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May 13, 2021

NOTICE OF ADDENDUM
ADDENDUM NO. 2
City of Madison, Engineering Department

CONTRACT NO. 8981
METRO TRANSIT PHASE 3A – MAINTENANCE AND DRIVER FACILITY IMPROVEMENTS

This addendum is issued to modify, explain or correct the original Drawings, Specifications, or Contract Documents marked as ***Metro Transit Phase 3A–Maintenance and Driver Facility Improvements, City of Madison, Contract #8981***, ***as issued on April 8th, 2021*** and is hereby made a part of the contract documents.

This addendum consists of the following documents:

Please attach these Addendum documents to the Drawings (Exhibits A and B), Specifications (Exhibits C and D), and Proposal Specifications in your possession.

1. **GENERAL CONTRACT CONDITIONS**
   A. None.

2. **GENERAL QUESTIONS AND ANSWERS**
   A. Is it possible to receive the Sprinkler As-Builts as an exhibit with the addendum.
      i. Yes, attached – see *Exhibit E Fire Suppr As-Builts* provided with Addendum 2.

   B. Can the "sprinkler reconfiguration" for zones 6 and 4A be better defined? Much of the area was modified in Phase 2, is this necessary.
      i. The current zoning does not meet current code compliance. The modification in zoning is part of the scope of work as noted. If contractor has a suggestion to reconfigure in a different way and still meet current code compliance, we are open to suggestions.

   C. Is there a OH door on Metro big enough to get concrete trucks in? I seem to recall there isn't and I'm checking with Kevin to confirm but I believe we had to buggy every cy of concrete into the building. I'm thinking about the congestion that is created at the main entrance and keeping them in operation.
      i. Correct, the door heights limit the concrete truck access inside the building.

   D. Also, I am wondering about the exterior wall panels that contain asbestos and where the line is drawn between what we are responsible for and what the abatement contractor needs to do. I imagine we would take the panels down and stack them on site someplace for them to strip mastic or do what ever they need to do but what happens after that? Do they get thrown in a metals dumpster by them that we would provide?
      i. The intent was to approach this the same way as Phase 1. The abatement contractor handles it turn key and are listed in the spec (AA Environmental). Timing coordinated with the GC. The building walls should not be open for too long, especially along Ingersoll. In Phase 1, AA Environmental just took the entire panel and disposed of it as ACM since the caulking

was pretty extensive at every joint – so the clips holding the panels on were cut and then the entire assembly was removed in full sections.

E. Sheet A-101C show Helical Piers in the lower right corner of this area. It is our understanding that this work was already completed in the past and what is shown is not part of this project. Please confirm. If it is part of this project, please provide sheet S-101c as some of what is shown crosses over the match line to Area-E. There is no sheet S-101E to better show this area. Please confirm the extent of this work area. If what is shown on S-101C is all we need to worry about, even the helical piers on the other side of the match line, then please confirm.
    i. All of the helical piles east of column line 13 are existing. S-101C shows this work as grey linework, indicating it is existing. There is no structural work in Area E.

F. Does the piping, for the generator system, inside the building from the current underground tank location have to be removed?
    i. Yes. Refer to keynote 8.017 on sheets MD102C, MD102D, and MD102F. Contractor shall also refer to key notes 8.001, 8.002, 8.003 and 8.012 on sheet MD402. Section 23 11 13 has summary of demolition of fuel-oil piping inside the building.

G. Is the temporary piping for the fuel control system allowed to tie into the existing line?
    i. It is allowed to tie into the existing 4 tanks that serve the fueling pumps. These tanks are south of the building, just west of the Phase 1 Service Lane addition.

H. Please provide spec section with manufacturer and/or model number for the Aluminum Bar Grille called out in detail 8/I-502.
    i. For aluminum bar grille, refer to HVAC LD-1 per keynote 7.102 on sheet M-101A. This references detail 15/M-511 and is scheduled on sheet M-602.

I. Specifications indicate load testing is to occur with the helical piles. How my load tests are expected?
    i. Specification section 31 66 15 does not require in-situ pile testing. References are made to in-situ pile testing in the spec for the possibility that unforeseen conditions may arise where in-situ testing is required. With the current conditions, it is not expected that in-situ pile load tests are required.

J. Sheet G101 has a “CONSTRUCTION SEQUENCE SCOPES OF WORK” area on this sheet. I assume that the CONSTRUCTION SEQUENCE is the same as the PHASED CONSTRUCTION listed on page 01 1000 – 3 of the Spec book (IE: are PHASES the same as SEQUENCES?). Please advise.
    i. Correct, sequence and phases are the same.

K. On 1/G131 it states that the drawing is of OVERALL BASE BID FIRST FLOOR PLAN. One of the notes on this 1/G131 says BASE BID AREA F SECOND FLOOR. On 2/G131 there are two notes on the drawing .. one is for first floor and one is for second floor. I am confused regarding the notes on this sheet referencing both first and second floor on the same plan. Please advise.
    i. 1/G-131 shows the existing first floor of Maintenance B to remain unaltered. Second floor work reconfigurations and infrastructure are still required as base bid.
    ii. 2/G-131 shows the new reconfiguration of first floor Maintenance B as an alternate.

L. Sheet C021 is titled OVERALL EXISTING SITE PLAN. It appears to me that there are items of new construction on this sheet (example … 30” RCP STORM MINIMUM NEW PIPE SLOPE). Please advise.
    i. The sheet shows existing conditions only. The elements shown are all existing and no new work is required on this sheet.

M. Specification Section 01 32 33 Photographic Documentation Item 2.1 requires a web-based camera service and time lapse construction camera for the project. Please confirm the Owner would like bidders to include this expense given the nature of this project.
    i. Yes, provide cameras for the project as specified.

N. 1.4 E Talks about the mounting of the lube reel banks. After looking through the drawings, I see where Q102 notes that the mounting details are with the structural drawings. I went through the structural drawings and have been unable to find any specific info on the reel bracketing required for the lube reel banks that are to be hung from the ceiling. My experience tells me that these brackets could be very expensive depending on what is intended. Hoping you can provide a drawing of what is required.
    i. S-151C & S-151D show Structural Framing with keynote 3.507 and details are on 12 & 16/S-541.

O. Sheet A-101A at intersection of axis G and 1, it references detail 1/A-501 (shown below). It does not list a material for the space noted in Red. Also shown similarly at other wall sections. Please confirm this is empty space.
    i. This is an open space created by the depth/projection of the grade beam below the stud wall. Fill cavity full with insulation as shown.

P. Note 4.130 relates to maintenance paint preparation and appear on A-101A, A-101C, A-101D, and A-101F. In most cases the note references an enclosed room or space. On sheets A-101C&D there is no traditional room partitions and there is no defined delineation of the extent of the application of this note. There are multiple vehicle circulation rooms, service bays, and other adjacent rooms on the sheets. Could you please define the extent of this note on these sheets.
    i. The extent of work for maintenance paint preparation generally follows the extent of concrete replacement to define the plan area of the spaces for ceilings and adjacent wall work.

3. **ACCEPTABLE EQUIVALENTS**

A. 07 27 26 Fluid Applied Membrane Air Barrier
    i. Product: W.R. Meadows Air-Shield LSR

B. 08 41 13 Aluminum-Framed Entrances and Storefronts
    i. Product: Tubelite

C. 09 51 13 Acoustical Panel Ceilings
    i. Product: Armstrong Panels

D. 09 54 23 Linear Metal Soffits
    i. Hunter Douglas 150F Linear Metal Soffit

E. 09 80 00 Acoustic Felt
    i. CSI Wall Panels: Soundcore Plus 1” Acoustical Panel

F. 10 21 13.19 Plastic Toilet Compartments
    i. Scranton Products Hiny Hiders

G. 12 24 13 Roller Window Shades
    i. Draper

4. **SPECIFICATIONS**

Not attached

A. Specification 06 40 23 (NOT attached)
   i. Revise 2.2.b.1 Wood Species and cut: Natural Ash cladding – prefinished, classic slat wood wall panel https://urbanevolutions.com/product/slatted-wall-panel-3/

B. Specification 09 65 13 (NOT attached) Resilient and Metal Base and Accessories
   i. Part 2.1.A: revise (WB-1) to be "(RB-1)."
   ii. Add
   2.1.B: Resilient Base (RB-2)
   1. Manufacturer and Product:
   a. Mannington 4" coved base Burkebase Type TP or equal. https://www.manningtoncommercial.com/products/accessories/burke/burkebase-type-tp/

C. Specification 09 91 23 (NOT Attached) Interior Painting
   i. Replace Part 3.3.E. with, "Painting Mechanical and Electrical Work: Paint items exposed in finished occupied spaces (Rooms 1101 through 1119) including, but not limited to, the following:"

D. Specification 12 64 00 (NOT attached) Upholstery Fabric
   i. Part 2.2A: Upholstery Fabric UPH-1 is Architex Billow in the color Makena Beach (https://www.architex-ljh.com/billow-makena-beach/)

Attached

E. Specification 01 32 26 (attached) Construction Progress Reporting
   i. Added section 3.0, which requires reporting of daily sign in sheets

F. Specification 02 65 00 (attached) Removal and Disposal of Storage Tanks
   i. Replace specification in its entirety for modified requirements.

G. Specification 08 91 19 (attached) Fixed Louvers and Grilles
   i. Replace specification in its entirety to provide manufacturer and grille information for exterior soffit vent grilles.

H. Specification 10 22 39 (attached) Folding Panel Partitions
   i. Replace specification in its entirety for modified requirements of the panels.

I. Specification 14 40 00 (attached), Lifts (Hoists) and Vertical Storage Units
   i. Replace specification in its entirety to address lift requirements for length of travel and beacon stack light.

J. Specification 22 15 19 (attached), Air Compressors and Recievers
   i. Replace specifications in its entirety to remove "oil-free" and replace with "oil-lubricated" in Part 2.2.A.3

K. Specification 22 31 00 (attached), Domestic Water Softeners
   i. Replace specification in its entirety to remove Part 2.1.B.5: ASME requirement for the FRP pressure vessel.

L. Specification 22 34 00 (attached), Fuel-Fired, Domestic Water Heaters
   i. Replace specification in its entirety to remove:

- Part 1.5.C: ASME Compliance
- Part 2.1.3.: ASME requirement for the Storage Tank Construction
- Part 2.2.3.a: ASME requirement.

5. **DRAWINGS**

A. **Civil**

i. Drawing C-101 (attached); Removed additional note to replace concrete sidewalk.
ii. Drawing C-102 (attached); Provided a viewport for the bollards along the perimeter of the generator. Added annotation references for the viewport, detail reference, and separation distances.
iii. Drawing C-141 (attached); Changed proposed 18" storm pipe to 12" and existing to 10".
iv. Drawing C-502 (attached); Added a 6" galvanized bollard detail.

B. **Structural**

i. Drawing S-001 (attached); Note TI-2 modified.
ii. Drawing SD101A (attached); Provide paving demolition at the end of the truck dock.
iii. Drawing SD101D (attached); Removed errant instance of keyed note.
iv. Drawing S-101A (attached); Strip footing schedule added, foundation added at end of truck dock.
v. Drawing S-101B (attached); Added foundation for electrical room.
vi. Drawing S-101C (attached); Added dimensions for pit foundations.
vii. Drawing S-101D (attached); Added dimensions for pit foundations.
viii. Drawing S-111A (attached); Paving added at end of truck dock.
ix. Drawing S-131A (attached);
    - Added referenced to spandrel connection 20/S-531.
    - Added spandrel in breakroom.
    - Adjusted wall in parts room.
x. Drawing S-142A (attached); Added platform connections to existing.
xi. Drawing S-401 (attached); Removed extraneous detail reference.
xii. Drawing S-441 (attached);
    - Details 1,2; Added detail reference.
    - Added detail 14/S-441.
xiii. Drawing S-501 (attached); Within detail 6; added section for GB1240
xiv. Drawing S-531 (attached); Added detail 20.
xv. Drawing S-541 (attached);
    - Modified detail 18.
    - Changed detail name 'B' to 22.
    - Added details 19 and 23.
xvi. Drawing S-551 (attached); Added detail 9.

C. **Architectural**

i. Drawing AD101A (attached)
    - Room E135, add overhead crane demo and keynote.
    - Add Demo Keynote 4.062.
ii. Drawing AD102A (attached)
    - Revise keynote 4.036.
iii. Drawing A-602 (NOT attached), Door Type FC, add to the title "High Speed Rubber Roll-up Doors"
iv. Add sheet A-801 (attached) Signage Plan and Types

D. **Interiors**

i. Drawing I-401 (attached); Change "RFT-1 (Color 5316)" to "RFT-1 (Color 5307)" in all instances and change brown hatch to gray hatch.

ii. Drawing I-601 (attached), Interior finishes schedule;
- Remove row for finish number RFT-3. RFT-3 will not be used in this project.
- Finish number PAB-3, change product description manufacturer from "Armstrong" to "CSI Wall Panels", model number from "8246" to "SCCPLU4601", style from "Feltworks Acoustical Panel" to "Soundcore Plus 1" Acoustical Panel", and color from "FBL" to "SND902".
- Finish number UPH-1, change product description manufacturer from "Momentum" to "Architex", style from "Site Line" to "Billow", and color from "Mineral" to "Makena Beach".
- Finish number RFT-1, change first color listed from "5316" to "5307".
- Finish number WSHD-1, change product description manufacturer from "Mechoshade" to "Draper Inc.", style from "Thermoveil 1300" to "PW3570", color from "Black Brown" to "Ebony", and remove remark "Mechoshade or equal. Black/brown color or similar standard color in series"
- Finish number WSHD-2, change product description manufacturer from "Mechoshade" to "Draper Inc.", style from "Thermoveil 1300" to "SW7000-V40", and remove remark "Mechoshade or equal. Onyx color or similar standard color in series"
- Finish number WD-1, change style from "Urban Elm" to "Urban Ash" and add remark "Custom Slat Wall Panels".
- Add finish number "RB-2" with finish description "Rubber Base – Type 2", manufacturer "Mannington", color "523", size "4", and remarks "Burkebase Type TP Coved or equal. See sheet I-102F"

E. **Equipment**

i. Drawings QD101A, QD101C, QD101D, Q101A, Q101C, Q101D, Q101F & Q401 (attached)
- Revise Equipment Schedule as shown.

F. **Plumbing**

i. Drawing PD131D (attached); Added additional compressed air and water supply pipe demolition.
ii. Drawing P-100A (attached); Provide underground plumbing for future vending in Greeting 1112.
iii. Drawing P-101A (attached); Provide aboveground plumbing for future vending in Greeting 1112.
iv. Drawing P-131A (attached); Provide supply plumbing for future vending in Greeting 1112
v. Drawing P-131D (attached);
- Added new pipe connection to for existing compressed air and supply pipe lines.
- Re-routed ESEW-1 piping plan south of the door.
- Added new keyed note 6.158.

vi. Drawing P-131F (attached); Provided additional Hose Reels for air and water, additional air drops.
vii. Drawing P-431 (attached); Piping changes on Detail 3 and 4.

G. **HVAC**

i. Drawing M-603 (attached): Change Ductwork Finish to "Mill" in the HVAC Duct Schedule on M-603

H. **Electrical (ALL NOT attached)**

i. Drawing E-101F; In Vehicle Storage E177, along column line F and between column lines 19 and 20 delete Temporary Generator Connection Cabinet (TGCC)
ii. Drawing E-601; In Luminaire Schedule add the following acceptable manufactures as

follows: Des. A1; Cooper Lighting, Des. D1: Lightolier, Des. DK1; Solas-Ray, Des. K21; Daybright, Des. L3; CONTECH, Des. N6; Daybrite, Des. N11; Viscor, Des. OA1; Lightolier, Des. OA2; Gardco, Des. P1; Betacalco, Des. P2; GLighting, Scott, Des. P2, P3 and P4; Scott, Des. S1; Halo Lighting, Des. Q1; Omni Light and Q-Tran, Des. Q2; Prizm, Des. X1 and X2; EMGI-Lite. DES. N2, N3, N5 and N7; Viscor LHBD series.

iii. Drawing E-604; In panel schedule 1ROL6 change enclosure type from NEMA 12 to NEMA

iv. Drawing E-701; On switchboard MSBNH1, change minimum breaker IC rating from 25,000 to 35,000 RMS SYM @480V.

v. Drawing E-703;
- On distribution panel MDOH1, change minimum breaker IC rating from 25,000 to 35,000 RMS SYM @480V.
- On ATS-EM, change "SCCR =14,000A" to "WCR=30,000A."
- On ATS-OP, change "SCCR =14,000A" to "WCR 50,0000A."
- On Generator Connection Cabinet (GCC), change "SCCR =25,000A" to "Calculated Fault Current RMS Sym. @480V= 25,000 AIC."
- Add keyed note 9.320 to read: Service Entrance Conductors from CT/Meter Cabinet to Switchboard are to be routed within masonry chase provided within Parts Storage 1237 to meet the requirements of NEC 230.6.
- Add keyed note 9.321 to read: Feeder conductors from generator to Bussed Gutter and feeder from Generator Connection Cabinet (GCC) to ATS-EM shall utilize masonry chase provided within Parts Storage 1237 to get to second floor Mechanical room 220.

6. **PROPOSAL AND CONTRACT SPECIFICATIONS**
   A. None

Please acknowledge this addendum in Section E on page E-1: 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:

Mead & Hunt, Inc.
Rich Lundeen, AIA, Project Manager
PH: 608-443-0529
Email: richard.lundeen@meadhunt.com

City of Madison
Jon Evans, PE, Project Manager
PH: 608-243-5893
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Sincerely,

Robert F. Phillips, P.E., City Engineer

SECTION 01 32 26
CONSTRUCTION PROGRESS REPORTING

PART 1 – GENERAL

1.1. SUMMARY

A. Daily records of project activities, resources used, weather conditions, and other information related to the ongoing progress of the project are extremely important at all levels of Construction Management.

B. Daily records provide the base for weekly progress reports and updating progress schedules.

1.2. RELATED SPECIFICATION SECTIONS

A. Section 01 31 19 Project Meetings

B. Section 01 31 23 Project Management Web Site

C. Section 01 32 23 Photographic Documentation

1.3. PERFORMANCE AND QUALITY ASSURANCE REQUIREMENTS

A. The General Contractor (GC) shall be responsible for all Construction Progress Reporting as outlined in this and other specifications as noted.

B. The GC shall maintain daily progress journals in a format of his/her choosing provided it is legible and contains the information as outlined in Section3.1 below.

C. The journal shall be located in the job trailer and shall be reviewable by the Project Architect or City Project Manager if so requested.

PART 2 – PRODUCTS - THIS SECTION NOT USED

PART 3 - EXECUTION

3.0 DAILY SIGN-IN SHEET

A. The GC shall provide and maintain a daily sign-in sheet and require all workers and visitors to sign in/out each work day. These daily sign-in sheet reports shall include name/company/time-in/time-out. These reports can be submitted daily or at the end of each week to the City Project Manager or as directed by City Staff.

3.1. CONTRACTOR JOURNAL

A. The GC shall maintain a journal of daily progress on which Work is performed by any employee or entity for which the GC is responsible. Such reports shall include all relevant data concerning the progress of Work activities the GC and Subcontractors are responsible for and the effect of that activity on the time of performance of the Contract.

1. Some projects may not require weekly journals be kept instead of daily journals. This is at the sole discretion of the City Project Manager. A daily journal will generally be required when the contract has a significant amount of site work. A weekly journal will generally be used when a contract is interior work only.

B. Journal entries shall be made on the Contractor Daily/Weekly Report Form located in the Construction Progress-Daily Journal Library on the Project Management Web Site. The form consists of the following areas:

1. Weather; include temperature, humidity, precipitation, wind and other related information such as significant storm events, times, and details.
2. Work completed by trade
3. Delays encountered
4. Deliveries received or delayed

5. Hot issues that need to be addressed
6. Safety issues
7. Photograph progress and upload to the Photo Library on the Project Management Web Site.
8. Other including inspections, testing, etc.
9. Space for attaching documents

C. Contractor Daily/Weekly Report Forms shall be completed and signed by the GC's Job Superintendent or other on-site representative authorized by the GC confirming each such report is current, accurate and complete.

D. If applicable the GC shall include schedules of quantities and costs, progress schedules, wage rates, reports, estimates, invoices, records and other data as requested by the CPM concerning Work performed or to be performed under this Contract if the CPM determines such information is needed to substantiate Change Order proposals, claims, or to resolve disputes.

3.2. CONSTRUCTION PROGRESS MEETINGS

A. The GC shall provide a verbal summary of the previous two (2) weeks progress reports at each bi-weekly construction progress meeting.

END OF SECTION

SECTION 02 65 00
REMOVAL AND DISPOSAL OF STORAGE TANKS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. The Contractor shall furnish all labor, material, tools, transportation and equipment necessary to remove the existing Underground Storage Tank (UST), associated electrical, structural, and product equipment, (e.g., dead men, anchor straps, piping, manways, piping, pumps, and dispenser(s), if present). This section specifies requirements for the permitting and removal of the UST and is intended to supplement the construction/installation specifications. Generally, the work shall include, but not be limited to:

1. File all necessary notices, obtain all permits and licenses, and pay for all governmental taxes, fees, and other costs in connection with the work. Obtain all necessary approvals of all governmental departments having jurisdiction.
2. Coordinate removal activities with SCS Engineers, 2830 Dairy Drive, Madison, WI. (608) 224-2830. SCS Engineers is the City of Madison approved vendor for these activities and will provide Wisconsin DATCP-Certified UST Tank System Remover Cleaner to oversee the operation.
3. After SCS has determined the tank atmosphere is safe, , remove, the of UST(s), and appurtenant piping for the tank(s) and set aside onsite for cleaning and removal by SCS.. The work shall include the removal of the tank and associated piping between the tank and the building. Removal of piping and associated contents within the building is addressed in the Mechanical drawings.
4. SCS will provide a Wisconsin DATCP-certified Tank System Site Assessor to perform the required site assessment soil sampling and documentation.
5. Comply with the Contractor's submitted Health and Safety Plan

1.3 DEFINITIONS

A. LEL: Lower Explosive Limit

B. OSHA: Occupational, Health and Safety Administration

C. PID: Photoionization Detector

1.4 REGULATORY REQUIREMENTS

A. Tank closure shall be carried out in accordance with the Agriculture, Trade and Consumer Protection (DATCP), as well as any other applicable local, state and City of Madison regulations. Wherever there is a conflict or overlap of requirements, the most stringent provisions shall apply.

B. The Contractor shall obtain and pay for all local and state permits and make necessary arrangements with the local Fire Department prior to the removal of tanks.

C. The Contractor shall keep the local Fire Department informed of all activities throughout the performance of the work. This task may be delegated to SCS.

D. For work that will be sub-contracted, the Contractor is responsible to ensure that the Sub-contractor has reviewed and will strictly adhere to this specification, all reference documents, and with all local, state and federal regulations.

E. All Contractors and/or Sub-contractors must have current, applicable licenses for all work performed.

1.5 SAFETY REQUIREMENTS

A. All personnel shall be trained in the proper use and maintenance of the appropriate protective equipment used on this project. Smoking will not be allowed in the work area or loading area during the course of the work.

B. Personnel working inside and in the general vicinity of the tanks shall be trained and thoroughly familiar with the safety precautions, procedures, and equipment required for controlling the potential hazards associated with this work, including training for confined space entry. Personnel shall use proper protection and safety equipment during work in and around the tanks, including instruments to monitor air quality, explosive atmospheres and oxygen content.

C. All provisions of the site Health and Safety Plan included shall be in force during tank removal activities, unless modified in writing by the Contractor's Site Safety Officer.

D. Warning signs and devices shall be placed at regular intervals along the work area perimeter, and establish restricted work zones, support areas and decontamination areas as needed. Contractor shall furnish, install and maintain fencing or other appropriate barricades at open excavations, including illumination if left over night.

E. Prior to ending operations on any working day or at any time the Contractor is not on site, the Contractor shall secure all areas of work by erecting temporary safety fencing in accordance with Section 01 50 00 – TEMPORARY FACILITIES AND CONTROLS.

F. Cutting of steel or other metals by thermal methods shall, at all times, occur in a non-explosive environment. During such work, percent of lower explosive limit in the tanks, piping of the surrounding atmosphere shall be continuously monitored. The Contractor shall note that residual pockets of oils or residues may exist in some of the pipelines and the Contractor shall exercise care to prevent release to the environment and harm to workers, facility staff or the public resulting from potential explosive nature of the contained materials.

G. The Contractor shall provide and maintain an adequate supply of fire extinguishers and other required safety equipment in close proximity to all tank cleaning and removal activities.

1.6 COORDINATION

A. Arrange selective demolition schedule so as not to interfere with Owner's operations.

B. See Construction Sequencing Drawing G-101 for detailed sequencing requirements.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.

B. Standards: Comply with ASSE A10.6 and NFPA 241.

C. Standards: Comply with CH. ATCP 93 and any other state and federal tank laws.

D. Reference Standards can be found at: https://datcp.wi.gov/Pages/Programs_Services/PetroleumHazStorageTanksLawsRegulations.aspx

PART 3 - EXECUTION

3.1 GENERAL

A. Provide suitable personnel, material and equipment to remove the fuel piping and tank and all sludge and liquids that may be in the piping prior to removal. Take all necessary precautions during removal of the tanks to prevent damage to utilities adjacent to the area. All fuel fill, boiler supply and other fuel lines and vents shall be removed.

3.2 PERMITTING

A. Prior to initiating storage tank removal activities, the Contractor shall notify the local fire department. The Contractor shall apply for and obtain a Permit for storage tank removal and transportation to approved tank disposal yard in accordance with the provisions of state, local and federal requirements.

3.3 TANK CLEANING

A. SCS will clean and dispose the tank following removal by the Contractor and will contract directly with the owner for these services: SCS Engineers, 2830 Dairy Drive, Madison, WI. (608) 224-2830. SCS Engineers is the City of Madison. The contractor will be responsible for draining and removing petroleum piping inside the building. Piping shall be drained back into the tank.

B. The Contractor shall perform the following activities prior to closure of the tank:

1. Notify the local fire department.
2. Contact Digger's Hotline to obtain information on underground utilities, a minimum of 72 hours prior to excavation.
3. Obtain all necessary permits, as previously detailed within this Section.

C. Inspect the work area prior to excavation, decontamination and removal activities to the extent required to safely perform the work.

D. The Contractor shall protect existing site surfaces, materials, and structures from inadvertent Contamination from cleaning operations. Should such contamination occur, the Contractor shall not be reimbursed for costs associated with replacement or proper disposal of contaminated materials.

E. Assure that any electrical power connected to the tanks or its ancillary equipment (pumps) has been deactivated and the actual wiring properly dismantled at the circuit breaker(s).

F. Collect, containerize and dispose of all residual oils, other product, and sludge remaining in the piping prior to tank cleaning and removal.

G. T SCS shall use a suitably calibrated instrument to determine if the atmosphere within the tanks exceeds ten percent of the Lower Explosive Limit (LEL). Readings shall be taken throughout the tanks depth wherever access is possible. If the vapors within the tanks exceed ten percent of the LEL, the atmosphere shall be purged or interted followed by a recheck of the LEL until the vapors are less than 10 percent of the LEL.

H. After acceptable LEL levels have been reached, excavation of tanks may begin after approval of the Owner's Representative.

3.4 TANK EXCAVATION

A. The Contractor shall provide all labor, permitting, tools, material, services, and equipment necessary to properly demolish the concrete vault, excavate the tank(s), and associated mechanical piping and appurtenances, after pipe and tank cleaning and disposal activities.

B. After the tank and mechanical piping have been purged, cleaned, and gas freed of vapors, but prior to removal, the Contractor shall plug all holes and inert the tanks and piping, as specified by the Board of Fire Prevention regulations.

C. Once the tanks are cleaned and inert, the Contractor must be careful to excavate around the tank, exposing as much of the tank as possible, to allow for a visual inspection of the tank surface. The inspection is performed to identify possible holes, cracks, etc. and other evidence that a leak may have occurred. Remove the tank hold-down straps, if any, lift the tank out of the excavation, place on a level surface, and block the tank to prevent movement. The exterior of each tank and pipe shall be cleaned, and if contaminated soil or groundwater conditions exist, the cleaning wastes contained for proper disposal. Methods for removal shall be predetermined by Contractor and approved by the Owner or their representative.

D. The SCS shall monitor the excavations and every 20 feet along pipe trenches for visual indications of the release of petroleum and shall use a PID for headspace screening of samples and to conduct ambient air readings during all excavation activities. The Contractor shall assist the SCS in collecting appropriate soil samples during post excavation from excavation graves. These samples will be submitted by SCS for analysis at an analytical laboratory. Headspace screening of soil samples will performed by SCS The City of Madison will coordinate reporting obligations as well as any further environmental remediation. As a result, the Contractor may be required to perform additional excavation in the area.]

E. If large areas of petroleum impacted soils are encountered in the UST excavation, or greater than one-half inch (½") of free oil on a groundwater surface, work shall stop and the City of Madison Project Manager shall be immediately notified. Subsequent earthwork and/or groundwater handling work will be under the direction of SCS.

F. Incidental volumes of visually (or by field PID) contaminated soils may be expected during excavation of the USTs and piping. These soils shall be segregated and stored

during characterization and preparation for offsite disposal by the Contractor. Apparently clean soils shall be stockpiled separately for future reuse at the site. Reuse of these soils will be directed by City of Madison or SCS.

3.5 TANK REMOVAL

A. The tanks shall be removed from the excavation and the exterior cleaned to remove all soil and inspected for signs of corrosion, structural damage, or leakage.

B. Tank anchoring structures such as concrete deadmen or hold down slabs shall be removed, unless otherwise directed by the Owner.

C. All piping including electrical conduit associated with the tanks shall be completely removed to the interior face of any associated building wall. Piping shall be reduced to appropriate lengths and cleaned of all contaminated materials. Sleeves and piping passing through wall shall be flushed clean and then permanently capped and plugged on the outside in a manner approved by the Owner.

D. All level monitoring and control equipment shall be completely removed to the interior face of any associated building wall. This includes transmitters, indicators, conduit, wiring, pumps and dispensers.

3.6 DISPOSAL

A. All concrete associated with existing buried tanks shall be broken up and re-used/disposed in accordance with Section 01 74 19 CONSTRUCTION AND WASTE MANAGEMENT AND DISPOSAL.

END OF SECTION 02 65 00

SECTION 08 91 19
FIXED LOUVERS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes:

1. Fixed drainable louvers with blank-off panels, bird, and insect screens.
2. Aluminum eggcrate return grille

1.3 ACTION SUBMITTALS

A. Product Data: For each type of louver, vent and accessory indicated.

B. Shop Drawings: Show layouts of louver and vents, including plans, elevations, sections, details, and attachments metal wall panels and other work.

C. Color Chart: Provide Manufacturer's color chart with full range of standard colors.

1.4 QUALITY ASSURANCE

A. Source Limitation: Obtain louvers and vents through one source from a single manufacturer.

B. Installer Qualifications: An employer of workers trained and approved by manufacturer.

1. Installer's responsibilities include fabricating and installing louvers and vents integral to metal wall panel assemblies and providing professional engineering services needed to assume engineering responsibility.

PART 2 - PRODUCTS

2.1 LOUVERS

A. Manufacturers:

1. Basis-of-design manufacturer and product:

a. Manufacturer: Greenheck
b. Product: ESD-603
1) 150-mm (6 inches) extruded aluminum stationary blade exterior louver.

B. Louvers shall be horizontal, extruded-aluminum, drainable-blade louvers:

1. Aluminum Thickness: 2.06-mm (0.081 inches) for both blades and frames.
2. Six-inch-deep frames and drainable blades.

C. Reference Louver Schedule on the mechanical drawing sheets for quantity and size of louvers.

2.2 ALUMINUM EGGCRATE RETURN GRILLE

A. Manufacturers:

1. Basis-of-design manufacturer and product:

a. Manufacturer: Titus
b. Product: 50F
1) Aluminum border and aluminum grid construction
2) ½" x ½" x 1 inch

c. Size: 24 inch x 24 inch

2.3 ACCESSORIES

A. Louver Screens: Provide removable bird screens at interior face of each exterior louver. Fabricate screen frames from same kind and form of metal as indicated for louver to which screens are attached.

B. Provide manufacturer's standard insulated blank-off panels at all areas of louvers not being utilized for air intake and exhaust.

2.4 FINISHES

A. Color Anodic Finish: AAMA 611, AA-M10C22A42, 0.0018-mm (0.07 mil) thicker.

1. Color: As selected by Architect from full range of manufacturer's standard colors.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install louvers level, plumb, and at indicated alignment with adjacent work.

B. Use concealed anchorages where possible.

C. Protect metal surfaces from corrosion or galvanic action by applying a heavy coating of bituminous paint on surfaces that will be in contact with concrete, masonry, or dissimilar metals.

END OF SECTION 08 91 19

SECTION 10 22 39
FOLDING PANEL PARTITIONS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Electrically operated, acoustical panel partitions.

B. Related Requirements:

1. Section 05 50 00 "Metal Fabrications" for supports that attach supporting tracks to overhead structural system.
2. Section 09 29 00 "Gypsum Board" for fire-rated assemblies and sound barrier construction above the ceiling at track.
3. Electrical and communications Sections for electrical service and connections for motor operators, controls, and limit switches and for system disconnect switches.

1.3 DEFINITIONS

A. NIC: Noise Isolation Class.

B. NRC: Noise Reduction Coefficient.

C. STC: Sound Transmission Class.

1.4 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1.5 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include plans, elevations, sections, attachment details.
2. Indicate stacking and operating clearances. Indicate location and installation requirements for hardware and track, blocking, and direction of travel.
3. Include diagrams for power, signal, and control wiring.

B. Samples for Initial Selection: For each type of exposed material, finish, covering, or facing.

1. Include Samples of accessories involving color selection.

C. Samples for Verification: For each type of exposed material, finish, covering, or facing, prepared on Samples of size indicated below:

1. Textile Facing Material: Full width by not less than 36-inch- (914-mm-) long section of fabric from dye lot to be used for the Work, with specified treatments applied. Show complete pattern repeat.
2. Panel Facing Material: Manufacturer's standard-size unit, not less than 3 inches (75 mm) square.
3. Panel Edge Material: Not less than 3 inches (75 mm) long.
4. Hardware: One of each exposed door-operating device.

1.6 INFORMATIONAL SUBMITTALS

A. Coordination Drawings: Reflected ceiling plans, drawn to scale, on which the following items are shown and coordinated with each other, using input from installers of the items involved:

1. Partition track, track supports and bracing, switches, turning space, and storage layout.
2. Suspended ceiling components.
3. Structural members to which suspension systems will be attached.
4. Size and location of initial access modules for acoustical tile.
5. Items penetrating finished ceiling including the following:

    a. Lighting fixtures.
    b. HVAC ductwork, outlets, and inlets.
    c. Speakers.
    d. Sprinklers.
    e. Smoke detectors.
    f. Access panels.

6. Plenum –fire, smoke, and acoustical barriers.

B. Setting Drawings: For embedded items and cutouts required in other work.

C. Qualification Data: For Installer.

D. Product Certificates: For each type of operable panel partition.

E. Product Test Reports: For each operable panel partition, for tests performed by a qualified testing agency.

F. Field quality-control reports.

G. Sample Warranty: For manufacturer's special warranty.

1.7 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For operable panel partitions to include in maintenance manuals.

1. In addition to items specified in Section 01 78 23 "Operation and Maintenance Data," include the following:

    a. Panel finish facings and finishes for exposed trim and accessories. Include precautions for cleaning materials and methods that could be detrimental to finishes and performance.
    b. Seals, hardware, track, track switches, carriers, and other operating components.
    c. Electric operator and controls.

1.8 QUALITY ASSURANCE

A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer.

1.9 DELIVERY, STORAGE, AND HANDLING

A. Protectively package and sequence panels in order for installation. Clearly mark packages and panels with numbering system used on Shop Drawings. Do not use permanent markings on panels.

1.10 WARRANTY

A. Special Warranty: Manufacturer agrees to repair or replace components of operable panel partitions that fail in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, the following:

    a. Faulty operation of operable panel partitions.
    b. Deterioration of metals, metal finishes, and other materials beyond normal use.

2. Warranty Period: Two years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Acoustical Performance: Provide operable panel partitions tested by a qualified testing agency for the following acoustical properties according to test methods indicated:

1. Sound-Transmission Requirements: Operable panel partition assembly tested for laboratory sound-transmission loss performance according to ASTM E90, determined by ASTM E413, and rated for not less than the STC indicated.

2. Noise-Isolation Requirements: Installed operable panel partition assembly, identical to partition tested for STC, tested for NIC according to ASTM E336, determined by ASTM E413, and rated for 10 dB less than STC value indicated.

B. Fire-Test-Response Characteristics: Provide panels with finishes complying with one of the following as determined by testing identical products by a testing and inspecting agency acceptable to authorities having jurisdiction:

1. Surface-Burning Characteristics: Comply with ASTM E84; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

a. Flame-Spread Index: 25 or less.
b. Smoke-Developed Index: 450 or less.

2. Fire Growth Contribution: Complying with acceptance criteria of local code and authorities having jurisdiction when tested according to NFPA 286.

C. 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.

2.2 OPERABLE ACOUSTICAL PANELS

A. Operable Acoustical Panels: Partition system, including panels, seals, finish facing, suspension system, operators, and accessories.

1. Basis of Design:

a. North Wall of 1104: Skyfold, Zenith Premium Model C.
b. Dividing Wall of 1104: Skyfold, Zenith Model B

B. Panel Operation: Electrically operated, vertical lift panels.

C. Panel Construction: As required to support panel from suspension components and with reinforcement for hardware attachment. Fabricate panels with tight hairline joints and concealed fasteners. Fabricate panels so finished in-place partition is rigid; level; plumb; aligned, with tight joints and uniform appearance; and free of bow, warp, twist, deformation, and surface and finish irregularities.

D. Dimensions: Fabricate operable acoustical panel partitions to form an assembled system of dimensions indicated and verified by field measurements.

1. Panel Width: As indicated in the Drawings.

E. STC: Not less than 51.

F. Panel Weight: 6.2 lb/sq. ft. (55 kg/sq. m) maximum.

G. Panel Thickness: Nominal dimension of 12 inches (102 mm).

H. Panel Materials: Manufacturer’s standard, unless otherwise indicated in the Drawings.

I. Panel Closure: Manufacturer's standard unless otherwise indicated.

J. Hardware: Manufacturer's standard as required to operate operable panel partition and accessories; with decorative, protective finish.

K. Finish Facing: as indicated in the Drawings and Finish Schedule.

2.3 SEALS

A. Description: Seals that produce operable panel partitions complying with performance requirements and the following:

1. Manufacturer's standard seals unless otherwise indicated.
2. Seals made from materials and in profiles that minimize sound leakage.
3. Seals fitting tight at contact surfaces and sealing continuously between adjacent panels and between operable panel partition perimeter and adjacent surfaces, when operable panel partition is extended and closed.

2.4 PANEL FINISH FACINGS

A. Description: Finish facings for panels that comply with indicated fire-test-response characteristics and that are factory applied to operable panel partitions with appropriate backing, using mildew-resistant non-staining adhesive as recommended by facing manufacturer's written instructions.

B. Fabric Wall Covering: Manufacturer's standard fabric, from same dye lot, treated to resist stains.

1. Color/Pattern: Provide HPL, Marker Boards and Fabric for walls per the Finish Schedule.

C. Trimless Edges: Fabricate exposed panel edges so finish facing wraps uninterrupted around panel, covering edge and resulting in an installed partition with facing visible on vertical panel edges, without trim, for minimal sightlines at panel-to-panel joints.

2.5 ELECTRIC OPERATORS

A. Factory-assembled electric operation system of size and capacity recommended and provided by operable panel partition manufacturer for partition specified; with electric motor and factory-prewired motor controls, speed reducer, chain drive, control stations, control devices, and accessories required for operation. Include wiring from control stations to motor. Coordinate operator wiring requirements and electrical characteristics with building electrical system.

B. Comply with NFPA 70.

C. Control Equipment: Comply with NEMA ICS 1, NEMA ICS 2, and NEMA ICS 6.

D. Motor Electrical Characteristics:

1. Horsepower: Manufacturer's standard.
2. Volts: 230.
3. Phase: Polyphase.

4. Hertz: 60.

E. Control Stations: Two single-key-operated, constant-pressure control stations located remotely from each other on opposite sides and opposite ends of partition run. Wire in series to require simultaneous activation of both key stations to operate partition. Each three-position control station labeled "Open," "Close," and " Stop." Furnish two keys per station.

F. Obstruction-Detection Devices: Equip each motorized operable panel partition with indicated automatic safety sensor that causes operator to immediately stop and reverse direction.

1. Sensor Edge: Contact-pressure-sensitive safety edge along partition's leading edge.

G. Safety Requirements:

1. The operable wall shall employ an electromagnetic type of brake which shall activate firmly, without hesitation, when power is lost to the system. This brake shall have a minimum retarding torque rating equal to 200% of the motor drive's full load torque. The drive system shall be equipped with a manual override and a brake release lever.
2. The operable wall shall employ a dynamic brake, distinct and separate from the brake in 2.2.4.1, in order to lower the operable wall at a controlled speed of no more than approximately 150% of the normal down speed, in the case of a catastrophic failure in the motor drive's power train. Alternately, the operable wall shall employ a brake, distinct and separate from the brake in 2.2.4.1, in order to completely halt the downward motion of the wall in the case of a catastrophic failure in the power train.
3. The operable wall shall employ electrical or other limit switches in order to stop the wall at it's up and down travel limits.
4. The operable wall shall employ an over torque detector in order to sense a jam in the system and to act as an over travel limit in the up direction should the primary limit switch fail to act in 1.3.2.4. This over torque sensor shall be mechanical, using the motor's torque arm in it's over torque detection.
5. The entire length of the bottom edge of the operable wall shall be equipped with a continuous pressure sensing strip which shall cut power to the motor drive and shall activate the brake outlined in 2.2.4.1, if the sensing edge comes in firm contact with an object, before the operable wall is in the full down (closed) position. The operable wall will automatically reverse direction and ascend for approximately 3 seconds to clear the obstruction. The power shall remain cut to the motor drive until the switches have been released. The operation of the operable wall can resume once the obstruction is removed.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine flooring, floor levelness, structural support, and opening, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of operable panel partitions.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. Install operable panel partitions and accessories after other finishing operations, including painting, have been completed in area of partition installation.

B. Install panels in numbered sequence indicated on Shop Drawings.

C. Broken, cracked, chipped, deformed, or unmatched panels are not acceptable.

D. Broken, cracked, deformed, or unmatched gasketing or gasketing with gaps at butted ends is not acceptable.

E. Light-Leakage Test: Illuminate one side of partition installation and observe vertical joints and top and bottom seals for voids. Adjust partitions for alignment and full closure of vertical joints and full closure along top and bottom seals.

3.3 FIELD QUALITY CONTROL

A. NIC Testing: Engage a qualified testing agency to perform tests and inspections.

1. Testing Extent: Testing agency shall randomly select one operable panel partition installation(s) for testing.
2. Testing Methodology: Perform testing of installed operable panel partition for noise isolation according to ASTM E336, determined by ASTM E413, and rated for not less than NIC indicated. Adjust and fit partitions to comply with NIC test method requirements.

B. An operable panel partition installation will be considered defective if it does not pass tests and inspections.

C. Prepare test and inspection reports.

3.4 ADJUSTING

A. Adjust operable panel partitions, hardware, and other moving parts to function smoothly, and lubricate as recommended by manufacturer.

B. Adjust panels to operate smoothly and easily, without binding or warping.

C. Verify that safety devices are properly functioning.

3.5 MAINTENANCE SERVICE

A. Maintenance Service: Beginning at Substantial Completion, maintenance service shall include 12 months' full maintenance by manufacturer's authorized service representative. Include quarterly preventive maintenance, repair or replacement of worn

or defective components, lubrication, cleaning, and adjusting as required for proper operable-partition operation. Parts and supplies shall be manufacturer's authorized replacement parts and supplies.

3.6 DEMONSTRATION

A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain operable panel partitions.

END OF SECTION 10 22 39

SECTION 14 40 00
LIFTS (HOISTS) AND VERTICAL STORAGE UNITS

PART 1 - GENERAL

1.1 SCOPE

A. Applicable provisions of the General and Supplementary Conditions and Division 01 govern work under this Section.

1.2 DESCRIPTION

A. Work Included:

1. Nine (9) vehicle lifts: ECO 60
2. One (1) ECO 90
3. Two (2) vertical storage units:

    a. one (1) for tire storage and
    b. one (1) for parts inventory.

B. Related Work Specified Elsewhere

1.	Cast-In Place Concrete	Section 03 30 00
2.	Plumbing Systems	Division 22
3.	Electrical	Division 26

1.3 SUBMITTALS

A. Within 35 days after award of Contract, and before any of the materials of this Section are delivered to the job site, submit complete to the Owner in accordance with these Specifications; the following:

1. Shop Drawings: Shop drawings shall include, but not necessarily be limited to, the following:

    a. Wiring and control schematic and detail diagrams
    b. Maximum electrical requirements
    c. Outline dimensions of equipment
    d. Equipment and component layout
    e. Details of equipment and controls
    f. Installation detail

2. Operation and Maintenance Manuals.

1.4 Product Delivery, Storage and Handling

A. Protection: Use all means necessary to protect the materials of this Section before, during and after installation and to protect the installed work and materials of all other trades.

B. Delivery and Storage of Materials

1. Deliver materials in manufacturer's original sealed containers.

C. Replacements: In the event of damage, immediately make all repairs and replacements necessary to the approval of the Owner and at no additional cost to the Owner.

1.5 QUALITY ASSURANCE

A. Manufacturer shall be a reputable manufacturing firm, regularly engaged in the design and manufacture of lifts. All similar items shall be the product of a single manufacturer.

B. A manufacturer's field service representative shall install the equipment, conduct acceptance testing and train the Owner's personnel in the proper operation and maintenance of the equipment.

C. The following information shall be provided with the bid documents regarding the manufacturer's experience and qualifications:

1. Provide a minimum of three locations where similar equipment has been provided/installed including the date placed in service.
2. Provide the name and telephone number of individuals at above locations who are familiar with the operation and maintenance of the lift equipment.

1.6 CERTIFICATION REQUIREMENTS

A. Materials shall comply with ISO, E.N. and meet or exceed 9000 quality standards.

B. The lift installer shall be certified as a factory authorized installer, trained and authorized by the manufacturer supplying the lift equipment. Certification shall be provided with the bid documents.

C. The lift manufacturer shall comply with all applicable requirements of the "Buy America" provisions of the Surface Transportation Act as outlined by the Federal Transit Administration and U.S. Department of Transportation.

D. The Lift Manufacturer shall be a held in good standings with the Automobile Lift Institute (ALI).

E. The lift or lifts, shall be labeled and listed by a Nationally Recognized Testing Laboratory as established by OSHA for conformance to ANSI/ALI ALCTV-1998 Automotive Lifts, "Safety Requirements for the Construction, Care and Use of Automotive Lifts," as published by the American National Standards Institute. The lifts shall be Gold labeled certified with the ALI/ETL certification. The lift company's Quality Management System shall be ISO9001. The lift manufacturer shall comply with all applicable requirements of the Buy America Act.

1.7 APPLICABLE STANDARDS

A. In addition to the requirements outlined herein, the lift or lifts shall comply with all applicable requirements of Automotive Lift Institute (ALI), American National Standards

Institute (ANSI), and "Safety Requirements for the Construction, Care and Use of Automobile Lifts", as published by the American National Standards Institute. All electrical apparatus shall be UL Listed.

1.8 WARRANTY

A. Following completion of installation and start up of lift equipment, the manufacturer shall provide a one (1) year warranty against manufacturing defects in materials, function and workmanship.

B. Warranty shall include materials and labor necessary to correct defects.

C. All parts shall be readily available locally in the United States.

PART 2 - PRODUCTS

2.1 SCISSORS IN-GROUND LIFTS

A. Model:

1. ECO- 60 as manufactured by Stertil-Koni USA Inc.

   a. General Description: lift shall consist of two lifting units in line with the longitudinal axis of the vehicle, each lifting unit so equipped as to engage the axle and/or suspension as specified herein. One of the two lifting units will be movable fore and aft to affect variable spacing between lifting mechanisms. The other lifting unit shall be fixed.
   b. Lifting Capacity:

      1) Lift shall be capable of raising 60,000 lbs. (27,216 kg), 30,000 lbs. (13,608 kg) Fixed/ 30,000 lbs. (13,608 kg) Moveable.
      2) Unbalanced Loads, Moveable to Fixed: Lift shall be capable of raising 30,000 lbs (13,608 kg) on one unit and 0 lbs (0 kg) on the other unit.

   c. Travel range for the movable lifting unit is as follows, depending on selected model:

      ~~1) 204 inches (ECO-60-17)~~ 120 inches (ECO-60-10)

2. Dimensions:

   a. Lifting height shall be no less than 70 inches (1,780 mm) as measured from the bolster at full rise to the finished floor.
   b. Lifting Rate: 90 seconds; 45 inches (1,140 mm) per minute, minimum.
   c. Maximum depth below finished floor for any structural component or member: 34 inches (864 mm) maximum.
   d. Movable and fixed lifting unit synchronization: 2 inches (51 mm).
   e. Lift Units:

1) Lift units and continuous recess insert shall be completely removable with no lift components or structural framing permanently embedded in the concrete.
2) Lift unit shall be a hydraulically powered, mechanically articulating scissor lift, complete with a mechanical locking system.
3) All steel surfaces shall be powder coated.
4) By means of a centering link, the lifting unit structure shall articulate symmetrically about the center axis of the lift unit as it raises and lowers.

3. Movable Lifting Unit:

a. Movable lifting unit shall relocate horizontally fore and aft while in the fully retracted position.
b. When the entire travel frame insert has the covers in place and the lift is operational, it forms a continuous recess that shall meet the following design and performance criteria:

1) The movable lifting unit shall not be required to recess, or park, in only one "pocketed" location, providing increased productivity in servicing fleet vehicles of varying wheelbases.
2) The movable lifting unit may be recessed below finished floor at any position between the minimum and maximum dimensions of the travel range.
3) The movable lifting unit shall be capable of fore and aft travel while recessed below floor.

c. Maximum depth below finished floor for the continuous recess insert, rear lifting unit or any fixed or movable component shall be 34 inches (864 mm).
d. The movable steel box insert shall have an open floor design, mounted off the concrete floor of the trench to allow for the collection, cleaning and drainage of all liquids and solids that accumulate in the trench.
e. Aluminum covers for moveable mechanism is anodized structural 6061 aluminum extrusions engineered to accept a 7,500 lb. (3,402 kg) point load on a contact area of 2 x 2 inches (50 x 50 mm) and shaped to include a full-length interlocking hinge. Covers shall fit together tightly and uniformly to promote smooth travel so as to prevent jamming and twisting. Covers shall be able to accept a 13,500 lb. (6,123 kg.) drive over load on a 6 x 9 inch (152 x 228 mm) contact area.
f. Aluminum covers for the moveable mechanism are attached to UHMW slider blocks for reduced friction and increased longevity. These slider blocks shall keep the covers properly centered at all times. Horizontal grooves in the UHMW sliders shall, together with essentially half moon shaped guide rails in the end section of lift's steel box insert, securely guide the covers as they travel in and out of the recess.
g. Aluminum covers for the moveable mechanism shall be flush with finished floor within a tolerance of less than 1/8 inch. Covers that are lower than the finished floor are not be acceptable.
h. Movable lifting unit and the covers shall bear on and slide over UHMW surfaces for low friction and minimal maintenance.

i. Hydraulically powered carriage drive shall utilize a rack and gear arrangement on both left and right sides for smooth and even fore-aft travel without binding.
j. Rack shall be inverted and positioned under the load channel of the movable lifting unit insert where it is protected so as not to collect dirt, grease etc.
k. All hydraulic and compressed air service lines are fed from control console to moveable lifting unit insert through one PVC chase way per unit.
l. All low voltage, intrinsically safe electric service lines shall be fed from the control console to the moveable lifting unit insert through one 3/4 inch rigid conduit per unit, installed to meet local requirements.

4. Fixed Lifting Unit:

a. Fixed lifting unit shall be drop-in, and bolted in-place with eight 7/8 inch (22 mm) stainless steel anchors.

5. Hydraulic System:

a. System shall be comprised of high pressure, low volume, single acting, 7 inch (178 mm) diameter cylinders, one in each lifting unit.
b. The hydraulic system shall be a power up / gravity down design. Lifts that rely on the power units to run during the lowering cycle shall not be acceptable due to increased power consumption.
c. High pressure seals shall be internal to the cylinder, where they are protected from salt, dirt, etc.
d. Combined, the two cylinders shall only require 7 gallons (26.5 l) of AW 15 hydraulic oil for lifting to full height.
e. Each pistons requires 3.5 gallons (13.25 Liters) of hydraulic oil for lifting to full height.
f. Each cylinder shall have a hose break velocity fuse (safety check valve) integrally mounted to prevent excessive loss of fluid from the cylinder.
g. The hoses shall be of reinforced construction and utilize JIC fittings throughout.
h. The hoses feeding the front movable lift carriage shall be supported and contained by a cable carrier to prevent the hoses from dragging or tangling.
i. The lift shall be driven by two individual power units, readily available as an off-the-shelf component.

6. Adapters:

a. The lift system shall include a variety of axle engaging accessory adapters designed to raise heavy vehicles by the axles or chassis. The accessory adapters shall be easily removed for storage and/or change out.
b. Adapter Adjustment: Minimum 13.25 inches (337 mm); Maximum 56 inches (1422 mm).
c. Bolster Width: 40 inches (1016 mm) minimum.

d. Bolster and Base Adapters for all lifting units shall recess below finished floor.
e. Base adapters shall be restrained to prevent over extension.
f. Removal of base adapters shall be accomplished by pulling-up a spring loaded pin and sliding the base adapter off the bolster.
g. The base adapter shall have at least a five hole pattern that will allow every accessory adapter to be used in the reverse direction, allowing up to eight positions of the accessory adapter on the base adapter.

7. Controls:

a. The control system shall conform to all current NEC, UL 201 and OSHA codes.
b. The control system shall be PCB operated and continuously monitor all operating functions and safety systems of the lifting units. The control system shall utilize intrinsically safe inclinometers to constantly monitor the elevation of the lifting units to ensure synchronized operation. Synchronization through flow control valves is not acceptable. Control systems that do not constantly monitor the elevation of all lifting units are not acceptable.
c. The control system shall have a provision to allow the operator to electronically restrict the maximum lifting height.
d. The control system shall provide audio and visual feedback that communicates with the operator. The control system shall facilitate troubleshooting by providing no less than 44 fault codes displayed in numeric fashion on the PCB.
e. The enclosure for electrical control components shall be IP 54 rated and have the following controls mounted on the front cover

    1) Disconnect switch, 3 phase
    2) Push buttons for Lift Raise, Lower and Unlock
    3) Selector button for synchronized, moveable, or fixed lifting
    4) Push buttons for hydraulic moveable carriage drive

f. The control console shall be equipped with a main power disconnect switch which interrupts all incoming power. Main power disconnect shall be lock-out capable.
g. Console access panels shall have key-hole slots and recessed handles for easy removal and installation.
h. The control system shall include, on the control box face, a blue HOME indicator lamp. This lamp shall illuminate when all lifting units are fully retracted to inform the operator that the bay is clear to allow entry and exit by the vehicle.
i. The control system shall automatically prohibit horizontal movement of the moveable lifting unit when raised above 12 inches A.F.F.
j. The control system shall have a provision to allow the operator to open the mechanical locks during rising to reduce noise emission.
k. The lift, when fitted with the proper electrical motor, shall operate at the following voltages: 208 (3 phase)

8. Automatic Wheel Base Positioning

a. The control system shall be equipped with an AWBP (automatic wheel base positioning) system that allows the operator to program not less than 16 wheelbase positions into the control system for reduced set up times. The AWBP system shall include a min. 4 inch color touch screen to allow the operator to select and program vehicle wheel bases. The AWBP system shall allow the operator to store wheel base positions by vehicle brand and year or license plate for ease of use and safety to avoid selection of the incorrect vehicle. Additionally, the color LCD touch screen shall be utilized to display AWBP related error messages and instructions. Once a vehicle has been selected, the moveable lifting unit shall travel to the pre-programmed position without interruptions or stops.

9. Wired Remote Control:

a. The lift shall be equipped with an ergonomic industrial remote control, rated for use in NEC Class 1, Div. 2, hazardous locations.
b. Remote control shall be connected to the control console through a multi-conductor cable with military-style DIN connector. Standard cable length shall be 35 feet. (10.6 m)
c. Remote control shall allow full function control of the lift, with the following:

1) Push/Pull E-Stop Button
2) Push buttons for Lift Raise, Lower and Unlock
3) Selector button for synchronized lifting
4) Push buttons for hydraulic moveable carriage drive

d. Remote control shall be equipped with an emergency E-Stop button that de-energizes power to all outputs of the PCB. Re-activation of the control system requires resetting the E-Stop and re-energizing the control system.
e. The control box shall have a provision to disable operation of the remote control during lowering when the bolster is below 12 inches A.F.F.

10. Safety Devices:

a. Each lifting unit shall be equipped with double lock jaw, gravity engaging, mechanical locks with the first lock position engaging at a minimum height of 18 inches (457 mm).
b. Number of Mechanical Lock Stops: 12, minimum.
c. Vertical height spacing between each lock stop: 6 inches (152 mm), maximum.
d. The mechanical locks shall be made of high strength T-1 steel.
e. All push buttons shall be of momentary contact, dead man type.

11. HOME Beacon Stack Light:

a. The lift shall be equipped with an external HOME beacon stack light. This beacon light shall turn green when all lifting units are fully retraced to inform the operator that the bay is clear to allow entry and exit by the vehicle. When one or more lifting units are not fully lowered the beacon

light shall turn red to inform the operator that the bay is not clear and it is not safe to move the vehicle into or out of the bay.

b. The beacon light shall have the option to be mounted in a remote location (e.g. by the bay door) for optimum visibility.

2.2 SCISSORS STYLE IN-GROUND LIFTS

A. Scissor style in-ground Lift Model ECO90 as manufactured by Stertil-Koni USA, Inc.

1. General Description:

   a. The lift shall consist of three lifting units in line with the longitudinal axis of the vehicle, each lifting unit so equipped as to engage the axle, suspension, and/or frame as specified herein. Two of the two lifting units shall be movable fore and aft to affect variable spacing between lifting mechanisms. The other lifting unit shall be fixed.

2. Lifting Capacity:

   a. Lift shall be capable of raising 90,000 lbs. (40,826 kg), 30,000 lbs. (13,608 kg) each fixed/ 30,000 lbs. (13,608 kg) each movable lifting unit.
   b. Unbalanced Loads, Movable to Fixed: Lift shall be capable of raising 30,000 lbs (13,608 kg) on one unit and 0 lbs (0 kg) on the other unit.

3. Dimensions:

   a. The lifting height shall be no less than 70 inches (1,780 mm) as measured from the point of adapter contact at full rise to the finished floor.
   b. Lifting Rate: 90 seconds; 45 inches (1,140 mm) per minute, minimum.
   c. Maximum depth below finished floor for any structural component or member: 34 inches (864 mm) maximum.
   d. Movable and fixed lifting unit synchronization: 2 inches (51 mm).
   e. Travel range for the movable lifting unit shall be as follows, depending on selected model:

      1) ECO 90-17-xx: 204 inches (5,182 mm)

4. Lifting Units:

   a. Lifting units and continuous recess inserts shall be completely removable with no lift components or structural framing permanently embedded in the concrete.
   b. Lifting units shall be hydraulically powered, mechanically articulating scissors, complete with a mechanical locking system.
   c. All steel surfaces shall be powder coated.
   d. By means of a centering link, the lifting unit structure shall articulate symmetrically about the center axis of the lift unit as it raises and lowers.

5. Movable Lifting Units:

a. The movable lifting unit shall relocate horizontally fore and aft while in the fully retracted position.
b. When the entire continuous recess insert has the covers in place and the lift is operational, it shall form a continuous recess that shall meet the following design and performance criteria:

    1) The movable lifting unit shall not be required to recess, or park, in only one "pocketed" location, providing increased productivity in servicing fleet vehicles of varying wheelbases.
    2) The movable lifting unit may be recessed below finished floor at any position between the minimum and maximum dimensions of the travel range.
    3) The movable lifting unit shall be capable of fore and aft travel while recessed below floor.

c. Maximum depth below finished floor for the continuous recess insert, rear lifting unit or any fixed or movable component shall be 34 inches (864 mm).
d. The movable steel box insert shall have an open floor design, mounted off the concrete floor of the trench to allow for the collection, cleaning and drainage of all liquids and solids that accumulate in the trench.
e. The aluminum covers for the movable mechanism shall be anodized structural 6061 aluminum extrusions engineered to accept a 7,500 lb. (3,402 kg) point load on a contact area of 2 x 2 inches (50 x 50 mm) and shall be shaped to include a full-length interlocking hinge. Covers shall fit together tightly and uniformly to promote smooth travel so as to prevent jamming and twisting. The covers shall be able to accept a 13,500 lb. (6,123 kg.) drive over load on a 6 x 9 inch (152 x 228 mm) contact area.
f. The aluminum covers for the movable mechanism shall be attached to UHMW slider blocks for reduced friction and increased longevity. These slider blocks shall keep the covers properly centered at all times. Horizontal grooves in the UHMW sliders shall, together with half-moon shaped guide rails in the end section of the lift's steel box insert, securely guide the covers as they travel in and out of the recess.
g. Transition plates shall be bolted to the continuous recess insert to provide for a flush and smooth transition from the shop floor to the aluminum covers. The transition plates also shall assist the cover travel by holding the covers down so they can't buckle during horizontal travel.
h. The aluminum covers for the movable mechanism shall be flush with the finished floor within a tolerance of less than 1/8 inch. Covers that are lower than the finished floor shall not be acceptable.
i. The movable lifting unit and the covers shall bear on and slide over UHMW surfaces for low friction and minimal maintenance.
j. The hydraulically powered carriage drive shall utilize a rack and gear arrangement on both the left and right sides for smooth and even fore-aft travel without binding.
k. The rack shall be inverted and positioned under the load channel of the movable lifting unit insert where it is protected so as not to collect dirt, grease etc.

l. All hydraulic and compressed air service lines shall be fed from the control console to the movable lifting unit insert through one PVC chase way per lifting unit.
m. All low voltage, intrinsically safe electric service lines shall be fed from the control console to the movable lifting unit insert through one ¾ inch rigid conduit per lifting unit, installed to meet local requirements.

6. Fixed Lifting Unit:

a. The fixed lifting unit shall be bolted in place with eight each 7/8 inch (22 mm) stainless steel anchors.

7. Hydraulic System:

a. System shall be comprised of three high pressure, low volume, single acting, 7 inch (178 mm) diameter cylinders, one in each lifting unit.
b. The hydraulic system shall be a power up / gravity down design. Lifts that rely on the power units to run during the lowering cycle shall not be acceptable due to increased power consumption and wear.
c. High pressure seals shall be internal to the cylinder, where they are protected from salt, dirt, etc.
d. Each cylinder shall require no more than 3.5 gallons (13.25 liters) of hydraulic fluid for lifting to full height.
e. Combined, the three cylinders shall only require 10.5 gallons (39.75 l) of AW 15 hydraulic fluid for lifting to full height.
f. Each cylinder shall have a hose break velocity fuse (safety check valve) integrally mounted to prevent excessive loss of fluid from the cylinder.
g. The hoses shall be of reinforced construction and utilize JIC fittings throughout.
h. The hoses feeding the movable lift carriage shall be supported and contained by a cable carrier to prevent the hoses from dragging or tangling.
i. The lift shall be driven by three individual power units, readily available as an off-the-shelf component.

8. Adapters:

a. The lift system shall include a variety of axle engaging accessory adapters designed to raise heavy vehicles by the axles or frame. Adapters shall be either axle or frame oriented. Spinning adapters shall not be acceptable due to risk of accidental rotation during vehicle spotting and setup.
b. The base adapter shall have at least a five hole pattern that will allow every accessory adapter to be used in the reverse direction, allowing up to eight positions of the accessory adapter on the base adapter.
c. Sliding base adapters shall be restrained to prevent over extension.
d. Bolster and base adapters for all lifting units shall recess below finished floor.
e. Adapter Adjustment: Minimum 13.25 inches (337 mm); Maximum 56 inches (1,422 mm).
f. Bolster Width: 40 inches (1,016 mm) minimum.

9. Controls:

   a. The control system shall conform to all current NEC, UL 201 and OSHA codes.
   b. The control system shall be PCB operated and continuously monitor all operating functions and safety systems of the lifting units.
   c. The control system shall utilize intrinsically safe inclinometers to constantly monitor the elevation of the lifting units to ensure synchronized operation.
   d. The control system shall allow the user to adjust the sensitivity of the electronic synchronization without the use of special tools, within the absolute limits of ANSI/ALI ALCTV standard.
   e. The control system shall have the ability to receive regular software updates/upgrades as control system advances become available. All updates/upgrades shall be possible through data transfer without the need for component replacement.
   f. On the face of the control console, control elements shall include:

      1) "UP" button.
      2) "Down" button.
      3) “Lock release” button.
      4) “Confirm” button
      5) A high definition 7 inch (178 mm) LCD screen touch screen. The touch screen shall be specifically designed for a harsh workshop environment. The touch screen shall provide systems information, but operation of the lift shall be initiated by the primary operational buttons. The touch screen shall include a removable micro-SD memory card for storage of user configurable information. The touch screen shall be capable of providing the following functions:

         a) “Lifting unit selection” indicator: displays to the operator which lifting units in the lift have been selected for operation. The display illustrates the ability to operate the lifting units singularly, or groups of lifting units as synchronized sets.
         b) “Lifting unit height” indicator: displays to the operator the height of each individual lifting unit. The height indicator shall also provide, on the touch screen, a clear indicator if the lifting unit has been set to stop at a restricted lifting height.
         c) “Lifting units fully lowered” indicator: displays to the operator that all lifting units are fully retracted into the ground to inform the operator that the bay is clear to allow entry and exit by the vehicle.
         d) “Error message” indicator: displays to the operator when a fault code has been registered by the control system, the touch screen shall inform the operator of any fault situations being present in the lift. The control system shall have the ability to display error messages including fault description on the screen.
         e) One-touch access to the Guide screen: This area of the touch screen provides to the operator:

i. Owner information

f) One-touch access to the Information screen: This area of the touch screen provides to all users:

i. Owner information
ii. Contact information for service provider
iii. Equipment time log including lifting unit run times

g) One-touch access to the Settings screen which displays various options. The settings screen shall allow control of:

i. Settings screen option (1): authorized users shall have the ability to change the language (English, Spanish, French) displayed on the screen as well as the units of measure for height and weight (imperial or metric units).
ii. Settings screen option (2): authorized users shall have the ability to retract the mechanical locks during raising for reduced noise, as well as to set a restricted maximum lifting height.
iii. Access to the Shop and Assistance screens: from the Settings screen, authorized users shall have the ability to control the service settings.

h) One-touch access to the Shop configuration screen options which is PIN protected. The shop configuration screen shall allow adjustment of:

i. Edit of owner's details: allows the ability to edit the information displayed on the Owner's field.

i) One-touch access to the Assistance configuration screen which displays various options and is PIN protected. The maintenance configuration screen shall allow adjustment of:

Screen 1

i. Initiation of crush protection which guards against a crushing hazard during lowering when using the optional remote control. This safety system, when enabled, will interrupt lowering as the lift reaches 18 inches (457 mm) above finished floor. At that time, the operator needs to return to the control console and continue the lowering cycle by utilizing the control buttons located on the face of the control console.
ii. Ability to disable height difference monitoring to aid in trouble shooting. Once initiated, this control system option allows the maintainer to operate the lifting system outside normal safety

limits. This system is only for use by the lift system maintainer during repair procedures. This system option will automatically be disabled and the control system returned to default operating parameters after 10 minutes.

Screen 2

i. Ability to view lift system run time to properly plan for lift system maintenance.
ii. Ability to view individual lifting unit motor run time to properly plan for lift system maintenance.

Screen 6

i. This screen shall allow back up of the operating system

Screen 7

i. This screen shall display operating system information

g. The enclosure for electrical control components shall be IP 54 rated.
h. The control console shall be equipped with a main power disconnect switch which interrupts all incoming power. Main power disconnect shall be lock-out capable.
i. Control console access panels shall have key-hole slots and recessed handles for easy removal and installation.
j. The control system shall automatically prohibit horizontal movement of the movable lifting unit when raised above 12 inches (305 mm) above finished floor. This parameter shall be user programmable without the use of special tools.
k. The lift, when fitted with the proper electrical motors, shall operate at the following voltages: 208 (3 phase)

10. Safety Devices:

a. Each lifting unit shall be equipped with double lock jaw, gravity engaged, mechanical locks with the first lock position engaging at a minimum height of 18 inches (457 mm).
b. Number of Mechanical Lock Stops: 12, minimum.
c. Vertical height spacing between each lock stop: 6 inches (152 mm), maximum.
d. The mechanical locks shall be made of high strength T-1 steel.
e. All push buttons shall be of momentary contact, dead man type.

11. Automatic Wheel Base Positioning:

a. The control system shall be equipped with an AWBP (automatic wheel base positioning) system that allows the operator to program an infinite number of wheelbase positions into the control system for reduced set up times. The AWBP system shall be controlled via the 7 inch (178 mm)

color touch screen to allow the operator to select and program vehicle wheel bases. The AWBP system shall allow the operator to store wheel base positions by vehicle brand and year or license plate for ease of use and safety to avoid selection of the incorrect vehicle.

b. Once a vehicle has been selected, the movable lifting unit shall travel to the pre-programmed position without interruptions or stops.

12. Wired Remote Control:

a. The lift shall be equipped with an ergonomic industrial remote control, rated for use in NEC Class 1, Div. 2, hazardous locations.
b. Remote control shall be connected to the control console through a multi-conductor cable with military-style DIN connector. Standard cable length shall be 35 feet. (10.6 m)
c. Remote control shall allow full function control of the lift, with the following:

1) Push/Pull E-Stop Button
2) Push buttons for Lift Raise, Lower and Unlock
3) Selector button for synchronized (group) or single operation
4) Push buttons for hydraulic movable carriage drive

d. Remote control shall be equipped with an emergency E-Stop button that de-energizes power to all outputs of the PCB. Re-activation of the control system requires resetting the E-Stop and re-energizing the control system.
e. The control box shall have a provision to disable operation of the remote control during lowering when the bolster is below 18 inches (457 mm) above finished floor.

13. HOME Beacon Stack Light:

a. The lift shall be equipped with an external HOME beacon stack light. This beacon light shall turn green when all lifting units are fully retraced to inform the operator that the bay is clear to allow entry and exit by the vehicle. When one or more lifting units are not fully lowered the beacon light shall turn red to inform the operator that the bay is not clear and it is not safe to move the vehicle into or out of the bay.
b. The beacon light shall have the option to be mounted in a remote location (e.g. by the bay door) for optimum visibility.

2.3 VERTICAL STORAGE UNIT #1 – TIRES

A. Motorized Carousel

a. Model: #HT54288-0963-SV12 - Custom
b. Capacity: Max per size
c. Carrier width: 15’-0”
d. Height: 15’-0”
e. Carousel width: 14’-11”
f. Depth: 9’-4”

2.4 VERTICAL STORAGE UNIT #2 – PARTS

A. Motorized Carousel

a. Model: #P1812-24-120 - Custom
b. Height: 16'-3"
c. Width: 12'-0"
d. Depth: 6'-3"
e. Carrier QTY: Max per size

2.5 ACCEPTABLE MANUFACTURERS:

A. Stertil Koni - Lifts

B. Vidmar – Vertical Storage Units

PART 3 - EXECUTION

3.1 EXAMINATION

A. Do not begin installation until supporting structures have been properly prepared.

B. If supporting structures preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

A. Transmit submittals and deliverables required by this section.

B. Furnish product as indicated.

C. Ensure that substrates are in suitable condition to receive the work of this section.

D. Clean surfaces thoroughly prior to installation.

E. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.3 FABRICATION

A. Fabricate equipment in accordance with all specifications and approved drawings.

3.4 INSTALLATION

A. Prior to commencing any on-site work, contractor shall provide facility all the construction details for the lift along with requirements for any specialty embedded items associated with lifts. The contractor and lift installer will closely coordinate requirements during installation phase. Installer shall provide and install materials required for complete and operable installation as indicated on manufacturer's installation drawings.

B. Provide 3-inch high concrete service pad with chamfered edges under control console.

C. Install in accordance with manufacturer's instructions.

D. Test for proper operation, and re-test if necessary, until satisfactory results are obtained.

3.5 PROTECTION

A. Protect installed products until completion of project.

B. Touch-up, repair or replace damaged products before substantial completion.

3.6 START-UP DEMONSTRATION

A. Following installation, the equipment installer shall perform an acceptance test as recommended by the manufacturer. Prior to the test, submit a testing program for approval. The program shall show that the equipment meets all of the conditions described by this specification and that the equipment will perform as intended. Notification of Start-Up Demonstration will be scheduled two weeks in advance of the estimated date.

3.7 TRAINING

A. After completion of installation the installer shall provide a training program to all operating personnel to correctly demonstrate operation and maintenance procedures of the equipment.

B. As a minimum training shall include: (1) Proper use and maintenance procedures of the lift; (2) safety features; (3) Cleaning procedures; (4) Proper methods for storage and handling of materials, including troubleshooting; and (5) Servicing, adjusting, routine preventative maintenance.

END OF SECTION 14 40 00

SECTION 221519 - AIR COMPRESSORS AND RECEIVERS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, Standard Specifications, Proposal Documents, Special Provisions, Supplemental Specifications, Bid Item Manual and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Lubricated, reciprocating air compressors.

1.3 DEFINITIONS

A. Actual Air: Air delivered from air compressors. Flow rate is delivered compressed air measured in acfm.

B. Standard Air: Free air at 68 deg F and 1 atmosphere (29.92 in. Hg) before compression or expansion and measured in scfm.

1.4 SUBMITTALS

A. Product Data: For each type of product indicated. Include rated capacities, operating characteristics, electrical characteristics, and furnished specialties and accessories.

B. Operation and Maintenance Data: For compressed-air equipment to include in emergency, operation, and maintenance manuals.

1.5 QUALITY ASSURANCE

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. ASME Compliance: Fabricate and label receivers to comply with ASME Boiler and Pressure

Vessel Code.

PART 2 - PRODUCTS

2.1 GENERAL REQUIREMENTS FOR PACKAGED AIR COMPRESSORS AND RECEIVERS

A. General Description: Factory-assembled, -wired, -piped, and -tested; electric-motor-driven; air-cooled; continuous-duty air compressors and receivers that deliver air of quality equal to intake air.

B. Control Panels: Automatic control station with load control and protection functions. Comply with NEMA ICS 2 and UL 508.

1. Enclosure: NEMA ICS 6, Type 12 control panel unless otherwise indicated.
2. Motor Controllers: Full-voltage, combination magnetic type with under voltage release feature and motor-circuit-protector-type disconnecting means and short-circuit protective device.
3. Control Voltage: 120-V ac or less, using integral control power transformer.
4. Motor Overload Protection: Overload relay in each phase.
5. Starting Devices: Hand-off-automatic selector switch in cover of control panel, plus pilot device for automatic control.

C. Receivers: Steel tank constructed according to ASME Boiler and Pressure Vessel Code: Section VIII, Division 1.

1. Pressure Rating: At least as high as highest discharge pressure of connected compressors, and bearing appropriate code symbols.
2. Interior Finish: Corrosion-resistant coating.
3. Accessories: Include safety valve, pressure gage, drain, and pressure-reducing valve.

D. Mounting Frame: Fabricate mounting and attachment to pressure vessel with reinforcement strong enough to resist packaged equipment movement during a seismic event when base is anchored to building structure.

2.2 ROTARY-SCREW AIR COMPRESSORS

A. Rotary-Screw Air Compressors:

1. Manufacturers: Subject to compliance with requirements, provide products by the following:

    a. Ingersoll Rand.

    b. Kaeser.

    c. Quincy.

2. Description: Packaged unit.
3. Air Compressor(s): Single-stage, oil-lubricated rotary-screw type with lubricated helical screws and lubricated gearbox, and of construction that prohibits oil from entering compression chamber.

    a. Cooling/Lubrication System: Unit-mounted, air-cooled exchanger package pre-piped to unit; with air-pressure circulation system with coolant stop valve, full-flow coolant filter, and thermal-bypass valve.
    b. Air Filter: Dry type, with maintenance indicator and cleanable replaceable filter element.
    c. Air/Coolant Receiver and Separation System: 150-psig- rated steel tank with ASME safety valve, coolant-level gage, multistage air-coolant separator element, minimum pressure valve, blowdown valve, discharge check valve, coolant stop valve, full-flow coolant filter, and thermal-bypass valve.
    d. Capacity Control: Capacity modulation between zero and 100 percent air delivery, with operating pressures between 50 and 100 psig. Include necessary control to hold constant pressure. When air demand is zero, unload compressor by using pressure switch and blowdown valve.
    e. Mounting: Freestanding.

4. Sound-attenuation enclosure.

B. Capacities and Characteristics:

1. Compressed-Air Service: Shop air.
2. Air Compressor(s): One.
3. Standard-Air Capacity of Each Air Compressor: 335 scfm free air.
4. Actual-Air Capacity of Each Air Compressor: 300 acfm delivered.
5. Discharge-Air Pressure: 135.
6. Discharge-Air Temperature: 100° F or less.
7. Motor (Each Air Compressor):

    a. Horsepower: 75.
    b. Speed: 1531 rpm.

8. Electrical Characteristics:

    a. Volts: 460.

b. Phase(s): Three.
c. Hertz: 60.
d. Full-Load Amperes: 101.
e. Maximum Overcurrent Protection: 150 amperage.

9. Receiver: ASME construction steel tank.

a. Orientation: Vertical arrangement.
b. Capacity: See drawing schedule
c. Interior Finish: Epoxy.
d. Pressure Rating: 150 psig minimum.
e. Pressure Regulator Setting: See drawing schedule
f. Pressure Relief Valve Setting: 135 psig.
g. Drain: Automatic valve.

2.3 INLET-AIR FILTERS

A. Description: Combination inlet-air filter-silencer, suitable for remote installation, for each air compressor.

1. Construction: Weatherproof housing for replaceable, dry-type filter element, with silencer tubes or other method of sound reduction.

2. Capacity: Match capacity of air compressor, with filter having collection efficiency of 99 percent retention of particles larger than 10 micrometers.

2.4 Refrigerant Compressed-Air Dryers

A. Description: Noncycling, air-cooled, electric-motor-driven unit with steel enclosure and capability to deliver 35 deg F, 100-psig air at dew point. Include automatic ejection of condensate from airstream, step-down transformers, disconnect switches, inlet and outlet pressure gages, thermometers, automatic controls, and filters.

2.5 MOTORS

A. Comply with NEMA designation, temperature rating, service factor, enclosure type, and efficiency requirements for motors specified in Division 22 Section "Common Motor Requirements for Plumbing Equipment."

1. Motor Sizes: Minimum size as indicated. If not indicated, large enough so driven load will not require motor to operate in service factor range above 1.0.

2. Controllers, Electrical Devices, and Wiring: Comply with requirements for electrical devices and connections specified in Division 26 Sections.

PART 3 - EXECUTION

3.1 EQUIPMENT INSTALLATION

A. Equipment Mounting: Install air compressors and air dryers anchored to concrete bases using elastomeric pads. Comply with requirements in Division 03 Section "Cast-in-Place Concrete."

B. Arrange equipment so controls and devices are accessible for servicing.

C. Maintain manufacturer's recommended clearances for service and maintenance.

D. Install the following devices on compressed-air equipment:

1. Pressure Gage and Safety Valve: Install on each compressed-air receiver.
2. Pressure Regulators: Install downstream from air compressors and dryers.
3. Automatic Drain Valves: Install on filters and dryers. Discharge condensate over nearest floor or open site drain.

3.2 CONNECTIONS

A. Comply with requirements for piping specified in Division 22 Section "General-Service Compressed-Air Piping." Drawings indicate general arrangement of piping, fittings, and specialties.

B. Install piping adjacent to machine to allow service and maintenance.

3.3 IDENTIFICATION

A. Identify general-service air compressors and components. Comply with requirements for identification specified in Division 22 Section "Identification for Plumbing Piping and Equipment."

3.4 STARTUP SERVICE

A. Perform startup service.

1. Complete installation and startup checks according to manufacturer's written instructions.

2. Verify that air-compressor inlet filters and piping are clear.

3. Check for equipment vibration-control supports and flexible pipe connectors and verify that equipment is properly attached to substrate.

4. Check safety valves for correct settings. Ensure that settings are higher than air-compressor discharge pressure but not higher than rating of system components.

5. Drain receiver tanks.

6. Operational Test: After electrical circuitry has been energized, start units to confirm proper motor rotation and unit operation.

7. Test and adjust controls and safeties.

3.5 DEMONSTRATION

A. Train Owner's maintenance personnel to adjust, operate, and maintain air compressors and dryers.

END OF SECTION 221519

SECTION 22 31 00
DOMESTIC WATER SOFTENERS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Commercial Water softeners.
2. Chemicals.
3. Water-testing sets.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product indicated.

1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for water softeners.
2. Include rated capacities, operating characteristics, electrical characteristics, and furnished specialties and accessories.
3. Wiring Diagrams: For power, signal, and control wiring.

B. Operation and Maintenance Data: For water softeners to include in emergency, operation, and maintenance manuals.

1.4 QUALITY ASSURANCE

A. Product Options: Drawings indicate size, profiles, and dimensional requirements of water softeners and are based on the specific system indicated. Refer to Division 01 Section "Product Requirements."

B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended application.

C. UL Compliance: Fabricate and label water softeners to comply with UL 979, "Water Treatment Appliances."

1.5 COORDINATION

A. Coordinate size and location of concrete bases. Cast anchor-bolt inserts into bases. Concrete, reinforcement, and formwork requirements are specified in Division 03.

1.6 WARRANTY

A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of water softeners that fail in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, the following:

a. Structural failures of mineral and brine tanks.
b. Faulty operation of controls.
c. Deterioration of metals, metal finishes, and other materials beyond normal use.
d. Attrition loss of resin exceeding 3 percent per year.
e. Mineral washed out of system during service run or backwashing period.
f. Effluent turbidity greater and color darker than incoming water.
g. Fouling of underdrain system, gravel, and resin with turbidity or by dirt, rust, or scale from water softener or soft water, while operating according to manufacturer's written operating instructions.

2. Warranty Period: 5 years from date of Substantial Completion.

1.7 MAINTENANCE SERVICE

A. Maintenance: Submit four copies of manufacturer's "Agreement for Continued Service and Maintenance," before Substantial Completion, for Owner's acceptance. Offer terms and conditions for furnishing chemicals and providing continued testing and servicing to include replacing materials and equipment. Include one-year term of agreement with option for one-year renewal.

PART 2 - PRODUCTS

2.1 WATER SOFTENERS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Culligan International Company.
2. Diamond Water Systems, Inc.
3. Hellenbrand Inc.

B. Description: Factory-assembled, pressure-type water softener.

1. Standard: Comply with NSF 61 Annex, "Drinking Water System Components - Health Effects."
2. Model: progressive/metered water softening system.
3. Configuration: Twin unit with two mineral tanks and two brine tanks.
4. Mounting: On housekeeping pad.
5. Mineral Tanks: FRP, pressure-vessel quality.

a. Pressure Rating: 125 psig minimum.
b. Freeboard: 50 percent minimum for backwash expansion above normal resin bed level.

c. Distribution System: Hub and radial-arm or header-lateral type; fabricated from nonmetallic pipe and fittings with individual, fine-slotted, non-clogging plastic strainers, and arranged for even flow distribution through resin bed.

6. Controls: Electronic programmable, fully automatic; factory wired, and factory mounted on unit.

a. Adjustable duration of various regeneration steps.
b. Push-button start and complete manual operation.
c. Electric time clock and switch for fully automatic operation, adjustable to initiate regeneration at any hour of day and any day of week or at fixed intervals.
d. Electronic water meter, adjustable to initiate regeneration according to time clock schedule or by volume override.

7. Flow Control: Automatic, to control backwash and flush rates over wide variations in operating pressure; does not require field adjustments.

a. Demand-Initiated Control: Each mineral tank of twin mineral-tank unit is equipped with automatic-reset-head water meter that electrically activates cycle controllers to initiate regeneration at preset total in gallons. Head automatically resets to preset total in gallons for next service run. Electrical lockout prevents simultaneous regeneration of both tanks.

8. Brine Tank: Combination measuring and wet-salt storing system.

a. Tank and Cover Material: Fiberglass, 3/16 inch thick; or molded PE, 3/8 inch thick.
b. Brine Valve: Float operated, and plastic fitted for automatic control of brine withdrawal and freshwater refill.
c. Size: 330lb each.

9. Factory-Installed Accessories:

a. Piping, valves, tubing, and drains.
b. Sampling cocks.
c. Main-operating-valve position indicators.
d. Water meters.

C. Capacities and Characteristics:

1. Water Analysis:

a. Hardness: 25 grains/gal. or ppm.

2.2 WATER-TESTING SETS

A. Description: Manufacturer's standard water-hardness testing apparatus and chemicals with testing procedure instructions. Include metal container suitable for wall mounting.

PART 3 - EXECUTION

3.1 WATER SOFTENER INSTALLATION

A. Equipment Mounting:

1. Install water softeners on cast-in-place concrete equipment base(s).

B. Install brine lines and fittings furnished by equipment manufacturer but not specified to be factory installed.

C. Prepare mineral-tank distribution system and underbed for minerals and place specified mineral into mineral tanks.

D. Install remote salt delivery system to the top of brine tanks and have delivery system piping piped to the outside of the building in a location a delivery truck can access.

E. Install water-testing sets mounted on wall, unless otherwise indicated, and near water softeners.

3.2 CONNECTIONS

A. Comply with requirements for piping specified in Section 22 11 16 "Supply Piping for Plumbing." Drawings indicate general arrangement of piping, fittings, and specialties.

B. Where piping is installed adjacent to equipment, allow space for service and maintenance of equipment.

C. Install shutoff valves on raw-water inlet and soft-water outlet piping of each mineral tank, and on inlet and outlet headers.

1. Metal and plastic valves are specified in Section 22 05 23 “General-Duty Valves for Plumbing.”
2. Exception: Water softeners with factory-installed shutoff valves at locations indicated.

D. Install pressure gages on raw-water inlet and soft-water outlet piping of each mineral tank. Pressure gages are specified in Section 22 05 19 "Meters and Gages for Plumbing."

1. Exception: Water softeners with factory-installed pressure gages at locations indicated.

E. Install valved bypass in water piping around water softeners.

1. Metal and plastic valves are specified in Section 22 05 23 “General-Duty Valves for Plumbing.” Water piping is specified in Section 22 11 16 "Supply Piping for Plumbing."

F. Install drains as indirect wastes to spill into open drains or over floor drains or floor sinks.

3.3 IDENTIFICATION

A. Identify system components. Comply with requirements for identification specified in Section 22 05 53 "Identification for Plumbing."

3.4 FIELD QUALITY CONTROL

A. Tests and Inspections:

1. Leak Test: After installation, charge system and test for leaks. Repair leaks and retest until no leaks exist.
2. Operational Test: After electrical circuitry has been energized, start units to confirm proper unit operation.
3. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

B. Water softeners will be considered defective if they do not pass tests and inspections.

C. Prepare test and inspection reports.

3.5 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.

B. Add water to brine tanks and fill with salt:

C. Sample water softener effluent after startup and at three consecutive seven-day intervals (total of four samples) and prepare certified test reports for required water performance characteristics. Comply with the following:

1. ASTM D 859, "Test Method for Silica in Water."
2. ASTM D 1067, "Test Methods for Acidity or Alkalinity of Water."
3. ASTM D 1068, "Test Methods for Iron in Water."
4. ASTM D 1126, "Test Method for Hardness in Water."
5. ASTM D 1129, "Terminology Relating to Water."
6. ASTM D 3370, "Practices for Sampling Water from Closed Conduits."

3.6 DEMONSTRATION

A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain water softeners.

END OF SECTION 22 31 00

SECTION 22 34 00
FUEL-FIRED, DOMESTIC-WATER HEATERS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Commercial, gas-fired, high-efficiency, storage, domestic-water heaters.
2. Domestic-water heater accessories.

1.3 ACTION SUBMITTALS

A. Product Data: For each type and size of domestic-water heater indicated. Include rated capacities, operating characteristics, electrical characteristics, and furnished specialties and accessories.

1.4 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For fuel-fired, domestic-water heaters to include in emergency, operation, and maintenance manuals.

1.5 QUALITY ASSURANCE

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. ASHRAE/IESNA Compliance: Fabricate and label fuel-fired, domestic-water heaters to comply with ASHRAE/IESNA 90.1.

C. NSF Compliance: Fabricate and label equipment components that will be in contact with potable water to comply with NSF 61 Annex G, "Drinking Water System Components - Health Effects."

1.6 COORDINATION

A. Coordinate sizes and locations of concrete bases with actual equipment provided.

1.7 WARRANTY

A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of fuel-fired, domestic-water heaters that fail in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, the following:

    a. Structural failures including storage tank and supports.
    b. Faulty operation of controls.
    c. Deterioration of metals, metal finishes, and other materials beyond normal use.

2. Warranty Periods: From date of Substantial Completion.

    a. Commercial, Gas-Fired, Storage, Domestic-Water Heaters:

        1) Storage Tank: Five years.
        2) Controls and Other Components: Three year(s).

    b. Compression Tanks: Five years.

PART 2 - PRODUCTS

2.1 COMMERCIAL, GAS-FIRED, STORAGE, DOMESTIC-WATER HEATERS

A. Commercial, Gas-Fired, High-Efficiency, Storage, Domestic-Water Heaters:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

    a. Bock Water Heaters.
    b. Bradford White Corporation.
    c. Heat Transfer Products, Inc.
    d. Smith, A. O. Corporation.

2. Description: Manufacturer's proprietary design to provide at least 95 percent combustion efficiency at optimum operating conditions.
3. Storage-Tank Construction: Steel with 150-psig minimum working-pressure rating.

    a. Tappings: Factory fabricated of materials compatible with tank. Attach tappings to tank before testing.
    b. Interior Finish: Comply with NSF 61 Annex G barrier materials for potable-water tank linings, including extending finish into and through tank fittings and outlets.

4. Factory-Installed Storage-Tank Appurtenances:

    a. Anode Rod: Electronic anode system or replaceable magnesium anode.
    b. Dip Tube: Required unless cold-water inlet is near bottom of tank.
    c. Drain Valve: Corrosion-resistant metal complying with ASSE 1005.
    d. Insulation: Comply with ASHRAE/IESNA 90.1. Surround entire storage tank except connections and controls.
    e. Jacket: Steel with enameled finish.

f. Burner or Heat Exchanger: Comply with UL 795 or approved testing agency requirements for gas-fired, high-efficiency, domestic-water heaters, and natural-gas fuel.
g. Temperature Control: Adjustable thermostat.
h. Safety Controls: Automatic, high-temperature-limit and low-water cutoff devices or systems.
i. Combination Temperature-and-Pressure Relief Valves: ANSI Z21.22/CSA 4.4-M. Include one or more relief valves with total relieving capacity at least as great as heat input, and include pressure setting less than domestic-water heater working-pressure rating. Select one relief valve with sensing element that extends into storage tank.

2.2 DOMESTIC-WATER HEATER ACCESSORIES

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

   a. AMTROL, Inc.
   b. Smith, A. O. Corporation.
   c. Watts.

2. Description: Steel pressure-rated tank constructed with welded joints and factory-installed butyl-rubber diaphragm. Include air pre-charged to minimum system-operating pressure at tank.
3. Construction:

   a. Tappings: Factory-fabricated steel, welded to tank before testing and labeling.
   b. Interior Finish: Comply with NSF 61 Annex G barrier materials for potable-water tank linings, including extending finish into and through tank fittings and outlets.
   c. Air-Charging Valve: Factory installed.

2.3 COMMERCIAL, GAS-FIRED, PRESSURE WASHER

A. Commercial, Gas-Fired, Pressure Washer:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

   a. Hotsy.
   b. Landa.
   c. Alkota Cleaning Systems, Inc.

2. Description:

   a. Burner: NG Fired, 365,000btu minimum capacity, AGA listed controls, ring type with aspirating spuds, natural gas.
   b. All open flames and fire rings shall be mounted at minimum of 18 inches above the finished floor.

c. Heating Coil: Vertically-fired, one inch outside diameter, hydrostatic-pressured tested; 14,900psi burst rating
d. Water pump: Triplex water pump with positive displacement, ceramic pluggers, brass manifold, and oil bath crankcase.
e. Fabrication: Welded angle iron Frame shall have heavy gauge tank and cabinet.
f. Supplier shall provide 1/2"inche outside diameter ASTM-A-312 Schedule 38 stainless steel piping. Provide ANSI/ASME B 31.3 stainless steel fittings. Provide piping from high-pressure wash unit to each trigger gun wand for a complete operable system.
g. Manufacturer shall supply all necessary soap system equipment including piping, fittings, distribution hose, and connections for a complete operable soap distribution system.
h. Programmable smart relay feature shall control over run time, auto start/stop and shut down functionality.

3. Controls:

a. Adjustable temperature controller, safety pressure relief valve, pressure switch, ON/OFF electric motor switch with overload protection, unloader, water heater switch, detergent valve and automatic non-comtaminating float valve.
b. 24v backdraft diverter in exhaust duct wired to PLC controls.

4. Accessories:

a. Trigger gun (one trigger for each location)
b. Wall mounted remote control for hot/cold water.
c. 36 inch wand (one each per trigger gun location)
d. Nozzle (one each per trigger gun location)
e. Quick coupler (one each per trigger gun location)
f. Soap Solenoid and switch ((one each per trigger gun location)
g. Replacement nozzle: (one pack per trigger gun, pack of four, 4-1/2” millimeter with quick disconnect)
h. Draft diverter: (one per unit)
i. Reel (one each per trigger gun location)
j.

PART 3 - EXECUTION

3.1 DOMESTIC-WATER HEATER INSTALLATION

A. Commercial, Domestic-Water Heater Mounting: Install commercial domestic-water heaters on concrete base. Comply with requirements for concrete base specified in Division 3.

1. Exception: Omit concrete bases for commercial domestic-water heaters if installation on stand, bracket, suspended platform, or directly on floor is indicated.

2. Maintain manufacturer's recommended clearances.
3. Arrange units so controls and devices that require servicing are accessible.
4. Install dowel rods to connect concrete base to concrete floor. Unless otherwise indicated, install dowel rods on 18-inchcenters around the full perimeter of concrete base.
5. For supported equipment, install epoxy-coated anchor bolts that extend through concrete base and anchor into structural concrete floor.
6. Place and secure anchorage devices. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
7. Install anchor bolts to elevations required for proper attachment to supported equipment.
8. Anchor domestic-water heaters to substrate.

B. Install domestic-water heaters level and plumb, according to layout drawings, original design, and referenced standards. Maintain manufacturer's recommended clearances. Arrange units so controls and devices needing service are accessible.

1. Install shutoff valves on domestic-water-supply piping to domestic-water heaters and on domestic-hot-water outlet piping. Comply with requirements for shutoff valves specified in Section 22 05 23 “General-Duty Valves for Plumbing.”

C. Install gas-fired, domestic-water heaters according to NFPA 54.

1. Install gas shutoff valves on gas supply piping to gas-fired, domestic-water heaters without shutoff valves.
2. Install gas pressure regulators on gas supplies to gas-fired, domestic-water heaters without gas pressure regulators if gas pressure regulators are required to reduce gas pressure at burner.
3. Install automatic gas valves on gas supplies to gas-fired, domestic-water heaters if required for operation of safety control.
4. Comply with requirements for gas shutoff valves, gas pressure regulators, and automatic gas valves specified in Section 23 11 23 "Facility Natural-Gas Piping."

D. Install combination temperature-and-pressure relief valves in top portion of storage tanks. Use relief valves with sensing elements that extend into tanks. Extend commercial-water-heater relief-valve outlet, with drain piping same as domestic-water piping in continuous downward pitch, and discharge by positive air gap onto closest floor drain.

E. Install water-heater drain piping as indirect waste to spill by positive air gap into open drains or over floor drains. Install hose-end drain valves at low points in water piping for domestic-water heaters that do not have tank drains. Comply with requirements for hose-end drain valves specified in Section 22 11 19 "Supply Piping Specialties for Plumbing."

F. Install thermometer on outlet piping of domestic-water heaters. Comply with requirements for thermometers specified in Section 22 05 19 "Meters and Gages for Plumbing."

G. Install piping-type heat traps on inlet and outlet piping of domestic-water heater storage tanks without integral or fitting-type heat traps.

H. Fill domestic-water heaters with water.

I. Charge domestic-water thermal expansion tanks with air.

3.2 CONNECTIONS

A. Comply with requirements for domestic-water piping specified in Section 22 11 16 "Supply Piping for Plumbing."

B. Comply with requirements for gas piping specified in Section 23 11 23 "Facility Natural-Gas Piping."

C. Drawings indicate general arrangement of piping, fittings, and specialties.

D. Where installing piping adjacent to fuel-fired, domestic-water heaters, allow space for service and maintenance of water heaters. Arrange piping for easy removal of domestic-water heaters.

3.3 IDENTIFICATION

A. Identify system components. Comply with requirements for identification specified in Section 22 05 53 "Identification for Plumbing."

3.4 FIELD QUALITY CONTROL

A. Perform tests and inspections.

1. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect components, assemblies, and equipment installations, including connections, and to assist in testing.
2. Leak Test: After installation, charge system and test for leaks. Repair leaks and retest until no leaks exist.
3. Operational Test: After electrical circuitry has been energized, start units to confirm proper operation.
4. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

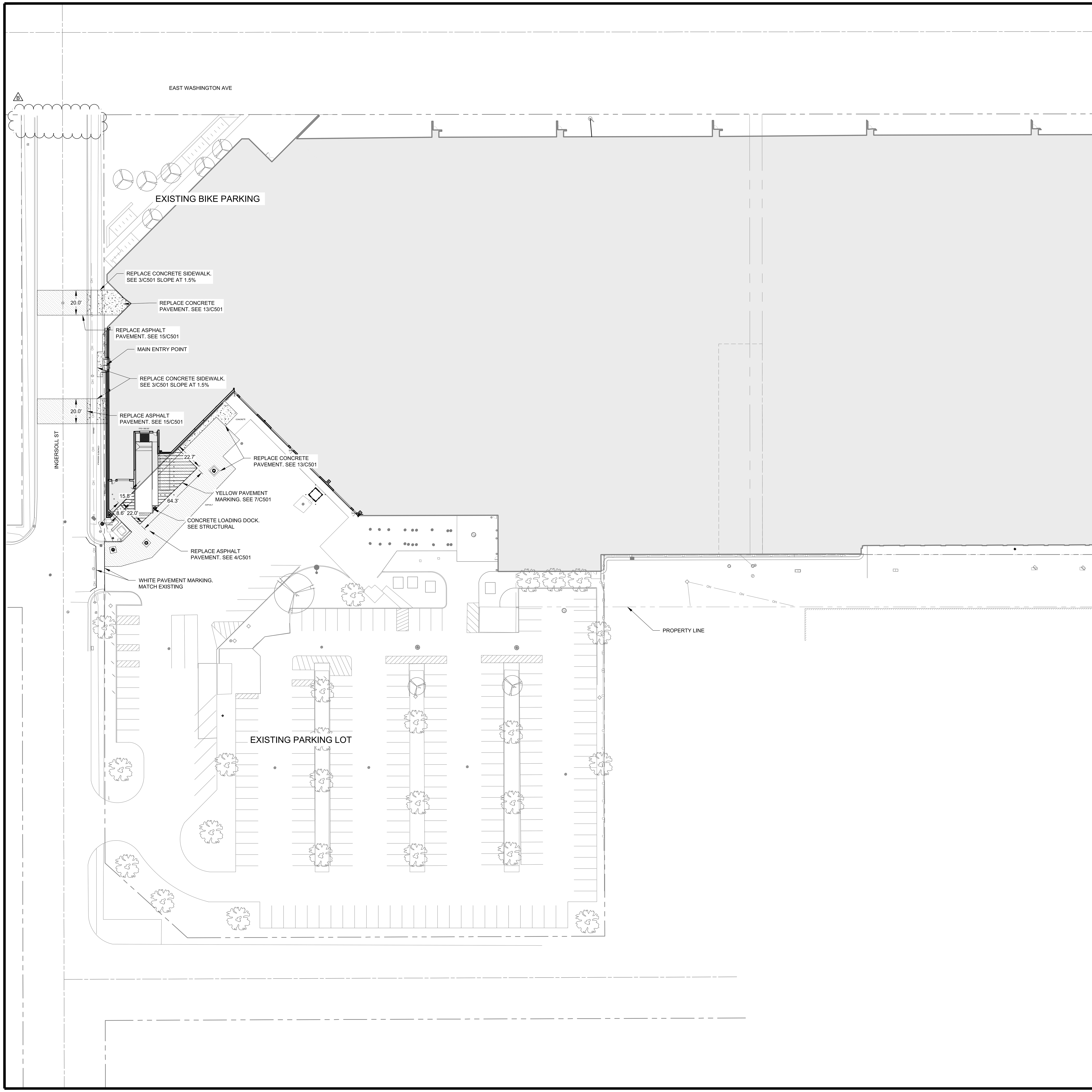
B. Domestic-water heaters will be considered defective if they do not pass tests and inspections.

C. Prepare test and inspection reports.

3.5 DEMONSTRATION

A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain domestic-water heaters.

END OF SECTION 22 34 00



NOTES:

1) REFERENCE G-020 THROUGH G-030 SHEETS FOR LIFE SAFETY CODE, WALL/FLOOR RATINGS, AND CLASS 1 DIV 2 REQUIREMENTS.

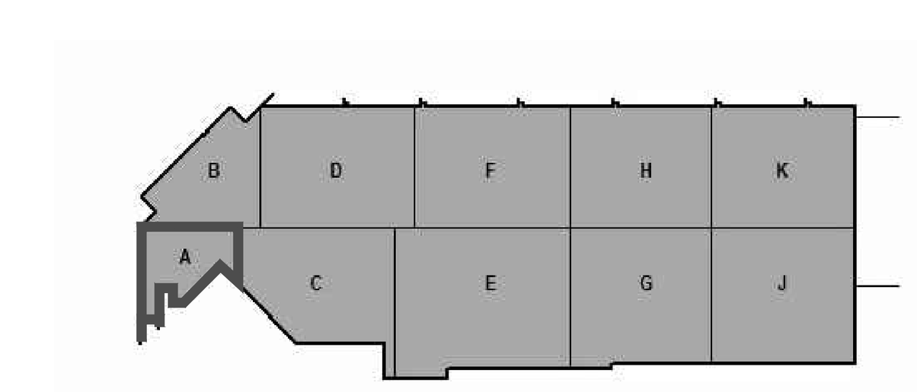
2) REFERENCE SHEET G-101 PHASING PLAN FOR CONSTRUCTION PHASING/SEQUENCING AND SITE ACCESS.

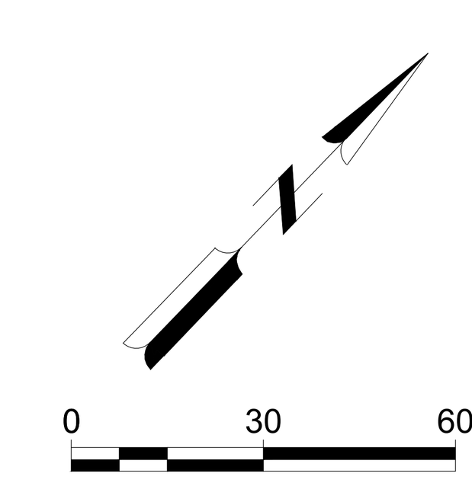
3) REFERENCE Q-SHEETS FOR EQUIPMENT COORDINATION AND EXCAVATION REQUIREMENTS.

LEGEND:

- BOLLARD
- FIRE HYDRANT
- LIGHT POLE
- STORM INLET, ROUND
- STORM SEWER MANHOLE
- WATER VALVE
- FENCE
- TEMPORARY CONSTRUCTION FENCE
- STORM SEWER / CULVERT
- WATER
- ASPHALT
- CONCRETE

SITE KEY PLAN





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KUENY ARCHITECTS, LLC

metro transit

CITY OF MADISON WISCONSIN

CITY OF MADISON
METRO TRANSIT - PHASE 3A - MAINTENANCE AND DRIVER FACILITY IMPROVEMENTS

1 SOUTH INGERSOLL ST.
MADISON, WI 53703

ISSUED

	04/08/21	BID SET
8	05/13/21	ADDENDUM #2

CONTRACT NO:	8981
M&H NO.:	4503500-190896.03
DATE:	APRIL 8, 2021
DESIGNED BY:	ACA
DRAWN BY:	KSD
CHECKED BY:	ACA

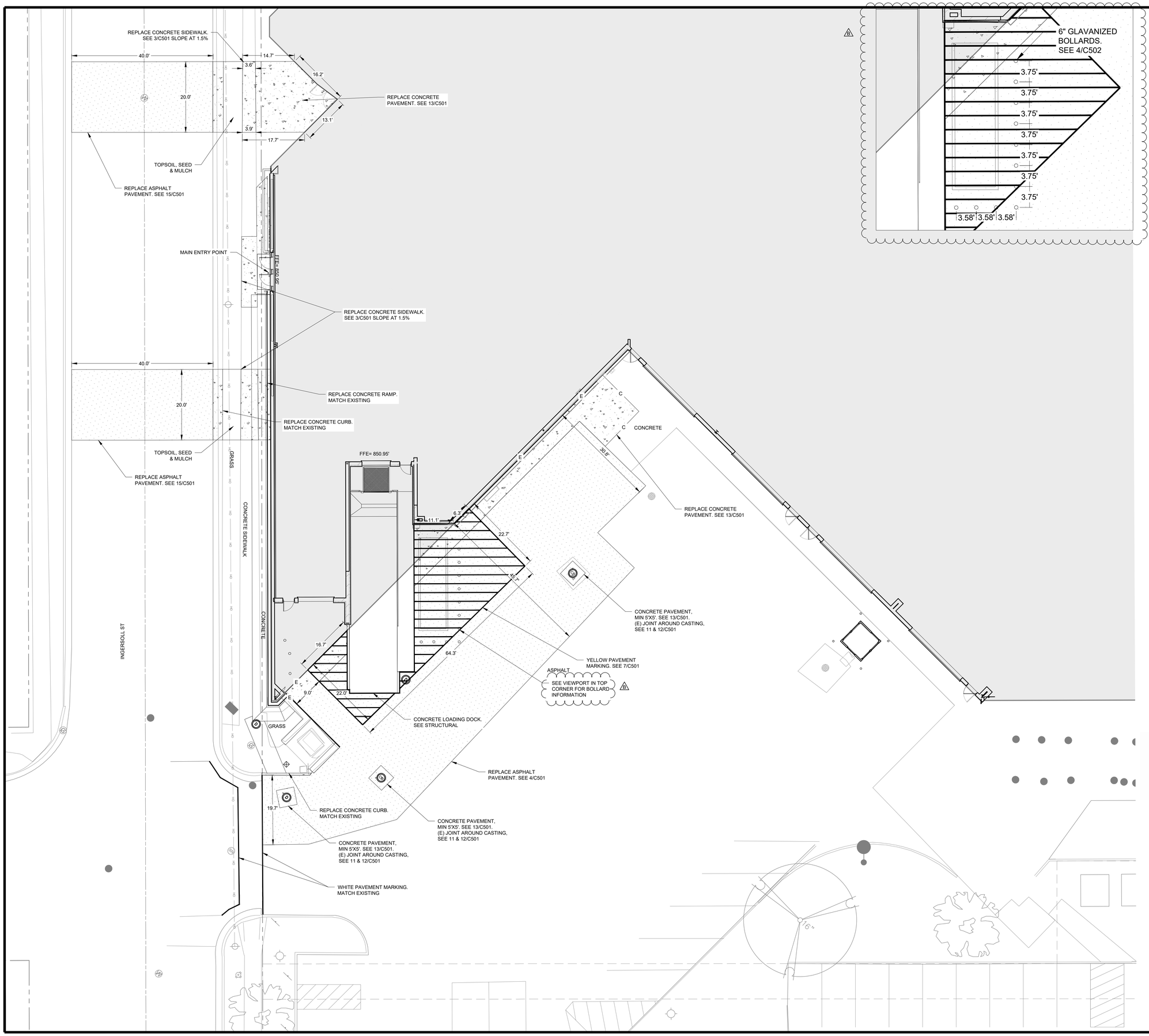
DO NOT SCALE DRAWINGS

SHEET CONTENTS

OVERALL SITE IMPROVEMENT PLAN

SHEET NO.

C-101



NOTES:

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2) REFERENCE SHEET G-101 PHASING PLAN FOR CONSTRUCTION PHASING/SEQUENCING AND SITE ACCESS.

3) REFERENCE Q-SHEETS FOR EQUIPMENT COORDINATION AND EXCAVATION REQUIREMENTS.

JOINTING PLAN NOTES:

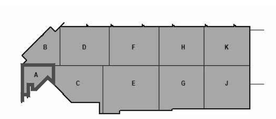
C = CONTRACTION/CONSTRUCTION JOINTS. SEE 9 & 10/C501

E = EXPANSION JOINTS. SEE 11 & 12/C501

LEGEND:

- BOLLARD
- FIRE HYDRANT
- LIGHT POLE
- STORM INLET, ROUND
- STORM SEWER MANHOLE
- WV — WATER VALVE
- X — FENCE
- XXX — TEMPORARY CONSTRUCTION FENCE
- SD — STORM SEWER / CULVERT
- W — WATER
- ASPHALT
- CONCRETE

SITE KEY PLAN



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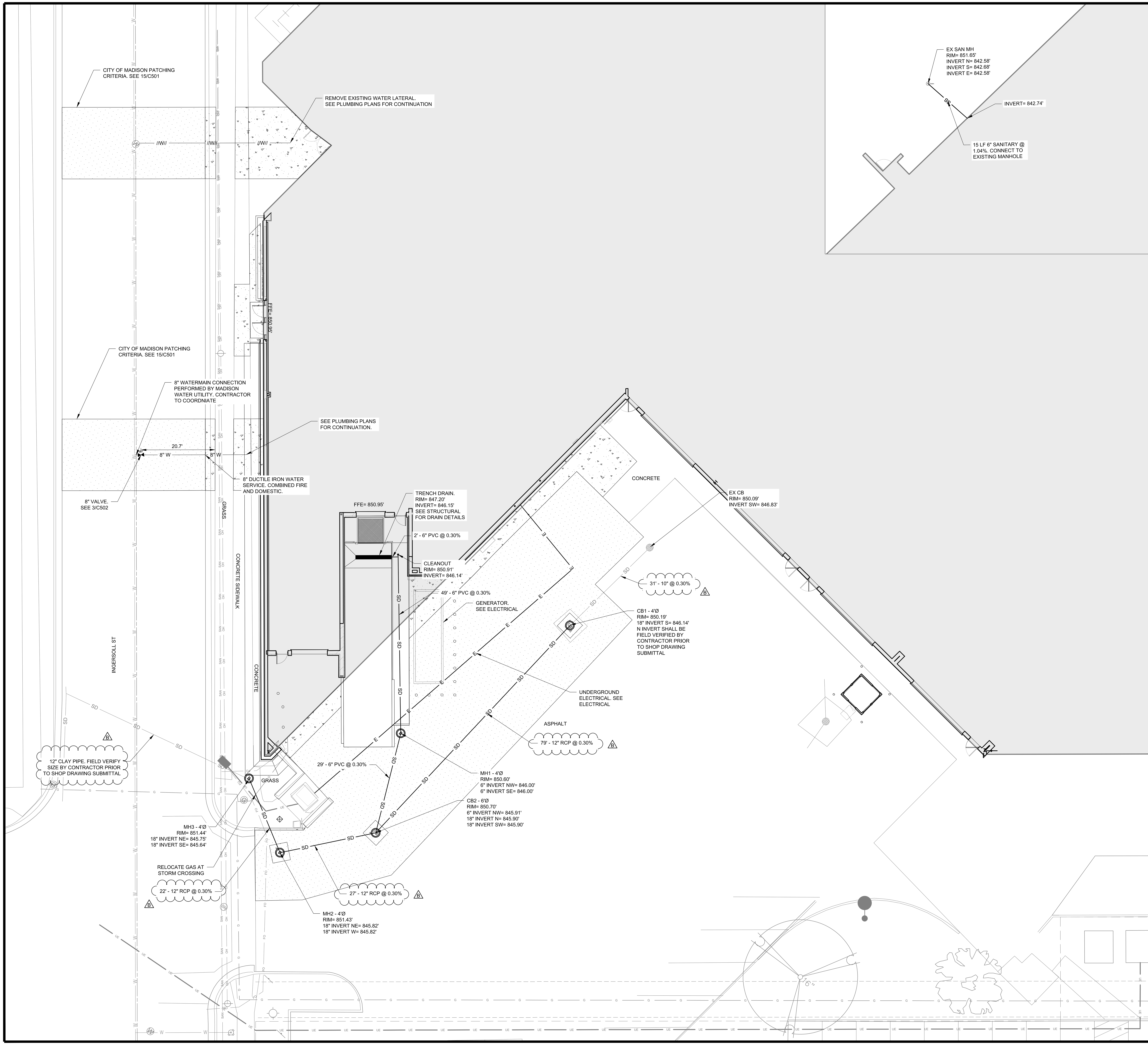
M&H NO.: 4503500-190896.03
DATE: APRIL 8, 2021
DESIGNED BY: ACA
DRAWN BY: KSD
CHECKED BY: ACA
DO NOT SCALE DRAWINGS

SHEET CONTENTS

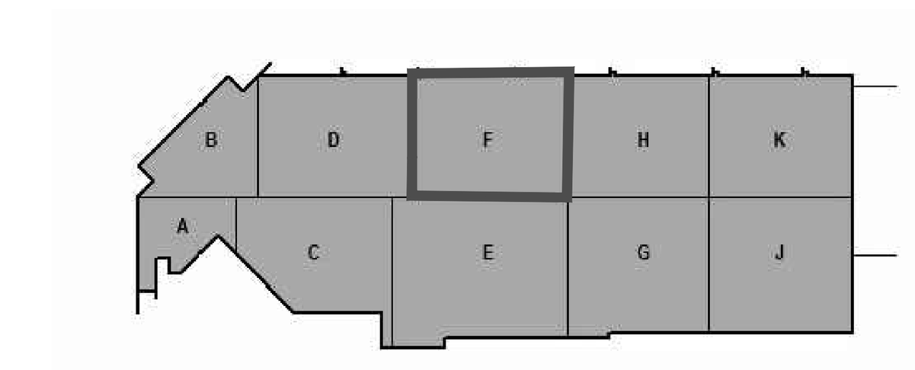
SITE IMPROVEMENTS PLAN

SHEET NO.

C-102



SITE KEY PLAN



NOTES:

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2) REFERENCE SHEET G-101 PHASING PLAN FOR CONSTRUCTION PHASING/SEQUENCING AND SITE ACCESS.

3) REFERENCE Q-SHEETS FOR EQUIPMENT COORDINATION AND EXCAVATION REQUIREMENTS.

LEGEND:

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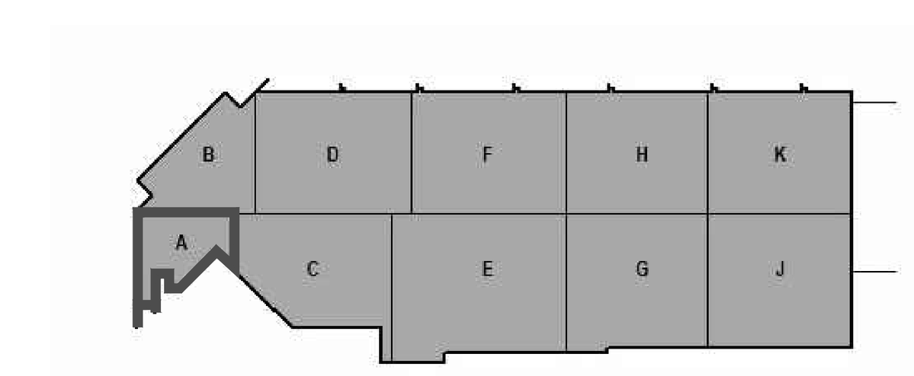
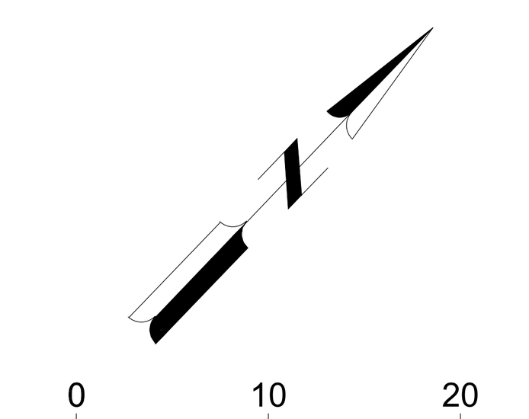
- FIRE HYDRANT
- LIGHT POLE
- STORM INLET, ROUND
- STORM SEWER MANHOLE
- WATER VALVE
- FENCE
- TEMPORARY CONSTRUCTION FENCE
- SD — STORM SEWER / CULVERT
- W — WATER
- //W// — WATER REMOVAL
- ASPHALT
- CONCRETE

SITE KEY PLAN





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DESIGNED BY:	ACA
DRAWN BY:	KSD
CHECKED BY:	ACA

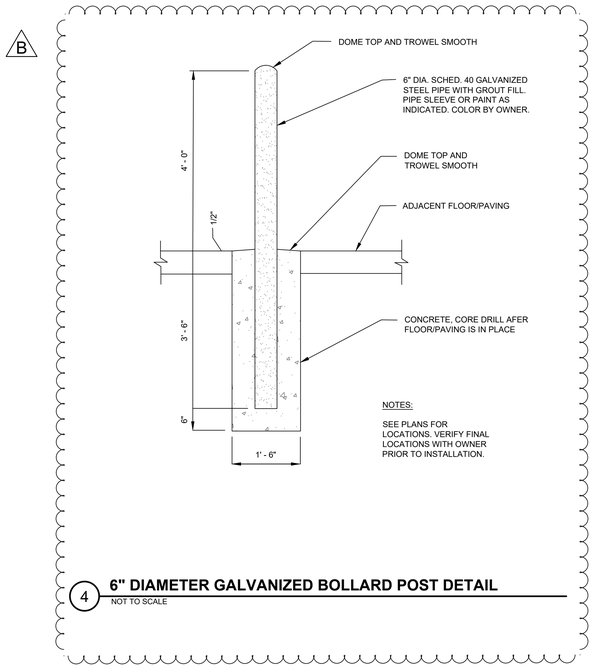
DO NOT SCALE DRAWINGS

SHEET CONTENTS

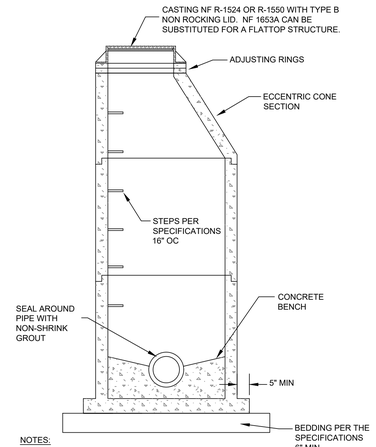
SITE UTILITY PLAN

SHEET NO.

C-141



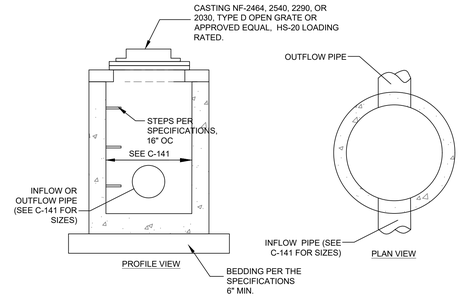
4 **6" DIAMETER GALVANIZED BOLLARD POST DETAIL**
NOT TO SCALE



NOTES:

1. PROVIDE 4 FOOT DIAMETER MANHOLES UNLESS OTHERWISE SPECIFIED ON THE PLANS.
2. MANHOLE BASE SHALL BE CAST MONOLITHICALLY WITH THE BARREL SECTION. BOTTOM BARREL SECTION SAHLL BE A MINIMUM OF 28 INCHES HIGH.
3. PROVIDE A MINIMUM OF 4 INCHES OF RING ADJUSTMENT.
4. WHEN ADDITIONAL ADJUSTMENT IS REQUIRED, IT SHALL BE DONE WITH A COMBINATION OF RINGS THICKER THAN 2 INCHES.

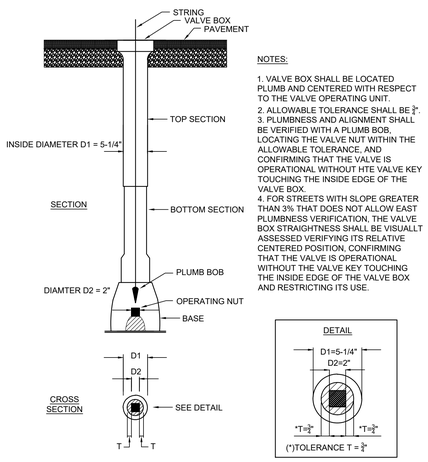
1 **STORM MANHOLE DETAIL**
NOT TO SCALE



NOTES:

1. PRECAST INLET IN ACCORDANCE WITH THE SPECIFICATIONS.
2. BASE SHALL BE MONOLITHIC WITH THE RISER SECTION BOTTOM A MINIMUM OF 24 INCHES HIGH.

2 **CATCH BASIN DETAIL**
NOT TO SCALE



NOTES:

1. VALVE BOX SHALL BE LOCATED PLUMB AND CENTERED WITH RESPECT TO THE VALVE OPERATING UNIT.
2. ALLOWABLE TOLERANCE SHALL BE 3/4".
3. PLUMBNESS AND ALIGNMENT SHALL BE VERIFIED WITH A PLUMB BOB, LOCATING THE VALVE NUT WITHIN THE ALLOWABLE TOLERANCE, AND CONFIRMING THAT THE VALVE IS OPERATIONAL WITHOUT HTE VALVE KEY TOUCHING THE INSIDE EDGE OF THE VALVE BOX.
4. FOR STREETS WITH SLOPE GREATER THAN 3% THAT DOES NOT ALLOW EAST PLUMBNESS VERIFICATION, THE VALVE BOX STRAIGHTNESS SHALL BE VISUALLT ASSESSED VERIFYING ITS RELATIVE CENTERED POSITION, CONFIRMING THAT THE VALVE IS OPERATIONAL WITHOUT THE VALVE KEY TOUCHING THE INSIDE EDGE OF THE VALVE BOX AND RESTRICTING ITS USE.

3 **WATER VALVE BOX ALIGNMENT DETAIL**
NOT TO SCALE

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metro transit

CITY OF MADISON WISCONSIN

CITY OF MADISON
METRO TRANSIT - PHASE 3A - MAINTENANCE AND DRIVER FACILITY IMPROVEMENTS
1 SOUTH INGERSOLL ST.
MADISON, WI 53703

ISSUED

04/08/21	BID SET
⚠ 05/13/21	ADDENDUM #2

CONTRACT NO.: 8981
M&H NO.: 4503500-190896.03
DATE: APRIL 8, 2021
DESIGNED BY: ACA
DRAWN BY: KSD
CHECKED BY: ACA
DO NOT SCALE DRAWINGS

SHEET CONTENTS
DETAILS

SHEET NO.
C-502

STRUCTURAL DESIGN CRITERIA

1. GOVERNING CODE: WISCONSIN COMMERCIAL BUILDING CODE SPS 361-366
   2015 INTERNATIONAL BUILDING CODE

2. RISK CATEGORY: II

3. FLOOR LIVE LOAD (1603.1.1)

   FLOOR AT GRADE: WI DOT: 11K WHEEL, 34K TANDEM
   SECOND FLOOR: 80 PSF
   MEZZANINE: 80 PSF

4. ROOF LIVE LOAD (1603.1.2)

   MINIMUM ROOF LIVE LOAD: 20 PSF

5. ROOF SNOW LOAD (1603.1.3)

   GROUND SNOW LOAD: P_G = 30 PSF
   FLAT-ROOF SNOW LOAD: P_F = 23 PSF
   SNOW EXPOSURE FACTOR: C_E = 1.1
   SNOW LOAD IMPORTANCE FACTOR: I_S = 1.0
   THERMAL FACTOR: C_T = 1.0

6. WIND DESIGN DATA (1603.1.4)

   ULTIMATE WIND SPEED (3-SECOND GUST): V_{ULT} = 115 MPH
   NOMINAL WIND SPEED (3-SECOND GUST) V_{ASD} = 90 MPH
   WIND EXPOSURE: C
   INTERNAL PRESSURE COEFFICIENT: GCPI = +/- 0.15

7. EARTHQUAKE DESIGN DATA (1603.1.5)

   IMPORTANCE FACTOR: I_E = 1

   MAPPED, MCE, 5% DAMPED, SPECTRAL ACCELERATIONS:
   AT SHORT PERIODS: S_S = 0.08 G
   AT A PERIOD OF 1 SECOND: S_1 = 0.05 G

   SITE CLASS: D

   DESIGN EARTHQUAKE SPECTRAL ACCELERATIONS
   AT SHORT PERIODS: S_{DS} = 0.09 G
   AT A PERIOD OF 1 SECOND: S_{D1} = 0.073 G

8. GEOTECHNICAL DESIGN DATA (1603.1.6)

   NET ALLOWABLE SOIL BEARING PRESSURE 1500 PSF
   PER CGC GEOTECHNICAL REPORT, PROJECT C15051-8 DATED 06/12/2018

9. FLOOD DESIGN DATA (1603.1.7)

   BUILDING IS NOT LOCATED IN FLOOD HAZARD AREA; THEREFORE FLOOD DESIGN DATA IS NOT REQUIRED

10. SPECIAL LOADS (1603.1.8)

    SPECIAL LOADING CONDITIONS ARE NOT APPLICABLE TO THE DESIGN OF THIS BUILDING; THEREFORE SPECIAL LOADS ARE NOT REQUIRED

11. PHOTOVOLTAIC PANEL SYSTEM LOADS (1603.1.8.1)

    PANEL SYSTEM: N/A
    SUPPORT SYSTEM: N/A

12. STRUCTURAL OBSERVATIONS FOR SEISMIC AND/OR WIND RESISTANCE

    STRUCTURAL OBSERVATIONS FOR SEISMIC AND WIND RESTISTANCE ARE NOT REQUIRED.

GENERAL NOTES

G-1. FIELD VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS PRIOR TO START OF CONSTRUCTION - RESOLVE ANY DISCREPANCY WITH ARCHITECT/ENGINEER.

DO NOT SCALE DRAWINGS!!!!

G-2. FOR CLARITY, ALL EXTERIOR SLABS AND SIDEWALKS MAY NOT BE SHOWN. FOR EXACT DIMENSIONS, LOCATIONS, JOINTS AND SCORE LINES, SEE ARCHITECTURAL AND/OR CIVIL DRAWINGS.

G-3. VERIFY ALL SIZES, WEIGHTS AND LOCATIONS OF MECHANICAL AND ELECTRICAL EQUIPMENT, ROOF PENETRATIONS, DUCTS, ETC. WITH MECHANICAL AND ELECTRICAL CONTRACTORS AND FIELD CONDITIONS.

G-4. DETAILS MARKED "TYPICAL" MAY OR MAY NOT BE CUT ON PLANS, BUT SHALL APPLY UNLESS NOTED OTHERWISE.

G-5. STRUCTURAL SYSTEM IS DESIGNED TO WORK AS A COMPLETED SYSTEM, ANY SHORING OR BRACING NECESSARY DURING CONSTRUCTION SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR.

G-6. SEE ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND PLUMBING PLANS FOR SLEEVES, INSERTS, ETC. NOT SHOWN ON STRUCTURAL PLANS.

G-7. NO PIPES OR SLEEVES FOR MECHANICAL TRADES SHALL PASS THROUGH STRUCTURAL MEMBERS WITHOUT APPROVAL OF THE STRUCTURAL ENGINEER.

G-8. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ALL SITE SAFETY AND ALL ACCIDENTS WHICH RESULT IN DEATH, PERSONAL INJURY, OR DAMAGE TO PROPERTY ARISING OUT OF OR IN CONNECTION WITH THE PERFORMANCE OF THE WORK.

G-9. CONTRACTOR SHALL POST LIVE LOADS PER SECTION 106.1 OF THE GOVERNING CODE.

G-10. SECTIONS, DETAILS, AND NOTES SHOWN ON THE DRAWINGS ARE INTENDED TO BE TYPICAL AND SHALL APPLY TO SIMILAR CONDITIONS ELSEWHERE, UNLESS OTHERWISE SHOWN.

EARTHWORK NOTES

EW-1. REFERENCE GEOTECHICAL DATA AND EARTH MOVING SPECIFICATION FOR DEFINITION OF MATERIALS AND COMPACTION REQUIREMENTS.

EW-2. REFERENCE GEOTECHNICAL DATA AND EARTH MOVING SPECIFICATION FOR REQUIREMENTS FOR EXCAVATION AND CONTROL OF SURFACE WATER AND GROUND WATER.

EW-3. UNLESS NOTED OTHERWISE, THE CONTRACTOR SHALL RETAIN AN INDEPENDENT, QUALIFIED GEOTECHNICAL ENGINEERING FIRM/TESTING AGENCY TO IDENTIFY AREAS OF POOR SOILS, TO MONITOR PROPER SUBGRADE PREPARATIONS AND TO OVERSEE AND TEST THE PLACEMENT OF COMPACTED FILL MATERIAL.

EW-4. ALL SUBTERRANEAN STRUCTURES, UTILITIES, PIPING, ETC. IN THE AREA OF EXCAVATIONS SHALL BE LOCATED AND MARKED BY CONTRACTOR PRIOR TO EARTH REMOVAL WORK. CONTRACTOR SHALL MAINTAIN MARKERS UNTIL EXCAVATION ACTIVITIES HAVE CEASED.
IF UNDERGROUND UTILITY CONFLICTS ARE DISCOVERED BEFORE OR ENCOUNTERED DURING EXCAVATION, NOTIFY THE ARCHITECT/ENGINEER IMMEDIATELY.

EW-5. BEFORE PLACING FOOTINGS, FOUNDATIONS OR SLAB-ON-GRADE, THE SUB-GRADE SHALL BE PREPARED AND INSPECTED AS REQUIRED BY THE SPECIFICATIONS.

EW-6. DO NOT BACKFILL OR FILL SOIL MATERIAL ON SURFACES THAT ARE MUDDY, FROZEN, OR CONTAIN FROST AND/OR ICE.

EW-7. PLACE BACKFILL AND FILL SOIL MATERIALS EVENLY ON ALL SIDES OF STRUCTURES TO REQUIRED ELEVATIONS AND UNIFORMLY ALONG THE FULL LENGTH OF EACH STRUCTURE.

FOUNDATION NOTES

F-1. FOOTING SUBGRADES SHALL BE CLEAN AND FREE OF DEBRIS, STANDING WATER, AND LOOSE SOIL.

F-2. ALL COLUMN FOOTINGS ARE TO BE CENTERED UNDER COLUMN CENTERLINES, UNLESS INDICATED OTHERWISE.

F-3. THE FOUNDATION CONTRACTOR SHALL FULLY REVIEW UNDER-GROUND PLUMBING DRAWINGS AND SHALL COORDINATE WITH THE UNDER-GROUND PLUMBING CONTRACTOR TO DEPRESS FOOTINGS AND PROVIDE PIPE SLEEVES THROUGH FOUNDATION WALLS AS NECESSARY TO ACCOMMODATE PLUMBING LINES OR TRAPS WHICH PENETRATE CONCRETE FOOTINGS OR FOUNDATIONS.

F-4. PROVIDE PVC SLEEVES THROUGH FOUNDATION WALLS/FOOTINGS FOR PIPE, CONDUIT, AND CABLE PENETRATIONS, INCLUDING ELECTRICAL GROUNDING SYSTEM CABLES. SEE APPROPRIATE DRAWINGS FOR LOCATIONS/SIZES. PLACE SLEEVES IN LOCATIONS TO AVOID DISPLACING REINFORCING STEEL.

F-5. REFER TO ELECTRICAL DRAWING SITE LIGHTING FOR POLE BASES. SUPPLIED AND INSTALLED BY GENERAL CONTRACTOR.

F-6. COORDINATE WITH ARCHITECTURAL AND CIVIL DRAWINGS FOR MISCELLANEOUS FOUNDATIONS NOT SHOWN ON STRUCTURAL DRAWINGS.

F-7. CONTROL JOINTS IN THE CAST-IN-PLACE CONCRETE FOUNDATION WALLS SHALL BE PLACED AT SPACING NOT TO EXCEED 20' O.C. OR AS LOCATED PER DRAWINGS AND SHOULD ALIGN WITH MASONRY CONTROL JOINTS WHERE APPLICABLE. SEE DETAIL SHEETS FOR CONTROL JOINT DETAILS. PROVIDE VERTICAL "V" GROOVE AT ALL CONSTRUCTION AND CONTROL JOINTS. CONTRACTOR SHALL SUBMIT PLANS OF JOINT LOCATIONS FOR APPROVAL.

F-8. A LEAN CONCRETE MUD SLAB 2" TO 3" THICK SHALL BE USED IN THE FOOTING EXCAVATION IF THE BOTTOM OF THE EXCAVATION TENDS TO BECOME MUDDY AND SOFT DUE TO CONSTRUCTION ACTIVITY. LEAN CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 2000 PSI.

F-9. COORDINATE GROUNDING REQUIREMENTS FOR FOUNDATION/FOOTING REINFORCING STEEL WITH ELECTRICAL DRAWINGS. COORDINATE INSTALLATION OF GROUNDING WIRES/EQUIPMENT WITH ELECTRICAL CONTRACTOR PRIOR TO CASTING CONCRETE. REFER TO NOTE CR-11 FOR ADDITIONAL INFORMATION.

F-10. SEE TYPICAL SLAB-ON-GRADE DETAILS FOR SLAB AND SUB-BASE REQUIREMENTS. THESE WILL BE TYPICAL THROUGHOUT UNLESS NOTED OTHERWISE.

CONCRETE & REINFORCING STEEL NOTES

MATERIAL PROPERTIES (U.N.O.)
COMPRESSIVE STRENGTH - F'c = 4 KSI
CONCRETE REINFORCEMENT - Fy = 60 KSI (A615 GR 60)

CR-1. PROVIDE HOT/COLD WEATHER PROCEDURES AND PROTECTION IN ACCORDANCE WITH ACI RECOMMENDATIONS AND PROJECT SPECIFICATIONS.

CR-2. ALL CONCRETE DESIGN AND CONSTRUCTION SHALL CONFORM WITH THE LOCAL BUILDING CODE REQUIREMENTS AND THOSE OF THE FOLLOWING STANDARDS (LATEST EDITION):

"ACI 318, BUILDING CODE REQUIREMENTS FOR REINFORCED CONC."
"ACI 315, DETAILS AND DETAILING OF CONCRETE REINFORCEMENT"
"ACI 301, SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BLDGS."
"ACI 307, RECOMMENDED PRACTICE FOR CONCRETE FORM WORK"

CR-3. REINFORCING SHALL BE DETAILED IN ACCORDANCE WITH ACI 315.

CR-4. ALL REINFORCEMENT BARS SHALL BE FABRICATED IN ACCORDANCE WITH THE LATEST CRSI MANUAL OF STANDARD PRACTICE AND SHALL BE CLEAN AND FREE OF GREASE AND SCALING RUST.

CR-5. SEE SECTION 033000 OF SPECIFICATIONS FOR INFORMATION REGARDING CONCRETE MIX DESIGN, TESTING, MATERIALS, AND ADMIXTURES.

CR-6. CONCRETE REINFORCEMENT PROTECTION/CLEAR COVER, U.N.O.:

FOOTINGS:
BOTTOM & SIDES 3"
TOP 2"

WALLS:
EXTERIOR EXPOSURE 2"
INTERIOR EXPOSURE 1"

BEAMS/COLUMNS:
OVER TIES OR STIRRUPS 1 1/2"

ELEVATED SLABS: 1"

CR-7. ALL BAR LAPS SHALL CONFORM TO ACI 318-14, PARAGRAPH 25.5.1, CLASS "B" SPLICE CRITERIA. USE TOP BAR LAP LENGTHS FOR TOP BARS IN SLABS AND BEAMS OVER 12" DEEP.

CR-8. LAP LENGTH SHALL BE SPECIFICALLY NOTED ON SHOP DRAWINGS WHERE MORE THAN ONE BAR MAKES UP A CONTINUOUS STRING.

CR-9. HORIZONTAL BARS SHALL BE DETAILED TO SHOW THE DISTANCE FROM AT LEAST ONE END OF THE BAR TO THE NEAREST BUILDING GRID LINE OR WALL.

CR-10. CONTINUOUS TOP AND BOTTOM BARS, WHEN SHOWN IN TRANSVERSE SECTION ONLY, SHALL BE LAPPED AS FOLLOWS:

TOP BARS NEAR MID-SPANS; BOTTOM BARS DIRECTLY OVER SUPPORTS, U.N.O.

CR-11. PROVIDE ONE (1) HOOKED REINFORCING BAR IN CONCRETE FOOTING TO SERVE AS A "CONCRETE ENCASED ELECTRODE" IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE. COORDINATE WITH ELECTRICAL CONTRACTOR FOR EXACT LOCATION. HOOKED REINFORCING BAR SHALL CONFORM TO THE FOLLOWING:
A. UNCOATED, LOW-ALLOY STEEL, CONFORMING TO ASTM A706.
B. BAR SIZE NUMBER 4 HOOKED AT ONE END ONLY.
C. MINIMUM HORIZONTAL LENGTH OF REINFORCING BAR ENCASED IN CONCRETE FOOTING SHALL BE 20'-0" AS DEFINED IN NEC, ARTICLE 250.
D. MINIMUM VERTICAL PROJECTION OF REINFORCING BAR ABOVE CONCRETE SLAB SHALL BE 0'-6".
E. MINIMUM COVER ALL AROUND REINFORCING BAR SHALL BE 2".

CR-12. ALL CONCRETE FOUNDATION WALLS SHALL HAVE A MINIMUM OF (2) #5 BARS CONTINUOUS TOP AND BOTTOM, UNLESS INDICATED OTHERWISE.

CR-13. ALL OPENINGS IN CONCRETE FOUNDATION WALLS ARE TO HAVE (4) #5 DIAGONAL BARS EACH FACE OF THE WALL AND SHALL EXTEND 2 FEET BEYOND OPENING ON EACH SIDE, UNLESS INDICATED OTHERWISE.

CR-14. PROVIDE FOOTING DOWELS TO MATCH VERTICAL WALL REINFORCING. WHERE WALL REINFORCING IS NOT INDICATED, DOWEL FOOTING TO FOUNDATION WALLS WITH #5 REBAR AT 16" O.C. BY 3'-0" LONG, WITH STANDARD HOOKS EMBEDDED A MINIMUM OF 9" INTO FOOTING.

CR-15. ALL PIER FOOTINGS TO HAVE DOWELS WITH STANDARD HOOKS OF SAME SIZE AND QUANTITY AS PIER STEEL. DOWELS TO LAP PIER STEEL AS REQUIRED FOR A CLASS "B" TENSION SPLICE. HOOK UNDER FOOTING REINFORCEMENT, UNLESS INDICATED OTHERWISE.

CR-16. HOOK HORIZONTAL WALL AND BEAM REINFORCING BARS AT DISCONTINUOUS ENDS, TYPICAL UNLESS INDICATED OTHERWISE. EXTEND REINFORCEMENT TO FAR FACE OF PIERS/PEDESTALS AND/OR COLUMNS UNLESS INDICATED OTHERWISE.

CR-17. WATER STOPS SHALL BE PROVIDED IN HORIZONTAL AND VERTICAL CONSTRUCTION JOINTS WHERE FINISHED FLOOR IS BELOW EXTERIOR GRADE UNLESS OMISSION IS APPROVED BY THE ENGINEER.

CR-18. PROVIDE ADDITIONAL #4 BARS AT 4'-0" LONG 1" BELOW TOP OF SLAB AT 45° TO ALL RE-ENTRANT CORNERS,OPENINGS IN CONCRETE SLABS AND AS INDICATED ON DRAWINGS.

CR-19. REFER TO FLATWORK DRAWINGS AND/OR SPECIFICATIONS FOR SLAB-ON-GRADE FINISH TYPES AND DEPRESSIONS REQUIRED FOR MATS, TILE, AND OTHER FINISH MATERIALS.

CR-20. THICKEN THE SLAB-ON-GRADE BENEATH INTERIOR MASONRY PARTITIONS 8 INCHES BELOW BOTTOM OF SLAB ON GRADE. THICKENED PORTION TO EXTEND 8 INCHES BEYOND THE FACE OF THE WALL ON EACH SIDE. REINFORCE THE THICKENED PORTION WITH (3) #3CONTINUOUS, LONGITUDINAL REINFORCING BARS AND #5 TRANSVERSE BARS AT 16" O.C., UNLESS INDICATED OTHERWISE.

CR-21. PITCH CONCRETE TO FLOOR DRAINS. COORDINATE WITH PLUMBING AND ARCHITECTURAL DRAWINGS.

CR-22. PROVIDE CONTROL OR CONSTRUCTION JOINTS IN SLABS-ON-GRADE AT 15 FOOT MAXIMUM CENTERS EACH DIRECTION, UNLESS INDICATED OTHERWISE. CONTRACTOR SHALL SUBMIT PLANS OF JOINT LOCATIONS TO THE ARCHITECT/ENGINEER FOR APPROVAL PRIOR TO CASTING SLABS-ON GRADE. COORDINATE WITH ARCHITECTURAL DRAWINGS AND FLOOR FINISHES SUCH AS TILE AND TERRAZZO.

CR-23. ALL DOWELS INTO EXISTING CONCRETE OR SOLID MASONRY TO BE EPOXY ADHESIVE ANCHORS.

CR-24. ALUMINUM CONDUIT IS NOT PERMITTED TO BE EMBEDDED IN CONCRETE.

CR-25. WHEN DRILLING INTO EXISTING CONCRETE USE GROUND PENETRATING RADAR OR XRAY SCANNING TO LOCATE EXISTING REINFORCING. DO NOT DRILL THROUGH EXISTING REINFORCING. CONTACT ENGINEER IMMEDIATELY IF ANCHOR LOCATIONS INTERFERE WITH EXISTING REINFORCING.

MASONRY NOTES

MATERIAL PROPERTIES (U.N.O.)
COMPRESSIVE STRENGTH - F'm = 2000 PSI
MASONRY REINFORCEMENT - Fy = 60 KSI (A615 GR 60)
MORTAR - TYPE S (ASTM C270)
GROUT AT 28-DAYS - 2500 PSI (ASTM C476)

M-1. PROVIDE HOT AND COLD WEATHER PROCEDURES AND TEMPORARY MOISTURE PROTECTION IN ACCORDANCE WITH ACI RECOMMENDATIONS AND PROJECT SPECIFICATIONS.

M-2. MASONRY SHALL BE PLACED IN ONE-HALF RUNNING BOND U.N.O.

M-3. HOLLOW MASONRY UNITS SHALL BE LAID WITH FULL HEAD JOINTS AND FULL BED JOINTS OF THE FACE SHELLS AND UNDER WEBS WHERE THE ADJACENT CELLS ARE TO BE FILLED WITH GROUT AND AT THE BOTTOM COURSE.

M-4. WHERE MASONRY IS APPLIED ADJACENT TO STEEL MEMBERS (BEAMS AND COLUMNS) PROVIDE ANCHORING DEVICES PER SPECIFICATIONS.

M-5. REFER TO ARCHITECTURAL PLANS AND DOOR/FRAME SCHEDULES FOR LINTEL ROUGH OPENING LOCATIONS, SIZES, AND ELEVATIONS.

M-6. ALL MASONRY WALLS ARE TO HAVE 9 GAUGE HORIZONTAL JOINT REINFORCEMENT WHICH DOES NOT EXCEED 16 INCHES ON CENTER VERTICALLY.

M-7. ALL LAPS SHALL BE 48 BAR DIAMETERS UNLESS INDICATED OTHERWISE.

M-8. GROUT SOLID ALL JAMBS IN ALL MASONRY WALLS FULL HEIGHT TO UNDERSIDE OF LINTEL. EXTEND GROUTED JAMB FROM FACE OF MASONRY OPENING AT LEAST 24" (A MINIMUM OF 3 CELLS). AT OTHER BEAM BEARING LOCATIONS, GROUT SOLID A MINIMUM 24"x24" AREA BENEATH THE BEARING PLATE, UNLESS INDICATED OTHERWISE.

M-9. PROVIDE CORNER SPLICE BARS FOR ALL BOND BEAMS OCCURRING AT CORNERS OR WALL INTERSECTIONS. SPLICE BAR TO BE THE SAME SIZE AS BARS IN THE BOND BEAM.

M10. ALL NON-STRUCTURAL MASONRY WALLS SHALL BE REINFORCED WITH A MINIMUM #5 VERTICAL BARS AT 48" O.C. WITH THAT CORE GROUTED AND HORIZONTAL JOINT REINFORCEMENT AT 16" O.C. THE BOTTOM TWO COURSES SHALL BE GROUTED SOLID. PROVIDE A CONTINUOUS BOND BEAM AT TOP OF WALL WITH (2) #5 BARS CONTINUOUS, GROUT BOND BEAM SOLID. PROVIDE #5 DOWEL AT 48" O.C., INTO FOOTINGS.

M-11. USE SLEEVE ANCHORS IN NON-STRUCTURAL MASONRY WALL PARTITIONS, UNLESS INDICATED OTHERWISE.

M-12. REFER TO STRUCTURAL AND/OR ARCHITECTURAL DRAWINGS FOR CONTROL JOINT LOCATIONS. WHERE MASONRY CONTROL JOINT LOCATIONS ARE NOT INDICATED, PROVIDE THEM AT 25' MAXIMUM CENTERS; SUBMIT MASONRY CONTROL JOINT LAYOUT TO THE ENGINEER FOR APPROVAL.

M-13. PROVIDE HORIZONTAL BOND BEAMS (DIAPHRAGM CHORDS) WITH (2) #5 BARS CONTINUOUS, BENEATH FLOOR/ROOF MEMBER BEARING ELEVATIONS AND AT DECK EDGE.

M-14. PROVIDE 10 GAGE BENT SLIP JOINT PLATES 4" x 4" x 1'-0" LONG AT 3'-0" O.C. EACH SIDE OF THE TOP OF ALL NON- STRUCTURAL MASONRY WALLS. ATTACH TO UNDERSIDE OF METAL ROOF DECK OR STRUCTURAL STEEL WITH 3 (MINIMUM) SELF-DRILLING, SELF-THREADING SCREWS (#12) AS REQUIRED BY THICKNESS OF BASE METAL. ATTACH TO UNDERSIDE OF CONCRETE DECK WITH 3 (MINIMUM) SELF-TAPPING CONCRETE SCREWS 3/16" DIAMETER. SEE ARCHITECTURAL DRAWINGS FOR NON-STRUCTURAL MASONRY WALL LOCATIONS. MAINTAIN 1" (MINIMUM) GAP BETWEEN TOP OF MASONRY WALL AND BOTTOM OF STRUCTURE. DO NOT ATTACH PLATES TO MASONRY WALL, UNLESS INDICATED OTHERWISE.

SHOP DRAWINGS

SD-1. SHOP DRAWINGS SHALL BE SUBMITTED FOR STRUCTURAL ITEMS AS REQUIRED BY THE SPECIFICATIONS. CONSTRUCTION DOCUMENTS SHALL NOT BE REPRODUCED FOR USE AS SHOP DRAWINGS.

SD-2. THE GENERAL CONTRACTOR SHALL REVIEW ALL SHOP DRAWINGS AND PRODUCT DATA FOR CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS PRIOR TO SUBMITTAL. REVIEWED SUBMITTALS SHALL BE STAMPED BY THE CONTRACTOR. ANY SHOP DRAWING OR PRODUCT DATA NOT REVIEWED AND STAMPED BY THE GENERAL CONTRACTOR WILL BE REJECTED. GENERAL CONTRACTOR SHALL CLOUD OR FLAG ALL ITEMS NOT IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND SHALL VERIFY ALL DIMENSIONS.

SD-3. ANY CHANGES, SUBSTITUTIONS OR DEVIATIONS FROM THE ORIGINAL CONTRACT DRAWINGS SHALL BE CLOUDED BY THE MANUFACTURER OR FABRICATOR. ANY CHANGES, SUBSTITUTIONS, OR DEVIATIONS WHICH ARE CLOUDED OR FLAGGED BY SUBMITTING PARTIES SHALL NOT BE CONSIDERED APPROVED AFTER THE ENGINEER'S REVIEW, UNLESS SPECIFICALLY NOTED ACCORDINGLY BY THE ENGINEER.

SD-4. THE APPROVED SHOP DRAWINGS DO NOT REPLACE THE ORIGINAL CONTRACT DRAWINGS. ITEMS OMITTED OR SHOWN INCORRECTLY ARE NOT TO BE CONSIDERED CHANGES TO THE ORIGINAL CONTRACT DRAWINGS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT ITEMS OMITTED OR SHOWN INCORRECTLY ARE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DRAWINGS.

SD-5. SHOP DRAWING REVIEW IS INTENDED ONLY FOR GENERAL CONFORMANCE TO THE DESIGN CONCEPT AND CONSTRUCTION DOCUMENTS.

SD-6. SHOP DRAWINGS WILL BE RETURNED FOR RESUBMITTAL IF MAJOR ERRORS ARE FOUND DURING REVIEW.

SD-7. ALLOW A MINIMUM OF (10) WORKING DAYS FOR REVIEW OF SHOP DRAWINGS BY THE STRUCTURAL ENGINEER.

DELEGATED DESIGN SUBMITTALS

DOCUMENTS FOR DELEGATED DESIGN SUBMITTAL ITEMS SHALL BE REVIEWED BY THE ENGINEER OF RECORD IN RESPONSIBLE CHARGE WHO SHALL FORWARD THEM TO THE BUILDING OFFICIAL WITH A NOTATION INDICATING THAT THEY HAVE BEEN REVIEWED AND ARE IN GENERAL CONFORMANCE WITH THE DESIGN OF THE BUILDING.

DS-1. HELICAL PILES - SPECIFICATION SECTION 316615.

DS-2. PIPE AND TUBE RAILINGS - SPECIFICATION SECTION 055213.

DS-3. COLD FORMED METAL FRAMING - SPECIFICATION SECTION 054000.

STRUCTURAL STEEL NOTES

MATERIAL PROPERTIES (U.N.O.)
W-SHAPES - Fy = 50 KSI (A992 OR A572 Gr 50)
C-SHAPES & ANGLES - Fy = 36 KSI (A36)
PLATES & BARS - Fy = 36 KSI (A36)
RECTANGULAR HSS - Fy = 46 KSI (A500 Gr B)
ROUND HSS - Fy = 42 KSI (A500 Gr B)
PIPE - Fy = 35 KSI (A53 Gr B)
RODS - Fy = 36 KSI (A36)

S-1. STEEL BEAMS WITH RESIDUAL CAMBER RESULTING FROM MILL FABRICATION OR ROLLING SHALL BE SHOP FABRICATED AND ERECTED SUCH THAT THIS RESIDUAL CAMBER COUNTERACTS GRAVITY LOAD DEFLECTION.

S-2. ALL BOLTED CONNECTIONS SHALL UTILIZE 3/4 INCH DIAMETER A325 BOLTS TIGHTENED TO THE SNUG-TIGHT CONDITION. THE SNUG-TIGHT CONDITION IS DEFINED BY THE RCSC'S "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS", UNLESS INDICATED OTHERWISE.

S-3. STEEL CONNECTIONS NOT DETAILED ON THE PLANS ARE TO BE THE FABRICATOR'S STANDARD AND ARE TO BE SELECTED AND DESIGNED IN ACCORDANCE WITH AISC ASD SPECIFICATIONS, TYPE 2 FRAMING CONNECTIONS, FOR THE REACTIONS INDICATED.

MINIMUM NO. BOLTS PER CONNECTION
n = 2 FOR MEMBERS 10 INCHES DEEP OR LESS
n = 3 FOR MEMBERS 12 TO 15 INCHES DEEP
n = 4 FOR MEMBERS 16 INCHES DEEP
n = 5 FOR MEMBERS 18 INCHES DEEP
n = 6 FOR MEMBERS 21 INCHES DEEP
n = 7 FOR MEMBERS 24 TO 27 INCHES DEEP
n = 8 FOR MEMBERS 30 INCHES DEEP
n = 9 FOR MEMBERS 33 INCHES DEEP
n = 10 FOR MEMBERS 36 INCHES DEEP

S-4. THE MINIMUM CONNECTION PLATE/ANGLE THICKNESS SHALL BE 5/16", THE MINIMUM WELD 1/4", AND THE MINIMUM DESIGN LOAD ON ANY CONNECTION 10 KIPS, UNLESS INDICATED OTHERWISE.

S-5. ALL CONNECTIONS TO PIPE AND TUBE COLUMNS SHALL BE THROUGH PLATE CONNECTIONS UNLESS OTHERWISE INDICATED.

S-6. ALL ANCHOR BOLTS ARE TO BE 3/4" INCH DIAMETER F1554 Gr. 55 THREADED RODS UNLESS INDICATED OTHERWISE. (2)-1/2 INCH DIAMETER ANCHOR BOLTS SHALL BE PROVIDED AT ALL BEAM AND LINTEL BEARINGS ON CONCRETE OR MASONRY, UNLESS INDICATED OTHERWISE.

S-7. POST INSTALLED ANCHORS ARE TO BE ADHESIVE ANCHORS. INSTALL ANCHORS WITH EMBEDMENT DEPTHS INDICATED, UNLESS INDICATED OTHERWISE.

S-8. STUD ANCHORS ARE TO BE NELSON STUDS OR EQUAL (ASTM A108).

S-9. BEAM AND LINTEL PLATES SHALL BE FULLY GROUTED WITH A MINIMUM 1/2" NON-SHRINK GROUT.

S-10. ALL WELDING OF NEW STEEL IS TO BE WITH E70XX ELECTRODES, U.N.O. WELDING SHALL BE IN ACCORDANCE WITH THE LATEST AWS SPECIFICATIONS BY CERTIFIED WELDERS.

S-11. WHEN FIELD WELDING TO EXISTING STEEL, ADJUST WELDING PROCEDURES AS REQUIRED TO BE COMPATIBLE WITH THE NEW AND EXISTING STEEL.

S-12. THE CONTRACTOR SHALL FURNISH AND INSTALL MISCELLANEOUS STEEL (CURBS, HANGERS, BRACING, ETC.) AS INDICATED AND AS NECESSARY PER ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS.

S-13. ALL EXTERIOR MASONRY SHELF ANGLES, LINTEL BEAMS, AND LINTEL PLATES SHALL BE HOT DIPPED GALVANIZED ACCORDING TO ASTM A123.

STEEL BAR JOISTS

MATERIAL PROPERTIES (U.N.O)
COMPLY WITH SJI'S "SPECIFICATIONS" FOR WEB AND STEEL-ANGLE CHORD MEMBERS.

J-1. BAR JOISTS SHALL BE DESIGNED TO RESIST FORCES INDICATED ON DRAWINGS AND SPECIFICATIONS.

J-2. TYPICAL BAR JOISTS ARE NOT DESIGNED FOR CONCENTRATED LOADS. PLACE LOADS AT PANEL POINTS OR WELD ADDITIONAL DOUBLE ANGLE MEMBERS ONE EACH SIDE FROM POINT OF CONCENTRATED LOAD TO THE NEAREST PANEL POINT ON THE OPPOSITE CHORD.

J-3. ALL FIELD MODIFICATIONS OR REPAIRS TO THE JOIST, OR JOIST GIRDERS, SHALL BE APPROVED BY THE JOIST MANUFACTURER IN WRITING. THIS LETTER SHALL BE FORWARDED TO THE ENGINEER FOR REVIEW.

J-4. CUTTING & DRILLING OF CHORD OR WEB MEMBERS IN BAR JOISTS, OR JOIST GIRDERS, IS NOT PERMITTED.

J-5. ALL BRIDGING SHALL BE EQUALLY SPACED, UNLESS NOTED OTHERWISE, BY JOIST MANUFACTURER.

J-6. CONTRACTOR(S) SHALL PROVIDE MEANS FOR ADEQUATE DISTRIBUTION OF CONSTRUCTION LOADS SO THAT CARRYING CAPACITY OF ANY BAR JOIST, JOIST GIRDER, OR OTHER STRUCTURAL MEMBER IS NOT EXCEEDED.

J-7. JOIST SHALL BE CONSIDERED AS UNSTABLE DURING ERECTION. UNDER NO CIRCUMSTANCES ARE CONSTRUCTION LOADS OF ANY DESCRIPTION TO BE PLACED ON UNBRIDGED JOISTS. THE APPLICATION OF CONSTRUCTION LOADS ON UNBRIDGED JOISTS IS IN DIRECT VIOLATION OF O.S.H.A. REGULATIONS.

J-8. WHERE X-BRIDGING INTERFERES WITH MECHANICAL PIPING OR DUCTWORK, UTILIZE HORIZONTAL BRIDGING AS DIRECTED BY JOIST MANUFACTURER.

J-9. ALL BRIDGING SHALL BE PER SJI AND AS REQUIRED FOR DESIGN LOADS.

J-10. PROVIDE JOIST WITH UPLIFT CAPACITY AS REQUIRED BY THE BUILDING CODE AND THE STRUCTURAL DESIGN CRITERIA.

METAL DECK

MATERIAL PROPERTIES (U.N.O)
ROOF DECK: GALVANIZED, Fy = 33 KSI
FORM DECK: GALVANIZED, Fy = 33 KSI

MD-1. SEE PLAN FOR DEPTH AND GAUGE.

MD-2. METAL DECKING SHALL BE CONTINUOUS OVER 3 SPANS AND HAVE JOINTS OVER SUPPORTING MEMBERS, UNLESS INDICATED OTHERWISE.

MD-3. BUTTON PUNCHING ROOF DECK IS NOT PERMITTED. REFERENCE DRAWINGS FOR ROOF DECK ATTACHMENT REQUIREMENTS. STRUCTURAL DIAPHRAGM ACTION IS PROVIDED BY THE ROOF DECK AND ITS ATTACHMENT.

MD-4. ALL MISCELLANEOUS OPENINGS IN METAL ROOF DECK ARE TO BE FRAMED BY L5x3x3/8 ANGLES. LONG LEG OF ANGLES SHALL BE VERTICAL. ANGLES SHALL BE WELDED TO THE TOP CHORD/FLANGE OF ROOF FRAMING AND EACH OTHER, UNLESS INDICATED OTHERWISE.

MD-5. CONTRACTOR IS RESPONSIBLE FOR PROVIDING POUR STOPS AT EDGES OF METAL DECK PER SDI POUR STOP SELECTION TABLE/RECOMMENDATIONS OR BENT PLATE POUR STOPS AS REQUIRED TO FORM THE SLAB EDGE, UNLESS INDICATED OTHERWISE.

MD-6. CONTRACTOR IS RESPONSIBLE FOR PROVIDING COLUMN CLOSURES AND ALL OTHER RELATED ACCESSORIES REQUIRED FOR COMPLETE DECK INSTALLATION AT ROOFS AND FLOORS.

OBSERVATION AND INSPECTION

TI-1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PERFORM ALL STRUCTURAL WORK IN CONFORMANCE WITH THE CONTRACT DOCUMENTS. ANY STRUCTURAL INSPECTION PROVIDED BY OTHERS DOES NOT RELIEVE THE CONTRACTOR OF THIS RESPONSIBILITY. ANY STRUCTURAL DEVIATIONS FROM THE CONTRACT DOCUMENTS THAT ARE FOUND AT A LATER DATE SHALL BE CORRECTED BY THE CONTRACTOR WITHOUT COST OR ANY DELAY TO THE PROJECT SCHEDULE.

B

TI-2. THE CONTRACTOR SHALL RETAIN AN INDEPENDENT INSPECTION AGENCY TO PROVIDE CONSTRUCTION OBSERVATIONS AND INSPECTIONS.

TI-3. THE CONTRACTOR SHALL PROVIDE THE INSPECTION AGENCY ACCESS TO ALL PLACES WHERE THE WORK IS BEING PERFORMED. A MINIMUM OF 24 HOURS NOTIFICATION SHALL BE GIVEN TO THE INSPECTION AGENCY PRIOR TO THE COMMENCEMENT OF WORK REQUIRING OBSERVATION OR INSPECTION.

TI-4. THE INSPECTION AGENCY IS NOT AUTHORIZED TO DIRECT OR APPROVE ANY CHANGES FROM THE CONTRACT DOCUMENTS. IF THE CONTRACTOR WISHES TO QUESTION THE TESTING AGENCY'S INTERPRETATION OF THE CONTRACT DOCUMENTS, HE MAY DO SO DIRECTLY WITH THE STRUCTURAL ENGINEER.

TI-5. THE TESTING AGENCY IS NOT AUTHORIZED TO STOP OR DELAY THE WORK. IF THE CONTRACTOR ELECTS TO CONTINUE WITH A CERTAIN PORTION OF WORK AFTER BEING NOTIFIED BY THE TESTING AGENCY THAT SUCH WORK IS NOT IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS, THE CONTRACTOR DOES SO AT THEIR OWN RISK AND MAY BE REQUIRED TO CORRECT THE WORK AT A LATER DATE.

TI-6. THE INSPECTING AGENCY IS NOT INSPECTING FOR O.S.H.A. COMPLIANCE OR REQUIRED TO INSPECT TEMPORARY CONSTRUCTION, SUCH AS TEMPORARY BRACING. TEMPORARY CONSTRUCTION IS THE CONTRACTOR'S SOLE RESPONSIBILITY.

TI-7. THE CONTRACTOR SHALL NOTIFY THE INSPECTION AGENCY OF ANY WELDS THAT WERE DONE IN THE FIELD THAT WERE NOT DETAILED AS FIELD WELDS ON THE DESIGN DRAWINGS.

TI-8. INSPECTION AGENCY SHALL:
A. OBSERVE SHORING AND REMOVAL OF BALLAST BEFORE REINFORCING
B. OBSERVE ABSENCE OF SNOW DURING REINFORCING
C. VISUALLY OBSERVE ALL FIELD WELDS
D. CLOSELY INSPECT ANY NONCONFORMING WELDS
E. IMMEDIATELY NOTIFY THE CONTRACTOR OF NON-CONFORMING WORK.
F. ISSUE BI-WEEKLY PROGRESS REPORTS
G. OBSERVE INSTALLATION, REINSTALLATION OF JOIST BRIDGING AND BRACING.
H. SERVE NEW JOIST TOP CHORD CONNECTION TO ROOF DECK
I. OBSERVE NO WELD HSS4X4 TO HSS4X4 ON DETAILS 11/S-543 AND 21/S-543 UNTIL AFTER MAU-6 PLACED.

TI-9. WELD INSPECTION SHALL BE PERFORMED BY AN AWS CERTIFIED WELD INSPECTOR.

TI-10. STRUCTURAL OBSERVATIONS SHALL BE PERFORMED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF WISCONSIN.

TI-12. PROGRESS REPORTS SHALL INCLUDE DOCUMENTATION OF ALL OBSERVATION AND INSPECTIONS AND NONCONFORMANCES. PROGRESS REPORTS SHALL BE SEALED AND SIGNED BY A PROFESIONAL ENGINEER.

TI-13. CONTRACTOR SHALL CORRECT ALL NONCONFORMANCES AT CONTRACTOR'S EXPENSE. CONTRACTOR SHALL NOT APPLY COST OF CORRECTIONS TO ALLOWANCE.

TI-14. CONTRACTOR SHALL PROVIDE REINSPECTION OF ALL NONCONFORMANCES AT CONTRACTOR'S EXPENSE. CONTRACTOR SHALL NOT APPLY COST OF REINSPECTION TO ALLOWANCE.

TI-15. THE CONTRACTOR SHALL NOT APPLY THE COST OF THE CONTRACTOR'S QA/QC PROGRAM NOR INSPECTIONS TO THE ALLOWANCE.

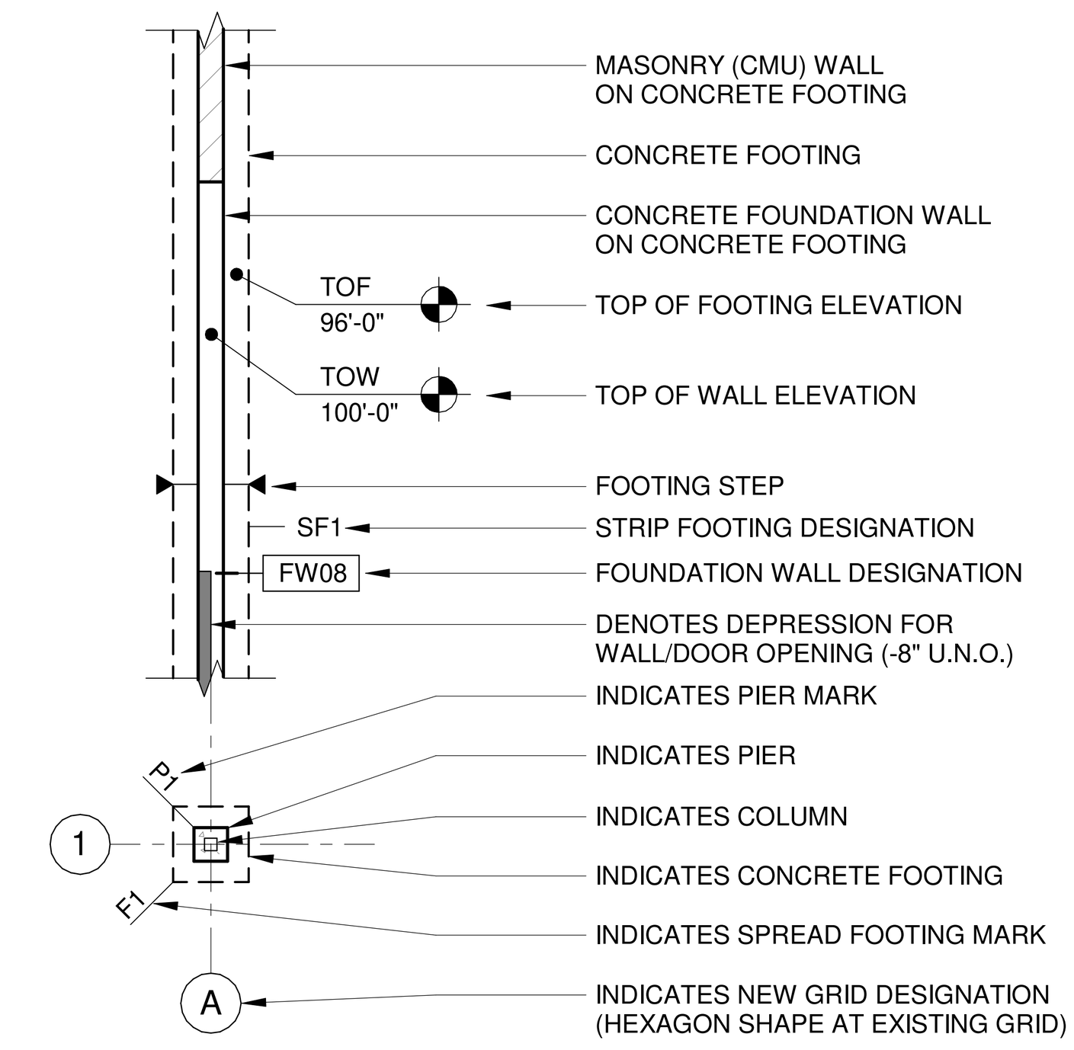
TI-16. OBSERVATION OF FIELD WELDS SHALL INCLUDE PLACEMENT, TYPE, SIZE, FUSION, POROSITY, CRACKING, UNDERCUT, SPATTER AND SMOOTHNESS FOLLOWING AWS D1.1.

ABBREVIATIONS

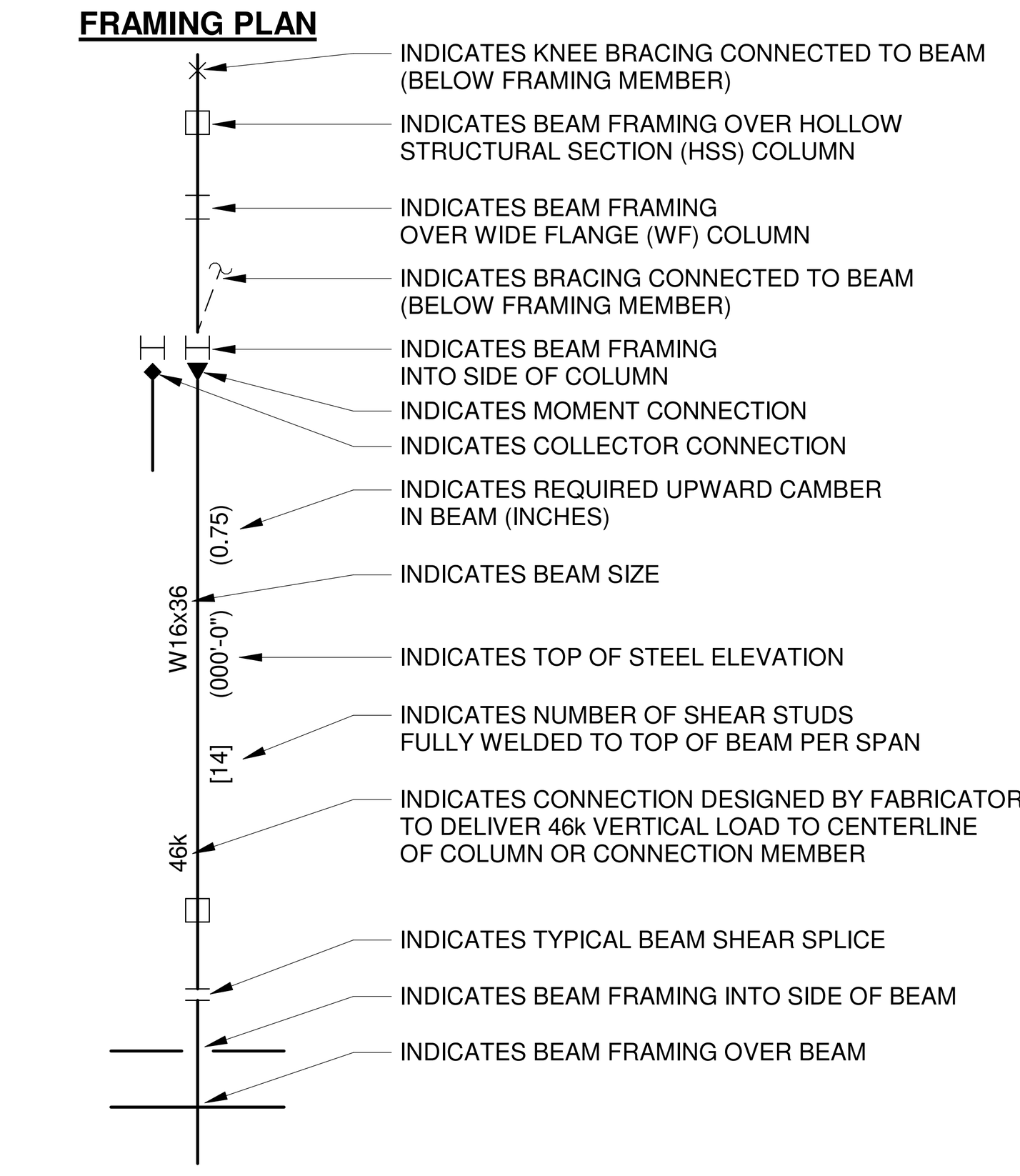
B.O.	= BOTTOM OF ________
BOT	= BOTTOM
BP#	= BASE PLATE TYPE
BRG	= BEARING
C TO C	= CENTER TO CENTER
CCJ	= CONSTRUCTION CONTROL JOINT
CJ	= CONTROL JOINT
CLSM	= CONTROLLED LOW STRENGTH MATERIAL ("FLOWABLE FILL")
CONT	= CONTINUOUS
DBLT	= DOUBLE-TEE
DIA	= DIAMETER
DTB	= DOUBLE-TEE BEARING
EF	= EACH FACE
EL	= ELEVATION
EW	= EACH WAY
F#	= SPREAD FOOTING TYPE
FDTN	= FOUNDATION
FV	= FIELD VERIFY
GALV	= GALVANIZED
HPC	= HIGH PERFORMANCE COATING
JB	= JOIST BEARING
LLH	= LONG LEG HORIZONTAL
LLV	= LONG LEG VERTICAL
NIC	= NOT IN CONTRACT
NTS	= NOT TO SCALE
OC	= ON CENTER
P#	= PIER TYPE
PCB	= PRECAST BEARING (ELEVATION)
PRCST	= PRECAST
Rxn	= REACTION
SC	= SLIP CRITICAL
SF#	= STRIP FOOTING TYPE
SIM	= SIMILAR
SST	= STAINLESS STEEL
STL	= STEEL
T.O.	= TOP OF ________
TBD	= TO BE DETERMINED
TOC	= TOP OF COLUMN
TOF	= TOP OF FOOTING
TOL	= TOP OF LEDGE
TOP	= TOP OF PIER
TOS	= TOP OF STEEL
TOW	= TOP OF WALL
TPC	= TOP OF PRECAST
TSL	= TOP OF SLAB
TYP	= TYPICAL
UNO	= UNLESS NOTED OTHERWISE
WWF	= WELDED WIRE FABRIC/REINFORCEMENT

STRUCTURAL SYMBOLOGY

FOUNDATION PLAN



FRAMING PLAN



GENERAL SYMBOLS

#.###	KEYED NOTE
SW#	STRUCTURAL WALL TYPE
(symbol)	ELEVATION
(symbol)	DECK SPAN
SLB##	STRUCTURAL SLAB TYPE
S-201 #	STRUCTURAL ELEVATION
# / S-501	DETAIL OR SECTION
L#	LINTEL DESIGNATION
OPENING WIDTH / HEAD HEIGHT FROM FIN. FLOOR	STRUCTURAL FLOOR PLAN OPENING DIMENSIONS

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1101 EAST WASHINGTON AVE.
MADISON, WI 53703

ISSUED
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B 05/13/21 ADDENDUM #2

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M&H NO.: 4503500-190896.03
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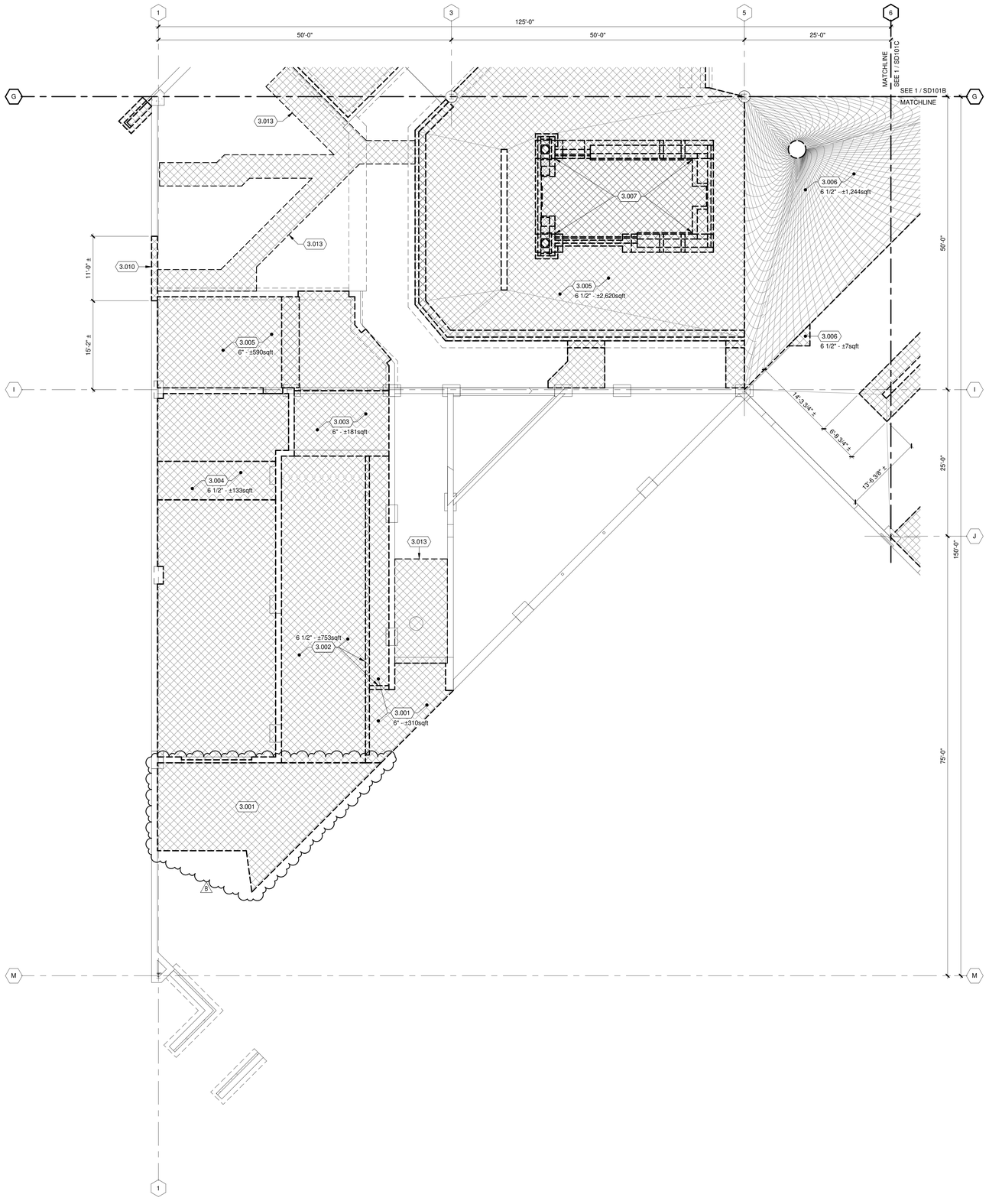
DO NOT SCALE DRAWINGS

SHEET CONTENTS
STRUCTURAL NOTES

SHEET NO.:
S-001



TRUE NORTH PLAN NORTH

1 **FOUNDATION/FLATWORK DEMOLITION PLAN - AREA A**

1/8" = 1'-0"

FOUNDATION AND FLATWORK DEMOLITION PLAN GENERAL NOTES:

1. REFERENCE G-020 THROUGH G-030 SHEETS FOR LIFE SAFETY CODE, WALL/FLOOR RATINGS, AND CLASS 1 DIV 2 REQUIREMENTS.
2. REFERENCE SHEET G-101 PHASING PLAN FOR CONSTRUCTION PHASING/SEQUENCING AND SITE ACCESS.
3. REFERENCE O-SHEETS FOR EQUIPMENT COORDINATION AND EXCAVATION REQUIREMENTS.
4. SITE DATUM OF FINISHED FIRST FLOOR INDICATED ON CIVIL SITE PLAN = ELEVATION 100'-0" ON STRUCTURAL DRAWINGS.
5. FIELD VERIFY ALL DIMENSIONS, BRING ANY DISCREPANCIES TO THE ATTENTION OF THE ARCHITECT/ENGINEER FOR FINAL DECISION.
6. REFER TO SHEET S-001 FOR STRUCTURAL LEGENDS, ABBREVIATIONS, AND SYMBOLOGY.
7. ***ATTENTION:*** FULL EXTENT OF DEMOLITION REQUIRED MAY NOT BE CAPTURED ON DRAWINGS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE ALL REQUIRED DEMOLITION WITH OUR DISCIPLINES AND IN-FIELD CONDITIONS.

KEYED NOTES

3.001 REMOVE EXISTING EXTERIOR SLAB AS SHOWN.

3.002 REMOVE EXISTING LOADING DOCK SLAB AND RETAINING WALLS AS SHOWN. SLAB THICKNESS AND SQUARE FOOTAGE FOR REFERENCE, FIELD VERIFY.

3.003 REMOVE EXISTING 2-WAY LOADING DOCK SLAB AS SHOWN, EXISTING GRADE BEAMS TO REMAIN. SLAB THICKNESS AND SQUARE FOOTAGE FOR REFERENCE, FIELD VERIFY.

3.004 REMOVE EXISTING INTERIOR SLAB AS SHOWN FOR NEW FOUNDATION INSTALLATION, EXISTING GRADE BEAMS TO REMAIN. SLAB THICKNESS AND SQUARE FOOTAGE FOR REFERENCE, FIELD VERIFY.

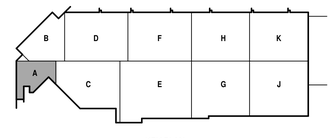
3.005 REMOVE EXISTING INTERIOR SLAB AND THICKENED SLAB AS SHOWN. EXISTING GRADE BEAMS AND FOOTINGS TO REMAIN. SLAB THICKNESS AND SQUARE FOOTAGE FOR REFERENCE, FIELD VERIFY.

3.006 REMOVE EXISTING INTERIOR SLAB AS SHOWN. SLAB THICKNESS AND SQUARE FOOTAGE FOR REFERENCE, FIELD VERIFY.

3.007 REMOVE EXISTING VEHICLE LIFT AND ASSOCIATED CONCRETE SLAB AND FOUNDATIONS, EXISTING STEEL PILES TO REMAIN. TURN OVER LIFT AND ASSOCIATED COMPONENTS TO OWNER AS REQUIRED.

3.010 CUT DOWN AND REMOVE EXISTING CONCRETE WALL/GRADE BEAM AS REQUIRED FOR NEW DOORS. TOP OF WALL/GRADE BEAM SHALL BE CUT DOWN TO ELEVATION 99'-8"±. PREP TOP OF WALL FOR NEW FLOOR FINISH, COORDINATE WITH ARCHITECTURAL. PATCH CONCRETE TO FINISHED FLOOR. COORDINATE WITH OTHER MATERIALS FOR FINISH AND EXACT ELEVATION.

3.013 REMOVE EXISTING SLAB AS REQUIRED FOR DEMO/INSTALLATION OF PLUMBING, COORDINATE LOCATIONS WITH PLUMBING. REPLACE SLAB AFTER COMPLETION OF PLUMBING WORK WITH SLAB TYPE SLB06. MATCH ADJACENT FLOOR ELEVATIONS AND SLOPES.



KEY PLAN

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CITY OF MADISON WISCONSIN

metro transit

CITY OF MADISON METRO TRANSIT PHASE 3A - MAINTENANCE AND DRIVER FACILITY IMPROVEMENTS

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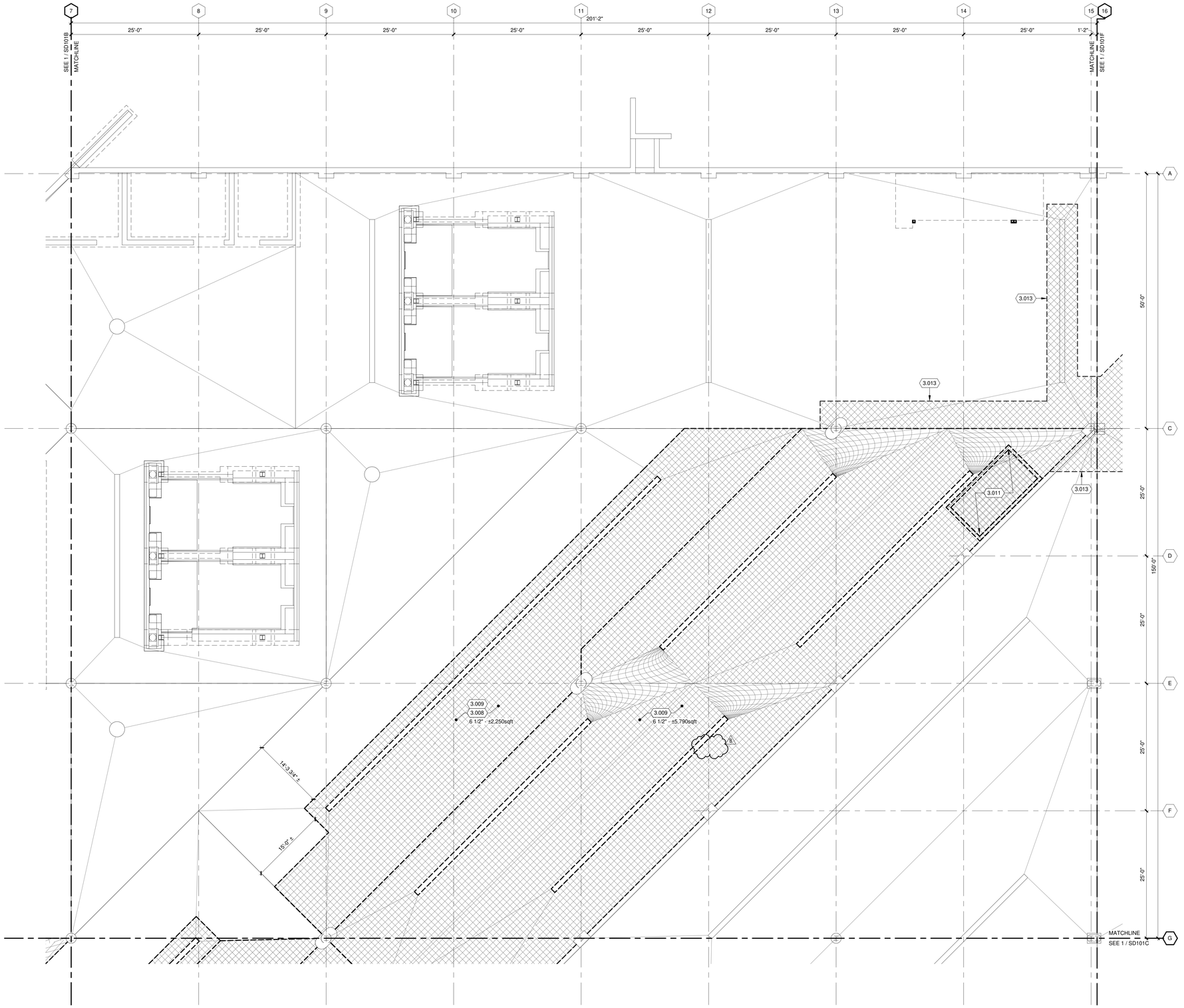
SHEET CONTENTS
FOUNDATION AND FLATWORK DEMOLITION PLAN - AREA A

SHEET NO.:
SD101A



FOUNDATION AND FLATWORK DEMOLITION PLAN GENERAL NOTES:

1. REFERENCE G-020 THROUGH G-030 SHEETS FOR LIFE SAFETY CODE, WALL/FLOOR RATINGS, AND CLASS 1 DIV 2 REQUIREMENTS.
2. REFERENCE SHEET G-101 PHASING PLAN FOR CONSTRUCTION PHASING/SEQUENCING AND SITE ACCESS.
3. REFERENCE O-SHEETS FOR EQUIPMENT COORDINATION AND EXCAVATION REQUIREMENTS.
4. SITE DATUM OF FINISHED FIRST FLOOR INDICATED ON CIVIL SITE PLAN = ELEVATION 100'-0" ON STRUCTURAL DRAWINGS.
5. FIELD VERIFY ALL DIMENSIONS, BRING ANY DISCREPANCIES TO THE ATTENTION OF THE ARCHITECT/ENGINEER FOR FINAL DECISION.
6. REFER TO SHEET S-001 FOR STRUCTURAL LEGENDS, ABBREVIATIONS, AND SYMBOLOGY.
7. ***ATTENTION:*** FULL EXTENT OF DEMOLITION REQUIRED MAY NOT BE CAPTURED ON DRAWINGS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE ALL REQUIRED DEMOLITION WITH OUR DISCIPLINES AND IN-FIELD CONDITIONS.

KEYED NOTES

3.008 REMOVE EXISTING INTERIOR SLAB AND TRENCH DRAIN AS SHOWN FOR INSTALLATION OF NEW CATCH BASIN AND TRENCH DRAINS. SLAB THICKNESS AND SQUARE FOOTAGE FOR REFERENCE, FIELD VERIFY.

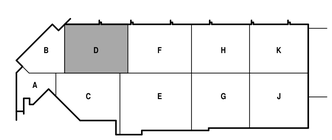
3.009 REMOVE EXISTING INTERIOR SLAB AND TRENCH DRAIN(S) AS SHOWN FOR INSTALLATION OF NEW VEHICLE LIFTS AND LIFT PITS. SLAB THICKNESS AND SQUARE FOOTAGE FOR REFERENCE, FIELD VERIFY.

3.011 EXISTING CONCRETE TANK (8' WIDE X 16' LONG X 8' DEEP) BELOW SLAB. REMOVE TANK LID AND TOP 1'-0" OF TANK WALLS. FILL VOID WITH ENGINEERED FILL. COMPACT FILL TO 95% MODIFIED PROCTOR.

3.013 REMOVE EXISTING SLAB AS REQUIRED FOR DEMO/INSTALLATION OF PLUMBING, COORDINATE LOCATIONS WITH PLUMBING. REPLACE SLAB AFTER COMPLETION OF PLUMBING WORK WITH SLAB TYPE SLB06. MATCH ADJACENT FLOOR ELEVATIONS AND SLOPES.

TRUE NORTH PLAN NORTH

1 **FOUNDATION/FLATWORK DEMOLITION PLAN - AREA D**
1/8" = 1'-0"



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SHEET CONTENTS
FOUNDATION AND FLATWORK DEMOLITION PLAN - AREA D

SHEET NO.:
SD101D

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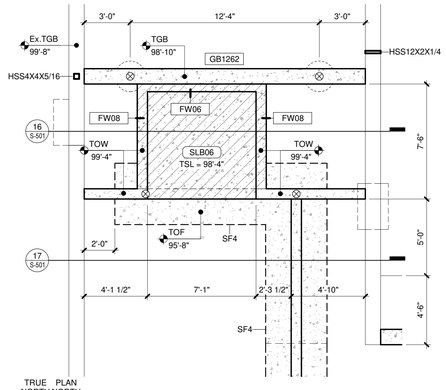
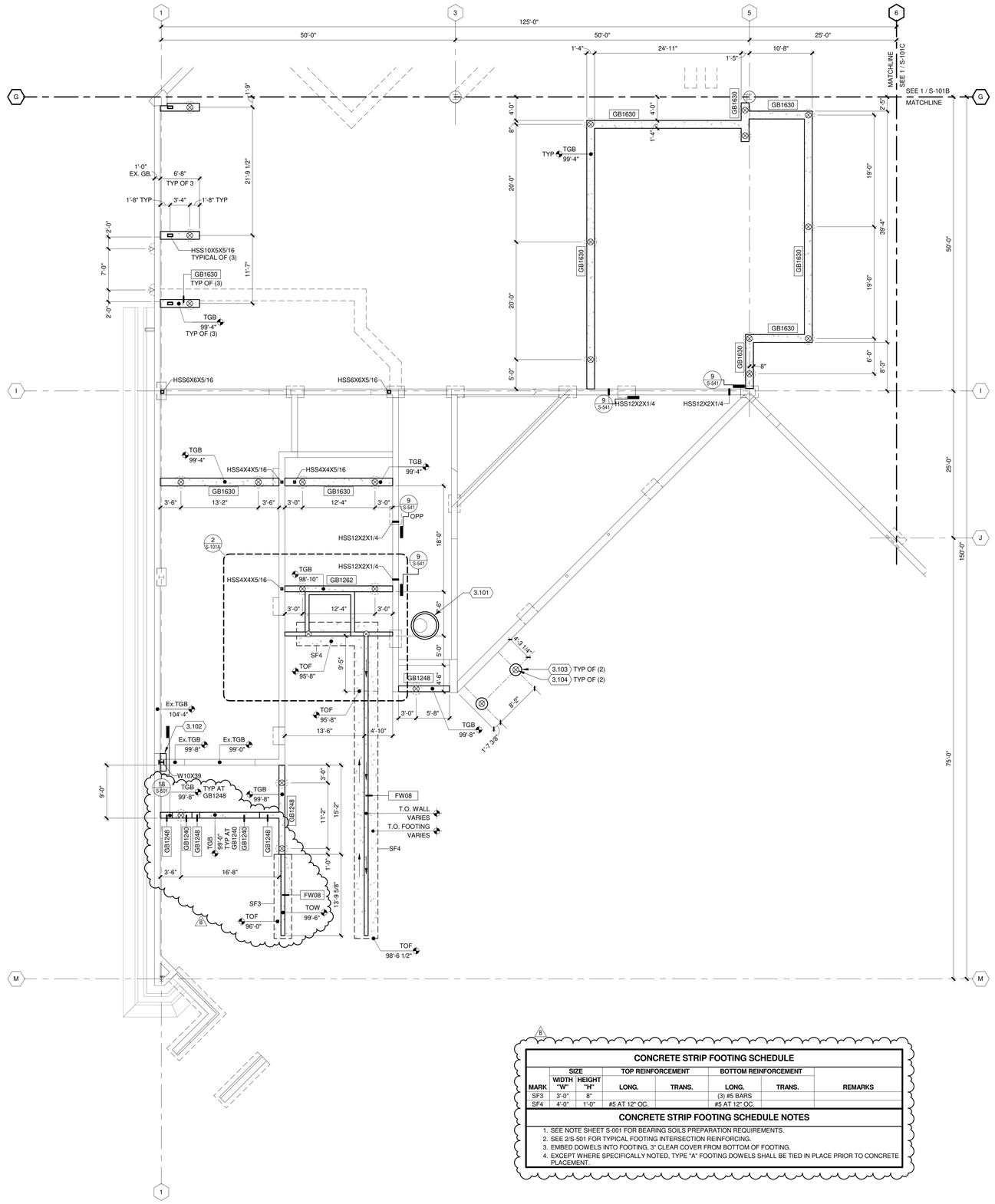


TRUE NORTH PLAN NORTH

2 ENLARGED FOUNDATION PLAN

1/4" = 1'-0"



TRUE NORTH PLAN NORTH

1 FOUNDATION PLAN - AREA A

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5. FIELD VERIFY ALL DIMENSIONS, BRING ANY DISCREPANCIES TO THE ATTENTION OF THE ARCHITECT/ENGINEER FOR FINAL DECISION.
6. REFER TO SHEET S-001 FOR STRUCTURAL LEGENDS, ABBREVIATIONS, AND SYMBOLOGY.
7. REFER TO SHEET S-501 FOR TYPICAL DETAILS NOT REFERENCED ON THIS SHEET.
8. TOP OF FOOTING ELEVATION = 98'-0" UNLESS NOTED OTHERWISE.
9. TOP OF FOUNDATION WALL ELEVATION = 100'-0" UNLESS NOTED OTHERWISE.
10. STRIP FOOTINGS AND GRADE BEAMS SHALL BE CENTERED UNDER FOUNDATION AND/OR MASONRY WALLS UNLESS NOTED OTHERWISE.
11. △ = RETROFIT HELICAL PIER
    - 32 KIP SERVICE LEVEL CAPACITY
    - MINIMUM EMBEDMENT DEPTH = 29'-0"
12. ◎ = NEW HELICAL PIER
    - 32 KIP SERVICE LEVEL CAPACITY
    - MINIMUM EMBEDMENT DEPTH = 29'-0"

KEYED NOTES

3.101 4'-0" DIAMETER X 6'-0" DEEP MANHOLE WITH SOLID BOTTOM, FLAT TOP WITH 28" DIAMETER OFFSET MANWAY HOLE. CAST IRON CASTING WITH SLOTTED CAST IRON GRATE. FILL BOTTOM 3'-0" WITH CLEAR, WASHED 3/4" LIMESTONE, LESS THAN 5% PASSING 3/8". MINERAL MUST BE LIMESTONE FOR NEUTRALIZATION OF SPILLED BATTERY ACID.

3.102 NEW PIER AT EXISTING GRADE BEAM, SEE DETAIL 14/S-501.

3.103 24" DIAMETER CONCRETE PIER. FULL 8'-0" HEIGHT TO BE POURED AT THE SAME TIME. REINFORCING SHALL BE (5) #5 VERTICAL BARS, #3 TIES SPACED AT 12" VERTICALLY, AND TRIPLE TOP TIE IN THE TOP 12" OF PIER. DOME TOP OF PIER WITH SLOPE OF 1/4" PER FOOT MINIMUM.

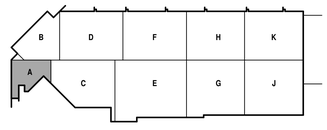
3.104 HELICAL PIER. 10 KIP COMPRESSION CAPACITY.

CONCRETE STRIP FOOTING SCHEDULE

MARK	SIZE WIDTH "W"	SIZE HEIGHT "H"	TOP REINFORCEMENT LONG.	TOP REINFORCEMENT TRANS.	BOTTOM REINFORCEMENT LONG.	BOTTOM REINFORCEMENT TRANS.	REMARKS
SF3	3'-0"	8"			(3) #5 BARS		
SF4	4'-0"	1'-0"	#5 AT 12" OC.		#5 AT 12" OC.		

CONCRETE STRIP FOOTING SCHEDULE NOTES

1. SEE NOTE SHEET S-001 FOR BEARING SOILS PREPARATION REQUIREMENTS.
2. SEE 2/S-501 FOR TYPICAL FOOTING INTERSECTION REINFORCING.
3. EMBED DOWELS INTO FOOTING, 3" CLEAR COVER FROM BOTTOM OF FOOTING.
4. EXCEPT WHERE SPECIFICALLY NOTED, TYPE "A" FOOTING DOWELS SHALL BE TIED IN PLACE PRIOR TO CONCRETE PLACEMENT.



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SHEET CONTENTS
FOUNDATION PLAN - AREA A

SHEET NO.:
S-101A

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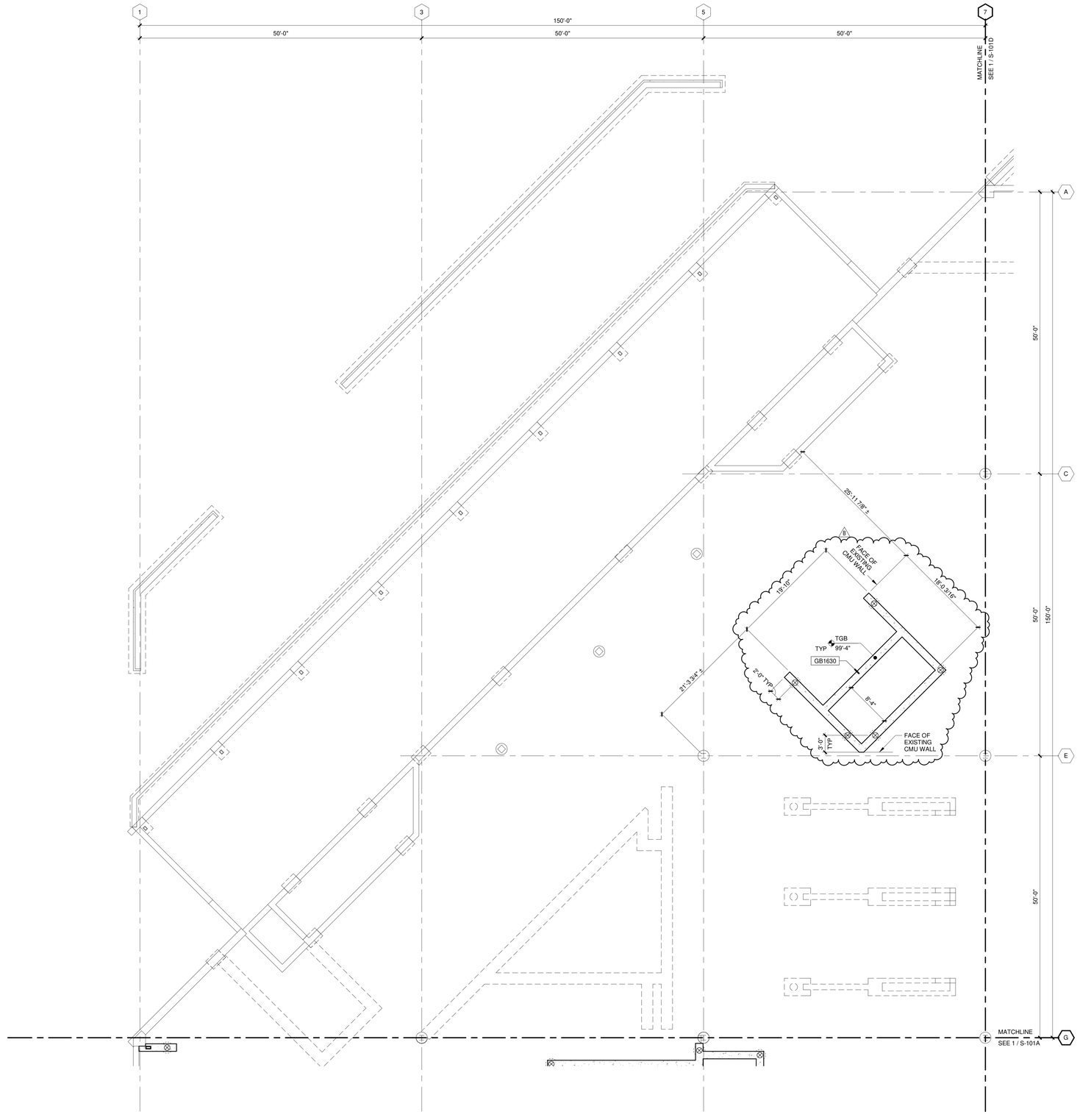

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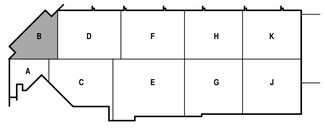
    - 32 KIP SERVICE LEVEL CAPACITY
    - MINIMUM EMBEDMENT DEPTH = 29'-0"

KEYED NOTES

TRUE NORTH PLAN NORTH

1 FOUNDATION PLAN - AREA B

1/8" = 1'-0"



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meadhunt.com

CITY OF MADISON WISCONSIN

metro transit

CITY OF MADISON
METRO TRANSIT PHASE 3A - MAINTENANCE AND DRIVER FACILITY IMPROVEMENTS

1101 EAST WASHINGTON AVE.
MADISON, WI 53703

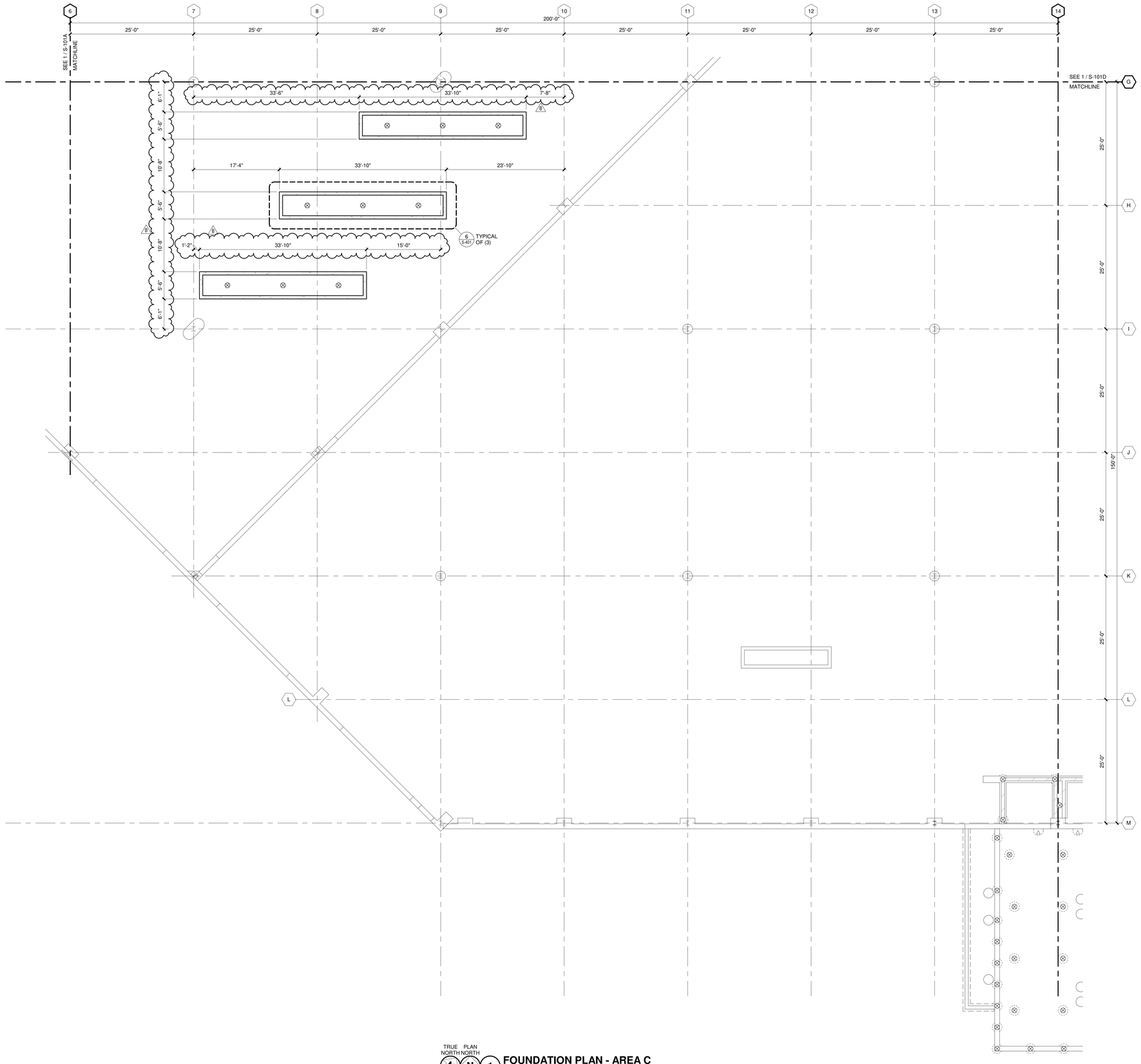
ISSUED:
04/08/21 BID SET
B 05/13/21 ADDENDUM #2

CONTRACT NO.: 8981
M&H NO.: 4503500-190896.03
DATE: APRIL 8, 2021
DESIGNED BY: DXC
DRAWN BY: NJB / MJE
CHECKED BY: DRM
DO NOT SCALE DRAWINGS

SHEET CONTENTS
FOUNDATION PLAN - AREA B

SHEET NO.:

S-101B



FOUNDATION PLAN GENERAL NOTES:

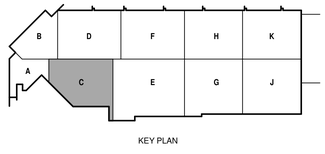
1. REFERENCE G-020 THROUGH G-030 SHEETS FOR LIFE SAFETY CODE, WALL/FLOOR RATINGS, AND CLASS 1 DIV 2 REQUIREMENTS.
2. REFERENCE SHEET G-101 PHASING PLAN FOR CONSTRUCTION PHASING/SEQUENCING AND SITE ACCESS.
3. REFERENCE O-SHEETS FOR EQUIPMENT COORDINATION AND EXCAVATION REQUIREMENTS.
4. SITE DATUM OF FINISHED FIRST FLOOR INDICATED ON CIVIL SITE PLAN = ELEVATION 100'-0" ON STRUCTURAL DRAWINGS.
5. FIELD VERIFY ALL DIMENSIONS, BRING ANY DISCREPANCIES TO THE ATTENTION OF THE ARCHITECT/ENGINEER FOR FINAL DECISION.
6. REFER TO SHEET S-001 FOR STRUCTURAL LEGENDS, ABBREVIATIONS, AND SYMBOLOGY.
7. REFER TO SHEET S-501 FOR TYPICAL DETAILS NOT REFERENCED ON THIS SHEET.
8. TOP OF FOOTING ELEVATION = 98'-0" UNLESS NOTED OTHERWISE.
9. TOP OF FOUNDATION WALL ELEVATION = 100'-0" UNLESS NOTED OTHERWISE.
10. STRIP FOOTINGS AND GRADE BEAMS SHALL BE CENTERED UNDER FOUNDATION AND/OR MASONRY WALLS UNLESS NOTED OTHERWISE.
11. △ = RETROFIT HELICAL PIER
    - 32 KIP SERVICE LEVEL CAPACITY
    - MINIMUM EMBEDMENT DEPTH = 29'-0"
12. ◎ = NEW HELICAL PIER
    - 32 KIP SERVICE LEVEL CAPACITY
    - MINIMUM EMBEDMENT DEPTH = 29'-0"

KEYED NOTES

TRUE NORTH / PLAN NORTH

1 FOUNDATION PLAN - AREA C

1/8" = 1'-0"



KEY PLAN

Mead & Hunt
Mead & Hunt, Inc.
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Middleton, WI 53562
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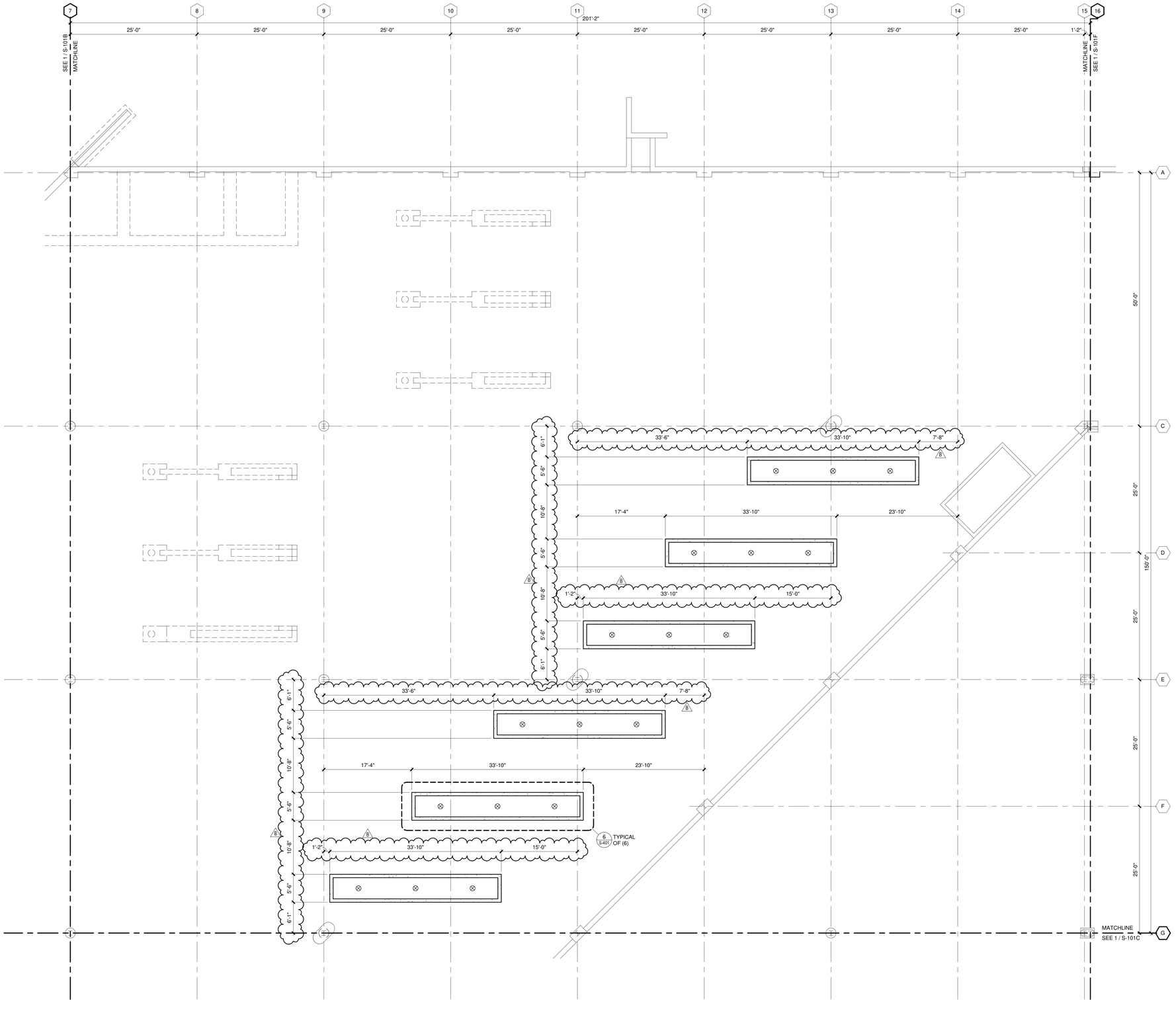
SHEET CONTENTS
FOUNDATION PLAN - AREA C

SHEET NO.:
S-101C



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2. REFERENCE SHEET G-101 PHASING PLAN FOR CONSTRUCTION PHASING/SEQUENCING AND SITE ACCESS.
3. REFERENCE O-SHEETS FOR EQUIPMENT COORDINATION AND EXCAVATION REQUIREMENTS.
4. SITE DATUM OF FINISHED FIRST FLOOR INDICATED ON CIVIL SITE PLAN = ELEVATION 100'-0" ON STRUCTURAL DRAWINGS.
5. FIELD VERIFY ALL DIMENSIONS, BRING ANY DISCREPANCIES TO THE ATTENTION OF THE ARCHITECT/ENGINEER FOR FINAL DECISION.
6. REFER TO SHEET S-001 FOR STRUCTURAL LEGENDS, ABBREVIATIONS, AND SYMBOLOGY.
7. REFER TO SHEET S-501 FOR TYPICAL DETAILS NOT REFERENCED ON THIS SHEET.
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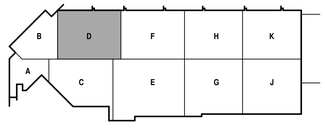
10. STRIP FOOTINGS AND GRADE BEAMS SHALL BE CENTERED UNDER FOUNDATION AND/OR MASONRY WALLS UNLESS NOTED OTHERWISE.
11. △ = RETROFIT HELICAL PIER
    - 32 KIP SERVICE LEVEL CAPACITY
    - MINIMUM EMBEDMENT DEPTH = 29'-0"
12. ◎ = NEW HELICAL PIER
    - 32 KIP SERVICE LEVEL CAPACITY
    - MINIMUM EMBEDMENT DEPTH = 29'-0"

KEYED NOTES

TRUE NORTH PLAN NORTH

1 **FOUNDATION PLAN - AREA D**
1/8" = 1'-0"



KEY PLAN

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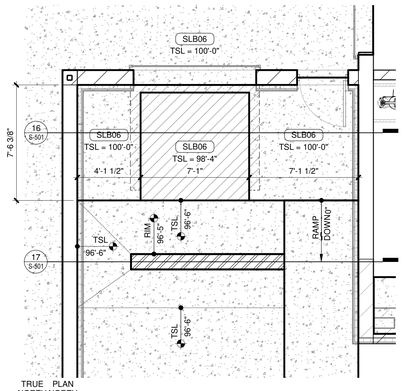
SHEET CONTENTS
FOUNDATION PLAN - AREA D

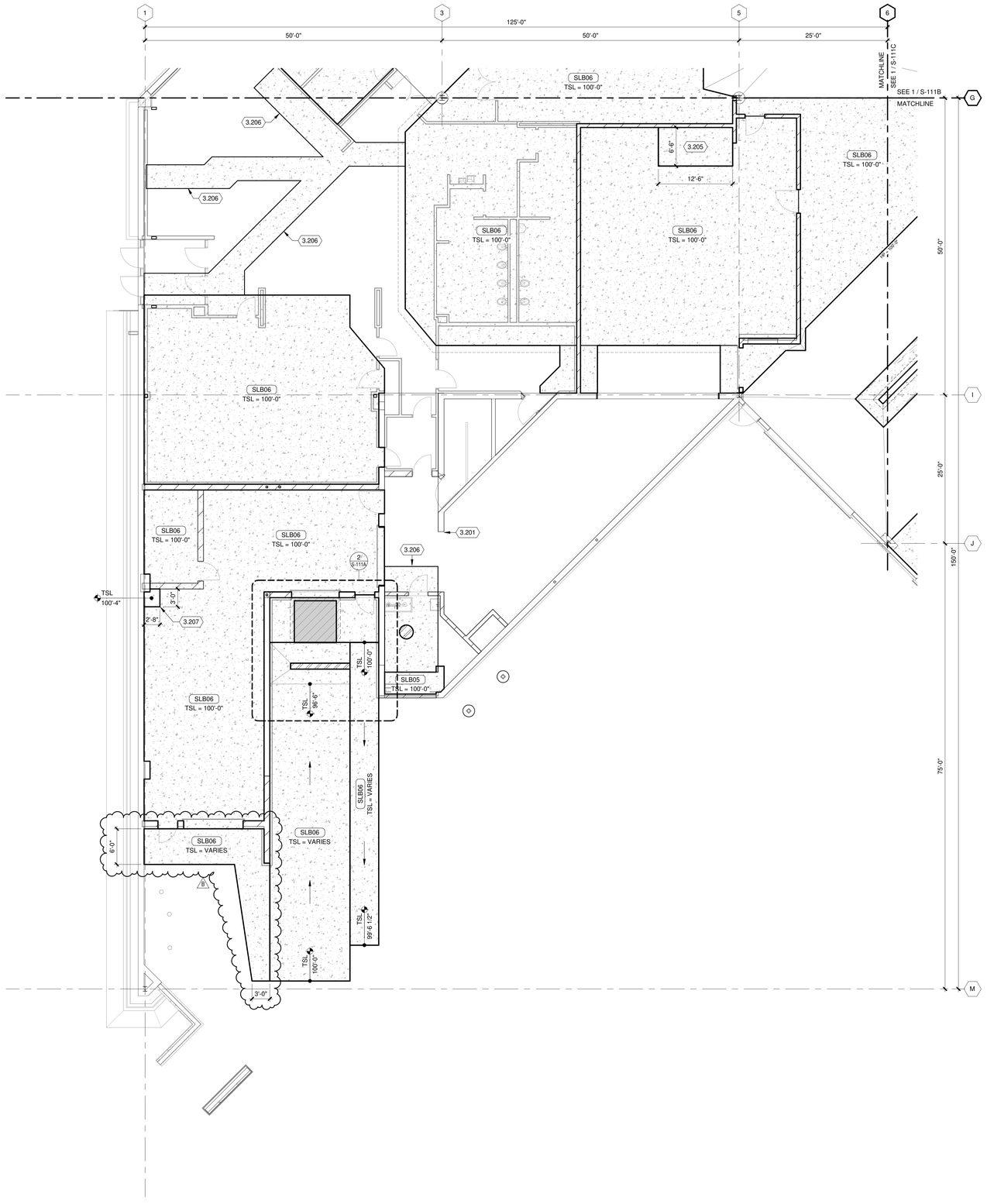
SHEET NO.:
S-101D



TRUE NORTH PLAN NORTH

2 ENLARGED FLATWORK PLAN

1/4" = 1'-0"



TRUE NORTH PLAN NORTH

1 FIRST FLOOR FLATWORK PLAN - AREA A

1/8" = 1'-0"

FLATWORK PLAN GENERAL NOTES:

1. REFERENCE G-020 THROUGH G-030 SHEETS FOR LIFE SAFETY CODE, WALL/FLOOR RATINGS, AND CLASS 1 DIV 2 REQUIREMENTS.
2. REFERENCE SHEET G-101 PHASING PLAN FOR CONSTRUCTION PHASING/SEQUENCING AND SITE ACCESS.
3. REFERENCE O-SHEETS FOR EQUIPMENT COORDINATION AND EXCAVATION REQUIREMENTS.
4. SITE DATUM OF FINISHED FIRST FLOOR INDICATED ON CIVIL SITE PLAN = ELEVATION 100'-0" ON STRUCTURAL DRAWINGS.
5. FIELD VERIFY ALL DIMENSIONS, BRING ANY DISCREPANCIES TO THE ATTENTION OF THE ARCHITECT/ENGINEER FOR FINAL DECISION.
6. REFER TO SHEET S-001 FOR STRUCTURAL LEGENDS, ABBREVIATIONS, AND SYMBOLOGY.
7. REFER TO SHEET S-511 FOR TYPICAL DETAILS NOT REFERENCED ON THIS SHEET.
8. REFER TO DETAIL 1/S-511 FOR STRUCTURAL SLAB TYPES.
9. FLOAT AND TROWEL FLOOR SLABS PER REQUIREMENTS OF ARCH. FLOOR FINISH SYSTEM.
10. (2) DASHED LINES = = = = INDICATE (2) ADDITIONAL #4 BARS (5'-0" LONG) DIAGONAL 6" FROM CORNER IN SLAB, 2" CLEAR FROM TOP OF SLAB.
11. DOWEL ALL NEW SLAB/INFILL TO EXISTING PER DETAIL 9/S-511, UNLESS INDICATED OTHERWISE.
12. ***ATTENTION*** FULL EXTENT OF SLAB REPLACEMENT REQUIRED DUE TO OTHER DISCIPLINES DEMOLITION MAY NOT BE CAPTURED ON DRAWINGS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE ALL REQUIRED SLAB REPLACEMENT WITH OTHER DISCIPLINES AND IN-FIELD CONDITIONS.

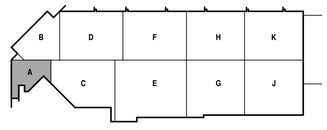
KEYED NOTES

3.201 PATCH SLAB AT WALL REMOVAL, MATCH EXISTING THICKNESS, DOWEL PER DETAIL 9/S-511.

3.205 12" ISOLATED EQUIPMENT PAD, SEE DETAIL 7/S-511. TOP OF SLAB ELEVATION = 100'-0".

3.206 SLAB REPLACEMENT AFTER COMPLETION OF PLUMBING DEMO/INSTALLATION, COORDINATE LOCATIONS WITH PLUMBING. REPLACE WITH SLAB TYPE SLB06. MATCH ADJACENT FLOOR ELEVATIONS AND SLOPES.

3.207 NEW EQUIPMENT PAD, SEE DETAIL 6/S-511. COORDINATE EXACT SIZE AND LOCATION WITH CORRESPONDING EQUIPMENT SUPPLIER.



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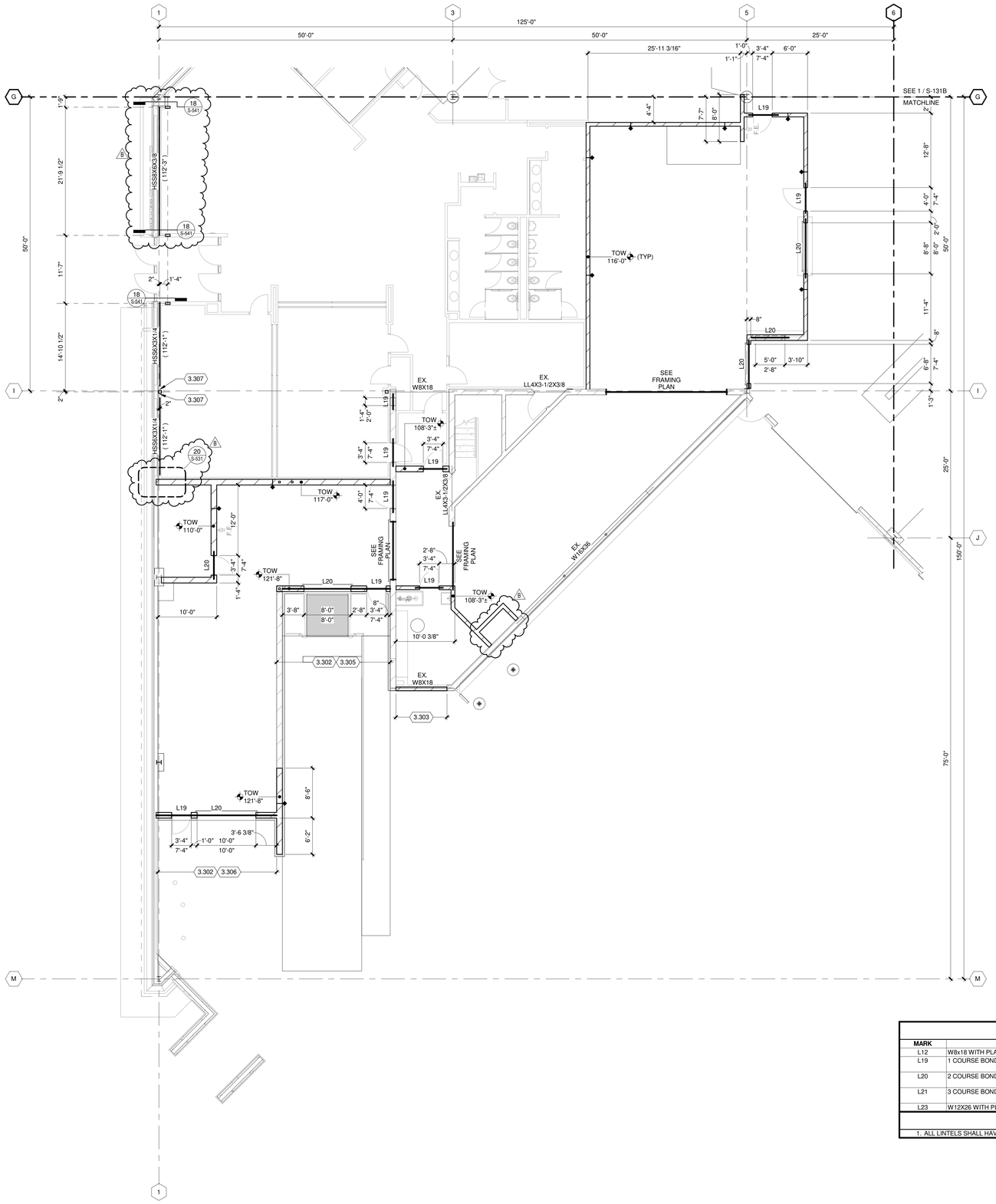
SHEET CONTENTS
FIRST FLOOR FLATWORK PLAN - AREA A

SHEET NO.:
S-111A



STRUCTURAL FLOOR PLAN GENERAL NOTES:

1. REFERENCE G-020 THROUGH G-030 SHEETS FOR LIFE SAFETY CODE, WALL/FLOOR RATINGS, AND CLASS 1 DIV 2 REQUIREMENTS.
2. REFERENCE SHEET G-101 PHASING PLAN FOR CONSTRUCTION PHASING/SEQUENCING AND SITE ACCESS.
3. REFERENCE O-SHEETS FOR EQUIPMENT COORDINATION AND EXCAVATION REQUIREMENTS.
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5. FIELD VERIFY ALL DIMENSIONS, BRING ANY DISCREPANCIES TO THE ATTENTION OF THE ARCHITECT/ENGINEER FOR FINAL DECISION.
6. REFER TO SHEET S-001 FOR STRUCTURAL LEGENDS, ABBREVIATIONS AND SYMBOLOGY.
7. REFER TO SHEET S-131A FOR LINTEL SCHEDULE.
8. REFER TO SHEET S-531 FOR TYPICAL DETAILS NOT REFERENCED ON THIS SHEET.
9. ALL MASONRY WALLS SHALL BE REINFORCED WITH #5 VERTICAL BARS AT 48" O.C., CENTERED IN WALL, UNLESS INDICATED OTHERWISE.
10. GROUT ALL MASONRY SOLID BELOW BELOW FINISHED FLOOR ELEVATION AND 1 FULL COURSE ABOVE FINISHED FLOOR.
11. ALL MASONRY WALL REINFORCEMENT SHALL BE FULL HEIGHT UNLESS NOTED OR DETAILED OTHERWISE.
12. STRUCTURAL WALL TYPES SHALL REMAIN CONTINUOUS ACROSS LINTELS AND MASONRY CONTROL JOINTS (MCJ), UNLESS NOTED OR DETAILED OTHERWISE.
13. PROVIDE L19 LINTEL AT ALL MASONRY OPENINGS (NOT INDICATED EXCEEDING 1'-0" (4'-0" MAX) IN WIDTH. COORDINATE WITH ALL OTHER DISCIPLINES FOR LOCATION AND SIZE OF SUCH PENETRATIONS.
14. COORDINATE REQUIRED WALL PENETRATIONS WITH ALL OTHER DISCIPLINES TO AVOID PENETRATION OF STRUCTURAL MEMBERS AT LINTELS, TOP OF WALL, AND ANY OTHER STRUCTURAL ELEMENTS IN THE FIELD OF THE MASONRY WALL. NOTIFY ENGINEER PRIOR TO PENETRATION OF ANY STRUCTURAL MEMBERS INCLUDING, BUT NOT LIMITED TO, BOND BEAMS AND PORTIONS OF FULLY GROUTED MASONRY WALLS.
15. CONTROL JOINTS IN MASONRY SHALL NOT BE LOCATED CLOSER THAN 2'-0" TO THE EDGE OF MASONRY OPENINGS, UNLESS NOTED OTHERWISE.

KEYED NOTES

3.302 NEW 12" CMU WALL FULLY GROUTED, FULL HEIGHT, WITH JAMB REINFORCING PER DETAIL 6/S-521.

3.303 NEW 8" CMU INFILL FULLY GROUTED WITH #5 VERTICAL BAR EACH CORE.

3.305 LINTEL L20 SHALL SPAN ENTIRE LENGTH OF THIS WALL.

3.306 LINTEL L20 SHALL SPAN ENTIRE LENGTH OF THIS WALL. FULL LENGTH BOND BEAM WITH (2) #5 BARS AT 4'-0" VERTICAL SPACING ABOVE OPENINGS.

3.307 FIELD WELD HSS LINTEL BEAM TO HSS COLUMN WITH 1/4" FILLET WELD, THREE SIDES.

LINTEL SCHEDULE

MARK	DESCRIPTION	BEARING	DETAIL	REMARKS
L12	W8x18 WITH PLATE	8" E.E.		
L19	1 COURSE BOND BEAM WITH (2) #5 AT BOTTOM	8" E.E.		NO BOTTOM PLATE
L20	2 COURSE BOND BEAM WITH (2) #5 AT BOTTOM	4" E.E.		NO BOTTOM PLATE
L21	3 COURSE BOND BEAM WITH (2) #5 AT BOTTOM	24" E.E.		NO BOTTOM PLATE
L23	W12X26 WITH PL1/4x11-1/2	8" E.E.		

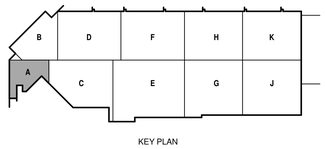
LINTEL SCHEDULE GENERAL NOTES

1. ALL LINTELS SHALL HAVE 1/4" THICK BOTTOM PLATE TO MATCH WIDTH OF WALL MINUS 1/4" EACH SIDE U.N.O.

TRUE NORTH PLAN NORTH

1 STRUCTURAL FIRST FLOOR PLAN - AREA A

1/8" = 1'-0"



KEY PLAN

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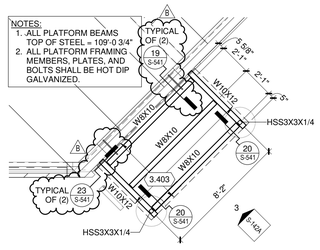
SHEET CONTENTS:
STRUCTURAL FIRST FLOOR PLAN - AREA A

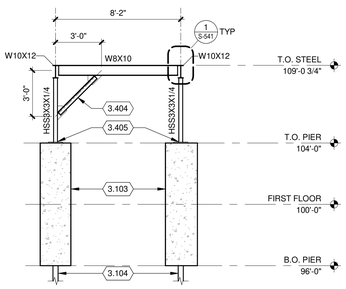
SHEET NO.:
S-131A



TRUE NORTH PLAN NORTH

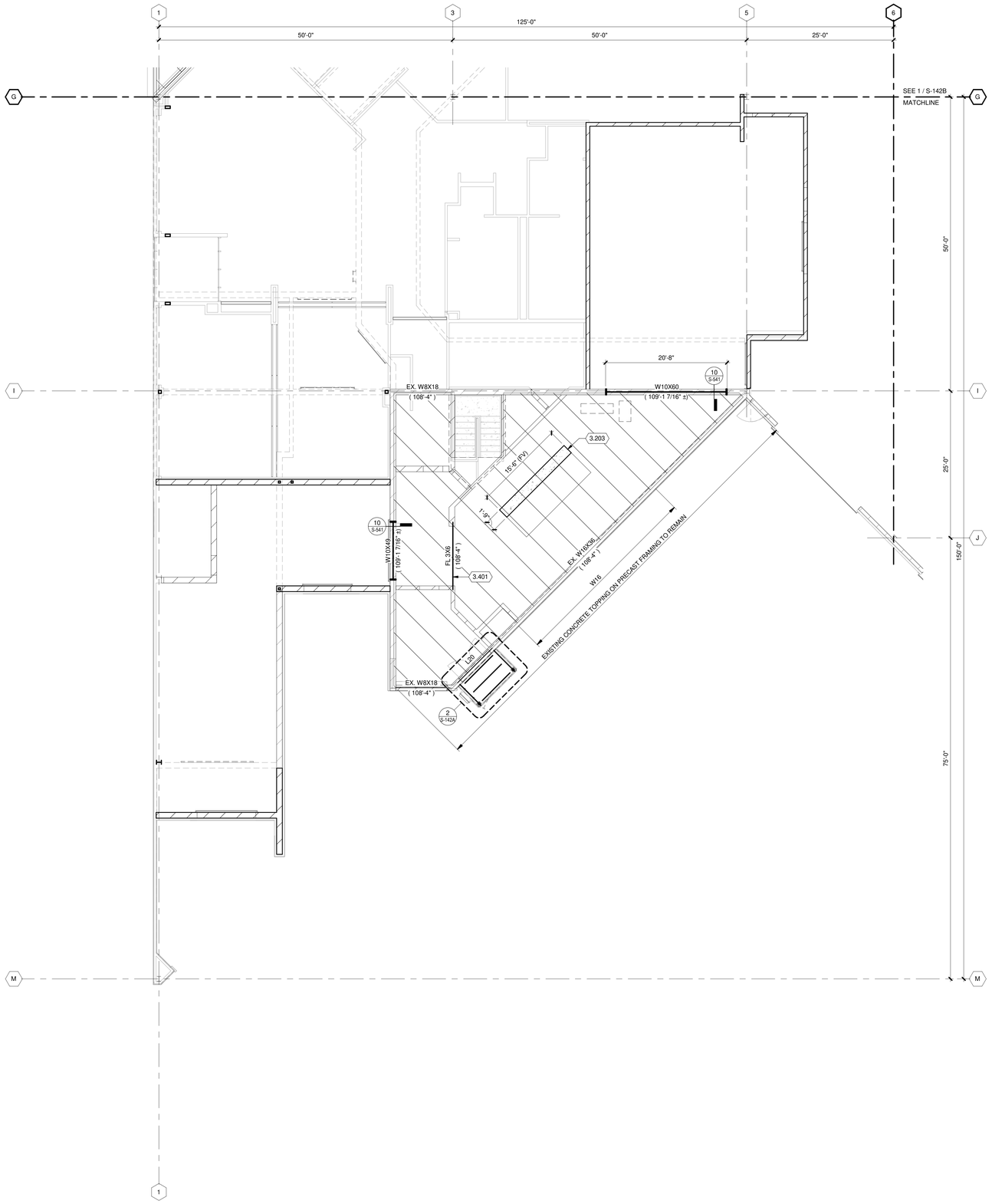
2 ENLARGED FRAMING PLAN

1/4" = 1'-0"



3 PLATFORM FRAMING ELEVATION

1/4" = 1'-0"



TRUE NORTH PLAN NORTH

1 MEZZANINE FRAMING PLAN - AREA A

1/8" = 1'-0"

FRAMING PLAN GENERAL NOTES:

1. REFERENCE G-020 THROUGH G-030 SHEETS FOR LIFE SAFETY CODE, WALL/FLOOR RATINGS, AND CLASS 1 DIV 2 REQUIREMENTS.
2. REFERENCE SHEET G-101 PHASING PLAN FOR CONSTRUCTION PHASING/SEQUENCING AND SITE ACCESS.
3. REFERENCE O-SHEETS FOR EQUIPMENT COORDINATION AND EXCAVATION REQUIREMENTS.
4. SITE DATUM OF FINISHED FIRST FLOOR INDICATED ON CIVIL SITE PLAN = ELEVATION 100'-0" ON STRUCTURAL DRAWINGS.
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6. REFER TO SHEET S-001 FOR STRUCTURAL LEGENDS, ABBREVIATIONS, AND SYMBOLOGY.
7. REFER TO SHEET S-541 FOR TYPICAL DETAILS NOT REFERENCED ON THIS SHEET.

KEYED NOTES

3.103 24" DIAMETER CONCRETE PIER. FULL 8'-0" HEIGHT TO BE POURED AT THE SAME TIME. REINFORCING SHALL BE (5) #5 VERTICAL BARS, #3 TIES SPACED AT 12" VERTICALLY, AND TRIPLE TOP TIE IN THE TOP 12" OF PIER. DOME TOP OF PIER WITH SLOPE OF 1/4" PER FOOT MINIMUM.

3.104 HELICAL PIER. 10 KIP COMPRESSION CAPACITY.

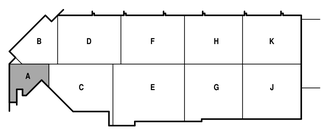
3.203 NEW EQUIPMENT PAD EXTENSION TO EXISTING, SEE DETAIL 13/S-511. MATCH ELEVATION OF EXISTING PAD.

3.401 NEW 6X3 STEEL BAR FLATWISE, GR 36 MINIMUM.

3.403 BAR GRATING 1-1/4" X 1/8" BEARING BARS AT 15/16" O.C. SPACING. CROSS RODS AT 2" O.C. CROSS RODS WELDED. HOT DIP GALVANIZED. CONNECT GRATING TO SUPPORT BEAMS WITH HOT DIP GALVANIZED G-CLIPS. NO FIELD DRILLING ALLOWED.

3.404 2L3X2X1/4 LLBB BRACE BOLTED TO 3/8" GUSSET PLATE EACH END WITH (2) 3/4" DIAMETER A325 SLIP CRITICAL BOLTS.

3.405 3/4 " THICK COLUMN BASE PLATE (SEE DETAIL 7/S-541), WITH (3) 3/4" DIAMETER CAST IN PLACE HEADED ANCHOR RODS, HOT DIP GALVANIZED. NO GROUT BED.



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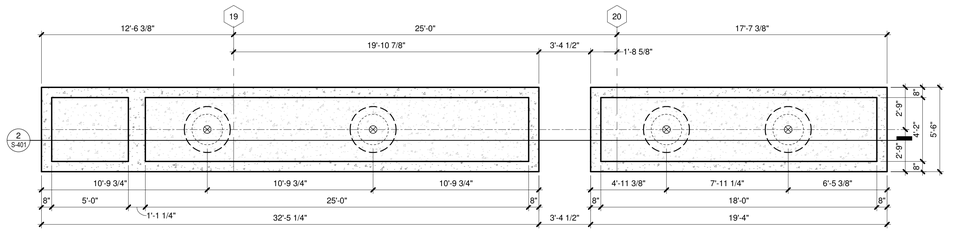
SHEET CONTENTS
MEZZANINE FRAMING PLAN - AREA A

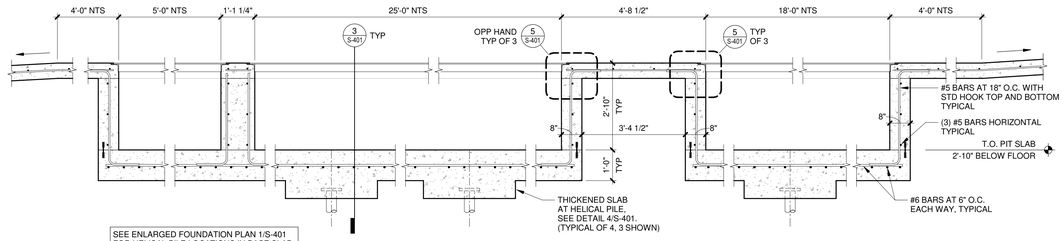
SHEET NO.:
S-142A



TRUE NORTH PLAN NORTH

1 ENLARGED FOUNDATION PLAN - LIFT

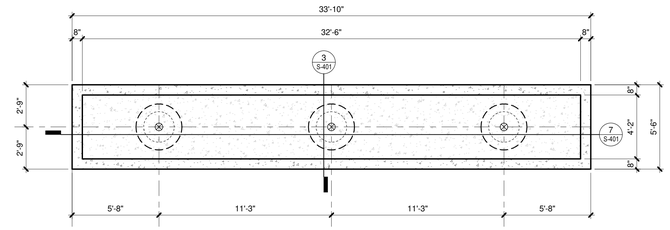
1/4" = 1'-0"



SEE ENLARGED FOUNDATION PLAN 1/S-401 FOR HELICAL PILE LOCATIONS IN BASE SLAB.

2 FOUNDATION SECTION - LIFT

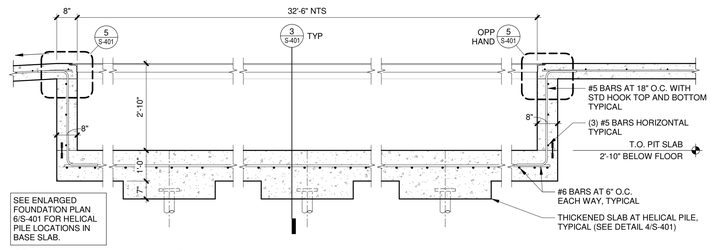
1/2" = 1'-0"



TRUE NORTH PLAN NORTH

6 ENLARGED FOUNDATION PLAN - ECO 60-13 LIFT

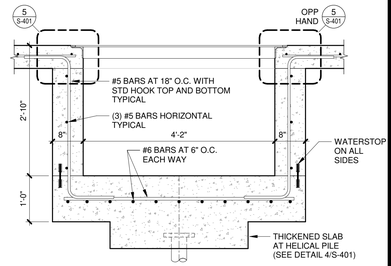
1/4" = 1'-0"



SEE ENLARGED FOUNDATION PLAN 6/S-401 FOR HELICAL PILE LOCATIONS IN BASE SLAB.

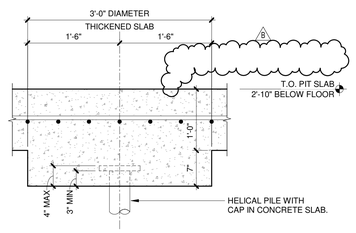
7 FOUNDATION SECTION - ECO LIFT

1/2" = 1'-0"



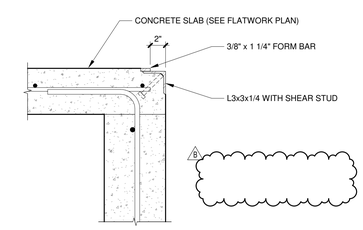
3 FOUNDATION SECTION - LIFTS

3/4" = 1'-0"



4 HELICAL PILE AT SLAB - LIFTS

1" = 1'-0"



5 FOUNDATION DETAIL - LIFTS

1 1/2" = 1'-0"

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ISSUED
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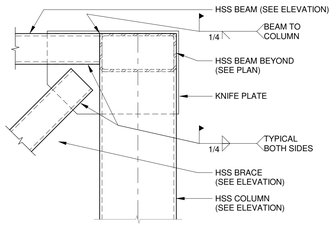
B 05/13/21 ADDENDUM #2

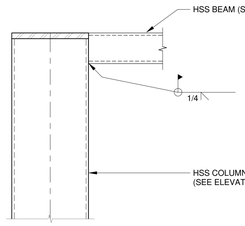
CONTRACT NO.: 8981
M&H NO.: 4503500-190896.03
DATE: APRIL 8, 2021
DESIGNED BY: DXC
DRAWN BY: NJB / MJE
CHECKED BY: DRM
DO NOT SCALE DRAWINGS

SHEET CONTENTS
ENLARGED FOUNDATION PLANS AND DETAILS

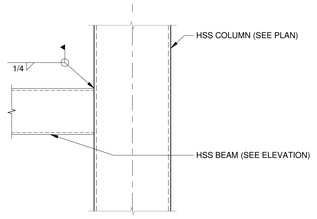
SHEET NO.:
S-401



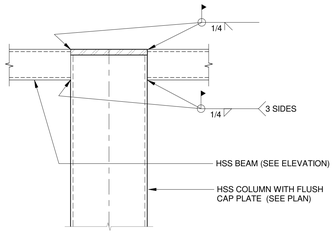
11 OVERHANG FRAMING CONNECTION
1 1/2" = 1'-0"



7 OVERHANG FRAMING CONNECTION
1 1/2" = 1'-0"



12 OVERHANG FRAMING CONNECTION
1 1/2" = 1'-0"



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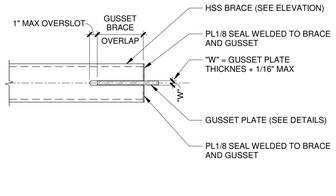
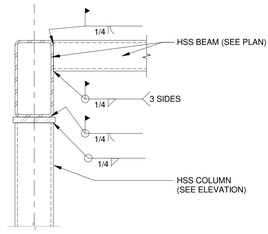
1 1/2" = 1'-0"



13 BRACED FRAME SLOT CUT
1 1/2" = 1'-0"



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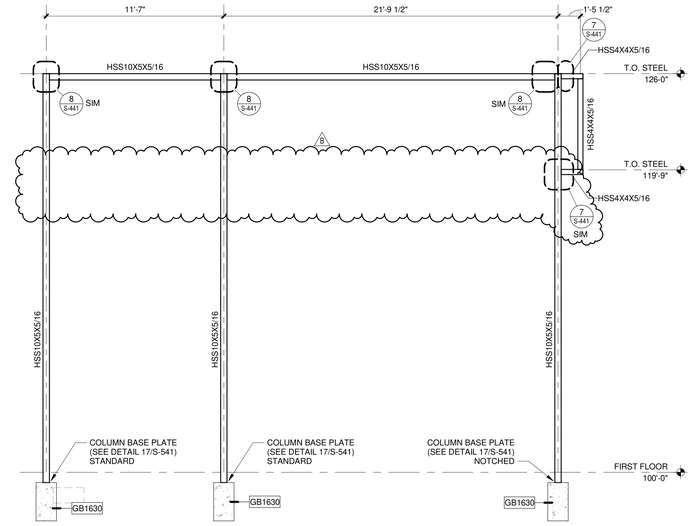
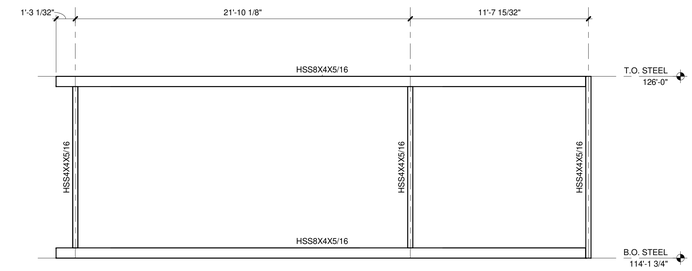
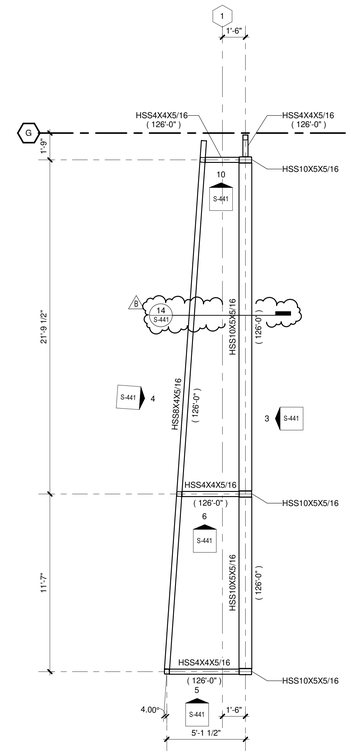
1 1/2" = 1'-0"



3 OVERHANG FRAMING ELEVATION
1/4" = 1'-0"



4 OVERHANG FRAMING ELEVATION
1/4" = 1'-0"

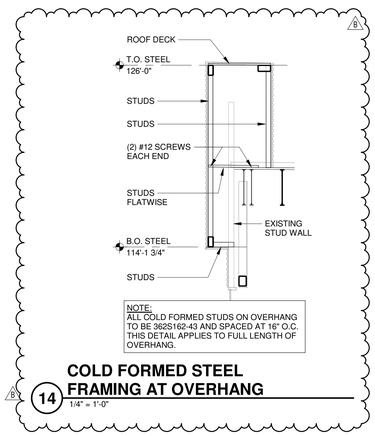


TRUE NORTH PLAN NORTH

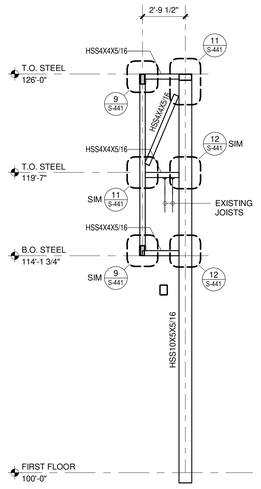
1 ENLARGED FRAMING PLAN
1/4" = 1'-0"

ROOF FRAMING PLAN GENERAL NOTES:

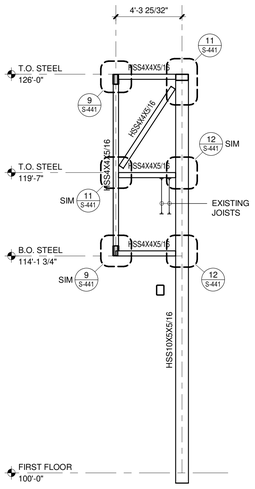
1. REFERENCE G-020 THROUGH G-030 SHEETS FOR LIFE SAFETY CODE, WALL/FLOOR RATINGS, AND CLASS 1 DIV 2 REQUIREMENTS.
2. REFERENCE SHEET G-101 PHASING PLAN FOR CONSTRUCTION PHASING/SEQUENCING AND SITE ACCESS.
3. REFERENCE O-SHEETS FOR EQUIPMENT COORDINATION AND EXCAVATION REQUIREMENTS.
4. SITE DATUM OF FINISHED FIRST FLOOR INDICATED ON CIVIL SITE PLAN = ELEVATION 100'-0" ON STRUCTURAL DRAWINGS.
5. FIELD VERIFY ALL DIMENSIONS, BRING ANY DISCREPANCIES TO THE ATTENTION OF THE ARCHITECT/ENGINEER FOR FINAL DECISION.
6. REFER TO SHEET S-001 FOR STRUCTURAL LEGENDS, ABBREVIATIONS, AND SYMBOLOGY.
7. REFER TO SHEET S-010 FOR ROOF LOADING PLAN AND SPECIAL JOIST LOADING REQUIREMENTS.
8. REFER TO SHEETS S-541 AND S-551 FOR TYPICAL DETAILS NOT REFERENCED ON THIS SHEET.
9. MINIMUM JOIST BEARING LENGTH REQUIREMENTS ARE AS FOLLOWS UNLESS NOTED OR DETAILED OTHERWISE;
   A. AT MASONRY WALLS
      - "K" SERIES - MINIMUM 4"
      - "KCS" SERIES - MINIMUM 4"
   B. AT STEEL BEAMS
      - "K" SERIES - MINIMUM 2 1/2"
      - "KCS" SERIES - MINIMUM 2 1/2"
10. ALL NEW JOISTS SHALL BE DESIGNED AND SUPPLIED WITH AT LEAST ONE MOMENT SPLICE. CONTRACTOR SHALL PROVIDE ADDITIONAL MOMENT SPLICES TO INSTALL SISTER-JOIST AMONG EXISTING UTILITIES OR OTHER OBSTRUCTIONS. MOMENT SPLICES SHALL BE DESIGNED AND STAMPED BY PROFESSIONAL ENGINEER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO REMOVE AND REINSTALL ANYTHING IN THE WAY OF THE INSTALLATION OF NEW NEW JOISTS. MOMENT CONNECTIONS MUST BE SHOP FABRICATED.
11. BRACE NEW JOISTS AT FIFTH POINTS PER DETAIL 10/S-551. NEW JOISTS SHALL BE DESIGNED FOR TOP CHORD BRACING AT THESE POINTS ONLY.
12. REINFORCING JOIST GIRDERS AND INSTALLING SISTER JOIST MUST BE DONE WITH NO LOAD ON ROOF. REMOVE BALLAST, SNOW, ICE AND WATER BEFORE REINFORCING JOIST GIRDERS AND INSTALLING SISTER JOIST.
13. CUT BRIDGING AND BRACING TO INSTALL NEW JOIST. REINSTALL BRIDGING AND BRACING TO ORIGINAL CONDITIONS OR SJI MINIMUM REQUIREMENTS WHICHEVER IS GREATER.
14. BALLAST REMOVED MAY NOT BE PLACED ON OTHER AREAS OF ROOF. PILE BALAST ON GROUND, AT LOCATION ON SITE, TO BE DETERMINED OWNER.
15. NEW JOISTS DO NOT NEED TO BE DESIGNED FOR UPLIFT FORCE.
16. FABRICATE JOIST WITH ZERO CAMBER. PROVIDE SHIMS IN SPLICE CONNECTION(S) TO ADJUST NEW JOIST TO EXISTING DECK SURFACE.
17. PLACEMENT OF BALLAST SHALL NOT EXCEED 12PSF.
18. VERIFY STEEL LAYOUT AND FIT UP WITH ALL NEW ROOF TOP UNITS.
19. DESIGN AND SUPPLY NEW JOIST WITH SEAT DEPTH OF 2". FIELD VERIFY THAT EXISTING JOIST SEATS ARE 2 1/2" DEEP. PROVIDE AND INSTALL SHIMS UNDER NEW JOIST SEATS TO PUSH JOIST UP TIGHT TO UNDERSIDE OF EXISTING ROOF DECK.



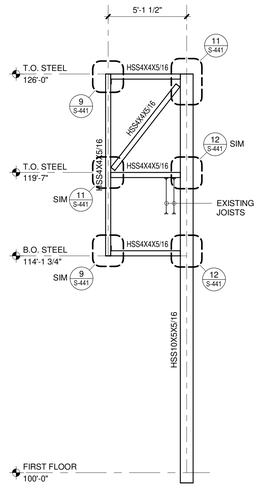
14 COLD FORMED STEEL FRAMING AT OVERHANG
1/4" = 1'-0"



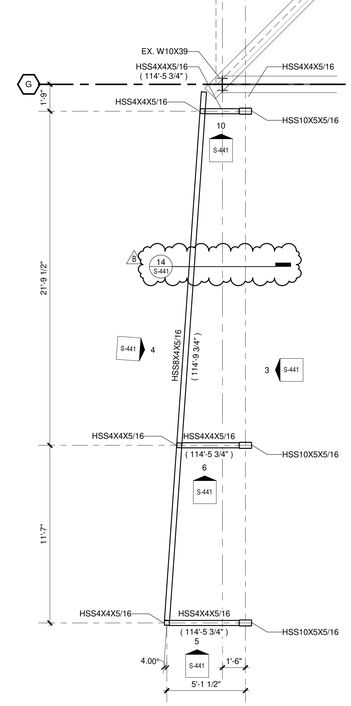
10 OVERHANG FRAMING ELEVATION
1/4" = 1'-0"



6 OVERHANG FRAMING ELEVATION
1/4" = 1'-0"



5 OVERHANG FRAMING ELEVATION
1/4" = 1'-0"



TRUE NORTH PLAN NORTH

2 ENLARGED FRAMING PLAN
1/4" = 1'-0"

KEYED NOTES

Mead & Hunt
Mead & Hunt, Inc.
2440 Deming Way
Middleton, WI 53562
phone: 608-273-6380
meadhunt.com

CITY OF MADISON WISCONSIN

metro transit

CITY OF MADISON METRO TRANSIT PHASE 3A - MAINTENANCE AND DRIVER FACILITY IMPROVEMENTS

1101 EAST WASHINGTON AVE.
MADISON, WI 53703

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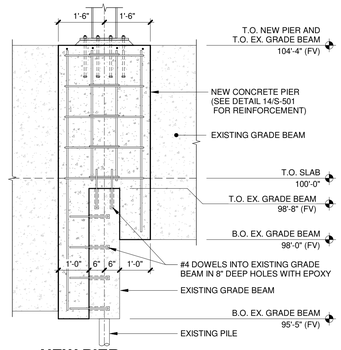
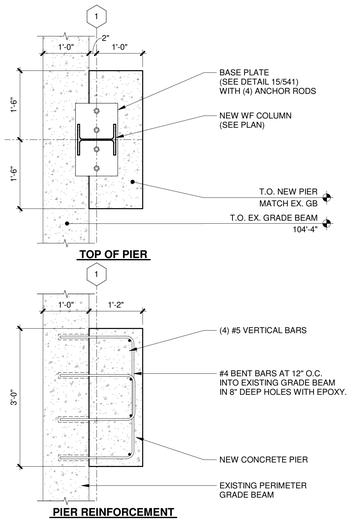
ENLARGED FRAMING PLANS AND ELEVATIONS

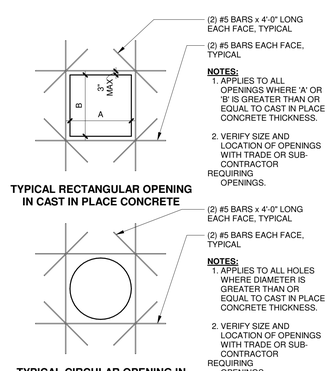
SHEET NO.:
S-441



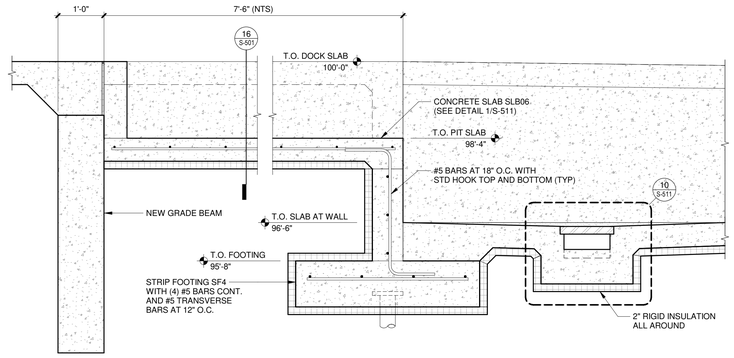
NEW PIER AT EXISTING GRADE BEAM
18 1/2" = 1'-0"



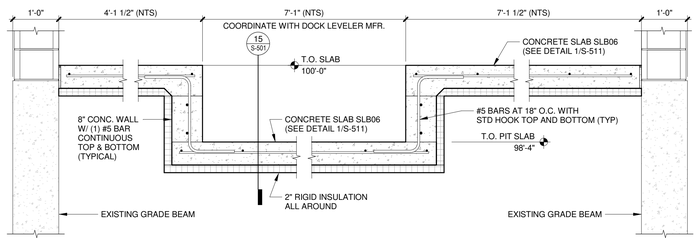
NEW PIER AT EXISTING GRADE BEAM
14 3/4" = 1'-0"



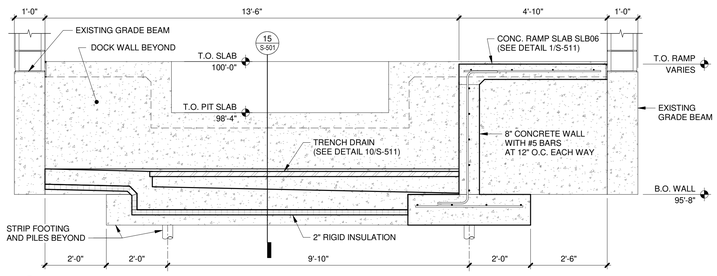
TYPICAL CONCRETE PENETRATION REINFORCEMENT
13 NO SCALE



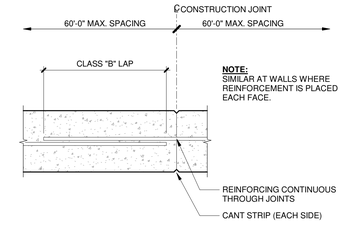
FOUNDATION SECTION - DOCK LEVELER
15 3/4" = 1'-0"



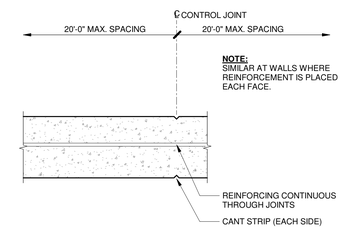
FOUNDATION SECTION - DOCK LEVELER
16 3/4" = 1'-0"



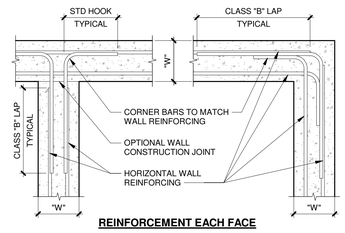
FOUNDATION SECTION - DOCK
17 1/2" = 1'-0"



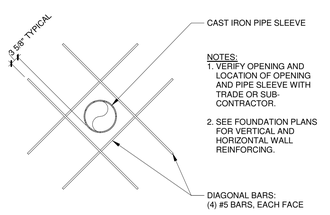
TYPICAL FOUNDATION AND CONCRETE WALL CONST. JOINT
9 NO SCALE



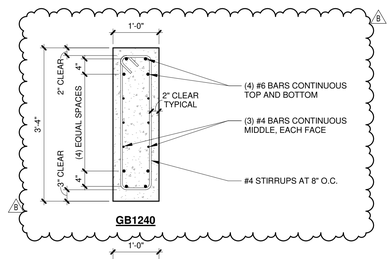
TYPICAL FOUNDATION AND CONCRETE WALL CONTROL JOINT
10 NO SCALE



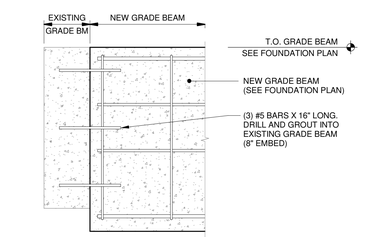
TYPICAL FOUNDATION WALL INTERSECTIONS
11 NO SCALE



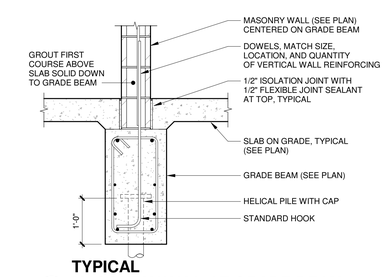
GRADE BEAM/ FOUNDATION WALL PENETRATION
12 NO SCALE



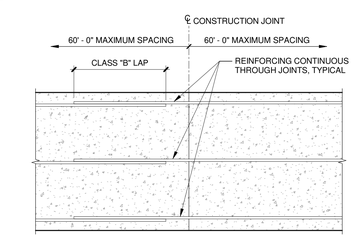
TYPICAL GRADE BEAMS
6 3/4" = 1'-0"



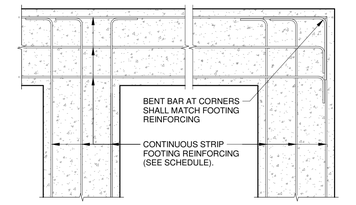
TYPICAL NEW TO EXISTING GRADE BEAM CONNECTION
7 NO SCALE



TYPICAL MASONRY WALL AT GRADE BEAM
8 3/4" = 1'-0"



TYPICAL FOOTING CONSTRUCTION JOINT
1 NO SCALE



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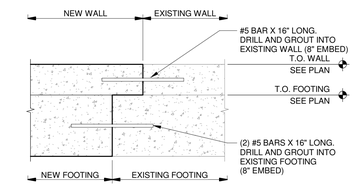
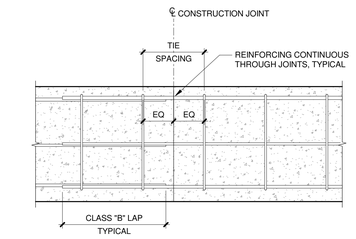
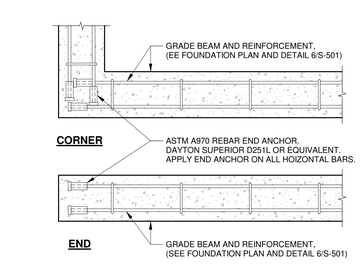
2 NO SCALE



NEW TO EXISTING FOUNDATION CONNECTION
3 NO SCALE



TYPICAL GRADE BEAM CONSTRUCTION JOINT
4 NO SCALE



TYPICAL GRADE BEAM CORNER/END
5 NO SCALE

Mead & Hunt
Mead & Hunt, Inc.
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Middleton, WI 53562
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meadhunt.com

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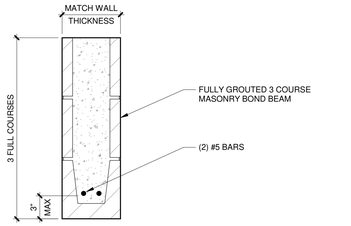
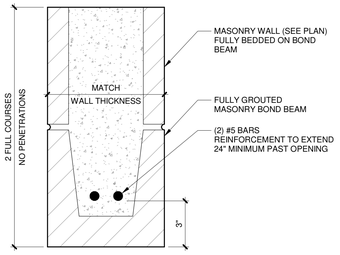
FOUNDATION DETAILS

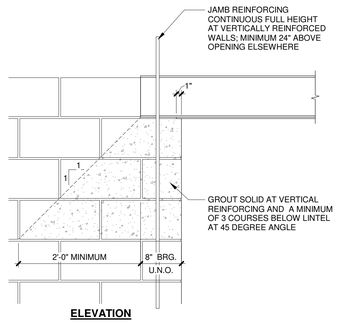
SHEET NO.:
S-501



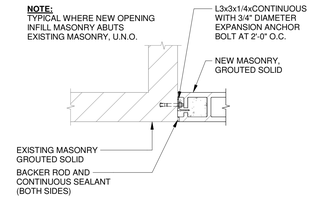
19 BOND BEAM LINTEL L21
1 1/2" = 1'-0"



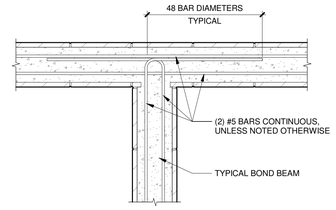
15 BOND BEAM LINTEL L20
3" = 1'-0"



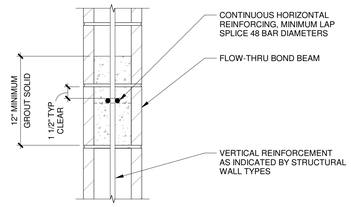
ELEVATION



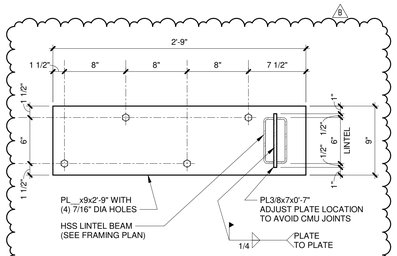
8 NEW MASONRY CONNECTION TO EXISTING
3/4" = 1'-0"



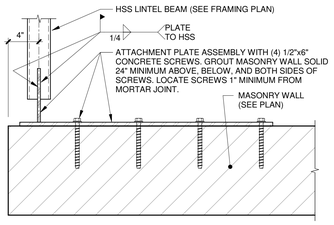
4 TYPICAL MASONRY BOND BEAM INTERSECTION
3/4" = 1'-0"



HORIZONTAL REINFORCING

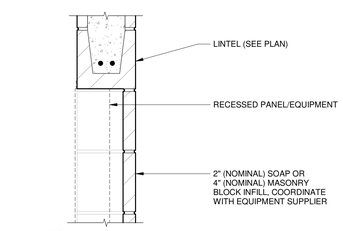


ATTACHMENT PLATE ELEVATION

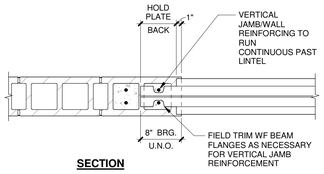


PLAN VIEW

HSS LINTEL BEAM CONNECTION TO MASONRY
B 20 1 1/2" = 1'-0"

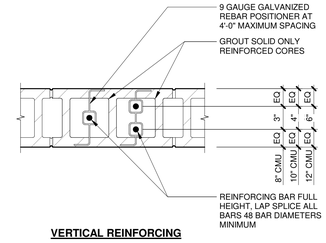


BOND BEAM LINTEL AT RECESSED PANEL/EQUIP
16 1 1/2" = 1'-0"



SECTION

12 WF BEAM LINTEL BEARING
1" = 1'-0"

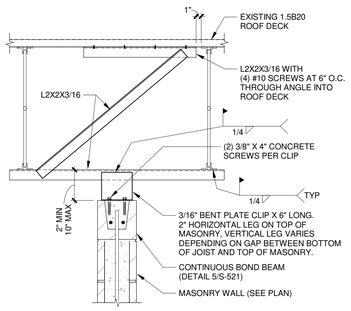


5 TYPICAL MASONRY CONTROL JOINT
1" = 1'-0"

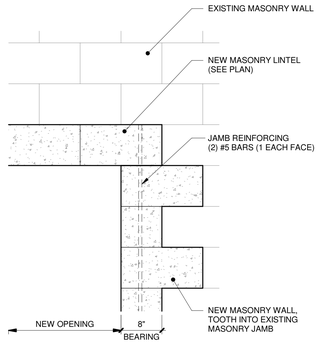
VERTICAL REINFORCING

1 TYPICAL BAR PLACEMENT IN MASONRY CORE
1 1/2" = 1'-0"

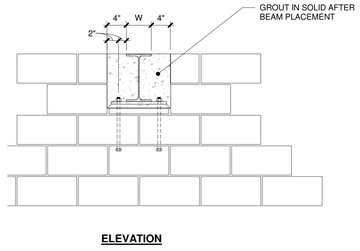
NOTES:
1. BRACE TOP OF WALL AT 8'-0" O.C. MAXIMUM.



TYPICAL TOP OF WALL BRACING WALL PARALLEL TO JOIST
17 1" = 1'-0"

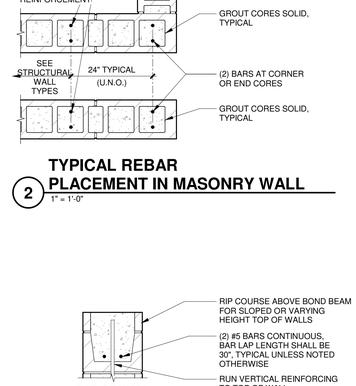


NEW MASONRY LINTEL AT EXISTING MASONRY WALL
13 1" = 1'-0"



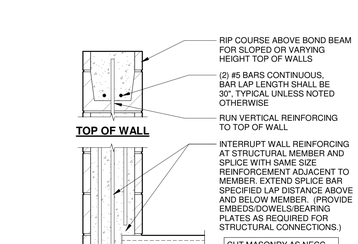
ELEVATION

STEEL BEAM BEARING ON MASONRY
10 3/4" = 1'-0"



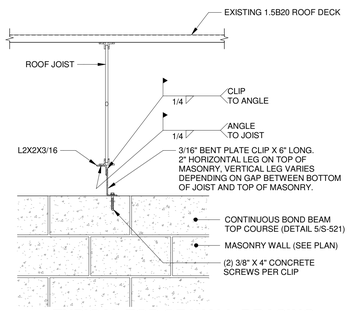
NOTE:
IN ADDITION TO OPENINGS SHOWN ON THE DRAWINGS, MASONRY AND STEEL WORK SHALL INCLUDE PROVIDING MASONRY WALL OPENINGS AND ASSOCIATED LINTELS REQUIRED FOR MECHANICAL/ELECTRICAL EQUIPMENT (OTHER THAN INDIVIDUAL PIPE PENETRATIONS FIELD DRILLED BY THE APPROPRIATE TRADES DURING THEIR WORK), INCLUDING COORDINATING WITH OTHER TRADES, GENERAL CONTRACTOR, ARCHITECT/ENGINEER, AND FINAL MECHANICAL AND ELECTRICAL DRAWINGS TO VERIFY EXACT SIZES AND LOCATIONS OF ALL SUCH OPENINGS AS WORK PROGRESSES. FINAL SIZES MAY NOT BE AVAILABLE UNTIL EQUIPMENT SHOP DRAWINGS ARE RECEIVED FROM SUCCESSFUL BIDDERS. ALL PARTIES SHOULD BE PREPARED TO PLAN AND COOPERATE ACCORDINGLY TO AVOID UNNECESSARY DELAYS IN THE WORK.

TYPICAL MASONRY OPENING REINFORCEMENT
6 1/2" = 1'-0"

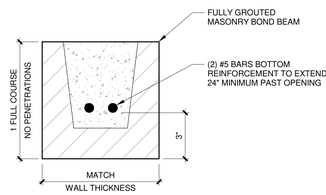


TYPICAL REBAR PLACEMENT IN MASONRY WALL
2 1" = 1'-0"

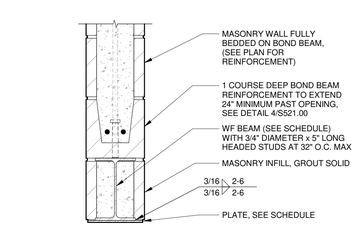
NOTES:
1. BRACE TOP OF WALL AT 8'-0" O.C. MAXIMUM.
2. TOP OF WALL BRACING THE SAME AT STUD WALLS.



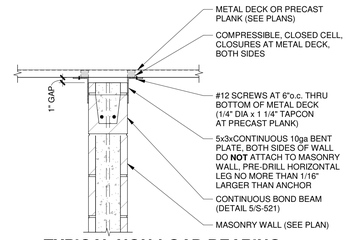
TYPICAL TOP OF WALL BRACING WALL PERPENDICULAR TO JOIST
18 1" = 1'-0"



14 BOND BEAM LINTEL L19
3" = 1'-0"



11 WF BEAM LINTEL
1 1/2" = 1'-0"



TYPICAL NON-LOAD BEARING MASONRY WALL TOP CONNECTION
7 1" = 1'-0"

TYPICAL MASONRY BOND BEAM
3 1" = 1'-0"

Mead & Hunt
Mead & Hunt, Inc.
2440 Deming Way
Middleton, WI 53562
phone: 608-273-6380
meadhunt.com

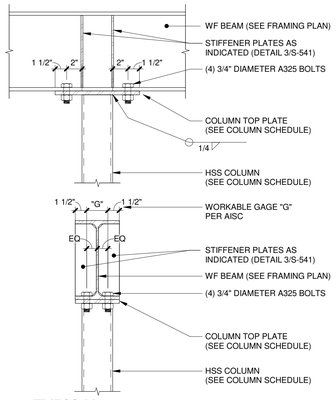
CITY OF MADISON
METRO TRANSIT PHASE 3A - MAINTENANCE AND
DRIVER FACILITY IMPROVEMENTS
1101 EAST WASHINGTON AVE.
MADISON, WI 53703

ISSUED
04/08/21 BID SET
B 05/13/21 ADDENDUM #2

CONTRACT NO.: 8981
M&H NO.: 4503500-190896.03
DATE: APRIL 8, 2021
DESIGNED BY: DXC
DRAWN BY: NJB / MJE
CHECKED BY: DRM
DO NOT SCALE DRAWINGS

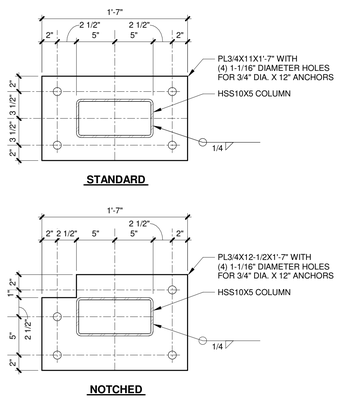
SHEET CONTENTS
MASONRY DETAILS

SHEET NO.:
S-531



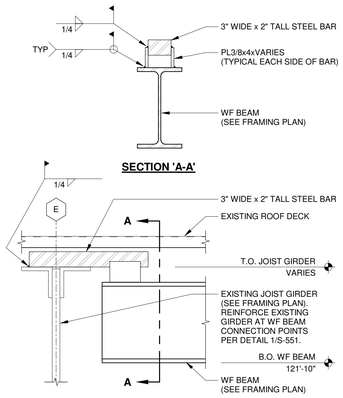
TYPICAL WF BEAM OVER HSS COLUMN

20 1 1/2" = 1'-0"



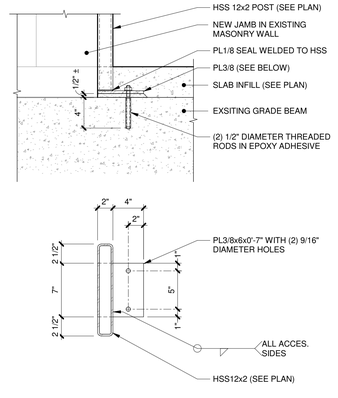
CANOPY COLUMN BASE PLATES

17 1 1/2" = 1'-0"



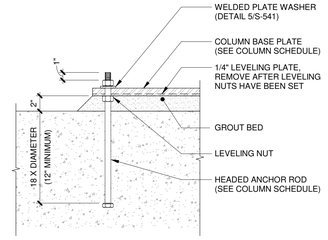
FALL PROTECTION SUPPORT FRAMING AT GIRDER

13 1 1/2" = 1'-0"



HSS 12x2 BASE PLATE

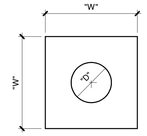
9 1 1/2" = 1'-0"



BASE PLATE ANCHORAGE

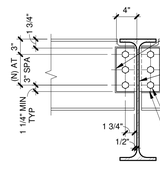
4 1 1/2" = 1'-0"

ANCHOR ROD DIA.	MAX. HOLE DIA. ("D")	MIN. WASHER SIZE ("W")	MIN. WASHER THICKNESS	MIN. WELD REQUIRED
3/4"	13/16"	2"	1/4"	1/4"
7/8"	15/16"	2 1/2"	5/16"	1/4"
1"	1 1/16"	3"	3/8"	5/16"
1 1/4"	1 5/16"	3"	1/2"	3/8"



WELDED WASHER

5 6" = 1'-0"



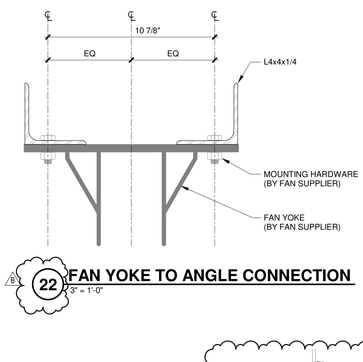
SINGLE PLATE SHEAR CONNECTION		
NOMINAL BEAM DEPTH, INCHES	ROWS OF BOLTS (N)	LENGTH OF ANGLE
W36	10	29 1/2"
W33	9	26 1/2"
W30	8	23 1/2"
W24 - W27	7	20 1/2"
W21	6	17 1/2"
W18	5	14 1/2"
W16	4	11 1/2"
W12 - W14	3	8 1/2"
W8 - W10	2	5 1/2"

SINGLE PLATE SHEAR CONNECTION NOTES

1. ALL FRAMING CONNECTIONS SHALL CONFORM TO SCHEDULE UNLESS DETAILED OR NOTED OTHERWISE.
2. STANDARD HOLES OR HORIZONTAL SHORT SLOT HOLES MAY BE UTILIZED AT CONTRACTORS OPTION IN EITHER THE CONNECTION ANGLE OR THE FRAMING MEMBERS.
3. WELD "A" MAY BE USED IN LIEU OF "A" SIDE BOLTS AT CONTRACTORS OPTION. WELD SHALL BE ON ALL 3 SIDES.
4. FOR MISS-ALIGNED BOLT HOLES, PROVIDE FIELD WELDS. NOTIFY THE ARCHITECT/ENGINEER OF LOCATIONS USING FIELD WELDED CONNECTION.
5. REFER TO TYPICAL COPING DETAIL 2/S-541 FOR CONNECTIONS WHERE COPING IS REQUIRED.
6. THIS DETAIL IS NOT INTENDED FOR EVERY WF SECTION. CHECK RIDING THE FILLET AND COPE DEPTH PRIOR TO FABRICATION.

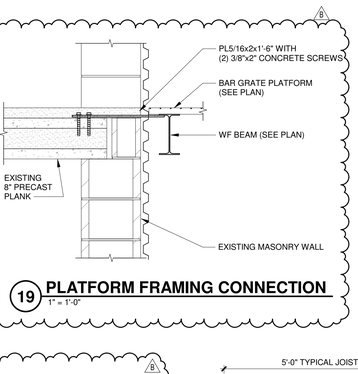
TYPICAL SINGLE PLATE SHEAR FRAMING CONNECTION

1 1" = 1'-0"



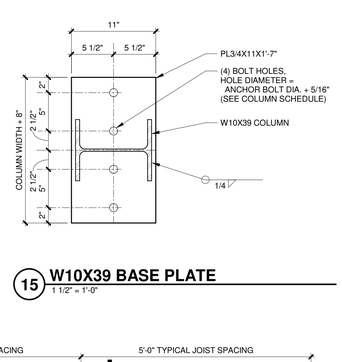
"NESTED" FAN CONNECTION

21 1" = 1'-0"



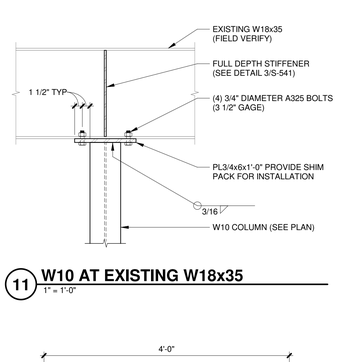
LINTEL BEAM CONNECTIONS TO COLUMN

18 1 1/2" = 1'-0"



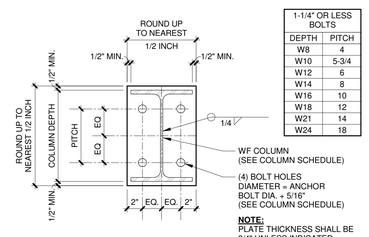
FALL PROTECTION SUPPORT FRAMING AT MASONRY

14 1 1/2" = 1'-0"



W10 AT EXISTING PRECAST

10 1 1/2" = 1'-0"

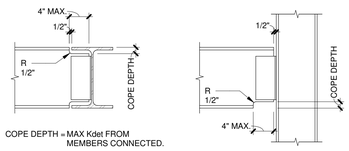


NOTE:
PLATE THICKNESS SHALL BE 3/4" UNLESS INDICATED OTHERWISE

WF COLUMN BASE PLATE

6 1 1/2" = 1'-0"

1-1/4" OR LESS BOLTS	
DEPTH	PITCH
W8	4
W10	5-3/4
W12	6
W14	8
W16	10
W18	12
W21	14
W24	18



COPE DEPTH = MAX Kdet FROM MEMBERS CONNECTED.

COPE LENGTH AS REQUIRED TO MAKE GAP, BUT NEVER MORE THAN 4".

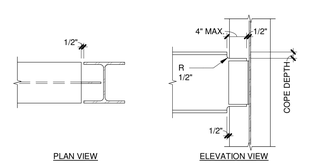
COPE AS LITTLE AS POSSIBLE.
EXAMPLE:
FOR W12 TO W12 COPE TOP AND BOTTOM.
FOR W12 TO W14 COPE TOP ONLY.

BEAM TO BEAM

COPE DEPTH = BEAM Kdet.

COPE LENGTH REQUIRED TO MAKE GAP BUT NEVER MORE THAN 4".

BEAM TO COLUMN FLANGE



PLAN VIEW ELEVATION VIEW

COLUMN FLANGE OMITTED FOR CLARITY ON ELEVATION VIEW.

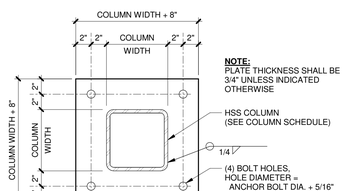
COPE DEPTH = BEAM Kdet.

COPE LENGTH AS REQUIRED TO MAKE GAP, BUT NEVER MORE THAN 4".

BEAM TO COLUMN WEB

TYPICAL COPING DETAIL

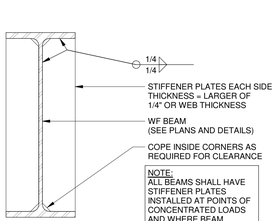
2 1" = 1'-0"



NOTE:
PLATE THICKNESS SHALL BE 3/4" UNLESS INDICATED OTHERWISE

HSS COLUMN BASE PLATE

7 1 1/2" = 1'-0"



TYPICAL WF STIFFENER PLATE

3 1 1/2" = 1'-0"

FAN YOKE TO ANGLE CONNECTION

22 3" = 1'-0"

PLATFORM FRAMING CONNECTION

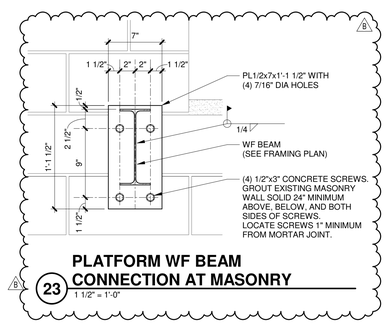
19 1" = 1'-0"

W10X39 BASE PLATE

15 1 1/2" = 1'-0"

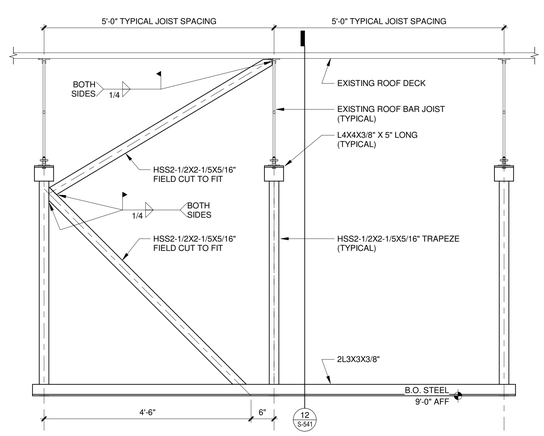
W10 AT EXISTING W18x35

11 1" = 1'-0"



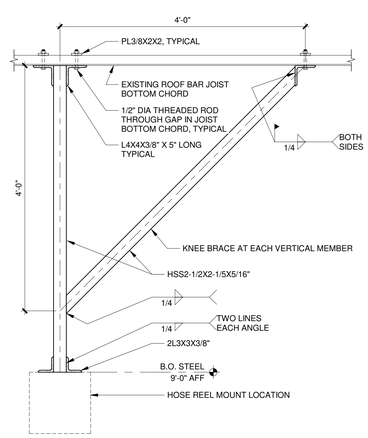
PLATFORM WF BEAM CONNECTION AT MASONRY

23 1 1/2" = 1'-0"



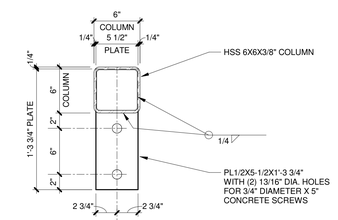
TRAPEZE FRAMING BRACE

16 3/4" = 1'-0"



TRAPEZE FRAMING

12 1" = 1'-0"



HSS POST BASE PLATE

8 1 1/2" = 1'-0"

Mead & Hunt

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2440 Deming Way
Middleton, WI 53562
phone: 608-273-6380
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CITY OF MADISON
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metro transit

CITY OF MADISON METRO TRANSIT PHASE 3A - MAINTENANCE AND DRIVER FACILITY IMPROVEMENTS

1101 EAST WASHINGTON AVE.
MADISON, WI 53703

ISSUED
04/08/21 BID SET
B 05/13/21 ADDENDUM #2

CONTRACT NO.: 8981
M&H NO.: 4503500-190896.03
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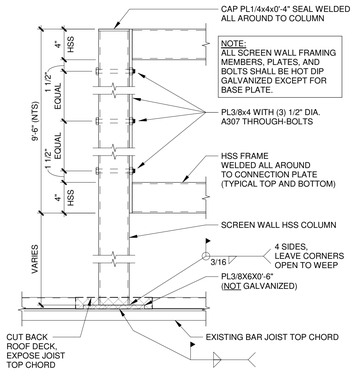
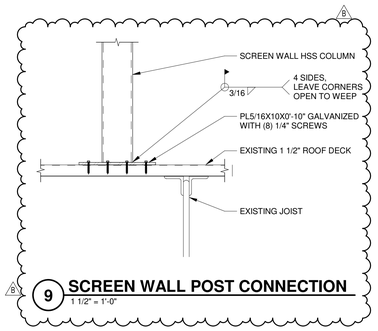
CHECKED BY: DRM
DO NOT SCALE DRAWINGS

SHEET CONTENTS
FRAMING DETAILS

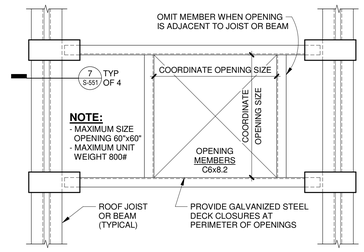
SHEET NO.:
S-541



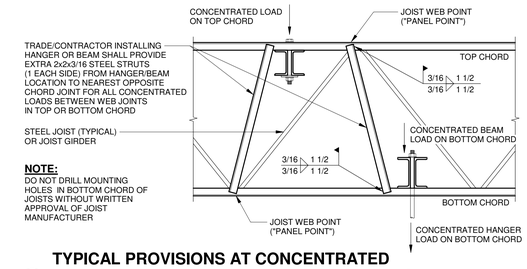
14 SCREEN WALL POST CONNECTIONS
1 1/2" = 1'-0"



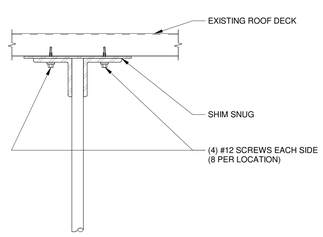
9 SCREEN WALL POST CONNECTION
1 1/2" = 1'-0"



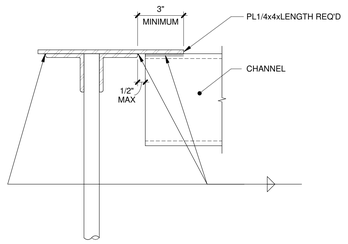
6 TYPICAL FRAMED ROOF OPENING
1" = 1'-0"



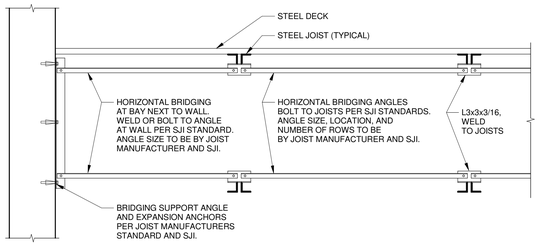
1 TYPICAL PROVISIONS AT CONCENTRATED LOADS ON OPEN WEB STEEL JOIST/GIRDERS
3/4" = 1'-0"



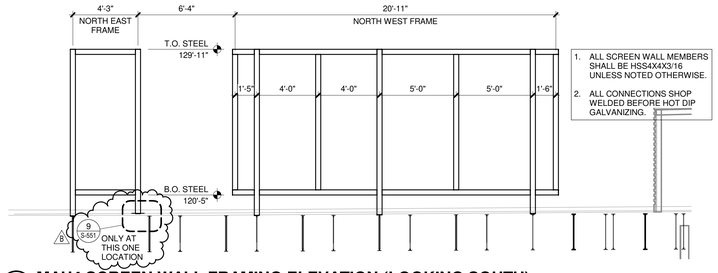
10 JOIST TO DECK CONNECTION
3" = 1'-0"



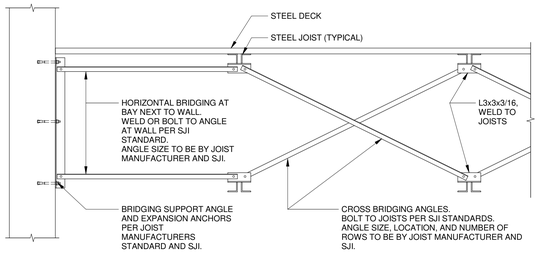
7 CHANNEL TO JOIST CONNECTION
3" = 1'-0"



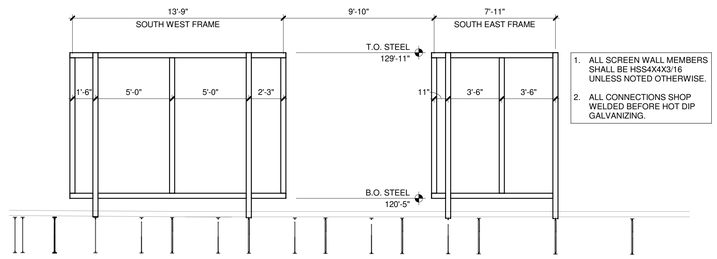
2 HORIZONTAL JOIST BRIDGING AT WALL
3/4" = 1'-0"



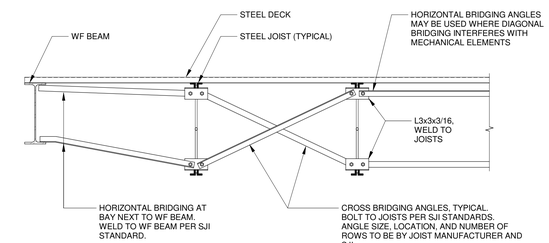
11 MAU4 SCREEN WALL FRAMING ELEVATION (LOOKING SOUTH)
1/4" = 1'-0"



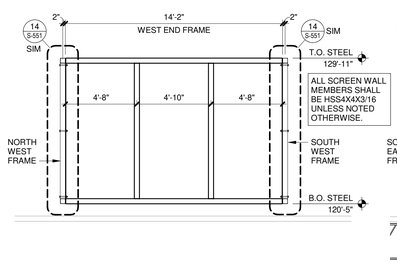
3 DIAGONAL JOIST BRIDGING AT WALL
3/4" = 1'-0"



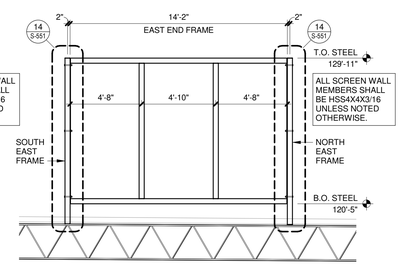
12 MAU4 SCREEN WALL FRAMING ELEVATION (LOOKING NORTH)
1/4" = 1'-0"



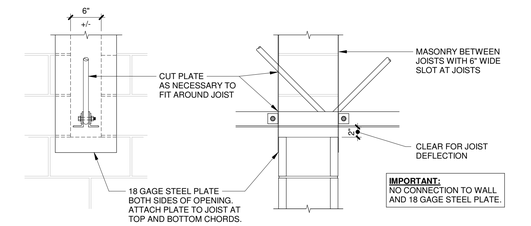
4 JOIST BRIDGING AT WF BEAM
3/4" = 1'-0"



13 MAU4 SCREEN WALL FRAMING ELEVATION (LOOKING EAST)
1/4" = 1'-0"



8 MAU4 SCREEN WALL FRAMING ELEVATION (LOOKING WEST)
1/4" = 1'-0"



5 JOIST DEFLECTION PROVISIONS AT NON-LOAD BEARING MASONRY, TYPICAL
1" = 1'-0"

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metro transit

CITY OF MADISON METRO TRANSIT PHASE 3A - MAINTENANCE AND DRIVER FACILITY IMPROVEMENTS

1101 EAST WASHINGTON AVE.
MADISON, WI 53703

ISSUED
04/08/21 BID SET
B 05/13/21 ADDENDUM #2

CONTRACT NO.: 8981
M&H NO.: 4503500-190896.03
DATE: APRIL 8, 2021
DESIGNED BY: DXC
DRAWN BY: NJB / MJE
CHECKED BY: DRM
DO NOT SCALE DRAWINGS

SHEET CONTENTS
JOIST AND DECK DETAILS

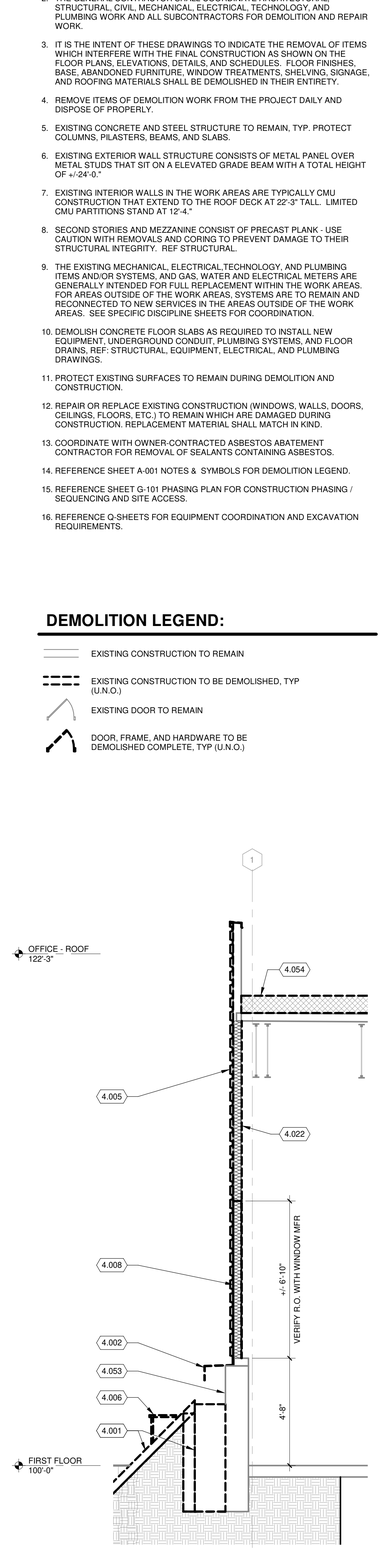
SHEET NO.:
S-551

DEMOLITION PLAN GENERAL NOTES:

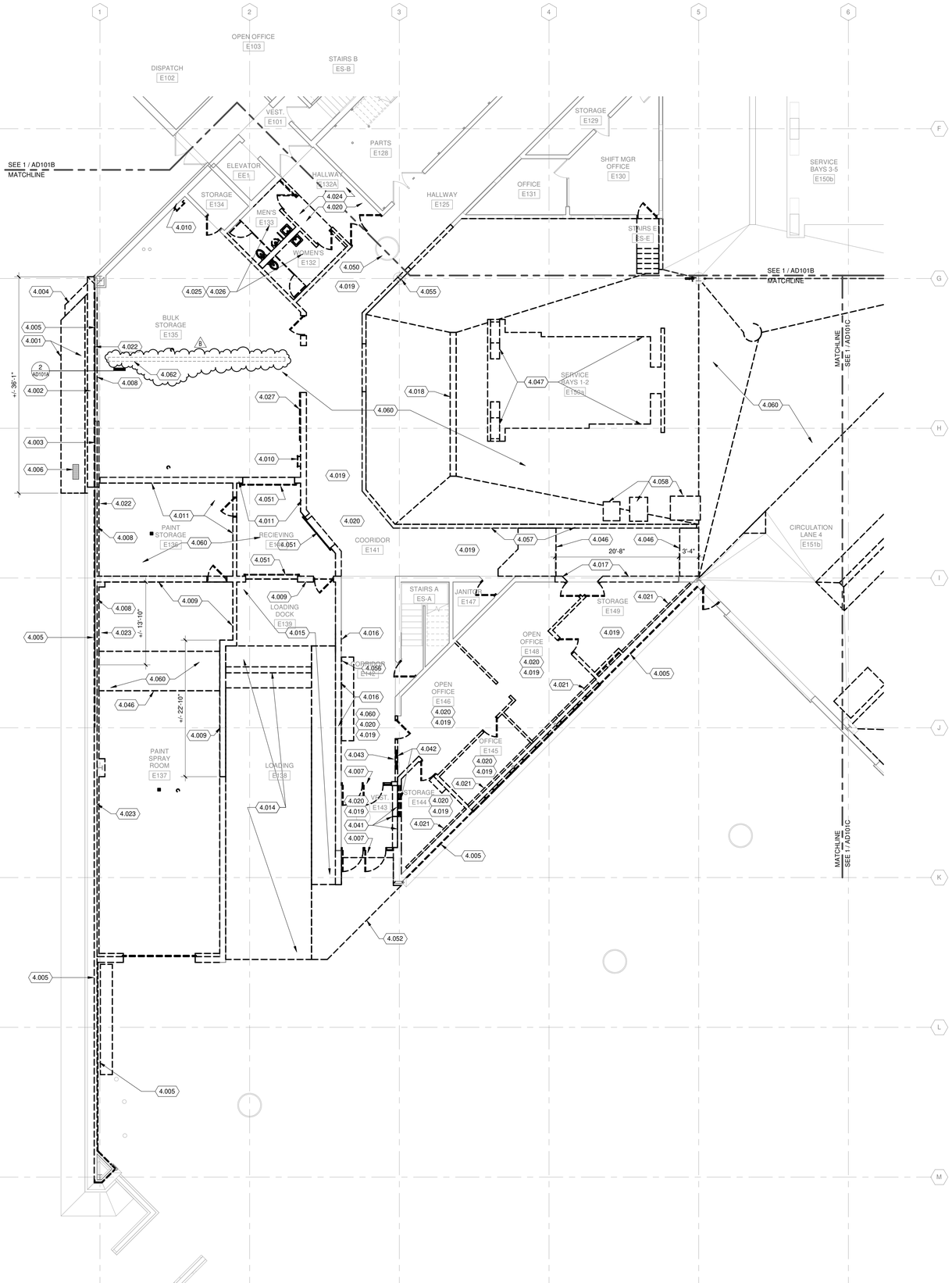
1. THE GENERAL CONTRACTOR SHALL VERIFY BUILDING AND SITE CONDITIONS AND REPORT DISCREPENCIES TO THE ARCHITECT BEFORE PROCEEDING WITH SCHEDULED DEMOLITION WORK.
2. THE GENERAL CONTRACTOR SHALL COORDINATE ARCHITECTURAL, STRUCTURAL, CIVIL, MECHANICAL, ELECTRICAL, TECHNOLOGY, AND PLUMBING WORK AND ALL SUBCONTRACTORS FOR DEMOLITION AND REPAIR WORK.
3. IT IS THE INTENT OF THESE DRAWINGS TO INDICATE THE REMOVAL OF ITEMS WHICH INTERFERE WITH THE FINAL CONSTRUCTION AS SHOWN ON THE FLOOR PLANS, ELEVATIONS, DETAILS, AND SCHEDULES. FLOOR FINISHES, BASE, ABANDONED FURNITURE, WINDOW TREATMENTS, SHELVING, SIGNAGE, AND ROOFING MATERIALS SHALL BE DEMOLISHED IN THEIR ENTIRETY.
4. REMOVE ITEMS OF DEMOLITION WORK FROM THE PROJECT DAILY AND DISPOSE OF PROPERLY.
5. EXISTING CONCRETE AND STEEL STRUCTURE TO REMAIN, TYP. PROTECT COLUMNS, PILASTERS, BEAMS, AND SLABS.
6. EXISTING EXTERIOR WALL STRUCTURE CONSISTS OF METAL PANEL OVER METAL STUDS THAT SIT ON A ELEVATED GRADE BEAM WITH A TOTAL HEIGHT OF +/-24'-0."
7. EXISTING INTERIOR WALLS IN THE WORK AREAS ARE TYPICALLY CMU CONSTRUCTION THAT EXTEND TO THE ROOF DECK AT 22'-3" TALL. LIMITED CMU PARTITIONS STAND AT 12'-4."
8. SECOND STORIES AND MEZZANINE CONSIST OF PRECAST PLANK - USE CAUTION WITH REMOVALS AND CORING TO PREVENT DAMAGE TO THEIR STRUCTURAL INTEGRITY. REF STRUCTURAL.
9. THE EXISTING MECHANICAL, ELECTRICAL,TECHNOLOGY, AND PLUMBING ITEMS AND/OR SYSTEMS, AND GAS, WATER AND ELECTRICAL METERS ARE GENERALLY INTENDED FOR FULL REPLACEMENT WITHIN THE WORK AREAS. FOR AREAS OUTSIDE OF THE WORK AREAS, SYSTEMS ARE TO REMAIN AND RECONNECTED TO NEW SERVICES IN THE AREAS OUTSIDE OF THE WORK AREAS. SEE SPECIFIC DISCIPLINE SHEETS FOR COORDINATION.
10. DEMOLISH CONCRETE FLOOR SLABS AS REQUIRED TO INSTALL NEW EQUIPMENT, UNDERGROUND CONDUIT, PLUMBING SYSTEMS, AND FLOOR DRAINS, REF: STRUCTURAL, EQUIPMENT, ELECTRICAL, AND PLUMBING DRAWINGS.
11. PROTECT EXISTING SURFACES TO REMAIN DURING DEMOLITION AND CONSTRUCTION.
12. REPAIR OR REPLACE EXISTING CONSTRUCTION (WINDOWS, WALLS, DOORS, CEILINGS, FLOORS, ETC.) TO REMAIN WHICH ARE DAMAGED DURING CONSTRUCTION. REPLACEMENT MATERIAL SHALL MATCH IN KIND.
13. COORDINATE WITH OWNER-CONTRACTED ASBESTOS ABATEMENT CONTRACTOR FOR REMOVAL OF SEALANTS CONTAINING ASBESTOS.
14. REFERENCE SHEET A-001 NOTES & SYMBOLS FOR DEMOLITION LEGEND.
15. REFERENCE SHEET G-101 PHASING PLAN FOR CONSTRUCTION PHASING / SEQUENCING AND SITE ACCESS.
16. REFERENCE Q-SHEETS FOR EQUIPMENT COORDINATION AND EXCAVATION REQUIREMENTS.

DEMOLITION LEGEND:

- EXISTING CONSTRUCTION TO REMAIN
- EXISTING CONSTRUCTION TO BE DEMOLISHED, TYP (U.N.O.)
- EXISTING DOOR TO REMAIN
- DOOR, FRAME, AND HARDWARE TO BE DEMOLISHED COMPLETE, TYP (U.N.O.)



2 **DEMOLITION WALL SECTION**
3/8" = 1'-0"



TRUE NORTH PLAN NORTH 1 **FIRST FLOOR DEMOLITION PLAN - AREA A**
1/8" = 1'-0"

KEYED NOTES

4.001 SAWCUT AND REMOVE PORTION OF SLOPED CONCRETE BARRIER WALL WITH GRAVEL INFILL AT ENTRY LOCATION. USE CAUTION TO NOT DAMAGE ADJACENT CONCRETE GRADE BEAM. PROVIDE SHORING AT END OF WALL FOR REPLACEMENT END CAP

4.002 SAWCUT AND REMOVE PORTION OF BENT PLATE AT ENTRY DOOR TO THE PLAN NORTH CORNER

4.003 SAWCUT AND REMOVE PORTION OF WALL AND GRADE BEAM - REF PLAN SHEETS

4.004 SAWCUT AND REMOVE BRICK WING WALL IN ITS ENTIRETY. CUT FOUNDATION WALL 6" BELOW GRADE FOR CIVIL WORK. USE CAUTION TO NOT DAMAGE BRICK VENEER WALL TO REMAIN

4.005 REMOVE METAL PANELS BY FULL SECTIONS TO VERTICAL JOINT OVER EXISTING WALL FRAMING AND CONCRETE GRADE BEAM TO REMAIN. METAL PANEL MASTIC CONTAINS ASBESTOS. COORDINATE WITH ASBESTOS REMOVAL CONTRACTOR BY SEPARATE CONTRACT.

4.006 REMOVE AND SALVAGE METAL STEP FOR RELOCATION AT NEW SERVICE ENTRY LOCATION

4.007 REMOVE DOOR VESTIBULE STOREFRONT, DOOR, AND FRAME

4.008 REMOVE PORTION OF WALL FOR WINDOW OPENINGS - REF PLAN SHEETS

4.009 REMOVE PORTION OF STRUCTURAL WALL UP TO 17'-0" AFF. PROVIDE ADEQUATE SHORING TO PREVENT DAMAGE TO STRUCTURE. SEE STRUCTURAL FOR DETAILS

4.010 REMOVE LADDER AND ASSOCIATED FASTENERS

4.011 REMOVE WALLS AND ASSOCIATED PRECAST MEZZANINE COMPLETE

4.012 REMOVE WATER AND FIRE PROTECTION SERVICE ENTRY PIPING AND CAP FOR RELOCATION, SEE PLUMBING

4.013 CORE DRILL SLOPED CONCRETE BASE AND GRADE BEAM FOR RELOCATED WATER SERVICE ENTRY. SEE PLUMBING

4.014 REMOVE SLOPED CONCRETE LOADING DOCK DRIVE, TRENCH DRAIN, AND SEWER CAP - REF CIVIL AND STRUCTURAL

4.015 REMOVE LOADING DOCK CONCRETE LANDINGS, RAILINGS, DOCK LEVELER, AND BUMPERS COMPLETE

4.016 REMOVE PORTION OF WALL FOR NEW OPENING. PROVIDE SHORING TO PREVENT DAMAGE TO ADJACENT STRUCTURE

4.017 REMOVE PORTION OF STRUCTURAL WALL. PROVIDE ADEQUATE SHORING TO PREVENT DAMAGE TO STRUCTURE. SEE STRUCTURAL FOR DETAILS

4.018 REMOVE TRENCH DRAIN COMPLETE AND CAP PIPING - REF PLUMBING

4.019 REMOVE VINYL TILE FLOOR COMPLETE

4.020 REMOVE ACOUSTIC TILE CEILING AND GRID COMPLETE

4.021 REMOVE GYP WALL FURRING AT PRIMARY WALL STRUCTURE TO REMAIN

4.022 REMOVE INTERIOR GYPSUM PANEL AND ANY INTERIOR INSULATION AT THE FULL EXTENT OF WEST WALL IN ROOM. EXISTING METAL STUDS TO REMAIN.

4.023 REMOVE INTERIOR METAL PANEL AND INSULATION FULL HEIGHT. SALVAGE PANELS FROM FOR REINSTALLATION IN WATER SERVICE ENTRY AND TIRE ROOM

4.024 REMOVE RUBBER SHEET FLOORING COMPLETE

4.025 REMOVE TOILET ROOMS WALLS, PORCELAIN TILE FLOOR & BASE, PLUMBING FIXTURES, PARTITIONS, LOCKERS, AND ACCESSORIES COMPLETE FOR NEW CONFIGURATION. CAP PLUMBING AT REMOVED FIXTURES. CUT CONCRETE FLOOR FOR NEW FIXTURES - REF LAYOUT DRAWINGS

4.026 REMOVE PRECAST LID OVER TOILET ROOMS

4.027 REMOVE SLIDING DOOR AND ASSOCIATED HARDWARE

4.041 REMOVE COUNTER/SHELF, DISPLAY CASE AND TACK BOARD

4.042 REMOVE ALUMINUM WINDOW AND FRAME COMPLETE

4.043 REMOVE TV DISPLAY CASE AND ALL ASSOCIATED EQUIPMENT. SALVAGE ELECTRONIC EQUIPMENT AND BRACKETS TO OWNER.

4.046 REMOVE CONCRETE FLOOR REQUIRED TO INSTALL NEW CMU WALL - SEE STRUCTURAL

4.047 REMOVE EQUIPMENT LIFTS AND FOUNDATIONS

4.050 CATCH BASIN TO REMAIN, SEE PLUMBING DRAWINGS

4.051 REMOVE OVERHEAD DOOR, RAILS, AND MOTORS, COMPLETE

4.052 REMOVE CONCRETE SLAB

4.053 EXISTING GRADE BEAM TO REMAIN INTACT

4.054 REMOVE PORTION OF ROOFING AND INSULATION SYSTEM DOWN TO DECK FOR STRUCTURAL REINFORCEMENT AT OVERHANG AREA. WORK SHALL BE COMPLIANT TO MAINTAIN ROOF WARRANTY.

4.055 PROTECT EXISTING COLUMN AT WALL REMOVAL, TYP

4.056 REMOVE COUNTERTOP COMPLETE.

4.057 REMOVE MULTIPLE TACK BOARDS AND SALVAGE TO OWNER.

4.058 EQUIPMENT REMOVAL - REF Q-SHEETS FOR SCOPE OF WORK

4.060 REMOVE PORTION OF SLAB TO ACCOMMODATE NEW LAYOUT AND INFRASTRUCTURE - REF STRUCTURAL

B 4.062 REMOVE OVERHEAD CRANE AND RAILS COMPLETE. SALVAGE TO OWNER.

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CITY OF MADISON
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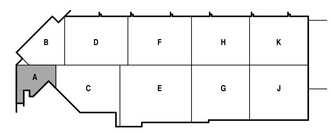
CHECKED BY: RCL, REK
DO NOT SCALE DRAWINGS

SHEET CONTENTS
FIRST FLOOR DEMOLITION PLAN- AREA A

SHEET NO.:
AD101A



KEY PLAN

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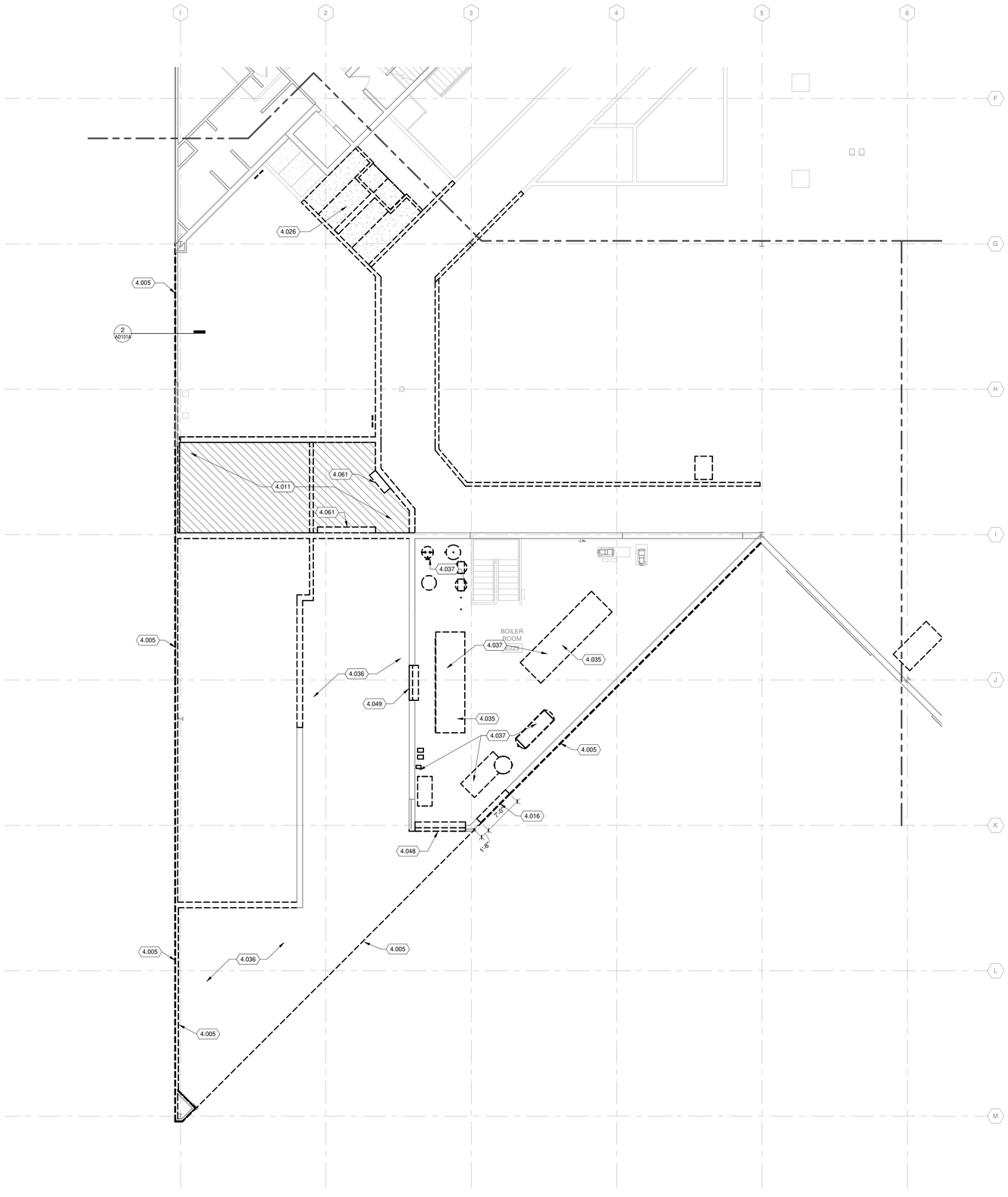

TRUE NORTH PLAN NORTH

SECOND FLOOR DEMOLITION PLAN - AREA A

1/8" = 1'-0"

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16. REFERENCE Q-SHEETS FOR EQUIPMENT COORDINATION AND EXCAVATION REQUIREMENTS.

DEMOLITION LEGEND:

- EXISTING CONSTRUCTION TO REMAIN
- EXISTING CONSTRUCTION TO BE DEMOLISHED, TYP (U.N.O.)
- EXISTING DOOR TO REMAIN
- DOOR, FRAME, AND HARDWARE TO BE DEMOLISHED COMPLETE, TYP (U.N.O.)

KEYED NOTES

4.005 REMOVE METAL PANELS BY FULL SECTIONS TO VERTICAL JOINT OVER EXISTING WALL FRAMING AND CONCRETE GRADE BEAM TO REMAIN. METAL PANEL MASTIC CONTAINS ASBESTOS. COORDINATE WITH ASBESTOS REMOVAL CONTRACTOR BY SEPARATE CONTRACT.

4.011 REMOVE WALLS AND ASSOCIATED PRECAST MEZZANINE COMPLETE

4.016 REMOVE PORTION OF WALL FOR NEW OPENING. PROVIDE SHORING TO PREVENT DAMAGE TO ADJACENT STRUCTURE

4.026 REMOVE PRECAST LID OVER TOILET ROOMS

4.035 REMOVE CONCRETE EQUIPMENT PADS - GRIND FOR SMOOTH FLOOR PATCH TRANSITION

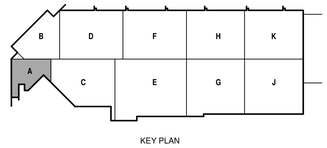
B 4.036 AT SOFFIT ABOVE, REMOVE PLASTER AND LATH COMPLETE WITH STRUCTURAL FRAMING TO REMAIN FOR NEW SOFFIT SYSTEM.

4.037 REMOVE EQUIPMENT FOR REPLACEMENTS, TYP - REF G-101 FOR SEQUENCING AND MEP FOR SPECIFIC REQUIREMENTS.

4.048 REMOVE MECHANICAL LOUVER, INSTALL NEW LOUVER IN SAME OPENING

4.049 REMOVE MECHANICAL LOUVER, INFILL CMU TO MATCH WALL CONDITION

4.061 SOLAR COLLECTORS TO BE REMOVED BY THE CITY. SEE G-101 FOR CONSTRUCTION SEQUENCING REQUIREMENTS.



KEY PLAN

Mead & Hunt
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2440 Deming Way
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CITY OF MADISON WISCONSIN

metro transit

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CHECKED BY: RCL, REK
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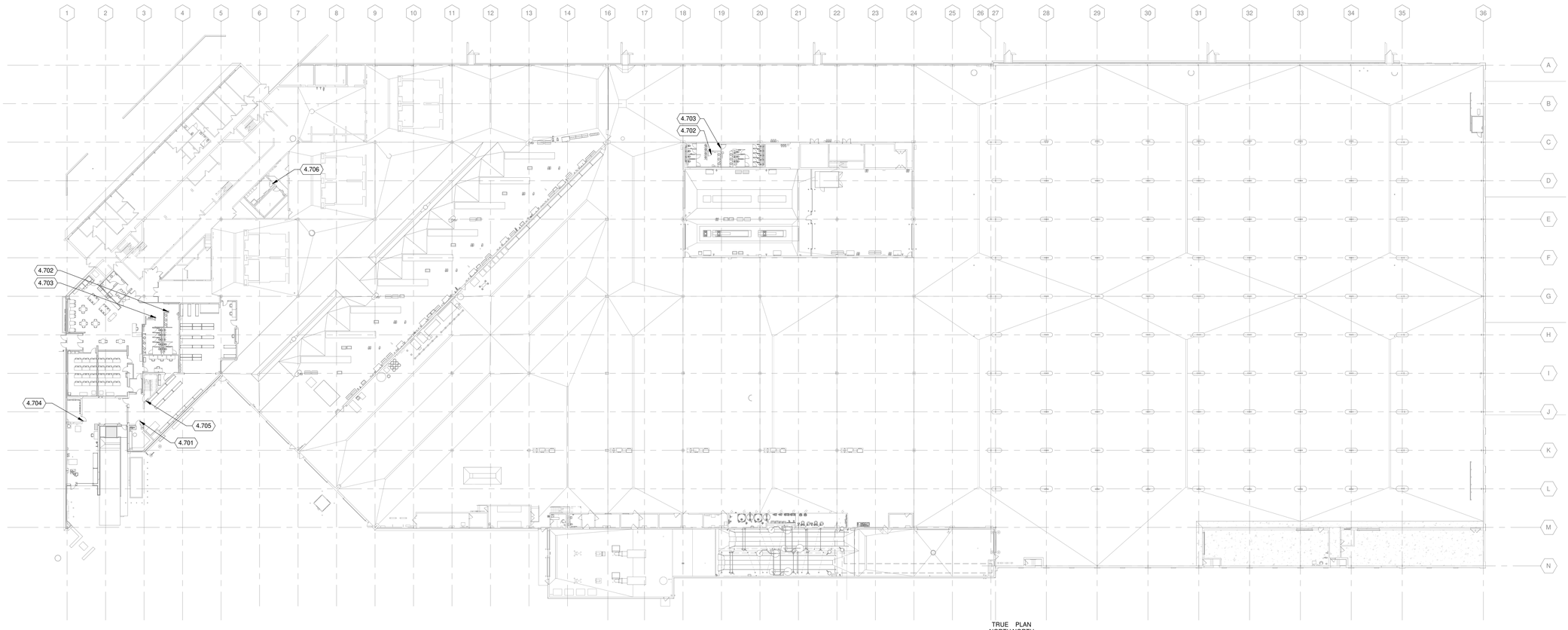
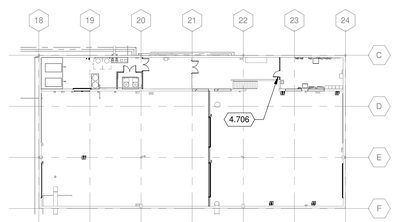
SHEET CONTENTS
SECOND FLOOR DEMOLITION PLAN - AREA A

SHEET NO.:
AD102A



TRUE NORTH PLAN NORTH

1 FIRST FLOOR SIGNAGE PLAN
1" = 30'-0"



TRUE NORTH PLAN NORTH

2 PARTIAL SECOND FLOOR SIGNAGE PLAN
1" = 30'-0"

KEYED NOTES

4.701 PROVIDE SIGN TYPES: ID-01, ID-05, & ID-06

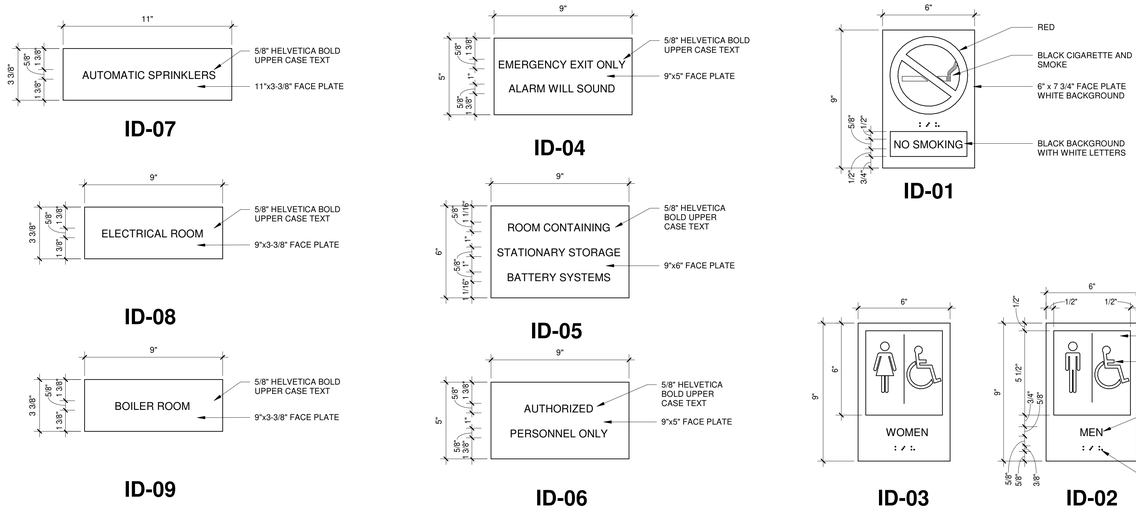
4.702 PROVIDE SIGN TYPE: ID-02

4.703 PROVIDE SIGN TYPE: ID-03

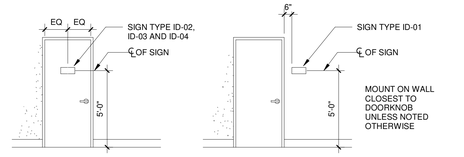
4.704 PROVIDE SIGN TYPE: ID-07

4.705 PROVIDE SIGN TYPE: ID-08 & ID-09

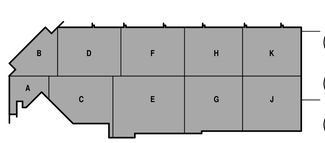
4.706 PROVIDE SIGN TYPE: ID-08



4 SIGNAGE DETAILS
3" = 1'-0"



3 SIGN MOUNTING
1/4" = 1'-0"



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SHEET CONTENTS: SIGNAGE PLANS AND TYPES

SHEET NO.:
A-801

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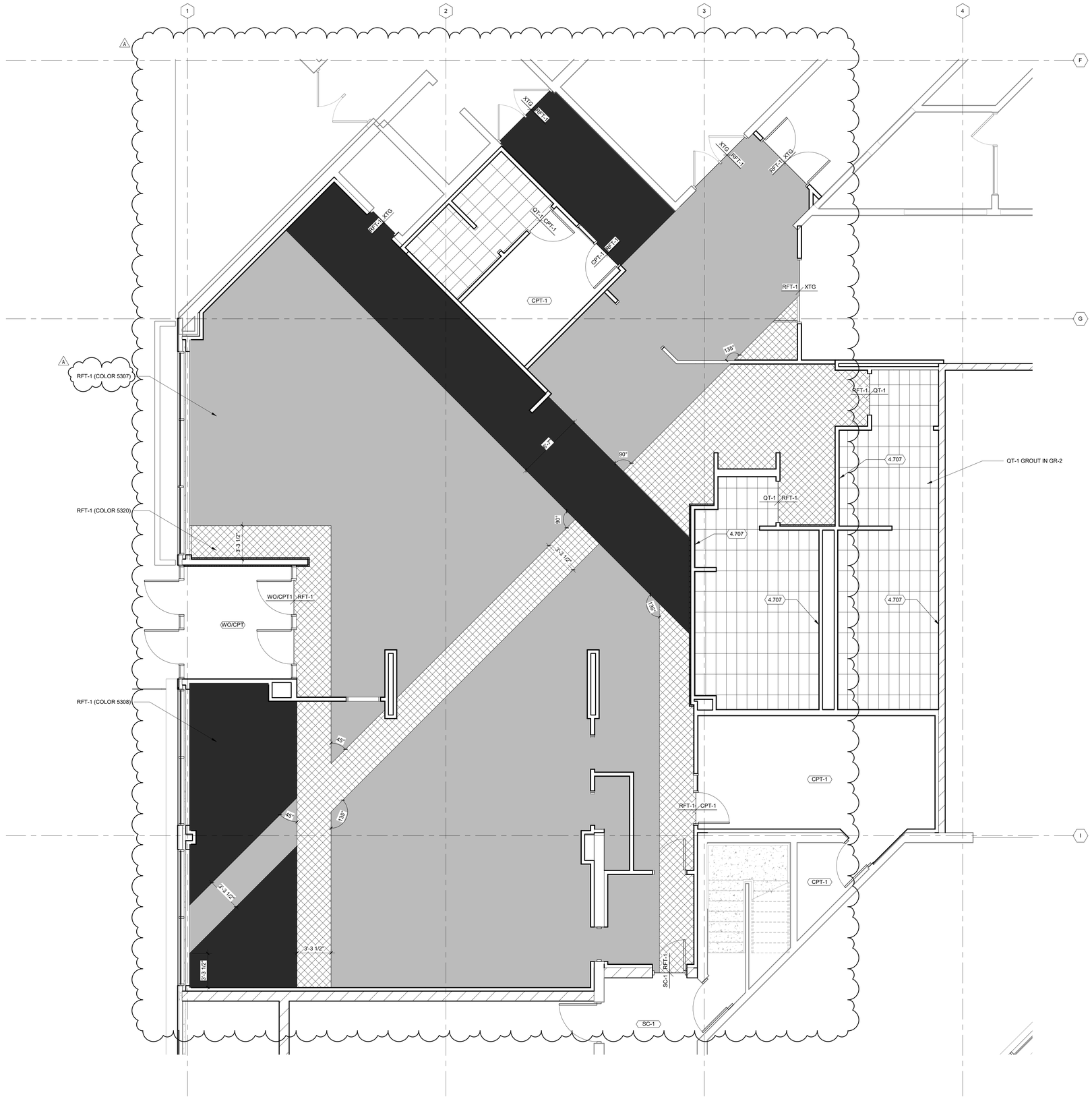

1 **FIRST FLOOR PATTERN PLAN - AREA A**
1/4" = 1'-0"

FLOOR FINISH GENERAL NOTES:

1. REFER TO FINISH SCHEDULE, SHEET I-601 FOR MATERIAL SELECTION AND COLOR.
2. REFER TO SHEET I-601 FOR "INTERIORS FINISH" ABBREVIATIONS.
3. REFER TO ROOM FINISH SCHEDULE, SHEET I-601 FOR ALL ROOM FINISHES NOT NOTED ON PLAN.
4. SEE "ARCHITECTURAL FINISH LIST" IN SPECIFICATIONS FOR MATERIAL INFORMATION.
5. ALL FLOORING TRANSITIONS SHALL BE CENTERED UNDER DOOR IN CLOSED POSITION U.N.O. REFER TO SHEET I-401 FOR FLOORING PATTERN PLAN AND FLOORING TRANSITIONS. REFER TO SHEET I-501 FOR TYPICAL TRANSITION DETAILS.
6. ALL CONCRETE FLOORS NOT TO RECEIVE ADDITIONAL FINISH SHALL BE SEALED, U.N.O.

KEYED NOTES

4.707 BASE COVE DETAIL SEE 6/I-501

FLOORING PATTERN LEGEND:

- RFT-1 (COLOR 5320)
- A — RFT-1 (COLOR 5307)
- RFT-1 (COLOR 5308)
- QT-1 GROUT IN GR-2
- XXX | XXX — FLOOR MATERIAL TRANSITION - SEE

KEY PLAN

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DESTREE architecture & design

CITY OF MADISON WISCONSIN

metro transit

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SHEET CONTENTS
FLOORING PATTERN PLAN

SHEET NO.:
I-401

ROOM FINISH SCHEDULE

ROOM NO.	ROOM NAME	FLOOR	BASE	WALLS NORTH	WALLS EAST	WALLS SOUTH	WALLS WEST	CEILING MTL	CEILING HEIGHT	REMARKS
1101	VESTIBULE	WO/CPT	RB-1	WD-1	PT-6	PT-9	PT-6	GWB	11'-6"	WOOD ACCENT WALL ON NORTH WALL - SEE I-101A
1102	HALLWAY	RFT-1	RB-1	WD-1	-	PLAM-1/ PT-9	PT-6	GWB/ACT-1	12'-0"	WOOD ACCENT WALL ON NORTH WALL AND PLAM SOFFIT SURROUNDING OPERABLE PARTITION SYSTEM ON SOUTH WALL - SEE I-101A
1103	GENERAL BREAK ROOM	RFT-1	RB-1	PT-6	PT-9/ CT-1	WD-1	PT-6	ACT-1	12'-0"	TILE ON WALLS SURROUNDING EWC AND WHERE KITCHENETTE CASEWORK OCCURS. WOOD ACCENT WALL ON SOUTHERN END OF BANQUETTE SEATING - SEE SEE I-101A
1104	DRIVER TRAINING ROOM	RFT-1	RB-1	PLAM-1/ PT-7	PT-6	PT-6	PT-6	ACT-1	12'-0"	PLAM SOFFIT SURROUNDING OPERABLE PARTITION SYSTEM ON NORTH WALL - SEE I-101A
1105	STORAGE	RFT-1	RB-1	PT-6	PT-6	PT-6	PT-6	ACT-1	9'-0"	
1106	CORRIDOR	RFT-1	RB-1	PT-6	PT-6	PT-6	PT-6	ACT-1	9'-0"	
1107	VESTIBULE	RFT-1	RB-1	PT-6	PT-6	PT-6	PT-6	ACT-1	9'-0"	
1108	INSTRUCTOR'S OFFICE	CPT-1	RB-1	PT-6	PT-10	PT-6	PT-6	ACT-1	9'-0"	SEE I-101A
1109	CLOSET	CPT-1	RB-1	PT-6	PT-6	PT-6	PT-6	EXP/PT-6		
1110	WOMEN'S	QT-1	-	CT-1	CT-1	CT-1	CT-1/ VWC-2	ACT-2	9'-0"	VWC-2 OWNER SUPPLIED, OWNER INSTALLED - SEE I-101A
1111	MEN'S	QT-1	-	CT-1	CT-1/ VWC-2	CT-1	CT-1	ACT-2	9'-0"	VWC-2 OWNER SUPPLIED, OWNER INSTALLED - SEE I-101A
1112	GREETING	RFT-1	RB-1	PT-6	CT-1/ WD-1	CT-1/ WD-1/ VWC-2	CT-1	GWB/ACT-1	12'-0"	SEE I-101A
1117	FLEX H.R. OFFICE	CPT-1	RB-1	PT-6	PT-6	PT-10	PT-6	ACT-1	9'-0"	SEE I-101A
1118	TESTING	QT-1	RB-1	CT-1	VWC-1	CT-1	CT-1	GWB	8'-0"	SEE I-101A
1119	TOILET	QT-1	RB-1	CT-1	VWC-1	CT-1	CT-1	GWB	8'-0"	SEE I-101A
1120	VESTIBULE	RFT-1	RB-1	PT-6	PT-6	PT-6	PT-6	ACT-1	12'-0"	
1211	SERVICE BAY #13-15	SC-1	-	-	-	PT-4	-	EXP		
1214	SERVICE BAY #16-18	SC-1	-	-	-	PT-4	-	EXP		
1217	SERVICE BAY #19-21	SC-1	-	-	-	PT-4	-	EXP		
1218	WORK AREA	SC-1	-	-	-	PT-4	-	EXP		
1220	VEHICLE CIRCULATION	SC-1	-	-	-	-	PT-7	EXP		SEE I-101A
1221	VEHICLE CIRCULATION	SC-1	-	-	-	-	PT-4	EXP		
1228	DATA	SC-1	-	PT-6	PT-6	PT-6	PT-6	EXP/PT-6		
1229	ELECTRICAL ROOM	SC-1	-	PT-6	PT-6	PT-6	PT-6	EXP/PT-6		
1230	TIRES	SC-1	-	PT-4	PT-4	PT-4	PT-4	EXP		
1231	WATER SERVICE ENTRY	SC-1	-	PT-4	PT-4	PT-4	PT-4	EXP		
1232	RECEIVING	SC-1	-	PT-4/ PT-8	PT-4	PT-4	PT-4	EXP		PT-8 UP TO 10'-0", PT-4 ABOVE 10'-0". SEE I-101A
1233	LOADING DOCK									
1234	STAGING	SC-1	-	PT-4/ PT-8	PT-4	PT-4	PT-4	EXP		PT-8 UP TO 10'-0", PT-4 ABOVE 10'-0". SEE I-101A
1235	STAIRS	RB-2	-	PT-4	PT-4	PT-4	PT-4			RFT STAIR TREADS/NOSINGS WITH YELLOW VISUALLY IMPAIRED STRIPS
1236	BATTERY STORAGE/ CHARGING	SC-1	-	PT-4	PT-4	PT-4	PT-4	EXP		
1237	PARTS STORAGE	SC-1	-	PT-4	PT-4	PT-4	PT-4/ PT-8	EXP		PT-8 UP TO 10'-0", PT-4 ABOVE 10'-0". SEE I-101A
1238	PARTS	SC-1	-	PT-4	PT-4	PT-4	PT-4/ PT-8	EXP		PT-8 UP TO 10'-0", PT-4 ABOVE 10'-0". SEE I-101A
1701	COMM	SC-1	-	PT-4	PT-4	PT-4	PT-4	EXP		NON CMU WALL TO HAVE 4" COVE WALL BASE
2121	COMM	SC-1	RB-1	PT-6	PT-6	PT-6	PT-6	EXP		
2201	MECHANICAL	SC-1		PT-4	PT-4	PT-4	PT-4	EXP		
2301	ELECTRICAL	SC-1		PT-4	PT-4	PT-4	PT-4	EXP		
2302	STORAGE	SC-1		PT-4	PT-4	PT-4	PT-4	EXP		
2303	STORAGE	SC-1		PT-4	PT-4	PT-4	PT-4	EXP		
2305	WATER/ COMPRESSOR ROOM	SC-1		PT-4	PT-4	PT-4	PT-4	EXP		
2306	MECH	SC-1	-	PT-4	PT-4	PT-4	PT-4	EXP		

ROOM FINISH SCHEDULE 3A ALTERNATE NO. 1

ROOM NO.	ROOM NAME	FLOOR	BASE	WALLS NORTH	WALLS EAST	WALLS SOUTH	WALLS WEST	CEILING MTL	CEILING HEIGHT	REMARKS
1301	VEST.	SC-1	-	-	PT-4	PT-4	PT-4	EXP		
1302	MEN'S	QT-1	-	CT-1	CT-1	CT-1	CT-1	ACT-2	8'-0"	
1303	WOMEN'S	QT-1	-	CT-1	CT-1	CT-1	CT-1	ACT-2	8'-0"	
1304	STEAM CLEANING	SC-1	-	PT-4	PT-4	PT-4	PT-4	EXP		
1305	METER SHOP	SC-1	-	PT-4	PT-4	PT-4	PT-4	EXP		
1306	UNIT SHOP	SC-1	-	PT-4	PT-4	PT-4	PT-4	EXP		
1307	VEST.	SC-1	-	-	PT-4	PT-4	PT-4	EXP		
1308	WELDING	SC-1	-	PT-4	PT-4	PT-4	PT-4	EXP		
1309	BODY SHOP	SC-1	-	PT-4	PT-4	PT-4	PT-4	EXP		
1310	STAIRS	RB-2	-	PT-4	PT-4	PT-4	PT-4			RB STAIR TREADS/NOSINGS WITH YELLOW VISUALLY IMPAIRED STRIPS
1311	SERVICE BAYS #22-23	SC-1		PT-4	PT-4	PT-4	PT-4			

INTERIOR FINISHES SCHEDULE

FINISH NUMBER	FINISH DESCRIPTION	PRODUCT DESCRIPTION MANUFACTURER	MODEL NUMBER	STYLE	COLOR	SIZE	REMARKS
ACT-1	ACOUSTIC CEILING TILE - TYPE 1	USG			WHITE	24" X 24"	W/ USG DONN BRAND CENTRICITEE 9/16" GRID
ACT-2	ACOUSTIC CEILING TILE - TYPE 2	ARMSTRONG	1753		WHITE	24" X 24"	WASHABLE ACT W/ 9/16" GRID
APT-1	ALUMINUM PERIMETER TRIM - TYPE 1	ARMSTRONG	AX1PC6STRWH	6" ONE PIECE AXIOM CLASSIC FOR DRYWALL	WHITE		
APT-2	ALUMINUM PERIMETER TRIM - TYPE 2	ARMSTRONG	AX6STRWH	6" AXIOM CLASSIC	WHITE		W/ 7239 ADJUSTABLE TRIM CLIP
CG-1	CORNER GUARD - TYPE 1	INPRO	3448		0103	12' X 3/4"	SEE I-101A FOR CORNER GUARD LOCATIONS
CG-2	CORNER GUARD - TYPE 2	INPRO	3448		0257	12' X 3/4"	SEE I-101A FOR CORNER GUARD LOCATIONS
CPT-1	CARPET - TYPE 1	MOHAWK GROUP	GT154		599	24" X 24"	
CT-1	CERAMIC WALL TILE - TYPE 1	DIESEL LIVING		INDUSTRIAL GLASS	WHITE	3.9" X 11.8"	GROUT TO BE GR-1
GR-1	GROUT - TYPE 1	TEC			927		USED FOR CT-1
GR-2	GROUT - TYPE 2	TEC			941		USED FOR QT-1
HPDE-1	HPDE PARTITION - TYPE 1	BRADLEY	SERIES 400	SERIES 400	S225		
LMC-1	LINEAR METAL CEILING	ARMSTRONG		METALWORKS LINEAR	EFFECTS CINNAMON		
PAB-1	POLYESTER ACOUSTICAL BOARD - TYPE 1	LUCID ECOCORE		LINES	ECC-08	1/2" THICK	TOP LAYER - LINES PATTERN
PAB-2	POLYESTER ACOUSTICAL BOARD - TYPE 2	LUCID ECOCORE			ECC-06	1/2" THICK	BASE LAYER
PAB-3	POLYESTER ACOUSTICAL BOARD - TYPE 3	CSI WALL PANELS	SCCPLU4601	SOUNDCORE PLUS 1" ACOUSTICAL PANEL	SND902		
PLAM-1	PLASTIC LAMINATE - TYPE 1	FORMICA			7747		
PMTL-1	PERFORATED METAL BASE - TYPE 1	STYLMARK			123	6"	BANQUETTE PERFORATED TOE BASE MATERIAL
PT-4	PAINT COLOR - TYPE 4	SHERWIN WILLIAMS			SW7004		
PT-5	PAINT COLOR - TYPE 5	SHERWIN WILLIAMS			SW7069		ALL HM FRAMES AND METAL DOORS TO BE PAINTED PT-5
PT-6	PAINT COLOR - TYPE 6	SHERWIN WILLIAMS			SW7029		
PT-7	PAINT COLOR - TYPE 7	SHERWIN WILLIAMS			SW6342		
PT-8	PAINT COLOR - TYPE 8	SHERWIN WILLIAMS			SW6510		
PT-9	PAINT COLOR - TYPE 9	SHERWIN WILLIAMS			SW7625		
PT-10	PAINT COLOR - TYPE 10	SHERWIN WILLIAMS			SW6417		
QT-1	QUARRY TILE - TYPE 1	LANDMARK CERAMICS		CHARME	GRAPHITE DARK	12" X 24"	GROUT TO BE GR-2
RB-1	RUBBER BASE - TYPE 1	MANNINGTON	EEETC		523	4"	
RFT-1	RUBBER FLOOR TILE - TYPE 1	NORA	ARTICLE 1880	GRANO	5307, 5320, & 5308	3.5MM TILE	SEE I-401 FOR FLOORING PATTERN
RFT-2	RUBBER FLOOR STAIRS - TYPE 2	NORA		HAMMERED	0716		VISUALLY IMPAIRED STRIPS IN COLOR SAFETY YELLOW
RT-1	RUBBER TRANSITION - TYPE 1	TARKETT	SLT-63-J	SLIM LINE	63		
RT-2	RUBBER TRANSITION - TYPE 2	TARKETT	SLT-63-B	SLIM LINE	63		
SCH-1	SCHLUTER EDGE - TYPE 1	SCHLUTER SYSTEMS	A 80 ATGB	SCHLUTER-JOLLY	ATGB		
SCH-2	SCHLUTER EDGE - TYPE 2	SCHLUTER SYSTEMS	AHK 1S 100 ATGB	SCHLUTER-DILEX-AHK	ATGB		
SCH-3	SCHLUTER EDGE - TYPE 3	SCHLUTER SYSTEMS	AHK 1S 80 ATGB	SCHLUTER-DILEX-AHK	ATGB		TILE TO COUNTERTOP AND INSIDE TILE CORNERS
SCH-4	SCHLUTER EDGE - TYPE 4	SCHLUTER SYSTEMS	ATK 100 ATGB	SCHLUTER-RENO-TK	ATGB		
SCH-5	SCHLUTER EDGE - TYPE 5	SCHLUTER SYSTEMS	AEVT 100 B20	SCHLUTER-RENO-V	AE		
SCH-6	SCHLUTER EDGE - TYPE 6	SCHLUTER SYSTEMS	AU 100 ATGB	SCHLUTER-RENO-U	ATGB		
SCH-7	SCHLUTER EDGE - TYPE 7	SCHLUTER SYSTEMS	RO 80 ATGB	SCHLUTER-ROUNDEC	ATGB		OUTSIDE TILE CORNERS
SSM-1	SOLID SURFACE - TYPE 1	CORIAN			ASH CONCRETE	12MM SHEET	
UPH-1	UPHOLSTERY - TYPE 1	ARCHITEX		BILLOW	MAKENA BEACH		BANQUETTE BACK UPHOLSTERY
UPH-2	UPHOLSTERY - TYPE 2	MOMENTUM		ENDURANCE EPU	JETTY		BANQUETTE SEAT UPHOLSTERY
UPH-3	UPHOLSTERY - TYPE 3	CARNEGIE	6427S	METEOR	706		OPERABLE VERTICAL PARTITION FABRIC
VWC-1	VINYL WALL COVERING - TYPE 1	CARNEGIE	8104		33		
VWC-2	VINYL WALL COVERING - TYPE 2						OWNER SUPPLIED, OWNER INSTALLED
WD-1	URBAN WOOD - TYPE 1	URBAN EVOLUTIONS		URBAN ELM	NATURAL STAIN		
WDF-1	WOOL DESIGN FELT - TYPE 1	FLIZ FELT			150	2MM THICK	
WO/CPT	WALK OFF CARPET - TYPE 1	BENTLEY MILLS	8RN24		800115	24" X 24"	
WSHD-1	WINDOW SHADE - TYPE 1	DRAPER INC.		PW3570	EBONY		
WSHD-2	WINDOW SHADE - TYPE 2	DRAPER INC.		SW7000-V40	ONYX		

GENERAL FINISH NOTES:

1. ALL INTERIOR HM DOOR FRAME FINISHES AND METAL DOORS TO BE PAINTED PT-5. U.N.O IN DOOR SCHEDULE.
2. ALL PLAM-1 TO RUN IN THE VERTICAL DIRECTION UNLESS NOTED OTHERWISE.
3. SEE FINISH PLAN I-101A, ELEVATION 4/I-404 (TYPICAL), AND ELEVATION 8/I-404 FOR VERTICAL PARTITION FINISHES.
4. ALL CORNER GUARDS TO MATCH WALL PAINT COLOR.
5. VWC-2 TO BE OWNER SUPPLIED, OWNER INSTALLED
6. STAIR NOSINGS WITH YELLOW VISUALLY IMPAIRED STRIPS AT THE TOP OF STAIR FLIGHTS. ALL OTHER STEPS TO HAVE STAIR TREADS WITH YELLOW VISUALLY IMPAIRED STRIPS.

INTERIORS FINISH ABBREVIATIONS:

ACT	= ACOUSTICAL CEILING TILE
APT	= ALUMINUM PERIMETER TRIM
CG	= CORNER GUARD
CONC	= CONCRETE
CMU	= CONCRETE MASONRY UNIT
CPT	= CARPET
CT	= CERAMIC TILE
EXP	= EXPOSED
GR	= GROUT
GWB	= GYPSUM WALL BOARD
LMC	= LINEAR METAL CEILING
MB	= MARKER BOARD
PAB	= POLYESTER ACOUSTICAL BOARD
PLAM	= PLASTIC LAMINATE
PMTL	= PERFORATED METAL
PT	= LATEX PAINT
QT	= QUARRY TILE
RB	= RUBBER BASE
RFT	= RUBBER FLOOR TILE
RT	= RUBBER TRANSITION
SC	= SEALED CONCRETE
SCH	= SCHLUTER
SSM	= SOLID SURFACE MATERIAL
TB	= TACKBOARD
UPH	= UPHOLSTERY
VWC	= VINYL WALLCOVERING
WD	= WOOD
WDF	= WOOL DESIGN FELT
WO/CPT	= WALK OFF CARPET

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DESTREE architecture & design

CITY OF MADISON WISCONSIN

metro transit

CITY OF MADISON METRO TRANSIT PHASE 3A - MAINTENANCE AND DRIVER FACILITY IMPROVEMENTS

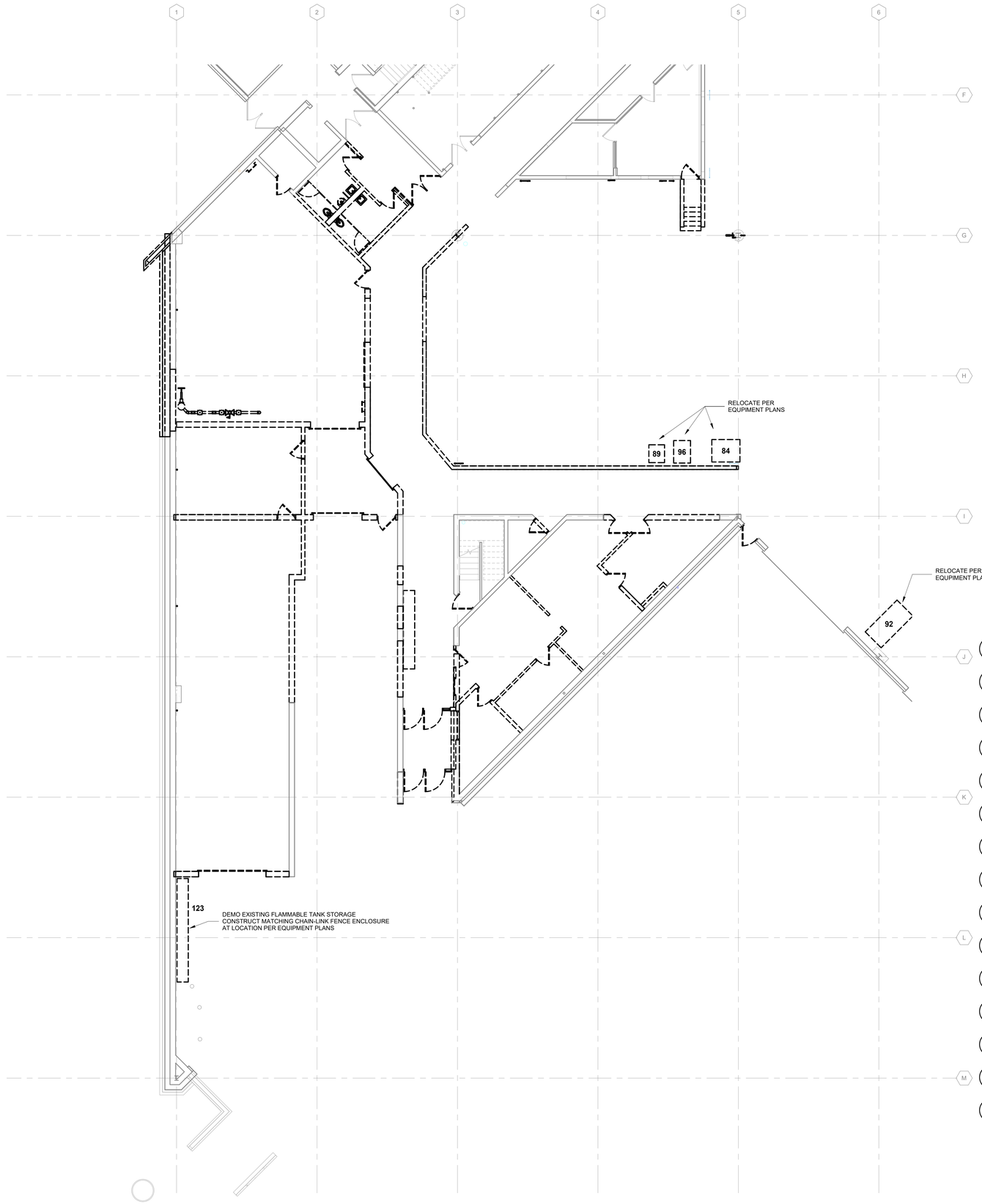
1101 EAST WASHINGTON AVE.
MADISON, WI 53703

ISSUED:
04/08/21 BID SET
A 05/06/21 ADDENDUM #1

CONTRACT NO.: 8981
M&H NO.: 4503500-190896.03
DATE: APRIL 8, 2021
DESIGNED BY: SZK
DRAWN BY: NJD, DJM
CHECKED BY: RCL, REK
DO NOT SCALE DRAWINGS.

SHEET CONTENTS
SCHEDULES

SHEET NO.:
I-601



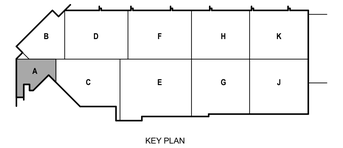
EQUIPMENT SCHEDULE (9)

Mark	Type	Count	Owner Provided	Owner Installed	GC Provided	GC Installed
2	Rim Clamp Tire Machine	1	X	X		
3	Desk 60"W x 30"D	3				
6	Tire Cage	1	X	X		
9	2-Tier Locker - 12"x15"x 78"	6				
20	Tool Cabinet	30	X	X		
21	Work Bench 5'-0"W x 3'-0"D x 3'-0"H	16				
34	SmartWasher SW-37	9				
35	Oil King 25 gal Used-Oil Receiver	11				
45	Tool Cabinet	1	X	X		
57	Battery Charging Bench	1				
58	Battery Charging Bench	1	X	X		
80	Pallet Storage Floor Space	1	X	X		
83	Pallet Storage Floor Space	1	X	X		
84	Used Oil Tank	1	X			X
89	Bulk Fluid Storage Tank #2	1	X			X
91	Dumping Hopper	1	X	X		
92	Baler	1	X			X
96	Oil Filter Crusher	1	X			X
101	Bulk Fluid Storage Tank #3	1	X			X
106	Rack Shelving - 3'D x 10'W x 8'H	3	X			X
118	Rack Shelving - 3'D x 10'W x 8'H	1	X			X
119	Rack Shelving - 3'D x 10'W x 8'H	2	X			X
122	Tire Machine	1	X	X		
123	Flammable Tank Storage	1			X	X
127	Drill Press	1	X	X		
128	Horizontal Band Saw	1	X	X		
129	Tire Carousel	1			X	X
130	Parts Carousel	1			X	X
131-13	ECO-60-10	1			X	X
131-14	ECO-60-10	1			X	X
131-15	ECO-60-10	1			X	X
131-16	ECO-60-10	1			X	X
131-17	ECO-60-10	1			X	X
131-18	ECO-60-10	1			X	X
131-19	ECO-60-10	1			X	X
131-20	ECO-60-10	1			X	X
131-21	ECO-60-10	1			X	X
132-22	ECO-90-17	1			X	X
133-13	ECO-60 Control Console	1			X	X
133-14	ECO-60 Control Console	1			X	X
133-15	ECO-60 Control Console	1			X	X
133-16	ECO-60 Control Console	1			X	X
133-17	ECO-60 Control Console	1			X	X
133-18	ECO-60 Control Console	1			X	X
133-19	ECO-60 Control Console	1			X	X
133-20	ECO-60 Control Console	1			X	X
133-21	ECO-60 Control Console	1			X	X
133-22	ECO-90 Control Console	1			X	X
134	Oil Filter Trash Receptacle	1	X	X		
135	Waste Oil Pump	2			X	X
A	Rack Shelving - 2'D x 6'W x 8'H	6				
B	Rack Shelving - 2'D x 8'W x 8'H	26				
C	Rack Shelving - 3'D x 10'W x 8'H	5				

TRUE NORTH PLAN NORTH

1/8" First Floor Demo Equipment Plan - Area A

1/8" = 1'-0"



KEY PLAN

Mead & Hunt
Mead & Hunt, Inc.
2440 Deming Way
Middleton, WI 53562
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meadhunt.com

metro transit

CITY OF MADISON
METRO TRANSIT PHASE 3A - MAINTENANCE AND DRIVER FACILITY IMPROVEMENTS

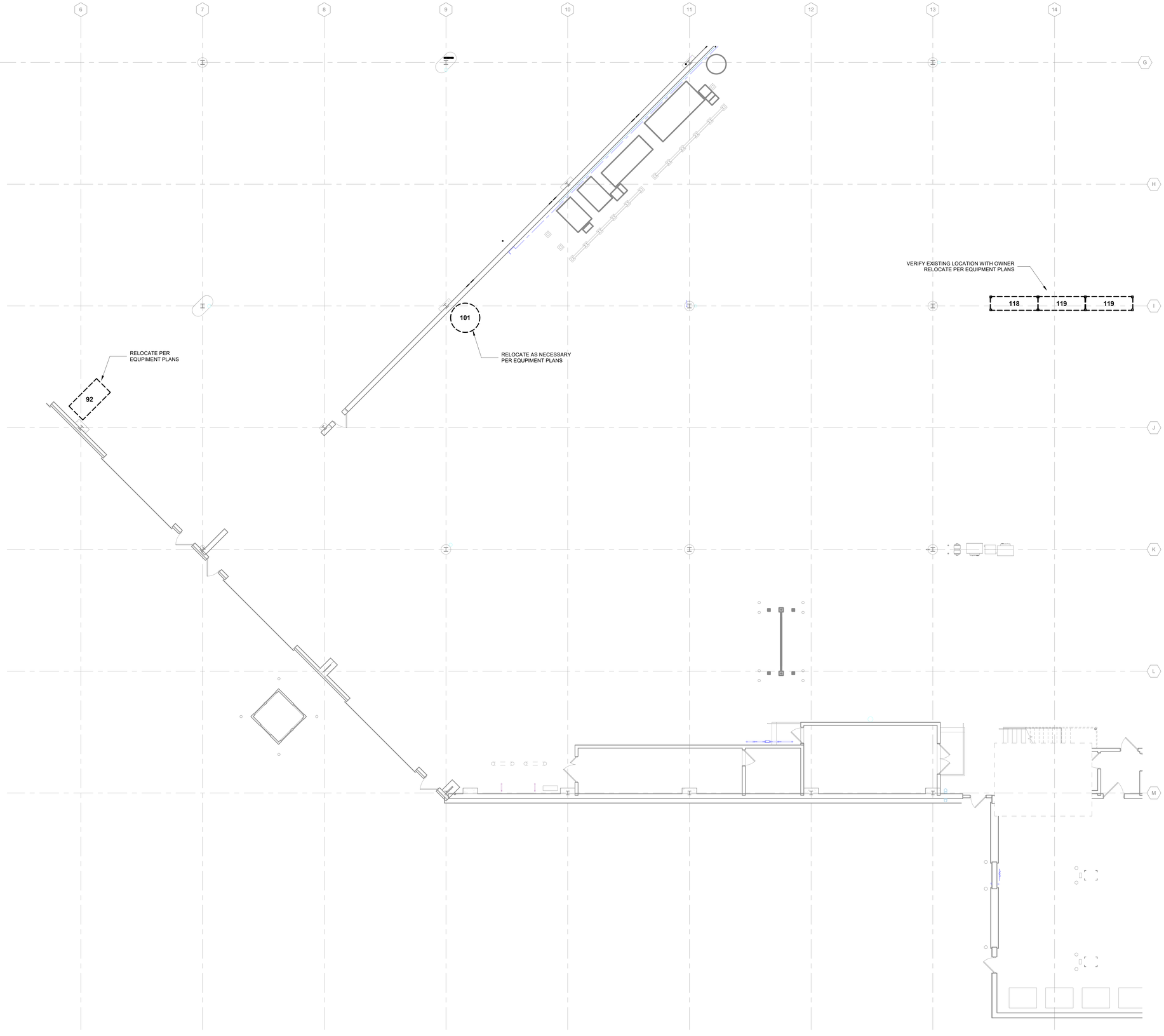
1101 EAST WASHINGTON AVE.
MADISON, WI 53703

ISSUED
04/08/21 BID SET
B 05/13/21 ADDENDUM #2

CONTRACT NO.: 8981
M&H NO.: 4503500-190896.03
DATE: APRIL 8, 2021
DESIGNED BY: JPW
DRAWN BY: RES
CHECKED BY: Checker
DO NOT SCALE DRAWINGS

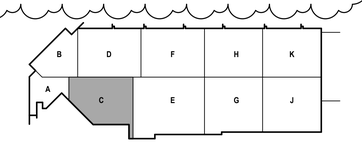
SHEET CONTENTS
FIRST FLOOR DEMOLITION PLAN- AREA A

SHEET NO.:
QD101A



EQUIPMENT SCHEDULE (8)

Mark	Type	Count	Owner Provided	Owner Installed	GC Provided	GC Installed
2	Rim Clamp Tire Machine	1	X	X		
3	Desk 60"W x 30"D	3				
6	Tire Cage	1	X	X		
9	2-Tier Locker - 12"x15"x 78"	6				
20	Tool Cabinet	30	X	X		
21	Work Bench 5'-0"W x 3'-0"D x 3'-0"H	16				
34	SmartWasher SW-37	9				
35	Oil King 25 gal Used-Oil Receiver	11				
45	Tool Cabinet	1	X	X		
57	Battery Charging Bench	1				
58	Battery Charging Bench	1	X	X		
80	Pallet Storage Floor Space	1	X	X		
83	Pallet Storage Floor Space	1	X	X		
84	Used Oil Tank	1	X			X
89	Bulk Fluid Storage Tank #2	1	X			X
91	Dumping Hopper	1	X	X		
92	Baler	1	X			X
96	Oil Filter Crusher	1	X			X
101	Bulk Fluid Storage Tank #3	1	X			X
106	Rack Shelving - 3'D x 10'W x 8'H	3	X			X
118	Rack Shelving - 3'D x 10'W x 8'H	1	X			X
119	Rack Shelving - 3'D x 10'W x 8'H	2	X			X
122	Tire Machine	1	X	X		
123	Flammable Tank Storage	1			X	X
127	Drill Press	1	X	X		
128	Horizontal Band Saw	1	X	X		
129	Tire Carousel	1			X	X
130	Parts Carousel	1			X	X
131-13	ECO-60-10	1			X	X
131-14	ECO-60-10	1			X	X
131-15	ECO-60-10	1			X	X
131-16	ECO-60-10	1			X	X
131-17	ECO-60-10	1			X	X
131-18	ECO-60-10	1			X	X
131-19	ECO-60-10	1			X	X
131-20	ECO-60-10	1			X	X
131-21	ECO-60-10	1			X	X
132-22	ECO-90-17	1			X	X
133-13	ECO-60 Control Console	1			X	X
133-14	ECO-60 Control Console	1			X	X
133-15	ECO-60 Control Console	1			X	X
133-16	ECO-60 Control Console	1			X	X
133-17	ECO-60 Control Console	1			X	X
133-18	ECO-60 Control Console	1			X	X
133-19	ECO-60 Control Console	1			X	X
133-20	ECO-60 Control Console	1			X	X
133-21	ECO-60 Control Console	1			X	X
133-22	ECO-90 Control Console	1			X	X
134	Oil Filter Trash Recepticle	1	X	X		
135	Waste Oil Pump	2			X	X
A	Rack Shelving - 2'D x 6'W x 8'H	6				
B	Rack Shelving - 2'D x 6'W x 8'H	26				
C	Rack Shelving - 3'D x 10'W x 8'H	5				



KEY PLAN

TRUE NORTH PLAN NORTH

1 **1/8" First Floor Demo Equipment Plan - Area C**

1/8" = 1'-0"

Mead & Hunt
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CITY OF MADISON WISCONSIN

metro transit

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METRO TRANSIT PHASE 3A - MAINTENANCE AND DRIVER FACILITY IMPROVEMENTS
1101 EAST WASHINGTON AVE.
MADISON, WI 53703

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M&H NO.: 4503500-190896.03
DATE: APRIL 8, 2021
DESIGNED BY: JPW
DRAWN BY: RES
CHECKED BY: Checker
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SHEET CONTENTS
FIRST FLOOR DEMOLITION PLAN- AREA C

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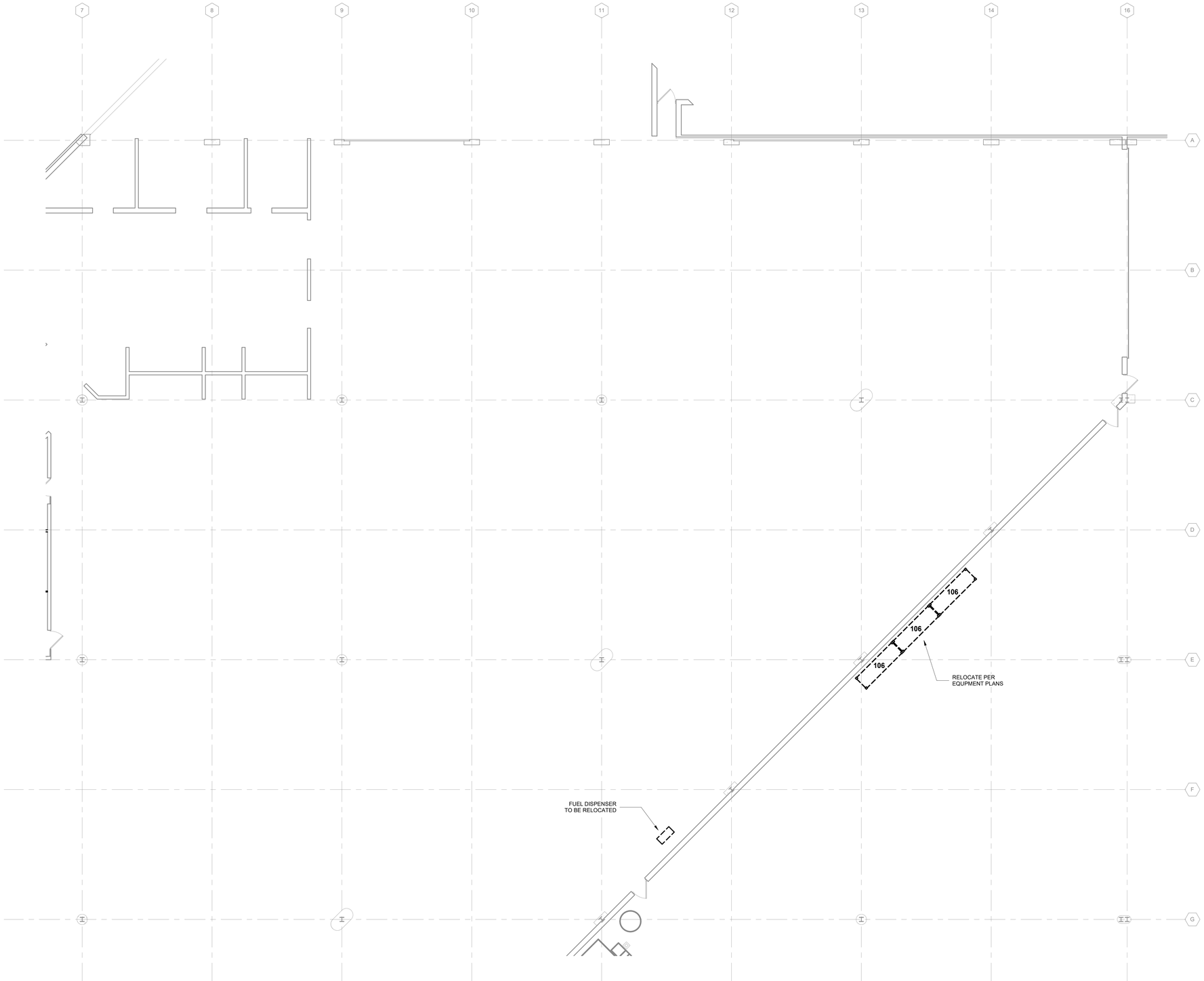


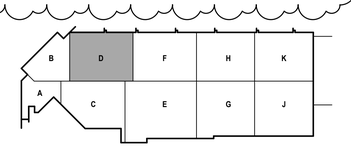
TRUE NORTH PLAN NORTH

1/8" First Floor Demo Equipment Plan - Area D

1/8" = 1'-0"

EQUIPMENT SCHEDULE (B)

Mark	Type	Count	Owner Provided	Owner Installed	GC Provided	GC Installed
2	Rim Clamp Tire Machine	1	X	X		
3	Desk 60"W x 30"D	3				
6	Tire Cage	1	X	X		
9	2-Tier Locker - 12"x15"x 76"	6				
20	Tool Cabinet	30	X	X		
21	Work Bench 5'-0"W x 3'-0"D x 3'-0"H	16				
34	SmartWasher SW-37	9				
35	Oil King 25 gal Used-Oil Receiver	11				
45	Tool Cabinet	1	X	X		
57	Battery Charging Bench	1				
58	Battery Charging Bench	1	X	X		
80	Pallet Storage Floor Space	1	X	X		
83	Pallet Storage Floor Space	1	X	X		
84	Used Oil Tank	1	X			X
89	Bulk Fluid Storage Tank #2	1	X			X
91	Dumping Hopper	1	X	X		
92	Baler	1	X			X
96	Oil Filter Crusher	1	X			X
101	Bulk Fluid Storage Tank #3	1	X			X
106	Rack Shelving - 3'D x 10'W x 8'H	3	X			X
118	Rack Shelving - 3'D x 10'W x 8'H	1	X			X
119	Rack Shelving - 3'D x 10'W x 8'H	2	X			X
122	Tire Machine	1	X	X		
123	Flammable Tank Storage	1			X	X
127	Drill Press	1	X	X		
128	Horizontal Band Saw	1	X	X		
129	Tire Carousel	1			X	X
130	Parts Carousel	1			X	X
131-13	ECO-60-10	1			X	X
131-14	ECO-60-10	1			X	X
131-15	ECO-60-10	1			X	X
131-16	ECO-60-10	1			X	X
131-17	ECO-60-10	1			X	X
131-18	ECO-60-10	1			X	X
131-19	ECO-60-10	1			X	X
131-20	ECO-60-10	1			X	X
131-21	ECO-60-10	1			X	X
132-22	ECO-90-17	1			X	X
133-13	ECO-60 Control Console	1			X	X
133-14	ECO-60 Control Console	1			X	X
133-15	ECO-60 Control Console	1			X	X
133-16	ECO-60 Control Console	1			X	X
133-17	ECO-60 Control Console	1			X	X
133-18	ECO-60 Control Console	1			X	X
133-19	ECO-60 Control Console	1			X	X
133-20	ECO-60 Control Console	1			X	X
133-21	ECO-60 Control Console	1			X	X
133-22	ECO-90 Control Console	1			X	X
134	Oil Filter Trash Receptacle	1	X	X		
135	Waste Oil Pump	2			X	X
A	Rack Shelving - 2'D x 6'W x 8'H	6				
B	Rack Shelving - 2'D x 8'W x 8'H	26				
C	Rack Shelving - 3'D x 10'W x 8'H	5				



KEY PLAN

Mead & Hunt
Mead & Hunt, Inc.
2440 Deming Way
Middleton, WI 53562
phone: 608-273-6380
meadhunt.com

CITY OF MADISON WISCONSIN

metro transit

CITY OF MADISON
METRO TRANSIT PHASE 3A - MAINTENANCE AND DRIVER FACILITY IMPROVEMENTS

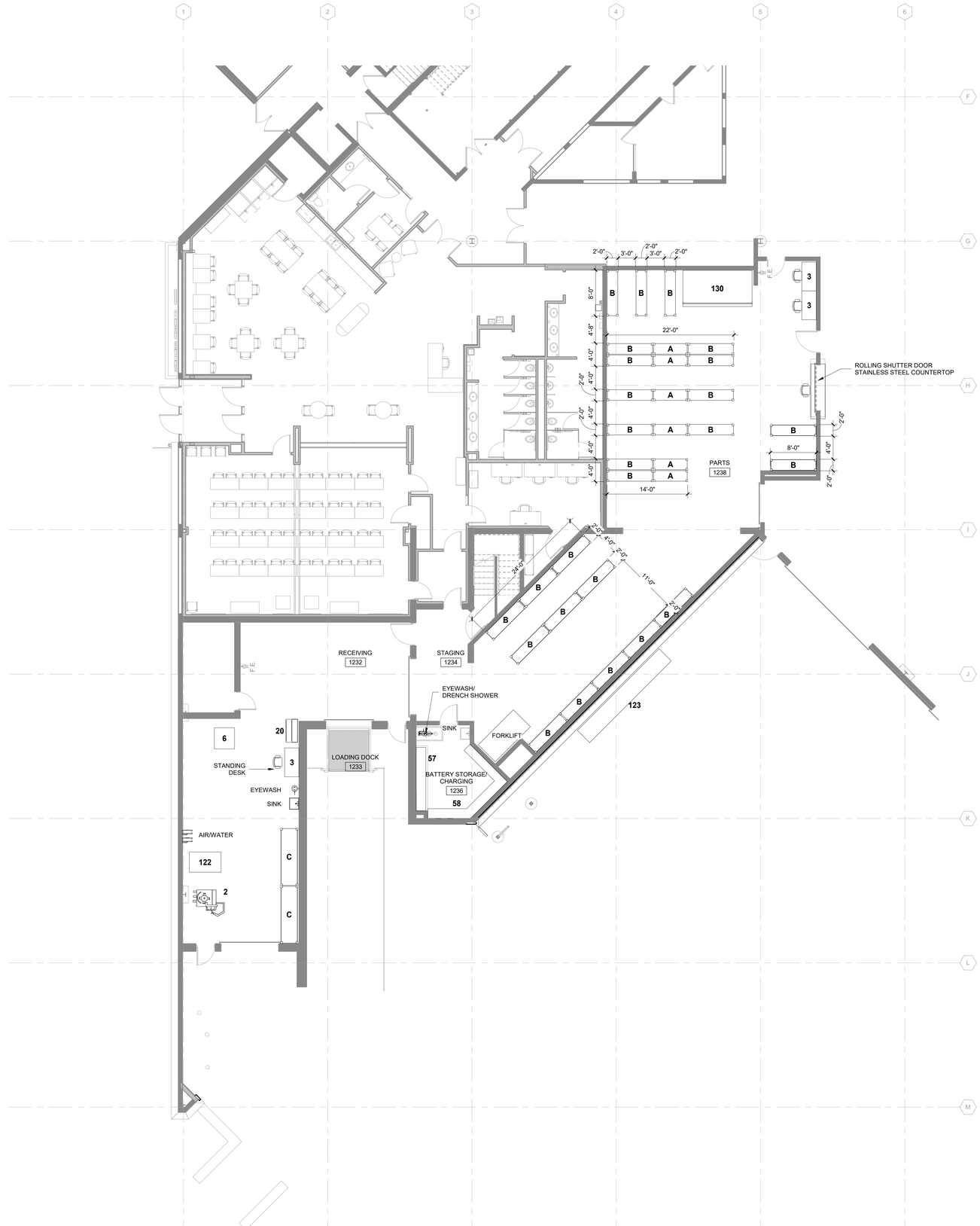
1101 EAST WASHINGTON AVE.
MADISON, WI 53703

ISSUED
04/08/21 BID SET
B 05/13/21 ADDENDUM #2

CONTRACT NO.: 8981
M&H NO.: 4503500-190896.03
DATE: APRIL 8, 2021
DESIGNED BY: JPW
DRAWN BY: RES
CHECKED BY: Checker
DO NOT SCALE DRAWINGS

SHEET CONTENTS
FIRST FLOOR DEMOLITION PLAN- AREA D

SHEET NO.:
QD101D



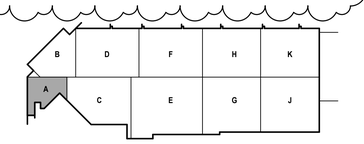
TRUE NORTH PLAN NORTH

1 1/8" First Floor Equipment Plan - Area A

1/8" = 1'-0"

EQUIPMENT SCHEDULE (B)

Mark	Type	Count	Owner Provided	Owner Installed	GC Provided	GC Installed
2	Rim Clamp Tire Machine	1	X	X		
3	Desk 60"W x 30"D	3				
6	Tire Cage	1	X	X		
9	2-Tier Locker - 12"x15"x 78"	6				
20	Tool Cabinet	30	X	X		
21	Work Bench 5'-0"W x 3'-0"D x 3'-0"H	16				
34	SmartWasher SW-37	9				
35	Oil King 25 gal Used-Oil Receiver	11				
45	Tool Cabinet	1	X	X		
57	Battery Charging Bench	1				
58	Battery Charging Bench	1	X	X		
80	Pallet Storage Floor Space	1	X	X		
83	Pallet Storage Floor Space	1	X	X		
84	Used Oil Tank	1	X			X
89	Bulk Fluid Storage Tank #2	1	X			X
91	Dumping Hopper	1	X	X		
92	Baler	1	X			X
96	Oil Filter Crusher	1	X			X
101	Bulk Fluid Storage Tank #3	1	X			X
106	Rack Shelving - 3'D x 10'W x 8'H	3	X			X
118	Rack Shelving - 3'D x 10'W x 8'H	1	X			X
119	Rack Shelving - 3'D x 10'W x 8'H	2	X			X
122	Tire Machine	1	X	X		
123	Flammable Tank Storage	1			X	X
127	Drill Press	1	X	X		
128	Horizontal Band Saw	1	X	X		
129	Tire Carousel	1			X	X
130	Parts Carousel	1			X	X
131-13	ECO-60-10	1			X	X
131-14	ECO-60-10	1			X	X
131-15	ECO-60-10	1			X	X
131-16	ECO-60-10	1			X	X
131-17	ECO-60-10	1			X	X
131-18	ECO-60-10	1			X	X
131-19	ECO-60-10	1			X	X
131-20	ECO-60-10	1			X	X
131-21	ECO-60-10	1			X	X
132-22	ECO-90-17	1			X	X
133-13	ECO-60 Control Console	1			X	X
133-14	ECO-60 Control Console	1			X	X
133-15	ECO-60 Control Console	1			X	X
133-16	ECO-60 Control Console	1			X	X
133-17	ECO-60 Control Console	1			X	X
133-18	ECO-60 Control Console	1			X	X
133-19	ECO-60 Control Console	1			X	X
133-20	ECO-60 Control Console	1			X	X
133-21	ECO-60 Control Console	1			X	X
133-22	ECO-90 Control Console	1			X	X
134	Oil Filter Trash Recepticle	1	X	X		
135	Waste Oil Pump	2			X	X
A	Rack Shelving - 2'D x 6'W x 8'H	6				
B	Rack Shelving - 2'D x 8'W x 8'H	26				
C	Rack Shelving - 3'D x 10'W x 8'H	5				



KEY PLAN

Mead & Hunt
Mead & Hunt, Inc.
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Middleton, WI 53562
phone: 608-273-6380
meadhunt.com

CITY OF MADISON WISCONSIN

metro transit

CITY OF MADISON
METRO TRANSIT PHASE 3A - MAINTENANCE AND DRIVER FACILITY IMPROVEMENTS
1101 EAST WASHINGTON AVE.
MADISON, WI 53703

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04/08/21 BID SET
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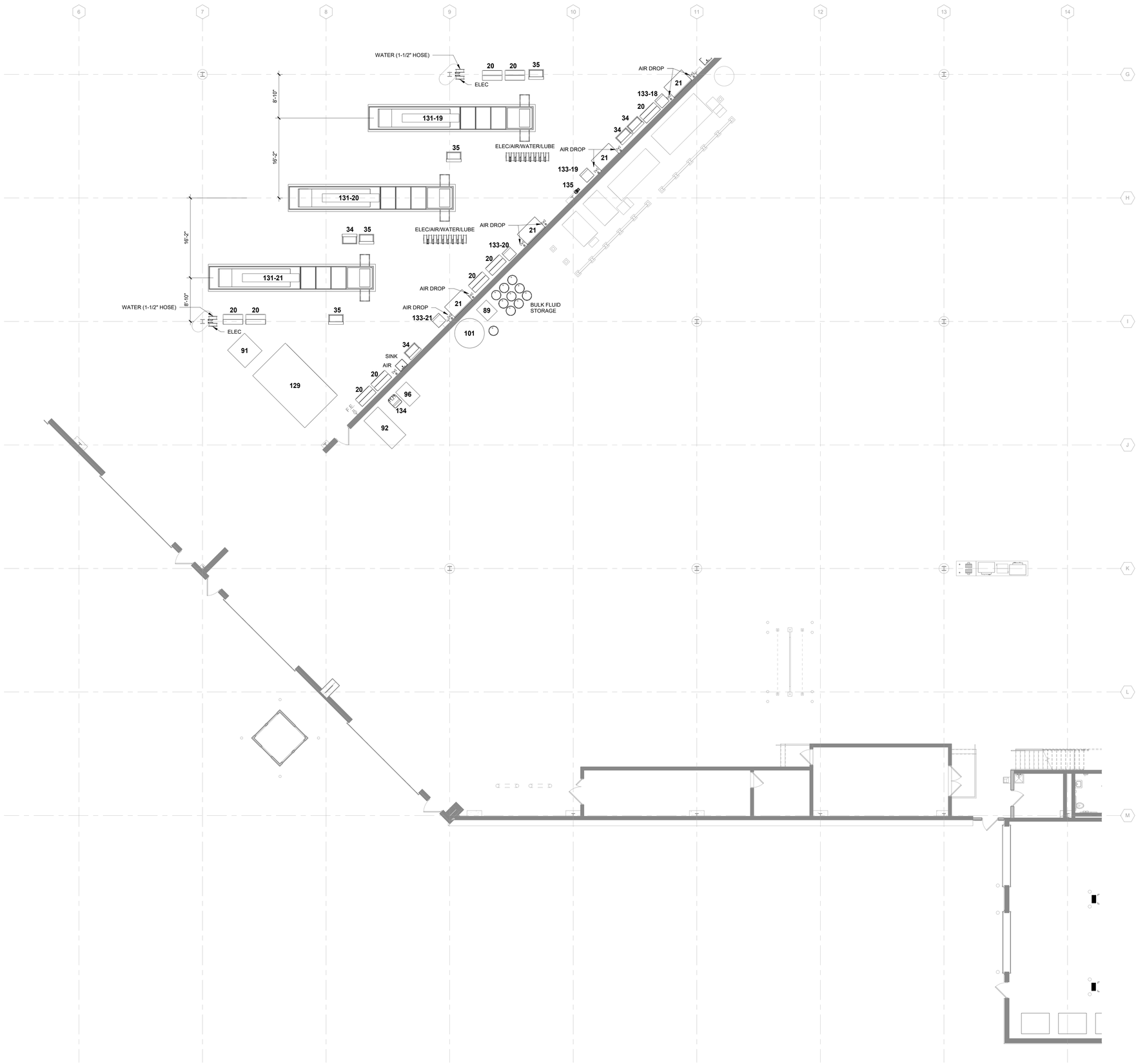
CONTRACT NO.: 8981
M&H NO.: 4503500-190896.03
DATE: APRIL 8, 2021
DESIGNED BY: JPW
DRAWN BY: RES
CHECKED BY: Checker
DO NOT SCALE DRAWINGS

SHEET CONTENTS
FIRST FLOOR PLAN - AREA A

SHEET NO.:
Q-101A



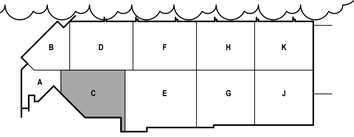
TRUE NORTH PLAN NORTH

1 **1/8" First Floor Equipment Plan - Area C**

1/8" = 1'-0"

EQUIPMENT SCHEDULE (8)

Mark	Type	Count	Owner Provided	Owner Installed	GC Provided	GC Installed
2	Rim Clamp Tire Machine	1	X	X		
3	Desk 60"W x 30"D	3				
6	Tire Cage	1	X	X		
9	2-Tier Locker - 12"x15"x 78"	6				
20	Tool Cabinet	30	X	X		
21	Work Bench 5'-0"W x 3'-0"D x 3'-0"H	16				
34	SmartWasher SW-37	9				
35	Oil King 25 gal Used-Oil Receiver	11				
45	Tool Cabinet	1	X	X		
57	Battery Charging Bench	1				
58	Battery Charging Bench	1	X	X		
80	Pallet Storage Floor Space	1	X	X		
83	Pallet Storage Floor Space	1	X	X		
84	Used Oil Tank	1	X			X
89	Bulk Fluid Storage Tank #2	1	X			X
91	Dumping Hopper	1	X	X		
92	Baler	1	X			X
96	Oil Filter Crusher	1	X			X
101	Bulk Fluid Storage Tank #3	1	X			X
106	Rack Shelving - 3'D x 10'W x 8'H	3	X			X
118	Rack Shelving - 3'D x 10'W x 8'H	1	X			X
119	Rack Shelving - 3'D x 10'W x 8'H	2	X			X
122	Tire Machine	1	X	X		
123	Flammable Tank Storage	1			X	X
127	Drill Press	1	X	X		
128	Horizontal Band Saw	1	X	X		
129	Tire Carousel	1			X	X
130	Parts Carousel	1			X	X
131-13	ECO-60-10	1			X	X
131-14	ECO-60-10	1			X	X
131-15	ECO-60-10	1			X	X
131-16	ECO-60-10	1			X	X
131-17	ECO-60-10	1			X	X
131-18	ECO-60-10	1			X	X
131-19	ECO-60-10	1			X	X
131-20	ECO-60-10	1			X	X
131-21	ECO-60-10	1			X	X
132-22	ECO-90-17	1			X	X
133-13	ECO-60 Control Console	1			X	X
133-14	ECO-60 Control Console	1			X	X
133-15	ECO-60 Control Console	1			X	X
133-16	ECO-60 Control Console	1			X	X
133-17	ECO-60 Control Console	1			X	X
133-18	ECO-60 Control Console	1			X	X
133-19	ECO-60 Control Console	1			X	X
133-20	ECO-60 Control Console	1			X	X
133-21	ECO-60 Control Console	1			X	X
133-22	ECO-90 Control Console	1			X	X
134	Oil Filter Trash Recepticle	1	X	X		
135	Waste Oil Pump	2			X	X
A	Rack Shelving - 2'D x 6'W x 8'H	6				
B	Rack Shelving - 2'D x 8'W x 8'H	26				
C	Rack Shelving - 3'D x 10'W x 8'H	5				



KEY PLAN

Mead & Hunt

Mead & Hunt, Inc.
2440 Deming Way
Middleton, WI 53562
phone: 608-273-6380
meadhunt.com

CITY OF MADISON WISCONSIN

metro transit

CITY OF MADISON METRO TRANSIT PHASE 3A - MAINTENANCE AND DRIVER FACILITY IMPROVEMENTS

1101 EAST WASHINGTON AVE.
MADISON, WI 53703

ISSUED

04/08/21 BID SET
B 05/13/21 ADDENDUM #2

CONTRACT NO.: 8981
M&H NO.: 4503500-190896.03
DATE: APRIL 8, 2021
DESIGNED BY: JPW
DRAWN BY: RES
CHECKED BY: Checker

DO NOT SCALE DRAWINGS

SHEET CONTENTS
FIRST FLOOR PLAN - AREA C

SHEET NO.:

Q-101C

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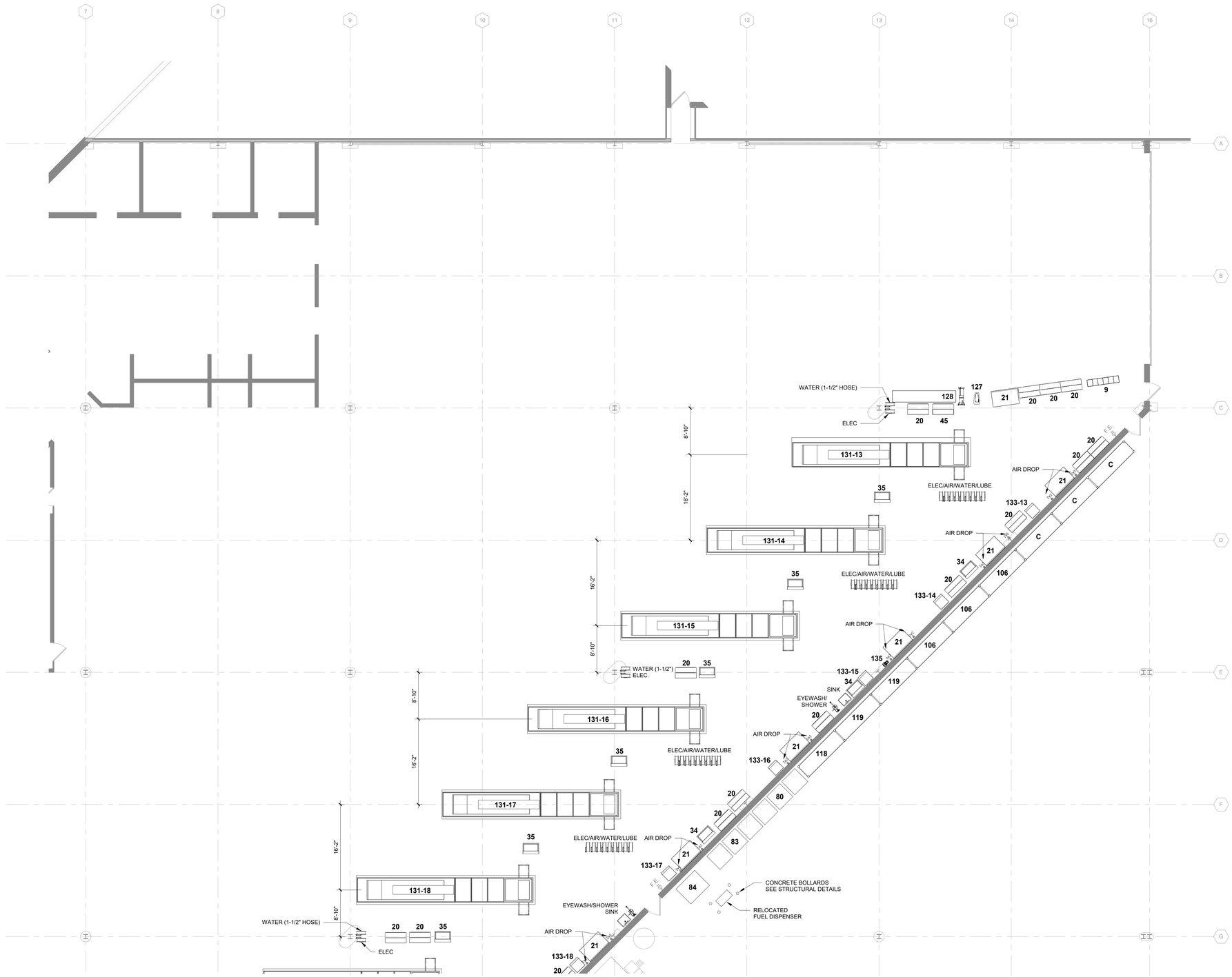


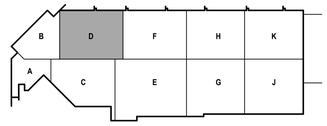
TRUE NORTH PLAN NORTH

1 1/8" First Floor Equipment Plan - Area D

1/8" = 1'-0"

EQUIPMENT SCHEDULE (B)

Mark	Type	Count	Owner Provided	Owner Installed	GC Provided	GC Installed
2	Rim Clamp Tire Machine	1	X	X		
3	Desk 60"W x 30"D	3				
6	Tire Cage	1	X	X		
9	2-Tier Locker - 12"x15"x 78"	6				
20	Tool Cabinet	30	X	X		
21	Work Bench 5'-0"W x 3'-0"D x 3'-0"H	16				
34	SmartWasher SW-37	9				
35	Oil King 25 gal Used-Oil Receiver	11				
45	Tool Cabinet	1	X	X		
57	Battery Charging Bench	1				
58	Battery Charging Bench	1	X	X		
80	Pallet Storage Floor Space	1	X	X		
83	Pallet Storage Floor Space	1	X	X		
84	Used Oil Tank	1	X			X
89	Bulk Fluid Storage Tank #2	1	X			X
91	Dumping Hopper	1	X	X		
92	Baler	1	X			X
96	Oil Filter Crusher	1	X			X
101	Bulk Fluid Storage Tank #3	1	X			X
106	Rack Shelving - 3'D x 10'W x 8'H	3	X			X
118	Rack Shelving - 3'D x 10'W x 8'H	1	X			X
119	Rack Shelving - 3'D x 10'W x 8'H	2	X			X
122	Tire Machine	1	X	X		
123	Flammable Tank Storage	1			X	X
127	Drill Press	1	X	X		
128	Horizontal Band Saw	1	X	X		
129	Tire Carousel	1			X	X
130	Parts Carousel	1			X	X
131-13	ECO-60-10	1			X	X
131-14	ECO-60-10	1			X	X
131-15	ECO-60-10	1			X	X
131-16	ECO-60-10	1			X	X
131-17	ECO-60-10	1			X	X
131-18	ECO-60-10	1			X	X
131-19	ECO-60-10	1			X	X
131-20	ECO-60-10	1			X	X
131-21	ECO-60-10	1			X	X
132-22	ECO-90-17	1			X	X
133-13	ECO-60 Control Console	1			X	X
133-14	ECO-60 Control Console	1			X	X
133-15	ECO-60 Control Console	1			X	X
133-16	ECO-60 Control Console	1			X	X
133-17	ECO-60 Control Console	1			X	X
133-18	ECO-60 Control Console	1			X	X
133-19	ECO-60 Control Console	1			X	X
133-20	ECO-60 Control Console	1			X	X
133-21	ECO-60 Control Console	1			X	X
133-22	ECO-90 Control Console	1			X	X
134	Oil Filter Trash Receptacle	1	X	X		
135	Waste Oil Pump	2			X	X
A	Rack Shelving - 2'D x 6'W x 8'H	6				
B	Rack Shelving - 2'D x 8'W x 8'H	26				
C	Rack Shelving - 3'D x 10'W x 8'H	5				



KEY PLAN

Mead & Hunt
Mead & Hunt, Inc.
2440 Deming Way
Middleton, WI 53562
phone: 608-273-6380
meadhunt.com

CITY OF MADISON WISCONSIN

metro transit

CITY OF MADISON
METRO TRANSIT PHASE 3A - MAINTENANCE AND DRIVER FACILITY IMPROVEMENTS

1101 EAST WASHINGTON AVE.
MADISON, WI 53703

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DRAWN BY: RES
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DO NOT SCALE DRAWINGS

SHEET CONTENTS
FIRST FLOOR PLAN - AREA D

SHEET NO.:

Q-101D

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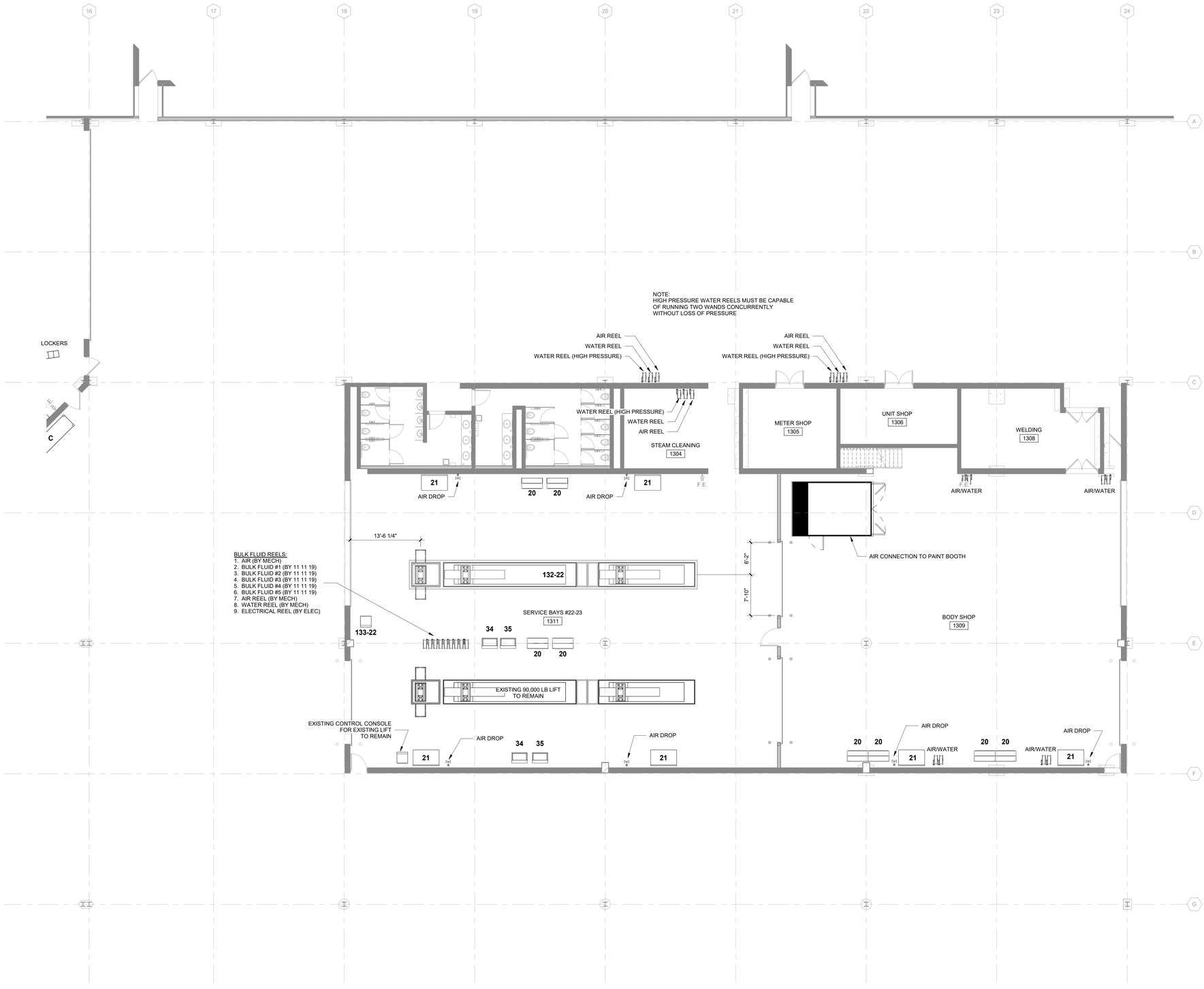


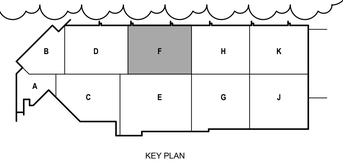
TRUE NORTH PLAN NORTH

1 1/8" First Floor Equipment Plan - Area F

1/8" = 1'-0"

EQUIPMENT SCHEDULE (B)

Mark	Type	Count	Owner Provided	Owner Installed	GC Provided	GC Installed
2	Rim Clamp Tire Machine	1	X	X		
3	Desk 60"W x 30"D	3				
6	Tire Cage	1	X	X		
9	2-Tier Locker - 12"x15"x 78"	6				
20	Tool Cabinet	30	X	X		
21	Work Bench 5'-0"W x 3'-0"D x 3'-0"H	16				
34	SmartWasher SW-37	9				
35	Oil King 25 gal Used-Oil Receiver	11				
45	Tool Cabinet	1	X	X		
57	Battery Charging Bench	1				
58	Battery Charging Bench	1	X	X		
80	Pallet Storage Floor Space	1	X	X		
83	Pallet Storage Floor Space	1	X	X		
84	Used Oil Tank	1	X			X
89	Bulk Fluid Storage Tank #2	1	X			X
91	Dumping Hopper	1	X	X		
92	Baler	1	X			X
96	Oil Filter Crusher	1	X			X
101	Bulk Fluid Storage Tank #3	1	X			X
106	Rack Shelving - 3'D x 10'W x 8'H	3	X			X
118	Rack Shelving - 3'D x 10'W x 8'H	1	X			X
119	Rack Shelving - 3'D x 10'W x 8'H	2	X			X
122	Tire Machine	1	X	X		
123	Flammable Tank Storage	1			X	X
127	Drill Press	1	X	X		
128	Horizontal Band Saw	1	X	X		
129	Tire Carousel	1			X	X
130	Parts Carousel	1			X	X
131-13	ECO-60-10	1			X	X
131-14	ECO-60-10	1			X	X
131-15	ECO-60-10	1			X	X
131-16	ECO-60-10	1			X	X
131-17	ECO-60-10	1			X	X
131-18	ECO-60-10	1			X	X
131-19	ECO-60-10	1			X	X
131-20	ECO-60-10	1			X	X
131-21	ECO-60-10	1			X	X
132-22	ECO-90-17	1			X	X
133-13	ECO-60 Control Console	1			X	X
133-14	ECO-60 Control Console	1			X	X
133-15	ECO-60 Control Console	1			X	X
133-16	ECO-60 Control Console	1			X	X
133-17	ECO-60 Control Console	1			X	X
133-18	ECO-60 Control Console	1			X	X
133-19	ECO-60 Control Console	1			X	X
133-20	ECO-60 Control Console	1			X	X
133-21	ECO-60 Control Console	1			X	X
133-22	ECO-90 Control Console	1			X	X
134	Oil Filter Trash Recepticle	1	X	X		
135	Waste Oil Pump	2			X	X
A	Rack Shelving - 2'D x 6'W x 8'H	6				
B	Rack Shelving - 2'D x 8'W x 8'H	26				
C	Rack Shelving - 3'D x 10'W x 8'H	5				



KEY PLAN

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SHEET CONTENTS
FIRST FLOOR PLAN - AREA F

SHEET NO.:
Q-101F

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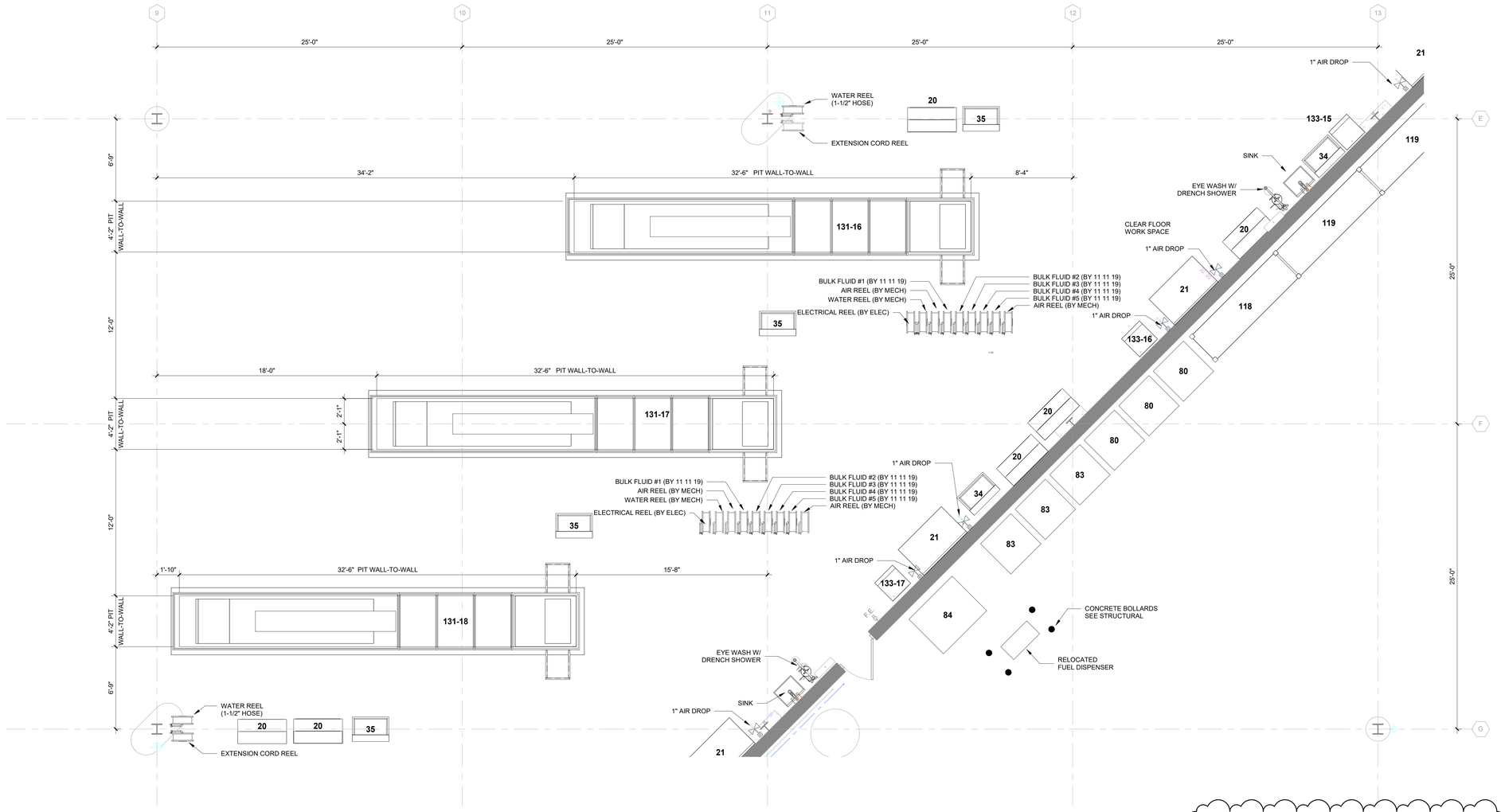
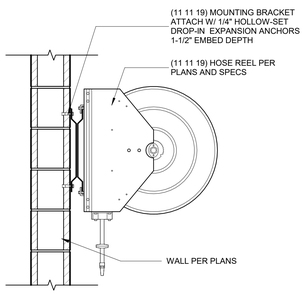


TRUE NORTH PLAN NORTH

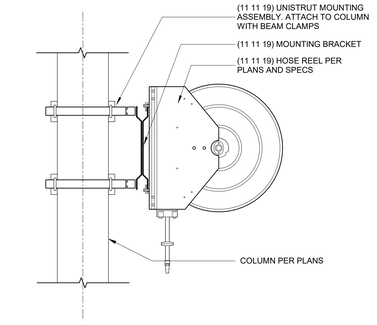
1 First Floor Equipment Plan - Typ Repair Bay Layout

1/4" = 1'-0"



2 Hose Reel Mounting @ CMU Wall

1" = 1'-0"



3 Hose Reel Mounting @ Columns

1" = 1'-0"

EQUIPMENT SCHEDULE (8)

Mark	Type	Count	Owner Provided	Owner Installed	GC Provided	GC Installed
2	Rim Clamp Tire Machine	1	X	X		
3	Desk 60"W x 30"D	3				
6	Tire Cage	1	X	X		
9	2-Tier Locker - 12"x15"x 78"	6				
20	Tool Cabinet	30	X	X		
21	Work Bench 5'-0"W x 3'-0"D x 3'-0"H	16				
34	SmartWasher SW-37	9				
35	Oil King 25 gal Used-Oil Receiver	11				
45	Tool Cabinet	1	X	X		
57	Battery Charging Bench	1				
58	Battery Charging Bench	1	X	X		
80	Pallet Storage Floor Space	1	X	X		
83	Pallet Storage Floor Space	1	X	X		
84	Used Oil Tank	1	X			X
89	Bulk Fluid Storage Tank #2	1	X			X
91	Dumping Hopper	1	X	X		
92	Baler	1	X			X
96	Oil Filter Crusher	1	X			X
101	Bulk Fluid Storage Tank #3	1	X			X
106	Rack Shelving - 3'D x 10'W x 8'H	3	X			X
118	Rack Shelving - 3'D x 10'W x 8'H	1	X			X
119	Rack Shelving - 3'D x 10'W x 8'H	2	X			X
122	Tire Machine	1	X	X		
123	Flammable Tank Storage	1			X	X
127	Drill Press	1	X	X		
128	Horizontal Band Saw	1	X	X		
129	Tire Carousel	1			X	X
130	Parts Carousel	1			X	X
131-13	ECO-60-10	1			X	X
131-14	ECO-60-10	1			X	X
131-15	ECO-60-10	1			X	X
131-16	ECO-60-10	1			X	X
131-17	ECO-60-10	1			X	X
131-18	ECO-60-10	1			X	X
131-19	ECO-60-10	1			X	X
131-20	ECO-60-10	1			X	X
131-21	ECO-60-10	1			X	X
132-22	ECO-90-17	1			X	X
133-13	ECO-60 Control Console	1			X	X
133-14	ECO-60 Control Console	1			X	X
133-15	ECO-60 Control Console	1			X	X
133-16	ECO-60 Control Console	1			X	X
133-17	ECO-60 Control Console	1			X	X
133-18	ECO-60 Control Console	1			X	X
133-19	ECO-60 Control Console	1			X	X
133-20	ECO-60 Control Console	1			X	X
133-21	ECO-60 Control Console	1			X	X
133-22	ECO-90 Control Console	1			X	X
134	Oil Filter Trash Recepticle	1	X	X		
135	Waste Oil Pump	2			X	X
A	Rack Shelving - 2'D x 6'W x 8'H	6				
B	Rack Shelving - 2'D x 8'W x 8'H	26				
C	Rack Shelving - 3'D x 10'W x 8'H	5				

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CITY OF MADISON WISCONSIN

metro transit

CITY OF MADISON METRO TRANSIT PHASE 3A - MAINTENANCE AND DRIVER FACILITY IMPROVEMENTS

1101 EAST WASHINGTON AVE.
MADISON, WI 53703

ISSUED
04/08/21 BID SET
B 05/13/21 ADDENDUM #2

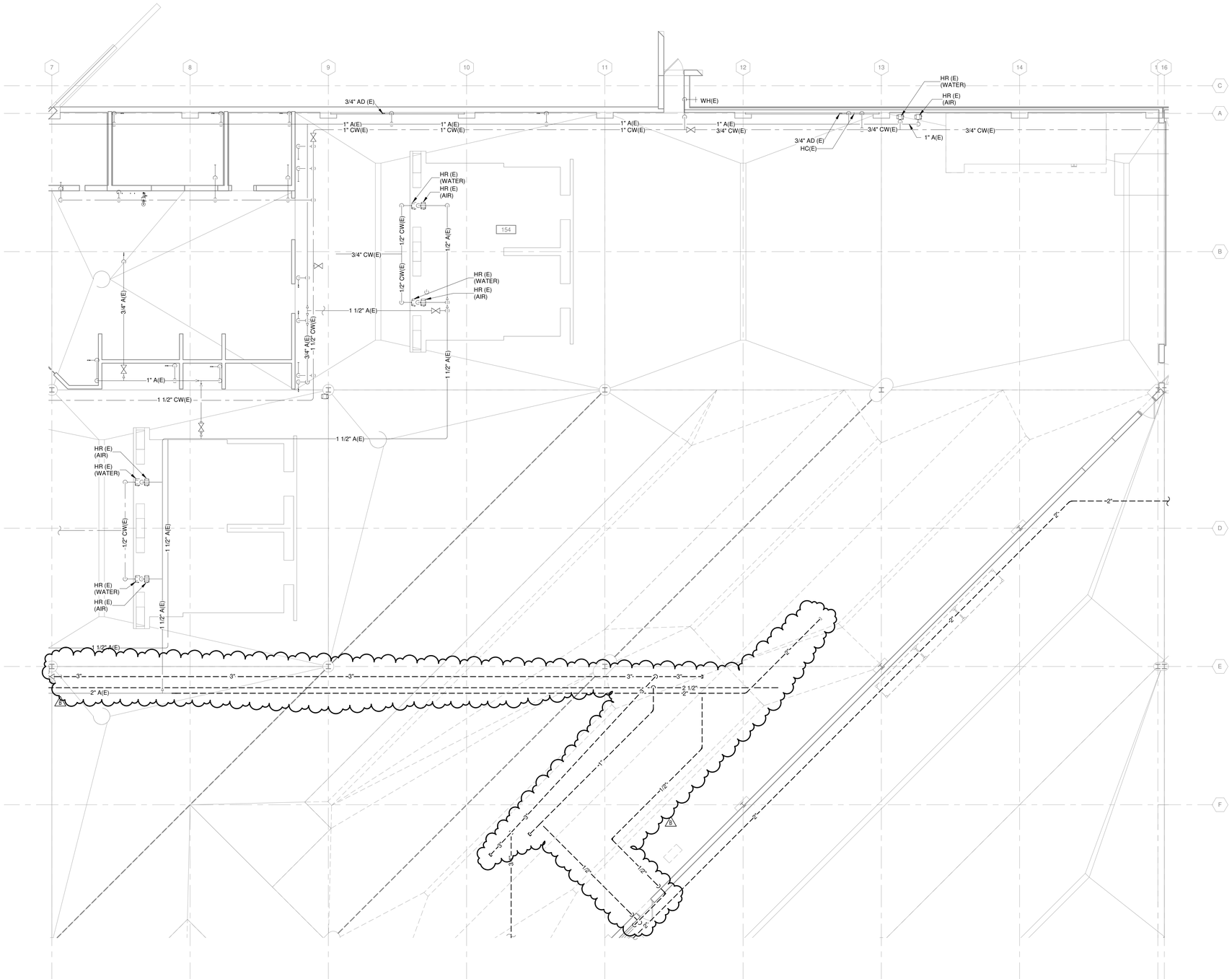
CONTRACT NO.: 8981
M&H NO.: 4503500-190896.03
DATE: APRIL 8, 2021
DESIGNED BY: JPW
DRAWN BY: RES
CHECKED BY: Checker
DO NOT SCALE DRAWINGS

SHEET CONTENTS
FIRST FLOOR PLAN - ENLARGED REPAIR BAY LAYOUT

SHEET NO.:
Q-401

GENERAL NOTES

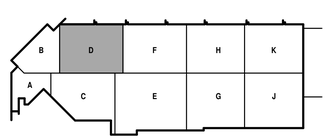
1. REFERENCE G-020 THROUGH G-030 SHEETS FOR LIFE SAFETY CODE, WALL/FLOOR RATINGS, AND CLASS 1 DIV 2 REQUIREMENTS.
2. REFERENCE SHEET G-101 PHASING PLAN FOR CONSTRUCTION PHASING/SEQUENCING AND SITE ACCESS.
3. REFERENCE Q-SHEETS FOR EQUIPMENT COORDINATION AND EXCAVATION REQUIREMENTS.



TRUE NORTH PLAN NORTH

1 **FIRST FLOOR SUPPLY PIPING DEMOLITION PLAN - AREA D**

1/8" = 1'-0"



KEY PLAN

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CONTRACT NO.: 8981
M&H NO.: 4503500-190896.03
DATE: April 8, 2021
DESIGNED BY: JET
DRAWN BY: JET
CHECKED BY: RMM
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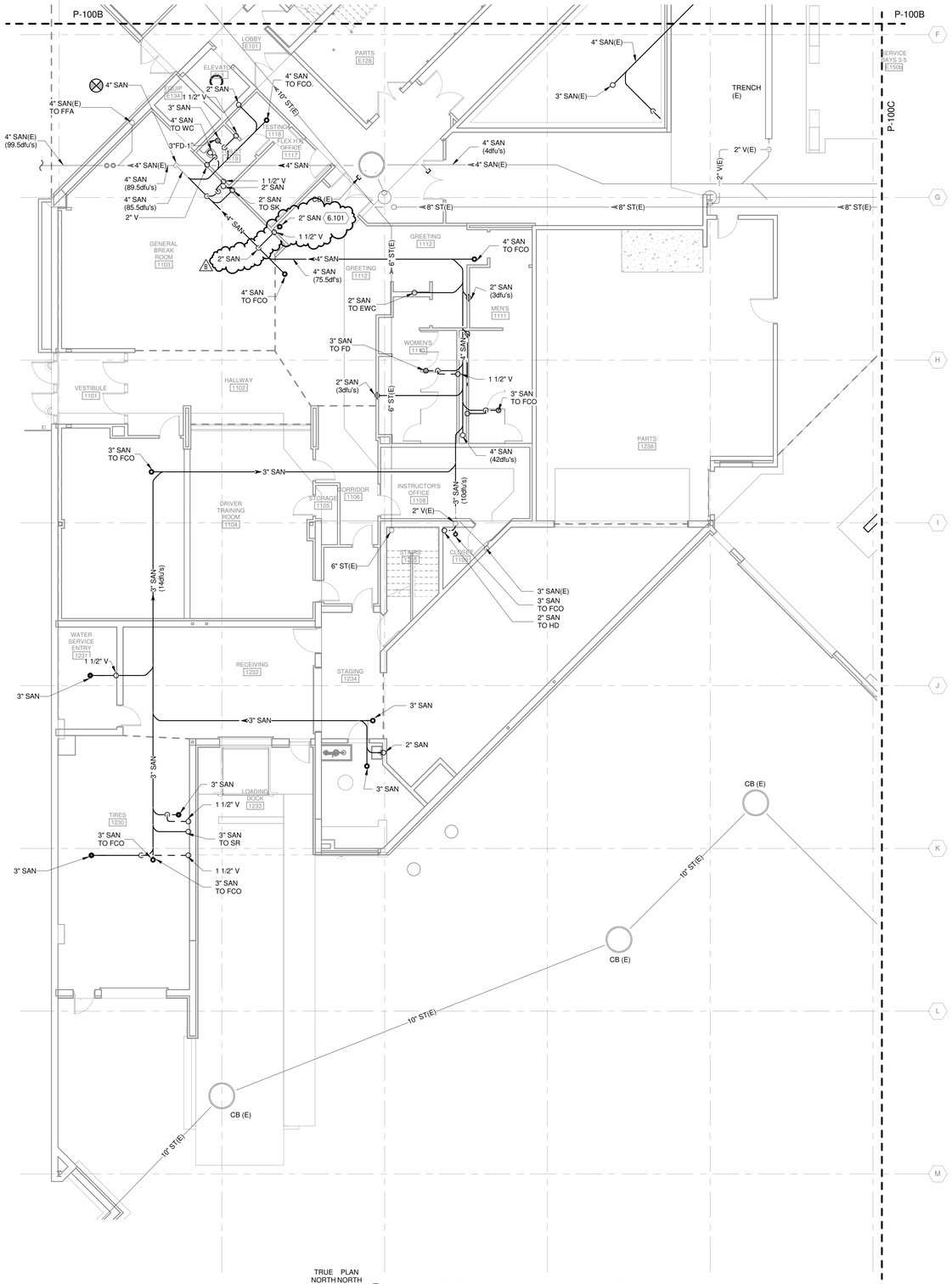
SHEET CONTENTS
FIRST FLOOR SUPPLY DEMOLITION PLAN - AREA D

SHEET NO.:
PD131D

5/12/2021 3:33:55 PM C:\Revit Local\190896.03-P-R20-Anno_jon.tiede@meadhunt.com.rvt

GENERAL NOTES

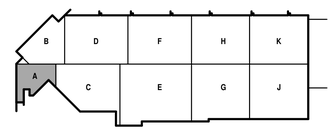
1. REFERENCE G-020 THROUGH G-030 SHEETS FOR LIFE SAFETY CODE, WALL/FLOOR RATINGS, AND CLASS 1 DIV 2 REQUIREMENTS.
2. REFERENCE SHEET G-101 PHASING PLAN FOR CONSTRUCTION PHASING/SEQUENCING AND SITE ACCESS.
3. REFERENCE Q-SHEETS FOR EQUIPMENT COORDINATION AND EXCAVATION REQUIREMENTS.



TRUE NORTH PLAN NORTH

1 **UNDERGOUND DRAIN AND VENT PLAN - AREA A**

1/8" = 1'-0"



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METRO TRANSIT PHASE 3A - MAINTENANCE AND DRIVER FACILITY IMPROVEMENTS

1101 EAST WASHINGTON AVE.
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ISSUED
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M&H NO.: 4503500-190896.03
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SHEET CONTENTS
UNDERGROUND DRAIN AND VENT PLAN - AREA A

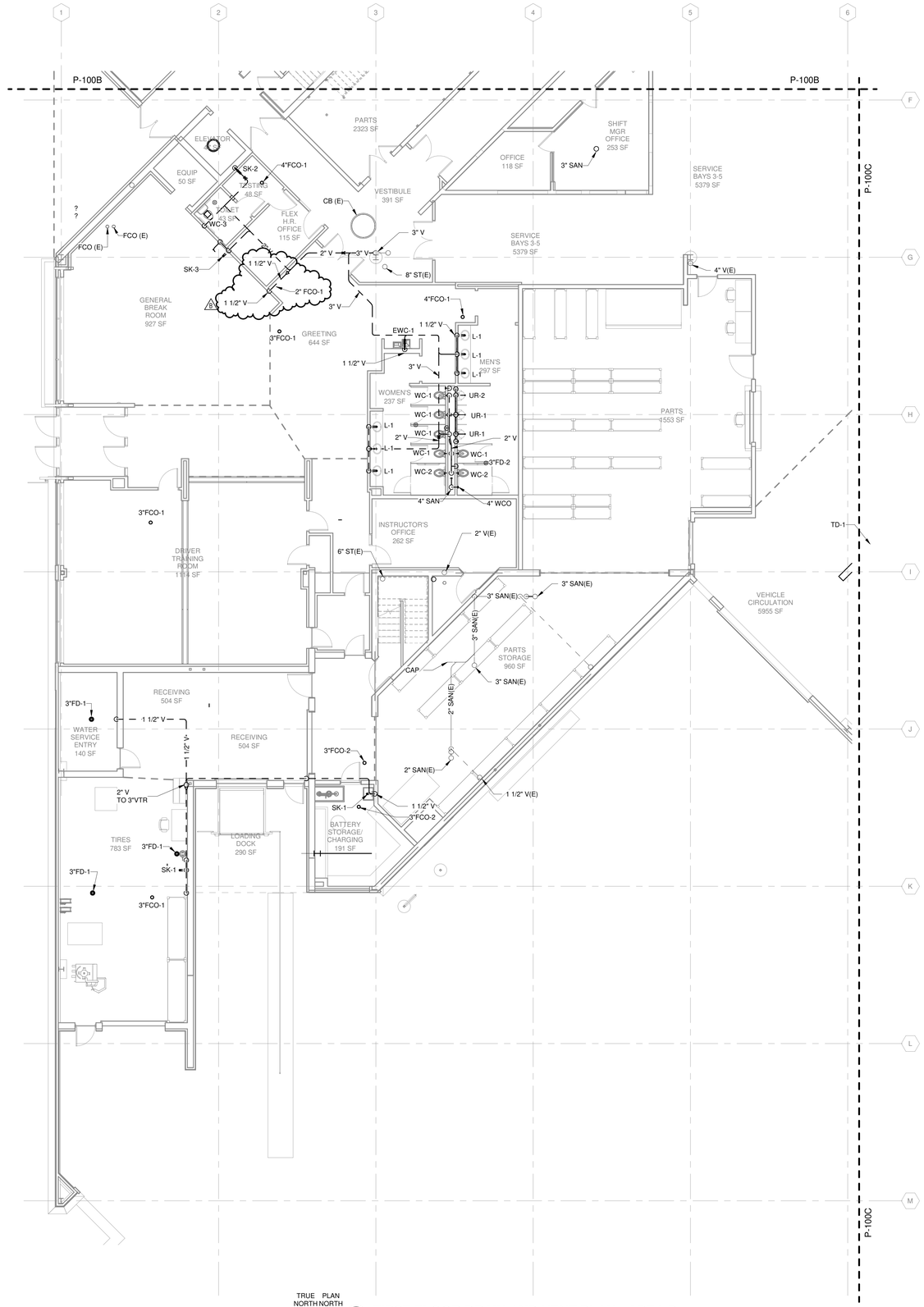
SHEET NO.:

P-100A

5/11/2021 8:35:39 AM C:\Revit Local\190896.03-P-R20-Anno_jon.tiedke@meadhunt.com.rvt

GENERAL NOTES

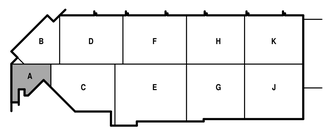
1. REFERENCE G-020 THROUGH G-030 SHEETS FOR LIFE SAFETY CODE, WALL/FLOOR RATINGS, AND CLASS 1 DIV 2 REQUIREMENTS.
2. REFERENCE SHEET G-101 PHASING PLAN FOR CONSTRUCTION PHASING/SEQUENCING AND SITE ACCESS.
3. REFERENCE O-SHEETS FOR EQUIPMENT COORDINATION AND EXCAVATION REQUIREMENTS.



TRUE NORTH PLAN NORTH

1 **FIRST FLOOR DRAIN AND VENT PLAN - AREA B**

1/8" = 1'-0"



KEY PLAN

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1101 EAST WASHINGTON AVE.
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M&H NO.: 4503500-190896.03
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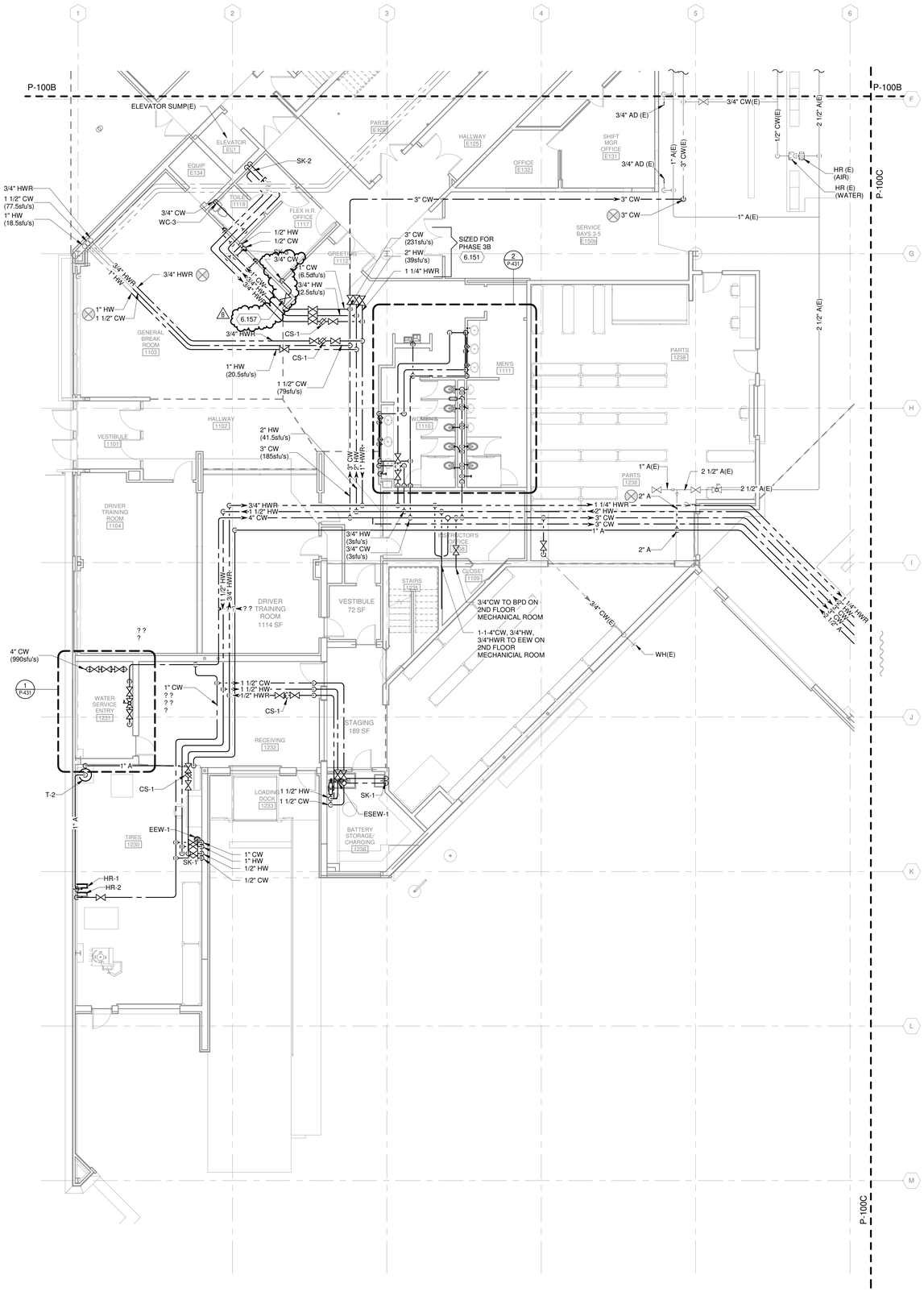
SHEET CONTENTS
FIRST FLOOR DRAIN AND VENT PLAN - AREA A

SHEET NO.:

P-101A



TRUE NORTH PLAN NORTH

1 **FIRST FLOOR SUPPLY PIPING PLAN - AREA B**

1/8" = 1'-0"

GENERAL NOTES

1. REFERENCE G-020 THROUGH G-030 SHEETS FOR LIFE SAFETY CODE, WALL/FLOOR RATINGS, AND CLASS 1 DIV 2 REQUIREMENTS.
2. REFERENCE SHEET G-101 PHASING PLAN FOR CONSTRUCTION PHASING/SEQUENCING AND SITE ACCESS.
3. REFERENCE Q-SHEETS FOR EQUIPMENT COORDINATION AND EXCAVATION REQUIREMENTS.

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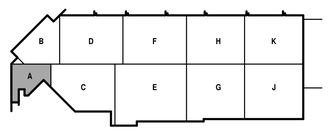
SHEET CONTENTS
FIRST FLOOR SUPPLY PLAN - AREA A

SHEET NO.:

P-131A



KEY PLAN

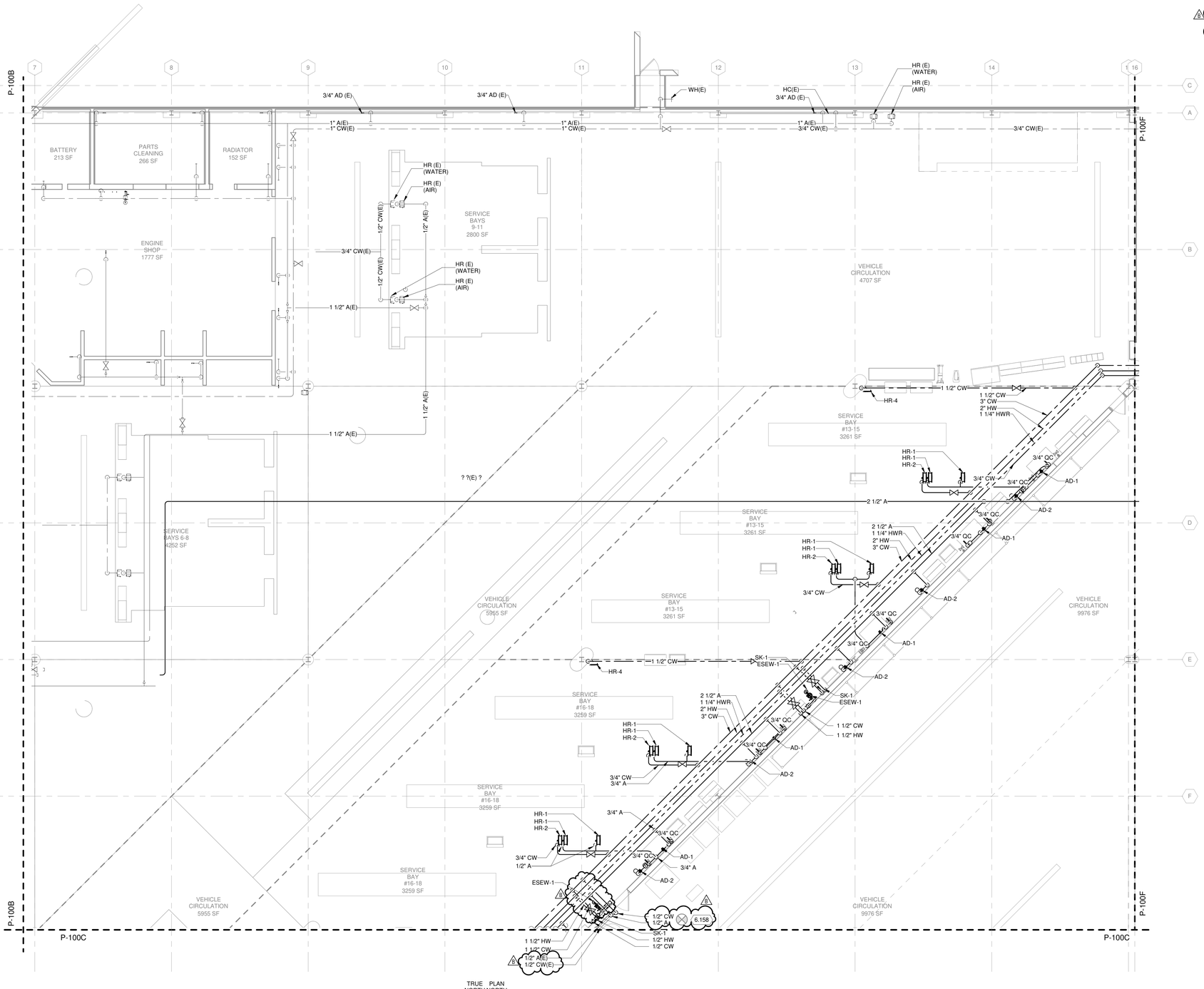
5/11/2021 8:37:09 AM C:\Revit Local\190896.03-P-R20-Anno_jon.tiede@meadhunt.com.rvt

GENERAL NOTES

1. REFERENCE G-020 THROUGH G-030 SHEETS FOR LIFE SAFETY CODE, WALL/FLOOR RATINGS, AND CLASS 1 DIV 2 REQUIREMENTS.
2. REFERENCE SHEET G-101 PHASING PLAN FOR CONSTRUCTION PHASING/SEQUENCING AND SITE ACCESS.
3. REFERENCE Q-SHEETS FOR EQUIPMENT COORDINATION AND EXCAVATION REQUIREMENTS.

KEYED NOTES

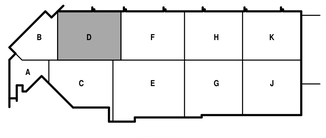
6.158 CONNECT EXISTING SUPPLY PIPE AND COMPRESSED AIR PIPE TO NEW SERVICES.



TRUE NORTH PLAN NORTH

1 FIRST FLOOR SUPPLY PIPING PLAN - AREA D

1/8" = 1'-0"



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SHEET CONTENTS
FIRST FLOOR SUPPLY PLAN - AREA D

SHEET NO.:
P-131D

5/11/2021 8:37:31 AM C:\Revit Local\190896.03-P-R20-Anno_jon.tiede@meadhunt.com.rvt

GENERAL NOTES

1. REFERENCE G-020 THROUGH G-030 SHEETS FOR LIFE SAFETY CODE, WALL/FLOOR RATINGS, AND CLASS 1 DIV 2 REQUIREMENTS.
2. REFERENCE SHEET G-101 PHASING PLAN FOR CONSTRUCTION PHASING/SEQUENCING AND SITE ACCESS.
3. REFERENCE Q-SHEETS FOR EQUIPMENT COORDINATION AND EXCAVATION REQUIREMENTS.

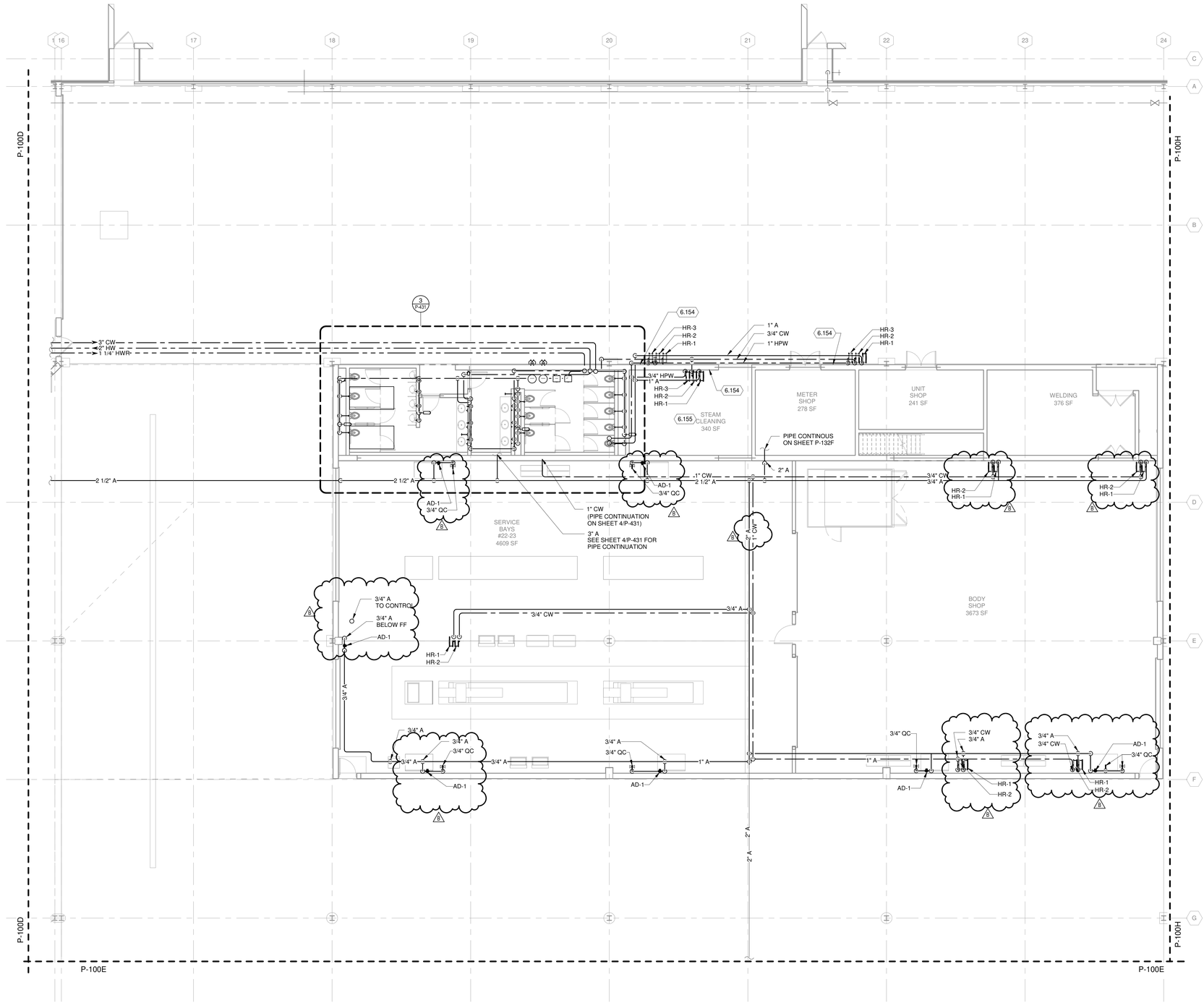
FIRST FLOOR - AREA F - ALTERNATE BID #1

1. SEE SPECIFICATION 012300 - ALTERNATES AND DRAWING G131. ALL WORK ASSOCIATED WITH AREA F, FIRST FLOOR ONLY, AS IDENTIFIED PER DRAWING G131. THIS GENERALLY INCLUDES A BATHROOM/LOCKERROOM, A MAINTENANCE BAY, BODY SHOP, ADJACENT WORKSHOPS AND ASSOCIATED WORK

KEYED NOTES

6.154 PROVIDE REMOTE HOT/COLD CONTROL AT EACH HPW HOSE REEL.

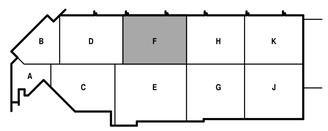
6.155 COORDINATE WITH OWNER THE LOCATION OF THE SOAP DISPENSING CONTAINER.



TRUE NORTH PLAN NORTH

1 FIRST FLOOR SUPPLY PIPING PLAN - AREA F

1/8" = 1'-0"



KEY PLAN

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B 05/13/21 ADDENDUM #2

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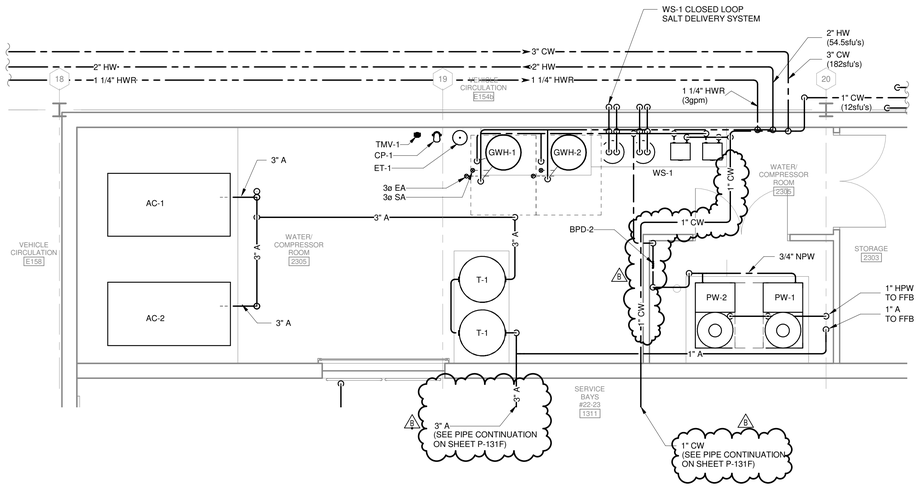
SHEET CONTENTS
FIRST FLOOR SUPPLY PLAN - AREA F

SHEET NO.:

P-131F

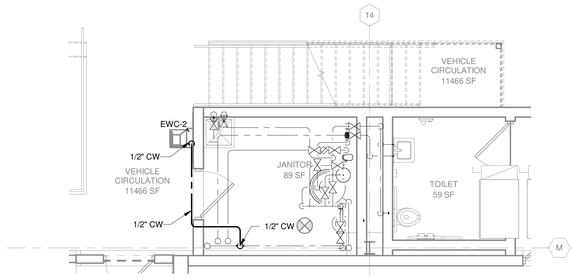
5/11/2021 8:37:54 AM C:\Revit Local\190896.03-P-R20-Anno_jon.tiede@meadhunt.com.vrt



TRUE NORTH PLAN NORTH **4**

SECOND FLOOR DRAIN AND VENT PLAN
AREA F - ENLARGED WATER COMPRESSOR ROOM

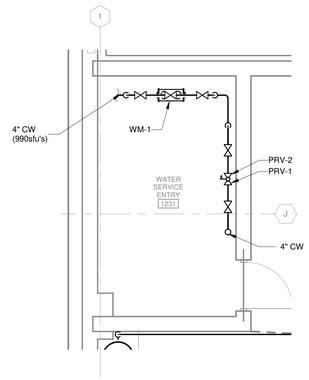
1/4" = 1'-0"



TRUE NORTH PLAN NORTH **5**

ABOVEGROUND SUPPLY PLAN
AREA C - ENLARGED EWC

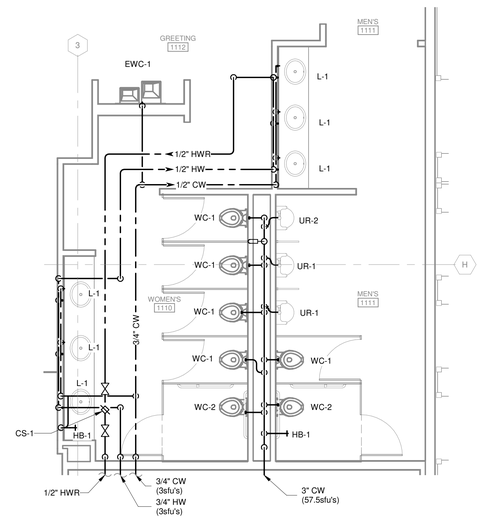
1/4" = 1'-0"



TRUE NORTH PLAN NORTH **1**

FIRST FLOOR SUPPLY PLAN
AREA A - ENLARGED WATER SERVICE ENTRY

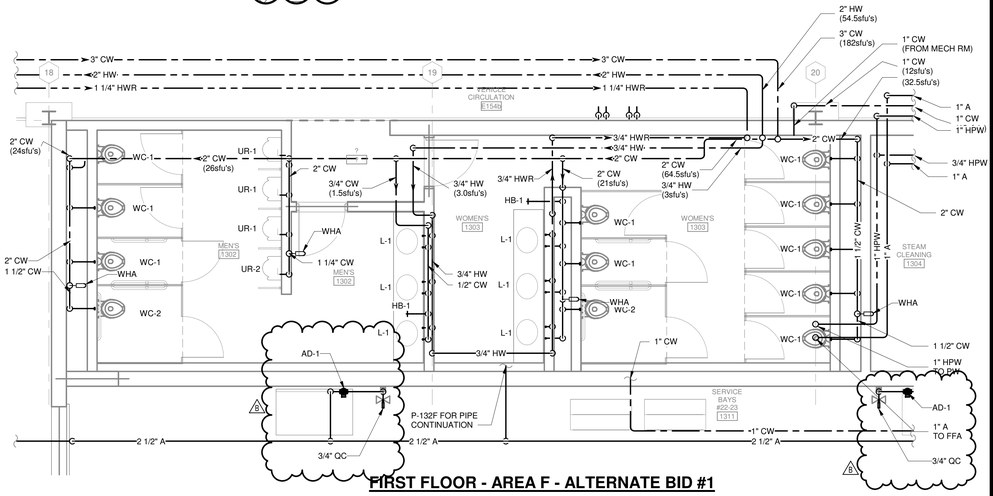
1/4" = 1'-0"



TRUE NORTH PLAN NORTH **2**

FIRST FLOOR SUPPLY PLAN
AREA A - ENLARGED BATHROOM

1/4" = 1'-0"



FIRST FLOOR - AREA F - ALTERNATE BID #1

1. SEE SPECIFICATION 012300 - ALTERNATES AND DRAWING G131. ALL WORK ASSOCIATED WITH AREA F. FIRST FLOOR ONLY, AS IDENTIFIED PER DRAWING G131. THIS GENERALLY INCLUDES A BATHROOM/LOCKERROOM, A MAINTENANCE BAY, BODY SHOP, ADJACENT WORKSHOPS AND ASSOCIATED WORK

TRUE NORTH PLAN NORTH **3**

FIRST FLOOR SUPPLY PLAN
AREA F - ENLARGED BATHROOM

1/4" = 1'-0"

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SHEET CONTENTS
ENLARGED PLANS
SUPPLY PLUMBING

SHEET NO.:
P-431

EXISTING EXHAUST FAN (EF) SCHEDULE - REBALANCE

MARK	MANUFACTURER, MODEL NUMBER	FAN TYPE	AIR FLOW RATE (CFM)	ESP (IN WC)	MOTOR HP	MOTOR BHP	MOTOR TYPE	FAN SPEED (RPM)	DRIVE TYPE	ELECTRICAL (VOLTS/PH)	(2) MTG. HEIGHT (FT)	MAXIMUM SOUND (3) (DB)	MAXIMUM SOUND (4) SONES	MAXIMUM SOUND INSTALL. TYPE	(1) INTERLOCK WITH	OPENING (IN) LENGTH	OPENING (IN) WIDTH	ACCESSORIES	WEIGHT (LB)	LOCATION	REMARKS
EF-4(E)	EXISTING	5	1210	0.75	1/2	ECM	1800	1254	DIRECT	115/1	-	-	14.6	-	BAS	-	-	20	130	ZONE 2	
EF-6(E)	EXISTING	5	500	0.50	1/12	ECM	1750	1709	DIRECT	115/1	-	-	7.7	-	T-STAT	10.5	10.5	20	65	ZONE 2	ELEC ROOM
EF-7(E)	EXISTING	3	5,000	5.00	10	TEFC	1800	1739	DIRECT	460/3	-	-	-	-	MAU-4/5(E)	-	-		615	ZONE 2	
EF-8(E)	EXISTING	5	695	0.5	1/6	ECM	1750	1152	DIRECT	115/1	-	-	6.7	-	AC-01(E)	18.5	18.5	20	110	ZONE 2	
EF-13(E)	EXISTING	5	700	0.5	1/2	ECM	1750	1100	DIRECT	115/1	-	-	8.2	-	T-STAT	18.5	18.5	20	115	ZONE 3	
EF-14(E)	EXISTING	5	735	0.5	1/2	TEFC	1750		DIRECT	115/1	-	-	-	-	MAU-8(E)	18.5	18.5	20	115	ZONE 3	
EF-15(E)	EXISTING	3	1,130	3.50	1.5	TEFC	3600	3294	DIRECT	460/3	-	-	25	-	SWITCH W/MAU-8(E)	-	-	2	165	ZONE 3	DEMO
EF-16(E)	EXISTING	3	400	3.50	0.5	ECM	1750	1730	DIRECT	115/1	-	-	-	-	SWITCH W/MAU-8(E)	-	-	2	65	ZONE 3	DEMO
EF-17(E)	EXISTING	3	1150	3.25	1.5	TEFC	3600	3237	DIRECT	460/3	-	-	25	-	SWITCH W/MAU-8(E)	-	-	2	165	ZONE 3	DEMO
EF-18(E)	EXISTING	3	3,500	3.00	3	TEFC	1481	1750	DIRECT	460/3	-	-	19.2	-	SWITCH W/MAU-8(E)	-	-	2	340	ZONE 3	
EF-19(E)	EXISTING	3	3,800	0.75	2	TEFC	1351	1000	DIRECT	460/3	-	-	12.1	-	MAU-8(E)	-	-	2	234	ZONE 3	
EF-20(E)	EXISTING	3	1,150	3.25	1.5	TEFC	3600	3237	DIRECT	460/3	-	-	25	-	SWITCH W/MAU-8(E)	-	-	2	165	ZONE 3	DEMO
EF-27(E)	EXISTING	5	15,175	0.75	10	TEFC	860	863	DIRECT	460/3	-	-	34	-	MAU-4/5(E)	47	47	20	675	ZONE 2	
EF-28(E)	EXISTING	5	15,175	0.75	10	TEFC	860	863	DIRECT	460/3	-	-	34	-	MAU-4/5(E)	47	47	20	675	ZONE 2	
EF-29(E)	EXISTING	3	2,600	2.50	2	TEFC	1750	1477	DIRECT	460/3	-	-	16	-	MAU-8(E)	-	-	-	211	ZONE 3	DEMO
EF-30(E)	EXISTING	2	8,000	0.50	3	TEFC	-	-	-	460/3	-	-	-	-	MAU-8(E)	-	-	-	-	ZONE 3	

FAN TYPE			
CENTRIFUGAL		**AXIAL**	
1	SIDEWALL	8	ROOFTOP DOWNBLAST
2	INLINE	9	SIDEWALL PROPELLER
3	UTILITY	10	TUBE AXIAL
4	CABINET	11	VANE AXIAL
5	ROOFTOP UPBLAST	12	MIXED FLOW
6	ROOFTOP HOODED	13	ROOFTOP FRP UPBLAST
7	ROOFTOP FILTERED SUPPLY		

MOTOR TYPE	
ODP	OPEN DRIP PROOF
TEFC	TOTALLY ENCLOSED FAN COOLED
XPL	EXPLOSION PROOF
INV	INVERTER DUTY
TEAO	TOTALLY ENCLOSED AIR OVER

INSTALLATION TYPE	
A	FREE INLET, FREE OUTLET
B	FREE INLET, DUCTED OUTLET
C	DUCTED INLET, FREE OUTLET
D	DUCTED INLET, DUCTED OUTLET

ACCESSORIES					
1	GRAVITY BACKDRAFT DAMPER	11	OUTLET WIRE GUARD	21	HOODED WALL CAP
2	MOTORIZED BACKDRAFT DAMPER	12	INLET FILTER GUARD	22	HOODED ROOF CAP
3	WEATHERHOOD	13	MOTOR COVER	23	HINGED ROOF CURB
4	WALL COLLAR	14	HOUSING INSULATION	24	INLET GRILLE
5	MOTOR WIRE GUARD	15	BELT (OSHA) WIRE GUARD	25	BASE MOUNTED VIBRATION ISOLATORS
6	MOTOR (OSHA) WIRE GUARD	16	INLET BELL	26	DUCT ADAPTOR
7	SHUTTER GUARD	17	INLET/OUTLET FLANGES	27	HANGING SPRING ISOLATORS
8	FAN SPEED CONTROLLER	18	INLET VANE DAMPER	28	HANGING NEOPRENE ISOLATORS
9	NON-FUSED DISCONNECT SWITCH	19	EXTENDED LUBE LINES	29	FACTORY INSULATED ANGLED FILTER BOX
10	INLET WIRE GUARD	20	MFR. ROOF CURB		

REMARKS:

(1) SEE SPECIFICATION SECTION 230993 - HVAC SEQUENCE OF OPERATION.
(2) MOUNTING HEIGHT IS FROM FINISHED FLOOR LEVEL OF INDICATED ROOM, TO TOP OF FAN OR WALL OPENING.
(3) SOUND POWER LEVEL RATING PER AMCA 301.
(4) LOUDNESS VALUES AT 5 FT IN A HEMISPHERICAL FREE FIELD PER AMCA 301.
(5) VFD RATED FAN MOTOR.

HVAC DUCT SCHEDULE

SYSTEM		DUCT MATERIAL TYPE	DUCT MATERIAL REFERENCE STANDARD	DUCT MATERIAL FINISH	PRESS. CLASS (IN WC)	SEAL CLASS	LEAKAGE CLASS RECT.	LEAKAGE CLASS ROUND	COMMENTS
SUPPLY AIR	DUCT CONNECTED TO TERMINAL UNITS	G90 GALV.	ASTM A 653	MILL	3	A	12	6	
	DUCT CONNECTED TO CONSTANT VOLUME MAU ROOFTOP UNITS	G90 GALV.	ASTM A 653	MILL	3	A	12	6	
	DUCT CONNECTED TO VARIABLE AIR VOLUME AHU ROOFTOP UNITS	G90 GALV.	ASTM A 653	MILL	3	A	12	6	
	DUCT CONNECTED TO OTHER FAN POWERED EQUIPMENT	G90 GALV.	ASTM A 653	MILL	3	A	12	6	
RETURN AIR	DUCT CONNECTED TO TERMINAL UNITS	G90 GALV.	ASTM A 653	MILL	3	A	12	6	
	DUCT CONNECTED TO AHU/MAU ROOFTOP UNITS	G90 GALV.	ASTM A 653	MILL	3	A	12	6	
	DUCT CONNECTED TO OTHER FAN POWERED EQUIPMENT	G90 GALV.	ASTM A 653	MILL	3	A	12	6	
EXHAUST AIR	DUCT CONNECTED TO EXHAUST FANS	G90 GALV.	ASTM A 653	MILL	3	A	12	6	
	DUCT CONNECTED TO AHU/MAU ROOFTOP UNITS	G90 GALV.	ASTM A 653	MILL	3	A	12	6	
	DUCT CONNECTED TO OTHER FAN POWERED EQUIPMENT	G90 GALV.	ASTM A 653	MILL	3	A	12	6	
	DUCT CONNECTED TO FANS EXHAUSTING HIGH HUMIDITY AIR - EXPOSED TO VIEW	ALUMINUM, ALLOY 3003H-14	ASTM B 209	BRIGHT	3	A	12	6	SEAL LIQUID-TIGHT, SLOPE TOWARD GRILLE.
	DUCT CONNECTED TO FANS EXHAUSTING HIGH HUMIDITY AIR - CONCEALED	ALUMINUM, ALLOY 3003H-14	ASTM B 209	MILL	3	A	12	6	SEAL LIQUID-TIGHT, SLOPE TOWARD GRILLE.
OUTSIDE AIR	DUCT CONNECTED TO TERMINAL UNITS	G90 GALV.	ASTM A 653	MILL	3	A	12	6	
	DUCT CONNECTED TO AHU AND MAU UNITS	G90 GALV.	ASTM A 653	MILL	3	A	12	6	
	DUCT CONNECTED TO OTHER FAN POWERED EQUIPMENT	G90 GALV.	ASTM A 653	MILL	3	A	12	6	
	FIRST 3 FEET FROM LOUVER/HOOD	PVC-COATED GALV.	ASTM A 653	4 MILL PVC	3	A	12	6	SEAL LIQUID-TIGHT. SLOPE TOWARD LOUVER.
TRANSFER DUCTS		G90 GALV.	ASTM A 653	MILL	1	B	12	6	1" THICK, PROVIDE EROSION RESISTANT COATING (7)

FITTINGS

RECTANGULAR DUCT ELBOWS (COMPLY WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE," FIGURE 2-2, "RECTANGULAR ELBOWS.")
RADIUS TYPE RE 1 WITH MINIMUM 1.5 RADIUS-TO-DIAMETER RATIO.
RADIUS TYPE RE 3 WITH MINIMUM 1.0 RADIUS-TO-DIAMETER RATIO AND TWO VANES.
MITERED TYPE RE 2 WITH VANES COMPLYING WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE," FIGURE 2-3, "VANES AND VANE RUNNERS," AND FIGURE 2-4, "VANE SUPPORT IN ELBOWS."

ROUND DUCT ELBOWS (COMPLY WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE," FIGURE 3-3, "ROUND DUCT ELBOWS.")
RADIUS TO DIAMETER RATIO: 1.5
ROUND ELBOWS, 12 INCHES AND SMALLER IN DIAMETER: STAMPED OR PLEATED
ROUND ELBOWS, 14 INCHES AND LARGER IN DIAMETER: WELDED

RECTANGULAR BRANCH DUCT CONFIGURATION (COMPLY WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE," FIGURE 2-6, "BRANCH CONNECTIONS.")
RECTANGULAR MAIN TO RECTANGULAR BRANCH: 45° ENTRY
RECTANGULAR MAIN TO ROUND BRANCH: SPIN IN

ROUND BRANCH DUCT CONFIGURATION (COMPLY WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE," FIGURE 3-4, "90 DEGREE TEES AND LATERALS," AND FIGURE 3-5, "CONICAL TEES." SADDLE TAPS ARE PERMITTED IN EXISTING DUCT)
VELOCITY 1500 FT/MIN AND LOWER: CONICAL TAP
VELOCITY GREATER THAN 1500 FT/MIN: 45° LATERAL

REMARKS:

(1) PROVIDE PAINT GRIP TYPE DUCT WHERE DUCT IS EXPOSED AND INDICATED TO BE PAINTED BY DIV 09. REFER TO SECTION 09 91 23 - INTERIOR PAINTING.
(2) INSTALL DUCT ACCORDING TO SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE" UNLESS OTHERWISE INDICATED.
(3) INTERMEDIATE REINFORCEMENT MATERIAL SHALL MATCH DUCT MATERIAL.
(4) SUPPLY AIR DUCTS PASSING THROUGH UNCONDITIONED OR OUTDOOR SPACES SHALL BE SEAL CLASS A (ASHRAE 90.1 - 2007).
(5) RETURN AIR DUCTS PASSING THROUGH OUTDOOR SPACES SHALL BE SEAL CLASS A (ASHRAE 90.1 - 2007).
(6) SHEET METAL MATERIALS SHALL BE FREE OF PITTING, SEAM MARKS, ROLLER MARKS, STAINS, DISCOLORATIONS, AND OTHER IMPERFECTIONS.
(7) LINED DUCTWORK MUST STILL BE WRAPPED TO MEET TOTAL INSULATING VALUE PER INSULATION SPECIFICATION AND SCHEDULE.

EXISTING AIR TERMINAL (AT) SCHEDULE - REBALANCE

MARK	MANUFACTURER, MODEL NUMBER	TYPE	AIR FLOW (CFM) MAX.	AIR FLOW (CFM) MIN.	(1) MAX. PD (IN. WC)	INLET SIZE (IN)	OUTLET WIDTH (IN)	OUTLET DEPTH (IN)	OUTLET QTY.	INTERLOCK	WEIGHT (LB)	ACCESSORIES	LOCATION	REMARKS
AT-1(E)	TITUS, DESV	1, 3	3,300	1,000	0.35	24X16	38	18	-	(4)	150	3	ZONE 3	(3)
AT-2(E)	TITUS, DESV	1, 3	600	0	0.35	16	24	18	-	-	130	3	ZONE 3	(3)
AT-3(E)	TITUS, DESV	1, 3	2,350	0	0.35	16	24	18	-	EF-18	130	3	ZONE 3	(3)
AT-4(E)	TITUS, DESV	1, 3	720	0	0.35	8	16	10	-	EF-14	100	3	ZONE 3	(2)

TYPE				ACCESSORIES			
1	PRESSURE INDEPENDENT	5	SERIES FAN POWERED	1	ELECTRIC HEAT	5	FACTORY MOUNTED TRANSFORMER
2	PRESSURE DEPENDENT	6	PARALLEL FAN POWERED	2	FUSE	6	FACTORY MOUNTED DISCONNECT SWITCH
3	SINGLE DUCT	7	BYPASS	3	DDC CONTROLS		
4	DUAL DUCT			4	PNEUMATIC CONTROLS		

REMARKS:

(1) MAXIMUM STATIC PRESSURE DROP BASED ON MAXIMUM RATED AIR FLOW.
(2) CONSTANT VOLUME AIR TERMINAL.
(3) VARIABLE VOLUME AIR TERMINAL.
(4) INTERLOCK AT-1 WITH EXHAUST FANS FEF-6, FEF-7, AND EF-35 WITH LOCAL SWITCHES. EXHAUST FAN EF-35 SHALL BE INTERLOCK GAS DETECTION AND MAU-8(E).

FAN FILTER UNITS (FFU) SCHEDULE

MARK	MANUFACTURER, MODEL NUMBER	AIR FLOW (CFM)	ESP (IN WC)	MOTOR (HP)	ELECTRICAL (VOLTS/PH)	PRE-FILTER MEDIA LENGTH (IN)	PRE-FILTER MERV RATING	PRE-FILTER PRESS DROP. ("WG) INITIAL	PRE-FILTER PRESS DROP. ("WG) FINAL	FINAL FILTER MEDIA LENGTH (IN)	FINAL FILTER MERV RATING	FINAL FILTER PRESS DROP. ("WG) INITIAL	FINAL FILTER PRESS DROP. ("WG) FINAL	CARBON FILTER MEDIA LENGTH (IN)	CARBON FILTER MERV RATING	CARBON FILTER PRESS DROP. ("WG) INITIAL	CARBON FILTER PRESS DROP. ("WG) FINAL	(2) MTG. HEIGHT (FT)	WEIGHT (LB)	LOCATION	REMARKS
FFU-1	AIRMATION, AMB-302GM	3,000	0	1	208/1	4	8	0.3	1	12	16	0.5	1.5	12	-	0.5	1	19'-8"	300	1309	(3)
FFU-2	AIRMATION, AMB-302GM	3,000	0	1	208/1	4	8	0.3	1	12	16	0.5	1.5	12	-	0.5	1	19'-8"	300	1309	(3)
FFU-3	AIRMATION, AMB-302GM	3,000	0	1	208/1	4	8	0.3	1	12	16	0.5	1.5	12	-	0.5	1	19'-8"	300	1309	(3)

REMARKS:

(1) SEE SEQUENCE OF OPERATION SPECIFICATION SECTION 23 09 93.
(2) MOUNTING HEIGHT IS FROM FINISHED FLOOR LEVEL TO BOTTOM OF UNIT.
(3) PROVIDE WITH TIMER CONTROLLER IN THE NEMA 4 ENCLOSURE.

FUME EXTRACTOR (FE) SCHEDULE

MARK	MANUFACTURER, MODEL NUMBER	HOSE DIA. (IN)	APPROX. AIR FLOW (CFM)	WORKING RADIUS (FT)	RAIL - ARM LENGTHS (IN) A	B	C	MTG. TYPE	MTG. HEIGHT (FT)	ELECTRICAL VOLTS/PH	ELECTRICAL MOTOR (HP)	ELECTRICAL MOTOR TYPE	ACCESSORIES	WEIGHT (LB)	LOCATION	REMARKS
FE-3	NEDERMAN, AHU150	6	1800-2100	-	6	12	840	R	15	460 / 3	3	ODP	2, 12	-	ROOM 1220	(1)(2)
FE-4	NEDERMAN, AHU150	6	1800-2100	-	6	12	840	R	15	460 / 3	3	ODP	2, 12	-	ROOM 1218	(1)(2)
FE-5	NEDERMAN, AHU150	6	1800-2100	-	6	12	840	R	15	460 / 3	3	ODP	2, 12	-	ROOM 1218	(1)(2)
FE-6	NEDERMAN, AHU150	6	1800-2100	-	6	12	780	R	15	460 / 3	3	ODP	2, 12	-	ROOM 1311	(1)(2)
FE-7	NEDERMAN, AHU150	6	1800-2100	-	6	12	780	R	15	460 / 3	3	ODP	2, 12	-	ROOM 1311	(1)(2)

MOUNTING TYPE		MOTOR TYPE		ACCESSORIES			
WL	WALL	ODP	OPEN DRIP PROOF	1	HOOD SPOTLIGHT	6	STARTER
CL	CEILING	TEAO	TOTALLY ENCLOSED AIR-OVER	2	HOOD FAN SWITCH	7	10' EXTENSION HOSE
FR	FLOOR	TENV	TOTALLY ENCLOSED NON-VENTILATED	3	WELDER INTERLOCK	8	ELECTROSTATIC FILTER
BN	BENCH	XPL	EXPLOSION PROOF	4	AUTOMATIC DAMPER	9	MECHANICAL FILTER
DU	DUCT			5	CONTROL UNIT	10	CARBON FILTER
R	RAIL SYSTEM						

11	3' SEMI-RIGID HOSE EXTENSION		
12	MOUNTING HARDWARE		

REMARKS:

(1) ALU 150 RAIL WITH SPRING EXHAUST HOSE REEL. PROVIDE QUANITY OF THREE HOSE REEL TROLLEYS FOR EACH FUME EXTRACTOR TRACK SYSTEM.
(2) REEL HOSE TEMPERATURE RATED UP TO 800 DEG F.
(3) PROVIDE (3) PORTABLE GILLIG ADAPTER CARTS PER SECTION 23 34 00. REFER TO SECTION 23 34 00 FOR ADDITIONAL ACCESSORIES.

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CITY OF MADISON WISCONSIN

metro transit

CITY OF MADISON METRO TRANSIT PHASE 3A - MAINTENANCE AND DRIVER FACILITY IMPROVEMENTS

1101 EAST WASHINGTON AVE.
MADISON, WI 53703

ISSUED
04/08/21 BID SET
B 05/13/21 ADDENDUM #2

CONTRACT NO.: 8981
M&H NO.: 4503500-190896.03
DATE: APRIL 8, 2021
DESIGNED BY: DJG
DRAWN BY: RRW
CHECKED BY: SNW
DO NOT SCALE DRAWINGS

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HVAC SCHEDULES

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