# **MADISON PUBLIC LIBRARY MAINTENANCE & SUPPORT CENTER REMODEL**

# **1301 WEST BADGER ROAD**

## **DRAWING INDEX**

COVER

CODE REVIEW

A001

C000

C100 C101

C102

C200

C201 C202

C203 C300

L100

## CIVIL DRAWINGS

EXISTING SITE PLAN
DEMOLITION SITE PLAN
PROPOSED SITE PLAN
TURNING MOVEMENTS
PROPOSED GRADING & EROSION CONTROL PLAN
DETAILED GRADING PLAN
DETAILED GRADING PLAN
PROPOSED UTILITY PLAN
SITE PLAN DETAILS

### LANDSCAPE DRAWINGS

SITE PLANTING PLAN

J AG002 STANDARDS AND WALL TYPES	5
	5
AG002 STANDARDS AND WALL TYPE	-
	LING PLAN
AD101 DEMOLITION FLOOR PLAN	LING PLAN
AD121 DEMOLITION REFLECTED CEIL	
AD141 DEMOLITION ROOF PLAN	
AD201 DEMOLITION EXTERIOR ELEV	ATIONS
A101 FIRST FLOOR PLAN	
H A102 MEZZANINE FLOOR PLAN	
A121 FIRST FLOOR REFLECTED CE	ILING PLAN
A122 MEZZANINE REFLECTED CEIL	ING PLAN
A131 FIRST FLOOR FINISH PLAN	
A132 FURNITURE AND EQUIPMENT	PLAN
A141 ROOF PLAN	
A151 ENLARGED FLOOR PLAN	
A152 ENLARGED RESTROOM FLOO	R PLANS
A201 EXTERIOR ELEVATIONS	
G A301 BUILDING SECTIONS	
A311 WALL SECTIONS	
A312 WALL SECTIONS	
A313 WALL SECTIONS	
A314 WALL SECTIONS	
A321 ENLARGED STAIR PLANS, SEC	CTIONS, & ELEVATIONS
A331 PLAN DETAILS	
A332 PLAN DETAILS	
F A351 SECTION DETAILS	
A352 SECTION DETAILS	
A401 INTERIOR ELEVATIONS	
A402 INTERIOR ELEVATIONS	
A403 INTERIOR ELEVATIONS	
A404 INTERIOR ELEVATIONS	
A501 CASEWORK SECTIONS	
A601 DOOR ELEVATIONS, DETAILS,	
A602 FINISH SCHEDULE, SPECIFICA	TIONS, AND DETAILS

### STRUCTURAL DRAWINGS

**GENERAL NOTES** FOUNDATION PLAN MEZZANINE FRAMING PLAN HIGH ROOF FRAMING PLAN FOUNDATION DETAILS FRAMING DETAILS FRAMING DETAILS

### MECHANICAL DRAWINGS

S000

S101

S102

S103 S201 S301

S302

M000

### **COVER SHEET - MECHANICAL** FIRST FLOOR DEMOLITION - MECHANICAL **ROOF DEMOLITION PLAN - MECHANICAL** SITE PLAN - MECHANICAL FIRST FLOOR - PIPING **FIRST FLOOR - MECHANICAL ROOF PLAN - MECHANICAL** FLOW DIAGRAM - MECHANICAL VRF PIPING DIAGRAMS **DETAIL - MECHANICAL DETAIL - MECHANICAL GEOTHERMAL DETAILS - MECHANICAL CONTROL DIAGRAMS - MECHANICAL CONTROL DIAGRAMS - MECHANICAL CONTROL DIAGRAMS - MECHANICAL CONTROL DIAGRAMS - MECHANICAL** SCHEDULES - MECHANICAL

SCHEDULES - MECHANICAL

## **ARCHITECT OF RECORD: OPN ARCHITECTS**

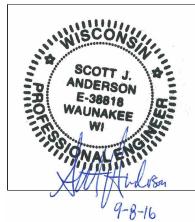


I hereby certify these plans and specifications were prepared by me or under my direct personal supervision and that I am a duly Registered Architect under the laws of the State of Wisconsin. Signature: Very 7. Reyalde Name: WESLEY REYNOLDS Dicipline: ARCHITECTURE WI Registration No: 11709-5 Expiration date: 07/31/2018

Sheets covered by this seal: LISTED ABOVE AS "ARCHITECTURAL"

# **CIVIL ENGINEER:**

**SNYDER & ASSOCIATES** 



I hereby certify that this engineering and land survey document and the related work was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer and Land Surveyor under the laws of the State of Iowa.

Name: Scott Anderson

Discipline: Civ

WI Registration No: E-38818-6 Expiration date: 07-31-2018 Sheets covered by this seal: \_\_\_\_\_LISTED ABOVE AS "CIVIL"

## 12

### ELECTRICAL DRAWINGS

E000

E050

ELD101.1

EPD101.

EL101.1

EP101.1

ES101.1

E400

E500

P000

PD100.1

PD101.1

PD102.1

P100.1

P101.1

P102.1

P200

P500

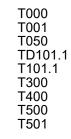
P300 P301

E501

ELECTRICAL COVER SHEET SITE PLAN - ELECTRICAL **FIRST FLOOR DEMOLITION - LIGHTING** FIRST FLOOR DEMOLITION - POWER **FIRST FLOOR - LIGHTING FIRST FLOOR - POWER FIRST FLOOR - FIRE ALARM** ONE LINE DIAGRAM ELECTRICAL SCHEDULES ELECTRICAL SCHEDULES

### PLUMBING DRAWINGS

**COVER SHEET - PLUMBING** UNDERFLOOR DEMOLITION - PLUMBING FIRST FLOOR DEMOLITION - PLUMBING **ROOF PLAN DEMOLITION - PLUMBING** UNDERFLOOR - PLUMBING **FIRST FLOOR - PLUMBING** ROOF PLAN - PLUMBING DETAILS - PLUMBING SAN VENT RISER DIAGRAMS - PLUMBING DOMESTIC RISER DIAGRAMS - PLUMBING MATERIAL LIST - PLUMBING



### F000 FD101.1 F101.1 F200

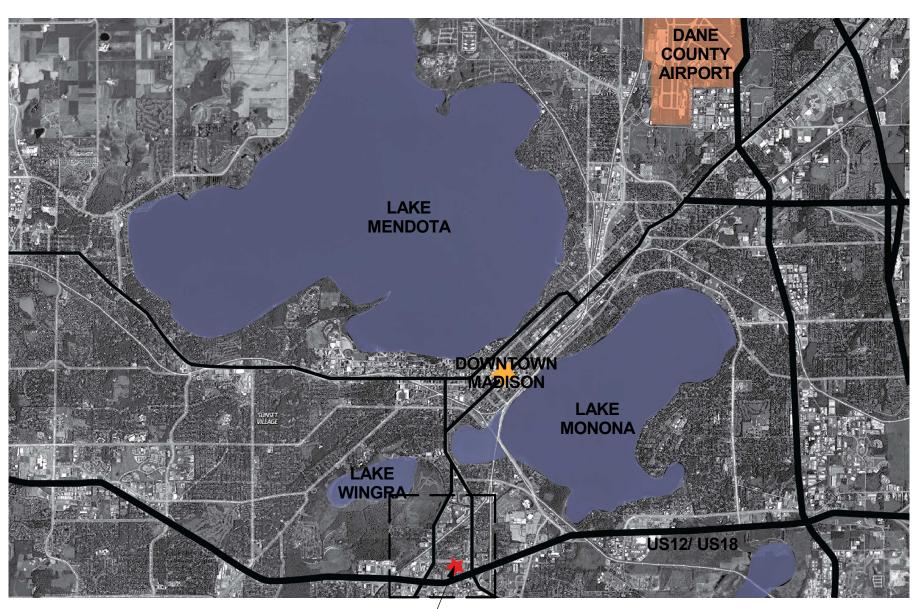
**TECHNOLOGY DRAWINGS** 

TECHNOLOGY COVER SHEET GENERAL TECHNOLOGY EQUIPMENT SCHEDULE SITE PLAN - TECHNOLOGY FIRST FLOOR DEMOLITION - TECHNOLOGY FIRST FLOOR - TECHNOLOGY **ENLARGED PLANS - TECHNOLOGY RISER DIAGRAMS - TECHNOLOGY** DETAILS AND SCHEDULES - TECHNOLOGY **DETAILS AND SCHEDULES - TECHNOLOGY** 

### FIRE PROTECTION DRAWINGS

FIRE PROTECTION COVER SHEET **FIRST FLOOR DEMOLITION - FIRE PROTECTION** FIRST FLOOR - FIRE PROTECTION FIRE PROTECTION DETAILS AND SCHEDULES

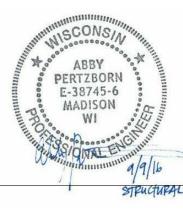
## LOCATION MAP



Area Location Plan Not to scale

## **STRUCTURAL ENGINEER:**

## **KJWW ENGINEERING**



I hereby certify that this engineering document was prepared by me or under my direct supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa. Name: Abby A. Pertzborn

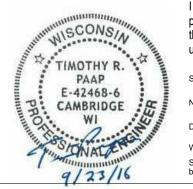
Discipline: Structural WI Registration No: E-38745-6 Expiration date: 07-31-2018 Sheets covered by this seal:\_\_\_\_\_LISTED ABOVE AS "STRUCTURAL"

## **MECHANICAL ENGINEER:**

**KJWW ENGINEERING** 



## **ELECTRICAL ENGINEER: KJWW ENGINEERING**



Name: <u>Tim Paa</u>p Discipline: Electrical

# **MADISON, WI 53713**

## 1301 W. BADGER ROAD -

I hereby certify that this engineering document was prepared by me or under my direct supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

WI Registration No: E-42468-6 Expiration date: 07-31-2018 Sheets covered by this seal: \_\_\_\_\_ LISTED ABOVE AS "ELECTRICAL"

PUBLIC IMPROVEMENT PROJECT APPROVED:	PUBLIC IMPROVEMENT DESIGN
RES-16-00903	- Sur -
FILE ID: 45010	CITY ENGINEER
DATE December 6, 2016	12/14/16
BY THE COMMON COUNCIL OF MADISON, WI	DATE



OPN ARCHITECTS 301 NORTH BROOM S-TREET SUITE100 MADISON, WI 53703 608-819-0260 PHONE

608-819-0261 FAX www.opnarchitects.com opn@opnarchitects.com

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Owner MADISON PUBLIC LIBRARY

201 W Mifflin St Madison, WI 53703

General Contractor

Project Madison Public Library Maintenance & Support Center Remodel 1301 West Badger Road Madison, WI 53713

Consultants **CIVIL ENGINEER** Snyder & Associates, Inc. 5010 Voges Road Madison, WI 53718 P. 608.838.0444

- STRUCTURAL ENGINEER KJWW Engineering Consultants 1800 Deming Way Middleton, WI 53562 P. 608.223.9600
- MECHANICAL ENGINEER KJWW Engineering Consultants 1800 Deming Way Middleton, WI 53562 P. 608.223.9600
- ELECTRICAL ENGINEER KJWW Engineering Consultants 1800 Deming Way Middleton, WI 53562 P. 608.223.9600

Key Plan

### Sheet Issue Date Bid Set

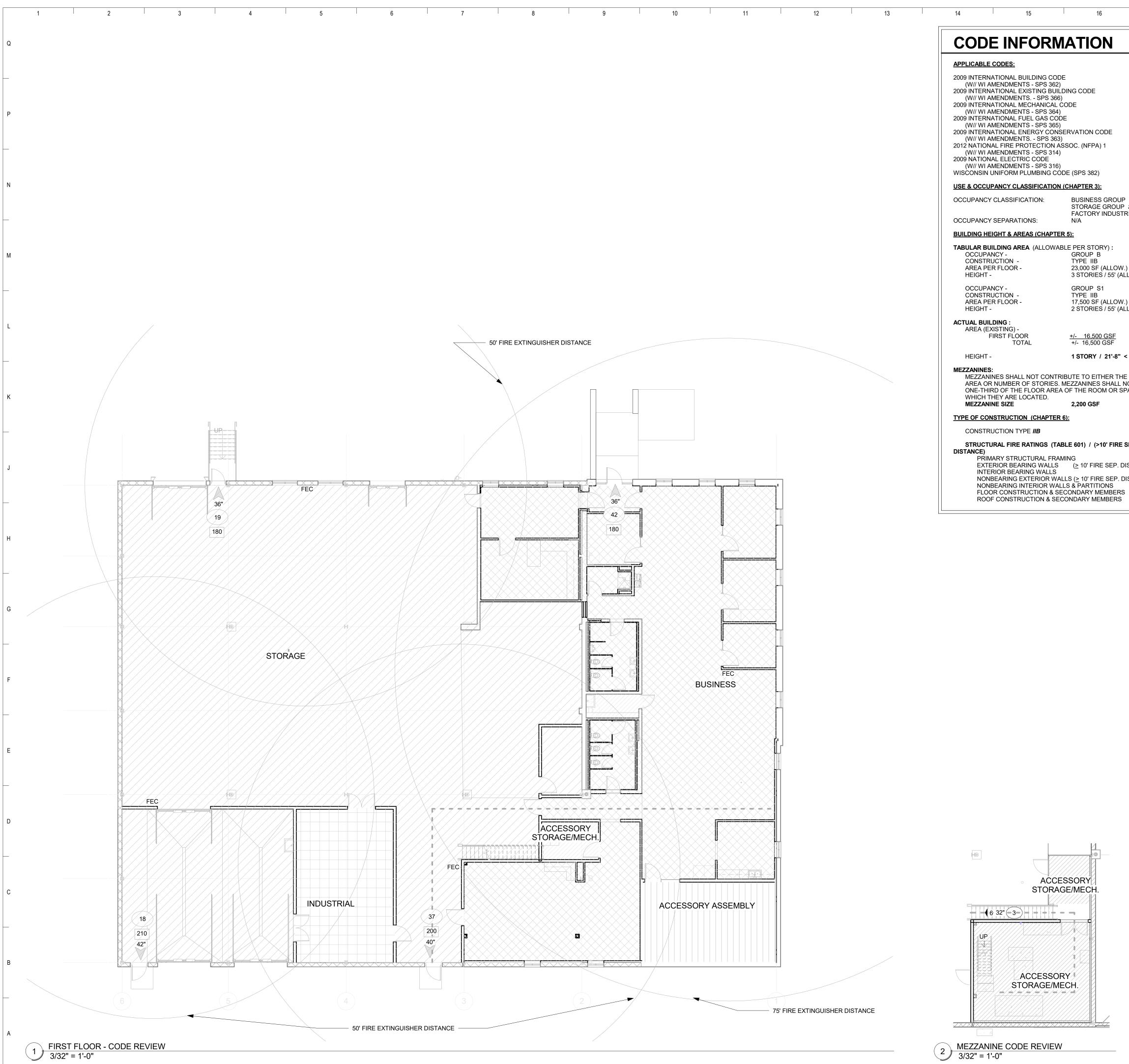
Previous Issue Dates

12/09/2016

**Revision Dates** 

COVER SHEET





' 17	' 18 ' 19 ' 20 ' 21
Ν	
	FIRE PROTECTION (CHAPTER 9) :
	AUTOMATIC SPRINKLER SYSTEM & MONITORING SYSTEM (903) <b>PROVIDED</b>
	FIRE EXTINGUISHERS (906) MAX. TRAVEL DISTANCE = 75' <b>PROVIDED</b>
	FIRE ALARM & SMOKE DETECTION SYSTEM (907) PROVIDED
DE	MEANS OF EGRESS (CHAPTER 10) :
	1004 DESIGN OCCUPANT LOAD BUSINESS (NON-ASSEMBLY) = 4,540 SF
	100 GSF / OCCUPANT : 46 BUSINESS (UNCONCEN. ASSEMBLY / MEETING ROOMS) = <b>544</b> SF
	15 NSF / OCCUPANT : 37 MECHANICAL / ACCESSORY STORAGE = <b>1,098</b> SF 300 GSF / OCCUPANT : 4
GROUP <b>B</b> GROUP <b>S1</b>	WAREHOUSE / STORAGE = 10,970 SF 500 GSF / OCCUPANT : 22
NDUSTRIAL <b>F1</b>	FACTORY INDUSTRIAL / SHOP = <b>764</b> SF 100 GSF / OCCUPANT : 8
	TOTAL BUILDING OCCUPANTS (PER CODE): 116
Y):	1005 MIN. REQ'D. EGRESS WIDTH EGRESS WIDTH BUILDING (0.2" / OCCUP) - REQ'D.: 23.2" < PROV.: 196"
ALLOW.) / 55' (ALLOW.)	1014.3 COMMON PATH OF EGRESS MAXIMUM COMMON PATH =< 100 FT REQUIRED AS PER 1014.3
ALLOW.)	<b>1016.1 TRAVEL DISTANCE</b> MAXIMUM TRAVEL DISTANCE = < 250 FT REQUIRED AS PER 1016.1
/ 55' (ALLOW.)	1018.1 CORRIDORS(SERVING > 30 OCCUPANTS)SPRINKLERED BLDGS -0-HR
<u>GSF</u> SSF	1018.4 DEAD ENDS (CORRIDORS) MAX. LENGTH OF A DEAD END -50'-0" (SPRINKLERED BUILDING)
21'-8" < 55 FT	1021.1 MINIMUM NUMBER OF EXITS FIRST FLOOR -REQ'D.: 2PROV.: 5
IER THE BUILDING	PLUMBING CALCULATIONS (CHAPTER 29) :
SHALL NOT EXCEED 1 OR SPACE IN	<b>DESIGN OCCUPANT LOAD</b> 116/2 = 58
	(DESIGN LOAD) PER CODE ON PLANS
	WC:       1 / 25 (1st 50 OCCUPANTS)         1 / 50 (REMAINING OCCUPANTS)         MEN:       3 WC REQ'D.         3 WC REQ'D.       3 PROV.         WOMEN:       3 WC REQ'D.
0' FIRE SEP. SEP. DIST) 0 HR 0 HR SEP. DIST) 0 HR NS 0 HR MBERS 0 HR MBERS 0 HR	LAV: 1 / 40 (1st 80 OCCUPANTS) 1 / 80 (REMAINING OCCUPANTS) MEN: 2 LAV REQ'D. 2 PROV. WOMEN: 2 LAV REQ'D. 2 PROV. DF: 1 / 100 OCCUPANTS = 2 DF REQ'D. 2 PROV. SS: 1 SS REQ'D. 1 PROV. SHWR: 0 REQ'D. 1 PROV.

18

19

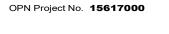
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21

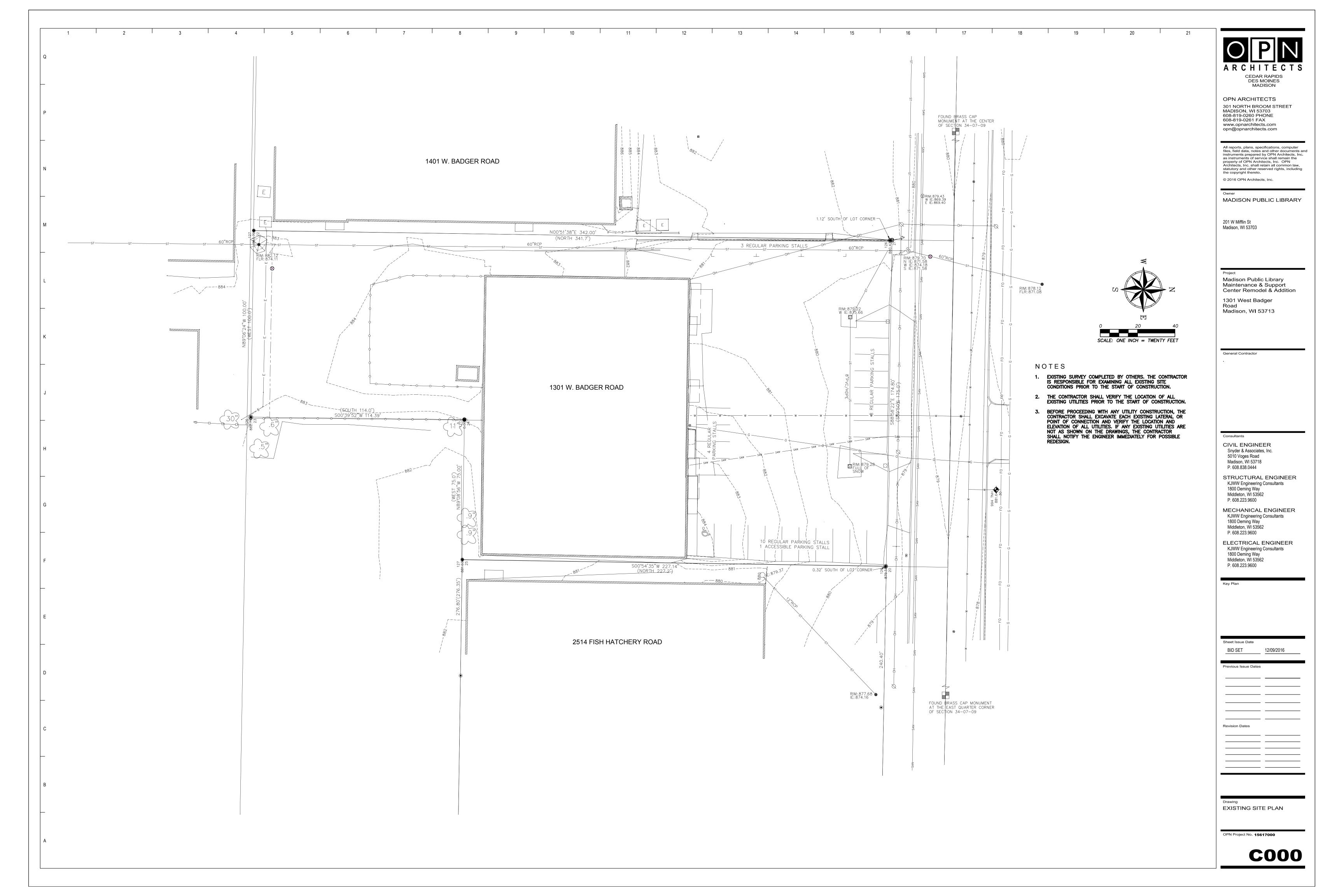
POINT OF EGRESS LEAR WIDTH PROVIDED)	34" ➤
EGRESS (OCCUPANTS SERVED)	(52)
EGRESS (CAPACITY)	170
AIR EGRESS (CAPACITY)	160
1-HR FIRE- RESISTANCE RATING	
MAX. PATH OF TRAVEL	
FIRE EXTINGUISHER	FEC
OCCUPANCY LEGEND	)
OCCUPANCY LEGEND (B) - 100 SF/PI	
	ERSON
(B) - 100 SF/PI	ERSON
(B) - 100 SF/PI (S1) - 500 SF/PI	PERSON

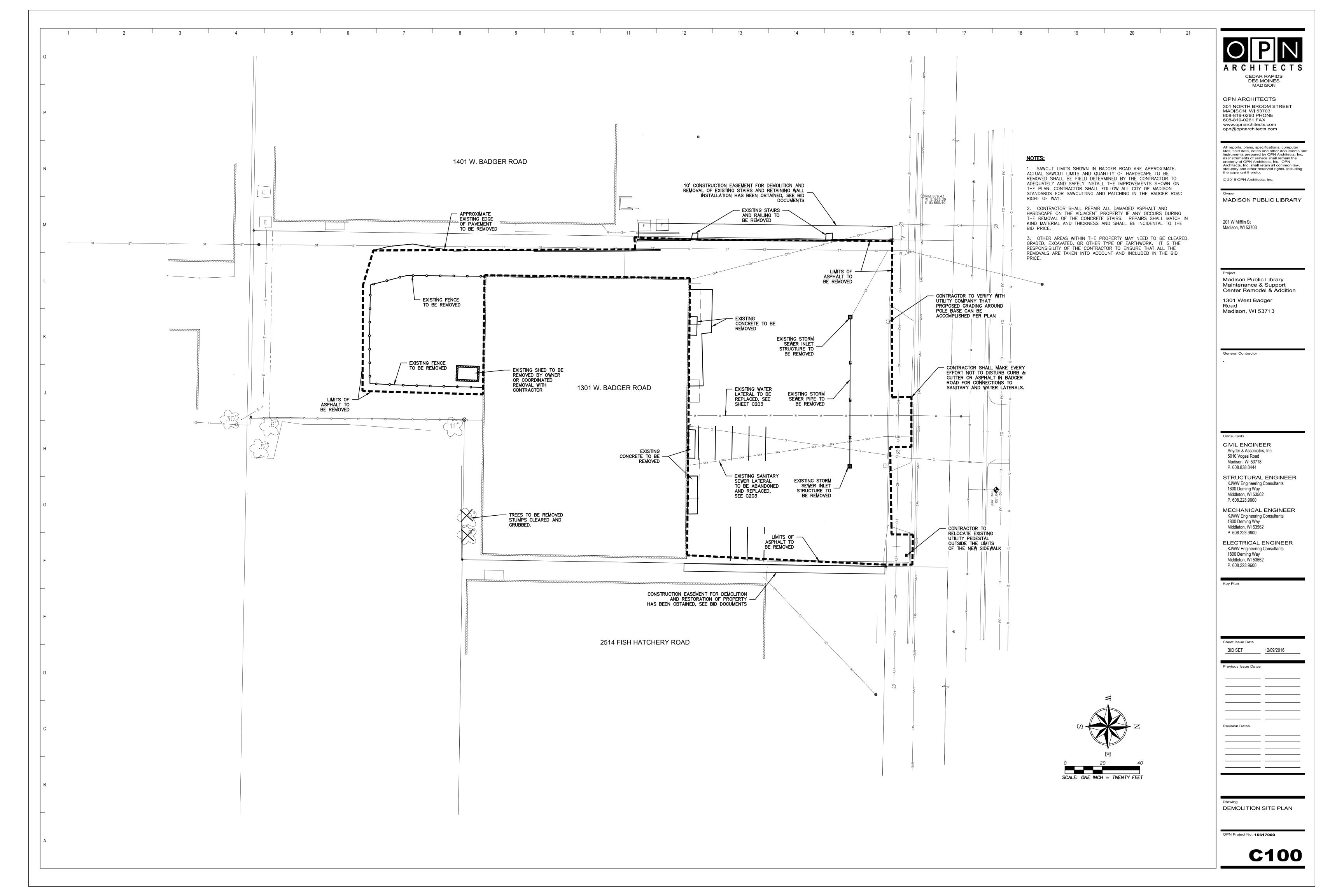
AR CEDAR RAPIDS DES MOINES MADISON OPN ARCHITECTS 301 NORTH BROOM S-TREET, SUITE100 MADISON, WI 53703 608-819-0260 PHONE 608-819-0261 FAX www.opnarchitects.com opn@opnarchitects.com All reports, plans, specifications, computer files, field data, notes and other documents and instruments prepared by OPN Architects, Inc. as instruments of service shall remain the property of OPN Architects, Inc. OPN Architects, Inc. shall retain all common law, statutory and other reserved rights, including the copyright thereto. © 2016 OPN Architects, Inc. Owner MADISON PUBLIC LIBRARY 201 W Mifflin St Madison, WI 53703 Project Madison Public Library Maintenance & Support Center Remodel 1301 West Badger Road Madison, WI 53713 General Contractor Consultants **CIVIL ENGINEER** Snyder & Associates, Inc. 10 Voges Road adison, WI 53718 608.838.0444 RUCTURAL ENGINEER IWW Engineering Consultants 800 Deming Way liddleton, WI 53562 . 608.223.9600 CHANICAL ENGINEER JWW Engineering Consultants 800 Deming Way 4iddleton, WI 53562 608.223.9600 ECTRICAL ENGINEER IWW Engineering Consultants 800 Deming Way liddleton, WI 53562 . 608.223.9600 t Issue Date 12/09/2016 ous Issue Dates on Dates \_\_\_\_\_

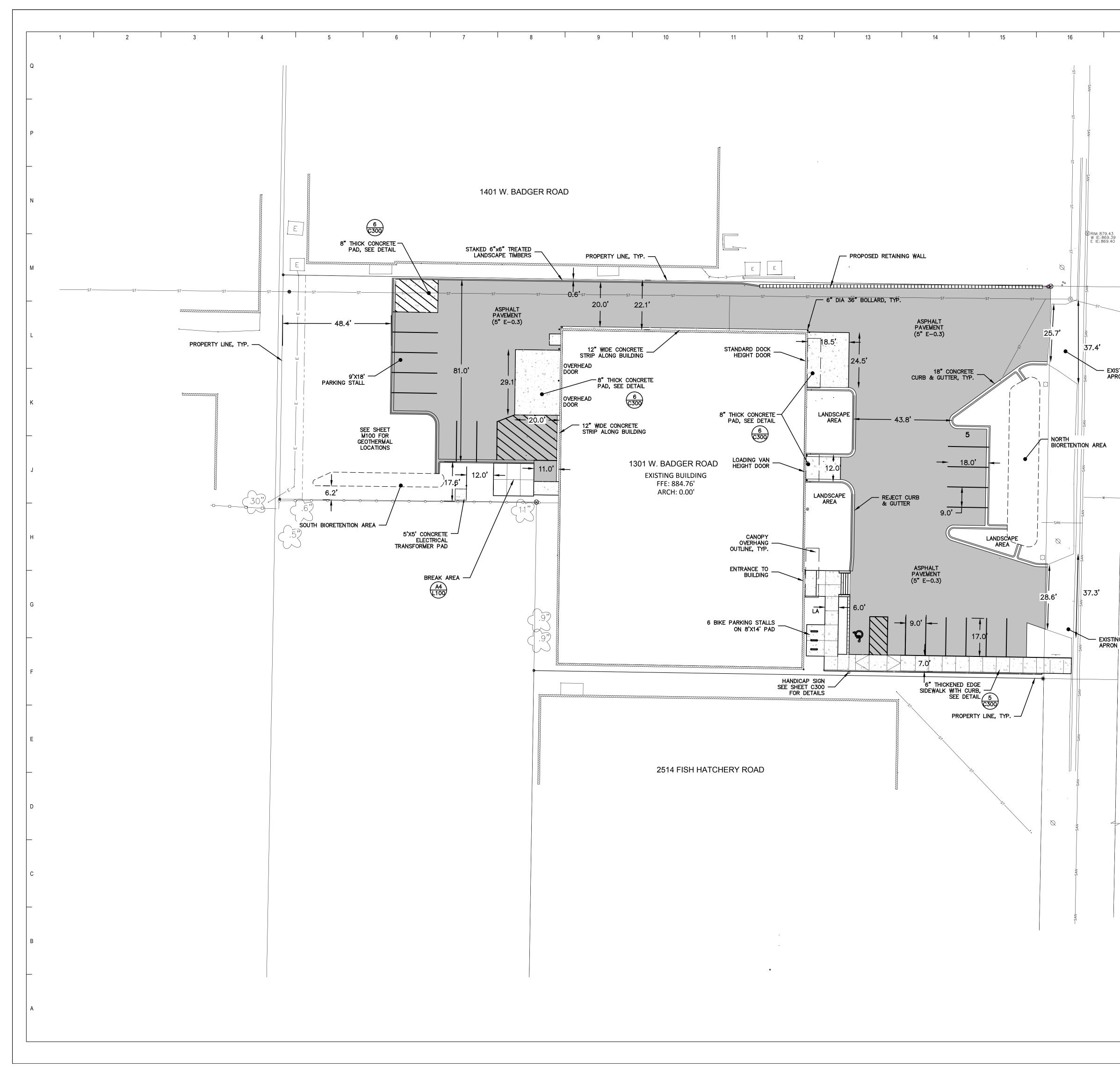
Drawing CODE REVIEW



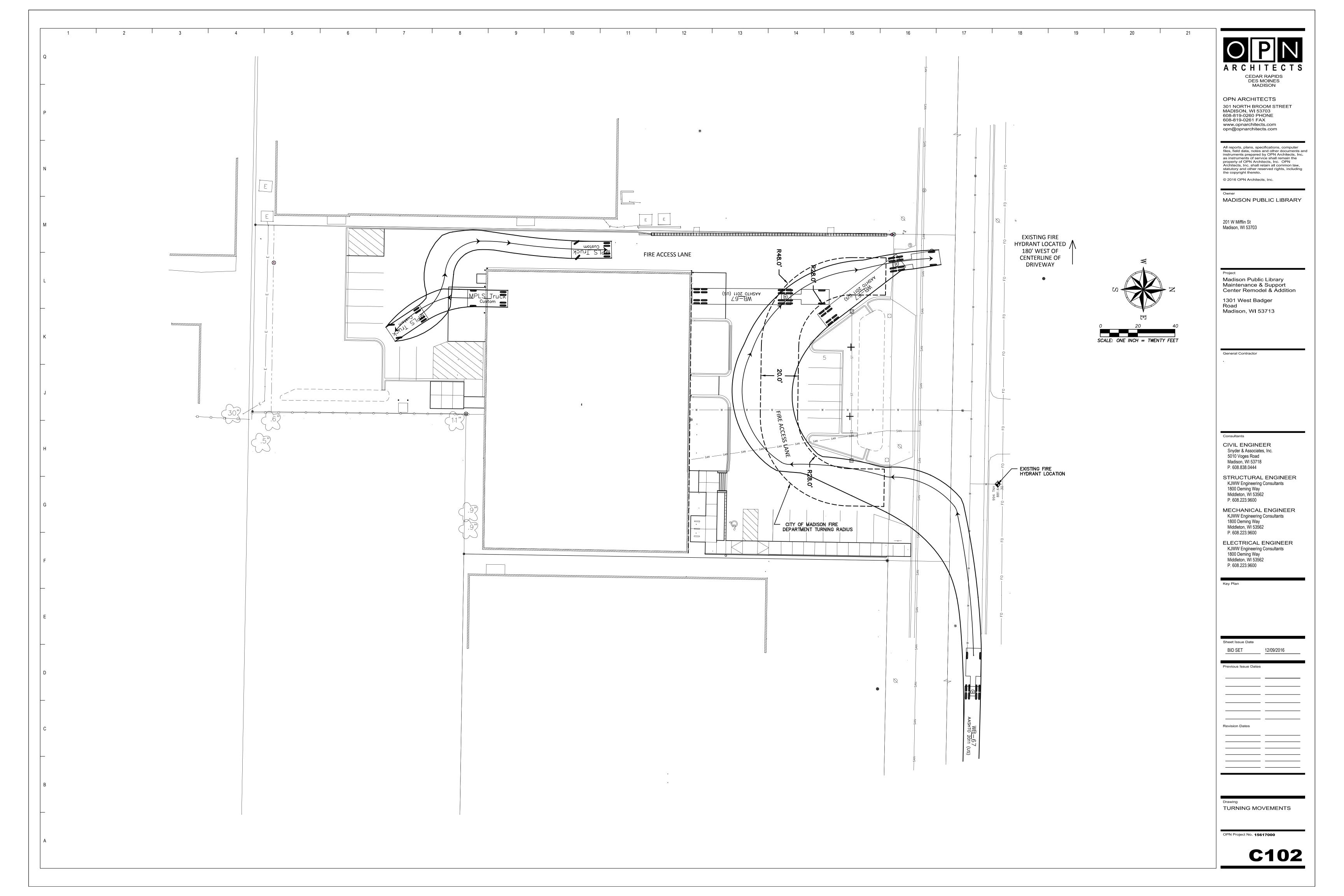


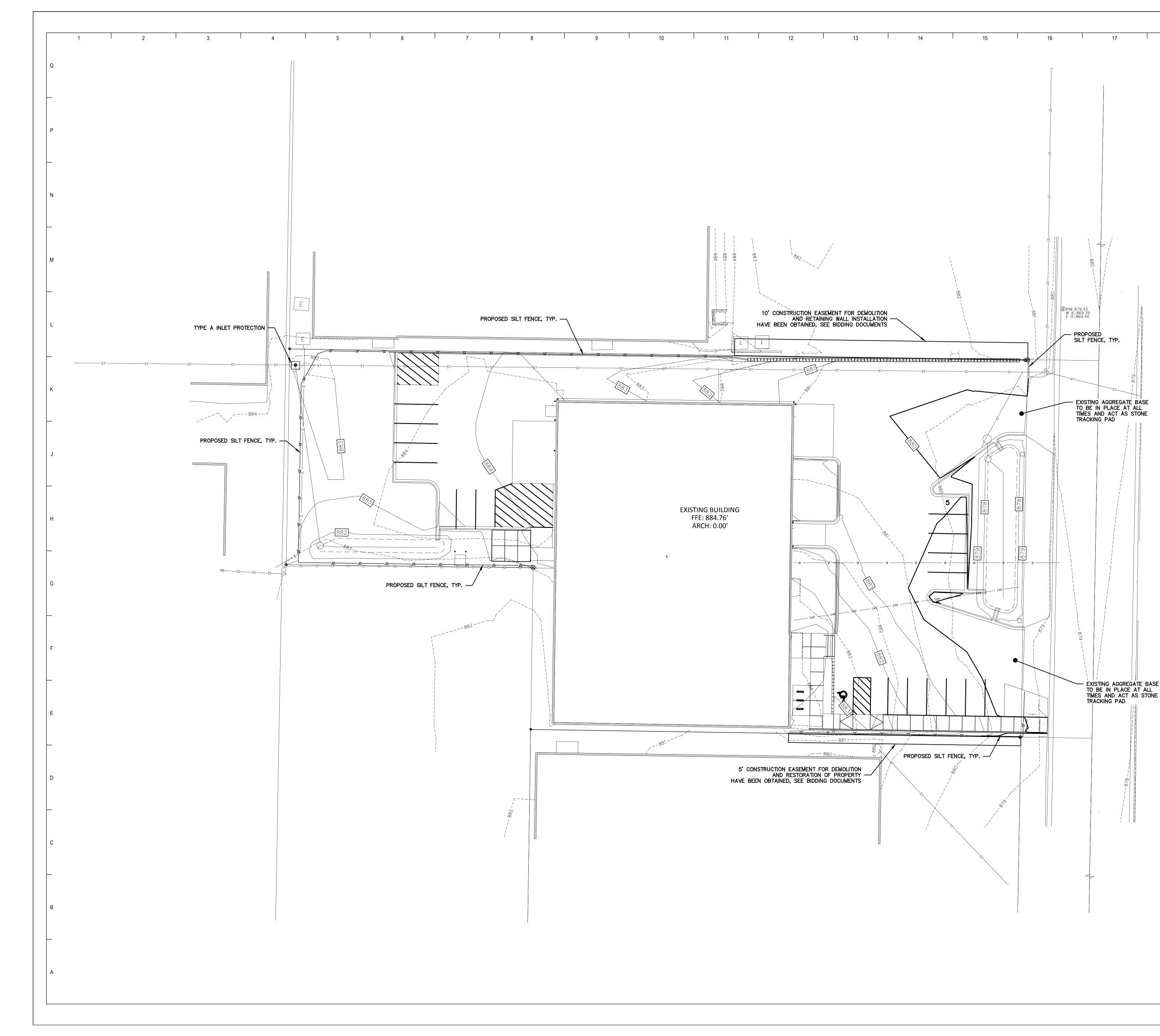




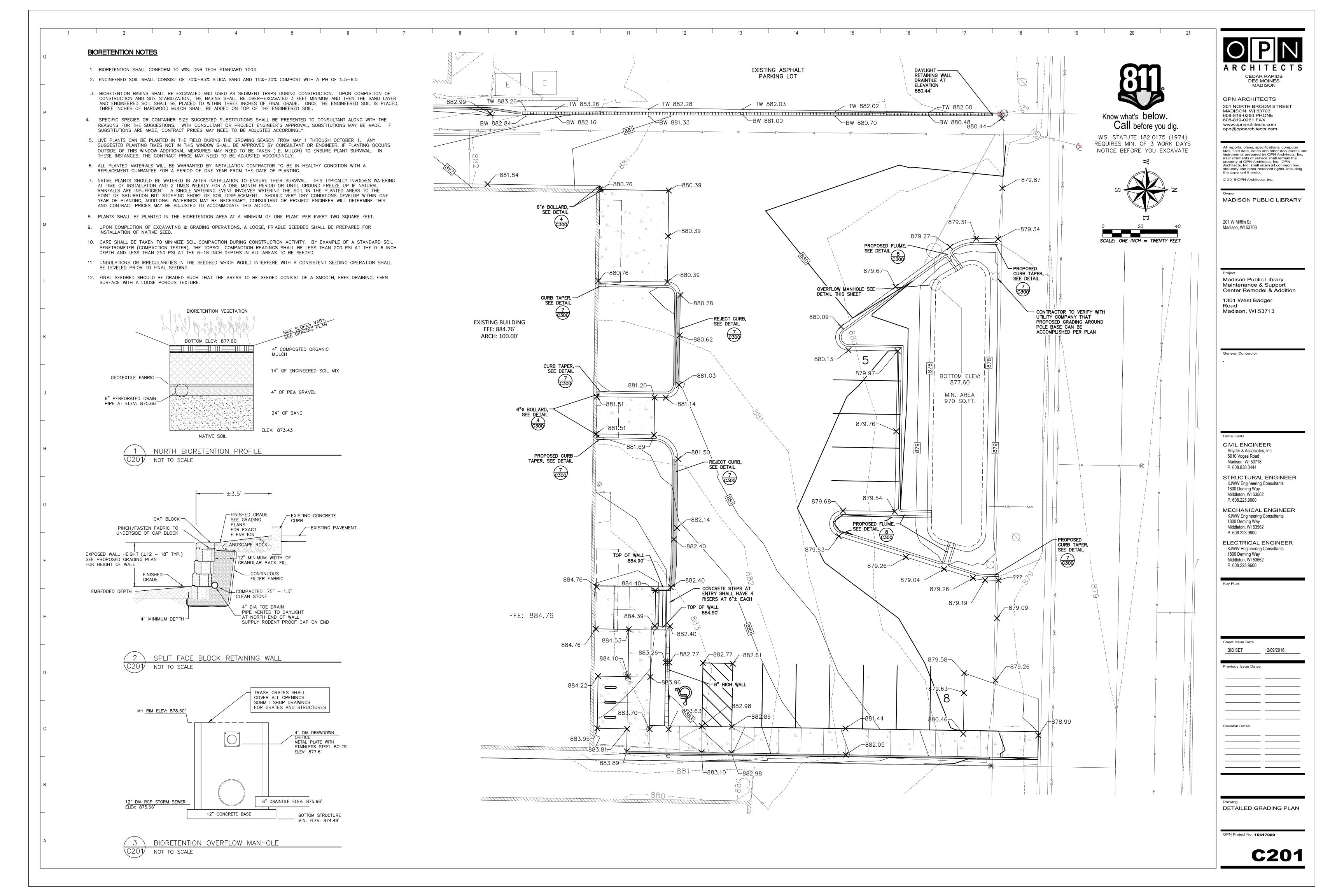


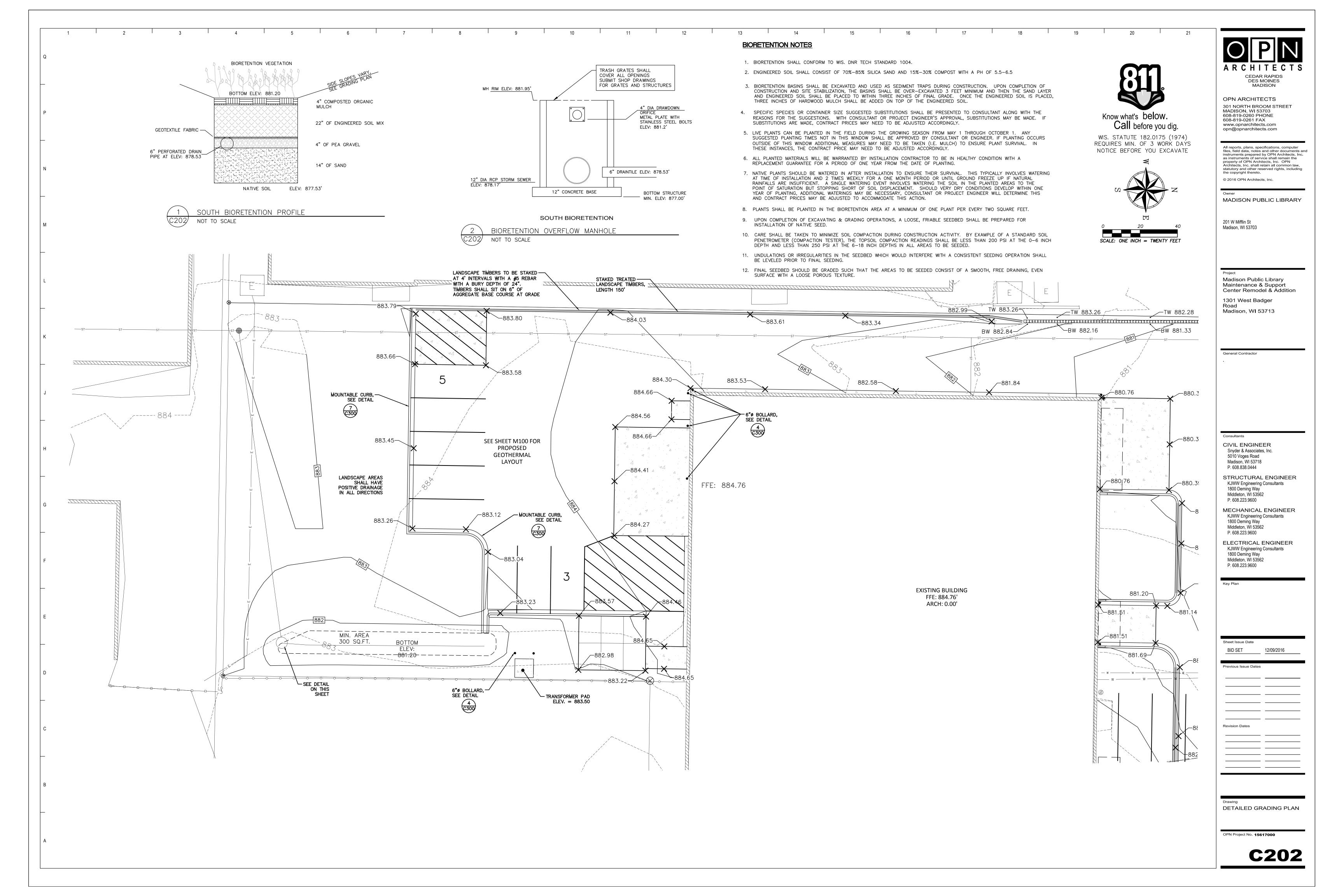
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	Know what's below. Call before you dig. WIS. STATUTE 182.0175 (1974) REQUIRES MIN. OF 3 WORK DAYS NOTICE BEFORE YOU EXCAVATE	A R C H I T E C T S A R C H I T E C T S CEDAR RAPIDS DES MOINES MADISON OPN ARCHITECTS 01 NORTH BROOM STREET MADISON, WI 53703 08-819-0260 PHONE 608-819-0261 FAX www.opnarchitects.com opn@opnarchitects.com
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∧	C C C C C C C C C C C C C C C C C C C	201 W Mifflin St Madison, WI 53703
STING DRIVEWAY RON TO REMAIN		Project Madison Public Library Maintenance & Support Center Remodel & Addition 1301 West Badger Road Madison, WI 53713
		General Contractor
994 TNH 881.64	ZONING DISTRICT: IL INDUSTRIAL LIMITED TOTAL SITE AREA: 51,142 SF	Consultants CIVIL ENGINEER Snyder & Associates, Inc. 5010 Voges Road Madison, WI 53718 P. 608.838.0444 STRUCTURAL ENGINEER KJWW Engineering Consultants 1800 Deming Way Middleton, WI 53562 P. 608.223.9600 MECHANICAL ENGINEER KJWW Engineering Consultants 1800 Deming Way
NG DRIVEWAY TO REMAIN	PARKING REQUIRED PARKING PROVIDED 16 STALLS PER CODE, FOR 1-25 TOTAL PARKING STALLS	Middleton, WI 53562 P. 608.223.9600 ELECTRICAL ENGINEER KJWW Engineering Consultants 1800 Deming Way Middleton, WI 53562 P. 608.223.9600
Se	1 HANDICAP PARKING STALL IS SHOWN ON PLAN	Key Plan
	UTILITY COMPANY INFORMATION ELECTRICITY - ALLIANT - 608-233-2014 NATURAL GAS - MG&E - 608-252-7373 PHONE- AT&T - 800-778-9140 COMMUNICATIONS- CHARTER - 877-906-9121 SANITARY SEWER - CITY OF MADISON - 608-266-4430 WATER SERVICE- CITY OF MADISON - 608-266-4430 WATER SERVICE- CITY OF MADISON - 608-266-4651 <b>NOTE:</b> CONTRACTOR SHALL FIELD VERIFY ALL EXISTING UTILITIES ON AND ADJACENT TO THE SITE PRIOR TO THE START OF THE PROJECT. RADII ARE FROM BACK OF CURB DIMENSIONS ARE FROM FACE OF CURB ALL PARKING LOT STRIPING SHALL BE 4" WIDE WHITE PAINT LINES AND FOLLOW CITY OF MADISON STANDARD FOR HANDICAP STRIPING.	Sheet Issue Date   BID SET   Previous Issue Dates
		Drawing PROPOSED SITE PLAN OPN Project No. 15617000

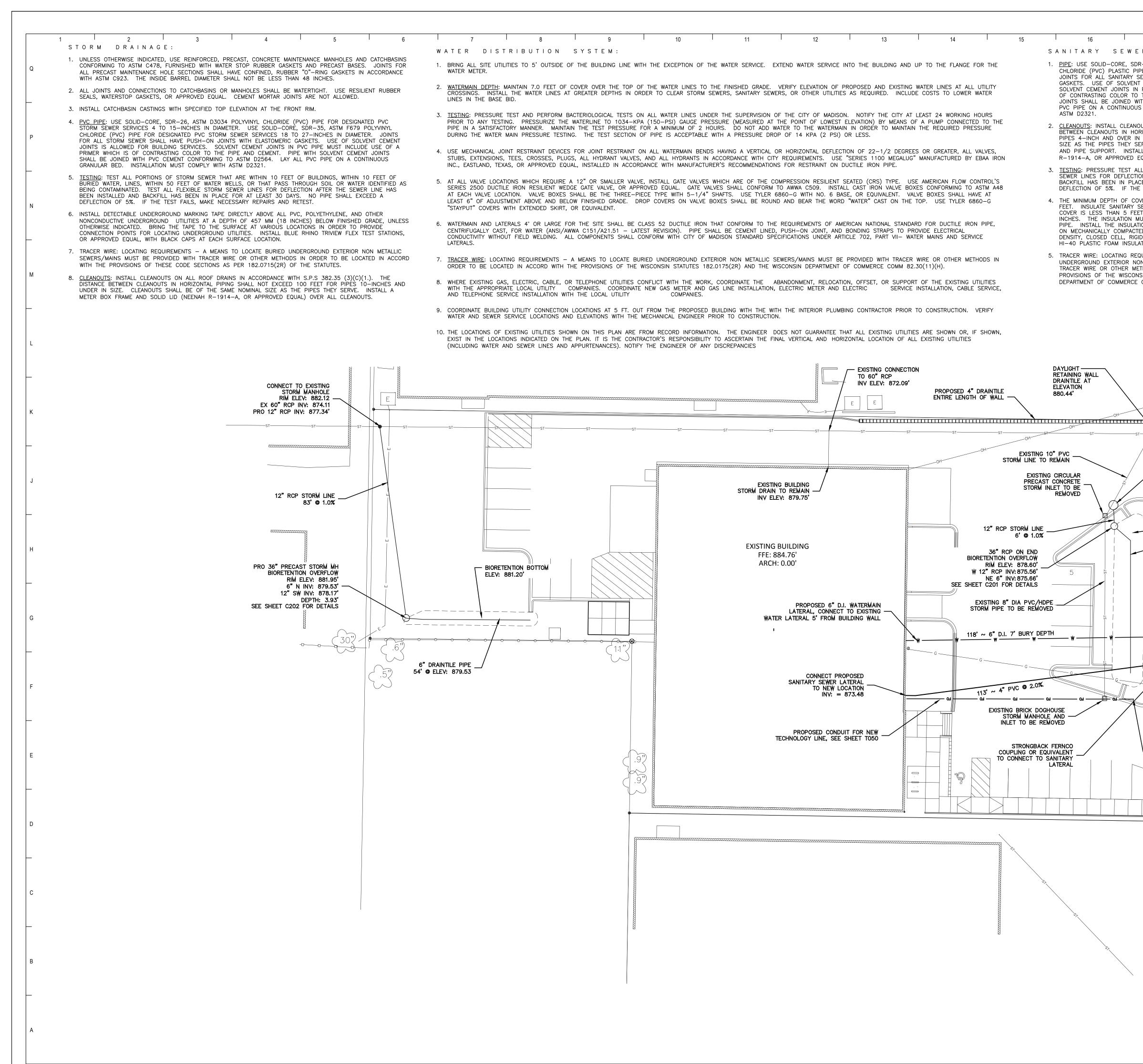




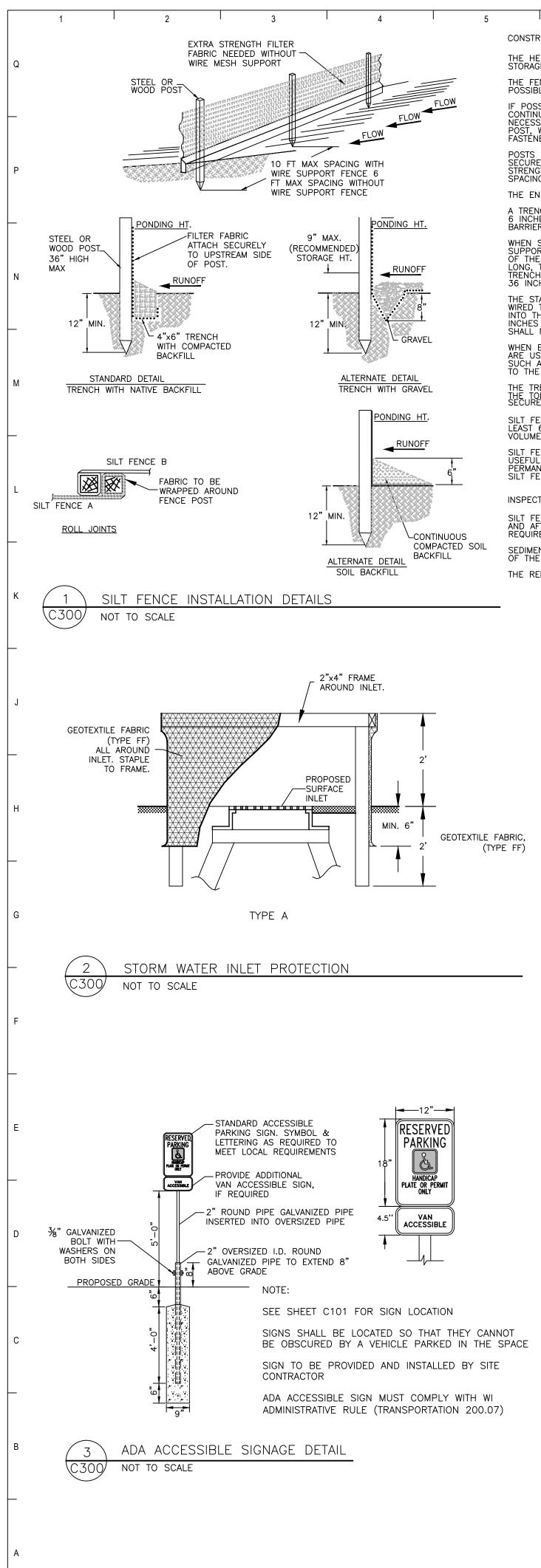
1 18	1 19 20 21 <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Constant</b> <b>Const</b>	<image/> <section-header><section-header><section-header><section-header><text><text><text><text><text></text></text></text></text></text></section-header></section-header></section-header></section-header>
SE	<ul> <li>20 20 40</li> <li>CALE: ONE INCH = TWENTY FEET</li> <li>SCALE: ONE INCH = TWENTY FEET</li> </ul> NOTES: <ol> <li>ALL SILT FENCE MUST BE INSTALLED BY THE CONTRACTOR AND INSPECTED BY THE CITY PRIOR TO ANY SITE WORK.</li> <li>SITE EROSION CONTROL MEASURES MUST BE IN PLACE AT ALL TIMES. SHOULD DEVICES BE REMOVED FOR WORK ACCESS, THEY SHALL BE REINSTALLED AT THE END OF EACH WORK DAY UNTIL PAVEMENTS HAVE BEEN INSTALLED AND ALL LANDSCAPE AREAS HAVE BEEN MULCHED AND SODDED. SEEDED AREAS MUST EXHIBIT MINIMUM OF 70% SOIL COVERAGE.</li> <li>REFER TO THE EROSION CONTROL PLAN NOTES AND DETAIL SHEETS FOR MORE INFORMATION.</li> <li>BIORETENTION BASINS SHALL BE OVER EXCAVATED AND USED FOR SEDIMENTATION BASINS SHALL BE OVER EXCAVATED AND USED FOR SEDIMENTATION BASINS DURING CONSTRUCTION. ALL SEDIMENT AND DEBRIS SHALL BE REMOVED PRIOR TO SAND, ROCK, AND ENGINEERED SOIL INSTALLATION. THE CONTRIBUTING WATERSHED TO THE BIORETENTION BASIN SHALL BE STABILIZED PRIOR TO BRINGING THE BASIN ONLINE.</li> </ol>	Madison, WI 53703 Project Madison Public Library Maintenance & Support Center Remodel & Addition 1301 West Badger Road Madison, WI 53713 General Contractor
	5. TEMPORARY CONSTRUCTION EASEMENTS HAVE BEEN OBTAINED FOR WORK ALONG EAST AND WEST PROPERTY LINES. SEE BIDDING DOCUMENTS FOR MORE INFORMATION.	Consultants CIVIL ENGINEER Snyder & Associates, Inc. 5010 Voges Road Madison, WI 53718 P. 608.838.0444 STRUCTURAL ENGINEER KJWW Engineering Consultants 1800 Deming Way Middleton, WI 53562 P. 608.223.9600 MECHANICAL ENGINEER KJWW Engineering Consultants 1800 Deming Way Middleton, WI 53562 P. 608.223.9600 ELECTRICAL ENGINEER KJWW Engineering Consultants
BASE ALL TONE		1800 Deming Way         Middleton, WI 53562         P. 608.223.9600         Key Plan         Sheet Issue Date         BID SET       12/09/2016         Previous Issue Dates
		Image: Drawing         PROPOSED GRADING & EROSION CONTROL PLAN         DOPN Project No. 15617000







17 18 19 20 21	
R : R-35, ASTM D3034 (OR APPROVED EQUAL) POLYVINYL PE FOR ALL DESIGNATED PVC SANITARY SEWER SERVICES. EWER SHALL HAVE PUSH-ON JOINTS WITH ELASTOMERIC CEMENT JOINTS IS ALLOWED FOR BUILDING SERVICES. PVC PIPE MUST INCLUDE USE OF A PRIMER WHICH IS THE PIPE AND CEMENT. PIPE WITH SOLVENT CEMENT TH PVC CEMENT CONFORMING TO ASTM D2564. LAY ALL S GRANULAR BED. INSTALLATION MUST COMPLY WITH	O P N A R C H I T E C T S CEDAR RAPIDS DES MOINES MADISON
UTS ON ALL SANITARY SEWER SERVICES. THE DISTANCE RIZONTAL PIPING SHALL NOT EXCEED 100 FEET FOR SIZE. CLEANOUTS SHALL BE OF THE SAME NOMINAL RIVE. INCLUDE FROST SLEEVES AND CONCRETE FRAME LL A METER BOX FRAME AND SOLID LID (NEENAH QUAL) OVER ALL CLEANOUTS. L SANITARY SEWER LINES. TEST ALL FLEXIBLE SANITARY WIS. STATUTE 182.0175 (1974)	OPN ARCHITECTS 301 NORTH BROOM STREET MADISON, WI 53703 608-819-0260 PHONE 608-819-0261 FAX www.opnarchitects.com opn@opnarchitects.com
L SANITARY SEWER LINES. TEST ALL FLEXIBLE SANITARY ON AFTER THE SEWER LINE HAS BEEN INSTALLED AND CE FOR AT LEAST 30 DAYS. NO PIPE SHALL EXCEED A TEST FAILS, MAKE NECESSARY REPAIRS AND RETEST. VER FOR SANITARY SEWER WITHOUT INSULATION IS 5 SEWER SERVICES AT LOCATIONS WHERE THE DEPTH OF T. PROVIDE A MINIMUM INSULATION THICKNESS OF 2	All reports, plans, specifications, computer files, field data, notes and other documents and instruments prepared by OPN Architects, Inc. as instruments of service shall remain the property of OPN Architects, Inc. OPN Architects, Inc. shall retain all common law, statutory and other reserved rights, including the copyright thereto.
UST BE AT LEAST 4 FEET WIDE AND CENTERED ON THE ION BOARDS 6 INCHES ABOVE THE TOPS OF THE PIPES ED AND LEVELED PIPE BEDDING MATERIAL. USE HIGH D BOARD MATERIAL EQUIVALENT TO DOW STYROFOAM ITION.	© 2016 OPN Architects, Inc. Owner MADISON PUBLIC LIBRARY
N METALLIC SEWERS/MAINS MUST BE PROVIDED WITH THODS IN ORDER TO BE LOCATED IN ACCORD WITH THE SIN STATUTES 182.0175(2R) AND THE WISCONSIN COMM 82.30(11)(H).	201 W Mifflin St Madison, WI 53703
PIE: 869.40 EXISTING 10" PVC TIES INTO EXITING STORM LINE EXACT LOCATION OF TIE IN UNKNOWN OH	Project Madison Public Library Maintenance & Support Center Remodel & Addition 1301 West Badger Road Madison, WI 53713
STORM MH #1 48" DIA PRECAST DOGHOUSE TO EXISTING 10" STORM LINE	General Contractor
RIM ELEV: 879.32 NEENAH SOLID LID CASTING EX 10" PVC INV: 875.50'± PRO 12" RCP INV: 875.50' BIORETENTION BOTTOM ELEV: 877.60'	Consultants CIVIL ENGINEER
6* DRAINTILE PIPE 66' @ ELEV: 875.66 CONTRACTOR SHALL AVOID A PATCH IN BADGER ROAD. IF NECESSARY, CONTRACTOR SHALL PATCH ROAD PER CITY OF MADISON REQUIREMENTS CONNECT TO EXISTING WATER LATERAL	Snyder & Associates, Inc. 5010 Voges Road Madison, WI 53718 P. 608.838.0444 STRUCTURAL ENGINEER KJWW Engineering Consultants 1800 Deming Way Middleton, WI 53562 P. 608.223.9600 MECHANICAL ENGINEER KJWW Engineering Consultants 1800 Deming Way
CONNECT TO EXISTING SANITARY @ ELEV: 871.22' C C C C C C C C C C C C C C C C C C C	Middleton, WI 53562 P. 608.223.9600 ELECTRICAL ENGINEER KJWW Engineering Consultants 1800 Deming Way Middleton, WI 53562 P. 608.223.9600 Key Plan
PROPOSED CONDUIT FOR NEW TECHNOLOGY LINE, SEE SHEET TO50	
E E E E E E E E E E E E E E E E E E E	BID SET         12/09/2016           Previous Issue Dates
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	Drawing PROPOSED UTILITY PLAN OPN Project No. <b>15617000</b>
	<b>C203</b>



CONSTRUCTION SPECIFICATIONS

6

THE HEIGHT OF A SILT FENCE SHALL NOT EXCEED 36 INCHES. STORAGE HEIGHT SHALL NEVER EXCEED 18". THE FENCE LINE SHALL FOLLOW THE CONTOUR AS CLOSELY AS POSSIBLE.

7

8

IF POSSIBLE, THE FILTER FABRIC SHALL BE CUT FROM A CONTINUOUS ROLL TO AVOID THE USE OF JOINTS. WHEN JOINTS ARE NECESSARY, FILTER CLOTH SHALL BE SPLICED ONLY AT A SUPPORT POST, WITH A MINIMUM 6-INCH OVERLAP AND BOTH ENDS SECURELY EASTENED TO THE POST FASTENED TO THE POST

POSTS SHALL BE SPACED A MAXIMUM OF 10 FEET APART AND DRIVEN SECURELY INTO THE GROUND (MINIMUM OF 12 INCHES). WHEN EXTRA STRENGTH FABRIC IS USED WITHOUT THE WIRE SUPPORT FENCE, POST SPACING SHALL NOT EXCEED 6 FEET. THE ENDS OF THE FENCE SHALL BE TURNED UPHILL.

A TRENCH SHALL BE EXCAVATED APPROXIMATELY 4 INCHES WIDE AND 6 INCHES DEEP ALONG THE LINE OF POSTS AND UPSLOPE FROM THE BARRIER.

WHEN STANDARD-STRENGTH FILTER FABRIC IS USED, A WIRE MESH SUPPORT FENCE SHALL BE FASTENED SECURELY TO THE UPSLOPE SIDE OF THE POSTS USING HEAVY DUTY WIRE STAPLES AT LEAST 1 INCH LONG, TIE WIRES OR HOG RINGS. THE WIRE SHALL EXTEND INTO THE TRENCH A MINIMUM OF 2 INCHES AND SHALL NOT EXTEND MORE THAN 36 INCHES ABOVE THE ORIGINAL GROUND SURFACE.

THE STANDARD-STRENGTH FILTER FABRIC SHALL BE STAPLED OR WIRED TO THE FENCE, AND 6 INCHES OF THE FABRIC SHALL EXTEND INTO THE TRENCH. THE FABRIC SHALL NOT EXTEND MORE THAN 36 INCHES ABOVE THE ORIGINAL GROUND SURFACE. FILTER FABRIC SHALL NOT BE STAPLED TO EXISTING TREES.

WHEN EXTRA-STRENGTH FILTER FABRIC AND CLOSER POST SPACING ARE USED, THE WIRE MESH SUPPORT FENCE MAY BE ELIMINATED. IN SUCH A CASE, THE FILTER FABRIC IS STAPLED OR WIRED DIRECTLY TO THE POSTS.

THE TRENCH SHALL BE BACKFILLED AND/OR THE SOIL COMPACTED OVER THE TOE OF THE FILTER FABRIC. THE FILTER FABRIC SHALL NOT BE SECURED BY SAND BAGS.

SILT FENCES PLACED AT THE TOE OF A SLOPE SHALL BE SET AT LEAST 6 FEET FROM THE TOE IN ORDER TO INCREASE PONDING VOLUME.

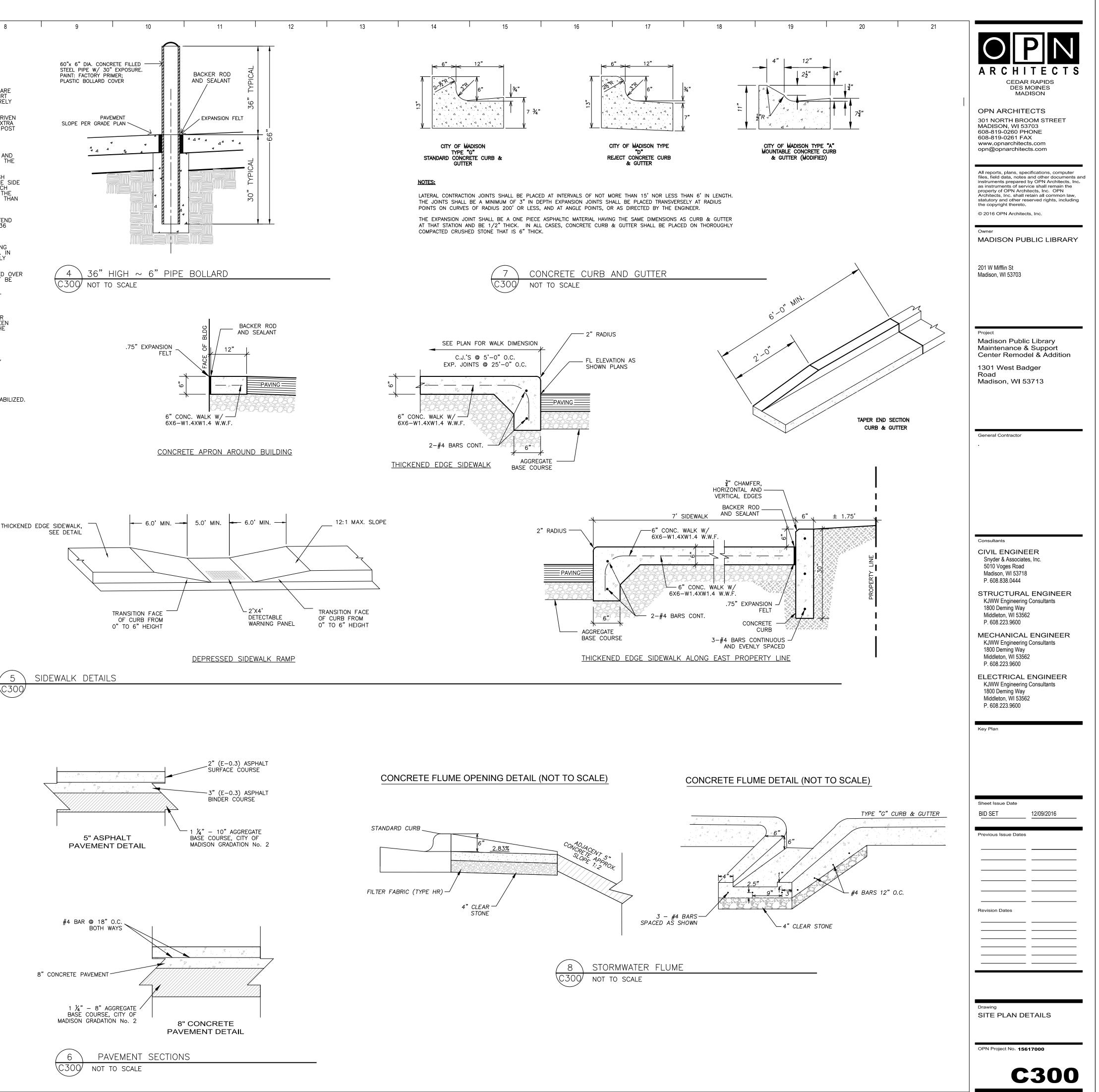
SILT FENCES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFUL PURPOSE, BUT NOT BEFORE THE UPSLOPE AREA HAS BEEN PERMANENTLY STABILIZED, AND ANY SEDIMENT STORED BEHIND THE SILT FENCE HAS BEEN REMOVED.

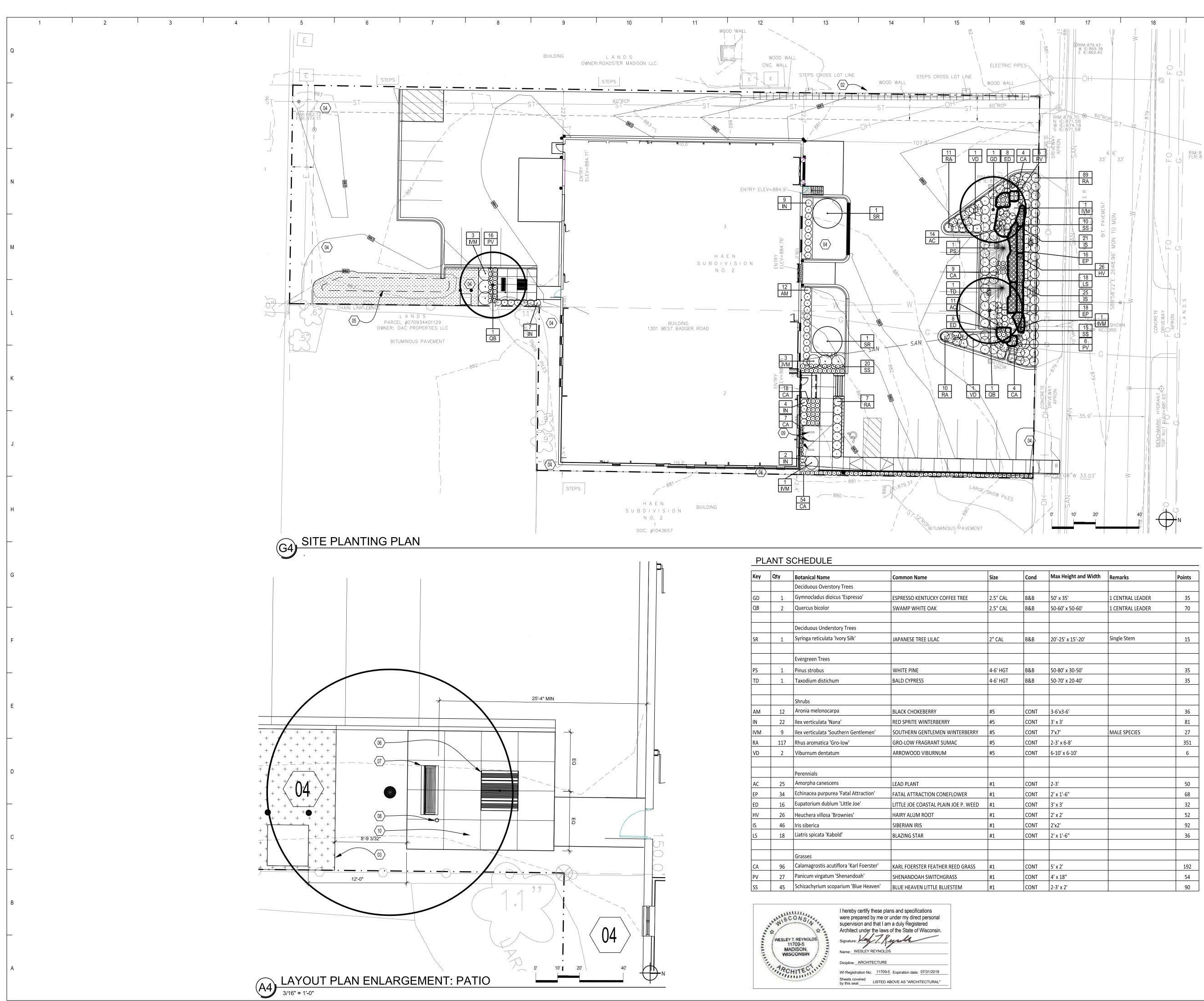
INSPECTION AND MAINTENANCE

SILT FENCES AND FILTER BARRIERS SHALL BE INSPECTED WEEKLY AND AFTER EACH SIGNIFICANT STORM (1" IN 24 HR.). ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.

SEDIMENT SHALL BE REMOVED WHEN IT REACHES 1/3 HEIGHT OF THE FENCE OR 9 INCHES MAXIMUM. THE REMOVED SEDIMENT SHALL BE VEGETATED OR OTHERWISE STABILIZED.

C300/





Key	Qty	Botanical Name	Common Name	Size	Cond	Max Height and Width	Remarks	Points
		Deciduous Overstory Trees						
GD	1	Gymnocladus dioicus 'Espresso'	ESPRESSO KENTUCKY COFFEE TREE	2.5" CAL	B&B	50' x 35'	1 CENTRAL LEADER	35
QB	2	Quercus bicolor	SWAMP WHITE OAK	2.5" CAL	B&B	50-60' x 50-60'	1 CENTRAL LEADER	70
		Deciduous Understory Trees						
SR	1	Syringa reticulata 'Ivory Silk'	JAPANESE TREE LILAC	2" CAL	B&B	20'-25' x 15'-20'	Single Stem	15
		Evergreen Trees						
PS	1	Pinus strobus	WHITE PINE	4-6' HGT	B&B	50-80' x 30-50'		35
TD	1	Taxodium distichum	BALD CYPRESS	4-6' HGT	B&B	50-70' x 20-40'		35
		Shrubs						
AM	12	Aronia melonocarpa	BLACK CHOKEBERRY	#5	CONT	3-6'x3-6'		36
IN	22	llex verticulata 'Nana'	RED SPRITE WINTERBERRY	#5	CONT	3' x 3'		81
IVM	9	llex verticulata 'Southern Gentlemen'	SOUTHERN GENTLEMEN WINTERBERRY	#5	CONT	7'x7'	MALE SPECIES	27
RA	117	Rhus aromatica 'Gro-low'	GRO-LOW FRAGRANT SUMAC	#5	CONT	2-3' x 6-8'		351
VD	2	Viburnum dentatum	ARROWOOD VIBURNUM	#5	CONT	6-10' x 6-10'		6
		Perennials						
AC	25	Amorpha canescens	LEAD PLANT	#1	CONT	2-3'		50
EP	34	Echinacea purpurea 'Fatal Attraction'	FATAL ATTRACTION CONEFLOWER	#1	CONT	2' x 1'-6"		68
ED	16	Eupatorium dublum 'Little Joe'	LITTLE JOE COASTAL PLAIN JOE P. WEED	#1	CONT	3' x 3'		32
HV	26	Heuchera villosa 'Brownies'	HAIRY ALUM ROOT	#1	CONT	2' x 2'		52
IS	46	Iris siberica	SIBERIAN IRIS	#1	CONT	2'x2'		92
LS	18	Liatris spicata 'Kabold'	BLAZING STAR	#1	CONT	2' x 1'-6"		36
		Grasses						
CA	96	Calamagrostis acutiflora 'Karl Foerster'	KARL FOERSTER FEATHER REED GRASS	#1	CONT	5' x 2'		192
PV	27	Panicum virgatum 'Shenandoah'	SHENANDOAH SWITCHGRASS	#1	CONT	4' x 18"		54
SS	45	Schizachyrium scoparium 'Blue Heaven'	BLUE HEAVEN LITTLE BLUESTEM	#1	CONT	2-3' x 2'		90

### GENERAL NOTES

20

1. FIELD VERIFY ALL EXISTING SITE CONDITIONS, UNDERGROUND UTILITIES, ABOVE GRADE UTILITIES AND UTILITY STRUCTURES, EXTENT OF PAVING AND A R C H I T E C T S CURBS, AND ALL EXISTING VEGETATION PRIOR TO DEMOLITION OR NEW CONSTRUCTION. CONTACT OWNER AND WISCONSIN ONE-CALL FOR UTILITY LOCATES PRIOR TO ANY WORK ON SITE. NOTIFY LANDSCAPE ARCHITECT OF ANY DISCREPANCIES BEFORE CONTINUING DEMOLITION OR NEW CONSTRUCTION.

1

21

- 2. REFERENCE CIVIL, MECHANICAL AND ELECTRICAL SHEETS FOR UTILITIES AND DETAILS.
- 3. PRESERVE & PROTECT EXISTING PLANT MATERIALS ON AND ADJACENT TO SITE EXCLUDING THOSE MARKED FOR REMOVAL ON DEMOLITION PLANS. NOTIFY LANSCAPE ARCHITECT IMMEDIATELY IF PLANT MATERIALS ARE DAMAGED FOR ASSESSMENT OF PLANT REPLACEMENT.
- 4. CONTRACTOR MUST PROVIDE EROSION/SEDIMENTATION CONTROLS AS REQUIRED TO CONTAIN SEDIMENT WITHIN CONSTRUCTION AREA. IN THE EVENT THAT SOILS LEAVE THE SITE, CLEANUP OF ALL SURROUNDING DRIVES, PARKING LOTS, AND WALKS SHALL BE PERFORMED ON A DAILY BASIS AND UPON REQUEST OF OWNER AT NO ADDITIONAL COST. REFERENCE LANDSCAPE AND CIVIL SHEETS FOR ADDITIONAL INFORMATION.
- 5. WARNING CALL 72 HOURS BEFORE YOU DIG.
- WISCONSIN ONE-CALL: 1-800-242-8511 6. SITE LAYOUT INFORMATION TAKEN FROM CIVIL SITE
- PLAN PREPARED BY SNYDER & ASSOCIATES. 7. SOD ALL DISTURBED AREAS AFFECTED BY
- CONSTRUCTION.

### LANDSCAPE NOTES

- 1. ONE WEEK PRIOR TO INSTALLATION, THE CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT AT OPN ARCHITECTS TO REVIEW TREES AT NURSERY.
- 2. ALL PLANT MATERIAL SHALL AT LEAST MEET MINIMUM REQUIREMENTS IN THE LATEST EDITION OF THE AMERICAN STANDARD FOR NURSERY STOCK, AMERICAN ASSOCIATION OF NURSERYMAN. 3. ALL SITEWORK, SODDING AND LANDSCAPING SHALL
- BE IN ACCORDANCE WITH LOCAL JURISDICTION'S STANDARD SPECIFICATIONS UNLESS NOTED OTHERWISE.
- 4. NO PLANTING WILL BE INSTALLED UNTIL ALL GRADING AND CONSTRUCTION HAS BEEN COMPLETED IN THE IMMEDIATE AREA.
- 5. PLANT QUANTITIES ARE FOR CONTRACTORS CONVENIENCE, DRAWING SHALL PREVAIL WHERE
- CONFLICT OCCURS. 6. NO PLANT MATERIAL SHALL BE SUBSTITUTED IN SIZE OR SPECIES WITHOUT AUTHORIZATION OF
- LANDSCAPE ARCHITECT. 7. ALL PROPOSED PLANTS SHALL BE LOCATED AS SHOWN ON PLANS, AND THEIR LAYOUT SHALL BE APPROVED BY THE LANDSCAPE ARCHITECT BEFORE INSTALLATION.
- 8. LANDSCAPE PLAN TO BE REVIEWED BY CITY ARBORIST.
- 9. TOPSOIL SHALL BE SPREAD TO MINIMUM DEPTH OF 6-INCHES ON ALL DISTURBED AREAS. SEE DETAILS FOR DEPTH OF TOPSOIL IN PLANTING BEDS. TOPSOIL SHALL BE DRY, LOOSE AND FREE OF DEBRIS.
- 10. ALL PLANTS SHALL BE WATERED DURING THE LANDSCAPE MAINTENACE PERIOD AS SPECIFIED.
- 12. AN ON SITE MEETING WILL BE REQUIRED WITH THE GENERAL CONTRACTOR, GRADING CONTRACTOR, LANDSCAPE CONTRACTOR AND LANDSCAPE ARCHITECT PRIOR TO ANY LANDSCAPING WORK ON SITE.

### **KEYED NOTES**

- MULCH TYPE "A". SHREDDED HARDWOOD BARK
- MULCH AS SPECIFIED. (02) MULCH TYPE "B". WASHED RIVER ROCK AS
- SPECIFIED.  $\langle 03 \rangle$  SPADE CUT PLANT BED EDGER.
- $\langle 04 \rangle$  RHIZOMATOUS TALL FESCUE SOD.
- (05) RAIN GARDEN/BIO INFILTRATION BED PLUG PLANT MIX
- $\left< 06 \right>$  PICNIC TABLE, SEE G1/L102.
- (07) BENCH, SEE C15/L102.
- $\langle 08 \rangle$  SMOKER ASH URN, SEE C12/L102.
- $\langle 09 \rangle$  BIKE RACK, SEE C8/L102.
- (10) COLOR CONCRETE W/EXPOSED AGGREGATE

### LANDSCAPE SUMMARY DEVELOPED AREA: 23,019 POINTS

NEW LANDSCAPING POINTS REQUIRED: 385 POINTS

APPROXIMATE POINTS PROVIDED: 1,368 3 OVERSTORY TREES X 35 = 2 EVERGREEM TREES X 35 = 2 UNDERSTORY TREES X 15 = 162 SHRUBS X 3 POINTS = 333 PERENNIALS/GRASSES X 2 PTS = 666 POINTS FURN. 1 BENCH, 1 P. TABLE X 5PTS=10 POINTSTOTAL1,367 POINTS

105 POINTS 70 POINTS 30 POINTS 486 POINTS



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Key Plan

### Sheet Issue Date 12/09/2016 Bid Set

Previous Issue Dates

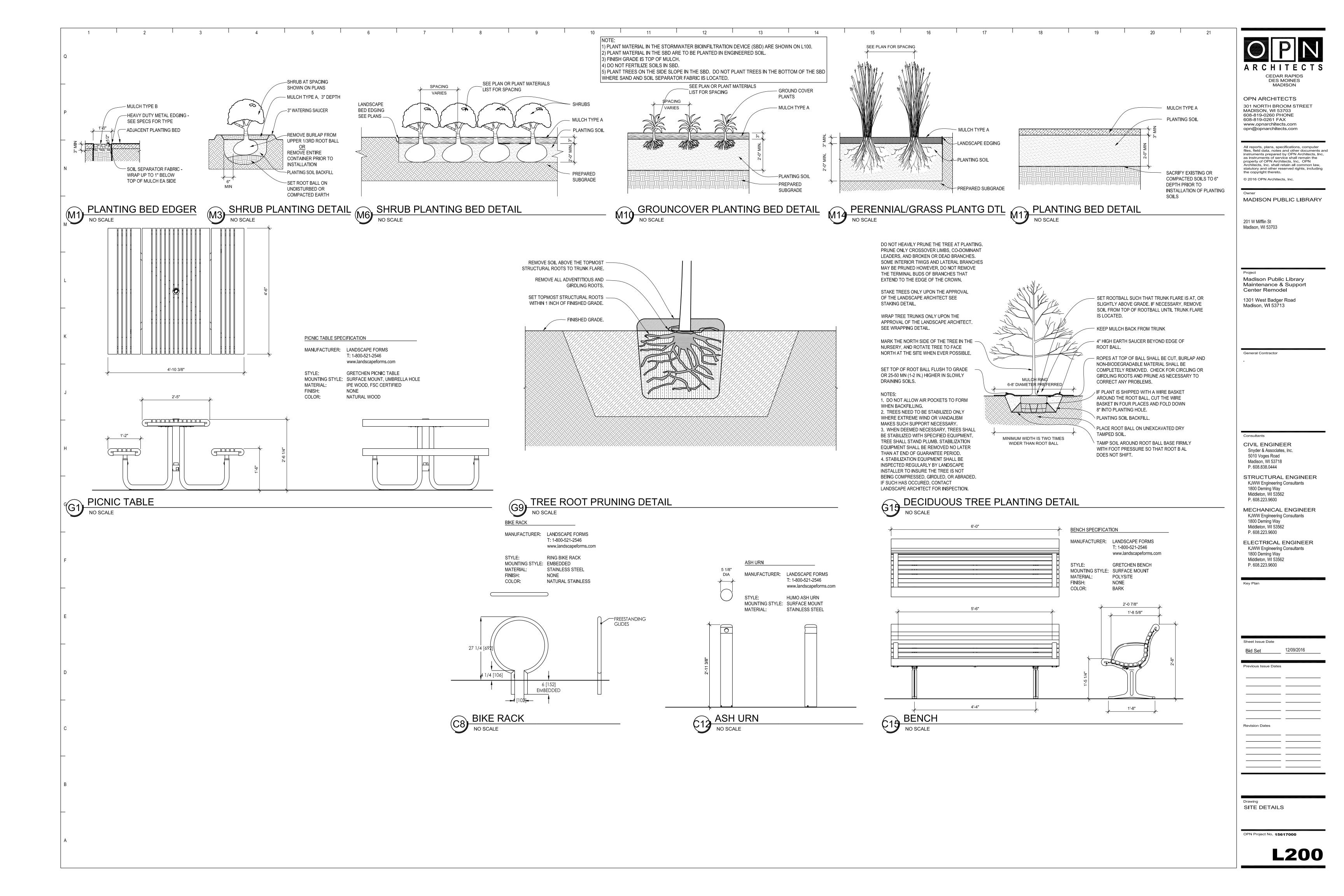
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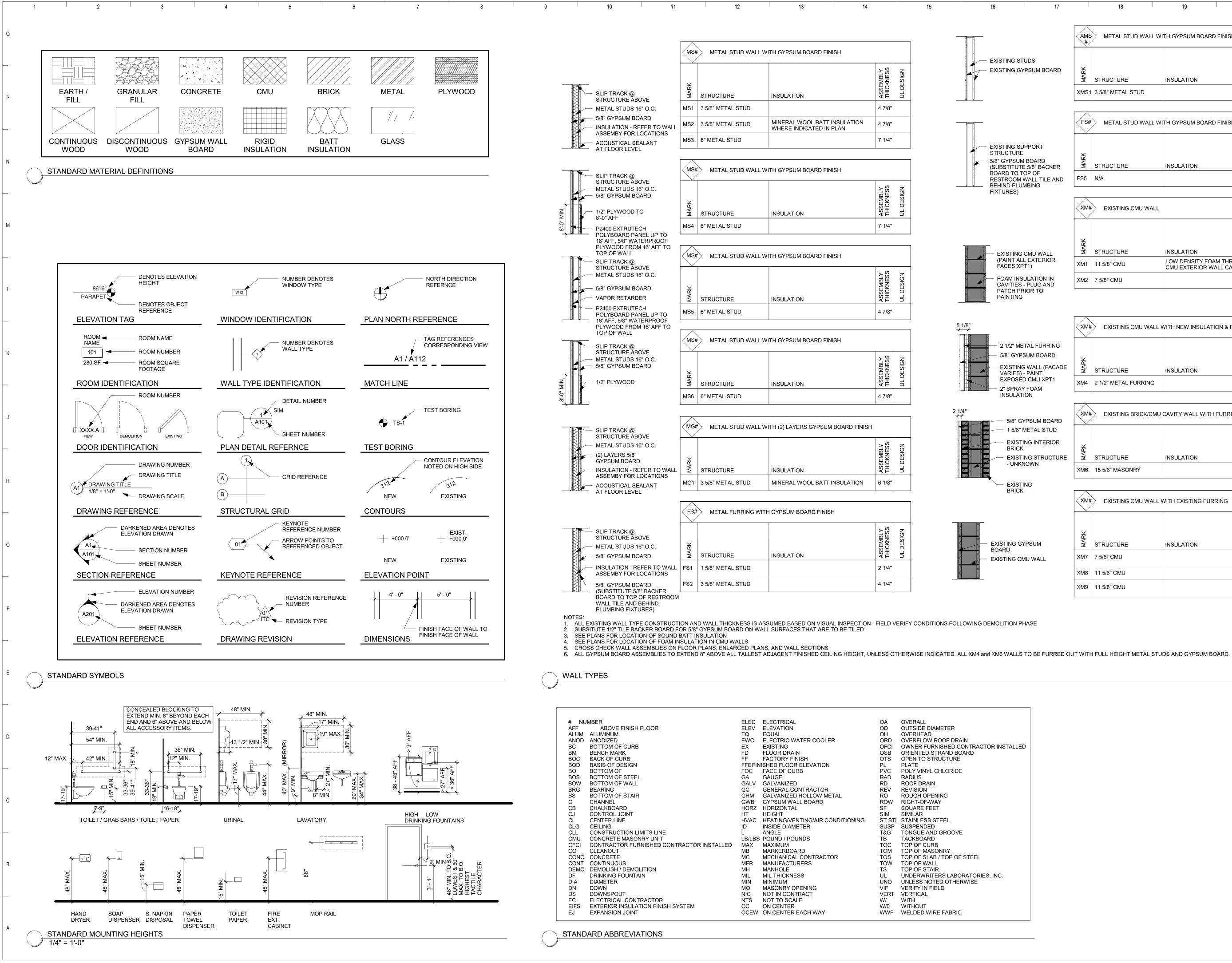
SITE PLANTING PLAN

Drawing

OPN Project No. 15617000

**L100** 





STING STUDS
STING GYPSUM BOARD

- EXISTING SUPPORT STRUCTURE - 5/8" GYPSUM BOARD (SUBSTITUTE 5/8" BACKER BOARD TO TOP OF RESTROOM WALL TILE AND BEHIND PLUMBING

> EXISTING CMU WALL (PAINT ALL EXTERIOR FACES XPT1)

FOAM INSULATION IN **CAVITIES - PLUG AND** PATCH PRIOR TO PAINTING

- 2 1/2" METAL FURRING 5/8" GYPSUM BOARD EXISTING WALL (FACADE VARIES) - PAINT EXPOSED CMU XPT1 2" SPRAY FOAM INSULATION

5/8" GYPSUM BOARD 1 5/8" METAL STUD EXISTING INTERIOR BRICK

EXISTING STRUCTURE - UNKNOWN

XM6

EXISTING BRICK

EXISTING GYPSUM BOARD EXISTING CMU WALL

XMS METAL STUD WALL WITH GYPSUM BOARD FINISH					
MARK	STRUCTURE	INSULATION	ASSEMBLY THICKNESS	UL DESIGN	
XMS1	3 5/8" METAL STUD		4 7/8"		

FS# METAL STUD WALL WITH GYPSUM BOARD FINISH

MARK	STRUCTURE	INSULATION	ASSEMBLY THICKNESS	
FS5	N/A		5/8"	

XM# EXISTING CMU WALL							
MARK	STRUCTURE	INSULATION	ASSEMBLY THICKNESS	UL DESIGN			
XM1	11 5/8" CMU	LOW DENSITY FOAM THROUGH CMU EXTERIOR WALL CAVITIES	11 5/8"				
XM2	7 5/8" CMU		7 5/8"				

	XM# EXISTING CMU WALL WITH NEW INSULATION & FURRING						
E	MARK	STRUCTURE	INSULATION	ASSEMBLY THICKNESS	UL DESIGN		
	XM4	2 1/2" METAL FURRING		5 1/8"			

XM# EXISTING BRICK/CMU CAVITY WALL WITH FURRING

STRUCTURE	INSULATION	ASSEMBLY THICKNESS	UL DESIGN
15 5/8" MASONRY		15 5/8"	

XM# EXISTING CMU WALL WITH EXISTING FURRING						
MARK	STRUCTURE	INSULATION	ASSEMBLY THICKNESS	UL DESIGN		
XM7	7 5/8" CMU		8 1/4"			
XM8	11 5/8" CMU		12 1/4"			
XM9	11 5/8" CMU		1'- 1 7/8"			

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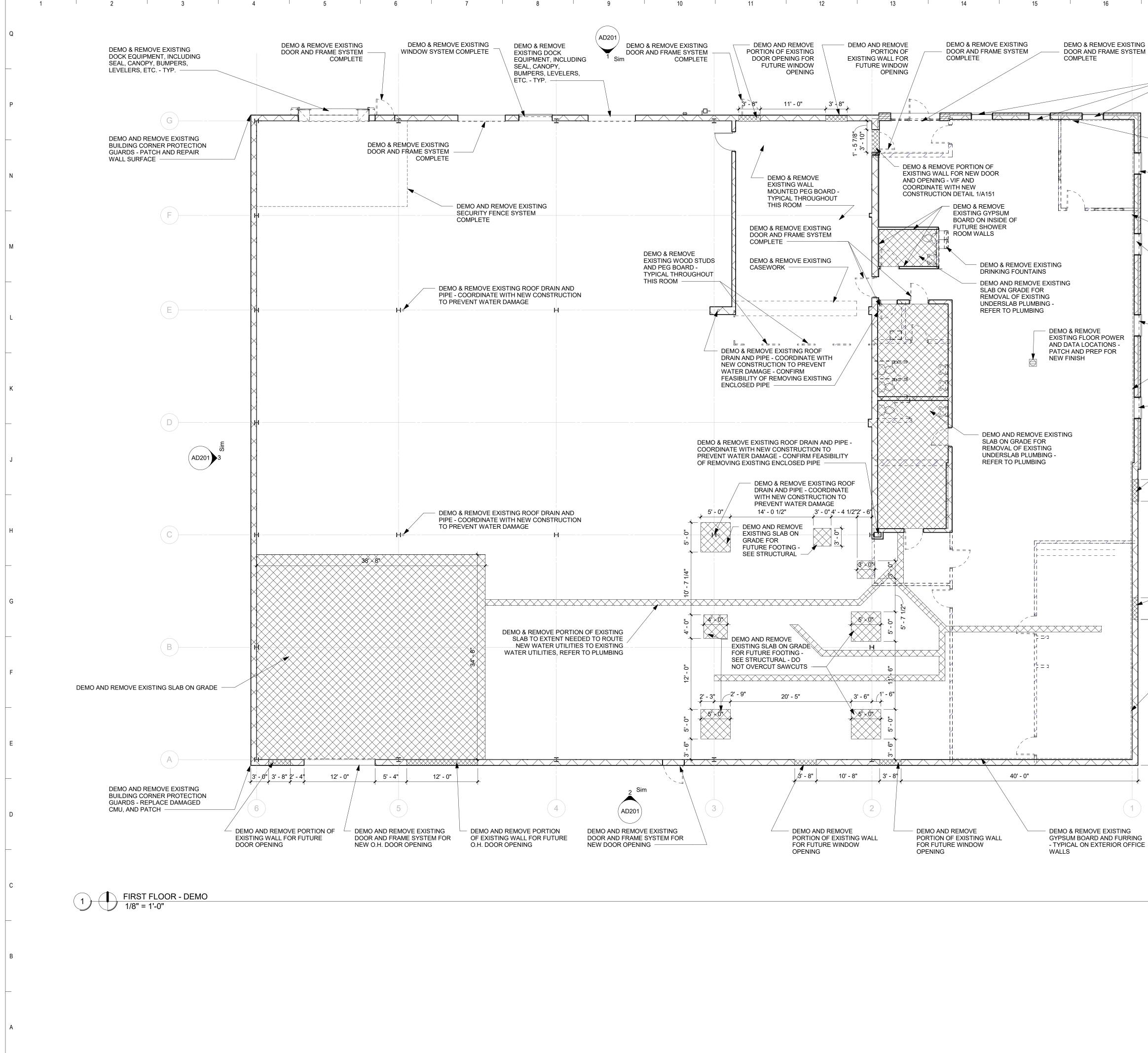
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Key Plan

12/09/2016

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WALLS

EXISTING WALL FOR FUTURE WINDOW

ADMINISTRATION PART 1926 SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION GUIDELINES FOR CONSTRUCTION MEANS OF EGRESS.

18. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN ADDITIONAL MEANS OF EGRESS AS NEEDED AS A RESULT OF CONSTRUCTION SEQUENCING AND/OR REGULATORY REQUIREMENTS.

19. DIMENSIONS ARE MEASURED FACE-OF- FINISH TO FACE-OF-FINISH OR ROUGH MASONRY OPENING, UNLESS NOTED OTHERWISE - TYPICAL FOR ALL DRAWINGS.

20. DASHED ITEMS INDICATE DEMOLITION WORK TO BE COMPLETED. REFER TO SPECIFIC NOTES FOR ADDITIONAL INFORMATION.

21. USE CARE DURING CONCRETE FLOOR DEMOLITION TO PROTECT THE SLAB EDGES AS THE FLOOR SLAB WILL REMAIN EXPOSED - DO NOT OVERCUT SAWCUTS.

GENERAL NOTES



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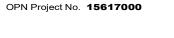
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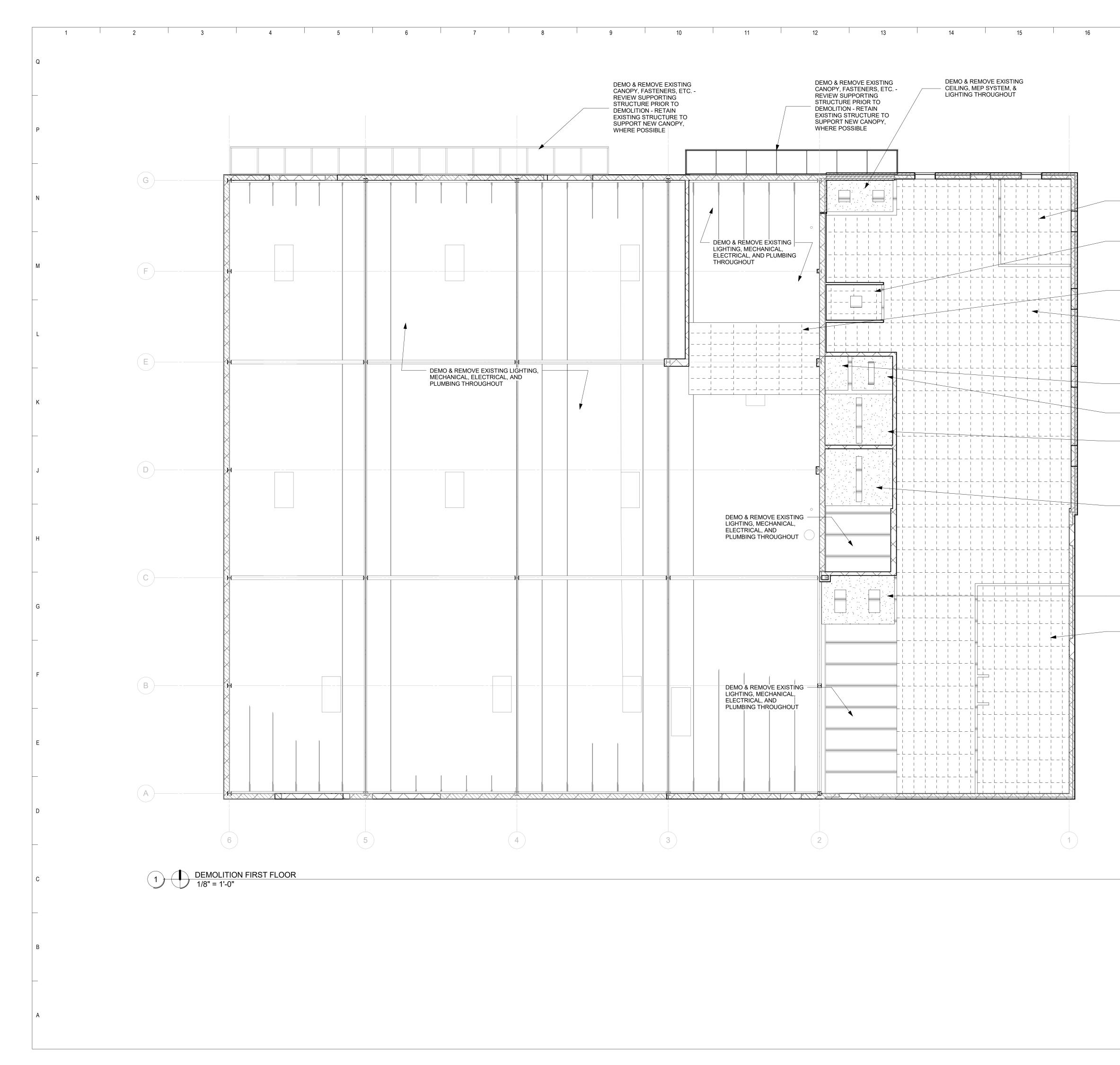
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Revision Dates	
Drawing	

DEMOLITION FLOOR PLAN



**AD101** 



17	18	19	20	21

ARCHITECTS CEDAR RAPIDS DES MOINES MADISON

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MADISON PUBLIC LIBRARY

201 W Mifflin St Madison, WI 53703

General Contractor

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Project Madison Public Library Maintenance & Support Center Remodel 1301 West Badger Road Madison, WI 53713

Consultants CIVIL ENGINEER Snyder & Associates, Inc. 5010 Voges Road Madison, WI 53718 P. 608.838.0444

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MECHANICAL ENGINEER KJWW Engineering Consultants 1800 Deming Way Middleton, WI 53562 P. 608.223.9600

ELECTRICAL ENGINEER KJWW Engineering Consultants 1800 Deming Way Middleton, WI 53562 P. 608.223.9600

Key Plan

Sheet Issue Date
Bid Set 12/09/2016
Previous Issue Dates
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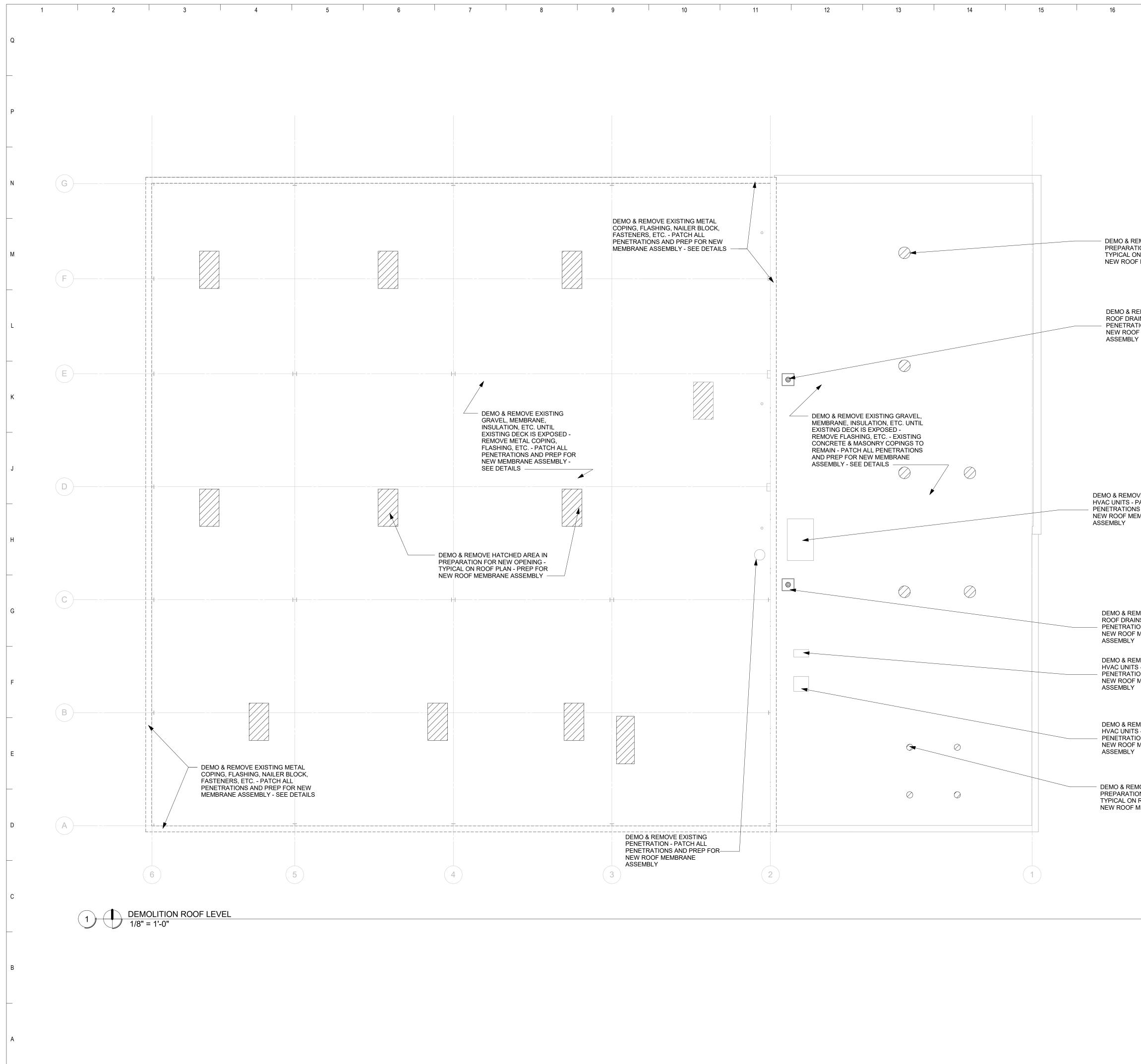
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DEMO & REMOVE EXISTING CEILING, MEP SYSTEM, & LIGHTING THROUGHOUT GENERAL NOTES

- 1. CONTRACTOR TO FIELD VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS. IN THE EVENT OF A DISCREPANCY BETWEEN THE DRAWINGS AND THE EXISTING CONDITIONS, NOTIFY THE ARCHITECT BEFORE PROCEEDING.
- 2. PROTECT ALL ADJACENT AREAS AND ITEMS "TO REMAIN" DURING DEMOLITION/CONSTRUCTION. REPAIR/REPLACE ALL ITEMS DAMAGED DURING CONSTRUCTION.
- 3. DO NOT REMOVE ANY ITEMS WHICH JEOPARDIZE THE STRUCTURAL INTEGRITY OF THE BUILDING. IF HIDDEN ELEMENTS OR DETERIORATED ELEMENTS ARE ENCOUNTEREDNOTIFY THE ARCHITECT IMMEDIATELY.
- 4. PATCH ALL AREAS OF ELECTRICAL AND MECHANICAL DEMOLITION THAT WILL NOT BE REUSED.
- 6. IDENTIFICATION AND/OR ABATEMENOF HAZARDOUS MATERIALS IS NOT PART OF THIS SCOPE OF WORK. IF ASBESTOS OR OTHER HAZARDOUSMATERIALS ARE ENCOUNTERED, THE CONTRACTOR SHALL NOTIFY THE OWNER IMMEDIATELY.
- 7. REFER TO SPECIFICATION FOR RECYCLING, CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL REQUIREMENTS.
- 8. REMOVE LOOSE PAINT AND MISCELLANEOUS HANGING OBJECTS FROM WALLS AND CEILINGS AT ALL AREAS WITHIN THE SCOPE OF WORK.
- 9. PATCH AND REPAIR ALL EXISTING WALL SURFACES DAMAGED FROM DEMOLITION OR PRIOR USE.
- 10. CONTRACTOR TO FIELD VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS. IN THE EVENT OF A DISCREPANCY BETWEEN THE DRAWINGS AND THE EXISTING CONDITIONS, NOTIFY THE ARCHITECT BEFORE PROCEEDING.
- 11. REFER TO CONSULTANT DRAWINGS FOR ADDITIONAL DEMOLITION OF OTHER DISCIPLINES.
- 12. PROTECT ALL ADJACENT AREAS AND ITEMS "TO REMAIN" DURING DEMOLITION/CONSTRUCTION. REPAIR/REPLACE ALL ITEM:DAMAGED DURING CONSTRUCTION.
- 13. EXISTING BUILDING CONDITION/SHOWN ON THESE DRAWINGS ARE DERIVED FROM LIMITED FIELD OBSERVATION.
- 14. INDICATED EXISTING BUILDING CONDITIONS ARE ASSUMED TO BE REPRESENTATIVE OF THE ACTUAL CONSTRUCTION OF THE BUILDING. LOCAL CONDITIONS MAY VARY.
- 15. THIS PLAN SHALL NOT SUPERSEDE OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION PART 1926 SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION GUIDELINES FOR CONSTRUCTION MEANS OF EGRESS.
- 16. DIMENSIONS ARE MEASURED FACE-OF-FINISH TO FACE-OF-FINISH OR ROUGH MASONRY OPENING, UNLESS NOTED OTHERWISE - TYPICAL FOR ALL DRAWINGS.

GENERAL NOTES



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			6	. PATCH AND REPAIR A DECKS, PARAPETS, E	STING STRUCTURE WITHOUT PRIOR TRUCTURAL NOT AT ANY TIME VE LOAD CAPACITIES. ILL EXISTING ROOF TC. DAMAGED FROM	All reports, plans, specifications, co field data, notes and other docume instruments prepared by OPN Arch instruments of service shall remain OPN Architects, Inc. OPN Architect retain all common law, statutory an reserved rights, including the copyr © 2016 OPN Architects, Inc.
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				GENERAL NOTE	S	CIVIL ENGINEER Snyder & Associates, Inc. 5010 Voges Road Madison, WI 53718 P. 608.838.0444

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CEDAR RAPIDS DES MOINES MADISON

**ARCHITECTS** NORTH BROOM S-TREET, ITE100 DISON, WI 53703 3-819-0260 PHONE 3-819-0261 FAX

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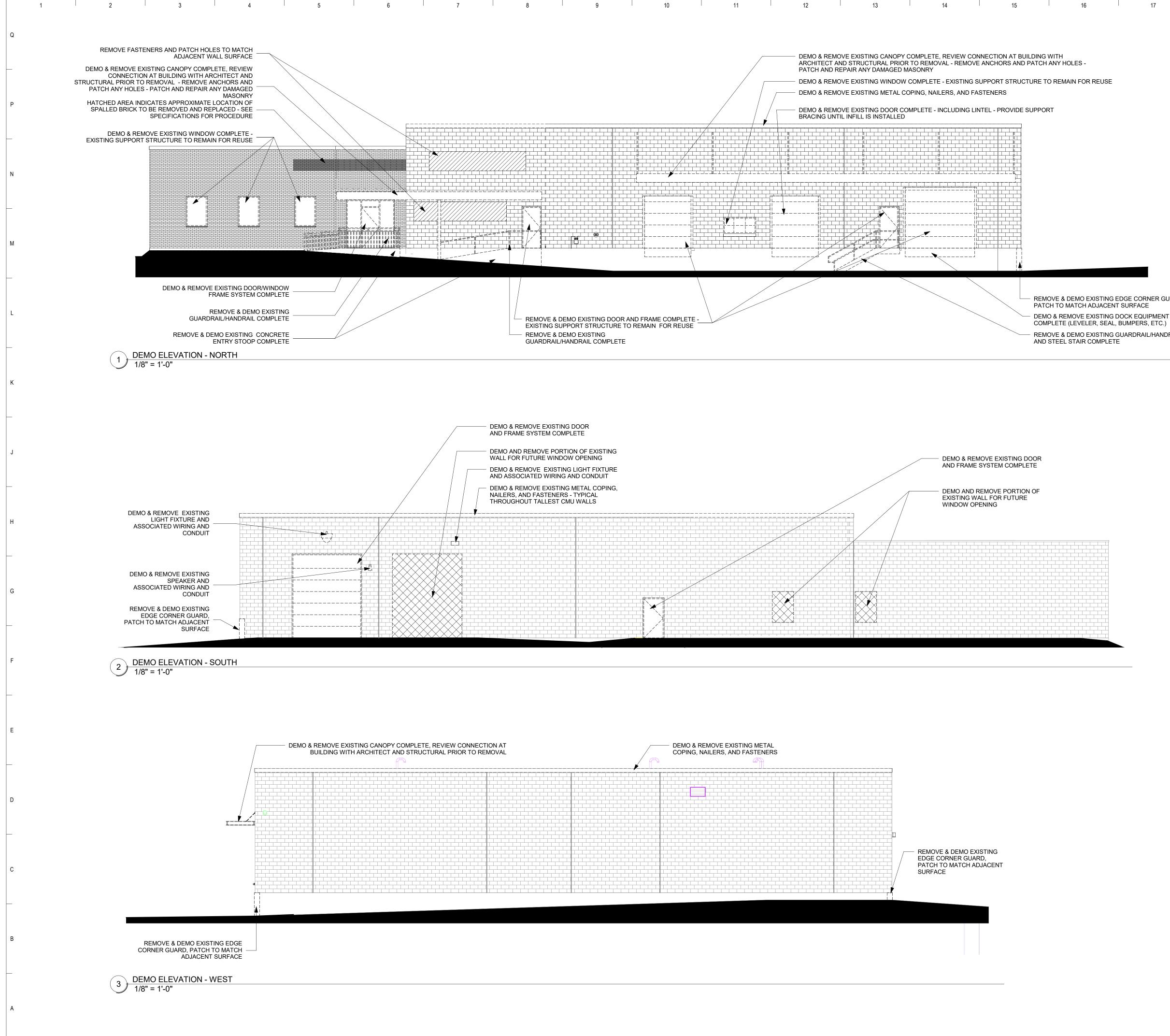
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Drawing DEMOLITION ROOF PLAN





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REMOVE & DEMO EXISTING EDGE CORNER GUARD, DEMO & REMOVE EXISTING DOCK EQUIPMENT

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AR CEDAR RAPIDS DES MOINES MADISON OPN ARCHITECTS 301 NORTH BROOM S-TREET, SUITE100 MADISON, WI 53703 608-819-0260 PHONE 608-819-0261 FAX

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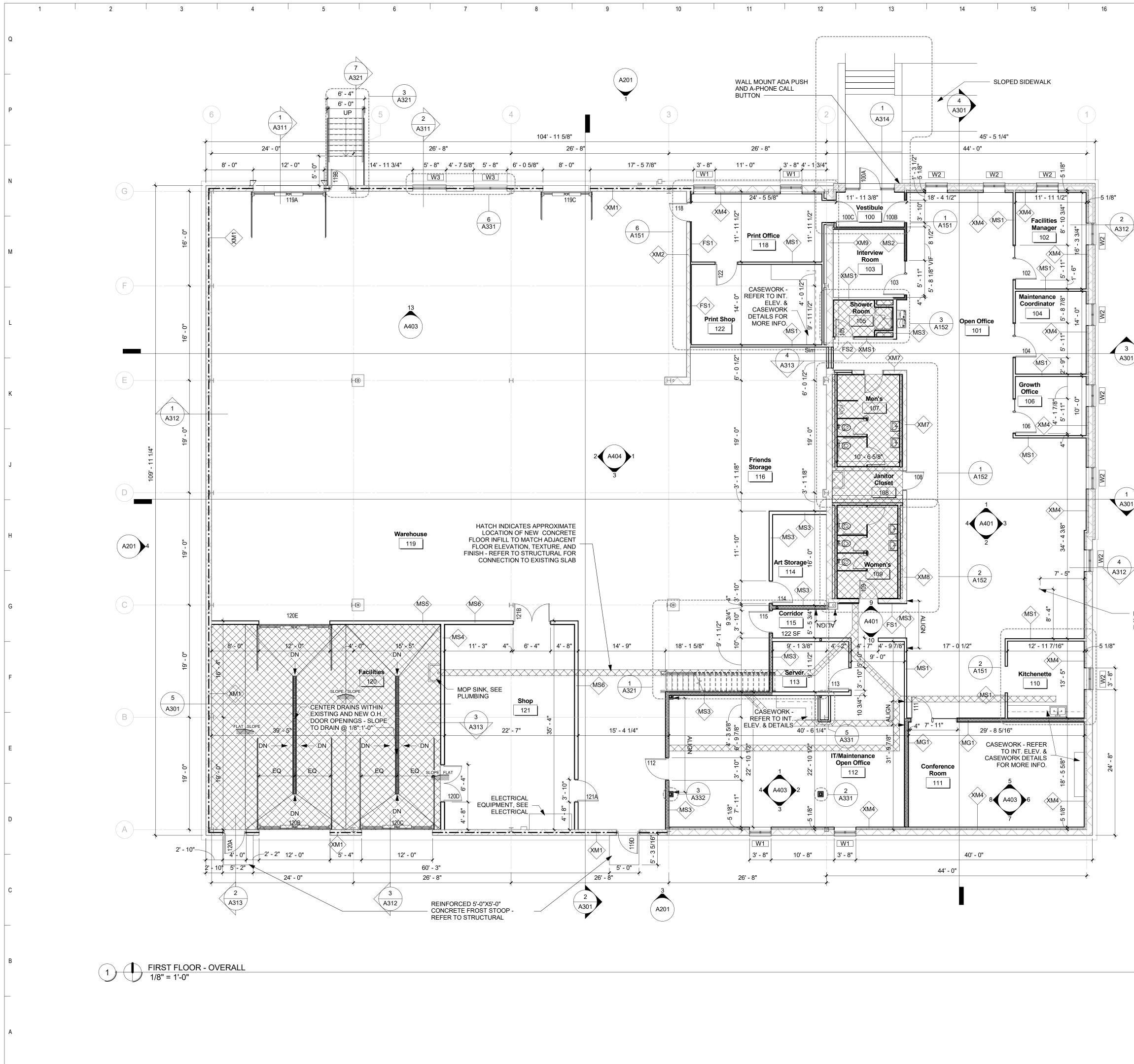
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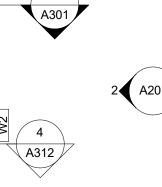


17	18	19	20	21
			GENERAL NOTES	

- 1. DIMENSIONS ARE MEASURED FACE-OF-FINISH TO FACE-OF-FINISH OR ROUGH MASONRY OPENING UNLESS NOTED OTHERWISE - TYPICAL FOR ALL DRAWINGS.
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- DIMENSIONS AND KEYNOTES. 5. PROVIDE CONCEALED, FIRE TREATED BLOCKING AT ALL ACCESSORIES AND CASEWORK LOCATIONS. EXTEND BLOCKING A MINIMUM OF 6" BEYOND EACH END AND 6" ABOVE AND BELOW ALL ACCESSORY ITEMS. 6. REFER TO WALL TYPES SHEET FOR
- PARTITION WALL TYPES. 7. ALL WALLS WITH SOUND ATTENUATION BLANKETS ARE TO HAVE ACOUSTICAL SEALANT AT TOP AND BOTTOM AND AT
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- 10. REFER TO CONSULTANT DRAWINGS FOR OTHER DISCIPLINES.
- 11. EXISTING BUILDING CONDITIONS SHOWN ON THESE DRAWINGS ARE DERIVED FROM DRAWINGS OF THE ORIGINAL BUILDING AND FROM LIMITED FIELD OBSERVATION.
- 12. DASHED CIRCLES AND RECTANGLES INDICATE LOCATIONS OF ROOF OPENINGS ABOVE.
- 13. SEE SPECIFICATIONS FOR EXPANSION JOINT REQUIREMENTS ALL EXTERIOR VERTICAL JOINTS, INCLUDING OPENINGS, TO RECEIVE FOAM BACKER SEAL, BACKER ROD, AND SEALANT.

----- INDICATES LOCATION OF FOAM INSULATION TO BE INSTALLED IN CAVITY OF EXISTING CMU WALL

GENERAL NOTES



**A301** 

POWER/DATA POLE -SEE ELECTRICAL FOR INFORMATION



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Key Plan

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Previous Issue Dates

12/09/2016

Revision Dates

Drawing FIRST FLOOR PLAN



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1 MEZZANINE FLOOR PLAN 1/8" = 1'-0"

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			GENERAL NOTES	

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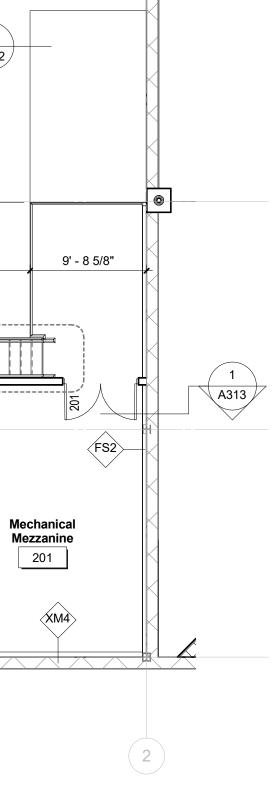
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Drawing MEZZANINE F	LOOR PLAN
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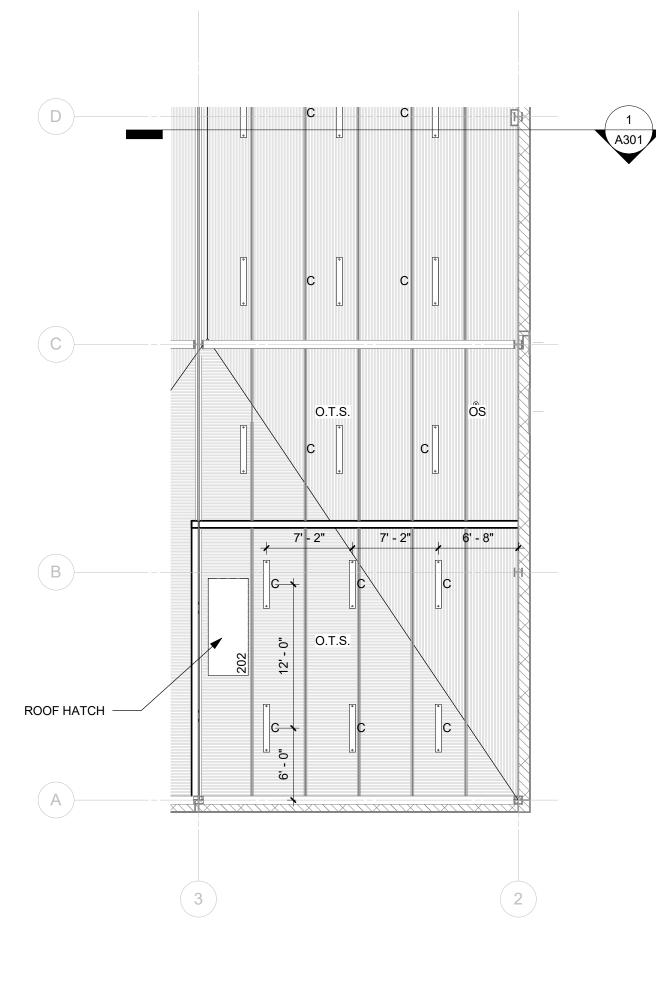
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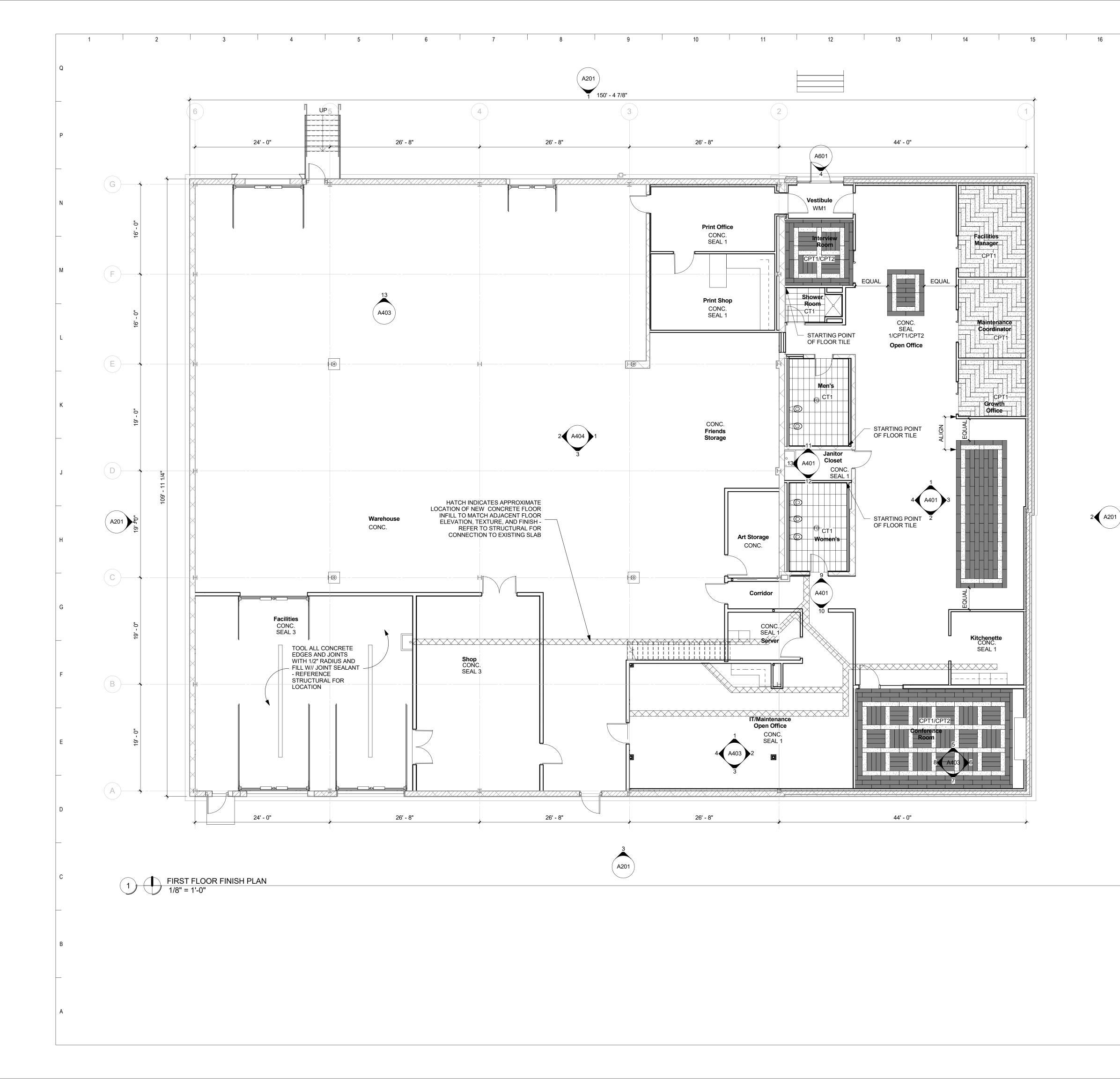


 MEZZANINE REFLECTED CEILING PLAN

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				CENTER CEILING GRID NOTED OTHERWISE. ALL MECHANICAL DIFFU PAINTED BY MANUFACT	USERS SHALL B	E			MADISON, WI 53703 608-819-0260 PHONE 608-819-0261 FAX www.opnarchitects.com
			5.	ADJACENT SOFFIT/ACP OTHERWISE. CONCEALED SPRINKLE	PUNLESS NOTE	C			opn@opnarchitects.com All reports, plans, specifications, computer files, field data, notes and other documents and
			0	SHALL BE PAINTED BY I MATCH ADJACENT SOF NOTED OTHERWISE.	FIT/ACP UNLES	S			instruments prepared by OPN Architects, Inc. as instruments of service shall remain the property of OPN Architects, Inc. OPN Architects, Inc. shall retain all common law, statutory and other reserved rights, including the copyright thereto.
			6.	COORDINATE LOCATIO AND EMERGENCY LIGH ARCHITECTURAL DRAW OF A DISCREPANCY, VE	ITS SHOWN ON VINGS. IN THE E				© 2016 OPN Architects, Inc.
			7.	ARCHITECT PRIOR TO I CEILING FIXTURE DIME FROM CENTERLINE OF	INSTALLATION. INSIONS ARE TA				<sup>Owner</sup> MADISON PUBLIC LIBRARY
			8.	NOTED OTHERWISE. REFER TO DRAWINGS ( REFLECTED CEILING PI MECHANICAL AND ELE	LANS) FOR ALL	E			201 W Mifflin St
				AND FIXTURE LOCATIO HEIGHTS. IF NOT CLEAF CONTACT ARCHITECT F	NS & MOUNTING RLY SPECIFIED,				Madison, WI 53703
			9.	CLARIFICATION. PAINT ALL EXPOSED ST DUCTWORK, CONDUIT, NOTED TO BE OPEN TC	ETC. IN AREAS				
				NOTED OTHERWISE. PA STRUCTURE TO BE DOI UTILITIES ARE INSTALL	NE AFTER ALL .ED. DO NOT PAI				Project Madison Public Library
			10.	OVER LIGHT FIXTURES, ALARMS, FANS, OR OCO REFER TO WALL SECTION DETAIL DRAWINGS FOR	CUPANCY SENS	ON			Maintenance & Support Center Remodel 1301 West Badger Road
			11.	DETAILS. CONTRACTOR TO FIELD DIMENSIONS AND CONI INDICATED EXISTING B	DITIONS.				Madison, WI 53713
				CONDITIONS ARE ASSU REPRESENTATIVE OF T CONSTRUCTION OF TH	JMED TO BE THE ACTUAL IE BUILDING.				
				LOCAL CONDITIONS MA EVENT OF A DISCREPA THE DRAWINGS AND TH CONDITIONS, NOTIFY T	NCY BETWEEN HE EXISTING				General Contractor
				BEFORE PROCEEDING. REFER TO CONSULTAN FOR OTHER DISCIPLINE	IT DRAWINGS ES.				
			13.	EXISTING BUILDING CO SHOWN ON THESE DRA DERIVED FROM DRAWI ORIGINAL BUILDING AN	AWINGS ARE INGS OF THE	D			
				FIELD OBSERVATION.					
									Consultants
									CIVIL ENGINEER Snyder & Associates, Inc. 5010 Voges Road
	1 A301		G	ENERAL NOTES					Madison, WI 53718 P. 608.838.0444 STRUCTURAL ENGINEER
									KJWW Engineering Consultants 1800 Deming Way Middleton, WI 53562
				<u>EGEND</u> Δ· 2'Χ4' Ι	LED FIXTUR	F			P. 608.223.9600 MECHANICAL ENGINEER KJWW Engineering Consultants
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					STRIAL LED	PENDANT F	IXTURE		ELECTRICAL ENGINEER KJWW Engineering Consultants 1800 Deming Way
				O D: RECE	ESSED LED (	CAN FIXTUF	RE		Middleton, WI 53562 P. 608.223.9600
					CUPANCY SE				Key Plan
				NOTE: REFER TO NOT INCLUDED IN		INGS FOR I	TEMS		
			) L	EGEND				_	
									Sheet Issue Date Bid Set 12/09/2016
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									Drawing MEZZANINE REFLECTED CEILING PLAN
									OPN Project No. <b>15617000</b>
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GENERAL NOTES

- 1. DIMENSIONS ARE MEASURED FACE-OF-FINISH TO FACE-OF-FINISH OR ROUGH MASONRY OPENING UNLESS NOTED OTHERWISE - TYPICAL FOR ALL DRAWINGS.
- 2. REFER TO INTERIOR ELEVATIONS, FINISH SPECIFICATIONS AND ROOM FINISH SCHEDULE FOR ADDITIONAL WALL FINISH
- INFORMATION AND REMARKS.
  3. ALL FLOOR MATERIAL TRANSITIONS, TERMINATION AND SEAM LOCATIONS ARE TO BE CENTERED UNDER DOOR LEAFS IN CLOSED POSITION UNLESS NOTED OTHERWISE.
- GRILLES, METAL FIXTURE TRIM AND MISCELLANEOUS METALS TO BE PAINTED BY MANUFACTURER TO MATCH ADJACENT WALL OR CEILING SURFACES UNLESS NOTED OTHERWISE.
- EXTEND FLOORING INTO TOE SPACES, DOOR REVEALS, CLOSETS AND SIMILAR OPENINGS UNLESS NOTED OTHERWISE.
   PROVIDE FLOORING TRANSITION STRIPS AT FLOOR MATERIAL CHANGES. COORDINATE FLOORING TRANSITION
- MATERIAL, PROFILE AND COLOR WITH ARCHITECT PRIOR TO INSTALLATION -REFER TO DETAIL DRAWINGS FOR DESIGN INTENT. 7. ALL HOLLOW METAL DOORS AND FRAME TO DE DAINTED TO MATCH AD INCENT
- 7. ALL HOLLOW METAL DOORS AND FRAMES TO BE PAINTED TO MATCH ADJACENT WALL SURFACES WITH SEMI-GLOSS PAINT FINISH UNLESS NOTED OTHERWISE.
- 8. ALL ANODIZED ALUMINUM FRAMES NOT TO BE PAINTED UNLESS NOTED OTHERWISE.
- 9. ALL INTERIOR CEMENT BOARD LOCATIONS NOT TO BE PAINTED UNLESS NOTED OTHERWISE.
- CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS AND CONDITIONS. IN THE EVENT OF A DISCREPANCY BETWEEN THE DRAWINGS AND THE EXISTING CONDITIONS, NOTIFY THE ARCHITECT BEFORE PROCEEDING.
   REFER TO CONSULTANT DRAWINGS
- FOR OTHER DISCIPLINES. 12. EXISTING BUILDING CONDITIONS SHOWN ON THESE DRAWINGS ARE DERIVED FROM DRAWINGS OF THE
- ORIGINAL BUILDING AND FROM LIMITED FIELD OBSERVATION. INDICATED EXISTING BUILDING CONDITIONS ARE ASSUMED TO BE REPRESENTATIVE OF THE ACTUAL CONSTRUCTION OF THE BUILDING.
- LOCAL CONDITIONS MAY VARY. 13. OFFICE AREA - REMOVE CARPET AND ALL RESIDUE COMPLETE TO PREP FOR POLISH AND SEAL CONCRETE FLOOR. SEAL CONCRETE FLOOR THROUGHOUT OFFICE SPACES, INCLUDING AREAS TO RECEIVE CARPET IN THE FUTURE. REFER TO SPECIFICATIONS FOR EXECUTION. 14. WAREHOUSE AREA - EXISTING
- CONCRETE FLOOR TO REMAIN AS IS

CPT-2:

GENERAL NOTES



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608-819-0261 FAX www.opnarchitects.com opn@opnarchitects.com

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Owner

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STRUCTURAL ENGINEER KJWW Engineering Consultants 1800 Deming Way Middleton, WI 53562 P. 608.223.9600

MECHANICAL ENGINEER KJWW Engineering Consultants 1800 Deming Way Middleton, WI 53562 P. 608.223.9600

ELECTRICAL ENGINEER KJWW Engineering Consultants 1800 Deming Way Middleton, WI 53562 P. 608.223.9600

Key Plan

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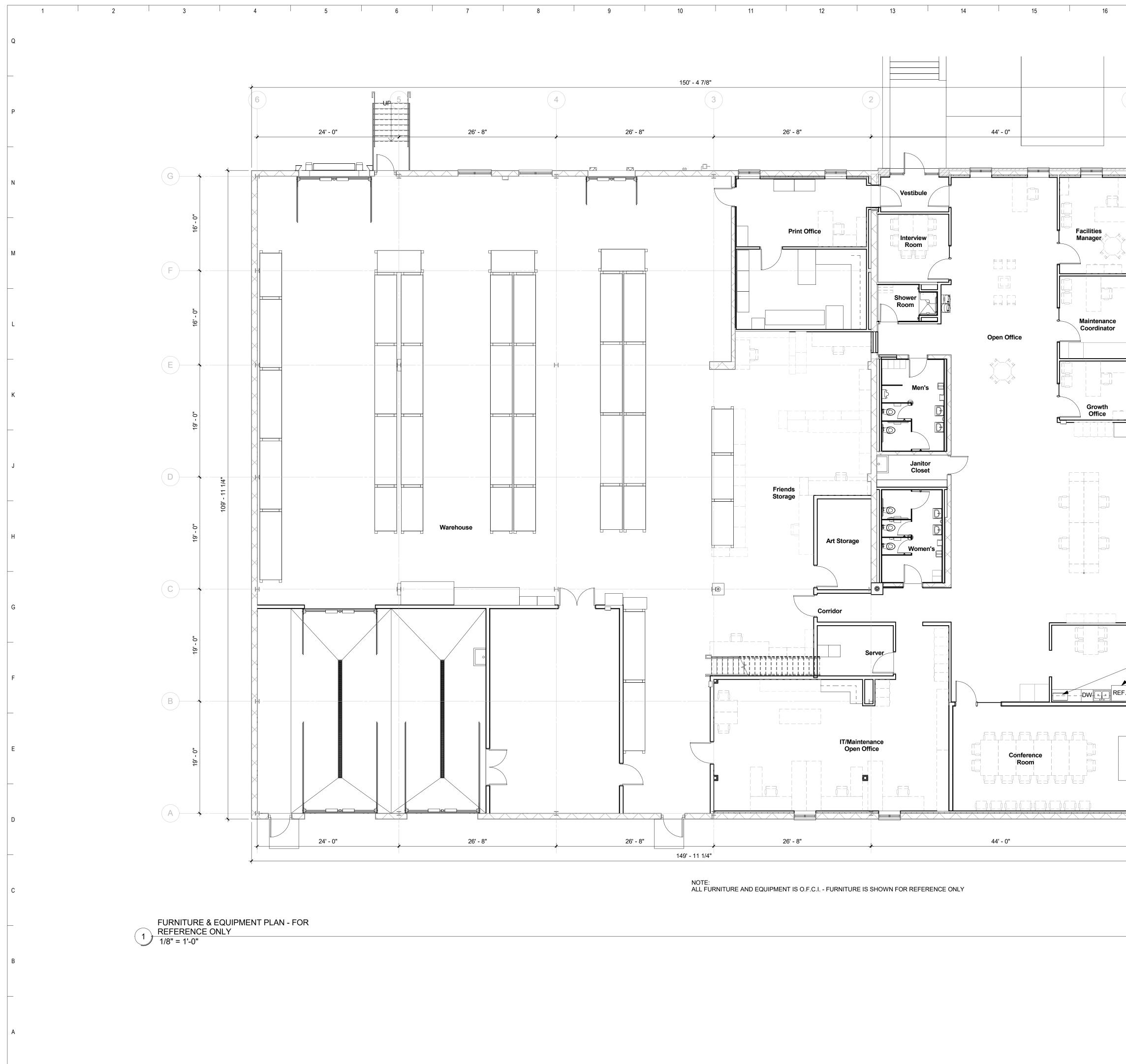
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Previous Issue Dates

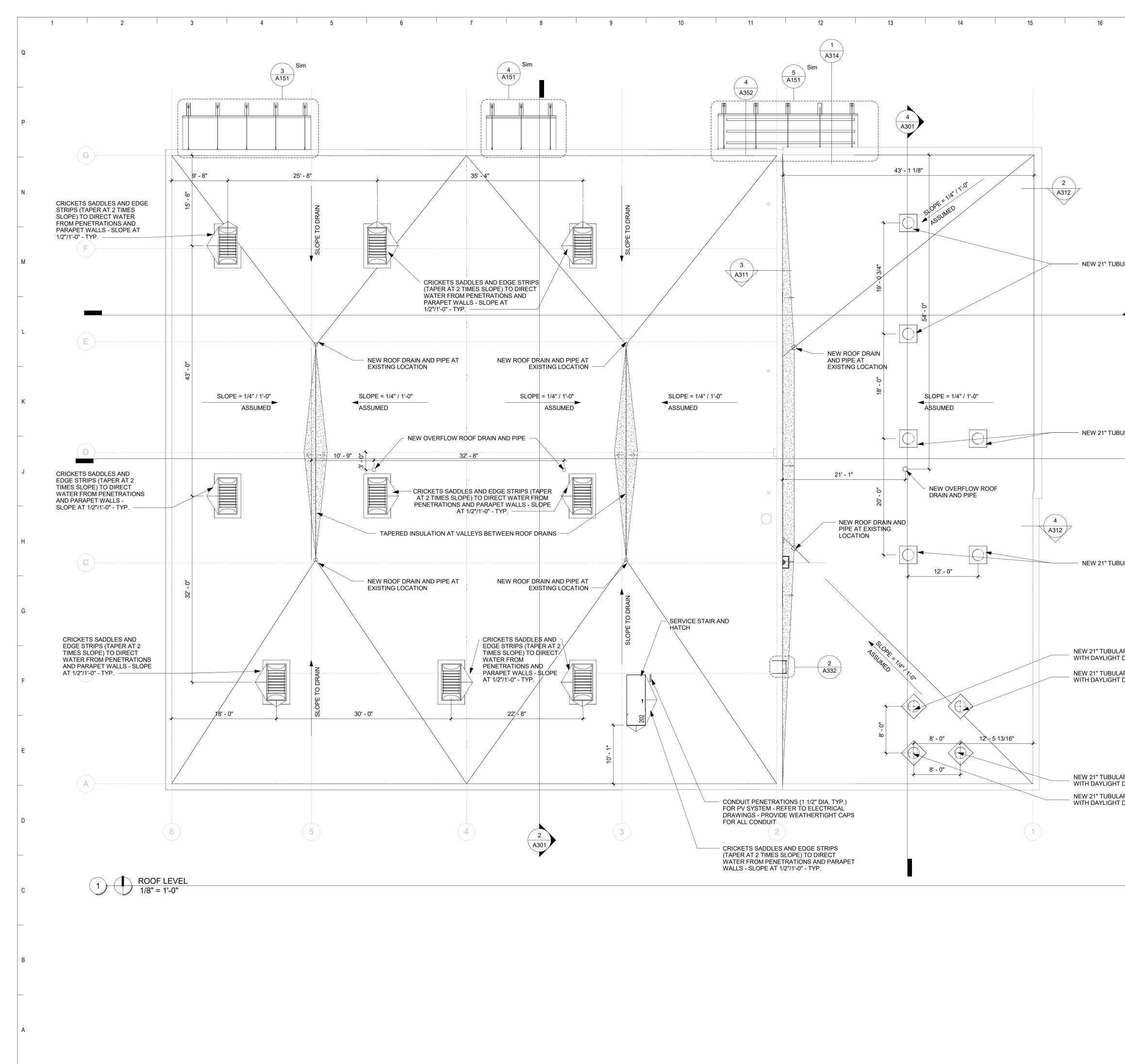
Revision Dates

Drawing FIRST FLOOR FINISH PLAN





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								Consultants CIVIL ENGINEER
								Snyder & Associates, Inc. 5010 Voges Road Madison, WI 53718 P. 608.838.0444 STRUCTURAL ENGINEER KJWW Engineering Consultants 1800 Deming Way Middleton, WI 53562 P. 608.223.9600
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EF.	, c	D.F.C.I. EQUIP	MENT					ELECTRICAL ENGINEER KJWW Engineering Consultants 1800 Deming Way Middleton, WI 53562 P. 608.223.9600
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								Revision Dates
								Drawing FURNITURE AND EQUIPMENT PLAN
								OPN Project No. 15617000



		ARCHITECTS
	1. NOT ALL ROOF PENETRATIONS ARE SHOWN. VERIFY LOCATIONS OF ALL ROOF PENETRATIONS. PROVIDE BOOTS, FLASHING AND OTHER ACCESSORIES	CEDAR RAPIDS DES MOINES MADISON
	REQUIRED TO PROVIDE A COMPLETE, WATERTIGHT WARRANTED SYSTEM REFER TO INDIVIDUAL DISCIPLINES.	OPN ARCHITECTS 301 NORTH BROOM S-TREET, SUITE100
	<ol> <li>COORDINATE SLOPED STRUCTURE AND TAPERED INSULATION WITH STRUCTURAL DRAWINGS.</li> <li>SLOPE ALL TAPERED INSULATION AT 1/4" :</li> </ol>	MADISON, WI 53703 608-819-0260 PHONE 608-819-0261 FAX www.opnarchitects.com
	<ol> <li>3. SECTE ALL TALETED INSOLATION AT 1/4 . 1'-0" UNLESS NOTED OTHERWISE.</li> <li>4. PROTECT SECTIONS OF THE ROOF THAT HAVE ALREADY BEEN INSTALLED FROM</li> </ol>	opn@opnarchitects.com
	DAMAGE. DO NOT USE THE ROOF FOR A STAGING AREA UNLESS ADEQUATE FACTORY, MUTUALLY APPROVED	All reports, plans, specifications, computer files, field data, notes and other documents and instruments prepared by OPN Architects, Inc. as instruments of service shall remain the property of OPN Architects, Inc. OPN Architects, Inc. shall retain all common law, statutory and other
	PROTECTION MEASURES ARE USED TO PROTECT THE ROOF. 5. COORDINATE LOCATION OF MECHANICAL	© 2016 OPN Architects, Inc.
	EQUIPMENT WITH MECHANICAL DRAWINGS. 6. ALL OVERFLOW DRAINS TO BE 2" ABOVE	Owner MADISON PUBLIC LIBRARY
	MAIN ROOF DRAIN INTAKE ELEVATION. 7. REFER TO WALL SECTIONS AND SECTION DETAIL DRAWINGS FOR SPECIFIC ROOF DETAILS.	MADISON PUBLIC LIBRARY
IBULAR SKYLIGHT	8. OPENING IN THE EXISTING STRUCTURE SMALLER THAN 12" IN ANY DIRECTION ARE NOT IDENTIFIED ON THESE DRAWINGS. SUB- CONTRACTORS SHALL BE RESPONSIBLE FOR PROVIDING	201 W Mifflin St Madison, WI 53703
3	OPENINGS SMALLER THAN 12" AS REQUIRED FOR INSTALLATION OF THEIR WORK.	
A301	9. CONTRACTOR SHALL NOT AT ANY TIME EXCEED ANY ROOF LIVE LOAD CAPACITIES.	Project Madison Public Library Maintenance & Support
	10. CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS AND CONDITIONS. IN THE EVENT OF A DISCREPANCY	Center Remodel 1301 West Badger Road
	BETWEEN THE DRAWINGS AND THE EXISTING CONDITIONS, NOTIFY THE ARCHITECT BEFORE PROCEEDING.	Madison, WI 53713
	<ol> <li>REFER TO CONSULTANT DRAWINGS FOR OTHER DISCIPLINES.</li> <li>EXISTING BUILDING CONDITIONS SHOWN ON THESE DRAWINGS ARE DERIVED FROM DRAWINGS OF THE ORIGINAL BUILDING AND FROM</li> </ol>	
IBULAR SKYLIGHT	LIMITED FIELD OBSERVATION. 13. INDICATED EXISTING BUILDING CONDITIONS ARE ASSUMED TO BE	General Contractor
	REPRESENTATIVE OF THE ACTUAL CONSTRUCTION OF THE BUILDING. LOCAL CONDITIONS MAY VARY.	
A301	14. DIMENSIONS ARE MEASURED FACE- OF- FINISH TO FACE-OF-FINISH OR ROUGH MASONRY OPENING UNLESS	
	NOTED OTHERWISE - TYPICAL FOR ALL DRAWINGS.	
		Consultants CIVIL ENGINEER
IBULAR SKYLIGHT	SLOPE = 1/4" / 1'-0" ASSUMED EXISTING SLOPED ROOF STRUCTURE TO REMAIN, POSITIVE DRAINAGE TO ALL DRAINS = 1/4" : 1"-0" ASSUMED	Snyder & Associates, Inc. 5010 Voges Road Madison, WI 53718 P. 608.838.0444
	GENERAL NOTES	STRUCTURAL ENGINEER KJWW Engineering Consultants 1800 Deming Way Middleton, WI 53562 P. 608.223.9600
		MECHANICAL ENGINEER KJWW Engineering Consultants 1800 Deming Way Middleton, WI 53562 P. 608.223.9600
ILAR SKYLIGHT IT DIMMER		ELECTRICAL ENGINEER KJWW Engineering Consultants
LAR SKYLIGHT IT DIMMER		1800 Deming Way Middleton, WI 53562 P. 608.223.9600
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		Drawing

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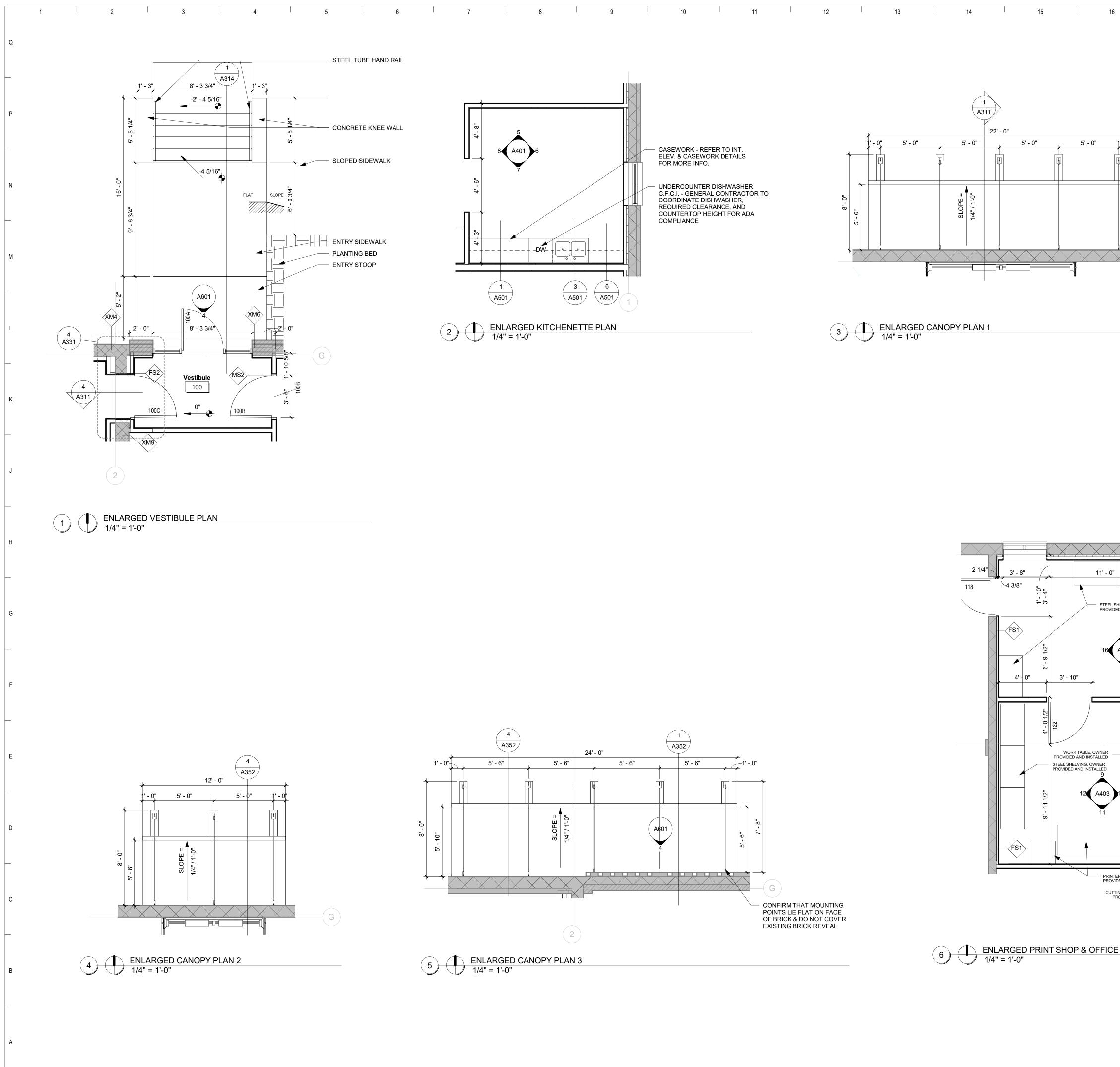
GENERAL NOTES

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Drawing ROOF PLAN

OPN Project No. 15617000





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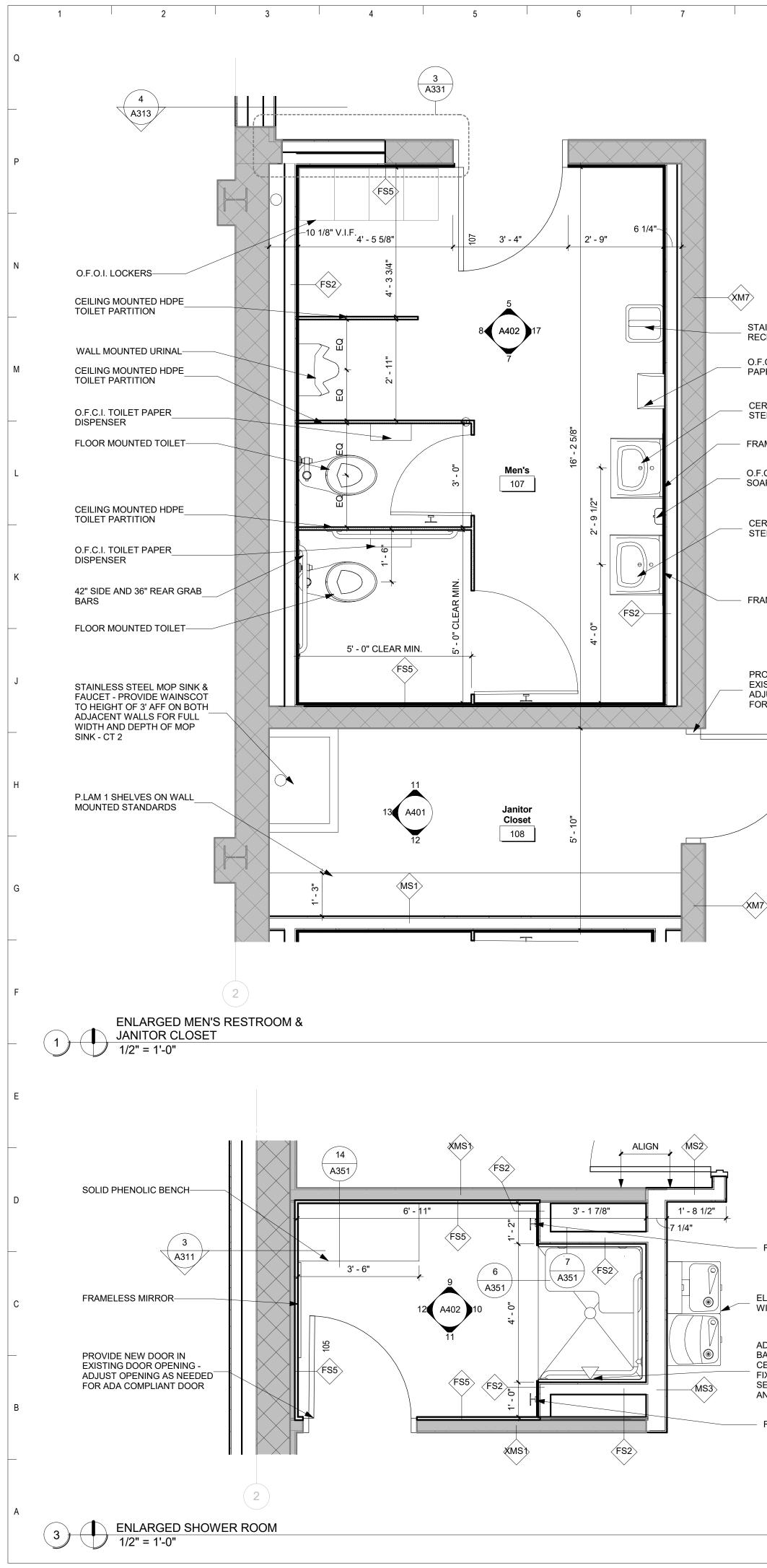
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OPN Project No. **15617000** A151



ROBE HOOKS

ADA SHOWER UNIT WITH GRAB BARS, 1/2" THRESHOLD, CENTER DRAIN, RIGHTHAND FIXTURE WALL, & FOLD-UP SEAT - PROVIDE CURTAIN ROD AND SHOWER CURTAIN

ELKAY EZH20 BOTTLE FILLER WITH HI-LO COOLER

ROBE HOOKS

108

PROVIDE NEW DOOR IN **EXISTING DOOR OPENING -**ADJUST OPENING AS NEEDED FOR ADA COMPLIANT DOOR

FRAMELESS MIRROR

CERAMIC SINK W/ STAINLESS STEEL TOUCHLESS FAUCET

SOAP DISPENSER

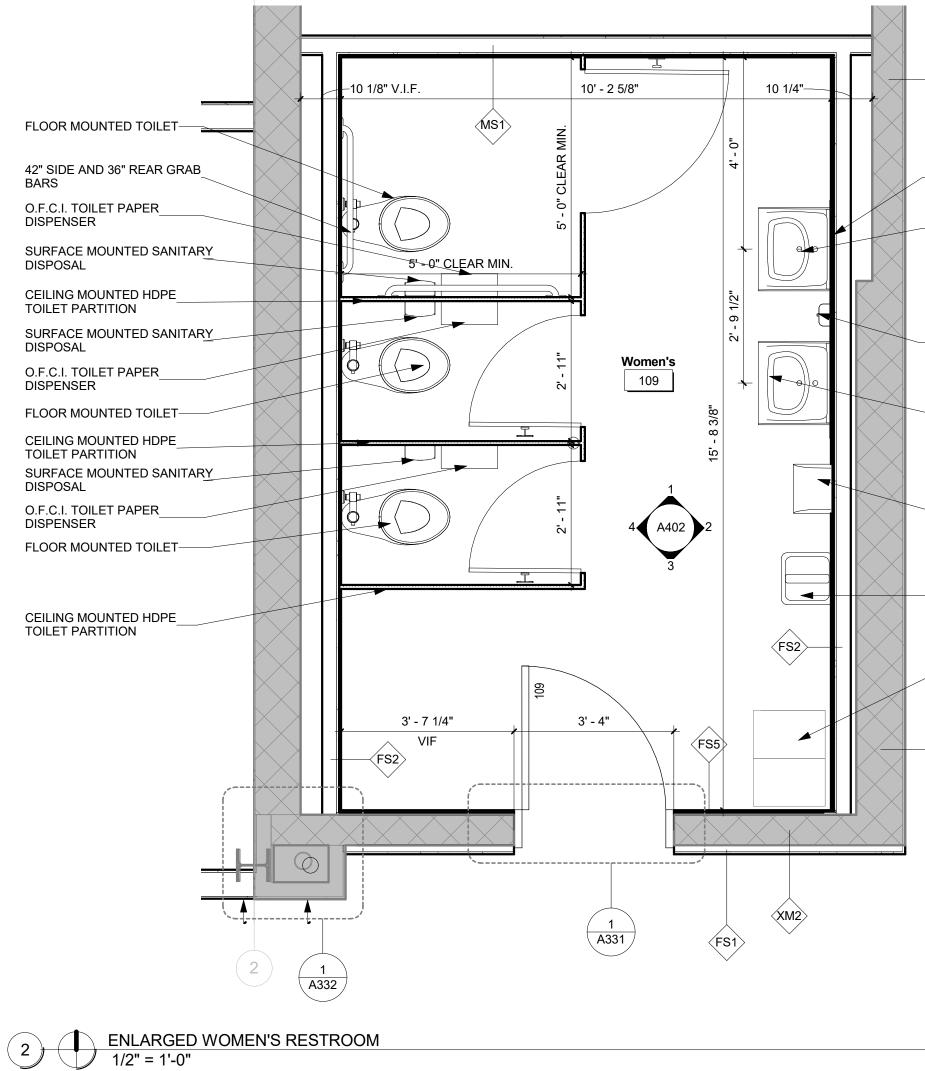
O.F.C.I. SURFACE MOUNTED

FRAMELESS MIRROR

CERAMIC SINK W/ STAINLESS STEEL TOUCHLESS FAUCET

O.F.C.I. SURFACE MOUNTED PAPER TOWEL DISPENSER

STAINLESS STEEL WASTE RECEPTACLE WITH LID



17	18	19	20	21

GENERAL NOTES

- 1. DIMENSIONS ARE MEASURED FACE-OF-FINISH TO FACE-OF-FINISH OR ROUGH MASONRY OPENING UNLESS NOTED OTHERWISE - TYPICAL FOR ALL DRAWINGS.
- 2. REFER TO INTERIOR ELEVATIONS, FINISH PLANS, FINISH SPECIFICATIONS AND ROOM FINISH SCHEDULE FOR ADDITIONAL WALL FINISH INFORMATION AND REMARKS.
- 3. PROVIDE CONCEALED, FIRE TREATED BLOCKING AT ALL ACCESSORIES AND CASEWORK LOCATIONS. EXTEND BLOCKING A MINIMUM OF 6" BEYOND EACH END AND 6" ABOVE AND BELOW ALL ACCESSORY ITEMS.
- 4. MOUNT REQUIRED ACCESSIBLE TOILET ACCESSORIES PER ADA GUIDELINES -SEE GENERAL ARCHITECTURAL INFORMATION SHEET FOR MORE INFORMATION.
- 5. REFER TO INTERIOR ELEVATIONS FOR SPECIFIC MATERIAL AND FINISH CLARIFICATION, MOUNTING HEIGHTS AND FIXTURE LOCATIONS. 6. ALL PENETRATIONS IN FIRE RATED
- WALLS MUST BE SEALED WITH APPROPRIATE FIRESTOPPING SYSTEM.
- 7. REFER TO GENERAL ARCHITECTURAL INFORMATION SHEET FOR ALL TYPICAL ADA MOUNTING HEIGHTS.
- 8. REFER TO CODE REVIEW DRAWINGS FOR FIRE RATED WALL LOCATIONS. 9. ALL WALLS WITH SOUND ATTENUATION BLANKETS ARE TO HAVE ACOUSTICAL SEALANT AT TOP AND BOTTOM AND AT
- ALL WALL PENETRATIONS. 10. CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS AND CONDITIONS. IN THE EVENT OF A DISCREPANCY BETWEEN THE DRAWINGS AND THE EXISTING CONDITIONS, NOTIFY THE ARCHITECT BEFORE PROCEEDING.
- 11. REFER TO CONSULTANT DRAWINGS FOR OTHER DISCIPLINES. 12. EXISTING BUILDING CONDITIONS
- SHOWN ON THESE DRAWINGS ARE DERIVED FROM DRAWINGS OF THE ORIGINAL BUILDING AND FROM LIMITED FIELD OBSERVATION.
- 13. INDICATED EXISTING BUILDING CONDITIONS ARE ASSUMED TO BE REPRESENTATIVE OF THE ACTUAL CONSTRUCTION OF THE BUILDING. LOCAL CONDITIONS MAY VARY.

**GENERAL NOTES** 



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General Contractor

Project Madison Public Library Maintenance & Support Center Remodel 1301 West Badger Road Madison, WI 53713

**CIVIL ENGINEER** Snyder & Associates, Inc. 5010 Voges Road Madison, WI 53718 P. 608.838.0444

Consultants

STRUCTURAL ENGINEER KJWW Engineering Consultants 1800 Deming Way Middleton, WI 53562 P. 608.223.9600

MECHANICAL ENGINEER KJWW Engineering Consultants 1800 Deming Way Middleton, WI 53562 P. 608.223.9600

ELECTRICAL ENGINEER KJWW Engineering Consultants 1800 Deming Way Middleton, WI 53562 P. 608.223.9600

Key Plan

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Revision Dates							
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	FLOOR PLANS						
OPN Project No. <b>156</b>	17000						
OPN Project No. <b>156</b>	17000						



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FRAMELESS MIRROR

CERAMIC SINK W/ STAINLESS STEEL TOUCHLESS FAUCET

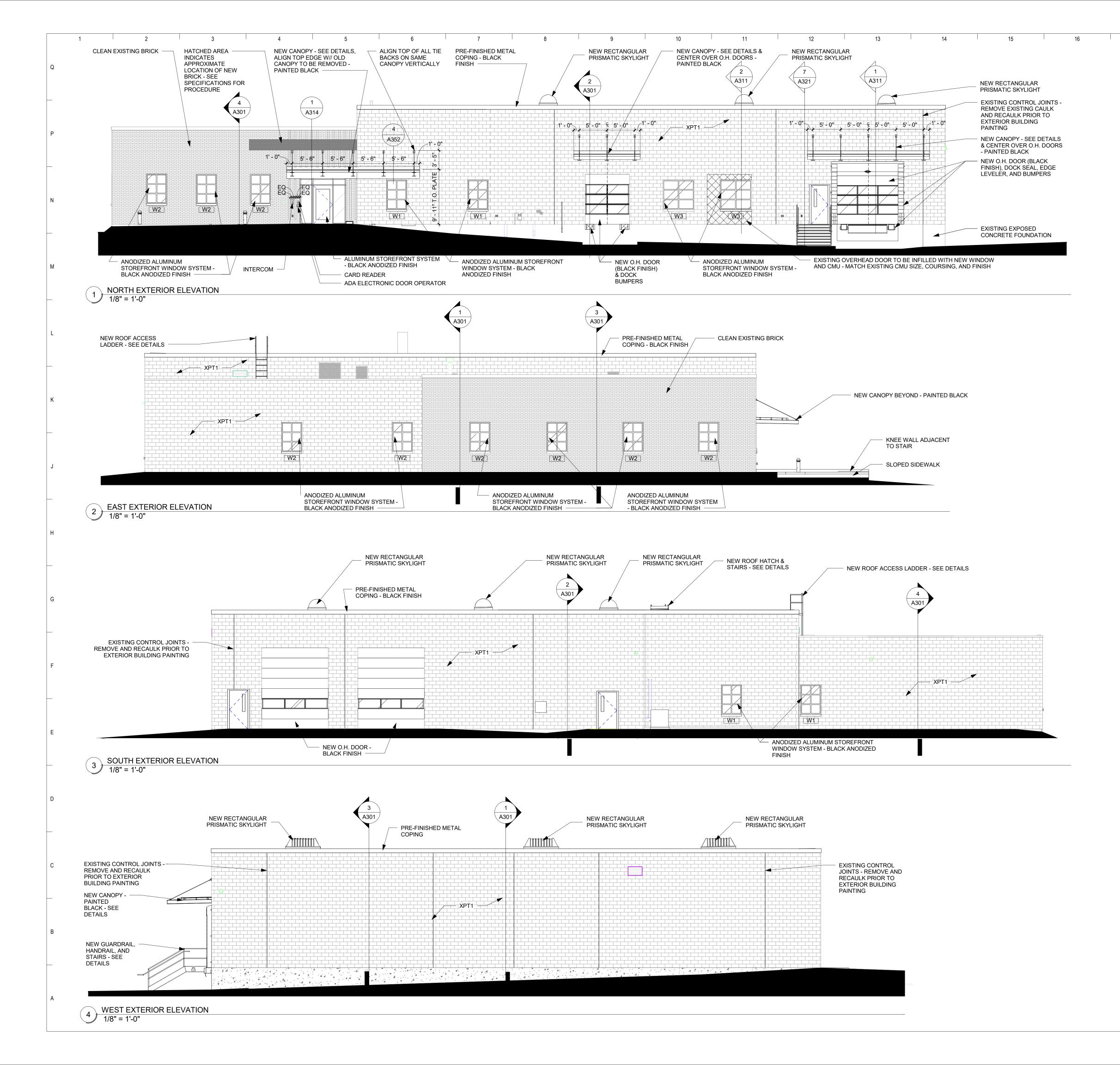
### O.F.C.I. SURFACE MOUNTED SOAP DISPENSER

CERAMIC SINK W/ STAINLESS STEEL TOUCHLESS FAUCET

O.F.C.I. SURFACE MOUNTED PAPER TOWEL DISPENSER

### STAINLESS STEEL WASTE RECEPTACLE WITH LID

O.F.O.I. LOCKERS



GENERAL NOTES	A R C H I T E C T S
<ol> <li>DIMENSIONS ARE MEASURED FACE-OF- FINISH TO FACE-OF-FINISH OR ROUGH MASONRY OPENING UNLESS NOTED OTHERWISE - TYPICAL FOR ALL DRAWINGS.</li> <li>WALL FIXTURE DIMENSIONS ARE TAKEN FROM CENTERLINE OF FIXTURE UNLESS NOTED OTHERWISE.</li> <li>SEE WINDOW SCHEDULE FOR ADDITIONAL OPENING INFORMATION.</li> <li>SEE SPECIFICATIONS FOR EXPANSION JOINT REQUIREMENTS - ALL EXTERIOR VERTICAL JOINTS, INCLUDING OPENINGS, TO RECEIVE FOAM BACKER SEAL, BACKER ROD, AND SEALANT.</li> </ol>	CEDAR RAPIDS DES MOINES MADISON OPN ARCHITECTS 301 NORTH BROOM S-TREET, SUITE100 MADISON, WI 53703 608-819-0260 PHONE 608-819-0261 FAX www.opnarchitects.com opn@opnarchitects.com opn@opnarchitects.com

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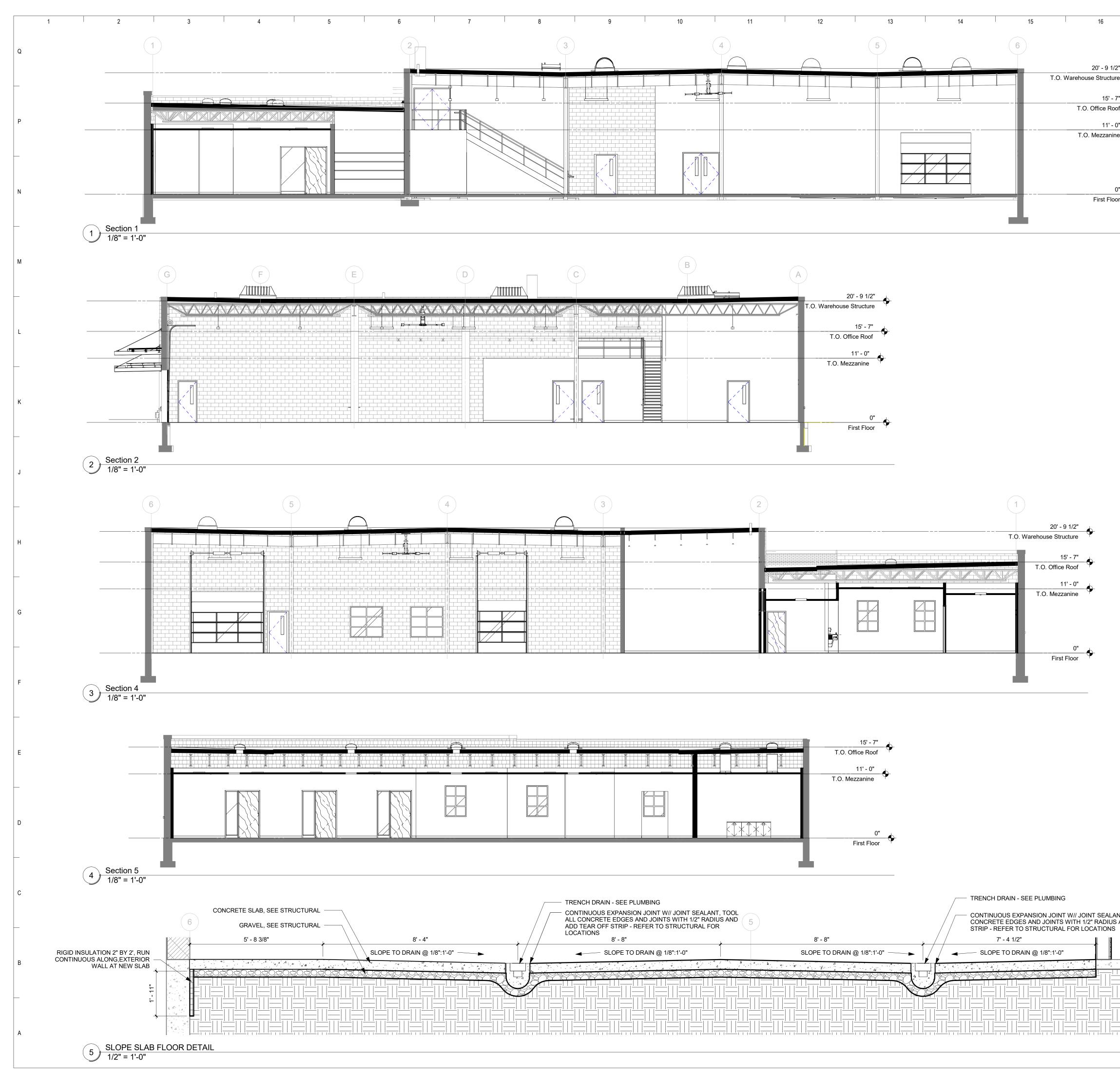
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EXTERIOR ELEVATIONS

OPN Project No. 15617000



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				OPN ARCHITEC 301 NORTH BROC SUITE100 MADISON, WI 5370 608-819-0260 PHO 608-819-0261 FAX
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CHITECTS H BROOM S-TREET,

l, WI 53703 260 PHONE 261 FAX rchitects.com architects.com

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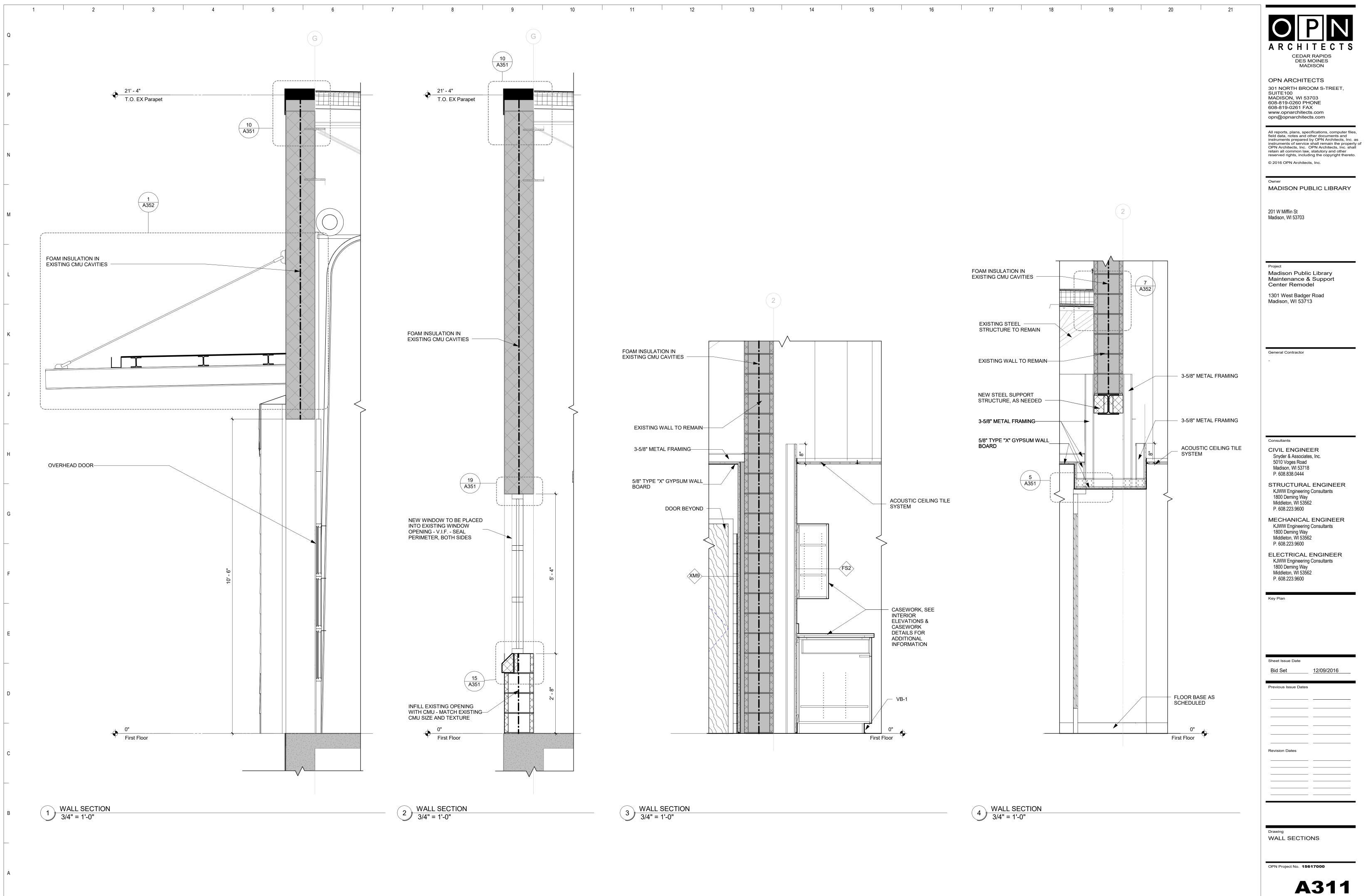
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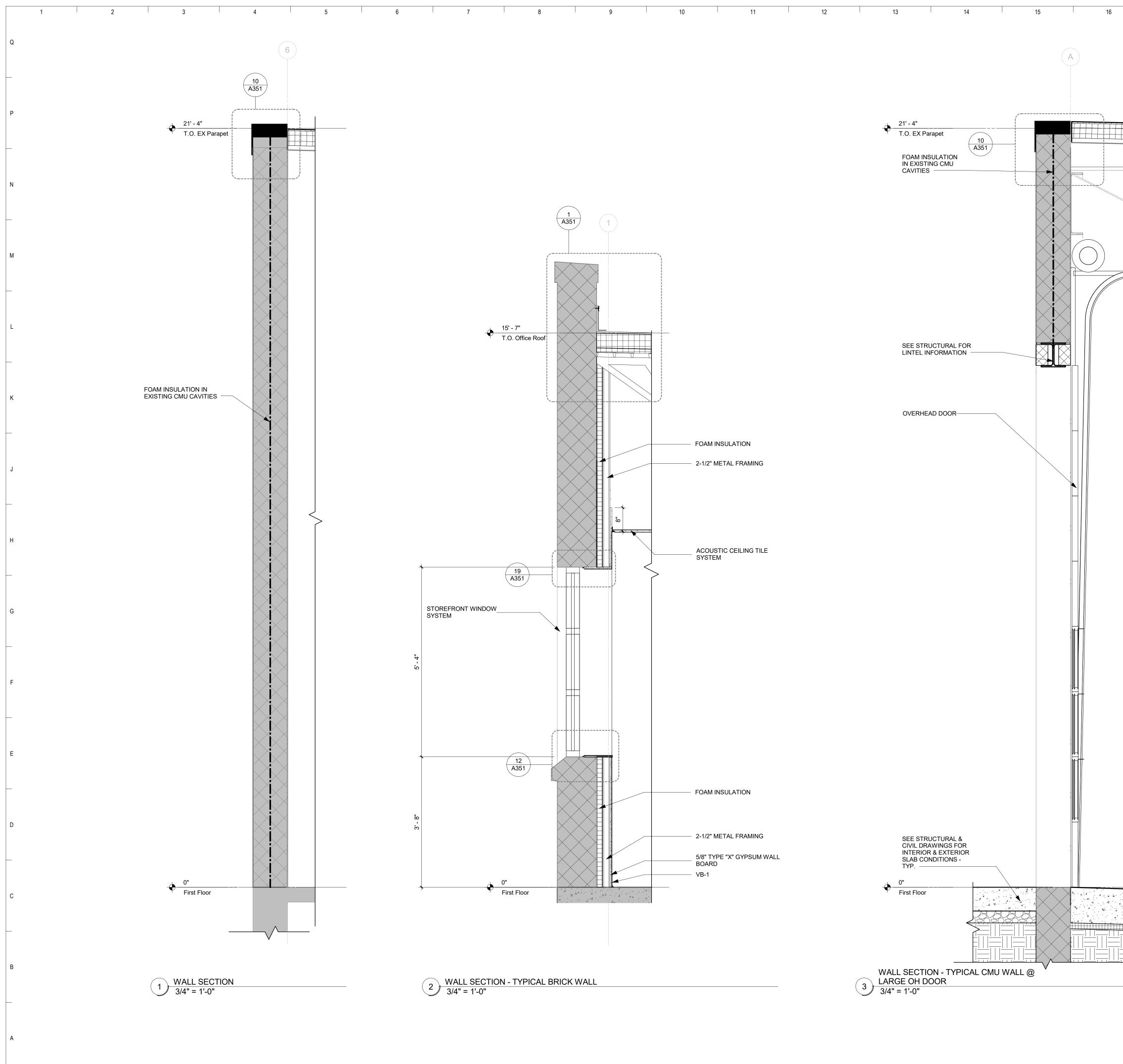
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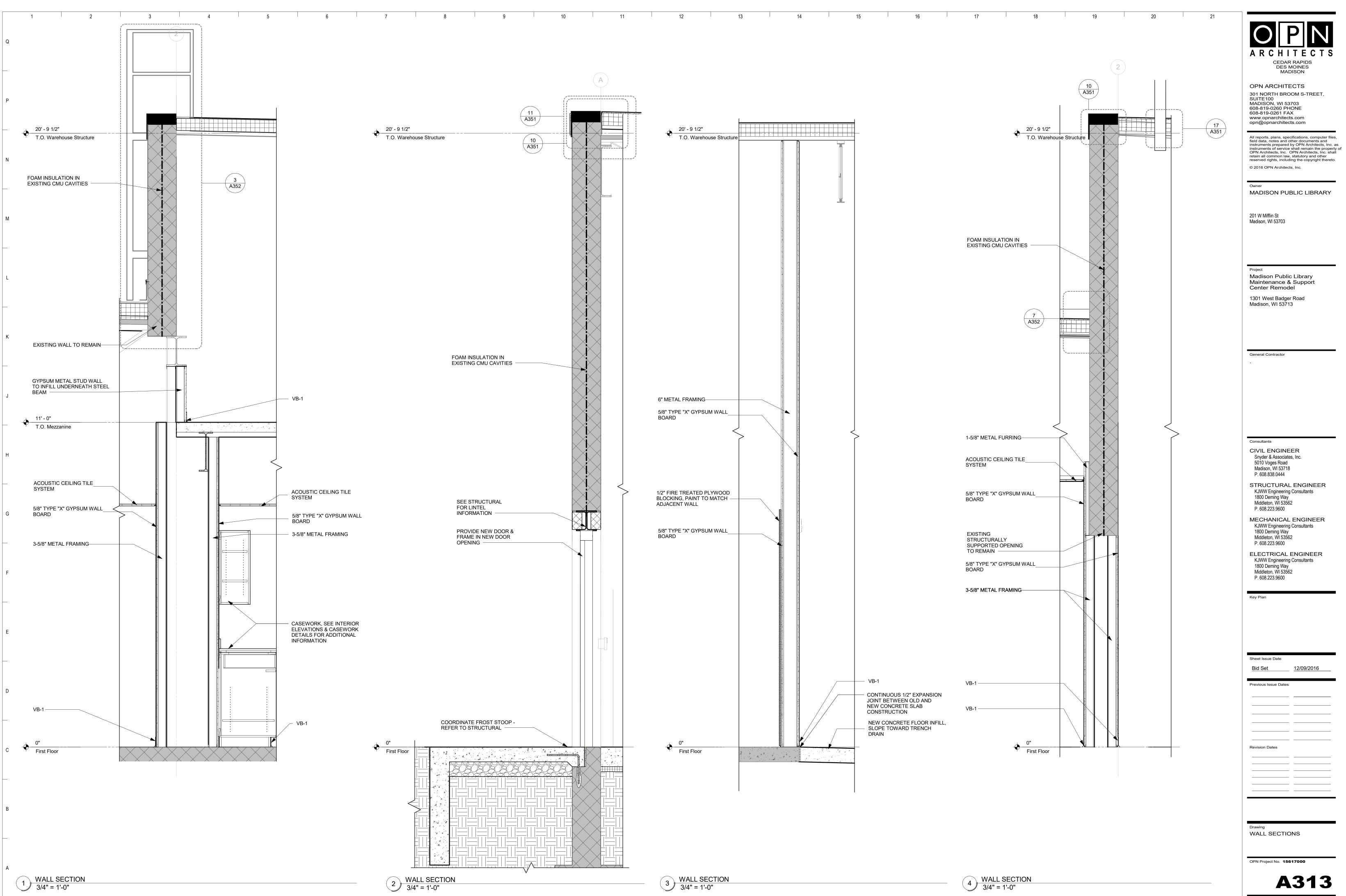


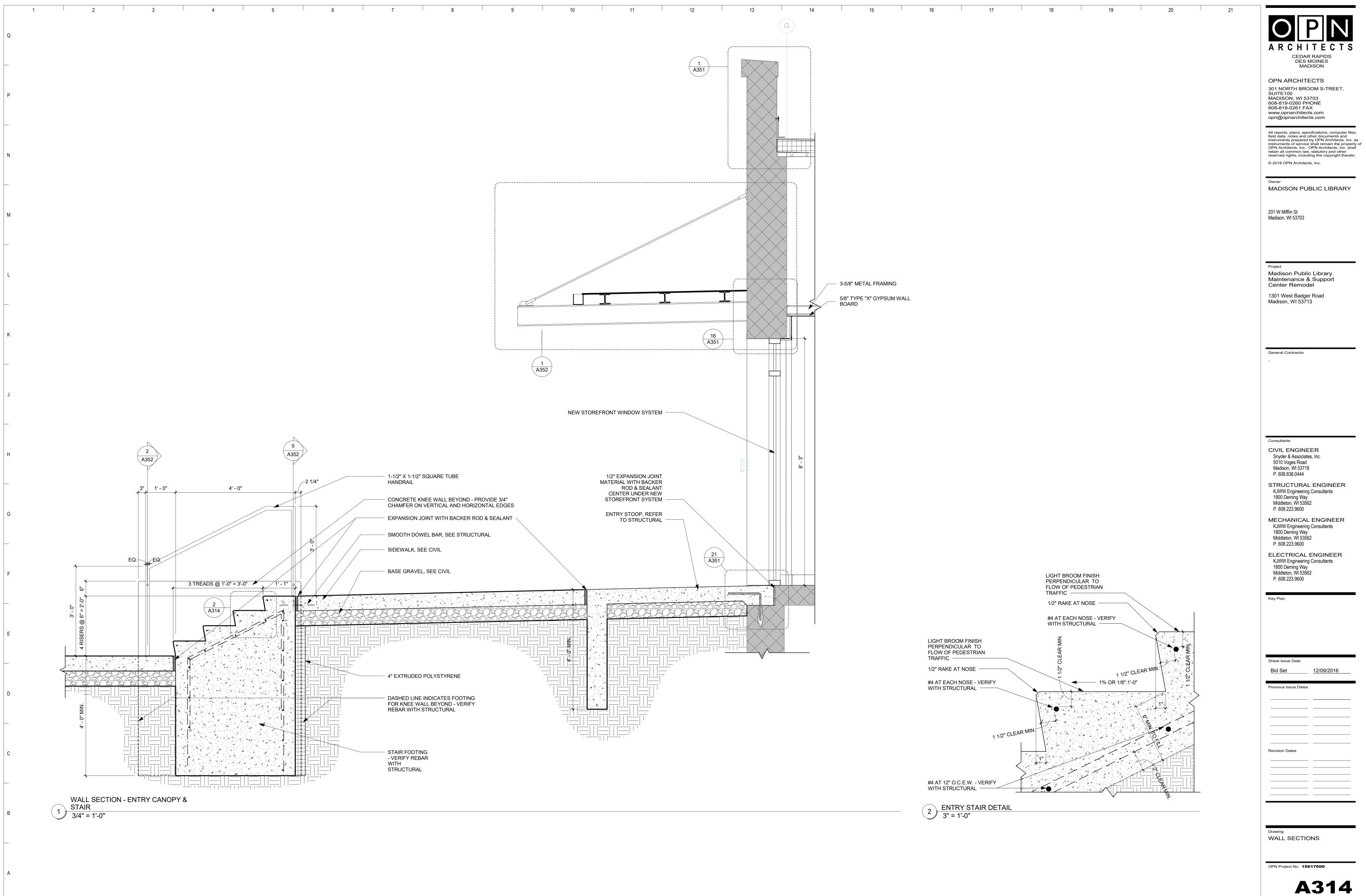
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		201 W Mifflin St Madison, WI 53703
T.O. Office Roof		Project Madison Public Library Maintenance & Support Center Remodel 1301 West Badger Road Madison, WI 53713
XISTING WALL TO REMAIN		General Contractor
-1/2" METAL FRAMING		
COUSTIC CEILING TILE		
/8" TYPE "X" GYPSUM WALL 3OARD		Consultants
		CIVIL ENGINEER Snyder & Associates, Inc. 5010 Voges Road Madison, WI 53718 P. 608.838.0444
A351		STRUCTURAL ENGINEER KJWW Engineering Consultants 1800 Deming Way Middleton, WI 53562 P. 608.223.9600
STOREFRONT WINDOW		MECHANICAL ENGINEER KJWW Engineering Consultants 1800 Deming Way Middleton, WI 53562 P. 608.223.9600
	Ω	ELECTRICAL ENGINEER KJWW Engineering Consultants 1800 Deming Way Middleton, WI 53562 P. 608.223.9600
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13 A351		
/8" TYPE "X" GYPSUM WALL OARD		Sheet Issue Date Bid Set 12/09/2016
-1/2" METAL FRAMING		Previous Issue Dates
/B-1 OAM INSULATION		
0" First Floor		Revision Dates

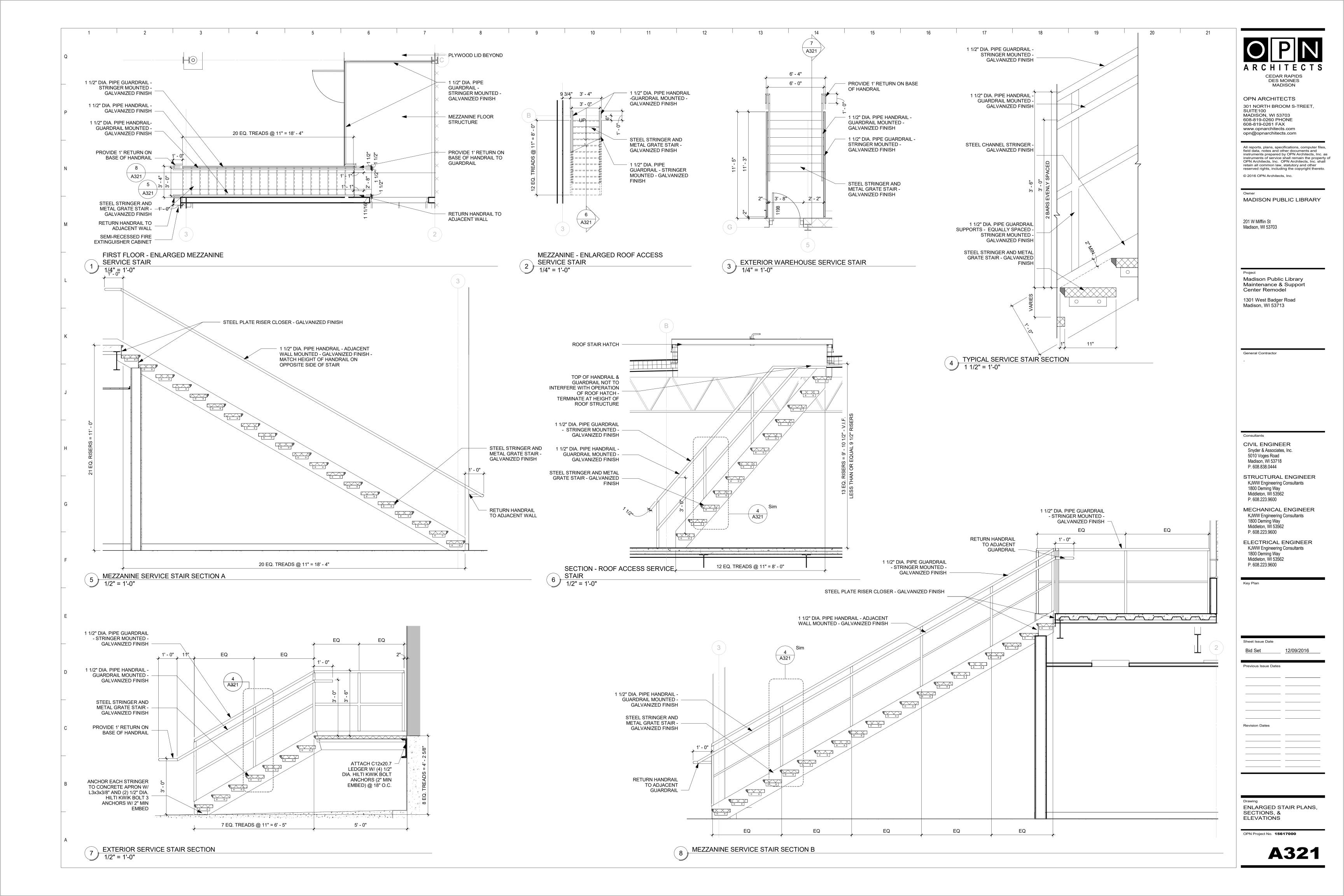
	1 A351 1
15' - 7"       T.O. Office Roof	
EXISTING WALL TO REMAIN	
FOAW INSULATION	
2-1/2" METAL FRAMING	
ACOUSTIC CEILING TILE SYSTEM	
5/8" TYPE "X" GYPSUM WALL BOARD	
18 A351	
STOREFRONT WINDOW SYSTEM	5 4"
5/8" TYPE "X" GYPSUM WALL BOARD	
2-1/2" METAL FRAMING	3 8.
FOAM INSULATION	
• 0" First Floor	

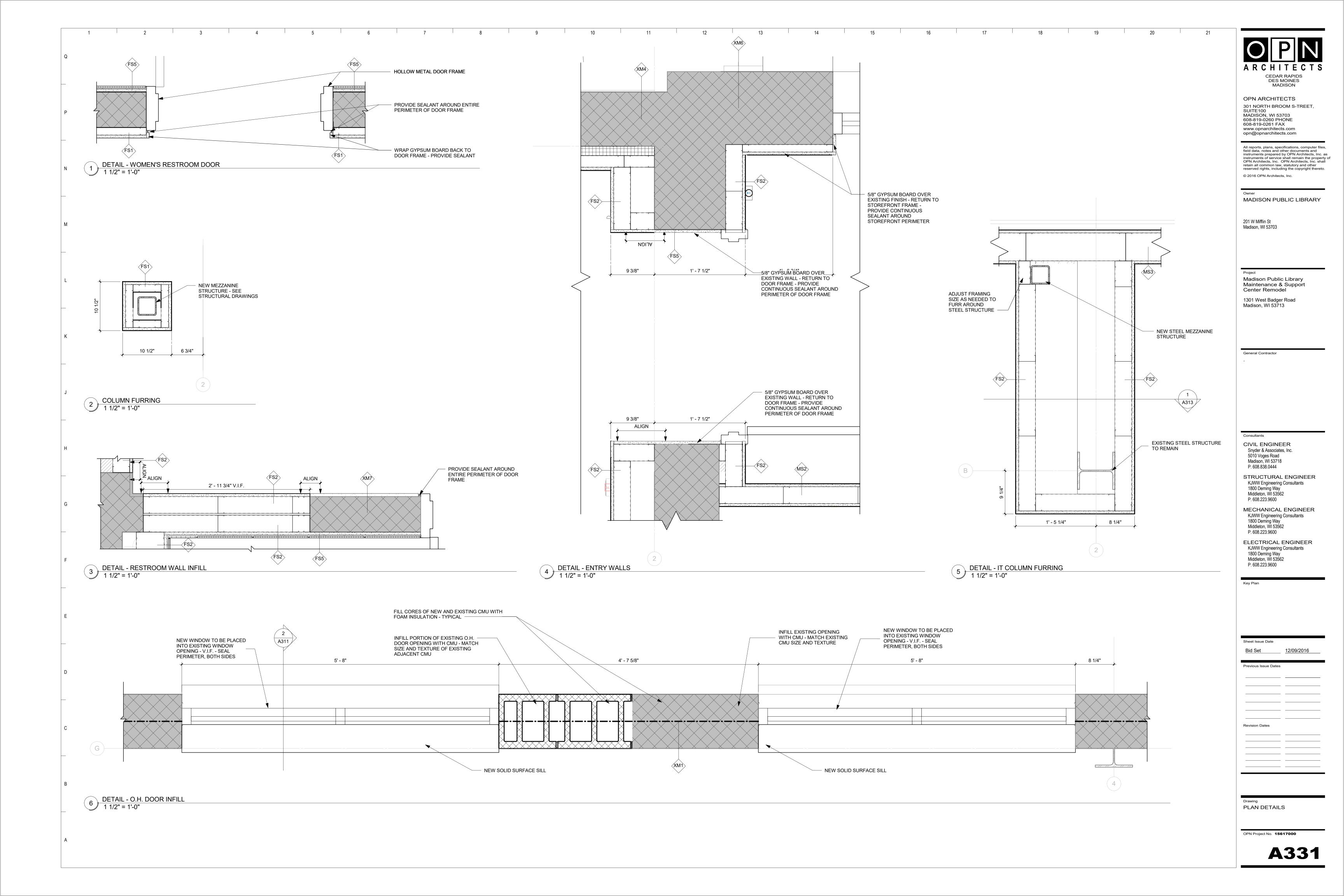
OPN Project No. **15617000** 

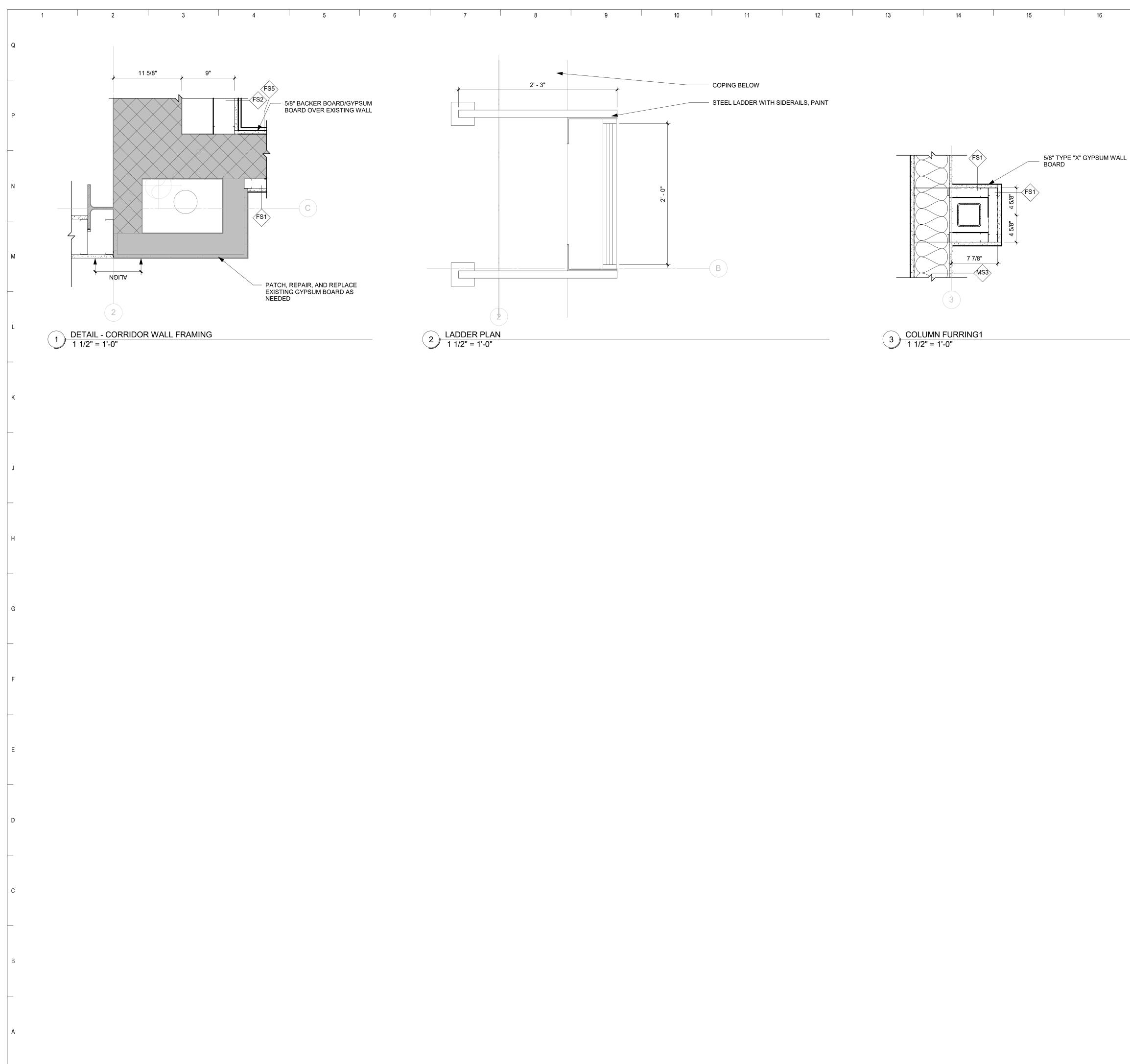
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General Contractor

Project Madison Public Library Maintenance & Support Center Remodel 1301 West Badger Road Madison, WI 53713

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STRUCTURAL ENGINEER KJWW Engineering Consultants 1800 Deming Way Middleton, WI 53562 P. 608.223.9600

MECHANICAL ENGINEER KJWW Engineering Consultants 1800 Deming Way Middleton, WI 53562 P. 608.223.9600

ELECTRICAL ENGINEER KJWW Engineering Consultants 1800 Deming Way Middleton, WI 53562 P. 608.223.9600

Key Plan

### Sheet Issue Date Bid Set <u>12/09/2016</u>

Previous Issue Dates

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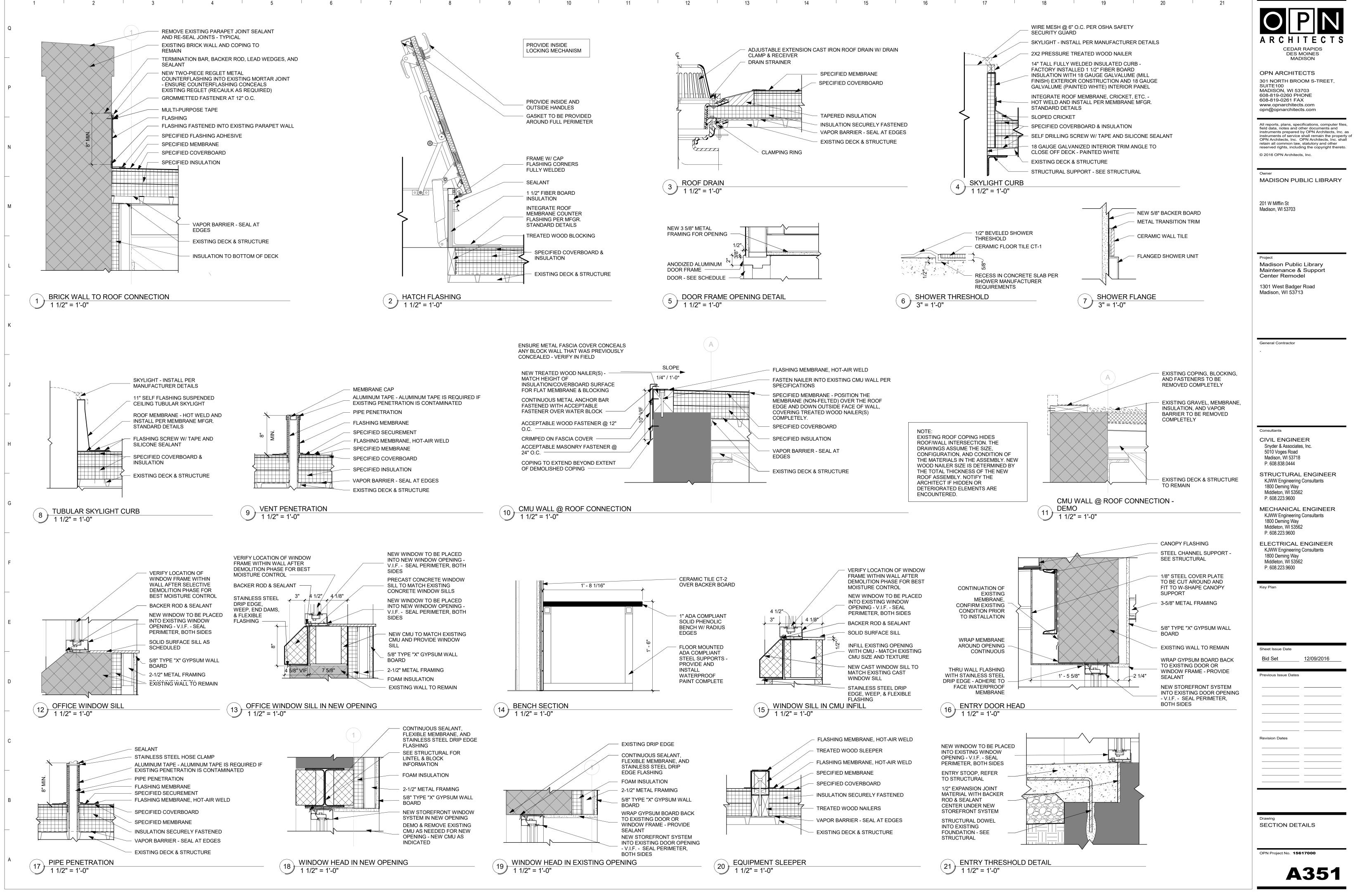
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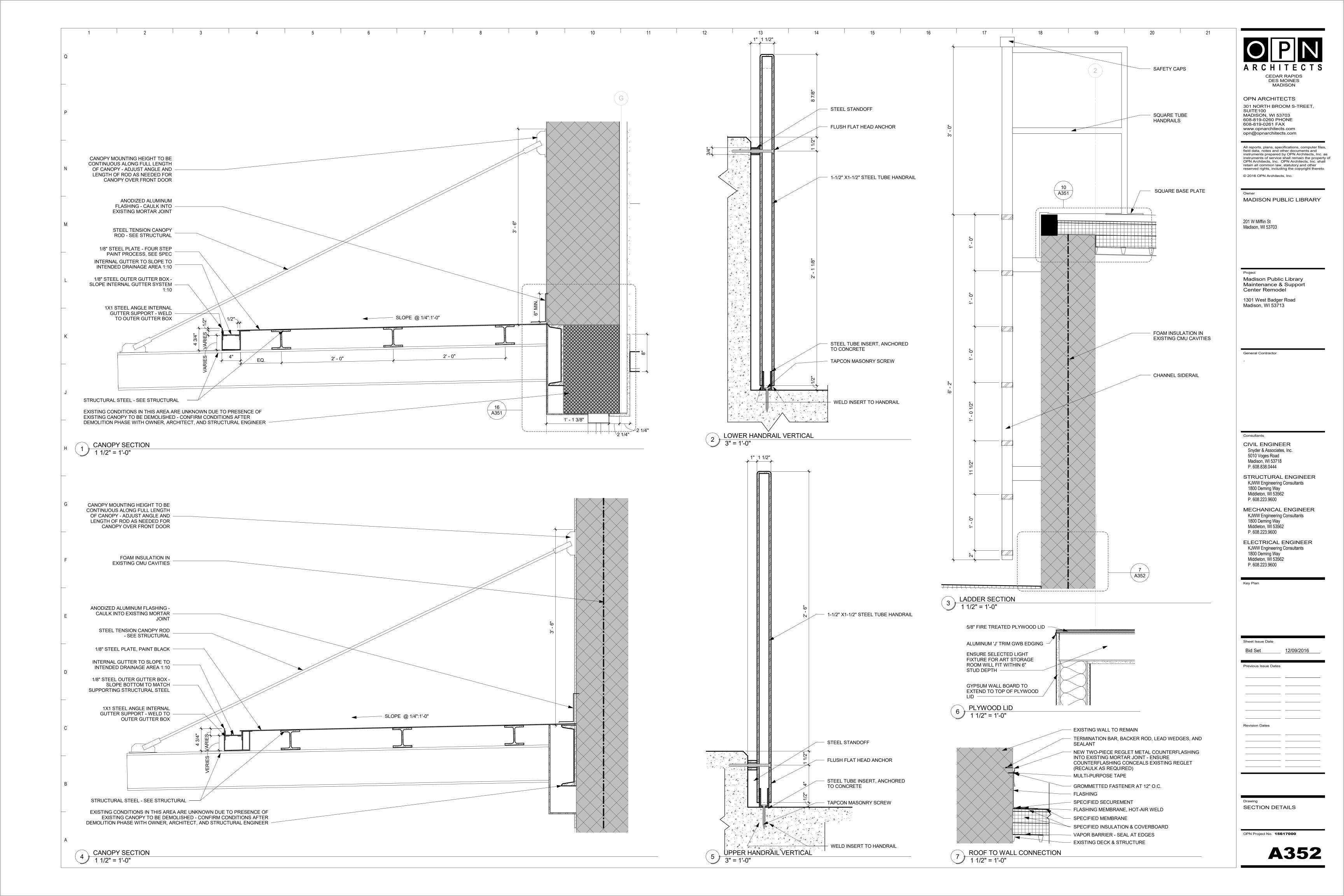
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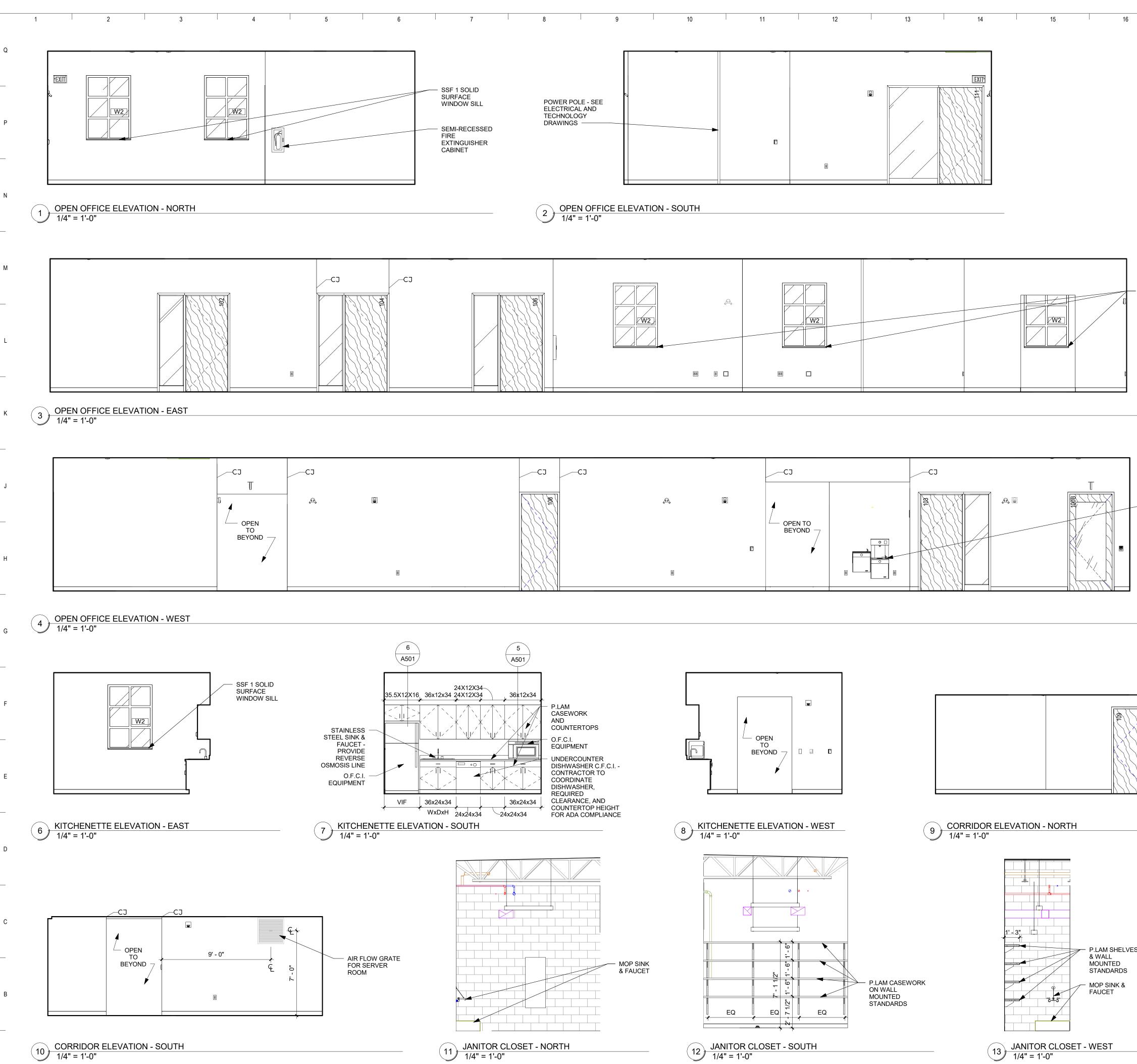
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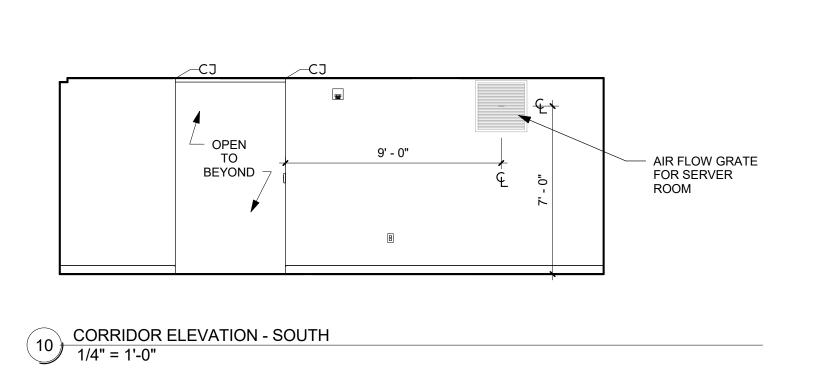
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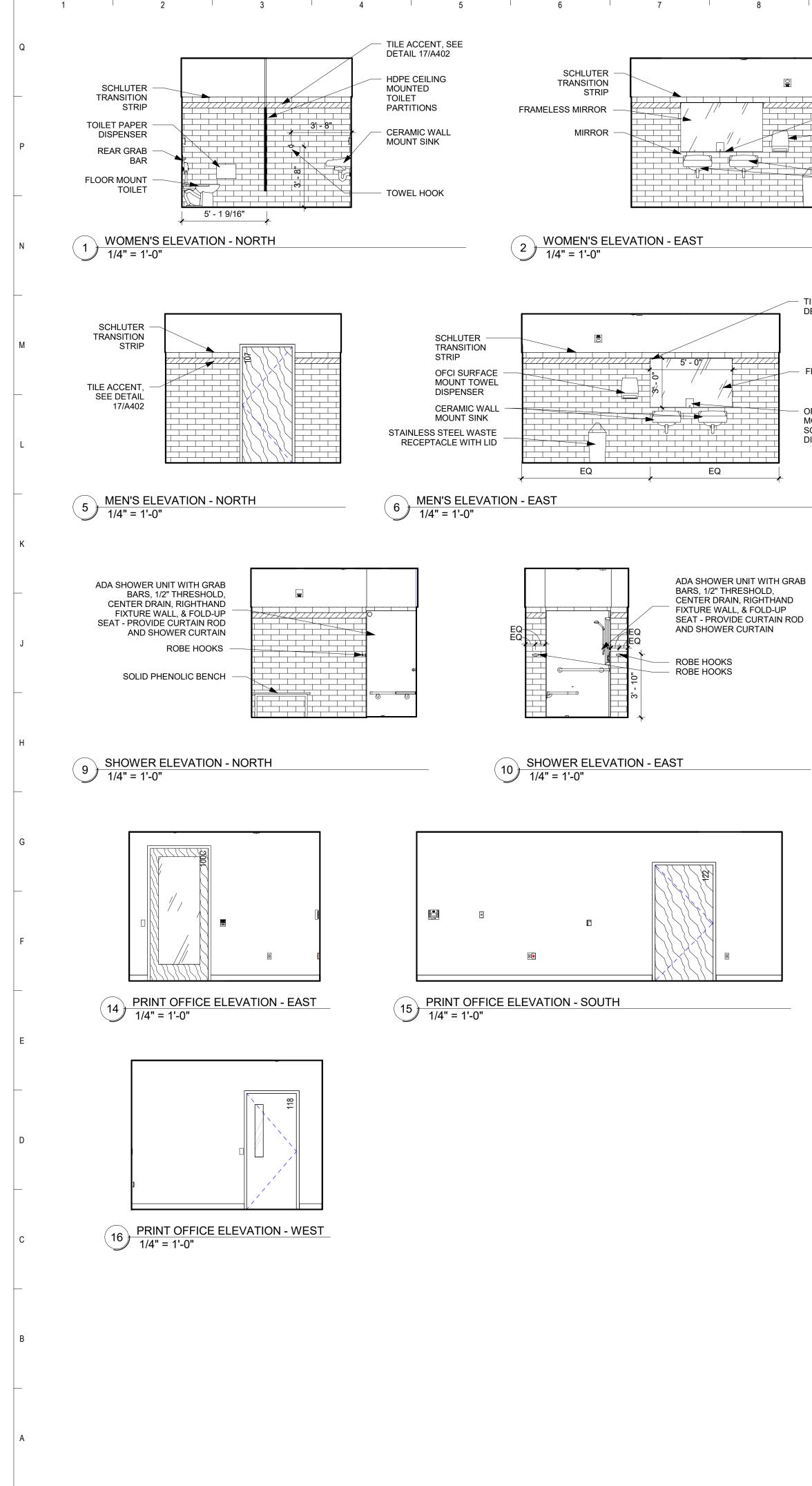


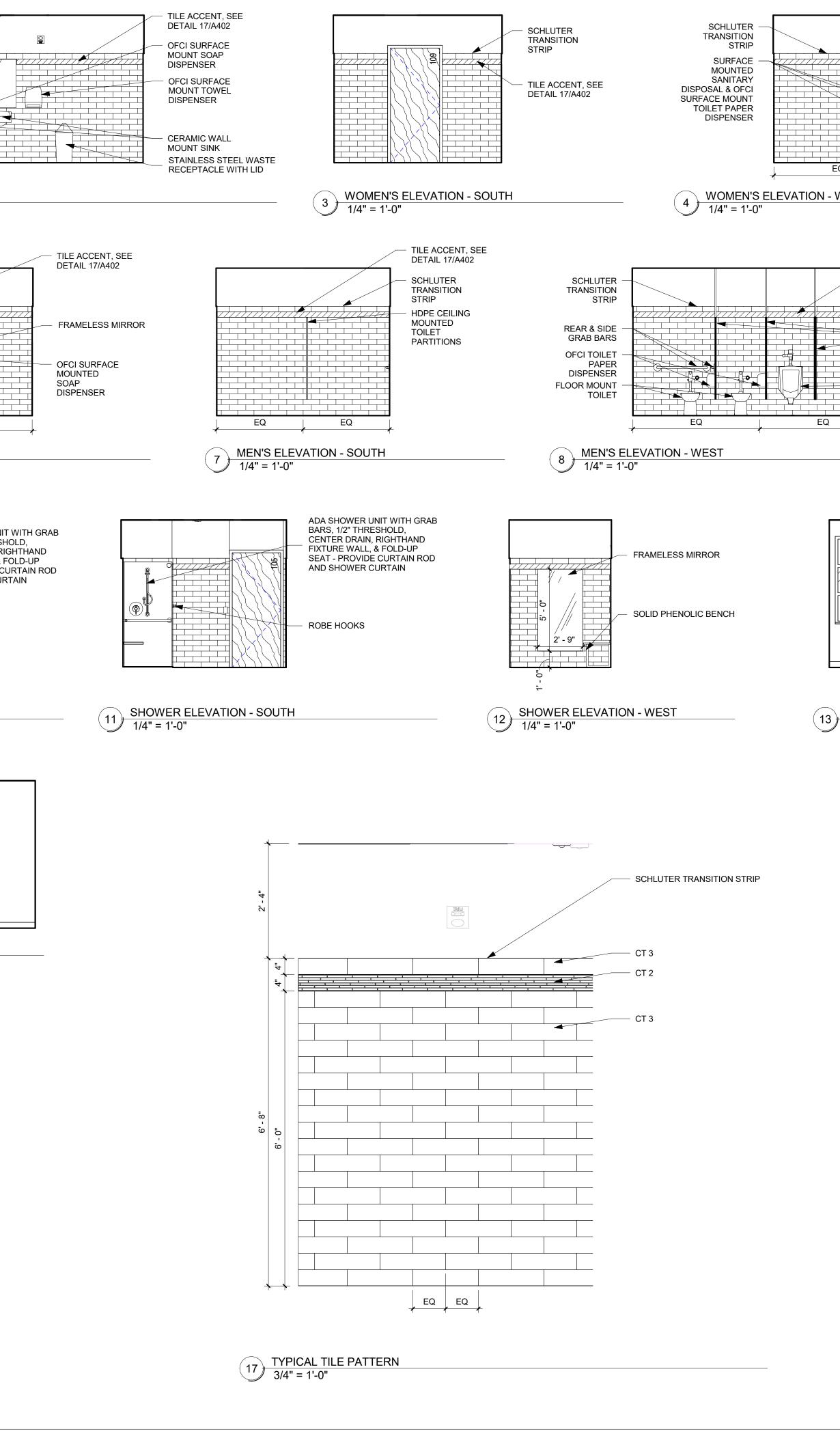






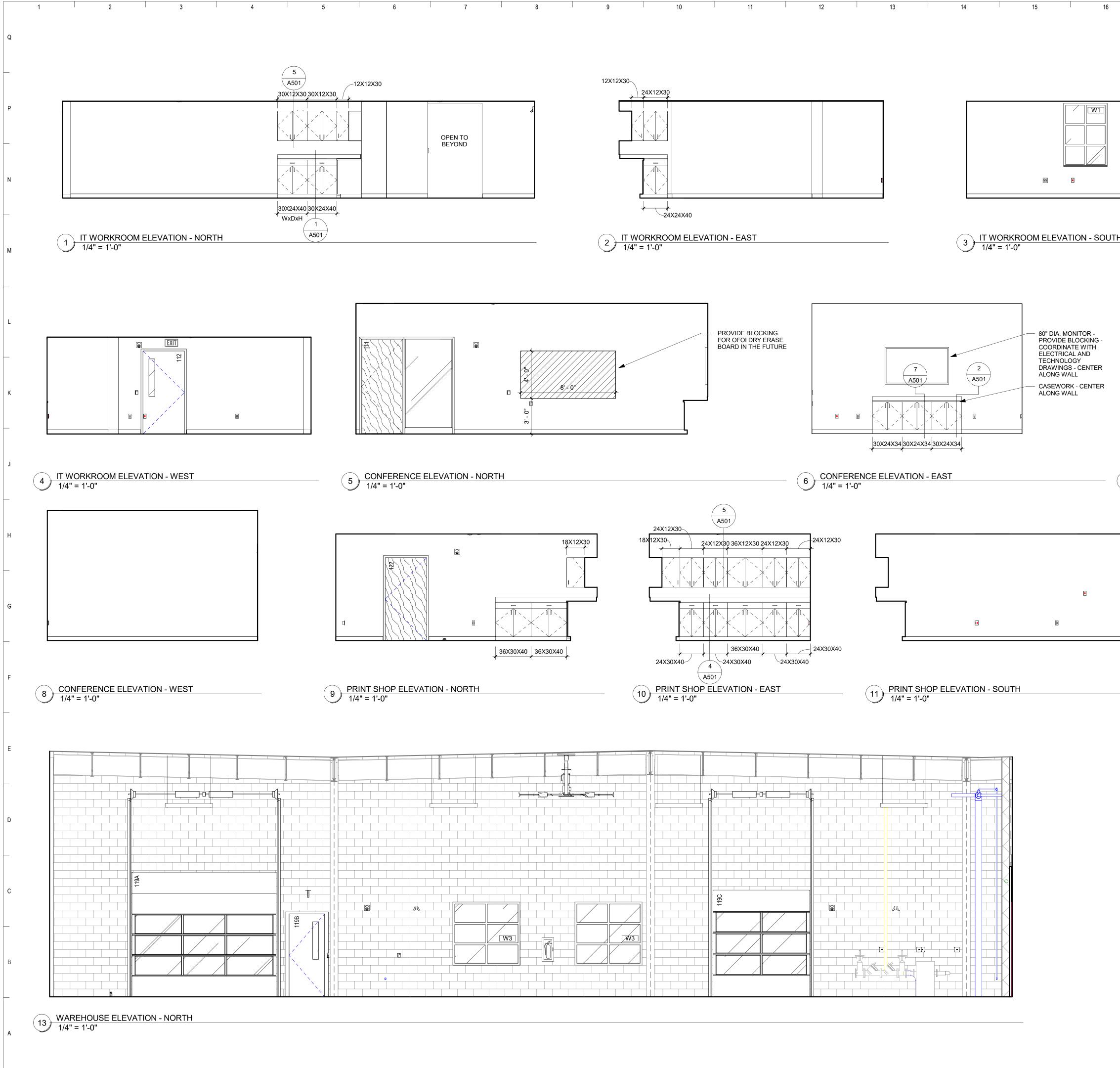
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								OPN ARCHITECTS 301 NORTH BROOM S-TREET, SUITE100 MADISON, WI 53703 608-819-0260 PHONE 608-819-0261 FAX www.opnarchitects.com opn@opnarchitects.com
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								Project Madison Public Library Maintenance & Support Center Remodel 1301 West Badger Road Madison, WI 53713
								General Contractor
NEW WATER BOTTLE FILLING STATION & DRINKING FOUNTAIN								
								Consultants CIVIL ENGINEER Snyder & Associates, Inc. 5010 Voges Road Madison, WI 53718 P. 608.838.0444
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								OPN Project No. 15617000



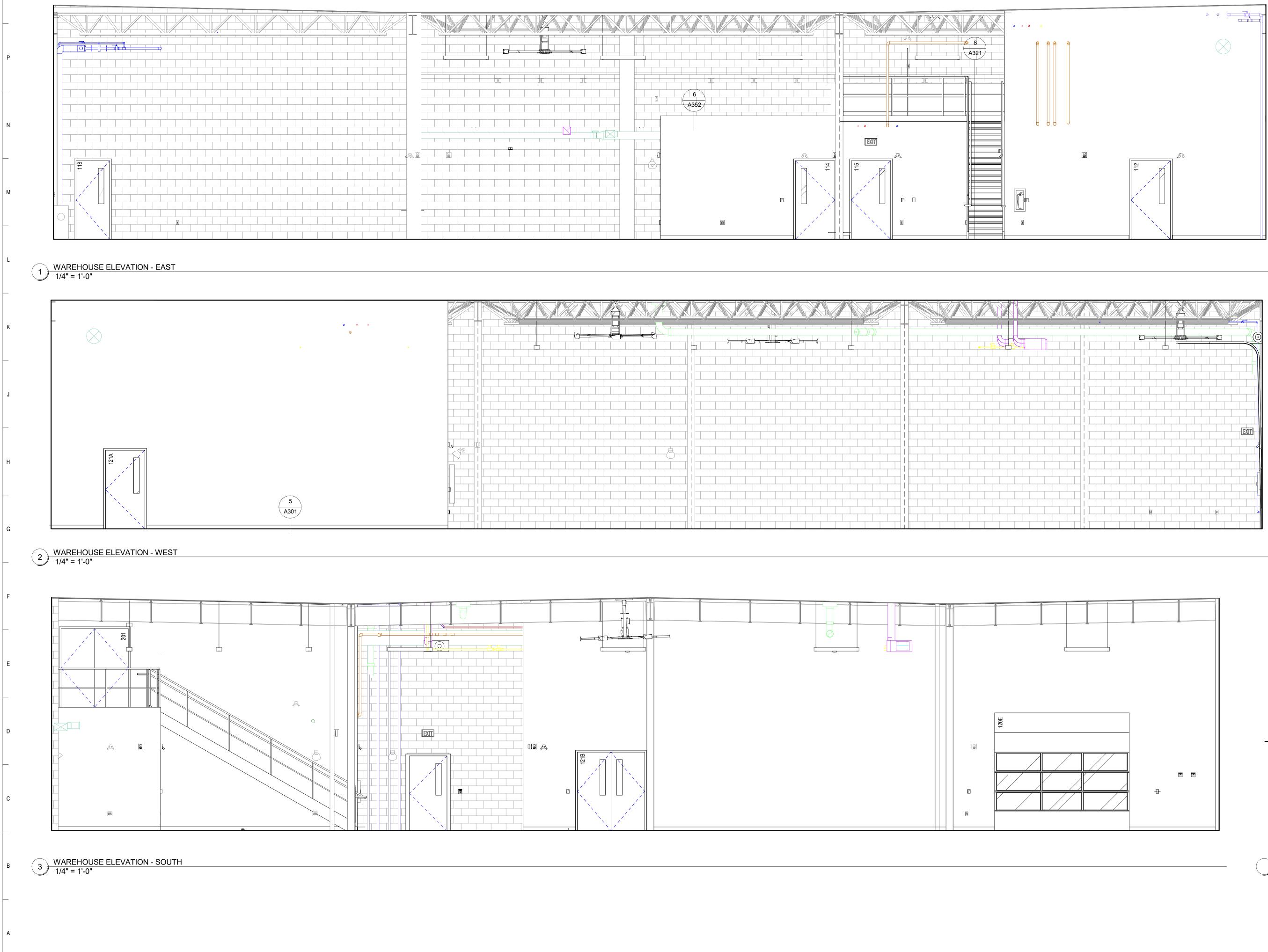


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	- HDPE CEILING MOUNTED TOILET	ARCHITECTS CEDAR RAPIDS DES MOINES
	PARTITIONS - SIDE & REAR GRAB BARS	MADISON OPN ARCHITECTS
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		General Contractor
PRINT OFFICE ELEVATION - NORTH		Consultants CIVIL ENGINEER Snyder & Associates, Inc. 5010 Voges Road Madison, WI 53718
1/4" = 1'-0"		P. 608.838.0444 STRUCTURAL ENGINEER KJWW Engineering Consultants 1800 Deming Way Middleton, WI 53562
		P. 608.223.9600 MECHANICAL ENGINEER KJWW Engineering Consultants
		1800 Deming Way Middleton, WI 53562 P. 608.223.9600
		ELECTRICAL ENGINEER KJWW Engineering Consultants 1800 Deming Way Middleton, WI 53562 P. 608.223.9600
		Key Plan
		Sheet Issue Date Bid Set 12/09/2016
	GENERAL NOTES	Previous Issue Dates
	1. COORDINATE FINAL LOCATION OF FIRE	
	ALARMS, THERMOSTATS AND EMERGENCY LIGHTS WITH ARCHITECT PRIOR TO INSTALLATION. 2. ALL WALL AND FLOOR GROUT LINES TO	
	ALIGN, WHEREVER POSSIBLE - TYPICAL FOR ALL RESTROOM ELEVATION DRAWINGS. 3. WALL FIXTURE DIMENSIONS ARE TAKEN	Revision Dates
	<ul> <li>FROM CENTERLINE OF FIXTURE UNLESS NOTED OTHERWISE.</li> <li>4. REFER TO FINISH PLANS, FINISH SCHEDULE FOR ADDITIONAL WALL FINISH INFORMATION AND REMARKS.</li> <li>5. USE 1/8" GROUT JOINTS ON CT3</li> </ul>	
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		OPN Project No. <b>15617000</b>
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W1				OPN ARCHI 301 NORTH BI SUITE100 MADISON, WI 608-819-0260 608-819-0261 www.opnarchit opn@opnarchi	ROOM S-TREET, 53703 PHONE FAX tects.com
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# Sheet Issue Date Bid Set 12/09/2016 Previous Issue Dates Revision Dates \_\_\_\_\_ Drawing

INTERIOR ELEVATIONS

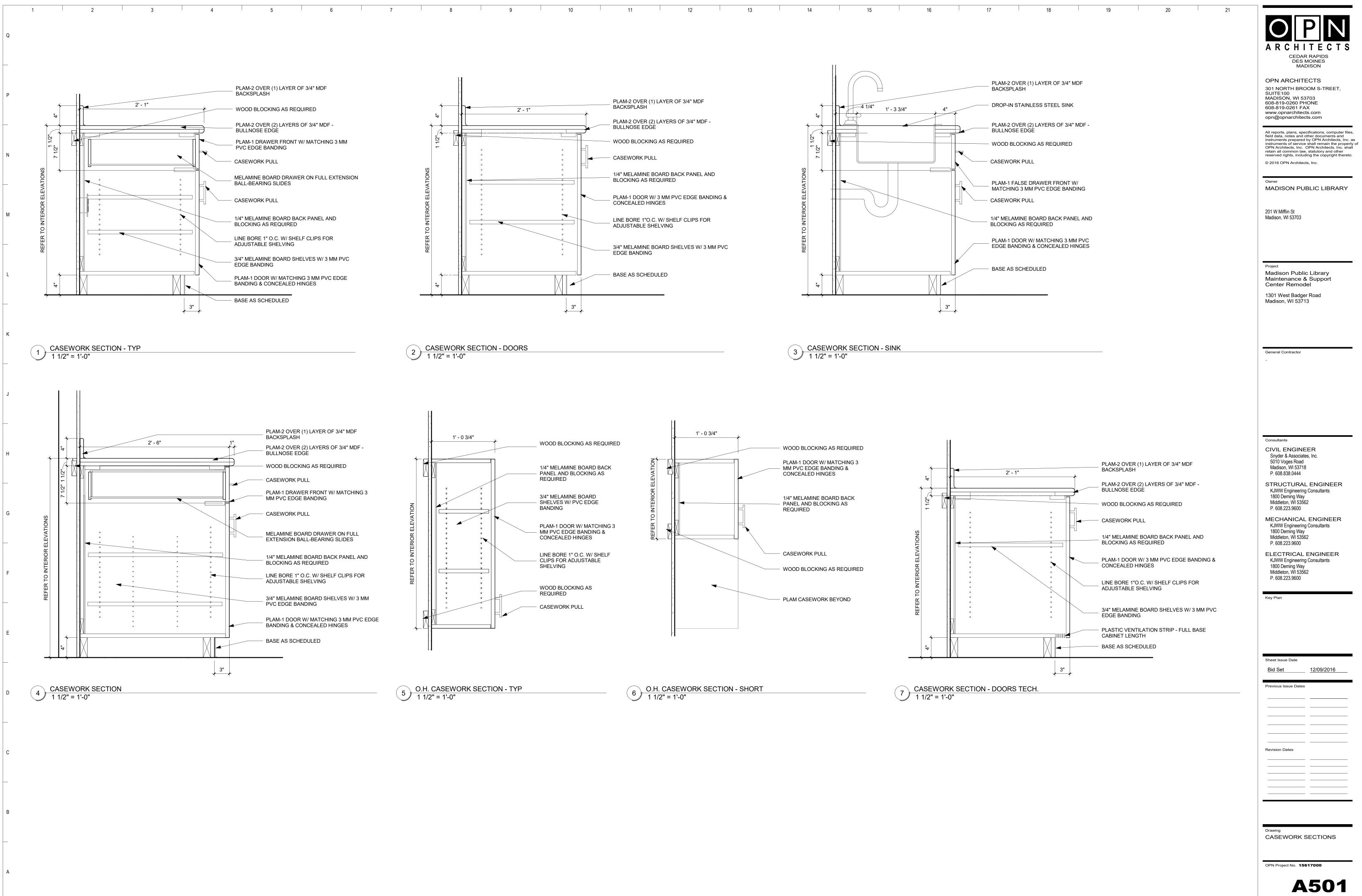
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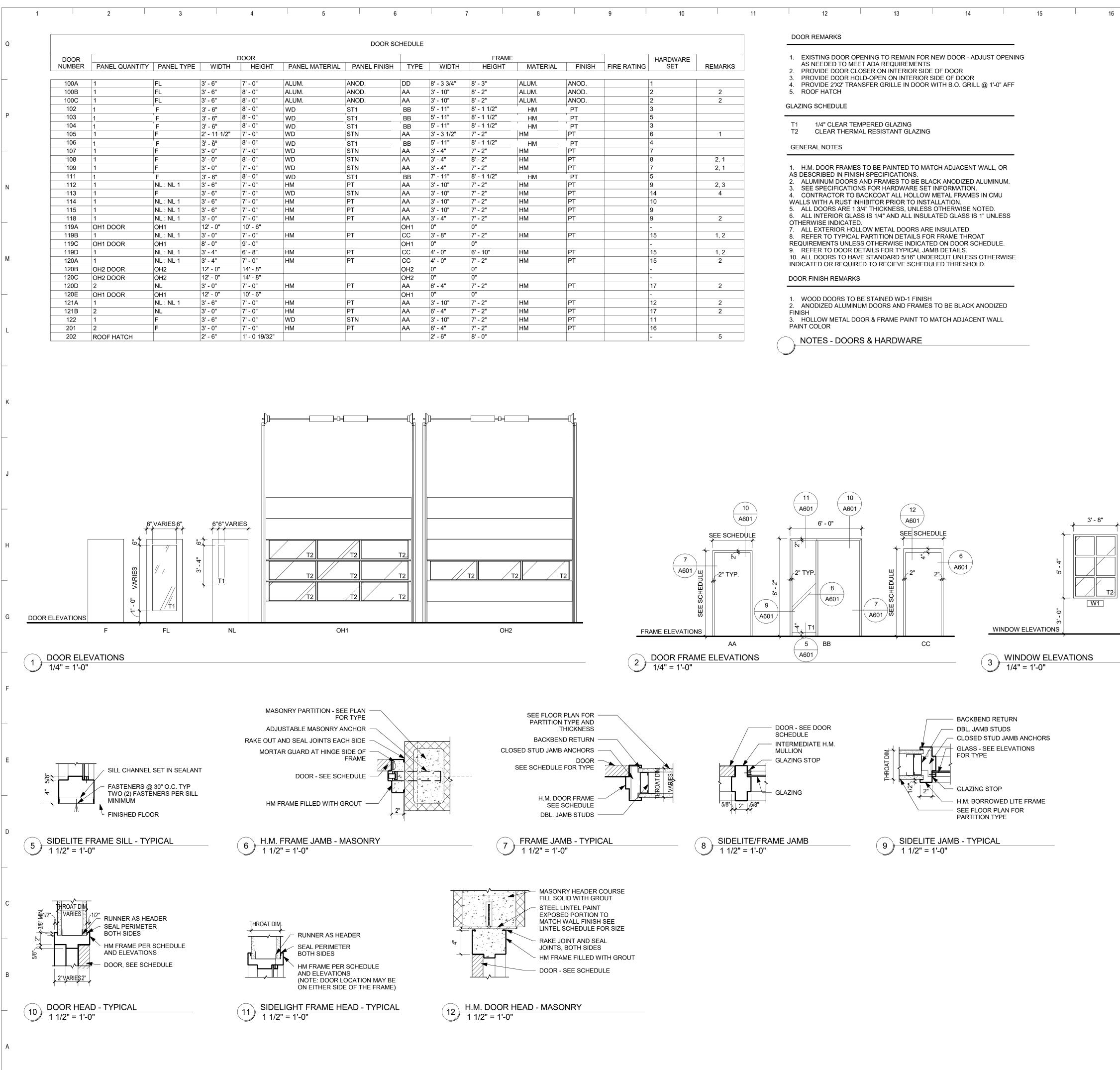


## GENERAL NOTES

- 1. COORDINATE FINAL LOCATION OF FIRE ALARMS, THERMOSTATS AND EMERGENCY LIGHTS WITH ARCHITECT PRIOR TO INSTALLATION.
- 2. ALL WALL AND FLOOR GROUT LINES TO ALIGN, WHEREVER POSSIBLE - TYPICAL FOR ALL RESTROOM ELEVATION DRAWINGS.
- 3. WALL FIXTURE DIMENSIONS ARE TAKEN FROM CENTERLINE OF FIXTURE UNLESS NOTED OTHERWISE.
- 4. REFER TO FINISH PLANS, FINISH SCHEDULE FOR ADDITIONAL WALL FINISH INFORMATION AND REMARKS. 5. USE 1/8" GROUT JOINTS ON CT3

GENERAL NOTES





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			ROOM	FINISH SCH	EDULE					
NO.	ROOM NAME	FLOOR	BASE	E NORTH	WAL EAST	L FINISH SOUTH	WEST	C MATERI	EILING AL FINISH	REMARKS
First F	loor									
100 101	Vestibule Open Office	WM1 CONC. SEAL 1/CPT1/CPT2	VB1 VB1	EXIST. PT1	EXIST. PT1	EXIST. PT1	EXIST. PT1	EXIST. ACT2	ACT1 ACT2	1
102 103	Facilities Manager Interview Room	CPT1 CPT1/CPT2	VB1 VB1	PT1 PT1	PT1 PT1	PT4 PT3	PT1 PT1	ACT1 ACT1	ACT1 ACT1	2
104	Maintenance Coordinator	CPT1	VB1	PT1	PT1	PT4	PT1	ACT1	ACT1	2 2
105 106	Shower Room Growth Office	CT1 CPT1	CT1 VB1	CT/PT3 PT1	CT/PT3 PT1	CT/PT3 PT4	CT/PT3 PT1	ACT1 ACT1	ACT1 ACT1	3
107 108	Men's Janitor Closet	CT1 CONC. SEAL 1	CT1 VB1	CT/PT3 PT1	CT/PT3 PT1	CT/PT3 PT1	CT/PT3 PT1	ACT1 ACT1	ACT1 ACT1	3
109	Women's	CT1	CT1	CT/PT3	CT/PT3	CT/PT3	CT/PT3	ACT1	ACT1	3
110 111	Kitchenette Conference Room	CONC. SEAL 1 CPT1/CPT2	VB1 VB1	PT1 PT1	PT1 PT1	PT4 PT1	PT1 PT3	ACT1 ACT1	ACT1 ACT1	2
112 113	IT/Maintenance Open Office	CONC. SEAL 1 CONC. SEAL 1	VB1 VB1	PT1 PT1	PT1 PT1	PT1 PT1	PT1 PT1	ACT2 ACT1	ACT2 ACT1	
114	Server Art Storage	CONC.	VB1	PT1	PT1	PT1	PT1	ACT1	ACT1	
115 116	Corridor Friends Storage	CONC. SEAL 1 CONC.	VB1 VB-1	PT1 PT2	PT1 PT2	PT1 PT2	PT1 PT2	ACT1 GWB	ACT1 PT2	
118 119	Print Office Warehouse	CONC. SEAL 1 CONC.	VB1 NA	PT1	PT1	PT1	PT1	ACT1 EXP.	ACT1 PT2	
120	Facilities	CONC. SEAL 3	NA	PT1	PT1			EXP	PT2	
121 122	Shop Print Shop	CONC. SEAL 3 CONC. SEAL 1	NA VB1	PT1 PT1	PT1 PT1	PT1 PT1	 PT1	EXP ACT1	PT2 ACT1	
T.O. N	Mezzanine Mechanical Mezzanine	CONC. SEAL 2	NA	PT1			PT1	EXP.	PT2	
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	CT TO CONC.         6" = 1'-0"         METAL L-ANGLE         THINSET GROUT         WALL TILE         THINSET ADHESIV         TILE BACKER BOA	LE HINSET GROUT ETAL ADA- DMPLIANT SLOPED IM DNCRETE SLAB					<ul> <li>CONCRET</li> <li>ARMSTROMATCH VI</li> <li>CARPET</li> <li>CONCRET</li> <li>SLAB</li> </ul>	DNG VINYL B-1 TE FLOOR	ADAPTER -	
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## **FINISH SPECIFICATIONS**

8

<u>CARPET</u>		<u>PLAST</u>	IC LAMINATE
5	MANUFACTURER: INTERFACE STYLE: HUMAN NATURE HN810 COLOR: NICKEL	PLAM-	1:MANUFACTURER: WILSONART COLOR: DESIGNER WHITE FINISH: MATTE APPLICATION: CASEWORK VERTICALS
S	MANUFACTURER: INTERFACE STYLE: HUMAN NATURE HN820 COLOR: NICKEL	PLAM-2	2:MANUFACTURER: FORMICA COLOR: GEO CITADEL FINISH: MATTE
TILE			APPLICATION: CASEWORK HORIZONTALS
5 ( 5 F	MANUFACTURER: DALTILE STYLE: SANTINO COLOR: GRIGIO SN08 SIZE: 12" X 24" FINISH: MATTE APPLICATION: RESTROOM FLOOR TILE		SURFACE MANUFACTURER: CORIAN COLOR: DESIGNER WHITE THICKNESS: 1 CM APPLICATION: SILLS @ EXTERIOR WINDOWS
5 ( 5 F	MANUFACTURER: DALTILE STYLE: ELEVARE COLOR: MATTE LUNAR SIZE: 4" X 16" FINISH: MATTE APPLICATION: WALL TILE		STICAL CEILING TILE MANUFACTURER: USG STYLE: MARS HIGH-NRC PANELS 87100 SIZE: 2' X 2' X 7/8" GRID PROFILE: FINELINE BEVEL
( (	MANUFACTURER: DALTILE STYLE: ENDEAVORS COLOR: MYSTIC F161 APPLICATION: RESTROOM ACCENT WALL TILE		EDGE: FINELINE DXFF COLOR: WHITE NRC: 0.80 CAC: 35 LR: 0.90 APPLICATION: CLOSED ROOMS
PAINT		A O T O	
(	MANUFACTURER: SHERWIN WILLIAMS COLOR: RHINESTONE SW7656 SHEEN: EGGSHELL APPLICATION: FIELD COLOR	ACT-2:	MANUFACTURER: USG STYLE: HALCYON ACOUSTICAL PANELS 98225 SIZE: 2' X 2' X 1" GRID PROFILE: FINELINE EDGE: FINELINE DXFF COLOR: WHITE
F	COLOR: BRIGHT WHITE FINISH: LATEX DRY FALL APPLICATION: EXPOSED STRUCTURE/ROOF DECK		NRC: 0.95 CAC: 20 LR: 0.90 APPLICATION: OPEN OFFICE SPACES
(	MANUFACTURER: SHERWIN WILLIAMS COLOR: SLATE TILE SW 7624 SHEEN: EGGSHELL		<u>I PARTITIONS</u>
PT-4: M	APPLICATION: ACCENT COLOR MANUFACTURER: SHERWIN WILLIAMS COLOR: MAJOLICA GREEN SW 0013 SHEEN: EGGSHELL	TP-1: <u>VINYL</u>	MANUFACTURER: HINY HIDERS STYLE: SHALE TEXTURE: ORANGE PEEL BASE
	APPLICATION: ACCENT COLOR		
		VB-1:	STYLE: 4" STRAIGHT ROLL GOODS COLOR: IRON

FINISH SPECIFICATIONS

PAINT - EXTERIOR XPT-1: MANUFACTURER: PPG © @ EXTERIOR WINDOWS NRC PANELS 87100 SOLID WOOD DOORS ELINE BEVEL FINISH: 01 CLEAR SED ROOMS

APPLICATION: MAIN WALL BASE @ CPT

17	18	19	20	21

### GENERAL NOTES

- 1. GRILLES, METAL FIXTURE TRIM AND MISCELLANEOUS METALS TO BE PAINTED BY MANUFACTURER TO MATCH ADJACENT WALL OR CEILING SURFACES UNLESS NOTED
- OTHERWISE. 2. PAINT ALL EXPOSED STRUCTURE & DECK, TO BE OPEN TO STRUCTURE, UNLESS NOTED OTHERWISE -PAINTING OF EXPOSED STRUCTURE TO BE DONE AFTER ALL UTILITIES (NOT INCLUDING LIGHTING, SENSORS, ETC.) ARE INSTALLED.
- 3. PROVIDE FLOORING TRANSITION STRIPS AT FLOOR MATERIAL CHANGES IN CENTER OF DOOR WIDTH. COORDINATE FLOORING TRANSITION MATERIAL, PROFILE AND COLOR WITH ARCHITECT PRIOR TO INSTALLATION - REFER TO DETAIL
- DRAWINGS FOR DESIGN INTENT. 4. REFER TO FINISH PLANS FOR SPECIFIC INSTALLATION PATTERN AND ORIENTATION OF FLOOR MATERIALS AND FINISHES.
- 5. REFER TO INTERIOR ELEVATIONS FOR FURTHER CLARIFICATION OF MATERIALS, LOCATIONS AND FINISHES.
- 7. ALL HOLLOW METAL DOORS AND FRAMES TO BE PAINTED TO MATCH ADJACENT WALL SURFACE WITH SEMI-GLOSS PAINT FINISH, UNLESS NOTED OTHERWISE.
- 8. ALL ANODIZED ALUMINUM FRAMES NOT TO BE PAINTED. 9. ALL INTERIOR TILE BACKER BOARD
- LOCATIONS NOT TO BE PAINTED UNLESS NOTED OTHERWISE. GENERAL NOTES

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MADISON PUBLIC LIBRARY

201 W Mifflin St Madison, WI 53703

Owner

Project Madison Public Library Maintenance & Support Center Remodel 1301 West Badger Road

Madison, WI 53713

General Contractor

#### Consultants CIVIL ENGINEER Snyder & Associates, Inc. 5010 Voges Road Madison, WI 53718 P. 608.838.0444

- STRUCTURAL ENGINEER KJWW Engineering Consultants 1800 Deming Way Middleton, WI 53562 P. 608.223.9600
- MECHANICAL ENGINEER KJWW Engineering Consultants 1800 Deming Way Middleton, WI 53562 P. 608.223.9600
- ELECTRICAL ENGINEER KJWW Engineering Consultants 1800 Deming Way Middleton, WI 53562 P. 608.223.9600

Key Plan

### Sheet Issue Date

Bid Set	12/09/2016
Previous Issue Dates	
Revision Dates	
Revision Dates	
Drawing	

FINISH SCHEDULE, SPECIFICATIONS, AND DETAILS

OPN Project No. **15617000** 



### CONCRETE SEALANTS

CONC. SEAL 1: MANUFACTURER: W.R. MEADOWS SEALTIGHT PRODUCT: LIQUI-HARD ULTRA No. 378-A APPLICATION: POLISHED CONCRETE FLOOR

#### CONC. SEAL 2: MANUFACTURER: SIKA PRODUCT: SIKAFLOOR 216

APPLICATION: MEZZANINE CONCRETE FLOOR CONC. SEAL 3: MANUFACTURER: W.R. MEADOWS SEALTIGHT PRODUCT: LIQUI-HARD ULTRA No. 378-A APPLICATION: RAW CONCRETE FLOOR

### COLOR: DOVER GRAY PPG1001-5

SHEEN: FLAT PRIMER: PPG PRIMER SEALER 6001 APPLICATION: EXTERIOR CMU WALLS

WD-1: MANUFACTURER: EGGERS INDUSTRIES SPECIES: WHITE BIRCH CUT: PLAIN SLICED

		1 2 3 DESIGN CR	4 5 TERIA	6	
Q	1.	CODES:		9.	REFER TO MECHAN
		INTERNATIONAL BUILDING CODE (IBC) 2009 AMERICAN CONCRETE INSTITUTE BUILDING CODE REQU	IREMENTS FOR STRUCTURAL		<ul><li>A. PIPE RUNS, S</li><li>B. ELECTRICAL (</li></ul>
		CONCRETE (ACI 318-08) AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC)	SPECIFICATION FOR STRUCTURAL		C. CONCRETE IN
		STEEL BUILDINGS AMERICAN IRON AND STEEL INSTITUTE (AISI) SPECIFICA	TION FOR DESIGN OF COLD FORMED		D. SIZE AND LOC MOTOR MOUN
		STEEL STRUCTURAL MEMBERS ALLOWABLE STRENGTH DESIGN (ASD)(AISC 360-05) THIR		10.	BEFORE SUBMITTI
	_	AMERICAN WELDING SOCIETY D1.1			FULLY ACQUAINTE AND TYPES OF EQ
P	2.	DESIGN LOADS: OCCUPANCY CATEGORY	И		EXISTING CONDITI MINIMUM.
		BACKFILL		11.	SHOP DRAWINGS I
			70 PCF		COORDINATED PR STAMPED, INITIALE
		SEISMIC (IBC) SOIL CLASSIFICATION	С	12	CONTRACTOR. SHOP DRAWINGS I
		SPECTRAL RESPONSE ACCELERATION, Ss SPECTRAL RESPONSE ACCELERATION, S1	0.106 g 0.044 g		THE ARCHITECT O
N		SHORT PERIOD DESIGN ACCELERATION, Sds LONG PERIOD DESIGN ACCELERATION, Sd1	0.085 g 0.050 g		CONTRACTOR. WC
		IMPORTANCE FACTOR SEISMIC DESIGN CATEGORY	1.0 A		REQUIREMENTS O
		SEISMIC FORCE RESISTING SYSTEM ANALYSIS PROCEDURE	ORDINARY MASONRY SHEAR WALLS ASCE 7-05, SECTION 11.7	13.	OPTIONS ARE FOR NECESSARY CHAN
-		DESIGN BASE SHEAR, V = Cs x W WIND - PARAMETERS	0.1 x W		THE COST OF ADD BY THE CONTRACT
		BASIC WIND SPEED IMPORTANCE FACTOR	90 MPH 1.0	14.	THE COST OF ADD CONSTRUCTION S
		EXPOSURE CLASS WIND - MAIN WIND FORCE RESISTING SYSTEM PRESSUR	C	15.	ANY ENGINEERING
M		DESIGN PRESSURE	15 PSF		THE STAMP AND S WISCONSIN.
		ROOF UPLIFT PRESSURE ROOF UPLIFT PRESSURE	15 PSF (GROSS) [LC: 1.0WL] 5 PSF (NET) [LC: 0.6DL + 1.0 WL]	16.	ELEVATIONS ARE EXISTING SLAB ON
		WIND - ELEMENTS AND COMPONENTS PER APPLICABLE BUILDING CODE			
		LIVE LOADS			
		STORAGE MECHANICAL	125 PSF UNREDUCIBLE 125 PSF UNREDUCIBLE	1.	CROSS REFERENC
L		STAIRS SNOW LOADS	100 PSF UNREDUCIBLE	-	WALLS AND PIERS
		GROUND SNOW LOAD SNOW EXPOSURE FACTOR	30 PSF 1.0	2.	FOUNDATION DES
		THERMAL FACTOR IMPORTANCE FACTOR	1.0 1.0 1.0	3.	ALL EXCAVATIONS RETAINING WALLS
-		FLAT-ROOF SNOW LOAD	21 PSF		SHALL BRACE OR I
		DESIGN LOAD DRIFTING LOAD	25 PSF ADDITIONAL 65 PSF TAPERING TO 0 PSF OVER 161 2"		DESIGN, PERMITS,
к	3.	NET ALLOWABLE SOIL BEARING PRESSURES	OVER 16'-2"		FOR FOUNDATION BRACED TO RESIS
		SPREAD FOOTINGS CONTINUOUS FOOTINGS	2000 PSF 2000 PSF	4. 5.	UNLESS NOTED O
	4.	MINIMUM FROST PROTECTION DEPTH FROM ADJACENT ( EXTERIOR FOOTING ADJACENT TO HEATED AREA	GRADE: -4'-0"	0.	INTERMEDIATE JO SHALL BE CONTIN
<u> </u>	5.	EXTERIOR FOOTINGS IN UNHEATED AREA SPECIFIED 28-DAY CONCRETE COMPRESSIVE STRENGT	-4'-0"		WIDTH RATIO OF 1
	5.	ELEVATED SLABS FOOTINGS	4000 PSI 3000 PSI		SLAB ON GRADE.
		SLABS ON GRADE TYPICAL - UNLESS NOTED OTHERWISE	4000 PSI 4000 PSI		
J	6.	CONCRETE REINFORCING STEEL SHALL BE HIGH STREN			
			615, GRADE 60 Fy = 60 KSI		
	7.	WELDED WIRE REINFORCING ASTM A STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWI	5		
		WIDE FLANGE SECTIONSASTM AOTHER ROLLED SECTIONSASTM A	992 Fy = 50 KSI		
		SQUARE AND RECTANGULAR HSS ASTM A	500, GR B Fy = 46 KSI 53, GR B Fy = 35 KSI		
н		CAP AND BASE PLATES ASTM A CONNECTION MATERIAL ASTM A	36 Fy = 36 KSI	1.	FOR CAST-IN-PLAC
		STIFFENER PLATES ASTM A			REINFORCEMENT
		HIGH STRENGTH BOLTS (AISC 360-05 ASD) A325 (3/	4" DIAMETER UNO) Fv = 24 KSI		CONCRETE PERMANEN
		TWIST-OFF BOLT/NUT/WASHER ASSEMBLIES ASTM F HEAVY HEX NUTS ASTM A	563		CONCRETE NO. 6 BARS
			108, TYPE B	2.	NO. 5 BARS
	8.	ELECTRODES FOR ARC WELDING AWS 5.1 COLD-FORMED STRUCTURAL STUDS SHALL CONFORM TO		Ζ.	REINFORCING BAF
G	0.	ROLLED SECTIONS, CONNECTION MATERIAL, STIFFENER		3.	STIRRUPS OR TIES
			653, GR 50 Fy = 50 KSI		'B' AS DEFINED IN A INCHES) AS FOLLO
			1554, GR 36 Fy = 36 KSI		[] []
		COATING - HOT DIPPED ASTMA ELECTRO - PLATE ASTMA	924, G60		-
		ALUMINUM - ZINC ASTM A	792, GR 40		_
F		ELECTRODES FOR ARC WELDING AWS 5.1			-
	9.	STEEL DECK AND ALL ACCESSORIES SHALL BE FORMED FOLLOWING STANDARDS:	FROM STEEL SHEETS CONFORMING TO THE		-
		GALVANIZED COMPOSITE FLOOR DECK ASTM A6	653, GR 50 Fy = 50 KSI 1008, GR C Fy = 33 KSI		-
		PAINTED STEEL ROOF DECK ASTM A	1008, GR C Fy = 33 KSI		-
		<b></b>	OTEO		
F	1.	GENERAL N NEITHER THE PROFESSIONAL ACTIVITIES OF THE ENGINI			LAP LENGT
L	1.	OR HER EMPLOYEES AND SUBCONSULTANTS AT THE CO CONTRACTOR AND ANY OTHER ENTITY OF THEIR OBLIGA	NSTRUCTION SITE, SHALL RELIEVE THE		COVER OF AS HORIZON
		BUT NOT LIMITED TO, CONSTRUCTION MEANS, METHODS	S, SEQUENCE, TECHNIQUES, OR PROCEDURES	4.	EMBEDMENT LENG
		NECESSARY FOR PERFORMING, SUPERINTENDING, OR C CONSTRUCTION IN ACCORDANCE WITH THE CONTRACT	DOCUMENTS AND ANY HEALTH OR SAFETY		INSTALLATION INS
		PRECAUTIONS REQUIRED BY ANY REGULATORY AGENCI HAVE NO AUTHORITY TO EXERCISE ANY CONTROL OVER	ANY CONSTRUCTION CONTRACTOR OR OTHER		
		ENTITY OR THEIR EMPLOYEES IN CONNECTION WITH THE PRECAUTIONS. THE CONTRACTOR IS SOLELY RESPONSI	BLE FOR THE JOBSITE SAFETY. THE ENGINEER AND	1.	POST INSTALLED E ACCEPTABLE ALTE
D		THE ENGINEER'S CONSULTANTS SHALL BE MADE ADDITIG GENERAL LIABILITY INSURANCE POLICY.			MATCHES THE CAR ALTERNATES ARE
	2.	STRUCTURAL DRAWINGS INCLUDE DESIGN REQUIREMEN BUT DO NOT SHOW ALL DETAIL DIMENSIONS TO FIT INTR			WITH MANUFACTU ANCHORS USED O
		CONTRACTOR SHALL SO CONSTRUCT THE WORK SO TH	AT IT WILL CONFORM TO THE CLEARANCES	Г	•
	3.	REQUIRED BY ARCHITECTURAL, MECHANICAL AND ELEC THE CONTRACT STRUCTURAL DRAWINGS AND SPECIFIC			ANCHORED IN
		UNLESS NOTED OTHERWISE, THEY DO NOT INDICATE TH	E MEANS OR METHODS OF CONSTRUCTION.	F	HOLLOW CMU
	4.	DETAILS AND NOTES ON THE STRUCTURAL DRAWINGS A SITUATIONS ELSEWHERE.	RE INTENDED TO BE TYPICAL FOR SIMILAR	F	GROUTED CML
с		ESTABLISH AND VERIFY ALL OPENINGS AND INSERTS FO WITH APPROPRIATE TRADE CONTRACTORS. OPENING SI			UNCRACKED CONC
С	5.	INSERTS AND OTHER PENETRATIONS WHEN SHOWN ARE BE VERIFIED PRIOR TO FORMING.		F	CRACKED CONCR
С	5.	SE VERNIED I MONTO I ONWING.	L TAKE PRECEDENCE OVER GENERAL NOTES AND	2.	ADHESIVE ANCHO
C	5. 6.	DIMENSIONS, NOTES, AND DETAILS ON DRAWINGS SHALL	- · · · · -	۲.	RODS, HEAVY DUT
C	6.	TYPICAL DETAILS.			
		TYPICAL DETAILS. WHERE NEW CONSTRUCTION INTERFACES WITH EXISTIN MEMBER SIZES AND ELEVATIONS SHOWN ON THE DRAW	INGS PRIOR TO STARTING CONSTRUCTION. ALL		ALTERNATE ANCH
C B	6.	TYPICAL DETAILS. WHERE NEW CONSTRUCTION INTERFACES WITH EXISTIN	INGS PRIOR TO STARTING CONSTRUCTION. ALL HE ATTENTION OF THE ARCHITECT.		ALTERNATE ANCH CAPACITY OF THE BE SUBMITTED TO
	6. 7.	TYPICAL DETAILS. WHERE NEW CONSTRUCTION INTERFACES WITH EXISTIN MEMBER SIZES AND ELEVATIONS SHOWN ON THE DRAW DISCREPANCIES SHALL BE IMMEDIATELY BROUGHT TO T	INGS PRIOR TO STARTING CONSTRUCTION. ALL HE ATTENTION OF THE ARCHITECT. VING:		ALTERNATE ANCH CAPACITY OF THE BE SUBMITTED TO WRITTEN INSTRUC
	6. 7.	TYPICAL DETAILS. WHERE NEW CONSTRUCTION INTERFACES WITH EXISTIN MEMBER SIZES AND ELEVATIONS SHOWN ON THE DRAW DISCREPANCIES SHALL BE IMMEDIATELY BROUGHT TO T REFER TO ARCHITECTURAL DRAWINGS FOR THE FOLLOW A. SIZE AND LOCATION OF ALL DOOR AND WINDOW OF B. SIZE AND LOCATIONS OF ALL INTERIOR AND EXTER	INGS PRIOR TO STARTING CONSTRUCTION. ALL HE ATTENTION OF THE ARCHITECT. VING: PENINGS, UNLESS NOTED OTHERWISE. IOR MASONRY WALLS.	Г	ALTERNATE ANCHO CAPACITY OF THE BE SUBMITTED TO WRITTEN INSTRUC FOLLOWING TABLE
	6. 7.	<ul> <li>TYPICAL DETAILS.</li> <li>WHERE NEW CONSTRUCTION INTERFACES WITH EXISTINMEMBER SIZES AND ELEVATIONS SHOWN ON THE DRAWNDISCREPANCIES SHALL BE IMMEDIATELY BROUGHT TO TREFER TO ARCHITECTURAL DRAWINGS FOR THE FOLLOWA.</li> <li>SIZE AND LOCATION OF ALL DOOR AND WINDOW OF B. SIZE AND LOCATIONS OF ALL INTERIOR AND EXTER</li> <li>C. SIZE AND LOCATION OF ALL CONCRETE CURBS, FLOCHANGES IN LEVEL, CHAMFERS, GROOVES, INSERT</li> </ul>	INGS PRIOR TO STARTING CONSTRUCTION. ALL HE ATTENTION OF THE ARCHITECT. VING: PENINGS, UNLESS NOTED OTHERWISE. IOR MASONRY WALLS. DOR DRAINS, SLOPES, DEPRESSED AREAS, S, ETC.	ſ	ALTERNATE ANCHO CAPACITY OF THE BE SUBMITTED TO WRITTEN INSTRUC
	6. 7.	<ul> <li>TYPICAL DETAILS.</li> <li>WHERE NEW CONSTRUCTION INTERFACES WITH EXISTIN MEMBER SIZES AND ELEVATIONS SHOWN ON THE DRAW DISCREPANCIES SHALL BE IMMEDIATELY BROUGHT TO T REFER TO ARCHITECTURAL DRAWINGS FOR THE FOLLOW</li> <li>A. SIZE AND LOCATION OF ALL DOOR AND WINDOW OF</li> <li>B. SIZE AND LOCATIONS OF ALL INTERIOR AND EXTER</li> <li>C. SIZE AND LOCATION OF ALL CONCRETE CURBS, FLO CHANGES IN LEVEL, CHAMFERS, GROOVES, INSERT</li> <li>D. SIZE AND LOCATION OF ALL FLOOR AND ROOF OPEN</li> </ul>	INGS PRIOR TO STARTING CONSTRUCTION. ALL HE ATTENTION OF THE ARCHITECT. VING: PENINGS, UNLESS NOTED OTHERWISE. IOR MASONRY WALLS. DOR DRAINS, SLOPES, DEPRESSED AREAS, S, ETC.		ALTERNATE ANCHO CAPACITY OF THE BE SUBMITTED TO WRITTEN INSTRUC FOLLOWING TABLE ANCHORED IN HOLLOW CMU
	6. 7.	<ul> <li>TYPICAL DETAILS.</li> <li>WHERE NEW CONSTRUCTION INTERFACES WITH EXISTINMEMBER SIZES AND ELEVATIONS SHOWN ON THE DRAWNDISCREPANCIES SHALL BE IMMEDIATELY BROUGHT TO TREFER TO ARCHITECTURAL DRAWINGS FOR THE FOLLOWA.</li> <li>SIZE AND LOCATION OF ALL DOOR AND WINDOW OF B. SIZE AND LOCATIONS OF ALL INTERIOR AND EXTER</li> <li>C. SIZE AND LOCATION OF ALL CONCRETE CURBS, FLOCHANGES IN LEVEL, CHAMFERS, GROOVES, INSERT</li> </ul>	INGS PRIOR TO STARTING CONSTRUCTION. ALL HE ATTENTION OF THE ARCHITECT. VING: PENINGS, UNLESS NOTED OTHERWISE. IOR MASONRY WALLS. DOR DRAINS, SLOPES, DEPRESSED AREAS, S, ETC. NINGS UNLESS NOTED OTHERWISE.	-	ALTERNATE ANCHO CAPACITY OF THE BE SUBMITTED TO WRITTEN INSTRUC FOLLOWING TABLE ANCHORED IN HOLLOW CMU GROUTED CMU
B	6. 7.	<ul> <li>TYPICAL DETAILS.</li> <li>WHERE NEW CONSTRUCTION INTERFACES WITH EXISTIN MEMBER SIZES AND ELEVATIONS SHOWN ON THE DRAW DISCREPANCIES SHALL BE IMMEDIATELY BROUGHT TO T REFER TO ARCHITECTURAL DRAWINGS FOR THE FOLLOW</li> <li>A. SIZE AND LOCATION OF ALL DOOR AND WINDOW OF</li> <li>B. SIZE AND LOCATIONS OF ALL INTERIOR AND EXTER</li> <li>C. SIZE AND LOCATION OF ALL CONCRETE CURBS, FLO CHANGES IN LEVEL, CHAMFERS, GROOVES, INSERT</li> <li>D. SIZE AND LOCATION OF ALL FLOOR AND ROOF OPEN</li> <li>E. FLOOR, WALL AND ROOF FINISHES.</li> </ul>	INGS PRIOR TO STARTING CONSTRUCTION. ALL HE ATTENTION OF THE ARCHITECT. VING: PENINGS, UNLESS NOTED OTHERWISE. IOR MASONRY WALLS. OOR DRAINS, SLOPES, DEPRESSED AREAS, S, ETC. NINGS UNLESS NOTED OTHERWISE. IR MANUFACTURER'S APPROVED SHOP DRAWINGS	-	ALTERNATE ANCHO CAPACITY OF THE BE SUBMITTED TO WRITTEN INSTRUC FOLLOWING TABLE ANCHORED IN HOLLOW CMU

- B. ELECTRICAL CONDUIT RUNS, BOXES, OUTLETS IN WALLS AND SLABS.

8

- MOTOR MOUNTS. MINIMUM
- CONTRACTOR.
- REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS.
- BY THE CONTRACTOR.
- CONSTRUCTION SHALL BE BORNE BY THE CONTRACTOR.
- WISCONSIN.
- EXISTING SLAB ON GRADE ELEVATION.

- WALLS AND PIERS.
- INC. REPORT IS ON FILE WITH THE ARCHITECT.
- BRACED TO RESIST LATERAL LOADS.

••

- REINFORCEMENT UNLESS NOTED OTHERWISE: CONCRETE CAST AGAINST AND
  - PERMANENTLY EXPOSED TO EARTH CONCRETE EXPOSED TO EARTH OR WEATHER
- NO. 6 BARS OR LARGER NO. 5 BARS OR SMALLER
- STIRRUPS OR TIES.
- INCHES) AS FOLLOWS:

	3000 PSI C	ONCRETE	4000 PSI CONCRETE	
BAR SIZE	OTHER	TOP	OTHER	TOP
#3	22	28	19	25
#4	29	38	25	33
#5	36	47	31	41
#6	43	56	37	49
#7	63	81	54	71
#8	72	93	62	81
#9	81	105	70	91
#10	91	118	79	102
#11	101	131	87	114

LAP LENGTHS ASSUME CLEAR SPACING BETWEEN BARS OF 2 BAR DIAMETERS, AND A MINIMUM COVER OF 1 BAR DIAMETER. FOR DEVELOPMENT LENGTHS, DIVIDE BY 1.3. TOP BARS ARE DEFINED AS HORIZONTAL BARS WITH MORE THAN 1'-0" OF FRESH CONCRETE BELOW.

ADHESIVE FOR DOWELING SHALL BE HILTI RE 500 SD, POWERS PE 1000+, OR SIMPSON SET XP. INSTALLATION INSTRUCTIONS.

### POST INSTALLED STEEL ANCHORS

ANCHORS USED ON THE PROJECT:

ANCHORED INTO:	BASIS OF DESIGN	ACCEPTABLE ALTERNATES AT CONTRACTOR'S OPTION			
HOLLOW CMU	HILTI HLC SLEEVE	POWERS LOK/BOLT, ITW/RED HEAD DYNABOLT SLEE			
GROUTED CMU	HILTI KWIK BOLT 3	POWER STUD+ SD1, SIMPSON WEDGE-ALL			
UNCRACKED CONCRETE	HILTI KWIK BOLT 3	POWER STUD+ SD2, ITW/RED HEAD TRUBOLT+, SIMPSON STRONG BOLT			
CRACKED CONCRETE HILTI KWIK BOLT TZ POWER STUD+ SD2, ITW/RED HEAD TRUBOLT- SIMPSON STRONG BOLT					

ADHESIVE ANCHOR SYSTEMS FOR ATTACHMENT INTO CONCRETE SHALL CONSIST OF ASTM A193 GRADE B7 RODS, HEAVY DUTY NUTS AND WASHERS, AND A TWO COMPONENT STRUCTURAL ADHESIVE. ADHESIVE ANCHORING SYSTEMS SERVING AS THE BASIS OF DESIGN ARE SHOWN ON THE DRAWINGS. ACCEPTABLE ALTERNATE ANCHORS MAY BE SUPPLIED PROVIDED THAT THE QUANTITY AND CONFIGURATION MATCHES THE CAPACITY OF THE DESIGN ANCHOR QUANTITY AND CONFIGURATION. ANY ACCEPTABLE ALTERNATES ARE TO BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR REVIEW. INSTALL IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS. ANCHORING SYSTEMS INTO HOLLOW CMU SHALL INCLUDE A SCREEN TUBE. THE FOLLOWING TABLE SUMMARIZES THE ADHESIVE ANCHORS USED ON THE PROJECT:

## ANCHORED INTO: BASIS OF DESIGN

HOLLOW CMU GROUTED CMU CRACKED/UNCRACKED CONCRETE

HILTI HIT HY 70 HILTI HIT HY 70 HILTI HIT HY 200

## REFER TO MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS FOR THE FOLLOWING: A. PIPE RUNS, SLEEVES, HANGERS, TRENCHES, WALL AND SLAB OPENINGS, ETC., EXCEPT AS SHOWN.

10

11

C. CONCRETE INSERTS FOR ELECTRICAL, MECHANICAL OR PLUMBING FIXTURES.

D. SIZE AND LOCATION OF MACHINE OR EQUIPMENT BASES OR CURBS AND ANCHOR BOLTS FOR

9

BEFORE SUBMITTING A PROPOSAL FOR THIS WORK, EACH BIDDER SHALL VISIT THE PREMISES AND BECOME FULLY ACQUAINTED WITH THE EXISTING CONDITIONS, TEMPORARY CONSTRUCTION REQUIRED, QUANTITIES AND TYPES OF EQUIPMENT, ETC. THE BID SHALL INCLUDE ALL SUMS REQUIRED TO DO THE WORK WITHIN THE EXISTING CONDITIONS. DISRUPTION OF NORMAL ACTIVITIES IN THE WORK AREA SHALL BE KEPT TO A

SHOP DRAWINGS PREPARED BY SUPPLIERS, SUBCONTRACTORS, AND OTHERS SHALL BE REVIEWED AND COORDINATED PRIOR TO SUBMITTING TO THE ARCHITECT. EACH SHOP DRAWING SUBMITTED SHALL BE STAMPED, INITIALED AND DATED INDICATING REVIEW BY THE CONSTRUCTION MANAGER/GENERAL

SHOP DRAWINGS PREPARED BY THE SUBCONTRACTORS, SUPPLIERS, AND OTHERS SHALL BE REVIEWED BY THE ARCHITECT ONLY FOR GENERAL CONFORMANCE WITH DESIGN CONCEPT ONLY. REVIEW BY THE ARCHITECT SHALL NOT BEGIN WITHOUT THE PRIOR COORDINATION AND REVIEW BY THE GENERAL CONTRACTOR. WORK SHALL NOT BEGIN WITHOUT REVIEW BY THE ARCHITECT. NOTATIONS MADE BY THE ARCHITECT ON THE SHOP DRAWINGS DO NOT RELIEVE THE CONTRACTOR FROM COMPLYING WITH THE

OPTIONS ARE FOR THE CONTRACTOR'S CONVENIENCE. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL NECESSARY CHANGES RESULTING FROM CHOOSING AN OPTION AND SHALL COORDINATE ALL DETAILS. THE COST OF ADDITIONAL DESIGN WORK NECESSITATED BY SELECTION OF AN OPTION SHALL BE BORNE

THE COST OF ADDITIONAL DESIGN WORK DUE TO ERRORS OR OMISSIONS BY THE CONTRACTOR IN

ANY ENGINEERING DESIGN PROVIDED BY OTHERS AND SUBMITTED FOR REVIEW OR RECORD SHALL BEAR THE STAMP AND SIGNATURE OF A PROFESSIONAL STRUCTURAL ENGINEER REGISTERED IN THE STATE OF

ELEVATIONS ARE BASED ON THE FIRST FLOOR ELEVATION OF (+0'-0") WHICH IS EQUAL TO THE TOP OF

### FOUNDATIONS/SLAB-ON-GRADE

CROSS REFERENCE ARCHITECTURAL AND STRUCTURAL DRAWINGS TO ASSURE PROPER DIMENSIONS AND PLACEMENT OF ALL ANCHOR BOLTS, INSERTS, NOTCHES, EDGES IN GRADE BEAMS, FOUNDATION

FOUNDATION DESIGN BASED ON GEOTECHNICAL ENGINEERING REPORT DATED MARCH 30, 2016 BY CGC,

ALL EXCAVATIONS SHALL BE PROPERLY AND SAFELY BACKFILLED. DO NOT PLACE BACKFILL BEHIND RETAINING WALLS BEFORE CONCRETE HAS ATTAINED SPECIFIED COMPRESSIVE STRENGTH. CONTRACTOR SHALL BRACE OR PROTECT ALL WALLS BELOW GRADE FROM LATERAL LOADS UNTIL SUPPORTING FLOOR IS COMPLETELY IN PLACE AND HAS ATTAINED FULL STRENGTH. CONTRACTOR SHALL PROVIDE FOR DESIGN. PERMITS, AND INSTALLATION OF SHORING AND/OR SHEETING. BACKFILLING IS NOT PERMITTED FOR FOUNDATION WALLS UNTIL SUPPORTED SLAB ABOVE IS IN PLACE OR THE WALL IS ADEQUATELY

UNLESS NOTED OTHERWISE, ALL FOOTINGS SHALL BE CENTERED UNDER WALLS, PIERS OR COLUMNS. PROVIDE SAW CUT CONTROL JOINTS IN ALL SLABS-ON-GRADE. LOCATE JOINTS ALONG COLUMN LINES WITH INTERMEDIATE JOINTS SPACED PER THE TABLE BELOW, UNLESS NOTED OTHERWISE. CONTROL JOINTS SHALL BE CONTINUOUS, NOT STAGGERED OR OFFSET. SLAB PANELS SHALL HAVE A MAXIMUM LENGTH TO WIDTH RATIO OF 1.5 TO 1. PROVIDE ADDITIONAL CONTROL JOINTS AT ALL RE-ENTRANT CORNERS FORMED IN

SLAB ON GRADE THICKNESS	MAX JOINT SPACING
4"	12'-0"
5"	15'-0"
6"	18'-0"
8"	24'-0"
10"	30'-0"
12"	36'-0"

### **REINFORCING STEEL**

FOR CAST-IN-PLACE CONCRETE THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR

D	
	~

3 INCHES 2 INCHES

1 1/2 INCHES DIMENSIONS OF CONCRETE COVER FOR REINFORCEMENT INDICATED ON DRAWINGS ARE TO OUTERMOST REINFORCING BARS. FOR BEAMS OR COLUMNS WITH STIRRUPS OR TIES, CLEAR COVER INDICATED IS TO

BAR SPLICES: SPLICE REINFORCING WHERE INDICATED ON THE DRAWINGS. ALL SPLICES SHALL BE CLASS 'B' AS DEFINED IN ACI 318. IF SPLICE LENGTH IS NOT GIVEN ON THE DRAWINGS, PROVIDE LAP LENGTHS (IN

EMBEDMENT LENGTH SHALL BE AS INDICATED ON THE DRAWINGS. INSTALL PER MANUFACTURER'S

POST INSTALLED EXPANSION ANCHORS SERVING AS THE BASIS OF DESIGN ARE SHOWN ON THE DRAWINGS. ACCEPTABLE ALTERNATE ANCHORS MAY BE SUPPLIED PROVIDED THAT THE QUANTITY AND CONFIGURATION MATCHES THE CAPACITY OF THE DESIGN ANCHOR QUANTITY AND CONFIGURATION. ANY ACCEPTABLE ALTERNATES ARE TO BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR REVIEW. INSTALL IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS. THE FOLLOWING TABLE SUMMARIZES THE EXPANSION

> ACCEPTABLE ALTERNATES AT CONTRACTOR'S OPTION POWERS AC 100+ GOLD, ITW A7 ACRYLIC

POWERS AC 100+ GOLD, ITW A7 ACRYLIC, SIMPSON SET POWERS PE 1000+, SIMPSON SET XP

12 13 14 15 STRUCTURAL STEEL

- 1. REFER TO DRAWINGS FOR DETAIL OF DECK OPENINGS. REFER TO ARCHITECTURAL MECHANICAL, ELECTRICAL DRAWINGS, ETC., FOR EXACT SIZE, LOCATION, AND COUNT OF REQUIRED OPENINGS.
- 2. UNLESS NOTED OTHERWISE ALL WELDS SHALL BE CONTINUOUS 1/4" FILLET WELDS.
- 3. HIGH STRENGTH BOLTS SHALL BE INSTALLED IN ACCORDANCE WITH AISC "SPECIFICATIONS FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS." SEE DESIGN CRITERIA FOR BOLT SIZE AND
- MATERIAL ASTM DESIGNATION. 4. BOLTS IN SLOTTED HOLES SHALL BE LOCATED IN THE CENTER OF THE HOLE AFTER FIELD ASSEMBLY IS COMPLETE, UNLESS DETAILED OTHERWISE.

### STEEL DECK

- 1. DECK SIZE AND GAGE INDICATED IN THE DRAWINGS ARE BASED ON THE FOLLOWING:
- A. VULCRAFT 2008 CATALOG FOR GRAVITY DESIGN LOADS. B. STEEL DECK INSTITUTE (SDI) DIAPHRAGM DESIGN MANUAL 3RD EDITION FOR DIAPHRAGM LOADS. C. VULCRAFT 2008 CATALOG FOR UNSHORED CONSTRUCTION SPANS.
- 2. COMPOSITE STEEL FLOOR DECK GALVANIZING SHALL CONFORM TO ASTM A653 WITH A MINIMUM
- COATING OF G60. 3. UNLESS NOTED OTHERWISE, DECK SHALL BE FASTENED WITH 5/8" DIAMETER PUDDLE WELDS AT 12" OC A ALL SUPPORTS AND EDGES. PROVIDE 16 GAGE WELDING WASHERS WHEN RECOMMENDED BY THE DECK MANUFACTURER FOR THE GAGE OF STEEL DECK SPECIFIED BELOW. SIDE LAPS SHALL BE FASTENED WITH #10 TEK SCREWS, MINIMUM ONE AT EACH MIDSPAN. OPENING EDGES SHALL RECEIVE THE SAME WELDING REQUIRED AT DECK ENDS. ALL WELDING SHALL BE PERFORMED BY CERTIFIED WELDERS EXPERIENCED IN
- COLD-FORMED STEEL DECK WORK. 4. DO NOT EXCEED 25 LBS PER HANGER AND A MINIMUM SPACING OF 2'-0" ON CENTER WHEN ATTACHING TO STEEL ROOF DECKING (LIMITATION NOT REQUIRED WITH CONCRETE ON STEEL DECK). THIS 25 LBS LOAD A 2'-0" SPACING INCLUDES ADJACENT MECHANICAL, ELECTRICAL, AND ARCHITECTURAL ITEMS HANGING FRO DECK. IF THE HANGER RESTRICTIONS CANNOT BE ACHIEVED, SUPPLEMENTAL FRAMING SUPPORTED OFF STEEL FRAMING WILL NEED TO BE ADDED. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR COORDINAT LOCATION AND WEIGHT OF ALL THE ELEMENTS BEING HUNG.

### LINTELS

- 1. PROVIDE LINTELS OVER ALL OPENINGS AND RECESSES IN MASONRY CONSTRUCTION. PENETRATIONS NOT IDENTIFIED ON THE DOCUMENTS ARE TO BE TREATED IN A MANNER SIMILAR TO THE
- IDENTIFIED LOCATIONS. LINTELS IN NON-BEARING MASONRY WALL OPENINGS CAN BE SIZED IN ACCORDAI WITH THE NOTE BELOW. LINTELS THAT OCCUR IN EXISTING BEARING WALLS ARE TO BE SIZED ACCORDING TO SIMILAR CONDITIONS AND SPANS IN THE NEW CONSTRUCTION AND LINTEL SCHEDULE. BOTTOM PLATE SIZE SHALL BE A MINIMUM OF 3/8" THICK. THE WIDTH OF THE PLATE SHALL BE 3/4" LESS THAN THE FIELD VERIFIED WALL THICKNESS. THE PLATE SHALL BE THE FULL LENGTH OF THE LINTEL MEMBER. LINTELS AR NOT REQUIRED OVER OPENINGS THAT ARE 12" WIDE OR LESS AND AT LEAST 1 COURSE BELOW THE TOP ( THE WALL.
- 3. ALL LINTELS SHALL HAVE A MINIMUM OF 8" END BEARING.
- 4. ALL LINTELS IN EXTERIOR WALL CONSTRUCTION SHALL BE HOT-DIP GALVANIZED, UNO.
- 5. FOR ALL OPENINGS NOT OTHERWISE DETAILED OR SCHEDULED, MINIMUM LINTELS SHALL BE FOR EACH 4 INCH OF MASONRY WIDTH: 5/16" PLATE (3/4" LESS THAN WALL WIDTH)
  - 0 TO 2'-0" SPAN 2'-0" TO 4'-0" SPAN L 3 1/2x3 1/2x1/4 4'-0" TO 6'-0" SPAN 6'-0" TO 8'-0" SPAN
    - L4x3 1/2x5/16 (LLV) L5x3 1/2x5/16 (LLV)
- ALL ANGLES THAT ARE BACK TO BACK SHALL BE WELDED TOP AND BOTTOM 3" AT 12" MINIMUM. 6. BEARING PLATES NOT REQUIRED FOR LINTELS UNLESS NOTED OTHERWISE.

### **EXISTING STRUCTURAL INFORMATION**

1. EXISTING STRUCTURAL INFORMATION SHOWN WAS OBTAINED FROM FIELD TAKE-OFF BY KJWW. CONTRACTOR TO VERIFY EXISTING INFORMATION DIMENSIONS AND SIZES AS REQUIRED TO COMPLETE THEIR WORK.

	STRUCTURA	L DRAWING SYMBOLS
	MASONRY HATCHING	##x##
	STEEL HATCHING	(+ X' - X")
	MISCELLANEOUS HATCH	
	CONCRETE HATCHING	
	EARTH HATCHING	
CENTERLINE OR GRID	HIDDEN	I
1 1/8" = 1'-0"	PLAN OR DETAIL NUMBER PLAN OR DETAIL NAME <b>Name</b> SCALE OF PLAN OR DETAIL DETAIL REFERRED TO BY SECTION CUT SHEET DETAIL IS	
	REVISION TRIANGLE - NUMBER INDICATES REVISION NUMBER ELEVATION MARK	OPEN FLOO
	INDICATES CHANGE OF SLAB ELEVATION	
SF#(+ X' - X'')	COLUMN DESIGNATION BASE PLATE MARK FOOTING MARK (TOP ELEVATION) PIER MARK (TOP ELEVATION)	FLOO ORIEN INDIC/ EXTEN THE E DRAW
SF#(+ X' - X") P# (+ X' - X")	FIER WARK (TUP ELEVATION)	

17	18	19	20	21

Т		
H G AS		

16

) AND OM
TING
NCE G E
RE OF
BEAM SIZE
TOP OF STEEL ELEVATION
BEAM TO COLUMN KICKER (BELOW) - REFER TO DETAIL
BEAM TO SLAB KICKER (BELOW) - REFER TO DETAIL
INDICATES COLUMN BEARING ON CONCRETE FOUNDATION WALL, GRADE BEAM, OR PIER

INDICATES COLUMN FRAMING ATOP BEAM - REFER TO DETAIL

INDICATES COLUMN FRAMING TO UNDERSIDE OF BEAM - REFER TO DETAIL

OR SLAB OR ROOF DECK OPENING

R AND/OR ROOF DECK NTATION (DIRECTION OF SPAN)

ATES DIRECTION OF DECK NTS. DECK SHALL TERMINATE AT EDGE OF SLAB SHOWN ON THE INGS UNLESS NOTED OTHERWISE

	AT DEGREES
	DIAMETER AIR-HANDLING UNIT
	APPROXIMATE, -LY ARCHITECT, -URE, -URAL
/	BOTTOM OF BEAM FLANGE WIDTH
М	BEAM BASE PLATE
RG	BEARING COLD FORM STEEL FRAMING
;J	CONTROL JOINT CLEAR
MU	CONCRETE MASONRY UNIT CONCRETE
ONST	CONSTRUCTION CONTINUOUS
)	DEPTH DOUBLE
EG	DEGREE DIMENSION
)L	DEAD LOAD DETAIL
WG	DRAWING EACH
F	EACH FACE EXPANSION JOINT
Ľ	ELEVATION ELECTRICAL
MBED	EMBEDDED EDGE OF DECK
ŌS	EDGE OF SLAB EQUAL
QUIP	EQUIPMENT EACH WAY
XIST, (E)	EXISTING EXPANSION
XT	EXTERIOR CONCRETE COMPRESSIVE STRENGTH
-	FOUNDATION
Ľ	FLOOR FOOT
TG	FOOTING YIELD STRESS
ŚΑ	GAGE OR GAUGE GALVANIZED
BB	GRADE BEAM GENERAL CONTRACTOR
SYP	GYPSUM HOT-DIPPED GALVANIZED
IORIZ	HORIZONTAL HEATING, VENTILATION, AIR CONDITIONING
IWS	HEADED, WELDED STUD
NT	INTERIOR JOIST
	JOINT KILOPOUND (1,000 POUNDS)
0	KNOCK-OUT KIPS PER SQUARE FOOT
	LENGTH POUND
L	LINEAR FOOT LIVE LOAD
117	LONG LEG HORIZONTAL LONG LEG VERTICAL
SH SV	LONG SIDE HORIZONTAL LONG SIDE VERTICAL
ONG	LONGITUDINAL MECHANICAL/ELECTRICAL
1ECH	MAXIMUM MECHANICAL
1IN	MEZZANINE MINIMUM
	MISCELLANEOUS MARK
1	NORTH LENGTH (AS PLATES)
	NOT IN CONTRACT NUMBER
	NOT TO SCALE ON CENTER
	OPENING OPPOSITE
°C	POWER ACTUATED FASTENER PRECAST
Ľ	POUNDS PER CUBIC FOOT PLATE
	POUNDS PER SQUARE FOOT POUNDS PER SQUARE INCH
	POLYVINYL CHLORIDE RADIUS
REINF	ROOF DRAIN REINFORCING, -MENT, -ED
REF	REQUIRED REFERENCE, REFER TO
SC 3	ROOF-TOP UNIT TC WITH CLASS A FAYING SURFACE
SIM	SCHEDULE SIMILAR
SL SP	SNOW LOAD SPACE(S)
PEC'D	SPECIFICATION(S) SPECIFIED
TD	SQUARE STANDARD
	STIFFENER TOP OF
EMP	PRE-TENSIONED BOLT TEMPERATURE
RANS	BEAM FLANGE THICKNESS TRANSVERSE
INO	TYPICAL UNLESS NOTED OTHERWISE
/IF	VERTICAL VERIFY IN FIELD
VP	VERIFY WITH ARCHITECTURAL DRAWINGS WORKING POINT
VWR	WEIGHT WELDED WIRE REINFORCING
۲D	YARD

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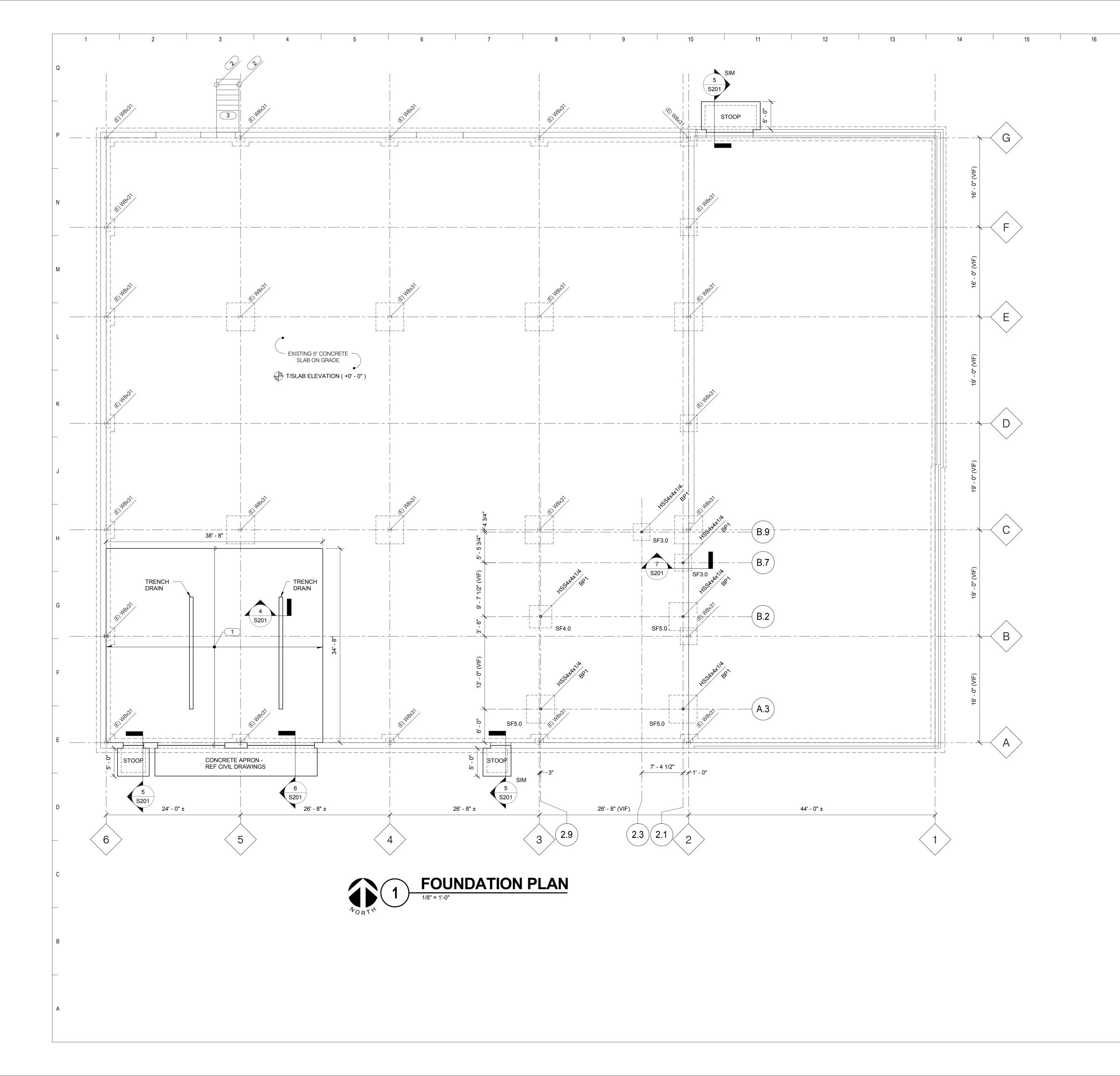
Key Plan

# Sheet Issue Date Bid Set 12/09/2016 Previous Issue Dates Revision Dates \_\_\_\_\_

GENERAL NOTES

OPN Project No. 15617000





17	18	19	20	21



1. TOP OF FOOTING ELEVATION (-1' - 0"), UNO.

- BP# INDICATES BASE PLATE. REFER TO S301 FOR ANCHOR ROD AND BASE PLATE DETAILS. 3. SF# INDICATES SPREAD FOOTING. REFER TO THIS SHEET
- FOR SCHEDULE.
- 4. REFER TO 1, 2 AND 3/S201 FOR TYPICAL SLAB ON GRADE CONSTRUCTION DETAILS.

KEYNOTES:

NOTES:

- 1 5" CONCRETE SLAB ON GRADE WITH 6x6 W2.1xW2.1 WWR. TOP OF SLAB ELEVATION (+0'-0"), MATCH EXISTING AND SLOPE TO DRAIN.
- 2 10"Ø SONOTUBE FOUNDATION. COORDINATE LOCATION AND T/PIER ELEVATION WITH STAIR SUPPLIER. B/PIER ELEVATION TO BE MINIMUM 4'-0" BELOW GRADE.
- 3 EXTERIOR STAIR BY STAIR SUPPLIER. DESIGN FOR 100 PSF LIVE LOAD. ANCHOR STAIR LANDING TO EXTERIOR FACE OF EXISTING CONCRETE FOUNDATION WALL.

SPREAD FOOTING SCHEDULE						
				REINFORCING		
MARK	LENGTH	WIDTH	THICKNESS	LONG DIRECTION	SHORT DIRECTION	
SF3.0	3' - 0"	3' - 0"	1' - 0"	(3) #5	(3) #5	
SF4.0	4' - 0"	4' - 0"	1' - 0"	(3) #5	(3) #5	
SF5.0	5' - 0"	5' - 0"	1' - 0"	(4) #5	(4) #5	

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Key Plan

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Drawing FOUNDATION PLAN



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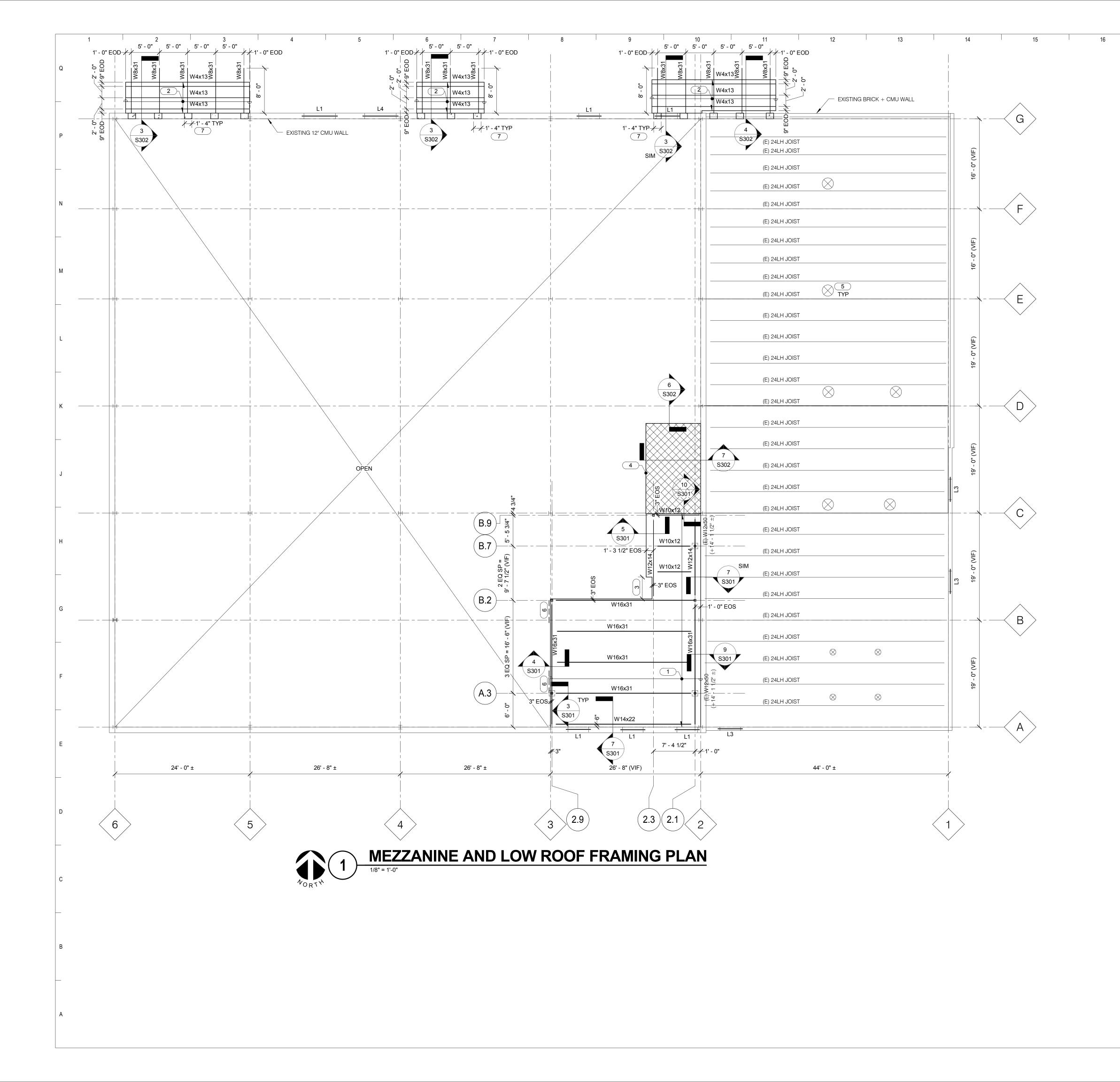
REFERENCE SCALE IN INCHES

2

PROJECT # 16.0141.00 OPN Project No. 15617000

3

**S101** 



17	18		19	20	21	
		NOTES:				
		1. TOF	OF STEEL ELEVATION	(+10' - 8").		
		2. REF	ER TO 8/S301 FOR TYPI	CAL SHEAR CONNECTION	ON.	
			NDICATES LINTEL IN ST S SHEET FOR SCHEDUL		VALL, REFER TO	
		4. MODIFY EXISTING ROOF JOISTS PER 1/S302 AS REQUIRED FOR HANGING LOADS. GC TO COORDINATE WITH TRADE CONTRACTORS.				
		KEYNOT	<u>=S</u> :			
	1 2 1/2" NORMAL WEIGHT CONCRETE ON 1 1/2" (20 GA) COMPOSITE STEEL DECK, 2-SPAN MINIMUM, WITH 6x6 - W1.4xW1.4 WWR. TOTA THICKNESS = 4". TOP OF SLAB EL +11' - 0".					
		2 1	/8" STEEL PLATE.			
		3 0	OORDINATE DECK EDG	E WITH STAIR SUPPLIE	R.	
		E E S	9/4" TONGUE AND GROO " DEEP COLD FORM JOI BE DESIGNED FOR SUPE IVE LOAD OF 50 PSF. FA CREWS @ 6" OC AT SUB PANEL AND @ 12" OC AT	STS @ 16" OC. COLD FC ERIMPOSED DEAD LOAD ASTEN SHEATHING TO J PPORTING ENDS OF EA	ORM FRAMING TO OF 15 PSF AND OISTS WITH #10 TEK	

OPENINGS PER 2/S302.

IN EACH CELL.

6 L4x4x1/4 KNEE BRACE, REFER TO 11/S301.

LINTEL SCHEDULE

W8x24 + 3/8" PLATE,

TOP AND BOTTOM

W8x31 + 3/8" PLATE,

TOP AND BOTTOM

W8x24 + 3/8"

BOTTOM PLATE

W8x24 + 3/8" PLATE,

TOP AND BOTTOM

5 NEW ROOF OPENING: PROVIDE ANGLE FRAMING AROUND ROOF

(7) GROUT EXISTING MASONRY SOLID, FULL HEIGHT, WITH (1) #6 BAR

MEMBER SIZE

DETAIL

6/S301

6/S301

6/S301 SIM

6/S301

NOTES:

MAR

Κ

L1

L2

L3

L4

1. GROUT EXISTING MASONRY SOLID AT LINTEL BEARING.

MEMBER BEARING,

EACH END

0' - 4"

0' - 4"

0' - 4"

0' - 4"



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NOTES

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REINFORCE JAME

PER 5/S302

-

REINFORCE JAMB PER 5/S302 SIM

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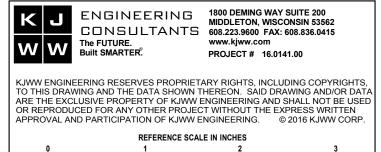
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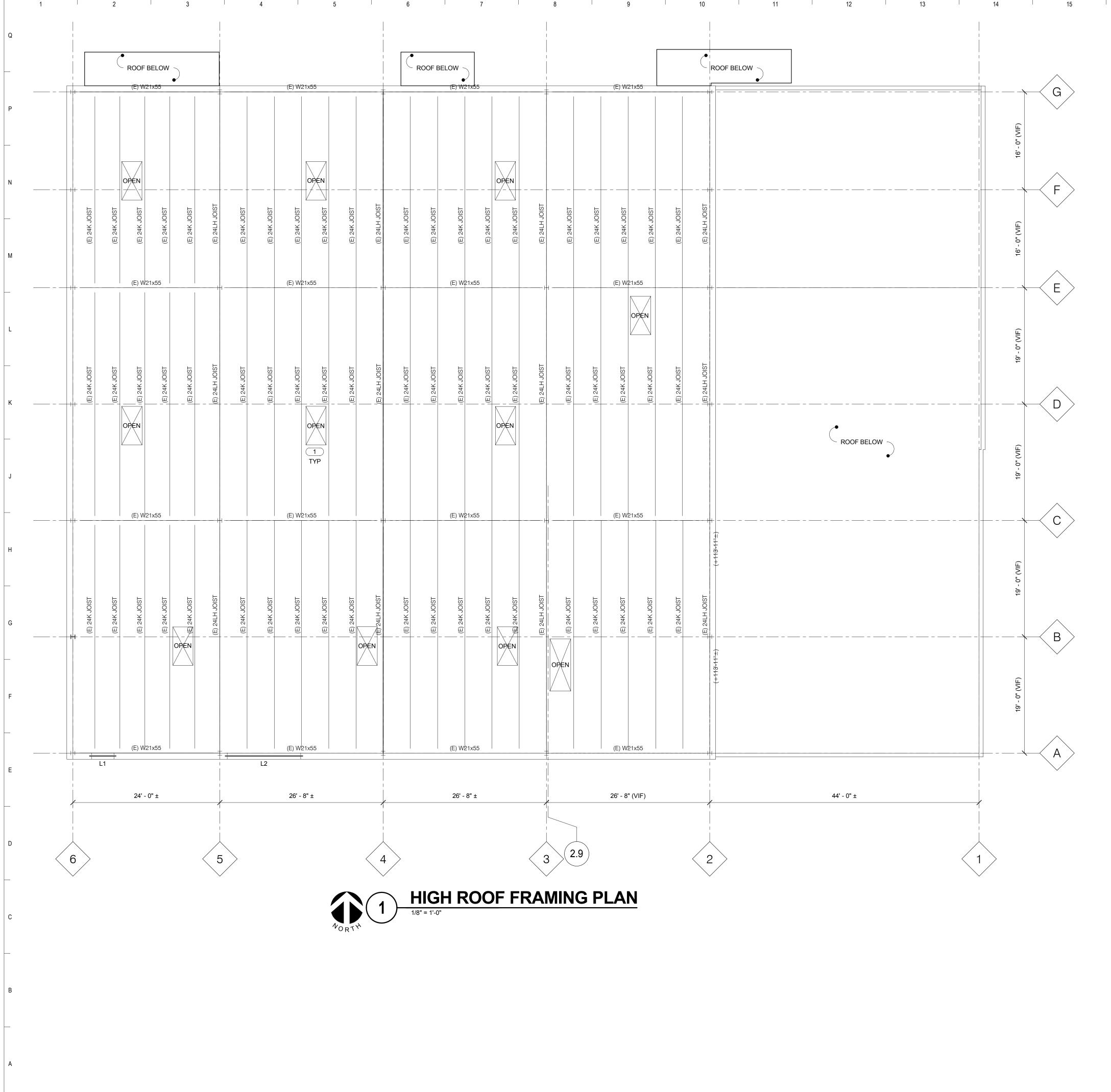
12/09/2016

Revision Dates Drawing MEZZANINE FRAMING PLAN OPN Project No. 15617000



ENGINEERING1800 DEMING WAY SUITE 200<br/>MIDDLETON, WISCONSIN 53562CONSULTANTS608.223.9600FAX: 608.836.0415







NOTES:

16

 MODIFY EXISTING ROOF JOISTS PER 1/S302 AS REQUIRED FOR HANGING LOADS. GC TO COORDINATE WITH TRADE CONTRACTORS.

L# INDICATES LINTEL IN STRUCTURAL MASONRY WALL, REFER TO S102 FOR SCHEDULE.

KEYNOTES:

1 NEW ROOF OPENING: PROVIDE ANGLE FRAMING AROUND ROOF OPENINGS PER 2/S302.

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Key Plan

### Sheet Issue Date Bid Set 12/09/2016

Previous Issue Dates

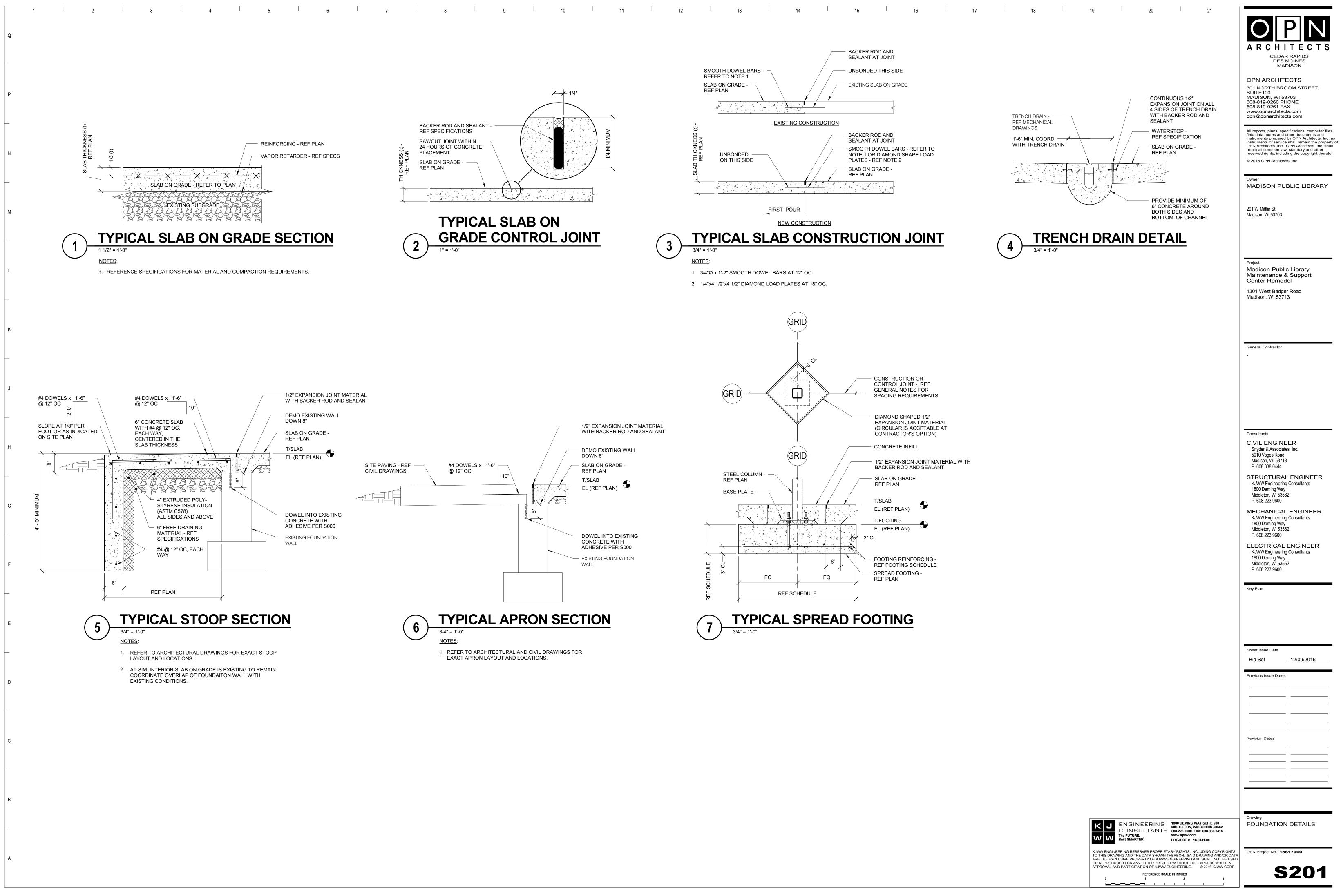
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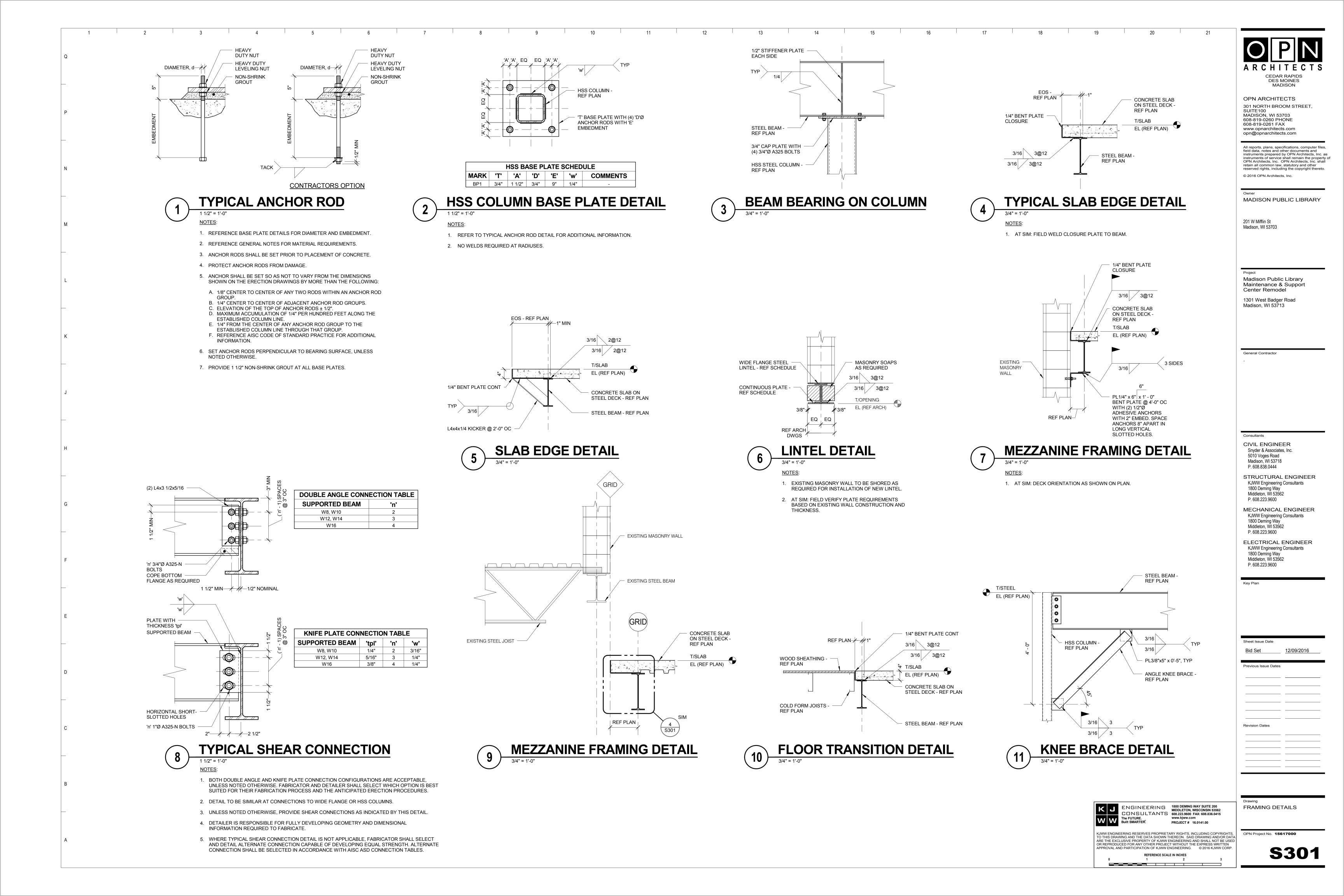
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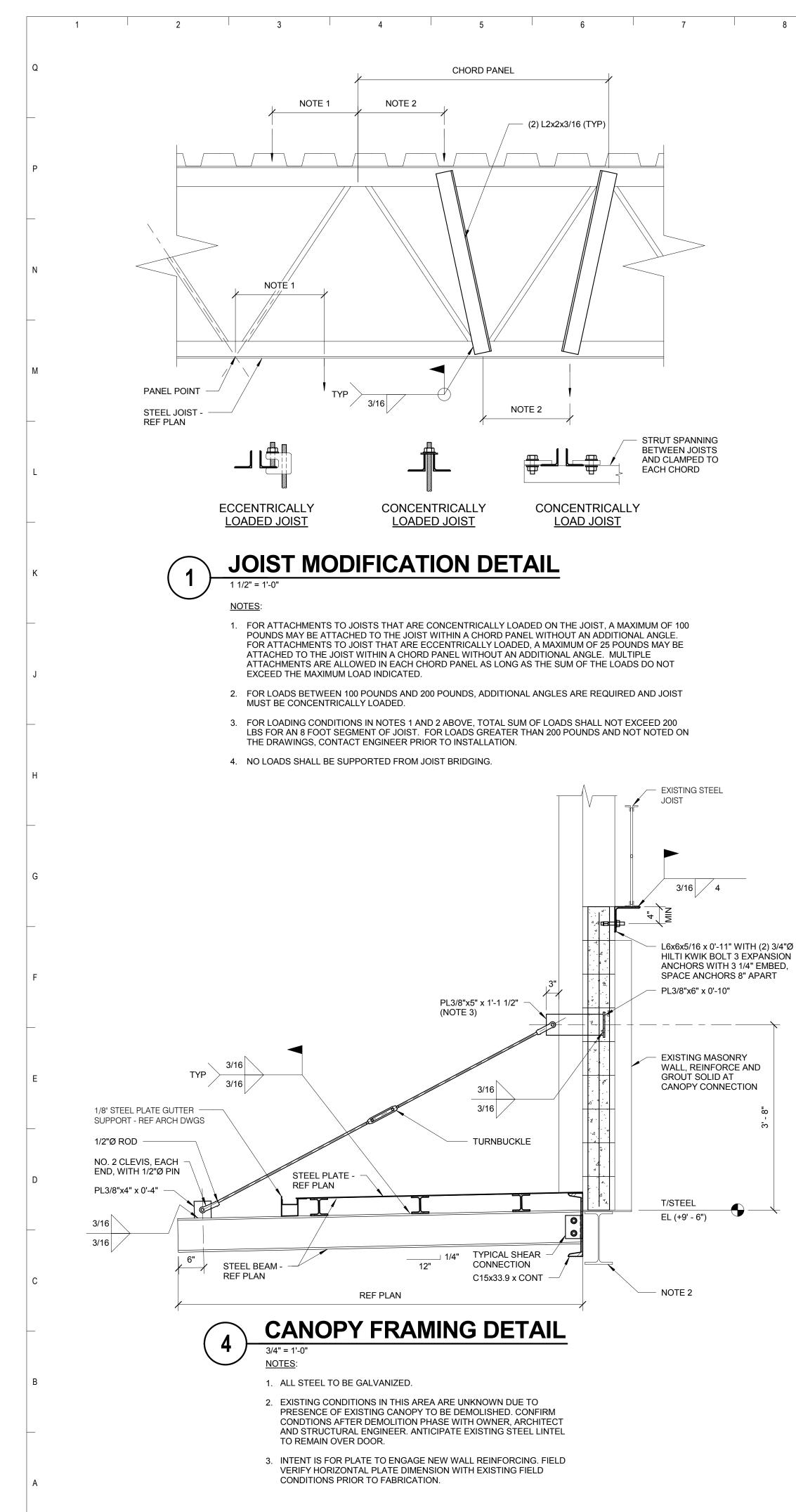
OPN Project No. 15617000

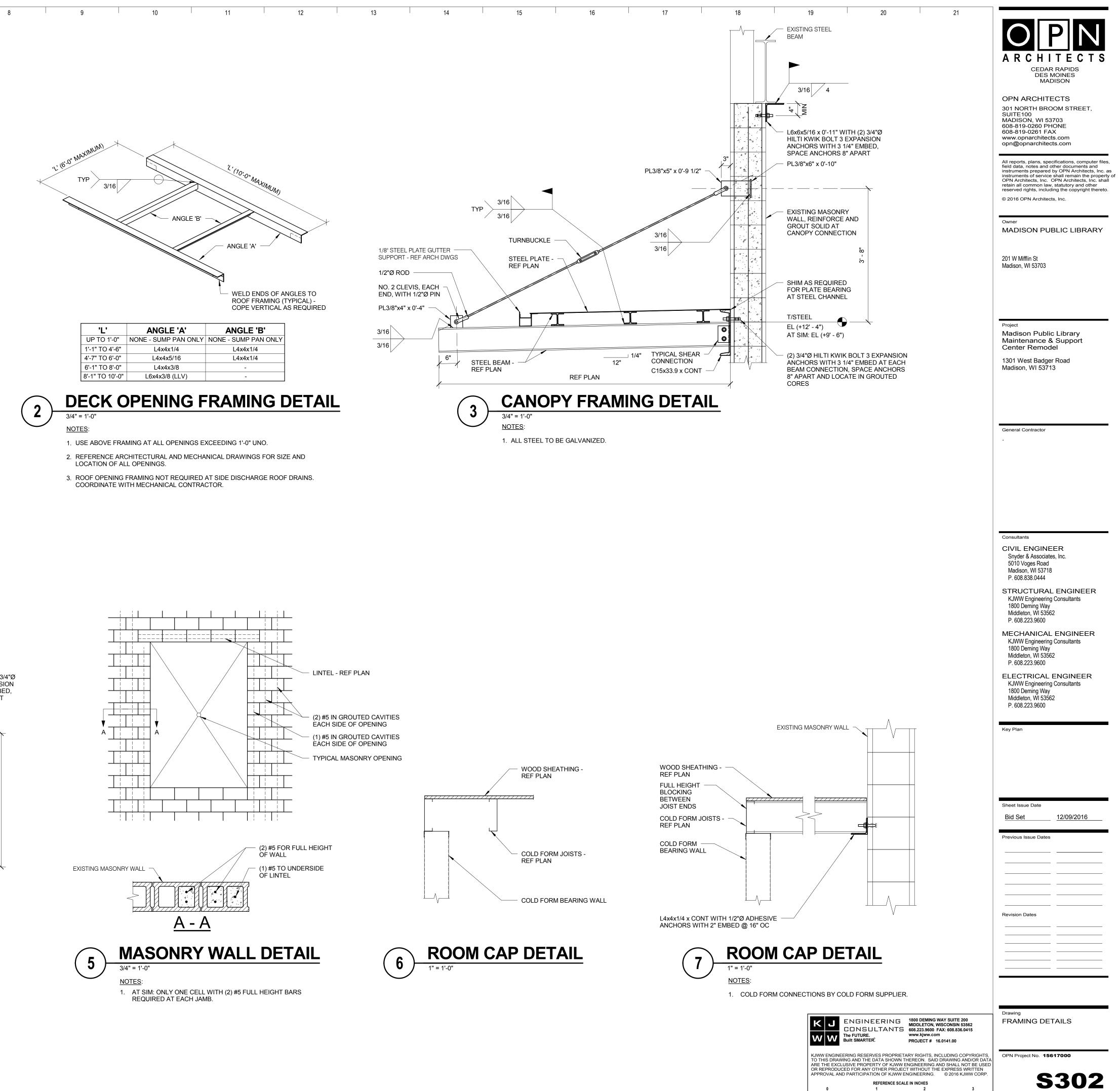


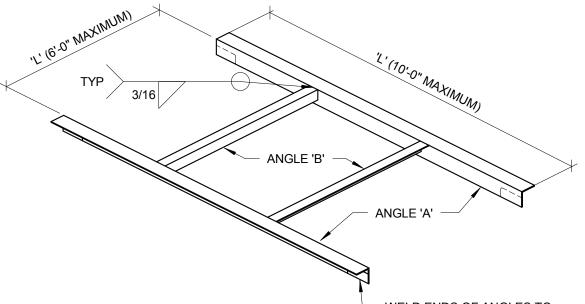
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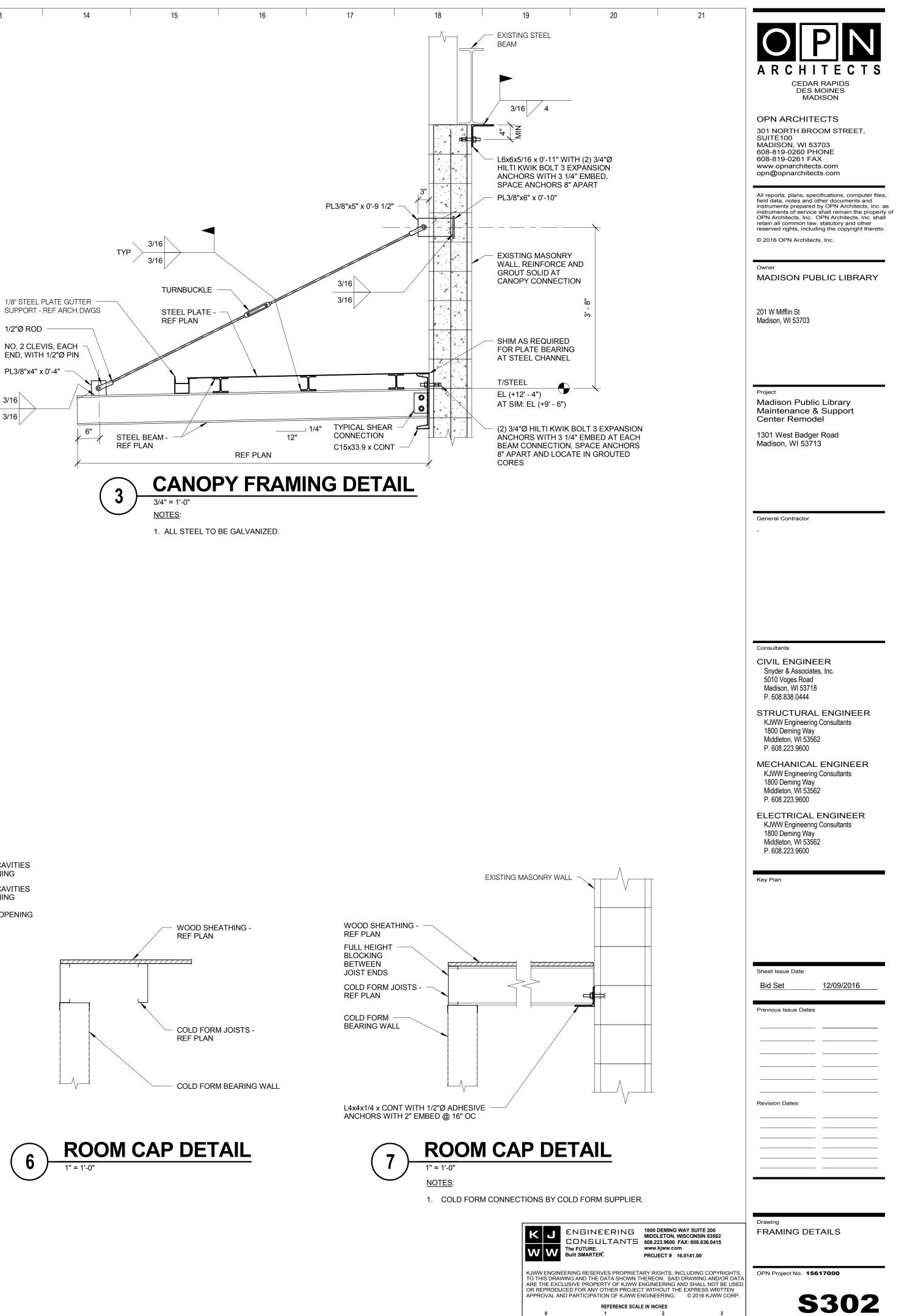


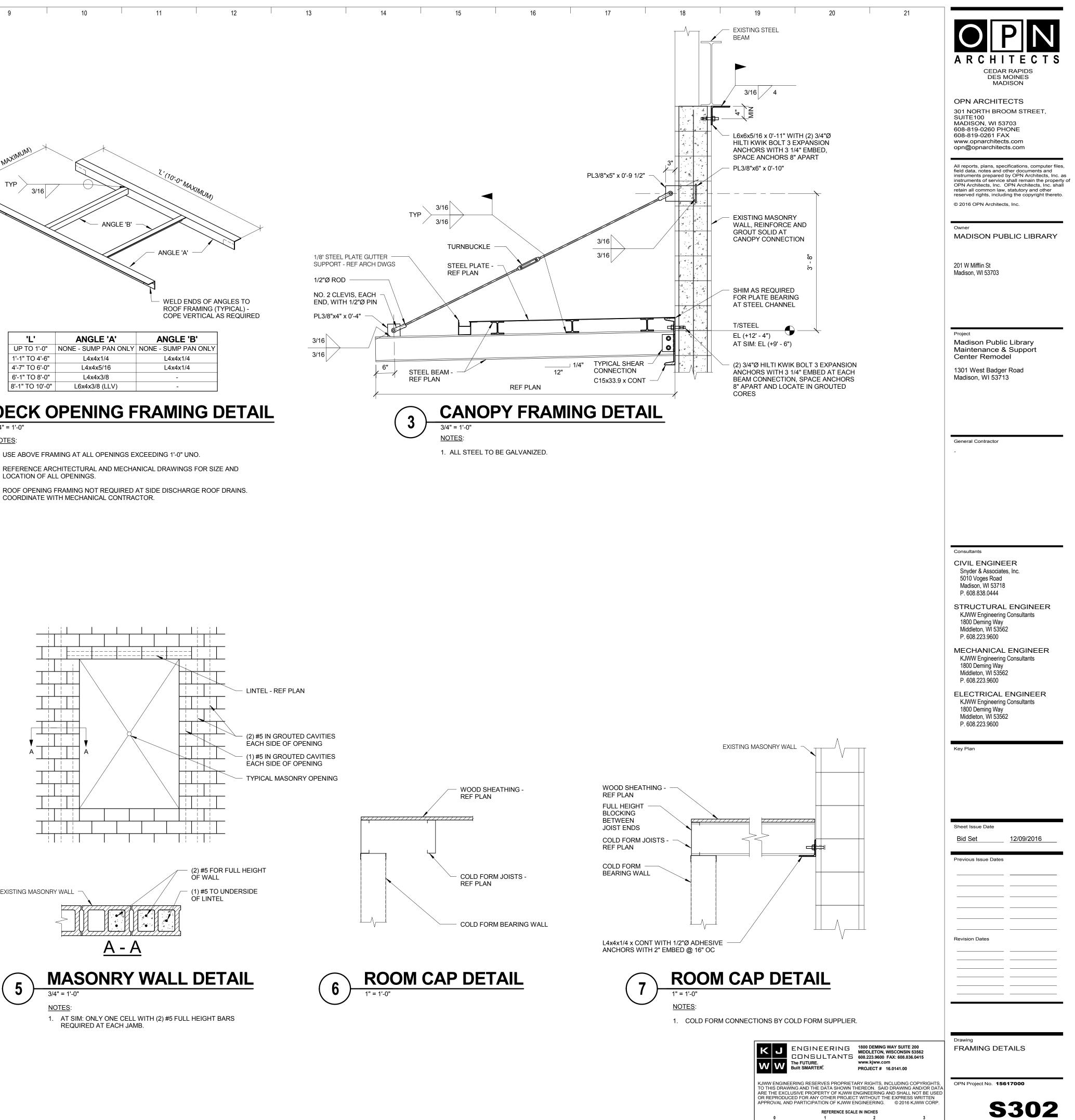


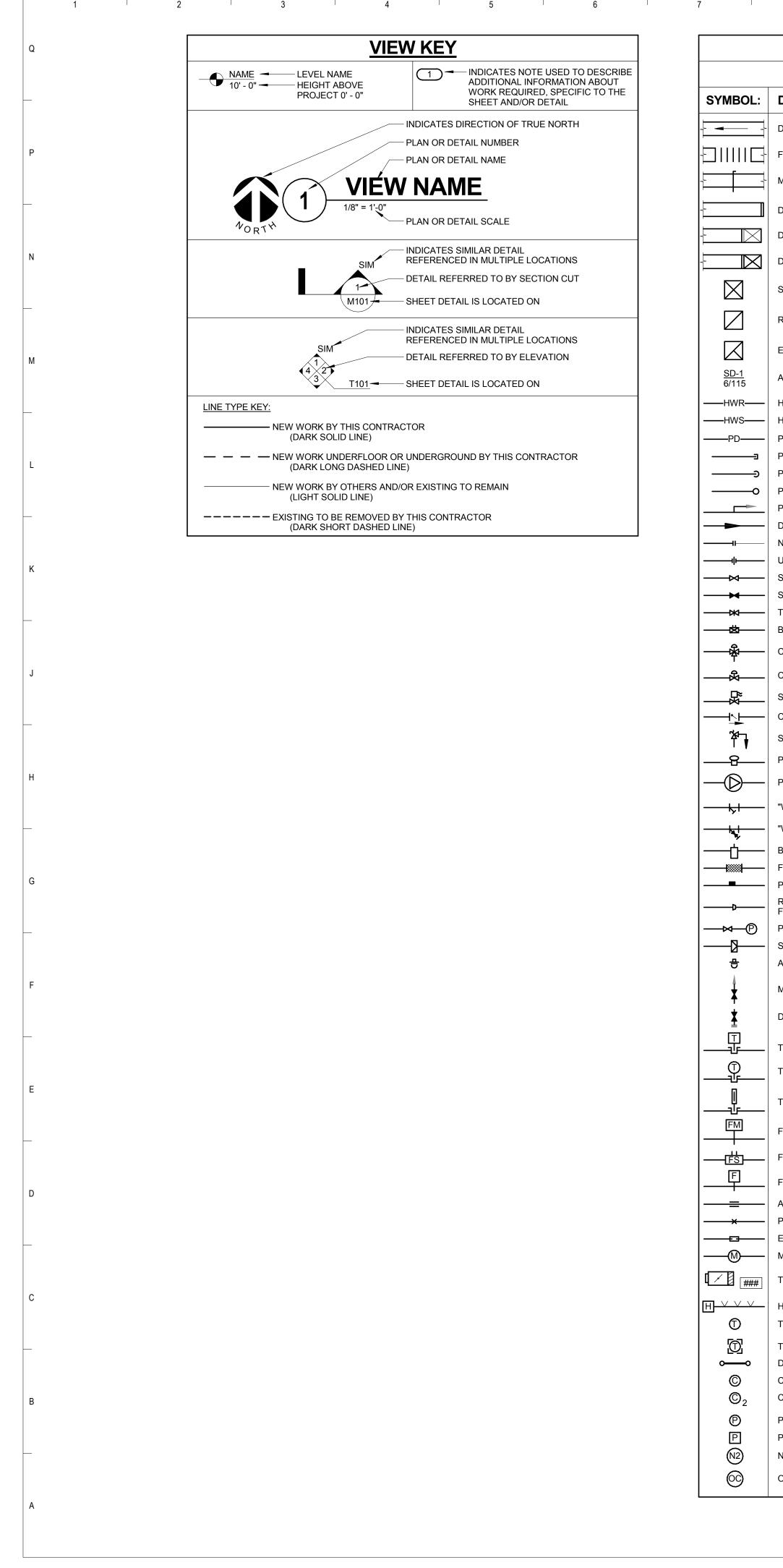




'L'	ANGLE 'A'	ANGLE 'B'
UP TO 1'-0"	NONE - SUMP PAN ONLY	NONE - SUMP PAN ONLY
1'-1" TO 4'-6"	L4x4x1/4	L4x4x1/4
4'-7" TO 6'-0"	L4x4x5/16	L4x4x1/4
6'-1" TO 8'-0"	L4x4x3/8	-
8'-1" TO 10'-0"	L6x4x3/8 (LLV)	-







8 9 10 11	12	13 14 15 16
MECHANICAL SYMBOL LIST		<b>MECHANICAL RENOVATION NOTES:</b>
NOT ALL SYMBOLS MAY APPLY.		S APPLY TO ALL MECHANICAL SHEETS AND TRADES, INCLUDING BUT NOT LIMITED TECTION, PLUMBING, VENTILATION, PIPING AND TEMPERATURE CONTROL.
DESCRIPTION:	1. EXISTING	CONDITIONS ARE SHOWN BASED ON INFORMATION OBTAINED FROM FIELD CONDITIONS ARE SHOWN BASED ON INFORMATION OBTAINED FROM FIELD CONDITIONS AND STAFF. VERIFY EXISTING CONDITIONS AND
DIRECTION OF AIR FLOW	REPORT / 2. NOT ALL E	ANY CONFLICTS BEFORE PROCEEDING. EXISTING DUCTWORK AND PIPING IS SHOWN. VERIFY EXISTING CONDITIONS BEFORE
	3. FIELD VER	G WORK. NOTIFY ENGINEER OF ANY CONFLICTS WITH NEW WORK. RIFY THE AVAILABLE CLEARANCES FOR DUCTWORK AND PIPING BEFORE
- FLEXIBLE DUCT	CONDITIC	FION. RISES AND DROPS MAY BE NECESSARY BECAUSE OF EXISTING FIELD DNS. NTRACTOR SHALL FIELD VERIFY ACCESSIBILITY TO THE AREA OF HIS WORK AND
- MANUAL VOLUME DAMPER	SHALL NO REQUIRE	TIFY THE GENERAL CONTRACTOR PRIOR TO BIDDING IF OTHER UTILITIES ARE D TO BE REMOVED OR RELOCATED TO ALLOW ACCESS TO HIS AREA OF WORK.
DUCT CAP	ROOFS, W	ERAL CONTRACTOR IS RESPONSIBLE FOR CUTTING, REMOVAL AND PATCHING OF VALLS, AND FLOORS ASSOCIATED WITH WORK BY ALL CONTRACTORS.
DUCT DOWN	6. THE GENE	CTORS SHALL NOTIFY THE GC OF AFFECTED AREAS PRIOR TO BIDDING. ERAL CONTRACTOR IS RESPONSIBLE FOR REMOVAL AND REPLACEMENT OF , CEILING TILES, AND CEILING GRIDS ASSOCIATED WITH AREAS OF WORK BY ALL
DUCT UP	CONTRAC	CTORS. NOTIFY THE GENERAL CONTRACTOR OF AFFECTED AREAS PRIOR TO BIDDING. XISTING MECHANICAL SYSTEMS ARE LOCATED IN AREAS THAT CONFLICT WITH NEW
SUPPLY/OUTSIDE AIR DUCT SECTION	ARRANGE	NT, PIPING, OR DUCTWORK TO BE INSTALLED, EACH CONTRACTOR SHALL EITHER E NEW EQUIPMENT, PIPING, OR DUCTWORK IN SUCH A FASHION THAT IT DOES NOT
	FOR INST.	FWITH EXISTING SYSTEMS, OR REWORK EXISTING MECHANICAL SYSTEMS TO ALLOW ALLATION OF NEW EQUIPMENT, PIPING, OR DUCTWORK. ECT AND REMOVE MECHANICAL DEVICES AND EQUIPMENT SERVING EQUIPMENT
RETURN AIR DUCT SECTION		BEEN REMOVED.
EXHAUST/RELIEF AIR DUCT SECTION		
AIR TERMINAL PROPERTIES SYMBOL NECK SIZE/CFM		MECHANICAL ABBREVIATION KEY
HEATING WATER RETURN		
HEATING WATER SUPPLY		NOT ALL SYMBOLS MAY APPLY
PUMPED DISCHARGE	ABBR:	DESCRIPTION:
PIPE CAP PIPE DOWN	AD	
PIPE UP OR UP/DOWN	AFF C	ABOVE FINISHED FLOOR COMMON
PITCH PIPE IN DIRECTION	CD-E	CEILING DIFFUSER - EXISTING
DIRECTION OF FLOW IN PIPE NEW CONNECTION	CFSD CO	CONTROL/FIRE/SMOKE DAMPER
UNION/FLANGE	cs	CLEANOUT CONDENSER SUPPLY
SHUTOFF VALVE NORMALLY OPEN	CR	CONDENSER RETURN
SHUTOFF VALVE NORMALLY CLOSED THROTTLING VALVE	D	DRAIN PIPE
BALANCING VALVE (NUMBER INDICATES GPM)	DPG (0-2") DPS	DIFFERENTIAL PRESSURE GAUGE (RANGE) DIFFERENTIAL PRESSURE SWITCH
CONTROL VALVE (THREE-WAY)	EA	EXHAUST/RELIEF AIR
CONTROL VALVE (TWO-WAY)	ECFSD	EXISTING CONTROL FIRE SMOKE DAMPER
SOLENOID VALVE	EFD EFSD	EXISTING FIRE DAMPER EXISTING FIRE SMOKE DAMPER
CHECK VALVE	ESD	EXISTING SMOKE DAMPER
SAFETY/RELIEF VALVE	FD	FIRE DAMPER
PRESSURE REDUCING VALVE (LIQUID/GAS)	FOB FOT	FLAT ON BOTTOM FLAT ON TOP
PUMP	FSD	FIRE/SMOKE DAMPER
"WYE" - STRAINER	GS	GEOTHERMAL SUPPLY
"WYE" - STRAINER W/SHUTOFF VALVE AND HOSE CONNECTION WITH CAP	GR HWS	GEOTHERMAL RETURN HEATING WATER SUPPLY
BASKET STRAINER FLEXIBLE CONNECTION	HWR	HEATING WATER RETURN
PRESSURE/TEMPERATURE TEST PLUG	IU MA	INDOOR UNIT MIXED AIR
REDUCER - REFERENCE SPECIFICATION FOR CONCENTRIC/ECCENTRIC AND FOT/FOB	MX	MIXED AIR MIXING VALVE
PRESSURE GAUGE (FURNISHED WITH BALL VALVE)	NC	NEW CONNECTION
AUTOMATIC AIR VENT	N.C.	NORMALLY CLOSED
	NIC N.O.	NOT IN CONTRACT NORMALLY OPEN
MANUAL AIR VENT	OA	OUTSIDE AIR
DRAIN VALVE WITH HOSE CONNECTION AND CAP	PS RA	PRESSURE SWITCH RETURN AIR
TEMPERATURE SENSOR WITH WELL	RA SA	SUPPLY AIR
THERMOMETER WITH WELL (DIAL TYPE)	SD	SMOKE DAMPER
THERMOMETER WITH WELL (FILLED TYPE)	TAB TD	TERMINAL AIR BOX TRANSFER DUCT
	TYP	TYPICAL
FLOW METER	UC-1	DOOR UNDERCUT BY OTHERS (1" TYPICAL)
FLOW SENSOR	UNO	UNLESS NOTED OTHERWISE
FLOW SWITCH		
PIPE ANCHOR       EXPANSION JOINT		
METER		
TERMINAL AIR BOX W/REHEAT COIL (REFER TO SCHEDULE)		
HUMIDIFIER		
THERMOSTAT/SENSOR		
THERMOSTAT/SENSOR W/HEAVY DUTY ENCLOSURE		
DIFFERENTIAL PRESSURE SENSOR CARBON MONOXIDE SENSOR		
CARBON DIOXIDE SENSOR		
PRESSURE SENSOR/MONITOR		
PRESSURE SENSOR (DUCT MOUNTED)		
NITROGEN DIOXIDE SENSOR		
OCCUPANCY SENSOR		

#### 17 18 19 20 21



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## **PIPING GENERAL NOTES:** PIPE DRAIN LINES FROM EQUIPMENT TO NEAREST FLOOR DRAIN.

INSTALL ALL REFRIGERANT LIQUID AND SUCTION PIPING PER EQUIPMENT MANUFACTURER RECOMMENDATIONS. FINAL SIZING BY MANUFACTURER.

## **MECHANICAL GENERAL NOTES:**

THESE NOTES APPLY TO ALL MECHANICAL SHEETS AND TRADES, INCLUDING BUT NOT LIMITED

- TO, FIRE PROTECTION, PLUMBING, VENTILATION, PIPING AND TEMPERATURE CONTROL. 1. DRAWINGS SHOWING LOCATIONS OF EQUIPMENT, DUCTWORK, PIPING, ETC. ARE DIAGRAMMATIC AND MAY NOT ALWAYS REFLECT EXACT INSTALLATION CONDITIONS. DRAWINGS SHOW THE GENERAL ARRANGEMENT OF DUCTWORK, PIPING, EQUIPMENT, ETC., AND MAY NOT INCLUDE ALL OFFSETS AND FITTINGS REQUIRED FOR COMPLETE INSTALLATION. THE DRAWINGS SHALL BE FOLLOWED AS CLOSELY AS ACTUAL BUILDING CONSTRUCTION AND THE WORK OF OTHERS WILL
- PERMIT. 2. DO NOT SCALE DRAWINGS. VERIFY ALL DIMENSIONS AND CLEARANCES FROM ARCHITECTURAL, STRUCTURAL, SUBMITTALS, AND OTHER APPROPRIATE DRAWINGS OR PHYSICALLY AT SITE. REVIEW ALL DRAWINGS, INCLUDING THOSE OF OTHER TRADES.
- 3. COORDINATE ALL WORK WITH ALL OTHER TRADES PRIOR TO INSTALLATION TO PROVIDE CLEARANCES REQUIRED FOR OPERATION, MAINTENANCE, CODE COMPLIANCE, AND TO VERIFY NON-INTERFERENCE WITH OTHER WORK. DO NOT FABRICATE PRIOR TO VERIFICATION OF NECESSARY CLEARANCES FOR ALL TRADES. BRING ANY INTERFERENCES OR CONFLICTS TO THE ATTENTION OF THE ARCHITECT/ENGINEER BEFORE PROCEEDING WITH FABRICATION OR EQUIPMENT ORDERS.
- 4. REVIEW SPACE REQUIREMENTS OF EQUIPMENT SPECIFIED OR SUBSTITUTED AND MAKE REASONABLE ACCOMMODATIONS IN LAYOUT AND POSITIONING TO PROVIDE PROPER ACCESS. 5. ANY CHANGES REQUIRED TO ELIMINATE CONFLICTS OR THAT RESULT FROM A FAILURE TO COORDINATE SHALL BE MADE BY THE CONTRACTOR WITHOUT ADDITIONAL COST OR EXPENSE
- TO OTHERS. EACH CONTRACTOR IS RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH ELECTRICAL CHANGES REQUIRED FOR EQUIPMENT PROPOSED THAT DIFFERS FROM THE BASIS OF DESIGN. 7. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN, ELECTRICAL, TECHNOLOGY
- AUDIO/VISUAL, AND OTHER MECHANICAL PLANS FOR EXACT LOCATIONS OF ALL CEILING MOUNTED DEVICES, OTHER THAN SPRINKLERS. 8. EACH CONTRACTOR IS RESPONSIBLE FOR DAMAGE CAUSED BY THEIR ACTIONS TO WALLS,
- FLOORS, CEILINGS, AND ROOFS. THE CONTRACTOR WHOSE WORK CAUSES DAMAGE IS RESPONSIBLE FOR PATCHING TO MATCH ORIGINAL CONSTRUCTION, FIRE RATING, AND FINISH. 9. IN AREAS WITH DRYWALL CEILINGS COORDINATE LOCATIONS OF ACCESS PANELS WITH THE GC FOR ACCESS TO VALVES, DUCTWORK ACCESSORIES, DAMPERS, ETC. COORDINATE PANEL TYPE AND COLOR WITH ARCHITECT. NOTIFY THE GC OF THE REQUIRED ACCESS PANELS PRIOR TO
- BIDDING. 10. SEAL ALL FLOOR, WALL, AND ROOF PENETRATIONS AIRTIGHT WHERE CONDUITS, PIPING, AND DUCTS PENETRATE. PENETRATIONS THROUGH EXTERIOR WALLS AND ROOF SHALL BE SEALED AIRTIGHT WITH WATERPROOFING MATERIALS RECOMMENDED BY MANUFACTURER FOR OUTDOOR USE.
- 11. CAULK ALL PIPE AND DUCT PENETRATIONS OF FULL HEIGHT NON-FIRE RATED WALL, PARTITION, FLOOR, AND ROOF ASSEMBLIES. THIS IS ESSENTIAL TO PREVENT NOISE TRANSMISSION FROM ONE ROOM TO ANOTHER AND TO PROVIDE THE DESIRED NC LEVELS WITHIN ROOMS. 12. WHERE PIPES AND DUCTS ARE SHOWN TO PENETRATE FLOORS, PROVIDE SLEEVED OPENINGS
- WITH THE TOP EDGE RAISED ABOVE FLOOR SURFACE IN ACCORDANCE WITH ALL RELEVANT SPEC SECTIONS. SEAL SLEEVE PERIMETER TO BE WATERTIGHT. 13. EQUIPMENT SIZES AND SERVICE CLEARANCE REQUIREMENTS VARY BETWEEN DIFFERENT MANUFACTURERS. CONSULT APPROVED SHOP DRAWINGS FOR EQUIPMENT SIZES AND
- REQUIRED SERVICE CLEARANCES. COORDINATE WITH LAYOUT OF EQUIPMENT PADS, PIPING, DUCTWORK, ETC. 14. DO NOT BLOCK TUBE PULL OR EQUIPMENT SERVICE CLEARANCES. 15. MAINTAIN MINIMUM 3'-6" CLEARANCE IN FRONT OF ALL ELECTRICAL PANELS, MOTOR STARTERS,
- SWITCHES, AND DISCONNECTS. 16. PROVIDE CONCRETE EQUIPMENT PAD FOR ALL FLOOR MOUNTED EQUIPMENT. PAD SHALL
- EXTEND MINIMUM 6" BEYOND ALL SIDES OF EQUIPMENT. 17. DO NOT SUPPORT EQUIPMENT, PIPING, OR DUCTWORK FROM METAL DECKING OR OTHER NON-STRUCTURAL BUILDING ELEMENTS. ANCHORS EMBEDDED IN CONCRETE SHALL BE CRACKED CONCRETE APPROVED IN ACCORDANCE WITH SPECIFICATIONS.

	<b>CONTRACTOR ABBREVIATION KEY</b>				
ABBR:	DESCRIPTION:				
C.C.	CIVIL CONTRACTOR				
C.M.	CONSTRUCTION MANAGER				
E.C.	ELECTRICAL CONTRACTOR				
F.P.C.	FIRE PROTECTION CONTRACTOR				
G.C.	GENERAL CONTRACTOR				
M.C.	MECHANICAL CONTRACTOR				
P.C.	PLUMBING CONTRACTOR				
T.C.	TECHNOLOGY CONTRACTOR				

## **MECHANICAL SHEET INDEX**

Sheet Number	Sheet Name
M000	COVER SHEET - MECHANICAL
MD101.1	FIRST FLOOR DEMOLITION - MECHANICAL
MD102.1	ROOF DEMOLITION PLAN - MECHANICAL
M100	SITE PLAN - MECHANICAL
MP101.1	FIRST FLOOR - PIPING
MV101.1	FIRST FLOOR - MECHANICAL
MV102.1	ROOF PLAN - MECHANICAL
M200	FLOW DIAGRAM - MECHANICAL
M201	VRF PIPING DIAGRAMS
M300	DETAIL - MECHANICAL
M301	DETAIL - MECHANICAL
M302	GEOTHERMAL DETAILS - MECHANICAL
M400	CONTROL DIAGRAMS - MECHANCIAL
M401	CONTROL DIAGRAMS - MECHANCIAL
M402	CONTROL DIAGRAMS - MECHANCIAL
M403	CONTROL DIAGRAMS - MECHANCIAL
M500	SCHEDULES - MECHANICAL
M501	SCHEDULES - MECHANICAL

Madison, WI 53713

Madison Public Library

Maintenance & Support

1301 West Badger Road

General Contractor

Center Remodel & Addition

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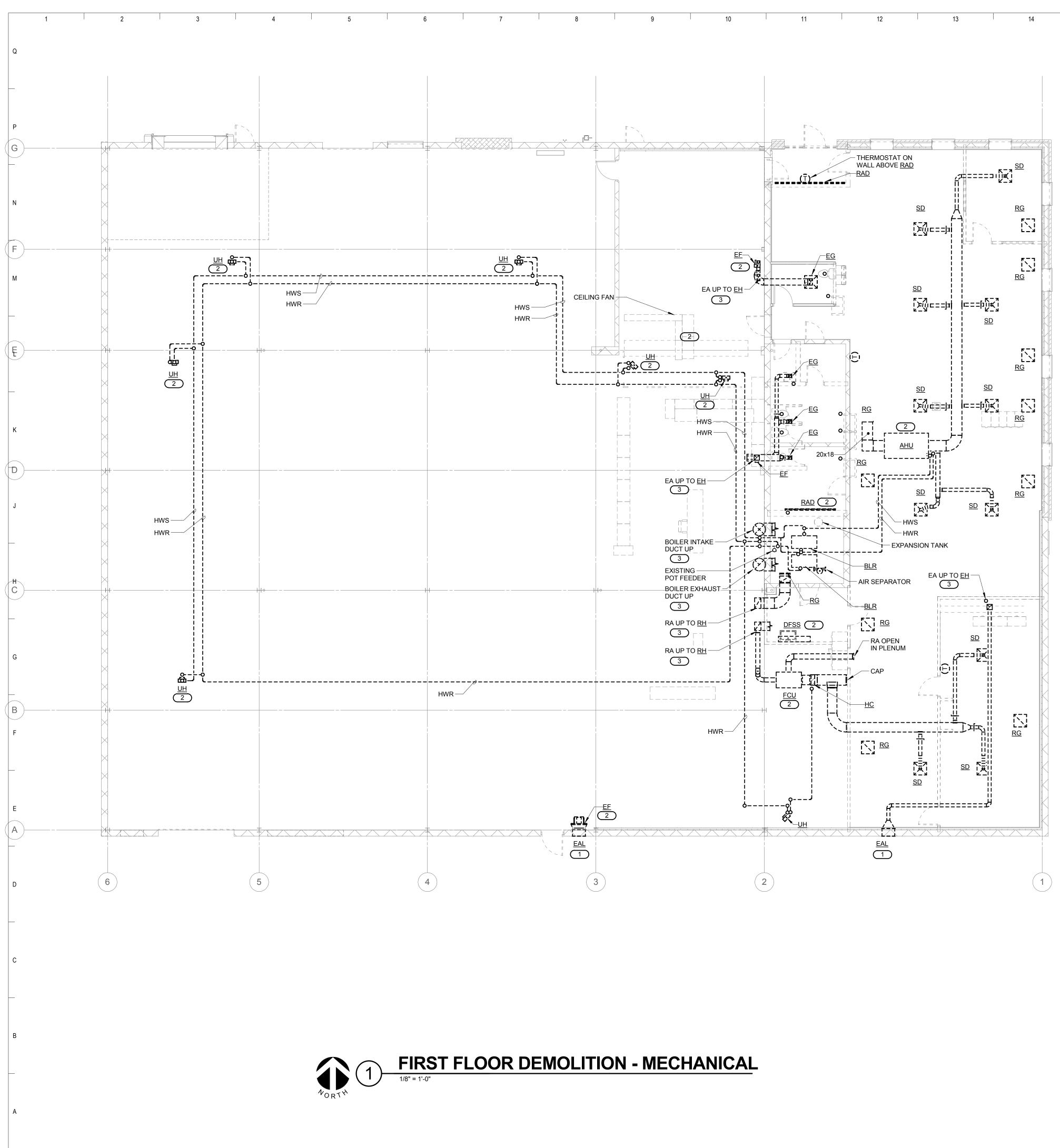
OPN Project No. 15617000

M000

Drawing

COVER SHEET

MECHANICAL



17	18	19	20	21

### GENERAL NOTES:

REMOVE ALL EXISTING MECHANICAL EQUIPMENT, PIPING, DUCTWORK, CONTROLS AND ASSOCIATED ACCESSORIES.

### KEYNOTES: #

- REMOVE EXISTING EQUIPMENT AND PATCH WALL TO MATCH EXISTING.
- REMOVE EXISTING CONTROLS AND THERMOSTATS ASSOCIATED WITH EXISTING EQUIPMENT TO BE
- REMOVED.
- REMOVE EXISTING EQUIPMENT AND PATCH ROOF TO MATCH EXISTING.



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Key Plan

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FIRST FLOOR DEMOLITION -MECHANICAL

OPN Project No. 15617000

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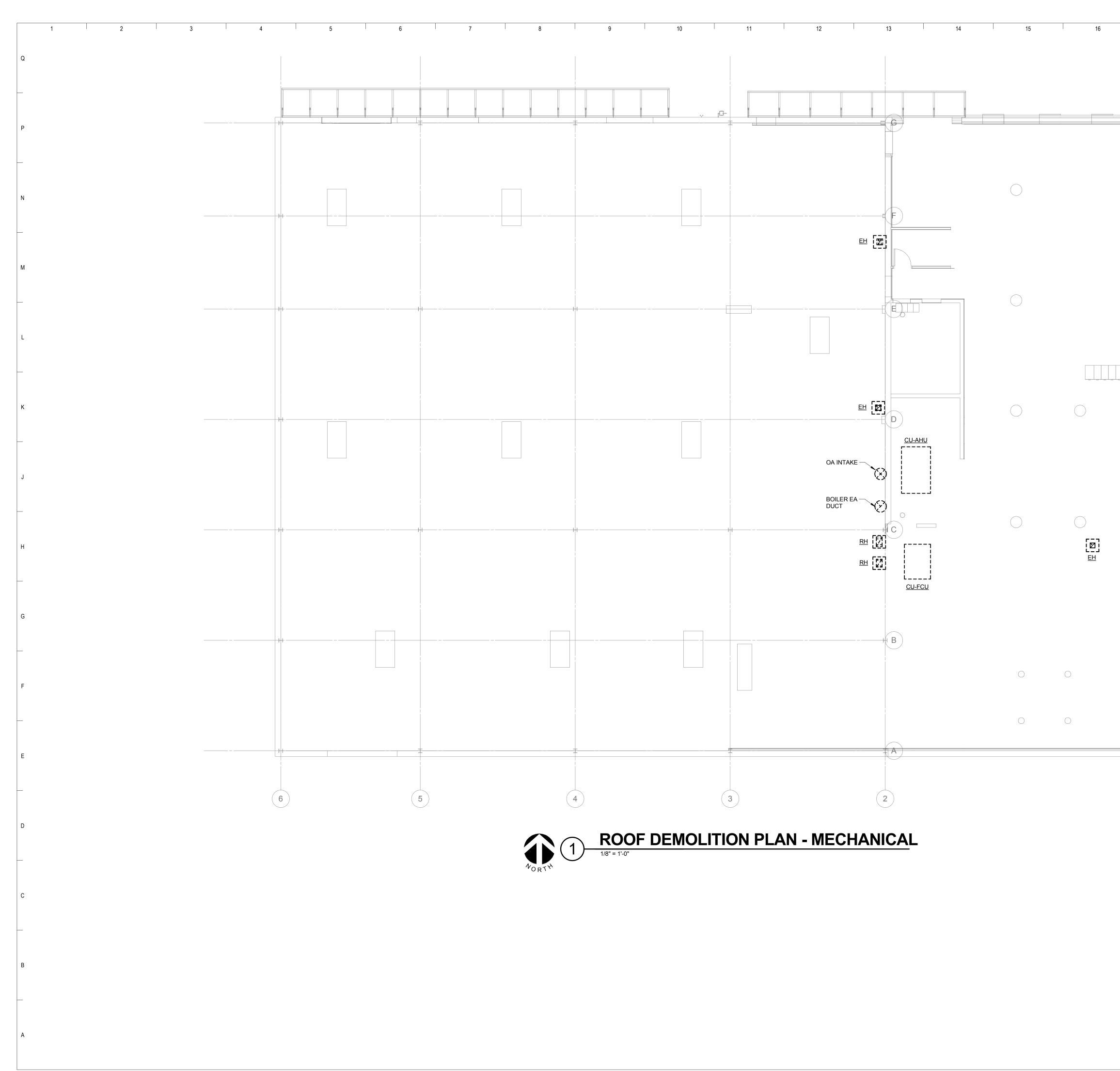
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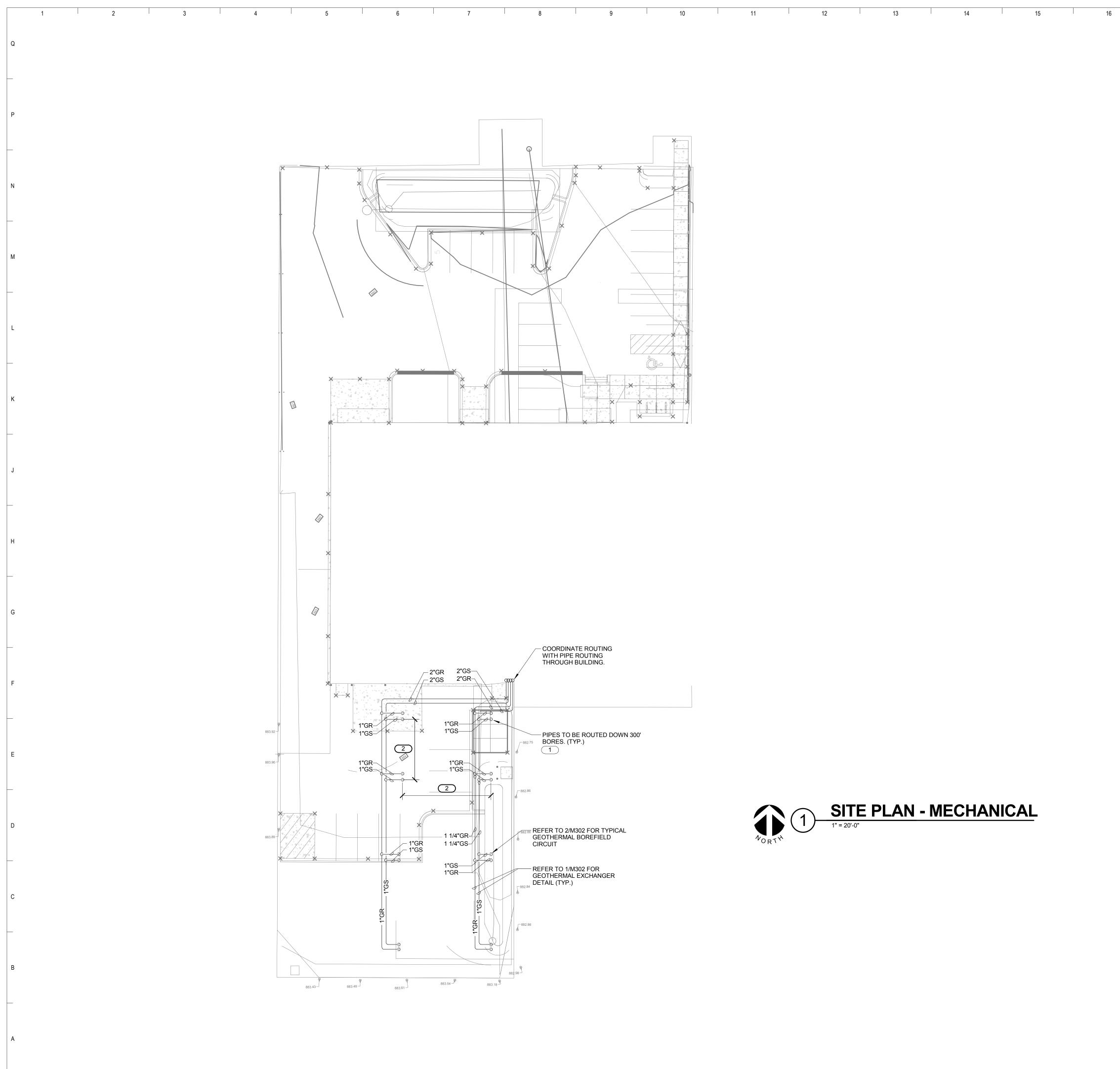
PROJECT # 16.0141.00

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MD101.1



17 18	19 20 21	
	<ul> <li><u>GENERAL NOTES:</u></li> <li>1. REMOVE ALL EXISTING MECHANICAL EQUIPMENT, PIPING, DUCTWORK, CONTROLS AND ASSOCIATED ACCESSORIES.</li> <li>2. THIS CONTRACTOR TO PATCH ROOF AFTER REMOVING EXISTING EQUIPMENT TO MATCH EXISTING ROOF.</li> </ul>	OPN ARCHITECTS
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		Middleton, WI 53562 P. 608.223.9600 ELECTRICAL ENGINEER KJWW Engineering Consultants 1800 Deming Way Middleton, WI 53562 P. 608.223.9600
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KE	EYNOTES: (#)
1.	SHOWN. TEST BORE HAS NOT BEEN COMPLETED. CONTRACTOR TO TEST BOREFILED FOR CONDUCTIVITY FOLLOWING DRILLING THE BOREFIELD AS SHOWN AND PROVIDE INFORMATION TO OWNER AND ENGINEER FOR DESIGN VERIFICATION PURPOSES. PROVIDE UNIT PRICING (\$/LF) FOR DRILLING ADDITIONAL BORES IF REQUIRED BASED ON CONDUCTIVITY RESULTS. REFER TO 3/M302 FOR BOREFIELD SIZING ASSUMPTIONS.



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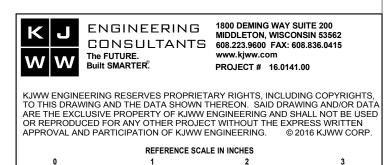
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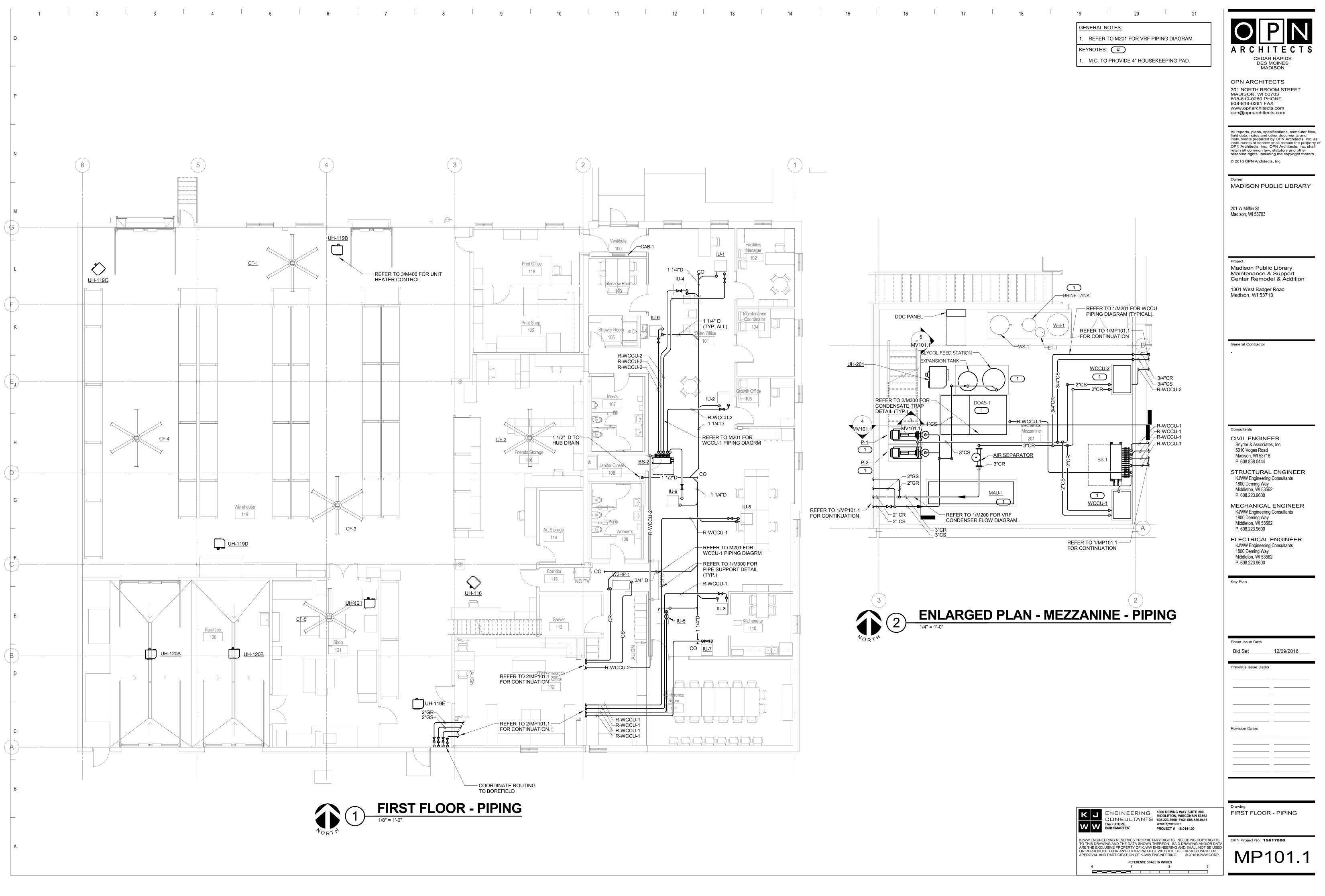
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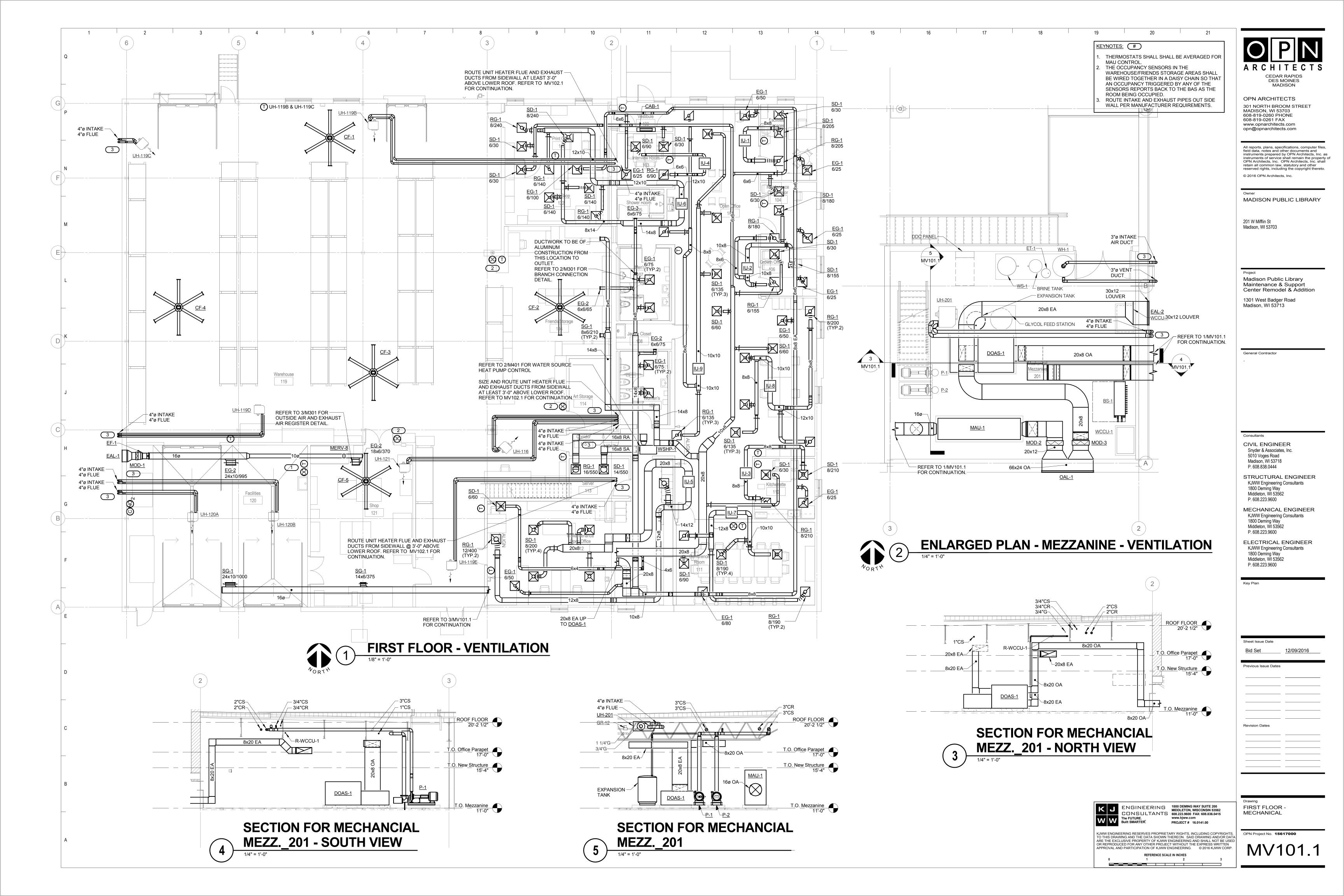
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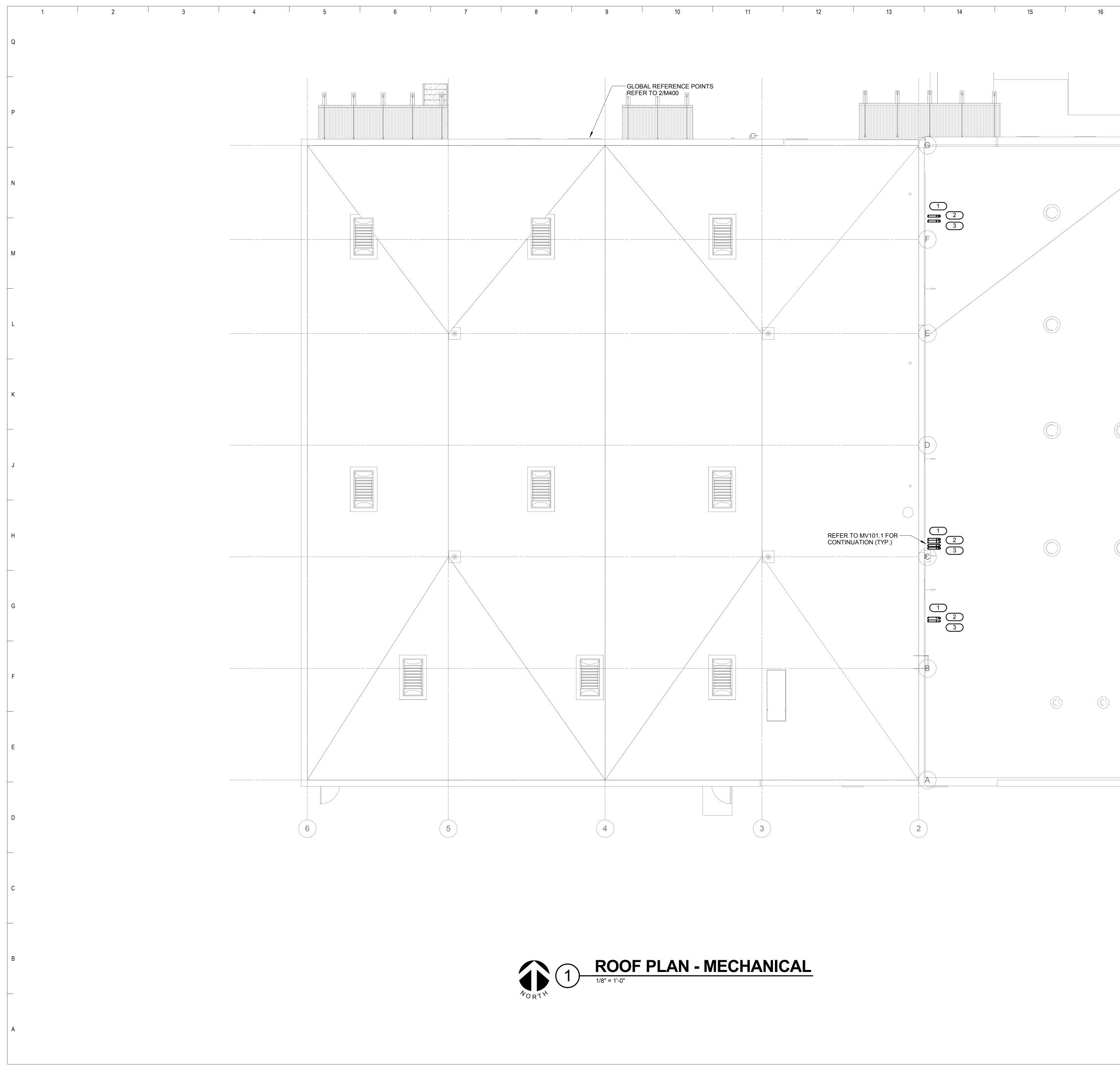
SITE PLAN - MECHANICAL



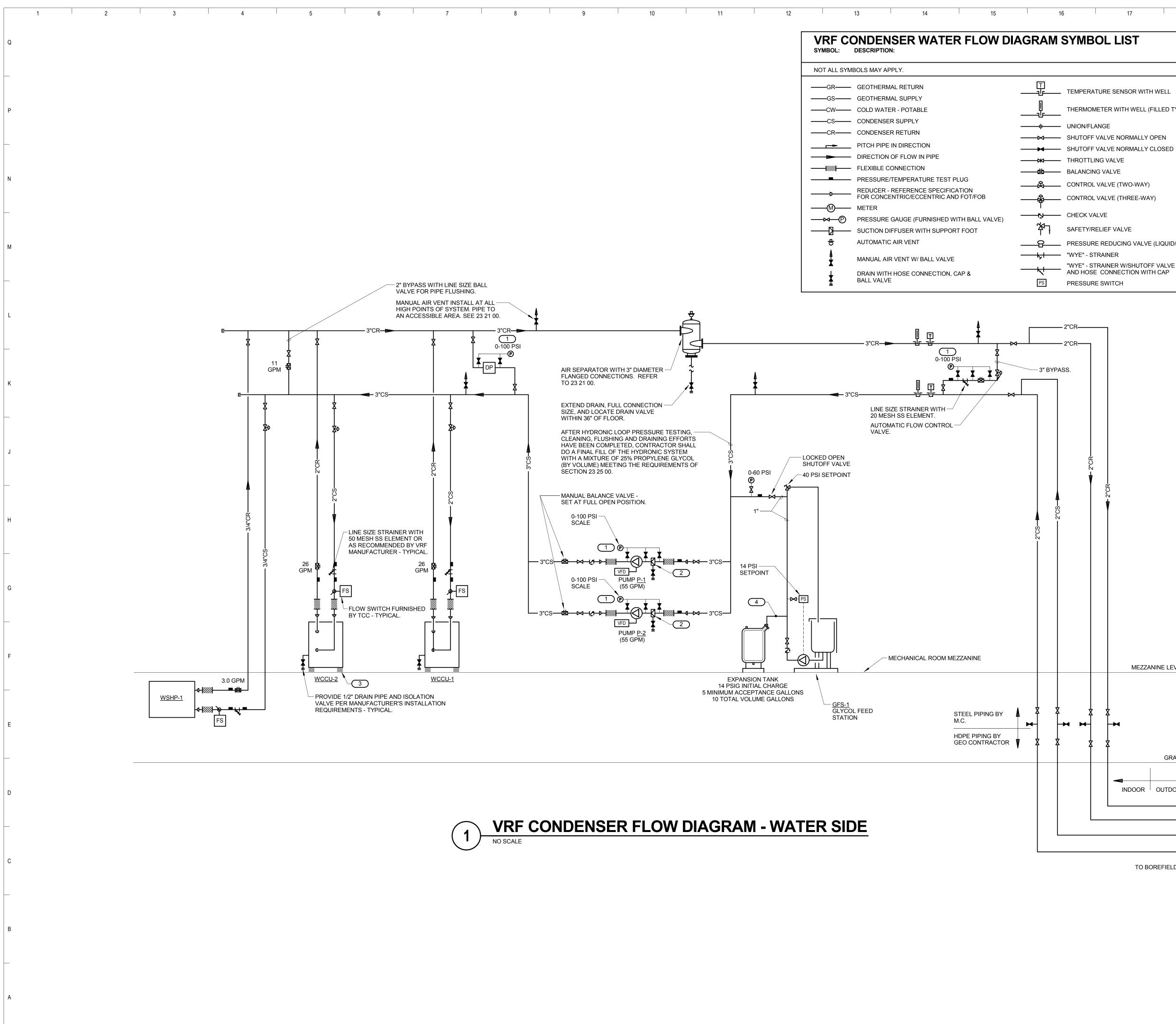
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# **VRF CONDENSER WATER FLOW DIAGRAM SYMBOL LIST**

#### 17 18 19 20 21

KEYNOTES

## \_\_\_\_\_\_\_ TEMPERATURE SENSOR WITH WELL

THERMOMETER WITH WELL (FILLED TYPE)

→ SHUTOFF VALVE NORMALLY OPEN

CONTROL VALVE (TWO-WAY)

CONTROL VALVE (THREE-WAY)

SAFETY/RELIEF VALVE

PRESSURE REDUCING VALVE (LIQUID/GAS)

MEZZANINE LEVEL

GRADE

REFER TO 2/M302 FOR CONTINUATION.

INDOOR | OUTDOOR

TO BOREFIELD -

- 14-

"WYE" - STRAINER W/SHUTOFF VALVE

AND HOSE CONNECTION WITH CAP PRESSURE SWITCH

#### PRESSURE GAUGE WITH SNUBBER PER SECTION 23 09 13. INSTALL WITH MOUNTING ON WALL, STAND, OR VIBRATION-FREE PIPE ABOVE BRACKET PUMP FLEXIBLE CONNECTOR. INSTALL FLEXIBLE COPPER TUBING TO PIPING CONNECTIONS TO AVOID VIBRATION DAMAGE TO THE GAUGE. PREFERRED CONNECTION LOCATIONS ARE: (a) JUST UPSTREAM OF STRAINER, (b) GAUGE PORT ON SUCTION DIFFUSER OR BETWEEN STRAINER AND PUMP INLET (c) GAUGE TAPPING ON PUMP INLET FLANGE. (d) GAUGE TAPPING ON PUMP OUTLET FLANGE.

**REMOVE & RETAIN TEMPORARY STRAINER FROM SUCTION** DIFFUSER AT END OF CONSTRUCTION. PROVIDE SUPPORT LEG AS REQUIRED BY MANUFACTURER. INSTALL VIBRATION ISOLATORS PROVIDED BY VRF

CONDENSING UNIT MANUFACTURER (IF RECOMMENDED BY MANUFACTURER). SIZE PER BLADDER TANK MANUFACTURER'S

RECOMMENDATIONS BUT NOT SMALLER THAN CONNECTION TO TANK. PROVIDE 4" THICK CONCRETE HOUSEKEEPING PADS

UNDERNEATH ALL FLOOR MOUNTED MECHANICAL EQUIPMENT. CONCRETE PADS SHALL EXTEND MINIMUM 3" BEYOND ALL SIDES OF EQUIPMENT. EQUIPMENT ITEMS SHALL INCLUDE. BUT IS NOT LIMITED TO THE FOLLOWING: CHEMICAL FEEDER, BUFFER TANK, EXPANSION TANK, BASE MOUNTED PUMPS, BOILER, CONDENSING UNITS, GLYCOL FEED STATION, AIR HANDLER AND THE LIKE.

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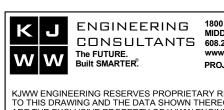
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FLOW DIAGRAM -MECHANICAL

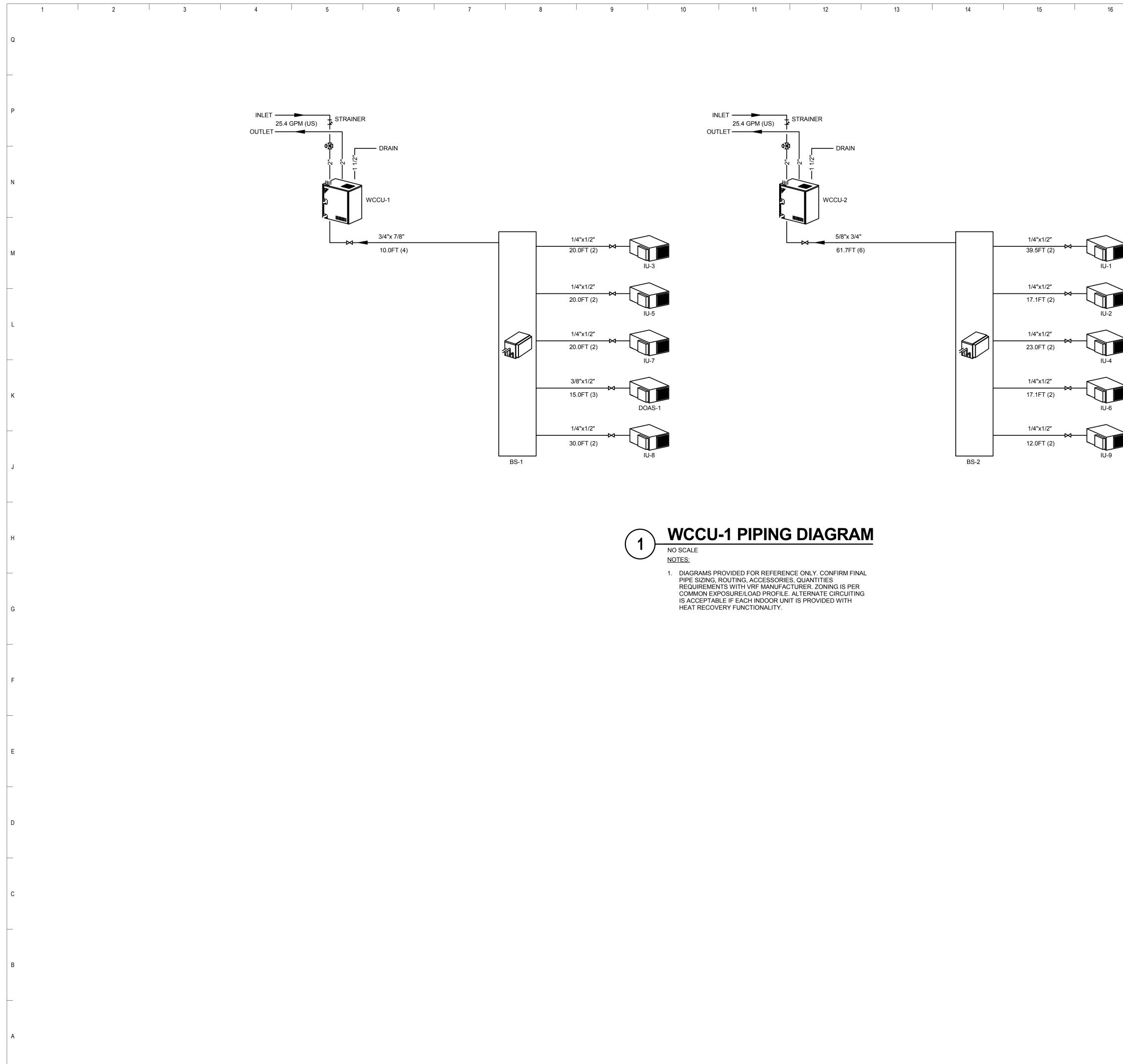


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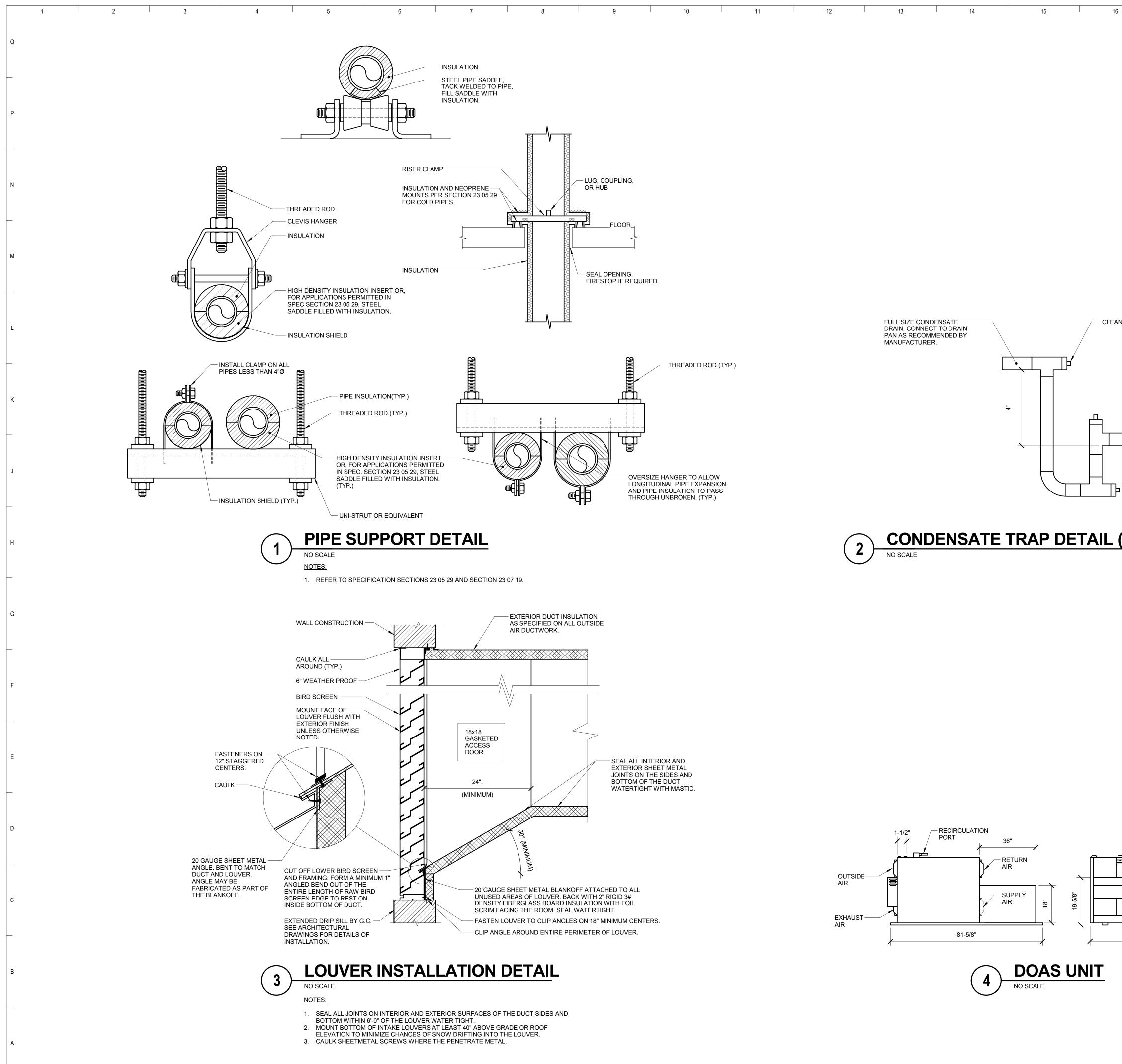
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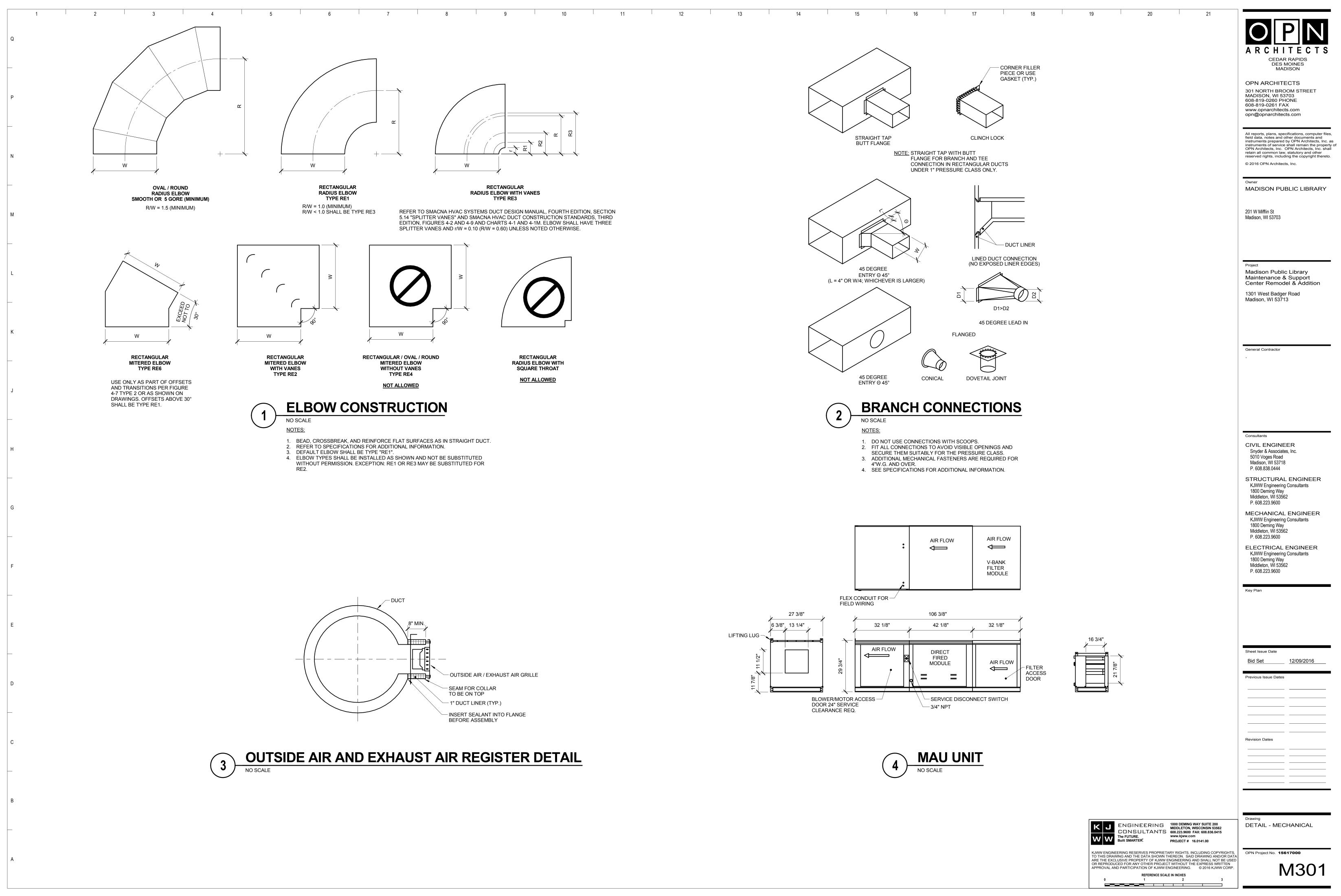


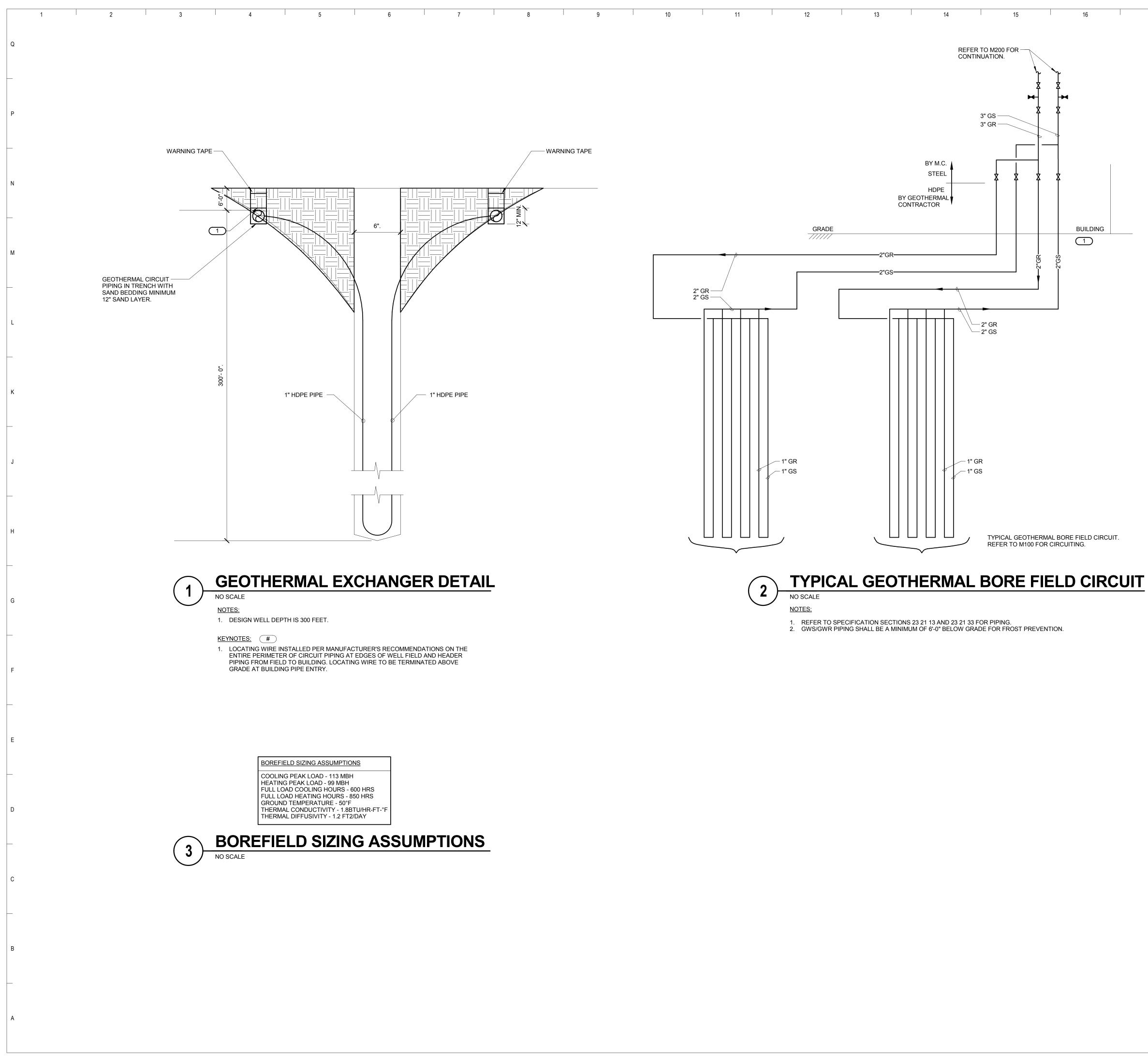
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<u>(DR</u>	<b>AW-</b>	THR	oug	<u>H)</u>						Consultants CIVIL ENGINEER Snyder & Associates, Inc. 5010 Voges Road Madison, WI 53718 P. 608.838.0444 STRUCTURAL ENGINEER KJWW Engineering Consultants
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KEYNOTE: #

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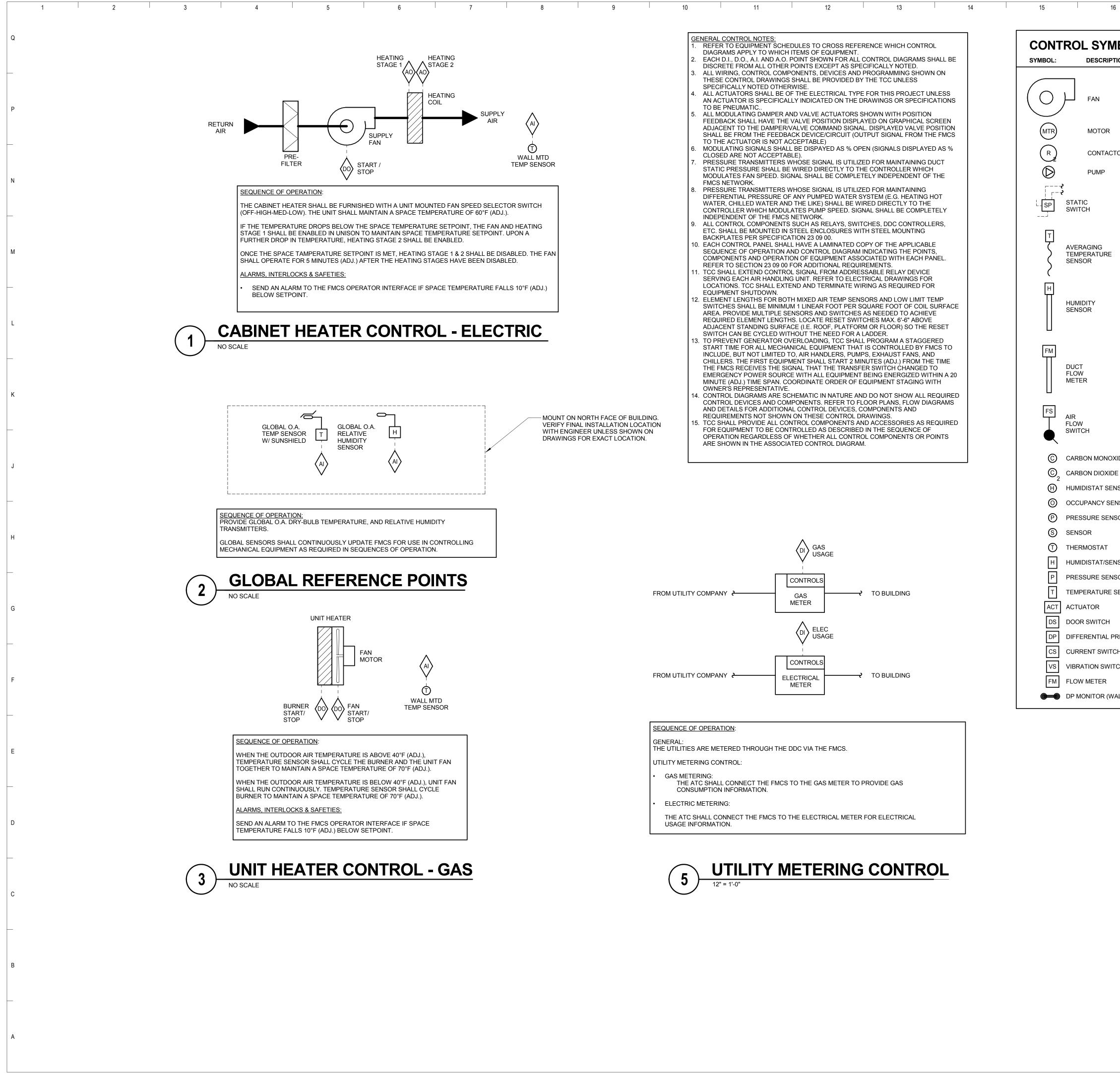
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T PROBE TEMPERATURE SENSOR	AIR BLENDER	201 W Mifflin St Madison, WI 53703
H HUMIDIFIER	TERMINAL AIR BOX W/REHEAT	Project Madison Public Library Maintenance & Support Center Remodel & Addition
DSD DUCT SMOKE DETECTOR	NORMALL CLOSED CONTACT NORMALLY OPEN CONTACT MANUAL MOTOR STARTER W/THERMAL OVERLOAD	1301 West Badger Road Madison, WI 53713 General Contractor
IDE SENSOR E SENSOR SOR NSOR	CWR— CHILLED WATER RETURN     CWS— CHILLED WATER SUPPLY     HEATING WATER RETURN     HEATING WATER RETURN     HEATING WATER SUPPLY     CONTROL VALVE (THREE-WAY)	
OR / MONITOR SOR (DUCT MOUNTED)	CONTROL VALVE (TWO-WAY)  CHECK VALVE  T T T T T T T T T T T T T T T T T T	Consultants CIVIL ENGINEER Snyder & Associates, Inc. 5010 Voges Road Madison, WI 53718 P. 608.838.0444
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CH ALL MOUNTED)	SASUPPLY AIRTCCTEMPERATURE CONTROL CONTRACTOR	ELECTRICAL ENGINEER KJWW Engineering Consultants 1800 Deming Way Middleton, WI 53562 P. 608.223.9600

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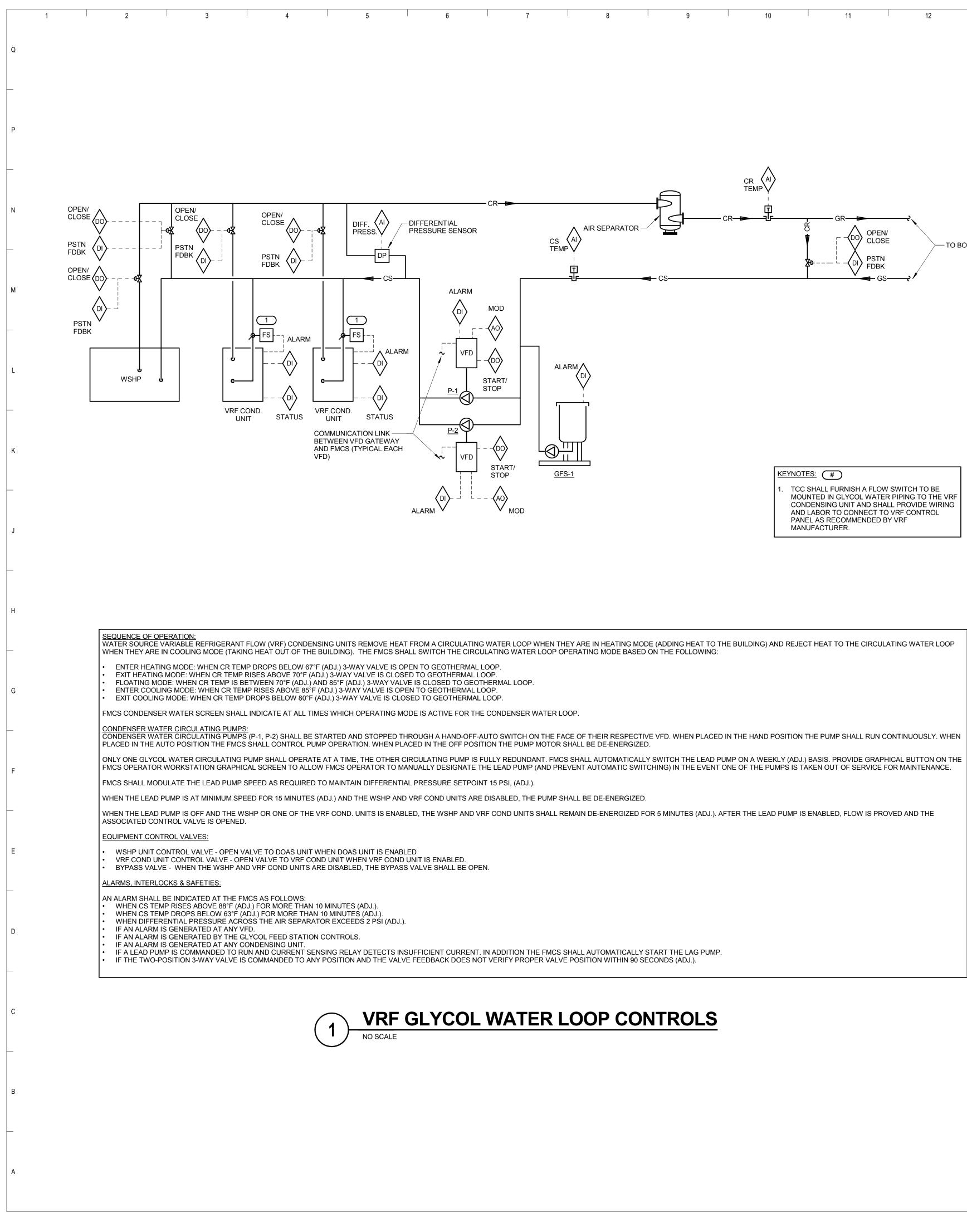
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Drawing
CONTROL DIAGRAMS -
MECHANCIAL





TCC SHALL FURNISH A FLOW SWITCH TO BE MOUNTED IN GLYCOL WATER PIPING TO THE VRF CONDENSING UNIT AND SHALL PROVIDE WIRING AND LABOR TO CONNECT TO VRF CONTROL PANEL AS RECOMMENDED BY VRF MANUFACTURER.

KEYNOTES: #

CR TFMF AIR SEPARATOR -OPEN/ -(DO) CLOSE - TO BOREFIELD PSTN JUY FOBK

RETURN AIR

RETURN WATER TEMP

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PROVIDE A PRESSURE INDEPE PIPING SERVING EACH HEAT P CONTROLLER. PROVIDE A TEMPERATURE SE

SEQUENCE OF OPERATION: THE FMCS SYSTEM SHALL COM HEAT PUMP IS CONTROLLED BY PUMP. THE TCC SHALL COMMU WORKSTATION. PROVIDE GRA

WATER SC

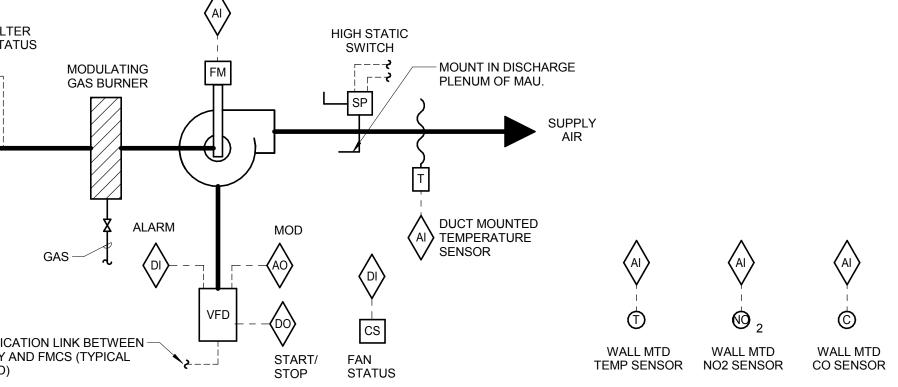




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OPEN/ CLOSE AI	DISCHARGE AIR TEMP OCCUPIED/ UNOCCUPIED/ UNOCCUPIED AI SUPPLY AIR	Project Madison Public Library Maintenance & Support Center Remodel & Addition 1301 West Badger Road Madison, WI 53713
	WALL MTD TEMP SENSOR SUPPLY AIR TEMP	General Contractor
SEQUENCE OF OPERATION: THE FMCS SYSTEM SHALL COMMUNICATE ENABLE/DISABLE MODE TO THE HEAT PU HEAT PUMP IS CONTROLLED BY A MICROPROCESSOR CONTROLLER PROVIDED WI PUMP. THE TCC SHALL COMMUNICATE ALL AVAILABLE POINTS BACK TO THE OPER WORKSTATION. PROVIDE GRAPHICS FOR HEAT PUMPS BASED ON COMMUNICATED PROVIDE A PRESSURE INDEPENDENT CHARACTERIZED THREE WAY CONTROL VAL PIPING SERVING EACH HEAT PUMP. PROVIDE WIRING BETWEEN VALVE ACTUATOR CONTROLLER. PROVIDE A TEMPERATURE SENSOR WITH EACH HEAT PUMP. TEMPERATURE SENS INPUT TO THE HEAT PUMP MICROPROCESSOR CONTROLLER. CONTROLLER SHALL SPEED AND HEATING/COOLING STAGES AS REQUIRED TO MAINTAIN SPACE TEMPE SETPOINT. FAN SHALL RUN CONTINUOUSLY DURING ENABLED MODE. HEATING AND COOLING NEEDED TO MAINTAIN SPACE TEMPERATURE SETPOINT. DURING DISABLED MODE, FAN AND HEATING/COOLING STAGES SHALL CYCLE AS R MAINTAIN SPACE TEMPERATURE SETPOINT. THE FMCS SYSTEM SHALL COMMUNICATE THE FOLLOWING TEMPERATURE SETPOINT. THE FMCS SYSTEM SHALL COMMUNICATE THE FOLLOWING TEMPERATURE SETPOINT. MAINTAIN SPACE TEMPERATURE SETPOINT. THE FMCS SETPOINT: 78°F(ADJ.) B. HEATING SETPOINT: 60°F(ADJ.) DO SCALE	TH THE HEAT ATOR D POINTS. VE IN THE SUPPLY AND HEAT PUMP OR SHALL BE AN CYCLE FAN RATURE SHALL CYCLE AS REQUIRED TO INTS TO THE HEAT	<section-header><section-header><section-header><section-header><section-header><section-header><section-header><section-header><section-header><text><text><text></text></text></text></section-header></section-header></section-header></section-header></section-header></section-header></section-header></section-header></section-header>
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	COMMUNICAT
	GATEWAY ANI EACH VFD)
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к	
	SEQUENCE OF OPERATION:
	<ul> <li>WHEN MAU IS INDEXED TO RUN, THE FOLLOWING SHALL OCCUR:</li> <li>WHEN THE SUPPLY FAN HAS STARTED THE INTERLOCKED EXHAUST FANS SHALL START AS SHOWN IN THE FAN INTERLOCK SCHEDULE.</li> </ul>
J	MINIMUM SUPPLY AND EXHAUST FAN CONTROL: • SUPPLY AND EXHAUST FANS SHALL OPERATE AT A MINIMUM OF 150 CFM WHEN IN OPERATION.
	THE SUPPLY AND EXHAUST FANS SHALL OPERATE AT THE DESIGN CFM FOR A MINIMUM OF 5 HOURS PER 24 HOUR PERIOD. THIS SHALL BE SET UP SO THE SYS MINIMUM OF 12.5 MINUTES EVERY HOUR.
	WHEN THE OCCUPANCY SENSOR DETECTS OCCUPANCY IN THE SPACE, THE SUPPLY AND EXHAUST FANS SHALL OPERATE AT THE DESIGN CFM UNTIL THE OCCUPANCE IS NO LONGER OCCUPIED.
	<ul> <li>WHEN THE CARBON MONOXIDE SENSOR READING EXCEEDS 35 PPM, THE SUPPLY AND EXHAUST FANS SHALL MODULATE TO OPERATE AT THE DESIGN CFM FO THE CARBON MONOXIDE SENSOR READING HAS DROPPED BELOW 35 PPM.</li> <li>WHEN THE NITROGEN DIOXIDE SENSOR READING EXCEEDS 1 PPM, THE SUPPLY AND EXHAUST FANS SHALL MODULATE TO OPERATE AT THE DESIGN CFM FOR</li> </ul>
	<ul> <li>NITROGEN DIOXIDE SENSOR READING HAS DROPPED BELOW 1 PPM.</li> <li>THE FAN RUN TIME REQUIRED BY OCCUPANCY, CARBON MONOXIDE OR NITROGEN DIOXIDE READINGS SHALL COUNT TOWARDS THE MINIMUM RUN TIME OF 5</li> </ul>
Н	PROGRAMMING SHALL AUTOMATICALLY ADJUST THE SET MINIMUM RUN TIMES WHEN THE OCCUPANCY, CARBON MONOXIDE OR NITROGEN DIOXIDE READINGS
	SUPPLY FAN AND CONTROL VALVE OPERATION: THE FMCS WILL MODULATE THE SUPPLY FAN, AND HEATING CONTROL VALVE TO ACHIEVE THE ROOM TEMPERATURE OF 72°F (ADJ.) WITH 2°F (ADJ.) DEAD BAND BA MOUNTED TEMPERATURE SENSOR. SEE DRAWINGS FOR TEMPERATURE SENSOR REQUIREMENTS. SPACES WITH ADJUSTABLE THERMOSTATS WILL ALLOW A +/- 3°
-	<ul> <li>AT A FULL COOLING, THE SUPPLY FAN IS AT MAXIMUM COOLING CFM SPEED.</li> <li>AS THE ROOM AIR TEMPERATURE FALLS, THE SUPPLY FAN SHALL RAMP DOWN TO MAINTAIN ROOM TEMPERATURE SET POINT.</li> </ul>
	<ul> <li>ON A FURTHER FALL IN ROOM TEMPERATURE, THE SUPPLY FAN WILL REMAIN AT MINIMUM SPEED.</li> <li>ON A FURTHER REDUCTION IN ROOM TEMPERATURE, THE GAS BURNER SHALL BE ENABLED TO MAINTAIN ROOM AIR TEMPERATURE SET POINT. THE DISCHARG ABOVE 95°F. THE SUPPLY FAN SHALL REMAIN AT MINIMUM HEATING CFM.</li> </ul>
G	ONCE THE GAS BURNER IS MAINTAINING 95°F DISCHARGE AIR, THE SUPPLY FAN SPEED SHALL RAMP UP TO MAXIMUM HEATING SPEED TO MAINTAIN ROOM AIF
	DISCHARGE AIR TEMPERATURE: THE DISCHARGE SHALL BE BETWEEN 50°F (ADJ.) AND 95°F (ADJ.) TO MAINTAIN ROOM TEMPERATURE SETPOINT.
-	HEATING COIL OPERATION: GAS BURNER CONTROLS SHALL BE ENABLED WHEN OUTSIDE AIR TEMPERATURE DROPS BELOW 50°F (ADJ.).
F	2-POSITION EXHAUST AIR DAMPER SHALL FULLY OPEN WHEN FAN IS ENERGIZED. WHEN FAN IS DE-ENERGIZED, 2-POSITION EXHAUST AIR DAMPER SHALL FULLY C EXHAUST FAN SHALL BE ENERGIZED WHEN MAU IS ENERGIZED. EXHAUST FAN VFD SHALL TRACK MAU VFD.
	ALARMS, INTERLOCKS, AND SAFETIES: WHEN FIRE ALARM CONTROL PANEL INDICATES AN ALARM CONDITION, MAU SHALL BE SHUTDOWN.
	THE FOLLOWING CONDITIONS SHALL SHUTDOWN THE AHU AND SHALL INDICATE AN ALARM CONDITION AT THE FMCS WORKSTATION: • LOW STATIC PRESSURE SWITCH INDICATES RETURN DUCT PRESSURE LESS THAN THE SPECIFIED DUCT PRESSURE CLASS.
	HIGH STATIC PRESSURE SWITCH INDICATES SUPPLY DUCT STATIC PRESSURE GREATER THAN THE SPECIFIED DUCT PRESSURE CLASS.
E	<ul> <li>THE FOLLOWING CONDITIONS SHALL INDICATE AN ALARM AT THE FMCS, HOWEVER MAU SHALL CONTINUE TO OPERATE:</li> <li>AN ALARM IS INDICATED AT THE SUPPLY FAN VFD.</li> <li>DIFFERENTIAL PRESSURE SWITCH ACROSS FILTER BANK EXCEEDS 0.8 INCHES W.G. (ADJ.)</li> </ul>
	<ul> <li>DIFFERENTIAL PRESSURE SWITCH ACROSS FILTER BARK EXCEEDS 0.8 INCHES W.G. (ADJ.)</li> <li>SEND AN ALARM TO THE FMCS OPERATOR INTERFACE IF THE SPACE TEMPERATURE IS MORE THAN 10°F (ADJ.) ABOVE OR BELOW SETPOINT FOR MORE THAN</li> <li>SEND AN ALARM TO THE FMCS OPERATOR IN THE EVENT THAT THE FAN IS COMMANDED TO RUN AND THE FAN STATUS INDICATES THE FAN IS NOT RUNNING.</li> </ul>
	WHENEVER MAU IS SHUTDOWN THE FOLLOWING SHALL OCCUR:
	<ul> <li>THE OUTSIDE AIR DAMPER SHALL FULLY CLOSE.</li> <li>THE GAS BURNER SHALL BE DISABLED.</li> <li>SUPPLY FAN VFD SHALL BE DE-ENERGIZED.</li> </ul>
	INTERLOCKED EXHAUST FAN SHALL BE DE-ENERGIZED.
D	GRAPHICAL DISPLAY: DISPLAY THE GLOBAL OUTSIDE AIR TEMPERATURE ON AHU GRAPHIC PAGE.
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	MAU WITH E
С	NO SCALE
B	
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В 	





## SYSTEM RUNS AT THE DESIGN CFM FOR A OCCUPANCY SENSOR DETERMINES THE M FOR AT LEAST 30 MINUTES (ADJ.) AFTER FOR AT LEAST 30 MINUTES (ADJ.) AFTER THE F 5 HOURS PER 24 HOUR PERIOD. SYSTEM NGS REQUIRE FAN RUN TIME.

#### D BASED ON A SIGNAL FROM A WALL +/- 3°F (ADJ.) OFFSET FROM THE SETPOINT.

ARGE AIR TEMPERATURE SHALL NOT RISE

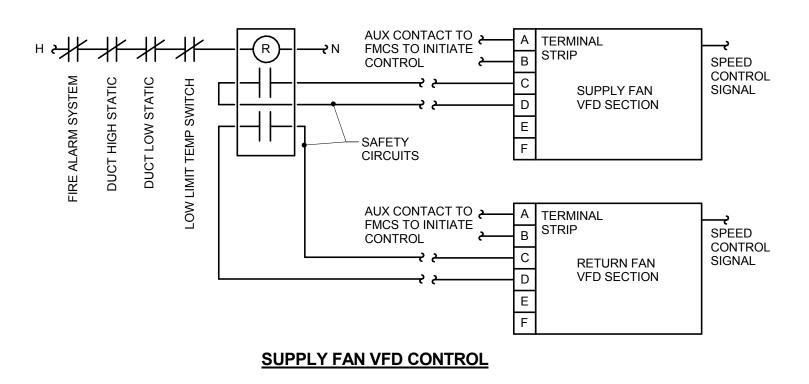
Y CLOSE.

IAN 10 MINUTES (ADJ.).

## EF CONTROL

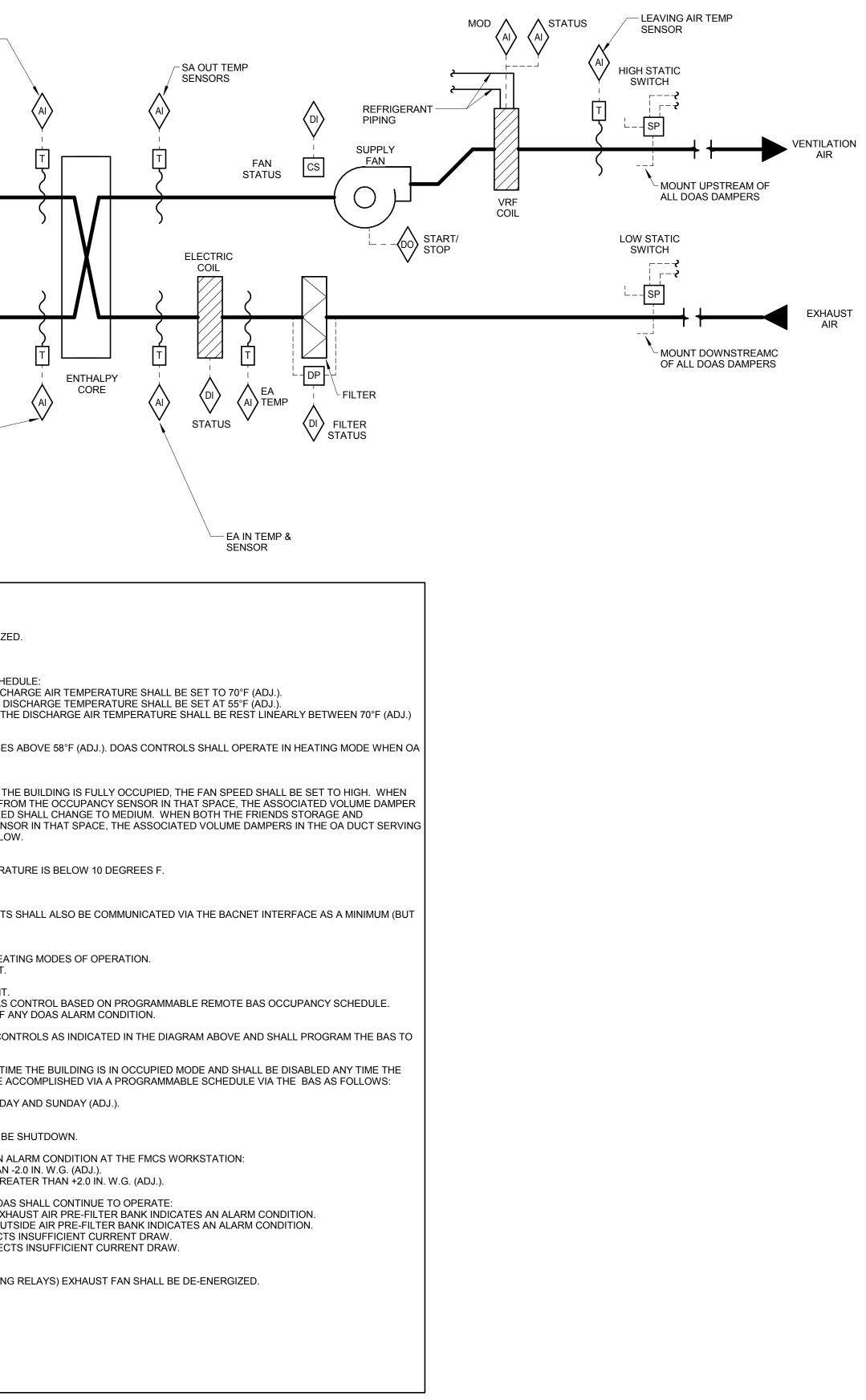
FAN INTERLOCK SCHEDULE								
SYSTEM	SYSTEM INTERLOCKED EXHAUST FANS							
MAU-1	EF-1	NOTE 1						

#### NOTES: 1. INTERLOCK EXHAUST FAN OPERATION THROUGH THE FMCS WITH RESPECTIVE MAU IN ACCORDANCE WITH MAU SEQUENCE OF OPERATION.



17	18	19	20	21	
			20	21	ARCHITECTS CEDAR RAPIDS DES MOINES MADISON
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ACT	IOV SPEED CONTROL	N TATUS <u>M</u> EXH	MOD FDBK ACT REFER TO 1/MV LOCATION OF M OD-1		P. 608.223.9600 MECHANICAL ENGINEER KJWW Engineering Consultants 1800 Deming Way Middleton, WI 53562 P. 608.223.9600 ELECTRICAL ENGINEER KJWW Engineering Consultants 1800 Deming Way Middleton, WI 53562 P. 608.223.9600
ENERGIZED. V DAMPER SHAL EXHAUST FAN	<u>OPERATION::</u> HAUST AIR DAMPER SH VHEN FAN IS DE-ENERGI L FULLY CLOSE. SHALL BE ENERGIZED V SPEED SHALL TRACK M	ALL FULLY OPEN WHEN ZED, 2-POSITION EXHAU /HEN MAU IS ENERGIZEI	IST AIR		Sheet Issue Date Bid Set 12/09/2016
2 EXI	HAUST FA	AN CONTE	ROL		Previous Issue Dates
					Revision Dates
			CONSULTANTS 608.2	DEMING WAY SUITE 200 ILETON, WISCONSIN 53562 223.9600 FAX: 608.836.0415	Drawing CONTROL DIAGRAMS - MECHANCIAL
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1		2	3	4		5		6	7	
Q										
									EA OUT TEMP	
						OPEN/ CLOSE				
						N.C.	/			
P							T	EXHAUST FAN		
				EXHA Al		ES + 2			CS FAN STATUS	
					PER END		J A PER			
N				0,000	011(111.)			FILTER	DO START/ STOP	
							R			
				OUTS Alf			s			
							-5			
M						$\wedge $		L DP	 	
						EN/ DSE DO I	DMPR STATUS	FILTER	oa in temp	
								STATUS V	SENSOR	
L										
					DOAS MANUE			ROLS/SEQUENC	E OF OPERATION:	
К					WHEN DOAS	IS INDEXED TO F	RUN (BY RE	MOTE BAS), THE	FOLLOWING SHALL OC PERS SHALL FULLY OP	
					AFTER D		DPENED, SU	PPLY AND EXHAU	JST FANS SHALL BE EN	
					DISCHARGE	AIR TEMPERATU	IRE SETPOII	NT SHALL BE BAS	SED ON THE FOLLOWIN N 50°F (ADJ.), THEN TH	
J					<ul> <li>WHEN TH</li> </ul>	IE OUTSIDE AIR	TEMPERAT	URE IS GREATER	than 75°F (ADJ.) THEN 1 50°F (ADJ.) AND 75°F ( 1 50°F (ADJ.) AND 75°F (	N THE DIS
					DOAS CONTR				HEN OA DRY-BULB TEM	1P RISES /
					FAN SPEED		·		M AND HIGH MODES. V	
					THE FRIE	NDS STORAGE ( A DUCT SERVIN(	OR CONFER G THAT VRF	ENCE ROOM ARE UNIT SHALL CLC	E UNOCCUPIED VIA SIC DSE AND THE DOAS FAI . FROM THE OCCUPAN	SNAL FRO
H						RF UNITS SHALL			SPEED SHALL CHANG	
							LL BE ENER	GIZED WHENEVE	ER THE OUTSIDE AIR TE	EMPERAT
							SHOWN IN <sup>-</sup>	THE ABOVE DIAG	RAM, THE FOLLOWING	POINTS
G					<ul><li>SUPPLY I</li><li>EXHAUST</li></ul>	FAN STATUS, [ON F FAN STATUS, [(	ON/OFF]			
					<ul><li>COOLING</li><li>DEFROST</li></ul>	SPAN [°F], DIFFI I SETPOINT [°F],	ERENTIAL T OA TEMP T	EMP ABOVE AND	CHES BETWEEN COOLI BELOW COOLING SET S DEFROST MODE.	POINT.
					<ul> <li>REMOTE</li> </ul>	UNIT CONTROL	[ENABLE/DI	SABLE], INTERFA	D BELOW DEFROST SE CE TO ALLOW REMOTE WS REMOTE MONITOR	E DOAS C
					TCC PROVIDA	<u>ED CONTROLS/F</u> FOLLOWS:	MCS SEQUE	ENCE OF OPERAT	TION: TCC SHALL PROV	/IDE CON <sup>-</sup>
F					BUILDING IS I	IN UNOCCUPIED	MODE. OCC	CUPIED/UNOCCUI	IT SHALL BE ENABLED	
					UNOCCU	PIED MODE: MON	NDAY - FRID	΄ 6 ΑΜ ΤΟ 9 ΡΜ. (Α ΟΑΥ 9 ΡΜ ΤΟ 6 ΑΜ	ADJ.) 1 (ADJ.) AND ALL DAY S	ATURDAY
					WHEN FIRE A		_ PANEL IND		M CONDITION, DOAS S	
E					<ul> <li>LOW STA</li> </ul>	TIC PRESSURE	SWITCH IND	ICATES RETURN	DAS AND SHALL INDICA I DUCT PRESSURE LES I DUCT STATIC PRESSU	S THAN -2
					<ul> <li>DOAS MA</li> </ul>	NUFACTURER P	ROVIDED D	<b>IFFERENTIAL PRI</b>	M AT THE BAS, HOWEV ESSURE SWITCH ACRO	DSS EXHA
					<ul><li>THE SUP</li><li>THE EXH.</li></ul>	PLY FAN IS COM AUST FAN IS COI	MANDED TO MMANDED	) RUN AND CURR FO RUN AND CUR	ESSURE SWITCH ACRO RENT SENSING RELAY I RRENT SENSING RELAY	DETECTS
						M IS INDICATED I T SUPPLY FAN IS			ED BY THE CURRENT S	SENSING
D								DLLOWING SHALL BE DE-ENERGIZE		
					<ul> <li>VRF COIL</li> </ul>	PER AND EA DAM SHALL BE DISA C COIL SHALL BE	BLED.			
					• ALL ALAF	RMS SHALL BE DI	ISABLED.			
с										
В										





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			P. 608.223.9600 ELECTRICAL KJWW Engineerin 1800 Deming Wa Middleton, WI 535 P. 608.223.9600	- ENGINEER ng Consultants y
			Key Plan	
			Sheet Issue Date <u>Bid Set</u> Previous Issue Date	<u>12/09/2016</u> s
			Revision Dates	
	FRING 1800 DEMING V		Drawing CONTROL D	
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		HEDULE																	
	FOR EACH UNIT	FILTER MAY BE INTEGRA	OR SUITABLE FOR F	IELD INSTAL	LATION IN FAB	BRICATED FILT	ER ANGLES. F	ILTER ANGLES PRC	VIDED BY M.C										
5.INDOOR UNIT CFM SI	FION 23 81 45 FOR LECTED AT HIGH (	DESCRIPTION OF CONTI FM. INDOOR UNIT SHALL	HAVE CAPABILITY TO		/I FOR FINAL A	IR BALANCING		I THROUGH FIELD A	ADJUSTMENT.										
6.DUCTED CONCEALEI 7. REFRIGERANT CHAR	E IN LBS. IS FOR	PROVIDED WITH SUPPLY	ND RETURN DUCT FI G BOTH BRANCH SEL	LANGES. ECTORS AN	D ALL INDOOR									ELECTRICAL					
TAG	MAX. DIME	ASSOCIAT VRF HEA				EXT. S.P. IN.	REFRIGERANT MAX. CHARG		HEATING CA	OOLING HEATIN				DISC	ONNECT CON TYPE B				
NAME         AREA SERVE           IU-1         104, 106           IU-2         102	LENGTH         WID           107"         28'           107"         28'	HEIGHT         PUPM           30"         VHP-1           30"         VHP-1	CONFIGURATION DUCTED DUCTED	1	CFM         OA CFN           335         60           205         30	0.6 R	YPE         (LBS)           410A         32           410A         32	<b>TOTAL BTUH</b> 6500 4250	7020	BTUH         BTUH           8000         9000           8000         9000	) 208	1 (	FLAMCA0.841.500.841.50	MOCP         (NOTE #           15 A         EC           15 A         EC	N) (NOTE B) (NOT - MI - MI	R FV	MITSUBIS	SHI PEFY-P08NMAU	
IU-2         IU2           IU-3         110           IU-4         103	107         28           107"         28'           107"         28'	30         VHP-1           30"         VHP-1           30"         VHP-1	DUCTED DUCTED DUCTED	0.5	203         30           210         30           90         30	0.6 R	410A         32           410A         32           410A         32	4230 4550 2420	4100	6000         9000           6000         6700           6000         6700	) 208	1 (	0.84 1.50	15 A         EC           15 A         EC           15 A         EC	- Mi - Mi	R FV	MITSUBIS	SHI PEFY-P06NMAU SHI PEFY-P06NMAU	-E3 NOTES -E3 NOTES
IU-5         112           IU-6         118, 117           IU-7         111	107"         28'           107"         28'           107"         28'           107"         28'	30"         VHP-1           30"         VHP-1           30"         VHP-1	DUCTED DUCTED DUCTED	1.25	800         60           520         60           380         90	0.6 R	410A         32           410A         32           410A         32           410A         32	15000 10520 9650	15730	18000         20000           15000         17000           12000         13500	0 208	1 1	1.16 1.45	15 A         EC           15 A         EC           15 A         EC	- MI - MI	R FV	MITSUBIS	SHI PEFY-P15NMAU	-E3 NOTES
IU-7         III           IU-8         101           IU-9         101	107         28           107"         28'           107"         28'	30         VHP-1           30"         VHP-1           30"         VHP-1	DUCTED DUCTED DUCTED	1	380         90           405         60           405         60	0.6 R	410A         32           410A         32           410A         32	8590 8590	11540	12000         13500           12000         13500           12000         13500	0 208	1 (	0.96 1.20	15 A         EC           15 A         EC           15 A         EC	- MI		MITSUBIS MITSUBIS MITSUBIS	SHI PEFY-P12NMAU	-E3 NOTES
<b></b>																			
HEAT PUMF	SCHEDL	LE - WATER	SOURCE (2	25% PR	OPYLE	NE GL	YCOL)												
1.BELT DRIVE INDOOR 2. PROVIDE UNIT SELECT 3. REFER TO 3/M401 FC	TION WITH 25% PI	OPYLENE GLYCOL.																	
						COOLING MB	H BASED ON 7	7°F BASED	ATING HEATING ME ON 32°F ENTERING	G									
		ENSIONS					ER TEMPERAT	URE. WATE	R TEMPERATURE.			AX. NC ER ARI			ELECTRICAL	DISCONNECT	CONTROLLER STARTER		
AREA TAG NAME SERVED	LENGTH WI			E CFM I	XT. S.P. N. W.C. DB °	°F WB °F TO	TAL SEN.	EER EAT DB °F	MBH MII TOTAL CO	OP GPM H	P.D. FT. STA IEAD 21	ANDARD 10/240)		IASES FLA N	CA MOCP (NOT	Y TYPE E A) (NOTE I	B) BY (NOTE A)		MODEL (NOTE 1)
WSHP-1 SERVER	43.1 20	.1 17 HOR	ZONTAL 1	550	0.50 81.3	3 67.4 1	5.7 11.2	16.6 68.0	11.1 3.6	.6 3.0	7.1	40	208	1 8.7 1	0.2 16 E	C   -	MFR	CLIMATEMASTER	C015-ECM
MAKE-UP A		CHEDULE																	
NOTES:																			
1. PROVIDE WITH MOD 2. REFER TO 1/M402 FC	LATING GAS BURN MAU CONTROLS	ER WITH 12:1 TURNDOWN																	
	MAX. DIMEN	SIONS						ELECT		CONTROLER/ STA									
TAG AREA NAME SERVED	LENGTH WIDT	HEIGHT CFM RPI	EXT. MIN S.P. EFFICIE I IN. W.C. AFU	NCY MIN. I		AT BHP F (NOTE E)	MHP (NOTE E)	VOLT PHASES (N	BY TYPE	BY TY	'PE	ACTURER	MODEL	FUEL TYPE	FUEL PRESSURE PSI NO	TES			
MAU-1 119, 120	107" 28"	30" 1375 125				、 ,		208 3	EC -	MFR VF				NATURAL GAS		ES 1,2			
CABINET H	ATER SC	HEDULE - EL	ECTRIC																
NOTES:			ECTRIC																
	SELECTION WITH	ARCHITECT.																	
NOTES: 1.COORDINATE COLOF	SELECTION WITH	ARCHITECT.		ET (NOTE 1)				ELECTRIC			ONTROLLER/								
NOTES: 1.COORDINATE COLOF 2. REFER TO 1/M400 FC	SELECTION WITH CABINET HEATE	ARCHITECT. CONTROLS.			EPTH FAN		MENT NUMBI	ER OF	DISC	CONNECT S	STARTER			NOTES					
NOTES: 1.COORDINATE COLOF 2. REFER TO 1/M400 FC	SELECTION WITH CABINET HEATE	ARCHITECT. CONTROLS. NOMINAL CO		WIDTH D	EPTH FAN HP 10" 0.07	RPM K	MENT NUMBI STAC 7.9 2	ER OF	DISC	CONNECT S TYPE A) (NOTE B) B	STARTER	MANUFACTUR TRANE		NOTES NOTES 1,2					
NOTES: 1.COORDINATE COLOF 2. REFER TO 1/M400 FC TAG NAME AREA SERVI CAB-1 VESTIBULE 1	SELECTION WITH CABINET HEATE CONFIGUE OVERTICAL SL	ARCHITECT. CONTROLS. ATION CFM DPE TOP 550.0 1	NTROL YPE M400 29"	WIDTH D	HP	RPM K	W STAC	ER OF SES VOLTAGE	DISC BY PHASES (NOTE A	CONNECT S TYPE A) (NOTE B) B	STARTER								
NOTES: 1.COORDINATE COLOF 2. REFER TO 1/M400 FC TAG NAME AREA SERVI CAB-1 VESTIBULE 1 UNIT HEATI	SELECTION WITH CABINET HEATE CONFIGUE OVERTICAL SL	ARCHITECT. CONTROLS. NOMINAL CO	NTROL YPE M400 29"	WIDTH D	HP	RPM K	W STAC	ER OF SES VOLTAGE	DISC BY PHASES (NOTE A	CONNECT S TYPE A) (NOTE B) B	STARTER								
NOTES: 1.COORDINATE COLOF 2. REFER TO 1/M400 FC TAG NAME AREA SERVI CAB-1 VESTIBULE 1	SELECTION WITH CABINET HEATE CONFIGUE VERTICAL SL	ARCHITECT. CONTROLS. ATION NOMINAL CFM DPE TOP 550.0 1 OULE - GAS F	NTROL YPE M400 29"	WIDTH D	HP	RPM K	W STAC	ER OF SES VOLTAGE	DISC BY PHASES (NOTE A	CONNECT S TYPE A) (NOTE B) B	STARTER								
NOTES: 1.COORDINATE COLOF 2. REFER TO 1/M400 FC TAG NAME AREA SERVI CAB-1 VESTIBULE 1 UNIT HEATI NOTES:	SELECTION WITH CABINET HEATE CONFIGUE VERTICAL SL	ARCHITECT. CONTROLS. NOMINAL CFM DPE TOP 550.0 1 OULE - GAS F NTROLS.	NTROL YPE M400 29"	WIDTH D	CTRICAL	RPM         K           800         7	W STAC	ER OF SES VOLTAGE	DISC BY PHASES (NOTE A	CONNECT S TYPE A) (NOTE B) B	STARTER								
NOTES: 1.COORDINATE COLOF 2. REFER TO 1/M400 FC <b>TAG</b> <b>NAME AREA SERVI</b> CAB-1 VESTIBULE 1 <b>UNIT HEATI</b> NOTES: 1. REFER TO 3/M400 FC <b>TAG</b> <b>NAME AREA SEF</b>	SELECTION WITH CABINET HEATE CONFIGUE VERTICAL SL R SCHEE	ARCHITECT. CONTROLS. NOMINAL CFM DPE TOP 550.0 1 OULE - GAS F NTROLS. HEATING (MBH) INPUT OUTPUT H	NTROL YPE M400 29" RED	WIDTH D	CTRICAL DISCO	RPM         K           800         7           ONNECT         0           TYPE         0	XW STAC X.9 2 CONTROLLER / STARTER	GAS PRESSURE (IN W.C.)	PHASES DISC BY (NOTE A 1 MFR	CONNECT S TYPE A) (NOTE B) B' NF ACTURER MO	STARTER	TRANE							
NOTES: 1.COORDINATE COLOF 2. REFER TO 1/M400 FC TAG NAME AREA SERVI CAB-1 VESTIBULE 1 NOTES: 1. REFER TO 3/M400 FC TAG	SELECTION WITH CABINET HEATE CONFIGUE VERTICAL SL R SCHEE UNIT HEATER CO	ARCHITECT. CONTROLS. NOMINAL CFM DPE TOP 550.0 1 OULE - GAS F NTROLS. HEATING (MBH)	CABIN           NTROL         HEIGHT         N           M400         29"         1           M400         29"         2           RED         VOLTA           25         1440         115	WIDTH         D           48"	CTRICAL DISCO	RPM         K           800         7           ONNECT         C           TYPE         C	XW STAC X.9 2 CONTROLLER / STARTER	GAS PRESSURE (IN W.C.) 3.5 3/h	PHASES DISC BY (NOTE A 1 MFR	CONNECT S TYPE A) (NOTE B) B' NF ACTURER MO DINE EFFINIT	STARTER	TRANE							
NOTES: 1.COORDINATE COLOF 2. REFER TO 1/M400 FC <b>TAG</b> <b>NAME</b> AREA SERVI CAB-1 VESTIBULE 1 NOTES: 1. REFER TO 3/M400 FC TAG NAME AREA SEF UH-116 FRIENDS ST	SELECTION WITH CABINET HEATE CONFIGUE VERTICAL SL R SCHEE UNIT HEATER CO UNIT HEATER CO RAGE 1097 SE 1097 SE 1097	ARCHITECT. CONTROLS. ATION CFM DPE TOP 550.0 1 OULE - GAS F NTROLS. HEATING (MBH) INPUT OUTPUT H 55 51.2 0.1	CABIN           NTROL         HEIGHT         N           M400         29"         1           RED         VOLTA           25         1440         115           25         1440         115           25         1440         115	WIDTH         D           48"         1           48"         1           48"         1	CTRICAL DISCO ES MFR PAN HP 0.07 0.07 DISCO BY MFR	RPM         K           800         7           ONNECT         0           TYPE         0           (NOTE B)         0           NF         0	XW     STAC       7.9     2       CONTROLLER     2       / STARTER       BY (NOTE A)       TCC	GAS PRESSURE (IN W.C.)         CON TY 3.5           3.5         3/h           3.5         3/h           3.5         3/h	DISC           BY           ONTE A           1         MFR           ITROL         MANUFA           M400         MOE           M400         MOE           M400         MOE	CONNECT         S           TYPE         B           (NOTE B)         B <sup>1</sup> NF         B <sup>1</sup>	STARTER Y (NOTE A) M MFR DEL NO TY (PTC) NOTE	TRANE OTES 1 1 1 1							
NOTES: 1.COORDINATE COLOF 2. REFER TO 1/M400 FC <b>TAG</b> <b>NAME AREA SERVI</b> CAB-1 VESTIBULE 1 <b>UNIT HEATI</b> NOTES: 1. REFER TO 3/M400 FC <b>TAG</b> <b>NAME AREA SEF</b> UH-116 FRIENDS ST UH-119B WAREHO UH-119C WAREHO	SELECTION WITH CABINET HEATE CONFIGUE 0 VERTICAL SL R SCHEE R UNIT HEATER CO RAGE 1097 SE 1097 SE 1097 SE 1097 SE 1097	ARCHITECT. CONTROLS.         ATION       NOMINAL CFM         DPE TOP       550.0         OULE - GAS         NTROLS.         INPUT         OUTPUT         55         51.2         0.1         55         51.2         0.1         55         51.2         0.1         55         51.2         0.1         55         51.2         0.1         55	CABIN           NTROL         HEIGHT         N           M400         29"         1           M400         29"         2           RED         1         1           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115	WIDTH         D           48"	CTRICAL DISCO BY (NOTE A) MFR MFR MFR	RPM         K           800         7           800         7           ONNECT         0           TYPE         0           (NOTE B)         0           NF         0           NF         0           NF         0	XW     STAC       7.9     2       CONTROLLER     2       / STARTER     3       BY (NOTE A)     TCC       TCC     TCC       TCC     TCC	GAS         VOLTAGE           208         208           Image: Serie state states	DISC           BY           I         BY           1         MFR           1         MFR           MANUFA         MANUFA           M400         MOE	CONNECT         S           TYPE (NOTE B)         B°           NF         B°           NF         B°           NF         B°           NF         B°           NF         B°           DINE         EFFINIT           DINE         EFFINIT           DINE         EFFINIT           DINE         EFFINIT           DINE         EFFINIT           DINE         EFFINIT	STARTER Y (NOTE A) N MFR DDEL NO TY (PTC) NOTE TY (PTC) NOTE TY (PTC) NOTE TY (PTC) NOTE	TRANE							
NOTES: 1.COORDINATE COLOF 2. REFER TO 1/M400 FC <b>TAG</b> <b>NAME AREA SERVI</b> CAB-1 VESTIBULE 1 <b>UNIT HEATI</b> NOTES: 1. REFER TO 3/M400 FC <b>TAG</b> <b>NAME AREA SEF</b> UH-116 FRIENDS ST UH-119B WAREHO UH-119C WAREHO UH-119C WAREHO UH-119E WAREHO	CONFIGUE CABINET HEATE CABINET HEATE CONFIGUE VERTICAL SL CONFIGUE CONFIGUE VERTICAL SL CONFIGUE CED CEM RAGE 1097 SE 1097 SE 1097 SE 1097 SE 1097 SE 1097 SE 1097 SE 1097	ARCHITECT. CONTROLS.           NOMINAL CFM         CC           DPE TOP         550.0         1           OULE - GAS         F           NTROLS.         1           INPUT         OUTPUT         H           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           65         60.5         0.1           65         60.5         0.1	CABIN           NTROL         HEIGHT         N           M400         29"         1           M400         29"         2           RED         1         1           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115	WIDTH         D           48"         -           48"         -           48"         -           48"         -           48"         -           48"         -           48"         -           48"         -           48"         -           48"         -           48"         -           48"         -           48"         -           48"         -           48"         -           48"         -           11         -           11         -           11         -           11         -           11         -	CTRICAL DISCO BY (NOTE A) MFR MFR MFR MFR MFR MFR MFR	RPM         K           800         7           800         7           Image: Second state st	STAC       2.9       2       2       CONTROLLER       / STARTER       BY (NOTE A)       TCC	GAS         VOLTAGE           208         208           BRESSURE (IN W.C.)         TN           3.5         3/N	DISC           BY           ITROL           1         MFR           1         MFR           MANUFA           M400         MOE	CONNECT         S           TYPE (NOTE B)         B           NF         B           B         B           NF         B           B         B           B         B           B         B           B         B           B         B           B         B           B         B           B         B           B         B           B         B           B         B           B         B           B         B           B         B           B         B           B         B	STARTER Y (NOTE A) N MFR N M	TRANE							
NOTES: 1.COORDINATE COLOF 2. REFER TO 1/M400 FC 2. REFER TO 1/M400 FC CAB-1 VESTIBULE 1 VESTIBULE 1 VESTIBULE 1 NOTES: 1. REFER TO 3/M400 FC TAG NAME AREA SEF UH-116 FRIENDS ST UH-119B WAREHO UH-119C WAREHO UH-119C WAREHO UH-119D WAREHO UH-119E WAREHO UH-120A FACILIT UH-120B FACILIT	SELECTION WITH CABINET HEATE CABINET HEATE CONFIGUE O VERTICAL SL CONFIGUE R SCHEE CFM RAGE 1097 SE 1097	ARCHITECT. CONTROLS.           NOMINAL CFM         CC           DPE TOP         550.0         1           OULE - GAS         F           NTROLS.         1           INPUT         OUTPUT         H           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           65         60.5         0.1           65         60.5         0.1	CABIN           NTROL         HEIGHT         N           M400         29"         1           M400         29"         1           RED         VOLTA           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115	WIDTH         D           48"         1           48"         1           1         1           1         1           1         1           1         1           1         1           1         1           1         1           1         1           1         1           1         1           1         1           1         1	CTRICAL TO" 0.07 10" 0.07 O.07 DISCO BY MFR MF	RPM         K           800         7           800         7           NF         0	XW     STAC       7.9     2       7.9     2       CONTROLLER       / STARTER       BY (NOTE A)       TCC	GAS PRESSURE (IN W.C.)         CON TY 3.5           3.5         3/N	DISC           BY           ONTE A           1         MFR           ITROL         MANUFA           M400         MOE	CONNECT         S           TYPE (NOTE B)         B           NF         B           B         B           NF         B           NF         B           B         B           NF         B           B         B           B         B           B         B           B         B           B         B           B         B           B         B           B         B           B         B           B         B           B         B           B         B           B         B           B         B           B         B           B         B           B         B           B         B           B         B           <	STARTER Y (NOTE A) N MFR N MFR N NT NT NT NOTE TY (PTC) NOTE TY (PTC) NOTE	TRANE OTES 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1							
NOTES: 1.COORDINATE COLOF 2. REFER TO 1/M400 FC 2. REFER TO 1/M400 FC TAG NAME AREA SERVI CAB-1 VESTIBULE 1 VESTIBULE 1 NOTES: 1. REFER TO 3/M400 FC 1. REFER TO 3/M400 FC UH-116 FRIENDS ST UH-119 WAREHO UH-119D WAREHO UH-119D WAREHO UH-119D WAREHO UH-119D WAREHO UH-119E WAREHO UH-110A FACILIT UH-120B FACILIT UH-121 SHOF	SELECTION WITH CABINET HEATE CONFIGUE 0 VERTICAL SL CONFIGUE R SCHEE R UNIT HEATER CO Z UNIT HEATER CO Z CFM RAGE 1097 SE 1097	ARCHITECT. CONTROLS.         NOMINAL CFM       CC         ATION       CFM       C         DPE TOP       550.0       1         OULE       GASS F         NTROLS.       MARCHITECT.         INPUT       OUTPUT       H         55       51.2       0.1         55       51.2       0.1         55       51.2       0.1         55       51.2       0.1         65       60.5       0.1         65       60.5       0.1         65       51.2       0.1         55       51.2       0.1         55       51.2       0.1         55       51.2       0.1         65       60.5       0.1         55       51.2       0.1         55       51.2       0.1         55       51.2       0.1         65       60.5       0.1         65       51.2       0.1         55       51.2       0.1         55       51.2       0.1         55       51.2       0.1         55       51.2       0.1         55<	CABIN           NTROL         HEIGHT         N           M400         29"         1           M400         29"         1           RED         VOLTA           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115	WIDTH         D           48"         1           48"         1           1         1           1         1           1         1           1         1           1         1           1         1           1         1           1         1           1         1           1         1           1         1           1         1	CTRICAL 10" 0.07 10" 0.07 0.07 0.07 DISCO BY (NOTE A) MFR MFR MFR MFR MFR MFR MFR MFR MFR MFR	RPM         K           800         7           NFECT         7           NFECT         1           NF         1	STAC       29       29       29       20 </td <td>GAS         VOLTAGE           208         208           BRESSURE (IN W.C.)         CON TY           3.5         3/N           3.5         3/N</td> <td>DISC           BY           ONTE A           1         MFR           ITROL         MANUFA           M400         MOE           M400         MOE</td> <td>CONNECT         S           TYPE (NOTE B)         B           NF         B           B         B           NF         B           NF         B           B         B           NF         B           B         B           B         B           B         B           B         B           B         B           B         B           B         B           B         B           B         B           B         B           B         B           B         B           B         B           B         B           B         B           B         B           B         B           B         B           B         B           &lt;</td> <td>STARTER Y (NOTE A) N MFR N NFR N NFR N NTE NOTE TY (PTC) NOTE TY (PTC) NOTE</td> <td>TRANE OTES 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	GAS         VOLTAGE           208         208           BRESSURE (IN W.C.)         CON TY           3.5         3/N	DISC           BY           ONTE A           1         MFR           ITROL         MANUFA           M400         MOE	CONNECT         S           TYPE (NOTE B)         B           NF         B           B         B           NF         B           NF         B           B         B           NF         B           B         B           B         B           B         B           B         B           B         B           B         B           B         B           B         B           B         B           B         B           B         B           B         B           B         B           B         B           B         B           B         B           B         B           B         B           B         B           <	STARTER Y (NOTE A) N MFR N NFR N NFR N NTE NOTE TY (PTC) NOTE TY (PTC) NOTE	TRANE OTES 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1							
NOTES: 1.COORDINATE COLOF 2. REFER TO 1/M400 FC TAG NAME AREA SERVI CAB-1 VESTIBULE 1 UNIT HEATI NOTES: 1. REFER TO 3/M400 FC TAG NAME AREA SEF UH-116 FRIENDS ST UH-119B WAREHO UH-119D WAREHO UH-119D WAREHO UH-119D WAREHO UH-119D WAREHO UH-119D FACILITI UH-120A FACILITI UH-120B FACILITI UH-121 SHOF UH-201 MEZZAN CEILING FA	SELECTION WITH CABINET HEATE CABINET HEATE CONFIGUE VERTICAL SL R SCHEE RUNIT HEATER CO RAGE 1097 SE 1	ARCHITECT. CONTROLS.           NOMINAL CFM         CC           DPE TOP         550.0         1           OULE - GAS F           NTROLS.           HEATING (MBH)         H           55         51.2         0.1           S55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55	CABIN           NTROL         HEIGHT         N           M400         29"         1           RED         VOLTA           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115	WIDTH         D           48"         1           48"         1           1         1           1         1           1         1           1         1           1         1           1         1           1         1           1         1           1         1           1         1           1         1           1         1	CTRICAL 10" 0.07 10" 0.07 0.07 0.07 DISCO BY (NOTE A) MFR MFR MFR MFR MFR MFR MFR MFR MFR MFR	RPM         K           800         7           NFECT         7           NFECT         1           NF         1	STAC       29       29       29       20 </td <td>GAS         VOLTAGE           208         208           BRESSURE (IN W.C.)         CON TY           3.5         3/N           3.5         3/N</td> <td>DISC           BY           ONTE A           1         MFR           ITROL         MANUFA           M400         MOE           M400         MOE</td> <td>CONNECT         S           TYPE (NOTE B)         B           NF         B           B         B           NF         B           NF         B           B         B           <t< td=""><td>STARTER Y (NOTE A) N MFR N NFR N NFR N NTE NOTE TY (PTC) NOTE TY (PTC) NOTE</td><td>TRANE OTES 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<></td>	GAS         VOLTAGE           208         208           BRESSURE (IN W.C.)         CON TY           3.5         3/N	DISC           BY           ONTE A           1         MFR           ITROL         MANUFA           M400         MOE	CONNECT         S           TYPE (NOTE B)         B           NF         B           B         B           NF         B           NF         B           B         B <t< td=""><td>STARTER Y (NOTE A) N MFR N NFR N NFR N NTE NOTE TY (PTC) NOTE TY (PTC) NOTE</td><td>TRANE OTES 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>	STARTER Y (NOTE A) N MFR N NFR N NFR N NTE NOTE TY (PTC) NOTE TY (PTC) NOTE	TRANE OTES 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1							
NOTES: 1.COORDINATE COLOF 2. REFER TO 1/M400 FC 2. REFER TO 1/M400 FC <b>TAG</b> <b>NAME AREA SERVI</b> CAB-1 VESTIBULE 1 <b>UNIT HEATI</b> NOTES: 1. REFER TO 3/M400 FC <b>TAG</b> <b>NAME AREA SEF</b> UH-116 FRIENDS ST UH-119B WAREHO UH-119D WAREHO UH-119D WAREHO UH-119D WAREHO UH-119D WAREHO UH-119D WAREHO UH-119D WAREHO UH-119D WAREHO UH-120A FACILITI UH-120B FACILITI UH-121 SHOF UH-201 MEZZAN <b>CEILING FA</b> NOTES: 1. PROVIDE SHAFT GR 2.FAN BLADE COLOR S 3.CONTROLLER PROVE	SELECTION WITH         CABINET HEATE         CONFIGUE         0       VERTICAL SL         RAGE       1097         SE       1097         JUNDING AS REQUE       SCHED         UNDING AS REQUE       SCHED	ARCHITECT. CONTROLS.           NOMINAL CFM         CC CFM           DPE TOP         550.0         1           OULE - GAS F           NTROLS.         HEATING (MBH)           INPUT         OUTPUT         H           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2 <td>CABIN           NTROL         HEIGHT         N           M400         29"         1           RED         29"         1           RED         VOLTA         1           25         1440         115           25</td> <td>WIDTH         D           48"         1           48"         1           6         PHAS           1         1           1         1           1         1           1         1           1         1           1         1           1         1           1         1           1         1           1         1           1         1           1         1           1         1           1         1           1         1</td> <td>CTRICAL  CTRICAL  CTRICAL  CTRICAL  DISCO BY CNOTE A)  MFR MFR MFR MFR MFR MFR MFR MFR MFR MF</td> <td>RPM         K           800         7           800         7           NF         1           NF         1</td> <td>XW     STAC       7.9     2       CONTROLLER     2       / STARTER     3       BY (NOTE A)     TCC       TCC     TCC</td> <td>GAS         VOLTAGE           208         208           BRESSURE (IN W.C.)         CON TY           3.5         3/N           3.5         3/N</td> <td>DISC           BY           ONTE A           1         MFR           ITROL         MANUFA           M400         MOE           M400         MOE</td> <td>CONNECT         S           TYPE (NOTE B)         B           NF         B           B         B           NF         B           NF         B           B         B           <t< td=""><td>STARTER Y (NOTE A) N MFR N NFR N NFR N NTE NOTE TY (PTC) NOTE TY (PTC) NOTE</td><td>TRANE OTES 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<></td>	CABIN           NTROL         HEIGHT         N           M400         29"         1           RED         29"         1           RED         VOLTA         1           25         1440         115           25	WIDTH         D           48"         1           48"         1           6         PHAS           1         1           1         1           1         1           1         1           1         1           1         1           1         1           1         1           1         1           1         1           1         1           1         1           1         1           1         1           1         1	CTRICAL  CTRICAL  CTRICAL  CTRICAL  DISCO BY CNOTE A)  MFR MFR MFR MFR MFR MFR MFR MFR MFR MF	RPM         K           800         7           800         7           NF         1	XW     STAC       7.9     2       CONTROLLER     2       / STARTER     3       BY (NOTE A)     TCC       TCC     TCC	GAS         VOLTAGE           208         208           BRESSURE (IN W.C.)         CON TY           3.5         3/N	DISC           BY           ONTE A           1         MFR           ITROL         MANUFA           M400         MOE	CONNECT         S           TYPE (NOTE B)         B           NF         B           B         B           NF         B           NF         B           B         B <t< td=""><td>STARTER Y (NOTE A) N MFR N NFR N NFR N NTE NOTE TY (PTC) NOTE TY (PTC) NOTE</td><td>TRANE OTES 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>	STARTER Y (NOTE A) N MFR N NFR N NFR N NTE NOTE TY (PTC) NOTE TY (PTC) NOTE	TRANE OTES 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1							
NOTES: 1.COORDINATE COLOF 2. REFER TO 1/M400 FC 2. REFER TO 1/M400 FC <b>TAG</b> <b>NAME AREA SERVI</b> CAB-1 VESTIBULE 1 <b>UNIT HEATI</b> NOTES: 1. REFER TO 3/M400 FC <b>TAG</b> <b>NAME AREA SEF</b> UH-116 FRIENDS ST UH-119B WAREHO UH-119D WAREHO UH-119D WAREHO UH-119D WAREHO UH-119D WAREHO UH-119D FACILIT UH-120A FACILIT UH-120B FACILIT UH-121 SHOF UH-201 MEZZAN <b>CEILING FA</b> <b>NOTES</b> : 1. PROVIDE SHAFT GR 2.FAN BLADE COLOR S 3.CONTROLLER PROVI 4.VERIFY EXTENSION T 5.SUPPLY POWERFOIL	SELECTION WITH         CABINET HEATE         CONFIGUE         0       VERTICAL SL         RAGE       1097         SE       1097      <	ARCHITECT. CONTROLS.           NOMINAL CFM         CC           DPE TOP         550.0         1           OULE - GAS F           NTROLS.         HEATING (MBH)           INPUT         OUTPUT         H           55         51.2         0.1	CABIN           NTROL         HEIGHT         N           M400         29"         1           RED         VOLTA           25         1440         115           25         1440	WIDTH         D           48"         1           48"         1           6         PHAS           1         1           1         1           1         1           1         1           1         1           1         1           1         1           1         1           1         1           1         1           1         1           1         1           1         1           1         1           1         1           1         1	CTRICAL  CTRICAL  CTRICAL  CTRICAL  DISCO BY CNOTE A)  MFR MFR MFR MFR MFR MFR MFR MFR MFR MF	RPM         K           800         7           800         7           NF         1	XW     STAC       7.9     2       CONTROLLER     2       / STARTER     3       BY (NOTE A)     TCC       TCC     TCC	GAS         VOLTAGE           208         208           BRESSURE (IN W.C.)         CON TY           3.5         3/N	DISC           BY           ONTE A           1         MFR           ITROL         MANUFA           M400         MOE	CONNECT         S           TYPE (NOTE B)         B           NF         B           B         B           NF         B           NF         B           B         B <t< td=""><td>STARTER Y (NOTE A) N MFR N NFR N NFR N NTE NOTE TY (PTC) NOTE TY (PTC) NOTE</td><td>TRANE OTES 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>	STARTER Y (NOTE A) N MFR N NFR N NFR N NTE NOTE TY (PTC) NOTE TY (PTC) NOTE	TRANE OTES 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1							
NOTES: 1.COORDINATE COLOF 2. REFER TO 1/M400 FC 2. REFER TO 1/M400 FC TAG NAME AREA SERVI CAB-1 VESTIBULE 1 NOTES: 1. REFER TO 3/M400 FC TAG NAME AREA SEF UH-116 FRIENDS ST UH-119B WAREHO UH-119D WAREHO UH-119D WAREHO UH-119D WAREHO UH-119D WAREHO UH-119D FACILIT UH-120A FACILIT UH-120A FACILIT UH-120B FACILIT UH-121 SHOF UH-201 MEZZAN CEILING FA NOTES: 1. PROVIDE SHAFT GR 2.FAN BLADE COLOR S 3.CONTROLLER PROVI 4.VERIFY EXTENSION T 5.SUPPLY POWERFOIL 6.SUPPLY WITH WALL	SELECTION WITH CABINET HEATE CABINET HEATE CONFIGUE O VERTICAL SL CONFIGUE R SCHEE CED CFM RAGE 1097 SE 1097 S	ARCHITECT. CONTROLS.           NOMINAL CFM         CC CFM           DPE TOP         550.0         1           OULE - GAS F           NTROLS.         HEATING (MBH)           INPUT         OUTPUT         H           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2 <td>CABIN           NTROL         HEIGHT         N           M400         29"         1           RED         29"         1           RED         VOLTA         1           25         1440         115           25</td> <td>WIDTH         D           48"         -           48"         -           GE         PHAS           1         1</td> <td>CTRICAL 10" 0.07 10" 0.07 10" 0.07 DISCO BY (NOTE A) MFR MFR MFR MFR MFR MFR MFR MFR MFR MFR</td> <td>RPM         K           800         7           800         7           NF         1           NF         1</td> <td>XW         STAC           7.9         2           CONTROLLER         2           / STARTER         3           BY (NOTE A)         TCC           TCC         TCC           Y A.T.C.         Y</td> <td>GAS         VOLTAGE           208         208           GAS         CON           3.5         3/N           3.5         3/N</td> <td>DISC           BY           ONTE A           1         MFR           ITROL         MANUFA           M400         MOE           M400         MOE</td> <td>CONNECT         S           TYPE (NOTE B)         B           NF         B           B         B           NF         B           NF         B           B         B           <t< td=""><td>STARTER Y (NOTE A) N MFR N NFR N NFR N NTE NOTE TY (PTC) NOTE TY (PTC) NOTE</td><td>TRANE OTES 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<></td>	CABIN           NTROL         HEIGHT         N           M400         29"         1           RED         29"         1           RED         VOLTA         1           25         1440         115           25	WIDTH         D           48"         -           48"         -           GE         PHAS           1         1	CTRICAL 10" 0.07 10" 0.07 10" 0.07 DISCO BY (NOTE A) MFR	RPM         K           800         7           800         7           NF         1	XW         STAC           7.9         2           CONTROLLER         2           / STARTER         3           BY (NOTE A)         TCC           TCC         TCC           Y A.T.C.         Y	GAS         VOLTAGE           208         208           GAS         CON           3.5         3/N	DISC           BY           ONTE A           1         MFR           ITROL         MANUFA           M400         MOE	CONNECT         S           TYPE (NOTE B)         B           NF         B           B         B           NF         B           NF         B           B         B <t< td=""><td>STARTER Y (NOTE A) N MFR N NFR N NFR N NTE NOTE TY (PTC) NOTE TY (PTC) NOTE</td><td>TRANE OTES 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>	STARTER Y (NOTE A) N MFR N NFR N NFR N NTE NOTE TY (PTC) NOTE TY (PTC) NOTE	TRANE OTES 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1							
NOTES: 1.COORDINATE COLOF 2. REFER TO 1/M400 FC 2. REFER TO 1/M400 FC TAG NAME AREA SERVI CAB-1 VESTIBULE 1 NOTES: 1. REFER TO 3/M400 FC TAG NAME AREA SEF UH-116 FRIENDS ST UH-119B WAREHO UH-119D WAREHO UH-119D WAREHO UH-119D WAREHO UH-119D WAREHO UH-119D WAREHO UH-119D WAREHO UH-120A FACILIT UH-120B FACILIT UH-120B FACILIT UH-121 SHOF UH-201 MEZZAN CEILING FA NOTES: 1. PROVIDE SHAFT GR 2.FAN BLADE COLOR S 3.CONTROLLER PROVI 4.VERIFY EXTENSION T 5.SUPPLY POWERFOIL 6.SUPPLY WITH WALL 7.INSTALL FAN 16' A.F.F	SELECTION WITH CABINET HEATE CABINET HEATE CONFIGUE 0 VERTICAL SL R SCHEE R UNIT HEATER CO RAGE 1097 SE 1097 S	ARCHITECT.         CONTROLS.         ATION       NOMINAL CFM       CO         DPE TOP       550.0       1         OULE - GAS F         NTROLS.       HEATING (MBH)       H         155       51.2       0.1         S55       51.2       0.1         55       51.2	CABIN           NTROL         HEIGHT         N           M400         29"         1           RED         29"         1           RED         VOLTA         1           25         1440         115           25	WIDTH         D           48"         1           48"         1           48"         1           1         1	CTRICAL 10" 0.07 10" 0.07 10" 0.07 0	RPM         K           800         7           800         7           NF         1	XW     STAC       7.9     2       CONTROLLER     2       / STARTER     3       BY (NOTE A)     TCC       TCC     TCC	GAS         VOLTAGE           208         208           GAS         CON           3.5         3/N	DISC           BY           ONTE A           1         MFR           ITROL         MANUFA           M400         MOE	CONNECT         S           TYPE (NOTE B)         B           NF         B           B         B           NF         B           NF         B           B         B <t< td=""><td>STARTER Y (NOTE A) N MFR N NFR N NFR N NTE NOTE TY (PTC) NOTE TY (PTC) NOTE</td><td>TRANE OTES 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>	STARTER Y (NOTE A) N MFR N NFR N NFR N NTE NOTE TY (PTC) NOTE TY (PTC) NOTE	TRANE OTES 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1							
NOTES: 1.COORDINATE COLOF 2. REFER TO 1/M400 FC <b>TAG</b> <b>NAME</b> AREA SERVI CAB-1 VESTIBULE 1 NOTES: 1. REFER TO 3/M400 FC <b>TAG</b> <b>NAME</b> AREA SEF UH-116 FRIENDS ST UH-119B WAREHO UH-119D WAREHO UH-119D WAREHO UH-119D WAREHO UH-119D WAREHO UH-119D WAREHO UH-119D WAREHO UH-120A FACILITI UH-120A FACILITI UH-121 SHOF UH-201 MEZZAN <b>CEEILING FA</b> NOTES: 1. PROVIDE SHAFT GR 2.FAN BLADE COLOR S 3.CONTROLLER PROVI 4. VERIFY EXTENSION T 5. SUPPLY POWERFOIL 6. SUPPLY WITH WALL 7. INSTALL FAN 16' A.F.F	SELECTION WITH CABINET HEATE CABINET HEATE CONFIGUE VERTICAL SL CONFIGUE RAGE 1097 SE	ARCHITECT. CONTROLS.           NOMINAL CFM         CO           DPE TOP         550.0         1           OULE - GAS F           NTROLS.           HEATING (MBH)         H           55         51.2         0.1           INPUT         OUTPUT         H           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           65         60.5         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55	CABIN           NTROL         HEIGHT         N           M400         29"         1           RED         VOLTA           25         1440         115           26         1440	WIDTH         D           48"         1           48"         1           48"         1           1 <td< td=""><td>IO"       0.07         10"       0.07         10"       0.07         IO"       MFR         MFR       MFR         MFR</td></td<> <td>RPM         K           800         7           800         7           ONNECT         0           TYPE         1           NF         1           OTURER'S REC         1           CONTROLLE         1</td> <td>W         STAC           7.9         2           CONTROLLER / STARTER         2           BY (NOTE A)         TCC           TCC         TCC</td> <td>GAS         VOLTAGE           208         208           PRESSURE (IN W.C.)         CON TY 3.5           3.5         3/N 3.5           3.5         3/N           3.5         3/N</td> <td>DISC           BY           1         MFR           1         MFR           1         MFR           MANUFA         MANUFA           M400         MOE           MA00         MOE           M400         MOE</td> <td>CONNECT         S           TYPE (NOTE B)         B           NF         B           B         B           NF         B           B         B           B         B           B         B           B         B           B         B           B         B           B         B           B         B           B         B           B         B           B         B           B         B           B         B           B         B           B         B           B         B</td> <td>STARTER MFR NHFR NDEL NU TY (PTC) NOTE TY (PTC) NOTE</td> <td>TRANE OTES 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	IO"       0.07         10"       0.07         10"       0.07         IO"       MFR         MFR	RPM         K           800         7           800         7           ONNECT         0           TYPE         1           NF         1           OTURER'S REC         1           CONTROLLE         1	W         STAC           7.9         2           CONTROLLER / STARTER         2           BY (NOTE A)         TCC           TCC         TCC	GAS         VOLTAGE           208         208           PRESSURE (IN W.C.)         CON TY 3.5           3.5         3/N 3.5           3.5         3/N	DISC           BY           1         MFR           1         MFR           1         MFR           MANUFA         MANUFA           M400         MOE           MA00         MOE           M400         MOE	CONNECT         S           TYPE (NOTE B)         B           NF         B           B         B           NF         B           B         B           B         B           B         B           B         B           B         B           B         B           B         B           B         B           B         B           B         B           B         B           B         B           B         B           B         B           B         B           B         B	STARTER MFR NHFR NDEL NU TY (PTC) NOTE TY (PTC) NOTE	TRANE OTES 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1							
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NOTES: 1.COORDINATE COLOF 2. REFER TO 1/M400 FC 2. REFER TO 1/M400 FC TAG NAME AREA SERVI CAB-1 VESTIBULE 1 NOTES: 1. REFER TO 3/M400 FC TAG NAME AREA SEF UH-116 FRIENDS ST UH-119B WAREHO UH-119D WAREHO UH-119D WAREHO UH-119D WAREHO UH-119D FACILIT UH-120A FACILIT UH-120B FACILIT UH-121 SHOF UH-201 MEZZAN CEEILING FA NOTES: 1. PROVIDE SHAFT GR 2.FAN BLADE COLOR S 3.CONTROLLER PROVI 4.VERIFY EXTENSION T 5.SUPPLY POWERFOIL 6.SUPPLY WITH WALL 7.INSTALL FAN 16' A.F.F TAG NAME AREA SERVE CF-1 WAREHOUSI CF-2 WAREHOUSI CF-3 WAREHOUSI CF-4 WAREHOUSI	SELECTION WITH CABINET HEATE CABINET HEATE CONFIGUE 0 VERTICAL SL R SCHEE R UNIT HEATER CO RAGE 1097 SE 1097 S	ARCHITECT. CONTROLS.           NOMINAL CFM         CO           DPE TOP         550.0         1           OULE - GAS F           NTROLS.           HEATING (MBH)         H           55         51.2         0.1           INPUT         OUTPUT         H           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           IRED IN THE MOTOR SPE         HITECT.	CABIN           NTROL         HEIGHT         N           M400         29"         1           RED         VOLTA           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           26         1440         115           27         1440         115           28         1440         115           29         141	WIDTH     D       48"     48"       48"     1       48"     1       1     1    1	PAN HP         10"       0.07         10"       0.07         10"       0.07         10"       0.07         10"       0.07         10"       0.07         10"       0.07         10"       0.07         10"       0.07         10"       0.07         10"       0.07         10"       0.07         10"       0.07         00"       0.07 <t< td=""><td>RPM         K           800         7           800         7           NF         1           MFR         1           MFR         1           MFR         1           MFR         1           MFR         1      <t< td=""><td>XW         STAC           7.9         2           2         2           CONTROLLER / STARTER         2           BY (NOTE A)         TCC           TCC         TCC</td><td>GAS       VOLTAGE         208       208         PRESSURE (IN W.C.)       CON TY         3.5       3/N         <t< td=""><td>DISC           BY           1         MFR           1         MFR           1         MFR           1         MFR           MANUFA         MANUFA           M400         MOE           MA00         MOE           M400         MOE           MA00         MOE           MOE         SESENCE SERIES           ESSENCE SERIES         ESSENCE SERIES           ESSENCE SERIES         ESSENCE SERIES           ESSENCE SERIES         ESSENCE SERIES</td><td>CONNECT         S           TYPE (NOTE B)         BY           NF         BY           S         BY           NF         BY           S         NOTES 2,3,4,5,6, S           S         NOTES 2,3,4,5,6, S           S         NOTES 2,3,4,5,6, S</td><td>STARTER       N         MFR       MFR         DDEL       NG         TY (PTC)       NOTE         TY (PTC)       NOTE</td><td>TRANE OTES 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<></td></t<></td></t<>	RPM         K           800         7           800         7           NF         1           MFR         1           MFR         1           MFR         1           MFR         1           MFR         1 <t< td=""><td>XW         STAC           7.9         2           2         2           CONTROLLER / STARTER         2           BY (NOTE A)         TCC           TCC         TCC</td><td>GAS       VOLTAGE         208       208         PRESSURE (IN W.C.)       CON TY         3.5       3/N         <t< td=""><td>DISC           BY           1         MFR           1         MFR           1         MFR           1         MFR           MANUFA         MANUFA           M400         MOE           MA00         MOE           M400         MOE           MA00         MOE           MOE         SESENCE SERIES           ESSENCE SERIES         ESSENCE SERIES           ESSENCE SERIES         ESSENCE SERIES           ESSENCE SERIES         ESSENCE SERIES</td><td>CONNECT         S           TYPE (NOTE B)         BY           NF         BY           S         BY           NF         BY           S         NOTES 2,3,4,5,6, S           S         NOTES 2,3,4,5,6, S           S         NOTES 2,3,4,5,6, S</td><td>STARTER       N         MFR       MFR         DDEL       NG         TY (PTC)       NOTE         TY (PTC)       NOTE</td><td>TRANE OTES 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<></td></t<>	XW         STAC           7.9         2           2         2           CONTROLLER / STARTER         2           BY (NOTE A)         TCC           TCC         TCC	GAS       VOLTAGE         208       208         PRESSURE (IN W.C.)       CON TY         3.5       3/N         3.5       3/N <t< td=""><td>DISC           BY           1         MFR           1         MFR           1         MFR           1         MFR           MANUFA         MANUFA           M400         MOE           MA00         MOE           M400         MOE           MA00         MOE           MOE         SESENCE SERIES           ESSENCE SERIES         ESSENCE SERIES           ESSENCE SERIES         ESSENCE SERIES           ESSENCE SERIES         ESSENCE SERIES</td><td>CONNECT         S           TYPE (NOTE B)         BY           NF         BY           S         BY           NF         BY           S         NOTES 2,3,4,5,6, S           S         NOTES 2,3,4,5,6, S           S         NOTES 2,3,4,5,6, S</td><td>STARTER       N         MFR       MFR         DDEL       NG         TY (PTC)       NOTE         TY (PTC)       NOTE</td><td>TRANE OTES 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>	DISC           BY           1         MFR           1         MFR           1         MFR           1         MFR           MANUFA         MANUFA           M400         MOE           MA00         MOE           M400         MOE           MA00         MOE           MOE         SESENCE SERIES           ESSENCE SERIES         ESSENCE SERIES           ESSENCE SERIES         ESSENCE SERIES           ESSENCE SERIES         ESSENCE SERIES	CONNECT         S           TYPE (NOTE B)         BY           NF         BY           S         BY           NF         BY           S         NOTES 2,3,4,5,6, S           S         NOTES 2,3,4,5,6, S           S         NOTES 2,3,4,5,6, S	STARTER       N         MFR       MFR         DDEL       NG         TY (PTC)       NOTE	TRANE OTES 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1							
NOTES: 1.COORDINATE COLOF 2. REFER TO 1/M400 FC <b>TAG</b> <b>NAME AREA SERVI</b> CAB-1 VESTIBULE 1 <b>UNIT HEATI</b> NOTES: 1. REFER TO 3/M400 FC <b>TAG</b> <b>NAME AREA SEF</b> UH-116 FRIENDS ST UH-119B WAREHO UH-119D WAREHO UH-119D WAREHO UH-119D WAREHO UH-119D FACILIT UH-120A FACILIT UH-120B FACILIT UH-120B FACILIT UH-121 SHOF UH-201 MEZZAN <b>CEELING FA</b> <b>S</b> S.CONTROLLER PROVI 4.VERIFY EXTENSION T 5.SUPPLY POWERFOIL 6.SUPPLY WITH WALL 7.INSTALL FAN 16' A.F.F <b>TAG</b> <b>NAME AREA SERVE</b> CF-1 WAREHOUS CF-2 WAREHOUS	SELECTION WITH CABINET HEATE CABINET HEATE CONFIGUE 0 VERTICAL SL R SCHEE R UNIT HEATER CO RAGE 1097 SE 1097 S	ARCHITECT.         CONTROLS.         ATION       NOMINAL CFM       CO         DPE TOP       550.0       1         OULE - GAS F         NTROLS.       HEATING (MBH)       H         55       51.2       0.1         INPUT       OUTPUT       H         55       51.2       0.1         55       51.2       0.1         55       51.2       0.1         55       51.2       0.1         55       51.2       0.1         55       51.2       0.1         55       51.2       0.1         55       51.2       0.1         55       51.2       0.1         55       51.2       0.1         55       51.2       0.1         55       51.2       0.1         55       51.2       0.1         55       51.2       0.1         55       51.2       0.1         55       51.2       0.1         ULEE       IRED IN THE MOTOR SPE         MOUNTING BRACKET WIT       INGLETS.         L PAD FULLY INTEGRATE       VOLTA         IS8       DIRE	CABIN           NTROL         HEIGHT         N           M400         29"         1           RED         VOLTA           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           26         1440         115           27         1440         115           28         1440         115           29         141	WIDTH       D         48"       48"         48"       1         48"       1         1       1	PAN HP         10"       0.07         10"       0.07         10"       0.07         10"       0.07         10"       0.07         10"       0.07         10"       0.07         10"       0.07         10"       0.07         10"       0.07         10"       0.07         10"       0.07         10"       0.07         00"       0.07 <t< td=""><td>RPM         K           800         7           800         7           Image: Second secon</td><td>XW         STAC           7.9         2           7.9         2           CONTROLLER         2           / STARTER         3           BY (NOTE A)         1           TCC         1</td><td>GAS       VOLTAGE         208       208         PRESSURE (IN W.C.)       CON TY         3.5       3/N         <t< td=""><td>DISC           BY           1         MFR           1         MFR           1         MFR           1         MFR           MANUFA         MANUFA           M400         MOE           MA00         MOE           MA00         MOE           MA00         MOE           MA00         MOE           M400         MOE           M400         MOE           MA00         MOE           M400         MOE           MOE         SESENCE SERIES           ESSENCE SERIES         ESSENCE SERIES           ESSENCE SERIES         ESSENCE SERIES</td><td>CONNECT         S           TYPE (NOTE B)         BY           NF         BY           S         BY           NF         BY           S         NOTES 2,3,4,5,6, S           S         NOTES 2,3,4,5,6, S           S         NOTES 2,3,4,5,6, S</br></td><td>STARTER       N         MFR       MFR         DDEL       NG         TY (PTC)       NOTE         TY (PTC)       NOTE</td><td>TRANE OTES 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<></td></t<>	RPM         K           800         7           800         7           Image: Second secon	XW         STAC           7.9         2           7.9         2           CONTROLLER         2           / STARTER         3           BY (NOTE A)         1           TCC         1	GAS       VOLTAGE         208       208         PRESSURE (IN W.C.)       CON TY         3.5       3/N         3.5       3/N <t< td=""><td>DISC           BY           1         MFR           1         MFR           1         MFR           1         MFR           MANUFA         MANUFA           M400         MOE           MA00         MOE           MA00         MOE           MA00         MOE           MA00         MOE           M400         MOE           M400         MOE           MA00         MOE           M400         MOE           MOE         SESENCE SERIES           ESSENCE SERIES         ESSENCE SERIES           ESSENCE SERIES         ESSENCE SERIES</td><td>CONNECT         S           TYPE (NOTE B)         BY           NF         BY           S         BY           NF         BY           S         NOTES 2,3,4,5,6, S           S         NOTES 2,3,4,5,6, S           S         NOTES 2,3,4,5,6, S</br></td><td>STARTER       N         MFR       MFR         DDEL       NG         TY (PTC)       NOTE         TY (PTC)       NOTE</td><td>TRANE OTES 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>	DISC           BY           1         MFR           1         MFR           1         MFR           1         MFR           MANUFA         MANUFA           M400         MOE           MA00         MOE           MA00         MOE           MA00         MOE           MA00         MOE           M400         MOE           M400         MOE           MA00         MOE           M400         MOE           MOE         SESENCE SERIES           ESSENCE SERIES         ESSENCE SERIES           ESSENCE SERIES         ESSENCE SERIES	CONNECT         S           TYPE (NOTE B)         BY           NF         BY           S         BY           NF         BY           S         NOTES 2,3,4,5,6, S           S         NOTES 2,3,4,5,6, 	STARTER       N         MFR       MFR         DDEL       NG         TY (PTC)       NOTE	TRANE OTES 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1							
NOTES: 1.COORDINATE COLOF 2. REFER TO 1/M400 FC 2. REFER TO 1/M400 FC TAG NAME AREA SERVI CAB-1 VESTIBULE 1 NOTES: 1. REFER TO 3/M400 FC TAG NAME AREA SEF UH-116 FRIENDS ST UH-119B WAREHO UH-119D WAREHO UH-119D WAREHO UH-119D WAREHO UH-119D FACILIT UH-120A FACILIT UH-120B FACILIT UH-121 SHOF UH-201 MEZZAN CEEILING FA NOTES: 1. PROVIDE SHAFT GR 2.FAN BLADE COLOR S 3.CONTROLLER PROVI 4.VERIFY EXTENSION T 5.SUPPLY POWERFOIL 6.SUPPLY WITH WALL 7.INSTALL FAN 16' A.F.F TAG NAME AREA SERVE CF-1 WAREHOUSI CF-2 WAREHOUSI CF-3 WAREHOUSI CF-4 WAREHOUSI	SELECTION WITH CABINET HEATE CABINET HEATE CONFIGUE 0 VERTICAL SL R SCHEE R UNIT HEATER CO RAGE 1097 SE 1097 S	ARCHITECT. CONTROLS.           NOMINAL CFM         CO           DPE TOP         550.0         1           OULE - GAS F           NTROLS.           HEATING (MBH)         H           55         51.2         0.1           INPUT         OUTPUT         H           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           IRED IN THE MOTOR SPE         HITECT.	CABIN           NTROL         HEIGHT         N           M400         29"         1           RED         VOLTA           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           26         1440         115           27         1440         115           28         1440         115           29         141	WIDTH     D       48"     48"       48"     1       48"     1       1     1    1	PAN HP         10"       0.07         10"       0.07         10"       0.07         10"       0.07         10"       0.07         10"       0.07         10"       0.07         10"       0.07         10"       0.07         10"       0.07         10"       0.07         10"       0.07         10"       0.07         00"       0.07 <t< td=""><td>RPM         K           800         7           800         7           NF         1           MFR         1           MFR         1           MFR         1           MFR         1           MFR         1      <t< td=""><td>XW         STAC           7.9         2           2         2           CONTROLLER / STARTER         2           BY (NOTE A)         TCC           TCC         TCC</td><td>GAS       VOLTAGE         208       208         PRESSURE (IN W.C.)       CON TY         3.5       3/N         <t< td=""><td>DISC           BY           1         MFR           1         MFR           1         MFR           1         MFR           MANUFA         MANUFA           M400         MOE           MA00         MOE           M400         MOE           MA00         MOE           MOE         SESENCE SERIES           ESSENCE SERIES         ESSENCE SERIES           ESSENCE SERIES         ESSENCE SERIES           ESSENCE SERIES         ESSENCE SERIES</td><td>CONNECT         S           TYPE (NOTE B)         BY           NF         BY           S         BY           NF         BY           S         NOTES 2,3,4,5,6, S           S         NOTES 2,3,4,5,6, S           S         NOTES 2,3,4,5,6, S</td><td>STARTER       N         MFR       MFR         DDEL       NG         TY (PTC)       NOTE         TY (PTC)       NOTE</td><td>TRANE OTES 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<></td></t<></td></t<>	RPM         K           800         7           800         7           NF         1           MFR         1           MFR         1           MFR         1           MFR         1           MFR         1 <t< td=""><td>XW         STAC           7.9         2           2         2           CONTROLLER / STARTER         2           BY (NOTE A)         TCC           TCC         TCC</td><td>GAS       VOLTAGE         208       208         PRESSURE (IN W.C.)       CON TY         3.5       3/N         <t< td=""><td>DISC           BY           1         MFR           1         MFR           1         MFR           1         MFR           MANUFA         MANUFA           M400         MOE           MA00         MOE           M400         MOE           MA00         MOE           MOE         SESENCE SERIES           ESSENCE SERIES         ESSENCE SERIES           ESSENCE SERIES         ESSENCE SERIES           ESSENCE SERIES         ESSENCE SERIES</td><td>CONNECT         S           TYPE (NOTE B)         BY           NF         BY           S         BY           NF         BY           S         NOTES 2,3,4,5,6, S           S         NOTES 2,3,4,5,6, S           S         NOTES 2,3,4,5,6, S</td><td>STARTER       N         MFR       MFR         DDEL       NG         TY (PTC)       NOTE         TY (PTC)       NOTE</td><td>TRANE OTES 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<></td></t<>	XW         STAC           7.9         2           2         2           CONTROLLER / STARTER         2           BY (NOTE A)         TCC           TCC         TCC	GAS       VOLTAGE         208       208         PRESSURE (IN W.C.)       CON TY         3.5       3/N         3.5       3/N <t< td=""><td>DISC           BY           1         MFR           1         MFR           1         MFR           1         MFR           MANUFA         MANUFA           M400         MOE           MA00         MOE           M400         MOE           MA00         MOE           MOE         SESENCE SERIES           ESSENCE SERIES         ESSENCE SERIES           ESSENCE SERIES         ESSENCE SERIES           ESSENCE SERIES         ESSENCE SERIES</td><td>CONNECT         S           TYPE (NOTE B)         BY           NF         BY           S         BY           NF         BY           S         NOTES 2,3,4,5,6, S           S         NOTES 2,3,4,5,6, S           S         NOTES 2,3,4,5,6, S</td><td>STARTER       N         MFR       MFR         DDEL       NG         TY (PTC)       NOTE         TY (PTC)       NOTE</td><td>TRANE OTES 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>	DISC           BY           1         MFR           1         MFR           1         MFR           1         MFR           MANUFA         MANUFA           M400         MOE           MA00         MOE           M400         MOE           MA00         MOE           MOE         SESENCE SERIES           ESSENCE SERIES         ESSENCE SERIES           ESSENCE SERIES         ESSENCE SERIES           ESSENCE SERIES         ESSENCE SERIES	CONNECT         S           TYPE (NOTE B)         BY           NF         BY           S         BY           NF         BY           S         NOTES 2,3,4,5,6, S           S         NOTES 2,3,4,5,6, S           S         NOTES 2,3,4,5,6, S	STARTER       N         MFR       MFR         DDEL       NG         TY (PTC)       NOTE	TRANE OTES 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1							
NOTES: 1.COORDINATE COLOF 2. REFER TO 1/M400 FC 2. REFER TO 1/M400 FC TAG NAME AREA SERVI CAB-1 VESTIBULE 1 NOTES: 1. REFER TO 3/M400 FC TAG NAME AREA SEF UH-116 FRIENDS ST UH-119B WAREHO UH-119D WAREHO UH-119D WAREHO UH-119D WAREHO UH-119D FACILIT UH-120A FACILIT UH-120B FACILIT UH-121 SHOF UH-201 MEZZAN CEEILING FA NOTES: 1. PROVIDE SHAFT GR 2.FAN BLADE COLOR S 3.CONTROLLER PROVI 4.VERIFY EXTENSION T 5.SUPPLY POWERFOIL 6.SUPPLY WITH WALL 7.INSTALL FAN 16' A.F.F TAG NAME AREA SERVE CF-1 WAREHOUSI CF-2 WAREHOUSI CF-3 WAREHOUSI CF-4 WAREHOUSI	SELECTION WITH CABINET HEATE CABINET HEATE CONFIGUE 0 VERTICAL SL R SCHEE R UNIT HEATER CO RAGE 1097 SE 1097 S	ARCHITECT. CONTROLS.           NOMINAL CFM         CO           DPE TOP         550.0         1           OULE - GAS F           NTROLS.           HEATING (MBH)         H           55         51.2         0.1           INPUT         OUTPUT         H           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           55         51.2         0.1           IRED IN THE MOTOR SPE         HITECT.	CABIN           NTROL         HEIGHT         N           M400         29"         1           RED         VOLTA           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           25         1440         115           26         1440         115           27         1440         115           28         1440         115           29         141	WIDTH     D       48"     48"       48"     1       48"     1       1     1    1	PAN HP         10"       0.07         10"       0.07         10"       0.07         10"       0.07         10"       0.07         10"       0.07         10"       0.07         10"       0.07         10"       0.07         10"       0.07         10"       0.07         10"       0.07         10"       0.07         00"       0.07 <t< td=""><td>RPM         K           800         7           800         7           NF         1           MFR         1           MFR         1           MFR         1           MFR         1           MFR         1      <t< td=""><td>XW         STAC           7.9         2           2         2           CONTROLLER / STARTER         2           BY (NOTE A)         TCC           TCC         TCC</td><td>GAS       VOLTAGE         208       208         PRESSURE (IN W.C.)       CON TY         3.5       3/N         <t< td=""><td>DISC           BY           1         MFR           1         MFR           1         MFR           1         MFR           MANUFA         MANUFA           M400         MOE           MA00         MOE           M400         MOE           MA00         MOE           MOE         SESENCE SERIES           ESSENCE SERIES         ESSENCE SERIES           ESSENCE SERIES         ESSENCE SERIES           ESSENCE SERIES         ESSENCE SERIES</td><td>CONNECT         S           TYPE (NOTE B)         BY           NF         BY           S         BY           NF         BY           S         NOTES 2,3,4,5,6, S           S         NOTES 2,3,4,5,6, S           S         NOTES 2,3,4,5,6, S</td><td>STARTER       N         MFR       MFR         DDEL       NG         TY (PTC)       NOTE         TY (PTC)       NOTE</td><td>TRANE OTES 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<></td></t<></td></t<>	RPM         K           800         7           800         7           NF         1           MFR         1           MFR         1           MFR         1           MFR         1           MFR         1 <t< td=""><td>XW         STAC           7.9         2           2         2           CONTROLLER / STARTER         2           BY (NOTE A)         TCC           TCC         TCC</td><td>GAS       VOLTAGE         208       208         PRESSURE (IN W.C.)       CON TY         3.5       3/N         <t< td=""><td>DISC           BY           1         MFR           1         MFR           1         MFR           1         MFR           MANUFA         MANUFA           M400         MOE           MA00         MOE           M400         MOE           MA00         MOE           MOE         SESENCE SERIES           ESSENCE SERIES         ESSENCE SERIES           ESSENCE SERIES         ESSENCE SERIES           ESSENCE SERIES         ESSENCE SERIES</td><td>CONNECT         S           TYPE (NOTE B)         BY           NF         BY           S         BY           NF         BY           S         NOTES 2,3,4,5,6, S           S         NOTES 2,3,4,5,6, S           S         NOTES 2,3,4,5,6, S</td><td>STARTER       N         MFR       MFR         DDEL       NG         TY (PTC)       NOTE         TY (PTC)       NOTE</td><td>TRANE OTES 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<></td></t<>	XW         STAC           7.9         2           2         2           CONTROLLER / STARTER         2           BY (NOTE A)         TCC           TCC         TCC	GAS       VOLTAGE         208       208         PRESSURE (IN W.C.)       CON TY         3.5       3/N         3.5       3/N <t< td=""><td>DISC           BY           1         MFR           1         MFR           1         MFR           1         MFR           MANUFA         MANUFA           M400         MOE           MA00         MOE           M400         MOE           MA00         MOE           MOE         SESENCE SERIES           ESSENCE SERIES         ESSENCE SERIES           ESSENCE SERIES         ESSENCE SERIES           ESSENCE SERIES         ESSENCE SERIES</td><td>CONNECT         S           TYPE (NOTE B)         BY           NF         BY           S         BY           NF         BY           S         NOTES 2,3,4,5,6, S           S         NOTES 2,3,4,5,6, S           S         NOTES 2,3,4,5,6, S</td><td>STARTER       N         MFR       MFR         DDEL       NG         TY (PTC)       NOTE         TY (PTC)       NOTE</td><td>TRANE OTES 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>	DISC           BY           1         MFR           1         MFR           1         MFR           1         MFR           MANUFA         MANUFA           M400         MOE           MA00         MOE           M400         MOE           MA00         MOE           MOE         SESENCE SERIES           ESSENCE SERIES         ESSENCE SERIES           ESSENCE SERIES         ESSENCE SERIES           ESSENCE SERIES         ESSENCE SERIES	CONNECT         S           TYPE (NOTE B)         BY           NF         BY           S         BY           NF         BY           S         NOTES 2,3,4,5,6, S           S         NOTES 2,3,4,5,6, S           S         NOTES 2,3,4,5,6, S	STARTER       N         MFR       MFR         DDEL       NG         TY (PTC)       NOTE	TRANE OTES 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1							

	8	9	10	11	12	13	14	15	16	

17	18	19	20	21

<u>SCHEDUI</u>	<u>LE GENERAL NOTES:</u>
INSTALLED BY: MFR = MANUFACTURER EC = ELECTRICAL CONT MC = FURNISHED BY ME ELECTRICAL CONTRACT	RACTOR. ECHANICAL CONTRACTOR, INSTALLED BY TOR. OOSE BY MANUFACTURER INSTALLED BY
B. DISCONNECT TYPE: F = FUSED NF = NON-FUSED	
C. CONTROLLER START FV = FULL VOLTAGE WYE = WYE-DELTA SS = SOLID STATE (SOF MS = MANUAL STARTER VFD = VARIABLE FREQU VFD/B = VARIABLE FREQ	T START)
THE SCHEDULED WHEE	EXCEED 110% OF SCHEDULED VALUE, WITH L TYPE. SUBSTITUTION OF BI OR BIA FANS TABLE IF EFFICIENCY IS NOT LOWER.
E. NO EQUIPMENT SHAL PLATE RATING.	L BE SELECTED ABOVE 90% OF MOTOR NAME
F. MUST BE WITHIN +/- 1	0% OF SCHEDULED RPM.
G. CURB TYPE: MFR = STANDARD CURE GC = BY GENERAL CON SAC = SOUND ATTENUA	TRACTOR



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- ELECTRICAL ENGINEER KJWW Engineering Consultants 1800 Deming Way Middleton, WI 53562 P. 608.223.9600

Key Plan

### Sheet Issue Date Bid Set 12/09/2016

Previous Issue Dates

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Revision Dates

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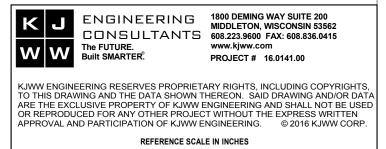
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Drawing SCHEDULES -

OPN Project No. 15617000



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	10 1/10/403	FOR DO	DAS UN	IT CON				-			/M403							
							MAX	. DIMENS	BIONS			OUTSIDI SUMME	R		WIN	TER		
AIR HANI UNIT TAG	NAME S	AREA ERVED	со		CORE QUANTIT		CY LENGT		I HEIGHT		EAT DB °F	WB D °F ำ	F °F	DB °F	EAT WB °F	DB °F	WB °F	APD
DOAS	5-1 BL	ILDING	ENTH	ALPIC	3	63 %	46"	49"	30"	860	87	75 76	.8 70.6	-15	-15	42.7	42.5	0.6
WAT		DOL	ED		NDEN	ISING	UNIT S	CHE	DULE	Ξ(2	25%		OPY	′LE	NE	GL	_Y(	COL
NOTES: 1. REFER	TO SPECII			ION 23 (	62 13.					•								
2. PROVID 3. REFER						GLYCOL.												
						-	MAX. REFRIGERAN	T CAP	OLING ACITY	CAP								
TAG NA WCCU WCCU	-1	90 90 90		ATING E 32 32	EWT DES	-	CHARGE 410A - 11 LB 410A - 11 LB	S 120	<b>TUH</b> 0,000 ,000	135	UH ,000 000	MO	<b>DULES</b> P96 P96		<b>GP</b> 25. 25.	4		8 FT 8 FT
	-2	90		52		<u> </u>		5 12	,000	00,	000		F 90		23.	+		011
DIIM				: (25	% DE	ROPYL		vco										
NOTES:				-					-									
1.PROVID 2.PROVID						HE MOTOR S GLYCOL.	PECIFICATIC	N 23 05 <sup>-</sup>	13									
TAG					PUMP FT. HEAD AT		I	IMPELL		RAKE		НР					ECTR	
P-1		Server _Ding		<b>GPM</b> 55.0	<b>DESIGN</b> 91.00	EFFICIENC 48		<b>SIZE</b> 8.8"	HORS		ER (N	<b>IOTE E)</b> 5	<b>RPM</b> 1750		<b>TAGE</b> 208	-	ASES 3	(NO
P-2	BUI	DING		55.0	91.00	48	2"	8.8"		2.62		5	1750	2	208		3	N
TAG NAME GFS-1	AREA SER VRF SYST	ΈM	55.0		PRESSUR 60	E HEAD F 30	10.0	3600	<b>BHP</b> 0.5	1		115		HASE:	5	(1	MFR	
NAME GFS-1	VRF SYST SCHE	EM EDUI	55.0 <b>_E</b>	Γ FAN C	60 ONTROL.	30	10.0	3600		1						(1		
NAME GFS-1 FAN NOTES: 1.REFER	VRF SYST SCHE	EM EDUI	55.0 <b>_E</b>	Γ FAN C	60 ONTROL. O CONTRO	)L.				1							MFR	RICAL
NAME GFS-1 FAN NOTES: 1.REFER 2.PROVID TAG NAME	VRF SYST SCHE TO 2/M402 E WITH 0- AREA SEE		55.0 LE (HAUST JT FOR CFM	FAN C SPEED S.P. IN. W.C.	ONTROL. CONTRO WHEEL DIA. INCHES	DL. FAN RPM S (NOTE F)	DRIVE A TYPE SC	IAX. MCA E DNES DA	0.5 BACKDRAF	-T CL PE (I	IRB T	115 YPE G) BH	P MHF	1 <b>v</b> VO	LTAGE	E		
NAME GFS-1 FAN NOTES: 1.REFER 2.PROVID	VRF SYST SCHE TO 2/M402 E WITH 0-	EDUI FOR EX IOV INPI	55.0 LE	FAN C SPEED	60 ONTROL. O CONTRO WHEEL DIA.	DL. FAN RPM	DRIVE A TYPE SC	IAX. MCA E DNES DA	0.5	-T CL PE (I	IRB T	115 YPE	P MHF	1 <b>v</b> VO		EPH		
NAME GFS-1 FAN NOTES: 1.REFER 2.PROVID TAG NAME EF-1	VRF SYST SCHE TO 2/M402 E WITH 0- AREA SEI GARAG SHOP		55.0 <b>LE</b> (HAUST JT FOR <b>CFM</b> 1365	<b>S.P. IN.</b> <b>W.C.</b> 0.50	0NTROL. CONTRO WHEEL DIA. INCHES 13.1	2012. - FAN RPM 5 (NOTE F) 1480	DRIVE A TYPE SC DIRECT	IAX. MCA E DNES D/ 12	0.5 BACKDRAF	-T CL PE (I	IRB T	115 YPE G) BH	P MHF	1 <b>v</b> VO	LTAGE	EPH		RICAL DI B' (NOT
NAME GFS-1 FAN NOTES: 1.REFER 2.PROVID TAG NAME EF-1 EF-1	VRF SYST SCHE TO 2/M402 E WITH 0- AREA SEF GARAG SHOF	EDUI	55.0 LE KHAUST UT FOR CFM 1365 ATE	<b>S.P. IN.</b> <b>W.C.</b> 0.50	ONTROL. CONTROL CONTRO UHEEL DIA. INCHES 13.1	DL. FAN RPM S (NOTE F)	DRIVE TYPE DIRECT	IAX. MCA E DNES D/ 12	0.5 BACKDRAI	FT CL PE (I	IRB T NOTE NA	115 YPE G) BH 0.2	<b>P MHF</b> 8 0.5	1 > VOI	LTAGE 115	EPH		RICAL D B (NOT
NAME GFS-1 FAN NOTES: 1.REFER 2.PROVID TAG NAME EF-1 NOTES: 1.COORD TAG NAME	VRF SYST SCHE TO 2/M402 E WITH 0- AREA SEF GARAG SHOF OR O NATE DAM AREA SERVED		55.0 ALUST JT FOR CFM 1365 ATE TUATO SIZE TH HE	S.P. IN. S.P. IN. W.C. 0.50	ONTROL. CONTROL CONTRO UHEEL DIA. INCHES 13.1	30       5       FAN RPM (NOTE F)       1480       PER SC       0 MOUNTING       MOUNTING       MIN.	DRIVE TYPE DIRECT DIRECT HEDUI REQUIREME BLADE IGURATION	IAX. MCA E DNES D/ 12	0.5 AMPER TY ELECTRIC H TEMPE ADE FATION	FT CL PE (I C RATUR		115 YPE G) BH 0.2 VTROL C ACTUA (N	P MHF 8 0.5 ONTRA ATOR TY OTE 1)	VOI	LTAGE 115		MFR ASES 1 DR	RICAL DI B (NOT MF
NAME GFS-1 FAN NOTES: 1.REFER 2.PROVID TAG NAME EF-1 NOTES: 1.COORD TAG NAME MOD-1 MOD-2	VRF SYST SCHE TO 2/M402 E WITH 0- AREA SEI GARAG SHOP OR O NATE DAM AREA SERVED EF-1 MAU-1	EM FOR EX IOV INPI RVED & PER IPER AC 18 20	55.0 <b>LE</b> (HAUST UT FOR <b>CFM</b> 1365 <b>ATE</b> TUATO <b>SIZE</b> H HE	<b>S.P. IN.</b> <b>S.P. IN.</b> <b>W.C.</b> 0.50 <b>ED C</b> <b>R</b> LOCA <b>IGHT</b> 12	ONTROL. OCONTROL OCONTRO UNHEEL DIA. INCHES 13.1	30       DL.       FAN RPM (NOTE F)       1480       PER SC       0 MOUNTING       MIN.       CONF       0       0       0       0       0       0       0	DRIVE TYPE DIRECT DIRECT HEDU REQUIREME BLADE IGURATION POSED POSED	IAX. MCA E DNES D/ 12 LE NTS WIT BL/ ORIEN HORIZ HORIZ	0.5 ACKDRAF AMPER TY ELECTRIC TH TEMPE ADE FATION ONTAL ONTAL ONTAL	FT CL PE (I PE (I RATUR INSUL Ye Ye		115 YPE G) BH 0.2 VTROL C ACTUA (N EL EL	P MHF 8 0.5 ONTRA ATOR T OTE 1) ECTRIC ECTRIC	P VO	LTAGE 115		MFR ASES 1 DR TION TION	RICAL DI B' (NOT MF
NAME GFS-1 FAN NOTES: 1.REFER 2.PROVID TAG NAME EF-1 NOTES: 1.COORD TAG NAME MOD-1 MOD-2 MOD-3	VRF SYST SCHE TO 2/M402 E WITH 0- AREA SEI GARAG SHOF OR O NATE DAN AREA SERVED EF-1 MAU-1 DOAS-1	EM FOR E> 10V INPI RVED & PER IPER AC UIPER AC 18 20 20	55.0 LE CFM 1365 ATE TUATO SIZE H HE	<b>S.P. IN.</b> <b>S.P. IN.</b> <b>W.C.</b> 0.50 <b>ED C</b> <b>R</b> LOCA <b>IGHT</b> 12 12 8	60 ONTROL. CONTROL OCONTRO WHEEL DIA. INCHES 13.1 DAMP ATION ANE CFM MAX. I 1365 1375 860	30       DL.       FAN RPM       NOTE F)       1480       PER SC       0 MOUNTING       MIN.       CONF       0       0       0       0       0       0       0       0       0       0	DRIVE TYPE DIRECT DIRECT CHEDUI REQUIREME BLADE IGURATION PPOSED PPOSED PPOSED	AX. MCA E DNES D/ 12 LE NTS WIT BL/ ORIEN HORIZ HORIZ HORIZ	0.5 ACKDRAF AMPER TY ELECTRIC ELECTRIC ONTAL ONTAL ONTAL ONTAL	T CL PE (I RATUR		115 YPE G) BH 0.2 VTROL C ACTUA (N EL EL	P MHF 8 0.5 ONTRA ATOR TY OTE 1) ECTRIC	P VO	LTAGE 115		MFR ASES 1 DR TION TION	RICAL DI B` (NOT
NAME GFS-1 FAN NOTES: 1.REFER 2.PROVID TAG NAME EF-1 NOTES: 1.COORD TAG NAME MOD-1 MOD-2 MOD-3	VRF SYST SCHE TO 2/M402 E WITH 0- AREA SEI GARAG SHOF OR O NATE DAN AREA SERVED EF-1 MAU-1 DOAS-1	EM FOR E> 10V INPI RVED & PER IPER AC UIPER AC 18 20 20	55.0 LE CFM 1365 ATE TUATO SIZE H HE	<b>S.P. IN.</b> <b>S.P. IN.</b> <b>W.C.</b> 0.50 <b>ED C</b> <b>R</b> LOCA <b>IGHT</b> 12 12 8	60 ONTROL. CONTROL OCONTRO WHEEL DIA. INCHES 13.1 DAMP ATION ANE CFM MAX. I 1365 1375 860	30       DL.       FAN RPM (NOTE F)       1480       PER SC       0 MOUNTING       MIN.       CONF       0       0       0       0       0       0       0	DRIVE TYPE DIRECT DIRECT CHEDUI REQUIREME BLADE IGURATION PPOSED PPOSED PPOSED	AX. MCA E DNES D/ 12 LE NTS WIT BL/ ORIEN HORIZ HORIZ HORIZ	0.5 ACKDRAF AMPER TY ELECTRIC ELECTRIC ONTAL ONTAL ONTAL ONTAL	FT CL PE (I PE (I RATUR INSUL Ye Ye		115 YPE G) BH 0.2 VTROL C ACTUA (N EL EL	P MHF 8 0.5 ONTRA ATOR T OTE 1) ECTRIC ECTRIC	P VO	LTAGE 115		MFR ASES 1 DR TION TION	RICAL DI B' (NOT MF
RAME GFS-1 FAN NOTES: 1.REFER 2.PROVID TAG NAME EF-1 NOTES: 1.COORD TAG NAME MOD-1 MOD-2 MOD-3 MOD-3	VRF SYST SCHE TO 2/M402 E WITH 0- AREA SEF GARAG SHOP OR O NATE DAM AREA SERVED EF-1 MAU-1 DOAS-1 LES I	EM FOR EX 10V INPI RVED E & PER IPER AC IPER AC INPI 18 20 20 REG ALL DET	55.0 -E (HAUST JT FOR 1365 ATE TUATO SIZE H HE ISTI	S.P. IN. S.P. IN. W.C. 0.50 ED C PR LOCA IGHT 12 12 12 8 ERS ERS	60 ONTROL. OCONTROL. OCONTROL. OCONTROL. DIA. DIA. INCHES 13.1 OAMP ATION ANE CFM MAX. I 1365 1375 860 OAMP CFM MAX. I 1365 1375 860 OAMP CFM MAX. I 1365 1375 860	30       DL.       FAN RPM       NOTE F)       1480       PER SC       0 MOUNTING       MIN.       CONF       0       0       0       0       0       0       0       0       0       0	DRIVE TYPE DIRECT DIRECT CHEDUI REQUIREME BLADE IGURATION POSED POSED POSED POSED POSED POSED POSED POSED POSED	AX. MCA E DNES D/ 12 12 LE NTS WIT BL/ ORIEN HORIZ HORIZ HORIZ HORIZ	0.5 ACKDRAF AMPER TY ELECTRIC TH TEMPE ADE TATION ONTAL ONTAL ONTAL ONTAL ONTAL ONTAL ONTAL ONTAL ONTAL ONTAL ONTAL ONTAL ONTAL ONTAL ONTAL	T CL PE (I PE (I P		115 YPE G) BH 0.2 VTROL C ACTUA (N EL EL	P MHF 8 0.5 ONTRA ATOR T OTE 1) ECTRIC ECTRIC	P VO	LTAGE 115		MFR ASES 1 DR TION TION	RICAL DI B' (NOT MF
NAME GFS-1 FAN NOTES: 1.REFER 2.PROVID TAG NAME EF-1 NOTES: 1.COORD TAG NAME MOD-1 MOD-2 MOD-3 MOD-3 MOD-3	VRF SYST SCHE TO 2/M402 E WITH 0- AREA SEF GARAG SHOP OR O NATE DAM AREA SERVED EF-1 MAU-1 DOAS-1 LES I	EM FOR EX IOV INPI RVED ALL DET TWORK	55.0 LE (HAUST UT FOR 1365 CFM 1365 ATE TUATO SIZE H HE ISTI ERMIN CTO DIF	S.P. IN. S.P. IN. W.C. 0.50 ED C PR LOCA IGHT 12 12 12 8 ERS ERS	60 ONTROL. ONTROL. OCONTROL. OCONTROL. DIA. INCHES 13.1 OAMP ATION ANE CFM MAX. I 1365 1375 860 CFM MAX. I 1365 1375 860 CFM MAX. I 1365 1375 860 CFM MAX. I 1365 1375 860 CFM MAX. I 1365 1375 860 CFM MAX. I 1365 1375 860 CFM MAX. I 1365 1375 860 CFM MAX. I 1365 1375 860 CFM MAX. I 1375 860 CFM MAX. I 1375 860 CFM MAX. I 1375 860 CFM MAX. I 1375 860 CFM MAX. I 1375 860 CFM MAX. I 1375 860 CFM MAX. I 1375 13	30       DL.       FAN RPM (NOTE F)       1480       PER SC       0	DRIVE     M       TYPE     SC       DIRECT     SC       DIRECT     SC       HEDUIREME       BLADE       IGURATION       POSED	AX. MCA E DNES D/ 12 LE NTS WIT BL/ ORIEN HORIZ HORIZ HORIZ HORIZ HORIZ	0.5 ACKDRAF AMPER TY ELECTRIC TATION ONTAL ONTAL ONTAL ONTAL ONTAL ONTAL ONTAL ONTAL ONTAL	FT CL PE (I PE (I C) RATUR INSUL Ye Ye Ye	IRB T NOTE NA E COM	115 YPE G) BH 0.2 VTROL C ACTUA (N EL EL	P MHF B 0.5 ONTRA ATOR TY OTE 1) ECTRIC ECTRIC ECTRIC		LTAGE 115		MFR ASES 1 DR TION TION	RICAL DI B' (NOT MF
RAME GFS-1 FAN NOTES: 1.REFER 2.PROVID TAG NAME EF-1 NOTES: 1.COORD TAG NAME MOD-1 MOD-2 MOD-3 MOD-3 GRIL NOTES: 1.CONTR/ 2.ALL RUN TAG NAME I.CONTR/ 2.ALL RUN	VRF SYST SCHE TO 2/M402 E WITH 0- AREA SEI GARAG SHOP OR O NATE DAM AREA SERVED EF-1 MAU-1 DOAS-1 ILES I ACTOR SH OUT DUC MATERIAL STEEL LUMINIUW	EM FOR EX IOV INPI EVED ALL DET TWORK PER ALL DET TWORK CO 20 CO CO 20 CO CO 20 CO CO CO CO CO CO CO CO CO CO	55.0 -E (HAUST JT FOR 1365 CFM 1365 ATE TUATO SIZE H HE ISTI CREMIN CREATE CREATE CREATE	S.P. IN. S.P. IN. W.C. 0.50 ED C PR LOCA IGHT 12 12 12 12 8 ERSS ERSS E PROP FUSER	60           ONTROL.           CONTROL           CONTROL           DIA.           INCHES           13.1           DAMP           TION ANE           CFM           MAX.           1365           1375           860           ER MARG           S SHALL           VER MARG           CE L/           TION           TION	30       DL.       FAN RPM (NOTE F)       1480       PER SC       0	DRIVE TYPE       M A SC         DIRECT       Image: Sc         DIRECT       Image: Sc         HEDUIR       Image: Sc         BLADE IGURATION       Image: Sc         POSED       Image: Sc         Image: Sc       Image: Sc         Image: Sc <t< td=""><td>AX. MCA DNES D/ 12 LE NTS WIT BL/ ORIEN HORIZ</br></br></br></br></td><td>0.5  ACKDRAF AMPER TY ELECTRIC ELECTRIC ONTAL ON</td><td>The second secon</td><td>IRB T' NOTE NA E COM S S S S S S S S S S S S S S S S S S S</td><td>115 YPE G) BH 0.2 VTROL C ACTUA (N EL EL EL EL MANUFA TIT TIT</td><td>P MHF B 0.5 ONTRA ATOR T OTE 1) ECTRIC ECTRIC ECTRIC ECTRIC ECTRIC ECTRIC ECTRIC ECTRIC ECTRIC</td><td>1 <b>VOI</b> CTOR <b>YPE</b> <b>R</b> MC F 3</td><td>LTAGE 115 TWO TWO TWO TWO TWO TWO TWO TWO TWO TWO</td><td></td><td>MFR ASES 1 DR TION TION</td><td>RICAL DI B' (NOT MF</td></t<>	AX. MCA DNES D/ 12 LE NTS WIT BL/ ORIEN 	0.5  ACKDRAF AMPER TY ELECTRIC ELECTRIC ONTAL ON	The second secon	IRB T' NOTE NA E COM S S S S S S S S S S S S S S S S S S S	115 YPE G) BH 0.2 VTROL C ACTUA (N EL EL EL EL MANUFA TIT TIT	P MHF B 0.5 ONTRA ATOR T OTE 1) ECTRIC ECTRIC ECTRIC ECTRIC ECTRIC ECTRIC ECTRIC ECTRIC ECTRIC	1 <b>VOI</b> CTOR <b>YPE</b> <b>R</b> MC F 3	LTAGE 115 TWO TWO TWO TWO TWO TWO TWO TWO TWO TWO		MFR ASES 1 DR TION TION	RICAL DI B' (NOT MF
NAME GFS-1 FAN NOTES: 1.REFER 2.PROVID TAG NAME EF-1 NOTES: 1.COORD TAG NAME MOD-1 MOD-2 MOD-3 GRIL NOTES: 1.CONTR/ 2.ALL RUN TAG NAME I EG-1 EG-2 EG-3 RG-1	VRF SYST SCHE TO 2/M402 E WITH 0- AREA SEF GARAG SHOF OR O NATE DAN AREA SERVED EF-1 MAU-1 DOAS-1 EF-1 MAU-1 DOAS-1 EF-1 MAU-1 DOAS-1	EM FOR EX IOV INPI RVED & PER IPER AC IPER AC IPER AC INDI 18 20 20 REG ALL DET TWORK ALL DET TWORK ALL DET TWORK ALL DET TWORK	55.0 <b>LE</b> (HAUST JT FOR <b>CFM</b> 1365 <b>ATE</b> TUATO <b>SIZE</b> H HE <b>DISTI</b> ERMIN TO DIF <b>ERMIN</b> TO DIF <b>CFM</b> <b>ISTI</b> <b>CFM</b> <b>ISTI</b>	S.P. IN. S.P. IN. W.C. 0.50 ED C BR LOCA IGHT 12 12 12 8 ERS ERS ERS ERS ERS	60 ONTROL. OCONTROL.	30       DL.       FAN RPM       NOTE F)       1480       PER SC       OMOUNTING       MIN.       CONF       0 <td>DRIVE TYPE       M A SC         DIRECT       I         HEDUI       I         REQUIREME       I         BLADE IGURATION       I         POSED       I         POSED       I         POSED       I         POSED       I         POSED       I         POSED       I         I       I<td>AX. MCA E DNES D/ 12 12 LE NTS WIT BL/ ORIEN HORIZ HORIZ HORIZ HORIZ HORIZ HORIZ HORIZ HORIZ HORIZ HORIZ HORIZ HORIZ HORIZ HORIZ HORIZ HORIZ</br></br></br></br></td><td>0.5  ACKDRAF</td><td>FT CL PE (I PE (I C) RATUR INSUL Ye Ye Ye Ye Ye Ye Ye Ye Ye Ye Ye Ye Ye</td><td>IRB T NOTE NA E CON S S S S</td><td>115         YPE         G)       BH         0.2         NTROL C         ACTUA         EL         EL         EL         EL         EL         EL         TIT         TIT         TIT         TIT         TIT         TIT         TIT</td><td>P MHF 3 0.5 ONTRA ATOR TY OTE 1) ECTRIC ECTRIC ECTRIC ECTRIC US US US</td><td>1 VOI CTOR YPE R MC F 3 3 F</td><td>LTAGE 115 - - - - - - - - - - - - - - - - - -</td><td></td><td>MFR LECT ASES 1 DR TION TION TION TION TION TION</td><td>RICAL DI B' (NOT MF NORI NORI NORI</td></td>	DRIVE TYPE       M A SC         DIRECT       I         HEDUI       I         REQUIREME       I         BLADE IGURATION       I         POSED       I         POSED       I         POSED       I         POSED       I         POSED       I         POSED       I         I       I <td>AX. MCA E DNES D/ 12 12 LE NTS WIT BL/ ORIEN HORIZ HORIZ HORIZ HORIZ HORIZ HORIZ HORIZ HORIZ HORIZ HORIZ HORIZ HORIZ HORIZ HORIZ HORIZ HORIZ</br></br></br></br></td> <td>0.5  ACKDRAF</td> <td>FT CL PE (I PE (I C) RATUR INSUL Ye Ye Ye Ye Ye Ye Ye Ye Ye Ye Ye Ye Ye</td> <td>IRB T NOTE NA E CON S S S S</td> <td>115         YPE         G)       BH         0.2         NTROL C         ACTUA         EL         EL         EL         EL         EL         EL         TIT         TIT         TIT         TIT         TIT         TIT         TIT</td> <td>P MHF 3 0.5 ONTRA ATOR TY OTE 1) ECTRIC ECTRIC ECTRIC ECTRIC US US US</td> <td>1 VOI CTOR YPE R MC F 3 3 F</td> <td>LTAGE 115 - - - - - - - - - - - - - - - - - -</td> <td></td> <td>MFR LECT ASES 1 DR TION TION TION TION TION TION</td> <td>RICAL DI B' (NOT MF NORI NORI NORI</td>	AX. MCA E DNES D/ 12 12 LE NTS WIT BL/ ORIEN 	0.5  ACKDRAF	FT CL PE (I PE (I C) RATUR INSUL Ye Ye Ye Ye Ye Ye Ye Ye Ye Ye Ye Ye Ye	IRB T NOTE NA E CON S S S S	115         YPE         G)       BH         0.2         NTROL C         ACTUA         EL         EL         EL         EL         EL         EL         TIT         TIT         TIT         TIT         TIT         TIT         TIT	P MHF 3 0.5 ONTRA ATOR TY OTE 1) ECTRIC ECTRIC ECTRIC ECTRIC US US US	1 VOI CTOR YPE R MC F 3 3 F	LTAGE 115 - - - - - - - - - - - - - - - - - -		MFR LECT ASES 1 DR TION TION TION TION TION TION	RICAL DI B' (NOT MF NORI NORI NORI
NAME GFS-1 FAN NOTES: 1.REFER 2.PROVID TAG NAME EF-1 MOD-1 MOD-2 MOD-3 TAG NAME MOD-1 MOD-2 MOD-3 TAG NAME MOD-1 MOD-2 MOD-3	VRF SYST SCHE TO 2/M402 E WITH 0- AREA SEF GARAG SHOP OR O NATE DAN AREA SERVED EF-1 MAU-1 DOAS-1 EF-1 MAU-1 DOAS-1 LES I	EM FOR EX IOV INPI EVED E & PER IPER AC IPER AC IPER AC INDI I	55.0 <b>JE</b> (HAUST JT FOR <b>CFM</b> 1365 <b>ATE</b> <b>ATE</b> <b>TUATO</b> <b>SIZE</b> <b>H HE</b> <b>ISTI</b> <b>CFM</b> <b>ISTI</b> <b>CFM</b> <b>ISTI</b> <b>CFM</b> <b>ISTI</b> <b>CFM</b> <b>ISTI</b> <b>CFM</b> <b>ISTI</b> <b>CFM</b> <b>ISTI</b> <b>CFM</b> <b>ISTI</b> <b>CFM</b> <b>ISTI</b> <b>CFM</b> <b>ISTI</b> <b>CFM</b> <b>ISTI</b> <b>CFM</b> <b>ISTI</b> <b>CFM</b> <b>ISTI</b> <b>CFM</b> <b>ISTI</b> <b>CFM</b> <b>ISTI</b> <b>CFM</b> <b>ISTI</b> <b>ISTI</b> <b>CFM</b> <b>ISTI</b> <b>CFM</b> <b>ISTI</b> <b>CFM</b> <b>ISTI</b> <b>CFM</b> <b>ISTI</b> <b>CFM</b> <b>ISTI</b> <b>CFM</b> <b>ISTI</b> <b>CFM</b> <b>ISTI</b> <b>CFM</b> <b>ISTI</b> <b>CFM</b> <b>ISTI</b> <b>ISTI</b> <b>CFM</b> <b>ISTI</b> <b>CFM</b> <b>ISTI</b> <b>CFM</b> <b>ISTI</b> <b>ISTI</b> <b>CFM</b> <b>ISTI</b> <b>CFM</b> <b>ISTI</b> <b>CFM</b> <b>ISTI</b> <b>CFM</b> <b>ISTI</b> <b>CFM</b> <b>ISTI</b> <b>CFM</b> <b>ISTI</b> <b>CFM</b> <b>ISTI</b> <b>CFM</b> <b>ISTI</b> <b>CFM</b> <b>ISTI</b> <b>CFM</b> <b>ISTI</b> <b>CFM</b> <b>ISTI</b> <b>CFM</b> <b>ISTI</b> <b>CFM</b> <b>ISTI</b> <b>CFM</b> <b>ISTI</b> <b>CFM</b> <b>ISTI</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b> <b>CFM</b>	S.P. 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MCA PNES D/ 12 LE NTS WIT BL/ ORIEN HORIZ HORIZ HORIZ HORIZ HORIZ HORIZ HORIZ HORIZ HORIZ HORIZ HORIZ HORIZ HORIZ ET +2 ET +2 ET +2 ET +2	0.5  ACKDRAF AMPER TY ELECTRIC ELECTRIC ONTAL ON	T CL PE (I PE (I C) RATUR INSUL Ye Ye Ye Ye Ye Ye Ye Ye Ye Ye Ye Ye Ye	IRB TY NOTE NA E CON S S S S S S S S S S S S S S S S S S S	115         YPE         G)         BH         0.2         NTROL C         ACTUA         EL         EL         EL         EL         EL         EL         TIT         TIT         TIT         TIT         TIT         TIT	P MHF B 0.5 ONTRA ATOR T' OTE 1) ECTRIC ECTRIC ECTRIC ECTRIC US US US US US	1 VOI CTOR YPE R MC F 3 3 F T	LTAGE 115		MFR ASES 1 DR TION TION TION TION TION TION TION TION TION TION TION	RICAL DI B' (NOT MF NORI NORI NORI NORI
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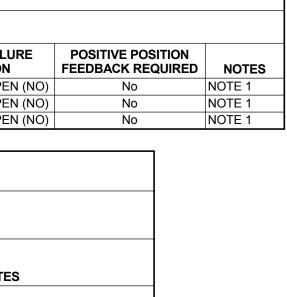
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W.C.		ГҮРЕ				NOTE A		E B)	(NOTE A)	(NOTE C)	TYPE			I °F	°F	°F °I	= A	PD CF	M W.	C.	TYPE			M BHP MH	IP	BY	TYPE	START	ED BY	TYPE					
1.8	ED PLE	ARD-INCLIN NUM (TWIN)	3050	0.8	1.06	6 MFR	NF		MFR	FV	MERV 8	3 3	845	72	67	70 6	3   (	0.6 84	5   1.	2   B/   El	ACKWARD D PLENUM	I (TWIN)	305	0 0.8 1.0	06 1	MFR	NF	MF	·R	FV					
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					DISCONNECT CONTROLLER/		MANUFACTUR			
VOLTAGE	PHASES	FLA	MCA	MOCP	BY (NOTE A)	BY (NOTE A)	ER	MODEL	REMARKS	
208	3	33.9	29.0	50	EC	MFR	MITSUBISHI	PQRY-P120TLMU-A	NOTES 1,2,3	
208	3	15	13.0	20	EC	MFR	MITSUBISHI	PQRY-P72TLMU-A	NOTES 1,2,3	

IECT	CONTROLL	ER/ STARTER			
TYPE NOTE B)	BY (NOTE A)	TYPE (NOTE C)	MANUFACTURER	MODEL	NOTES
VFD	M.C.	VFD	B & G	1510 SERIES	NOTES 1, 2
VFD	M.C.	VFD	B & G	1510 SERIES	NOTES 1, 2

NTROLLER/ TARTER		MODEL	
(NOTE A)	MANUFACTURER	(NOTE 1)	NOTES
MFR	B & G	GMU-30	NOTE 1

)					
ст		OLLER/ RTER			
YPE TE B)	BY (NOTE A)	TYPE (NOTE C)	MANUFACTURER	MODEL	REMARKS
NF	MFR	ECM	GREENHECK	SQI	NOTE 1, 2



ACE. MINIMUM OF TWO

NES NOTED OTHERWISE

STARTER 1						REMA					
-	SE WIDTH M					SA - S	TANDARD AC	CESSORIE	8	TA - TWO C	ONVERTIBLE AUXILIARY CONTACTS
12PWM - 12	PULSE PWN	Л				(	NCLUDES * IT	FEMS)		ISO - ISOLA	TION TRANSFORMER
	PULSE PWN	Л					MANUAL SPE				P FREQUENCY CAPABILITY
LINE DISCO							LECTRONIC				DTE START-STOP
	NNECT SWIT	-							R, FUSED, 120V	RDR - REMO	OTE DRIVE RUN
		ECT SWITCH					IAND-OFF-AL				DTE FAULT TRIP
CB - CIRCU	IT BREAKER					TO - M	ELTING THE	RMAL OVER	LOADS	LR - INPUT	LINE REACTOR
CONTROL:						MOL -	MULTIPLE M	OTOR OVEF	RLOADS	HAR - PASS	SIVE HARMONIC FILTER
PN - 3-15 P	SI TRANSDU	CER									
420 - 4-20m	A FOLLOWE	R									
					VOLTAGE			IVE	_		
ITEM	LINE DISC.	DRIVE BYPASS	CONTROL	INPUT	OUTPUT	PH.	H.P. RATING	TYPE	NEMA ENCLOSURE	REMARKS	APPROVED MANUFACTURERS
/FD-MAU1	DS	3 CONTACT	420 PN	208 V	208 V	3	1	PWM	1	SA, VARIABLE TORQUE	TOSHIBA Q9 SERIES ABB ACH 550 SERIES ALLEN BRADLEY POWERFLEX 40 SERIES DANFOSS VLT6000 SERIES G.E. AF300 P11 SERIES SQUARE D [E-FLEX] [M-FLEX]
VFD-P1	DS	3 CONTACT	420 PN	208 V	208 V	3	5	PWM	1	SA, VARIABLE TORQUE	TOSHIBA Q9 SERIES ABB ACH 550 SERIES ALLEN BRADLEY POWERFLEX 40 SERIES DANFOSS VLT6000 SERIES G.E. AF300 P11 SERIES SQUARE D [E-FLEX] [M-FLEX]
VFD-P2	DS	3 CONTACT	420 PN	208 V	208 V	3	5	PWM	1	SA, VARIABLE TORQUE	TOSHIBA Q9 SERIES ABB ACH 550 SERIES ALLEN BRADLEY POWERFLEX 40 SERIES DANFOSS VLT6000 SERIES G.E. AF300 P11 SERIES SQUARE D [E-FLEX] [M-FLEX]

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## Project Madison Public Library Maintenance & Support Center Remodel & Addition

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- ELECTRICAL ENGINEER KJWW Engineering Consultants 1800 Deming Way Middleton, WI 53562 P. 608.223.9600

Key Plan

## Sheet Issue Date

Bid Set 12/09/2016 Previous Issue Dates

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Revision Dates \_\_\_\_\_

Drawing SCHEDULES -MECHANICAL

OPN Project No. 15617000 M501

	ELEC	CTRICAL	SYMBOL LIST		ELECTRICAL EQUIPMENT TAGS	
SYMBO	DL: TAG:	SPEC SECTION:	DESCRIPTION:	TAG:	DESCRIPTION:	REL SPECIF
	PANEL '###'	26 24 16	PANELBOARD - RECESS MOUNT	<u>DP-#</u>	DISTRIBUTION PANEL	26 26
				<u>F#</u> FAP-#	FIRE ALARM - CONTROL PANEL	20
	PANEL '###'	26 24 16		SPD-#	SURGE PROTECTION DEVICE	26
S	<u>SW-1P</u>	26 27 26	SWITCH - SINGLE POLE	<u>LC-#</u>	LIGHTING CONTACTOR, REFER TO CONTACTOR SCHEDULE	2
S <sub>3</sub>	<u>SW-3W</u> <u>SW-OC-P-0</u>	26 27 26 26 27 26	SWITCH - THREE WAY SWITCH - OCCUPANCY SENSOR WALL SWITCH	<u>PP-1</u>	POWER POLE	2
S <sub>0</sub>		26 27 26	SWITCH - DIMMER	<u>MC-1</u>	METER CABINET	2
D E	<u>SW-D-LED</u>					
Ē	<u>ECONN</u>	26 05 33	ELECTRICAL CONNECTION			
	<u>DS-#</u>	26 28 16	DISCONNECT			
=	REC-DUP	26 27 26	DUPLEX RECEPTACLE, 125V			
*	REC-DUP-GFI	26 27 26	DUPLEX GFI RECEPTACLE, 125V			
≠	REC-QUAD	26 27 26	QUAD RECEPTACLE, 125V			
₩₩	REC-DUP-WP	26 27 26	DUPLEX GFI WEATHERPROOF RECEPTACLE 125V			
LS	<u>SW-LS</u>	26 27 26	DAYLIGHT LEVEL SENSOR			
	SW-OC-D	26 27 26	OCCUPANCY SENSOR - DUAL TECHNOLOGY			
	HB <u>SW-OC-P-HB</u>	26 27 26	OCCUPANCY SENSOR - HIGH BAY			
	<u>SW-OC-P-P</u>	26 27 26	OCCUPANCY SENSOR - PASSIVE INFRARED			
PC	SW-LS-PC	26 27 26	360 DEGREE COVERAGE PHOTOCELL			
	<u>LC-1</u>	26 09 33	LIGHTING CONTACTOR			
ТС	<u>TC</u>	26 09 33	LIGHTING TIME CLOCK			
	<u>F#</u>	26 51 00	LINEAR LUMINAIRES			
	⊐ <u>F#</u>	26 51 00	LINEAR LUMINAIRES			
	<u>F#</u>	26 51 00	TROFFER			
	<u>F#</u>	26 51 00	DOWNLIGHT LUMINAIRE			
		26 51 00	INDUSTRIAL LUMINAIRE			
		26 51 00	POLE MOUNTED LUMINARE			
	<u>×#</u>	26 51 00	SINGLE FACE EXIT SIGN			
	<u>X#</u>	26 51 00	DOUBLE FACE EXIT SIGN			
	<u>EM#</u>	26 51 00	EMERGENCY UNIT			
	<u>FAP-100</u>	28 31 00	FIRE ALARM CONTROL PANEL			
MM	<u>FA-160</u>	28 31 00	FIRE ALARM ADDRESSABLE MONITOR MODULE			
A	<u>FA-230</u>	28 31 00	FIRE ALARM AUDIO NOTIFICATION DEVICE - CEILING MOUNTED			
(A1) (A3) (A7) (A+	AS <u>FA-231</u>	28 31 00	FIRE ALARM AUDIO/VISUAL NOTIFICATION DEVICE - CEILING MOUNTED			
A1 A A7 A AS	ΕΔ-211	28 31 00	FIRE ALARM AUDIO/VISUAL NOTIFICATION DEVICE - WALL MOUNTED			
(FS)	<u>FA-260</u>	28 31 00	FIRE ALARM FLOW SWITCH TO MONITOR FIRE PROTECTION SYSTEM			
MS	<u>FA-261</u>	28 31 00	FIRE ALARM MONITOR SWITCH TO MONITOR FIRE PROTECTION SYSTEM			
EB	<u>FA-263</u>	28 31 00	FIRE ALARM ELECTRONIC BELL FOR SPRINKLER SYSTEM			
V1 V V7 V		28 31 00	FIRE ALARM VISUAL NOTIFICATION DEVICE - WALL MOUNTED			
ГІВТ		26 05 26	INTERSYSTEM BONDING TERMINATION			
D	SW-D-LED	26 05 26	DIMMER - LED			
		26 27 26	DIMMER - LED DIMMER - LED - 3-WAY			
D <sub>3</sub>						
AF	-	28 31 00	FIRE ALARM ADDRESSABLE RELAY			
F	<u>FA-130</u>	28 31 00	FIRE ALARM MANUAL PULL STATION			

## SUGGESTED MATRIX OF RESPONSIBILITY

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<u>SUGGESTED IVIA</u>			NJIDILII	I
ITEM:	SHOWN ON:	FURNISHED BY:	INSTALLED BY:	NOTES:
TECHNOLOGY ROUGH-IN, REFER TO GENERAL TECHNOLOGY EQUIPMENT SCHEDULE AND SPECIFICATIONS FOR DEFINITION	T-SERIES	E.C.	E.C.	3. 4.
INFORMATION OUTLET FACEPLATES, JACKS, AND TERMINATIONS	T-SERIES	T.C.	T.C.	
CONDUIT SLEEVES (WHEN SHOWN ON DRAWINGS)	T-SERIES	E.C.	E.C.	
CONDUIT SLEEVES (NOT SHOWN BUT REQUIRED FOR PROPER INSTALLATION OF SYSTEM)	N/A	T.C.	T.C.	2. 4.
TELECOMMUNICATION SYSTEMS ROUGH-IN	T-SERIES	E.C.	E.C.	1.
TELECOMMUNICATION EQUIPMENT, CABLING, AND TERMINATIONS	T-SERIES	T.C.	T.C.	
GROUNDING LUGS ON TECHNOLOGY EQUIPMENT	T-SERIES	T.C.	E.C.	6.
BONDING SYSTEM FOR TECHNOLOGY SYSTEM, REFER TO SPECIFICATION SECTION 27 05 26 FOR DEFINITION	T-SERIES	E.C.	E.C.	7. 8.
CONNECTION OF TECHNOLOGY BONDING SYSTEM TO THE ELECTRICAL GROUND SYSTEM	T-SERIES	E.C.	E.C.	
LINE VOLTAGE POWER (+120V OR GREATER)	E-SERIES	E.C.	E.C.	
LINE VOLTAGE POWER (NOT SHOWN BUT REQUIRED FOR PROPER INSTALLATION OF SYSTEM)	N/A	T.C.	E.C.	2. 4.
LINE VOLTAGE POWER FOR DOOR HARDWARE POWER SUPPLIES	ARCH SPEC	E.C.	E.C.	
LOW VOLTAGE CABLING FOR TECHNOLOGY SYSTEMS	T-SERIES	T.C.	T.C.	
CABLE HANGERS AND SUPPORTS OR OTHER CABLE ROUTING METHODS (OTHER THAN CONDUIT AND CABLE TRAY)	T-SERIES	T.C.	T.C.	5.
TECHNOLOGY SERVICE ENTRANCE CONDUITS, HANDHOLES.	T-SERIES	E.C.	E.C.	

SUGGESTED MATRIX OF RESPONSIBILITY NOTES

- LOCATIONS OF COMMUNICATIONS ROUGH-INS SHALL BE INDICATED BY THE INFORMATION OUTLET SYMBOLS ON THE DRAWINGS. REFER TO THE TECHNOLOGY SYMBOL LIST FOR ADDITIONAL INFORMATION.
- BASED ON THE INHERENT DIFFERENCES IN PRODUCTS FROM VARIOUS MANUFACTURERS, ALL REQUIRED EQUIPMENT MAY NOT BE SHOWN ON THE DRAWINGS FOR ALL ACCEPTABLE MANUFACTURERS.
- INCLUDES BACKBOXES AND CONDUIT REQUIRED FOR THE TECHNOLOGY SYSTEMS INSTALLATION. THE E.C. SHALL BASE THE BID ON THE BASIS OF DESIGN SHOWN ON THE
- CONTRACT DOCUMENTS. ALL CHANGES TO THE SLEEVES, BACKBOXES, CONDUITS, AND POWER REQUIRED BECAUSE OF THE T.C.'S SELECTION OF AN ALTERNATE ACCEPTABLE MANUFACTURER OR FROM SYSTEM CONFIGURATIONS THAT ARE LEFT TO THE CHOICE OF THE CONTRACTOR SHALL BE INCLUDED IN THE T.C.'S BID.
- UNLESS TRADE RULES DICTATE OTHERWISE. FURNISHED AS PART OF THE EQUIPMENT WHEN POSSIBLE, OR FURNISHED TO THE E.C. FOR INSTALLATION IN THE FIELD.
- INCLUDES ALL CONDUCTORS, GROUND BARS, AND TERMINATIONS FOR THE COMPLETE BONDING SYSTEM REQUIRED BY THE SPECIFICATIONS.
- REFER TO ELECTRICAL DRAWINGS FOR LOCATIONS OF PANELS AND SWITCHBOARDS SHOWN IN THE TECHNOLOGY BONDING RISER DIAGRAM AND TYPICAL TELECOM ROOM BONDING FLOW DIAGRAM.

## **ELECTRICAL SHEET INDEX**

E000	ELECTRICAL COVER SHEET
E050	SITE PLAN - ELECTRICAL
ELD101.1	FIRST FLOOR DEMOLITION - LIGHTING
EPD101.1	FIRST FLOOR DEMOLITION - POWER
EL101.1	FIRST FLOOR - LIGHTING
EP101.1	FIRST FLOOR - POWER
ES101.1	FIRST FLOOR - FIRE ALARM
E400	ONE LINE DIAGRAM
E500	ELECTRICAL SCHEDULES
E501	ELECTRICAL SCHEDULES

17	18	19	20	I	21

**ELECTRICAL GENERAL NOTES:** 

##-### INDICATES ELECTRICAL EQUIPMENT DEFINED IN ELECTRICAL SCHEDULES OR SPECIFICATION.



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REFER TO DRAWINGS CONTAINING ELECTRICAL SCHEDULES. PERMANENT NAMEPLATE SHALL MATCH FINAL EQUIPMENT NOMENCLATURE, NOT ELECTRICAL EQUIPMENT TAG NAME, REFER TO SPECIFICATIONS. 2. "NL" INDICATES LUMINAIRE IS UNSWITCHED FOR NIGHT LIGHT.

LUMINAIRE KEY: F1 = FIXTURE TAG 1 = CIRCUIT NUMBER a = SWITCH DESIGNATION LUMINAIRE NL = SUBSCRIPT (IF APPLICABLE) \*IF LABEL IS ORIENTED HORIZONTALLY A SLASH WILL SEPARATE THIS INFORMATION. EX: F1 / 1 / a / NL DEVICE KEY: A = MOUNTING (IF APPLICABLE) DEVICE **P** 1 = CIRCUIT NUMBER

\*IF LABEL IS ORIENTED HORIZONTALLY A SLASH WILL SEPARATE THIS INFORMATION. EX: A / 1

ELECTRICAL MOUNTING SUBSCRIPT KEY: MOUNT AT +6" TO CENTERLINE ABOVE COUNTER OR BACKSPLASH

## **ELECTRICAL INSTALLATION NOTES:**

- 1. THE COMPLETE INSTALLATION SHALL BE IN ACCORDANCE WITH THE ADA STANDARDS FOR ACCESSIBLE DESIGN. REFER TO THE ADA GUIDELINES FOR ALL CONFIGURATIONS DETAIL ON THIS PAGE FOR ADDITIONAL INFORMATION.
- 2. CIRCUIT NUMBERS ARE SHOWN FOR CIRCUIT IDENTIFICATION. CIRCUITING SHALL AGREE WITH NUMBERING ON THE PANEL PROVIDED. COMMON NEUTRALS MAY NOT BE USED FOR BRANCH CIRCUITS. BALANCE THE LOAD ON PANEL AS EVENLY AS POSSIBLE BETWEEN EACH PHASE.
- CIRCUITS SERVING EMERGENCY AND EXIT LUMINAIRES WILL BE RUN IN A SEPARATE RACEWAY FROM ALL OTHER CIRCUITS. 4. FLUSH MOUNT ALL LIGHTING CONTROL DEVICES AT +42" FROM FLOOR (CENTERLINE DIMENSION),
- EXCEPT WHERE OTHERWISE NOTED. DEVICES MAY BE SURFACE MOUNTED WHEN CONDUIT IS SPECIFIED EXPOSED. 5. FLUSH MOUNT ALL DUPLEX RECEPTACLES AND TECHNOLOGY OUTLETS AT +18" FROM FLOOR
- (CENTERLINE DIMENSION), EXCEPT WHERE OTHERWISE NOTED. RECEPTACLES AND OUTLETS MAY BE SURFACE MOUNTED WHEN CONDUIT IS SPECIFIED EXPOSED. ALL MATERIALS USED TO SEAL PENETRATIONS OF FIRE RATED WALLS AND FLOORS SHALL BE
- TESTED AND CERTIFIED AS A SYSTEM PER ASTM E814 STANDARDS FOR FIRE TESTS OF THROUGH-PENETRATION FIRESTOPS. REFER TO ARCHITECTURAL SPECIFICATIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS SPECIFIC TO FIRESTOPPING. CONNECTION FOR ELECTRIC WATER COOLERS (EWC) SHALL BE A JUNCTION BOX CONCEALED
- BEHIND WATER COOLER ACCESS PLATE OR BE A GFI RECEPTACLE LOCATED DIRECTLY BELOW AND CENTERED ON EWC. CONTRACTOR SHALL VERIFY TYPE OF EWC TO BE INSTALLED. 8. MOUNT ALL FIRE ALARM PULL STATIONS AT +42" FROM FLOOR (CENTERLINE DIMENSION) EXCEPT WHERE OTHERWISE NOTED.
- INSTALL ALL WALL MOUNTED FIRE ALARM NOTIFICATION DEVICES AT 90" ABOVE FINISHED FLOOR OR 6" BELOW THE CEILING, WHICHEVER IS LOWER, EXCEPT WHERE OTHERWISE NOTED. HEIGHT SHALL BE MEASURED TO THE TOP OF THE DEVICE.
- 10. CONTRACTOR SHALL COORDINATE THE LOCATION OF ALL CEILING MOUNTED DEVICES AND EQUIPMENT WITH LUMINAIRES, SPRINKLER, AND CEILING DIFFUSERS. CENTER ALL DEVICES IN CEILING TILE PATTERN. SMOKE DETECTORS AND OCCUPANCY/VACANCY SENSORS SHALL BE LOCATED NO CLOSER THAN 3 FEET TO AN AIR SUPPLY DIFFUSER OR RETURN GRILLE.
- 11. CONTRACTOR SHALL VERIFY ALL FURNITURE, MODULAR FURNITURE, AND EQUIPMENT LOCATIONS WITH ARCHITECTURAL PLANS, ELEVATIONS, AND REVIEWED SHOP DRAWINGS. PRIOR TO MAKING THE ACTUAL ELECTRICAL INSTALLATION, THIS CONTRACTOR SHALL ADJUST RECEPTACLES, OUTLETS, OR CONNECTION LOCATIONS TO ACCOMMODATE FURNITURE AND/OR EQUIPMENT. 12. ELECTRICAL AND TECHNOLOGY EQUIPMENT SHALL BE MOUNTED TO AVOID IMPEDANCE OF,
- OPERATION OF, AND/OR ACCESS TO ELECTRICAL AND MECHANICAL EQUIPMENT. ALL MOUNTING OF ELECTRICAL AND COMMUNICATIONSEQUIPMENT, ON EQUIPMENT SUPPLIED BY ANOTHER CONTRACTOR. SHALL BE APPROVED IN ADVANCE BY THE OTHER CONTRACTOR.
- 13. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL OPENINGS REQUIRED IN WALLS. ALL OPENINGS SHALL BE REPAIRED TO MATCH EXISTING BY A QUALIFIED CONTRACTOR AT THE EXPENSE OF THIS CONTRACTOR. ALL CONDUITS THROUGH WALLS SHALL BE GROUTED OR SEALED INTO OPENINGS. 14. CONTRACTOR SHALL REMOVE AND REINSTALL ALL CEILING TILES AS REQUIRED FOR THE EXECUTION OF ELECTRICAL WORK. CONTRACTOR SHALL REPLACE CEILING TILES WITH IDENTICAL MATERIAL WHERE DAMAGED BY THIS CONTRACTOR.
- 15. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN, ELECTRICAL, TECHNOLOGY AUDIO/VISUAL, AND OTHER ELECTRICAL PLANS FOR EXACT LOCATIONS OF ALL CEILING MOUNTED DEVICES, UTHER THAN SPRINKLERS.

## **ELECTRICAL RENOVATION NOTES:**

THESE NOTES APPLY TO ALL ELECTRICAL SHEETS AND TRADES. INCLUDING BUT NOT LIMITED TO, LIGHTING, POWER, AND SYSTEMS.

- 1. EXISTING CONDITIONS ARE SHOWN BASED ON INFORMATION OBTAINED FROM FIELD SURVEYS. EXISTING BUILDING DOCUMENTS, AND STAFF. VERIFY EXISTING CONDITIONS AND REPORT ANY CONFLICTS BEFORE PROCEEDING.
- NOT ALL EXISTING EQUIPMENT, LUMINAIRES, AND CONDUIT ARE SHOWN. VERIFY EXISTING CONDITIONS AND REPORT ANY CONFLICTS WITH NEW WORK BEFORE STARTING WORK. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR CUTTING, REMOVAL AND PATCHING OF ROOFS, WALLS, AND FLOORS ASSOCIATED WITH WORK BY ALL CONTRACTORS. CONTRACTORS SHALL
- NOTIFY THE GC OF AFFECTED AREAS PRIOR TO BIDDING. 4. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR REMOVAL AND REPLACEMENT OF CEILINGS, CEILING TILES, AND CEILING GRIDS ASSOCIATED WITH AREAS OF WORK BY ALL CONTRACTORS. NOTIFY THE GENERAL CONTRACTOR OF AFFECTED AREAS PRIOR TO BIDDING.
- WHERE EXISTING ELECTRICAL SYSTEMS ARE LOCATED IN AREAS THAT CONFLICT WITH NEW EQUIPMENT, PIPING, OR DUCTWORK TO BE INSTALLED, EACH CONTRACTOR SHALL EITHER ARRANGE NEW EQUIPMENT, CONDUIT, OR DUCTWORK IN SUCH A FASHION THAT IT DOES NOT CONFLICT WITH EXISTING SYSTEMS, OR REWORK EXISTING ELECTRICAL SYSTEMS TO ALLOW FOR INSTALLATION OF NEW EQUIPMENT, PIPING, OR DUCTWORK.

КЈ

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Key Plan

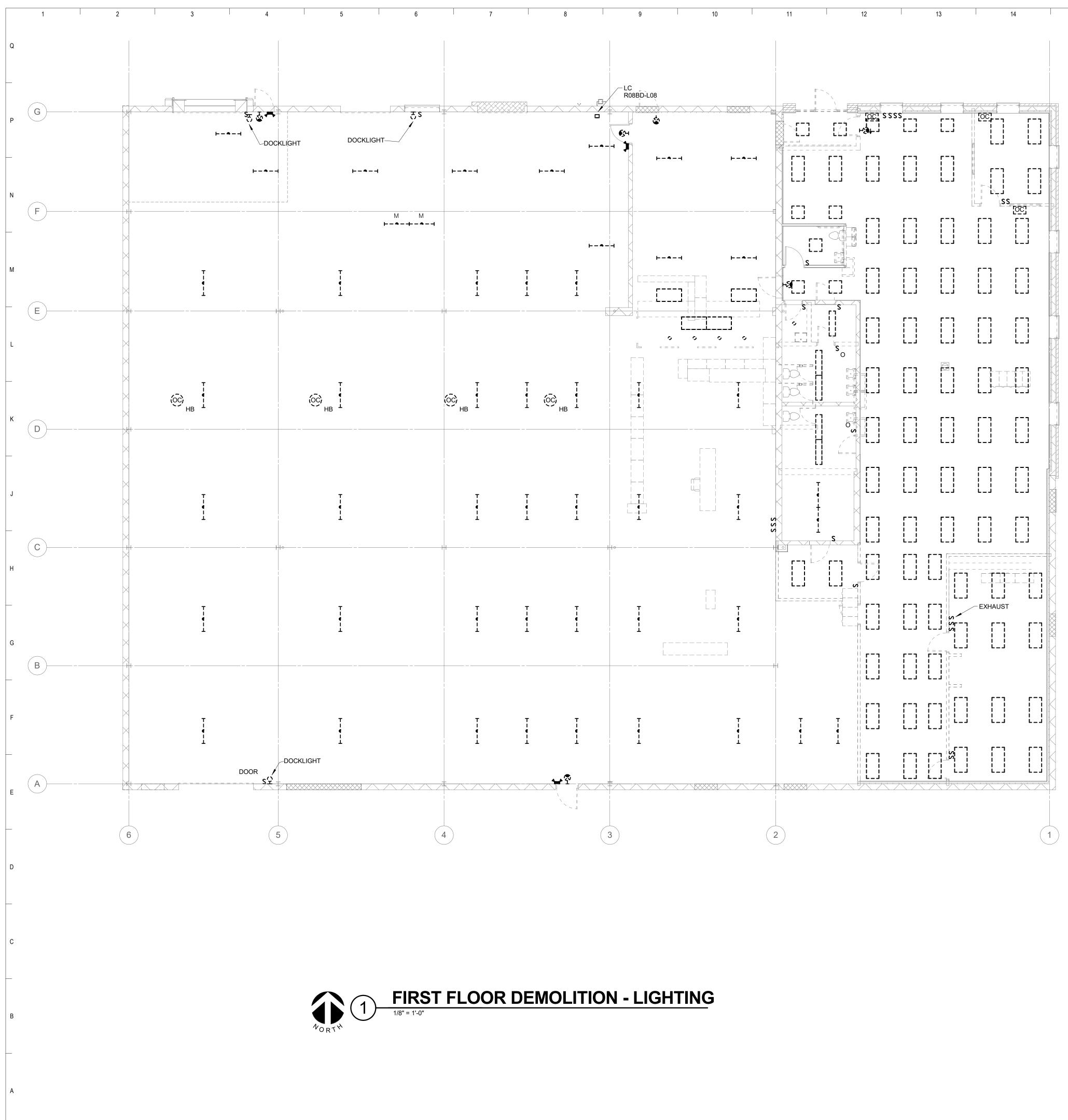
# Sheet Issue Date Bid Set 12/09/2016 Previous Issue Dates \_\_\_\_\_ Revision Dates \_\_\_\_\_ Drawing ELECTRICAL COVER SHEET OPN Project No. 15617000

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	KJWW Engineering Consultants 1800 Deming Way Middleton, WI 53562 P. 608.223.9600 ELECTRICAL ENGINEER KJWW Engineering Consultants 1800 Deming Way Middleton, WI 53562 P. 608.223.9600
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	Sheet Issue Date <u>Bid Set 12/09/2016</u>
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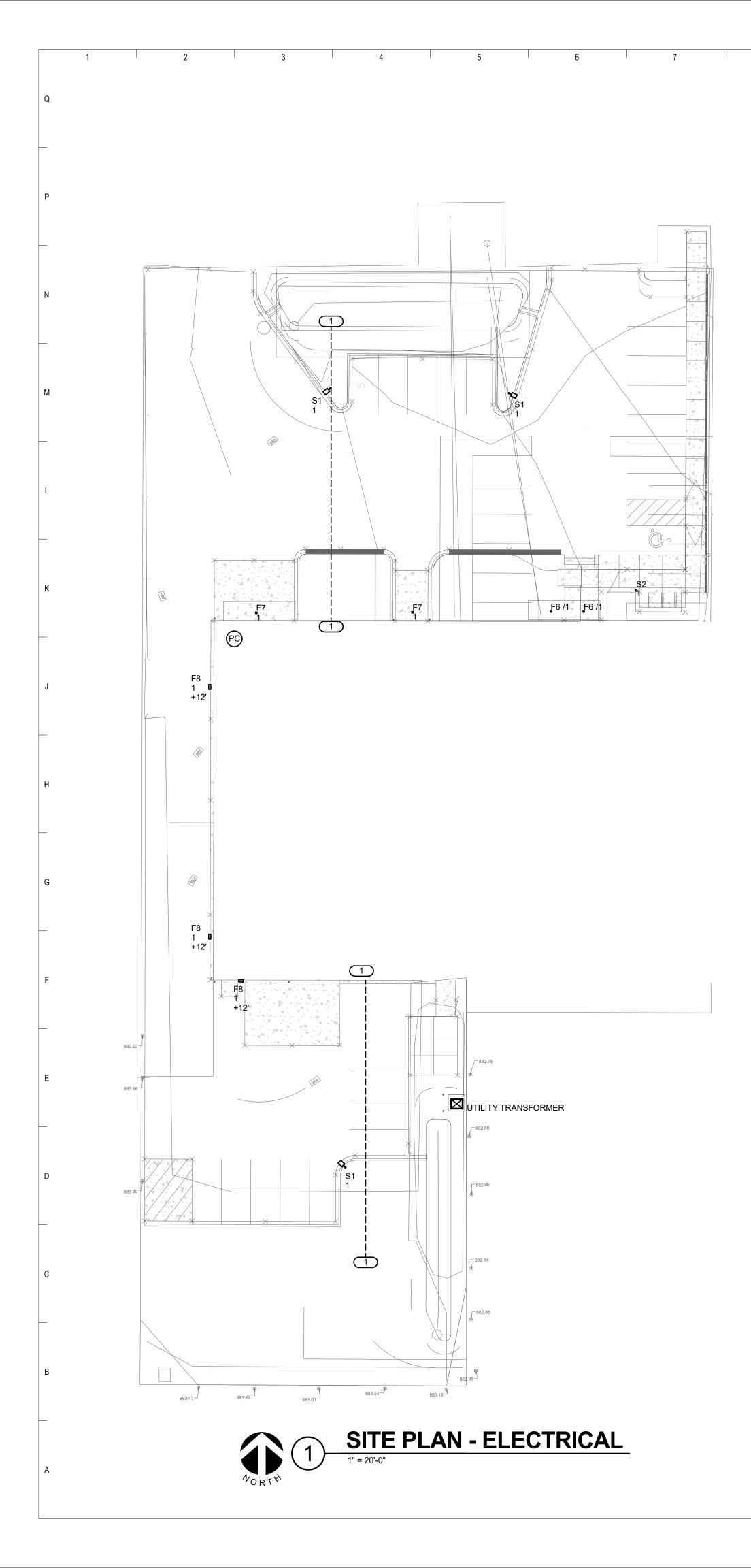
	ARCHITECTS CEDAR RAPIDS
	OPN ARCHITECTS 301 NORTH BROOM STREET MADISON, WI 53703 608-819-0260 PHONE 608-819-0260 FAX www.opnarchitects.com opn@opnarchitects.com
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	Project Madison Public Library Maintenance & Support Center Remodel & Addition 1301 West Badger Road Madison, WI 53713
	General Contractor
	Consultants CIVIL ENGINEER
	Snyder & Associates, Inc. 5010 Voges Road Madison, WI 53718 P. 608.838.0444 STRUCTURAL ENGINEER KJWW Engineering Consultants 1800 Deming Way Middleton, WI 53562 P. 608.223.9600
	MECHANICAL ENGINEER KJWW Engineering Consultants 1800 Deming Way Middleton, WI 53562 P. 608.223.9600 ELECTRICAL ENGINEER KJWW Engineering Consultants 1800 Deming Way Middleton, WI 53562 P. 608.223.9600
	Key Plan
	Bid Set         12/09/2016           Previous Issue Dates
K       J       ENGINEERING       1800 DEMING WAY SUITE 200         MIDDLETON, WISCONSIN 53562       608.223.9600       FAX: 608.836.0415         W       W       The FUTURE.       www.kjww.com         Built SMARTER <sup>®</sup> PROJECT # 16.0141.00	Drawing FIRST FLOOR DEMOLITION - POWER
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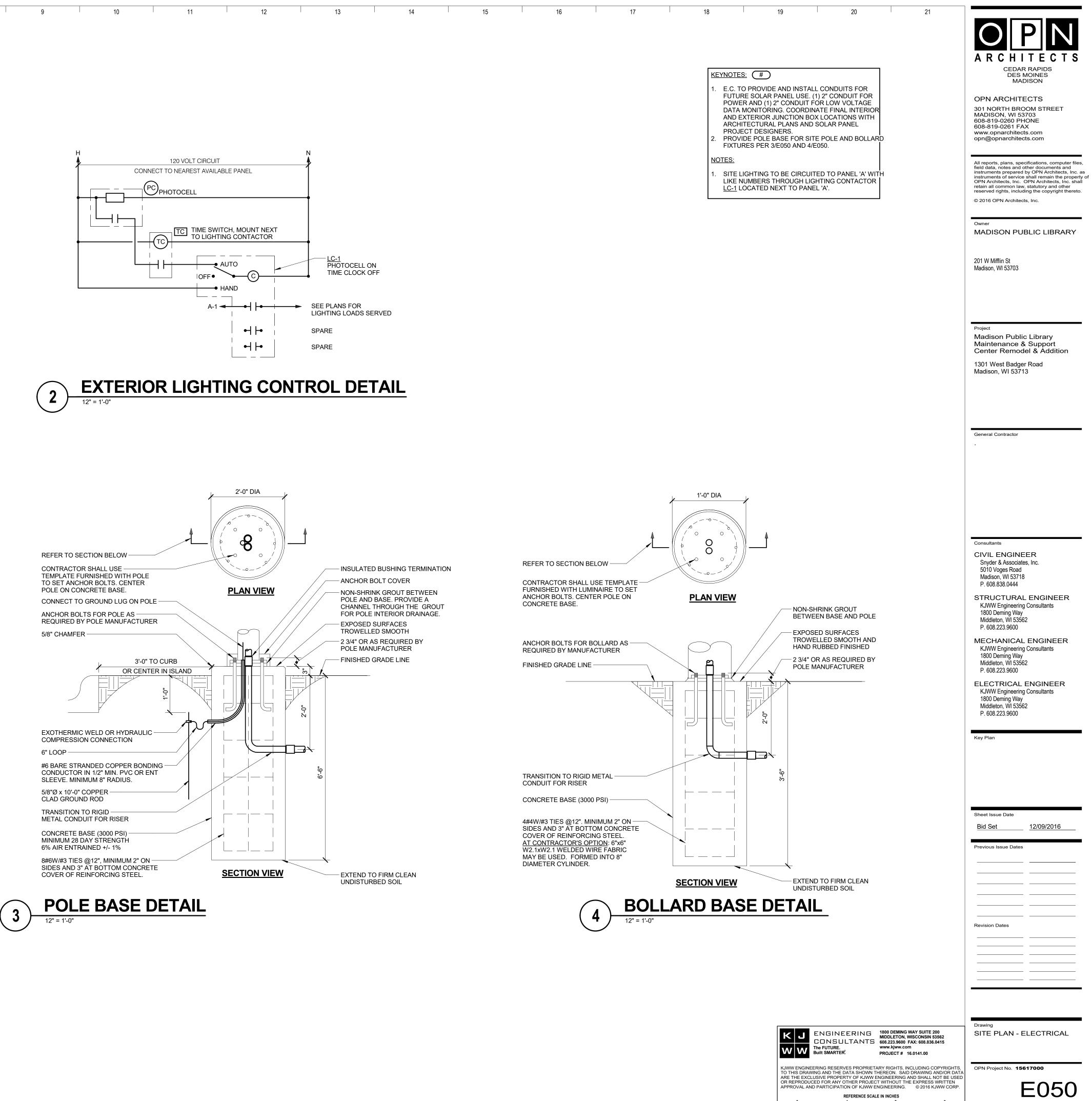
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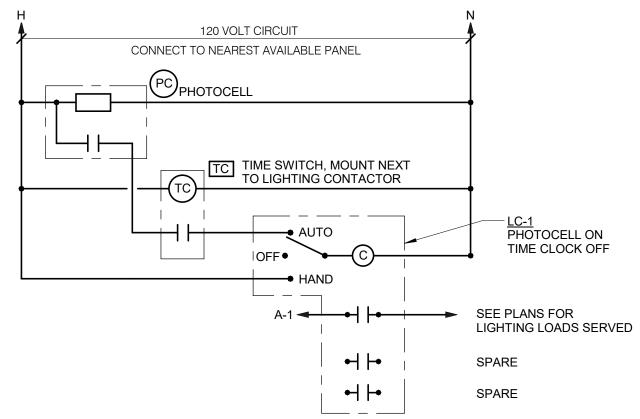
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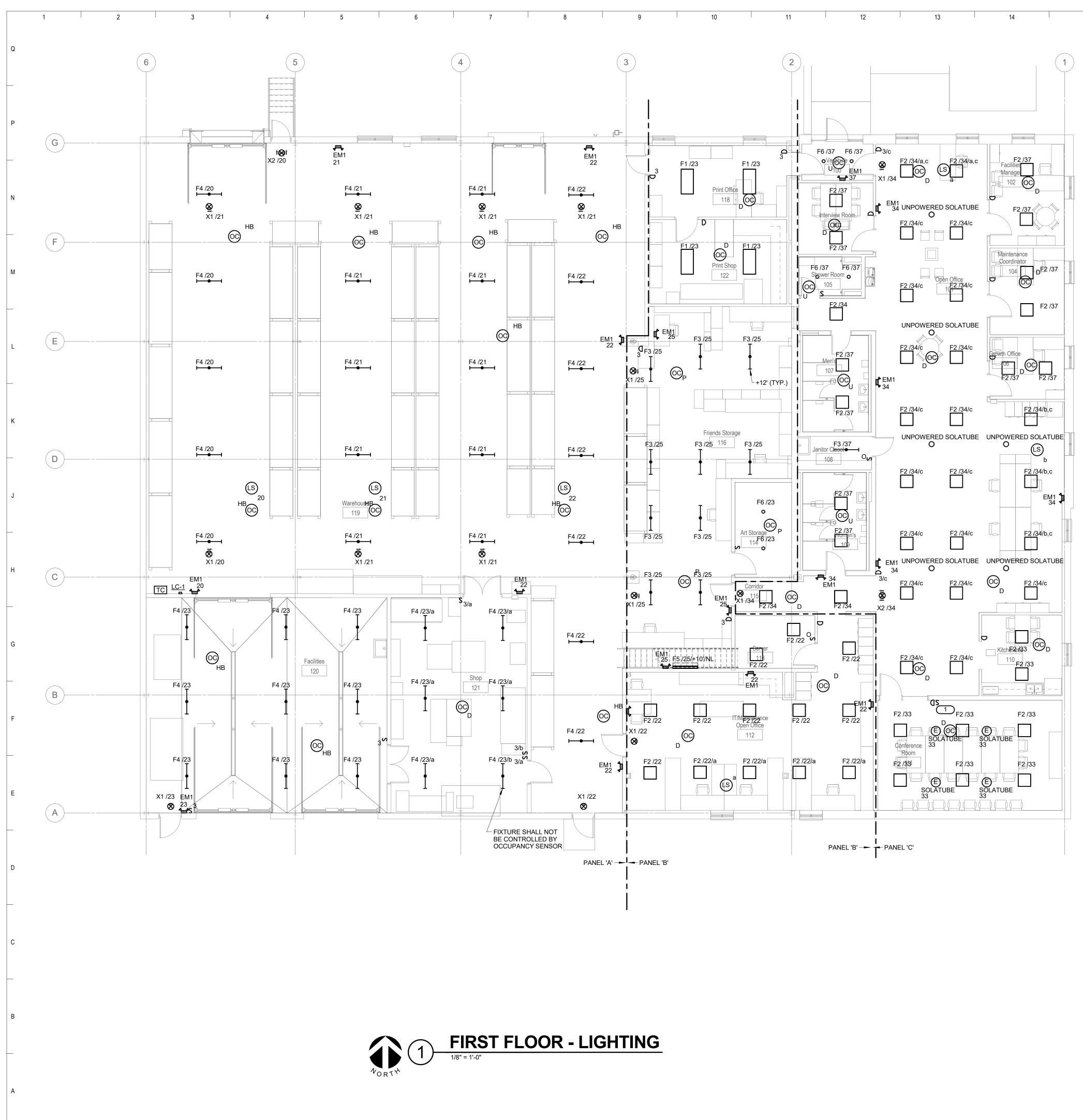
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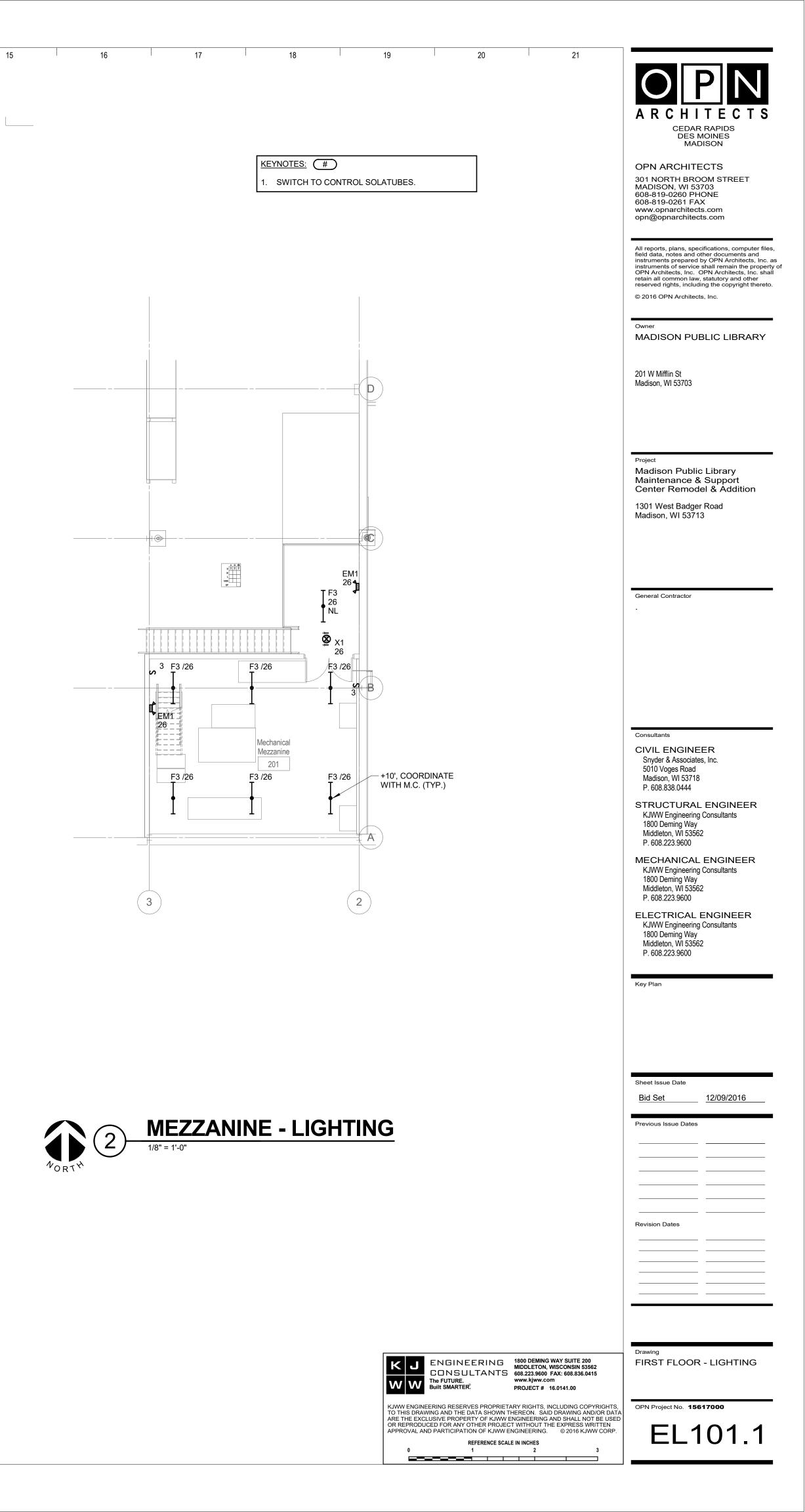
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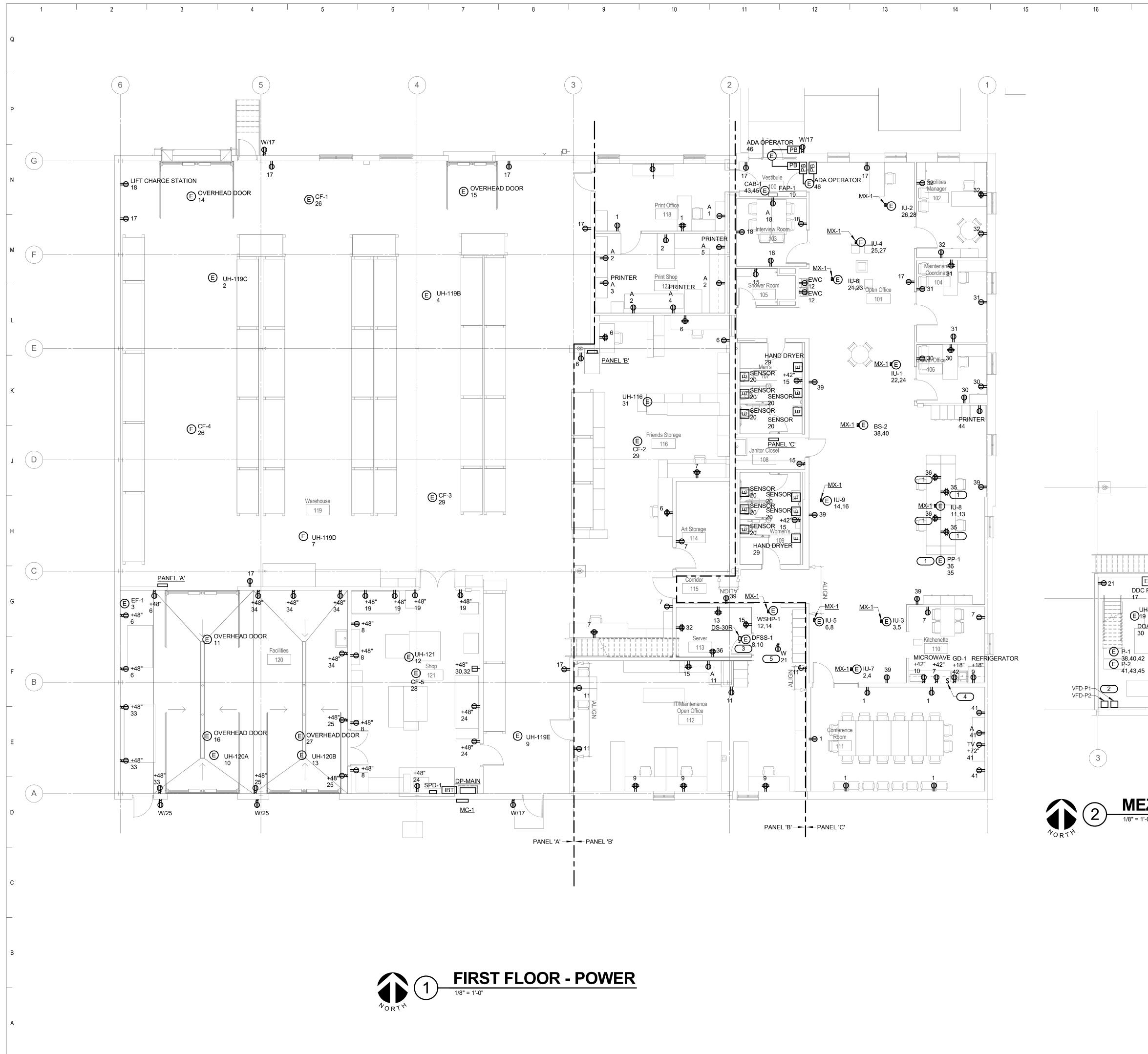












	KEYNOTES: (#)	DES MOINES MADISON
	1. POWER POLE TO CONTAIN CONNECTIONS FOR 4 QUAD RECEPTACLES AND 2 DUPLEX RECEPTACLES	OPN ARCHITECTS
	FOR DESK POWER. 2 QUADS AND 1 DUPLEX TO EACH OF THE TWO CIRCUITS ON THE POWER POLE.	OPN ARCHITECTS 301 NORTH BROOM STREET MADISON, WI 53703
	DUPLEX OUTLETS TO BE MOUNTED ON POWER POLE. QUAD RECEPTACLES TO BE CONNECTED VIA FLEXIBLE METAL CONDUIT TO ADJACENT DESKS, TO	608-819-0260 PHONE 608-819-0261 FAX
	BE SECURED BY OWNER TO THE UNDERSIDE OF OWNER PROVIDED DESKS. SEE TECHNOLOGY	www.opnarchitects.com opn@opnarchitects.com
	DRAWINGS FOR DATA OUTLETS TO BE INCLUDED IN POWER POLE.	All reports, plans, specifications, computer files.
	2. E.C. TO PROVIDE AND INSTALL CONDUIT SLEEVES FOR FUTURE SOLAR PANEL USE. (4) 1-3/4" CONDUIT	All reports, plans, specifications, computer files, field data, notes and other documents and instruments prepared by OPN Architects, Inc. as instruments of service shall remain the property of OPN Architects, Inc. OPN Architects, Inc. shall
	FOR POWER AND (1) 1" CONDUIT FOR LOW VOLTAGE DATA MONITORING. COORDINATE LOCATIONS WITH ARCHITECTURAL PLANS AND	OPN Architects, Inc. OPN Architects, Inc. shall retain all common law, statutory and other reserved rights, including the copyright thereto.
	SOLAR PANEL PROJECT DESIGNERS. 3. PROVIDE DISCONNECT FOR DFSS-1 OUTDOOR UNIT.	© 2016 OPN Architects, Inc.
	MOUNT DISCONNECT TO UNIT. PROVIDE CONDUIT AND WIRING FROM OUTDOOR UNIT TO INDOOR	Owner
	UNIT PER MANUFACTURER'S REQUIREMENTS. COORDINATE WITH M.C. 4. SWITCH SHALL CONTROL GD-1 RECEPTACLE.	MADISON PUBLIC LIBRARY
	<ol> <li>SWITCH STALL CONTROL OD TRECE TACLE.</li> <li>MOUNT RECEPTACLE TO DFSS-1 OUTDOOR UNIT. COORDINATE WITH M.C.</li> </ol>	201 W Mifflin St
	NOTES:	Madison, WI 53703
	1. VFD BY M.C. INSTALLED BY E.C.	
	2. PROVIDE ROUGH-IN AND WIRING FOR OVERHEAD DOOR CONTROLS AND FAN CONTROLS PER MANUFACTURER REQUIREMENTS AND	
	ARCHITECTURAL SPECS.	
		Project Madison Public Library
		Maintenance & Support Center Remodel & Addition
		1301 West Badger Road Madison, WI 53713
		General Contractor
+@		
		Consultants
	<sup>21</sup> ⊖	CIVIL ENGINEER Snyder & Associates, Inc.
		5010 Voges Road Madison, WI 53718
	<u>Р</u>	P. 608.838.0444 STRUCTURAL ENGINEER
₽21 Ē ĒWS-1 <b>Ф</b> ĒWH-1		KJWW Engineering Consultants 1800 Deming Way
		Middleton, WI 53562 P. 608.223.9600
UH-201 34 E CP-1		MECHANICAL ENGINEER
E19 WCCL 35,37,		KJWW Engineering Consultants 1800 Deming Way
	<u>DS-30</u> <b>P</b>	Middleton, WI 53562 P. 608.223.9600
Image: Weak of the second s		ELECTRICAL ENGINEER KJWW Engineering Consultants
E P-2 41,43,45	BS-1 44,46	1800 Deming Way Middleton, WI 53562
$\begin{bmatrix} 2 \end{bmatrix} = \begin{bmatrix} 1 \\ 16 \\ 18 \\ 20 \end{bmatrix} = \begin{bmatrix} 29 \\ 29 \\ 29 \end{bmatrix}$	CCU-1 9,31,33	P. 608.223.9600
VFD-MAU1		Key Plan
PANEL 'B'		
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		Sheet Issue Date
		Bid Set <u>12/09/2016</u>
MEZZANINE - I	POWER	Previous Issue Dates
1/8" = 1'-0"		
		Revision Dates
	KJ ENGINEERING 1800 DEMING WAY SUITE 200 MIDDLETON, WISCONSIN 53562	Drawing FIRST FLOOR - POWER
	Image: Construction of the state of the	
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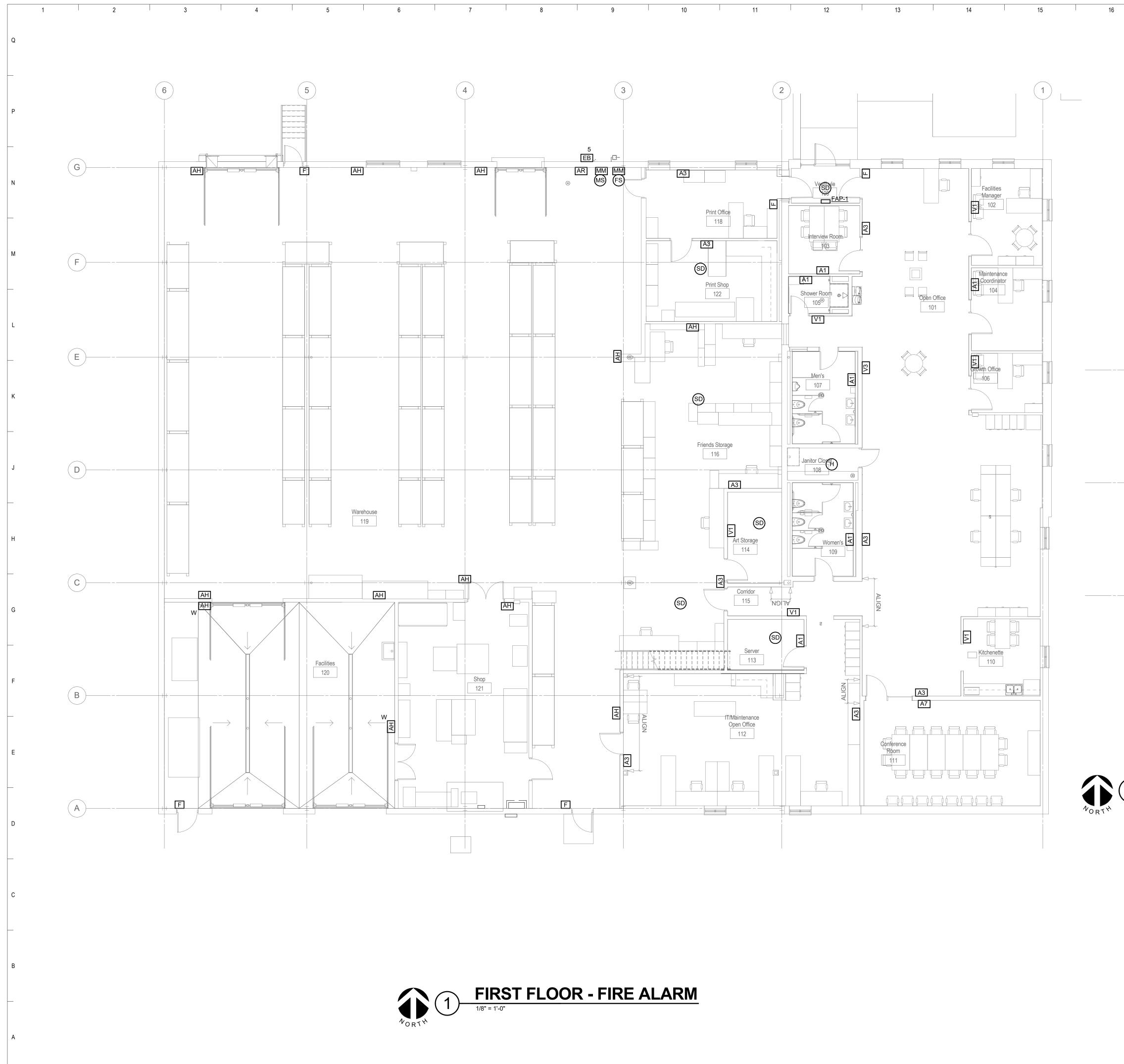
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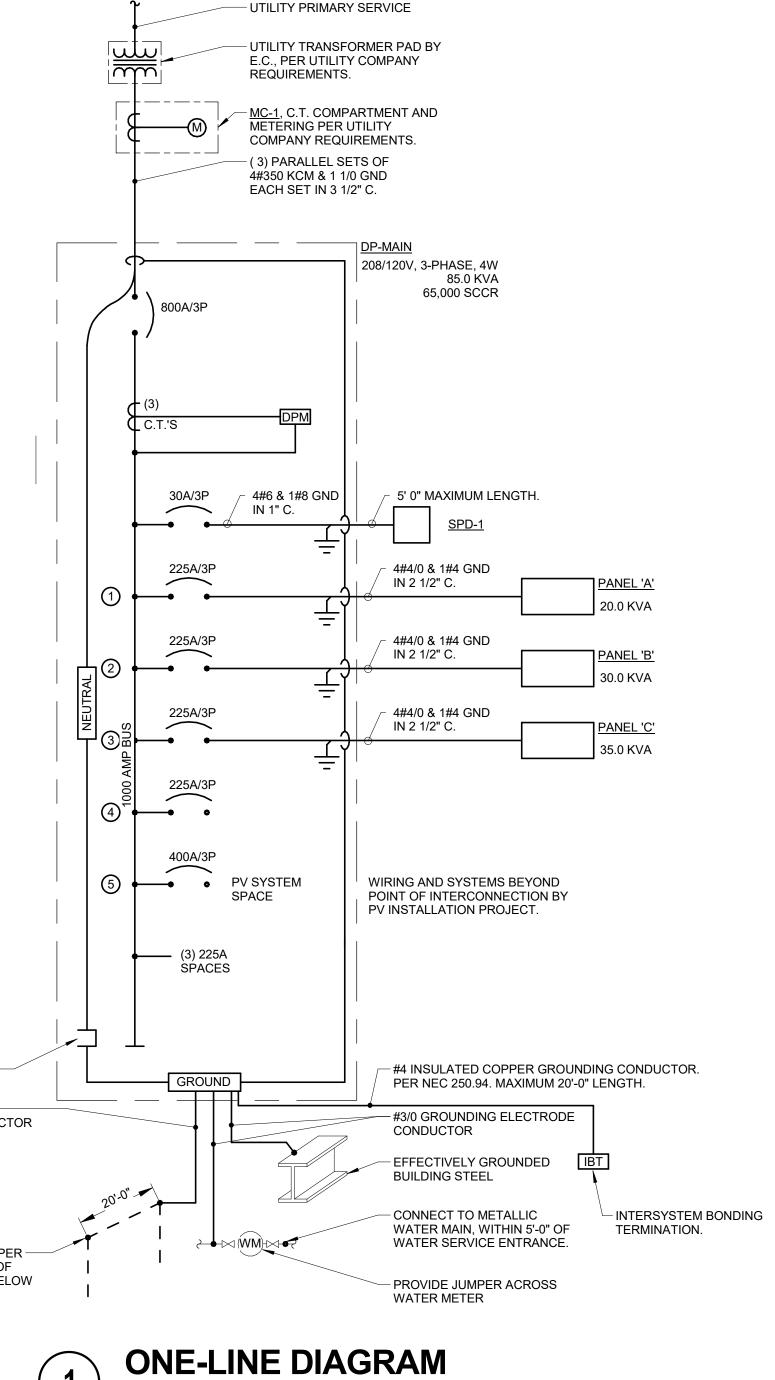
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KEYNOTES: #



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				OPN Architects, Inc. OPN Architects, Inc. shall retain all common law, statutory and other reserved rights, including the copyright thereto. © 2016 OPN Architects, Inc. Owner MADISON PUBLIC LIBRARY
				201 W Mifflin St Madison, WI 53703
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				General Contractor
Mechanical Mezzanine 201 201 201 201	G A			Consultants CIVIL ENGINEER Snyder & Associates, Inc. 5010 Voges Road Madison, WI 53718 P. 608.838.0444 STRUCTURAL ENGINEER KJWW Engineering Consultants 1800 Deming Way Middleton, WI 53562 P. 608.223.9600 MECHANICAL ENGINEER
3	2			KJWW Engineering Consultants 1800 Deming Way Middleton, WI 53562 P. 608.223.9600 ELECTRICAL ENGINEER KJWW Engineering Consultants 1800 Deming Way Middleton, WI 53562 P. 608.223.9600
MEZZANINE - FI				Key Plan
2 1/8" = 1'-0"				Bid Set         12/09/2016           Previous Issue Dates
		SINEERING MDD NSULTANTS 608.2	DEMING WAY SUITE 200 DLETON, WISCONSIN 53562 223,9600 FAX: 608.836.0415	Drawing FIRST FLOOR - FIRE ALARM
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							3/4" DIA. x 10'-0 GROUND ROD. ROD SHALL BE GRADE. (TYP.)	" COPPEF TOP OF 12" BELC
E							GRADE. (TYP.)	
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12" = 1'-0"

17	18	19	20	21



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General Contractor

Project Madison Public Library Maintenance & Support Center Remodel & Addition 1301 West Badger Road Madison, WI 53713

## ONE LINE DIAGRAM NOTES

- 1. AIC RATINGS LISTED FOR EQUIPMENT ARE MINIMUM REQUIREMENTS FOR BUS BRACING AND DEVICE RATING. ALL EQUIPMENT SHALL BE FULLY RATED UNLESS SPECIFICALLY NOTED AS SERIES RATED.
- 2. \_\_\_\_ INDICATES DIRECT CONNECTION OF GROUND CONDUCTOR TO GROUND BUS. SUBSCRIPT "I" INDICATES DIRECT CONNECTION OF ISOLATED GROUND CONDUCTOR TO ISOLATED CROUND
- INDICATES DIRECT CONNECTION OF ISOLATED GROUND CONDUCTOR TO ISOLATED GROUND BUS.
- INDICATES O.Z. GEDNEY OR EQUAL GROUND BUSHING BONDED TO GROUND BUS WITH 3. CONDUCTOR SIZED TO MAXIMUM FEEDER GROUND CAPACITY.
- 4. Y INDICATES OVERLOADS SIZED PER MOTOR NAMEPLATE FULL LOAD AMPERES.
- 5. INDICATES STARTER NEMA SIZE.
- 6. AF INDICATES MOLDED/INSULATED CASE BREAKER FRAME SIZE, FOR ADJUSTABLE TRIP BREAKERS.
- 7. AT INDICATES MOLDED/INSULATED CASE BREAKER TRIP UNIT RATING, FOR ADJUSTABLE TRIP BREAKERS.
- 8. [LSIG] INDICATES FEATURES PROVIDED WITH SOLID STATE CIRCUIT BREAKER. [LONG TIME (W/DELAY), SHORT TIME (W/DELAY), INSTANTANEOUS, GROUND FAULT].
- 9. GF INDICATES GROUND FAULT RELAY.

10. CONDUCTOR AND CONDUIT SIZES ON THE LINE AND LOAD SIDES OF ALL NON-FUSIBLE DISCONNECT SWITCHES SHALL BE IDENTICAL UNLESS NOTED OTHERWISE.

### Consultants **CIVIL ENGINEER** Snyder & Associates, Inc. 5010 Voges Road Madison, WI 53718 P. 608.838.0444

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- ELECTRICAL ENGINEER KJWW Engineering Consultants 1800 Deming Way Middleton, WI 53562 P. 608.223.9600

Key Plan

### Sheet Issue Date Bid Set 12/09/2016

Previous Issue Dates

\_\_\_\_\_ **Revision Dates** 

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Drawing ONE LINE DIAGRAM



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REFERENCE SCALE IN INCHES

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OPN Project No. 15617000

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	MTG) MOUNTING: E - RECESSED	(TYPE) LAN FL - FLUOF		LOGY:				L/L) LENS / LOUV	<u>'ER:</u>			
	P - SUSPENDED L - CEILING SURFACE	CF - COMP		ESCENT				3 - BLACK BAFFLE C - CLEAR ALZAK	-			
W	/L - WALL	IN - INCAN	DESCENT				C	) - PARABOLIC				
	C - UNDER CABINET V - COVE	LED - LIGH HS - HIGH						- FRESNEL	ASS			
PL	L - POLE R - FLANGED RECESSED	MH - META SMH - SUP	L HALIDE				F	H - WALL WASHEF P - POLYCARBON	२			
	R - FLANGED RECESSED - OTHER (SEE DESCRIPTION)	PSMH - PU	LSE START	METAL H			ĸ	( - KSH12 .125" A(	CRYLIC			
	OOR:	CMH - CER O - OTHER						(19 - KSH19 .156" LOW IRIDESCE		LAR ALUN	И.	
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R/	S - FLAT STEEL A - REGRESSED ALUMINUM		NUEU LIFE					R - HIGH IMPACT ( ) - OTHER (SEE D				
R	S - REGRESSED STEEL	(TYPE) BA	LAST:				(	TYPE) BALLAST:				
	INISH: AF - PAINT AFTER FABRICATION	DIM07 - LIN					E	B - ELECTRONIC	BALLAST		:т	
	SA - FINISH SELECTION BY ARCHITECT	HL - HIGH /	LOW LEVE	L BALLAS			C	DALI - DIGITAL DIN	MMING BAL	LAST		
		ML - MULT HP - HIGH						/V - MULTI-VOLT/ PRS - ELECTRONI				
	ALOG NUMBER SHALL NOT BE CONSIDERED (											
THE S	SPECIFICATION SHALL BE COORDINATED WI BASIS FOR DESIGN.											
REFE	ER TO SPECIFICATION SECTIONS LIGHTING 26	51 00 AND EM	ERGENCY	IGHTING	26 52 00 FOR ADDIT	IONAL INF	ORMAT	ION AND REQUIR	REMENTS.			
	AMPS FOR THIS PROJECT SHALL BE FURNIS LAMP COLOR RENDERING INDEX (CRI) AT OR								)°, UNLESS		) DTEHR	VISE.
				••			,					
ITEM	1 DESCRIPTION	L	DIMEN W	SIONS H	DIA. MTG	TYPE	LAM QTY	IPS MODEL	BALL VOLTS	AST TYPE	L/L	APPROVED MANUFACTURER
	EMERGENCY UNIT, TWO ADJUSTABLE HEA WHITE THERMOPLASTIC HOUSING, SELF	DS, 1'-6"	4"	4"	WL	LED		INCLUDED	120 V	EM		LITHONIA ELM2 SURE-LITES CC3
F1	DIAGNOSTICS OF INVERTER AND LAMPS STATIC GRID TROFFER. WAVESTREAM LIG	IT 4'-0"	2'-0"	4 1/2"	RE	LED	1	4500 LUMENS	120 V	DIM10	K	McPHILBEN CAX6 COOPER
	DIFFUSER.							47 WATTS		-		24EN-LD1-45-UNV-L840- CD1-U
F2	STATIC GRID TROFFER. WAVESTREAM LIG	IT 2'-0"	2'-0"	4 1/2"	RE	LED	1	3400 LUMENS	120 V	DIM10	K	
	DIFFUSER.							35 WATTS				22EN-LD1-34-UNV-L840 CD1-U LITHONIA
F3	4' INDUSTRIAL WITH NO UPLIGHT, BAKED ENAMEL FINISH.	4'-0"	1'-0"	4 1/4"	SP@10'	LED	1	5000 LUMENS 35 WATTS	120 V	DIM10	N	COOPER 4ILED-LD4-5-W-UNV-L84
								00 100110				0-CD1 LITHONIA
F4	4' HIGH BAY INDUSTRIAL WITH NO UPLIGHT BAKED ENAMEL FINISH.	, 4'-0"	1'-0"	4 1/4"	SP@16'	LED	1	12500 LUMENS 104 WATTS	120 V	EB	N	COOPER HBLED-LD4-12-W-UNV-I
												840-CD1  LITHONIA
F5	WALL MOUNTED LINEAR LED IN DIE-CAST ALUMINUM HOUSING WITH MATTE WHITE F	4'-0"	3 1/2"	4 1/2"	WL	LED	1	4700 LUMENS 50 WATTS	120 V	EB	К	KENALL MLHA12 48 R MW CP 1
												45L40K METALUX
F6	OPEN RECESSED DOWNLIGHT, CLEAR			9 1/2"	6" RE	LED	1	1500 LUMENS	120 V	EB	N	LITHONIA SPECTRUM LIGHTING
	SPECULAR PARABOLIC SELF TRIMMING REFLECTOR, DAMP LABEL.							11 WATTS				SPC1203LEDGV-15L-40 -E1-8200GV-SG-SO
F7	NATURAL ALUMINUM PAINT, LISTED WET	, 4 1/2"	4 1/2"	0"	CL	LED	1	3200 LUMENS 25 WATTS	120 V	EB	N	LITHONIA DSXSC LED 20C 350 4
		41.0"	9"	7 1/0"	14/1		1	4300 LUMENS	120.14	ED	NI.	T5M MVOLT COOPER LITHONIA
	WALL MOUNTED ARCHITECTURAL SCONCE TYPE II DISTRIBUTION, DARK BRONZE FINIS	H.	9	7 1/2"	WL	LED	I	4300 LUMENS 47 WATTS	120 V	EB	N	MRW LED 2 10A700/40 SR2 MVOLT DDBXD
S1	SITE LUMINAIRE, ALUMINIUM EXTRUDED	1'-8"	1'-3"	5 1/2"	PL@16'	LED	1	14200 LUMENS	120 V	EB	K	COOPER LITHONIA
	HOUSING GASKETED, TEMPERED GLASS L BACK LIGHT CONTROLLED DISTRIBUTION,							138 WATTS				DSX0 LED 40C 1000 40 T4M MVOLT SPA
	COLOR SELECTION BY ARCHITECT FROM STANDARD COLORS, LISTED WET LOCATIC											COOPER
	LAMP SUPPORT. SQUARE STRAIGHT ALUM POLE WITH INTERNAL VIBRATION DAMPER ANCHOR BASE.											
S2	EXTRUDED ALUMINUM SQUARE LED LIT BOLLARD. POWDER COAT FINISH.			2'-6"	7" PL	LED	1	700 LUMENS 15 WATTS	120 V	EB	К	BEGA 88657 W/ 79817
												ANCHORAGE LITHONIA
X1	SINGLE-FACE EXIT SIGN, WHITE	1'-1"	2"	9"	CL	LED	1	LED	120 V	EM	0	METALUX DUAL-LITE LXU
	THERMOPLASTIC BODY, RED LETTERS, EMERGENCY NI-CAD BATTERY INSIDE OF S	IGN,		-		-						LITHONIA LQMS 1 EL MCPHILBEN CXXL
	UNIVERSAL ARROWS/MOUNTING. SELF TES DIAGNOSTICS OF INVERTER AND LAMPS.											
X2	DOUBLE-FACE EXIT SIGN, WHITE THERMOPLASTIC BODY, RED LETTERS, EMERGENCY NI-CAD BATTERY INSIDE OF S	1'-1"	2"	9"	CL	LED	1	LED	120 V	EM	0	DUAL-LITE LXU LITHONIA LQMS 1 EL MCPHILBEN CXXL
	UNIVERSAL ARROWS/MOUNTING. SELF TES DIAGNOSTICS OF INVERTER AND LAMPS.											
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SPRINKLER SYSTEM FLOW SWITCH SPRINKLER SYSTEM MONITOR SWITCH SPRINKLER SYSTEM CABINET MONITOR



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	QUENCE OF PERATION	R	PANEL/ANNUNCIATOR SUPERVISORY INDICATION	КZ			
		NCIATC	NCIATO	NCIATO	RMS	SMI	PINKLE NCE
SYSTEM INPUTS		PANEL/ANNUNCIATOR ALARM INDICATION	L/ANNU RVISOF	PANEL/ANNUNCIATOR TROUBLE INDICATION	AUDIBLE ALARMS SEQUENCE	VISUAL ALARMS SEQUENCE	ELECTRIC SPRINKLER BELL SEQUENCE
		PANE	PANE SUPE	PANE TROL	AUDIE SEQU	VISU/ SEQU	ELEC
FIRE ALARM PANEL, TRANSPONDEF LOW BATTERY	R, NAC PANEL		x				
FIRE ALARM PANEL, TRANSPONDER BATTERY OR CHARGER FAILURE	R, NAC PANEL			X			
FIRE ALARM PANEL, TRANSPONDEF ABNORMAL SWITCH OR CONTROL F			X				
				X			
FIRE ALARM PANEL, TRANSPONDER GROUND FAULT, OPEN CIRCUIT, SH	IORT CIRCUIT			^			
GROUND FAULT, OPEN CIRCUIT, SH FIRE ALARM PANEL, TRANSPONDEF AC POWER LOSS OR IRREGULARIT	IORT CIRCUIT R, NAC PANEL Y			x			
GROUND FAULT, OPEN CIRCUIT, SH FIRE ALARM PANEL, TRANSPONDEF AC POWER LOSS OR IRREGULARIT NOTIFICATION APPLIANCE CIRCUIT GROUND FAULT, OPEN CIRCUIT, SH	ORT CIRCUIT R, NAC PANEL Y OR SLC LOOP						
GROUND FAULT, OPEN CIRCUIT, SH FIRE ALARM PANEL, TRANSPONDER AC POWER LOSS OR IRREGULARIT NOTIFICATION APPLIANCE CIRCUIT GROUND FAULT, OPEN CIRCUIT, SH NITIATING DEVICE FAILURE OR COMMUNICATION ERR	ORT CIRCUIT R, NAC PANEL Y OR SLC LOOP ORT CIRCUIT			X			
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# FIRE ALARM OPERATION MATRIX

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## Project

General Contractor

Madison Public Library Maintenance & Support Center Remodel & Addition 1301 West Badger Road Madison, WI 53713

### Consultants CIVIL ENGINEER Snyder & Associates, Inc. 5010 Voges Road Madison, WI 53718 P. 608.838.0444

- STRUCTURAL ENGINEER KJWW Engineering Consultants 1800 Deming Way Middleton, WI 53562 P. 608.223.9600
- MECHANICAL ENGINEER KJWW Engineering Consultants 1800 Deming Way Middleton, WI 53562 P. 608.223.9600
- ELECTRICAL ENGINEER KJWW Engineering Consultants 1800 Deming Way Middleton, WI 53562 P. 608.223.9600

Key Plan

## Sheet Issue Date

Bid Set 12/09/2016 Previous Issue Dates

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**Revision Dates** 

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Drawing ELECTRICAL SCHEDULES

OPN Project No. 15617000

E500

	PA
DLT-ON	
JRFACE	Γ
P-MAIN	Γ

			PAN	EL	NA	ME:	Α					CONNECTED 25.2 kVA	
TYPE: BOLT-ON MOUNTING: SURFACE FED FROM: DP-MAIN SCCR: 22,000 A LOCATION: Warehouse 119			SOLID NEUTRAL GROUND BUS								MAIN: 225 A/MLO VOLTS: 120/208 Wye PHASE: 3 WIRE: 4 DEMAND: 25.15 kVA		
Panel No	otes:												
CKT NO	LOAD DESCRIPTION	OVERCU PROTE AMPS			A	I	В		С		URRENT ECTION AMPS	LOAD DESCRIPTION	CKT NO
1	Exterior Lighting *6	20 A	1	0.5	0.5					1	20 A	UH-119C	2
3	EF-1	20 A	1			1.5	0.5			1	20 A	UH-119B	4
5	ELECTRONIC BELL	20 A	1					0	0.54	1	20 A	Receptacles	6
7	UH-119D	20 A	1	0.5	0.72					1	20 A	Receptacles	8
9	UH-119E	20 A	1			0.5	0.5			1	20 A	UH-120A	10
11	OVERHEAD DOOR	20 A	1					1	0.5	1	20 A	UH-121	12
13	UH-120B	20 A	1	0.5	1					1	20 A	OVERHEAD DOOR	14
15	OVERHEAD DOOR *10	20 A	1			1	1			1	20 A	OVERHEAD DOOR	16
17	Receptacles *10	20 A	1					1.44	0.18	1	20 A	LIFT CHARGE STATION	18
19	Receptacles	20 A	1	0.72	0.52					1	20 A	Lighting *10	20
21	Lighting *10	20 A	1			1.04	0.73			1	20 A	Lighting *10	22
23	Lighting	20 A	1					1.56	0.54	1	20 A	Receptacles	24
25	Receptacles	20 A	1	0.9	1.4					1	20 A	WAREHOUSE FANS *10	26
27	OVERHEAD DOOR	20 A	1			1	0.7			1	20 A	SHOP FAN	28
29	WAREHOUSE AND FRIENDS FAN	20 A	1					1.4	0.25	2	20 A	Power	30
31	UH-116	20 A	1	0.5	0.25								32
33	Receptacles	20 A	1			0.54	0.72			1	20 A	Receptacles	34
35	SPARE	20 A	1					0	0	1	20 A	SPARE	36
37	SPARE	20 A	1	0	0					1	20 A	SPARE	38
39	SPARE	20 A	1			0	0			1	20 A	SPARE	40
41	SPARE	20 A	1					0	0	1	20 A	SPARE	42
			al Load: I Amps:		kVA .55		kVA .84		kVA .75			1	I

				[	DISCONNECT	AND STA	RTER SCHED	ULE						
			NOTE:	ALL DISCO	NNECTS (EXCEP	T MANUAL ST	ARTERS) SHALL E	BE HEAVY DU	ITY TYPE.					
DISCONNEC					REMARKS:									
FU - FUSED							ES (INCLUDES * IT	EMS)		ILURE RELAY (5 HP OR GREATER)				
NF - NON-FL							ER, FUSED 120V			THERMAL OVERLOADS				
CB - CIRCUI	T BREAKER				*EO - ELECTRO					SELECTOR SWITCH IN DOOR				
					*HA - HAND-OFF				```	P - GREEN (OFF) PILOT LIGHT IN DOOR				
STARTER T					*RP - RED PILO					RTIBLE AUXILIARY CONTACTS				
FV - FULL V	OLTAGE				*TA - TWO CON	VERTIBLE AUX	KILIARY CONTACT	rs	EI - ELECTRIC	AL INTERLOCK (2)-N.O. & (2)-N.C.				
YD - WYE - [	DELTA				S/N - INSULATE	D NEUTRAL A	SSEMBLY		SS - START-ST	OP PUSHBUTTON IN DOOR				
RE - REVER	SING				EL - COORDINA	TE FUSE SIZE	WITH ELEVATOR	R MANUF.	HL - HANDLE F	PADLOCK HASP				
TW - 2 SPEE	ED, 2 WINDIN	IG												
SW - 2 SPEE	ED, 1 WINDIN	IG												
RV - REDUC	ED VOLTAG	E AUTOXFMR												
SS - SOLID S	STATE													
MS - MANUA	L STARTER													
MX - MANUA	AL SWITCH													
FS - FUSED	SWITCH													
		ECT TYPE & TING	CIRCUIT		STAR	TER	NEMA							
ITEM	TYPE	RATING	VOLTAGE	POLES	NEMA SIZE			F	REMARKS	APPROVED MANUFACTURERS				
DS-30	NF	30 A	600 V	1			1			SQUARE D 3110 HU361 CUTLER-HAMMER TYPE DH GENERAL ELECTRIC TYPE TH SIEMENS TYPE HNF				
DS-30R	NF	30 A	600 V	3			3R			SQUARE D 3110 HU361RB CUTLER-HAMMER TYPE DH GENERAL ELECTRIC TYPE TH SIEMENS TYPE HNF				
DS-60	NF	60 A	600 V	1			1			SQUARE D 3110 HU362 CUTLER-HAMMER TYPE DH GENERAL ELECTRIC TYPE TH SIEMENS TYPE HNF				
MX-1	NF	30 A	208 V	2	0	МХ	1	HL		SQUARE D 2510 KS1A CUTLER-HAMMER TYPE MS GENERAL ELECTRIC TYPE TC SIEMENS TYPE MMS				

PANEL NAME: B         TYPE: BOLT-ON         MOUNTING: RECESSED       SOLID NEUTRAL         FED FROM: DP-MAIN       GROUND BUS         SCCR: 22,000 A       GROUND BUS         LOCATION: Space 21       Panel Notes:									
CKT NO.	LOAD DESCRIPTION	OVERCU PROTE AMPS		ļ	A		3		с
1	Receptacles	20 A	1	0.72	0.72				
3	PRINTER	20 A	1			1	1		
5	Receptacles	20 A	1	0.70	4			1	0.9
7 9	Receptacles Receptacles *10	20 A 20 A	1	0.72	1	0.54	4		
9	•	20 A 20 A	1 1			0.54	1	0.9	0.8
13	Receptacles Receptacles	20 A 20 A	1	0.36	0.8			0.9	0.0
15	Receptacles	20 A	1	0.30	0.0	0.72	0.67		
17	DDC PANEL *10	20 A	1			0.72	0.07	0.2	0.67
19	UH-201	20 A	1	0.5	0.67			0.2	0.07
21	Receptacles *10	20 A	1	0.5	0.07	1.26	0.34		
23	Lighting *10	20 A	1			1.20	0.01	0.21	1
25	Lighting	20 A	1	0.4	0.25			•	
27	WH-1 *8	20 A	1	-		1	1		
29	WCCU-1 *6	50 A	3					3.67	1.8
31				3.67	0.36				
33						3.67	1		
35	WCCU-2 *10	20 A	3					1.67	0.36
37				1.67	1.27				
39						1.67	1.27		
41	P-2	20 A	3					1.27	1.27
43				1.27	0.5				
45						1.27	0.5		
47									
49									
51									
53									
			al Load: I Amps:		6.78		) kVA ).19		1 kVA 1.97

MOUNTING: SURFACE FED FROM: DP-MAIN SCCR: 22,000 A LOCATION: Janitor Closet 108							ID NEU ROUND I				
Panel No	otes:										
CKT NO.	LOAD DESCRIPTION		OVERCURRENT PROTECTION AMPS P		Α		В		с	OVI PF P	
1	Receptacles	20 A	1	0.9	0.5						
3	IU-3	15 A	2			0.5	0.5				
5								0.5	0.5		
7	Receptacles	20 A	1	0.54	0.5						
9	REFRIGERATOR, *G	20 A	1			1.2	2				
11	IU-8	15 A	2					0.5	1		
13				0.5	0.5						
15	Receptacles	20 A	1			0.72	0.5				
17	Receptacles	20 A	1					0.72	0.9		
19	FAP-1	20 A	1	0.3	0.05						
21	IU-6	15 A	2			0.5	0.5				
23								0.5	0.5		
25	IU-4	15 A	2	0.25	0.5				ļ	_	
27						0.25	0.5	_		· ·	
29	Power	20 A	1					1	0.9		
31	Receptacles	20 A	1	0.9	0.9					_	
33	SOLATUBE CONTROLS	20 A	1			0.21	0.65	4.00			
35	PP-1	20 A	1	0.4	0.5			1.36	1.36	-	
37	Lighting	20 A	1	0.4	0.5	4.00	0.5			-	
39	Receptacles	20 A	1			1.08	0.5	0 ===		· · ·	
41	Receptacles	20 A	1					0.72	1.2	_	
43	CAB-1 *6	50 A	2	3	1						
45						3	1				
47	SPARE	20 A	1					0	0		
49	SPARE	20 A	1	0	0						
51	SPARE	20 A	1			0	0				
53	SPARE	20 A	1					0	0		
L			al Load:	11.24	kVA	13.6	l kVA	11.66	6 kVA		
			I Amps:	93.			3.94		.71	1	

PANEL NAME: C

[Key\*:] \*6 #6 WIRE, \*G GFCI BREAKER

					MADISON	J
					OPN ARCHITECTS 301 NORTH BROOM S <sup></sup>	S STREET
		CONNECTED 48.5 kVA MAIN: 225 A/			608-819-0261 FAX www.opnarchitects.com opn@opnarchitects.com	n
		VOLTS: 120/208 Wye PHASE: 3 WIRE: 4			All reports, plans, specificatior	ons, computer file:
		<b>DEMAND:</b> 48.17 kVA		7	All reports, plans, specification field data, notes and other doc instruments prepared by OPN instruments of service shall rer OPN Architects, Inc. OPN Arc retain all common law, statutor reserved rights, including the c	N Architects, Inc. a emain the propert rchitects, Inc. shal
					© 2016 OPN Architects, Inc.	copyright thereto
ROTE	RRENT CTION AMPS	LOAD DESCRIPTION	CKT NO.		Owner MADISON PUBLIC	LIBRARY
1 1	20 A 20 A	Receptacles Receptacles	2 4			
1 2	20 A 30 A	Receptacles DFSS-1 *10	6 8		201 W Mifflin St Madison, WI 53703	
 2	 15 A	 WSHP-1	10 12			
 3	 20 A	 MAU-1 *8	14 16			
			18 20		Project	
1 1	20 A	Lighting *10 CP-1	22 24		Madison Public Libra Maintenance & Supp Center Remodel & A	rary oport
1	20 A 20 A	Lighting *10 WS-1 *8	26 28		Center Remodel & A 1301 West Badger Road	
1	20 A 20 A	DOAS-1 Receptacles	30 32		Madison, WI 53713	
		GFS-1 Receptacles	34 36			
-	20 A 	P-1 	38 40			
- 2	 15 A		42			
	A CT	BS-1	44		General Contractor	
	15 A 		44 46 48		General Contractor	
			46 48 50	- - - -	General Contractor	
			46 48		Consultants CIVIL ENGINEER Snyder & Associates, Inc.	
			46 48 50 52		Consultants CIVIL ENGINEER	
		 CONNECTED 36.2 kVA MAIN: 225 A/MLO VOLTS: 120/208 Wye	46 48 50 52		Consultants CIVIL ENGINEER Snyder & Associates, Inc. 5010 Voges Road Madison, WI 53718 P. 608.838.0444 STRUCTURAL ENG KJWW Engineering Consult	
			46 48 50 52		Consultants CIVIL ENGINEER Snyder & Associates, Inc. 5010 Voges Road Madison, WI 53718 P. 608.838.0444 STRUCTURAL ENG	
		CONNECTED 36.2 kVA MAIN: 225 A/MLO VOLTS: 120/208 Wye PHASE: 3 WIRE: 4	46 48 50 52		Consultants CIVIL ENGINEER Snyder & Associates, Inc. 5010 Voges Road Madison, WI 53718 P. 608.838.0444 STRUCTURAL ENG KJWW Engineering Consult 1800 Deming Way Middleton, WI 53562 P. 608.223.9600 MECHANICAL ENG KJWW Engineering Consult 1800 Deming Way	ultants GINEER
	15 A 	CONNECTED 36.2 kVA MAIN: 225 A/MLO VOLTS: 120/208 Wye PHASE: 3 WIRE: 4 DEMAND: 33.5 kVA	46 48 50 52		Consultants CIVIL ENGINEER Snyder & Associates, Inc. 5010 Voges Road Madison, WI 53718 P. 608.838.0444 STRUCTURAL ENG KJWW Engineering Consult 1800 Deming Way Middleton, WI 53562 P. 608.223.9600 MECHANICAL ENG KJWW Engineering Consult 1800 Deming Way Middleton, WI 53562 P. 608.223.9600	ultants GINEER ultants
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		 CONNECTED 36.2 kVA MAIN: 225 A/MLO VOLTS: 120/208 Wye PHASE: 3 WIRE: 4 DEMAND: 33.5 kVA LOAD DESCRIPTION	46 48 50 52 54 54		Consultants CIVIL ENGINEER Snyder & Associates, Inc. 5010 Voges Road Madison, WI 53718 P. 608.838.0444 STRUCTURAL ENG KJWW Engineering Consult 1800 Deming Way Middleton, WI 53562 P. 608.223.9600 MECHANICAL ENG KJWW Engineering Consult 1800 Deming Way Middleton, WI 53562 P. 608.223.9600 ELECTRICAL ENGI	ultants GINEER ultants GINEER
	 	 CONNECTED 36.2 kVA MAIN: 225 A/MLO VOLTS: 120/208 Wye PHASE: 3 WIRE: 4 DEMAND: 33.5 kVA LOAD DESCRIPTION IU-7  IU-5  MICROWAVE	46 48 50 52 54 54		Consultants CIVIL ENGINEER Snyder & Associates, Inc. 5010 Voges Road Madison, WI 53718 P. 608.838.0444 STRUCTURAL ENG KJWW Engineering Consult 1800 Deming Way Middleton, WI 53562 P. 608.223.9600 MECHANICAL ENG KJWW Engineering Consult 1800 Deming Way Middleton, WI 53562 P. 608.223.9600 ELECTRICAL ENGI KJWW Engineering Consult 1800 Deming Way Middleton, WI 53562	Ultants GINEER Ultants GINEER
	 RRENT CTION AMPS 15 A  15 A  20 A 20 A 15 A	 CONNECTED 36.2 kVA MAIN: 225 A/MLO VOLTS: 120/208 Wye PHASE: 3 WIRE: 4 DEMAND: 33.5 kVA LOAD DESCRIPTION IU-7  IU-5 	46 48 50 52 54 54 <b>CKT NO</b> 2 4 6 8 10 12 14		Consultants CIVIL ENGINEER Snyder & Associates, Inc. 5010 Voges Road Madison, VII 53718 P. 608.838.0444 STRUCTURAL ENG KJWW Engineering Consult 1800 Deming Way Middleton, VI 53562 P. 608.223.9600 MECHANICAL ENG KJWW Engineering Consult 1800 Deming Way Middleton, VI 53562 P. 608.223.9600 ELECTRICAL ENGI KJWW Engineering Consult 1800 Deming Way Middleton, VI 53562 P. 608.223.9600	Ultants GINEER Ultants GINEER
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	       	 CONNECTED 36.2 kVA MAIN: 225 A/MLO VOLTS: 120/208 Wye PHASE: 3 WIRE: 4 DEMAND: 33.5 kVA LOAD DESCRIPTION IU-7  IU-5  MICROWAVE EWC *G IU-9  Receptacles RESTROOM SINK/TOILET SENSORS IU-1	46         48         50         52         54		Consultants CIVIL ENGINEER Snyder & Associates, Inc. 5010 Voges Road Madison, VII 53718 P. 608.838.0444 STRUCTURAL ENG KJWW Engineering Consult 1800 Deming Way Middleton, VI 53562 P. 608.223.9600 MECHANICAL ENG KJWW Engineering Consult 1800 Deming Way Middleton, VI 53562 P. 608.223.9600 ELECTRICAL ENGI KJWW Engineering Consult 1800 Deming Way Middleton, VI 53562 P. 608.223.9600	Ultants GINEER Ultants GINEER
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	 	 CONNECTED 36.2 kVA MAIN: 225 A/MLO VOLTS: 120/208 Wye PHASE: 3 WIRE: 4 DEMAND: 33.5 kVA LOAD DESCRIPTION IU-7  IU-5  MICROWAVE EWC *G IU-9  Receptacles RESTROOM SINK/TOILET SENSORS IU-1  Receptacles RESTROOM SINK/TOILET SENSORS IU-1  Receptacles RESTROOM SINK/TOILET SENSORS IU-1  Receptacles RESTROOM SINK/TOILET SENSORS IU-1  Receptacles RESTROOM SINK/TOILET SENSORS IU-1  Receptacles RESTROOM SINK/TOILET SENSORS IU-1 	46 48 50 52 54 54 74<		Consultants CIVIL ENGINEER Snyder & Associates, Inc. 5010 Voges Road Madison, WI 53718 P. 608 333.044 STRUCTURAL ENG KJWW Engineering Consult 1800 Deming Way Middleton, WI 53562 P. 608.223.9600 MECHANICAL ENG KJWW Engineering Consult 1800 Deming Way Middleton, WI 53562 P. 608.223.9600 ELECTRICAL ENG KJWW Engineering Consult 1800 Deming Way Middleton, WI 53562 P. 608.223.9600 KJWW Engineering Consult 1800 Deming Way Middleton, WI 53562 P. 608.223.9600 Kurw Engineering Consult 1800 Deming Way Middleton, WI 53562 P. 608.223.9600 Kurw Engineering Consult 1800 Deming Way Middleton, WI 53562 P. 608.223.9600 ELECTRICAL ENG Kurw Engineering Consult 1800 Deming Way Middleton, WI 53562 P. 608.223.9600 Kurw Engineering Consult 1800 Deming Way Middleton, WI 53562 Middleton, WI 53562 P. 608.223.9600 Kurw Engineering Consult 1800 Deming Way Middleton, WI 53562 P. 608.223.9600 Kurw Engineering Consult 1800 Deming Way Middleton, WI 53562 Middleton, WI 53562 Middlet	GINEER ultants GINEER ultants
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REFERENCE SCALE IN INCHES
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OPN Project No. 15617000

E501

							VORKSHE	ET (CW)	
1.	IFORMATION REQUIE DEMAND OF BUILD A. DEMAND OF BUILD	ING IN WATEF	R SUPPLY FIXT	TURE UNITS (\	WSFU):	ION (CW):			(WSF (GPI
2.	ELEVATION DIFFER	RENCE FROM			-	BUILDING CONT	ROL VALVE:		(FEE (INCEH
4.	DEVELOPED LENG LOW PRESSURE A	TH FROM MAI				JILDING CONTROL	_ VALVE:		(FEE (PS
C	ALCULATE WATER P	RESSURE LOS	SS						
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	DETERMINE PRES					HE VALUE OF #2	ABOVE BY 0.434):		SUBTOT#
C	ALCULATE THE PRES	SURE AVAIL	ABLE FOR UN	IFORM LOSS	(VALUE OF "A	")			
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D.	PRESSURE AT CO	NTROLLING FI	XTURE: ( <u>WA</u>	TER CLOSET	- FLUSHOMET	ER)			SUBTOTA
					VALVE AND 1	HE CONTROLLIN	G FIXTURE IN FEET:		SUBTOTA (FEE
Eź	2. CONVERT FEET IN	ETTOPSI. (M	ULTIPLY ET B	Y 0.434)				\$	SUBTOTA
F.	PRESSURE LOSS I CONTROLLING FIX					W PREVENTERS \	WHICH SERVE THE	S	SUBTOTA
G.	. PRESSURE LOSS <sup>-</sup> EXCHANGERS WH					N BOILER/WATER	HEATERS, HEAT		SUBTOTA
H,	1. DEVELOPED LENG					IG FIXTURE IN FE	ET:	· · · · · · · · · · · · · · · · · · ·	(FEE
	2. MULTIPLY PIPE LE							DIVIDE "G" BY "H2" S	,
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				IPE L					
C	ALCULATE THE PRES		VATE	R CAL			VORKSHE	ET (HW)	
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A	4.9	PSI/100F

	PLUMBING SYMBOL LIST
	NOT ALL SYMBOLS MAY APPLY.
YMBOL:	DESCRIPTION:
CA	COMPRESSED AIR
CW	COLD WATER - POTABLE
D	DRAIN
DT	DRAIN TILE
G	NATURAL GAS
GV	GAS REGULATOR VENT
—-HW	HOT WATER - POTABLE
—HWC——	HOT WATER CIRCULATING - POTABLE
—P	PROPANE GAS
—PD——	PUMPED DISCHARGE
—SAN——	SANITARY DRAINAGE
—SCW——	SOFT COLD WATER
-ST(1,000)—	STORM DRAINAGE (ROOF SQUARE FOOTAGE)
—STS——	STORM DRAINAGE (SECONDARY)
—STW——	SOFT TEMPERED WATER
TW	TEMPERED WATER
V	VENT
—VAC——	LAB VACUUM
W	SERVICE WATER - POTABLE
0	
o <sub>FD</sub>	PIPE SERVING FIXTURE ON FLOOR ABOVE (EXAMPLE: FD = FLOOR DRAIN)
	PITCH PIPE IN DIRECTION
	DIRECTION OF FLOW IN PIPE
<u>RD-1</u> 6"(1000)	ROOF DRAIN PROPERTIES SIZE (ROOF SQ. FT.)
	NEW CONNECTION
	DIELECTRIC CONNECTION
	UNION/FLANGE
—⋈—	SHUTOFF VALVE NORMALLY OPEN
	SHUTOFF VALVE NORMALLY CLOSED
GPM	BALANCING VALVE (NUMBER INDICATES GPM)
	CHECK VALVE
X	SOLENOID VALVE
X- T ▼	SAFETY/RELIEF VALVE
D	REDUCER - REFERENCE SPECIFICATION FOR CONCENTRIC/ECCENTRIC AND FOT/FOB
-8	PRESSURE REDUCING VALVE (LIQUID/GAS)
	PUMP
	METER
Ý	VACUUM BREAKER
×®	PRESSURE GAUGE (FURNISHED WITH BALL VALVE)
	TEMPERATURE SENSOR WITH WELL
	THERMOMETER WITH WELL (DIAL TYPE)
	THERMOMETER WITH WELL (FILLED TYPE)
_ ×	PIPE ANCHOR

<u>PLl</u>	JMBING ABBREVIATION KEY
ABBR:	DESCRIPTION:
AD	ACCESS DOOR
AFF	ABOVE FINISHED FLOOR
BFP	BACKFLOW PREVENTER
вт	BATHTUB
СВ	CATCH BASIN
CI	CAST IRON
со	CLEANOUT
CS	CLINICAL SINK
DB	DIALYSIS BOX
DF	DRINKING FOUNTAIN
DI	DUCTILE IRON
E	EXISTING
EE	EMERGENCY EYEWASH
ES	EMERGENCY SHOWER
ESE	EMERGENCY SHOWER/EYEWASH
EWC	ELECTRIC WATER COOLER
FCO	FLOOR CLEANOUT
FD	FLOOR DRAIN
FM	FLOW METER
FS	FLOOR SINK
GD	GARBAGE DISPOSER
GI	GREASE INTERCEPTOR
НВ	HOSE BIBB
I.E.	INVERT ELEVATION (FOR REFERENCE ONLY)
LAV	LAVATORY
MB	MOP BASIN
МН	MANHOLE
MV	MIXING VALVE
NC	NEW CONNECTION
NIC	NOT IN CONTRACT
NT	NEUTRALIZATION TANK
OS	OIL SEPARATOR
RD	ROOF DRAIN
SH	SHOWER
SK	SINK
SS	SERVICE SINK
TD	TRENCH DRAIN
TP	TRAP PRIMER
TYP	TYPICAL
UR	URINAL
VTR	VENT THROUGH ROOF
WC	WATER CLOSET
WCO	WALL CLEANOUT
WF	WASH FOUNTAIN
WH	WATER HEATER
WMF	WASHING MACHINE FIXTURE
WM	WATER METER
WS	WATER SOFTENER
UB	UTILITY BOX
UNO	UNLESS NOTED OTHERWISE
YCO	YARD CLEANOUT

Sheet Name	
UMBING	
JMBING	
IBING	
LUMBING	
PLUMBING	

[					
<u>VIEW KEY</u>					
NAME - LEVEL NAME 10' - 0" - HEIGHT ABOVE PROJECT 0' - 0"	1 INDICATES NOTE USED TO DESCRIBE ADDITIONAL INFORMATION ABOUT WORK REQUIRED, SPECIFIC TO THE SHEET AND/OR DETAIL				
	PLAN OR DETAIL NUMBER				
	PLAN OR DETAIL NAME				
	<u>N NAME</u>				
ν <sub>ο R</sub> τ <sup>χ</sup> 1/8" = 1'-0"	PLAN OR DETAIL SCALE				
_ SIM					
	DETAIL REFERRED TO BY SECTION CUT				
M101					
SIM					
	DETAIL REFERRED TO BY ELEVATION				
4 <u>3</u> <u>T101</u>					
LINE TYPE KEY:					
NEW WORK BY THIS CONTR (DARK SOLID LINE)	RACTOR				
— — — — NEW WORK UNDERFLOOR (DARK LONG DASHED L	OR UNDERGROUND BY THIS CONTRACTOR INE)				
NEW WORK BY OTHERS AN (LIGHT SOLID LINE)	ID/OR EXISTING TO REMAIN				
EXISTING TO BE REMOVED (DARK SHORT DASHED					

## 17 18 19 20 21

## **PLUMBING GENERAL NOTES:**

- 1. THE SYMBOLS AND THE MATERIAL LIST ARE FOR THE CONVENIENCE OF THE CONTRACTOR. CONTRACTOR SHALL VERIFY QUANTITIES AND FURNISH ALL MATERIALS REQUIRED FOR FULLY OPERATIONAL SYSTEMS, WHETHER SPECIFIED OR NOT.
- CATALOG NUMBERS SHALL NOT BE CONSIDERED COMPLETE, BUT ARE GIVEN AS AN AID TO THE CONTRACTOR AND TO INDICATE THE QUALITY REQUIRED. CONTRACTOR IS RESPONSIBLE FOR COMPLETE DESCRIPTION OF MATERIAL ON THESE DRAWINGS AND IN THE SPECIFICATIONS BEFORE ORDERING. THE DESCRIPTION OF THE MATERIAL TAKES PRECEDENCE OVER THE CATALOG NUMBER. THE FIRST MANUFACTURER LISTED IS THE BASIS OF DESIGN.
   CONTRACTOR SHALL VERIFY THAT FIXTURES SUPPLIED ARE APPROVED PER ALL APPLICABLE
- STATE, LOCAL AND GOVERNING AUTHORITIES. 4. ALL FIXTURES SHALL CONFORM TO FEDERAL ACT S.3874
- INVERT ELEVATIONS ARE FROM EXISTING DRAWINGS AND MAY NOT BE ACCURATE. VERIFY ALL ELEVATIONS BEFORE BEGINNING WORK.
   VERIFY UNDERGROUND PIPE SIZES, INVERT ELEVATIONS, AND LOCATIONS PRIOR TO
- BEGINNING ANY WORK.
  7. REFER TO THE PLUMBING ROUGH-IN SCHEDULE FOR THE SIZES OF BRANCH PIPES TO
- PLUMBING FIXTURES.
  8. FOR CLARITY, NOT ALL VALVES HAVE BEEN SHOWN. PROVIDE SHUTOFF VALVES IN DOMESTIC WATER PIPING SERVING EACH FIXTURE. ANGLE STOPS SHALL NOT BE CONSIDERED SHUTOFF
- VALVES.
  9. EXISTING CONDITIONS ON DEMOLITION PLANS ARE PROVIDED TO INDICATE THE GENERAL SCOPE OF ITEMS TO BE REMOVED. SEE SPECIFICATION SECTION 22 05 05 FOR ADDITIONAL DEMOLITION INFORMATION.
- P.C. SHALL CUT AND PATCH EXISTING AS REQUIRED FOR NEW OR DEMOLITION WORK UNLESS NOTED OTHERWISE. SEE SPECIFICATION SECTION 22 05 05 FOR ADDITIONAL INFORMATION.
   CONTRACTOR TO PROVIDE AND INSTALL ALL SAFING AT ALL FLOOR DRAINS PER REQUIREMENTS STATED IN WISCONSIN PLUMBING CODE SECTION 384.20(4)(b)9.

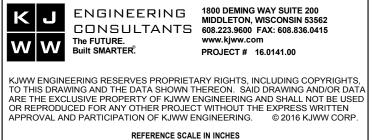
## **PLUMBING DEMOLITION NOTES:**

- 1. THE DRAWINGS ARE INTENDED TO INDICATE THE SCOPE OF DEMOLITION WORK REQUIRED AND DO NOT INDICATE EVERY PIPE OR PIECE OF EQUIPMENT THAT MUST BE REMOVED. ACCESSIBILITY OF EQUIPMENT AND SYSTEMS IS NOT SHOWN NOR SHOULD IT BE INFERRED. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO SUBMITTING A BID AND VERIFY EXISTING CONDITIONS.
- CONTRACTOR IS RESPONSIBLE FOR ALL COST ASSOCIATED WITH CEILING SYSTEM DISASSEMBLY AND REASSEMBLY TO ACCOMMODATE THIS WORK. CONTRACTOR TO SALVAGE, STORE, AND REINSTALL ALL CEILING MOUNTED DEVICES.
   CONTRACTOR IS RESPONSIBLE FOR PATCHING ALL PENETRATIONS CREATED BY REMOVAL OF
- EQUIPMENT, DUCTWORK, PIPING, ETC. TO MATCH EXISTING. REPAIR ADJACENT CONSTRUCTION AND FINISHES DAMAGED DURING DEMOLITION AND EXTENSION WORK. PATCH TO MATCH ORIGINAL CONSTRUCTION. VERIFY ALTERNATIVE OR SPECIAL REPAIR METHODS WITH ARCHITECT/ENGINEER BEFORE PROCEEDING WITH DEMOLITION.
- CONTRACTOR IS RESPONSIBLE FOR ALL MODIFICATIONS TO THE EXISTING SPRINKLER PIPING, PLUMBING PIPING, HVAC PIPING, AND DUCTWORK NECESSARY TO PERMIT THE INSTALLATION OF NEW WORK.
   PROVIDE TEMPORARY CONNECTIONS TO MAINTAIN EXISTING SYSTEMS IN SERVICE DURING
- CONSTRUCTION. 6. WHEN WORK MUST BE PERFORMED ON OPERATING EQUIPMENT, USE PERSONNEL
- EXPERIENCED IN SUCH OPERATIONS. 7. EXTEND EXISTING INSTALLATIONS USING MATERIAL AND METHODS COMPATIBLE WITH EXISTING
- EXTEND EXISTING INSTALLATIONS USING MATERIAL AND METHODS COMPATIBLE WITH EXISTING MECHANICAL INSTALLATIONS, OR AS SPECIFIED FOR INTENDED SERVICE.
   EXISTING PLUMBING SYSTEM: MAINTAIN SERVICE TO ALL PLUMBING FIXTURES UNTIL NEW PIPING IS INSTALLED. OBTAIN PERMISSION FROM OWNER AT LEAST 48 HOURS BEFORE SHUTTING DOWN SYSTEM FOR ANY REASON. MAKE CHANGEOVER TO NEW PIPING WITH MINIMUM OUTAGE. DO NOT DISCONNECT ANY ROOF DRAINAGE PIPING UNTIL NEW PIPING IS IN
- PLACE AND OPERATIONAL.
  9. ALL SYSTEM CHANGEOVERS BE COMPLETED IN OVERTIME, NOT DURING NORMAL WORKING HOURS.
  10. REMOVE, RELOCATE, AND EXTEND EXISTING INSTALLATIONS TO ACCOMMODATE NEW
- CONSTRUCTION.
- REMOVE ABANDONED PIPING TO SOURCE OF SUPPLY AND/OR MAIN LINES AND CAP OR MAKE READY FOR RECONNECTION IF SERVICE IS EXTENDED AS PART OF NEW WORK.
   REMOVE EXPOSED ABANDONED PIPING INCLUDING ABANDONED PIPING ABOVE ACCESSIBLE CEILING FINISHES. CUT PIPING ABOVE CEILINGS, BELOW FLOORS, AND BEHIND WALLS. CAP REMAINING LINES. REMOVE ALL ASSOCIATED CLAMPS, HANGERS, SUPPORTS, ETC.,
- ASSOCIATED WITH PIPING REMOVAL. 13. DISCONNECT AND REMOVE MECHANICAL DEVICES AND EQUIPMENT SERVING EQUIPMENT THAT HAS BEEN REMOVED.
- MAINTAIN ACCESS TO EXISTING MECHANICAL INSTALLATIONS WHICH REMAIN ACTIVE. MODIFY INSTALLATION OR PROVIDE ACCESS PANEL AS APPROPRIATE.
   MECHANICAL ITEMS REMOVED AND NOT RELOCATED REMAIN THE PROPERTY OF THE OWNER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DISPOSAL OF MATERIAL THE OWNER DOES

### NOT WANT TO REUSE OR RETAIN FOR MAINTENANCE PURPOSES. MECHANICAL GENERAL NOTES:

THESE NOTES APPLY TO ALL MECHANICAL SHEETS AND TRADES, INCLUDING BUT NOT LIMITED TO, FIRE PROTECTION, PLUMBING, VENTILATION, PIPING AND TEMPERATURE CONTROL.

- DRAWINGS SHOWING LOCATIONS OF EQUIPMENT, DUCTWORK, PIPING, ETC. ARE DIAGRAMMATIC AND MAY NOT ALWAYS REFLECT EXACT INSTALLATION CONDITIONS. DRAWINGS SHOW THE GENERAL ARRANGEMENT OF DUCTWORK, PIPING, EQUIPMENT, ETC., AND MAY NOT INCLUDE ALL OFFSETS AND FITTINGS REQUIRED FOR COMPLETE INSTALLATION. THE DRAWINGS SHALL BE FOLLOWED AS CLOSELY AS ACTUAL BUILDING CONSTRUCTION AND THE WORK OF OTHERS WILL PERMIT.
- DO NOT SCALE DRAWINGS. VERIFY ALL DIMENSIONS AND CLEARANCES FROM ARCHITECTURAL, STRUCTURAL, SUBMITTALS, AND OTHER APPROPRIATE DRAWINGS OR PHYSICALLY AT SITE. REVIEW ALL DRAWINGS, INCLUDING THOSE OF OTHER TRADES.
   COORDINATE ALL WORK WITH ALL OTHER TRADES PRIOR TO INSTALLATION TO PROVIDE
- COORDINATE ALL WORK WITH ALL OTHER TRADES PRIOR TO INSTALLATION TO PROVIDE CLEARANCES REQUIRED FOR OPERATION, MAINTENANCE, CODE COMPLIANCE, AND TO VERIFY NON-INTERFERENCE WITH OTHER WORK. DO NOT FABRICATE PRIOR TO VERIFICATION OF NECESSARY CLEARANCES FOR ALL TRADES. BRING ANY INTERFERENCES OR CONFLICTS TO THE ATTENTION OF THE ARCHITECT/ENGINEER BEFORE PROCEEDING WITH FABRICATION OR EQUIPMENT ORDERS.
- REVIEW SPACE REQUIREMENTS OF EQUIPMENT SPECIFIED OR SUBSTITUTED AND MAKE REASONABLE ACCOMMODATIONS IN LAYOUT AND POSITIONING TO PROVIDE PROPER ACCESS.
   ANY CHANGES REQUIRED TO ELIMINATE CONFLICTS OR THAT RESULT FROM A FAILURE TO COORDINATE SHALL BE MADE BY THE CONTRACTOR WITHOUT ADDITIONAL COST OR EXPENSE
- TO OTHERS.
  6. EACH CONTRACTOR IS RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH ELECTRICAL CHANGES REQUIRED FOR EQUIPMENT PROPOSED THAT DIFFERS FROM THE BASIS OF DESIGN.
  7. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN, ELECTRICAL, TECHNOLOGY
- AUDIO/VISUAL, AND OTHER MECHANICAL PLANS FOR EXACT LOCATIONS OF ALL CEILING MOUNTED DEVICES, OTHER THAN SPRINKLERS.
  8. EACH CONTRACTOR IS RESPONSIBLE FOR DAMAGE CAUSED BY THEIR ACTIONS TO WALLS,
- FLOORS, CEILINGS, AND ROOFS. THE CONTRACTOR WHOSE WORK CAUSES DAMAGE IS RESPONSIBLE FOR PATCHING TO MATCH ORIGINAL CONSTRUCTION, FIRE RATING, AND FINISH.
  IN AREAS WITH DRYWALL CEILINGS COORDINATE LOCATIONS OF ACCESS PANELS WITH THE GC FOR ACCESS TO VALVES, DUCTWORK ACCESSORIES, DAMPERS, ETC. COORDINATE PANEL TYPE
- AND COLOR WITH ARCHITECT. NOTIFY THE GC OF THE REQUIRED ACCESS PANELS PRIOR TO BIDDING.
  10. SEAL ALL FLOOR, WALL, AND ROOF PENETRATIONS AIRTIGHT WHERE CONDUITS, PIPING, AND DUCTS PENETRATE. PENETRATIONS THROUGH EXTERIOR WALLS AND ROOF SHALL BE SEALED AIRTIGHT WITH WATERPROOFING MATERIALS RECOMMENDED BY MANUFACTURER FOR
- OUTDOOR USE. 11. CAULK ALL PIPE AND DUCT PENETRATIONS OF FULL HEIGHT NON-FIRE RATED WALL, PARTITION, FLOOR, AND ROOF ASSEMBLIES. THIS IS ESSENTIAL TO PREVENT NOISE TRANSMISSION FROM
- ONE ROOM TO ANOTHER AND TO PROVIDE THE DESIRED NC LEVELS WITHIN ROOMS.
  12. WHERE PIPES AND DUCTS ARE SHOWN TO PENETRATE FLOORS, PROVIDE SLEEVED OPENINGS WITH THE TOP EDGE RAISED ABOVE FLOOR SURFACE IN ACCORDANCE WITH ALL RELEVANT
- SPEC SECTIONS. SEAL SLEEVE PERIMETER TO BE WATERTIGHT.
  13. EQUIPMENT SIZES AND SERVICE CLEARANCE REQUIREMENTS VARY BETWEEN DIFFERENT MANUFACTURERS. CONSULT APPROVED SHOP DRAWINGS FOR EQUIPMENT SIZES AND REQUIRED SERVICE CLEARANCES. COORDINATE WITH LAYOUT OF EQUIPMENT PADS, PIPING,
- DUCTWORK, ETC. 14. DO NOT BLOCK TUBE PULL OR EQUIPMENT SERVICE CLEARANCES. 15. MAINTAIN MINIMUM 3'-6" CLEARANCE IN FRONT OF ALL ELECTRICAL PANELS, MOTOR STARTERS,
- SWITCHES, AND DISCONNECTS. 16. PROVIDE CONCRETE EQUIPMENT PAD FOR ALL FLOOR MOUNTED EQUIPMENT. PAD SHALL
- EXTEND MINIMUM 6" BEYOND ALL SIDES OF EQUIPMENT.
  17. DO NOT SUPPORT EQUIPMENT, PIPING, OR DUCTWORK FROM METAL DECKING OR OTHER NON-STRUCTURAL BUILDING ELEMENTS. ANCHORS EMBEDDED IN CONCRETE SHALL BE CRACKED CONCRETE APPROVED IN ACCORDANCE WITH SPECIFICATIONS.



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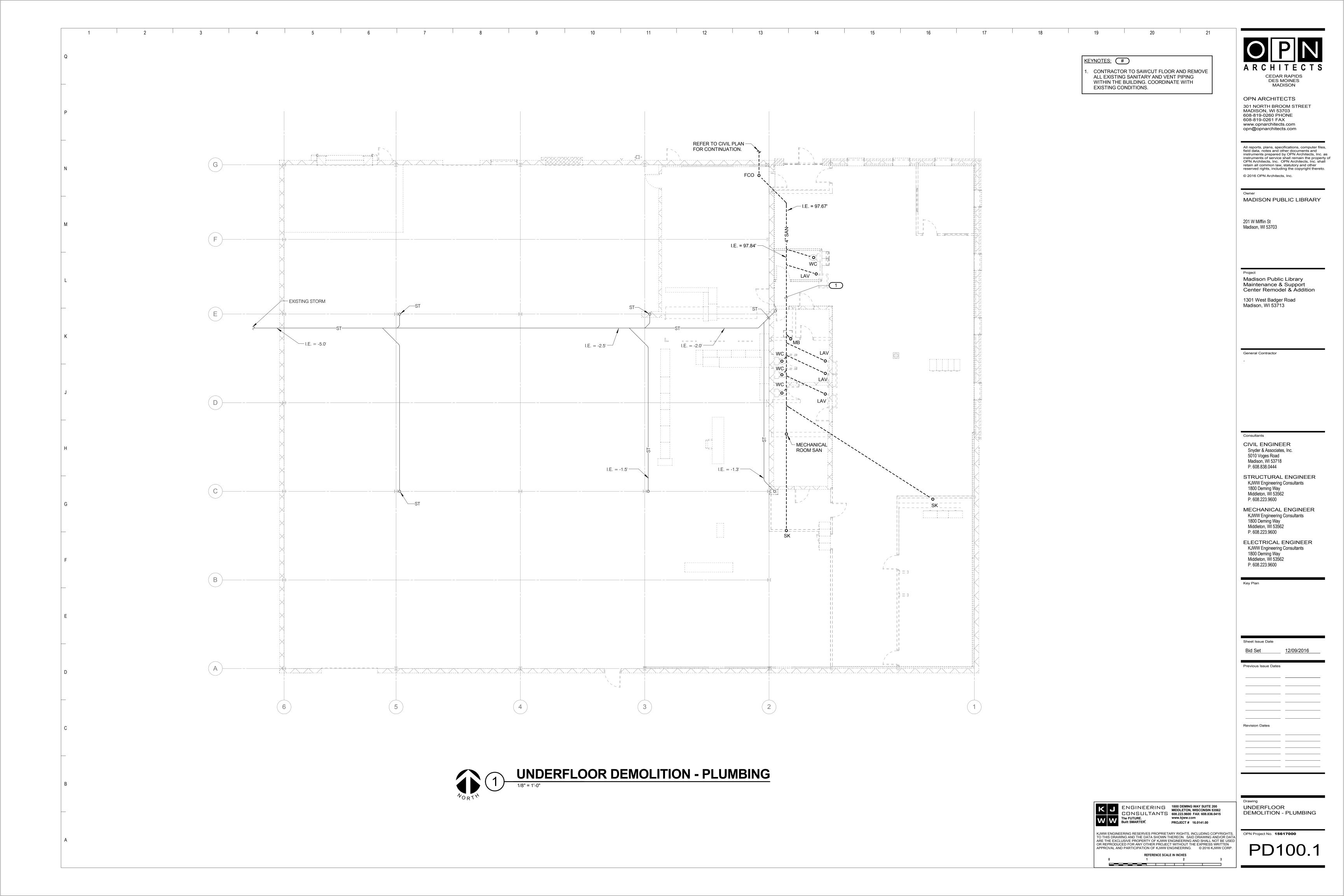
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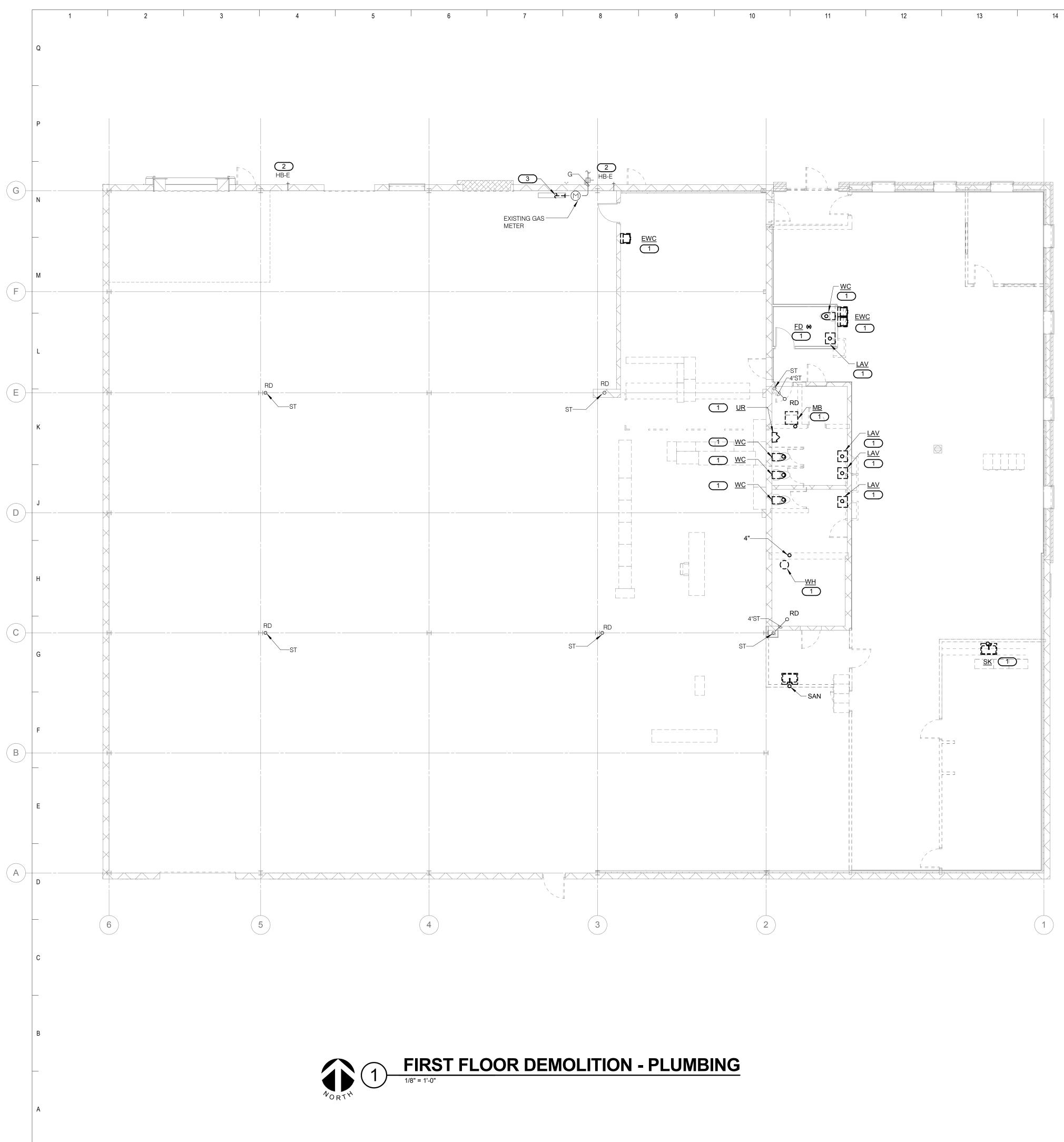
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Drawing COVER SHEET -PLUMBING

OPN Project No. **15617000** 





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## KEYNOTES: #

- REMOVE EXISTING PLUMBING FIXTURE AND ASSOCIATED CW, HW, HWC, VENT, SANITARY PIPING AND ACCESSORIES ON THIS FLOOR AS WELL AS UNDER FLOOR.
- REMOVE PIPING AND PIPE CONNECTION TO EXISTING HOSE BIBB TO REMAIN. REFER TO
- SHEET P101.1 FOR NEW CONNECTION. THIS CONTRACTOR TO FIELD VERIFY AND
- REMOVE ALL EXISTING GAS PIPING BACK TO GAS METER. COORDINATE WITH EXISTING CONDITIONS. PREPARE FOR NEW CONNECTION TO MATCH NEW PLANS SHOWN ON SHEET P101.1.

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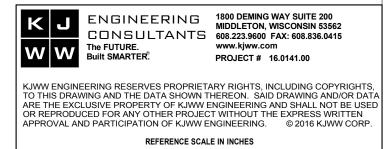
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Drawing FIRST FLOOR

**DEMOLITION - PLUMBING** 

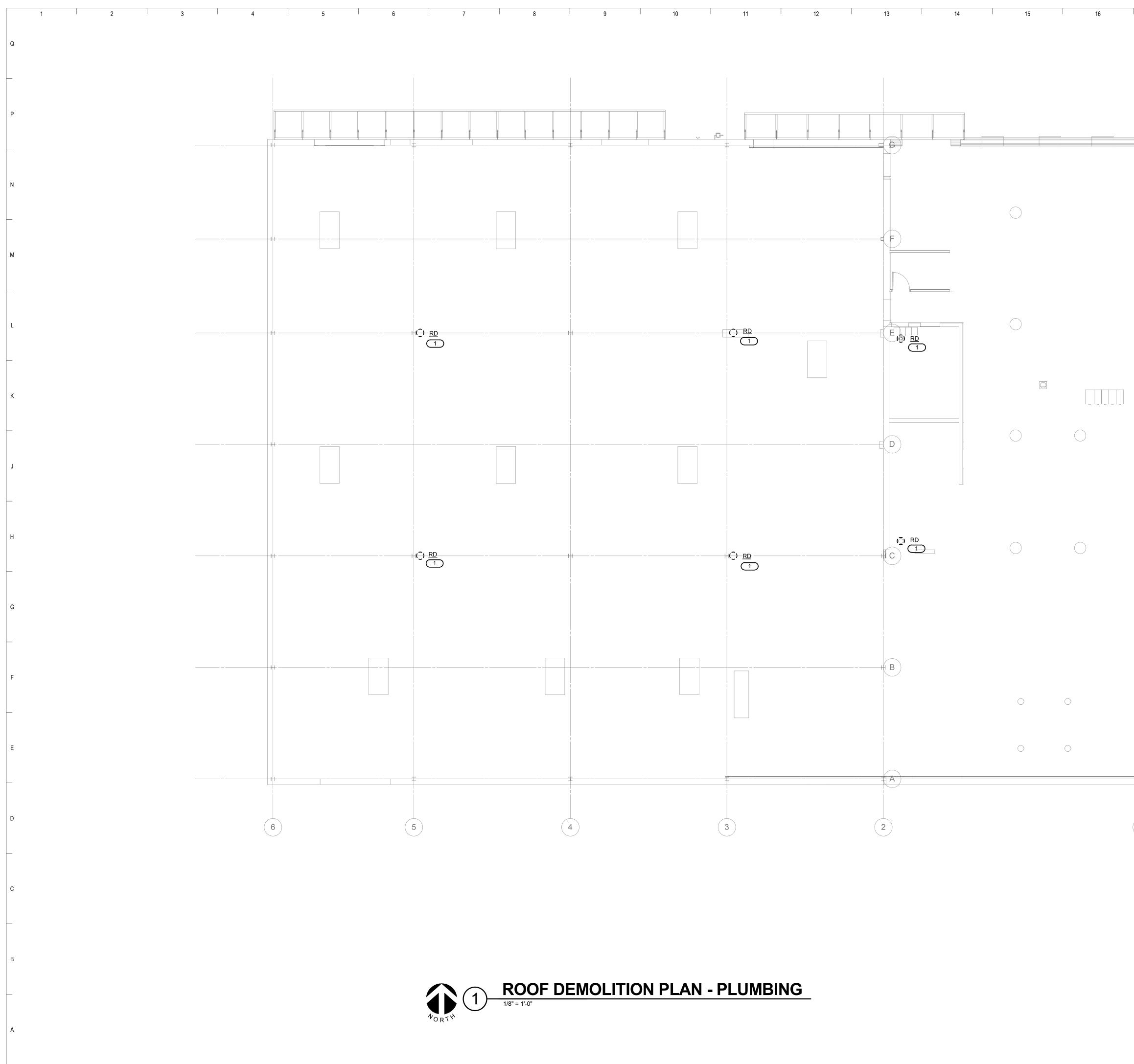


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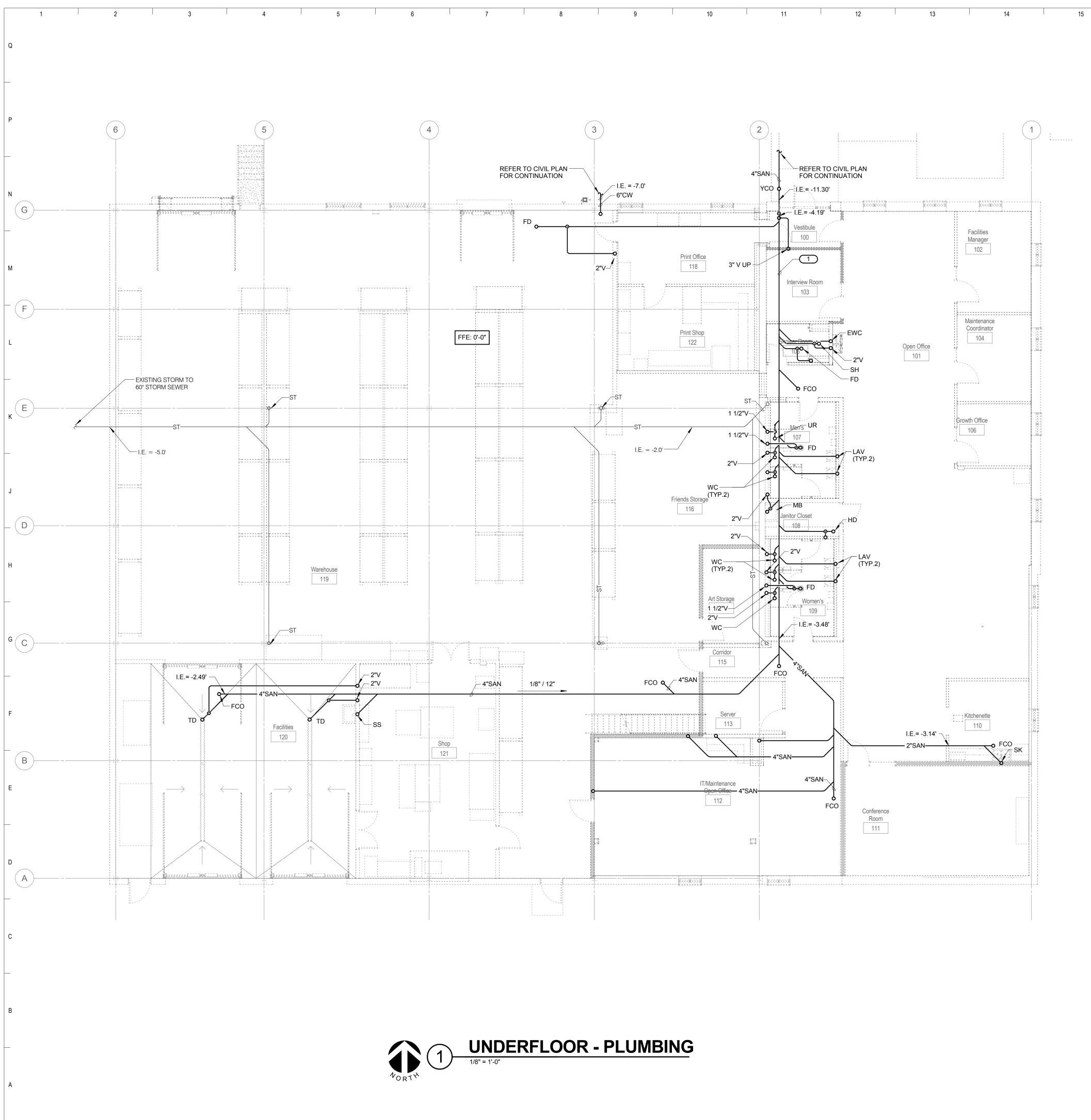
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## KEYNOTES: #

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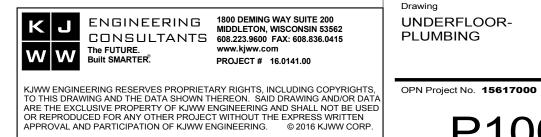
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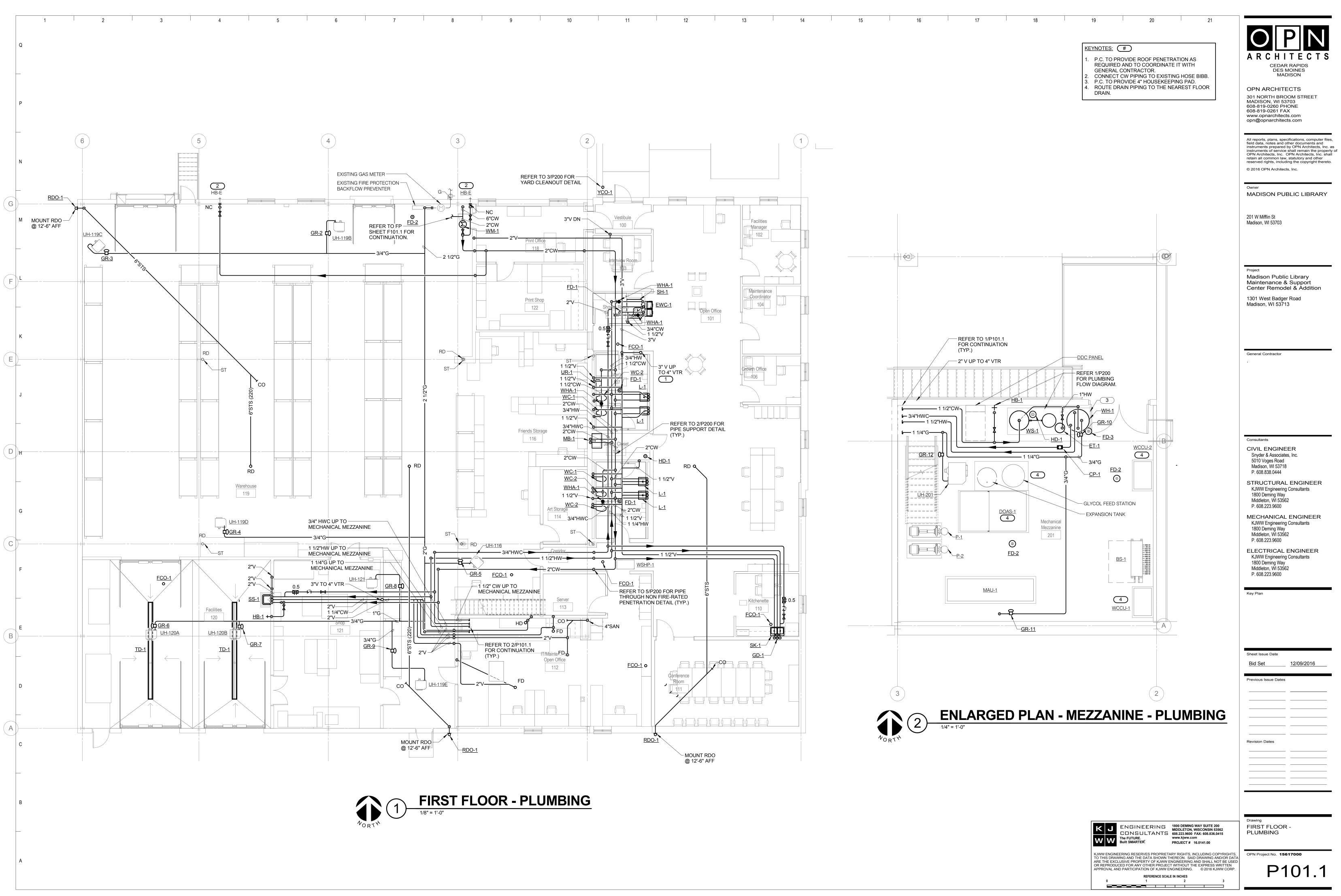
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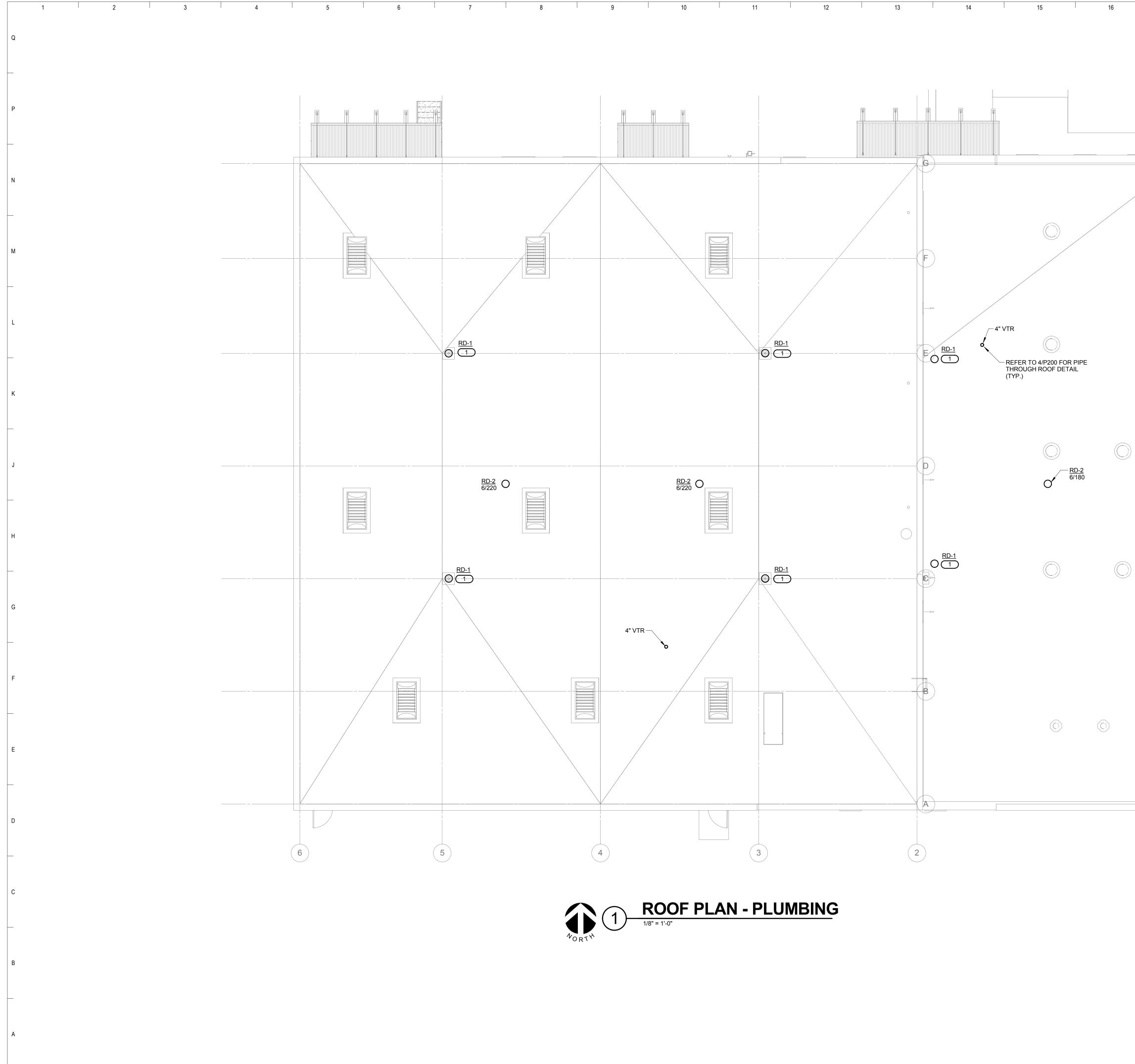
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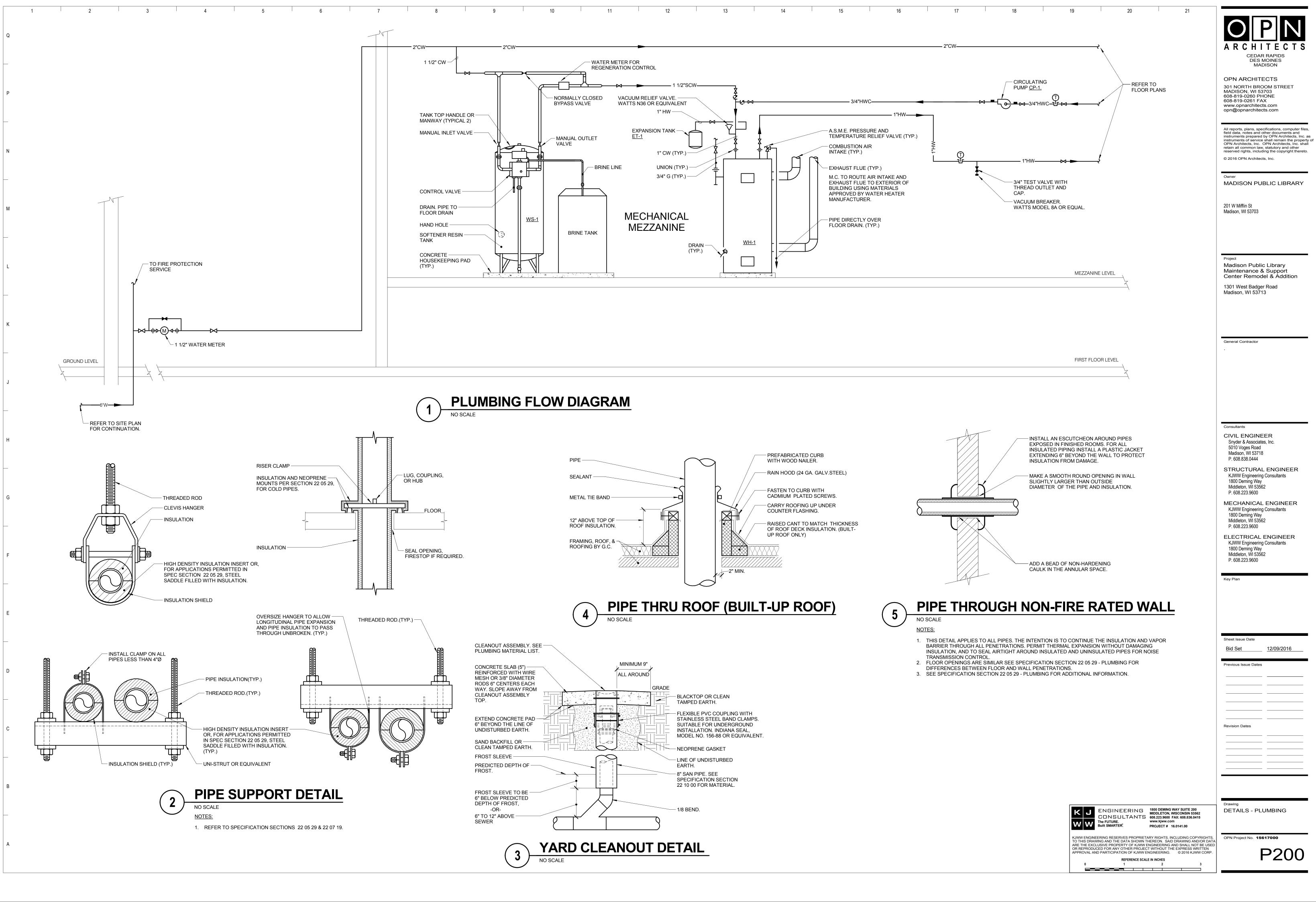
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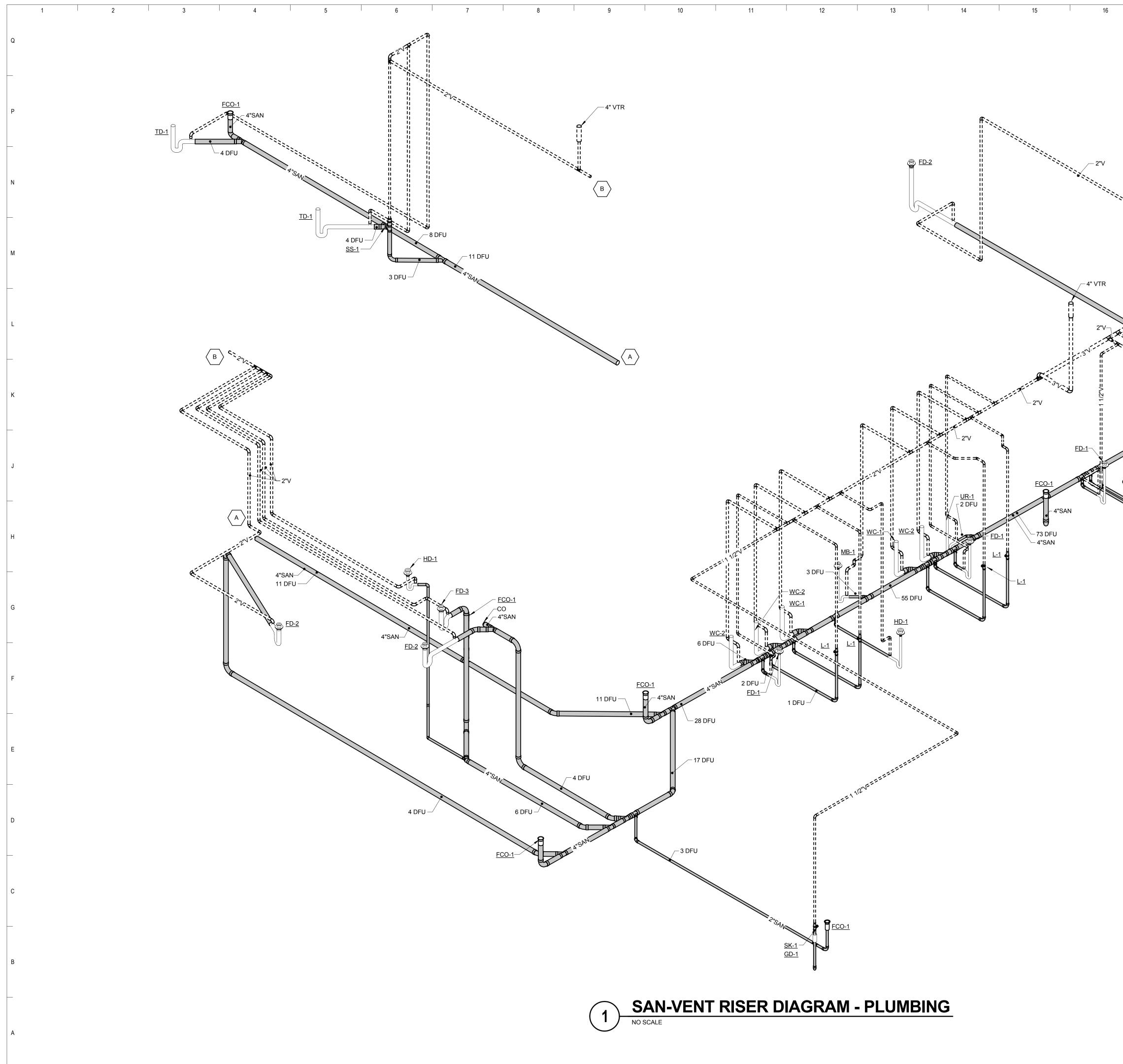
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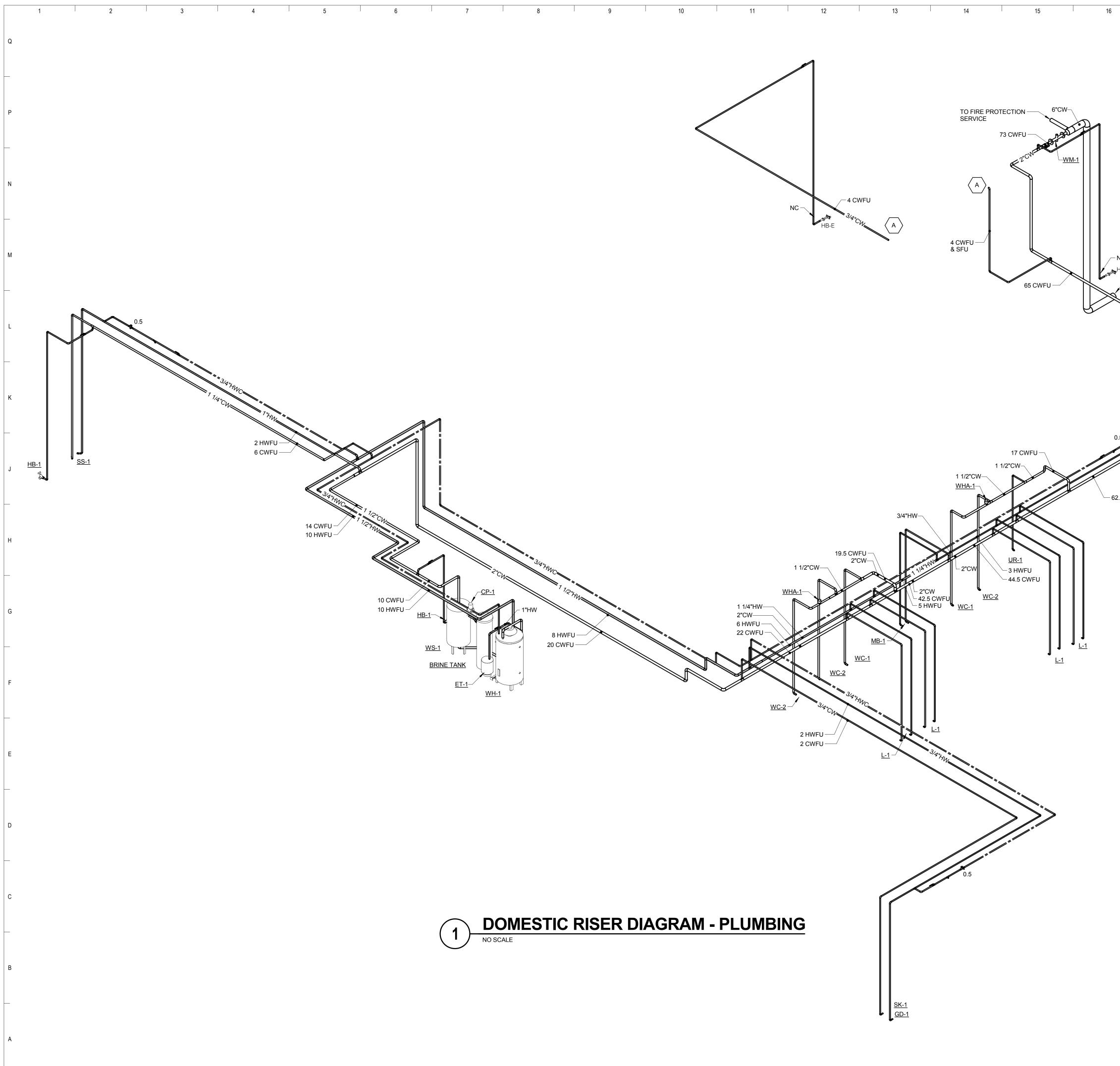
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	PLUMBING FIXTURE SCHEDULE		PLUMBING FIXTURE SCHEDULE		PLUMBING FIXTURE SCHEDULE
ET-1 E	DESCRIPTIONMANF. & MODELCIRCULATING PUMP - VARIABLE SPEED CONTROLLER WITH SETTINGS TO ADJUST AND WAINTAIN A CONSTANT: SPEED, FIXED PRESSURE, OR PROPORTIONAL PRESSURE. LEAD FREE BRONZE OR STAINLESS STEEL CONSTRUCTION, PERMANENTLY LUBRICATED SEALED BEARINGS, MECHANICAL SEAL, OIL LUBRICATED, ECM MOTOR WITH INTEGRATED VARIABLE SPEED CONTROL, FLANGED CONNECTIONS, RATED FOR 125 PSIG AT 225°F, UL LISTED.PUMP - GRUNDFOS (ALPHA SERIES), B (COMPASS 20-20 SS SERIES)36 GPM @ 10 FEET OF HEAD. MOTOR SHALL BE 0.65 AMPS.ELECTRICAL REQUIREMENTS - 115V, 1 PHASE HARD-WIRED.MMTROL (THERM-X-TROL), B&G (PT), E (DT), TACO (PAX SERIES), WATTS (DE) (DT), TACO (PAX SERIES), WATTS (DE) WON-CORROSIVE WATER RESERVOIR, DIAPHRAGM AND LINER SHALL BE APPROVED FOR USE N POTABLE WATER SYSTEMS, ALL WETTED COMPONENTS OF FDA APPROVED MATERIALS. PROVIDE STANDARD SCHRADER AIR VALVE FOR FIELD CHARGEING. TANK SHALL COMPLY WITH FEDERAL ACT S.3874.AMTROL (THERM-X-TROL), B&G (PT), E (DT), TACO (PAX SERIES), WATTS (DE) WESSELS (TX)TANK SHALL HAVE A RATED TEMPERATURE OF 200°F AND A RATED PRESSURE OF 125 PSIG. WINIMUM TANK VOLUME TO BE GALLONS, MINIMUM ACCEPTING VOLUME TO BE GALLONS. FACTORY PRE-CHARGED FOR SHIPPING. FIELD CHARGE TANK TO 70 PSIGELKAY (LZWS), HALSEY TAYLOR	BI	LAVATORY - ACCESSIBLE WALL MOUNTED, WHITE VITREOUS CHINA, 20"x18", 4" HIGH CONTOURED BACKSPLASH, SINGLE FAUCET HOLE, DRILLED FOR CONCEALED ARM CARRIER. LAVATORY TRIM - SINGLE HOLE DECK MOUNT ELECTRONIC SENSOR FAUCET, BRASS CONSTRUCTION, CHROME-PLATED FINISH, RIGID GOOSENECK SPOUT WITH NOMINAL 6" REACH AND VANDAL RESISTANT NON-AERATED SPRAY DEVICE, AC/DC CONTROL MODULE, TEMPERATURE CONTROL MIXING VALVE WITH INTEGRAL CHECK VALVES AND 3/8" COMPRESSION CONNECTIONS. MAXIMUM FLOW TO BE 0.5 GPM IN COMPLIANCE WITH ENERGY POLICY ACT OF 2005 AND ASME/ANSI STANDARD A112.18.1/CSA B125.1, NSF 61-SECTION 9, NSF 372 AND UL 1951. MEETS ADA ANSI/ICC A117.1 REQUIREMENTS. MIXING VALVE - POINT-OF-USE ANTI-SCALD THERMOSTATIC MIXING VALVE FOR TEMPERED WATER CONTROL, ALL BRONZE/BRASS CONSTRUCTION, ROUGH FINISH, THREADED INLETS, TAMPER RESISTANT SETPOINT. 0.5 GPM OUTPUT. UNIT TO MIX 120 DEGREE F HOT WATER SUPPLY AND 40 DEGREE F COLD B WATER SUPPLY FOR 110 DEGREE F OUTLET.	MANF. & MODEL AVATORY - MERICAN STANDARD (0356.421), KOHLER (-2007), SLOAN (SS-3103), TOTO (LT307), JRN (Z5361) AVATORY TRIM - T&S BRASS (5EF-1D-DS) R EQUIVALENT IXING VALVE - WATTS (LFUSG-B), ACORN ONTROLS (ST70), APOLLO (34DLF), AWLER (MODEL 516), LEONARD 70-BP-LF), POWERS (LFE480), SLOAN AIX-135-A), SYMMONS (7-210), WILKINS W3870XLT) ISULATION KIT - TRUEBRO (LAV-GUARD), ROCAR PRODUCTS (TRAP WRAP), CGUIRE (PROWRAP), PLUMBEREX PRO-EXTREME)	TAG NAMEDESCRIPTIONMANF. & MODELWC-1WATER CLOSET - ACCESSIBLE, FLOOR MOUNTED, FLUSH VALVE TYPE, WHITE VITREOUS CHINA, SIPHON JET, WATER SAVING, ELONGATED BOWL, 1-1/2" TOP SPUD, BOLT CAPS. (25-730), KOHLER (K-4368), SLOAN (3043.001), CRANE (3H701), GERB (25-730), KOHLER (K-4368), SLOAN (ST-2023), ZURN (25660)WATER CLOSET - AMERICAN STA (3043.001), CRANE (3H701), GERB (25-730), KOHLER (K-4368), SLOAN (ST-2023), ZURN (25660)1.6 GALLONS PER FLUSH, 11-1/2" ROUGH-IN, CHROME PLATED, 1" I.P.S. SCREWDRIVER STOP-CHECK VALVE WITH VANDAL RESISTANT CAP, HIGH BACK PRESSURE VACUUM BREAKER, ADJUSTABLE TAILPIECE, SPUD COUPLING AND FLANGE, WALL FLANGE WITH SET SCREW, MECHANICAL OVER-RIDE BUTTON, CHLORAMINE RESISTANT MATERIALS, CHROME PLATED COVER PLATE WITH TAMPER-PROOF SCREWS, TRANSFORMER AND LOW VOLTAGE WIRING, TRANSFORMER CAPABLE OF OPERATING UP TO 10 UNITS, LOW VOLTAGE WIRING FROM TRANSFORMER TO EACH FLUSH VALVE, ADA COMPLIANT, 3 YEAR WARRANTY.SEAT - BEMIS (1655C), CHURCH (B BENKE (633), KOHLER (K-4666-C) OLSONITE (95), SAME AS WATER MANUFACTURER]SEAT - WHITE, EXTRA HEAVY, OPEN FRONT, INJECTION MOLDED SOLID PLASTIC, CHECK HINGE, STAINLESS STEEL OR PLATED DSTEEL POSTS AND NUTS.SEAT - BEMIS (1655C), CHURCH (B BENKE (633), KOHLER (K-4666-C) OLSONITE (95), SAME AS WATER MANUFACTURER]TOP OF SEAT SHALL BE AT 17"-19" ABOVE FINISHED FLOOR. VERIFY EQUIPMENT REQUIREMENTS AND ROUGH-IN LOCATIONS.VERIFY EQUIPMENT REQUIREMENTS AND ROUGH-IN LOCATIONS.
S F E C C T V E S V F C C F C	WATCHING STAINLESS STEEL APRON INSTALLED UNDER UPPER UNIT, BI-LEVEL STAINLESS STEEL ROUND BASINS WITH STAINLESS STEEL FINISH, PERFORATED DRAINS, STREAM PROJECTORS WITH PROTECTIVE HOODS, PUSH BUTTON OPERATING CONTROLS ON FRONT, BUILT-IN FLOW REGULATORS, DRAINS AND TRAP ASSEMBLIES, HERMETIC COMPRESSOR TO OPERATE ON HFC-134a REFRIGERANT, CONCEALED ELECTRICAL CONNECTIONS, ADJUSTABLE THERMOSTAT, CONFORM TO LATEST ANSI A117.1 AND ADA STANDARDS. UNIT SHALL COMPLY WITH FEDERAL ACT S.3874. BOTTLE FILLING STATION - RECESSED MOUNTED ADJACENT TO WATER COOLER, STAINLESS STEEL CONSTRUCTION AND FINISH, 1 1/4" DRAIN, 1/2" COLD WATER INLET, SENSOR OPERATED WITH AUTOMATIC SHUTOFF, REPLACEABLE LEAD-CHLORINE-TASTE-ODOR WATER FILTER, BOTTLE COUNTER, ADJUSTABLE THERMOSTAT, CORD AND PLUG CONNECTION. JNIT SHALL PROVIDE 8.0 GPH OF WATER FROM 80°F TO 50°F AT 90°F AMBIENT. WATER SYSTEM SHALL BE OF LEAD FREE CONSTRUCTION. TANK SHALL BE TESTED TO 125 PSIG. DRIFICE SHALL BE AT 36" (MAXIMUM) ABOVE FINISHED FLOOR ON LOWER UNIT AND 40" ABOVE FINISHED FLOOR ON UPPER UNIT. BOTTOM OF APRON SHALL BE 27" ABOVE FINISHED FLOOR DN LOWER UNIT IN COMPLIANCE WITH LATEST ADA STANDARDS.	MB-1	REMOVABLE STRAINER, 3" OUTLET, CONTINUOUS STAINLESS STEEL CAP ON ALL EDGES.CTRIM - EXPOSED TWO HANDLE MIXING FAUCET, BRASS CONSTRUCTION, CHROME-PLATEDTIFINISH, SINGLE WING HANDLES, 1/4 TURN CERAMIC DISC CARTRIDGE, 3/4" HOSE THREADSSPOUT WITH [ASSE 1053 RATED] INTEGRAL VACUUM BREAKER, WALL BRACE, PAIL HOOK,(8CHECK STOPS OR INLINE CHECK VALVES TO PREVENT THERMAL CROSSOVER. FAUCET SHALL(8)	OP BASIN - FIAT (TSB), ACORN (TSH), REATIVE INDUSTRIES (MC), WILLIAMS (SB) RIM - DELTA (28C2383), AMERICAN TANDARD (8344.012), CHICAGO FAUCETS 97-CP), MOEN (8124), SPEAKMAN SC-5812), SYMMONS (S-2490), ZURN 2841M1-XL)	WC-2WATER CLOSET - FLOOR MOUNTED, FLUSH VALVE TYPE, WHITE VITREOUS CHINA, SIPHON JET, WATER SAVING, ELONGATED BOWL, 1-1/2" TOP SPUD, BOLT CAPS.WATER CLOSET - AMERICAN STA (3043.001), CRANE (3H701), GERB (25-730), KOHLER (K-4368), SLOAN (ST-2023), ZURN (Z5660)]1.6 GALLONS PER FLUSH, 11-1/2" ROUGH-IN, CHROME PLATED, 1" I.P.S. SCREWDRIVER STOP-CHECK VALVE WITH VANDAL RESISTANT CAP, HIGH BACK PRESSURE VACUUM BREAKER, ADJUSTABLE TAILPIECE, SPUD COUPLING AND FLANGE, WALL FLANGE WITH SET SCREW, MECHANICAL OVER-RIDE BUTTON, CHLORAMINE RESISTANT MATERIALS, CHROME PLATED COVER PLATE WITH TAMPER-PROOF SCREWS, TRANSFORMER AND LOW VOLTAGE WIRING, TRANSFORMER TO EACH FLUSH VALVE, ADA COMPLIANT, 3 YEAR WARRANTY.FLUSH VALVE - ZURN (ZEMS6000, (ROYAL 111 ES-S), AMERICAN STA (6067.161), DELANY (1302), HYDRG (H-8000C), MOEN (8310AC16)ELECTRICAL REQUIREMENTS - 120VAC INPUTSEAT - WHITE, EXTRA HEAVY, OPEN FRONT, INJECTION MOLDED SOLID PLASTIC, CHECK HINGE, STAINLESS STEEL OR PLATED STEEL POSTS AND NUTS. CONTRACTOR OPTION: COMBINATION WATER CLOSET/FLUSH VALVE PACKAGED SYSTEM BY AMERICAN STANDARD, KOHLER, SLOAN, OR ZURNSUTTING UP TO SURDAN CALVE PACKAGED SYSTEM BY AMERICAN STANDARD, KOHLER, SLOAN, OR ZURN
E	ELECTRICAL REQUIREMENTS - 115V-1 PHASE, HARD-WIRED, 1/5 HP MOTOR, DISCONNECT BY E.C.		ACCESSORIES - MOP HANGER, HOSE AND HOSE BRACKET, DEEP SEAL TRAP	ACUUM BREAKER - WATTS (8A), OR PPROVED EQUAL	TOP OF SEAT SHALL BE AT 17"-19" ABOVE FINISHED FLOOR. VERIFY EQUIPMENT REQUIREMENTS AND ROUGH-IN LOCATIONS.
FD-1 F FD-2 F	FLOOR CLEANOUT - ADJUSTABLE, CAST IRON HOUSING, ANCHOR FLANGE, TAPERED THREAD       ZURN (Z1400), JOSAM (55000), MIFAB         PLUG, SECURED NICKEL BRONZE TOP.       (C1100), SMITH (4000), WADE (6000), W         FLOOR DRAIN - CAST IRON BODY, NICKEL BRONZE ADJUSTABLE TOP, 6" ROUND, 2" BOTTOM       FLOOR DRAIN - ZURN (Z-415), SMITH (2000), WADE (1100), JOSAM (30000), WATTS         OUTLET, FLASHING COLLAR, DEEP SEAL TRAP.       WADE (1100), JOSAM (30000), WATTS         FLOOR DRAIN - CAST IRON BODY, NICKEL BRONZE ADJUSTABLE TOP, 8" ROUND, 4" BOTTOM       FLOOR DRAIN - ZURN (Z-415), SMITH (2000), WATTS         FLOOR DRAIN - CAST IRON BODY, NICKEL BRONZE ADJUSTABLE TOP, 8" ROUND, 4" BOTTOM       FLOOR DRAIN - ZURN (Z-415), SMITH (2000), WATTS         FLOOR DRAIN - CAST IRON BODY, NICKEL BRONZE ADJUSTABLE TOP, 8" ROUND, 4" BOTTOM       FLOOR DRAIN - ZURN (Z-415), SMITH (2000), WATTS	05), RD-2	FLASHING CLAMP, GRAVEL STOP, UNDERDECK CLAMP, BEARING PAN, ADJUSTABLEJGEXTENSION TO MATCH INSULATION THICKNESS, OUTLET SIZE AS LISTED ON DRAWINGS.(FROOF DRAIN - CAST IRON BODY, SECURED CAST IRON DOME, 15" ROUND, SIDE OUTLET, FLASHING CLAMP, GRAVEL STOP, UNDERDECK CLAMP, BEARING PAN, EXTENSION TO MATCH INSULATION THICKNESS, 2" TALL EXTERNAL WATER DAM, OUTLET SIZE AS LISTED ON DRAWINGS.JG	JRN (Z-100), SMITH (1010), WADE (3000), DSAM (21500), WATTS (RD-300), MIFAB R1200) JRN (Z-100), SMITH (1080), WADE (3000), /ATTS (RD-300), MIFAB (R1200)	<ul> <li>WH-1</li> <li>WATER HEATER - GAS FIRED, VERTICAL, MINIMUM 94% EFFICIENT, SEALED COMBUSTION, METAL CABINET, BAKED ENAMEL FINISH, GLASS-LINED ASME STAMPED WELDED STEEL TANK, 160 PSI WORKING PRESSURE, FIBERGLASS OR FOAM INSULATION, BRASS WATER</li> <li>CONNECTIONS AND DRAIN VALVE, ASME APPROVED T&amp;P RELIEF VALVE, MULTIPLE MAGNESIUM ANODE RODS, VENT PIPING KIT, HIGH TEMPERATURE GAS SHUT OFF, AUTOMATIC WATER THERMOSTAT, BUILT-IN GAS REGULATING VALVE, ADJUSTABLE TEMPERATURE RANGE, CONDENSATE DRAIN NEUTRALIZATION KIT, 3-YEAR WARRANTY, UL LISTED, COMPLIANT TO NAECA, ASHRAE 90,1 AND ASHRAE 90A.</li> </ul>
	(FD-100), MIFAB (F1100) FLOOR DRAIN - ACID RESISTANT, POLYPROPYLENE BODY, POLYPROPYLENE GRATE, 8" ROUND, 4" BOTTOM OUTLET, FLASHING CLAMP, SEDIMENT BUCKET, DEEP SEAL TRAP. (FD1-BAS), IPEX (ENFIELD SERIES F10)	))	ANCHORING FLANGE, REMOVABLE STAINLESS STEEL SCREEN, OUTLET SIZE AS LISTED ON DRAWINGS.	JRN (Z-199), SMITH (1770), WADE (3940), DSAM (25010), WATTS (RD-940), MIFAB 81940)	60 GALLON CAPACITY, 120,000 BTUH INPUT NATURAL GAS, 138 GPH RECOVERY AT 100°F RISE.
	GARBAGE DISPOSER - CONTINUOUS FEED, SINGLE DIRECTION, CORROSION PROTECTION SHIELD, SERVICE WRENCH, STAINLESS STEEL GRINDING ELEMENTS, MANUALLY RESET OVERLOAD PROTECTION, FULL 4 YEAR WARRANTY.IN-SINK-ERATOR (EVOLUTION SERIES SINKMASTER (950), WASTE KING (3300) ELECTRICAL REQUIREMENTS - 115V-1 PHASE, CORD AND PLUG, 3/4 HP MOTOR, 15 AMPS.IN-SINK-ERATOR (EVOLUTION SERIES SINKMASTER (950), WASTE KING (3300)	SH-1	GELCOATED FINISH, 46"x36" (NOMINAL), RIGHT HAND AS SHOWN ON DRAWINGS, SLIP-RESISTANT FLOOR, 3" FLOOR DRAIN, 4" NICKEL BRONZE STRAINER, ASTM F-462, IN COMPLIANCE WITH LATEST ANSI A117.1 AND ADA STANDARDS.	HOWER - AQUATIC (1483BFSD), OASIS SHMD-4836 / TLV-RS/LS), AQUARIUS S4836BF) OR EQUIVALENT HOWER VALVE - MOEN COMMERCIAL	ELECTRICAL REQUIREMENTS - 120V CIRCUIT FOR BLOWER AND CONTROLS, HARD-WIRED         SET WATER TEMPERATURE AT 120°F.         SET WATER TEMPERATURE AT 120°F.         SET WHA-1
GR-3 (	GAS PRESSURE REGULATOR - CAST IRON BODY, INTERNAL PRESSURE RELIEF, THREADED       FISHER, ITRON, SENSUS, MAXITROL         CONNECTIONS, ADJUSTABLE PRESSURE SETTING, TIGHT SHUTOFF.       FISHER, ITRON, SENSUS, MAXITROL         B" WC INLET PRESSURE, 3.5" WC OUTLET PRESSURE, 51.2 CFH CAPACITY AS SHOWN IN       FISHER, ITRON, SENSUS, MAXITROL         SCHEDULE, MINIMUM CONTROLLABLE FLOW OF 0 CFH.       FISHER, ITRON, SENSUS, MAXITROL         GAS PRESSURE REGULATOR - CAST IRON BODY, INTERNAL PRESSURE RELIEF, THREADED       FISHER, ITRON, SENSUS, MAXITROL         CONNECTIONS, ADJUSTABLE PRESSURE SETTING, TIGHT SHUTOFF.       FISHER, ITRON, SENSUS, MAXITROL         B" WC INLET PRESSURE, 3.5" WC OUTLET PRESSURE, 51.2 CFH CAPACITY AS SHOWN IN       FISHER, ITRON, SENSUS, MAXITROL		OR BRONZE CONSTRUCTION, WASHERLESS DESIGN, OFF-COLD-HOT TEMPERATURE RANGE INDICATOR DIAL, POLISHED CHROME CAST METAL LEVER HANDLE, INTEGRAL CHECK STOPS, (F	TANDARD (1662.221), DELTA 210000-UNWS/T13H152-20), LEONARD 2AM-II), POWERS (PB413-9)	UNITS.       (SS), MIFAB (WHB)         INSTALL PER MANUFACTURER'S RECOMMENDATIONS.       (SS), MIFAB (WHB)         WM-1       WATER METER - DISC TYPE, ALL BRONZE CONSTRUCTION, 1 1/2" SIZE, TOP READING CUMULATIVE DIAL WITH FACE PLATE CAP, AWWA COMPLIANT.       NEPTUNE, BADGER, HERSEY         PROVIDE FULL SIZE BYPASS WITH LOCKABLE VALVE.       VATER SOFTENER - AUTOMATIC REGENERATION TYPE, SIMPLEX SOFTENER TANKS, POWER       REFER TO SPECIFICATIONS
GR-4 ( 6 6 6 7 6 7 7 7 7 7 7 7 7 7 7 7 7 7 7	SCHEDULE, MINIMUM CONTROLLABLE FLOW OF 0 CFH.       FISHER, ITRON, SENSUS, MAXITROL         GAS PRESSURE REGULATOR - CAST IRON BODY, INTERNAL PRESSURE RELIEF, THREADED       FISHER, ITRON, SENSUS, MAXITROL         CONNECTIONS, ADJUSTABLE PRESSURE SETTING, TIGHT SHUTOFF.       FISHER, ITRON, SENSUS, MAXITROL         B" WC INLET PRESSURE, 3.5" WC OUTLET PRESSURE, 51.2 CFH CAPACITY AS SHOWN IN       FISHER, ITRON, SENSUS, MAXITROL         SCHEDULE, MINIMUM CONTROLLABLE FLOW OF 0 CFH.       FISHER, ITRON, SENSUS, MAXITROL         GAS PRESSURE REGULATOR - CAST IRON BODY, INTERNAL PRESSURE RELIEF, THREADED       FISHER, ITRON, SENSUS, MAXITROL         S" WC INLET PRESSURE, 3.5" WC OUTLET PRESSURE, 51.2 CFH CAPACITY AS SHOWN IN       FISHER, ITRON, SENSUS, MAXITROL         CONNECTIONS, ADJUSTABLE PRESSURE SETTING, TIGHT SHUTOFF.       FISHER, ITRON, SENSUS, MAXITROL         B" WC INLET PRESSURE, 3.5" WC OUTLET PRESSURE, 51.2 CFH CAPACITY AS SHOWN IN       FISHER, ITRON, SENSUS, MAXITROL         SCHEDULE, MINIMUM CONTROLLABLE FLOW OF 0 CFH.       FISHER, ITRON, SENSUS, MAXITROL         GAS PRESSURE REGULATOR - CAST IRON BODY, INTERNAL PRESSURE RELIEF, THREADED       FISHER, ITRON, SENSUS, MAXITROL         CONNECTIONS, ADJUSTABLE PRESSURE SETTING, TIGHT SHUTOFF.       FISHER, ITRON, SENSUS, MAXITROL		INSTALL ALL CONTROLS BETWEEN 38" AND 48" ABOVE FINISHED FLOOR IN COMPLIANCE WITH LATEST ADA STANDARDS. MAXIMUM FLOW TO BE 2.5 GPM IN COMPLIANCE WITH ENERGY POLICY ACT OF 2005 AND ASME/ANSI STANDARD A112.18.1M. SET SAFETY LIMIT STOP TO 110 DEGREE F DISCHARGE. ACCESSORIES - FOLD DOWN PHENOLIC SIMULATED TEAKWOOD SEAT, 1 1/2" 18 GAUGE TYPE 304 STAINLESS STEEL HORIZONTAL GRAB BAR ON BACK WALL AND VALVE WALL, 1" DIAMETER STAINLESS STEEL CURTAIN ROD, COMMERCIAL GRADE VINYL SHOWER CURTAIN. GRAB BAR SHALL BE MOUNTED WITH STAINLESS STEEL NUTS AND BOLTS AND FASTENED FROM THE BACKSIDE OF THE UNIT WITH MINIMUM 3"x3" METAL PLATES. UNIT SHALL BE RECESSED IN SUB-FLOOR TO ALLOW FOR A MAXIMUM CURB HEIGHT OF 1/2" OR LESS ABOVE THE FINISHED FLOOR. MOUNT SHOWER CURTAIN ROD AS HIGH AS POSSIBLE.		CONTINUOUS FLOW RATE OF 9.8 GPM AT 10 PSI PRESSURE DROP, MAXIMUM FLOW RATE OF       13.1 GPM AT 15 PSI PRESSURE DROP.         ELECTRICAL REQUIREMENTS - 120V-1 PHASE RECEPTACLE       EEFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.         YCO-1       YARD CLEANOUT - ROUND, DURA-COATED CAST IRON, SIZE AS LISTED ON DRAWINGS, DOUBLE FLANGED HOUSING, HEAVY DUTY SECURED SCORIATED DURA-COATED CAST IRON COVER, LIFTING DEVICE, BRONZE CLEANOUT PLUG WITH GAS/WATER-TIGHT SEAL.       ZURN (Z1474), SMITH (4261), WAD (58680), WATTS (CO-300-M)
GR-7 ( GR-7 ( GR-8 ( GR-8 (	B" WC INLET PRESSURE, 3.5" WC OUTLET PRESSURE, 60.5 CFH CAPACITY AS SHOWN IN SCHEDULE, MINIMUM CONTROLLABLE FLOW OF 0 CFH. GAS PRESSURE REGULATOR - CAST IRON BODY, INTERNAL PRESSURE RELIEF, THREADED CONNECTIONS, ADJUSTABLE PRESSURE SETTING, TIGHT SHUTOFF. B" WC INLET PRESSURE, 3.5" WC OUTLET PRESSURE, 60.5 CFH CAPACITY AS SHOWN IN SCHEDULE, MINIMUM CONTROLLABLE FLOW OF 0 CFH. GAS PRESSURE REGULATOR - CAST IRON BODY, INTERNAL PRESSURE RELIEF, THREADED CONNECTIONS, ADJUSTABLE PRESSURE SETTING, TIGHT SHUTOFF. GAS PRESSURE REGULATOR - CAST IRON BODY, INTERNAL PRESSURE RELIEF, THREADED CONNECTIONS, ADJUSTABLE PRESSURE SETTING, TIGHT SHUTOFF.	SK-1	TYPE 304 SERIES STAINLESS STEEL, COMPLETELY UNDERCOATED, 33" (SIDE-TO-SIDE) x 22" (FRONT-TO-BACK) OVERALL SIZE, EACH COMPARTMENT 13.5" x 16" x 5.125" DEEP, 3-1/2" DIAMETER DRAIN OUTLET LOCATION OFF-CENTERED REAR IN EACH BOWL, PERFORATED TYPE 304 STAINLESS STEEL GRID STRAINER.SINK TRIM - TWO HANDLE MIXING FAUCET, BRASS CONSTRUCTION, CHROME-PLATED FINISH, GOOSENECK SWING SPOUT, 8" REACH, 4" WRISTBLADE HANDLES AT 8" CENTERS, 1/4-TURN OPERATION CERAMIC DISC CARTRIDGE.SINK TRIM - TWO BE 1.5 GPM IN COMPLIANCE WITH PROJECT WATER CONSERVATIONSINK TRIM - TWO BE 1.5 GPM IN COMPLIANCE WITH PROJECT WATER CONSERVATION	INK - ELKAY (PSR3322 / LK99), JUST DL-2233-A-GR / JDP-35), FRANKE (LBD), INDRED (QDL), MOEN INK TRIM - CHICAGO FAUCET (786), MERICAN STANDARD (7230.000), MOEN 225), SPEAKMAN (SC-3000 SERIES), ZURN 2831-XL)	
GR-9 (	B" WC INLET PRESSURE, 3.5" WC OUTLET PRESSURE, 51.2 CFH CAPACITY AS SHOWN IN       SCHEDULE, MINIMUM CONTROLLABLE FLOW OF 0 CFH.         GAS PRESSURE REGULATOR - CAST IRON BODY, INTERNAL PRESSURE RELIEF, THREADED       FISHER, ITRON, SENSUS, MAXITROL         CONNECTIONS, ADJUSTABLE PRESSURE SETTING, TIGHT SHUTOFF.       FISHER, ITRON, SENSUS, MAXITROL         B" WC INLET PRESSURE, 3.5" WC OUTLET PRESSURE, 51.2 CFH CAPACITY AS SHOWN IN       SHOWN IN		REQUIREMENTS. FAUCET SHALL COMPLY WITH FEDERAL ACT S.3874. PROVIDE RESTRICTIVE DEVICE AND ESCUTCHEON PLATE AS REQUIRED. ACCESSORIES - 1-1/2" 20 GAUGE CHROME-PLATED BRASS TAILPIECES AND P-TRAP, QUARTER-TURN BALL VALVE TYPE 3/8" CHROME-PLATED BRASS ANGLE SUPPLIES WITH LOOSE KEY STOPS, CHROME-PLATED SOFT COPPER SUPPLY LINES.		
GR-10 (	SCHEDULE, MINIMUM CONTROLLABLE FLOW OF 0 CFH.       GAS PRESSURE REGULATOR - CAST IRON BODY, INTERNAL PRESSURE RELIEF, THREADED       FISHER, ITRON, SENSUS, MAXITROL         CONNECTIONS, ADJUSTABLE PRESSURE SETTING, TIGHT SHUTOFF.       FISHER, ITRON, SENSUS, MAXITROL	\$\$-1		INK - AMERICAN STANDARD (7695.000), ECO (868), KOHLER (K-6716-0)	
GR-11 (	B" WC INLET PRESSURE, 7" WC OUTLET PRESSURE, 120 CFH CAPACITY AS SHOWN IN SCHEDULE, MINIMUM CONTROLLABLE FLOW OF 0 CFH. GAS PRESSURE REGULATOR - CAST IRON BODY, INTERNAL PRESSURE RELIEF, THREADED CONNECTIONS, ADJUSTABLE PRESSURE SETTING, TIGHT SHUTOFF.		SINK TRIM - TWO HANDLE EXPOSED MIXING FAUCET, BRASS CONSTRUCTION, CHROME-PLATED (8 FINISH, SINGLE WING HANDLES, 1/4 TURN CERAMIC DISC CARTRIDGE, 3/4" HOSE THREAD SPOUT, INTEGRAL VACUUM BREAKER, WALL BRACE, PAIL HOOK, CHECK STOPS OR INLINE CHECK VALVES TO PREVENT THERMAL CROSSOVER. FACUET SHALL COMPLY WITH FEDERAL ACT S.3874.	SC-5812), ZURN (Ż841M1-XL)	
GR-12 (	B" WC INLET PRESSURE, 6" WC OUTLET PRESSURE, 163 CFH CAPACITY AS SHOWN IN       SCHEDULE, MINIMUM CONTROLLABLE FLOW OF 0 CFH.         GAS PRESSURE REGULATOR - CAST IRON BODY, INTERNAL PRESSURE RELIEF, THREADED       FISHER, ITRON, SENSUS, MAXITROL         CONNECTIONS, ADJUSTABLE PRESSURE SETTING, TIGHT SHUTOFF.       FISHER, 3.5" WC OUTLET PRESSURE, 51.2 CFH CAPACITY AS SHOWN IN	UR-1	WIDE CHANNEL, 20' LONG, 0.6% SLOPE, EXTRA HEAVY DUTY LOCKING DUCTILE IRON GRATE, CLASS E RATED, INTEGRAL CATCH BASINS WITH SEDIMENT BUCKETS, 4" OUTLETS, LENGTH AS SHOWN ON DRAWINGS. 1 URINAL - ACCESSIBLE, FLOOR MOUNTED, WHITE VITREOUS CHINA, FLUSH VALVE TYPE, U	MITH (9814), ABT (POLYDRAIN), WATTS 00 SERIES), ACO (100K) RINAL - AMERICAN STANDARD (6400.014), OHLER (K 4920-T), ZURN (75790)	
HB-1 H	SCHEDULE, MINIMUM CONTROLLABLE FLOW OF 0 CFH. HOSE BIBB - FOR INDOOR USE, BRASS CONSTRUCTION, STANDARD FINISH, ASSE APPROVED VACUUM BREAKER, 3/4" MALE HOSE THREAD, METAL WHEEL HANDLE. BRASS (B-0736), MIFAB (MHY-90)	T&S	WASHOUT ACTION, LOW CONSUMPTION, 3/4" TOP SPUD, 2" OUTLET. FLUSH VALVE - FLUSH VALVE - EXPOSED, SENSOR OPERATION, HARD WIRED, 1.0 GALLON PER FLUSH, 11-1/2" ROUGH-IN, CHROME-PLATED, 3/4" I.P.S. SCREWDRIVER STOP-CHECK VALVE WITH (F VANDAL RESISTANT CAP, HIGH BACK PRESSURE VACUUM BREAKER, NON-HOLD-OPEN HANDLE, (6)	ROYAL 186 ES-S), AMÈRICAN STANDARD	
HD-1 F	MOUNT AT 18" ABOVE FINISHED FLOOR. FLOOR DRAIN - OPEN SITE HUB DRAIN, CAST IRON BODY, SEDIMENT BUCKET, 2" BOTTOM OUTLET, DEEP SEAL TRAP. (2005-HUB)	1		I-8000C), MOEN (8312AC10)	

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21



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Key Plan

### Sheet Issue Date Bid Set 12/09/2016

Previous Issue Dates

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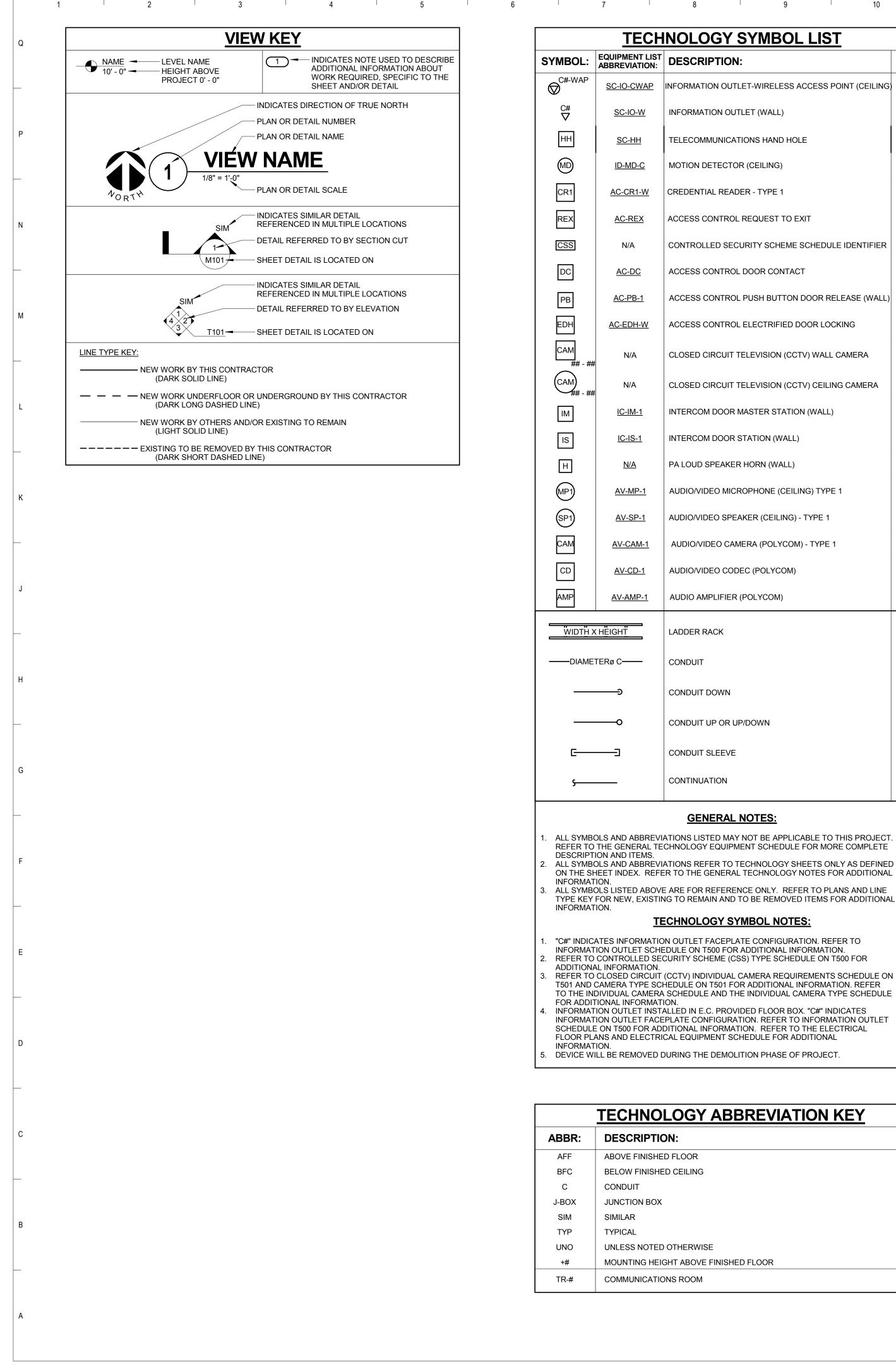
1 

MATERIAL LIST - PLUMBING	

OPN Project No. 15617000

Drawing

P500



ESCRIPTION:	NOTE
FORMATION OUTLET-WIRELESS ACCESS POINT (CEILING	) 1.
FORMATION OUTLET (WALL)	1.
ELECOMMUNICATIONS HAND HOLE	
IOTION DETECTOR (CEILING)	
REDENTIAL READER - TYPE 1	
CCESS CONTROL REQUEST TO EXIT	
ONTROLLED SECURITY SCHEME SCHEDULE IDENTIFIER	2.
CCESS CONTROL DOOR CONTACT	
CCESS CONTROL PUSH BUTTON DOOR RELEASE (WALL)	2.
CCESS CONTROL ELECTRIFIED DOOR LOCKING	
LOSED CIRCUIT TELEVISION (CCTV) WALL CAMERA	3.
LOSED CIRCUIT TELEVISION (CCTV) CEILING CAMERA	3.
ITERCOM DOOR MASTER STATION (WALL)	
ITERCOM DOOR STATION (WALL)	
A LOUD SPEAKER HORN (WALL)	5.
UDIO/VIDEO MICROPHONE (CEILING) TYPE 1	
UDIO/VIDEO SPEAKER (CEILING) - TYPE 1	
AUDIO/VIDEO CAMERA (POLYCOM) - TYPE 1	
UDIO/VIDEO CODEC (POLYCOM)	
UDIO AMPLIFIER (POLYCOM)	
ADDER RACK	
ONDUIT	
ONDUIT DOWN	
ONDUIT UP OR UP/DOWN	
ONDUIT SLEEVE	
ONTINUATION	
ONTINUATION GENERAL NOTES:	

REFER TO THE GENERAL TECHNOLOGY EQUIPMENT SCHEDULE FOR MORE COMPLETE ALL SYMBOLS AND ABBREVIATIONS REFER TO TECHNOLOGY SHEETS ONLY AS DEFINED ON THE SHEET INDEX. REFER TO THE GENERAL TECHNOLOGY NOTES FOR ADDITIONAL ALL SYMBOLS LISTED ABOVE ARE FOR REFERENCE ONLY. REFER TO PLANS AND LINE

## **TECHNOLOGY SYMBOL NOTES:**

"C#" INDICATES INFORMATION OUTLET FACEPLATE CONFIGURATION. REFER TO INFORMATION OUTLET SCHEDULE ON T500 FOR ADDITIONAL INFORMATION. REFER TO CONTROLLED SECURITY SCHEME (CSS) TYPE SCHEDULE ON T500 FOR REFER TO CLOSED CIRCUIT (CCTV) INDIVIDUAL CAMERA REQUIREMENTS SCHEDULE ON

TO THE INDIVIDUAL CAMERA SCHEDULE AND THE INDIVIDUAL CAMERA TYPE SCHEDULE

INFORMATION OUTLET FACEPLATE CONFIGURATION. REFER TO INFORMATION OUTLET SCHEDULE ON T500 FOR ADDITIONAL INFORMATION. REFER TO THE ELECTRICAL FLOOR PLANS AND ELECTRICAL EQUIPMENT SCHEDULE FOR ADDITIONAL

DEVICE WILL BE REMOVED DURING THE DEMOLITION PHASE OF PROJECT.

<u>.0GY</u>	<u>ABBRE\</u>	<u>/IATION</u>	<u>KEY</u>

MOUNTING HEIGHT ABOVE FINISHED FLOOR

SUGGESTED MATRIX OF RESPONSIBILITY							
ITEM:	SHOWN ON:	FURNISHED BY:	INSTALLED BY:	NOTES:			
TECHNOLOGY ROUGH-IN, REFER TO GENERAL TECHNOLOGY EQUIPMENT SCHEDULE AND SPECIFICATIONS FOR DEFINITION	T-SERIES	E.C.	E.C.	3. 4.			
INFORMATION OUTLET FACEPLATES, JACKS, AND TERMINATIONS	T-SERIES	T.C.	T.C.				
CONDUIT SLEEVES (WHEN SHOWN ON DRAWINGS)	T-SERIES	E.C.	E.C.				
CONDUIT SLEEVES (NOT SHOWN BUT REQUIRED FOR PROPER INSTALLATION OF SYSTEM)	N/A	T.C.	T.C.	2. 4.			
TELECOMMUNICATION SYSTEMS ROUGH-IN	T-SERIES	E.C.	E.C.	1.			
TELECOMMUNICATION EQUIPMENT, CABLING, AND TERMINATIONS	T-SERIES	T.C.	T.C.				
GROUNDING LUGS ON TECHNOLOGY EQUIPMENT	T-SERIES	T.C.	E.C.	6.			
BONDING SYSTEM FOR TECHNOLOGY SYSTEM, REFER TO SPECIFICATION SECTION 27 05 26 FOR DEFINITION	T-SERIES	E.C.	E.C.	7. 8.			
CONNECTION OF TECHNOLOGY BONDING SYSTEM TO THE ELECTRICAL GROUND SYSTEM	T-SERIES	E.C.	E.C.				
LINE VOLTAGE POWER (+120V OR GREATER)	E-SERIES	E.C.	E.C.				
LINE VOLTAGE POWER (NOT SHOWN BUT REQUIRED FOR PROPER INSTALLATION OF SYSTEM)	N/A	T.C.	E.C.	2. 4.			
LINE VOLTAGE POWER FOR DOOR HARDWARE POWER SUPPLIES	ARCH SPEC	E.C.	E.C.				
LOW VOLTAGE CABLING FOR TECHNOLOGY SYSTEMS	T-SERIES	T.C.	T.C.				
CABLE HANGERS AND SUPPORTS OR OTHER CABLE ROUTING METHODS (OTHER THAN CONDUIT AND CABLE TRAY)	T-SERIES	T.C.	T.C.	5.			
TECHNOLOGY SERVICE ENTRANCE CONDUITS, HANDHOLES.	T-SERIES	E.C.	E.C.				

SUGGESTED MATRIX OF RESPONSIBILITY NOTES

- LOCATIONS OF COMMUNICATIONS ROUGH-INS SHALL BE INDICATED BY THE INFORMATION OUTLET SYMBOLS ON THE DRAWINGS. REFER TO THE TECHNOLOGY SYMBOL LIST FOR
- ADDITIONAL INFORMATION. BASED ON THE INHERENT DIFFERENCES IN PRODUCTS FROM VARIOUS MANUFACTURERS, ALL REQUIRED EQUIPMENT MAY NOT BE SHOWN ON THE DRAWINGS FOR ALL ACCEPTABLE
- MANUFACTURERS. INCLUDES BACKBOXES AND CONDUIT REQUIRED FOR THE TECHNOLOGY SYSTEMS
- INSTALLATION. THE E.C. SHALL BASE THE BID ON THE BASIS OF DESIGN SHOWN ON THE CONTRACT DOCUMENTS.
- ALL CHANGES TO THE SLEEVES, BACKBOXES, CONDUITS, AND POWER REQUIRED BECAUSE OF THE T.C.'S SELECTION OF AN ALTERNATE ACCEPTABLE MANUFACTURER OR FROM SYSTEM CONFIGURATIONS THAT ARE LEFT TO THE CHOICE OF THE CONTRACTOR SHALL BE INCLUDED IN THE T.C.'S BID.
- UNLESS TRADE RULES DICTATE OTHERWISE. FURNISHED AS PART OF THE EQUIPMENT WHEN POSSIBLE, OR FURNISHED TO THE E.C. FOR INSTALLATION IN THE FIELD.
- INCLUDES ALL CONDUCTORS, GROUND BARS, AND TERMINATIONS FOR THE COMPLETE BONDING SYSTEM REQUIRED BY THE SPECIFICATIONS.
- REFER TO ELECTRICAL DRAWINGS FOR LOCATIONS OF PANELS AND SWITCHBOARDS SHOWN IN THE TECHNOLOGY BONDING RISER DIAGRAM AND TYPICAL TELECOM ROOM BONDING FLOW DIAGRAM.

	<b>CONTRACTOR ABBREVIATION KEY</b>				
ABBR:	DESCRIPTION:				
C.C.	CIVIL CONTRACTOR				
C.M.	CONSTRUCTION MANAGER				
E.C.	ELECTRICAL CONTRACTOR				
F.P.C.	FIRE PROTECTION CONTRACTOR				
G.C.	GENERAL CONTRACTOR				
M.C.	MECHANICAL CONTRACTOR				
P.C.	PLUMBING CONTRACTOR				
T.C.	TECHNOLOGY CONTRACTOR				

<b>TELECOM ROOM REFERENCES</b>							
DETAIL / SHEET         FLOOR PLAN           TELECOM ROOM         REFERENCE         REFERENCE         ARCH ROOM NUME							
MDF	1/T300	1/T101.1	113				

17	18	19	20	21

## **TECHNOLOGY GENERAL NOTES:**

- <u>T-001</u> INDICATES GENERAL TECHNOLOGY EQUIPMENT SCHEDULE ITEM LABELED AS "EQUIPMENT TAG"
- 2. REFER TO GENERAL TECHNOLOGY EQUIPMENT SCHEDULE AND SPECIFICATIONS FOR FULL DESCRIPTIONS AND MANUFACTURERS OF ALL DEVICES.

### TECHNOLOGY MOUNTING SUBSCRIPT KEY: A MOUNT AT +6" TO CENTERLINE ABOVE COUNTER OR BACKSPLASH

- MOUNT ORIENTED HORIZONTALLY MOUNT IN CASEWORK
- MOUNT IN MODULAR FURNITURE M MOUNT IN SURFACE RACEWAY

A SLASH IS USED BETWEEN TWO SUBSCRIPTS, e.g., A/H.

## **TECHNOLOGY INSTALLATION NOTES:**

- 1. THE COMPLETE INSTALLATION SHALL BE IN ACCORDANCE WITH THE ADA STANDARDS FOR ACCESSIBLE DESIGN. REFER TO THE ADA GUIDELINES FOR ALL CONFIGURATIONS DETAIL ON THIS PAGE FOR ADDITIONAL INFORMATION.
- 2. CONCEAL ALL CONDUIT IN WALLS, PARTITIONS, ABOVE CEILING. UNLESS OTHERWISE INDICATED ON THE PLANS OR IN THE SPECIFICATIONS. CONDUIT IN MECHANICAL ROOMS AND STORAGE ROOMS WITHOUT CEILINGS MAY BE EXPOSED ON BUILDING STRUCTURE.
- BOXES LOCATED ON OPPOSITE SIDES OF NON-RATED WALLS SHALL BE OFFSET A MINIMUM OF 6" HORIZONTALLY. BOXES ON OPPOSITE SIDES OF FIRE RATED WALLS SHALL BE OFFSET A MINIMUM OF 24" HORIZONTALLY. "THRU-THE-WALL" BOXES SHALL NOT BE ALLOWED WITHOUT PRIOR WRITTEN APPROVAL OF THE ARCHITECT/ENGINEER.
- 4. VERIFY ALL FURNITURE AND EQUIPMENT LOCATIONS WITH ARCHITECTURAL PLANS. ELEVATIONS, AND REVIEWED SHOP DRAWINGS. PRIOR TO MAKING THE ACTUAL COMMUNICATIONS INSTALLATION, ADJUST OUTLETS OR CONNECTION LOCATIONS TO ACCOMMODATE FURNITURE AND/OR EQUIPMENT.
- COMMUNICATIONS EQUIPMENT SHALL BE MOUNTED TO ALLOW ACCESS TO ELECTRICAL AND MECHANICAL EQUIPMENT. ALL MOUNTING OF TELECOMMUNICATION DEVICES ON EQUIPMENT SUPPLIED BY ANOTHER CONTRACTOR SHALL BE APPROVED IN ADVANCE BY THE OTHER CONTRACTOR
- 6. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL OPENINGS REQUIRED IN WALLS. ALL OPENINGS SHALL BE REPAIRED TO MATCH EXISTING BY A QUALIFIED CONTRACTOR AT THE EXPENSE OF THIS CONTRACTOR. ALL CONDUITS THROUGH WALLS SHALL BE GROUTED OR SEALED INTO OPENINGS.
- ALL MATERIALS USED TO SEAL PENETRATIONS OF FIRE RATED WALLS AND FLOORS SHALL BE TESTED AND CERTIFIED AS A SYSTEM PER ASTM E814 STANDARDS FOR FIRE TESTS OF THROUGH-PENETRATION FIRESTOPS. REFER TO DIVISION 21 FOR ADDITIONAL INFORMATION AND REQUIREMENTS SPECIFIC TO FIRESTOPPING.
- REMOVE AND REINSTALL ALL CEILING TILES AS REQUIRED FOR THE EXECUTION OF COMMUNICATIONS WORK THAT IS OUTSIDE THE CONTRACT LIMITS OF CONSTRUCTION. REPLACE CEILING TILES WITH IDENTICAL MATERIAL WHERE DAMAGED BY THIS CONTRACTOR.
- 9. ALL LADDER RACK SIZES ARE AS DEFINED ON THE DRAWINGS. REFER TO SPECIFICATION SECTIONS FOR APPROVED MANUFACTURERS AND INSTALLATION REQUIREMENTS.
- 10. FLUSH MOUNT ALL TELECOMMUNICATION OUTLETS AT +18" FROM FLOOR (CENTERLINE DIMENSION), EXCEPT WHERE OTHERWISE NOTED. OUTLETS MAY BE SURFACE MOUNTED WHEN CONDUIT IS SPECIFIED EXPOSED.

## **TECHNOLOGY OUTSIDE PLANT NOTES**

- 1. THE LOCATION OF THE CONDUIT, HAND HOLES SHOWN ARE APPROXIMATE LOCATIONS. FIELD VERIFY THE LOCATION OF ALL UTILITIES PRIVATE AND/OR PUBLIC PRIOR TO THE INSTALLATION OF THE COMPONENT. FIELD COORDINATE THE FINAL LOCATION WITH THE OWNER AND ENGINEER PRIOR TO INSTALLATION.
- POTHOLING TO LOCATE EXISTING UNDERGROUND UTILITIES, IF APPLICABLE, SHALL BE INCLUDED WITHIN THE CONTRACTORS BID. CONTRACTOR IS RESPONSIBLE FOR FINAL PLACEMENT OF HANDHOLES AND SHALL NOTIFY THE ENGINEER OF FINAL LOCATIONS PRIOR TO INSTALLATION. HAND HOLES SHALL BE CONSTRUCTED SO THAT THE TOP OF THE FRAME WILL BE FLUSH WITH - 3 THE GROUND LINE.
- CONTRACTOR SHALL INCLUDE WITHIN THEIR BID ANY REMOVAL AND REPLACEMENT OF EXISTING SIDEWALK, PAVEMENT, GRASS, SHRUBS, TREES, ETC. THAT WILL BE IMPACTED BY THE INSTALLATION OF THE NEW CONDUITS SHOWN ON THE DRAWINGS. IF TREES ARE REQUIRED TO BE REMOVED THE CONTRACTOR SHALL CONTACT THE OWNER AND DISCUSS OPTIONS PRIOR TO CUTTING DOWN ANY TREE OR SHRUB OVER 5' IN HEIGHT.
- NO ADDITIONAL COST SHALL BE APPROVED FOR PLACING CONDUITS DEEPER THAN REQUIRED MINIMUM DEPTH TO AVOID EXISTING UNDERGROUND UTILITIES. PROVIDE A MINIMUM OF 25'-0" SLACK LOOP WITHIN EACH HAND HOLE. SLACK LOOP SHALL BE
- SECURE SO COPPER FIBER IS NOT RESTING ON EARTH AFTER FINAL INSTALLATION.

## **TECHNOLOGY SHEET INDEX**

Т000	TECHNOLOGY COVER SHEET
T001	GENERAL TECHNOLOGY EQUIPMENT SCHEDULE
T050	SITE PLAN - TECHNOLOGY
T101.1	FIRST FLOOR - TECHNOLOGY
T300	ENLARGED PLANS – TECHNOLOGY
T400	RISER DIAGRAMS - TECHNOLOGY
T500	DETAILS AND SCHEDULES -TECHNOLOGY
T501	DETAILS AND SCHEDULES -TECHNOLOGY
TD101.1	FIRST FLOOR DEMOLITION - TECHNOLOGY



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Key Plan

Sheet Issue Date Bid Set

Previous Issue Dates

12/09/2016

Revision Dates

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ENGINEERING CONSULTANTS 1800 DEMING WAY SUITE 200 MIDDLETON, WISCONSIN 53562 608.223.9600 FAX: 608.836.0415 www.kjww.com PROJECT # 16.0141.00

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OPN Project No. 15617000

TECHNOLOGY COVER

SHEET

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2         SCIOCEMMA         INFORMATION OUTLET CELEND RUDINT 2,4,006 PROTTACEPLATE AS INDICATED IN INFORMATION OUTLET SCIEDULE ON DRIVING TBOD.         FACEPLATE.           2         SCIOCEMMA         INFORMATION OUTLET SCIEDULE ON DRIVING TBOD.         FACEPLATE.           3         SCIEDULE ON DRIVING TBOD CONCENTRACE AND CONFIGURATION AS INDICATED ON THE FLOOR FLANS. REFER TO INFORMATION OUTLET.         CATE JACK HUBBELL           3         SCIEDULE ON DRIVING TBOD CONFERNITION OF CARCES SCIEDULE ON DRIVING TBOD CHARGES (SCIEDULE ON DRIVING TBOD FOR AND FOR THI CONFIGURATION OF LACKS.         SERVICE SCIEDULE ON DRIVING TBOD FOR DRIVING TBOD FOR DRIVING TBOD FOR AND FOR THI CONFIGURATION OF LACKS.         SCIEDULE CANDADING TBOD FOR DRIVING TBOD FOR ADDITIONAL INFORMATION.         SCIEDULE CANDADING SCIEDULE SCIEDU			WALL MOUNT OUTLETS WILL BE AT 18" AFF UNLESS NOTED OTHERWISE.	
Image: Source in the second provide provide the second provide the	2	SC-IO-CWAP	INFORMATION OUTLET, CEILING MOUNT. 2, 4, OR 6-PORT FACEPLATE AS	
AND FOR PIN CONFIGURATION OF JACKS.         HUBBEI           AND FOR PIN CONFIGURATION OUTLET IN A 4" SQUARE 2-18" DEEP BACK BOX WITH A SINGLE GANO PLASTER ING AND A TENT CONDUIT STUBBED TO NON-CONTINUOUS CABLE SUPPORT ROUTE OR CABLE TRAY ADVOYAGE         HUBBELL SPB10           3         SC-TTE-1         THE MOVABLE BLANK INSERTS FOR UNUSED FACEPLATE PORTS.         -           3         SC-TTE-1         THEOROMANICAL INSERTS FOR UNUSED FACEPLATE PORTS.         -           4         SC-TTE-1         THEOROMANICAL INSERTS FOR UNUSED FACEPLATE PORTS.         -           4         SC-TTE-1         THEOROMANICATION OF PROVIDE DEVICED SPECIFIC UTIVAL CONTROL OF PROVIDE CONTRUCTION, RUST RESISTANT DEVICE VERTICALLY WITH TOP OF PLYWOOD AT 80" AF F. RATING STAMP NUST REMAIN VISIBLE.         -           4         SC-LTE-1         LADORE RACK. 19" WIDE TUBULAR STEEL CONSTRUCTION, RUST RESISTANT NUST REMAIN VISIBLE.         CHATSWORTH PRODUC 11275-718         -           5         SC-GRD1         WALL-MOUNT GROUND BAR. MINIMUM 4" HX 12" LX 14" D COPPER RADIUS BRORS. REMOVE SHARP BURRS FROM LADDER RACK AND REPAINT ALL AREAS THAT HAVE BEEN FIELD MOUNTED CONTRESSION LUSS. ANSIENTIA 647 AND BICS LOWELANT. ULLISTED. AND MUNICAL PROSED.         CHATSWORTH PRODUC 40153-012           5         SC-GRD2         RACK MOUNT GROUND BAR. MINIMUM 4" HX 12" LX 14" D COPPER BLCCRESS, FEDDIUE DUC TOWEL FOR UNDERSES ON PROSED.         CHATSWORTH PRODUC 40153-012           6         SC-GRD2         RACK MOUNT GROUND BAR. MINIMUM 4" HX 12" LX 14" D COPPER BLCCR			INDICATED IN INFORMATION OUTLET SCHEDULE ON DRAWING T500. "#" INDICATES INFORMATION OUTLET FACEPLATE CONFIGURATION AS INDICATED ON THE FLOOR PLANS. REFER TO INFORMATION OUTLET	IFP14EI CAT6 JACK:
Image: Sincle GANG PLASTER RING AND A1* ENT CONDUIT STUBBED TO NON-CONTINUOUS CABLE SUPPORT ROUTE OR CABLE TRAY ABOVE INSAREST ACCESSIBLE CELLING (MINIMUM 6* BEYOND BACK BOX), REFER TO SUGGSTED MATRING OF SCOPE RESPONSIBILITY ON DRAWING TOOP FOR ADDITIONAL INFORMATION.         Self 10         Self 10           3         SCITE: 1         TELECOMUNICATION STEMINAL BOARD. 4*X8 Y34*AC GRADE FIRE-RATED PLYWOOD. EXPOSED SIDE SHALL BE SMOOTH. MOUNT ORIGINE VERTICALLY WITH TOP OF PLYWOOD AT 95*AF.F. RATING STAMP MUST REMAIN VISIBLE.         CHATSWORTH PRODUC 11275-718           4         SCITE: 1         ELADOR RACK. 15*WIDE TUBULAR STEEL CONSTRUCTION, RUST RESISTANT BLACK RAAKE, 15*WIDE TUBULAR STEEL CONSTRUCTION, RUST RESISTANT BLACK RAAKES, RAPONDE RATE, 12*YIP         CHATSWORTH PRODUC 11275-718           5         SC-GND: 1         WALL-MOUNT GROUND BAR, MINIMUM 4*H X 12* X 14*D COPER, CONFIGURED WITH NUMPER DUIT CONFIGURED WITH STREEN (10) SSTS OF 515* TOT 10*Y 10*Y 5*STS OF 515* TOT 10*Y 10*Y 5* 5* CONFILETE VITH ADD ADA STRUCTUS STRUCTUS AND ADA S				
3         SC-TTB-1         TELECOMMUNICATIONS TERMINAL BOARD. 4' X8'X 34' A'C GRADE FIRE-RATED PL TWOOD, EXPOSED SIDE SHALL BE SMOUTH, MOUNT ORINTED VERTICALLY WITH TOO CP PL YWOOD AT 55' AF.F. RATING STAMP MUST REMAIN VISIBLE.         -           4         SC-LTB-1         LADDER RACK. 18' WIDE TUBULAR STEEL CONSTRUCTION, RUST RESISTANT BLACK EMMAN VISIBLE.         CHATSWORTH PRODUC COMPLETE WITH ALL STEED. PROVIDE COMPLETE WITH ALL STEED. PROVIDE COMPLETE WITH ALL STEED. PROVIDE COMPLETE WITH ALL AREAS THAT HAVE BEEN FIELD MODIFIED, CUT OR EXPOSED.         CHATSWORTH PRODUC 11275-718           5         SC-GND-1         WALL-MOUNT GROUND BAR. MINIMUM 4' X 12'' LX 14'D COPPER, RECORDE WITH CONDUCTIONE INTEGRAL TO MOUNTING RECESSARY ADOUGE UNIT CONFIGURED WITH SIXTEEN (16) SETS OF 5'16'' HOLES SPACED 56'' ON CENTER TO ACCOMMODATE '''S PACED 1''ON CENTER TO ACCOMMODATE 'C'' SPACED TWO-HOLE COMPRESSION LUCS. ANDERVARY AND BICS CONFIGURED WITH SIXTEEN (16) SETS OF 5'16'' HOLES SPACED 5'0' ON CENTER TO ACCOMMODATE 'C'' SPACED TWO-HOLE SOME ANDERVARY AND BICS CONFIGURED WITH SIXTEEN (16) SETS OF 5'16'' HOLES SPACED 5'0' ON CENTER TO ACCOMMODATE 'C'' SPACED TWO-HOLE SOME ANDERVARY AND BICS CONFIGURED WITH SIXTEEN (16) SETS OF 5'16'' HOLES SPACED 5'0' ON CENTER TO ACCOMMODATE 'C'' SPACED TWO-HOLE SOME ANDERVARY AND BICS CONFIGURED WITH MINIMUM S' 15'' X 3'' 4'' X 19'' W COPPER, CONFIGURED WITH MINIMUM BEGHT (8) #5'' X 3'' 4'' X 19'' W COPPER, COMPLIAT. REQUIRES ONE (1) 175' RACK MOUNTING SPACE.         -           7         SC-ER-1         EQUIPMENT RACK 84''H X 20.25''W X 15'D TWO-POST CONFIGURATION. PROVIDE COMPLETE WITH MINIMUM S' X 'C' APACITY FRONT AND BEAR. AND DROP LADDER RACK.         EXISTING OWNER FURNISHED           8         SC-EDC-1         FIBER O			SINGLE GANG PLASTER RING AND A 1" EMT CONDUIT STUBBED TO NON-CONTINUOUS CABLE SUPPORT ROUTE OR CABLE TRAY ABOVE NEAREST ACCESSIBLE CEILING (MINIMUM 6" BEYOND BACK BOX). REFER TO SUGGESTED MATRIX OF SCOPE RESPONSIBILITY ON DRAWING T000 FOR	HUBBELL
FIRE-RATED PLYWOOD. EXPOSED SIDE SHALL BE SMOOTH. MOUNT ORIENTED VERTICALLY WITH TOP OF PLYWOOD AT 80° AFF. RATING STAMP MUST REMAIN VISIBLE.         CHATSWORTH PRODUC 11275-718           4         SC-EE1         LADDER RACK. 18' WIDE TUBULAR STEEL CONSTRUCTION, RUST RESISTANT INCESSSARY ADAPTERS, SUPPORT HARDWARE, AND ETTINGS, TO INCLUDE RADUS DROPS. REMOVE SHARP BURRS FROM LADDER RACK AND REPAINT ALL AREAS THAT HAVE BEEN FIELD MODIFIED. CUT OR EXPOSED.         CHATSWORTH PRODUC 11275-718           5         SC-GND-1         WALL-MOUNT GROUND BAR. MINIMUM 4" H X 12" L X 14" D COPPER, ELECTRICALLY ISOLATED BY INSULATORS INTEGRAL TO MOUNTING BRACKETS. PROVIDE UNIT CONFIGURED WITH SIXTEED TO SCHOOD THE OF STOF BRACKETS. PROVIDE UNIT CONFIGURED WITH SIXTEED TO SCHOOD THE AS SPACED TWO-HOLE COMPRESSION LUGS AND THREE (3) SETS OF 71/6 HOLES SPACED TWO HOLE COMPRESSION LUGS AND THREE (3) SETS OF 71/6 HOLES SPACED TWO HOLES SPACED 58' ON CENTER TO ACCOMMODATE "A" SPACED TWO HOLE COMPRESSION LUGS AND THREE (3) SETS OF 71/6 HOLES SPACED TWO HOLES SPACECOMMODATE "A" SPACED TWO HOLES SPACED TWO DIDITIONAL INFORMATION.         ERICO HARGER           6         SC-GND-2         RACK MOUNT GROUND BAR. MINIMUM 31/6" D X 3/4" H X 19" W COPPER, CONFIGURED WITH MINIMUM GIGHT (8) #6-32 TAPPED HOLES AND MINIMUM JOITONUAL UNTAPPED HOLES. UL LISTED AND ANSIFICATI-AGO' AND BICSI COMPLIANT. REQUIRES ONE (1) 1.75' RACK MOUNTING SPACE.         EXISTING OWNER FURNISHED           7         SC-ER-1         EQUIPMENT RACK. 84" H X 20 25" W X 15"D TWO-SOST CONFIGURATION. PROVIDE COMPLETE WITH HIMINUM GY &" CAPACITY FRONT AND REAR, AND UTH LADDER RACK. CAPCH TH MINIMUM SITE RACE MOUNT. ACCOMMIDATES TWELVE (12) MODULAR RACK CONVERCE CONT FINISH. INTEGRATED FP. FOR RACK, EACH WITH MINIMUM GY &" CAPACITY FRONT AND R				
8         SC-GND-2         RACK MOUNT GROUND BAR, MINIMUM 4" H X 12" LX 14" O COPPER, GAD STINUS, CONFLUENCESSARY, DAVIERS, STORMADER, AND FITTING, STO INCLUDE, ELECTRICALLY ISOLATED BY INSULATORS INTEGRAT. TO MOUNTING         CHATSWORTH PRODUC           5         SC-GND-1         WALL-MOUNT GROUND BAR, MINIMUM 4" H X 12" LX 14" O COPPER, BLACK STORM CONFIGURATION, CONFIGURATION CONFIGURATION, CONTERT TO ACCOMMODATE "C" SPACED TWO-HOLE COMPRESSION LUGS, AND ADDITIONAL INFORMATION.         CRACK MOUNT GROUND BAR, MINIMUM 3" A" X 12" LX 14" O COPPER, CONFIGURATION, FOUR (1) 175" RACK MOUNTING SPACE.         CRACK MOUNT GROUND BAR, MINIMUM 3" A" D 23" W X 15" D TWO-POST CONFIGURATION, FURNISHED WITH MINIMUM SIGHT (2) TWO-SIDED VERTICAL WIRE MANAGERS PER ACK, CACH WITH MINIMUM 5" (2) TWO-SIDED VERTICAL WIRE MANAGERS PER ACK, CACH WITH MINIMUM 5" (2) TWO-SIDED VERTICAL WIRE MANAGERS PER ACK, CACH WITH MINIMUM 5" (2) TWO-SIDED VERTICAL WIRE MANAGERS PER ACK, CACH WITH MINIMUM 5" (2) TWO-SIDED VERTICAL WIRE MANAGERS PER ACK, CACH WITH MINIMUM 5" (2) TWO-SUDED STELL OCOMPOLES AND RADIUS DROP LADDER RACK.         EXISTING OWNER FURNISH, INTEGRATED FRONT CABLE MANAGERS PER ACK, CONNECTION, BLACK POWDER, COAT FINISH, INTEGRATED FRONT CABLE MANAGERS PER ACK, CACH WITH MINIMUM 5" (2) TWO-SIDED VERTICAL WIRE MANAGERS PER ACK, CACH WITH MINIMUM 5" (2) TWO-SIDED VERTICAL WIRE MANAGERS PER ACK, CACH WITH MINIMUM 5" (2) TWO-VOOST CONFIGURATION, DROP ACACK.         EXISTING OWNER FURNISH, INTEGRATED FRONT CABLE MANAGERS PER ACK, CACH TH THINDUCUL 5" TACLUMENT STRUCK (2) TY 5" CACH (C) MOUNTING SPACE.	3	<u>SC-TTB-1</u>	FIRE-RATED PLYWOOD. EXPOSED SIDE SHALL BE SMOOTH. MOUNT ORIENTED VERTICALLY WITH TOP OF PLYWOOD AT 8'6" A.F.F. RATING STAMP	
ALL AREAS THAT HAVE BEEN FIELD MODIFIED, CUT OR EXPOSED.         HOFFMAN           5         SC-GND-1         WALL-MOUNT GROUND BAR. MINIMUM 4" H 12 X 14" D COPPER, ELECTRICALLY ISOLATED BY INSULATORS INTEGRAL TO MOUNTING BRACKETS. PROVIDE UNIT CONFIGURED WITH SIXTEEN (B) SETS OF 5/16" HOLES SPACED 5/8" ON CENTER TO ACCOMMODATE "A" SPACED TWO-HOLE COMPRESSION LUGS AND THREE (3) SETS OF 7/16" HOLES SPACED 1"ON CENTER TO ACCOMMODATE "O" SPACED TWO-HOLE COMPRESSION LUGS. ANDIFLATIA-607 AND BICS ICOMPLIANT. UL LISTED. REFER TO 1/T500 FOR ADDITIONAL INFORMATION.         ERICO ERICO COMPLIANT GROUND BAR. MINIMUM 3/16" D X 3/4" H X 19" W COPPER, CONFIGURED WITH MINIMUM IEIGHT (6) #*32 TAPPED HOLES AND MINIMUM FOUR (4) 5/16" UNTAPPED HOLES. UL LISTED AND ANSIGE/ATTA-607 AND BICSI COMPLIANT. REQUIRES ONE (1) 1.75" RACK MOUNTING SPACE.         .           7         SC-ER-1         EQUIPMENT RACK. 84"H X 20.25"W X 15"D TWO-POST CONFIGURATION. PROVIDE COMPLETE WITH MINIMUM 6"X 6" CAPACITY FRONT AND REAR, AND WITH LADDER RACK, CONPLIANT AND CREAR AND DROP LADDER RACK.         EXISTING OWNER FURNISHED           8         SC-EDC-1         FIBER OPTIC DISTRIBUTION CABINET, RACK MOUNT, ACCOMMODATES TWELVE (2) MODULAR ADAPTER PARELS OR MODULES. WELDED STEEL CONSTRUCTION, BLACK POWDER-COAT FINISH, INTEGRATED FRONT CABLE MANAGEMENT THROUGH, LOCKABLE. REQUIRES TWO(2) 1.75" RACK         HUBBELL HC219CC3P NO EQUALS           9         SC-HWM-1         HORIZONTAL CABLE MANAGEMENT, FINGER DUCT STYLE, 3" X 3" CAPACITY FRONT, 2" X 5" CAPACITY REAR, REMOVABLE FRONT AND REAR CADING. WELDED STEEL CONSTRUCTION, BLACK POWDER COAT FINISH, MOUNTS PASS THROUGH HOLES TO FACILITATE FRONT TO REAR CABLING. REQUIRES NO EQUALS           10         SC-MPP-1	4	<u>SC-LR-1</u>	BLACK ENAMEL FINISH, UL LISTED. PROVIDE COMPLETE WITH ALL NECESSARY ADAPTERS, SUPPORT HARDWARE, AND FITTINGS, TO INCLUDE RADIUS DROPS. REMOVE SHARP BURRS FROM LADDER RACK AND REPAINT	
8         SC-ED-1         EQUIPMENT RACK. 84"H X 20.25"W X 15"D RACK MOUNTING GARD RAND         40153-012           7         SC-ER-1         RACK MOUNT GROUND GARD THREE (3) SETS OF 7/16" HOLES SPACED TWO-HOLE COMPRESSION LUGS AND THREE (3) SETS OF 7/16" HOLES SPACED 1"YO CENTER TO ACCOMMODATE "C" SPACED TWO-HOLE COMPRESSION LUGS. ANSWELATIA-607 AND BICSI COMPLIANT. UL LISTED. REFER TO 1/T500 FOR ADDITIONAL INFORMATION.         •           6         SC-GND-2         RACK MOUNT GROUND BAR MINIMUM 3/16" D X 3/4" H X 19" W COPPER. CONFIGURED WITH MINIMUM EIGHT (8) #6-32 TAPPED HOLES AND MINIMUM FOUR (4) 5/16" UNTAPPED HOLES. UL LISTED AND ANSIEIATIA-607 AND BICSI COMPLIANT. REQUINTERS ONE (1) 1.75" RACK MOUNTING SPACE.         •           7         SC-ER-1         EQUIPMENT RACK. 84"H X 20.25"W X 15"D TWO-POST CONFIGURATION. PROVIDE COMPLETE WITH TWO (2) TWO-SIDED VERTICAL WIRE MANAGERS PER RACK. EACH WITH MINIMUM 6" X 6" CAPACITY FRONT AND REAR. AND WITH LADDER RACK CONNECTION HARDWARE ACCESSORIES AND RADIUS DROP LADDER RACK.         •           8         SC-FDC-1         FIBER OPTIC DISTRIBUTION CABINET, RACK MOUNT. ACCOMMODATES TWELVE (12) MODULAR ADAPTER PANELS OR MODULES. WELDED STEEL CONSTRUCTION. BLACK POWDER-COAT FINISH, INTEGRATED FRONT CABLE MANAGEMENT THROUGH, LOCKABLE. REQUIRES TWO(2) 1.75" RACK MOUNTING SPACES.         •           9         SC-HWM-1         HORIZONTAL CABLE MANAGEMENT, FINGER DUCT STYLE, 3".X 3" CAPACITY PASS THROUGH HOLES TO FACILITATE FRONT TO REAR CABLING. REQUIRES (2) 1.75" MOUNTING SPACES.         HUBBELL HC219CC3P NO EQUALS           10         SC-MPP-1         MODULAR PATCH PANEL. FORTY EIGHT (48) MODULAR RJ-45 SNAP-IN JACKS				
6       SC-GND-2       RACK MOUNT GROUND BAR. MINIMUM 3/16" D X 3/4" H X 19" W COPPER, CONFIGURED WITH MINIMUM EIGHT (8) #6-32 TAPPED HOLES AND MINIMUM FOUR (4) 5/16" UNTAPPED HOLES. UL LISTED AND ANSI/EIATIA-607 AND BICSI COMPLIANT. REQUIRES ONE (1) 1.75" RACK MOUNTING SPACE.       .         7       SC-ER-1       EQUIPMENT RACK. 84"H X 20.25"W X 15"D TWO-POST CONFIGURATION. PROVIDE COMPLETE WITH TWO (2) TWO-SIDED VERTICAL WIRE MANAGERS PER RACK, EACH WITH MINIMUM 6" X 6" CAPACITY FRONT AND REAR, AND WITH LADDER RACK CONNECTION HARDWARE ACCESSORIES AND RADIUS DROP LADDER RACK.       EXISTING OWNER FURNISHED         8       SC-EDC-1       FIBER OPTIC DISTRIBUTION CABINET, RACK MOUNT. ACCOMMODATES TWELVE (12) MODULAR ADAPTER PANELS OR MODULES. WELDED STEEL CONSTRUCTION, BLACK POWDER-COAT FINISH, INTEGRATED FRONT CABLE MANAGEMENT THROUGH, LOCKABLE. REQUIRES TWO(2) 1.75" RACK MOUNTING SPACES.       HUBBELL HC219CC3P PASS THROUGH HOLES TO FACILITATE FRONT AND REAR COVERS. (2) 1.75" MOUNTING SPACES.       HUBBELL HC219CC3P NO EQUALS         10       SC-MPP-1       MODULAR PATCH PANEL. FORTY EIGHT (48) MODULAR RJ-45 SNAP-IN JACKS. WELDED STEEL CONSTRUCTION, BLACK POWDER COAT FINISH, MOUNTS DIRECTLY TO EIA/TIA FARCH POWDER COAT FINISH, MOUNTS PASS THROUGH HOLES TO FACILITATE FRONT TO REAR CABLING. REQUIRES (2) 1.75" MOUNTING SPACES.       HUBBELL CAT 6: P6648U	с С	<u>90-0110-1</u>	ELECTRICALLY ISOLATED BY INSULATORS INTEGRAL TO MOUNTING BRACKETS. PROVIDE UNIT CONFIGURED WITH SIXTEEN (16) SETS OF 5/16" HOLES SPACED 5/8" ON CENTER TO ACCOMMODATE "A" SPACED TWO-HOLE COMPRESSION LUGS AND THREE (3) SETS OF 7/16" HOLES SPACED 1" ON CENTER TO ACCOMMODATE "C" SPACED TWO-HOLE COMPRESSION LUGS. ANSI/EIA/TIA-607 AND BICSI COMPLIANT. UL LISTED. REFER TO 1/T500 FOR	40153-012 ERICO
7       SC-ER-1       EQUIPMENT RACK. 84"H X 20.25"W X 15"D TWO-POST CONFIGURATION. PROVIDE COMPLETE WITH TWO (2) TWO-SIDED VERTICAL WIRE MANAGERS PER RACK, EACH WITH MINIMUM 6" X 6" CAPACITY FRONT AND REAR, AND WITH LADDER RACK. CONNECTION HARDWARE ACCESSORIES AND RADIUS DROP LADDER RACK.       EXISTING OWNER FURNISHED         8       SC-FDC-1       FIBER OPTIC DISTRIBUTION CABINET, RACK MOUNT, ACCOMMODATES TWELVE (12) MODULAR ADAPTER PANELS OR MODULES. WELDED STEEL CONSTRUCTION, BLACK POWDER-COAT FINISH, INTEGRATED FRONT CABLE MANAGEMENT THROUGH, LOCKABLE. REQUIRES TWO(2) 1.75" RACK MOUNTING SPACES.       HUBBELL HC219CC3P NO EQUALS         9       SC-HWM-1       HORIZONTAL CABLE MANAGEMENT, FINGER DUCT STYLE, 3" X 3" CAPACITY FRONT, 2" X 5" CAPACITY REAR. REMOVABLE FRONT AND REAR COVERS. PASS THROUGH HOLES TO FACILITATE FRONT TO REAR CABLING. REQUIRES (2) 1.75" MOUNTING SPACES.       HUBBELL HC219CC3P NO EQUALS         10       SC-MPP-1       MODULAR PATCH PANEL. FORTY EIGHT (48) MODULAR RJ-45 SNAP-IN JACKS. WELDED STEEL CONSTRUCTION, BLACK POWDER COAT FINISH, MOUNTS DIRECTLY TO ELATIA STANDARD 19" RELAY RACK. REQUIRES (2) 1.75"       HUBBELL CAT 6; P6E48U	6	SC-GND-2	RACK MOUNT GROUND BAR. MINIMUM 3/16" D X 3/4" H X 19" W COPPER, CONFIGURED WITH MINIMUM EIGHT (8) #6-32 TAPPED HOLES AND MINIMUM FOUR (4) 5/16" UNTAPPED HOLES. UL LISTED AND ANSI/EIA/TIA-607 AND BICSI	
9       SC-HWM-1       HORIZONTAL CABLE MANAGEMENT, FINGER DUCT STYLE, 3" X 3" CAPACITY FRONT AND REAR COVERS.       HUBBELL HC219CC3P NO EQUALS         10       SC-MPP-1       MODULAR PATCH PANEL. FORTY EIGHT (48) MODULAR RJ-45 SNAP-IN JACKS. WELDED STEEL CONSTRUCTION, BLACK POWDER COAT FINISH, MOUNTS CONSTRUCTION, BLACK POWDER COAT FINISH, MOUNTS CONSTRUCTION, BLACK POWDER COAT FINISH, MOUNTS CONSTRUCTION, BLACK POWDER COAT FINISH, INTEGRATED FRONT CABLE MOUNTING SPACES.       HUBBELL HUBBELL HC219CC3P NO EQUALS		SC-ER-1		EXISTING OWNFR
8       SC-FDC-1       FIBER OPTIC DISTRIBUTION CABINET, RACK MOUNT. ACCOMMODATES TWELVE (12) MODULAR ADAPTER PANELS OR MODULES. WELDED STEEL CONSTRUCTION, BLACK POWDER-COAT FINISH, INTEGRATED FRONT CABLE MANAGEMENT THROUGH, LOCKABLE. REQUIRES TWO(2) 1.75" RACK MOUNTING SPACES.       Image: Construction of the sector of			PROVIDE COMPLETE WITH TWO (2) TWO-SIDED VERTICAL WIRE MANAGERS PER RACK, EACH WITH MINIMUM 6" X 6" CAPACITY FRONT AND REAR, AND WITH LADDER RACK CONNECTION HARDWARE ACCESSORIES AND RADIUS	
9       SC-HWM-1       HORIZONTAL CABLE MANAGEMENT, FINGER DUCT STYLE, 3" X 3" CAPACITY FRONT, 2" X 5" CAPACITY REAR. REMOVABLE FRONT AND REAR COVERS. PASS THROUGH HOLES TO FACILITATE FRONT TO REAR CABLING. REQUIRES (2) 1.75" MOUNTING SPACES.       HUBBELL HC219CC3P NO EQUALS         10       SC-MPP-1       MODULAR PATCH PANEL. FORTY EIGHT ( <b>4</b> 8) MODULAR RJ-45 SNAP-IN JACKS. WELDED STEEL CONSTRUCTION, BLACK POWDER COAT FINISH, MOUNTS DIRECTLY TO EIA/TIA STANDARD 19" RELAY RACK. REQUIRES (2) 1.75"       HUBBELL CAT 6: P6E48U	8	SC-FDC-1	FIBER OPTIC DISTRIBUTION CABINET, RACK MOUNT. ACCOMMODATES TWELVE (12) MODULAR ADAPTER PANELS OR MODULES. WELDED STEEL CONSTRUCTION, BLACK POWDER-COAT FINISH, INTEGRATED FRONT CABLE	
Image: Contract of the second seco				
10       SC-MPP-1 WELDED STEEL CONSTRUCTION, BLACK POWDER COAT FINISH, MOUNTS       HUBBELL CAT 6: DIRECTLY TO EIA/TIA STANDARD 19" RELAY RACK. REQUIRES (2) 1.75"	9	SC-HWM-1	FRONT, 2" X 5" CAPACITY REAR. REMOVABLE FRONT AND REAR COVERS. PASS THROUGH HOLES TO FACILITATE FRONT TO REAR CABLING. REQUIRES	HC219CC3P
DIRECTLY TO EIA/TIA STANDARD 19" RELAY RACK. REQUIRES (2) 1.75" P6E48U	10	SC-MPP-1	MODULAR PATCH PANEL. FORTY EIGHT ( <b>4</b> 8) MODULAR RJ-45 SNAP-IN JACKS.	HUBBELL
NO EQUALS				P6E48U

	ITEM NO.	EQUIPMENT TAG	DESCRIPTION	APPROVED MANUFACTURE
	11	<u>SC-HH</u>	TELECOMMUNICATIONS HAND HOLE. IN GROUND HAND HOLE TIER 5 APPROXIMATE SIZE 13"X 24" WITH STANDARD COVER.	
	12	AC-CR1-W	CARD READER. PROVIDED AS INTEGRAL PART OF SECURITY MANAGEMENT SYSTEM. CARD READERS SHOWN ON PLANS TO IDENTIFY INTENDED MOUNTING LOCATION. REFER TO SPECIFICATION SECTION 28 13 00 FOR COMPLETE INFORMATION.	KEYSCAN
	13	AC-MD-C	MOTION DETECTOR, CEILING MOUNTED. PROVIDE WITH CEILING MOUNT BRACKET.	
			INSTALL IN A 4" SQUARE 2-1/8" DEEP BACKBOX WITH A SINGLE GANG PLASTER RING AND A 1" EMT CONDUIT STUBBED TO NON-CONTINUOUS CABLE SUPPORT ROUTE ABOVE NEAREST ACCESSIBLE CEILING (MINIMUM 6" BEYOND BOX). REFER TO SUGGESTED MATRIX OF RESPONSIBILITY ON DRAWING T000 FOR ADDITIONAL INFORMATION.	
	14	<u>AC-EDH</u>	ACCESS CONTROL ELECTRIFIED DOOR HARDWARE. FURNISHED AND INSTALLED BY OTHERS, CABLING AND CONNECTION TO ELECTRONIC ACCESS CONTROL SYSTEM PANEL BY THIS CONTRACTOR. COORDINATE CONNECTIONS AND TESTING WITH ON-SITE DOOR CONTRACTOR. REFER TO 3/T400 FOR WIRING REQUIREMENTS.	
	15	<u>IC-IM-1</u>	DOOR INTERCOM MASTER STATION.	
			INSTALL 4" SQUARE 2-1/8 DEEP BOX WITH SINGLE-GANG PLASTER RING. 3/4" EMT CONDUIT STUBBED TO NON-CONTINUOUS CABLE SUPPORT ROUTE ABOVE NEAREST ACCESSIBLE CEILING. LOCATE IN PRINT SHOP AREA AS DIRECTED BY OWNER, FIELD COORDINATE FINAL LOCATION BEFORE BEGINNING INSTALLATION.	
			FURNISH AND INSTALL ONE CAT 6 CABLE AND TERMINATE WITH CAT 6 JACK. INSTALL DEVICE AS DIRECTED BY OWNER, FIELD COORDINATE PRIOR TO FINAL INSTALLATION, REFER TO SUGGESTED MATRIX OF SCOPE RESPONSIBILITY ON DRAWING T000 FOR ADDITIONAL INFORMATION.	
			REFER TO 2/T401 FOR CABLING REQUIREMENTS.	
	16	<u>IC-IS-1</u>	DOOR INTERCOM STATION, FLUSH WALL MOUNTED, VANDAL RESISTANT. INSTALL IN MANUFACTURER'S MATCHING ACCESSORY WITH 3/4" EMT CONDUIT STUBBED TO NON-CONTINUOUS CABLE SUPPORT ROUTE ABOVE NEAREST ACCESSIBLE CEILING. REFER TO SUGGESTED MATRIX OF SCOPE RESPONSIBILITY ON DRAWING T000 FOR ADDITIONAL INFORMATION. FURNISH AND INSTALL ONE (1) CAT 6 CABLE AND TERMINATE WITH RJ-45 PLUG. REFER TO 2/T000 FOR CABLING REQUIREMENTS.	
5	17	<u>AC-PB-1</u>	ACCESS CONTROL PUSH BUTTON DOOR RELEASE, WALL MOUNT. SPST, HARD-WIRE, MOMENTARY. INSTALL IN A 4" SINGLE 2-1/8" DEEP BACKBOX WITH A SINGLE GANG PLASTER RING AND 3/4" CONDUIT STUBBED TO NON-CONTINUOUS CABLE SUPPORT ROUTE ABOVE NEAREST ACCESSIBLE CEILING (MINIMUM 6" BEYOND BOX). REFER TO SUGGESTED MATRIX OF SCOPE RESPONSIBILITY DRAWING ON T000 FOR ADDITIONAL INFORMATION.	
5	18	<u>AV-MON-1</u>	VIDEO DISPLAY. 80" DIAGONAL LED VIDEO DISPLAY. 16:9 FORMAT, 1920X1080 RESOLUTION WITH HDMI (3) INPUTS AND (1) VGA INPUT MINIMUM. PROVIDE AND INSTALL WITH WALL MOUNT. REFER TO SPECIFICATION FOR ADDITIONAL INFORMATION.	
	19	AV-CD-1	AUDIO VIDEO POLYCOM CODEC. PROVIDED BY OWNER, INSTALLED BY CONTRACTOR. FIELD COORDINATE LOCATION IN CONFERENCE ROOM, MOUNT IN CASEWORK IF POSSIBLE.	
	20	AV-CAM-1	AUDIO VIDEO CAMERA (POLYCOM). PROVIDED BY OWNER, INSTALLED BY CONTRACTOR. FIELD COORDINATE LOCATION IN CONFERENCE ROOM, MOUNT ON CASEWORK FACING TABLES.	
	21	AV-SP-1	AUDIO VIDEO RECESSED CEILING SPEAKER TYPE 1, 70 VOLT, 8 INCH DIAMETER, BY CONTRACTOR, SEE SPECIFICATION FOR ADDITIONAL INFORMATION.	
	22	<u>AV-MP-1</u>	AUDIO VIDEO RECESSED CEILING MICROPHONE TYPE , BY OWNER.	
	23	AV-AMP-1	AUDIO AMPLIFIER, BY CONTRACTOR. MOUNT IN CASEWORK, SEE 6/A403 FOR LOCATION. REFER TO SPECIFICATION FOR ADDITIONAL INFORMATION.	

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	MECHANICAL ENGINEER KJWW Engineering Consultants 1800 Deming Way Middleton, WI 53562 P. 608.223.9600 ELECTRICAL ENGINEER
	KJWW Engineering Consultants 1800 Deming Way Middleton, WI 53562 P. 608.223.9600
	Key Plan
	Sheet Issue Date Bid Set 12/09/2016
	Previous Issue Dates
KJENGINEERING1800 DEMING WAY SUITE 200 MIDDLETON, WISCONSIN 53562 608.223.9600 FAX: 608.836.0415 www.kjww.com PROJECT # 16.0141.00WWWBuilt SMARTER.PROJECT # 16.0141.00	GENERAL TECHNOLOGY EQUIPMENT SCHEDULE
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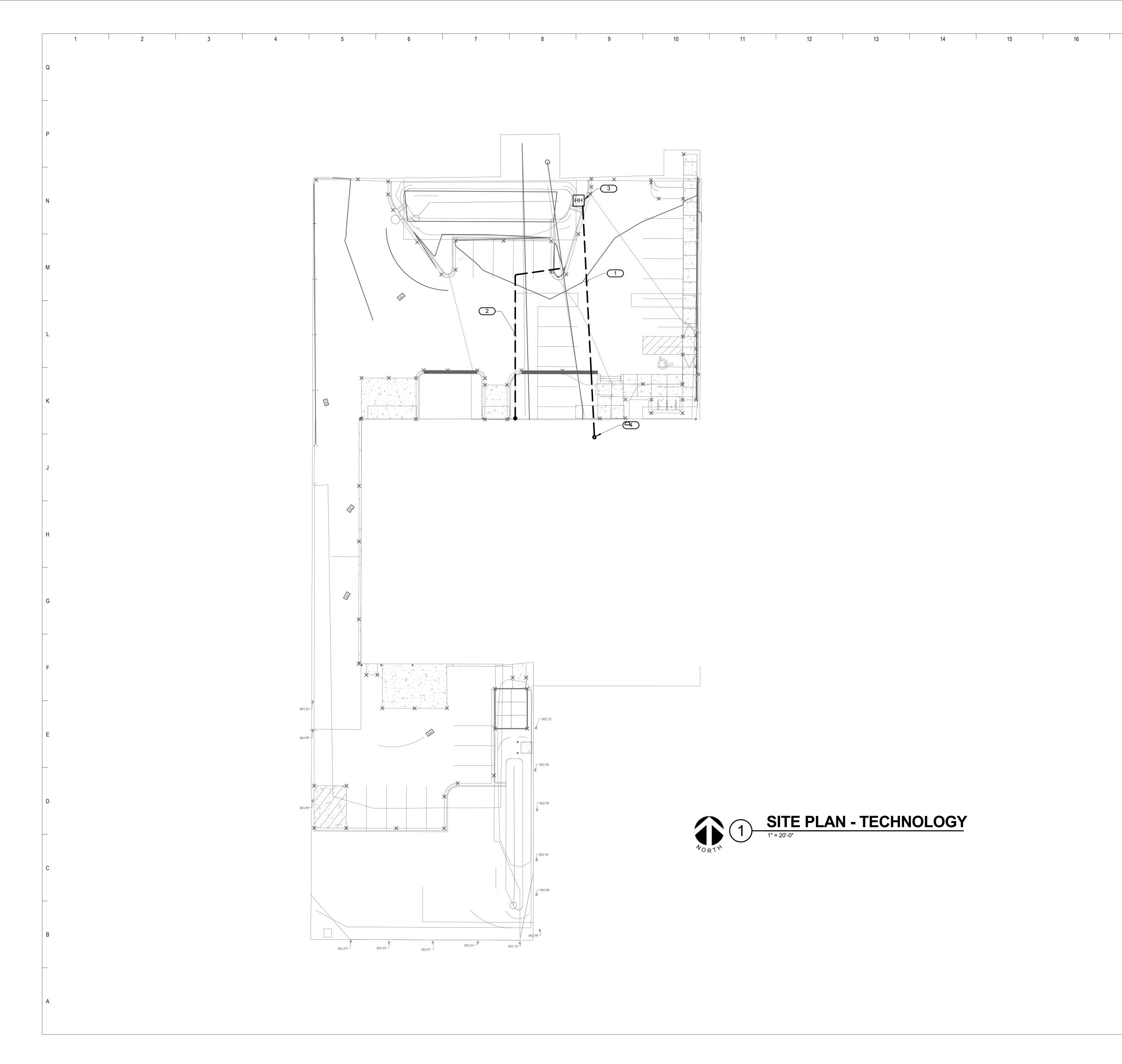
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KEYNOTES: #

. CONTRACTOR TO ROUTE (1) 3" UNDERGROUND HDPE CONDUIT FROM NEW HAND HOLE TO FRONT OF BUILDING. DEPTH

OF CONDUIT SHOULD BE A MINIMUM OF 30" TO ALLOW FOR RECOMMENDED BEND RADIUS AND TO BE BELOW FROST LINE.

CONTRACTOR TO ROUTE (1) 1" GALVANIZED RIGID CONDUIT UNDERGROUND FROM THE

CONDUIT AND CABLING BEING PROVIDED

AND INSTALLED BY CONTRACTOR. FOR

SURVEILLANCE CAMERA TO THE LIGHT POLE IN THIS APPROXIMATE LOCATION. COORDINATE WITH ELECTRICAL

CONTRACTOR AND ROUTE THIS CONDUIT ALONG SIDE CONDUIT FEEDING LIGHT FIXTURE AT POLE.

CONTRACTOR TO PROVIDE NEW HANDHOLE FOR CONNECTION OF NEW OPTICAL FIBER

CABLE (12 STRAND OS2 SINGLE MODE)

APPROXIMATE LOCATION WHERE (1) 3" CONDUIT SHOULD BEND UP AND INTO

BUILDING IN THE PRINT OFFICE AS

INDICATED ON SHEET T101.1.

CONTINUATION SEE SHEET T101.1.

BUILDING FOR FUTURE VIDEO

NOTED IN 1 ABOVE.



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Key Plan

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<sup>Drawing</sup> SITE PLAN -TECHNOLOGY



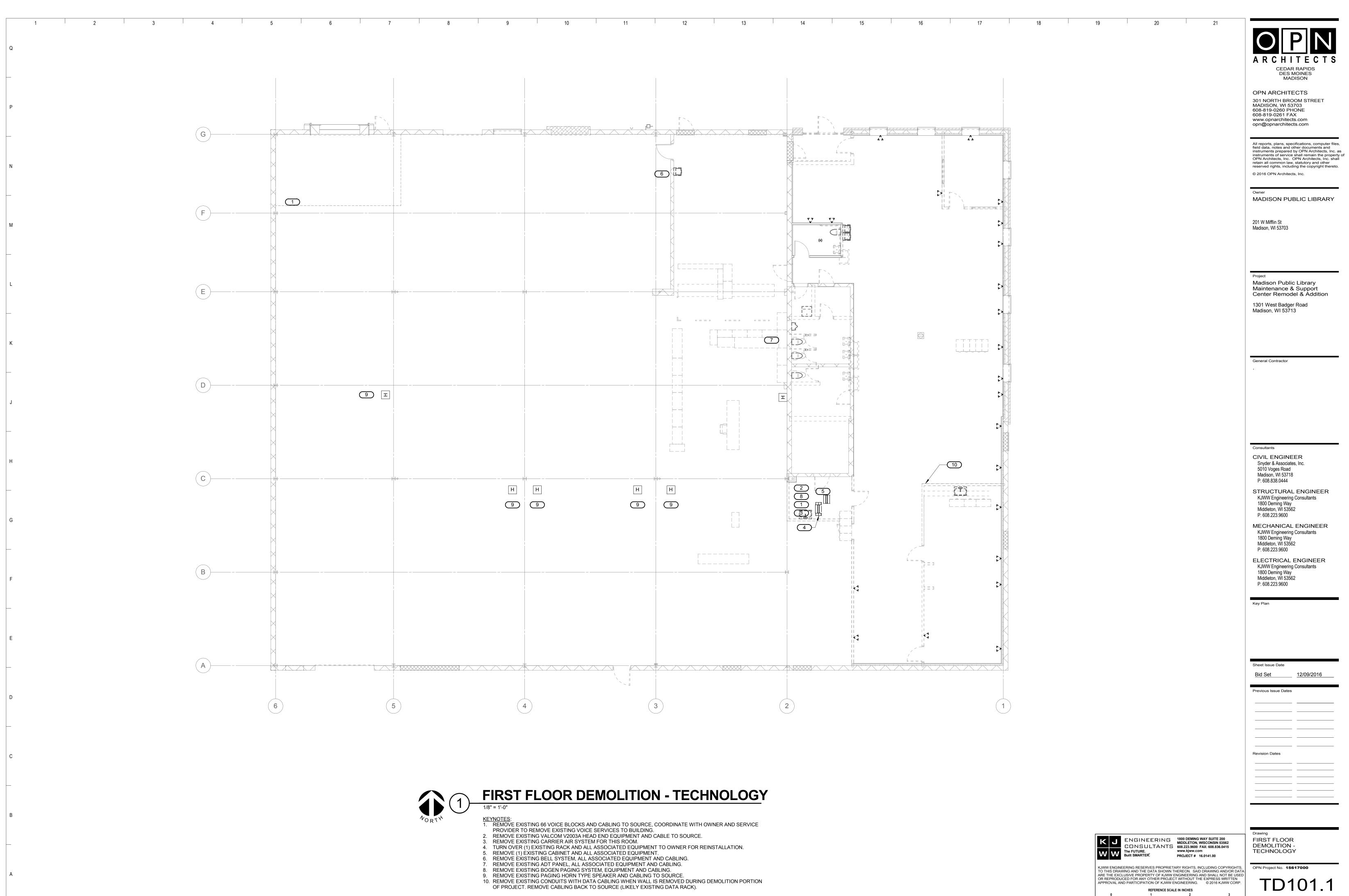
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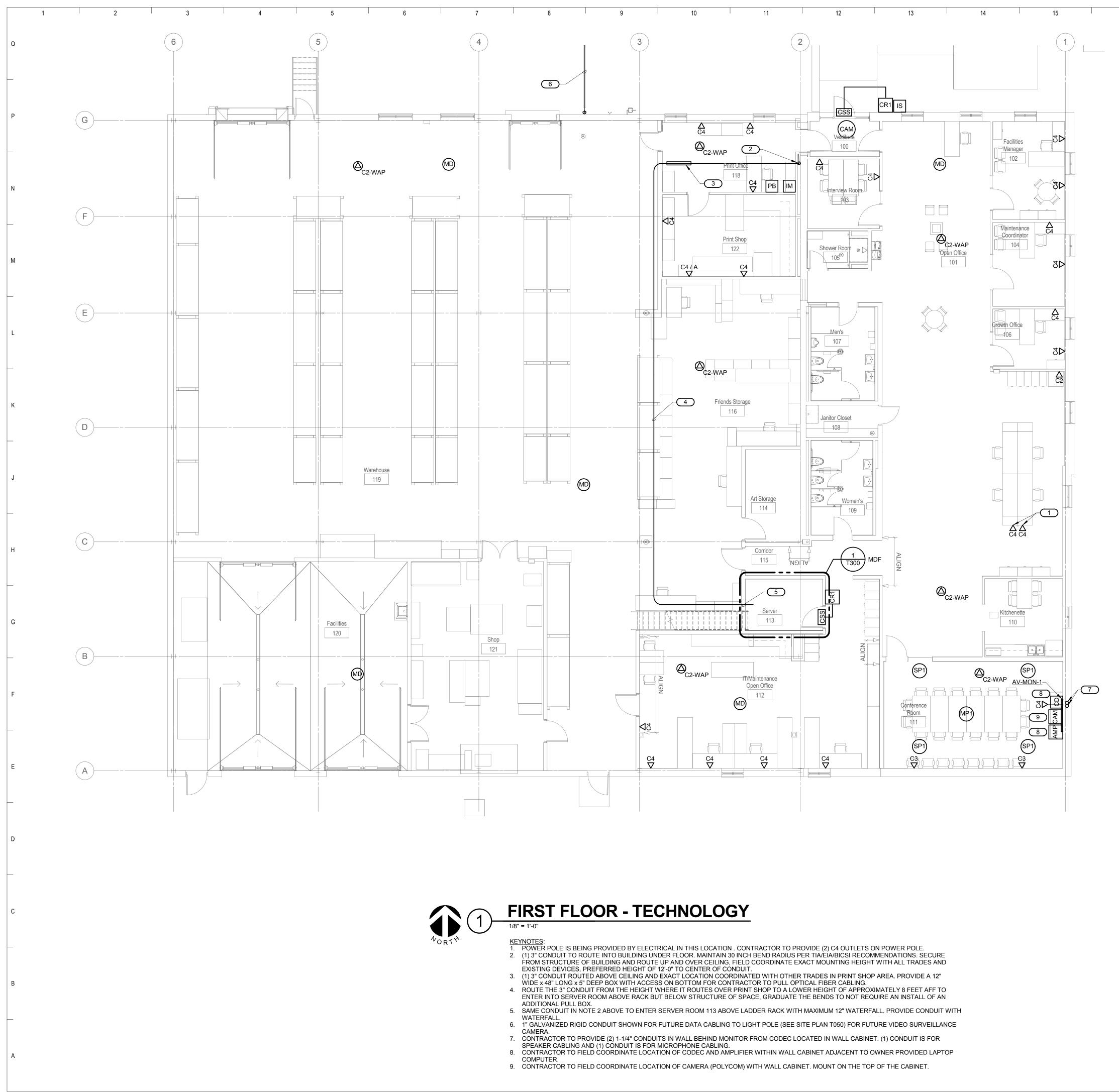
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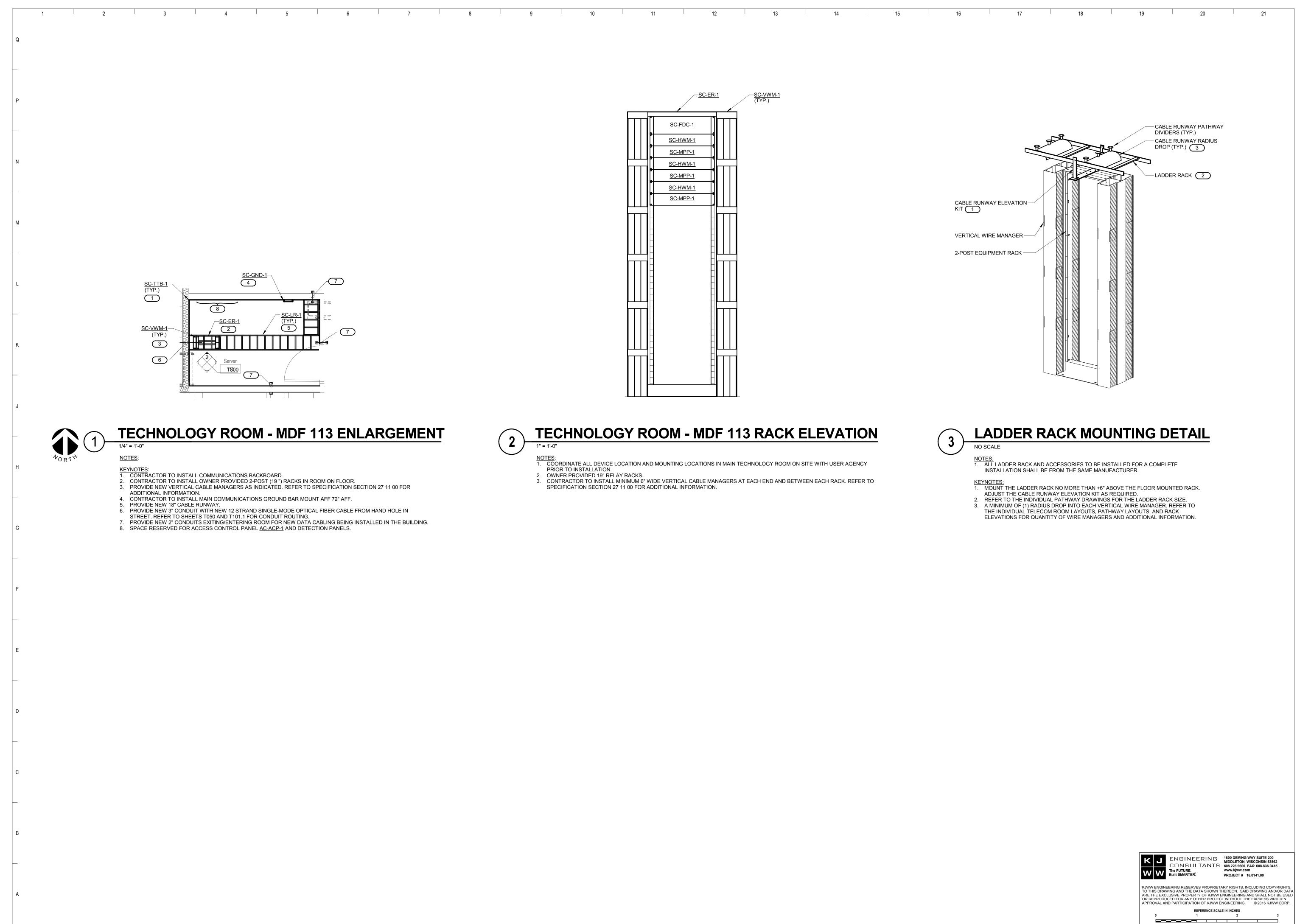
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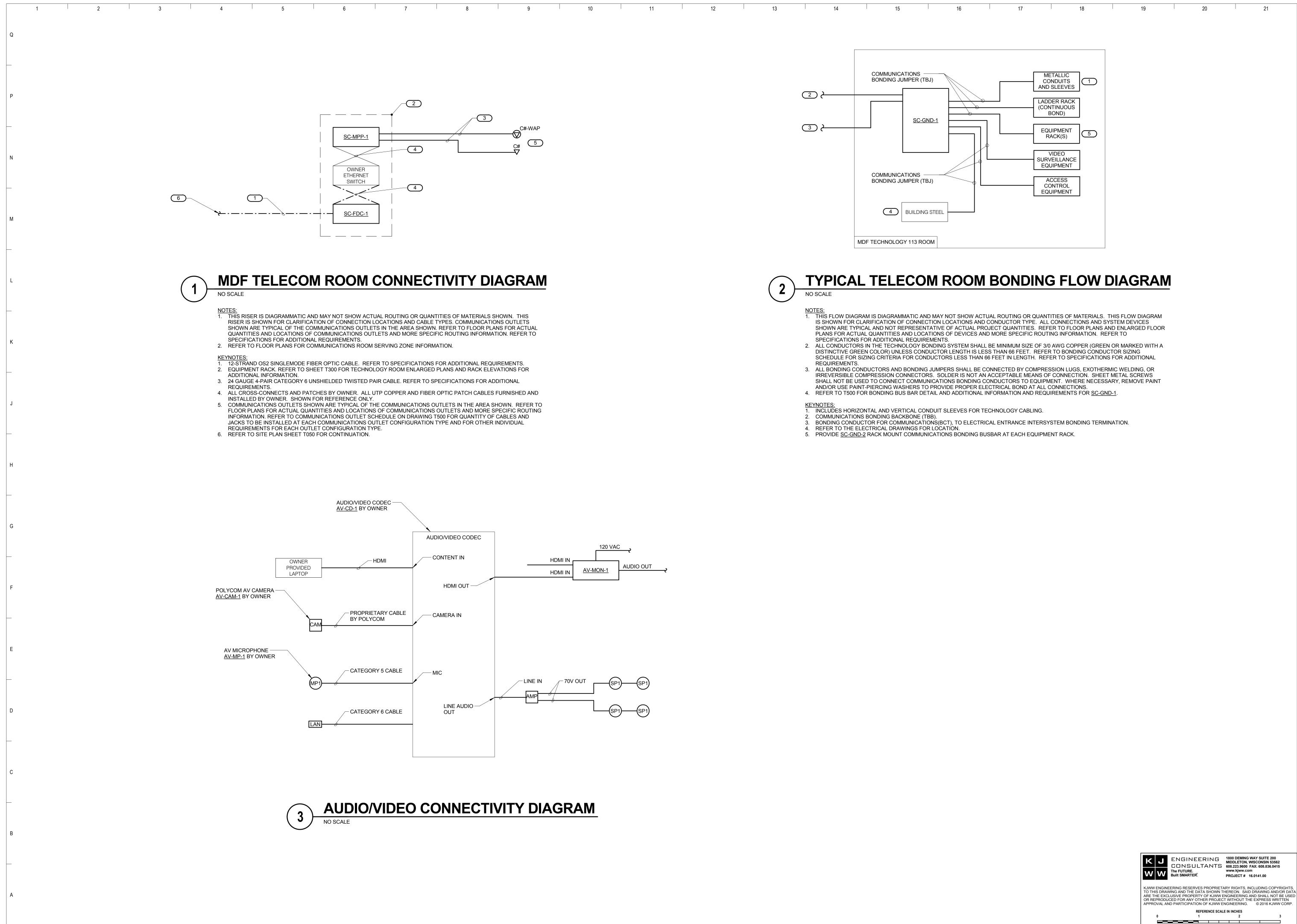
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Drawing ENLARGED PLANS – TECHNOLOGY

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OPN Project No.	15617000
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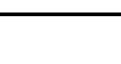
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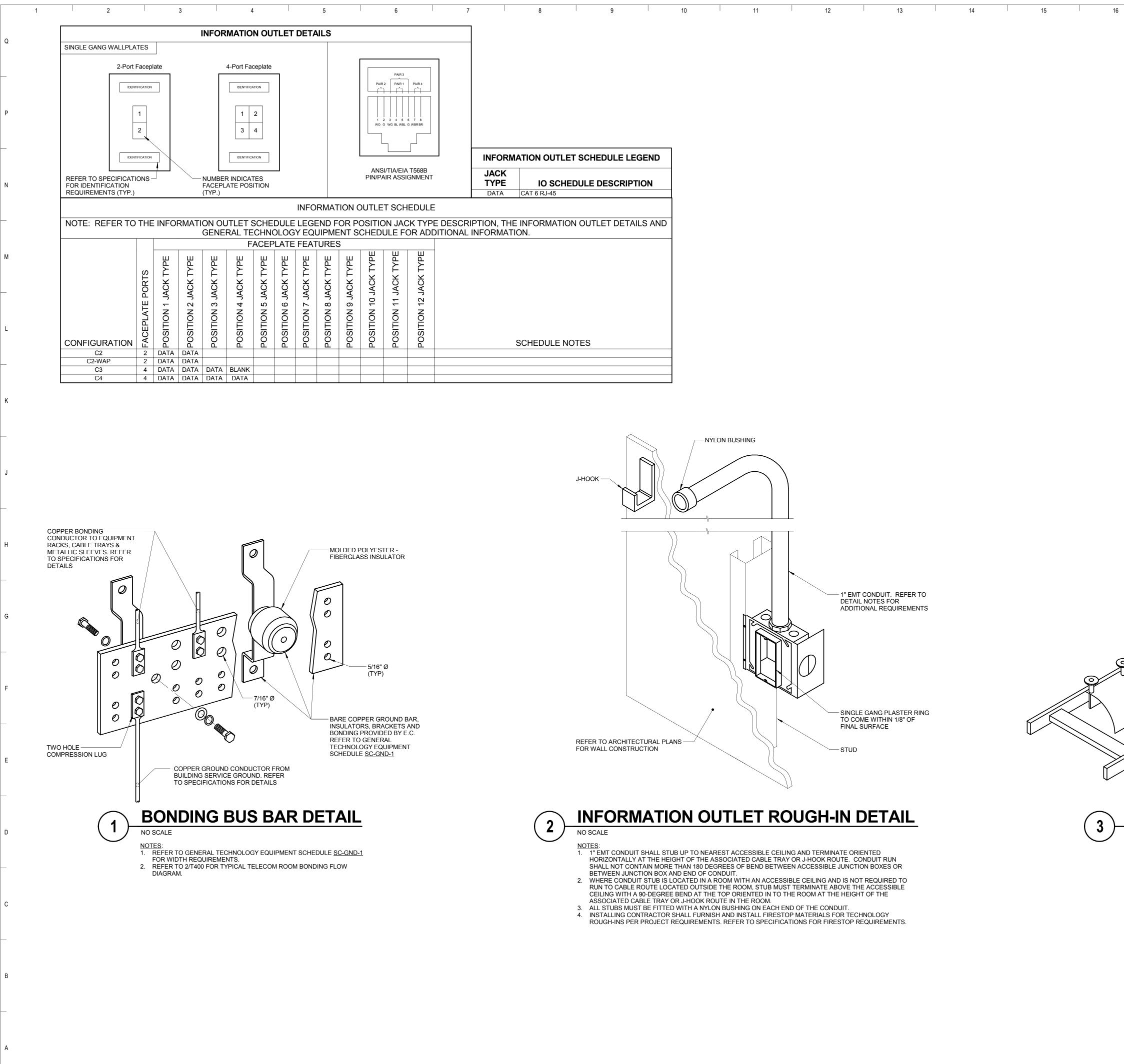
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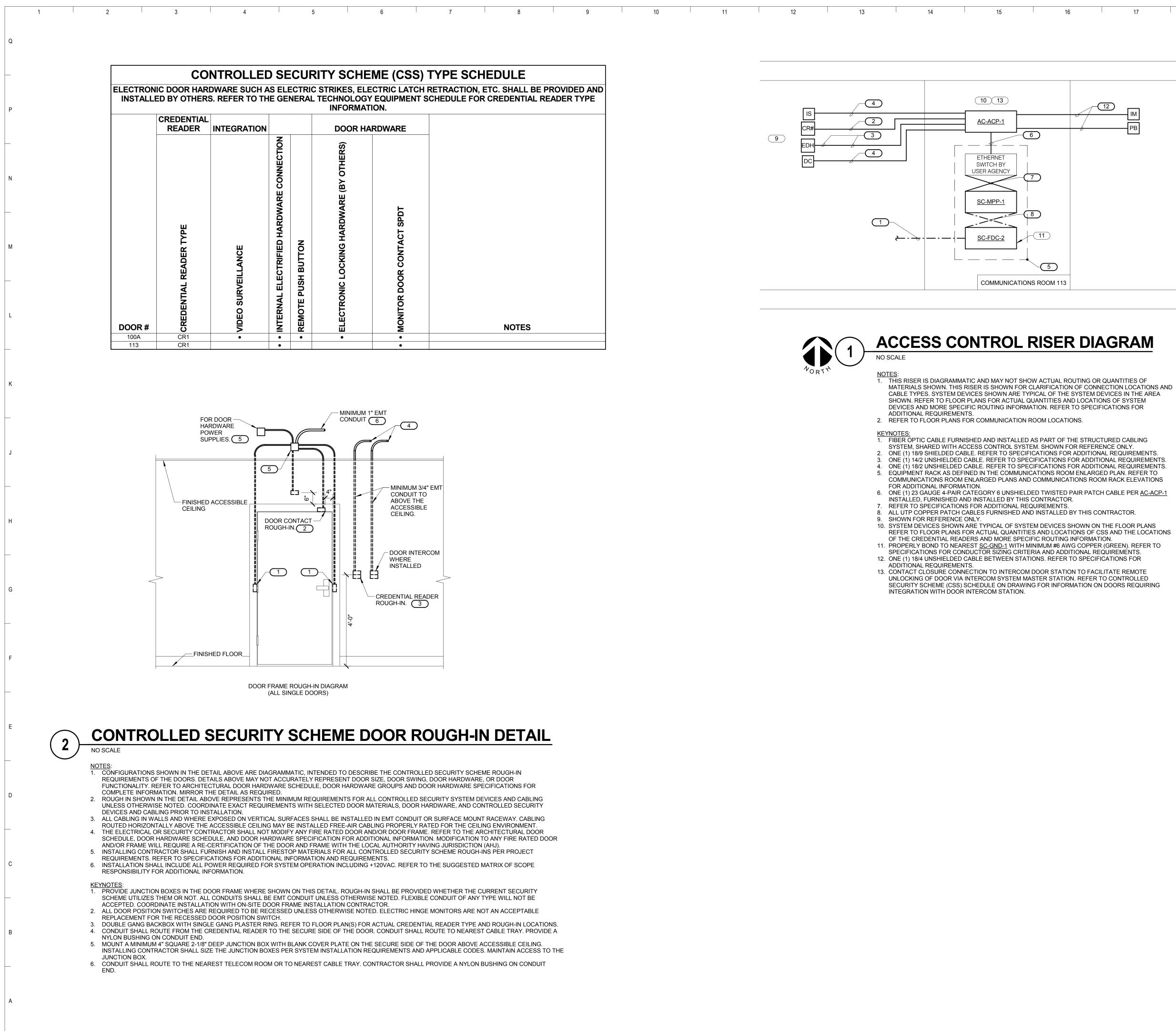
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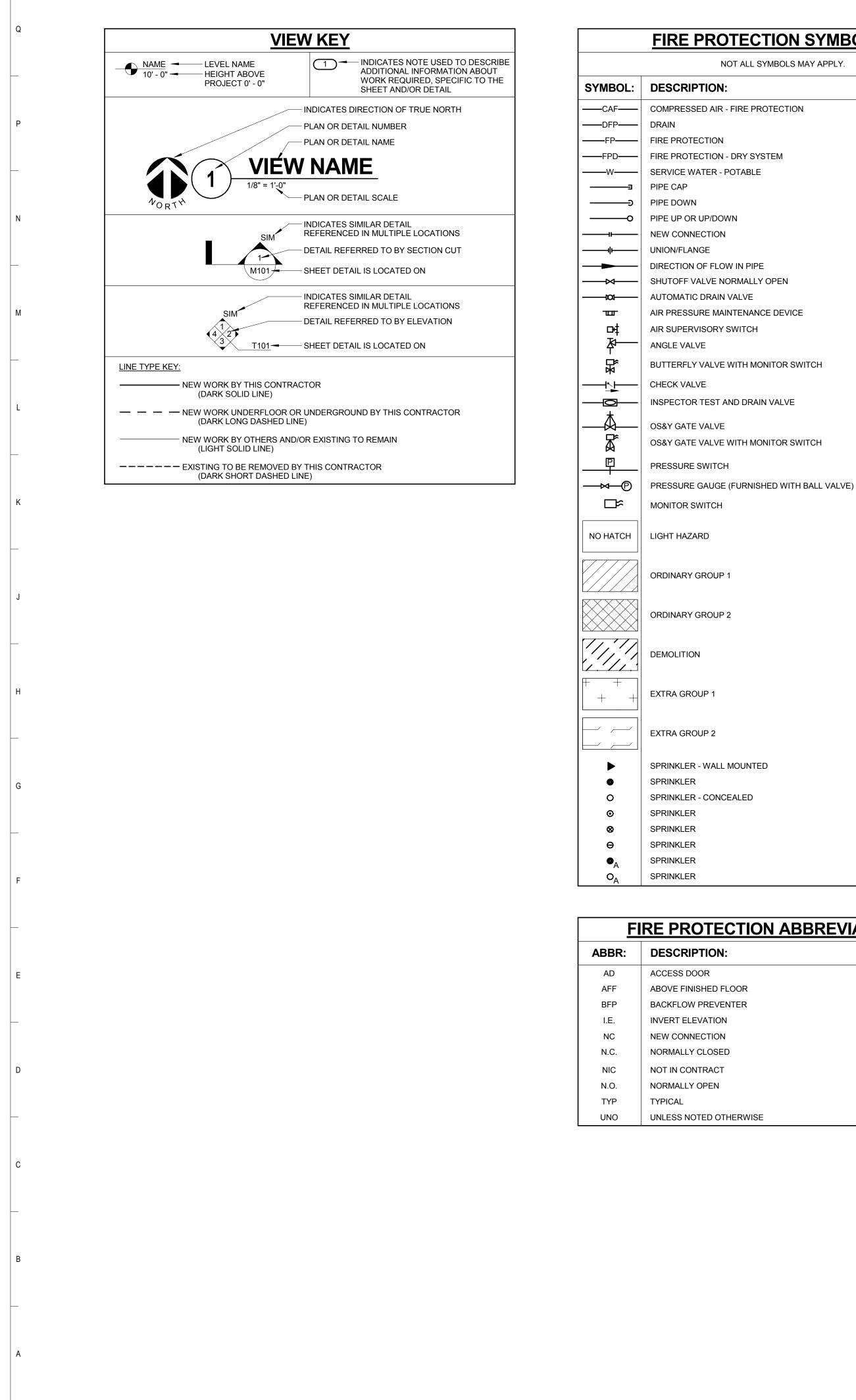
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PROTECTION SYMBOL LIST	MECHANICAL RENOVATION NOTES: THESE NOTES APPLY TO ALL MECHANICAL SHEETS AND TRADES, INCLUDING BUT NOT LIMITED
NOT ALL SYMBOLS MAY APPLY.	TO, FIRE PROTECTION, PLUMBING, VENTILATION, PIPING AND TEMPERATURE CONTROL. 1. EXISTING CONDITIONS ARE SHOWN BASED ON INFORMATION OBTAINED FROM FIELD
IPTION:	SURVEYS, EXISTING BUILDING DOCUMENTS, AND STAFF. VERIFY EXISTING CONDITIONS AND REPORT ANY CONFLICTS BEFORE PROCEEDING.
SSED AIR - FIRE PROTECTION	<ol> <li>NOT ALL EXISTING DUCTWORK AND PIPING IS SHOWN. VERIFY EXISTING CONDITIONS BEFORE STARTING WORK. NOTIFY ENGINEER OF ANY CONFLICTS WITH NEW WORK.</li> <li>FIELD VERIFY THE AVAILABLE CLEARANCES FOR DUCTWORK AND PIPING BEFORE FABRICATION. RISES AND DROPS MAY BE NECESSARY BECAUSE OF EXISTING FIELD</li> </ol>
TECTION	CONDITIONS. 4. EACH CONTRACTOR SHALL FIELD VERIFY ACCESSIBILITY TO THE AREA OF HIS WORK AND
TECTION - DRY SYSTEM	SHALL NOTIFY THE GENERAL CONTRACTOR PRIOR TO BIDDING IF OTHER UTILITIES ARE
WATER - POTABLE	<ul> <li>REQUIRED TO BE REMOVED OR RELOCATED TO ALLOW ACCESS TO HIS AREA OF WORK.</li> <li>5. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR CUTTING, REMOVAL AND PATCHING OF ROOFS, WALLS, AND FLOORS ASSOCIATED WITH WORK BY ALL CONTRACTORS.</li> </ul>
VN	<ul> <li>CONTRACTORS SHALL NOTIFY THE GC OF AFFECTED AREAS PRIOR TO BIDDING.</li> <li>6. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR REMOVAL AND REPLACEMENT OF</li> </ul>
DR UP/DOWN	CEILINGS, CEILING TILES, AND CEILING GRIDS ASSOCIATED WITH AREAS OF WORK BY ALL CONTRACTORS. NOTIFY THE GENERAL CONTRACTOR OF AFFECTED AREAS PRIOR TO BIDDING.
INECTION	<ol> <li>WHERE EXISTING MECHANICAL SYSTEMS ARE LOCATED IN AREAS THAT CONFLICT WITH NEW EQUIPMENT, PIPING, OR DUCTWORK TO BE INSTALLED, EACH CONTRACTOR SHALL EITHER</li> </ol>
ANGE	ARRANGE NEW EQUIPMENT, PIPING, OR DUCTWORK IN SUCH A FASHION THAT IT DOES NOT CONFLICT WITH EXISTING SYSTEMS, OR REWORK EXISTING MECHANICAL SYSTEMS TO ALLOW
IN OF FLOW IN PIPE	FOR INSTALLATION OF NEW EQUIPMENT, PIPING, OR DUCTWORK.
VALVE NORMALLY OPEN	<ol> <li>DISCONNECT AND REMOVE MECHANICAL DEVICES AND EQUIPMENT SERVING EQUIPMENT THAT HAS BEEN REMOVED.</li> </ol>
FIC DRAIN VALVE	
SURE MAINTENANCE DEVICE	
RVISORY SWITCH	FIRE HYDRANT FLOW TEST DATA
ALVE	TEST DATE: 06/16/2015
LY VALVE WITH MONITOR SWITCH	HYDRANT ELEVATION: 882'-0"
ALVE	LOCATION: 1501 BADGER ROAD STATIC PRESSURE: 75 PSI
OR TEST AND DRAIN VALVE	RESIDUAL PRESSURE: 63 PSI
TE VALVE	TOTAL FLOW: 1210 GPM

CONTRACTOR ABBREVIATION KEY				
ABBR:	DESCRIPTION:			
C.C.	CIVIL CONTRACTOR			
C.M.	CONSTRUCTION MANAGER			
E.C.	ELECTRICAL CONTRACTOR			
F.P.C.	FIRE PROTECTION CONTRACTOR			
G.C.	GENERAL CONTRACTOR			
M.C.	MECHANICAL CONTRACTOR			
P.C.	PLUMBING CONTRACTOR			
T.C.	TECHNOLOGY CONTRACTOR			

FIRE PROTECTION SHEET INDEX			
Sheet Number	Sheet Name		
F000	FIRE PROTECTION COVER SHEET		
FD101.1	FIRST FLOOR DEMOLITION - FIRE PROTECTION		
F101.1	FIRST FLOOR - FIRE PROTECTION		
F200	FIRE PROTECTION DETAILS AND SCHEDULES		

## FIRE PROTECTION ABBREVIATION KEY

UNLESS NOTED OTHERWISE

### 17 18 19 20 21

**FIRE PROTECTION GENERAL NOTES:** 

- 1. THE SYMBOLS AND THE MATERIAL LIST ARE FOR THE CONVENIENCE OF THE CONTRACTOR. CONTRACTOR SHALL VERIFY QUANTITIES AND FURNISH ALL MATERIALS REQUIRED FOR FULLY
- OPERATIONAL SYSTEMS, WHETHER SPECIFIED OR NOT. 2. CATALOG NUMBERS SHALL NOT BE CONSIDERED COMPLETE, BUT ARE GIVEN AS AN AID TO THE CONTRACTOR AND TO INDICATE THE QUALITY REQUIRED. CONTRACTOR IS RESPONSIBLE FOR COMPLETE DESCRIPTION OF MATERIAL ON THESE DRAWINGS AND IN THE SPECIFICATIONS
- BEFORE ORDERING. THE DESCRIPTION OF THE MATERIAL TAKES PRECEDENCE OVER THE CATALOG NUMBER. THE FIRST MANUFACTURER IS THE BASIS OF DESIGN. 3. FIRE PROTECTION PIPE ROUTING IS SHOWN FOR GENERAL LAYOUT. DETERMINE EXACT
- NUMBER OF SPRINKLERS, PIPE SIZING, AND PIPE ROUTING. 4. CENTER SPRINKLERS IN CEILING TILES IN BOTH DIRECTIONS IN ALL AREAS. IN AREAS WITH 2'X4' CEILING TILES CENTERING USING A 2'X2' CEILING PATTERN IS ACCEPTABLE.
- 5. NEW SPRINKLERS SHALL BE QUICK RESPONSE TYPE, UNLESS OTHERWISE NOTED. CONTRACTOR SHALL NOT MIX STANDARD RESPONSE SPRINKLERS WITH QUICK RESPONSE SPRINKLERS IN UNPARTITIONED SPACES.

## **MECHANICAL GENERAL NOTES:**

THESE NOTES APPLY TO ALL MECHANICAL SHEETS AND TRADES. INCLUDING BUT NOT LIMITED TO, FIRE PROTECTION, PLUMBING, VENTILATION, PIPING AND TEMPERATURE CONTROL.

- 1. DRAWINGS SHOWING LOCATIONS OF EQUIPMENT, DUCTWORK, PIPING, ETC. ARE DIAGRAMMATIC AND MAY NOT ALWAYS REFLECT EXACT INSTALLATION CONDITIONS. DRAWINGS SHOW THE GENERAL ARRANGEMENT OF DUCTWORK, PIPING, EQUIPMENT, ETC., AND MAY NOT INCLUDE ALL OFFSETS AND FITTINGS REQUIRED FOR COMPLETE INSTALLATION. THE DRAWINGS SHALL BE FOLLOWED AS CLOSELY AS ACTUAL BUILDING CONSTRUCTION AND THE WORK OF OTHERS WILL PERMIT
- 2. DO NOT SCALE DRAWINGS. VERIFY ALL DIMENSIONS AND CLEARANCES FROM ARCHITECTURAL, STRUCTURAL, SUBMITTALS, AND OTHER APPROPRIATE DRAWINGS OR PHYSICALLY AT SITE. REVIEW ALL DRAWINGS, INCLUDING THOSE OF OTHER TRADES.
- 3. COORDINATE ALL WORK WITH ALL OTHER TRADES PRIOR TO INSTALLATION TO PROVIDE CLEARANCES REQUIRED FOR OPERATION, MAINTENANCE, CODE COMPLIANCE, AND TO VERIFY NON-INTERFERENCE WITH OTHER WORK. DO NOT FABRICATE PRIOR TO VERIFICATION OF NECESSARY CLEARANCES FOR ALL TRADES. BRING ANY INTERFERENCES OR CONFLICTS TO THE ATTENTION OF THE ARCHITECT/ENGINEER BEFORE PROCEEDING WITH FABRICATION OR EQUIPMENT ORDERS.
- 4. REVIEW SPACE REQUIREMENTS OF EQUIPMENT SPECIFIED OR SUBSTITUTED AND MAKE REASONABLE ACCOMMODATIONS IN LAYOUT AND POSITIONING TO PROVIDE PROPER ACCESS. 5. ANY CHANGES REQUIRED TO ELIMINATE CONFLICTS OR THAT RESULT FROM A FAILURE TO COORDINATE SHALL BE MADE BY THE CONTRACTOR WITHOUT ADDITIONAL COST OR EXPENSE
- TO OTHERS. 6. EACH CONTRACTOR IS RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH ELECTRICAL CHANGES REQUIRED FOR EQUIPMENT PROPOSED THAT DIFFERS FROM THE BASIS OF DESIGN.
- 7. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN, ELECTRICAL, TECHNOLOGY AUDIO/VISUAL, AND OTHER MECHANICAL PLANS FOR EXACT LOCATIONS OF ALL CEILING MOUNTED DEVICES, OTHER THAN SPRINKLERS. 8. EACH CONTRACTOR IS RESPONSIBLE FOR DAMAGE CAUSED BY THEIR ACTIONS TO WALLS,
- FLOORS, CEILINGS, AND ROOFS. THE CONTRACTOR WHOSE WORK CAUSES DAMAGE IS RESPONSIBLE FOR PATCHING TO MATCH ORIGINAL CONSTRUCTION, FIRE RATING, AND FINISH. 9. IN AREAS WITH DRYWALL CEILINGS COORDINATE LOCATIONS OF ACCESS PANELS WITH THE GC
- FOR ACCESS TO VALVES, DUCTWORK ACCESSORIES, DAMPERS, ETC. COORDINATE PANEL TYPE AND COLOR WITH ARCHITECT. NOTIFY THE GC OF THE REQUIRED ACCESS PANELS PRIOR TO BIDDING
- 10. SEAL ALL FLOOR, WALL, AND ROOF PENETRATIONS AIRTIGHT WHERE CONDUITS, PIPING, AND DUCTS PENETRATE. PENETRATIONS THROUGH EXTERIOR WALLS AND ROOF SHALL BE SEALED AIRTIGHT WITH WATERPROOFING MATERIALS RECOMMENDED BY MANUFACTURER FOR OUTDOOR USE.
- 11. CAULK ALL PIPE AND DUCT PENETRATIONS OF FULL HEIGHT NON-FIRE RATED WALL, PARTITION, FLOOR, AND ROOF ASSEMBLIES. THIS IS ESSENTIAL TO PREVENT NOISE TRANSMISSION FROM ONE ROOM TO ANOTHER AND TO PROVIDE THE DESIRED NC LEVELS WITHIN ROOMS. 12. WHERE PIPES AND DUCTS ARE SHOWN TO PENETRATE FLOORS. PROVIDE SLEEVED OPENINGS
- WITH THE TOP EDGE RAISED ABOVE FLOOR SURFACE IN ACCORDANCE WITH ALL RELEVANT SPEC SECTIONS. SEAL SLEEVE PERIMETER TO BE WATERTIGHT. 13. EQUIPMENT SIZES AND SERVICE CLEARANCE REQUIREMENTS VARY BETWEEN DIFFERENT MANUFACTURERS. CONSULT APPROVED SHOP DRAWINGS FOR EQUIPMENT SIZES AND
- REQUIRED SERVICE CLEARANCES. COORDINATE WITH LAYOUT OF EQUIPMENT PADS, PIPING, DUCTWORK, ETC. 14. DO NOT BLOCK TUBE PULL OR EQUIPMENT SERVICE CLEARANCES.
- 15. MAINTAIN MINIMUM 3'-6" CLEARANCE IN FRONT OF ALL ELECTRICAL PANELS, MOTOR STARTERS, SWITCHES, AND DISCONNECTS. 16. PROVIDE CONCRETE EQUIPMENT PAD FOR ALL FLOOR MOUNTED EQUIPMENT. PAD SHALL
- EXTEND MINIMUM 6" BEYOND ALL SIDES OF EQUIPMENT. 17. DO NOT SUPPORT EQUIPMENT, PIPING, OR DUCTWORK FROM METAL DECKING OR OTHER NON-STRUCTURAL BUILDING ELEMENTS. ANCHORS EMBEDDED IN CONCRETE SHALL BE CRACKED CONCRETE APPROVED IN ACCORDANCE WITH SPECIFICATIONS.



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Key Plan

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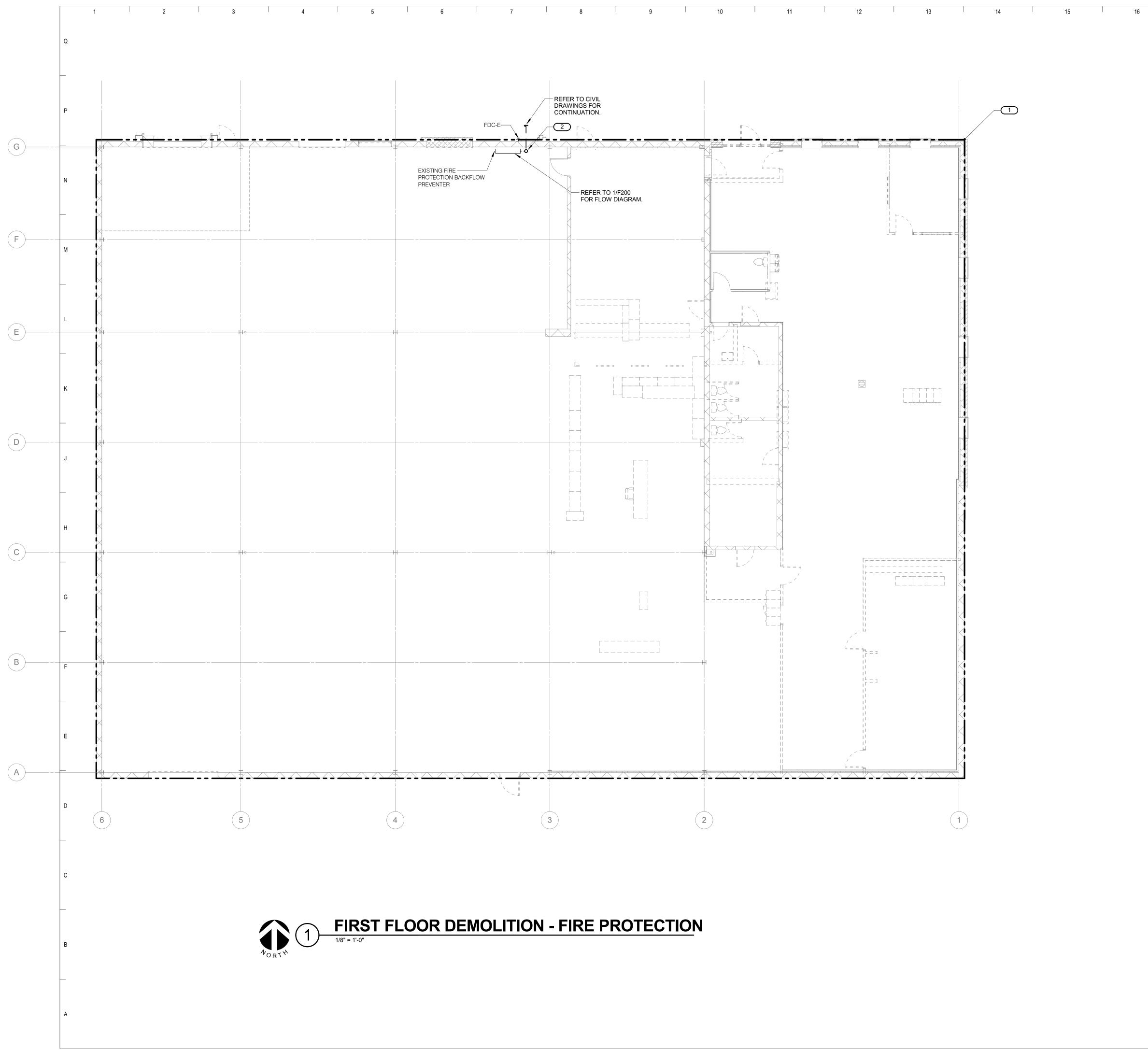
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OPN Project No. 15617000

FIRE PROTECTION

COVER SHEET

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## KEY NOTES : #

- REMOVE EXISTING SPRINKLERS AND BRANCH PIPING AS REQUIRED FOR THE RENOVATED SPACES. PREPARE FOR INSTALLATION OF NEW SPRINKLERS FOR NEW BUILDING LAYOUT. EXISTING FIRE PROTECTION SERVICE AND FIRE DEPARTMENT CONNECTION TO REMAIN. REFER TO F101.1 FOR NEW ROOM CONFIGURATION.
- EXISTING WATER SERVICE TO BE REPLACED. REMOVE INCOMING SERVICE PIPING NEAR FLOOR LEVEL AND PREPARE FOR CONNECTION FROM NEW INCOMING SERVICE LINE TO EXISTING FIRE PROTECTION SERVICE.



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Key Plan

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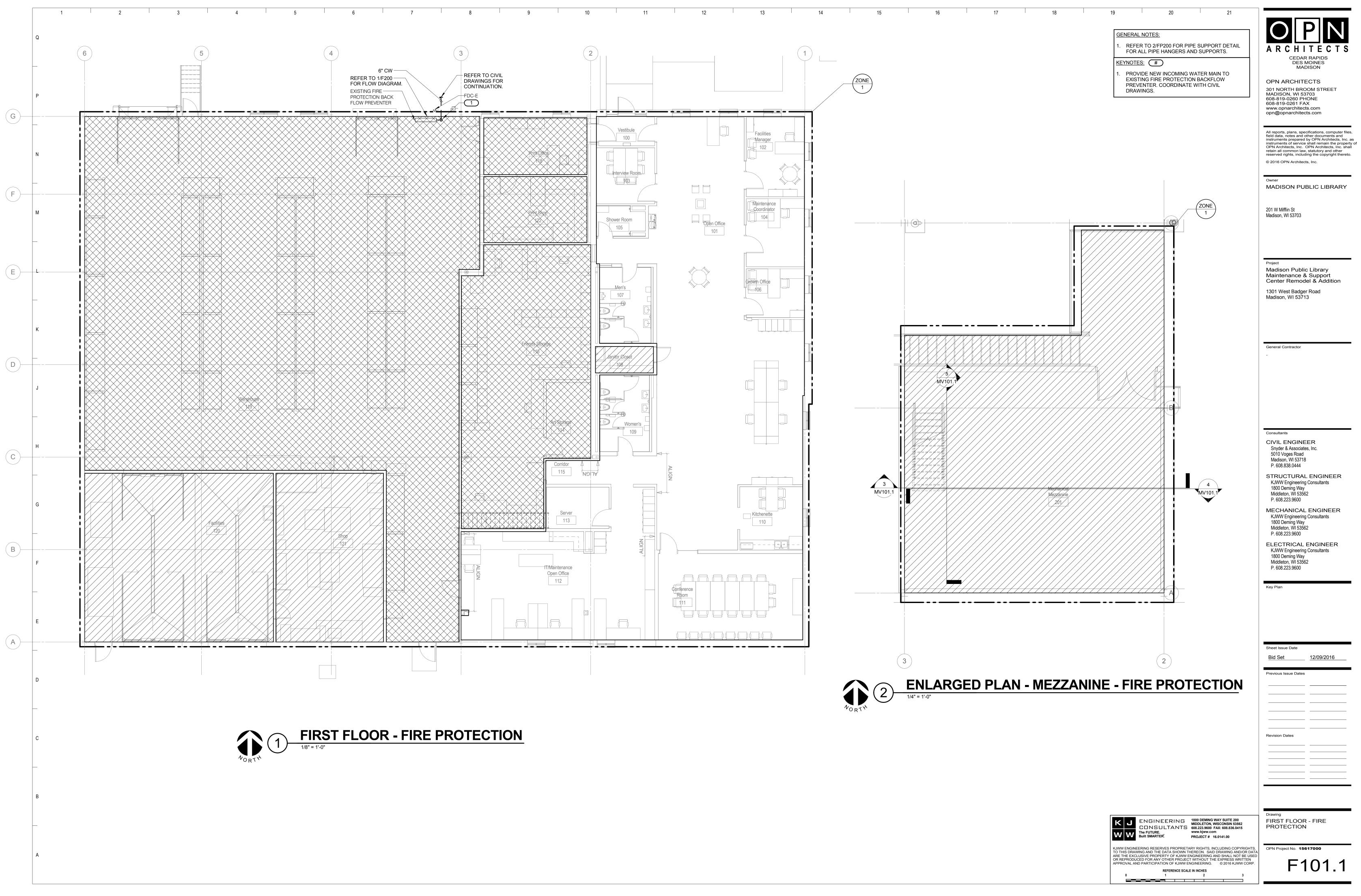
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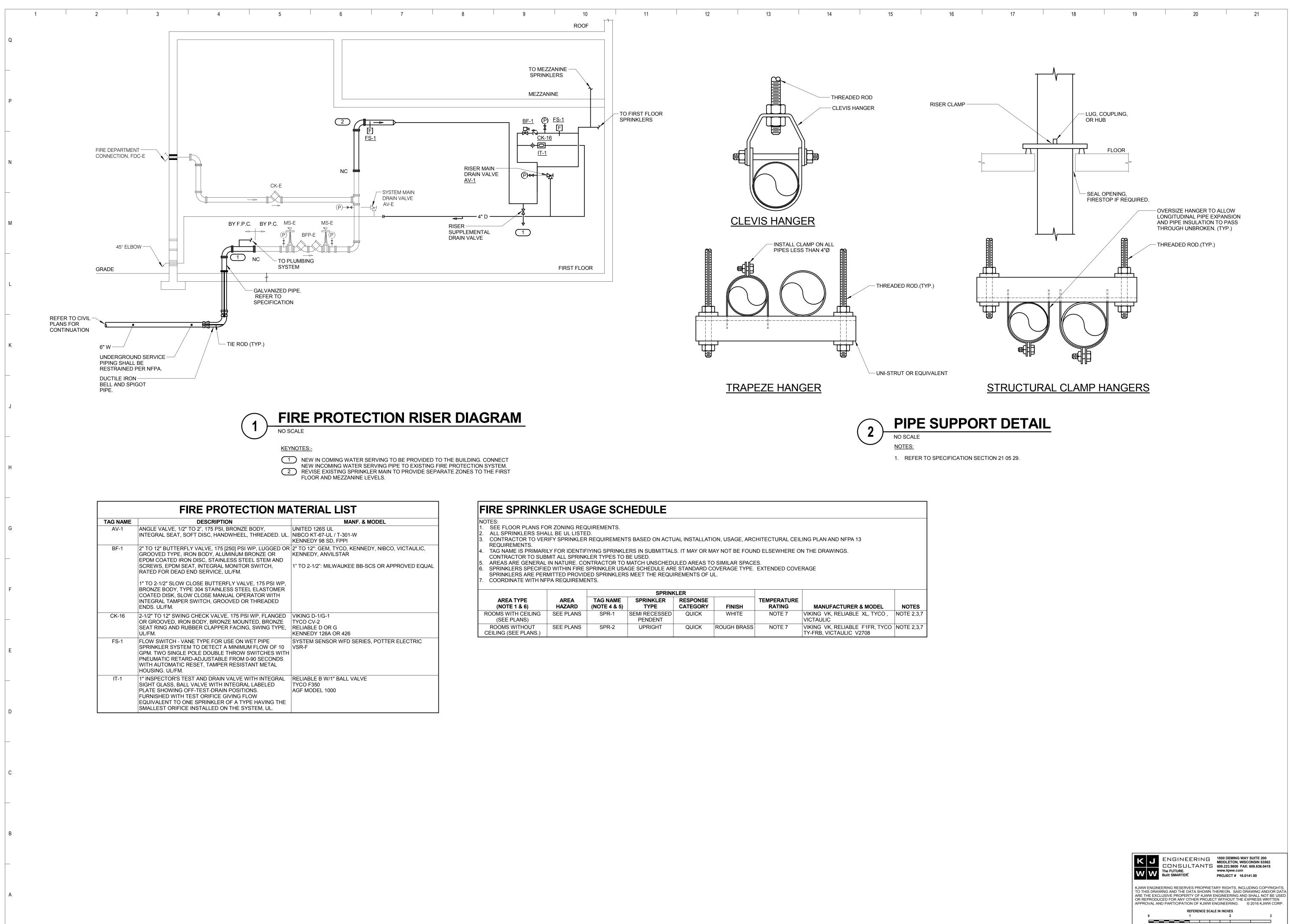
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Drawing FIRE PROTECTION DETAILS AND SCHEDULES

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