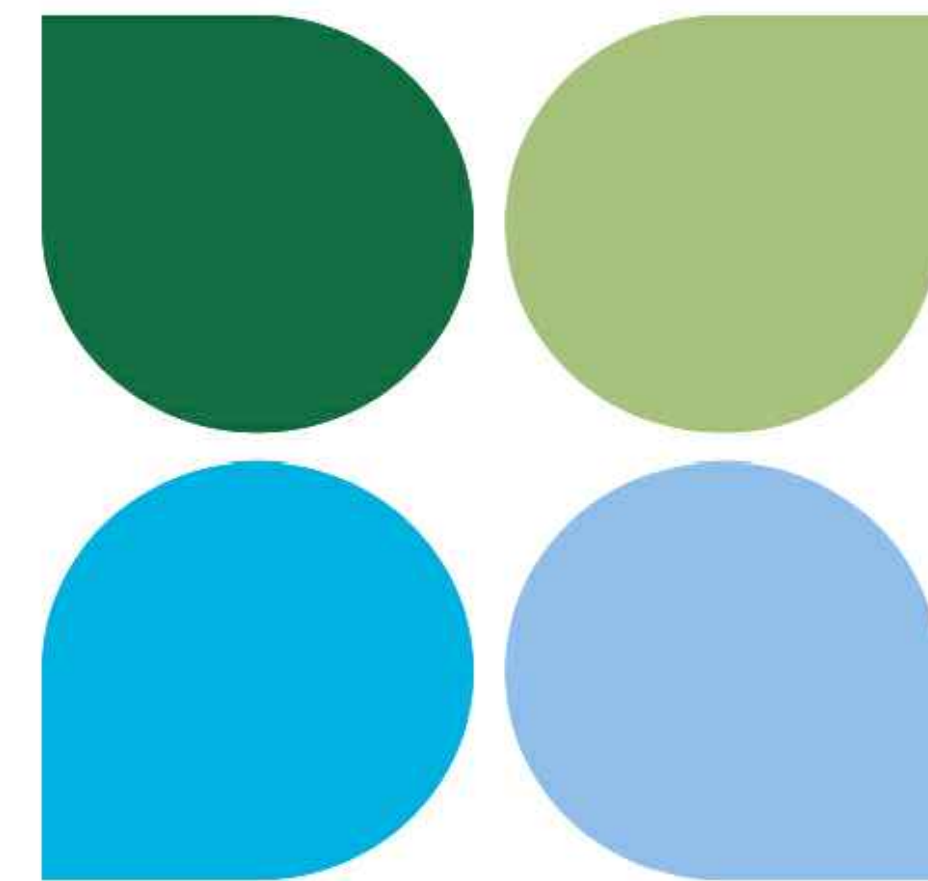


Maintenance Building Renovation

Capital Project No. 2102

for



Four Rivers

Sanitation Authority

Rockford, Illinois

APPLICABLE CODES:

BUILDING:
 -2021 ICC [IBC] International Building Code (with local amendments)
 -2021 ICC [IEBC] International Building Code (with local amendments)

FIRE PREVENTION:
 -2021 ICC [IFC] International Fire Code (with local amendments)

MECHANICAL / PLUMBING:
 -2021 ICC [IMC] International Mechanical Code (with local amendments)
 -2021 ICC [IFGC] International Fuel Gas Code (with local amendments)
 -2014 IDPH [IPC] Illinois Plumbing Code (with local amendments)

ELECTRICAL:
 -2020 NFPA 70 [NEC] National Electrical Code (with local amendments)

ENERGY CODE:
 -2024 International Energy Conservation Code (with local amendments)

ACCESSIBILITY CODE:
 -2018 State of Illinois Accessibility Code
 -2010 ADA Standards for Accessible Design

LIFE SAFETY CODE:
 -2015 NFPA 101 Life Safety Code (with local amendments)
 -2010 NFPA 101 Life Safety Code (with local amendments)

OTHERS:
 -All those codes & standards [i.e. NFPA 13, NFPA 72, etc.] included by reference by the codes listed above.

NOTES:

1. Guide of the American Society of Heating, Refrigerating, and Air Conditioning Engineers (ASHRAE).
2. The standards, regulations, and requirements of OSHA, EPA, National Consumer Protection Agency, and any other public utility servicing the community.
3. Exceptions and amendments to above codes and standards adopted by the City of Rockford.
4. Provide fire extinguishers, smoke detectors and all other life safety devices as required by code. All locations to be approved by Blakemore Architects.
5. City of Rockford Zoning Ordinance.

GENERAL NOTES

1. Contractor as agent for the owner, shall apply for and pay for all permits issued in accordance with section 105 of IBC 2021, the application shall be submitted on a written form acceptable to the building official.
2. All work shall be conducted, installed and completed in a workmanlike and acceptable manner so as to secure the results intended by the IBC Code (2021).
3. The contractor shall obtain a certificate of occupancy from the building official prior to any occupancy of the structure.

CODE SYNOPSIS:

Construction Type: 2B-Existing Building
 Use Group: Sep. Mixed Use B (Business)/ S-1 (Garage)
 Fully Sprinkled: Yes NFPA 13
 Allowable Size: 70,000 s.f. (Worst Case S-1-Storage)
 Building Size: 26,670 sq ft
 Note: Existing 2-Hour Separation Between B-Business and S-1
 Occupancy: Remains Unchanged

SHEET INDEX:

ARCHITECTURAL:

D101	DEMOLITION FLOOR PLAN FIRST FLOOR	06-30-2026
D102	DEMOLITION FLOOR PLAN SECOND FLOOR	06-30-2026
D103	DEMOLITION ROOF PLAN	06-30-2026
D201	EXTERIOR BUILDING ELEVATIONS-DEMOLITION	06-30-2026
D401	DEMOLITION RCP FIRST FLOOR	06-30-2026
D402	DEMOLITION RCP SECOND FLOOR	06-30-2026
D601	ROOF DETAILS-DEMOLITION	06-30-2026
A101	FLOOR PLAN FIRST FLOOR	06-30-2026
A102	FLOOR PLAN SECOND FLOOR	06-30-2026
A103	ROOF PLAN	06-30-2026
A201	EXTERIOR BUILDING ELEVATIONS	06-30-2026
A202	NEW STOREFRONT WINDOW SYSTEM	06-30-2026
A401	REFLECTED CEILING PLAN FIRST FLOOR	06-30-2026
A402	REFLECTED CEILING PLAN SECOND FLOOR	06-30-2026
A501	DETAILS	06-30-2026
A502	DETAILS	06-30-2026
A601	ROOF DETAILS - NEW WORK	06-30-2026

CIVIL:

C000	GENERAL NOTES & SUMMARY OF QTYS.	06-11-2026
C001	LEGEND	06-11-2026
C101	ROOF DRAIN COLLECTION - WEST	06-11-2026
C102	ROOF DRAIN COLLECTION - EAST	06-11-2026
C201	PROJECT DETAILS 1	06-11-2026
C202	PROJECT DETAILS 2	06-11-2026

STRUCTURAL:

S001	STRUCTURAL GENERAL NOTES	06-30-2026
S101	FIRST FLOOR FRAMING PLAN	06-30-2026
S102	2ND FLOOR & ROOF FRAMING PLAN	06-30-2026
S200	ENLARGED PLANS	06-30-2026
S201	ENLARGED PLANS	06-30-2026
S300	SECTIONS & DETAILS	06-30-2026

MEP:

M-100	MECHANICAL SPECIFICATIONS	06-30-2026
M-101	MECHANICAL SCHEDULES	06-30-2026
M-200	MECHANICAL FIRST FLOOR PLAN DEMOLITION	06-30-2026
M-201	MECHANICAL SECOND FLOOR PLAN DEMOLITION	06-30-2026
M-202	MECHANICAL SECOND FLOOR PLAN DEMOLITION	06-30-2026
M-300	MECHANICAL FIRST FLOOR PLAN	06-30-2026
M-301	MECHANICAL SECOND FLOOR PLAN	06-30-2026
M-302	MECHANICAL SECOND FLOOR PLAN	06-30-2026
M-303	MECHANICAL SECOND FLOOR PLAN	06-30-2026
M-400	MECHANICAL DETAILS	06-30-2026
M-401	MECHANICAL DETAILS	06-30-2026
E-100	ELECTRICAL SPECIFICATIONS	06-30-2026
E-101	ELECTRICAL SCHEDULES	06-30-2026
E-200	ELECTRICAL FIRST FLOOR PLAN - DEMOLITION	06-30-2026
E-201	ELECTRICAL SECOND FLOOR - DEMOLITION	06-30-2026
E-300	ELECTRICAL FIRST FLOOR PLAN	06-30-2026
E-301	ELECTRICAL SECOND FLOOR PLAN	06-30-2026

ARCHITECT:

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 400 North First Street
 Rockford, IL 61107
 Tel: 815-227-0023
 Email: brian@blakemore-architects.com
 Web: www.blakemore-architects.com
 Registration Firm #: 184-003342

CIVIL:

Four Rivers Sanitation Authority
 3501 Kishwaukee Street
 Rockford, IL 61109
 Tel: 815-387-7400
 Email: Ahess@fourrivers.illinois.gov

STRUCTURAL:

CORE 4 Engineering
 N70W5185 Columbia Road
 Cedarburg, WI 5301253092
 Tel: 262-236-9372 x1005
 Email: Mchristensen@core4engineering.com
 Web: www.core4engineering.com
 Registration Firm #: 184-006824

MEP:

Oxford Engineering, Ltd.
 804 Roundabout Court
 Dundee, IL 60118
 Tel: 847-783-0800
 Email: j-seaton@oxford-engineering.com
 Web: www.oxford-engineering.com
 Registration Firm #: 184-005044

OWNER:

Four Rivers Sanitation Authority
 3501 Kishwaukee Street
 Rockford, IL 61109
 Tel: 815-387-7400
 Email: mcampbell@fourrivers.illinois.gov



BLAKEMORE ARCHITECTS

Date: 06-30-2026 Project: 2025-16
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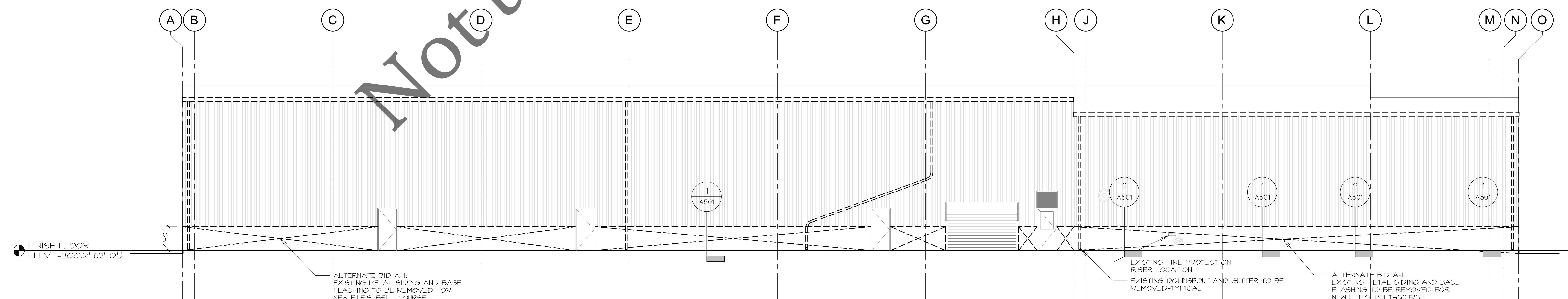
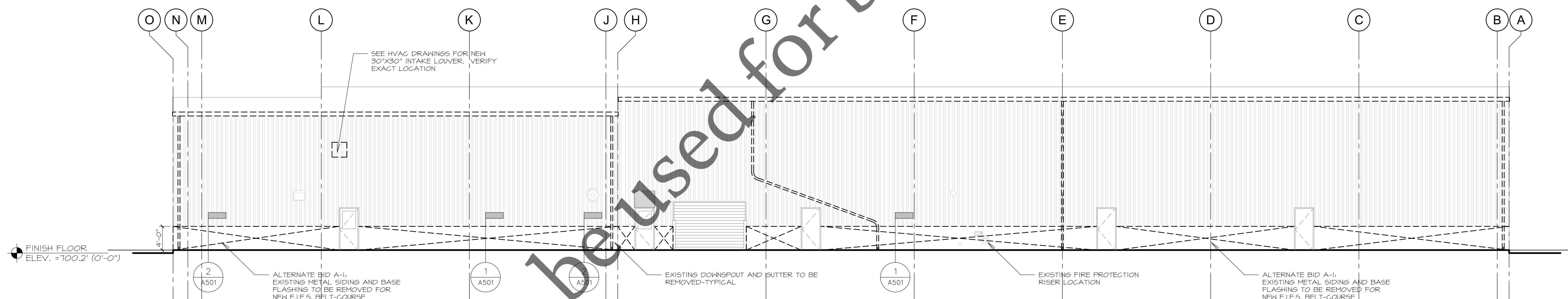
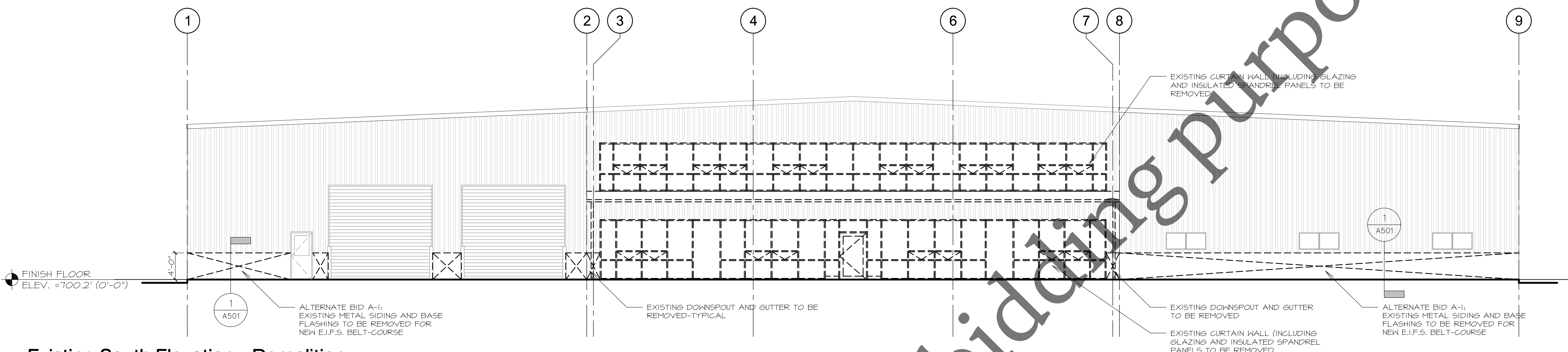
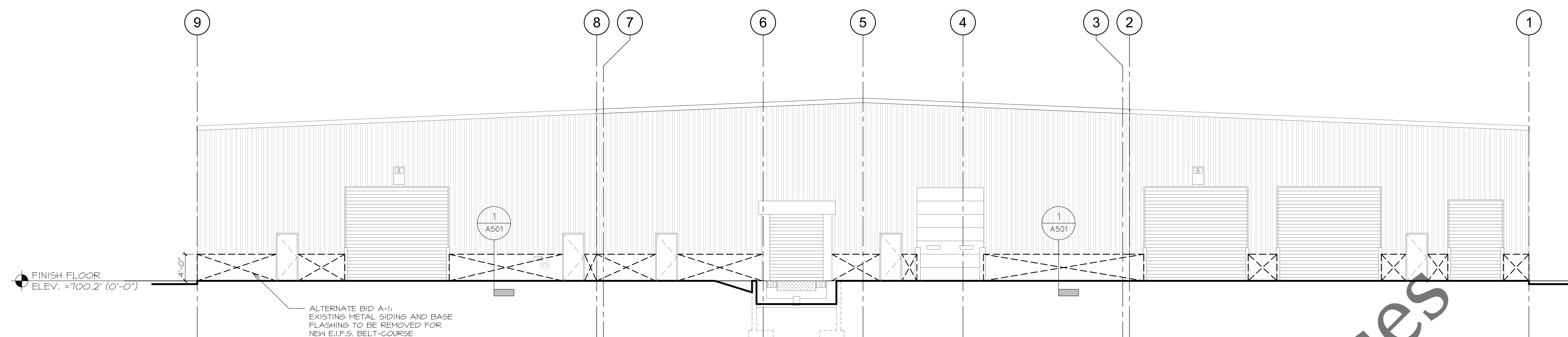
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06-30-2026
 date
 license expires 11-30-26

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BLAKEMORE
ARCHITECTS

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Maintenance Building
Renovation

Capital Project No.
2102

for



Rockford, Illinois

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Demolition RCP Plan-First Floor
Scale: 1/8" = 1'-0"

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Project No. 2025-16

Scale 1/8" = 1'-0"

Sheet Title **DEMOLITION RCP FIRST FLOOR**

Ref North Sheet No **D401**

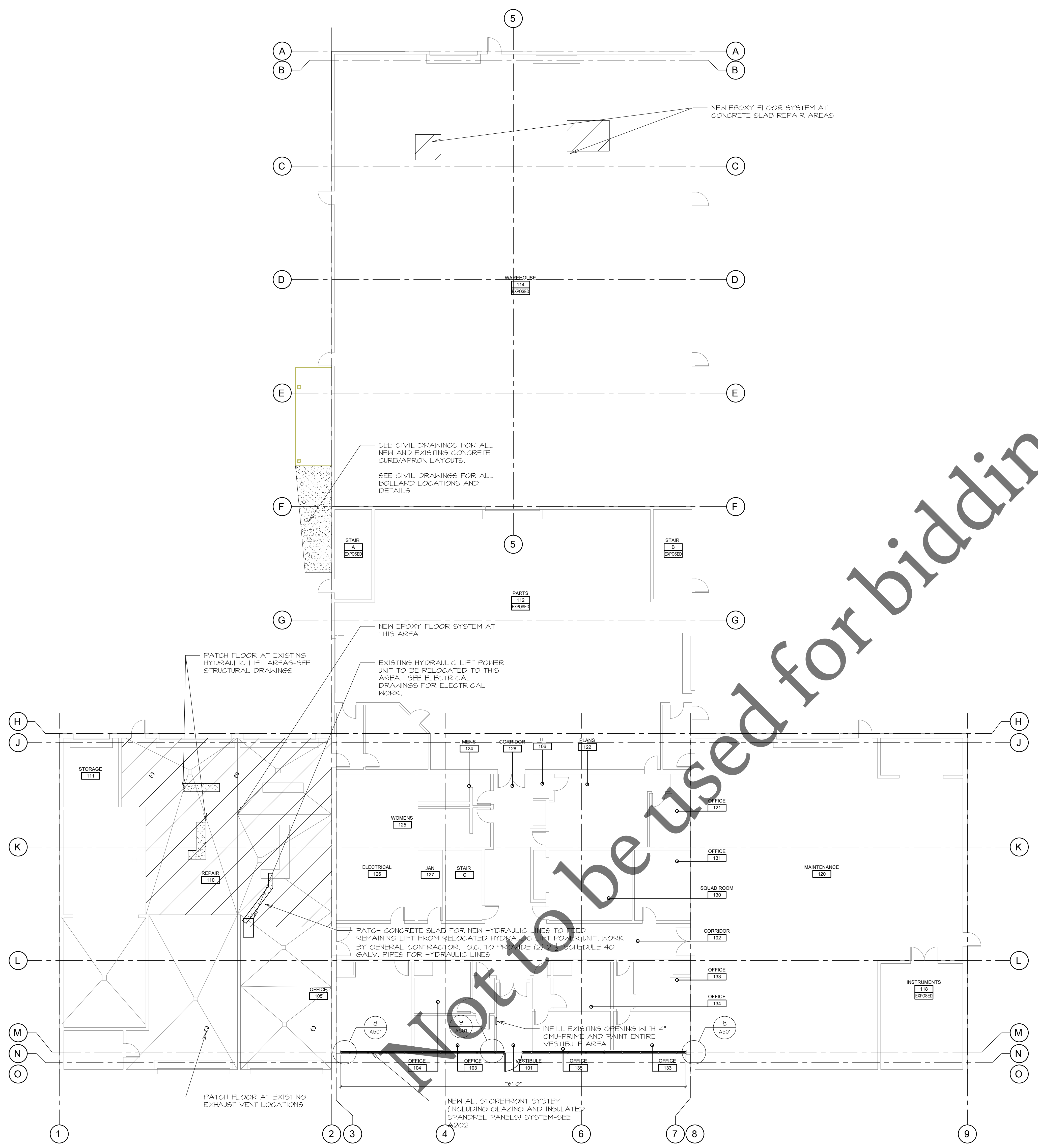
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Table with 3 columns: NO., DATE, DESCRIPTION. Rows include dates from 11-05-2025 to 06-30-2026 and descriptions like Initial Owner Layout Review, 90% Owner Review, 95% Owner Review, Final Owner Review, Issued for Bid.

Sherwin-Williams SYSTEM OVERVIEW. RESUFLO™ SHOP FLOOR II. Resuflo Shop Floor II Epoxy Flooring is a combination of pigmented Resuflo Shop Floor, a 100% solids epoxy and Finishol, a natural quartz sand. Includes benefits, uses, featured colors, and typical physical properties table.

Epoxy Floor System Specifications Scale: None



Floor Plan-First Floor Scale: 3/32" = 1'-0"

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Project No. 2025-16

Scale
3/32" = 1'-0"

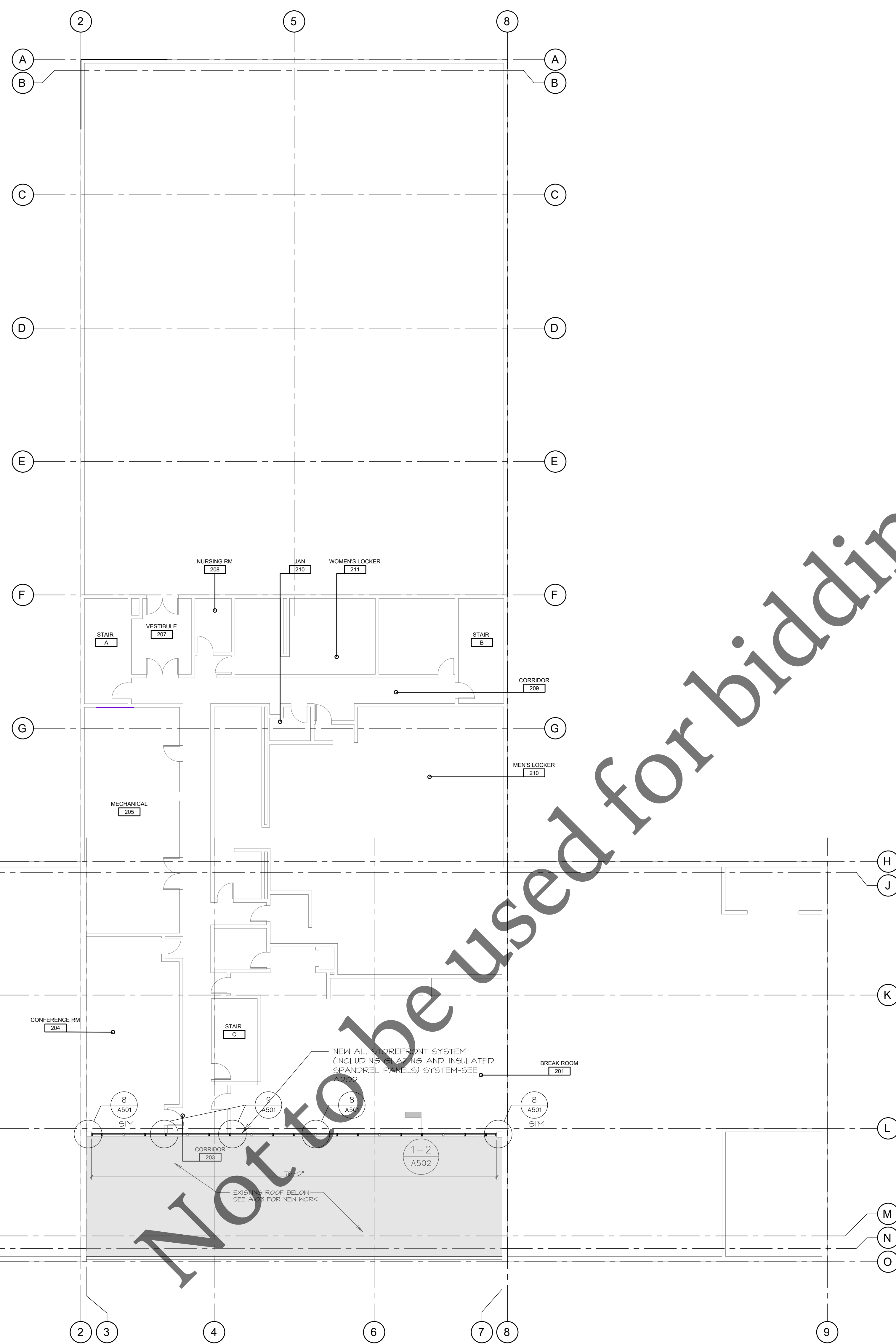
Sheet Title
**FLOOR PLAN
SECOND FLOOR**

Ref. North Sheet No



A102

PROFESSIONAL DESIGN FIRM REGISTRATION #
184-003342



Floor Plan-Second Floor
Scale: 3/32" = 1'-0"



Downspout & Gutter Sizing Reports

Project Name: Four Rivers Maintenance Building Re-roof

Rainfall Intensity (in/hr): 9.3
Based on rainfall averages in Chicago, ILLINOIS (100 years)

Roof Rainfall Design Area (ft²): 8,040.00
* Area of Largest Roof Serving a Single Gutter System
 Design Area manually entered by user

Gutter in Lineal Ft: 200
* Length at Largest Roof Serving a Single Gutter System

Gutter Length Serving Single DS (ft.): 50
* Assumption: downspouts are equally spaced
 ** Maximum gutter length to be served by a downspout is 50ft per SMACNA ASMM

M (depth to width ratio): 0.75

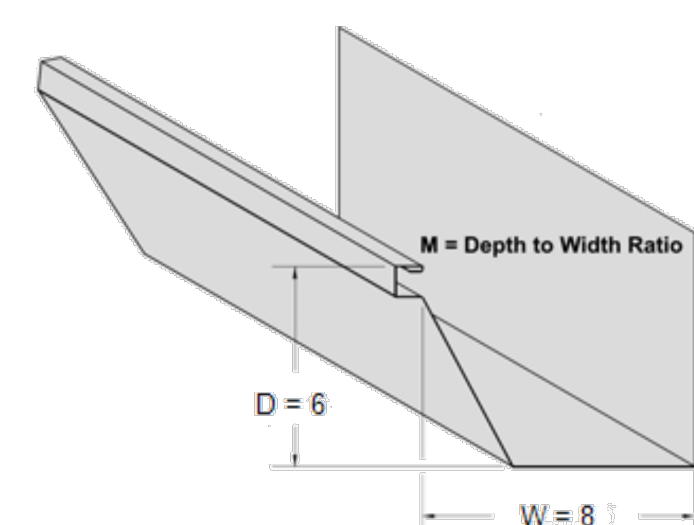
Min. Gutter Width (in.): 8 [Rectangular]

Min. Gutter Depth (in.): 6

of Downspouts: 4

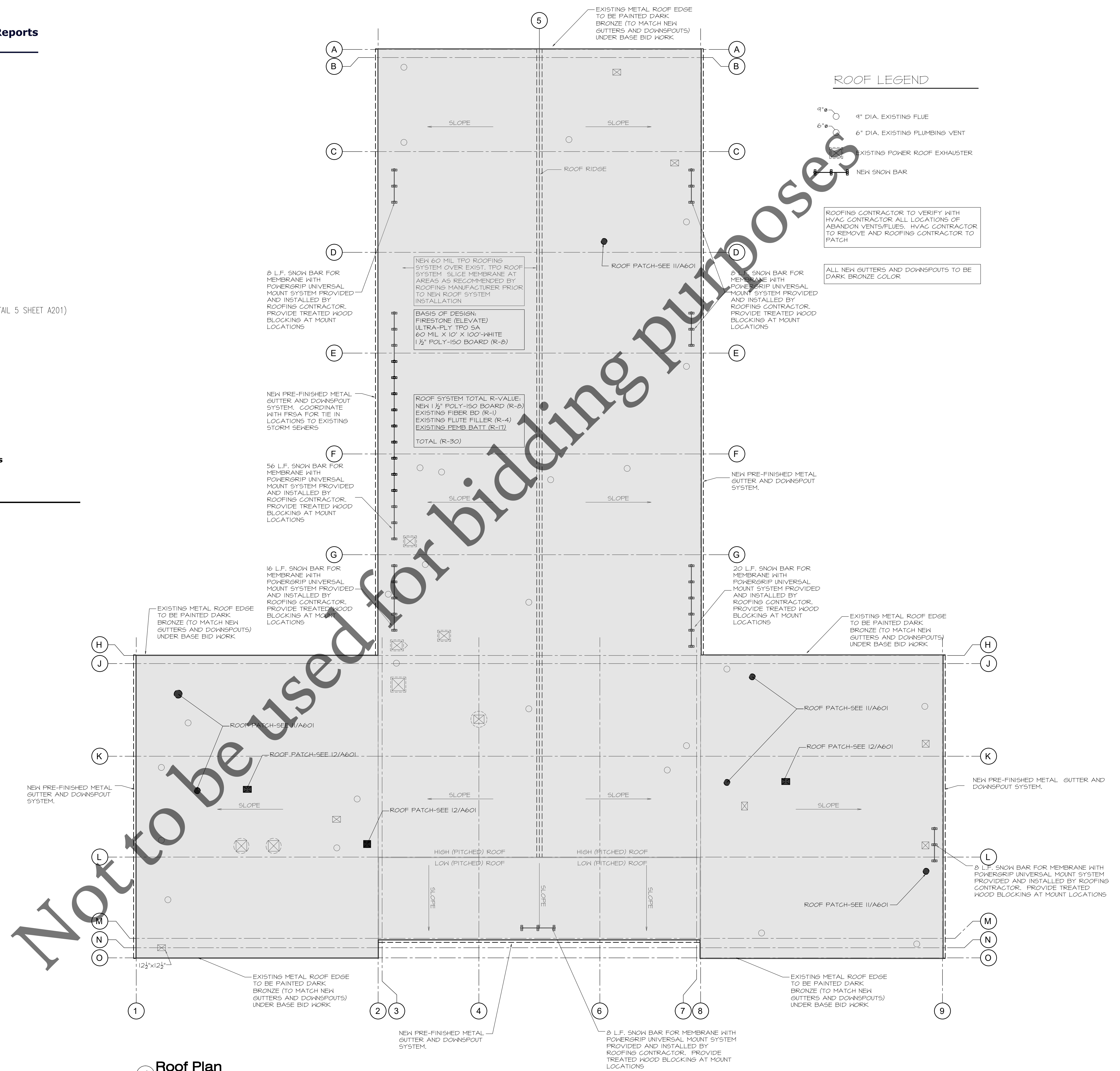
Min. Area per DS (in²): 15.46

Min. DS Size (in): 3.75 x 4.75 [Plain Rectangular] (4"x5"-SEE DETAIL 5 SHEET A201)
* Per Table 1-3 on page 1.4 of SMACNA ASMM



Calculations are derived using the 7th Edition of SMACNA's Architectural Sheet Metal Manual

2 Gutter /Downspout Sizing
 Scale: None



1 Roof Plan
 Scale: 3/32" = 1'-0"

Maintenance Building Renovation

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Project No. 2025-16

Scale **3/32" = 1'-0"**

Sheet Title **ROOF PLAN**

Ref. North **Sheet No. A103**

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Project No. 2025-16

Scale 1/8" = 1'-0"

Sheet Title **REFLECTED CEILING PLAN FIRST FLOOR**

Ref. North Sheet No. **A401**

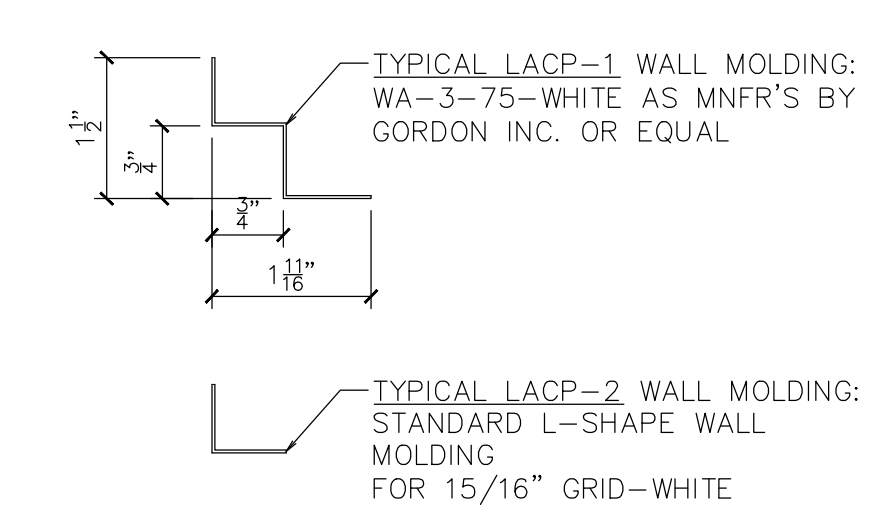
PROFESSIONAL DESIGN FIRM REGISTRATION # 184-003342

REFLECTED CEILING LEGEND

	4" PENDANT LUMINAIRE BY NULITE-WHITE		WALL MOUNTED LIGHT FIXTURE
	2X4 SUSPENDED LIGHT FIXTURE-LED		SUPPLY GRILL-TITUS FLAT PANEL TYPE
	HIGH BAY SUSPENDED LIGHT FIXTURE-LED		RETURN GRILL-TITUS FLAT PANEL TYPE
	2X4 RECESS LIGHT CLEAN ROOM STYLE-LED		2X2 ELECTRICAL RADIANT CEILING PANEL
	2X4 RECESS LIGHT-LED		2X4 ELECTRICAL RADIANT CEILING PANEL
	2X4 RECESS LIGHT-LED (EMERGENCY LIGHT)		VARIABLE REFRIGERANT FLOW
	4" SUSPENDED STRIP LIGHT		NEW FULLY CONCEALED SPRINKLER HEAD IN LAY-IN CEILING
	4" SURFACE MOUNTED LIGHT WITH WRAP AROUND LENS		NEW SPRINKLER HEAD IN NON LAY-IN CEILING
	RECESSED CAN-DIRECT DOWN		2X2 LACP-1 CERTAINTED CM 454 WITH 18" GRID AND STEPPED EDGE PERIMETER TRIM
	RECESSED CAN-WALL WASH		2X2 LACP-2 AND GRID USG 3260 WITH 18" GRID AND STEPPED EDGE PERIMETER TRIM
	RECESSED SQUARE-DIRECT DOWN		GYP. BD. SOFFIT. B.O. SOFFIT AT -2" BELOW LOWEST ADJACENT CEILING U.N.D.

1. PROVIDE CEILING TILE HOLD-DOWN CLIPS AT ALL EXIT DOORS THE HAVE LACP.

2. ELECTRICAL CONTRACTOR TO PROVIDE TEMPORARY SUPPORT OF EXISTING LIGHT FIXTURES SCHEDULED TO BE REINSTALLED IN NEW LACP CEILING SYSTEM PRIOR TO THE DEMOLITION OF THE EXISTING LACP CEILING SYSTEM. COORDINATE WITH DEMOLITION AND OR CEILING CONTRACTOR



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RCP Plan-First Floor
 Scale: 1/8" = 1'-0"



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Rockford, Illinois

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Project No. 2025-16

Scale **1/8" = 1'-0"**

Sheet Title **REFLECTED CEILING PLAN SECOND FLOOR**

Ref. North Sheet No. **A402**

PROFESSIONAL DESIGN FIRM REGISTRATION # 184-003342

REFLECTED CEILING LEGEND

	4' PENDANT LUMINAIRE BY NULITE-WHITE		WALL MOUNTED LIGHT FIXTURE
	2X4 SUSPENDED LIGHT FIXTURE-LED		SUPPLY GRILL-TITUS FLAT PANEL TYPE
	HIGH BAY SUSPENDED LIGHT FIXTURE-LED		RETURN GRILL-TITUS FLAT PANEL TYPE
	2X4 RECESS LIGHT CLEAN ROOM STYLE-LED		2X2 ELECTRICAL RADIANT CEILING PANEL
	2X4 RECESS LIGHT-LED		2X4 ELECTRICAL RADIANT CEILING PANEL
	2X4 RECESS LIGHT-LED		VARIABLE REFRIGERANT FLOW
	2X4 RECESS LIGHT-LED (EMERGENCY LIGHT)		NEW FULLY CONCEALED SPRINKLER HEAD IN LAY-IN CEILING
	4' SUSPENDED STRIP LIGHT WITH WRAP AROUND LENS		NEW SPRINKLER HEAD IN NON LAY-IN CEILING
	RECESSED CAN-DIRECT DOWN		2X2 LACP-1 CERTAINTED CM 454 WITH 18" GRID AND USG 3260 WITH 18" GRID AND STEPPED EDGE PERIMETER TRIM
	RECESSED CAN-WALL WASH		2X2 LACP-2 AND GRID USG 3260 WITH 18" GRID AND STANDARD PERIMETER EDGE TRIM
	RECESSED SQUARE-DIRECT DOWN		GYP. BD. SOFFIT. B.O. SOFFIT AT -2" BELOW LOWEST ADJACENT CEILING U.N.D.

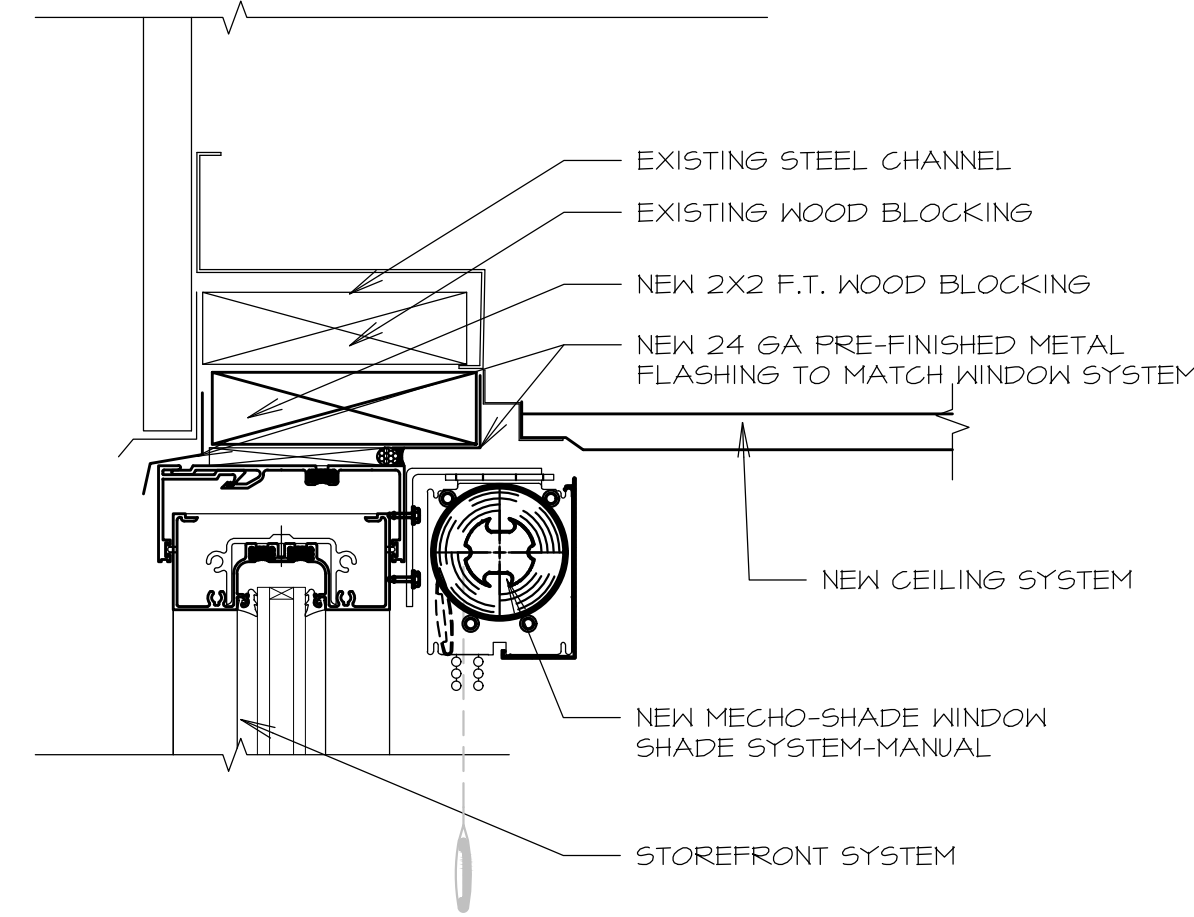
1. PROVIDE CEILING TILE HOLD-DOWN CLIPS AT ALL EXIT DOORS THAT HAVE LACP.

2. ELECTRICAL CONTRACTOR TO PROVIDE TEMPORARY SUPPORT OF EXISTING LIGHT FIXTURES SCHEDULED TO BE REINSTALLED IN NEW LACP CEILING SYSTEM PRIOR TO THE DEMOLITION OF THE EXISTING LACP CEILING SYSTEM. COORDINATE WITH DEMOLITION AND/OR CEILING CONTRACTOR.

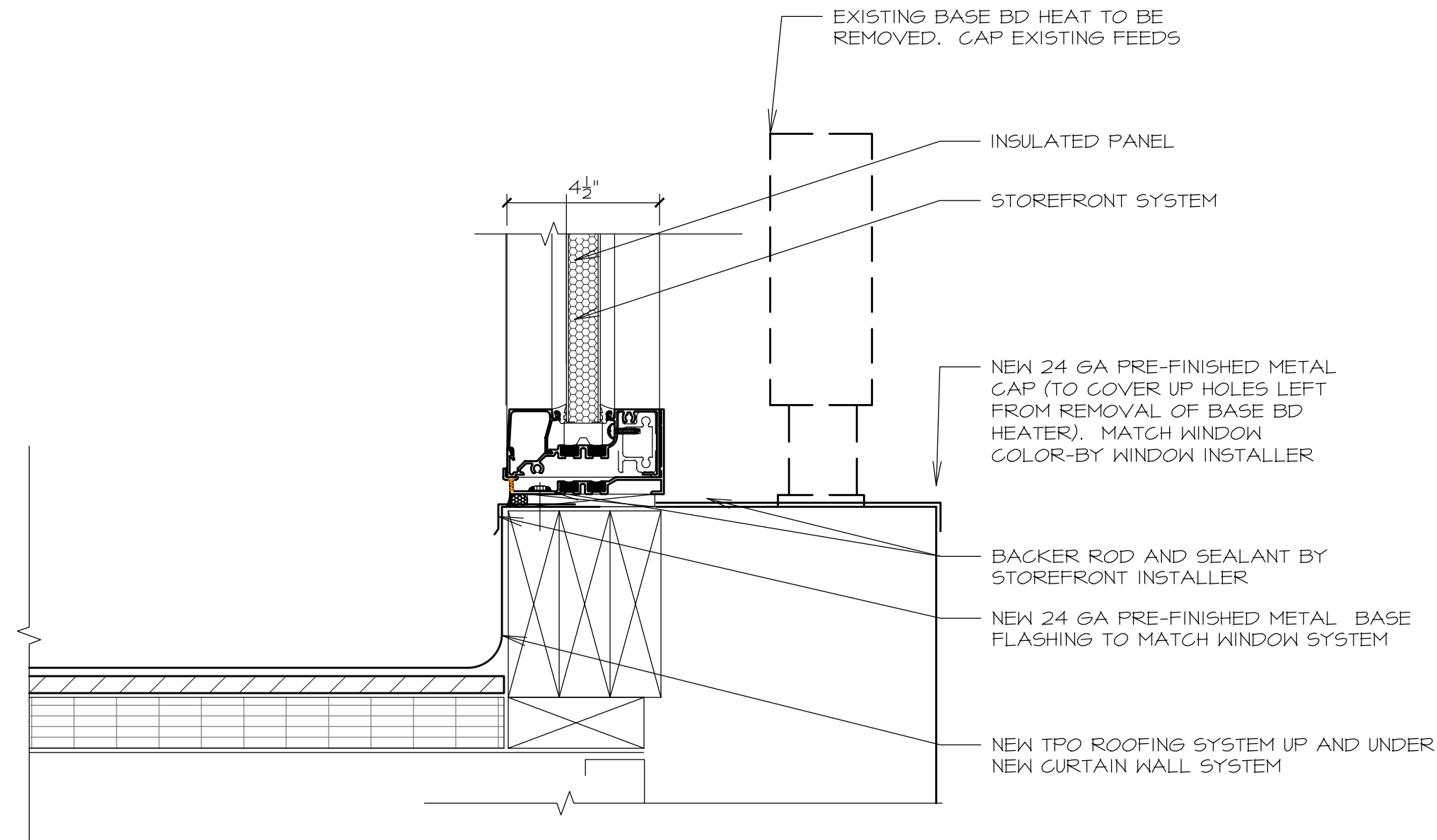


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RCP Plan-Second Floor
 Scale: 1/8" = 1'-0"



1 Storefront Head Detail
 Scale: 3" = 1'-0"



2 Storefront Sill Detail
 Scale: 3" = 1'-0"

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Maintenance Building Renovation

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Project No. 2025-16

Scale AS NOTED

Sheet Title DETAILS

Ref. North Sheet No. A502

GENERAL NOTES

1. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE EXECUTION OF WORK TO THE LINES AND GRADES SHOWN ON THE PLANS. CONSTRUCTION SHALL NOT VARY FROM THE PLANS WITHOUT PRIOR APPROVAL FROM THE FOUR RIVERS SANITATION AUTHORITY (FRSA).
2. THE PROJECT MANAGER ASSIGNED TO THIS PROJECT IS NIKELLE SYNOVE, (815-387-7682).
3. FOR UTILITY LOCATES WITHIN PLANT BOUNDARIES, THE CONTRACTOR SHALL CONTACT THE PROJECT MANAGER 5 DAYS MINIMUM, PRIOR TO START OF CONSTRUCTION, TO ARRANGE FOR THE LOCATION OF PLANT INFRASTRUCTURE.
4. FOR UTILITY LOCATES OUTSIDE OF PLANT BOUNDARIES, THE CONTRACTOR SHALL IDENTIFY ALL UTILITY LOCATIONS IN THE FIELD BY CONTACTING J.U.L.I.E. AT 811 OR 1-800-892-0123 AND ALL UTILITIES NOT ON THE J.U.L.I.E. NETWORK 72 HOURS, MINIMUM, PRIOR TO START OF CONSTRUCTION.
5. ALL UTILITY OUTAGES SHALL BE COORDINATED WITH THE PROJECT MANAGER AND THE PLANT OPERATIONS MAINTENANCE DIVISION MANAGER. PROVIDE A MINIMUM OF 72 HOURS ADVANCED NOTICE PRIOR TO ANY SERVICE INTERRUPTION. DURING THE ENTIRE PERIOD OF THE CONTRACT, PROVIDE RESTORATION OF ANY UNSCHEDULED SERVICE INTERRUPTION WITHIN 30 MINUTES DURING NORMAL WORKING HOURS, OR WITHIN 2 HOURS OUTSIDE OF NORMAL WORKING HOURS. THE FRSA RESERVES THE RIGHT TO REQUEST ADDITIONAL ADVANCED NOTICE AND/OR COORDINATION MEETINGS FOR MAJOR OUTAGES.
6. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS AND SHALL IMMEDIATELY NOTIFY THE PROJECT MANAGER OF ANY DISCREPANCIES WITH THE PROJECT PLANS OR SPECIFICATIONS.
7. ALL WORK ON FRSA PLANT GROUNDS MUST BE PERFORMED DURING NORMAL CONTRACTOR WORKING HOURS, FROM 7:00 AM TO 4:30 PM, M-F, EXCLUDING WEEKENDS AND FRSA-OBSERVED HOLIDAYS. THE CONTRACTOR SHALL NOTIFY THE PROJECT MANAGER 24 HOURS, MINIMUM, PRIOR TO PERFORMING WORK OUTSIDE OF THESE HOURS AND SHALL PROVIDE A LIST OF ALL EMPLOYEES, INCLUDING PRIMARY CONTACT(S), WHO WILL BE PRESENT FOR THE OFF-HOUR WORK.
8. ALL SANITARY SEWER CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR WATER AND SEWER CONSTRUCTION IN THE STATE OF ILLINOIS, LATEST EDITION, AND THE REQUIREMENTS OF THE FOUR RIVERS SANITATION AUTHORITY.

9. ALL ROADWAY CONSTRUCTION SHALL BE COMPLETED IN ACCORDANCE WITH THE IDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION, AND THE FOUR RIVERS SANITATION AUTHORITY.
10. THE CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS OF THE ILLINOIS URBAN MANUAL FOR SOIL EROSION AND SEDIMENT CONTROL.
11. PROTECTION OF WATER SUPPLIES SHALL BE IN ACCORDANCE WITH TITLE 35, C, SECTION 370.350 OF THE ILLINOIS RECOMMENDED STANDARDS FOR SEWAGE WORKS.

SPECIAL CONSIDERATIONS

1. THE CONTRACTOR SHALL PROVIDE TEMPORARY RESTROOM FACILITIES FOR THE WORKFORCE FOR THE DURATION OF THIS PROJECT.
2. THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES TO ALLOW FOR ACCESS AND USE OF THE MAINTENANCE BUILDING OVERHEAD DOORS AT THE BEGINNING AND END OF EACH DAY.
3. PAY ITEMS *STORM SEWER REMOVAL, 8"* AND *STORM SEWERS, PVC, 8"* HAVE BEEN INCLUDED AS CONTINGENCY ITEMS TO BE USED ONLY IF NEEDED.
4. COORDINATE INSTALLATION OF FINAL PAVEMENT, CURB, & GUTTER WITH DUCT BANK WORK ASSOCIATED WITH COGENERATION EFFICIENCY REHAB PROJECT - BID PACKAGE 1. THE REFERENCED PROJECT INCLUDES INSTALLATION OF A CONCRETE DUCT BANK ALONG SOUTH LINE OF MAINTENANCE BUILDING. COORDINATE WITH FRSA TO VERIFY WORK IS COMPLETE PRIOR TO FINAL SITE PAVING.

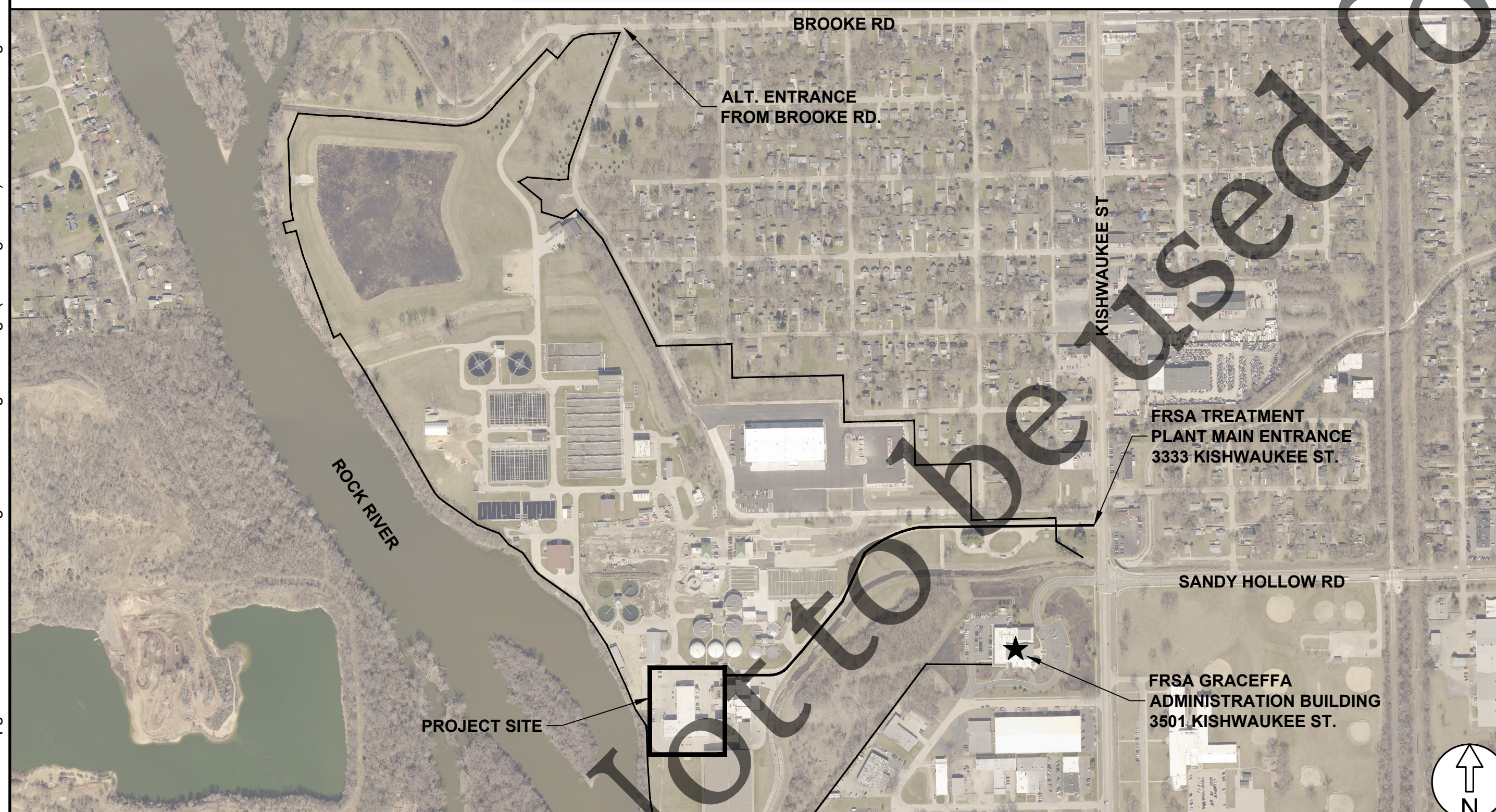
SUMMARY OF QUANTITIES

Item No.	Item Description	Unit	Qty.
1	Aggregate Base Course, Type B 6"	SQ YD	380
2	Bollard Removal	EACH	4
3	Bollards	EACH	4
4	Class D Patches, Type IV, 6"	SQ YD	379
5	Combination Concrete Curb and Gutter, Type M-6.18 (Modified)	FOOT	309
6	Combination Curb and Gutter Removal	FOOT	307
7	Inlet Filters	EACH	12
8	Portland Cement Concrete Sidewalk, 4"	SQ FT	1033
9	River Rock	SQ YD	70
10	Sidewalk Removal	SQ FT	801
11	Storm Sewer Removal, 8"	FOOT	30
12	Storm Sewers, PVC, 6"	FOOT	204
13	Storm Sewers, PVC, 8"	FOOT	30

INDEX OF SHEETS

- C000 GENERAL NOTES & SUMMARY OF QTYS
- C001 LEGEND
- C101 ROOF DRAIN COLLECTION - WEST
- C102 ROOF DRAIN COLLECTION - SOUTH
- C201 PROJECT DETAILS 1
- C202 PROJECT DETAILS 2

PROJECT LOCATION & ACCESS MAP



HOT-MIX ASPHALT MIXTURE REQUIREMENTS

MIXTURE USE(S)	SURFACE COURSE	BINDER COURSE
PG:	PG 64-22	PG 64-22
DESIGN AIR VOIDS	4.0 @ N50	4.0 @ N50
MIXTURE COMPOSITION (GRADATION MIXTURE)	IL 9.5	IL 19.0
FRICTION AGGREGATE	MIX "D"	N/A
MIX UNIT WEIGHT	112 lbs/sy/in	112 lbs/sy/in
QUALITY MGMT PROGRAM	QC/QA	QC/QA

THESE MIXTURE REQUIREMENTS ARE APPLICABLE FOR THIS PROJECT



SIGNED 6/11/2026
EXPIRES 11/30/2027
APPLIES TO SHEETS C000-C202

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No.	DATE	REVISION	INT.

**MAINTENANCE BUILDING RENOVATION
CAPITAL PROJECT #2102**

GENERAL NOTES & SUMMARY OF QTYS

Sheet No.
C000
Date:
6/11/2026

LEGEND	
EXISTING	PROPOSED
BM# 1	CP# 1

LEGEND	
EXISTING	PROPOSED

REMOVAL		REMOVAL	
	CLEARING & GRUBBING		HMA PAVEMENT REMOVAL
	STRIPPING TOPSOIL		PCC PAVEMENT REMOVAL
	EARTH EXCAVATION		HMA SURFACE REMOVAL FOR BUTT JOINT
	CURB AND/OR GUTTER REMOVAL		REMOVAL OF LINEAR ITEMS
PROPOSED		PROPOSED	
	STABILIZED CONSTRUCTION ENTRANCE		PORTLAND CEMENT CONCRETE
	RIP RAP		PAVEMENT REPLACEMENT, PCC
	EROSION CONTROL BLANKET		PAVEMENT REPLACEMENT, HMA
	HEAVY DUTY EROSION CONTROL BLANKET		DRIVEWAY REPLACEMENT
	TEMPORARY EROSION CONTROL SEEDING		AGGREGATE REPLACEMENT
	SEEDING AREA, CLASS 1		DETECTABLE WARNING
	SEEDING AREA, CLASS 2, 3, OR 4		
	LANDSCAPE MULCH		

ABBREVIATIONS			
ABD	ABANDON(ED)	EA	EACH
ADJ	ADJUST(ED)	EL	ELEVATION
AGG	AGGREGATE	EROS	EROSION
BSE	BASE	EX	EXISTING
BDR	BINDER	FT	FEET
CI	CAST IRON	FFE	FINISHED FLOOR ELEVATION
CL	CLASS	FES	FLARED END SECTION
CO	CLEAN OUT	FM	FORCE MAIN
COMB	COMBINATION	FRSA	FOUR RIVERS SANITATION AUTHORITY
COMPL	COMPLETE		
CONC	CONCRETE	F&L	FRAME & LID
CC&G	CONCRETE CURB & GUTTER	F&P	FURNISH & PLACE
CONN	CONNECT(TION)	INV	INVERT
CTRL	CONTROL	L, LT	LEFT
CMP	CORRUGATED METAL PIPE	LF	LINEAR FEET
CSE	COURSE	LINCIPP	LINED WITH CURED IN PLACE PIPE
CU YD	CUBIC YARD(S)	L SUM	LUMP SUM
CULV	CULVERT	MH	MANHOLE
DEP	DEPRESSED	O/S	OFFSET
DNSM	DOWNSTREAM	PVMT	PAVEMENT
DI	DUCTILE IRON	PC	POINT OF CURVATURE
		PI	POINT OF INTERSECTION
		PT	POINT OF TANGENCY
		PVC	POINT OF VERTICAL CURVATURE
		PVI	POINT OF VERTICAL INTERSECTION
		PVT	POINT OF VERTICAL TANGENCY
		PCC	PORTLAND CEMENT CONCRETE
		PRC	PRECAST REINFORCED CONCRETE
		PL	PROPERTY LINE
		PR	PROPOSED
		PROT	PROTECT(ION)
		REC	RECONSTRUCT(ED)
		RCP	REINFORCED CONCRETE PIPE
		RPM	REINFORCED PLASTIC MORTAR
		REM	REMOVE(D)
		R/R	REMOVE & REPLACE
		REPL	REPLACE(D)(MENT)
		R, RT	RIGHT
		ROW	RIGHT-OF-WAY
		SAN	SANITARY
		SVC	SERVICE
		SEW	SEWER
		SPL	SPECIAL
		SQ FT	SQUARE FEET
		SQ YD	SQUARE YARD(S)
		STA	STATION
		STR	STRUCTURE
		SRF	SURFACE
		TEMP	TEMPORARY
		TC	TOP OF CURB
		TP	TOP OF PAVEMENT
		TW	TOP OF WALK
		TY	TYPE
		T1F CL	TYPE 1 FRAME CLOSED LID
		T1F OL	TYPE 1 FRAME OPEN LID
		TYP	TYPICAL
		UNK	UNKNOWN
		UPSM	UPSTREAM
		VCP	VITRIFIED CLAY PIPE
		WM	WATER MAIN
		WMQ	WATER MAIN QUALITY
		W	WITH
		VV	VALVE VAULT

Not to be used for bidding purposes



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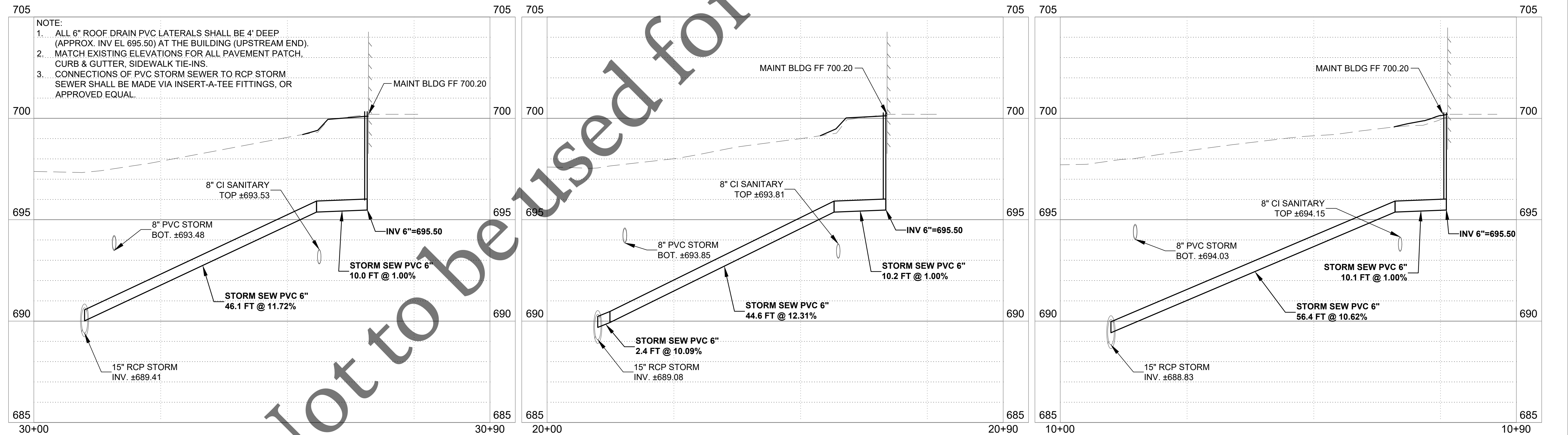
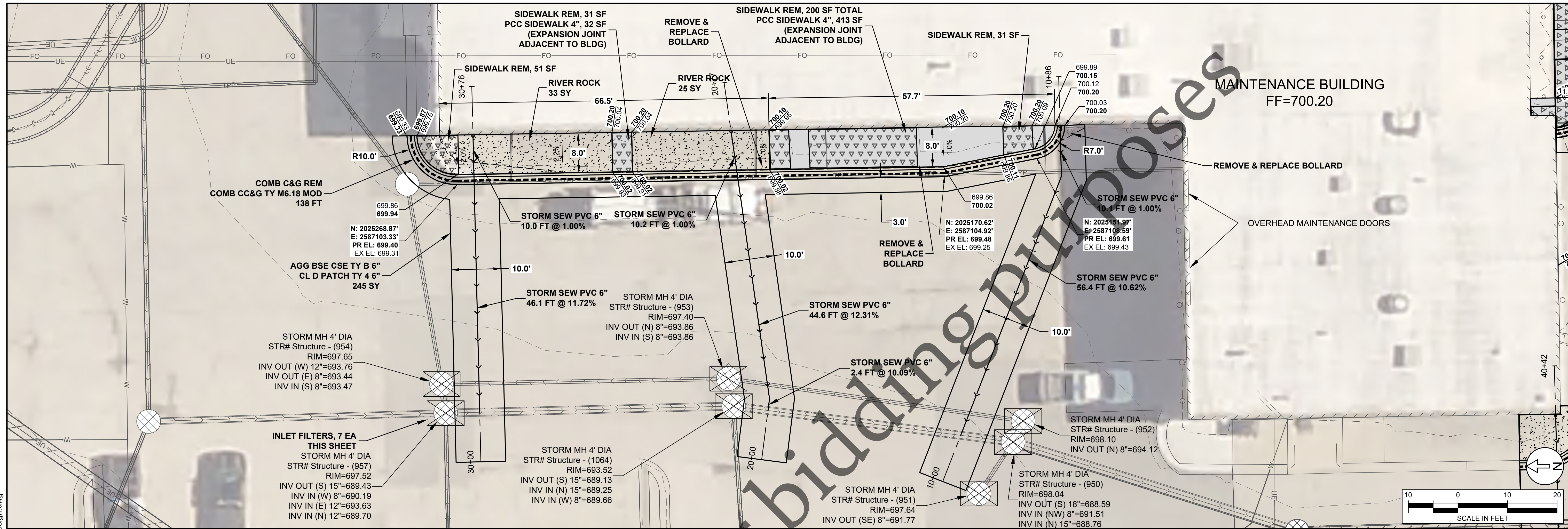
**MAINTENANCE BUILDING RENOVATION
CAPITAL PROJECT #2102**

LEGEND

Sheet No.
C001

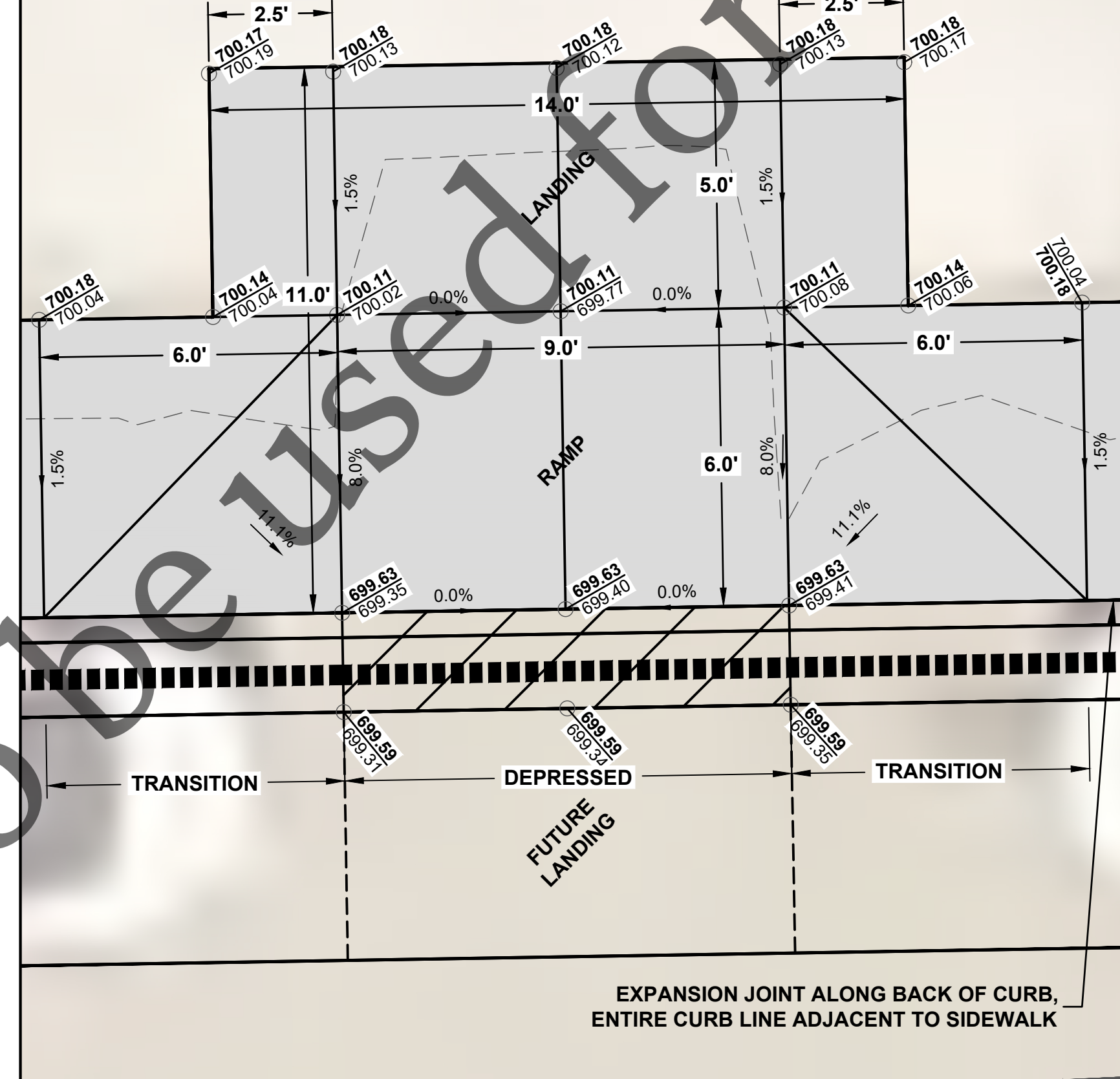
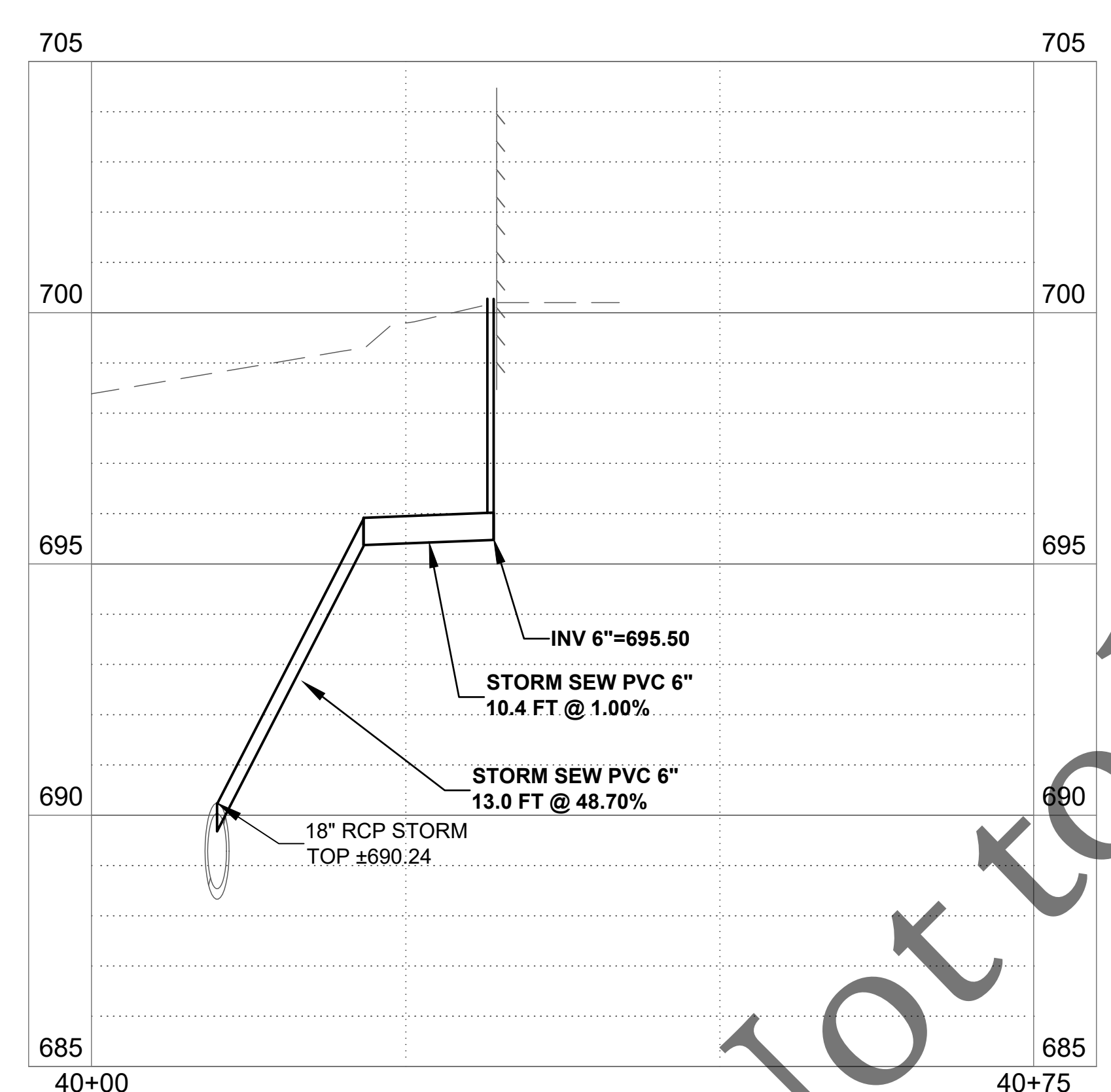
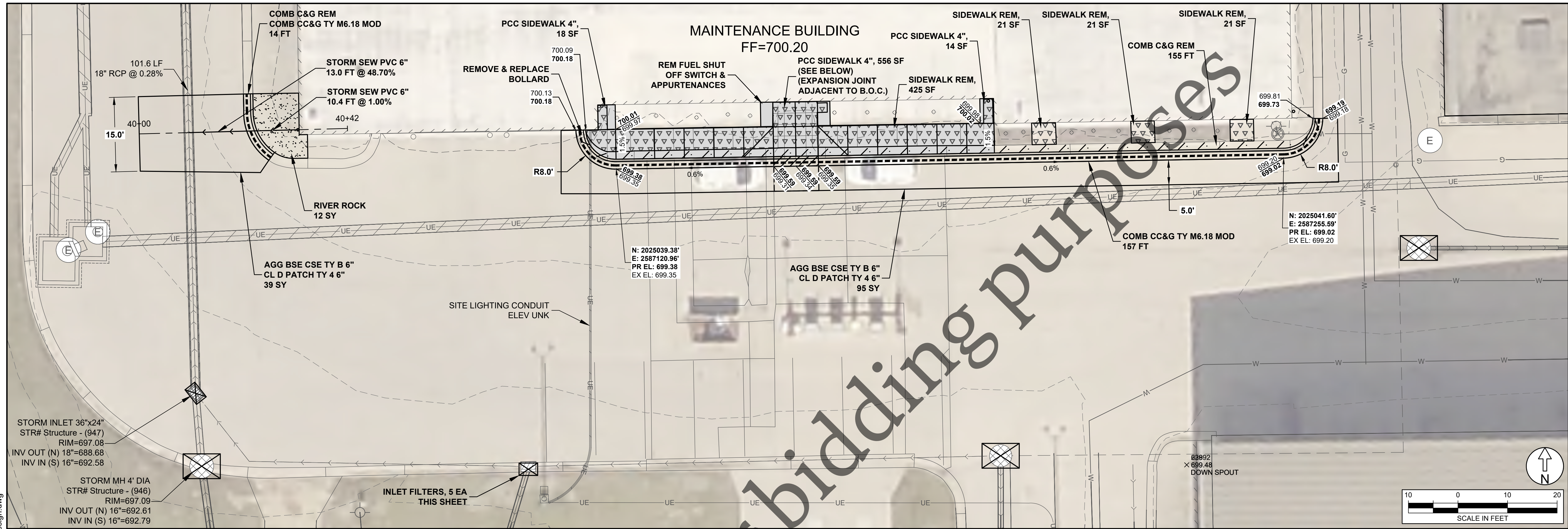
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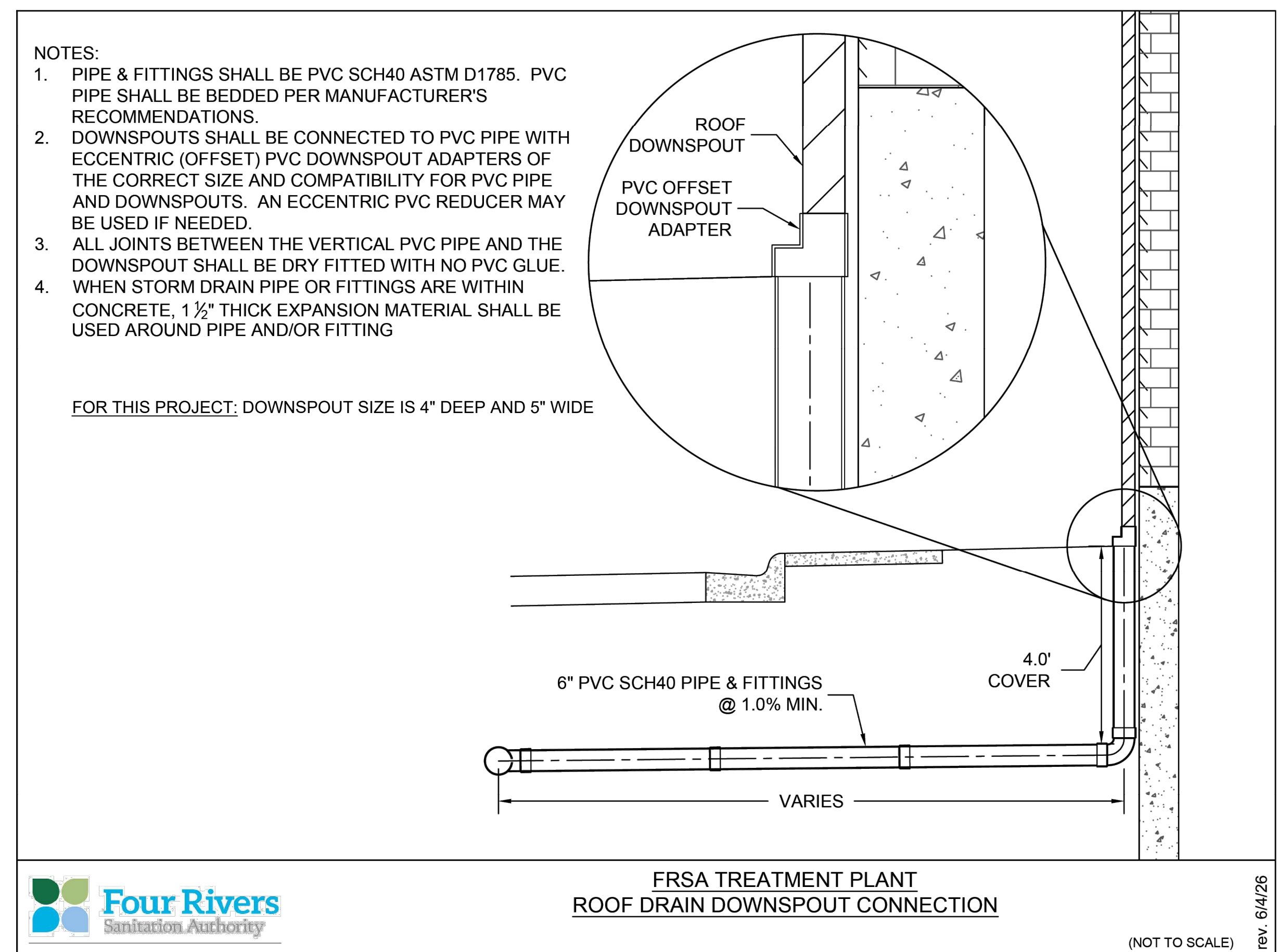
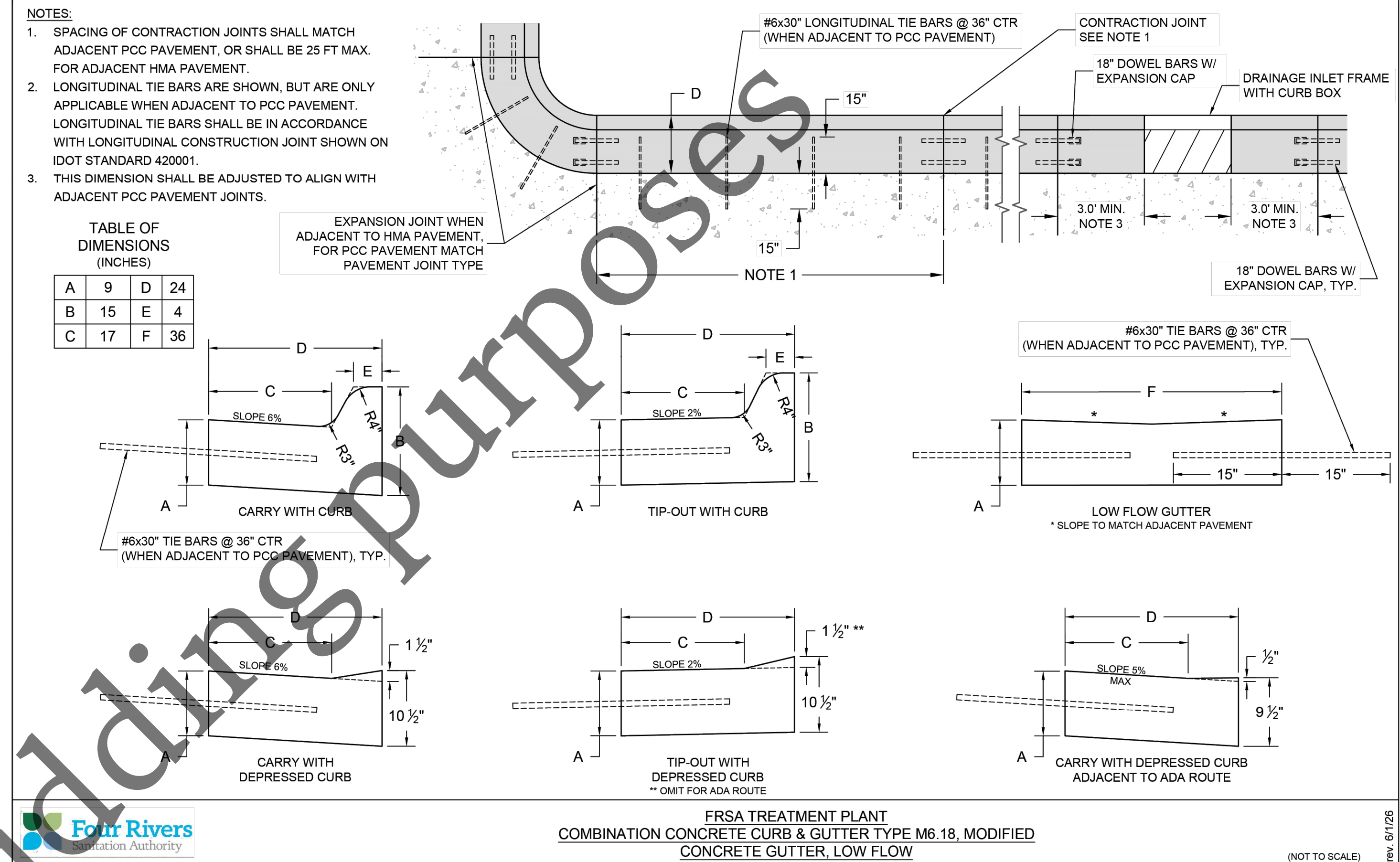
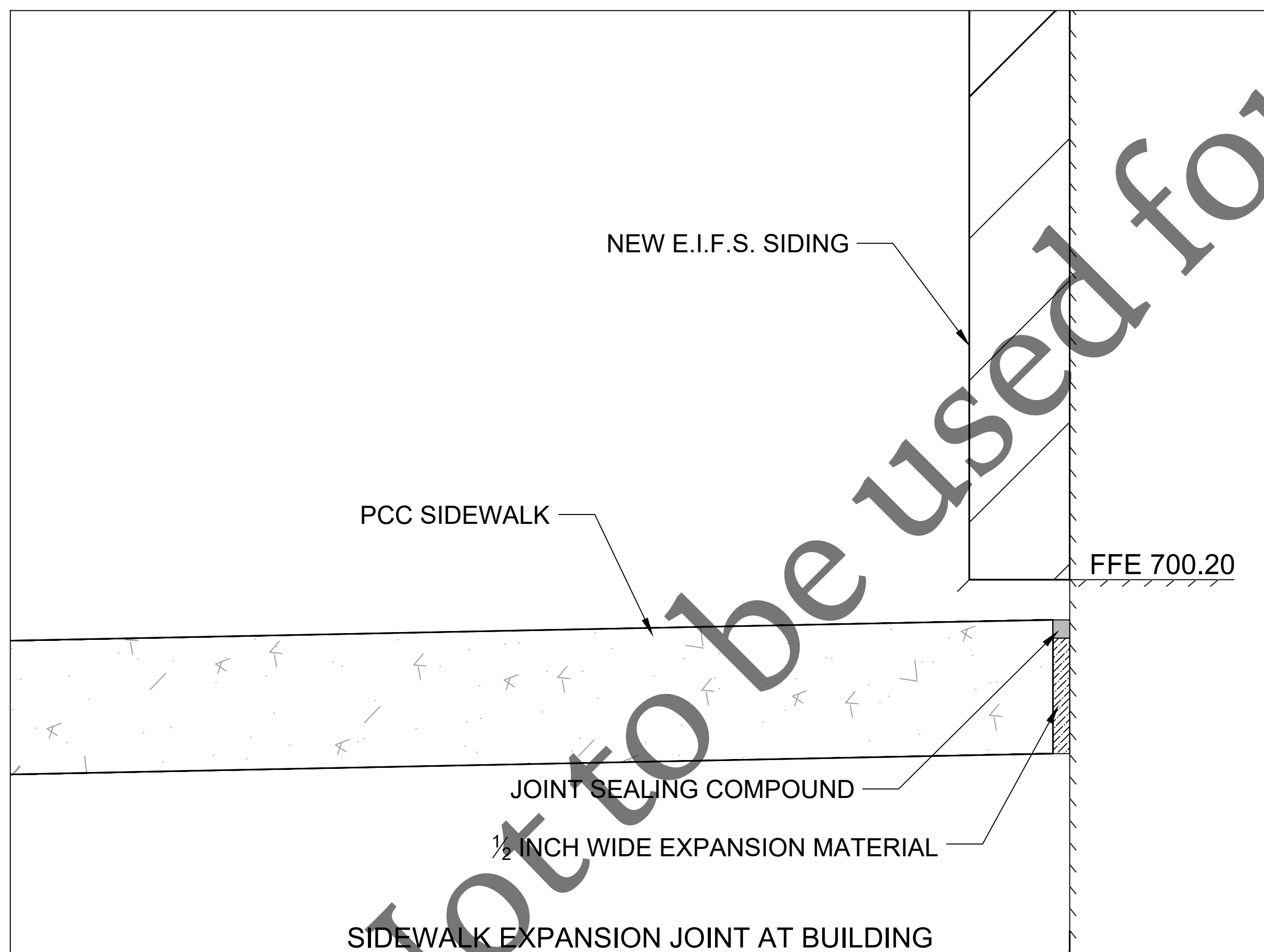
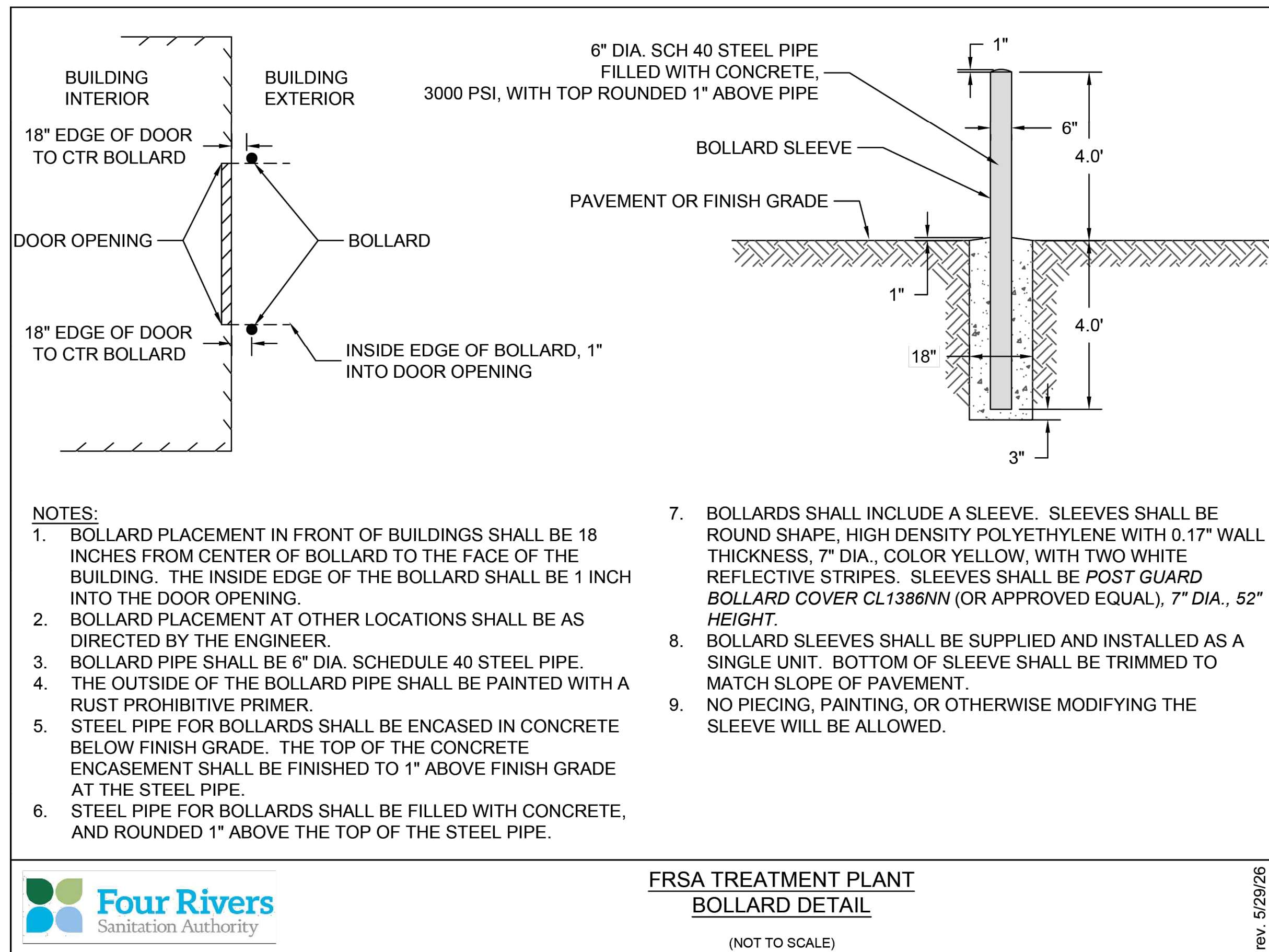
NOTE:
 1. ALL 6" ROOF DRAIN PVC LATERALS SHALL BE 4' DEEP (APPROX. INV EL 695.50) AT THE BUILDING (UPSTREAM END).
 2. MATCH EXISTING ELEVATIONS FOR ALL PAVEMENT PATCH, CURB & GUTTER, SIDEWALK TIE-INS.
 3. CONNECTIONS OF PVC STORM SEWER TO RCP STORM SEWER SHALL BE MADE VIA INSERT-A-TEE FITTINGS, OR APPROVED EQUAL.

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 5. CONTRACTOR SHALL COORDINATE WITH FRSA PER GENERAL NOTE 3 FOR LOCATING ANY IRRIGATION SYSTEM LINES OR APPURTENANCES. CONTRACTOR SHALL PROTECT IRRIGATION SYSTEMS DURING CONSTRUCTION.

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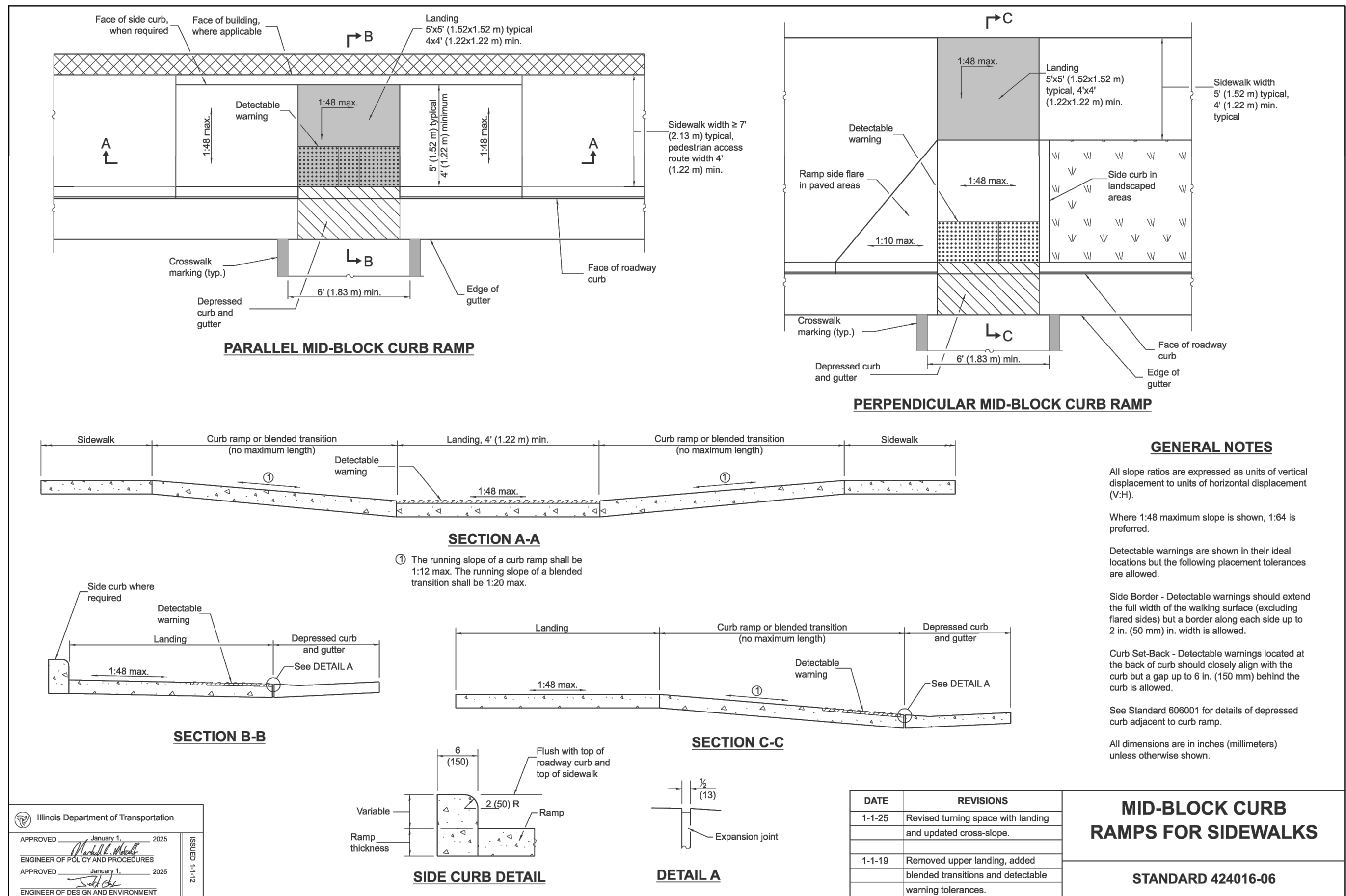
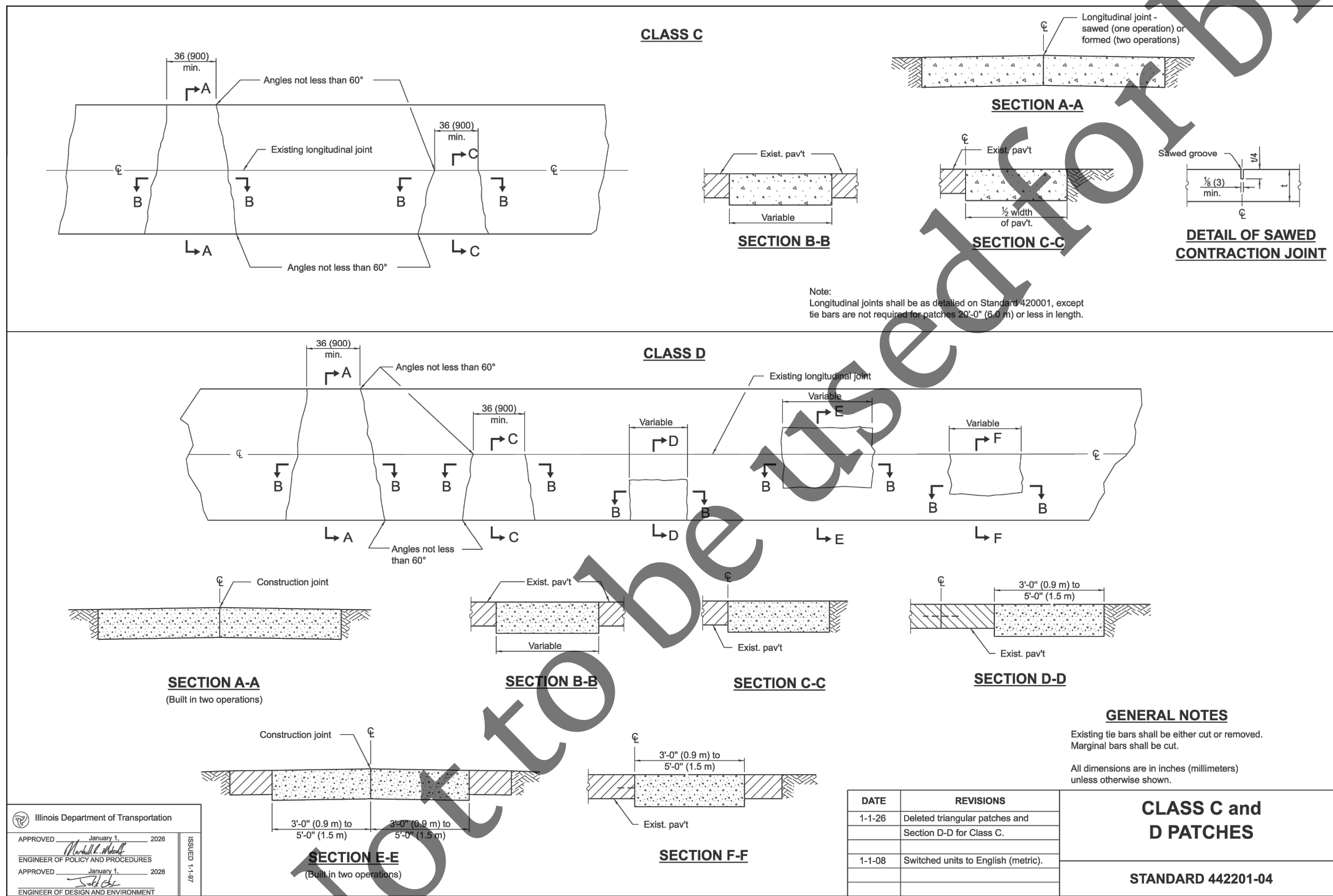
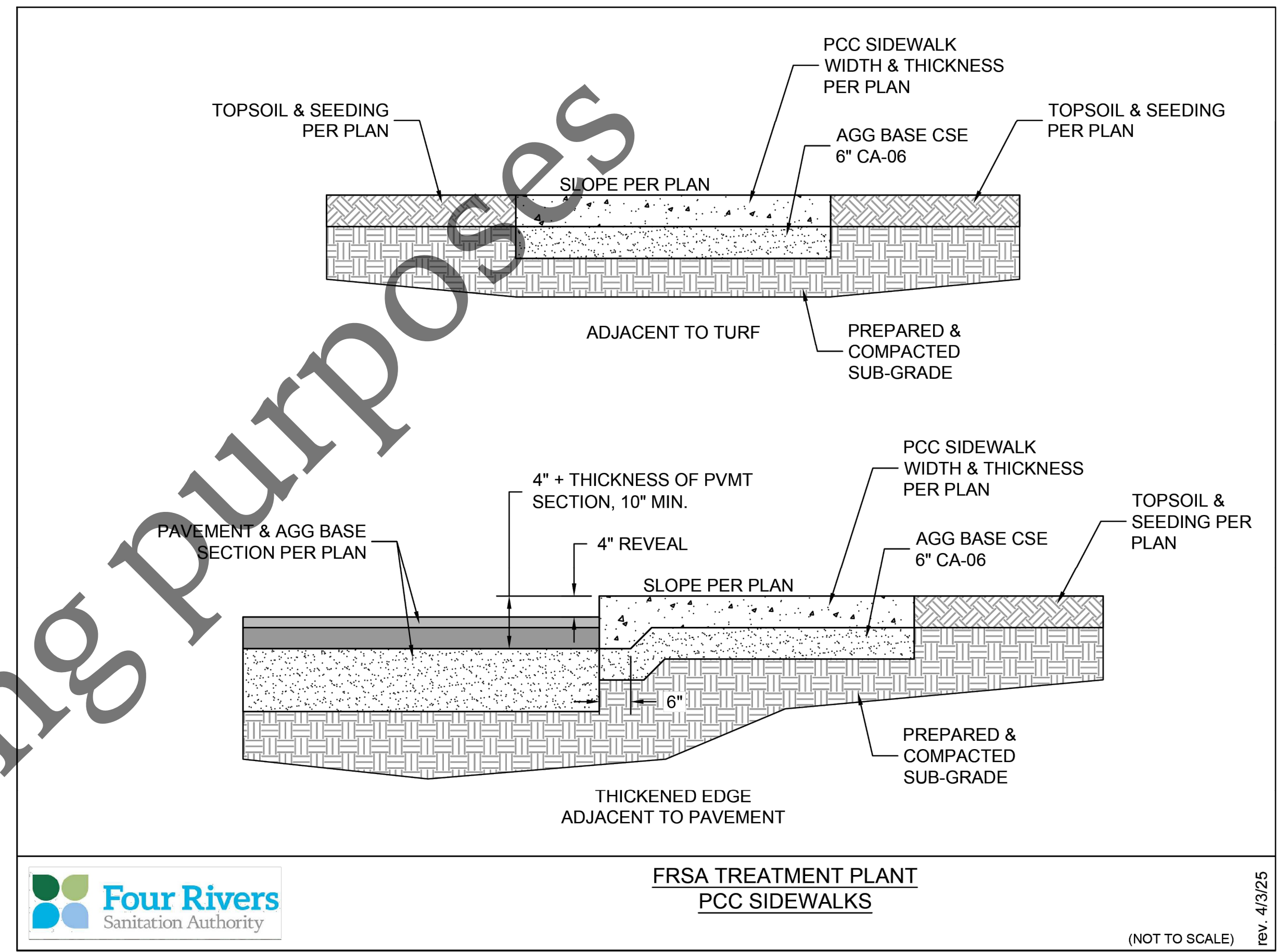
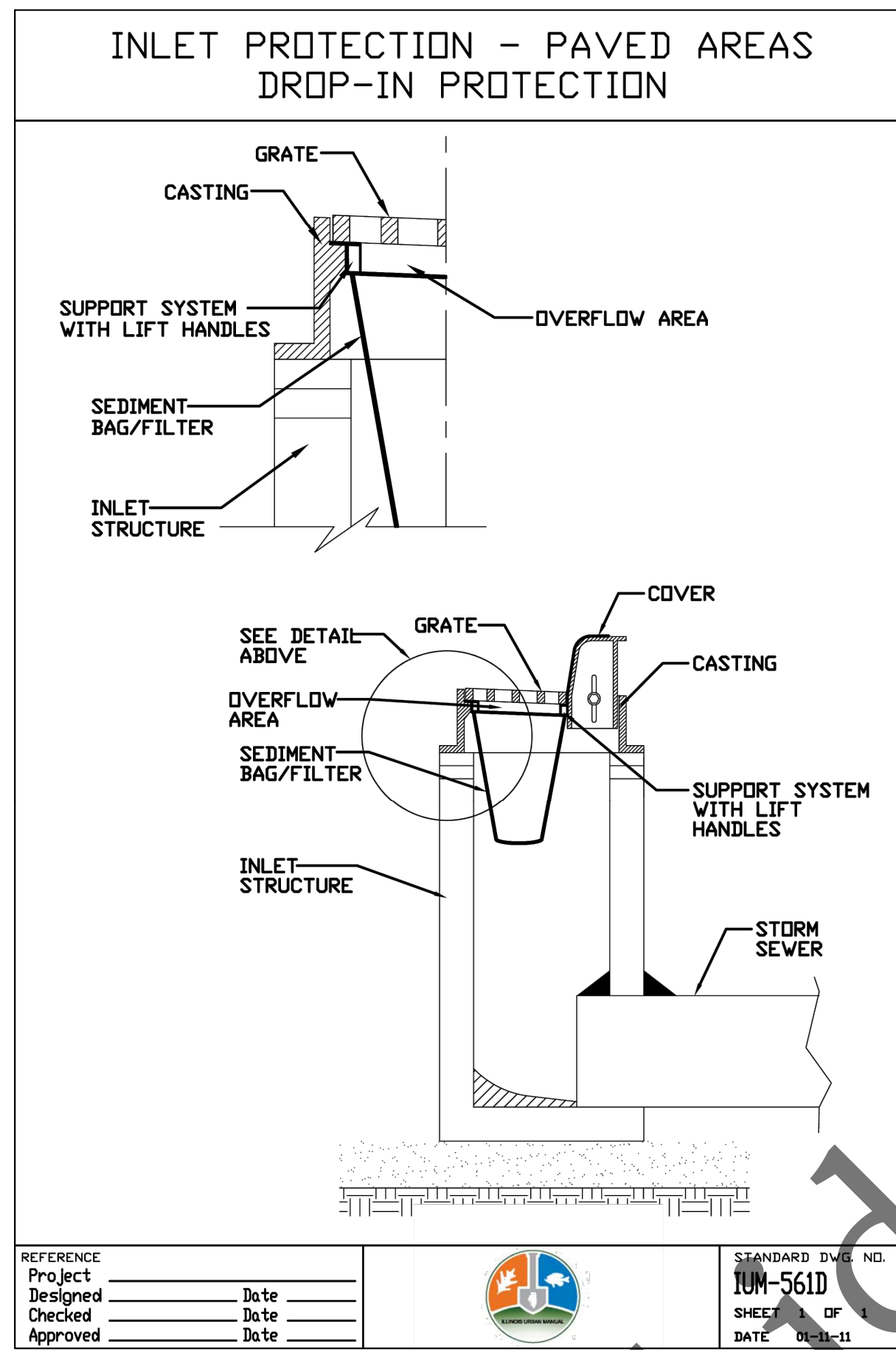
**MAINTENANCE BUILDING RENOVATION
CAPITAL PROJECT #2102**

PROJECT DETAILS 1

Sheet No.
C201

Date:
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No.	DATE	REVISION	INT.

**MAINTENANCE BUILDING RENOVATION
CAPITAL PROJECT #2102**

PROJECT DETAILS 2

DESIGN CRITERIA

- 1. BUILDING CODE - INTERNATIONAL BUILDING CODE (IBC) 2021 / ASCE7-16
 - 2. DEAD LOADS
 - FIRST FLOOR 75 PSF
 - ROOF 10 PSF
 - 3. ROOF LIVE LOADS
 - FLOOR LIVE LOADS 175 PSF
 - VEHICLE MAINTENANCE GARAGE 125 PSF
 - GROUND FLOOR STORAGE 80 PSF
 - 2ND FLOOR 80 PSF
 - 5. SNOW LOADS
 - GROUND SNOW, P_g 25 PSF
 - EXPOSURE FACTOR, C_e 1.0
 - TEMPERATURE FACTOR, C_t 1.0
 - SLOPED ROOF FACTOR, C_s 1.0
 - IMPORTANCE FACTOR, I_s 1.0
 - FLAT ROOF SNOW, P_f 25 PSF
 - SLOPED ROOF SNOW, P_s 25 PSF
 - SLIDING & DRIFTING SNOW, IN ADDITION TO FLAT ROOF SNOW, SEE PLANS
 - UNBALANCED SNOW PER ASCE 7
 - 6. WIND LOADS
 - ULTIMATE WIND SPEED, V 115 MPH
 - RISK CATEGORY II
 - EXPOSURE CATEGORY B
 - INTERNAL PRESSURE COEFFICIENT, G_{cp} ±0.18
- COMPONENTS & CLADDING NOT DESIGNED BY THE ENGINEER OF RECORD SHALL BE DESIGNED FOR THE WIND PRESSURES SHOWN ON THE COMPONENTS AND CLADDING DIAGRAM. WIND PRESSURES FOR LARGER TRIBUTARY AREAS MAY BE USED BASED ON DELEGATED DESIGN CALCULATIONS.

GENERAL REQUIREMENTS

- 1. THE CONTRACT DOCUMENTS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INCLUDE THE METHOD OF CONSTRUCTION. CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO: BRACING, SHORING FOR LOADS DUE TO CONSTRUCTION EQUIPMENT, TEMPORARY STRUCTURES, AND PARTIALLY COMPLETED WORK.
- 2. GENERAL CONTRACTOR TO DISTRIBUTE ALL SHEETS IN THE SET TO SUBCONTRACTORS.
- 3. THE ARCHITECT AND/OR ENGINEER OF RECORD SHALL NOT HAVE CONTROL OVER OR BE IN CHARGE OF, AND SHALL NOT BE RESPONSIBLE IN ANY WAY FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, OR PROCEDURES, OR FOR SAFETY OR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH ANY CONSTRUCTION ACTIVITIES, SINCE THESE ARE SOLELY THE CONTRACTOR'S RESPONSIBILITY.
- 4. SUBMITTALS PREPARED BY SUBCONTRACTORS SHALL BE REVIEWED BY CONTRACTOR PRIOR TO SUBMITTING TO ARCHITECT/ENGINEER.
- 5. CONTRACTOR SHALL VERIFY DIMENSIONS AND CONDITIONS AT THE JOB SITE. ANY DISCREPANCIES BETWEEN THE CONDITIONS FOUND AND THOSE INDICATED IN THE CONTRACT DOCUMENTS SHALL BE BROUGHT TO THE ATTENTION OF ARCHITECT PRIOR TO PROCEEDING WITH THE WORK.
- 6. SEE DOCUMENTS FROM OTHER DISCIPLINES FOR FLOOR, WALL, AND ROOF OPENINGS, TRENCHES, PITS, PIPE SLEEVES, EQUIPMENT PADS, METAL PAN STAIRS, MISCELLANEOUS IRON, ETC.
- 7. DO NOT PLACE PIPES, DUCTS, CHASES, ETC. IN STRUCTURAL BEAM AND COLUMN MEMBERS. DO NOT CUT ANY STRUCTURAL MEMBER FOR PIPES, DUCTS, ETC., UNLESS NOTED OTHERWISE. NOTIFY STRUCTURAL ENGINEER WHEN DOCUMENTS BY OTHER DISCIPLINES SHOW OPENINGS, POCKETS, ETC. NOT INDICATED IN THE STRUCTURAL DRAWINGS BUT ARE LOCATED IN THE STRUCTURAL MEMBERS. CONTRACTOR SHALL OBTAIN PRIOR APPROVAL FROM STRUCTURAL ENGINEER FOR INSTALLATION OF SUCH PIPES, DUCTS, CHASES, ETC.
- 8. DETAILS LABELED "TYPICAL" ON THE STRUCTURAL DRAWINGS APPLY TO ALL SITUATIONS OCCURRING ON PROJECT THAT ARE THE SAME OR SIMILAR TO THOSE LOCATIONS SPECIFICALLY INDICATED, WHERE A DETAIL IS NOT INDICATED, THE DETAIL SHALL BE THE SAME AS FOR OTHER SIMILAR CONDITIONS.

EXISTING CONSTRUCTION

- 1. ALL EXISTING FRAMING SHOWN ON THESE DRAWINGS IS BASED ON AVAILABLE DOCUMENTATION & FIELD OBSERVATION TO DATE. CONTRACTOR SHALL FIELD VERIFY ALL SIZES, DIMENSIONS, ELEVATIONS AND CONFIGURATIONS OF EXISTING STRUCTURAL ELEMENTS (COLUMNS, BEAMS, WALLS, ETC.) AS NECESSARY TO PROPERLY INSTALL ALL NEW STRUCTURAL ELEMENTS AS SHOWN. COORDINATE DIFFERENCES BETWEEN FIELD CONDITIONS AND STRUCTURAL DRAWINGS WITH STRUCTURAL ENGINEER PRIOR TO PROCEEDING WITH WORK, AND PROCUREMENT/FABRICATION OF MATERIALS.
- 2. REMOVE AND REPLACE AND/OR MODIFY ALL EXISTING CONSTRUCTION (ARCHITECTURAL, STRUCTURAL, ELECTRICAL, AND MECHANICAL) AS REQUIRED IN ORDER TO PLACE NEW STRUCTURAL WORK SHOWN ON THE CONSTRUCTION DOCUMENTS. DO NOT MODIFY STRUCTURAL COMPONENTS UNLESS DETAILED ON THE CONSTRUCTION DOCUMENTS.
- 3. IT IS SOLELY THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE ERECTION PROCEDURE AND CONSTRUCTION (MEANS & METHODS OF CONSTRUCTION). THIS INCLUDES, BUT IS NOT LIMITED TO: SHORING, UNDERPINNING, TEMPORARY BRACING, ETC. CONTRACTOR SHALL DESIGN AND PROVIDE ALL SHORING DESIGN, MATERIALS AND FABRICATION REQUIRED TO SUPPORT EXISTING CONSTRUCTION AND NEW CONSTRUCTION AS REQUIRED TO BUILD THIS PROJECT.

CONCRETE

CODES & STANDARDS:	
ACI 301	GUIDE TO PRESENTING REINFORCING STEEL DESIGN DETAILS
ACI 305	BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
ACI 306	GUIDE TO COLD WEATHER CONCRETING
ACI 318	BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE

MATERIALS (28 DAY COMPRESSIVE STRENGTH):	
INTERIOR SLAB	f _{cr} =5,000 PSI

- 1. CONCRETE MIX DESIGN (INCLUDING AGGREGATE SIZE, WATER CEMENT RATIO, AIR ENTRAINMENT, ADMIXTURES, SLUMP AND HISTORY OF BREAK TESTS) SHALL BE SUBMITTED TO THE EOR FOR APPROVAL PRIOR TO THE COMMENCEMENT OF ANY WORK. CONCRETE SHALL BE NORMAL WEIGHT UNO.
- 2. MAXIMUM WATER/CEMENT RATIO PERMITTED SHALL BE 0.55 FOR FOOTINGS, 0.50 FOR INTERIOR SLABS ON GRADE, 0.45 FOR BELOW GRADE CONCRETE AND 0.40 FOR CONCRETE EXPOSED TO WATER AND DEICING CHEMICALS.
- 3. CONCRETE WHICH WILL BE EXPOSED TO THE WEATHER (INCLUDING FOUNDATION WALLS) SHALL HAVE AIR-ENTRAINING ADMIXTURE AS REQUIRED TO PROVIDE 6% ± 1% AIR ENTRAINMENT.
- 4. MAXIMUM AGGREGATE SIZE SHALL BE 3/4" FOR SLABS ON GRADE, WALLS, BEAMS & COLUMNS, 1" FOR FOOTINGS AND 3/8" FOR TOPPING SLABS. NORMAL WEIGHT AGGREGATE TO CONFORM TO ASTM C33, LIGHTWEIGHT AGGREGATE TO CONFORM TO ASTM C330.
- 5. CONCRETE SHALL BE EVALUATED ACCORDING TO METHOD 1 OR METHOD 2 AS DESCRIBED IN ACI 301. THE RESULTS OF THESE ANALYSES SHALL BE SUBMITTED TO THE EOR FOR APPROVAL PRIOR TO ANY WORK.
- 6. THE CONTRACTOR SHALL MAKE PROVISIONS TO ALLOW AN INDEPENDENT TESTING AGENCY TO CAST 4 TEST CYLINDERS FOR EACH 50 CUBIC YARDS OF CONCRETE PLACED, OR FOR ANY DAY'S OPERATION. THE TESTING AGENCY SHALL BE RESPONSIBLE FOR CASTING AND CURING SPECIMENS IN COMPLIANCE TO ASTM C31 AND CASTING TESTING SPECIMENS IN COMPLIANCE TO ASTM C39.
- 7. DRAWINGS SHOWING THE LOCATION OF CONSTRUCTION JOINTS, CONTROL JOINTS, AND PLACING SEQUENCE SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO THE PREPARATION OF REINFORCING SHOP DRAWINGS. MAXIMUM POUR LENGTHS OF WALLS TO BE 40'-0" AND A MINIMUM OF 4'-0" AWAY FROM INTERSECTIONS AND CORNERS.
- 8. GROUT USED TO SET PLATES SHALL BE NON-SHRINK AND NON-METALLIC.
- 9. THE CONTRACTOR SHALL USE SMOOTH FORMS FOR EXPOSED CONCRETE SURFACES. BOARD FORM WORK SHALL BE UNEXPOSED CONCRETE SURFACES. EARTH FORMS ARE FORBIDDEN.
- 10. PROVIDE COMPACTED GRANULAR FILL UNDER ALL SLABS ON GRADE, SEE CONCRETE SLAB ON GRADE SCHEDULE.
- 11. VAPOR BARRIER TO BE AS INDICATED ON TYPICAL SLAB JOINT DETAIL, LAP MINIMUM 6" AND TAPE ALL SEAMS. VERIFY ADDITIONAL REQUIREMENTS WITH ARCHITECTURAL SPECIFICATIONS.
- 12. FLOOR FLATNESS AND LEVELNESS OF SLAB ON GRADE CONCRETE SHALL HAVE THE FOLLOWING TOLERANCES, AS RECOGNIZED BY THE MOST CURRENT VERSION OF ASTM E 1155 AND ACI 302.1. SEE SPECIFICATION FOR FURTHER REQUIREMENTS (F) SPECIFIED OVERALL VALUE (SOV) OF 50, MINIMUM LOCALIZED VALUE (MLV) OF 25 AND (FL) SPECIFIED OVERALL VALUE (SOV) OF 33, MINIMUM LOCALIZED VALUE (MLV) OF 17).

CONCRETE REINFORCING

CODES & STANDARDS:	
ACI 315	GUIDE TO PRESENTING REINFORCING STEEL DESIGN DETAILS
ACI 318	BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
MSP2	CRSI MANUAL OF STANDARD PRACTICE
AWS D1.4	STRUCTURAL WELDING CODE - REINFORCING STEEL
WRI	WELDED WIRE FABRIC MANUAL OF STANDARD PRACTICE

MATERIALS:	
REINFORCING BARS	ASTM A615 Gr60 Fy=60 KSI
WELDED WIRE FABRIC	ASTM A185 Fy=60 KSI
MACRO FIBER REINFORCING	ASTM C1096 Type III
WELDBABLE REINFORCING BARS	ASTM A706 Fy=60 KSI

- 1. THE REINFORCEMENT FABRICATOR SHALL PROVIDE AND SCHEDULE ON SHOP DRAWINGS ALL REQUIRED REINFORCING STEEL AND NECESSARY ACCESSORIES TO HOLD REINFORCEMENT SECURELY IN PLACE AT THE CORRECT LOCATIONS.
- 2. THE REQUIRED CLEARANCE FOR REINFORCEMENT (UNO) SHALL BE 3" FOR CONCRETE PLACED DIRECTLY AGAINST EARTH, 2" (#6 & LARGER) AND 1 1/2" (#5 & SMALLER) FOR CONCRETE EXPOSED TO EARTH OR WEATHER, 1 1/2" (#4 & LARGER) AND 3/4" (#3 & SMALLER) FOR CONCRETE NOT EXPOSED TO EARTH OR WEATHER.
- 3. THE CONTRACTOR SHALL REFER TO TYPICAL DETAILS SHOWN ON THE CONTRACT DRAWINGS FOR ADDITIONAL REINFORCING REQUIREMENTS.
- 4. WHERE REINFORCEMENT IS REQUIRED IN SECTIONS, REINFORCEMENT IS CONSIDERED TYPICAL WHEREVER THE SECTION APPLIES.
- 5. WELDED WIRE FABRIC SHALL HAVE A MINIMUM OF 6" LAP AND BE TIED TOGETHER.
- 6. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT OF COMPLETION OF REINFORCEMENT INSTALLATION AND ALLOW AT LEAST 24 HOURS BEFORE SCHEDULED CONCRETE PLACEMENT FOR THE ARCHITECT TO INSPECT REINFORCEMENT.
- 7. MACRO FIBER TO BE 1-1/2" MINIMUM LENGTH, WHERE INDICATED IN CONCRETE SLAB ON GRADE OR METAL DECK SCHEDULE.

STRUCTURAL STEEL

CODES & STANDARDS:	
AISC 360	SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS
AISC	CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES
AWS D1.1	STRUCTURAL WELDING CODE - STEEL
AISC	STRUCTURAL STEEL DETAILING MANUAL

MATERIALS:	
HOT ROLLED W & WT SHAPES	ASTM A992 Fy=50 KSI
ANGLES, CHANNELS & PLATES	ASTM A36 Fy=36 KSI
S * M SHAPES	ASTM A36 Fy=36 KSI
HP SHAPES	ASTM A572 Gr 50 Fy=50 KSI
STEEL PIPE	ASTM A53 Gr B Fy=35 KSI
RECTANGULAR HSS	ASTM A500 Gr C Fy=50 KSI
ROUND HSS	ASTM A500 Gr C Fy=46 KSI
HIGH STRENGTH BOLTS	ASTM A325
ANCHOR HEX NUTS	ASTM A363
HARDENED STEEL WASHERS	ASTM A436
ANCHOR RODS	ASTM F1554 Gr 36 Fy=36 KSI
THREADED RODS	ASTM A36 Fy=36 KSI
HEADED STUD ANCHORS	ASTM A108

- 1. PROVIDE 2 MIL THICKNESS RED OR GRAY OXIDE PRIMER ON ALL STEEL SURFACES (UNO).
- 2. ALL STEEL EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED PER ASTM A123 AND FASTENERS HOT DIPPED GALVANIZED PER ASTM A153.
- 3. ANCHOR RODS SHALL BE PRESET WITH TEMPLATES.
- 4. COLUMN BASE PLATES SHALL BE GROUDED UNDER WITH NON-SHRINK, NON-METALLIC GROUT.
- 5. CONNECTIONS MAY BE BOLTED OR WELDED AT THE FABRICATOR'S OPTION. BOLTED CONNECTIONS SHALL BE A MINIMUM BOLT DIAMETER OF 3/4" (UNO), HIGH STRENGTH BOLTS IN SINGLE OR DOUBLE SHEAR (UNO) AND SIMPLE SHEAR CONNECTIONS SHALL BE CAPABLE OF CONNECTION PER AISC REQUIREMENTS FOR UNRESTRAINED MEMBERS.
- 6. THE MINIMUM FILLET WELD SIZE SHALL NOT BE LESS THAN 3/16" (UNO).
- 7. ALL WELDS SHALL USE WELD METS CONFORMING TO E70XX AND CONFORMING TO AWS WELDING PROCEDURES AND STANDARDS.
- 8. ALL WELDS SHALL BE MADE BY A STRUCTURAL WELDER LICENSED BY THE AUTHORITY HAVING JURISDICTION (ASU) WITHIN AREAS OF THE BUILDING WHERE STRUCTURAL WELDING SHALL OCCUR AND IN THE POSITION IN WHICH THE WELD IS TO BE MADE.
- 9. THE ERECTION OF ALL STRUCTURAL STEEL MEMBERS SHALL NOT COMMENCE UNTIL ALL SUPPORTING CONCRETE/MASONRY ELEMENTS HAVE ATTAINED AT LEAST 75% OF THEIR INTENDED MINIMUM COMPRESSIVE STRENGTH.
- 10. THE CONTRACTOR SHALL PROVIDE TEMPORARY ERECTION BRACINGS AND SUPPORTS AS REQUIRED FOR THE SAFE ERECTION OF ALL STEEL.
- 11. TEMPORARY BRACING SHALL BE INSTALLED IN PLACE UNTIL PERMANENT BRACING HAS BEEN INSTALLED AND FLOOR SLAB CONCRETE HAS ATTAINED 75% OF THE REQUIRED STRENGTH.
- 12. THE CONTRACTOR SHALL NOT MODIFY OR CUT ANY STRUCTURAL STEEL WITHOUT WRITTEN APPROVAL FROM THE EOR.
- 13. THE CONTRACTOR SHALL FIELD TOUCH UP ALL ABRASIONS, BURNS, AND SIMILAR DEFECTS IN PAINT OF STRUCTURAL STEEL.
- 14. PROVIDE 1/4" CLOSURE END PLATES FOR ALL OPEN ENDS OF HSS & PIPE MEMBERS.
- 15. CONTRACTOR SHALL INCLUDE IN PROPOSAL COST TO FURNISH, DELIVER, ERECT, AND BRACE ALL STRUCTURAL STEEL IN ADDITION TO THAT SPECIFIED IN THE CONSTRUCTION DOCUMENTS. ANY UNUSED MATERIAL SHALL BE CREDITED TO THE OWNER AT THE END OF THE PROJECT.

COLD-FORMED STRUCTURAL STEEL

CODES:	
AISC	SPECIFICATION FOR DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL BUILDINGS
AISI	SPECIFICATION FOR THE DESIGN OF LIGHT-GAUGE COLD-FORMED STEEL STRUCTURAL MEMBERS
SSMA	STEEL STUD MANUFACTURERS ASSOCIATION PRODUCT TECHNICAL GUIDE

MATERIALS:	
CEE/ZEE GIRTS & PURLINS	ASTM A570 Fy=55 KSI
STUDS, JOISTS, TRACKS, ACC.	ASTM A653/653M G60 Fy=33/50 KSI

- 1. WHERE SPECIFIC SIZES ARE NOT SHOWN ON DRAWINGS OR AS REQUIRED BY CONTRACT, THE COLD FORM SUPPLIER IS RESPONSIBLE FOR DESIGN AND SIZING OF MEMBERS. THE UNBRACED LENGTH OF BOTH THE TENSION AND COMPRESSION FLANGE SHALL BE CONSIDERED. CALCULATIONS ARE REQUIRED WITH THE SHOP DRAWINGS FOR APPROVAL.
- 2. COLD-FORMED STEEL SECONDARY FRAMING MEMBERS CEE & ZEE SHAPED GIRTS AND PURLINS SHALL HAVE A 2 MIL THICK RED OXIDE PRIMER ON ALL STEEL SURFACES, UNO.
- 3. DESIGN FOR ALL MEMBERS SHALL BE PER THE CODE AND LOADS NOTED UNDER THE DESIGN LOADS SECTION OF THESE NOTES.
- 4. COLD-FORMED STEEL LIGHT-GAUGE STUDS, JOISTS, TRACKS AND ACCESSORIES SHALL HAVE A MINIMUM STRENGTH EQUAL TO OR GREATER THAN THE MEMBERS TO BE CONNECTED, UNO.
- 5. SCREWS SHALL BE CORROSION RESISTANT, SELF DRILLING PAN OR HEX WASHER HEAD AS SHOWN ON THE DRAWINGS.
- 6. POWDER ACTUATED FASTENERS SHALL BE AISI 1062 OR 1065 STEEL WITH A MINIMUM CORE HARDNESS OF 30 TO 54 HRc. ZINC PLATED IN ACCORDANCE WITH ASTM B 633. THE DIAMETER AND LENGTH SHALL BE AS SHOWN ON THE DRAWINGS.

POST-INSTALLED ANCHORS

- 1. THE DIAMETER, EMBEDMENT LENGTH AND TYPE OF ADHESIVE ANCHORS AND SCREW ANCHORS SHALL BE AS SPECIFIED ON THE DRAWINGS.
- 2. THE SUBSTITUTION OF OTHER MANUFACTURER'S SIMILAR PRODUCTS IS ALLOWED, PROVIDED THAT THE SIZE IS EQUAL TO AND CAPACITY IN SHEAR AND UPLIFT ARE EQUAL TO OR GREATER THAN WHAT IS SPECIFIED ON THE DRAWINGS. THE COST OF REDESIGN OF SUCH SUBSTITUTIONS SHALL BE BORE BY THE CONTRACTOR.
- 3. INSTALLATION OF ANCHORS SHALL STRICTLY FOLLOW ALL MANUFACTURER'S WRITTEN INSTRUCTIONS AND SPECIFICATIONS. ALL DRILL HOLE PREPARATIONS SHALL BE FOLLOWED.
- 4. NO LOAD SHALL BE APPLIED TO ADHESIVE ANCHORS PRIOR TO THE FULL CURE TIME AS SPECIFIED BY THE MANUFACTURER.
- 5. TESTING OF 10% OF ALL INSTALLED ANCHORS IS REQUIRED. TESTED ANCHORS SHALL MEET THE MANUFACTURER'S PROOF LOAD REQUIREMENTS AND/OR INSTALLATION TORQUE REQUIREMENTS. MALFUNCTIONING FASTENERS SHALL BE REPLACED.
- 6. ALL ADHESIVE ANCHOR INSTALLATIONS IN THE HORIZONTAL TO VERTICALLY OVERHEAD ORIENTATION SHALL BE CONDUCTED BY A CERTIFIED ADHESIVE ANCHOR INSTALLER AS CERTIFIED BY ACI PER 318-11 9.2.2 OR ACI 318-14 17.8.2.2 OR ACI 318-19 17.2.3, OR APPROVED EQUIVALENT. CURRENT AAI CERTIFICATE MUST BE SUBMITTED TO THE ENGINEER OF RECORD FOR APPROVAL PRIOR TO COMMENCEMENT OF ANY ADHESIVE ANCHOR INSTALLATIONS.
- 7. ADHESIVE ANCHORS IN CRACKED AND UNCRACKED CONCRETE SHALL BE DEWALT PURE 220+ (ICC-ES ESR 5144) OR SIMPSON SET 3G OR HILTI HIT 500 V3.
- 8. SCREW ANCHORS IN CRACKED AND UNCRACKED CONCRETE SHALL BE DEWALT SCREW-BOLT+ (ICC-ES ESR 4042) OR SIMPSON TITEN HD OR HILTI KWIK KH-EZ / KWIK.

SPECIAL INSPECTIONS

- 1. INSPECTION BY A LOCAL BUILDING OFFICIAL IS NOT A SUBSTITUTE FOR SPECIAL INSPECTION.
- 2. ANY WORK WHICH HAS BEEN COVERED BUT NOT PROPERLY INSPECTED BY THE SPECIAL INSPECTOR AND/OR THE LOCAL BUILDING OFFICIAL IS SUBJECT TO REMOVAL OR EXPOSURE.
- 3. THE SPECIAL INSPECTOR MUST BE CERTIFIED TO PERFORM THE TYPES OF INSPECTION TASKS AND SHALL DEMONSTRATE COMPETENCE TO THE SATISFACTION OF THE LOCAL BUILDING OFFICIAL.
- 4. THE SPECIAL INSPECTOR IS TO PROVIDE WRITTEN REPORTS FOR REVIEW BY THE ARCHITECT AND ENGINEER OF RECORD.
- 5. SPECIAL INSPECTION REPORTS AND FINAL REPORT IN ACCORDANCE WITH SECTION 1704.2 SHALL BE SUBMITTED TO THE BUILDING OFFICIAL PRIOR TO THE TIME THAT PHASE OF WORK IS APPROVED FOR OCCUPANCY.
- 6. SPECIFIC SPECIAL INSPECTIONS REQUIRED:
 - A. STRUCTURAL STEEL CONSTRUCTION - PER IBC TABLE 1705.2
 - 1. FABRICATOR AND ERECTION SHALL VERIFY REPORTS AND CERTIFICATES AS LISTED IN AISC 360, SECTION N 3.2 FOR COMPLIANCE WITH CONSTRUCTION DOCUMENTS EACH SUBMITTAL.
 - 2. PERIODIC INSPECTION OF MATERIAL VERIFICATION OF STRUCTURAL STEEL
 - 3. STRUCTURAL STEEL WELDING:
 - a. OBSERVE OR PERFORM AS NOTED INSPECTION TASKS PRIOR TO WELDING (OBSERVE, OR PERFORM FOR EACH WELDED JOINT OR MEMBER, THE QA TASKS LISTED IN AISC 360, TABLE N5.4-1).
 - b. OBSERVE INSPECTION TASKS DURING WELDING (OBSERVE, OR PERFORM FOR EACH WELDED JOINT OR MEMBER, THE QA TASKS LISTED IN AISC 360, TABLE N5.4-2).
 - c. PERIODIC INSPECTION OF NONDESTRUCTIVE TESTING (NDT) OF WELDED JOINTS:
 - COMPLETE PENETRATION GROOVE WELDS 5/16" OR GREATER IN RISK CATEGORY
 - WELDED JOINTS SUBJECT TO FATIGUE WHEN REQUIRED BY AISC 360, APPENDIX 3, TABLE A-3.1.
 - FABRICATOR'S NOT REPORTS WHEN FABRICATOR PERFORMS NDT.
 - 4. STRUCTURAL STEEL BOLTING:
 - a. OBSERVE OR PERFORM AS NOTED INSPECTION TASKS PRIOR TO BOLTING (OBSERVE, OR PERFORM TASKS FOR EACH BOLTED CONNECTION, IN ACCORDANCE WITH QA TASKS LISTED IN AISC 360, TABLE N5-1).
 - b. PERFORM INSPECTION TASKS AFTER BOLTING (PERFORM TASKS FOR EACH BOLTED CONNECTION IN ACCORDANCE WITH QA TASKS LISTED IN AISC 360, TABLE N5-1).
 - c. PERIODIC VISUAL INSPECTION OF EXPOSED CUT SURFACES OF GALVANIZED STRUCTURAL STEEL MAIN MEMBERS AND EXPOSED CORNERS OF THE RECTANGULAR HSS FOR CRACKS SUBSEQUENT TO GALVANIZING.
 - d. PERIODIC INSPECTION OF EMBEDMENTS (VERIFY DIAMETER, GRADE, TYPE, LENGTH, EMBEDMENT, SEE 1705.3 FOR ANCHORS).
 - e. PERIODICALLY VERIFY MEMBER LOCATIONS, BRACES, STIFFENERS, AND APPLICATION OF JOINT DETAILS AT EACH CONNECTION COMPLY WITH CONSTRUCTION DOCUMENTS
 - B. CONCRETE CONSTRUCTION - PER IBC TABLE 1705.3
 - 1. PERIODIC INSPECTION AND PLACEMENT VERIFICATION OF REINFORCING STEEL AND PRESTRESSING
 - 2. PERIODIC INSPECTION OF ANCHORS CAST IN CONCRETE.
 - 3. PERIODIC INSPECTION OR AS REQUIRED BY THE RESEARCH REPORT ISSUED BY AN APPROVED SOURCE OF ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS PER RESEARCH REPORTS, OR, IF NO SPECIFIC REQUIREMENTS ARE PROVIDED, REQUIREMENTS SHALL BE PROVIDED BY THE REGISTERED DESIGN PROFESSIONAL AND APPROVED BY THE BUILDING OFFICIAL, INCLUDING VERIFICATION OF ANCHOR TYPE, ANCHOR DIMENSIONS, HOLE DIMENSIONS, HOLE CLEANING PROCEDURES, ANCHOR SPACING, ANCHOR DISTANCES, CONCRETE MINIMUM THICKNESS, ANCHOR EMBEDMENT AND TIGHTENING TORQUE.
 - a. CONTINUOUS INSPECTION OF ADHESIVE ANCHORS INSTALLED IN HORIZONTAL OR UPWARD ORIENTATION THAT RESIST SUSTAINED TENSION LOADS.
 - b. PERIODIC INSPECTION OF MECHANICAL AND ADHESIVE ANCHORS NOT DEFINED IN 3a.
 - 4. VERIFY USE OF APPROVED DESIGN MIX.
 - 5. PRIOR TO PLACEMENT, FRESH CONCRETE SAMPLING, PERFORM SLUMP AND AIR CONTENT TESTS AND TENSORS FOR ANCHORS.
 - 6. PERFORM INSPECTION OF CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES PERIODICALLY.
 - 7. VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES CONTINUOUSLY.
 - 8. PERIODIC VERIFICATION OF IN-SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENDONS IN POST TENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS.
 - 9. PERIODIC INSPECTION OF FORMWORK FOR SHAPE, LINES, LOCATION AND DIMENSIONS.
 - 10. PERIODIC CONCRETE STRENGTH TESTING AND VERIFICATION OF COMPLIANCE WITH CONSTRUCTION DOCUMENTS.
 - C. MASONRY CONSTRUCTION - PER IBC SECTION 1705.4
 - 1. PERIODIC INSPECTION FOR VERIFICATION OF FM AND PROPORTIONS OF SITE-PREPARED MORTAR.
 - 2. PERIODIC INSPECTION OF SIZE AND LOCATION OF STRUCTURAL ELEMENTS, TYPE, SIZE & LOCATION OF ANCHORS, SPECIFIED SIZE, GRADE, AND TYPE OF REINFORCING.
 - 3. PERIODIC INSPECTION OF PREPARATION, CONSTRUCTION, AND PROTECTION OF MASONRY DURING COLD WEATHER (<40 DEG. F) OR HOT WEATHER (>90 DEG. F).
 - 4. PERIODIC INSPECTION, PRIOR TO GROUTING, THAT GROUT SPACES ARE CLEAN, PLACEMENT OF REINFORCEMENT, AND PROPORTIONS OF SITE-PREPARED GROUT.
 - D. SOILS - PER IBC TABLE 1705.6
 - 1. PERIODIC VERIFICATION OF SOILS BELOW FOOTING TO ENSURE ADEQUACY TO ACHIEVE THE DESIGN BEARING CAPACITY.
 - 2. PERIODIC VERIFICATION THAT EXCAVATIONS ARE EXTENDED TO PROPER DEPTHS AND HAVE REACHED PROPER SUBGRADE MATERIALS.
 - 3. PERIODIC CLASSIFICATION AND TESTING OF CONTROLLED FILL MATERIALS.
 - 4. CONTINUOUS VERIFICATION OF USE OF PROPER MATERIALS, DENSITIES, AND LIFT THICKNESS DURING PLACEMENT AND COMPACTION OF CONTROLLED FILL.
 - E. WOOD CONSTRUCTION - PER IBC SECTION 1705.5
 - i. VERIFY FABRICATOR MAINTAINS DETAILED FABRICATION AND QUALITY CONTROL OF THE WORKMANSHIP AND FABRICATOR'S CONFORMANCE TO APPROVED CONSTRUCTION DOCUMENTS AND REFERENCED STANDARDS.
 - F. POST-INSTALLED ANCHORS - PER IBC SECTION 1705.11
 - 1. PERIODIC INSPECTION DURING INSTALLATION TO VERIFY ANCHOR TYPE, ANCHOR DIMENSIONS, HOLD CLEANING PROCEDURE, EMBEDMENT DEPTH, CONCRETE TYPE, CONCRETE COMPRESSIVE STRENGTH, CONCRETE THICKNESS, HOLD DIMENSIONS, ANCHOR SPACING, EDGE DISTANCE, ADHESIVE EXPIRATION DATE, AND ADHERENCE TO THE MANUFACTURER'S PUBLISHED INSTALLATION INSTRUCTIONS.

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Cedarburg, WI 53012 | 262.236.9372
C4E Project #: 25193
IL CECS/EN FRM 184-00824

Maintenance
Building
Renovation
Capital Project
No. 2102

for
Four Rivers Sanitation Authority

Rockford, Illinois
THE CONTRACTOR SHALL DETERMINE EXACT DIMENSIONS AND CONDITIONS AT THE SITE PRIOR TO SUBMITTING A BID. THE CONTRACTOR SHALL COORDINATE ALL DRAWINGS WITH ACTUAL FIELD CONDITIONS.
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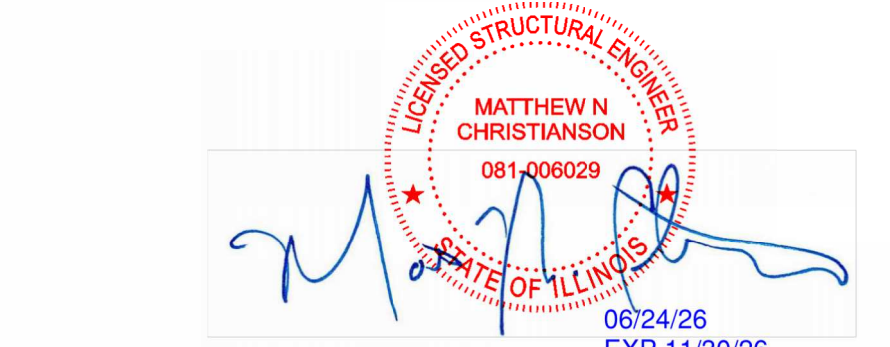
Project No. 2025-16
Project Number

Scale
12" = 1'-0"

Sheet Title
STRUCTURAL GENERAL NOTES

Ref. North Sheet No. S001

PROFESSIONAL DESIGN FIRM REGISTRATION # 184-003342



STRUCTURAL SHEET INDEX	
Sheet Number	Sheet Name
S001	STRUCTURAL GENERAL NOTES
S101	FIRST FLOOR FRAMING PLAN
S102	2ND FLOOR & ROOF FRAMING PLAN
S200	ENLARGED PLANS
S201	ENLARGED PLANS
S300	SECTIONS & DETAILS

Not to be used for anything



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N70 W5185 Columbia Road
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C4E Project #: 25193
IL DESIGN FIRM 184-00342

Maintenance
Building
Renovation

Capital Project
No. 2102

for



Rockford, Illinois

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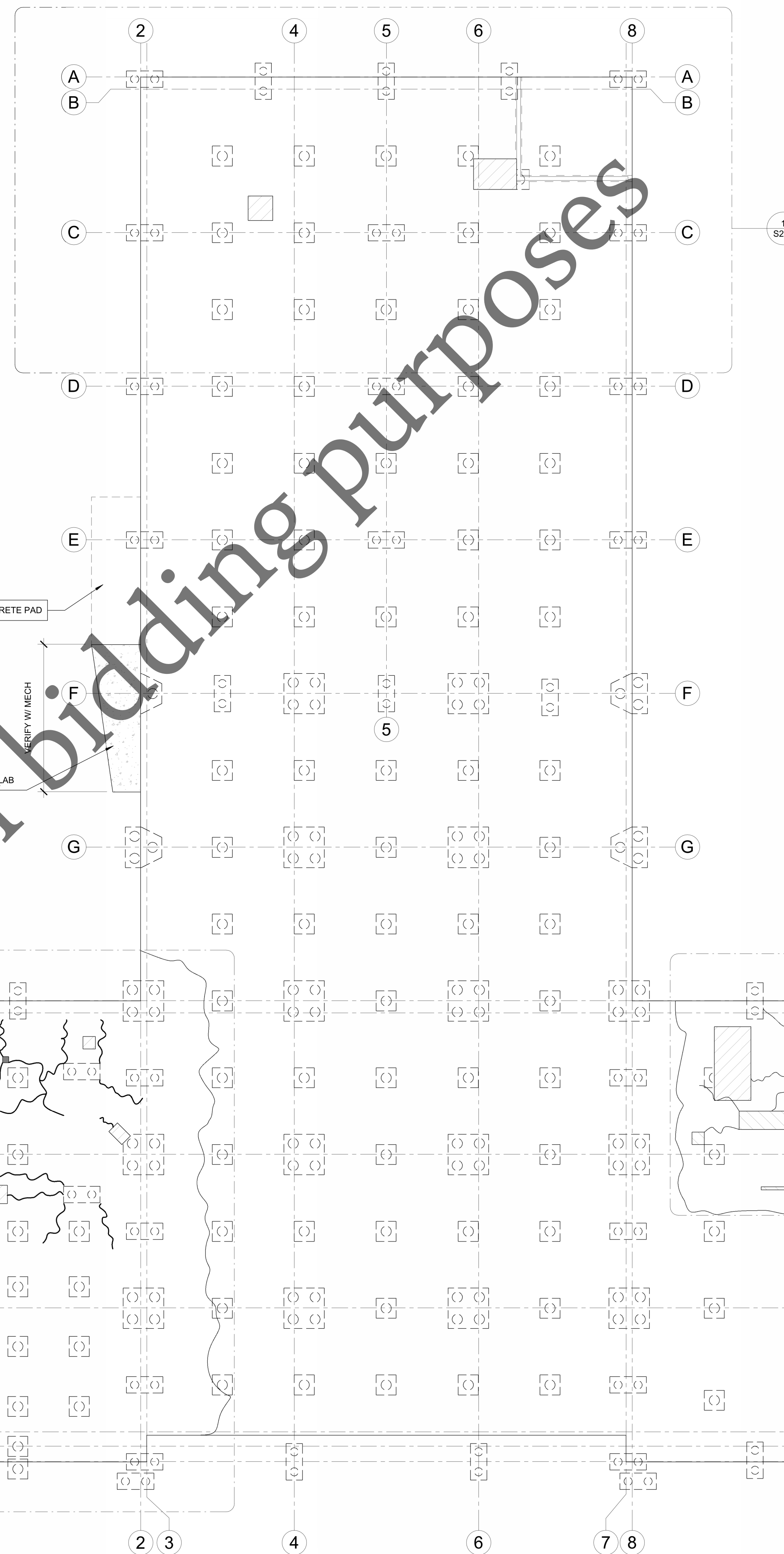
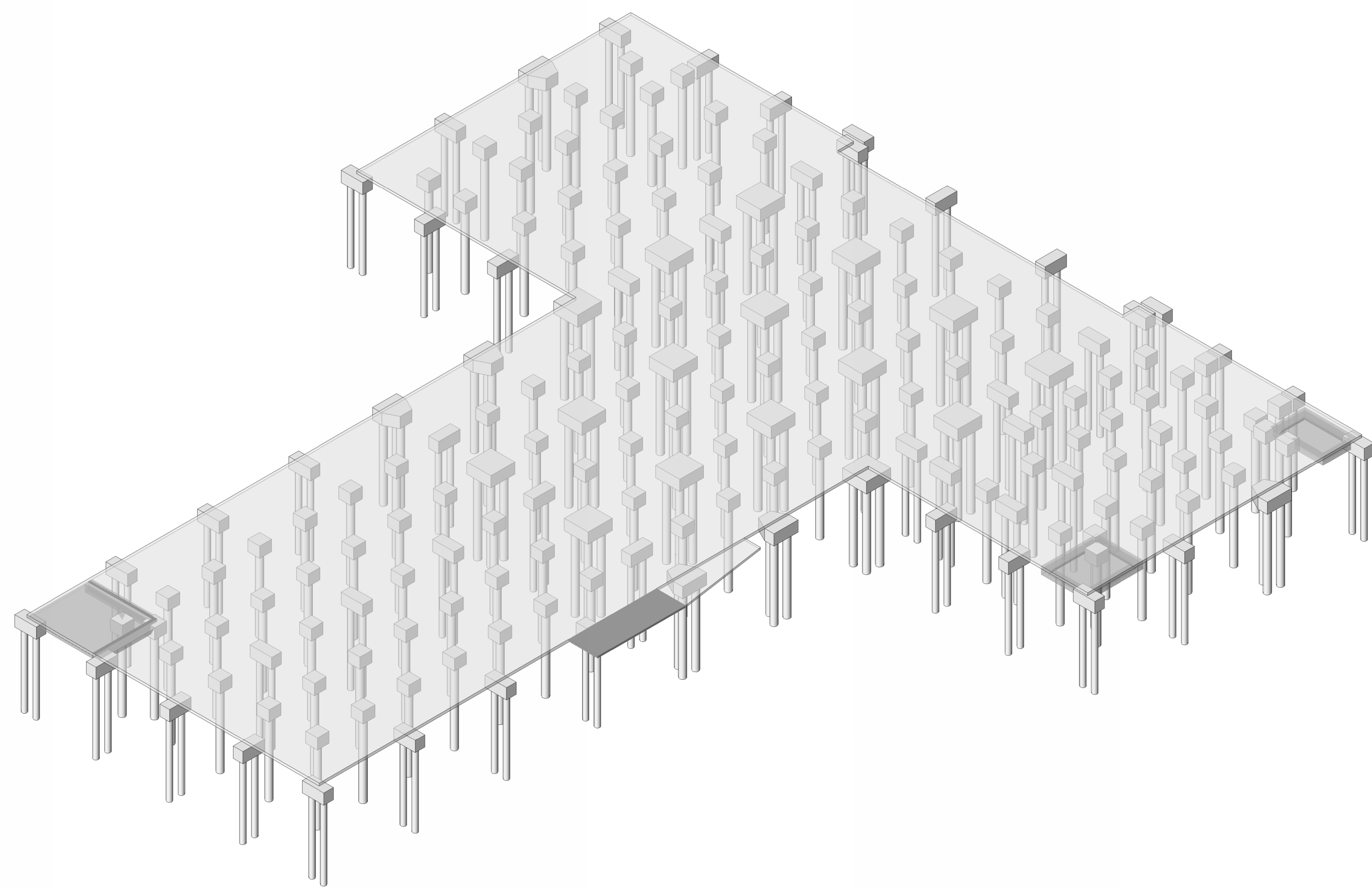
Project No. 2025-16
Project Number

Scale
3/32" = 1'-0"

Sheet Title
FIRST FLOOR FRAMING PLAN

Ref. North Sheet No.
S101

PROFESSIONAL DESIGN FIRM REGISTRATION #
184-003342



Not to be used for bidding purposes

FIRST FLOOR FRAMING PLAN
SCALE: 3/32" = 1'-0"

Maintenance
Building
Renovation

Capital Project
No. 2102

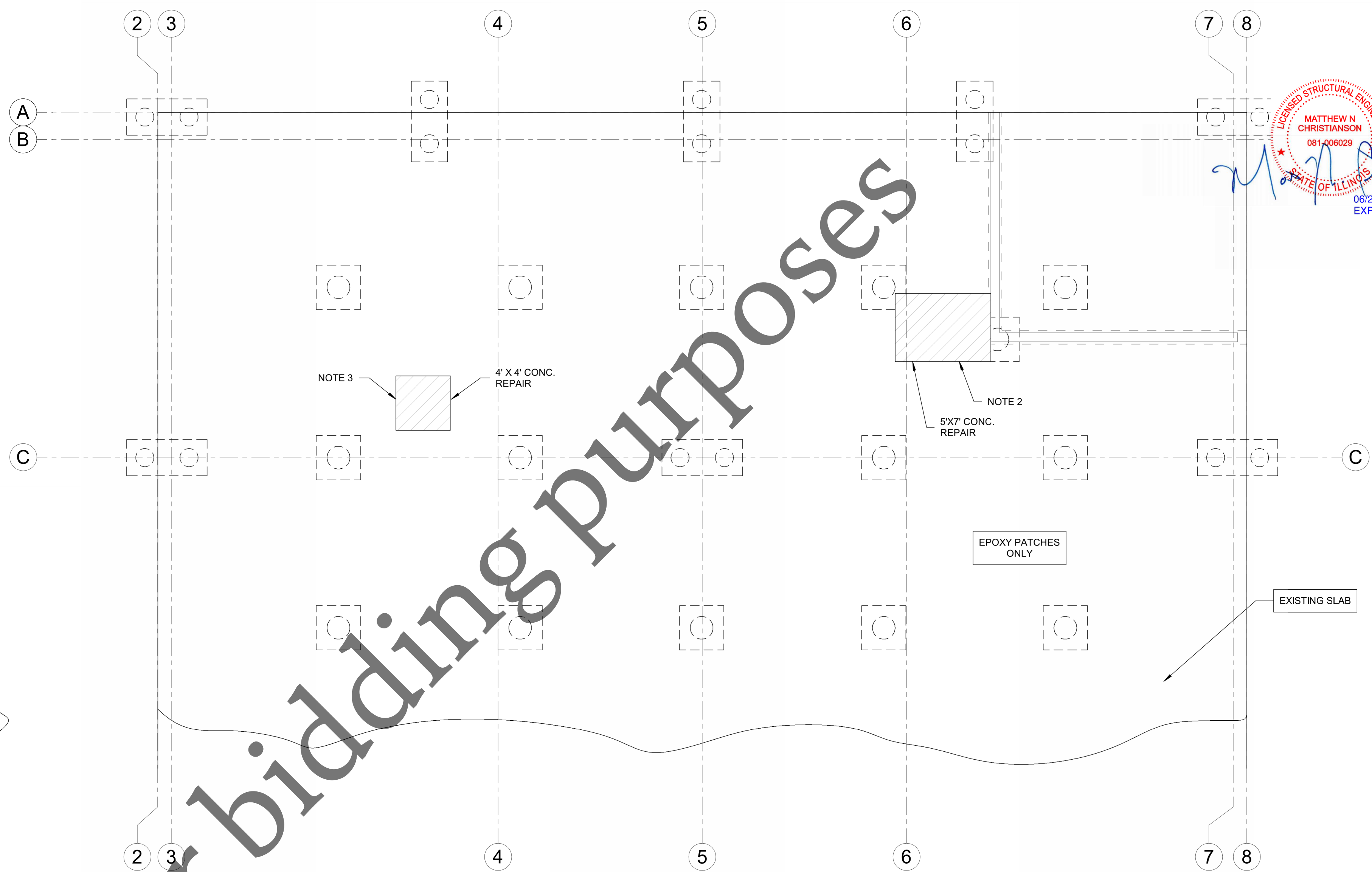


Rockford, Illinois

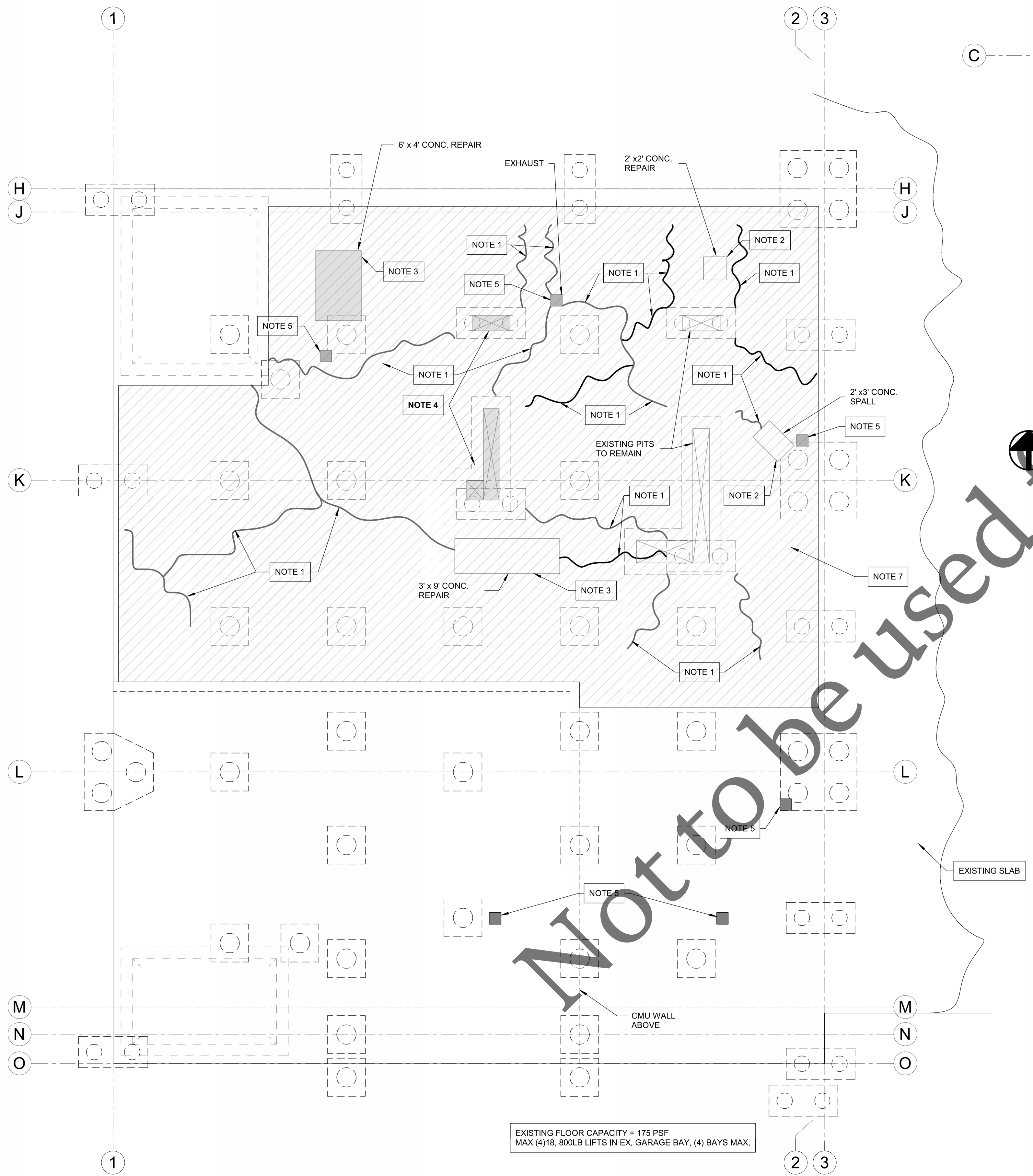
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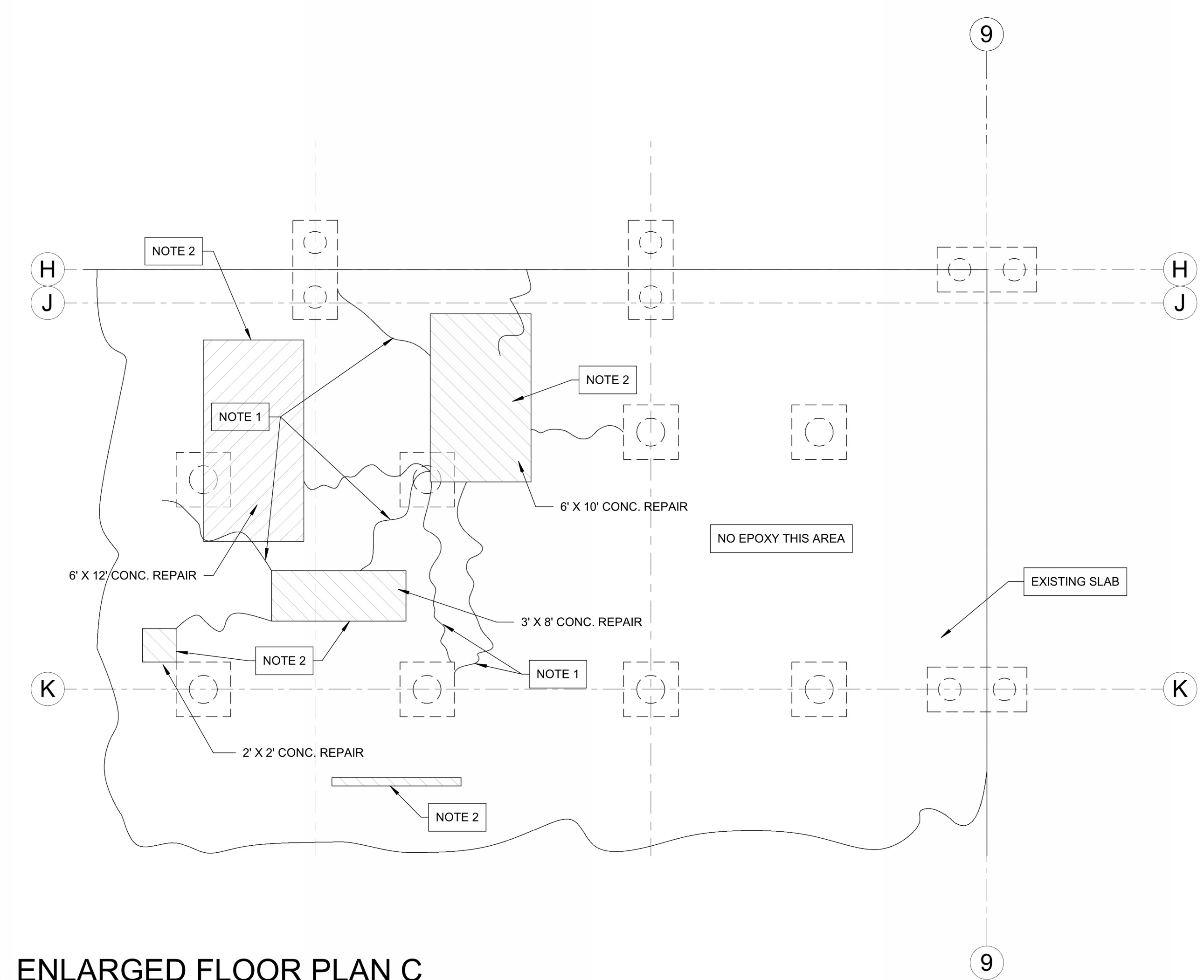
- PLAN NOTES**
- REPAIR FLOOR CRACKS PER DETAIL 1/S300.
 - REPAIR FLOOR SPALLS PER 2/S300.
 - REPAIR FLOOR WITH FULL DEPTH REPAIR PER 3/S300. GC TO PROVIDE UNIT PRICING.
 - INFILL EXISTING PITS WITH CRUSHED STONE AND 8" CONCRETE SLAB, DOWEL INTO EXISTING SLAB WITH #4 @ 24" OC. ALL COMPONENTS CAST INTO OR RECESSED IN FLOOR SHALL BE REMOVED AND THE FLOOR REPAIRED.
 - CONCRETE FULL DEPTH REPAIR, SEE 3/S300.
 - COORDINATE EXISTING EQUIPMENT TO BE TEMPORARILY MOVED W/ OWNER.
 - NEW EPOXY FLOOR COATING PER OWNER.



ENLARGED FLOOR PLAN A
SCALE: 3/16" = 1'-0"



ENLARGED FLOOR PLAN B
SCALE: 3/16" = 1'-0"



ENLARGED FLOOR PLAN C
SCALE: 3/16" = 1'-0"

EXISTING FLOOR CAPACITY = 175 PSF
MAX (4)18, 800LB LIFTS IN EX. GARAGE BAY, (4) BAYS MAX.

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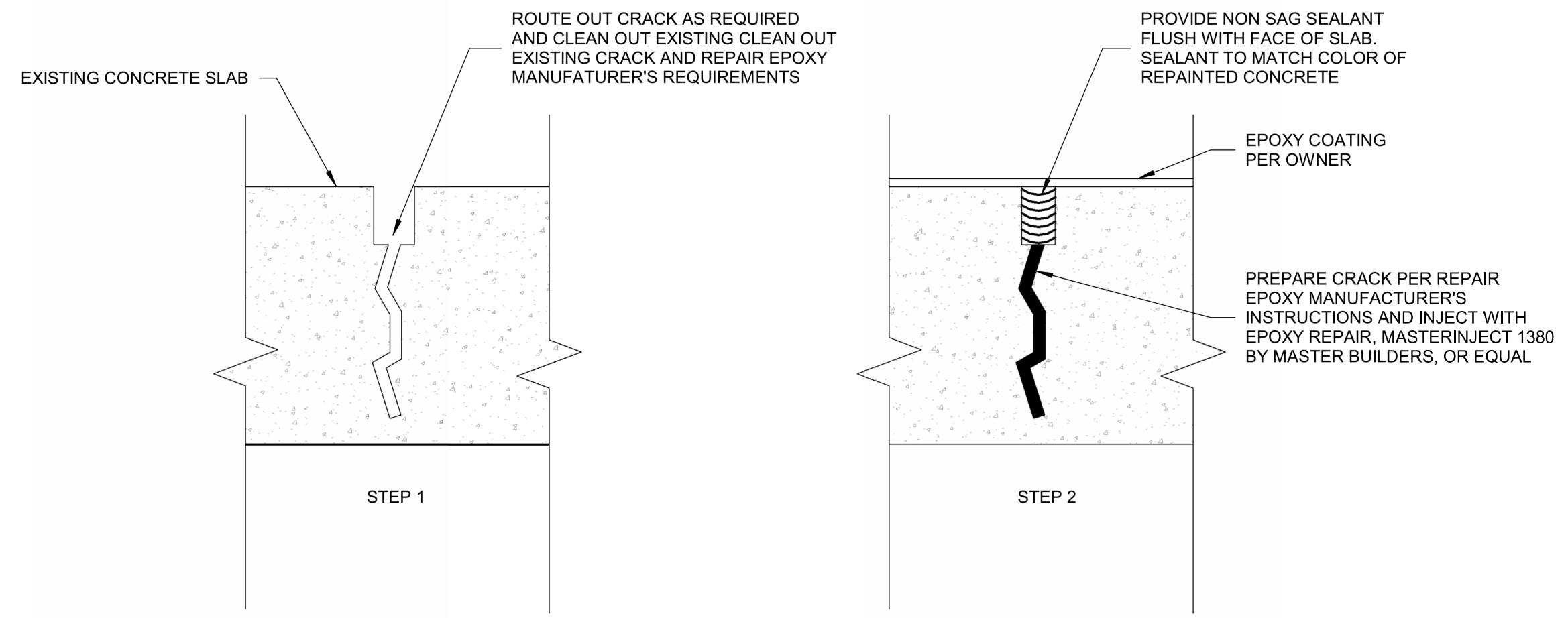
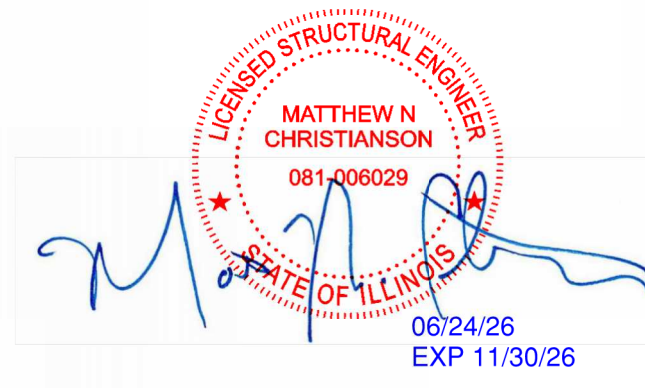
Project No. 2025-16
Project Number

Scale
As indicated

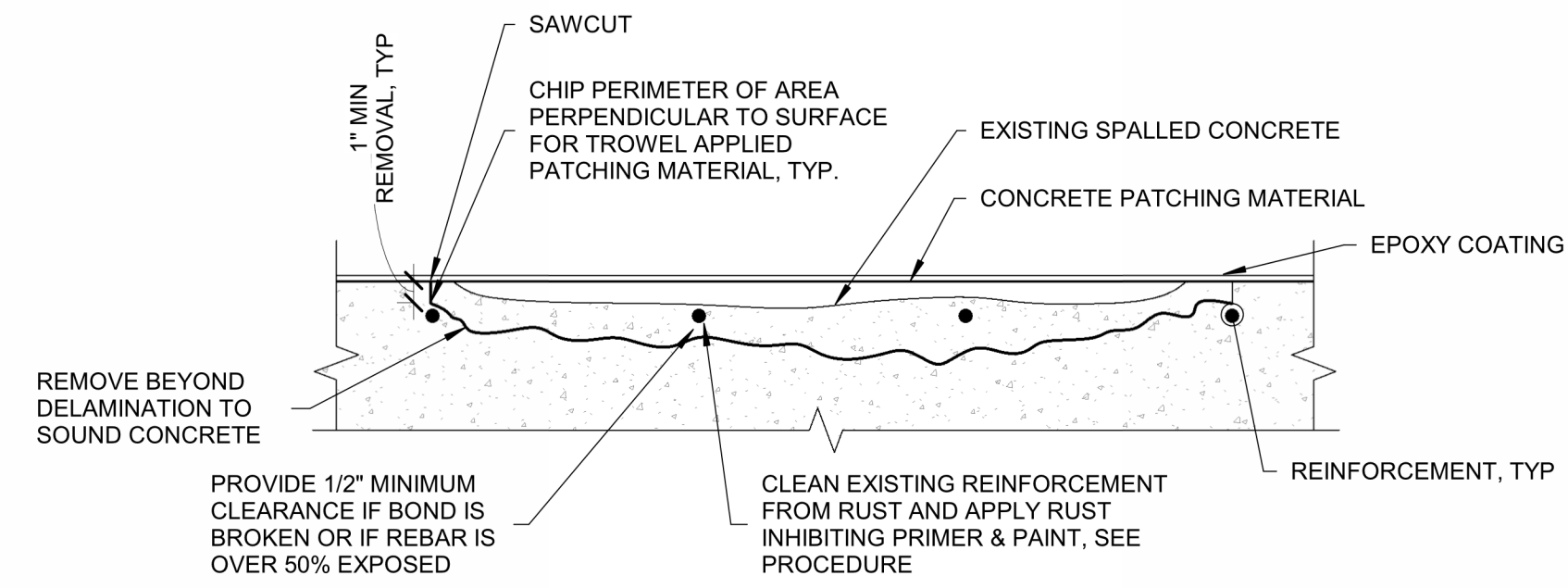
Sheet Title
ENLARGED PLANS

Ref. North Sheet No.
S200

PROFESSIONAL DESIGN FIRM REGISTRATION #
184-003342

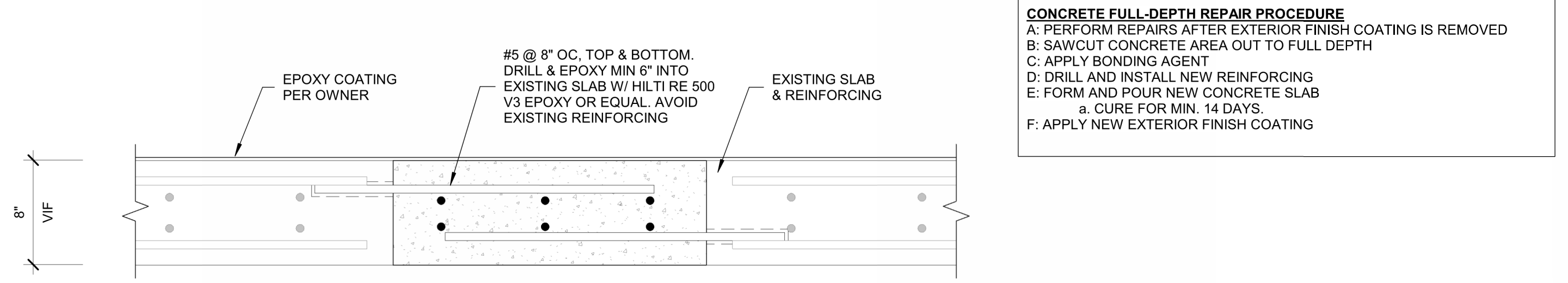


1 S300 CONCRETE FLOOR CRACK REPAIR
 SCALE: 3" = 1'-0"



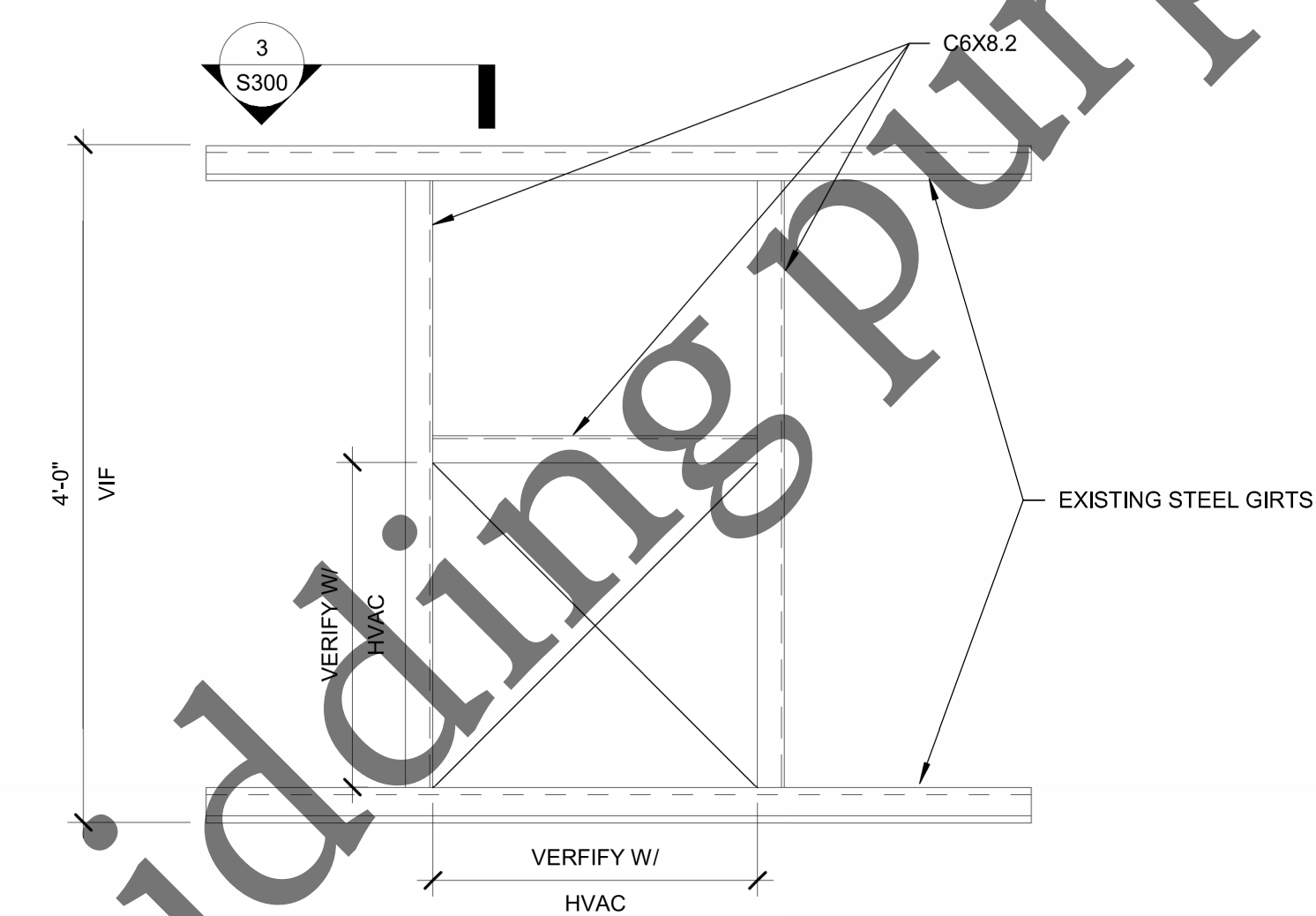
2 S300 CONCRETE FLOOR SPALL REPAIR
 SCALE: 1 1/2" = 1'-0"

CONCRETE SPALL REPAIR PROCEDURE
 A. PERFORM REPAIRS AFTER EXTERIOR FINISH COATING IS REMOVED
 B. REMOVE LOOSE CONCRETE
 a. REMOVE LOOSE AND BROKEN CONCRETE FROM THE AREA.
 b. SHOT BLASTING OR GRINDING WILL BE NEEDED FOR PROPER SURFACE PREPARATION.
 C. REMOVE A MINIMUM OF 1.0 INCHES DEEP OF CONCRETE AT THE PERIMETER OF THE SPALL AND CUT THE CONCRETE AT THE RECTANGULAR EDGES.
 d. TAP THE SURROUNDING AREA WITH HAMMER TO CHECK FOR POSSIBLE DETERIORATION, REMOVE AND NEWLY FOUND UNSOUND CONCRETE.
 e. ELIMINATE DUST AND DEBRIS USING PRESSURIZED AIR.
 C. CLEAN AND COATING CORRODED STEEL BARS
 a. EXPOSED REBAR REINFORCEMENT TO BE MECHANICALLY CLEANED/BLASTED TO REMOVE ANY CORROSION
 b. PRIME EXPOSED STEEL WITH DTM PRIMER, OR EQUAL, AND PAINTED WITH PPG PITT-TECH 90-708 RED INHIBITIVE PAINT, OR EQUAL.
 c. PATCHES DEEPER THAN 1" TO HAVE 1/2" DIAMETER STAINLESS STEEL DOWELS INSTALLED VERTICALLY @ 12" OC AND DRILLED & EPOXIED INTO EXISTING CONCRETE WITH HILTI RE 500 V3, OR EQUAL.
 d. HORIZONTAL REBAR TO BE TIED TO DOWELS
 D. APPLY BONDING AGENT
 E. APPLY REPAIR MATERIAL MIXTURE
 a. PATCHES TO BE FORMED AND POURED USING FLOWABLE MATERIAL, S300P-122 PLUS, OR EQUAL.
 b. THE AMBIENT TEMPERATURE SHALL BE ABOVE 40°F.
 c. FINISH TO MATCH EXISTING FINISHES.
 F. CURING
 a. CURE PER MANUFACTURER'S RECOMMENDATIONS.
 G. APPLY NEW EXTERIOR FINISH COATING

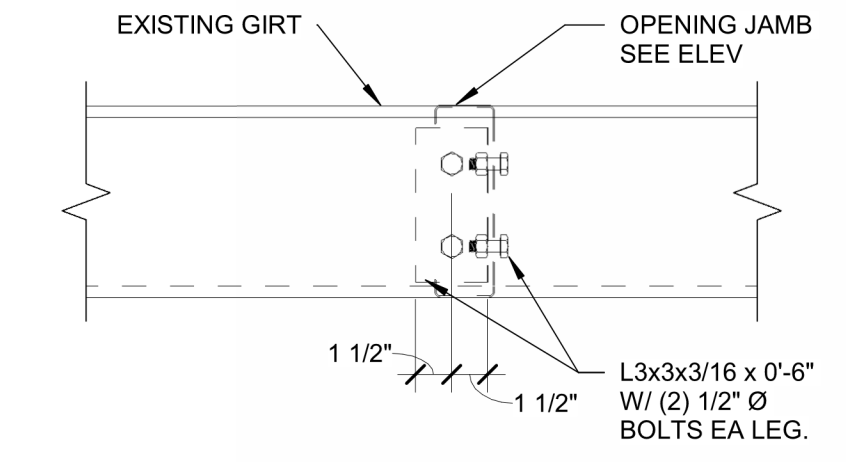


CONCRETE FULL-DEPTH REPAIR PROCEDURE
 A. PERFORM REPAIRS AFTER EXTERIOR FINISH COATING IS REMOVED
 B. SAWCUT CONCRETE AREA OUT TO FULL DEPTH
 C. APPLY BONDING AGENT
 D. DRILL AND INSTALL NEW REINFORCING
 E. FORM AND POUR NEW CONCRETE SLAB
 a. CURE FOR MIN. 14 DAYS.
 F. APPLY NEW EXTERIOR FINISH COATING

3 S300 CONCRETE FLOOR FULL DEPTH REPAIR
 SCALE: 1 1/2" = 1'-0"



4 S300 PEMB WALL OPENING ELEVATION
 SCALE: 1" = 1'-0"



5 S300 GIRT TO JAMB CONNECTION
 SCALE: 1 1/2" = 1'-0"

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Maintenance Building Renovation

Capital Project No. 2102



Rockford, Illinois

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Project No.	2025-16
Project Number	
Scale	As indicated
Sheet Title	SECTIONS & DETAILS
Ref. North	Sheet No. S300



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Mechanical, Electrical, Plumbing
Project Number 12417
Date: 2023-11-06
Scale: 1/8" = 1'-0"
Date: 2023-11-06

Maintenance Building Renovation

Capital Project No. 2102

for



Rockford, Illinois

THE CONTRACTOR SHALL DETERMINE EXACT DIMENSIONS AND CONDITIONS AT THE SITE PRIOR TO SUBMITTING A BID. THE CONTRACTOR SHALL COORDINATE ALL DRAWINGS WITH ACTUAL FIELD CONDITIONS PRIOR TO PROCEEDING WITH THE WORK AND NOTIFY THE ARCHITECT OF ANY DISCREPANCIES. THIS DRAWING IS THE PROPERTY OF BLAKEMORE ARCHITECTS AND MAY NOT BE REPRODUCED WITHOUT THE PRIOR WRITTEN PERMISSION OF THE ARCHITECT.

Table with 3 columns: NO., DATE, DESCRIPTION. Contains project milestones from 11-06-2025 to 06-30-2026.

MECHANICAL SPECIFICATIONS

- 1.0 PROVIDE EQUIPMENT, MATERIAL, AND LABOR NECESSARY TO COMPLETE MECHANICAL HVAC AND RELATED SYSTEMS AS INDICATED ON SPECIFICATIONS AND DRAWINGS. MECHANICAL CONTRACTOR SHALL PROVIDE EQUIPMENT, COMPONENTS, ACCESSORIES, AND REQUIRED FOR COMPLETELY OPERATIONAL MECHANICAL SYSTEMS.
1.1 GENERAL CONDITIONS AND GENERAL NOTES INDICATED WITH ARCHITECTURAL DRAWINGS AND SPECIFICATIONS SHALL BE OBSERVED AND COMPLIED WITH.
1.2 WORK SHALL BE CONSIDERED NEW UNLESS NOTED OTHERWISE.
1.3 VISIT SITE AND FIELD VERIFY PROJECT CONSTRUCTION CONDITIONS AND PROJECT SITE CONDITIONS PRIOR TO SUBMITTING BID.
1.4 VERIFY SCOPE AND RESPONSIBILITY OF WORK WITH OWNER AND GENERAL CONTRACTOR PRIOR TO SUBMITTING BID.
1.5 COMPLETELY OPERATIONAL HEATING, VENTILATING, AIR CONDITIONING AND EXHAUST SYSTEMS.
1.6 CSI SPECIFICATIONS TERM FOR PROVIDE SHALL MEAN FURNISH, SUPPLY, DELIVER, AND INSTALL, COMPLETE AND READY FOR INTENDED USE.
1.7 DEMOLITION, REMOVAL, AND ALTERATIONS OF EXISTING SYSTEMS AND EQUIPMENT AS REQUIRED, THOUGH NOT SPECIFICALLY INDICATED, TO ACCOMMODATE PROPOSED WORK.
2.0 COMPLIANCES, MATERIALS, WORKMANSHIP, AND INSTALLATIONS SHALL COMPLY WITH APPLICABLE BUILDING CODES, ORDINANCES, AND ADDENDA BY AUTHORITY HAVING JURISDICTION. WHERE ANY SCOPE OF WORK INDICATED DOES NOT ACHIEVE COMPLIANCE, IMMEDIATELY NOTIFY OWNER, GENERAL CONTRACTOR, ARCHITECT, AND ENGINEER.
2.1 INTERNATIONAL MECHANICAL CODE.
2.2 INTERNATIONAL FUEL GAS CODE.
2.3 INTERNATIONAL ENERGY CONSERVATION CODE.
2.4 ASHRAE.
2.5 SMACNA.
2.6 OSHA.
2.7 UL-LISTED.
2.8 AIA-GUIDELINES.
3.0 GUARANTEES, GUARANTEE WORK AND MATERIAL FOR 1-YEAR FROM DATE OF FINAL COMPLETION OF PROJECT. GUARANTEE AGAINST DEFECTS OF MATERIAL, EQUIPMENT, OR WORKMANSHIP. DEFECTS SHALL BE CORRECTED AT NO COST TO OWNER OR GENERAL CONTRACTOR DURING GUARANTEE PERIOD. REPAIRS OR REPLACEMENTS SHALL HAVE ADDITIONAL GUARANTEE FROM DATE OF REPAIR OR REPLACEMENT. THIS REQUIREMENT SHALL BE ENFORCED REGARDLESS OF ANY GUARANTEE EXCLUSIONS INDICATED BY MANUFACTURERS. SUBMIT TO OWNER AND GENERAL CONTRACTOR MANUFACTURERS WRITTEN CERTIFICATES OF WARRANTY COMPLYING WITH REQUIREMENTS OF SPECIFICATIONS AND DRAWINGS.
4.0 LABOR: LABOR SHALL BE PERFORMED CONSISTENT WITH PROJECT SCHEDULE AND SATISFACTION OF OWNER, GENERAL CONTRACTOR, ARCHITECT, AND ENGINEER. WORK AND INSTALLATIONS SHALL BE FIRST-CLASS NEAT WORKMANLIKE MANNER AND PERFORMED BY SKILLED TRADES.
5.0 PERMITS AND INSPECTIONS: APPLY, PROCURE, AND PAY FOR PERMIT WORK AS REQUIRED. APPLY, PROCURE, AND PAY FOR INSPECTIONS AS REQUIRED.
6.0 DRAWINGS: VERIFY WORK WITH CURRENT DRAWINGS FROM ARCHITECTS, OWNER, GENERAL CONTRACTOR, SUBCONTRACTORS, VENDORS, AND OTHER TRADES. WORK SHALL BE COORDINATED WITH ARCHITECT, OWNER, GENERAL CONTRACTOR, SUBCONTRACTORS, VENDORS, AND OTHER TRADES.
6.1 GENERAL CONTRACTOR CONDITIONS, SUPPLEMENTARY CONDITIONS, AND GENERAL REQUIREMENTS SHALL BE WITHIN SCOPE OF WORK.
6.2 DRAWINGS AND DIAGRAMS ARE SCHEMATIC. SPECIFIC LOCATIONS AND ROUTING OF EQUIPMENT, DUCTWORK, AND PIPING TO BE COORDINATED WITH GENERAL CONTRACTOR AND OTHER TRADES.
6.3 RESPONSIBILITY FOR CONFORMITY WITH REQUIREMENTS OF SPECIFICATIONS AND DRAWINGS, INCLUDING PROPERLY SUPPLIED, INSTALLED, AND ASSEMBLED PARTS.
6.4 REFERENCE DRAWINGS FOR LAYOUTS AND VERIFY DRAWINGS TO COORDINATE WITH OTHER TRADES FOR INSTALLATIONS, PROVIDE ACCESS AND CLEARANCES FOR PERSONNEL AND MAINTENANCE. IF INADEQUATE ACCESS OR CLEARANCES, THEN NOTIFY ARCHITECT, GENERAL CONTRACTOR, AND ENGINEER PRIOR TO INSTALLATION.
6.5 DRAWINGS SHALL BE FOR BIDDING ONLY. ROUGH-IN AND FINAL CONNECTIONS SHALL BE PROVIDED ONLY FROM APPROVED EQUIPMENT OR APPROVED EQUIPMENT MANUFACTURER RECOMMENDATIONS.
6.6 DRAWINGS SHALL NOT BE SCALED.
7.0 SUBSTITUTIONS: PROPOSAL PRICE SHALL INCLUDE SPECIFIED MATERIAL ONLY. SHOULD SUBSTITUTION BE REQUESTED, THEN SUBSTITUTIONS FOR SPECIFIED EQUIPMENT ARE ACCEPTABLE IF APPROVED IN WRITING BY OWNER, GENERAL CONTRACTOR, ARCHITECT, OR ENGINEER.
8.0 COORDINATION: RESPONSIBLE TO COORDINATE AND ELIMINATE CONFLICTS WITH OTHER TRADES AND OTHERS WORK. COORDINATE WITH OTHER TRADES AS REQUIRED FOR CLEARANCES, CHASES, RECESSES, AND OPENINGS.
9.0 CUTTING: WORK INCLUDES ANY CUTTING, PATCHING, TRENCHING, AND BACKFILLING FOR REQUIRED WORK, UNLESS NOTED OTHERWISE. SHALL NOT CUT OR PENETRATE ANY STRUCTURAL MEMBER OR STRUCTURAL WORK.
10.0 FIRE STOP: PENETRATIONS THROUGH FIRE-RATED ASSEMBLIES SHALL BE FILLED WITH FIRESTOP PRODUCT. COORDINATE WITH GENERAL CONTRACTOR FOR SCOPE OF FIRE-STOPPING FOR OPENINGS AND AROUND PENETRATIONS THROUGH FIRE-RATED ASSEMBLIES. FIRE-STOPPING SHALL MATCH OR EXCEED FIRE RATING OF OPENINGS AND PENETRATIONS. PROVIDED IN ACCORDANCE WITH UL-LISTED ASSEMBLY REQUIREMENTS. SUBMIT FIRESTOP PRODUCT MATERIAL SPECIFICATIONS TO LOCAL AUTHORITIES HAVING JURISDICTION.
11.0 SUPPORTS: PROVIDE NECESSARY STRUCTURAL SUPPORTS, BRACING, FRAMING, AND HANGERS FOR EQUIPMENT, COMPONENTS, AND ACCESSORIES AS REQUIRED FOR MOVING, RIGGING, AND INSTALLING. SUPPORTS SHALL HAVE VIBRATION-ISOLATION WHEN MOUNTING AT ROTATING, MOTORS, OR VIBRATING EQUIPMENT.
12.0 CLEANUP: CLEANUP AND REMOVAL OF DEBRIS, MATERIAL, OR RUBBISH CAUSED BY THIS TRADE WORK. MATERIAL SHALL BE REMOVED FROM JOB SITE DAILY, OR AS REQUESTED BY OWNER, GENERAL CONTRACTOR, ARCHITECT, OR ENGINEER.
13.0 PROTECTION: PROTECT THIS TRADE EQUIPMENT, MATERIAL, AND WORK FROM DAMAGE AND POTENTIAL DAMAGE.
14.0 ADA: VERIFY REQUIREMENTS RELATED TO AMERICANS WITH DISABILITIES ACT (ADA) AS APPLICABLE TO WORK AND WORK AREAS. PROVIDE ANY MODIFICATIONS REQUIRED FOR WORK TO COMPLY WITH ADA REQUIREMENTS.
15.0 TEMPORARY HVAC: PROVIDE TEMPORARY HEATING AND COOLING AIR CONDITIONING REQUIREMENTS DURING CONSTRUCTION. NO NEW HVAC EQUIPMENT SHALL BE UTILIZED FOR TEMPORARY HVAC CONDITIONING, UNLESS AUTHORIZED BY EQUIPMENT MANUFACTURER TO NOT VOID WARRANTIES.
16.0 COMMISSIONING: PROJECT SHALL HAVE COMMISSIONING BY CERTIFIED COMMISSIONING AGENT. MATERIAL, EQUIPMENT, AND WORK SHALL BE INCLUDED WITH WORK. COMMISSIONING AGENT SHALL PROVIDE COMPLETE COMMISSIONING REPORTS DEMONSTRATING COMPLIANCE WITH IECC SECTION C409.2 PRIOR TO FINAL MECHANICAL SYSTEMS INSPECTION.
17.0 PIPING:
17.1 GAS: GAS PIPING SHALL BE SCHEDULE 40 ASTM A53 TYPE B BLACK STEEL WITH METALLIC FITTINGS. PROVIDE GAS VALVE, UNION, AND DIRT LEG (AND REGULATOR AS REQUIRED) AT EACH CONNECTION. GAS PIPING IN CONCEALED LOCATIONS SHALL HAVE BURIED FITTINGS. PIPING LARGER THAN 2" OR EXCEEDING 5 PSI SHALL BE WELDED. TEST GAS PIPING AT 1-1/2 TIMES MAXIMUM PRESSURE, BUT NOT LESS THAN 3 PSIG, AND REPAIR LEAKS AS REQUIRED. AND RETEST. GAS PIPING SHALL BE PAINTED YELLOW COLOR AND MARKED "GAS" WITH BLACK COLOR.
17.2 CONDENSATE: CONDENSATE DRAIN LINES, DRAWN-TEMPER COPPER TUBING WITH SOLDERED JOINTS OR PVC PIPE WITH SOLVENT-WELDED JOINTS.
17.3 REFRIGERATION: PIPING SHALL BE DEHYDRATED AND CAPPED ACR COPPER WITH WROUGHT COPPER FITTINGS. JOINTS SHALL BE SILFOF. EXCEPT AT VALVES AND OTHER EQUIPMENT DAMAGED BY HIGH TEMPERATURES WHERE 90-5 SOLDER SHALL BE INSTALLED. PIPING JOINTS SHALL BE BRAZED. REMOVE EXPANSION VALVE, DEVICES AND CONNECTIONS FROM AIR STREAM. PRESSURE RELIEF VALVE ON HIGH PRESSURE SIDE OF STREAM, UPSTREAM OF ANY INTERVENING VALVES.
18.0 PIPE INSULATION: INSULATION SHALL HAVE FLAME SPREAD RATING NOT TO EXCEED 25 AND SMOKE DEVELOPED RATING NOT TO EXCEED 50, PER ASTM E84.
18.1 REFRIGERATION INSULATION: REFRIGERATION PIPING SHALL NOT BE INSULATED PER MANUFACTURERS GUIDELINES OR MINIMUM OF 1" THICK INSULATION AROUND SUCTION AND LIQUID PIPING. 1-1/2" THICK INSULATION FOR 2" PIPING AND LARGER SIZES.
18.2 AIR DISTRIBUTION (DUCTWORK): DUCTWORK SHALL BE FABRICATED FROM GALVANIZED SHEET METAL, IN ACCORDANCE WITH AMERICAN SOCIETY FOR HEATING, REFRIGERATING AND AIR CONDITIONING ENGINEERS (ASHRAE) STANDARDS AND SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION (SMACNA) STANDARDS. DUCTWORK SHALL BE SUPPORTED AND SECURED FROM BUILDING CONSTRUCTION. FREE FROM VIBRATION. DUCT SIZES SHOWN ON DRAWINGS INDICATE CLEAR-INSIDE DIMENSIONS. DIMENSIONS DO NOT ACCOUNT FOR INSULATION THICKNESS.
19.1 DUCTS SHALL BE SEALED TO PRESSURE CLASS-A WITH MECHANICAL JOINTS AND ADHESIVE SEALANT. REFERENCE SMACNA STANDARDS DUCTWORK GAUGE FOR ASSOCIATED DUCTWORK SIZES.
19.2 SEALANT MANUFACTURERS TO BE DURO DYNE, HB FILLER, HARDCAST, OR EQUAL. SUPPLY AIR DUCTS SHALL HAVE MANUALLY OPERATED VOLUME CONTROLLER OR SPLITTER DAMPERS IN DUCT BRANCHES FOR PROPER BALANCING OF AIR HANDLING SYSTEMS. DAMPERS ABOVE INACCESSIBLE CEILINGS SHALL HAVE EXTENDED ARMS OR REMOTE OPERATORS. DAMPERS SPECIFIED WITH AIR DEVICES SHALL NOT REPLACE DAMPERS IN BRANCH DUCTWORK.
19.3 DUCTWORK SHALL BE SUSPENDED AS HIGH AS POSSIBLE FOR MAXIMUM HEIGHTS AND CLEARANCES FROM EQUIPMENT, UNLESS NOTED OTHERWISE.
19.4 EXPOSED DUCTWORK SHALL BE GALVANIZED SPIRAL WITH CLEAN SURFACE FOR PAINTING.
19.5 FLEXIBLE DUCTWORK AND CONNECTIONS SHALL NOT EXCEED 5-FEET AND SHALL BE INSULATED WITH VAPOR BARRIER. MANUFACTURERS TO BE ANKO PRODUCTS, HARTH-COOLEY, TUTTLE-BAXLEY, OR EQUAL.
19.6 REFERENCE SMACNA STANDARDS DUCTWORK SUPPORTS, HANGERS, FASTENERS AND METHODS FOR ASSOCIATED DUCTWORK SIZES. DUCTWORK SUPPORTS TO BE STEEL, THREADED RODS ASTM A36. MAXIMUM 10-FOOT SPACING FOR 30" WIDE OR SMALLER DUCTS, 8-FOOT SPACING FOR LARGER DUCTS.
20.0 DUCTWORK INSULATION: DUCT SIZING SHOWN ON DRAWINGS INDICATE CLEAR-INSIDE DIMENSIONS. DIMENSIONS DO NOT ACCOUNT FOR INSULATION THICKNESS. INSULATION SHALL BE WRAPPED TIGHT WITH JOINTS BUTTED AND SEALED AND BE SECURED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS. INSULATION SHALL HAVE FLAME SPREAD RATING NOT TO EXCEED 25 AND SMOKE DEVELOPED RATING NOT TO EXCEED 50, PER ASTM E84. MANUFACTURERS TO BE JOHNS MANSVILLE, CERTAINTED, OWENS CORNING, OR EQUAL.
20.1 EXTERNALLY INSULATE (WRAP) - CONDITIONED SPACES. SUPPLY AND RETURN DUCTS INSIDE BUILDING ENVELOPE SHALL HAVE EXTERNAL WRAP BLANKET TYPE FIBERGLASS INSULATION WITH FACTORY APPLIED FIBERGLASS REINFORCED ALUMINUM FOIL FACING AND THERMAL VALUE OF R-4 OR GREATER AT 75 DEG F.
21.0 AIR DEVICES: AIR DEVICES SHALL HAVE AIR FLOW INDICATED AND CONNECTING DUCT SIZE WITH NOISE CRITERIA RATING 25 MAXIMUM. FINISHED SHALL BE SELECTED AND APPROVED BY ARCHITECT. AIR DEVICES SHALL BE COORDINATED WITH ARCHITECTURAL REFLECTED CEILING PLANS, AND EXISTING CONDITIONS WHERE APPLICABLE. VERIFY LAYIN CEILING GRID TYPE WITH ARCHITECTURAL DRAWINGS.
22.0 CONTROL DAMPERS: CONTROL DAMPERS SHALL BE GALVANIZED STEEL LOW-LEAKAGE TYPE WITH OPENING SIZES AS INDICATED OR REQUIRED. PROVIDE MANUAL OPERATORS OR MOTORIZED ACTUATORS AS INDICATED OR REQUIRED.
23.0 LOUVERS: LOUVERS SHALL BE 4" DEEP ALUMINUM STATIONARY AND SELF-DRAINING WITH OPENING SIZES AS INDICATED ON DRAWINGS. PAINTED AND FINISH SHALL BE SELECTED BY ARCHITECT.
24.0 CURBS: ROOF CURBS AND ROOF EQUIPMENT SUPPORTS SHALL BE INSULATED AND GALVANIZED STEEL SHELLS WITH SEALED NAELERS AND END COUNTERFLASHING.
25.0 PORTALS: PIPING SHALL PENETRATE ROOF THROUGH PORTAL CURB WITH INSULATED EPDM PORTAL WITH PIPE PENETRATION SLEEVES AND EPDM BOOT WITH ADJUSTABLE STAINLESS STEEL BANDS.
26.0 ACCESS: PROVIDE 12"x12" MINIMUM ACCESS DOOR AT EACH 90 DEGREE TURN FOR INLINE FANS, FILTER SECTIONS, AND DAMPERS, INCLUDING, BUT NOT LIMITED TO, MOTORIZED, FIRE, AND SMOKE. ACCESS DOOR SHALL BE AIR TIGHT WITH HAND-TURN LOCKING DEVICES. COORDINATE LOCATIONS WITH ARCHITECTURAL DRAWINGS, OTHER TRADES, CEILINGS, AND FIELD INSPECTORS.

KEY NOTES

- 1. CEILING REPLACEMENT: EXISTING CEILING TO BE REMOVED AND REPLACED - REFERENCE ARCHITECTURAL DRAWINGS FOR SCOPE OF WORK. PROVIDE SUPPORTS AS REQUIRED FOR EXISTING MECHANICAL HVAC EQUIPMENT TO REMAIN AND BE REUSED. COORDINATE WITH GENERAL CONTRACTOR.
2. (DEMO EXISTING) HVAC UNIT: DISCONNECT, REMOVE, AND DISPOSE EXISTING HVAC UNIT AND ASSOCIATED EQUIPMENT. DISCONNECT AND CAP EXISTING ABANDONED EQUIPMENT AND SEAL WEATHERTIGHT, INCLUDING, BUT NOT LIMITED TO, WALL OR ROOF OPENINGS AND PIPES. FIELD VERIFY EXISTING EQUIPMENT, CONDITIONS, AND LOCATIONS. COORDINATE WORK WITH EXISTING EQUIPMENT, EXISTING CONDITIONS, AND OTHER TRADES.
3. (DEMO EXISTING) AIR DEVICES: DISCONNECT, REMOVE, AND DISPOSE EXISTING AIR DEVICES AND ASSOCIATED EQUIPMENT. MAKE READY FOR REPLACEMENT AIR DEVICES. FIELD VERIFY EXISTING EQUIPMENT, CONDITIONS, AND LOCATIONS. COORDINATE WITH EXISTING EQUIPMENT, EXISTING CONDITIONS, AND OTHER TRADES.
4. (DEMO EXISTING) DUCTWORK: DISCONNECT, REMOVE, AND DISPOSE EXISTING DUCTWORK AND ASSOCIATED EQUIPMENT. MAKE READY FOR REPLACEMENT DUCTWORK. FIELD VERIFY EXISTING EQUIPMENT, CONDITIONS, AND LOCATIONS. COORDINATE WORK WITH EXISTING EQUIPMENT, EXISTING CONDITIONS, AND OTHER TRADES.
5. (DEMO (FLUES)) DISCONNECT, REMOVE, AND DISPOSE EXISTING HVAC UNIT FLUES AND ASSOCIATED EQUIPMENT. MAKE READY FOR REPLACEMENT FLUES. FIELD VERIFY EXISTING EQUIPMENT, CONDITIONS, AND LOCATIONS. COORDINATE WORK WITH EXISTING EQUIPMENT, EXISTING CONDITIONS, AND OTHER TRADES.
6. (REPLACEMENT) FURNACE AND CONDENSING UNIT: PROVIDE REPLACEMENT FURNACE AND CONDENSING UNIT AS SHOWN ON SCHEDULE. DISCONNECT, REMOVE, AND DISPOSE OF EXISTING EQUIPMENT. PROVIDE UNIT BASE SUPPORTS FOR LEVEL AND PLUMB MOUNTING. PROVIDE DUCTWORK CONNECTIONS AS REQUIRED. PROVIDE RETURN AIR STUB WITH WIREMESH COVER. PROVIDE CONDENSATE DRAIN PIPING TO ABOVE EXISTING DRAIN. COORDINATE WITH EXISTING CONDITIONS, OTHER TRADES, AND ARCHITECTURAL DRAWINGS.
7. (REPLACEMENT) AIR DEVICES: PROVIDE REPLACEMENT AIR DEVICES AS SHOWN ON SCHEDULE. COORDINATE WITH EXISTING EQUIPMENT, CONDITIONS, AND OTHER TRADES.
8. (EXISTING) EF: EXISTING EXHAUST FAN UNIT TO REMAIN AND BE REUSED. FIELD VERIFY EXISTING EQUIPMENT, CONDITIONS, AND LOCATIONS. PROVIDE HVAC UNIT SERVICE. REFERENCE HVAC UNIT SERVICE NOTES. PROVIDE DUCTWORK CONNECTIONS FROM UNIT TO DUCTWORK SIZES SHOWN ON PLANS. COORDINATE WORK WITH OTHER DESIGN DRAWINGS AND OTHER TRADES. REBALANCED TO TOTAL AIR RATE.
9. (EXISTING) DUCTWORK CLEANING: EXISTING DUCTWORK TO REMAIN AND BE REUSED SHALL BE CLEANED. PROVIDE DUCTWORK CLEANING AND COORDINATE WITH GENERAL CONTRACTOR AND OTHER TRADES.
10. ERV: PROVIDE PACKAGED ENERGY RECOVERY VENTILATOR AS SHOWN ON SCHEDULE. PROVIDE FLOOR VIBRATION-ISOLATION PADS FOR LEVEL AND PLUMB MOUNTING. PROVIDE DUCTWORK CONNECTIONS AS REQUIRED. COORDINATE WITH EXISTING CONDITIONS, OTHER TRADES, AND OTHER EQUIPMENT.
11. FURNACE: PROVIDE FURNACE UNIT AS SHOWN ON SCHEDULE. PROVIDE UNIT, EVAPORATE COIL, ECONOMIZER MIXING BOX, FILTER SLEEVE, VIBRATION-ISOLATION FLOOR PADS, AND DUCTWORK. PROVIDE INTAKE AIR ECONOMIZER-RETURN AIR DAMPERS ASSEMBLY AND CONNECTIONS. PROVIDE DUCTWORK CONNECTIONS FROM UNIT TO DUCTWORK SIZES SHOWN ON PLANS. PROVIDE CONDENSATE DRAIN PIPING TO ABOVE FLOOR DRAIN.
12. FURNACE FLUE AND COMBUSTION: PROVIDE FLUE AND COMBUSTION PIPING FROM FURNACE UNIT THROUGH WALL WITH CONCENTRIC KIT. PROVIDE VENTING CONNECTIONS, ROOFING PENETRATION, FLASHING, SUPPORT, AND TERMINATION. OUTLET SHALL BE 15'-0" MINIMUM FROM ANY AIR INTAKE. COORDINATE WITH EXISTING CONDITIONS, OTHER TRADES, ARCHITECTURAL DRAWINGS, AND STRUCTURE.
13. INTAKE LOUVER: PROVIDE WALL LOUVER FOR INTAKE AIR VENTILATION AS SHOWN ON SCHEDULE. PROVIDE WALL OPENING, FLASHING, SUPPORT, AND WEATHERTIGHT SEAL. INLET SHALL BE 15'-0" MINIMUM FROM ANY AIR OUTLET/FLUE. COORDINATE WITH EXISTING CONDITIONS, OTHER TRADES, ARCHITECTURAL DRAWINGS, AND WALL STRUCTURE.
14. (EXISTING) OA ROOF VENTILATOR: EXISTING ROOF VENTILATOR FOR INTAKE AIR VENTILATION TO REMAIN AND BE REUSED. PROVIDE MAINTENANCE CLEAN-AND-CHECK SERVICE. PROVIDE NEW/REPLACEMENT DUCTWORK CONNECTIONS AS REQUIRED. PROVIDE REPLACEMENT CONTROL ACTUATOR FOR DAMPERS.
15. OA DUCT: PROVIDE DUCTWORK CONNECTION TO EXISTING OUTSIDE AIR INTAKE WITH SIZES INDICATED. FIELD VERIFY EXISTING EQUIPMENT AND CONDITIONS. PROVIDE EQUIPMENT REQUIRED FOR CONNECTIONS AND TRANSITS.
16. CU: PROVIDE CONDENSING UNIT AS SHOWN ON SCHEDULE. LOCATE UNIT ON CONCRETE WITH SUPPORT BRACES FOR LEVEL AND PLUMB MOUNTING. VERIFY REQUIREMENTS WITH MANUFACTURERS RECOMMENDATIONS. COORDINATE WITH CONCRETE CONDITIONS, OTHER TRADES, ARCHITECTURAL DRAWINGS, AND CIVIL ENGINEERING DRAWINGS.
17. ALTERNATE BID - HEAT PUMP UNITS: SUBMIT SEPARATE ALTERNATE BID TO PROVIDE HEAT PUMP UNITS RATHER THAN STANDARD COOLING-ONLY CONDENSING UNITS. SEER TO MATCH CONDENSING UNITS SHOWN ON SCHEDULE.
18. REFRIGERATION PIPING: PROVIDE REFRIGERATION PIPING AND CONTROL WIRING FROM AIR HANDLING UNIT TO CONDENSING UNIT. PROVIDE WALL PORTAL, PENETRATION, INSULATION, AND WEATHERTIGHT SEAL. COORDINATE WITH OTHER DESIGN DRAWINGS, OTHER TRADES, AND ARCHITECTURAL DRAWINGS.
19. MAU: PROVIDE MAKEUP AIR UNIT AS SHOWN ON SCHEDULE. PROVIDE UNIT, INLET AIR PLENUM, FILTER SLEEVE, VIBRATION-ISOLATION FLOOR PADS, AND DUCTWORK. PROVIDE INTAKE AIR TRANSIT. FIELD VERIFY EXISTING EQUIPMENT, CONDITIONS, AND LOCATIONS. PROVIDE DUCTWORK CONNECTIONS FROM UNIT TO DUCTWORK SIZES SHOWN ON PLANS.
20. MAU FLUE AND COMBUSTION: PROVIDE FLUE VENTING FROM MAU THROUGH ROOF WITH TERMINATION KIT. PROVIDE VENTING, CONNECTIONS, ROOFING PENETRATION, FLASHING, SUPPORT, AND TERMINATION. OUTLET SHALL BE 15'-0" MINIMUM FROM ANY AIR INTAKE. COORDINATE WITH EXISTING CONDITIONS, OTHER TRADES, ARCHITECTURAL DRAWINGS, AND STRUCTURE.
21. MAU DUCTWORK: PROVIDE MAU DUCTWORK CONNECTIONS TO EXISTING SUPPLY AIR DUCTWORK. COORDINATE WITH EXISTING CONDITIONS, EXISTING EQUIPMENT, AND OTHER TRADES.
22. MAU SUPPLY DUCTWORK: PROVIDE MAU SUPPLY AIR DUCTWORK THROUGH WALL MOUNTED SPIRAL DUCTWORK FOR MAKEUP AIR UNIT. COORDINATE WITH EXISTING CONDITIONS, OTHER TRADES, ARCHITECTURAL DRAWINGS, AND STRUCTURE.
23. MAU AIR DEVICES: PROVIDE SPIRAL SUPPLY AIR DEVICE MOUNTED AT 45-DEGREES DOWNWARD.
24. SUPPLY AIR DUCTWORK - THROUGH FLOOR: PROVIDE SUPPLY AIR DUCTWORK ROUTED THROUGH EXISTING FLOOR. PROVIDE FLOOR OPENING, SUPPORT, AND FIRESTOP SEAL. COORDINATE WITH EXISTING CONDITIONS, OTHER DESIGN DRAWINGS, OTHER TRADES, ARCHITECTURAL DRAWINGS, AND FLOOR STRUCTURE.
25. SUBMIT THE DUCTWORK - THROUGH WALL: PROVIDE SUPPLY AIR DUCTWORK ROUTED THROUGH EXISTING WALL. PROVIDE WALL OPENING, SUPPORT, AND FIRESTOP SEAL. COORDINATE WITH EXISTING CONDITIONS, OTHER DESIGN DRAWINGS, OTHER TRADES, ARCHITECTURAL DRAWINGS, AND WALL STRUCTURE.
26. HVAC CONTROLS (BAS): PROVIDE HVAC AUTOMATION SYSTEM (BAS) CONTROLS. PROVIDE BAS AND BAS INTEGRATION WITH FOUR RIVERS SANITATION AUTHORITY (FRSA) APPROVED HVAC CONTROLS SYSTEM. COORDINATE SYSTEMS WITH GENERAL CONTRACTOR AND FRSA IT-NETWORK REPRESENTATIVE. PROVIDE ENTIRELY NEW BAS SYSTEM FOR THIS MAINTENANCE BUILDING.
27. THERMOSTAT: PROVIDE WALL MOUNTED ELECTRONIC PROGRAMMABLE THERMOSTAT AND INTEGRATION WITH BAS NETWORK. MOUNT THERMOSTAT PER ADA REGULATIONS. COORDINATE LOCATIONS WITH OTHER ELEMENTS OF WALL. VERIFY LOCATION AND SETPOINTS WITH OWNER.
28. EF (WALL): PROVIDE WALL MOUNTED EXHAUST AIR FAN AS SHOWN ON SCHEDULE. PROVIDE WALL OPENING, SUPPORTS, COLLAR, AND FLASHING FOR LEVEL AND PLUMB MOUNTING. INSTALL PER MANUFACTURERS RECOMMENDATIONS. OUTLET SHALL BE 15'-0" MINIMUM FROM ANY AIR INTAKE. FIELD VERIFY LOCATION PRIOR TO INSTALLATION. COORDINATE WITH EXISTING CONDITIONS, OTHER TRADES, ARCHITECTURAL DRAWINGS, AND STRUCTURAL ENGINEERING.
29. IRH: PROVIDE SUSPENDED INFRARED HEATER AS SHOWN ON SCHEDULE. PROVIDE OVERHEAD SUPPORTS, STEEL RODS, BRACKETS, AND MOUNTING. VERIFY REQUIREMENTS WITH MANUFACTURERS RECOMMENDATIONS. VERIFY MOUNTING HEIGHT WITH GENERAL CONTRACTOR. COORDINATE WITH EXISTING CONDITIONS, OTHER TRADES, ARCHITECTURAL DRAWINGS, AND STRUCTURE.
30. IRH FLUE: PROVIDE FLUE AND COMBUSTION PIPING FROM INFRARED HEATER THROUGH WALL WITH VENT KIT. PROVIDE VENTING, CONNECTIONS, ROOFING PENETRATION, FLASHING, SUPPORT, AND TERMINATION. OUTLET SHALL BE 15'-0" MINIMUM FROM ANY AIR INTAKE. COORDINATE WITH EXISTING CONDITIONS, OTHER TRADES, ARCHITECTURAL DRAWINGS, AND STRUCTURE.
31. (EXISTING) RELIEF/EXHAUST EXHAUST VENTILATOR: EXISTING ROOF VENTILATOR FOR RELIEF/EXHAUST AIR VENTILATION TO REMAIN AND BE REUSED. PROVIDE MAINTENANCE CLEAN-AND-CHECK SERVICE. PROVIDE NEW/REPLACEMENT DUCTWORK CONNECTIONS AS REQUIRED. PROVIDE REPLACEMENT CONTROLS ACTUATOR FOR DAMPERS.
32. TOX-ALERT CONTROLS: PROVIDE CO-NO2 CONTROLS SYSTEM, INCLUDING PANEL, EQUIPMENT, MONITORS, MODULES, ALARMS, STORES, AND SENSORS. PROVIDE CONTROLS, CONDUITS, WIRING, AND PROGRAMMING TO MONITOR AND ACTIVATE EXHAUST FANS AND MAKEUP AIR UNIT SIMULTANEOUSLY. REFERENCE CONTROLS SEQUENCE OF OPERATION. VERIFY REQUIREMENTS WITH MANUFACTURER RECOMMENDATIONS. COORDINATE LOCATIONS WITH EXISTING CONDITIONS, EXISTING EQUIPMENT, ARCHITECTURAL DRAWINGS, AND STRUCTURE.
33. TOX ALERT SENSORS: PROVIDE WALL MOUNTED CO-NO2 SENSOR FOR TOX-ALERT SYSTEM. MOUNTED AT 48" ABOVE FINISHED FLOOR WITHIN CLEAR AIRFLOW SPACE. PROVIDE MOUNTING, CONDUIT, WIRING, AND PROGRAMMING FOR SYSTEM. VERIFY REQUIREMENTS WITH MANUFACTURER RECOMMENDATIONS. COORDINATE LOCATIONS WITH EXISTING CONDITIONS, EXISTING EQUIPMENT, ARCHITECTURAL DRAWINGS, AND STRUCTURE.
34. MAU GAS WITH REGULATOR: PROVIDE 3/4" GAS PIPING AND CONNECTION TO MAU WITH VALVE, PRESSURE REGULATOR (2 PSI TO 6" WC), UNION, DIRT LEG, AND CONNECTION.
35. IRH GAS WITH REGULATOR: PROVIDE 3/4" GAS PIPING AND CONNECTION TO IRH WITH VALVE, PRESSURE REGULATOR (2 PSI TO 6" WC), UNION, DIRT LEG, AND CONNECTION.
36. FURNACE GAS WITH REGULATOR: PROVIDE 3/4" GAS PIPING AND CONNECTION TO FURNACE WITH VALVE, PRESSURE REGULATOR (2 PSI TO 6" WC), UNION, DIRT LEG, AND CONNECTION.
37. DEMOPATCH(FLUES): DISCONNECT, REMOVE, DISPOSE, AND PATCH EXISTING HVAC UNIT FLUES AND ASSOCIATED EQUIPMENT. FIELD VERIFY EXISTING EQUIPMENT, CONDITIONS, AND LOCATIONS. COORDINATE WORK WITH EXISTING EQUIPMENT, EXISTING CONDITIONS, AND OTHER TRADES.
38. (EXISTING) FLUE: EXISTING HVAC ROOF FLUE OPENING TO REMAIN AND BE REUSED. PROVIDE FLUE VENTING, TRANSITIONS, AND WEATHERTIGHT CONNECTIONS AS REQUIRED. PROVIDE ROOF TERMINATION CAP. COORDINATE WITH EXISTING EQUIPMENT, EXISTING CONDITIONS, OTHER TRADES, AND REPLACEMENT ROOFING.
39. (DEMO EXISTING) BASEBOARDS: DISCONNECT, REMOVE, AND DISPOSE EXISTING ELECTRIC BASEBOARDS AND ASSOCIATED EQUIPMENT. FIELD VERIFY EXISTING EQUIPMENT, CONDITIONS, AND LOCATIONS.
40. (REPLACEMENT) FAN: PROVIDE REPLACEMENT FAN UNIT AS SHOWN ON SCHEDULE. DISCONNECT, REMOVE, AND DISPOSE OF EXISTING FAN (REUSE EXISTING CURB). PROVIDE FAN CURB ADAPT OR SUPPORTS FOR LEVEL AND PLUMB MOUNTING. COORDINATE WORK WITH EXISTING EQUIPMENT, EXISTING CONDITIONS, OTHER TRADES, AND REPLACEMENT ROOFING.
41. (DEMO EXISTING) HYDRAULIC EQUIPMENT: DISCONNECT, REMOVE, AND DISPOSE EXISTING HYDRAULICS PIPING - REFERENCE ARCHITECTURAL AND STRUCTURAL DRAWINGS. FIELD VERIFY EXISTING EQUIPMENT, CONDITIONS, AND LOCATIONS.
42. (DEMO EXISTING) VEHICLE EXHAUST EQUIPMENT: DISCONNECT, REMOVE, AND DISPOSE EXISTING VEHICLE EXHAUST FAN AND ASSOCIATED EQUIPMENT - REFERENCE ARCHITECTURAL AND STRUCTURAL DRAWINGS. FIELD VERIFY EXISTING EQUIPMENT, CONDITIONS, AND LOCATIONS.
43. HYDRAULIC EQUIPMENT (NEW): PROVIDE HYDRAULIC PIPING FROM EXISTING TRUCK LIFT TO RELOCATED UNIT. REFERENCE ARCHITECTURAL AND STRUCTURAL DRAWINGS. FIELD VERIFY EXISTING EQUIPMENT, CONDITIONS, AND LOCATIONS.
44. (REPLACEMENT) UNIT HEATER: PROVIDE REPLACEMENT UNIT HEATER AS SHOWN ON SCHEDULE. DISCONNECT, REMOVE, AND DISPOSE OF EXISTING EQUIPMENT. PROVIDE UNIT SUPPORTS FOR LEVEL AND PLUMB MOUNTING. COORDINATE WITH EXISTING CONDITIONS, OTHER TRADES, AND ARCHITECTURAL DRAWINGS.

ENERGY NOTES

- 1. MINIMUM UNITARY (PACKAGED ROOFTOP UNITS) EQUIPMENT AIR COOLED EFFICIENCY SHALL BE 14.0 SEER (LESS THAN 65 MBH), 11.0 EER (65 MBH - 135 MBH), 10.8 EER (135 MBH - 240 MBH), 9.8 EER (240 MBH AND GREATER), AND 9.8 EER (700 MBH AND GREATER). MINIMUM DX COOLING STAGING SHALL BE 3 STAGES (65 MBH - 240 MBH) AND 4 STAGES (240 MBH AND GREATER).
2. MINIMUM EQUIPMENT AIR HEATED EFFICIENCY SHALL BE 80%.
3. ROOFTOP UNITS/SPLIT SYSTEMS, 54 MBH AND GREATER (COOLING) SHALL HAVE ECONOMIZERS.
4. FAN SYSTEM MOTOR NAMEPLATE HORSEPOWER/BRAKEHORSEPOWER SHALL NOT EXCEED ALLOWABLE NAMEPLATE MOTOR HORSEPOWER/BRAKEHORSEPOWER.
5. LOAD CALCULATIONS BASED ON ASHRAE FUNDAMENTALS HANDBOOK.
6. THERMOSTATS SHALL HAVE A DEGREE DEAD BAND, 1-DAY/1 WEEK PROGRAMMABLE CLOCK, 2-HOUR TEMPORARY OVERRIDE, SEET POINT OVERLAP RESTRICTION, 10 HOUR BACKUP AND SETBACK CAPABLE OF 55 DEGREE HEATING AND 85 DEGREE COOLING (EXCEPT CONTINUOUS OPERATING ZONES), AUTOMATIC START (OPTIMAL START, ADAPTIVE RECOVERY), OUTSIDE AIR 0% CLOSED DURING UNOCCUPIED OR WARM UP CONDITION.
7. DEMAND CONTROL VENTILATION SHALL BE PROVIDED FOR SPACES LARGER THAN 500 SQUARE FEET AND AVERAGE OCCUPANT LOAD OF 25 PEOPLE PER 1000 SQUARE FEET, FOR SYSTEMS WITH AIR-SIDE ECONOMIZERS, AUTOMATIC MODULATING OUTSIDE AIR DAMPERS, OR OUTSIDE AIRFLOW GREATER THAN 3000 CFM.
8. DUCTWORK INSULATION SHALL HAVE MINIMUM VALUE OF R-4 (CONDITIONED SPACES) AND R-12 FOR OUTSIDE BUILDING (UNCONDITIONED SPACES), EXCEPT SPACES WHERE TEMPERATURE DIFFERENCE DOES NOT EXCEED 15 DEGREES.
9. DUCTWORK SHALL BE SECURELY FASTENED AND SEALED WITH WELDS, GASKETS, MASTICS (ADHESIVES), EXCEPT LOCKING TYPE LONGITUDINAL JOINTS AND SEAMS ON DUCTWORK OPERATING AT STATIC PRESSURE LESS THAN 2" WATER GAUGE.
10. AIR BALANCE SYSTEM AND PROVIDE AIR TEST AND BALANCE REPORT.
11. HVAC EQUIPMENT OPERATION AND MAINTENANCE MANUALS PROVIDED TO BUILDING OWNER.

GENERAL NOTES

- 1. WORK SHALL BE PERFORMED AND INSTALLED IN COMPLIANCE WITH 2021 INTERNATIONAL MECHANICAL CODE, HEALTH REGULATIONS, AND LOCAL ORDINANCES.
2. WORK INCLUDES PERMIT FEES, UTILITY TAP FEES, AND INSPECTION FEES AS REQUIRED.
3. COORDINATE LOCATION OF ROOFING EQUIPMENT (UNITS, DUCTS, PIPING, DRAINS, ETC) AND CONNECTION POINTS WITH GENERAL CONTRACTOR. FIELD VERIFY EXISTING CONDITIONS PRIOR TO SUBMITTING BID AND INSTALLATION.
4. COORDINATE WITH OTHER TRADES LOCATIONS OF DUCTWORK, PIPING, AND EQUIPMENT TO REQUIRED CLEARANCES AND TO AVOID ANY INTERFERENCE.
5. COORDINATE INSTALLATION OF DUCTS WITH STRUCTURE.
6. WORK SHALL BE IN COMPLIANCE WITH LOCAL CODES AND ORDINANCES.
7. PROVIDE SHOP DRAWINGS AND EQUIPMENT SUBMITTALS PRIOR TO INSTALLING, OR FABRICATING ANY DUCTWORK.
8. PROVIDE ADJUSTABLE VOLUME DAMPER AT EACH BRANCH DUCT AND EACH AIR DEVICE.
9. PROVIDE TURNING VANES AT EACH DUCTWORK ELBOW.
10. FLEXIBLE DUCTS SHALL NOT EXCEED 9'-0" IN LENGTH.
11. SHEET METAL AND FIBERGLASS DUCTWORK SHALL BE IN ACCORDANCE WITH SMACNA AND INTERNATIONAL MECHANICAL CODE.

HVAC UNIT SERVICE NOTES

- 1. EXISTING SYSTEM SHALL REMAIN AND BE REUSED, UNLESS NOTED OTHERWISE. VERIFY EXISTING EQUIPMENT TO ENSURE GOOD WORKING CONDITION FOR HEATING/COOLING, VENTILATION, AND AIR CONDITIONING.
2. PROVIDING EQUIPMENT SERVICE:
A. VERIFY EXISTING HEATING AND COOLING CAPACITY
B. INSPECT, CLEAN, LUBRICATE, ADJUST AND BALANCE ENTIRE SYSTEM
C. CHECK BELTS AND ADJUST OR REPLACE AS REQUIRED
D. CHECK PIPING AND ACCESSORIES FOR LEAKS
E. CHECK EVAPORATOR COIL FOR LEAKS AND CLEAN THOROUGHLY
F. CHECK AND CLEAN DRAIN PAN AND CONDENSATE TRAP
G. CHECK AND CLEAN FANS AND BLADES
H. CHECK AND LUBRICATE MOTORS
I. REPLACE FILTERS
J. ADJUST UNIT RPM FOR NEW AIR QUANTITIES
K. CHECK CONTROL SEQUENCE AND THERMOSTAT CALIBRATION
3. PROVIDE SURVEY AND SERVICE REPORT TO OWNER INCLUDING MALFUNCTIONS DISCOVERED, RECOMMENDATIONS, AND PROVISION (SUPPLY AND INSTALL) COSTS.

HVAC CONTROLS SEQUENCE OF OPERATIONS

PROVIDE COMPLETE ELECTRONIC CONTROL OF HEATING, VENTILATION, AND AIR CONDITIONING SYSTEMS, AS INDICATED ON SEQUENCE OF OPERATION, INCLUDING BAS, OPERATOR WORKSTATIONS, CONTROLLERS, MODULES, DEVICES, WIRING, INTERLOCKS, STRUCTURED CABLING (CABLING SHALL BE IN EMT CONDUIT WHERE WITHIN CONCEALED WALLS/CEILINGS), CONTROLS OPERATIONS MANUALS, AND TWO-HOUR MINIMUM TRAINING SESSION, FOR EQUIPMENT AS FOLLOWS.
EF-1A (MAINTENANCE SHOP) UNIT SHALL BE ENERGIZED VIA WALL MOUNTED MANUAL SWITCH WITH 1-HOUR, 2-HOUR, 4-HOUR, AND 6-HOUR BUTTONS.
EF-2A (MAINTENANCE SHOP) UNIT SHALL BE ENERGIZED VIA WALL MOUNTED MANUAL SWITCH WITH 1-HOUR, 2-HOUR, 4-HOUR, AND 6-HOUR BUTTONS.
ERV-6A (2ND FLOOR LOCKERS AND TOILETS) UNIT SHALL BE ENERGIZED VIA FURNACE INTERLOCK TO OPERATE DURING OCCUPIED HOURS (ADJUSTABLE). INTERLOCK RESPECTIVE ERV BLOWERS TO VENTILATE EQUALLY FOR INLET AND OUTLET AIRFLOW.
FURNACE (CONDENSING UNITS) (TYPICAL) UNIT SHALL BE CONTINUOUSLY ENERGIZED AND INTERLOCK RESPECTIVE F. CU, OA1, RETURN CONTROL DAMPERS. TEMPERATURE AND HUMIDITY SHALL BE CONTROLLED VIA WALL MOUNTED PROGRAMMABLE THERMOSTAT WITH AUTOMATIC HEATING/COOLING CHANGES. SYSTEM SHALL OPERATE HEATING AND COOLING STAGES. UNIT VENTILATION OUTSIDE AIR DAMPER SHALL BE MINIMUM OPEN-POSITION DURING OCCUPIED TIMES, CLOSED-POSITION DURING UNOCCUPIED TIMES, AND MODULATING-OPEN-POSITION DURING ECONOMIZER TIMES. VERIFY OCCUPIED AND UNOCCUPIED SETPOINTS WITH USER. WHEN OPENED-UNITS SHALL OPERATE SIMULTANEOUSLY AS ONE SYSTEM.
MAU-1A (REPAIR SHOP) HEATING AND VENTILATION, NO COOLING UNIT SHALL BE CONTINUOUSLY ENERGIZED TO CONTROL HEATING VIA WALL MOUNTED PROGRAMMABLE CONTROLLER. SYSTEM SHALL OPERATE HEATING STAGES TO PROVIDE WARMER AIR TEMPERATURE OUTSIDE AIR DAMPER SHALL BE INTERLOCKED WITH RELIEF EXHAUST FANS (REF-1) TO OPERATE. REF-1 ENERGIZED MANUALLY OR AUTOMATICALLY. ENERGIZE MAU TO MAKEUP AIR POSITION-1 (50-PERCENT OPEN). REF-2 ENERGIZED (MANUALLY OR AUTOMATICALLY). ENERGIZE MAU TO MAKEUP AIR POSITION-2 (100-PERCENT OPEN). MAU CONTROLLER SHALL HAVE MANUAL OVERRIDE SWITCH TO CONTROL UNITS.
TOX-ALERT (CO-NO2 CONTROLS FOR REPAIR SHOP) TOX ALERT CO-NO2 MONITORING SYSTEM, CONTROLLERS, SENSORS, AND INTERFACE WITH EXHAUST FANS REF-1 AND REF-2 AND MAKEUP AIR UNIT MAU-1A. AUTOMATIC CONTROL. TOX-ALERT CONTROLLERS WITH OVERRIDE MANUAL CONTROL WALL SWITCH. REF-1 AND REF-2 TO OPERATE WHEN CO OR NO2 LEVELS INCREASE ABOVE SET VALUE. MAU-1A TO OPERATE WHEN EITHER REF-1 OR REF-2 OPERATE. SENSOR LOCATIONS AND MONITOR SETPOINTS AS INDICATED PER MANUFACTURER RECOMMENDATIONS.
MAU-2A (MAINTENANCE SHOP) - HEATING AND VENTILATION, NO COOLING UNIT SHALL BE CONTINUOUSLY ENERGIZED TO CONTROL HEATING VIA WALL MOUNTED PROGRAMMABLE CONTROLLER. SYSTEM SHALL OPERATE HEATING STAGES TO PROVIDE WARMER AIR TEMPERATURE. UNIT VENTILATION OUTSIDE AIR DAMPER SHALL BE DISCHARGE AIR TEMPERATURE. UNIT VENTILATION OUTSIDE AIR DAMPER SHALL BE INTERLOCKED WITH RELIEF EXHAUST FANS (REF-1) TO OPERATE. REF-1 ENERGIZED (MANUALLY). ENERGIZE EF TO MAKEUP AIR POSITION-1 (50-PERCENT OPEN). EF-2A ENERGIZED (MANUALLY). ENERGIZE EF TO MAKEUP AIR POSITION-1 (100-PERCENT OPEN). MAU CONTROLLER SHALL HAVE MANUAL OVERRIDE SWITCH TO CONTROL UNITS.
REF-7 (1ST FLOOR TOILETS) UNIT SHALL BE ENERGIZED VIA TIMELOCK TO OPERATE DURING OCCUPIED TIME PERIODS.
UN (TYPICAL) UNIT SHALL BE CONTROLLED VIA WALL MOUNTED PROGRAMMABLE THERMOSTAT.

HVAC CONTROLS & CONTACTS

HVAC CONTROLS SYSTEM SHALL BE PROVIDED BY FOUR RIVERS SANITATION AUTHORITY (FRSA) PRE-APPROVED COMPANY - BAGNET BASED AND COMPATIBLE WITH FRSA TRANE CONTROL SYSTEM.
PROVIDE COMPLETE SYSTEM, INCLUDING PANELS, MODULES, DEVICES, WIRING, PROGRAMMING, TESTING, TRAINING, AND REPORTING. COORDINATE WORK WITH GENERAL CONTRACTOR AND FRSA. FIELD VERIFY EXISTING CONDITIONS AND EQUIPMENT.
HVAC CONTROLS, TERMINATIONS, AND PROGRAMMING SHALL BE HVAC CONTROLS COMPATIBLE WITH TRANE CONTROLS. CONTRACTED (HIRED) BY MECHANICAL CONTRACTOR FOR THIS PROJECT.
FRSA HVAC EQUIPMENT SHALL HAVE ON-SITE AND OFF-SITE BUILDING AUTOMATION SYSTEM CONTROLS AND ACCESS. PROVIDE CONTROLS DEVICES AND MODULES FOR EACH HVAC EQUIPMENT (SYSTEMS, UNITS, FANS, DAMPERS, ETC.) BAS TO CONTROL ENTIRE HVAC SYSTEMS AND ASSOCIATE EQUIPMENT. VERIFY CONTROLS WITH FRSA BUILDING AUTOMATION SYSTEM REQUIREMENTS.
TRANE CONTROLS REPRESENTATIVES FOR REFERENCE:
BRIDGET MALONEY@TRANE.COM
608-400-1432
MICHAEL HELM@TRANE.COM
414-497-6611

MECHANICAL SYMBOLS LIST

Table with 2 columns: SYMBOL, DESCRIPTION. Lists symbols for various HVAC components like AHU, CA, CFM, CU, DEH, DH, E, EF, F, FD, GAS PIPING, HUA, MAU, NA, NR, OA, OBD, R, RD, RFS, S, UC, UH, WC, X, Y, Z, etc.

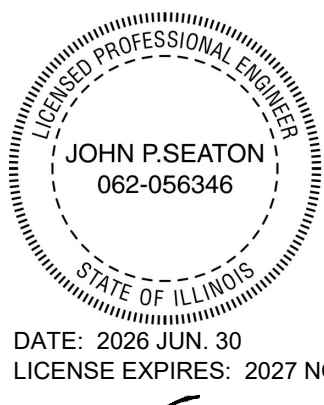
Project No. 2025-16

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Sheet Title MECHANICAL SPECIFICATIONS

Ref. North Sheet No. M-100

PROFESSIONAL DESIGN FIRM REGISTRATION # 184-003342



DATE: 2025-11-06
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Maintenance Building Renovation

Capital Project No. 2102

for



Rockford, Illinois

THE CONTRACTOR SHALL DETERMINE EXACT DIMENSIONS AND CONDITIONS AT THE SITE PRIOR TO SUBMITTING A BID. THE CONTRACTOR SHALL COORDINATE ALL DRAWINGS WITH ACTUAL FIELD CONDITIONS PRIOR TO PROCEEDING WITH THE WORK AND NOTIFY THE ARCHITECT OF ANY DISCREPANCIES. THIS DRAWING IS THE PROPERTY OF BLAKEMORE ARCHITECTS AND MAY NOT BE REPRODUCED WITHOUT THE PRIOR WRITTEN PERMISSION OF THE ARCHITECT.

Table with 3 columns: NO., DATE, DESCRIPTION. Contains revision history for the drawing.

Project No. 2025-16

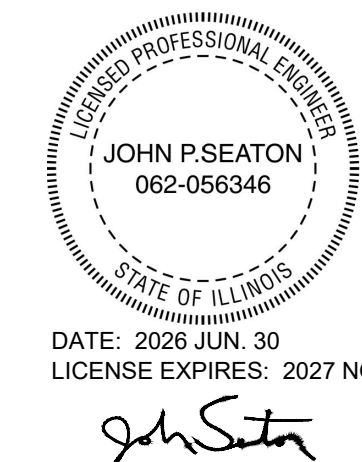
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Sheet Title MECHANICAL SCHEDULES

Ref. North Sheet No.

M-101

PROFESSIONAL DESIGN FIRM REGISTRATION # 184-003342



FURNACE / CONDENSING UNIT SCHEDULE (OR EQUAL)
Table with columns: TAG, MANUFACTURER, FURNACE, AIR RATE (CFM), OAI (CFM), FAN TYPE, ESP (WC), HTG IN (MBH), HTG OUT (MBH), HEATING STAGES, VOLTAGE PHASE, MCA MOC, WEIGHT (LBS), AFUE, CONDENSING UNIT, COOLING (TONS), COOLING STAGES, VOLTAGE PHASE, MCA MOC, WEIGHT (LBS), SEER, REFG, NOTES.

ALTERNATE BIDS: M-1
SUBMIT SEPARATE PRICE TO PROVIDE HEAT PUMP UNITS RATHER THAN STANDARD COOLING-ONLY CONDENSING UNITS.

VENTILATION SCHEDULE
Table with columns: ROOM, PLAN NAME, AREA, RA, RA AZ, SUBTOTAL VENT RATE, OCCUPANT DENSITY, NUMBER OF PERSONS, RP, RP PZ, SUBTOTAL VENT RATE, RA AZ + RP PZ, EXHAUST RATE, EXHAUST RATE, ROOM SUPPLY RATE, ROOM EXHAUST RATE, NOTES.

FAN COIL/HEAT PUMP UNIT SCHEDULE (OR EQUAL)
Table with columns: TAG, UNIT STYLE, MANUFACTURER, MODEL, AIRFLOW (CFM), CONTROL TEMP SENSOR, UNIT CAPACITIES, DESIGN CAPACITIES, AMPERAGE, VOLTAGE PHASE, NOTES.

UNIT HEATER SCHEDULE (OR EQUAL)
Table with columns: TAG, MANUFACTURER, MODEL NUMBER, AREA SERVED, CFM, GAS INPUT (MBH), GAS OUTPUT (MBH), THERMAL EFFICIENCY, TYPE, HP, VOLTAGE PHASE, WEIGHT (LBS), NOTES.

MAKEUP AIR UNIT SCHEDULE (OR EQUAL)
Table with columns: TAG, MANUFACTURER, MODEL, UNIT TYPE, AIR RATE (CFM), OAI (CFM), ESP (WC), ENTERING AIR TEMP (F), HEAT IN (MBH), TEMP RISE (F), PILOT, FUEL TYPE, BURNER TURNDOWN, MOTOR (HP), VOLTAGE PHASE, MCA MOC, WEIGHT (LBS), NOTES.

INFRARED RADIANT HEATER SCHEDULE (OR EQUAL)
Table with columns: TAG, MANUFACTURER, MODEL NUMBER, LENGTH (FEET), GAS INPUT HIGH (MBH), TYPE, REFLECTOR, VOLTAGE PHASE, AMPS, WEIGHT (LBS), BOTTOM OF UNIT AFF, NOTES.

ENERGY RECOVERY VENTILATOR SCHEDULE (OR EQUAL)
Table with columns: TAG, MANUFACTURER, MODEL NUMBER, AIRFLOW (CFM), TEMPERATURE RECOVERY EFFICIENCY, ENTHALPY RECOVERY EFFICIENCY, ESP (WC), VOLTAGE PHASE, MCA MOC, WEIGHT (LBS), NOTES.

EXHAUST FAN SCHEDULE (OR EQUAL)
Table with columns: TAG, MANUFACTURER, MODEL NUMBER, AREA SERVED, CFM, ESP (WC), HP, VOLT/PHASE, WEIGHT (LBS), NOTES.

LOUVER SCHEDULE (OR EQUAL)
Table with columns: TAG, MANUFACTURER, MODEL NUMBER, AREA SERVED, CFM, ESP (WC), TYPE, WEIGHT (LBS), NOTES.

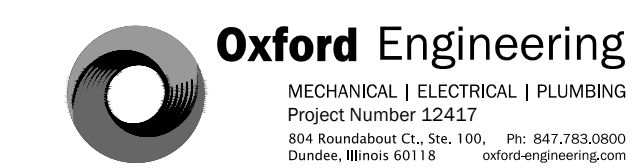
AIR DEVICE SCHEDULE (OR EQUAL)
Table with columns: TAG, MANUFACTURER, MODEL, STYLE, FRAME, DAMPER, NOTES.

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Maintenance Building
Renovation

Capital Project No.
2102

for



Rockford, Illinois

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NO.	DATE	DESCRIPTION
1.	11-05-2025	Initial Owner Layout Review
2.	02-20-2026	90% Owner Review
3.	04-16-2026	95% Owner Review
4.	06-18-2026	Final Owner Review
5.	06-30-2026	Issued for Bids

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Project No. 2025-16

Scale AS INDICATED

Sheet Title
**MECHANICAL FIRST FLOOR
PLAN - DEMOLITION**

Ref North Sheet No.

M-200

PROFESSIONAL DESIGN FIRM REGISTRATION #
184-003342

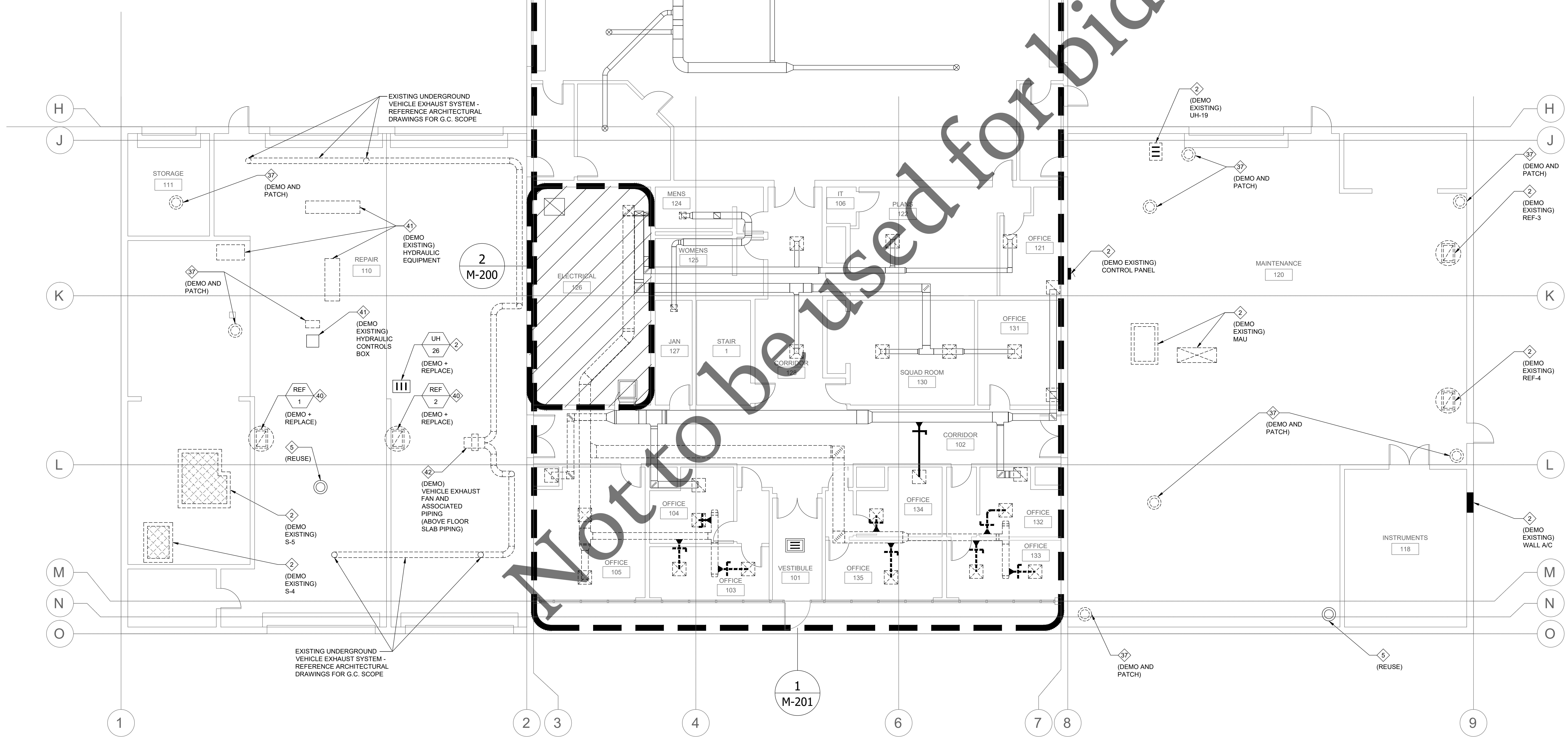
FIELD VERIFY EXISTING CONDITIONS PRIOR TO BID AND PRIOR TO INSTALLATION. NOTIFY OWNER REPRESENTATIVE AND ARCHITECT OF ANY EQUIPMENT DEVIATIONS.

REFERENCE DRAWING
M-100 FOR KEY NOTES

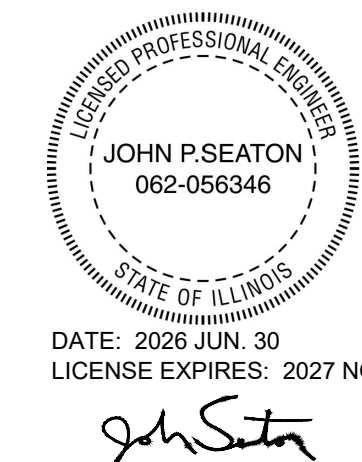
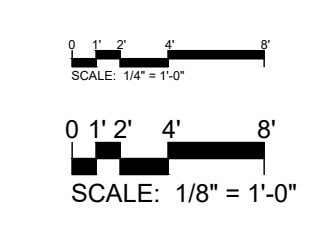
NOT IN
CONTRACT

ELECTRICAL
126

2 ENLARGED ELECTRICAL ROOM PLAN - DEMOLITION
SCALE: 1/4" = 1'-0", WHEN PRINTED ON 36"x24" (ARCH D)



1 FIRST FLOOR MECHANICAL OVERALL PLAN - DEMOLITION
SCALE: 1/8" = 1'-0", WHEN PRINTED ON 36"x24" (ARCH E1)





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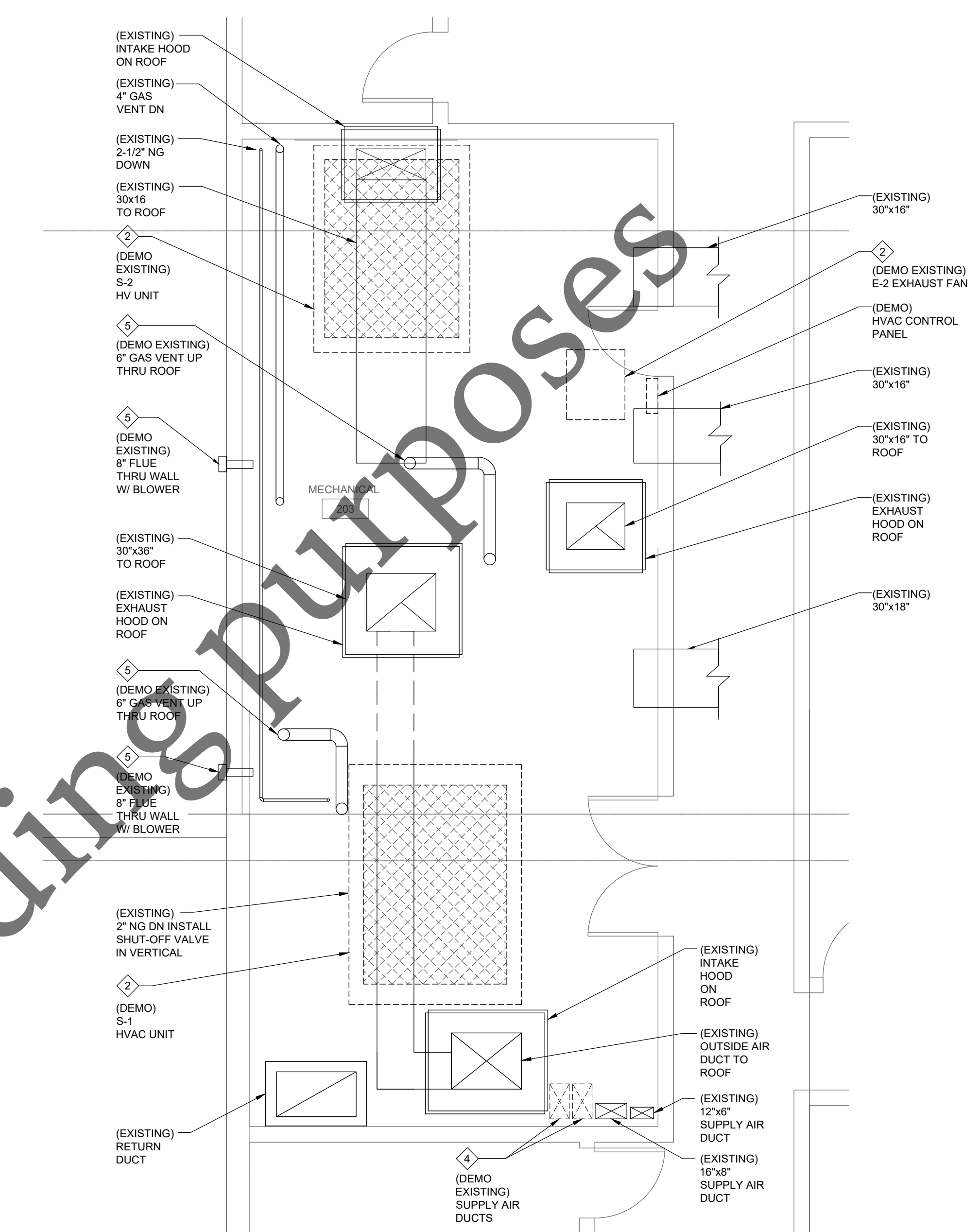
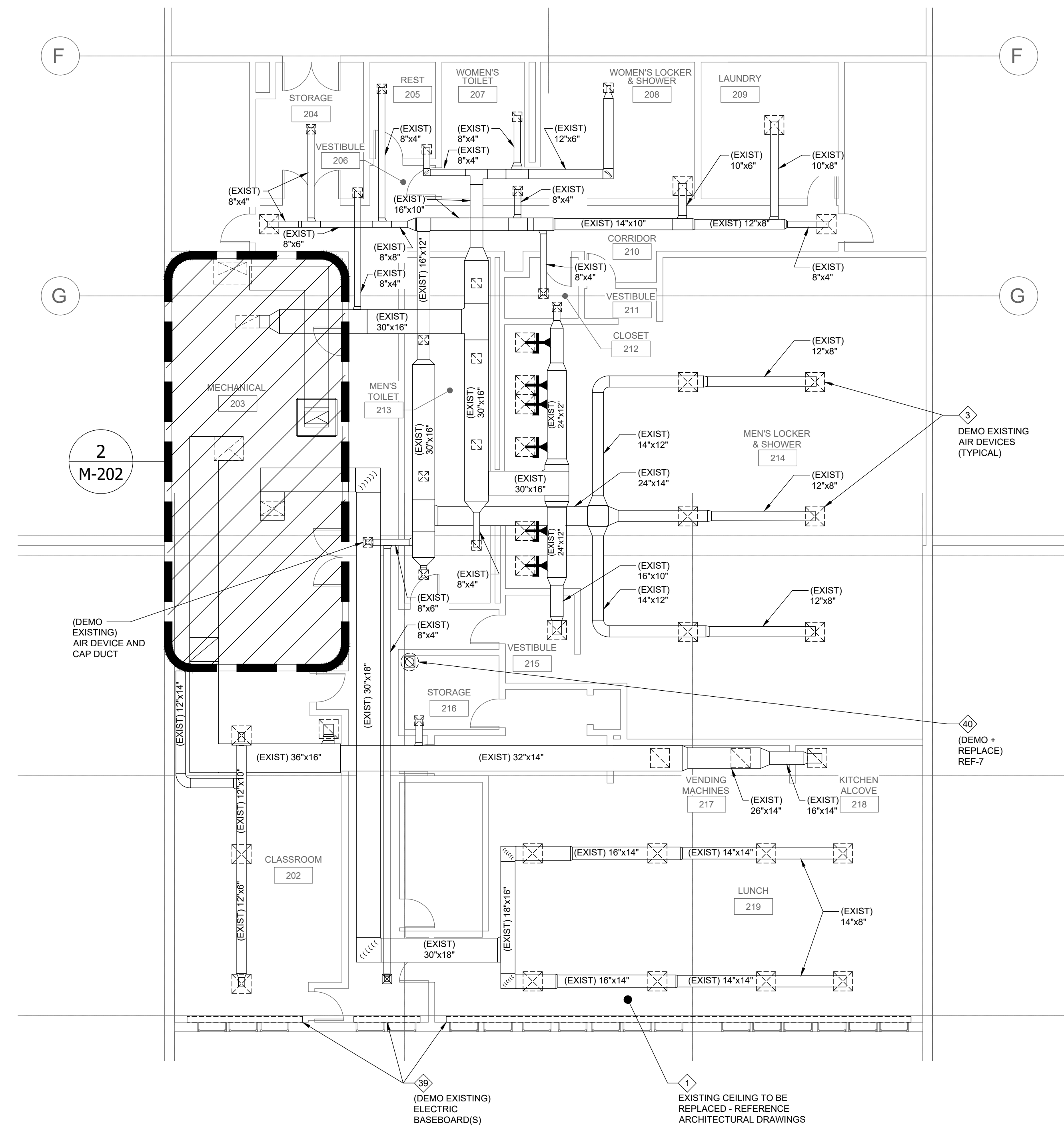
Project No. 2025-16

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Sheet Title **MECHANICAL SECOND FLOOR PLAN - DEMOLITION**

Ref. North Sheet No. **M-202**

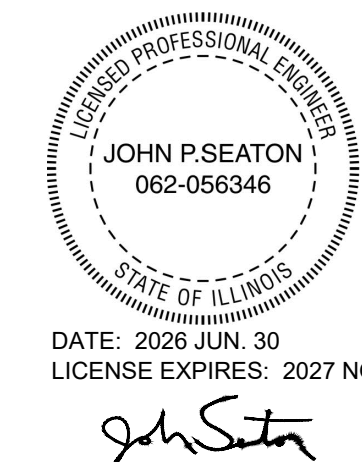
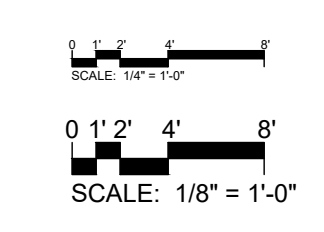
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FIELD VERIFY EXISTING CONDITIONS PRIOR TO BID AND PRIOR TO INSTALLATION. NOTIFY OWNER REPRESENTATIVE AND ARCHITECT OF ANY EQUIPMENT DEVIATIONS.

REFERENCE DRAWING M-100 FOR KEY NOTES



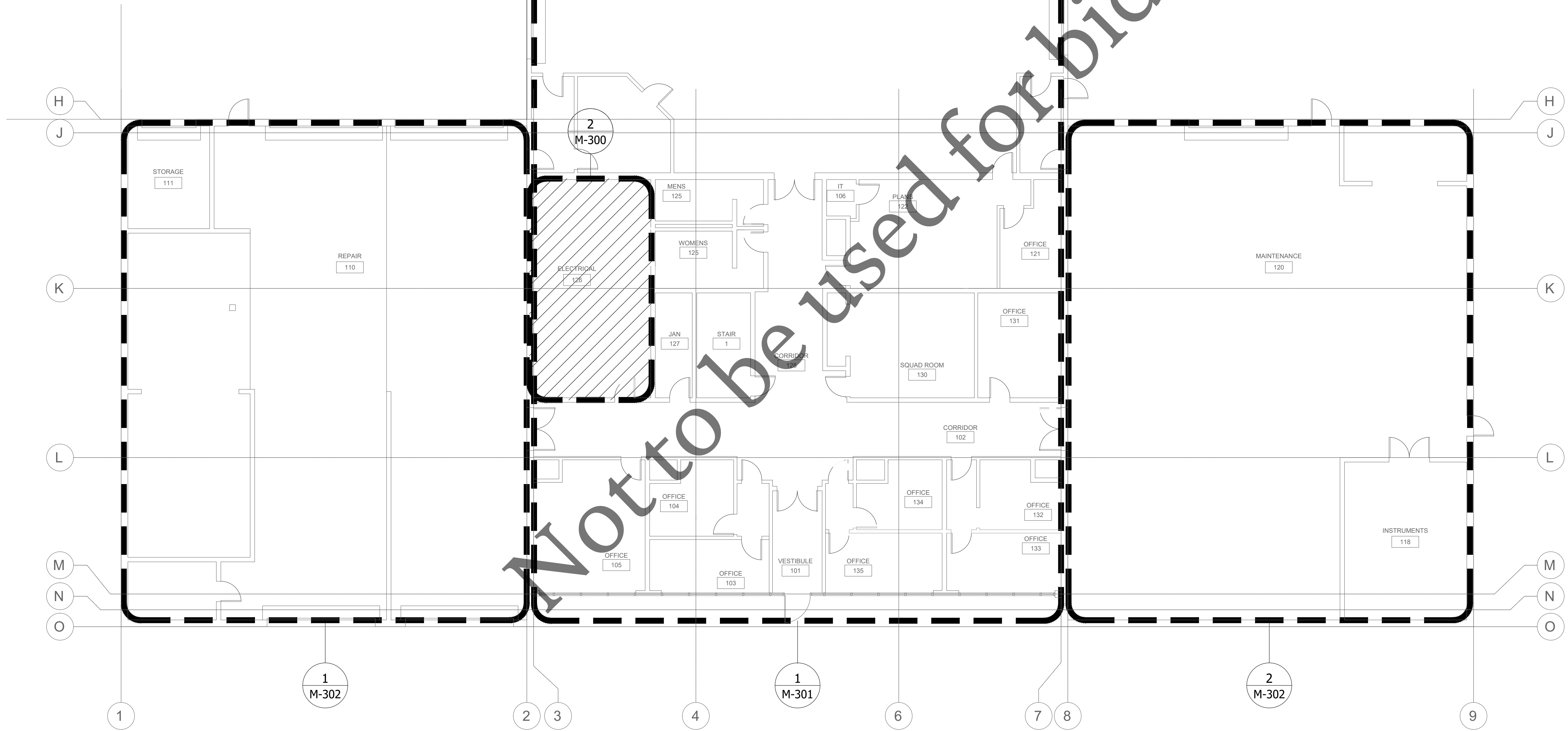
DATE: 2025 JUN 30
LICENSE EXPIRES: 2027 NOV. 30

FIELD VERIFY EXISTING CONDITIONS PRIOR TO BID AND PRIOR TO INSTALLATION. NOTIFY OWNER REPRESENTATIVE AND ARCHITECT OF ANY EQUIPMENT DEVIATIONS.

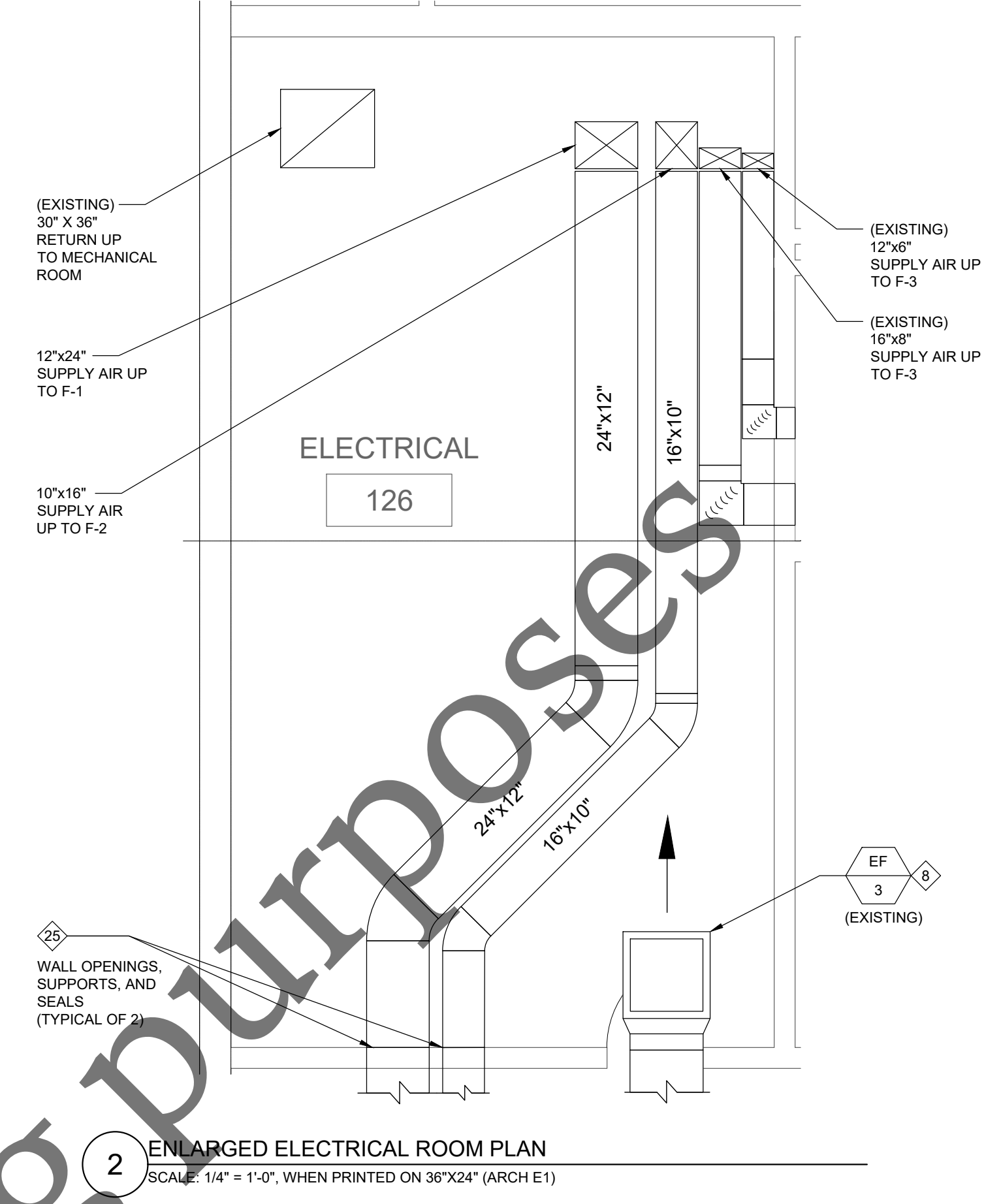
NO MECHANICAL EQUIPMENT SHALL BE POSITIONED ON ROOF.

REFERENCE DRAWING M-100 FOR KEY NOTES

NOT IN CONTRACT



1 FIRST FLOOR MECHANICAL OVERALL PLAN
SCALE: 1/8" = 1'-0", WHEN PRINTED ON 36"x24" (ARCH E1)



2 ENLARGED ELECTRICAL ROOM PLAN
SCALE: 1/4" = 1'-0", WHEN PRINTED ON 36"x24" (ARCH E1)

Not to be used for bidding purposes

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Project No. 2025-16

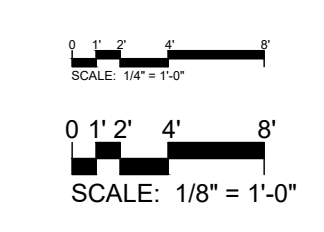
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Sheet Title MECHANICAL FIRST FLOOR PLAN

Ref North Sheet No. M-300



DATE: 2025 JUN. 30
LICENSE EXPIRES: 2027 NOV. 30



SCALE: 1/8" = 1'-0"

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Maintenance Building Renovation

Capital Project No. 2102

for



Rockford, Illinois

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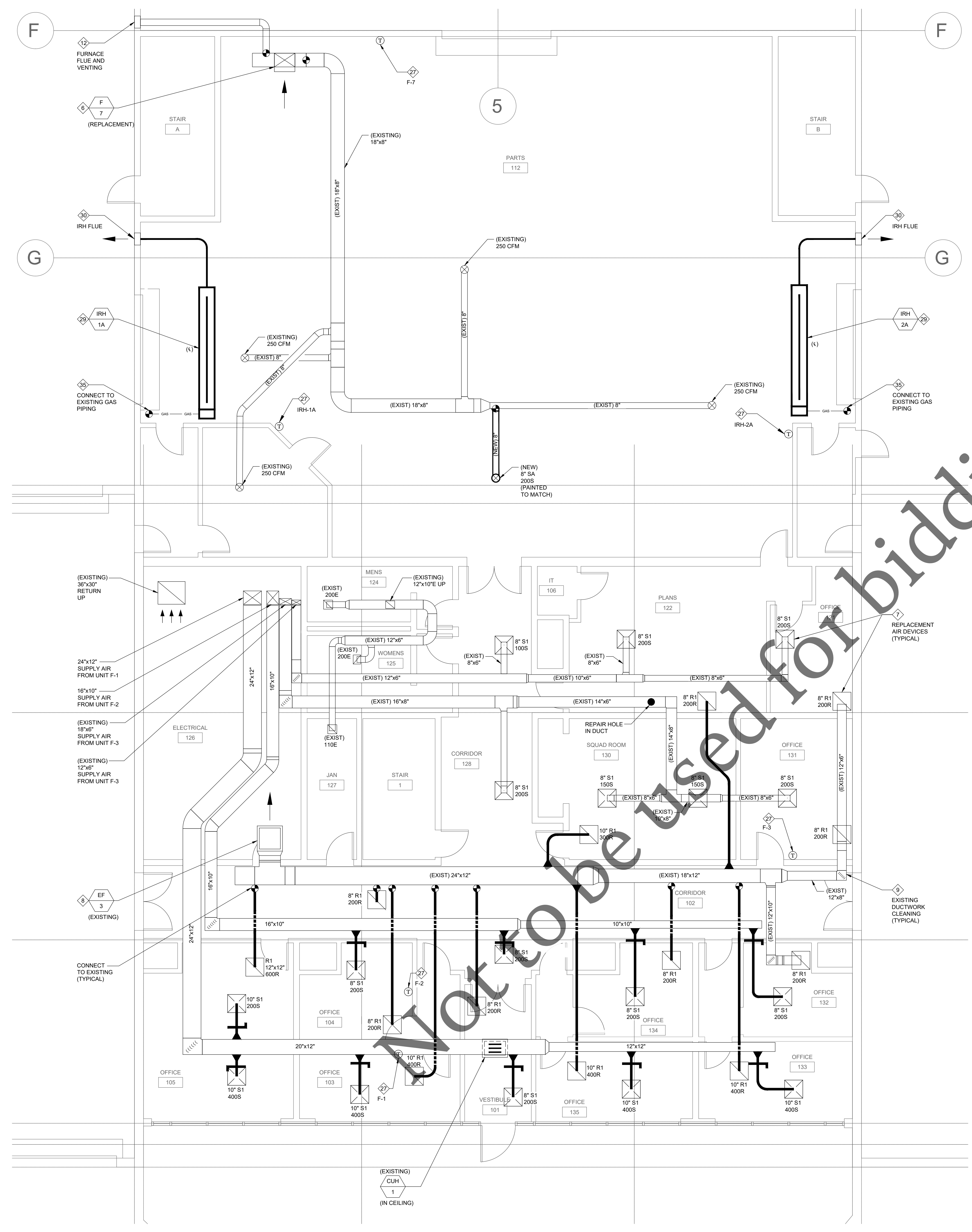
Project No. 2025-16

Scale AS INDICATED

Sheet Title MECHANICAL SECOND FLOOR PLAN

Ref. North Sheet No. M-301

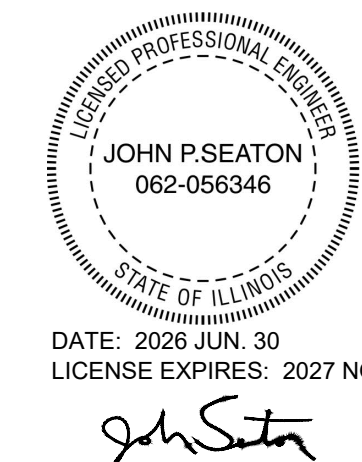
PROFESSIONAL DESIGN FIRM REGISTRATION # 184-003342



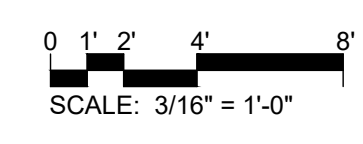
FIELD VERIFY EXISTING CONDITIONS PRIOR TO BID AND PRIOR TO INSTALLATION. NOTIFY OWNER REPRESENTATIVE AND ARCHITECT OF ANY EQUIPMENT DEVIATIONS.

NO MECHANICAL EQUIPMENT SHALL BE POSITIONED ON ROOF.

REFERENCE DRAWING M-100 FOR KEY NOTES



1 FIRST FLOOR MECHANICAL PLAN
 SCALE: 3/16" = 1'-0", WHEN PRINTED ON 36"x24" (ARCH E1)





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Maintenance Building Renovation

Capital Project No. 2102

for



Rockford, Illinois

THE CONTRACTOR SHALL DETERMINE EXACT DIMENSIONS AND CONDITIONS AT THE SITE PRIOR TO SUBMITTING A BID. THE CONTRACTOR SHALL COORDINATE ALL DRAWINGS WITH ACTUAL FIELD CONDITIONS PRIOR TO PROCEEDING WITH THE WORK AND NOTIFY THE ARCHITECT OF ANY DISCREPANCIES. THIS DRAWING IS THE PROPERTY OF BLAKEMORE ARCHITECTS AND MAY NOT BE REPRODUCED WITHOUT THE PRIOR WRITTEN PERMISSION OF THE ARCHITECT.

NO.	DATE	DESCRIPTION
1.	11-05-2025	Initial Owner Layout Review
2.	02-20-2026	90% Owner Review
3.	04-16-2026	95% Owner Review
4.	06-18-2026	Final Owner Review
5.	06-30-2026	Issued for Bids

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Project No. 2025-16

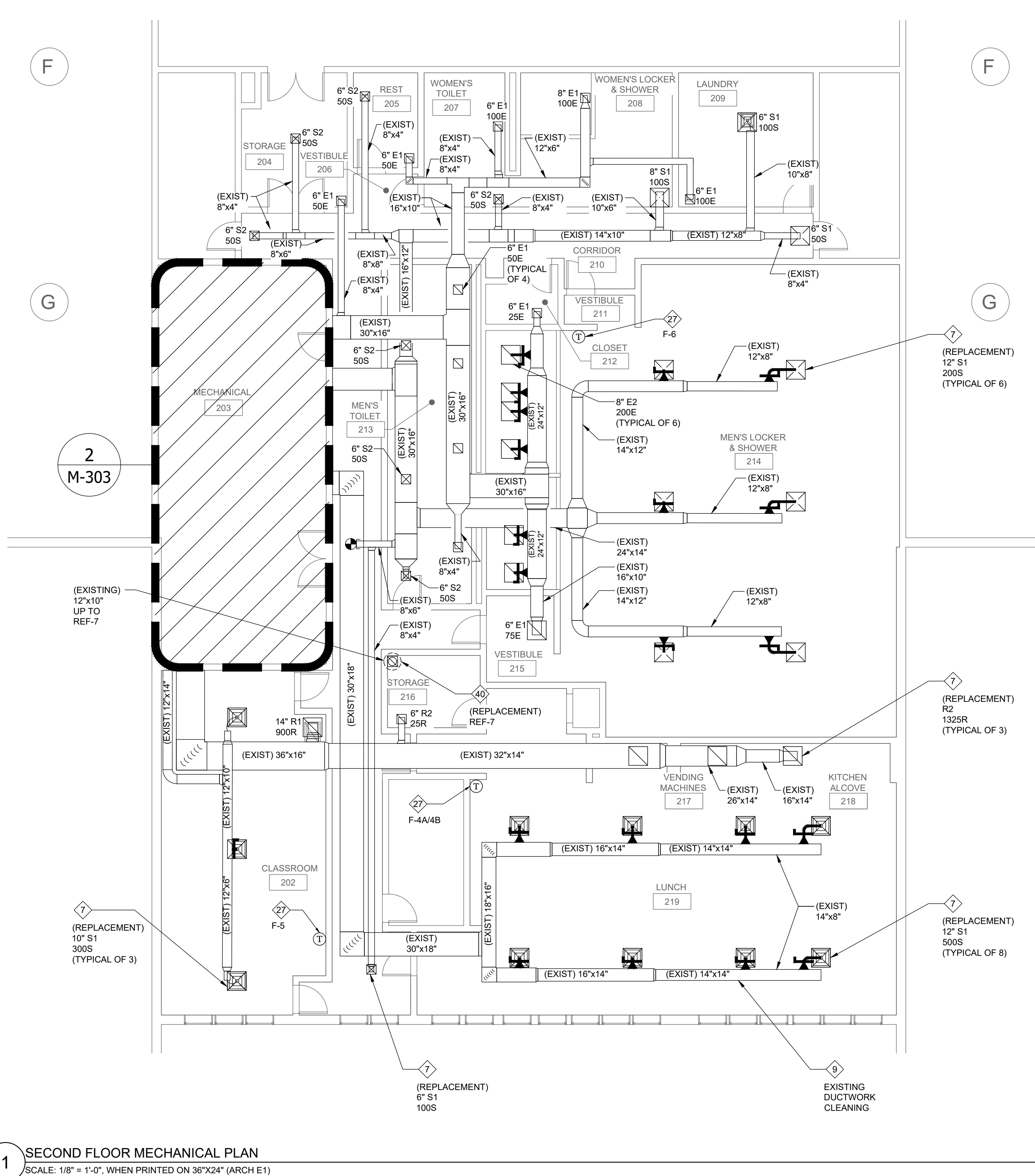
Scale AS INDICATED

Sheet Title
MECHANICAL SECOND FLOOR PLAN

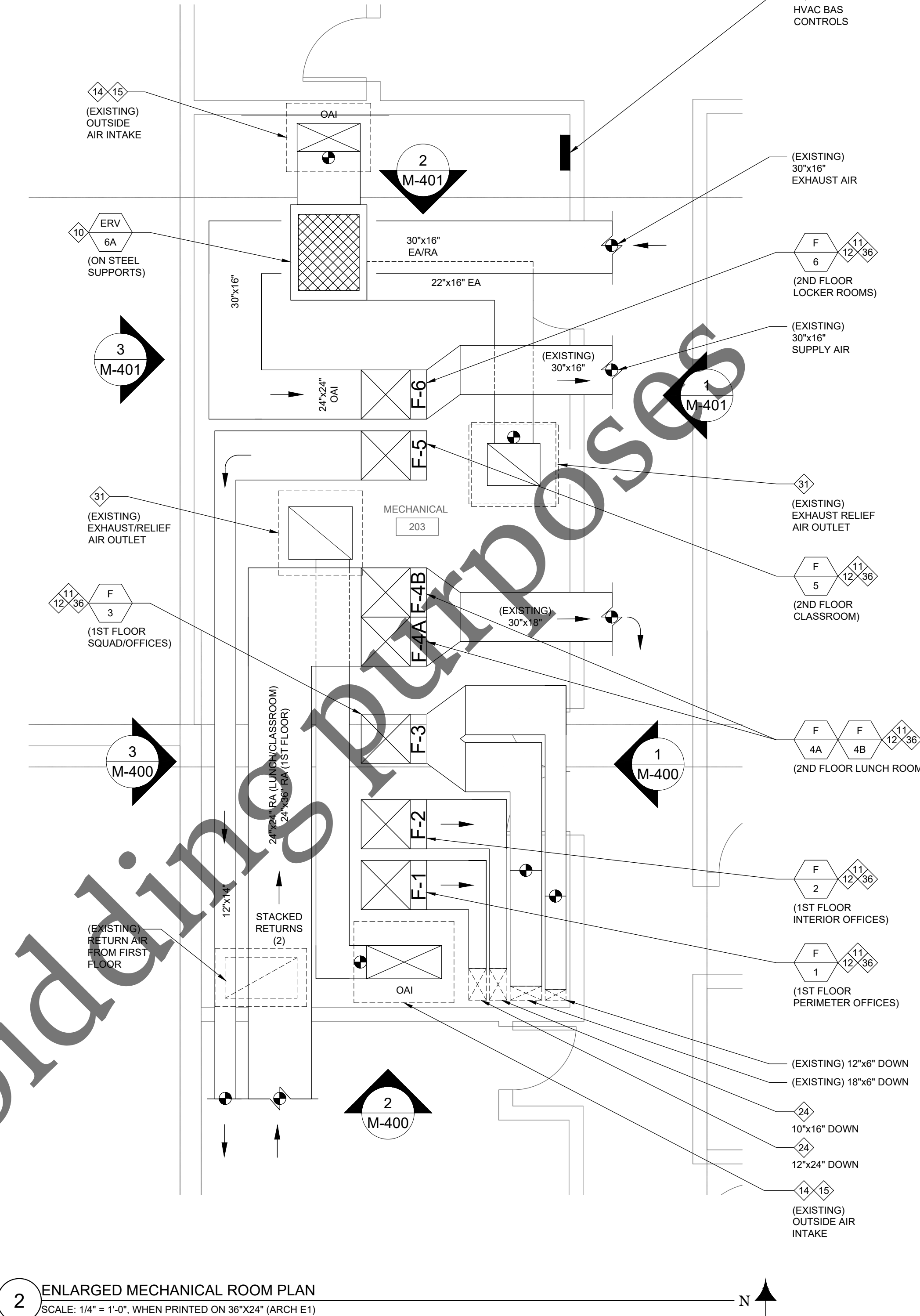
Ref. North Sheet No.

M-303

PROFESSIONAL DESIGN FIRM REGISTRATION # 184-003342



1 SECOND FLOOR MECHANICAL PLAN
 SCALE: 1/8" = 1'-0", WHEN PRINTED ON 36"x24" (ARCH E1)



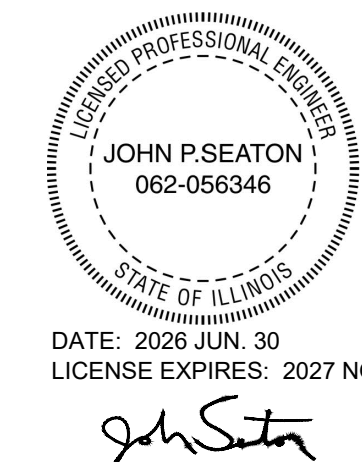
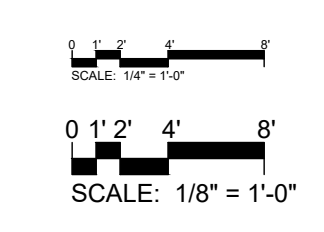
2 ENLARGED MECHANICAL ROOM PLAN
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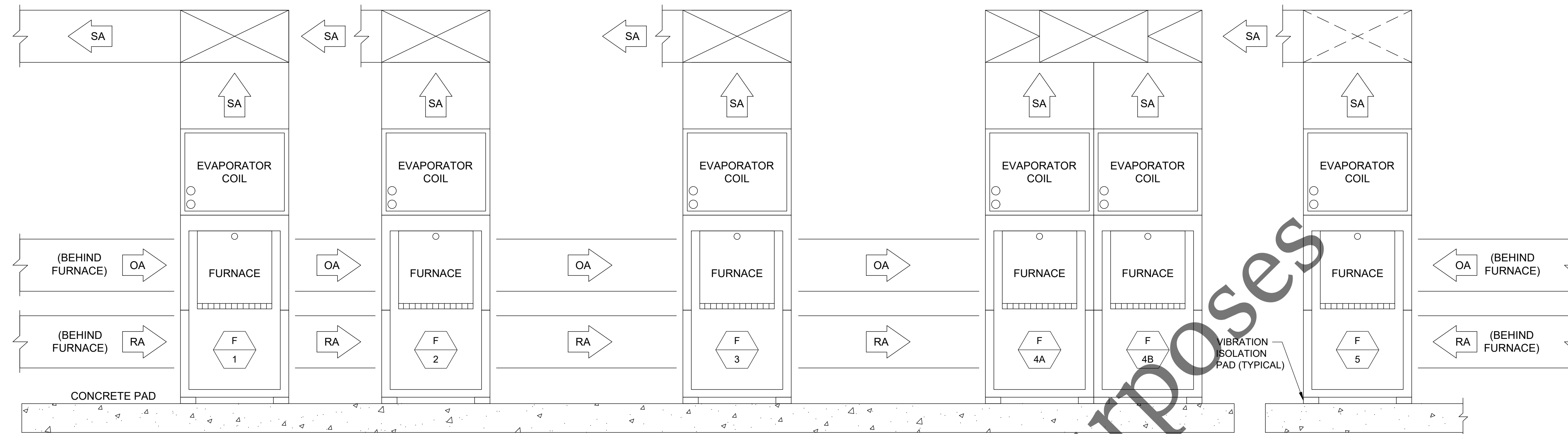
Not to be used for bidding purposes

FIELD VERIFY EXISTING CONDITIONS PRIOR TO BID AND PRIOR TO INSTALLATION. NOTIFY OWNER REPRESENTATIVE AND ARCHITECT OF ANY EQUIPMENT DEVIATIONS.

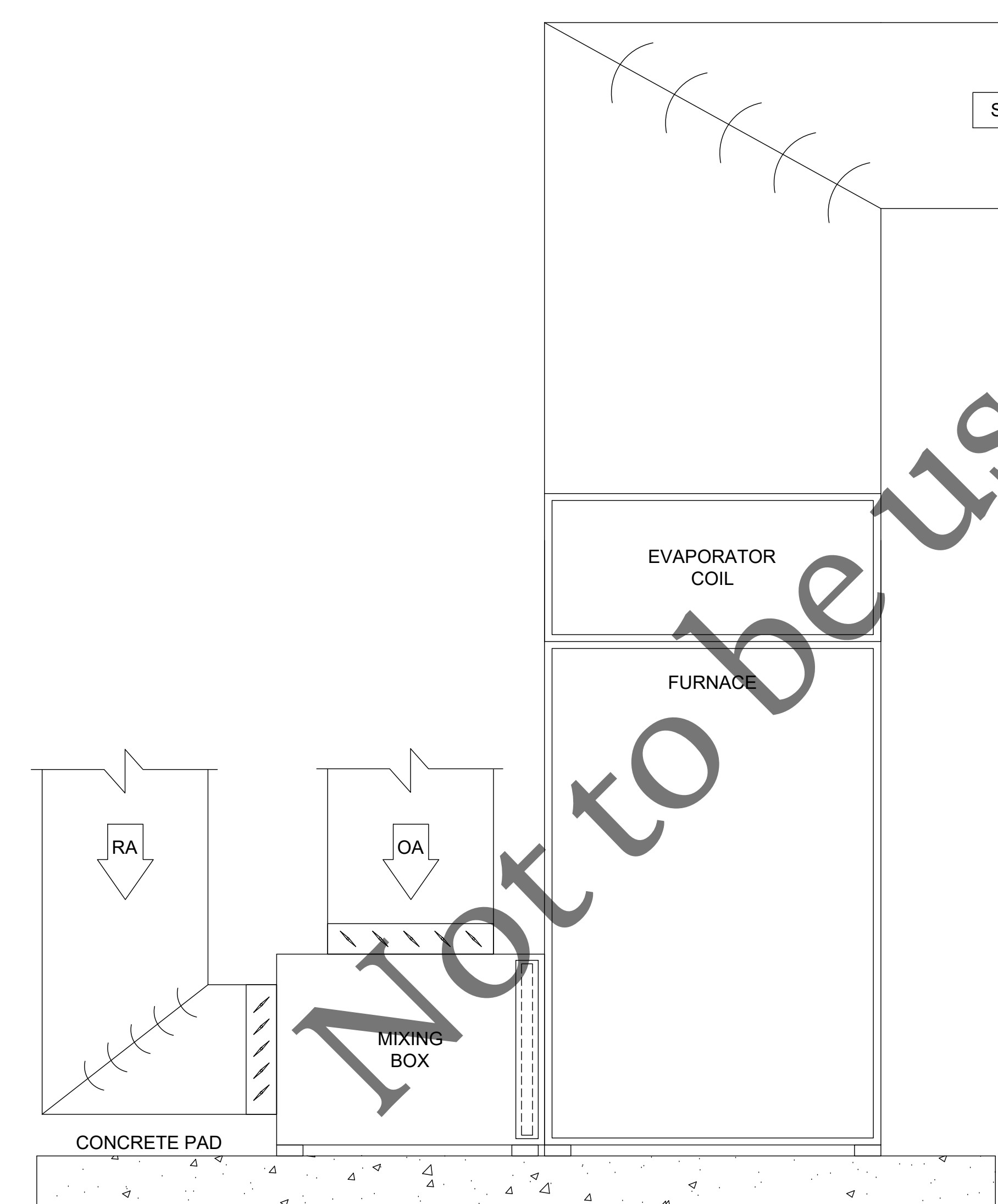
NO MECHANICAL EQUIPMENT SHALL BE POSITIONED ON ROOF.

REFERENCE DRAWING M-100 FOR KEY NOTES

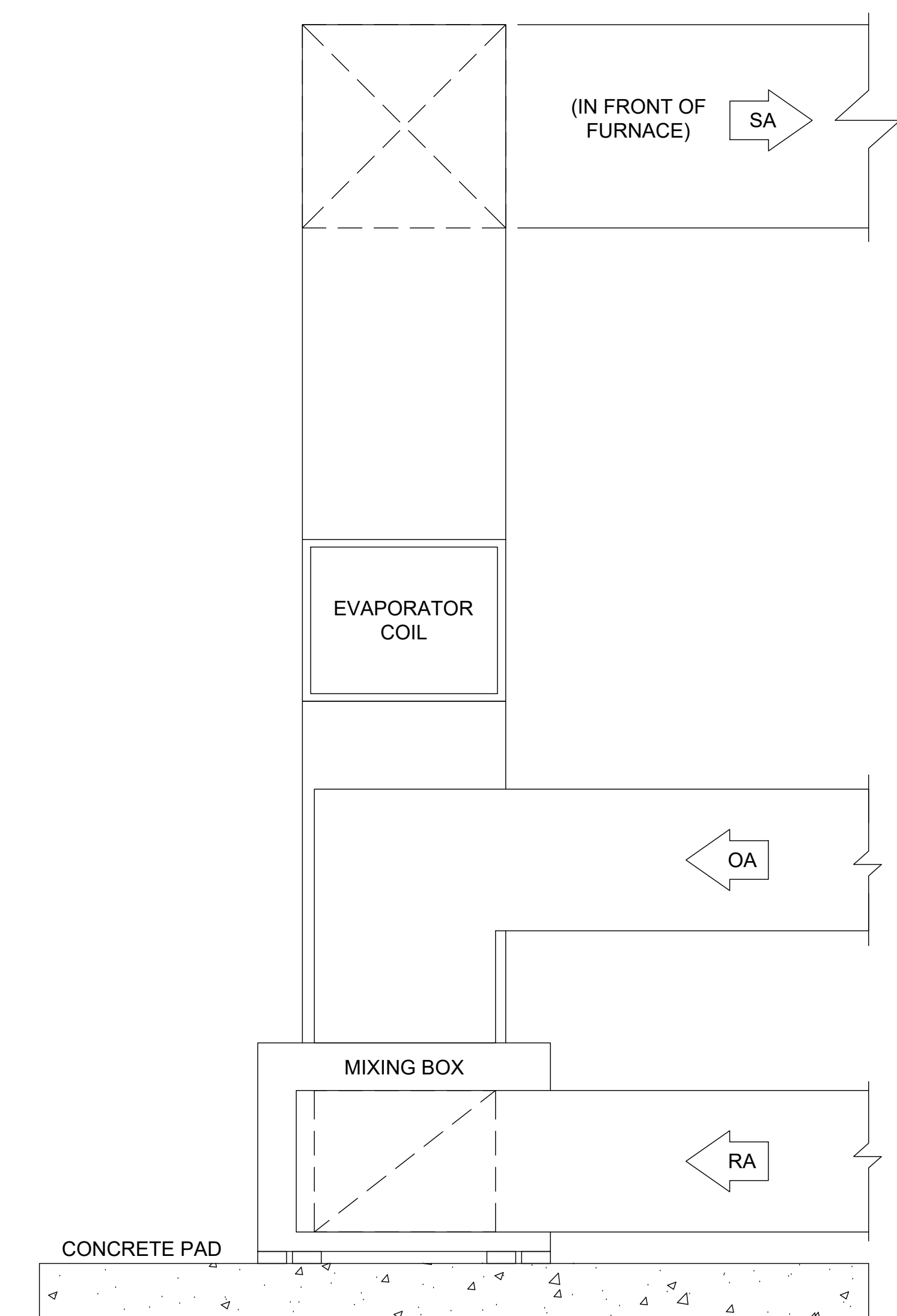




1 HVAC ELEVATIONS (EAST VIEW)
NOT TO SCALE



2 HVAC ELEVATION (SOUTH VIEW) (TYPICAL)
NOT TO SCALE



3 HVAC ELEVATION (WEST PARTIAL VIEW) (TYPICAL)
NOT TO SCALE

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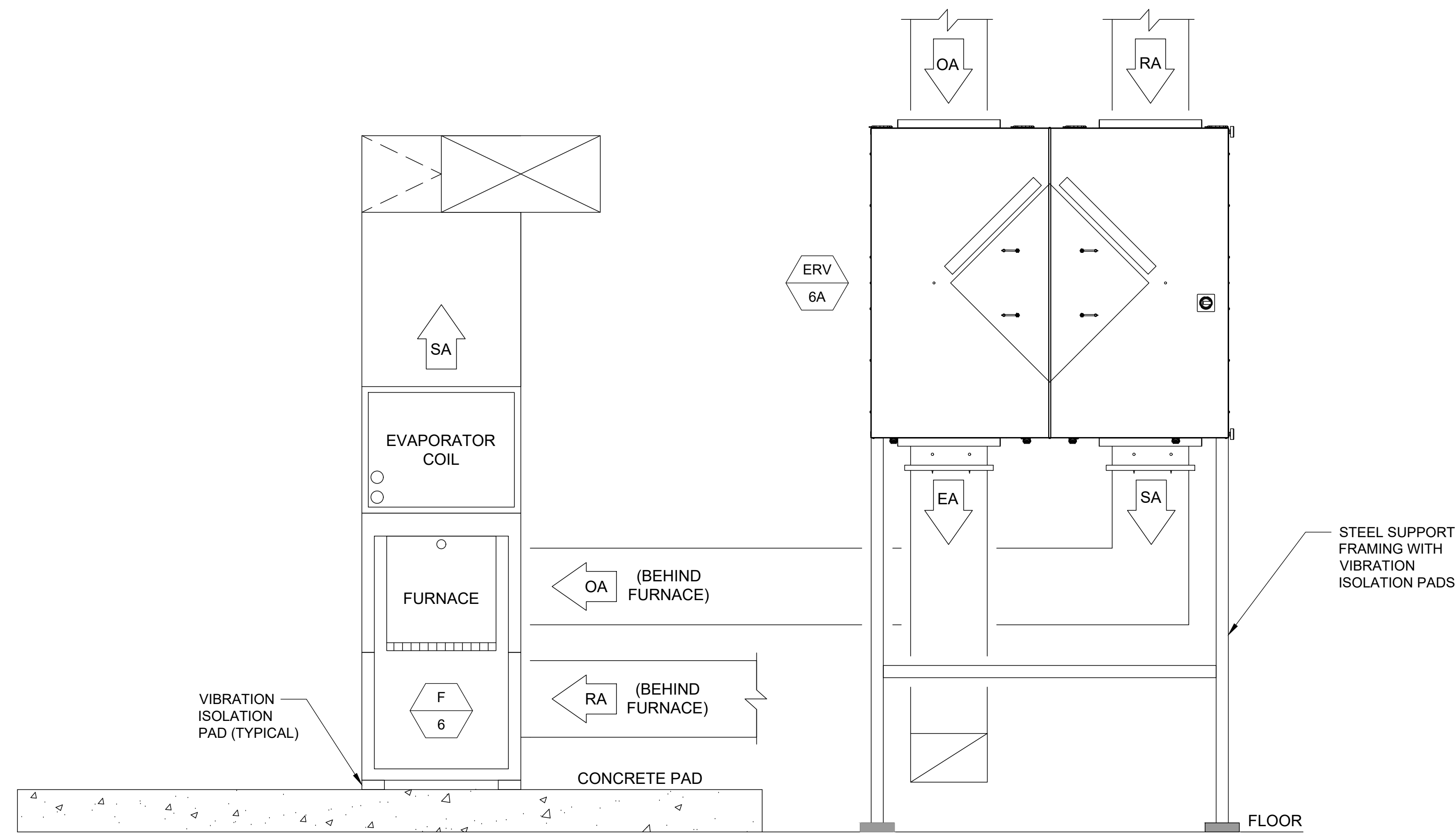
Scale
AS INDICATED

Sheet Title
MECHANICAL DETAILS

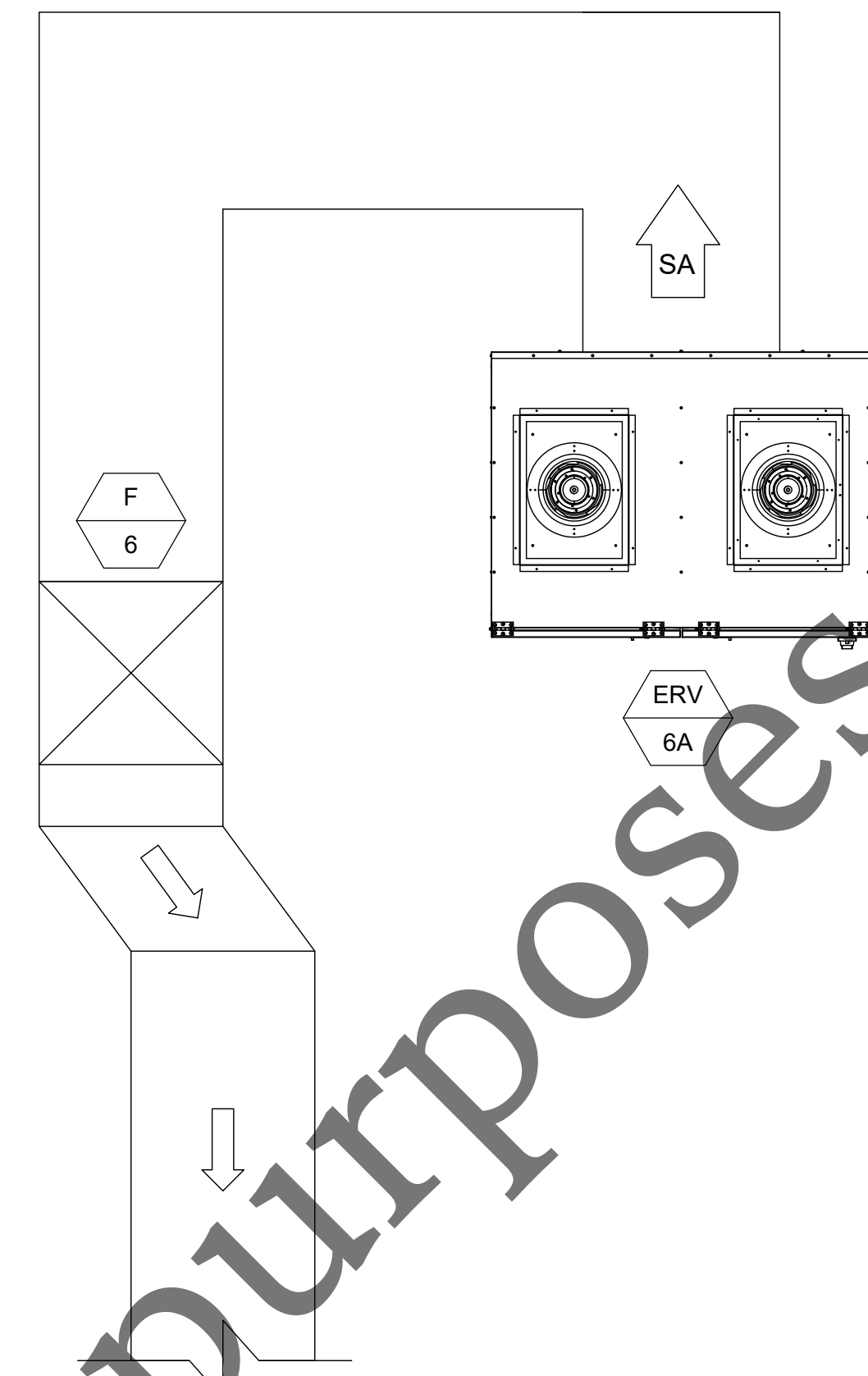
Ref. North Sheet No.
M-400



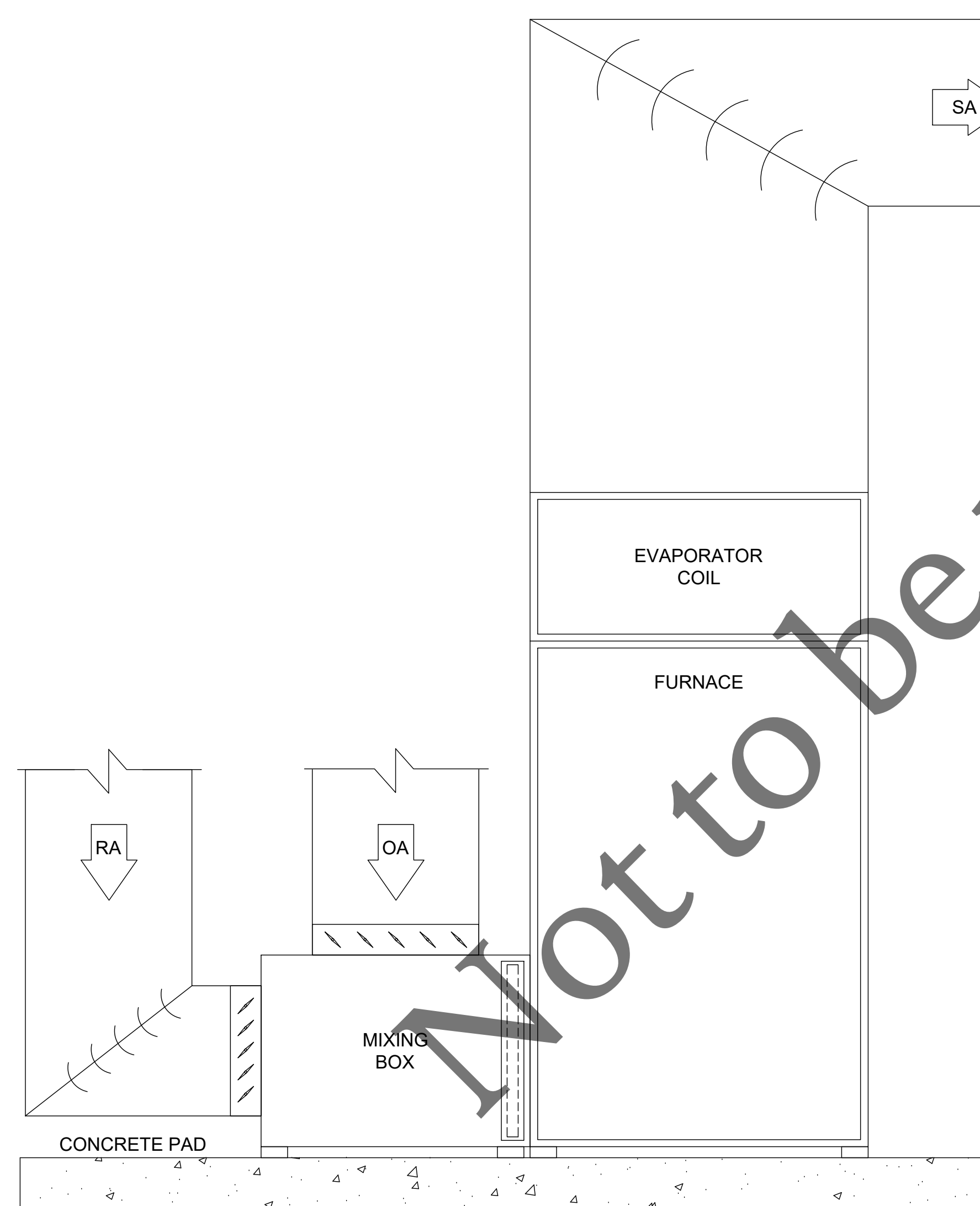
PROFESSIONAL DESIGN FIRM REGISTRATION #
184-003342



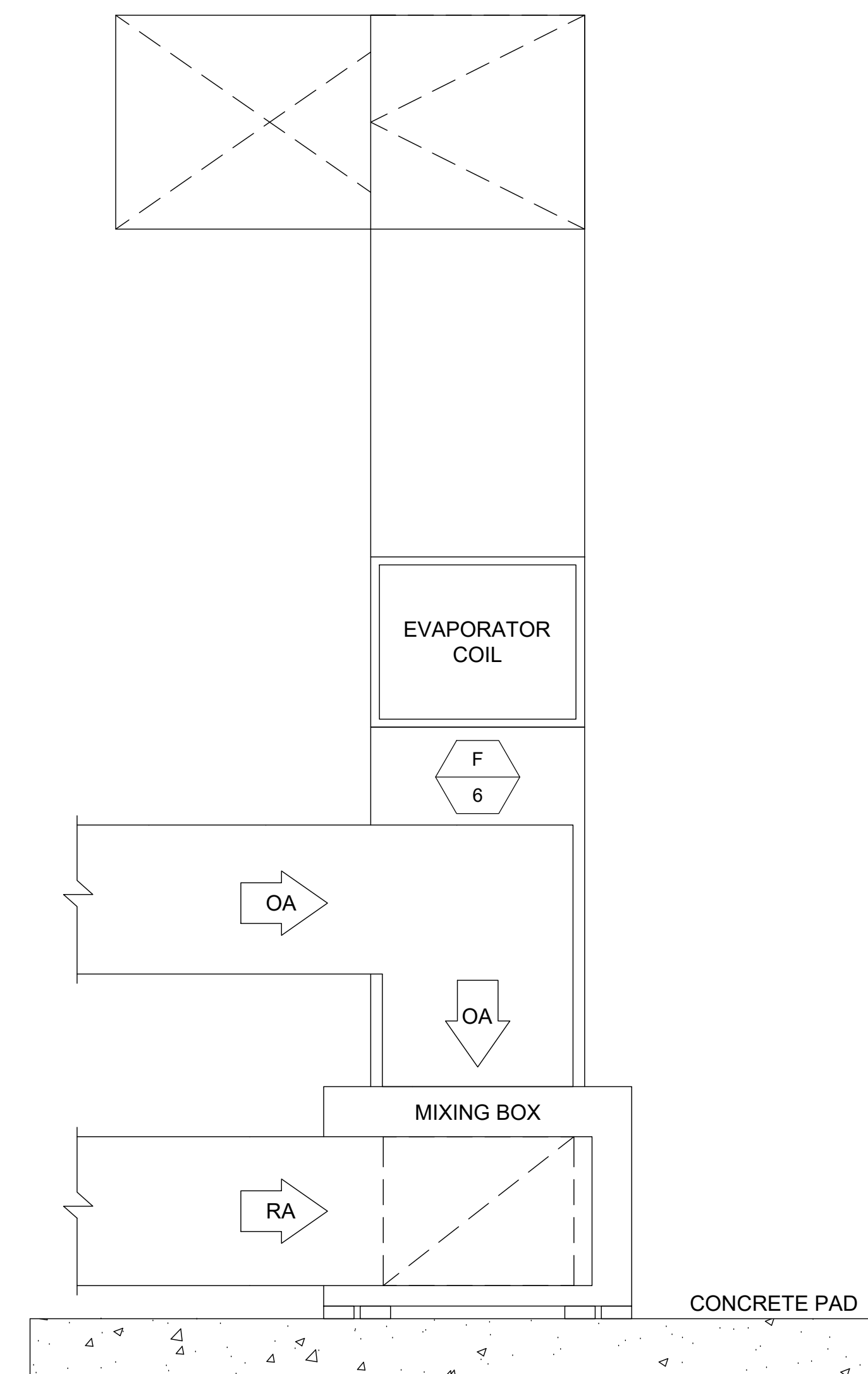
1 F-6 AND ERV-6A ELEVATIONS (EAST VIEW)
NOT TO SCALE



F-6 AND ERV-6A ELEVATION (PLAN VIEW)
NOT TO SCALE



2 F-6 AND ERV-6A ELEVATION (SOUTH VIEW) (TYPICAL OF 2)
NOT TO SCALE



3 F-6 AND ERV-6A ELEVATION (WEST VIEW)
NOT TO SCALE



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Maintenance Building
Renovation

Capital Project No.
2102

for



Rockford, Illinois

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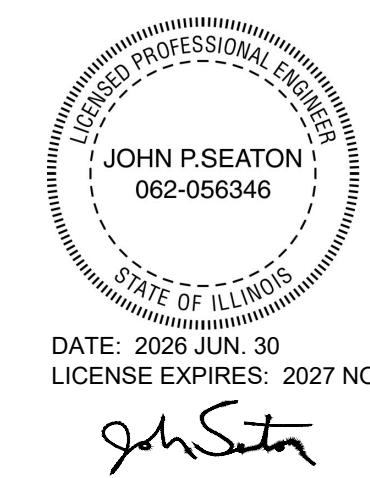
Sheet Title

MECHANICAL DETAILS

Ref. North Sheet No.

M-401

PROFESSIONAL DESIGN FIRM REGISTRATION #
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Maintenance Building Renovation

Capital Project No. 2102

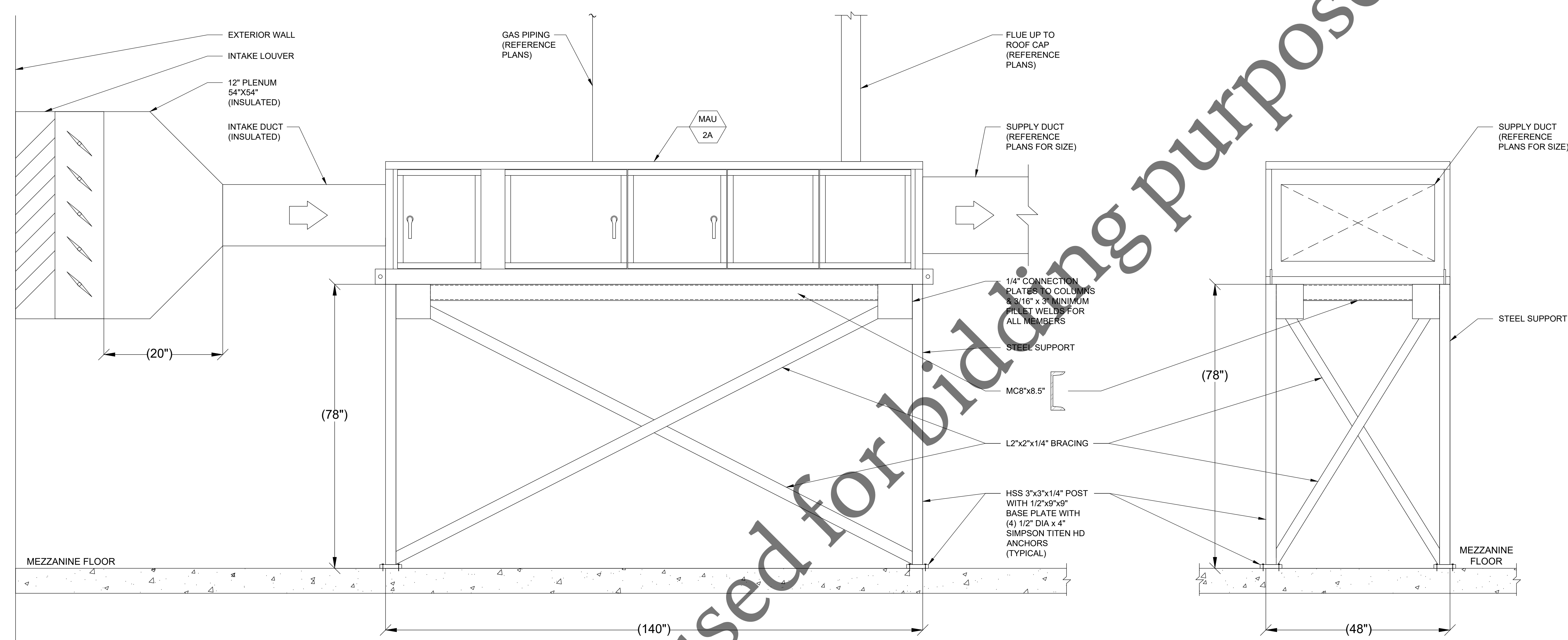
for



Rockford, Illinois

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1 MAU 2A DETAIL
NOT TO SCALE

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Sheet Title MECHANICAL DETAILS

Ref. North Sheet No.

M-402

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Maintenance Building Renovation

Capital Project No. 2102

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Rockford, Illinois

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Table with 3 columns: NO., DATE, DESCRIPTION. Includes dates like 11-05-2025 and descriptions like Initial Owner Layout Review.

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Sheet Title ELECTRICAL SPECIFICATIONS

Ref. North Sheet No.

E-100

PROFESSIONAL DESIGN FIRM REGISTRATION # 184-003342



DATE: 2025 JUN 30 LICENSE EXPIRES: 2027 NOV. 30

John Seaton

ELECTRICAL SPECIFICATIONS

- 1.0 PROVIDE EQUIPMENT, MATERIAL AND LABOR NECESSARY TO COMPLETE ELECTRICAL AND RELATED SYSTEMS AS INDICATED AND IMPLIED FROM SPECIFICATIONS AND DRAWINGS. ELECTRICAL CONTRACTOR SHALL PROVIDE EQUIPMENT, COMPONENTS, ACCESSORIES, AND REQUIRED FOR COMPLETELY OPERATIONAL ELECTRICAL SYSTEMS.
1.1 GENERAL CONDITIONS AND GENERAL NOTES INDICATED WITH ARCHITECTURAL DRAWINGS AND SPECIFICATIONS SHALL GOVERN WHERE APPLICABLE.
1.2 WORK SHALL BE CONSIDERED NEW AND IN CONTRACT UNLESS NOTED OTHERWISE.
1.3 VISIT SITE AND FIELD VERIFY PROJECT CONSTRUCTION CONDITIONS AND PROJECT SITE CONDITIONS PRIOR TO SUBMITTING BID.
1.4 VERIFY SCOPE AND RESPONSIBILITY OF WORK WITH OWNER AND GENERAL CONTRACTOR PRIOR TO SUBMITTING BID.
1.5 COMPLETELY OPERATIONAL ELECTRICAL SYSTEMS.
1.6 CSI SPECIFICATIONS TERM FOR PROVIDE SHALL MEAN FURNISH, SUPPLY, DELIVER, AND INSTALL, COMPLETE AND READY FOR INTENDED USE.
1.7 DEMOLITION, REMOVAL, AND ALTERATIONS OF EXISTING SYSTEMS AND EQUIPMENT AS REQUIRED, THROUGHOUT SPECIFICALLY INDICATED TO ACCOMMODATE PROPOSED WORK.
2.0 COMPLIANCES MATERIALS, WORKMANSHIP, AND INSTALLATIONS SHALL COMPLY WITH APPLICABLE BUILDING CODES, ORDINANCES, AND ADDENDA BY AUTHORITY HAVING JURISDICTION, WHERE ANY SCOPE OF WORK INDICATED DOES NOT ACHIEVE COMPLIANCE, IMMEDIATELY NOTIFY OWNER, GENERAL CONTRACTOR, ARCHITECT, AND ENGINEER.
2.1 NATIONAL FIRE PROTECTION ASSOCIATION NFPA-70, NATIONAL ELECTRICAL CODE.
2.2 NATIONAL FIRE PROTECTION ASSOCIATION NFPA-101, LIFE SAFETY CODE.
2.3 INTERNATIONAL FIRE CODE.
2.4 INTERNATIONAL ENERGY CONSERVATION CODE.
2.5 OSHA.
2.6 UL-LISTED.
2.7 ADA-GUIDELINES.
3.0 GUARANTEES GUARANTEE WORK AND MATERIAL FOR 1-YEAR FROM DATE OF FINAL COMPLETION OF PROJECT. GUARANTEE AGAINST DEFECTS OF MATERIAL, EQUIPMENT, OR WORKMANSHIP. DEFECTS SHALL BE CORRECTED AT NO COST TO OWNER OR GENERAL CONTRACTOR DURING GUARANTEE PERIOD. REPAIRS OR REPLACEMENTS SHALL HAVE ADDITIONAL GUARANTEE FROM DATE OF REPAIR OR REPLACEMENT. THIS REQUIREMENT SHALL BE ENFORCED REGARDLESS OF ANY GUARANTEE EXCLUSIONS INDICATED BY MANUFACTURERS. SUBMIT TO OWNER AND GENERAL CONTRACTOR EACH EQUIPMENT MANUFACTURERS WRITTEN CERTIFICATES OF WARRANTY COMPLYING WITH REQUIREMENTS OF SPECIFICATIONS AND DRAWINGS.
4.0 LABOR LABOR SHALL BE PERFORMED CONSISTENT WITH PROJECT SCHEDULE AND SATISFACTION OF OWNER, GENERAL CONTRACTOR, ARCHITECT, AND ENGINEER. WORK AND INSTALLATIONS SHALL BE FIRST-CLASS NEAT WORKMANLIKE MANNER AND PERFORMED BY SKILLED TRADES.
5.0 PERMITS AND INSPECTIONS APPLY, PROCURE, AND PAY FOR PERMIT WORK AS REQUIRED. APPLY, PROCURE, AND PAY FOR INSPECTIONS AS REQUIRED.
6.0 DRAWINGS VERIFY WORK WITH CURRENT DRAWINGS FROM ARCHITECTS, OWNER, GENERAL CONTRACTOR, SUBCONTRACTORS, VENDORS, AND OTHER TRADES. WORK SHALL BE COORDINATED WITH ARCHITECT, OWNER, GENERAL CONTRACTOR, SUBCONTRACTORS, VENDORS, AND OTHER TRADES.
6.1 GENERAL CONTRACTOR CONDITIONS, SUPPLEMENTARY CONDITIONS, AND GENERAL REQUIREMENTS SHALL BE WITHIN SCOPE OF WORK.
6.2 DRAWINGS AND DIAGRAMS ARE SCHEMATIC. SPECIFIC LOCATIONS AND ROUTING OF EQUIPMENT, DEVICES, CONDUIT, AND CONDUCTORS TO BE COORDINATED WITH GENERAL CONTRACTOR AND OTHER TRADES.
6.3 RESPONSIBLE FOR CONFORMITY WITH REQUIREMENTS OF SPECIFICATIONS AND DRAWINGS, INCLUDING PROPERLY SUPPLIED, INSTALLED, AND ASSEMBLED PARTS.
6.4 REFERENCE DRAWINGS FOR LAYOUTS AND VERIFY DRAWINGS TO COORDINATE WITH OTHER TRADES FOR INSTALLATIONS. PROVIDE ACCESS AND CLEARANCES FOR PERSONNEL AND MAINTENANCE. IF INADEQUATE ACCESS OR CLEARANCES, THEN NOTIFY ARCHITECT, GENERAL CONTRACTOR, AND ENGINEER PRIOR TO INSTALLATION.
6.5 DRAWINGS SHALL BE FOR BIDDING ONLY. REQUIRED AND FINAL CONNECTIONS SHALL BE PROVIDED ONLY FROM APPROVED EQUIPMENT OR APPROVED EQUIPMENT MANUFACTURER RECOMMENDATIONS. DRAWINGS SHALL NOT BE SCALED.
7.0 SUBSTITUTIONS PROPOSAL PRICE SHALL INCLUDE SPECIFIED MATERIAL ONLY. SHOULD SUBSTITUTION BE REQUESTED, THEN SUBSTITUTIONS FOR SPECIFIED EQUIPMENT ARE ACCEPTABLE IF APPROVED IN WRITING BY OWNER, GENERAL CONTRACTOR, ARCHITECT, OR ENGINEER.
8.0 COORDINATION RESPONSIBLE TO COORDINATE AND ELIMINATE CONFLICTS WITH OTHER TRADES AND OTHERS WORK. COORDINATE WITH OTHER TRADES AS REQUIRED FOR CLEARANCES, CHASES, RECESSES, AND OPENINGS.
9.0 CUTTING WORK INCLUDES ANY CUTTING, PATCHING, TRENCHING, AND BACKFILLING FOR REQUIRED WORK, UNLESS NOTED OTHERWISE. SHALL NOT CUT OR PENETRATE ANY STRUCTURAL MEMBER OR STRUCTURAL WORK.
10.0 FIRE STOP PENETRATIONS THROUGH FIRE-RATED ASSEMBLIES SHALL BE FILLED WITH FIRESTOP PRODUCT. COORDINATE WITH GENERAL CONTRACTOR FOR SCOPE OF FIRE-STOPPING FOR OPENINGS AND AROUND PENETRATIONS THROUGH FIRE-RATED ASSEMBLIES. FIRE-STOPPING SHALL MATCH OR EXCEED FIRE RATING OF OPENINGS AND PENETRATIONS. PROVIDED IN ACCORDANCE WITH UL-LISTED ASSEMBLY REQUIREMENTS. SUBMIT FIRESTOP PRODUCT MATERIAL SPECIFICATIONS TO LOCAL AUTHORITIES HAVING JURISDICTION.
11.0 SUPPORTS PROVIDE NECESSARY STRUCTURAL SUPPORTS, BRACING, FRAMING, AND HANGERS FOR EQUIPMENT, COMPONENTS, AND ACCESSORIES AS REQUIRED FOR MOVING, RIGGING, AND INSTALLING. SUPPORTS SHALL HAVE VIBRATION-ISOLATION WHEN MOUNTING AT ROTATING, MOTORS, OR VIBRATING EQUIPMENT.
12.0 CLEANUP CLEANUP AND REMOVAL OF DEBRIS, MATERIAL, OR RUBBISH CAUSED BY THIS TRADE WORK. MATERIAL SHALL BE REMOVED FROM JOB SITE DAILY, OR AS REQUESTED BY OWNER, GENERAL CONTRACTOR, ARCHITECT, OR ENGINEER.
13.0 PROTECTION PROTECT THIS TRADE EQUIPMENT, MATERIAL, AND WORK FROM DAMAGE AND POTENTIAL DAMAGE.
14.0 ADA VERIFY REQUIREMENTS RELATED TO AMERICANS WITH DISABILITIES ACT (ADA) AS APPLICABLE TO WORK AND WORK AREAS. PROVIDE ANY MODIFICATIONS REQUIRED FOR WORK TO COMPLY WITH ADA REQUIREMENTS.
15.0 TEMPORARY ELECTRIC PROVIDE TEMPORARY ELECTRICAL SERVICE REQUIREMENTS DURING CONSTRUCTION, INCLUDING PANELS, POWER, LIGHTING, AND CONTROLS. NO NEW ELECTRICAL EQUIPMENT SHALL BE UTILIZED FOR TEMPORARY ELECTRICAL POWER, UNLESS AUTHORIZED BY EQUIPMENT MANUFACTURER TO NOT VOID WARRANTIES.
16.0 COMMISSIONING PROJECT SHALL HAVE COMMISSIONING BY CERTIFIED COMMISSIONING AGENT. MATERIAL, EQUIPMENT, AND WORK SHALL BE INCLUDED WITH WORK. COMMISSIONING AGENT SHALL PROVIDE COMPLETE COMMISSIONING REPORTS DEMONSTRATING COMPLIANCE WITH IECC SECTION C408.2 PRIOR TO FINAL MECHANICAL SYSTEMS INSPECTION.
17.0 CONDUCTORS WIRE SHALL HAVE 600 VOLT INSULATION, NOT LESS THAN #12 EXCEPT FOR CONTROLS, BE STRANDED COPPER TYPE THIN OR THIN, TYPE THIN OR THIN FOR BRANCH CIRCUIT. WIRES SHALL BE COLOR CODED AS PER LOCAL CODE. COLOR CODE SHALL IDENTIFY SAME PHASE THROUGHOUT SYSTEM FROM SERVICE TO BRANCH CIRCUITS.
17.1 SIZE AND TYPE OF EQUIPMENT BRANCH OVERCURRENT PROTECTIVE DEVICES(S) SHALL BE AS RECOMMENDED BY EQUIPMENT MANUFACTURER. FIELD VERIFY EACH REQUIRED DEVICE PRIOR TO INSTALLATION.
17.2 WHERE CONDUCTORS ARE SPLICED IN A JUNCTION BOX THE ASSOCIATED EQUIPMENT GROUND CONDUCTOR SHALL BE BONDED TO THE BOX.
17.3 FINAL TERMINATIONS TO PANELS TO BE TORQUED PER MANUFACTURER'S REQUIREMENTS.
17.4 SEPARATE NEUTRAL CONDUCTOR FOR EACH CIRCUIT. CIRCUITS SHALL NOT SHARE NEUTRAL.
17.5 VERIFY CONDUCTORS ARE SIZED FOR ANY VOLTAGE DROP CORRECTION. ELECTRICAL CONTRACTOR TO VERIFY THAT CONDUCTORS FOR POWER FEEDERS SHALL BE SIZED TO COMPLY WITH VOLTAGE DROP REQUIREMENTS PER NEC ARTICLE 215.2.
18.0 CONDUIT WIRING (ABOVE 50 VOLTS) SHALL BE CONCEALED IN CONDUIT. CONDUITS SHALL BE CONCEALED IN WALL, FLOOR OR CEILING. WHERE CONDUITS ARE RUN EXPOSED, THEY SHALL RUN PARALLEL, OR AT RIGHT ANGLES TO WALLS. ALSO VERIFY ROUTE OF EXPOSED CONDUIT RUN WITH ARCHITECT. CONDUIT EXPOSED TO WEATHER, IN SLABS ON GRADE, AND WHERE REQUIRED BY CODE SHALL BE RIGID GALVANIZED STEEL, WITH WATERPROOF FITTINGS AND APPROVED COMPOUND. CONDUIT ELSEWHERE SHALL BE EMT WITH COMPRESSION OR SET SCREW FITTINGS.
19.0 DEVICES HUBBELL HBL-1221-OW (SINGLE POLE SWITCHES), HUBBELL HBL-1223-OW (THREE WAY SWITCHES), HUBBELL HBL-5362-W (RECEPTACLES 20A), HUBBELL HBL-GF-5362-W (GF1 RECEPTACLES 20A), HUBBELL HBL-G-5362 (ORANGE IG RECEPTACLES 20A), HUBBELL SERIES (WALL OCCUPANCY/VACANCY) HUBBELL SERIES (CEILING OCCUPANCY SENSOR)
20.0 GROUND-FAULT CIRCUIT PROTECTION DEVICES LOCATED OUTDOORS, KITCHENS, TOILETS, FOOD SERVICE AREAS, OR WITHIN 6' OF PLUMBING FIXTURES SHALL BE GROUND-FAULT INTERRUPT TYPE.
21.0 SWITCHES PROVIDE EQUIPMENT DISCONNECT SWITCHES AND STARTERS FOR OTHER TRADES (MECHANICAL, PLUMBING, SECURITY, ALARMS, ETC.). STARTERS SHALL BE ELECTRICALLY OPERATED WITH OVERLOAD PROTECTION ON EACH PHASE LINE, HAND-OFF-AUTO OR START-STOP CONTROL, CONTROL TRANSFORMERS, AND RED PILOT. SWITCHES SHALL BE SQUARE D QMB GENERAL DUTY (240V) OR HEAVY DUTY (480V) WITH BUSSMAN DUAL ELEMENT FUSES AS REQUIRED. PROVIDE 2 SPARE SETS OF FUSES FOR EACH FUSE SIZED AT 100A OR LARGER.
22.0 NEMA NEMA RATING OF ELECTRICAL DEVICES SHALL BE SUITABLE FOR ENVIRONMENT INSTALLATION. VERIFY ENVIRONMENT REQUIREMENTS PRIOR TO INSTALLATION. EXTERIOR EQUIPMENT SHALL BE NEMA 3R AND WEATHERPROOF LIQUIDTIGHT FLEXIBLE METAL CONDUIT CONNECTIONS.
23.0 ISOLATED GROUND RECEPTACLES PROVIDE ISOLATED GROUND RECEPTACLES FOR COMPUTER AND SERVER EQUIPMENT. COORDINATE WITH THE OWNER FOR I.T. REQUIREMENTS.
24.0 IDENTIFICATION IDENTIFY DISCONNECTS, STARTERS, PANELS, SWITCHBOARDS, DIMMERS, AND SWITCHES WITH 3/4" HIGH WHITE-FACED MCGARTA WITH 1/4" BLACK LETTERS. DIMMERS AND SWITCHES IN GROUPS OF 2 OR LESS DO NOT REQUIRE IDENTIFICATION.
25.0 NEMA BOLT PANELS AND CIRCUIT BREAKERS SHALL BE UL-LISTED. PANELS SHALL HAVE COPPER BUS WITH BOLT-ON TYPE BREAKERS. PROVIDE ACCURATE AND TYPE-PRINTED PANEL SCHEDULE FOR EACH PANEL. BALANCE LOAD ACROSS PHASES FOR CIRCUITS WITHIN 20%. TEST EACH PHASE AND PROVIDE REPORT DOCUMENT OF CONDITIONS.
26.0 EQUIPMENT ELECTRICAL EQUIPMENT SHALL HAVE MINIMUM OF 65,000 AMP INTERRUPTING CAPACITY UNLESS NOTED OTHERWISE ON DRAWINGS, OR EQUIPMENT MANUFACTURER SUPPLIES DETAILED MINIMUM AIC CALCULATIONS JUSTIFYING RATINGS OF EQUIPMENT PROVIDED.
27.0 TRANSFORMER TRANSFORMER SHALL BE OPEN-VENTILATE, DRY TYPE, CLASS H INSULATION, 115°C TEMPERATURE RISE. WIRES SHALL BE COPPER. PRIMARY AND SECONDARY VOLTAGES SHALL BE AS NOTED, PROVIDE ADJUSTMENTS FOR REQUIRED VOLTAGE.

GENERAL NOTES

- 1. WORK SHALL BE PERFORMED AND INSTALLED IN COMPLIANCE WITH 2020 NATIONAL ELECTRICAL CODE, HEALTH REGULATIONS, AND LOCAL ORDINANCES.
2. WORK SHALL INCLUDE PERMIT FEES, UTILITY TAP FEES, AND INSPECTION FEES AS REQUIRED.
3. COORDINATE LOCATION OF ROOFING EQUIPMENT (DISCONNECTS, JUNCTION BOXES, CONDUITS, CONDUCTORS, ETC) AND CONNECTION POINTS WITH GENERAL CONTRACTOR.
4. FIELD VERIFY EXISTING CONDITIONS PRIOR TO SUBMITTING BID AND PRIOR TO INSTALLATION.
5. COORDINATE WITH OTHER TRADES IN EQUIPMENT TO REQUIRED CLEARANCES AND TO AVOID ANY INTERFERENCE.
6. REFERENCE ARCHITECTURAL DRAWINGS FOR ANY ADDITIONAL EQUIPMENT INFORMATION.
7. GENERAL CONTRACTOR SHALL COORDINATE REQUIRED SUBMITTALS TO FIRE DEPARTMENT FOR FIRE ALARM SYSTEM.
8. BELOW GRADE CONDUIT OR EXTERIOR CONDUIT SHALL BE RIGID GALVANIZED STEEL (RGS) WITH COMPRESSION FITTINGS.
9. ABOVE GRADE INTERIOR CONDUIT SHALL BE ELECTRICAL METALLIC TUBING (EMT) OR INTERMEDIATE METALLIC CONDUIT (IMC).
10. CONDUCTORS SHALL BE INSTALLED IN METAL CONDUIT AND SHALL BE STRANDED COPPER.
11. LOW VOLTAGE WIRING SHALL BE INSTALLED IN CONDUIT WHERE CONCEALED BEHIND WALLS, INACCESSIBLE BY FINISH MATERIALS, OR SUBJECT TO PHYSICAL DAMAGE.

ENERGY NOTES

- 1. RECESSED LUMINAIRES INSTALLED IN BUILDING THERMAL ENVELOPE SHALL BE INSULATION CONTACT RATED, LABELED FOR AIR LEAKAGE IN ACCORDANCE WITH ASTM E283, AND SEALED WITH GASKET OR CAULK BETWEEN HOUSING AND INTERIOR WALL OR CEILING COVERING. (C402.5.10)
2. TO REDUCE ENERGY USAGE LUMINAIRE LEVEL LIGHTING CONTROLS (LLC) TO BE INDEPENDENTLY CAPABLE OF MONITORING OCCUPANT ACTIVITY, MONITORING AMBIENT LIGHT, AND BEING CONFIGURABLE BASED ON PARAMETERS INCLUDING BRIGHT AND DIM SETPOINTS, TIMEOUTS, DIMMING FADE RATES, SENSOR SENSITIVITY, AND ZONING CONFIGURATIONS. EXCEPTIONS FOR SECURITY, EMERGENCY, AND EXIT EGRESS LIGHTING. (C405.2)
3. LOW-VOLTAGE DRY-TYPE TRANSFORMER ENERGY EFFICIENCIES TO CONFORM WITH ASHRAE 90.1 REGULATIONS AND MEET THE MINIMUM EFFICIENCY REQUIREMENTS OF TABLE C405.7. (C405.7)
4. ELECTRIC MOTORS SHALL MEET THE MINIMUM EFFICIENCY REQUIREMENTS OF TABLES C405.8(1) THROUGH C405.8(4) WHEN TESTED AND RATED IN ACCORDANCE WITH THE DOE 10 CFR 431. (C405.8)
5. LIGHTING CONTROL SYSTEMS TO BE TESTED TO ENSURE THAT CONTROL HARDWARE AND SOFTWARE ARE CALIBRATED, ADJUSTED, PROGRAMMED AND IN PROPER WORKING CONDITION IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS AND MANUFACTURER'S INSTRUCTIONS. (C408.3)

KEY NOTES

- 1. CEILING REPLACEMENT EXISTING CEILING TO BE REMOVED AND REPLACED - REFERENCE ARCHITECTURAL DRAWINGS FOR SCOPE OF WORK. PROVIDE SUPPORTS AS REQUIRED FOR EXISTING ELECTRICAL EQUIPMENT TO REMAIN AND BE REUSED. COORDINATE WITH GENERAL CONTRACTOR.
2. (DEMO EXISTING) HVAC UNIT DISCONNECT, REMOVE, AND DISPOSE EXISTING HVAC UNIT POWER AND ASSOCIATED EQUIPMENT. DISCONNECT AND CAP EXISTING ABANDONED CONDUIT AND SEAL WEATHERTIGHT. FIELD VERIFY EXISTING EQUIPMENT, CONDITIONS, AND LOCATIONS. COORDINATE WORK WITH EXISTING EQUIPMENT, EXISTING CONDITIONS, AND OTHER TRADES.
3. DEMO ABANDONED ABANDONED ELECTRICAL SYSTEMS AND EQUIPMENT SHALL BE DISCONNECTED, REMOVED, AND DISPOSED. FIELD VERIFY EXISTING EQUIPMENT, UNDERGROUND AND OVERHEAD.
4. HVAC EQUIPMENT PROVIDE CONNECTIONS TO HVAC EQUIPMENT PER MANUFACTURER RECOMMENDATIONS. COORDINATE WITH GENERAL CONTRACTOR AND EQUIPMENT MANUFACTURER.
5. EF INTERLOCK TO MAJ PROVIDE EXHAUST FAN AND MAKEUP AIR FAN CONNECTIONS. REFERENCE EQUIPMENT SCHEDULE AND DETAILS. FIELD VERIFY EXISTING EQUIPMENT AND CONNECTIONS.
6. DISCONNECT AND RELOCATED DISCONNECT EXISTING LIGHTING FIXTURE AND RELOCATE TO AVOID PROPOSED HVAC EQUIPMENT. RECONNECT AND RE-ENERGIZE. FIELD VERIFY EXISTING EQUIPMENT AND CONDITIONS.
7. SWITCHGEAR CIRCUIT BREAKER SWITCHGEAR CIRCUIT BREAKER FOR EXISTING SWITCHGEAR AND CONNECTIONS AS REQUIRED. FIELD VERIFY EXISTING EQUIPMENT AND CONDITIONS.
8. TRANSFORMER PROVIDE STEP-DOWN TRANSFORMER FOR PANEL SERVED FROM SWITCHGEAR - REFERENCE ELECTRICAL RISER. PROVIDE FLOOR MOUNTED SUPPORTS. COORDINATE MOUNTING WITH EXISTING CONDITIONS AND OTHER TRADES.
9. PANEL PROVIDE ELECTRICAL PANEL SURFACE MOUNTED TO WALL. COORDINATE LOCATION WITH EXISTING CONDITIONS AND OTHER TRADES.
10. (DISCONNECT AND RELOCATE) LIET EQUIPMENT DISCONNECT AND RELOCATE FOR LIET EQUIPMENT TO BE DISCONNECTED, RELOCATED, AND RECONNECTED. FIELD VERIFY EXISTING EQUIPMENT AND VERIFY POWER/CONTROLS REQUIREMENTS WITH LIET MANUFACTURER RECOMMENDATIONS. COORDINATE WITH FRESA, EXISTING EQUIPMENT, AND OTHER TRADES.

ELECTRICAL SYMBOLS LIST

Table listing electrical symbols and their descriptions: AFF ABOVE FINISHED FLOOR, CCT CIRCUIT, CL CURRENT LIMITING DEVICE - NOTE D, CR CONVENIENCE RECEPTACLE, G GROUND (GREEN), GF1 GROUND FAULT INTERRUPT, IS ISOLATED GROUND (DRANGE), L LIGHTING, MCB MAIN CIRCUIT BREAKER, MLO MAIN LUG ONLY, OS OCCUPANCY SENSOR - NOTE B, R RECEPTACLE, SR SPECIAL RECEPTACLE, WP WEATHER PROOF, JB JUNCTION BOX, OS OCCUPANCY SENSOR - NOTE B, CONDUIT STUB UP FROM UNDER SLAB, RECEPTACLE - SPECIAL AS CALLED OUT ON PLANS, RECEPTACLE - OCCUPANCY SENSOR, RECEPTACLE - DEDICATED COMPLEX, RECEPTACLE - GFI AND USB (VERIFY WITH OWNER), RECEPTACLE - QUAD, WALL MOUNTED DATA OUTLET - NOTE A, WALL MOUNTED TELEPHONE OUTLET - NOTE A, WALL MOUNTED DATA/TELEPHONE OUTLET - NOTE A, MOTOR CONNECTION, DISCONNECT - NON-FUSED, F = FUSED, COMBINED MOTOR STARTER WITH DISC AND HOA, F = FUSED, EXIT, PUSH BUTTON FOR DOOR STRIKE, SINGLE-POLE SWITCH, D=DIMMABLE, OS=OCCUPANCY SENSOR, OSD=DIMMABLE OCCUPANCY SENSOR, THREE-WAY SWITCH AND/OR SWITCH LEG A (LETTER), BRANCH PANEBOARD.

NOTE A: PROVIDE 4" BOX, 1-GANG COVER, AND (1) 3/4" CONDUIT FOR TELEPHONE OUTLET, AND TERMINATE 6" ABOVE ACCESSIBLE CEILING SPACE.

NOTE B: PROVIDE OCCUPANCY-VACANCY SENSOR (WALL MOUNTED) WITH INTEGRAL MANUAL OVERRIDE SWITCH AND 15 MINUTE OFF FOR UNOCCUPIED MODE.

NOTE C: PROVIDE OCCUPANCY-VACANCY SENSOR (CEILING MOUNTED) AND WALL SWITCH, 15 MINUTE OFF FOR UNOCCUPIED MODE. PROVIDE POWER MODULE AND WALL MOUNTED MANUAL OVERRIDE SWITCH.

NOTE D: PROVIDE CURRENT LIMITING DEVICE FOR TRACK LIGHTING WITH POWER NOT TO EXCEED 8 WATTS/FT. LIMITING DEVICE SHALL MATCH TRACK LIGHTING MANUFACTURER.

REFERENCE PROJECT SCOPE DOCUMENTS AND ARCHITECTURAL DRAWINGS FOR UNIT-PRICING ITEMS.

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Maintenance Building Renovation

Capital Project No. 2102

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Rockford, Illinois

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Project No. 2025-16

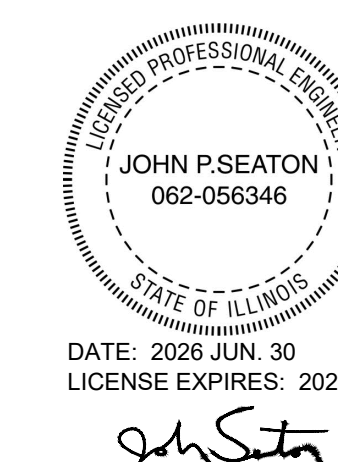
Scale AS INDICATED

Sheet Title ELECTRICAL SCHEDULES

Ref. North Sheet No.

E-101

PROFESSIONAL DESIGN FIRM REGISTRATION # 184-003342



DATE: 2025 JUN 30
LICENSE EXPIRES: 2027 NOV. 30

John P. Seaton

PANEL SCHEDULE		(EXISTING)		TAG		LP-16C				
LOAD	NOTES	VA	P	A	CCT	A	P	VA	LOAD	NOTES
(EXIST) MECHANICAL	-	1	20	1	2	20	1	-	(EXIST) CORRIDORS & LAUNDRY	-
(EXIST) MECHANICAL & CLASSROOM	-	1	20	3	4	20	1	-	(EXIST) CORRIDORS RRJUAN CLO	-
(EXIST) CLASSROOM LIGHTS WEST	-	1	20	5	6	20	1	-	(EXIST) CLASSROOM RECEIPT	-
(EXIST) CLASSROOM LIGHTS EAST	-	1	20	7	8	20	1	-	(EXIST) STORE/RESTROOMS LOCKER	-
(EXIST) MENS LOCK/SHOWER/VESTIBULE	-	1	20	9	10	20	1	-	(EXIST) STORE/RESTROOMS LOCKER	-
(EXIST) MENS LOCK/SHOWER/VESTIBULE	-	1	20	11	12	20	1	-	(EXIST) CORRIDORS, MENS RR	-
(EXIST) MENS LOCK/SHOWER/VESTIBULE	-	1	20	13	14	20	1	-	(EXIST) CLASSROOM SOUTHWEST	-
(EXIST) LUNCH ROOM VENDING STORAGE	-	1	20	15	16	20	1	-	(EXIST) CLASSROOM WEST	-
(EXIST) LUNCH ROOM	-	1	20	17	18	20	1	-	(EXIST) CLASSROOM NORTHWEST	-
(EXIST) LAUNDRY	-	1	20	19	20	20	1	-	(EXIST) STOVE	-
(EXIST) LAUNDRY	-	1	20	21	22	20	1	-	(EXIST) STOVE	-
(EXIST) VENDING MACHINES	-	1	20	23	24	20	1	-	(EXIST) LUNCH GARBAGE DISPOSAL	-
(EXIST) REFRIGERATOR	-	1	20	25	26	20	1	-	(EXIST) LUNCH MIDDLE MICROWAVE	-
(EXIST) LUNCH ROOM NORTH RECEIPT	-	1	20	27	28	20	1	-	(EXIST) LUNCH DISHWASHER/MICROWAVE	-
(EXIST) CLASSROOM HEAT	-	1	20	29	30	20	1	-	(EXIST) LUNCH LIGHT OVER SINK	-
(EXIST) CLASSROOM HEAT	-	1	20	31	32	20	1	-	(EXIST) LUNCH SINK RECEIPT	-
(EXIST) CORRIDOR	-	1	20	33	34	20	1	-	(EXIST) LUNCH ROOM	-
(EXIST) CORRIDOR	-	1	20	35	36	20	1	-	(EXIST) LUNCH ROOM	-
(EXIST) LUNCH ROOM	-	1	20	37	38	20	1	-	(EXIST) MENS RR/JUAN MENS BASIN AREA	-
(EXIST) LUNCH ROOM	-	1	20	39	40	20	1	-	SPARE	-
(EXIST) LUNCH ROOM	-	1	20	41	42	20	1	-	(EXIST) RECEIPT NE WALL THIS ROOM	-

VOLTAGE 120/208 V 3 PH 4 W MAIN 100A MLO

PANEL SCHEDULE		(EXISTING)		TAG		LP-16GI				
LOAD	NOTES	VA	P	A	CCT	A	P	VA	LOAD	NOTES
(EXIST) MAINTENANCE SHOP AREA	-	1	20	1	2	20	1	-	(EXIST) MAINTENANCE SHOP AREA	-
(EXIST) MAINTENANCE SHOP AREA	-	1	20	3	4	20	1	-	(EXIST) CARPENTER SHOP/DIL STORAGE	-
(EXIST) CARPENTER SHOP AREA	-	1	20	5	6	20	1	-	(EXIST) CARP. SHOP/INSTR/ELECT SHOP	-
(EXIST) MACHINE SHOP	-	1	20	7	8	20	1	-	(EXIST) MAINT/CARP/MACHINE SHOPS	-
(EXIST) MAINT. SHOP/CARP. SHOP AREA	-	1	20	9	10	20	1	-	(EXIST) INSTR & ELEC SHOP	-
(EXIST) MAINT. SHOP OUTSIDE	-	1	20	11	12	20	1	-	(EXIST) MAINTENANCE SHOP AREA	-
(EXIST) MAINTENANCE SHOP AREA	-	1	20	13	14	20	1	-	(EXIST) MAINTENANCE SHOP AREA	-
(EXIST) MAINTENANCE SHOP AREA	-	1	20	15	16	20	1	-	(EXIST) MAINTENANCE SHOP AREA	-
(EXIST) MAINTENANCE SHOP AREA	-	1	20	17	18	20	1	-	(EXIST) SHOP AREAS	-
(EXIST) MAINTENANCE/MACHINE SHOP	-	1	20	19	20	20	1	-	(EXIST) MACHINE SHOP	-
(EXIST) MACHINE SHOP	-	1	20	21	22	20	1	-	(EXIST) MACHINE & MACHINE SHOP	-
(EXIST) CARPENTER SHOP OUTSIDE	-	1	20	23	24	20	1	-	(EXIST) CARPENTER SHOP AREA	-
(EXIST) CARPENTER SHOP AREA	-	1	20	25	26	20	1	-	(EXIST) CARPENTER SHOP AREA	-
(EXIST) MAINTENANCE SHOP AREA	-	3	27	28	29	30	3	-	(EXIST) INSTR & ELECTRONIC SHOP	-
SPARE	-	60	31	32	60	-	-	-	SPARE	-
SPARE	-	1	20	33	34	20	1	-	SPARE	-
SPARE	-	1	20	35	36	20	1	-	SPARE	-
SPARE	-	1	20	37	38	20	1	-	SPARE	-
SPARE	-	1	20	39	40	20	1	-	SPARE	-
SPARE	-	1	20	41	42	20	1	-	SPARE	-

VOLTAGE 120/208 V 3 PH 4 W MAIN 125A MCB

PANEL SCHEDULE		(EXISTING)		TAG		PP-16H				
LOAD	NOTES	VA	P	A	CCT	A	P	VA	LOAD	NOTES
MAU-2A	480 - 1 ϕ	1	2992	3	1	2	20	1	-	SPACE
SPACE	-	60	5	6	20	1	-	-	SPACE	-
SPACE	-	1	20	7	8	20	1	-	USED	-
SPACE	-	1	20	9	10	20	1	-	USED	-
USED	-	1	20	11	12	20	1	-	SPACE	-
USED	-	1	20	13	14	20	1	-	SPACE	-
USED	-	1	20	15	16	20	1	-	SPACE	-

VOLTAGE 480 V 3 PH 3 W MAIN 100A MLO

NOTES:
1. VERIFY REQUIREMENTS WITH APPROVED EQUIPMENT SPECIFICATIONS

PANEL SCHEDULE		(NEW)		TAG		LP-16C-2					
LOAD	NOTES	VA	P	A	CCT	A	P	VA	LOAD	NOTES	
F-6	4.5.6	800	1	20	1	2	20	1	180	CONTROLS RECEPTACLE	
F-5	4.5.6	800	1	20	3	4	20	1	SPARE	386 - 1 ϕ C	
F-4A	4.5.6	800	1	20	5	6	3	4008	ERV-SA	5.6	
F-4B	4.5.6	800	1	20	7	8	-	-	SPARE	3 ϕ 10 - 3 ϕ 4 ϕ C	
SPARE	-	1	20	9	10	20	-	-	SPARE	5.6	
F-3	4.5.6	800	1	20	11	12	20	1	-	SPARE	386 - 1 ϕ C
F-2	4.5.6	800	1	20	13	14	20	1	-	SPARE	-
F-1	4.5.6	800	1	20	15	16	20	1	-	SPARE	-
SPARE	-	1	20	17	18	20	1	-	SPARE	-	
SPARE	-	1	20	19	20	20	1	-	SPARE	-	
SPARE	-	1	20	21	22	20	1	-	SPARE	-	
SPARE	-	2	23	24	20	1	-	-	SPARE	-	
SPARE	-	2	25	26	20	1	-	-	SPARE	-	
SPARE	-	2	27	28	20	1	-	-	SPARE	-	
SPARE	-	2	29	30	20	1	-	-	SPARE	-	
SPARE	-	2	31	32	20	1	-	-	SPARE	-	
SPARE	-	30	33	34	20	1	-	-	SPARE	-	
SPARE	-	2	35	36	20	1	-	-	SPARE	-	
SPARE	-	2	37	38	20	1	-	-	SPARE	-	
SPARE	-	2	39	40	20	1	-	-	SPARE	-	
SPARE	-	60	41	42	20	1	-	-	SPARE	-	

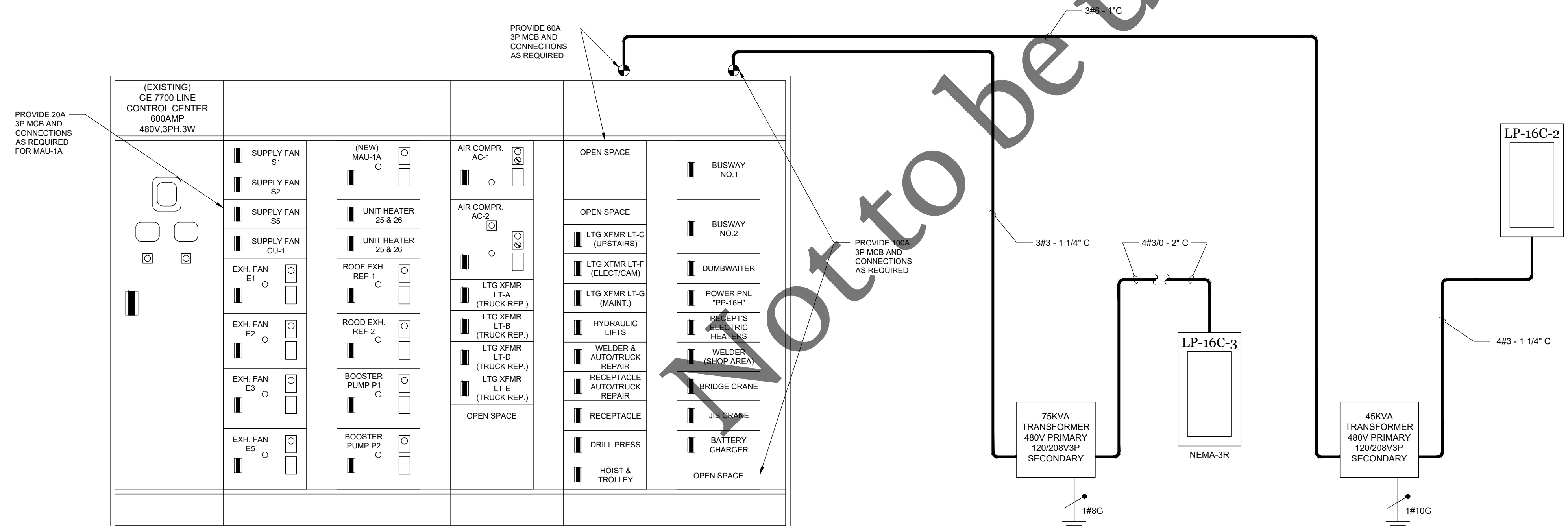
TOTAL LOAD 6760 VA BALANCED LOAD 19 A
VOLTAGE 120/208 V 3 PH 4 W MAIN 100A MCB

NOTES:
* BALANCED LOAD = 125% OF LIGHTING + 100% OF HVAC.
1. PROVIDE GROUND BUS.
2. PROVIDE LOCKING DEVICE ON CIRCUIT BREAKER.
3. PROVIDE SEPARATE GROUND CONDUCTOR.
4. PROVIDE SEPARATE NEUTRAL CONDUCTOR.
5. PROVIDE HACR CIRCUIT BREAKER.
6. VERIFY REQUIREMENTS WITH APPROVED EQUIPMENT SPECIFICATIONS.

PANEL SCHEDULE		(NEW)		TAG		LP-16C-3				
LOAD	NOTES	VA	P	A	CCT	A	P	VA	LOAD	NOTES
SPARE	-	1	20	1	2	20	1	2	8112	CU-1
SPARE	-	1	20	3	4	60	2	3744	CU-2	386 - 1 ϕ C
SPARE	-	1	20	5	6	30	2	6032	CU-3	386 - 1 ϕ C
SPARE	-	1	20	7	8	30	2	6032	CU-3	386 - 1 ϕ C
SPARE	-	1	20	11	12	40	2	8112	CU-4	386 - 1 ϕ C
SPARE	-	1	20	13	14	20	1	-	SPARE	-
SPARE	-	1	20	15	16	20	1	-	SPARE	-
SPARE	-	1	20	17	18	20	2	8112	CU-4A	5.6
SPARE	-	1	20	19	20	60	2	8112	CU-4B	5.6
SPARE	-	2	23	24	60	2	3744	CU-5	386 - 1 ϕ C	
SPARE	-	2	27	28	30	2	8112	CU-6	386 - 1 ϕ C	
SPARE	-	2	29	30	60	2	8112	CU-6	386 - 1 ϕ C	
SPARE	-	2	31	32	60	2	8112	CU-6	386 - 1 ϕ C	
SPARE	-	30	33	34	2	6864	CU-7	5.6		
SPARE	-	2	35	36	50	2	3736	CU-8	386 - 1 ϕ C	
SPARE	-	2	37	38	20	1	-	SPARE	-	
SPARE	-	2	39	40	20	1	-	SPARE	-	
SPARE	-	60	41	42	20	1	180	GFI RECEPTACLE	-	

TOTAL LOAD 54,468 VA BALANCED LOAD 152 A
VOLTAGE 120/208 V 3 PH 4 W MAIN 200A MCB

NOTES:
* BALANCED LOAD = 125% OF LIGHTING + 100% OF HVAC.
1. PROVIDE GROUND BUS.
2. PROVIDE LOCKING DEVICE ON CIRCUIT BREAKER.
3. PROVIDE SEPARATE GROUND CONDUCTOR.
4. PROVIDE SEPARATE NEUTRAL CONDUCTOR.
5. PROVIDE HACR CIRCUIT BREAKER.
6. VERIFY REQUIREMENTS WITH APPROVED EQUIPMENT SPECIFICATIONS.



ELECTRICAL SERVICE SWITCHGEAR
NOT TO SCALE



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Capital Project No.
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Project No. 2025-16

Scale
AS INDICATED

Sheet Title
**ELECTRICAL FIRST FLOOR
PLAN - DEMOLITION**

Ref North Sheet No.

E-200

PROFESSIONAL DESIGN FIRM REGISTRATION #
184-003342

FIELD VERIFY EXISTING CONDITIONS PRIOR TO BID AND PRIOR TO INSTALLATION. NOTIFY OWNER REPRESENTATIVE AND ARCHITECT OF ANY EQUIPMENT DEVIATIONS.

REFERENCE DRAWING
E-100 FOR KEY NOTES

NOT IN
CONTRACT

(DEMO EXISTING)
CONDENSING UNIT
AND ASSOCIATED
EQUIPMENT

(DEMO EXISTING)
UH-19
ELECTRICAL
EQUIPMENT

(DEMO EXISTING)
UH-19
ELECTRICAL
EQUIPMENT

(DEMO EXISTING)
TEMPERATURE
CONTROL PANEL

(DEMO EXISTING)
MAU ELECTRICAL
EQUIPMENT
MAINTENANCE

(DEMO EXISTING)
REF#4
ELECTRICAL
EQUIPMENT

(DEMO EXISTING)
PANEL
TCP#5

(DEMO EXISTING)
VEHICLE FAN
ELECTRICAL AND
ASSOCIATED
EQUIPMENT

(DEMO EXISTING)
S-5
ELECTRICAL
EQUIPMENT

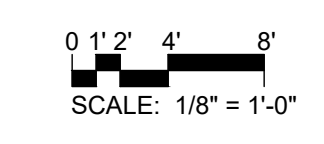
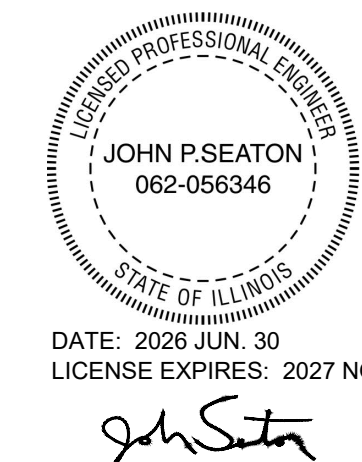
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S-4
ELECTRICAL
EQUIPMENT

(DEMO EXISTING)
REF#3
ELECTRICAL
EQUIPMENT

(DEMO EXISTING)
WALL A/C
ELECTRICAL
EQUIPMENT

(DEMO EXISTING)
INSTRUMENTS

1 FIRST FLOOR ELECTRICAL OVERALL PLAN - DEMOLITION
SCALE: 1/8" = 1'-0", WHEN PRINTED ON 36"x24" (ARCH E1)



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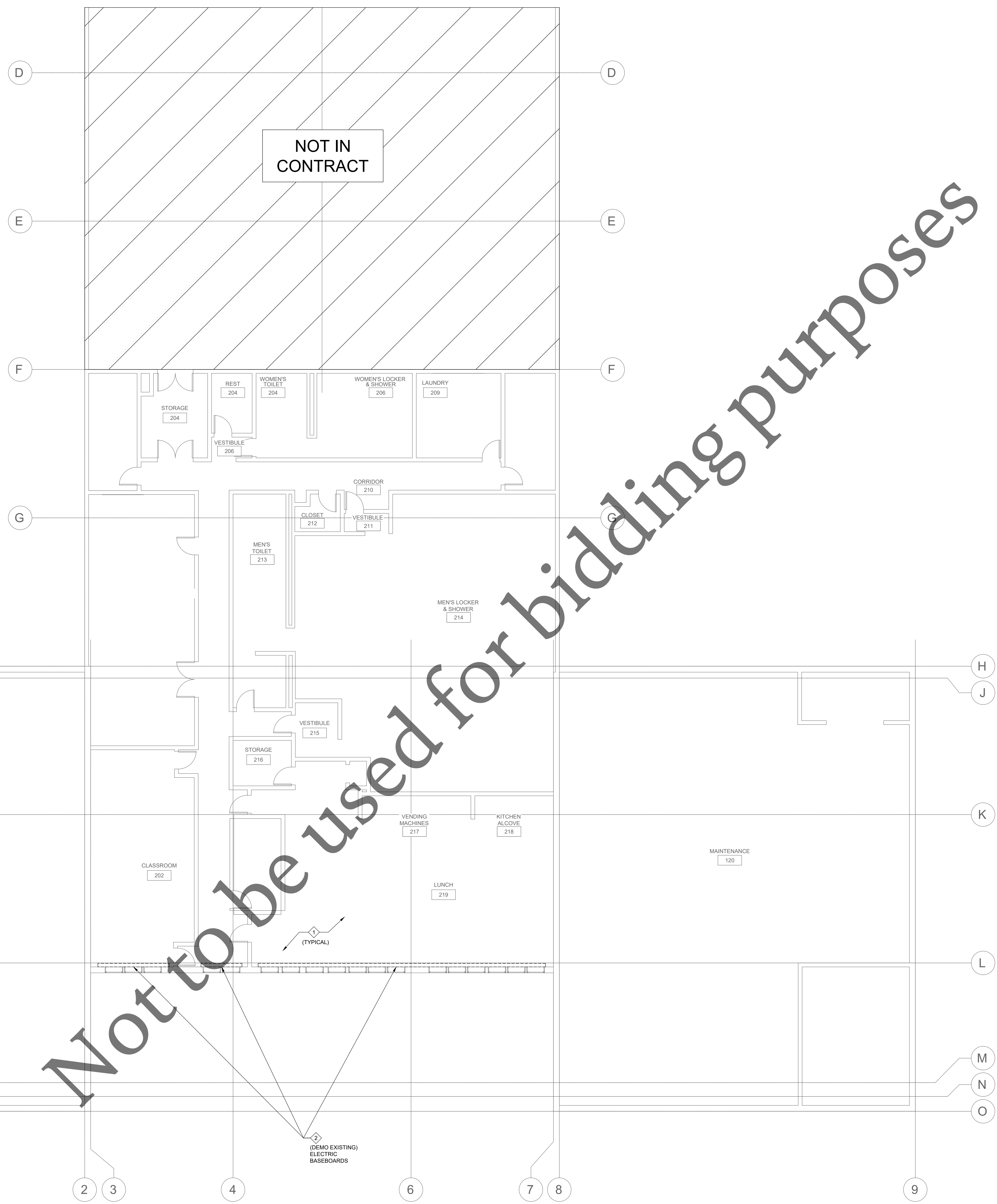
Sheet Title
ELECTRICAL SECOND FLOOR PLAN - DEMOLITION

Ref. North Sheet No.
E-201

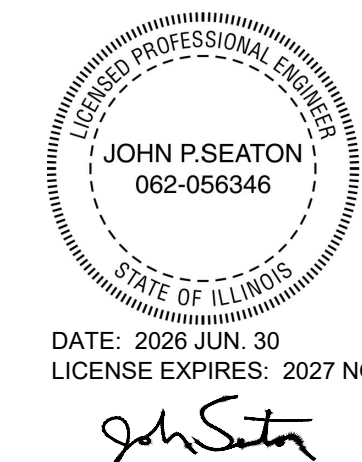
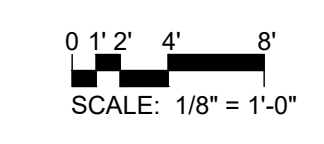
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REFERENCE DRAWING
E-100 FOR KEY NOTES



1 SECOND FLOOR ELECTRICAL PLAN - DEMOLITION
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Sheet Title
ELECTRICAL FIRST FLOOR PLAN

Ref. North Sheet No.

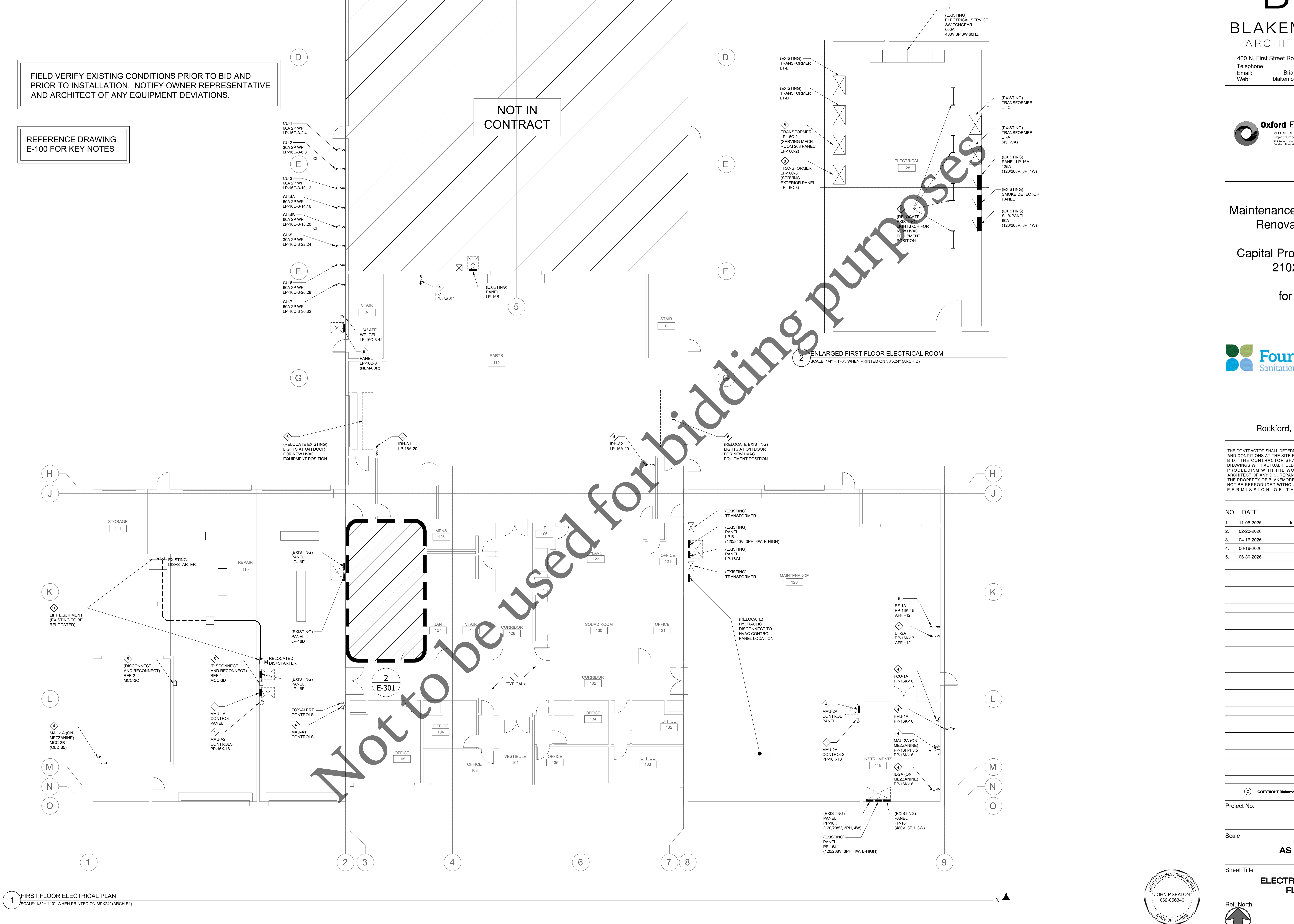
E-300

PROFESSIONAL DESIGN FIRM REGISTRATION #
184-003342

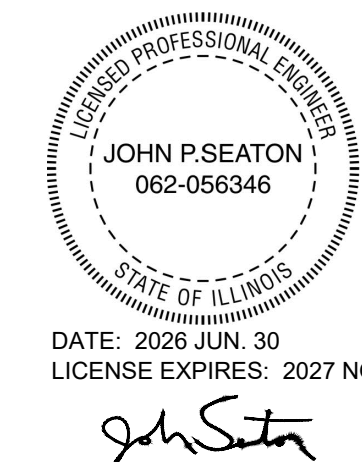
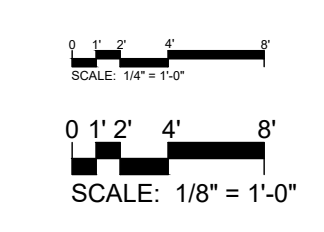
FIELD VERIFY EXISTING CONDITIONS PRIOR TO BID AND PRIOR TO INSTALLATION. NOTIFY OWNER REPRESENTATIVE AND ARCHITECT OF ANY EQUIPMENT DEVIATIONS.

REFERENCE DRAWING
E-100 FOR KEY NOTES

NOT IN CONTRACT



1 FIRST FLOOR ELECTRICAL PLAN
SCALE: 1/8" = 1'-0", WHEN PRINTED ON 36"x24" (ARCH E1)



DATE: 2025 JUN. 30
LICENSE EXPIRES: 2027 NOV. 30
John P. Seaton



BLAKEMORE
ARCHITECTS

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Maintenance Building
Renovation

Capital Project No.
2102

for



Rockford, Illinois

THE CONTRACTOR SHALL DETERMINE EXACT DIMENSIONS AND CONDITIONS AT THE SITE PRIOR TO SUBMITTING A BID. THE CONTRACTOR SHALL COORDINATE ALL DRAWINGS WITH ACTUAL FIELD CONDITIONS PRIOR TO PROCEEDING WITH THE WORK AND NOTIFY THE ARCHITECT OF ANY DISCREPANCIES. THIS DRAWING IS THE PROPERTY OF BLAKEMORE ARCHITECTS AND MAY NOT BE REPRODUCED WITHOUT THE PRIOR WRITTEN PERMISSION OF THE ARCHITECT.

NO.	DATE	DESCRIPTION
1.	11-05-2025	Initial Owner Layout Review
2.	02-20-2026	90% Owner Review
3.	04-16-2026	95% Owner Review
4.	06-18-2026	Final Owner Review
5.	06-30-2026	Issued for Bids

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Project No. 2025-16

Scale
AS INDICATED

Sheet Title
ELECTRICAL SECOND FLOOR PLAN

Ref North Sheet No.

E-301
PROFESSIONAL DESIGN FIRM REGISTRATION #
184-003342

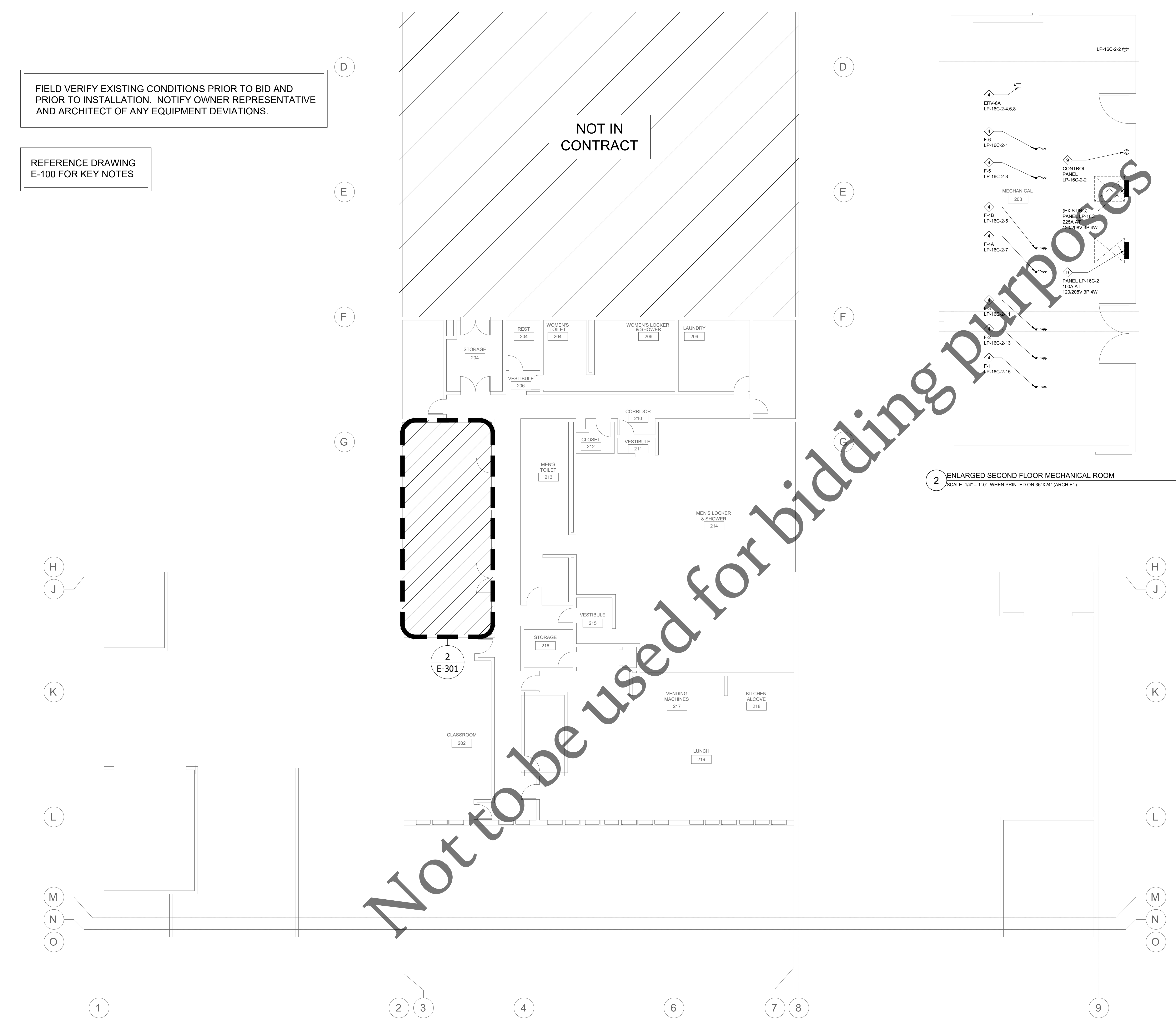
FIELD VERIFY EXISTING CONDITIONS PRIOR TO BID AND PRIOR TO INSTALLATION. NOTIFY OWNER REPRESENTATIVE AND ARCHITECT OF ANY EQUIPMENT DEVIATIONS.

REFERENCE DRAWING
E-100 FOR KEY NOTES

NOT IN
CONTRACT

2 ENLARGED SECOND FLOOR MECHANICAL ROOM
SCALE: 1/4" = 1'-0", WHEN PRINTED ON 36"x24" (ARCH E1)

Not to be used for bidding purposes



1 SECOND FLOOR ELECTRICAL PLAN
SCALE: 1/8" = 1'-0", WHEN PRINTED ON 36"x24" (ARCH E1)

