE FEET
SS	STAINLESS STEEL
SWD	SINGLE WALL DUCTWORK
SWEI	SINGLE WIDTH SINGLE INLET
T	THERMOSTAT/TEMPERATURE SENSOR
TA	THROWAWAY
TCC	TEMPERATURE CONTROL CONTRACTOR
TCP	TEMPERATURE CONTROL PANEL
TEMP	TEMPORARY
TF	TRANSFER FAN
TG	TRANSFER GRILLE
TO	TEST OPENINGS
TYP	TYPICAL
UH	UNIT HEATER
UV	UNIT VENTILATOR
VAV	VARIABLE AIR VOLUME
VD	VOLUME DAMPER
VERT	VERTICAL
VFD	VARIABLE FREQUENCY DRIVE
VSC	VARIABLE SPEED CONTROL
WB	WET BULB
WC	WATER COLUMN
WPD	WATER PRESSURE DROP

GENERAL SYMBOLS

- THERMOSTAT OR TEMPERATURE SENSOR
- THERMOSTAT OR TEMPERATURE SENSOR WITH SECURITY COVER
- CO — CARBON MONOXIDE SENSOR
- CO2 — CARBON DIOXIDE SENSOR
- NO2 — NITROGEN DIOXIDE SENSOR
- H2 — HYDROGEN SENSOR
- NEW WORK KEYED NOTE
- REVISION KEYED NOTE
- NEW DUCTWORK/PIPING
- NEW EQUIPMENT

PIPING SYSTEMS

- CONNECTION, BOTTOM
- CONNECTION, TOP
- ELBOW, TURNED UP
- ELBOW, TURNED DOWN
- REDUCER, CONCENTRIC
- PITCH OF PIPE
- COND — CONDENSATE
- G — GAS
- RS — REFRIGERANT SUCTION
- RL — REFRIGERANT LIQUID

DUCTWORK SYSTEMS

- 20X12 — DUCT SIZE, (FIRST FIGURE IS SIDE SHOWN)
- 12" ø — ROUND DUCT
- 12"x8" 12"x8" — CHANGE OF ELEVATION IN DIRECTION OF AIR FLOW
- ACCESS DOOR, VERTICAL OR HORIZONTAL (VAD)
- ACOUSTICAL DUCT LINER
- FLEXIBLE CONNECTION
- DUCT SOUND ATTENUATOR
- DUCT TRANSITION (DOUBLE LINE)
- DUCT TRANSITION (RECT. TO ROUND)
- DUCT TRANSITION (SINGLE LINE)
- HIDDEN DUCTWORK
- BDD — BACK DRAFT DAMPER
- M — MOTOR OPERATED DAMPER
- MD — MANUAL VOLUME DAMPER
- SD — SMOKE DETECTOR
- S — SMOKE DAMPER
- F — FIRE DAMPER
- FS — COMBINATION FIRE/SMOKE DAMPER
- STANDARD BRANCH, SUPPLY, RETURN, OR EXHAUST, NO SPLITTER
- ROOF VENTILATOR OR HOOD ON ROOF ABOVE
- ROOF VENTILATOR OR HOOD ON ROOF

- DUCT CAP
- END OF DUCT
- POSITIVE PRESSURE DUCT SECTION
- POSITIVE PRESSURE DUCT (DOWN OR AWAY)
- NEGATIVE PRESSURE DUCT SECTION
- NEGATIVE PRESSURE DUCT (DOWN OR AWAY)
- FLEXIBLE DUCT DIFFUSER CONNECTION
- SIDEWALL AIR DEVICE
- EXHAUST, RETURN, OR TRANSFER AIR DEVICE
- SUPPLY AIR DEVICE
- LINEAR OR SLOT AIR DEVICE
- SIZE — TRANSFER GRILLE ASSEMBLY
- LOUVER AND BIRD SCREEN
- ELBOW WITH TURNING VANES
- UNIT HEATER
- CENTRIFUGAL FAN
- AIR FLOW
- ELEVATION SYMBOL

HVAC SHEET INDEX - PHASE 1

M0000-1	SYMBOLS AND ABBREVIATIONS - HVAC
M1000-1	LOWER LEVEL OVERALL - PHASE 1 - HVAC
M1000-A-1	LOWER LEVEL - ZONE A - PHASE 1 - HVAC
M1000-B-1	LOWER LEVEL - ZONE B - PHASE 1 - HVAC
M1001-1	1ST FLR OVERALL - PHASE 1 - HVAC
M1001-A-1	1ST FLR - ZONE A - PHASE 1 - HVAC
M1001-B-1	1ST FLR - ZONE B - PHASE 1 - HVAC
M1002-1	P2 FLR OVERALL - PHASE 1 - HVAC
M1002-A-1	P2 FLR - ZONE A - PHASE 1 - HVAC
M1002-B-1	P2 FLR - ZONE B - PHASE 1 - HVAC
M1003-1	P3 FLR OVERALL - PHASE 1 - HVAC
M1003-A-1	P3 FLR - ZONE A - PHASE 1 - HVAC
M1003-B-1	P3 FLR - ZONE B - PHASE 1 - HVAC
M1004-1	P4 FLR OVERALL - PHASE 1 - HVAC
M1004-A-1	P4 FLR - ZONE A - PHASE 1 - HVAC
M1004-B-1	P4 FLR - ZONE B - PHASE 1 - HVAC
M1005-1	P5 FLR OVERALL - PHASE 1 - HVAC
M1005-A-1	P5 FLR - ZONE A - PHASE 1 - HVAC
M1005-B-1	P5 FLR - ZONE B - PHASE 1 - HVAC
M1006-1	P6 FLR OVERALL - PHASE 1 - HVAC
M1006-A-1	P6 FLR - ZONE A - PHASE 1 - HVAC
M1006-B-1	P6 FLR - ZONE B - PHASE 1 - HVAC
M1007-1	7TH FLR OVERALL - PHASE 1 - HVAC
M1007-A-1	7TH FLR - ZONE A - PHASE 1 - HVAC
M1007-B-1	7TH FLR - ZONE B - PHASE 1 - HVAC
M4001-1	SECTIONS - HVAC
M4003-1	SECTIONS - HVAC
M5001-1	CONTROL DIAGRAMS, POINTS LISTS, SEQ - HVAC
M5003-1	CONTROL DIAGRAMS, POINTS LISTS, SEQ - HVAC
M5003-1	CONTROL DIAGRAMS, POINTS LISTS, SEQ - HVAC
M5004-1	CONTROL DIAGRAMS, POINTS LISTS, SEQ - HVAC
M5005-1	CONTROL DIAGRAMS, POINTS LISTS, SEQ - HVAC
M6001-1	SCHEDULES - HVAC
M6003-1	SCHEDULES - HVAC
M6001-1	DETAILS - HVAC
M6003-1	DETAILS - HVAC

NOTE:
KEYED NOTES ARE USED TWO WAYS, PER PROJECT AND PER PLAN.

LEGENDS INDICATED AS "KEYED NOTES PER PROJECT" REFERENCE A COMMON, OVERALL PROJECT KEYED NOTE LIST. THEREFORE, KEYED NOTES MAY NOT APPEAR IN SEQUENTIAL ORDER. DISCIPLINE SPECIFIC DESIGNATIONS HAVE BEEN ADDED FOR CLARITY.

KEYED NOTES LEGENDS INDICATED AS "KEYED NOTES PER SHEET" ARE SPECIFIC PER SHEET AND ARE NUMBERED ACCORDINGLY.

eua
milwaukee | madison | greenbay | denver | atlanta

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PROJECT INFORMATION

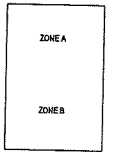
STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05-12-2023	SD-HEARING DESIGN PHI
07-28-2023	DCTV LED DESIGN PHI
10-02-2023	CONSTRUCTION DOCUMENTS PHI
11-03-23	PHI, KDD

KEY PLAN



SHEET INFORMATION

PROJECT MANAGER

PROJECT NUMBER 72D448

SYMBOLS AND ABBREVIATIONS - HVAC

M0000-1

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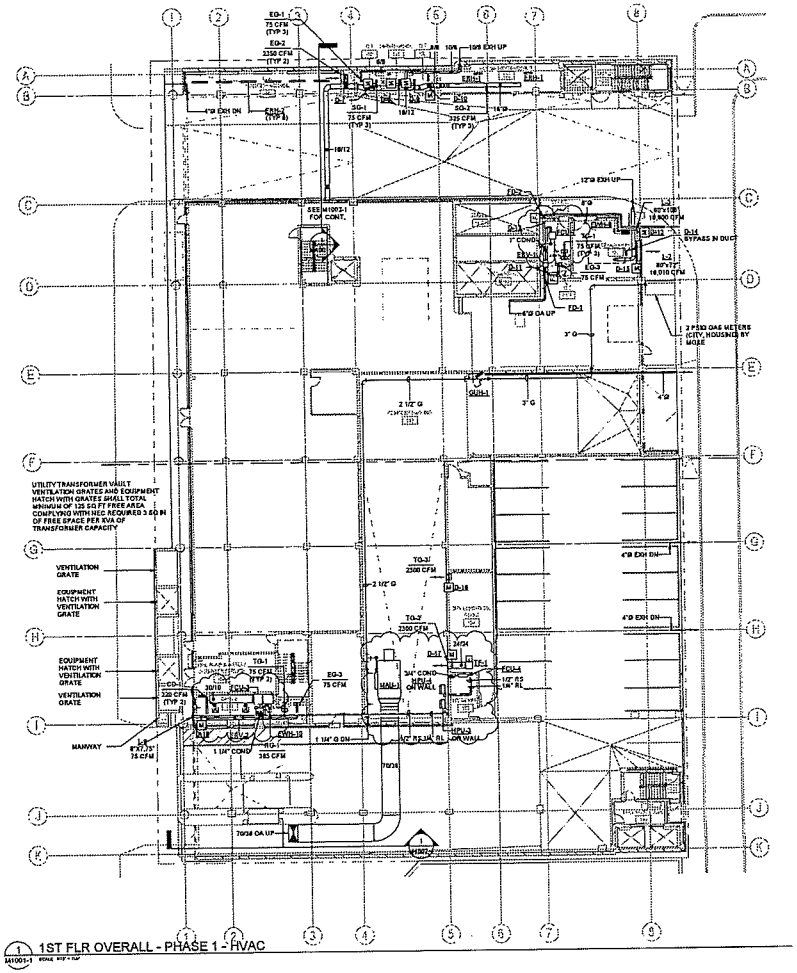
GENERAL NOTES:

1. DUCTS ROUTED ABOVE DRIVE AISLE SHALL MAINTAIN A MINIMUM OF 8'-2" CLEAR ABOVE FINISHED FLOOR. THIS INCLUDES ANY DUCT ACCESSORIES ASSOCIATE WITH HANGING, JOINING, INSULATING, ETC.
2. EXHAUST DUCTS ROUTED WITHIN ALL PARKING LEVELS SHALL BE INSTALLED TO ALIGN WITH THE PITCH OF THE FLOOR ABOVE. CONTRACTOR SHALL COORDINATE WITH ALL TRADES FOR UTILITY ROUTING PRIOR TO INSTALLATION.
3. ALL VARIABLE FREQUENCY DRIVES SHOWN ON PARKING LEVELS SHALL BE HUNG FROM THE FLOOR ABOVE AND MAINTAIN A MINIMUM OF 7'-2" CLEAR ABOVE FLOOR BELOW.
4. PHASE 1 CONTRACTORS SHALL PROVIDE TEMPORARY HEATING OF SPACES CONTAINING UTILITIES SUBJECT TO FREEZING THAT ARE ROUTED THROUGH PHASE 2 SAWED OUT AREAS.



1 M1001-1 1ST FLR OVERALL - PHASE 1 - HVAC

eu:a
eidesotter | madison | green bay | denver | atlanta

JDR ENGINEERING, INC.
5535 NOBEL DRIVE
SUITE 110
MADISON, WI 53711
PH: 608.277.0728 | FX: 608.277.0746
JDR Project No: 22.0249

PROJECT INFORMATION

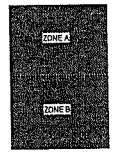
STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05/18/2023	SCHEMATIC DESIGN PHI
01/26/2024	DEVELOPED DESIGN PHI
10/02/2024	CONSTRUCTION DOCUMENTS PHI
11/04/2024	PHI_CD02

KEY PLAN



SHEET INFORMATION

PROJECT MANAGER

PROJECT NUMBER 720448

1ST FLR OVERALL – PHASE 1 – HVAC

M1001-1

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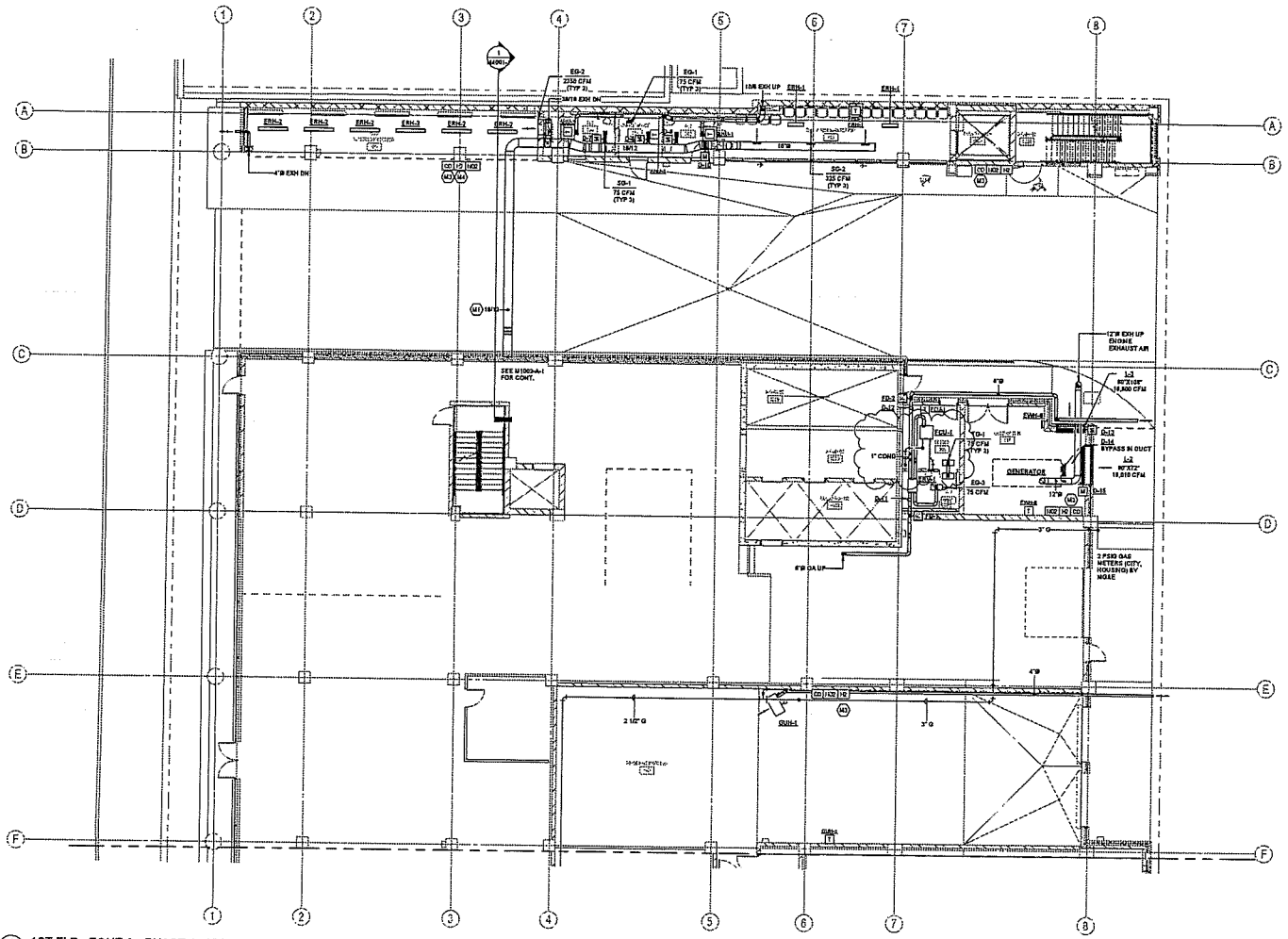


1 1ST FLR - ZONE A - PHASE 1 - HVAC
M1001-A-1 SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. DUCTS ROUTED ABOVE DRIVE AISLE SHALL MAINTAIN A MINIMUM OF 8'-2" CLEAR ABOVE FINISHED FLOOR. THIS INCLUDES ANY DUCT ACCESSORIES ASSOCIATE WITH HANGING, JOINING, INSULATING, ETC.
2. EXHAUST DUCTS ROUTED WITHIN ALL PARKING LEVELS SHALL BE INSTALLED TO ALIGN WITH THE PITCH OF THE FLOOR ABOVE. CONTRACTOR SHALL COORDINATE WITH ALL TRADES FOR UTILITY ROUTING PRIOR TO INSTALLATION.
3. ALL VARIABLE FREQUENCY DRIVES SHOWN ON PARKING LEVELS SHALL BE HUNG FROM THE FLOOR ABOVE AND MAINTAIN A MINIMUM OF 7'-2" CLEAR ABOVE FLOOR BELOW.
4. PHASE 1 CONTRACTORS SHALL PROVIDE TEMPORARY HEATING OF SPACES CONTAINING UTILITIES SUBJECT TO FREEZING THAT ARE ROUTED THROUGH PHASE 2 BUILD OUT AREAS.

KEYED NOTES
(KEYED NOTES PER PROJECT)

M1 OUTSIDE AIR DUCT FROM AHU-1 ROUTED WITHIN INSULATED PLENUM ABOVE THE BUS TENDERAL.
M3 PROVIDE QUANTITY OF CONO2/H2 DETECTORS AS REQUIRED FOR COMPLETE PARKING LEVEL COVERAGE. PROVIDE PROTECTIVE ENCLOSURE AROUND DETECTORS. CONO2 DETECTORS SHALL BE INSTALLED 5'-0" ABOVE FINISHED FLOOR. HYDROGEN DETECTOR (H2) SHALL BE INSTALLED WITHIN 1'-0" OF DECK ABOVE
M4 (1) SETS OF CONO2 DETECTORS. FIRST PAIR SHALL BE INSTALLED 5'-0" ABOVE FINISHED FLOOR. SECOND PAIR SHALL BE INSTALLED WITHIN 1'-0" OF DECK ABOVE.

eu:a
individual | medium | greenbay | denver | atlanta

JDR ENGINEERING, INC.
5525 NOBEL DRIVE
SUITE 110
MADISON, WI 53711
PH: 608.277.1728 | FX: 608.277.1046
JDR Project No: 22.0249

PROJECT INFORMATION

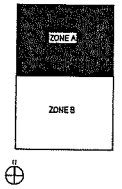
STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05-15-2023	SD-EARLY DESIGN PH1
07-26-2023	DEVELOPED DESIGN PH1
10-02-2023	SD REVISION DOCUMENTS PH1
11-03-2023	PH1_CD02

KEY PLAN



SHEET INFORMATION

PROJECT MANAGER
PROJECT NUMBER 720448

1ST FLR - ZONE A - PHASE 1 - HVAC

M1001-A-1

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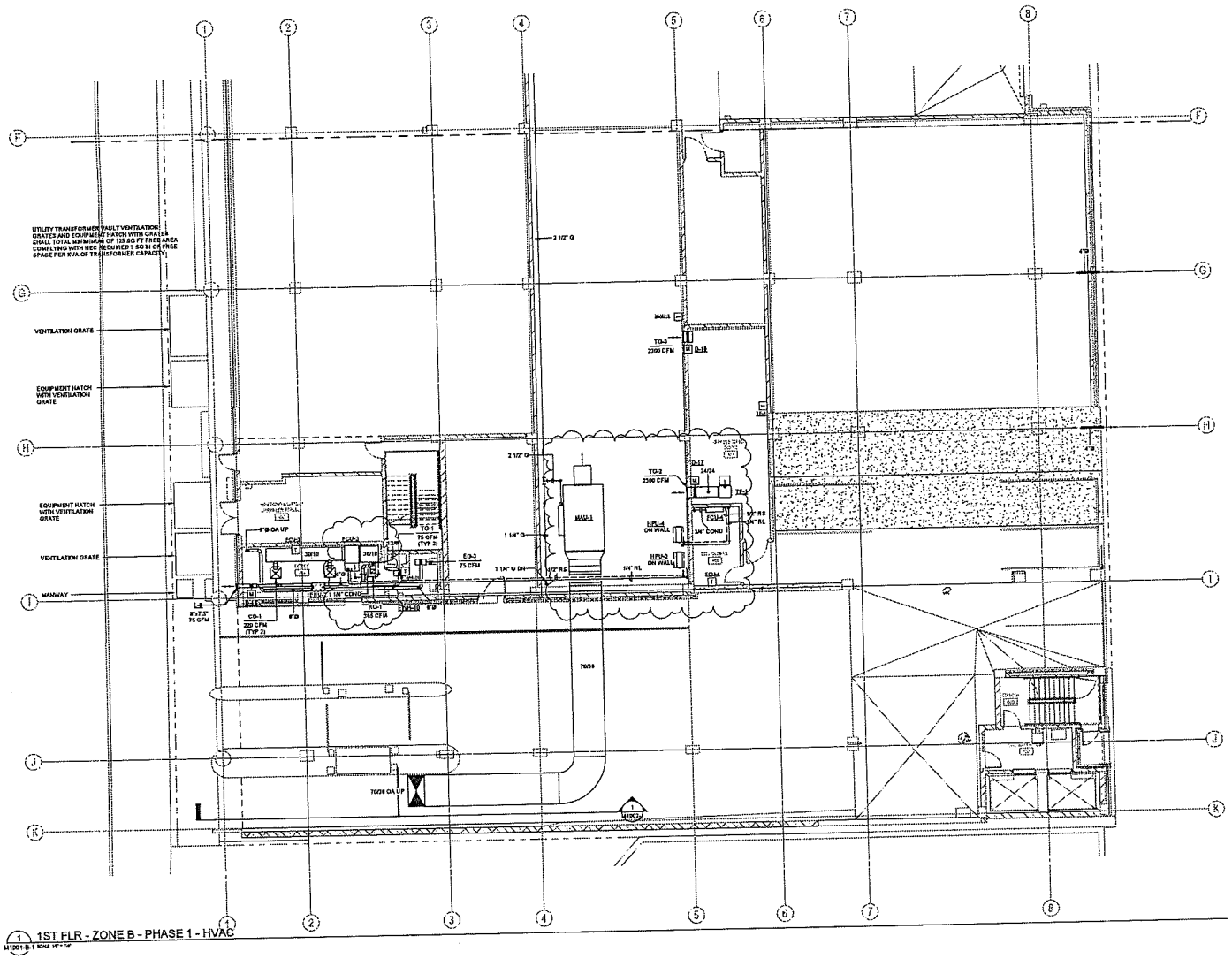

1 1ST FLR - ZONE B - PHASE 1 - HVAC
M1001-B-1 SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. DUCTS ROUTED ABOVE DRIVE AISLE SHALL MAINTAIN A MINIMUM OF 8'-3" CLEAR ABOVE FINISHED FLOOR. THIS INCLUDES ANY DUCT ACCESSORIES ASSOCIATE WITH HANGERS, JOBBING, INSULATING, ETC.
2. EXHAUST DUCTS ROUTED WITHIN ALL PARKING LEVELS SHALL BE INSTALLED TO ALIGN WITH THE PITCH OF THE FLOOR ABOVE. CONTRACTOR SHALL COORDINATE WITH ALL TRADES FOR UTILITY ROUTING PRIOR TO INSTALLATION.
3. ALL VARIABLE FREQUENCY DRIVES SHOWN ON PARKING LEVELS SHALL BE HUNG FROM THE FLOOR ABOVE AND MAINTAIN A MINIMUM OF 7'-3" CLEAR ABOVE FLOOR BELOW.
4. PHASE 1 CONTRACTORS SHALL PROVIDE TEMPORARY HEATING OF SPACES CONTAINING UTILITIES SUBJECT TO FREEZING THAT ARE ROUTED THROUGH PHASE 2 BUILD OUT AREAS.

eu:a
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JDR ENGINEERING, INC.
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PH: 608.277.7728 | FAX: 608.277.7046
JDR Project No: 22.0249

PROJECT INFORMATION

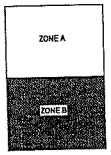
STATE STREET
CAMPUS GARAGE
MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05-23-2025	SCHEMATIC DESIGN PH1
07-29-2025	DETAILED DESIGN PH1
10-03-2025	CONSTRUCTION DOCUMENTS PH1
11-07-2025	Plan_40x30

KEY PLAN



SHEET INFORMATION

PROJECT MANAGER
PROJECT NUMBER 720448

1ST FLR - ZONE B – PHASE 1 – HVAC

M1001-B-1

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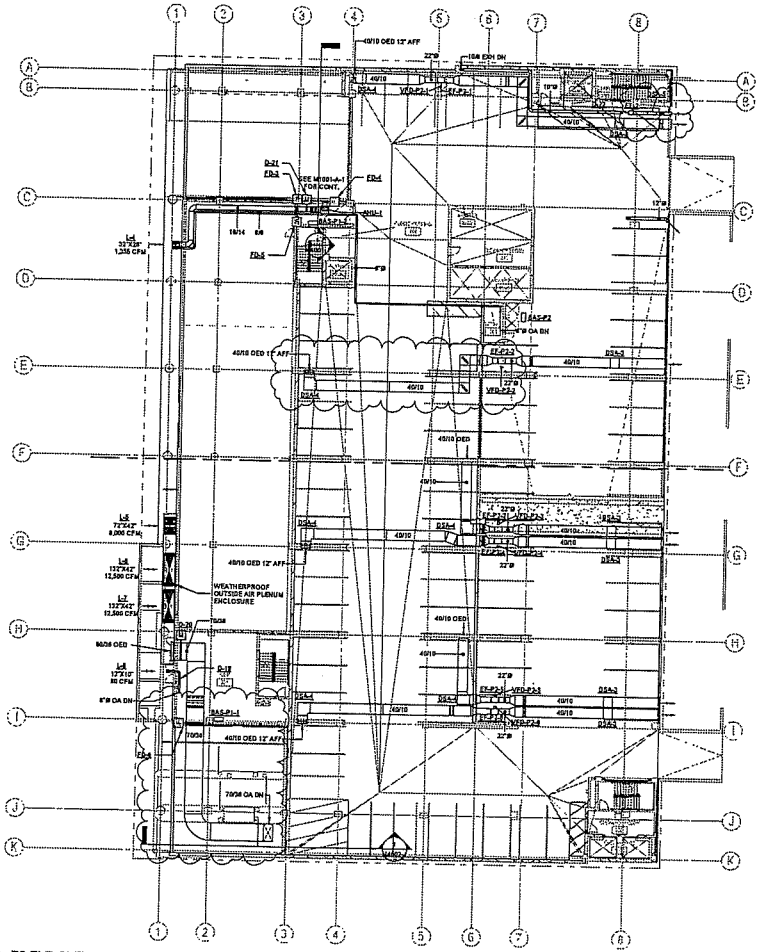
GENERAL NOTES:

1. DUCTS ROUTED ABOVE DRIVE AISLE SHALL MAINTAIN A MINIMUM OF 8'-2" CLEAR ABOVE FINISHED FLOOR. THIS INCLUDES ANY DUCT ACCESSORIES ASSOCIATE WITH HANGING, JOINING, INSULATING, ETC.
2. EXHAUST DUCTS ROUTED WITHIN ALL PARKING LEVELS SHALL BE INSTALLED TO ALIGN WITH THE PITCH OF THE FLOOR ABOVE. CONTRACTOR SHALL COORDINATE WITH ALL TRADES FOR UTILITY ROUTING PRIOR TO INSTALLATION.
3. ALL VARIABLE FREQUENCY DRIVES SHOWN ON PARKING LEVELS SHALL BE HUNG FROM THE FLOOR ABOVE AND MAINTAIN A MINIMUM OF 7'-2" CLEAR ABOVE FLOOR BELOW.
4. PHASE 1 CONTRACTORS SHALL PROVIDE TEMPORARY HEATING OF SPACES CONTAINING UTILITIES SUBJECT TO FREEZING THAT ARE ROUTED THROUGH PHASE 2 BUILD OUT AREAS.



1 M1002-1 P2 FLR OVERALL - PHASE 1 - HVAC

eu:a
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JDR ENGINEERING, INC.
5515 NOBEL DRIVE
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MADISON, WI 53711
PH: 608.277.7728 | FAX: 608.277.7946
JDR Project No: 22.0249

PROJECT INFORMATION

STATE STREET
CAMPUS GARAGE
MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05-13-2022	SCHEMATIC DESIGN
07-20-2022	DESIGN DEVELOPMENT
10-10-2022	CONSTRUCTION DOCUMENTS PH1
11-02-2022	PH1 VOID

KEY PLAN

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PROJECT MANAGER

PROJECT NUMBER 720448

P2 FLR OVERALL – PHASE 1 – HVAC

M1002-1

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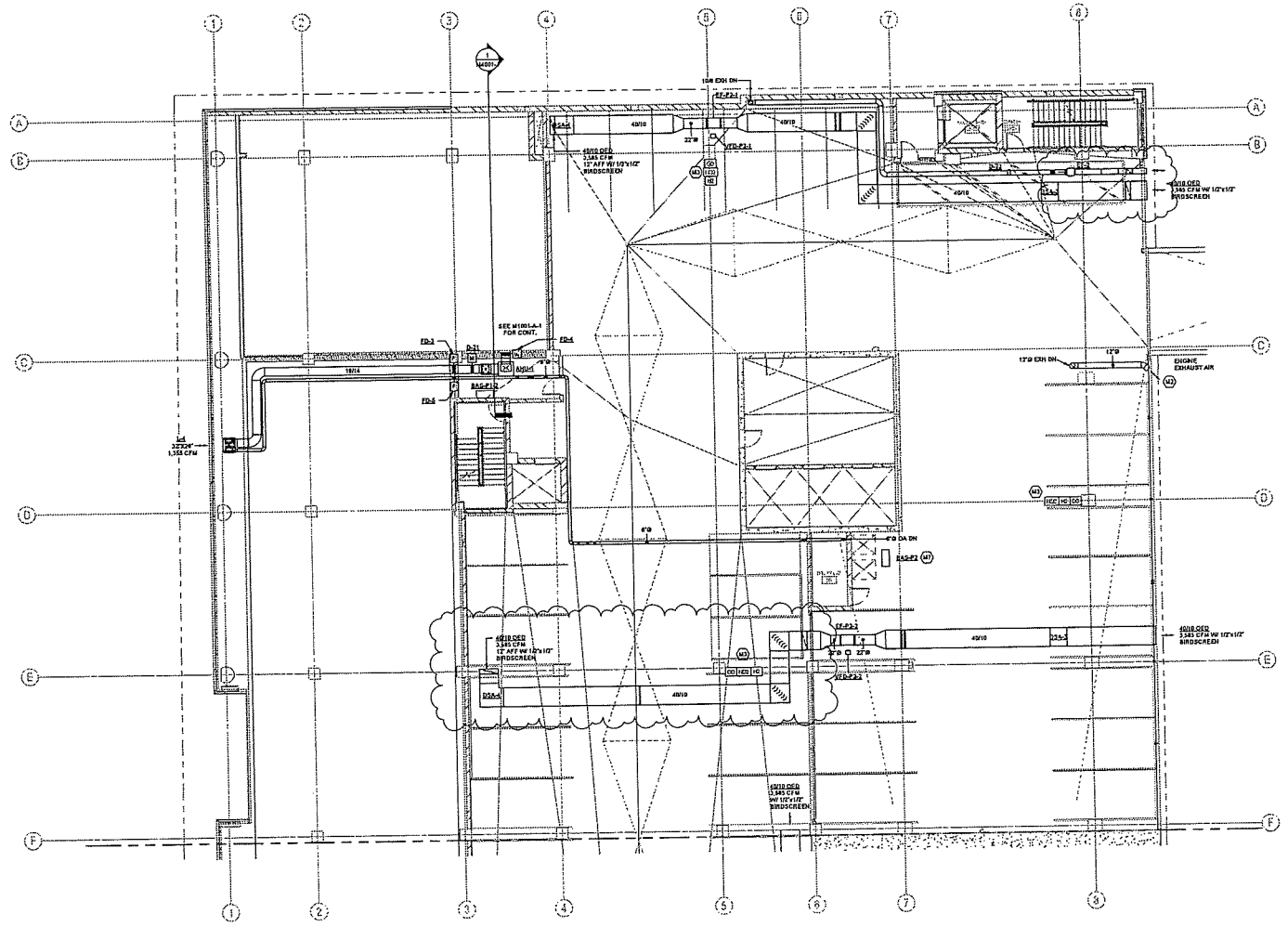

1 P2 FLR - ZONE A - PHASE 1 - HVAC
M1002-A-1 SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. DUCTS ROUTED ABOVE DRIVE AISLE SHALL MAINTAIN A MINIMUM OF 9'-2" CLEAR ABOVE FINISHED FLOOR. THIS INCLUDES ANY DUCT ACCESSORIES ASSOCIATE WITH HANGING, JOINING, INSULATING, ETC.
2. EXHAUST DUCTS ROUTED WITHIN ALL PARKING LEVELS SHALL BE INSTALLED TO ALIGN WITH THE PITCH OF THE FLOOR ABOVE. CONTRACTOR SHALL COORDINATE WITH ALL TRADES FOR UTILITY ROUTING PRIOR TO INSTALLATION.
3. ALL VARIABLE FREQUENCY DRIVES SHOWN ON PARKING LEVELS SHALL BE HUNG FROM THE FLOOR ABOVE AND MAINTAIN A MINIMUM OF 7'-3" CLEAR ABOVE FLOOR BELOW.
4. PHASE 1 CONTRACTORS SHALL PROVIDE TEMPORARY HEATING OF SPACES CONTAINING UTILITIES SUBJECT TO FREEZING THAT ARE ROUTED THROUGH PHASE 2 BUILD OUT AREAS.

KEYED NOTES

KEYED NOTES FOR PROJECT

M2 GENERATOR EXHAUST SHALL BE DIRECTED AWAY FROM CONNECTING BRIDGE. PROVIDE 45 DEG FITTING WITH CUTBACK.

M3 PROVIDE QUANTITY OF CO/NO2 DETECTORS AS REQUIRED FOR COMPLETE PARKING LEVEL COVERAGE. PROVIDE PROTECTIVE ENCLOSURE AROUND DETECTORS. CO/NO2 DETECTORS SHALL BE INSTALLED 5'-0" ABOVE FINISHED FLOOR. HYDROGEN DETECTOR (H2) SHALL BE INSTALLED WITHIN 1'-0" OF DECK ABOVE.

M7 BUILDING AUTOMATION SYSTEM (BAS) PANELS SHALL BE TEMPORARILY SUPPORTED. UPON COMPLETION OF PHASE 2, BAS PANELS SHALL BE RELOCATED TO WALLS INTENDED TO BE INSTALLED AT THIS LOCATION.

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JDR ENGINEERING, INC.
5515 NOBEL DRIVE
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MADISON, WI 53711
PH: 608.277.1728 | FX: 608.277.0746
JDR Project No: 22.0249

PROJECT INFORMATION

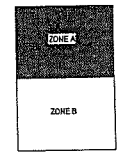
STATE STREET
CAMPUS GARAGE
MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05-06-2023	100% MASTER DESIGN PKG
07-28-2023	DETAILED DESIGN PKG
10-02-2023	CONSTRUCTION DOCUMENTS PKG
11-02-2023	PKG_1002

KEY PLAN



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PROJECT MANAGER

PROJECT NUMBER 720448

P2 FLR - ZONE A – PHASE 1 – HVAC

M1002-A-1

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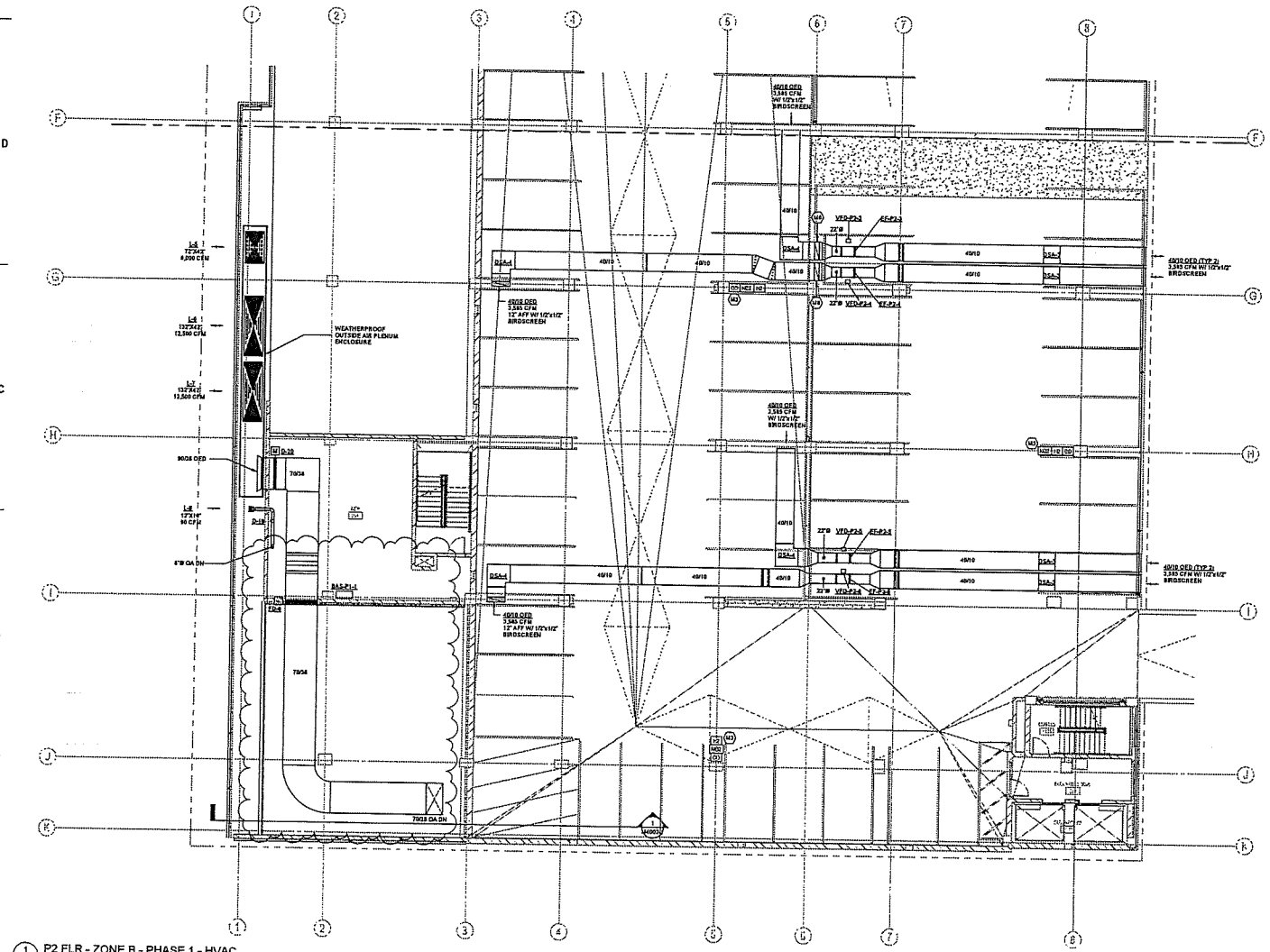

1 P2 FLR - ZONE B - PHASE 1 - HVAC
M1002-B-1 SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. DUCTS ROUTED ABOVE DRIVE AISLE SHALL MAINTAIN A MINIMUM OF 8'-2" CLEAR ABOVE FINISHED FLOOR. THIS INCLUDES ANY DUCT ACCESSORIES ASSOCIATE WITH HANGING, JOINING, INSULATING, ETC.
2. EXHAUST DUCTS ROUTED WITHIN ALL PARKING LEVELS SHALL BE INSTALLED TO ALIGN WITH THE PITCH OF THE FLOOR ABOVE. CONTRACTOR SHALL COORDINATE WITH ALL TRADES FOR UTILITY ROUTING PRIOR TO INSTALLATION.
3. ALL VARIABLE FREQUENCY DRIVES SHOWN ON PARKING LEVELS SHALL BE HUNG FROM THE FLOOR ABOVE AND MAINTAIN A MINIMUM OF 7'-2" CLEAR ABOVE FLOOR BELOW.
4. PHASE 1 CONTRACTORS SHALL PROVIDE TEMPORARY HEATING OF SPACES CONTAINING UTILITIES SUBJECT TO FREEZING THAT ARE ROUTED THROUGH PHASE 2 BUILD OUT AREAS.

KEYED NOTES
(KEYED NOTES PER PROJECT)

M3 PROVIDE QUANTITY OF CONCORD3 DETECTORS AS REQUIRED FOR COMPLETE PARKING LEVEL COVERAGE. PROVIDE PROTECTIVE ENCLOSURE AROUND DETECTORS. CONCO DETECTORS SHALL BE INSTALLED 5'-0" ABOVE FINISHED FLOOR. HYDROGEN DETECTOR (H2) SHALL BE INSTALLED WITHIN 1'-0" OF DECK ABOVE

M8 DUCT DROPWISE EXTENDS BELOW 7'-2" MINIMUM CLEARANCE. COORDINATE WITH OWNER/ARCHITECT FOR VEHICLE STOP BARRIER OR SIGNAGE TO PROTECT DUCT.

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JDR ENGINEERING, INC.
5525 NOBLE DRIVE
SUITE 110
MADISON, WI 53711
PH: 608.277.7726 | VC: 608.277.0746
JDR Project No: 22.0248

PROJECT INFORMATION

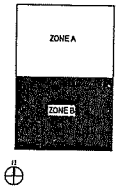
STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05/16/2025	SCHEMATIC DESIGN PH1
07/18/2025	DETAILED DESIGN PH1
10/03/2025	CONSTRUCTION DOCUMENTS PH1
11/05/2025	PH1 ADD

KEY PLAN



SHEET INFORMATION

PROJECT MANAGER

PROJECT NUMBER 720448

P2 FLR - ZONE B – PHASE 1 – HVAC

M1002-B-1

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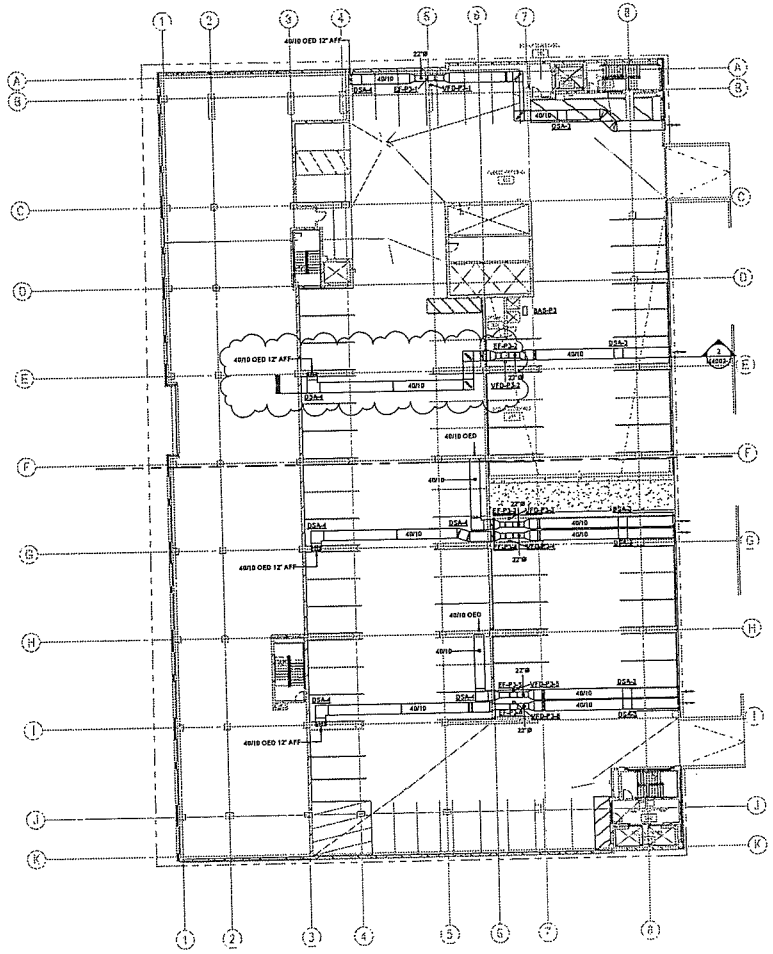
GENERAL NOTES:

1. DUCTS ROUTED ABOVE DRIVE AISLE SHALL MAINTAIN A MINIMUM OF 8'-2" CLEAR ABOVE FINISHED FLOOR. THIS INCLUDES ANY DUCT ACCESSSORIES ASSOCIATE WITH HANGERS, JOINING, INSULATING, ETC.
2. EXHAUST DUCTS ROUTED WITHIN ALL PARKING LEVELS SHALL BE INSTALLED TO ALIGN WITH THE PITCH OF THE FLOOR ABOVE. CONTRACTOR SHALL COORDINATE WITH ALL TRADES FOR UTILITY ROUTING PRIOR TO INSTALLATION.
3. ALL VARIABLE FREQUENCY DRIVES SHOWN ON PARKING LEVELS SHALL BE HUNG FROM THE FLOOR ABOVE AND MAINTAIN A MINIMUM OF 7'-2" CLEAR ABOVE FLOOR BELOW.
4. PHASE 1 CONTRACTORS SHALL PROVIDE TEMPORARY HEATING OF SPACES CONTAINING UTILITIES SUBJECT TO FREEZING THAT ARE ROUTED THROUGH PHASE 2 BUILD OUT AREAS.



1 M1003-1 P3 FLR OVERALL - PHASE 1 - HVAC

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JDR ENGINEERING, INC.
5535 NOBLE DRIVE
SUITE 310
MADISON, WI 53711
PH: 608.277.1728 | FX: 608.277.1746

JDR Project No: 22.0249

PROJECT INFORMATION

STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05-03-2023	SCHEMATIC DESIGN PHASE
07-28-2023	DEFINED DESIGN PHASE
10-02-2023	CONSTRUCTION DOCUMENTS PHASE
11-03-2023	PHASE 1 CUP

KEY PLAN

SHEET INFORMATION

PROJECT MANAGER

PROJECT NUMBER 720448

P3 FLR OVERALL – PHASE 1 – HVAC

M1003-1

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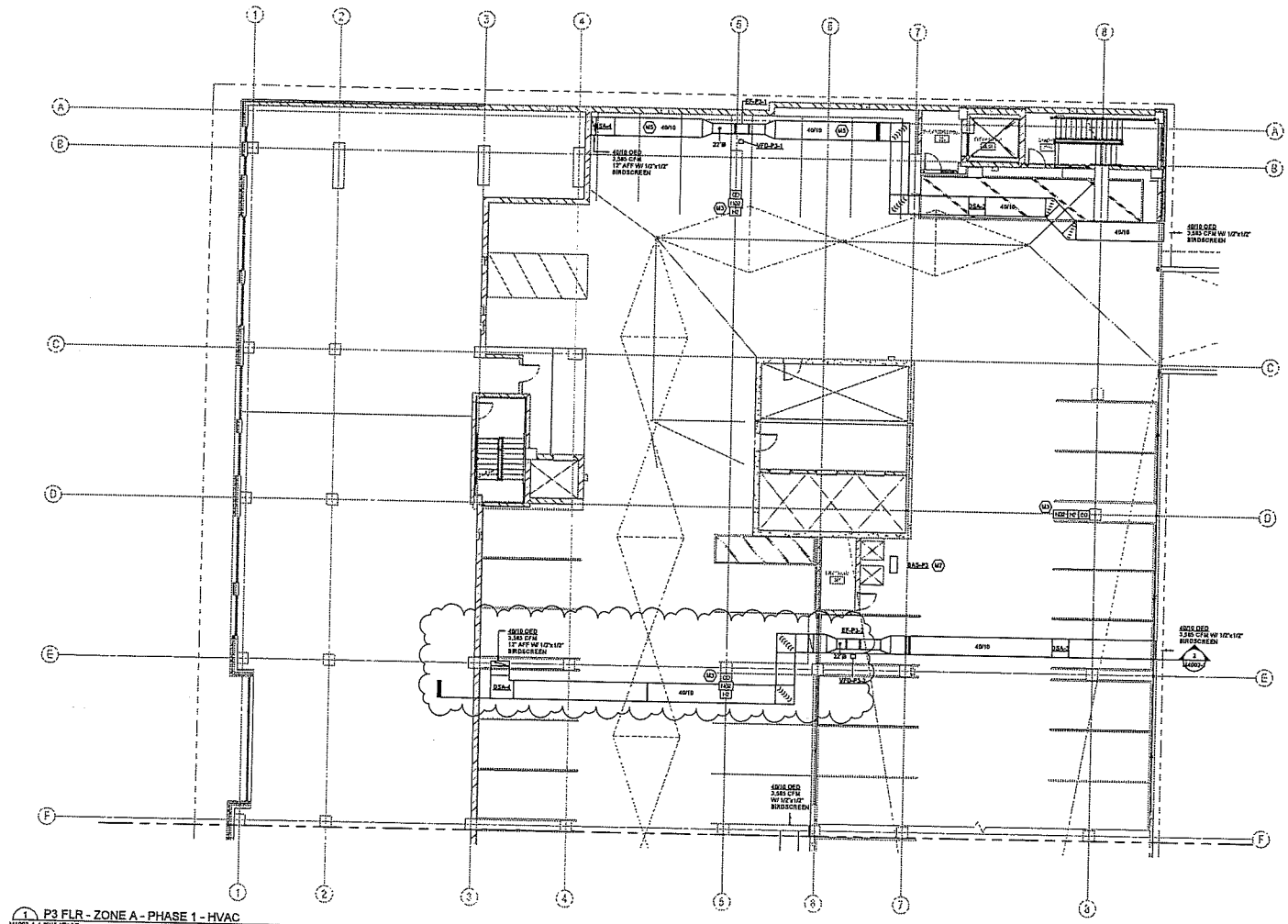

1 P3 FLR - ZONE A - PHASE 1 - HVAC
M1003-A-1 SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. DUCTS ROUTED ABOVE DRIVE AISLE SHALL MAINTAIN A MINIMUM OF 8'-3" CLEAR ABOVE FINISHED FLOOR. THIS INCLUDES ANY DUCT ACCESSORIES ASSOCIATE WITH HANGING, JOINING, INSULATING, ETC.
2. EXHAUST DUCTS ROUTED WITHIN ALL PARKING LEVELS SHALL BE INSTALLED TO ALIGN WITH THE PITCH OF THE FLOOR ABOVE. CONTRACTOR SHALL COORDINATE WITH ALL TRADES FOR UTILITY ROUTING PRIOR TO INSTALLATION.
3. ALL VARIABLE FREQUENCY DRIVES SHOWN ON PARKING LEVELS SHALL BE HUNG FROM THE FLOOR ABOVE AND MAINTAIN A MINIMUM OF 7'-2" CLEAR ABOVE FLOOR BELOW.
4. PHASE 1 CONTRACTORS SHALL PROVIDE TEMPORARY HEATING OF SPACES CONTAINING UTILITIES SUBJECT TO FREEZING THAT ARE ROUTED THROUGH PHASE 2 BUILD OUT AREAS.

KEYED NOTES:
(KEYED NOTES PER PROJECT)

M3 PROVIDE QUANTITY OF COMBINED DETECTORS AS REQUIRED FOR COMPLETE PARKING LEVEL COVERAGE. PROVIDE PROTECTIVE ENCLOSURE AROUND DETECTORS. COMBINED DETECTORS SHALL BE INSTALLED 9'-0" ABOVE FINISHED FLOOR (HYDROGEN DETECTOR (H2) SHALL BE INSTALLED WITHIN 1'-0" OF DECK ABOVE
M5 DUCTS DENOTED BY THIS NOTE ARE BELOW 8'-3" BUT SHALL MAINTAIN A MINIMUM 7'-2" CLEAR ABOVE FINISHED FLOOR.
M7 BUILDING AUTOMATION SYSTEM (BAS) PANELS SHALL BE TEMPORARILY SUPPORTED, UPON COMPLETION OF PHASE 2, BAS PANELS SHALL BE RELOCATED TO WALLS INTENDED TO BE INSTALLED AT THIS LOCATION.

eu:a
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JDR ENGINEERING, INC.
5515 NOBEL DRIVE
SUITE 110
MADISON, WI 53711
PH: 608.277.0728 | FX: 608.277.0746
JDR Project No: 22.0249

PROJECT INFORMATION

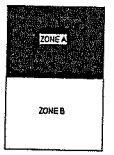
STATE STREET
CAMPUS GARAGE
MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05-13-2022	SCHEMATIC DESIGN PH1
07-29-2022	DEVELOPED DESIGN PH1
10-07-2022	30 % DEVELOPED DOCUMENTS PH1
11-02-2022	PH1_ADD2

KEY PLAN



SHEET INFORMATION

PROJECT MANAGER

PROJECT NUMBER 720448

P3 FLR - ZONE A - PHASE 1 - HVAC

M1003-A-1

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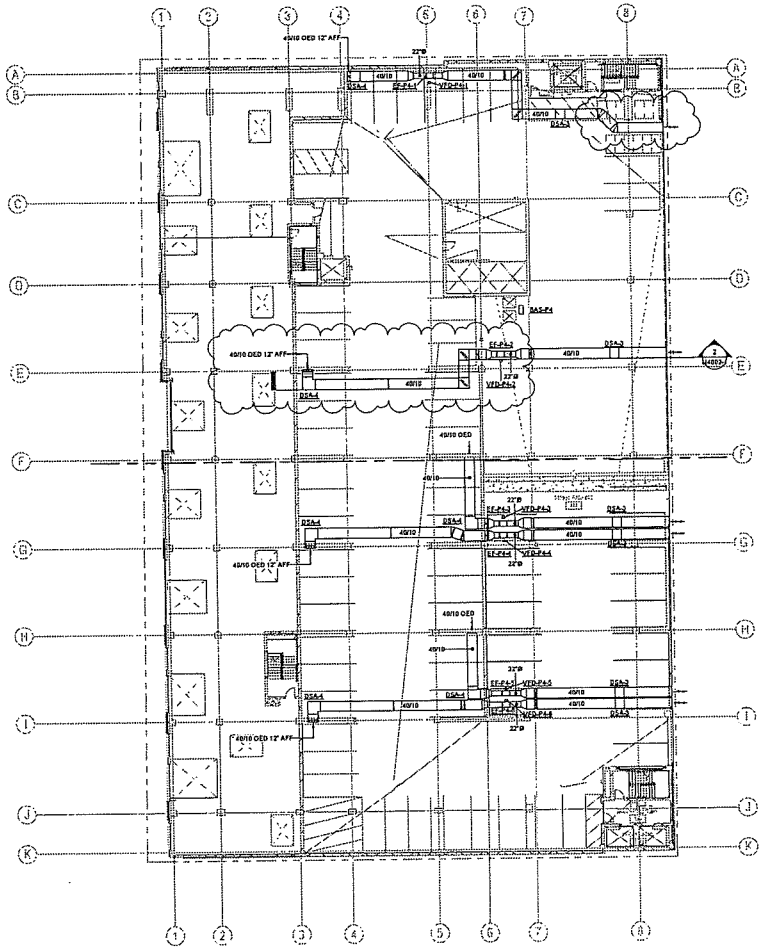
GENERAL NOTES:

1. DUCTS ROUTED ABOVE DRIVE AISLE SHALL MAINTAIN A MINIMUM OF 9'-3" CLEAR ABOVE FINISHED FLOOR. THIS INCLUDES ANY DUCT ACCESSORIES ASSOCIATE WITH HANGING, JOINING, INSULATING, ETC.
2. EXHAUST DUCTS ROUTED WITHIN ALL PARKING LEVELS SHALL BE INSTALLED TO ALIGN WITH THE PITCH OF THE FLOOR ABOVE. CONTRACTOR SHALL COORDINATE WITH ALL TRADES FOR UTILITY ROUTING PRIOR TO INSTALLATION.
3. ALL VARIABLE FREQUENCY DRIVES SHOWN ON PARKING LEVELS SHALL BE HUNG FROM THE FLOOR ABOVE AND MAINTAIN A MINIMUM OF 7'-2" CLEAR ABOVE FLOOR BELOW.
4. PHASE 1 CONTRACTORS SHALL PROVIDE TEMPORARY HEATING OF SPACES CONTAINING UTILITIES SUBJECT TO FREEZING THAT ARE ROUTED THROUGH PHASE 2 BUILD OUT AREAS.



1 P4 FLR OVERALL - PHASE 1 - HVAC
M1004-1 SCALE: 1/16" = 1'-0"

eu:a
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JDR ENGINEERING, INC.
5535 NOBEL DRIVE
SUITE 110
MADISON, WI 53711
PH: 608.277.1728 | FX: 608.271.0146
JDR Project No: 22.0249

PROJECT INFORMATION

STATE STREET
CAMPUS GARAGE
MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05/16/2023	SCHEMATIC DESIGN PKG
07/26/2023	DEVELOPED DESIGN PKG
10/02/2023	CONSTRUCTION DOCUMENTS PKG
12/01/2023	PHASE 1 CDS

KEY PLAN

SHEET INFORMATION

PROJECT MANAGER

PROJECT NUMBER 720448

P4 FLR OVERALL – PHASE 1 – HVAC

M1004-1

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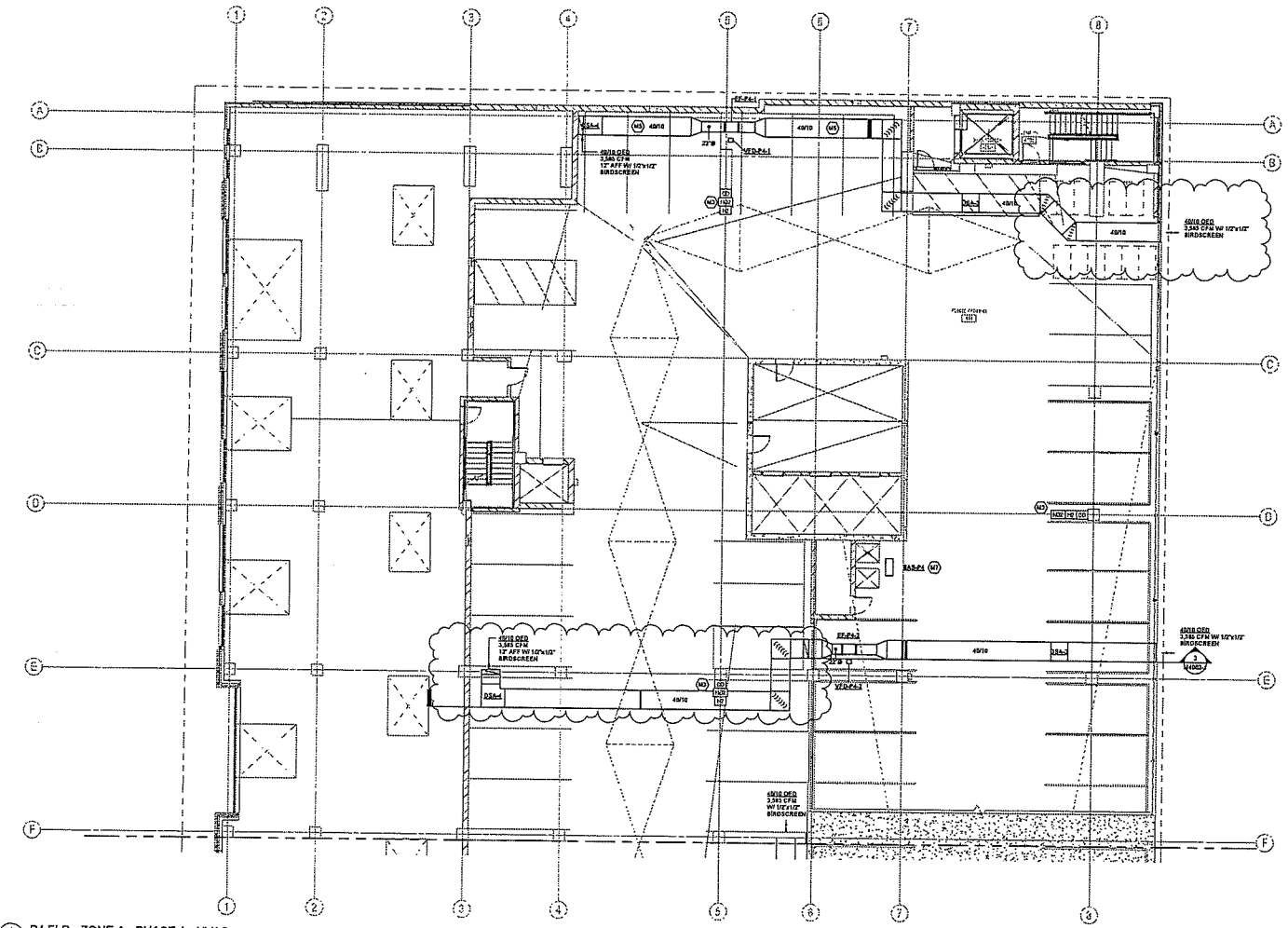

1 P4 FLR - ZONE A - PHASE 1 - HVAC
M1004-A-1 SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. DUCTS ROUTED ABOVE DRIVE AISLE SHALL MAINTAIN A MINIMUM OF 8'-2" CLEAR ABOVE FINISHED FLOOR. THIS INCLUDES ANY DUCT ACCESSORIES ASSOCIATE WITH HANGING, JOINING, INSULATING, ETC.
2. EXHAUST DUCTS ROUTED WITHIN ALL PARKING LEVELS SHALL BE INSTALLED TO ALIGN WITH THE PITCH OF THE FLOOR ABOVE. CONTRACTOR SHALL COORDINATE WITH ALL TRADES FOR UTILITY ROUTING PRIOR TO INSTALLATION.
3. ALL VARIABLE FREQUENCY DRIVES SHOWN ON PARKING LEVELS SHALL BE HUNG FROM THE FLOOR ABOVE AND MAINTAIN A MINIMUM OF 7'-2" CLEAR ABOVE FLOOR BELOW.
4. PHASE 1 CONTRACTORS SHALL PROVIDE TEMPORARY HEATING OF SPACES CONTAINING UTILITIES SUBJECT TO FREEZING THAT ARE ROUTED THROUGH PHASE 2 BUILD OUT AREAS.

KEYED NOTES:
(KEYED NOTES PER PROJECT)

M3 PROVIDE QUANTITY OF CO/NO2/H2 DETECTORS AS REQUIRED FOR COMPLETE PARKING LEVEL COVERAGE. PROVIDE PROTECTIVE ENCLOSURE AROUND DETECTOR FLOOR. DETECTORS SHALL BE INSTALLED 2'-6" ABOVE FINISHED FLOOR. HYDROGEN DETECTOR (H2) SHALL BE INSTALLED WITHIN 1'-0" OF DECK ABOVE.

M5 DUCTS DENOTED BY THIS NOTE ARE BELOW 8'-2" BUT SHALL MAINTAIN A MINIMUM 7'-2" CLEAR ABOVE FINISHED FLOOR.

M7 BUILDING AUTOMATION SYSTEM (BAS) PANELS SHALL BE TEMPORARILY SUPPORTED. UPON COMPLETION OF PHASE 2, BAS PANELS SHALL BE RELOCATED TO WALLS INTENDED TO BE INSTALLED AT THIS LOCATION.

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MADISON, WI 53711
PH: 608.277.1728 | FAX: 608.271.7046
JDR Project No: 22.0248

PROJECT INFORMATION

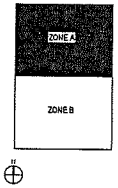
STATE STREET
CAMPUS GARAGE
MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05-04-2023	SCHEMATIC DESIGN PHI
07-20-2023	DETAILED DESIGN PHI
10-02-2023	CONSTRUCTION DOCUMENTS PHI
11-03-2023	PHI ADD

KEY PLAN



SHEET INFORMATION

PROJECT MANAGER

PROJECT NUMBER 720448

P4 FLR - ZONE A – PHASE 1 – HVAC

M1004-A-1

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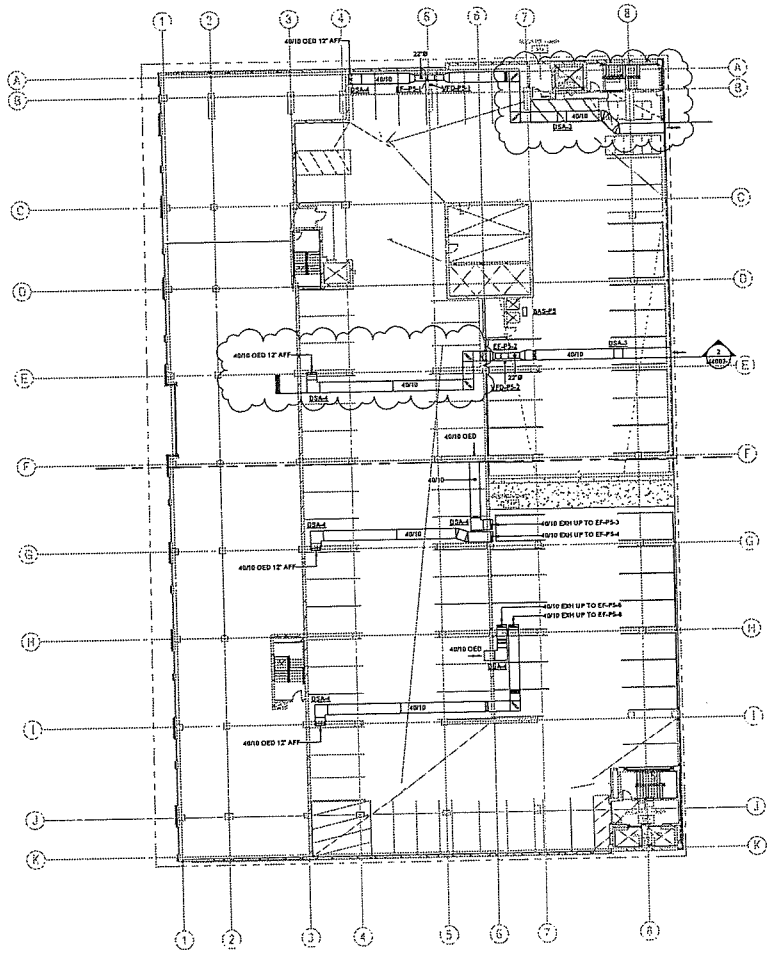
GENERAL NOTES:

1. DUCTS ROUTED ABOVE DRIVE AISLE SHALL MAINTAIN A MINIMUM OF 8'-2" CLEAR ABOVE FINISHED FLOOR. THIS INCLUDES ANY DUCT ACCESSORIES ASSOCIATE WITH HANGERS, JOINING, INSULATING, ETC.
2. EXHAUST DUCTS ROUTED WITHIN ALL PARKING LEVELS SHALL BE INSTALLED TO ALIGN WITH THE PITCH OF THE FLOOR ABOVE. CONTRACTOR SHALL COORDINATE WITH ALL TRADES FOR UTILITY ROUTING PRIOR TO INSTALLATION.
3. ALL VARIABLE FREQUENCY DRIVES SHOWN ON PARKING LEVELS SHALL BE HUNG FROM THE FLOOR ABOVE AND MAINTAIN A MINIMUM OF 7'-1" CLEAR ABOVE FLOOR BELOW.
4. PHASE 1 CONTRACTORS SHALL PROVIDE TEMPORARY HEATING OF SPACES CONTAINING UTILITIES SUBJECT TO FREEZING THAT ARE ROUTED THROUGH PHASE 2 BUILD OUT AREAS.



1 M1005-1 P5 FLR OVERALL - PHASE 1 - HVAC

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5535 NOBEL DRIVE
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JDR Project No: 22.0249

PROJECT INFORMATION

STATE STREET
CAMPUS GARAGE
MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05-03-2023	SCHEMATIC DESIGN PH1
07-28-2023	DESIGN DEVELOPMENT PH1
10-27-2023	CONSTRUCTION DOCUMENTS PH1
11-03-2023	PH1 ADD2

KEY PLAN

SHEET INFORMATION

PROJECT MANAGER

PROJECT NUMBER 720448

P5 FLR OVERALL – PHASE 1 – HVAC

M1005-1

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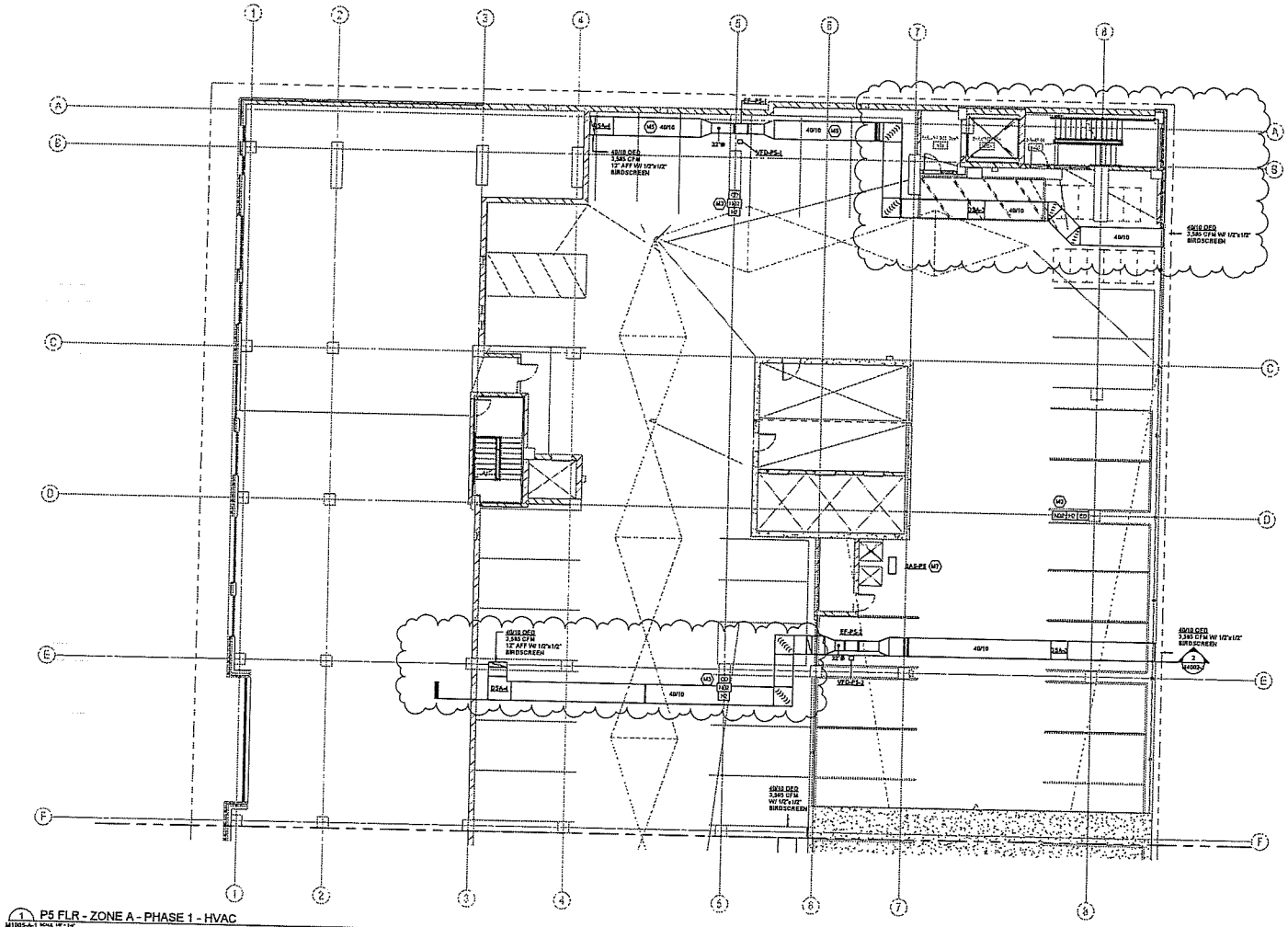

1 P5 FLR - ZONE A - PHASE 1 - HVAC
M1005-A-1 SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. DUCTS ROUTED ABOVE DRIVE AISLE SHALL MAINTAIN A MINIMUM OF 8'-0" CLEAR ABOVE FINISHED FLOOR. THIS INCLUDES ANY DUCT ACCESSORIES ASSOCIATE WITH HANGING, JOINING, INSULATING, ETC.
2. EXHAUST DUCTS ROUTED WITHIN ALL PARKING LEVELS SHALL BE INSTALLED TO ALIGN WITH THE PITCH OF THE FLOOR ABOVE. CONTRACTOR SHALL COORDINATE WITH ALL TRADES FOR UTILITY ROUTING PRIOR TO INSTALLATION.
3. ALL VARIABLE FREQUENCY DRIVES SHOWN ON PARKING LEVELS SHALL BE HUNG FROM THE FLOOR ABOVE AND MAINTAIN A MINIMUM OF 7'-3" CLEAR ABOVE FLOOR BELOW.
4. PHASE 1 CONTRACTORS SHALL PROVIDE TEMPORARY HEATING OF SPACES CONTAINING UTILITIES SUBJECT TO FREEZING THAT ARE ROUTED THROUGH PHASE 2 BUILD OUT AREAS.

KEYED NOTES
(KEYED NOTES PER PROJECT)

M3 PROVIDE QUANTITY OF CO/NO2/H2 DETECTORS AS REQUIRED FOR COMPLETE PARKING LEVEL COVERAGE. PROVIDE PROTECTIVE ENCLOSURE AROUND DETECTOR. CO/NO2 DETECTORS SHALL BE INSTALLED 5'-0" ABOVE FINISHED FLOOR. HYDROGEN DETECTOR (H2) SHALL BE INSTALLED WITHIN 1'-0" OF DECK ABOVE
M5 DUCTS DENOTED BY THIS NOTE ARE BELOW 8'-0" BUT SHALL MAINTAIN A MINIMUM 7'-3" CLEAR ABOVE FINISHED FLOOR.
M7 BUILDING AUTOMATION SYSTEM (BAS) PANELS SHALL BE TEMPORARILY SUPPORTED. UPON COMPLETION OF PHASE 2, BAE PANELS SHALL BE RELOCATED TO WALLS INTENDED TO BE INSTALLED AT THIS LOCATION.

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JDR Project No: 22.0249

PROJECT INFORMATION

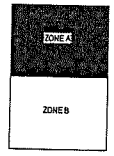
STATE STREET
CAMPUS GARAGE
MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05-06-2025	SCHEMATIC DESIGN PHASE
07-29-2025	DESIGN DEVELOPMENT PHASE
10-03-2025	CONSTRUCTION DOCUMENTS PHASE
11-07-2025	PHASE 1 ONLY

KEY PLAN



SHEET INFORMATION

PROJECT MANAGER

PROJECT NUMBER 720448

P5 FLR - ZONE A – PHASE 1 – HVAC

M1005-A-1

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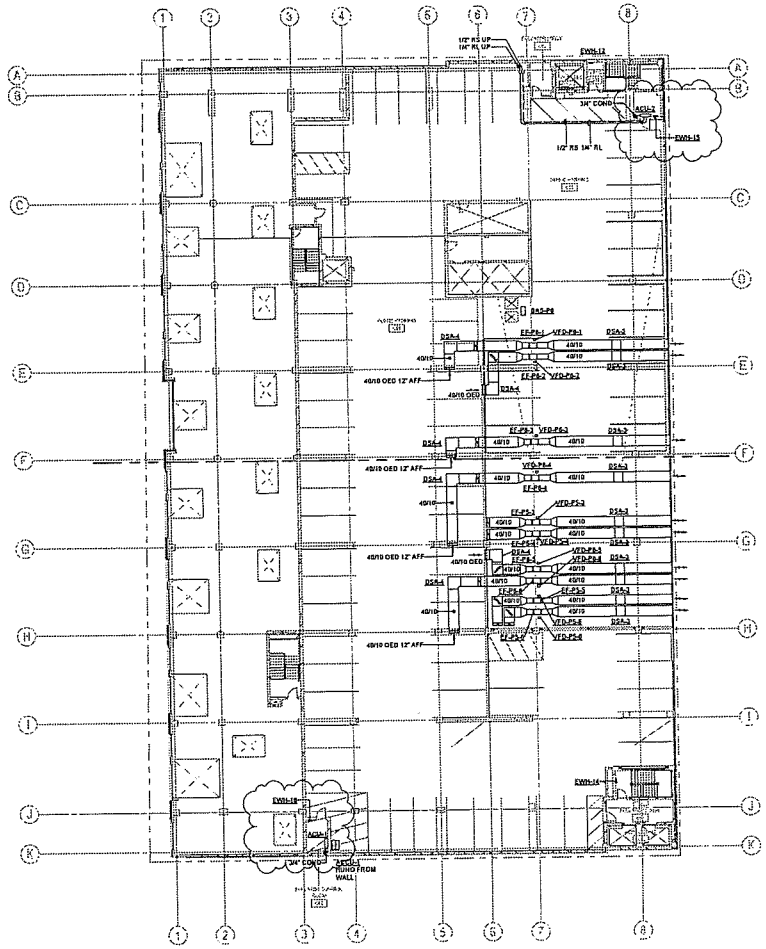
GENERAL NOTES:

1. DUCTS ROUTED ABOVE DRIVE AISLE SHALL MAINTAIN A MINIMUM OF 8'-3" CLEAR ABOVE FINISHED FLOOR. THIS INCLUDES ANY DUCT ACCESSORIES ASSOCIATE WITH HANGING, JOINING, INSULATING, ETC.
2. EXHAUST DUCTS ROUTED WITHIN ALL PARKING LEVELS SHALL BE INSTALLED TO ALIGN WITH THE PITCH OF THE FLOOR ABOVE. CONTRACTOR SHALL COORDINATE WITH ALL TRADES FOR UTILITY ROUTING PRIOR TO INSTALLATION.
3. ALL VARIABLE FREQUENCY DRIVES SHOWN ON PARKING LEVELS SHALL BE HUNG FROM THE FLOOR ABOVE AND MAINTAIN A MINIMUM OF 7'-2" CLEAR ABOVE FLOOR BELOW.
4. PHASE 1 CONTRACTORS SHALL PROVIDE TEMPORARY HEATING OF SPACES CONTAINING UTILITIES SUBJECT TO FREEZING THAT ARE ROUTED THROUGH PHASE 2 BUILD OUT AREAS.



1 P6 FLR OVERALL - PHASE 1 - HVAC
M1006-1

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JDR Project No: 22.0249

PROJECT INFORMATION

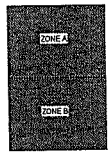
STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
06-06-2022	SCHEMATIC DESIGN PH1
07-29-2022	DETAILED DESIGN PH1
10-07-2022	CONSTRUCTION DOCUMENTS PH1
11-02-2022	PH1 ADD2

KEY PLAN



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PROJECT MANAGER

PROJECT NUMBER 720448

P6 FLR OVERALL – PHASE 1 – HVAC

M1006-1

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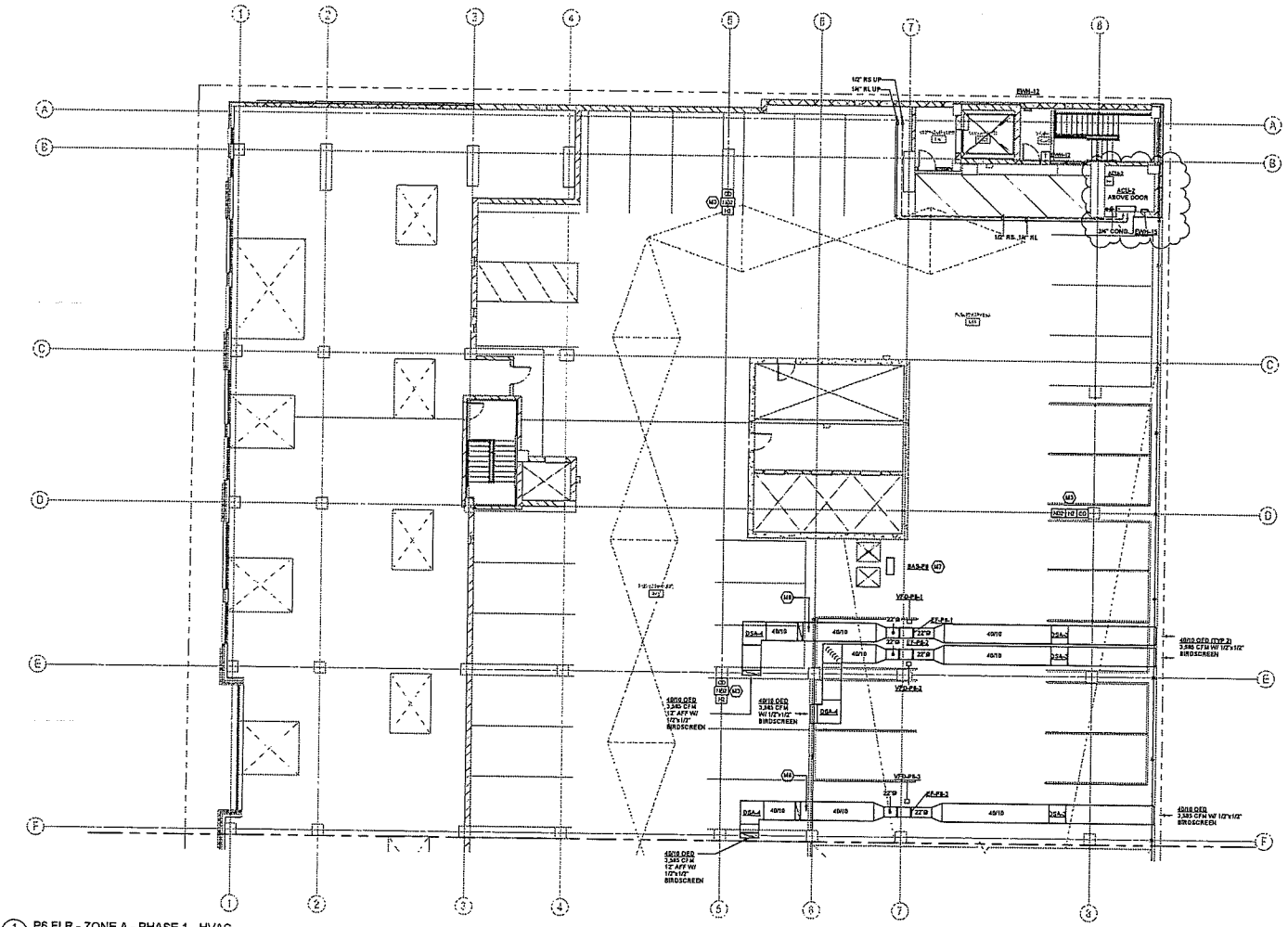
GENERAL NOTES:

1. DUCTS ROUTED ABOVE DRIVE AISLE SHALL MAINTAIN A MINIMUM OF 9'-3" CLEAR ABOVE FINISHED FLOOR. THIS INCLUDES ANY DUCT ACCESSORIES ASSOCIATE WITH HANGING, JOINING, INSULATING, ETC.
2. EXHAUST DUCTS ROUTED WITHIN ALL PARKING LEVELS SHALL BE INSTALLED TO KLOSH WITH THE PITCH OF THE FLOOR ABOVE. CONTRACTOR SHALL COORDINATE WITH ALL TRADES FOR UTILITY ROUTING PRIOR TO INSTALLATION.
3. ALL VARIABLE FREQUENCY DRIVES SHOWN ON PARKING LEVELS SHALL BE HUNG FROM THE FLOOR ABOVE AND MAINTAIN A MINIMUM OF 7'-2" CLEAR ABOVE FLOOR BELOW.
4. PHASE 1 CONTRACTORS SHALL PROVIDE TEMPORARY HEATING OF SPACES CONTAINING UTILITIES SUBJECT TO FREEZING THAT ARE ROUTED THROUGH PHASE 2 BUILD OUT AREAS.



1 P6 FLR - ZONE A - PHASE 1 - HVAC
M1006-A-1 SCALE: 1/8" = 1'-0"

KEYED NOTES:

KEYED NOTES PER PROJECT:

M3 PROVIDE QUANTITY OF CO/NO2/H2 DETECTORS AS REQUIRED FOR COMPLETE PARKING LEVEL COVERAGE. PROVIDE PROTECTIVE ENCLOSURE AROUND DETECTORS. CO/NO2 DETECTORS SHALL BE INSTALLED 3'-0" ABOVE FINISHED FLOOR. HYDROGEN DETECTOR (H2) SHALL BE INSTALLED WITHIN 1'-0" OF DECK ABOVE.

M6 DUCT DROP/RISE EXTENDS BELOW 7'-2" MINIMUM CLEARANCE. COORDINATE WITH OWNER/ARCHITECT FOR VEHICLE STOP BARRIER OR SIGNAGE TO PROTECT DUCT.

M7 BUILDING AUTOMATION SYSTEM (BAS) PANELS SHALL BE TEMPORARILY SUPPORTED. UPON COMPLETION OF PHASE 2, BAS PANELS SHALL BE RELOCATED TO WALLS INTENDED TO BE INSTALLED AT THIS LOCATION.

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JDR Project No: 22.0249

PROJECT INFORMATION

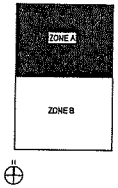
STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05/06/2025	SCHEMATIC DESIGN PH1
07/28/2025	DETAILED DESIGN PH1
10/02/2025	100 DETAILED DOCUMENTS PH1
11/12/2025	PH1 ADD

KEY PLAN



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PROJECT MANAGER

PROJECT NUMBER 720448

P6 FLR - ZONE A – PHASE 1 – HVAC

M1006-A-1

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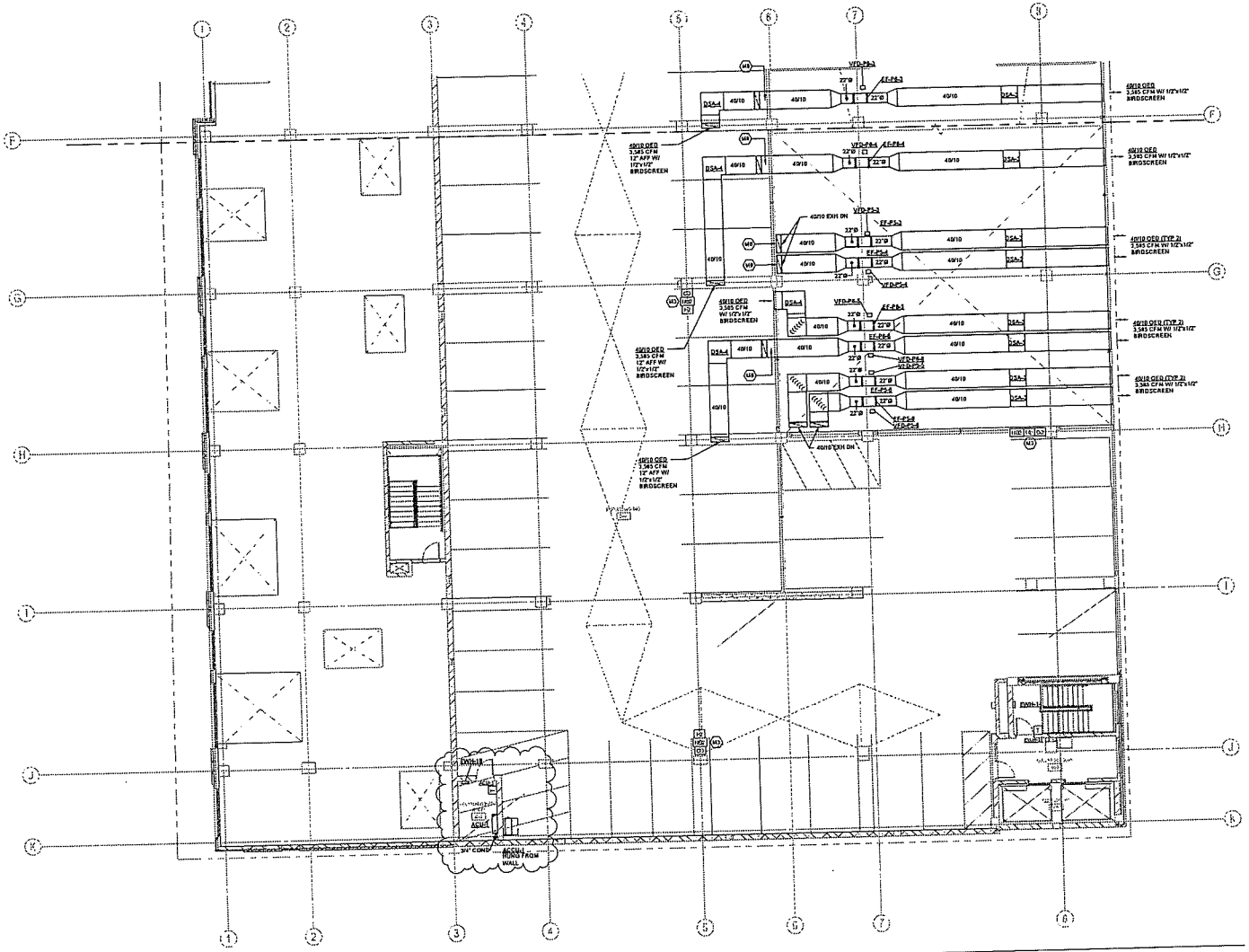

1 P6 FLR - ZONE B - PHASE 1 - HVAC
M1006-B-1 SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. DUCTS ROUTED ABOVE DRIVE AISLE SHALL MAINTAIN A MINIMUM OF 8'-2" CLEAR ABOVE FINISHED FLOOR. THIS INCLUDES ANY DUCT ACCESSORIES ASSOCIATE WITH HANGING, JOINING, INSULATING, ETC.
2. EXHAUST DUCTS ROUTED WITHIN ALL PARKING LEVELS SHALL BE INSTALLED TO ALIGN WITH THE PITCH OF THE FLOOR ABOVE. CONTRACTOR SHALL COORDINATE WITH ALL TRADES FOR UTILITY ROUTING PRIOR TO INSTALLATION.
3. ALL VARIABLE FREQUENCY DRIVES SHOWN ON PARKING LEVELS SHALL BE HUNG FROM THE FLOOR ABOVE AND MAINTAIN A MINIMUM OF 7'-2" CLEAR ABOVE FLOOR BELOW.
4. PHASE 1 CONTRACTORS SHALL PROVIDE TEMPORARY HEATING OF SPACES CONTAINING UTILITIES SUBJECT TO FREEZING THAT ARE ROUTED THROUGH PHASE 2 BUILD OUT AREAS.

KEYED NOTES
(KEYED NOTES PER PROJECT)

M3 PROVIDE QUANTITY OF CO/NO2/H2 DETECTORS AS REQUIRED FOR COMPLETE PARKING LEVEL COVERAGE. PROVIDE PROTECTIVE ENCLOSURE AROUND DETECTORS. CO/NO2 DETECTORS SHALL BE INSTALLED 5'-0" ABOVE FINISHED FLOOR. HYDROGEN DETECTOR (H2) SHALL BE INSTALLED WITHIN 1'-0" OF DECK ABOVE

M8 DUCT DROP/RISE EXTENDS BELOW 7'-2" MINIMUM CLEARANCE. COORDINATE WITH OWNER/ARCHITECT FOR VEHICLE STOP BARRIER OR SIGNAGE TO PROTECT DUCT.

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JDR Project No: 22.0249

PROJECT INFORMATION

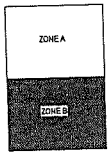
STATE STREET
CAMPUS GARAGE
MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
09.06.2023	SCHEMATIC DESIGN PH1
01.26.2024	DEVELOPED DESIGN PH1
10.02.2024	CONSTRUCTION DOCUMENTS PH1
11.13.2025	PH1 ADD

KEY PLAN



SHEET INFORMATION

PROJECT MANAGER
PROJECT NUMBER 720448

P6 FLR - ZONE B - PHASE 1 - HVAC

M1006-B-1

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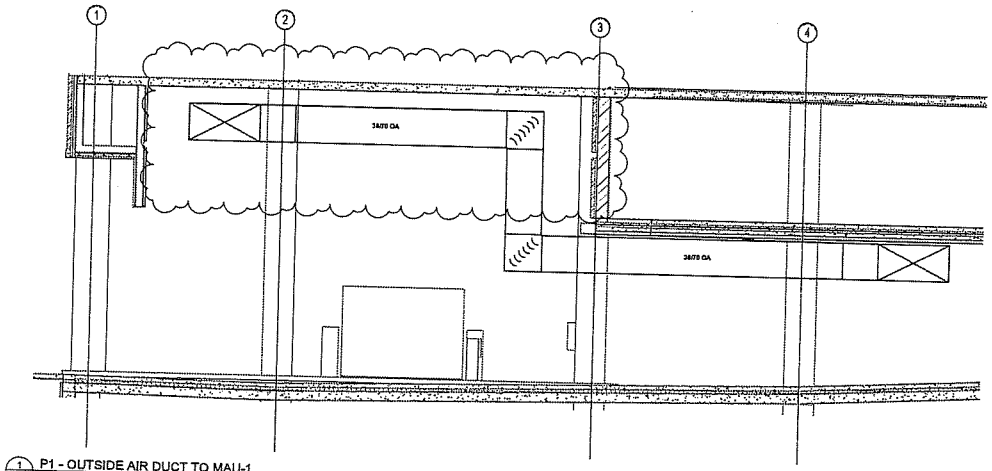
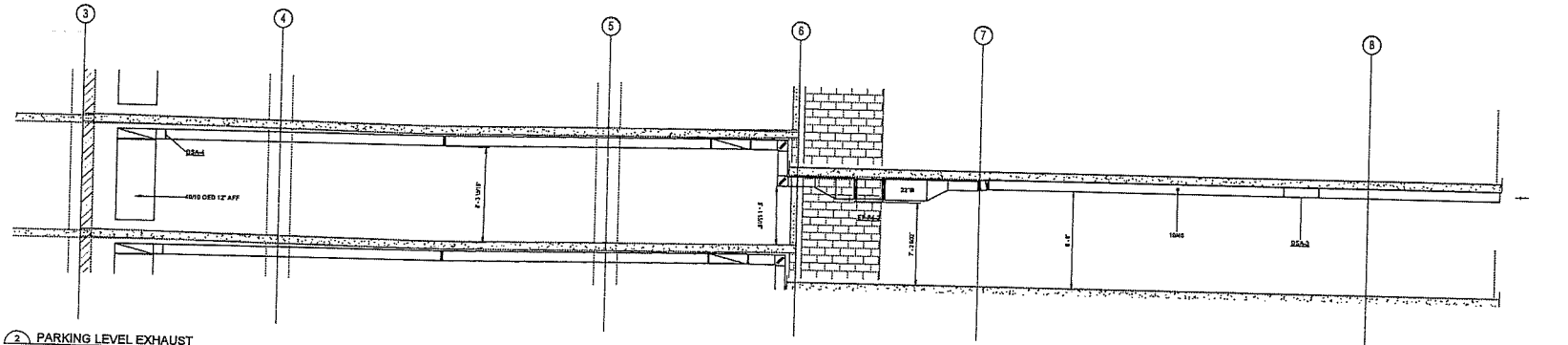


1 M4002-1 P1 - OUTSIDE AIR DUCT TO MAU-1



2 M4002-1 PARKING LEVEL EXHAUST

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JDR Project No: 22.0249

PROJECT INFORMATION

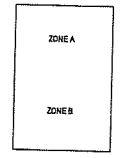
STATE STREET
CAMPUS GARAGE
MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
10/03/2025	CONSTRUCTION DOCUMENTS PH1
11/07/2025	PH1_ADD

KEY PLAN



SHEET INFORMATION

PROJECT MANAGER

PROJECT NUMBER 720448

SECTIONS - HVAC

M4002-1

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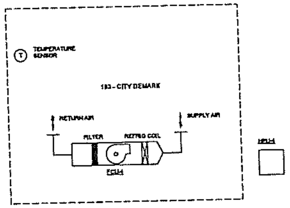
FAN COIL UNIT, HEAT PUMP UNIT (FCU-4, HPU-4) SEQUENCE OF OPERATION

SEE FLOOR PLANS, DETAILS, SCHEDULES AND SPECIFICATION FOR ADDITIONAL INFORMATION.

PROVIDE FOR EACH SYSTEM (FCU, HPU) A DDC SPACE TEMPERATURE SENSOR FOR SPACE TEMPERATURE MONITORING.

EACH SYSTEM SHALL BE CONTROLLED BY FIELD INSTALLED, LOW VOLTAGE THERMOSTAT CAPABLE OF INTEGRATING INTO THE BAS (PROVIDED WITH UNIT). EACH SYSTEM SHALL BE CONTROLLED BY SPACE TEMPERATURE SENSOR AND INITIATE HEATING/COOLING CONTROL. HEATING SPACE TEMPERATURE SETPOINT OF 50°F (ADJ.). COOLING SPACE TEMPERATURE SETPOINT OF 80°F (ADJ.).



DDC INPUT / OUTPUT SUMMARY TABLE

DDC CONTROLLERS PROVIDED UNDER SPECIFICATION SECTION 23 09 23

JDR PROJECT NO: 22.0249	
PROJECT: State Street Campus Garage Mixed-Use	HARDWARE / SOFTWARE
LOCATION: State Street Campus Garage Mixed-Use	OUTPUT (DIGITAL, ANALOG) / INPUT (DIGITAL, ANALOG) / ALARMS (DIGITAL, ANALOG) / ENERGY MANAGEMENT SYSTEM FUNCTIONS
SYSTEM: 183 - City Demark (FCU-4, HPU-4)	Comments
POINT DESCRIPTION	
FCU-4, HPU-4	Integrate all other available points
Space Temperature	

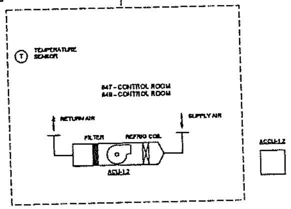
3 CITY DEMARK CONTROL DIAGRAM, POINTS LIST, SEQ OF OPERATIONS
M5001-1 SCALE: NONE

AIR CONDITIONING UNIT, AIR-COOLED CONDENSING UNIT (ACU-1, 2, ACCU-1,2) SEQUENCE OF OPERATION

SEE FLOOR PLANS, DETAILS, SCHEDULES AND SPECIFICATION FOR ADDITIONAL INFORMATION.

PROVIDE FOR EACH SYSTEM (ACU, ACCU) A DDC SPACE TEMPERATURE SENSOR FOR SPACE TEMPERATURE MONITORING.

EACH SYSTEM SHALL BE CONTROLLED BY FIELD INSTALLED, LOW VOLTAGE THERMOSTAT (BY TCC) MOUNTED WITHIN ELEVATOR CONTROL ROOM. EACH SYSTEM SHALL BE CONTROLLED BY SPACE TEMPERATURE SENSOR AND INITIATE COOLING CONTROL LOCALLY. SPACE TEMPERATURE SETPOINT OF 80°F (ADJ.).

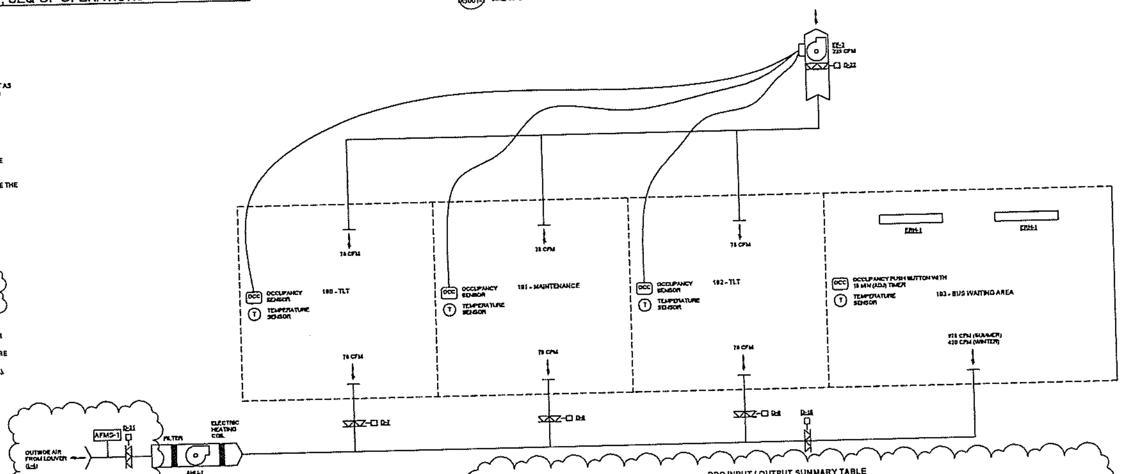


DDC INPUT / OUTPUT SUMMARY TABLE

DDC CONTROLLERS PROVIDED UNDER SPECIFICATION SECTION 23 09 23

JDR PROJECT NO: 22.0249	
PROJECT: State Street Campus Garage Mixed-Use	HARDWARE / SOFTWARE
LOCATION: 415 N. Lake Street Madison, WI 53715	OUTPUT (DIGITAL, ANALOG) / INPUT (DIGITAL, ANALOG) / ALARMS (DIGITAL, ANALOG) / ENERGY MANAGEMENT SYSTEM FUNCTIONS
SYSTEM: 849 - Control Room (ACU-1, ACCU-1); 847 - Control Room (ACU-2, ACCU-2)	Comments
POINT DESCRIPTION	
ACU-1,2, ACCU-1,2	
Space Temperature	

1 ELEVATOR CONTROL ROOMS CONTROL DIAGRAM, POINTS LIST, SEQ OF OPERATIONS
M5001-1 SCALE: NONE



AIR HANDLING UNIT SYSTEM (AHU-1) SEQUENCE OF OPERATION

SEE FLOOR PLANS, DETAILS, SCHEDULES AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.

AIR HANDLING UNIT SHALL HAVE A MICROPROCESSOR BASED CONTROLLER WHICH SHALL MONITOR AND CONTROL AIR HANDLING UNIT AS DIRECTED BY THE BUILDING AUTOMATION SYSTEM. THE DDC CONTROLLER (BACNET INTERFACE) SHALL BE LOCATED ON THE UNIT AND HAVE A USER INTERFACE WITH TOUCH SENSITIVE COLOR SCREEN.

THE SYSTEM CONSISTS OF MULTI-ZONE AIR HANDLING UNIT WITH VARIABLE SUPPLY FAN AND ELECTRIC HEATING.

THE AIR HANDLING UNIT SHALL BE INDEXED FROM OCCUPIED TO UNOCCUPIED THROUGH THE BUILDING AUTOMATION SYSTEM.

UNOCCUPIED MODE:
DURING THE UNOCCUPIED MODE THE AIR HANDLER SHALL ASSUME UNOCCUPIED HEATING SETPOINTS AS DETERMINED THROUGH THE BUILDING AUTOMATION SYSTEM (BAS). THE OUTSIDE AIR DAMPER SHALL BE CLOSED AND THE FANS SHALL BE DE-ENERGIZED.

UPON A DROP IN SPACE TEMPERATURE BELOW UNOCCUPIED SETPOINT, THE AIR HANDLER SHALL OPEN OUTSIDE AIR DAMPER, CYCLE THE FAN AND HEATING SYSTEM AS REQUIRED TO MAINTAIN UNOCCUPIED SETPOINTS. THE BAS SHALL DETERMINE DISCHARGE AIR TEMPERATURE BASED ON THE DISCHARGE AIR CONTROL SEQUENCE LISTED BELOW. UNOCCUPIED HEATING TEMPERATURE MEASUREMENT FOR INTERIOR ZONES SHALL BE MADE BY USING THE WORST CASE TEMPERATURE OF ZONES.

180 - TLT, 181 - MAINTENANCE, 182 - TLT
UNOCCUPIED SETPOINT - WINTER: 40°F

183 - BUS WAITING AREA
UNOCCUPIED SETPOINT - WINTER: 50°F

VENTILATION CONTROL:
WHEN SYSTEM IS INDEXED INTO THE OCCUPIED MODE THROUGH THE BAS, THE OUTSIDE AIR DAMPER SHALL MODULATE OPEN. THE OUTDOOR AIRFLOW SHALL BE MONITORED TO MAINTAIN DESIGN MINIMUM AIRFLOW RATE ±10%.

SIGNAL ALARM WHENEVER THE AIRFLOW RATE VARIES BY 15% OR MORE FROM THE SETPOINT.

DISCHARGE AIR CONTROL:
THE MICROPROCESSOR SHALL ENERGIZE STAGES OF HEATING OR UTILIZE OUTSIDE AIR (ECONOMIZER) TO MAINTAIN DISCHARGE AIR TEMPERATURE SETPOINT 75F (ADJ.).

- WINTER OPERATION (HEATING): HEATING SECTION TO MODULATE BETWEEN 60-75°F (ADJ.) BASED ON WORST CASE TEMPERATURE SENSOR.
- SUMMER OPERATION (NO COOLING): HEATING SECTION SHALL BE LOCKED OUT WHEN OUTSIDE AIR IS GREATER THAN 55°F (ADJ.). DISCHARGE AIR TEMPERATURE WILL VARY WITH AMBIENT CONDITIONS.

SIGNAL ALARM WHENEVER THE DISCHARGE AIR TEMPERATURE DROPS BELOW 45°F (ADJ.).

180 - TLT, 181 - MAINTENANCE, 182 - TLT
OCCUPIED SETPOINT - WINTER: 45°F

183 - BUS WAITING AREA
OCCUPIED SETPOINT - WINTER: 55°F

SUPPLY FAN SPEED CONTROL:
START/STOP: THE DDC SYSTEM SHALL START THE SUPPLY FANS VIA THE ECM/VFD.

THE PURPOSE OF THE SUPPLY FANS IS TO MAINTAIN AIRFLOW AT TWO CONDITIONS: SUMMER AIRFLOW (1,200 CFM) AND WINTER AIRFLOW (845 CFM).

- WINTER OPERATION (HEATING): WHEN OUTSIDE AIR IS LESS THAN 50°F (ADJ.).
- SUMMER OPERATION (NO COOLING): WHEN OUTSIDE AIR IS GREATER THAN 50°F (ADJ.).

UNIT SHUTDOWN:
UPON SYSTEM SHUTDOWN, WHEN SEQUENCED TO THE UNOCCUPIED MODE, THE UNIT SUPPLY FAN SHALL STOP, THE ECM/VARIABLE FREQUENCY DRIVE(S) SHALL UNLOAD, THE OUTSIDE AIR DAMPER SHALL CLOSE FULLY. THE UNIT SUPPLY FAN AND HEATING SECTION SHALL BE SEQUENCED ON AS REQUIRED TO MAINTAIN NIGHT SETBACK ROOM THERMOSTAT SETPOINT.

FILTERS:
EACH AIR HANDLING UNIT SHALL BE PROVIDED WITH DIFFERENTIAL STATIC PRESSURE SENSOR ACROSS EACH FILTER BANK. TCC TO ENSURE THAT THE STATIC PROBES DO NOT IMPEDE FILTER REMOVAL.

FOR PRE-FILTER BANK, PROVIDE AN ALARM TO THE OPERATOR INTERFACE WHEN THE DIFFERENTIAL STATIC PRESSURE EXCEEDS 0.25" W.C. (ADJ.).

FOR FINAL-FILTER BANK, PROVIDE AN ALARM TO THE OPERATOR INTERFACE WHEN THE DIFFERENTIAL STATIC PRESSURE EXCEEDS 0.25" W.C. (ADJ.).

FIRE ALARM SHUTDOWN:
THE BUILDING AUTOMATION SYSTEM SHALL SHUT DOWN THE AIR HANDLING UNIT(S) UPON RECEIVING A FIRE ALARM CONDITION, AS SIGNALED BY THE BUILDING FIRE ALARM SYSTEM INTERFACED THROUGH THE BUILDING AUTOMATION SYSTEM. TCC TO PROVIDE CONTROL WIRING BETWEEN FIRE ALARM CONTROL PANEL AND BUILDING AUTOMATION SYSTEM.

EC TO PROVIDE FIRE ALARM CONTROL MODULE AT TEMPERATURE CONTROL PANEL. CONTROL WIRING BETWEEN MODULE AND BUILDING AUTOMATION SYSTEM BY TCC. CONTROL MODULE SHALL MONITOR AIR HANDLING UNIT ALARM STATUS. UPON AIR HANDLER ALARM, THE BUILDING AUTOMATION SHALL SEND A SIGNAL TO THE FIRE ALARM CONTROL PANEL INDICATING THAT AIR HANDLER IS IN ALARM.

HIGH STATIC PRESSURE LIMIT:
A DEDICATED STATIC PRESSURE HIGH LIMIT CONTROLLER WITH MANUAL RESET (NOT USED FOR ANY OTHER STATIC PRESSURE CONTROL FUNCTION) SHALL SHUTDOWN THE AIR HANDLER WHEN THE STATIC PRESSURE IN THE DUCTWORK AT THE AIR HANDLER DISCHARGE EXCEEDS 3.0" (WATER COLUMN (ADJUSTABLE). THE DDC SYSTEM SHALL MONITOR THE STATUS OF THE DIFFERENTIAL PRESSURE SWITCH. TCC TO PROVIDE DUCT STATIC PRESSURE SENSORS ON DISCHARGE DUCTWORK OF AIR HANDLER.

FANS SHALL BE SHUTDOWN AND SIGNAL ALARM AT BAS WHEN STATIC PRESSURE RISES ABOVE HIGH PRESSURE LIMIT.

EXHAUST FAN (EF-2) SEQUENCE OF OPERATION:

EF-2 SHALL BE INTERLOCKED WITH AHU-1.

FAN SHALL BE INTERLOCKED WITH THE BUILDING AUTOMATION SYSTEM TO RUN CONTINUOUSLY WHEN CORRESPONDING AIR HANDLING UNIT IS IN OCCUPIED MODE AND ANY SPACE SERVED BY FAN INDICATES OCCUPANCY. THE EXHAUST FAN SHALL BE OFF WHEN THE AIR HANDLING UNIT IS IN OCCUPIED MODE BUT NO SPACES CONTAIN OCCUPANTS AS DETERMINED BY OCCUPANCY SENSORS, UNOCCUPIED MODE OR WHEN THE DISCONNECT SWITCH AT THE EXHAUST FAN IS MANUALLY TURNED OFF FOR MAINTENANCE.

REFER TO FAN SCHEDULES FOR MOTOR OPERATED BACKDRAFT DAMPER REQUIREMENTS. TCC TO PROVIDE INTERLOCK WIRING BETWEEN EXHAUST FAN(S) AND DAMPER(S). THE FAN(S) SHALL NOT OPERATE UNTIL DAMPER(S) ARE PROVEN OPEN BY END SWITCHES.

ELECTRIC RADIANT HEATERS (ERH-1) SEQUENCE OF OPERATION

SEE FLOOR PLANS, DETAILS, SCHEDULES AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.

THE SYSTEM CONSISTS OF:

- (2) ELECTRIC RADIANT HEATERS
- ELECTRIC CAPACITY CONTROLLER (BY TCC)
- SPACE THERMOSTAT (BY TCC)
- OCCUPANCY PUSH BUTTON WITH TIMER (BY TCC)

ALL HEATERS SHALL BE CONTROLLED COLLECTIVELY VIA SHARED THERMOSTAT AND OCCUPANCY PUSH BUTTON WITH TIMER.

UPON AN ACTIVATION FROM OCCUPANCY PUSH BUTTON, THE ELECTRIC CAPACITY CONTROLLER SHALL STAGE/MODULATE HEATING OUTPUT TO ACHIEVE SPACE SETPOINT (50°F ADJ.). HEATING SHALL OPERATE FOR TIMER DURATION OF 15 MINS (ADJ.). AFTER TIMER HAS EXPIRED, ELECTRIC CAPACITY CONTROLLERS SHALL STAGE/MODULATED TO MINIMUM OUTPUT AS TURN-OFF.

SYSTEM SHALL BE LOCKED OUT WHEN OUTSIDE AIR TEMPERATURE IS GREATER THAN 40°F ADJ.

DDC INPUT / OUTPUT SUMMARY TABLE

DDC CONTROLLERS PROVIDED UNDER SPECIFICATION SECTION 23 09 23

JDR PROJECT NO: 22.0249	
PROJECT: State Street Campus Garage Mixed-Use	HARDWARE / SOFTWARE
LOCATION: 415 N. Lake Street Madison, WI 53715	OUTPUT (DIGITAL, ANALOG) / INPUT (DIGITAL, ANALOG) / ALARMS (DIGITAL, ANALOG) / ENERGY MANAGEMENT SYSTEM FUNCTIONS
SYSTEM: Bus Terminal Support Spaces AHU-1, EF-2, ERH-1 *AHUs shall be furnished with Terminal Strips Only. Controls Contractor shall provide AHU controller and integrate all required controls points for operation and safety feedbacks.	Comments
POINT DESCRIPTION	
AHU-1	
Supply Air Temperature	
Outside Air Damper	
Supply Fan ECM Speed	
Supply Fan ECM Fault	
Supply Fan Status	
Supply Fan Start/Stop	
Filter Differential Pressure	Typ for Pre-Filter and Final-Filter
Resistance Capacity Control	
High Press Static Shutdown Alarm	
Fire Alarm Shutdown	
Outdoor Airflow Measurement Station	
Zone Control Devices	
Space Temperature	Typ of 4
Occupancy Sensor	Typ of 4; Shared with Lighting Sensor by EC
Motorized Operated Damper	Typ of 4
EF-2	
Exhaust Fan Isolation Damper	
Exhaust Fan ECM Speed	
Exhaust Fan ECM Fault	
Exhaust Fan Status	
Exhaust Fan Start/Stop	
ERH-1	
Resistance Capacity Control	Typ of 2

2 BUS TERMINAL SUPPORT SPACES CONTROL DIAGRAM, POINTS LIST, SEQ OF OPERATIONS
M5001-1 SCALE: NONE

eua
milwaukee | madison | green bay | denver | atlanta

JDR ENGINEERING, INC.
5525 NOBEL DRIVE SUITE 110
MADISON, WI 53711
PH 608.277.1728 | FX 608.277.0746
JDR Project No: 22.0249

PROJECT INFORMATION
STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
[illegible]	SCHEMATIC DESIGN PH1
07-20-2023	DETAILED DESIGN PH1
[illegible]	CONSTRUCTION DOCUMENTS PH1
[illegible]	PH1_ADD2

KEY PLAN
ZONE A
ZONE B

SHEET INFORMATION

PROJECT MANAGER
PROJECT NUMBER 720448

CONTROL DIAGRAMS, POINTS LISTS, SEQ - HVAC

M5001-1

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ELECTRIC RADIANT HEATER SCHEDULE

UNIT NO.	ERH-1	ERH-2
SERVICE	193 - BUS WAITING	193 - BUS WAITING
MANUFACTURER	REMARK	REMARK
MODEL NO.	ERD-3633	ERD-6041
NOMINAL LENGTH (IN)	33"	61.25"
NOMINAL WIDTH (IN)	7"	7"
CAPACITY (BTU / HR)	16,314	29,472
VOLTS	277	277
PHASE	1	1
WATTS	2,260	2,886
MOUNTING	SURFACE	SURFACE
QUANTITY	3	5
REMARKS	-	-

KEYED NOTES:

GAS-FIRED MAKE-UP AIR UNIT SCHEDULE

UNIT NO.	MAU-1
SERVICE	800 - LL PARKING
LOCATION	SEE PLANS
MANUFACTURER	CAMBRIDGE
MODEL NO.	M150
TYPE	DIRECT GAS-FIRED
SUPPLY AIR (CFM)	31,500
OUTSIDE AIR (CFM)	31,500
MINIMUM SUPPLY AIR (CFM)	11,500
EXTERNAL SP (IN WC)	1"
EAT (°F)	-15
LAT (°F)	59
INPUT CAPACITY (MBH)	3,243
OUTPUT CAPACITY (MBH)	2,431
FUEL TYPE	NG
FUEL PRESSURE	7"
FAN DIAMETER	-
FAN TYPE	-
FAN RPM	-
FAN BHP	-
FAN HP	25
FILTER TYPE	MERV 8
VOLTS / PHASE	480/3
UNIT MCA	63.4
UNIT MOCP	70
UNIT WEIGHT (LBS)	3,500
REMARKS	1

KEYED NOTES:
1. PROVIDE WITH 3-WAY DISCHARGE PLENUM.

GAS-FIRED UNIT HEATER SCHEDULE

UNIT NO.	GUH-1
SERVICE	SEE PLANS
MANUFACTURER	MODINE
MODEL NO.	PTP100
TYPE	POWER VENTED
EAT (°F)	50
FUEL INPUT (MBH)	300
HEATING OUTPUT (MBH)	244.5
THERMAL EFFICIENCY (%)	81%
AIR FLOW (CFM)	2,675
THROW (FT)	53
FUEL TYPE	NG
MAX GAS PRESSURE (IN WC)	7
MOTOR HP	1/3
VOLTAGE / PHASE	480 / 3
FULL LOAD AMPS	1.79
QUANTITY	4
REMARKS	1,2,3

KEYED NOTES:
1. PROVIDE ALL NECESSARY ACCESSORIES AND MOUNTING SITE TO HANG UNITS FROM THE CEILING.
2. PROVIDE UNIT WITH DISCONNECT SWITCH.
3. PROVIDE UNIT STEP DOWN TRANSFORMER, 480V TO 115V, 1PH 1 PHASE.

SPLIT SYSTEM AIR CONDITIONING UNIT SCHEDULE

UNIT NO.		ACU-1	ACU-2
LOCATION		803 - CONTROL ROOM	847 - CONTROL ROOM
MANUFACTURER		DAIKIN	DAIKIN
MODEL		FTX18NSVJU	FTX18NSVJU
TYPE		WALL	WALL
SUPPLY CFM		764	764
FILTER TYPE		DISPOSABLE	DISPOSABLE
AIR COOLED CONDENSING UNIT (OUTDOOR UNIT)			
UNIT NO.		ACCU-1	ACCU-2
MANUFACTURER		DAIKIN	DAIKIN
MODEL		RK18SVJU	RK18SVJU
NOMINAL CAPACITY (BTU / HR)		18,000	18,000
SEER		20	20
ELECTRICAL DATA	VOLTS	208	208
	PHASE	1	1
	MCA	13.88	13.88
	MOCP	20	20
SERVICE		849 - CONTROL, ROOM847 - CONTROL, ROOM	
REMARKS		1	1

KEYED NOTES:
1. FURNISH WITH FACTORY MOUNTED DISCONNECT SWITCH

DUCT SOUND ATTENUATOR SCHEDULE

UNIT NO.		DSA-1	DSA-2	DSA-3	DSA-4	DSA-5
LOCATION		800 - LL PARKING	800 - LL PARKING	SEE PLANS	SEE PLANS	SEE PLANS
SERVICE		EF-1	EF-1	SEE PLANS	SEE PLANS	EF-2
MANUFACTURER		VIBRO-ACOUSTICS	VIBRO-ACOUSTICS	VIBRO-ACOUSTICS	VIBRO-ACOUSTICS	VIBRO-ACOUSTICS
MODEL NO.		RD-MA-3864	RD-MA-3864	RDMA-3864	RED-MA-3847	RD-MA-3847
UNIT DIMENSIONS (W x H L) (IN)		80"x80"x36"	80"x80"x48"	48"x 78"x36"	48"x78"x48"	72"x72"x36"
CFM		34,700	36,700	3,500	3,500	3,500
MAXIMUM FACE VELOCITY (FPM)		553	553	1,391	1,391	335
MAX SP DROP (IN WC)		0.24	0.23	0.15	0.15	0.01
PASSIVE ATTENUATION OCTAVE BAND CENTER FREQUENCY (HZ)	63	3	3	8	6	2
	125	5	7	9	9	5
	250	13	14	10	7	9
	500	22	20	13	10	18
	1000	25	30	18	19	18
	2000	21	24	11	34	12
	4000	17	19	11	19	12
	8000	16	11	8	19	7
ACTIVE ATTENUATION OCTAVE BAND CENTER FREQUENCY (HZ)	63	55	51	52	57	48
	125	53	50	49	38	18
	250	53	48	43	39	418
	500	58	44	41	27	418
	1000	54	43	44	32	418
	2000	47	41	46	38	418
	4000	39	33	38	18	418
	8000	36	36	27	18	418
REMARKS		1	1	1,2	1,3	1

KEYED NOTES:
1. NOMINATED OF DESIGN SILENCER MANUFACTURER SHALL PROVIDE PROFESSIONAL ENGINEER STAMPED ACOUSTICAL CALCULATIONS FOR ALL SYSTEMS WITH SILENCERS TO DEMONSTRATE THAT THE RESULTANT DUCTBORNE FAN SOUND LEVELS INCLUDING ATMOSPHERE AND BREAKOUT NOISE MEET THE REQUIRED DESIGN CRITERIA OF 35 dBA.
2. DSA-3, DSA-4 ARE TYPICAL ON ALL PARKING LEVELS FROM P2 THROUGH P4.

ELECTRIC WALL HEATER SCHEDULE

UNIT NO.	EWH-1	EWH-2	EWH-3	EWH-4	EWH-5	EWH-6	EWH-7	EWH-8	EWH-9	EWH-10	EWH-11	EWH-12	EWH-13	EWH-14	EWH-15
SERVICE	4901 - STAIR #1	4201 - ELEVATOR #1	NOT USED	NOT USED	6902 - STAIR #2	3523 - ELEVATOR #2	3512 - ELEVATOR #3	197 - GENERATOR	NOT USED	1814 - TOILET	NOT USED	6801 - STAIR #1	NOT USED	6803 - STAIR #2	847 - CONTROL ROOM
MANUFACTURER	MARKEL	MARKEL			MARKEL	MARKEL	MARKEL	MARKEL		MARKEL		MARKEL		MARKEL	MARKEL
MODEL NO.	J3327TD-HP	J3327TD-HP			J3327TD-HP	J3327TD-HP	HP3327TD-HP	HP3327TD-HP		E3321TD-HP		J3327TD-HP		J3327TD-HP	E3321TD-HP
CAPACITY (BTU / HR)	10,378	10,238			10,238	10,238	10,238	7,677		3,584		10,378		10,238	3,584
KW INPUT	3	3			3	3	3	2.25		1.05		3		3	1.05
AMPS	13.33	8.3			8.3	8.3	8.3	9.38		4.38		12.33		8.3	4.38
VOLTS / PHASE	208 / 3	240 / 3			208 / 3	208 / 3	208 / 3	208 / 1		120 / 1		208 / 3		208 / 3	120 / 1
HEIGHT (IN)	MOHE	MOHE			MOHE	MOHE	MOHE	MOHE		MOHE		MOHE		MOHE	MOHE
REMARKS	1	1			1	1	1	1		1		1		1	1

KEYED NOTES:
1. PROVIDE WITH FACTORY MOUNTED DISCONNECT SWITCH

AIR DEVICE SCHEDULE

EG-1 (2)
200

THROW (IF OTHER THAN NORMAL)
UNIT NUMBER
CFM

SG = SUPPLY GRILLE
RG = RETURN GRILLE
EG = EXHAUST GRILLE

CD = CEILING DIFFUSER (SUPPLY)
TG = TRANSFER GRILLE

UNIT NO.	EG-1	EG-2	EG-1	EG-2	EG-3	CD-1	FD-1	TD-1	TD-2	TD-3
SERVICE	SEE PLANS	193 - BUS WAITING	SEE PLANS	193 - BUS WAITING	SEE PLANS	101 - CITY OFFICE	101 - CITY OFFICE	SEE PLANS	194 - CITY ELECTRICAL	194 - CITY ELECTRICAL
MANUFACTURER	PRICE	PRICE	PRICE	504	PRICE	PRICE	PRICE	PRICE	PRICE	PRICE
MODEL NO.	530L	EDGE	504	504	PLAQUE	PRICE	50F	50F	50-L	50-L
FACE STYLE	LOUVERED	LOUVERED	LOUVERED	LOUVERED	LOUVERED	STD	STD	LOUVERED	LOUVERED	LOUVERED
PATTERN	SINGLE DEFLECTION	SINGLE DEFLECTION	ESSCRATE	45° DEFLECTION	ESSCRATE	4-WAY	LOUVERED	ESSCRATE	6" DEFLECTION	6" DEFLECTION
FINISH	STANDARD	STANDARD	STANDARD	STANDARD	STANDARD	STANDARD	STANDARD	STANDARD	STANDARD	STANDARD
MATERIAL	ALUMINUM	ALUMINUM	ALUMINUM	STEEL	ALUMINUM	ALUMINUM	ALUMINUM	ALUMINUM	STEEL	STEEL
SIZE (FACE/NECK)	7-1/8"x7-1/8"x6"x6"	17"x9"/15"x6"	9-3/16"x7-3/16"x9"x9"	33-15/16"x33-15/16"x22"x22"	25"x12"x9"x6"	24"x24"/12"x6"	24"x12"/12"x6"	24"x12"/8"x6"	29-13/16"x29-13/16"/28"x22"	36-13/16"x37-13/16"/24"x22"
CFM RANGE	0-150	0-450	0-200	0-2000	0-1000	0-150	0-200	0-200	0-2000	0-2000
MOUNTING	SURFACE	DUCT	SURFACE	SURFACE	LAY-IN	LAY-IN	LAY-IN	LAY-IN	SURFACE	SURFACE
DAMPER	NO	YES	NO	YES	NO	NO	NO	NO	NO	NO
REMARKS	-	1	-	1	-	-	-	-	-	-

GENERAL NOTES:
1. CONTRACTOR SHALL VERIFY MOUNTING SURFACE / FRAME REQUIREMENTS.
2. BRANCH DUCT SIZE TO DIFFUSER SHALL BE THE NECK SIZE OF THE DIFFUSER UNLESS NOTED OTHERWISE.
3. SEE SPECIFICATION FOR GRILLE, REGISTER, AND DIFFUSER PROFILES.
4. MAXIMUM STATIC PRESSURE DROP THROUGH GRILLE, REGISTER OR DIFFUSER SHALL NOT EXCEED 0.1".
5. MAXIMUM NC LEVELS FOR GRILLES, REGISTERS OR DIFFUSERS SHALL NOT EXCEED 25.
6. UNLESS THROW IS NOTED OTHERWISE, ALL DIFFUSERS SHALL BE 4-WAY THROW.

KEYED NOTES:
1. PROVIDE WITH ADJUSTABLE OPPOSED BLADE DAMPER.

LOUVER SCHEDULE

UNIT NO.	L-1	L-2	L-3	L-4	L-5	L-6	L-7	L-8	L-9	
MANUFACTURER	GREENHECK	GREENHECK	GREENHECK	GREENHECK	GREENHECK	GREENHECK	GREENHECK	GREENHECK	GREENHECK	
MODEL NO.	ESD-635	ESD-635	SPED-635	ESD-635	ESD-635	ESD-635	ESD-635	ESD-635	GWH-HECE	
SERVICE	LL PARKING EA	GEN RADIATOR RELIEF	GEN RM OA	AHU-1/EHV-1 OA	AHU-1 OA	AHU-1 OA	AHU-2 OA	EDU-2 OA	TLT-1/2 EA	
AIRFLOW (CFM)	30,700	18,810	18,838	1,738	9,966	12,500	12,500	80	RVE	
SIZE (W x H)	129"x84"	90"x72"	69"x196"	22"x12"	72"x12"	132"x12"	132"x12"	12"x10"	97x7.75"	
FREE AREA (FT²)	44.2	25.1	28.7	3.7	11.2	21.6	21.6	0.3	0.13	
FREE AREA VELOCITY (FPM)	693	751	656	470	890	577	577	267	1,923	
STATIC PRESSURE (IN WC)	0.09	0.08	0.04	0.04	0.04	0.08	0.08	0.03	0.03	
REMARKS	1,2	1,2	1,2	1,2	1,2	1,2	1,2	1,2	1,2	

KEYED NOTES:
1. PROVIDE LOUVER WITH EXTERNAL BIRDSCREEN
2. PROVIDE WITH CUSTOM COLOR AS SELECTED BY ARCHITECT.

SPLIT SYSTEM HEAT PUMP SCHEDULE

UNIT NO.		FCU-1	FCU-2	FCU-3	FCU-4
LOCATION		193 - OFFICE	-	191 - CITY OFFICE	193 - CITY OFFICE
MANUFACTURER		DAIKIN	-	DAIKIN	DAIKIN
MODEL NO.		FTX18NSVJUB	-	FDMS18NSVJUB	FTX18NSVJUB
SYSTEM TYPE		DX	-	DX	DX
SUPPLY (CFM)		450	-	445	800
OUTSIDE AIR (CFM)		80	-	80	-
FILTER TYPE		-	-	-	STD
AIR HANDLER	VOLTS	208	-	208	208
	PHASE	1	-	1	1
	WATTS	28	-	28	32
	NO. OF SPEEDS	3	-	3	3
AIR COOLED HEAT PUMP UNIT (OUTDOOR UNIT)					
UNIT NO.		HPU-1	HPU-2	HPU-3	HPU-4
MANUFACTURER		DAIKIN	-	DAIKIN	DAIKIN
MODEL NO.		RX18NMVJU	-	RX18NMVAJU	RXETMMVAJU
NOMINAL COOLING CAPACITY (BTU / HR)		17,100	-	17,100	33,000
NOMINAL HEATING CAPACITY (BTU / HR)		18,200	-	18,200	18,200
SEER2		19.8	-	16.3	19.8
EER2		8.53	-	9.36	9.36
ELECTRICAL DATA	VOLTS	208	-	208	208
	PHASE	1	-	1	1
	MCA	8.5	-	8.5	8.5
	MOCP	15	-	15	15
REMARKS		1,3	2	1	1

KEYED NOTES:
1. FURNISH WITH FACTORY MOUNTED DISCONNECT SWITCH.
2. UNIT UNUSED.
3. FURNISH WITH EXTERNAL CONDENSATE PUMP DACA-CPM-1.

FAN SCHEDULE

EF = EXHAUST FAN
TF = TRANSFER FAN

UNIT NO.	EF-1	EF-3	EF-P1-T	EF-4	EF-5	EF-6	TF-1
LOCATION	800 - LL PARKING	P2 - PARKING	SEE PLANS	NOT USED	ROOF	NOT USED	191 - CITY ELEC.
MANUFACTURER	GREENHECK	GREENHECK	CUSC		GREENHECK		GREENHECK
MODEL NO.	DFA-560	SQ-60VG	SWBAD/ST		G-413VG		SQ-150-VG
SERVICE	EXHAUST	EXHAUST	EXHAUST		EXHAUST		EXHAUST
FAN TYPE	PLENUM	CENTRIFUGAL	CENTRIFUGAL		CENTRIFUGAL		CENTRIFUGAL
ARRANGEMENT	ARRAY	INLINE	INLINE		DOWNBLAST		INLINE
DESIGN CFM	9,835	332	3,346		168		2,200
EXT. SP (IN WC)	1.25	0.5	1.5	0.3	0.3	0.3	0.5
FAN WHEEL TYPE	BC	BI	MIXED	BI	BI	BI	BI
APPROXIMATE FAN RPM	1,746	1,722	1,697	1,494	1,494	1,494	1,522
BHP	9.19	0.27	1.11	0.02	0.03	0.03	0.39
MOTOR HP	7-1/2	1/3	1-1/2	1/10	1/10	1/10	1/2
VOLTS/PHASE	480 / 3	115 / 1	480 / 3	115 / 1	115 / 1	115 / 1	208 / 3
DRIVE	DIRECT	DIRECT	DIRECT	DIRECT	DIRECT	DIRECT	DIRECT
VFD	-	-	DIRECT	-	-	-	-
ECM	YES	YES	YES	-	-	-	YES
MAX. SONES	8.5	6.7	-	-	-	-	-
MAXIMUM SPACE SONES BY OCTAVE BAND CENTER FREQUENCY (HZ) 1	82	69	76	56	56	56	3.2
2	89	75	72	68	68	68	6.3
3	94	72	77	83	83	83	72
4	94	91	76	49	49	49	72
5	91	82	73	42	42	42	71
6	86	68	70	41	41	41	63
7	80	65	68	38	38	38	49
8	81	62	62	33	33	33	38
QUANTITY	4	1	81	32	30	30	30
REMARKS	1	-	2	-	1	1	1
					-	-	-

KEYED NOTES:
1. DESIGN CONDITIONS ARE ON A PER FAN BASIS
2. UNIT NO: "E" REFERS TO PARKING LEVEL. "1" REFERS TO FAN NUMBER ON EACH LEVEL.

AIR HANDLING UNIT SCHEDULE

UNIT NO.		AHU-1
LOCATION		312 - MEP
MANUFACTURER		AAON
MODEL NO.		V3-A120-E
SERVICE		SEE PLANS
UNIT ARRANGEMENT		VERTICAL
AIR FLOW (CFM)		1,200
HEATING AIR FLOW (CFM)		648
MIN. OA (CFM)		1,200
% OUTDOOR AIR		100
UNIT FLA		61
UNIT MCA		76
UNIT MOCP		80
SUPPLY FAN	WHEEL TYPE	BC - FLD43-D
	WHEEL DIA. (IN)	16"
	TSP (IN WC)	2.48"
	ESP (IN WC)	1.9"
	RPM	2,291
MOTOR	BHP	5.96
	HP	7
	VOLT	208
	PHASE	3
	VFD	YES
ELECTRIC HEATING COIL		
EAT (°F)		-15
LAT (°F)		59
OAT (°F)		-15
RAT (°F)		70
CAPACITY (MBH)		71.7
STAGES		SCR
MAX FACE VELOCITY (FPM)		-
MAX AIR PD (IN WC)		-
INPUT (KW)		21
FLA		84.2
FILTERS		
PRE-FILTER	SIZE	2"
	TYPE	PLEATED
	MERV RATING	8
FINAL FILTER	SIZE	4"
	TYPE	PLEATED
	MERV RATING	13
WEIGHT (LBS)		4400
REMARKS		-

KEYED NOTES:

ENERGY RECOVERY VENTILATOR SCHEDULE

UNIT NO.		ERV-1	ERV-2		
SERVICE		193 - OFFICE	191 - CITY OFFICE		
LOCATION		193A - TLT	191 - CITY OFFICE		
MANUFACTURER		RENEWAIRE	RENEWAIRE		
MODEL NO.		EV PREMIUM M	EV PREMIUM M		
SUMMER RECOVERY EFFICIENCY (%)		83.9	86.8		
WINTER RECOVERY EFFICIENCY (%)		79.6	79.6		
SUPPLY FROM OUTDOOR	AIRFLOW (CFM)	80	80		
	EXT. SP (IN WG)	0.25	0.45		
	TOTAL BP (IN WG)	-	-		
	EAT / ENT (°F) SUMMER	97/73	97/73		
	LAT / LWT (°F) SUMMER	79/69.8	79/69.8		
	EAT (°F) WINTER	-15	-15		
	LAT (°F) WINTER	47.2	47.2		
	FILTER	MERV 13	MERV 13		
	FAN RPM	-	-		
	FAN ECM	YES	YES		
	BHP	-	-		
	HP	0.11	0.11		
EXHAUST FROM DATA	AIRFLOW (CFM)	80	80		
	EXT. SP (IN WG)	0.25	0.45		
	TOTAL BP (IN WG)	-	-		
	EAT / ENT (°F) SUMMER	75/62.9	75/62.9		
	LAT / LWT (°F) SUMMER	-	-		
	EAT (°F) WINTER	70	68		
	LAT (°F) WINTER	-	-		
	FILTER	MERV 8	MERV 8		
	FAN RPM	-	-		
	FAN ECM	YES	YES		
	BHP	-	-		
	HP	0.11	0.11		
ELECTRICAL DATA	VOLT/PHASE	115/1	115/1		
	MCA	10	10		
	MOCP	15	15		
UNIT WEIGHT (LBS)		65	65		
REMARKS					

KEYED NOTES:

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MADISON, WI 53711
PH 608.277.1728 | FX 608.277.0946
JDR Project No: 22.0248

PROJECT INFORMATION

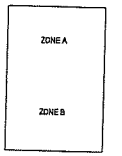
STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
01-31-2025	CD'S ADDENDUM 01 (PH1)
05-15-2025	70% SUBMITTAL / ADDENDUM 2 PH1
11-14-2025	PH1_4222

KEY PLAN



SHEET INFORMATION

PROJECT MANAGER
PROJECT NUMBER 720448

SCHEDULES - HVAC

M8001-1

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CONTROL DAMPER

	D-1	D-2	D-3	D-4	D-5	D-6	D-7	D-8	D-9	D-10	D-11	D-12	D-13
UNIT NO.	1P1-1 EA	SEE PLANS	SEE PLANS	SEE PLANS	SEE PLANS	SEE PLANS	180 - VLT OA	181 - MAUT OA	182 - VLT OA	183 - MAU1HO OA	EPH-1 EA	EPH-1 EA	187 - GENERATOR EA
SERVICE	PARALLEL	OPPOSED	OPPOSED	OPPOSED	OPPOSED	OPPOSED	OPPOSED	OPPOSED	OPPOSED	OPPOSED	PARALLEL	PARALLEL	PARALLEL
BLADE TYPE (OPPOSED / PARALLEL)	FD	FD	FD	FD	FD	FD	FD	FD	FD	FD	FD	FD	FD
FAIL POSITION (FC / FO)	120" x 60"	30" x 15"	24" x 24"	20" x 12"	36" x 18"	6"x 6"	6"x 6"	6"x 6"	6"x 6"	15" x 12"	8"W	6"W	12" x 108"
SIZE (H x W)	ELEC	ELEC	ELEC	ELEC	ELEC	ELEC	ELEC	ELEC	ELEC	ELEC	ELEC	ELEC	ELEC
ACTUATION TYPE (ELEC. / PNEUMATIC)													
REMARKS													

KEYED NOTES

CONTROL DAMPER

	D-14	D-15	D-16	D-17	D-18	D-19	D-20	D-21	D-22	D-23	D-24		
UNIT NO.	187 - GENERATOR EA	187 - GENERATOR EA	TP-1	TP-1	EPH-2 EA	EPH-2 OA	MAU2-1	AHU-1	EF-7	EF-4	EF-4		
SERVICE	OPPOSED	OPPOSED	PARALLEL	OPPOSED	PARALLEL	PARALLEL	PARALLEL	PARALLEL	PARALLEL	PARALLEL	PARALLEL		
BLADE TYPE (OPPOSED / PARALLEL)	FD	FD	FD	FD	FD	FD	FD	FD	FD	FD	FD		
FAIL POSITION (FC / FO)	30" x 29"	96" x 72"	24" x 24"	24" x 24"	6"x 6"	6"W	29" x 35"	18"x 16"	18"W	8"x 8"	6"x 6"		
SIZE (H x W)	ELEC	ELEC	ELEC	ELEC	ELEC	ELEC	ELEC	ELEC	ELEC	ELEC	ELEC		
ACTUATION TYPE (ELEC. / PNEUMATIC)													
REMARKS													

KEYED NOTES

VARIABLE FREQUENCY DRIVE SCHEDULE

UNIT NO.	VFD#X-Y				
SERVICE	EF-#X-Y				
LOCATION	SEE PLANS				
MANUFACTURER	DANFOSS				
MODEL NO.	VLT				
BYPASS	NO				
HP	1.5				
VOLTS	480				
PHASE	3				
QUANTITY	30				
REMARKS	1,2				

KEYED NOTES:
1. UNIT NO: "X" REFERS TO PARKING LEVEL, "Y" REFERS TO FAN NUMBER ON EACH LEVEL.
2. PROVIDE WITH NEMA 4X RATED ENCLOSURE.

FIRE DAMPERS

	FD-1	FD-2	FD-3	FD-4	FD-5	FD-6	
UNIT NO.	1S3A - TLT OA	185 - OFFICE EA	343 - MEP OA	343 - MEP OA	343 - MEP OA	351 - MEP OA	
SERVICE	GREENHECK	GREENHECK	GREENHECK	GREENHECK	GREENHECK	GREENHECK	
MANUFACTURER	FD-150	FD-150	FD-150	FD-150	FD-150	FD-150	
MODEL NO.	1-1/2	1-1/2	1-1/2	1-1/2	1-1/2	1-1/2	
RATING (HR)	6"x6"	6"x6"	10"x10"	18"x10"	6"x6"	72"x18"	
SIZE (H x W)	1	1	1	1	1	1,2	
REMARKS							

KEYED NOTES
1. PROVIDE WITH FACTORY UL LISTED SLEEVE AND MOUNTING ANGLES.
2. MULTI-SECTION ASSEMBLY.

AIR FLOW MEASURING STATION

	AFMS-1		
UNIT NO.	343 - MEP		
LOCATION	AHU-1		
SERVICE	13M		
MAX CFM	700		
MAX FACE VELOCITY (FPM)	0.215		
MAX SP DROP (IN WC)	643		
MIN CFM	350		
MIN FACE VELOCITY (FPM)	MULTI-PROBE		
TYPE	10"x14"		
DUCT SIZE (IN)	1		
REMARKS			

KEYED NOTES:
1. PROVIDE ACCESS DOORS BEFORE AND AFTER EACH MULTI-PROBE AFMS.

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JDR Project No: 22.0249

PROJECT INFORMATION

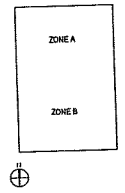
STATE STREET
CAMPUS GARAGE
MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
10-07-2022	CD-DTRP/EB/311 DOCUMENTS PH1
11-02-2022	PH1, ADD

KEY PLAN



SHEET INFORMATION

PROJECT MANAGER

PROJECT NUMBER 720448

SCHEDULES - HVAC

M8002-1

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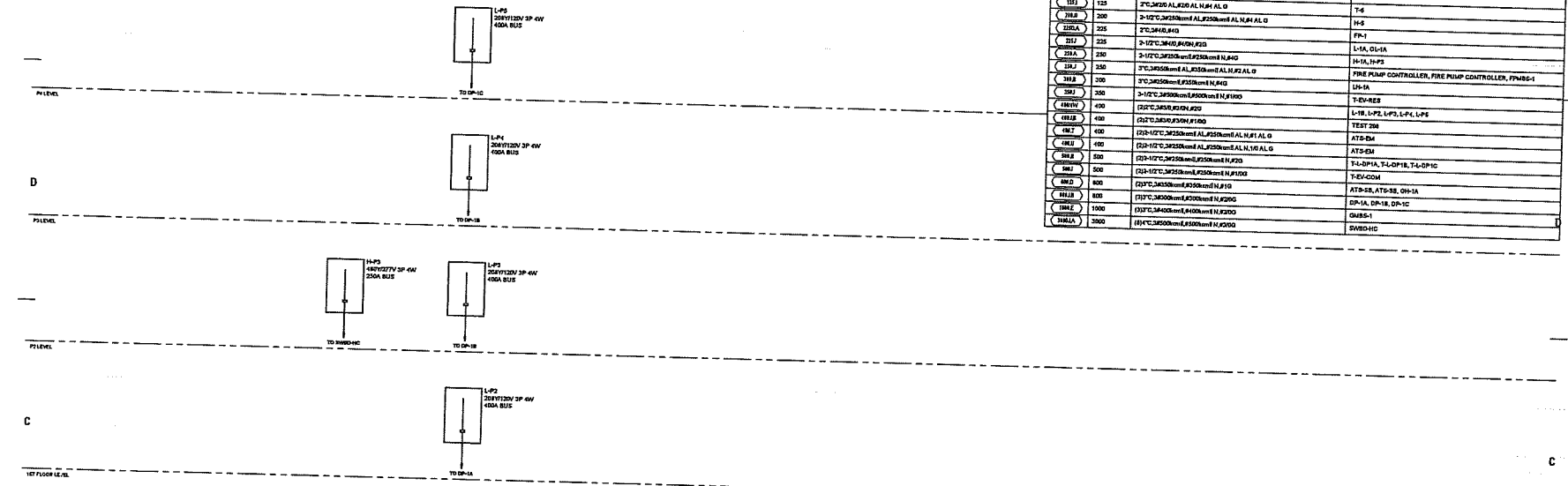
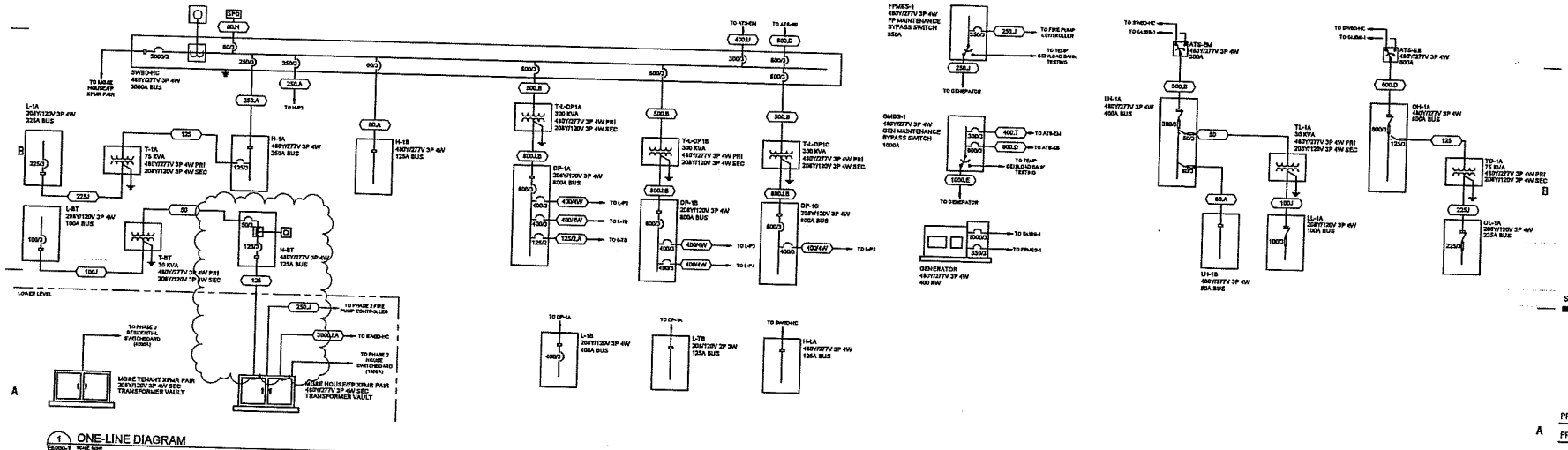
FEEDER SCHEDULE

ID	FEEDER AMPS	CONDUIT AND FEEDER	FEEDING THESE DEVICES
3J	50	1"C,3#6,#6N,#10G	T-BT, TL-1A
54.E	50	1"C,3#4 AL,#4 AL N,#8 AL G	LEM-6, TEM-9, TEM-11
66.A	60	1"C,3#6,#6N,#10G	H-1B, LH-1B
54.H	60	1-1/4"C,3#2 AL,#2 AL N,#6 AL G	SPD, TEB-11
100.J	100	1-1/4"C,3#3,#3N,#6G	L-BT, LL-1A
125	125	1-1/2"C,3#1,#1N,#6G	H-BT, H-LA, T-1A, TO-1A
125.A	125	1-1/4"C,3#1,#1N,#6G	L-TB
125.J	125	2"C,3#3/0 AL,#3/0 AL N,#4 AL G	T-6
200.B	200	2-1/2"C,3#250kcmil AL,#250kcmil AL N,#4 AL G	H-5
225.A	225	2"C,3#4/0,#4G	FP-1
225.J	225	2-1/2"C,3#4/0,#4/0N,#2G	L-1A, OL-1A
250.A	250	2-1/2"C,3#250kcmil,#250kcmil N,#4G	H-1A, H-P3
250.J	250	3"C,3#350kcmil AL,#350kcmil AL N,#2 AL G	FIRE PUMP CONTROLLER, FPMBS-1
300.B	300	3"C,3#350kcmil,#350kcmil N,#4G	LH-1A
350.J	350	3-1/2"C,3#500kcmil,#500kcmil N,#1/0G	T-EV-RES
400/4W	400	(2)2"C,3#3/0,#3/0N,#2G	L-1B, L-P2, L-P3, L-P4, L-P5
400.B	400	(2)2"C,3#3/0,#3/0N,#1/0G	TEST 208
400.7	400	(2)2-1/2"C,3#250kcmil AL,#250kcmil AL N,#1 AL G	ATS-EM
400.H	400	(2)2-1/2"C,3#250kcmil AL,#250kcmil AL N,1/0 AL G	ATS-EM
500.B	500	(2)3-1/2"C,3#350kcmil,#350kcmil N,#2G	T-L-DP1A, T-L-DP1B, T-L-DP1C
500.J	500	(3)3-1/2"C,3#350kcmil,#350kcmil N,#1/0G	T-EV-COM
600.D	600	(3)3"C,3#500kcmil,#500kcmil N,#1G	ATS-SB, ATS-SB, OH-1A
600.LB	600	(3)3"C,3#600kcmil,#300kcmil N,#2/0G	DP-1A, DP-1B, DP-1C
1000.E	1000	(3)3"C,3#400kcmil,#400kcmil N,#2/0G	GMBS-1
3000.LA	3000	(6)4"C,3#500kcmil,#500kcmil N,#2/0G	SWBD-HC





1 ONE-LINE DIAGRAM
E6000 SCALE: NONE

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JDR Project No: 22.0249

PROJECT INFORMATION

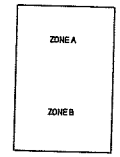
STATE STREET
CAMPUS GARAGE
MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05-03-2023	SCHEMATIC DESIGN PHI
07-28-2023	DETAILED DESIGN PHI
9-07-2023	CONSTRUCTION DOCUMENTS PH I
11-07-2023	PHI, 4/02

KEY PLAN



SHEET INFORMATION

PROJECT MANAGER

PROJECT NUMBER 720448

ONE-LINE DIAGRAM
- ELECTRICAL

E6000-1

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LIGHTING CONTROL ZONES

ZONE	DESCRIPTION	LOCATION	VOLTAGE / POLES
Z1	LOWER LEVEL LIGHTING	LOWER LEVEL	277/1
Z2	BUS TERMINAL LIGHTING	1ST FL / P2	277/1
Z3	RESIDENTIAL LIGHTING	1ST FL	277/1
Z4	1ST FL PUBLIC PARKING	1ST FL	277/1
Z5	P2 PUBLIC PARKING	P2 ZONE A	277/1
Z6	P2 PUBLIC PARKING	P2 ZONE B	277/1
Z7	P3 PUBLIC PARKING	P3 ZONE A	277/1
Z8	P3 PUBLIC PARKING	P3 ZONE B	277/1
Z9	P4 PUBLIC PARKING	P4 ZONE A	277/1
Z10	P4 PUBLIC PARKING	P4 ZONE B	277/1
Z11	P5 PUBLIC PARKING	P5 ZONE A	277/1
Z12	P5 PUBLIC PARKING	P5 ZONE B	277/1
Z13	P8 PUBLIC PARKING	P8 ZONE A	277/1
Z14	P8 PUBLIC PARKING	P8 ZONE B	277/1
Z15			

LUMINAIRE SCHEDULE

TAG	DESCRIPTION	DEPTH / HEIGHT	MOUNTING	NORMAL OPERATION LUMENS	NORMAL OPERATION WATTS	EMERGENCY OPERATION LUMENS	EMERGENCY OPERATION WATTS	EMERGENCY OPERATION TYPE	VOLTAGE	COLOR TEMP. (K)	C.R.I. (MIN)	DIMMING	INTEGRATED OPTIONS CONTROL	INTEGRATED OPTIONS SENSOR	REFLECTOR	FINISH	MANUFACTURER	MODEL SERIES	FOOT NOTES	Count
A	LED LENSED STRIP FIXTURE - SURFACE MOUNT	3"	SURFACE	5,341	41	0	0	-	120-277	4000	80	0-10V 10%	-	-	-	WHITE	LITHONIA	2LTD		13
A-E	LED LENSED STRIP FIXTURE - SURFACE MOUNT	3"	SURFACE	5,341	41	5341	41	(E)	120-277	4000	80	0-10V 10%	-	-	-	WHITE	LITHONIA	2LTD		17
B-E	LED LENSED STRIP FIXTURE - WALL MOUNT	3"	WALL	5,341	41	5341	41	(E)	120-277	4000	80	0-10V 10%	-	-	-	WHITE	LITHONIA	2LTD		12
C	LED VANDAL RESISTANT, WET LOCATION FIXTURE - SURFACE MOUNT	4 1/8"	SURFACE	8,325	49	0	0	-	120-277	4000	80	0-10V 10%	-	-	-	WHITE	LITHONIA	VAP MD	1	5
C-E	LED VANDAL RESISTANT, WET LOCATION FIXTURE - SURFACE MOUNT	4 1/8"	SURFACE	8,325	49	8325	49	(E)	120-277	4000	80	0-10V 10%	-	-	-	WHITE	LITHONIA	VAP MD	1	41
B-E	LED VANDAL RESISTANT, WET LOCATION FIXTURE - WALL MOUNT	4 1/8"	WALL	8,325	49	8325	49	(E)	120-277	4000	90	0-10V 10%	-	-	-	WHITE	LITHONIA	VAP MD	1	12
F	LED 2X2' LAY-IN FIXTURE	2 3/8"	RECESSED	4,144	31	0	0	-	120-277	4000	80	0-10V 10%	-	-	-	WHITE	LITHONIA	2BLT2		11
DA	LED PARKING GARAGE FIXTURE	4 13/16"	SURFACE	3,874	28	0	0	-	120-277	4000	70	0-10V 10%	-	-	-	WHITE	MCGRAW-EDISON	TY WG	2	142
DA-E	LED PARKING GARAGE FIXTURE	4 13/16"	SURFACE	3,874	28	3874	28	(E)	120-277	4000	70	0-10V 10%	-	-	-	BRONZE	LITHONIA	WDGE2 LED VW		6
OS-E	LED EXTERIOR SCONCE	9"	WALL	1,289	10	1289	10	(E)	120-277	4000	80	0-10V 10%	-	-	-	WHITE	LITHONIA	LV DL 4K		27
X1	LED EXIT SIGN - WALL MOUNT - NEMA 4X	8 3/4"	SURFACE	0	0	0	2	(10)	120-277	-	0	-	-	-	-	WHITE	LITHONIA	LV DL 4K		3
X2	LED EXIT SIGN - CEILING MOUNT - NEMA 4X	8 3/4"	SURFACE	0	0	0	2	(10)	120-277	-	0	-	-	-	-					

EMERGENCY OPERATION TYPES
(1) 8 REQUAL BATTERY: 7W
(2) 8 REQUAL BATTERY: (2) 7W
(3) 8 REQUAL BATTERY: 10W
(4) 8 REQUAL BATTERY: (2) 10W
(5) 8 REQUAL BATTERY: 51W
(6) INTEGRAL BATTERY: 700 LUMENS
INTEGRAL BATTERY: 1400 LUMENS
BATTERY: WITH SELF-DIAGNOSTICS
MULTI-TAP EMS DEVICE, (EXTERNAL OR INTERNAL)
INTEGRAL GEN ERATOR TRANSFER DEVICE

INTEGRATED CONTROL TYPES
(1) WIRED - CAT 5e
(2) WIRED - CAT 6
(3) WIRELESS

INTEGRATED SENSOR TYPES
(1) PASSIVE INFRARED
(2) ULTRASONIC
(3) DUAL TECHNOLOGY (PIR+ULTRASONIC)
(4) DIMMING PHOTOCELL

GENERAL NOTES:

FOOT NOTES:
(1) PROVIDE WET LOCATION FITTINGS
(2) PROVIDE TAMPER RESISTANT HARDWARE

MANUFACTURER'S NAMES AND CATALOG NUMBERS ARE USED FOR QUALITY AND PERFORMANCE ONLY. ALTERNATE LISTED LIGHT FIXTURES AND OTHER ELECTRICAL DEVICES MANUFACTURED BY OTHERS SHALL BE EQUALLY ACCEPTABLE PROVIDED THEY MEET OR EXCEED IN PERFORMANCE AND QUALITY AS SPECIFIED.

LIGHTING CONTROLS SCHEDULE

TAG	DESCRIPTION	MOUNTING	DEVICE FUNCTION	MANUAL CONTROLS TYPE	MANUAL CONTROLS CONTROL	SENSOR TYPE	SENSOR COVERAGE	CONNECTION INTERFACE	VOLTAGE	MANUFACTURER	MODEL SERIES	FOOT NOTES
DS	DIMMER SWITCH	WALL	MANUAL CONTROLS	DIMMING	PADDLE, RAISE/LOWER	-	-	WIRED	LOW VOLTAGE	LUTRON	MA-PRO	
OS1	OCCUPANCY SENSOR	CEILING	SENSOR	-	-	PIR	LARGE MOTION	WIRED	LOW VOLTAGE	LUTRON	MAESMPS4-MO	1
OS2	OCCUPANCY SENSOR	CEILING	SENSOR	-	-	DUAL TECHNOLOGY	SMALL MOTION	WIRED	LOW VOLTAGE	LUTRON	LOS-CDT-600R-WH	
OS3	OCCUPANCY SENSOR	CEILING	SENSOR	-	-	DUAL TECHNOLOGY	SMALL MOTION	WIRED	LOW VOLTAGE	LUTRON	LOS-CDT-600R-WH	1
OS4	OCCUPANCY SENSOR	CEILING	SENSOR	-	-	PIR	HIGH MOUNT	WIRED	LOW VOLTAGE	LUTRON	NASMPS4-MOA	
OS5	OCCUPANCY SENSOR - WALL MOUNTED	WALL	MANUAL CONTROLS/SENSOR	DIMMING	3 BUTTON, ON/OFF & RAISE/LOWER	DUAL TECHNOLOGY	SMALL MOTION	WIRED	LOW VOLTAGE	LUTRON	MSCL-OPTS3M	

FOOT NOTES:
(1) PROVIDE ALMUR RY LOW VOLTAGE RELAY

MANUFACTURER'S NAMES AND CATALOG NUMBERS ARE USED FOR QUALITY AND PERFORMANCE ONLY. ALTERNATE LISTED LIGHT FIXTURES AND OTHER ELECTRICAL DEVICES MANUFACTURED BY OTHERS SHALL BE EQUALLY ACCEPTABLE PROVIDED THEY MEET OR EXCEED IN PERFORMANCE AND QUALITY AS SPECIFIED.

TRANSFER SWITCH SCHEDULE

TAG	SERVICE TYPE	TYPES OF OPERATION: TRANSFER	TYPES OF OPERATION: TRANSITION	TYPES OF OPERATION: NEUTRAL	ELECTRICAL REQUIREMENTS: DISTRIBUTION VOLTAGE	ELECTRICAL REQUIREMENTS: WIRE RATING	ELECTRICAL REQUIREMENTS: AMP RATING	TRANSFER SWITCH COMPONENTS: ADJUSTABLE TIME DELAYS	TRANSFER SWITCH COMPONENTS: ENGINE EXERCISER	TRANSFER SWITCH COMPONENTS: ELECTRICAL CONTROL CONTACT	TRANSFER SWITCH COMPONENTS: MANUAL RETRANSFER	TRANSFER SWITCH COMPONENTS: INTERNAL BATTERY POWERED PHC	TRANSFER SWITCH COMPONENTS: NETWORK COMM. MODULE	ENCLOSURE: TYPE	ENCLOSURE: MATERIAL	ENCLOSURE: DOOR TYPE	ENCLOSURE: INTERNAL STRIP HEATER	ENCLOSURE: RESERVE RATING	MANUFACTURER	MODEL SERIES	FOOT NOTES
ATS-EM	ES	AUTOMATIC	OPEN	SOLID	480V		FIELD VERIFY	Yes	Yes	No	Yes	No	Yes	NEMA 1	PAINTED STEEL	SINGLE	No	No	KOHLER	XCS	
ATS-OE	OE	AUTOMATIC	OPEN	SOLID	480V		FIELD VERIFY	Yes	Yes	No	Yes	No	Yes	NEMA 1	PAINTED STEEL	SINGLE	No	No	KOHLER	XCS	

SERVICE TYPES
ES EMERGENCY SYSTEMS (EC 700
LS LEGALLY REQUIRED STANDBY SYSTEMS (EC 701
OE OPTIONAL EQUIPMENT STANDBY SYSTEMS (EC 702
LE HEALTHCARE - LIFE SAFETY
CB HEALTHCARE - CRITICAL BRANCH
EB HEALTHCARE - EQUIPMENT BRANCH

GENERAL NOTES:

FOOT NOTES:
(1)

GENERATOR SCHEDULE

TAG	FUEL TYPE	INSTALL LOCATION	DUTY RATING	TIER RATING	DURATION UNTIL OPERATIONAL	EPA EMISSIONS CERTIFIED	DISTRIBUTION VOLTAGE	CONNECTED LOAD kVA	CONNECTED LOAD FLA	RATED LOAD kVA	RATED LOAD FLA	SC. FAULT CURRENT	MAX. AMBIENT TEMP. (F) (BASED AT 2' ABV)	MANUFACTURER	GENSET MODEL	ALTERNATOR MODEL	FOOT NOTES
GENERATOR	DIESEL	GENERATOR 139	ESP	1	10s	Yes	480V	142.8	172			88K	77	KOHLER	400REOZVC	844027	

GENERATOR SCHEDULE (CONTINUED)

TAG	FUEL TANK: Y/N	FUEL TANK: LOCATION	FUEL TANK: CAPACITY (GALLONS)	FUEL TANK: DIMENSIONS	INTEGRAL EQUIPMENT: CIRCUIT BREAKERS	INTEGRAL EQUIPMENT: LOAD CENTERS	INTEGRAL EQUIPMENT: LOAD CENTER BUSS	EMERGENCY STOP BUTTON: UNIT MOUNTED	EMERGENCY STOP BUTTON: REMOTE	EMERGENCY STOP BUTTON: LOCATION	CONTROL PANEL: UNIT MOUNTED	CONTROL PANEL: REMOTE STARTING CKT	CONTROL PANEL: REMOTE ANNUNCIATION PNL	CONTROL PANEL: REMOTE ALARM CONTACTS	ENCLOSURE: TYPE	ENCLOSURE: BODY	ENCLOSURE: SOUND ATTENUATION	ENCLOSURE: LED LIGHTING	ENCLOSURE: GFCI/WP RECEPTACLES	ENCLOSURE: HEATER	ENCLOSURE: DIMENSIONS
GENERATOR	Yes	GENERATOR 139	404	54"W x 184"L x 75"H	Yes	No	No	Yes	Yes	TBD	No	No	Yes	No	-	-	No	-	-	-	-

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JDR ENGINEERING, INC.
5525 NOBLE DRIVE
SUITE 80
MADISON, WI 53711
PH: 608.277.1728 | FX: 608.277.1716
JDR Project No: 22.0249

PROJECT INFORMATION

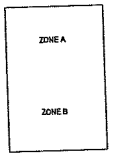
STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05/05/2023	SCHEMATIC DESIGN PHS
07/28/2023	DETAILED DESIGN PHS
10/02/2023	CONSTRUCTION DOCUMENTS PH 1
11/03/2023	PHS 4000

KEY PLAN



SHEET INFORMATION

PROJECT MANAGER

PROJECT NUMBER 720448

SCHEDULES - LIGHTING AND DEVICES

E8000-1

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ELECTRICAL CONNECTION SCHEDULE

TAG	DESCRIPTION	LOCATION NO	LOCATION NAME	LOAD KVA	LOAD F.L.A.	LOAD M.C.A.	LOAD VOLT	LOAD PH	OCP (Amps)	WIRE SIZE & CONDUIT	PANEL	CIRCUIT #	STARTER TYPE	STARTER FURNISHED / INSTALLED	CONTROLLER TYPE	CONTROLLER FURNISHED / INSTALLED	DISCONNECT TYPE	DISCONNECT FURNISHED / INSTALLED	ACCESSORIES	NEMA TYPE/CONFIGURATION	NORMAL	LIFE SAFETY	LEGALLY REQUIRED	OPTIONAL STAND-BY	FOOT NOTES
277																									
HT-1-1	HEAT TRACE			0	3.8	4.5	277	1	20	3/4"C, 2#12, #12G	H-1A	20	-	-	-	-	CB	EC/EC	-	3R	•				
HT-1-2	HEAT TRACE			0	3.8	4.5	277	1	20	3/4"C, 2#12, #12G	H-1A	22	-	-	-	-	CB	EC/EC	-	3R	•				
HT-P2-1	HEAT TRACE	344	PUBLIC PARKING	0	3.8	4.5	277	1	20	3/4"C, 2#12, #12G	H-1A	24	-	-	-	-	CB	EC/EC	-	3R	•				
HT-P2-2	HEAT TRACE	344	PUBLIC PARKING	0	3.8	4.5	277	1	20	3/4"C, 2#12, #12G	H-1A	26	-	-	-	-	CB	EC/EC	-	3R	•				
HT-P2-3	HEAT TRACE	244	PUBLIC PARKING	0	3.8	4.5	277	1	20	3/4"C, 2#12, #12G	H-1A	28	-	-	-	-	CB	EC/EC	-	3R	•				
HT-P2-4	HEAT TRACE	244	PUBLIC PARKING	0	3.8	4.5	277	1	20	3/4"C, 2#12, #12G	H-1A	30	-	-	-	-	CB	EC/EC	-	3R	•				
HT-P3-1	HEAT TRACE	345	ELEVATOR LOBBY	0	3.8	4.5	277	1	20	3/4"C, 2#12, #12G	H-P3	56	-	-	-	-	CB	EC/EC	-	3R	•				
HT-P3-2	HEAT TRACE	345	ELEVATOR LOBBY	0	3.8	4.5	277	1	20	3/4"C, 2#12, #12G	H-P3	58	-	-	-	-	CB	EC/EC	-	3R	•				
HT-P3-3	HEAT TRACE	345	ELEVATOR LOBBY	0	3.8	4.5	277	1	20	3/4"C, 2#12, #12G	H-P3	60	-	-	-	-	CB	EC/EC	-	3R	•				
HT-P3-4	HEAT TRACE	345	ELEVATOR LOBBY	0	3.8	4.5	277	1	20	3/4"C, 2#12, #12G	H-P3	62	-	-	-	-	CB	EC/EC	-	3R	•				
HT-P4-1	HEAT TRACE	444	PUBLIC PARKING	0	3.8	4.5	277	1	20	3/4"C, 2#12, #12G	H-P3	64	-	-	-	-	CB	EC/EC	-	3R	•				
HT-P4-2	HEAT TRACE	444	PUBLIC PARKING	0	3.8	4.5	277	1	20	3/4"C, 2#12, #12G	H-P3	66	-	-	-	-	CB	EC/EC	-	3R	•				
HT-P4-3	HEAT TRACE	444	PUBLIC PARKING	0	3.8	4.5	277	1	20	3/4"C, 2#12, #12G	H-P3	68	-	-	-	-	CB	EC/EC	-	3R	•				
HT-P4-4	HEAT TRACE	444	PUBLIC PARKING	0	3.8	4.5	277	1	20	3/4"C, 2#12, #12G	H-P3	70	-	-	-	-	CB	EC/EC	-	3R	•				
HT-P5-1	HEAT TRACE	544	PUBLIC PARKING	0	3.8	4.5	277	1	20	3/4"C, 2#12, #12G	H-P3	72	-	-	-	-	CB	EC/EC	-	3R	•				
HT-P5-2	HEAT TRACE	544	PUBLIC PARKING	0	3.8	4.5	277	1	20	3/4"C, 2#12, #12G	H-P3	74	-	-	-	-	CB	EC/EC	-	3R	•				
HT-P5-3	HEAT TRACE	344	PUBLIC PARKING	0	3.8	4.5	277	1	20	3/4"C, 2#12, #12G	H-P3	76	-	-	-	-	CB	EC/EC	-	3R	•				
HT-P5-4	HEAT TRACE	544	PUBLIC PARKING	0	3.8	4.5	277	1	20	3/4"C, 2#12, #12G	H-P3	78	-	-	-	-	CB	EC/EC	-	3R	•				
HT-P6-1	HEAT TRACE	644	PUBLIC PARKING	0	3.8	4.5	277	1	20	3/4"C, 2#12, #12G	H-P3	80	-	-	-	-	CB	EC/EC	-	3R	•				
HT-P6-2	HEAT TRACE	644	PUBLIC PARKING	0	3.8	4.5	277	1	20	3/4"C, 2#12, #12G	H-P3	82	-	-	-	-	CB	EC/EC	-	3R	•				
208																									
EVC-1	PUBLIC EV CHARGER	180	PUBLIC PARKING	0	28	35	208	1	40	3/4"C, 2#8, #10G	L-1B	1,3	-	-	-	-	CB	EC/EC	-	4	•				
EVC-2	PUBLIC EV CHARGER	180	PUBLIC PARKING	0	28	35	208	1	40	3/4"C, 2#8, #10G	L-1B	5,7	-	-	-	-	CB	EC/EC	-	4	•				
EVC-3	PUBLIC EV CHARGER	180	PUBLIC PARKING	0	28	35	208	1	40	3/4"C, 2#8, #10G	L-1B	9,11	-	-	-	-	CB	EC/EC	-	4	•				
EVC-C1	CITY EV CHARGER	000	LOWER LEVEL PARKING	0	28	35	208	1	40	3/4"C, 2#8, #10G	L-1B	2,4	-	-	-	-	CB	EC/EC	-	4	•				1
EVC-C2	CITY EV CHARGER	000	LOWER LEVEL PARKING	0	28	35	208	1	40	3/4"C, 2#8, #10G	L-1B	6,8	-	-	-	-	CB	EC/EC	-	4	•				1
EVC-C3	CITY EV CHARGER	000	LOWER LEVEL PARKING	0	28	35	208	1	40	3/4"C, 2#8, #10G	L-1B	10,12	-	-	-	-	CB	EC/EC	-	4	•				1
EVC-C4	CITY EV CHARGER	000	LOWER LEVEL PARKING	0	28	35	208	1	40	3/4"C, 2#8, #10G	L-1B	14,16	-	-	-	-	CB	EC/EC	-	4	•				1
EVC-C5	CITY EV CHARGER	000	LOWER LEVEL PARKING	0	28	35	208	1	40	3/4"C, 2#8, #10G	L-1B	18,20	-	-	-	-	CB	EC/EC	-	4	•				1
EVC-C6	CITY EV CHARGER	000	LOWER LEVEL PARKING	0	28	35	208	1	40	3/4"C, 2#8, #10G	L-1B	22,24	-	-	-	-	CB	EC/EC	-	4	•				1
EVC-C7	CITY EV CHARGER	000	LOWER LEVEL PARKING	0	28	35	208	1	40	3/4"C, 2#8, #10G	L-1B	26,28	-	-	-	-	CB	EC/EC	-	4	•				1
EVC-P3-1	PUBLIC EV CHARGER	344	PUBLIC PARKING	0	28	35	208	1	40	3/4"C, 2#8, #10G	L-P2	18,20	-	-	-	-	CB	EC/EC	-	4	•				1
EVC-P4-1	PUBLIC EV CHARGER	444	PUBLIC PARKING	0	28	35	208	1	40	3/4"C, 2#8, #10G	L-P4	14,16	-	-	-	-	CB	EC/EC	-	4	•				1
EVC-P5-1	PUBLIC EV CHARGER	544	PUBLIC PARKING	0	28	35	208	1	40	3/4"C, 2#8, #10G	L-P5	10,12	-	-	-	-	CB	EC/EC	-	4	•				1
EVR-1	EV READY CHARGING SPACE	180	PUBLIC PARKING	0	28	35	208	1	40	3/4"C, 2#8, #10G	L-1B	13,15	-	-	-	-	CB	EC/EC	-	4	•				
EVR-2	EV READY CHARGING SPACE	180	PUBLIC PARKING	0	28	35	208	1	40	3/4"C, 2#8, #10G	L-1B	17,19	-	-	-	-	CB	EC/EC	-	4	•				
EVR-P2-1	EV READY CHARGING SPACE	244	PUBLIC PARKING	0	28	35	208	1	40	3/4"C, 2#8, #10G	L-P2	1,3	-	-	-	-	CB	EC/EC	-	4	•				
EVR-P2-2	EV READY CHARGING SPACE	244	PUBLIC PARKING	0	28	35	208	1	40	3/4"C, 2#8, #10G	L-P2	5,7	-	-	-	-	CB	EC/EC	-	4	•				
EVR-P2-3	EV READY CHARGING SPACE	244	PUBLIC PARKING	0	28	35	208	1	40	3/4"C, 2#8, #10G	L-P2	9,11	-	-	-	-	CB	EC/EC	-	4	•				
EVR-P2-4	EV READY CHARGING SPACE	244	PUBLIC PARKING	0	28	35	208	1	40	3/4"C, 2#8, #10G	L-P2	13,15	-	-	-	-	CB	EC/EC	-	4	•				
EVR-P2-5	EV READY CHARGING SPACE	244	PUBLIC PARKING	0	28	35	208	1	40	3/4"C, 2#8, #10G	L-P2	17,19	-	-	-	-	CB	EC/EC	-	4	•				
EVR-P2-6	EV READY CHARGING SPACE	244	PUBLIC PARKING	0	28	35	208	1	40	3/4"C, 2#8, #10G	L-P2	21,23	-	-	-	-	CB	EC/EC	-	4	•				
EVR-P2-7	EV READY CHARGING SPACE	244	PUBLIC PARKING	0	28	35	208	1	40	3/4"C, 2#8, #10G	L-P2	25,27	-	-	-	-	CB	EC/EC	-	4	•				
EVR-P2-8	EV READY CHARGING SPACE	244	PUBLIC PARKING	0	28	35	208	1	40	3/4"C, 2#8, #10G	L-P2	29,31	-	-	-	-	CB	EC/EC	-	4	•				
EVR-P2-9	EV READY CHARGING SPACE	244	PUBLIC PARKING	0	28	35	208	1	40	3/4"C, 2#8, #10G	L-P2	33,35	-	-	-	-	CB	EC/EC	-	4	•				
EVR-P2-10	EV READY CHARGING SPACE	244	PUBLIC PARKING	0	28	35	208	1	40	3/4"C, 2#8, #10G	L-P2	37,39	-	-	-	-	CB	EC/EC	-	4	•				
EVR-P2-11	EV READY CHARGING SPACE	244	PUBLIC PARKING	0	28	35	208	1	40	3/4"C, 2#8, #10G	L-P2	2,4	-	-	-	-	CB	EC/EC	-	4	•				
EVR-P2-12	EV READY CHARGING SPACE	244	PUBLIC PARKING	0	28	35	208	1	40	3/4"C, 2#8, #10G	L-P2	6,8	-	-	-	-	CB	EC/EC	-	4	•				
EVR-P2-13	EV READY CHARGING SPACE	244	PUBLIC PARKING	0	28	35	208	1	40	3/4"C, 2#8, #10G	L-P2	10,12	-	-	-	-	CB	EC/EC	-	4	•				
EVR-P2-14	EV READY CHARGING SPACE	244	PUBLIC PARKING	0	28	35	208	1	40	3/4"C, 2#8, #10G	L-P2	14,16	-	-	-	-	CB	EC/EC	-	4	•				
EVR-P3-1	EV READY CHARGING SPACE	344	PUBLIC PARKING	0	28	35	208	1	40	3/4"C, 2#8, #10G	L-P3	1,3	-	-	-	-	CB	EC/EC	-	4	•				
EVR-P3-2	EV READY CHARGING SPACE	344	PUBLIC PARKING	0	28	35	208	1	40	3/4"C, 2#8, #10G	L-P3	5,7	-	-	-	-	CB	EC/EC	-	4	•				
EVR-P3-3	EV READY CHARGING SPACE	344	PUBLIC PARKING	0	28	35	208	1	40	3/4"C, 2#8, #10G	L-P3	9,11	-	-	-	-	CB	EC/EC	-	4	•				
EVR-P3-4	EV READY CHARGING SPACE	344	PUBLIC PARKING	0	28	35	208	1	40	3/4"C, 2#8, #10G	L-P3	13,15	-	-	-	-	CB	EC/EC	-	4	•				
EVR-P3-5	EV READY CHARGING SPACE	344	PUBLIC PARKING	0	28	35	208	1	40	3/4"C, 2#8, #10G	L-P3	17,19	-	-	-	-	CB	EC/EC	-	4	•				
EVR-P3-6	EV READY CHARGING SPACE	344	PUBLIC PARKING	0	28	35	208	1	40	3/4"C, 2#8, #10G	L-P3	21,23	-	-	-	-	CB	EC/EC	-	4	•				
EVR-P3-7	EV READY CHARGING SPACE	344	PUBLIC PARKING	0	28	35	208	1	40	3/4"C, 2#8, #10G	L-P3	25,27	-	-	-	-	CB	EC/EC	-	4	•				
EVR-P3-8	EV READY CHARGING SPACE	344	PUBLIC PARKING	0	28	35	208	1	40	3/4"C, 2#8, #10G	L-P3	29,31	-	-	-	-	CB	EC/EC	-	4	•				
EVR-P3-9	EV READY CHARGING SPACE	344	PUBLIC PARKING	0	28	35	208	1	40	3/4"C, 2#8, #10G	L-P3	33,35	-	-	-	-	CB	EC/EC	-	4	•				
EVR-P3-10	EV READY CHARGING SPACE	344	PUBLIC PARKING	0	28	35	208	1	40	3/4"C, 2#8, #10G	L-P3	37,39	-	-	-	-	CB	EC/EC	-	4	•				
EVR-P3-11	EV READY CHARGING SPACE	344	PUBLIC PARKING	0	28	35	208	1	40	3/4"C, 2#8, #10G	L-P3	2,4	-	-	-	-	CB	EC/EC	-	4	•				
EVR-P3-12	EV READY CHARGING SPACE	344	PUBLIC PARKING	0	28	35	208	1	40	3/4"C, 2#8, #10G	L-P3	6,8	-	-	-	-	CB	EC/EC	-	4	•				
EVR-P3-13	EV READY CHARGING SPACE	344	PUBLIC PARKING	0	28	35	208	1	40	3/4"C, 2#8, #10G	L-P3	10,12	-	-	-	-	CB	EC/EC	-	4	•				
EVR-P3-14	EV READY CHARGING SPACE	344	PUBLIC PARKING	0	28	35	208	1	40	3/4"C, 2#8, #10G	L-P3	14,16	-	-	-	-	CB	EC/EC	-	4	•				
EVR-P4-1	EV READY CHARGING SPACE	444	PUBLIC PARKING	0	28	35	208	1	40	3/4"C, 2#8, #10G	L-P4	1,3	-	-	-	-	CB	EC/EC	-	4	•				
EVR-P4-2	EV READY CHARGING SPACE	444	PUBLIC PARKING	0	28	35	208	1	40	3/4"C, 2#8, #10G	L-P4	5,7	-	-	-	-	CB	EC/EC	-	4	•				
EVR-P4-3	EV READY CHARGING SPACE	444	PUBLIC PARKING	0	28	35	208	1	40	3/4"C, 2#8, #10G	L-P4	9,11	-	-	-	-	CB	EC/EC	-	4	•				
EVR-P4-4	EV READY CHARGING SPACE	444	PUBLIC PARKING	0	28	35	208	1	40	3/4"C, 2#8, #10G	L-P4	13,15	-	-	-	-	CB	EC/EC	-	4	•				
EVR-P4-5	EV READY CHARGING SPACE	444	PUBLIC PARKING	0	28	35	208	1	40	3/4"C, 2#8, #10G	L-P4	17,19	-	-	-	-	CB	EC/EC	-	4	•				
EVR-P4-6	EV READY CHARGING SPACE	444	PUBLIC PARKING	0	28	35	208	1	40	3/4"C, 2#8, #10G	L-P4	21,23	-	-	-	-	CB	EC/EC	-	4	•				
EVR-P4-7	EV READY CHARGING SPACE	444	PUBLIC PARKING	0	28	35	208	1	40	3/4"C, 2#8, #10G	L-P4	25,27	-	-	-	-	CB	EC/EC	-	4	•				
EVR-P4-8	EV READY CHARGING SPACE	444	PUBLIC PARKING	0	28	35	208	1	40	3/4"C, 2#8, #10G	L-P4	29,31	-	-	-	-	CB	EC/EC	-	4	•				
EVR-P4-9	EV READY CHARGING SPACE	444	PUBLIC PARKING	0	28	35	208	1	40	3/4"C, 2#8, #10G	L-P4	33,35	-	-	-	-	CB	EC/EC	-	4	•				
EVR-P4-10	EV READY CHARGING SPACE	444	PUBLIC PARKING	0	28	35	208	1	40	3/4"C, 2#8, #10G	L-P4	37,39	-	-	-	-	CB	EC/EC	-	4	•				
EVR-P4-11	EV READY CHARGING SPACE	444	PUBLIC PARKING	0	28	35	208	1	40	3/4"C, 2#8, #10G	L-P4	2,4	-	-	-	-	CB	EC/EC	-	4	•				
EVR-P4-12	EV READY CHARGING SPACE	444	PUBLIC PARKING	0	28	35	208	1	40	3/4"C, 2#8, #10G	L-P4	6,8	-	-	-	-	CB	EC/EC	-	4	•				
EVR-P4-13	EV READY CHARGING SPACE	444	PUBLIC PARKING	0	28	35	208	1	40	3/4"C, 2#8, #10G	L-P4	10,12	-	-	-	-	CB	EC/EC	-	4	•				
EVR-P5-1	EV READY CHARGING SPACE	544	PUBLIC PARKING	0	28	35	208	1	40	3/4"C, 2#8, #10G	L-P5	1,3	-	-	-	-	CB	EC/EC	-	4	•				
EVR-P5-2	EV READY CHARGING SPACE	544	PUBLIC PARKING	0	28	35	208	1	40	3/4"C, 2#8, #10G	L-P5	5,7	-	-	-	-	CB	EC/EC	-	4	•				
EVR-P5-3	EV READY CHARGING SPACE	544	PUBLIC PARKING	0	28	35	208	1	40	3/4"C, 2#8, #10G	L-P5	9,11	-	-	-	-	CB	EC/EC	-	4	•				
EVR-P5-4	EV READY CHARGING SPACE	544	PUBLIC PARKING	0	28	35	208	1	40	3/4"C, 2#8, #10G	L-P5	2,4	-	-	-	-	CB	EC/EC	-	4	•				
EVR-P5-5	EV READY CHARGING SPACE	544	PUBLIC PARKING	0	28	35	208	1	40	3/4"C, 2#8, #10G	L-P5	6,8	-	-	-	-	CB	EC/EC	-	4	•				
SW-1a	DEMARK FIBER SWITCH	183	CITY DEMARK ROOM	0	4.8	5.7	208	1	20	3/4"C, 2#12, #12G	OL-1A	32,34	-	-	-	-	CB	EC/EC	-	4	•				
SW-1b	DEMARK FIBER SWITCH	183	CITY DEMARK ROOM	0	4.8	5.7	208	1	20	3/4"C, 2#12, #12G	OL-1A	36,38	-	-	-	-	CB	EC/EC	-	4	•				
SW-2	DEMARK COPPER SWITCH	183	CITY DEMARK ROOM	0	7.2	8	208	1	20	3/4"C, 2#12, #12G	OL-1A	40,42	-	-	-	-	CB	EC/EC	-	1			•		
SW-3-P3-1	IDF FIBER SWITCH	344	PUBLIC PARKING	0	0.5	0.8	208	1	20	3/4"C, 2#12, #12G	OL-1A	43,45	-	-	-	-	CB	EC/EC	-	1			•		
SW-3-P3-2	IDF FIBER SWITCH	344	PUBLIC PARKING	0	0.5	0.8	208	1	20	3/4"C, 2#12, #12G	OL-1A	47,49	-	-	-	-	CB	EC/EC	-	1			•		
SW-3-P4-1	IDF FIBER SWITCH	444	PUBLIC PARKING	0	0.5	0.8	208	1	20	3/4"C, 2#12, #12G	OL-1A	51,53	-	-	-	-	CB	EC/EC	-	3R			•		
SW-3-P4-2	IDF FIBER SWITCH	444	PUBLIC PARKING	0	0.5	0.8	208	1	20	3/4"C, 2#12, #12G	OL-1A	55,57	-	-	-	-	CB	EC/EC	-	3R			•		
SW-3-P6	IDF FIBER SWITCH	644	PUBLIC PARKING	0	0.5	0.8	208	1	20	3/4"C, 2#12, #12G	OL-1A	59,61	-	-	-	-	CB	EC/EC	-	3R			•		

ELECTRICAL CONNECTION SCHEDULE

TAG	DESCRIPTION	LOCATION NO	LOCATION NAME	LOAD KVA	LOAD F.L.A.	LOAD M.C.A.	LOAD VOLT	LOAD PH	OCP (Amps)	WIRE SIZE & CONDUIT	PANEL	CIRCUIT #	STARTER TYPE	STARTER FURNISHED / INSTALLED	CONTROLLER TYPE	CONTROLLER FURNISHED / INSTALLED	DISCONNECT TYPE	DISCONNECT FURNISHED / INSTALLED	ACCESSORIES	NEMA TYPE/CONFIGURATION	NORMAL	LIFE SAFETY	LEGALLY REQUIRED	OPTIONAL STAND-BY	FOOT NOTES
120																									
BAS-P0-1	BAS PANEL	000	LOWER LEVEL PARKING	0	10	12.5	120	1	20	3/4"C, 2#12, #12G	OL-1A	44	-	-	-	-	CB	EC/EC	-	3R				•	
BAS-P2-1	BAS PANEL	243	MEP	0	10	12.5	120	1	20	3/4"C, 2#12, #12G	OL-1A	46	-	-	-	-	CB	EC/EC	-	1				•	
BAS-P2-2	BAS PANEL	344	PUBLIC PARKING	0	10	12.5	120	1	20	3/4"C, 2#12, #12G	OL-1A	48	-	-	-	-	CB	EC/EC	-	3R				•	
BAS-P2-3	BAS PANEL	201	MEP	0	10	12.5	120	1	20	3/4"C, 2#12, #12G	OL-1A	50	-	-	-	-	CB	EC/EC	-	1				•	
BAS-P3-1	BAS PANEL	344	PUBLIC PARKING	0	10	12.5	120	1	20	3/4"C, 2#12, #12G	OL-1A	52	-	-	-	-	CB	EC/EC	-	3R				•	
BAS-P4-1	BAS PANEL	444	PUBLIC PARKING	0	10	12.5	120	1	20	3/4"C, 2#12, #12G	OL-1A	54	-	-	-	-	CB	EC/EC	-	3R				•	
BAS-P5-1	BAS PANEL	544	PUBLIC PARKING	0	10	12.5	120	1	20	3/4"C, 2#12, #12G	OL-1A	56	-	-	-	-	CB	EC/EC	-	3R				•	
BAS-P6-1	BAS PANEL	644	PUBLIC PARKING	0	10	12.5	120	1	20	3/4"C, 2#12, #12G	OL-1A	58	-	-	-	-	CB	EC/EC	-	3R				•	
DA-1-1a	DIGITAL ADVERTIZING	180	BUS WAITING AREA	0	10	12.5	120	1	20	3/4"C, 2#12, #12G	L-1A	28	-	-	-	-	CB	EC/EC	-	3R	•				
DA-1-1b	DIGITAL ADVERTIZING	150	ELEVATOR LOBBY	0	10	12.5	120	1	20	3/4"C, 2#12, #12G	L-1A	30	-	-	-	-	CB	EC/EC	-	3R	•				
DA-1-2a	DIGITAL ADVERTIZING	245	ELEVATOR LOBBY	0	10	12.5	120	1	20	3/4"C, 2#12, #12G	L-P2	34	-	-	-	-	CB	EC/EC	-	3R	•				
DA-1-2b	DIGITAL ADVERTIZING	250	ELEVATOR LOBBY	0	10	12.5	120	1	20	3/4"C, 2#12, #12G	L-P2	38	-	-	-	-	CB	EC/EC	-	3R	•				
DA-1-3a	DIGITAL ADVERTIZING	345	ELEVATOR LOBBY	0	10	12.5	120	1	20	3/4"C, 2#12, #12G	L-P3	34	-	-	-	-	CB	EC/EC	-	3R	•				
DA-1-3b	DIGITAL ADVERTIZING	350	ELEVATOR LOBBY	0	10	12.5	120	1	20	3/4"C, 2#12, #12G	L-P3	38	-	-	-	-	CB	EC/EC	-	3R	•				
DA-1-4a	DIGITAL ADVERTIZING	444	PUBLIC PARKING	0	10	12.5	120	1	20	3/4"C, 2#12, #12G	L-P4	34	-	-	-	-	CB	EC/EC	-	3R	•				
DA-1-4b	DIGITAL ADVERTIZING	450	ELEVATOR LOBBY	0	10	12.5	120	1	20	3/4"C, 2#12, #12G	L-P4	38	-	-	-	-	CB	EC/EC	-	3R	•				
DA-1-5a	DIGITAL ADVERTIZING	545	ELEVATOR LOBBY	0	10	12.5	120	1	20	3/4"C, 2#12, #12G	L-P5	34	-	-	-	-	CB	EC/EC	-	3R	•				
DA-1-5b	DIGITAL ADVERTIZING	550	ELEVATOR LOBBY	0	10	12.5	120	1	20	3/4"C, 2#12, #12G	L-P5	38	-	-	-	-	CB	EC/EC	-	3R	•				
DA-1-6a	DIGITAL ADVERTIZING	645	ELEVATOR LOBBY	0	10	12.5	120	1	20	3/4"C, 2#12, #12G	L-P5	38	-	-	-	-	CB	EC/EC	-	3R	•				
DA-1-6b	DIGITAL ADVERTIZING	650	ELEVATOR LOBBY	0	10	12.5	120	1	20	3/4"C, 2#12, #12G	L-P5	40	-	-	-	-	CB	EC/EC	-	3R	•				
DA-1-La	DIGITAL ADVERTIZING	001	ELEVATOR LOBBY	0	10	12.5	120	1	20	3/4"C, 2#12, #12G	L-1A	24	-	-	-	-	CB	EC/EC	-	3R	•				
DA-1-Lb	DIGITAL ADVERTIZING	003	ELEVATOR LOBBY	0	10	12.5	120	1	20	3/4"C, 2#12, #12G	L-1A	28	-	-	-	-	CB	EC/EC	-	3R	•				
DO-180	DOOR AUTO OPERATOR	180	TLT	0	5	6.3	120	1	20	3/4"C, 2#12, #12G	L-BT	23	-	-	-	-	CB	EC/EC	-	3R	•				
DO-182	DOOR AUTO OPERATOR	182	TLT	0	5	6.3	120	1	20	3/4"C, 2#12, #12G	L-BT	25	-	-	-	-	CB	EC/EC	-	3R	•				
DPS-0501-1	DOOR POWER SUPPLY	0501	STAIR 01	0	7	8.8	120	1	20	3/4"C, 2#12, #12G	L-1A	44	-	-	-	-	CB	EC/EC	-	3R	•				
DPS-0503-1	DOOR POWER SUPPLY	0503	STAIR 03	0	7	8.8	120	1	20	3/4"C, 2#12, #12G	L-1A	46	-	-	-	-	CB	EC/EC	-	3R	•				
DPS-2501-1	DOOR POWER SUPPLY	2501	STAIR 01	0	7	8.8	120	1	20	3/4"C, 2#12, #12G	L-P2	38	-	-	-	-	CB	EC/EC	-	3R	•				
DPS-2503-1	DOOR POWER SUPPLY	2503	STAIR 03	0	7	8.8	120	1	20	3/4"C, 2#12, #12G	L-P2	40	-	-	-	-	CB	EC/EC	-	3R	•				
DPS-3501-1	DOOR POWER SUPPLY	3501	STAIR 01	0	0	0	120	1	20	3/4"C, 2#12, #12G	L-P3	38	-	-	-	-	CB	EC/EC	-	3R	•				
DPS-3503-1	DOOR POWER SUPPLY	3503	STAIR 03	0	0	0	120	1	20	3/4"C, 2#12, #12G	L-P3	40	-	-	-	-	CB	EC/EC	-	3R	•				
DPS-4501-1	DOOR POWER SUPPLY	4501	STAIR 01	0	7	8.8	120	1	20	3/4"C, 2#12, #12G	L-P4	38	-	-	-	-	CB	EC/EC	-	3R	•				
DPS-4503-1	DOOR POWER SUPPLY	4503	STAIR 03	0	7	8.8	120	1	20	3/4"C, 2#12, #12G	L-P4	40	-	-	-	-	CB	EC/EC	-	3R	•				
DPS-5501-1	DOOR POWER SUPPLY	5501	STAIR 01	0	7	8.8	120	1	20	3/4"C, 2#12, #12G	L-P5	42	-	-	-	-	CB	EC/EC	-	3R	•				
DPS-5503-1	DOOR POWER SUPPLY	5503	STAIR 03	0	7	8.8	120	1	20	3/4"C, 2#12, #12G	L-P5	44	-	-	-	-	CB	EC/EC	-	3R	•				
DPS-6501-1	DOOR POWER SUPPLY	6501	STAIR 01	0	7	8.8	120	1	20	3/4"C, 2#12, #12G	L-P5	46	-	-	-	-	CB	EC/EC	-	3R	•				
DPS-6503-1	DOOR POWER SUPPLY	6503	STAIR 03	0	7	8.8	120	1	20	3/4"C, 2#12, #12G	L-P5	48	-	-	-	-	CB	EC/EC	-	3R	•				
DS-1D-1a	DIGITAL SIGNAGE - DYNAMIC	180	PUBLIC PARKING	0	3	3.8	120	1	20	3/4"C, 2#12, #12G	OL-1A	25	-	-	-	-	CB	EC/EC	-	3R	•				
DS-1D-1b	DIGITAL SIGNAGE - DYNAMIC	180	PUBLIC PARKING	0	3	3.8	120	1	20	3/4"C, 2#12, #12G	OL-1A	27	-	-	-	-	CB	EC/EC	-	3R	•				
DS-1S-1a	DIGITAL SIGNAGE - STATIC	180	PUBLIC PARKING	0	3	3.8	120	1	20	3/4"C, 2#12, #12G	OL-1A	60	-	-	-	-	CB	EC/EC	-	3R	•				
DS-1S-1b	DIGITAL SIGNAGE - STATIC	180	PUBLIC PARKING	0	3	3.8	120	1	20	3/4"C, 2#12, #12G	OL-1A	80	-	-	-	-	CB	EC/EC	-	3R	•				
DS-1S-1c	DIGITAL SIGNAGE - STATIC	180	PUBLIC PARKING	0	3	3.8	120	1	20	3/4"C, 2#12, #12G	OL-1A	80	-	-	-	-	CB	EC/EC	-	3R				•	
DS-1S-1d	DIGITAL SIGNAGE - STATIC	180	PUBLIC PARKING	0	3	3.8	120	1	20	3/4"C, 2#12, #12G	OL-1A	80	-	-	-	-	CB	EC/EC	-	3R				•	
DS-3-1a	DIGITAL SIGNAGE - EXTERIOR	-	EXTERIOR	0	3	3.8	120	1	20	3/4"C, 2#12, #12G	OL-1A	82	-	-	-	-	CB	EC/EC	-	3R				•	
LF-1a	LAVATORY FLUSH VALVE	180	TLT	0	0	0	120	1	20	3/4"C, 2#12, #12G	L-BT	12	-	-	-	-	CB	EC/EC	-	3R				•	
LF-1b	LAVATORY FLUSH VALVE	182	TLT	0	0	0	120	1	20	3/4"C, 2#12, #12G	L-BT	44	-	-	-	-	CB	EC/EC	-	3R				•	
LF-1c	LAVATORY FLUSH VALVE	185A	TLT	0	0	0	120	1	20	3/4"C, 2#12, #12G	L-BT	16	-	-	-	-	CB	EC/EC	-	3R	•				
LFS-1a	LOT FULL - SIGNAGE	180	PUBLIC PARKING	0	3	3.8	120	1	20	3/4"C, 2#12, #12G	OL-1A	27	-	-	-	-	CB	EC/EC	-	3R	•				
LFS-1b	LOT FULL - SIGNAGE	180	PUBLIC PARKING	0	3	3.8	120	1	20	3/4"C, 2#12, #12G	OL-1A	31	-	-	-	-	CB	EC/EC	-	3R	•				
PS-B-1a	PAY STATION	188	BUS TERMINAL	0	0	0	120	1	20	3/4"C, 2#12, #12G	L-BT	18	-	-	-	-	CB	EC/EC	-	3R				•	
PS-B-1b	PAY STATION	188	BUS TERMINAL	0	0	0	120	1	20	3/4"C, 2#12, #12G	L-BT	20	-	-	-	-	CB	EC/EC	-	3R				•	
PS-P-1a	PAY STATION	180	BUS TERMINAL	0	5.8	7.2	120	1	20	3/4"C, 2#12, #12G	OL-1A	13	-	-	-	-	CB	EC/EC	-	3R	•				
PS-P-1b	PAY STATION	150	ELEVATOR LOBBY	0	5.8	7.3	120	1	20	3/4"C, 2#12, #12G	OL-1A	20	-	-	-	-	CB	EC/EC	-	3R	•				
PS-P-1c	PAY STATION	180	PUBLIC PARKING	0	5.8	7.3	120	1	20	3/4"C, 2#12, #12G	OL-1A	20	-	-	-	-	CB	EC/EC	-	3R				•	
PS-P-2a	PAY STATION	244	PUBLIC PARKING	0	5.8	7.3	120	1	20	3/4"C, 2#12, #12G	OL-1A	33	-	-	-	-	CB	EC/EC	-	3R				•	
PS-P-2b	PAY STATION	250	ELEVATOR LOBBY	0	5.8	7.3	120	1	20	3/4"C, 2#12, #12G	OL-1A	37	-	-	-	-	CB	EC/EC	-	3R				•	
PS-P-3a	PAY STATION	345	ELEVATOR LOBBY	0	5.8	7.3	120	1	20	3/4"C, 2#12, #12G	OL-1A	39	-	-	-	-	CB	EC/EC	-	3R				•	
PS-P-3b	PAY STATION	350	ELEVATOR LOBBY	0	5.8	7.3	120	1	20	3/4"C, 2#12, #12G	OL-1A	41	-	-	-	-	CB	EC/EC	-	3R				•	
PS-P-4a	PAY STATION	444	PUBLIC PARKING	0	5.8	7.3	120	1	20	3/4"C, 2#12, #12G	OL-1A	8	-	-	-	-	CB	EC/EC	-	3R				•	
PS-P-4b	PAY STATION	450	ELEVATOR LOBBY	0	5.8	7.3	120	1	20	3/4"C, 2#12, #12G	OL-1A	10	-	-	-	-	CB	EC/EC	-	3R				•	
PS-P-5a	PAY STATION	544	PUBLIC PARKING	0	5.8	7.3	120	1	20	3/4"C, 2#12, #12G	OL-1A	12	-	-	-	-	CB	EC/EC	-	3R				•	
PS-P-5b	PAY STATION	550	ELEVATOR LOBBY	0	5.8	7.3	120	1	20	3/4"C, 2#12, #12G	OL-1A	14	-	-	-	-	CB	EC/EC	-	3R				•	
PS-P-6a	PAY STATION	644	PUBLIC PARKING	0	5.8	7.3	120	1	20	3/4"C, 2#12, #12G	OL-1A	16	-	-	-	-	CB	EC/EC	-	3R				•	
PS-P-6b	PAY STATION	650	ELEVATOR LOBBY	0	5.8	7.3	120	1	20	3/4"C, 2#12, #12G	OL-1A	18	-	-	-	-	CB	EC/EC	-	3R				•	
RC-CM	REVENUE CONTROL - CONTROL MODULE	180	PUBLIC PARKING	0	5.8	7	120	1	20	3/4"C, 2#12, #12G	OL-1A	33	-	-	-	-	CB	EC/EC	-	3R				•	
RC-ES-1a	REVENUE CONTROL - ENTRY STATION	180	PUBLIC PARKING	0	5.8	7	120	1	20	3/4"C, 2#12, #12G	OL-1A	27	-	-	-	-	CB	EC/EC	-	3R				•	
RC-ES-1b	REVENUE CONTROL - ENTRY STATION	180	PUBLIC PARKING	0	5.8	7	120	1	20	3/4"C, 2#12, #12G	OL-1A	31	-	-	-	-	CB	EC/EC	-	3R				•	
RC-EX-1a	REVENUE CONTROL - EXIT STATION	180	PUBLIC PARKING	0	5.8	7	120	1	20	3/4"C, 2#12, #12G	OL-1A	25	-	-	-	-	CB	EC/EC	-	3R				•	
RC-EX-1b	REVENUE CONTROL - EXIT STATION	180	PUBLIC PARKING	0	5.8	7	120	1	20	3/4"C, 2#12, #12G	OL-1A	29	-	-	-	-	CB	EC/EC	-	3R				•	
RC-G-1a	REVENUE CONTROL - GATE	180	PUBLIC PARKING	0	0.8	1	120	1	20	3/4"C, 2#12, #12G	OL-1A	27	-	-	-	-	CB	EC/EC	-	3R				•	
RC-G-1b	REVENUE CONTROL - GATE	180	PUBLIC PARKING	0	0.8	1	120	1	20	3/4"C, 2#12, #12G	OL-1A	25	-	-	-	-	CB	EC/EC	-	3R				•	
RC-G-1c	REVENUE CONTROL - GATE	180	PUBLIC PARKING	0	0.8	1	120	1	20	3/4"C, 2#12, #12G	OL-1A	31	-	-	-	-	CB	EC/EC	-	3R				•	
RC-G-1d	REVENUE CONTROL - GATE	180	PUBLIC PARKING	0	0.8	1	120	1	20	3/4"C, 2#12, #12G	OL-1A	29	-	-	-	-	CB	EC/EC	-	3R				•	

STARTER TYPES:
- 2-SPD TWO SPEED
- CS COMBINATION STARTER
- ECM ECM CONTROLLER
- FVNR FULL VOLTAGE NON-REVERSING
- FVR FULL VOLTAGE REVERSING
- MAN MANUAL SWITCH
- RVS REDUCED VOLTAGE
- SS SOFT STARTER
- VFD VARIABLE FREQUENCY DRIVE

CONTROL DEVICES:
- S/O ON/OFF SELECTOR SWITCH
- BAS BUILDING AUTOMATION SYSTEM
- CT CONTACTOR / RELAY
- ECP EQUIPMENT CONTROL PANEL
- HOA HAND-OFF-AUTO SWITCH
- S/S STOP-START PUSHBUTTONS
- TC TEMPERATURE CONTROLS
- TS THERMOSTAT / TEMPERATURE SENSOR

DISCONNECT TYPES:
- CB CIRCUIT BREAKER
- CF COMBINATION FUSED
- CN COMBINATION NON-FUSED
- FS FUSED SWITCH
- IU INTEGRAL WITH UNIT
- MCP MOTOR CIRCUIT PROTECTOR
- NFS NON-FUSED SWITCH
- RP RECEPTACLE / PLUG CONNECTION

ACCESSORIES:
- AC AUXILIARY CONTACTS
- GP GREEN (POWER) PILOT LIGHT
- RAG RED, AMBER & GREEN PILOT LIGHTS
- RG RED & GREEN PILOT LIGHTS

ABBREVIATIONS:
- EC ELECTRICAL CONTRACTOR
- GC GENERAL CONTRACTOR
- MC MECHANICAL CONTRACTOR
- MF MANUFACTURER
- TC TEMPERATURE CONTROL
- OT OTHER CONTRACTOR
- OWN OWNER

GENERAL NOTES:
- ALL CONDUCTORS ARE COPPER. ALUMINUM CONDUCTORS WILL HAVE A NOTATION OF (AL) NEXT TO WIRE SIZE.

FOOT NOTES:
(1) PROVIDE DUAL PORT LEVEL 2 ELECTRIC VEHICLE CHARGER, FINAL MANUFACTURER/MODEL TBD WITH OWNER.

eua
madison | milwaukee | green bay | denver | atlanta

JDR ENGINEERING, INC.
5525 NOBEL DRIVE
SUITE 110
MADISON, WI 53711
PH: 608.271.7728 | W: 608.271.7016
JDR Project No: 22.0249

PROJECT INFORMATION

STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05-05-2022	SCHEMATIC DESIGN PH1
07-28-2022	DETAILED DESIGN PH1
10-xx-2022	CONSTRUCTION DOCUMENTS PH1
11-02-2022	PH1 ADD2

KEY PLAN

ZONE A

ZONE B

SHEET INFORMATION

PROJECT MANAGER

PROJECT NUMBER 720448

SCHEDULES - CONNECTIONS

E8001-1

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MOTOR CONNECTION SCHEDULE

TAG	DESCRIPTION	LOCATION NO	LOCATION NAME	LOAD HP	LOAD kVA	LOAD F.L.A.	LOAD M.C.A.	LOAD VOLT	LOAD PH	OCP (Amps)	CIRCUITING INFORMATION WIRE SIZE & CONDUIT	PANEL	CIRCUIT #	STARTER TYPE	STARTER FURNISHED / INSTALLED BY	CONTROLLER TYPE	CONTROLLER FURNISHED / INSTALLED BY	DISCONNECT TYPE	DISCONNECT FURNISHED / INSTALLED BY	ACCESSORIES	NEMA TYPE/ENCLOSURE/RATING	POWER SOURCE TYPE: NORMAL	POWER SOURCE TYPE: LIFE SAFETY	POWER SOURCE TYPE: LEGALLY REQUIRED	POWER SOURCE TYPE: OPTIONAL STANDBY	FOOT NOTES
480																										
EF-1	EXHAUST FAN	000	LOWER LEVEL PARKING	0	30.8	44	55	480	3	60	3/4"C, 3#6, #10G	H-1A	8,10,12	ECM	MC/EC	HOA	EC/EC	-	-	-	3R	+				
EF-P2-1	EXHAUST FAN	244	PUBLIC PARKING	2	2.8	3.4	4.3	480	3	15	3/4"C, 3#12, #12G	H-1A	13,15,17	VFD	MC/EC	-	-	-	-	-	-	+				
EF-P2-2	EXHAUST FAN	244	PUBLIC PARKING	2	2.8	3.4	4.3	480	3	15	3/4"C, 3#12, #12G	H-1A	18,21,23	VFD	MC/EC	-	-	-	-	-	-	+				
EF-P2-3	EXHAUST FAN	244	PUBLIC PARKING	2	2.8	3.4	4.3	480	3	15	3/4"C, 3#12, #12G	H-1A	23,27,29	VFD	MC/EC	-	-	-	-	-	-	+				
EF-P2-4	EXHAUST FAN	244	PUBLIC PARKING	2	2.8	3.4	4.3	480	3	15	3/4"C, 3#12, #12G	H-1A	2,4,6	VFD	MC/EC	-	-	-	-	-	-	+				
EF-P2-5	EXHAUST FAN	244	PUBLIC PARKING	2	2.8	3.4	4.3	480	3	15	3/4"C, 3#12, #12G	H-1A	8,10,12	VFD	MC/EC	-	-	-	-	-	-	+				
EF-P2-6	EXHAUST FAN	244	PUBLIC PARKING	2	2.8	3.4	4.3	480	3	15	3/4"C, 3#12, #12G	H-1A	14,16,18	VFD	MC/EC	-	-	-	-	-	-	+				
EF-P2-7	EXHAUST FAN	244	PUBLIC PARKING	2	2.8	3.4	4.3	480	3	15	3/4"C, 3#12, #12G	H-1A	1,3,5	VFD	MC/EC	-	-	-	-	-	-	+				
EF-P3-1	EXHAUST FAN	345	ELEVATOR LOBBY	2	2.8	3.4	4.3	480	3	15	3/4"C, 3#12, #12G	H-P3	7,9,11	VFD	MC/EC	-	-	-	-	-	-	+				
EF-P3-2	EXHAUST FAN	344	PUBLIC PARKING	2	2.8	3.4	4.3	480	3	15	3/4"C, 3#12, #12G	H-P3	13,15,17	VFD	MC/EC	-	-	-	-	-	-	+				
EF-P3-3	EXHAUST FAN	344	PUBLIC PARKING	2	2.8	3.4	4.3	480	3	15	3/4"C, 3#12, #12G	H-P3	18,21,23	VFD	MC/EC	-	-	-	-	-	-	+				
EF-P3-4	EXHAUST FAN	344	PUBLIC PARKING	2	2.8	3.4	4.3	480	3	15	3/4"C, 3#12, #12G	H-P3	23,27,29	VFD	MC/EC	-	-	-	-	-	-	+				
EF-P3-5	EXHAUST FAN	345	PUBLIC PARKING	2	2.8	3.4	4.3	480	3	15	3/4"C, 3#12, #12G	H-P3	31,33,35	VFD	MC/EC	-	-	-	-	-	-	+				
EF-P3-6	EXHAUST FAN	344	PUBLIC PARKING	2	2.8	3.4	4.3	480	3	15	3/4"C, 3#12, #12G	H-P3	37,39,41	VFD	MC/EC	-	-	-	-	-	-	+				
EF-P4-1	EXHAUST FAN	444	PUBLIC PARKING	2	2.8	3.4	4.3	480	3	15	3/4"C, 3#12, #12G	H-P3	43,45,47	VFD	MC/EC	-	-	-	-	-	-	+				
EF-P4-2	EXHAUST FAN	444	PUBLIC PARKING	2	2.8	3.4	4.3	480	3	15	3/4"C, 3#12, #12G	H-P3	49,51,53	VFD	MC/EC	-	-	-	-	-	-	+				
EF-P4-3	EXHAUST FAN	444	PUBLIC PARKING	2	2.8	3.4	4.3	480	3	15	3/4"C, 3#12, #12G	H-P3	2,4,6	VFD	MC/EC	-	-	-	-	-	-	+				
EF-P4-4	EXHAUST FAN	444	PUBLIC PARKING	2	2.8	3.4	4.3	480	3	15	3/4"C, 3#12, #12G	H-P3	8,10,12	VFD	MC/EC	-	-	-	-	-	-	+				
EF-P4-5	EXHAUST FAN	444	PUBLIC PARKING	2	2.8	3.4	4.3	480	3	15	3/4"C, 3#12, #12G	H-P3	14,16,18	VFD	MC/EC	-	-	-	-	-	-	+				
EF-P4-6	EXHAUST FAN	444	PUBLIC PARKING	2	2.8	3.4	4.3	480	3	15	3/4"C, 3#12, #12G	H-P3	20,22,24	VFD	MC/EC	-	-	-	-	-	-	+				
EF-P5-1	EXHAUST FAN	544	PUBLIC PARKING	2	2.8	3.4	4.3	480	3	15	3/4"C, 3#12, #12G	H-P3	26,28,30	VFD	MC/EC	-	-	-	-	-	-	+				
EF-P5-2	EXHAUST FAN	544	PUBLIC PARKING	2	2.8	3.4	4.3	480	3	15	3/4"C, 3#12, #12G	H-P3	32,34,36	VFD	MC/EC	-	-	-	-	-	-	+				
EF-P5-3	EXHAUST FAN	544	PUBLIC PARKING	2	2.8	3.4	4.3	480	3	15	3/4"C, 3#12, #12G	H-P3	38,40,42	VFD	MC/EC	-	-	-	-	-	-	+				
EF-P5-4	EXHAUST FAN	544	PUBLIC PARKING	2	2.8	3.4	4.3	480	3	15	3/4"C, 3#12, #12G	H-P3	44,46,48	VFD	MC/EC	-	-	-	-	-	-	+				
EF-P5-5	EXHAUST FAN	544	PUBLIC PARKING	2	2.8	3.4	4.3	480	3	15	3/4"C, 3#12, #12G	H-P3	50,52,54	VFD	MC/EC	-	-	-	-	-	-	+				
EF-P5-6	EXHAUST FAN	544	PUBLIC PARKING	2	2.8	3.4	4.3	480	3	15	3/4"C, 3#12, #12G	H-P3	56,57,58	VFD	MC/EC	-	-	-	-	-	-	+				
EF-P6-1	EXHAUST FAN	644	PUBLIC PARKING	2	2.8	3.4	4.3	480	3	15	3/4"C, 3#12, #12G	H-P3	61,63,65	VFD	MC/EC	-	-	-	-	-	-	+				
EF-P6-2	EXHAUST FAN	644	PUBLIC PARKING	2	2.8	3.4	4.3	480	3	15	3/4"C, 3#12, #12G	H-P3	67,69,71	VFD	MC/EC	-	-	-	-	-	-	+				
EF-P6-3	EXHAUST FAN	644	PUBLIC PARKING	2	2.8	3.4	4.3	480	3	15	3/4"C, 3#12, #12G	H-P3	73,75,77	VFD	MC/EC	-	-	-	-	-	-	+				
EF-P6-4	EXHAUST FAN	644	PUBLIC PARKING	2	2.8	3.4	4.3	480	3	15	3/4"C, 3#12, #12G	H-P3	79,81,83	VFD	MC/EC	-	-	-	-	-	-	+				
EF-P6-5	EXHAUST FAN	644	PUBLIC PARKING	2	2.8	3.4	4.3	480	3	15	3/4"C, 3#12, #12G	H-P3	85,87,89	VFD	MC/EC	-	-	-	-	-	-	+				
EF-P6-6	EXHAUST FAN	644	PUBLIC PARKING	2	2.8	3.4	4.3	480	3	15	3/4"C, 3#12, #12G	H-P3	91,93,95	VFD	MC/EC	-	-	-	-	-	-	+				
ELEV-1	ELEVATOR	647	PUBLIC GARAGE ELEVATOR 1 CONTROL ROOM	25	29.3	34	42.5	480	3	70	1"C, 3#4, #6G	CH-1A	1,3,5	SS	MF	-	-	FS	EC/EC	-	1					
ELEV-2	ELEVATOR	648	PUBLIC GARAGE ELEVATOR 2 & 3 CONTROL ROOM	25	58.3	34	42.5	480	3	70	1"C, 3#4, #6G	CH-1A	7,9,11	SS	MF	-	-	FS	EC/EC	-	1					
ELEV-3	ELEVATOR	648	PUBLIC GARAGE ELEVATOR 2 & 3 CONTROL ROOM	25	58.3	34	42.5	480	3	70	1"C, 3#4, #6G	CH-1A	13,15,17	SS	MF	-	-	FS	EC/EC	-	1					
GUH-1a	GAS UNIT HEATER	000	LOWER LEVEL PARKING	0	2.1	2.5	3.1	480	3	15	3/4"C, 3#12, #12G	H-1A	8,11,13	-	-	-	-	NFS	EC/EC	-	3R	+				
GUH-1b	GAS UNIT HEATER	000	LOWER LEVEL PARKING	0	2.1	2.5	3.1	480	3	15	3/4"C, 3#12, #12G	H-1A	15,17,19	-	-	-	-	NFS	EC/EC	-	3R	+				
GUH-1c	GAS UNIT HEATER	000	LOWER LEVEL PARKING	0	2.1	2.5	3.1	480	3	15	3/4"C, 3#12, #12G	H-1A	2,4,6	-	-	-	-	NFS	EC/EC	-	3R	+				
GUH-1d	GAS UNIT HEATER	140	RESIDENT PARKING	0	2.1	2.5	3.1	480	3	15	3/4"C, 3#12, #12G	H-1A	8,10,12	-	-	-	-	NFS	EC/EC	-	3R	+				
MAU-1	MAKEUP AIR UNIT	140	RESIDENT PARKING	15	28.2	34	42.5	480	3	70	3/4"C, 3#12, #12G	H-1A	14,16,18	VFD	MC/EC	-	-	-	-	-	-	+				
OHD-000-2	OVERHEAD DOOR	004	CITY STORAGE	0	0	0	0	480	3	20	3/4"C, 3#12, #12G	H-1A	20,22,24	-	-	-	-	NFS	EC/EC	-	3R	+				
SE-1	SANITARY EJECTOR	000	LOWER LEVEL PARKING	7.5	6.1	11	13.8	480	3	20	3/4"C, 3#12, #12G	CH-1A	8,10,12	-	-	-	-	NFS	EC/EC	-	3R	+				
SP-1	SUMP PUMP	000	LOWER LEVEL PARKING	7.5	6.1	11	13.8	480	3	20	3/4"C, 3#12, #12G	CH-1A	8,10,12	-	-	-	-	NFS	EC/EC	-	3R	+				
277																										
ERH-1a	ELECTRIC RADIANT HEATER	183	BUS WAITING AREA	0	3	10.8	13.5	277	1	15	1/2"C, 3#12, #12N, #12G	H-BT	9	-	-	-	-	NFS	EC/EC	-	3R	+				
ERH-1b	ELECTRIC RADIANT HEATER	183	BUS WAITING AREA	0	3	10.8	13.5	277	1	15	1/2"C, 3#12, #12N, #12G	H-BT	7	-	-	-	-	NFS	EC/EC	-	3R	+				
ERH-2a	ELECTRIC RADIANT HEATER	188	BUS WAITING	0	6	21.7	27.1	277	1	30	3/4"C, #10, #10N #10G	H-BT	11	-	-	-	-	NFS	EC/EC	-	3R	+				
ERH-2b	ELECTRIC RADIANT HEATER	188	BUS WAITING	0	6	21.7	27.1	277	1	30	3/4"C, #10, #10N #10G	H-BT	13	-	-	-	-	NFS	EC/EC	-	3R	+				
ERH-2c	ELECTRIC RADIANT HEATER	188	BUS WAITING	0	6	21.7	27.1	277	1	30	3/4"C, #10, #10N #10G	H-BT	15	-	-	-	-	NFS	EC/EC	-	3R	+				
ERH-2d	ELECTRIC RADIANT HEATER	188	BUS WAITING	0	6	21.7	27.1	277	1	30	3/4"C, #10, #10N #10G	H-BT	17	-	-	-	-	NFS	EC/EC	-	3R	+				
ERH-2e	ELECTRIC RADIANT HEATER	188	BUS WAITING	0	6	21.7	27.1	277	1	30	3/4"C, #10, #10N #10G	H-BT	19	-	-	-	-	NFS	EC/EC	-	3R	+				
ERH-2f	ELECTRIC RADIANT HEATER	188	BUS WAITING	0	6	21.7	27.1	277	1	30	3/4"C, #10, #10N #10G	H-BT	21	-	-	-	-	NFS	EC/EC	-	3R	+				
208																										
ACCU-1	AIR COOLED CONDITIONING UNIT	644	PUBLIC PARKING	0	2.3	10.8	13.8	208	1	25	3/4"C, 2#10, #10G	L-P6	29,31	-	-	-	-	NFS	EC/EC	-	3R	+				
ACCU-2	AIR COOLED CONDITIONING UNIT		P7 ROOF	0	2.3	10.8	13.8	208	1	25	3/4"C, 2#10, #10G	L-P6	33,35	-	-	-	-	NFS	EC/EC	-	3R	+				
AHU-1	AIR HANDLING UNIT	243	MEP	0	25	69.3	79.8	208	3	90	3"C, 3#4, #6G	L-1A	18,20,22	VFD	MC/EC	-	-	-	-	-	-	+				
EWH-1	ELECTRIC WALL HEATER	006-1	ELEC. VAULT-1	0	4.8	13.3	16.7	208	3	20	3/4"C, 3#12, #12G	L-1A	7,9,11	-	-	-	-	NFS	EC/EC	-	3R	+				
EWH-2	ELECTRIC WALL HEATER	0681	ELEVATOR 01	0	2	5.3	10.4	208	3	15	3/4"C, 3#12, #12G	L-1A	13,15,17	-	-	-	-	NFS	EC/EC	-	3R	+				
EWH-3	ELECTRIC WALL HEATER	6583	STAIR 03	0	2	5.3	10.4	208	3	15	3/4"C, 3#12, #12G	L-1A	19,21,23	-	-	-	-	NFS	EC/EC	-	3R	+				
EWH-4	ELECTRIC WALL HEATER	683	ELEVATOR 02	0	3	8.3	16.6	208	3	25	3/4"C, 3#12, #12G	L-1A	25,27,29	-	-	-	-	NFS	EC/EC	-	3R	+				
EWH-5	ELECTRIC WALL HEATER	683	ELEVATOR 02	0	3	8.3	16.6	208	3	25	3/4"C, 3#12, #12G	L-1A	31,33,35	-	-	-	-	NFS	EC/EC	-	3R	+				
EWH-7	ELECTRIC WALL HEATER	0683	ELEVATOR 02	0	2.1	10	12.51	208	1	15	3/4"C, 2#12, #12G	L-1A	25,27	-	-	-	-	NFS	EC/EC	-	3R	+				
EWH-8	ELECTRIC WALL HEATER	197	GENERATOR	0	2.1	10	12.51	208	1	15	3/4"C, 2#12, #12G	L-P5	43,45,47	-	-	-	-	NFS	EC/EC	-	3R	+				
EWH-11	ELECTRIC WALL HEATER	6681	STAIR 01	0	4.8	13.3	16.7	208	3	20	3/4"C, 3#12, #12G	L-5P	49,51,53	-	-	-	-	NFS	EC/EC	-	3R	+				
EWH-14	ELECTRIC WALL HEATER	6583	STAIR 03	0	3	8.3	16.6	208	3	25	3/4"C, 3#12, #12G	L-5P	55,57,59	-	-	-	-	NFS	EC/EC	-	3R	+				
FCU-1	FAN COIL UNIT	183	OFFICE	0	0	0	0	208	1	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
FCU-2	FAN COIL UNIT	181	CITY OFFICE	0	0	0	0	208	1	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
FCU-3	FAN COIL UNIT	181	CITY OFFICE	0	1	5	8.3	208	1	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
FCU-4	FAN COIL UNIT	183	CITY DEMARK ROOM	0	1	5	8.3	208	1	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
HPU-1	HEAT PUMP UNIT	000	LOWER LEVEL PARKING	0	3.2	10.4	13	208	1	15	3/4"C, 3#12, #12G	L-5T	17,19	-	-	-	-	NFS	EC/EC	-	3R	+				
HPU-2	HEAT PUMP UNIT	140	RESIDENT PARKING	0	3.2	10.4	13	208	1	15	3/4"C, 3#12, #12G	L-1A	2,4	-	-	-	-	NFS	EC/EC	-	3R	+				
HPU-3	HEAT PUMP UNIT	140	RESIDENT PARKING	0	4.1	19.8	24.8	208	1	30	3/4"C, 2#10, #10G	L-1A	8,6	-	-	-	-	NFS	EC/EC	-	3R	+				
HPU-4	HEAT PUMP UNIT	140	RESIDENT PARKING	0	4.1	19.8	24.8	208	1	30	3/4"C, 3#12, #12G	OL-1A	13,5	-	-	-	-	NFS	EC/EC	-	3R	+				
SP-1	SUMP PUMP	6681	ELEVATOR 01	0.5	0.9	2.1	3	208	1	15	3/4"C, 3#12, #12G	OL-1A	2,4,6	-	-	-	-	NFS	EC/EC	-	3R	+				
SP-2	SUMP PUMP	6583	ELEVATOR 03	1	1.7	4.8	5.8	208	3	15	3/4"C, 3#12, #12G	L-5T	8,11	-	-	-	-	NFS	EC/EC	-	3R	+				
WHR-1	WATER HEATER	181	MAINTENANCE	0	3.5	13	15	208	1	20	3/4"C, 3#12, #12G	L-5T	13,15	-	-	-	-	NFS	EC/EC	-	3R	+				
WHR-2	WATER HEATER	2664	TLT	0	5.8	25	29	208	1	15	3/4"C, 3#12, #12G	L-1A	14,16	-	-	-	-	NFS	EC/EC	-	3R	+				
WHR-3	WATER HEATER	181A	TLT	0	5.8	25	29	208	1	15	3/4"C, 3#12, #12G	L-1A	18,20	-	-	-	-	NFS	EC/EC	-	3R	+				
120																										
CP-1	CIRCULATION PUMP	181	MAINTENANCE	0	0.8	7.3	8	120	1	15	3/4"C, 3#12, #12G	L-5T	22	-	-	-	-	NFS	EC/EC	-	3R	+				
CP-2	CIRCULATION PUMP	181A	TLT	0	0.8	7.3	8	120	1	15	3/4"C, 3#12, #12G	L-5T	24	-	-	-	-	NFS	EC/EC	-	3R	+				
CP-3	CIRCULATION PUMP	181A	TLT	0	0.8	7.3	8	120	1	15	3/4"C, 3#12, #12G	L-1A	28	-	-	-	-	NFS	EC/EC	-	3R	+				
EXH-1	EXHAUST FAN	244	PUBLIC PARKING	0.17	0.3	2.9	3.4	120	1	20	3/4"C, 3#12, #12G	L-1A	23	VFD	MC/EC	-	-	-	-	-	-	+				
EF-2	EXHAUST FAN		P7 ROOF	0.17	0.5	4.4	5.5	120	1	20	3/4"C, 3#12, #12G	L-P5	27	-	-	-	-	NFS	EC/EC	-	3R	+				
EF-3	EXHAUST FAN		P7 ROOF	0.17	0.2	1.8	2.3	120	1	20	3/4"C, 3#12, #12G	L-P5	29	-	-	-	-	NFS	EC/EC	-	3R	+				
EF-4	EXHAUST FAN	-	P7 ROOF	0.17	0.1	1.2	1.5	120	1	20	3/4"C, 3#12, #12G	L-5T	21	-	-	-	-	NFS	EC/EC	-	3R	+				
ERV-1	ENERGY RECOVERY VENTILATOR	195A	TLT	0.11	1.2	10	12.5	120	1	20	3/4"C, 3#12, #12G	L-5T	26	-	-	-	-	NFS	EC/EC	-	3R	+				
ERV-2	ENERGY RECOVERY VENTILATOR	181	CITY OFFICE	0.11	1.2	10	12.5	120	1	20	3/4"C, 3#12, #12G	L-1A	29	-	-	-	-	NFS	EC/EC	-	3R	+				
EWH-10	ELECTRIC WALL HEATER	181A		0	0.8	6.3	7.8	120	1	20	3/4"C, 3#12, #12G	L-1A	37	-	-	-	-	NFS	EC/EC	-	3R	+				
EWH-15	ELECTRIC WALL HEATER	647	PUBLIC GARAGE ELEVATOR 1 CONTROL ROOM	0	0.8	6.3	7.8	120	1	15	3/4"C, 3#12, #12G															
EWH-16	ELECTRIC WALL HEATER	648	PUBLIC GARAGE ELEVATOR 2 & 3 CONTROL ROOM	0	0.8	6.3	7.8	120	1	15	3/4"C, 3#12, #12G															
480																										
EF-5	EXHAUST FAN	000	PROJECTION ROOM	0.75	1.1	1.4	1.8	480	3	15	3/4"C, 3#12, #12G	H-1A	2,4,6	-	-	-	-	NFS	EC/EC	-	3R	+				

ABBREVIATIONS TRANSFER FAN					
3-SPD	3 SPEED	SD	SHORT SECTION SWITCH	CB	CIRCUIT BREAKER
CS	COMBINATION STARTER	BAS	BUILDING AUTOMATION SYSTEM	CF	COMBINATION FUSED
ECM	ECM CONTROLLER	CR	CONTACTOR / RELAY	CT	CONTACTOR TYPE
FVNR	FULL VOLTAGE NONREVERSING	ECP	EQUIPMENT CONTROL PANEL	FS	FUSED SWITCH
FVR	FULL VOLTAGE REVERSING	HOA	HAND-OFF-AUTO SWITCH	MJ	MEGNAL WITH LET
MW	MANUAL SWITCH	MSP	MOTOR START PUSHBUTTON	NF	NON-FUSED SWITCH
RVS	REDUCED VOLTAGE	SC	STOP-START CONTROLS	RP	RECEPTACLE / PLUG CONNECTION
SS	SOFT STARTER	TC	TELETHERM CONTROLS		
VFD	VARIABLE FREQUENCY DRIVE	TS	THERMOSTAT / TEMPERATURE SENSOR		

ABBREVIATIONS			
AC	AUXILIARY CONTACTS	EC	ELECTRICAL CONTRACTOR
HP	GREEN POWER / PILOT LIGHT	GC	GENERAL CONTRACTOR
R/AD	RED, AMBER & GREEN PILOT LIGHTS	MC	MECHANICAL CONTRACTOR
R/G	RED & GREEN PILOT LIGHTS	MF	MANUFACTURER
		TC	TELETHERM TUFE CONTROL
		UT	OTHER CONTRACTOR
		OWN	OWNER

GENERAL NOTES:
- ALL CONDUCTORS ARE COPPER, FLAME RUM CONDUCTORS WILL HAVE A INSULATION OF VALUE NOT TO WIRE SIZE.

FOOT NOTES:
(1) EQUIPMENT SHOWN FOR REFERENCE ONLY AND TO BE CONNECTED TO PHASE 2 ELECTRICAL METER, COORDINATE ROUGH-IN REQUIREMENTS WITH PHASE 2 CONTRACTOR.
(2) FAN COIL TO BE FED FROM CONDENSING UNIT HEAT PUMP LIST, MANUFACTURER PROVIDED CABLE TO BE PROVIDED FROM HEAT PUMP LIST TO FAN COIL LIST.

eu:a
milwaukee | madison | green bay | denver | atlanta

JDR ENGINEERING, INC
5535 NOBEL DRIVE
SUITE 110
MADISON, WI 53711
PH: 608.277.8728 | FX: 608.277.0946
JDR Project No: 22.0249

PROJECT INFORMATION

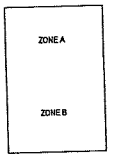
STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05/06/2022	SCHEMATIC DESIGN PHASE
07/29/2022	DESIGN DEVELOPMENT PHASE
10/07/2022	CONSTRUCTION DOCUMENTS PHASE
11/07/2022	PHASE 1 BID

KEY PLAN



SHEET INFORMATION

PROJECT MANAGER

PROJECT NUMBER 720448

SCHEDULES - CONNECTIONS

E8002-1

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Switchboard: SWBD-HC

Location: CITY ELECTRICAL ROOM... Supply From: Mounting: SURFACE Enclosure: NEMA 1
Volts: 480 Phases: 3 Wires: 4
A.I.C. Rating: FIELD VERIFY Mains Type: MCB Bus Rating: 3000 A MCB Rating: 3000 A

MAIN CIRCUIT BREAKER REQUIREMENTS:
GROUND FAULT PROTECTION
X INTEGRAL METER
X SURGE PROTECTION
___ SHUNT TRIP BREAKER
___ ADJUSTABLE MAGNETIC
X ADJUSTABLE LONG TERM
X ADJUSTABLE SHORT TERM
X ADJUSTABLE INSTANTANEOUS

CKT	Circuit Description	Poles	Trip Rating	Load (kVA)	Notes
1	SPD	3	60 A	0	5
2	H-1A	3	250 A	85.4	
3	H-1B	3	60 A	3.5	
4	H-P3	3	250 A	81.8	
5	T-L-DP1A	3	500 A	157.8	
6	T-L-DP1B	3	500 A	178.8	
7	T-L-DP2C	3	500 A	57.8	
8	ATS-EM	3	500 A	10.3	
9	ATS-SB	3	300 A	133.5	
10	H-BT	3	800 A	58.1	
11	H-LA	3	125 A	74.1	
12	SPARE	3	125 A	0	
13	SPARE	3	500 A	0	
14	(SPACE)	3	--	--	
15	(SPACE)	3	--	--	
16	(SPACE)	3	--	--	
			Total Load:	838.1 kVA	
			Total Amps:	1008 A	

FEEDER BREAKER NOTES:
(G) GROUND FAULT PROTECTION
(M) INTEGRAL METER
(S) SURGE PROTECTION
(ST) SHUNT TRIP BREAKER
(LN) BREAKER LOCK IN ON POSITION
(LF) BREAKER LOCK IN OFF POSITION

ADJUSTABLE TRIP SETTINGS:
(IT) INSTANTANEOUS SETTING
(LT) LONG TERM SETTING
(ST) SHORT TERM SETTING

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Motor	377874 VA	102.42%	387019 VA		
Other	284710 VA	100.00%	284710 VA	Total Conn. Load:	839 kVA
Receptacle	10620 VA	97.08%	10310 VA	Total Est. Demand:	847 kVA
Power	71098 VA	100.00%	71098 VA	Total Conn.:	1008 A
Lighting	11771 VA	100.00%	11771 VA	Total Est. Demand:	1018 A

Switchboard: DP-1A

Location: CITY ELECTRICAL ROOM... Supply From: T-L-DP1A Mounting: SURFACE Enclosure: Type 1
Volts: 208 V Phases: 3 Wires: 4
A.I.C. Rating: FIELD VERIFY Mains Type: MCB Bus Rating: 800 A MCB Rating: 800 A

MAIN CIRCUIT BREAKER REQUIREMENTS:
GROUND FAULT PROTECTION
INTEGRAL METER
SURGE PROTECTION
___ SHUNT TRIP BREAKER
___ ADJUSTABLE MAGNETIC
___ ADJUSTABLE LONG TERM
___ ADJUSTABLE SHORT TERM
___ ADJUSTABLE INSTANTANEOUS

CKT	Circuit Description	Poles	Trip Rating	Load (kVA)	Notes
1	L-1B	3	400 A	69.8	
2	L-P2 (EVC)	3	400 A	86.3	
3	L-TB	2	125 A	1.7	
4	(SPACE)	3	--	--	
			Total Load:	157.8 kVA	
			Total Amps:	438 A	

FEEDER BREAKER NOTES:
(G) GROUND FAULT PROTECTION
(M) INTEGRAL METER
(S) SURGE PROTECTION
(ST) SHUNT TRIP BREAKER
(LN) BREAKER LOCK IN ON POSITION
(LF) BREAKER LOCK IN OFF POSITION

ADJUSTABLE TRIP SETTINGS:
(IT) INSTANTANEOUS SETTING
(LT) LONG TERM SETTING
(ST) SHORT TERM SETTING

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Motor	1500 VA	125.00%	1875 VA		
Other	85618 VA	100.00%	85618 VA	Total Conn. Load:	158 kVA
Receptacle	800 VA	100.00%	800 VA	Total Est. Demand:	158 kVA
Power	59898 VA	100.00%	59898 VA	Total Conn.:	438 A
Lighting	41 VA	100.00%	41 VA	Total Est. Demand:	439 A

Switchboard: DP-1B

Location: CITY ELECTRICAL ROOM... Supply From: T-L-DP1B Mounting: SURFACE Enclosure: Type 1
Volts: 208 V Phases: 3 Wires: 4
A.I.C. Rating: FIELD VERIFY Mains Type: MCB Bus Rating: 800 A MCB Rating: 800 A

MAIN CIRCUIT BREAKER REQUIREMENTS:
GROUND FAULT PROTECTION
INTEGRAL METER
SURGE PROTECTION
___ SHUNT TRIP BREAKER
___ ADJUSTABLE MAGNETIC
___ ADJUSTABLE LONG TERM
___ ADJUSTABLE SHORT TERM
___ ADJUSTABLE INSTANTANEOUS

CKT	Circuit Description	Poles	Trip Rating	Load (kVA)	Notes
1	L-P3 (EVC)	3	400 A	90.5	
2	L-P4 (EVC)	3	400 A	88.3	
3	(SPACE)	3	--	--	
4	(SPACE)	3	--	--	
			Total Load:	178.8 kVA	
			Total Amps:	491 A	

FEEDER BREAKER NOTES:
(G) GROUND FAULT PROTECTION
(M) INTEGRAL METER
(S) SURGE PROTECTION
(ST) SHUNT TRIP BREAKER
(LN) BREAKER LOCK IN ON POSITION
(LF) BREAKER LOCK IN OFF POSITION

ADJUSTABLE TRIP SETTINGS:
(IT) INSTANTANEOUS SETTING
(LT) LONG TERM SETTING
(ST) SHORT TERM SETTING

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Other	175378 VA	100.00%	175378 VA	Total Conn. Load:	177 kVA
Receptacle	1440 VA	100.00%	1440 VA	Total Est. Demand:	177 kVA
				Total Conn.:	491 A
				Total Est. Demand:	491 A

Switchboard: DP-1C

Location: CITY ELECTRICAL ROOM... Supply From: T-L-DP1C Mounting: SURFACE Enclosure: Type 1
Volts: 208 V Phases: 3 Wires: 4
A.I.C. Rating: FIELD VERIFY Mains Type: MCB Bus Rating: 800 A MCB Rating: 800 A

MAIN CIRCUIT BREAKER REQUIREMENTS:
GROUND FAULT PROTECTION
INTEGRAL METER
SURGE PROTECTION
___ SHUNT TRIP BREAKER
___ ADJUSTABLE MAGNETIC
___ ADJUSTABLE LONG TERM
___ ADJUSTABLE SHORT TERM
___ ADJUSTABLE INSTANTANEOUS

CKT	Circuit Description	Poles	Trip Rating	Load (kVA)	Notes
1	L-P5	3	400 A	57.8	
2	SPARE	3	400 A	0	
3	(SPACE)	2	--	--	
4	(SPACE)	3	--	--	
			Total Load:	57.8 kVA	
			Total Amps:	160 A	

FEEDER BREAKER NOTES:
(G) GROUND FAULT PROTECTION
(M) INTEGRAL METER
(S) SURGE PROTECTION
(ST) SHUNT TRIP BREAKER
(LN) BREAKER LOCK IN ON POSITION
(LF) BREAKER LOCK IN OFF POSITION

ADJUSTABLE TRIP SETTINGS:
(IT) INSTANTANEOUS SETTING
(LT) LONG TERM SETTING
(ST) SHORT TERM SETTING

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Motor	13048 VA	109.20%	14247 VA	Total Conn. Load:	58 kVA
Other	43104 VA	100.00%	43104 VA	Total Est. Demand:	59 kVA
Receptacle	1440 VA	100.00%	1440 VA	Total Conn.:	160 A
				Total Est. Demand:	163 A

Panelboard: H-1A

Location: CITY ELECTRICAL ROOM-1 184-1 Voltage: 480Y/277V Supply From: SWBD-HC Phases: 3 Mounting: SURFACE Wires: 4 Enclosure: Type 1
A.I.C. Rating: FIELD VERIFY Mains Type: MLO Bus Rating: 225 A

CKT	Circuit Description	Note	Trip	Poles	A (kVA)	B (kVA)	C (kVA)	Poles	Trip	Note	Circuit Description	CKT
1	OHD-004-2 - OVERHEAD DOOR		20 A	3	0 / 0.84			3	15 A		EF-P2-4 - EXHAUST FAN	2
3						0 / 0.84						4
5							0 / 0.84					6
7	SE-1 - SANITARY EJECTOR		15 A	3	0.83 / 0.84			3	15 A		EF-P2-5 - EXHAUST FAN	8
9						0.83 / 0.84						10
11							0.83 / 0.84					12
13	EF-P3-1 - EXHAUST FAN		15 A	3	0.84 / 0.84			3	15 A		EF-P2-6 - EXHAUST FAN	14
15						0.84 / 0.84						16
17							0.84 / 0.84					18
19	EF-P3-2 - EXHAUST FAN		15 A	3	0.84 / 1			1	20 A		HT-1-1 - HEAT TRACE	20
21						0.84 / 1		1	20 A		HT-1-2 - HEAT TRACE	22
23							0.84 / 1	1	20 A		HT-P2-1 - HEAT TRACE	24
25	EF-P3-3 - EXHAUST FAN		15 A	3	0.84 / 1			1	20 A		HT-P2-2 - HEAT TRACE	26
27						0.84 / 1		1	20 A		HT-P2-3 - HEAT TRACE	28
29							0.84 / 1	1	20 A		HT-P2-4 - HEAT TRACE	30
31	SPARE		20 A	1	0 / 0			1	20 A		SPARE	32
33	SPARE		20 A	1		0 / 0		1	20 A		SPARE	34
35	SPARE		20 A	1			0 / 0	1	20 A		SPARE	36
37	SPARE		20 A	1	0 / 20.48			3	125 A		T-1A	38
39	SPARE		20 A	1		0 / 20.89						40
41	SPARE		20 A	1			0 / 18.8					42
			Total Load:		28 kVA	28.2 kVA	27.3 kVA					
			Total Amps:		105 A	106 A	99 A					

FEEDER BREAKER NOTES:
(G) GROUND FAULT PROTECTION
(M) INTEGRAL METER
(S) SURGE PROTECTION
(ST) SHUNT TRIP BREAKER
(LN) BREAKER LOCK IN ON POSITION
(LF) BREAKER LOCK IN OFF POSITION

ADJUSTABLE TRIP SETTINGS:
(IT) INSTANTANEOUS SETTING
(LT) LONG TERM SETTING
(ST) SHORT TERM SETTING

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Motor	71872 VA	107.31%	77123 VA		
Other	12480 VA	100.00%	12480 VA	Total Conn. Load:	85 kVA
Receptacle	1080 VA	100.00%	1080 VA	Total Est. Demand:	91 kVA
				Total Conn.:	103 A
				Total Est. Demand:	108 A

Notes:

Panelboard: H-1B

Location: CITY ELECTRICAL ROOM-1 184-1 Voltage: 480Y/277V Supply From: SWBD-HC Phases: 3 Mounting: SURFACE Wires: 4 Enclosure: Type 1
A.I.C. Rating: FIELD VERIFY Mains Type: MLO Bus Rating: 100 A

CKT	Circuit Description	Note	Trip	Poles	A (kVA)	B (kVA)	C (kVA)	Poles	Trip	Note	Circuit Description	CKT
1	LTG - PODIUM 1ST/P2 PARKING		20 A	1	0.83 / 0			1	20 A		SPARE	2
3	LTG - PODIUM P3 PARKING		20 A	1		0.83 / 0		1	20 A		SPARE	4
5	LTG - PODIUM P4 PARKING		20 A	1			0.8 / 0	1	20 A		SPARE	6
7	LTG - PODIUM P5 PARKING		20 A	1	0.74 / 0			1	20 A		SPARE	8
9	LTG - PODIUM P6 PARKING		20 A	1		0.81 / 0		1	20 A		SPARE	10
11	SPARE		20 A	1			0 / 0	1	20 A		SPARE	12
			Total Load:		1.7 kVA	1.2 kVA	0.8 kVA					
			Total Amps:		6 A	5 A	2 A					

FEEDER BREAKER NOTES:
(G) GROUND FAULT PROTECTION
(M) INTEGRAL METER
(S) SURGE PROTECTION
(ST) SHUNT TRIP BREAKER
(LN) BREAKER LOCK IN ON POSITION
(LF) BREAKER LOCK IN OFF POSITION

ADJUSTABLE TRIP SETTINGS:
(IT) INSTANTANEOUS SETTING
(LT) LONG TERM SETTING
(ST) SHORT TERM SETTING

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Lighting	3507 VA	100.00%	3507 VA		
				Total Conn. Load:	4 kVA
				Total Est. Demand:	4 kVA
				Total Conn.:	4 A
				Total Est. Demand:	4 A

Notes:

Panelboard: H-P3

Location: ELEVATOR LOBBY 345 Supply From: SWBD-HC Mounting: SURFACE Enclosure: Type 1
Voltage: 480Y/277V Phases: 3 Wires: 4
A.I.C. Rating: FIELD VERIFY Mains Type: MLO Bus Rating: 250 A

CKT	Circuit Description	Note	Trip	Poles	A	B	C	Poles	Trip	Note	Circuit Description	CKT
1	EF-P3-1 - EXHAUST FAN		15 A	3	0.84 / 0.84			3	15 A		EF-P4-4 - EXHAUST FAN	2
3						0.84 / 0.84						4
5							0.84 / 0.84					6
7	EF-P3-2 - EXHAUST FAN		15 A	3	0.84 / 0.84			3	15 A		EF-P4-5 - EXHAUST FAN	8
9						0.84 / 0.84						10
11							0.84 / 0.84					12
13	EF-P3-3 - EXHAUST FAN		15 A	3	0.84 / 0.84			3	15 A		EF-P4-6 - EXHAUST FAN	14
15						0.84 / 0.84						16
17							0.84 / 0.84					18
19	EF-P3-4 - EXHAUST FAN		15 A	3	0.84 / 0.84			3	15 A		EF-P5-1 - EXHAUST FAN	20
21						0.84 / 0.84						22
23							0.84 / 0.84					24
25	EF-P3-5 - EXHAUST FAN		15 A	3	0.84 / 0.84			3	15 A		EF-P5-2 - EXHAUST FAN	26
27						0.84 / 0.84						28
29							0.84 / 0.84					30
31	EF-P3-6 - EXHAUST FAN		15 A	3	0.84 / 0.84			3	15 A		EF-P5-3 - EXHAUST FAN	32
33						0.84 / 0.84						34
35							0.84 / 0.84					36
37	EF-P4-1 - EXHAUST FAN		15 A	3	0.84 / 0.84			3	15 A		EF-P5-4 - EXHAUST FAN	38
39						0.84 / 0.84						40
41							0.84 / 0.84					42
43	EF-P4-2 - EXHAUST FAN		15 A	3	0.84 / 0.84			3	15 A		EF-P5-5 - EXHAUST FAN	44
45						0.84 / 0.84						46
47							0.84 / 0.84					48
49	EF-P4-3 - EXHAUST FAN		15 A	3	0.84 / 0.84			3	15 A		EF-P5-6 - EXHAUST FAN	50
51						0.84 / 0.84						52
53							0.84 / 0.84					54
			Total Load:		27.8 kVA	27.8 kVA	28.8 kVA					
			Total Amps:		100 A	100 A	98 A					

FEEDER BREAKER NOTES:
(G) GROUND FAULT PROTECTION
(M) INTEGRAL METER
(S) SURGE PROTECTION
(ST) SHUNT TRIP BREAKER
(LN) BREAKER LOCK IN ON POSITION
(LF) BREAKER LOCK IN OFF POSITION

ADJUSTABLE TRIP SETTINGS:
(IT) INSTANTANEOUS SETTING
(LT) LONG TERM SETTING
(ST) SHORT TERM SETTING

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Motor	87841 VA	101.04%	88548 VA		
Other	14000 VA	100.00%	14000 VA	Total Conn. Load:	82 kVA
				Total Est. Demand:	83 kVA
				Total Conn.:	98 A
				Total Est. Demand:	99 A

Notes:

Panelboard: H-P3

Location: ELEVATOR LOBBY 345 Supply From: H-P3 Mounting: SURFACE Enclosure: Type 1
Voltage: 480Y/277V Phases: 3 Wires: 4
A.I.C. Rating: FIELD VERIFY Mains Type: MLO Bus Rating: 250 A

CKT	Circuit Description	Note	Trip	Poles	A	B	C	Poles	Trip	Note	Circuit Description	CKT
55	EF-P6-1 - EXHAUST FAN		15 A	3	0.84 / 1			1	20 A		HT-P3-1 - HEAT TRACE	56
57						0.84 / 1		1	20 A		HT-P3-2 - HEAT TRACE	58
59							0.84 / 1	1	20 A		HT-P3-3 - HEAT TRACE	60
61	EF-P6-2 - EXHAUST FAN		15 A	3	0.84 / 1			1	20 A		HT-P3-4 - HEAT TRACE	62
63						0.84 / 1		1	20 A		HT-P4-1 - HEAT TRACE	64
65							0.84 / 1	1	20 A		HT-P4-2 - HEAT TRACE	66
67	EF-P6-3 - EXHAUST FAN		15 A	3	0.84 / 1			1	20 A		HT-P4-3 - HEAT TRACE	68
69						0.84 / 1		1	20 A		HT-P4-4 - HEAT TRACE	70
71							0.84 / 1	1	20 A		HT-P5-1 - HEAT TRACE	72
73	EF-P6-4 - EXHAUST FAN		15 A	3	0.84 / 1			1	20 A		HT-P5-2 - HEAT TRACE	74
75						0.84 / 1		1	20 A		HT-P5-3 - HEAT TRACE	76
77							0.84 / 1	1	20 A		HT-P5-4 - HEAT TRACE	78
79	EF-P6-5 - EXHAUST FAN		15 A	3	0.84 / 1			1	20 A		HT-P6-1 - HEAT TRACE	80
81						0.84 / 1		1	20 A		HT-P6-2 - HEAT TRACE	82
83							0.84 / 0	3	20 A		SPARE	84
85	EF-P6-6 - EXHAUST FAN		15 A	3	0.84 / 0							86
87						0.84 / 0						88
89							0.84 / 0	3	20 A		SPARE	90
91	SPARE		20 A	3	0 / 0							92
93						0 / 0						94
95							0 / 0	1	20 A		SPARE	96
97	SPARE		20 A	3	0 / 0			1	20 A		SPARE	98
99						0 / 0		1	20 A		SPARE	100
101							0 / 0	1	20 A		SPARE	102
103	SPARE		20 A	1	0 / 0			1	20 A		SPARE	104
105	SPARE		20 A	1		0 / 0		1	20 A		SPARE	106
107	SPARE		20 A	1			0 / 0	1	20 A		SPARE	108
			Total Load:		10.7 kVA	10.7 kVA	8.7 kVA					
			Total Amps:		38 A	38 A	35 A					

FEEDER BREAKER NOTES:
(G) GROUND FAULT PROTECTION
(M) INTEGRAL METER
(S) SURGE PROTECTION
(ST) SHUNT TRIP BREAKER
(LN) BREAKER LOCK IN ON POSITION
(LF) BREAKER LOCK IN OFF POSITION

ADJUSTABLE TRIP SETTINGS:
(IT) INSTANTANEOUS SETTING
(LT) LONG TERM SETTING
(ST) SHORT TERM SETTING

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Motor	16960 VA	104.17%	17667 VA		
Other	14000 VA	100.00%	14000 VA	Total Conn. Load:	31 kVA
				Total Est. Demand:	32 kVA
				Total Conn.:	37 A
				Total Est. Demand:	38 A

Notes:

Panelboard: L-1A

Location: CITY ELECTRICAL ROOM-1 184-1 Voltage: 208Y/120V Supply From: T-1A Phases: 3 Mounting: SURFACE Wires: 4 Enclosure: Type 1
A.I.C. Rating: FIELD VERIFY Mains Type: MLO Bus Rating: 225 A

CKT	Circuit Description	Note	Trip	Poles	A (kVA)	B (kVA)	C (kVA)	Poles	Trip	Note	Circuit Description	CKT
1	EWH-1 - ELECTRIC WALL HEATER		20 A	3	1.8 / 1.08			2	15 A		HPU-3 - HEAT PUMP UNIT	2
3						1.8 / 1.08						4
5							1.8 / 2.04	2	35 A		HPU-4 - HEAT PUMP UNIT	6
7	EWH-2 - ELECTRIC WALL HEATER		15 A	3	1 / 2.04							8
9						1 / 1.88		1	20 A		TF-1 - TRANSFER FAN	10
11							1 / 0	1	20 A		SPARE	12
13	EWH-6 - ELECTRIC WALL HEATER		20 A	3	1 / 0.75			2	15 A		WHR-3 - WATER HEATER	14
15						1 / 0.75						16
17							1 / 7	3	80 A		AHU-1 - AIR HANDLING UNIT	18
19	EWH-8 - ELECTRIC WALL HEATER		20 A	3	1 / 7							20
21						1 / 7						22
23							1 / 1.38	1	20 A		DA-1-La - DIGITAL ADVERTIZING	24
25	EWH-9 - ELECTRIC WALL HEATER		15 A	2	1.04 / 1.38			1	20 A		DA-1-Lb - DIGITAL ADVERTIZING	26
27						1.84 / 1.2		1	20 A		DA-1-1a - DIGITAL ADVERTIZING	28
29	CP-1 - CIRCULATION PUMP		20 A	1			0.88 / 1.38	1	20 A		DA-1-1b - DIGITAL ADVERTIZING	30
31	SPARE		20 A	1	0 / 0			1	20 A		SPARE	32
33	EF-3 - EXHAUST FAN		20 A	1		0.33 / 0		1	20 A		SPARE	34
35	RECEP CITY ELECTRICAL ROOM 135		20 A	1			0.18 / 0	1	20 A		SPARE	36
37	EWH-10 - ELECTRIC WALL HEATER		20 A	1	0.75 / 0			1	20 A		SPARE	38
39	ERV-1 - ENERGY RECOVERY UNIT		20 A	1		1.2 / 0		1	20 A		SPARE	40
41	RECEP - CITY STORAGE 004		20 A	1			0.18 / 0.18	1	20 A		RECEP - TLT 191A	42
			Total Load:		20.5 kVA	20.7 kVA	18.8 kVA					
			Total Amps:		173 A	175 A	157 A					

FEEDER BREAKER NOTES:
(G) GROUND FAULT PROTECTION
(M) INTEGRAL METER
(S) SURGE PROTECTION
(ST) SHUNT TRIP BREAKER
(LN) BREAKER LOCK IN ON POSITION
(LF) BREAKER LOCK IN OFF POSITION

ADJUSTABLE TRIP SETTINGS:
(IT) INSTANTANEOUS SETTING
(LT) LONG TERM SETTING
(ST) SHORT TERM SETTING

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Motor	52418 VA	110.02%	57668 VA		
Other	6480 VA	100.00%	6480 VA	Total Conn. Load:	60 kVA
Receptacle	1080 VA	100.00%	1080 VA	Total Est. Demand:	65 kVA
				Total Conn.:	164 A
				Total Est. Demand:	181 A

Notes:

Panelboard: L-1A

Location: CITY ELECTRICAL ROOM-1 184-1 Voltage: 208Y/120V Supply From: L-1A Phases: 3 Mounting: SURFACE Wires: 4 Enclosure: Type 1
A.I.C. Rating: FIELD VERIFY Mains Type: MLO Bus Rating: 225 A

CKT	Circuit Description	Note	Trip	Poles	A (kVA)	B (kVA)	C (kVA)	Poles	Trip	Note	Circuit Description	CKT
43					/ 0.84			1	20 A		DPS-0301-1 - POWER SUPPLY	44
45						/ 0.84		1	20 A		DPS-0303-1 - POWER SUPPLY	46
47	EWH-7 - ELECTRIC WALL HEATER		20 A	3			1 / 0	1	20 A		SPARE	48
49					1 / 0			1	20 A		SPARE	50
51						1 / 0		1	20 A		SPARE	52
53	SPARE		20 A	1			0 / 0	1	20 A		SPARE	54
55	SPARE		20 A	1	0 / 0			1	20 A		SPARE	56
57	SPARE		20 A	1		0 / 0		1	20 A		SPARE	58
59	SPARE		20 A	1			0 / 0	1	20 A		SPARE	60
61	SPARE		20 A	1	0 / 0			1	20 A		SPARE	62
63	SPARE		20 A	1		0 / 0		1	20 A		SPARE	64
65	SPARE		20 A	1			0 / 0	1	20 A		SPARE	66
67	SPARE		20 A	1	0 / 0			1	20 A		SPARE	68
69	SPARE		20 A	1		0 / 0		1	20 A		SPARE	70
71	SPARE		20 A	1			0 / 0	1	20 A		SPARE	72
73	SPARE		20 A	1	0 / 0			1	20 A		SPARE	74
75	SPARE		20 A	1		0 / 0		1	20 A		SPARE	76
77	SPARE		20 A	1			0 / 0	1	20 A		SPARE	78
79	SPARE		20 A	1	0 / 0			1	20 A		SPARE	80
81	SPARE		20 A	1		0 / 0		1	20 A		SPARE	82
83	SPARE		20 A	1			0 / 0	1	20 A		SPARE	84
			Total Load:		1.8 kVA	1.8 kVA	1 kVA					
			Total Amps:		16 A	16 A	9 A					

FEEDER BREAKER NOTES:
(G) GROUND FAULT PROTECTION
(M) INTEGRAL METER
(S) SURGE PROTECTION
(ST) SHUNT TRIP BREAKER
(LN) BREAKER LOCK IN ON POSITION
(LF) BREAKER LOCK IN OFF POSITION

ADJUSTABLE TRIP SETTINGS:
(IT) INSTANTANEOUS SETTING
(LT) LONG TERM SETTING
(ST) SHORT TERM SETTING

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Motor	3000 VA	125.00%	3750 VA		
Other	1880 VA	100.00%	1880 VA	Total Conn. Load:	5 kVA
				Total Est. Demand:	5 kVA
				Total Conn.:	13 A
				Total Est. Demand:	15 A

Notes:

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PROJECT INFORMATION

STATE STREET
CAMPUS GARAGE
MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05-05-2023	SCHEMATIC DESIGN PH1
07-28-2023	DETAILED DESIGN PH1
10-02-2023	CONSTRUCTION DOCUMENTS PH1
11-02-2023	PH1 ADDE

KEY PLAN

ZONE A
ZONE B

SHEET INFORMATION

PROJECT MANAGER
PROJECT NUMBER 720448

SCHEDULES - PANELS

E8003-1

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Panelboard: H-BT

Location: CITY ELECTRICAL ROOM-1 184-1 Voltage: 480Y/277V
Supply From: SWBDHC Phases: 3
Mounting: SURFACE Wires: 4
Enclosure: Type 1

A.I.C. Rating: FIELD VERIFY
Mains Type: MCB
Bus Rating: 125 A
MCB Rating: 125 A

MAIN CIRCUIT BREAKER REQUIREMENTS:
___ GROUND FAULT PROTECTION ___ SHUNT TRIP BREAKER ___ ADJUSTABLE LONG TERM
___ INTEGRAL METER ___ ADJUSTABLE... ___ ADJUSTABLE SHORT TERM
___ SURGE PROTECTION ___ ADJUSTABLE INSTANTANEOUS

CKT	Circuit Description	Note	Trip	Poles	A (kVA)	B (kVA)	C (kVA)	Poles	Trip	Note	Circuit Description	CKT
1					3.33	0.35		1	20 A		LIGHTING BUS 125, 133, 133, 134	2
3	T-A		50 A	3		4.78	0.2	1	20 A		LIGHTING BUS TERMINAL 120	4
5							4.33	0.16	1	20 A		LIGHTING BUS 119, 127	6
7	ERH-1b - ELECTRIC RADIANT HEATER		15 A	1	3	0			1	20 A	SPARE		8
9	ERH-1c - ELECTRIC RADIANT HEATER		15 A	1			3	0	1	20 A	SPARE		10
11	ERH-2a - ELECTRIC RADIANT HEATER		30 A	1				4	0	1	20 A	SPARE	12
13	ERH-2b - ELECTRIC RADIANT HEATER		30 A	1	6	6				1	20 A	SPARE	14
15	ERH-2c - ELECTRIC RADIANT HEATER		30 A	1			6	0		1	20 A	SPARE	16
17	ERH-3a - ELECTRIC RADIANT HEATER		30 A	1				6	0	1	20 A	SPARE	18
19	ERH-3b - ELECTRIC RADIANT HEATER		30 A	1	6	6				1	20 A	SPARE	20
21	ERH-3c - ELECTRIC RADIANT HEATER		30 A	1			6	0		1	20 A	SPARE	22
23	SPARE		20 A	1				0	0	1	20 A	SPARE	24
25	SPARE		20 A	1	0	0				1	20 A	SPARE	26
27	SPARE		20 A	1			0	0		1	20 A	SPARE	28
29	SPARE		20 A	1									
					Total Load:	18.8 kVA	20 kVA	18.5 kVA					
					Total Amps:	68 A	72 A	66 A					

FEEDER BREAKER NOTES:
(G) GROUND FAULT PROTECTION
(M) INTEGRAL METER
(S) SURGE PROTECTION
(ST) SHUNT TRIP BREAKER
(LN) BREAKER LOCK IN ON POSITION
(LF) BREAKER LOCK IN OFF POSITION

ADJUSTABLE TRIP SETTINGS:
(IT) INSTANTANEOUS SETTING
(LT) LONG TERM SETTING
(ST) SHORT TERM SETTING
(MT) MAGNETIC ADJUSTABLE

Load Classification	Connected Load	Demand Factor	Estimated Demand
Motor	51983 VA	103.84%	53985 VA
Other	0 VA	0.00%	0 VA
Receptacle	2160 VA	100.00%	2160 VA
Power	1200 VA	100.00%	1200 VA
Lighting	837 VA	100.00%	837 VA

Panel Totals
Total Conn. Load: 55 kVA
Total Est. Demand: 57 kVA
Total Conn.: 66 A
Total Est. Demand: 68 A

Notes:

Panelboard: L-BT

Location: CITY ELECTRICAL ROOM-1 184-1 Voltage: 208Y/120V
Supply From: T-BT Phases: 3
Mounting: SURFACE Wires: 4
Enclosure: Type 1

A.I.C. Rating: FIELD VERIFY
Mains Type: MLO
Bus Rating: 100 A

CKT	Circuit Description	Note	Trip	Poles	A (kVA)	B (kVA)	C (kVA)	Poles	Trip	Note	Circuit Description	CKT
1					0.36			1	20 A		RECEP - BUS WAITING 180	2
3						0.54		1	20 A		RECEP - TLT 180, 183, MERC 181	4
5							0.54	1	20 A		RECEP - BUS WAITING AREA 183	6
7					0.54			1	20 A		RECEP - OFFICE 181	8
9	WHR-1 - WATER HEATER		20 A	2		1.25	0.18	1	20 A		RECEP - TLT 1 SW	10
11					0.75	0		1	20 A		LF-1a - LAVATORY FLUSH VALVE	12
13	WHR-2 - WATER HEATER		15 A	2			0.75	0	1	20 A	LF-1b - LAVATORY FLUSH VALVE	14
15									1	20 A	LF-1c - LAVATORY FLUSH VALVE	16
17	HPU-1 - HEAT PUMP UNIT		15 A	2	1.56	0	0.98	1	20 A		PC-1a - PAY STATION BUS TERMINAL	18
19									1	20 A	PC-1b - PAY STATION BUS TERMINAL	20
21	ERV-1 - ENERGY RECOVERY UNIT		20 A	1		1.2	0.98	1	20 A		CP-1 - CIRCULATION PUMP	22
23	OD-180 - DOOR AUTO OPERATOR		20 A	1				1	20 A		CP-2 - CIRCULATION PUMP	24
25	OD-182 - DOOR AUTO OPERATOR		20 A	1	0.9	0					SPARE	26
27	SPARE		20 A	1			0	0	1	20 A	SPARE	28
29	SPARE		20 A	1		0					SPARE	30
31	SPARE		20 A	1	0		0	0	1	20 A	SPARE	32
33	SPARE		20 A	1		0					SPARE	34
35	SPARE		20 A	1			0	0	1	20 A	SPARE	36
37	SPARE		20 A	1	0	0					SPARE	38
39	SPARE		20 A	1			0	0	1	20 A	SPARE	40
41	SPARE		20 A	1							SPARE	42
					Total Load:	3.3 kVA	4.8 kVA	4.3 kVA				
					Total Amps:	28 A	41 A	37 A				

FEEDER BREAKER NOTES:
(G) GROUND FAULT PROTECTION
(M) INTEGRAL METER
(S) SURGE PROTECTION
(ST) SHUNT TRIP BREAKER
(LN) BREAKER LOCK IN ON POSITION
(LF) BREAKER LOCK IN OFF POSITION

ADJUSTABLE TRIP SETTINGS:
(IT) INSTANTANEOUS SETTING
(LT) LONG TERM SETTING
(ST) SHORT TERM SETTING

Load Classification	Connected Load	Demand Factor	Estimated Demand
Motor	8985 VA	104.87%	9709 VA
Other	0 VA	0.00%	0 VA
Receptacle	2160 VA	100.00%	2160 VA
Power	1200 VA	100.00%	1200 VA

Panel Totals
Total Conn. Load: 12 kVA
Total Est. Demand: 13 kVA
Total Conn.: 33 A
Total Est. Demand: 36 A

Notes:

Panelboard: H-LA

Location: CITY ELECTRICAL ROOM-1 184-1 Voltage: 480Y/277V
Supply From: SWBDHC Phases: 3
Mounting: SURFACE Wires: 4
Enclosure: Type 1

A.I.C. Rating: FIELD VERIFY
Mains Type: MLO
Bus Rating: 125 A

CKT	Circuit Description	Note	Trip	Poles	A	B	C	Poles	Trip	Note	Circuit Description	CKT
1	LTG - HOUSING LL PARKING		20 A	1	0.45	0.45						2
3						0.64	0.69	3	20 A		GUH-1d - GAS UNIT HEATER	4
5	GUH-1a - GAS UNIT HEATER		20 A	3			0.69	0.69				6
7					0.69	12.19						8
9						0.69	12.19	3	60 A		EF-1 - EXHAUST FAN	10
11	GUH-1b - GAS UNIT HEATER		20 A	3			0.69	12.19				12
13					0.69	8.43						14
15						0.69	8.43	3	70 A		MAU-1 - MAKE UP AIR UNIT	16
17	GUH-1c - GAS UNIT HEATER		20 A	3			0.69	8.43				18
19					0.69	0						20
21	SPARE		20 A	1			0	0				22
23	SPARE		20 A	1	0	0						24
25	SPARE		20 A	1			0	0				26
27	SPARE		20 A	1	0	0						28
29	SPARE		20 A	1			0	0				30
					Total Load:	23.3 kVA	24.4 kVA	24.4 kVA				
					Total Amps:	91 A	68 A	68 A				

FEEDER BREAKER NOTES:
(G) GROUND FAULT PROTECTION
(M) INTEGRAL METER
(S) SURGE PROTECTION
(ST) SHUNT TRIP BREAKER
(LN) BREAKER LOCK IN ON POSITION
(LF) BREAKER LOCK IN OFF POSITION

ADJUSTABLE TRIP SETTINGS:
(IT) INSTANTANEOUS SETTING
(LT) LONG TERM SETTING
(ST) SHORT TERM SETTING

Load Classification	Connected Load	Demand Factor	Estimated Demand
Motor	73162 VA	112.50%	82302 VA
Lighting	948 VA	100.00%	948 VA

Panel Totals
Total Conn. Load: 74 kVA
Total Est. Demand: 83 kVA
Total Conn.: 89 A
Total Est. Demand: 100 A

Notes:

Panelboard: L-1B

Location: CITY ELECTRICAL ROOM-1 184-1 Voltage: 208Y/120V
Supply From: DP-1A Phases: 3
Mounting: SURFACE Wires: 4
Enclosure: Type 1

A.I.C. Rating: FIELD VERIFY
Mains Type: MLO
Bus Rating: 400 A

CKT	Circuit Description	Note	Trip	Poles	A (kVA)	B (kVA)	C (kVA)	Poles	Trip	Note	Circuit Description	CKT
1	EVC-1 - PUBLIC EV CHARGER		40 A	2	2.81	2.81						2
3							2.81	2.81				4
5	EVC-2 - PUBLIC EV CHARGER		40 A	2	2.81	2.81						6
7							2.81	2.81				8
9	EVC-3 - PUBLIC EV CHARGER		40 A	2								10
11					2.81	2.81						12
13	EVR-1 - PUBLIC EV READY SPACE		40 A	2			2.81	2.81				14
15					2.81	2.81						16
17	EVR-2 - PUBLIC EV READY SPACE		40 A	2			2.81	2.81				18
19	SPARE		40 A	2			0	2.81				20
21					0	2.81						22
23	SPARE		40 A	2			0	2.81				24
25					0	2.81						26
27	SPARE		40 A	2			0	0				28
29					0	0						30
31	SPARE		40 A	2			0	0				32
33					0	0						34
35	SPARE		40 A	2			0	0				36
37					0	0						38
39	SPARE		40 A	2			0	0				40
41	SPARE		20 A	1								42
					Total Load:	28.2 kVA	23.3 kVA	20.4 kVA				
					Total Amps:	222 A	186 A	170 A				

FEEDER BREAKER NOTES:
(G) GROUND FAULT PROTECTION
(M) INTEGRAL METER
(S) SURGE PROTECTION
(ST) SHUNT TRIP BREAKER
(LN) BREAKER LOCK IN ON POSITION
(LF) BREAKER LOCK IN OFF POSITION

ADJUSTABLE TRIP SETTINGS:
(IT) INSTANTANEOUS SETTING
(LT) LONG TERM SETTING
(ST) SHORT TERM SETTING

Load Classification	Connected Load	Demand Factor	Estimated Demand
Power	69888 VA	100.00%	69888 VA

Panel Totals
Total Conn. Load: 70 kVA
Total Est. Demand: 70 kVA
Total Conn.: 194 A
Total Est. Demand: 194 A

Notes:

eu:a
milwaukee | madison | green bay | denver | atlanta

JDR ENGINEERING, INC.
5535 NOBEL DRIVE
SUITE 110
MADISON, WI 53711
PH 608.277.7728 | FX 608.277.7046
JDR Project No: 22.0249

PROJECT INFORMATION

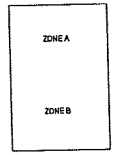
STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05/05/2023	SCHEMATIC DESIGN PH1
07/28/2023	DESIGN DEVELOPMENT PH1
10/20/2023	CONSTRUCTION DOCUMENTS PH1
11/22/2023	PH1_V202

KEY PLAN



SHEET INFORMATION

PROJECT MANAGER

PROJECT NUMBER 720448

SCHEDULES - PANELS

E8004-1

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Panelboard: L-P2

Location: PUBLIC PARKING 344 | Voltage: 208Y/120V | A.I.C. Rating: FIELD VERIFY
Supply From: DP-1A | Phases: 3 | Mains Type: MLO
Mounting: SURFACE | Wires: 4 | Bus Rating: 400 A
Enclosure: Type 1

CKT	Circuit Description	Note	Trip	Poles	A (VA)	B (VA)	C (VA)	Poles	Trip	Note	Circuit Description	CKT
1	EVR-P3-1 - EV READY SPACE		40 A	2	2,81	2,81		2	40 A		EVR-P3-11 - EV READY SPACE	2
3							2,81					4
5	EVR-P3-2 - EV READY SPACE		40 A	2	2,81	2,81		2	40 A		EVR-P3-12 - EV READY SPACE	6
7							2,81					8
9	EVR-P3-3 - EV READY SPACE		40 A	2		2,81	2,81	2	40 A		EVR-P3-13 - EV READY SPACE	10
11					2,81							12
13	EVR-P3-4 - EV READY SPACE		40 A	2	2,81	2,81		2	40 A		EVR-P3-14 - EV READY SPACE	14
15							2,81					16
17	EVR-P3-5 - EV READY SPACE		40 A	2	2,81	0		2	40 A		SPARE	18
19						2,81	0					20
21	EVR-P3-6 - EV READY SPACE		40 A	2			2,81	2	40 A		SPARE	22
23					2,81	0						24
25	EVR-P3-7 - EV READY SPACE		40 A	2		2,81	0	2	40 A		SPARE	26
27					2,81							28
29	EVR-P3-8 - EV READY SPACE		40 A	2		2,81	0	2	40 A		SPARE	30
31					2,81	0						32
33	EVR-P3-9 - EV READY SPACE		40 A	2		2,81	1,38	1	20 A		DA-LCD - DIGITAL ADVERTISING	34
35								1	20 A		DA-LCD - DIGITAL ADVERTISING	36
37	EVR-P3-10 - EV READY SPACE		40 A	2	2,81	0,84		1	20 A		DPS-250S1 - POWER SUPPLY	38
39								1	20 A		DPS-250S1 - POWER SUPPLY	40
41	SPARE		20 A	1				1	20 A		RECEP PUBLIC PARKING 344	42
			Total Load:		30 kVA	31,5 kVA	25 kVA					
			Total Amps:		294 A	287 A	208 A					

FEEDER BREAKER NOTES:
(G) GROUND FAULT PROTECTION
(M) INTEGRAL METER
(S) SURGE PROTECTION
(ST) SHUNT TRIP BREAKER
(LN) BREAKER LOCK IN ON POSITION
(LF) BREAKER LOCK IN OFF POSITION

ADJUSTABLE TRIP SETTINGS:
(IT) INSTANTANEOUS SETTING
(LT) LONG TERM SETTING
(ST) SHORT TERM SETTING

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Other	85618 VA	100,00%	85618 VA	
Receptacle	720 VA	100,00%	720 VA	
				Total Conn. Load: 88 kVA
				Total Est. Demand: 88 kVA
				Total Conn.: 240 A
				Total Est. Demand: 245 A

Notes:

Panelboard: L-P3

Location: ELEVATOR LOBBY 345 | Voltage: 208Y/120V | A.I.C. Rating: FIELD VERIFY
Supply From: DP-1B | Phases: 3 | Mains Type: MLO
Mounting: SURFACE | Wires: 4 | Bus Rating: 400 A
Enclosure: Type 1

CKT	Circuit Description	Note	Trip	Poles	A (VA)	B (VA)	C (VA)	Poles	Trip	Note	Circuit Description	CKT
1	EVR-P3-1 - EV READY SPACE		40 A	2	2,81	2,81		2	40 A		EVR-P3-11 - EV READY SPACE	2
3							2,81					4
5	EVR-P3-2 - EV READY SPACE		40 A	2	2,81	2,81		2	40 A		EVR-P3-12 - EV READY SPACE	6
7							2,81					8
9	EVR-P3-3 - EV READY SPACE		40 A	2		2,81	2,81	2	40 A		EVR-P3-13 - EV READY SPACE	10
11					2,81							12
13	EVR-P3-4 - EV READY SPACE		40 A	2		2,81	2,81	2	40 A		EVR-P3-14 - EV READY SPACE	14
15					2,81							16
17	EVR-P3-5 - EV READY SPACE		40 A	2		2,81	2,81	2	40 A		EVC-P3-1 - PUBLIC EV CHARGER	18
19					2,81							20
21	EVR-P3-6 - EV READY SPACE		40 A	2		2,81	0	2	40 A		SPARE	22
23					2,81	0						24
25	EVR-P3-7 - EV READY SPACE		40 A	2		2,81	0	2	40 A		SPARE	26
27					2,81							28
29	EVR-P3-8 - EV READY SPACE		40 A	2		2,81	0	2	40 A		SPARE	30
31					2,81	0						32
33	EVR-P3-9 - EV READY SPACE		40 A	2		2,81	1,38	1	20 A		DA-LCD - DIGITAL ADVERTISING	34
35								1	20 A		DA-LCD - DIGITAL ADVERTISING	36
37	EVR-P3-10 - EV READY SPACE		40 A	2	2,81	0		1	20 A		DPS-250S1 - POWER SUPPLY	38
39								1	20 A		DPS-250S1 - POWER SUPPLY	40
41	SPARE		20 A	1				1	20 A		RECEP PUBLIC PARKING 345	42
			Total Load:		32 kVA	30,5 kVA	27,9 kVA					
			Total Amps:		278 A	257 A	233 A					

FEEDER BREAKER NOTES:
(G) GROUND FAULT PROTECTION
(M) INTEGRAL METER
(S) SURGE PROTECTION
(ST) SHUNT TRIP BREAKER
(LN) BREAKER LOCK IN ON POSITION
(LF) BREAKER LOCK IN OFF POSITION

ADJUSTABLE TRIP SETTINGS:
(IT) INSTANTANEOUS SETTING
(LT) LONG TERM SETTING
(ST) SHORT TERM SETTING

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Other	88760 VA	100,00%	88760 VA	
Receptacle	720 VA	100,00%	720 VA	
				Total Conn. Load: 89 kVA
				Total Est. Demand: 89 kVA
				Total Conn.: 251 A
				Total Est. Demand: 251 A

Notes:

Panelboard: L-P4

Location: PUBLIC PARKING 444 | Voltage: 208Y/120V | A.I.C. Rating: FIELD VERIFY
Supply From: DP-1B | Phases: 3 | Mains Type: MLO
Mounting: SURFACE | Wires: 4 | Bus Rating: 400 A
Enclosure: Type 1

CKT	Circuit Description	Note	Trip	Poles	A (VA)	B (VA)	C (VA)	Poles	Trip	Note	Circuit Description	CKT
1	EVR-P4-1 - EV READY SPACE		40 A	2	2,81	2,81		2	40 A		EVR-P4-11 - EV READY SPACE	2
3							2,81					4
5	EVR-P4-2 - EV READY SPACE		40 A	2	2,81	2,81		2	40 A		EVR-P4-12 - EV READY SPACE	6
7							2,81					8
9	EVR-P4-3 - EV READY SPACE		40 A	2		2,81	2,81	2	40 A		EVR-P4-13 - EV READY SPACE	10
11					2,81							12
13	EVR-P4-4 - EV READY SPACE		40 A	2	2,81	2,81		2	20 A		EVC-P4-1 - PUBLIC EV CHARGER	14
15							2,81					16
17	EVR-P4-5 - EV READY SPACE		40 A	2	2,81	2,81		2	40 A		SPARE	18
19							2,81					20
21	EVR-P4-6 - EV READY SPACE		40 A	2		2,81	0	2	40 A		SPARE	22
23					2,81	0						24
25	EVR-P4-7 - EV READY SPACE		40 A	2			2,81	2	40 A		SPARE	26
27						2,81	0					28
29	EVR-P4-8 - EV READY SPACE		40 A	2		2,81	0	2	40 A		SPARE	30
31					2,81	0						32
33	EVR-P4-9 - EV READY SPACE		40 A	2		2,81	1,38	1	20 A		DA-LCD - DIGITAL ADVERTISING	34
35								1	20 A		DA-LCD - DIGITAL ADVERTISING	36
37	EVR-P4-10 - EV READY SPACE		40 A	2	2,81	0,84		1	20 A		DPS-250S1 - POWER SUPPLY	38
39								1	20 A		DPS-250S1 - POWER SUPPLY	40
41	SPARE		20 A	1				1	20 A		RECEP PUBLIC PARKING 444	42
			Total Load:		30 kVA	31,3 kVA	29 kVA					
			Total Amps:		294 A	287 A	208 A					

FEEDER BREAKER NOTES:
(G) GROUND FAULT PROTECTION
(M) INTEGRAL METER
(S) SURGE PROTECTION
(ST) SHUNT TRIP BREAKER
(LN) BREAKER LOCK IN ON POSITION
(LF) BREAKER LOCK IN OFF POSITION

ADJUSTABLE TRIP SETTINGS:
(IT) INSTANTANEOUS SETTING
(LT) LONG TERM SETTING
(ST) SHORT TERM SETTING

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Other	85618 VA	100,00%	85618 VA	
Receptacle	720 VA	100,00%	720 VA	
				Total Conn. Load: 88 kVA
				Total Est. Demand: 88 kVA
				Total Conn.: 240 A
				Total Est. Demand: 240 A

Notes:

Panelboard: L-P5

Location: PUBLIC PARKING 544 | Voltage: 208Y/120V | A.I.C. Rating: FIELD VERIFY
Supply From: DP-1C | Phases: 3 | Mains Type: MLO
Mounting: SURFACE | Wires: 4 | Bus Rating: 400 A
Enclosure: Type 1

CKT	Circuit Description	Note	Trip	Poles	A	B	C	Poles	Trip	Note	Circuit Description	CKT
1	EVR-P5-1 - EV READY SPACE		40 A	2	2,81	2,81		2	40 A		EVR-P5-11 - EV READY SPACE	2
3							2,81					4
5	EVR-P5-2 - EV READY SPACE		40 A	2	2,81	2,81		2	40 A		EVR-P5-12 - EV READY SPACE	6
7							2,81					8
9	EVR-P5-3 - EV READY SPACE		40 A	2		2,81	2,81	2	40 A		EVR-P5-13 - EV READY SPACE	10
11					2,81							12
13	SPARE		40 A	2	0	0		2	40 A		EVC-P5-1 - EV CHARGER	14
15							2,81					16
17	SPARE		40 A	2	0	0		2	40 A		SPARE	18
19							0					20
21	SPARE		40 A	2	0	0		2	40 A		SPARE	22
23							0					24
25	SPARE		40 A	2	0	0		2	40 A		SPARE	26
27							0					28
29	SPARE		40 A	2	0	0		2	40 A		SPARE	30
31							0					32
33	ACCU-1 - CONDENSING UNIT		25 A	2	1,13	0,18		1	20 A		RECEP ACCU-1	34
35							1,13					36
37	ACCU-2 - CONDENSING UNIT		25 A	2		1,13	1,38	1	20 A		RECEP ACCU-2	38
39					1,13							40
41	EF-4 - EXHAUST FAN		10 A	1	0,53	1,38		1	20 A		DA-LCD - DIGITAL ADVERTISING	42
43	EF-5 - EXHAUST FAN		10 A	1			1,13	1	20 A		DA-LCD - DIGITAL ADVERTISING	44
45			20 A	1		0,33	1,38	1	20 A		DA-LCD - DIGITAL ADVERTISING	46
47	RECEP PUBLIC PARKING 544		20 A	1				1	20 A		DA-LCD - DIGITAL ADVERTISING	48
49					1,4	0,84		1	30 A		DPS-450S1 - POWER SUPPLY	50
51	EWH-1 - ELECTRIC WALL HEATER		20 A	3			1,8	1	30 A		DPS-450S1 - POWER SUPPLY	52
53					1,8	0,84		1	30 A		DPS-450S1 - POWER SUPPLY	54
55	EWH-2 - ELECTRIC WALL HEATER		20 A	3			1,8	1	30 A		DPS-450S1 - POWER SUPPLY	56
57					1,8	0,84		1	30 A		DPS-450S1 - POWER SUPPLY	58
59	SPARE		30 A	1	0	0		1	30 A		SPARE	60
61	SPARE		30 A	1			0	1	30 A		SPARE	62
63	SPARE		30 A	1	0	0		1	30 A		SPARE	64
65	SPARE		30 A	1			0	1	30 A		SPARE	66
			Total Load:		19,2 kVA	16,2 kVA	20,1 kVA					
			Total Amps:		153 A	161 A	169 A					

FEEDER BREAKER NOTES:
(G) GROUND FAULT PROTECTION
(M) INTEGRAL METER
(S) SURGE PROTECTION
(ST) SHUNT TRIP BREAKER
(LN) BREAKER LOCK IN ON POSITION
(LF) BREAKER LOCK IN OFF POSITION

ADJUSTABLE TRIP SETTINGS:
(IT) INSTANTANEOUS SETTING
(LT) LONG TERM SETTING
(ST) SHORT TERM SETTING

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Motor	13864 VA	100,00%	14247 VA	
Other	43104 VA	100,00%	43104 VA	
Receptacle	1440 VA	100,00%	1440 VA	
				Total Conn. Load: 58 kVA
				Total Est. Demand: 59 kVA
				Total Conn.: 180 A
				Total Est. Demand: 180 A

Notes:

eu:a
milwaukee | madison | green bay | denver | atlanta

JDR ENGINEERING, INC.
5535 NOBEL DRIVE
SUITE 80
MADISON, WI 53711
PH: 608.277.7728 | V: 608.277.0746
JDR Project No: 22.0249

PROJECT INFORMATION

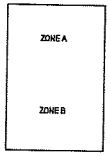
STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
08-05-2022	SCHEMATIC DESIGN PH1
01-06-2023	DETAILED DESIGN PH1
10-02-2023	CONSTRUCTION DOCUMENTS PH1
11-02-2023	PH1 ADDS

KEY PLAN



SHEET INFORMATION

PROJECT MANAGER

PROJECT NUMBER 720448

SCHEDULES - PANELS

E8005-1

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Panelboard: LH-1A

Location: GENERATOR 187
Supply From: ATS-EM
Mounting: SURFACE
Enclosure: Type 1

Voltage: 480Y/277V
Phases: 3
Wires: 4

A.I.C. Rating: FIELD VERIFY
Mains Type: MCB
Bus Rating: 400 A
MCB Rating: 300 A

MAIN CIRCUIT BREAKER REQUIREMENTS:
GROUND FAULT PROTECTION ____ SHUNT TRIP BREAKER ____ ADJUSTABLE LONG TERM
INTEGRAL METER ____ ADJUSTABLE... ____ ADJUSTABLE SHORT TERM
SURGE PROTECTION ____ ADJUSTABLE INSTANTANEOUS

CKT	Circuit Description	Note	Trip	Poles	A (VA)	B (VA)	C (VA)	Poles	Trip	Note	Circuit Description	CKT
1					1.8	0		3	100 A		(PROVISIONS FOR PHASE 2 PANEL)	2
3	TL-1A		50 A	3		1.2	0					4
5					2.16	0						6
7	TL-1B		50 A	3		2.87	0	3	100 A		(PROVISIONS FOR PHASE 2 PANEL)	8
9							1.08	0				10
11					0	0						12
13	SPARE		20 A	1		0	0	3	100 A		(PROVISIONS FOR PHASE 3 PANEL)	14
15	SPARE		20 A	1	0							16
17	SPARE		20 A	1		0	0					18
19	SPACE		--	1	--	--	--	1	--		SPACE	20
21	SPACE		--	1	--	--	--	1	--		SPACE	22
23	SPACE		--	1	--	--	--	1	--		SPACE	24
25	SPACE		--	1	--	--	--	1	--		SPACE	26
27	SPACE		--	1	--	--	--	1	--		SPACE	28
29	SPACE		--	1	--	--	--	1	--		SPACE	30
31	SPACE		--	1	--	--	--	1	--		SPACE	32
33	SPACE		--	1	--	--	--	1	--		SPACE	34
35	SPACE		--	1	--	--	--	1	--		SPACE	36
37	SPACE		--	1	--	--	--	1	--		SPACE	38
39	SPACE		--	1	--	--	--	1	--		SPACE	40
41	SPACE		--	1	--	--	--	1	--		SPACE	42
			Total Load:		3.4 kVA	3.8 kVA	3.1 kVA					
			Total Amps:		12 A	14 A	11 A					

FEEDER BREAKER NOTES:
(G) GROUND FAULT PROTECTION
(M) INTEGRAL METER
(S) SURGE PROTECTION
(ST) SHUNT TRIP BREAKER
(LN) BREAKER LOCK IN ON POSITION
(LF) BREAKER LOCK IN OFF POSITION

ADJUSTABLE TRIP SETTINGS:
(IT) INSTANTANEOUS SETTING
(LT) LONG TERM SETTING
(ST) SHORT TERM SETTING
(MT) MAGNETIC ADJUSTABLE

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Other	3662 VA	100.00%	3662 VA	Total Conn. Load: 10 kVA
Lighting	6668 VA	100.00%	6668 VA	Total Est. Demand: 10 kVA
				Total Conn.: 12 A
				Total Est. Demand: 12 A

Notes:
PROVIDE SURGE PROTECTION PER NEC 700.8

Panelboard: LH-1B

Location: GENERATOR 187
Supply From: LH-1A
Mounting: SURFACE
Enclosure: Type 1

Voltage: 480Y/277V
Phases: 3
Wires: 4

A.I.C. Rating: FIELD VERIFY
Mains Type: MLO
Bus Rating: 100 A

CKT	Circuit Description	Note	Trip	Poles	A (VA)	B (VA)	C (VA)	Poles	Trip	Note	Circuit Description	CKT
1	EMERGENCY/WORKLESS LIGHTING		20 A	1	1.08	0		1	20 A		SPARE	2
3	EMERGENCY/WORKLESS LIGHTING		20 A	1		1.8	0	1	20 A		SPARE	4
5	EMERGENCY/WORKLESS LIGHTING		20 A	1	0.84	0		1	20 A		SPARE	6
7	EMERGENCY/WORKLESS LIGHTING		20 A	1	0.81	0		1	20 A		SPARE	8
9	EMERGENCY/WORKLESS LIGHTING		20 A	1		1.87	0	1	20 A		SPARE	10
11	EMERGENCY/WORKLESS LIGHTING		20 A	1			1.08	0	1	20 A	SPARE	12
			Total Load:		2.2 kVA		2.7 kVA	1.8 kVA				
			Total Amps:		9 A		10 A	7 A				

FEEDER BREAKER NOTES:
(G) GROUND FAULT PROTECTION
(M) INTEGRAL METER
(S) SURGE PROTECTION
(ST) SHUNT TRIP BREAKER
(LN) BREAKER LOCK IN ON POSITION
(LF) BREAKER LOCK IN OFF POSITION

ADJUSTABLE TRIP SETTINGS:
(IT) INSTANTANEOUS SETTING
(LT) LONG TERM SETTING
(ST) SHORT TERM SETTING

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Other	80 VA	100.00%	80 VA	Total Conn. Load: 7 kVA
Lighting	6668 VA	100.00%	6668 VA	Total Est. Demand: 7 kVA
				Total Conn.: 8 A
				Total Est. Demand: 8 A

Notes:
PROVIDE SURGE PROTECTION PER NEC 700.8

Panelboard: OH-1A

Location: GENERATOR 187
Supply From: ATS-SB
Mounting: SURFACE
Enclosure: Type 1

Voltage: 480Y/277V
Phases: 3
Wires: 4

A.I.C. Rating: FIELD VERIFY
Mains Type: MCB
Bus Rating: 800 A
MCB Rating: 800 A

MAIN CIRCUIT BREAKER REQUIREMENTS:
GROUND FAULT PROTECTION ____ SHUNT TRIP BREAKER ____ ADJUSTABLE LONG TERM
INTEGRAL METER ____ ADJUSTABLE... ____ ADJUSTABLE SHORT TERM
SURGE PROTECTION ____ ADJUSTABLE INSTANTANEOUS

CKT	Circuit Description	Note	Trip	Poles	A (VA)	B (VA)	C (VA)	Poles	Trip	Note	Circuit Description	CKT
1					8.43	13.87						2
3	ELEV-1 - ELEVATOR		70 A	3		8.43	12	3	125 A		TO-1A	4
5							8.43	12.43				6
7					8.43	3.08						8
9	ELEV-2a - ELEVATOR		70 A	3		8.43	3.08	3	20 A		SP-4 - SUMP PUMP	10
11							8.43	3.08				12
13					8.43	6			20 A		SPARE	14
15	ELEV-2b - ELEVATOR		70 A	3		8.43	0		20 A		SPARE	16
17								8.43	0		20 A	SPARE	18
19	SPARE		20 A	1			0	0		20 A	SPARE	20
21	SPARE		20 A	1	0	0				20 A	SPARE	22
23	SPARE		20 A	1		0	0			20 A	SPARE	24
25	SPARE		20 A	1	0			0	0		20 A	SPARE	26
27	SPARE		20 A	1		0	0			20 A	SPARE	28
29	SPARE		20 A	1	0			0	0		20 A	SPARE	30
31	SPARE		20 A	1		0	0			20 A	SPARE	32
33	SPARE		20 A	1	0			0	0		20 A	SPARE	34
35	SPARE		20 A	1		0	0			20 A	SPARE	36
37	SPARE		20 A	1	0			0	0		20 A	SPARE	38
39	SPARE		20 A	1		0	0			20 A	SPARE	40
41	SPARE		20 A	1			0	0		20 A	SPARE	42
			Total Load:		45 kVA	45.3 kVA	44.2 kVA					
			Total Amps:		183 A	184 A	180 A					

FEEDER BREAKER NOTES:
(G) GROUND FAULT PROTECTION
(M) INTEGRAL METER
(S) SURGE PROTECTION
(ST) SHUNT TRIP BREAKER
(LN) BREAKER LOCK IN ON POSITION
(LF) BREAKER LOCK IN OFF POSITION

ADJUSTABLE TRIP SETTINGS:
(IT) INSTANTANEOUS SETTING
(LT) LONG TERM SETTING
(ST) SHORT TERM SETTING
(MT) MAGNETIC ADJUSTABLE

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
	96468 VA	107.35%	103535 VA	Total Conn. Load: 133 kVA
Motor	23472 VA	100.00%	23472 VA	Total Est. Demand: 140 kVA
Other	3800 VA	100.00%	3800 VA	Total Conn.: 189 A
Receptacle				Total Est. Demand: 198 A

Notes:
PROVIDE SURGE PROTECTION PER NEC 700.8

Panelboard: LL-1A

Location: GENERATOR 187
Supply From: TL-1A
Mounting: SURFACE
Enclosure: Type 1

Voltage: 208Y/120V
Phases: 3
Wires: 4

A.I.C. Rating: FIELD VERIFY
Mains Type: MCB
Bus Rating: 100 A

CKT	Circuit Description	Note	Trip	Poles	A (VA)	B (VA)	C (VA)	Poles	Trip	Note	Circuit Description	CKT
1	FACP - FIRE ALARM CONTROL PANEL		20 A	1	0	1.2		1	20 A		ECL-1 - ELEV CAR LIGHTS	2
3	ACP - SMOKE CONTROL PANEL		20 A	1		0	1.2		1	20 A	ECL-3a - ELEV CAR LIGHTS	4
5	SPARE		20 A	1			0	0	1.2	1	20 A	SPARE	6
7	SPARE		20 A	1	0	0				1	20 A	SPARE	8
9	SPARE		20 A	1		0	0			1	20 A	SPARE	10
11	SPARE		20 A	1	0		0	0		1	20 A	SPARE	12
13	SPARE		20 A	1		0	0			1	20 A	SPARE	14
15	SPARE		20 A	1	0	0				1	20 A	SPARE	16
17	SPARE		20 A	1			0	0		1	20 A	SPARE	18
19	SPARE		20 A	1	0			0	0		20 A	SPARE	20
21	SPARE		20 A	1		0	0			1	20 A	SPARE	22
23	SPARE		20 A	1	0			0	0		20 A	SPARE	24
25	SPARE		20 A	1		0	0			1	20 A	SPARE	26
27	SPARE		20 A	1	0			0	0		20 A	SPARE	28
29	SPARE		20 A	1		0	0			1	20 A	SPARE	30
			Total Load:		1.2 kVA		1.2 kVA	1.2 kVA					
			Total Amps:		10 A		10 A	10 A					

FEEDER BREAKER NOTES:
(G) GROUND FAULT PROTECTION
(M) INTEGRAL METER
(S) SURGE PROTECTION
(ST) SHUNT TRIP BREAKER
(LN) BREAKER LOCK IN ON POSITION
(LF) BREAKER LOCK IN OFF POSITION

ADJUSTABLE TRIP SETTINGS:
(IT) INSTANTANEOUS SETTING
(LT) LONG TERM SETTING
(ST) SHORT TERM SETTING

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Other	3852 VA	100.00%	3852 VA	Total Conn. Load: 4 kVA
				Total Est. Demand: 4 kVA
				Total Conn.: 10 A
				Total Est. Demand: 10 A

Notes:

Panelboard: OL-1A

Location: GENERATOR 187
Supply From: TO-1A
Mounting: SURFACE
Enclosure: Type 1

Voltage: 208Y/120V
Phases: 3
Wires: 4

A.I.C. Rating: FIELD VERIFY
Mains Type: MCB
Bus Rating: 225 A
MCB Rating: 225 A

MAIN CIRCUIT BREAKER REQUIREMENTS:
GROUND FAULT PROTECTION ____ SHUNT TRIP BREAKER ____ ADJUSTABLE LONG TERM
INTEGRAL METER ____ ADJUSTABLE... ____ ADJUSTABLE SHORT TERM
SURGE PROTECTION ____ ADJUSTABLE INSTANTANEOUS

CKT	Circuit Description	Note	Trip	Poles	A (VA)	B (VA)	C (VA)	Poles	Trip	Note	Circuit Description	CKT
1					0.38	0.55						2
3	SP-1 - SUMP PUMP		15 A	3			0.38	0.55	3	15 A	SP-2 - SUMP PUMP	4
5												6
7	RECEP - ELEV 001 PIT		20 A	1	0.18	0.7				20 A	PSP-4a - PAY STATION - PARKING	8
9	RECEP - ELEV 03 PIT		20 A	1		0.18	0.7			20 A	PSP-4b - PAY STATION - PARKING	10
11	RECEP - ELEV VAULT 006		20 A	1			0.54	0.7		20 A	PSP-4c - PAY STATION - PARKING	12
13	PSP-1a - PAY STATION - PARKING		20 A	1	0.7	0.7				20 A	PSP-4d - PAY STATION - PARKING	14
15	RECEP - GENERATOR 187		20 A	1		0.18	0.7			20 A	PSP-4e - PAY STATION - PARKING	16
17	RECEP - FIRE COMMAND CENTER 128		20 A	1			0.36	0.7		20 A	PSP-4f - PAY STATION - PARKING	18
19	RECEP - CITY OFFICE 181		20 A	1	1.08	1.4				20 A	EGS-1 - PH 1 STAIRWELL UNLOCK SYS	20
21	RECEP - CITY OFFICE 181		20 A	1			0.72	1.3		20 A	EGS-1 - PH 2 STAIRWELL UNLOCK SYS	22
23	RECEP - ELEV CENTRAL MAIN STATION		20 A	1					1.3	20 A	RECEP CITY OFFICE 180	24
25	RCC-EX-1a, RCC-01, SC-TO-1a		20 A	1	1.13	0.36				20 A	RECEP CITY OFFICE 180	26
27	RCC-EX-1b, RCC-01, SC-TO-1b		20 A	1			1.13	0		20 A	ACP-P - CONTROL PANEL - CITY	28
29	RCC-EX-1c, RCC-01c		20 A	1					0.72	0	ACP-C - CONTROL PANEL - CITY	30
31	RCC-EX-1d, RCC-01c		20 A	1								32
33	RCC-EX-1e, RCC-01c		20 A	1	0.72	0.48				2	20 A	SW-1a - MDF FIBER SWITCH	34
35	RCC-EX-1f - CONTROL MODULE		20 A	1			0.81	0.48					36
37	PSP-2a - PAY STATION - PARKING		20 A	1	0.7	0.48			0.7	0.48	2	20 A	SW-1b - MDF FIBER SWITCH	38
39	PSP-2b - PAY STATION - PARKING		20 A	1			0.7	0.75					40
41	PSP-2c - PAY STATION - PARKING		20 A	1					0.7	0.75	2	20 A	SW-2 - MDF COPPER SWITCH	42
			Total Load:		12.7 kVA		12 kVA		12.8 kVA					
			Total Amps:		113 A		100 A		109 A					

FEEDER BREAKER NOTES:
(G) GROUND FAULT PROTECTION
(M) INTEGRAL METER
(S) SURGE PROTECTION
(ST) SHUNT TRIP BREAKER
(LN) BREAKER LOCK IN ON POSITION
(LF) BREAKER LOCK IN OFF POSITION

ADJUSTABLE TRIP SETTINGS:
(IT) INSTANTANEOUS SETTING
(LT) LONG TERM SETTING
(ST) SHORT TERM SETTING
(MT) MAGNETIC ADJUSTABLE

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
	3522 VA	116.41%	3936 VA	Total Conn. Load: 39 kVA
Motor	23472 VA	100.00%	23472 VA	Total Est. Demand: 107 kVA
Other	3800 VA	100.00%	3800 VA	Total Conn.: 107 A
Receptacle				Total Est. Demand: 109 A

Notes:
PROVIDE SURGE PROTECTION PER NEC 700.8

Panelboard: OL-1A

Location: GENERATOR 187
Supply From: OL-1A
Mounting: SURFACE
Enclosure: Type 1

Voltage: 208Y/120V
Phases: 3
Wires: 4

A.I.C. Rating: FIELD VERIFY
Mains Type: MLO
Bus Rating: 225 A

CKT	Circuit Description	Note	Trip	Poles	A (VA)	B (VA)	C (VA)	Poles	Trip	Note	Circuit Description	CKT
45	SW-3-P3-1 - IDF SWITCH		20 A	2	0.05	1.3					BAS-P3-1 - BAS PANEL	46
47						0.05	1.3				BAS-P3-2 - BAS PANEL	48
49	SW-3-P3-2 - IDF SWITCH		20 A	2	0.05	1.3					BAS-P3-3 - BAS PANEL	50
51						0.05	1.3				BAS-P3-4 - BAS PANEL	52
53	SW-3-P4-1 - IDF SWITCH		20 A	2	0.05	1.3					BAS-P4-1 - BAS PANEL	54
55						0.05	1.3				BAS-P4-2 - BAS PANEL	56
57	SW-3-P4-2 - IDF SWITCH		20 A	2	0.05	1.3					BAS-P4-3 - BAS PANEL	58
59						0.05	1.44				OS-1a - Intelligent4 - STATIC SIGNAGE	60
61	SW-3-P5-1 - IDF SWITCH		20 A	2	0.05	0.36					OS-1b - Intelligent4 - DIGITAL SIGNAGE	62
63	SPARE		20 A	1		0	0				SPARE	64
65	SPARE		20 A	1	0		0	0			SPARE	66
67	SPARE		20 A	1		0	0				SPARE	68
69	SPARE		20 A	1	0			0	0		SPARE	70
71	SPARE		20 A	1		0	0				SPARE	72
73	SPARE		20 A	1	0			0	0		SPARE	74
75	SPARE		20 A	1		0	0				SPARE	76
77	SPARE		20 A	1	0			0	0		SPARE	78
79	SPARE		20 A	1		0	0				SPARE	80
81	SPARE		20 A	1	0			0	0		SPARE	82
83	SPARE		20 A	1			0	0			SPARE	84
			Total Load:		4.2 kVA	3.8 kVA	4 kVA					
			Total Amps:		35 A	31 A	34 A					

FEEDER BREAKER NOTES:
(G) GROUND FAULT PROTECTION
(M) INTEGRAL METER
(S) SURGE PROTECTION
(ST) SHUNT TRIP BREAKER
(LN) BREAKER LOCK IN ON POSITION
(LF) BREAKER LOCK IN OFF POSITION

ADJUSTABLE TRIP SETTINGS:
(IT) INSTANTANEOUS SETTING
(LT) LONG TERM SETTING
(ST) SHORT TERM SETTING

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Other	11800 VA	100.00%	11800 VA	Total Conn. Load: 12 kVA
				Total Est. Demand: 12 kVA
				Total Conn.: 33 A
				Total Est. Demand: 33 A

Notes:
PROVIDE SURGE PROTECTION PER NEC 700.8

eu:a
milwaukee | madison | green bay | denver | atlanta

JDR ENGINEERING, INC.
5535 NOBEL DRIVE
SUITE 150
MADISON, WI 53711
PH: 608.277.7728 | FX: 608.277.7946
JDR Project No: 22.0249

PROJECT INFORMATION

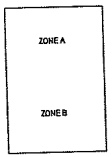
STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05/06/2022	SCHEMATIC DESIGN PHASE
07/28/2022	DEVELOPED DESIGN PHASE
10/21/2022	CONSTRUCTION DOCUMENTS PHASE
11/02/2022	PHASE 1 ADDENDUM

KEY PLAN



SHEET INFORMATION

PROJECT MANAGER

PROJECT NUMBER 720448

SCHEDULES - PANELS

E8006-1

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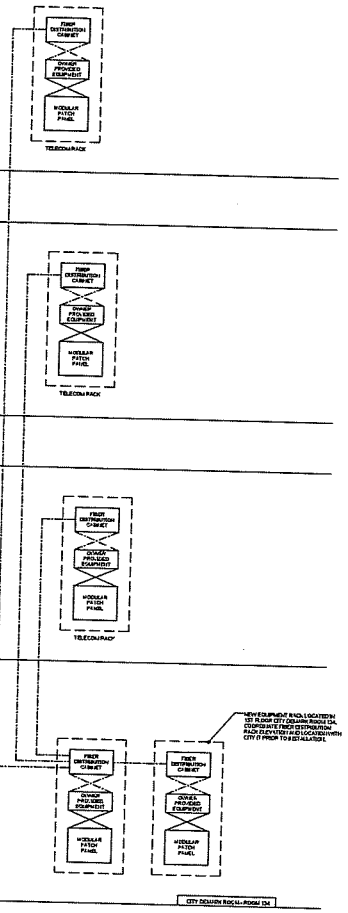
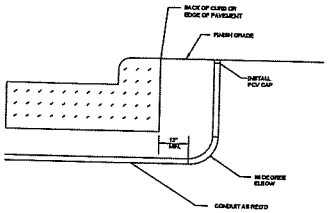
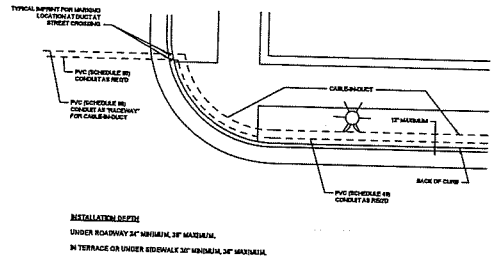


4 FIBER AND COPPER RISER DIAGRAM
E9000-1

NOTES:
1. THIS RISER IS DIAGRAMMATIC AND MAY NOT SHOW ACTUAL ROUTING OR QUANTITIES OF MATERIALS SHOWN. THIS RISER IS SHOWN FOR CLARIFICATION OF CONNECTION(S), LOCATIONS AND CABLE TYPE. ALL INFORMATION OUTLETS ARE TYPICAL OF THE OUTLETS IN THE AREA SHOWN. REFER TO FLOOR PLANS FOR MORE SPECIFIC ROUTING INFORMATION. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
2. REFER TO FLOOR PLANS FOR QUANTITY OF CABLES AND JACKS TO BE INSTALLED AT EACH INFORMATION OUTLET.

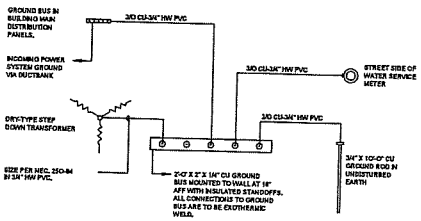


3 DUCT TERMINATION DETAIL
E9000-1

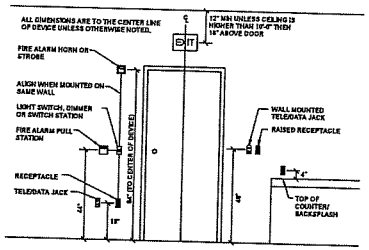


INSTALLATION DEPTH
UNDER ROADWAY 24" MINIMUM, 36" MAXIMUM.
IN TERRACE OR UNDER SIDEWALK 20" MINIMUM, 24" MAXIMUM.

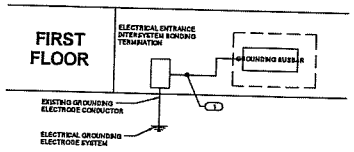
2 TYPICAL PLAN VIEW OF DUCT INSTALLATION & DUCT IMPRINT LOCATION
E9000-1



6 TECHNOLOGY BONDING DIAGRAM
E9000-1



1 TYPICAL DEVICE MOUNTING HEIGHT
E9000-1

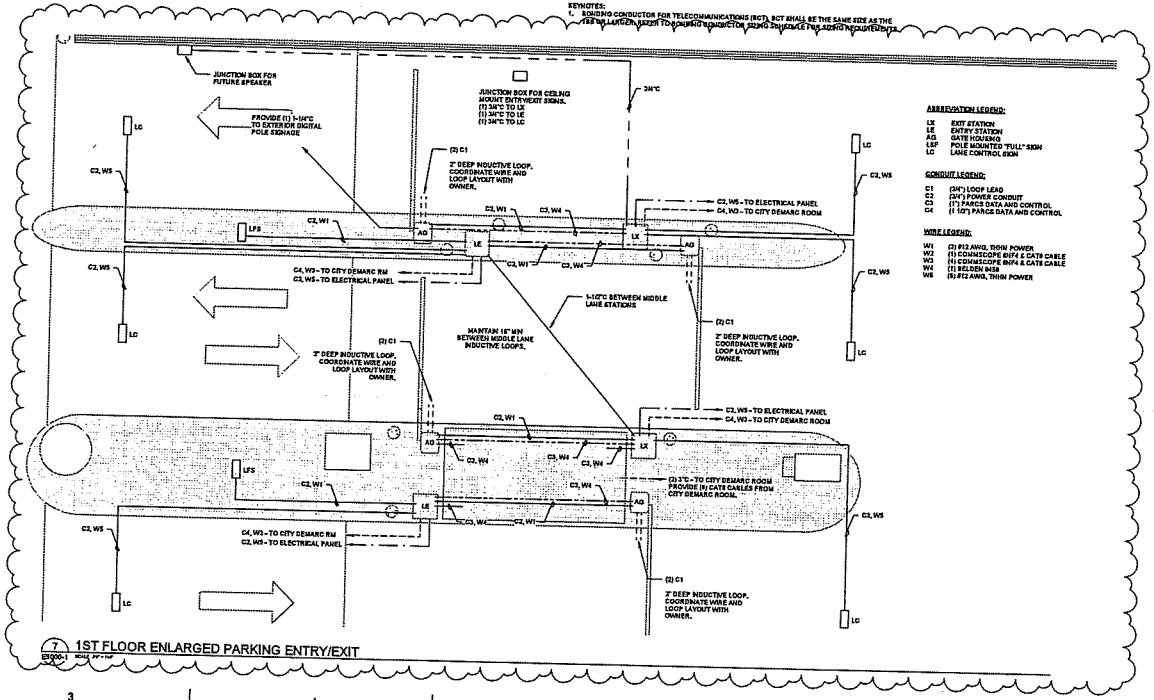


5 TECHNOLOGY BONDING DIAGRAM
E9000-1

NOTE:
1. THIS RISER IS DIAGRAMMATIC AND MAY NOT SHOW ACTUAL ROUTING OR QUANTITIES OF MATERIALS. THIS RISER IS SHOWN FOR CLARIFICATION OF CONNECTION LOCATIONS AND CONDUCTOR TYPE. ALL CONNECTIONS AND SYSTEM DEVICES SHOWN ARE TYPICAL AND NOT REPRESENTATIVE OF ACTUAL PROJECT QUANTITIES. REFER TO FLOOR PLANS AND ENLARGED FLOOR PLANS FOR ACTUAL QUANTITIES AND LOCATIONS OF DEVICES AND MORE SPECIFIC ROUTING INFORMATION. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
2. ALL CONDUCTORS IN THE TECHNOLOGY BONDING SYSTEM SHALL BE MINIMUM SIZE OF 3/0 AWG PLENUM RATED COPPER (GREEN OR MARKED WITH A DISTINCTIVE GREEN COLOR) UNLESS CONDUCTOR LENGTH IS LESS THAN 66 FEET. REFER TO BONDING CONDUCTOR SIZING SCHEDULE FOR SIZING CRITERIA FOR CONDUCTORS LESS THAN 66 FEET IN LENGTH. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
3. ALL BONDING CONDUCTORS AND BONDING JUMPERS SHALL BE CONNECTED BY COMPRESSION LUGS, EXOTHERMIC WELDING, OR IRREVERSIBLE COMPRESSION CONNECTORS. SOLDER IS NOT AN ACCEPTABLE MEANS OF CONNECTION. SHEET METAL SCREWS SHALL NOT BE USED TO CONNECT COMMUNICATIONS BONDING CONDUCTORS TO EQUIPMENT. WHERE NECESSARY, REMOVE PAINT AND/OR USE PAINT-PIERCING WASHERS TO PROVIDE PROPER ELECTRICAL BOND AT ALL CONNECTIONS.
4. REFER TO SYMBOLOGY FOR TYPICAL TELECOM ROOM BONDING FLOW DIAGRAM.
5. REFER TO TELECOM ROOM REFERENCES SCHEDULE ON DRAWING T001 FOR TELECOMMUNICATIONS ROOM NUMBER AND LOCATION INFORMATION.

BONDING CONDUCTOR SIZING SCHEDULE	
CONDUCTOR LENGTH IN FEET	MINIMUM ACCEPTABLE SIZE - AWG
LESS THAN 13'	6
14' - 20'	4
21' - 26'	3
27' - 33'	2
34' - 41'	1
42' - 52'	1/0
53' - 66'	2/0
GREATER THAN 66'	3/0

KEYNOTES:
1. BONDING CONDUCTOR FOR TELECOMMUNICATIONS (BCT) SHALL BE THE SAME SIZE AS THE [illegible]



7 1ST FLOOR ENLARGED PARKING ENTRY/EXIT
E9000-1

eu:a
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JDR ENGINEERING, INC
5525 NOBEL DRIVE
SUITE 110
MADISON, WI 53711
PH: 608.277.7728 | FAX: 608.277.7746
JDR Project No: 22.0249

PROJECT INFORMATION

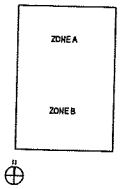
STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05-24-2023	SCHEMATIC DESIGN PHR
01-26-2024	DESIGN DEVELOPMENT
10-02-2024	CONSTRUCTION DOCUMENTS PHR 1
11-07-2024	PHR #002

KEY PLAN



SHEET INFORMATION

PROJECT MANAGER
PROJECT NUMBER 720448

DETAILS

E9000-1

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SYSTEMS GENERAL NOTES:

1. REFER TO SHEET E0000-1 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
2. ALL LOW VOLTAGE CABLES OR CONDUCTORS OPERATING AT LESS THAN 50 VOLTS SHALL BE IN ELECTRICAL METAL TUBING (EMT) WHERE INSTALLED WITHIN WALLS OR INACCESSIBLE SPACES.
3. TELEPHONE OUTLETS, AND DATA OUTLETS SHALL CONSIST OF A BACK BOX WITH CONDUIT STUBBED ABOVE THE ACCESSIBLE CEILING, SEE ROUGH-IN DETAIL. VERIFY SIZE OF BACK BOX REQUIRED WITH DEVICE TO BE INSTALLED. LOCATE BACK BOXES 6" FROM ADJACENT POWER RECEPTACLE INTENDED FOR COMPUTER USE.
4. COORDINATE JACK/CABLING REQUIREMENTS AND COLORS WITH OWNER.
5. COORDINATE LOCATIONS OF DEVICES WITH ARCHITECTURAL ELEVATIONS AND DETAILS. ARCHITECTURAL ELEVATIONS AND DETAILS TAKE PRECEDENCE OVER LOCATIONS SHOWN ON ELECTRICAL DRAWINGS.

ACCESS CONTROL GENERAL NOTES:

1. REFER TO SHEET E0000-1 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
2. DIVISION 26 CONTRACTOR SHALL PROVIDE ALL CONDUIT PATHWAYS, BACKBOXES, JUNCTION BOXES, DISCONNECT SWITCHES AND BRANCH/ FEEDER CONDUCTORS AS SHOWN AND/OR SPECIFIED TO ALLOW INSTALLATION OF DOOR CONTROL AND SECURITY DEVICES.
3. DOOR HARDWARE DEVICES INCLUDING BUT NOT LIMITED TO ELECTRIC STRIKES, ELECTRONIC LOCKS, ELECTRIC POWER TRANSFER, ELECTRIC HINGES, DOOR MOTOR OPERATORS, PUSH BUTTONS, KEY SWITCHES, CONTROLLERS, EMERGENCY RELEASE BUTTONS, DOOR OPERATOR AND POWER SUPPLIES SHALL BE PROVIDED BY THE GENERAL CONTRACTOR AND THE ACCESS CONTROL CONTRACTOR. DEVICES SHALL BE INSTALLED AND WIRE BY ACCESS CONTROL CONTRACTOR.
4. COORDINATE ALL REQUIREMENTS AT EACH DOOR WITH OWNER AND CONSTRUCTION MANAGER PRIOR TO THE INSTALLATION OF ANY DEVICES.
5. LOW VOLTAGE ACCESS CONTROL SYSTEM CABLING SHALL BE PROVIDED AND INSTALLED BY THE ACCESS CONTROL CONTRACTOR. CABLE INSTALLATION SHALL UTILIZE CONDUIT TO ACCESSIBLE CEILING AND J-HOOK TYPE SUPPORT TO NEAREST CABLE TRAY SYSTEM. ACCESS CONTROL AND SECURITY SYSTEM CABLING SHALL BE SEPARATELY BUNDLED WITHIN CABLE TRAYS. LOW VOLTAGE CABLING SHALL MEET FLAME PROPAGATION REQUIREMENTS OF IEEE 1202.
6. COORDINATE LOCATIONS OF PATHWAYS, OUTLET BOXES AND ACCESS CONTROL HARDWARE WITHIN BUILDING WITH GENERAL CONTRACTOR PRIOR TO INSTALLATION OF ANY DEVICES.
7. ALL SECURITY SYSTEM DEVICES, INCLUDING BUT NOT LIMITED TO CARD READERS, DOOR POSITION SWITCHES, "REQUEST TO EXIT" DEVICES, MAGNETIC LOCKS, POWER SUPPLIES, DOOR CONTROLLERS AND LOW VOLTAGE WIRING BETWEEN THESE DEVICES AT EACH DOOR ARE PROVIDED BY THE CONTRACTOR. REFER TO SPECIFICATION DIVISION 28.

POWER GENERAL NOTES:

1. REFER TO SHEET E0000-1 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
2. THE CONTRACTOR MAY INSTALL UP TO THREE (3) CURRENT CARRYING CONDUCTORS IN A CONDUIT. LOADINGS ARE BASED ON THWN INSULATION, 45°C AMBIENT WITH DERATINGS FOR TEMPERATURE AND UP TO THREE (3) CONDUCTORS IN A CONDUIT. CONTACT THE ENGINEER FOR WIRING IN OTHER CONDITIONS.
3. VERIFY ALL MOUNTING HEIGHTS OF DEVICES ABOVE MILLWORK WITH ARCHITECTURAL PLANS.
4. ACCESS CONTROL SYMBOLS SHOWN HAVE SUFFIXES SERVING THE FOLLOWING PORTIONS OF THE BUILDING:
   - C - CITY
     - * REFER TO DIVISION 27 SPECIFICATIONS FOR FINAL REQUIREMENTS. COORDINATE FINAL LOCATION/REQUIREMENTS WITH OWNER.
   - P - PARKING UTILITY
     - * REFER TO DIVISION 27 SPECIFICATIONS FOR FINAL REQUIREMENTS. COORDINATE FINAL LOCATION/REQUIREMENTS WITH OWNER.
   - H - HOUSING
     - * PHASE 1 CONTRACTOR TO PROVIDE ROUGH-IN BOX AND CONDUIT FOR PHASE 2 INSTALLATION. COORDINATE FINAL LOCATION/ REQUIREMENTS WITH PHASE 2 CONTRACTOR.
5. LOW VOLTAGE DATA SYMBOLS SHOWN HAVE SUFFIXES SERVING THE FOLLOWING PORTIONS OF THE BUILDING:
   - B - BUS TERMINAL
     - * REFER TO DIVISION 27 SPECIFICATIONS FOR FINAL REQUIREMENTS. COORDINATE FINAL LOCATION/REQUIREMENTS WITH OWNER.
   - C - CITY
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6. LOW VOLTAGE SURVEILLANCE SYMBOLS SHOWN HAVE SUFFIXES SERVING THE FOLLOWING PORTIONS OF THE BUILDING:
   - B - BUS TERMINAL
     - * REFER TO DIVISION 27 SPECIFICATIONS FOR FINAL REQUIREMENTS. COORDINATE FINAL LOCATION/REQUIREMENTS WITH OWNER.
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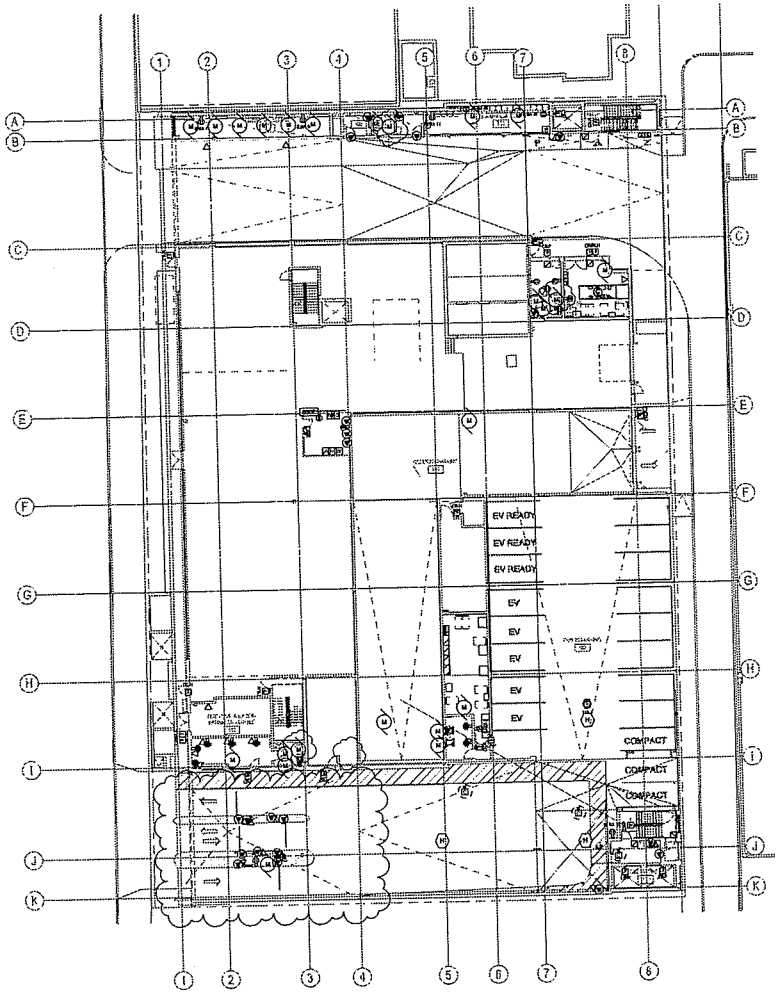
     - * REFER TO DIVISION 27 SPECIFICATIONS FOR FINAL REQUIREMENTS. COORDINATE FINAL LOCATION/REQUIREMENTS WITH OWNER.



1 EP1001-1 1ST FLR OVERALL - PHASE 1 - POWER/SYSTEMS
SCALE: 1/16" = 1'-0"

eua
milwaukee | madison | green bay | denver | atlanta

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PH 608.277.1728 | FX 608.270.7046
JDR Project No: 22.0249

PROJECT INFORMATION

STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05/03/2023	SCHEMATIC DESIGN PH1
07/28/2023	DETAILED DESIGN PH1
10/02/2023	CONSTRUCTION DOCUMENTS PH 1
11/02/2023	PHIL KICK

KEY PLAN

SHEET INFORMATION

PROJECT MANAGER

PROJECT NUMBER 720448

1ST FLR OVERALL - PHASE 1 - POWER/SYSTEMS

EP1001-1

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SYSTEMS GENERAL NOTES:

1. REFER TO SHEET E0000-1 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
2. ALL LOW VOLTAGE CABLES OR CONDUCTORS OPERATING AT LESS THAN 50 VOLTS SHALL BE IN ELECTRICAL METAL TUBING (EMT) WHERE INSTALLED WITHIN WALLS OR INACCESSIBLE SPACES.
3. TELEPHONE OUTLETS, AND DATA OUTLETS SHALL CONSIST OF A BACK BOX WITH CONDUIT STUBBED ABOVE THE ACCESSIBLE CEILING, SEE ROUGH-IN DETAIL. VERIFY SIZE OF BACK BOX REQUIRED WITH DEVICE TO BE INSTALLED. LOCATE BACK BOXES 6" FROM ADJACENT POWER RECEPTACLE INTENDED FOR COMPUTER USE.
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5. COORDINATE LOCATIONS OF DEVICES WITH ARCHITECTURAL ELEVATIONS AND DETAILS. ARCHITECTURAL ELEVATIONS AND DETAILS TAKE PRECEDENCE OVER LOCATIONS SHOWN ON ELECTRICAL DRAWINGS.

ACCESS CONTROL GENERAL NOTES:

1. REFER TO SHEET E0000-1 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
2. DIVISION 28 CONTRACTOR SHALL PROVIDE ALL CONDUIT PATHWAYS, BACKBOXES, JUNCTION BOXES, DISCONNECT SWITCHES AND BRANCH/FEEDER CONDUCTORS AS SHOWN AND/OR SPECIFIED TO ALLOW INSTALLATION OF DOOR CONTROL AND SECURITY DEVICES.
3. DOOR HARDWARE DEVICES INCLUDING BUT NOT LIMITED TO ELECTRIC STRIKES, ELECTRONIC LOCKS, ELECTRIC POWER TRANSFER, ELECTRIC HINGES, DOOR MOTOR OPERATORS, PUSH BUTTONS, KEY SWITCHES, CONTROLLERS, EMERGENCY RELEASE BUTTONS, DOOR OPERATOR AND POWER SUPPLIES SHALL BE PROVIDED BY THE GENERAL CONTRACTOR AND THE ACCESS CONTROL CONTRACTOR. DEVICES SHALL BE INSTALLED AND WIRE BY ACCESS CONTROL CONTRACTOR.
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6. COORDINATE LOCATIONS OF PATHWAYS, OUTLET BOXES AND ACCESS CONTROL HARDWARE WITHIN BUILDING WITH GENERAL CONTRACTOR PRIOR TO INSTALLATION OF ANY DEVICES.
7. ALL SECURITY SYSTEM DEVICES, INCLUDING BUT NOT LIMITED TO CARD READERS, DOOR POSITION SWITCHES, "REQUEST TO EXIT" DEVICES, MAGNETIC LOCKS, POWER SUPPLIES, DOOR CONTROLLERS AND LOW VOLTAGE WIRING BETWEEN THESE DEVICES AT EACH DOOR ARE PROVIDED BY THE CONTRACTOR. REFER TO SPECIFICATION DIVISION 28.

POWER GENERAL NOTES:

1. REFER TO SHEET E0000-1 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
2. THE CONTRACTOR MAY INSTALL UP TO THREE (3) CURRENT CARRYING CONDUCTORS IN A CONDUIT. LOADINGS ARE BASED ON 75%% NON-LINEAR, 40°C AMBIENT WITH DERATINGS FOR TEMPERATURE AND UP TO THREE (3) CONDUCTORS IN A CONDUIT. CONTACT THE ENGINEER FOR WIRING IN OTHER CONDITIONS.
3. VERIFY ALL MOUNTING HEIGHTS OF DEVICES ABOVE MILLWORK WITH ARCHITECTURAL PLANS.
4. ACCESS CONTROL SYMBOLS SHOWN HAVE SUFFIXES SERVING THE FOLLOWING PORTIONS OF THE BUILDING:
   - C - CITY
     - * REFER TO DIVISION 27 SPECIFICATIONS FOR FINAL REQUIREMENTS. COORDINATE FINAL LOCATION/REQUIREMENTS WITH OWNER.
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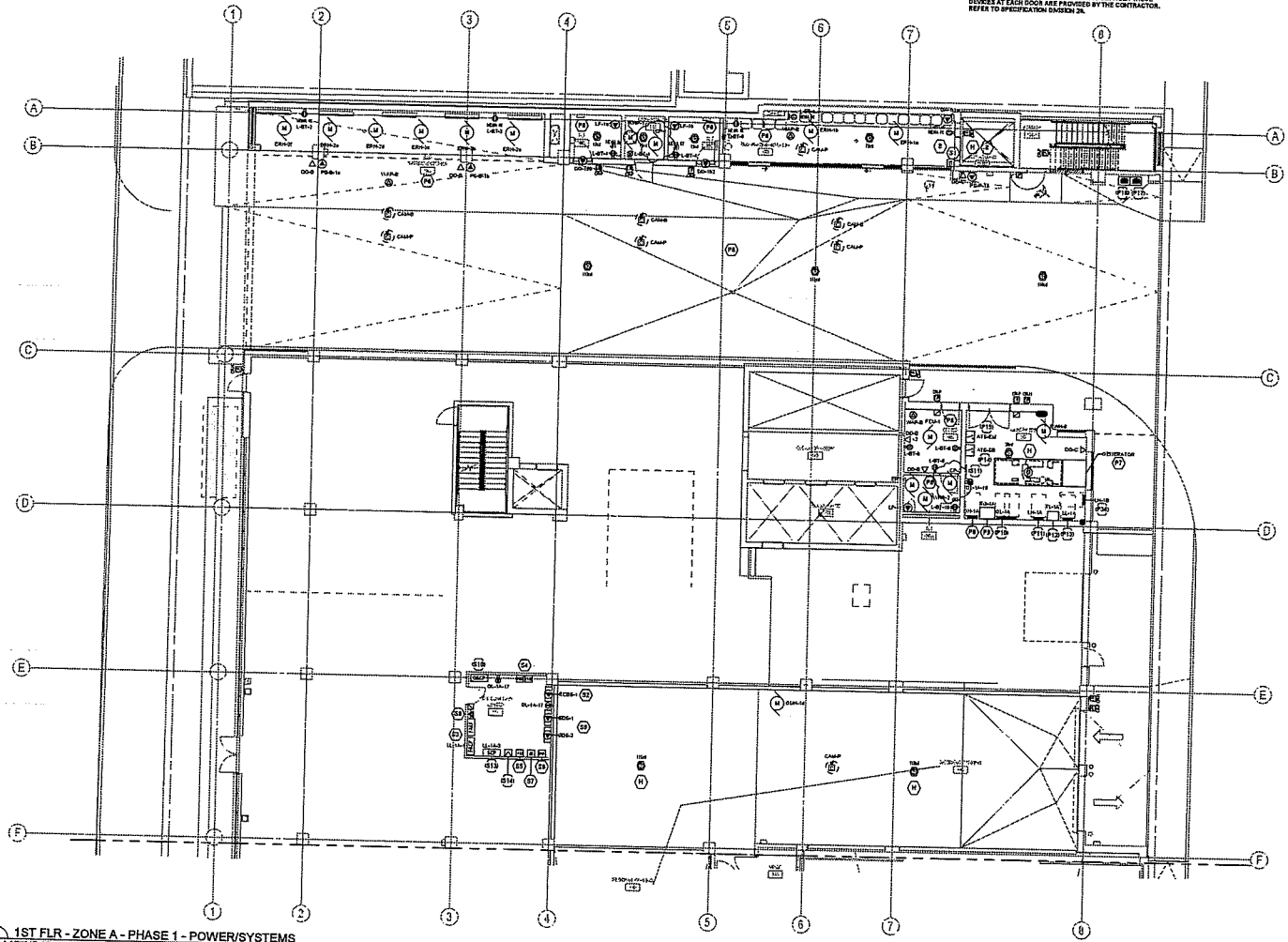

1 1ST FLR - ZONE A - PHASE 1 - POWER/SYSTEMS
EP1001-A-1 PHASE 1 - POWER

KEYED NOTES
(KEYED NOTES PER PROJECT)

P6 ALL ELECTRICAL AND LOW VOLTAGE CONDUIT IN THIS AREA TO BE CONCEALED WITHIN CMU WALLS. COORDINATE FINAL CONDUIT ROUTING WITH GC.

P7 ELECTRICAL CONTRACTOR TO PROVIDE AND INSTALL NEW 480Y/277V, 3-PHASE, 4WIRE DIESEL GENERATOR WITH BELLY TANK SIZED FOR 12 HOURS OF RUNTIME. ALL FUSES/BREAKERS FOR NEC 695/700/701 BRANCHES SHALL BE SELECTIVELY COORDINATED WITH DOWNSTREAM OVER CURRENT PROTECTION DEVICES.

P8 ELECTRICAL CONTRACTOR TO PROVIDE AND INSTALL NEW 480Y/277V, 3-PHASE, 4WIRE, 600A PANEL "DH-1A". PROVIDE FUSED COORDINATION PANEL EQUAL TO BUSSMAN QSCP SERIES.

P9 ELECTRICAL CONTRACTOR TO PROVIDE AND INSTALL NEW 480Y/277V PRIMARY, 208Y/120V SECONDARY, 75 KVA TRANSFORMER "TD-1A".

P10 ELECTRICAL CONTRACTOR TO PROVIDE AND INSTALL NEW 208Y/120V, 3-PHASE, 4WIRE, 225A PANEL "DL-1A". PROVIDE FUSED COORDINATION PANEL EQUAL TO BUSSMAN QSCP SERIES.

P11 ELECTRICAL CONTRACTOR TO PROVIDE AND INSTALL NEW 480Y/277V, 3-PHASE, 4WIRE, 400A BUS, 200A TTP PANEL "DH-1A". PROVIDE FUSED COORDINATION PANEL EQUAL TO BUSSMAN QSCP SERIES.

P12 ELECTRICAL CONTRACTOR TO PROVIDE AND INSTALL NEW 480Y/277V PRIMARY, 208Y/120V SECONDARY, 30 KVA TRANSFORMER "TL-1A".

P13 ELECTRICAL CONTRACTOR TO PROVIDE AND INSTALL NEW 208Y/120V, 3-PHASE, 4WIRE, 100A PANEL "LL-1A". PROVIDE FUSED COORDINATION PANEL EQUAL TO BUSSMAN QSCP SERIES.

P14 ELECTRICAL CONTRACTOR TO PROVIDE AND INSTALL NEW 480Y/277V, 3-PHASE, 4WIRE, 600A, AUTOMATIC TRANSFER SWITCH "ATS-EM".

P15 ELECTRICAL CONTRACTOR TO PROVIDE AND INSTALL NEW 480Y/277V, 3-PHASE, 4WIRE, 100A, AUTOMATIC TRANSFER SWITCH "ATS-EM".

P16 ELECTRICAL CONTRACTOR TO PROVIDE AND INSTALL NEW 480Y/277V, 3-PHASE, 100A, NEMA 3RX, TEMPORARY GENERATOR MAINTENANCE BYPASS SWITCH "GMBS-1" WITH CAM-LOCKS SUITABLE FOR TEMPORARY GENERATOR CONNECTION AND LOAD BANK TESTING.

P17 ELECTRICAL CONTRACTOR TO PROVIDE AND INSTALL NEW 480Y/277V, 3-PHASE, 250A, NEMA 3RX, TEMPORARY GENERATOR MAINTENANCE BYPASS SWITCH "TFMBS-1" WITH CAM-LOCKS SUITABLE FOR TEMPORARY GENERATOR CONNECTION AND LOAD BANK TESTING.

P34 ELECTRICAL CONTRACTOR TO PROVIDE AND INSTALL NEW 480Y/277V, 3-PHASE, 4WIRE, 100A PANEL "LH-1P". PROVIDE SQUARE D POWERLINK LIGHTING CONTROL PANEL TO FEED PARKING GARAGE LIGHTING. PROVIDE SUBSET CABLE FROM MASTER PANEL "H-1B" LOCATED IN CITY ELECTRICAL ROOM.

S1 PROVIDE AND INSTALL EMERGENCY CALL DEVICE FOR ELEVATOR TWO WAY COMMUNICATION. POST SIGNS AT DEVICE. COORDINATE EXACT LOCATION WITH OWNER. CONNECT TO BASE STATION POWER SUPPLY LOCATED IN 1ST FLOOR FIRE COMMAND CENTER.

S2 PROVIDE AND INSTALL ELEVATOR TWO-WAY COMMUNICATION BASE STATION AND POWER SUPPLY. CONNECT TO CALL STATIONS AND PROVIDE PHONE CONNECTIONS TO RESPECTIVE FLOORS AS REQUIRED. COORDINATE EXACT LOCATION OF ARA CONTROL PANEL WITH AHJ/FIRE MARSHALL. TWO WAY ELEVATOR COMMUNICATION SHALL HAVE PROVISIONS/CAPABILITIES TO EXPAND/INTEGRATE PHASE 2 DEVICES. COORDINATE EXACT REQUIREMENTS WITH PHASE 2 ELECTRICAL CONTRACTOR.

S3 PROVIDE AND INSTALL FIRE ALARM CONTROL PANEL SYSTEM WITH VOICE EVACUATION CAPABILITIES. COORDINATE EXACT LOCATION OF FIRE ALARM CONTROL PANEL, FIRE ALARM ANNUNCIATOR PANEL, ETC., WITH AHJ/FIRE MARSHALL. FIRE ALARM SYSTEM SHALL HAVE PROVISIONS/CAPABILITIES TO EXPAND/INTEGRATE PHASE 2 DEVICES. COORDINATE EXACT REQUIREMENTS WITH PHASE 2 ELECTRICAL CONTRACTOR.

S4 PROVIDE AND INSTALL CONTROL RELAY(S) AS REQUIRED FOR ELEVATOR RECALL SWITCHES. COORDINATE EXACT LOCATION OF ELEVATOR RECALL SWITCHES WITH AHJ/FIRE MARSHALL. COORDINATE ROUGH-IN REQUIREMENTS WITH PHASE 2 ELECTRICAL CONTRACTOR.

S5 PROVIDE AND INSTALL ANNUNCIATORS FOR WATERFLOW/SPRINKLER VALVES.

S6 PROVIDE AND INSTALL HEAD END CONTROLS FOR ACCESS CONTROL DOOR UNLOCKING SYSTEM. COORDINATE FINAL LOCATION WITH ACCESS CONTROL VENDOR. COORDINATE ROUGH-IN REQUIREMENTS WITH PHASE 2 ELECTRICAL CONTRACTOR.

S7 FIRE PUMP STATUS INDICATOR TO BE PROVIDED AS PART OF PHASE 2 WORK. COORDINATE ROUGH-IN REQUIREMENTS WITH PHASE 2 ELECTRICAL CONTRACTOR.

S8 PROVIDE AND INSTALL DEDICATED ELEVATOR PHONE LINE TO THIS APPROXIMATE LOCATION FOR FIRE DEPARTMENT USE.

S9 PUBLIC SAFETY BI-DIRECTIONAL AMPLIFIER/DISTRIBUTED ANTENNA SYSTEM TO BE PROVIDED AS PART OF PHASE 2 WORK. COORDINATE ROUGH-IN REQUIREMENTS WITH PHASE 2 ELECTRICAL CONTRACTOR.

S10 PROVIDE AND INSTALL NEW GENERATOR STATUS INDICATOR, REMOTE ANNUNCIATOR PANEL.

S11 PROVIDE AND INSTALL TYPICAL GROUND BUS BAR(TGB) 12"X2"X4" WITH A #6 COPPER GROUND CONDUCTOR FROM BUILDING SERVICE GROUND.

S13 SMOKE CONTROL PANEL FOR STAIRWELL PRESSURIZATION TO BE PROVIDED AS PART OF PHASE 2 WORK. COORDINATE ROUGH-IN REQUIREMENTS WITH PHASE 2 ELECTRICAL CONTRACTOR.

S14 PROVIDE AND INSTALL FIRE ALARM CELLULAR DIAL AND FIRE ALARM DOCUMENT BOX. COORDINATE ROUGH-IN REQUIREMENTS WITH PHASE 2 ELECTRICAL CONTRACTOR.

eua
milwaukee | madison | green bay | denver | atlanta

JDR ENGINEERING, INC.
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SUITE 80
MADISON, WI 53711
PH: 608.277.7728 | WWW.JDR.COM
JDR Project No: 22.0249

PROJECT INFORMATION

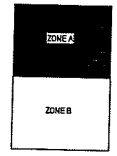
STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05-03-2023	SCHEMATIC DESIGN PKG
07-28-2023	DESIGN DEVELOPMENT PKG
10-02-2023	CONSTRUCTION DOCUMENTS PH 1
11-02-2023	PH1_ADD

KEY PLAN



SHEET INFORMATION

PROJECT MANAGER

PROJECT NUMBER 720446

1ST FLR - ZONE A - PHASE 1 - POWER/SYSTEMS

EP1001-A-1

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SYSTEMS GENERAL NOTES:

1. REFER TO SHEET E0000-1 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
2. ALL LOW VOLTAGE CABLES OR CONDUCTORS OPERATING AT LESS THAN 50 VOLTS SHALL BE IN ELECTRICAL METAL TUBING (EMT) WHERE INSTALLED WITHIN WALLS OR INACCESSIBLE SPACES.
3. TELEPHONE OUTLETS, AND DATA OUTLETS SHALL CONSIST OF A BACK BOX WITH CONDUIT STUBBED ABOVE THE ACCESSIBLE CEILING, SEE ROUGH-IN DETAIL. VERIFY SIZE OF BACK BOX REQUIRED WITH DEVICES TO BE INSTALLED. LOCATE BACK BOXES 6" FROM ADJACENT POWER RECEPTACLE INTENDED FOR COMPUTER USE.
4. COORDINATE JACK/CABLING REQUIREMENTS AND COLORS WITH OWNER.
5. COORDINATE LOCATIONS OF DEVICES WITH ARCHITECTURAL ELEVATIONS AND DETAILS. ARCHITECTURAL ELEVATIONS AND DETAILS TAKE PRECEDENCE OVER LOCATIONS SHOWN ON ELECTRICAL DRAWINGS.

POWER GENERAL NOTES:

1. REFER TO SHEET E0000-1 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
2. THE CONTRACTOR MAY INSTALL UP TO THREE (3) CURRENT CARRYING CONDUCTORS IN A CONDUIT. LOADINGS ARE BASED ON THWN INSULATION, 40°C AMBIENT WITH DERATINGS FOR TEMPERATURE AND UP TO THREE (3) CONDUCTORS IN A CONDUIT. CONTACT THE ENGINEER FOR WIRING IN OTHER CONDITIONS.
3. VERIFY ALL MOUNTING HEIGHTS OF DEVICES ABOVE MILLWORK WITH ARCHITECTURAL PLANS.
4. ACCESS CONTROL SYMBOLS SHOWN HAVE SUFFIXES SERVING THE FOLLOWING PORTIONS OF THE BUILDING:
   - C - CITY
     - * REFER TO DIVISION 27 SPECIFICATIONS FOR FINAL REQUIREMENTS. COORDINATE FINAL LOCATION/REQUIREMENTS WITH OWNER.
   - P - PARKING UTILITY
     - * REFER TO DIVISION 27 SPECIFICATIONS FOR FINAL REQUIREMENTS. COORDINATE FINAL LOCATION/REQUIREMENTS WITH OWNER.
   - H - HOUSING
     - * PHASE 1 CONTRACTOR TO PROVIDE ROUGH-IN BOX AND CONDUIT FOR PHASE 2 INSTALLATION. COORDINATE FINAL LOCATION/ REQUIREMENTS WITH PHASE 2 CONTRACTOR.
5. LOW VOLTAGE DATA SYMBOLS SHOWN HAVE SUFFIXES SERVING THE FOLLOWING PORTIONS OF THE BUILDING:
   - B - BUS TERMINAL
     - * REFER TO DIVISION 27 SPECIFICATIONS FOR FINAL REQUIREMENTS. COORDINATE FINAL LOCATION/REQUIREMENTS WITH OWNER.
   - C - CITY
     - * REFER TO DIVISION 27 SPECIFICATIONS FOR FINAL REQUIREMENTS. COORDINATE FINAL LOCATION/REQUIREMENTS WITH OWNER.
6. LOW VOLTAGE SURVEILLANCE SYMBOLS SHOWN HAVE SUFFIXES SERVING THE FOLLOWING PORTIONS OF THE BUILDING:
   - B - BUS TERMINAL
     - * REFER TO DIVISION 27 SPECIFICATIONS FOR FINAL REQUIREMENTS. COORDINATE FINAL LOCATION/REQUIREMENTS WITH OWNER.
   - C - CITY
     - * REFER TO DIVISION 27 SPECIFICATIONS FOR FINAL REQUIREMENTS. COORDINATE FINAL LOCATION/REQUIREMENTS WITH OWNER.

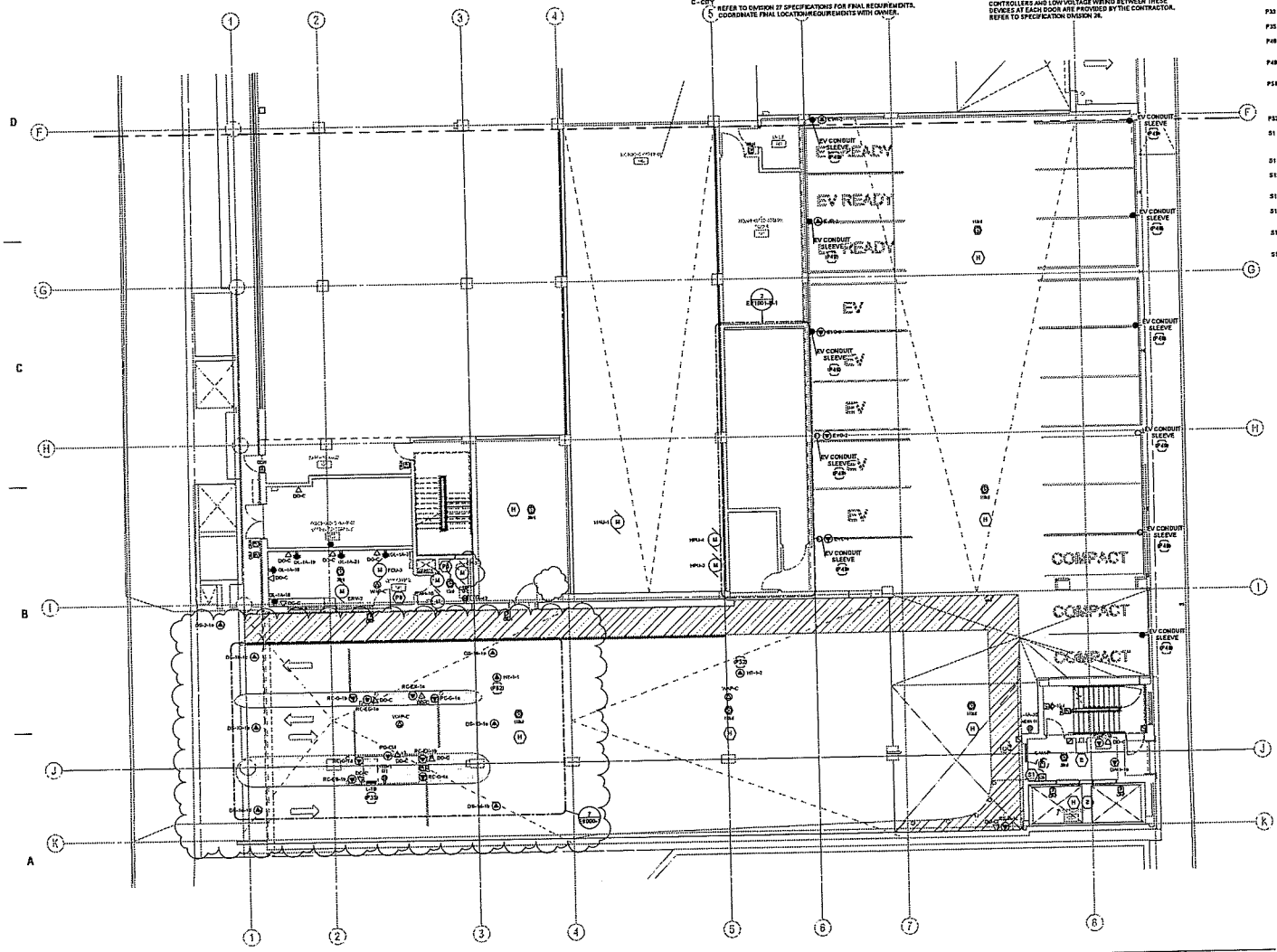
ACCESS CONTROL GENERAL NOTES:

1. REFER TO SHEET E0000-1 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
2. DIVISION 26 CONTRACTOR SHALL PROVIDE ALL CONDUIT PATHWAYS, BACKBOXES, JUNCTION BOXES, DISCONNECT SWITCHES AND BRANCH FEEDER CONDUCTORS AS SHOWN AND/OR SPECIFIED TO ALLOW INSTALLATION OF DOOR CONTROL AND SECURITY DEVICES.
3. DOOR HARDWARE DEVICES INCLUDING BUT NOT LIMITED TO ELECTRIC STRIKES, ELECTRONIC LOCKS, ELECTRIC POWER TRANSFER, ELECTRIC HINGES, DOOR MOTOR OPERATORS, PUSH BUTTONS, KEY SWITCHES, CONTROLLERS, EMERGENCY RELEASE BUTTONS, DOOR OPERATOR AND POWER SUPPLIES SHALL BE PROVIDED BY THE GENERAL CONTRACTOR AND THE ACCESS CONTROL CONTRACTOR. DEVICES SHALL BE INSTALLED AND WIRE BY ACCESS CONTROL CONTRACTOR.
4. COORDINATE ALL REQUIREMENTS AT EACH DOOR WITH OWNER AND CONSTRUCTION MANAGER PRIOR TO THE INSTALLATION OF ANY DEVICES.
5. LOW VOLTAGE ACCESS CONTROL SYSTEM CABLING SHALL BE PROVIDED AND INSTALLED BY THE ACCESS CONTROL CONTRACTOR. CABLE INSTALLATION SHALL UTILIZE CONDUIT TO ACCESSIBLE CEILING AND J-HOOK TYPE SUPPORT TO NEAREST CABLE TRAY SYSTEM. ACCESS CONTROL AND SECURITY SYSTEM CABLING SHALL BE SEPARATELY BUNDLED WITHIN CABLE TRAYS. LOW VOLTAGE CABLING SHALL MEET FLAME PROPAGATION REQUIREMENTS OF IEEE 1202.
6. COORDINATE LOCATIONS OF PATHWAYS, OUTLET BOXES AND ACCESS CONTROL HARDWARE WITHIN BUILDING WITH GENERAL CONTRACTOR PRIOR TO INSTALLATION OF ANY DEVICES.
7. ALL SECURITY SYSTEM DEVICES, INCLUDING BUT NOT LIMITED TO CARD READERS, DOOR POSITION SWITCHES, "REQUEST TO EXIT" DEVICES, MAGNETIC LOCKS, POWER SUPPLIES, DOOR CONTROLLERS AND LOW VOLTAGE WIRING BETWEEN THESE DEVICES AT EACH DOOR ARE PROVIDED BY THE CONTRACTOR. REFER TO SPECIFICATION DIVISION 28.

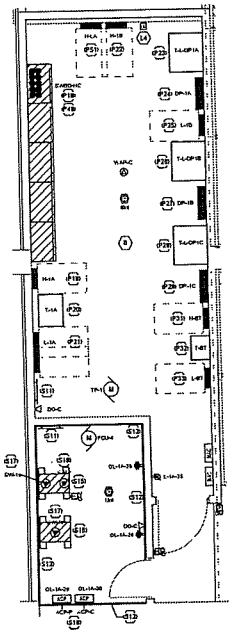
KEYED NOTES:

(KEYED NOTES PER PROJECT)

- L4 ELECTRICAL CONTRACTOR TO PROVIDE SQUARE D POWERLINK HF3500G4 CONTROLLER TO CONTROL PARKING GARAGE LIGHTING. FINAL SEQUENCING/SCHEDULING TO BE COORDINATED WITH OWNER.
- P8 ALL ELECTRICAL AND LOW VOLTAGE CONDUIT IN THIS AREA TO BE CONCEALED WITHIN CMU WALLS. COORDINATE FINAL CONDUIT ROUTING WITH OC.
- P18 ELECTRICAL CONTRACTOR TO PROVIDE AND INSTALL NEW 480Y/277V, 3-PHASE, 4-WIRE, 3000A SWITCHBOAD "SWBD-HC".
- P19 ELECTRICAL CONTRACTOR TO PROVIDE AND INSTALL NEW 480Y/277V, 3-PHASE, 4-WIRE, 250A PANEL "H-1A".
- P20 ELECTRICAL CONTRACTOR TO PROVIDE AND INSTALL NEW 480Y/277V PRIMARY, 208Y/120V SECONDARY, 75 KVA TRANSFORMER "T-1A".
- P21 ELECTRICAL CONTRACTOR TO PROVIDE AND INSTALL NEW 208Y/120V, 3-PHASE, 4-WIRE, 225A PANEL "L-1A".
- P22 ELECTRICAL CONTRACTOR TO PROVIDE AND INSTALL NEW 480Y/277V, 3-PHASE, 4-WIRE, 125A PANEL "L-1B". PROVIDE SQUARE D POWERLINK LIGHTING CONTROL PANEL TO FEED PARKING GARAGE LIGHTING. PROVIDE SUBNET CABLE TO SLAVE PANELS "L1-1B" LOCATED IN GENERATOR ROOM, AND "H-LA" LOCATED IN CITY ELECTRICAL ROOM.
- P23 ELECTRICAL CONTRACTOR TO PROVIDE AND INSTALL NEW 480Y/277V PRIMARY, 208Y/120V SECONDARY, 300 KVA TRANSFORMER "T-1-DP1A".
- P24 ELECTRICAL CONTRACTOR TO PROVIDE AND INSTALL NEW 208Y/120V, 3-PHASE, 4-WIRE, 800A DISTRIBUTION PANEL "DP-1A".
- P25 ELECTRICAL CONTRACTOR TO PROVIDE AND INSTALL NEW 208Y/120V, 3-PHASE, 4-WIRE, 400A PANEL "L-1B".
- P26 ELECTRICAL CONTRACTOR TO PROVIDE AND INSTALL NEW 480Y/277V PRIMARY, 208Y/120V SECONDARY, 300 KVA TRANSFORMER "T-L-DP1B".
- P27 ELECTRICAL CONTRACTOR TO PROVIDE AND INSTALL NEW 208Y/120V, 3-PHASE, 4-WIRE, 800A DISTRIBUTION PANEL "DP-1B".
- P28 ELECTRICAL CONTRACTOR TO PROVIDE AND INSTALL NEW 480Y/277V PRIMARY, 208Y/120V SECONDARY, 300 KVA TRANSFORMER "T-L-DP1C".
- P29 ELECTRICAL CONTRACTOR TO PROVIDE AND INSTALL NEW 208Y/120V, 3-PHASE, 4-WIRE, 800A DISTRIBUTION PANEL "DP-1C".
- P31 ELECTRICAL CONTRACTOR TO PROVIDE AND INSTALL NEW 480Y/277V, 3-PHASE, 4-WIRE, 125A PANEL "H-B" TO FEED BUS TERMINAL.
- P32 ELECTRICAL CONTRACTOR TO PROVIDE AND INSTALL NEW 480Y/277V PRIMARY, 208Y/120V SECONDARY, 30 KVA TRANSFORMER "T-B1".
- P33 ELECTRICAL CONTRACTOR TO PROVIDE AND INSTALL NEW 208Y/120V, 3-PHASE, 4-WIRE, 100A PANEL "L-B1" TO FEED BUS TERMINAL.
- P35 ELECTRICAL CONTRACTOR TO PROVIDE 208V/1P, 125A FEEDER TO PRE-FABRICATED TICKET BOOTH, 208V/1P, 125A, 3W LOAD CENTER PROVIDED BY OTHERS.
- P48 SWITCHBOAD "SWBD-HC" TO BE PROVIDED WITH INTEGRAL METER WITH AUXILIARY CONTACT TO TIE INTO BAS MONITORING SYSTEM. COORDINATE BAS CONNECTION WITH OWNER CONTROL GROUP.
- P49 ELECTRICAL CONTRACTOR TO PROVIDE 1-1/2" SLEEVE PENETRATION FOR ELECTRIC VEHICLE CHARGER. PROVIDE SLEEVE CAP FOR FUTURE ELECTRIC VEHICLE CHARGER LOCATIONS. COORDINATE FINAL SLEEVE LOCATION WITH OWNER/AOC.
- P51 ELECTRICAL CONTRACTOR TO PROVIDE AND INSTALL NEW 480Y/277V, 3-PHASE, 4-WIRE, 100A PANEL "H-LA". PROVIDE SQUARE D POWERLINK LIGHTING CONTROL PANEL. PROVIDE SUBNET CABLE FROM MASTER PANEL "H-1B" LOCATED IN CITY ELECTRICAL ROOM. PROVIDE INTEGRAL METER WITH AUXILIARY CONTACT TO TIE INTO BAS MONITORING SYSTEM FOR SHARED TOWER LEVEL EQUIPMENT.
- P52 ELECTRICAL CONTRACTOR TO PROVIDE HEAT TRACE FOR PLUMBING PIPING. COORDINATE EXACT LOCATION WITH PC.
- S1 PROVIDE AND INSTALL EMERGENCY CALL DEVICE FOR ELEVATOR TWO WAY COMMUNICATION. POST SIGNS AT DEVICE. COORDINATE EXACT LOCATION WITH OWNER. CONNECT TO BASE STATION POWER SUPPLY LOCATED IN 1ST FLOOR FIRE COMMAND CENTER.
- S11 PROVIDE AND INSTALL TYPICAL GROUND BUS BAR(TGB) 1/4"X2"X24" WITH A #6 COPPER GROUND CONDUCTOR FROM BUILDING SERVICE GROUND.
- S12 PROVIDE AND INSTALL TELECOMMUNICATIONS TERMINAL BOARD, 4'X8'X3/4" A.C. GRADE FIRE-RATED PLYWOOD ON ALL WALLS. EXPOSED SIDE OF PLYWOOD SHALL BE SMOOTH. MOUNT VERTICALLY WITH TOP OF PLYWOOD AT 8'-0" AFF.
- S15 PROVIDE AND INSTALL 2-POST DATA RACK. REFER TO DIVISION 27 SPECIFICATION FOR ALL REQUIREMENTS. COORDINATE FINAL LAYOUT/REQUIREMENTS WITH OWNER.
- S18 PROVIDE AND INSTALL POWER SUPPLY/CONTROL PANELS ON PLYWOOD BACKBOARD. REFER TO DIVISION 27 SPECIFICATION FOR ALL REQUIREMENTS. COORDINATE FINAL LAYOUT/REQUIREMENTS WITH OWNER.
- S17 PROVIDE AND INSTALL FIBER SWITCH EQUAL TO CISCO 9500 SERIES WITH 48 PORTS. REFER TO DIVISION 27 SPECIFICATION FOR ALL REQUIREMENTS. COORDINATE FINAL LAYOUT/REQUIREMENTS WITH OWNER.
- S18 PROVIDE AND INSTALL COPPER SWITCH EQUAL TO CISCO 9300X SERIES WITH 48 PORTS. REFER TO DIVISION 27 SPECIFICATION FOR ALL REQUIREMENTS. COORDINATE FINAL LAYOUT/REQUIREMENTS WITH OWNER.



1 1ST FLR - ZONE B - PHASE 1 - POWER/SYSTEMS
EP1001-B-1 1/4"=1'-0"



2 ENLARGED CITY ELEC/DEMARK ROOM
EP1001-B-1 3/8"=1'-0"

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JDR Project No: 22.0248

PROJECT INFORMATION

STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05-24-23	100 PERCENT DESIGN (PH1)
07-26-2023	DEFERRED DESIGN (PH1)
10-02-2023	ADDITIONAL INFORMATION PH 1
11-07-2023	PHASE 1 RFP

KEY PLAN

SHEET INFORMATION

PROJECT MANAGER

PROJECT NUMBER 720048

1ST FLR - ZONE B - PHASE 1 - POWER/SYSTEMS

EP1001-B-1

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SYSTEMS GENERAL NOTES:

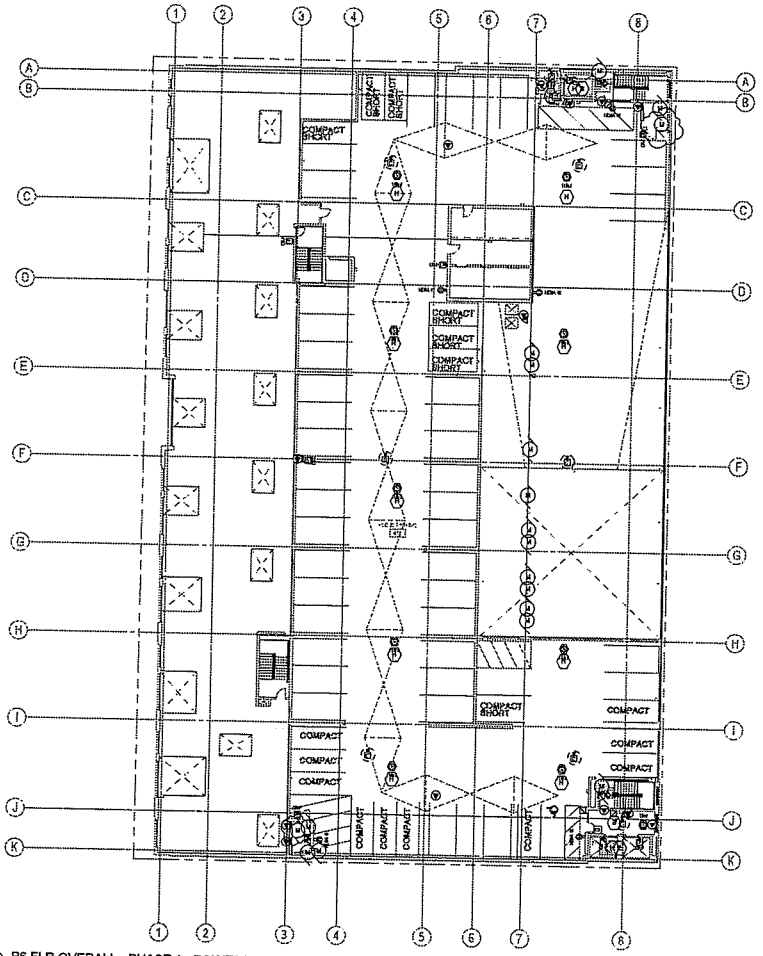
1. REFER TO SHEET E0000-1 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
2. ALL LOW VOLTAGE CABLES OR CONDUCTORS OPERATING AT LESS THAN 30 VOLTS SHALL BE IN ELECTRICAL METAL TUBING (EMT) WHERE INSTALLED WITHIN WALLS OR INACCESSIBLE SPACES.
3. TELEPHONE OUTLETS, AND DATA OUTLETS SHALL CONSIST OF A BACK BOX WITH CONDUIT STUBBED ABOVE THE ACCESSIBLE CEILING, SEE ROUGH-IN DETAIL. VERIFY SIZE OF BACK BOX REQUIRED WITH DEVICE TO BE INSTALLED. LOCATE BACK BOXES 6" FROM ADJACENT POWER RECEPTACLE INTENDED FOR COMPUTER USE.
4. COORDINATE JACK/CABLING REQUIREMENTS AND COLORS WITH OWNER.
5. COORDINATE LOCATIONS OF DEVICES WITH ARCHITECTURAL ELEVATIONS AND DETAILS. ARCHITECTURAL ELEVATIONS AND DETAILS TAKE PRECEDENCE OVER LOCATIONS SHOWN ON ELECTRICAL DRAWINGS.

ACCESS CONTROL GENERAL NOTES:

1. REFER TO SHEET E0000-1 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
2. DIVISION 26 CONTRACTOR SHALL PROVIDE ALL CONDUIT PATHWAYS, RACEWAYS, JUNCTION BOXES, DISCONNECT SWITCHES AND BRANCH/ FEEDER CONDUCTORS AS SHOWN AND/OR SPECIFIED TO ALLOW INSTALLATION OF DOOR CONTROL AND SECURITY DEVICES.
3. DOOR HARDWARE DEVICES INCLUDING BUT NOT LIMITED TO ELECTRIC STRIKES, ELECTRONIC LOCKS, ELECTRIC POWER TRANSFER, ELECTRIC HINGES, DOOR MOTOR OPERATORS, PUSH BUTTONS, KEY SWITCHES, CONTROLLERS, EMERGENCY RELEASE BUTTONS, DOOR OPERATOR AND POWER SUPPLIES SHALL BE PROVIDED BY THE GENERAL CONTRACTOR AND THE ACCESS CONTROL CONTRACTOR. DEVICES SHALL BE INSTALLED AND WIRE BY ACCESS CONTROL CONTRACTOR.
4. COORDINATE ALL REQUIREMENTS AT EACH DOOR WITH OWNER AND CONSTRUCTION MANAGER PRIOR TO THE INSTALLATION OF ANY DEVICES.
5. LOW VOLTAGE ACCESS CONTROL SYSTEM CABLING SHALL BE PROVIDED AND INSTALLED BY THE ACCESS CONTROL CONTRACTOR. CABLE INSTALLATION SHALL UTILIZE CONDUIT TO ACCESSIBLE CEILING AND J-HOOK TYPE SUPPORT TO NEAREST CABLE TRAY SYSTEM. ACCESS CONTROL AND SECURITY SYSTEM CABLING SHALL BE SEPARATELY BUNDLED WITHIN CABLE TRAYS. LOW VOLTAGE CABLING SHALL MEET FLAME PROPAGATION REQUIREMENTS OF NEC 1202.
6. COORDINATE LOCATIONS OF PATHWAYS, OUTLET BOXES AND ACCESS CONTROL HARDWARE WITHIN BUILDING WITH GENERAL CONTRACTOR PRIOR TO INSTALLATION OF ANY DEVICES.
7. ALL SECURITY SYSTEM DEVICES, INCLUDING BUT NOT LIMITED TO CARD READERS, DOOR POSITION SWITCHES, "REQUEST TO EXIT" DEVICES, MAGNETIC LOCKS, POWER SUPPLIES, DOOR CONTROLLERS AND LOW VOLTAGE WIRING BETWEEN THESE DEVICES AT EACH DOOR ARE PROVIDED BY THE CONTRACTOR. REFER TO SPECIFICATION DIVISION 28.

POWER GENERAL NOTES:

1. REFER TO SHEET E0000-1 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
2. THE CONTRACTOR MAY INSTALL UP TO THREE (3) CURRENT CARRYING CONDUCTORS IN A CONDUIT. LOADINGS ARE BASED ON THWN INSULATION, 75°C AMBIENT WITH DERATINGS FOR TEMPERATURE AND UP TO THREE (3) CONDUCTORS IN A CONDUIT. CONTACT THE ENGINEER FOR WIRING IN OTHER CONDITIONS.
3. VERIFY ALL MOUNTING HEIGHTS OF DEVICES ABOVE MILLWORK WITH ARCHITECTURAL PLANS.
4. ACCESS CONTROL SYMBOLS SHOWN HAVE SUFFIXES SERVING THE FOLLOWING PORTIONS OF THE BUILDING:
   - C - CITY
     - * REFER TO DIVISION 27 SPECIFICATIONS FOR FINAL REQUIREMENTS. COORDINATE FINAL LOCATION/REQUIREMENTS WITH OWNER.
   - P - PARKING UTILITY
     - * REFER TO DIVISION 27 SPECIFICATIONS FOR FINAL REQUIREMENTS. COORDINATE FINAL LOCATION/REQUIREMENTS WITH OWNER.
   - H - HOUSING
     - * PHASE 1 CONTRACTOR TO PROVIDE ROUGH-IN BOX AND CONDUIT FOR PHASE 2 INSTALLATION. COORDINATE FINAL LOCATION/ REQUIREMENTS WITH PHASE 2 CONTRACTOR.
5. LOW VOLTAGE DATA SYMBOLS SHOWN HAVE SUFFIXES SERVING THE FOLLOWING PORTIONS OF THE BUILDING:
   - B - BUS TERMINAL
     - * REFER TO DIVISION 27 SPECIFICATIONS FOR FINAL REQUIREMENTS. COORDINATE FINAL LOCATION/REQUIREMENTS WITH OWNER.
   - C - CITY
     - * REFER TO DIVISION 27 SPECIFICATIONS FOR FINAL REQUIREMENTS. COORDINATE FINAL LOCATION/REQUIREMENTS WITH OWNER.
6. LOW VOLTAGE SURVEILLANCE SYMBOLS SHOWN HAVE SUFFIXES SERVING THE FOLLOWING PORTIONS OF THE BUILDING:
   - B - BUS TERMINAL
     - * REFER TO DIVISION 27 SPECIFICATIONS FOR FINAL REQUIREMENTS. COORDINATE FINAL LOCATION/REQUIREMENTS WITH OWNER.
   - C - CITY
     - * REFER TO DIVISION 27 SPECIFICATIONS FOR FINAL REQUIREMENTS. COORDINATE FINAL LOCATION/REQUIREMENTS WITH OWNER.



1 EP1006-1 P6 FLR OVERALL - PHASE 1 - POWER/SYSTEMS

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5525 NOBEL DRIVE
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JDR Project No: 22.0249

PROJECT INFORMATION

STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05-05-2023	SCHEMATIC DESIGN PH1
08-29-2023	DEVELOPED DESIGN PH1
10-02-2023	CONSTRUCTION DOCUMENTS PH 1
11-01-2023	PH1_ADD2

KEY PLAN

SHEET INFORMATION

PROJECT MANAGER

PROJECT NUMBER 720448

P6 FLR OVERALL - PHASE 1 - POWER/SYSTEMS

EP1006-1

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SYSTEMS GENERAL NOTES:

1. REFER TO SHEET E0000-1 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
2. ALL LOW VOLTAGE CABLES OR CONDUCTORS OPERATING AT LESS THAN 50 VOLTS SHALL BE IN ELECTRICAL METAL TUBING (EMT) WHERE INSTALLED WITHIN WALLS OR INACCESSIBLE SPACES.
3. TELEPHONE OUTLETS, AND DATA OUTLETS SHALL CONSIST OF A BACK BOX WITH CONDUIT STUBBED ABOVE THE ACCESSIBLE CEILING, SEE ROUGH-IN DETAIL. VERIFY SIZE OF BACK BOX REQUIRED WITH DEVICE TO BE INSTALLED. LOCATE BACK BOXES 6" FROM ADJACENT POWER RECEPTACLE MITERED FOR COMPUTER USE.
4. COORDINATE JACK/CABLING REQUIREMENTS AND COLORS WITH OWNER.
5. COORDINATE LOCATIONS OF DEVICES WITH ARCHITECTURAL ELEVATIONS AND DETAILS, ARCHITECTURAL ELEVATIONS AND DETAILS TAKE PRECEDENCE OVER LOCATIONS SHOWN ON ELECTRICAL DRAWINGS.

ACCESS CONTROL GENERAL NOTES:

1. REFER TO SHEET E0000-1 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
2. DIVISION 28 CONTRACTOR SHALL PROVIDE ALL CONDUIT PATHWAYS, BACKBOXES, JUNCTION BOXES, DISCONNECT SWITCHES AND BRANCH FEEDER CONDUCTORS AS SHOWN AND/OR SPECIFIED TO ALLOW INSTALLATION OF DOOR CONTROL AND SECURITY DEVICES.
3. DOOR HARDWARE DEVICES INCLUDING BUT NOT LIMITED TO ELECTRIC STRIKES, ELECTRONIC LOCKS, ELECTRIC POWER TRANSFER, ELECTRIC HINGES, DOOR MOTOR OPERATORS, PUSH BUTTONS, KEY SWITCHES, CONTROLLERS, EMERGENCY RELEASE BUTTONS, DOOR OPERATOR AND POWER SUPPLIES SHALL BE PROVIDED BY THE GENERAL CONTRACTOR AND THE ACCESS CONTROL CONTRACTOR. DEVICES SHALL BE INSTALLED AND WIRE BY ACCESS CONTROL CONTRACTOR.
4. COORDINATE ALL REQUIREMENTS AT EACH DOOR WITH OWNER AND CONSTRUCTION MANAGER PRIOR TO THE INSTALLATION OF ANY DEVICES.
5. LOW VOLTAGE ACCESS CONTROL SYSTEM CABLING SHALL BE PROVIDED AND INSTALLED BY THE ACCESS CONTROL CONTRACTOR. CABLE INSTALLATION SHALL UTILIZE CONDUIT TO ACCESSIBLE CEILING AND J-HOOK TYPE SUPPORT TO NEAREST CABLE TRAY SYSTEM. ACCESS CONTROL AND SECURITY SYSTEM CABLING SHALL BE SEPARATELY BUNDLED WITHIN CABLE TRAYS. LOW VOLTAGE CABLING SHALL MEET FLAME PROPAGATION REQUIREMENTS OF IEEE 1202.
6. COORDINATE LOCATIONS OF PATHWAYS, OUTLET BOXES AND ACCESS CONTROL HARDWARE WITHIN BUILDING WITH GENERAL CONTRACTOR PRIOR TO INSTALLATION OF ANY DEVICES.
7. ALL SECURITY SYSTEM DEVICES, INCLUDING BUT NOT LIMITED TO CARD READERS, DOOR POSITION SWITCHES, "REQUEST TO EXIT" DEVICES, MAGNETIC LOCKS, POWER SUPPLIES, DOOR CONTROLLERS AND LOW VOLTAGE WIRING BETWEEN THESE DEVICES AT EACH DOOR ARE PROVIDED BY THE CONTRACTOR. REFER TO SPECIFICATION DIVISION 28.

POWER GENERAL NOTES:

1. REFER TO SHEET E0000-1 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
2. THE CONTRACTOR MAY INSTALL UP TO THREE (3) CURRENT CARRYING CONDUCTORS IN A CONDUIT. LOADINGS ARE BASED ON 75%90 INSULATION, 40°C AMBIENT WITH DERATINGS FOR TEMPERATURE AND UP TO THREE (3) CONDUCTORS IN A CONDUIT. CONTACT THE ENGINEER FOR WIRING IN OTHER CONDITIONS.
3. VERIFY ALL MOUNTING HEIGHTS OF DEVICES ABOVE MILLWORK WITH ARCHITECTURAL PLANS.
4. ACCESS CONTROL SYMBOLS SHOWN HAVE SUFFIXES SERVING THE FOLLOWING PORTIONS OF THE BUILDING:
   - C - CITY
     - * REFER TO DIVISION 27 SPECIFICATIONS FOR FINAL REQUIREMENTS. COORDINATE FINAL LOCATION/REQUIREMENTS WITH OWNER.
   - P - PARKING UTILITY
     - * REFER TO DIVISION 27 SPECIFICATIONS FOR FINAL REQUIREMENTS. COORDINATE FINAL LOCATION/REQUIREMENTS WITH OWNER.
   - H - HOUSING
     - * PHASE 1 CONTRACTOR TO PROVIDE ROUGH-IN BOX AND CONDUIT FOR PHASE 2 INSTALLATION. COORDINATE FINAL LOCATION/ REQUIREMENTS WITH PHASE 2 CONTRACTOR.
5. LOW VOLTAGE DATA SYMBOLS SHOWN HAVE SUFFIXES SERVING THE FOLLOWING PORTIONS OF THE BUILDING:
   - B - BUS TERMINAL
     - * REFER TO DIVISION 27 SPECIFICATIONS FOR FINAL REQUIREMENTS. COORDINATE FINAL LOCATION/REQUIREMENTS WITH OWNER.
   - C - CITY
     - * REFER TO DIVISION 27 SPECIFICATIONS FOR FINAL REQUIREMENTS. COORDINATE FINAL LOCATION/REQUIREMENTS WITH OWNER.
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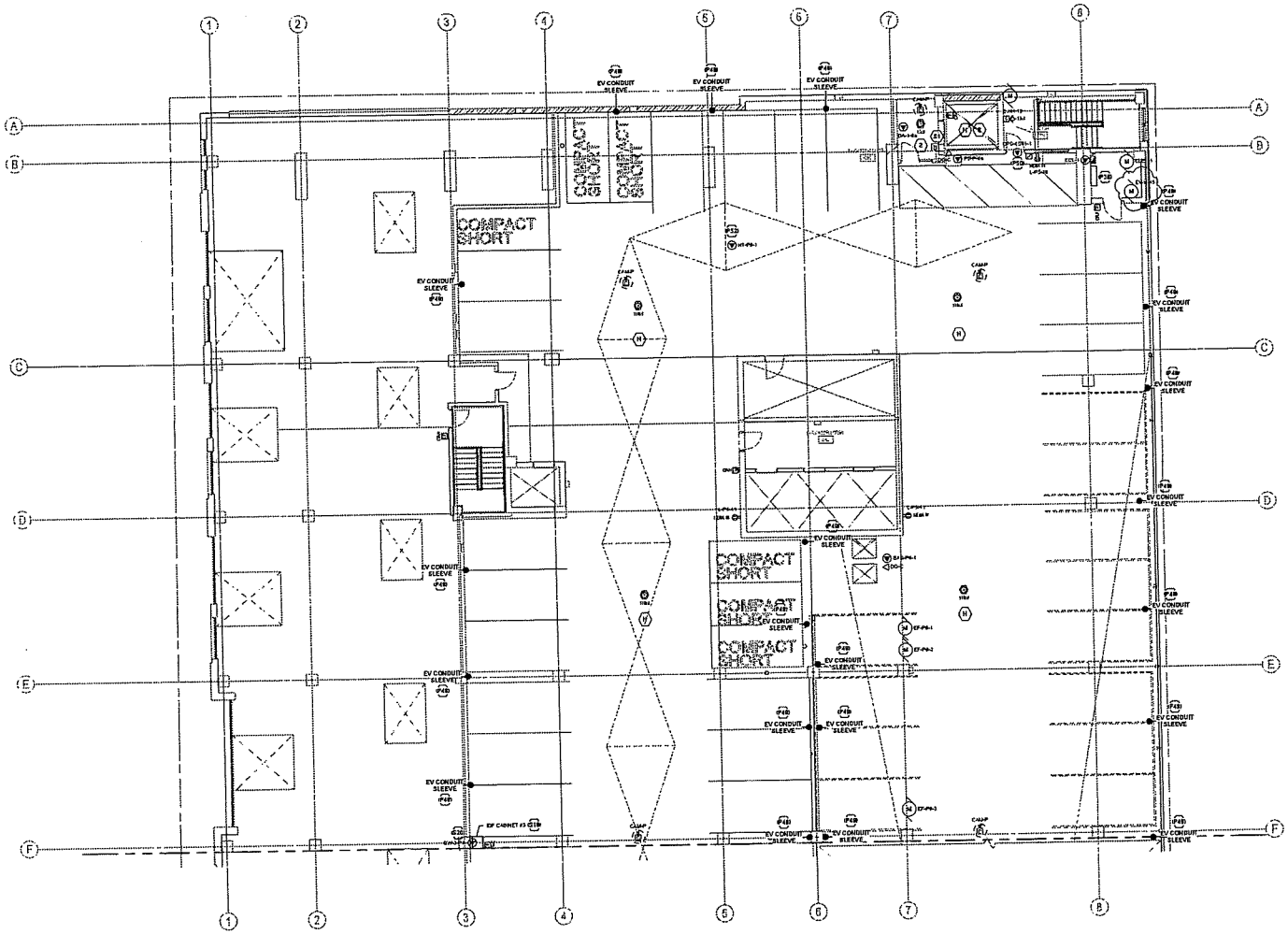
     - * REFER TO DIVISION 27 SPECIFICATIONS FOR FINAL REQUIREMENTS. COORDINATE FINAL LOCATION/REQUIREMENTS WITH OWNER.
   - C - CITY
     - * REFER TO DIVISION 27 SPECIFICATIONS FOR FINAL REQUIREMENTS. COORDINATE FINAL LOCATION/REQUIREMENTS WITH OWNER.



1 P6 FLR - ZONE A - PHASE 1 - POWER/SYSTEMS
EP1006-A-1 SCALE: 1/8" = 1'-0"

KEYED NOTES
(KEYED NOTES PER PROJECT)

P38 ELECTRICAL CONTRACTOR TO PROVIDE SHUNT TRIP BREAKER AT ELEVATOR CONTROLLER LOCATION. PROVIDE A MANUAL STATER LABELED 'ELEVATOR CAR LIGHTS' FOR ELEVATOR CAR LIGHTING CONTROL. FEED ELEVATOR CAR LIGHTS FROM DEDICATED CIRCUIT SHOWN. PROVIDE POWER WIRING FROM PANEL, THROUGH DISCONNECT, TO ELEVATOR CONTROLLER, TO MOTOR. PROVIDE A BUSSMAN POWER MODULE OR EQUIVALENT, FOR ELEVATOR RECALL.

P49 ELECTRICAL CONTRACTOR TO PROVIDE 1-1/2" SLEEVE PENETRATION FOR ELECTRIC VEHICLE CHARGER. PROVIDE SLEEVE CAP FOR FUTURE ELECTRIC VEHICLE CHARGER LOCATIONS. COORDINATE FINAL SLEEVE LOCATION WITH OWNER/EOC.

P50 ELECTRICAL CONTRACTOR TO PROVIDE JUNCTION BOX AND FEEDER FOR ACCESS CONTROL POWER SUPPLY. COORDINATE JUNCTION BOX LOCATION WITH ACCESS CONTROL SUPPLIER.

P52 ELECTRICAL CONTRACTOR TO PROVIDE HEAT TRACE FOR PLUMBING PIPING. COORDINATE EXACT LOCATION WITH PC.

S1 PROVIDE AND INSTALL EMERGENCY CALL DEVICE FOR ELEVATOR TWO WAY COMMUNICATION, POST SIGNS AT DEVICE. COORDINATE EXACT LOCATION WITH OWNER. CONNECT TO BASE STATION POWER SUPPLY LOCATED IN 1ST FLOOR FIRE COMMAND CENTER.

S19 PROVIDE AND INSTALL WALL MOUNTED DATA CABINET. REFER TO DIVISION 27 SPECIFICATION FOR ALL REQUIREMENTS. COORDINATE FINAL LAYOUT/REQUIREMENTS WITH OWNER. PROVIDE AND INSTALL (1) 2" PVC CONDUIT WITH (1) 24CT FIBER CABLE ROUTED TO IDF BOX, AND (1) 2" PVC CONDUIT FOR FUTURE FIBER CABLE.

S20 PROVIDE AND INSTALL FIBER SWITCH EQUAL TO CISCO IE-4330-24P4E WITH 24 PORTS. REFER TO DIVISION 27 SPECIFICATION FOR ALL REQUIREMENTS. COORDINATE FINAL LAYOUT/REQUIREMENTS WITH OWNER.

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JDR Project No: 22.0249

PROJECT INFORMATION

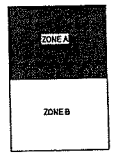
STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05-06-2022	SCHEMATIC DESIGN PH1
07-28-2023	DETAILED DESIGN PH1
10-02-2023	50% STRUCTURE DOCUMENTS PH 1
11-03-2023	PHIL #202

KEY PLAN



SHEET INFORMATION

PROJECT MANAGER

PROJECT NUMBER 720448

P6 FLR - ZONE A - PHASE 1 - POWER/SYSTEMS

EP1006-A-1

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SYSTEMS GENERAL NOTES:

1. REFER TO SHEET E0000-1 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
2. ALL LOW VOLTAGE CABLES OR CONDUCTORS OPERATING AT LESS THAN 50 VOLTS SHALL BE IN ELECTRICAL METAL TUBING (EMT) WHERE INSTALLED WITHIN WALLS OR INACCESSIBLE SPACES.
3. TELEPHONE OUTLETS, AND DATA OUTLETS SHALL CONSIST OF A BACK BOX WITH CONDUIT STUBBED ABOVE THE ACCESSIBLE CEILING, SEE ROUGH-IN DETAIL. VERIFY SIZE OF BACK BOX REQUIRED WITH DEVICE TO BE INSTALLED. LOCATE BACK BOXES 6" FROM ADJACENT POWER RECEPTACLE INTENDED FOR COMPUTER USE.
4. COORDINATE JACK/CABLING REQUIREMENTS AND COLORS WITH OWNER.
5. COORDINATE LOCATIONS OF DEVICES WITH ARCHITECTURAL ELEVATIONS AND DETAILS. ARCHITECTURAL ELEVATIONS AND DETAILS TAKE PRECEDENCE OVER LOCATIONS SHOWN ON ELECTRICAL DRAWINGS.

ACCESS CONTROL GENERAL NOTES:

1. REFER TO SHEET E0000-1 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
2. DIVISION 28 CONTRACTOR SHALL PROVIDE ALL CONDUIT PATHWAYS, BACKBOXES, JUNCTION BOXES, DISCONNECT SWITCHES AND BRANCH/FEEDER CONDUCTORS AS SHOWN AND/OR SPECIFIED TO ALLOW INSTALLATION OF DOOR CONTROL AND SECURITY DEVICES.
3. DOOR HARDWARE DEVICES INCLUDING BUT NOT LIMITED TO ELECTRIC STRIKES, ELECTRONIC LOCKS, ELECTRIC POWER TRANSFER, ELECTRIC HINGES, DOOR MOTOR OPERATORS, PUSH BUTTONS, KEY SWITCHES, CONTROLLERS, EMERGENCY RELEASE BUTTONS, DOOR OPERATOR AND POWER SUPPLIES SHALL BE PROVIDED BY THE GENERAL CONTRACTOR AND THE ACCESS CONTROL CONTRACTOR. DEVICES SHALL BE INSTALLED AND WIRE BY ACCESS CONTROL CONTRACTOR.
4. COORDINATE ALL REQUIREMENTS AT EACH DOOR WITH OWNER AND CONSTRUCTION MANAGER PRIOR TO THE INSTALLATION OF ANY DEVICES.
5. LOW VOLTAGE ACCESS CONTROL SYSTEM CABLING SHALL BE PROVIDED AND INSTALLED BY THE ACCESS CONTROL CONTRACTOR. CABLE INSTALLATION SHALL UTILIZE CONDUIT TO ACCESSIBLE CEILING AND J-HOOK TYPE SUPPORT TO NEAREST CABLE TRAY SYSTEM. ACCESS CONTROL AND SECURITY SYSTEM CABLING SHALL BE SEPARATELY BUNDLED WITHIN CABLE TRAYS. LOW VOLTAGE CABLING SHALL MEET FLAME PROPAGATION REQUIREMENTS OF NEC 1202.
6. COORDINATE LOCATIONS OF PATHWAYS, OUTLET BOXES AND ACCESS CONTROL HARDWARE WITHIN BUILDING WITH GENERAL CONTRACTOR PRIOR TO INSTALLATION OF ANY DEVICES.
7. ALL SECURITY SYSTEM DEVICES, INCLUDING BUT NOT LIMITED TO CARD READERS, DOOR POSITION SWITCHES, "REQUEST TO EXIT" DEVICES, MAGNETIC LOCKS, POWER SUPPLIES, DOOR CONTROLLERS AND LOW VOLTAGE WIRING BETWEEN THESE DEVICES AT EACH DOOR ARE PROVIDED BY THE CONTRACTOR. REFER TO SPECIFICATION DIVISION 28.

POWER GENERAL NOTES:

1. REFER TO SHEET E0000-1 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
2. THE CONTRACTOR MAY INSTALL UP TO THREE (3) CURRENT CARRYING CONDUCTORS IN A CONDUIT. LOADINGS ARE BASED ON THWN INSULATION, 40°C AMBIENT WITH DERATINGS FOR TEMPERATURE AND UP TO THREE (3) CONDUCTORS IN A CONDUIT. CONTACT THE ENGINEER FOR WIRING IN OTHER CONDITIONS.
3. VERIFY ALL MOUNTING HEIGHTS OF DEVICES ABOVE MILLWORK WITH ARCHITECTURAL PLANS.
4. ACCESS CONTROL SYMBOLS SHOWN HAVE SUFFIXES SERVING THE FOLLOWING PORTIONS OF THE BUILDING:
   - C – CITY
     - * REFER TO DIVISION 27 SPECIFICATIONS FOR FINAL REQUIREMENTS. COORDINATE FINAL LOCATION/REQUIREMENTS WITH OWNER.
   - P – PARKING UTILITY
     - * REFER TO DIVISION 27 SPECIFICATIONS FOR FINAL REQUIREMENTS. COORDINATE FINAL LOCATION/REQUIREMENTS WITH OWNER.
   - H – HOUSING
     - * PHASE 1 CONTRACTOR TO PROVIDE ROUGH-IN BOX AND CONDUIT FOR PHASE 2 INSTALLATION, COORDINATE FINAL LOCATION/ REQUIREMENTS WITH PHASE 2 CONTRACTOR.
5. LOW VOLTAGE DATA SYMBOLS SHOWN HAVE SUFFIXES SERVING THE FOLLOWING PORTIONS OF THE BUILDING:
   - B – BUS TERMINAL
     - * REFER TO DIVISION 27 SPECIFICATIONS FOR FINAL REQUIREMENTS. COORDINATE FINAL LOCATION/REQUIREMENTS WITH OWNER.
   - C – CITY
     - * REFER TO DIVISION 27 SPECIFICATIONS FOR FINAL REQUIREMENTS. COORDINATE FINAL LOCATION/REQUIREMENTS WITH OWNER.
6. LOW VOLTAGE SURVEILLANCE SYMBOLS SHOWN HAVE SUFFIXES SERVING THE FOLLOWING PORTIONS OF THE BUILDING:
   - B – BUS TERMINAL
     - * REFER TO DIVISION 27 SPECIFICATIONS FOR FINAL REQUIREMENTS. COORDINATE FINAL LOCATION/REQUIREMENTS WITH OWNER.
   - C – CITY
     - * REFER TO DIVISION 27 SPECIFICATIONS FOR FINAL REQUIREMENTS. COORDINATE FINAL LOCATION/REQUIREMENTS WITH OWNER.

KEYED NOTES
(KEYED NOTES PER PROJECT)

P38 ELECTRICAL CONTRACTOR TO PROVIDE SHUNT TRIP BREAKER AT ELEVATOR CONTROLLER LOCATION. PROVIDE A MANUAL STATION LABELED "ELEVATOR CAR LIGHTS" FOR ELEVATOR CAR LIGHTING CONTROL. FEED ELEVATOR CAR LIGHTS FROM DEDICATED CIRCUIT SHOWN. PROVIDE POWER WIRING FROM PANEL, THROUGH DISCONNECT, TO ELEVATOR CONTROLLER, TO MOTOR. PROVIDE A BUSSMAN POWER MODULE OR EQUIVALENT, FOR ELEVATOR RECALL.

P37 ELECTRICAL CONTRACTOR TO PROVIDE DEDICATED ELEVATOR PHONE LINE TO THIS APPROXIMATE LOCATION. FIELD COORDINATE EXACT LOCATION.

P43 ELECTRICAL CONTRACTOR TO COORDINATE ELEVATOR RECALL PROGRAMMING WITH ELEVATOR VENDOR. ELEVATOR RECALL SHALL BE SEQUENCED SUCH THAT ELEVATOR RECALLS TO DESIGNATED FLOOR COMPLETELY PRIOR TO ELEVATOR BEGINNING RECALL.

P49 ELECTRICAL CONTRACTOR TO PROVIDE 1-1/2" SLEEVE PENETRATION FOR ELECTRIC VEHICLE CHARGER. PROVIDE SLEEVE CAP FOR FUTURE ELECTRIC VEHICLE CHARGER LOCATIONS. COORDINATE FINAL SLEEVE LOCATION WITH OWNER/EVSC.

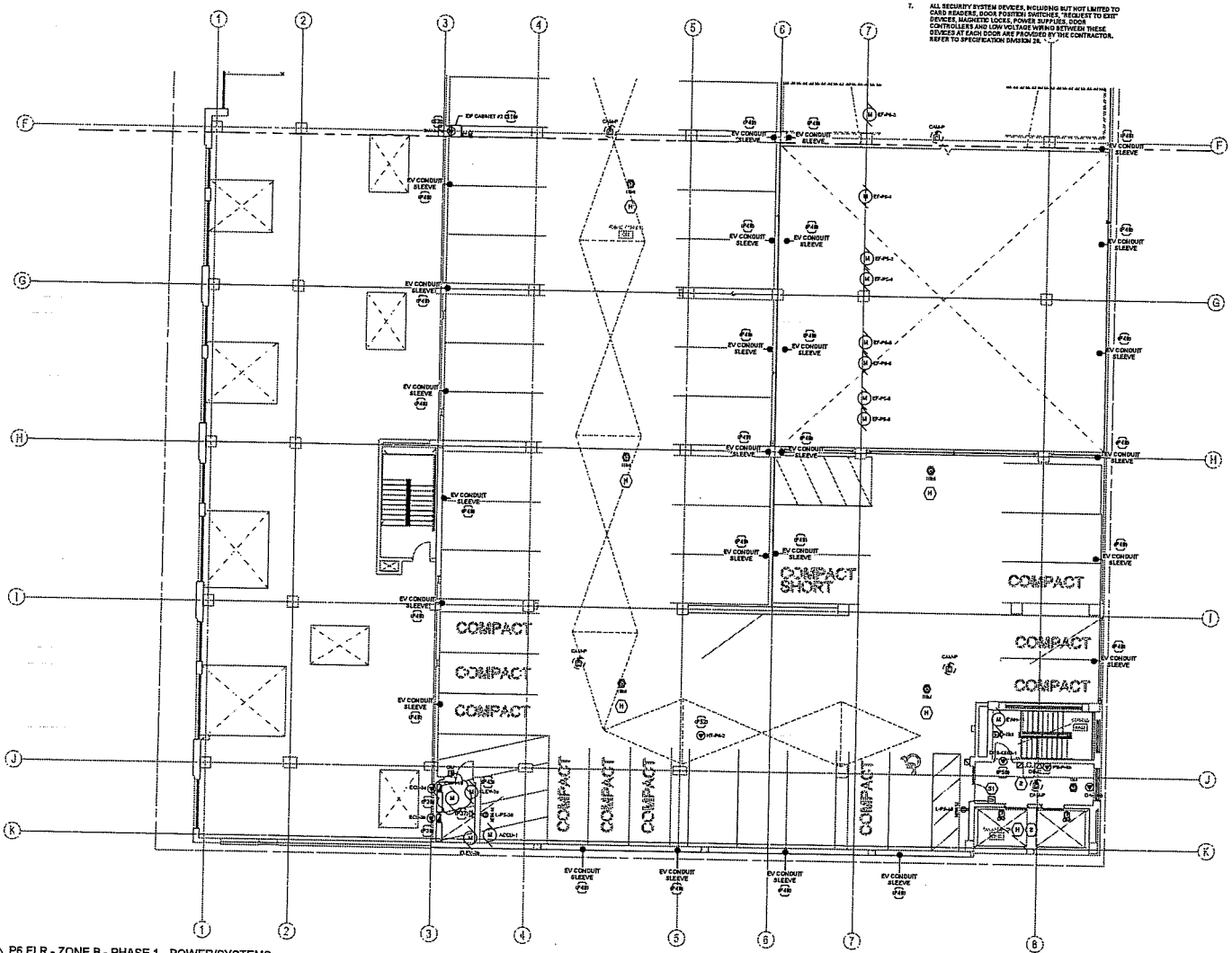
P50 ELECTRICAL CONTRACTOR TO PROVIDE JUNCTION BOX AND FEEDER FOR ACCESS CONTROL POWER SUPPLY. COORDINATE JUNCTION BOX LOCATION WITH ACCESS CONTROL SUPPLIER.

P52 ELECTRICAL CONTRACTOR TO PROVIDE HEAT TRACE FOR PLUMBING PIPING. COORDINATE EXACT LOCATION WITH P.C.

S1 PROVIDE AND INSTALL EMERGENCY CALL DEVICE FOR ELEVATOR TWO WAY COMMUNICATION. POST SIGNS AT DEVICE. COORDINATE EXACT LOCATION WITH OWNER. CONNECT TO BASE STATION POWER SUPPLY LOCATED IN 1ST FLOOR FIRE COMMAND CENTER.

S18 PROVIDE AND INSTALL WALL MOUNTED DATA CABINET. REFER TO DIVISION 27 SPECIFICATION FOR ALL REQUIREMENTS. COORDINATE FINAL LAYOUT/REQUIREMENTS WITH OWNER. PROVIDE AND INSTALL (1) 2" PVC CONDUIT WITH (1) 24CT FIBER CABLE ROUTED TO IDF BOX, AND (1) 2" PVC CONDUIT FOR FUTURE FIBER CABLE.

S26 PROVIDE AND INSTALL FIBER SWITCH EQUAL TO CISCO IE-4320-24P4E WITH 24 PORTS. REFER TO DIVISION 27 SPECIFICATION FOR ALL REQUIREMENTS. COORDINATE FINAL LAYOUT/REQUIREMENTS WITH OWNER.



1 P6 FLR - ZONE B - PHASE 1 - POWER/SYSTEMS
EP1006-B-1 SCALE: 1/8" = 1'-0"

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JDR ENGINEERING, INC.
5515 NOBEL DRIVE
SUITE 110
MADISON, WI 53711
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JDR Project No: 22.0249

PROJECT INFORMATION

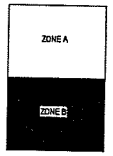
STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05/06/2022	SCHEMATIC DESIGN PH1
07/29/2022	DEPT-LED DESIGN PH1
11/02/2022	CONSTRUCTION DOCUMENTS PH 1
11/02/2022	PERMIT SET

KEY PLAN



SHEET INFORMATION

PROJECT MANAGER
PROJECT NUMBER 720448

P6 FLR - ZONE B - PHASE 1 - POWER/SYSTEMS

EP1006-B-1

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SYSTEMS GENERAL NOTES:

1. REFER TO SHEET E0000-1 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
2. ALL LOW VOLTAGE CABLES OR CONDUCTORS OPERATING AT LESS THAN 50 VOLTS SHALL BE IN ELECTRICAL METAL TUBING (EMT) WHERE INSTALLED WITHIN WALLS OR INACCESSIBLE SPACES.
3. TELEPHONE OUTLETS, AND DATA OUTLETS SHALL CONSIST OF A BACK BOX WITH CONDUIT STUBBED ABOVE THE ACCESSIBLE CEILING, SEE ROUGH-IN DETAIL. VERIFY SIZE OF BACK BOX REQUIRED WITH DEVICE TO BE INSTALLED. LOCATE BACK BOXES 6" FROM ADJACENT POWER RECEPTACLE INTENDED FOR COMPUTER USE.
4. COORDINATE JACK/CABLING REQUIREMENTS AND COLORS WITH OWNER.
5. COORDINATE LOCATIONS OF DEVICES WITH ARCHITECTURAL ELEVATIONS AND DETAILS. ARCHITECTURAL ELEVATIONS AND DETAILS TAKE PRECEDENCE OVER LOCATIONS SHOWN ON ELECTRICAL DRAWINGS.

ACCESS CONTROL GENERAL NOTES:

1. REFER TO SHEET E0000-1 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
2. DIVISION 26 CONTRACTOR SHALL PROVIDE ALL CONDUIT PATHWAYS, BACKBOXES, JUNCTION BOXES, DISCONNECT SWITCHES AND BRANCH FEEDER CONDUCTORS AS SHOWN AND/OR SPECIFIED TO ALLOW INSTALLATION OF DOOR CONTROL AND SECURITY DEVICES.
3. DOOR HARDWARE DEVICES INCLUDING BUT NOT LIMITED TO ELECTRIC STRIKES, ELECTRONIC LOCKS, ELECTRIC POWER TRANSFER, ELECTRIC HINGES, DOOR MOTOR OPERATORS, PUSH BUTTONS, KEY SWITCHES, CONTROLLERS, EMERGENCY RELEASE BUTTONS, DOOR OPERATOR AND POWER SUPPLIES SHALL BE PROVIDED BY THE GENERAL CONTRACTOR AND THE ACCESS CONTROL CONTRACTOR. DEVICES SHALL BE INSTALLED AND WIRE BY ACCESS CONTROL CONTRACTOR.
4. COORDINATE ALL REQUIREMENTS AT EACH DOOR WITH OWNER AND CONSTRUCTION MANAGER PRIOR TO THE INSTALLATION OF ANY DEVICES.
5. LOW VOLTAGE ACCESS CONTROL SYSTEM CABLING SHALL BE PROVIDED AND INSTALLED BY THE ACCESS CONTROL CONTRACTOR. CABLE INSTALLATION SHALL UTILIZE CONDUIT TO ACCESSIBLE CEILING AND J-HOOK TYPE SUPPORT TO NEAREST CABLE TRAY SYSTEM. ACCESS CONTROL AND SECURITY SYSTEM CABLING SHALL BE SEPARATELY BUNDLED WITHIN CABLE TRAYS. LOW VOLTAGE CABLING SHALL MEET FLAME PROPAGATION REQUIREMENTS OF IEEE 1202.
6. COORDINATE LOCATIONS OF PATHWAYS, OUTLET BOXES AND ACCESS CONTROL HARDWARE WITHIN BUILDING WITH GENERAL CONTRACTOR PRIOR TO INSTALLATION OF ANY DEVICES.
7. ALL SECURITY SYSTEM DEVICES, INCLUDING BUT NOT LIMITED TO CARD READERS, DOOR POSITION SWITCHES, REQUEST TO EXIT DEVICES, MAGNETIC LOCKS, POWER SUPPLIES, DOOR CONTROLLERS AND LOW VOLTAGE WIRING BETWEEN THESE DEVICES AT EACH DOOR ARE PROVIDED BY THE CONTRACTOR. REFER TO SPECIFICATION DIVISION 28.

POWER GENERAL NOTES:

1. REFER TO SHEET E0000-1 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
2. THE CONTRACTOR MAY INSTALL UP TO THREE (3) CURRENT CARRYING CONDUCTORS IN A CONDUIT. LOADINGS ARE BASED ON 75°C INSULATION, 40°C AMBIENT WITH DERATINGS FOR TEMPERATURE AND UP TO THREE (3) CONDUCTORS IN A CONDUIT. CONTACT THE ENGINEER FOR WIRING IN OTHER CONDITIONS.
3. VERIFY ALL MOUNTING HEIGHTS OF DEVICES ABOVE MILLWORK WITH ARCHITECTURAL PLANS.
4. ACCESS CONTROL SYMBOLS SHOWN HAVE SUFFIXES SERVING THE FOLLOWING PORTIONS OF THE BUILDING:
   - C - CITY
     - * REFER TO DIVISION 27 SPECIFICATIONS FOR FINAL REQUIREMENTS. COORDINATE FINAL LOCATION/REQUIREMENTS WITH OWNER.
   - P - PARKING UTILITY
     - * REFER TO DIVISION 27 SPECIFICATIONS FOR FINAL REQUIREMENTS. COORDINATE FINAL LOCATION/REQUIREMENTS WITH OWNER.
   - H - HOUSING
     - * PHASE 1 CONTRACTOR TO PROVIDE ROUGH-IN BOX AND CONDUIT FOR PHASE 2 INSTALLATION. COORDINATE FINAL LOCATION/ REQUIREMENTS WITH PHASE 2 CONTRACTOR.
5. LOW VOLTAGE DATA SYMBOLS SHOWN HAVE SUFFIXES SERVING THE FOLLOWING PORTIONS OF THE BUILDING:
   - B - BUS TERMINAL
     - * REFER TO DIVISION 27 SPECIFICATIONS FOR FINAL REQUIREMENTS. COORDINATE FINAL LOCATION/REQUIREMENTS WITH OWNER.
   - C - CITY
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     - * REFER TO DIVISION 27 SPECIFICATIONS FOR FINAL REQUIREMENTS. COORDINATE FINAL LOCATION/REQUIREMENTS WITH OWNER.
   - C - CITY
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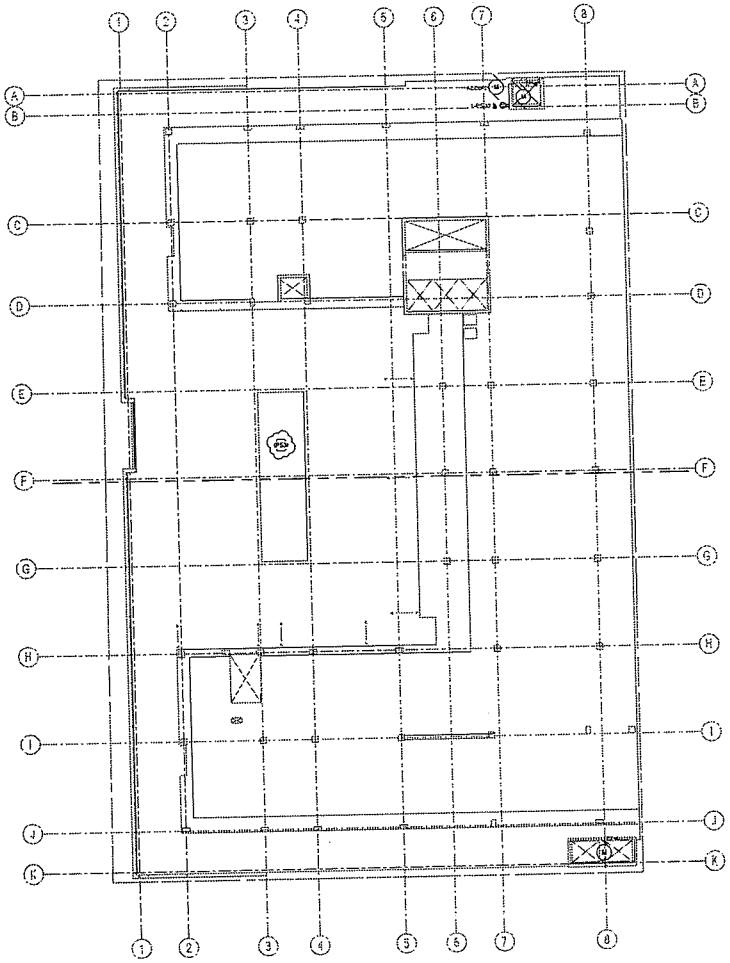

1 EP1007-1 7TH FLR OVERALL - PHASE 1 - POWER/SYSTEMS

KEYED NOTES

KEYED NOTES PER PROJECT

P53 ELECTRICAL CONTRACTOR TO PROVIDE BONDING LEADS FROM BUILDING STRUCTURE TO THE POOL DEPRESSION EQUIPOTENTIAL BONDING GRID. PROVIDE A BONDING LEAD IN ANY AREA WHERE THE REINFORCING OF THE STRUCTURE IS NOT TIED TOGETHER. COORDINATE EXACT NUMBER AND LOCATION OF BONDING LEADS WITH PHASE 2 CONTRACTOR/POOL DESIGNER.

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SUITE 110
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PH 608.277.7728 | FX 608.277.7046
JDR Project No: 22.0249

PROJECT INFORMATION

STATE STREET CAMPUS GARAGE MIXED-USE

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
05/03/23	SCHEMATIC DESIGN PH1
07/26/23	DEVELOPED DESIGN PH1
10/02/23	CONSTRUCTION DOCUMENTS PH 1
11/02/23	PHS ADD

KEY PLAN

SHEET INFORMATION

PROJECT MANAGER

PROJECT NUMBER 720448

7TH FLR OVERALL - PHASE 1 - POWER/SYSTEMS

EP1007-1

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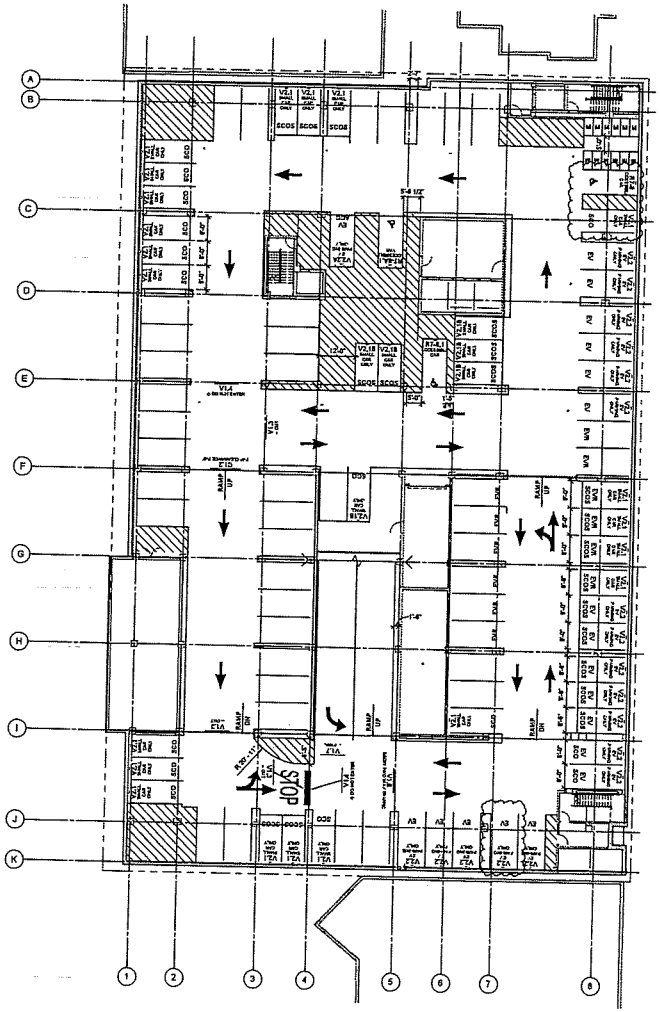
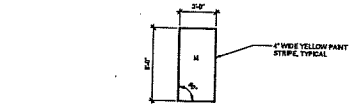
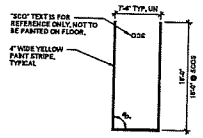


1 LOWER LEVEL STRIPING PLAN
1/16" = 1'-0"

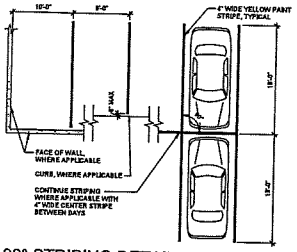
PARKING SCHEDULE - OVERALL									
TIER	STANDARD	COMPACT	ACCESSIBLE CAR	ACCESSIBLE VAN	EV ACCESSIBLE VAN	EV	COMPACT EV	EV READY	TOTAL
LOWER LEVEL	34	23	2	1	1	11	7	12	91
1ST FLOOR	8	3	0	0	0	5	6	3	18
P2	38	13	1	1	1	0	1	22	78
P3	39	14	1	1	1	0	1	22	79
P4	40	17	1	1	1	0	1	23	84
P5	38	17	1	0	0	0	1	23	80
P6	34	19	1	0	0	0	0	10	64
TOTAL	288	103	7	3	3	16	11	94	525



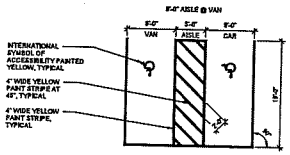
5 MOPED STRIPING DETAIL



4 SCO/SCOS STRIPING DETAIL



3 90° STRIPING DETAIL



2 90° STRIPING DETAIL

SHEET NOTES

1. INDICATES PLAN MATCH LINE.
2. FOR TYPICAL STRIPING DETAILS AND FLOOR ARROWS, SEE SHEET PG1000-1.
3. ALL DIMENSIONS FOR STRIPING ARE FROM FACE OF COLUMN OR INSIDE FACE OF WALL UNO.
4. SPACES ARE CENTERED BETWEEN COLUMNS, UN.
5. SEE ARCHITECTURAL SHEET FOR BICYCLE PARKING REQUIREMENTS AND LOCATIONS.
6. PG SHEETS ARE FOR STRIPING AND VEHICULAR WAYFINDING SIGNAGE ONLY. SEE ARCHITECTURAL DRAWINGS FOR ALL OTHER ITEMS.
7. "SCO", "SCOE", "EV", "EVR", "ADA EV" AND "VAN" TEXT IS FOR REFERENCE ONLY, NOT TO BE PAINTED ON FLOOR.

SIGN TYPE LEGEND:

MARK	TYPE
V	VEHICULAR (RETROREFLECTIVE TEXT ONLY)
R	REGULATORY (RETROREFLECTIVE)
PVC	PVC CLEARANCE

SIGN KEY

V-R — MARK (SEE SIGN SCHEDULE)
FACE OF SIGN

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PROJECT INFORMATION

STATE STREET CAMPUS

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
11/21/25	BID ADD

KEY PLAN

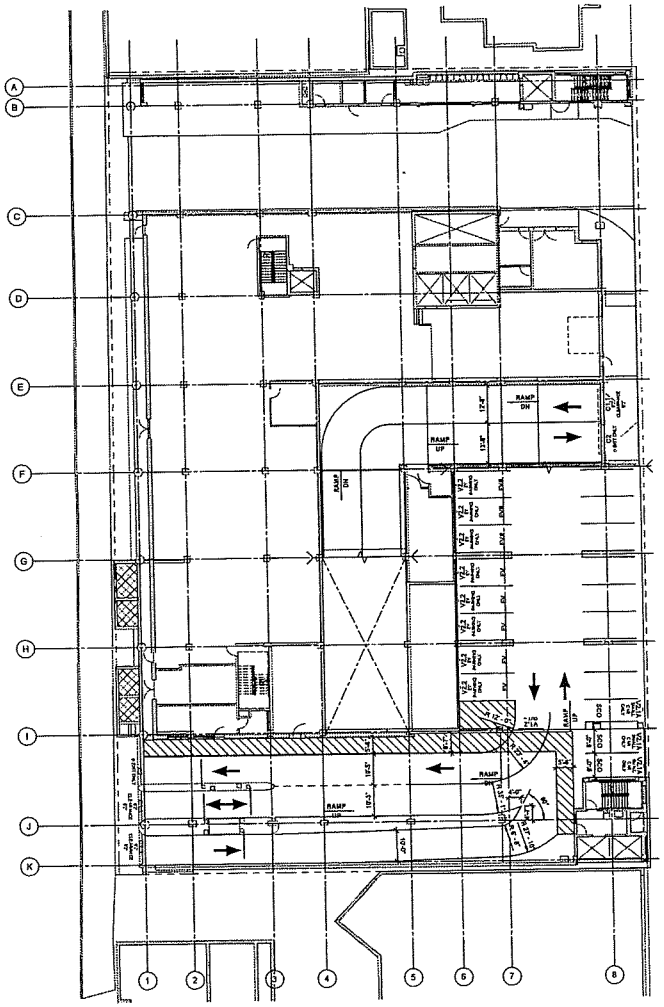
SHEET INFORMATION

PROJECT MANAGER

PROJECT NUMBER 13-003947.00

LOWER LEVEL STRIPING PLAN

PG1000-1



1 1ST FLOOR STRIPING PLAN
1/16" = 1'-0"

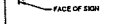
SHEET NOTES

1. SEE SHEET PG1000-1 FOR TYPICAL SHEET NOTES AND LOCATIONS OF TYPICAL DETAIL REFERENCES, UN.

SIGN TYPE LEGEND:

MARK	TYPE
V	VEHICULAR (RETROREFLECTIVE TEXT ONLY)
R	REGULATORY (RETROREFLECTIVE)
PVC	PVC CLEARANCE

SIGN KEY



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PROJECT INFORMATION

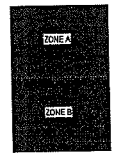
STATE STREET CAMPUS

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION

KEY PLAN



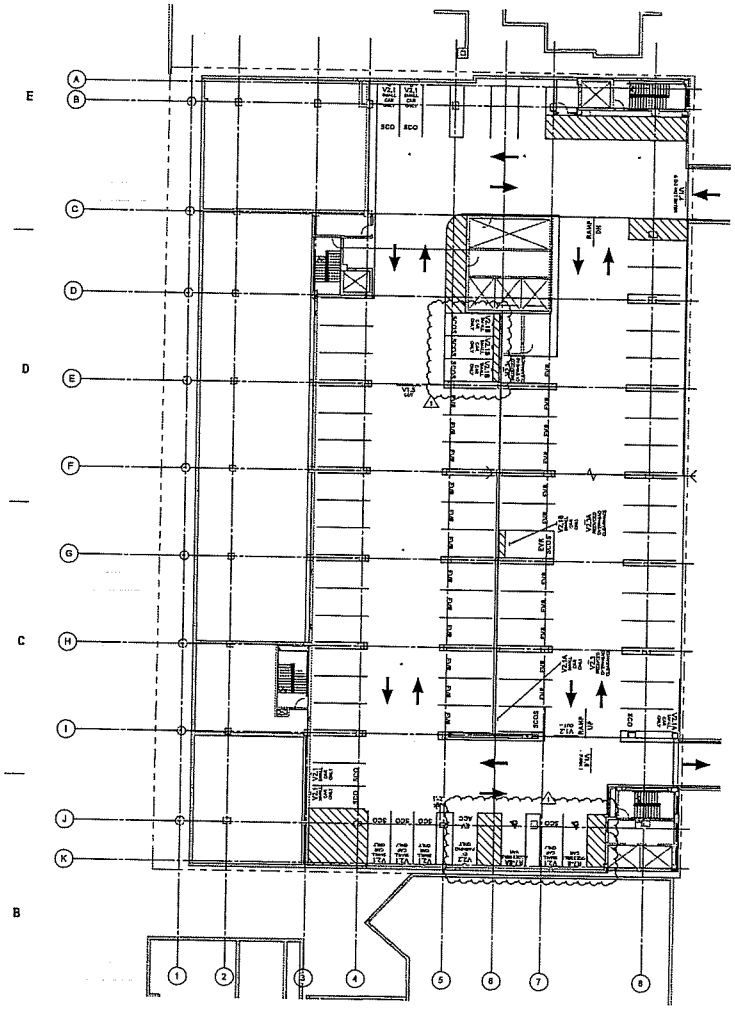
SHEET INFORMATION

PROJECT MANAGER

PROJECT NUMBER 13-003947.00

1ST FLOOR STRIPING PLAN

PG1001-1



1 P2 STRIPING PLAN
1/16" = 1'-0"

SHEET NOTES

1. SEE SHEET PG1000-1 FOR TYPICAL SHEET NOTES AND LOCATIONS OF TYPICAL DETAIL REFERENCES, U/N.

SIGN TYPE LEGEND:

MARK	TYPE
V	VEHICULAR (RETROREFLECTIVE TEXT ONLY)
R	REGULATORY (RETROREFLECTIVE)
PVC	PVC CLEARANCE

SIGN KEY

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PROJECT INFORMATION

STATE STREET CAMPUS

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
11/07/2025	PHI #2

KEY PLAN

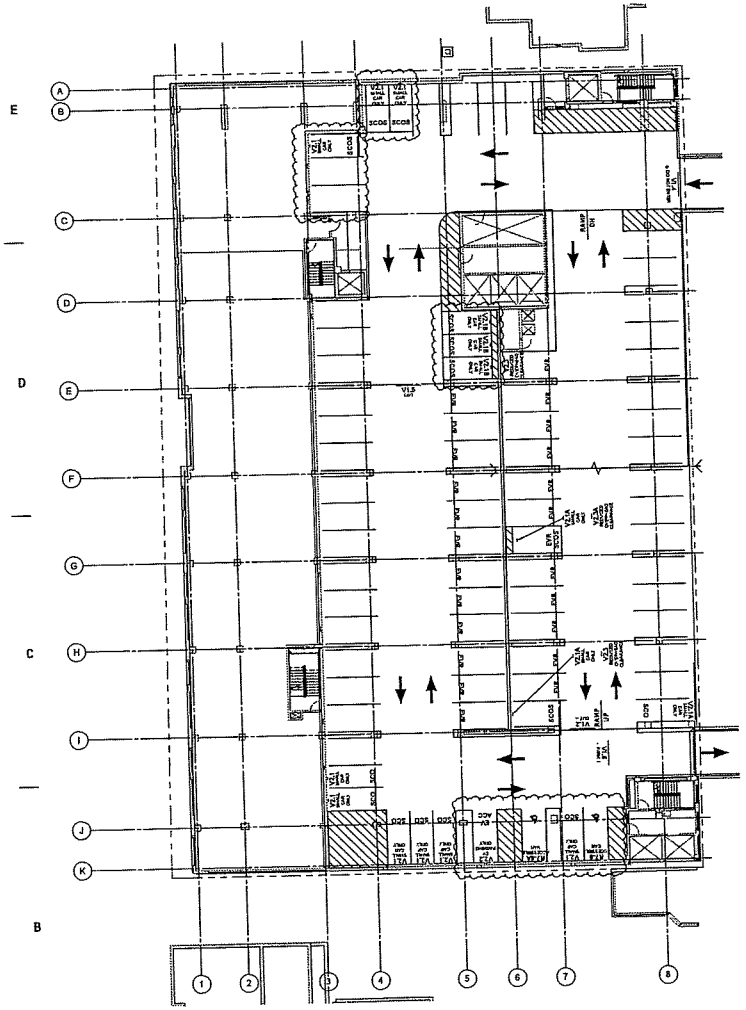
SHEET INFORMATION

PROJECT MANAGER

PROJECT NUMBER 13-003947.00

P2 STRIPING PLAN

PG1002-1



1 P3 STRIPING PLAN
1/16" = 1'-0"

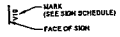
SHEET NOTES

1. SEE SHEET PG1000-1 FOR TYPICAL SHEET NOTES AND LOCATIONS OF TYPICAL DETAIL REFERENCES, UN.

SIGN TYPE LEGEND:

MARK	TYPE
V	VEHICULAR (RETROREFLECTIVE TEXT ONLY)
R	REGULATORY (RETROREFLECTIVE)
PVC	PVC CLEARANCE

SIGN KEY



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PROJECT INFORMATION

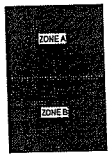
STATE STREET CAMPUS

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
11/07/23	PHI 4702

KEY PLAN



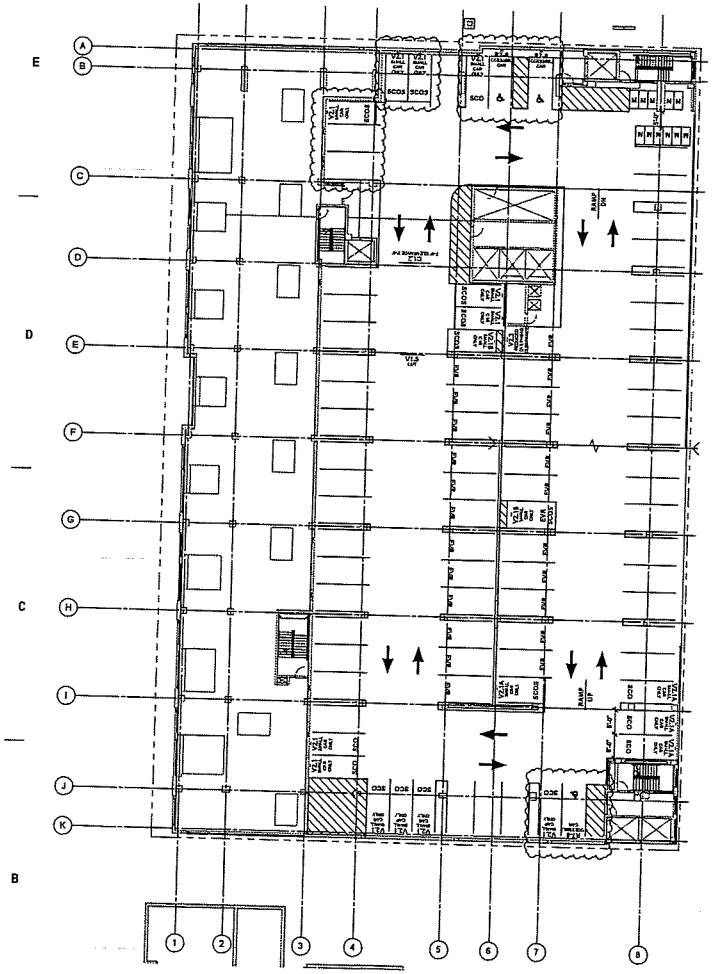
SHEET INFORMATION

PROJECT MANAGER

PROJECT NUMBER 13-003947.00

P3 STRIPING PLAN

PG1003-1



1 P4 STRIPING PLAN
1/16" = 1'-0"

SHEET NOTES

1. SEE SHEET PG1000-1 FOR TYPICAL SHEET NOTES AND LOCATIONS OF TYPICAL DETAIL REFERENCES, UN.

SIGN TYPE LEGEND:

MARK	TYPE
V	VINYLCUT (RETROREFLECTIVE TEXT ONLY)
R	REGULATORY (RETROREFLECTIVE)
PVC	PVC CLEARANCE

SIGN KEY

V 10 — MARK (SEE SIGN SCHEDULE)
FACE OF SIGN

eu:a
milwaukee | madison | green bay | dallas | atlanta

PROJECT INFORMATION

STATE STREET CAMPUS

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
11/07/2023	PHII_4202

KEY PLAN

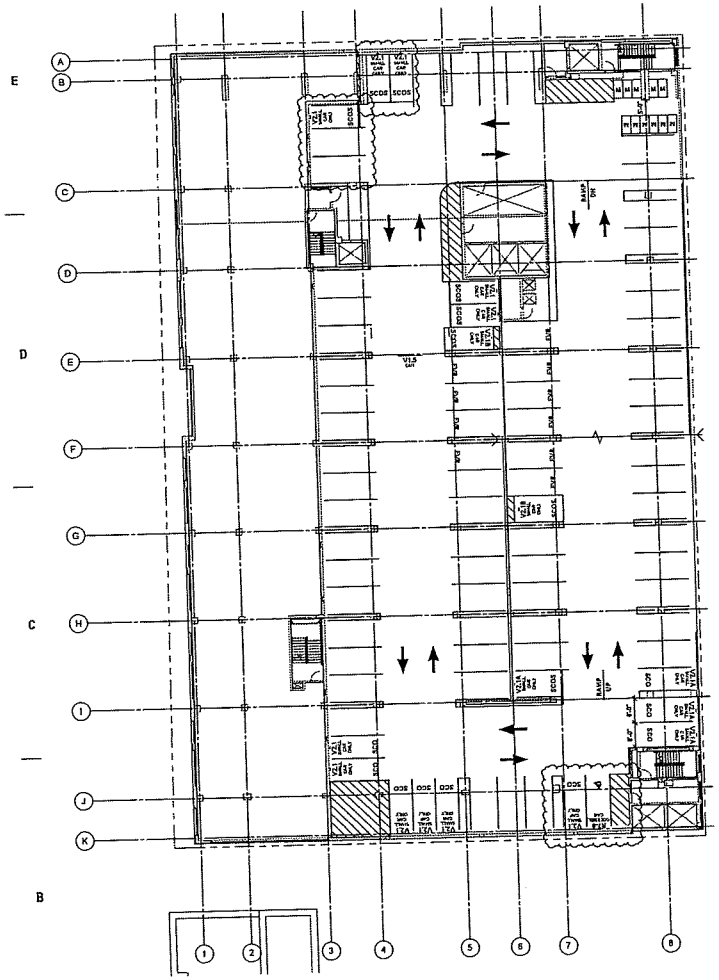
SHEET INFORMATION

PROJECT MANAGER

PROJECT NUMBER 13-003947.00

P4 STRIPING PLAN

PG1004-1



1 P5 STRIPING PLAN
1/16" = 1'-0"

SHEET NOTES

1. SEE SHEET PG1005-1 FOR TYPICAL SHEET NOTES AND LOCATIONS OF TYPICAL DETAIL REFERENCES, ON.

SIGN TYPE LEGEND:

MARK	TYPE
V	VEHICULAR (RETROREFLECTIVE TEXT ONLY)
R	REGULATORY (RETROREFLECTIVE)
PVC	PVC CLEARANCE

SIGN KEY

eu:a
milwaukee | madison | green bay | denver | atlanta

PROJECT INFORMATION

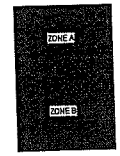
STATE STREET CAMPUS

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
11/12/2013	PHT. 4203

KEY PLAN



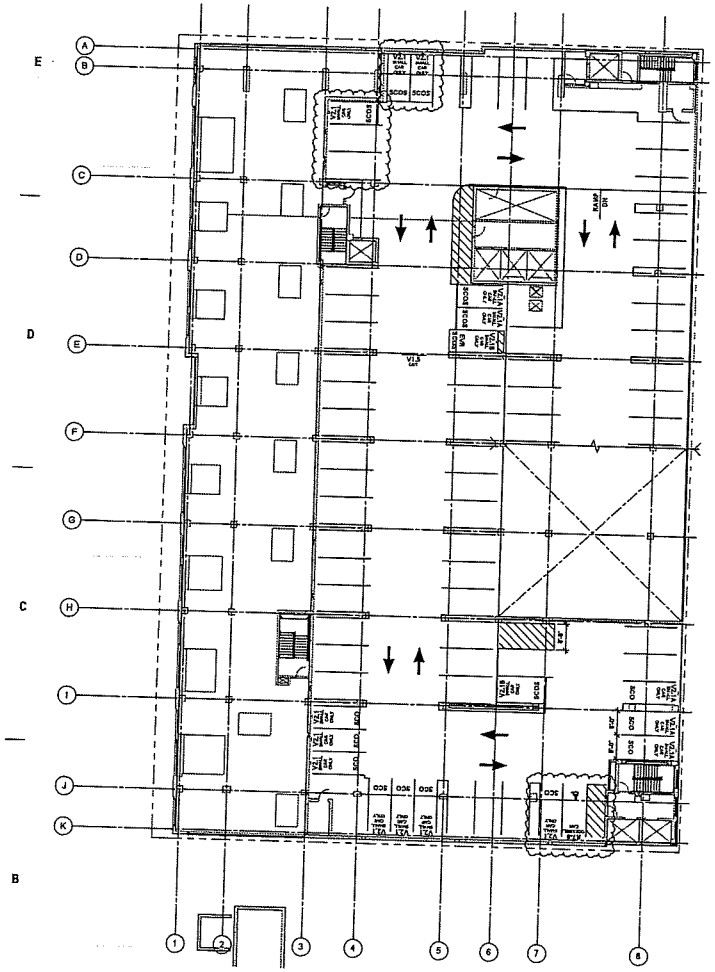
SHEET INFORMATION

PROJECT MANAGER

PROJECT NUMBER 13-003947.00

P5 STRIPING PLAN

PG1005-1



1 P6 STRIPING PLAN
1/16" = 1'-0"

SHEET NOTES

1. SEE SHEET PG1000-1 FOR TYPICAL SHEET NOTES AND LOCATIONS OF TYPICAL DETAIL REFERENCES, ETC.

SIGN TYPE LEGEND:

MARK	TYPE
V	VEHICULAR (RETROREFLECTIVE TEXT ONLY)
R	REGULATORY (RETROREFLECTIVE)
PVC	PVC CLEARANCE

SIGN KEY

V1B — MARK (SEE SIGN SCHEDULE)
FACE OF SIGN

eu:a
milwaukee | madison | green bay | denver | atlanta

PROJECT INFORMATION

STATE STREET CAMPUS

415 N. LAKE STREET
MADISON, WI 53715

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
11/02/2023	PHS REVIEW

KEY PLAN

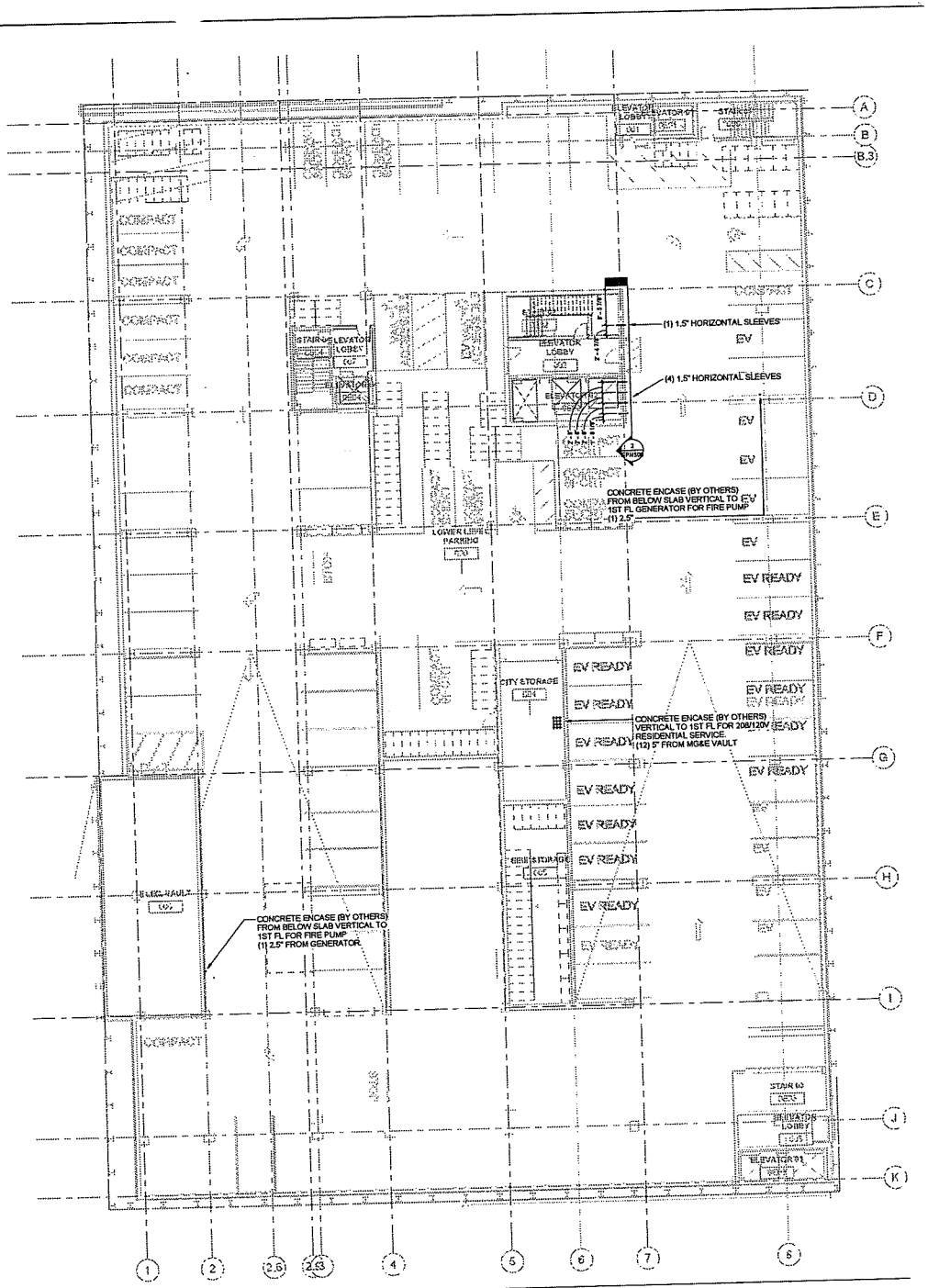
SHEET INFORMATION

PROJECT MANAGER

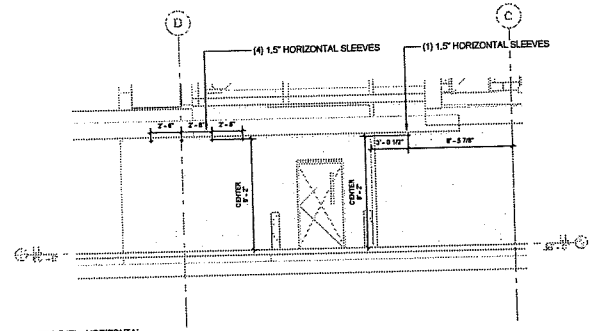
PROJECT NUMBER 13-003947.00

P6 STRIPING PLAN

PG1006-1



① PENETRATION PLAN - LOWER LEVEL
3/32" = 1'-0"



② LOWER LEVEL - HORIZONTAL PENETRATIONS
1/4" = 1'-0"

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WAUKESHA, WI 53186

223 EAST TYRANENA PARK ROAD
LAKE MILLS 53551

4009 FELLAND RD SUITE 106
MADISON, WI 53718

PROJECT NAME:

STATE ST. STUDENT HOUSING

PROJECT ADDRESS:

415 N. LAKE STREET
MADISON, WI 53715

PROJECT NO. 23605

REVISIONS

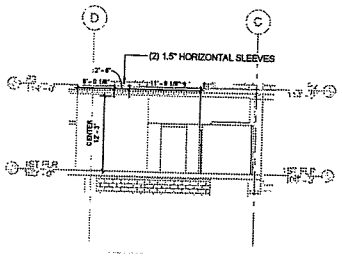
Date	Description
08/01/2023	75% DD Set

SHEET INFO

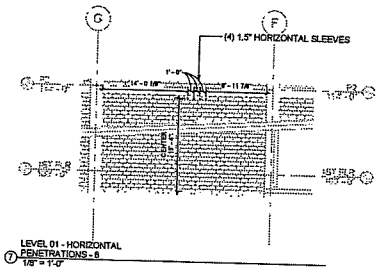
SHEET NAME:

PENETRATIONS PLAN - LOWER LEVEL

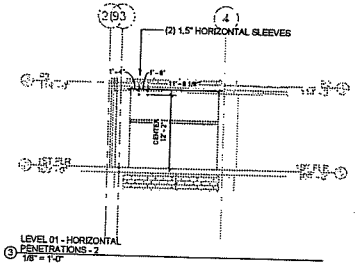
SCALE:	As Indicated
PROJECT MANAGER:	MADISON
DRAWN BY:	M.KRAUSE
ISSUE DATE:	7/27/2023
SHEET NO:	EPN500



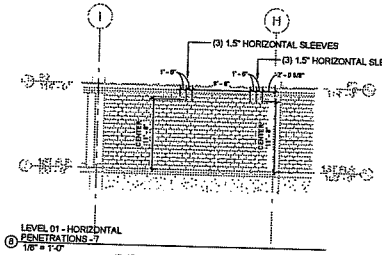
LEVEL 01 - HORIZONTAL PENETRATIONS - 1
2 1/8" = 1'-0"



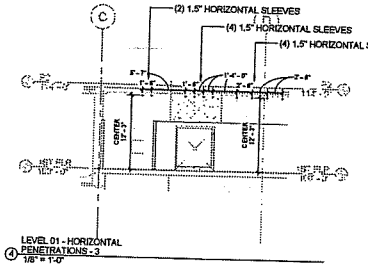
LEVEL 01 - HORIZONTAL PENETRATIONS - 6
7 1/8" = 1'-0"



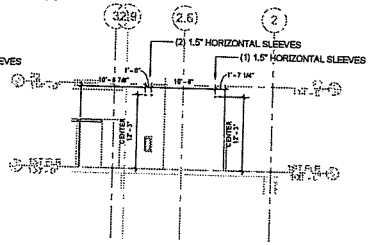
LEVEL 01 - HORIZONTAL PENETRATIONS - 2
3 1/8" = 1'-0"



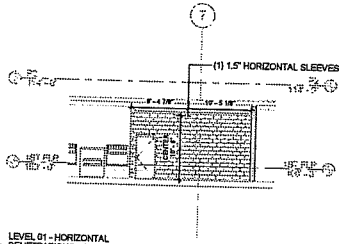
LEVEL 01 - HORIZONTAL PENETRATIONS - 7
8 1/8" = 1'-0"



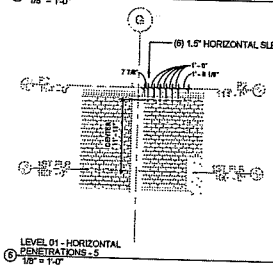
LEVEL 01 - HORIZONTAL PENETRATIONS - 3
4 1/8" = 1'-0"



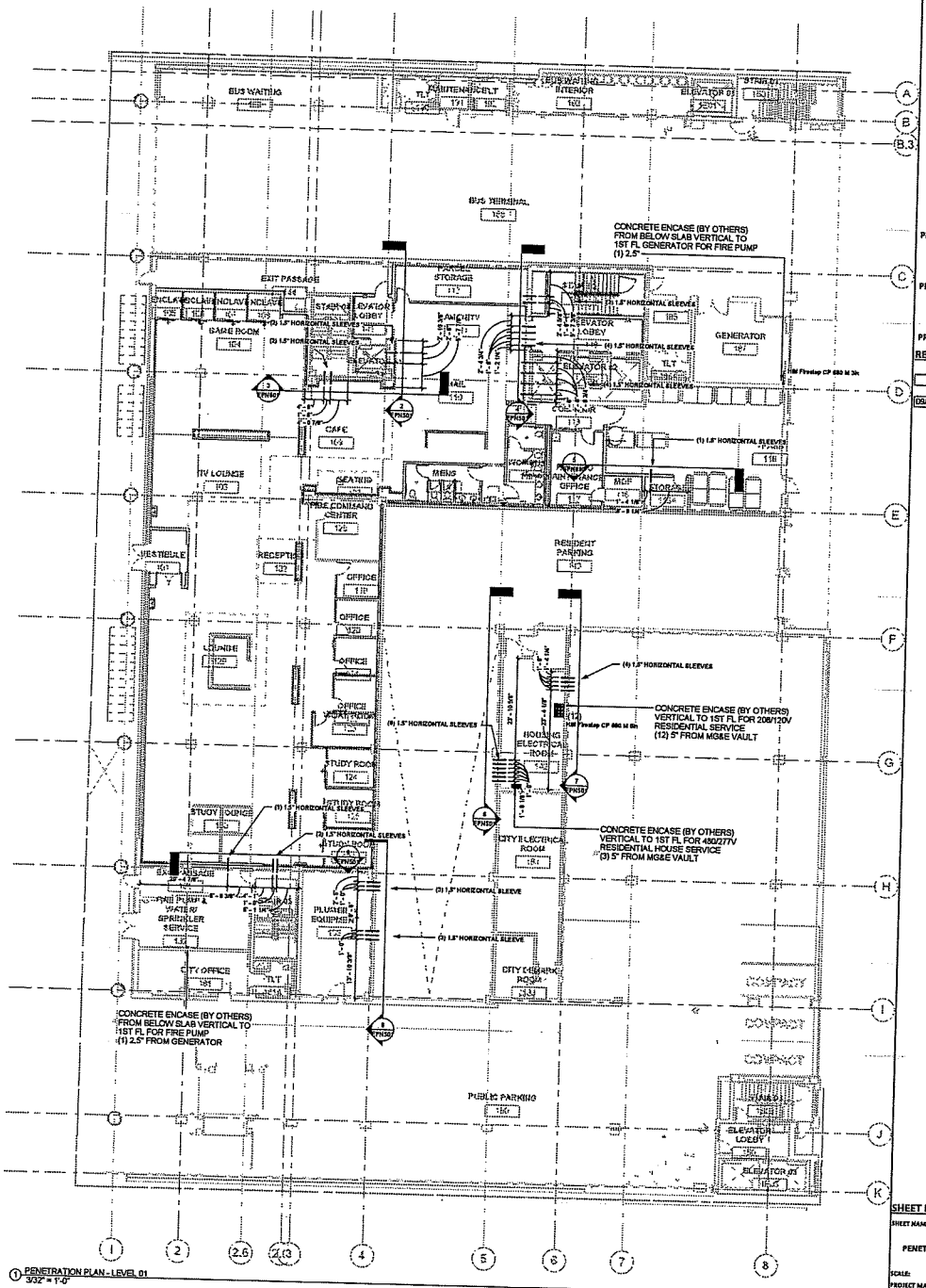
LEVEL 01 - HORIZONTAL PENETRATIONS - 8
9 1/8" = 1'-0"



LEVEL 01 - HORIZONTAL PENETRATIONS - 4
5 1/8" = 1'-0"



LEVEL 01 - HORIZONTAL PENETRATIONS - 5
6 1/8" = 1'-0"



1 PENETRATION PLAN - LEVEL 01
3/32" = 1'-0"

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LAKE MILLS 53551
4009 FELLAND RD SUITE 106
MADISON, WI 53718

PROJECT NAME:
STATE ST. STUDENT HOUSING

PROJECT ADDRESS:
415 N. LAKE STREET
MADISON, WI 53715

PROJECT NO. 23605

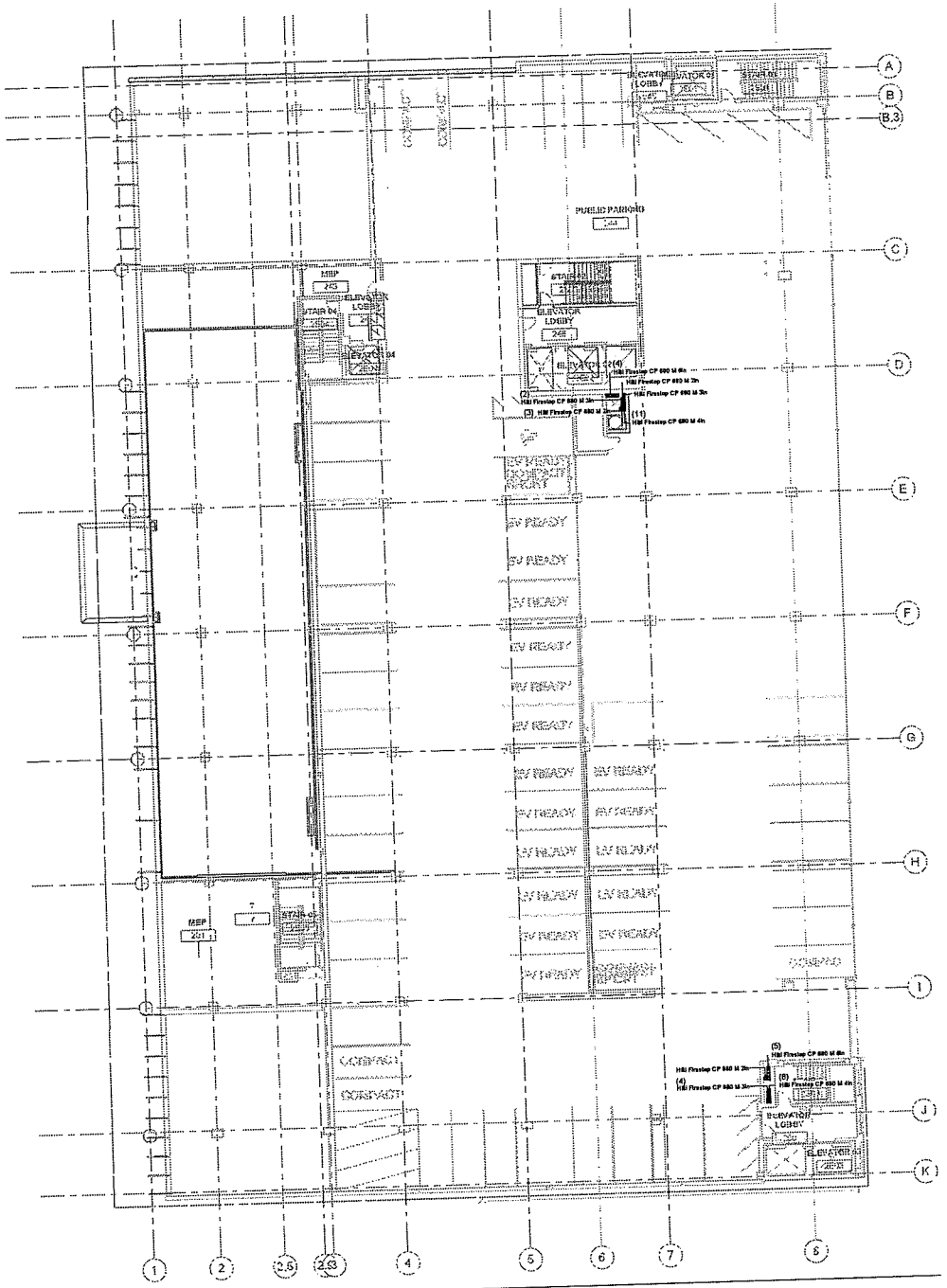
REVISIONS

Date	Description
09/01/2023	75% DD Set

SHEET INFO

SHEET NAME:
PENETRATIONS PLAN - LEVEL 01

SCALE:	As indicated
PROJECT MANAGER:	MADISON
DRAWN BY:	M.KRAUSE
ISSUE DATE:	7/27/2023
SHEET NO:	EPN501



① PENETRATION PLAN - LEVEL P2
3/32" = 1'-0"

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4009 FELLAND RD SUITE 106
MADISON, WI 53718

PROJECT NAME:
STATE ST. STUDENT HOUSING

PROJECT ADDRESS:
415 N. LAKE STREET
MADISON, WI 53715

PROJECT NO. 23605

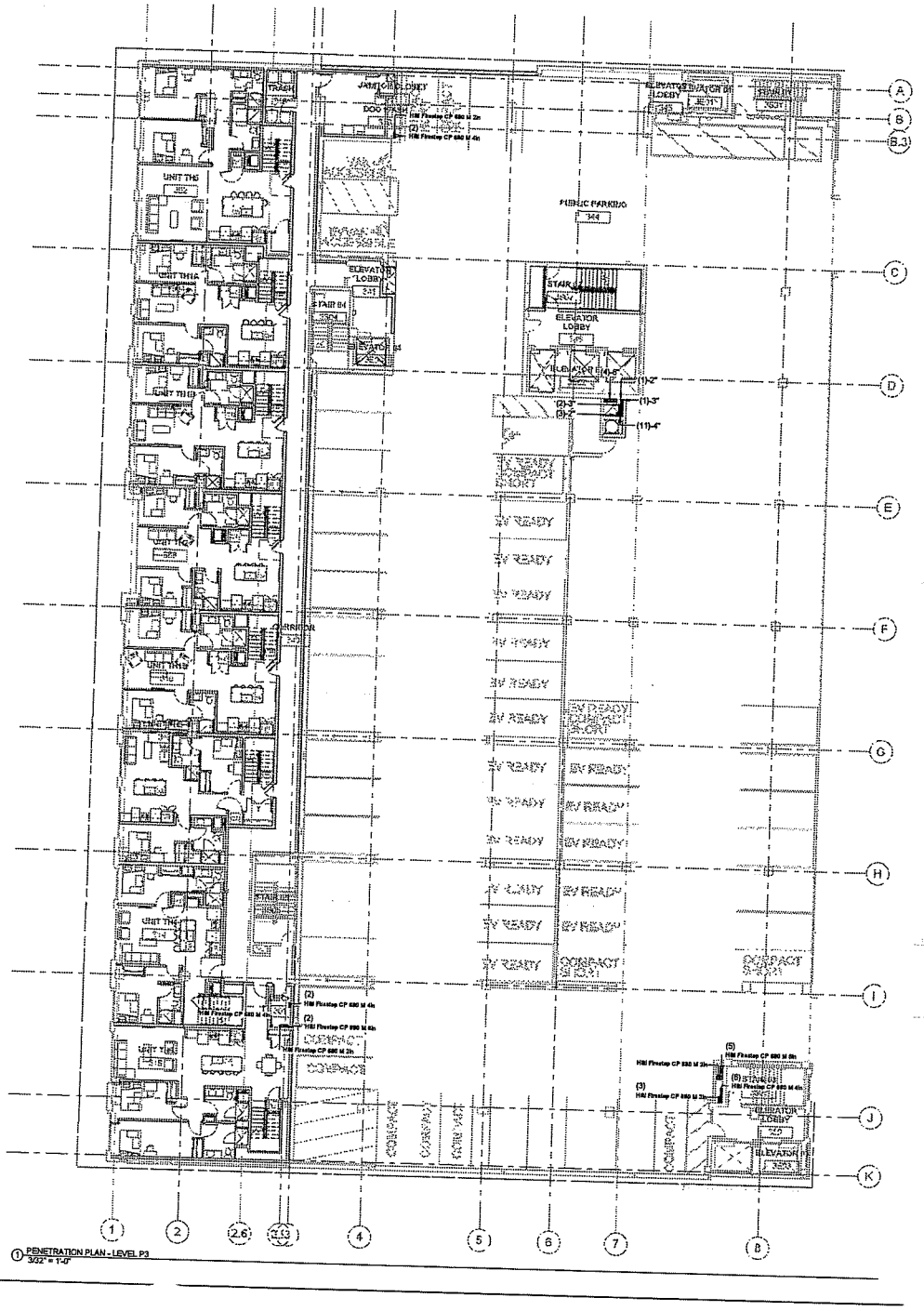
REVISIONS

Date	Description
09/01/2023	75% DD Set

SHEET INFO

SHEET NAME:
PENETRATIONS PLAN - LEVEL P2

SCALE:	3/32" = 1'-0"
PROJECT MANAGER:	MADISON
DRAWN BY:	M.KRAUSE
ISSUE DATE:	7/27/2023
SHEET NO:	EPN502



① PENETRATION PLAN - LEVEL P3
3/32" = 1'-0"

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LAKE MILLS 53551
4009 FELLAND RD SUITE 106
MADISON, WI 53718

PROJECT NAME:
STATE ST. STUDENT HOUSING

PROJECT ADDRESS:
415 N. LAKE STREET
MADISON, WI 53715

PROJECT NO. 23605

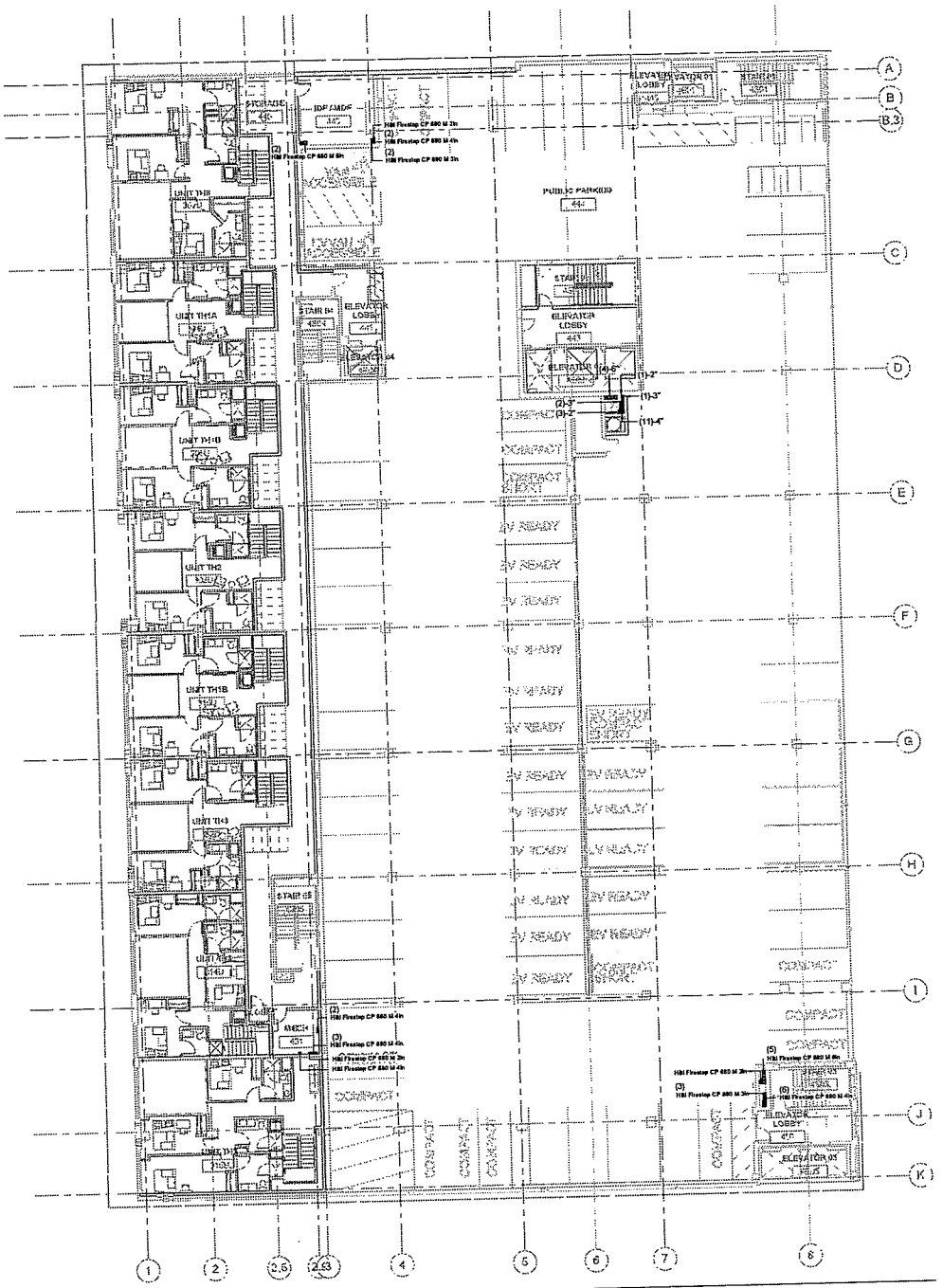
REVISIONS

Date	Description
08/01/2023	75% DD Set

SHEET INFO

SHEET NAME:
PENETRATIONS PLAN - LEVEL P3

SCALE:	3/32" = 1'-0"
PROJECT MANAGER:	MADISON
DRAWN BY:	M. KRAUSE
ISSUE DATE:	7/27/2023
SHEET NO:	EPN503



① PENETRATION PLAN - LEVEL P4
3/32" = 1'-0"

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LAKE MILLS 53551

4009 FELLAND RD SUITE 106
MADISON, WI 53718

PROJECT NAME:

STATE ST. STUDENT HOUSING

PROJECT ADDRESS:

415 N. LAKE STREET
MADISON, WI 53715

PROJECT NO. 23605

REVISIONS

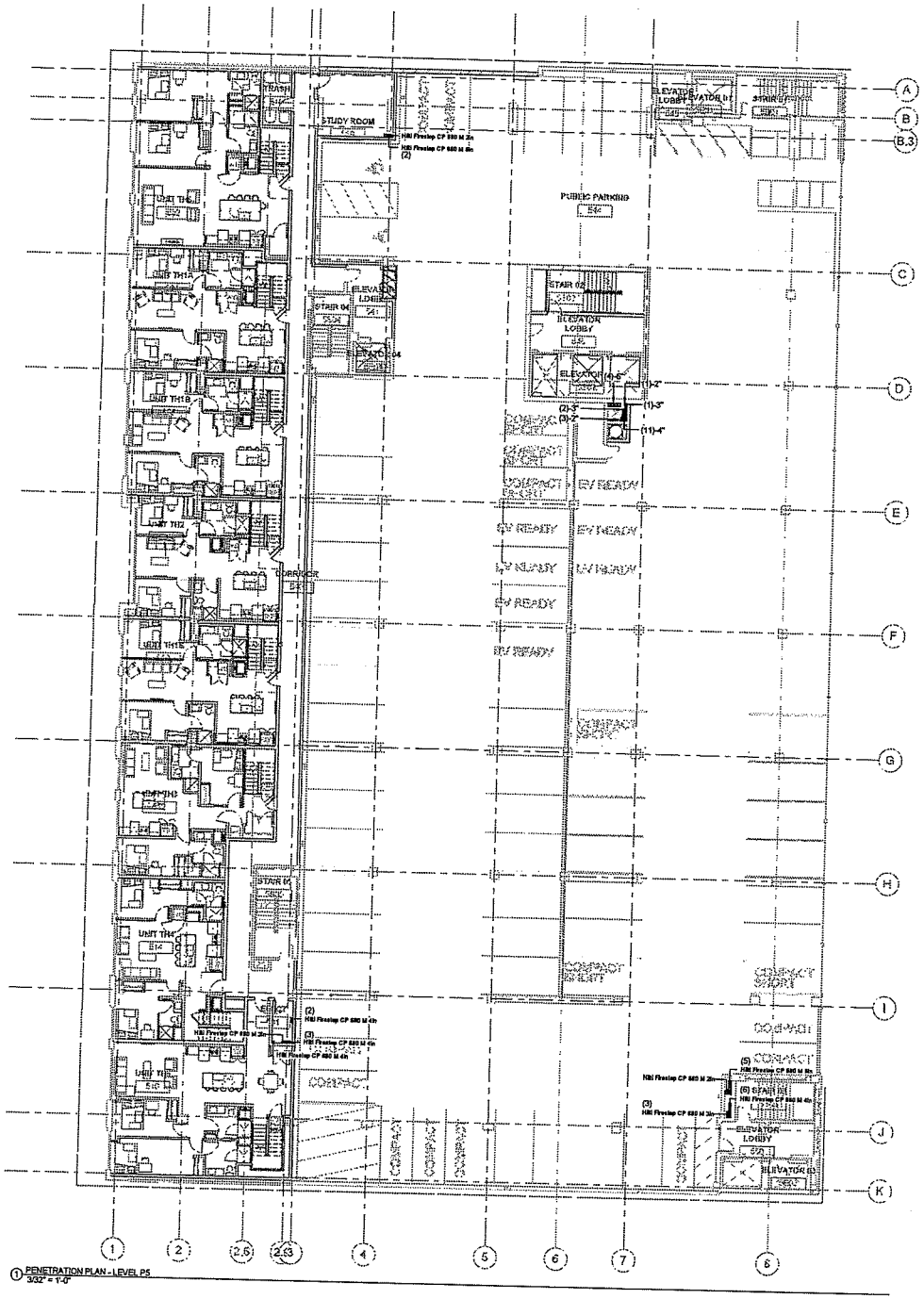
Date	Description
09/01/2023	75% DD Set

SHEET INFO

SHEET NAME:

PENETRATIONS PLAN - LEVEL P4

SCALE:	3/32" = 1'-0"
PROJECT MANAGER:	MADISON
DRAWN BY:	M.KRAUSE
ISSUE DATE:	7/27/2023
SHEET NO:	EPN504



1 PENETRATION PLAN - LEVEL P5
3/32" = 1'-0"

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WAUKESHA, WI 53186
223 EAST TYRANENA PARK ROAD
LAKE MILLS 53551
4009 FELLAND RD SUITE 106
MADISON, WI 53718

PROJECT NAME:
STATE ST. STUDENT HOUSING

PROJECT ADDRESS:
415 N. LAKE STREET
MADISON, WI 53715

PROJECT NO. 23605

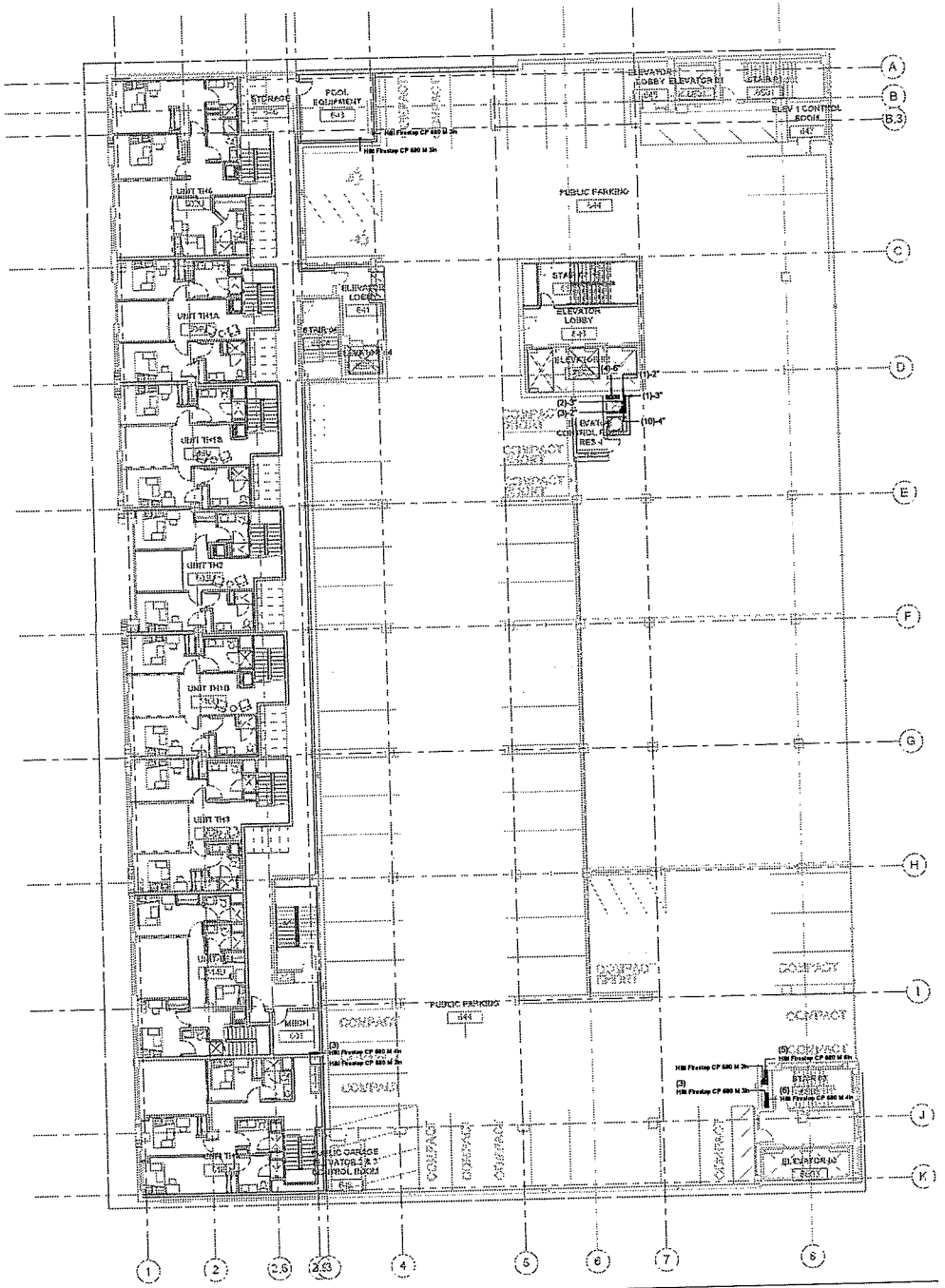
REVISIONS

Date	Description
08/01/2023	75% DD Set

SHEET INFO

SHEET NAME:
PENETRATIONS PLAN - LEVEL P5

SCALE:	3/32" = 1'-0"
PROJECT MANAGER:	MADISON
DRAWN BY:	M.KRAUSE
ISSUE DATE:	7/27/2023
SHEET NO:	EPN505



① PENETRATION PLAN - LEVEL P6
3/32" = 1'-0"

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WAUKESHA, WI 53186

223 EAST TYRANENA PARK ROAD
LAKE MILLS 53551

4009 FEILAND RD SUITE 106
MADISON, WI 53718

PROJECT NAME:

STATE ST. STUDENT HOUSING

PROJECT ADDRESS:

415 N. LAKE STREET
MADISON, WI 53715

PROJECT NO. 23605

REVISIONS

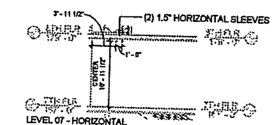
Date	Description
08/01/2023	75% DD Set

SHEET INFO

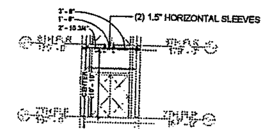
SHEET NAME:

PENETRATIONS PLAN - LEVEL P6

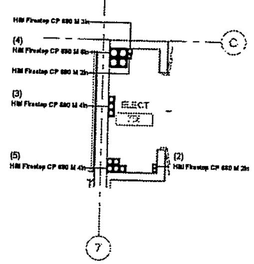
SCALE:	3/32" = 1'-0"
PROJECT MANAGER:	MADISON
DRAWN BY:	M.KRAUSE
ISSUE DATE:	7/27/2023
SHEET NO:	EPN506



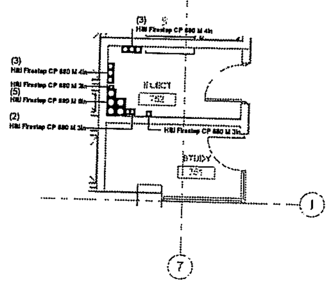
⑤ LEVEL 07 - HORIZONTAL PENETRATIONS - 2
1/8" = 1'-0"



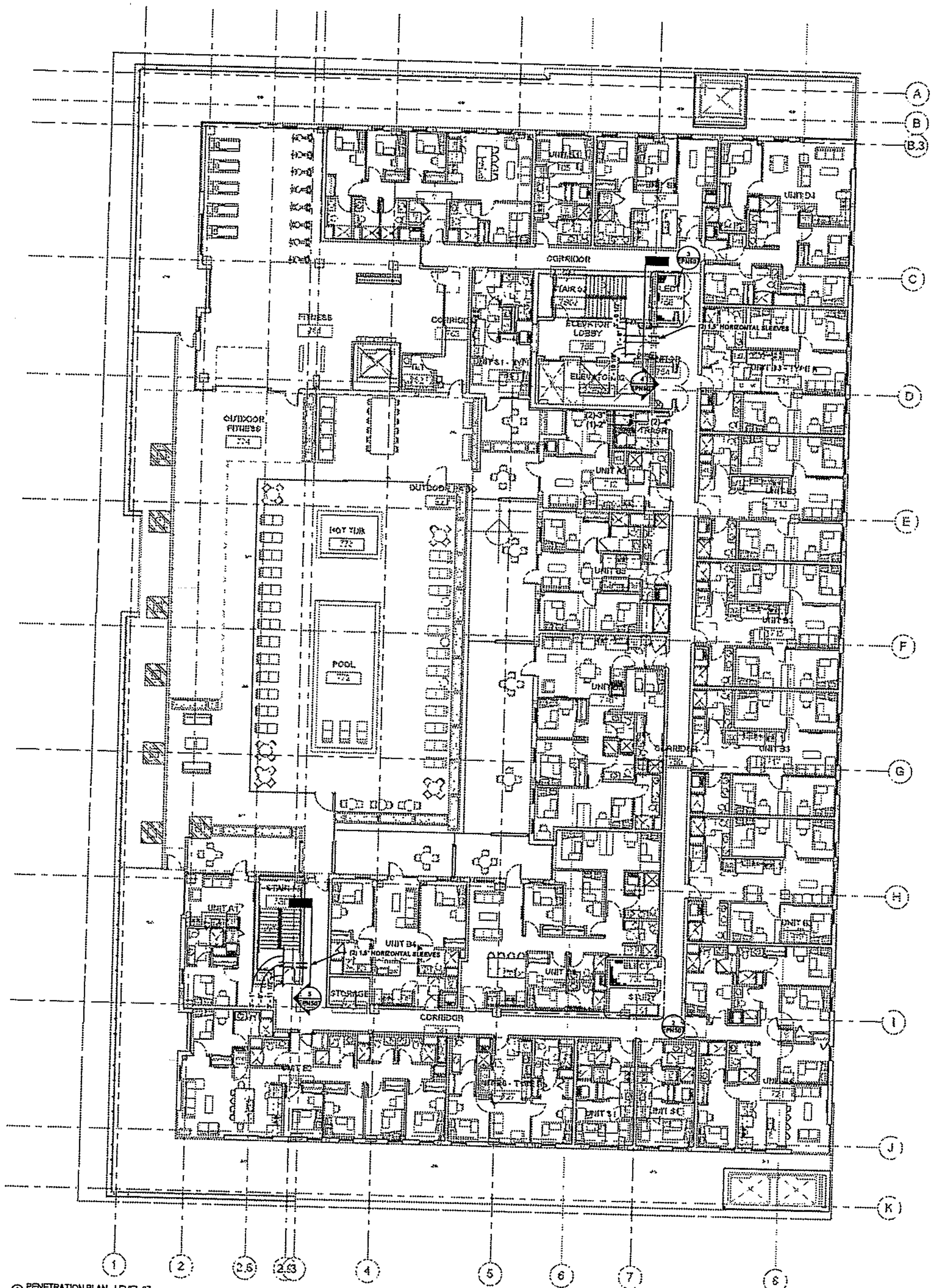
④ LEVEL 07 - HORIZONTAL PENETRATIONS - 1
1/8" = 1'-0"



③ 07 - ELECTRICAL 756 (NORTH)
1/4" = 1'-0"



② 07 - ELECTRICAL 752 (SOUTH)
1/4" = 1'-0"



① PENETRATION PLAN - LEVEL 07
3/32" = 1'-0"

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LAKE MILLS 53551
4009 FELLAND RD SUITE 106
MADISON, WI 53718

PROJECT NAME:
STATE ST. STUDENT HOUSING

PROJECT ADDRESS:
415 N. LAKE STREET
MADISON, WI 53715

PROJECT NO. 23605

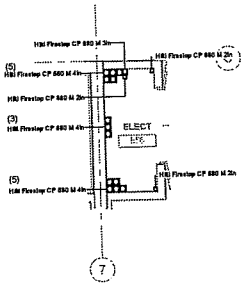
REVISIONS

Date	Description
09/01/2023	75% DD Set

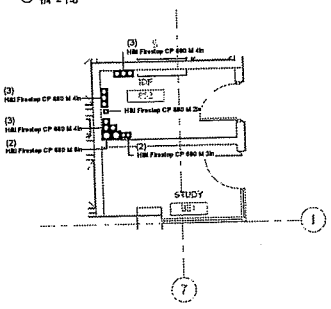
SHEET INFO

SHEET NAME:
PENETRATIONS PLAN - LEVEL 07

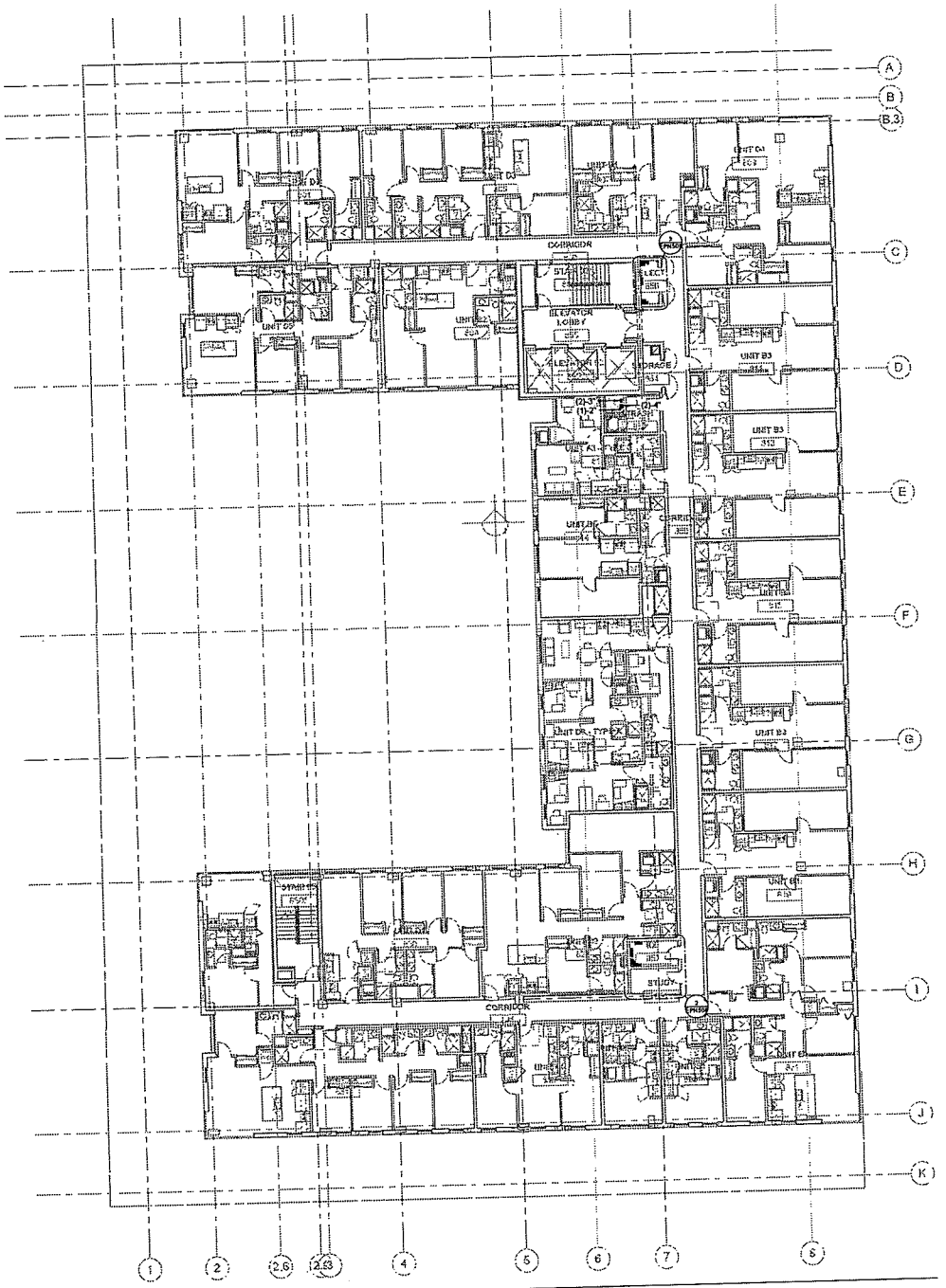
SCALE:	As indicated
PROJECT MANAGER:	MADISON
DRAWN BY:	M.KRAUSE
ISSUE DATE:	7/27/2023
SHEET NO:	EPN507



③ 08 - ELECTRICAL 856 (NORTH)
1/4" = 1'-0"



② 08 - ELECTRICAL 852 (SOUTH)
1/4" = 1'-0"



① PENETRATION PLAN - LEVEL 08
3/32" = 1'-0"

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223 EAST TYRANENA PARK ROAD
LAKE MILLS 53551
4009 FELLAND RD SUITE 106
MADISON, WI 53718

PROJECT NAME:
STATE ST. STUDENT HOUSING

PROJECT ADDRESS:
415 N. LAKE STREET
MADISON, WI 53715

PROJECT NO. 23605

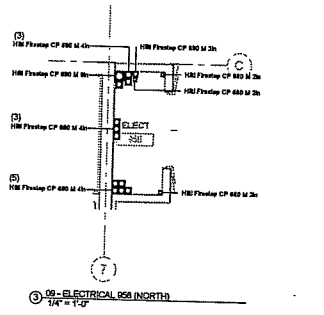
REVISIONS

Date	Description
08/01/2023	75% DD Set

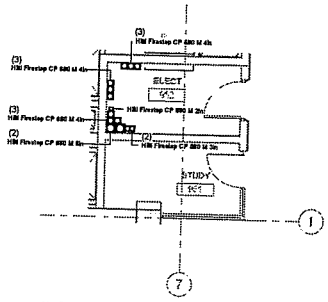
SHEET INFO

SHEET NAME:
PENETRATIONS PLAN - LEVEL 08

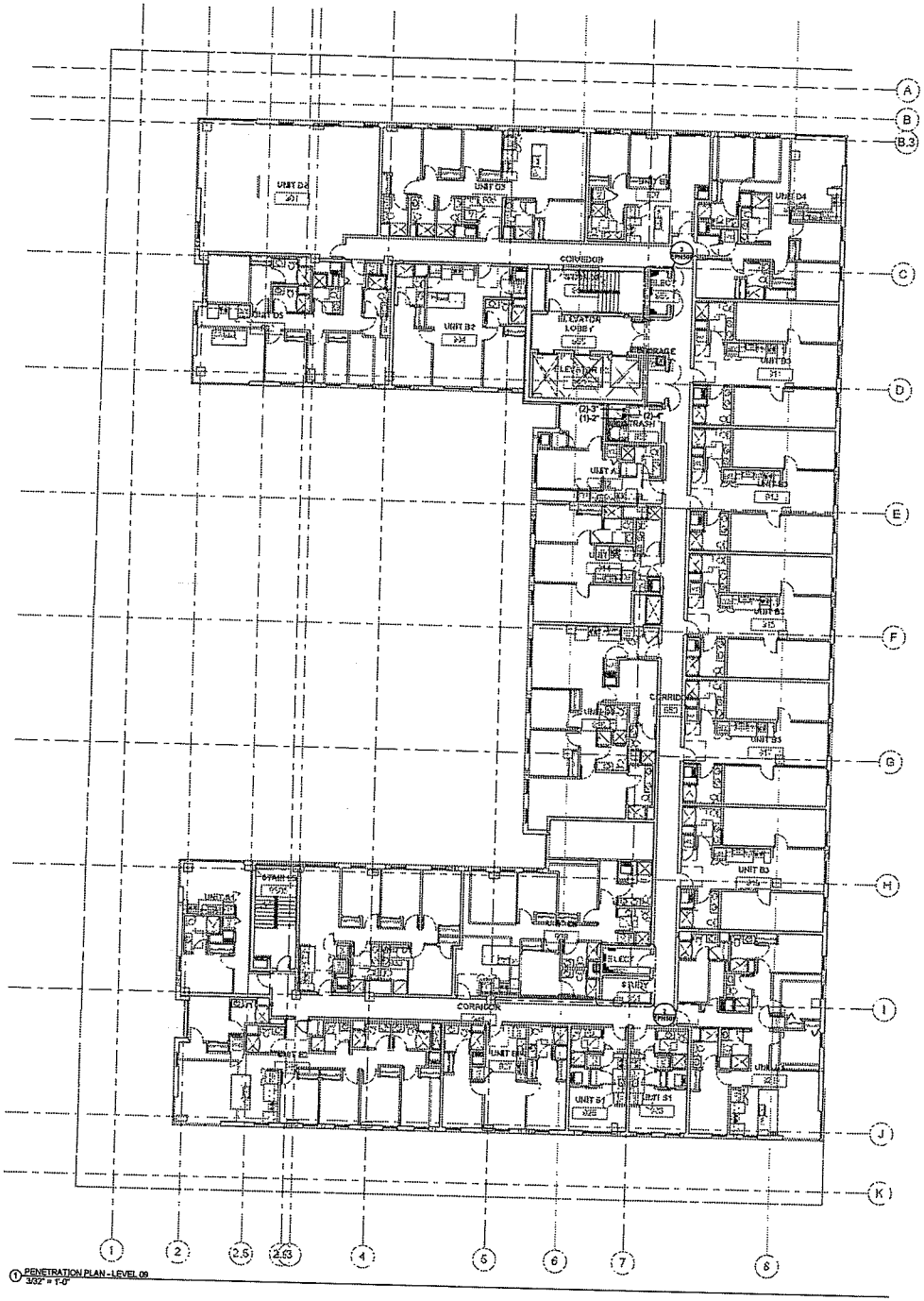
SCALE:	As Indicated
PROJECT MANAGER:	MADISON
DRAWN BY:	M.KRAUSE
ISSUE DATE:	7/27/2023
SHEET NO:	EPN508



③ 09 - ELECTRICAL 858 (NORTH)
1/4" = 1'-0"



② 09 - ELECTRICAL 852 (SOUTH)
1/4" = 1'-0"



① PENETRATION PLAN - LEVEL 09
3/32" = 1'-0"

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LAKE MILLS 53551

4009 FELLAND RD SUITE 106
MADISON, WI 53718

PROJECT NAME:

STATE ST. STUDENT HOUSING

PROJECT ADDRESS:

415 N. LAKE STREET
MADISON, WI 53715

PROJECT NO. 23605

REVISIONS

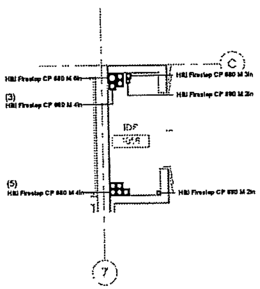
Date	Description
09/01/2023	75% DD Set

SHEET INFO

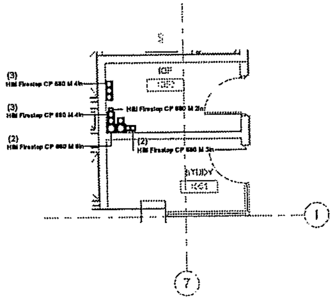
SHEET NAME:

PENETRATIONS PLAN - LEVEL 09

SCALE:	As Indicated
PROJECT MANAGER:	MADISON
DRAWN BY:	M.KRAUSE
ISSUE DATE:	7/27/2023
SHEET NO:	EPN509



③ 10 - ELECTRICAL 1056 (NORTH)
1/4" = 1'-0"



② 10 - ELECTRICAL 1052 (SOUTH)
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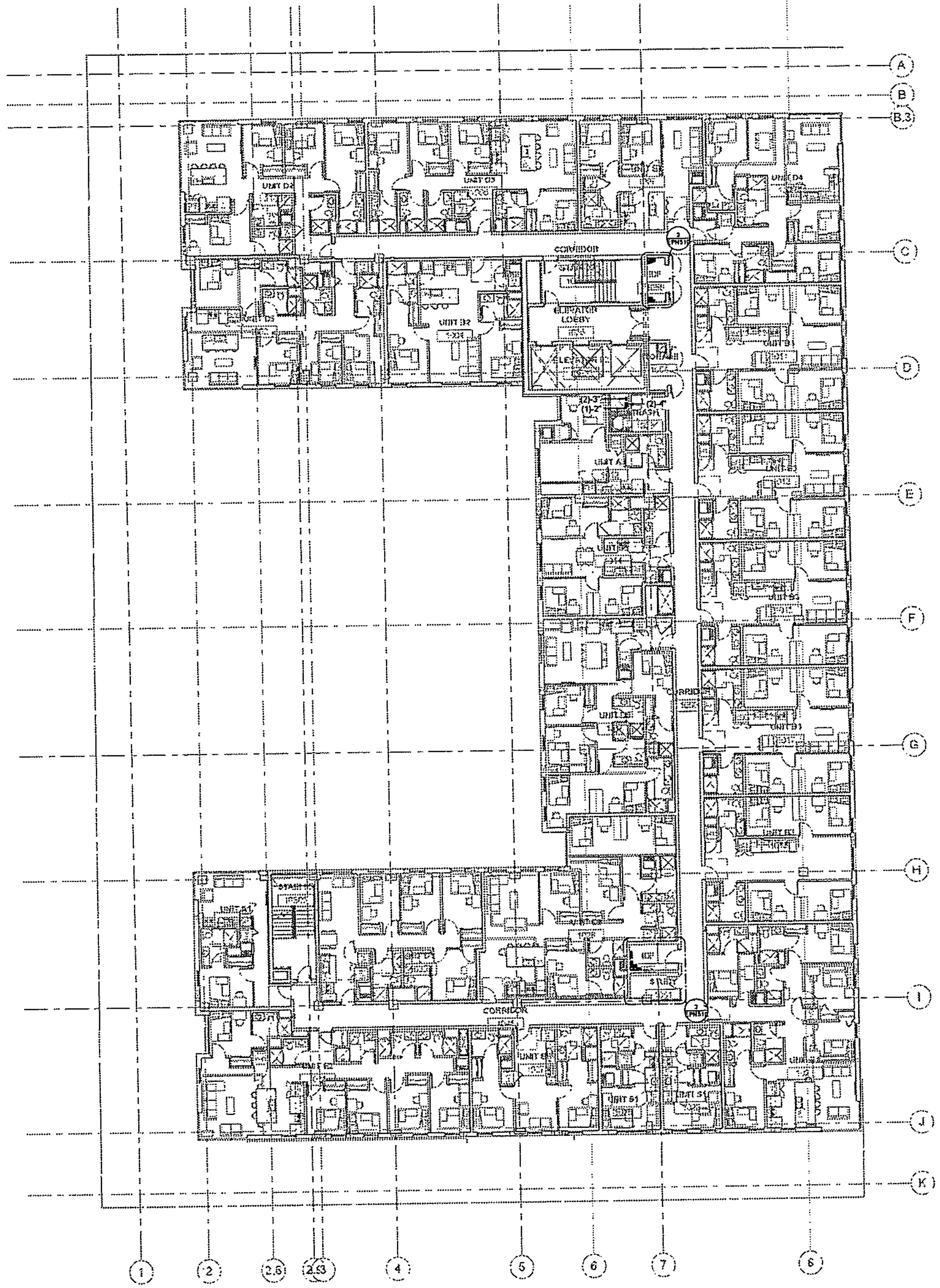

① PENETRATION PLAN - LEVEL 10
3/32" = 1'-0"

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PROJECT NAME:

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PROJECT ADDRESS:

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PROJECT NO. 23605

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Date	Description
09/01/2023	75% DD Set

SHEET INFO

SHEET NAME:

PENETRATIONS PLAN - LEVEL 10

SCALE:	As indicated
PROJECT MANAGER:	MADISON
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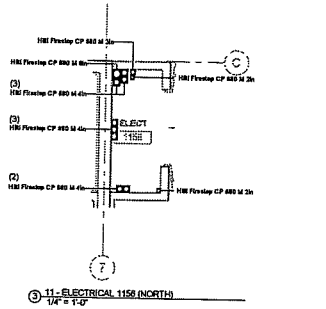
ISSUE DATE:	7/27/2023
SHEET NO:	EPN510



③ 11 - ELECTRICAL 1158 (NORTH)
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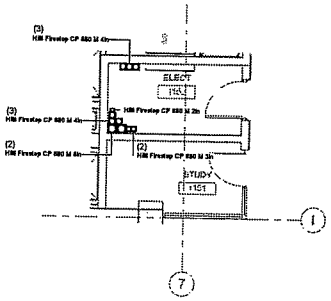

② 11 - ELECTRICAL 1152 (SOUTH)
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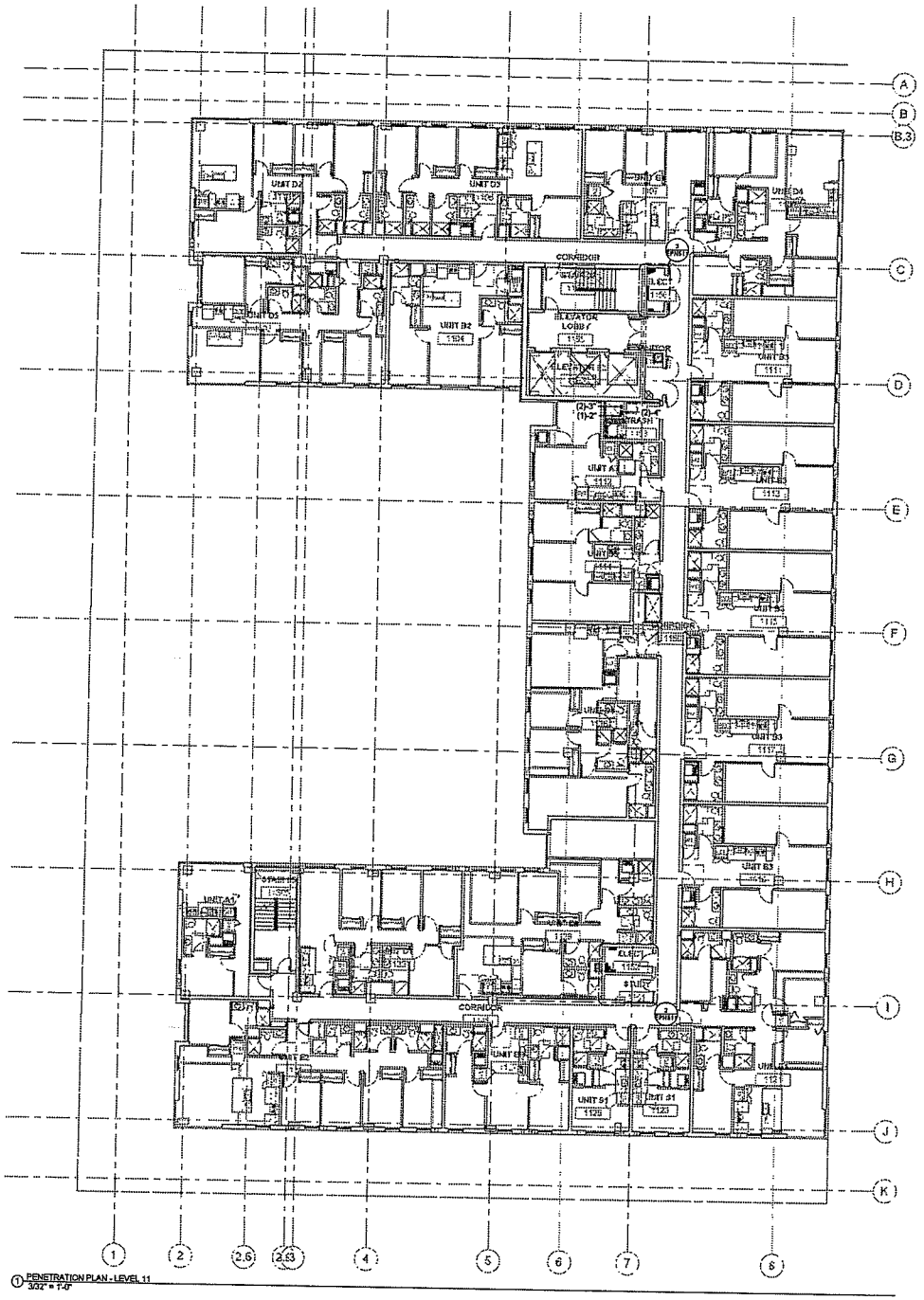

① PENETRATION PLAN - LEVEL 11
3/32" = 1'-0"

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SHEET NAME:
PENETRATIONS PLAN - LEVEL 11

SCALE:	As indicated
PROJECT MANAGER:	MADISON
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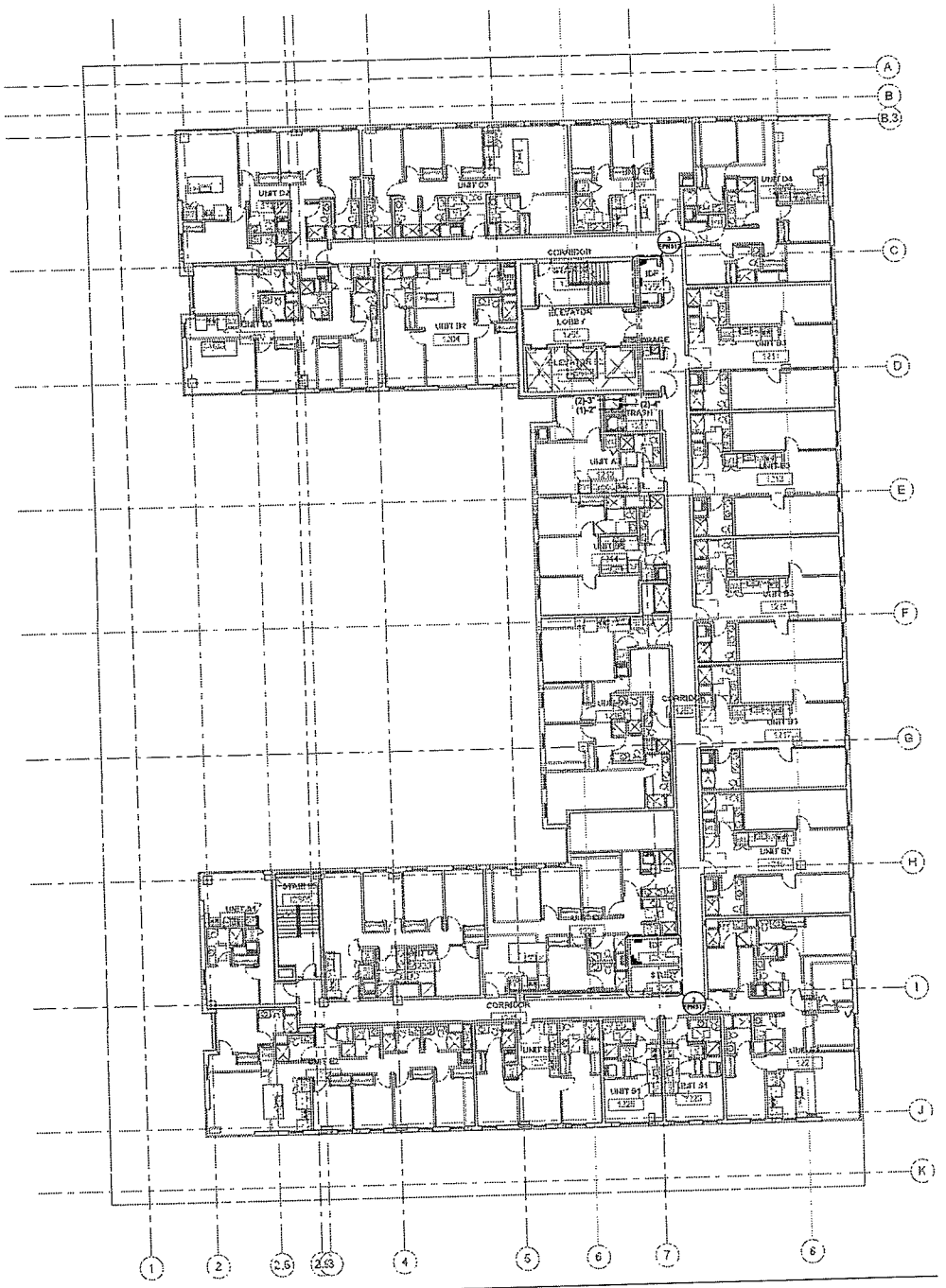
ISSUE DATE:	7/27/2023
SHEET NO:	EPN511



① PENETRATION PLAN - LEVEL 12
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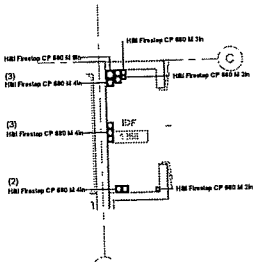

③ 12 - ELECTRICAL 1256 (NORTH)
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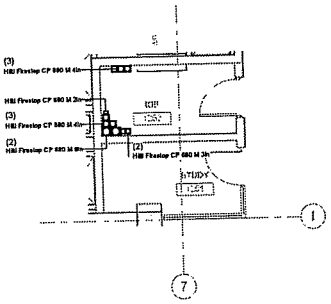

② 12 - ELECTRICAL 1252 (SOUTH)
1/4" = 1'-0"

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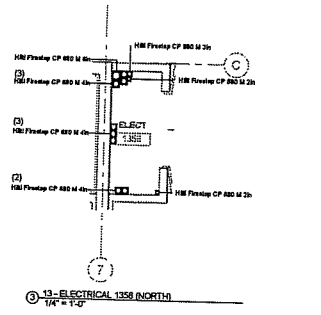
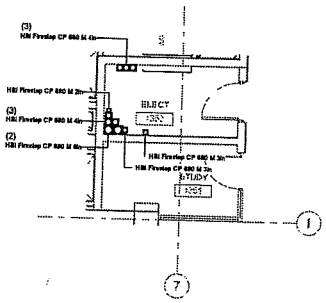
PENETRATIONS PLAN - LEVEL 12

SCALE:	As Indicated
PROJECT MANAGER:	MADISON
DRAWN BY:	M.KRAUSE
ISSUE DATE:	7/27/2023
SHEET NO:	EPN512



③ 13 - ELECTRICAL 1358 (NORTH)
1/4" = 1'-0"



② 13 - ELECTRICAL 1352 (SOUTH)
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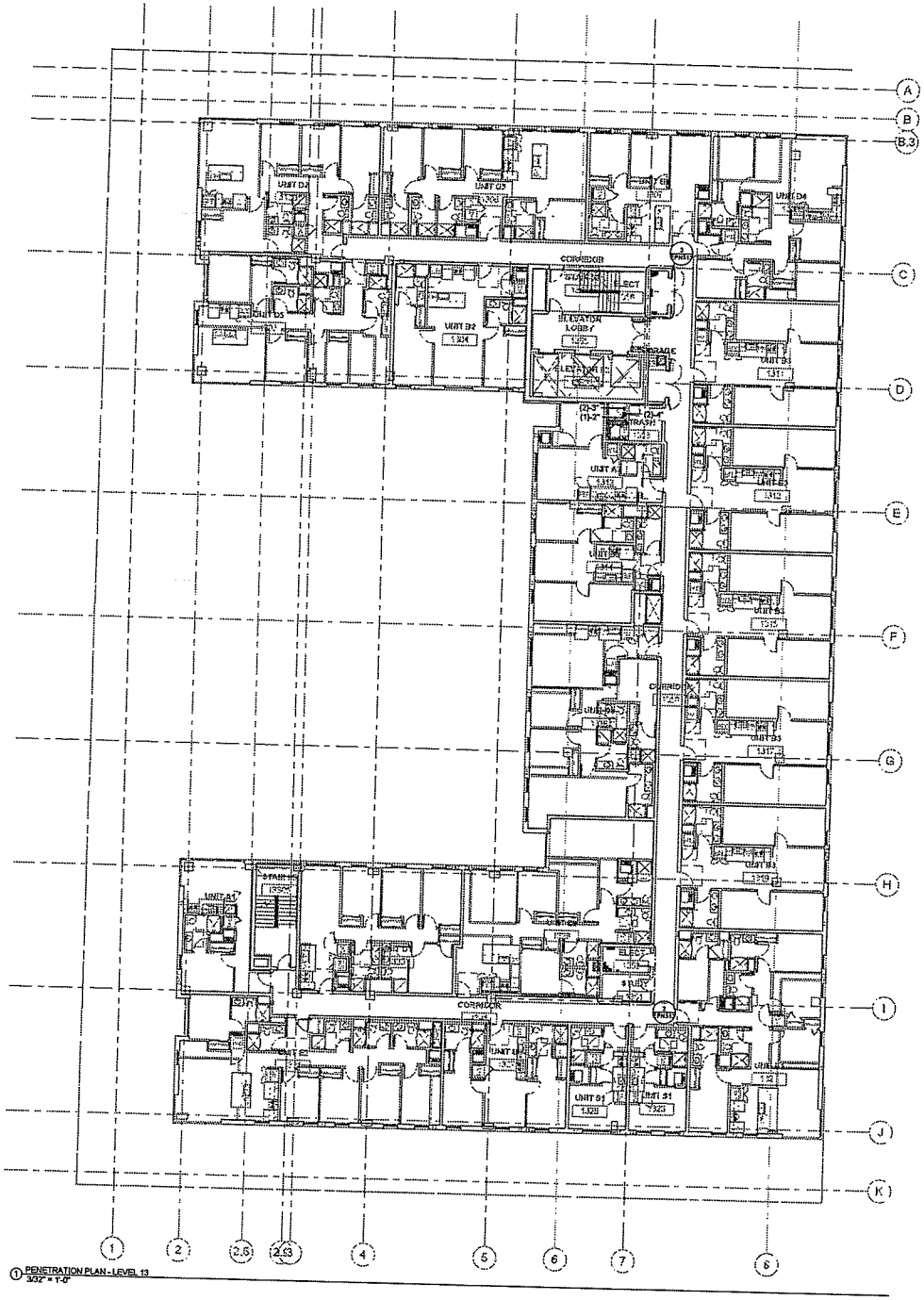

① PENETRATION PLAN - LEVEL 13
3/32" = 1'-0"

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SHEET NAME:
PENETRATIONS PLAN - LEVEL 13

SCALE:	As indicated
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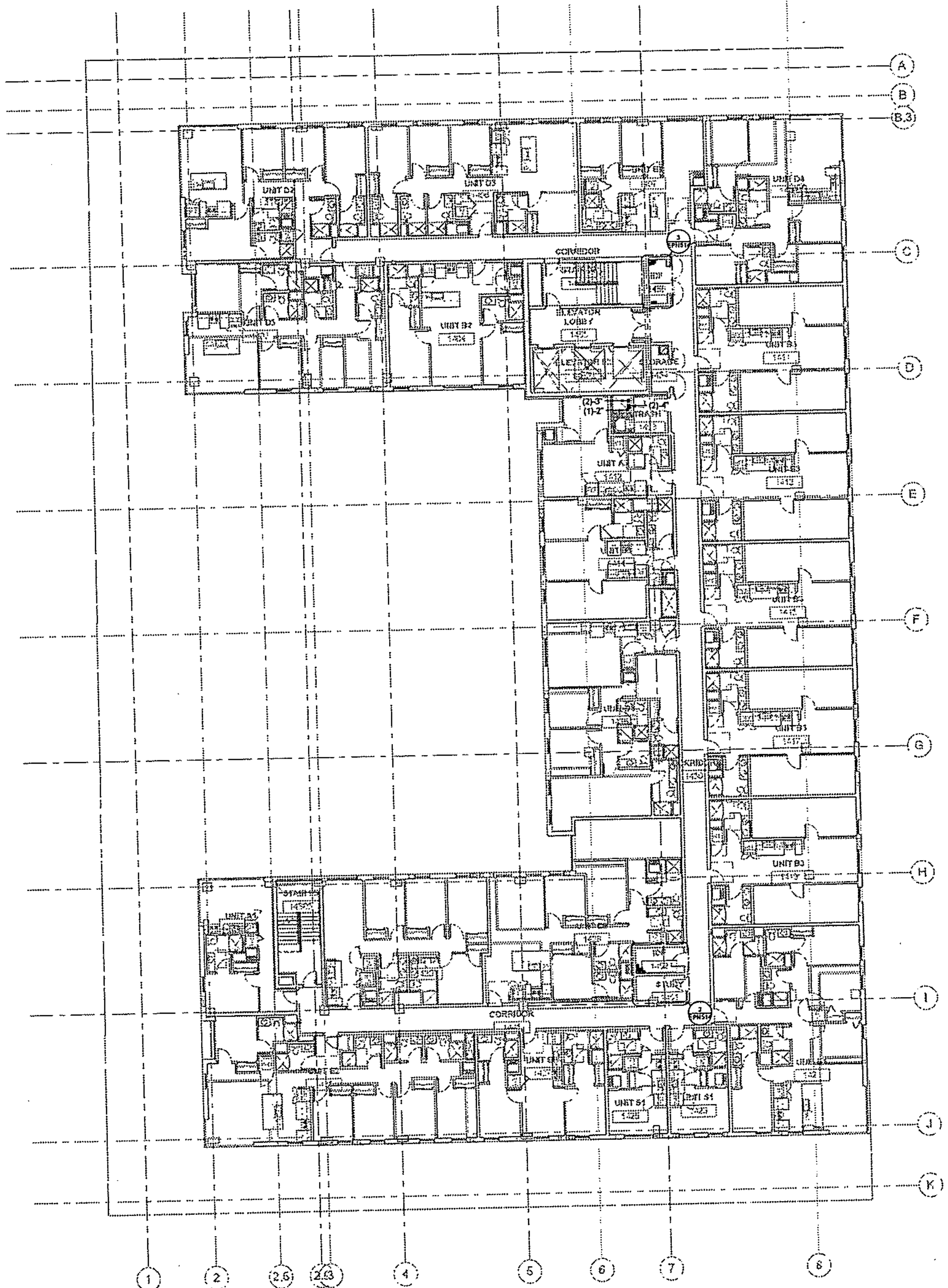
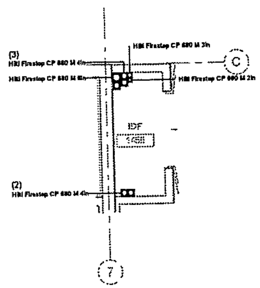
ISSUE DATE:	7/27/2023
SHEET NO:	EPN513



① PENETRATION PLAN - LEVEL 14
3/32" = 1'-0"



③ 14 - ELECTRICAL 1456 (NORTH)
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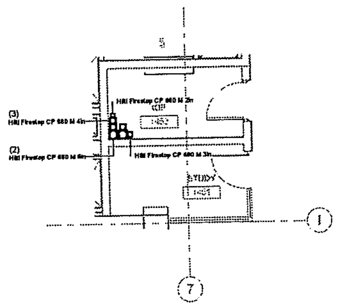

② 14 - ELECTRICAL 1452 (SOUTH)
1/4" = 1'-0"

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REVISIONS

Date	Description
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SHEET INFO

SHEET NAME:
PENETRATIONS PLAN - LEVEL 14

SCALE:	As indicated
PROJECT MANAGER:	MADISON
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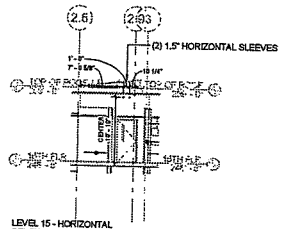
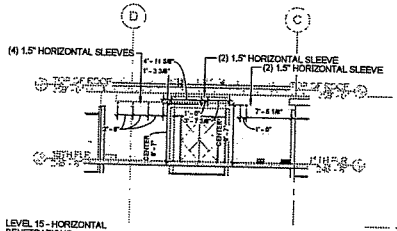
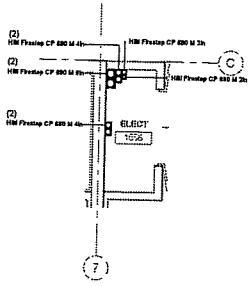
ISSUE DATE:	7/27/2023
SHEET NO:	EPN514



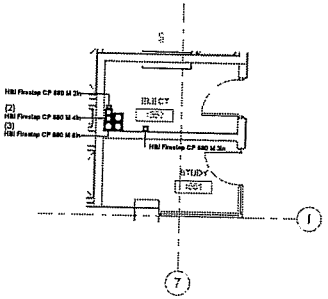
LEVEL 15 - HORIZONTAL PENETRATIONS - 2
5 1/8" = 1'-0"



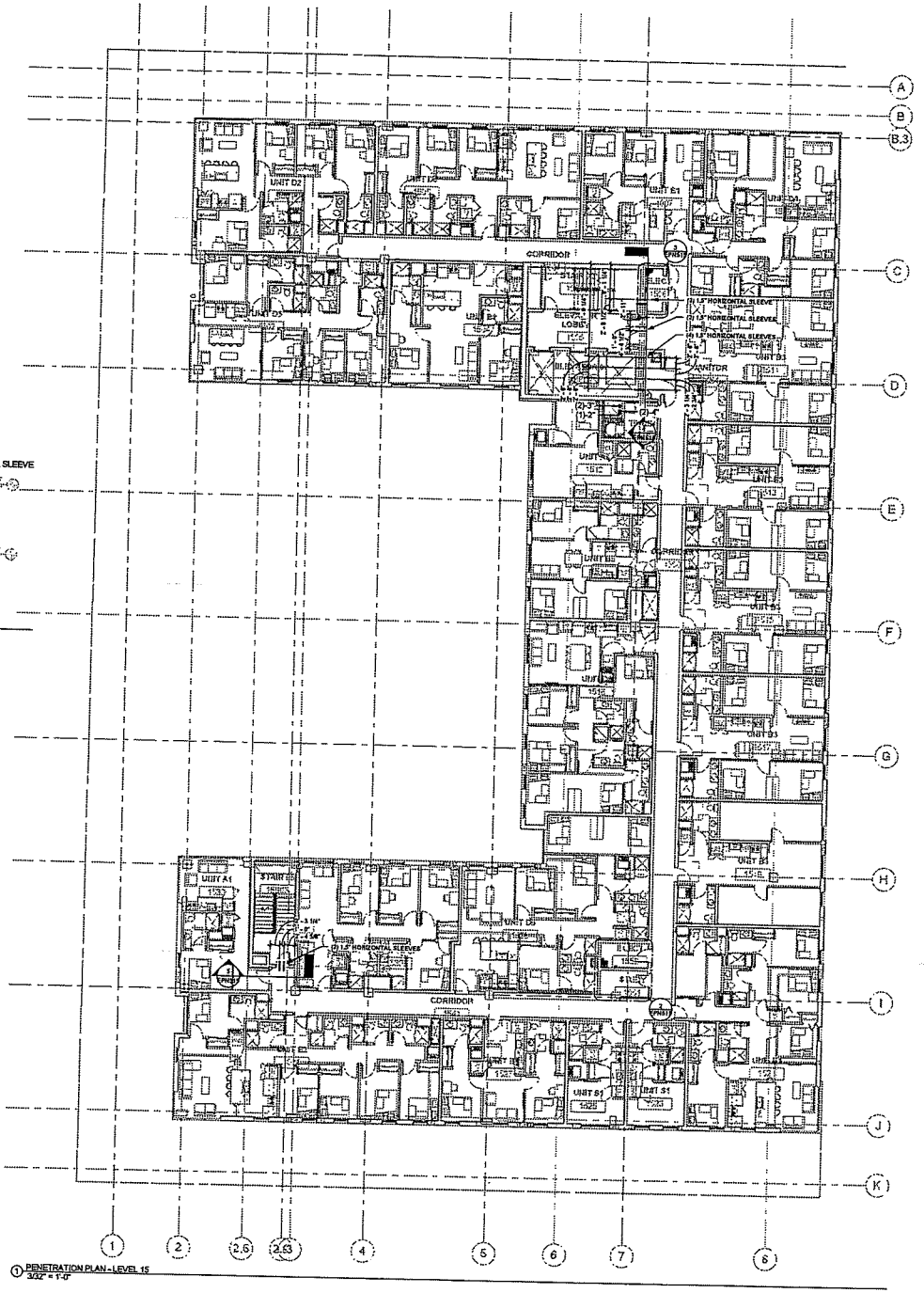
LEVEL 15 - HORIZONTAL PENETRATIONS - 1
4 1/8" = 1'-0"



3 15 - ELECTRICAL, 1556 (NORTH)
1/4" = 1'-0"



2 15 - ELECTRICAL, 1552 (SOUTH)
1/4" = 1'-0"



1 PENETRATION PLAN - LEVEL 15
3/32" = 1'-0"

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PROJECT NO. 2360S

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Date	Description
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SHEET INFO

SHEET NAME:
PENETRATIONS PLAN - LEVEL 15

SCALE:	As Indicated
PROJECT MANAGER:	MADISON
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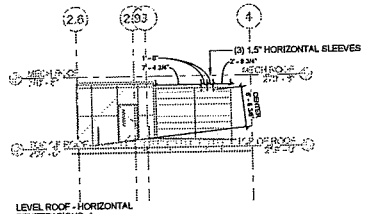
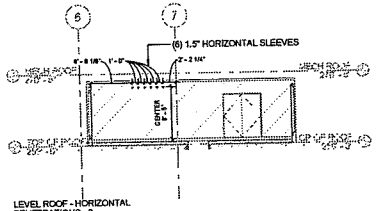
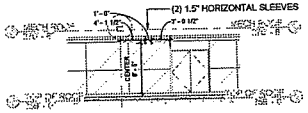
ISSUE DATE:	7/27/2023
SHEET NO:	EPN515



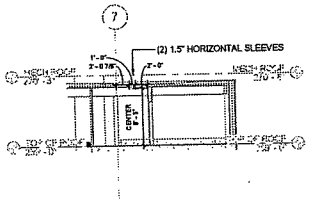
5 LEVEL ROOF - HORIZONTAL PENETRATIONS -1
1/8" = 1'-0"



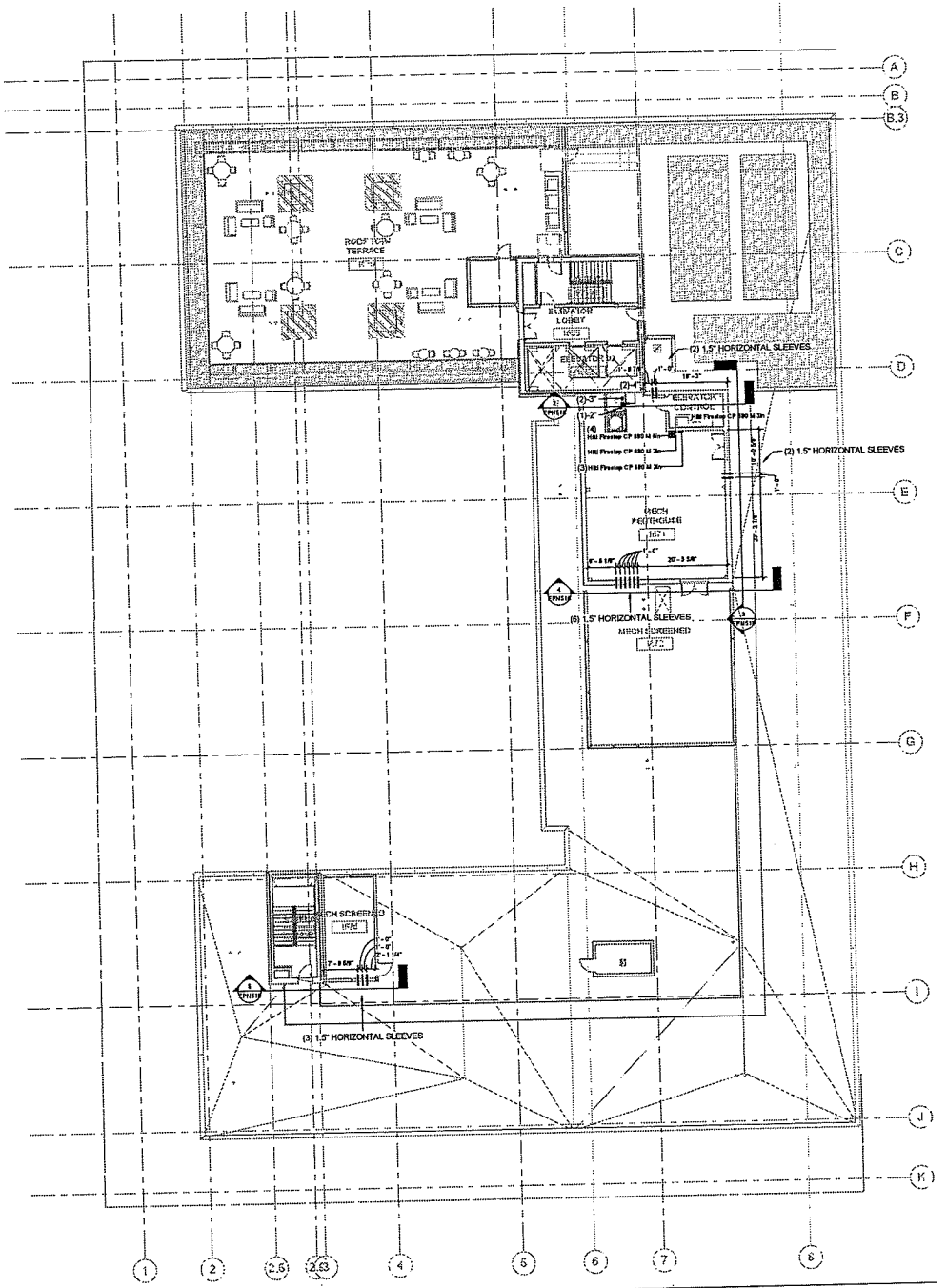
4 LEVEL ROOF - HORIZONTAL PENETRATIONS - 2
1/8" = 1'-0"



3 LEVEL ROOF - HORIZONTAL PENETRATIONS - 3
1/8" = 1'-0"



2 LEVEL ROOF - HORIZONTAL PENETRATIONS - 4
1/8" = 1'-0"



1 PENETRATION PLAN - ROOF LEVEL
3/32" = 1'-0"

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SHEET INFO

SHEET NAME:
PENETRATIONS PLAN - ROOF LEVEL

SCALE:	As indicated
PROJECT MANAGER:	MADISON
DRAWN BY:	M.KRAUSE
ISSUE DATE:	7/27/2023
SHEET NO:	EPN516

SECTION 03 30 00
CAST-IN-PLACE CONCRETE

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes:
   1. This section specifies cast-in-place concrete, including formwork, reinforcement, concrete materials, mixture design, placement procedures, and finishes.

1.02 DEFINITIONS

A. Cementitious Materials: Portland cement alone or in combination with one or more of the following: blended hydraulic cement, fly ash, slag cement, other pozzolans, and silica fume; materials subject to compliance with requirements.

B. Water/Cement Ratio (w/cm): The ratio by weight of water to cementitious materials.

1.03 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.
   1. Require representatives of each entity directly concerned with cast-in-place concrete to attend, including the following:
      a. Contractor's superintendent.
      b. Independent testing agency responsible for concrete design mixtures.
      c. Ready-mix concrete manufacturer.
      d. Concrete Subcontractor.
      e. Special concrete finish Subcontractor.
   2. Review the following:
      a. Special inspection and testing and inspecting agency procedures for field quality control.
      b. Construction joints, control joints, isolation joints, and joint-filler strips.
      c. Semirigid joint fillers.
      d. Vapor-retarder installation.
      e. Anchor rod and anchorage device installation tolerances.
      f. Cold and hot weather concreting procedures.
      g. Concrete finishes and finishing.
      h. Curing procedures.
      i. Forms and form-removal limitations.
      j. Shoring and reshoring procedures.
      k. Methods for achieving specified floor and slab flatness and levelness.
      l. Floor and slab flatness and levelness measurements.
      m. Concrete repair procedures.
      n. Concrete protection.
      o. Initial curing and field curing of field test cylinders (ASTM C31/C31M.)
      p. Protection of field cured field test cylinders.

1.04 ACTION SUBMITTALS

A. Product Data: For each of the following.
   1. Portland cement.
   2. Fly ash.
   3. Slag cement.
   4. Blended hydraulic cement.
   5. Silica fume.
   6. Performance-based hydraulic cement
   7. Aggregates.
   8. Admixtures:

a. Include limitations of use, including restrictions on cementitious materials, supplementary cementitious materials, air entrainment, aggregates, temperature at time of concrete placement, relative humidity at time of concrete placement, curing conditions, and use of other admixtures.

9. Color pigments.
10. Fiber reinforcement.
11. Vapor retarders.
12. Floor and slab treatments.
13. Liquid floor treatments.
14. Curing materials.
15. Joint fillers.
16. Repair materials.

B. Design Mixtures: For each concrete mixture, include the following:
   1. Mixture identification.
   2. Minimum 28-day compressive strength.
   3. Historical compressive strength results including statistical analysis in accordance with ACI 318 or compressive strength test results related to trial batch procedure.
   4. Durability exposure class.
   5. Maximum w/cm.
   6. Calculated equilibrium unit weight, for lightweight concrete.
   7. Slump limit.
   8. Air content.
   9. Nominal maximum aggregate size.
   10. Steel-fiber reinforcement content.
   11. Synthetic micro-fiber content.
   12. Indicate amounts of mixing water to be withheld for later addition at Project site if permitted.
   13. Include manufacturer's certification that permeability-reducing admixture is compatible with mix design.
   14. Include certification that dosage rate for permeability-reducing admixture matches dosage rate used in performance compliance test.
   15. Intended placement method.
   16. Submit alternate design mixtures when characteristics of materials, Project conditions, weather, test results, or other circumstances warrant adjustments.

C. Steel Reinforcement Shop Drawings:
   1. Placing drawings that detail fabrication, bending, and placement. Include bar sizes, lengths, material, grade, bar schedules, stirrup spacing, bent bar diagrams, bar arrangement, splices and laps, mechanical connections, tie spacing, hoop spacing, and supports for concrete reinforcement.

D. Concrete Schedule: For each location of each Class of concrete indicated in "Concrete Mixtures" Article, including the following:
   1. Concrete Class designation.
   2. Location within Project.
   3. Exposure Class designation.
   4. Formed Surface Finish designation and final finish.
   5. Final finish for floors.
   6. Curing process.
   7. Floor treatment, if any.

E. General contractor to submit a coordinated penetration plan (composite of all disciplines requiring penetrations through walls and slabs) two weeks prior to the issuance of construction documents.

F. Thermal Control Plan Submittal for the concrete placements greater than or equal to 48 inches thick or for placements containing greater than 660 lb/yd^3 cementitious material to be submitted by the general contractor and shall include the following:

1. Calculation of maximum concrete temperature to ensure that the maximum temperature will not exceed 158 degrees Fahrenheit with the specific concrete mix design.
2. Plan to ensure that a 35 degree Fahrenheit thermal gradient is not exceeded from the center to the exterior edge of the mat.
3. Thermal monitoring plan, including temperature gauges.
4. Insulation plan including anticipated duration of continuous insulation.
5. Dowel bar insulation plan.

1.05 INFORMATIONAL SUBMITTALS

A. Qualification Data: For the following:
1. Installer: Include copies of applicable ACI certificates.
2. Ready-mixed concrete manufacturer.
3. Testing agency: Include copies of applicable ACI certificates.

B. Material Certificates: For each of the following, signed by manufacturers:
1. Cementitious materials.
2. Admixtures.
3. Form materials and form-release agents.
4. Steel reinforcement and accessories
5. Fiber reinforcement.
6. Waterstops.
7. Curing compounds.
8. Floor and slab treatments.
9. Bonding agents.
10. Adhesives.
11. Vapor retarders.
12. Semirigid joint filler.
13. Joint-filler strips.
14. Repair materials.

C. Material Test Reports: For the following, from a qualified testing agency:
1. Portland cement.
2. Fly ash.
3. Slag cement.
4. Blended hydraulic cement.
5. Silica fume.
6. Performance-based hydraulic cement.
7. Aggregates.
8. Admixtures:
   a. Permeability-Reducing Admixture: Include independent test reports, indicating compliance with specified requirements, including dosage rate used in test.

1.06 QUALITY ASSURANCE

A. Installer Qualifications: A qualified installer who employs Project personnel qualified as an ACI-certified Flatwork Technician and Finisher and a supervisor who is a certified ACI Flatwork Concrete Finisher/Technician or an ACI Concrete Flatwork Technician with experience installing and finishing concrete.
1. Post-Installed Concrete Anchors Installers: ACI-certified Adhesive Anchor Installer.

B. Ready-Mixed Concrete Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C94/C94M requirements for production facilities and equipment.
1. Manufacturer certified in accordance with NRMCA's "Certification of Ready Mixed Concrete Production Facilities."

C. Laboratory Testing Agency Qualifications: A testing agency qualified in accordance with ASTM C1077 and ASTM E329 for testing indicated and employing an ACI-certified Concrete Quality Control Technical Manager.
   1. Personnel performing laboratory tests to be an ACI-certified Concrete Strength Testing Technician and Concrete Laboratory Testing Technician, Grade I. Testing agency laboratory supervisor to be an ACI-certified Concrete Laboratory Testing Technician, Grade II.

D. Field Quality-Control Testing Agency Qualifications: An independent agency, acceptable to authorities having jurisdiction, qualified in accordance with ASTM C1077 and ASTM E329 for testing indicated.
   1. Personnel conducting field tests to be qualified as an ACI Concrete Field Testing Technician, Grade 1, in accordance with ACI CPP 610.1 or an equivalent certification program.

E. ACI Publications: Comply with the following unless modified by requirements in the Contract Documents:
   1. ACI 301, "Specification for Structural Concrete"
   2. ACI 117, "Specifications for Tolerances for Concrete Construction and Materials"

1.07 DELIVERY, STORAGE, AND HANDLING

A. Comply with ASTM C94/C94M and ACI 301.

1.08 FIELD CONDITIONS

A. Cold-Weather Placement: Comply with ACI 301 and ACI 306.1.

B. Hot-Weather Placement: Comply with ACI 301 and ACI 305.1 .

PART 2 PRODUCTS

2.01 FORM-FACING MATERIALS

A. Smooth-Formed Finished Concrete: Form-facing panels that will provide continuous, true, and smooth concrete surfaces. Furnish in largest practicable sizes to minimize number of joints.

B. Rough-Formed Finished Concrete: Plywood, Lumber, Metal, or another approved material. Provide lumber dressed on at least two edges and one side for a tight fit.

2.02 STEEL REINFORCEMENT

A. Reinforcing Bars: ASTM A 615/A 615M, Grade 60, deformed. Reinforcing bars to be welded shall conform to ASTM A706.
   1. Epoxy-Coated Reinforcing Bars: ASTM A 775/A 775M, epoxy coated, with less than 2 percent damaged coating in each 12-inch bar length.

B. Plain-Steel Welded Wire Reinforcement: ASTM A 1064/A 1064M, plain, fabricated from as-drawn steel wire into flat sheets.

C. Deformed-Steel Welded Wire Reinforcement: ASTM A 497, flat sheet.

D. Epoxy-Coated Welded Wire Reinforcement: ASTM A 884/A 884M, Class A coated, Type 1, plain steel.

E. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars and welded wire reinforcement in place. Manufacture bar supports from steel wire, plastic, or precast concrete according to CRSI's "Manual of Standard Practice."
   1. For concrete surfaces exposed to view where legs of wire bar support contact forms, use CRSI Class 1 plastic-protected steel wire or CRSI Class 2 stainless-steel bar supports.
   2. For epoxy-coated reinforcement, use epoxy-coated or other dielectric-polymer-coated wire bar supports.

F. Fabricate steel reinforcement according to CRSI's "Manual of Standard Practice."

G. Shear Stud Rail Reinforcement. As shown in plans and details.
   1. The shear studs shall be Low Carbon Steel, C1010 to C1020 in accordance with ASTM-A108. Minimum shear stud head area shall be 10 times greater than shear stud shaft area and minimum shear stud head thickness shall be 2/3 the shear stud shaft diameter. The strength and ductility requirements are:
      a. Yield strength: 50,000 psi minimum

b. Tensile strength: 60,000 psi minimum
c. Elongation in 2 in: 20% minimum
d. Reduction of Area: 50% minimum

2. The bottom rails shall be Low Carbon Steel Type 44W. Minimum rail width shall be 2.5 times the shear stud diameter and minimum rail thickness shall be 0.5 times the stud diameter. The strength and ductility requirements are:
   a. Yield strength: 44,000 psi minimum
   b. Tensile strength: 65,000 psi minimum
   c. Elongation in 8 in: 20% minimum
3. Shear stud rail assembly shall be welded in accordance with AWS D1.1. Provide chairs which securely hold shear stud rail assembly in vertical position and maintain proper concrete coverage during concrete placement.

2.03 CONCRETE, GENERAL

A. ACI Publications: Comply with ACI 301 unless modified by requirements in the Contract Documents.

2.04 CONCRETE MATERIALS

A. Cementitious Materials: Use the following cementitious materials, of the same type, brand, and source, throughout Project:
   1. Portland Cement: ASTM C150/C150M, Type I/II Supplement with the following:
      a. Fly Ash: ASTM C618, Class C.
      b. Ground Granulated Blast-Furnace Slag: ASTM C 989, Grade 100 or 120

B. Silica Fume: ASTM C 1240, amorphous silica

C. Normal-Weight Aggregates: ASTM C 33 Free of materials with deleterious reactivity to alkali in cement.

D. Water: ASTM C 94/C 94M and potable

E. Air-Entraining Admixture: ASTM C260.

F. Chemical Admixtures: Certified by manufacturer to be compatible with other admixtures that do not contribute water-soluble chloride ions exceeding those permitted in hardened concrete. Do not use calcium chloride or admixtures containing calcium chloride in steel-reinforced concrete.
   1. Water-Reducing Admixture: ASTM C494/C494M, Type A.
   2. Retarding Admixture: ASTM C494/C494M, Type B.
   3. Water-Reducing and -Retarding Admixture: ASTM C494/C494M, Type D.
   4. High-Range, Water-Reducing Admixture: ASTM C494/C494M, Type F.
   5. High-Range, Water-Reducing and -Retarding Admixture: ASTM C494/C494M, Type G.
   6. Plasticizing and Retarding Admixture: ASTM C1017/C1017M, Type II.
   7. Crystalline waterproofing:
      a. Products: Xypex Admix C-500, Kryton Internal Membrane (KIM), **Penetron Admix SB**
      b. Crystalline waterproofing powder shall be added to the concrete mix at time of batching at a rate of 2 percent to 3 percent by weight of Portland cement content **for the Xypex Admis C-500 and Kryton Internal Membrane.**
      c. Crystalline waterproofing powder shall be added to the concrete mix at time of batching at a rate of 1 percent to 2 percent by weight of Portland cement content for the Penetron Admix SB

2.05 FIBER REINFORCEMENT

A. Macrosynthetic fiber reinforcement: ASTM C1116, Type III, 1 ½" to 2 ½" long.

2.06 VAPOR BARRIERS

A. Vapor Barriers: Install ASTM E 1745 Class A not less than 10mil vapor barrier (minimum tensile strength = 50lbf/in) with permeance less than .01 perms after ASTM E 154 – Sections 8, 11,12, & 13 per manufacturers recommendations, include accessories (i.e. /seaming tape, mastic, etc.) required for a complete installation.

2.07 LIQUID FLOOR TREATMENTS

A. Penetrating Liquid Floor Treatment: Clear, chemically reactive, waterborne solution of inorganic silicate or siliconate materials and proprietary components; odorless; that penetrates, hardens, and

B. densifies concrete surfaces.

2.08 CURING MATERIALS

A. Evaporation Retarder: Waterborne, monomolecular film forming, manufactured for application to fresh concrete.

B. Absorptive Cover: AASHTO M 182, Class 2, burlap cloth made from jute or kenaf, weighing approximately 9 oz./sq. yd. when dry.

C. Moisture-Retaining Cover: ASTM C171, polyethylene film burlap-polyethylene sheet.
   1. Color:
      a. Ambient Temperature Below 50 deg F: Black.
      b. Ambient Temperature between 50 deg F and 85 deg F: Any color.
      c. Ambient Temperature Above 85 deg F: White.

D. Water: Potable or complying with ASTM C1602/C1602M.

E. Clear, Waterborne, Membrane-Forming, Dissipating Curing Compound: ASTM C309, Type 1, Class B.

F. Clear, Waterborne, Membrane-Forming, Nondissipating Curing Compound: ASTM C309, Type 1, Class B, certified by curing compound manufacturer to not interfere with bonding of floor covering.

G. Clear, Waterborne, Membrane-Forming, Curing Compound: ASTM C309, Type 1, Class B, 18 to 25 percent solids, nondissipating, certified by curing compound manufacturer to not interfere with bonding of floor covering.

H. Clear, Solvent-Borne, Membrane-Forming, Curing and Sealing Compound: ASTM C1315, Type 1, Class A.

2.09 RELATED MATERIALS

A. Expansion- and Isolation-Joint-Filler Strips: ASTM D1751, asphalt-saturated cellulosic fiber or ASTM D1752, cork or self-expanding cork.

B. Self-Expanding Butyl Strip Waterstops: Manufactured rectangular or trapezoidal strip, butyl rubber with sodium bentonite or other hydrophilic polymers, for adhesive bonding to concrete, 3/4 by 1 inch.

2.10 CONCRETE MIXTURES

A. Prepare design mixtures for each type and strength of concrete, proportioned on the basis of laboratory trial mixture or field test data, or both, according to ACI 301.

Type of construction	28 day strength (psi) (ASTM C39)	Exposure Categories, reference ACI 318	Percent of air entraining +/- 1-1/2%	Maximum water/cementitious material ratio
Footings	Refer to Plans	F0	--	--
Frost walls	Refer to Plans	F1	5	0.55
Basement Walls	Refer to Plans	F1	--	0.55
Interior Walls	Refer to Plans	F0	--	--
Exterior Walls	Refer to Plans	F2	6	0.45
Interior Columns/ Interior Shearwalls	Refer to Plans	F0	--	--
Exterior Columns/ Exterior Shearwalls	Refer to Plans	F2	6	0.45
Interior Parking Slab on Grade	Refer to Plans	C2	--	0.40

Exterior Slab on Grade	Refer to Plans	F3/C2	6	0.40
Elevated Interior Non-Parking Slabs and Beams	Refer to Plans	F0	--	--
Elevated Interior Parking Slabs and Beams	Refer to Plans	C2	--	0.40
Elevated Exterior Slabs and Beams	Refer to Plans	F3/C2	6	0.40
Interior Concrete Topping and Stair Landings/Treads	Refer to Plans	F0	--	--
Exterior Concrete Topping and Stair Landings/Treads	Refer to Plans	F3/C2	6	0.40
Slabs on Metal Deck	Refer to Plans	F0	--	--
Lean Concrete	Refer to Plans	F0	--	--

B. General Notes:

1. Corrosion exposure to be C0 unless noted otherwise in the Exposure Category column.
2. Maximum aggregate size for all mixes to be ¾ inches; footings may be 1 ½ inches.
3. Concrete supplier and finisher shall coordinate approximate set times of proposed mix design under various weather conditions and adjust mix design as necessary to assure set time is acceptable to complete placing and finishing of slab in a timely manner. Slump may be increased when chemical admixtures are used, provided that the admixture treated concrete has the same or lower water-cement ratio and does not exhibit segregation potential or excessive bleeding,
4. Concrete supplier, in concert with the general contractor, to provide concrete mix such that the maximum temperature will not exceed 158 degrees Fahrenheit. Likewise, a thermal gradient (from the center to the edge of the concrete placement) that exceeds 35 degrees Fahrenheit is not permitted.
5. Provide 5% Air Entrainment at all exposed conditions not explicitly indicated above.
6. Columns integral with walls shall match strength specified in column schedule
7. For Exposure Category F3, maximum percent of total cementitious materials by mass as follows:
   a. Fly Ash or other pozzolans conforming to ASTM C618 – 25%
   b. Slag cement conforming to ASTM C989 – 50%
   c. Silica fume conforming to ASTM C1240 – 10%
   d. Total of fly ash or other pozzolans and silica fume – 35%
   e. Total of fly ash or other pozzolans, slag cement, and silica fume – 50%
8. For concrete floor slabs and toppings, the minimum cementitious material content is 540 lbs/yd^3 unless approved by engineer of record.
9. A target slump for each mix is to be determined by the general contractor/mix designer. The target slump shall not exceed 9 inches.

2.11 CONCRETE MIXING

A. Ready-Mixed Concrete: Measure, batch, mix, and deliver concrete in accordance with ASTM C94/C94M and ASTM C1116/C1116M, and furnish batch ticket information.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verification of Conditions:

1. Before placing concrete, verify that installation of concrete forms, accessories, and reinforcement, and embedded items is complete and that required inspections have been performed.
2. Do not proceed until unsatisfactory conditions have been corrected.

3.02 PREPARATION

A. Provide reasonable auxiliary services to accommodate field testing and inspections, acceptable to testing agency, including the following:
   1. Daily access to the Work.
   2. Incidental labor and facilities necessary to facilitate tests and inspections.
   3. Secure space for storage, initial curing, and field curing of test samples, including source of water and continuous electrical power at Project site during site curing period for test samples.
   4. Security and protection for test samples and for testing and inspection equipment at Project site.

3.03 FORMWORK

A. Design, erect, shore, brace, and maintain formwork, according to ACI 301 (ACI 301M), to support vertical, lateral, static, and dynamic loads, and construction loads that might be applied, until structure can support such loads.

B. Construct formwork so concrete members and structures are of size, shape, alignment, elevation, and position indicated, within tolerance limits of ACI 117 (ACI 117M).

C. Limit concrete surface irregularities, designated by ACI 347 as abrupt or gradual, as follows:
   1. Class A, 1/8 inch for smooth-formed finished surfaces
   2. Class B, 1/4 inch for rough-formed finished surfaces

D. Chamfer exterior corners and edges of permanently exposed concrete.

3.04 INSTALLATION OF EMBEDDED ITEMS

A. Place and secure anchorage devices and other embedded items required for adjoining Work that is attached to or supported by cast-in-place concrete.
   1. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
   2. Install anchor rods, accurately located, to elevations required and complying with tolerances in Section 7.5 of ANSI/AISC 303.
   3. Install reglets to receive waterproofing and to receive through-wall flashings in outer face of concrete frame at exterior walls, where flashing is shown at lintels, shelf angles, and other conditions.

3.05 INSTALLATION OF VAPOR RETARDER

A. Sheet Vapor Retarders: Place, protect, and repair sheet vapor retarder in accordance with ASTM E1643 and manufacturer's written instructions.
   1. Install vapor retarder with longest dimension parallel with direction of concrete pour.
   2. Face laps away from exposed direction of concrete pour.
   3. Lap vapor retarder over footings and grade beams not less than 6 inches, sealing vapor retarder to concrete.
   4. Lap joints 6 inches and seal with manufacturer's recommended tape.
   5. Terminate vapor retarder at the top of floor slabs, grade beams, and pile caps, sealing entire perimeter to floor slabs, grade beams, foundation walls, or pile caps.
   6. Seal penetrations in accordance with vapor retarder manufacturer's instructions.
   7. Protect vapor retarder during placement of reinforcement and concrete.
      a. Repair damaged areas by patching with vapor retarder material, overlapping damages area by 6 inches on all sides, and sealing to vapor retarder.

B. Bituminous Vapor Retarders: Place, protect, and repair bituminous vapor retarder in accordance with manufacturer's written instructions.

3.06 STEEL REINFORCEMENT

A. General: Comply with CRSI's "Manual of Standard Practice" for placing reinforcement.

1. Do not cut or puncture under-slab waterproofing or vapor barrier. Repair damage and reseal before placing concrete.

B. Clean reinforcement of loose rust and mill scale, earth ice, and other foreign materials that would reduce bond to concrete.

C. Accurately position, support, and secure reinforcement against displacement. Locate and support reinforcement with bar supports to maintain minimum concrete cover. Do not tack weld crossing to reinforcing bars.
   1. Weld reinforcing bars according to AWS D1.4, where indicated.

D. Set wire ties with ends directed into concrete, not toward exposed concrete surfaces.

E. Install welded wire reinforcement in longest practicable lengths on bar supports spaced to minimize sagging. Lap edges and ends od adjoining sheets at least one mesh spacing. Offset laps of adjoining sheets widths to prevent continuous laps in either direction. Lace overlaps with wire.

F. Epoxy-Coated Reinforcement: Repair cut and damaged epoxy coatings with epoxy repair coating according to ASTM D 3963/D 3963M. Use epoxy-coated steel wire ties to fasten epoxy-coated steel reinforcement.

3.07 JOINTS

A. Construct joints true to line, with faces perpendicular to surface plane of concrete.

B. Construction Joints: Coordinate with floor slab pattern and concrete placement sequence.
   1. Install so strength and appearance of concrete are not impaired, at locations indicated on Drawings or as approved by Architect.
   2. Place joints perpendicular to main reinforcement.
      a. Continue reinforcement across construction joints unless otherwise indicated.
   3. Space vertical joints in walls as indicated on Drawings. Unless otherwise indicated on Drawings, locate vertical joints beside piers integral with walls, near corners, and in concealed locations where possible.

C. Control Joints in Slabs-on-Ground: Form weakened-plane control joints, sectioning concrete into areas as indicated. Construct control joints for a depth equal to at least one-fourth of concrete thickness as follows:
   1. Grooved Joints: Form control joints after initial floating by grooving and finishing each edge of joint to a radius of 1/8 inch. Repeat grooving of control joints after applying surface finishes. Eliminate groover tool marks on concrete surfaces.
   2. Sawed Joints: Form control joints with power saws equipped with shatterproof abrasive or diamond-rimmed blades. Cut 1/8-inch- wide joints into concrete when cutting action does not tear, abrade, or otherwise damage surface and before concrete develops random cracks.

D. Isolation Joints in Slabs-on-Ground: After removing formwork, install joint-filler strips at slab junctions with vertical surfaces, such as column pedestals, foundation walls, grade beams, and other locations, as indicated.
   1. Extend joint-filler strips full width and depth of joint, terminating flush with finished concrete surface unless otherwise indicated on Drawings.
   2. Terminate full-width joint-filler strips not less than 1/2 inch or more than 1 inch below finished concrete surface, where joint sealants, specified in Section 079200 "Joint Sealants," are indicated.
   3. Install joint-filler strips in lengths as long as practicable. Where more than one length is required, lace or clip sections together.

3.08 WATERSTOPS

A. Self-Expanding Strip Waterstops: Install in construction joints and at other locations indicated, according to manufacturer's written instructions, adhesive bonding, mechanically fastening, and firmly pressing into place. Install in longest length practicable.

3.09 CONCRETE PLACEMENT

A. Before placing concrete, verify that installation of formwork, reinforcement, embedded items, and vapor retarder is complete and that required inspections are completed.
   1. Immediately prior to concrete placement, inspect vapor retarder for damage and deficient installation, and repair defective areas.
   2. Provide continuous inspection of vapor retarder during concrete placement and make necessary repairs to damaged areas as Work progresses.

B. Notify Architect and testing and inspection agencies 24 hours prior to commencement of concrete placement.

C. Do not add water to concrete during delivery, at Project site, or during placement unless approved by Architect in writing, but not to exceed the amount indicated on the concrete delivery ticket.
   1. Do not add water to concrete after adding high-range water-reducing admixtures to mixture.

D. Before test sampling and placing concrete, water may be added at Project site, subject to limitations of ACI 301, but not to exceed the amount indicated on the concrete delivery ticket.
   1. Do not add water to concrete after adding high-range water-reducing admixtures to mixture.

E. Deposit concrete continuously in one layer or in horizontal layers of such thickness that no new concrete is placed on concrete that has hardened enough to cause seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as indicated.
   1. If a section cannot be placed continuously, provide construction joints as indicated.
   2. Deposit concrete to avoid segregation.
   3. Deposit concrete in horizontal layers of depth not to exceed formwork design pressures and in a manner to avoid inclined construction joints.
   4. Consolidate placed concrete with mechanical vibrating equipment in accordance with ACI 301.
      a. Do not use vibrators to transport concrete inside forms.
      b. Insert and withdraw vibrators vertically at uniformly spaced locations to rapidly penetrate placed layer and at least 6 inches into preceding layer.
      c. Do not insert vibrators into lower layers of concrete that have begun to lose plasticity.
      d. At each insertion, limit duration of vibration to time necessary to consolidate concrete, and complete embedment of reinforcement and other embedded items without causing mixture constituents to segregate.

F. Deposit and consolidate concrete for floors and slabs in a continuous operation, within limits of construction joints, until placement of a panel or section is complete.
   1. Do not place concrete floors and slabs in a checkerboard sequence.
   2. Consolidate concrete during placement operations, so concrete is thoroughly worked around reinforcement and other embedded items and into corners.
   3. Maintain reinforcement in position on chairs during concrete placement.
   4. Screed slab surfaces with a straightedge and strike off to correct elevations.
   5. Level concrete, cut high areas, and fill low areas.
   6. Slope surfaces uniformly to drains where required.
   7. Begin initial floating using bull floats or darbies to form a uniform and open-textured surface plane, before excess bleedwater appears on the surface.
   8. Do not further disturb slab surfaces before starting finishing operations.

3.10 FINISHING FORMED SURFACES

A. General: After removal of forms, give each formed surface one or more of the finishes described below. When Contract Documents do not specify a finish, finish surfaces as required by Unspecified Finishes.

B. As-Cast Finishes: Coordinate finishes of all "as-cast" concrete finishes with construction of formwork. Produce as-cast form finishes in accordance with the following requirements:
   1. Rough-Form Finish: Patch tie holes and defects. Chip or rub off fins exceeding 1/2 inch in height. Leave surfaces with the texture imparted by the forms.
   2. Smooth-Form Finish: Patch tie holes and defects. Remove fins exceeding 1/8 inch in height. Leave surfaces with the texture imparted by the forms.

3. Architectural Finish: Patch tie holes and defects and remove fins. Produce architectural finishes as specified in the Contract Documents.

C. Exposed underside slab finish in units: Grade B minimum

D. Rubbed Finish: Apply the following to smooth-formed-finished as-cast concrete where indicated:
   1. Smooth-Rubbed Finish: Patch tie holes and defects and remove fins. Not later than one day after form removal, moisten concrete surfaces and rub with carborundum brick or another abrasive until producing a uniform color and texture. Do not apply cement grout other than that created by the rubbing process.
   2. Grout-Cleaned Finish: Patch tie holes and defects and remove fins. Wet concrete surfaces and apply grout of a consistency of thick paint to coat surfaces and fill small holes. Mix 1 part portland cement to 1-1/2 parts fine sand with a 1:1 mixture of bonding admixture and water. Add white portland cement in amounts determined by trial patches, so color of dry grout matches adjacent surfaces. Scrub grout into voids and remove excess grout. When grout whitens, rub surface with clean burlap and keep surface damp by fog spray for at least 36 hours.
   3. Cork-Floated Finish: Patch tie holes and defects and remove fins. Wet concrete surfaces and apply a stiff grout. Mix 1 part portland cement and 1 part fine sand with a 1:1 mixture of bonding agent and water. Add white portland cement in amounts determined by trial patches, so color of dry grout matches adjacent surfaces. Compress grout into voids by grinding surface. In a swirling motion, finish surface with a cork float.

E. Unspecified Finishes: When a specific finish is not specified in Contract Documents for a concrete surface, apply the following finishes:
   1. Rough-form finish on concrete surfaces not exposed to public view.
   2. Smooth-form (smooth rubbed) finish on concrete surfaces exposed to public view.

F. Related Unformed Surfaces: At tops of walls, horizontal offsets, and similar unformed surfaces adjacent to formed surfaces, strike off smooth and finish with a texture matching adjacent formed surfaces. Continue final surface treatment of formed surfaces uniformly across adjacent unformed surfaces unless otherwise indicated.

3.11 FINISHING FLOORS AND SLABS

A. Comply with ACI 302.1R recommendations for screeding, restraightening, and finishing operations for concrete surfaces. Do not wet concrete surfaces.

B. Scratch Finish:
   1. While still plastic, texture concrete surface that has been screeded and bull-floated or darbied.
   2. Use stiff brushes, brooms, or rakes to produce a profile depth of 1/4 inch in one direction.
   3. Apply scratch finish to surfaces indicated and surfaces to receive concrete floor toppings or to receive mortar setting beds for bonded cementitious floor finishes.

C. Float Finish:
   1. When bleedwater sheen has disappeared and concrete surface has stiffened sufficiently to permit operation of specific float apparatus, consolidate concrete surface with power-driven floats or by hand floating if area is small or inaccessible to power-driven floats.
   2. Repeat float passes and restraightening until surface is left with a uniform, smooth, granular texture and complies with ACI 117 tolerances for conventional concrete.
   3. Apply float finish to surfaces to receive trowel finish and to be covered with fluid-applied or sheet waterproofing, built-up or membrane roofing, or sand-bed terrazzo.

D. Trowel Finish:
   1. After applying float finish, apply first troweling and consolidate concrete by hand or power-driven trowel.
   2. Continue troweling passes and restraighten until surface is free of trowel marks and uniform in texture and appearance.
   3. Grind smooth any surface defects that would telegraph through applied coatings or floor coverings.
   4. Do not add water to concrete surface.

5. Do not apply hard-troweled finish to concrete, which has a total air content greater than 3 percent.
6. Apply a trowel finish to surfaces exposed to view or to be covered with resilient flooring, carpet, ceramic or quarry tile set over a cleavage membrane, paint, or another thin-film-finish coating system.
7. Finish surfaces to the following tolerances, in accordance with ASTM E1155, for a randomly trafficked floor surface:
   a. Slabs on Ground:
      1) Specified overall values of flatness, F_F 25; and of levelness, F_L 20; with minimum local values of flatness, F_F 17; and of levelness, F_L 15.
   b. Suspended Slabs:
      1) Specified overall values of flatness, FF 25; and of levelness, FL 20; with minimum local values of flatness, FF 17; and of levelness, FL 15.

E. Trowel and Fine-Broom Finish: Apply a first trowel finish to surfaces indicated on Drawings where ceramic or quarry tile is to be installed by either thickset or thinset method. While concrete is still plastic, slightly scarify surface with a fine broom perpendicular to main traffic route.
   1. Coordinate required final finish with Architect before application.
   2. Comply with flatness and levelness tolerances for trowel-finished floor surfaces.

F. Broom Finish: Apply a broom finish to exterior concrete platforms, steps, ramps, and locations indicated on Drawings.
   1. Immediately after float finishing, slightly roughen trafficked surface by brooming with fiber-bristle broom perpendicular to main traffic route.
   2. Coordinate required final finish with Architect before application.

3.12 INSTALLATION OF MISCELLANEOUS CONCRETE ITEMS

A. Filling In:
   1. Fill in holes and openings left in concrete structures after Work of other trades is in place unless otherwise indicated.
   2. Mix, place, and cure concrete, as specified, to blend with in-place construction.
   3. Provide other miscellaneous concrete filling indicated or required to complete the Work.

B. Steel Pan Stairs: Provide concrete fill for steel pan stair treads, landings, and associated items.
   1. Cast-in inserts and accessories, as shown on Drawings.
   2. Screed, tamp, and trowel finish concrete surfaces.

3.13 CONCRETE CURING

A. Protect freshly placed concrete from premature drying and excessive cold or hot temperatures.
   1. Comply with ACI 301 and ACI 306.1 for cold weather protection during curing.
   2. Comply with ACI 301 and ACI 305.1 for hot-weather protection during curing.
   3. Maintain moisture loss no more than 0.2 lb/sq. ft. x h before and during finishing operations with an evaporation retarder. Apply according to manufacturer's written instruction after placing, screeding, and bull floating or dabrying concrete, but before float finishing.

B. Curing Formed Surfaces: Comply with ACI 308.1 as follows:
   1. Cure formed concrete surfaces, including underside of beams, supported slabs, and other similar surfaces.
   2. Cure concrete containing color pigments in accordance with color pigment manufacturer's instructions.
   3. If forms remain during curing period, moist cure after loosening forms.
   4. If removing forms before end of curing period, continue curing for remainder of curing period, as follows:
      a. Continuous Fogging: Maintain standing water on concrete surface until final setting of concrete.
      b. Continuous Sprinkling: Maintain concrete surface continuously wet.

c. Absorptive Cover: Pre-dampen absorptive material before application; apply additional water to absorptive material to maintain concrete surface continuously wet.
d. Water-Retention Sheeting Materials: Cover exposed concrete surfaces with sheeting material, taping, or lapping seams.
e. Membrane-Forming Curing Compound: Apply uniformly in continuous operation by power spray or roller in accordance with manufacturer's written instructions.
1) Recoat areas subject to heavy rainfall within three hours after initial application.
2) Maintain continuity of coating and repair damage during curing period.

C. Curing Unformed Surfaces: Comply with ACI 308.1 as follows:
1. Begin curing immediately after finishing concrete.
2. Interior Concrete Floors:
a. Floors to Receive Floor Coverings Specified in Other Sections: Contractor has option of the following:
1) Absorptive Cover: As soon as concrete has sufficient set to permit application without marring concrete surface, install prewetted absorptive cover over entire area of floor.
(a) Lap edges and ends of absorptive cover not less than 12 inches.
(b) Maintain absorptive cover water saturated, and in place, for duration of curing period, but not less than seven days.
2) Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12 inches, and sealed by waterproof tape or adhesive.
(a) Immediately repair any holes or tears during curing period, using cover material and waterproof tape.
(b) Cure for not less than seven days.
3) Ponding or Continuous Sprinkling of Water: Maintain concrete surfaces continuously wet for not less than seven days, utilizing one, or a combination of, the following:
(a) Water.
(b) Continuous water-fog spray.
b. Floors to Receive Penetrating Liquid Floor Treatments: Contractor has option of the following:
1) Absorptive Cover: As soon as concrete has sufficient set to permit application without marring concrete surface, install prewetted absorptive cover over entire area of floor.
(a) Lap edges and ends of absorptive cover not less than 12 inches.
(b) Maintain absorptive cover water saturated, and in place, for duration of curing period, but not less than seven days.
2) Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12 inches, and sealed by waterproof tape or adhesive.
(a) Immediately repair any holes or tears during curing period, using cover material and waterproof tape.
(b) Cure for not less than seven days.
3) Ponding or Continuous Sprinkling of Water: Maintain concrete surfaces continuously wet for not less than seven days, utilizing one, or a combination of, the following:
(a) Water.
(b) Continuous water-fog spray.
c. Floors to Receive Polished Finish: Contractor has option of the following:
1) Absorptive Cover: As soon as concrete has sufficient set to permit application without marring concrete surface, install prewetted absorptive cover over entire area of floor.
(a) Lap edges and ends of absorptive cover not less than 12 inches.
(b) Maintain absorptive cover water saturated, and in place, for duration of curing period, but not less than seven days.
2) Ponding or Continuous Sprinkling of Water: Maintain concrete surfaces continuously wet for not less than seven days, utilizing one, or a combination of, the following:

(a) Water.
(b) Continuous water-fog spray.

d. Floors to Receive Chemical Stain:
1) As soon as concrete has sufficient set to permit application without marring concrete surface, install curing paper over entire area of floor.
2) Install curing paper square to building lines, without wrinkles, and in a single length without end joints.
3) Butt sides of curing paper tight; do not overlap sides of curing paper.
4) Leave curing paper in place for duration of curing period, but not less than 28 days.

e. Floors to Receive Urethane Flooring:
1) As soon as concrete has sufficient set to permit application without marring concrete surface, install prewetted absorptive cover over entire area of floor.
2) Rewet absorptive cover and cover immediately with polyethylene moisture-retaining cover with edges lapped 6 inches and sealed in place.
3) Secure polyethylene moisture-retaining cover in place to prohibit air from circulating under polyethylene moisture-retaining cover.
4) Leave absorptive cover and polyethylene moisture-retaining cover in place for duration of curing period, but not less than 28 days.

f. Floors to Receive Curing Compound:
1) Apply uniformly in continuous operation by power spray or roller in accordance with manufacturer's written instructions.
2) Recoat areas subjected to heavy rainfall within three hours after initial application.
3) Maintain continuity of coating, and repair damage during curing period.
4) Removal: After curing period has elapsed, remove curing compound without damaging concrete surfaces by method recommended by curing compound manufacturer unless manufacturer certifies curing compound does not interfere with bonding of floor covering used on Project.

g. Floors to Receive Curing and Sealing Compound:
1) Apply uniformly to floors and slabs indicated in a continuous operation by power spray or roller in accordance with manufacturer's written instructions.
2) Recoat areas subjected to heavy rainfall within three hours after initial application.
3) Repeat process 24 hours later and apply a second coat. Maintain continuity of coating, and repair damage during curing period.

3.14 TOLERANCES

A. Conform to ACI 117.

3.15 APPLICATION OF LIQUID FLOOR TREATMENTS

A. Penetrating Liquid Floor Treatment: Prepare, apply, and finish penetrating liquid floor treatment in accordance with manufacturer's written instructions.
1. Remove curing compounds, sealers, oil, dirt, laitance, and other contaminants and complete surface repairs.
2. Do not apply to concrete that is less than seven days' old or as recommended by the manufacturer.
3. Apply liquid until surface is saturated, scrubbing into surface until a gel forms; rewet; and repeat brooming or scrubbing.
4. Rinse with water; remove excess material until surface is dry.
5. Apply a second coat in a similar manner if surface is rough or porous.

B. Sealing Coat: Uniformly apply a continuous sealing coat of curing and sealing compound to hardened concrete by power spray or roller in accordance with manufacturer's written instructions.

3.16 JOINT FILLING

A. Prepare, clean, and install joint filler in accordance with manufacturer's written instructions.
1. Defer joint filling until concrete has aged at least three month(s).
2. Do not fill joints until construction traffic has permanently ceased.

B. Remove dirt, debris, saw cuttings, curing compounds, and sealers from joints; leave contact faces of joints clean and dry.

C. Install semirigid joint filler full depth in saw-cut joints and at least 2 inches deep in formed joints.

D. Overfill joint, and trim joint filler flush with top of joint after hardening.

3.17 CONCRETE SURFACE REPAIRS

A. Defective Concrete:
   1. Repair and patch defective areas when approved by Architect.
   2. Remove and replace concrete that cannot be repaired and patched to Architect's approval.

B. Patching Mortar: Mix dry-pack patching mortar, consisting of 1 part portland cement to 2-1/2 parts fine aggregate passing a No. 16 sieve, using only enough water for handling and placing.

C. Repairing Formed Surfaces: Surface defects include color and texture irregularities, cracks, spalls, air bubbles, honeycombs, rock pockets, fins and other projections on the surface, and stains and other discolorations that cannot be removed by cleaning.
   1. Immediately after form removal, cut out honeycombs, rock pockets, and voids more than 1/2 inch in any dimension to solid concrete.
      a. Limit cut depth to 3/4 inch.
      b. Make edges of cuts perpendicular to concrete surface.
      c. Clean, dampen with water, and brush-coat holes and voids with bonding agent.
      d. Fill and compact with patching mortar before bonding agent has dried.
      e. Fill form-tie voids with patching mortar or cone plugs secured in place with bonding agent.
   2. Repair defects on surfaces exposed to view by blending white portland cement and standard portland cement, so that, when dry, patching mortar matches surrounding color.
      a. Patch a test area at inconspicuous locations to verify mixture and color match before proceeding with patching.
      b. Compact mortar in place and strike off slightly higher than surrounding surface.
   3. Repair defects on concealed formed surfaces that will affect concrete's durability and structural performance as determined by Architect.

D. Repairing Unformed Surfaces:
   1. Test unformed surfaces, such as floors and slabs, for finish, and verify surface tolerances specified for each surface.
      a. Correct low and high areas.
      b. Test surfaces sloped to drain for trueness of slope and smoothness; use a sloped template.
   2. Repair finished surfaces containing surface defects, including spalls, popouts, honeycombs, rock pockets, crazing, cracks and other conditions that are deemed unacceptable by the structural engineer or architect.
   3. After concrete has cured at least 14 days, correct high areas by grinding.
   4. Correct localized low areas during, or immediately after, completing surface-finishing operations by cutting out low areas and replacing with patching mortar.
      a. Finish repaired areas to blend into adjacent concrete.
   5. Correct other low areas scheduled to receive floor coverings with a repair underlayment.
      a. Prepare, mix, and apply repair underlayment and primer in accordance with manufacturer's written instructions to produce a smooth, uniform, plane, and level surface.
      b. Feather edges to match adjacent floor elevations.
   6. Correct other low areas scheduled to remain exposed with repair topping.
      a. Cut out low areas to ensure a minimum repair topping depth of 1/4 inch to match adjacent floor elevations.
      b. Prepare, mix, and apply repair topping and primer in accordance with manufacturer's written instructions to produce a smooth, uniform, plane, and level surface.
   7. Repair defective areas, except random cracks and single holes 1 inch or less in diameter, by cutting out and replacing with fresh concrete.

a. Remove defective areas with clean, square cuts, and expose steel reinforcement with at least a 3/4-inch clearance all around.
b. Dampen concrete surfaces in contact with patching concrete and apply bonding agent.
c. Mix patching concrete of same materials and mixture as original concrete, except without coarse aggregate.
d. Place, compact, and finish to blend with adjacent finished concrete.
e. Cure in same manner as adjacent concrete.

8. Repair random cracks and single holes 1 inch or less in diameter with patching mortar.
   a. Groove top of cracks and cut out holes to sound concrete, and clean off dust, dirt, and loose particles.
   b. Dampen cleaned concrete surfaces and apply bonding agent.
   c. Place patching mortar before bonding agent has dried.
   d. Compact patching mortar and finish to match adjacent concrete.
   e. Keep patched area continuously moist for at least 72 hours.

E. Perform structural repairs of concrete, subject to Architect's approval, using epoxy adhesive and patching mortar.

F. Repair materials and installation not specified above may be used, subject to Architect's approval.

3.18 FIELD QUALITY CONTROL

A. Special Inspections: When required by local jurisdiction, owner will engage a special inspector to perform field tests and inspections and prepare testing and inspection reports.

B. Testing Agency: Owner will engage a qualified testing and inspecting agency to perform tests and inspections and to submit reports.
   1. Testing agency shall be responsible for providing curing container for composite samples on Site and verifying that field-cured composite samples are cured in accordance with ASTM C31/C31M.
   2. Testing agency shall immediately report to Architect, Contractor, and concrete manufacturer any failure of Work to comply with Contract Documents.
   3. Testing agency shall report results of tests and inspections, in writing, to Owner, Architect, Contractor, and concrete manufacturer within 48 hours of inspections and tests.
      a. Test reports shall include reporting requirements of ASTM C31/C31M, ASTM C39/C39M, and ACI 301, including the following as applicable to each test and inspection:
         1) Project name.
         2) Name of testing agency.
         3) Names and certification numbers of field and laboratory technicians performing inspections and testing.
         4) Name of concrete manufacturer.
         5) Date and time of inspection, sampling, and field testing.
         6) Date and time of concrete placement.
         7) Location in Work of concrete represented by samples.
         8) Date and time sample was obtained.
         9) Truck and batch ticket numbers.
         10) Design compressive strength at 28 days.
         11) Concrete mixture designation, proportions, and materials.
         12) Field test results.
         13) Information on storage and curing of samples before testing, including curing method and maximum and minimum temperatures during initial curing period.
         14) Type of fracture and compressive break strengths at seven days and 28 days.

C. Batch Tickets: For each load delivered, submit three copies of batch delivery ticket to testing agency, indicating quantity, mix identification, admixtures, design strength, aggregate size, design air content, design slump at time of batching, and amount of water that can be added at Project site.

D. Inspections:

1. Steel reinforcement placement.
2. Steel reinforcement welding.
3. Headed bolts and studs.
4. Verification of use of required design mixture.
5. Concrete placement, including conveying and depositing.
6. Curing procedures and maintenance of curing temperature.
7. Verification of concrete strength before removal of shores and forms from beams and slabs.
8. Batch Plant Inspections: On a random basis, as determined by Architect.

E. Concrete Tests: Testing of composite samples of fresh concrete obtained in accordance with ASTM C 172/C 172M shall be performed in accordance with the following requirements:
   1. Testing Frequency: Obtain one composite sample for each day's pour of each concrete mixture exceeding 5 cu. yd., but less than 25 cu. yd., plus one set for each additional 100 cu. yd. or fraction thereof.
      a. When frequency of testing provides fewer than five compressive-strength tests for each concrete mixture, testing shall be conducted from at least five randomly selected batches or from each batch if fewer than five are used.
   2. Slump: ASTM C143/C143M:
      a. One test at point of placement for each composite sample, but not less than one test for each day's pour of each concrete mixture.
      b. Perform additional tests when concrete consistency appears to change.
   3. Slump Flow: ASTM C1611/C1611M:
      a. One test at point of placement for each composite sample, but not less than one test for each day's pour of each concrete mixture.
      b. Perform additional tests when concrete consistency appears to change.
   4. Air Content: ASTM C231/C231M pressure method, for normal-weight concrete.
      a. One test for each composite sample, but not less than one test for each day's pour of each concrete mixture.
   5. Concrete Temperature: ASTM C1064/C1064M:
      a. One test hourly when air temperature is 40 deg F and below or 80 deg F and above, and one test for each composite sample.
   6. Unit Weight: ASTM C567/C567M fresh unit weight of structural lightweight concrete.
      a. One test for each composite sample, but not less than one test for each day's pour of each concrete mixture.
   7. Compression Test Specimens: ASTM C31/C31M:
      a. Cast and laboratory cure two sets of two 6-inch by 12-inch or two sets of three 4-inch by 8-inch cylinder specimens for each composite sample.
      b. Cast, initial cure, and field cure two sets of two standard cylinder specimens for each composite sample.
   8. Compressive-Strength Tests: ASTM C39/C39M.
      a. Test one set of two 6-inch or three 4-inch laboratory-cured specimens at seven days and one set of two 6-inch or three 4-inch specimens at 28 days.
      b.
      c. Test one set of two 6-inch or three 4-inch field-cured specimens at seven days and one set of two 6-inch or three 4-inch specimens at 28 days.
      d. A compressive-strength test shall be the average compressive strength from a set of two specimens obtained from same composite sample and tested at age indicated.
   9. When strength of field-cured cylinders is less than 85 percent of companion laboratory-cured cylinders, Contractor shall evaluate operations and provide corrective procedures for protecting and curing in-place concrete.
   10. Strength of each concrete mixture will be satisfactory if every average of any three consecutive compressive-strength tests equals or exceeds specified compressive strength, and no compressive-strength test value falls below specified compressive strength by more than 500 psi if specified compressive strength is 5000 psi, or no compressive strength test value is less than

10 percent of specified compressive strength if specified compressive strength is greater than 5000 psi.

11. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted by Architect but will not be used as sole basis for approval or rejection of concrete.
12. Additional Tests:
    a. Testing and inspecting agency shall make additional tests of concrete when test results indicate that slump, air entrainment, compressive strengths, or other requirements have not been met, as directed by Architect.
    b. Testing and inspecting agency may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C42/C42M or by other methods as directed by Architect.
        1) Acceptance criteria for concrete strength shall be in accordance with ACI 301, Section 1.6.6.3.
13. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.
14. Correct deficiencies in the Work that test reports and inspections indicate do not comply with the Contract Documents.

F. Measure floor and slab flatness and levelness in accordance with ASTM E1155 within 24 hours of completion of floor finishing and promptly report test results to Architect.

3.19 PROTECTION

A. Protect concrete surfaces as follows:
1. Protect from petroleum stains.
2. Diaper hydraulic equipment used over concrete surfaces.
3. Prohibit vehicles from interior concrete slabs.
4. Prohibit use of pipe-cutting machinery over concrete surfaces.
5. Prohibit placement of steel items on concrete surfaces.
6. Prohibit use of acids or acidic detergents over concrete surfaces.
7. Protect liquid floor treatment from damage and wear during the remainder of construction period. Use protective methods and materials, including temporary covering, recommended in writing by liquid floor treatments installer.
8. Protect concrete surfaces scheduled to receive surface hardener or polished concrete finish using Floor Slab Protective Covering.

END OF SECTION

SECTION 08 51 13
ALUMINUM WINDOWS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Extruded aluminum windows with fixed sash.

B. Operating hardware.

1.02 RELATED REQUIREMENTS

A. Section 07 25 11 - Weather Barriers - Fire Retardant Fluid Applied: Sealing frame to weather barrier installed on adjacent construction.

B. Section 07 92 00 - Joint Sealants: Sealing joints between window frames and adjacent construction.

C. Section 08 80 00 - Glazing: Glass and Glazing standards.

1.03 REFERENCE STANDARDS

A. AAMA/WDMA/CSA 101/I.S.2/A440 - North American Fenestration Standard/Specification for Windows, Doors, and Skylights 2017.

B. AAMA CW-10 - Care and Handling of Architectural Aluminum from Shop to Site 2015.

C. AAMA 502 - Voluntary Specification for Field Testing of Newly Installed Fenestration Products 2021.

D. AAMA 609 & 610 - Cleaning and Maintenance Guide for Architecturally Finished Aluminum (Combined Document) 2015.

E. AAMA 1503 - Voluntary Test Method for Thermal Transmittance and Condensation Resistance of Windows, Doors and Glazed Wall Sections 2009.

F. ASTM B209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate 2014.

G. ASTM B209M - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate (Metric) 2014.

H. ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes 2021.

I. ASTM B221M - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes (Metric) 2021.

J. ASTM E783 - Standard Test Method for Field Measurement of Air Leakage Through Installed Exterior Windows and Doors 2002 (Reapproved 2018).

K. ASTM E1105 - Standard Test Method for Field Determination of Water Penetration of Installed Exterior Windows, Skylights, Doors, and Curtain Walls, by Uniform or Cyclic Static Air Pressure Difference 2015.

L. ASTM Standard Test Methods

1. ASTM E283, Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen
2. ASTM E330, Structural Performance of Exterior Windows, Doors by Uniform Static Air Pressure Difference
3. ASTM E331, Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference
4. ASTM E1105, Field Determination of Water Penetration of Installed Exterior Windows, Glazed aluminum facade systems and Doors by Uniform or Cyclic Static Air Pressure Difference.

1.04 SUBMITTALS

A. See Section 01 33 23-Submittals, for submittal procedures.

B. Product Data: Provide component dimensions, information on glass and glazing, internal drainage details, descriptions of hardware and accessories, and thermal performance data including system U values, Solar Heat Gain Coefficient, and Condensation Resistance Factor..

C. Shop Drawings: Indicate opening dimensions, elevations of different types, framed opening tolerances, method for achieving air and vapor barrier seal to adjacent construction, anchorage locations, and installation requirements.

D. Grade Substantiation: Prior to submitting shop drawings or starting fabrication, submit one of the following showing compliance with specified grade:
   1. Evidence of AAMA Certification.
   2. Evidence of WDMA Certification.
   3. Evidence of CSA Certification.
   4. Test report(s) by independent testing agency itemizing compliance and acceptable to authorities having jurisdiction.

E. Test Reports: Prior to submitting shop drawings or starting fabrication, submit test report(s) by independent testing agency showing compliance with performance requirements in excess of those prescribed by specified grade.

F. Design Data: Provide framing member structural and physical characteristics and engineering calculations, and identify dimensional limitations; include load calculations at points of attachment to building structure.

G. Manufacturer's Installation Instructions: Include complete preparation, installation, and cleaning requirements.

H. Field Quality Control Submittals: Report of field testing for water penetration and air leakage.

I. Warranty: Submit manufacturer warranty and ensure that forms have been completed in Owner's name and registered with manufacturer.

1.05 QUALITY ASSURANCE

A. Designer Qualifications: Design structural support framing components under direct supervision of a Professional Structural Engineer experienced in design of this Work and licensed at the State in which the Project is located.

B. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with minimum three years of experience.

C. Installer Qualifications: Company specializing in performing work of type specified and with at least three years of experience.

D. Full-Size Mock-up Testing: Have a specimen representative of project conditions tested by an independent testing agency for compliance with specified thermal, structural, air infiltration, water penetration, and sound attenuation criteria.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Comply with requirements of AAMA CW-10.

B. Protect finished surfaces with wrapping paper or strippable coating during installation. Do not use adhesive papers or sprayed coatings that bond to substrate when exposed to sunlight or weather.

1.07 FIELD CONDITIONS

A. Do not install sealants when ambient temperature is less than 40 degrees F.

1.08 WARRANTY

A. See Section 01 78 36-Warranties, for additional warranty requirements.

B. Correct defective Work within a five year period after Date of Substantial Completion.

C. Provide five year manufacturer warranty against failure of glass seal on insulating glass units, including interpane dusting or misting. Include provision for replacement of failed units.

D. Provide five year manufacturer warranty against excessive degradation of exterior finish. Include provision for replacement of units with excessive fading, chalking, or flaking.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Aluminum Windows (window wall): Basis of Design - Kawneer; MetroView FG 601T PG; www.kawneer.us
   1. Acceptable alternate manufacturers subject to compliance with requirements:
      a. EFCO, a Pella Company; 645X: www.efcocorp.com/#sle.
      b. ***Tubelite; 900RW TU; www.tubeliteusa.com***

2.02 WINDOWS

A. Performance Requirements: Provide products that comply with the following ***specified performance requirements without failure due to defective manufacture, fabrication, installation, or other defects in construction as determined by testing of glazed aluminum window wall representing those indicated for the project***:
   1. ~~Grade: AAMA/WDMA/CSA 101/I.S.2/A440 requirements for specific window type:~~
      a. ~~Performance Class (PC): AW-PG-100 for fixed windows.~~
   2. Condensation Resistance Factor of Frame: 76, Glass: 74, measured in accordance with AAMA 1503.
   3. Overall U-value, Including Glazing: ~~0.34~~ ***0.36*** (fixed) maximum, measured on the window size required for this project ***based on a center of glass U-Value of 0.26 with warm edge spacer.***
   4. Solar Heat Gain Coefficient: ~~0.35~~ ***0.26 overall***
   5. Visible Light Transmittance: ~~0.70~~ ***0.58 overall***
   6. Air Infiltration: Fixed window air infiltration shall not exceed 0.01 cfm/ft2 when tested in accordance with ASTM E 283 with a pressure difference of 6.27 psf / 300 Pa.
   7. Water Penetration Resistance:
      a. There shall be no uncontrolled leakage for fixed windows when tested in accordance with ASTM E547 with a pressure difference of 12 psf / 720 Pa (Laboratory Test, Static).
   8. Uniform Load Deflection Test: The deflection of fixed window shall not exceed L/175 and there shall be no permanent set when tested in accordance with ASTM E330~~, with a design pressure of 100 psf (fixed) / 4800 Pa (fixed), positive and negative~~.

B. Fixed, Non-Operable Type:
   1. Construction: Thermally broken.
   2. Glazing: Double; clear; low-e.
   3. Exterior Finish: Class I natural anodized.
   4. Interior Finish: Class I natural anodized.

2.03 COMPONENTS

A. Frames: Manufacturers standard section as required for the configurations indicated in the drawings (7 inch depth maximum); thermally broken with interior portion of frame insulated from exterior portion;

B. Glazing: As specified in Section 08 80 00.

C. Sills: 0.125 inch thick, extruded aluminum; sloped for positive wash; fit under sash leg to 1/2 inch beyond wall face; one piece full width of opening; jamb angles to terminate sill end.

D. Glazing Materials: As specified in Section 08 80 00.

E. Sealant for Setting Sills and Sill Flashing: Non-curing butyl type.

F. Closed Cell Foam Insulation: Gun-grade, single-component, low-expanding, polyurethane foam joint filler formulated to achieve thermal, sound, and air barrier continuity at the perimeter of opening frames in exterior walls:
   1. Manufacturer/Product:Tremco ExoAir LEF.

2.04 MATERIALS

A. Extruded Aluminum: ASTM B221 (ASTM B221M), 6063 alloy, T6 temper.

2.05 FINISHES

A. Class I Natural Anodized Finish: AAMA 611 AA-M12C22A41 Clear anodic coating not less than 0.7 mils thick.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that wall openings and adjoining air and vapor seal materials are ready to receive aluminum windows.

3.02 INSTALLATION

A. Install windows and doors in accordance with manufacturer's instructions.

B. Attach window frame and shims to perimeter opening to accommodate construction tolerances and other irregularities.

C. Align window plumb and level, free of warp or twist. Maintain dimensional tolerances and alignment with adjacent work.

D. Install sill and sill end angles.

E. Set sill members and sill flashing in continuous bead of sealant.

F. Provide thermal isolation where components penetrate or disrupt building insulation. Spray closed cell polyurethane foam insulation in shim spaces at perimeter of assembly to maintain continuity of thermal barrier.

G. Install glass in accordance with requirements specified in Section 08 80 00.

3.03 TOLERANCES

A. Maximum Variation from Level or Plumb: 1/16 inches every 3 ft non-cumulative or 1/8 inches per 10 ft, whichever is less.

3.04 FIELD QUALITY CONTROL

A. Provide field testing of installed aluminum windows by independent laboratory in accordance with AAMA 502 and AAMA/WDMA/CSA 101/I.S.2/A440 during construction process and before installation of interior finishes.

1. Perform tests on one individual window of each type in designated locations as indicated on drawings.
2. Field test for water penetration in accordance with ASTM E1105 using Procedure B - cyclic static air pressure difference; test pressure shall not be less than 1.9 psf.
3. Field test for air leakage in accordance with ASTM E783 with uniform static air pressure difference of 1.57 psf.

B. Repair or replace fenestration components that have failed designated field testing, and retest to verify performance complies with specified requirements.

3.05 ADJUSTING

A. Adjust hardware for smooth operation and secure weathertight closure.

3.06 CLEANING

A. Remove protective material from factory finished aluminum surfaces.

B. Upon completion of installation, thoroughly clean aluminum surfaces in accordance with AAMA 609 & 610.

C. Remove excess glazing sealant by moderate use of mineral spirits or other solvent acceptable to sealant and window manufacturer.

1 **3.07 SCHEDULE**

2 A. All windows on the East elevation of Phase 1.

3 **END OF SECTION**

SECTION 087100 - DOOR HARDWARE

PART 1 - GENERAL

1.01 SUMMARY

A. Section includes:

1. Mechanical and electrified door hardware
2. Electronic access control system components

B. Section excludes:

1. Windows
2. Cabinets (casework), including locks in cabinets
3. Signage
4. Toilet accessories
5. Overhead doors

C. Related Sections:

1. Division 01 Section "Alternates" for alternates affecting this section.
2. Division 06 Section "Rough Carpentry"
3. Division 06 Section "Finish Carpentry"
4. Division 07 Section "Joint Sealants" for sealant requirements applicable to threshold installation specified in this section.
5. Division 08 Sections:
   a. "Metal Doors and Frames"
   b. "Flush Wood Doors"
   c. "Stile and Rail Wood Doors"
   d. "Interior Aluminum Doors and Frames"
   e. "Aluminum-Framed Entrances and Storefronts"
   f. "Stainless Steel Doors and Frames"
   g. "Special Function Doors"
   h. "Entrances"
6. Division 26 "Electrical" sections for connections to electrical power system and for low-voltage wiring.
7. Division 28 "Electronic Safety and Security" sections for coordination with other components of electronic access control system and fire alarm system.

1.02 REFERENCES

A. UL LLC

1. UL 10B - Fire Test of Door Assemblies
2. UL 10C - Positive Pressure Test of Fire Door Assemblies
3. UL 1784 - Air Leakage Tests of Door Assemblies
4. UL 305 - Panic Hardware

B. DHI - Door and Hardware Institute

1. Sequence and Format for the Hardware Schedule
2. Recommended Locations for Builders Hardware
3. Keying Systems and Nomenclature
4. Installation Guide for Doors and Hardware

C. NFPA – National Fire Protection Association

1. NFPA 70 – National Electric Code
2. NFPA 80 – 2016 Edition – Standard for Fire Doors and Other Opening Protectives
3. NFPA 101 – Life Safety Code
4. NFPA 105 – Smoke and Draft Control Door Assemblies
5. NFPA 252 – Fire Tests of Door Assemblies

D. ANSI - American National Standards Institute

1. ANSI A117.1 – 2017 Edition – Accessible and Usable Buildings and Facilities
2. ANSI/BHMA A156.1 - A156.29, and ANSI/BHMA A156.31 - Standards for Hardware and Specialties
3. ANSI/BHMA A156.28 - Recommended Practices for Keying Systems
4. ANSI/WDMA I.S. 1A - Interior Architectural Wood Flush Doors
5. ANSI/SDI A250.8 - Standard Steel Doors and Frames

1.03 SUBMITTALS

A. General:

1. Submit in accordance with Conditions of Contract and Division 01 Submittal Procedures.
2. Prior to forwarding submittal:
   a. Review drawings and Sections from related trades to verify compatibility with specified hardware.
   b. Highlight, encircle, or otherwise specifically identify on submittals: deviations from Contract Documents, issues of incompatibility or other issues which may detrimentally affect the Work.

B. Action Submittals:

1. Product Data: Submit technical product data for each item of door hardware, installation instructions, maintenance of operating parts and finish, and other information necessary to show compliance with requirements.
2. Riser and Wiring Diagrams: After final approval of hardware schedule, submit details of electrified door hardware, indicating:
   a. Wiring Diagrams: For power, signal, and control wiring and including:
      1) Details of interface of electrified door hardware and building safety and security systems.
      2) Schematic diagram of systems that interface with electrified door hardware.
      3) Point-to-point wiring.
      4) Risers.

3. Samples for Verification: If requested by Architect, submit production sample of requested door hardware unit in finish indicated and tagged with full description for coordination with schedule.
   a. Samples will be returned to supplier. Units that are acceptable to Architect may, after final check of operations, be incorporated into Work, within limitations of key coordination requirements.

4. Door Hardware Schedule:
   a. Submit concurrent with submissions of Product Data, Samples, and Shop Drawings. Coordinate submission of door hardware schedule with scheduling requirements of other work to facilitate fabrication of other work critical in Project construction schedule.
   b. Submit under direct supervision of a Door Hardware Institute (DHI) certified Architectural Hardware Consultant (AHC) or Door Hardware Consultant (DHC) with hardware sets in vertical format as illustrated by Sequence of Format for the Hardware Schedule published by DHI.
   c. Indicate complete designations of each item required for each opening, include:
      1) Door Index: door number, heading number, and Architect's hardware set number.
      2) Quantity, type, style, function, size, and finish of each hardware item.
      3) Name and manufacturer of each item.
      4) Fastenings and other pertinent information.
      5) Location of each hardware set cross-referenced to indications on Drawings.
      6) Explanation of all abbreviations, symbols, and codes contained in schedule.
      7) Mounting locations for hardware.
      8) Door and frame sizes and materials.
      9) Degree of door swing and handing.
      10) Operational Description of openings with electrified hardware covering egress, ingress (access), and fire/smoke alarm connections.

5. Key Schedule:
   a. After Keying Conference, provide keying schedule that includes levels of keying, explanations of key system's function, key symbols used, and door numbers controlled.
   b. Use ANSI/BHMA A156.28 "Recommended Practices for Keying Systems" as guideline for nomenclature, definitions, and approach for selecting optimal keying system.
   c. Provide 3 copies of keying schedule for review prepared and detailed in accordance with referenced DHI publication. Include schematic keying diagram and index each key to unique door designations.
   d. Index keying schedule by door number, keyset, hardware heading number, cross keying instructions, and special key stamping instructions.
   e. Provide one complete bitting list of key cuts and one key system schematic illustrating system usage and expansion. Forward bitting list, key cuts and key system schematic directly to Owner, by means as directed by Owner.
   f. Prepare key schedule by or under supervision of supplier, detailing Owner's final keying instructions for locks.

6. ***Pre-Procurement/Installation Meeting Requirement:***

a. ***After submission of all door/frame/hardware submittals (and related low voltage door hardware submittals) Contractor will organize a meeting(s) with Owner, Architect, General Contractor, Electrician, Door/Frame/Hardware Supplier/Installer, Low-Voltage Supplier/Installer, and others as applicable to comprehensively review and explain each door opening's submitted hardware package operation. No procurement of door hardware (and related low voltage components) shall be procured until this meeting is completed; and until related submittals are returned to by the Owner/Architect team.***

C. Informational Submittals:

1. Provide Qualification Data for Supplier, Installer and Architectural Hardware Consultant.
2. Provide Product Data:
   a. Certify that door hardware approved for use on types and sizes of labeled fire-rated doors complies with listed fire-rated door assemblies.
   b. Include warranties for specified door hardware.

D. Closeout Submittals:

1. Operations and Maintenance Data: Provide in accordance with Division 01 and include:
   a. Complete information on care, maintenance, and adjustment; data on repair and replacement parts, and information on preservation of finishes.
   b. Catalog pages for each product.
   c. Final approved hardware schedule edited to reflect conditions as installed.
   d. Final keying schedule
   e. Copy of warranties including appropriate reference numbers for manufacturers to identify project.
   f. As-installed wiring diagrams for each opening connected to power, both low voltage and 110 volts.

E. Inspection and Testing:

1. Submit written reports to the Owner and Authority Having Jurisdiction (AHJ) of the results of functional testing and inspection for:
   a. Fire door assemblies, in compliance with NFPA 80.
   b. Required egress door assemblies, in compliance with NFPA 101.

1.04 QUALITY ASSURANCE

A. Qualifications and Responsibilities:

1. Supplier: Recognized architectural hardware supplier with a minimum of 5 years documented experience supplying both mechanical and electromechanical door hardware similar in quantity, type, and quality to that indicated for this Project. Supplier to be recognized as a factory direct distributor by the manufacturer of the primary materials with a warehousing facility in the Project's vicinity. Supplier to have on staff, a certified Architectural Hardware Consultant (AHC) or Door Hardware Consultant (DHC) available to Owner, Architect, and Contractor, at reasonable times during the Work for consultation.

2. Installer: Qualified tradesperson skilled in the application of commercial grade hardware with experience installing door hardware similar in quantity, type, and quality as indicated for this Project.
3. Architectural Hardware Consultant: Person who is experienced in providing consulting services for door hardware installations that are comparable in material, design, and extent to that indicated for this Project and meets these requirements:
   a. For door hardware: DHI certified AHC or DHC.
   b. Can provide installation and technical data to Architect and other related subcontractors.
   c. Can inspect and verify components are in working order upon completion of installation.
   d. Capable of producing wiring diagram and coordinating installation of electrified hardware with Architect and electrical engineers.
4. Single Source Responsibility: Obtain each type of door hardware from single manufacturer.

B. Certifications:

1. Fire-Rated Door Openings:
   a. Provide door hardware for fire-rated openings that complies with NFPA 80 and requirements of authorities having jurisdiction.
   b. Provide only items of door hardware that are listed products tested by UL LLC, Intertek Testing Services, or other testing and inspecting organizations acceptable to authorities having jurisdiction for use on types and sizes of doors indicated, based on testing at positive pressure and according to NFPA 252 or UL 10C and in compliance with requirements of fire-rated door and door frame labels.
2. Smoke and Draft Control Door Assemblies:
   a. Provide door hardware that meets requirements of assemblies tested according to UL 1784 and installed in compliance with NFPA 105
   b. Comply with the maximum air leakage of 0.3 cfm/sq. ft. (3 cu. m per minute/sq. m) at tested pressure differential of 0.3-inch wg (75 Pa) of water.
3. Electrified Door Hardware
   a. Listed and labeled as defined in NFPA 70, Article 100, by testing agency acceptable to authorities having jurisdiction.
4. Accessibility Requirements:
   a. Comply with governing accessibility regulations cited in "REFERENCES" article 087100, 1.02.D3 herein for door hardware on doors in an accessible route. This project must comply with all Federal Americans with Disability Act regulations and all Local Accessibility Regulations.

C. Pre-Installation Meetings

1. Keying Conference
   a. Incorporate keying conference decisions into final keying schedule after reviewing door hardware keying system including:
      1) Function of building, flow of traffic, purpose of each area, degree of security required, and plans for future expansion.
      2) Preliminary key system schematic diagram.
      3) Requirements for key control system.
      4) Requirements for access control.

5) Address for delivery of keys.

2. Pre-installation Conference
   a. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
   b. Inspect and discuss preparatory work performed by other trades.
   c. Inspect and discuss electrical roughing-in for electrified door hardware.
   d. Review sequence of operation for each type of electrified door hardware.
   e. Review required testing, inspecting, and certifying procedures.
   f. Review questions or concerns related to proper installation and adjustment of door hardware.

3. Electrified Hardware Coordination Conference:
   a. Prior to ordering electrified hardware, schedule and hold meeting to coordinate door hardware with security, electrical, doors and frames, and other related suppliers.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Inventory door hardware on receipt and provide secure lock-up for hardware delivered to Project site. Promptly replace products damaged during shipping.

B. Tag each item or package separately with identification coordinated with final door hardware schedule, and include installation instructions, templates, and necessary fasteners with each item or package. Deliver each article of hardware in manufacturer's original packaging.

C. Maintain manufacturer-recommended environmental conditions throughout storage and installation periods.

D. Provide secure lock-up for door hardware delivered to Project. Control handling and installation of hardware items so that completion of Work will not be delayed by hardware losses both before and after installation.

E. Handle hardware in manner to avoid damage, marring, or scratching. Correct, replace or repair products damaged during Work. Protect products against malfunction due to paint, solvent, cleanser, or any chemical agent.

F. Deliver keys to manufacturer of key control system for subsequent delivery to Owner.

1.06 COORDINATION

A. Coordinate layout and installation of floor-recessed door hardware with floor construction. Cast anchoring inserts into concrete.

B. Installation Templates: Distribute for doors, frames, and other work specified to be factory or shop prepared. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing door hardware to comply with indicated requirements.

C. Security: Coordinate installation of door hardware, keying, and access control with Owner's security consultant.

D. Electrical System Roughing-In: Coordinate layout and installation of electrified door hardware with connections to power supplies and building safety and security systems.

1.07 WARRANTY

A. Manufacturer's standard form in which manufacturer agrees to repair or replace components of door hardware that fail in materials or workmanship within published warranty period.

1. Warranty does not cover damage or faulty operation due to improper installation, improper use or abuse.
2. Warranty Period: Beginning from date of Substantial Completion, for durations indicated in manufacturer's published listings.
   a. Mechanical Warranty
      1) Locks
         a) 3 years
      2) Exit Devices
         a) 3 years
      3) Closers
         a) 30 years
      4) Automatic Operators
         a) 2 years
   b. Electrical Warranty
      1) Locks
         a) 1 year
      2) Exit Devices
         a) 1 year

1.08 MAINTENANCE

A. Furnish complete set of special tools required for maintenance and adjustment of hardware, including changing of cylinders.

B. Turn over unused materials to Owner for maintenance purposes.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. Approval of alternate manufacturers and/or products other than those listed as "Scheduled Manufacturer" or "Acceptable Manufacturers" in the individual article for the product category are only to be considered by official substitution request in accordance with section 01 25 00.

B. Approval of products from manufacturers indicated in "Acceptable Manufacturers" is contingent upon those products providing all functions and features and meeting all requirements of scheduled manufacturer's product.

C. Where specified hardware is not adaptable to finished shape or size of members requiring hardware, furnish suitable types having same operation and quality as type specified, subject to Architect's approval.

2.02 MATERIALS

A. Fabrication

1. Provide door hardware manufactured to comply with published templates generally prepared for machine, wood, and sheet metal screws. provide screws according to manufacturer's recognized installation standards for application intended.
2. Finish exposed screws to match hardware finish, or, if exposed in surfaces of other work, to match finish of this other work including prepared for paint surfaces to receive painted finish.
3. Provide concealed fasteners wherever possible for hardware units exposed when door is closed. Coordinate with "Metal Doors and Frames", "Flush Wood Doors", "Stile and Rail Wood Doors" to ensure proper reinforcements. Advise the Architect where visible fasteners, such as thru bolts, are required.

B. Provide screws, bolts, expansion shields, drop plates and other devices necessary for hardware installation.

1. Where fasteners are exposed to view: Finish to match adjacent door hardware material.

C. Cable and Connectors:

1. Where scheduled in the hardware sets, provide each item of electrified hardware and wire harnesses with number and gage of wires enough to accommodate electric function of specified hardware.
2. Provide Molex connectors that plug directly into connectors from harnesses, electric locking and power transfer devices.
3. Provide through-door wire harness for each electrified locking device installed in a door and wire harness for each electrified hinge, electrified continuous hinge, electrified pivot, and electric power transfer for connection to power supplies.

2.03 HINGES

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:
   a. Ives 5BB series

2. Acceptable Manufacturers and Products:
   a. Hager
   b. Stanley

B. Requirements:

1. Provide hinges conforming to ANSI/BHMA A156.1.
2. Provide five knuckle, ball bearing hinges.
3. 1-3/4 inch (44 mm) thick doors, up to and including 36 inches (914 mm) wide:
   a. Exterior: Heavy weight, bronze or stainless steel, 4-1/2 inches (114 mm) high
   b. Interior: Heavy weight, steel, 4-1/2 inches (114 mm) high

4. 1-3/4 inch (44 mm) thick doors over 36 inches (914 mm) wide:
   a. Exterior: Heavy weight, bronze/stainless steel, 5 inches (127 mm) high
   b. Interior: Heavy weight, steel, 5 inches (127 mm) high

5. Adjust hinge width for door, frame, and wall conditions to allow proper degree of opening.
6. Provide three hinges per door leaf for doors 90 inches (2286 mm) or less in height, and one additional hinge for each 30 inches (762 mm) of additional door height.
7. Hinge Pins: Except as otherwise indicated, provide hinge pins as follows:
   a. Steel Hinges: Steel pins
   b. Non-Ferrous Hinges: Stainless steel pins
   c. Out-Swinging Exterior Doors: Non-removable pins
   d. Out-Swinging Interior Lockable Doors: Non-removable pins
   e. Interior Non-lockable Doors: Non-rising pins

2.04 CONTINUOUS HINGES

A. Manufacturers:

1. Scheduled Manufacturer:
   a. Ives

2. Acceptable Manufacturers:
   a. Pemko
   b. Roton

B. Requirements:

1. Provide aluminum geared continuous hinges conforming to ANSI/BHMA A156.26, Grade 1.
2. Provide aluminum geared continuous hinges, where specified in the hardware sets, fabricated from 6063-T6 aluminum.
3. Provide split nylon bearings at each hinge knuckle for quiet, smooth, self-lubricating operation.
4. Provide hinges capable of supporting door weights up to 450 pounds, and successfully tested for 1,500,000 cycles.
5. On fire-rated doors, provide aluminum geared continuous hinges classified for use on rated doors by testing agency acceptable to authority having jurisdiction.
6. Provide aluminum geared continuous hinges with electrified option scheduled in the hardware sets. Provide with number and gage of wires enough to accommodate electric function of specified hardware.
7. Provide hinges 1 inch (25 mm) shorter in length than nominal height of door, unless otherwise noted or door details require shorter length and with symmetrical hole pattern.

2.05 ELECTRIC POWER TRANSFER

A. Manufacturers:

1. Scheduled Manufacturer and Product:
   a. Von Duprin EPT-10

2. Acceptable Manufacturers and Products:
   a. Securitron

B. Requirements:

1. Provide power transfer with electrified options as scheduled in the hardware sets. Provide with number and gage of wires enough to accommodate electric function of specified hardware.
2. Locate electric power transfer per manufacturer's template and UL requirements, unless interference with operation of door or other hardware items.

2.06 COORDINATORS

A. Manufacturers:

1. Scheduled Manufacturer:
   a. Ives

2. Acceptable Manufacturers:
   a. Trimco
   b. Rockwood

B. Requirements:

1. Where pairs of doors are equipped with automatic flush bolts, an astragal, or other hardware that requires synchronized closing of the doors, provide bar-type coordinating device, surface applied to underside of stop at frame head.
2. Provide filler bar of correct length for unit to span entire width of opening, and appropriate brackets for parallel arm door closers, surface vertical rod exit device strikes, or other stop mounted hardware. Factory-prepared coordinators for vertical rod devices as specified.

2.07 MORTISE LOCKS

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:
   a. Schlage L9000 series

2. Acceptable Manufacturers and Products:
   a. Sargent 8200

B. Requirements:

1. Provide mortise locks conforming to ANSI/BHMA A156.13 Series 1000, Grade 1, and UL Listed for 3-hour fire doors.
2. Indicators: Where specified, provide indicator window measuring a minimum 2-inch x 1/2 inch with 180-degree visibility. Provide messages color-coded with full text and/or symbols, as scheduled, for easy visibility.
3. Provide locks manufactured from heavy gauge steel, containing components of steel with a zinc dichromate plating for corrosion resistance.
4. Provide lock case that is multi-function and field reversible for handing without opening case. Cylinders: Refer to "KEYING" article, herein.
5. Provide locks with standard 2-3/4 inches (70 mm) backset with full 3/4 inch (19 mm) throw stainless steel mechanical anti-friction latchbolt. Provide deadbolt with full 1-inch (25 mm) throw, constructed of stainless steel.

6. Provide standard ASA strikes unless extended lip strikes are necessary to protect trim. Provide electrified options as scheduled in the hardware sets. Where scheduled, provide switches and sensors integrated into the locks and latches.
7. Provide motor based electrified locksets that comply with the following requirements:
   a. Universal input voltage – single chassis accepts 12 or 24VDC to allow for changes in the field without changing lock chassis.
   b. Fail Safe/Fail Secure – changing mode between electrically locked (fail safe) and electrically unlocked (fail secure) is field selectable without opening the lock case.
   c. Low maximum current draw – maximum 0.4 amps to allow for multiple locks on a single power supply.
   d. Low holding current – maximum 0.01 amps to produce minimal heat, eliminate "hot levers" in electrically locked applications, and to provide reliable operation in wood doors that provide minimal ventilation and air flow.
   e. Connections – provide quick-connect Molex system standard.
8. Lever Trim: Solid brass, bronze, or stainless steel, cast or forged in design specified, with wrought roses and external lever spring cages. Provide thru-bolted levers with 2-piece spindles.
   a. Vandlgard: Provide levers with vandal resistant technology for use at heavy traffic or abusive applications.
   b. Lever Design: LON.

2.08 MORTISE LOCKS – NARROW STYLE

A. Manufacturer and Product:

1. Scheduled Manufacturer:
   a. Accurate
2. Acceptable Manufacturers:
   a. Adams Rite

B. Requirements:

1. Provide narrow style mortise locks conforming to ANSI/BHMA A156.13, Grade 1 Operational and manufactured from heavy gauge steel, containing components of steel with zinc dichromate plating for corrosion resistance. Cylinders: Refer to "KEYING" article, herein.
2. Provide standard ASA strikes unless extended lip strikes are necessary to protect trim.
3. Provide motor based electrified locksets with electrified options as scheduled in the hardware sets.
4. Lever Trim: Matching levers and roses or escutcheons from manufacturer of standard mortise locks. Provide all necessary fasteners, spindles, and parts to make complete functioning unit.
   a. Provide levers that return to within 1/2 inch (13 mm) of door face.

2.09 CYLINDRICAL LOCKS – GRADE 1

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:

a. Schlage ND series

2. Acceptable Manufacturers and Products:
   a. Sargent 11-Line

B. Requirements:

1. Provide cylindrical locks conforming to ANSI/BHMA A156.2 Series 4000, Grade 1, and UL Listed for 3-hour fire doors.
2. Cylinders: Refer to "KEYING" article, herein.
3. Provide locks with standard 2-3/4 inches (70 mm) backset, unless noted otherwise, with 1/2-inch latch throw. Provide proper latch throw for UL listing at pairs.
4. Provide locksets with separate anti-rotation thru-bolts, and no exposed screws.
5. Provide independently operating levers with two external return spring cassettes mounted under roses to prevent lever sag.
6. Provide standard ASA strikes unless extended lip strikes are necessary to protect trim.
7. Provide electrified options as scheduled in the hardware sets.
8. Lever Trim: Solid cast levers without plastic inserts and wrought roses on both sides.
   a. Lever Design: LON.

2.10 EXIT DEVICES

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:
   a. Von Duprin 98/35A series

2. Acceptable Manufacturers and Products:
   a. Sargent 19-43-GL-80 Series

B. Requirements:

1. Provide exit devices tested to ANSI/BHMA A156.3 Grade 1 and UL listed for Panic Exit or Fire Exit Hardware.
2. Cylinders: Refer to "KEYING" article, herein.
3. Provide smooth touchpad type exit devices, fabricated of brass, bronze, stainless steel, or aluminum, plated to standard architectural finishes to match balance of door hardware.
4. Touchpad must extend a minimum of one half of door width. No plastic inserts are allowed in touchpads.
5. Provide exit devices with deadlatching feature for security and for future addition of alarm kits and/or other electrified requirements.
6. Provide exit devices with weather resistant components that can withstand harsh conditions of various climates and corrosive cleaners used in outdoor pool environments.
7. Provide flush end caps for exit devices.
8. Provide exit devices with manufacturer's approved strikes.
9. Provide exit devices cut to door width and height. Install exit devices at height recommended by exit device manufacturer, allowable by governing building codes, and approved by Architect.
10. Mount mechanism case flush on face of doors or provide spacers to fill gaps behind devices. Where glass trim or molding projects off face of door, provide glass bead kits.
11. Provide cylinder or hex-key dogging as specified at non fire-rated openings.

12. Removable Mullions: 2 inches (51 mm) x 3 inches (76 mm) steel tube. Where scheduled as keyed removable mullion, provide type that can be removed by use of a keyed cylinder, which is self-locking when re-installed.
13. Provide factory drilled weep holes for exit devices used in full exterior application, highly corrosive areas, and where noted in hardware sets.
14. Provide electrified options as scheduled.
15. Top latch mounting: double- or single-tab mount for steel doors, face mount for aluminum doors eliminating requirement of tabs, and double tab mount for wood doors.
16. Provide exit devices with optional trim designs to match other lever and pull designs used on the project.

2.11 ELECTRIC STRIKES

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:
   a. Security Door Controls 55

2. Acceptable Manufacturers:
   a. Von Duprin

B. Requirements:

1. Provide electric strikes designed for use with type of locks shown at each opening.
2. Provide electric strikes UL Listed as burglary resistant.
3. Provide electric strikes that are field selectable fail-safe and fail-secure.
4. Provide electric strikes cycle tested to endure a minimum of 250,000 cycles.
5. Where required, provide electric strikes UL Listed for fire doors and frames.
6. Provide transformers and rectifiers for each strike as required. Verify voltage with electrical contractor.

2.12 POWER SUPPLIES

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:
   a. Schlage/Von Duprin PS900 Series

2. Acceptable Manufacturers and Products:
   a. Securitron

B. Requirements:

1. Provide power supplies approved by manufacturer of supplied electrified hardware.
2. Provide appropriate quantity of power supplies necessary for proper operation of electrified locking components as recommended by manufacturer of electrified locking components with consideration for each electrified component using power supply, location of power supply, and approved wiring diagrams. Locate power supplies as directed by Architect.
3. Provide regulated and filtered 24 VDC power supply, and UL class 2 listed.
4. Provide power supplies with the following features:
   a. 12/24 VDC Output, field selectable.

b. Class 2 Rated power limited output.
c. Universal 120-240 VAC input.
d. Low voltage DC, regulated and filtered.
e. Polarized connector for distribution boards.
f. Fused primary input.
g. AC input and DC output monitoring circuit w/LED indicators.
h. Cover mounted AC Input indication.
i. Tested and certified to meet UL294.
j. NEMA 1 enclosure.
k. Hinged cover w/lock down screws.
l. High voltage protective cover.

2.13 CYLINDERS

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:
   a. Schlage Everest 29 T

2. Acceptable Manufacturers and Products:
   a. Sargent XC series

B. Requirements:

1. Provide cylinders/cores compliant with ANSI/BHMA A156.5; latest revision; cylinder face finished to match lockset; manufacturer's series as indicated. Refer to "KEYING" article, herein.
2. Provide cylinders in the below-listed configuration(s), distributed throughout the Project as indicated.
   a. Patented Restricted: cylinder with interchangeable core with patented, restricted keyway.

3. Patent Protection: Cylinders/cores requiring use of restricted, patented keys, patent protected.
4. Nickel silver bottom pins.

2.14 KEYING

A. Scheduled System:

1. New factory registered system:
   a. Provide a factory registered keying system, complying with guidelines in ANSI/BHMA A156.28, incorporating decisions made at keying conference.

B. Requirements:

1. Construction Keying:
   a. Replaceable Construction Cores.
      1) Provide temporary construction cores replaceable by permanent cores, furnished in accordance with the following requirements.
         a) 3 construction control keys
         b) 12 construction change (day) keys.

2) Owner or Owner's Representative will replace temporary construction cores with permanent cores.

2. Permanent Keying:
   a. Provide permanent cylinders/cores keyed by the manufacturer according to the following key system.
      1) Master Keying system as directed by the Owner.
   b. Forward bitting list and keys separately from cylinders, by means as directed by Owner. Failure to comply with forwarding requirements will be cause for replacement of cylinders/cores involved at no additional cost to Owner.
   c. Provide keys with the following features:
      1) Material: Nickel silver; minimum thickness of .107-inch (2.3mm)
      2) Patent Protection: Keys and blanks protected by one or more utility patent(s).
   d. Identification:
      1) Mark permanent cylinders/cores and keys with applicable blind code for identification. Do not provide blind code marks with actual key cuts.
      2) Identification stamping provisions must be approved by the Architect and Owner.
      3) Stamp cylinders/cores and keys with Owner's unique key system facility code as established by the manufacturer; key symbol and embossed or stamped with "DO NOT DUPLICATE" along with the "PATENTED" or patent number to enforce the patent protection.
      4) Failure to comply with stamping requirements will be cause for replacement of keys involved at no additional cost to Owner.
      5) Forward permanent cylinders/cores to Owner, separately from keys, by means as directed by Owner.
   e. Quantity: Furnish in the following quantities.
      1) Change (Day) Keys: 3 per cylinder/core.
      2) Permanent Control Keys: 3.
      3) Master Keys: 6.

2.15 KEY CONTROL SYSTEM

A. Manufacturers:

1. Scheduled Manufacturer:
   a. Telkee

2. Acceptable Manufacturers:
   a. Lund

B. Requirements:

1. Provide key control system, including envelopes, labels, tags with self-locking key clips, receipt forms, 3-way visible card index, temporary markers, permanent markers, and standard metal cabinet, all as recommended by system manufacturer, with capacity for 150% of number of locks required for Project.
   a. Provide complete cross index system set up by hardware supplier, and place keys on markers and hooks in cabinet as determined by final key schedule.
   b. Provide hinged-panel type cabinet for wall mounting.

2.16 DOOR CLOSERS

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:
   a. LCN 4040XP series

2. Acceptable Manufacturers and Products:
   a. Sargent 280 Series

B. Requirements:

1. Provide door closers conforming to ANSI/BHMA A156.4 Grade 1 requirements by BHMA certified independent testing laboratory. ISO 9000 certify closers. Stamp units with date of manufacture code.
2. Provide door closers with fully hydraulic, full rack and pinion action with high strength cast iron cylinder, and full complement bearings at shaft.
3. Cylinder Body: 1-1/2-inch (38 mm) diameter piston with 5/8-inch (16 mm) diameter double heat-treated pinion journal. QR code with a direct link to maintenance instructions.
4. Hydraulic Fluid: Fireproof, passing requirements of UL10C, and requiring no seasonal closer adjustment for temperatures ranging from 120 degrees F to -30 degrees F.
5. Spring Power: Continuously adjustable over full range of closer sizes, and providing reduced opening force as required by accessibility codes and standards. Provide snap-on cover clip, with plastic covers, that secures cover to spring tube.
6. Hydraulic Regulation: By tamper-proof, non-critical valves, with separate adjustment for latch speed, general speed, and backcheck. Provide graphically labelled instructions on the closer body adjacent to each adjustment valve. Provide positive stop on reg valve that prevents reg screw from being backed out.
7. Provide closers with solid forged steel main arms and factory assembled heavy-duty forged forearms for parallel arm closers.
8. Pressure Relief Valve (PRV) Technology: Not permitted.
9. Finish for Closer Cylinders, Arms, Adapter Plates, and Metal Covers: Powder coating finish which has been certified to exceed 100 hours salt spray testing as described in ANSI Standard A156.4 and ASTM B117, or has special rust inhibitor (SRI).
10. Provide special templates, drop plates, mounting brackets, or adapters for arms as required for details, overhead stops, and other door hardware items interfering with closer mounting.

2.17 ELECTRO-MECHANICAL AUTOMATIC OPERATORS

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:
   a. LCN Senior Swing

2. Acceptable Manufacturers and Products:
   a. Stanley Magic Force

B. Requirements:

1. Provide low energy automatic operator units that are electro-mechanical design complying with ANSI/BHMA A156.19.
   a. Opening: Powered by DC motor working through reduction gears.
   b. Closing: Spring force.
   c. Manual, hydraulic, or chain drive closers: Not permitted.

d. Operation: Motor is off when door is in closing mode. Door can be manually operated with power on or off without damage to operator. Provide variable adjustments, including opening and closing speed adjustment.
e. Cover: Aluminum.

2. Provide units with manual off/auto/hold-open switch, push and go function to activate power operator, vestibule interface delay, electric lock delay, hold-open delay adjustable from 1 to 32 seconds, and logic terminal to interface with accessories, mats, and sensors.
3. Provide drop plates, brackets, and adapters for arms as required to suit details.
4. Provide motion sensors and/or actuator switches, and receivers for operation as specified. Provide weather-resistant actuators at exterior applications.
5. Provide key switches, with LED's, recommended and approved by manufacturer of automatic operator as required for function as described in operation description of hardware sets. Cylinders: Refer to "KEYING" article, herein.
6. Provide complete assemblies of controls, switches, power supplies, relays, and parts/material recommended and approved by manufacturer of automatic operator for each individual leaf. Actuators control both doors simultaneously at pairs. Sequence operation of exterior and vestibule doors with automatic operators to allow ingress or egress through both sets of openings as directed by Architect. Locate actuators, key switches, and other controls as directed by Architect.

2.18 PROTECTION PLATES

A. Manufacturers:

1. Scheduled Manufacturer:
   a. Ives

2. Acceptable Manufacturers:
   a. Trimco
   b. Rockwood

B. Requirements:

1. Provide protection plates with a minimum of 0.050 inch (1 mm) thick, beveled four edges as scheduled. Furnish with sheet metal or wood screws, finished to match plates.
2. Sizes plates 2 inches (51 mm) less width of door on single doors, pairs of doors with a mullion, and doors with edge guards. Size plates 1 inch (25 mm) less width of door on pairs without a mullion or edge guards.
3. At fire rated doors, provide protection plates over 16 inches high with UL label.

2.19 OVERHEAD STOPS AND OVERHEAD STOP/HOLDERS

A. Manufacturers:

1. Scheduled Manufacturers:
   a. Glynn-Johnson

2. Acceptable Manufacturers:
   a. Rixson

B. Requirements:

1. Provide overhead stop at any door where conditions do not allow for a wall stop or floor stop presents tripping hazard.
2. Provide friction type at doors without closer and positive type at doors with closer.

2.20 DOOR STOPS AND HOLDERS

A. Manufacturers:

1. Scheduled Manufacturer:
   a. Ives

2. Acceptable Manufacturers:
   a. Trimco
   b. Rockwood

B. Provide door stops at each door leaf:

1. Provide wall stops wherever possible. Provide concave type where lockset has a push button of thumbturn.
2. Where a wall stop cannot be used, provide universal floor stops.
3. Where wall or floor stop cannot be used, provide overhead stop.
4. Provide roller bumper where doors open into each other, and overhead stop cannot be used.

2.21 THRESHOLDS, SEALS, DOOR SWEEPS, AUTOMATIC DOOR BOTTOMS, AND GASKETING

A. Manufacturers:

1. Scheduled Manufacturer:
   a. Zero International

2. Acceptable Manufacturers:
   a. National guard

B. Requirements:

1. Provide thresholds, weather-stripping, and gasketing systems as specified and per architectural details. Match finish of other items.
2. Smoke- and Draft-Control Door Assemblies: Where smoke- and draft-control door assemblies are required, provide door hardware that meets requirements of assemblies tested according to UL 1784 and installed in compliance with NFPA 105.
3. Provide door sweeps, seals, astragals, and auto door bottoms only of type where resilient or flexible seal strip is easily replaceable and readily available.
4. Size thresholds 1/2 inch (13 mm) high by 5 inches (127 mm) wide by door width unless otherwise specified in the hardware sets or detailed in the drawings.

2.22 DOOR POSITION SWITCHES

A. Manufacturers:

1. Scheduled Manufacturer:
   a. Schlage

2. Acceptable Manufacturers:
   a. GE

B. Requirements:

1. Provide recessed or surface mounted type door position switches as specified.
2. Coordinate door and frame preparations with door and frame suppliers. If switches are being used with magnetic locking device, provide minimum of 4 inches (102 mm) between switch and magnetic locking device.

2.23 FINISHES

A. FINISH: BHMA 626/652 (US26D); EXCEPT:

1. Hinges at Exterior Doors: BHMA 630 (US32D)
2. Aluminum Geared Continuous Hinges: BHMA 628 (US28)
3. Push Plates, Pulls, and Push Bars: BHMA 630 (US32D)
4. Protection Plates: BHMA 630 (US32D)
5. Overhead Stops and Holders: BHMA 630 (US32D)
6. Door Closers: Powder Coat to Match
7. Wall Stops: BHMA 630 (US32D)
8. Weatherstripping: Clear Anodized Aluminum
9. Thresholds: Mill Finish Aluminum

PART 3 - EXECUTION

3.01 EXAMINATION

A. Prior to installation of hardware, examine doors and frames, with Installer present, for compliance with requirements for installation tolerances, labeled fire-rated door assembly construction, wall and floor construction, and other conditions affecting performance. Verify doors, frames, and walls have been properly reinforced for hardware installation.

B. Examine roughing-in for electrical power systems to verify actual locations of wiring connections before electrified door hardware installation.

C. Submit a list of deficiencies in writing and proceed with installation only after unsatisfactory conditions have been corrected.

3.02 INSTALLATION

A. Mount door hardware units at heights to comply with the following, unless otherwise indicated or required to comply with governing regulations.

1. Standard Steel Doors and Frames: ANSI/SDI A250.8.
2. Custom Steel Doors and Frames: HMMA 831.

3. Interior Architectural Wood Flush Doors: ANSI/WDMA I.S. 1A
4. Installation Guide for Doors and Hardware: DHI TDH-007-20

B. Install door hardware in accordance with NFPA 80, NFPA 101 and provide post-install inspection, testing as specified in section 1.03.E unless otherwise required to comply with governing regulations.

C. Install each hardware item in compliance with manufacturer's instructions and recommendations, using only fasteners provided by manufacturer.

D. Do not install surface mounted items until finishes have been completed on substrate. Protect all installed hardware during painting.

E. Set units level, plumb and true to line and location. Adjust and reinforce attachment substrate as necessary for proper installation and operation.

F. Drill and countersink units that are not factory prepared for anchorage fasteners. Space fasteners and anchors according to industry standards.

G. Install operating parts so they move freely and smoothly without binding, sticking, or excessive clearance.

H. Hinges: Install types and in quantities indicated in door hardware schedule but not fewer than quantity recommended by manufacturer for application indicated.

I. Lock Cylinders:

1. Install construction cores to secure building and areas during construction period.
2. Replace construction cores with permanent cores as indicated in keying section.
3. Furnish permanent cores to Owner for installation.

J. Wiring: Coordinate with Division 26, ELECTRICAL and Division 28 ELECTRONIC SAFETY AND SECURITY sections for:

1. Conduit, junction boxes and wire pulls.
2. Connections to and from power supplies to electrified hardware.
3. Connections to fire/smoke alarm system and smoke evacuation system.
4. Connection of wire to door position switches and wire runs to central room or area, as directed by Architect.
5. Connections to panel interface modules, controllers, and gateways.
6. Testing and labeling wires with Architect's opening number.

K. Key Control System: Tag keys and place them on markers and hooks in key control system cabinet, as determined by final keying schedule.

L. Door Closers: Mount closers on room side of corridor doors, inside of exterior doors, and stair side of stairway doors from corridors. Mount closers so they are not visible in corridors, lobbies and other public spaces unless approved by Architect.

M. Power Supplies: Locate power supplies as indicated or, if not indicated, above accessible ceilings or in equipment room, or alternate location as directed by Architect.

N. Thresholds: Set thresholds in full bed of sealant complying with requirements specified in Division 07 Section "Joint Sealants."

O. Stops: Provide floor stops for doors unless wall or other type stops are indicated in door hardware schedule. Do not mount floor stops where they may impede traffic or present tripping hazard.

P. Perimeter Gasketing: Apply to head and jamb, forming seal between door and frame.

Q. Meeting Stile Gasketing: Fasten to meeting stiles, forming seal when doors are closed.

R. Door Bottoms and Sweeps: Apply to bottom of door, forming seal with threshold when door is closed.

3.03 ADJUSTING

A. Initial Adjustment: Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.

1. Electric Strikes: Adjust horizontal and vertical alignment of keeper to properly engage lock bolt.
2. Door Closers: Adjust sweep period to comply with accessibility requirements and requirements of authorities having jurisdiction.

B. Occupancy Adjustment: Approximately three to six months after date of Substantial Completion, examine and readjust each item of door hardware, including adjusting operating forces, as necessary to ensure function of doors and door hardware.

3.04 CLEANING AND PROTECTION

A. Clean adjacent surfaces soiled by door hardware installation.

B. Clean operating items per manufacturer's instructions to restore proper function and finish.

C. Provide final protection and maintain conditions that ensure door hardware is without damage or deterioration at time of Substantial Completion.

3.05 DOOR HARDWARE SCHEDULE

A. The intent of the hardware specification is to specify the hardware for interior and exterior doors, and to establish a type, continuity, and standard of quality. However, it is the door hardware supplier's responsibility to thoroughly review existing conditions, schedules, specifications, drawings, and other Contract Documents to verify the suitability of the hardware specified.

B. Discrepancies, conflicting hardware, and missing items are to be brought to the attention of the architect with corrections made prior to the bidding process. Omitted items not included in a hardware set should be scheduled with the appropriate additional hardware required for proper application.

C. Hardware items are referenced in the following hardware schedule. Refer to the above specifications for special features, options, cylinders/keying, and other requirements.

D. Hardware Sets:

94258 OPT0329622 Version 5

Hardware Group No. 01

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	CONT. HINGE	112XY EPT	628	IVE
1	EA	POWER TRANSFER	EPT10 CON	689	VON
1	EA	STOREROOM LOCK	L9080L LONA LLL LLL LESS LOCK CASE	626	SCH
1	EA	NARROW STILE MORTISE LOCK BODY (FAIL SECURE ELEC)	STOREROOM 8859EU X RX SWITCH	626	ACC
1	EA	MONITOR STRIKE	4570-T1 24 VDC	626	VON
1	EA	MORTISE CYLINDER	26-094 X CORRECT CAM	626	SCH
1	EA	FSIC CORE	23-030 EV29 T	626	SCH
1	EA	FSIC CORE	23-030 ICX	ORG	SCH
1	EA	OH STOP & HOLDER	100H	630	GLY
1	EA	SURFACE CLOSER	4040XP REG ST-1630 X 4040XP-18TJ	689	LCN
1	EA	WIRE HARNESS	CON-XX X REQUIRED LENGTH		SCH
1	EA	DOOR CONTACT	679-05HM	BLK	SCE
1	EA	NOTE	WEATHERSTRIPPING, MEETING STILE SEALS, THRESHOLD, SWEEP BY DOOR/FRAME SUPPLIER	UNF	BYO

CREDENTIAL READER DEVICE IS TO RELEASE THE PULL SIDE LEVER AND SHUNT ANY ALARMS ASSOCIATED WITH THE DOOR CONTACT OR THE LATCHBOLT MONITOR STRIKE ALLOWING INGRESS. IMMEDIATE EGRESS IS ALWAYS AVAILABLE. KEYED INGRESS IS ALSO AVAILABLE.

ITEMS TO BE SUPPLIED BY THE DIVISION 28 SUPPLIER:
1) CREDENTIAL READER DEVICE.
2) REQUIRED POWER AND WIRING TO THE ELECTRIFIED LOCK, THE DOOR CONTACT, THE LX MONITOR STRIKE AND THE RX SWITCH INSIDE THE ELECTRIFIED LOCK.

Hardware Group No. 02

Provide each PR door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
6	EA	HINGE	5BB1HW 4.5 X 4.5 NRP	630	IVE
2	EA	POWER TRANSFER	EPT10 CON	689	VON
1	EA	REMOVABLE MULLION	4954 STAB	689	VON
2	EA	ELEC PANIC HARDWARE	LXRX-LC-QEL-98-L-NL-LON-CON 24 VDC	626	VON
2	EA	RIM HOUSING	20-079	626	SCH
2	EA	FSIC CORE	23-030 EV29 T	626	SCH
2	EA	FSIC CORE	23-030 ICX	ORG	SCH
2	EA	SURFACE CLOSER	4040XP SCUSH	689	LCN
2	EA	KICK PLATE	8400 10" X 1" LDW B-CS	630	IVE
1	EA	RAIN DRIP	142AA	AA	ZER
2	SET	MEETING STILE	328AA-S	AA	ZER
1	SET	JAMB SEALS	328AA-S	628	ZER
1	EA	HEAD SEAL (MOUNT PRIOR TO OTHER HEAD MTD HDW)	429A	AA	ZER
2	EA	DOOR SWEEP	39A	A	ZER
1	EA	THRESHOLD	566A-V3-223	A	ZER
2	EA	WIRE HARNESS	CON-XX X REQUIRED LENGTH		SCH
2	EA	DOOR CONTACT	679-05HM	BLK	SCE
1	EA	POWER SUPPLY	PS902 900-2RS 120/240 VAC	LGR	SCE

CREDENTIAL READER DEVICES ARE TO RETRACT THE LATCHES AND SHUNT ANY ALARMS ASSOCIATED WITH THE DOOR CONTACT OR THE LATCHBOLT MONITOR SWITCH ALLOWING INGRESS. IMMEDIATE EGRESS IS ALWAYS AVAILABLE. KEYED INGRESS IS ALSO AVAILABLE.

ITEMS TO BE SUPPLIED BY THE DIVISION 28 SUPPLIER:
1) CREDENTIAL READER DEVICES.
2) WIRING TO THE PS902 POWER SUPPLY, WHICH POWERS THE QEL LATCH RETRACTION FEATURE AS WELL AS WIRING TO THE QEL LATCH RETRACTION FEATURE ISTELF.
3) REQUIRED POWER AND WIRING TO THE DOOR CONTACTS AND THE LX AND RX SWITCHES INSIDE THE PANIC HARDWARE.

1 Hardware Group No. 03

2 Provide each PR door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
6	EA	HINGE	5BB1HW 4.5 X 4.5 NRP	630	IVE
1	EA	FIRE EXIT HARDWARE	9847-EO-F	626	VON
1	EA	FIRE EXIT HARDWARE	9875-L-NL-F-LON	626	VON
1	EA	MORTISE CYLINDER	26-094 X CORRECT CAM	626	SCH
1	EA	FSIC CORE	23-030 EV29 T	626	SCH
1	EA	FSIC CORE	23-030 ICX	ORG	SCH
1	EA	COORDINATOR	COR X FL (MTG BRACKETS AS REQD)	628	IVE
1	EA	CARRYBAR	CB1	652	IVE
2	EA	SURFACE CLOSER	4040XP SCUSH	689	LCN
2	EA	KICK PLATE	8400 10" X 1" LDW B-CS	630	IVE
1	SET	OVERLAPPING ASTRAGAL	322A-S	A	ZER
1	SET	JAMB SEALS	328AA-S	628	ZER
1	EA	HEAD SEAL (MOUNT PRIOR TO OTHER HEAD MTD HDW)	429A	AA	ZER
2	EA	DOOR SWEEP	39A	A	ZER
1	EA	ASTRAGAL	43SP	SP	ZER
1	EA	THRESHOLD	566A-V3-223	A	ZER

3

Hardware Group No. 04

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5 NRP	630	IVE
1	EA	POWER TRANSFER	EPT10 CON	689	VON
1	EA	ELEC FIRE EXIT HARDWARE	LXRX-LC-98-L-F-M996-LON-FS	626	VON
1	EA	RIM HOUSING	20-079	626	SCH
1	EA	FSIC CORE	23-030 EV29 T	626	SCH
1	EA	FSIC CORE	23-030 ICX	ORG	SCH
1	EA	SURFACE CLOSER	4040XP REG	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CCV	630	IVE
1	EA	GASKETING	328AA	AA	ZER
1	EA	DOOR SWEEP	39A	A	ZER
1	EA	THRESHOLD	566A-V3-223	A	ZER
1	EA	WIRE HARNESS	CON-XX X REQUIRED LENGTH		SCH
1	EA	DOOR CONTACT	679-05HM	BLK	SCE
1	EA	POWER SUPPLY	PS902 FA900 120/240 VAC	LGR	SCE

CREDENTIAL READER DEVICE IS TO RELEASE THE PULL SIDE LEVER AND SHUNT ANY ALARMS ASSOCIATED WITH THE DOOR CONTACT OR THE LATCHBOLT MONITOR SWITCH ALLOWING INGRESS. IMMEDIATE EGRESS IS ALWAYS AVAILABLE. KEYED INGRESS IS ALSO AVAILABLE.

REMOTE UNLOCKING WITHOUT UNLATCHING IS AVAILABLE.

ITEMS TO BE SUPPLIED BY THE DIVISION 28 SUPPLIER:
1) CREDENTIAL READER DEVICE.
2) WIRING TO THE PS902 POWER SUPPLY, WHICH POWERS THE M996 ELECTRIFIED LEVER TRIM AS WELL AS WIRING TO THE M996 LEVER TRIM ISTELF.
3) REQUIRED POWER AND WIRING TO THE DOOR CONTACT AND THE LX AND RX SWITCHES INSIDE THE PANIC HARDWARE.

Hardware Group No. 05

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5 NRP	630	IVE
1	EA	POWER TRANSFER	EPT10 CON	689	VON
1	EA	ELEC FIRE EXIT HARDWARE	LXRX-LC-98-L-F-M996-LON-FS	626	VON
1	EA	RIM HOUSING	20-079	626	SCH
1	EA	FSIC CORE	23-030 EV29 T	626	SCH
1	EA	FSIC CORE	23-030 ICX	ORG	SCH
1	EA	SURFACE CLOSER	4040XP SCUSH SRI	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	SET	JAMB SEALS	328AA-S	628	ZER
1	EA	HEAD SEAL (MOUNT PRIOR TO OTHER HEAD MTD HDW)	429A	AA	ZER
1	EA	DOOR SWEEP	39A	A	ZER
1	EA	THRESHOLD	566A-V3-223	A	ZER
1	EA	WIRE HARNESS	CON-XX X REQUIRED LENGTH		SCH
1	EA	DOOR CONTACT	679-05HM	BLK	SCE
1	EA	POWER SUPPLY	PS902 FA900 120/240 VAC	LGR	SCE

CREDENTIAL READER DEVICE IS TO RELEASE THE PULL SIDE LEVER AND SHUNT ANY ALARMS ASSOCIATED WITH THE DOOR CONTACT OR THE LATCHBOLT MONITOR SWITCH ALLOWING INGRESS. IMMEDIATE EGRESS IS ALWAYS AVAILABLE. KEYED INGRESS IS ALSO AVAILABLE.

REMOTE UNLOCKING WITHOUT UNLATCHING IS AVAILABLE.

ITEMS TO BE SUPPLIED BY THE DIVISION 28 SUPPLIER:
1) CREDENTIAL READER DEVICE.
2) WIRING TO THE PS902 POWER SUPPLY, WHICH POWERS THE M996 ELECTRIFIED LEVER TRIM AS WELL AS WIRING TO THE M996 LEVER TRIM ISTELF.
3) REQUIRED POWER AND WIRING TO THE DOOR CONTACT AND THE LX AND RX SWITCHES INSIDE THE PANIC HARDWARE.

Hardware Group No. 06

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
4	EA	HINGE	5BB1HW 5 X 4.5 NRP	630	IVE
1	EA	POWER TRANSFER	EPT10 CON	689	VON
1	EA	ELEC PANIC HARDWARE	LD-LXRX-LC-98-L-M996-LON-FSE	626	VON
1	EA	RIM HOUSING	20-079	626	SCH
1	EA	FSIC CORE	23-030 EV29 T	626	SCH
1	EA	FSIC CORE	23-030 ICX	ORG	SCH
1	EA	SURFACE CLOSER	4040XP HCUSH	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CCV	630	IVE
1	SET	JAMB SEALS	328AA-S	628	ZER
1	EA	HEAD SEAL (MOUNT PRIOR TO OTHER HEAD MTD HDW)	429A	AA	ZER
1	EA	DOOR SWEEP	39A	A	ZER
1	EA	THRESHOLD	566A-V3-223	A	ZER
1	EA	WIRE HARNESS	CON-XX X REQUIRED LENGTH		SCH
1	EA	DOOR CONTACT	679-05HM	BLK	SCE

CREDENTIAL READER DEVICE IS TO RELEASE THE PULL SIDE LEVER AND SHUNT ANY ALARMS ASSOCIATED WITH THE DOOR CONTACT OR THE LATCHBOLT MONITOR SWITCH ALLOWING INGRESS. IMMEDIATE EGRESS IS ALWAYS AVAILABLE. KEYED INGRESS IS ALSO AVAILABLE.

ITEMS TO BE SUPPLIED BY THE DIVISION 28 SUPPLIER:
1) CREDENTIAL READER DEVICE.
2) REQUIRED POWER AND WIRING TO THE ELECTRFIED LEVER TRIM, THE DOOR CONTACT AND THE LX AND RX SWITCHES INSIDE THE PANIC HARDWARE.

Hardware Group No. 07

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5	630	IVE
1	EA	FIRE EXIT HARDWARE	98-L-BE-F-LON	626	VON
1	EA	SURFACE CLOSER	4040XP SCUSH	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	SET	JAMB SEALS	328AA-S	628	ZER
1	EA	HEAD SEAL (MOUNT PRIOR TO OTHER HEAD MTD HDW)	429A	AA	ZER
1	EA	DOOR SWEEP	39A	A	ZER
1	EA	THRESHOLD	566A-V3-223	A	ZER
1	EA	DOOR CONTACT	679-05HM	BLK	SCE

OPENING TO BE MONITORED ONLY

ITEMS TO BE SUPPLIED BY THE DIVISION 28 SUPPLIER:
1) REQUIRED POWER AND WIRING TO THE DOOR CONTACT.

Hardware Group No. 08

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5	630	IVE
1	EA	FIRE EXIT HARDWARE	98-L-BE-F-LON	626	VON
1	EA	SURFACE CLOSER	4040XP REG	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CCV	630	IVE
1	EA	GASKETING	328AA	AA	ZER
1	EA	DOOR SWEEP	39A	A	ZER
1	EA	THRESHOLD	566A-V3-223	A	ZER
1	EA	DOOR CONTACT	679-05HM	BLK	SCE

OPENING TO BE MONITORED ONLY

ITEMS TO BE SUPPLIED BY THE DIVISION 28 SUPPLIER:
1) REQUIRED POWER AND WIRING TO THE DOOR CONTACT.

Hardware Group No. 09

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5 NRP	630	IVE
1	EA	POWER TRANSFER	EPT10 CON	689	VON
1	EA	ELEC FIRE EXIT HARDWARE	LXRX-LC-98-EO-F	626	VON
1	EA	SURFACE CLOSER	4040XP SCUSH	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	RAIN DRIP	142AA	AA	ZER
1	SET	JAMB SEALS	328AA-S	628	ZER
1	EA	HEAD SEAL (MOUNT PRIOR TO OTHER HEAD MTD HDW)	429A	AA	ZER
1	EA	DOOR SWEEP	39A	A	ZER
1	EA	THRESHOLD	566A-V3-223	A	ZER
1	EA	WIRE HARNESS	CON-XX X REQUIRED LENGTH		SCH
1	EA	DOOR CONTACT	679-05HM	BLK	SCE

OPENING TO BE MONITORED ONLY

ITEMS TO BE SUPPLIED BY THE DIVISION 28 SUPPLIER:
1) REQUIRED POWER AND WIRING TO THE DOOR CONTACT AND THE LX AND RX SWITCHES INSIDE THE PANIC HARDWARE.

Hardware Group No. 10

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5 NRP	652	IVE
1	EA	POWER TRANSFER	EPT10 CON	689	VON
1	EA	EL STOREROOM LOCK	ND80JDEL LON RX CON 12V/24V DC	626	SCH
1	EA	MONITOR STRIKE	4570-T1 24 VDC	626	VON
1	EA	FSIC CORE	23-030 EV29 T	626	SCH
1	EA	FSIC CORE	23-030 ICX	ORG	SCH
1	EA	SURFACE CLOSER	4040XP SCUSH	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	SET	JAMB SEALS	328AA-S	628	ZER
1	EA	HEAD SEAL (MOUNT PRIOR TO OTHER HEAD MTD HDW)	429A	AA	ZER
1	EA	DOOR SWEEP	39A	A	ZER
1	EA	THRESHOLD	566A-V3-223	A	ZER
1	EA	WIRE HARNESS	CON-XX X REQUIRED LENGTH		SCH
1	EA	DOOR CONTACT	679-05HM	BLK	SCE
1	EA	POWER SUPPLY	PS902 FA900 120/240 VAC	LGR	SCE

CREDENTIAL READER DEVICE IS TO RELEASE THE PULL SIDE LEVER AND SHUNT ANY ALARMS ASSOCIATED WITH THE DOOR CONTACT OR THE LATCHBOLT MONITOR STRIKE ALLOWING INGRESS. IMMEDIATE EGRESS IS ALWAYS AVAILABLE. KEYED INGRESS IS ALSO AVAILABLE.

REMOTE UNLOCKING WITHOUT UNLATCHING IS AVAILABLE.

ITEMS TO BE SUPPLIED BY THE DIVISION 28 SUPPLIER:
1) CREDENTIAL READER DEVICE.
2) WIRING TO THE PS902 POWER SUPPLY, WHICH POWERS THE ELECTRIFIED LOCK AS WELL AS WIRING TO THE ELECTRIFIED LOCK ITSELF.
3) REQUIRED POWER AND WIRING TO THE DOOR CONTACT, THE LX MONITOR STRIKE AND THE RX SWITCH INSIDE THE ELECTRIFIED LOCK.

Hardware Group No. 11

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
4	EA	HINGE	5BB1HW 5 X 4.5	630	IVE
1	EA	POWER TRANSFER	EPT10 CON	689	VON
1	EA	EU STOREROOM LOCK	ND80JDEU LON RX CON 12V/24V DC	626	SCH
1	EA	MONITOR STRIKE	4570-T1 24 VDC	626	VON
1	EA	FSIC CORE	23-030 EV29 T	626	SCH
1	EA	FSIC CORE	23-030 ICX	ORG	SCH
1	EA	OH STOP	90S	630	GLY
1	EA	SURFACE CLOSER	4040XP REG	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	GASKETING	328AA	AA	ZER
1	EA	DOOR SWEEP	39A	A	ZER
1	EA	THRESHOLD	566A-V3-223	A	ZER
1	EA	WIRE HARNESS	CON-XX X REQUIRED LENGTH		SCH
1	EA	DOOR CONTACT	679-05HM	BLK	SCE

CREDENTIAL READER DEVICE IS TO RELEASE THE PULL SIDE LEVER AND SHUNT ANY ALARMS ASSOCIATED WITH THE DOOR CONTACT OR THE LATCHBOLT MONITOR STRIKE ALLOWING INGRESS. IMMEDIATE EGRESS IS ALWAYS AVAILABLE. KEYED INGRESS IS ALSO AVAILABLE.

ITEMS TO BE SUPPLIED BY THE DIVISION 28 SUPPLIER:
1) CREDENTIAL READER DEVICE.
2) REQUIRED POWER AND WIRING TO THE ELECTRIFIED LOCK, THE DOOR CONTACT, THE LX MONITOR STRIKE AND THE RX SWITCH INSIDE THE ELECTRIFIED LOCK.

Hardware Group No. 12

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5	630	IVE
1	EA	POWER TRANSFER	EPT10 CON	689	VON
1	EA	EU STOREROOM LOCK	ND80JDEU LON RX CON 12V/24V DC	626	SCH
1	EA	MONITOR STRIKE	4570-T1 24 VDC	626	VON
1	EA	FSIC CORE	23-030 EV29 T	626	SCH
1	EA	FSIC CORE	23-030 ICX	ORG	SCH
1	EA	SURFACE CLOSER	4040XP REG	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CCV	630	IVE
1	EA	GASKETING	328AA	AA	ZER
1	EA	DOOR SWEEP	39A	A	ZER
1	EA	THRESHOLD	566A-V3-223	A	ZER
1	EA	WIRE HARNESS	CON-XX X REQUIRED LENGTH		SCH
1	EA	DOOR CONTACT	679-05HM	BLK	SCE

CREDENTIAL READER DEVICE IS TO RELEASE THE PULL SIDE LEVER AND SHUNT ANY ALARMS ASSOCIATED WITH THE DOOR CONTACT OR THE LATCHBOLT MONITOR STRIKE ALLOWING INGRESS. IMMEDIATE EGRESS IS ALWAYS AVAILABLE. KEYED INGRESS IS ALSO AVAILABLE.

ITEMS TO BE SUPPLIED BY THE DIVISION 28 SUPPLIER:
1) CREDENTIAL READER DEVICE.
2) REQUIRED POWER AND WIRING TO THE ELECTRIFIED LOCK, THE DOOR CONTACT, THE LX MONITOR STRIKE AND THE RX SWITCH INSIDE THE ELECTRIFIED LOCK.

Hardware Group No. 13

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5	630	IVE
1	EA	POWER TRANSFER	EPT10 CON	689	VON
1	EA	EU STOREROOM LOCK	ND80JDEU LON RX CON 12V/24V DC	626	SCH
1	EA	MONITOR STRIKE	4570-T1 24 VDC	626	VON
1	EA	FSIC CORE	23-030 EV29 T	626	SCH
1	EA	FSIC CORE	23-030 ICX	ORG	SCH
1	EA	SURFACE CLOSER	4040XP H	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CCV	630	IVE
1	EA	GASKETING	328AA	AA	ZER
1	EA	DOOR SWEEP	39A	A	ZER
1	EA	THRESHOLD	566A-V3-223	A	ZER
1	EA	WIRE HARNESS	CON-XX X REQUIRED LENGTH		SCH
1	EA	DOOR CONTACT	679-05HM	BLK	SCE

CREDENTIAL READER DEVICE IS TO RELEASE THE PULL SIDE LEVER AND SHUNT ANY ALARMS ASSOCIATED WITH THE DOOR CONTACT OR THE LATCHBOLT MONITOR STRIKE ALLOWING INGRESS. IMMEDIATE EGRESS IS ALWAYS AVAILABLE. KEYED INGRESS IS ALSO AVAILABLE.

ITEMS TO BE SUPPLIED BY THE DIVISION 28 SUPPLIER:
1) CREDENTIAL READER DEVICE.
2) REQUIRED POWER AND WIRING TO THE ELECTRIFIED LOCK, THE DOOR CONTACT, THE LX MONITOR STRIKE AND THE RX SWITCH INSIDE THE ELECTRIFIED LOCK.

Hardware Group No. 14

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5 NRP	630	IVE
1	EA	POWER TRANSFER	EPT10 CON	689	VON
1	EA	EL STOREROOM LOCK	ND80JDEL LON RX CON 12V/24V DC	626	SCH
1	EA	MONITOR STRIKE	4570-T1 24 VDC	626	VON
1	EA	FSIC CORE	23-030 EV29 T	626	SCH
1	EA	FSIC CORE	23-030 ICX	ORG	SCH
1	EA	SURFACE CLOSER	4040XP SCUSH	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	SET	JAMB SEALS	328AA-S	628	ZER
1	EA	HEAD SEAL (MOUNT PRIOR TO OTHER HEAD MTD HDW)	429A	AA	ZER
1	EA	DOOR SWEEP	39A	A	ZER
1	EA	THRESHOLD	566A-V3-223	A	ZER
1	EA	WIRE HARNESS	CON-XX X REQUIRED LENGTH		SCH
1	EA	DOOR CONTACT	679-05HM	BLK	SCE
1	EA	POWER SUPPLY	PS902 FA900 120/240 VAC	LGR	SCE

CREDENTIAL READER DEVICE IS TO RELEASE THE PULL SIDE LEVER AND SHUNT ANY ALARMS ASSOCIATED WITH THE DOOR CONTACT OR THE LATCHBOLT MONITOR STRIKE ALLOWING INGRESS. IMMEDIATE EGRESS IS ALWAYS AVAILABLE. KEYED INGRESS IS ALSO AVAILABLE.

REMOTE UNLOCKING WITHOUT UNLATCHING IS AVAILABLE.

ITEMS TO BE SUPPLIED BY THE DIVISION 28 SUPPLIER:
1) CREDENTIAL READER DEVICE.
2) WIRING TO THE PS902 POWER SUPPLY, WHICH POWERS THE ELECTRIFIED LOCK AS WELL AS WIRING TO THE ELECTRIFIED LOCK ITSELF.
3) REQUIRED POWER AND WIRING TO THE DOOR CONTACT, THE LX MONITOR STRIKE AND THE RX SWITCH INSIDE THE ELECTRIFIED LOCK.

Hardware Group No. 15

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW 5 X 4.5 NRP	630	IVE
1	EA	POWER TRANSFER	EPT10 CON	689	VON
1	EA	EU STOREROOM LOCK	ND80JDEU LON RX CON 12V/24V DC	626	SCH
1	EA	MONITOR STRIKE	4570-T1 24 VDC	626	VON
1	EA	FSIC CORE	23-030 EV29 T	626	SCH
1	EA	FSIC CORE	23-030 ICX	ORG	SCH
1	EA	SURFACE CLOSER	4040XP SHCUSH	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	SET	JAMB SEALS	328AA-S	628	ZER
1	EA	HEAD SEAL (MOUNT PRIOR TO OTHER HEAD MTD HDW)	429A	AA	ZER
1	EA	DOOR SWEEP	39A	A	ZER
1	EA	THRESHOLD	566A-V3-223	A	ZER
1	EA	WIRE HARNESS	CON-XX X REQUIRED LENGTH		SCH
1	EA	DOOR CONTACT	679-05HM	BLK	SCE

CREDENTIAL READER DEVICE IS TO RELEASE THE PULL SIDE LEVER AND SHUNT ANY ALARMS ASSOCIATED WITH THE DOOR CONTACT OR THE LATCHBOLT MONITOR STRIKE ALLOWING INGRESS. IMMEDIATE EGRESS IS ALWAYS AVAILABLE. KEYED INGRESS IS ALSO AVAILABLE.

ITEMS TO BE SUPPLIED BY THE DIVISION 28 SUPPLIER:
1) CREDENTIAL READER DEVICE.
2) REQUIRED POWER AND WIRING TO THE ELECTRIFIED LOCK, THE DOOR CONTACT, THE LX MONITOR STRIKE AND THE RX SWITCH INSIDE THE ELECTRIFIED LOCK.

1 Hardware Group No. 16

2 Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5 NRP	630	IVE
1	EA	POWER TRANSFER	EPT10 CON	689	VON
1	EA	EU STOREROOM LOCK	ND80JDEU LON RX CON 12V/24V DC	626	SCH
1	EA	MONITOR STRIKE	4570-T1 24 VDC	626	VON
1	EA	FSIC CORE	23-030 EV29 T	626	SCH
1	EA	FSIC CORE	23-030 ICX	ORG	SCH
1	EA	SURFACE CLOSER	4040XP SHCUSH	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	SET	JAMB SEALS	328AA-S	628	ZER
1	EA	HEAD SEAL (MOUNT PRIOR TO OTHER HEAD MTD HDW)	429A	AA	ZER
1	EA	DOOR SWEEP	39A	A	ZER
1	EA	THRESHOLD	566A-V3-223	A	ZER
1	EA	WIRE HARNESS	CON-XX X REQUIRED LENGTH		SCH
1	EA	DOOR CONTACT	679-05HM	BLK	SCE

3 CREDENTIAL READER DEVICE IS TO RELEASE THE PULL SIDE LEVER AND SHUNT ANY ALARMS
4 ASSOCIATED WITH THE DOOR CONTACT OR THE LATCHBOLT MONITOR STRIKE ALLOWING
5 INGRESS. IMMEDIATE EGRESS IS ALWAYS AVAILABLE. KEYED INGRESS IS ALSO AVAILABLE.
6
7 ITEMS TO BE SUPPLIED BY THE DIVISION 28 SUPPLIER:
8 1) CREDENTIAL READER DEVICE.
9 2) REQUIRED POWER AND WIRING TO THE ELECTRIFIED LOCK, THE DOOR CONTACT, THE LX
10 MONITOR STRIKE AND THE RX SWITCH INSIDE THE ELECTRIFIED LOCK.
11

Hardware Group No. 17

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5 NRP	630	IVE
1	EA	POWER TRANSFER	EPT10 CON	689	VON
1	EA	EU STOREROOM LOCK	ND80JDEU LON RX CON 12V/24V DC	626	SCH
1	EA	MONITOR STRIKE	4570-T1 24 VDC	626	VON
1	EA	FSIC CORE	23-030 EV29 T	626	SCH
1	EA	FSIC CORE	23-030 ICX	ORG	SCH
1	EA	SURFACE CLOSER	4040XP SCUSH	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	SET	JAMB SEALS	328AA-S	628	ZER
1	EA	HEAD SEAL (MOUNT PRIOR TO OTHER HEAD MTD HDW)	429A	AA	ZER
1	EA	DOOR SWEEP	39A	A	ZER
1	EA	THRESHOLD	566A-V3-223	A	ZER
1	EA	WIRE HARNESS	CON-XX X REQUIRED LENGTH		SCH
1	EA	DOOR CONTACT	679-05HM	BLK	SCE

CREDENTIAL READER DEVICE IS TO RELEASE THE PULL SIDE LEVER AND SHUNT ANY ALARMS ASSOCIATED WITH THE DOOR CONTACT OR THE LATCHBOLT MONITOR STRIKE ALLOWING INGRESS. IMMEDIATE EGRESS IS ALWAYS AVAILABLE. KEYED INGRESS IS ALSO AVAILABLE.

ITEMS TO BE SUPPLIED BY THE DIVISION 28 SUPPLIER:
1) CREDENTIAL READER DEVICE.
2) REQUIRED POWER AND WIRING TO THE ELECTRIFIED LOCK, THE DOOR CONTACT, THE LX MONITOR STRIKE AND THE RX SWITCH INSIDE THE ELECTRIFIED LOCK.

Hardware Group No. 18

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5 NRP	630	IVE
1	EA	POWER TRANSFER	EPT10 CON	689	VON
1	EA	PRIVACY W/DB & IND	LV9496J LONA L583-363 XL11-986 RX	626	SCH
1	EA	FSIC CORE	23-030 EV29 T	626	SCH
1	EA	FSIC CORE	23-030 ICX	ORG	SCH
1	EA	ELECTRIC STRIKE	55 - D - LBM - DBM	630	SDC
1	EA	SURF. AUTO OPERATOR	9542 MS AS REQ (120/240 VAC)	ANCLR	LCN
2	EA	ACTUATOR, TOUCHLESS	8310-813R	BLK	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	SET	JAMB SEALS	328AA-S	628	ZER
1	EA	HEAD SEAL (MOUNT PRIOR TO OTHER HEAD MTD HDW)	429A	AA	ZER
1	EA	DOOR SWEEP	39A	A	ZER
1	EA	THRESHOLD	566A-V3-223	A	ZER
1	EA	WIRE HARNESS	CON-XX X REQUIRED LENGTH		SCH
1	EA	DOOR CONTACT	679-05HM	BLK	SCE

CREDENTIAL READER DEVICE IS TO RELEASE THE ELECTRIC STRIKE, SHUNT ANY ALARMS ASSOCIATED WITH THE DOOR CONTACT OR THE LATCHBOLT MONITOR SWITCH INSIDE THE ELECTRIC STRIKE AND ENABLE THE PULL SIDE AUTO-OPERATOR HAND-WAVE ACTUATOR ALLOWING MANUAL OR AUTOMATIC INGRESS. IMMEDIATE MANUAL OR AUTOMATIC EGRESS IS ALWAYS AVAILABLE. KEYED INGRESS IS ALSO AVAILABLE.

ONCE INSIDE THE RESTROOM THE DEADBOLT MONITOR SWITCH IN THE ELECTRIC STRIKE IS TO DISABLE THE CREDENTIAL READER AND THE AUTO-OPERATOR HAND-WAVE ACTUATOR.

POWER FOR THE AUTO-OPERATOR IS BY THE ELECTRICAL CONTRACTOR.

ITEMS TO BE SUPPLIED BY THE DIVISION 28 SUPPLIER:
1) CREDENTIAL READER DEVICE.
2) REQUIRED POWER AND WIRING TO THE ELECTRIC STRIKE, THE DOOR CONTACT, THE LX MONITOR SWITCH INSIDE THE ELECTRIC STRIKE, THE DEADBOLT MONITOR SWITCH INSIDE THE ELECTRIC STRIKE AND THE RX SWITCH INSIDE THE LOCK.

Hardware Group No. 18A

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HANGING DEVICES	WELD-ON PIVOTS BY TGP	AL	TGP
1	EA	POWER TRANSFER	EPT10 CON	689	VON
1	EA	EU STOREROOM LOCK	ND80JDEU LON RX CON 12V/24V DC	626	SCH
1	EA	MONITOR STRIKE	4570-T1 24 VDC	626	VON
1	EA	FSIC CORE	23-030 EV29 T	626	SCH
1	EA	FSIC CORE	23-030 ICX	ORG	SCH
1	EA	OH STOP	90S	630	GLY
1	EA	SURFACE CLOSER	4040XP REG	689	LCN
1	EA	DOOR BOTTOM	420APKL	AL	PEM
1	EA	WIRE HARNESS	CON-XX X REQUIRED LENGTH		SCH
1	EA	DOOR CONTACT	679-05HM	BLK	SCE

CREDENTIAL READER DEVICE IS TO RELEASE THE PULL SIDE LEVER AND SHUNT ANY ALARMS ASSOCIATED WITH THE DOOR CONTACT OR THE LATCHBOLT MONITOR STRIKE ALLOWING INGRESS. IMMEDIATE EGRESS IS ALWAYS AVAILABLE. KEYED INGRESS IS ALSO AVAILABLE.

ITEMS TO BE SUPPLIED BY THE DIVISION 28 SUPPLIER:
1) CREDENTIAL READER DEVICE.
2) REQUIRED POWER AND WIRING TO THE ELECTRIFIED LOCK, THE DOOR CONTACT, THE LX MONITOR STRIKE AND THE RX SWITCH INSIDE THE ELECTRIFIED LOCK.

Hardware Group No. 19

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5	630	IVE
1	EA	PASSAGE SET	ND10S LON	626	SCH
1	EA	SURFACE CLOSER	4040XP REG	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CCV	630	IVE
1	EA	GASKETING	328AA	AA	ZER
1	EA	DOOR SWEEP	39A	A	ZER
1	EA	THRESHOLD	566A-V3-223	A	ZER

Hardware Group No. 20

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW 5 X 4.5	630	IVE
1	EA	PASSAGE SET	ND10S LON	626	SCH
1	EA	OH STOP	90S	630	GLY
1	EA	SURFACE CLOSER	4040XP REG	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	GASKETING	328AA	AA	ZER
1	EA	DOOR SWEEP	39A	A	ZER
1	EA	THRESHOLD	566A-V3-223	A	ZER

Hardware Group No. 21

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5 NRP	652	IVE
1	EA	POWER TRANSFER	EPT10 CON	689	VON
1	EA	ELEC FIRE EXIT HARDWARE	LXRX-LC-98-L-F-M996-LON-FS	626	VON
1	EA	RIM HOUSING	20-079	626	SCH
1	EA	FSIC CORE	23-030 EV29 T	626	SCH
1	EA	FSIC CORE	23-030 ICX	ORG	SCH
1	EA	SURFACE CLOSER	4040XP REG	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CCV	630	IVE
1	EA	GASKETING	488SBK PSA	BK	ZER
1	EA	WIRE HARNESS	CON-XX X REQUIRED LENGTH		SCH
1	EA	DOOR CONTACT	679-05HM	BLK	SCE
1	EA	POWER SUPPLY	PS902 FA900 120/240 VAC	LGR	SCE

CREDENTIAL READER DEVICE IS TO RELEASE THE PULL SIDE LEVER AND SHUNT ANY ALARMS ASSOCIATED WITH THE DOOR CONTACT OR THE LATCHBOLT MONITOR SWITCH ALLOWING INGRESS. IMMEDIATE EGRESS IS ALWAYS AVAILABLE. KEYED INGRESS IS ALSO AVAILABLE.

REMOTE UNLOCKING WITHOUT UNLATCHING IS AVAILABLE.

ITEMS TO BE SUPPLIED BY THE DIVISION 28 SUPPLIER:
1) CREDENTIAL READER DEVICE.
2) WIRING TO THE PS902 POWER SUPPLY, WHICH POWERS THE M996 ELECTRIFIED LEVER TRIM AS WELL AS WIRING TO THE M996 LEVER TRIM ISTELF.
3) REQUIRED POWER AND WIRING TO THE DOOR CONTACT AND THE LX AND RX SWITCHES INSIDE THE PANIC HARDWARE.

Hardware Group No. 22

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5 NRP	630	IVE
1	EA	POWER TRANSFER	EPT10 CON	689	VON
1	EA	ELEC FIRE EXIT HARDWARE	LXRX-LC-98-L-F-M996-LON-FS	626	VON
1	EA	RIM HOUSING	20-079	626	SCH
1	EA	FSIC CORE	23-030 EV29 T	626	SCH
1	EA	FSIC CORE	23-030 ICX	ORG	SCH
1	EA	SURFACE CLOSER	4040XP SCUSH	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	GASKETING	488SBK PSA	BK	ZER
1	EA	WIRE HARNESS	CON-XX X REQUIRED LENGTH		SCH
1	EA	DOOR CONTACT	679-05HM	BLK	SCE
1	EA	POWER SUPPLY	PS902 FA900 120/240 VAC	LGR	SCE

CREDENTIAL READER DEVICE IS TO RELEASE THE PULL SIDE LEVER AND SHUNT ANY ALARMS ASSOCIATED WITH THE DOOR CONTACT OR THE LATCHBOLT MONITOR SWITCH ALLOWING INGRESS. IMMEDIATE EGRESS IS ALWAYS AVAILABLE. KEYED INGRESS IS ALSO AVAILABLE.

REMOTE UNLOCKING WITHOUT UNLATCHING IS AVAILABLE.

ITEMS TO BE SUPPLIED BY THE DIVISION 28 SUPPLIER:
1) CREDENTIAL READER DEVICE.
2) WIRING TO THE PS902 POWER SUPPLY, WHICH POWERS THE M996 ELECTRIFIED LEVER TRIM AS WELL AS WIRING TO THE M996 LEVER TRIM ISTELF.
3) REQUIRED POWER AND WIRING TO THE DOOR CONTACT AND THE LX AND RX SWITCHES INSIDE THE PANIC HARDWARE.

Hardware Group No. 23

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5	630	IVE
1	EA	FIRE EXIT HARDWARE	98-L-BE-F-LON	626	VON
1	EA	SURFACE CLOSER	4040XP REG	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CCV	630	IVE
1	EA	GASKETING	488SBK PSA	BK	ZER
1	EA	DOOR CONTACT	679-05HM	BLK	SCE

OPENING TO BE MONITORED ONLY

ITEMS TO BE SUPPLIED BY THE DIVISION 28 SUPPLIER:
1) REQUIRED POWER AND WIRING TO THE DOOR CONTACT.

1 Hardware Group No. 24

2 Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5	652	IVE
1	EA	FIRE EXIT HARDWARE	98-L-BE-F-LON	626	VON
1	EA	SURFACE CLOSER	4040XP REG	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CCV	630	IVE
1	EA	GASKETING	488SBK PSA	BK	ZER

3

Hardware Group No. 24A

Provide each PR door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
6	EA	HINGE	5BB1HW 4.5 X 4.5	630	IVE
2	EA	POWER TRANSFER	EPT10 CON	689	VON
1	EA	CONST LATCHING BOLT	FB51P	630	IVE
1	EA	DUST PROOF STRIKE	DP2	626	IVE
1	EA	EU STOREROOM LOCK	ND80JDEU LON RX CON 12V/24V DC	626	SCH
1	EA	MONITOR STRIKE	4570-T1 24 VDC	626	VON
1	EA	FSIC CORE	23-030 EV29 T	626	SCH
1	EA	FSIC CORE	23-030 ICX	ORG	SCH
1	EA	COORDINATOR	COR X FL (MTG BRACKETS AS REQD)	628	IVE
1	EA	OH STOP	90S	630	GLY
2	EA	SURFACE CLOSER	4040XP REG	689	LCN
1	EA	WALL STOP	WS406/407CCV	630	IVE
1	SET	OVERLAPPING ASTRAGAL	322A-S	A	ZER
1	SET	JAMB SEALS	328AA-S	628	ZER
1	EA	HEAD SEAL (MOUNT PRIOR TO OTHER HEAD MTD HDW)	429A	AA	ZER
1	EA	ASTRAGAL	43SP	SP	ZER
2	EA	DOOR SWEEP	8198AA	AA	ZER
1	EA	THRESHOLD	566A-V3-223	A	ZER
2	EA	WIRE HARNESS	CON-XX X REQUIRED LENGTH		SCH
2	EA	DOOR CONTACT	679-05HM	BLK	SCE

CREDENTIAL READER DEVICE IS TO RELEASE THE PUSH SIDE LEVER AND SHUNT ANY ALARMS ASSOCIATED WITH THE DOOR CONTACTS OR THE LATCHBOLT MONITOR STRIKE ALLOWING INGRESS. IMMEDIATE EGRESS IS ALWAYS AVAILABLE. KEYED INGRESS IS ALSO AVAILABLE.

ITEMS TO BE SUPPLIED BY THE DIVISION 28 SUPPLIER:
1) CREDENTIAL READER DEVICE.
2) REQUIRED POWER AND WIRING TO THE ELECTRIFIED LOCK, THE DOOR CONTACTS, THE LX MONITOR STRIKE AND THE RX SWITCH INSIDE THE ELECTRIFIED LOCK.

Hardware Group No. 25

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5	652	IVE
1	EA	STOREROOM LOCK	ND80JD LON	626	SCH
1	EA	FSIC CORE	23-030 EV29 T	626	SCH
1	EA	FSIC CORE	23-030 ICX	ORG	SCH
1	EA	SURFACE CLOSER	4040XP REG	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CCV	630	IVE
1	EA	GASKETING	488SBK PSA	BK	ZER

Hardware Group No. 26

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5	652	IVE
1	EA	STOREROOM LOCK	ND80JD LON	626	SCH
1	EA	FSIC CORE	23-030 EV29 T	626	SCH
1	EA	FSIC CORE	23-030 ICX	ORG	SCH
1	EA	SURFACE CLOSER	4040XP SCUSH SRI	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	GASKETING	488SBK PSA	BK	ZER

Hardware Group No. 26A

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5 NRP	630	IVE
1	EA	STOREROOM LOCK	ND80JD LON	626	SCH
1	EA	FSIC CORE	23-030 EV29 T	626	SCH
1	EA	FSIC CORE	23-030 ICX	ORG	SCH
1	EA	SURFACE CLOSER	4040XP SCUSH SRI	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	GASKETING	488SBK PSA	BK	ZER

Hardware Group No. 27

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5	630	IVE
1	EA	PASSAGE SET	ND10S LON	626	SCH
1	EA	SURFACE CLOSER	4040XP REG	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CCV	630	IVE
1	EA	GASKETING	488SBK PSA	BK	ZER

Hardware Group No. 28

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5	652	IVE
1	EA	PRIVACY LOCK	ND40S LON	626	SCH
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	MOP PLATE	8400 4" X 1" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CCV	630	IVE

Hardware Group No. 29

Provide each SL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	DOOR CONTACT	674-OH	628	SCE
1	EA	NOTE	ALL OTHER HARDWARE BY DOOR MFG.	UNF	B/O

OPENING TO BE MONITORED ONLY

ITEMS TO BE SUPPLIED BY THE DIVISION 28 SUPPLIER:
1) REQUIRED POWER AND WIRING TO THE DOOR CONTACT.

Hardware Group No. 30

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA		OPENING ONLY. NO HDW REQD	UNF	MIS

Hardware Group No. 31

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	NOTE	ALL HARDWARE BY DOOR SUPPLIER	UNF	B/O

END OF SECTION

SECTION 22 05 33

HEAT TRACING FOR PLUMBING PIPING

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes plumbing piping heat tracing for freeze prevention, domestic hot-water-temperature maintenance, and snow and ice melting on roofs and in gutters and downspouts with the following electric heating cables:

1. Plastic insulated, series resistance.
2. Self-regulating, parallel resistance.

1.2 SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings: For electric heating cable.

C. Field quality-control reports.

D. Sample Warranty: For special warranty.

E. Operation and maintenance data.

1.3 WARRANTY

A. Special Warranty: Manufacturer agrees to repair or replace electric heating cable that fails in materials or workmanship within specified warranty period.

1. Warranty Period: Three years from date of Substantial Completion.

PART 2 - PRODUCTS

~~2.1 PLASTIC-INSULATED, SERIES-RESISTANCE HEATING CABLES~~

~~A. Comply with IEEE 515.1.~~

~~B. Heating Element: Single- or dual-stranded resistor wire. Terminate with waterproof, factory-assembled, nonheating leads with connectors at both ends.~~

~~C. Electrical Insulating Jacket: Minimum 4.0-mil Kapton with silicone, Tefzel, or polyolefin.~~

~~D. Cable Cover: Aluminum braid and silicone or Hylar outer jacket.~~

~~E. Maximum Operating Temperature (Power On): 300 deg F.~~

~~F. Maximum Exposure Temperature (Power Off): 185 deg F.~~

~~G. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.~~

~~H. Capacities and Characteristics:~~

~~1. Maximum Heat Output: [6 W/ft.] [7.5 W/ft.].~~
~~2. Piping Diameter: <Insert NPS>.~~
~~3. Number of Parallel Cables: .~~
~~4. Spiral Wrap Pitch: <Insert inches>.~~
~~5. Electrical Characteristics for Single-Circuit Connection:~~
~~a. Volts: [120] [208] [240] [277] [480].~~
~~b. Phase: <Insert value>.~~
~~c. Hertz: <Insert value>.~~
~~d. Full-Load Amperes: <Insert value>.~~
~~e. Minimum Circuit Ampacity: <Insert value>.~~
~~f. Maximum Overcurrent Protection: <Insert amperage>.~~

2.2 SELF-REGULATING, PARALLEL-RESISTANCE HEATING CABLES

A. Comply with IEEE 515.1.

B. Heating Element: Pair of parallel **No. 16** ~~No. 18~~ AWG, ~~tinned~~ **nickel-coated**, stranded copper bus wires embedded in crosslinked conductive polymer core, which varies heat output in response to temperature along its length. Terminate with waterproof, factory-assembled, nonheating leads with connectors at one end, and seal the opposite end watertight. Cable shall be capable of crossing over itself once without overheating.

C. Electrical Insulating Jacket: Flame-retardant polyolefin.

D. Cable Cover: **Tinned-copper** ~~Stainless-steel~~ braid **and polyolefin outer jacket with ultraviolet inhibitor.**

E. Maximum Operating Temperature (Power On): **150 deg F.**

F. Maximum Exposure Temperature (Power Off): **185 deg F.**

G. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

~~H. Capacities and Characteristics:~~

~~1. Maximum Heat Output: [3 W/ft.] [5 W/ft.] [8 W/ft.] [10 W/ft.] [12 W/ft.] <Insert value>.~~
~~2. Piping Diameter: <Insert NPS>.~~
~~3. Number of Parallel Cables: <Insert number>.~~
~~4. Spiral Wrap Pitch: <Insert inches>.~~
~~5. Electrical Characteristics for Single-Circuit Connection:~~
~~a. Volts: [120] [208] [240] [277] [480] <Insert value>.~~
~~b. Phase: <Insert value>.~~
~~c. Hertz: <Insert value>.~~
~~d. Full-Load Amperes: <Insert value>.~~
~~e. Minimum Circuit Ampacity: <Insert value>.~~
~~f. Maximum Overcurrent Protection: <Insert amperage>.~~

2.3 CONTROLS

A. Pipe-Mounted Thermostats for Freeze Protection:

1. Remote bulb unit with adjustable temperature range from **30 to 50 deg F.**

2. Snap action; open-on-rise, single-pole switch with minimum current rating adequate for connected cable.
3. Remote bulb on capillary, resistance temperature device, or thermistor for directly sensing pipe-wall temperature.
4. Corrosion-resistant, waterproof control enclosure.

2.4 ACCESSORIES

A. Cable Installation Accessories: Fiberglass tape, heat-conductive putty, cable ties, silicone end seals and splice kits, and installation clips all furnished by manufacturer, or as recommended in writing by manufacturer.

B. Warning Labels: Refer to Section 22 05 53 "Identification for Plumbing Piping and Equipment."

C. Warning Tape: Continuously printed "Electrical Tracing"; vinyl, at least 3 mils thick, and with pressure-sensitive, permanent, waterproof, self-adhesive back.

1. Width for Markers on Pipes with OD, Including Insulation, Less Than 6 Inches: 3/4 inch minimum.
2. Width for Markers on Pipes with OD, Including Insulation, 6 Inches or Larger: 1-1/2 inches minimum.

PART 3 - EXECUTION

3.1 APPLICATIONS

A. Install the following types of electric heating cable for the applications described:

~~1. Snow and Ice Melting on Roofs and in Gutters and Downspouts: [Plastic-insulated, series-resistance] [Self-regulating, parallel-resistance] heating cable.~~
~~2. Temperature Maintenance for Domestic Hot Water: Self-regulating, parallel-resistance heating cable.~~
3. **Freeze Protection for Sanitary Waste, Storm, Clearwater Waste, Domestic Water: Self-regulating, parallel-resistance heating cable.**

3.2 INSTALLATION

~~A. Install electric heating cable across expansion, construction, and control joints according to manufacturer's written instructions; use cable protection conduit and slack cable to allow movement without damage to cable.~~

~~B. Electric Heating-Cable Installation for Snow and Ice Melting on Roofs and in Gutters and Downspouts: Install on roof and in gutters and downspouts with clips furnished by manufacturer that are compatible with roof, gutters, and downspouts.~~

C. Electric Heating-Cable Installation for Freeze Protection for Piping:

1. Install electric heating cables after piping has been tested and before insulation is installed.
2. Install electric heating cables according to IEEE 515.1.
3. Install insulation over piping with electric cables according to Section 22 07 19 "Plumbing Piping Insulation."
4. Install warning tape on piping insulation where piping is equipped with electric heating cables.

~~D. Electric Heating Cable Installation for Temperature Maintenance for Domestic Hot Water:~~

~~1. Install electric heating cables after piping has been tested and before insulation is installed.~~
~~2. Install insulation over piping with electric heating cables according to Section 22 07 19 "Plumbing Piping Insulation."~~
~~3. Install warning tape on piping insulation where piping is equipped with electric heating cables.~~

E. Set field-adjustable switches and circuit-breaker trip ranges.

F. Ground equipment according to Section 26 05 26 "Grounding and Bonding for Electrical Systems."

G. Connect wiring according to Section 26 05 19 "Low-Voltage Electrical Power Conductors and Cables."

3.3 FIELD QUALITY CONTROL

A. Perform the following tests and inspections with the assistance of a factory-authorized service representative:

1. Perform tests after cable installation but before application of coverings such as insulation, wall or ceiling construction, or concrete.
2. Test cables for electrical continuity and insulation integrity before energizing.
3. Test cables to verify rating and power input. Energize and measure voltage and current simultaneously.

B. Repeat tests for continuity, insulation resistance, and input power after applying thermal insulation on pipe-mounted cables.

C. Cables will be considered defective if they do not pass tests and inspections.

D. Prepare test and inspection reports.

E. Remove and replace damaged heat-tracing cables.

END OF SECTION 22 05 33

SECTION 23 05 20

VARIABLE FREQUENCY DRIVES

1.01 RELATED DOCUMENTS

A. Section 23 05 00 "Common Work Results for HVAC".

B. Section 23 09 23 "Direct Digital Control (DDC) System for HVAC".

C. Applicable sections in Division 26.

1.02 SUMMARY

A. Section includes variable frequency drives consisting of a pulse width modulated (PWM) inverter designed for use with both asynchronous and permanent magnet motors.

1.03 REFERENCE STANDARDS

A. ANSI/IEEE – Guide for Harmonic Controls and Reactive Compensation of Static Power Converters

B. NEMA 250 – Enclosures for Electrical Equipment (1000 Volts Maximum)

C. NEMA ICA 7-2014 – Adjustable Speed Drives

D. NFPA 70 – National Electrical Code (NEC)

1.04 SUBMITTALS

A. Product Data: For each VFD indicated.

1. Include dimensions and finishes for VFDs.
2. Include rated capacities, operating characteristics, electrical characteristics, and furnished specialties and accessories.

B. Shop Drawings: For each VFD indicated.

1. Include mounting and attachment details.
2. Include diagrams for power, signal, and control wiring.

C. Product Certificates: For each VFD from manufacturer.

D. Harmonic Analysis Report: Provide Project-specific calculations and manufacturer's statement of compliance with IEEE 519.

E. Source quality-control reports.

F. Field quality-control reports.

G. Sample Warranty: For special warranty.

1.05 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For VFDs to include in emergency, operation, and maintenance manuals.

1. In addition to items specified in Section 01 78 23 "Operation and Maintenance Data," include the following:
   a. Manufacturer's written instructions for testing and adjusting thermal-magnetic circuit breaker and motor-circuit protector trip settings and overload settings as applicable.
   b. Manufacturer's written instructions for setting field-adjustable overload relays.
   c. Manufacturer's written instructions for testing, adjusting, and reprogramming microprocessor control modules.
   d. Manufacturer's written instructions for setting field-adjustable timers, controls, and status and alarm points.
   e. Start-up report for each VFD listing complete procedures and tests performed.
   f. Load-Current and List of Settings of Adjustable Overload Relays: Compile after motors have been installed and arrange to demonstrate that switch settings for motor-running overload protection suit actual motors to be protected.

1.06 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Power Fuses: Equal to 10 percent of quantity installed for each size and type, but no fewer than three of each size and type.
2. Control Power Fuses: Equal to 10 percent of quantity installed for each size and type, but no fewer than two of each size and type.
3. Indicating Lights: Two of each type and color installed.
4. Auxiliary Contacts: Furnish one spare(s) for each size and type of magnetic controller installed.
5. Power Contacts: Furnish three spares for each size and type of magnetic contactor installed.

1.07 QUALITY ASSURANCE

A. Testing Agency Qualifications: Certified by the manufacture.

1. Testing Agency's Field Supervisor: Certified by the manufacture to supervise on-site testing. Submit manufacture's approved start-up report and certification credentials

1.08 DELIVERY, STORAGE, AND HANDLING

A. If stored in space that is not permanently enclosed and air conditioned, remove loose packing and flammable materials from inside controllers and install temporary electric heating, with at least 250 W per controller.

B. Product Selection for Restricted Space: Drawings indicate maximum dimensions for VFDs, including clearances between VFDs, and adjacent surfaces and other items.

1.09 WARRANTY

A. Special Warranty: Manufacturer agrees to repair or replace VFDs that fail in materials or workmanship within specified warranty period of 1 year from the date of shipment. The warranty shall include parts, labor and travel.

2.01 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Danfoss
2. Or approved equal.

2.02 SYSTEM DESCRIPTION

A. General Requirements for VFDs:

1. VFDs and Accessories: Listed and labeled as defined in NFPA 70, UL labeled as a complete assembly, and marked for intended location and application.
2. Comply with NEMA ICS 7, NEMA ICS 61800-2, and UL508A.

B. Application: Variable torque per the application requirements.

C. VFD Description: Variable-frequency motor controller, consisting of power converter that employs pulse-width-modulated inverter, factory built and tested in an enclosure, with integral disconnecting means, fuses and overload protection; listed and labeled by UL a complete unit.

1. Units suitable for operation of NEMA MG 1, Design A and Design B motors, as defined by NEMA MG 1, Section IV, Part 30, "Application Considerations for Constant Speed Motors Used on a Sinusoidal Bus with Harmonic Content and General Purpose Motors Used with Adjustable-Voltage or Adjustable-Frequency Controls or Both."
2. Units suitable for operation of inverter-duty motors as defined by NEMA MG 1, Section IV, Part 31, "Definite-Purpose Inverter-Fed Polyphase Motors."
3. Listed and labeled for integrated short-circuit current rating of 100KA by UL 508A.

D. Design and Rating: Match load type, such as fans, blowers, and pumps; and type of connection used between motor and load such as direct or through a power-transmission connection.

E. Output Rating: Three phase; 10 to 60 Hz, with voltage proportional to frequency throughout voltage range; maximum voltage equals input voltage.

F. Unit Operating Requirements:

1. Input AC Voltage Tolerance: Plus 10 and minus 10 percent of VFD input voltage rating.
2. Input AC Voltage Unbalance: Not exceeding 3 percent.
3. Input Frequency Tolerance: Plus or minus 5 percent of VFD frequency rating.
4. Minimum Efficiency: 96 percent at 60 Hz, full load.
5. Minimum Displacement Primary-Side Power Factor: 96 percent under any load or speed condition.
6. Minimum Short-Circuit Current (Withstand) Rating: 10 kA.
7. Ambient Temperature Rating: Not less than 32 deg F and not exceeding 104 deg F.

a. **VFD shall be able to start and remain operational at outside air temperature of -15 deg F.**

8. Humidity Rating: Less than 95 percent (noncondensing).
9. Altitude Rating: Not exceeding 3300 feet.
10. Vibration Withstand: Comply with NEMA ICS 61800-2.
11. Overload Capability: 1.1 times the base load current for 60 seconds; minimum of 1.8 times the base load current for three seconds.
12. Starting Torque: Minimum 100 percent of rated torque from 3 to 60 Hz.
13. Speed Regulation: Plus or minus 5 percent.
14. Output Carrier Frequency: Selectable; 0.5 to 15 kHz.
15. Stop Modes: Programmable; includes fast, free-wheel, and dc injection braking.

G. Inverter Logic: Microprocessor based, 16 bit, isolated from all power circuits.

H. Isolated Control Interface: Allows VFDs to follow remote-control signal over a minimum 10:1 speed range.

1. Signal: Electrical.

I. Internal Adjustability Capabilities:

1. Minimum Speed: 5 to 25 percent of maximum rpm.
2. Maximum Speed: 80 to 100 percent of maximum rpm.
3. Acceleration: 0.1 to 999.9 seconds.
4. Deceleration: 0.1 to 999.9 seconds.
5. Current Limit: 30 to minimum of 150 percent of maximum rating.

J. Self-Protection and Reliability Features:

1. Surge Suppression: Factory installed as an integral part of the VFD, complying with UL 1449 SPD, Type 1 or Type 2. Provide phase to phase and phase to ground protection.
2. Loss of Input Signal Protection: Selectable response strategy, including speed default to a percent of the most recent speed, a preset speed, or stop; with alarm.
3. Under- and overvoltage trips. (-35% and +30%)
4. Inverter overcurrent trips and ground fault protection (start and running).
5. VFD and Motor-Overload/Overtemperature Protection: Microprocessor-based thermal protection system for monitoring VFDs and motor thermal characteristics, and for providing VFD overtemperature and motor-overload alarm and trip; settings selectable via the keypad.
6. Critical frequency rejection, with three selectable, adjustable deadbands.
7. Instantaneous line-to-line and line-to-ground overcurrent trips.
8. Loss-of-phase protection.
9. Reverse-phase protection.
10. Short-circuit protection.
11. Motor-overtemperature fault.

K. Automatic Reset/Restart: Attempt three restarts after drive fault or on return of power after an interruption and before shutting down for manual reset or fault correction; adjustable delay time between restart attempts.

L. Power-Interruption Protection: To prevent motor from re-energizing after a power interruption until motor has stopped, unless "Bidirectional Autospeed Search" feature is engaged.

M. Bidirectional Autospeed Search: Capable of starting VFD into rotating loads spinning in either direction and returning motor to set speed in proper direction, without causing damage to drive, motor, or load.

N. Torque Boost: Automatically varies starting and continuous torque to at least 1.5 times the minimum torque to ensure high-starting torque and increased torque at slow speeds.

O. Motor Temperature Compensation at Slow Speeds: Adjustable current fall-back based on output frequency for temperature protection of self-cooled, fan-ventilated motors at slow speeds.

P. Integral Input Disconnecting Means and OCPD: Door interlocked switch and fuses with pad-lockable, door-mounted handle mechanism.

1. Disconnect Rating: Not less than 125 percent of VFD input current rating.
2. Disconnect Rating: Not less than 115 percent of NFPA 70 motor full-load current rating or VFC input current rating, whichever is larger.
3. Auxiliary Contacts: NO or NC, arranged to activate before switch blades open.
4. Auxiliary contacts "a" and "b" arranged to activate with circuit-breaker handle.
5. [NC] [NO] alarm contact that operates only when circuit breaker has tripped.

2.03 PERFORMANCE REQUIREMENTS

2.04 CONTROLS AND INDICATION

A. Status Lights: Door-mounted LED indicators displaying the following conditions:

1. Power on.
2. Run.
3. Overvoltage.
4. Line fault.
5. Overcurrent.
6. External fault.

B. Door-Mounted Operator Station: Manufacturer's front-accessible, sealed keypad and plain-English-language digital display; allows complete programming, program copying, operating, monitoring, and diagnostic capability. All drives shall utilize the same (keypad) user interface

1. Keypad: In addition to required programming and control keys, include keys for HAND, OFF, and AUTO modes.
2. Security Access: Provide electronic security access to controls through identification and password with at least three levels of access: View only; view and operate; and view, operate, and service.
   a. Control Authority: Supports at least four conditions: Off, local manual control at VFD, local automatic control at VFD, and automatic control through a remote source.

C. Historical Logging Information and Displays:

1. Real-time clock with current time and date.
2. Running log of total power versus time.
3. Total run time, fan operation time, power up time
4. Fault log, maintaining last four faults with time and date stamp for each.
5. Event log, last 10 operating changes with date and time stamps.

D. Indicating Devices: Digital display and additional readout devices as required, mounted flush in VFD door and connected to display VFD parameters including, but not limited to:

1. Output frequency (Hz).
2. Motor speed (rpm).
3. Motor status (running, stop, fault).
4. Motor current (amperes).
5. Motor torque (percent).
6. Fault or alarming status (no codes).
7. PID feedback signal (percent).
8. DC-link voltage (V dc).
9. Set point frequency (Hz).
10. Motor output voltage (V ac).
11. Status of digital and analog inputs and outputs
12. The control panel shall include at minimum the followings controls:
    a. Four navigation keys (Up, Down, Left, Right) and two soft keys.
    b. Hand-Off-Auto selection, Fault Reset, and manual speed control.

E. A Help key shall include assistance for programming and troubleshooting

F. Control Signal Interfaces:

1. Electric Input Signal Interface:
    a. A minimum of two programmable analog inputs: 4- to 20-mA dc
    b. A minimum of six multifunction programmable digital inputs.
2. Remote Signal Inputs: Capability to accept any of the following speed-setting input signals from the DDC system for HVAC or other control systems:
    a. 0- to 10-V dc.
    b. 4- to 20-mA dc.
    c. Potentiometer using up/down digital inputs.
    d. Fixed frequencies using digital inputs.
3. Output Signal Interface: A minimum of one programmable analog output signal(s) 4- to 20-mA dc, which can be configured for any of the following:
    a. Output frequency (Hz).
    b. Output current (load).
    c. DC-link voltage (V dc).
    d. Motor torque (percent).
    e. Motor speed (rpm).
    f. Set point frequency (Hz).
4. Remote Indication Interface: A minimum of two programmable dry-circuit relay outputs (120-V ac, 1 A) for remote indication of the following:
    a. Motor running.
    b. Set point speed reached.
    c. Fault and warning indication (overtemperature or overcurrent).
    d. PID high- or low-speed limits reached.

G. Interface with DDC System for HVAC: Factory-installed hardware and software shall interface with DDC system for HVAC to monitor, control, display, and record data for use in processing reports. VFD settings shall be retained within VFD's nonvolatile memory. MSTP BACnet (BTL Listed), Modbus and N2 bus shall be supported as standard.

1. Hardwired Points:
    a. Monitoring: On-off status.
    b. Control: On-off operation.

2. Communication Interface: Comply with ASHRAE 135 Communication shall interface with DDC system for HVAC to remotely control and monitor from a DDC system for HVAC operator workstation.

2.05 LINE CONDITIONING AND FILTERING

A. Input Line Conditioning: Based on the manufacturer's harmonic analysis study and report, provide input filtering, as required, to limit total demand (harmonic current) distortion and total harmonic voltage demand at the defined point of common coupling to meet IEEE 519 recommendations. The minimum filtering shall be a 5% impedance from AC line reactors or dual DC bus reactors. Micro drives are not acceptable.

B. Output Filtering: N/A

C. EMI/RFI Filtering: CE marked; certify compliance with IEC 61800-3 for Category C2.

D. EMI/RFI Filtering: N/A

2.06 OPTIONAL FEATURES

A. Multiple-Motor Capability: VFD suitable for variable-speed service to multiple motors. Overload protection shuts down VFD and motors served by it and generates fault indications when overload protection activates.

1. Configure to allow two or more motors to operate simultaneously at the same speed; separate overload relay for each controlled motor.
2. Configure to allow two motors to operate separately; operator selectable via local or remote switch or contact closures; single overload relay for both motors; separate output magnetic contactors for each motor.
3. Configure to allow two motors to operate simultaneously and in a lead/lag mode, with one motor operated at variable speed via the power converter and the other at constant speed via the bypass controller; separate overload relay for each controlled motor.

B. Sleep Function: Senses a minimal deviation of a feedback signal and stops the motor. On an increase in speed-command signal deviation, VFD resumes normal operation.

C. Motor Preheat Function: Preheats motor when idle to prevent moisture accumulation in the motor.

D. Remote Indicating Circuit Terminals: Mode selection, controller status, and controller fault.

2.07 ENCLOSURES

A. VFD Enclosures: NEMA 250, to comply with environmental conditions at installed location.

1. All locations Type 4X.

2.08 ACCESSORIES

A. General Requirements for Control-Circuit and Pilot Devices: NEMA ICS 5; factory installed in VFD enclosure cover unless otherwise indicated.

1. Push Buttons: Lockable.
2. Pilot Lights: Push to test.

3. Selector Switches: Rotary type.
4. Stop and Lockout Push-Button Station: Momentary-break, push-button station with a factory-applied hasp arranged so padlock can be used to lock push button in depressed position with control circuit open.

B. [NC] [NO] [Reversible NC/NO] bypass contactor auxiliary contact(s).

C. Control Relays: Auxiliary and adjustable solid-state time-delay relays.

D. Phase-Failure, Phase-Reversal, and Undervoltage and Overvoltage Relays: Solid-state sensing circuit with isolated output contacts for hard-wired connections. Provide adjustable undervoltage, overvoltage, and time-delay settings.

1. Current Transformers: Continuous current rating, basic impulse insulating level (BIL) rating, burden, and accuracy class suitable for connected circuitry. Comply with IEEE C57.13.

E. Supplemental Digital Meters:

1. Elapsed-time meter.
2. Kilowatt meter.
3. Kilowatt-hour meter.

F. Breather and drain assemblies, to maintain interior pressure and release condensation in NEMA 250, Type 4X enclosures installed outdoors or in unconditioned interior spaces subject to humidity and temperature swings.

G. Space heaters, with NC auxiliary contacts, to mitigate condensation in NEMA 250,Type 4X enclosures installed outdoors or in unconditioned interior spaces subject to humidity and temperature swings.

H. Cooling Fan and Exhaust System: For NEMA 250, Type 4X; UL 508 component recognized: Supply fan, with intake and exhaust grills and filters ; 120 V ac; obtained from integral CPT.

I. Spare control-wiring terminal blocks ; wired.

2.09 SOURCE QUALITY CONTROL

A. Testing: Test and inspect VFDs according to requirements in NEMA ICS 61800-2.

1. Test each VFD while connected to its specified motor.
2. Verification of Performance: Rate VFDs according to operation of functions and features specified.

B. VFDs will be considered defective if they do not pass tests and inspections.

C. Prepare test and inspection reports.

3.01 EXAMINATION

A. Examine areas, surfaces, and substrates to receive VFDs, with Installer present, for compliance with requirements for installation tolerances, and other conditions affecting performance of the Work.

B. Examine VFD before installation. Reject VFDs that are wet, moisture damaged, or mold damaged.

C. Examine roughing-in for conduit systems to verify actual locations of conduit connections before VFD installation.

D. Prepare written report, endorsed by Installer, listing conditions detrimental to performance of the Work

E. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 INSTALLATION

A. Wall-Mounting Controllers: Install with tops at uniform height and with disconnect operating handles not higher than 79 inches above finished floor, unless otherwise indicated, and by bolting units to wall or mounting on lightweight structural-steel channels bolted to wall. For controllers not on walls, provide freestanding racks complying with Section 26 05 29 "Hangers and Supports for Electrical Systems."

B. Temporary Lifting Provisions: Remove temporary lifting eyes, channels, and brackets and temporary blocking of moving parts from enclosures and components.

C. Install fuses in each fusible-switch VFC.

D. Install, connect, and fuse thermal-protector monitoring relays furnished with motor-driven equipment.

E. Install heaters in thermal-overload relays. Select heaters based on actual nameplate full-load amperes after motors are installed.

F. Comply with NECA 1.

3.03 CONTROL WIRING INSTALLATION

A. Install wiring between VFDs and remote devices and facility's central-control system. Comply with requirements in Section 26 05 23 "Control-Voltage Electrical Power Cables."

B. Bundle, train, and support wiring in enclosures.

C. Connect selector switches and other automatic-control devices where applicable.

1. Connect selector switches to bypass only those manual- and automatic-control devices that have no safety functions when switches are in manual-control position.
2. Connect selector switches with control circuit in both manual and automatic positions for safety-type control devices such as low- and high-pressure cutouts, high-temperature cutouts, and motor-overload protectors.

3.04 IDENTIFICATION

A. Identify VFDs, components, and control wiring. Comply with requirements for identification specified in Section 26 05 53 "Identification for Electrical Systems."

1. Identify field-installed conductors, interconnecting wiring, and components; provide warning signs.
2. Label each VFD with engraved nameplate.
3. Label each enclosure-mounted control and pilot device.

B. Operating Instructions: Frame printed operating instructions for VFDs, including control sequences and emergency procedures. Fabricate frame of finished metal, and cover instructions with clear acrylic plastic. Mount on front of VFD units.

3.05 FIELD QUALITY CONTROL

A. Testing Agency: Engage a factory certified testing agency to perform tests and inspections.

B. Perform tests and inspections with the assistance of a factory-authorized service representative.

C. Acceptance Testing Preparation:

1. Test insulation resistance for each VFD element, bus, component, connecting supply, feeder, and control circuit.
2. Test continuity of each circuit.

D. Tests and Inspections:

1. Inspect VFD, wiring, components, connections, and equipment installation. Test and adjust controllers, components, and equipment.
2. Test insulation resistance for each VFD element, component, connecting motor supply, feeder, and control circuits.
3. Test continuity of each circuit.
4. Verify that voltages at VFD locations are within ASHARE 90.1 Section 8.4 percent of motor nameplate rated voltages. If outside this range for any motor, notify Architect before starting the motor(s).
5. Test each motor for proper phase rotation.
6. Perform tests according to the Inspection and Test Procedures for Adjustable Speed Drives stated in NETA Acceptance Testing Specification. Certify compliance with test parameters.
7. Correct malfunctioning units on-site, where possible, and retest to demonstrate compliance; otherwise, replace with new units and retest.
8. Test and adjust controls, remote monitoring, and safeties. Replace damaged and malfunctioning controls and equipment.

E. VFDs will be considered defective if they do not pass tests and inspections.

F. Prepare test and inspection reports, including a certified report that identifies the VFD and describes scanning results. Include notation of deficiencies detected, remedial action taken, and observations made after remedial action.

3.06 STARTUP SERVICE

A. Engage a factory-authorized service representative to perform startup service.

1. Complete installation and startup checks according to manufacturer's written instructions.

3.07 ADJUSTING

A. Program microprocessors for required operational sequences, status indications, alarms, event recording, and display features. Clear events memory after final acceptance testing and prior to Substantial Completion.

B. Set field-adjustable switches, auxiliary relays, time-delay relays, timers, and overload-relay pickup and trip ranges.

C. Adjust the trip settings of instantaneous-only circuit breakers and thermal-magnetic circuit breakers with adjustable, instantaneous trip elements. Initially adjust to 6 times the motor nameplate full-load amperes and attempt to start motors several times, allowing for motor cool-down between starts. If tripping occurs on motor inrush, adjust settings in increments until motors start without tripping. Do not exceed 8 times the motor full-load amperes (or 11 times for NEMA Premium Efficient motors if required). Where these maximum settings do not allow starting of a motor, notify Architect before increasing settings.

D. Set the taps on reduced-voltage autotransformer controllers.

E. Set field-adjustable circuit-breaker trip ranges coordinating with electrical contractor Short-Circuit and Coordination Studies.

3.08 PROTECTION

A. Temporary Heating: Apply temporary heat to maintain temperature according to manufacturer's written instructions until controllers are ready to be energized and placed into service.

B. Replace VFDs whose interiors have been exposed to water or other liquids prior to Substantial Completion.

3.09 DEMONSTRATION

A. Train Owner's maintenance personnel to adjust, operate, reprogram, and maintain VFDs.

END OF SECTION 23 05 20

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SECTION 23 09 03

CONTROL INSTRUMENTATION

PART 1 - GENERAL

1.01 RELATED WORK

A. Section 23 09 23 – Direct Digital Control (DDC) for HVAC.

B. Section 23 09 05 - Instrument Point List

C. Section 23 09 93 - Control Sequences

1.02 SUBMITTALS

A. Devices shall be indexed by bill of material for each system as detailed in Section 23 0901 - Control Systems Integration.

B. Device data sheets submittal shall be submitted simultaneously with Control Systems Integration submittal. Refer to submittals section in 23 0901.

C. Thermostat/Room Temperature Sensor Schedules:

1. Submit thermostat/room temperature sensor schedule with shop drawings. Thermostat/room temperature sensor schedule shall have detailed listing of which type is used for each room, including data concerning service and model numbers, sizes, cover types, and engineering data sheets for each control device.

D. Warranty

1. Provide 1 year warranty on all materials and labor.
2. Warranty requirements shall include furnishing and installing software upgrades issued by the manufacturer during the 1 year warranty period.

1.03 FCC COMPLIANCE

A. Digital equipment furnished under this Contract shall be tested and made to comply with limits for Class A computing devices pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against interference when operated in commercial environments. Literature shall so note and equipment shall be so labeled.

PART 2 - PRODUCTS

2.01 GENERAL

A. Instruments of same type shall be by same manufacturer, for instance, pressure transmitters, gauge, absolute, and differential pressure shall be of same manufacturer.

B. Pressure and temperature ratings of devices indicated in Part 2 - of this Section are minimum required. Devices shall be designed to withstand maximum pressures and temperatures encountered in respective systems.

C. No devices containing mercury will be allowed under this Specification.

2.02 GENERAL INSTRUMENTATION

A. Pressure Gauges:

1. Refer to Section 23 2120 - Piping Specialties

B. Thermometers (Dial-Type):

1. Refer to Section 23 2120 - Piping Specialties

C. Analog Electronic Instrument Indicators:

1. Electronic indicators, used for displaying sensor and/or output values as measured by current or voltage, shall be panel mount type and at least 2" square. Output may be either analog needle type or digital with 1/2" high LED or backlit LCD displays.
2. Electronic indicators shall be marked in appropriate units (degrees, psi, % rh, gpm, cfm, etc.) and with appropriate range of values. Panel mounted indicators shall have minimum accuracy of 1% of scale range. Digital units shall be scaled to show 3 digits plus 1 decimal point.

2.03 DISCRETE ELECTRIC INSTRUMENTATION

A. General:

1. Electrical devices, switches, and relays shall be UL listed and of type meeting current and voltage characteristics of project. Terminal connections shall be made at terminal blocks inside of NEMA 1 enclosures unless otherwise specified. Outdoor units (garage parking area is considered outside) shall be NEMA 4 with concealed adjustment.
2. Ratings of normally open and normally closed contacts shall be adequate for applied load (minimum 5 amps at 240 Volts).
3. Accuracy of devices shall be ± 1% of scale with adjustable offset unless otherwise specified.

B. Temperature Switches (Electric Thermostats):

1. Line voltage or low voltage type suitable for application with adjustable setpoint and setpoint indication.
2. Low voltage type to have heat anticipation.
3. Thermostats with remote sensing bulb shall have liquid filled sensing element and exposed setpoint adjustment.
4. Wall mounted space thermostat enclosure shall have concealed sensing element and exposed setpoint adjustment.
5. Unless otherwise stated, space thermostat covers shall be manufacturer's standard plastic.

C. Relays

1. Manufacturers: IDEC, Potter Brumfield, Square D, or Allen Bradley
2. Equal to IDEC Type RH2B-U, miniature 8 blade pilot relay with DPDT silver cadmium oxide contacts rated at 10A, 30 VDC, or 120 VAC. Coil shall match control circuit characteristics. DDC outputs shall be 24 VDC with maximum current burden of 50 milliamps. Rectangular base socket mount with blade type plug-in terminals and polycarbonate dust cover.
3. Provide DIN rail mountable (Snap type) mounting sockets equal to IDEC SH2B-05.

D. Enclosed Relay (Relay in Box):

1. Manufacturers: Veris Industries, Kele & Associates, Functional devices, Inc. or approved equal
2. 1 or 2 SPDT relays in NEMA 1 or better enclosure. Coil shall be selected for control circuit characteristics.
3. Contacts rated at 10A, 28 VDC or 120 VAC. Conduit nipple is 1/2" NPT. Maximum coil current burden 50 milliamps.

E. Pressure Differential Switches (Air Systems):

1. Manufacturers: Cleveland Controls, Dwyer, Honeywell, Johnson Controls/Penn, Siemens Building Technologies, or TAC
2. Adjustable set point, differential pressure type. Select switches for accuracy, ranges (20 to 80% of operating range) and dead-band to match process conditions, electrical requirements and to implement intended functions.
3. Pressure differential switches for air systems shall have pressure rating of at least 10" WC.
4. Switches used to protect installed system shall be manual reset type with two single pole double through contacts (SPDT)
5. Pressure indicating differential switches for air systems shall be equal to Dwyer Series 3000 photohelic gauge.
   a. Maximum Temperature Rating: 180°F
   b. Repeatability: ± 1%

F. Current Switches – Constant load, Constant Speed:

1. Manufacturers: Veris Industries, N-K Technologies, Absolute Process Instruments, Kele & Associates, R-K Electronics or approved equal
2. These shall be Induction type sensors clamped over single phase conductor of AC electrical power and shall be solid-state sensors with adjustable threshold and normally open contacts. Each current switch shall be selected for proper operating range of current.
   a. Output: Solid state relay or relay contacts
   b. Trip Setpoint: Adjustable by multi-turn potentiometer
   c. Operating Temperature: 32 to 131°F
   d. Response Time: < 0.5 seconds

G. Current Switches - Variable Load, Variable Speed

1. Manufacturers: Veris Industries, N-K Technologies or approved equal
2. These shall be induction type sensors clamped over single-phase conductor of AC electrical power and shall consist of solid-state sensors with self-calibrating threshold and normally open Contacts.
   a. Output: Solid state relay or relay contacts
   b. Trip Setpoint: Adjustable by multi-turn potentiometer
   c. Operating Temperature: 32 to 131°F
   d. Response Time: < 0.5 seconds

H. Mechanical Room and Local Control Panel Alarm Horns:

1. Manufacturers: Honeywell, Johnson Controls, Siemens, Panalarm, TAC, or Ronan
2. 24 V alarm horn suitable for panel mounting.

I. Plant Alarm Horns:

1. Manufacturers: Panalarm, Johnson Controls/Penn, Honeywell, Siemens Building Technologies, or Sonalert
2. Equal to Honeywell model SC806A rated at 64-100 dBa at 10 ft, 24 VAC operation. UL Listed and FM approved

J. Indicator Lights:

1. Manufacturers: Allen Bradley, GE, Square-D, or Idec
2. 1/4" minimum size or 1-1/4" maximum size, push-to-test type. Use green for normal, yellow for warning (low/high values), and red for alarm or fail (low-low or high-high conditions). AC or DC type with voltage matched to control circuit without transformers.

K. Drain Pan Moisture Detector:

1. Manufacturers: Kele and Associates, DiversiTech or approved alternate.
2. Moisture detector is small, electronic control relay for detecting rising water levels, within drain pans or other containments. Moisture detector shall alarm when water levels reach 0.43" to prevent damage from overflow of drain pans. Relay shall reset when water levels decrease to 0.31" and relay re-energizes.
3. Relay is normally energized upon powering up and no water is present. When water level reaches the trip point the relay de-energizes for alarming in BAS.
4. Moisture Detector Relay Module (Model LD1-24):
   a. Supply Voltage: 24 VAC, 60 Hz
   b. Power Consumption: 1 W
   c. Cable length: 18-inches
   d. Relays Contacts:
      1) Type: SPDT
      2) Rating: 2.5A at 24 VDC; 5.0A at 120 VAC
   e. Enclosure Rating: Hermetically Sealed
   f. Dimensions: 0.87" H x 2.0" W x 1.25" L

2.04 PNEUMATIC INSTRUMENTATION

A. Space Static Pressure Sensor:

1. Manufacturers: Air Monitor Corporation, Tek-Air or Thermo Electron Corporation
2. Space static pressure probe shall be brushed aluminum with anodized finish or stainless steel with polished or painted finish selected by Architect.
3. Shielded static air probe shall be similar to Air Monitor Corporation Model 3 for flush ceiling mounting, complete with multiple sensing ports, pressure impulse suppression chamber, air flow shielding, and 3/8" FPT take-off fitting. Sensor shall be capable of sensing static pressure within 1% of actual pressure value while being subjected to maximum air flow of 100 fpm from radial source.

B. Differential Air Pressure Indicator:

1. Dwyer model 2000 Series magnehelic gauge for surface or panel mounting. 4" dial readout, die cast aluminum housing. Case and aluminum parts Iridite-dipped. Exterior finish to be baked dark grey hammerloid. Hi/lo 1/8" pressure taps. Provide adapters to match tubing type.
   a. Accuracy: ± 2% of full scale.
   b. Ambient Temperature Range: 20 to 140°F
   c. Rated Total Pressure: -20" Hg to 15 psig
   d. Range: 0-2 times normal setpoint. (Use 0-0.25" WC for building and space pressure indication.)

C. Plastic Tubing:

1. 1. Fire resistant virgin polyethylene, meeting stress-crack test ASTM D1693. Individual tube polyethylene or multi-tube instrument tubing bundle shall be classified as flame retardant under UL94. Polyethylene material shall be rated as self-extinguishing when tested in accordance with ASTM 9 D635. 94. Polyethylene material shall be rated as self-extinguishing when tested in accordance with ASTM 9 D635.

2.05 ANALOG ELECTRONIC INSTRUMENTATION

A. Gas Detection Systems:

1. Manufacturers: **ACI,** Toxalert, Dräeger, Enmet, Honeywell Analytical, MSA or approved alternate
2. Provide gas detectors as listed below. Each detector shall be complete package with remote or local space sensors, detection instruments, local indication of current measured value for each sensor and status indicator lights for power and status of each sensor. Devices not requiring remote mounting shall be housed in metal control panel. Status indicators shall be mounted on panel faceplate.
3. Units shall have adjustable setpoints and self-test diagnostics.
   a. Gas to be Detected **H2,** CO, and NO2
   b. Alarm Setpoint:
      1) CO: low level control signal alarms ~~15 PPM, 25 PPM,~~ 35 PPM ~~and high alarm 100~~ PPM
      2) NO2: low alarm 1 PPM~~, high alarm 3 PPM~~
      3) H2: high alarm 1% by volume
   c. Range:
      1) CO: 0-2 times Alarm Setpoint
      2) NO2: 0-10 ppm NO2
      3) H2: 0-100% LEL
   d. Remote Sensor: As required.
   e. Signal: 4-20 mA; Below 4 mA indicates sensor failure
   f. Housing: NEMA 4X
   g. Temperature:
      1) CO: -4°F to 122°F
      2) NO: -4°F to 122°F
      3) H2: 14°F to 122°F
   h. Locations: See floor plans.

B. Space Temperature Sensors:

1. 1. Sensors shall be platinum RTD type, with the following minimum performance:
   a. Temperature Coefficient of Resistivity (TCR): 0.00385 ohm/ohm/□C

b. Accuracy: ± .54°F + (0.005 X T) (Class B)
c. Accuracy: ± .27°F + (0.005 X T) (Class A)
T = Temperature of interest
d. Conformance: DIN-IEC 751
e. Operating Range:32 to 122°F, 0 to 99% rh

2. Thermistors will be acceptable in lieu of RTD provided thermistor carries 5 year guarantee that device will maintain its accuracy within tolerance of ± 0.36°F between 32°F and 150°F, and 0.5°F between 41 -20°F and 212°F.
3. Unless otherwise stated, space sensor cover shall be manufacturer's standard plastic cover.

C. Duct Mounted or Insertion Temperature Sensors:

1. Platinum RTD type, with the following minimum performance:
a. Temperature Coefficient: 0.00385 ohm/ohm/°C
b. Accuracy: ± .54°F + (0.005 X T) (Class B)
c. Accuracy: ± .27°F + (0.005 X T) (Class A)
T = Temperature of interest
d. Conformance: DIN-IEC 751
e. Operating Range:-50 to 170°F, 0 to 99% RH
2. Install insertions sensors in stainless steel probes or wells.
3. Outside air sensors shall be weatherproof of noncorrosive construction and protected with solar shield. Mount outside air sensors on north side of building or in area intake wells for air handling systems to avoid thermal effects from direct sunlight.
4. Sensors mounted in air streams, such as air handling units, supply ducts, exhaust ducts or return ducts, shall be averaging type. Averaging type sensor to be installed in ducts larger than 24" x 24" or greater than 576in2. Mount averaging sensor across duct area in a "Z" pattern using mounting clips specific for averaging temperature sensor probes.
5. Thermistors will be acceptable in lieu of RTD provided thermistor carries 5 year guarantee that the device will maintain its accuracy within a tolerance of ± 0.36°F between 32°F and 150°F, and 0.5°F between -20°F and 212°F.

D. Ducted Air System Static Pressure and Differential Pressure (Velocity) Transmitters:

1. Manufacturers: GE Modus, Setra, Ashcroft XLDP or approved equal
2. Provide transducers/transmitters to convert velocity pressure differential or static duct pressure relative to sensor location into electronic signal.
3. Unit shall be capable of transmitting linear 4 - 20 mA DC output signal proportional to differential (total minus static or static minus ambient) pressure input signals with the following minimum performance and application criteria:
a. Span: Not greater than twice duct static or velocity pressure at maximum flow rate, or more than 16 times velocity pressure at minimum flow rate.
b. Accuracy: ± 1.0% of span or ± 1.0% of full scale
c. Dead Band: Less than 0.5% of output
d. Hysteresis: Within 0.5% of span or within 0.5% of full scale
e. Linearity: Within 1.0% of span or within 0.5% of full scale
f. Repeatability: Within 0.5% of output
g. Response: Less than 1 second for full span input
4. Return and exhaust air system static pressure transducers/transmitters shall be furnished with protective integral air filters on pressure sensing lines from static pressure sensing stations and with static air probes to prevent migration of moisture and particulate matter into transducers. If inputs to pressure transducers/transmitters are dead-ended, integral air filters are not required. Supply air system sensors do not require integral air filters.

E. Differential Pressure Flow Element: Pitot Tube

1. Manufacturers: Dieterich Standard, Preso, Veris Inc. or approved alternate
2. These shall be averaging differential pressure type flow elements. Flow element shall consist of:
   a. Sensing tube with two internal chambers. One shall sense upstream pressure and one shall sense downstream pressure.
   b. These chambers shall have ports of quantity and size to accurately sense flowrate in piping line-size into which these are specified to be installed.
   c. Sensing tube shall have form so shaped as to minimize measurement inaccuracies.
   d. Sensing assemblies shall be provided with suitable supports to prevent damage to these assemblies at maximum flow-rate.
      1) Accuracy: Error ± 1.0% of sensor rated range
      2) Repeatability: Error ± 0.5%
      3) Sensor Materials of Construction: Stainless Steel unless otherwise noted
   e. Insert/Retract "Hot Tap" including insertion device and isolation valve:
      1) Each sensor, which is required to be Hot-Tap shall be provided with isolating valve, packing gland and retraction tube assembly.
      2) Each sensor that is specified to be installed into line in which pressure is greater than 200 psig, or for acid or caustic service, or for hazardous chemical service shall be provided with retaining hardware to allow mechanical retraction and insertion.
   f. Refer to Section 23 2120 - Piping Specialties for Flow Sensors, provided for balancing purposes
   e.

F. Rotary (Damper) Position Sensors:

1. Manufacturers: Kele & Associates, Fisher Controls or Westlock
2. Provide position 4-20 mA transmitter with potentiometer type (variable resistance) sensor for damper position measurement. Measurement to be linear to damper stroke.
   a. Performance:
      1) Power Supply: 24 VDC unregulated
      2) Accuracy: ± 1% of output span
      3) Repeatability: ± 0.5% of full span
      4) Maximum Temperature: 125°F

G. P-E Transducers (Pressure Transmitters):

1. Manufacturers: Ashcroft, Mamac, Setra, Kele & Associates or GE Modus
2. Units shall have the following characteristics:
   a. Input:Pressure 0-15 psig, minimum
   b. Output Signal: 4-20 mA, 0-5 VDC, 1-5 VDC, 1-10 VDC
   c. Accuracy: 1% of span
   d. Operating Temperature 32 to 125°F
   e. Power Requirements: 24 VDC (10-30 VDC)

H. Air Flow Stations:

1. Manufacturers: Ruskin, or approved equal
2. Provide duct mounted airflow station type based on the following minimum design velocities. Pitot or thermal dispersion flow stations can be used for fan inlet flow stations. Outside air flow stations shall be thermal dispersion type only. Turndown

of variable volume fan systems must be considered. Provide and airflow station schedule detailing the airflow range to be measured, corresponding velocity pressure, differential pressure transducer range, and the airflow station size.

a. Air velocity: Duct Mounted Air Flow Station Type

b. 0-700 FPM: Thermal Dispersion

c. >700 FPM: Thermal Dispersion or Multi-probe velocity pressure pitot style

3. Duct mounted Multi-probe velocity pressure pitot air flow stations:

a. Casing: Galvanized steel sheet at least 0.079 inch thick with coating complying with ASTM A653/A653M, G90.

b. Performance:

1) Power Supply: 24 VAC

2) Pressure Loss: 0.015-inch wg at 1000 fpm, or 0.085-inch wg at 2000 fpm.

3) Sensor Accuracy: Within ± 2% of reading

4) Installed Accuracy: Within ± 10%

5) Temperature: -20°F to +120°F

6) Self-Generated Sound: NC 40 and sound level within the duct shall not be amplified.

7) Performance rated and tested according to AMCA 610. Each station shall bear the AMCA seal.

I. Occupancy Pushbutton with Timer:

1. Provide industrial grade stainless steel enclosed push-button switch.

a. Enclosure shall be NEMA 4X.

b. Enclosure shall include START message above Push Button.

2. Provide stainless steel wall plate indicating "PUSH FOR SPACE HEATING OPERATION". Coordinate final size, location, verbiage with A/E.

3. Timer shall be integral to building automation system and permit adjustable run time.

PART 3 - EXECUTION

3.01 GENERAL

A. A. Install control equipment and wiring in neat and workmanlike manner and in accordance with manufacturer's Recommendations. Maintain clearances, straight length distances, etc., required for proper operation of each device. Mark and detail on coordination drawings, exact locations of inline devices, wells, and taps to be installed by Mechanical Contractor.

B. Coordinate timely delivery of materials and supervise activities of other trade Contractors to install inline devices such as immersion wells, pressure tappings, any associated shut-off valves, flow switches, level switches, flow meters, air flow stations, and other such items furnished by Control Contractor which are to be installed by Mechanical Contractor.

C. Install control devices in accessible location.

D. Mount motor control devices within 5 ft of disconnect switch, or starting device furnished by Electrical Contractor unless noted otherwise. Maintain required NEC clearances.

E. Control Contractor and Mechanical Contractor shall review proposed static pressure sensor and flow meter locations with Owner and Engineer for approval prior to installation.

3.02 GENERAL INSTRUMENTATION

A. Local Control Panels:

1. Install remote mounted devices, controllers, I/O terminal blocks, power supplies, etc., inside of local control panels.
2. Locate panels as shown on drawings.
3. Locate panels adjacent to equipment served with minimum of 3 ft clearance in front of door. Provide sufficient clearances to allow full door swing and full access to internal components. Submit proposed panel locations with shop drawing submittals.
4. Mount top of panels between 5 and 6 ft above floor so that gauges and indicators are at eye level.

3.03 DISCRETE AND ANALOG INSTRUMENTATION

A. Wall Mounted Space Thermostats/Temperature Sensors:

1. Install space thermostats/sensors where indicated, as required to perform specified control sequences, and as directed to meet job site conditions.
2. Provide space temperature sensors without remote setpoint adjustment in all public spaces, hallways, and mechanical rooms unless otherwise specified.
   a. Mount space thermostats/sensors at 5 ft above floor unless otherwise indicated.
   b. Mount space thermostats/sensors with accessible setpoint adjustment or temperature reading (thermometer or digital temperature readout) at 4 ft above floor meeting ADA requirements.
3. Space thermostats/sensors located on exterior walls shall be mounted on thermally insulated sub- base.
4. Relocate space thermostats/sensors if required due to draft, interferences with cabinets, chalkboards, etc., or improper sensing.
5. Mount space thermostats/sensors in corridors, stairways and public toilets 7 ft above floor. Space thermostats/sensors in corridor, stairways, vestibules and toilets shall be aspirating type. Space thermostats/sensors shall be protected by heavy-duty cast and die formed guard.

B. RTD Temperature Transmitters:

1. Provide RTD temperature transmitters whenever DDCPs cannot receive RTD type inputs.

C. C. Static Pressure and Air Flow Stations:

1. Furnish static pressure and air flow measuring stations to Mechanical Contractor for installation.
2. Stations shall be installed in strict accordance with manufacturer's published requirements. These stations serve as primary signals for airflow control systems; therefore it shall be responsibility of Control Contractor to verify location and installation to assure that accurate primary signals are obtained.
3. Pressure differential switches shall be piped across device creating differential between fan discharge and fan suction.

D. D. Outside Air Temperature Sensors:

1. Mount on north side of building or in intake area wells for air handling systems. Provide solar shields for installations where sensors may be exposed to sunlight conditions.

E. E. Transmitters, Indicators, and Transducers:

1. Locate transmitters at sensing devices or within 100 ft of remote mounted transmitters. For hot systems (150°F and higher) mount electronics on side of pipe or remotely mount. For indicating type instruments, locate indicating element within 6 ft of floor with readout easily visible from floor level. Provide remote readouts if necessary.
2. Provide P-E transducers to convert analog pressure signals to analog electronic signals for input to DDC panels.

3.04 PNEUMATIC PIPING

A. Conceal all piping, except for piping in mechanical rooms and other areas where mechanical system piping is exposed.

B. Install exposed piping and conduit parallel to or at right angles to building structure and support adequately at uniform intervals.

1. Provide tubing clamps with insulated standoffs where metallic tubing may come into contact with other dissimilar metals to prevent galvanic corrosion from occurring. Use of wire ties or hose clamps to fasten tubing to structure or other piping is not allowed.
2. Use of tubing channel designed for mounting polyethylene tubing shall be allowed.

C. Polyethylene tubing not exceeding 18" exposed may be used for connection to instrument or actuator.

D. Install polyethylene tubing with no concealed splices and number code all tubing.

E. Piping type shall be as follows:

1. Inside Panels:
   a. Use polyethylene tubing.
2. Exposed:
   a. Polyethylene tubing may be used if run in fully enclosed rigid metal raceway or metal conduit where environment is within temperature limits of polyethylene tubing. Use PVC coated copper tubing or stainless steel tubing for wet environments.
3. Concealed:
   a. Use polyethylene tubing.

END OF SECTION 23 09 03

SECTION 23 83 23

ELECTRIC INFRARED RADIANT HEATER

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

A. Section includes infrared radiant heater.

1.03 SUBMITTALS

A. Product Data: For each type of product.

1. Include rated capacities, operating characteristics, and furnished specialties and accessories.

B. Shop Drawings: For electric infrared radiant heaters. Include plans, elevations, sections, and attachment details.

1. Include details of equipment assemblies. Indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location of each field connection.
2. Include diagrams for power, signal, and control wiring.

1.04 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For electric radiant heaters. Include operation and maintenance manuals.

1.05 WARRANTY

A. Electric Radiant Heaters shall have a two-year warranty equipment warranty.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Schwank
2. Or approved equal

2.02 PERFORMANCE REQUIREMENTS

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

B. All electrical connections shall be in compliance with National Electrical Code [NEC] and local codes for outdoor wiring.

C. Use only wiring components UL/CUL/CE listed for outdoor use with IPX4 minimum rating.

2.03 MANUFACTURED UNITS

A. Description: Outdoor rated Infrared heaters with medium wave dual element heated quartz bulbs featuring a low heat and high heat option.

B. Brushed stainless steel cabinet.

C. Clearance:

1. 6" above the heater
2. 36" below the heater
3. 18" on each side of the heater

D. Factory mounting swivel bracket that ensures clearance distances are maintained.

E. Adjacent heaters shall be installed no less than 3' apart.

F. Heater shall come pre-drilled and threaded for standard 1/2" conduit fittings. The installing electrician will need to provide the appropriate rigid metallic, flexible or liquid tight conduit for the installation location.

G. Manufacturer shall be a UL 508 Listed Controls Manufacturer

2.04 CONTROLS

A. Temperature Controls Contractor shall provide electric capacity controller(s), space thermostat(s), and occupancy push button with timer for complete operating system. Refer to M5000 drawings for Control Diagrams, Points Lists, and Sequence of Operations.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Examine surfaces and substrates to receive electric heaters for compliance with requirements for installation tolerances and other conditions affecting performance.

B. Ensure surfaces in contact with electric heaters are free of burrs and sharp protrusions. Ensure surfaces and substrates are level and plumb.

3.02 INSTALLATION

A. Install radiant-heaters level and plumb. Heater must be installed with the Quartz bulb horizontally level.

B. Verify locations of controls with Drawings and room details before installation. Install control devices 60 inches (1525 mm) above finished floor.

3.03 FIELD QUALITY CONTROL

A. Perform the following tests and inspections:

1. Operate electric-heating elements through each stage to verify proper operation and electrical connections.
2. Test and adjust controls and safeties.
3. Prepare test and inspection reports.

3.04 PROTECTION

A. Protect installed radiant heaters from damage during construction.

END OF SECTION 23 83 23

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SECTION 26 05 33

RACEWAY AND BOXES FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Type EMT-S raceways and elbows.
2. Type ERMC-S raceways, elbows, couplings, and nipples.
3. Type IMC raceways.
4. Type LFMC raceways.
5. Type PVC raceways and fittings.
6. Fittings for conduit, tubing, and cable.
7. Solvent cements.
8. Surface metal raceways and fittings.
9. Wireways and auxiliary gutters.
10. Metallic outlet boxes, device boxes, rings, and covers.
11. Nonmetallic outlet boxes, device boxes, rings, and covers.
12. Termination boxes.
13. Cabinets, cutout boxes, junction boxes, and pull boxes.
14. Cover plates for device boxes.

B. Related Requirements:

1. 26 05 00 "Common Work Requirements for Electrical" for additional abbreviations, definitions, submittals, qualifications, testing agencies, and other Project requirements applicable to Work specified in this Section.

1.2 SUBMITTALS

A. Product Data: For the following:

1. Wireways and auxiliary gutters.
2. Surface metal raceways.
3. Floor boxes.
4. Cabinets and cutout boxes.

B. Drawings: For custom enclosures and cabinets. Include plans, elevations, sections, and attachment details. Show that floor boxes are located to avoid interferences and are structurally allowable. Indicate floor thickness where boxes are embedded in concrete floors and underfloor clearances where boxes are installed in raised floors.

PART 2 - PRODUCTS

2.1 TYPE EMT-S RACEWAYS AND ELBOWS

A. Performance Criteria:

1. Regulatory Requirements: Listed and labeled in accordance with NFPA 70 and marked for intended location and use.
2. General Characteristics: UL 797 and UL Category Control Number FJMX.

B. Steel Electrical Metal Tubing (EMT-S) and Elbows:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
   a. Allied Tube & Conduit; Atkore International.
   b. Calconduit; Atkore International.
   c. Emerson Electric Co.
   d. Republic Conduit; Nucor Corporation, Nucor Tubular Products.
   e. Topaz Lighting & Electric.
   f. Western Tube; Zekelman Industries.
   g. Wheatland Tube; Zekelman Industries.
   h. ABB, Electrification Business.
   i. EGS; Emerson Electric Co., Automation Solutions, Appleton Group.
   j. Erickson Electrical Equipment Company.
   k. Hoffman; brand of nVent Electrical plc.
   l. Or approved equal
2. Material: Steel.
3. Options:
   a. Exterior Coating: Zinc .
   b. Interior Coating: Zinc with organic top coating .
   c. Minimum Trade Size: Metric designator 21 (trade size 3/4).
   d. Colors: As indicated on Drawings.

2.2 TYPE ERMC-S RACEWAYS, ELBOWS, COUPLINGS, AND NIPPLES

A. Performance Criteria:

1. Regulatory Requirements: Listed and labeled in accordance with NFPA 70 and marked for intended location and use.
2. General Characteristics: UL 6 and UL Category Control Number DYIX.

B. Galvanized-Steel Electrical Rigid Metal Conduit (ERMC-S-G), Elbows, Couplings, and Nipples:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
   a. Allied Tube & Conduit; Atkore International.
   b. Calconduit; Atkore International.
   c. Crouse-Hinds; brand of Eaton, Electrical Sector.
   d. Republic Conduit; Nucor Corporation, Nucor Tubular Products.
   e. Topaz Lighting & Electric.
   f. Western Tube; Zekelman Industries.
   g. Wheatland Tube; Zekelman Industries.
   h. Or approved equal
2. Exterior Coating: Zinc.
3. Options:
   a. Interior Coating: Zinc with organic top coating.
   b. Minimum Trade Size: Metric designator 21 (trade size 3/4).
   c. Colors: As indicated on Drawings.

2.3 TYPE IMC RACEWAYS

A. Performance Criteria:

1. Regulatory Requirements: Listed and labeled in accordance with NFPA 70 and marked for intended location and use.

2. General Characteristics: UL 1242 and UL Category Control Number DYBY.

B. Steel Electrical Intermediate Metal Conduit (IMC):

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
   a. ABB, Electrification Business.
   b. Allied Tube & Conduit; Atkore International.
   c. Calconduit; Atkore International.
   d. Republic Conduit; Nucor Corporation, Nucor Tubular Products.
   e. Topaz Lighting & Electric.
   f. Western Tube; Zekelman Industries.
   g. Wheatland Tube; Zekelman Industries.
   h. Or approved equal
2. Options:
   a. Exterior Coating: Zinc .
   b. Interior Coating: Zinc with organic top coating .
   c. Minimum Trade Size: Metric designator 21 (trade size 3/4).
   d. Colors: As indicated on Drawings.

2.4 TYPE LFMC RACEWAYS

A. Performance Criteria:

1. Regulatory Requirements: Listed and labeled in accordance with NFPA 70 and marked for intended location and use.
2. General Characteristics: UL 360 and UL Category Control Number DXHR.

B. Steel Liquidtight Flexible Metal Conduit (LFMC-S):

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
   a. ABB, Electrification Business.
   b. Anaconda Sealtite; Anamet Electrical, Inc.
   c. Electri-Flex Company.
   d. International Metal Hose Co.
   e. Or approved equal
2. Material: Steel.
3. Options:
   a. Minimum Trade Size: Metric designator 21 (trade size 3/4).
   b. Colors: As indicated on Drawings.

2.5 TYPE PVC RACEWAYS AND FITTINGS

A. Performance Criteria:

1. Regulatory Requirements: Listed and labeled in accordance with NFPA 70 and marked for intended location and use.
2. General Characteristics: UL 651 and UL Category Control Number DZYR.

B. Schedule 40 Rigid PVC Conduit (PVC-40) and Fittings:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
   a. ABB, Electrification Business.

b. Calconduit; Atkore International.
c. JM Eagle; J-M Manufacturing Co., Inc.
d. NAPCO; Westlake Chemical Corp.
e. Opti-Com Manufacturing Network, Inc (OMNI).
f. Topaz Lighting & Electric.
g. Or approved equal

2. Dimensional Specifications: Schedule 40.
3. Options:
   a. Minimum Trade Size: Metric designator 21 (trade size 3/4).
   b. Markings: For use with maximum 90 deg C wire.

C. Schedule 80 Rigid PVC Conduit (PVC-80) and Fittings:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
   a. ABB, Electrification Business.
   b. Calconduit; Atkore International.
   c. JM Eagle; J-M Manufacturing Co., Inc.
   d. Opti-Com Manufacturing Network, Inc (OMNI).
   e. Topaz Lighting & Electric.
   f. Or approved equal
2. Dimensional Specifications: Schedule 80.
3. Options:
   a. Minimum Trade Size: Metric designator 21 (trade size 3/4).
   b. Markings: For use with maximum 90 deg C wire.

2.6 FITTINGS FOR CONDUIT, TUBING, AND CABLE

A. Performance Criteria:

1. Regulatory Requirements: Listed and labeled in accordance with NFPA 70 and marked for intended location and use.

B. Fittings for Type ERMC, Type IMC, and Type PVC Raceways:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
   a. ABB, Electrification Business.
   b. Crouse-Hinds; brand of Eaton, Electrical Sector.
   c. EGS; Emerson Electric Co., Automation Solutions, Appleton Group.
   d. O-Z/Gedney; brand of Emerson Electric Co., Automation Solutions, Appleton Group.
   e. Raco Taymac Bell; brand of Hubbell Electrical Solutions; Hubbell Incorporated.
   f. Southwire Company, LLC.
   g. Topaz Lighting & Electric.
   h. Or approved equal
2. General Characteristics: UL 514B and UL Category Control Number DWTT.
3. Options:
   a. Material: Steel .
   b. Coupling Method: Raintight compression coupling with distinctive color gland nut .
   c. Conduit Fittings for Hazardous (Classified) Locations: UL 1203.
   d. Expansion and Deflection Fittings: UL 651 with flexible external bonding jumper.

C. Fittings for Type EMT Raceways:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
   a. ABB, Electrification Business.
   b. Allied Tube & Conduit; Atkore International.
   c. Calconduit; Atkore International.
   d. Crouse-Hinds; brand of Eaton, Electrical Sector.
   e. EGS; Emerson Electric Co., Automation Solutions, Appleton Group.
   f. O-Z/Gedney; brand of Emerson Electric Co., Automation Solutions, Appleton Group.
   g. Raco Taymac Bell; brand of Hubbell Electrical Solutions; Hubbell Incorporated.
   h. Southwire Company, LLC.
   i. Topaz Lighting & Electric.
   j. Or approved equal
2. General Characteristics: UL 514B and UL Category Control Number FKAV.
3. Options:
   a. Material: Steel .
   b. Coupling Method: Compression coupling .
   c. Conduit Fittings for Hazardous (Classified) Locations: UL 1203.
   d. Expansion and Deflection Fittings: UL 651 with flexible external bonding jumper.

D. Fittings for Type LFMC Raceways:

1. Manufacturers: Subject to compliance with requirements, undefined:
   a. Liquid Tight Connector Co.
   b. Or approved equal
2. General Characteristics: UL 514B and UL Category Control Number DXAS.

2.7 SOLVENT CEMENTS

A. Performance Criteria:

1. Regulatory Requirements: Listed and labeled in accordance with NFPA 70 and marked for intended location and use.
2. General Characteristics: As recommended by conduit manufacturer in accordance with UL 514B and UL Category Control Number DWTT.

2.8 SURFACE METAL RACEWAYS AND FITTINGS

A. Performance Criteria:

1. Regulatory Requirements: Listed and labeled in accordance with NFPA 70 and marked for intended location and use.
2. General Characteristics: UL 5 and UL Category Control Number RJBT.

B. Surface Metal Raceways and Fittings with Metal Covers:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
   a. Hubbell Wiring Device-Kellems; brand of Hubbell Electrical Solutions; Hubbell Incorporated.
   b. MonoSystems, Inc.
   c. Wiremold; Legrand North America, LLC.
   d. Or approved equal
2. Options:
   a. Galvanized steel base with snap-on covers.

b. Manufacturer's standard enamel finish in color selected by Architect .
c. Wiring Channels: Dual . Multiple channels must be capable of housing a standard 20 to 30 A NEMA device flush within the raceway.

2.9 WIREWAYS AND AUXILIARY GUTTERS

A. Performance Criteria:

1. Regulatory Requirements: Listed and labeled in accordance with NFPA 70 and marked for intended location and use.
2. General Characteristics: UL 870 and UL Category Control Number ZOYX.

B. Metal Wireways and Auxiliary Gutters:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
   a. ABB, Electrification Business.
   b. Cooper B-line; brand of Eaton, Electrical Sector.
   c. Hoffman; brand of nVent Electrical plc.
   d. MonoSystems, Inc.
   e. Square D; Schneider Electric USA.
   f. Wiegmann; brand of Hubbell Electrical Solutions; Hubbell Incorporated.
   g. Or approved equal
2. Additional Characteristics:
   a. Fittings and Accessories: Include covers, couplings, offsets, elbows, expansion joints, adapters, hold-down straps, end caps, and other fittings to match and mate with wireways as required for complete system.
   b. Finish: Manufacturer's standard enamel finish.
3. Options:
   a. Degree of Protection: Type 1 unless otherwise indicated.
   b. Wireway Covers: Screw-cover type unless otherwise indicated.

2.10 METALLIC OUTLET BOXES, DEVICE BOXES, RINGS, AND COVERS

A. Performance Criteria:

1. Regulatory Requirements: Listed and labeled in accordance with NFPA 70 and marked for intended location and use.
2. General Characteristics: UL 514A and UL Category Control Number QCIT.

B. Metallic Outlet Boxes:

1. Description: Box having pryout openings, knockouts, threaded entries, or hubs in either the sides of the back, or both, for entrance of conduit, conduit or cable fittings, or cables, with provisions for mounting outlet box cover, but without provisions for mounting wiring device directly to box.
2. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
   a. ABB, Electrification Business.
   b. Crouse-Hinds; brand of Eaton, Electrical Sector.
   c. EGS; Emerson Electric Co., Automation Solutions, Appleton Group.
   d. Hubbell Premise Wiring; brand of Hubbell Electrical Solutions; Hubbell Incorporated.
   e. Hubbell Wiring Device-Kellems; brand of Hubbell Electrical Solutions; Hubbell Incorporated.

f. O-Z/Gedney; brand of Emerson Electric Co., Automation Solutions, Appleton Group.
g. Pass & Seymour; Legrand North America, LLC.
h. Raco Taymac Bell; brand of Hubbell Electrical Solutions; Hubbell Incorporated.
i. Topaz Lighting & Electric.
j. Wiremold; Legrand North America, LLC.
k. Or approved equal

3. Options:
   a. Material: Sheet steel .
   b. Sheet Metal Depth: Minimum 2.5 inch.
   c. Cast-Metal Depth: Minimum 2.4 inch.
   d. Luminaire Outlet Boxes and Covers: Nonadjustable, listed and labeled for attachment of luminaire weighing more than 50 lb and marked with maximum allowable weight.
   e. Paddle Fan Outlet Boxes and Covers: Nonadjustable, designed for attachment of paddle fan weighing up to 70 lb.

C. Metallic Conduit Bodies:

1. Description: Means for providing access to interior of conduit or tubing system through one or more removable covers at junction or terminal point. In the United States, conduit bodies are listed in accordance with outlet box requirements.
2. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
   a. ABB, Electrification Business.
   b. Crouse-Hinds; brand of Eaton, Electrical Sector.
   c. EGS; Emerson Electric Co., Automation Solutions, Appleton Group.
   d. O-Z/Gedney; brand of Emerson Electric Co., Automation Solutions, Appleton Group.
   e. Pass & Seymour; Legrand North America, LLC.
   f. Raco Taymac Bell; brand of Hubbell Electrical Solutions; Hubbell Incorporated.
   g. Topaz Lighting & Electric.
   h. Or approved equal

D. Metallic Device Boxes:

1. Description: Box with provisions for mounting wiring device directly to box.
2. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
   a. ABB, Electrification Business.
   b. Crouse-Hinds; brand of Eaton, Electrical Sector.
   c. EGS; Emerson Electric Co., Automation Solutions, Appleton Group.
   d. Hubbell Premise Wiring; brand of Hubbell Electrical Solutions; Hubbell Incorporated.
   e. Hubbell Wiring Device-Kellems; brand of Hubbell Electrical Solutions; Hubbell Incorporated.
   f. O-Z/Gedney; brand of Emerson Electric Co., Automation Solutions, Appleton Group.
   g. Raco Taymac Bell; brand of Hubbell Electrical Solutions; Hubbell Incorporated.
   h. Topaz Lighting & Electric.
   i. Or approved equal
3. Options:
   a. Material: Sheet steel.
   b. Sheet Metal Depth: minimum 2.5 inch.
   c. Cast-Metal Depth: minimum 2.4 inch.

E. Metallic Recessed Access-Floor Boxes and Recessed Floor Box Covers:

1. Description: Floor box with provisions for mounting wiring devices below floor surface and floor box cover with provisions for passage of cords to recessed wiring devices mounted within floor box.
2. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
   a. FSR Inc.
   b. Hubbell Wiring Device-Kellems; brand of Hubbell Electrical Solutions; Hubbell Incorporated.
   c. Wiremold; Legrand North America, LLC.
   d. Or approved equal

F. Metallic Concrete Boxes and Covers:

1. Description: Box intended for use in poured concrete.
2. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
   a. ABB, Electrification Business.
   b. Crouse-Hinds; brand of Eaton, Electrical Sector.
   c. Hubbell Premise Wiring; brand of Hubbell Electrical Solutions; Hubbell Incorporated.
   d. Raco Taymac Bell; brand of Hubbell Electrical Solutions; Hubbell Incorporated.
   e. Topaz Lighting & Electric.
   f. Wiremold; Legrand North America, LLC.
   g. Or approved equal

2.11 NONMETALLIC OUTLET BOXES, DEVICE BOXES, RINGS, AND COVERS

A. Performance Criteria:

1. Regulatory Requirements: Listed and labeled in accordance with NFPA 70 and marked for intended location and use.
2. General Characteristics: UL 514C and UL Category Control Number QCMZ.

B. Nonmetallic Floor Boxes and Floor Box Covers:

1. Description: Box mounted in floor with floor box cover and other components to complete floor box enclosure.
2. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
   a. ABB, Electrification Business.
   b. Allied Tube & Conduit; Atkore International.
   c. Arlington Industries, Inc.
   d. Cantex Inc.
   e. JM Eagle; J-M Manufacturing Co., Inc.
   f. Pass & Seymour; Legrand North America, LLC.
   g. Raco Taymac Bell; brand of Hubbell Electrical Solutions; Hubbell Incorporated.
   h. Wiremold; Legrand North America, LLC.
   i. Or approved equal

2.12 CABINETS, CUTOUT BOXES, JUNCTION BOXES, AND PULL BOXES

A. Performance Criteria:

1. Regulatory Requirements: Listed and labeled in accordance with NFPA 70 and marked for intended location and use.
2. General Characteristics:
   a. Non-Environmental Characteristics: UL 50.
   b. Environmental Characteristics: UL 50E.

B. Indoor Sheet Metal Cabinets:

1. Description: Enclosure provided with frame, mat, or trim in which swinging door or doors are or can be hung.
2. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
   a. ABB, Electrification Business.
   b. Adalet.
   c. Crouse-Hinds; brand of Eaton, Electrical Sector.
   d. Erickson Electrical Equipment Company.
   e. FSR Inc.
   f. Hoffman; brand of nVent Electrical plc.
   g. Raco Taymac Bell; brand of Hubbell Electrical Solutions; Hubbell Incorporated.
   h. Robroy Enclosures; Robroy Industries.
   i. Or approved equal
3. Additional Characteristics: UL Category Control Number CYIV.
4. Options:
   a. Degree of Protection: Type 1.

C. Indoor Sheet Metal Junction and Pull Boxes:

1. Description: Box with a blank cover that serves the purpose of joining different runs of raceway or cable.
2. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
   a. Adalet.
   b. EGS; Emerson Electric Co., Automation Solutions, Appleton Group.
   c. FSR Inc.
   d. Hubbell Wiring Device-Kellems; brand of Hubbell Electrical Solutions; Hubbell Incorporated.
   e. O-Z/Gedney; brand of Emerson Electric Co., Automation Solutions, Appleton Group.
   f. Raco Taymac Bell; brand of Hubbell Electrical Solutions; Hubbell Incorporated.
   g. Or approved equal
3. Additional Characteristics: UL Category Control Number BGUZ.
4. Options:
   a. Degree of Protection: Type 1.

D. Indoor Cast-Metal Junction and Pull Boxes:

1. Description: Box with a blank cover that serves the purpose of joining different runs of raceway or cable.
2. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
   a. Adalet.
   b. Crouse-Hinds; brand of Eaton, Electrical Sector.
   c. EGS; Emerson Electric Co., Automation Solutions, Appleton Group.
   d. O-Z/Gedney; brand of Emerson Electric Co., Automation Solutions, Appleton Group.

e. Or approved equal
3. Additional Characteristics: UL Category Control Number BGUZ.
4. Options:
a. Degree of Protection: Type 1.

E. Outdoor Sheet Metal Cabinets:

1. Description: Enclosure provided with frame, mat, or trim in which swinging door or doors are or can be hung.
2. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
a. ABB, Electrification Business.
b. Adalet.
c. Crouse-Hinds; brand of Eaton, Electrical Sector.
d. Erickson Electrical Equipment Company.
e. FSR Inc.
f. Hoffman; brand of nVent Electrical plc.
g. Raco Taymac Bell; brand of Hubbell Electrical Solutions; Hubbell Incorporated.
h. Robroy Enclosures; Robroy Industries.
i. Or approved equal
3. Additional Characteristics: UL Category Control Number CYIV.
a. Options:
b. Degree of Protection: Type 3R.

F. Outdoor Cast-Metal Junction and Pull Boxes:

1. Description: Box with a blank cover that serves the purpose of joining different runs of raceway or cable.
2. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
a. Adalet.
b. Crouse-Hinds; brand of Eaton, Electrical Sector.
c. EGS; Emerson Electric Co., Automation Solutions, Appleton Group.
d. O-Z/Gedney; brand of Emerson Electric Co., Automation Solutions, Appleton Group.
e. Or approved equal
3. Additional Characteristics: UL Category Control Number BGUZ.
4. Options:
a. Degree of Protection: Type 3R.

G. Outdoor Polymeric Junction and Pull Boxes:

1. Description: Box with a blank cover that serves the purpose of joining different runs of raceway or cable.
2. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
a. ABB, Electrification Business.
b. Allied Tube & Conduit; Atkore International.
c. Hubbell Wiring Device-Kellems; brand of Hubbell Electrical Solutions; Hubbell Incorporated.
d. JM Eagle; J-M Manufacturing Co., Inc.
e. Robroy Enclosures; Robroy Industries.
f. Topaz Lighting & Electric.
g. Or approved equal
3. Additional Characteristics: UL Category Control Number BGUZ.

4. Options:
   a. Degree of Protection: Type 3R.

2.13 COVER PLATES FOR DEVICES BOXES

A. Performance Criteria:

1. Regulatory Requirements: Listed and labeled in accordance with NFPA 70 and marked for intended location and use.
2. General Characteristics:
   a. Reference Standards: UL 514D and UL Category Control Numbers QCIT and QCMZ.
   b. Wallplate-Securing Screws: Metal with head color to match wallplate finish.

B. Metallic Cover Plates for Device Boxes:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
   a. ABB, Electrification Business.
   b. Crouse-Hinds; brand of Eaton, Electrical Sector.
   c. EGS; Emerson Electric Co., Automation Solutions, Appleton Group.
   d. Hubbell Premise Wiring; brand of Hubbell Electrical Solutions; Hubbell Incorporated.
   e. Hubbell Wiring Device-Kellems; brand of Hubbell Electrical Solutions; Hubbell Incorporated.
   f. O-Z/Gedney; brand of Emerson Electric Co., Automation Solutions, Appleton Group.
   g. Panduit Corp.
   h. Pass & Seymour; Legrand North America, LLC.
   i. Raco Taymac Bell; brand of Hubbell Electrical Solutions; Hubbell Incorporated.
   j. Topaz Lighting & Electric.
   k. Wiremold; Legrand North America, LLC.
   l. Or approved equal
2. Options:
   a. Damp and Wet Locations: Listed, labeled, and marked for location and use. Provide gaskets and accessories necessary for compliance with listing.

PART 3 - EXECUTION

3.1 SELECTION OF RACEWAYS

A. Unless more stringent requirements are specified in Contract Documents or manufacturers' written instructions, comply with NFPA 70 for selection of raceways. Consult Architect for resolution of conflicting requirements.

B. Outdoors:

1. Exposed and Subject to Physical Damage: ERMC, IMC .
   a. Locations less than 2.5 m above finished floor.
2. Exposed and Not Subject to Physical Damage: ERMC, IMC, PVC-80.
3. Concealed Aboveground: ERMC, IMC, EMT .
4. Direct Buried: PVC-80, PVC-40.
5. **Parking garage vertical risers in exposed spaces: ERMC**
   a. Horizontal exposed runs under parking deck: IMC, PVC-80.

C. Indoors:

1. Exposed and Subject to Physical Damage: ERMC IMC . Subject to physical damage includes the following locations:
   a. Locations less than 2.5 m above finished floor.
   b. Stub-ups to above suspended ceilings.
2. Exposed and Not Subject to Physical Damage: ERMC IMC EMT .
3. Concealed in Ceilings and Interior Walls and Partitions: ERMC IMC EMT .
4. Damp or Wet Locations: ERMC IMC Corrosion-resistant EMT.
5. Connection to Vibrating Equipment (Including Transformers and Hydraulic, Pneumatic, Electric Solenoid, or Motor-Driven Equipment): LFMC .

D. Raceway Fittings: Select fittings in accordance with NEMA FB 2.10 guidelines.

1. ERMC and IMC: Provide threaded type fittings unless otherwise indicated.

3.2 SELECTION OF BOXES AND ENCLOSURES

A. Unless more stringent requirements are specified in Contract Documents or manufacturers' written instructions, comply with NFPA 70 for selection of boxes and enclosures. Consult Architect for resolution of conflicting requirements.

B. Degree of Protection:

1. Outdoors:
   a. Type 3R unless otherwise indicated.
   b. Locations Exposed to Hosedown: Type 4.
2. Indoors:
   a. Type 1 unless otherwise indicated.

C. Exposed Boxes Installed Less Than 2.5 m Above Floor:

1. Boxes with knockouts or unprotected openings are prohibited.
2. Provide exposed cover. Flat covers with angled mounting slots or knockouts are prohibited.

3.3 INSTALLATION OF RACEWAYS

A. Installation Standards:

1. Unless more stringent requirements are specified in Contract Documents or manufacturers' written instructions, comply with NFPA 70 for installation of raceways. Consult Architect for resolution of conflicting requirements.
2. Comply with NFPA 70 limitations for types of raceways allowed in specific occupancies and number of floors.
3. Comply with requirements in Section 26 05 29 "Hangers and Supports for Electrical Systems" for hangers and supports.
4. Comply with NECA NEIS 101 for installation of steel raceways.
5. Comply with NECA NEIS 102 for installation of aluminum raceways.
6. Comply with NECA NEIS 111 for installation of nonmetallic raceways.
7. Install raceways square to the enclosure and terminate at enclosures without hubs with locknuts on both sides of enclosure wall. Install locknuts hand tight, plus one-quarter turn more.
8. Terminate threaded conduits into threaded hubs or with locknuts on inside and outside of boxes or cabinets. Install bushings on conduits up to metric designator 35 (trade size 1-

1/4) and insulated throat metal bushings on metric designator 41 (trade size 1-1/2) and larger conduits terminated with locknuts. Install insulated throat metal grounding bushings on service conduits.

9. Raceway Terminations at Locations Subject to Moisture or Vibration:
   a. Provide insulating bushings to protect conductors, including conductors smaller than No. 4 AWG. Install insulated throat metal grounding bushings on service conduits.

B. General Requirements for Installation of Raceways:

1. Complete raceway installation before starting conductor installation.
2. Provide stub-ups through floors with coupling threaded inside for plugs, set flush with finished floor. Plug coupling until conduit is extended above floor to final destination or a minimum of 2 ft above finished floor.
3. Install no more than equivalent of three 90-degree bends in conduit run. Support within 12 inch of changes in direction.
4. Make bends in raceway using large-radius preformed ells except for parallel bends. Field bending must be in accordance with NFPA 70 minimum radii requirements. Provide only equipment specifically designed for material and size involved.
5. Conceal conduit within finished walls, ceilings, and floors unless otherwise indicated. Install conduits parallel or perpendicular to building lines.
6. Support conduit within 12 inches of enclosures to which attached.
7. Install raceway sealing fittings at accessible locations in accordance with NFPA 70 and fill them with listed sealing compound. For concealed raceways, install fitting in flush steel box with blank cover plate having finish similar to that of adjacent plates or surfaces. Install raceway sealing fittings in accordance with NFPA 70.
8. Install devices to seal raceway interiors at accessible locations. Locate seals so no fittings or boxes are between the seal and the following changes of environments. Seal interior of raceways at the following points:
   a. Where conduits pass from warm to cold locations, such as boundaries of refrigerated spaces.
   b. Where an underground service raceway enters a building or structure.
   c. Conduit extending from interior to exterior of building.
   d. Conduit extending into pressurized duct and equipment.
   e. Conduit extending into pressurized zones that are automatically controlled to maintain different pressure set points.
   f. Where otherwise required by NFPA 70.
9. Do not install conduits within 2 inches of the bottom side of a metal deck roof.
10. Keep raceways at least 6 inches away from parallel runs of flues and steam or hot-water pipes. Install horizontal raceway runs above water and steam piping.
11. Cut conduit perpendicular to the length. For conduits metric designator 53 (trade size 2) and larger, use roll cutter or a guide to make cut straight and perpendicular to the length. Ream inside of conduit to remove burrs.
12. Install pull wires in empty raceways. Provide polypropylene or monofilament plastic line with not less than 200 lb tensile strength. Leave at least 12 inches of slack at both ends of pull wire. Cap underground raceways designated as spare above grade alongside raceways in use.

C. Requirements for Installation of Specific Raceway Types:

1. Types ERMC and IMC:
   a. Threaded Conduit Joints, Exposed to Wet, Damp, Corrosive, or Outdoor Conditions: Apply listed compound that maintains electrical conductivity to threads of raceway and fittings before making up joints. Follow compound manufacturer's written instructions.

2. Type ERMC-S-PVC:
   a. Follow manufacturer's installation instructions for clamping, cutting, threading, bending, and assembly.
   b. Provide PVC-coated sealing locknut for exposed male threads transitioning into female NPT threads that do not have sealing sleeves, including transitions from PVC couplings/female adapters to Type ERMC-S-PVC elbows in direct-burial applications. PVC-coated sealing locknuts must not be used in place of conduit hub. PVC-coated sealing locknut must cover exposed threads on Type ERMC-S-PVC raceway.
   c. Coat field-cut threads on PVC-coated raceway with manufacturer-approved corrosion-preventing conductive compound prior to assembly.
3. Types FMC and LFMC:
   a. Comply with NEMA RV 3. Provide a maximum of 72 inches of flexible conduit for recessed and semi recessed luminaires, equipment subject to vibration, noise transmission, or movement, and for transformers and motors.
4. Type PVC:
   a. Do not install Type PVC conduit where ambient temperature exceeds 122 deg F . Conductor ratings must be limited to 75 deg C except where installed in a trench outside buildings with concrete encasement, where 90 deg C conductors are permitted.
   b. Comply with manufacturer's written instructions for solvent welding and fittings.

D. Stub-ups to Above Recessed Ceilings:

1. Provide EMT, IMC, or ERMC for raceways.
2. Provide a conduit bushing or insulated fitting to terminate stub-ups not terminated in hubs or in an enclosure.

E. Raceway Fittings: Install fittings in accordance with NEMA FB 2.10 guidelines.

1. ERMC-S-PVC: Provide only fittings listed for use with this type of conduit. Patch and seal joints, nicks, and scrapes in PVC coating after installing conduits and fittings. Provide sealant recommended by fitting manufacturer and apply in thickness and number of coats recommended by manufacturer.
2. EMT: Provide compression, fittings. Comply with NEMA FB 2.10.
3. Flexible Conduit: Provide only fittings listed for use with flexible conduit type. Comply with NEMA FB 2.20.

F. Expansion-Joint Fittings:

1. Install in runs of aboveground PVC that are located where environmental temperature change may exceed 30 deg F and that have straight-run length that exceeds 25 ft. Install in runs of aboveground ERMC and EMT conduit that are located where environmental temperature change may exceed 100 deg F and that have straight-run length that exceeds 100 ft.
2. Install type and quantity of fittings that accommodate temperature change listed for the following locations:
   a. Outdoor Locations Not Exposed to Direct Sunlight: 125 deg F temperature change.
   b. Outdoor Locations Exposed to Direct Sunlight: 155 deg F temperature change.
   c. Indoor Spaces Connected with Outdoors without Physical Separation: 125 deg F temperature change.
   d. Attics: 135 deg F temperature change.
3. Install fitting(s) that provide expansion and contraction for at least 0.00041 inch per foot of length of straight run per deg F of temperature change for PVC conduits. Install

fitting(s) that provide expansion and contraction for at least 0.000078 inch per foot of length of straight run per deg F of temperature change for metal conduits.

4. Install expansion fittings at locations where conduits cross building or structure expansion joints.
5. Install expansion-joint fitting with position, mounting, and piston setting selected in accordance with manufacturer's written instructions for conditions at specific location at time of installation. Install conduit supports to allow for expansion movement.

G. Raceways Penetrating Rooms or Walls with Acoustical Requirements:

1. Seal raceway openings on both sides of rooms or walls with acoustically rated putty or firestopping.

3.4 INSTALLATION OF SURFACE RACEWAYS

A. Install surface raceways only where indicated on Drawings.

B. Install surface raceway with a minimum 2-inch radius control at bend points.

C. Secure surface raceway with screws or other anchor-type devices at intervals not exceeding 48 inch and with no less than two supports per straight raceway section. Support surface raceway in accordance with manufacturer's written instructions. Tape and glue are unacceptable support methods.

3.5 INSTALLATION OF BOXES AND ENCLOSURES

A. Provide boxes in wiring and raceway systems wherever required for pulling of wires, making connections, and mounting of devices or fixtures.

B. Mount boxes at heights indicated on Drawings. If mounting heights of boxes are not individually indicated, give priority to ADA requirements. Install boxes with height measured to center of box unless otherwise indicated.

C. Recessed Boxes in Masonry Walls: Saw-cut opening for box in center of cell of masonry block and install box flush with surface of wall. Prepare block surfaces to provide a flat surface for a raintight connection between box and cover plate or supported equipment and box, whether installed indoors or outdoors.

D. Horizontally separate boxes mounted on opposite sides of walls, so they are not in the same vertical channel.

E. Locate boxes so that cover or plate will not span different building finishes.

F. Support boxes in recessed ceilings independent of ceiling tiles and ceiling grid.

G. Support boxes of three gangs or more from more than one side by spanning two framing members or mounting on brackets specifically designed for purpose.

H. Fasten junction and pull boxes to, or support from, building structure. Do not support boxes by conduits.

I. Set metal floor boxes level and flush with finished floor surface.

J. Set nonmetallic floor boxes level. Trim after installation to fit flush with finished floor surface.

K. Do not rely on locknuts to penetrate nonconductive coatings on enclosures. Remove coatings in the locknut area prior to assembling conduit to enclosure to ensure a continuous ground path.

L. Boxes and Enclosures in Areas or Walls with Acoustical Requirements:

1. Seal openings and knockouts in back and sides of boxes and enclosures with acoustically rated putty.
2. Provide gaskets for wallplates and covers.

3.6 FIRESTOPPING

A. Install firestopping at penetrations of fire-rated floor and wall assemblies. Comply with requirements in Section 07 84 13 "Penetration Firestopping."

3.7 PROTECTION

A. Protect coatings, finishes, and cabinets from damage and deterioration.

1. Repair damage to galvanized finishes with zinc-rich paint recommended by manufacturer.
2. Repair damage to PVC coatings or paint finishes with matching touchup coating recommended by manufacturer.

3.8 CLEANING

A. Boxes: Remove construction dust and debris from device boxes, outlet boxes, and floor-mounted enclosures before installing wallplates, covers, and hoods.

END OF SECTION 26 05 33

Open Cell Insulating Units

SHAPES AND SIZES

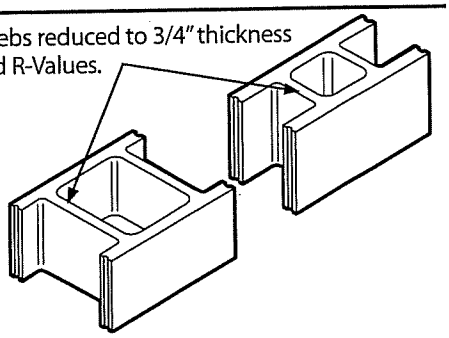
Block Type	Density - pdf	Weight lbs.	Percent Difference
8" Regular - (2) core	Normal Weight - 135 pcf	38	16%
8" Open Cell - (1) core	Normal Weight - 135 pcf	31.9	
12" Regular - (2) core	Normal Weight - 135 pcf	49	21%
12" Open Cell - (1) core	Normal Weight - 135 pcf	38.8	

OPEN CELL

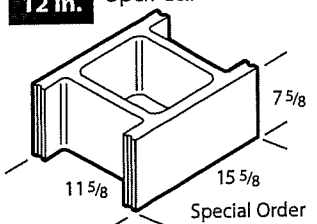
Open Cell Single Core units installed with insulating core materials enhance R-values and result in better energy performance for CMU cavity wall construction. Open Cell units are manufactured with 3/4" webs that improve R-Values, increase occupant comfort levels, and lower energy and equipment costs over the life cycle of the building.

Open Cell units are NCMA & ASHRAE Approved Series Parallel (Isothermal Planes) R-Values

Now with webs reduced to 3/4" thickness for improved R-Values.



12 in. Open Cell

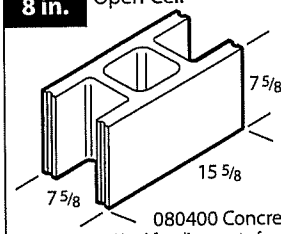


Special Order

Used for alignment of cores for rebar and grouting. Notches on the webs are available for rebar.

12" available in smooth face, split face, or with scores (smooth or split face).

8 in. Open Cell



080400 Concrete

Used for alignment of cores for rebar and grouting. Notches on the webs are available for rebar.

8" available in smooth face, split face, or with scores (smooth or split face).

Benefits:

- Reduced web thickness to 3/4"
- Improved R-Value
- Units pass energy code requirements
- Lower weight (see chart above) increases efficiency for masons and reduces injury potential
- Meets ASTM C90 requirement

Available in Decorative Finishes Split Face and Premier Ultra Burnished.

County Materials Corporation - Open Cell Unit with Reduced Webs
Thermal R-Values, U-Values, and Heat Capacity (HC) Values

Size Nominal width	Density lbs/cu.ft.	Core Material Makeup: Empty R	Empty U	Empty HC	Grouted Solid R	Grouted Solid U	Grouted Solid HC	Plastic Foam R	Plastic Foam U	Plastic Foam HC	Perlite R	Perlite U	Perlite HC
One Core; (1) 1-1/2" & (1) 1-1-4" Face Shells; (2) 3/4 " Webs (Equivalent Thickness = 3.1")													
12"	135	3.08	0.325	8.76	2.05	0.489	26.54	10.28	0.097	9.03	9.18	0.109	8.92
	115	3.35	0.298	7.53	2.22	0.451	25.31	14.26	0.070	7.80	12.15	0.082	7.69
	105	3.46	0.289	6.92	2.29	0.436	24.70	16.01	0.062	7.18	13.37	0.075	7.08
One Core; (2) 1-1/4" Face Shells; (2) 3/4 " Webs (Equivalent Thickness = 2.4")													
8"	135	2.24	0.447	7.34	1.64	0.610	23.01	6.40	0.156	7.58	5.76	0.174	7.48
	115	2.44	0.410	6.32	1.79	0.559	21.99	8.74	0.114	6.56	7.52	0.133	6.46
	105	2.53	0.396	5.81	1.85	0.539	21.48	9.77	0.102	6.05	8.25	0.121	5.95
Medium Weight Two Core: (2) 1 1/3" Face Shells, (3) 1" Webs (Equivalent Thickness = 4.8")													
12"	125	2.3	0.436	na	2.25	0.444	na	8.07	0.124	na	7.5	0.133	na
	115	2.2	0.455	na	2.16	0.463	na	6.87	0.146	na	6.47	0.155	na
Medium Weight Two Core: (2) 1 1/4" Face Shells, (3) 1" Webs (Equivalent Thickness = 3.9")													
8"	125	2.2	0.455	na	1.81	0.553	na	5.49	0.182	na	5.09	0.196	na
	115	2.09	0.478	na	1.73	0.579	na	4.72	0.211	na	4.45	0.225	na

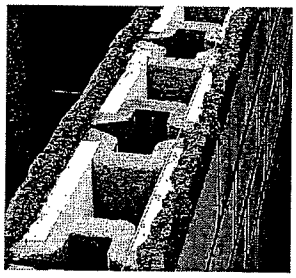
All dimensions nominal.

Thermal Block Insulating Units

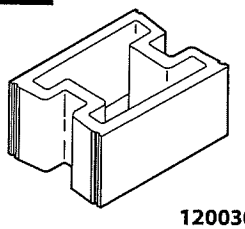
SHAPES AND SIZES

THERMAL BLOCK

THERMAL BLOCK have **rigid insulating inserts installed** in them during the manufacturing process to reduce jobsite labor. Additional thermal protection between units may be installed in the field. Note: *These units are available in Splitface / Fullface Split / Premier Ultra Burnished / or Smoothface.*

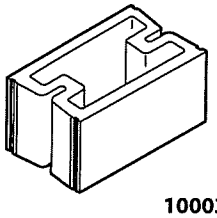


12 in. Thermal



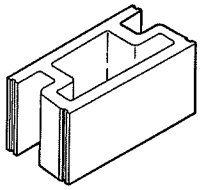
120030
Special Order Required

10 in. Thermal



100030
Special Order Required

8 in. Thermal



080030
Special Order Required

FACTORY INSTALLED INSERT SIZE

$1\frac{7}{16}$" x $7\frac{5}{8}$" x $11\frac{15}{16}$" – 152010

FIELD INSTALLED INSERT SIZE

$1\frac{1}{2}$" x 6" x 16" – 8" & 12" – 152040

$\frac{3}{4}$" x 6" x 16" – 10" – Special Order

*Insert sizes vary by location

U-Values & Fire Ratings

SYSTEM USED	BLOCK SIZE 12" CONCRETE U-VALUE	12" LIGHT WEIGHT U-VALUE	10" CONCRETE U-VALUE	10" LIGHT WEIGHT U-VALUE	8" CONCRETE U-VALUE	8" LIGHT WEIGHT U-VALUE
Unfilled	0.301	0.215	.0318	0.235	0.4	0.305
Fire Rating	3 Hours	4 Hours	2 Hours	3 Hours	2 Hours	2 Hours
One Factory Installed Insulation Insert	0.281	0.184	0.292	0.205	0.355	0.25
Fire Rating	3 Hours	4 Hours	2 Hours	3 Hours	2 Hours	2 Hours
Two Factory Installed Insulation Inserts	0.261	0.16	0.267	0.182	-	-
Fire Rating	3 Hours	4 Hours	2 Hours	3 Hours	-	-
One Factory & One 1½" Field Installed	0.236	0.176	0.269	0.182	0.32	0.212
Fire Rating	3 Hours	4 Hours	2 Hours	3 Hours	2 Hours	2 Hours
Two Factory & One 1½" Field Installed	0.223	0.144	0.25	0.164	-	-
Fire Rating	3 Hours	4 Hours	2 Hours	3 Hours	-	-
EPS Loose Fill Only – Field Installed	0.21	0.134	0.255	0.166	0.324	0.217
Fire Rating	3 Hours	4 Hours	2 Hours	3 Hours	2 Hours	2 Hours
One Factory & EPS Loose Fill – Field Installed	0.209	0.132	0.254	0.165	0.322	0.213
Fire Rating	3 Hours	4 Hours	2 Hours	3 Hours	2 Hours	2 Hours

Note: The chart above shows "U"-Values for concrete and lightweight Thermal Block using the "Series-Parallel Method," effective 4/1/97 for compliance with ASHRAE – IES Standard 90.1. State of Wisconsin Block Approval #930043-R

All dimensions nominal.

3.4. SUBSTITUTION REQUEST FORM

For Pre-bid Substitution Requests all text boxes on this form are required information for a complete request.

Substitution Request

Today's Date:	10/26/23
Project Title:	City of Madison, State Street Campus Garage Mixed-Use Project
Project Number:	720448
Contract Number:	9361

By completing and submitting this form for review the General Contractor affirms that all of the following statements are correct:

1. The General Contractor affirms that this request is in compliance with the requirements described in *Specification 01 25 13 Product Substitution Procedures.*
2. The function, appearance, and quality of the proposed substitution are equal or superior to the specified item.
3. The proposed substitution does not affect dimensions shown on the drawings.
4. The proposed substitution will have no adverse effects on other trades, the construction schedule, or any specified warranty requirements.
5. Maintenance and service parts will be locally available for the proposed substitution. [GC shall provide supporting documentation in the attachments section below.]
6. ~~The General Contractor shall be responsible for any and all costs associated with this substitution request if approved. This includes but is not limited to fees for building design, engineering design fees, detailing fees, plan review fees, construction costs, and inspection fees.~~ - None should be necessary

GC Substitution Request:

General Title:	Aluminum Windows
Related Specification:	08 51 13
Reason for Substitution:	Competitive bidding. Tubelite is already listed as an approved manufacturer for section 08 43 13, and any glazing subcontractor bidding Tubelite on this project would prefer to use Tubelite for both sections, rather than splitting up their bid.
Proposed Substitution: (include Name, Model, etc.)	Tubelite 900RW TU
Submitted By:	Rick Hillesheim
Phone:	507-412-9244
Company:	Hillesheim Architectural Products, Inc. - Representing Tubelite, Inc.
Email:	rick@hap-inc.net

END OF SECTION

TUBELITE®

DEPENDABLE

LEADERS IN ECO-EFFICIENT STOREFRONT, CURTAINWALL AND ENTRANCE SYSTEMS

Date: Thursday 26 October 2023
To: Eppstein Uhen Architects – Mike Oates
Phone: 608-442-5350
Email: mikeo@eua.com

From: Tubelite

Subject: Product Substitution Request Submittal
Project: State Street Campus Lake Garage Mixed Use
Bid Date: 11/09/2023

We propose furnishing the following Tubelite materials in lieu of those specified in sections:

900RW Series Thermal Ribbon Window (2 1/4" profile, 6" system depth, dual p&d, 1" glazing) in lieu of Kawneer
https://tubelite.org/spectool-dev/details.php?location=900RW-

Enclosed are the CSI format submittal forms and product side by side comparisons.
The **details, installation instructions, product specifications, and test reports/summaries** for each system can be found in the blue web links above.
If you require more information, please contact us.
Thank you for considering the use of Tubelite products in your project.

Sincerely,

Signature

Matt Tschida

Cc: Rick Hillesheim
Client Development Manager
Phone: 507-412-9244
Email:rick@Hap-Inc.net

Advancement of Construction Technology

SUBSTITUTION REQUEST

(During the Bidding Phase)

Project: State Street Campus Lake Garage Mixed Use
Address: 415 N Lake Street Madison, WI 53703
Substitution Request Number: 1
From: Tubelite
To: Eppstein Uhen Architects
Date: Thursday 26 October 2023
- Mike Oates
A/E Project #: 720448
Address: 309 W Johnson St, Suite 202 Madison, WI 53703
Re: PROJECT SUBSTITUTION REQUEST
Project For: Division 8

Specification: Aluminum Windows
Description: 2-1/4" x 6" Ultra Thermal Ribbon Window
Section: 085113
Page: 3
Article/Paragraph: 2.01-2.02

Proposed Substitution: 900RW
Manufacturer: Tubelite Inc.
Address: 3056 Walker Ridge NW, Suite G
Phone: 800-866-2227
Trade Name: 900RW Series Thermal Ribbon Window (2 1/4" profile, 6" system depth, dual p&-
d, 1" glazing)
Model No: 900RW
Differences between proposed substitution and specified product. Please see side-by-side comparison

☒ Point by point comparative data attached. REQUIRED BY A/E attach appropriate Tubelite literature.

The Undersigned certifies:

- Proposed substitution has been fully investigated and determined to be equal or superior in all respects to specified product.
- Same warranty will be furnished for proposed substitution as for specified product.
- Same maintenance service and source of replacement parts, as applicable, is available.
- Proposed substitution will have no adverse effect on other trades and will not affect or delay progress schedule.
- Proposed substitution does not affect dimensions and functional clearances.

Submitted By: Matt Tschida

Signed By: Matt Tschida
Firm: Hillesheim Architectural Products, Inc.- Representing Tubelite, Inc.
Address:
FARIBAULT, MN 55021
Telephone: 612-387-7294

A/E REVIEW AND ACTION:

☐ Substitution approved - Make submittals in accordance with Specification Section 01330.

☐ Substitution approved as noted - Make submittals in accordance with Specification Section 01330.

☐ Substitution rejected - Use specified materials.

☐ Substitution Request received too late - Use specified materials.

Signed By: Date:

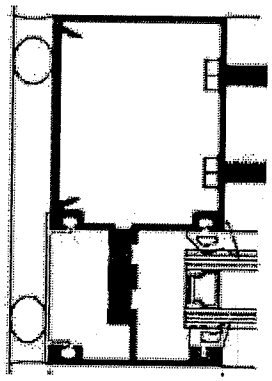
Supporting Data Attached: ☒ Drawings ☒ Product Data ☐ Samples (avail.upon request) ☒ Tests Reports ☒ Comparisons

TUBELITE®
DEPENDABLE
LEADERS IN ECO-EFFICIENT STOREFRONT, CURTAINWALL AND ENTRANCE SYSTEMS

Side by Side Comparison

900RW Compared to Specified

Company Profile Tubelite	**Company Profile** Kawneer (specified)
Product Name 900RW	**Product Name** MetroView FG 601T PG (specified)
Siteline 2-1/4"	**Siteline**
System depths 4-1/2" and 6"	**System depths**
Glass Thicknesses 1"	**Glass Thicknesses** 1" (specified)
Thermal Break Single or Dual pour and debridge polyurethane	**Thermal Break**
Condensation Resistance Factor AAMA 1503 Single pour: 68 CRFf, 70 CRFg, Dual pour: 72 CRFf, 72 CRFg	**Condensation Resistance Factor AAMA 1503** 76 CRFf, 74 CRFg (specified)
U Factor NFRC 100 0.32	**U Factor NFRC 100** 0.34 (specified)
Acoustic ASTM E90 ASTM E1332 1 IGU: STC-31, OITC-25, 1- 1/16" IGU: STC-35, OITC-31, 1- 1/16" lami IGU: STC-36, OITC-32 "	**Acoustic ASTM E90 ASTM E1332** Not specified
Air Infiltration ASTM E283 0.06 cfm/ft2 @ 6.24psf	**Air Infiltration ASTM E283** 0.01 cfm/ft2 @ 6.27 psf (specified)
Water static ASTM E331 15 psf	**Water static ASTM E331** Not specified
Water cyclic ASTM E547 15 psf	**Water cyclic ASTM E547** 12 psf (specified)
Water dynamic AAMA 501 1 15 psf	**Water dynamic AAMA 501 1** Not specified
Thermal cycling AAMA 501 5 -20°F to 180°F : 200°F differential	**Thermal cycling AAMA 501 5** Not specified
Structural ASTM E330 L/175 @ 30 psf design - 45 psf overload	**Structural ASTM E330** L/175 @ 100 psf (specified)
Interstory vertical displacement AAMA 501 7 +/- 1/2"	**Interstory vertical displacement AAMA 501 7** Not specified
Interstory horizontal displacement AAMA 501 4 +/- 3/8"	**Interstory horizontal displacement AAMA 501 4** Not specified
Warranty Finish 70% PVDF: 10 yrs. (20 yrs. opt.) 50% PVDF: 5 years std.(10 yrs. opt.) Baked Enamel: 1 year (adhesion only) Anodized Class I: 5 yrs. (10 yrs. opt.) Anodized Class II: 2 yrs.	**Warranty Finish** 5 years (specified)
Warranty Product 2-year std., up to 10 years available	**Warranty Product** 5 years (specified)



3.4. SUBSTITUTION REQUEST FORM

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Substitution Request

Today's Date:	10/26/23
Project Title:	City of Madison, State Street Campus Garage Mixed-Use Project
Project Number:	720448
Contract Number:	9361

By completing and submitting this form for review the General Contractor affirms that all of the following statements are correct:

1. The General Contractor affirms that this request is in compliance with the requirements described in Specification 01 25 13 Product Substitution Procedures.
2. The function, appearance, and quality of the proposed substitution are equal or superior to the specified item.
3. The proposed substitution does not affect dimensions shown on the drawings.
4. The proposed substitution will have no adverse effects on other trades, the construction schedule, or any specified warranty requirements.- Door hardware will need to be hardware that has been tested & UL listed for use in Aluflam's doors
5. Maintenance and service parts will be locally available for the proposed substitution. [GC shall provide supporting documentation in the attachments section below.]
6. The General Contractor shall be responsible for any and all costs associated with this substitution request if approved. This includes but is not to limited to fees for building design, engineering design fees, permitting fees, plan review fees, construction costs, and inspection fees. - None should be necessary

GC Substitution Request:

General Title:	Fire Rated Aluminum Framed Entrances and Storefronts
Related Specification:	08 41 24
Reason for Substitution:	Competitive bidding. The proposed Aluflam system has weeps systems built into the framing to allow any water that infiltrates the system to weep to the exterior.
Proposed Substitution: (include Name, Model, etc.)	Aluflam AF85 fire-rated aluminum framing & doors with Vetrotech's Contraflam 60 IGU fire-rated glazing

Submitted By:	Phone:
Matt Tschida	612-387-7294
Company:	Email:
Hillesheim Architectural Products, Inc. - Representing Aluflam USA	matt@hap-inc.net

END OF SECTION

aluflam

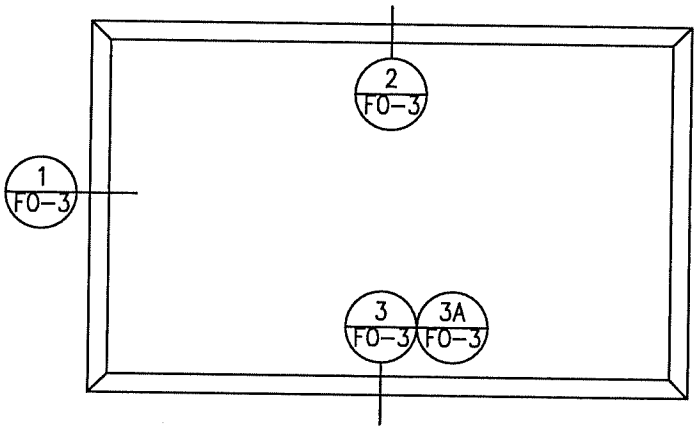
(p) 562.926.9520
(f) 562.404.1394

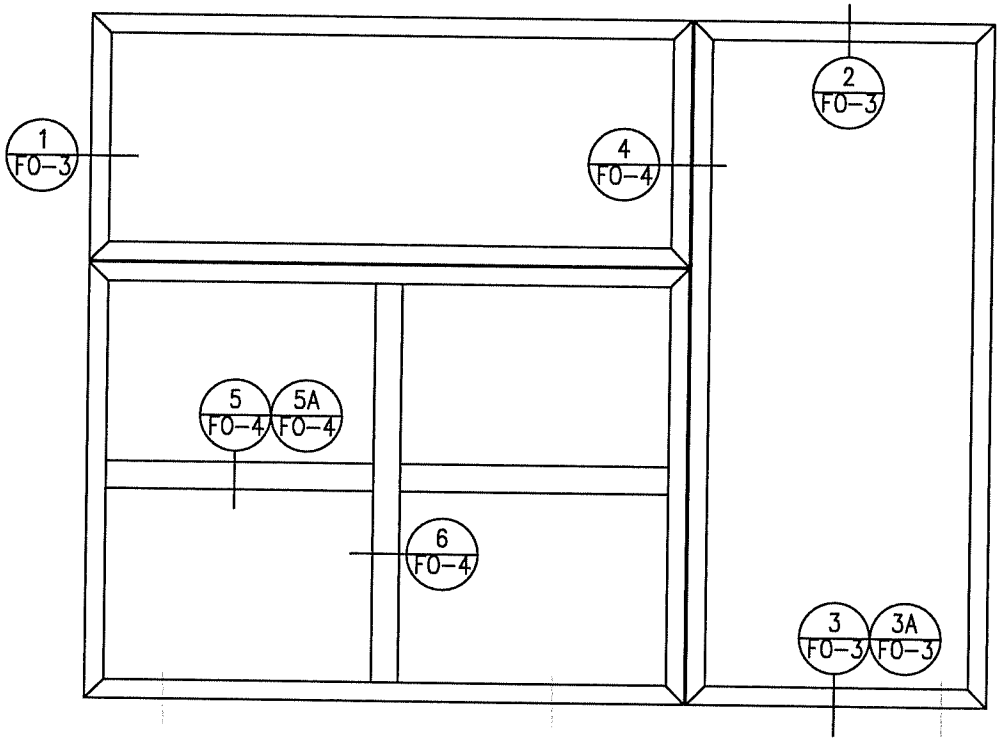
20/45/60 MINUTE FIRE-RATED FIXED OPENINGS FOR WINDOWS & WALLS

www.aluflam-usa.com

SCALE: NONE

- 2-7/16" Wide x 3-3/8" Deep standard dimensions
- Available in Anodized, Powder Coated and Architectural Painted finishes
- Interior and exterior installation
- Factory finished, assembled, and ready for installation
- Glazing stops to accommodate various glass thicknesses (20/45/60 minute) - see page 5
- Please refer to literature for max. sizes / ratings





aluflam

20/45/60 MINUTE FIRE–RATED FIXED OPENINGS
FOR WINDOWS & WALLS

(p) 562.926.9520
(f) 562.404.1394
www.aluflam–usa.com

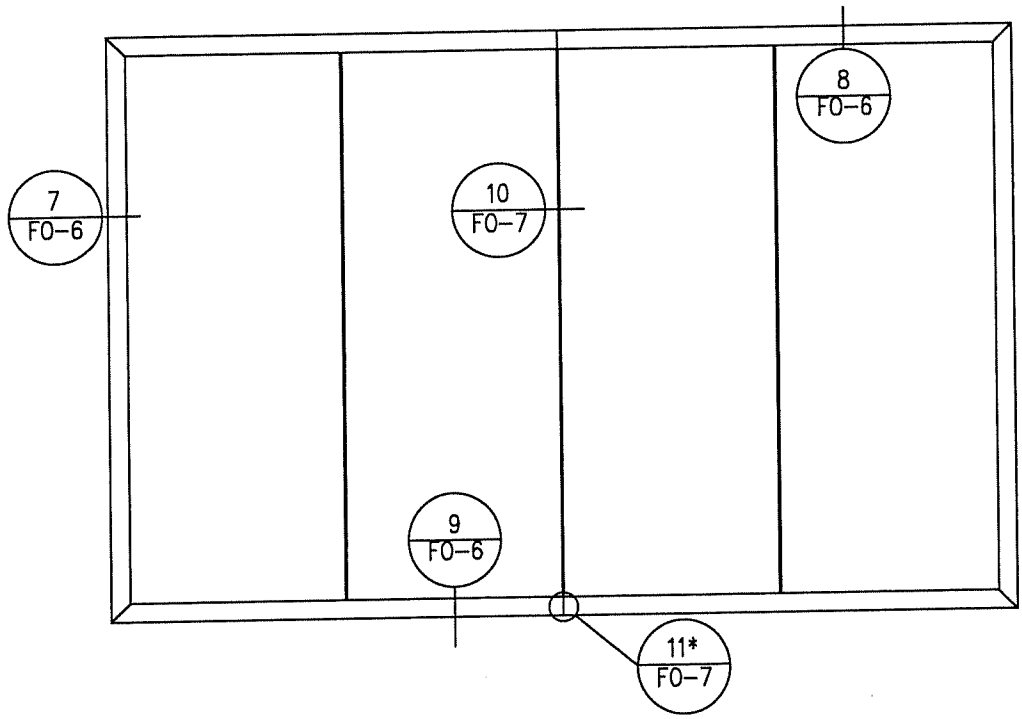
c UL us

SCALE: NONE

**EXAMPLE OF OPTIONAL BUTT GLAZED WALL SYSTEM

(RATED ONLY AT 60 MIN. & FOR INTERIOR APPLICATIONS ONLY)

USES CONTRAFLAM 60 STRUCTURE



*(CONNECTION NECESSARY IF OVERALL FRAME LENGTH GREATER THAN 7' [84"])

aluflam

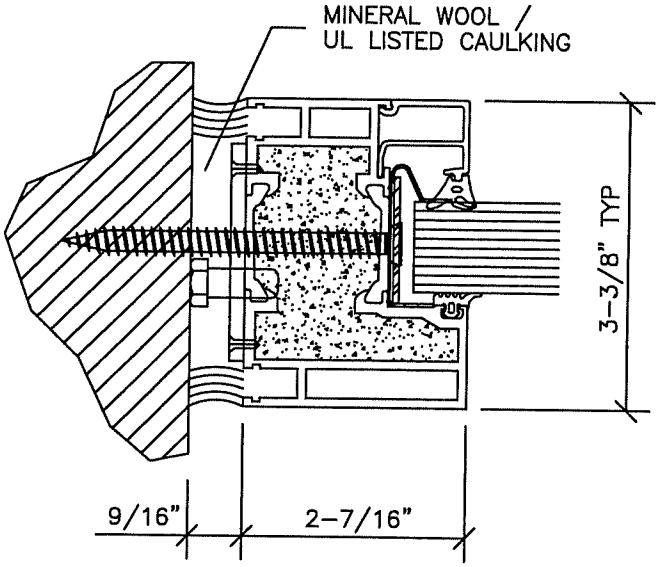
(p) 562.926.9520
(f) 562.404.1394

20/45/60 MINUTE FIRE-RATED FIXED OPENINGS FOR WINDOWS & WALLS

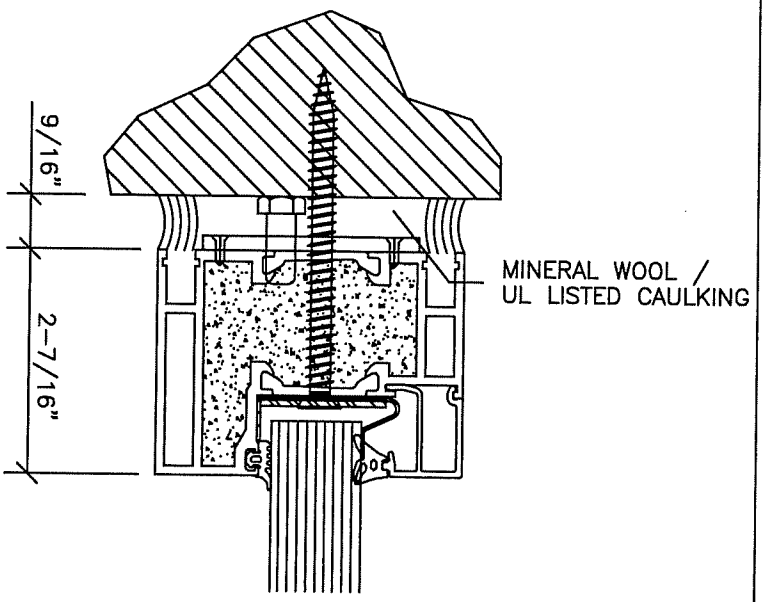
www.aluflam-usa.com

c UL us

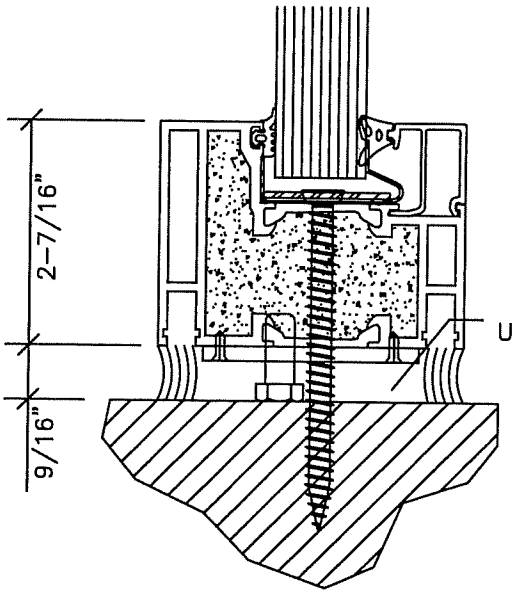
SCALE: 1/2 FULL SIZE



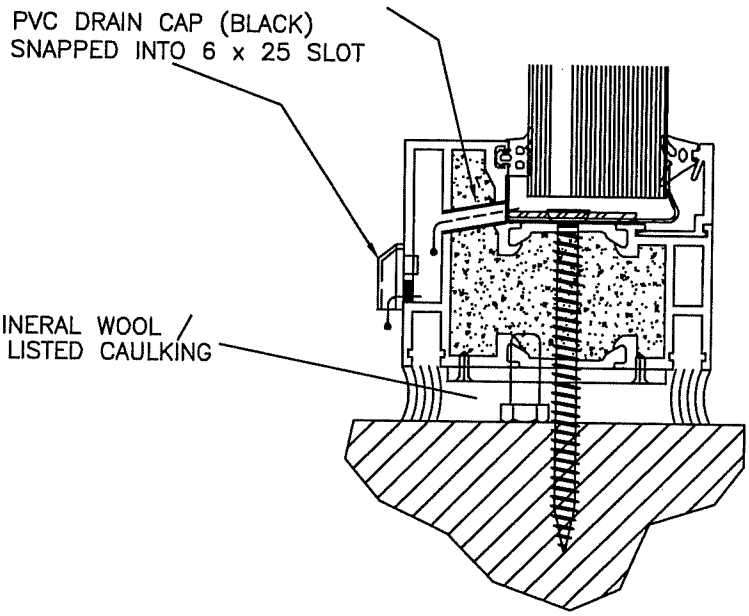
1 VERT. SECTION
60 MIN. GLASS



2 HEAD SECTION
60 MIN. GLASS



3 SILL SECTION
60 MIN. GLASS



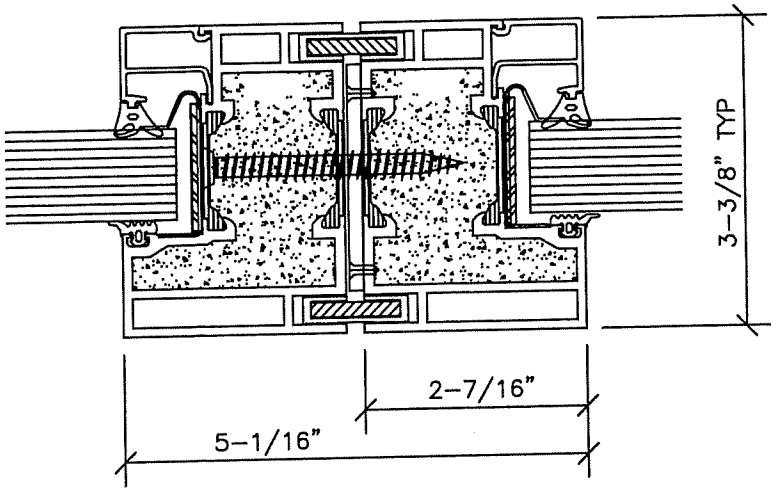
3A SILL SECTION (FOR EXTERIOR INSTALL)
60 MIN. GLASS

aluflam
(p) 562.926.9520
(f) 562.404.1394

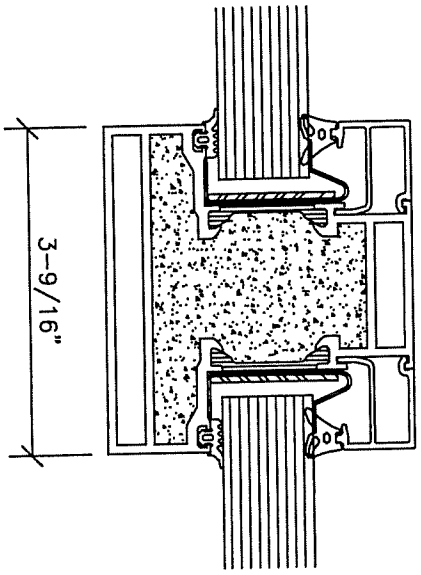
20/45/60 MINUTE FIRE-RATED FIXED OPENINGS FOR WINDOWS & WALLS

www.aluflam-usa.com

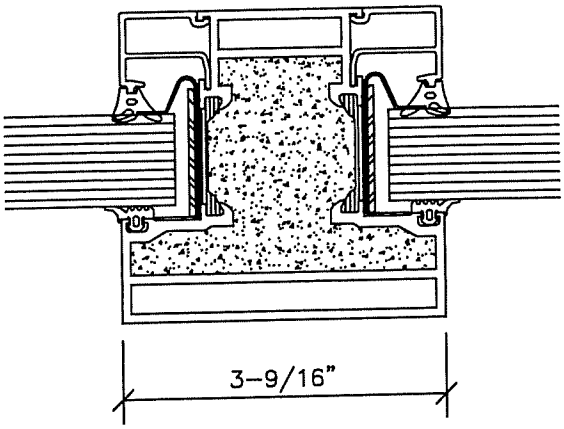
SCALE: 1/2 FULL SIZE



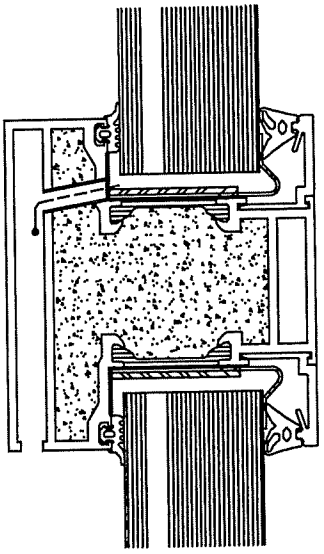
4 SEGMENTED MULLION SECTION
60 MIN. GLASS



5 HOR. MULLION SECTION
60 MIN. GLASS



6 VERT. MULLION SECTION
60 MIN. GLASS



5A HOR. MULLION SECTION (FOR EXTERIOR INSTALL)
60 MIN. GLASS

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20/45/60 MINUTE FIRE-RATED FIXED OPENINGS FOR WINDOWS & WALLS

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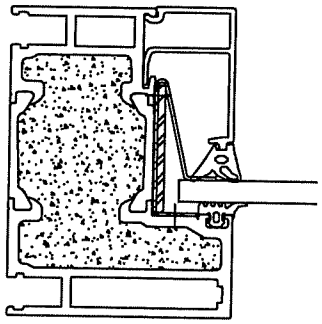
SCALE: 1/2 FULL SIZE

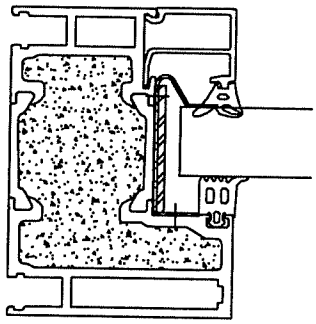
GLAZING CONFIGURATIONS

INTERIOR

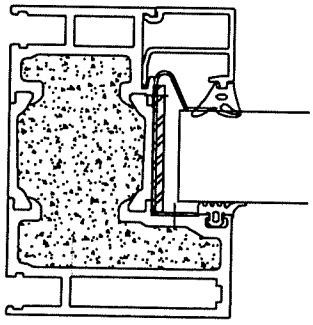
20 Min. Rating - w Pyroswiss US



45 Min. Rating - w Contraflam 45

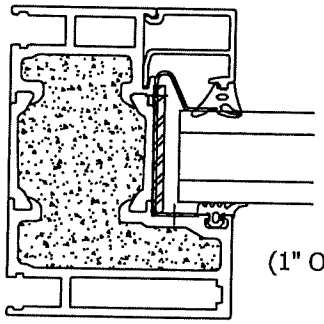


60 Min. Rating - w Contraflam 60

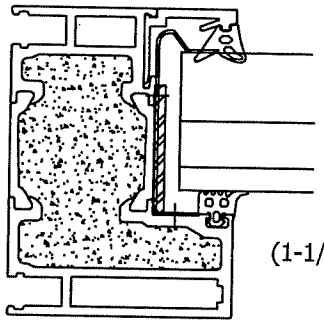


EXTERIOR
(INSULATED GLASS UNITS)

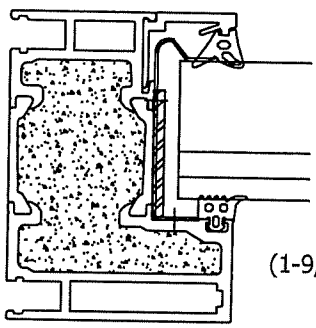
20 Min. Rating - w Pyroswiss US IGU



45 Min. Rating - w Contraflam 45 IGU



60 Min. Rating - w Contraflam 60 IGU



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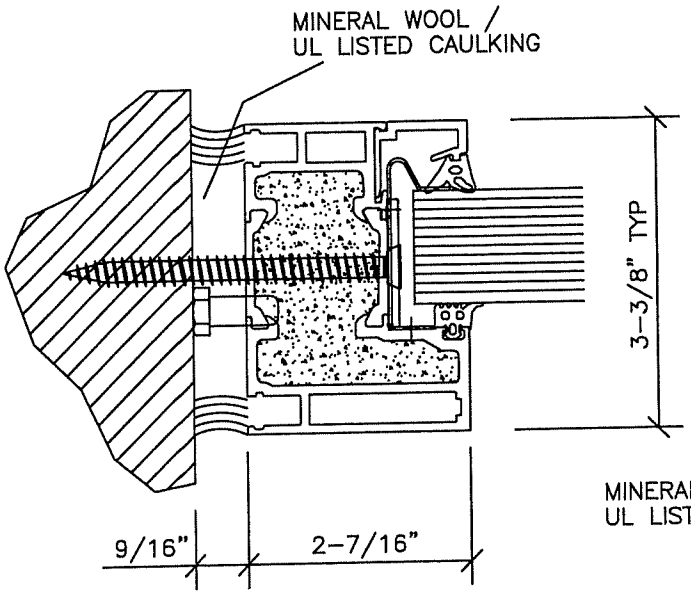
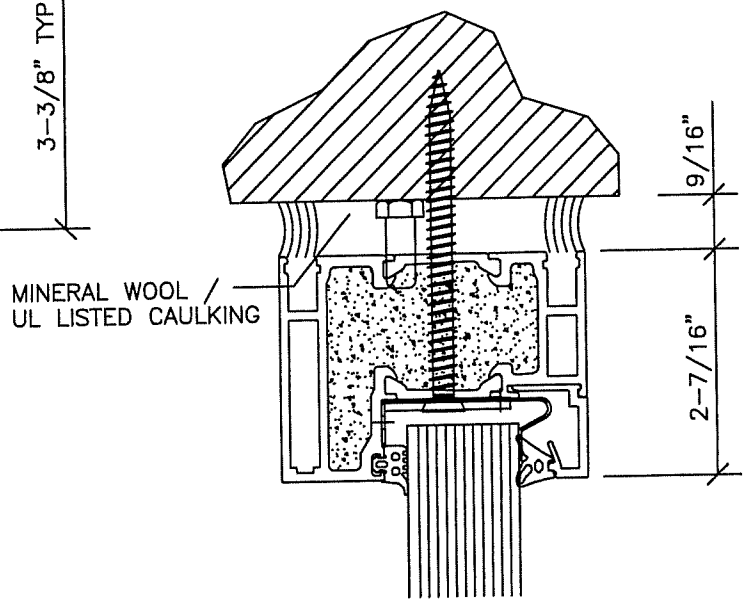
20/45/60 MINUTE FIRE-RATED FIXED OPENINGS FOR WINDOWS & WALLS

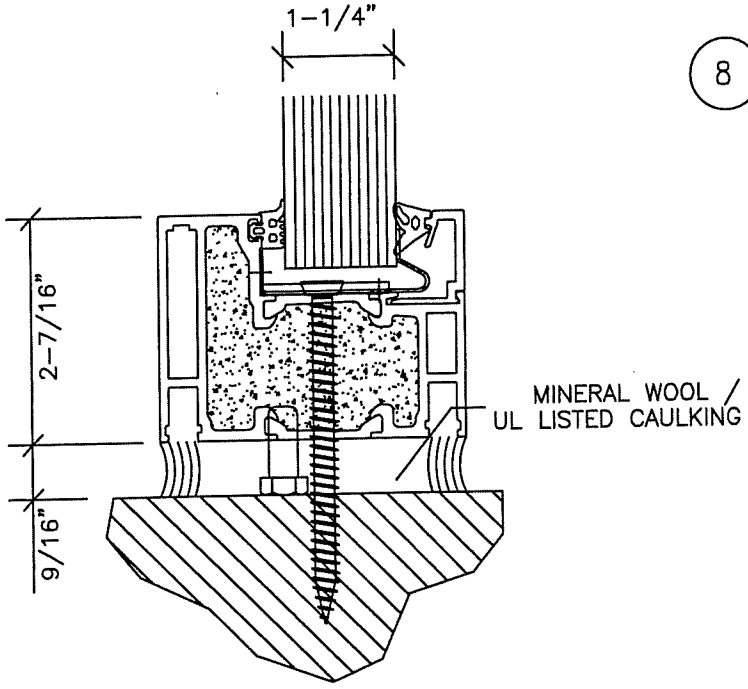
SCALE: 1/2 FULL SIZE



7 VERT. SECTION
60 MIN. CONTRAFLAM STRUCTURE



8 HEAD SECTION
60 MIN. CONTRAFLAM STRUCTURE



9 SILL SECTION
60 MIN. CONTRAFLAM STRUCTURE

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20/45/60 MINUTE FIRE-RATED FIXED OPENINGS FOR WINDOWS & WALLS

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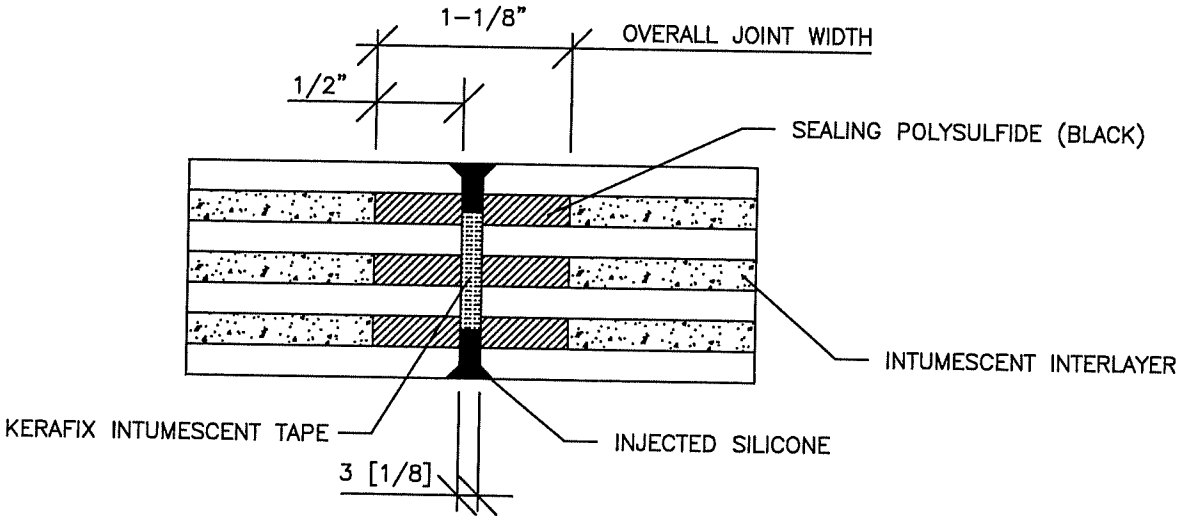
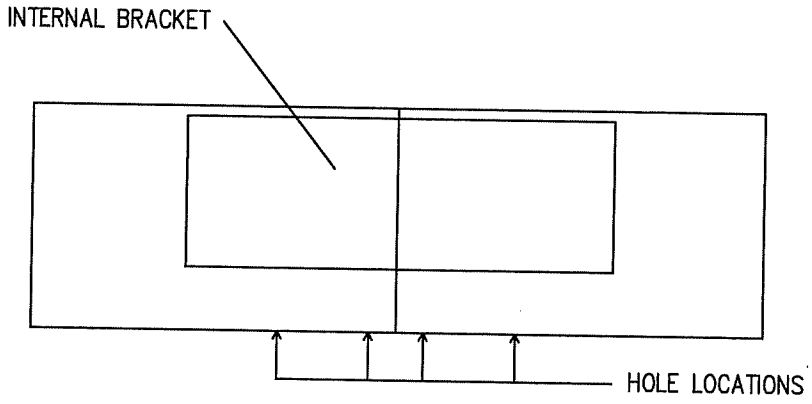
SCALE: 1/2 FULL SIZE



10 BUTT GLAZED JOINT SECTION
60 MIN. CONTRAFLAM STRUCTURE



11 STRAIGHT JOINT CONNECTION (*IF NECESSARY)
60 MIN. CONTRAFLAM STRUCTURE

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20/45/60 MINUTE FIRE-RATED FULL VISION DOORS

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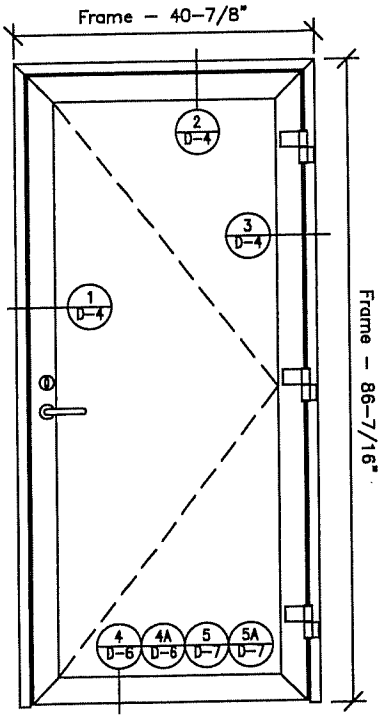
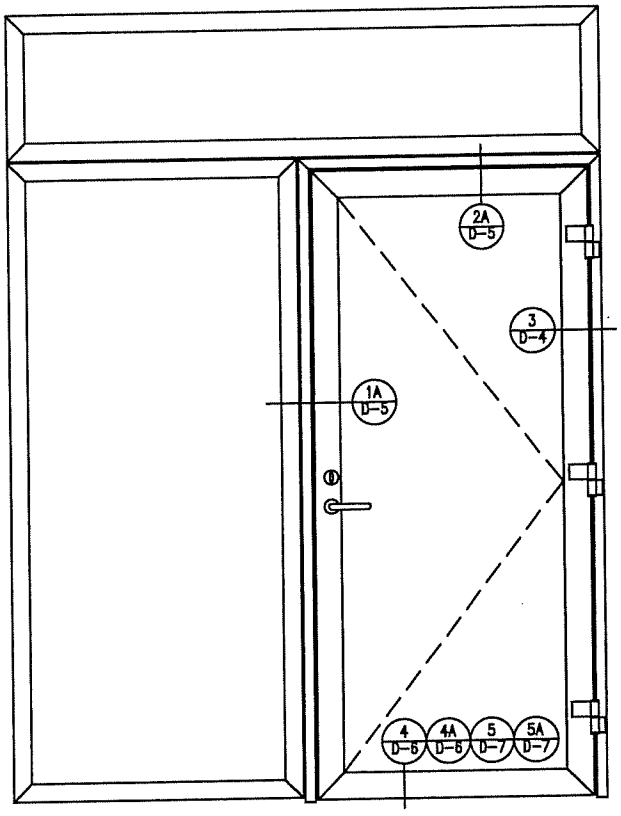
SCALE: NONE

- 3-3/8" standard thickness
- Maximum door opening 3'0x8'0 (SD) / 6'0x8'0 (DD)
- Available in Anodized, Powdercoated and Architectural Painted finishes
- Interior and exterior installation
- Factory finished, assembled, and ready for installation
- Glazing stops to accommodate various glass thicknesses (20/45/60 minute) – see page 12
- Door frames integrate with Aluflam Storefront & Curtainwall Systems for sidelites/transoms.
- Surface applied muntins are available

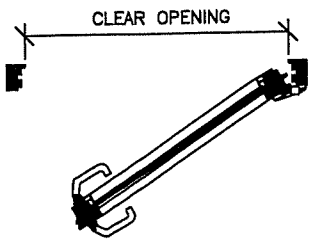
Frame Size for standard 3'0 x 7'0 SD



Single Door (SD)
(RHR shown)



Door Shown w/ transom & Sidelite



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20/45/60 MINUTE FIRE-RATED FULL VISION DOORS

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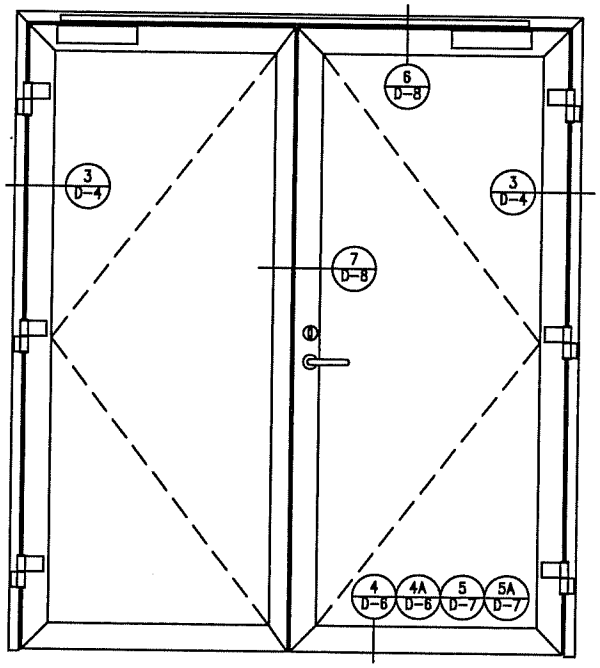
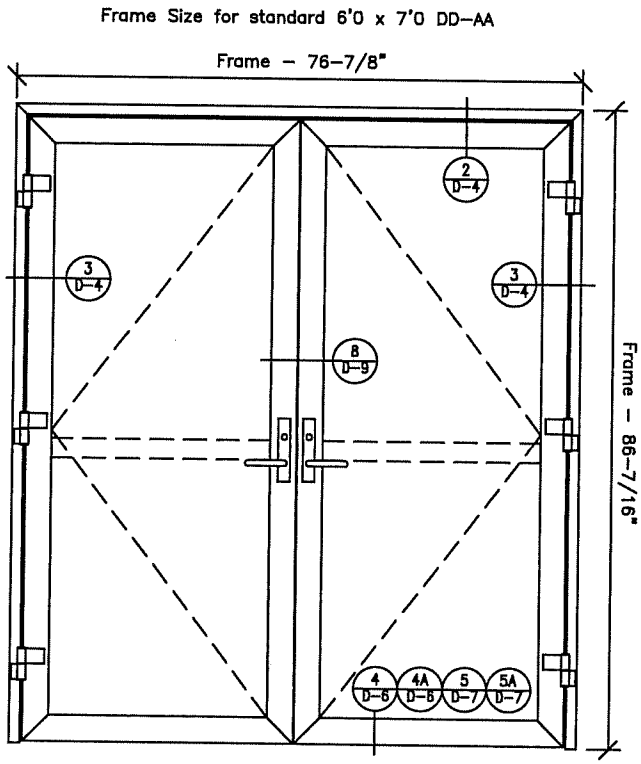
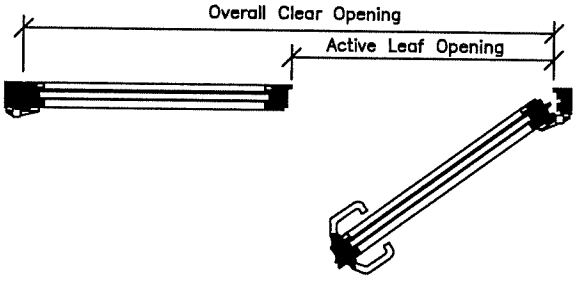
SCALE: NONE

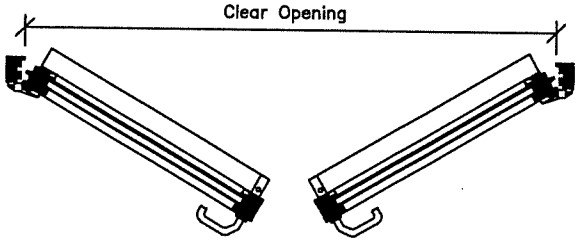


Double Door – Active/Fixed (DD-AF)
(RHR shown)



Double Door – Active/Active (DD-AA)
(LHR/RHR shown)





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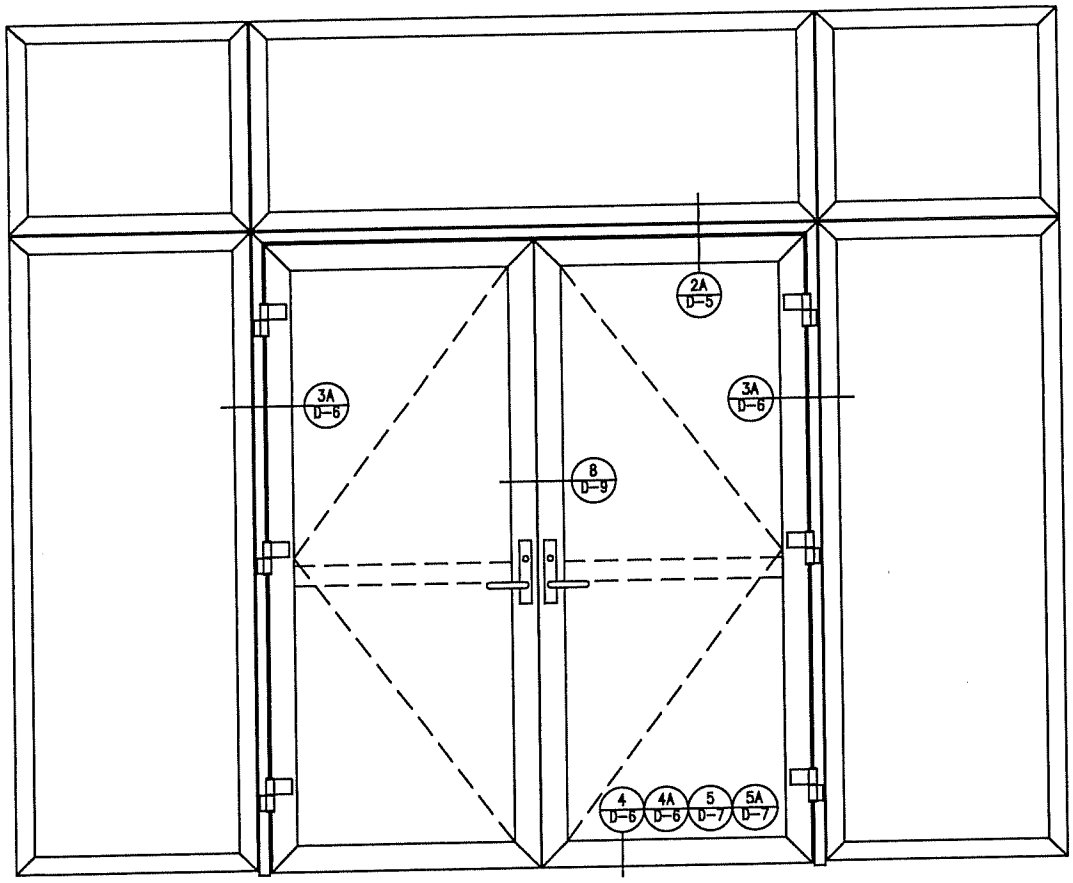
SCALE: NONE

Doors Shown w/ transom
& Sidelite(s)



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20/45/60 MINUTE FIRE-RATED FULL VISION DOORS

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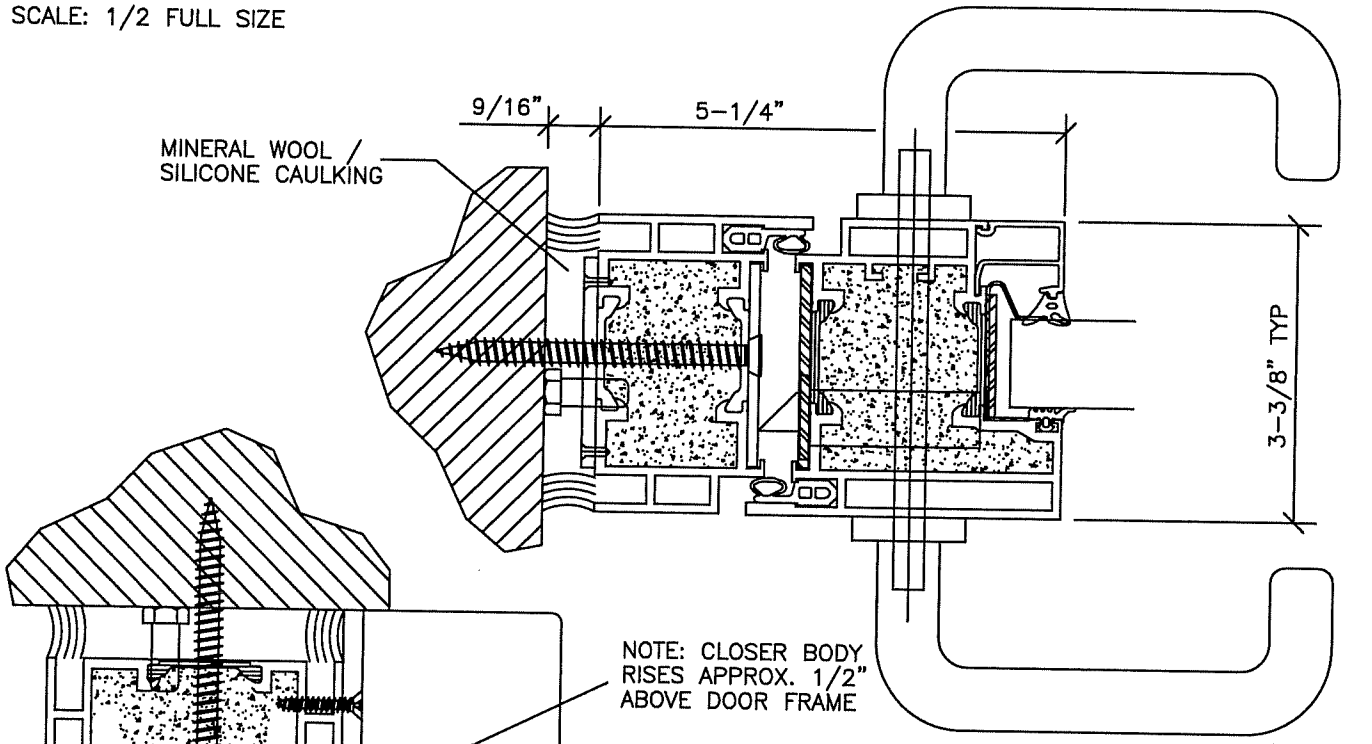
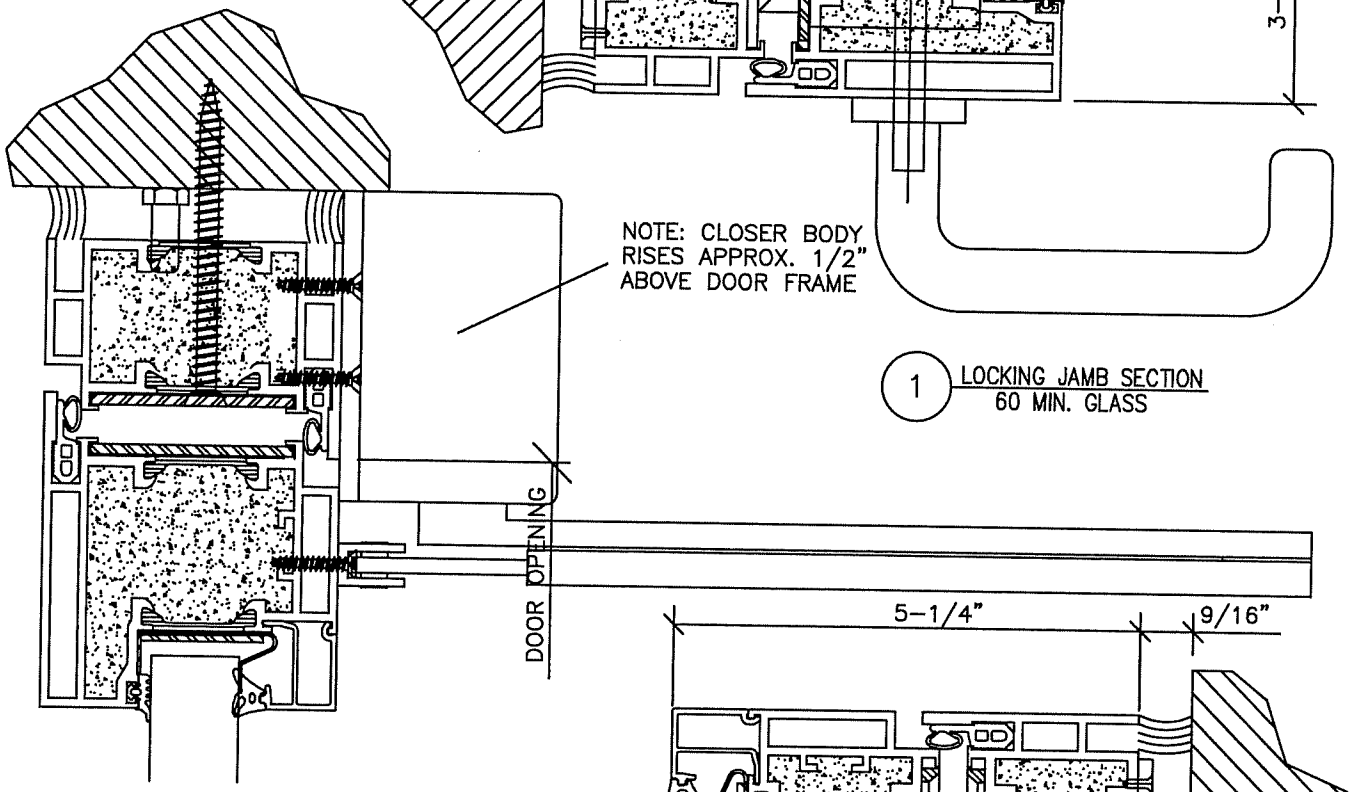
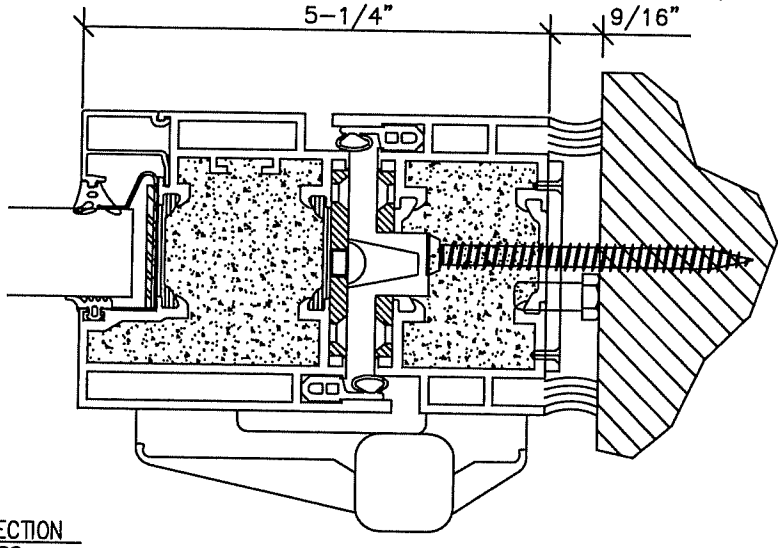
SCALE: 1/2 FULL SIZE



1 LOCKING JAMB SECTION
60 MIN. GLASS



2 DOOR HEADER SECTION
60 MIN. GLASS



3 PIVOT JAMB SECTION
60 MIN. GLASS

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20/45/60 MINUTE FIRE–RATED FULL VISION DOORS

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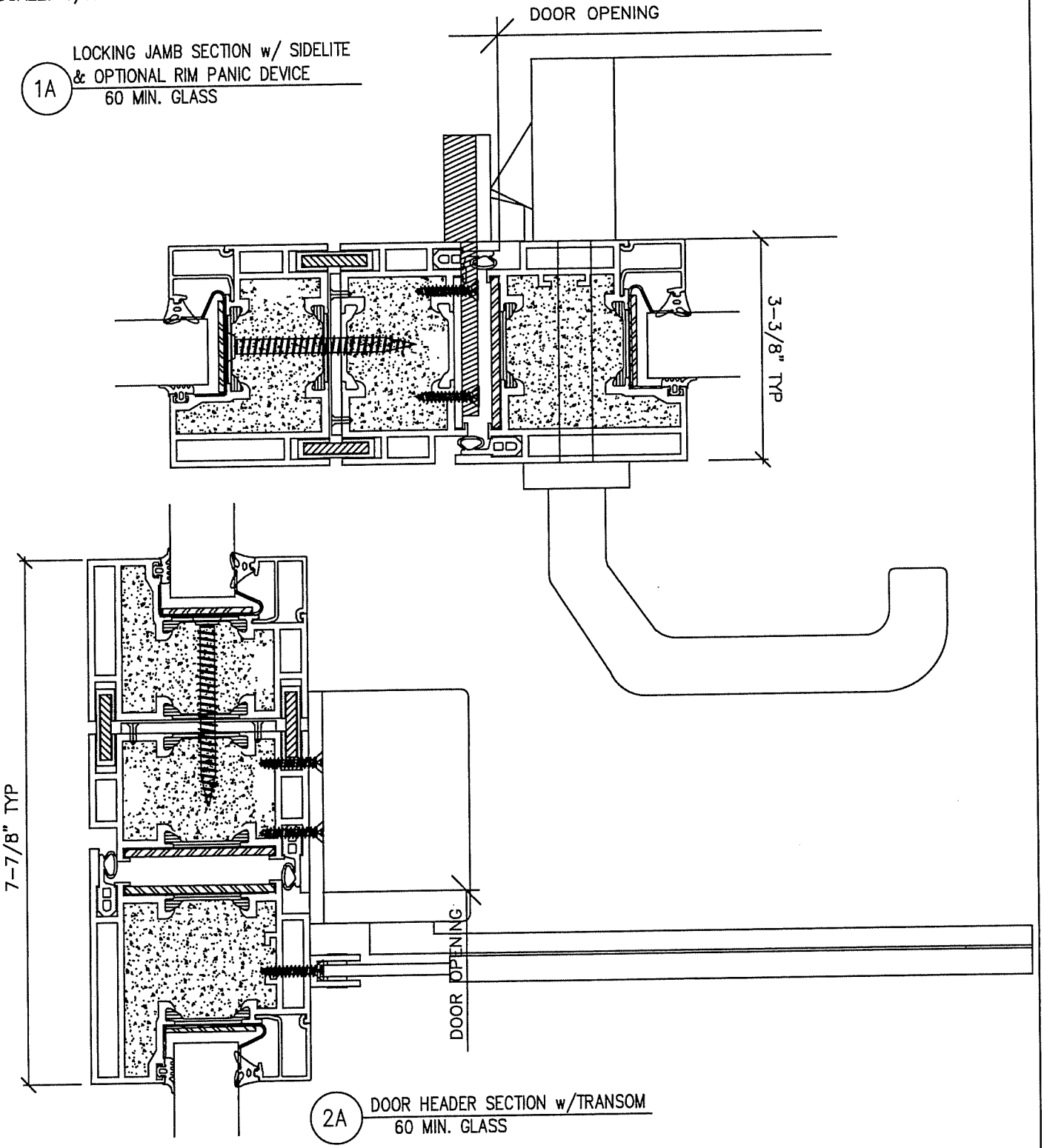
SCALE: 1/2 FULL SIZE

1A LOCKING JAMB SECTION w/ SIDELITE & OPTIONAL RIM PANIC DEVICE
60 MIN. GLASS



2A DOOR HEADER SECTION w/TRANSOM
60 MIN. GLASS

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20/45/60 MINUTE FIRE-RATED FULL VISION DOORS

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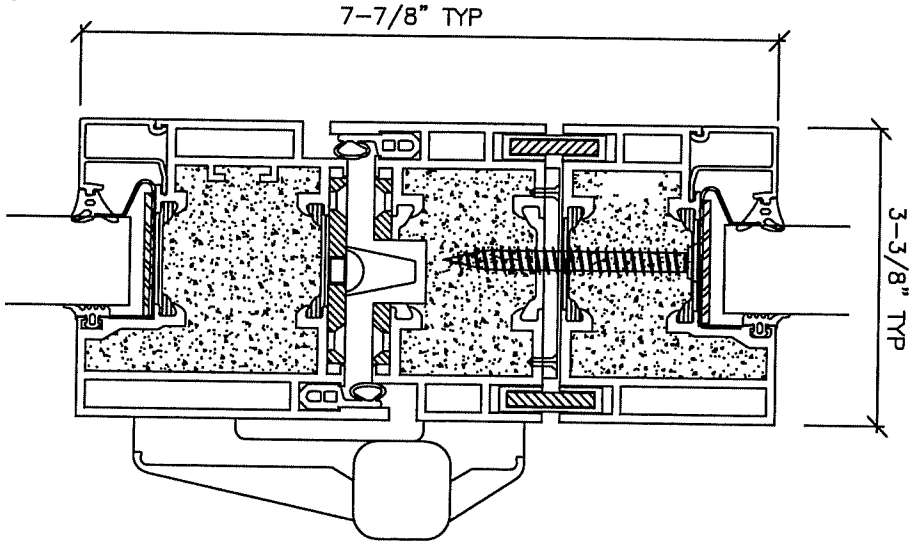
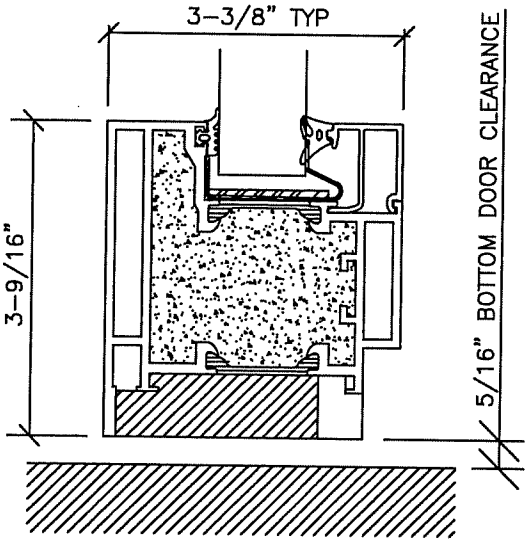
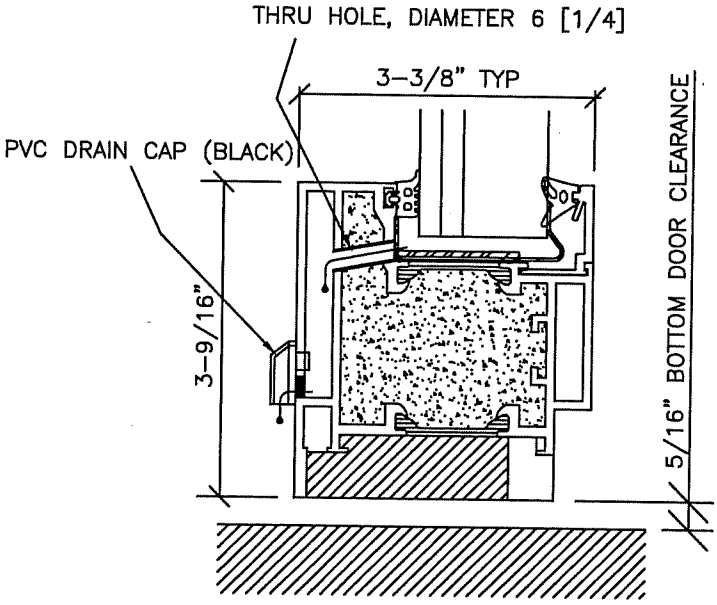
SCALE: 1/2 FULL SIZE



3A PIVOT JAMB SECTION w/ SIDELITE
60 MIN. GLASS



4 BOTTOM DOOR RAIL SECTION
60 MIN. GLASS



4A BOTTOM DOOR RAIL SECTION (FOR EXT. INSTALL)
60 MIN. GLASS

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20/45/60 MINUTE FIRE–RATED FULL VISION DOORS

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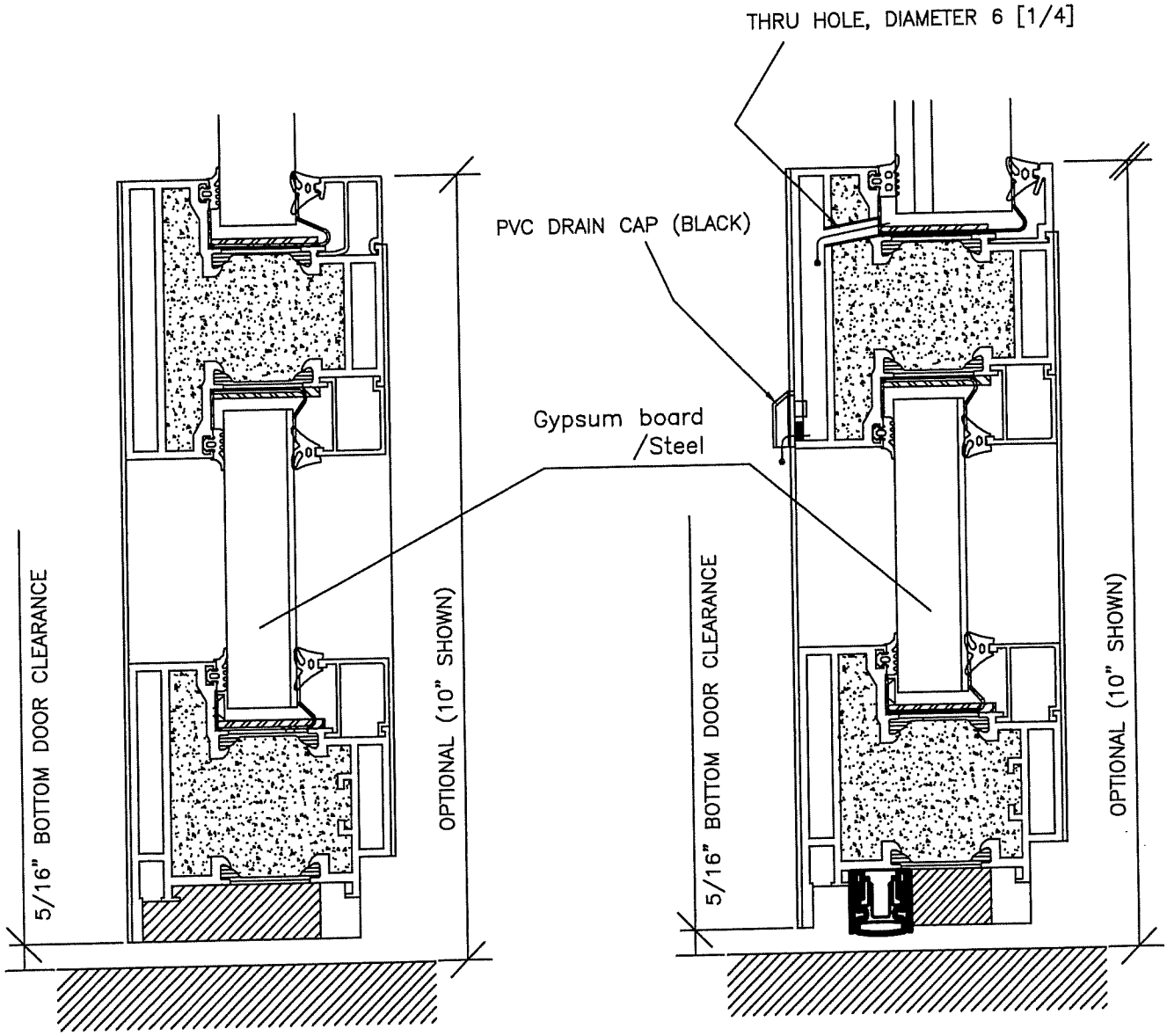
SCALE: 1/2 FULL SIZE



OPTION 5 — BOTTOM DOOR RAIL SECTION
60 MIN. GLASS

OPTION 5A — BOTTOM DOOR RAIL SECTION SHOWN W/ AUTO FLOOR SEAL & DRAINAGE FOR EXTERIOR INSTALL
60 MIN. GLASS

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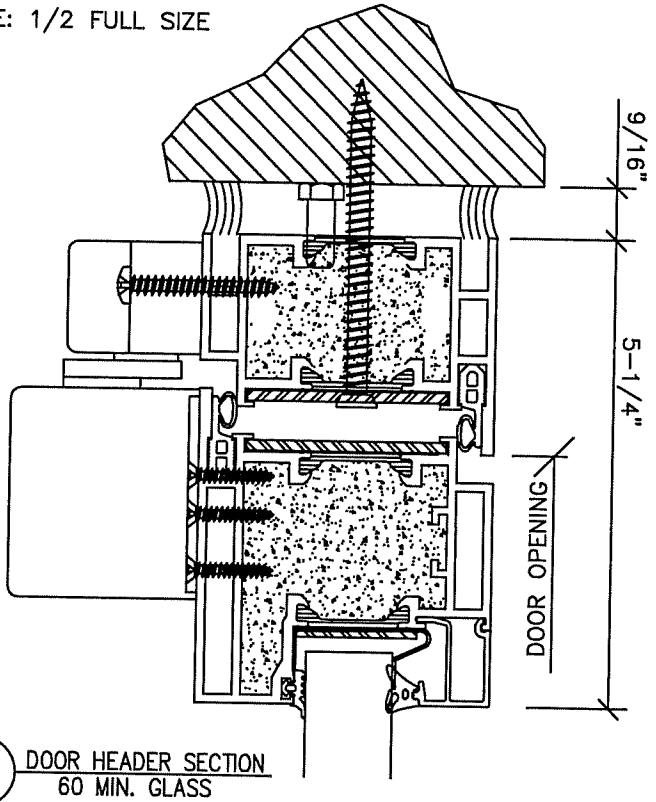
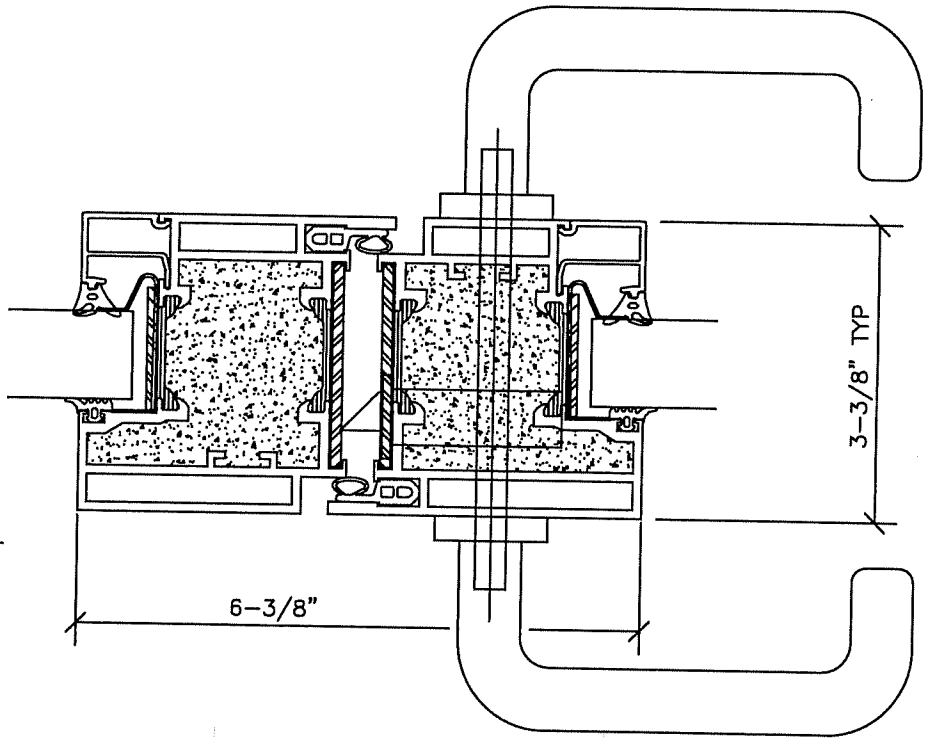
SCALE: 1/2 FULL SIZE



6 DOOR HEADER SECTION
60 MIN. GLASS



7 MEETING STILE SECTION
60 MIN. GLASS

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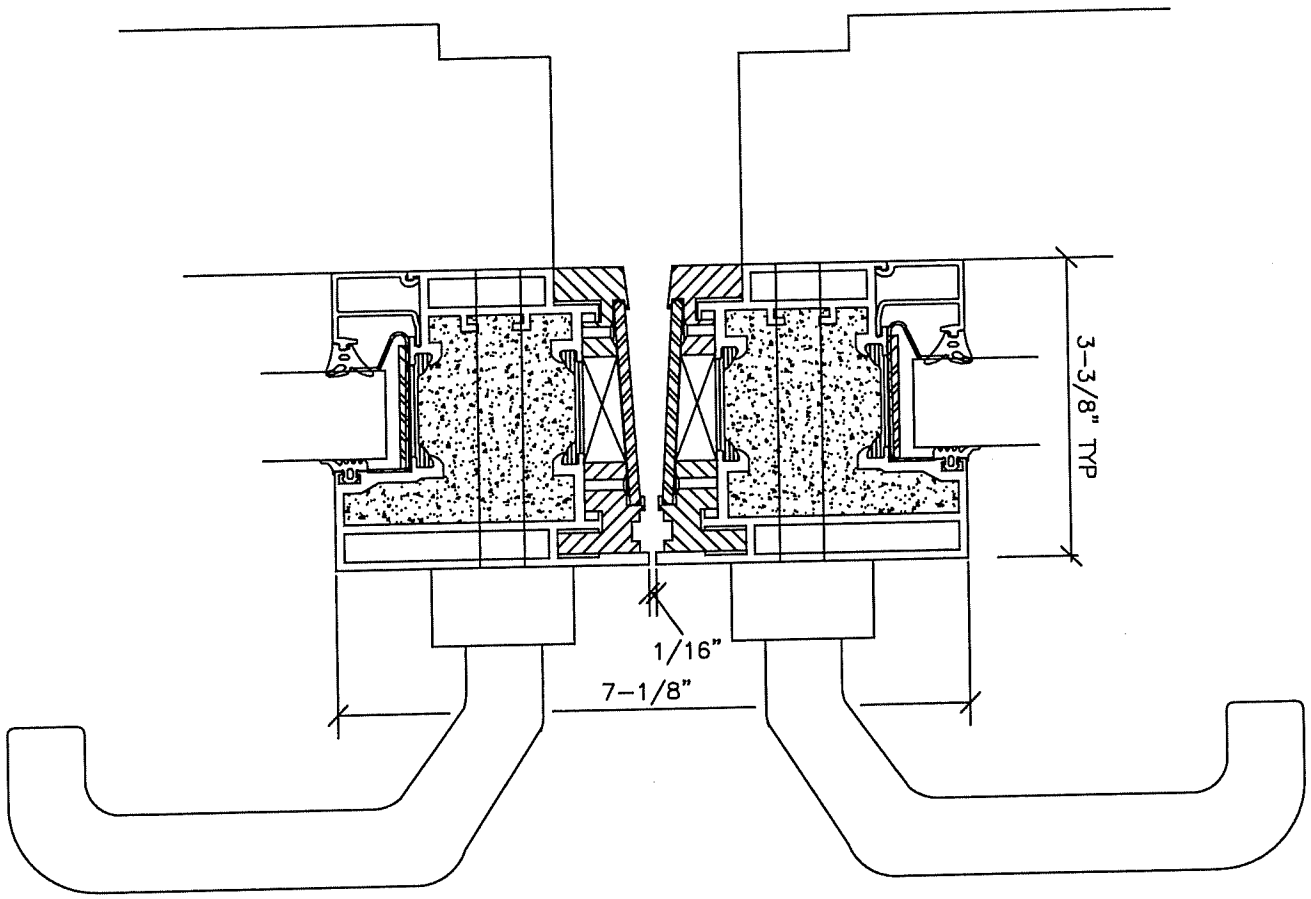
SCALE: 1/2 FULL SIZE



8 MEETING STILE SECTION
60 MIN. GLASS

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20/45/60 MINUTE FIRE-RATED FULL VISION DOORS

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STANDARD HARDWARE SETS

SD (SINGLE DOOR)

[1] Surface Closer – LCN 4040XP w/ 4040XP-18 DROP PLATE
[3] Offset Pivots, Aluminum – Dr. Hahn A925 Turband 4 Series
[1] Mortise Lock – Accurate 8656 1-1/4" US32D
[1] Swivel Spindle – Accurate Custom
[2] Lever, Satin Stainless – FSB 1080-003-6204
[2] Rose, Satin Stainless – FSB 1758-0301-6204
[1] Mortise Cylinder, Schlage "C" Keyway – Baldwin 8324/8330 Series
[1] Cylinder Ring, Satin Stainless – FSB 0450-9001-6204
[2] 10" Aluminum Kickplates
[1] Set of Gaskets/Seals

(OPTIONS)

Rim Exit Device – Dorma F9700 Series w/ Lever Trim
Auto Floor Seal – Planet MF (Standard on Exterior Doors)
Electric Strike – Von Duprin 6226 (w/ mortise lock ONLY)
Electric Function on panic w/ Electric Power Transfer (VD EPT2/10)

DD-AF (DOUBLE DOOR, ACTIVE/FIXED)

[1] Surface Closer/Coordinator – Dorma TS93-15-GSR
[6] Offset Pivots, Aluminum – Dr. Hahn A925 Turband 4 Series
[1] Mortise Lock – Accurate 8656 1-1/4" US32D
[1] Swivel Spindle – Accurate Custom
[2] Lever, Satin Stainless – FSB 1080-003-6204
[2] Rose, Satin Stainless – FSB 1758-0301-6204
[1] Mortise Cylinder, Schlage "C" Keyway – Baldwin 8324/8330 Series
[1] Cylinder Ring, Satin Stainless – FSB 0450-9001-6204
[1] Internal Flush Bolt Assembly – BKS-B1899/1895 (Top of In-Active Leaf ONLY)
[4] 10" Aluminum Kickplates
[1] Set of Gaskets/Seals

(OPTIONS)

Rim Exit Device – Dorma F9700 Series w/ Lever Trim
Auto Floor Seals – Planet MF (Standard on Exterior Doors)
Electric Strike – Von Duprin 6226 (w/ mortise lock ONLY)
Electric Function on panic w/ Electric Power Transfer (VD EPT2/10)

* Precision Apex 2400/Sargent 8500/Falcon 24 Series Narrow Stile RIM Exit Devices are available at additional cost & lead time.
NOTE: Von Duprin 33/35 Series RIM Exit Devices are NOT UL Listed for Fire Doors – not available on Single or DD-AF Doors

DD-AA (DOUBLE DOOR, ACTIVE/ACTIVE)

[2] Surface Closer – LCN 4040XP w/ 4040XP-18 DROP PLATE
[6] Offset Pivots, Aluminum – Dr. Hahn A925 Turband 4 Series
[2] Surface Vertical Rod (SVR-Top Rod ONLY) Panics w/ Lever Trim – Dorma F9800 Series
[2] Mortise Cylinder, Schlage "C" Keyway
[4] 10" Aluminum Kickplates
[1] Set of Gaskets/Seals

(OPTIONS)

Auto Floor Seals – Planet MF (Standard on Exterior Doors)
Electric Function on panic w/ Electric Power Transfer (VD EPT2/10)

* Von Duprin 33/35 Series SVR Exit Devices are available at additional cost & lead time.

* Any additional hardware not listed here is not required for Fire rating and if desired, would be "By Others" *

- These lists contain ALUFLAM's standard packages and most commonly specified hardware options
- SCHLAGE "C" Keyway is standard unless otherwise specified – Other options are available
- Please inquire about additional options
- See Accurate literature for available mortise lock functions (www.accurate.to)
- See FSB literature for optional lever trim designs (www.fsbna.com)

* Dorma TS93 Narrow profile Track type closer used with Curtainwall System or limited above door frame clearance. Note limited opening angle, range of approximately 95 degrees. – Floor stop recommended

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20/45/60 MINUTE FIRE–RATED FULL VISION DOORS

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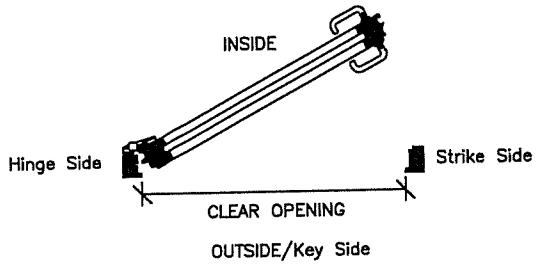
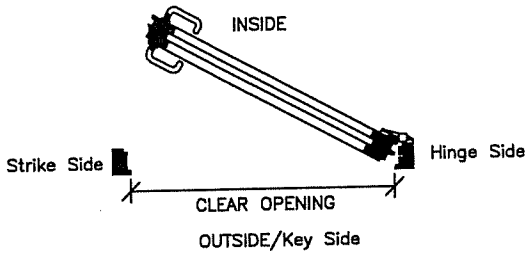
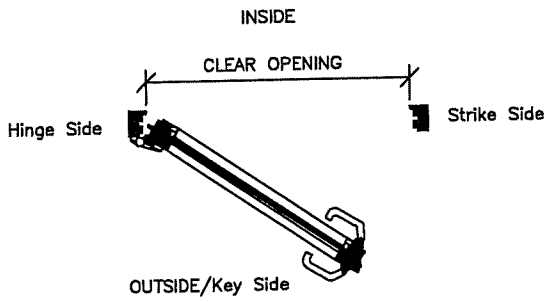
ANSI A250.7–1997 Door Handing Chart



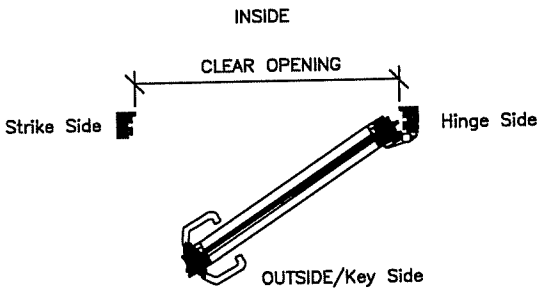
LEFT HAND DOOR (SWING IN)



RIGHT HAND DOOR (SWING IN)



LEFT HAND REVERSE (SWING OUT)



RIGHT HAND REVERSE (SWING OUT)

aluflam
(p) 714.899.3990
(f) 714.899.3993

20/45/60 MINUTE FIRE-RATED FULL VISION DOORS

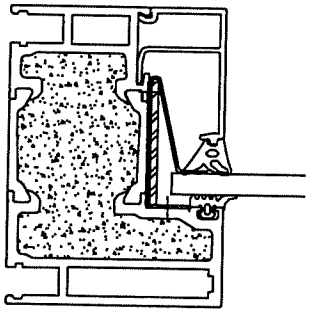
www.aluflam-usa.com

SCALE: 1/2 FULL SIZE

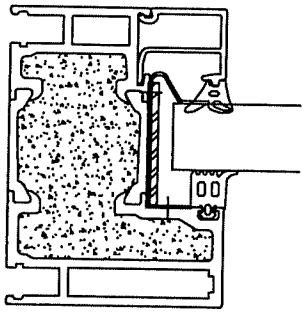
GLAZING CONFIGURATIONS

INTERIOR

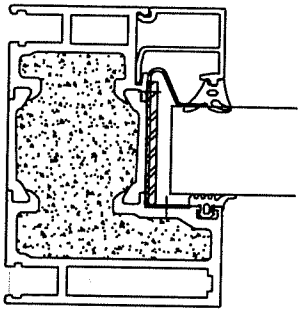
20 Min. Rating - w Pyroswiss US



45 Min. Rating - w Swissflam 45

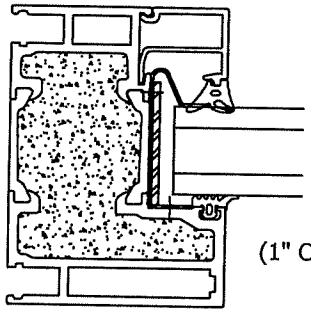


60 Min. Rating - w Contraflam 60

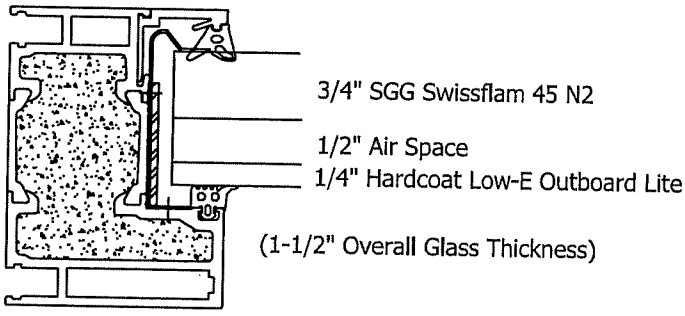


EXTERIOR (INSULATED GLASS UNITS)

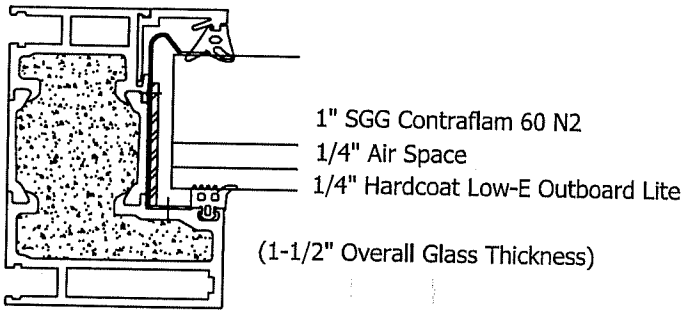
20 Min. Rating - w Pyroswiss US IGU



45 Min. Rating - w Swissflam 45 IGU



60 Min. Rating - w Contraflam 60 IGU



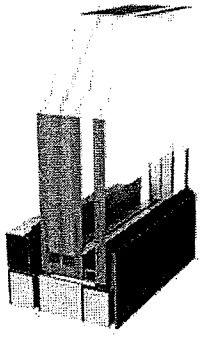
DATA SHEET

CONTRAFLAM® 60 IGU

Fire-Rated Clear Tempered Safety Glass - Exterior Application

CLASSIFICATION

PRODUCT FEATURES



TECHNICAL SPECIFICATION

Fire Rating	60 min. Fire-Resistance-Rated
Testing / Standard Conformity	UL 10b, 10c, 263 | NFPA 80/251/252/257 | ASTM E-119 | CAN/ULC-S101, S104, S106
Building Code Marking	D-H-T-60, OH-60, W-60
Impact Safety Rating	CPSC 16CFR 1201-CAT II; CAN/CGSB-12.1-M
Nominal Thickness (in.; mm)	1-1/2" (33 mm)
Tolerance (in.; mm)	+ 1/8" to - 1/16" (+3 mm to -1.5 mm)
U-Value (BTU/hr*sq.ft**F)	0.34
STC Rating (dB)	44
Visible Light Transmission (%)	80
Weight (lbs./ft.²; kg/m²)	14.9 (73.0)
Groove (in.; mm)	Depth: 7/8" (22mm) Width: 1-3/4" (45mm)

MAXIMUM DIMENSIONS

	Window, Transom Sidelight	Door Non-Temp Rise	Door Temp Rise
Maximum Exposed Height (in.; m)*	94-13/16 (2.41)	89-1/2 (2.27)	89-1/2 (2.27)
Maximum Exposed Width (in.; m)*	94-13/16 (2.41)	30 (0.76)	30 (0.76)
Maximum Exposed Area (in.²; m²)	4,449 (2.87)	2,685 (1.73)	2,685 (1.73)

*Height multiplied by width cannot exceed maximum exposed area.

APPLICATION OPTIONS

- ☑ VDS Door
- ☑ VDS Frame
- ☑ VDS Curtain Wall
- ☐ VDS Lite Door
- ☐ VDS Lite Frame
- ☑ Hollow Metal Temp Rise Door
- ☑ Hollow Metal Non-Temp Rise Door
- ☑ Hollow Metal Frame

©2014 Subject to change without notice (1/2014)

3.4. SUBSTITUTION REQUEST FORM

For Pre-bid Substitution Requests all text boxes on this form are required information for a complete request.

Substitution Request

Today's Date:	10/24/2023
Project Title:	State Street Campus Garage Project
Project Number:	(EUA) 720448
Contract Number:	(BPW) 9361

By completing and submitting this form for review the General Contractor affirms that all of the following statements are correct:

1. The General Contractor affirms that this request is in compliance with the requirements described in *Specification 01 25 13 Product Substitution Procedures.*
2. The function, appearance, and quality of the proposed substitution are equal or superior to the specified item.
3. The proposed substitution does not affect dimensions shown on the drawings.
4. The proposed substitution will have no adverse affects on other trades, the construction schedule, or any specified warranty requirements.
5. Maintenance and service parts will be locally available for the proposed substitution. [GC shall provide supporting documentation in the attachments section below.]
6. The General Contractor shall be responsible for any and all costs associated with this substitution request if approved. This includes but is not to limited to fees for building design, engineering design fees, detailing fees, plan review fees, construction costs, and inspection fees.

GC Substitution Request:

General Title:	Cast-in-Place Concrete
Related Specification:	03 30 00
Reason for Substitution:	Substitute is alternative and equal to specified product.
Proposed Substitution: [include Name, Model, etc.]	Penetron Admix SB

Submitted By:	Tyler DuBord
Phone:	952-715-9149
Company:	Penetron USA
Email:	tdubord@penetron.com

END OF SECTION

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October 24, 2023

Eppstein Uhen Architects (EUA)
333 East Chicago Street
Milwaukee, WI, 53202
ATTN: Mike Oates

City of Madison Facility Managements
210 Martin Luther King Jr. Blvd, Room 115
Madison, WI, 53703
ATTN: Brent Pauba

RE: State Street Campus Garage Mixed-Use Project, Contract No. 9361

Subject: Substitution request to replace Xypex Admix C-500 and Kryton Internal Membrane with Penetron Admix SB.

Herewith Penetron USA, Inc. formally requests the review of Penetron Admix SB as a suitable substitute for Xypex Admix C-500 and Kryton Internal Membrane for use in the State Street Campus Garage Mixed-Use Project in Madison, Wisconsin. Penetron Admix SB is an alternative and/or equal to the basis of design product as specified in Section 03 30 00 "Cast-in-Place Concrete" 2.04, F.7.a. and Drawing S0002 "Concrete Materials Schedule Notes" 4.

Penetron Admix SB is a crystalline waterproofing admixture (a.k.a. permeability reducing admixture for hydrostatic conditions - PRAH) added to concrete during batching. Penetron Admix SB treated concrete will self-heal and seal all pores, capillaries, and cracks up to 0.5mm (1/51"), resulting in a concrete matrix with decreased permeability, waterproofing properties, increased durability, and an extended service life.

The use of the proposed substitutes will have no negative effect on the construction schedule. There will be no costs of redesign or claims from other contractors as a result of the use of the proposed substitute. The incorporation or use of the proposed substitute will not be subject to any license fee or royalty.

General Notes:

1. Penetron Admix SB is dosed at one 6.6lb soluble bag per cubic yard of concrete for ease of batching and quality control. This is based on our concentrated dosage rate of 1% by weight of total cementing materials compared to Xypex Admix C-500 and Kryton Internal Membrane which are dosed at 2-3% by weight of cement.

2. Penetron Admix SB contains a non-toxic, non-staining green tracer which is present in the bleed water during concrete placement and curing. This is a built-in visual quality control measure to ensure Penetron Admix SB has been added to the concrete.

PENETRON USA, INC.
45 Research Way, Suite 203, East Setauket, NY 11733
(631) 941-9700 • info@penetron.com • penetron.com

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3. Penetron product range offers a complete waterproofing solution including waterstops and cementitious repair materials (i.e., Penebar SW55, Penetron, Penecrete Mortar, and Peneplug).

4. Penetron USA provides complimentary technical and on-site support services. A technical representative can be present (in-person or virtually depending on availability) for the pre-installation conference if sufficient notice is given.

Should you require sample product for testing or pilot/trial project purposes, please let us know as we would gladly provide you with complimentary material.

Please find attached submittal documents for review. If you have any questions, please contact me at tdubord@penetron.com or 952-715-9149.
Sincerely,

Tyler DuBord

Tyler DuBord
Account Manager
Penetron USA, Inc.

PENETRON USA, INC.
45 Research Way, Suite 203, East Setauket, NY 11733
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PENETRON ADMIX SB

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MADE IN AMERICA

Penetron USA Certificate of Conformance to "Ensuring the Future Is Made in All of America by All of America's Workers" Executive Order – January 25, 2021.

Penetron USA, Inc. is an American based company with manufacturing facilities for construction materials within the United States of America. In accordance with the Executive Order, "Ensuring the Future Is Made in All of America by All of America's Workers" signed by the President on January 25, 2021, as follows:

> It is the policy of my Administration that the United States Government should, consistent with applicable law, use terms and conditions of Federal financial assistance awards and Federal procurements to maximize the use of goods, products, and materials produced in, and services offered in, the United States. The United States Government should, whenever possible, procure goods, products, materials, and services from sources that will help American businesses compete in strategic industries and help America's workers thrive. (Section 1, Policy)
>
> "Made in America Laws" means all statutes, regulations, rules, and Executive Orders relating to Federal financial assistance awards or Federal procurement, including those that refer to "Buy America" or "Buy American," that require, or provide a preference for, the purchase or acquisition of goods, products, or materials produced in the United States, including iron, steel, and manufactured goods offered in the United States. (Section 2, (b))

We hereby certify that Penetron USA products are compliant with this Executive Order and other "Buy America" or "Buy American" regulations.

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PENETRON ADMIX® SB

CRYSTALLINE WATERPROOFING AND DURABILITY ADMIXTURE

DESCRIPTION

PENETRON ADMIX® SB (Soluble Bag integral crystalline waterproofing and durability admix) is added to the concrete mix at the time of batching. PENETRON ADMIX® SB's various active, proprietary chemicals react with the moisture in fresh concrete and with the by-products of cement hydration to cause a catalytic reaction generating a non-soluble crystalline formation throughout the pores and capillary tracts of the concrete. Thus, the concrete becomes permanently sealed against the penetration of water or liquids from any direction. However, PENETRON ADMIX® SB treated concrete will still allow the passage of vapor through the structure (i.e. the concrete will be able to "breathe"). Even after the concrete has cured, PENETRON ADMIX® SB remains dormant in the concrete and will reactivate in the presence of moisture to seal capillary tracts and hairline cracks. The concrete is also protected from deterioration due to harsh environmental conditions.

PENETRON ADMIX® SB has been specially formulated to meet varying project and tempera ture conditions (see **Setting time and strength**). Consult with a Penetron technical representative for additional detailed support on your project.

APPLICATIONS

Reservoirs

Sewage and water treatment plants

Secondary containment structures

Tunnels and subway systems

Underground vaults

Foundations

Parking structures

Swimming pools

Precast, cast-in-place and shotcrete applications

DIRECTIONS FOR USE

Dosage rate:

PENETRON ADMIX ® SB is designed to be dosed at the rate of one soluble bag per cubic yard (or cubic meter) of concrete. For most mix designs in use, this falls within the range of acceptability of 1% by weight of cementing materials. Consult with Penetron's Technical Department for assistance in verifying the appropriate dosage rate and for further information regarding enhanced chemical resistance and optimum concrete performance for your project.

Mixing:

PENETRON ADMIX® SB must be added to the concrete at the time of batching.

The sequence of procedures for addition will vary according to the type of batch plant operation and equipment. The following are some typical mixing guidelines. For more detailed information on dosing procedures, contact your Penetron representative.

Ready mix plant - Dry batch operation: Add PENETRON ADMIX® SB directly into the drum of the ready-mix truck and immediately before charging the drum with 60%-70% of the required mix water, along with 300-500 lb (136-227 kg) of aggregate. Mix the materials for 2-3 minutes to ensure the PENETRON ADMIX® SB is distributed evenly throughout the mix water. Add the balance of materials to the ready-mix truck in accordance with standard batching practices.

Ready mix plant - Central mix operation: Ideally, PENETRON ADMIX® SB should be added directly into the central mix drum before all other ingredi- ents. However, when this is impractical or unsafe, PENETRON ADMIX® SB can be added directly into the drum of the ready-mix truck immediately before charging with concrete. The dosed concrete should be allowed to mix in accordance with ACI guidelines or for a minimum of 70 revolutions at standard mixing speeds (approximately 5 minutes) to ensure even distribution of PENETRON ADMIX® SB throughout the concrete.

Precast batch plant: Consult with a Penetron technical representative to determine if PENETRON ADMIX® SB would suit your precast batch plant operation or if one of our other packaging solutions may be more appropriate.

NOTE: It is important to obtain a homogeneous mixture of PENETRON ADMIX® SB with the concrete. To avoid clumping and improve thorough dispersion, Penetron Admix should not be added to wet concrete. Please contact your Penetron Technical Representative for additional project specific guidelines should none of above recommended dosing methods not be implementable. For further information regarding the proper use of PENETRON ADMIX® SB for a specific project, consult with a Penetron technical representative.

PENETRON ADMIX® SB

Setting time and strength:

The setting time of concrete is affected by the chemical and physical composition of ingredients, temperature of the concrete and climatic conditions. Retardation of set may occur when using PENETRON ADMIX® SB. The amount of retardation will depend upon the concrete mix design and the dosage rate of PENETRON ADMIX® SB. However, under normal conditions, PENETRON ADMIX® SB will provide a normal set concrete. Concrete containing PENETRON ADMIX® SB may develop higher ultimate strengths than plain concrete. Trial mixes should be carried out under project conditions to determine setting time and strength of the concrete.

Concrete treated with PENETRON ADMIX® SB should be placed and finished in accordance with good concrete practices. ACI guidelines and recommendations should be observed.

SPECIAL CONSIDERATIONS

When incorporating PENETRON ADMIX® SB, the temperature of the concrete mix should be above 40°F (4°C).

PACKAGING

PENETRON ADMIX® SB is available in 6.6-lb (3-kg) soluble bags, packed 6 bags to a plastic pail. For large projects, customized packaging is available.

STORAGE / SHELF LIFE

PENETRON products must be stored dry at a minimum temperature of 45°F (7°C). Shelf life is 24 months when stored under proper conditions.

TECHNICAL SERVICES

For more detailed instructions, alternative application methods, or information concerning the compatibility of the PENETRON treatment with other products or technologies, contact the Penetron Technical Department or your local Penetron representative.

SAFE HANDLING INFORMATION

PENETRON ADMIX® SB is alkaline. As a cementitious powder or mixture, PENETRON ADMIX® SB may cause significant skin and eye irritation. Directions for treating these problems are clearly detailed on all Penetron pails and packaging. Penetron International, Ltd. also maintains comprehensive and up-to-date Safety Data Sheets on all its products. Each sheet contains health and safety information for the protection of your employees and customers. KEEP OUT OF REACH OF CHILDREN.

Contact Penetron International, Ltd. or your local Penetron representative to obtain copies of Safety Data Sheets prior to product storage or use.

ADVANTAGES

- Resists extreme hydrostatic pressure from either positive or negative surface of the concrete element
- Becomes an integral part of the concrete
- Highly resistant to aggressive chemicals
- Seals hairline cracks up to 1/51" (0.5 mm)
- Allows concrete to breathe
- Non-toxic (NSF 61 certified for potable water applications)
- Less expensive than traditional methods
- Permanent
- Added to the concrete at the time of batching and therefore not subject to climatic restraints
- Reduces construction scheduling time
- Improves durability of concrete
- Permeability Reducing Admixture for Hydrostatic conditions (PRAH)
- Zero VOC – PENETRON powdered products contain zero volatile organic compounds and are safe for use both outdoors and in confined indoor spaces
- Exceeds requirements of ASTM C494-S (Specific Performance Admixtures)
- A non-toxic, non-staining green tracer in the bleed water during concrete placement and curing visually confirms the addition of Penetron Admix® SB

CE

004aCPR2013-07-10
EN 934-2
Penetron International, Ltd.
601 South Tenth Street, Unit 300
Allentown, PA 18103
08
PENETRON ADMIX
Crystalline Capillary Admixture
Water Resisting Admixture

Chloride content: < 0,10 % by mass
Alkali content: < 10,3 % by mass
Compressive strength: ≥ 85 % of control
Conventional dry material content: > 99,5 %
Air content in fresh concrete: ≤2 % by volume
Capillary Absorption (after 90 day curing): ≤60 % by mass

WARRANTY: PENETRON INTERNATIONAL, LTD. warrants that the products manufactured by it shall be free from material defects and will conform to formulation standards and contain all components in their proper proportion. Should any of the products be proven defective, the liability to PENETRON INTERNATIONAL, LTD. shall be limited to replacement of the material proven to be defective, and PENETRON INTERNATIONAL, LTD. shall in no case be liable otherwise or for incidental or consequential damages. **PENETRON INTERNATIONAL, LTD. MAKES NO WARRANTY AS TO MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE AND THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES EXPRESSED OR IMPLIED.** User shall determine the suitability of the product for its intended use and assume all risks and liability in connection therewith.

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January 1, 2023

To whom it may concern,

Re: Certification of Conformance - Penetron Crystalline Waterproofing Products

This is to certify that the Penetron System of Crystalline Waterproofing products (Penetron Admixture, Penetron, Penecrete Mortar, Peneplug, and Penetron Plus) are manufactured under strict ISO 9001 control conditions by Penetron USA, Inc. and used as directed is compatible with other standard admixtures used in the production of concrete.

The Penetron System of Crystalline Waterproofing products (incl. Penetron Admix with tracer) are manufactured to the additional standards as required by the National Sanitation Foundation (NSF 61) for potable water applications and by the European Union (CE) Standards.

Penetron USA, Inc. further certifies that no calcium chloride are used in the manufacture of Penetron System of Crystalline Waterproofing product sand based on chlorides originating from all ingredients used in manufacture, it contributes less than 0.00010 (1.0 ppm) chloride by weight, which is substantially lower than the maximum level as defined by ACI 318.4.4.1 for Chemical Admixtures for Concrete

Additionally, Penetron USA, Inc. provides technical and quality control support to ensure the completion of a successful project.

If you need any addition information, please feel free to contact Penetron USA, Inc. at any time.

Sincerely,

Dale R Williams

Dale Williams
Regional Sales Manager
Penetron USA, Inc.

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CRYSTALLINE WATERPROOFING PERFORMANCE STANDARDS

- Permeability (ASTM D5084, DIN 1048) - By reducing the effective pore size of concrete, Penetron reduces the permeability of the concrete. This makes Penetron treated concrete ideal for use in all water containment structures.

- Chloride Resistance and Steel Corrosion Reduction (ASTM C1202, AASHTO T-277, NCHRP 244, AASHTO T-259) – Without water transport through the concrete, any steel embedded in the concrete cannot be attacked by chloride ions and other salts that can begin the corrosion process. This makes Penetron ideal for use in marine environments and other conditions where salt is a factor.

- Freeze/Thaw Resistance (ASTM C 666, NYDOT Method 502-3P) - During a freeze/thaw cycle, water inside concrete would normally expand during the freeze cycle creating micro cracks within the concrete and then melt during the thaw cycle allowing the water to be absorbed deeper into the micro cracks. Each freeze/thaw cycle damages the concrete deeper within. Elimination of the moisture within the concrete greatly reduces the effect that freeze, and thawing cycles have internal concrete damage.

- Scaling Resistance (ASTM C 672) - Scaling happens in the same way that freeze/thaw damage does, but its effect is at the surface of the concrete. Spalling of the concrete surface is seen as the water freezes beneath the top layers of the concrete and pops off the small scales of it. Eliminating water penetration into the concrete again reduces the effect of this kind of damage.

- Sulfate Resistance (ASTM C1012) - Penetron's tightening effect helps to mitigate the effects of sulfates in soil and water.

- Autogenous Crack Healing (ASTM C 856, SEM Analysis) – Scanning Electron Microscope photos confirm the crack healing ability of Penetron. This ability can occur under heads of pressure up to 512 psi.

- Non-Toxic (NSF 61) – Penetron products are certified by the National Sanitation Foundation and approved for use in potable water applications. It is inherently a Green product as it eliminates the need to use toxic and potentially toxic bituminous based products, epoxies and other coatings that have high volatile organic content and deleterious effects on the immediate environment.

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PENETRON ADMIX TEST REPORTS

TEC Services
Testing • Engineering • Consulting

September 26, 2016

Subject: **Report of Results for CRD-C 48-92 Water Permeability**
Testing Project Name: Penetron Permeability Testing
TEC Services Project No: 05-0526
TEC Laboratory No: 16-136-15055-001- Control

Confidential

Dear Sirs:

Testing, Engineering and Consulting Services, Inc. (TEC Services) is an AASTHO R18, ANS/ISO/IEC 17025:2005 and Army Corp of Engineers accredited laboratory. TEC Services is pleased to present this report of our results on the submitted concrete cylinder specimen designated as "Mix # - 15055-001 - Control" for water permeability testing. Our services were performed in accordance with the terms and conditions of our Service Agreement TEC-PRO-05-0526. The test results presented only pertain to the samples tested.

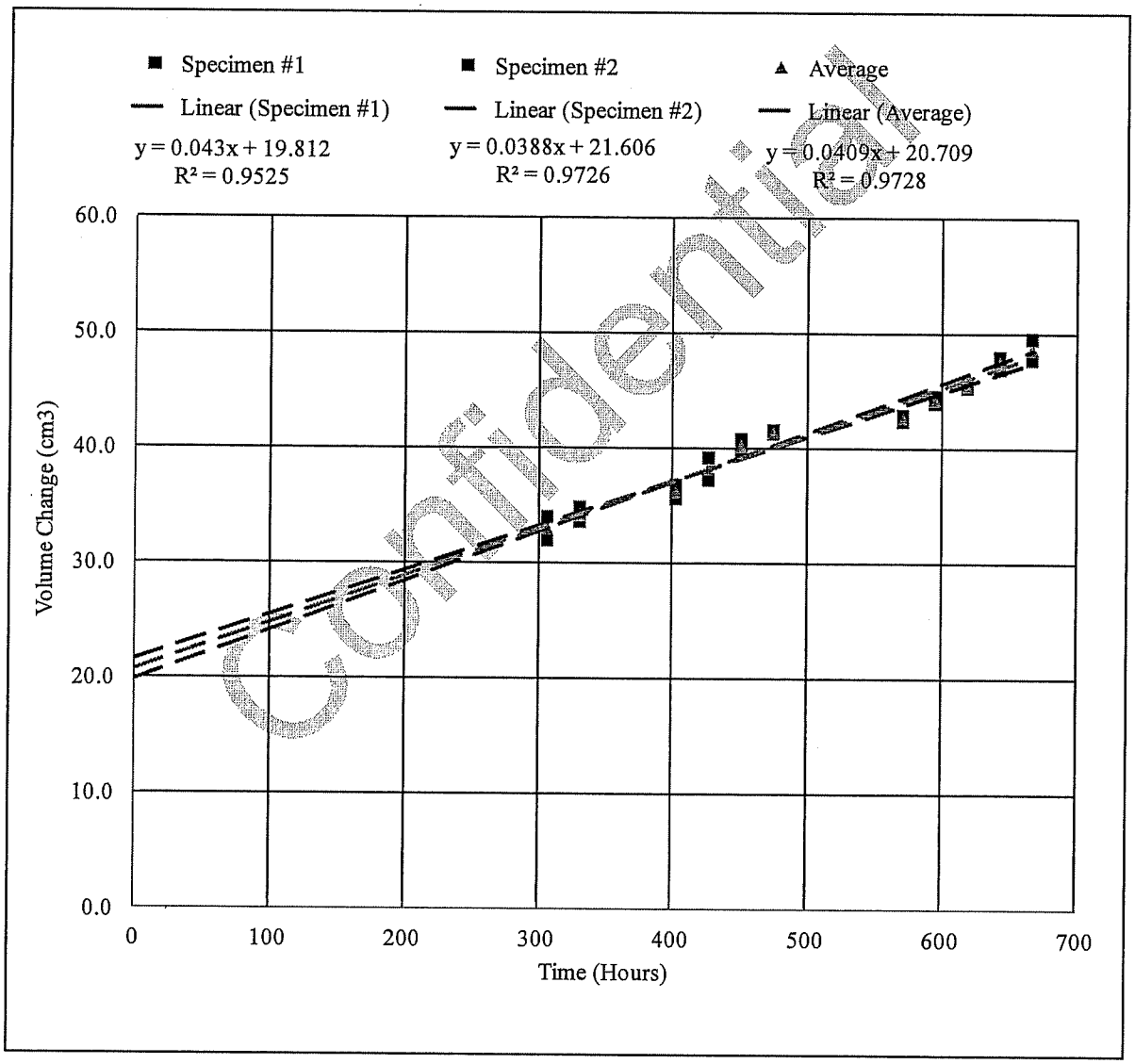
The purpose of our testing was to evaluate the submitted specimen in accordance with the U.S. Army Corp of Engineers test method CRD-C 48-92 *Standard Test Method for Water Permeability of Concrete.* It is our understanding that the received specimen had been moist cured for a minimum of 28 days. Using a wet diamond table saw, the 6" x 12" cylinder was cut to produce the required 6" x 6" cylindrical specimen size for testing. The sample was tested using an applied pressure of 200 psi at the request of the client. Results of the water permeability testing are reported in Table 1. A graphical representation of the CRD-C 48-92 test results are presented in Figure 1. Photos of the tested specimen and the testing set-up are presented in Photos 1 & 2.

Project Name: Penetron Permeability Testing
TEC Services Project #: 05-0526
TEC Services Lab #: 16-136-15055-001-Control

Table 1 – CRD-C 48-92 – Water Permeability Test Results

Average Flow Rate for Last 5 Days of Testing (cm^3/hr):	**0.052**
Average Water Permeability (ft^3/sec)/ft^2 (ft head/ft)	**2.86 E-12**
Average Total Change in Volume of Water Based on Readings (cm^3)	**48.70**
Average Total Volume of Water Passed Through Specimen - Drip Pan (cm^3)	**0.00**

Figure 1 – Results of USACE CRD-C 48-92 Permeability Testing



Confidential

Project Name: Penetron Permeability Testing
TEC Services Project #: 05-0526
TEC Services Lab #: 16-136-15055-001- Control

Photo 1 – Photo of Tested Specimen Showing Depth of Water Penetration

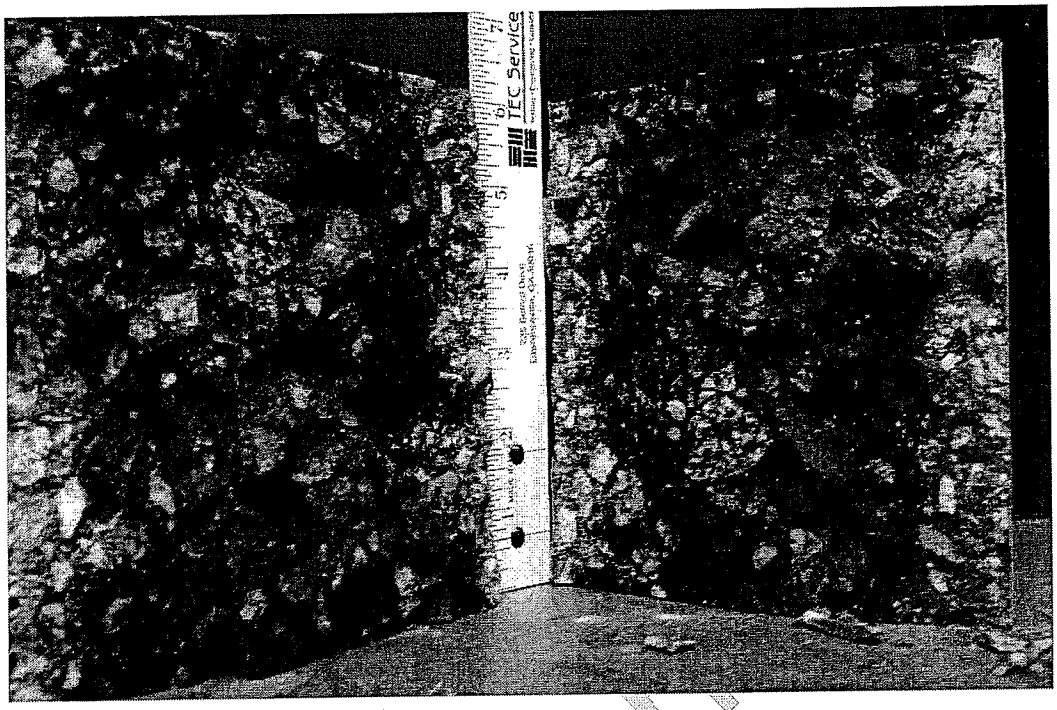
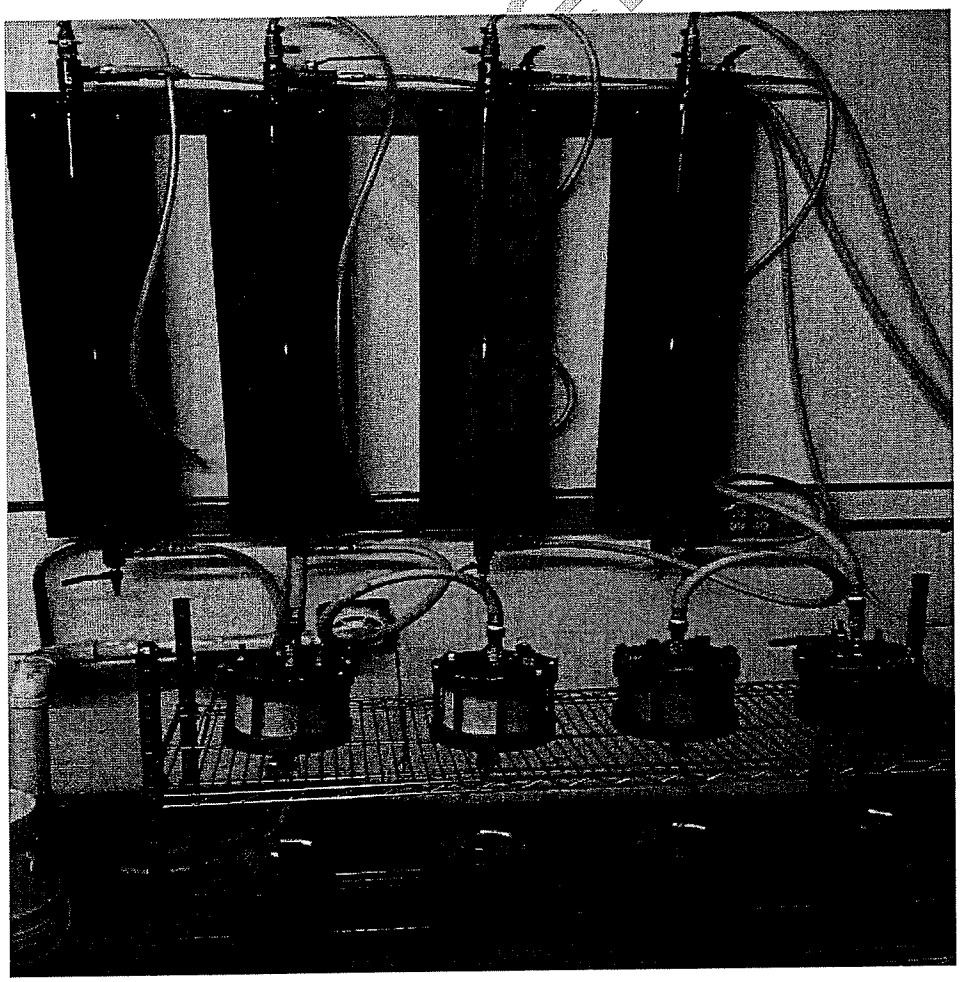


Photo 2 – Photo of CRD-C 48-92 Water Permeability Testing Set-Up



Project Name: Penetron Permeability Testing
TEC Services Project #: 05-0526
TEC Services Lab #: 16-136-15055-001- Control

Testing, Engineering and Consulting Services, Inc. appreciates the opportunity to provide our professional services for this important project. If you have any questions regarding this report, or if we can be of further assistance please contact us at 770-995-8000.

TESTING, ENGINEERING & CONSULTING SERVICES, INC.

Chip P. Sherwood Jr.
Project Manager

Shawn P. McCormick
Laboratory Principal

Confidential

TEC Services
Testing • Engineering • Consulting

September 26, 2016

Subject: **Report of Results for CRD-C 48-92 Water Permeability Testing Project Name: Penetron Permeability Testing**
TEC Services Project No: 05-0526
TEC Laboratory No: 16-136-15055-004 - Penetron Admix

Confidential

Dear Sirs:

Testing, Engineering and Consulting Services, Inc. (TEC Services) is an AASTHO R18, ANS/ISO/IEC 17025:2005 and Army Corp of Engineers accredited laboratory. TEC Services is pleased to present this report of our results on the submitted concrete cylinder specimen designated as "Mix # - 15055-004 - Penetron Admix" for water permeability testing. Our services were performed in accordance with the terms and conditions of our Service Agreement TEC-PRO-05-0526. The test results presented only pertain to the samples tested.

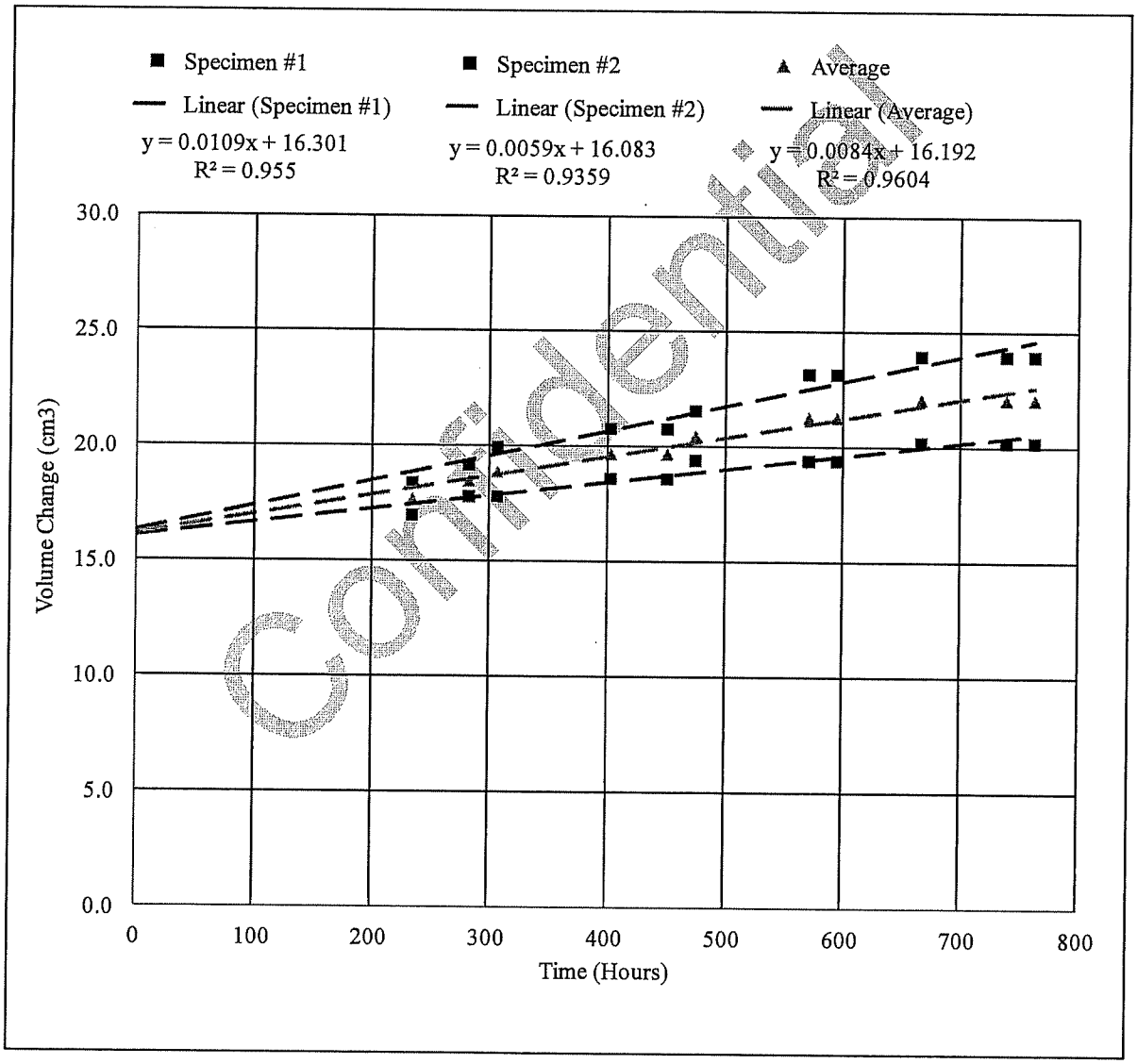
The purpose of our testing was to evaluate the submitted specimen in accordance with the U.S. Army Corp of Engineers test method CRD-C 48-92 *Standard Test Method for Water Permeability of Concrete.* It is our understanding that the received specimen had been moist cured for a minimum of 28 days. Using a wet diamond table saw, the 6" x 12" cylinder was cut to produce the required 6" x 6" cylindrical specimen size for testing. The sample was tested using an applied pressure of 200 psi at the request of the client. Results of the water permeability testing are reported in Table 1. A graphical representation of the CRD-C 48-92 test results are presented in Figure 1. Photos of the tested specimen and the testing set-up are presented in Photos 1 & 2.

Project Name: Penetron Permeability Testing
TEC Services Project #: 05-0526
TEC Services Lab #: 16-136-15055-004- Penetron Admix 1%

Table 1 – CRD-C 48-92 – Water Permeability Test Results

Average Flow Rate for Last 5 Days of Testing (cm^3/hr):	**0.009**
Average Water Permeability (ft^3/sec)/ft^2 (ft head/ft)	**4.82 E-13**
Average Total Change in Volume of Water Based on Readings (cm^3)	**22.13**
Average Total Volume of Water Passed Through Specimen - Drip Pan (cm^3)	**0.00**

Figure 1 – Results of USACE CRD-C 48-92 Permeability Testing



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Project Name: Penetron Permeability Testing
TEC Services Project #: 05-0526
TEC Services Lab #: 16-136-15055-004- Penetron Admix 1%

Photo 1 – Photo of Tested Specimen Showing Depth of Water Penetration

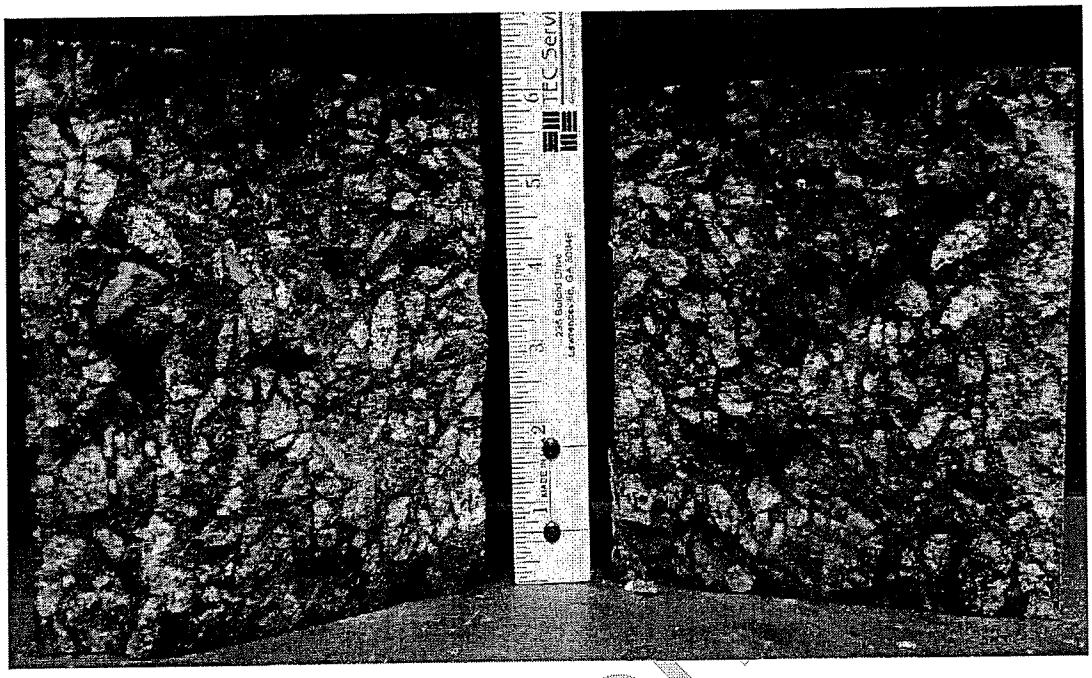
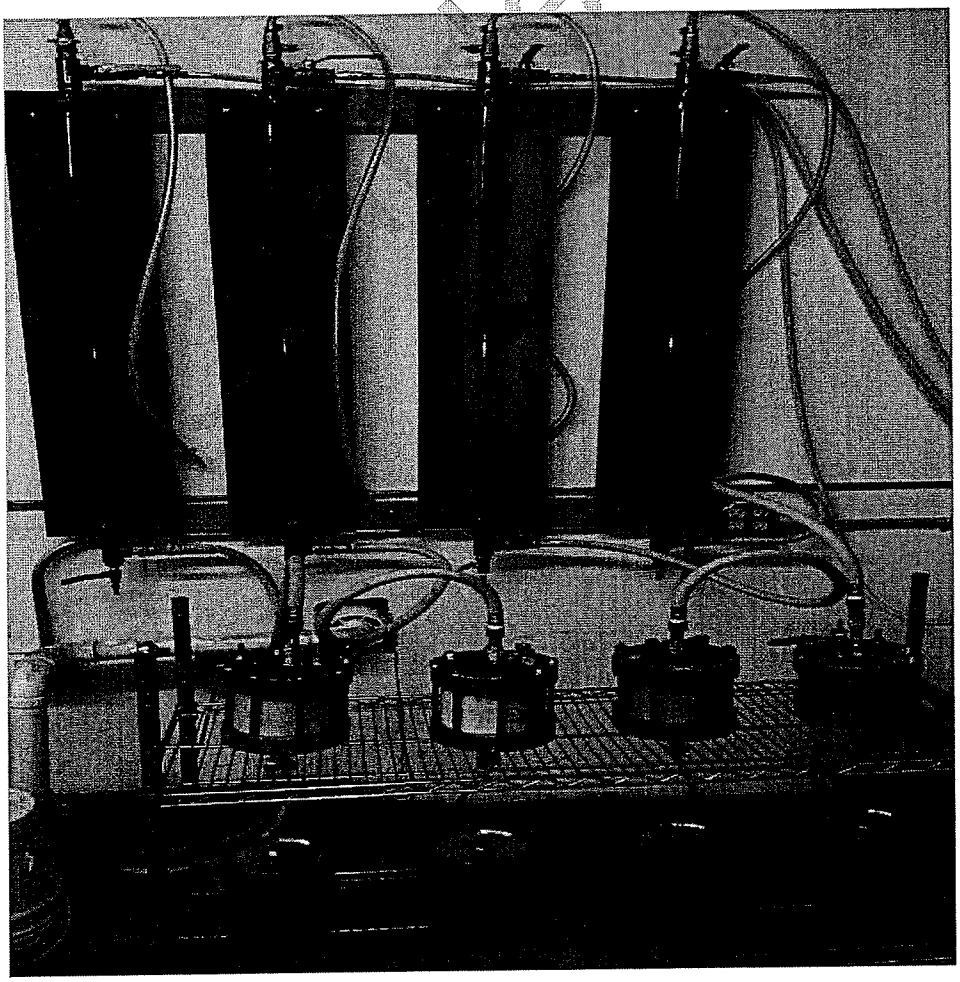


Photo 2 – Photo of CRD-C 48-92 Water Permeability Testing Set-Up



Project Name: Penetron Permeability Testing
TEC Services Project #: 05-0526
TEC Services Lab #: 16-136-15055-004 - Penetron Admix 1%

Testing, Engineering and Consulting Services, Inc. appreciates the opportunity to provide our professional services for this important project. If you have any questions regarding this report, or if we can be of further assistance please contact us at 770-995-8000.

TESTING, ENGINEERING & CONSULTING SERVICES, INC.

Chip P. Sherwood Jr.
Project Manager

Shawn P. McCormick
Laboratory Principal

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Ardaman & Associates, Inc.

Geotechnical, Environmental and
Materials Consultants

February 12, 2015
File Number 14-13-0133

PENETRON USA, Inc.
45 Research Way, Suite 203
Setauket, NY 11733

Attention: Jeremy J. Swartzfager, Sales Representative

Subject: ASTM Standard D5084 Permeability Tests on Treated and Untreated Concrete

Gentlemen:

As requested, permeability tests have been completed on two 4-inch diameter by 8-inch long field molded cylindrical concrete samples provided by your firm. The samples were received November 18, 2014 and were labeled: CF-1 AMEC Untreated Plant Test and CF-2 AMEC Treated Field Test. The samples were collected by AMEC from the S150 South Florida Water Management District Culvert replacement project from mixes made on October 24, 2014 (see attached AMEC field sample logs).

Permeability tests were performed in general accordance with ASTM Standard D5084 "Measurement of Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter" using both the constant rate of flow test method (Method D) and the constant head test method (Method A). The permeability test results are presented on the attached Hydraulic Conductivity Test Reports with values of hydraulic conductivity shown for selected flow durations. Hydraulic conductivity versus time is plotted on the attached figure.

- Untreated Sample: The untreated concrete sample displayed a hydraulic conductivity at the end of the 14 day test period, corresponding to a sample age of 40 days, of 2.1×10^{-9} cm/sec.

- Treated Sample: The treated concrete sample displayed a hydraulic conductivity at the end of the initial 3 day test period, corresponding to a sample age of 29 days, of 4.5×10^{-11} cm/sec. After an additional 15 days of curing within the permeameter and then one day of permeation, corresponding to a sample age of 45 days, the untreated sample displayed a hydraulic conductivity of 3.1×10^{-11} cm/sec. The measured hydraulic conductivity of the treated sample, at similar ages of 40 to 45 days, was 68 times less than the measured hydraulic conductivity of the untreated sample.

The test samples were reported to be from the client-specified designations herein. The test results are indicative of only the specimens that were actually tested. The test results presented are based upon accepted industry practice as well as the test method(s) listed. Ardaman & Associates, Inc. neither accepts responsibility for, nor makes claims to the final use and purpose of the test results.

Please contact us if you have any questions about the test results or require additional information.

Very truly yours,
ARDAMAN & ASSOCIATES, INC.

Thomas S. Ingra, P.E.
Laboratory Director
Florida License No. 31987

ARDAMAN & ASSOCIATES, INC. GEOTECHNICAL TESTING LABORATORY
CONCRETE CORE HYDRAULIC CONDUCTIVITY TEST REPORT

CLIENT: PENETRON USA, Inc.

PROJECT: Comparison Testing

FILE NO.: 14-13-0133

DATE SAMPLE RECEIVED: 11/18/14 SET UP: 11/19/14

DATE REPORTED: 01/19/15 REVISED: 02/12/15

ASTM D5084 TEST METHOD:

- ☒ A - Constant Head
- ☐ B - Falling Head; Constant Tailwater
- ☐ C - Falling Head; Rising Tailwater
- ☒ D - Constant Rate of Flow
- ☐ F - Constant Volume; Falling Head - Rising Tailwater

PERMEANT: ☒ Deaired Tap Water ☐ Other

G_s: 2.70 ☒ Assumed ☐ Measured

B-factor: 80 % ☒ Beginning of Test; ☐ End of Test

$\Delta\sigma_c$ (lb/in²): 9

INCOMING LABORATORY SAMPLE NO.: **CF-1 AMEC UNTREATED PLANT TEST**

LABORATORY IDENTIFICATION NO.: 140133/Untreated

SAMPLE DESCRIPTION: Concrete

DATE POURED: 10/24/14 AGE WHEN TESTED: 26 Days

SPECIMEN PREPARATION		
Type	Diameter (inch)	Diameter Trimmed
☐ Undisturbed Sample		☐ Yes ☐ No
☐ Drive Cylinder		☐ Yes ☐ No
☐ Rock Core		☐ Yes ☐ No
☐ Compacted	☐ Tamped Uniform Lifts: No. of Lifts	
	☐ Kneading: No. of Lifts ____ Spring ____ lb. Blows per Lift	
☒ Other	4" Diameter by 8" Long Field Molded Cylinders	

Initial Conditions							Test Conditions								Final Conditions					Hydraulic Conductivity
H (cm)	D (cm)	V_o (cm³)	WDS (grams)	w_c (%)	γ_d (lb/ft³)	S (%)	Date Permeation Started	Test Method	Stresses (lb/in²) Cell	Inflow	Outflow	i_{avg}	ΣQ (cm³)	Σt_f (hours)	H (cm)	$\Delta V/V_o$ (%)	w_c (%)	γ_d (lb/ft³)	S (%)	k_{20} (cm/sec)
17.33	10.27	1,436.2	3,084.6	7.4	134.1	78	11/25/14	A	190	169.5	150.0	80	3.5	28.6						4.1x10-9
									190	168.9	150.0	77	7.1	94.6						2.6x10-9
									190	170.7	150.0	84	9.4	143.3						2.3x10-9
							12/01/14	D	190	169.0	148.2	84	10.3	161.0						2.2x10-9
									190	161.5	144.2	70	11.0	185.4						1.7x10-9
							12/03/14	A	190	169.2	148.2	85	11.1	188.0	17.33	0.0	9.0	134.1	94	2.1x10-9

COMMENTS: Sample maintained at as-received diameter. Ends trimmed square and to length. Back-pressure saturation was started on the sample 26 days after it had been molded, permeation was started 6 days later (32 days) and terminated after 8 days of flow (40 days).

The test data and all associated project information presented hereon shall be held in confidence and disclosed to other parties only with the authorization of the Client. Physical and electronic records of each project are kept for a minimum of 7 years. Test samples are kept in storage for at least 10 working days after mailing of the test report, prior to being discarded, unless a longer storage period is requested in writing and accepted by Ardaman & Associates, Inc.

Where: H = Specimen height; D = Specimen diameter; V_o = Initial volume; WDS = Dry mass; w_c = Water content (ASTM D2216); γ_d = Dry density; S = Saturation; i_{avg} = Average hydraulic gradient; ΣQ = Cumulative flow volume; Σt_f = Cumulative flow duration; $\Delta V/V_o$ = Volume change ("-" denotes consolidation, "+" denotes swelling); k_{20} = Saturated hydraulic conductivity at 20°C; and G_s = Specific gravity.

Checked By: TM Date: 02/12/15

Form SR-2:Rev. 2

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CITY OF MADISON, STATE STREET CAMPUS GARAGE MIXED-USE PROJECT, CONTRACT NO. 9361, Reference-13 Substitution Requests

ARDAMAN & ASSOCIATES, INC. GEOTECHNICAL TESTING LABORATORY
CONCRETE CORE HYDRAULIC CONDUCTIVITY TEST REPORT

CLIENT: PENETRON USA, Inc.

PROJECT: Comparison Testing

FILE NO.: 14-13-0133

DATE SAMPLE RECEIVED: 11/18/14 SET UP: 11/19/14

DATE REPORTED: 01/19/15 REVISED: 02/12/15

ASTM D5084 TEST METHOD:

- ☒ A - Constant Head
- ☐ B - Falling Head; Constant Tailwater
- ☐ C - Falling Head; Rising Tailwater
- ☒ D - Constant Rate of Flow
- ☐ F - Constant Volume; Falling Head - Rising Tailwater

PERMEANT: ☒ Deaired Tap Water ☐ Other

G_s: 2.70 ☒ Assumed ☐ Measured

B-factor: 90 % ☒ Beginning of Test; ☐ End of Test

$\Delta\sigma_c$ (lb/in^2): 9

INCOMING LABORATORY SAMPLE NO.: **CF-2 AMEC TREATED FIELD TEST**

LABORATORY IDENTIFICATION NO.: 140133/Treated

SAMPLE DESCRIPTION: Concrete

DATE POURED: 10/24/14 AGE WHEN TESTED: 26 Days

SPECIMEN PREPARATION		
Type	Diameter (inch)	Diameter Trimmed
☐ Undisturbed Sample		☐ Yes ☐ No
☐ Drive Cylinder		☐ Yes ☐ No
☐ Rock Core		☐ Yes ☐ No
☐ Compacted	☐ Tamped Uniform Lifts: No. of Lifts	
	☐ Kneading: No. of Lifts ____ Spring ____ lb. Blows per Lift	
☒ Other	4" Diameter by 8" Long Field Molded Cylinders	

Initial Conditions							Test Conditions								Final Conditions					Hydraulic Conductivity
H (cm)	D (cm)	V_o (cm^3)	WDS (grams)	w_c (%)	γ_d (lb/ft^3)	S (%)	Date Permeation Started	Test Method	Stresses (lb/in^2) Cell	Inflow	Outflow	i_{avg}	ΣQ (cm^3)	Σt_f (hours)	H (cm)	$\Delta V/V_o$ (%)	w_c (%)	γ_d (lb/ft^3)	S (%)	k_{20} (cm/sec)
17.32	10.27	1,434.7	3,016.8	9.2	131.3	87	11/20/14	D	600	568.0	275.9	1,186	0.71	23.7						**8.6x10-11**
									600	593.4	33.7	2,273	1.71	56.9						**4.5x10-11**
							12/07/14	A	190	171.0	99.0	292	1.76	78.3	17.32	0.0	9.7	131.3	93	**3.1x10-11**

COMMENTS: Sample maintained at as-received diameter. Ends trimmed square and to length. Back-pressure saturation was started on the sample 26 days after it had been molded, permeation was started 1 day later (27 days) and terminated after about 2 days of flow (29 days). The sample was maintained in the permeameter under backpressure for 15 days, and the hydraulic conductivity measured again using the constant head test method over a period of 1 day (45 days).

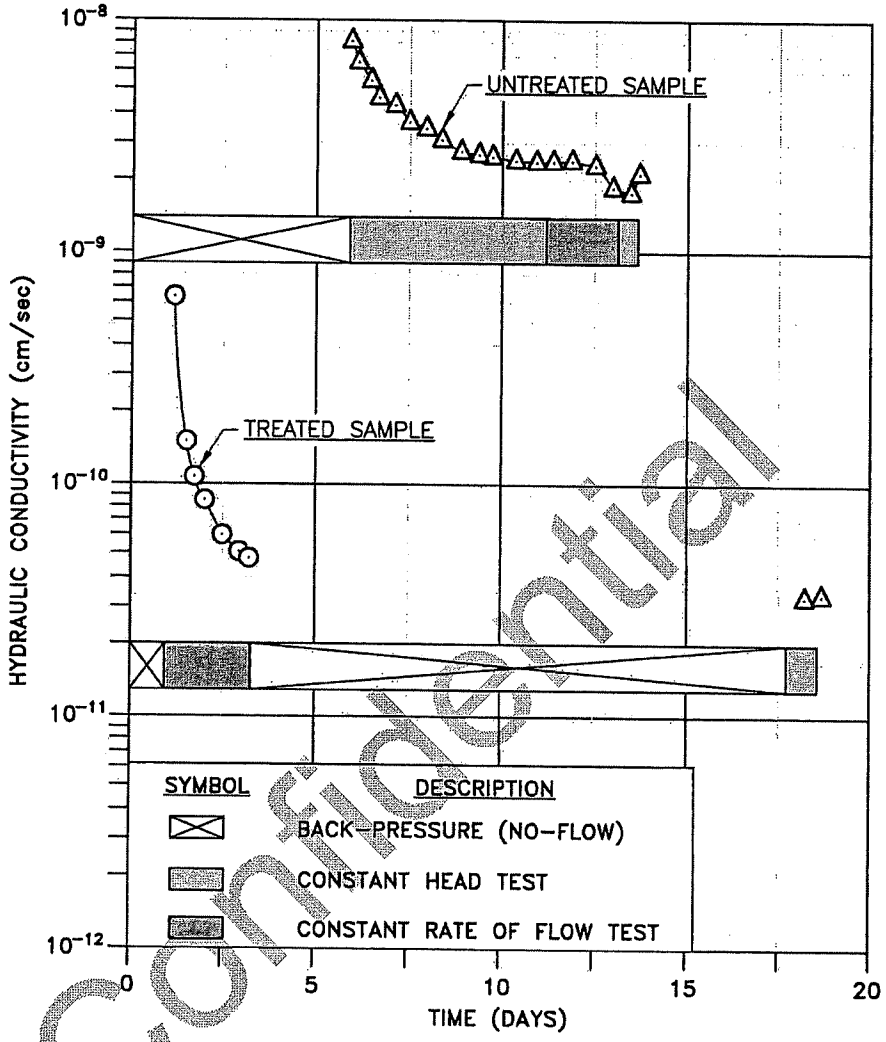
The test data and all associated project information presented hereon shall be held in confidence and disclosed to other parties only with the authorization of the Client. Physical and electronic records of each project are kept for a minimum of 7 years. Test samples are kept in storage for at least 10 working days after mailing of the test report, prior to being discarded, unless a longer storage period is requested in writing and accepted by Ardaman & Associates, Inc.

Where: H = Specimen height; D = Specimen diameter; V_o = Initial volume; WDS = Dry mass; w_c = Water content (ASTM D2216); γ_d = Dry density; S = Saturation; i_{avg} = Average hydraulic gradient; ΣQ = Cumulative flow volume; Σt_f = Cumulative flow duration; $\Delta V/V_o$ = Volume change ("-" denotes consolidation, "+" denotes swelling); k_{20} = Saturated hydraulic conductivity at 20°C; and G_s = Specific gravity.

Checked By: TM Date: 02/12/15

Contractor Requests

CITY OF MADISON, STATE STREET CAMPUS GARAGE MIXED-USE PROJECT, CONTRACT NO. 9361, Reference-13 Substitution



HYDRAULIC CONDUCTIVITY VS. TIME ON TREATED AND UNTREATED CONCRETE

Confidential

West Palm Beach, FL 33407
+1 (561) 242 7713 Fax +1 (561) 242-5591

amec

CLIENT: _____ PROJ. NUMBER: _____

PROJECT: _____ LAB. NUMBER: I04017

CONTRACTOR: _____ MIX STRENGTH: _____ DESIGN STRENGTH: 5000

GENERAL INFORMATION AND SAMPLING DATA

DATE SAMPLED: 10/24/14 SPEC. MIN. COMP. STRENGTH _____ PSI ___ @ DAYS

SAMPLED BY: Humberto Naranjo MIX IDENTIFICATION NO: _____

NO. OF CYLINDERS MOLDED: 3(4 X B) MIX DESCRIPTION: 5000 Reg 3B WC-505@ NRWR

DATE CYLINDERS RECEIVED: _____ MIX TYPE: NORMAL WT. X LIGHTWEIGHT ____

EXTRA WATER ADDED AT JOB SITE? YES__ NO__ CONCRETE SUPPLIER: Supermix

IF YES, _____ GALLONS TO _____ C. Y. TIME CONCRETE BATCHED: _____

EXTRA WATER AUTHORIZED BY: _____ TIME SAMPLED: _____

DELIVERY TICKET NUMBER: 5 SIZE OF LOAD:/SAMPLED AT: _____ C. Y.

APPROVED MIX: YES____ NO ____ TRUCK ARRIVAL TIME: _____ FINISH TIME: _____

DRUM ROTATIONS: _____ TRUCK NUMBER: 3461

SAMPLED FROM: CHUTE_____ HOPPER_____ DISCHARGE HOSE ____ OTHER_____

DESCRIPTION AND LOCATION OF CONCRETE PLACEMENT: _____

100-6/08

D 5048 UNTREATED

FIELD AND LABORATORY TEST DATA

PROPERTIES OF FRESH CONCRETE					CURING SCHEDULE FOR STRENGTH SPECIMENS		
M&TE EQUIP.	PARAMETER	TEST METHOD	FIELD DATA	SPEC. REQ.	CURING METHOD	INITIAL 18-24 Hrs.	FINAL
	Air Temp (F)	C1067/	74		ASTM C 31/		
	Concrete Temp (F)	C1067/	81		Field Conditions:		
	Slump (in.)	C143/	8"		Other: (see remarks)		
	Air Content (%)-Vol	C173/					
	Air Content (%)-Pres)	C231/					
	Plastic Unit Wt. (pcf)	C138/					

COMPRESSIVE STRENGTH RESULTS C39/ M&TE: _____

END PREPARATION: Sulfur Caps____ Pad Caps____ (Durometer ____) Plain___ CURING METHOD: Tank___ Moisture Rm____

Specimen No.	Test Date	Age (days)	Diameter (in.)	Area (in^2)	Maximum Load (lbs.)	Compressive Strength (psi.)	Fracture Type	Tester	Reviewer

REMARKS

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CITY OF MADISON, STATE STREET CAMPUS GARAGE MIXED-USE PROJECT, CONTRACT NO. 9361, Reference-13 Substitution Requests

West Palm Beach, FL 33407
+1 (561) 242-7713 Fax +1 (561) 242-5591

amec

CLIENT: _____ PROJ. NUMBER: _____

PROJECT: _____ LAB. NUMBER: 104017

CONTRACTOR: _____ MIX STRENGTH: _____ DESIGN STRENGTH: 5000

GENERAL INFORMATION AND SAMPLING DATA

DATE SAMPLED: 10/24/14 SPEC. MIN. COMP. STRENGTH _____ PSI ___ @ DAYS

SAMPLED BY: Humberto Naranjo MIX IDENTIFICATION NO: _____

NO. OF CYLINDERS MOLDED: 3 (4 X 8") MIX DESCRIPTION: 5000 Reg 3B WC-5059 NRV

DATE CYLINDERS RECEIVED: _____ MIX TYPE: NORMAL WT. X LIGHTWEIGHT ___

EXTRA WATER ADDED AT JOB SITE? YES __ NO __ CONCRETE SUPPLIER: Supermix

IF YES, _____ GALLONS TO _____ C. Y. TIME CONCRETE BATCHED: 7:10

EXTRA WATER AUTHORIZED BY: _____ TIME SAMPLED: 7:30

DELIVERY TICKET NUMBER: 5 SIZE OF LOAD:/SAMPLED AT: 10/3 C. Y.

APPROVED MIX: YES X NO ___ TRUCK ARRIVAL TIME: 7:25 FINISH TIME: 8:20

DRUM ROTATIONS: 186 TRUCK NUMBER: 3461

SAMPLED FROM: CHUTE X HOPPER ___ DISCHARGE HOSE ___ OTHER ___

DESCRIPTION AND LOCATION OF CONCRETE PLACEMENT: _____

100-6/08

D 5048 TREATED

FIELD AND LABORATORY TEST DATA

PROPERTIES OF FRESH CONCRETE					CURING SCHEDULE FOR STRENGTH SPECIMENS		
M&TE EQUIP.	PARAMETER	TEST METHOD	FIELD DATA	SPEC. REQ.	CURING METHOD	INITIAL 18-24 Hrs.	FINAL
	Air Temp (F)	C1067/	75		ASTM C 31/		
	Concrete Temp (F)	C1067/	80		Field Conditions:		
	Slump (in.)	C143/	7"		Other: (see remarks)		
	Air Content (%)-Vol	C173/					
	Air Content (%)-Pres	C231/					
	Plastic Unit Wt. (pcf)	C138/					

COMPRESSIVE STRENGTH RESULTS C39/ M&TE: _____

END PREPARATION: Sulfur Caps ___ Pad Caps ___ (Durometer ___) Plain ___ CURING METHOD: Tank ___ Moisture Rm ___

Specimen No.	Test Date	Age (days)	Diameter (in.)	Area (in^2)	Maximum Load (lbs.)	Compressive Strength (psi.)	Fracture Type	Tester	Reviewer

REMARKS

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psi Information To Build On
Engineering • Consulting • Testing

Chris Chen
Penetron USA, Inc.
45 Research Way, Suite 203
East Setauket, NY 11733

Subject: Construction Materials Testing
Penetron Admix® Mix Designs, ASTM C39 and DIN 1048:5 (EN 12390-8) Water Permeability Results
PSI Project Number 08122128

Two concrete mix designs were batched on the same 4500 psi concrete mix with a 0.45 water/cement ratio. Mix 1P included the addition of Penetron Admix at the recommended dosage rate of 1% by weight of cement materials. Mix 2P was the control and did not include the Penetron Admix material.

Material	Source	**Mix 1P** Weight in lbs. (kg)	**Mix 2P** Weight in lbs.(kg)
Cement Type I	Essroc	564 (256)	564 (256)
#57 Limestone	Coolspring	1720 (780)	1720 (780)
Sand	Shelly Sand	1329 (603)	1329 (603)
Water	-	255 (116)	255 (116)
Air %	6%	0	0
Penetron Admix	Penetron USA	5.64 (2.56)	0
Total Batch Weight	-	3873.64	3868

Concrete samples were cast at the time of batching. The compressive strength was tested at 7 days and 28 days. Following is a summary of the ASTM C39 compressive strength test results at 7 and 28 days for Mix 1P and Mix 2P.

Sample	7-Day Compressive Strength (psi)	28-Day Compressive Strength (psi)
Mix 1P (Penetron Admix Treated)	5,595	6,300
Mix 2P (Control)	5,020	5,895
Percent Increase Treated over Control	11.5%	6.9%

When curing was complete, the concrete samples were exposed to a driving pressure of 72.5 psi (0.5 N/mm^2) in accordance with DIN 1048 Part 5M Water Permeability for a period of 72 hours. The samples were removed from the permeability apparatus and each was split down its center. The amount of water penetration was immediately marked and measured. The maximum depth of penetration and the average depth of penetration are given in the following table and chart.

Sample	Maximum Water Penetration Depth in inches (mm)	Average Water Penetration Depth in Inches (mm)
1P (Penetron Admix Treated)	No Water Penetration	No Water Penetration
2P (Control)	1.026" (26 mm)	0.695" (18 mm)

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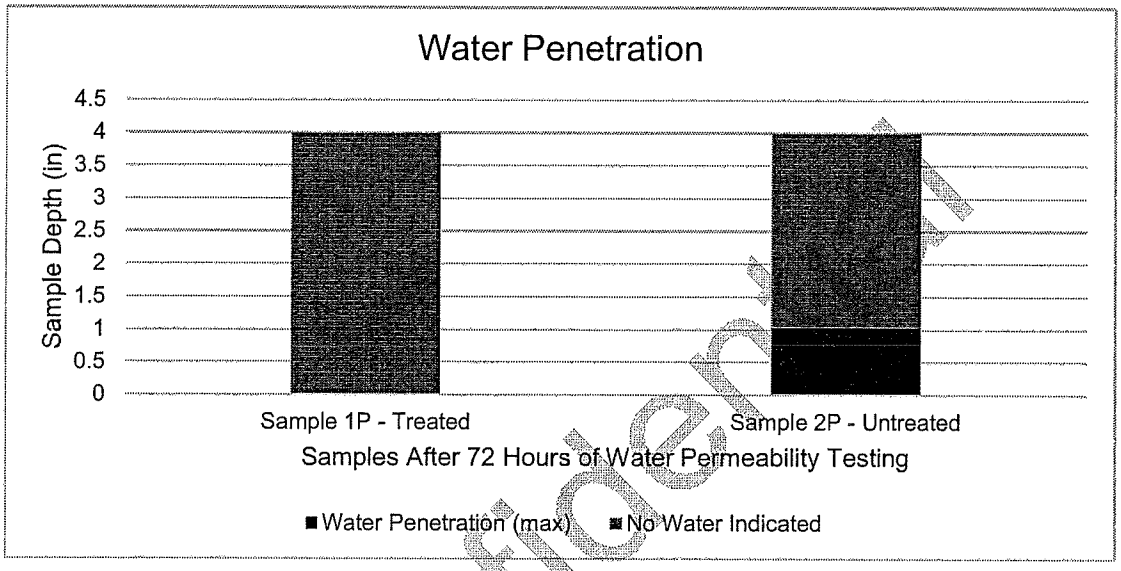
Conclusions:

Based on the ASTM C39 and DIN 1048:5 Water Permeability testing performed, we note the following:

- Penetron Admix treated samples exhibited an increase in compressive strength compared to the control.
- The use of Penetron Admix eliminated all visible water penetration into the treated sample.



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PENETRON ADMIX PRODUCT COMPARISONS

PENETRON
TOTAL CONCRETE PROTECTION

PENETRON ADMIX SB / XYPEX ADMIX COMPARISON

	PENETRON ADMIX SB	XYPEX ADMIX
PACKAGING	6 x 6.6lb Soluble Bags per Plastic Pail	Soluble Bags in Cardboard Box & Metal Buckets for Xypex C-1000
STORAGE	• Pails are stackable with structural integrity to not compress product which makes it hard and unusable. Less wastage. • Pails protect the product from the elements. Less wastage. • Free Buckets.	• Stacked boxes crush causing product compression resulting in wastage. • Boxes susceptible to the elements and thus need to be protected from the elements to prevent wastage. • Metal buckets not as useful post product usage.
DOSAGE RATE	One 6.6lb soluble bag per cubic yard of concrete (1% by weight of total cementing materials).	1 – 3% by weight of total cementing materials depending on type of admixture and application.
PURCHASING & SUPPORT	• One crystalline admixture for all applications. • One size packaging and one dosage rate simplifies stock purchasing and pricing. • Penetron has warehouses across the country and distribute themselves, not through distributors. • Less mark-up because the middleman is cut out. • In-house technical and on-site support, not through a third party.	• Multiple crystalline admixtures for different applications, complicating the specification process • Multiple dosage rates and packaging sizes, complicating stock purchasing and pricing • Xypex is mainly sold through distributors. Areas without distributors, Xypex sells directly to customers.
QUALITY CONTROL MEASURE	Penetron Admix SB contains a non-staining, non-toxic green tracer visible in the bleed-water during placement, verifying that Penetron Admix SB was indeed added to the concrete. The green color dissipates as the bleed-water evaporates.	None

PENETRON USA, INC.
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PENETRON
TOTAL CONCRETE PROTECTION

PENETRON ADMIX SB / KRYTON KIM COMPARISON

	PENETRON ADMIX SB	KIM
PACKAGING	6 x 6.6lb Soluble Bags per Plastic Pail	11lb & 55lb Plastic Pails & Pulpable
STORAGE	• Pails are stackable with structural integrity to not compress product which makes it hard and unusable. Less wastage. • Pails protect the product from the elements. Less wastage.	• Stacked bags cause product compression resulting in wastage. • Bags susceptible to the elements and thus need to be protected from the elements to prevent wastage. • Pails are stackable, less wastage. • Pails protect the product from the elements. Less wastage.
DOSAGE RATE	One 6.6lb soluble bag per cubic yard of concrete (1% by weight of total cementing materials).	Vague dosage rates: Dose KIM up to a maximum of 13.5 lb/yd^3 in consultation with an authorized Kryton representative.
PURCHASING & SUPPORT	• One crystalline admixture for all applications. • One size packaging and one dosage rate simplifies stock purchasing and pricing. • Penetron has warehouses across the country and distribute themselves, not through distributors. • Less mark-up because the middleman is cut out. • In-house technical and on-site support, not through a third party.	• Multiple packaging types & sizes, complicating stock purchasing and pricing. • KIM is mainly sold through distributors and directly to customers depending on the project and location.
QUALITY CONTROL MEASURE	Penetron Admix SB contains a non-staining, non-toxic green tracer visible in the bleed-water during placement, verifying that Penetron Admix SB was indeed added to the concrete. *(Color dissipates as bleed-water evaporates)*	None

PENETRON USA, INC.
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THE PENETRON SYSTEM

PENETRON
TOTAL CONCRETE PROTECTION

THE PENETRON SYSTEM

Performance & Packaging

Thank you for selecting PENETRON ADMIX as your preferred crystalline waterproofing admixture. PENETRON ADMIX SB has been designed to improve your concrete by lowering its permeability and imparting self-healing abilities to shutdown leaking cracks.

It has also been package formatted to make it simple and easy for concrete suppliers to add to their concrete with a high level of quality control.

Tracing Agent

PENETRON ADMIX is the only crystalline admixture in the concrete industry to contain a non-toxic, non-staining tracing agent. The tracing agent can be seen during the placement of concrete (florescent bleed water) and aids as an indicator that PENETRON ADMIX was in fact added to the concrete.

Good Concrete Practice

However, as great a job as concrete suppliers can do in supplying quality concrete to projects, concrete is still designed, produced, formed and placed by different project entities and care must be taken among them to ensure a well-designed concrete is placed, protected, and cured as per ACI 318-05 Building Code Requirements for Structural Concrete to ensure optimum results.

A System of Protection

When PENETRON ADMIX treated concrete is used, the concrete itself will be waterproof and durable. There are however various other areas which are subject to leaks and deterioration, for example construction joints, tie-holes, honeycombing, cracks etc.

Using the Topical Products in the Penetron Range to solve these issues will ensure the structure is waterproof and protected against deterioration with one single system and one point of contact should there be a need for support.

In order to realize the full benefit of The Penetron System, it is recommended that the supportive products be used as necessary to form a complete system of protection.

PENEBAR SW55 – PENEBAR SW55 is a waterstop developed to stop water penetration through non-moving construction joints (horizontal/vertical) and around penetrations by expanding in a controlled fashion when exposed to water, forming a positive seal inside the concrete. PENEBAR SW55 can replace the more passive tied in PVC waterstop systems, eliminating welding irons, split forming and special shapes.

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PENECRETE MORTAR – PENECRETE MORTAR is a crystalline waterproofing repair mortar used to repair tie-holes, cracks and honeycombing. Repairs can be done from either the positive or the negative side of the concrete element.

PENETRON – PENETRON is a surface-applied, integral crystalline waterproofing material which waterproofs and protects the concrete matrix from within.

PENETRON can be used wherever a secondary coating of concentrated crystalline materials is desired to support the PENETRON ADMIX system.

PENEPLUG – PENEPLUG is a rapid setting, integral crystalline cementitious waterstop designed to stop active water leaks and moisture ingress.

Technical Support Services

Please share all the relevant construction documents with Penetron USA. A Penetron Representative will provide a complimentary review of the construction documents to ensure that the complete Penetron System is being utilized to minimize risks and maximize protection for the project.

Regards,

The Penetron USA Technical Team

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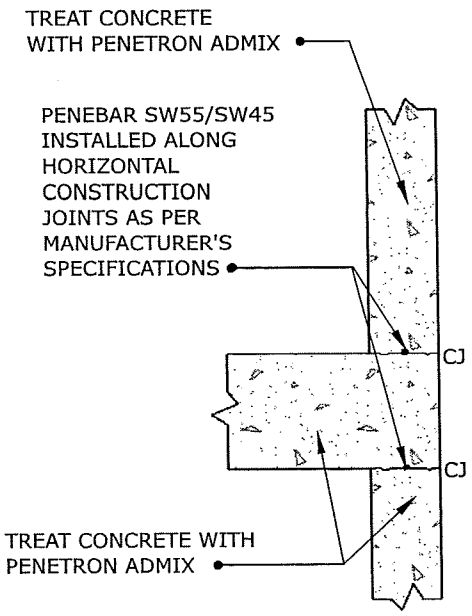
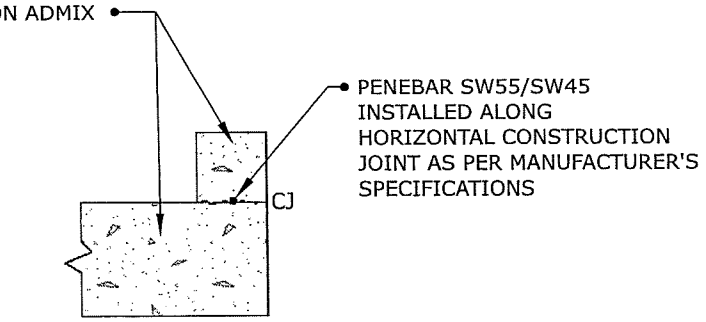
1. PENEBAR MUST HAVE A MINIMUM COVER OF 2" (ALL ROUND).
2. PENEBAR IS SUITABLE FOR NON-MOVEMENT CONSTRUCTION JOINTS.
3. ELEMENTS > 18" THICK REQUIRES 2 ROWS OF PENEBAR. REFER TO DETAIL TD-01B.
4. CONTACT A PENETRON REPRESENTATIVE FOR A COMPLIMENTARY REVIEW AND SPECIFICATION RECOMMENDATION TO ENSURE THE DETAILS ARE EFFECTIVELY INCLUDED IN PROJECT PLANS.

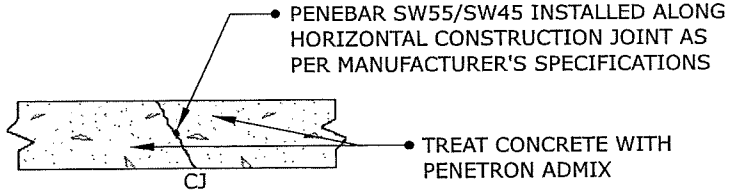
CONTACT DETAILS: info@penetron.com / (631) 941-9700



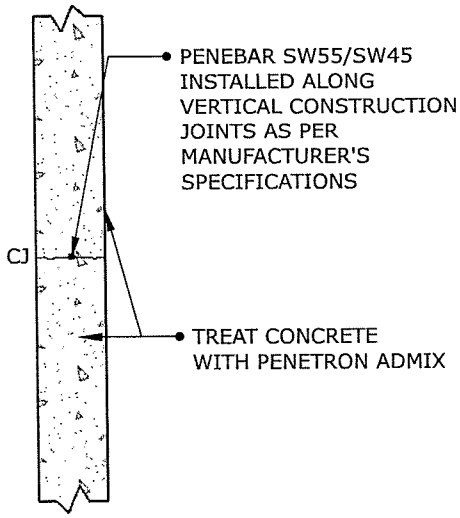
INTERMEDIATE WALL-SLAB-WALL JOINT
N.T.S.



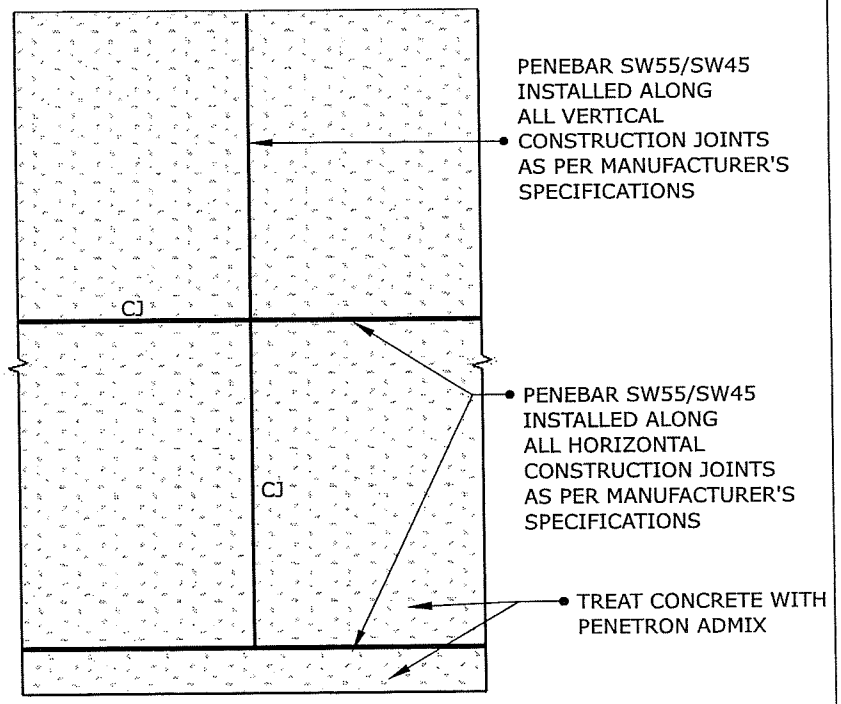
TYPICAL UPSTAND DETAIL
N.T.S.



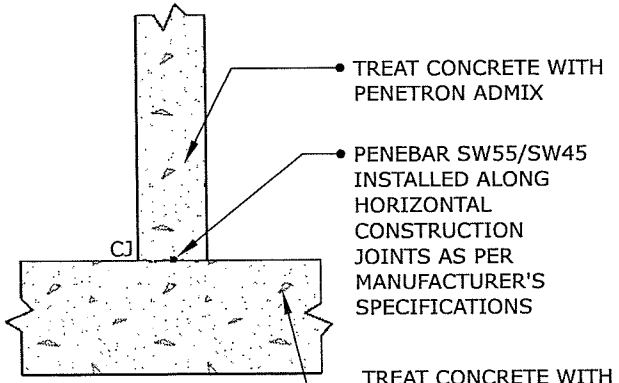
HORIZONTAL FLOOR SLAB JOINT
N.T.S.



TOP VIEW: VERTICAL WALL JOINT
N.T.S.



TYPICAL WALL ELEVATION
N.T.S.



FLOOR TO WALL JOINT
N.T.S.

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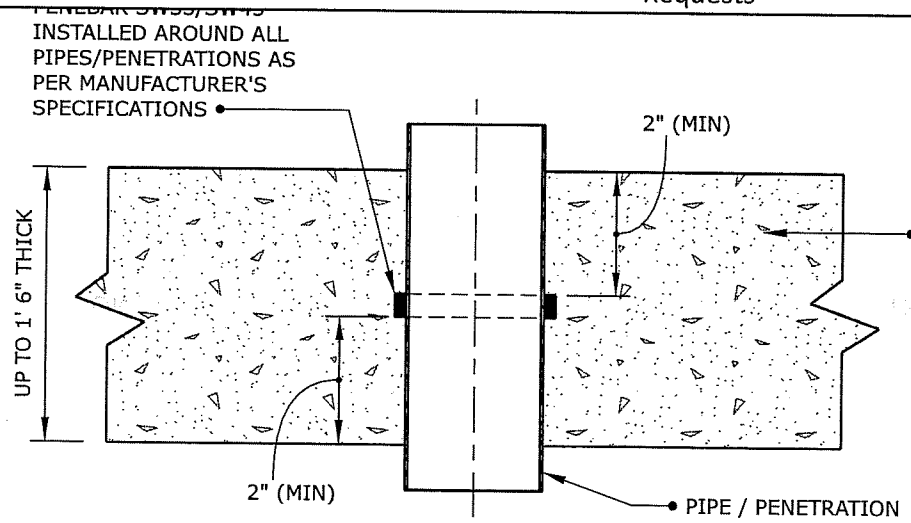
PENETRON USA

TYPICAL CONSTRUCTION DETAILS
CONSTRUCTION JOINT OVERVIEW

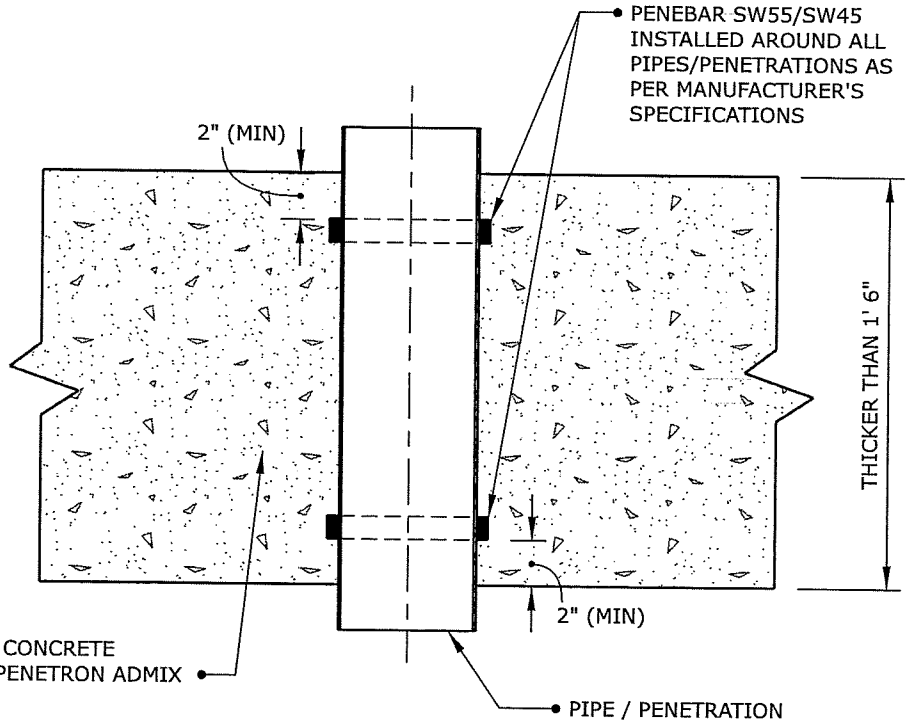
REVISION NUMBER	2
REVISION DATE	10/25/2022
DRAWN BY	C GOUWS
DRAWING NUMBER	TD-01



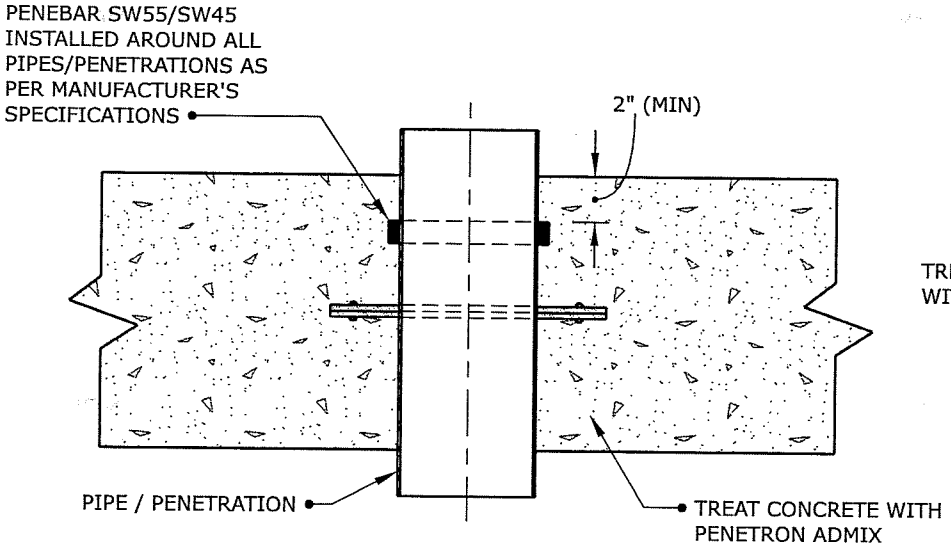
SECTION: CAST-IN PIPE/PENETRATION DETAIL
SLAB/WALL < 1' 6" THICK
N.T.S.

NOTES:
1. PENEBAR MUST HAVE A MINIMUM COVER OF 2" (ALL ROUND).
2. TWO BEADS OF PENEBAR, ONE ON EACH SIDE, IS REQUIRED IF THE SLAB/WALL IS THICKER THAN 1' 6".
3. CONTACT A PENETRON REPRESENTATIVE FOR A COMPLIMENTARY REVIEW AND SPECIFICATION RECOMMENDATION TO ENSURE THE DETAILS ARE EFFECTIVELY INCLUDED IN PROJECT PLANS.

CONTACT DETAILS: info@penetron.com / (631) 941-9700



SECTION: CAST-IN PIPE/PENETRATION DETAIL
SLAB/WALL > 1' 6" THICK
N.T.S.



SECTION: CAST-IN PIPE WITH FLANGE DETAIL
N.T.S.

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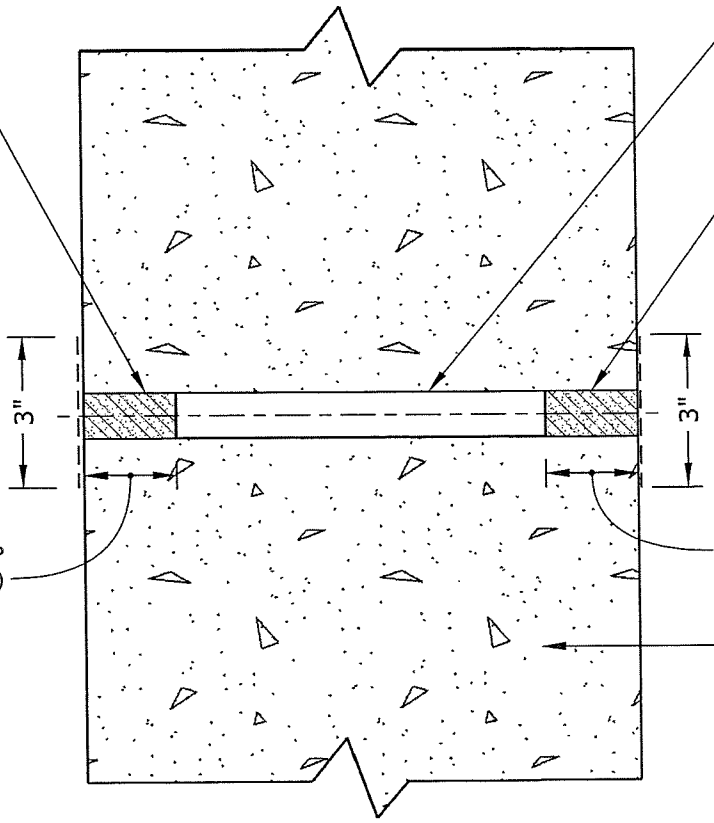
PENETRON USA
TYPICAL CONSTRUCTION DETAILS
TYPICAL CAST-IN PIPE DETAILS

REVISION NUMBER	1
REVISION DATE	12/03/2019
DRAWN BY	C GOUWS
DRAWING NUMBER	-02

NOTE:
1. TIE-HOLE REPAIR MUST BE DONE ON BOTH SIDES OF THE WALL.
2. CONTACT A PENETRON REPRESENTATIVE FOR A COMPLIMENTARY REVIEW AND SPECIFICATION RECOMMENDATION TO ENSURE THE DETAILS ARE EFFECTIVELY INCLUDED IN PROJECT PLANS.
CONTACT DETAILS: info@penetron.com / (631) 941-9700

1. PRIME SURFACE WITH A COAT OF PENETRON (SLURRY).
2. FILL TIE-HOLE WITH PENECRETE MORTAR, AS DEEP AS POSSIBLE.
3. FINAL COAT OF PENETRON (SLURRY) 3" IN DIAMETER OVER PLUGGED HOLE.
**ALL AS PER MANUFACTURER'S SPECIFICATIONS.*



TIE ROD TO BE REMOVED.
PRESSURE WASH INSIDE THE HOLE.
USE A TIE-HOLE STOPPER/PLUG TO FILL THE INNER SECTION OF THE HOLE.

1. PRIME SURFACE WITH A COAT OF PENETRON (SLURRY).
2. FILL TIE-HOLE WITH PENECRETE MORTAR, AS DEEP AS POSSIBLE.
3. FINAL COAT OF PENETRON (SLURRY) 3" IN DIAMETER OVER PLUGGED HOLE.
**ALL AS PER MANUFACTURER'S SPECIFICATIONS.*

FILL HOLE AS DEEP AS POSSIBLE (MIN 2")

FILL HOLE AS DEEP AS POSSIBLE (MIN 2")

TREAT CONCRETE WITH PENETRON ADMIX

SECTION: TIE-HOLE REPAIR DETAIL
N.T.S.

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PENETRON USA
TYPICAL CONSTRUCTION DETAILS
TIE-HOLE REPAIR DETAIL

REVISION NUMBER	1
REVISION DATE	12/03/2019
DRAWN BY	C GOUWS
DRAWING NUMBER	TD-04

PENETRON ADMIX SAMPLE WARRANTY

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PENETRON ADMIX FIVE YEAR LIMITED WARRANTY

1. Warranty

The MANUFACTURER, Penetron USA, Inc., hereby warrants to the OWNER, subject to the included terms and conditions, that the PENETRON ADMIX Waterproofing System will perform according to the MANUFACTURER'S written specification. Penetron USA, Inc. warrants that concrete treated with PENETRON ADMIX, and where applicable, the PENETRON Waterstop, will remain waterproof for five (5) years when applied in accordance with MANUFACTURER'S written instructions and utilizing all the necessary Penetron products for a complete system. The Warranty set forth herein shall not cover, and MANUFACTURER makes no Warranty with respect to, items that are not part of the PENETRON ADMIX Waterproofing System.

2. Exclusive Remedy

If PENETRON ADMIX does not perform to Warranty, Penetron USA, Inc. will supply Penetron repair materials up to the amount originally applied to the work, or at Penetron USA, Inc.'s sole discretion, refund up to an amount equivalent to the original Penetron USA, Inc. invoice for Penetron products, which refund shall be the exclusive remedy and the limit of Penetron USA, Inc.'s liability. The OWNER agrees to accept the remedy provided herein as OWNER's exclusive remedy and as the limit of the MANUFACTURER's liability regardless of the OWNER's legal theory, including tort, contract and strict liability, and regardless of whether resulting from, or arising out of, or in connection with, any failure of the PENETRON ADMIX Waterproofing System.

3. Limitation of Liability

The remedy stated above constitutes the exclusive remedy and Penetron USA, Inc.'s sole liability in connection with claims arising out of the use and/or purchase of the product. Penetron USA, Inc. shall not be liable for any sum exceeding the purchase price of the product claimed to be other than warranted. In no event, to the extent permitted by law, shall Penetron USA, Inc. be liable for incidental or consequential damages.

4. Exclusions to Warranty

A. This Warranty does not extend to, and the MANUFACTURER shall not be responsible for Product System damage due to:

1. Natural disasters or unusual conditions, such as, but not limited to, floods, lightning, hurricanes, hail, windstorms, tornadoes, earthquakes, or explosions.
2. Structural failures such as settling, shifting, distortion, and inadequate or faulty structural design.
3. Alteration of area or structure.
4. Falling objects or external contaminants from environmental fallout, chemical cleaning and general erosion.
5. Abnormal traffic, or changes in usage that could adversely affect the PENETRON ADMIX Waterproofing System.
6. Poor concrete placing and forming practices that do not confirm to recognized ACI guidelines.

B. The OWNER must notify MANUFACTURER in writing of any and all proposed repairs to, modification of, alteration, or addition to the PENETRON ADMIX Waterproofing System occurring after the effective date of this Warranty. Drawings and plans showing any such repair, modification, alteration

SAMPLE

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or addition must be submitted to MANUFACTURER. No repair, modification or alteration of, or addition to, the PENETRON ADMIX Waterproofing System shall be undertaken without the prior written consent of the MANUFACTURER. Failure to obtain prior written consent shall render this Warranty void.

PENETRON USA, INC. HEREBY DISCLAIMS ANY OTHER WARRANTY, EXPRESSED OR IMPLIED, INCLUDING ALL WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. PENETRON USA, INC. DISCLAIMS ANY LIABILITY FOR ANY CONSEQUENTIAL OR SPECIAL DAMAGES, INCLUDING LOSS OF USE, LOST PROFITS, OR ANY OTHER DAMAGES OF ANY NATURE WHATESOEVER.

5. Notification of Claim

Written notification of any claim must be sent to Penetron USA, Inc. The notification must contain the exact location of the site and application area and statement as to how the product failed to meet the Warranty. The statement must also indicate the date of effective completion of the job and the name and contact details of the applicator/installer. Penetron USA, Inc. has the right to inspect the area stated in the claim. Any claim shall be waived unless OWNER has given Penetron USA, Inc. written notice thereof thirty (30) days following occurrence of damages, by certified or registered mail addressed to Penetron USA, Inc., 45 Research Way, Suite 203, East Setauket, NY 11733.

Please also include copies of product invoices issued by Penetron USA, Inc. or approved distributor.

6. Governing Law

This Warranty shall be governed and construed in accordance with the laws of the State of New York, excluding that State's choice-of-law principles, and all claims relating to or arising out of this Warranty, or the breach thereof, whether sounding in contract, tort or otherwise, shall likewise be governed by the laws of the State of New York, excluding that State's choice-of-law principles, and all parties consent to venue in a court of competent jurisdiction located in Suffolk County, New York, and agree that no other court shall be an appropriate venue for any disputes arising out of the relationship between MANUFACTURER and the OWNER.

This Warranty is null and void if payment for materials supplied by MANUFACTURER is not made within prearranged, authorized terms.

As to Owner: _____

As to Distributor: _____

Warranty No. _____

Issue Date: _____

Authorization Given By: _____

SAMPLE

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PROJECT INFORMATION FORM FOR PENETRON ADMIX

SAMPLE

Project Name: _____

Project Address: _____

Project Description: _____

Ready-mix Supplier	Signature	Date
General Contractor	Signature	Date
Forming Contractor	Signature	Date
Penetron Representative	Signature	Date
Consulting Engineer	Signature	Date

PENETRON ADMIX added: _____On Site _____Batch Plant

_____% of cementitious

Concrete Pour Completed: Date:_____

Project Completion: Date:_____

Pour History: (See attached Documentation Sheet or describe below)

_____

_____

_____

_____

_____

Attach copies of batch tickets for verification of pour date and quantities. Unless otherwise specified, Warranty issued to OWNER for application indicated and approved. Form must be completed in full and submitted within 30 days of last pour of PENETRON ADMIX.

PRODUCT TERMS AND CONDITIONS

CONTRAFLAM® / SWISSFLAM® / CONTRAFLAM® STRUCTURE / KERALITE®-ULTRA

1. General: This document applies to CONTRAFLAM®, SWISSFLAM®, CONTRAFLAM® STRUCTURE, KERALITE®-ULTRA of all types and fire ratings including their combination in insulated glass units. When fire-resistant glass is used, it is assumed that the buyer will incorporate abovementioned glass into glazing systems approved by a valid and independent institution, e.g. UL/Underwriters Laboratories. Copies of authorized listing and specifications, as well as instructions for handling and installation are available online at vetrotechusa.com, or by calling 1-888-803-9533.

2. Limited 5 Year Warranty: Vetrotech Saint-Gobain warrants that its CONTRAFLAM®, SWISSFLAM®, CONTRAFLAM® STRUCTURE, KERALITE®-ULTRA fire rated glazing to be free of substantial obstruction of vision from dust or other foreign substances due to defective materials or workmanship for a period of five years from the date of shipment. When assembled to an Insulated Glass Unit (IGU), Vetrotech warrants only that its CONTRAFLAM®-IGU, SWISSFLAM®-IGU, CONTRAFLAM® STRUCTURE-IGU, KERALITE®-ULTRA-IGU will be free of substantial obstruction of vision from dust, film formation or moisture accumulation between glass lites resulting from seal failure due to defective materials or workmanship for a period of ten years from the date of shipment.

CONTRAFLAM®, SWISSFLAM®, CONTRAFLAM® STRUCTURE, KERALITE®-ULTRA is an engineered specialty fire resistant glazing material. Certain optical and visual faults are inherent to the production process. These characteristics may be evaluated according to the manufacturer's quality standards, but do not impair the transparency or affect the performance of the glass in case of fire, and shall not be considered cause for rejection.

This warranty shall not apply if the failure is caused by acts of God, intervening cause, mishandling, misuse, abuse, improper installation, installation by unqualified glaziers or by any other cause whatsoever not within our exclusive control, and shall not apply unless the failure occurs within five or ten years after the date of shipment. The obligation of this warranty is to replace the defective glass, F.O.B. manufacturer's warehouse, but in no event shall Vetrotech Saint-Gobain be responsible to cover any cost of removal, installation or reinstallation, loss of use, incidentals or any consequential cost associated with defective product. Any glass replaced under this warranty is limited to the original warranty period and shall not be extended beyond the original five or ten years.

Vetrotech Saint-Gobain makes no warranty of merchantability nor that the product is fit for any particular purpose for use and no other warranty than the abovementioned warranty of any kind, expressed or implied.

3. Transportation and Storage Conditions: Transport and storage of CONTRAFLAM®, SWISSFLAM®, CONTRAFLAM® STRUCTURE, KERALITE®-ULTRA products must be in a vertical and dry state and at temperatures above 14°F (-10°C) and below 113°F (45°C). Extreme climatic conditions and exposure to direct sunlight or other heat sources must be avoided. When glass is installed in a not temperature controlled building, above storage conditions apply likewise.

4. Handling and Installation Requirements: The product warranty is subject to CONTRAFLAM®, SWISSFLAM®, CONTRAFLAM® STRUCTURE, KERALITE®-ULTRA glass having been handled and installed in accordance with published instructions. It is essential that glazing contractors or other handlers or installers be familiar with such instructions. All subsequent product processing, additions or alterations not authorized and monitored by Vetrotech Saint-Gobain are specifically prohibited. If the products are used in fire-rated applications not covered by Vetrotech Saint-Gobain product specifications, all warranty is null and void.

All notes and instructions on labels must be respected. If adhesives or sealing materials are applied during installation, compatibility must be verified and confirmed with Vetrotech Saint-Gobain beforehand or all warranty is null and void.

5. Product Use: CONTRAFLAM®, SWISSFLAM®, CONTRAFLAM® STRUCTURE, KERALITE®-ULTRA products must be used in temperature controlled environments ensuring a maximum glass temperature range between 14°F (-10°C) and 113°F (45°C). All circumstances resulting into heat build-up of the glass caused by window blinds, curtains, etc. must be avoided.

3.4. SUBSTITUTION REQUEST FORM

For Pre-bid Substitution Requests all text boxes on this form are required information for a complete request.

Substitution Request

Today's Date:	10/25/2023
Project Title:	State Street Campus Garage Mixed Use Project
Project Number:	720448
Contract Number:	

By completing and submitting this form for review the General Contractor affirms that all of the following statements are correct:

1. The General Contractor affirms that this request is in compliance with the requirements described in *Specification 01 25 13 Product Substitution Procedures.*
2. The function, appearance, and quality of the proposed substitution are equal or superior to the specified item.
3. The proposed substitution does not affect dimensions shown on the drawings.
4. The proposed substitution will have no adverse affects on other trades, the construction schedule, or any specified warranty requirements.
5. Maintenance and service parts will be locally available for the proposed substitution. (GC shall provide supporting documentation in the attachments section below.)
6. The General Contractor shall be responsible for any and all costs associated with this substitution request is approved. This includes but is not to limited to fees for building design, engineering design fees, detailing fees, plan review fees, construction costs, and inspection fees.

GC Substitution Request:

General Title:	Common Work Results for Flooring Preparation - Remedial Floor Coating
Related Specification:	09 05 61
Reason for Substitution:	Accelerate schedule, reduce labor and waste, improved warranty
Proposed Substitution: (include Name, Model, etc.)	SINAK VECT-R s a ready-to-use, Zero-VOC Vapor Emission and Alkalinity Control System that eliminates flooring failures due to moisture, moisture vapor, hydrostatic pressure, and alkalinity emanating from or through concrete.

Submitted By:	Phone:
Michael Asire	(619) 295-0076
Company:	Email:
SINAK	mike@sinak.com

END OF SECTION

SINAK
SUSTAINABLE BUILDING SOLUTIONS

VC-5

MOISTURE VAPOR CONTROL - NEW CONCRETE

SINAK VC-5 is a zero VOC, single component Moisture Vapor Control System that eliminates flooring, roofing, or coating failures due to moisture, moisture vapor, hydrostatic pressure, osmotic pressure, and alkalinity emanating from or through new concrete. VC-5 is designed for use on all structural and lightweight concrete to receive finishing flooring, roofing or coatings.

VC-5 permanently penetrates in the concrete substrate and does not leave a film or residue on the surface. VC-5 replaces all curing methods, moisture mitigation, and remediation systems. Use of VC-5 allows for same day slab access and installation of any flooring, coatings, or roofing in as soon as 7 days after concrete placement, saving weeks off the construction schedule. VC-5 is guaranteed to eliminate the costly delays from moisture remediation.

VC-5 warrants all adhesives, coating, flooring and roofing systems with a 20-year non-prorated labor, material, and adhesive bond warranty. VC-5 allows mechanical surface profiling up to 1/4" amplitude. VC-5 ensures compatibility and bond of all flooring adhesives, floor coverings, roofing systems, and surface treatments. VC-5 is non-toxic, contains no solvents, and is listed as UL GREENGUARD Gold Certified and super compliant with SCAQMD.

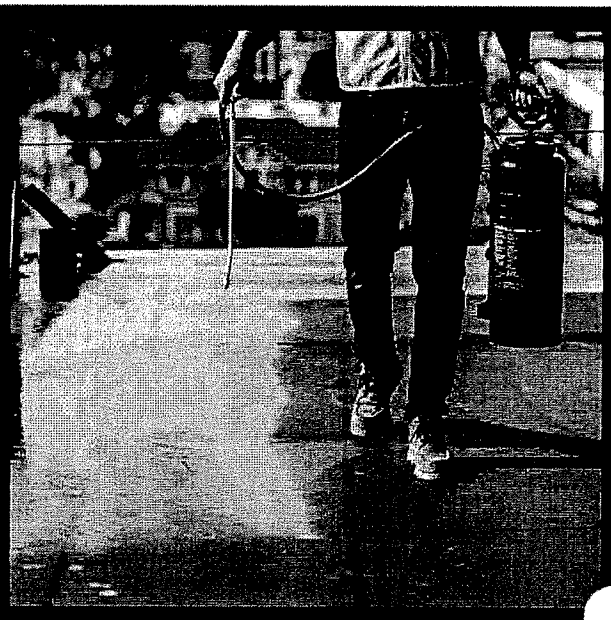
VC-5 will prevent and reduce moisture vapor rates up to 50lbs/1000 sq ft and RH up to 100% to well below accepted levels for subsequent application of flooring and coating systems such as epoxies, vinyl tiles, sheet vinyl, carpet, wood flooring, deck coatings and more.

FEATURES & BENEFITS

- 20-Year Flooring Replacement Warranty
- Compatible with all Flooring, Coating & Roofing Systems
- Eliminates Off Gassing/ Pinholing
- Reduces Permeability
- Flooring/Roofing Installation 7 days after concrete placment
- Controls Hydrostatic and Osmotic Pressure
- Controls Efflorescence
- Controls Alkalinity

WHERE TO USE VC-5

- Structural & Lighweight Concrete
- Rubber Tiles & Sheeting
- Vinyl Composition Tiles
- Moisture Sensitive Adhesives
- Sheet Vinyl
- Laminate Flooring
- Hardwood
- Sport Flooring
- Carpet Tile
- Tile
- Marble
- Terrazzo
- Hot & Cold Applied Roofing
- Membrane Roofing
- Green Roofs
- Epoxy Coatings
- Polyurethane Coatings
- Deck Coatings
- Moisture Sensitive Coatings
- Polishing Systems



VC-5 is excellent for use on interior and exterior concrete surfaces to receive a moisture sensitive floor, coating or roofing system. VC-5 penetrates deep into the concrete substrate and restricts the capilary matrix to reduce permeability and moisture instrusion.

MADE IN THE USA

- **Zero VOCs**
- **UL 2818 Gold - GREENGUARD® Gold Certified**
- **Enironmental Product Declaration**
- **LBC Red List Free Declare Label**
- **Health Product Declaration**
- **Listed as Super-Compliant by the South Coast Air Quality Management District (SCAQMD)**
- **Exceeds the regulatory limits in the SCAQMD Rule 1113**
- **Meets the requirements to contribute for LEED credit in the following areas: EQ Credit 1.0, 4.1 and 4.3, EQ Credit 10 3.1, MR Credit 5.1 and 5.2**

ASTM C-[illegible] (Compressive Strength)
- Meets or exceeds 28-day water cure

ASTM C-309/C-1315: TYPE 1 CLASS A (Moisture Retention)
- Exceeds water retention of less than 0.40 kg/m2

BS 1881 Part 5 (Initial Surface Absorption ml/m2/sec)
- Meets or exceeds 28-day water cure

ASTM D-4262: (Test method for pH on Concrete Floors)
- <11.5 pH

ASTM D-4263: (Concrete Moisture Test)
- Passed

ASTM E-96: (Water Vapor Transmission)
- 0.08 grams/hr m2

ASTM F-1869: (Calcium Chloride)
- <5lbs per 1000 sq ft

ASTM F-2170: (Relative Humidity)
- 100% Covered under warranty

ASTM F-710-21: (Standard Practice for Preparing Concrete Floors)
- Compliant

PRECAUTIONS

VC-5 is for use on freshly placed concrete surfaces only. VC-5 is designed for concrete surfaces to receive a moisture sensitive coating, flooring or roofing systems. SINAK reccomends that all surface preparation ahere to the coating manufacturer's written instructions prior to the coating installation. SINAK reccomends the concrete be minimum International Concrete Repair Institute (ICRI) concrete surface profile (CSP) of 3. For more information on this preparation requirement, visit the ICRI website. Hardwood and engineered glue down floors (may) require an application of SINAK V-Poxy.

Do not allow VC-5 to come into contact with any glass, metal, or painted surfaces. VC-5 left to dry on the surface may result in streaking, whiting, or staining. Immediately wipe affected surfaces with a clean water-saturated cloth, then wipe dry with a second clean cloth. For questions regarding VC-5, contact SINAK. SINAK allows for a MAXIMUM of 0.50 water to cement ratio for warranty compliance.

COVERAGE RATES

Two-coat coverage rate is 300 sq ft per gallon (7 sq m per liter) for horizontal surfaces.
Two-coat coverage rate is 300 sq ft per gallon (7 sq m per liter) for vertical surfaces.

INSTALLATION

Installation should be continuous. VC-5 application should begin after the surface is firm enough to tolerate foot traffic or immediately after the early entry saw cutting. Apply a small test area to confirm penetration. If rain should occur at any time during this process, see *'Interrupted Installation'* at the end of this section.

1. Protect objects and areas not to be treated from spillage or overspray.
2. Apply first coat of VC-5 uniformly wetting the surface with an airless or tank-type sprayer.
   DO NOT allow VC-5 to puddle or flood the surface.
3. Immediately after the first coat is dry, apply a second coat. Apply the second coat perpendicular to the first coat to create a crosshatched pattern. Drying time will vary from 10 to 30 minutes depending on temperature and environment.
   NOTE: "Dry" means dry to the touch.
4. Pay special attention to apply material in joints and on slab edges. Treatment of these areas will eliminate slab curl.
5. Clean all equipment with warm soapy water.

VERTICAL CAST-IN-PLACE INSTALLATION

For vertical applications DO NOT allow the material to run down the surface.

INTERRUPTED INSTALLATION

If the application should be interrupted by rain, mark the place of interruption and continue the application as soon as weather permits. If the delay exceeds 4 hours contact SINAK immediately.

HOT WEATHER INSTALLATION

In hot (above 100°F or 38°C), dry and/or windy conditions apply VC-5 shortly after loss (evaporation) of surface water. Contact SINAK for additional information.

COLD WEATHER INSTALLATION

Do not apply below 34°F (1°C). Allow ample time between coats for drying. Contact SINAK for additional information.

STORAGE & HANDLING

VC-5 has an infinite shelf life when stored in a cool dry area out of direct sunlight. Must be kept in tightly secured containers to prevent evaporation and contamination. VC-5 MUST be protected from freezing. Product that has frozen will not function as intended, and should be discarded.

AVAILABILITY

VC-5 is available in 5-gallon (18.9-liter) pails, 55-gallon (208.2-liter) drums and 275-gallon (1041-liter) totes from selected distributors.

TECHNICAL ASSISTANCE

Technical assistance is available from the manufacturer.

WARRANTY

A 20-Year non-prorated labor and materials warranty is available. Concrete must be placed in accordance with ACI manual section 302.1R-15 with a water to cement ratio of less than 0.50. Contact SINAK for warranty requirements.

SINAK warrants its products to be free from manufacturing defects and to meet the technical properties on the current product information sheet. To the maximum extent permitted by law, this express warranty and the remedies specified below are exclusive and in lieu of all other warranties and remedies. Any implied warranties including without limitation implied warranties of merchantability and fitness for a particular purpose are excluded. SINAK's liability under this product warranty shall be limited to a refund of purchase price or replacement of the product. SINAK shall have no liability for any loss of use, interruption of business, lost profits or goodwill, or for any special, incidental or consequential damages of any kind arising from the purchase or use of the warranted product, even if SINAK has been advised of the possibility of such loss, interruption or damage. This limited warranty may not be modified by representatives of SINAK, its distributors or dealers. Any claim made under this warranty must be made within one (1) year of purchase and shall be accompanied by any reports or test results that form the basis of the warranty claim. Prior to settlement of a warranty claim, SINAK shall have the right, but not the obligation, to conduct site inspections and perform tests pertaining to the customer's warranted product and its manner of use.

SECTION E: BIDDERS ACKNOWLEDGEMENT

CONTRACT TITLE STATE STREET CAMPUS GARAGE MIXED-USE PROJECT

CONTRACT NO. 9361

Bidder must state a Unit Price and Total Bid for each item. The Total Bid for each item must be the product of quantity, by Unit Price. The Grand Total must be the sum of the Total Bids for the various items. In case of multiplication errors or addition errors, the Grand Total with corrected multiplication and/or addition shall determine the Grand Total bid for each contract. The Unit Price and Total Bid must be entered numerically in the spaces provided. All words and numbers shall be written in ink.

1. The undersigned having familiarized himself/herself with the Contract documents, including Advertisement for Bids, Instructions to Bidders, Form of Proposal, City of Madison Standard Specifications for Public Works Construction - 2023 Edition thereto, Form of Agreement, Form of Bond, and Addenda issued and attached to the plans and specifications on file in the office of the City Engineer, hereby proposes to provide and furnish all the labor, materials, tools, and expendable equipment necessary to perform and complete in a workmanlike manner the specified construction on this project for the City of Madison; all in accordance with the plans and specifications as prepared by the City Engineer, including Addenda to the Contract Nos. 1 through 2 issued thereto, at the prices for said work as contained in this proposal. (Electronic bids submittals shall acknowledge addendum under Section E and shall not acknowledge here)
2. If awarded the Contract, we will initiate action within seven (7) days after notification or in accordance with the date specified in the contract to begin work and will proceed with diligence to bring the project to full completion within the number of work days allowed in the Contract or by the calendar date stated in the Contract.
3. The undersigned Bidder or Contractor certifies that he/she is not a party to any contract, combination in form of trust or otherwise, or conspiracy in restraint of trade or commerce or any other violation of the anti-trust laws of the State of Wisconsin or of the United States, with respect to this bid or contract or otherwise.
4. I hereby certify that I have met the Bid Bond Requirements as specified in Section 102.5. *(IF BID BOND IS USED, IT SHALL BE SUBMITTED ON THE FORMS PROVIDED BY THE CITY. FAILURE TO DO SO MAY RESULT IN REJECTION OF THE BID).*
5. I hereby certify that all statements herein are made on behalf of STEVENS CONSTRUCTION CORP. (name of corporation, partnership, or person submitting bid) a corporation organized and existing under the laws of the State of WISCONSIN a partnership consisting of _____; an individual trading as _____; of the City of _____ State of _____; that I have examined and carefully prepared this Proposal, from the plans and specifications and have checked the same in detail before submitting this Proposal; that I have fully authority to make such statements and submit this Proposal in (its, their) behalf; and that the said statements are true and correct.

SIGNATURE

PRESIDENT/CEO
TITLE, IF ANY

Sworn and subscribed to before me this 9th day of November, 2023.

Shannon C. Wolf
(Notary Public or other officer authorized to administer oaths)
My Commission Expires 5-23-25

Bidders shall not add any conditions or qualifying statements to this Proposal.

Section E: Bidder's Acknowledgement

This section is a required document for the bid to be considered complete. There are two methods for completing the Bidder Acknowledgement Report. Method one: The report can be downloaded, completed, and uploaded to this site to be included with your electronic bid. Method two: The report can be downloaded from the site and submitted by hand to the City of Madison. Either method of submission requires that the Bidder Acknowledgement Report be received by the bid due date.

Please select the method of submission below. The form is in the section below to download and upload to the site or download and submit by hand.

Please check the box in the Upload section if submitting the report by hand.

Method of Submittal for Bidder Acknowledgement (click in box below to choose) *

I will download Bidder Acknowledgement Downloadable Document, complete, and upload online.

The bidder acknowledges receipt of the following addenda to the contract for the above designated project. Please check the appropriate box for each addendum reviewed. If no addenda have been issued, then no boxes are required to be checked.

Any addenda issues after 12:00 P.M. on the Tuesday proceeding the bid due date shall include a provision extending the bid due date.

Addendum Acknowledgement

Acknowledge each Addenda reviewed by checking the appropriate checkboxes below.

☑ **Addendum 1**

*

☑ **Addendum 2**

*

☐ **Addendum 3**

☐ **Addendum 4**

☐ **Addendum 5**

☐ **Addendum 6**

Section F: Best Value Contracting (BVC) Fillable Online Form

Best Value Contracting

1. The Contractor shall indicate the non-apprenticeable trades used on this contract.

2. Madison General Ordinance (M.G.O.), 33.07(7), does provide for some exemptions from the active apprentice requirement. Apprenticeable trades are those trades considered apprenticeable by the State of Wisconsin. Please check applicable box if you are seeking an exemption.

☐ **Contractor has a total skilled workforce of four or less individuals in all apprenticeable trades combined.**

☐ **No available trade training program; The Contractor has been rejected by the only available trade training program, or there is no trade training program within 90 miles.**

☐ **Contractor is not using an apprentice due to having a journey worker on layoff status, provided the journey worker was employed by the contractor in the past six months.**

☐ **First time contractor on City of Madison Public Works contract requests a onetime exemption but intends to comply on all future contracts and is taking steps typical of a "good faith" effort.**

☐ **Contractor has been in business less than one year.**

☐ **Contractor doesn't have enough journeyman trade workers to qualify for a trade training program in that respective trade.**

☐ **An exemption is granted in accordance with a time period of a "Documented Depression" as defined by the State of Wisconsin.**

3. The Contractor shall indicate on the following section which apprenticeable trades are to be used on this contract. Compliance with active apprenticeship, to the extent required by M.G.O. 33.07(7), shall be satisfied by documentation from an applicable trade training body; an apprenticeship contract with the Wisconsin Department of Workforce Development or a similar agency in another state; or the U.S Department of Labor. This documentation is required prior to the Contractor beginning work on the project site.

☐ **The Contractor has reviewed the list and shall not use any apprenticeable trades on this project.**

LIST APPRENTICABLE TRADES (check all that apply to your work to be performed on this contract)

☐ **BRICKLAYER**

☑ **CARPENTER**

☑ **CEMENT MASON / CONCRETE FINISHER**

☐ **CEMENT MASON (HEAVY HIGHWAY)**

☐ **CONSTRUCTION CRAFT LABORER**

☐ **DATA COMMUNICATION INSTALLER**

☐ **ELECTRICIAN**

☐ **ENVIRONMENTAL SYSTEMS TECHNICIAN / HVAC SERVICE TECH/HVAC INSTALL / SERVICE**

☐ **GLAZIER**

☐ **HEAVY EQUIPMENT OPERATOR / OPERATING ENGINEER**

☐ **INSULATION WORKER (HEAT and FROST)**

☐ **IRON WORKER**

☐ **IRON WORKER (ASSEMBLER, METAL BLDGS)**

☐ PAINTER and DECORATOR

☐ PLASTERER

☐ PLUMBER

☐ RESIDENTIAL ELECTRICIAN

☐ ROOFER and WATER PROOFER

☐ SHEET METAL WORKER

☐ SPRINKLER FITTER

☐ STEAMFITTER

☐ STEAMFITTER (REFRIGERATION)

☐ STEAMFITTER (SERVICE)

☐ TAPER and FINISHER

☐ TELECOMMUNICATIONS (VOICE, DATA and VIDEO) INSTALLER-TECHNICIAN

☐ TILE SETTER

CONTRACT NO. 9361

Small Business Enterprise Compliance Report

This information may be submitted electronically through Bid Express or submitted with bid in sealed envelope.

Cover Sheet

Prime Bidder Information

Company:	Stevens Construction Corp.
Address:	2 Buttonwood Court, Madison WI 53718
Telephone Number:	(608) 222-5100
Fax Number:	(608) 222-5930
Contact Person/Title:	David Schroeder/Senior Preconstruction Manager

Prime Bidder Certification

Name:	Mark Rudnicki
Title:	President & CEO
Company:	Stevens Construction Corp.

I certify that the information contained in this SBE Compliance Report is true and correct to the best of my knowledge and belief.

Witness' Signature

11.09.23
Date

Bidder's Signature

CONTRACT NO. 9361

Small Business Enterprise Compliance Report

Summary Sheet

SBE Subcontractors Who Are NOT Suppliers

Name(s) of SBEs Utilized	Type of Work	% of Total Bid Amount
AURORA ERECTORS	PT REBAR INSTALL	5.36 %
AURORA ERECTORS	STEEL INSTALL	0.47 %
STEP UP CEILINGS	ACT CEILINGS	<0.01 %
		%
		%
		%
		%
		%
		%
		%
		%
		%
		%
Subtotal SBE who are NOT suppliers:		5.83 %

SBE Subcontractors Who Are Suppliers

Name(s) of SBEs Utilized	Type of Work	% of Total Bid Amount
J&K SECURITY	FIRE EXTINGUISHERS	0.01 %
J&K SECURITY	DOOR, FRAMES, HW	0.47 %
		%
		%
		%
		%

Subtotal Contractors who are suppliers: 0.48 % x 0.6 = .29 % (discounted to 60%)

Total Percentage of SBE Utilization: 6.12 %.

STATE STREET CAMPUS GARAGE MIXED-USE PROJECT

CONTRACT NO. 9361
DATE: 11/9/23

Stevens Construction Corp.

Item	Quantity	Price	Extension
Section B: Proposal Page			
90000 - BASE BID: State Street Campus Garage Mixed-Use Project (Excluding ALTERNATE 1) - Lump Sum	1.00	$36,249,591.00	$36,249,591.00
Section B: Proposal Page - Alternate No . 1			
90001 - ALTERNATE NO. 1: Hawthorne Court Bridges - Add all work to supply and install the bridges above Hawthorne Court connecting the two City of Madison garages. - Lump Sum	1.00	$245,275.00	$245,275.00
2 Items	Totals		$36,494,866.00

SECTION G: BID BOND

LET ALL KNOW BY THESE DOCUMENTS PRESENTED, THAT Principal and Surety, as identified below, are held and firmly bound unto the City of Madison, (hereinafter referred to as the "Obligee"), in the sum of five per cent (5%) of the amount of the total bid or bids of the Principal herein accepted by the Obligee, for the payment of which the Principal and the Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

The conditions of this obligation are such that, whereas the Principal has submitted, to the City of Madison a certain bid, including the related alternate, and substitute bids attached hereto and hereby made a part hereof, to enter into a contract in writing for the construction of:

STATE STREET CAMPUS GARAGE MIXED-USE PROJECT
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1. If said bid is rejected by the Obligee, then this obligation shall be void.

2. If said bid is accepted by the Obligee and the Principal shall execute and deliver a contract in the form specified by the Obligee (properly completed in accordance with said bid) and shall furnish a bond for his/her faithful performance of said contract, and for the payment of all persons performing labor or furnishing materials in connection therewith, and shall in all other respects perform the agreement created by the acceptance of said bid, then this obligation shall be void.

   If said bid is accepted by the Obligee and the Principal shall fail to execute and deliver the contract and the performance and payment bond noted in 2. above executed by this Surety, or other Surety approved by the City of Madison, all within the time specified or any extension thereof, the Principal and Surety agree jointly and severally to forfeit to the Obligee as liquidated damages the sum mentioned above, it being understood that the liability of the Surety for any and all claims hereunder shall in no event exceed the sum of this obligation as stated, and it is further understood that the Principal and Surety reserve the right to recover from the Obligee that portion of the forfeited sum which exceed the actual liquidated damages incurred by the Obligee.

   The Surety, for value received, hereby stipulates and agrees that the obligations of said Surety and its bond shall be in no way impaired or affected by an extension of the time within which the Obligee may accept such bid, and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, on the day and year set forth below.

Seal PRINCIPAL

Stevens Construction Corp.
Name of Principal

By

11/8/23
Date

Mark A. Ruonick, President & CEO
Name and Title

Seal SURETY

Hartford Fire Insurance Company
Name of Surety

By

November 7, 2023
Date

Nicole Stillings, Attorney-in-Fact
Name and Title

This certifies that I have been duly licensed as an agent for the above company in Wisconsin under National Provider No. 6966174 for the year 2023, and appointed as attorney in fact with authority to execute this bid bond and the payment and performance bond referred to above, which power of attorney has not been revoked.

November 9, 2023
Date

Agent Signature

1818 Parmenter Street, Suite 240
Address

Middleton, WI 53562
City, State and Zip Code

608-242-2551
Telephone Number

NOTE TO SURETY & PRINCIPAL

The bid submitted which this bond guarantees shall be rejected if the following instrument is not attached to this bond:

Power of Attorney showing that the agent of Surety is currently authorized to execute bonds on behalf of the Surety, and in the amounts referenced above.

POWER OF ATTORNEY

Direct Inquiries/Claims to:
THE HARTFORD
BOND, T-11
One Hartford Plaza
Hartford, Connecticut 06155
Bond.Claims@thehartford.com
call: **888-266-3488** *or fax:* **860-757-5835**

KNOW ALL PERSONS BY THESE PRESENTS THAT:

Agency Name: CSDZ LLC
Agency Code: 41-711084

- [X] **Hartford Fire Insurance Company**, a corporation duly organized under the laws of the State of Connecticut
- [X] **Hartford Casualty Insurance Company**, a corporation duly organized under the laws of the State of Indiana
- [X] **Hartford Accident and Indemnity Company**, a corporation duly organized under the laws of the State of Connecticut
- [ ] **Hartford Underwriters Insurance Company**, a corporation duly organized under the laws of the State of Connecticut
- [ ] **Twin City Fire Insurance Company**, a corporation duly organized under the laws of the State of Indiana
- [ ] **Hartford Insurance Company of Illinois**, a corporation duly organized under the laws of the State of Illinois
- [ ] **Hartford Insurance Company of the Midwest**, a corporation duly organized under the laws of the State of Indiana
- [ ] **Hartford Insurance Company of the Southeast**, a corporation duly organized under the laws of the State of Florida

having their home office in Hartford, Connecticut, (hereinafter collectively referred to as the "Companies") do hereby make, constitute and appoint, ***up to the amount of*** Unlimited :

Melinda C. Blodgett, R. C. Bowman, R. W. Frank, Ted R. Jorgensen, Joshua R. Loftis, Brian J. Oestreich, Nicole Stillings, Rachel Thomas, Nathan Weaver, C White of MINNEAPOLIS, Minnesota

their true and lawful Attorney(s)-in-Fact, each in their separate capacity if more than one is named above, to sign its name as surety(ies) only as delineated above by ☒, and to execute, seal and acknowledge any and all bonds, undertakings, contracts and other written instruments in the nature thereof, on behalf of the Companies in their business of guaranteeing the fidelity of persons, guaranteeing the performance of contracts and executing or guaranteeing bonds and undertakings required or permitted in any actions or proceedings allowed by law.

In Witness Whereof, and as authorized by a Resolution of the Board of Directors of the Companies on May 23, 2016 the Companies have caused these presents to be signed by its Assistant Vice President and its corporate seals to be hereto affixed, duly attested by its Assistant Secretary. Further, pursuant to Resolution of the Board of Directors of the Companies, the Companies hereby unambiguously affirm that they are and will be bound by any mechanically applied signatures applied to this Power of Attorney.

Shelby Wiggins

Shelby Wiggins, Assistant Secretary

Joelle L. LaPierre, Assistant Vice President

STATE OF FLORIDA
COUNTY OF SEMINOLE } **ss.** Lake Mary

On this 20th day of May, 2021, before me personally came Joelle LaPierre, to me known, who being by me duly sworn, did depose and say: that (s)he resides in Seminole County, State of Florida; that (s)he is the Assistant Vice President of the Companies, the corporations described in and which executed the above instrument; that (s)he knows the seals of the said corporations; that the seals affixed to the said instrument are such corporate seals; that they were so affixed by authority of the Boards of Directors of said corporations and that (s)he signed his/her name thereto by like authority.

Jessica Ciccone

Jessica Ciccone
My Commission HH 122280
Expires June 20, 2025

I, the undersigned, Assistant Vice President of the Companies, DO HEREBY CERTIFY that the above and foregoing is a true and correct copy of the Power of Attorney executed by said Companies, which is still in full force effective as of November 7, 2023.

Signed and sealed in Lake Mary, Florida.

Keith D. Dozois, Assistant Vice President

SECTION H: AGREEMENT

THIS AGREEMENT made this 29th day of November in the year Two Thousand and Twenty-Three between **STEVENS CONSTRUCTION CORP.** hereinafter called the Contractor, and the City of Madison, Wisconsin, hereinafter called the City.

WHEREAS, the Common Council of the said City of Madison under the provisions of a resolution adopted **NOVEMBER 21, 2023**, and by virtue of authority vested in the said Council, has awarded to the Contractor the work of performing certain construction.

NOW, THEREFORE, the Contractor and the City, for the consideration hereinafter named, agree as follows:

1. **Scope of Work.** The Contractor shall, perform the construction, execution and completion of the following listed complete work or improvement in full compliance with the Plans, Specifications, Standard Specifications, Supplemental Specifications, Special Provisions and contract, all of which are incorporated into this Agreement by reference. The Contractor shall perform all items of work covered or stipulated in the proposal; perform all altered or extra work; and shall furnish, unless otherwise provided in the contract, all materials, implements, machinery, equipment, tools, supplies, transportation, and labor necessary to the prosecution and completion of the work or improvements:

STATE STREET GARAGE MIXED-USE PROJECT
CONTRACT NO. 9361

2. **Completion Date/Contract Time.** Construction work must begin within seven (7) calendar days after the date appearing on mailed written notice to do so shall have been sent to the Contractor and shall be carried on at a rate so as to secure full completion according to the project schedule provided by the City (SEE SPECIAL PROVISIONS), with the rate of progress and the time of completion being essential conditions of this Agreement.

3. **Contract Price.** The City shall pay to the Contractor at the times, in the manner and on the conditions set forth in said specifications, the sum of **THIRTY-SIX MILLION FOUR HUNDRED NINETY-FOUR THOUSAND EIGHT HUNDRED SIXTY-SIX AND NO/100** (**$36,494,866.00**) Dollars being the amount bid by such Contractor and which was awarded to him/her as provided by law.

4. **Affirmative Action.** In the performance of the services under this Agreement the Contractor agrees not to discriminate against any employee or applicant because of race, religion, marital status, age, color, sex, disability, national origin or ancestry, income level or source of income, arrest record or conviction record, less than honorable discharge, physical appearance, sexual orientation, gender identity, political beliefs, or student status. The Contractor further agrees not to discriminate against any subcontractor or person who offers to subcontract on this contract because of race, religion, color, age, disability, sex, sexual orientation, gender identity or national origin.

   The Contractor agrees that within thirty (30) days after the effective date of this agreement, the Contractor will provide to the City Affirmative Action Division certain workforce utilization statistics, using a form to be furnished by the City.

   If the contract is still in effect, or if the City enters into a new agreement with the Contractor, within one year after the date on which the form was required to be provided, the Contractor will provide updated workforce information using a second form, also to be furnished by the City. The second form will be submitted to the City Affirmative Action Division no later than one year after the date on which the first form was required to be provided.

   The Contractor further agrees that, for at least twelve (12) months after the effective date of this contract, it will notify the City Affirmative Action Division of each of its job openings at facilities in

Dane County for which applicants not already employees of the Contractor are to be considered. The notice will include a job description, classification, qualifications and application procedures and deadlines. The Contractor agrees to interview and consider candidates referred by the Affirmative Action Division if the candidate meets the minimum qualification standards established by the Contractor, and if the referral is timely. A referral is timely if it is received by the Contractor on or before the date started in the notice.

Articles of Agreement
Article I

The Contractor shall take affirmative action in accordance with the provisions of this contract to insure that applicants are employed, and that employees are treated during employment without regard to race, religion, color, age, marital status, disability, sex, sexual orientation, gender identity or national original and that the employer shall provide harassment free work environment for the realization of the potential of each employee. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination, rates of pay or other forms of compensation and selection for training including apprenticeship insofar as it is within the control of the Contractor. The Contractor agrees to post in conspicuous places available to employees and applicants notices to be provided by the City setting out the provisions of the nondiscrimination clauses in this contract.

Article II

The Contractor shall in all solicitations or advertisements for employees placed by or on behalf of the Contractors state that all qualified or qualifiable applicants will be employed without regard to race, religion, color, age, marital status, disability, sex, sexual orientation, gender identity or national origin.

Article III

The Contractor shall send to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding a notice to be provided by the City advising the labor union or worker's representative of the Contractor's equal employment opportunity and affirmative action commitments. Such notices shall be posted in conspicuous places available to employees and applicants for employment.

Article V

The Contractor agrees that it will comply with all provisions of the Affirmative Action Ordinance of the City of Madison, including the contract compliance requirements. The Contractor agrees to submit the model affirmative action plan for public works contractors in a form approved by the Affirmative Action Division Manager.

Article VI

The Contractor will maintain records as required by Section 39.02(9)(f) of the Madison General Ordinances and will provide the City Affirmative Action Division with access to such records and to persons who have relevant and necessary information, as provided in Section 39.02(9)(f). The City agrees to keep all such records confidential, except to the extent that public inspection is required by law.

Article VII

In the event of the Contractor's or subcontractor's failure to comply with the Equal Employment Opportunity and Affirmative Action Provisions of this contract or Section 39.03 and 39.02 of the Madison General Ordinances, it is agreed that the City at its option may do any or all of the following:

1. Cancel, terminate or suspend this Contract in whole or in part.

2. Declare the Contractor ineligible for further City contracts until the Affirmative Action requirements are met.

3. Recover on behalf of the City from the prime Contractor 0.5 percent of the contract award price for each week that such party fails or refuses to comply, in the nature of liquidated damages, but not to exceed a total of five percent (5%) of the contract price, or ten thousand dollars ($10,000), whichever is less. Under public works contracts, if a subcontractor is in noncompliance, the City may recover liquidated damages from the prime Contractor in the manner described above. The preceding sentence shall not be construed to prohibit a prime Contractor from recovering the amount of such damage from the non-complying subcontractor.

Article VIII

The Contractor shall include the above provisions of this contract in every subcontract so that such provisions will be binding upon each subcontractor. The Contractor shall take such action with respect to any subcontractor as necessary to enforce such provisions, including sanctions provided for noncompliance.

Article IX

The Contractor shall allow the maximum feasible opportunity to small business enterprises to compete for any subcontracts entered into pursuant to this contract. (In federally funded contracts the terms "DBE, MBE and WBE" shall be substituted for the term "small business" in this Article.)

5. Substance Abuse Prevention Program Required. Prior to commencing work on the Contract, the Contractor, and any Subcontractor, shall have in place a written program for the prevention of substance abuse among its employees as required under Wis. Stat. Sec. 103.503.

6. Contractor Hiring Practices.

Ban the Box - Arrest and Criminal Background Checks. (Sec. 39.08, MGO)

This provision applies to all prime contractors on contracts entered into on or after January 1, 2016, and all subcontractors who are required to meet prequalification requirements under MGO 33.07(7)(I), MGO as of the first time they seek or renew pre-qualification status on or after January 1, 2016. The City will monitor compliance of subcontractors through the pre-qualification process.

a. **Definitions.** For purposes of this section, "Arrest and Conviction Record" includes, but is not limited to, information indicating that a person has been questioned, apprehended, taken into custody or detention, held for investigation, arrested, charged with, indicted or tried for any felony, misdemeanor or other offense pursuant to any law enforcement or military authority.

"Conviction record" includes, but is not limited to, information indicating that a person has been convicted of a felony, misdemeanor or other offense, placed on probation, fined, imprisoned or paroled pursuant to any law enforcement or military authority.

"Background Check" means the process of checking an applicant's arrest and conviction record, through any means.

b. **Requirements.** For the duration of this Contract, the Contractor shall:

1. Remove from all job application forms any questions, check boxes, or other inquiries regarding an applicant's arrest and conviction record, as defined herein.

2. Refrain from asking an applicant in any manner about their arrest or conviction record until after conditional offer of employment is made to the applicant in question.

3. Refrain from conducting a formal or informal background check or making any other inquiry using any privately or publicly available means of obtaining the arrest or conviction record of an applicant until after a conditional offer of employment is made to the applicant in question.

4. Make information about this ordinance available to applicants and existing employees, and post notices in prominent locations at the workplace with information about the ordinance and complaint procedure using language provided by the City.

5. Comply with all other provisions of Sec. 39.08, MGO.

c. **Exemptions:** This section shall not apply when:

1. Hiring for a position where certain convictions or violations are a bar to employment in that position under applicable law, or

2. Hiring a position for which information about criminal or arrest record, or a background check is required by law to be performed at a time or in a manner that would otherwise be prohibited by this ordinance, including a licensed trade or profession where the licensing authority explicitly authorizes or requires the inquiry in question.

To be exempt, Contractor has the burden of demonstrating that there is an applicable law or regulation that requires the hiring practice in question, if so, the contractor is exempt from all of the requirements of this ordinance for the position(s) in question.

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IN WITNESS WHEREOF, the Contractor has hereunto set his/her hand and seal and the City has caused this contract to be sealed with its corporate seal and to be executed by its Mayor and City Clerk on the dates written below.

Countersigned:

12/5/23
Witness Date

12/5/23
Witness Date

STEVENS CONSTRUCTION CORP.
Company Name

12/5/23
President Date

12/5/23
~~Secretary~~ Assistant Secretary Date

CITY OF MADISON, WISCONSIN

Provisions have been made to pay the liability that will accrue under this contract.

12/15/2023
Finance Director Date

12/19/23
Witness Date

12-12-23
Witness Date

Approved as to form:

12/18/23
City Attorney Date

12/19/23
Mayor Date

12/12/23
City Clerk Date

SECTION I: PAYMENT AND PERFORMANCE BOND

LET ALL KNOW BY THESE DOCUMENTS PRESENTED, that we **STEVENS CONSTRUCTION CORP.** as principal, and Hartford Fire Insurance Company Company of Hartford, CT as surety, are held and firmly bound unto the City of Madison, Wisconsin, in the sum of **THIRTY-SIX MILLION FOUR HUNDRED NINETY-FOUR THOUSAND EIGHT HUNDRED SIXTY-SIX AND NO/100** ($**36,494,866.00**) Dollars, lawful money of the United States, for the payment of which sum to the City of Madison, we hereby bind ourselves and our respective executors and administrators firmly by these presents.

The condition of this Bond is such that if the above bounden shall on his/her part fully and faithfully perform all of the terms of the Contract entered into between him/herself and the City of Madison for the construction of:

STATE STREET GARAGE MIXED-USE PROJECT
CONTRACT NO. 9361

in Madison, Wisconsin, and shall pay all claims for labor performed and material furnished in the prosecution of said work, and save the City harmless from all claims for damages because of negligence in the prosecution of said work, and shall save harmless the said City from all claims for compensation (under Chapter 102, Wisconsin Statutes) of employees and employees of subcontractor, then this Bond is to be void, otherwise of full force, virtue and effect.

Signed and sealed this 29th day of November, 2023

Countersigned:

Witness

Secretary

STEVENS CONSTRUCTION CORP.
Company Name (Principal)

President

Seal

Approved as to form:

City Attorney

Hartford Fire Insurance Company
Surety

Seal

☒ Salary Employee ☐ Commission

By

Attorney-in-Fact , Nicole Stillings

This certifies that I have been duly licensed as an agent for the above company in Wisconsin under National Producer Number 6966174 for the year 2023, and appointed as attorney-in-fact with authority to execute this payment and performance bond which power of attorney has not been revoked.

November 29, 2023
Date

Agent Signature

POWER OF ATTORNEY

Direct Inquiries/Claims to:
THE HARTFORD
BOND, T-11
One Hartford Plaza
Hartford, Connecticut 06155
Bond.Claims@thehartford.com
call: **888-266-3488** *or fax:* **860-757-5835**

KNOW ALL PERSONS BY THESE PRESENTS THAT:

Agency Name: CSDZ LLC
Agency Code: 41-711084

- [X] **Hartford Fire Insurance Company**, a corporation duly organized under the laws of the State of Connecticut
- [X] **Hartford Casualty Insurance Company**, a corporation duly organized under the laws of the State of Indiana
- [X] **Hartford Accident and Indemnity Company**, a corporation duly organized under the laws of the State of Connecticut
- [ ] **Hartford Underwriters Insurance Company**, a corporation duly organized under the laws of the State of Connecticut
- [ ] **Twin City Fire Insurance Company**, a corporation duly organized under the laws of the State of Indiana
- [ ] **Hartford Insurance Company of Illinois**, a corporation duly organized under the laws of the State of Illinois
- [ ] **Hartford Insurance Company of the Midwest**, a corporation duly organized under the laws of the State of Indiana
- [ ] **Hartford Insurance Company of the Southeast,** a corporation duly organized under the laws of the State of Florida

having their home office in Hartford, Connecticut, (hereinafter collectively referred to as the "Companies") do hereby make, constitute and appoint, ***up to the amount of*** Unlimited :

Melinda C. Blodgett, R. C. Bowman, R. W. Frank, Ted R. Jorgensen, Joshua R. Loftis, Brian J. Oestreich, Nicole Stillings, Rachel Thomas, Nathan Weaver, C White of MINNEAPOLIS, Minnesota

their true and lawful Attorney(s)-in-Fact, each in their separate capacity if more than one is named above, to sign its name as surety(ies) only as delineated above by ☒, and to execute, seal and acknowledge any and all bonds, undertakings, contracts and other written instruments in the nature thereof, on behalf of the Companies in their business of guaranteeing the fidelity of persons, guaranteeing the performance of contracts and executing or guaranteeing bonds and undertakings required or permitted in any actions or proceedings allowed by law.

In Witness Whereof, and as authorized by a Resolution of the Board of Directors of the Companies on May 23, 2016 the Companies have caused these presents to be signed by its Assistant Vice President and its corporate seals to be hereto affixed, duly attested by its Assistant Secretary. Further, pursuant to Resolution of the Board of Directors of the Companies, the Companies hereby unambiguously affirm that they are and will be bound by any mechanically applied signatures applied to this Power of Attorney.

Shelby Wiggins

Shelby Wiggins, Assistant Secretary

Joelle L. LaPierre, Assistant Vice President

STATE OF FLORIDA
COUNTY OF SEMINOLE } ss. Lake Mary

On this 20th day of May, 2021, before me personally came Joelle LaPierre, to me known, who being by me duly sworn, did depose and say: that (s)he resides in Seminole County, State of Florida; that (s)he is the Assistant Vice President of the Companies, the corporations described in and which executed the above instrument; that (s)he knows the seals of the said corporations; that the seals affixed to the said instrument are such corporate seals; that they were so affixed by authority of the Boards of Directors of said corporations and that (s)he signed his/her name thereto by like authority.

Jessica Ciccone
My Commission HH 122280
Expires June 20, 2025

I, the undersigned, Assistant Vice President of the Companies, DO HEREBY CERTIFY that the above and foregoing is a true and correct copy of the Power of Attorney executed by said Companies, which is still in full force effective as of November 29, 2023.

Signed and sealed in Lake Mary, Florida.

Keith D. Dozois, Assistant Vice President