

Rockford, Illinois



Date: 01-17-23 Project: 21-13

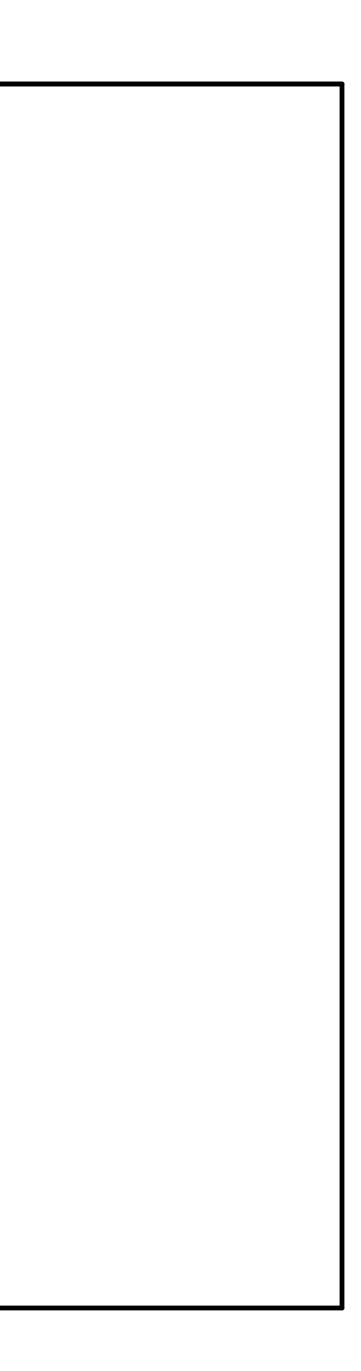
Issued for Bids

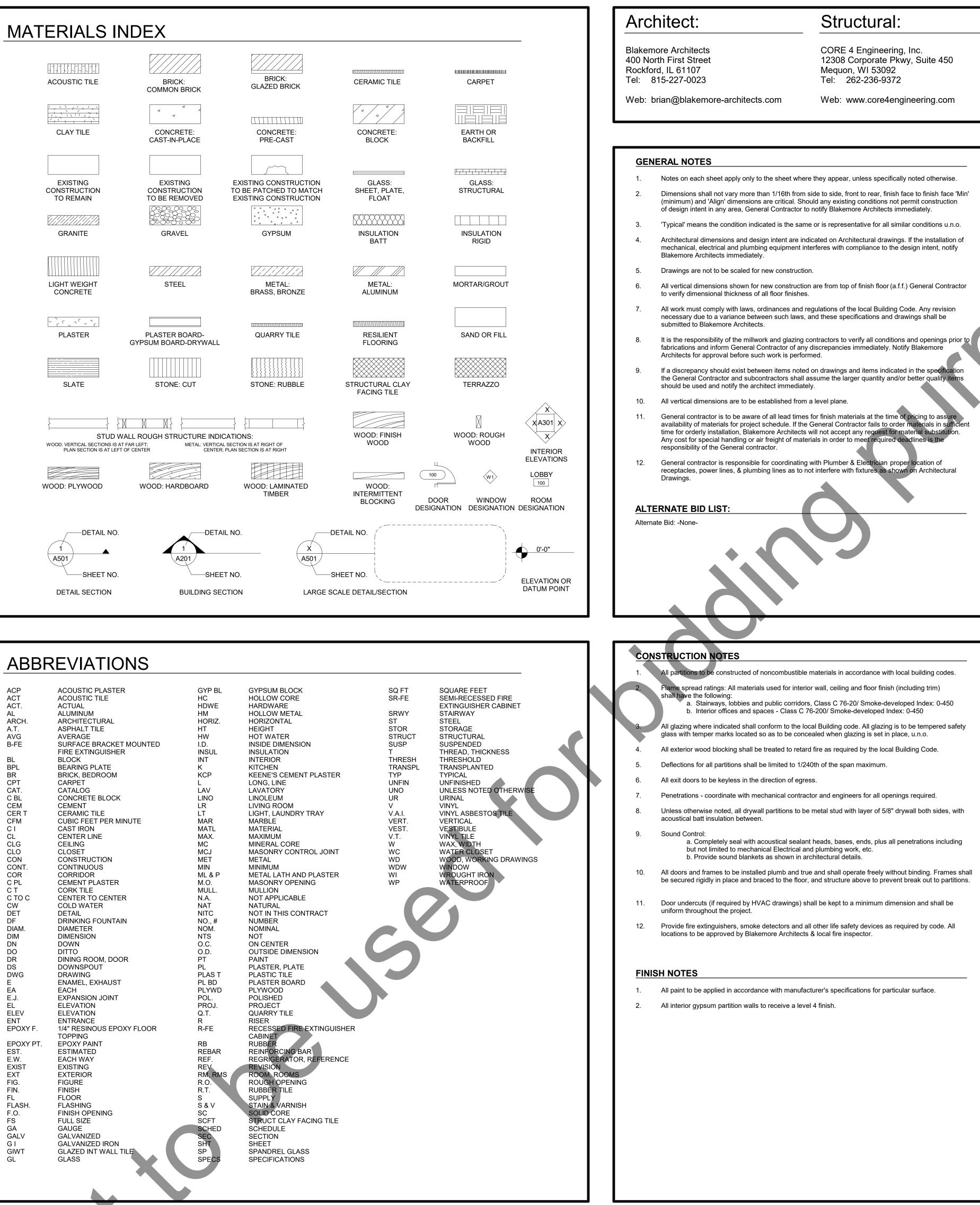
**PROFESSIONAL DESIGN FIRM REGISTRATION #** 184-003342

ARCHITECT SEAL



license expires 11-30-24





ABBK	EVIATIONS
ACP	ACOUSTIC PLASTER
ACT	ACOUSTIC TILE
ACT.	ACTUAL
\L \RCH.	ALUMINUM ARCHITECTURAL
Т.	ASPHALT TILE
	AVERAGE
=E	SURFACE BRACKET MOUNTE FIRE EXTINGUISHER
	BLOCK
Ľ	BEARING PLATE
Т	BRICK, BEDROOM CARPET
Ϋ́Τ.	CATALOG
3L	CONCRETE BLOCK
EM ER T	CEMENT CERAMIC TILE
M	CUBIC FEET PER MINUTE
I	CAST IRON
<u> </u>	
_G _O	CEILING CLOSET
ON	CONSTRUCTION
ONT.	CONTINUOUS
OR PL	CORRIDOR CEMENT PLASTER
Т	CORK TILE
TO C	CENTER TO CENTER
W ET	COLD WATER DETAIL
F	
AM.	DIAMETER
M N	DIMENSION DOWN
)	DITTO
	DINING ROOM, DOOR
vG	DOWNSPOUT DRAWING
9	ENAMEL, EXHAUST
	EACH
	EXPANSION JOINT ELEVATION
V	ELEVATION
Г	ENTRANCE
DXY F.	1/4" RESINOUS EPOXY FLOOF TOPPING
OXY PT.	EPOXY PAINT
Т.	ESTIMATED
V. IST	EACH WAY EXISTING
T	EXTERIOR
Э.	FIGURE
۱.	FINISH FLOOR
ASH.	FLASHING
D.	FINISH OPENING
A Contraction of the second seco	FULL SIZE GAUGE
~ ALV	GALVANIZED
 	GALVANIZED IRON
WT	GLAZED INT WALL TILE GLASS
L	GEAGG

## Structural:

CORE 4 Engineering, Inc. 12308 Corporate Pkwy, Suite 450 Mequon, WI 53092 Tel: 262-236-9372

Web: www.core4engineering.com

# MEP:

Legacy Designs 6116 Mulford Village Dr. Rockford, IL 61107 Tel: 815-484-4708 Web: www.legacydesigns.net

SHEET INDEX

### Landscape:

ARC Design Resources, Inc. 5291 Zenith Parkway Loves Park, IL 61111 Tel: 815-484-4300

Web: www.arcdesign.com

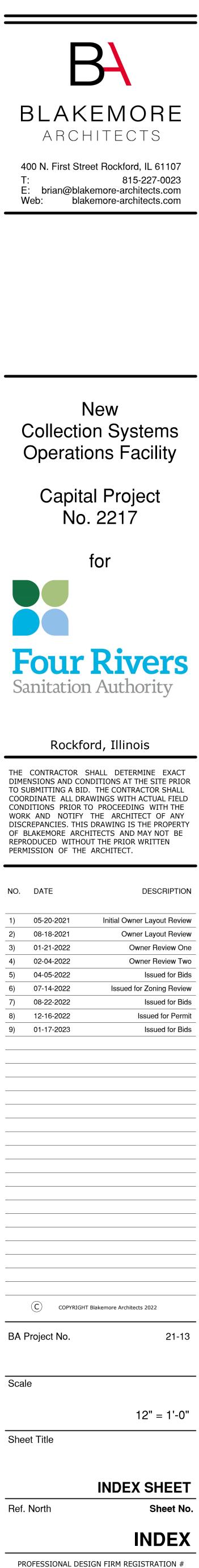
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FP101.....FIRE PROTECTION OVERALL FLOOR PLAN 01-17-23 FP102.....FIRE PROTECTION SPECIFICATIONS 01-17-23

Indicates drawing sheets that have been prepared by consulting engineers contracted by Blakemore Architects. Architectural seals on this sheet do not cover these drawings. See individual drawings for seals of consulting engineers.

Indicates drawing sheets that have/will be prepared by design build contractors contracted by (owner). Architectural seals on this sheet do not cover these drawings. See individual drawings for seals of those trades



184-003342

	LEGEND		
EXISTING	PROPOSED		EXISTING
		RIGHT OF WAY LINE	
		PROPERTY LINE	(( <mark>⊖CQ</mark> (_
		BUILDING	FM
		WATER EDGE	TPP
· · · · · ·		EASEMENT - PERMANENT SANITARY	
///		EASEMENT - TEMPORARY CONSTRUCTION VEGETATION / TREE LINE	
		TREE DRIPLINE	W
		CONTOUR - MAJOR	WS
		CONTOUR - MINOR	
XX	xx	FENCE	$\otimes$
[][][]	[][][]		
SF	SF	CONSTRUCTION FENCE - SILT (PERIMETER EROSION BARRIER) ROADWAY CENTERLINE	 
		EDGE OF PAVEMENT	X
		CURB & GUTTER	Ŵ
	III	GUARD RAIL	<sub>o</sub> SH <u>SV</u>
		RAILROAD TRACKS	HMA AGG CONC. TUR
OC		CABLE - OVERHEAD	
UC		CABLE - UNDERGROUND	
OE		ELECTRIC - OVERHEAD	PROPOSED
UE		ELECTRIC - UNDERGROUND	EROSION C
FO		FIBER OPTIC	HEAVY DU <sup>-</sup>
G		GAS LINE	
OT		TELEPHONE - OVERHEAD	+ + + + + +     TEMPORAF       + + + + +     CONTRO
UT		TELEPHONE - UNDERGROUND	*         *         *           *         *         *           *         *         *           *         *         *
TV E T (GM) (EM)		PEDESTALS (CATV, ELEC, TELE), GAS METER, ELEC METER	معد عد عد عد عد عد SEEDING A
E HH	E HH	ELECTRIC MANHOLE, HANDHOLE	معد
⊕SB 1		SOIL BORING	
	CP# 1	BENCHMARK & CONTROL POINT	ABD = ABANDON(ED
$\bigtriangleup$		MAILBOX	CMP = CORRUGATED CO = CLEAN OUT CTRL= CONTROL
	<b></b>	UTILITY POLE W/ GUY WIRE & MAST ARM LIGHT POLE	CY = CUBIC YARD(S DI = DUCTILE IRON EA = EACH
		TREE (DECIDUOUS & CONIFEROUS)	EL = ELEVATION EROS = EROSION EX = EXISTING FES = FLARED END S
	⇔ 🐝	BUSH & SHRUB	FM = FORCE MAIN FRSA = FOUR RIVERS
_ <del>\</del>	- <del>X</del> -	GROUND / LANDSCAPE LIGHT	FT = FEET INV = INVERT LF = LINEAR FEET
XXX.XX	XXX.XX	SPOT ELEVATION	LF - LINEAR FEET LINCIPP = LINED WITH C

### 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			
		1			

THESE MIXTURE REQUIREMENTS ARE APPLICABLE FOR THIS PROJECT

### EARTHWORK SUMMARY

PROPOSED GRADED SITE = 12.31 ACRES (536,273 SF)				
FILL	CUT			
CY	29,790 CY	EXISTING SITE STRIPPED 18 INCHES *		
3,280 CY		TOPSOIL REQUIRED - ENTIRE SITE (12" LANDSCAPE AREAS, 6" SEEDED AREAS)		
CY	6,830 CY	PAVED AREAS SUB-BASE CUT (STRIPPED SITE TO PROPOSED PVMNT GRADE MINUS 18")		
10,480 CY		PAVED AREAS SUB-BASE FILL (STRIPPED SITE TO PROPOSED PVMNT GRADE MINUS 18")		
CY	10,720 CY	DETENTION POND CUT		
2,060 CY		DETENTION POND FILL		
2,00				

\* ASSUMES AN AVERAGE 18" OF TOPSOIL BASED ON GEOTECHNICAL REPORT.

NICOR (GAS) SAKIBUL FORAH (815) 388-2903

COMED (ELECTR AMIR MAHMUTAG (630) 437-2212

AT&T (COMMUNI HECTOR GARCIA (630) 573-5465

COMCAST (COM **KEITH KOSHINS** (224) 229-5432

13/102

TYLER V. NELSON

062-061714

Exp. 11/30/2023

SHEETS C001 - C401

LEGE	ND
PROPOSE	<u>D</u>
	-C SANITARY MANHOLE & SANITARY SEWER
	C SANITARY SEWER SERVICE & CLEANOUT 
TPP	TREATMENT PLANT PROCESS
	PIPING STORM SEWER
	STORM MANHOLE, CATCH BASIN, CURB & GUTTER INLET, CURB INLET SPECIAL
—   →   →   w-	→ ✓ DRAINAGE CULVERT, WITH END SECTION WATER MAIN
WS	• WATER SERVICE & WATER SERVICE
M	VALVE WATER MAIN VALVE
•	WATER MAIN VALVE WITH BOX
	WATER MAIN VALVE WITH VAULT
•	WATER MAIN REDUCER
<b>—</b>	FIRE HYDRANT
۲	YARD HYDRANT
	WATER WELL
●SH	SV SPRINKLER HEAD & SPRINKLER VALVE
	EXISTING SURFACE TYPE (HOT-MIX ASPHALT, AGGREGATE, CONCRETE, TURF) DITCH CHECK
	INLET OR PIPE PROTECTION
ONTROL BLANKET	PROPOSED STABILIZED CONSTRUCTION ENTRANCE
Y EROSION BLANKET	RIP RAP
RY EROSION _ SEEDING	PAVEMENT REPLACEMENT
REA, CLASS 1	DRIVEWAY REPLACEMENT
REA, CLASS 2,	AGGREGATE REPLACEMENT
ABBREVI	ATIONS
) METAL PIPE	LS = LUMP SUM MH = MANHOLE
6)	PVMNT = PAVEMENT PRC = PRECAST REINFORCED CONCRETE PR = PROPOSED
<i>&gt;)</i>	RCP = REINFORCED CONCRETE PIPE REM = REMOVE(D)
	REPL = REPLACE(D) R/R = REMOVE & REPLACE
SECTION	SAN = SANITARY SVC = SERVICE SY = SQUARE YARD(S)
SANITATION AUTHORITY	
URED IN PLACE PIPE	VCP = VITRIFIED CLAY PIPE WM = WATER MAIN
URED IN PLACE PIPE	
UTILIT	
F	RONTIER (COMMUNICATIONS)
GIĆ L	LLINOIS FIBER RESOURCES ANCE SANDY 815) 753-6075
CATIONS) C	CITY OF ROCKFORD-WATER DIV. AMIE ROTT
	815) 967-7060 CITY OF ROCKFORD-ENGINEERING
	TIMOTHY HINKENS 779) 348-7300
131-07.2	

### **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 TYLER NELSON, (815-387-7651).

- 3. FOR UTILITY LOCATES WITHIN PLANT BOUNDARIES, THE CONTRACTOR SHALL CONTACT THE ASSISTANT DIRECTOR OF PLANT OPERATIONS, MICHAEL CHRISTENSEN AT 815-262-5858, 48 HOURS, 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 48 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 6:00 AM TO 5:00 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 IEPA NPDES PERMIT AND 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.
- 4. A PCC QUALITY CONTROL PLAN PREPARED BY THE CONTRACTOR SHALL BE SUBMITTED TO FRSA FOR 12. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR PROVIDING ALL LAYOUT FOR REVIEW AND APPROVAL PRIOR TO ANY PCC PAVEMENT WORK BEGINNING. ALL QUALITY CONTROL CONSTRUCTION OF THIS PROJECT TO THE LINES AND GRADES SHOWN ON THE PLANS. FRSA WILL AND QUALITY ASSURANCE (QC/QA) TESTING SHALL FOLLOW THE REQUIREMENTS OF IDOT CHECK PROVIDE INITIAL LAYOUT OF BENCHMARKS AND CONTROL POINTS PRIOR TO CONSTRUCTION SHEET #23 RECURRING SPECIAL PROVISION FOR QUALITY CONTROL/QUALITY ASSURANCE OF COMMENCING. THE CONTRACTOR SHALL INDEPENDENTLY VERIFY ALL BENCHMARKS AND CONTROL. CONCRETE MIXTURES. ALL MATERIAL TESTING AND COSTS ASSOCIATED WITH CONFORMANCE WITH THIS CHECK SHEET SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- 13. THE LABELED QUANTITIES IN THESE PLANS ARE PROVIDED FOR ESTIMATING PURPOSES ONLY. ACTUAL QUANTITIES MAY VARY. NO ADDITIONAL COMPENSATION WILL BE AWARDED DUE TO INCORRECT PLAN LABELED QUANTITIES.

# EARTHWORK NOTES

- 6. HMA BINDER COURSE SHALL BE MIXTURE IL-19.0, N50 AND HMA SURFACE COURSE SHALL BE IL-9.5, 1. EARTH EXCAVATION SHALL BE DONE IN ACCORDANCE WITH SECTION 202 OF THE IDOT STANDARD N50, MIX "D" IN ACCORDANCE WITH SECTION 1030 OF THE IDOT STANDARD SPECIFICATIONS. SPECIFICATIONS AND SHALL INCLUDE ALL MATERIALS (INCLUDING TOPSOIL, AGGREGATES, AND ANY 7. AN HMA QUALITY CONTROL PLAN PREPARED BY THE CONTRACTOR SHALL BE SUBMITTED TO FRSA SOILS ENCOUNTERED) TO BE EXCAVATED IN ORDER TO PROPERLY CONSTRUCT THE PROJECT TO THE LINES AND GRADES SHOWN ON THE PLANS. SUITABLE EXCAVATED MATERIALS SHALL BE FOR REVIEW AND APPROVAL PRIOR TO PLACEMENT OF HMA PAVEMENT. THE QUALITY MANAGEMENT PROGRAM FOR ALL HMA PAVEMENT SHALL BE QC/QA IN ACCORDANCE WITH SECTION 1030.06 OF THE TRANSPORTED TO VARIOUS LOCATIONS THROUGHT THE PROJECT SITE. ALL EXCESS EXCAVATED MATERIALS SHALL BE DISPOSED OF BY THE CONTRACTOR AT AN OFF-SITE LOCATION. THE IDOT STANDARD SPECIFICATIONS; ALL MATERIAL TESTING AND COSTS ASSOCIATED WITH CONTRACTOR SHALL SUBMIT A MASS GRADING PLAN TO THE FRSA FOR APPROVAL PRIOR TO CONFROMANCE WITH THE QC/QA REQUIREMENTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. **BEGINNING EXCAVATIONS.**
- 2. BORING SAMPLES HAVE BEEN TAKEN AND ANALYZED; GEOTECHNICAL REPORT HAS BEEN INCLUDED IN THE CONSTRUCTION DOCUMENTS. ASSUMED TOPSOIIL DEPTH IS 18".
- 3. ALL EARTH EXCAVATION QUALITY CONTROL, MATERIAL TESTING, AND COMPACTION TESTING SHALL PERFORMED BY THE CONTRACTOR.
- 4. EXCAVATION AREAS SHALL MEET THE FOLLOWING MINIMUM COMPACTION: UNDER BUILDING FOUNDATIONS AND FLOOR AREAS: 95% OF THE STANDARD PROCTOR LABORATORY DENSITY. UNDER PAVEMENT AREAS: 95% OF THE STANDARD PROCTOR LABORATORY DENSITY.
- UNDER LANDSCAPE AREAS: 90% OF THE STANDARD PROCTOR LABORATORY DENSITY.
- UNSUITABLE MATERIALS ARE DEFINED AS ANY EXCAVATED MATERIAL NOT SHOWN ON THE PLANS 1. CONTRACTOR SHALL BE RESPONSIBLE FOR THE DEMOLITION AND REMOVAL OF ALL ITEMS THAT IS UNUSEABLE AS STRUCTURAL FILL WITHIN THE PROJECT SITE AND/OR ANY ENCOUNTERED IDENTIFIED ON THE PLANS AS WELL AS ANY ADDITIONAL ITEMS THAT IMPEDE THE PROPER SUBSURFACE DEBRIS MATERIALS (SUCH AS, BUT NOT LIMITED TO, EXISTING HOUSE FOUNDATIONS, CONSTRUCTION OF ANY PROPOSED ITEM SHOWN ON THE PLANS. SEPTIC SYSTEMS, CONCRETE, ETC.) THAT MUST BE REMOVED TO PROPERLY CONSTRUCT THE PROJECT AS SHOWN ON THE PLANS. THE ENGINEER SHALL MAKE THE FINAL DETERMINATION IF 2. DEMOLITION WORK SHALL INCLUDE, BUT NOT BE LIMITED TO, REMOVAL OF EXISTING TREES MATERIALS ENCOUNTERED ARE DEEMED UNSUITABLE. UPON ENCOUNTERING ASSUMED UNSUITABLE IDENTIFIED ON THE PLANS; REMOVAL OF SHRUBS, BUSHES, AND OTHER PLANT MATERIALS THAT MATERIALS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY. THE ENGINEER WILL OBSTRUCT THE CONSTRUCTION OF THE PROPOSED IMPROVEMENTS; REMOVAL OF EXISTING SEPTIC PROVIDE A DETERMINATION ON THE UNSUITABLE MATERIAL AND PROVIDE APPROVAL OF REMOVAL SYSTEMS OR WELLS (IF ANY); AND REMOVAL OF ANY UNSUITABLE MATERIALS AS DEFINED IN THE LIMITS. EARTHWORK NOTES.
- 6. IF APPROVED, THE CONTRACTOR SHALL REMOVE THE UNSUITABLE MATERIAL AND REPLACE WITH SELECT GRANULAR EMBANKMENT. QUANTITIES WILL BE MEASURED ON A PER CUBIC YARD BASIS FOR PAYMENT.

### SANITARY SEWER NOTES

- 1. FOUR RIVERS SANITATION AUTHORITY (FRSA) SHALL BE NOTIFIED 48 HOURS MINIMUM PRIOR TO ANY SANITARY SEWER CONSTRUCTION OR TESTING.
- 2. SANITARY SEWER CONSTRUCTION SHALL BE IN ACCORDANCE WITH FRSA'S GENERAL PROVISIONS AND TECHNICAL SPECIFICATIONS FOR SANITARY SEWER CONSTRUCTION. THE STANDARD SPECIFICATIONS FOR WATER AND SEWER CONSTRUCTION IN ILLINOIS (CURRENT EDITION), AND FRSA'S STANDARD DETAIL SHEET (CURRENT EDITION).
- 3. PIPE BEDDING FOR PVC SANITARY SEWER SHALL BE IDOT GRADATION CA-7 IN ACCORDANCE WITH REMOVAL AND/OR ABANDONMENT OF ANY EXISTING SEPTIC SYSTEMS OR WATER WELLS THAT ARE CLASS 1A PER ASTM D-2321. IF NECESSARY, ANY UNSTABLE AREAS OF THE TRENCH BOTTOM SHALL ENCOUNTERED SHALL BE COMPLETED IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL BE REMOVED AND REPLACED WITH IDOT GRADATION CA-1 TO A DEPTH NECESSARY TO PROVIDE A REQUIREMENTS. STABLE FOUNDATION FOR INSTALLATION OF PIPE BEDDING.
- 4. ALL MANHOLES SHALL BE CONSTRUCTED IN ACCORDANCE WITH DETAILS AS SHOWN ON THE CURRENT EDITION OF FRSA'S STANDARD DETAIL SHEET.
- 5. SANITARY SEWER TESTING SHALL NOT BE PERFORMED UNTIL ALL WATER SERVICES AND STORM SEWER ARE INSTALLED AND BACKFILLED.
- 6. TRENCH BACKFILL SHALL BE USED TO THE SUBGRADE ELEVATION UNDER AND WITHIN 2' OF PROPOSED PAVEMENT AREAS, SIDEWALKS, AND CURB AND GUTTER. SELECT TRENCH BACKFILL MATERIALS SHALL BE IN ACCORDANCE WITH SECTION 208 OF THE IDOT STANDARD SPECIFICATIONS AND SHALL BE EITHER FINE AGGREGATE (IN ACCORDANCE WITH ARTICLE 1003.04 OF THE IDOT STANDARD SPECIFICATIONS) OR COARSE AGGREGATE (IN ACCORDANCE WITH ARTICLE 1004.05 OF THE IDOT STANDARD SPECIFICATIONS). TRENCH BACKFILL SHALL BE COMPACTED TO 95% OF THE STANDARD PROCTOR LABORATORY DENSITY IN ACCORDANCE WITH ARTICLE 550.07(a) OF THE IDOT STANDARD SPECIFICATIONS. EXISTING EXCAVATED MATERIALS MAY BE UTILIZED FOR TRENCH BACKFILL IN LIEU OF AGGREGATE ONLY IF APPROVED BY THE ENGINEER AND A STANDARD PROCTOR DENSITY IS ESTABLISHED FOR THE EXISTING MATERIALS.
- 7. CONTRACTOR SHALL PREPARE AND SUBMIT AN INDUSTRIAL/COMMERCIAL PERMIT APPLICATION TO FRSA FOR REVIEW AND APPROVAL AS PART OF FRSA'S STANDARD SERVICE CONNECTION PROCESS. CONTRACTOR SHALL BE RESPONSIBLE FOR PAYMENT OF ALL FEES ASSOCIATED WITH THIS PROJECT.

- WATER UTILITY NOTES
- 1. ALL WATER UTILITY CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR WATER AND SEWER CONSTRUCTION IN ILLINOIS (CURRENT EDITION), AND THE CITY OF ROCKFORD WATER DIVISION SPECIFICATIONS.
- 2. ALL WATERMAIN SHALL CONFORM TO AWWA STANDARD C151 & C111 AND BE CONSTRUCTED OF CLASS 52 DUCTILE IRON PIPE.
- 3. THE MINIMUM COVER FOR ALL WATER UTILITY PIPE SHALL BE 6' FROM THE TOP OF PIPE TO FINISHED GRADE.
- 4. TRENCH BACKFILL SHALL BE USED TO THE SUBGRADE ELEVATION UNDER AND WITHIN 2' OF PROPOSED PAVEMENT AREAS, SIDEWALKS, AND CURB AND GUTTER. SELECT TRENCH BACKFILL MATERIALS SHALL BE IN ACCORDANCE WITH SECTION 208 OF THE IDOT STANDARD SPECIFICATIONS AND SHALL BE EITHER FINE AGGREGATE (IN ACCORDANCE WITH ARTICLE 1003.04 OF THE IDOT STANDARD SPECIFICATIONS) OR COARSE AGGREGATE (IN ACCORDANCE WITH ARTICLE 1004.05 OF THE IDOT STANDARD SPECIFICATIONS). TRENCH BACKFILL SHALL BE COMPACTED TO 95% OF THE STANDARD PROCTOR LABORATORY DENSITY IN ACCORDANCE WITH ARTICLE 550.07(a) OF THE IDOT STANDARD SPECIFICATIONS. EXISTING EXCAVATED MATERIALS MAY BE UTILIZED FOR TRENCH BACKFILL IN LIEU OF AGGREGATE ONLY IF APPROVED BY THE ENGINEER AND A STANDARD PROCTOR DENSITY IS ESTABLISHED FOR THE EXISTING MATERIALS.
- 5. ALL NEWLY CONSTRUCTED WATER PIPE SHALL UNDERGO HYDROSTATIC TESTING IN ACCORDANCE WITH CITY OF ROCKFORD REQUIREMENTS.
- 3. THE PRIVATE WATER SERVICE WILL BE CONNECTED TO EXISTING FRSA-OWNED WATERMAIN WITHIN FRSA'S TREATMENT PLANT. THEREFORE A NEW WATER METER WILL NOT BE REQUIRED FOR THIS BUILDING.

# **PAVING NOTES**

- PRIOR TO ANY PORTLAND CEMENT CONCRETE (PCC) OR HOT-MIX ASPHALT (HMA) PAVEMENT INSTRUCTION THE SUBGRADE SHALL BE PROOF-ROLLED AND ALL AREAS OF UNSUITABLE SUBGRADE SHALL BE IDENTIFIED. PROOF-ROLL SHALL BE WITNESSED BY FRSA. UNSUITABLE SUBGRADE MATERIALS SHALL BE REMOVED AND REPLACED WITH SUITABLE AGGREGATE SUBGRADE PROVEMENT MATERIALS (IDOT GRADATION CA-1, CS-01, CS-02, AND/OR RR-1 AGGREGATE).
- . ALL PCC PAVEMENT SHALL BE IN ACCORDANCE WITH SECTION 420 OF THE IDOT STANDARD SPECIFICATIONS AND BE CONSTRUCTED OF CLASS PV CONCRETE IN ACCORDANCE WITH SECTION 1020 OF THE IDOT STANDARD SPECIFICATIONS.
- PCC PAVEMENT MAY BE PLACED VIA FORM, SLIP FORM, OR LASER SCREED METHOD. JOINTS SHALL BE INSTALLED ACCORDING TO THE DETAILS IN THE PLANS. FINAL FINISH OF THE PCC PAVEMENT SURFACE SHALL BE TYPE B ACCORDING TO ARTICLE 420.09(e)(2) OF THE IDOT STANDARD SPECIFICATIONS.
- 5. ALL HMA PAVEMENT SHALL BE IN ACCORDANCE WITH SECTION 406 OF THE IDOT STANDARD SPECIFICATIONS. PRIOR TO PLACEMENT OF THE HMA BINDER COURSE PRIME COAT (MC-30 OR PEP) SHALL BE APPLIED TO THE AGGREGATE SUBGRADE. PRIOR TO PLACEMENT OF THE HMA SURFACE COURSE TACK COAT (SS-1) SHALL BE APPLIED TO THE BINDER COURSE.

# CONCRETE NOTES

- I. PCC SIDEWALK SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 424 OF THE IDOT STANDARD SPECIFICATIONS AND BE CLASS SI CONCRETE PER ARTICLE 1020.04 OF THE IDOT STANDARD SPECIFICATIONS.
- 2. ALL PCC CURB & GUTTER, CONCRETE OUTLET, AND CONCRETE GUTTER SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 606 OF THE IDOT STANDARD SPECIFICATIONS AND BE CLASS SI CONCRETE PER ARTICLE 1020.04 OF THE IDOT STANDARD SPECIFICATIONS.

## **DEMOLITION NOTES**

- TREE REMOVAL SHALL INCLUDE THE COMPLETE REMOVAL OF ALL TREES IDENTIFIED ON THE PLANS INCLUDING THE REMOVAL OF ROOTS AND GRINDING OF STUMPS TO A DEPTH OF 18" BELOW PROPOSED SUBGRADE.
- 4. CONTRACTOR SHALL COORDINATE DISCONNECTION, REMOVAL, AND/OR RELOCATION OF EXISTING UTILITIES WITH THE APPLICABLE UTILITY COMPANY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL FEES ASSOCIATED WITH UTILITY REMOVAL, ABANDONMENT, OR RELOCATION.
- 5. DISPOSAL OF ALL MATERIALS SHALL COMPLY WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS AND SHALL BE IN ACCORDANCE WITH ARTICLE 202.03 OF THE IDOT STANDARD SPECIFICATIONS. ALL WASTE MATERIAL SHALL BE DISPOSED OF OFFSITE; ALL COSTS ASSOCIATED WITH THE REMOVAL OF ANY MATERIALS FROM THE SITE (INCLUDING ALL ASSOCIATED PERMITS AND REGULATORY REQUIREMENTS) SHALL BE INCLUDED IN THE CONTRACTOR'S BID PRICE.
- 7. THE PERIMETER OF ALL PAVEMENT REMOVALS SHALL HAVE A FULL-DEPTH SAWCUT ALONG THE EDGE OF PAVEMENT THAT IS TO REMAIN.
- 8. ANY DAMAGE CAUSED BY THE CONTRACTOR'S OPERATIONS TO AREAS OUTSIDE OF THE PROJECT LIMITS SHALL BE REPAIRED AND/OR REPLACED AT THE CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER AT NO ADDITIONAL COST TO THE CONTRACT.

## SPECIAL CONSIDERATIONS

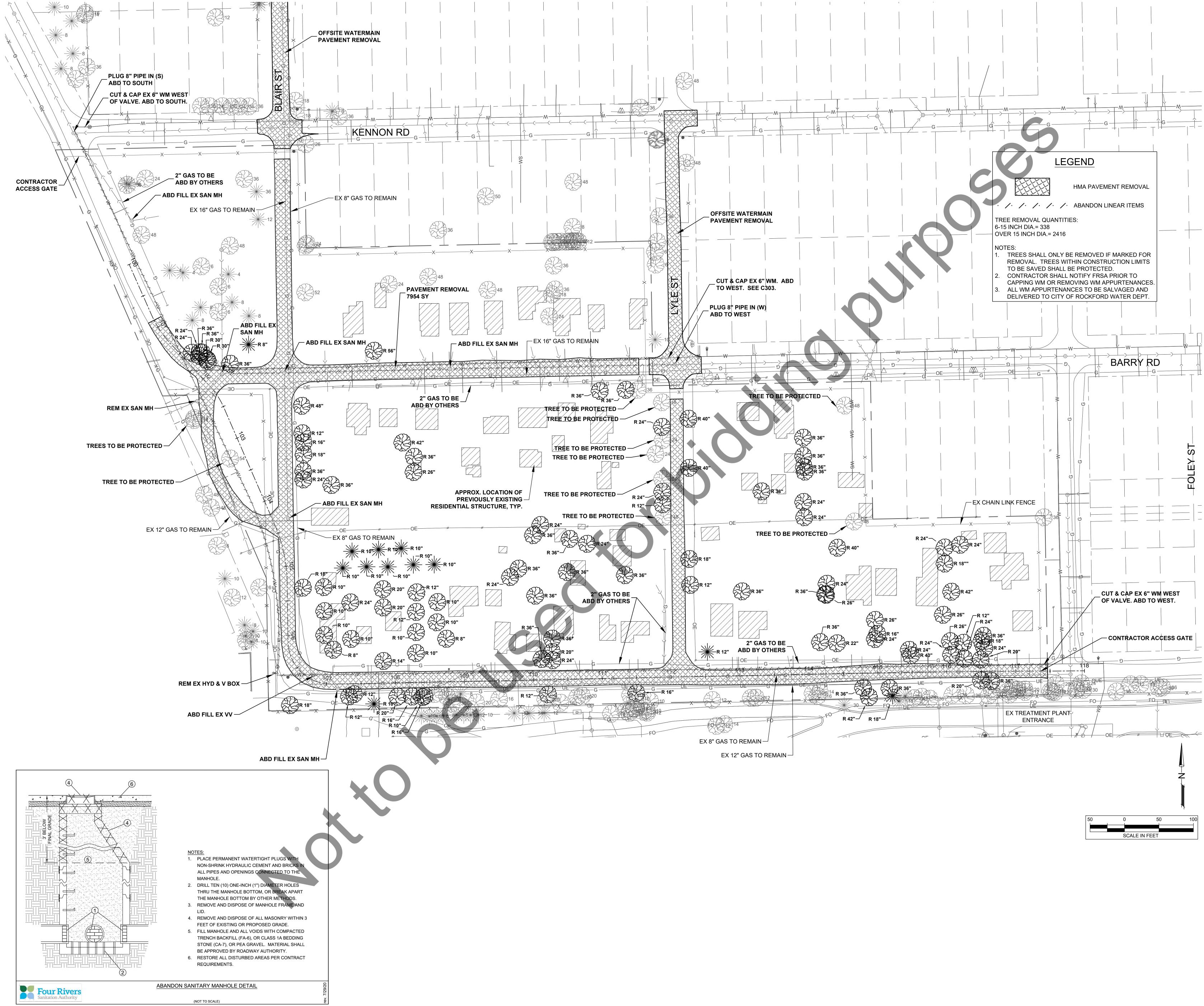
- 1. THE CONTRACTOR SHALL PROVIDE TEMPORARY RESTROOM FACILITIES FOR HIS WORKFORCE FOR THE DURATION OF THIS PROJECT.
- 2. ALL NEW UNDERGROUND PIPING AND DUCTBANK SHALL BE BURIED WITH LOCATING TRACER WIRE APPROXIMATELY 12 INCHES ABOVE THE TOP OF PIPE. TRACER WIRES SHALL BE TERMINATED AS SHOWN ON THE PLANS OR AS DIRECTED. TRACER WIRE AND ACCESS POINTS SHALL BE IN ACCORDANCE WITH FRSA TRACER WIRE AND ACCESS POINTS DETAIL.
- 2.1. TRACER WIRE SHALL BE COPPER-CLAD STEEL HIGH STRENGTH 12 AWG AS MFG BY COPPERHEAD INDUSTRIES AND SHALL BE COLOR CODED PER APWA UNIFORM COLOR CODE
- 2.2. ACCESS POINTS SHALL BE PROVIDED AT EACH END OF NEW PIPING, OR IN BETWEEN ENDS OF PIPING IF REQUIRED. THE MAXIMUM LINEAR DISTANCE BETWEEN ACCESS POINTS SHALL BE 800 FEET. ACCESS POINTS IN NON-PAVED AREAS SHALL BE SNAKEPIT LITE DUTY ADJUSTABLE SINGLE TERMINAL ACCESS POINTS AS MFG BY COPPERHEAD INDUSTRIES, AND SHALL BE INSTALLED FLUSH WITH FINISHED GROUND ELEVATION. ACCESS POINTS IN PAVED AREAS SHALL BE SNAKEPIT ROADWAY SINGLE TERMINAL CAST IRON LID ACCESS POINTS AS MFG BY COPPERHEAD INDUSTRIES. AND SHALL BE INSTALLED  $\frac{1}{4}$ " TO  $\frac{3}{6}$ " BELOW FINAL PAVEMENT ELEVATION.



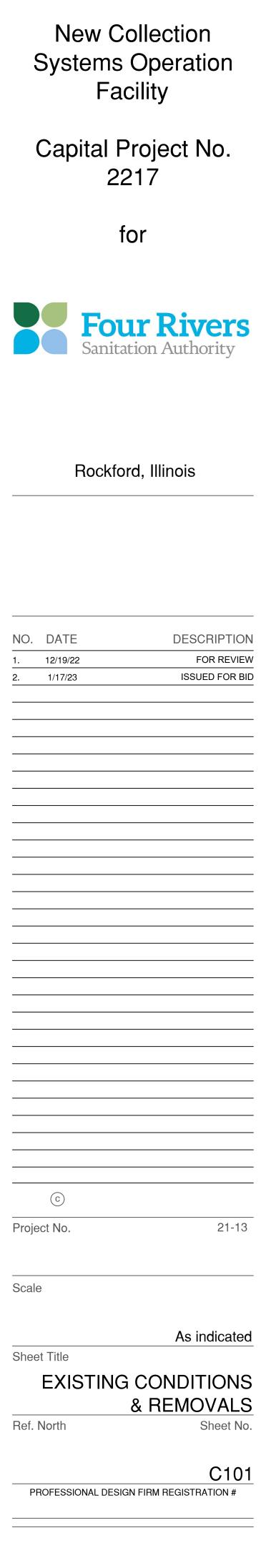
New Collection

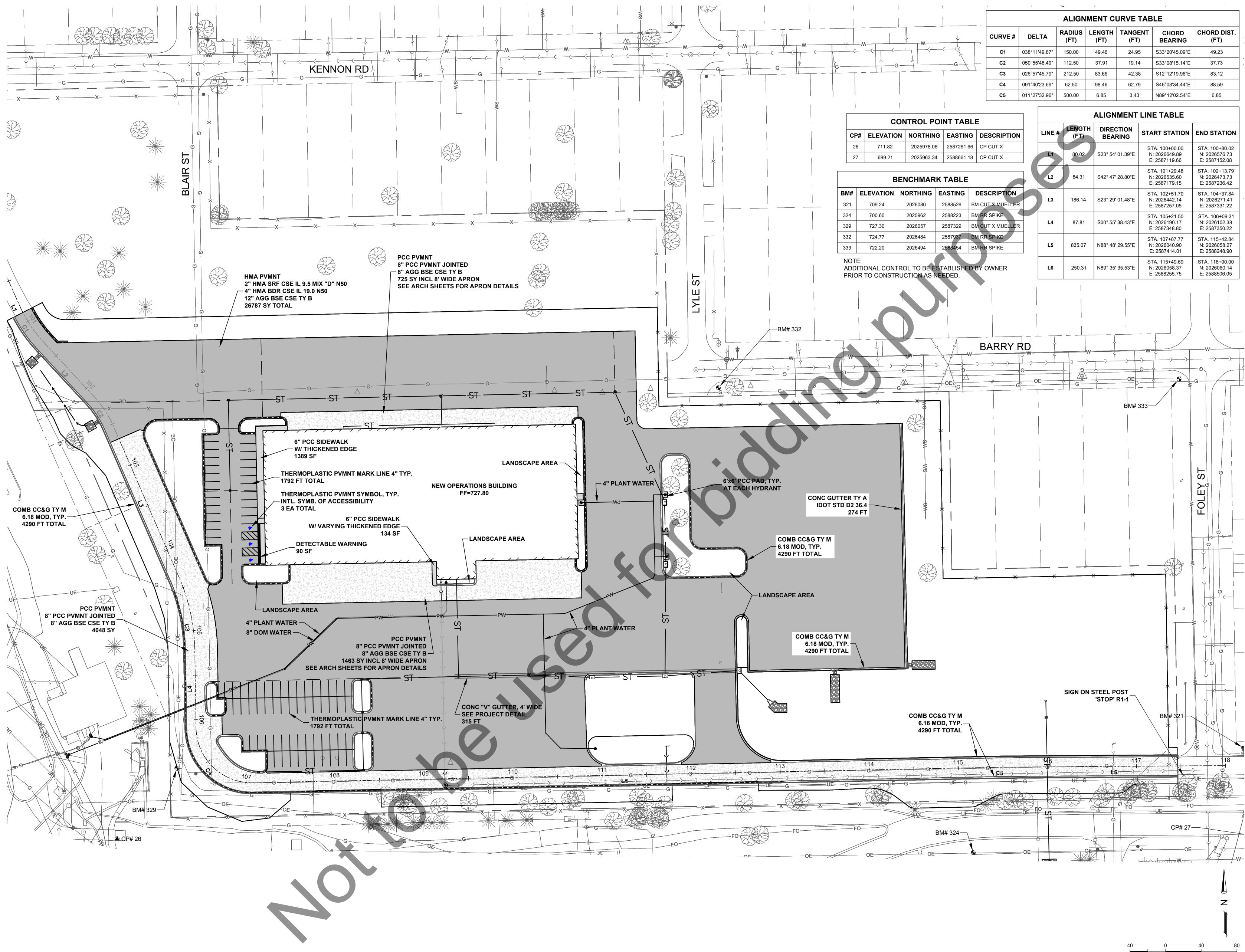
Systems Operation

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for	
Four Sanitation	<b>Rivers</b> Authority
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NO. DATE 1. 12/19/22 2. 1/17/23	DESCRIPTION FOR REVIEW ISSUED FOR BID
© Project No.	21-13
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PROFESSIONAL DESIGN FIRM	C001 REGISTRATION #



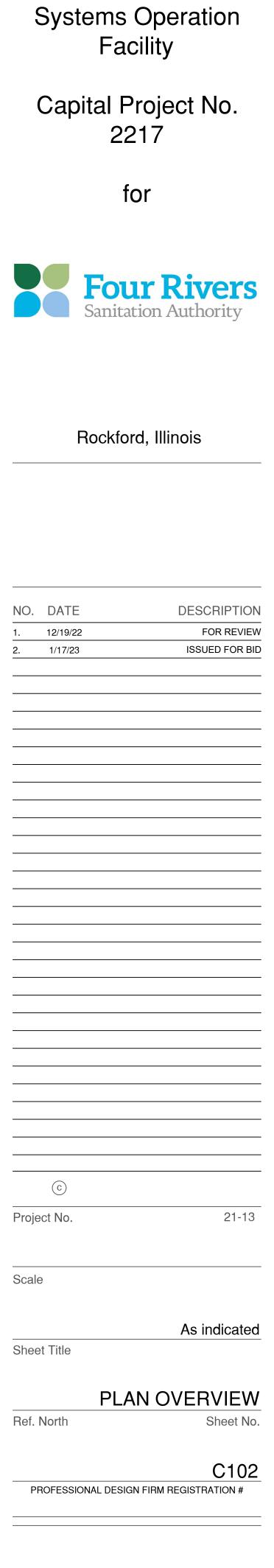


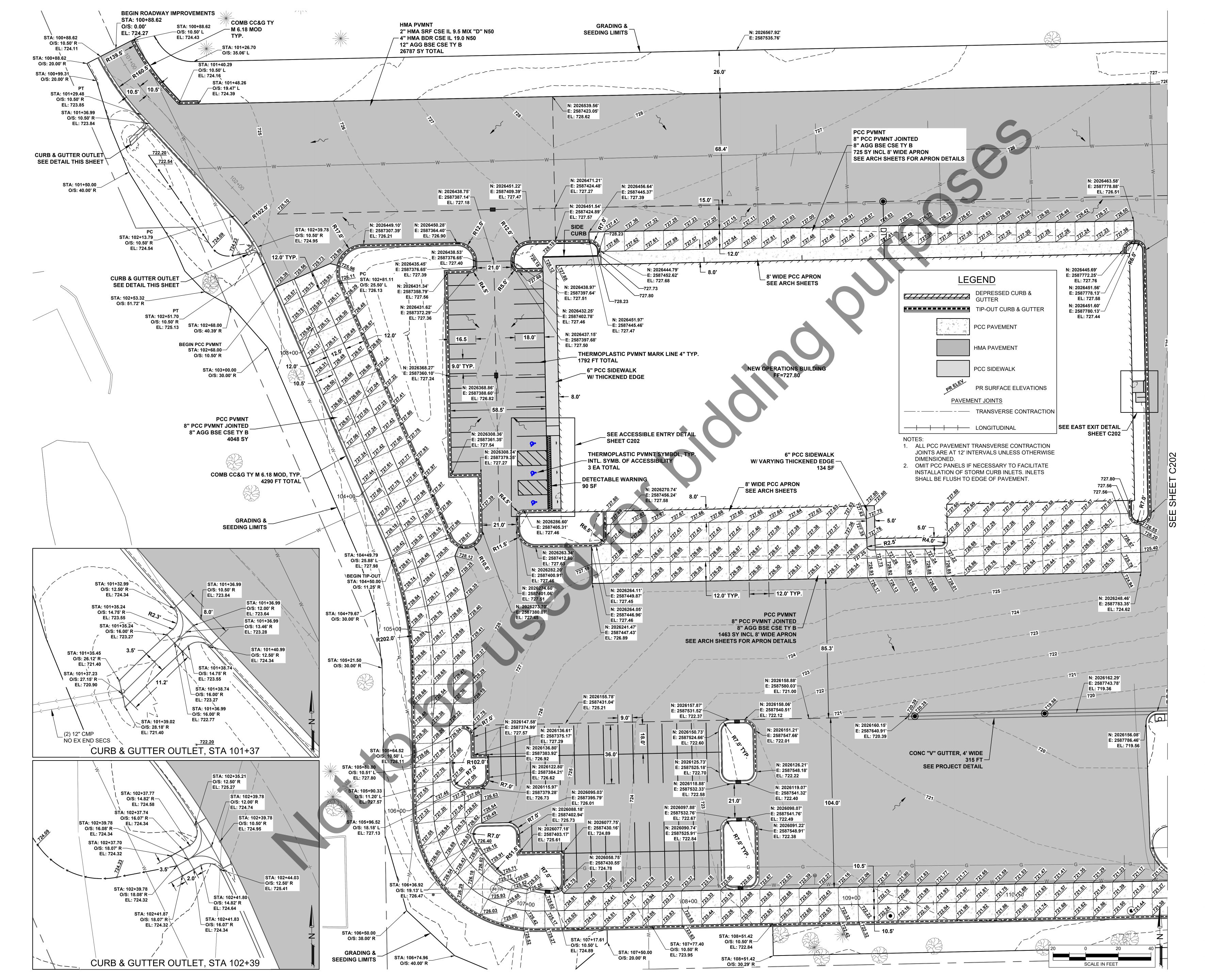






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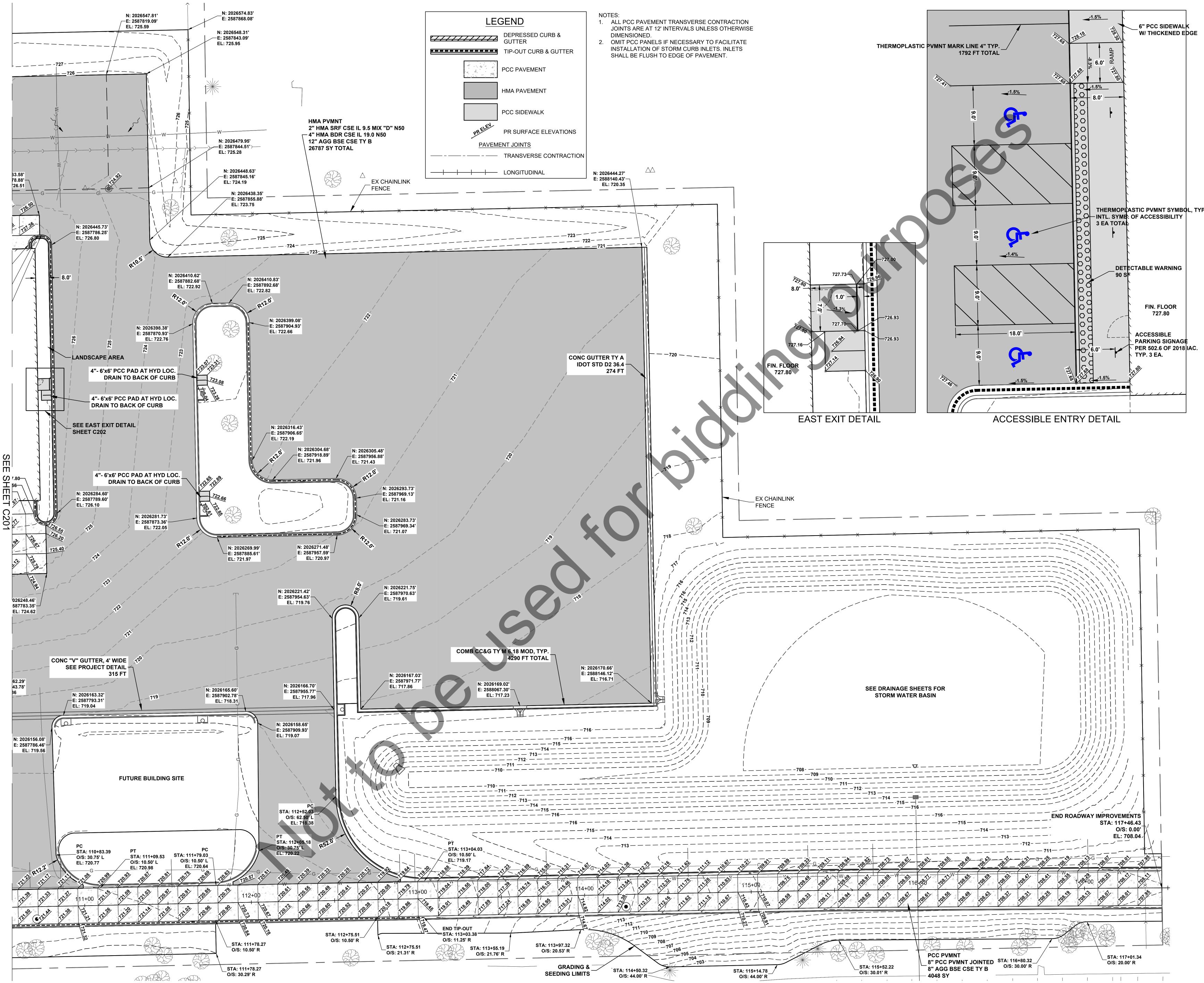




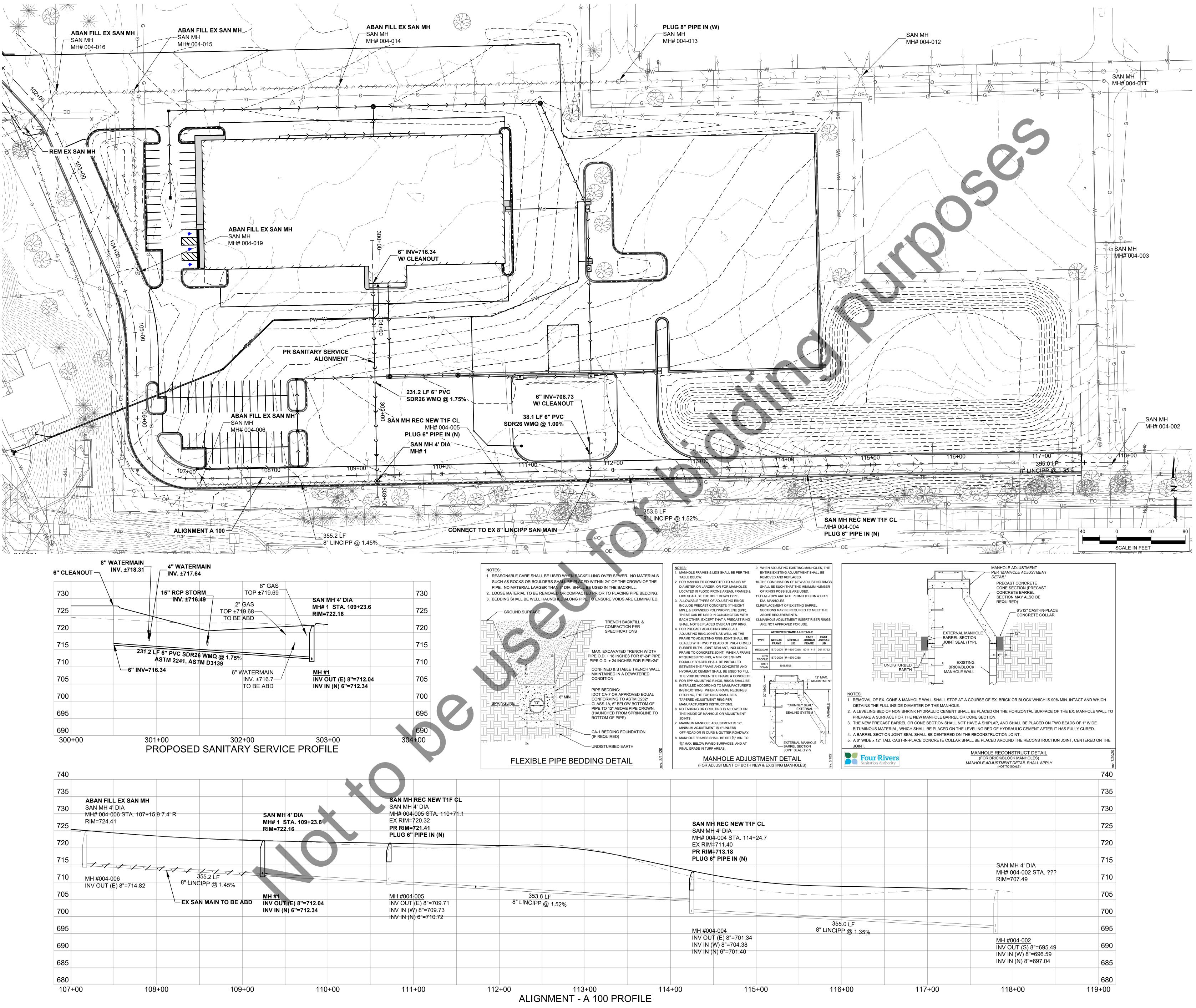


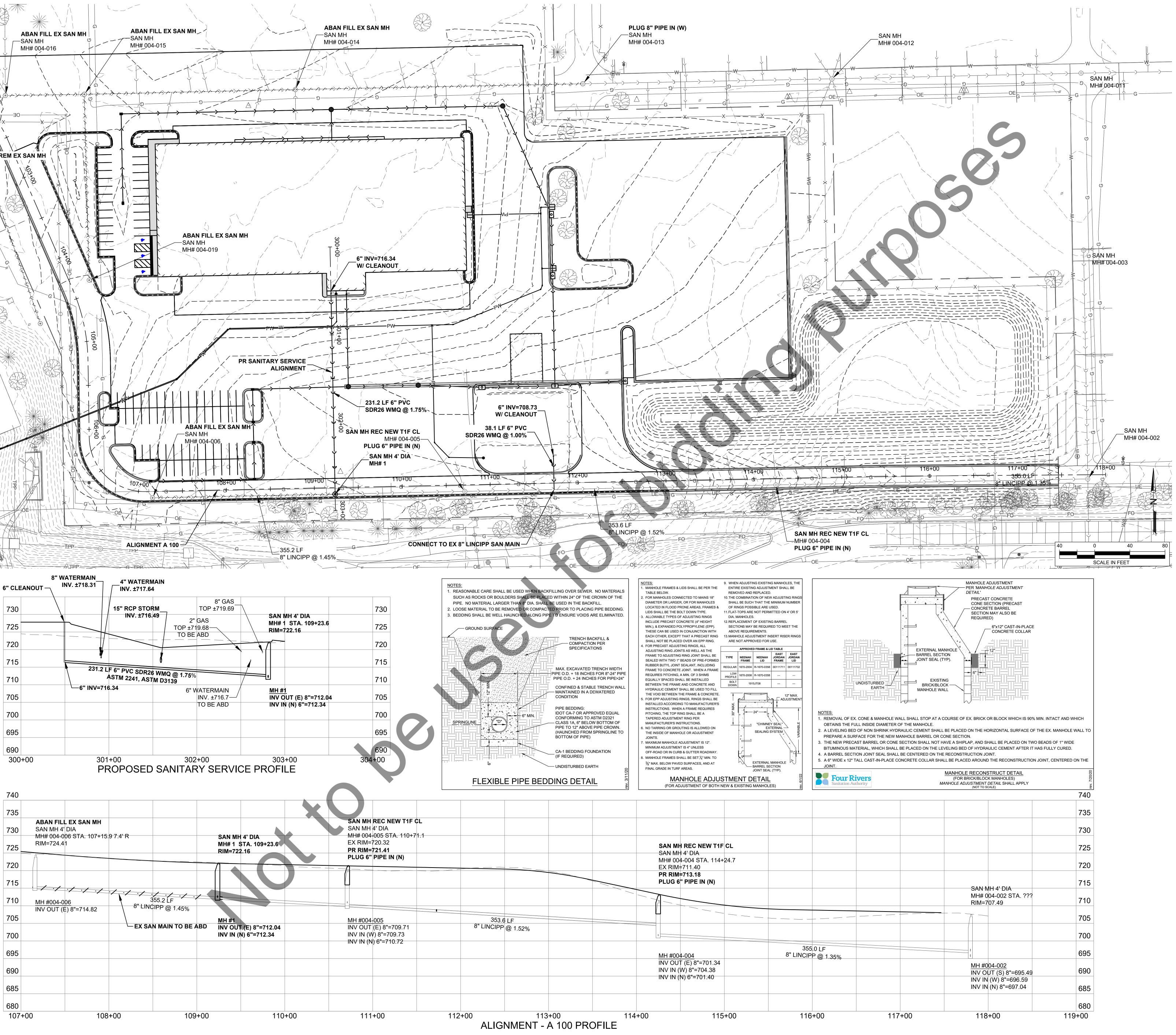
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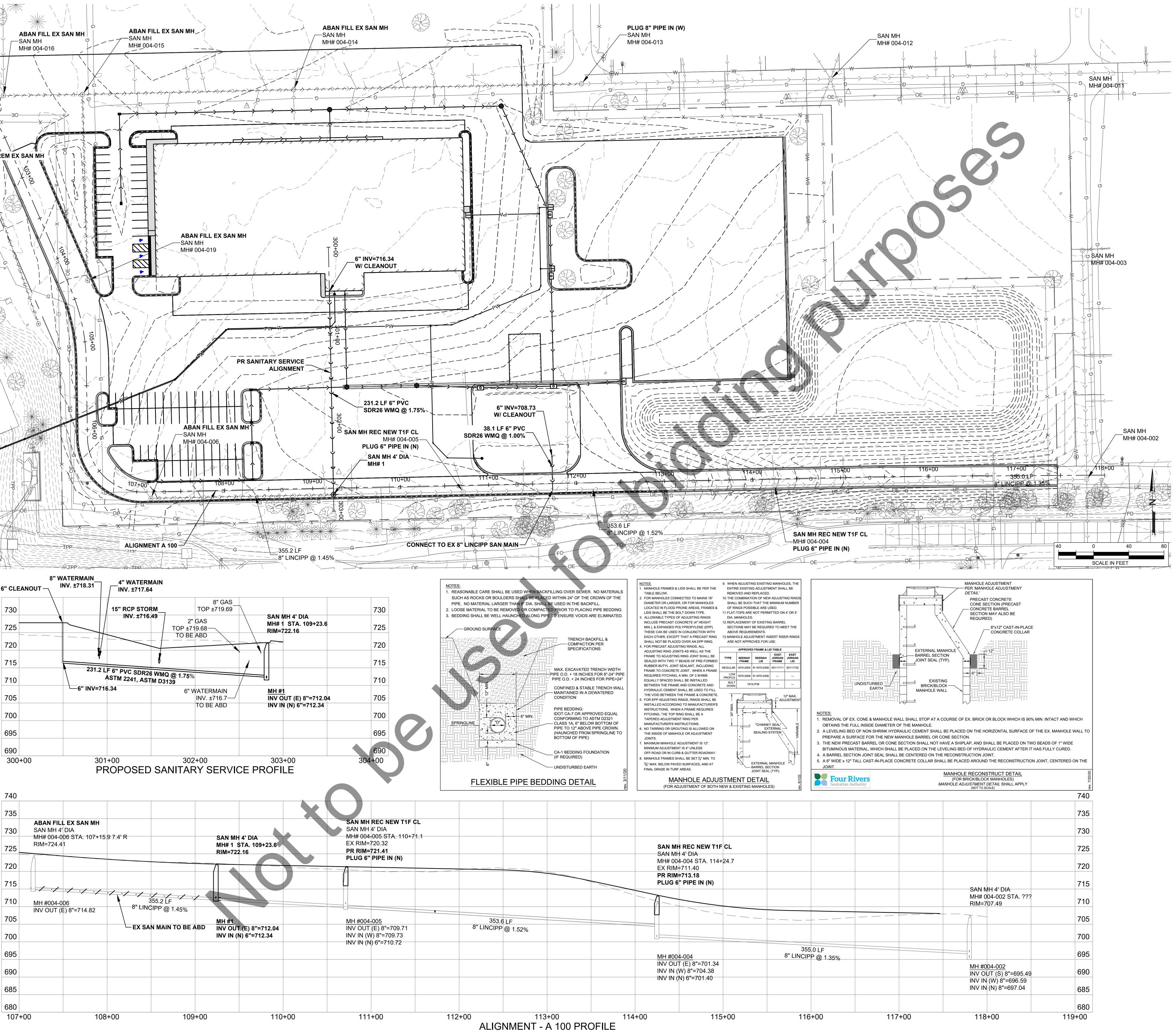
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	for
	Four Rivers Sanitation Authority
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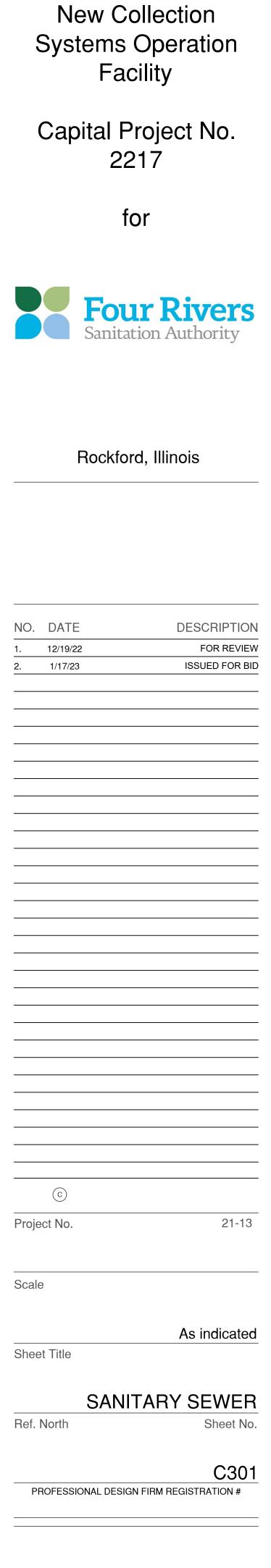
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	for
	<b>Four Rivers</b> Sanitation Authority
	Rockford, Illinois
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Ref. North	ELEVATIONS Sheet No.
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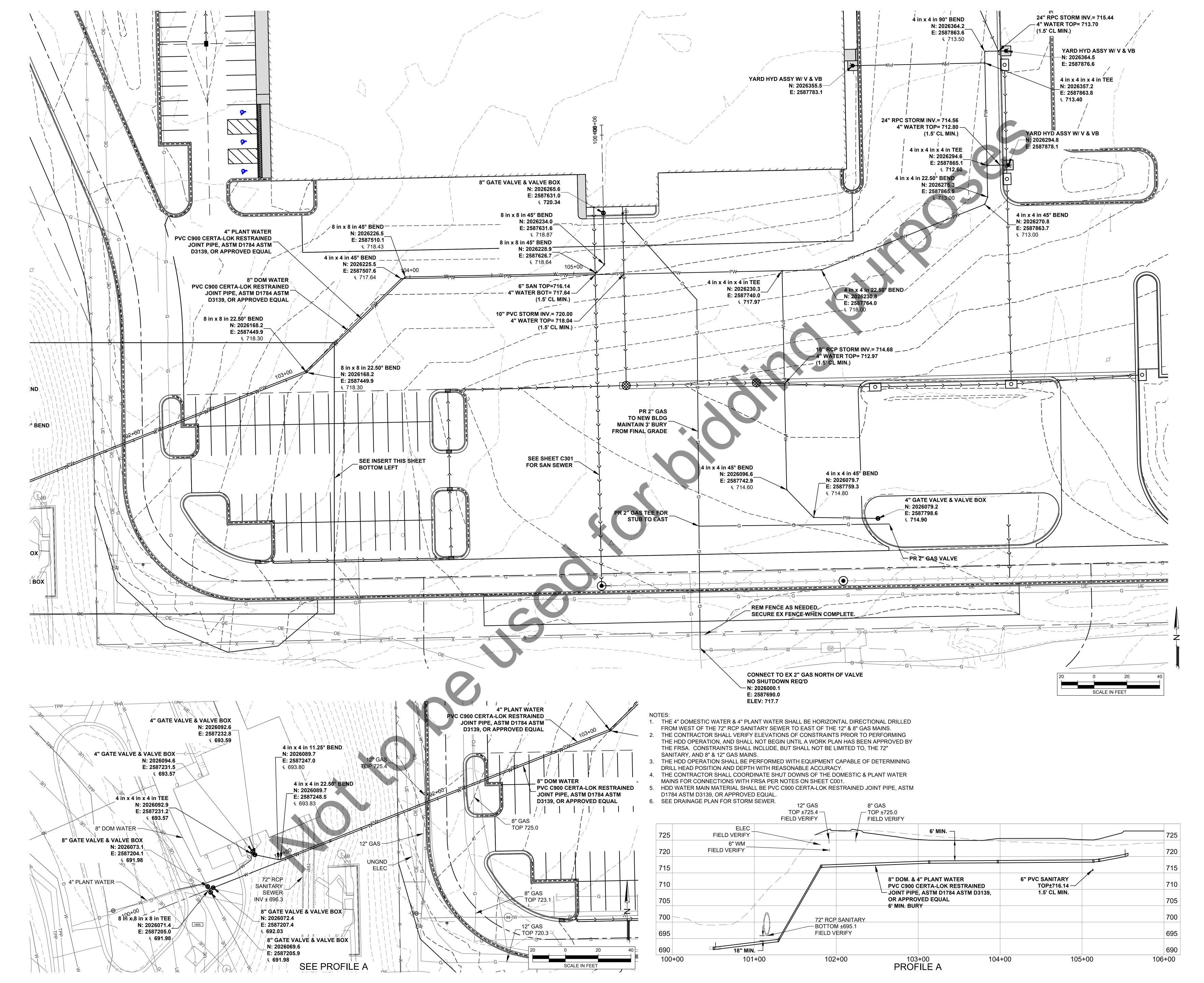






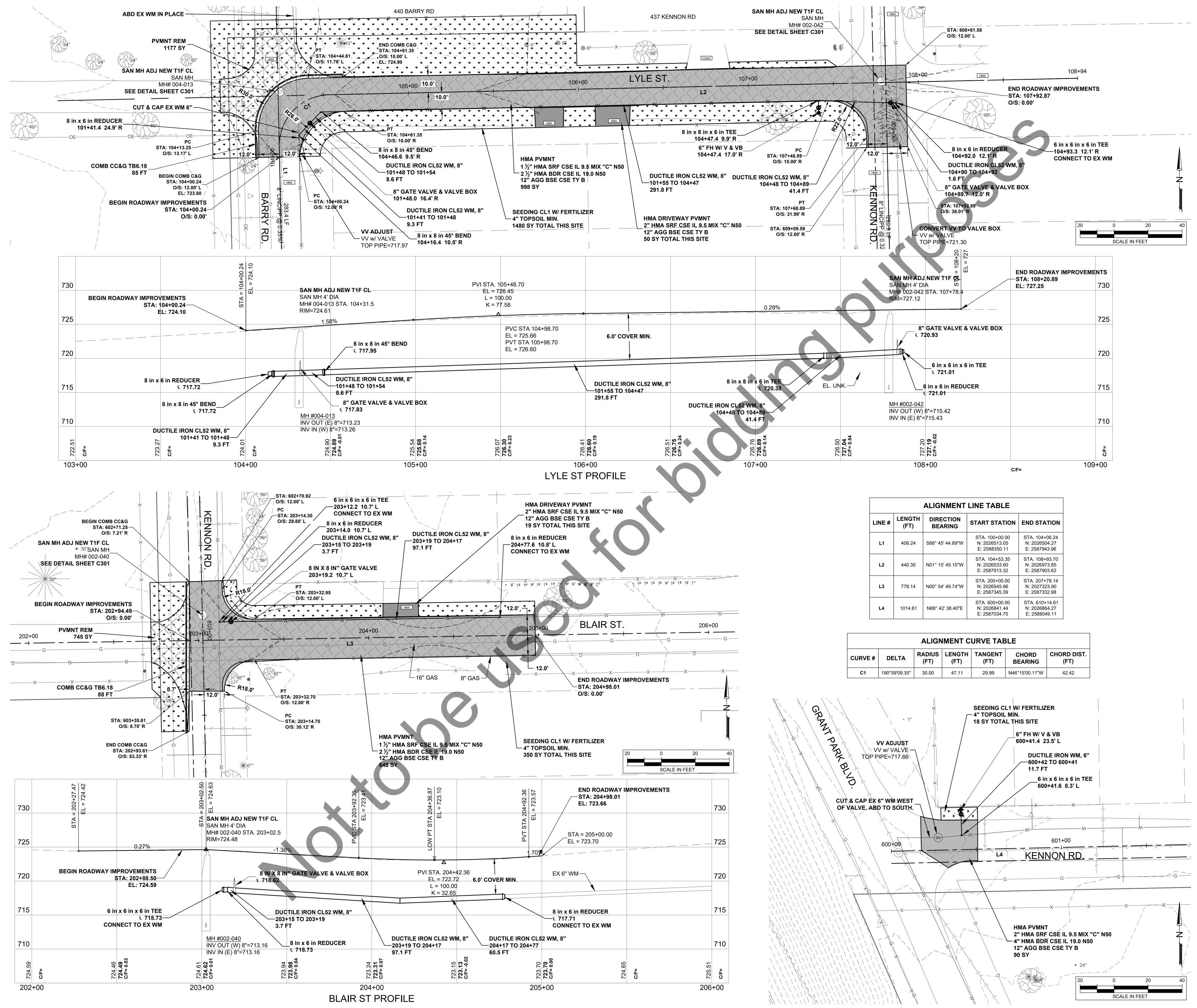






New Collection Systems Operation Facility
Capital Project No. 2217
for
<b>Four Rivers</b> Sanitation Authority
Rockford, Illinois
NO.     DATE     DESCRIPTION       1.     12/19/22     FOR REVIEW       2.     1/17/23     ISSUED FOR BID
Project No. 21-13
Scale As indicated Sheet Title
UTILITY PLAN Ref. North Sheet No.
C302 PROFESSIONAL DESIGN FIRM REGISTRATION #

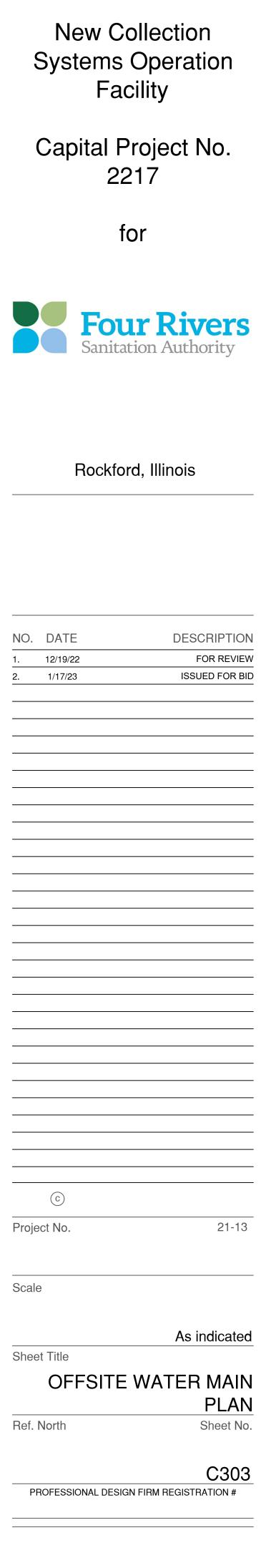
**Four Rivers** Sanitation Authority

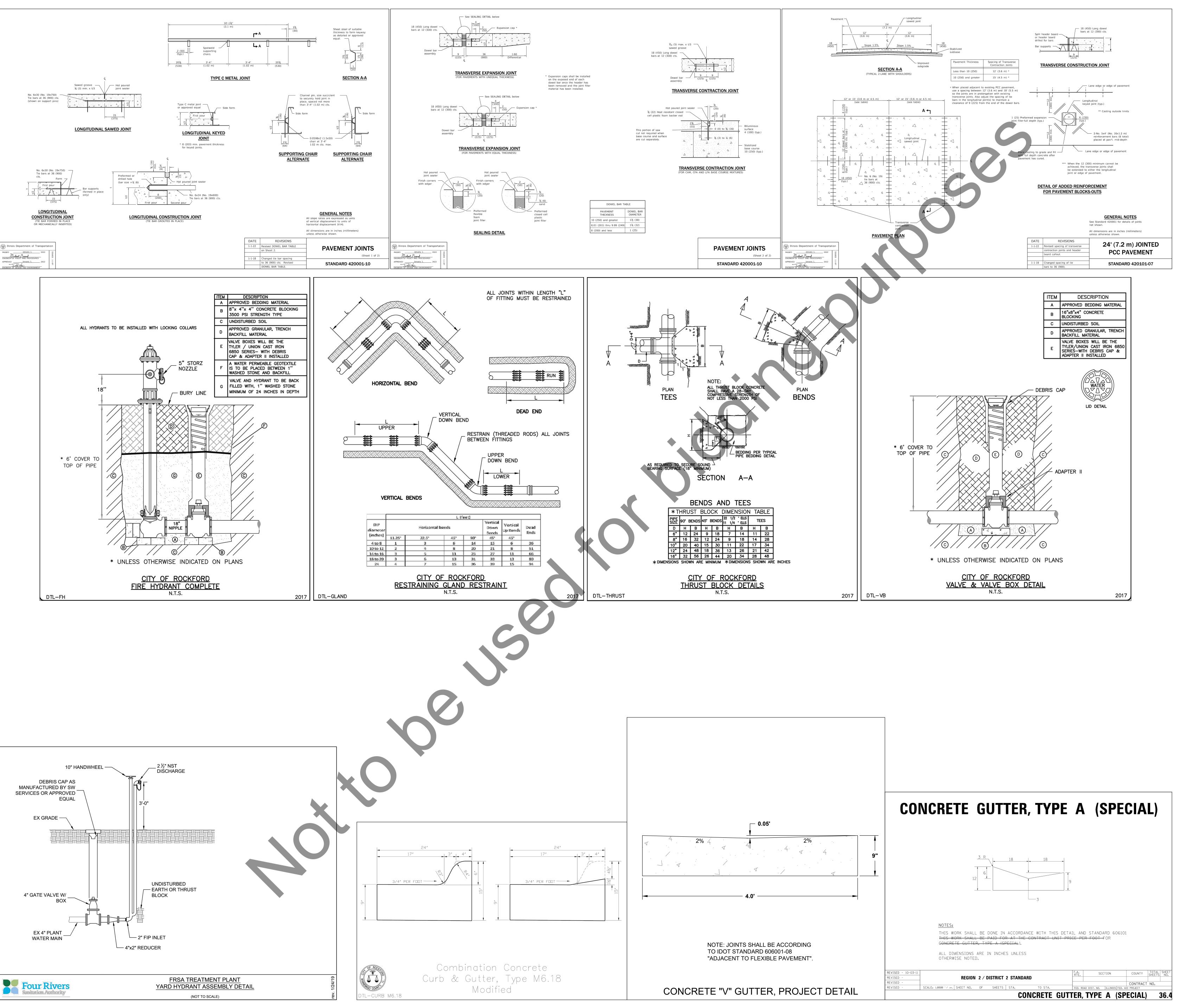


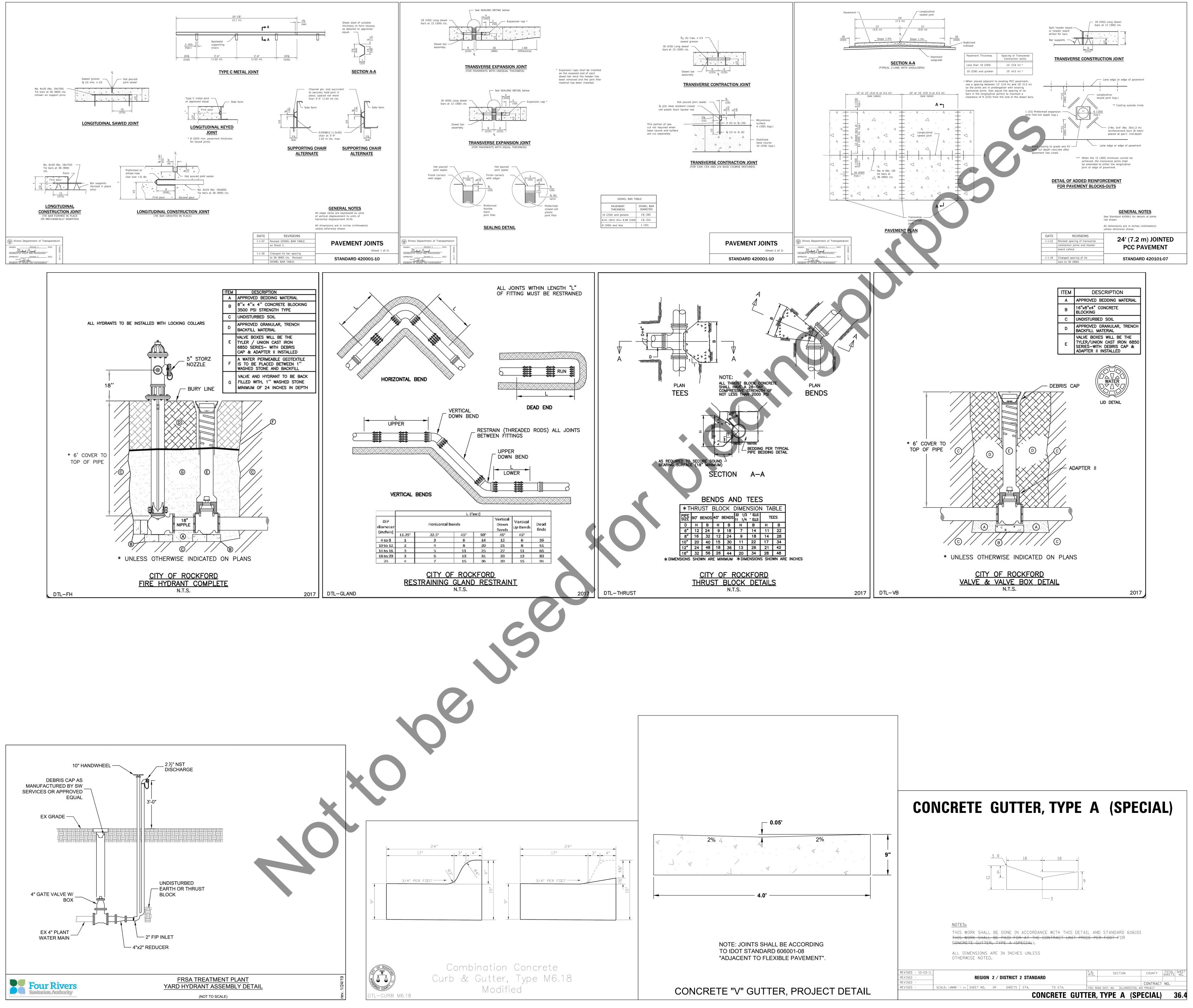
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LINE #	LENGTH (FT)	DIRECTION BEARING START STATION EN		END STATION		
L1	406.24	S88° 45' 44.89"W	STA. 100+00.00 N: 2026513.05 E: 2588350.11	STA. 104+06.24 N: 2026504.27 E: 2587943.96		
L2	440.35	N01° 15' 45.10"W	STA. 104+53.35 N: 2026533.60 E: 2587913.32	STA. 108+93.70 N: 2026973.85 E: 2587903.62		
L3	778.14	N00° 54' 49.74"W	STA. 200+00.00 N: 2026545.86 E: 2587345.39	STA. 207+78.14 N: 2027323.90 E: 2587332.98		
L4	1014.61	N88° 42' 38.40"E	STA. 600+00.00 N: 2026841.44 E: 2587034.75	STA. 610+14.61 N: 2026864.27 E: 2588049.11		

ALIGNMENT CURVE TABLE						
CURVE #	DELTA	RADIUS (FT)	LENGTH (FT)	TANGENT (FT)	CHORD BEARING	CHORD DIST. (FT)
C1	190°59'09.35"	30.00	47.11	29.99	N46°15'00.11"W	42.42

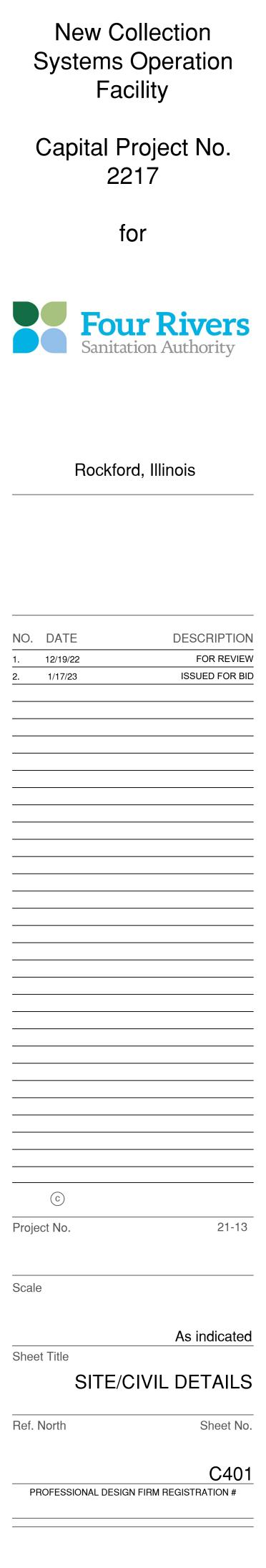






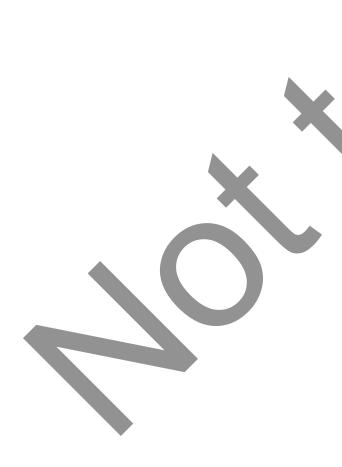






### EROSION CONTROL NOTES

- 1. UNLESS OTHERWISE SPECIFIED, ALL EROSION AND SEDIMENT CONTROL MEASURES AND THEIR MAINTENANCE, CLEARING AND REMOVAL SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION.
- 2. THIS WORK SHALL CONFORM TO THE APPLICABLE STANDARDS FROM THE ILLINOIS URBAN MANUAL, THE ILLINOIS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATION, CURRENT EDITION, THE PROJECT SPECIFICATIONS, AND THE APPROPRIATE DETAILS.
- 3. A NOTICE OF INTENT (NOI) AND A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) WILL BE COMPLETED AND SUBMITTED TO THE ILLINOIS EPA BY THE OWNER PRIOR TO CONSTRUCTION.
- BIDDING PROCESS. 5. A COPY OF THE SWPPP WILL BE PROVIDED TO THE SUCCESSFUL BIDDER. THE CONTRACTOR SHALL MAINTAIN ONE COPY OF THE SWPPP AT THE CONSTRUCTION SITE AT ALL TIMES DURING WORKING HOURS FROM THE DATE OF PROJECT INITIATION TO THE DATE OF FINAL STABILIZATION.
- 6. THE CONTRACTOR SHALL LEGIBLY MARK ANY CHANGES OR REVISIONS IMPLEMENTED TO THE SWPPP. AT COMPLETION OF THE PROJECT, THE CONTRACTOR SHALL DELIVER THE SWPPP (INCLUDING ALL REVISIONS, RECORDS, AND INSPECTION REPORTS) TO THE OWNER.
- 7. THE GENERAL CONTRACTOR AND ANY SUBCONTRACTOR RESPONSIBLE FOR SEDIMENT AND EROSION CONTROL MEASURES OR CONSTRUCTION ACTIVITIES THAT DISTURB SITE SOIL WILL BE REQUIRED TO CERTIFY THE SWPPP BEFORE A NOTICE TO PROCEED IS ISSUED.
- PROMINENT PLACE FOR PUBLIC VIEWING AT THE CONSTRUCTION SITE BY THE GENERAL CONTRACTOR.
- 9. THE CONTRACTOR SHALL IMPLEMENT THE EROSION AND SEDIMENT CONTROL MEASURES AS INDICATED ON THESE EROSION CONTROL PLANS AND IN THE SWPPP BEFORE CONSTRUCTION BEGINS.
- 10. THE CONTROLS SHALL BE INSTALLED AS DETAILED AND WHERE INDICATED ON THE EROSION CONTROL PLAN SHEETS AND AS DIRECTED BY THE INSPECTOR.
- 12. EXCEPT AS PROVIDED IN THE SWPPP, DISTURBED PORTIONS OF THE SITE SHALL BE STABILIZED (TEMPORARILY OR PERMANENTLY SEEDED, MULCHED, SODDED OR PAVED) AS SOON AS PRACTICABLE, BUT IN NO CASE MORE THAN 7 CALENDAR
- 13. UNTIL SUCH TIME AS THE PROJECT SITE REACHES FINAL STABILIZATION AND A NOTICE OF TERMINATION IS FILED BY THE OWNER, THE CONTRACTOR SHALL BE RESPONSIBLE TO ADJUST, REPAIR, OR REPLACE, ALL VEGETATION, EROSION CONTROLS, SEDIMENT CONTROLS, AND ANY OTHER PROTECTIVE MEASURES AS REQUIRED IN ORDER TO MAINTAIN THEIR INTENDED FUNCTION IN A GOOD AND EFFECTIVE OPERATING CONDITION.
- 14. EXCEPT FOR FLOWS FROM FIRE FIGHTING ACTIVITIES, SOURCES OF NON-STORM WATER EXPECTED DURING THE CONSTRUCTION PROCESS THAT MAY BE COMBINED WITH STORM WATER DISCHARGES ARE IDENTIFIED IN THE SWPPP. THESE DISCHARGES SHALL BE DIRECTED AWAY FROM UNPROTECTED, BARE, OR OTHERWISE UNSTABILIZED SOIL, AND APPROPRIATE POLLUTION PREVENTION MEASURES SHALL BE IMPLEMENTED SO THAT THESE DISCHARGES DO NOT CAUSE EROSION OR DEGRADE THE QUALITY OF RUNOFF FROM THE CONSTRUCTION SITE.
- 15. REGULAR INSPECTIONS WILL BE MADE AS REQUIRED UNDER THE GENERAL NPDES PERMIT NO. ILR10 AND SPECIFIED IN THE SWPPP. A QUALIFIED INSPECTOR WILL BE PROVIDED BY THE OWNER. BASED ON THE RESULTS OF THE INSPECTIONS, POLLUTION PREVENTION MEASURES SHALL BE REVISED AS APPROPRIATE AS SOON AS PRACTICABLE AFTER EACH INSPECTION. SUCH REVISIONS SHALL BE IMPLEMENTED WITHIN 7 CALENDAR DAYS FOLLOWING EACH INSPECTION.
- 16. THE INSPECTOR SHALL HAVE AUTHORIZATION TO DETERMINE THE ADEQUACY OF THE CONTRACTOR'S EROSION CONTROL EFFORTS. THE OWNER OR THE INSPECTOR SHALL HAVE FULL AUTHORITY OVER THE GENERAL CONTRACTOR AND ANY SUBCONTRACTOR TO CAUSE POLLUTANT CONTROL MEASURES TO BE REPAIRED. MODIFIED. MAINTAINED. SUPPLEMENTED. OR WHATEVER ELSE IS NECESSARY IN ORDER TO ACHIEVE EFFECTIVE POLLUTANT CONTROL OR TO SUSPEND OR LIMIT THE CONTRACTORS OPERATIONS PENDING ADEQUATE PERFORMANCE.
- 17. PERIMETER EROSION BARRIER TO BE CONSTRUCTED OF SILT FENCE UNLESS NOTED OTHERWISE.
- 18. INLET PROTECTION SHALL BE A DANDY BAG, DANDY SACK, ROCSOC, OR APPROVED EQUAL.
- 19. EROSION CONTROL BLANKET SHALL BE OF NORTH AMERICAN GREEN DS75 OR APPROVED EQUAL. 20. A TEMPORARY CONCRETE WASHOUT FACILITY SHALL BE CONSTRUCTED AT A LOCATION APPROVED BY THE ENGINEER.
- WASHOUT FACILITY SHALL BE UTILIZED FOR ALL APPLICABLE OPERATIONS.
- 21. STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED, TO THE DIMENSIONS AS SHOWN, AT APPROVED LOCATIONS FOR THIS PROJECT. ALL CONSTRUCTION TRAFFIC MUST UTILIZE THE STABILIZED CONSTRUCTION ENTRANCES WHEN EXITING THE SITE. ALL COST FOR EROSION CONTROL AND RESTORATION WORK ASSOCIATED WITH THE APPROVED STABILIZED CONSTRUCTION ENTRANCES SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
- 22. TEMPORARY EROSION CONTROL MEASURES INCLUDE TEMPORARY DITCH CHECKS, PERIMETER EROSION BARRIER, INLET AND PIPE PROTECTION, TEMPORARY SEEDING, AND ANY OTHER TEMPORARY EROSION CONTROL MEASURE NEEDED TO LIMIT THE AMOUNT OF SOIL EROSION AND SEDIMENTATION DURING CONSTRUCTION.
- 23. AT THE COMPLETION OF THE PROJECT, ALL TEMPORARY EROSION CONTROL ITEMS SHALL BE REMOVED FROM THE SITE, AND BECOME THE PROPERTY OF THE CONTRACTOR. CONTRACTOR MUST STABILIZE ANY AREA DISTURBED BY THE REMOVAL OF EROSION CONTROL ITEMS.
- 24. CONTRACTOR SHALL CLEAN ANY DEBRIS TRACKED OFFSITE DAILY.



4. THE SWPPP SHALL BE CONSIDERED PART OF THE CONTRACT DOCUMENTS AND WILL BE AVAILABLE FOR REVIEW DURING THE

8. A COPY OF THE LETTER OF NOTIFICATION OF COVERAGE, AND THE GENERAL NPDES PERMIT NO. ILR10 MUST BE POSTED IN A

11. SITE ACTIVITIES SHOULD ENSURE THAT EXISTING VEGETATION IS PRESERVED WHERE PRACTICABLE.

DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED.

### SEEDING OF DISTURBED AREAS

- 1. THE FINAL TOP 4" INCHES OF SOIL IN ANY DISTURBANCE AREA MUST BE A COHESIVE SOIL CAPABLE OF SUPPORTING VEGETATION.
- FERTILIZER HAVING AN ANALYSIS OF 10–10–10 SHALL BE APPLIED AT A RATE OF 90 LBS/ACRE TO ALL DISTURBED AREAS AND INCORPORATED INTO THE SEEDBED PRIOR TO SOWING THE SEED.
- 3. THE CONTRACTOR SHALL SEED AND MULCH ALL DISTURBED AREAS ADJACENT TO IMPROVEMENTS WITH SEEDING, IDOT CLASS 1A AND MULCH, IDOT METHOD 2 IN ACCORDANCE WITH IDOT STANDARD SPECIFICATION OR AS APPROVED BY THE ENGINEER. EROSION CONTROL BLANKET SHALL BE USED IN LIEU OF MULCH AT AREAS DESIGNATED ON THE PLAN SHEETS.
- GUARANTEE: ALL SEEDED AREAS SHALL BE MAINTAINED AND MOWED FOR AT LEAST 30 DAYS AFTER GERMINATION. SCATTERED BARE SPOTS NO LARGER THAN TWO SQUARE FOOT WILL BE ALLOWED UP TO A MAXIMUM OF 5% OF ANY SEEDED AREA INCLUDING 30-DAY MAINTENANCE, MOWING AND WATERING AS NECESSARY.
- THIS WORK SHALL CONFORM TO THE APPLICABLE STANDARDS FROM THE ILLINOIS URBAN MANUAL, THE ILLINOIS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATION SECTIONS, CURRENT EDITION, THE PROJECT SPECIFICATIONS, AND THE APPROPRIATE DETAILS.
- RESTORATION THE CONTRACTOR SHALL RESTORE ALL AREAS DISTURBED DURING CONSTRUCTION OF THE IMPROVEMENTS AND RELATED APPURTENANCES OR AS PART OF ANY OF THEIR ACTIVITIES TO A CONDITION EQUAL TO OR BETTER THAN THE ORIGINAL CONDITION.

### STORM SEWER

- ALL EXISTING MANHOLE CONNECTIONS MUST BE CORE-DRILLED, UNLESS A PRE-CORED HOLE, SUITABLY LOCATED, EXISTS IN THE MANHOLE.
- 2. THE LENGTH OF FLARED END SECTIONS IS NOT INCLUDED IN THE INDICATED PIPE LENGTH. HOWEVER, THE ENTIRE LENGTH OF THE FLARED END SECTION IS TAKEN INTO ACCOUNT FOR THE INDICATED SLOPE AND INVERT GRADES.
- CONTRACTOR SHALL FURNISH ALL PIPE BEDDING. PIPE BEDDING MATERIAL SHALL BE AS SHOWN IN THE "STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS", CURRENT EDITION. (COST SHALL BE INCLUDED UNIT PRICE OF PIPE).
- 4. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING STORM SEWER ELEVATIONS THAT PROJECT CONNECTS
- 5. ALL STORM SEWER PIPE SHALL BE CLASS IV RCP, UNLESS OTHERWISE STATED IN PLANS.







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Project No.

AS NOTED

21-13

Scale

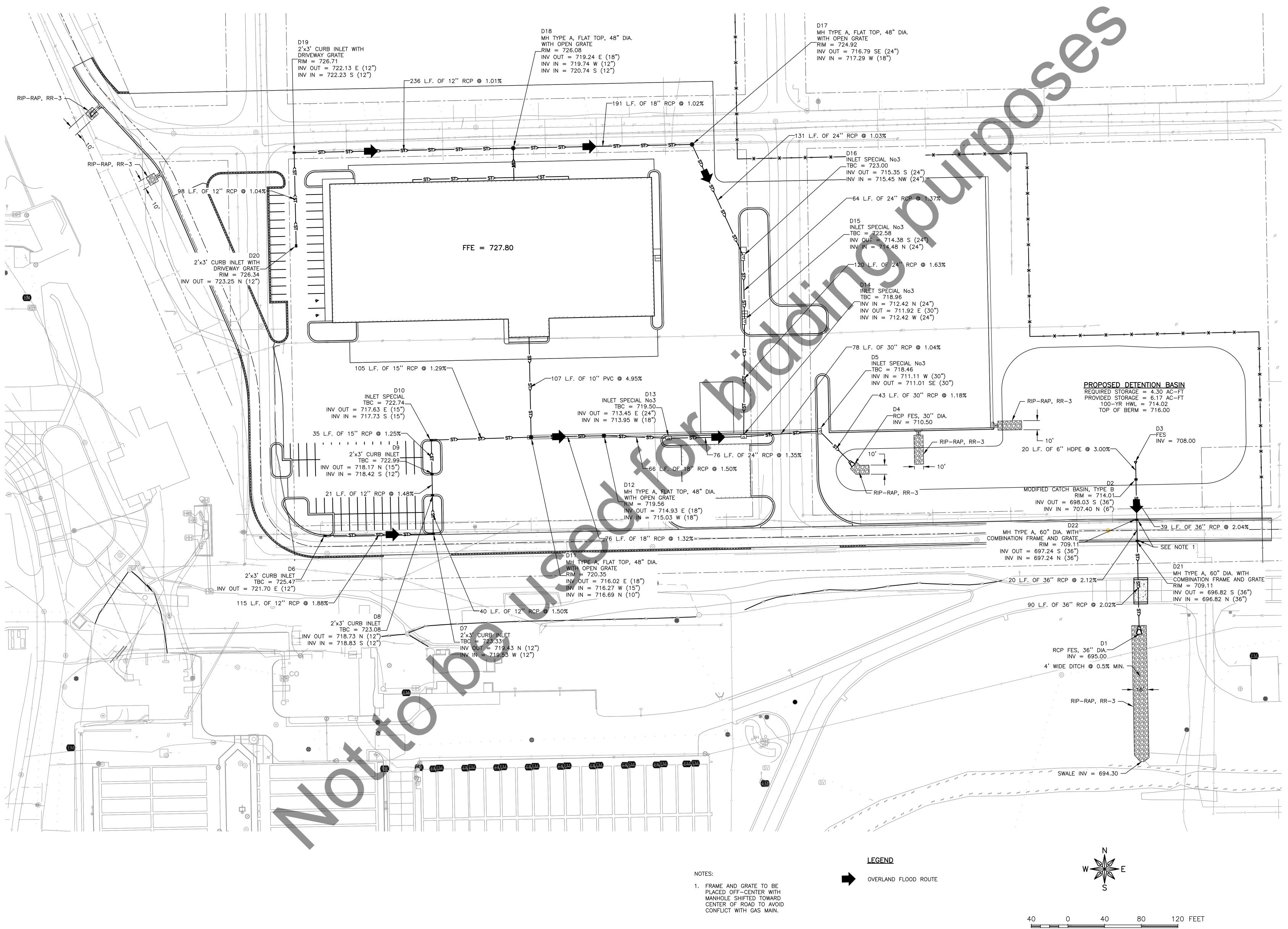
Sheet Title

C501

Ref. North

Sheet No.

ILLINOIS DESIGN FIRM NO. 184-003525 PROFESSIONAL DESIGN FIRM REGISTRATION #



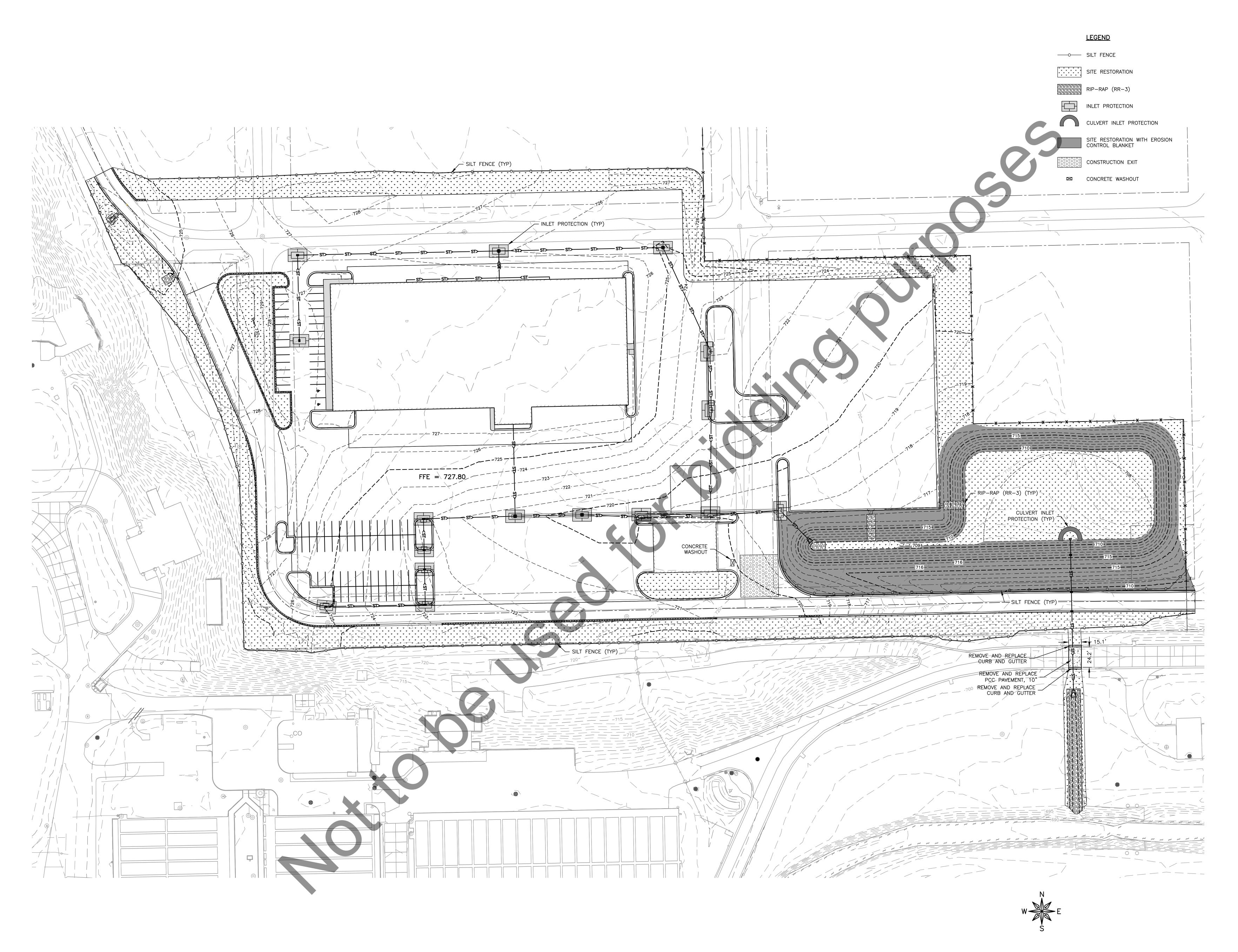




New Collection

NO.	DATE	DESCRIPTION
1.	05-20-2021	Initial Owner Layout Review
2.	08-18-2021	Owner Layout Review
3.	01-21-2022	2 Owner Review One
4.	02-04-2022	2 Owner Review Two
5.	07-14-2022	2 Issued for Zoning Review
6.	08-22-2022	2 Issued for Bids
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Proje	ect No.	21-13
		AS NOTED
Q <sub>a</sub>		
Scal	e	
		DRAINAGE PLAN
Shee	et Title	
		C502
Ref.	North	Sheet No.
	ILLINOIS	DESIGN FIRM NO. 184-003525

ILLINOIS DESIGN FIRM NO. 184-003525 PROFESSIONAL DESIGN FIRM REGISTRATION #



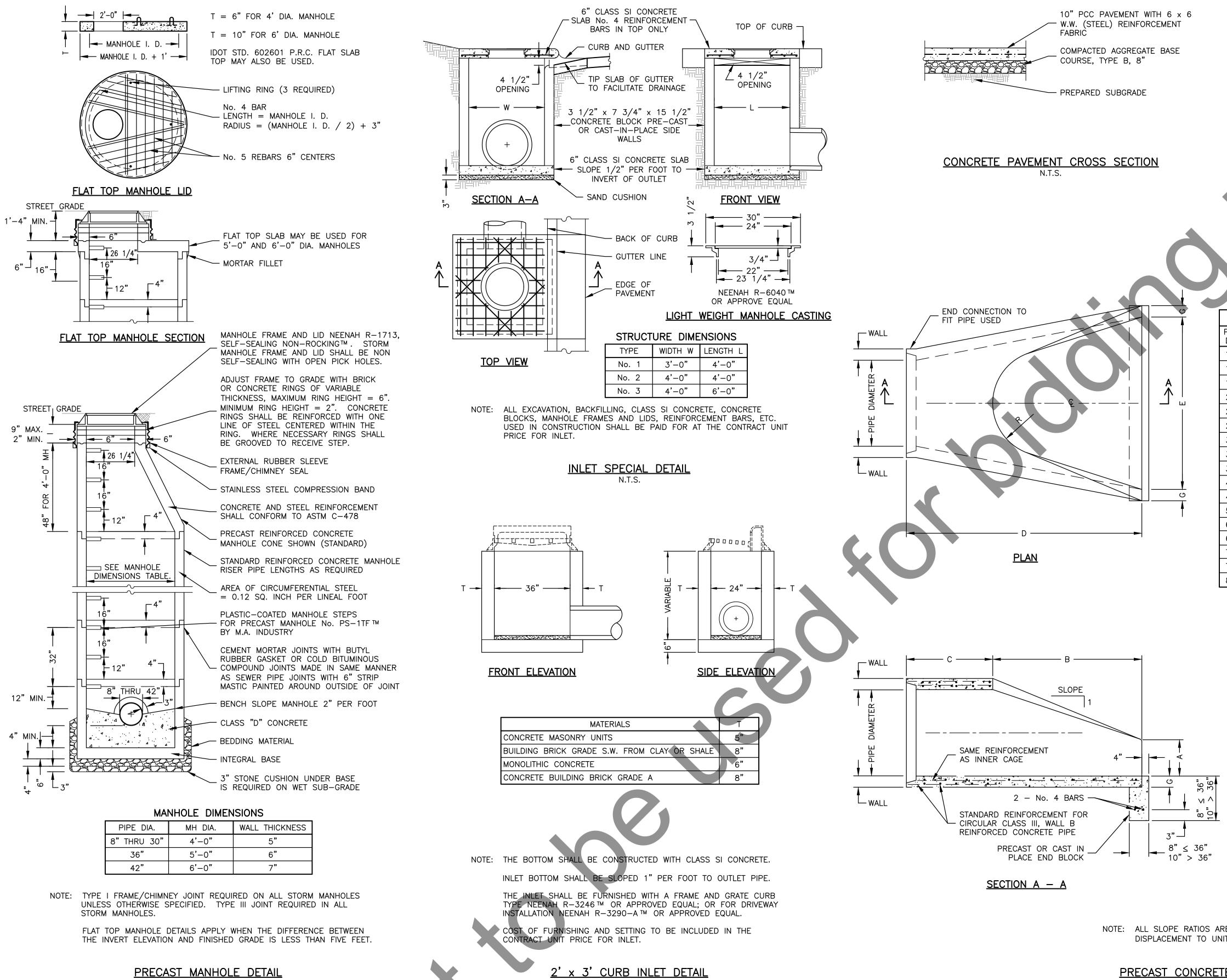
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### Rockford, Illinois

NO.	DATE	DESCRIPTION
1.	05-20-2021	Initial Owner Layout Review
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Proje	ect No.	21-13
		AS NOTED
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	ERC	SION CONTROL
		PLAN
Sho	et Title	
Oned		
		C503
Ref.	North	Sheet No.
		DESIGN FIRM NO. 184-003525
Р	KUFESSION	AL DESIGN FIRM REGISTRATION #

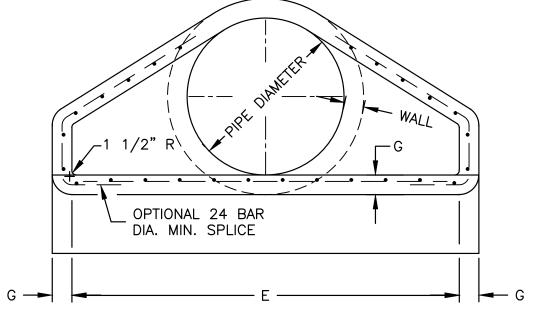


N.T.S.

PRECAST MANHOLE DETAIL

N.T.S.

					DIMENSI	DNS			,	
			А	В	С	D	Е	G	R	SLOPE
	PIPE DIA.	WALL	A							
		WALL 2"	4"	2'-0"	4'-0 7/8"	6'-0 7/8"	2'-0"	2"	9"	1:2.4
	DIA.				4'-0 7/8" 3'-10"	6'-0 7/8" 6'-1"	2'-0" 2'-6"			1:2.4 1:2.4
A	DIA. 12"	2"	4"	2'-0"				2"	9"	
	DIA. 12" 15"	2" 2 1/4"	4" 6"	2'-0" 2'-3"	3'-10"	6'-1"	2'-6"	2" 2 1/4"	9" 11"	1:2.4
▲   ↓ ⊔	DIA. 12" 15" 18"	2" 2 1/4" 2 1/2"	4" 6" 9"	2'-0" 2'-3" 2'-3"	3'-10" 3'-10"	6'-1" 6'-1"	2'-6" 3'-0"	2" 2 1/4" 2 1/2"	9" 11" 12"	1:2.4 1:2.4
▲   ♪ □ 	DIA. 12" 15" 18" 21"	2" 2 1/4" 2 1/2" 2 3/4"	4" 6" 9" 9"	2'-0" 2'-3" 2'-3" 2'-11"	3'-10" 3'-10" 3'-2" 2'-6" 2'-1 1/2"	6'-1" 6'-1" 6'-1"	2'-6" 3'-0" 3'-6"	2" 2 1/4" 2 1/2" 2 3/4"	9" 11" 12" 13" 14"	1:2.4 1:2.4 1:2.4
∱   ⊔	DIA. 12" 15" 18" 21" 24"	2" 2 1/4" 2 1/2" 2 3/4" 3"	4" 6" 9" 9" 9 1/2"	2'-0" 2'-3" 2'-3" 2'-11" 3'-7 1/2"	3'-10" 3'-10" 3'-2" 2'-6"	6'-1" 6'-1" 6'-1" 6'-1 1/2"	2'-6" 3'-0" 3'-6" 4'-0"	2" 2 1/4" 2 1/2" 2 3/4" 3"	9" 11" 12" 13" 14"	1:2.4 1:2.4 1:2.4 1:2.5
 ⊥	DIA. 12" 15" 18" 21" 24" 27"	2" 2 1/4" 2 1/2" 2 3/4" 3" 3 1/4"	4" 6" 9" 9" 9 1/2" 10 1/2"	2'-0" 2'-3" 2'-3" 2'-11" 3'-7 1/2" 4'-0"	3'-10" 3'-10" 3'-2" 2'-6" 2'-1 1/2" 1'-7 3/4"	6'-1" 6'-1" 6'-1" 6'-1 1/2" 6'-1 1/2"	2'-6" 3'-0" 3'-6" 4'-0" 4'-6"	2" 2 1/4" 2 1/2" 2 3/4" 3" 3 1/4"	9" 11" 12" 13" 14" 14 1/2" 15"	1:2.4 1:2.4 1:2.4 1:2.5 1:2.4
∱   ⊔ 	DIA. 12" 15" 21" 24" 27" 30"	2" 2 1/4" 2 1/2" 2 3/4" 3" 3 1/4" 3 1/2"	4" 6" 9" 9" 9 1/2" 10 1/2" 1'-0"	$2'-0"$ $2'-3"$ $2'-3"$ $2'-11"$ $3'-7 \ 1/2"$ $4'-0"$ $4'-6"$	3'-10" 3'-10" 3'-2" 2'-6" 2'-1 1/2" 1'-7 3/4"	6'-1" 6'-1" 6'-1" 6'-1 1/2" 6'-1 1/2" 6'-1 3/4"	2'-6" 3'-0" 3'-6" 4'-0" 4'-6" 5'-0"	2" 2 1/4" 2 1/2" 2 3/4" 3" 3 1/4" 3 1/2"	9" 11" 12" 13" 14" 14 1/2" 15"	1:2.4 1:2.4 1:2.4 1:2.5 1:2.4 1:2.5
	DIA. 12" 15" 18" 21" 24" 27" 30" 33"	2" 2 1/4" 2 1/2" 2 3/4" 3" 3 1/4" 3 1/2" 3 3/4"	4" 6" 9" 9" 9 1/2" 10 1/2" 1'-0" 1'-1 1/2"	$2'-0"$ $2'-3"$ $2'-3"$ $2'-11"$ $3'-7 \ 1/2"$ $4'-0"$ $4'-6"$ $4'-6"$ $4'-10 \ 1/2"$ $5'-3"$ $5'-3"$	3'-10" 3'-10" 3'-2" 2'-6" 2'-1 1/2" 1'-7 3/4" 3'-3 1/4"	6'-1" 6'-1" 6'-1" 6'-1 1/2" 6'-1 1/2" 6'-1 3/4" 8'-1 3/4"	2'-6" 3'-0" 3'-6" 4'-0" 4'-6" 5'-0" 5'-6"	2" 2 1/4" 2 1/2" 2 3/4" 3" 3 1/4" 3 1/2" 3 3/4"	9" 11" 12" 13" 14" 14 1/2" 15" 17 1/2"	1:2.4 1:2.4 1:2.5 1:2.4 1:2.5 1:2.5 1:2.5
	DIA. 12" 15" 18" 21" 24" 27" 30" 33" 36"	2" 2 1/4" 2 1/2" 2 3/4" 3" 3 1/4" 3 1/2" 3 3/4" 4" 4 1/2" 5"	4" 6" 9" 9" 9 1/2" 10 1/2" 1'-0" 1'-1 1/2" 1'-3"	$2'-0"$ $2'-3"$ $2'-3"$ $2'-11"$ $3'-7 \ 1/2"$ $4'-0"$ $4'-6"$ $4'-10 \ 1/2"$ $5'-3"$	3'-10" 3'-10" 3'-2" 2'-6" 2'-1 1/2" 1'-7 3/4" 3'-3 1/4" 2'-10 3/4"	6'-1" 6'-1" 6'-1" 6'-1 1/2" 6'-1 1/2" 6'-1 3/4" 8'-1 3/4" 8'-1 3/4" 8'-2" 8'-2"	2'-6" $3'-0"$ $3'-6"$ $4'-0"$ $4'-6"$ $5'-0"$ $5'-6"$ $6'-0"$	2" 2 1/4" 2 1/2" 2 3/4" 3" 3 1/4" 3 1/2" 3 3/4" 4"	9" 11" 12" 13" 14" 14 1/2" 15" 17 1/2" 20"	1:2.4 1:2.4 1:2.5 1:2.5 1:2.5 1:2.5 1:2.5
	DIA. 12" 15" 18" 21" 24" 27" 30" 33" 36" 42"	2" 2 1/4" 2 1/2" 2 3/4" 3" 3 1/4" 3 1/2" 3 3/4" 4 1/2" 5" 5 1/2"	4" 6" 9" 9" 9 1/2" 10 1/2" 1'-0" 1'-1 1/2" 1'-3" 1'-9" 2'-0" 2'-3"	$2'-0"$ $2'-3"$ $2'-3"$ $2'-11"$ $3'-7 \ 1/2"$ $4'-0"$ $4'-6"$ $4'-6"$ $4'-10 \ 1/2"$ $5'-3"$ $5'-3"$	3'-10" 3'-10" 3'-2" 2'-6" 2'-1 1/2" 1'-7 3/4" 3'-3 1/4" 2'-10 3/4" 2'-11" 2'-2" 2'-11"	6'-1" 6'-1" 6'-1" 6'-1 1/2" 6'-1 1/2" 6'-1 3/4" 8'-1 3/4" 8'-1 3/4" 8'-2" 8'-2" 8'-2" 8'-4"	2'-6" $3'-0"$ $3'-6"$ $4'-0"$ $4'-6"$ $5'-0"$ $5'-6"$ $6'-0"$ $6'-6"$	2" 2 1/4" 2 1/2" 2 3/4" 3" 3 1/4" 3 1/2" 3 3/4" 4" 4 1/2" 5" 5 1/2"	9" 11" 12" 13" 14" 14 1/2" 15" 17 1/2" 20" 22"	1:2.4 1:2.4 1:2.5 1:2.5 1:2.5 1:2.5 1:2.5 1:2.5
	DIA. 12" 15" 18" 21" 24" 27" 30" 33" 36" 42" 48"	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	$ \begin{array}{r}     4" \\     6" \\     9" \\     9" \\     9" \\     9 1/2" \\     10 1/2" \\     1'-0" \\     1'-1 1/2" \\     1'-3" \\     1'-9" \\     2'-0" \\     2'-3" \\     2'-11" \\ \end{array} $	2'-0" $2'-3"$ $2'-3"$ $2'-11"$ $3'-7 1/2"$ $4'-0"$ $4'-6"$ $4'-6"$ $4'-10 1/2"$ $5'-3"$ $5'-3"$ $6'-0"$	3'-10" 3'-2" 2'-6" 2'-1 1/2" 1'-7 3/4" 3'-3 1/4" 2'-10 3/4" 2'-11" 2'-2" 2'-11" 3'-3"	6'-1" 6'-1" 6'-1" 6'-1 1/2" 6'-1 3/4" 8'-1 3/4" 8'-1 3/4" 8'-2" 8'-2" 8'-2" 8'-4" 8'-3"	2'-6" 3'-0" 3'-6" 4'-0" 4'-6" 5'-0" 5'-6" 6'-0" 6'-6" 7'-0" 7'-6" 8'-0"	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	9" 11" 12" 13" 14" 14 1/2" 15" 17 1/2" 20" 22" 22"	1:2.4 1:2.4 1:2.5 1:2.5 1:2.5 1:2.5 1:2.5 1:2.5 1:2.5
	DIA. 12" 15" 21" 24" 27" 30" 33" 36" 42" 48" 54" 60" 66"	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	$ \begin{array}{r}     4" \\     6" \\     9" \\     9" \\     9 1/2" \\     10 1/2" \\     1'-0" \\     1'-1 1/2" \\     1'-3" \\     1'-9" \\     2'-0" \\     2'-3" \\     2'-11" \\     2'-6" \\ \end{array} $	2'-0" $2'-3"$ $2'-3"$ $2'-11"$ $3'-7 1/2"$ $4'-0"$ $4'-6"$ $4'-6"$ $4'-10 1/2"$ $5'-3"$ $5'-3"$ $6'-0"$ $5'-5"$ $5'-0"$ $6'-0"$	3'-10" 3'-10" 3'-2" 2'-6" 2'-1 1/2" 1'-7 3/4" 3'-3 1/4" 2'-10 3/4" 2'-11" 2'-2" 2'-11" 3'-3" 2'-3"	6'-1" 6'-1" 6'-1" 6'-1 1/2" 6'-1 3/4" 8'-1 3/4" 8'-1 3/4" 8'-2" 8'-2" 8'-2" 8'-4" 8'-3" 8'-3"	2'-6" 3'-0" 3'-6" 4'-0" 4'-6" 5'-0" 5'-6" 6'-0" 6'-6" 7'-0" 7'-6" 8'-0"	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	9" 11" 12" 13" 14" 14" 14" 14" 14" 12" 20" 22" 22" 24" * *	1:2.4 1:2.4 1:2.5 1:2.5 1:2.5 1:2.5 1:2.5 1:2.5 1:2.5 1:2.5 1:2.0 1:1.9 1:1.7
	DIA. 12" 15" 18" 21" 24" 27" 30" 33" 36" 42" 48" 54" 60" 66" 72"	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	$ \begin{array}{r}     4" \\     6" \\     9" \\     9" \\     9 1/2" \\     10 1/2" \\     1'-0" \\     1'-1 1/2" \\     1'-3" \\     1'-9" \\     2'-0" \\     2'-3" \\     2'-11" \\     2'-6" \\     3'-0" \\ \end{array} $	2'-0" $2'-3"$ $2'-3"$ $2'-11"$ $3'-7 1/2"$ $4'-0"$ $4'-6"$ $4'-6"$ $4'-10 1/2"$ $5'-3"$ $5'-3"$ $6'-0"$ $5'-5"$ $5'-0"$ $6'-0"$ $6'-0"$ $6'-6"$	3'-10" 3'-10" 3'-2" 2'-6" 2'-1 1/2" 1'-7 3/4" 3'-3 1/4" 2'-10 3/4" 2'-11" 2'-2" 2'-11" 3'-3" 2'-3" 1'-9"	6'-1" 6'-1" 6'-1" 6'-1 1/2" 6'-1 1/2" 6'-1 3/4" 8'-1 3/4" 8'-1 3/4" 8'-2" 8'-2" 8'-2" 8'-3" 8'-3" 8'-3"	2'-6" 3'-0" 3'-6" 4'-0" 4'-6" 5'-0" 5'-6" 6'-0" 6'-6" 7'-0" 7'-6" 8'-0" 8'-6" 9'-0"	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	9" 11" 12" 13" 14" 14 1/2" 15" 17 1/2" 20" 22" 22" 24" * *	1:2.4 1:2.4 1:2.5 1:2.5 1:2.5 1:2.5 1:2.5 1:2.5 1:2.5 1:2.5 1:2.0 1:1.9 1:1.7 1:1.8
	DIA. 12" 15" 21" 24" 27" 30" 33" 36" 42" 48" 54" 60" 66"	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	$ \begin{array}{r}     4" \\     6" \\     9" \\     9" \\     9 1/2" \\     10 1/2" \\     1'-0" \\     1'-1 1/2" \\     1'-3" \\     1'-9" \\     2'-0" \\     2'-3" \\     2'-11" \\     2'-6" \\ \end{array} $	2'-0" $2'-3"$ $2'-3"$ $2'-11"$ $3'-7 1/2"$ $4'-0"$ $4'-6"$ $4'-6"$ $4'-10 1/2"$ $5'-3"$ $5'-3"$ $6'-0"$ $5'-5"$ $5'-0"$ $6'-0"$	3'-10" 3'-10" 3'-2" 2'-6" 2'-1 1/2" 1'-7 3/4" 3'-3 1/4" 2'-10 3/4" 2'-11" 2'-2" 2'-11" 3'-3" 2'-3"	6'-1" 6'-1" 6'-1" 6'-1 1/2" 6'-1 3/4" 8'-1 3/4" 8'-1 3/4" 8'-2" 8'-2" 8'-2" 8'-4" 8'-3" 8'-3"	2'-6" 3'-0" 3'-6" 4'-0" 4'-6" 5'-0" 5'-6" 6'-0" 6'-6" 7'-0" 7'-6" 8'-0"	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	9" 11" 12" 13" 14" 14" 14" 14" 14" 12" 20" 22" 22" 24" * *	1:2.4 1:2.4 1:2.5 1:2.5 1:2.5 1:2.5 1:2.5 1:2.5 1:2.5 1:2.5 1:2.0 1:1.9 1:1.7



<u>END VIEW</u>

NOTE: ALL SLOPE RATIOS ARE EXPRESSED AS UNITS OF VERTICAL DISPLACEMENT TO UNITS OF HORIZONTAL DISPLACEMENT (V:H).

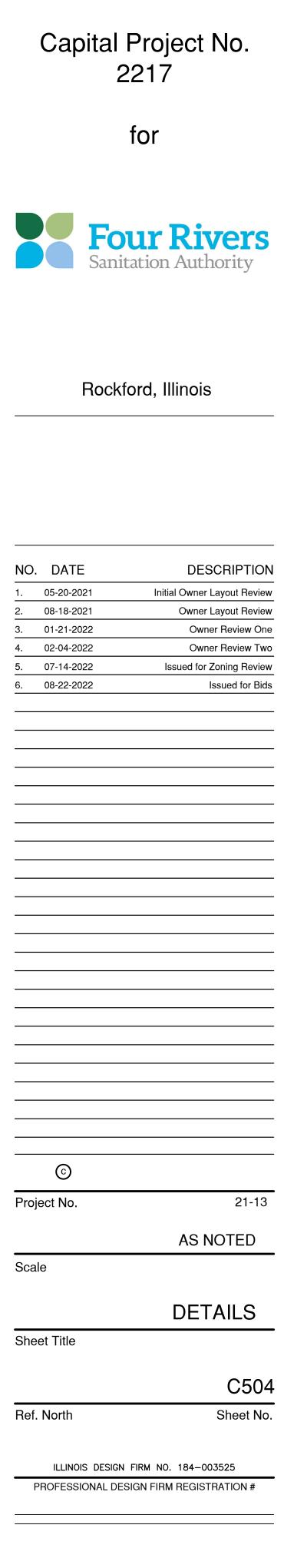
PRECAST CONCRETE FLARED END SECTION DETAIL N.T.S.

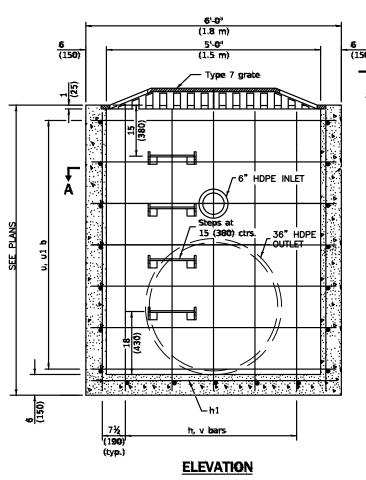
# FEHR GRAHAM ENGINEERING & ENVIRONMENTAL

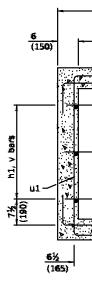
New Collection

Systems Operation

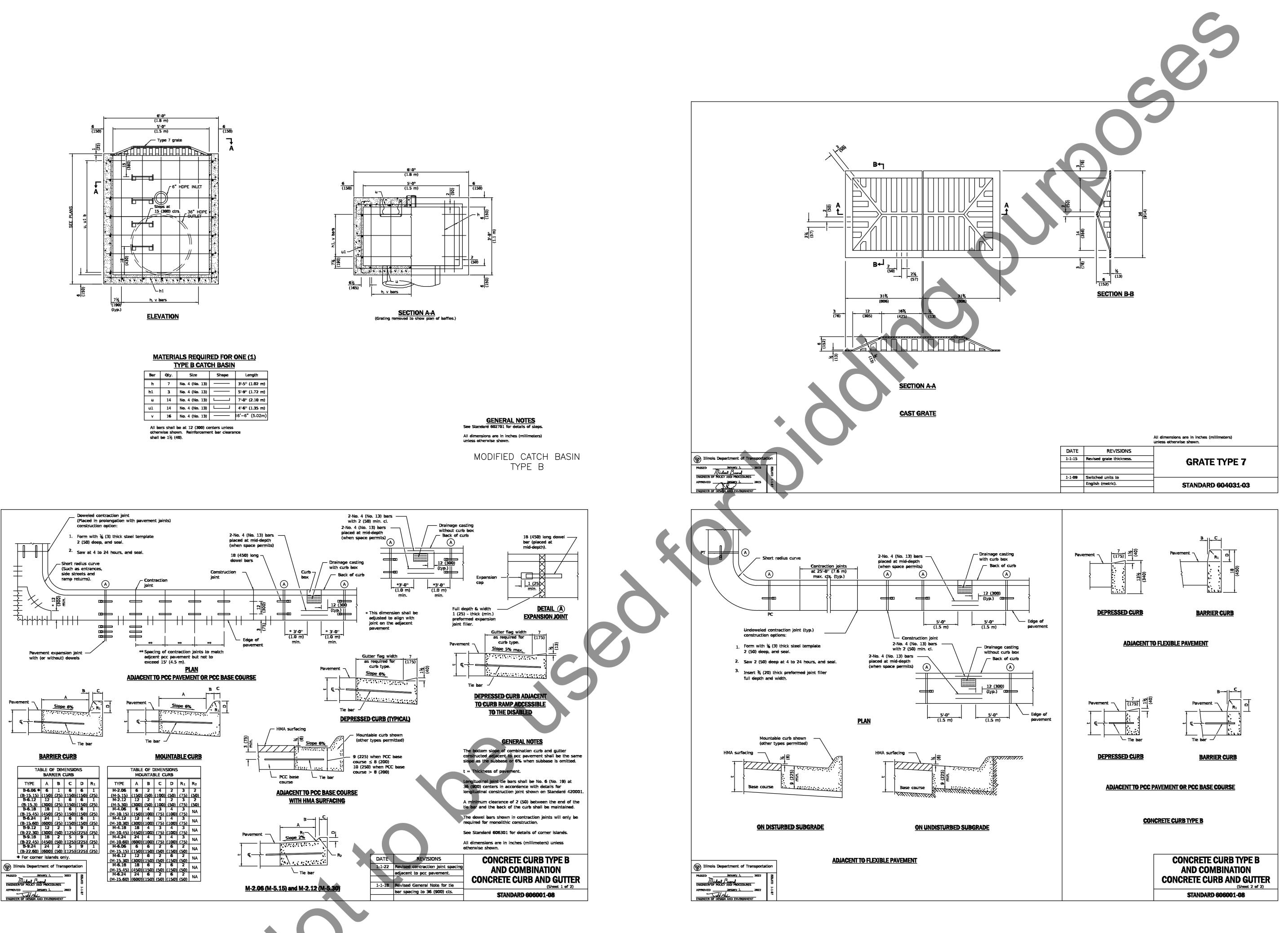
Facility







Bar	Qtty.	Size	Shape	Length
h	7	No. 4 (No. 13)		3'-5" (1.02 m
h1	3	No. 4 (No. 13)		5'-9" (1.72 m
ų	14	No. 4 (No. 13)		7'-0" (2.10 m
<b>u1</b>	14	No. 4 (No. 13)		4'-6" (1.35 m
v	16	No. 4 (No. 13)		16'-6" (5.02n

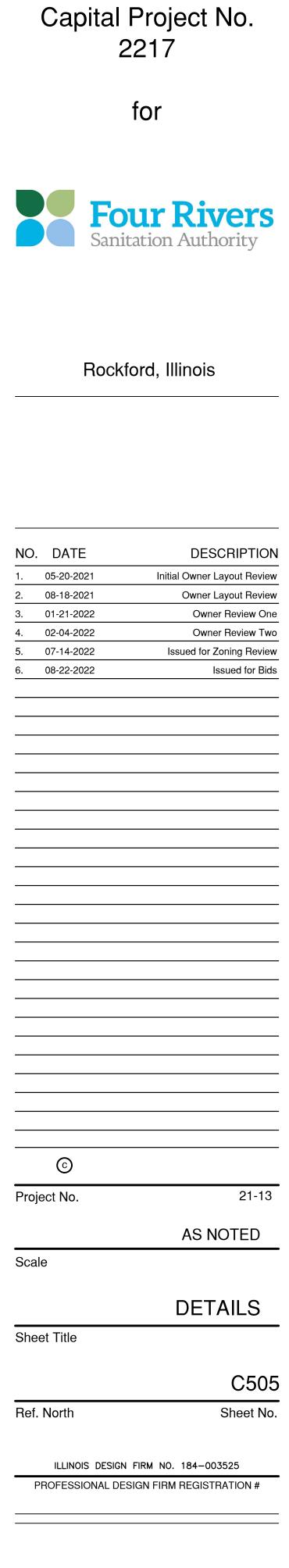


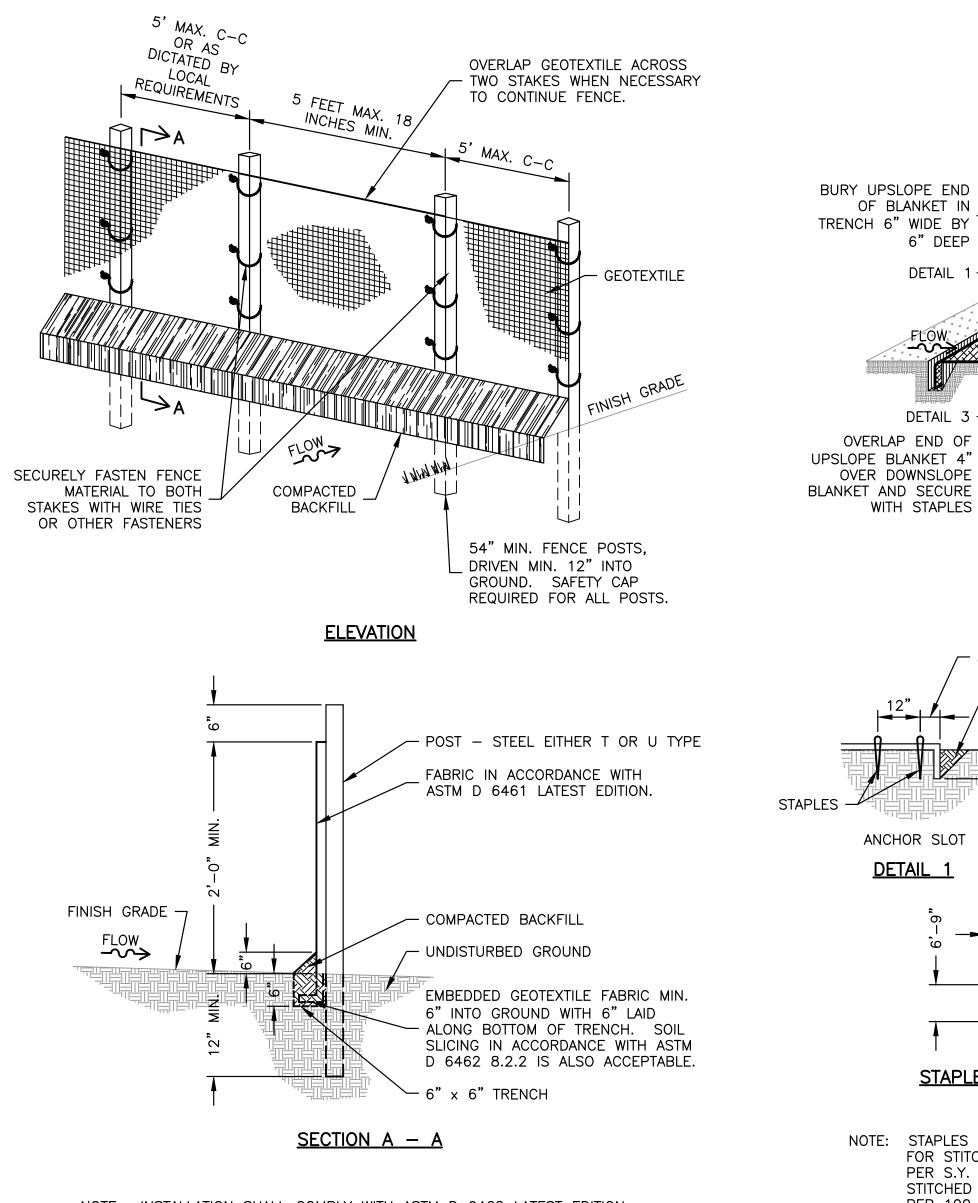
# FEHR GRAHAM ENGINEERING & ENVIRONMENTAL

New Collection

Systems Operation

Facility

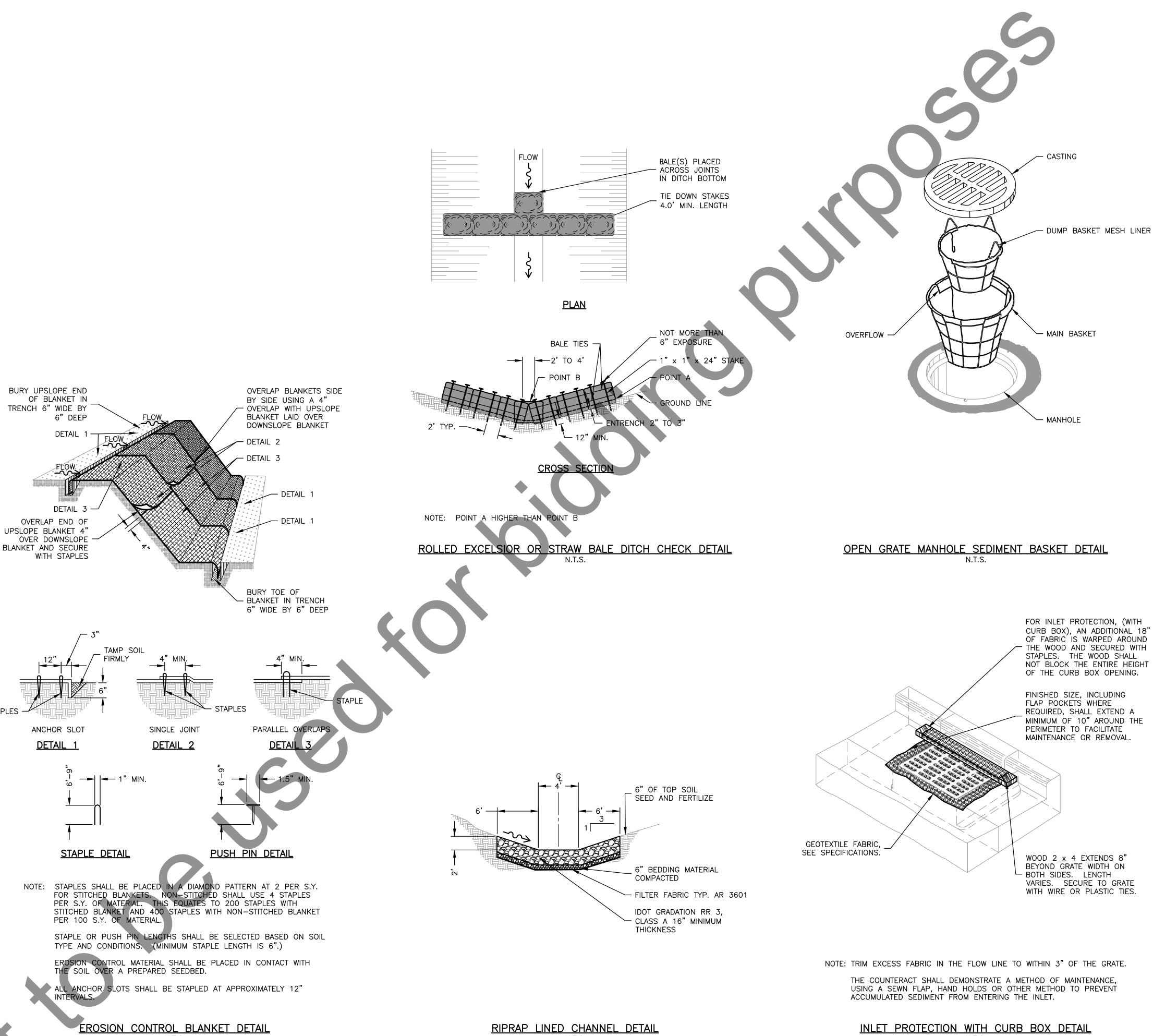




NOTE: INSTALLATION SHALL COMPLY WITH ASTM D 6462 LATEST EDITION. GEOTEXTILE TO BE FASTENED SECURELY TO STAKES. WHEN TWO SECTIONS OF GEOTEXTILE ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY 18 to 60 INCHES AS SHOWN. MAINTENANCE SHALL BE PERFORMED AS NOTED IN THE SWPPP. COLLECTED MATERIAL SHALL BE REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

> SILT FENCE WITHOUT WIRE SUPPORT DETAIL N.T.S.

N.T.S.



N.T.S.

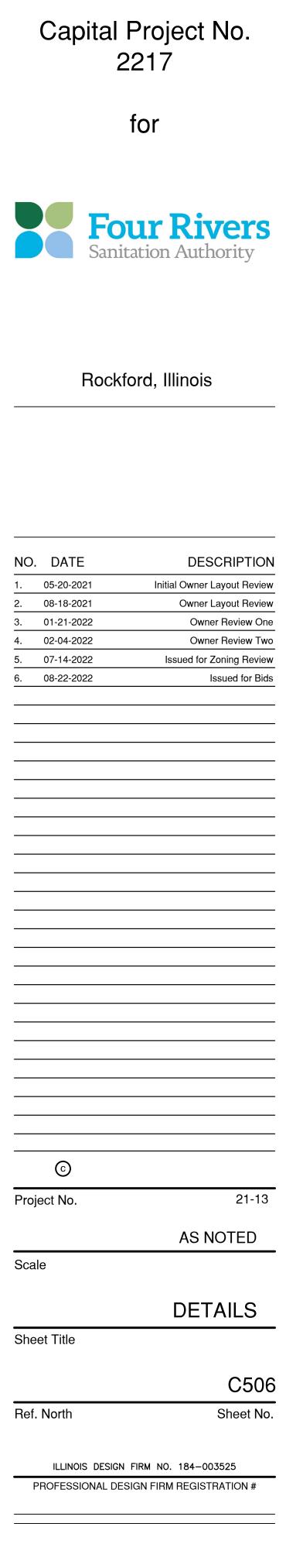
INLET PROTECTION WITH CURB BOX DETAIL N.T.S.

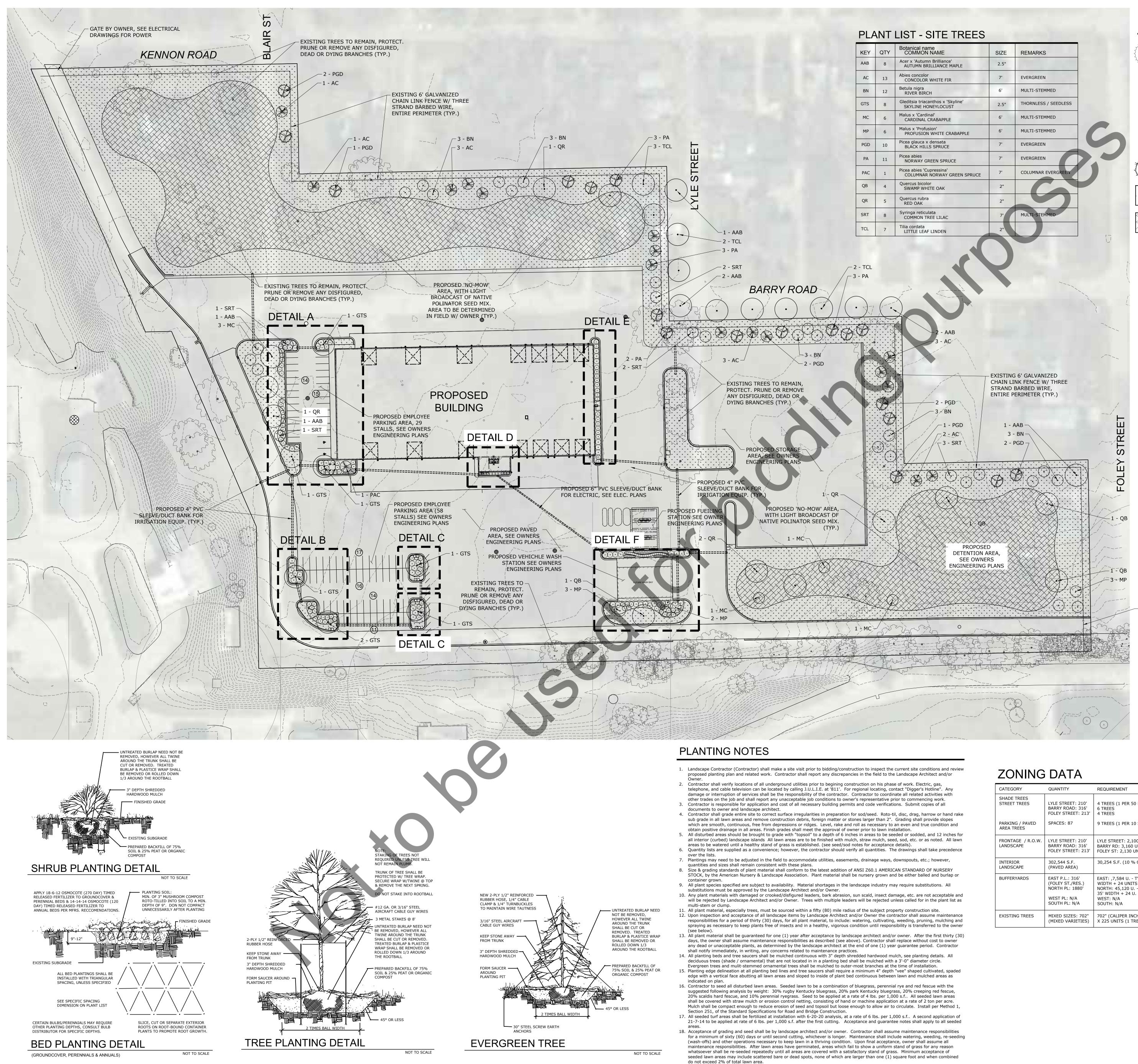
# FEHR GRAHAM ENGINEERING & ENVIRONMENTAL

New Collection

Systems Operation

Facility



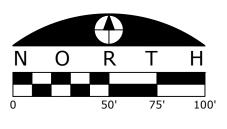


# LEGEND EXISTING EVERGREEN / DECIDUOUS TREES MIXED PERENNIALS / ORNAMENTAL GRASSES $\widehat{}$ EVERGREEN / DECIDUOUS SHRUBS DECIDUOUS SHADE TREE EVERGREEN TREE / ORNAMENTAL TREE

SEED AREA FOR TURF WITHIN P.L

UNLESS OTHERWISE DIRECTED BY OWNER - SEE ENGINEERING PLANS

NATIVE 'NO-MOW' POLLINATOR SEED AREA TO LEAVE UNDISTURBED UNLESS OTHERWISE DIRECTED BY OWNER - FIELD VERIFY LIMITS



- GATE BY OWNER, SEE ELECTRICAL DRAWINGS FOR POWER

\*SUBJECT LOT IS I-2 ZONING - INDUSTRIAL

n to inspect the current site conditions and review n the field to the Landscape Architect and/or
tion on his phase of work. Electric, gas, nal locating, contact "Digger's Hotline". Any ractor to coordinate all related activities with epresentative prior to commencing work. d code verifications. Submit copies of all
d/seed. Roto-til, disc, drag, harrow or hand rake

CATEGORY	QUANTITY	REQUIREMENT	PROVISION
SHADE TREES STREET TREES PARKING / PAVED AREA TREES	LYLE STREET: 210' BARRY ROAD: 316' FOLEY STREET: 213' SPACES: 87	4 TREES (1 PER 50 FEET) 6 TREES 4 TREES 9 TREES (1 PER 10 SPACES)	4 TREES 6 TREES 4 TREES 9 TREES IN SURROUNDING PARKING ISLANDS AND AREAS
FRONTAGE / R.O.W. LANDSCAPE	LYLE STREET: 210' BARRY ROAD: 316' FOLEY STREET: 213'	LYLE STREET: 2,100 UNITS (10 UNITS / FT) BARRY RD: 3,160 UNITS (10 UNITS / FT) FOLEY ST: 2,130 UNITS (10 UNITS / FT)	LYLE ST: 1,000 U. + 1,100 EX. TREE CREDITS BARRY RD: 2,000 U. + 1,160 EX. TREE CREDITS FOLEY ST: 1,000 U. + 1,130 EX. TREE CREDITS
INTERIOR LANDSCAPE	302,544 S.F. (PAVED AREA)	30,254 S.F. (10 % OF PAVED AREA)	43,928 S.F. (OPEN PLANTED-LANDSCAPE AREAS, PROVIDING MORE THAN REQUIRED )
BUFFERYARDS	EAST P.L.: 316' (FOLEY ST./RES.) NORTH PL: 1880' WEST PL: N/A SOUTH PL: N/A	EAST: ,7,584 U TYPE 'D' BUFFER W/ 35' WIDTH + 24 UNITS (80%) / LF (50% EV.) NORTH: 45,120 U TYPE 'D' BUFFER W/ 35' WIDTH + 24 U. (80%) /LF (50% EV.) WEST: N/A SOUTH: N/A	EAST: 1,025 U. + 6,559 EX. TREE CREDITS NORTH: 9,750 UNITS + 35,370 EX. TREE CREDITS WEST: N/A SOUTH: N/A
EXISTING TREES	MIXED SIZES: 702" (MIXED VARIETIES)	702" (CALIPER INCHES) /2" = 351 TREES X 225 UNITS (1 TREE) = 78,975 UNITS	USING 45,319 UNITS (57%) OF EX. TREE CREDITS (95% HACKBERRY)



# New Collection Systems Operation Facility

# **Capital Project** No. 2217

### 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.	05-20-2021	Initial Owner Layout Review
2.	08-18-2021	Owner Layout Review
3.	01-21-2022	Owner Review One
4.	02-04-2022	Owner Review Two
5.	04-05-2022	Issued for Bids
6	06-06-2022	Owner Review Three
7	06-16-2022	Owner Review Four
8	07-14-2022	Issued for Zoning Review
9	08-22-2022	Issued for Bids
10	12-16-2022	Issued for Permit
11	01-17-2023	Issued for Bids

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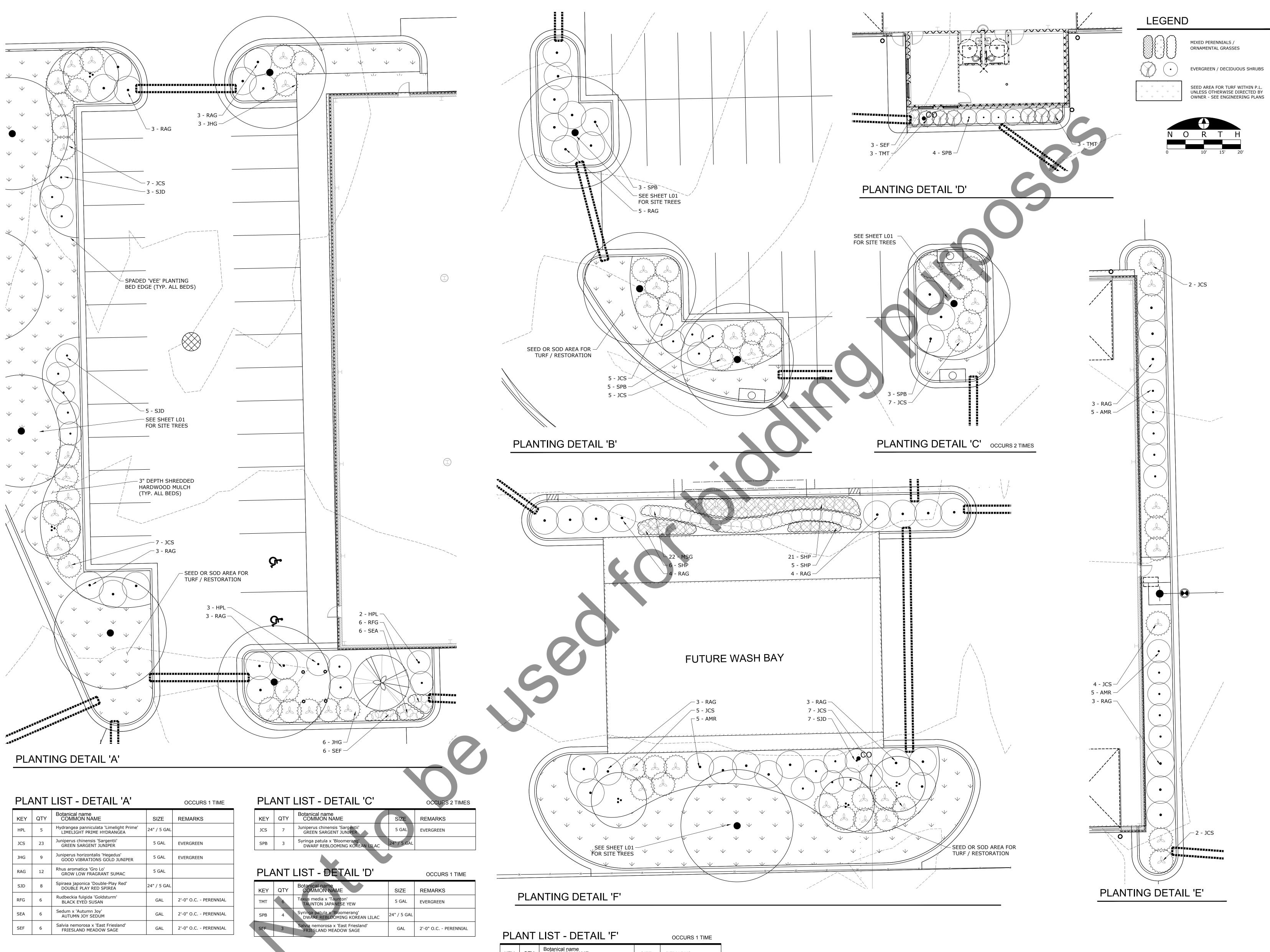
Scale

1" = 50'

Sheet Title LANDSCAPE PLAN

Ref. North

Sheet No. L01



PLANT LIST - D	)ETAIL 'A
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	OCCURS 1 TIME		
QTY	Botanical name COMMON NAME	SIZE	REMARKS
5	Hydrangea panniculata 'Limelight Prime' LIMELIGHT PRIME HYDRANGEA	24" / 5 GAL	
23	Juniperus chinensis 'Sargentii' GREEN SARGENT JUNIPER	5 GAL	EVERGREEN
9	Juniperus horizontalis 'Hegedus' GOOD VIBRATIONS GOLD JUNIPER	5 GAL	EVERGREEN
12	Rhus aromatica 'Gro Lo' GROW LOW FRAGRANT SUMAC	5 GAL	
8	Spiraea japonica 'Double-Play Red' DOUBLE PLAY RED SPIREA	24" / 5 GAL	
6	Rudbeckia fulgida 'Goldsturm' BLACK EYED SUSAN	GAL	2'-0" O.C PERENNIAL
6	Sedum x 'Autumn Joy' AUTUMN JOY SEDUM	GAL	2'-0" O.C PERENNIAL
6	Salvia nemorosa x 'East Friesland' FRIESLAND MEADOW SAGE	GAL	2'-0" O.C PERENNIAL
	QTY 5 23 9 12 8 6 6	QTYBotanical name COMMON NAME5Hydrangea panniculata 'Limelight Prime' LIMELIGHT PRIME HYDRANGEA23Juniperus chinensis 'Sargentii' GREEN SARGENT JUNIPER9Juniperus horizontalis 'Hegedus' GOOD VIBRATIONS GOLD JUNIPER12Rhus aromatica 'Gro Lo' GROW LOW FRAGRANT SUMAC8Spiraea japonica 'Double-Play Red' DOUBLE PLAY RED SPIREA6Rudbeckia fulgida 'Goldsturm' BLACK EYED SUSAN6Sedum x 'Autumn Joy' AUTUMN JOY SEDUM6Salvia nemorosa x 'East Friesland'	QTYCOMMON NAMESIZE5Hydrangea panniculata 'Limelight Prime' LIMELIGHT PRIME HYDRANGEA24" / 5 GAL23Juniperus chinensis 'Sargentii' GREEN SARGENT JUNIPER5 GAL9Juniperus horizontalis 'Hegedus' GOOD VIBRATIONS GOLD JUNIPER5 GAL12Rhus aromatica 'Gro Lo' GROW LOW FRAGRANT SUMAC5 GAL8Spiraea japonica 'Double-Play Red' DOUBLE PLAY RED SPIREA24" / 5 GAL6Rudbeckia fulgida 'Goldsturm' BLACK EYED SUSANGAL6Sedum x 'Autumn Joy' AUTUMN JOY SEDUMGAL

### PLANT LIST - DETAIL 'B'

PLA	ANT	OCCURS 1 TIME		
KEY	QTY	Botanical name COMMON NAME	SIZE	REMARKS
JCS	23	Juniperus chinensis 'Sargentii' GREEN SARGENT JUNIPER	5 GAL	EVERGREEN
RAG	12	Rhus aromatica 'Gro Lo' GROW LOW FRAGRANT SUMAC	5 GAL	
SPB	3	Syringa patula x 'Bloomerang' DWARF REBLOOMING KOREAN LILAC	24" / 5 GAL	

PLA	ANT	LIST - DETAIL '(
KEY	QTY	Botanical name COMMON NAME
JCS	7	Juniperus chinensis 'Sargentii' GREEN SARGENT JUNIPER
SPB	3	Syringa patula x 'Bloomerang' DWARF REBLOOMING KOREAN
PLA		LIST - DETAIL 'E
KEY	QTY	Botanical name COMMON NAME
ТМТ	6	Taxus media x 'Taunton' TAUNTON JAPANESE YEW
SPB	4	Syringa patula x 'Bloomerang' DWARF REBLOOMING KOREAN
SEF	3	Salvia nemorosa x 'East Friesland' FRIESLAND MEADOW SAGE

PLA		OCCURS 1 TIME		
KEY	QTY	Botanical name COMMON NAME	SIZE	REMARKS
AMR	10	Aronia melanocarpa 'Brilliantissima' RED CHOKEBERRY	30" / 5 GAL	
JCS	10	Juniperus chinensis 'Sargentii' GREEN SARGENT JUNIPER	5 GAL	EVERGREEN
RAG	12	Rhus aromatica 'Gro Lo' GROW LOW FRAGRANT SUMAC	5 GAL	

KEY	QTY	Botanical name COMMON NAME	SIZE	REMARKS
AMR	5	Aronia melanocarpa 'Brilliantissima' RED CHOKEBERRY	30" / 5 GAL	
JCS	12	Juniperus chinensis 'Sargentii' GREEN SARGENT JUNIPER	5 GAL	EVERGREEN
SJD	7	Spiraea japonica 'Double-Play Red' DOUBLE PLAY RED SPIREA	24" / 5 GAL	
MSG	22	Miscanthus sinensus 'Gracillimus' MAIDEN GRASS	GAL / 3 GAL	3'-0" O.C ORN. GRASS
SHP	32	Sporobolus heterlepsis PRAIRIE DROPSEED	GAL / 3 GAL	3'-0" O.C ORN. GRASS



# New Collection Systems Operation Facility

# Capital Project No. 2217

# 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 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.	05-20-2021	Initial Owner Layout Review
2.	08-18-2021	Owner Layout Review
3.	01-21-2022	Owner Review One
4.	02-04-2022	Owner Review Two
5.	04-05-2022	Issued for Bids
6	06-06-2022	Owner Review Three
7	06-16-2022	Owner Review Four
8	07-14-2022	Issued for Zoning Review
9	08-22-2022	Issued for Bids
10	12-16-2022	Issued for Permit
11	01-17-2023	Issued for Bids

C COPYRIGHT Blakemore Architects 2022

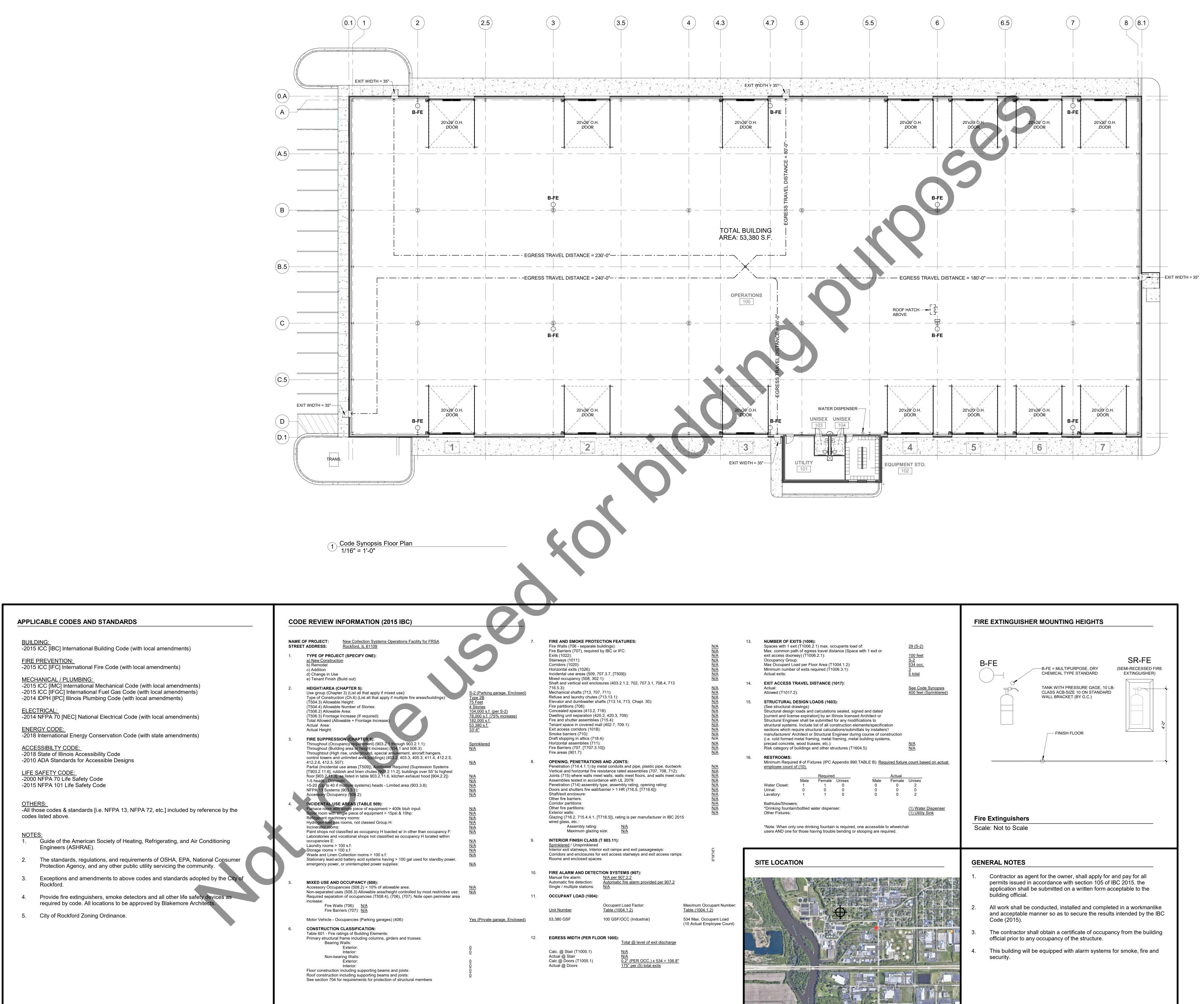
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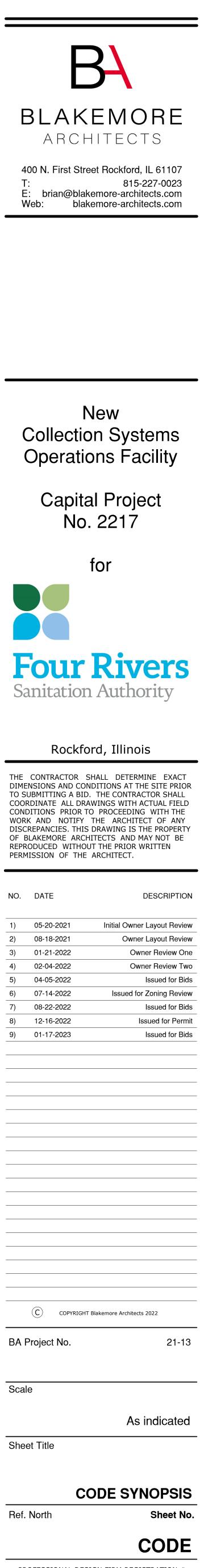
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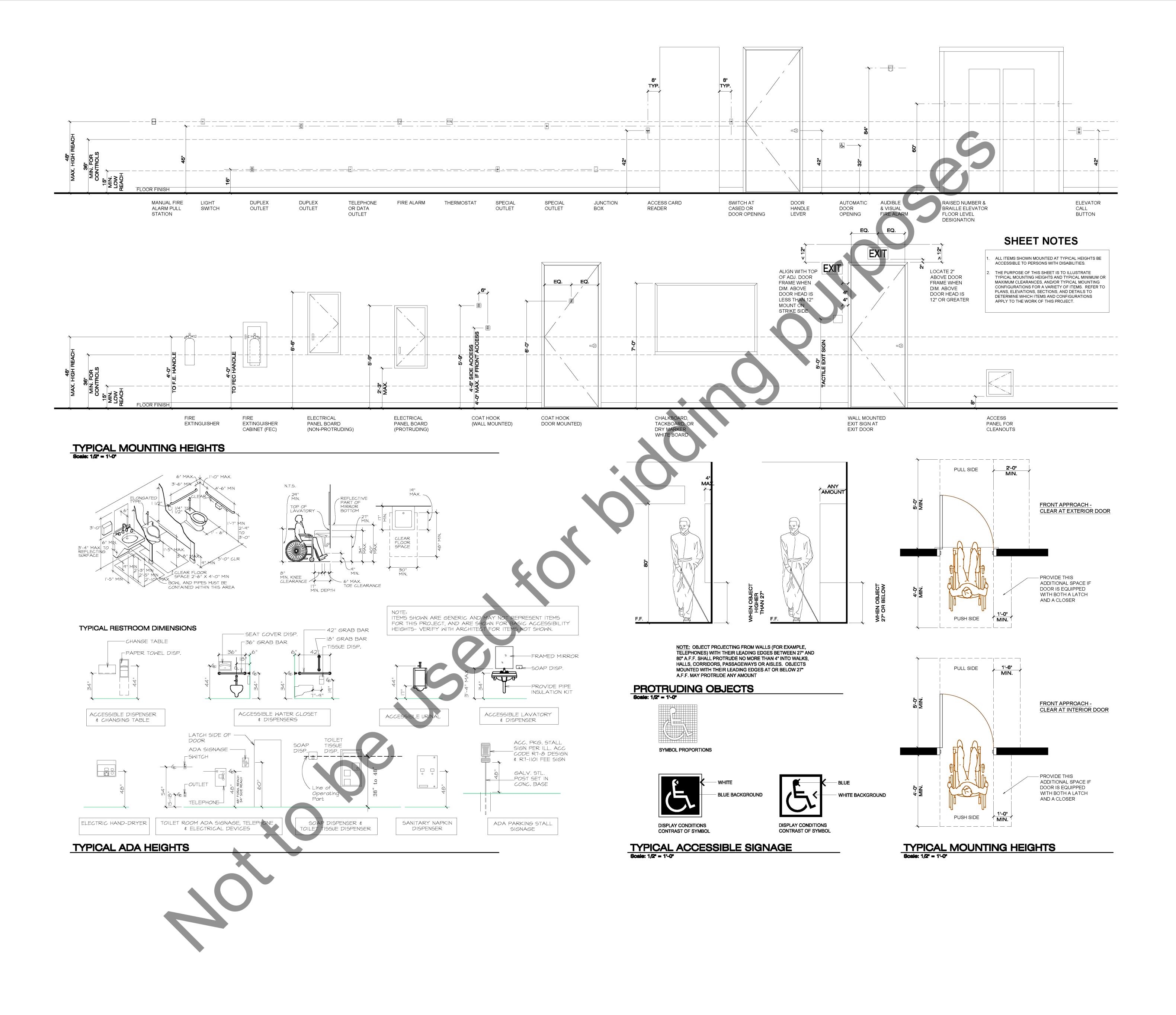
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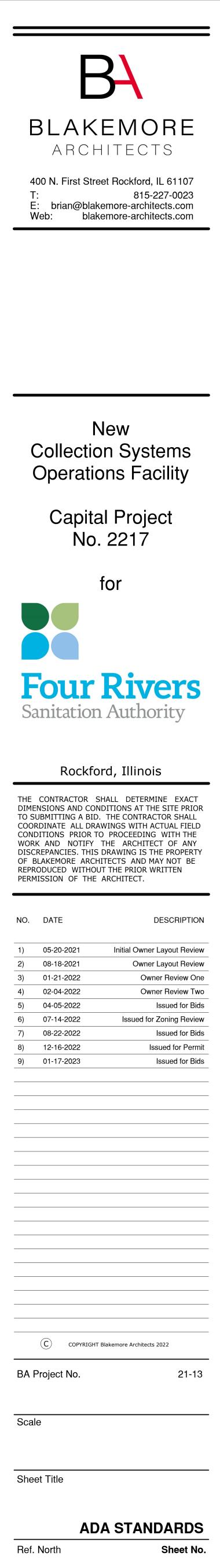
1" = 10'

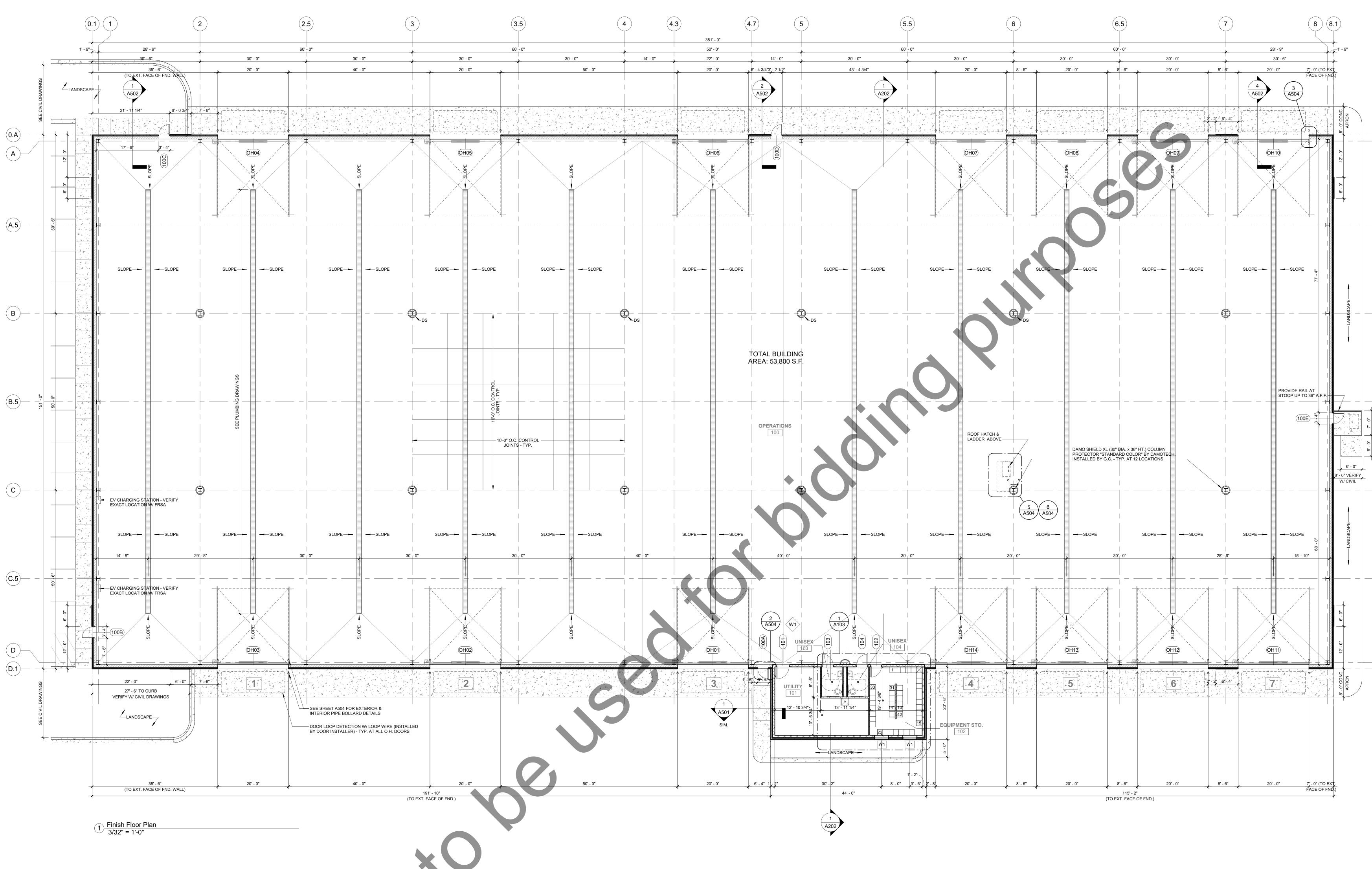
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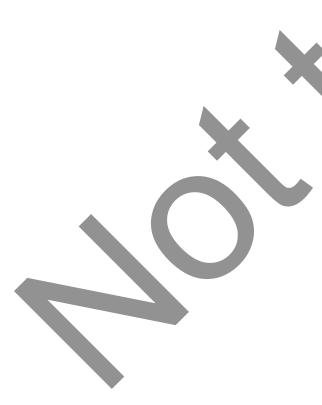


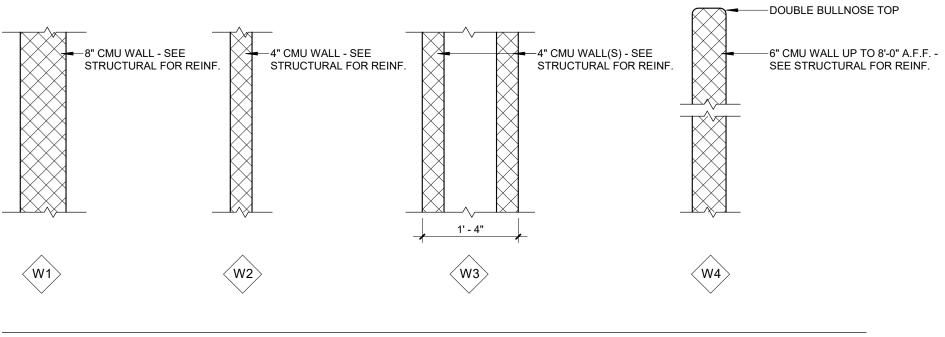




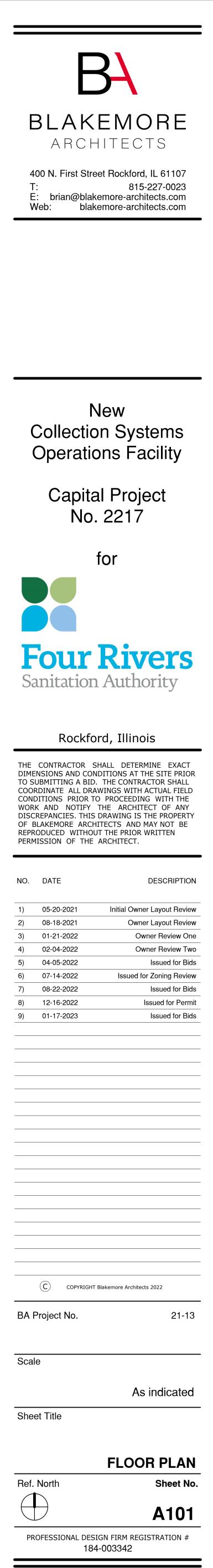


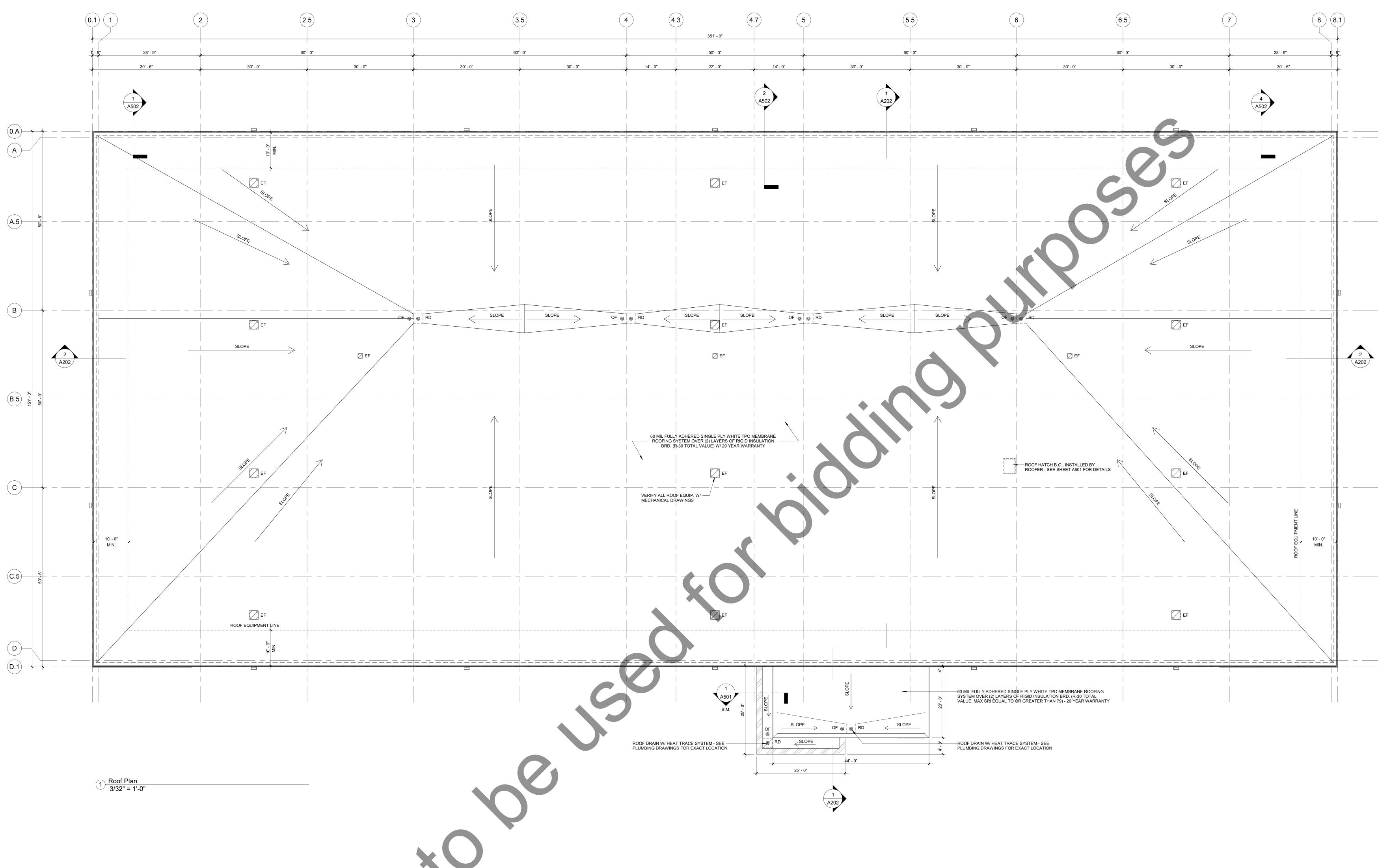




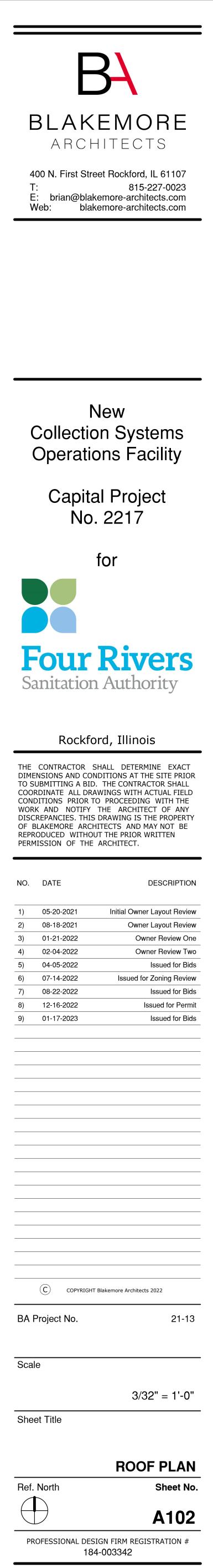


INTERIOR WALL TYPES

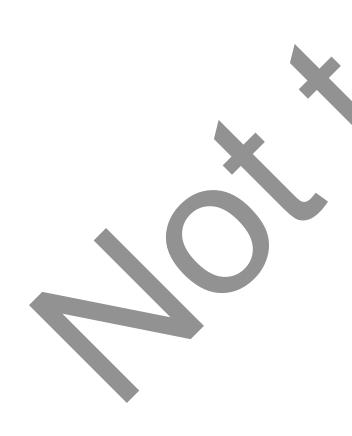


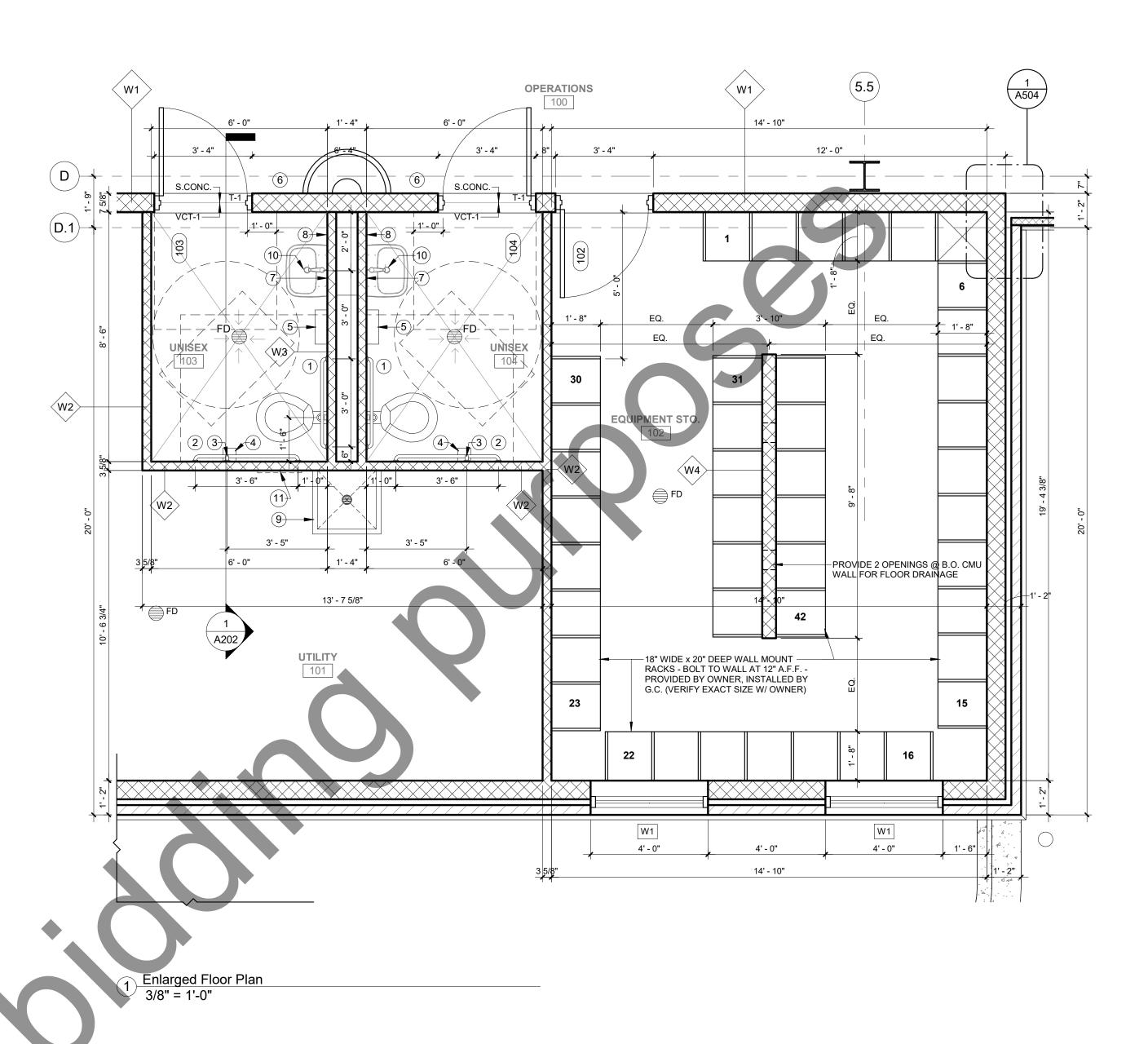


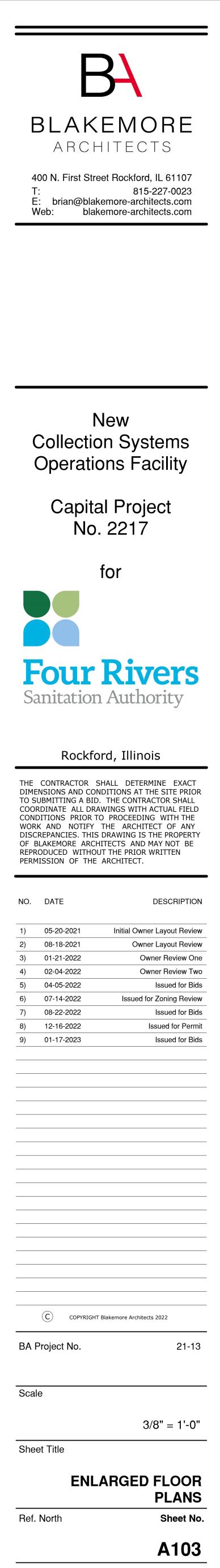




(#	ACCESSO	LOCATION / QUANTITY				
ITEM	MANUFACTURER	MODEL NUMBER	DESCRIPTION	UNISEX (103)	UNISEX (104)	UTILITY (101)
1	BRADLEY	812	GRAB BAR, STRAIGHT, 36" L, 1 1/2" DIA.	1	1	-
2	BRADLEY	812	GRAB BAR, STRAIGHT, 42" L, 1 1/2" DIA.	1	1	-
3	BRADLEY	812	GRAB BAR, VERTICAL, 18" L, 1 1/2" DIA.	1	1	-
4	BRADLEY	5402	SURF. MOUNTED TOILET ROLL DISPENSER	1	1	-
5	BRADLEY	2252-10	SURFACE MOUNTED PAPER TOWEL DISPENSER & WASTE RECEPTACLE	1	1	-
6			ADA TOILET ROOM SIGNAGE	1	1	-
7	BRADLEY	780-2436	MIRROR W/ CLIP FASTENERS 24" x 36"	1	1	-
8	BRADLEY		SOAP DISPENSER	1	1	-
9			UTILITY SINK (SEE PLUMBING DRAWINGS)	-	-	1
10	TRUEBRO		LAV GUARD 2 - UNDERSINK PIPING COVER	1	1	-
11	BRADLEY		MOP HOLDER / SHELF	-	-	1
	. MOUNTING HEIGHTS TO E TER SUPPLY & DRAIN PIPE		E 2 SHEET FOR DETAILS & SINKS SHALL BE INSULATED / PROTECTED PE	R IAC 606.5	1	<u> </u>







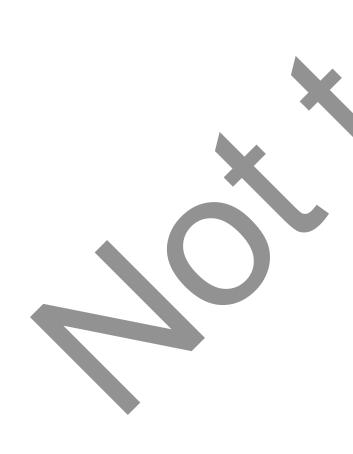
PRODUCT NAME	MANUFACTURER	MODEL/PART NUMBER	FINISH
HINGES	MCKINNEY	4.5x4.5 TA 2714	-
LOCKSET	SARGENT	10 LINE W/ L LEVEL, L ROSE DESIGN	US26D SATIN CHROMIUM
CLOSER	SARGENT	351 POWER SERIES GLIDE / PS HEAVY DUTY PARALLEL ARM W/ POSITIVE STOP	MATCH US26D FINISH
WALL STOP	IVES	WS401/402-CCV	US26D SATIN CHROMIUM
FLOOR STOP	IVES	AS REQUIRED	US26D SATIN CHROMIUM
DOOR SILENCERS	IVES (3 PER DOOR)	NO. 02	WHITE/GREY
THRESHOLD	REESE	S245A	MILL AL.
DRIP CAP	HAGER	810S	MILL AL.
LATCH GUARD	HAGER	332D	-
WEATHER-STRIPPING/SWEEP	- ANY -	-	-
PULL	HAGER	30 SERIES PLATE W/P4E SECURITY PULL	STAINLESS STEEL
PANIC BAR	SARGENT	88 SERIES RIM EXIT DEVICE W/ LEVER (KEY LOCK)	US26D SATIN CHROMIUM
ELECTRIC STRIKE	VON DUPRIN	24VDC 6211-FS-DS-CON	US32D STAINLESS STEEL
S = STOREROOM (04)* P = PASSAGE (15)	C = CLASSROOM (37) D = DUMMY	<b>(EY (LF):</b> PROVIDE 4-7/8" CURVED L (* LEVER TO RECEIVE TAC 0 = OFFICE (05) PR = PRIVAC E = ENTRY	
DOOR & FR			

20'x20' RAYNOR THERMASEAL TM200C HIGH LIFT "BRONZE" SECTIONAL INSULATED STEEL DOOR W/ 24"x8" WINDOWS (R-VALUE: 18.0) 2" INSULATED DOOR W/ 3" TRACK PHOTO EYE WITH 36" TALL LIGHT CURTAIN CONTROL HOIST "OPTIMA" CONTROLLER LOOP DETECTOR WITH LOOP WIRE INSTALLED BY DOOR INSTALLER • TANDUM SHAFT • MAX CYCLE DOUBLE PANE INSULATED GLASS WINDOWS DOOR & FRAME GENERAL NOTES:

- A. ALL HARDWARE FOR DOORS IN THE MEANS OF EGRESS SHALL CONFORM TO NFPA NO. 101 AND IBC 2015.
- B. ALL EXTERIOR DOORS TO HAVE NON RISING FIXED HINGE PINS, DRIP CAPS AND WEATHER STRIPPING, UNLESS NOTED OTHERWISE.
- C. ALL HOLLOW METAL DOORS & FRAMES TO BE PAINTED.
- D. OPENINGS WITH CLOSER AND NO WALL / FLOOR STOP TO USE STOP ARM CLOSER.
- E. ALL GLAZING SHALL BE TEMPERED WHERE REQUIRED BY CODE.
- F. ALL EXTERIOR HOLLOW METAL DOORS AND FRAMES TO BE GALVANIZED,
- G. VERIFY WITH MECHANICAL DRAWINGS DOORS THAT NEED TO HAVE A 12"x12" VENT OR A 1" UNDERCUT IF ANY. MINIMUM PERFORMANCE RATING FOR NEW EXTERIOR DOORS & WINDOWS : U-FACTOR 0.65, SHGC 0.6, VT 0.3 (IN Η.
- COMPLIANCE WITH SECTION C303.1.3 OF THE 2018 IECC).
- AT LOCKSETS, PROVIDE LARGE FORMAT INTERCHANGEABLE CORE (REMOVABLE CORE) 40 SERIES MORTISE CYLINDER AND 34 SERIES RIM CYLINDER. LENGTH UNDER CYLINDER HEAD: 41 (1-1/8") W/ #101 (13-0512) MISC. CAMS
- J. AT PANIC BAR PROVIDE 700 SERIES ET TRIM W/ L LEVER

# ROOM SCHEDULE REMARKS:

- 1. LINER PANELS AT INTERIOR PERIMETER OF "OPERATIONS" AREA UP TO 13'-10" A.F.F. SEAL BASE OF PANELS TO CONCRETE FLOOR.
- 2. PROVIDE RUBBER BLACK TRANSITION "T-1" BETWEEN VCT-1 & S.CONC. FLOORING AT UNISEX RESTROOMS.
- 3. ALL STEEL COLUMNS, WALL GIRTS & MISC. STEEL TO BE PAINTED "PT-3".

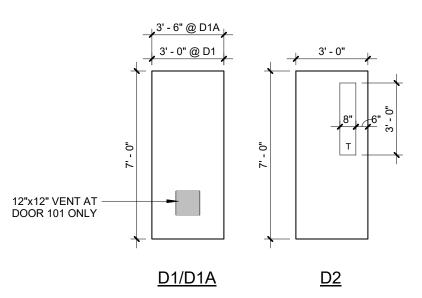


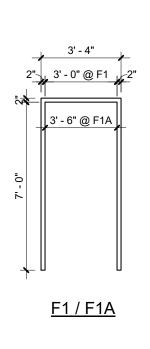
			DULE											HA	ARE	)W	AR	ES	CH	ED	UL	E							
			DOOR				FRA	ME	GLA	ZING		C	THER	IINGES 1/2 PAIR			-	STOP R STOP	30LT-TOP 30LT-ROT	SET	X W/STOP	WEATHERSTRIP SOUNDPROOF	DOOR SWEEPS	ATE 1		IC STRIKE EADER	sign I's sign	SIGN	CONTROL DEVICE
OR # SG/	/PR/OH	WIDTH	HEIGHT	THICKNESS	DOOR MATERIAL	DOOR TYPE	FRAME MATERIAL	FRAME TYPE	DOOR GLAZING	FRAME GLAZING	FIRE RATING	LF	REMARKS	PIVOT HINGES HINGE 1 1/2 PA	HINGE 3 LATCH	LOCKSE	PUSH PUSH		FLUSH BOLT-	DUMMY S	CLOSER	WEATHERSTR SOUNDPROOF	DOOR SWEE	KICKPLATE	DRIP CAP	ELECTRIC STRI CARD READER	MEN'S SIGN WOMEN'S SI	UNISEX SIGN LATCH GUARD	EXIT CO
00A	SG	3' - 0"	7' - 0"	0' - 1 3/4"	FRP	D2	FRP	F1	1" INSUL.	-	-		EXTERIOR								0(	-	00		0				0
00B	SG	3' - 0"	7' - 0"	0' - 1 3/4"	FRP	D2	FRP	F1	1" INSUL.	-	-		EXTERIOR	l o							0		00		0				0
DC	SG	3' - 0"	7' - 0"	0' - 1 3/4"	FRP	D2	FRP	F1	1" INSUL.	-	-		EXTERIOR	Ō							0		00		0				0
0D	SG	3' - 0"	7' - 0"	0' - 1 3/4"	FRP	D2	FRP	F1	1" INSUL.	-	-		EXTERIOR	Ō							0		00		0				0
DE	SG	3' - 0"	7' - 0"	0' - 1 3/4"	FRP	D2	FRP	F1	1" INSUL.	-	-		EXTERIOR	Ō							0		00		0				0
)1	SG	3' - 6"	7' - 0"	0' - 1 3/4"	FRP	D1A	FRP	F2A	-	-	-	S	INTERIOR	0		0		0		C					0				
02	SG	3' - 0"	7' - 0"	0' - 1 3/4"	FRP	D1	FRP	F2	-	-	-		INTERIOR	0			00	0			)				0				
03	SG	3' - 0"	7' - 0"	0' - 1 3/4"	FRP	D1	FRP	F2	-	-	-	PR	INTERIOR	0		0		0							0			0	
04	SG	3' - 0"	7' - 0"	0' - 1 3/4"	FRP	D1	FRP	F2	-	-	-	PR	INTERIOR	0		0		0							0			0	
01	ОН	0' - 0"	0' - 0"	0' - 0"	STL	-	STL	-	1" INSUL.	-	-		#1																
02	ОН	0' - 0"	0' - 0"	0' - 0"	STL	-	STL	-	1" INSUL.	-	-		#1																
103	OH	0' - 0"	0' - 0"	0' - 0"	STL	-	STL	-	1" INSUL.	-	-		#1																
104	ОН	0' - 0"	0' - 0"	0' - 0"	STL	-	STL	-	1" INSUL.	-	-		#1																
-105	ОН	0' - 0"	0' - 0"	0' - 0"	STL	-	STL	-	1" INSUL.	-	-		#1																
	ОН	0' - 0"	0' - 0"	0' - 0"	STL	-	STL	-	1" INSUL.	-	-		#1																
H07	ОН	0' - 0"	0' - 0"	0' - 0"	STL	-	STL	-	1" INSUL.	-	-		#1																
	ОН	0' - 0"	0' - 0"	0' - 0"	STL	-	STL	-	1" INSUL.	-	-		#1																
	ОН	0' - 0"	0' - 0"	0' - 0"	STL	-	STL	-	1" INSUL.	-	-		#1																
	ОН	0' - 0"	0' - 0"	0' - 0"	STL	-	STL	-	1" INSUL.	-	-		#1																
	ОН	0' - 0"	0' - 0"	0' - 0"	STL	-	STL	-	1" INSUL.	-	-		#1																
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	OH	0' - 0"	0' - 0"	0' - 0"	STL	-	STL	-	1" INSUL.	-	-		#1																
H14	OH	0' - 0"	0' - 0"	0' - 0"	STL	-	STL	-	1" INSUL.	-	-		#1																

ROOP	M SCHEDI	JLE								
	ROOM INFO	FLOO	R			WALLS		CEILING		OTHER
ROOM #	ROOM # ROOM NAME		FLOOR BASE	NORTH WALL	EAST WALL SOUTH WALL		WEST WALL	CEILING FINISH		REMARKS
100	OPERATIONS	S.CONC.	-	LINER PANELS	LINER PANELS	LINER PANELS	LINER PANELS	EXPOSED / PT-5	-	#1, #3
101	UTILITY	S.CONC.	RB-2	CMU/PT-3	CMU / PT-3	CMU / PT-3	CMU / PT-3	EXPOSED / PT-5	-	-
102	EQUIPMENT STO.	S.CONC.	RB-2	CMU/PT-3	CMU / PT-3	CMU / PT-3	CMU / PT-3	EXPOSED / PT-5	-	-
103	UNISEX	VCT-1	RB-2	CMU / PT-3	CMU / PT-3	CMU / PT-3	CMU / PT-3	LACP-1	8'-0"	#2
104	UNISEX	VCT-1	RB-2	CMU / PT-3	CMU / PT-3	CMU / PT-3	CMU / PT-3	LACP-1	8'-0"	#2

TAG	DESCRIPTION	MANUFACTURER	PRODUCT	COLOR / FINISH	REMARKS
S. CONC.	SEALED CONCRETE FLOOR FINISH	BASF	LAPIDOLITH	-	
VCT-1	VINYL COMPOSITION TILE 1	ARMSTRONG	STANDARD EXCELON IMPERIAL TEXTURE / 12"x12"	SOFT WARM GRAY #51861 / MONOLITHIC INSTALL (FINAL COLOR T.B.D.)	
RB-1	RUBBER BASE (4" HIGH)	ROPPE	TP 76193 - 1/8" TPR RUBBER - COVE	BLACK-BROWN #P193 (FINAL COLOR T.B.D.)	
RB-2	RUBBER BASE (6" HIGH)	ROPPE	TP 76193 - 1/8" TPR RUBBER - COVE	BLACK-BROWN #P193 (FINAL COLOR T.B.D.)	
LACP-1	LAY-IN ACOUSTICAL PANEL CEILING 1	ARMSTRONG	CIRRUS #572 24" x 24" x 3/4" TILE W/ 15/16" (ANGLED TEGULAR EDGE) GRID SYSTEM	WHITE TILE / WHITE GRID	
PT-1	PAINT 1	SHERWIN WILLIAMS	SEE SPECIFICATIONS	(1) PRIME COAT / (2) FINISH COATS - EGG SHELL (WALLS)	
PT-2	PAINT 2	SHERWIN WILLIAMS	SEE SPECIFICATIONS	(1) PRIME COAT / (2) FINISH COATS - EGG SHELL (ACCENT WALLS)	
PT-3	PAINT 3	SHERWIN WILLIAMS	SEE SPECIFICATIONS	(1) PRIME COAT / (2) FINISH COATS - SEMIGLOSS (H.M. FRAMES / CMU / CONCRETE)	
PT-4	PAINT 4	SHERWIN WILLIAMS	SEE SPECIFICATIONS	(1) PRIME COAT / (2) FINISH COATS - EPOXY (TOILET ROOMS / JANITORIAL ROOMS)	
PT-5	PAINT 5	SHERWIN WILLIAMS	SEE SPECIFICATIONS	(1) PRIME COAT / (2) FINISH COATS - FLAT (ROOF STRUCTURE / DRYFALL) - WHITE	
PT-6	PAINT 6	SHERWIN WILLIAMS	SEE SPECIFICATIONS	(1) PRIME COAT / (2) FINISH COATS - FLAT WHITE	
СМИ	CONCRETE MASONRY UNIT	-	-	-	
	-	-	-	-	

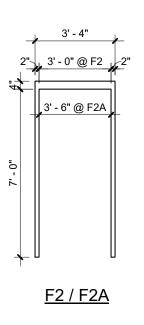


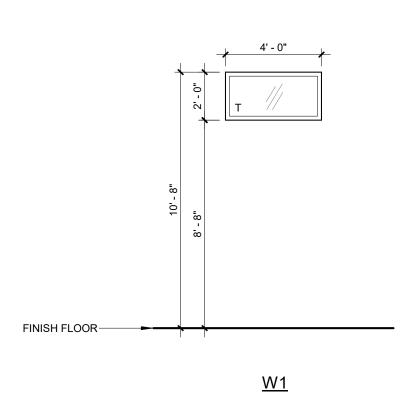




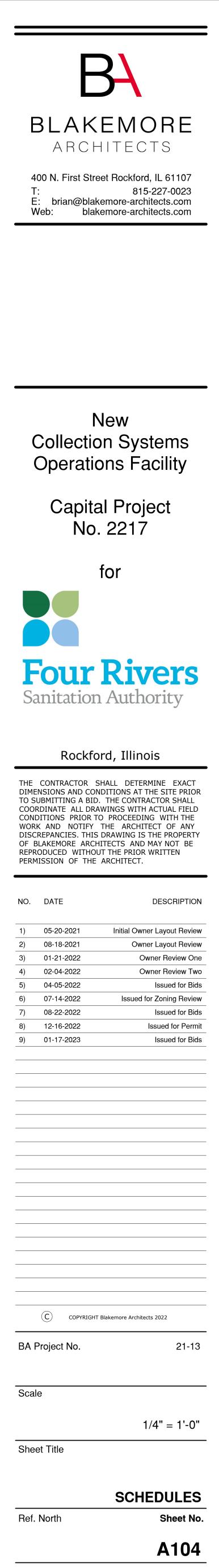
1 <u>Door Types</u> 1/4" = 1'-0"

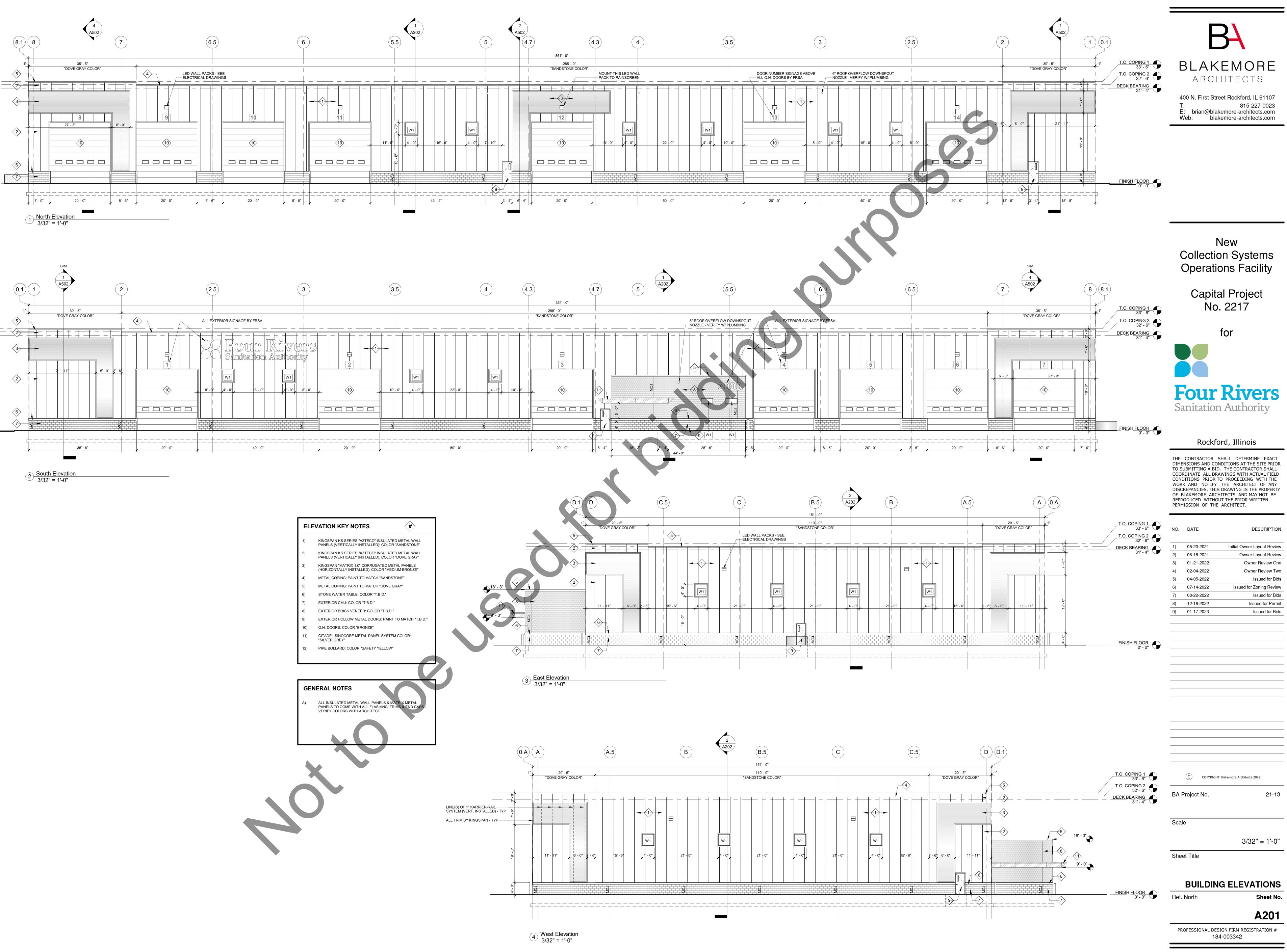
2 Frame Types 1/4" = 1'-0"

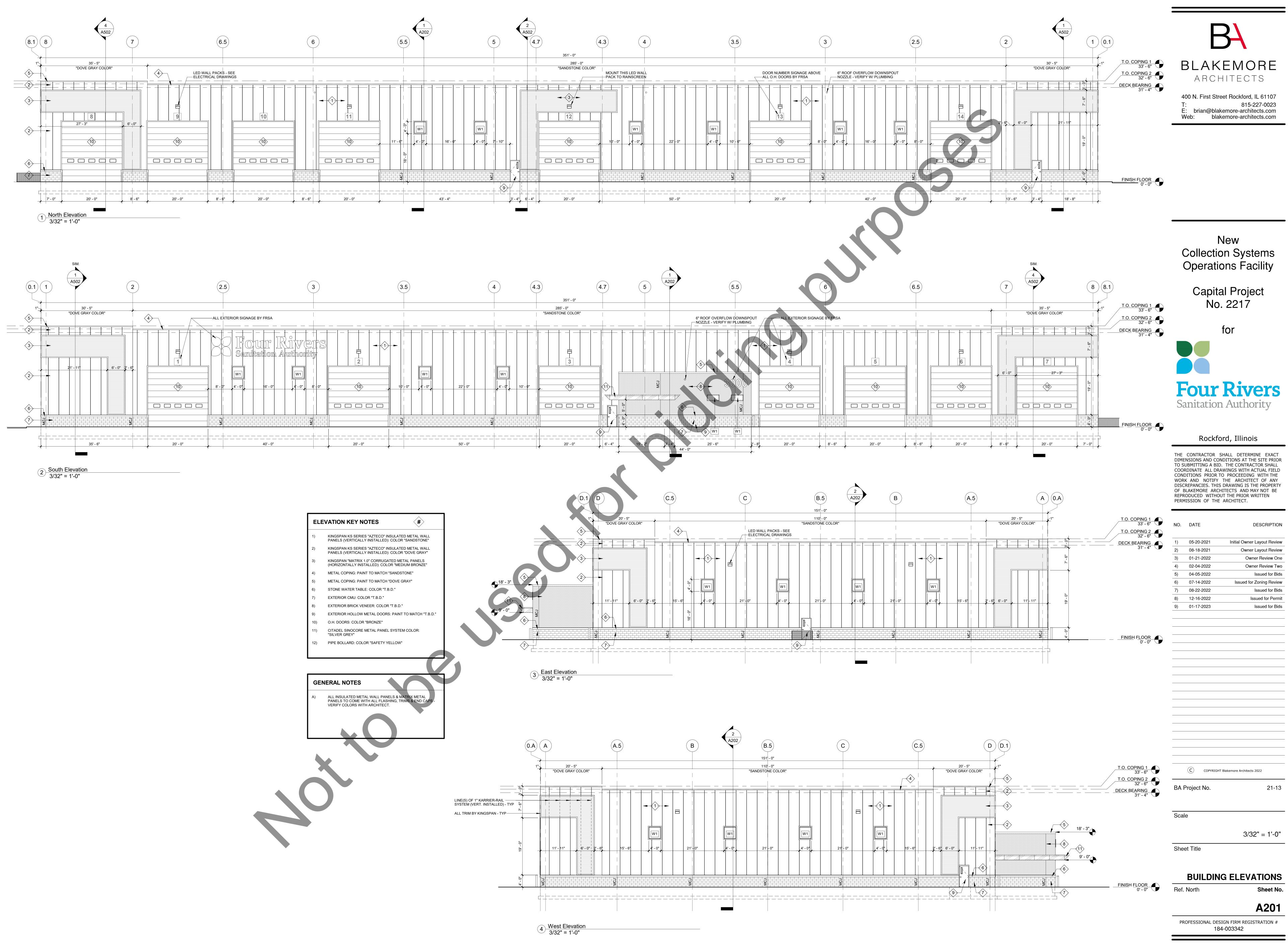


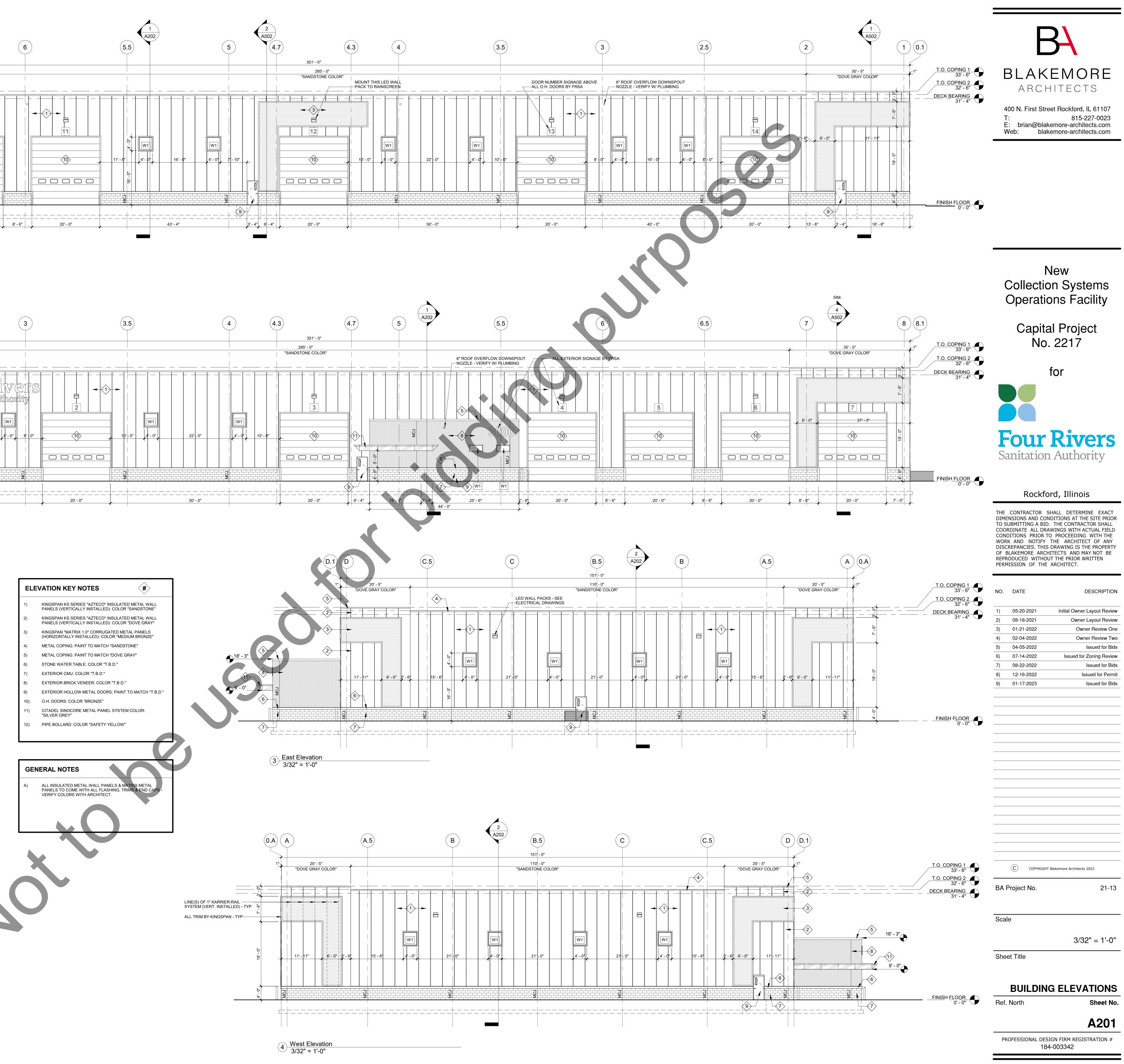


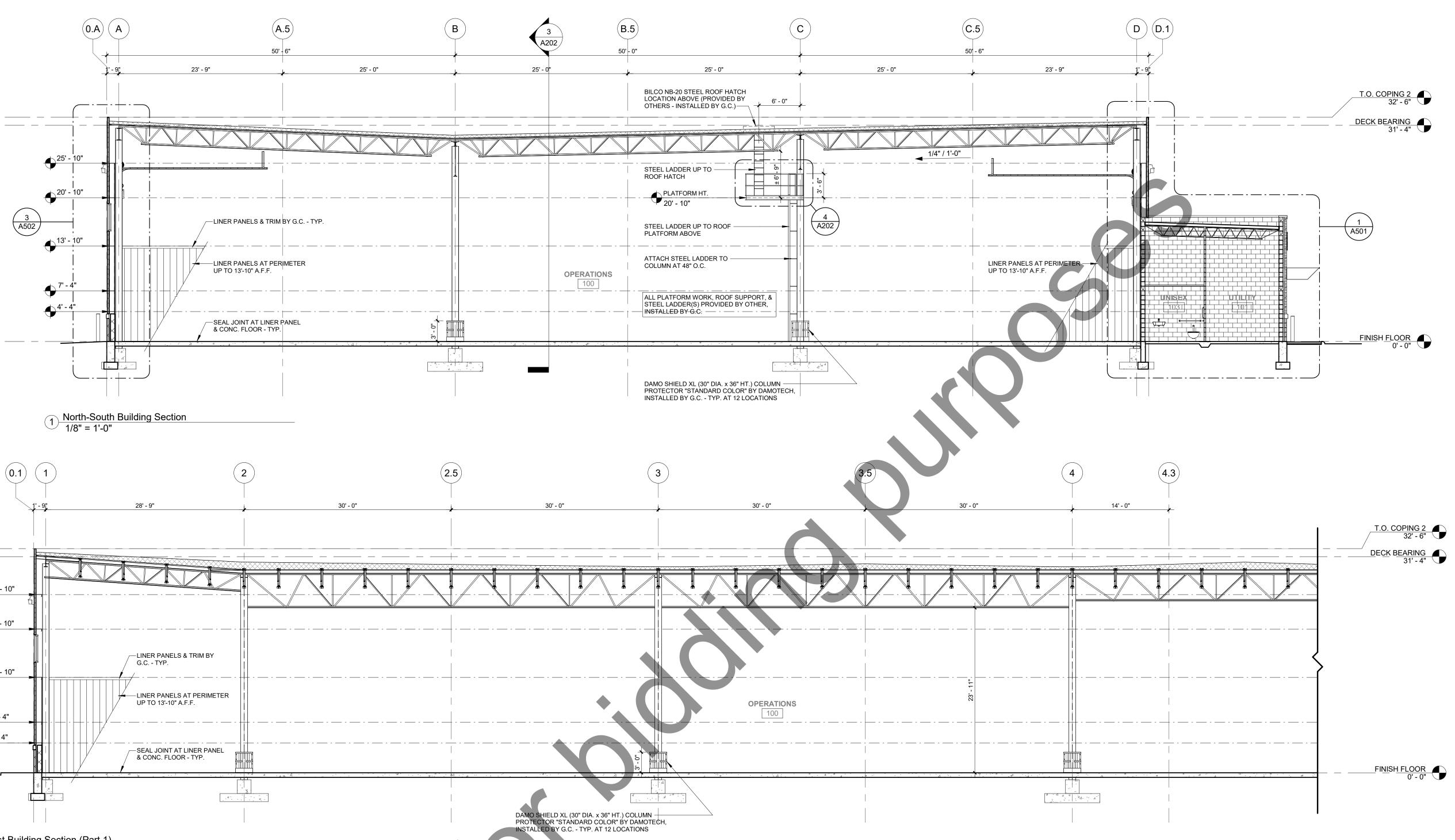
3 Window Types 1/4" = 1'-0"

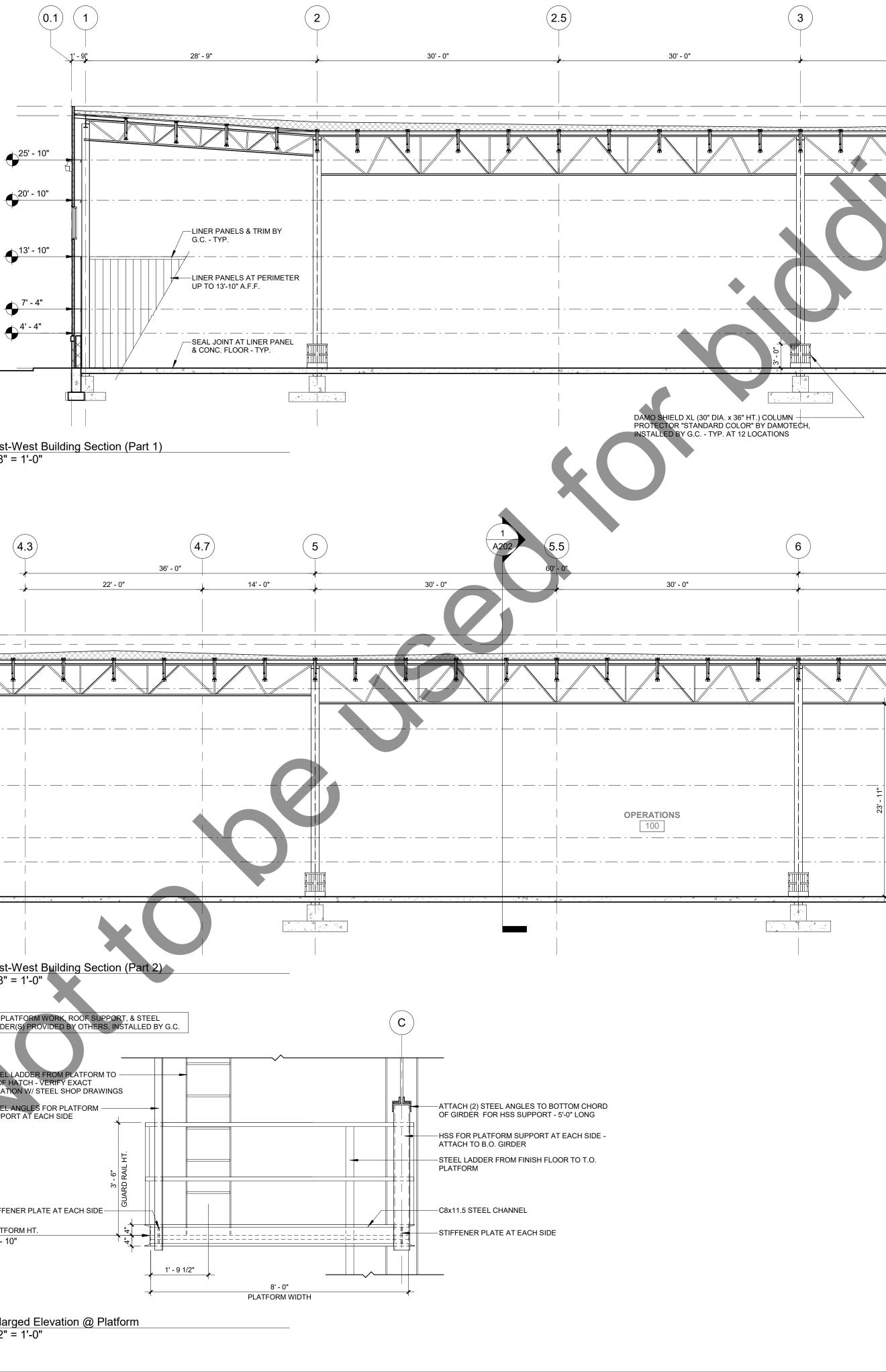


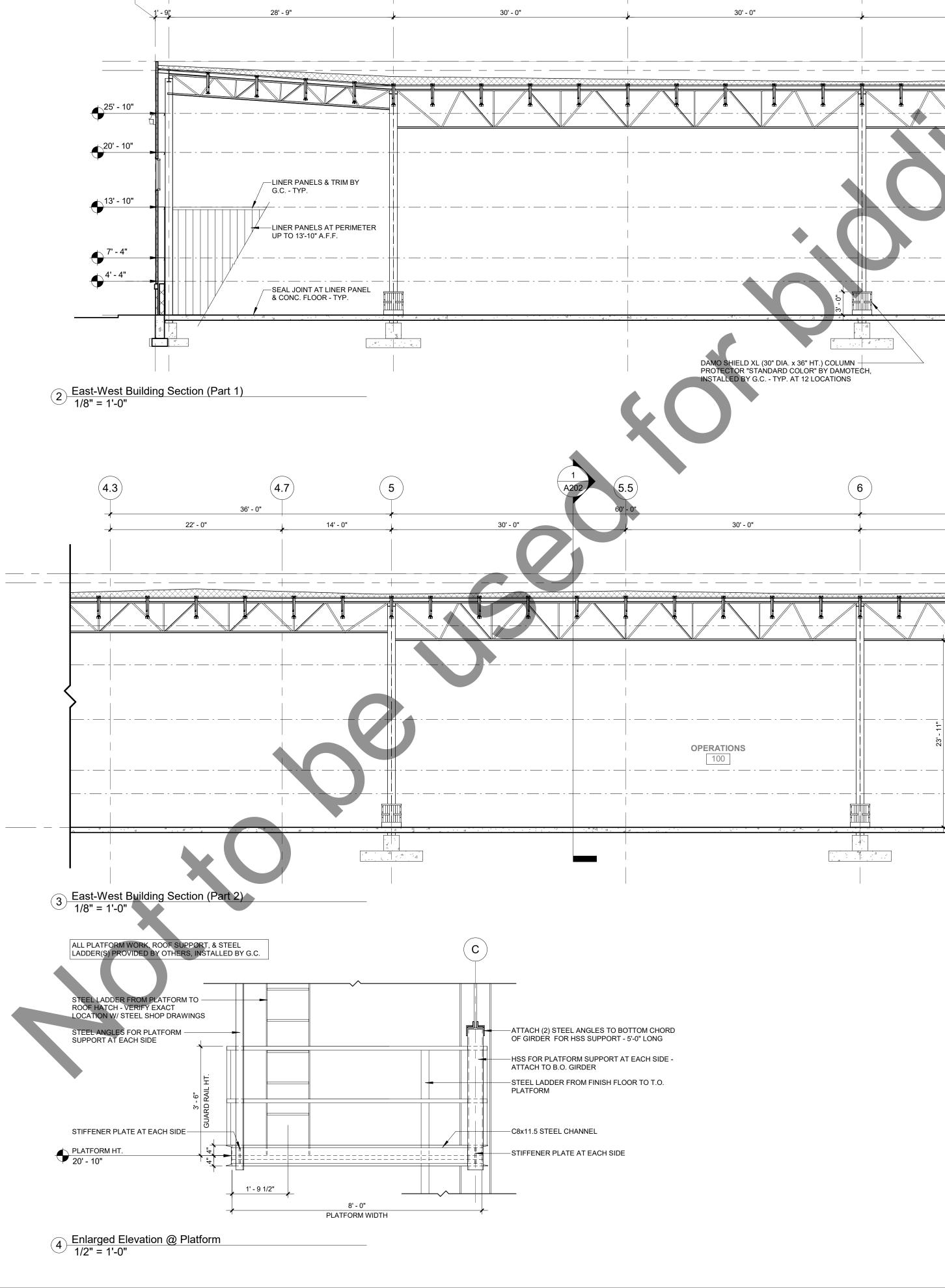


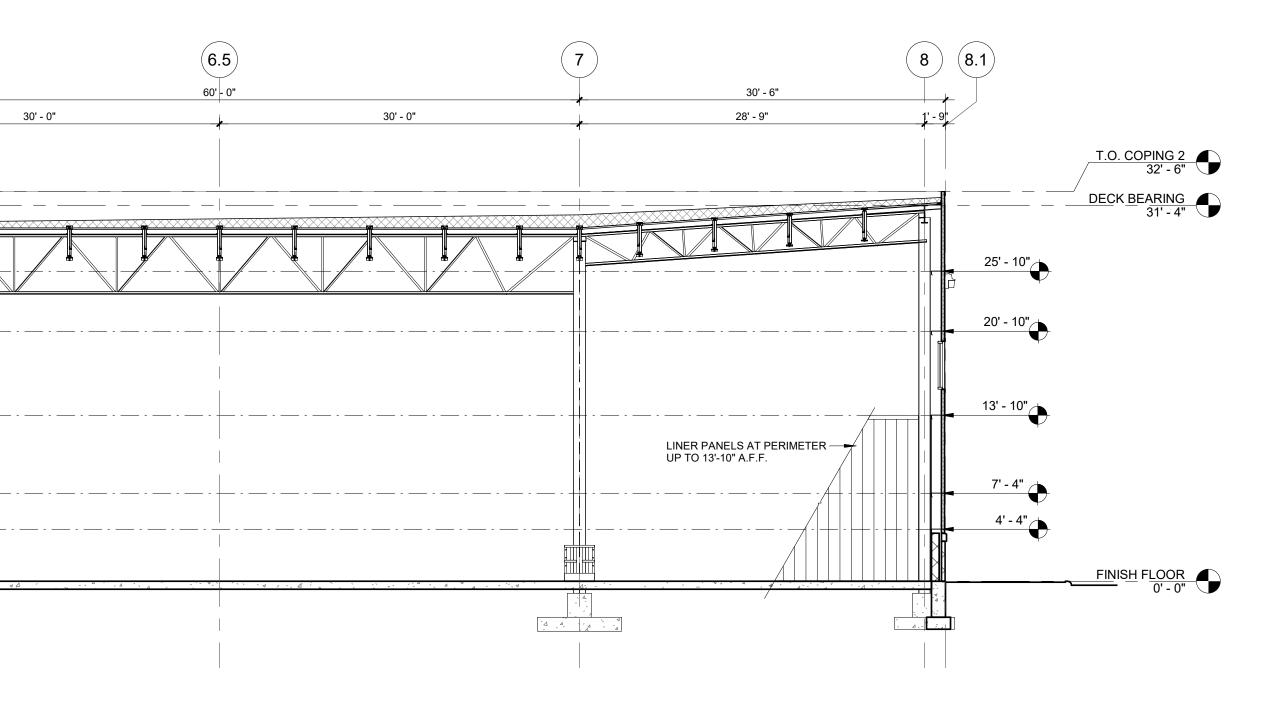


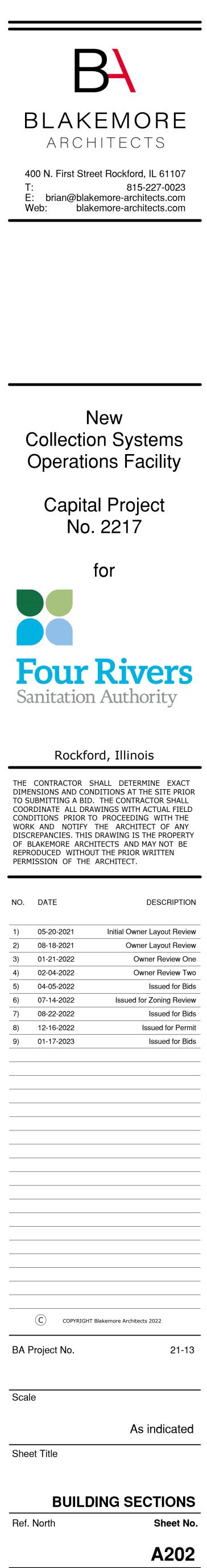


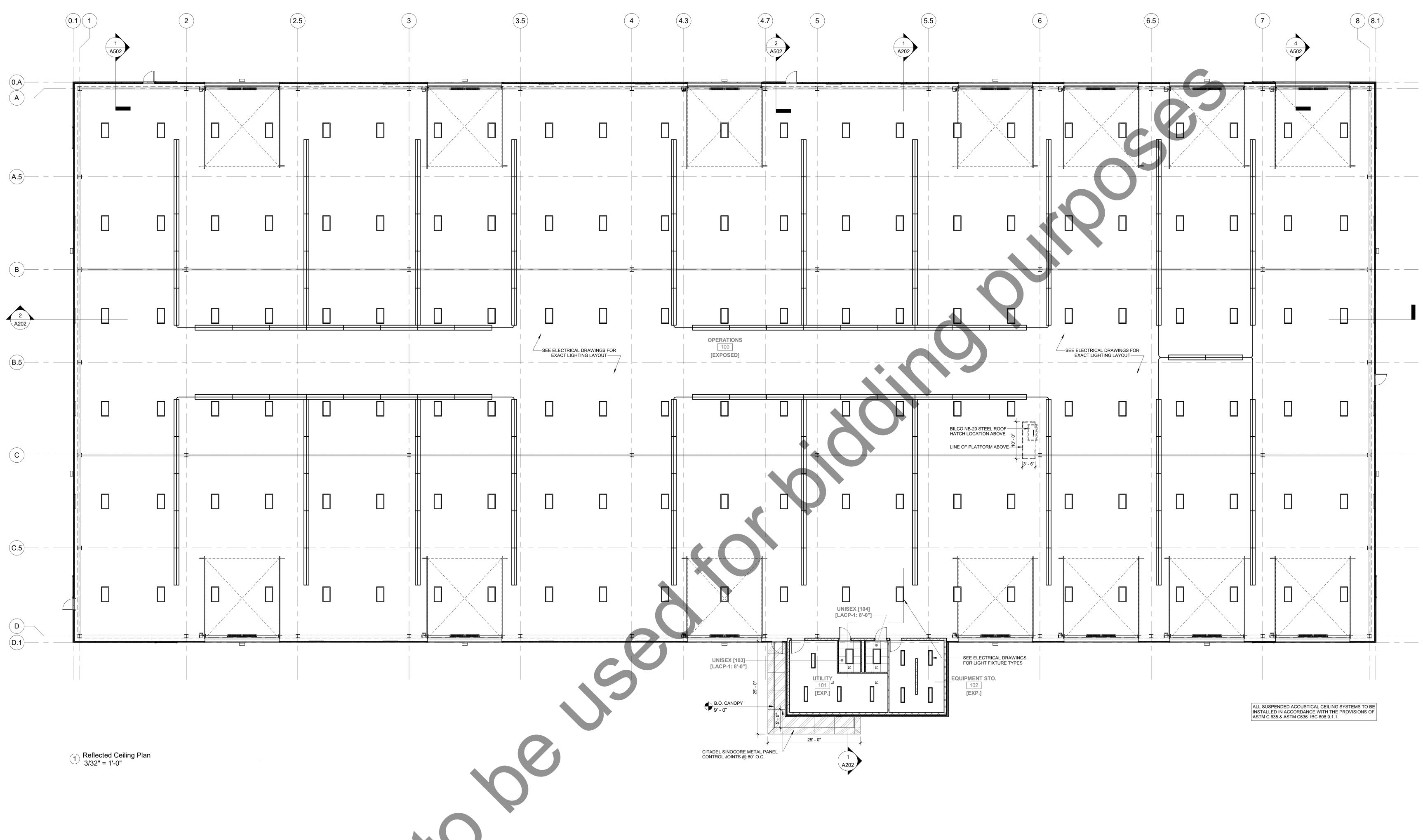


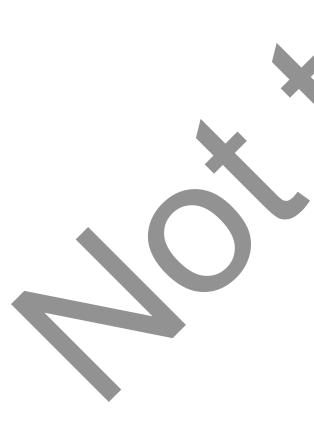


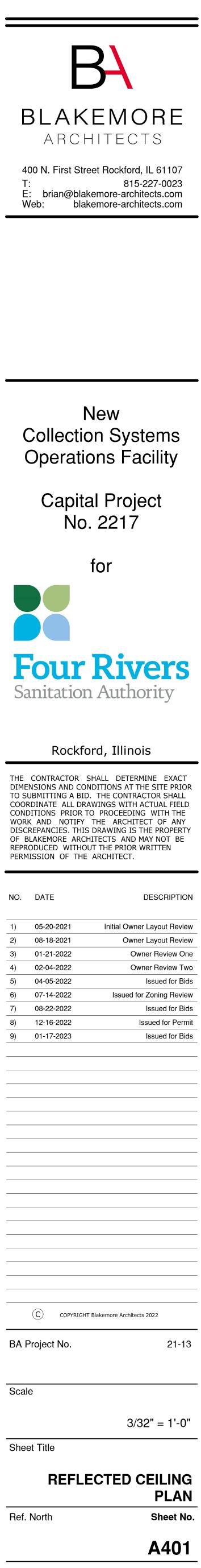




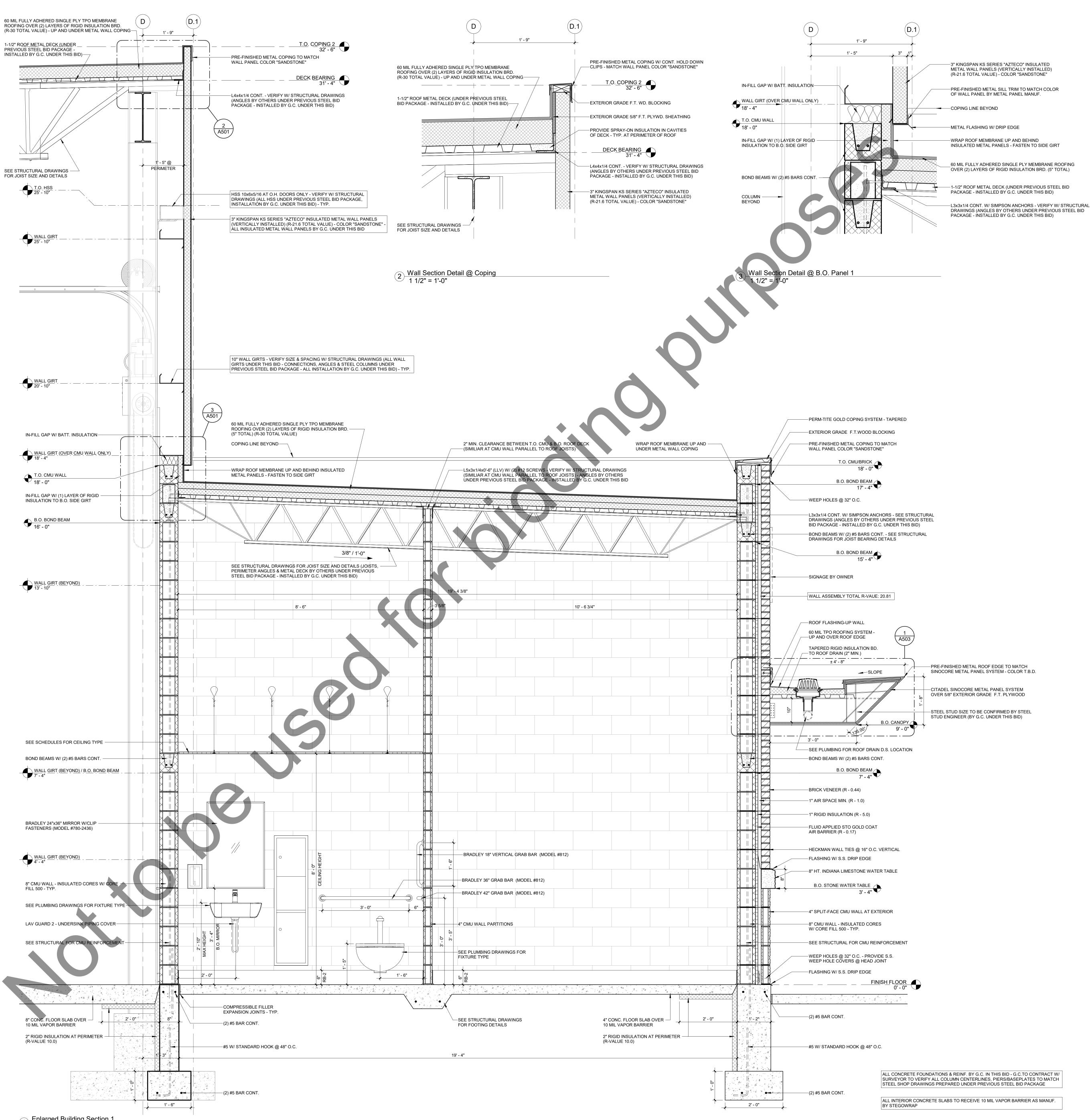






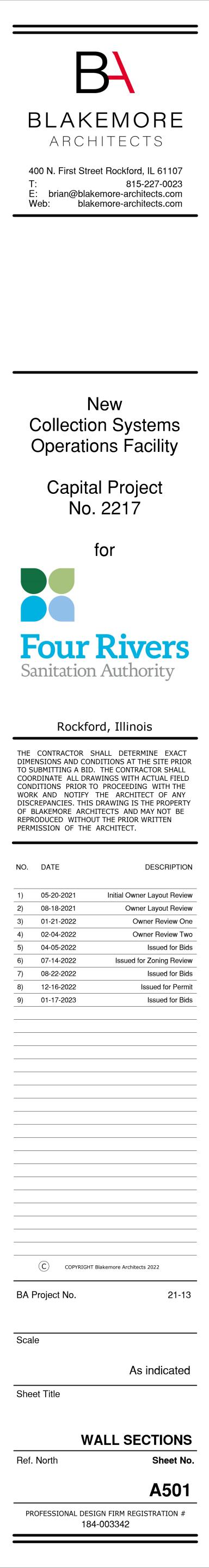


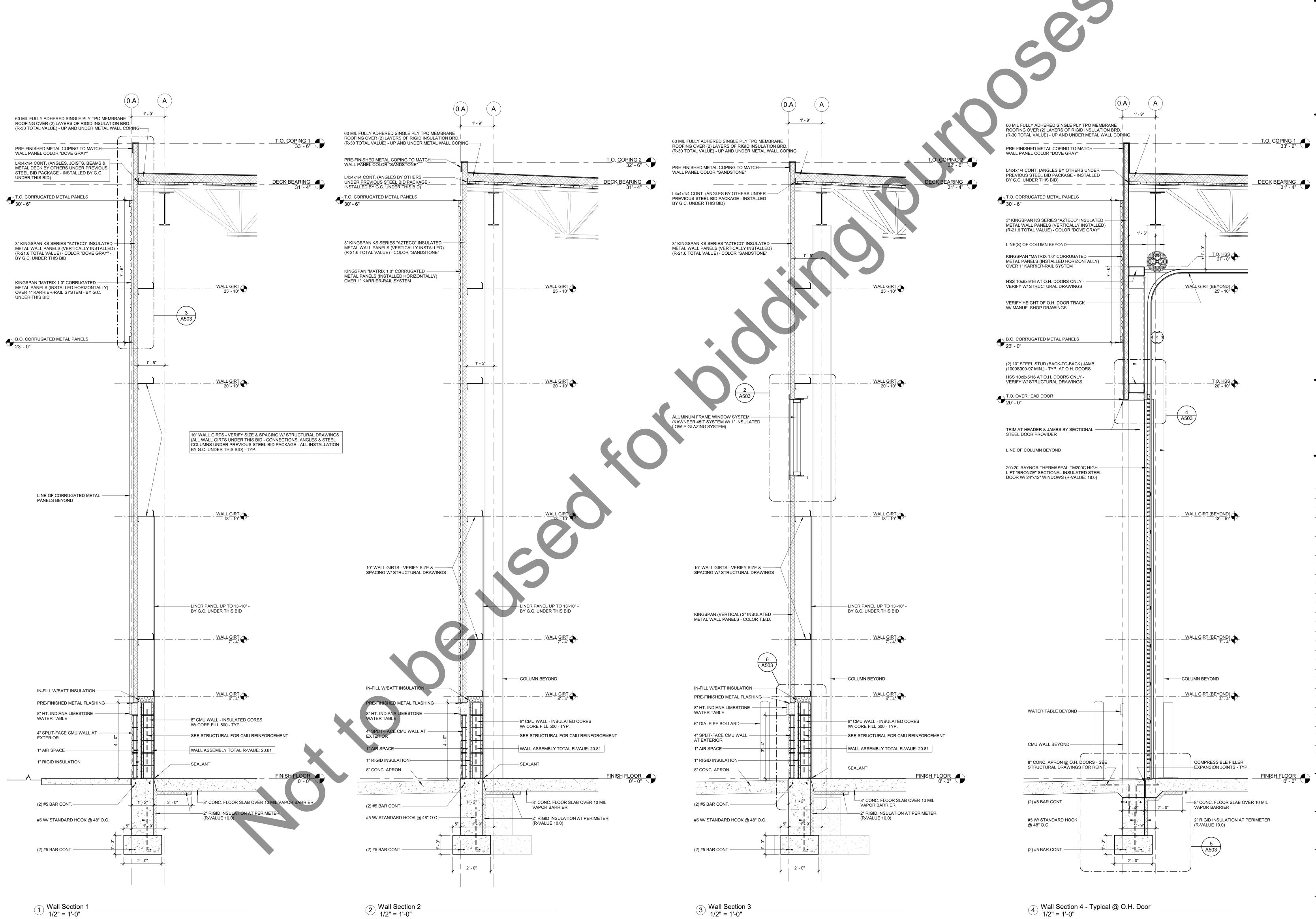
# $1 \frac{\text{Enlarged Building Section 1}}{3/4" = 1'-0"}$

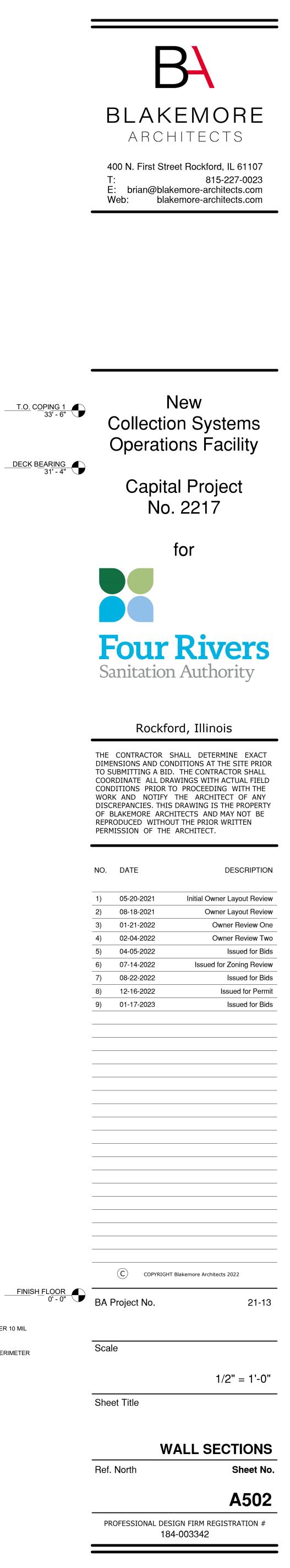


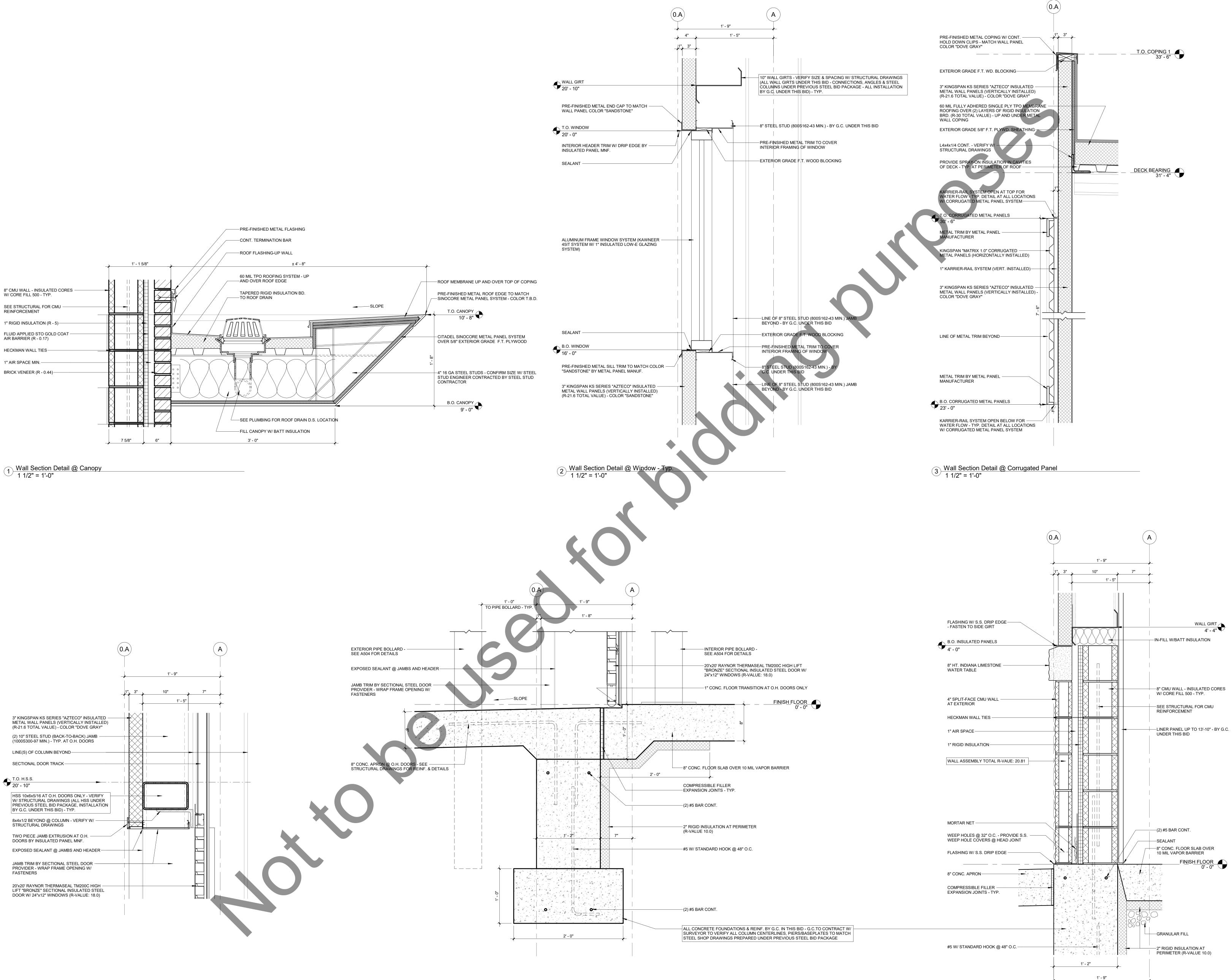
SEE STRUCTURAL DRAWINGS -FOR JOIST SIZE AND DETAILS

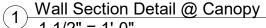
1-1/2" ROOF METAL DECK (UNDER PREVIOUS STEEL BID PACKAGE -INSTALLED BY G.C. UNDER THIS BID)-

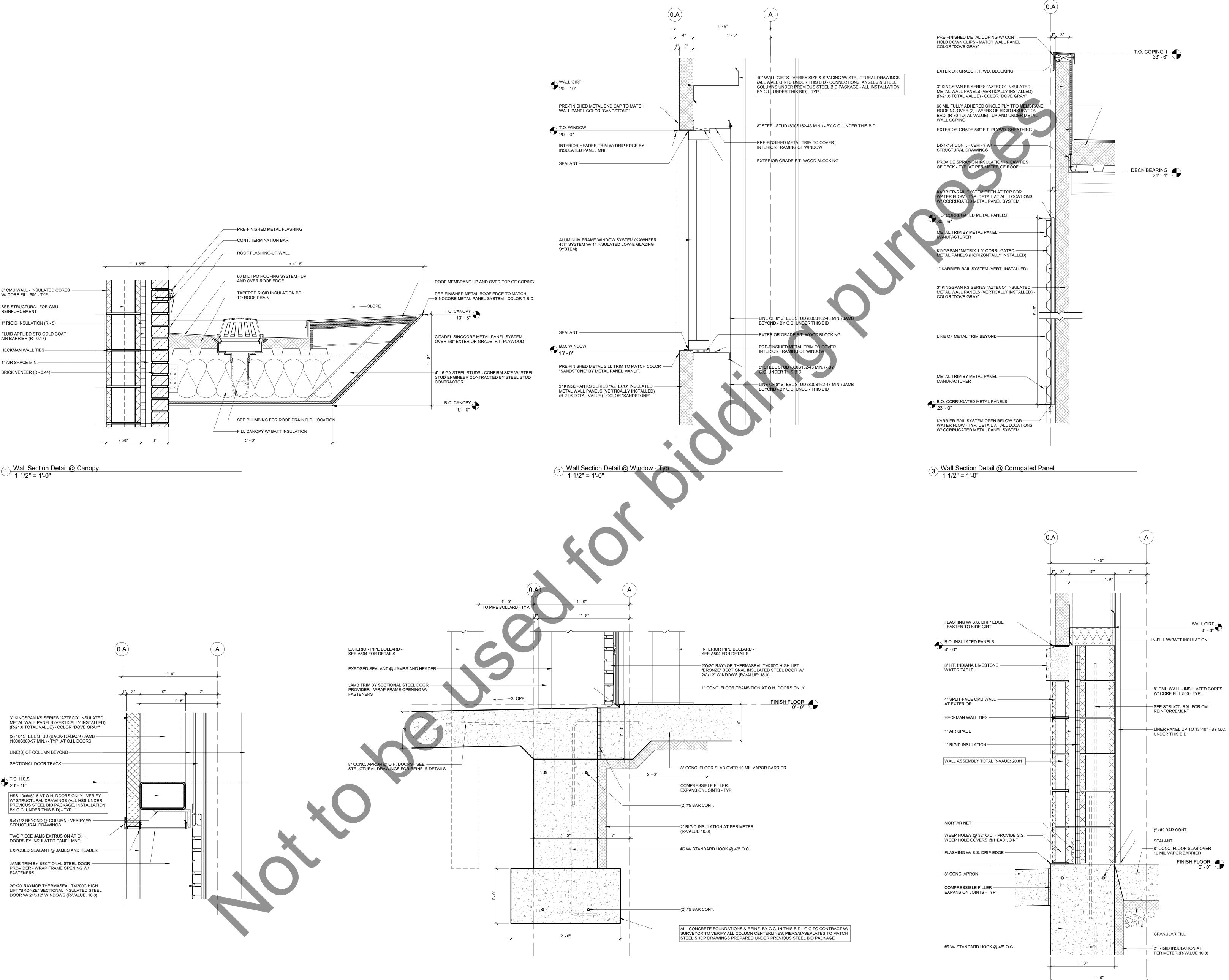


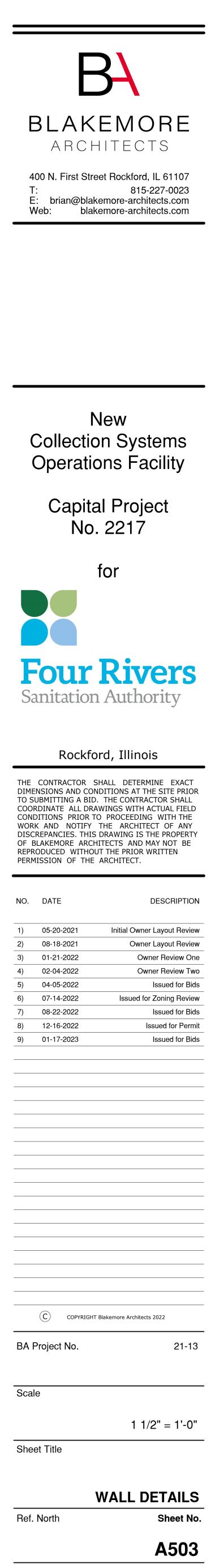


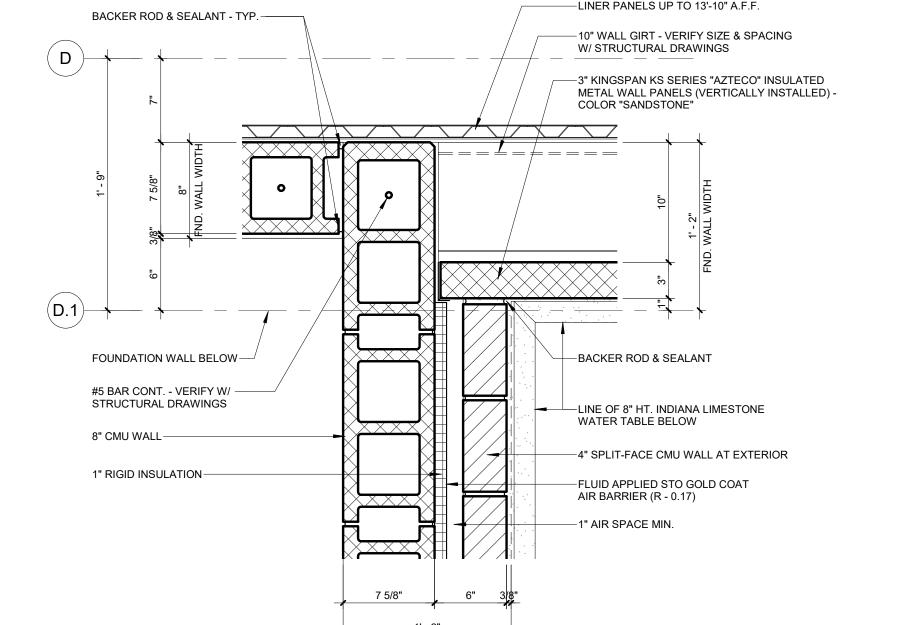


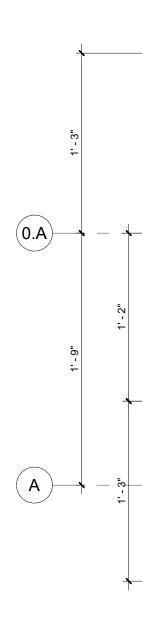


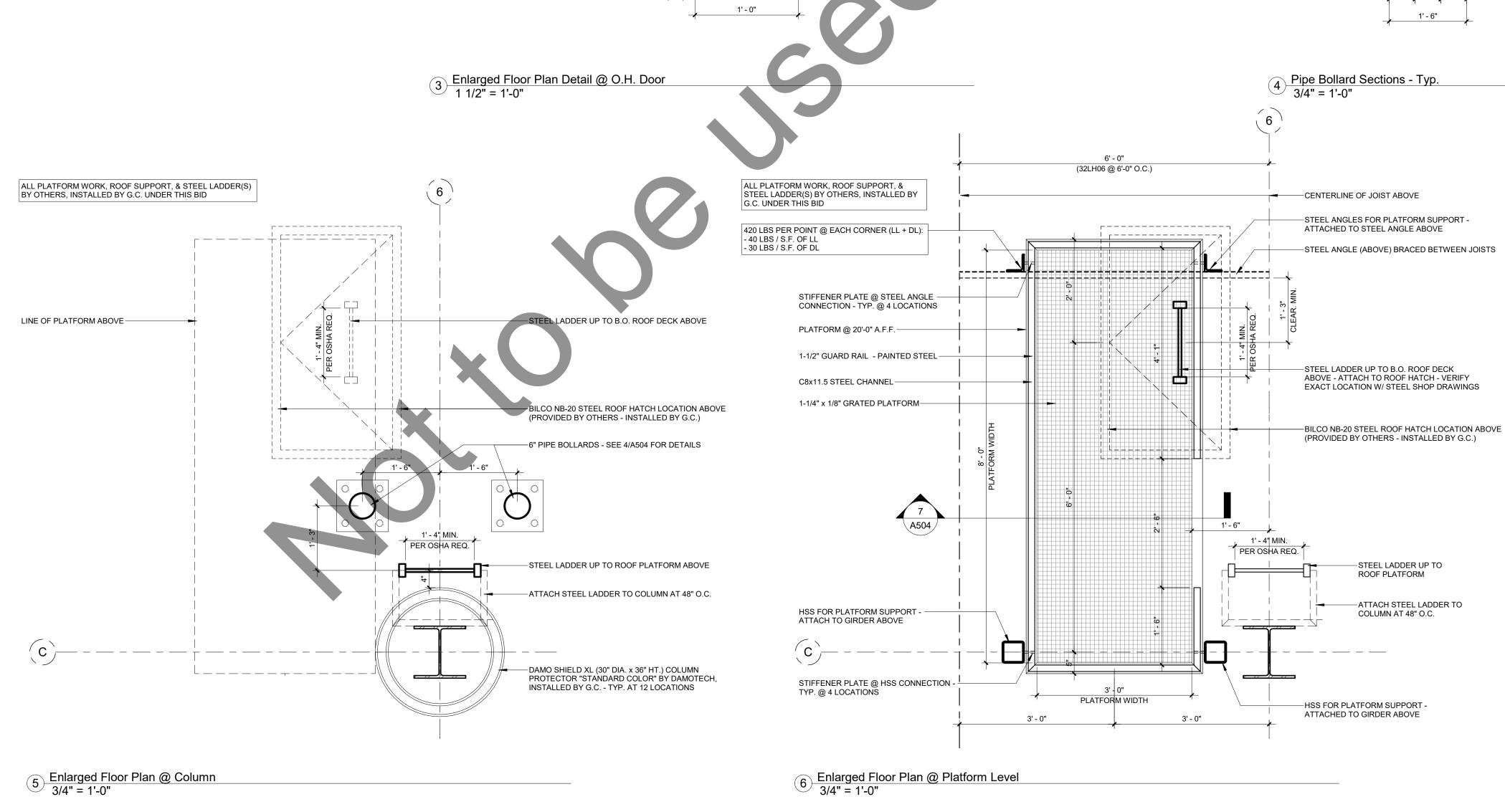


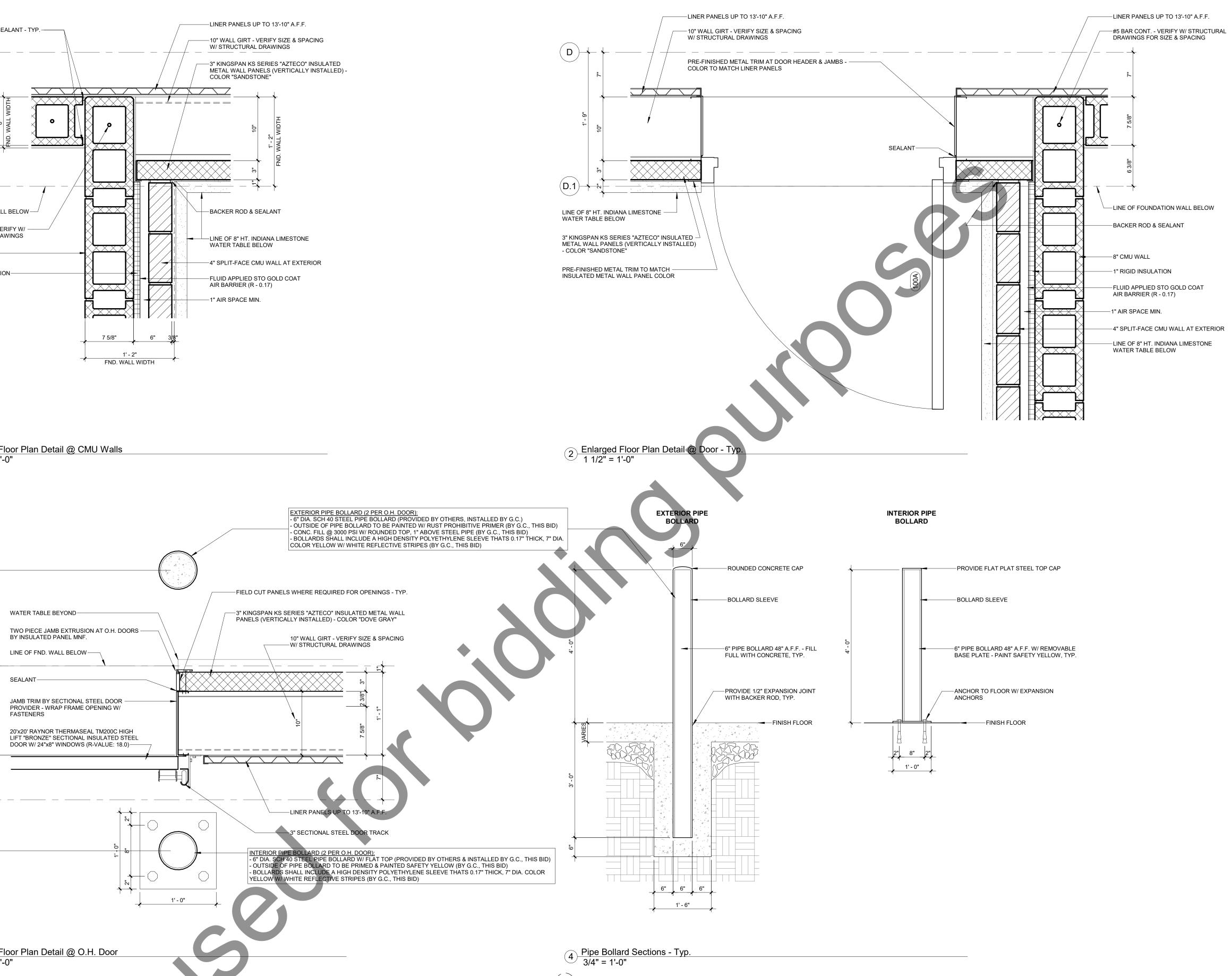




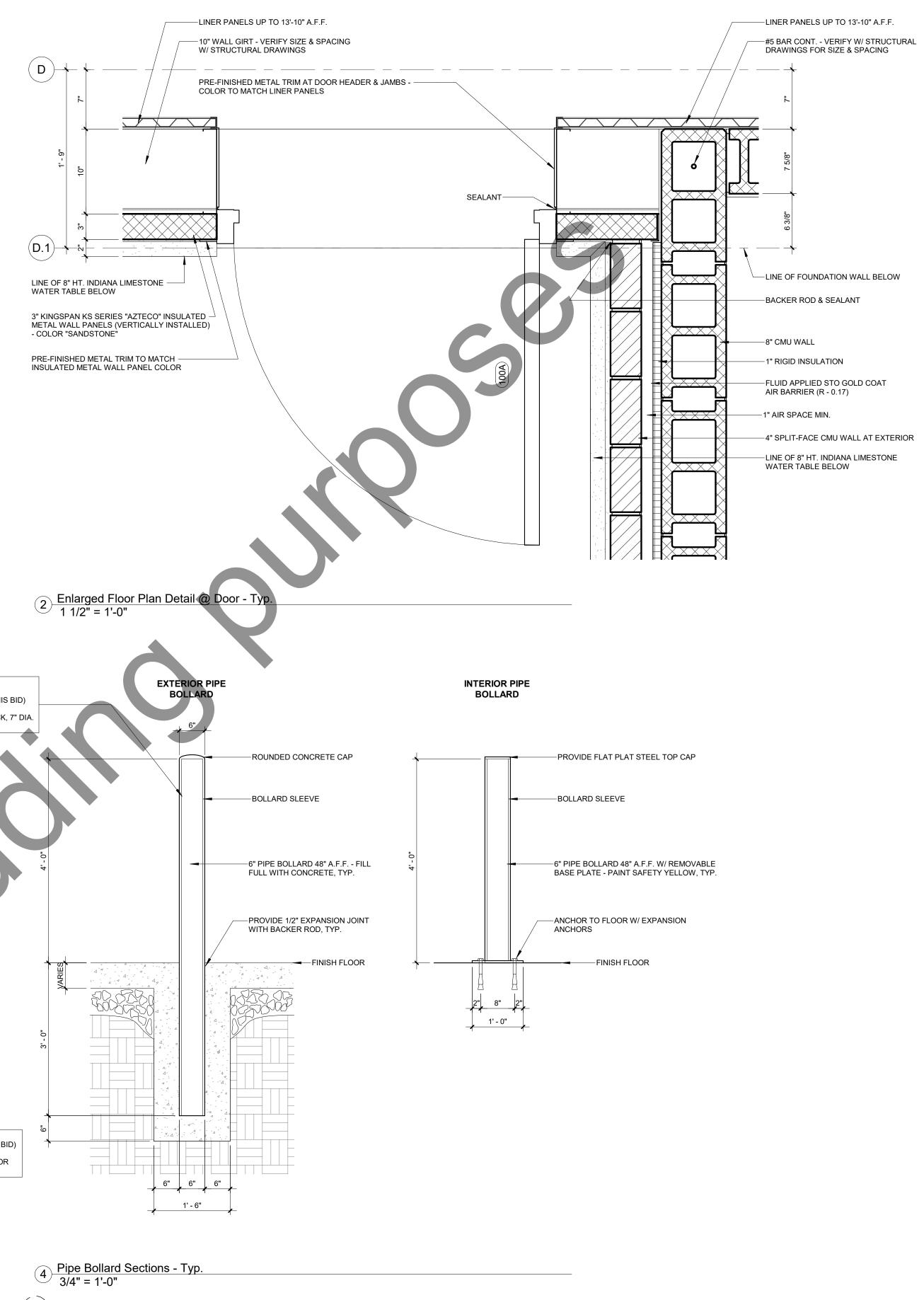








1 Enlarged Floor Plan Detail @ CMU Walls 1 1/2" = 1'-0"



-STEEL LADDER UP TO

ATTACH STEEL LADDER TO

ROOF PLATFORM

COLUMN AT 48" O.C.

-STEEL ANGLE (ABOVE) BRACED BETWEEN JOISTS

CENTERLINE OF JOIST ABOVE

7 Platform Section 1" = 1'-0"

CENTERLINE OF -JOIST ABOVE 1-1/2" GUARD RAIL -STEEL LADDER UP TO B.O. ROOF DECK ABOVE - ATTACH TOP TO ROOF HATCH -PAINTED STEEL VERIFY EXACT LOCATION W/ STEEL SHOP ۳0° β ATTACH B.O. LADDER TO STEEL CHANNEL 1-1/4" x 1/8" GRATED --PLATFORM C8x11.5 STEEL CHANNEL-PLATFORM HT. . . . . . . . . . . . . STIFFENER PLATE - TYP. @ -4 LOCATIONS \_\_\_\_\_1' - 3" 1' - 3" 3' - 0" PLATFORM WIDTH 3' - 6" 1 1' - 6"

6' - 0"

(32LH06 @ 6'-0" O.C.)

6

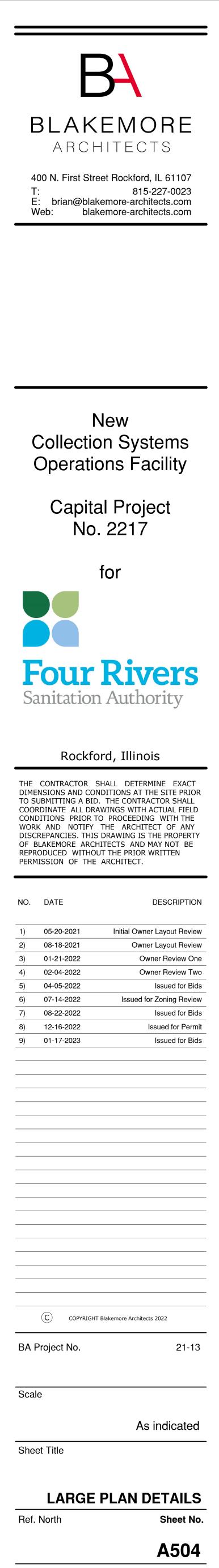
21' - 0"

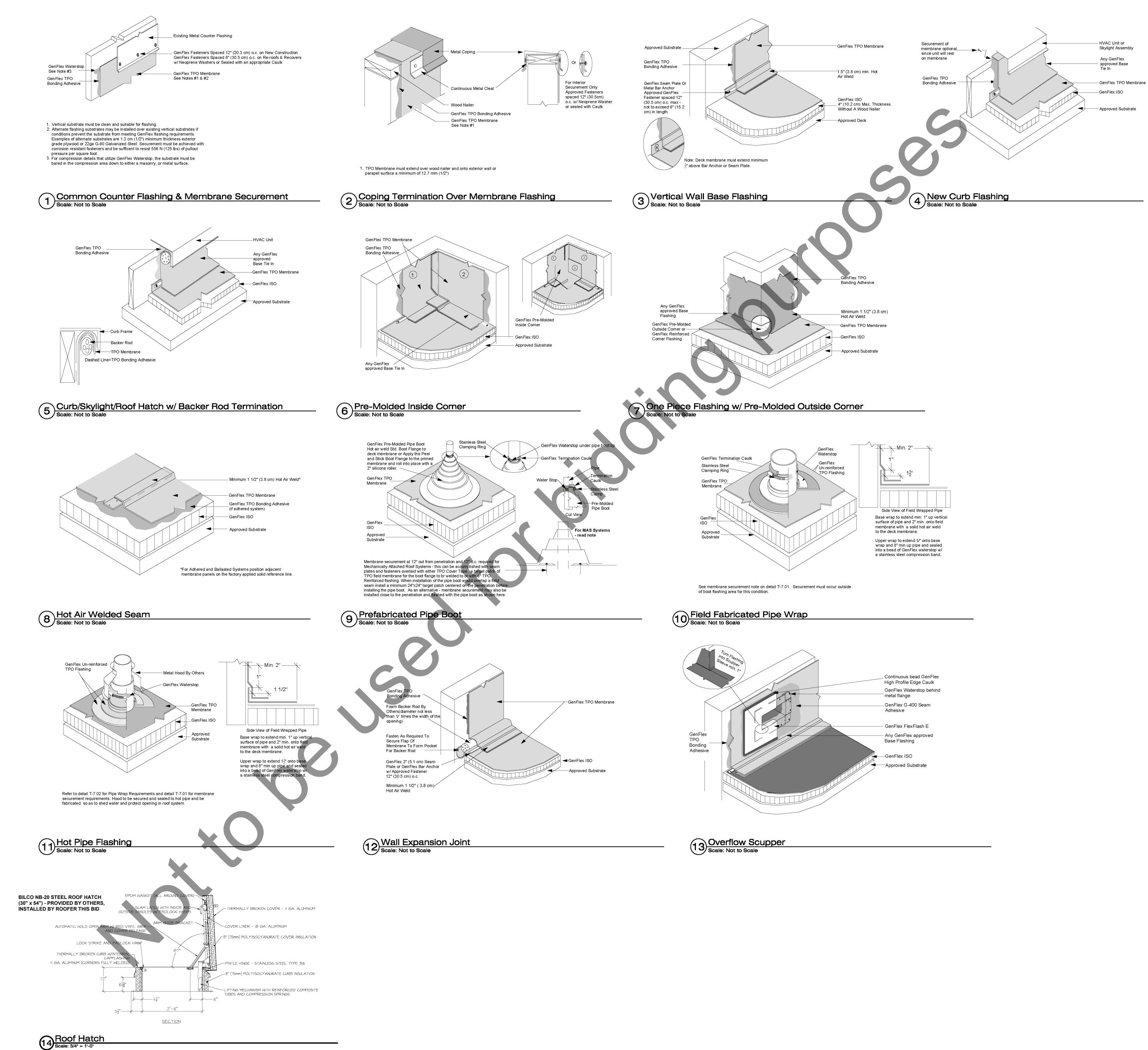
ALL PLATFORM WORK, ROOF SUPPORT, & STEEL LADDER(S)

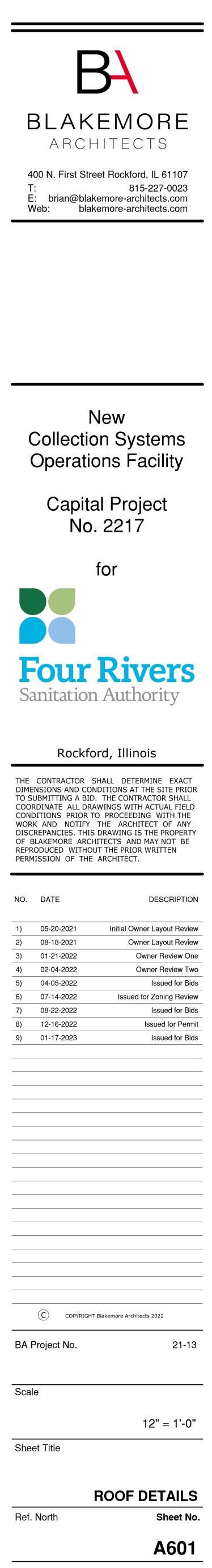
BY OTHERS, INSTALLED BY G.C. UNDER THIS BID

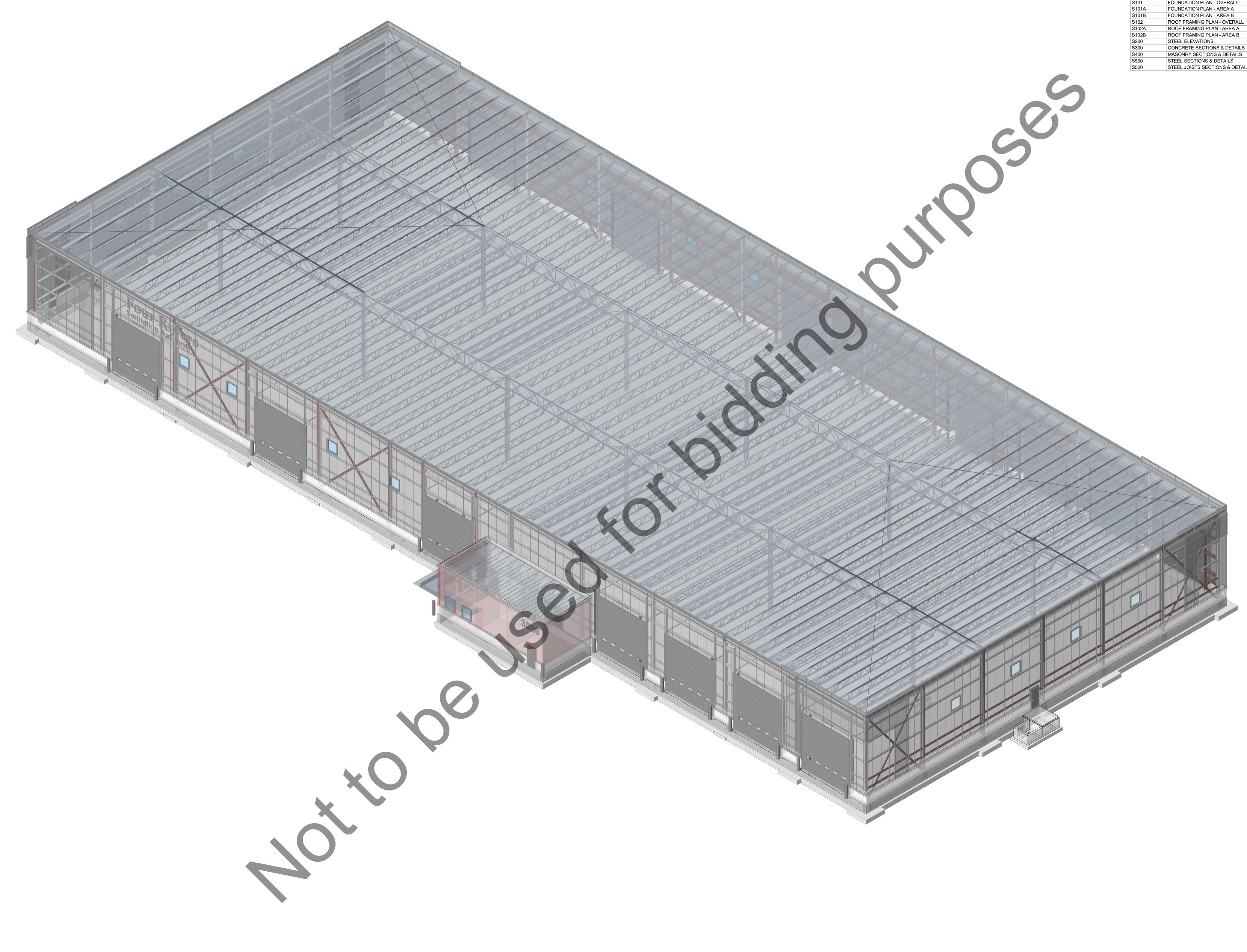
STEEL ANGLES FOR PLATFORM SUPPORT -

ATTACHED TO STEEL ANGLE ABOVE





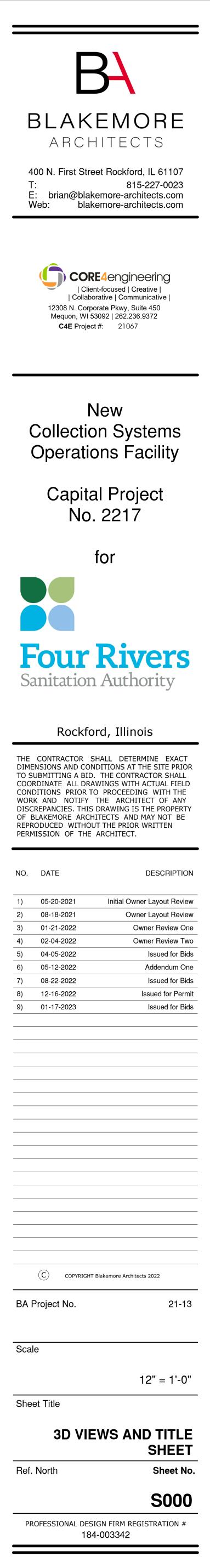


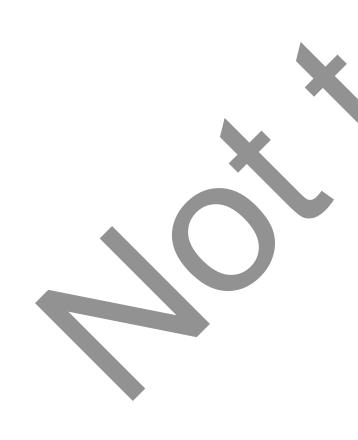


TRUCTURAL SHEET INDEX
Sheet Name
3D VIEWS AND TITLE SHEET
GENERAL NOTES
SCHEDULES
FOUNDATION PLAN - OVERALL
FOUNDATION PLAN - AREA A
FOUNDATION PLAN - AREA B
ROOF FRAMING PLAN - OVERALL
ROOF FRAMING PLAN - AREA A
ROOF FRAMING PLAN - AREA B
STEEL ELEVATIONS
CONCRETE SECTIONS & DETAILS
MASONRY SECTIONS & DETAILS
STEEL SECTIONS & DETAILS
STEEL JOISTS SECTIONS & DETAILS

DOCUMENTS PROVIDE A GENERAL REPRESENTATION OF THE STRUCTURAL MODEL ONLY. THESE VIEWS ARE NOT DESIGNED TO SHOW EVERY DETAILED ASPECT, AND MAY NOT BE FULLY ACCURATE. PLEASE REVIEW THE PLANS, SECTIONS, AND DETAILS FOR THE COMPLETE STRUCTURAL REQUIREMENTS. IF DISCREPANCIES EXIST, THE 3D VIEWS WILL NEVER CONTROL.

DISCLAIMER: 3D MODEL VIEWS DISPLAYED THROUGHOUT CONSTRUCTION





### **DESIGN CRITERIA**

	BUILDING CODE - INTERNATIONAL BUILDING COD	E (IBC) 2015 / ASCE7-10	
Ζ.	DEAD LOADS ROOF	20 PSF	
		20 PSF	
4.	FLOOR LIVE LOADS CORRIDORS	100 PSF	
	PUBLIC AREAS	100 PSF	
	STORAGE (LIGHT)	125 PSF	
	STORAGE (HEAVY)	250 PSF	
	GARAGES	50 PSF	
5.	SNOW LOADS		
	GROUND SNOW, Pg	30 PSF	
	EXPOSURE FACTOR, Ce	1.0	
	TEMPERATURE FACTOR, Ct	1.1	
	SLOPED ROOF FACTOR, Cs	1.0	
	IMPORTANCE FACTOR, Is	1.1	
	FLAT ROOF SNOW, Pf	25.4 PSF	
	SLOPED ROOF SNOW, Ps	25.4 PSF	
	SLIDING & DRIFTING SNOW, IN ADDITION TO FLAT UNBALANCED SNOW PER ASCE 7	ROOF SNOW, SEE PLANS	
6.	WIND LOADS		
	ULTIMATE WIND SPEED, V	120 MPH	
	RISK CATEGORY	II	
	EXPOSURE CATEGORY	С	
	INTERNAL PRESSURE COEFFICIENT, Gcpi	±0.18	
	COMPONENTS & CLADDING NOT DESIGNED BY TH		
	DESIGNED FOR THE WIND PRESSURES SHOWN O		
	DIAGRAM. WIND PRESSURES FOR LARGER TRIBU DELEGATED DESIGN CALCULATIONS.	TARY AREAS MAY BE USE	D BASED ON
-			
7.			
	IMPORTANCE FACTOR, le SITE CLASS	1.25	
	MAPPED SPECTRAL RESPONSE	D	
	Ss	0.124 g	
	53 S1	0.058 g	
	SPECTRAL RESPONSE COEFFICIENTS	0.000 g	
	SDS	0.132 g	
	SD1	0.093 g	
	SEISMIC DESIGN CATEGORY	B	
	SEISMIC FORCE RESISTING SYSTEM	STEEL ORDINARY	
		CONCETRICALLY E	
		FRAMES	
	RESPONSE MODIFICATION FACTOR, R	3.25	
	RESPONSE COEFFICIENT, Cs	0.051	
	DESIGN BASE SHEAR	Cs x (WEIGHT O	
	ANALYSIS PROCEDURE	EQUIVALENT LATE	RAL FORCE
8.	SOIL DESIGN VALUES		
	REFERENCE GEOTECHNICAL REPORT No. 22-G029		
	PEPARED BY GEOCON PROFESSIONAL SERVICES		
	ALL VALUES ASSUMED UNLESS REFERENCED IN		
	SOIL UNIT WEIGHT (¥)	120 PCF	
	LATERAL EARTH PRESSURE:		
	ACTIVE (RETAINING WALLS)	45 PSF/FT	
	AT-REST (BASEMENT WALLS) PASSIVE / BEARING PRESSURE LATERAL	60 PSF/FT 150 PSF/FT	
	ALLOWABLE SOIL BEARING PRESSURE LATERAL	100 202/21	
	VERTICAL (NET)	3,000 PSF	
	LATERAL SLIDING RESISTANCE	5,000 1.01	
	COEFFICENT OF SLIDING FRICTION	0.25	
	COHESION (CLAY)	N/A PSF	
	SUBGRADE MODULUS	100 PCI	
	-		

### **GENERAL REQUIREMENTS**

- 1. THE CONTRACT DOCUMENTS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INCLUDE THE METHOD OF CONSTRUCTION. CONTRACTOR S PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTUR CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIN BRACING, SHORING FOR LOADS DUE TO CONSTRUCTION EQUIPMEN TEMPORARY STRUCTURES, AND PARTIALLY COMPLETED WORK. OBSERVATION VISITS TO THE SITE BY STRUCTURAL ENGINEER SHAI INCLUDE INSPECTION OF THE ABOVE ITEMS. GENERAL CONTRACTOR TO DISTRIBUTE ALL SHEETS IN THE SET TO SUBCONTRACTORS. 3. THE ARCHITECT AND/OR ENGINEER OF RECORD SHALL NOT HAVE C OVER OR BE IN CHARGE OF, AND SHALL NOT BE RESPONSIBLE IN AN FOR CONSTRUCTION MEANS, METHODS TECHNIQUES, SEQUENCES PROCEDURES, OR FOR SAFETY OR SAFETY PRECAUTIONS AND PRO CONNECTION WITH ANY CONSTRUCTION ACTIVITIES, SINCE THESE A SOLELY THE CONTRACTOR'S RESPONSIBILITY. SUBMITTALS PREPARED BY SUBCONTRACTORS SHALL BE REVIEWE CONTRACTOR PRIOR TO SUBMITTING TO ARCHITECT/ENGINEER. 5. CONTRACTOR SHALL VERIFY DIMENSIONS AND CONDITIONS AT THE ANY DISCREPANCIES BETWEEN THE CONDITIONS FOUND AND THOS INDICATED IN THE CONTRACT DOCUMENTS SHALL BE BROUGHT TO ATTENTION OF ARCHITECT PRIOR TO PROCEEDING WITH THE WORK 6. SEE DOCUMENTS FROM OTHER DISCIPLINES FOR FLOOR, WALL, AND OPENINGS, TRENCHES, PITS, PIPE SLEEVES, EQUIPMENT PADS, MET STAIRS, MISCELLANEOUS IRON, ETC. 7. DO NOT PLACE PIPES, DUCTS, CHASES, ETC. IN STRUCTURAL BEAM COLUMN MEMBERS. DO NOT CUT ANY STRUCTURAL MEMBER FOR F DUCTS, ETC., UNLESS NOTED OTHERWISE. NOTIFY STRUCTURAL EN WHEN DOCUMENTS BY OTHER DISCIPLINES SHOW OPENINGS, POCKE 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. 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. CONTRACTOR DESIGNED ELEMENTS SHALL BE DESIGNED BY LICENSED PROFESSIONAL ENGINEERS REGISTERED IN THE STATE WHERE THE PROJECT IS LOCATED. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS, DESIGN LOAD
- DATA, SUPPORT REACTIONS, AND CERTIFICATION THAT ELEMENTS WERE DESIGNED FOR LOADS SPECIFIED IN THE CONTRACT DOCUMENTS OR IN THE BUILDING CODE. ALL DOCUMENTS NOTED SHALL BE SEALED BY THE LICENSED ENGINEER, IF CRITERIA INDICATED ARE NOT SUFFICIENT, SUBMIT A WRITTEN REQUEST FOR ADDITIONAL INFORMATION TO THE ARCHITECT. THE FOLLOWING ELEMENTS AND THEIR CONNECTIONS SHALL BE CONTRACTOR DESIGNED: A. STRUCTURAL STEEL CONNECTIONS NOT DETAILED OR SHOWN ON THE DRAWINGS B. STEEL JOIST & JOIST GIRDERS C. STEEL STAIRS & HANDRAILS STRUCTURAL COLD-FORMED FRAMING INCLUDING EXTERIOR WALLS
- E. PREFABRICATED EXTERIOR CANOPIES & BALCONIES SPREAD FOUNDATIONS
- 1. ALL FOUNDATIONS SHALL BE SUPPORTED ON APPROVED EXISTING SUBGRADE OR APPROVED COMPACTED STRUCTURAL FILL HAVING A MINIMUM ALLOWABLE BEARING CAPACITY AS INDICATED IN THE SOIL DESIGN VALUES. SUBSURFACE CONDITIONS SHALL BE IMPROVED TO MEET CAPACITY WHEN
- REQUIRED, AS RECOMMENDED IN GEOTECHNICAL REPORT. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE VALIDITY OF T SUBSURFACE CONDITIONS DESCRIBED IN THE DRAWINGS, SPECIFICATIONS,
- TEST BORINGS OR GEOTECHNICAL REPORTS. THIS DATA IS INCLUDED ASSIST THE CONTRACTOR DURING BIDDING AND SUBSEQUENT CONSTRUCTION, AND TO REPRESENT CONDITIONS ONLY AT SPECIFIC
- LOCATIONS AT THE PARTICULAR TIME THE OBSERVATIONS WERE MAD 4. ALL EXTERIOR FOUNDATIONS SHALL BEAR ON APPROVED SUBGRADE AT MINIMUM DEPTH OF 4'-0 BELOW ADJACENT FINISH EXTERIOR GRADE. 5. FOOTING ELEVATIONS SHOWN ON THE DRAWINGS REPRESENT ESTIMATED
- DEPTHS AND ARE NOT TO BE CONSTRUED AS LIMITING THE AMOUNT OF EXCAVATION REQUIRED TO REACH SUITABLE BEARING MATERIAL. THE CONTRACTOR SHALL PROVIDE TEMPORARY SUPPORTS IN ALL EXCAVATIONS AS REQUIRED TO PREVENT HORIZONTAL MOVEMENT OR
- VERTICAL SETTLEMENT OF SURROUNDING SOIL AND/OR PROPERTY WHICH WILL ENDANGER LIVES OR PRO 7. THE CONTRACTOR SHALL PROVIDE CONTROL OF SURFACE AND SUBSURFACE
- WATER PROMPTLY TO ENSURE THAT ALL FOUNDATION WORK IS PERFORMED IN A DRY CONDITION. 8. FOUNDATIONS SHALL NOT BE PLACED ON FROZEN SUBGRADE. THE CONTRACTOR SHALL PROTECT IN-PLACE FOUNDATIONS AND SLABS-ON-GRADE FROM FROST PENETRATION UNTIL THE PROJECT IS COMPLETE.
   FOUNDATION WALLS SHALL BE BRACED DURING BACKFILLING AND
- COMPACTION OPERATIONS. BRACING SHALL BE LEFT IN PLACE UNTIL PERMANENT STRUCTURAL SUPPORT SYSTEM IS INSTALLED AND APPROVED BY THE ENGINEER. 11. WHERE FOUNDATION WALLS HAVE FILL ON BOTH SIDES, BACKFILLING SHALL BE DONE SIMULTANEOUSLY ON BOTH SIDES OF THE WALL.
- **CONCRETE** CODES

CONCRETE

SPECIFICATION FOR STRUCTURAL CONCRETE MANUAL OF CONCRETE PRACTICE BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE BUILDING CODE REQUIREMENTS FOR STRUCTURAL PLAIN

MATERIALS (28 DAY COMPRESSIVE STRENGTH):
FOOTINGS

ACI 301

ACI MCP

	10 0,0001 01
INTERIOR SLAB ON GRADE	f'c=4,000 PSI
EXTERIOR SLAB ON GRADE (EXCLUDING SIDEWALKS)	f'c=5,000 PSI
FOUNDATION WALLS / GRADE BEAMS / PIERS	f'c=4,500 PSI
BEAMS / COLUMNS	f'c=4,000 PSI
CONCRETE ON METAL DECK	f'c=4,000 PSI
CONCRETE TOPPING	f'c=4,000 PSI

- 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
- MAXIMUM WATER/CEMENT RATIO PERMITTED SHALL BE 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. 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.
- GROUT USED TO SET PLATES SHALL BE NON-SHRINK AND NON-METALLIC. THE CONTRACTOR SHALL USE SMOOTH FORMS FOR EXPOSED CONCRETE SURFACES. BOARD FORMS MAY BE USED FOR UNEXPOSED CONCRETE SURFACES, EARTH FORMS ARE FORBIDDEN.
- 10. PROVIDE A MINIMUM OF 6" OF COMPACTED GRANULAR FILL UNDER ALL SLABS ON GRADE.
- 11. VAPOR BARRIER TO BE 10 MILS THICKNESS MINIMUM, LAP MINIMUM 6" AND TAPE ALL SEAMS. VERIFY ADDITIONAL REQUIREMENTS WITH ARCHITECT. 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(F) SPECIFIED OVERALL VALUE (SOV) OF 50. MINIMUM LOCALIZED VALUE (MLV) OF 25 AND F(L) SPECIFIED OVERALL

VALUE (SOV) OF 33, MINIMUM LOCALIZED VALVE (MLV) OF 17).

### NOTE TO GENERAL CONTRACTOR:

IN A PREVIOUS BID THE FOLLOWING STRUCTURAL AND MISCELLANEOUS STEEL ITEMS HAVE BEEN BID AND AWARDED TO ROCKFORD ORNAMENTAL IRON (ROI) (ROB KAPALA OR NICK NESMITH). THESE ITEMS HAVE BEEN ORDERED OR ARE IN PRODUCTION CURRENTLY AND DELIVERY CAN BE COORDINATED WITH ROI:

- 1. STEEL BEAMS 2. STEEL COLUMNS
- STEEL HSS 4. STEEL ROOF JOISTS & JOIST GIRDERS (INCLUDING BRIDGING)
- 5. STEEL ROOF DECK PERIMETER STEEL ROOF ANGLES
- STEEL LINTELS (EXCEPT NOTED ON THE DRAWINGS AS BY THE GC THIS BID) 8. STEEL CLIPS FOR HORIZONTAL GIRTS AND CONNECTION TO COLUMNS (GIRTS, INSULATED METAL WALL PANELS AND 2" HEAVY GAUGE GIRT FLANGE BRACING BY GC THIS BID)
- 9. STEEL ANCHOR RODS AND BASE PLATES 10. STEEL ANGLES FOR ROOF PENETRATIONS AT EXHAUST UNITS, ROOF DRAINS AND
- OVERFLOWS 11. STEEL ANGLES FOR ROOF HATCH OPENING (INCLUDING ROOF HATCH) AND ROOF LADDER/PLATFORM
- 12. STEEL ANGLES AT TOP OF CMU WALLS 13. STEEL X-BRACING
- 14. EXTERIOR STEEL PIPE BOLLARDS

GENERAL CONTRACTOR WILL BE RESPONSIBLE FOR COORDINATION AND SCHEDULING (DELIVERY, SHAKEDOWN AND SEQUENCING OF ERECTION) OF THE ABOVE LISTED MATERIALS, ERECTION AND INSTALLATION. SEE SPECIFICATION SECTION, 00 3100 AVAILABLE PROJECT INFORMATION, FOR ALL SHOP DRAWINGS FROM THE STEEL BID PACKAGE, GC WILL ALSO BE RESPONSIBLE TO CONTRACT WITH A SURVEYING FIRM TO ASSURE THAT NEW FOUNDATIONS/PIERS/BASE PLATES HAVE BEEN SET PER THE DIMENSIONS INDICATED ON THE SHOP DRAWINGS. IT IS THE RESPONSIBILITY OF THE GC TO VERIFY THE LOCATIONS AND ELEVATIONS OF THE ANCHOR BOLTS AND SET PLATES FOR STEEL COLUMNS MATCH THE LAYOUT PLAN PROVIDED BY THE STEEL SUPPLIER. GROUTING OF SET PLATES TO PROPER ELEVATION IS THE RESPONSIBILITY OF THE GC. ANY DEVIATION FROM THE LAYOUT PLAN MUST BE CORRECTED BY THE GC PRIOR TO THE ERECTION OF THE STRUCTURAL STEEL. ANY COSTS ARISING FROM IMPROPERLY LOCATING OR GROUTING THE SET PLATES AND ANCHOR BOLTS WILL BE BORNE BY THE GC.

ALL FOUNDATION WORK, INCLUDING REINFORCING, BY GC THIS BID. ALL REINFORCING OF CMU BY GC THIS BID.

### CONCRETE REINFORCING

CONCRETE

CODES:

ACI 315

ACI 318

AWS D1.4

MATERIALS:

REINFORCING BARS

WELDED WIRE FABRIC

MACRO FIBER REINFORCING

MSP2

WRI

SHALL E DURING MITED TO: NT,
LL NOT
)
CONTROL NY WAY , OR DGRAMS IN ARE
DBY
E JOB SITE. SE ) THE (. ND ROOF [AL PAN
AND PIPES, IGINEER KETS ETC

f'c=3,000 PSI f'c=4,000 PSI f'c=5,000 PSI

f'c=4,000 PSI f'c=4,000 PSI f'c=4,000 PSI

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. 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" (# 14 & LARGER) AND 3/4" (#11 & SMALLER) FOR CONCRETE NOT EXPOSED TO EARTH OR WEATHER. 3. THE CONTRACTOR SHALL REFER TO TYPICAL DETAILS SHOWN ON TH CONTRACT DRAWINGS FOR ADDITIONAL REINFORCING REQUIREMENT 4. WHERE REINFORCEMENT IS REQUIRED IN SECTIONS, REINFORCEMENT IS CONSIDERED TYPICAL WHERE EVER THE SECTION APPLIES. . 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 BEFO SCHEDULED CONCRETE PLACEMENT FOR THE ARCHITECT TO INSPECT REINFORCEMENT. REINFORCED MASONRY CODES: ACI 530.1/ASCE 6/TMS 602 SPECIFICATION FOR MASONRY STRUCTURES ACI 530/ASCE 5/TMS 402 BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES MATERIALS: CONCRETE MASONRY BLO 2,000 PSI TYPE M/S MORTAR GROUT (28 DAY STRENGT ASTM C476 2,000 PSI REINFORCING BARS ASTM A615 Gr 60 Fy=60 KSI 1. THE REQUIRED MINIMUM 28 DAY COMPRESSIVE STRENGTH OF THE COMBINATION OF CONCRETE BLOCK, GROUT AND MORTAR ON THE NET AREA OF THE CONSTRUCTION (fm) SHALL BE A MINIMUM OF 2,000 PSI. ALL CONCRETE BLOCK MASONRY UNITS SHALL BE NORMAL WEIGHT. ALL CONCRETE BLOCK MASONRY UNITS SHALL BE LAID IN RUNNING UNO 4. MASONRY BLOCK CELLS CONTAINING VERTICAL REINFORCING SHALL BE GROUTED SOLID. FILLING CELLS WITH MORTAR IS UNACCEPTABLE. ALL BOND BEAMS TO BE GROUTED SOLID. THE BASE OF EACH CELL IN WHICH REINFORCING BAR IS PLACED MUST HAVE A CLEAN OUT HOLE. VERTICAL REINFORCING BARS SHALL BE LAPPED PER SCHEDULE. MECHANICAL SPLICES MAY BE USED IN LIEU OF LAP SPLICES. ROVIDE CONTINUOUS REINFORCED BOND-BEAMS IN ALL REINFORCED ASONRY WALLS AT THE TOP, AND AS REQUIRED IN THE CONTRACT DRAWINGS. BOND-BEAMS AT THE TOP OF THE WALL SHALL BE INTINUOUS AT MASONRY CONTROL JOINTS. ALL OTHER BOND-BEAMS HALL NOT BE CONTINUOUS AT MASONRY CONTROL JOINTS. BOND-BEAM REINFORCING SHALL EXTEND INTO AND BE CONTINUOUS WITH ALL INTERSECTING BOND-BEAMS. REINFORCED MASONRY WALLS SHALL HAVE #9 GAUGE (LADDER TYPE) HORIZONTAL REINFORCING AT SPACING AS NOTED ON CONTRACT DRAWINGS, BUT AT A MAXIMUM OF 16" O.C. VERTICALLY. 10. FILL CORES OF MASONRY UNDER ALL BEARING PLATES. THE MINIMUM WIDTH SHALL BE 3 TIMES THE BEARING PLATE LENGTH FOR THREE COURSES BELOW BEARING, UNO. 1 BRACE ALL MASONRY WALLS DURING CONSTRUCTION AS REQUIRED TO

DETAIL AND DETAILING OF CONCRETE REINFORCEMENT

WELDED WIRE FABRIC MANUAL OF STANDARD PRACTICE

ASTM A185

ASTM C1116 Type III

ASTM A615 Gr 60 Fy=60 KSI

BUILDING CODE REQUIREMENTS FOR REINFORCED

STRUCTURAL WELDING CODE - REINFORCING STEEL

CRSI MANUAL OF STANDARD PRACTICE

RESIST WIND AND OTHER TEMPORARY LOADS UNTIL FINAL STRUCTURAL MEMBERS ARE INSTALLED 12. PROVIDE BAR POSITIONERS ON ALL REINFORCING TO HOLD AND MAINTAIN PROPER REBAR LOCATIONS AND COVER DURING GROUTING. MASONRY VENEERS

CODES:			
ACI 530.1/ASCE 6/TMS 602	SPECIFICA	TION FOR MASONRY S	TRUCTURES
ACI 530/ASCE 5/TMS 402 BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES			
MATERIALS:			
VENEER ANCHORS		ASTM A153 CLASS B2	
TYPE N/S MORTAR		ASTM C270	
GROUT (28 DAY STRENGT	Ή)	ASTM C476	2,000 PSI
REINFORCING BARS		ASTM A615 Gr 60	Fy=60 KSI
SEE ACI 530.1/ASCE 6/TMS SPECIFICATION REQUIREM	ENTS.		
THE AIR SPACE BETWEEN			ALL IS TO BE
WICK AND TUBE WEEP SPA			
VENEER ANCHORS SHALL ANCHORS, HOT DIPPED GA	BE A MINIMU	JM W1.7 ADJUSTABLE V	VIRE

SPACING SHALL BE 32" OC, MAX., THE VERTICAL SPACING SHALL BE 18" OC, MAX. THE MAXIMUM WALL AREA THAT ONE ANCHOR MAY TIE SHALL

BE LESS THAN 2 SQFT. VENEER ANCHORS SHALL BE SECURED TO STEEL STUDS THRU SHEETING WITH A MINIMUM OF (2)-#10 (.190" Ø) SELF-TAPPING SCREWS, TO WOOD STUDS THRU SHEETING WITH A MINIMUM OF (2)-8d (.131" Ø) GALVANIZED

NAILS AND TO STRUCTURAL MASONRY WALL WITH A MINIMUM OF (2)-3/16" Ø MASONRY SCREWS VERTICAL EXPANSION JOINTS SHALL BE PLACED AT A MAXIMUM OF 25'-0" OC, AT ALL CORNERS, OFFSETS, INTERSECTIONS, OR SETBACKS, AT CHANGES IN WALL HEIGHT AND AT ONE END OF ALL LINTELS.

HORIZONTAL EXPANSION JOINTS SHALL BE PLACED IMMEDIATELY BELOW SHELF ANGLES.

STRUCTURAL STEEL

CODES:						
AISC	SPECIFICATION FOR ERECTION OF STEEL	DESIGN, FABRICATION FOR BUILDINGS	AND			
AISC		PRACTICE FOR STEEL	BUILDINGS			
AWS D1.1	STRUCTURAL WELDING CODE - STEEL					
AISC	STRUCTURAL STEEL	DETAILING MANUAL				
MATERIALS:						
HOT ROLLED V	N & WT SHAPES	ASTM A992	Fy=50 KSI			
ANGLES, CHAN	NNELS & 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			
RECTANGULA	R HSS	ASTM A500 Gr B	Fy=46 KSI			
ROUND HSS		ASTM A500 Gr B	Fy=42 KSI			
HIGH STRENG	TH BOLTS	ASTM A325				
HEAVY HEX NU	JTS	ASTM A563				
HARDENED ST	EEL WASHERS	ASTM A436				
ANCHOR ROD	S	ASTM F1554 Gr 36	Fy=36 KSI			
THREADED RC	DDS	ASTM A36	Fy=36 KSI			
HEADED STUD	ANCHORS	ASTM A108				

PROVIDE 2 MIL THICKNESS GRAY OXIDE PRIMER ON ALL STEEL SURFACES ALL STEEL EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED PER

ASTM A123 AND FASTENERS HOT DIPPED GALVANIZED PER ASTM A153. ANCHOR RODS SHALL BE PRESET WITH TEMPLATES.

4. LEVELING PLATES AND BEARING PLATES SHALL BE SET IN A FULL BED OF NON-SHRINK GROUT. CONNECTIONS MAY BE BOLTED OR WELDED AT THE FABRICATORS 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 END ROTATION PER AISC REQUIREMENTS FOR UNRESTRAINED MEMBERS.

. THE MINIMUM FILLET WELD SIZE SHALL NOT BE LESS THAN 3/16" (UNO). 7. ALL WELDS SHALL USE WELD METAL CONFORMING TO E70XX AND

CONFORMING TO AWS WELDING PROCEDURES AND STANDARDS. ALL WELDS SHALL BE MADE BY AWS CERTIFIED WELDERS CERTIFIED IN THE POSITION IN WHICH THE WELD IS TO BE MADE.

9. THE ERECTION OF ANY 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 BRACING AND SUPPORTS AS REQUIRED FOR THE SAFE ERECTION OF ALL STEEL. TEMPORARY BRACING SHALL REMAIN IN PLACE UNTIL PERMANENT BRACING HAS BEEN INSTALLED AND FLOOR SLAB CONCRETE HAS ATTAINED

75% OF ITS REQUIRED STRENGTH. 11. STRUCTURAL STEEL SHALL BE TRUE AND PLUMB BEFORE FINAL BOLTING

OR WELDING OF CONNECTIONS. 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

STEEL DECK AND SHEAR CONNECTORS

MEMBERS.

AISC SPECIFICATION FOR DESIGN, FABRICATION AND ERECTION OF STEEL FOR BUILDINGS AISI SPECIFICATION FOR THE DESIGN OF LIGHT GAUGE COLD			
WS D1.3 STRUCTURAL WELDING CODE - SHEET METAL			
CODE OF PRACTICE			
PAINTED	ASTM A611 Gr C	Fy=33 KSI	
GALVANIZED	ASTM A446 Gr A	Fy=33 KSI	
SITE DECK - PAINTED	ASTM A446 Gr E	Fy=50 KSI	
DECK - GALVANIZED	ASTM A446 Gr 1	Fy=50 KSI	
GALVANIZING ASTM A525 CLASS G60 MIN			
	ERECTION OF STEEL SPECIFICATION FOR FORM STEEL STRUC STRUCTURAL WELD CODE OF PRACTICE PAINTED GALVANIZED SITE DECK - PAINTED DECK - GALVANIZED	ERECTION OF STEEL FOR BUILDINGSSPECIFICATION FOR THE DESIGN OF LIGHFORM STEEL STRUCTURAL MEMBERSSTRUCTURAL WELDING CODE - SHEET MECODE OF PRACTICEPAINTEDASTM A611 Gr CGALVANIZEDASTM A446 Gr ASITE DECK - PAINTEDASTM A446 Gr 1	

2. STEEL DECK SHALL EXTEND OVER THREE OR MORE SPANS WHENEVER

POSSIBLE. MINIMUM BEARING AT ENDS SHALL BE 1 1/2". 3. STEEL DECK SHALL BE FASTENED AS SHOWN ON THE PLANS

4. IF STEEL DECK IS TO BE FASTENED WITH THE USE OF WELDS, USE 16 GA. WELD WASHERS AT ALL THICKNESS LESS THAN 22 GA, WELDS SHALL NOT BE USED AT SIDE LAP FASTENERS AND DECK SHALL BE WELDED TO SUPPORTS WITH HOBART 1139 WIRE (IRON POWER RODS) OR AN APPROVED EQUAL. SHEAR CONNECTORS, NUMBER INDICATED ON THE FRAMING PLANS AT EACH

BEAM BY (X) SHALL BE EQUALLY SPACED OVER THE LENGTH OF THE BEAM STARTING AS NEAR AS POSSIBLE TO THE BEAM SUPPORTS. WHERE STEEL DECK CORRUGATIONS DO NOT ALLOW FOR AN EVEN SPACING, THE SPACING SHALL BE VARIED SO THAT THE HIGHEST DENSITY OF CONNECTORS OCCURS NEAREST THE SUPPORT.

STEEL STAIRS, HANDRAILS AND GUARD RAILS

1. ENGINEERED STEEL STAIR SYSTEM: STRINGERS, HEADERS, LANDINGS, RAILINGS. GUARD RAILS AND CONNECTIONS TO THIS STRUCTURE SHALL BE DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER LICENSED IN THE LOCATION OF THIS BUILDING. PROVIDE SIGNED & SEALED STRUCTURAL CALCULATIONS WITH SHOP DRAWING SUBMITTAL.

2. THE CONFIGURATION OF THE STEEL STAIR SYSTEM SHALL BE AS SHOWN ON THE ARCHITECTURAL DRAWINGS.

3. THE LOADS REQUIRED FOR THE DESIGN OF THE STEEL STAIR SYSTEM SHALL BE AS INDICATED ON THE "DESIGN LOADS" SECTION OF THESE NOTES. 4. THE SHOP DRAWINGS SHALL INDICATE LOADS IMPOSED ON THE BUILDING

STRUCTURE BY THE STAIR STRUCTURE.

<u>STEEL JOIST</u> CODES:

CODES:	
SJI	STANDARD SPECIFICATION FOR OPEN WEB, LONG SPAN
	AND DEEP LONG SPAN STEEL JOISTS AND JOIST GIRDERS
SJI	RECOMMENDED CODE OF STANDARD PRACTICE FOR
	STEEL JOISTS AND JOIST GIRDERS
STANDARD SEA	T DEPTHS SHALL BE 2 1/2" FOR K SERIES JOISTS, 5" FOR
LILA DILL LOIOT	

LH & DLH JOISTS AND 6" FOR JOIST GIRDERS. 2. SUPPLIER SHALL PROVIDE BRIDGING AND CROSS BRACING PER SJI

REQUIREMENTS AND UPLIFT REQUIREMENTS AS SHOWN ON DRAWINGS. 3. JOISTS SHALL RECEIVE ONE COAT OF SHOP APPLIED PAINT CONFORMING TO THE MINIMUM REQUIREMENTS OF THE "STEEL STRUCTURES PAINTING COUNCIL SPECIFICATIONS.

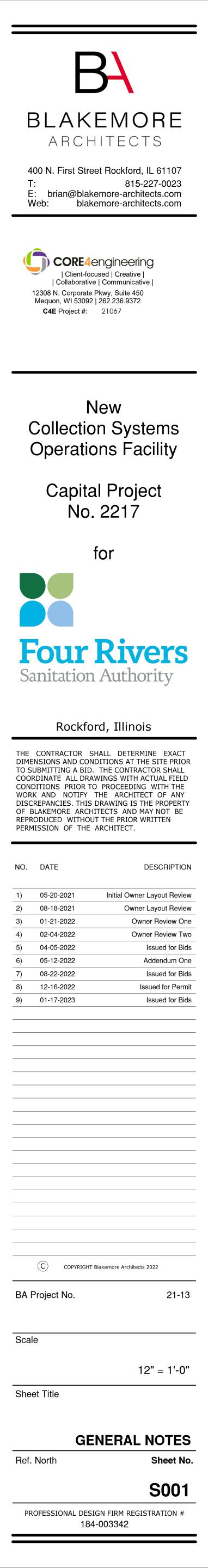
PROVIDE BOLTED CONNECTIONS AT ALL COLUMN LINES. 5. CONTRACTOR SHALL SUBMIT COMPLETE AND DETAILED SHOP DRAWINGS TO THE EOR FOR APPROVAL BEFORE PROCEEDING WITH FABRICATION. INCLUDE METHODS OF FASTENING, BRIDGING LAYOUT AND MISCELLANEOUS ITEMS.

POST-INSTALLED ANCHORS

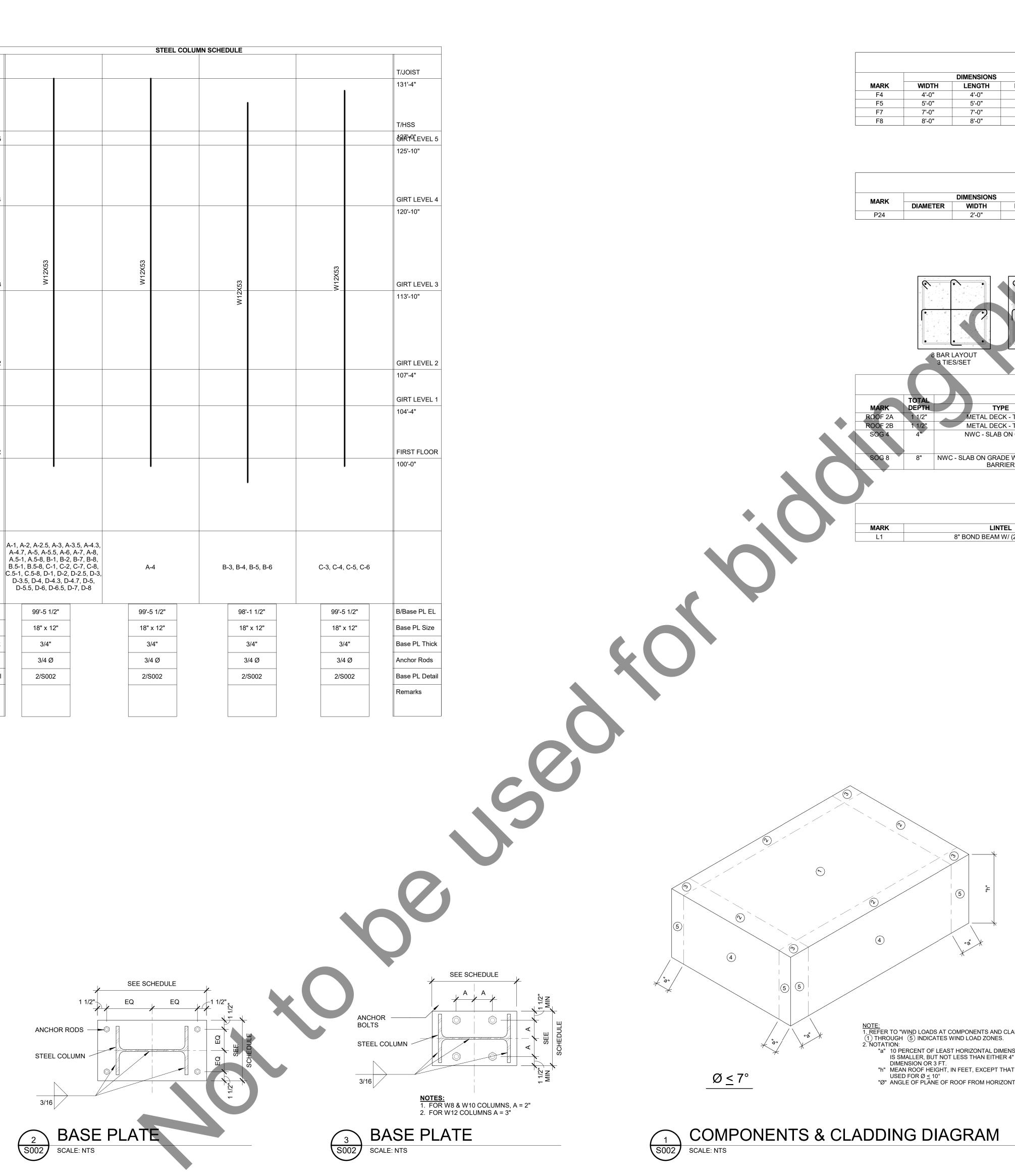
1. THE DIAMETER, EMBEDMENT LENGTH AND TYPE OF ADHESIVE ANCHORS, EXPANSION ANCHORS, AND SCREW ANCHORS SHALL BE AS SPECIFIED ON THE DRAWINGS

- 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 MANUFACTURERS PROOF LOAD REQUIREMENTS AND/OR INSTALLATION TORQUE REQUIREMENTS. MALFUNCTIONING FASTENERS SHALL BE REPLACED.



				STEEL COLU	IN SCHEDULE	
T/JOIST 131'-4"						
151-4						
T/HSS						
OARTOLEVEL 5						
125'-10"						
GIRT LEVEL 4						
120'-10"						
	3		3			
	W12X53		W12X53			
GIRT LEVEL 3	>		8		W12X53	
113'-10"					W12	
GIRT LEVEL 2						
GIRT LEVEL 2 107'-4"						
GIRT LEVEL 1						
104'-4"						
FIRST FLOOR						
100'-0"				l		
						l
Column Locations	A-1, A-2, A-2.5, A	3 4 3 5 4 4 3				
	A-4.7, A-5, A-5. A.5-1, A.5-8, B-	5, A-6, A-7, A-8,				
	B.5-1, B.5-8, C-	1, C-2, C-7, C-8,	A	-4	B-3, B-4,	B-5, B-6
	C.5-1, C.5-8, D-1 D-3.5, D-4, D-4	.3, D-4.7, D-5,				
	D-5.5, D-6, D-	-6.5, D-7, D-8				
B/Base PL EL	99'-5 1/	2"	99'-:	5 1/2"	98'	-1 1/2"
Base PL Size	18" x 12	2"	18"	x 12"	18'	" x 12"
Base PL Thick				/4"		3/4"
Anchor Rods	3/4 Ø	—		4 Ø		6/4 Ø
Base PL Detail	+			6002		/S002
Remarks	+					



				FOOTING	SCHE	DULE			
		DIMENSION	S						
W	DTH	LENGTH	DEPTH		REIN	FORCING			REMARKS
4	0"	4'-0"	1'-0"		(4)	)#5 EW			
5	-0"	5'-0"	1'-0"		. ,	) #5 EW			
7	"-0"	7'-0"	1'-2"		. ,	)#5 EW			
8	'-0"	8'-0"	1'-4"			, )#6 EW			
				PIER SC	CHEDU	ILE	0		
		DIMENSION	S		REIN	FORCING			551151/0
DIAN	IETER	WIDTH	DEPTH	VERTICA		TIES	5		REMARKS
		2'-0"	2'-0"	(8)-#6		#3 @1'-0	" OC		
			R R						
	8 BAR L 3 TIES		12 BAF	A A A A A A A A A A A A A A A A A A A		16	A A A A A A A A A A A A A A A A A A A		
	8 BAR L		12 BAF	R LAYOUT S/SET		16			
	8 BAR L 3 TIES		12 BAF 4 TH	A LAYOUT ES/SET	B SCHI	16	BAR LAYC	Γ	
	8 BAR L 3 TIES	S/SET	12 BAF 4 THE	LAYOUT S/SET DECK/SLAE		for the second sec	BAR LAYC 4 TIES/SE	DPPING	REWADKS
TOTA	8 BAR L 3 TIES	S/SET	12 BAF 4 TIE	R LAYOUT S/SET DECK/SLAE LAB DEPTH	GA	finish	BAR LAYC 4 TIES/SE	T DPPING TYPE	REMARKS
TOTA DEPT 1 1/2	8 BAR L 3 TIES	S/SET METAL D	12 BAF 4 TIE DECK/SI TYPE DECK - TYPE B	A LAYOUT S/SET DECK/SLAE LAB DEPTH 1 1/2"	<b>GA</b> 22	EDULE FINISH GALVANIZED	BAR LAYC 4 TIES/SE	T DPPING TYPE -	REMARKS
TOTA	8 BAR L 3 TIES	S/SET METAL D METAL D	12 BAF 4 TIE	R LAYOUT S/SET DECK/SLAE LAB DEPTH	GA	finish	BAR LAYC 4 TIES/SE	T DPPING TYPE	REMARKS 6x6-W2.1/W2.1 WWF OR FORTA FERRO FIBEI REINF (3LB/CY)

LINTEL	SCHEDULE		
LINTEL	JAMB REINF	LINTEL TYPE	REMARKS
8" BOND BEAM W/ (2)-#5 CONT	(1) #5	A	

ULTIMATE ROOF	SURFACE PR	ESSURE (PSF)	
AREA (SF)	10.0	100.0	500.0
NEGATIVE ZONE 1	-52.6	-42.8	-35.9
NEGATIVE ZONE 2	-82.5	-68.8	-59.2
NEGATIVE ZONE 3	-112.4	-94.8	-82.5
POSITIVE ZONE 1	16.0	16.0	16.0
POSITIVE ZONES 2 & 3	-	-	-
OVERHANG ZONE 1 & 2	-	-	-
OVERHANG ZONE 3	-	-	-
ULTIMATE PARAPI	ET SURFACE P	RESSURE (PSF	<sup>-</sup> )
AREA (SF)	10.0	50.0	100.0
CASE A: INTERIOR ZONE	106.4	94.0	87.7
CASE A: CORNER ZONE	136.4	121.2	113.8
CASE B: INTERIOR ZONE	-59.9	-55.1	-51.6
CASE B: CORNER ZONE	-89.8	-79.4	-71.5
	SURFACE PR	ESSURE (PSF)	
	20.0	100.0	200.0
AREA (SF)			
NEGATIVE ZONE 4		-32.6	-31.2
	-35.9	-32.6 -52.6	-31.2 -46.8

NOTE: 1. REFER TO "WIND LOADS AT COMPONENTS AND CLADDING" FOR DEFINITIONS. (1) THROUGH (5) INDICATES WIND LOAD ZONES. 2. NOTATION: "a" 10 PERCENT OF LEAST HORIZONTAL DIMENSION OR 0.4h, WHICHEVER IS SMALLER, BUT NOT LESS THAN EITHER 4" OF LEAST HORIZONTAL DIMENSION OF 2 FT "h" MEAN ROOF HEIGHT, IN FEET, EXCEPT THAT EAVE HEIGHT SHALL BE USED FOR  $\emptyset \le 10^{\circ}$ " $\emptyset$ " ANGLE OF PLANE OF ROOF FROM HORIZONTAL, IN DEGREES.

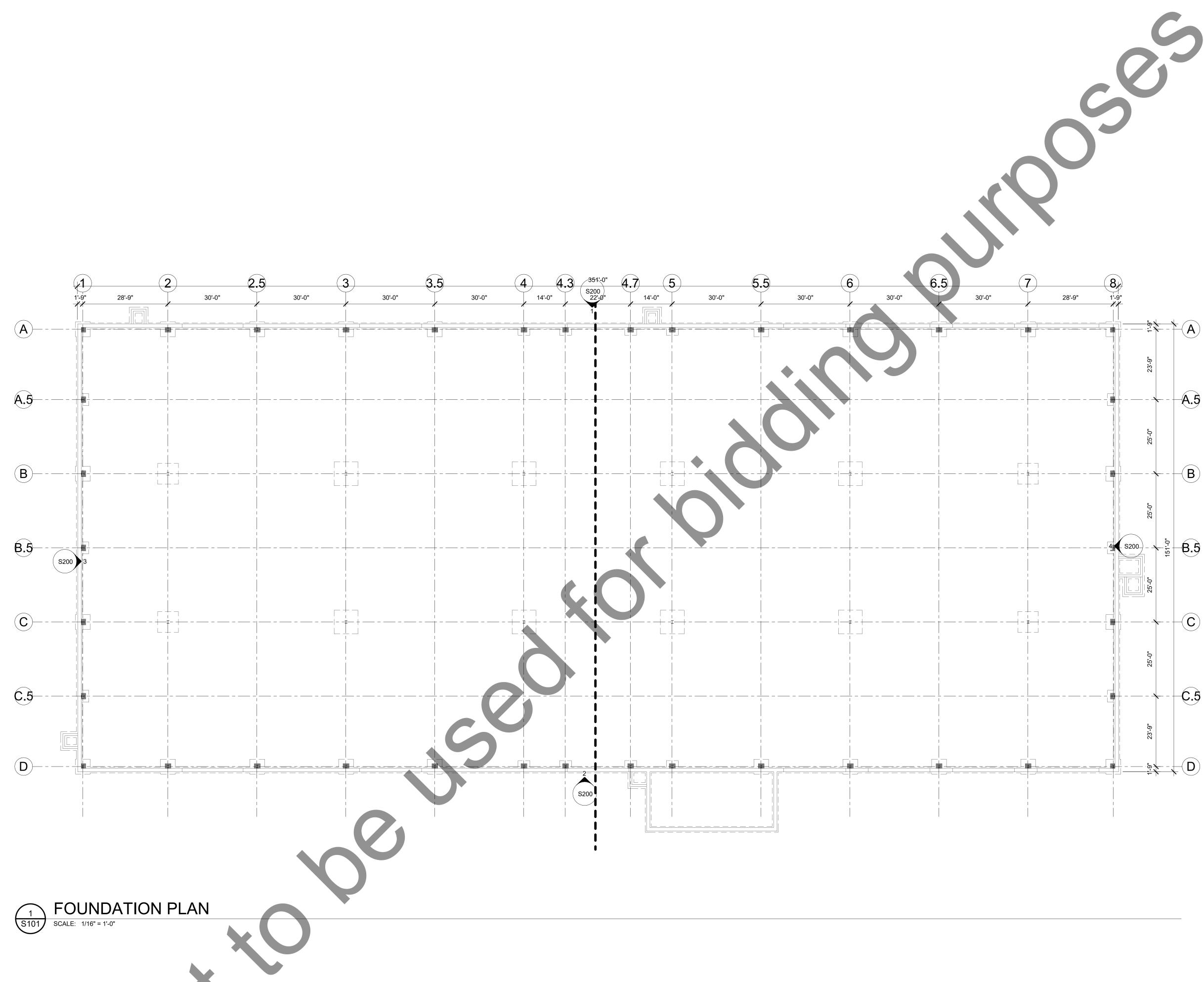


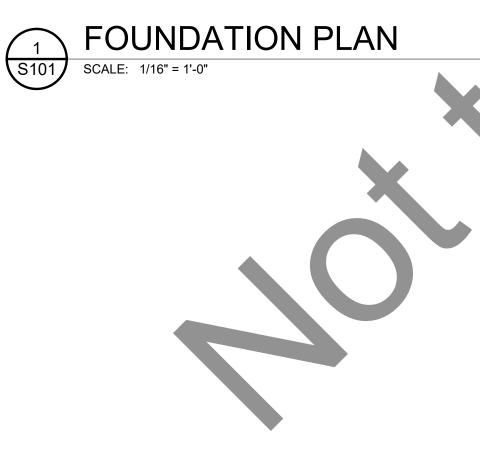
Scale

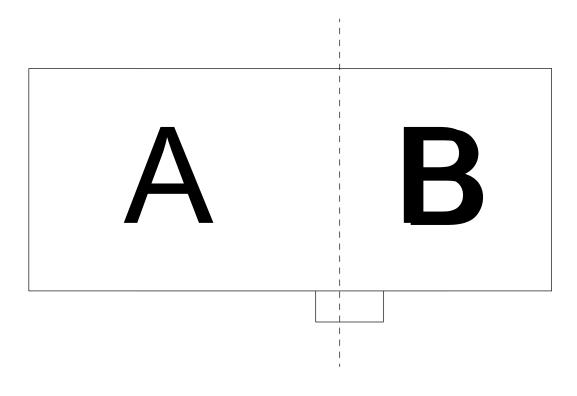
As indicated

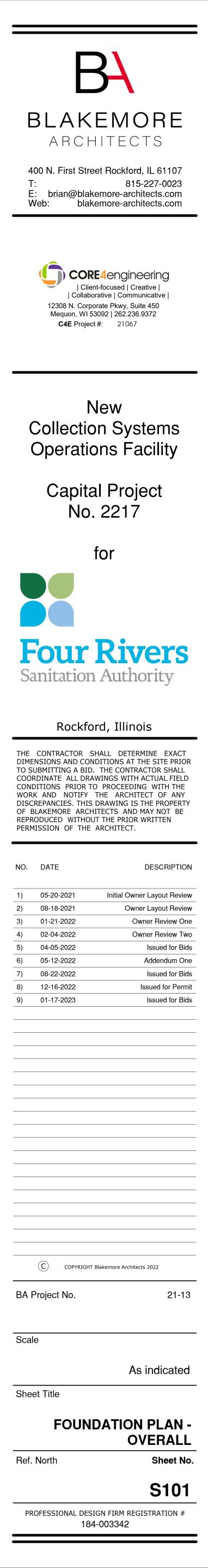
Sheet Title

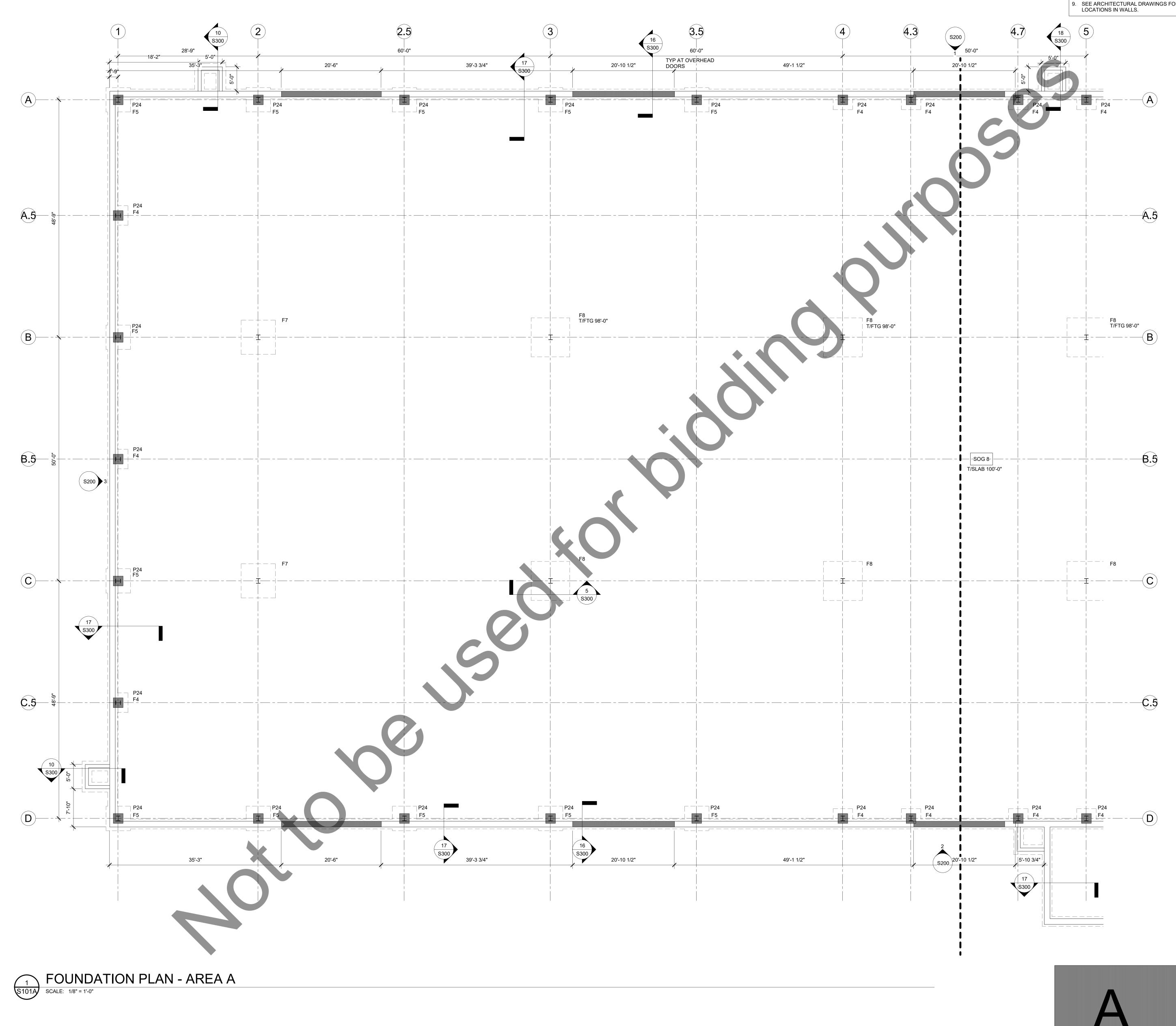
SCHEDULES Ref. North Sheet No. S002 PROFESSIONAL DESIGN FIRM REGISTRATION # 184-003342

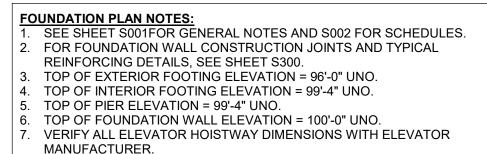




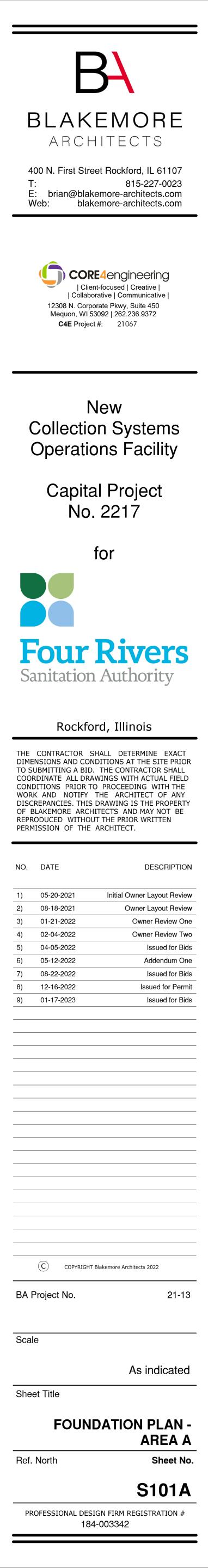


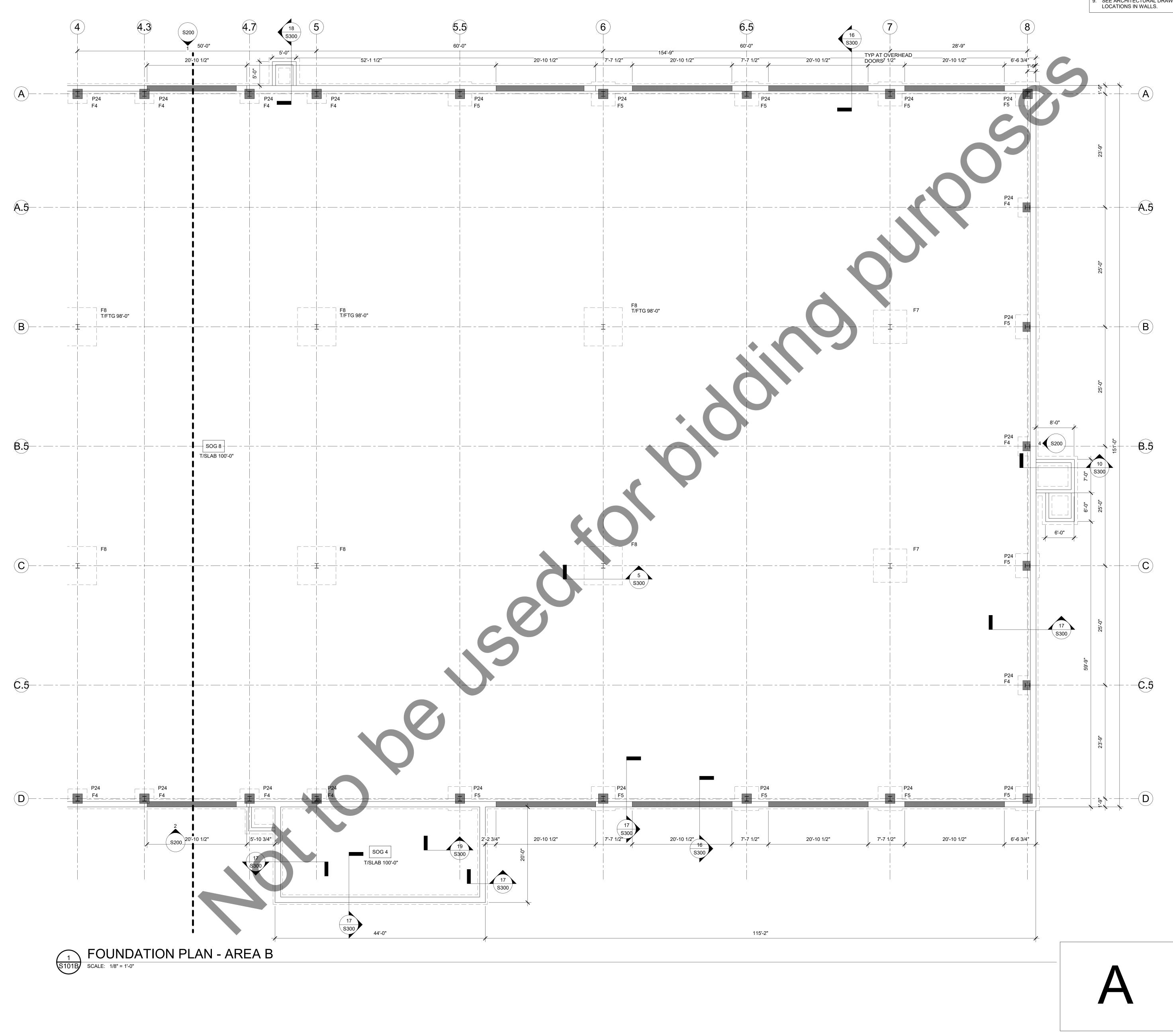


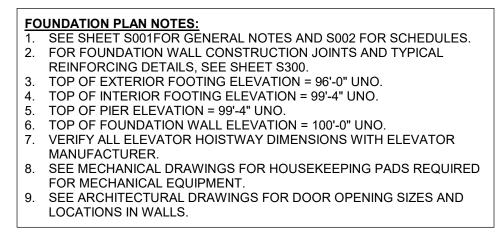




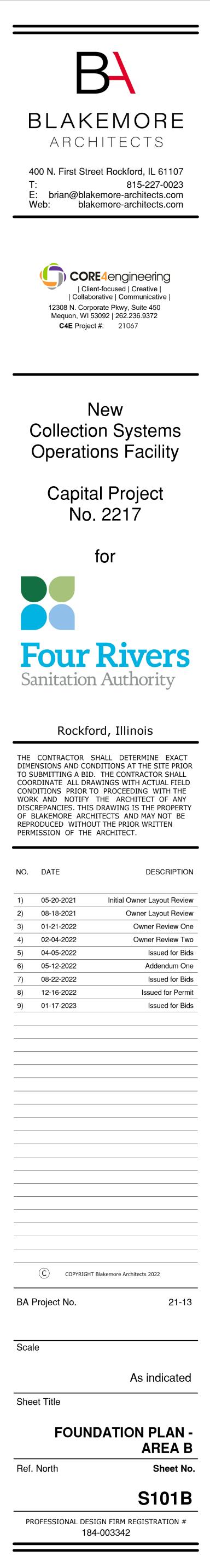
- MANUFACTURER. 8. SEE MECHANICAL DRAWINGS FOR HOUSEKEEPING PADS REQUIRED FOR MECHANICAL EQUIPMENT.
   9. SEE ARCHITECTURAL DRAWINGS FOR DOOR OPENING SIZES AND LOCATIONS IN WALLS.

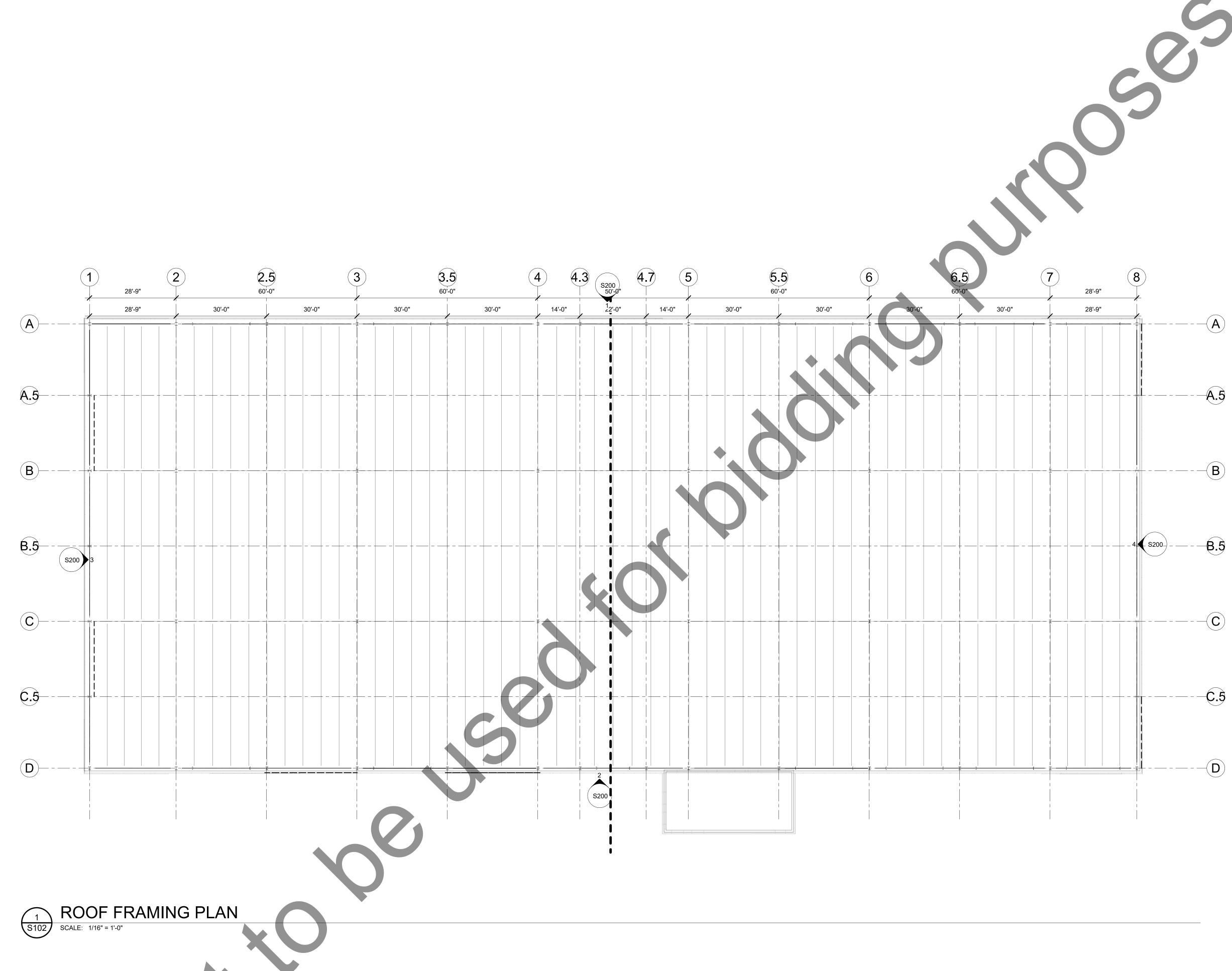


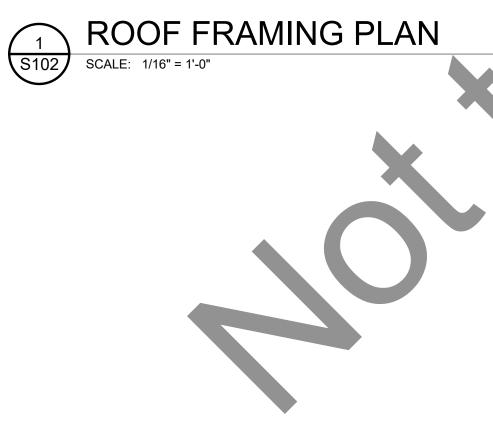




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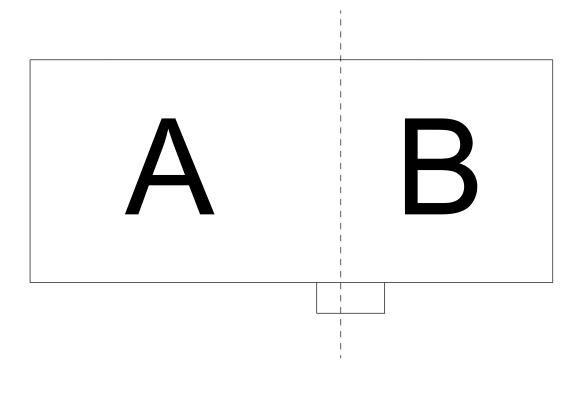


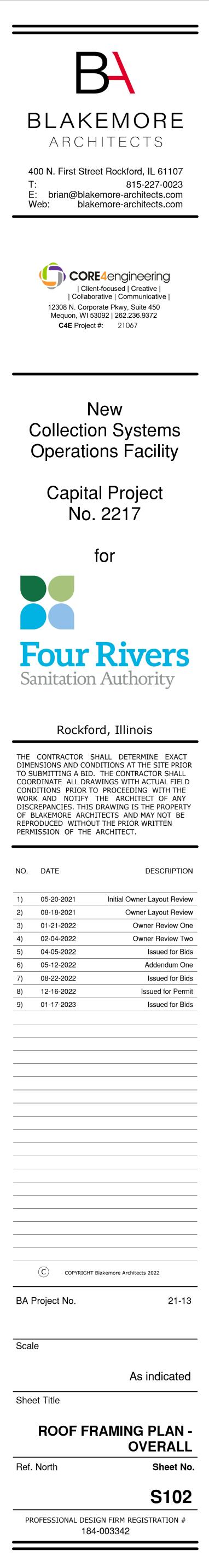


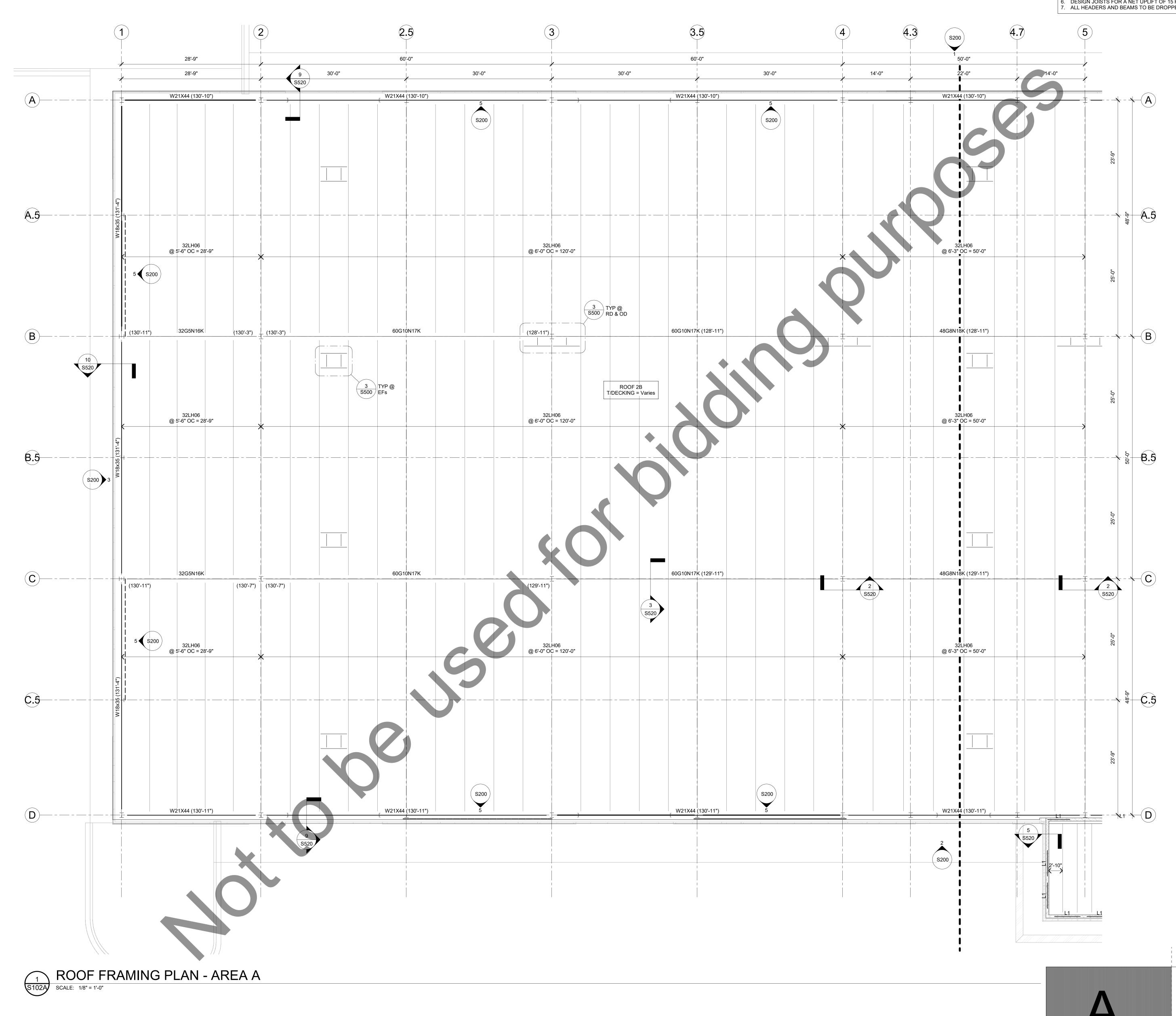
<u>ROOF PLAN NOTES:</u>
SEE SHEET S001 FOR GENERAL NOTES AND S002 FOR SCHEDULES.
SEE SHEET S400 FOR TYPICAL MASONRY SECTIONS AND DETAILS, INCLUDING TYPICAL WALL REINFORCING.

INCLUDING TYPICAL WALL REINFORCING.
 SEE SHEET S500 FOR TYPICAL STEEL SECTIONS AND DETAILS.
 SEE ARCHITECTURAL DRAWINGS FOR TRUSS BEARING ELEVATIONS AND ROOF SLOPES.
 COORDINATE FINAL SIZE AND LOCATION OF OPENINGS, EQUIPMENT AND ROOF DRAINS WITH MECHANICAL AND PLUMBING CONTRACTORS.
 DESIGN JOISTS FOR A NET UPLIFT OF 15 PSF.
 ALL HEADERS AND BEAMS TO BE DROPPED UNO.

#### STEEL CONNECTION SYMBOLS: I. MOMENT 2. CANTILEVER MOMENT 3. END PLATE 5. SLIP CRITICAL

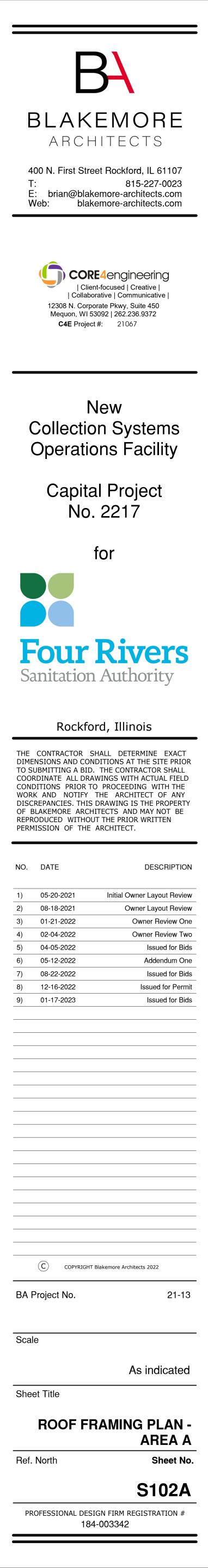


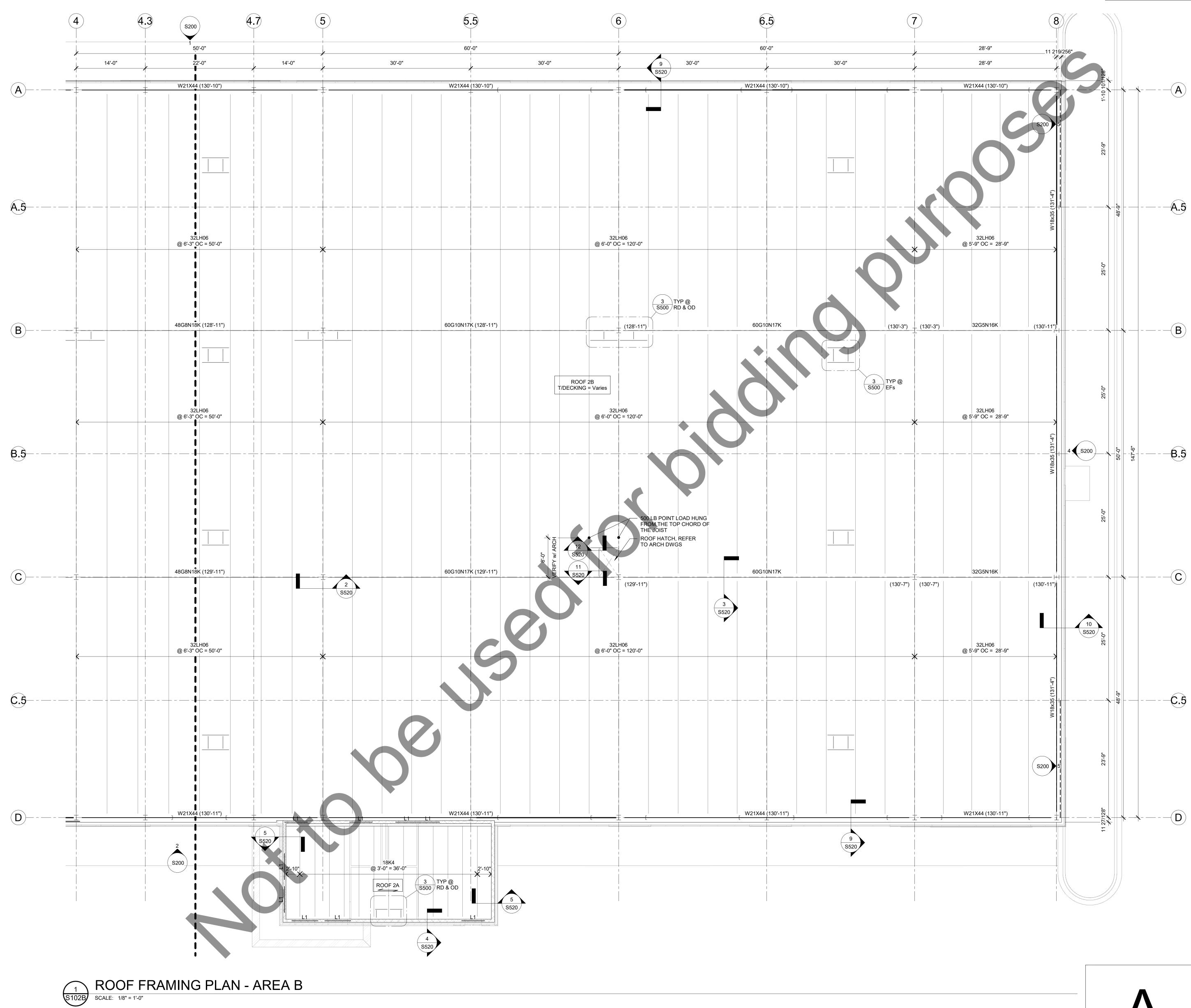




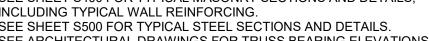
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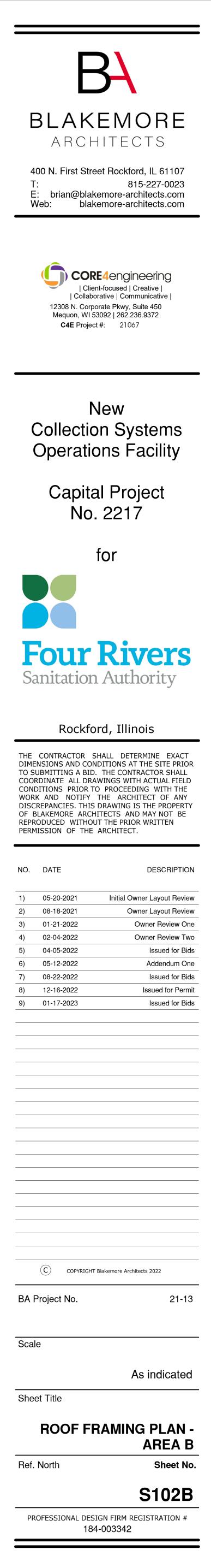
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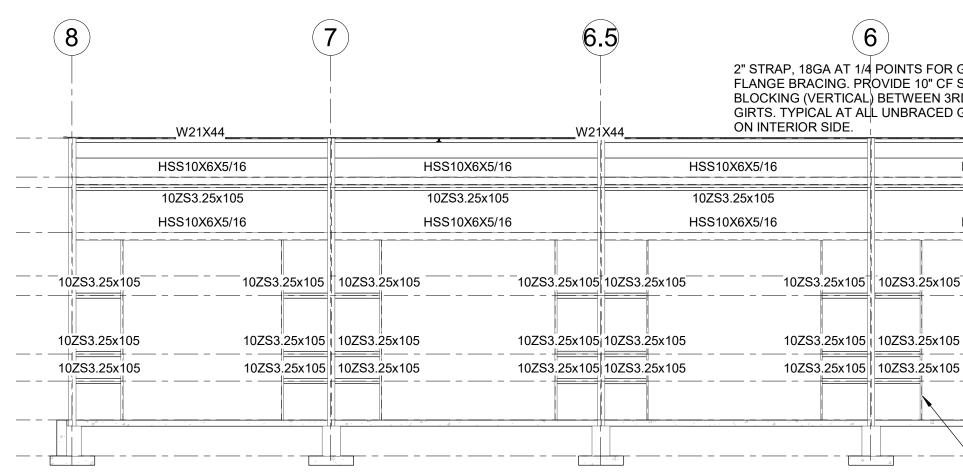


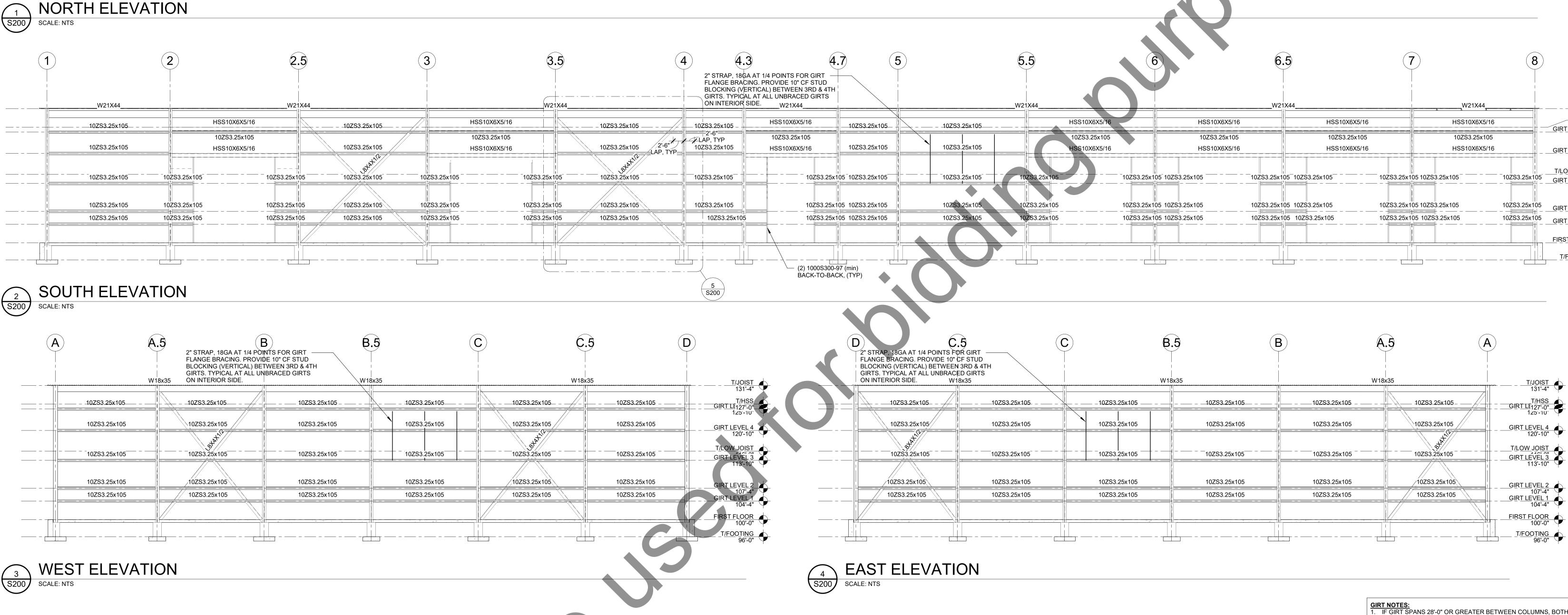


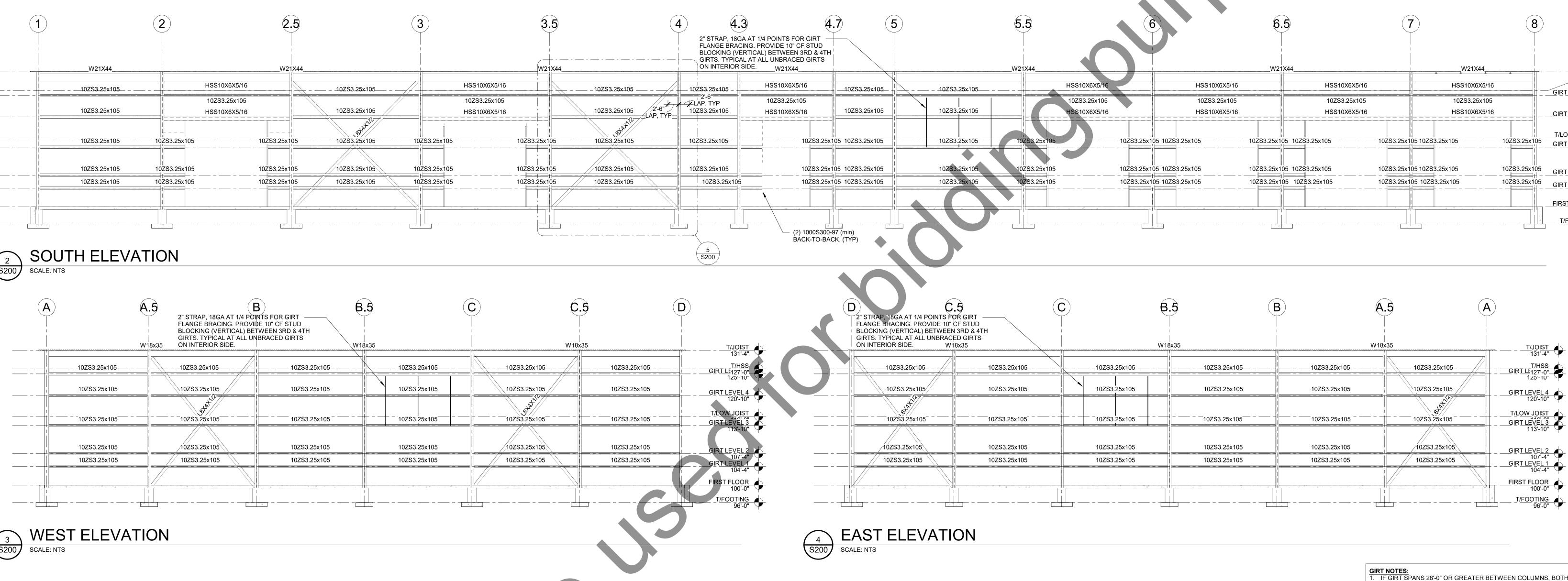
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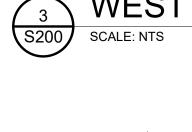
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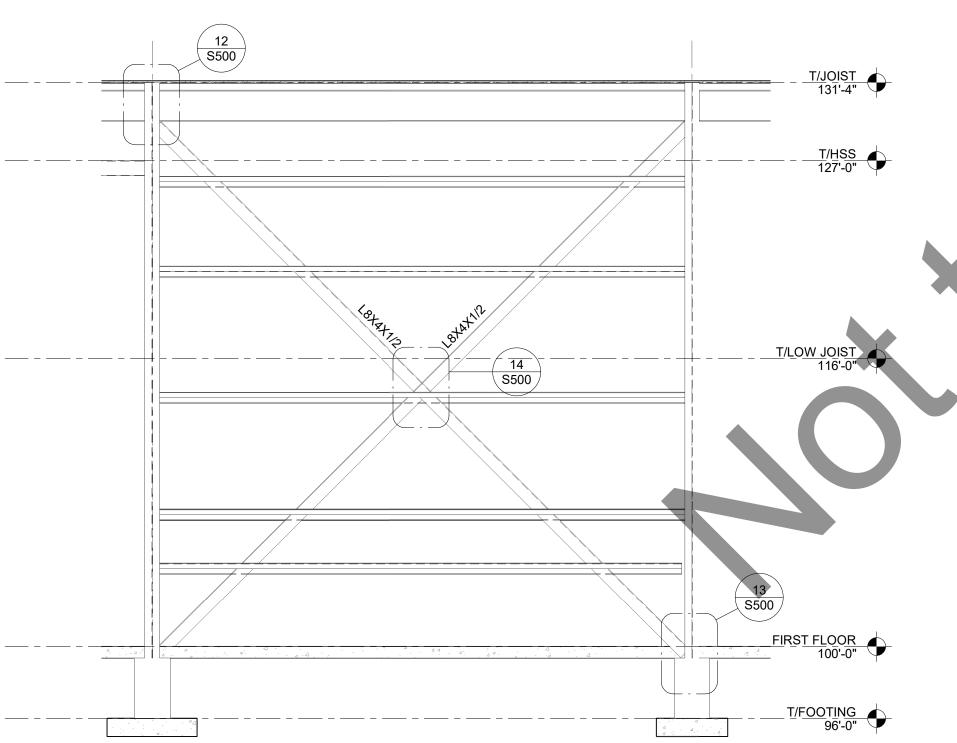






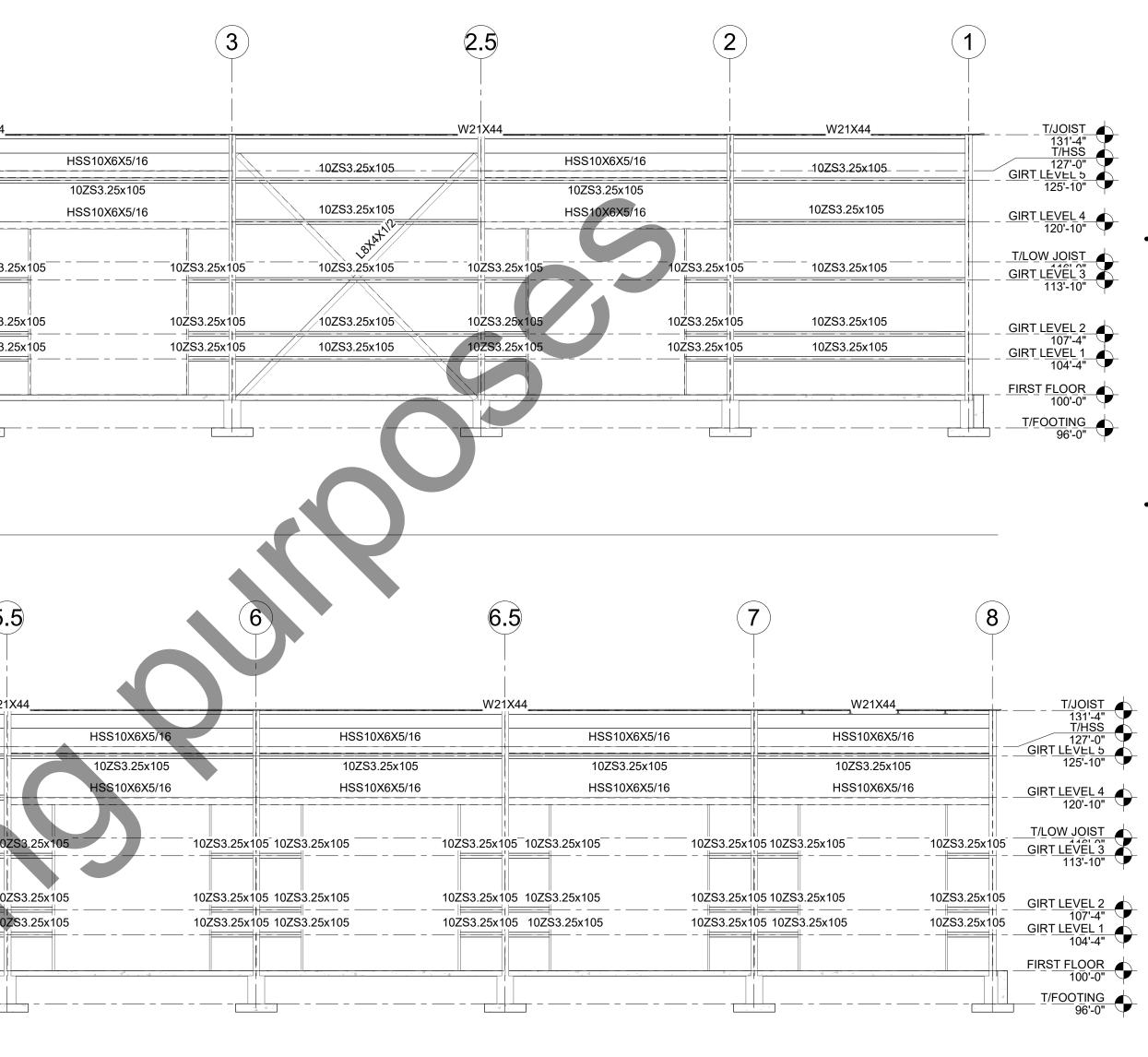






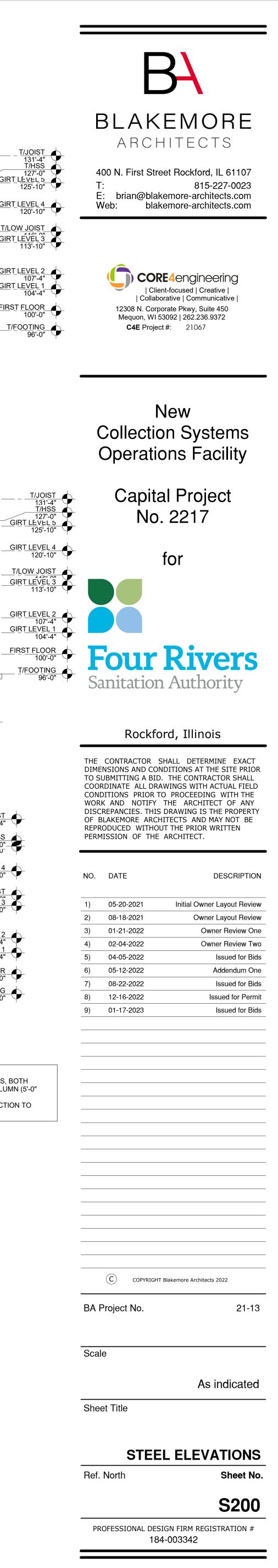


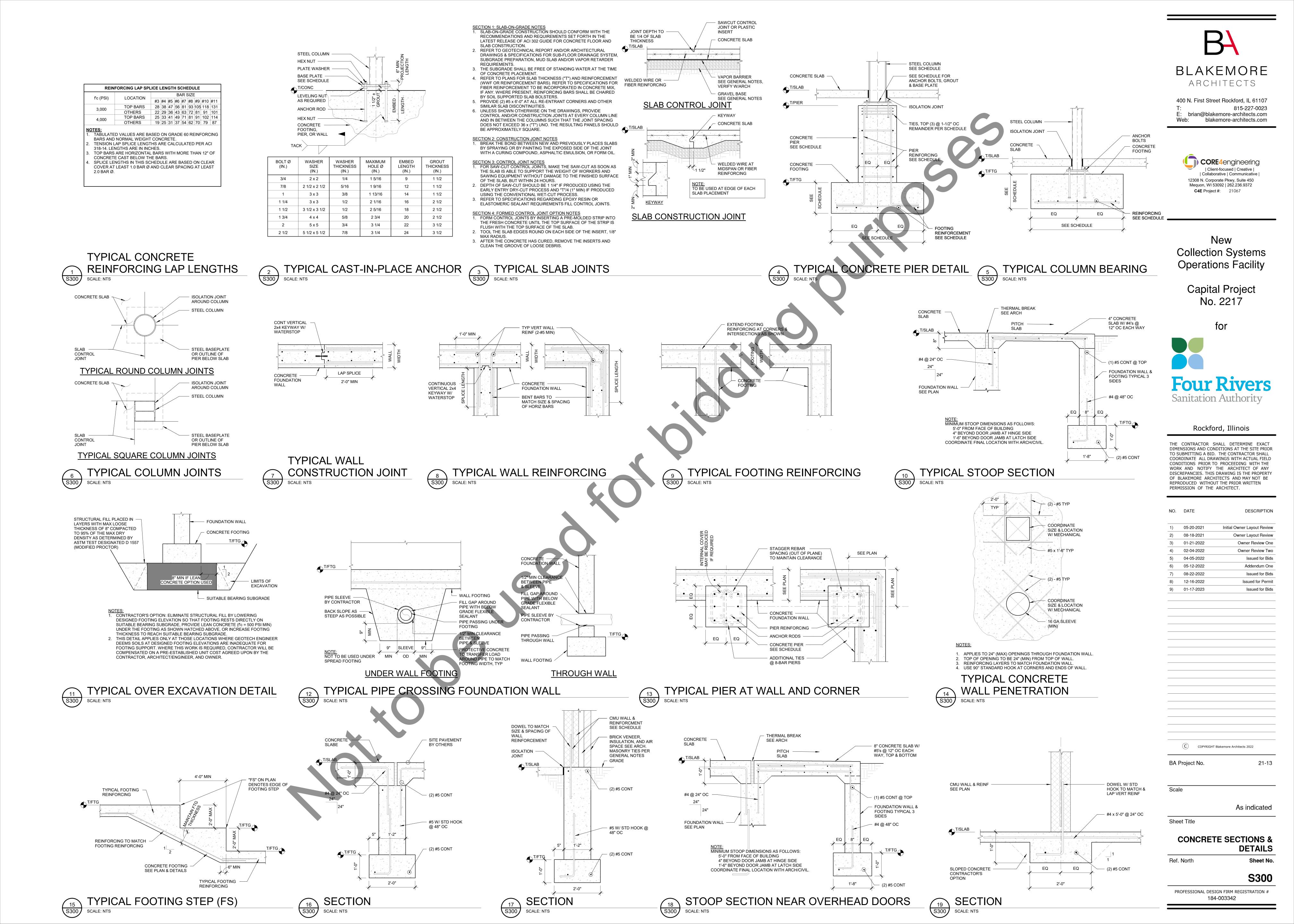
	5.5	)		5	) (4	.7		4.	3	1		3.5
R GIRT F STUD 3RD & 4TH D GIRTS		Λ					_W21X44					W21X44
		4										
HSS10X6X5/16		<u> </u>	10ZS3.25x105		10ZS3.25x105	Н	SS10X6X5/16		10ZS3.25x105		10ZS3.25x105	
10ZS3.25x105 HSS10X6X5/16			10ZS3.25x105		10ZS3.25x105	1	0ZS3.25x105 SS10X6X5/16		10ZS3.25x105		10ZS3.25x105	
05	10ZS3.25x105				<sup>-</sup> 10ZS3.25x105				10ZS3.25x105		-10ZS3.25x105	10ZS3.25
05	10ZS3.25x105		10ZS3.25x105		10ZS3.25x105				10ZS3.25x105		10ZS3.25x105	10ZS3.25
	10ZS3.25x105		10ZS3.25x105		10ZS3.25x105			+ +	10ZS3.25x105		10ZS3.25x105	10ZS3.25
(2) 1000S300- BACK-TO-BAC	97 (min)	a – – –					<u> </u>				A_A_A_A	

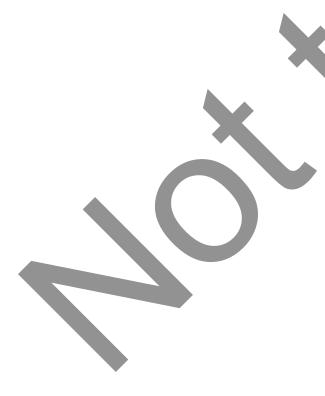


GIRT NOTES: 1. IF GIRT SPANS 28'-0" OR GREATER BETWEEN COLUMNS, BOTH GIRTERS ARE TO LAP COLUMN 2'-6" EACH SIDE OF COLUMN (5'-0" TOTAL LAP) MIN. PROVIDE PLATE 3/16x8 1/2x0'-7" AT EACH GIRT CONNECTION TO

COLUMN WITH 4x4 GAUGE BOLT PATTERN.

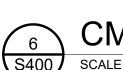


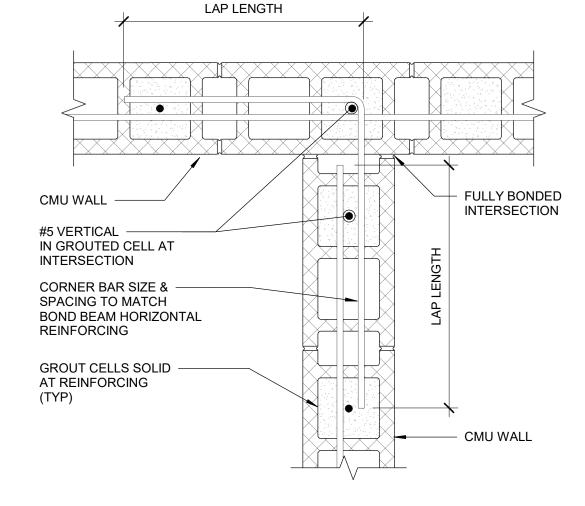


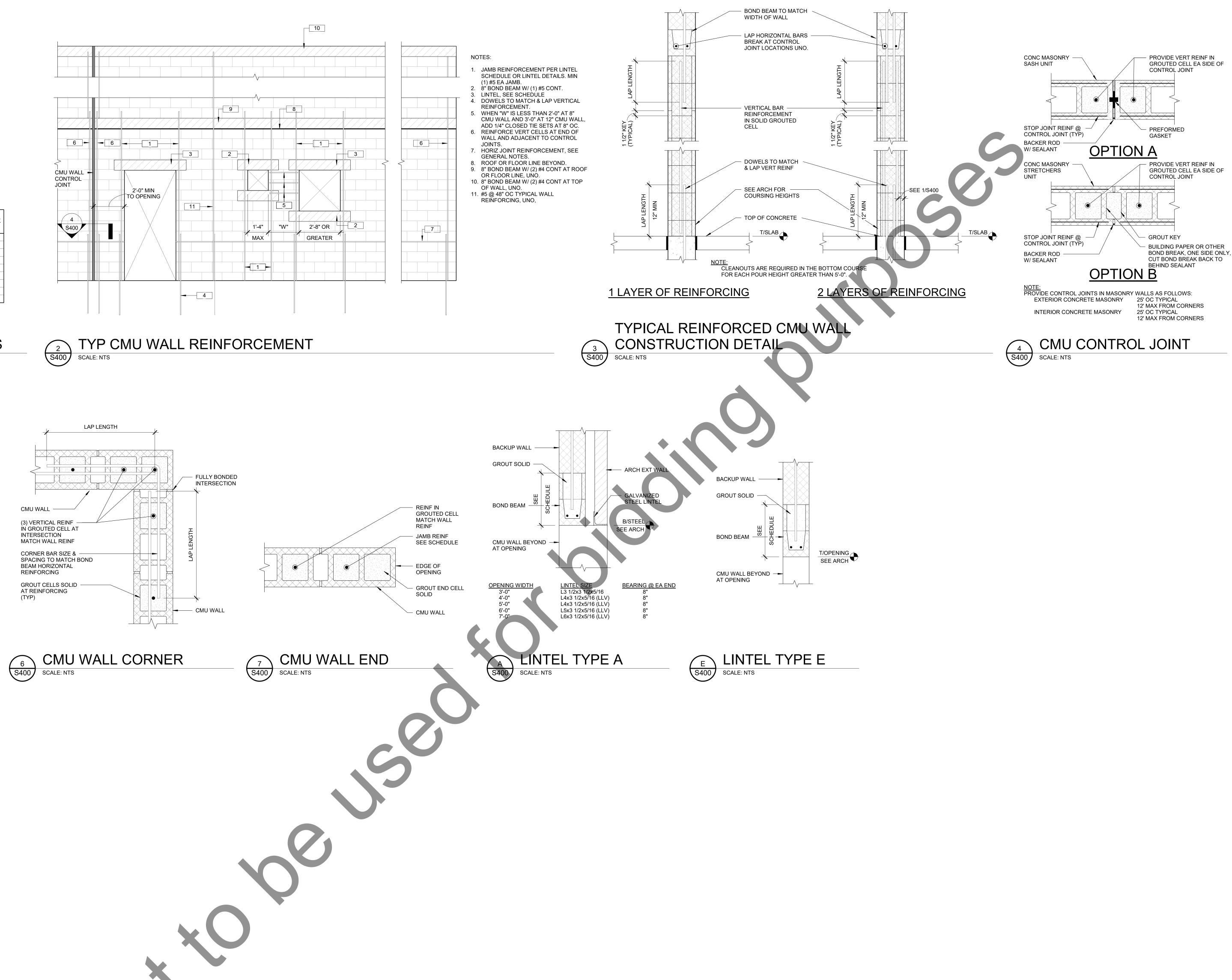




5 S400 SCALE: NTS





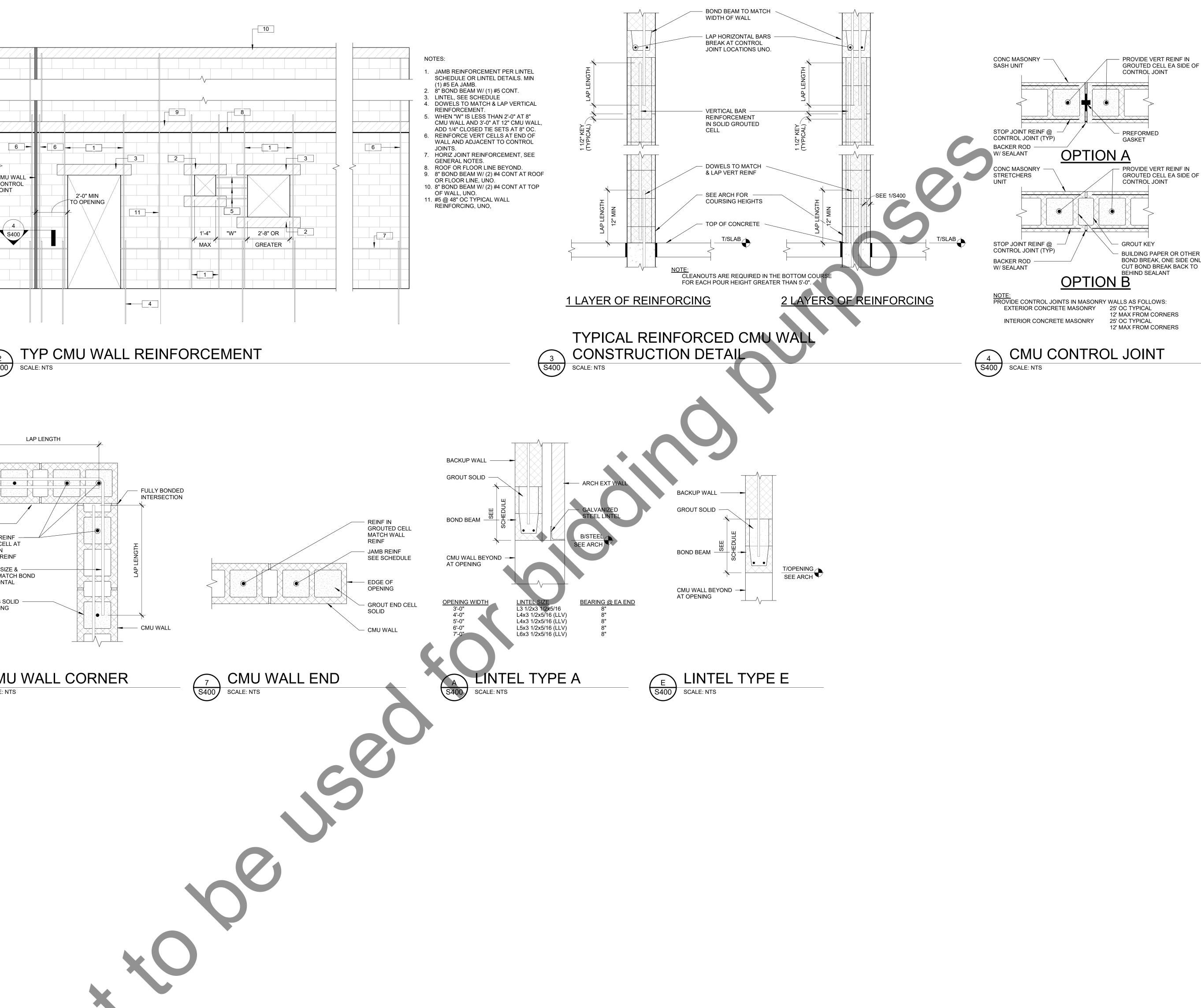




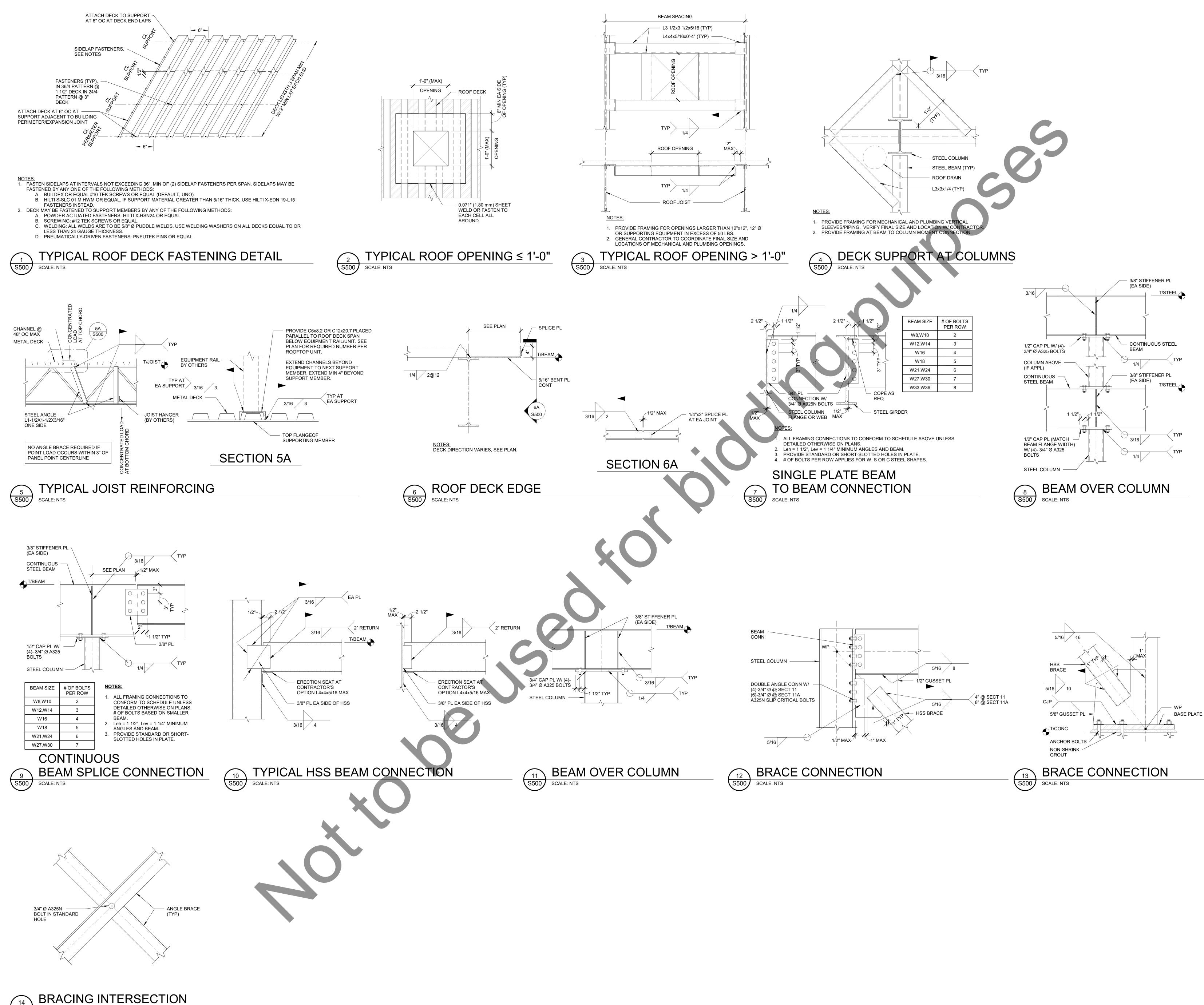
1 REINFORCING LAP LENGTHS S400 SCALE: NTS

			2,000 por		
BAR SIZE	8" & 10" BLOCK CLEAR COVER <u>≥</u> 1 3/4"	12" BLOCK CLEAR COVER ≥ 2"	CENTERED IN 8" BLOCK	CENTERED IN 10" BLOCK	CENTERED IN 12" BLOCK
#3	15"	13"	8"	8"	8"
#4	25"	22"	13"	10"	10"
#5	39"	35"	20"	16"	13"
#6	MECH SP	MECH SP	38"	29"	24"
#7	MECH SP	MECH SP	MECH SP	40"	33"
#8	MECH SP	MECH SP	MECH SP	MECH SP	MECH SP
#9	NA	MECH SP	NA	MECH SP	MECH SP
#10	NA	MECH SP	NA	MECH SP	MECH SP
#11	NA	MECH SP	NA	NA	MECH SP

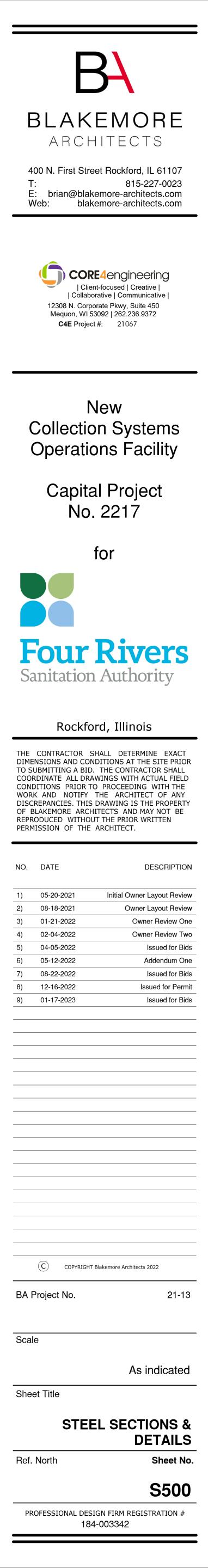
MASONRY BAR LAP LENGTHS (Ld) F'm = 2,000 psi

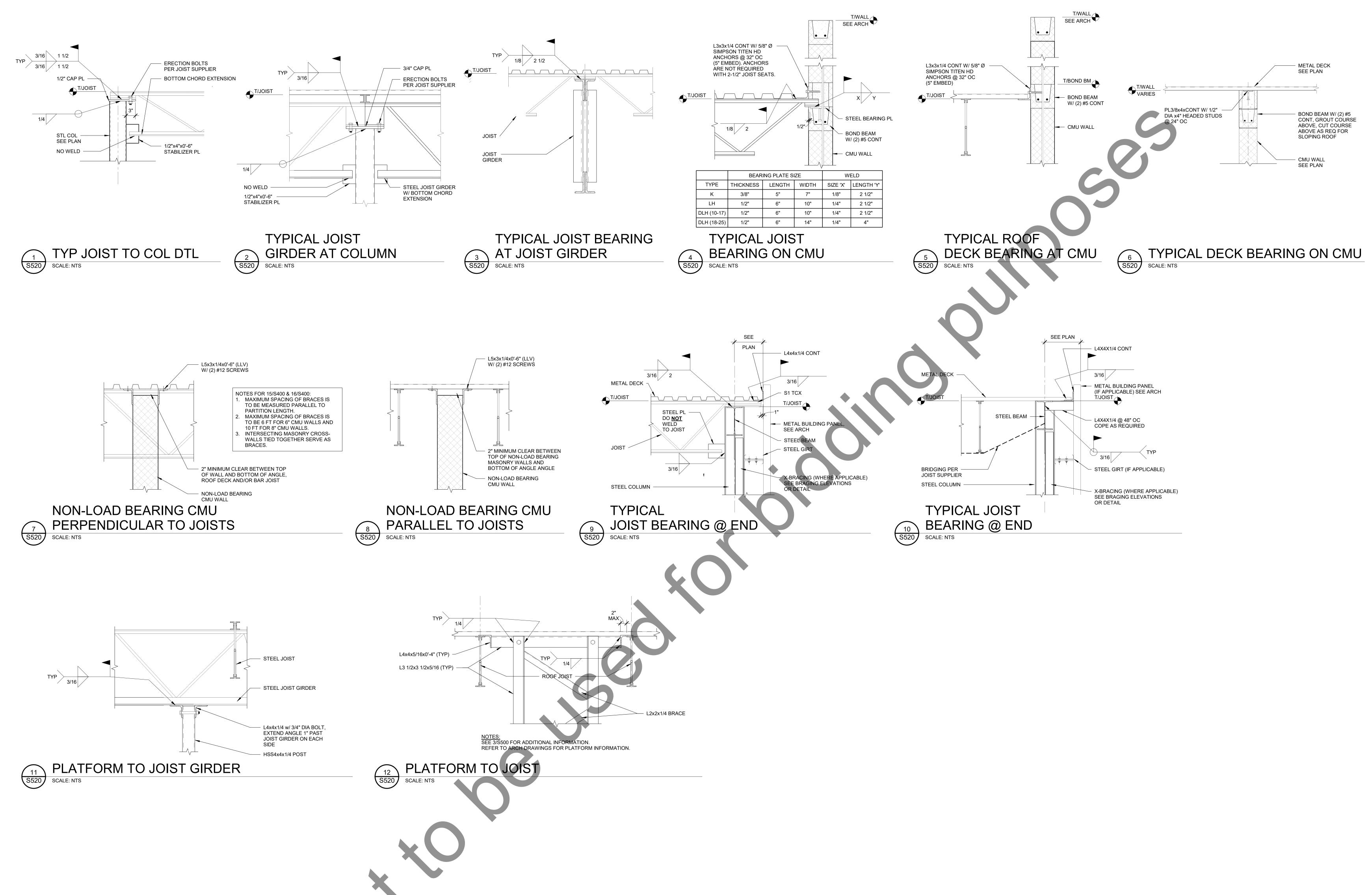


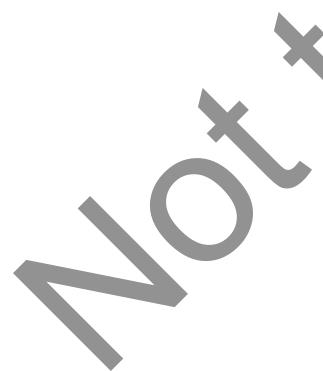
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В	LAK	EMORE
	ARCH	ITECTS
400 T:	N. First Stree	et Rockford, IL 61107 815-227-0023
		emore-architects.com
	). Diane	emore-architects.com
		E4engineering
	Clien	t-focused   Creative   rative   Communicative
	12308 N. Corpo	rate Pkwy, Suite 450 3092   262.236.9372
	C4E Project	-
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		n Systems
0	peratic	ons Facility
	Capita	I Project
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	4	for
Fc	our	Rivers
-		Authority
Jan	IItatioII	1 Million Ity
	Rockfor	rd, Illinois
DIMENS	IONS AND CON	HALL DETERMINE EXACT DITIONS AT THE SITE PRIOR
COORDI		THE CONTRACTOR SHALL WINGS WITH ACTUAL FIELD PROCEEDING WITH THE
WORK A	AND NOTIFY T	THE ARCHITECT OF ANY DRAWING IS THE PROPERTY
OF BLA	KEMORE ARCHI	TECTS AND MAY NOT BE T THE PRIOR WRITTEN
PERMISS	SION OF THE	ARCHITECT.
NO. D	ATE	DESCRIPTION
1) 0	5-20-2021	Initial Owner Layout Review
2) 0	8-18-2021	Owner Layout Review
3) 0	1-21-2022	Owner Review One Owner Review Two
	4-05-2022	Issued for Bids
4) 0		
<ul> <li>4) 0</li> <li>5) 0</li> <li>6) 0</li> </ul>	5-12-2022	Addendum One
<ul> <li>4) 0</li> <li>5) 0</li> <li>6) 0</li> <li>7) 0</li> </ul>		Addendum One Issued for Bids Issued for Permit
4)       0         5)       0         6)       0         7)       0         8)       1	5-12-2022 8-22-2022	Issued for Bids
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4)       0         5)       0         6)       0         7)       0         8)       1	5-12-2022 8-22-2022 2-16-2022	Issued for Bids Issued for Permit
4)       0         5)       0         6)       0         7)       0         8)       1	5-12-2022 8-22-2022 2-16-2022	Issued for Bids Issued for Permit
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4)       0         5)       0         6)       0         7)       0         8)       1	5-12-2022 8-22-2022 2-16-2022	Issued for Bids Issued for Permit
4)       0         5)       0         6)       0         7)       0         8)       1	5-12-2022 8-22-2022 2-16-2022	Issued for Bids Issued for Permit
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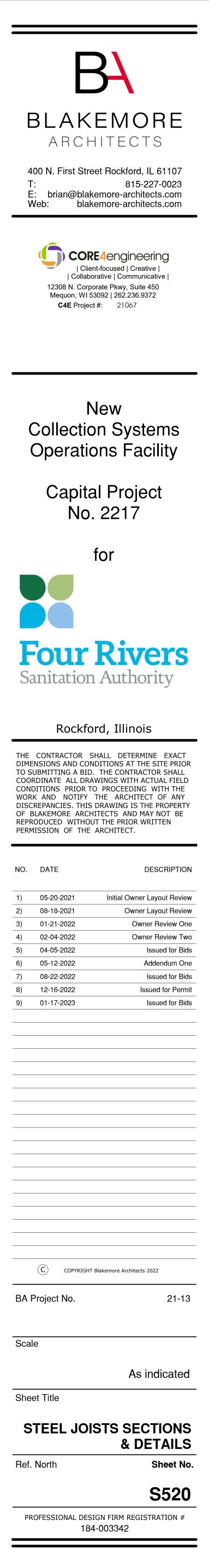


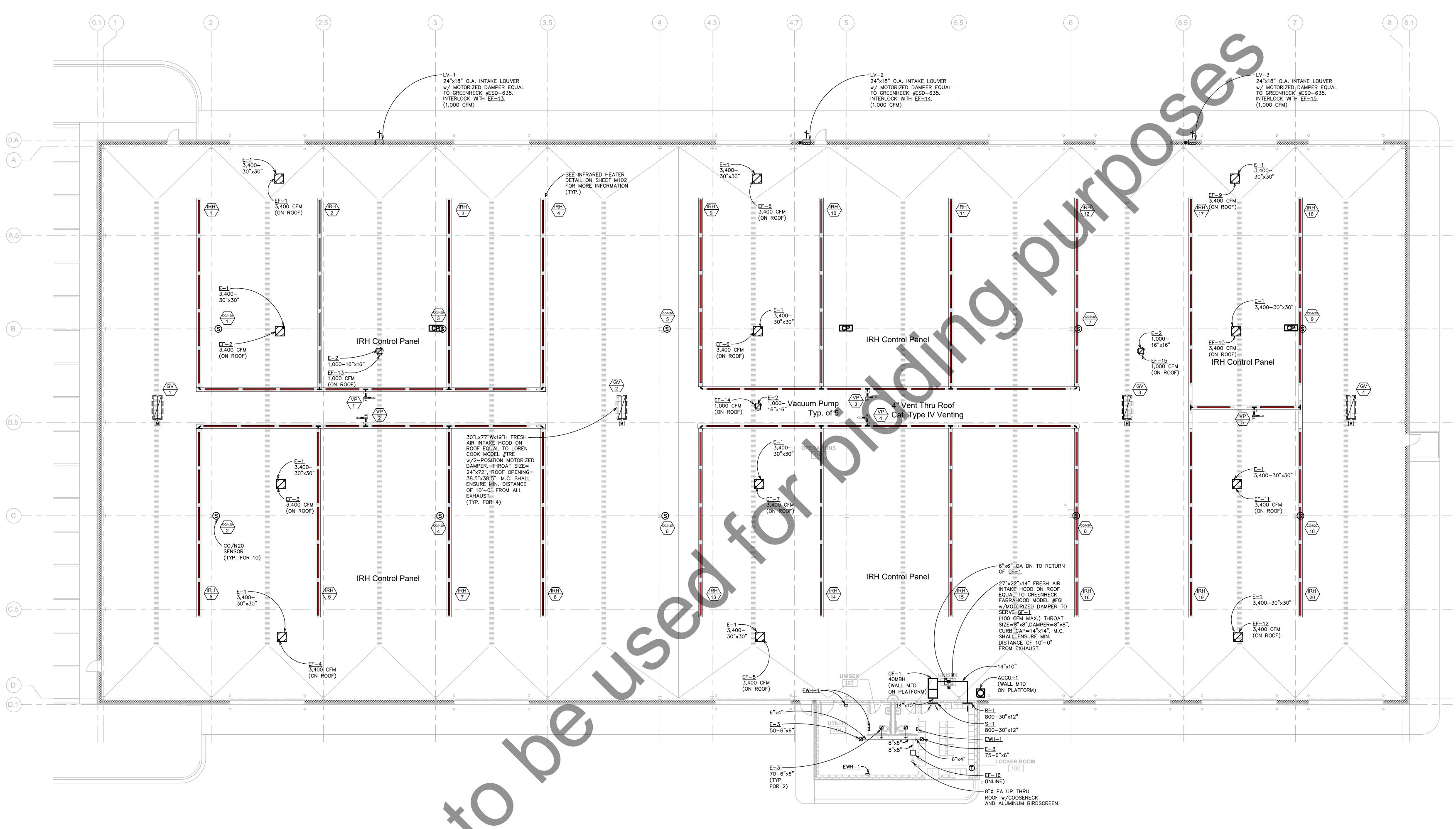
14 BRAC S500 SCALE: NTS

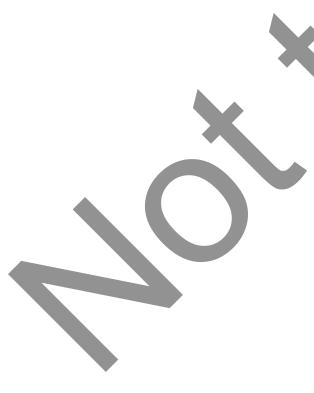














SEQUENCE OF OPERATION 1) EF-1, 2 & 3 SHALL BE INTERLOCKED WITH GV-1, 2) EF-4, 5, & 6 SHALL BE INTERLOCKED WITH GV-2, 3) EF-7, 8, & 9 SHALL BE INTERLOCKED WITH GV-3, AND 4) EF-10, 11, & 12 SHALL BE INTERLOCKED WITH GV-4.

ALSO,

5) EF-1,2,3&4 SHALL BE ACTIVATED BY CO/N20 SENSORS 1,2,3&4 RESPECTIVELY WHEN IN AUTO POSITION. 6) EF-5,6,7&8 SHALL BE ACTIVATED BY CO/N20 SENSORS 5,6,7&8 RESPECTIVELY WHEN IN AUTO POSITION. 7) EF-9,10,11&12 SHALL BE ACTIVATED BY CO/N20 SENSORS 9&10 RESPECTIVELY WHEN IN AUTO POSITION. 8) CO LEVEL OF 50 PPM (ADJ.) AND N20 LEVEL OF 25 PPM (ADJ.) SHALL ACTIVATE THE RESPECTIVE EXHAUST

SYSTEM AS INDICATED ABOVE. CONTRACTOR TO INSTALL THESE EQUIPMENT AS PER MANUFACTURER'S RECOMMENDATIONS AND MANDATED BY LOCAL AHJ.





# New Collection Systems Operation Facility

# Capital Project No. 2217

### 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.	05-20-2021	Initial Owner Layout Review
2.	08-18-2021	Owner Layout Review
3.	01-21-2022	Owner Review One
4.	02-04-2022	Owner Review Two
5.	07-14-2022	Issued for Zoning Review
6.	08-22-2022	Issued for Bids
7.	12-16-2022	Issued for Permit
7.	01-17-2023	Issued for Bids

C COPYRIGHT Blakemore Architects 2022 Project No. 21-13 Scale 3/32" = 1'-0" Sheet Title HVAC OVERALL FLOOR PLAN Sheet No.

M101PROFESSIONAL DESIGN FIRM REGISTRATION # 184-003342

INFR/	ARED HEATER S	CHEDULE									
UNIT MARK	MFR & MODEL #	DESCRIPTION	NAT. GAS INLET PRESSURE	INPUT HIGH/LOW	OUTPUT MODULATION MBH	FAN MOTOR V/Ph	MOUNTING HEIGHT FT	COMBUSTION TUBE LENGTH FT	VENT CONNECTION IN	WEIGHT INCL. MOTOR	NOTES
IRH–1 THRU 20	ROBERTS GORDON CTHN-200	GAS-FIRED INFRARED HEATER	5-1/2"	200 MBH	200	120/1	28'	CUSTOM	-	25 LBS	1-7,10
VP-1 THRU 5	ROBERTS GORDON EP-201	VACUUM PUMP 3/4 HP	_	210 CFM	-	120/1	_	_	4"	112 LBS	5,6,9,10
СР	ROBERTS GORDON SYSTEM CONTROLLER	VACUUM PUMP 3/4 HP	_	_	-	120/1	-	_	-	13 LBS	6,8,10

NOTES: 1. ALL TUBING SHALL BE HEAT TREATED ALUMINIZED STEEL SHOWN ON PLAN - BLACK PAINTED OR SWAGGED TUBES NOT ALLOWED. 2. REFLECTORS SHALL COVER ALL TUBING WITHOUT ANY GAPS FOR SUSPENSION POINTS, ALL JOINTS SHALL BE TERMINATED WITH END CAPS.

3. HIGH EFFICIENCY REFLECTORS WITH AN IF FACTOR OF IF14 OR IF15 IN ACCORDANCE WITH AHRI STD. 1330. 4. EQUIPMENT SUPPLIER SHALL PROVIDE S.STEEL GAS LINE FLEX-36" w/SHUT-OFF VALVE.

5. EQUIPMENT PROVIDER SHALL PROVIDE EQUIPMENT TRAINING AND START-UP.

7. ELECTRICAL CONTRACTOR TO PROVIDE RECEPTACLES FOR EACH INFRARED HEATER TO PLUG INTO.

8. ELECTRICAL CONTRACTOR TO PROVIDE A DISCONNECT SWITCH LOCATED NEAR EVERY VACUUM PUMP. 9. PROVIDE 3/4" CONDENSATE FROM VACUUM PUMP DISCHARGE TO FLOOR DRAIN.

10. CONTACT MIDWEST ENVIRONMENTAL SALES (847)290-8888 OR AT SALES@MIDWEST-ENVIRONMENTAL.COM.

#### VENTILATION SCHEDULE

	20		TABLE 403.3.1.1 REMENTS			SPACE _ATION	SERV	ED B
ROOMNAME	FLR. AREA (SQ. FT.) Az	# OF PEOPLE Pz	O.A. REQ'D./ PERSON Rp	CFM/ SQ. FT. Ra	O.A. (CFM)	E.A. (CFM)	SUPPLY	E
	E 7 780	_	_	_	2,669	2,669	LV-1,2&3	EF
TRUCK GARAGE	53,380	_	_	_	40,035	40,035	GV-1,2,3&4	EF-
UTILITY 101	394	_	-	0.06	24	50	(2)EWH-1	
LOCKER ROOM 102	287	_	_	_	-	75	GF—1	
UNISEX 103	51	_	_	_	-	70	EWH-1	
UNISEX 104	51	_	_	_	_	70	EWH-1	

NOTES:

1. MINIMUM VENTILATION REQUIRED FOR AN ENCLOSED PARKING GARAGE SHALL BE 0.05 CFM/SQ. FT. PER 2018 IMC SECTION 404.1.

2. EXHAUST FAN SHALL OPERATE CONTINUOUSLY WHEN BUILDING IS OCCUPIED. 3. EF-13 SHALL BE INTERLOCKED WITH LV-1, EF-14 SHALL BE INTERLOCKED WITH LV-2, AND EF-15 SHALL BE INTERLOCKED WITH LV-3.

4. ENCLOSED PARKING GARAGE SYSTEM SHALL BE CAPABLE OF PRODUCING A VENTILATION AIRFLOW RATE OF 0.75 CFM/SQ. FT. PER 2018 IMC SECTION 404.1. 5. EXHAUST FANS SHALL OPERATE AUTOMATICALLY BY MEANS OF CARBON MONOXIDE/NITROGEN DIOXIDE DETECTORS PER 2018 IMC SECTION 404.1.

6. EF-1,2,3&4 SHALL BE ACTIVATED BY CO/N20 SENSORS 1,2,3&4 WHEN IN AUTO POSITION.

7. EF-5,6,7&8 SHALL BE ACTIVATED BY CO/N20 SENSORS 5,6,7&8 WHEN IN AUTO POSITION. 8. EF-9,10,11&12 SHALL BE ACTIVATED BY CO/N20 SENSORS 9&10 WHEN IN AUTO POSITION.

9. EXHAUST FAN SHALL BE PROVIDED WITH ON-AUTO SWITCH.

10. EXHAUST FAN SHALL NORMALLY BE KEPT IN AUTO POSITION. 11. EXHAUST AIRFLOW RATE REQUIRED FOR A LOCKER ROOM SHALL BE 0.25 CFM/SQ. FT. PER 2018 IMC TABLE 403.3.1.1.

#### GAS FURNACE SCHEDULE

							GAS HEATI	NG SECTION		ELECT	RICAL DA	٩ΤΑ
UNIT			SUPPLY	OA		INPUT	OUTPUT	TEMP.	AFUE			
MARK	MANUF'R	MODEL	CFM	CFM	ESP	MBH	MBH	RISE	%	VOLT/PH	MCA	мос
GF-1	CARRIER COMFORT SERIES	59SC5A040S14-10	800	100	0.5"	40	39	40°-70°	95.5	115/1	9.5	15
ALTERNAT	E MANUFACTURER'S	ACCEPTED PROVIDED T	HEY ARE E	QUAL TO	SPECIFIE	ED EQUIPN	MENT INCLUE	ING ALL OF	TIONS/AC	CESSORIES L	ISTED BE	LOW.

NOTES: 1. PROVIDE WITH SPRING VIBRATION ISOLATORS.

2. SUBMIT MANUFACTURER SHOP DRAWINGS FOR APPROVAL PRIOR TO ORDERING. 3. FURNACE FAN SHALL BE SET TO "ON" POSITION DURING OCCUPIED HOURS AND TO "AUTO" DURING UNOCCUPIED HOURS.

4. PROVIDE WITH 7-DAY PROGRAMMABLE THERMOSTAT AND TEMPERATURE SENSORS IF IT IS REQUIRED. 5. ALL UNITS SHALL BE FURNISHED WITH OVERSIZE MOTOR FAN IF IT IS REQUIRED.

6. HORIZONTAL AIR OUTLET WITH CONDENSATE PUMP. 7. PROVIDE WITH SIDE RETURN AND FILTER RACK.

8. FURNISH AND INSTALL FURNACE WITH A CONCENTRIC VENT THRU ROOF. 9. FURNISH AND INSTALL HORIZONTAL FURNACE ON A PLATFORM, MOUNT HIGH ENOUGH SO AS NOT TO INTERFERE WITH THE ABILITY TO WALK SAFELY UNDERNEATH.

AIR-COOLED	CONDENSING	G UNIT SCHEDULE		
		CAPACITY	ELECTRICAL	

UNIT	SERVING			NOMINAL			COMPR	ESSOR	POWER	CONNS.	FAN	
MARK	SYSTEM	MANUF'R	MODEL	TONS	VOLTS	PHASE	LRA	RLA	MCA	MOCP	FLA	SEER
ACCU-1	GF-1	CARRIER	24ACC424	2.0	208/230	1	62.9	10.9	14.1	20	0.50	14
ALTERNATE MAN	NUFACTURER'S	ACCEPTED	PROVIDED THE	Y ARE EQUAL	TO SPECIFI	ED EQUIPN	IENT INCLU	DING ALL	OPTIONS/	ACCESSORI	es listed	BELOW.

1. CONTRACTOR SHALL FURNISH FUSED DISCONNECT SWITCHES. POWER WIRING BY E.C.

2. CONDENSING UNIT ON GRADE SHALL BE MOUNTED ON 4" CONCRETE EQUIPMENT BASE. 3. FURNISH WITH LOW-AMBIENT OPERATION OPTION, AND MOTOR MASTER SPEED CONTROLLER WITH SWITCH.

4. FURNISH WITH CRANKCASE HEATER, CYCLE PROTECTOR, AND THERMOSTATIC EXPANSION VALVE.

5. SUBMIT MANUFACTURER'S SHOP DRAWINGS FOR APPROVAL, PRIOR TO ORDERING.

6. FIELD VERIFY EXACT LOCATION TO ENSURE PROPER CLEARANCES. 7. FURNISH AND INSTALL CONDENSING UNIT ON A PLATFORM, MOUNT HIGH ENOUGH SO AS NOT TO INTERFERE WITH THE ABILITY TO WALK SAFELY UNDERNEATH.

EXHAUS	t fan	SCHED	ULE			
UNIT MARK	MFR	MODEL NUMBER	SERVING	LOCATION	AIRFLOW CFM	
EF-1 THRU 12	GREENHECK	CUBE-160	TRUCK GARAGE (CODE REQ'D. MAX. OA)	ROOF	3,400	
EF-13,14,15	GREENHECK	CUE-099	TRUCK GARAGE (CODE REQ'D. MIN. OA)	ROOF	1,000	
EF-16	GREENHECK	SQ-85	UTILITY 101, LOCKER RM 102, UNISEX 103 & 104	INLINE	265	

ALTERNATE MANUFACTURER'S ACCEPTED PROVIDED THEY ARE EQUAL TO SPECIFIED EQUIPMENT INCLUDING ALL OPTIONS/ACCESSORIES LISTED BELOW NOTES:

1. FAN SHALL HAVE AMCA SEAL & BE U.L. CERTIFIED. 2. FAN SHALL HAVE ALUMINUM BIRD SCREEN.

3. FURNISH AND INSTALL WITH MANUFACTURER'S SAFETY DISCONNECT SWITCH.

4. PROVIDE DUCT MOUNTED GRAVITY BACKDRAFT DAMPER AT DISCHARGE OUTLET.

5. SUBMIT MANUFACTURER'S SHOP DRAWINGS FOR APPROVAL, PRIOR TO ORDERING. 6. PROVIDE MANUFACTURER'S ROOF CURB.

7. VERIFY FINAL LOCATION OF EXHAUST FAN IN THE FIELD TO MAKE SURE CLEARANCES BY CODE ARE MET.

8. EXHAUST FAN SHALL OPERATE CONTINUOUSLY WHEN BUILDING IS OCCUPIED. 9. EF-13 SHALL BE INTERLOCKED WITH LV-1, EF-14 WITH LV-2 AND EF-15 WITH LV-3.

10. EXHAUST FANS SHALL BE INTERLOCKED WITH CO/N20 SENSORS IN SPACE ACCORDING TO THE FOLLOWING RECOMMENDATIONS EF-1,2,3&4 SHALL BE ACTIVATED BY CO/N20 SENSORS 1,2,3&4 WHEN IN AUTO POSITION.

EF-5,6,7&8 SHALL BE ACTIVATED BY CO/N20 SENSORS 5,6,7&8 WHEN IN AUTO POSITION. EF-9,10,11&12 SHALL BE ACTIVATED BY CO/N20 SENSORS 9&10 WHEN IN AUTO POSITION. 11. FURNISH AND INSTALL WITH DUCT UP THRU ROOF WITH GOOSENECK AND ALUMINUM BIRDSCREEN.

GRI	LLE SCH	EDULE						
MARK	FRAME DIM	TYPE	CFM	PLENUM NECK DIM.	FUNCTION	CONSTRUCTION	FINISH	MODEL NUMBER
S-1	32"×14"	DIFFUSER	800	SEE DWG	SUPPLY AIR	STEEL	WHITE	250
R-1	32"×14"	REGISTER	800	SEE DWG	RETURN AIR	STEEL	WHITE	350
(12)E-	-1 32"x32"	REGISTER	3,400	SEE DWG	EXHAUST AIR	STEEL	WHITE	350
(3)E-1	2 18"x18"	REGISTER	1,000	SEE DWG	EXHAUST AIR	STEEL	WHITE	350
(4)E-	3 8"×8"	REGISTER	50-70	SEE DWG	EXHAUST AIR	STEEL	WHITE	350

ALTERNATE MANUFACTURER'S ACCEPTED PROVIDED THEY ARE EQUAL TO SPECIFIED EQUIPMENT INCLUDING ALL OPTIONS/ACCESSORIES LISTED BELOW. NOTES: 1. SUBMIT MANUFACTURER'S SHOP DRAWINGS FOR APPROVAL, PRIOR TO ORDERING.

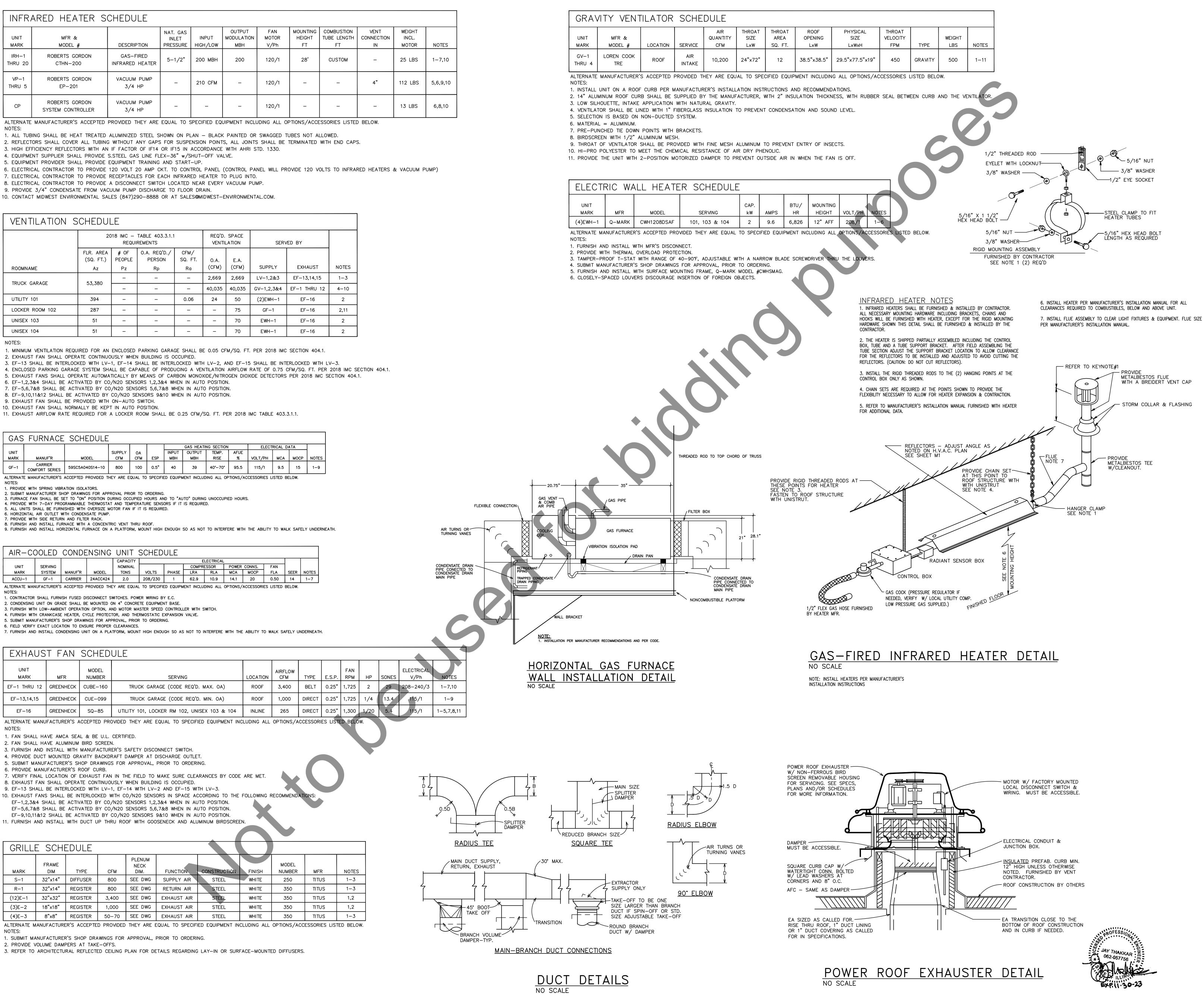
2. PROVIDE VOLUME DAMPERS AT TAKE-OFFS.

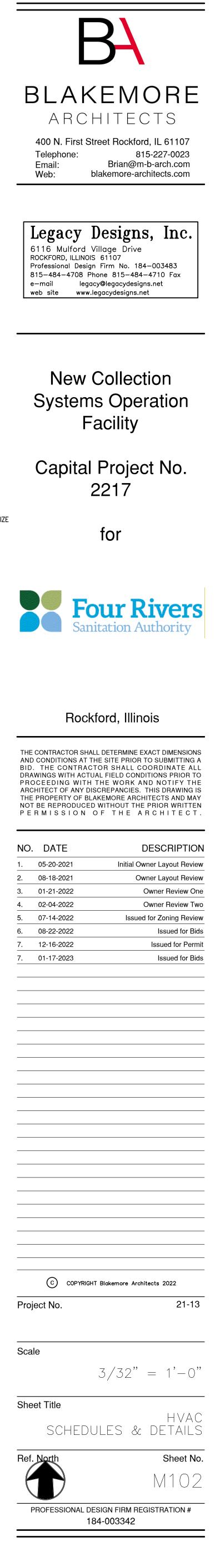
3. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR DETAILS REGARDING LAY-IN OR SURFACE-MOUNTED DIFFUSERS.

Y	
EXHAUST	NOTES
-13,14,15	1–3
1 THRU 12	4–10
EF-16	2
EF-16	2,11
EF-16	2
EF-16	2

GRAVITY VENTILATOR SCHEDULE				DULE		
	UNIT MFR & MARK MODEL #		LOCATION	SERVICE	AIR QUANTITY CFM	TH
	GV—1 THRU 4	LOREN COOK TRE	ROOF	AIR INTAKE	10,200	24
ALTERNATE MANUFACTURER'S ACCEPTED PROVIDED THEY ARE EQ				AL -		

ELECTRIC WALL HEATER SCHEDULE					
UNIT MARK	MFR	MODEL	SERVING	0	
(4)EWH-1	Q-MARK	CWH1208DSAF	101, 103 & 104		
ALTERNATE MANUFACTURER'S ACCEPTED PROVIDED THEY ARE EQUAL TO					





### DUCT AND EQUIPMENT SYMBOLS

DUCT AI	ND EQ	UIPMENT SYMBOLS
	24x12	<ul> <li>NEW RECTANGULAR METAL DUCT:</li> <li>1) FIRST DIMENSION IS SIDE SHOWN</li> <li>2) ALL DUCTWORK SIZES SHOWN ARE NET FREE INSIDE DIMENSIONS</li> <li>2) OLIVANIZED SUFET METAL</li> </ul>
6"ø	6"ø	<ul> <li>GALVANIZED SHEET METAL UNLESS NOTED</li> <li>NEW ROUND DUCT (SEE NOTES ABOVE)</li> </ul>
24×12 ↔	<u>24x12 ⇔</u>	NEW OVAL DUCT (SEE NOTES ABOVE)
	<u>ب</u>	ROUND DUCT ELBOW TURNED UP
$\geq$	<b></b>	RECTANGULAR ELBOW TURNED UP, SUPPLY OR OUTSIDE AIR DUCT
	<b>5</b>	RECTANGULAR ELBOW TURNED UP, EXHAUST OR RETURN AIR DUCT
	$\overleftarrow{\bigcirc}$	ROUND DUCT ELBOW TURNED DOWN
	<u>ب</u>	RECTANGULAR ELBOW TURNED DOWN, SUPPLY OR OUTSIDE AIR DUCT
	<u>ب</u>	RECTANGULAR ELBOW TURNED DOWN, EXHAUST OR RETURN AIR DUCT
Ţ Į		RADIUS ELBOW OR RECTANGULAR ELBOW WITH TURNING VANES
		RECTANGULAR ELBOW OR TRANSFER DUCT WITHOUT TURNING VANES
		RADIUS TEE DUCT JUNCTION
		MITERED TEE DUCT JUNCTION WITH TURNING VANES
		DUCT RISE IN DIRECTION OF ARROW
		DUCT DROP IN DIRECTION OF ARROW
	_→	DUCT SIZE TRANSITION FOB = FLAT ON BOTTOM FOT = FLAT ON TOP
		STANDARD LOW VELOCITY BRANCH, NO SPLITTER WITH 45° FLARE
	AD	ACCESS DOOR/PANEL (SIDE OR BOTTOM)
	-/////-	FLEXIBLE DUCT
		ACOUSTICALLY LINED DUCT
$\{ \begin{tabular}{c} \end{tabular} ta$		FLEXIBLE CONNECTION
~~~	<b>┝╾╢╶╾</b> ╱	EXHAUST, RETURN OR TRANSFER AIR REGISTER OR GRILLE
~ -	┝┨╼╾	SUPPLY AIR REGISTER OR GRILLE
SQUARE (4-WAY)	O ROUND	CEILING SUPPLY DIFFUSERS (AIR FLOW DIRECTION BY ARROWS)
S-	<u>-1</u> 00-10"ø	REGISTER OR DIFFUSER # CFM# – ROUND NECK SIZE INDICATED
$\square$		CEILING RETURN OR EXHAUST REGISTER OR GRILLE
		TYPE TD T-BAR DIFFUSER (PROVIDE VOLUME DAMPER AT DUCT TAKEOFF)
DG CFM		(DG) DOOR GRILLE (UC) UNDER CUT
LOUVER SIZE CFM		AIR LOUVER, (BOTTOM OF DUCT TO DRAIN TOWARD LOUVER)
	;; M	MOTOR OPERATED DAMPER PROVIDE CEILING & DUCT ACCESS
FD	]	FIRE DAMPER
CONTRO	L SYM	BOLS
(T)		THERMOSTAT OR DDC TEMPERATURE SENSOR

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10, 2023
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#### GENERAL NOTES

- 1. DRAWINGS ARE GENERALLY DIAGRAMMATIC. EACH CONTRACTOR SHALL MAKE REQUIRED CHANGES FROM THE GENERAL ROUTING SHOWN ON THESE DRAWINGS SUCH AS OFF SETS, BENDS OR CHANGES IN ELEVATION DUE TO COORDINATION WITH THE WORK OF OTHER TRADES AND THE BUILDING CONSTRUCTION. ALL CHANGES SHALL BE MADE WITHOUT ADDITIONAL COST TO THE OWNER. FOR PRESENT CONSTRUCTION, VERIFY ALL EXISTING CONDITIONS PRIOR TO BIDDING TO AVOID CONFLICT. IT IS INTENDED THAT ALL EQUIPMENT, MATERIAL, DEVICES, ETC., SHALL BE LOCATED SYMMETRICALLY WITH THE ARCHITECTURAL ELEMENTS, NOTWITHSTANDING THE FACT THAT LOCATIONS INDICATED BY THESE DRAWINGS MAY BE DISTORTED FOR CLARITY OF PRESENTATION.
- 2. ALL MECHANICAL WORK SHALL CONFORM WITH THE INTERNATIONAL MECHANICAL CODES 2015, LOCAL & MUNICIPAL CODES AND AUTHORITY HAVING JURISDICTION. 3. EACH CONTRACTOR SHALL CHECK DRAWINGS OF THE OTHER TRADES TO VERIFY THEIR WORK WILL BE INSTALLED CLEAR OF OBSTRUCTIONS. MAINTAIN MAXIMUM HEADROOM AT ALL POINTS IN THE BUILDING, WHERE HEADROOM OR SPACE CONDITIONS APPEAR INADEQUATE, NOTIFY ARCHITECT BEFORE PROCEEDING WITH
- THE INSTALLATION. 4. FURNISH ALL TRADES ADVANCE INFORMATION ON LOCATIONS AND SIZES OF PIPING, DUCTWORK, EQUIPMENT, FRAMES. BOXES. SLEEVE AND OPENINGS NEEDED FOR WORK. FURNISH INFORMATION AND SHOP DRAWINGS
- TO PERMIT OTHER TRADES TO COORDINATE THEIR WORK. 5. WHERE WORK OF ONE TRADE WILL INTERFERE WITH WORK OF ANOTHER TRADE, ALL TRADES SHALL ASSIST TO WORK COORDINATE THEIR WORK.
- 6. PRIOR TO BIDDING THE HVAC CONTRACTOR SHALL REVIEW ALL DRAWINGS AND COORDINATE WORK. CONTRACTOR SHALL IMMEDIATELY REPORT TO THE ARCHITECT ANY INCONSISTENCIES OR INTERFERENCE WITH HIS WORK.
- 7. CONTRACTOR SHALL COORDINATE ALL CEILING DIFFUSERS, REGISTERS, AND/OR GRILLES WITH SUSPENDED CEILING AND LIGHT PATTERNS. OPENINGS SHALL BE IN CENTER OF TILES.
- 8. SHEETMETAL DUCT SIZES MAY BE ALTERED TO FIT JOB CONDITIONS, BUT NET FREE AREAS MUST BE MAINTAINED. INCREASE SHEETMETAL DUCT SIZE TO ALLOW FOR DUCT LINING WHERE USED. WRAP ALL DUCTWORK EXCEPT AS NOTED. MAXIMUM DUCT ASPECT RATIO 1:5 9. ALL DUCTWORK TO BE HELD TIGHT TO STRUCTURAL ROOF JOISTS, BEAMS, ETC, AS CLEARANCE IS MINIMAL.
- COORDINATE WITH OTHER CONTRACTORS TO AVOID CONFLICT. 10. CONTRACTOR SHALL INCLUDE IN HIS WORK THE RELOCATION OF ALL CROSS BRACING, AS REQUIRED TO FIT DUCTS BETWEEN JOISTS. THIS WORK SHALL BE COORDINATED WITH THE GENERAL CONTRACTOR WITH
- ARCHITECTURAL APPROVAL. 11. CONTRACTOR SHALL PROVIDE ALL DUCT DROPS AND OFFSETS TO AVOID INTERFERENCES WITH JOISTS, OTHER DUCTS, LIGHTS, PIPES, ETC.
- 12. ALL THERMOSTATS LOCATED UP 4'-6" TO 5'-0" TO MATCH ADJACENT LIGHT SWITCHES AND WITH PLASTIC OR CAST GUARDS AS SPECIFIED. ALL THERMOSTATS LOCATED ON EXTERIOR WALLS OR COLUMNS MUST BE MOUNTED ON THERMAL INSULATING BLOCKS.
- 13. CONTRACTOR SHALL PROVIDE COOLING COIL CONDENSATE DRAIN LINES FROM AIR HANDLING UNIT TO DRAIN. 14. HEATING, VENTILATING, AIR CONDITIONING AND ELECTRICAL DESIGNS ARE BASED ON THE REQUIREMENTS FOR THE SPECIFIED EQUIPMENT MANUFACTURER. CONDUITS, DISCONNECTS, BREAKERS, FUSES AND WIRE SIZES ARE SELECTED ON THE BASIS OF SPECIFIED EQUIPMENT MANUFACTURER. INCREASED CURRENT REQUIREMENTS NECESSITATING LARGER WIRE, BREAKERS, FUSES, SWITCHES, ETC. TO ACCOMMODATE ANY ALTERNATE OR SUBSTITUTE MANUFACTURER'S EQUIPMENT OTHER THAN AS SHOWN ON DRAWINGS OR SCHEDULES SHALL BE PROVIDED WITHOUT INCREASE IN CONTRACT PRICE BY THE CONTRACTOR FURNISHING EQUIPMENT.
- 15. INSTALL 1" OF NON-SHRINK GROUT AROUND DUCTWORK AND PIPING ON EACH WALL FACE TO SEAL OPENINGS AND ELIMINATE SOUND TRANSFER WITH AIR-TIGHT CONNECTIONS.
- 16. EXTEND RTU EXHAUST TO MAINTAIN 10 FT SEPARATION TO ANY AIR INTAKES. VERIFY LOCATION. CONFIRM WITH LOCAL INSPECTORS AS TO REQUIREMENTS. 17. GUARDS SHALL BE PROVIDED WHERE APPLIANCES EQUIPMENT, FANS OR OTHER COMPONENTS THAT REQUIRE
- SERVICE ARE LOCATED WITHIN 10 FT OF ROOF EDGE OR OPEN SIDE OF A WALKING SURFACE AND SUCH EDGE OR OPEN SIDE IS LOCATED MORE THAN 30 INCHES ABOVE THE FLOOR, ROOF OR GRADE BELOW. THE GUARD SHALL BE EXTEND NOT LESS THAN 30 INCHES BEYOND EACH END OF EQUIPMENT AND THE TOP OF THE GUARD SHALL BE LOCATED NOT LESS THAN 42 INCHES ABOVE ELEVATED SURFACE. 18. <u>DUCT INSULATION AND SEALING</u>
- DUCT INSULATION SHALL CONFORM TO THE REQUIREMENTS OF 2018 IMC SECTION 604 AND 2018 IECC SECTION C403.11.1 FOR COMMERCIAL BUILDINGS AND R403.3.1 FOR RESIDENTIAL BUILDINGS. A. COMMERCIAL BUILDINGS SUPPLY AND RETURN AIR DUCTS AND PLENUMS SHALL BE INSULATED WITH NOT LESS THAN R-6 INSULATION
  - WHERE LOCATED IN UNCONDITIONED SPACES AND WHERE LOCATED OUTSIDE THE BUILDING WITH NOT LESS THAN R-8 INSULATION IN CLIMATE ZONES 1-4 AND NOT LESS THAN R-12 INSULATION IN CLIMATE ZONES 5-8. WHERE LOCATED WITHIN A BUILDING ENVELOPE ASSEMBLY, THE DUCT OR PLENUM SHALL BE SEPARATED FROM THE BUILDING EXTERIOR OR UNCONDITIONED OR EXEMPT SPACES BY NOT LESS THAN OF R-8 INSULATION IN CLIMATE ZONES 1-4 AND NOT LESS THAN R-12 INSULATION IN CLIMATE ZONES 5-8. EXCEPTION: WHERE LOCATED WITHIN EQUIPMENT. EXCEPTION: WHERE THE DESIGN TEMPERATURE DIFFERENCE BETWEEN THE INTERIOR AND EXTERIOR OF THE DUCT OR PLENUM IS NOT GREATER THAN 15 DEG. F. DUCTS, AHU & FILTER BOXES SHALL BE SEALED. JOINTS AND SEAMS SHALL COMPLY WITH IMC SECTION 603.9.
- 19. <u>SUPPORTS AND ANCHORS</u>
- A. MANUFACTURERS: GRINNELL, B-LINE, O.Z. GEDNEY, MICHIGAN HANGER, BERGEN/CARPENTER AND PATERSON. B. USE MATERIALS COMPATIBLE WITH PIPING SYSTEMS AVOIDING ELECTROLYTIC ACTION AND CONFORM TO ANSI/ASME B31, NFPA, MSS SP-58, 69, 89. WIRE ARE NOT ALLOWED TO BE USED AS A HANGER SUPPORT.
- 20. TESTING AND BALANCING
- A. AIR BALANCING SHALL BE ACCOMPLISHED BY ADJUSTMENT OF ADJUSTABLE FAN SHEAVES. BRANCH DAMPERS ARE TO BE USED FOR ANY REQUIRED TRIM ADJUSTM THE CONTRACTOR SHALL PROVIDE ALL LABOR AND EQUIPMENT INCLUDING SHEAVES AS REQUIRED TO BALANCE ALL AIR SYSTEMS IN ACCORDANCE WITH QUANTITIES SHOWN.
- BALANCING SHALL BE PERFORMED UNDER THE SUPERVISION OF A PROFESSIONA ENGINEER AND REPORT SHALL BE PROVIDED ON AABC TYPE FOR
- 21. <u>AIR DISTRIBUTION SYSTEMS</u>

- A. AIR TERMINALS 1. PROVIDE SUPPLY AND RETURN AIR DIFFUSERS/REGISTERS AS SHOWN ON SCHEDULES. B. SHEET METAL WORK
- 1. EXCEPT AS OTHERWISE SHOWN OR NOTED, ALL DUCTWORK AND OTHER SHEET METAL WORK SHALL BE GALVANIZED SHEET STEEL AND SHALL BE INSTALLED IN ACCORDANCE WITH SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION, INC. (SMACNA) DUCT CONSTRUCTION. STANDARDS. DUCT SYSTEMS TO BE 2" PRESSURE CLASS. 2. ALL DUCT DIMENSIONS INDICATED ON THE PLANS ARE INSIDE CLEAR DIMENSIONS. 3. SUPPLY DUCTWORK TO BE RECTANGULAR WITH HEMMED "S" LONGITUDINAL SEAMS AND DUCTMATE
- TRANSVERSE JOINTS. 4. MANUAL VOLUME DAMPERS: GALVANIZED STEEL, PER SMACNA EXCEPT PROVIDE BEARING AT ONE END OF DAMPER ROD AND QUADRANT, WITH LEVER AND LOCKSCREW AT THE OPPOSITE END. FOR INSULATED DUCTS, QUADRANTS MOUNTED ON COLLAR TO CLEAR INSULATION. LEVERS MUST BE ACCESSIBLE
- C. EXHAUST DUCTWORK ELBOWS TO BE LONG RADIUS TYPE. D. ACCESS DOORS SHALL BE PROVIDED IN DUCTWORK WHEREVER CONTROLS, CONTROL
- DAMPERS, COILS, & INSTRUMENTS ARE INSTALLED. E. THE PLENUM CHAMBER THAT IS USED FOR RECIRCULATION OF AIR SHALL BE OF TIGHT CONSTRUCTION AND ALL SOURCES OF AIR CONTAMINATION FROM TRAPS, SOIL STACKS, DOWNSPOUTS, VENTS, EXHAUST DISCHARGE AND OTHER SOURCES WILL BE ENCLOSED SO THAT NO CONTAMINATED AIR WILL BE RECIRCULATED.
- 22. CONTROL SYSTEM WIRING CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE AND INSTALL CONTROL WIRING FOR HVAC EQPM. 23. <u>SHUTOFF DAMPERS (MANDATORY)</u>
- PER 2018 IECC SECTION C403.7.7, OUTDOOR AIR INTAKE AND EXHAUST OPENINGS AND STAIRWAY AND SHAFT VENTS SHALL BE PROVIDED WITH CLASS I MOTORIZED DAMPERS. THE DAMPERS SHALL HAVE AN AIR LEAKAGE RATE NOT GREATER THAN 4 CFM/SQ. FT. OF DAMPER SURFACE AREA AT 1.0 INCH WATER GAUGE (249 Pa) AND SHALL BE LABELED BY AN APPROVED AGENCY WHEN TESTED IN ACCORDANCE WITH AMCA 500D FOR SUCH PURPOSE. OUTDOOR AIR INTAKE AND EXHAUST DAMPERS SHALL BE INSTALLED WITH AUTOMATIC CONTROLS CONFIGURED TO CLOSE WHEN THE SYSTEMS OR SPACES SERVED ARE NOT IN USE OR DURING UNOCCUPIED PERIOD WARM-UP AND SETBACK OPERATION, UNLESS THE SYSTEMS SERVED REQUIRE OUTDOOR OR EXHAUST AIR IN ACCORDANCE WITH THE IMC OR THE DAMPERS ARE OPENED TO PROVIDE INTENTIONAL ECONOMIZER COOLING.
- STAIRWAY AND SHAFT VENT DAMPERS SHALL BE INSTALLED WITH AUTOMATIC CONTROLS CONFIGURED TO OPEN UPON THE ACTIVATION OF ANY FIRE ALARM INITIATING DEVICE OF THE BUILDING'S FIRE ALARM SYSTEM OR THE INTERRUPTION OF POWER TO THE DAMPER. EXCEPTION: NONMOTORIZED GRAVITY DAMPERS SHALL BE AN ALTERNATIVE TO MOTORIZED DAMPERS FOR EXHAUST AND RELIEF OPENINGS AS FOLLOWS: 1. IN BUILDINGS LESS THAN THREE STORIES IN HEIGHT ABOVE GRADE PLANE.
- IN BUILDINGS OF ANY HEIGHT LOCATED IN CLIMATE ZONES 1, 2 OR 3. WHERE THE DESIGN EXHAUST CAPACITY IS NOT GREATER THAN 300 CFM.

#### HVAC SPECIFICATIONS

15050 BASIC MECHANICAL MATERIALS AND METHODS Provide complete systems as called for, and/or shown, and/or HVAC Contractor. Secure all permits for work as required. Where "furnish and install", "provide", "furnish", "install" or equivalent words are used, they mean that the contractor shall furnish and completely install the system, service, equipment or

operating installation. STANDARDS, CODES AND REGULATIONS Equipment, devices, apparatus and installations to be in full compliance with applicable standards, requirements, rules, regulations, codes, statutes, ordinances, etc., local, city, county, state government, Illinois Administrative Code, Owner's insurance company, local gas and electric utilities, labor

Architect. Electrical equipment, wiring, gas burning equipment, handling and storage equipment, all hydronic piping, refrigeration piping, insulating materials, etc., shall comply with applicable state and federal safety codes; for a particular type

MATERIALS Materials to be of new grade, U.S. make and quality specified.

codes. Line wires, of proper size, shall be furnished by Electric Contractor, with final power connections made by Electrical Contractor. Heating Contractor, within his contract, shall be to give a complete/satisfactory operating system

COORDINATION

drawings. If contractor fails to call such lack of coordination between is purchased, it will be assumed that no conflicts exist. If conflicts arise during the construction period, they shall be be allowed. The Architect's decisions shall be final.

the operation and safety of such equipment. GUARANTEE HVAC Contractor shall guarantee all equipment, apparatus, materials as called for in addition to the above.

SUBMITTALS Each respective contractor shall submit to the Architect for wiring diagrams, etc., for respective installation.

SPECIAL SUPERVISION AND INSTRUCTIONS Each specialized installation shall be made under the supervision shall (a) submit a written report that the installation has been installed in keeping with the specified requirements and the manufacturer's standards; (b) instruct the Owner's operating personnel before final acceptance; (c) prepare permanent form operating instructions, parts lists, wiring diagrams and control (d) certify that the installation is operating satisfactorily under the Owner's personnel and certify that the Owner's personnel

CUTTING AND PATCHING Contractor shall set sleeves and inserts required for intakes, piping, hangers, louvers, ventilators, ductwork, etc., in construction. Supply General Contractor with complete information as to size and location of openings, through walls, floors, roofs, etc.,. for installation of this work If this information is not supplied before new walls or floors are built, HVAC contractor shall cut all openings as approved by the Architect. Patching and rebuilding required to patch openings, and to restore construction to its original condition before cutting, using skilled craftsmen, as approved by the Architect. Shall be performed by others. Openings shall be accurately located, as small as possible, and neatly and cleanly cut. Wall openings shall be neatly cemented and wall frames grouted in

The Mechanical Contractor shall be responsible to cut and patch necessary wall or floor openings and provide materials and hardware for complete installation.

place by Heating contractor.

THIS PROJECT HAS BEEN DESIGNED TO MEET ALL THE APPLICABLE CODES PERTAINING TO HEATING, VENTILATING AND AIR CONDITIONING. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO INSTALL THE SYSTEMS AS DESIGNED AND IN A MANNER THAT MEETS THE APPROPRIATE CODE REQUIREMENTS AND MANUFACTURER RECOMMENDATIONS.

specified. HVAC contractor to furnish and completely install the system, service, equipment, or material named, together with other associated devices, equipment, materials, wiring, piping, etc., as required to perform work called for, shall be responsible to the

material named, together with other associated devices, equipment, material, wiring, piping, etc., as required for a complete

regulations. Changes required to conform to requirements shall be made without increase in contract price as approved by the

requirements of NFPA, NEC, UL, AGA, OSHA, EPA, BOCA, local and all installation and shall be so labeled where applicable.

Wiring to be in compliance with latest N.E.C. and all applicable responsible for all control wiring of equipment, provide devices, panels, disconnect switches, starters, interlocks, controls, etc.,

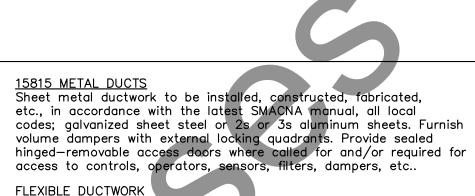
Before any work is installed and before any equipment is purchased, contractor shall carefully check specifications and drawings for every trade and job conditions and any lack of coordination between his work and the specifications and drawings or job conditions shall be immediately reported to the Architect, in writing. The Architect will work out conflicts and adjustments in contract prices. Changes in equipment shall be incorporated in the shop

specifications, drawings and job conditions to the Architect's attention, in writing, before any work is done or before equipment mediately reported to the Architect in writing and they will be vorked out by the Architect, but no increase in contract price will When heating and cooling equipment is operated by the Heating contractor, the Heating contractor shall be solely responsible for the operation and safety of such equipment. When heating and cooling equipment is operated by the owner (or other contractors), the owner (or other contractors) shall be solely responsible for

and workmanship entering into this contract and shall replace all parts at his own expense which have proven defective within one (1) year from formal acceptance. Individual items shall be guaranteed

approval, before construction is started, seven (7) copies of shop drawings for equipment, devices, material, controls, accessories,

of a factory trained engineer or contractor's superintendent who diagrams, in booklet form, in triplicate, turned over to Owner and are trained on systems and equipment per manufacturer's guidelines.



Flexible ducts shall be of Wiremold, Flexmaster, Thermaflex, Genflex or approved make, Wiremold type WG constructed of high temperature, vinyl organsol coated glass fabric; 14 oz. and cold rolled corrosion—resistant coated steel spiral. Duct shall be factory pre—insulated with minimum of 1" of 3/4 lb. density glass fiber blanket, sheathed with an exterior flame-resistant viny vapor barrier. Strap clamps shall be plastic trap or stainless steel draw-up clamps for securing flexible air duct. Prior to clamping, duct shall be sealed as per manufacturer's ecommendations. Flexible duct to be suitable for use with system pressure rating and design. FLEXIBLE DUCT RUNS SHALL NOT EXCEED MAXIMUM LENGTH DICTATED BY LOCAL CODE. 15820 DUCT ACESSORIES

Flexible connections, as called for on drawings, to be fire-waterweather-resistant fabric as manufactured by Ventfab or approved

<u>SECTION 15855 – DIFFUSERS, REGISTERS, AND GRILLES</u> GENERAL Submittals: Product Data for each model indicated.

PRODUCTS Diffusers, registers, and grilles are scheduled on Drawings. EXECUTION

Install diffusers, registers, and grilles level and plumb, according to manufacturer's written instructions, Coordination Drawings, original design, and referenced standards.

Ceiling-Mounted Outlets and Inlets: Drawings indicate general arrangement of ducts, fittings, and accessories. Air outlet and inlet locations have been indicated to achieve design requirements for air volume, noise criteria, airflow pattern, throw, and pressure drop. Make final locations where indicated, as much as practicable. For units installed in lay—in ceiling panels, locate units in the center of the panel. Where architectural features or other items conflict with installation, notify Architect for a determination of final location.

Install diffusers, registers, and grilles with airtight connection to ducts and to allow service and maintenance of dampers, air extractors, and fire dampers.

Install diffusers, registers, and grilles according to NFPA 90A, Standard for the Installation of Air—Conditioning and Ventilating Systems.

After installation of diffusers, registers, and grilles, inspect exposed finish. Clean exposed surfaces to remove burrs, dirt, and smudges. Replace diffusers, registers, and grilles that have damaged finishes. END OF SECTION 15855

OPENINGS, SLEEVES AND CHASES

Contractor shall set sleeves and inserts required for piping, hangers, intakes, louvers, ventilators, ductwork, curbs, etc., in construction Contractor to furnish General Contractor with complete information as to size and location of openings through walls, floors, roofs, etc., for installing this work. If this information is not supplied before new walls, floors, roofs, etc., are built, respective Contractor shall furnish, cut and patch all required openings for installation of equipment, material, devices, etc., as required and approved by the Architect. For new construction, General Contractor will cut holes through roof and Roofing Contractor will do all flashing, roof patching, etc., unless otherwise noted. Roof openings 18" and larger shall be framed with headers connected to roof joists with steel members framed between. All roofing work and equipment to meet requirements of National Association of Roofing Contractors.

ΚW

MIN MN1

NTS

OFF

RI A

RPM

TYP

MBH MCA

#### ABBREVIATIONS

ACCU AIR COOLED CONDENSING UNIT AFF ABOVE FINISH FLOOR BACKDRAFT DAMPER BDD BRITISH THERMAL UNIT CUBIC FEET PER MINUTE BTU CFM CLG CEILING DRY BULB DWG(S) DRAWING, DRAWINGS EXHAUST AIR EXHAUST FAN ELECTRIC HEATER ELECTRIC REHEAT COIL FULL LOAD AMPS GAS FURNACE GAS WATER HEATER FLA GWH HORSEPOWER, HEAT PUMP HVAC HEATING VENTILATING AIR CONDITIONING

KII OWAT THOUSAND BTU'S PER HOUR MINIMUM CIRCUIT AMPACITY MECH MECHANICAL MINIMUM MOUNTED NOT TO SCALE OUTSIDE AIR OPEN ENDED DUCT RETURN RETURN AIR FAN RUNNING LOAD AMPS

REVOLUTIONS PER MINUTE AIR TRANSFER DUCT TYPICAL AIR VOLUME DAMPER





# New Collection Systems Operation Facility

# Capital Project No. 2217

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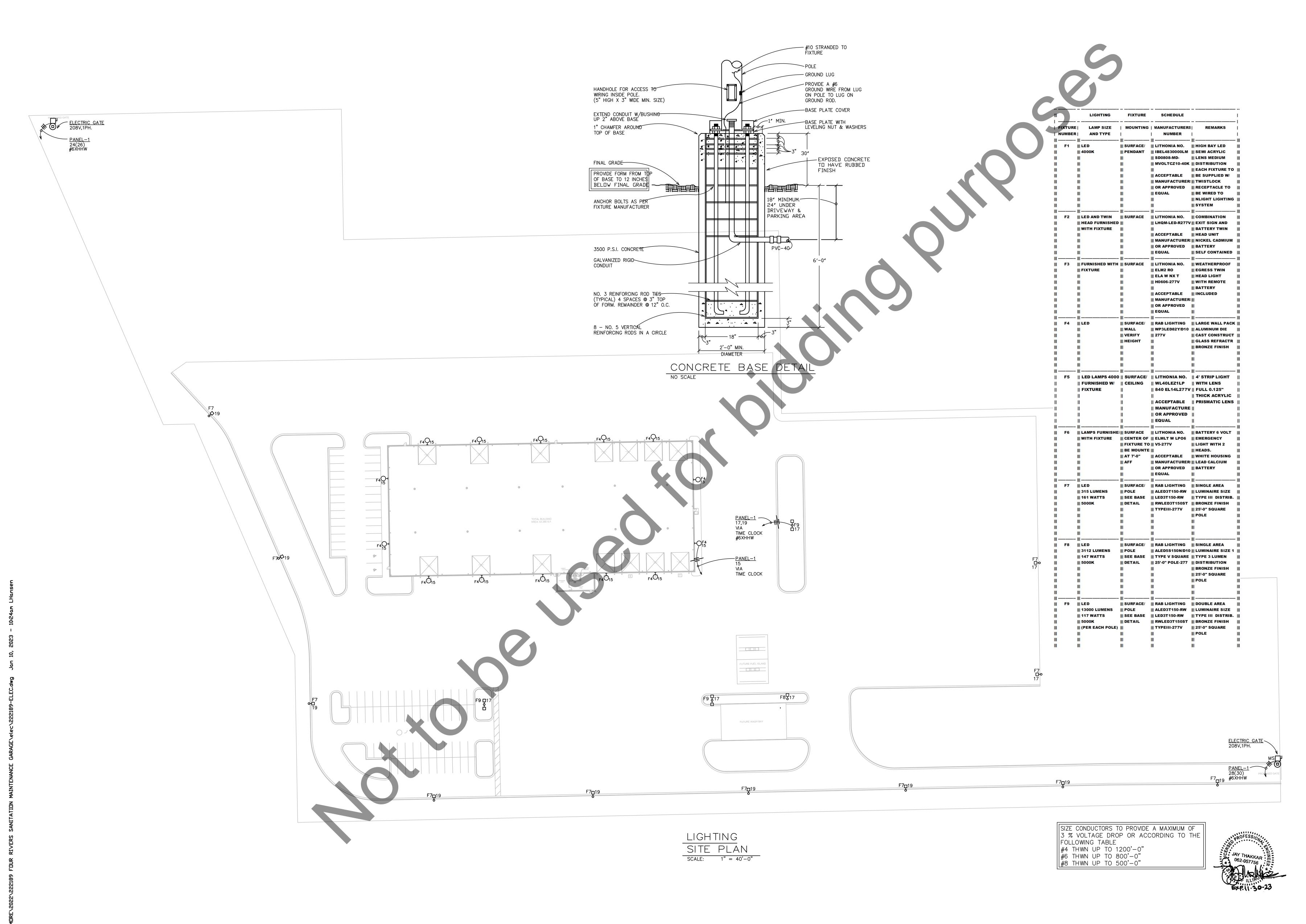


### Rockford, Illinois

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1.	05-20-2021	Initial Owner Layout Review
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3.	01-21-2022	Owner Review On
4.	02-04-2022	Owner Review Tw
5.	07-14-2022	Issued for Zoning Review
6.	08-22-2022	Issued for Bid
7.	12-16-2022	Issued for Perm
7.	01-17-2023	Issued for Bid

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# New Collection Systems Operation Facility

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### for



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 Project No.
 21-13

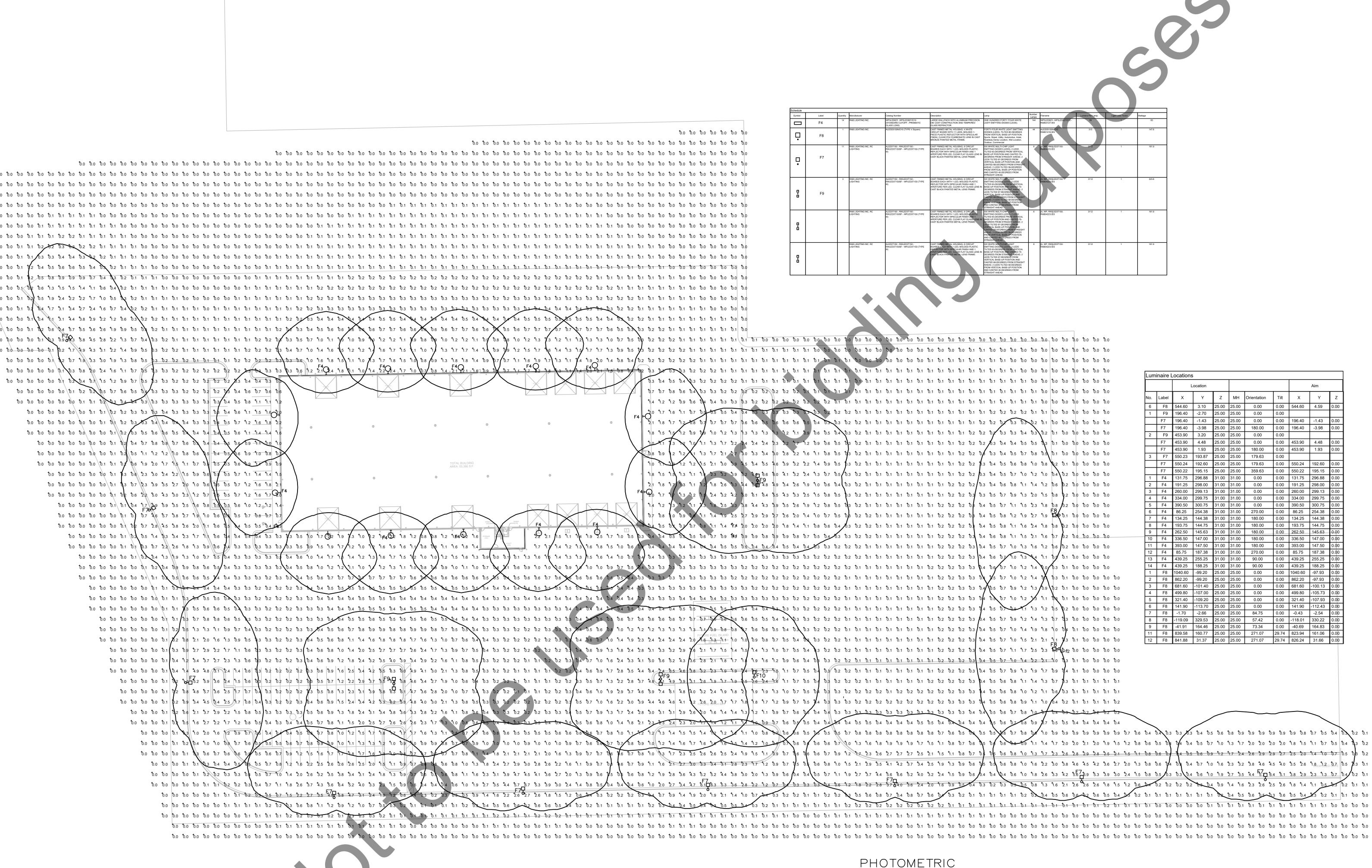
 Scale

 1" = 40'-0" 

 Sheet Title

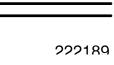
LIGHTING SITE PLAN Ref. North Sheet No. ES101 PROFESSIONAL DESIGN FIRM REGISTRATION # 184-003342

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SITE PLAN scale: 1" = 30'-0"





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Project No.	21-13		
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DESCRIPTION

Initial Owner Layout Review

Owner Layout Review

Owner Review One

Owner Review Two

Issued for Bids

Issued for Permit

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Issued for Zoning Review

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1. 05-20-2021

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New Collection Systems Operation Facility

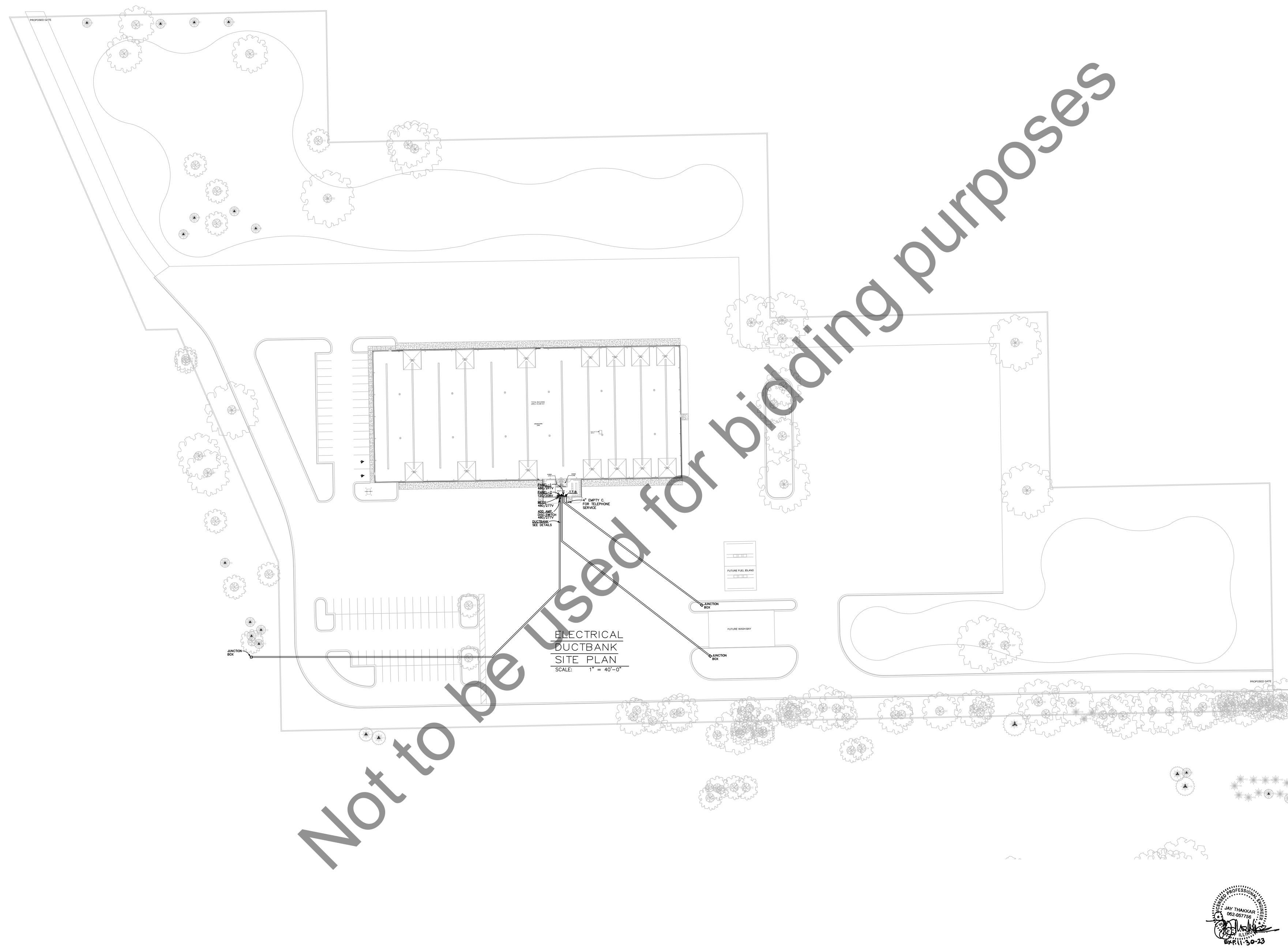
815-227-0023 Telephone Brian@m-b-arch.com Email: blakemore-architects.com

Legacy Designs, Inc.

Professional Design Firm No. 184-003483 815-484-4708 Phone 815-484-4710 Fax e-mail legacy@legacydesigns.net web site www.legacydesigns.net

6116 Mulford Village Drive ROCKFORD, ILLINOIS 61107





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# New Collection Systems Operation Facility

# Capital Project No. 2217

## for



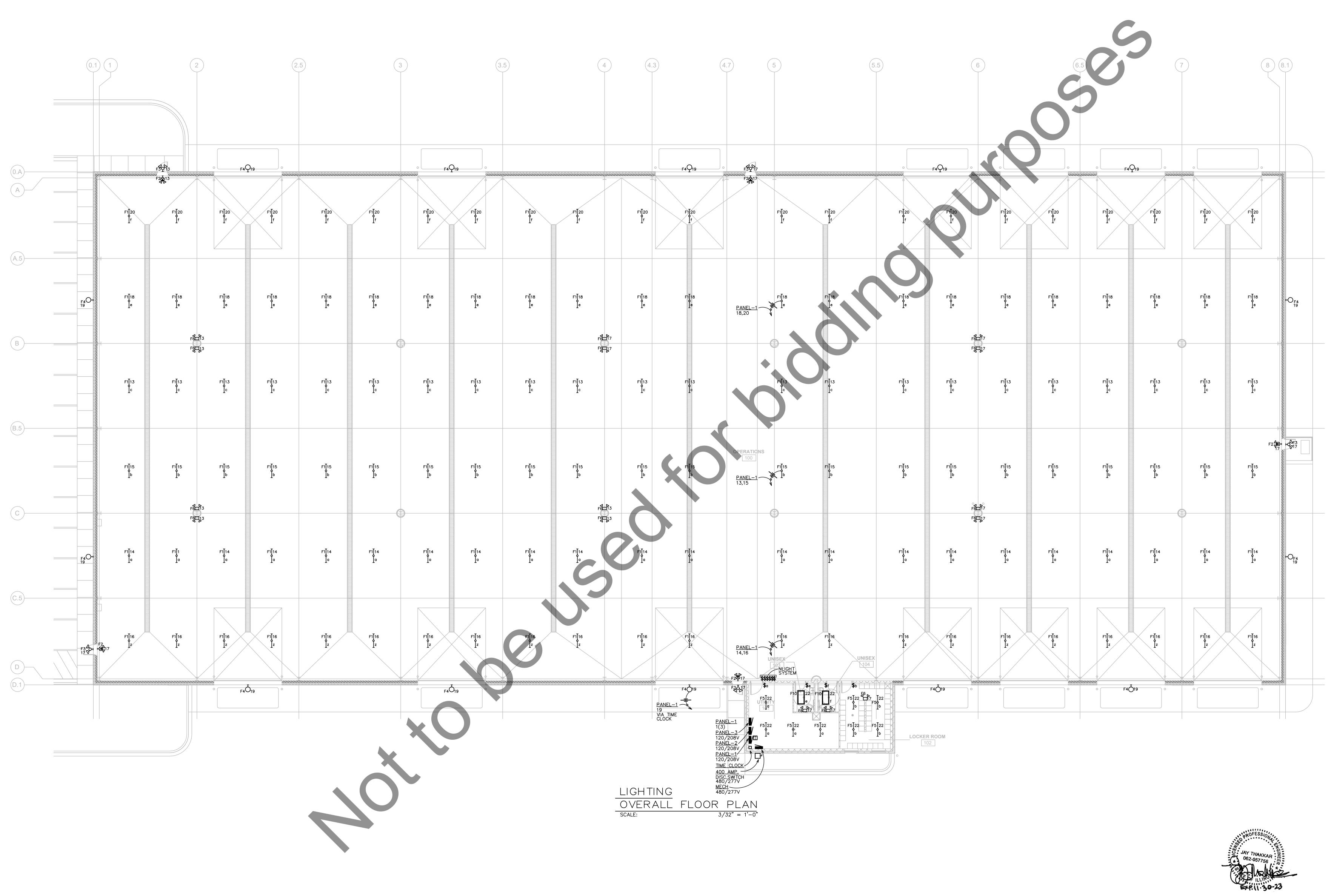
### Rockford, Illinois

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 P E R M I S S I O N O F THE A R C H I T E C T.

NO.	DATE	DESCRIPTION
1.	05-20-2021	Initial Owner Layout Review
2.	08-18-2021	Owner Layout Review
3.	01-21-2022	Owner Review One
4.	02-04-2022	Owner Review Two
5.	07-14-2022	Issued for Zoning Review
6.	08-22-2022	Issued for Bids
7.	12-16-2022	Issued for Permit
7.	01-17-2023	Issued for Bids

C COPYRIGHT Blakemore Architects 2022 Project No. 21-13 Scale 1" = 40' - 0"Sheet Title ELECTRICAL – DUCTBANK SITE PLAN Sheet No. Ref. North ES103

PROFESSIONAL DESIGN FIRM REGISTRATION # 184-003342





# New Collection Systems Operation Facility

Capital Project No. 2217

## for



### Rockford, Illinois

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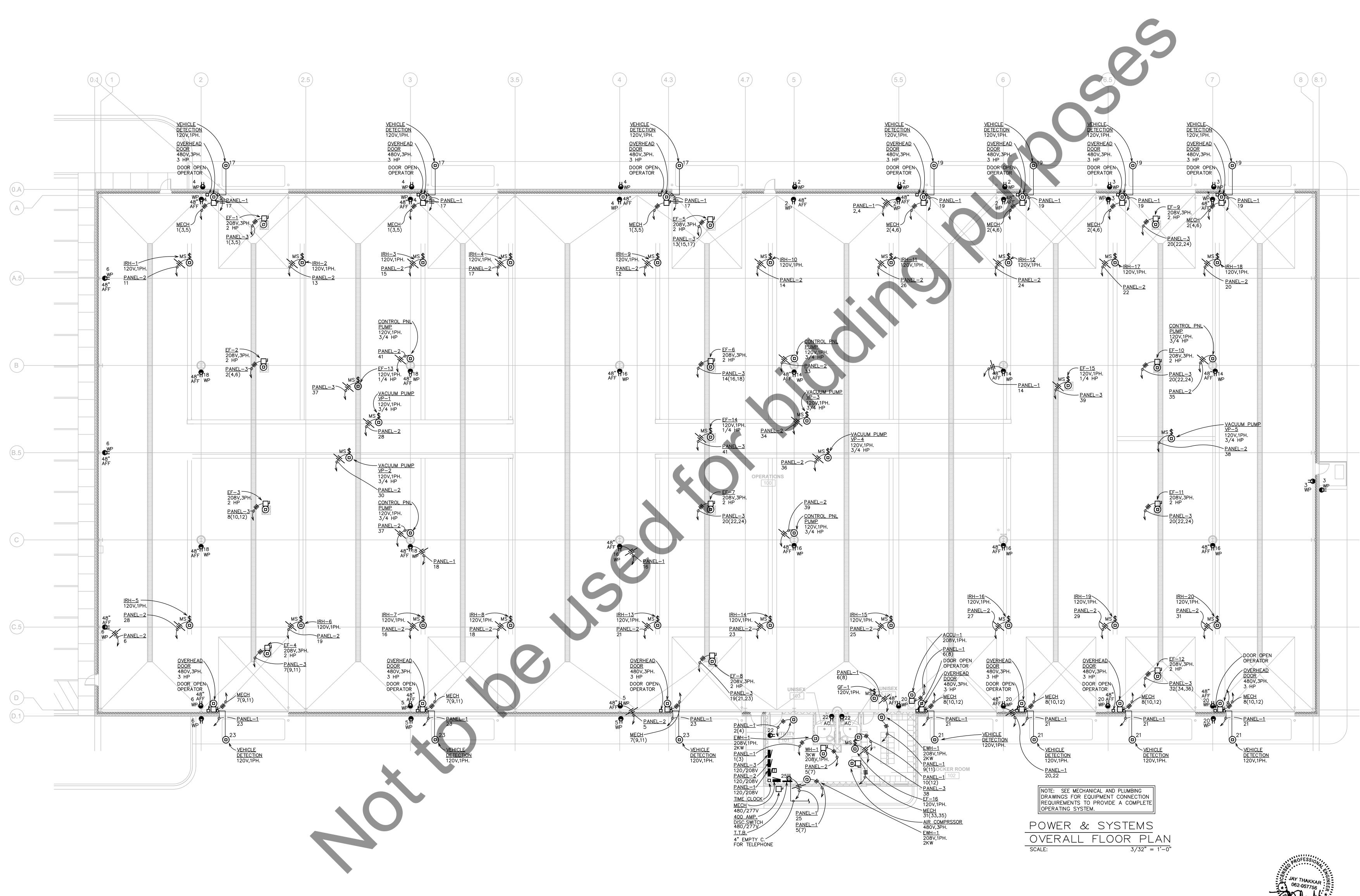
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C COPYRIGHT Blakemore Architects 2022 Project No. 21-13

Scale

3/32" = 1'-0"Sheet Title LIGHTING Overall floor plan Sheet No. E101 PROFESSIONAL DESIGN FIRM REGISTRATION # 184-003342

222189





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Project No.	21-13
Scale	
	3/32" = 1'-0"
Sheet Title	
F	POWER & SYSTEMS FLOOR PLAN
	FLOOR PLAN
Ref. North	Sheet No.
	E102
PROFESSION	IAL DESIGN FIRM REGISTRATION #
	184-003342

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Initial Owner Layout Review

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7. 01-17-2023

Rockford, Illinois

Four Rivers Sanitation Authority

for

Systems Operation Facility Capital Project No.

2217

New Collection

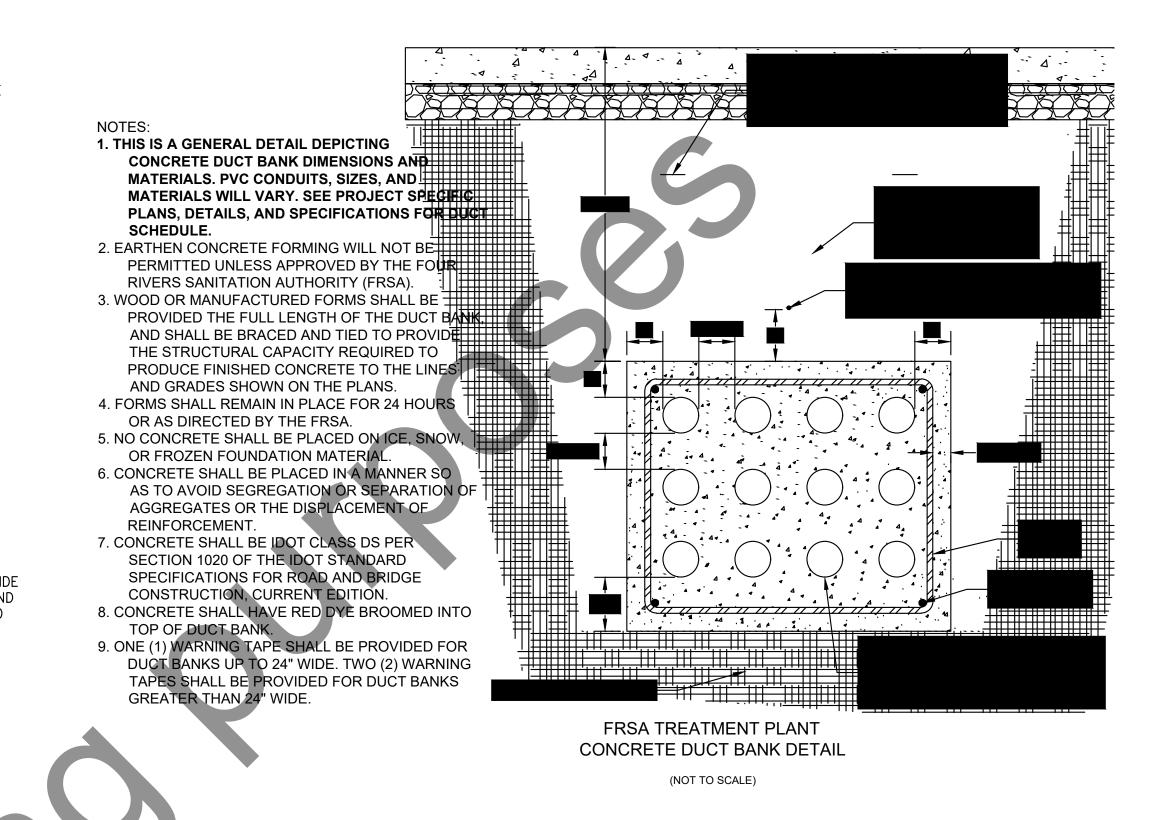
Legacy Designs, Inc. 6116 Mulford Village Drive ROCKFORD, ILLINOIS 61107 Professional Design Firm No. 184–003483 815–484–4708 Phone 815–484–4710 Fax e-mail legacy@legacydesigns.net web site www.legacydesigns.net

# ARCHITECTS 400 N. First Street Rockford, IL 61107Telephone:815-227-0023Email:Brian@m-b-arch.comWeb:blakemore-architects.com

BLAKEMORE

3

EL	ECTRICAL SPECIFICATION	S:			ELECTRICAL SYMBOLS TYPICAL: ALL MOUNTING HEIGHTS ARE TO DEVICE CENTERLINE U.N.O.
1.01.	WORK INCLUDES	2.07. A.	CORROSION PREVENTION Protect all metallic materials against corrosion.		LIGHTING
A. B.	Raceways. Wires and cables.	,	<ol> <li>All equipment enclosures given rust—inhibiting treatment and standard finish by manufacturer.</li> </ol>		RECESSED FLUORESCENT FIXTURE (SHADING INDICATES EMER.)
D.	Supporting devices.		2. Ferrous Metal Parts: Hot dip galvanized, ASTM A123 or ASTM A153.		EXIT LIGHT WALL MOUNTED (SHADING INDICATES FACE) > F1,F2,F3 = FIXTURE BATTERY EMERGENCY FIXTURE
1.02.	REGULATORY REQUIREMENTS		a. Includes anchors, bolts, braces, boxes, bodies, clamps, fittings, guards, nuts, pins, rods, shims, thimbles, washers, and miscellaneous parts; other than stainless	<b>A</b> LT	SWITCHES
А.	National Electrical Code, NEC (2014) 1. Comply with NEC/NFPA No. 70, for construction and installation	В.	steel or non-ferrous materials. Isolation of Dissimilar Metals: Separate dissimilar metals with	$\boldsymbol{\omega}$	SINGLE POLE SWITCH UNLESS NOTED
	of basic materials. 2. NEC 300—21: Wiring Methods; Spread of Fire or Products of Combustion.	2.09.	NEC approved material. LUMINAIRES	3 <del>(A</del>	THREE WAY SWITCH J OTHERWISE
В.	3. Building code for the Village of Charry Valley Underwriter's Laboratories, UL:	A.	Manufacturer: See lighting fixture schedule on floor plans.		RECEPTACLES
4.07	1. All basic materials listed and labeled by UL.	2.10.	EXIT SIGNS		DUPLEX RECEPTACLE DUPLEX RECEPTACLE, GROUND FAULT TYPE NOTED OTHERWISE
1.03.	REFERENCED American National Standards Institute, ANSI:	A.	Manufacturers: See lighting fixture schedule on floor plans. EXECUTION		MISCELLANEOUS
<b>.</b>	<ol> <li>C80.3: Specification for Electrical Metallic Tubing, Zinc Coated.</li> </ol>	3. 3.01.	INSTALLATION	×**	MOTOR OUTLET BOX (* HP, KW OR KVA). VERIFY EXACT LOCATION AND HEIGHT OF ALL MOTORS BEFORE ROUGH-IN.
В.	National Electrical Manufacturer's Association, NEMA: 1. Enclosures: Publication 250.	Α.	Drawings are diagrammatic and are intended to convey scope of work and indicate general arrangement of conduit, boxes, equipment,		OUTLET WITH FINAL CONNECTIONS TO EQUIPMENT. WHICH IS
С.	a. Type 1: Indoor use, atmospheric conditions normal. Underwriter's Laboratories, UL	3.02.	fixtures and other work included in contract.	J	FBO. VERIFY EXACT LOCATION AND HEIGHT BEFORE ROUGH-IN. CEILING SURFACE JUNCTION BOX
1.04.	SUBMITTALS	A.	Locations: 1. Above—Grade Interior Locations: Electrical metallic tubing.		SAFETY SWITCH (F = FUSED) $4'-6"$ AFF
А.	Shop Drawings: 1. Submit drawings for: a. Lighting fixtures.		<ol> <li>Install liquid-tight flexible conduit where subjected to one or more of the following conditions.</li> </ol>		TRANSFORMER SURFACE ELECTRICAL PANEL 36" AFF TO BOTTOM UNO
id.	b. Electrical Panel. c. Receptacles.		<ul> <li>a. Moist or humid atmosphere where condensate can be expected or accumulate.</li> <li>b. Corrosive atmosphere.</li> </ul>		RECESSED ELECTRICAL PANEL 36" AFF TO BOTTOM UNO
1.05.	PROJECT RECORD DOCUMENTS		c. Subjected to water spray. d. Subjected to dripping oil, grease, or water.		WIRING IN CONDUIT CONCEALED, ABOVE CEILINGS OR IN CHARACTER MARKS= WALLS
А.	Accurately record on mylar sepia copy of actual locations and wiring methods and "As-built" record documents.		<ol><li>Size raceways in accordance with NEC for TW wire regardless of wire type used.</li></ol>		WIRING IN CONDUIT CONCEALED IN OR UNDER FLOORS NONE ARE SHOWN PROVIDE (UNO) TWO EXCEPT IF A GROUND
В.		В.	Installation of Conduit: 1. Install conduit and tubing products indicated, in accordance		WIRING HOMERUN TO PANEL
1.06.	DRAWINGS AND SPECIFICATIONS		with manufacturer's written instructions and requirements of NEC and NECA, Standard of Installation. 2. Conceal conduit in all areas excluding mechanical, electrical	$\frown$	GROUND CONDUCTOR REFERENCE NOTE
A.	With the exception of systems and equipment furnished by Owner, it is intended that work covered by Specifications and Drawings includes systems complete and operative, irrespective of whether or		and other unfinished rooms, connections to motors, and connections to surface cabinets.		TELEPHONE SYSTEM
	not every item is specifically shown on plans and/or specified. Any omission of direct reference herein to any essential item shall		<ol> <li>Attach conduit with clamps.</li> <li>Coordinate installation of conduit in partition work.</li> <li>Install conduit free from dents and bruises.</li> </ol>		TELEFTIONE STATEM TELEPHONE CONDUIT CONCEALED ABOVE CEILINGS OR IN WALLS
В.	not excuse contractor from complying with above intent. In case of error or inconsistency, between Specifications and Drawings or within either document itself the item or arrangement		<ol> <li>Plug conduit ends to prevent entry of dirt or moisture.</li> <li>Clean out conduit before installation of conductor(s).</li> </ol>	T-\	WALLS TELEPHONE CONDUIT CONCEALED IN OR UNDER FLOORS
	of better quality, greater quantity or highest cost shall take precedence over drawings as directed by Owner. Figured dimensions		8. Alter conduit routing to avoid structural obstructions, minimize cross—overs; and where possible, install raceways	⊳	WALL TELEPHONE OUTLET BOX 18" AFF "W" = $4'-6$ " AFF
	supersede scaled dimensions. Contractor shall take no advantage of, an shall promptly call Owner's attention to any error, omission or	d	above water and steam piping. 9. Allow minimum 6 inch clearance at flues, steam pipes, and heat sources.		PROVIDE 1/2" EMPTY CONDUIT TO ABOVE ACCESSIBLE CEILING UNO
C.	inconsistency in Specifications and Drawings prior to submitting Material shall be new. Seconds or damaged materials will be		<ol> <li>Route all exposed conduits parallel or perpendicular to building lines.</li> </ol>		
	rejected by Owner, who reserves the right to disapprove and reject any materials, proposed or installed which, in their opinion, fail		<ol> <li>Fire rated walls, partitions, floors, ceiling penetrations: Sealed in accordance with NEC 300-21.</li> </ol>		ELECTRICAL ABBREVIATIONS
	to meet quality standards specified. Contractor shall, at his expense, remove any rejected materials and replace with approved materials.		a. Flexible conduit sufficient length to avoid vibration transmission. 12. Building Expansion Joints: Install UL listed expansion	AC AFF	ABOVE COUNTER MAG MAGNETIC ABOVE FINISHED FLOOR MAX MAXIMUM
2.	PRODUCTS		fittings complete with grounding jumpers where conduits cross building expansion joints.	AM	AMMETER MDP MAIN DISTRIBUTION PANEL AMPERES MFR MANUFACTURER
2.01.	RACEWAYS		<ul> <li>a. Provide bends or offsets in conduit adjacent to building expansion joints where conduit is installed above suspended ceiling.</li> </ul>	ASC C	ABOVE SUSPENDED CEILING MIN MINIMUM CONDUIT MTD MOUNTED
Α.	Conduit Materials, Components: 1. Conduit:	3.03.	RACEWAY SYSTEM IDENTIFICATION	ہر DP DISC	CENTER LINE MTG MOUNTING DISTRIBUTION PANEL MH METAL HALIDE DISCONNECT NEC NATIONAL ELECTRICAL CODE
	a. Electrical Metallic Tubing: ANSI C80.3. 2. Couplings:	Α.	ldentify all exposed conduits and boxes as follows: 1. Boxes, on face of coverplate.	EC E	ELECTRICAL CONTRACTOR N?C NOT IN CONTRACT EMERGENCY NL NIGHT LIGHT
2.02.	a. EMT Conduit: Set screw. WIRES AND CABLES		a. Power — Show panel, voltage and circuit number, painted stenciled letters. (Black letters, yellow background).	FBO	FURNISHED BY OTHER THAT ELECTRICALPHPHASE (?)CONTRACTOR.COMPLETELY WIRED,PNLPANEL
Α.	Building Wiring: 98% conductivity copper, 600 volt insulation, THWN or THHN.	_	b. Systems — Indicate system, such as sound, clock, telephone, etc., (black letters, yellow background).		WITH FINAL CONNECTIONS TO EQUIPMENTSSSTAINLESS STEELAND DEVICES, BY ELECTRICAL CONTRACTOR.SWSWITCHFLUORESCENTSWBDSWITCHBOARD
В.	Branch Circuit Wiring: Conductors smaller than #12 AWG not permitted.	В.	ldentify all conduit and boxes above accessible ceilings. 1. Follow steps A.1. above.	FL FLA GFI	FULL LOAD AMPS XFMR TRANSFORMER GROUND FAULT INTERRUPTER TS TIME SWITCH
C.	Provide permanent plastic name tag indicating load fed.	C.	Lettering to be as large as possible for each conduit size.	HP HT	HORSEPOWERTTBTELEPHONETERMINALBOARDHEIGHTUNOUNLESSNOTEDOTHERWISE
2.03. A.	WIRING SYSTEM IDENTIFICATION Wire Insulation Color:	3.04.	WIRE AND CABLES	?BEC ?NC ?WS	?NSTALLED BY ÉC     V     VOLT       ?NCANDESCENT     VM     VOLTMETER       ?N WALL SPACE     W     WIRE
	120/208 v., 3 phase, 4 wire 1. Phase A Black	Α.	Installation: 1. Make conductor length for parallel feeders identical.	JB KW	?N WALL SPACEWWIREJUNCTION BOXWBECWIRED BY ECKILOWATTSWPWEATHERPROOF
	<ol> <li>Phase B Red</li> <li>Phase C Blue</li> <li>Neutral White</li> </ol>		<ol> <li>Lace or clip groups of feeder conductors at distribution center, pull boxes and wireways.</li> <li>Conductor size indicated on drawings indicates ampacity</li> </ol>	LTG	LIGHTING
0.04	5. Ground Green	3.05.	requirements using copper conductors. BOXES		
2.04. A.	BOXES Outlet Boxes: Hot dipped galvanized, 1.25 oz./sq. ft. or cadmium	Э.09. А.	Installation: 1. Provide knockout closures to cap unused knockout holes where		
	plated. 1. Interior Boxes: Pressed sheet steel, with knockouts for conduit; attached lugs for locating.		blanks have been removed. 2. Support all boxes independently of conduit.		
	<ol> <li>Ceiling Boxes: 4 inch octagon boxes for 1 fixture; including fixture studs and maximum 2 connecting conduits.</li> </ol>		3. Outlet Boxes: a. Flush mount outlet boxes in areas other than mechanical		EADED RODS
	<ol> <li>Flush Mounted in Walls:</li> <li>a. Boxes with matching plaster cover for single or two gang</li> </ol>		rooms, electrical rooms, and above removable ceilings. b. Masonry Walls: 1) Adjust position of outlets in finished masonry walls	BY STRUCTU	
	b. Twoledang box or larger for conductors, conductor joints,		to suit masonry course lines. 2) Coordinate cutting of masonry walls to achieve neat	PROVIDE FLE CONDUIT CO	
В.	Pull Boxes and yithtation in Bixes. and contributed birth truction; with screw- on or hinged cover.		openings for boxes. 3) Locate boxes in masonry walls so that only corner need be cut from masonry units.		Y/SECONDARY.
	<ol> <li>Flush Mounted Pull Boxes: Overlapping covers with flush—head cover retaining screws; prime coated.</li> </ol>		c. Do not use sectional boxes unless approved by Architect/Engineer.		
2.05.	SUPPORTING DEVICES		<ul> <li>Adjust outlet mounting height to grade with specified location for equipment served.</li> <li>4. Pull Boxes and Junction Boxes: Locate pull boxes and junction</li> </ul>		
Α.	Conduit Supports: 1. Single Runs: Galvanized conduit straps or ring bolt type hangers with specialty spring clips.		4. Pull Boxes and Junction Boxes: Locate pull boxes and junction boxes above removable ceilings or in electrical rooms, utility rooms, or storage areas.	<b>Г</b> Н	
В.	2. Vertical Runs: Channel support with conduit fittings. Anchors	3.06.	SUPPORTING DEVICES		
	<ol> <li>Hollow Masonry: Toggle bolts or spider type expansion anchors.</li> <li>Solid Masonry: Lead expansion anchors or preset inserts</li> </ol>	Α.	Installation: 1. Maintain headroom, neat mechanical appearance, and support	4	
	<ol> <li>3. Metal Surfaces: Machine screws, bolts, or welded studs.</li> <li>4. Wood Surfaces: Wood screws.</li> </ol>		equipment loads specified.		
	<ol> <li>Concrete Surfaces: Self-drilling anchors or power-driven studs.</li> </ol>			THRU 112.5 KVA	
2.06.	FIRE AND SMOKE PENETRATION SEALANT				
Α.	NEC 300-21; UL rated flexible sealant.				
				0	
					WALL MOUNTING BRACKET
				SIZE GROUND IN	
				ACCORDANCE WI 250 OF THE NAT	TIONAL
				ELECTRICAL CODI TO BUILDING STE	EL AS ABOVE FINISHED FLOOR
				REQUIRED.	OR AS HIGH AS POSSIBLE TO PROVIDE INSTALLATION
					APPROVED BY ARCHITECT/ ENGINEER.
		•		$\Lambda/\Delta$     $\Lambda/C$	DUNTING DETAIL OF
					112,5 KVA TRANSFORMERS
				NO SCALE	PURELY DIAGRAMMATIC







. 01-17-2023	Issued for Bids
C COPYRIGHT	Blakemore Architects 2022
<u> </u>	
С сорукіснт Project No.	Blakemore Architects 2022 21-13
<u> </u>	
Project No.	
<u> </u>	
Project No.	21-13
Project No.	
Project No.	21-13
Project No. Scale Sheet Title	21-13 NONE
Project No. Scale Sheet Title	21-13 NONE SPECIFICATIONS
Project No. Scale Sheet Title	21-13 NONE
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Project No. Scale	21-13 NONE SPECIFICATIONS & SYMBOLS Sheet No.
Project No. Scale	21-13 NONE SPECIFICATIONS & SYMBOLS
Project No. Scale	21-13 NONE SPECIFICATIONS & SYMBOLS Sheet No. E103
Project No. Scale Sheet Title LECTRICAL	21-13 NONE SPECIFICATIONS & SYMBOLS Sheet No

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F	Rockford, Illinois	

Four Rivers Sanitation Authority

2217 for

New Collection

Systems Operation

Facility

Capital Project No.

815-227-0023 Brian@m-b-arch.com blakemore-architects.com Legacy Designs, Inc. 6116 Mulford Village Drive ROCKFORD, ILLINOIS 61107 Professional Design Firm No. 184–003483 815–484–4708 Phone 815–484–4710 Fax e-mail legacy@legacydesigns.net web site www.legacydesigns.net

BLAKEMORE

ARCHITECTS

400 N. First Street Rockford, IL 61107

Telephone:

Email: Web:

# ELECTRICAL SPECIFICATIONS:

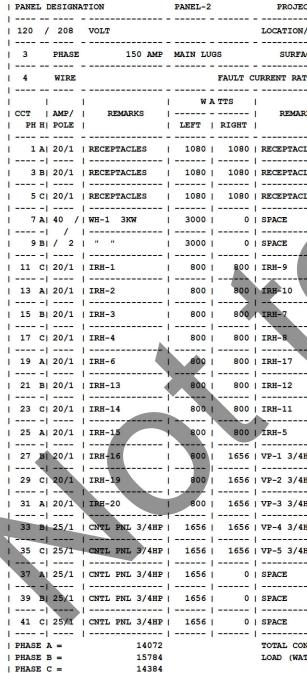
1.01.	WORK INCLUDES	2.04.	BOXES
А. В.	Raceways. Wires and cables.	Α.	Outlet Boxes: Hot dipped plated.
C. D.	Boxes. Supporting devices.		1. Interior Boxes: Press conduit; attached lug
1.02.	REGULATORY REQUIREMENTS		2. Ceiling Boxes: 4 inc fixture studs and mo
Α.	National Electrical Code, NEC (2014) 1. Comply with NEC/NFPA No. 70, for construction and installation		3. Flush Mounted in Wall a. Boxes with matc outlets.
	of basic materials. 2. NEC 300—21: Wiring Methods; Spread of Fire or Products of	В.	b. Two gang box or conduit terminat Pull Boxes and Junction Bo
В.	Combustion. 3. Building code for the city of Rockford. Underwriter's Laboratories, UL: 1. All basic materials listed and labeled by UL.	D.	on or hinged cover. 1. Flush Mounted Pull Bo cover retaining screw
1.03.	REFERENCED	2.05.	SUPPORTING DEVICES
A.	American National Standards Institute, ANSI: 1. C80.3: Specification for Electrical Metallic Tubing, Zinc	Α.	Conduit Supports: 1. Single Runs: Galvani:
В.	Coated. National Electrical Manufacturer's Association, NEMA: 1. Enclosures: Publication 250. a. Type 1: Indoor use, atmospheric conditions normal.	В.	hangers with specialt 2. Vertical Runs: Chanr Anchors 1. Hollow Masonry: Tog
C.	Underwriter's Laboratories, UL		anchors. 2. Solid Masonry: Lead
1.04. A.	SUBMITTALS Shop Drawings:		3. Metal Surfacés: Mac 4. Wood Surfaces: Woo 5. Concrete Surfaces: 5
	<ol> <li>Submit drawings for:</li> <li>a. Lighting fixtures.</li> </ol>	C.	studs.
	b. Electrical Panel. c. Receptacles.	0.	All 120V, single phase, 15 bedrooms shall be protec combination type installed
1.05.	PROJECT RECORD DOCUMENTS		circuit (NEC 210.12).
А. В.	Accurately record on mylar sepia copy of actual locations and wiring methods and "As-built" record documents. Submit for Architect's review.	2.06.	FIRE AND SMOKE PENETRAT
ы. 1.06.	DRAWINGS AND SPECIFICATIONS	A.	NEC 300-21; UL rated fle
A.	With the exception of systems and equipment furnished by Owner, it	2.07. A.	CORROSION PREVENTION Protect all metallic materic 1. All equipment enclosu
В.	is intended that work covered by Specifications and Drawings includes systems complete and operative, irrespective of whether or not every item is specifically shown on plans and/or specified. Any omission of direct reference herein to any essential item shall not excuse contractor from complying with above intent. In case of error or inconsistency, between Specifications and Drawings or within either document itself the item or arrangement of better quality, greater quantity or highest cost shall take		standard finish by m 2. Ferrous Metal Parts: A153. a. Includes anchors, fittings, guards, washers, and mi steel or non—fer
	precedence over drawings as directed by Owner. Figured dimensions supersede scaled dimensions. Contractor shall take no advantage of, and shall promptly call Owner's attention to any error, omission or	В.	Isolation of Dissimilar Meta NEC approved material.
	inconsistency in Specifications and Drawings prior to submitting bid.	2.08.	PANELBOARD ACCEPTABLE MANUFACTURE
C.	Material shall be new. Seconds or damaged materials will be rejected by Owner, who reserves the right to disapprove and reject any materials, proposed or installed which, in their opinion, fail to meet quality standards specified. Contractor shall, at his expense, remove any rejected materials and replace with approved	Α.	<ol> <li>Square D.</li> <li>Cutler. Hammer.</li> <li>ITE-Siemens.</li> <li>G.E</li> </ol>
2.	materials. PRODUCTS	В.	FABRICATION
2.01.	RACEWAYS		1. Panels: Flush or Surf having concealed hin
Α.	Conduit Materials, Components:		locking door with flux
	<ol> <li>Conduit:</li> <li>a. Electrical Metallic Tubing: ANSI C80.3.</li> <li>Couplings:</li> </ol>		2. Tub: Galvanized.
	a. EMT Conduit: Set screw.		<ol> <li>Keys: Provide two ke interchangeable for p</li> </ol>
2.02.	WIRES AND CABLES		4. Branch circuit panelb indicated on the dra
А. В.	Building Wiring: 98% conductivity copper, 600 volt insulation, THWN or THHN. Branch Circuit Wiring: Conductors smaller than #12 AWG not		5. Branch non-interchar
В. С.	permitted. Provide permanent plastic name tag indicating load fed.		lighting and small me bolt—on circuit break
2.03.	WIRING SYSTEM IDENTIFICATION		6. Branch circuits for fe shall consist of therr
A.	Wire Insulation Color:		molded case bolt-on capacity indicated.
	120/208 v., 3 phase, 4 wire		7. Breakers shall have t
	<ol> <li>Phase A Black</li> <li>Phase B Red</li> <li>Phase C Blue</li> <li>Neutral White</li> </ol>		drawings. Breakers : 8. Each conductor termi type solderless lug.
	5. Ground Green		

Phase A Brown

Phase B Orange Phase C Yellow

Ground Green Neutral Gray

	DESIGNA	TION	PANEL-3		PROJECT NO					PANEL		TION	PANEL-2		PROJEC
120 /	208				LOCATION/ROOM			i	i i	120	/ 208	VOLT			LOCATION/
3	PHASE	150 AMP	MAIN LUC	3S	SURFACE	MOUNTE	D	i		3	PHASE		MAIN LU	GS	SURFA
4	WIRE			FAULT C	URRENT RATING		AIC	. i		4	WIRE			FAULT C	URRENT RAT
1		I I	WA	TTS	L	1		j			L .	-	I W 2	A TTS	l.
PH H	AMP/ POLE	I	LEFT	RIGHT		AMP/   POLE	P	H I		PH H	POLE	I	LEFT	RIGHT	
1 A	15 /	EF-1 2HP	936	936	EF-2 2HP	15 /	2	A	i i	1 A	20/1	RECEPTACLES	1080	1080	RECEPTACL
3 B	1		936	936		1 /	4	B		3 B	20/1	   RECEPTACLES	1080	1080	RECEPTACL
						·   /   / 3									
		EF-4 2HP			the state of the state of the							  WH-1 3KW	   3000		SPACE
		   " "			   " "	·   /						      "   "	3000		SPACE
		   " "				-   /   / 3						   IRH-1	800		IRH-9
		  EF-5 2HP			  EF-6 2HP							   IRH-2	   800		IRH-10
		   " "	   936			- 1 /						   IRH-3	800		IRH-7
	C) 0	 " "	   936			-   /   / 3						   IRH-4	800		IRH-8
		EF-8 2HP			Contraction and the second			1	0	   19 A				   800	
1	1							1	0			1			
1	1				1			1	j.						IRH-11
i			i i			- 1		1							
1	1	EF-11 2HP   			·			1						·	
i	/							1	1						
i								I			i		i	i	
-		EF-9 2HP										IRH-20 			VP-3 3/4H
33 BI		" " 		936		- 1 /						CNTL PNL 3/4HP			
		" " 		936		/ 3 -						CNTL PNL 3/4HP			
	20/1	EF-13	800   		EF-16	20/1						CNTL PNL 3/4HP			SPACE
39 BI	20/1		800	0	SPACE	20/1	40	B				CNTL PNL 3/4HP 			SPACE
41 C)	20/1		800	0	SPACE	20/1	42	CI		41 C	25/1	CNTL PNL 3/4HP	1656	1 0	SPACE
PHASE A	A =	12832 12032			TOTAL CONNECTI LOAD (WATTS) =	D		I	1	PHASE	A =	14072 15784			TOTAL CON LOAD (WAT
PHASE C		12032			36896			i		PHASE		14384			



- dipped galvanized, 1.25 oz./sq. ft. or cadmium Pressed sheet steel, with knockouts for sched lugs for locatina. 4 inch octagon boxes for 1 fixture; including and maximum<sup>2</sup> connecting conduits. in Walls:
- ith matching plaster cover for single or two gang box or larger for conductors, conductor joints, terminations and wiring devices. nction Boxes: NEC metal construction; with screw— Pull Boxes: Overlapping covers with flush-head ing screws; prime coated.
- Galvanized conduit straps or ring bolt type specialty spring clips. Channel support with conduit fittings. ry: Toggle bolts or spider type expansion
- Lead expansion anchors or preset inserts es: Machine screws, bolts, or welded studs. s: Wood screws. faces: Self-drilling anchors or power-driven
- hase, 15 Amp and 20 Amp branch circuits serving protected by a listed arc-fault circuit interrupter, installed to provide protection to the branch circuit
- ENETRATION SEALANT
- rated flexible sealant. TION
- materials against corrosion. enclosures given rust-inhibiting treatment and sh by manufacturer. Parts: Hot dip galvanized, ASTM A123 or ASTM anchors, bolts, braces, boxes, bodies, clamps, guards, nuts, pins, rods, shims, thimbles,
- and miscellaneous parts; other than stainless non-ferrous materials. ilar Metals: Separate dissimilar metals with terial.
- FACTURERS
- or Surface mounted complete with panel trim aled hinges and trim mounting screws. Provide with flush catch.
- two keys for each panel. Make keys ible for panels of same voltage.
- panelboards shall be of size and capacity as the drawings.
- interchangeable trip thermal magnetic circuits for small motors shall consist of molded case, uit breakers.
- its for feeders and power loads over 100 amperes of thermal magnetic non- interchangeable trip bolt-on type circuit breakers of rating, type and cated.
- have thermal ratings as indicated on the Breakers shall be rated for local switching duty. tor terminal shall be provided with a bolted clamp

- 9. Breakers shall be back connected to bus bars with studs. All spaces for future breakers in all panels shall be equipped with proper buss connecting links to facilitate the installation of future breakers. Breakers shall have trip elements calibrated in accordance with the drawings. The trip element shall insure constant calibration and be capable of withstanding excessive short current conditions without injury to the breaker.
- 10. Breakers shall have inverse time limit characteristics so that tripping will be prevented on momentary overloads, but will clear before dangerous values are reached and shall have quick—make and quick—break toggle mechanism and a position between manual "on" and "off" positions when breaker is tripped.
- 11. Each breaker shall be provided with a numerical designation strip to properly identify the circuit served. Buss bars for all panels shall be hard drawn electrolytic copper of 98% conductivity rated 1000 amperes per square inch and shall be of size in strict accordance with NEMA requirements.
- 12. Multi-pole breakers shall have common trip with single handle. Tying single pole breaker handles together is not acceptable.
- 13. Neutrals shall be grouped on a common bar and each terminal on the neutral bar shall be stamped with the number of the circuit with which it is associated.
- 14. Panel cabinets shall not be less than 20" wide, 5-3/4" deep and shall have gutters at each side and at top and bottom of ample width to accommodate branch circuit feeder conductors. All gutters shall be minimum 4" width except that gutters where cables are connected to panelboard main lugs and gutters used for through feed of feeder conductors shall be sized in accordance with the following schedule:
- Up to #1/0 4" minimum 15. Enclosure shall be of code gauge steel with ample wiring space
- on all sides. Trim and door shall be of #12 gauge steel fastened to the tub with adjustable clamps. Door shall be provided with flush type hinges and chrome plated flush type combination catch and cylinder lock masterkeyed. Panel shall be provided with a circuit directory under glass in a metal frame. Panel tub shall be galvanized. Trim and door shall be painted standard factory finish for final painting on job by General Contractor.
- 16. Cabinets for panels shall comply with all NEMA standards and shall be of the dead front type suitable for surface or recessed mountings as indicated on drawings.
- 17. All panelboard equipment shall include a ground bus. Provide isolated ground bus where called for under panel schedules.
- 2.09. LUMINAIRES
- A. Manufacturer: See lighting fixture schedule on floor plans. 2.10. EXIT SIGNS
- A. Manufacturers: See lighting fixture schedule on floor plans. 2.11. BALLASTS
- A. Fluorescent Ballast Rapid Start Electronic:
- Magna Tek. Description: ANSI C82.1A, high power factor type (above .95) electronic ballast, Class P, sound rating A.
- FCC Regulation RFI and EMI CFR 47 Part 18 NEMA. Transient Protection - ANSI C62.41, CAT. A. Voltage: 108 to 132 for 120 volt circuit; 249 to 305 for 277 volt circuit at input frequency of 60 HZ light output
- to remain constant for voltage fluctuation of plus or minus 5%.
- Frequency 25 Khz of higher with less than 2% lamp flicker. Lamp current crest factor - maximum 1. Total harmonic distortion - 10% or less. Ballast efficiency - above 91% (power out/power in).
- 10. Ballast shall not contain PCBs. EXECUTION
- 3.01. INSTALLATION

Α.

- A. Drawings are diagrammatic and are intended to convey scope of work and indicate general arrangement of conduit, boxes, equipment, fixtures and other work included in contract. 3.02. RACEWAYS
  - Above-Grade Interior Locations: Electrical metallic tubing. quid-tight flexible conduit where subjected to one
  - nore of the following conditions. oist or humid atmosphere where condensate can be expected accumulate.
  - b. Corrosive atmosphere. Subjected to water spray.
  - d. Subjected to dripping oil, grease, or water. Size raceways in accordance with NEC for TW wire regardless of wire type used.

- ---- -- ----- - ------ - ------

	DESIGNA		PANEL-2		PROJECT NO.				DESIGN		PANEL-1		PROJECT NO.		
20	/ 208				LOCATION/ROOM:			1 120	/ 208	VOLT			LOCATION/ROOM:		
3	PHASE		MAIN LU	GS	SURFACE	MOUNTI	 ED		PHASE	400 AMP	MAIN LU	GS	SURFACE	MOUN	
4	WIRE			FAULT C	URRENT RATING		AIC.	4	WIRE			FAULT C	CURRENT RATING		
	I	·	W A	TTS	·		I			1	I W 2	A TTS	·		
	AMP/   POLE		   LEFT			AMP/ POLE		CCT   PH H	AMP/    POLE		·   LEFT			AMP/	
1 A	20/1	RECEPTACLES	1080	1080	RECEPTACLES	20/1	2 A			EWH-1 HEATER	1000	1000	EWH-1 HEATER	20 /	
					RECEPTACLES	20/1	   4 B	   3 I	-1 / 31 / 2	  2 KW	1000			/  / 2	
		and the second second second			RECEPTACLES	20/1			1	   EWH-1 HEATER				20 /	
		and the second second	       3000		SPACE		   8 A		-  / A / 2	  2 KW			A REAL PROPERTY AND	/  / 2	
	1 /	 	       3000				10 B			   EWH-1 HEATER				in the second second	
		  IRH-1	   800				1 1 12 C		-1 /		1000			/ 2	
							1	j		i	i	i	1		
								1	-1	   SPACE		i	1		
	1		i i					1	-1	i		i	I		
							18 C 		-1	VEHICLE LOOP 		i	I	20/1	
	20/1 		800   		IRH-17		20 A 			VEHICLE LOOP		·	-	20/1 	
	20/1	IRH-13	1 800 I		IRH-12		22 B 			VEHICLE LOOP 		-		20/1	
	20/1	IRH-14	800   		IRH-11		24 C			VEHICLE LOOP 					
		IRH-15	800		IRH-5		26 A		A 20/1	TTB 	1000			/ 2	
27 B	1 20/1	IRH-16	I 800 I		VP-1 3/4HP		28 B			SPACE			ELECTRIC GATE		
29 C	20/1	IRH-19	1 800 1	1656		25/1	1 30 C	1 29 0	20/1	SPACE	I 0	I 576	1 HP	/ 2	
31 A	1 20/1	IRH-20	1 800 1	1656	CARGO AN AND AND AND AND AND AND AND AND AND	25/1	32 A	31 2	A 20/1	SPACE	1 0	I 0	SPACE	20/1	
33 B	25/1	CNTL PNL 3/4HP	1656	1656	VP-4 3/4HP	25/1	34 B	33 1	3  20/1	   SPACE	1 0	1 0	SPACE	20/1	
35 C	25/1	CNTL PNL 3/4HP	1656	1656		25/1	1 36 C	35 0	20/1	   SPACE	1 0	1 0	SPACE	20/1	
37 A	1 25/1	CNTL PNL 3/4HP	1656	0		20/1	38 A	37 2	150/		14072	12832	PANEL-3	150/	
39 B	25/1	CNTL PNL 3/4HP	1656	0		20/1	40 B	39 1	31 /		15786	12032	[ n . n	1	
41 C	25/1	CNTL PNL 3/4HP	1656	0		20/1	42 C	41 0	3 / 3		14384	12032		/ 3	
HASE		14072			TOTAL CONNECTED					37472			TOTAL CONNECTED		
PHASE		15784 14384			LOAD (WATTS) = 44240			PHASE   PHASE		36274 35340			LOAD (WATTS) = 109086		

							-
PANEL DESIGNA		MECH		PROJECT NO.			I
							1
277 / 480				LOCATION/ROOM:			1
3 PHASE				SURFACE	MOUNTE	יםי. חי	1
	400 AMP MAIN				·		ì
4 WIRE			FAULT C	URRENT RATING		AIC.	i
							i
L I	L	W A	TTS	I I		I.	I
CCT   AMP/	REMARKS			REMARKS	AMP/	CCT	I
PH H   POLE	I	LEFT	RIGHT	I I	POLE	PH	I
							I
	EF-1,EF-2,EF-3				20 /		
	" "2 HP EACH			EF-11,EF-12		4 B	
/   5 c  / 3							
	[	2826		" "2 HP EACH		6 C	
	EF-4,EF-5,EF-6				20 /		
	" "2 HP EACH			'   " "2 HP EACH		10 B	
11 C  / 3		2826	1884		/ 3	12 C	i
1							I
13 A  20/1	EF-15	1606	2000	EWH-1	20/1	14 A	I
							I
15 B  20/1	SPACE	0	2000	EWH-1	20/1	16 B	I
							I
		3822			20/1		
						0	10
						20 A	
	VP-3 3/4HP			CTRL PNL 3/4HP			
23 C  20/1		2000		CTRL PNL 3/4HP			
25 A 20/1		2000		CTRL PNL 3/4HP			
1							I
27 B  20/1	EWH-1	2000	500	EF-16	20/1	28 B	I
							I
	EF-13,EF-14					30 C	
-							
	AIR COMPRESSOR					32 A	
		1				10.00	1
	20 HP 	7482				34 B	10
/ 35 C  / 3					20/1		1
	[						
37 AJ 20/1	N. T. C. MARTIN	0			200 /		1
							1
39 B  20/1				PANEL-1,2,3			
41 C  20/1						42 C	
PHASE A =	72754			TOTAL CONNECTED			1
PHASE B =	66628			LOAD (WATTS) =			I
PHASE C =	68240			207622			I
							-

	above wa 9. Allow mir
	sources.
	10. Route all building
	11. Fire rated
	Sealed ir a. Flexi
	tran
	12. Building E fittings o
	building
	a. Prov expo
	susp
3.03.	RACEWAY SYST
Α.	ldentify all exp
	1. Boxes, or
	a. Powe
	sten b. Syste
	tele
В.	ldentify all con
	1. Follow ste
C.	Lettering to be
3.04.	WIRE AND CABL
Α.	Installation:
	1. Make con 2. Lace or d
	center, p
	3. Conducto requirem
3.05.	BOXES
А.	Installation:
	1. Provide k

		b.	Maso 1)
			2)
			3)
		c.	Do n Arch
		d.	Adjus
	4.	box	Boxe es ab ms, o
.06.	SUPF	PORTIN	NG DE
A.	Insta 1.		n: tain ł ipmer
.07.	INST	ALLAT	ION P
Α.	-	ride m	

for unused spaces. panelboard indicating: and wall pattern.

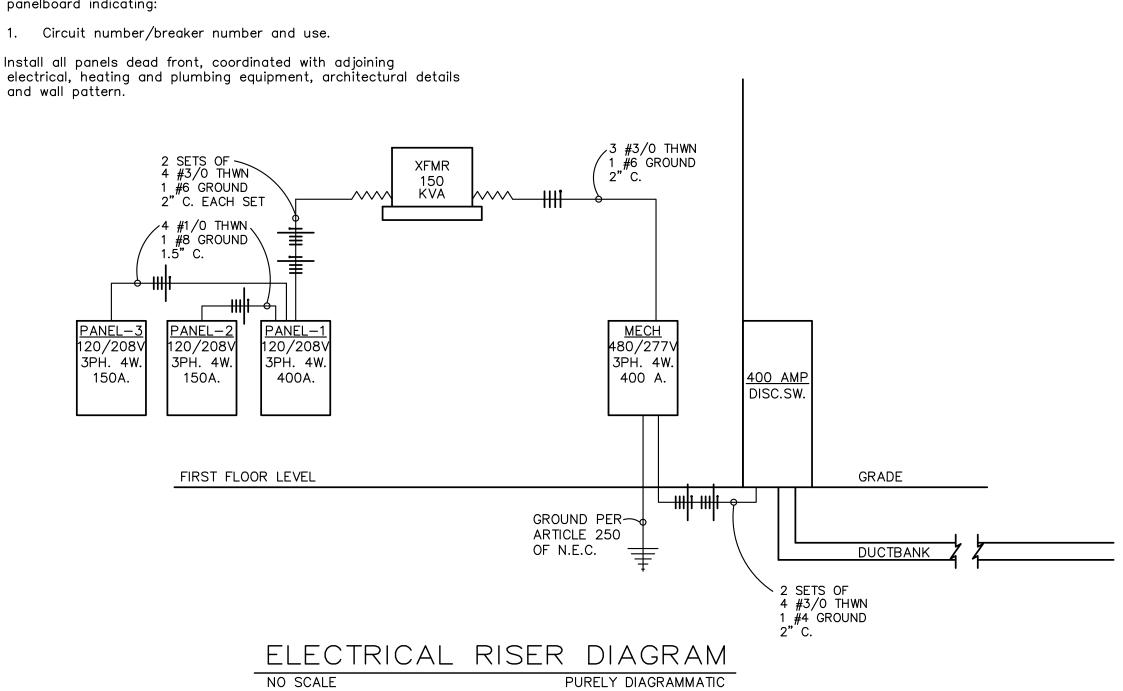
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#### B. Installation of Conduit: Install conduit and tubing products indicated, in accordance with manufacturer's written instructions and requirements of NEC and NECA, Standard of Installation. 2. Conceal conduit in all areas excluding mechanical, electrical and other unfinished rooms, connections to motors, and connections to surface cabinets.

- Attach conduit with clamps. Coordinate installation of conduit in partition work. Install conduit free from dents and bruises. Plug conduit ends to prevent entry of dirt or moisture. Clean out conduit before installation of conductor(s). 8. Alter conduit routing to avoid structural obstructions, minimize cross-overs; and where possible, install raceways ater and steam piping.
  - nimum 6 inch clearance at flues, steam pipes, and heat exposed conduits parallel or perpendicular to lines
  - ted walls, partitions, floors, ceiling penetrations: ible conduit sufficient length to avoid vibration nsmission. Expansion Joints: Install UL listed expansion complete with grounding jumpers where conduits cross
  - expansion joints. vide bends or offsets in conduit adjacent to build ansion joints where conduit is installed a pended ceiling.
  - TEM IDENTIFICATION
  - oosed conduits and boxes as follows:
  - n face of coverplate. wer — Show panel, voltage and circuit number, painted enciled letters. (Black letters, yellow background). tems — Indicate system, such as sound, clock, ephone, etc., (black letters, yellow background).
  - iduit and boxes above accessible ceilings. eps A.1. as large as possible for each conduit size.

  - nductor length for parallel feeders identical. clip groups of feeder conductors at distribution pull boxes and wireways. or size indicated on drawings indicates ampacity nents using copper conductors.
- Provide knockout closures to cap unused knockout holes where blanks have been removed. Support all boxes independently of conduit. Outlet Boxes:
- a. Flush mount outlet boxes in areas other than mechanical rooms, electrical rooms, and above removable ceilings. onry Walls: Adjust position of outlets in finished masonry walls
  - to suit masonry course lines. Coordinate cutting of masonry walls to achieve neat openings for boxes. Locate boxes in masonry walls so that only corner need be cut from masonry units.
  - not use sectional boxes unless approved by hitect/Engineer. ist outlet mounting height to grade with specified ition for equipment served. es and Junction Boxes: Locate pull boxes and junction
  - bove removable ceilings or in electrical rooms, utility or storage areas. EVICES
  - headroom, neat mechanical appearance, and support ent loads specified.
  - PANELBOARDS
- ing brackets, busbar drillings, and filler pieces B. Prepare and affix typewritten directory to inside cover of
- Install all panels dead front, coordinated with adjoining

- Following removed present equipment and materials which are in good В. condition (or are placed in good condition), suitable, meet requirements of these specifications, and are approved in writing by engineer, or called for, may be reused (PXN-PN). Lighting fixtures.
  - peakers.
- Removed conduit and wire must not be reused. Any of above equipment which is not reused and following removed present equipment shall become property of contractor, and shall be removed from premises by him (PX). Equipment so designated on drawings.
- ving present equipment shall be carefully removed, intact, , marked, in—so—far as is practical, shall remain property of Owner, and shall be delivered to Owner outside of building where directed by the engineer (PX-DO). 1. Equipment so designated on drawings.
- Contractor shall:
- Provide new floors under removed present equipment and where called for
- Repair floors under and walls adjacent to removed equipment. to match adjacent construction 3. Fill in present chases which are no longer required and neatly
- patch to match adjacent construction. 4. Cut openings required for:
- a. His work. Admission of new equipment.
- Removal of present equipment. New connection to present construction.
- Patch and repair unused present holes and openings, and those left by the removal of present equipment and admission of new equipment. 6. Patch and repair present equipment, and building construction
- which has been cut, removed, disturbed or marred as required to restore it to original condition before being disturbed. G. Unused openings in enclosures in conduits, boxes, cabinets, and
- panels shall be filled. H. Present painted construction which is marred shall be repaired same
- as new construction. I. Certain abbreviations or symbols, when applied to present (or existing) line, device or equipment, shall have the following meanings.
- K. New conduit serving new and/or present electrical devices in finished rooms or spaces shall be concealed in finished rooms, where possible, or shall be run in adjoining unfinished rooms, shafts, chambers, cloak rooms, etc., where exposed conduit is permitted in finished present rooms by Architect in writing, it shall be wiremold, with matching boxes, run as inconspicuously as possible, in straight lines, parallel to walls and ceilings, with neat bends. Unneeded boxes, switches and wiring shall be completely removed and openings patched. In present rooms or locations where new lighting equipment is shown, present fixtures, boxes, wiring, switches, etc., shall be removed as per note "PX", unless another symbol is shown on drawings. Where specifically approved by Architect in writing, boxes may be permitted to remain and be provided with new flush covers, extending over entire wall
- L. Lighting fixtures which are reused shall have lens and reflectors cleaned. All fixtures shall be provided with new lamps. Work shall be coordinated so that heating, plumbing, electrical and telephone services to the present building will not be interrupted, except as approved by the Architect.
- 3.09. CLEANING A. Clean systems internally before placing in operation. Clean externally and restore damaged surfaces.
- B. Lubricate equipment per manufacturer's instructions. Where lubricating points are not easily accessible, provide extensions.







6.	08-22-2022	Issued for Bids
7.	12-16-2022	Issued for Permit
7.	01-17-2023	Issued for Bids
		BHT Blakemore Architects 2022
Proj	ject No.	21-13
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	&	RISER DIAGRAM
Def	. North	Sheet No.
nei	. NOTUT	Sheet NO.
		F104
F		DESIGN FIRM REGISTRATION #
	-	184-003342
		000100

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DESCRIPTION

Owner Layout Review

Owner Review One

**Owner Review Two** 

Issued for Zoning Review

Initial Owner Layout Review

NO. DATE

05-20-2021

08-18-2021

3. 01-21-2022

4. 02-04-2022

5. 07-14-2022

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



New Collection Systems Operation Facility

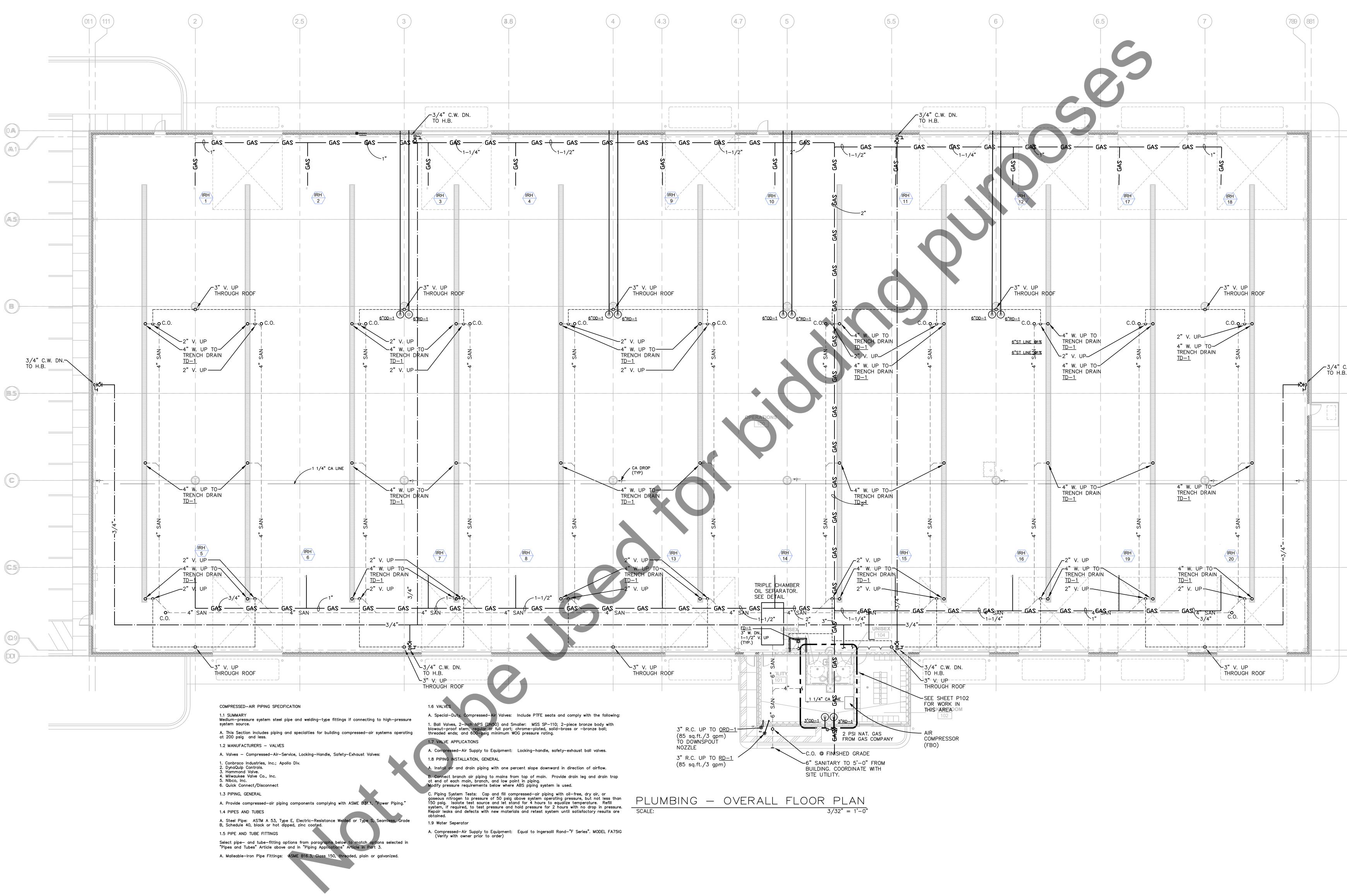
Capital Project No.

2217

for

Legacy Designs, Inc. 6116 Mulford Village Drive ROCKFORD, ILLINOIS 61107 Professional Design Firm No. 184-003483 815-484-4708 Phone 815-484-4710 Fax e-mail legacy@legacydesigns.net web site www.legacydesigns.net

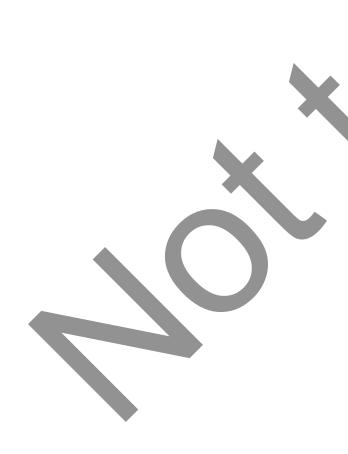


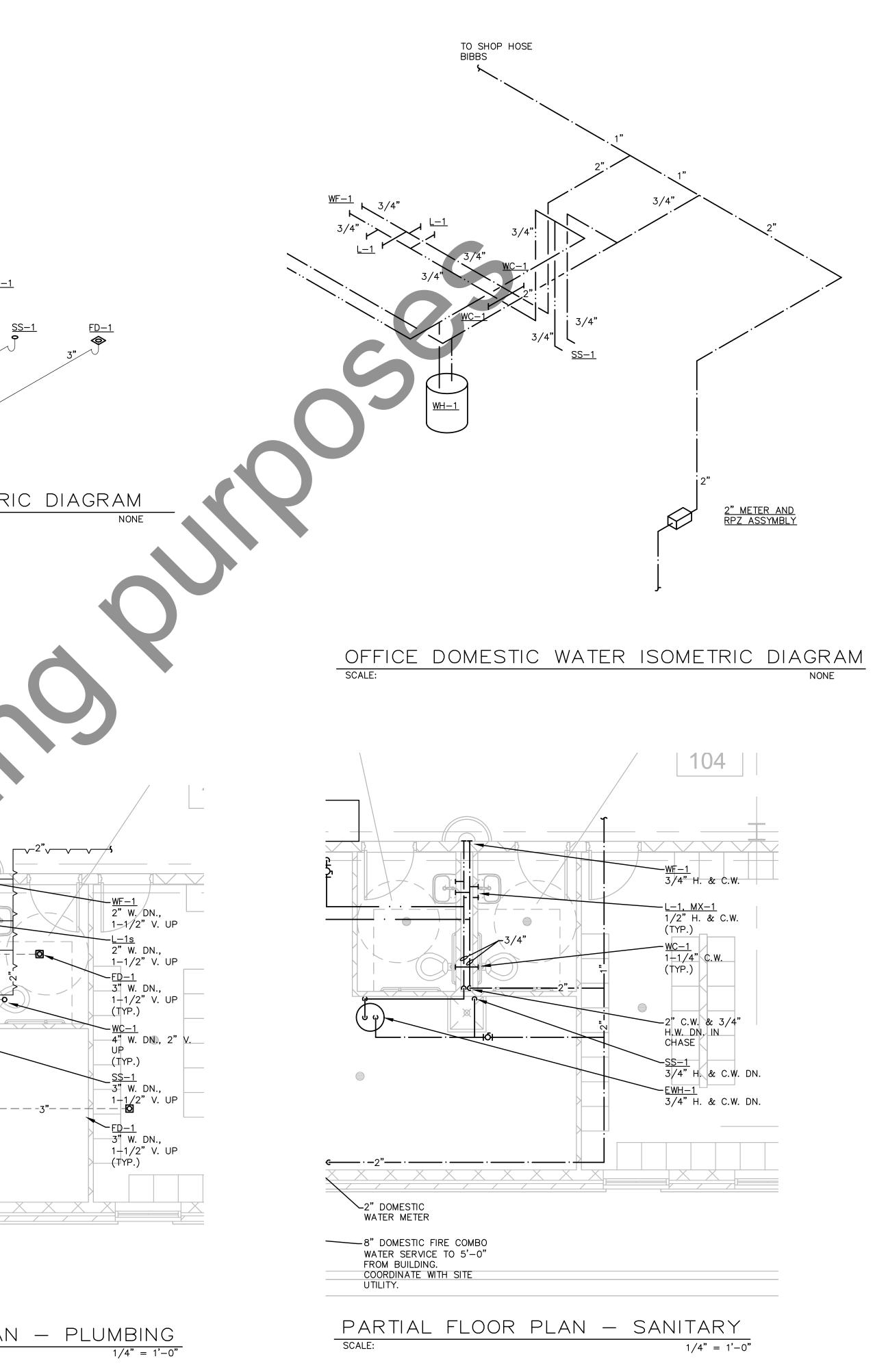




BLAKEMORE ARCHITECTS 400 N. First Street Rockford, IL 61107 815-227-0023 Brian@m-b-arch.com Telephone: Email: blakemore-architects.com Web: Legacy Designs, Inc. 6116 Mulford Village Drive ROCKFORD, ILLINOIS 61107 Professional Design Firm No. 184–003483 815–484–4708 Phone 815–484–4710 Fax e-mail legacy@legacydesigns.net web site www.legacydesigns.net New Collection Systems Operation Facility Capital Project No. 2217 for Four Rivers Sanitation Authority ∼3/4" C.W. 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 TC 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 DESCRIPTIO NO. DATE 1. 05-20-2021 Initial Owner Layout Review 2. 08-18-2021 Owner Layout Review Owner Review On 3. 01-21-2022 Owner Review Tw 02-04-2022 4. 5. 07-14-2022 Issued for Zoning Review Issued for Bid 6. 08-22-2022 Issued for Perm 12-16-2022 Issued for Bid 7. 01-17-2023 C COPYRIGHT Blakemore Architects 2022 21-13 Project No. Scale 3/32" = 1'-0' Sheet Title PLUMBING Overall floor plan Ref. North Sheet Nc  $P10^{-1}$ PROFESSIONAL DESIGN FIRM REGISTRATION # 184-003342 22218

1.JOB DATA: PLANT/ENGINEER       IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	SEE SHOP S SOMETRIC DIAGRAM LR SANITARY I SCALE:
AJOB NAME: FOUR RIVERS B.FOR ROOF AREA IDENTIFIED AS C.LOCATION: CITY: LOVES PARK STATE: IL D.RETURN PERIOD: 100 YR E.OVERFLOW PROVISIONS: PARAPET HEIGHT 1 in 2.SIZING ROOF LENGTH: 350 FT PARAPET LENGTH : 100 FT ROOF WIDTH: 150 FT ROOF AREA: 52500 SQFT PARAPET AREA : 4.2 SQFT 1-HR RAINFALL (INCHES FROM IPC, FIGURE 1106.1 3.5 in/hr RAINFALL In (FT/HR) 0.291667 PIPE SIZE 6 in SLOPE OF HORIZONTAL DRAIN 1/4 in/ft TOTAL CAPACITY FROM TABLE 1106.1 133.5 in/hr RAINFALL IN (FT/HR) 0.291667 PIPE SIZE 6 in SLOPE OF HORIZONTAL DRAIN 1/4 in/ft TOTAL CAPACITY FROM TABLE 1106.1 133.5 in/hr PRESENT FLOW RATE : 114852.9 GPH 1914.216 GPM	ISOMETRIC DIAGRAM
BLFOR ROOF AREA IDENTIFIED AS C.LOCATION: CITY: LOVES PARK STATE: IL D.RETURN PERIOD: 100 YR E.OVERFLOW PROVISIONS: PARAPET HEIGHT 1 in 2.SIZING ROOF LENGTH: 350 FT PARAPET LENGTH : 100 FT ROOF WIDTH: 150 FT PARAPET LENGTH : 100 FT ROOF AREA: 52500 SQFT PARAPET AREA : 4.2 SQFT 1-HR RAINFALL (INCHES FROM IPC, FIGURE 1106.1 3.5 in/hr RAINFALL IN (FT/HR) 0.291667 PIPE SIZE 6 in SLOPE OF HORIZONTAL DRAIN 1/4 IN/ft TOTAL CAPACITY FROM TABLE 1106.1 487 GPM CORRESPONDING AREA 13356.65 SQFT PRESENT FLOW RATE : 114852.9 GPH 1914.216 GPM	ISOMETRIC DIAGRAM
BLFOR ROOF AREA IDENTIFIED AS C.LOCATION: CITY: LOVES PARK STATE: IL D.RETURN PERIOD: 100 YR E.OVERFLOW PROVISIONS: PARAPET HEIGHT 1 in 2.SIZING ROOF LENGTH: 350 FT PARAPET LENGTH : 100 FT ROOF WIDTH: 150 FT ROOF AREA: 52500 SQFT PARAPET AREA : 4.2 SQFT 1-HR RAINFALL (INCHES FROM IPC, FIGURE 1106.1 3.5 in/hr RAINFALL IN (FT/HR) 0.291667 PIPE SIZE 6 in SLOPE OF HORIZONTAL DRAIN 1/4 in/ft TOTAL CAPACITY FROM TABLE 1106.1 487 GPM CORRESPONDING AREA 13356.65 SQFT PRESENT FLOW RATE : 114852.9 GPH 1914.216 GPM	ISOMETRIC DIAGRAM
D.RETURN PERIOD: 100 YR E.OVERFLOW PROVISIONS: PARAPET HEIGHT 1 in 2.SIZING ROOF LENGTH: 350 FT PARAPET LENGTH : 100 FT ROOF WIDTH: 150 FT PARAPET LENGTH : 100 FT ROOF AREA: 52500 SQFT PARAPET AREA : 4.2 SQFT TOTAL AREA 52504.2 SQFT 1-HR RAINFALL (INCHES FROM IPC, FIGURE 1106.1 3.5 in/hr RAINFALL In (FT/HR) 0.291667 PIPE SIZE 6 in SLOPE OF HORIZONTAL DRAIN 1/4 in/ft TOTAL CAPACITY FROM TABLE 1106.1 487 GPM CORRESPONDING AREA 13356.65 SQFT PRESENT FLOW RATE : 114852.9 GPH 1914.216 GPM	
D.RETURN PERIOD: 100 YR E.OVERFLOW PROVISIONS: PARAPET HEIGHT 1 in 2.SIZING ROOF LENGTH: 350 FT PARAPET LENGTH: 100 FT ROOF WIDTH: 150 FT ROOF AREA: 52500 SQFT PARAPET AREA : 4.2 SQFT TOTAL AREA 52504.2 SQFT 1-HR RAINFALL (INCHES FROM IPC, FIGURE 1106.1 3.5 in/hr RAINFALL In (FT/HR) 0.291667 PIPE SIZE 6 in SLOPE OF HORIZONTAL DRAIN 1/4 in/ft TOTAL CAPACITY FROM TABLE 1106.1 487 GPM PRESENT FLOW RATE : 114852.9 GPH 1914.216 GPM	
2.SIZING       Image: Size of the second secon	
ROOF LENGTH:       350       FT       PARAPET LENGTH :       100       FT         ROOF WIDTH:       150       FT       PARAPET LENGTH :       100       FT         ROOF AREA:       52500       SQFT       PARAPET AREA :       4.2       SQFT         TOTAL AREA       52504.2       SQFT       PARAPET AREA :       4.2       SQFT         1-HR RAINFALL (INCHES FROM IPC, FIGURE 1106.1       3.5       in/hr       In/hr         RAINFALL In (FT/HR)       0.291667       In/hr       In/hr         PIPE SIZE       6       in       In/ft       In/hr         SLOPE OF HORIZONTAL DRAIN       1/4       in/ft       In/ft       In/hr         SLOPE OF HORIZONTAL DRAIN       1/4       in/ft       In/hr       In/hr         PRESENT FLOW RATE :       114852.9       GPH       In/hr       In/hr         PRESENT FLOW RATE :       114852.9       GPH       In/hr       In/hr	
ROOF LENGTH:       350       FT       PARAPET LENGTH :       100       FT         ROOF WIDTH:       150       FT       PARAPET LENGTH :       100       FT         ROOF AREA:       52500       SQFT       PARAPET AREA :       4.2       SQFT         TOTAL AREA       52504.2       SQFT       PARAPET AREA :       4.2       SQFT         1-HR RAINFALL (INCHES FROM IPC, FIGURE 1106.1       3.5       in/hr       In/hr         RAINFALL In (FT/HR)       0.291667       In/hr       In/hr         PIPE SIZE       6       in       In/ft       In/hr         SLOPE OF HORIZONTAL DRAIN       1/4       in/ft       In/ft       In/hr         SLOPE OF HORIZONTAL DRAIN       1/4       in/ft       In/hr       In/hr         PRESENT FLOW RATE :       114852.9       GPH       In/hr       In/hr         PRESENT FLOW RATE :       114852.9       GPH       In/hr       In/hr	
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ROOF WIDTH:       150       FT       Image: state of the state o	
ROOF AREA:       52500       SQFT       PARAPET AREA :       4.2       SQFT         TOTAL AREA       52504.2       SQFT	
TOTAL AREA       52504.2       SQFT       Image: Constraint of the state of t	
1-HR RAINFALL (INCHES FROM IPC, FIGURE 1106.1       3.5       in/hr         RAINFALL In (FT/HR)       0.291667	
RAINFALL In (FT/HR)       0.291667       Image: Constraint of the second	
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PIPE SIZE       6       in       Image: state of the state of th	
SLOPE OF HORIZONTAL DRAIN       1/4 in/ft                                                                                                                                 <	103
TOTAL CAPACITY FROM TABLE 1106.1       487       GPM       Image: Comparison of the comparison of	
CORRESPONDING AREA       13356.65       SQFT       Image: Comparison of the second s	
PRESENT FLOW RATE :       114852.9       GPH       Image: Comparison of the second s	
1914.216 GPM	
1914.216 GPM	
TOTAL NO OF ROOF DRAINS       4       Image: Constraint of the second se	
	$5 - 4^{"-} - 4^{"-} - 3^{"-} - 4^{"-}$
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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 TC 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

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1.	05-20-2021	Initial Owner Layout Review
2.	08-18-2021	Owner Layout Review
3.	01-21-2022	Owner Review On
4.	02-04-2022	Owner Review Tw
5.	07-14-2022	Issued for Zoning Review
6.	08-22-2022	Issued for Bid

7. 12-16-2022

7. 01-17-2023

Issued for Perm

Issued for Bid

Rockford, Illinois

Legacy Designs, Inc. 6116 Mulford Village Drive ROCKFORD, ILLINOIS 61107 Professional Design Firm No. 184–003483 815–484–4708 Phone 815–484–4710 Fax e-mail legacy@legacydesigns.net web site www.legacydesigns.net

New Collection

Systems Operation

Facility

Capital Project No.

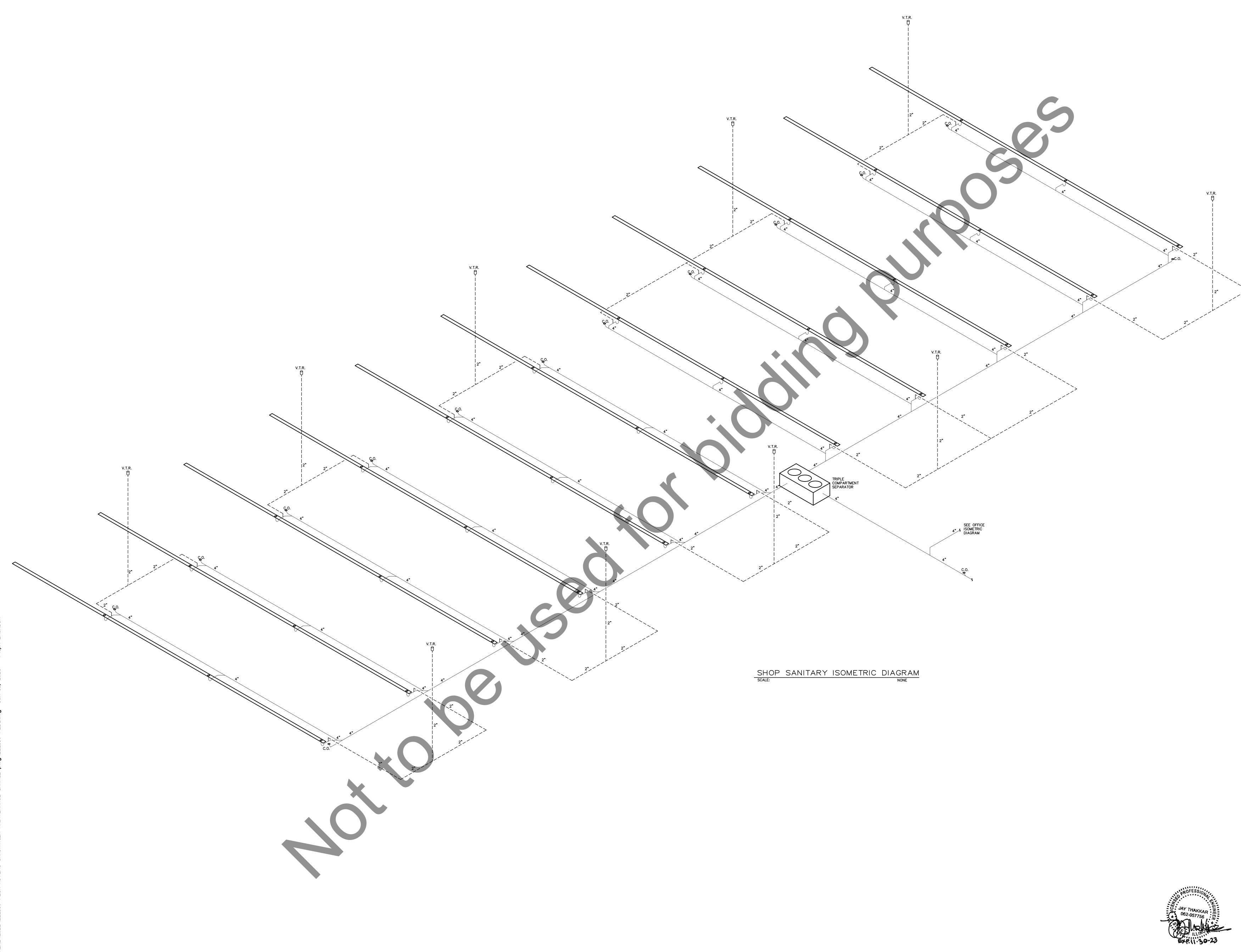
2217

for

Four Rivers Sanitation Authority

ARCHITECTS 400 N. First Street Rockford, IL 61107Telephone:815-227-0023Email:Brian@m-b-arch.comWeb:blakemore-architects.com

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BID. THE CONTRACTOR SHALL COORDINATE ALL DRAWINGS WITH ACTUAL FIELD CONDITIONS PRIOR TC 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 P E R M I S S I O N O F T H E A R C H I T E C T DESCRIPTIO

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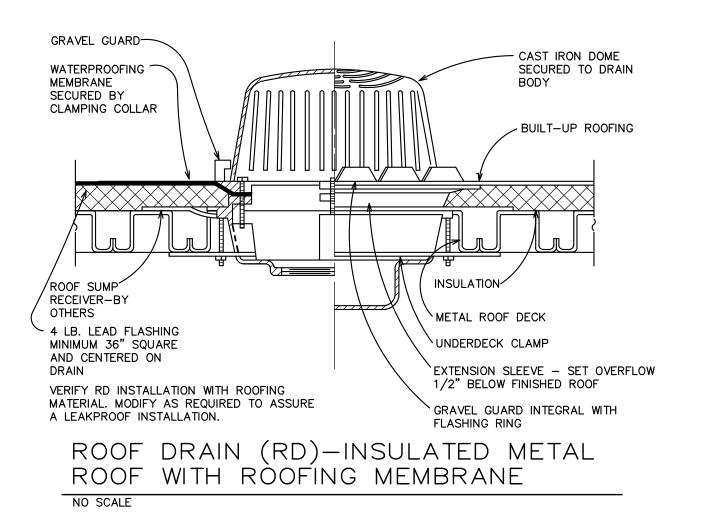
Legacy Designs, Inc. 6116 Mulford Village Drive ROCKFORD, ILLINOIS 61107 Professional Design Firm No. 184–003483 815–484–4708 Phone 815–484–4710 Fax e-mail legacy@legacydesigns.net web site www.legacydesigns.net

B1 BLAKEMORE ARCHITECTS 400 N. First Street Rockford, IL 61107Telephone:815-227-0023Email:Brian@m-b-arch.comWeb:blakemore-architects.com

Four Rivers Sanitation Authority

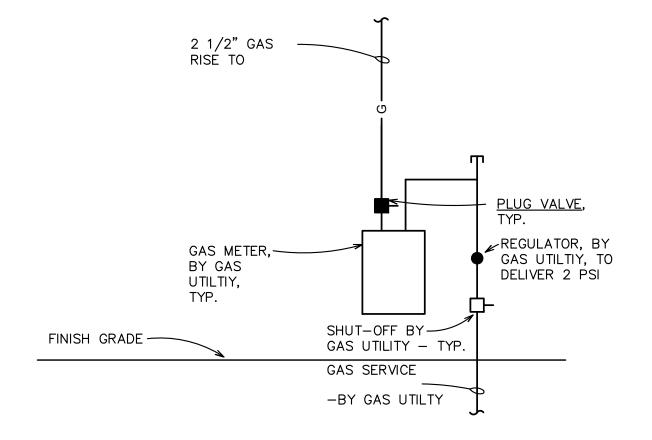
for

New Collection Systems Operation Facility

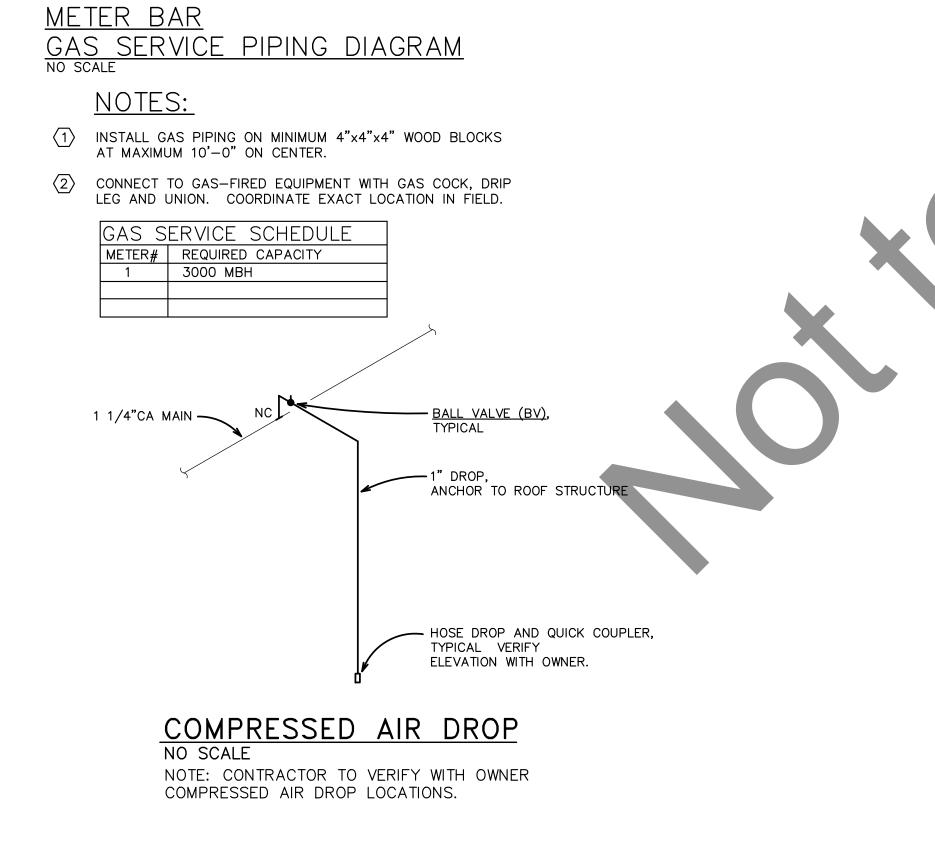


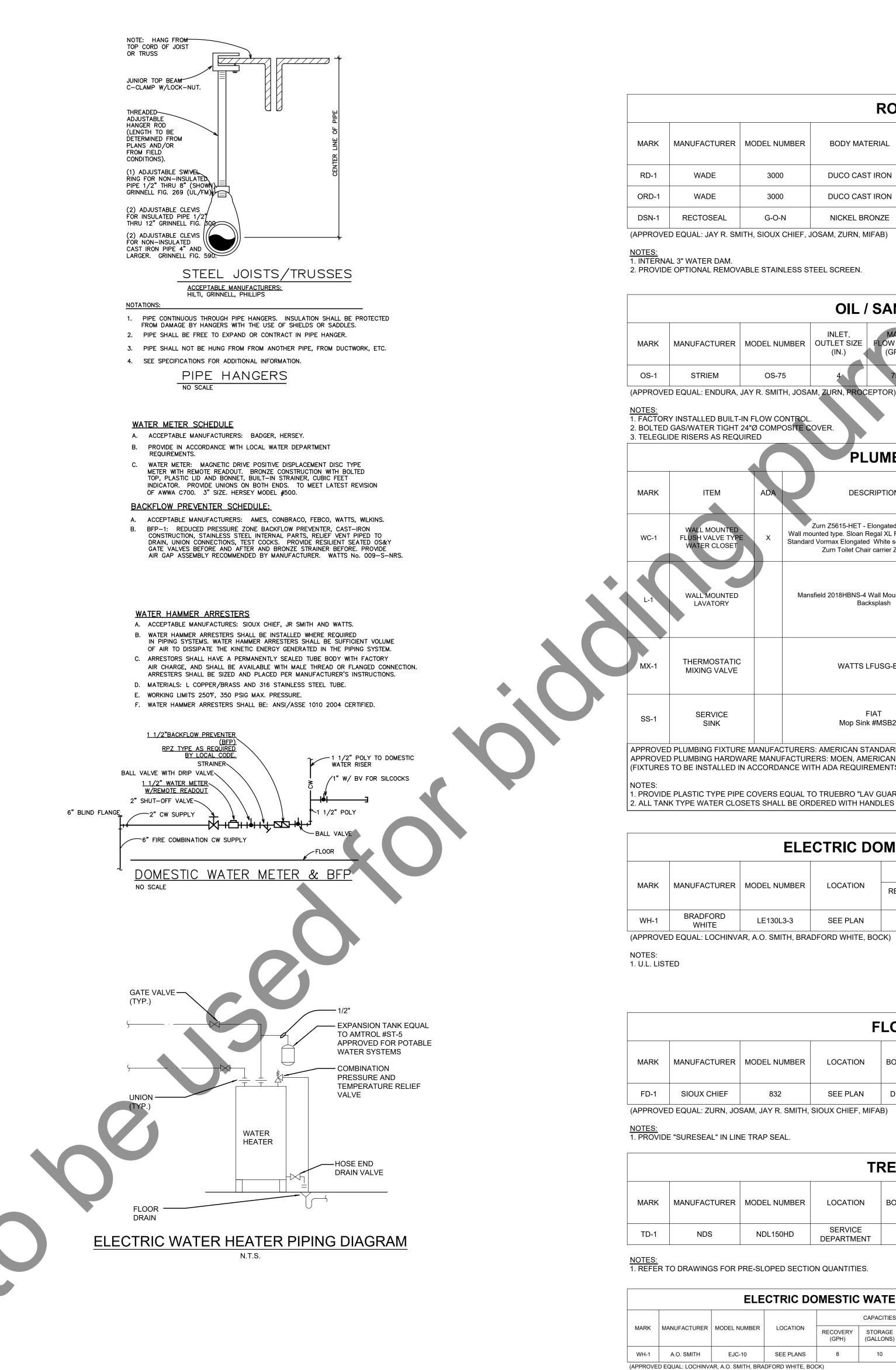
GENERAL NOTES:

- DRAWINGS ARE GENERALLY DIAGRAMMATIC. EACH CONTRACTOR SHALL MAKE REQUIRED CHANGES 1. FROM THE GENERAL ROUTING SHOWN ON THESE DRAWINGS SUCH AS OFFSETS. BENDS OR CHANGES IN ELEVATION DUE TO COORDINATION WITH THE WORK OF OTHER TRADES AND THE BUILDING CONSTRUCTION. ALL CHANGES SHALL BE MADE WITHOUT ADDITIONAL COST TO THE OWNER.
- 2. IT IS INTENDED THAT THE APPARATUS SHALL BE LOCATED SYMMETRICALLY WITH THE ARCHITECTURAL ELEMENTS, NOTWITHSTANDING THE FACT THAT LOCATIONS INDICATED BY THESE DRAWINGS MAY BE DISTORTED FOR CLEARNESS OF PRESENTATION.
- 3. EACH CONTRACTOR SHALL CHECK DRAWINGS OF THE OTHER CONTRACTORS TO VERIFY SPACES IN WHICH THEIR WORK WILL BE INSTALLED IS CLEAR OF OBSTRUCTIONS. MAINTAIN MAXIMUM HEADROOM AND SPACE CONDITIONS AT ALL POINTS IN THE BUILDING. WHERE HEADROOM OR SPACE CONDITIONS APPEAR INADEQUATE, NOTIFY ARCHITECT/ENGINEER BEFORE PROCEEDING WITH THE INSTALLATION.
- 4. FURNISH EACH CONTRACTOR ADVANCE INFORMATION ON LOCATIONS AND SIZES OF PIPING, DUCTWORK, EQUIPMENT, FRAMES, BOXES, SLEEVES AND OPENINGS NEEDED FOR WORK, AND ALSO FURNISH INFORMATION AND SHOP DRAWINGS TO PERMIT EACH CONTRACTOR AFFECTED TO INSTALL THEIR WORK PROPERLY AND WITHOUT DELAY.
- WHERE THERE IS EVIDENCE THAT THE WORK OF ONE CONTRACTOR WILL INTERFERE WITH THE WORK 5. OF OTHER CONTRACTORS, EACH CONTRACTOR SHALL ASSIST IN WORKING OUT SPACE CONDITIONS TO MAKE SATISFACTORY ADJUSTMENTS.
- 6. ALL WATER LINES SHALL DRAIN COMPLETELY THROUGH LOWER FIXTURES, UNIONS, BRASS CAP OR PLUG AT LOW POINTS AND MUST VENT COMPLETELY THROUGH FIXTURE ABOVE OR AIR VENT.
- 7. PROVIDE LINE SIZE AIR CHAMBERS FOR ALL FIXTURES. AIR CHAMBERS SHALL BE MINIMUM 18" IN LENGTH. 8. CONTRACTOR IS ALLOWED TO MAKE MINOR CHANGES TO PIPING, ETC. FROM THAT SHOWN ON DRAWINGS AS REQUIRED TO AVOID FIELD CONFLICTS AT NO ADDITIONAL COST TO THE OWNER
- AND AS LONG AS THE RELOCATION DOES NOT AFFECT THE PERFORMANCE OF THE SYSTEM. CONTRACTOR SHALL VERIFY ALL PRESENT CONDITIONS INCLUDING, BUT NOT LIMITED TO, PIPE SIZES, 9. LOCATIONS, INVERTS, TEMPERATURES, ELEVATIONS, PRESSURES, ETC. PRIOR TO START OF CONSTRUCTION AND MAKE MODIFICATIONS FOR WORK SHOWN AS REQUIRED TO ACCOMMODATE PRESENT OR NEW CONSTRUCTION. ALL AT NO INCREASE IN CONTRACT PRICE.
- 10. THE INSTALLATION OF ALL PIPING SHALL MEET THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) AS IT PERTAINS WITH CLEARANCE OF PIPING IN RELATIONSHIP TO ELECTRICAL SWITCHGEAR, ELECTRICAL EQUIPMENT, ELECTRICAL PANELS, ETC. PIPING SHALL NOT CROSS OVER THE TOP OF OR IMPINGE UPON ELECTRICAL EQUIPMENT.
- 11. CONTRACTOR SHALL INSTALL HIS WORK IN ACCORDANCE WITH ALL LAWS, RULES, REGULATIONS, CODES, ETC. PER ALL FEDERAL, STATE AND LOCAL REQUIREMENTS.
- 12. CONTRACTOR SHALL WARRANTY HIS SYSTEMS FOR A PERIOD OF ONE (1) YEAR.
- 13. SUBMIT SHOP DRAWINGS FOR ALL MATERIALS AND EQUIPMENT ITEMS.
- 14. CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS, FEES, INSPECTIONS, ETC. AS REQUIRED FOR HIS WORK.
- 15. ALL GAS PIPING, WHICH IS CONCEALED ABOVE A CEILING, IN A CHASE, WALL, PARTITION, ETC. SHALL BE OF WELDED CONSTRUCTION. NO JOINTS, OTHER THAN WELDED, NOR VALVES SHALL BE ALLOWED IN CONCEALED SPACES. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.



SEE HVAC PLAN FOR INTERIOR GAS PIPING





NOTES: 3. U.L. LISTED

NUFACTURER	MODEL NUMBER	BODY MATERIAL	D	OME	PIPE SIZE	NOTES:
MNUFACIURER		BODT WATERIAL	MATERIAL	SIZE	(IN.)	NOTES.
WADE	3000	DUCO CAST IRON	CAST IRON	15"Ø	SEE PLANS	
WADE	3000	DUCO CAST IRON	CAST IRON	15"Ø	SEE PLANS	1
RECTOSEAL	G-O-N	NICKEL BRONZE	-		SEE PLANS	2

2. PROVIDE OPTIONAL REMOVABLE STAINLESS STEEL SCREEN.

OIL / SAND SEPARATOR SCHEDULE												
MANUFACTURER	MODEL NUMBER	INLET, OUTLET SIZE (IN.)	MAX FLOW RATE (GPM)	OIL CAPACITY (GALLONS)	SAND CAPACITY (GALLONS)	LIQUID CAPACITY (GALLONS)	UNIT WEIGHT (LBS)	DIMENSIONS (LxWxH)	NOTES:			
STRIEM	OS-75	4	75	93	11	110	130	46"x32"x38.5"	1 - 3			

#### NOTES: 1. FACTORY INSTALLED BUILT-IN FLOW CONTROL 2. BOLTED GAS/WATER TIGHT 24"Ø COMPOSITE COVER.

			URE SCHEDULE					
ITEM		DESCRIPTION		PIPE	CONNE	CTION S	SIZES	NOTES
ITEM	ADA	DESCRIPTION	ACCESSORIES	W	V	CW	нw	NOTES
WALL MOUNTED FLUSH VALVE TYPE WATER CLOSET	x	Zurn Z5615-HET - Elongated ADA 1.6 Gpf Wall mounted type. Sloan Regal XL Flushometer. American Standard Vormax Elongated White seat model 5055A.65C. Zurn Toilet Chair carrier Z1203-NL4	Seat: American Standard Vormax Elongated White Model 5055A.65C	4"	2"	1-1/4"		MOUNT 17" AFF TO TOP OF BOWL RIM
WALL MOUNTED LAVATORY		Mansfield 2018HBNS-4 Wall Mounted Lavatory With Backsplash	Faucet: American Standard #7385.004VA.002 Aerator: American Standard #V05 Drain: McGuire #155A Supply: McGuire #H170BV-LR 1/4 turn p-Trap: McGuire #8872C-17T 1-1/2" Chrome Plated Brass Carrier: Jay R. Smith #0700-Z	1-1/2"	1-1/2"	1/2"	1/2"	1
THERMOSTATIC MIXING VALVE		WATTS LFUSG-B-M2	ASSE 1070 Thermostatic Mixing Valve			1/2"	1/2"	
SERVICE SINK		FIAT Mop Sink #MSB2424	Faucet: FIAT #830-AA with Integral Check Valves Bracket: FIAT #832-AA Mop Hanger: FIAT #889-CC Drain Gasket: FIAT #QDC3-2 Splash Panel: FIAT #MSG	3"		1/2"	1/2"	

APPROVED PLUMBING HARDWARE MANUFACTURERS: MOEN, AMERICAN STANDARD, DELTA, KOHLER, CHICAGO, SLOAN, ZURN, T&S, ACORN, TOTO. (FIXTURES TO BE INSTALLED IN ACCORDANCE WITH ADA REQUIREMENTS)

1. PROVIDE PLASTIC TYPE PIPE COVERS EQUAL TO TRUEBRO "LAV GUARD" ON ALL ACCESSIBLE LAVATORIES AND SINKS. 2. ALL TANK TYPE WATER CLOSETS SHALL BE ORDERED WITH HANDLES ON THE OPEN SIDE (ADJACENT TO THE LAVATORY) PER CODE.

	ELECTRIC DOMESTIC WATER HEATER SCHEDULE													
			CAPACITIES			ELECTRIC	CAL DATA							
MANUFACTURER	MODEL NUMBER	LOCATION	RECOVERY (GPM)	STORAGE (GALLONS)	TEMP. RISE (DEG. F)	KW INPUT	VOLT/PHASE	NOTES						
BRADFORD WHITE	LE130L3-3	SEE PLAN	12	30	100	3.0	208/1	1						

(APPROVED EQUAL: LOCHINVAR, A.O. SMITH, BRADFORD WHITE, BOCK)

	FLOOR DRAIN SCHEDULE													
TURER	MODEL NUMBER	ODEL NUMBER LOCATION BODY MATERIAL		ACCESSORY	PIPE SIZE	NOTES:								
TURER	MODEL NOWBER	LOCATION	BODT MATERIAL	TYPE	FINISH	ACCESSORT	(IN.)	NOTES.						
CHIEF	832	SEE PLAN	DUCTILE IRON	6-1/2" Ø	NICKEL BRONZE	-	3"	1						
URN, JO	SAM, JAY R. SMITH,	SIOUX CHIEF, MIFA	B)		•	•		•						

NOTES: 1. PROVIDE "SURESEAL" IN LINE TRAP SEAL.

	TRENCH DRAIN SCHEDULE												
				GRATE		DIMENSIONS	PIPE SIZE	NOTES:					
MANUFACTURER	MODEL NUMBER	LOCATION	BODY MATERIAL	TYPE	MATERIAL	DIMENSIONS	(IN.)	NOTES.					
NDS	NDL150HD	SERVICE DEPARTMENT	HDPE	DUCTILE IRON	GALVANIZED STEEL	6" x VARIES"	-	1					

NOTES: 1. REFER TO DRAWINGS FOR PRE-SLOPED SECTION QUANTITIES.

	ELECTRIC DOMESTIC WATER HEATER SCHEDULE													
				CAPACITIES			CAL DATA							
UFACTURER	MODEL NUMBER	LOCATION	RECOVERY (GPH)	STORAGE (GALLONS)	TEMP. RISE (DEG. F)	KW INPUT	VOLT/PHASE	NOTES						
.O. SMITH	EJC-10	SEE PLANS	8	10	90	3000 WATTS	208/1	1 - 3						
AL: LOCHINVA	AR, A.O. SMITH, BRA	DFORD WHITE, BO	ĊK)											

1. TEMPERATURE AND PRESSURE RELIEF VALVE 2. MAGNESIUM TANK SAVER ANODE ROD



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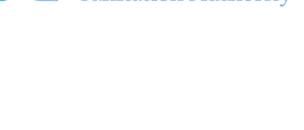
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Initial Owner Layout Review



Rockford, Illinois

NO. DATE

1. 05-20-2021

08-18-2021

01-21-2022

02-04-2022

5. 07-14-2022 6. 08-22-2022

# New Collection Systems Operation Facility

Capital Project No.

2217

for

815-484-4708 Phone 815-484-4710 Fax e-mail legacy@legacydesigns.net web site www.legacydesigns.net

Legacy Designs, Inc.

Professional Design Firm No. 184–003483

6116 Mulford Village Drive ROCKFORD, ILLINOIS 61107

ARCHITECTS 400 N. First Street Rockford, IL 61107 Telephone 815-227-0023 Brian@m-b-arch.com Email: Web: blakemore-architects.com

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#### **GENERAL NOTES:**

- DRAWINGS ARE GENERALLY DIAGRAMMATIC. EACH CONTRACTOR SHALL MAKE REQUIRED CHANGES FROM THE GENERAL ROUTING SHOWN ON THESE DRAWINGS SUCH AS OFFSETS, BENDS OR CHANGES IN ELEVATION DUE TO COORDINATION WITH THE WORK OF OTHER TRADES AND THE BUILDING CONSTRUCTION. ALL CHANGES SHALL BE MADE WITHOUT ADDITIONAL COST TO THE OWNER.
- 2. IT IS INTENDED THAT THE APPARATUS SHALL BE LOCATED SYMMETRICALLY WITH THE ARCHITECTURAL LEMENTS, NOTWITHSTANDING THE FACT THAT LOCATIONS INDICATED BY THESE DRAWINGS MAY BE DISTORTED FOR CLEARNESS OF PRESENTATION.
- EACH CONTRACTOR SHALL CHECK DRAWINGS OF THE OTHER CONTRACTORS TO VERIFY SPACES IN WHICH THEIR WORK WILL BE INSTALLED IS CLEAR OF OBSTRUCTIONS. MAINTAIN MAXIMUM HEADROOM AND SPACE CONDITIONS AT ALL POINTS IN THE BUILDING. WHERE HEADROOM OR SPACE CONDITIONS APPEAR INADEQUATE, NOTIFY ARCHITECT/ENGINEER BEFORE PROCEEDING WITH THE INSTALLATION. FURNISH EACH CONTRACTOR ADVANCE INFORMATION ON LOCATIONS AND SIZES OF PIPING.
- DUCTWORK, EQUIPMENT, FRAMES, BOXES, SLEEVES AND OPENINGS NEEDED FOR WORK, AND ALSO FURNISH INFORMATION AND SHOP DRAWINGS TO PERMIT EACH CONTRACTOR AFFECTED TO INSTALL THEIR WORK PROPERLY AND WITHOUT DELAY
- 5. WHERE THERE IS EVIDENCE THAT THE WORK OF ONE CONTRACTOR WILL INTERFERE WITH THE WORK OF OTHER CONTRACTORS, EACH CONTRACTOR SHALL ASSIST IN WORKING OUT SPACE CONDITIONS TO MAKE SATISFACTORY ADJUSTMENTS.
- 6. ALL WATER LINES SHALL DRAIN COMPLETELY THROUGH LOWER FIXTURES, UNIONS, BRASS CAP OR PLUG AT LOW POINTS AND MUST VENT COMPLETELY THROUGH FIXTURE ABOVE OR AIR VENT.
- PROVIDE LINE SIZE AIR CHAMBERS FOR ALL FIXTURES. AIR CHAMBERS SHALL BE MINIMUM 18" IN
- 8. UNUSED OPENINGS IN DUCTS, SEWERS, MANHOLES, ETC. SHALL BE CAPPED; THOSE IN PIPING SHALL BE CAPPED OR PLUGGED; THOSE IN CONDUITS, BOXES, CABINETS AND PANELS SHALL BE FILLED. STRUCTURAL MEMBERS AND SUPPORTS SHALL NOT BE CUT UNLESS AUTHORIZED BY ARCHITECT, IN
- 9. PRESENT PAINTED CONSTRUCTION WHICH IS MARRED SHALL BE REPAINTED SAME AS NEW
- CONSTRUCTION. 10. SEE SPECIFICATIONS FOR ADDITIONAL NOTES, SYMBOLS, ABBREVIATIONS, PREFIXES AND SUFFIXES.
- 11. IT IS THE INTENT OF THIS PROJECT AND DOCUMENTS TO UTILIZE PRODUCTS AND MATERIALS MANUFACTURED OR PRODUCED IN THE UNITED STATES. FOREIGN PRODUCED MATERIALS
- AND COMPONENTS SHALL BE USED ONLY WITH ENGINEER PRIOR WRITTEN APPROVAL. THESE DRAWINGS ARE BASED UPON INFORMATION FURNISHED TO THE ENGINEER BY THE OWNER BY VISUAL SURVEY WHERE POSSIBLE. HE CONTRACTOR SHALL CAREFULLY CONSIDER ALL INFORMATION PRESENTED ON THESE DRAWINGS; SHALL FIELD VERIFY ALL DIMENSIONS AND CONDITIONS; AND SHALL BE RESPONSIBLE FOR REPORTING ANY DISCREPANCIES DISCOVERED PRIOR TO
- SUBMITTING HIS PROPOSAL. FAILURE TO DO SO WILL INDICATE A COMPLETE ACCEPTANCE OF ALL INFORMATION INDICATED HEREIN. EFFORTS HAVE BEEN MADE TO LOCATE PRESENT SYSTEMS, SERVICES, ETC. FROM AVAILABLE DRAWINGS AND SITE VISITS. HOWEVER, IT SHALL BE RECOGNIZED THAT THERE MAY BE PIPING OR SERVICES (UNDER FLOOR SLABS, IN WALLS, ETC.) IN UNKNOWN AREAS. PIPING, ETC. EXPOSED DURING THE DEMOLITION PHASE OF WORK, THAT IS REQUIRED TO BE MAINTAINED AS AN OPERATING SYSTEM, SHALL BE REASONABLY RELOCATED AS NEEDED AT O ADDITIONAL COST TO OWNER.
- CONTRACTOR IS ALLOWED TO MAKE MINOR CHANGES TO PIPING, ETC. FROM THAT SHOWN ON DRAWINGS AS REQUIRED TO AVOID FIELD CONFLICTS AT NO ADDITIONAL COST TO THE OWNER AND AS LONG AS THE RELOCATION DOES NOT AFFECT THE PERFORMANCE OF THE
- 15. SEE SECTION 01100 (ALTERNATES) IN SPECIFICATIONS AND ON ARCHITECTURAL DRAWING FOR IDENTIFICATION OF AREAS TO BE BID AS ALTERNATE WORK. ALL MECHANICAL WORK ASSOCIATED WITH THESE ALTERNATES SHALL BE INCLUDED IN GENERAL CONTRACTORS ALTERNATE PRICES. IN ADDITION, SEE SPECIFIC MECHANICAL ALTERNATES AS NOTED.
- SEE ARCHITECTURAL DRAWINGS AND SPECIFICATIONS OF SPECIFIC REQUIREMENTS FOR HASING AND SEQUENCING OF WORK. THESE NOTED REQUIREMENTS SHALL BE TAKEN INTO ONSIDERATION DURING THE BIDDING PROCESS. THE PRESENT PLUMBING SYSTEMS OF ANY TYPE, INCLUDING UTILITY SERVICES, SHALL NOT
- BE INTERRUPTED EXCEPT AS DIRECTED BY THE OWNER, THE OWNERS INSURANCE COMPANY HE UTILITY COMPANY AND THE ENGINEER. WHEN SUCH INTERRUPTIONS ARE ALLOWED. THE SYSTEM SHALL BE PUT BACK INTO OPERATION AS SOON AS POSSIBLE, BUT NO LATER THAN AT THE END OF THE NORMAL WORKING DAY, UNLESS SPECIFIC DIRECTION IS OTHERWISE
- UNLESS SPECIFICALLY CHANGED BY THESE DRAWINGS, ALL PLUMBING WORK SHALL BE GOVERNED BY THE ORIGINAL CONTRACT DRAWINGS AND SPECIFICATIONS. CONTRACTOR SHALL VERIFY ALL PRESENT CONDITIONS INCLUDING, BUT NOT LIMITED TO, PIPE SIZES, LOCATIONS, INVERTS, TEMPERATURES, ELEVATIONS, PRESSURES, ETC. PRIOR TO START OF CONSTRUCTION AND MAKE MODIFICATIONS FOR WORK SHOWN AS REQUIRED TO ACCOMMODATE PRESENT OR NEW CONSTRUCTION. ALL AT NO INCREASE IN CONTRACT
- PRESENT SERVICES WHICH ARE SHOWN ON THE SITE PLAN. ARE FOR CONTRACTOR'S NFORMATION AND WERE TAKEN FROM VARIOUS UTILITY AND MUNICIPALITY SURVEYS. CONTRACTOR SHALL VERIFY THESE SERVICES AND CHECK FOR ADDITIONAL INFORMATION WITH THE APPROPRIATE UTILITY OR AGENCY. CONTRACTOR SHALL MODIFY PRESENT
- SERVICES AND/OR NEW INSTALLATION AS REQUIRED TO ACCOMMODATE NEW WORK. ALL NO INCREASE IN CONTRACT PRICE. EQUIPMENT REQUIRING ELECTRICITY SHALL HAVE EQUIPMENT FURNISHED BY THE APPLICABLE MECHANICAL CONTRACTOR, BUT SHALL BE WIRED BY THE ELECTRICAL CONTRACTOR. THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING REQUIRED ELECTRICAL NFORMATION WITH THE ELECTRICAL CONTRACTOR. SEE SPECIFICATIONS FOR ADDITIONAL
- 22. THE INSTALLATION OF ALL PIPING SHALL MEET THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) AS IT PERTAINS WITH CLEARANCE OF PIPING IN RELATIONSHIP TO LECTRICAL SWITCHGEAR, ELECTRICAL EQUIPMENT, ELECTRICAL PANELS, ETC. PIPING SHALL OT CROSS OVER THE TOP OF OR IMPINGE UPON ELECTRICAL EQUIPMENT CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING AND PATCHING, INCLUDING CORE
- RILLING, SAW CUTTING, ETC., AS REQUIRED TO ACCOMMODATE HIS WORK. CUTTING, PATCHING AND PAYMENT OF SAID WORK SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR REQUIRING THE DISTURBANCE BUT SAME SHALL BE DONE BY A GENERA CONTRACTOR. IT SHALL BE THE RESPONSIBILITY OF THE APPROPRIATE MECHANICAL CONTRACTOR TO GIVE QUANTITIES OF PATCHING REQUIREMENTS TO THE GENERAL ONTRACTOR. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION
- CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL AND REPLACEMENT OF PRESENT CEILINGS, LIGHT FIXTURES, DIFFUSERS, DUCTWORK, PIPING, CONDUIT, ETC. AS REQUIRED FOR THE INSTALLATION OF HIS WORK. REMOVAL, REPLACEMENT AND PAYMENT FOR MECHANICAL/ELECTRICAL ITEMS SHALL BE THE RESPONSIBILITY OF THE APPLICABLE MECHANICAL CONTRACTOR. REMOVAL AND REPLACEMENT OF PRESENT CEILINGS, ETC E SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR MAKING THE DISTURBANCE BUT AME SHALL BE DONE BY A GENERAL CONTRACTOR. IT SHALL BE THE RESPONSIBILITY OF HE APPROPRIATE MECHANICAL CONTRACTOR TO GIVE QUANTITIES OF REMOVAL/REPLACEMENT REQUIREMENTS TO THE GENERAL CONTRACTOR.
- CONTRACTOR TO PROVIDE RECORD DRAWINGS INDICATING THE LOCATION OF ALL PLUMBING SYSTEMS NOTED HEREIN.
- CONTRACTOR SHALL INSTALL HIS WORK IN ACCORDANCE WITH ALL LAWS, RULES REGULATIONS, CODES, ETC. PER ALL FEDERAL, STATE AND LOCAL REQUIREMENTS
- 27. CONTRACTOR SHALL WARRANTY HIS SYSTEMS FOR A PERIOD OF ONE (1) YEAR. 28. SUBMIT SHOP DRAWINGS FOR ALL MATERIALS AND EQUIPMENT ITEMS.
- 29. CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS, FEES, INSPECTIONS, ETC. AS REQUIRED FOR HIS WORK. 30. ALL SYSTEMS SHALL BE TESTED PER APPLICABLE CODE.
- 31. DOMESTIC WATER SYSTEM RESTRAINTS: A. THIS IS NEW CONSTRUCTION. THE MIXING OF GALVONIZED STEEL MIXING PIPING SYSTEMS AND COPPER PIPING SYSTEMS IS NOT ALLOWED.
- ALLOWED B. SHOULD CONDITIONS OCCUR WHICH WOULD REQUIRE THE MIXING OF THE NOTED PIPING MATERIALS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO PROCEEDING WITH ANY DOMESTIC WATER PIPING SYSTEM INSTALLATIONS.
- C. SEE SPECIFICATION SECTION 15060 FOR ADDITIONAL INFORMATION. 32. DOES NOT APPLY.
- NOTED WATER HAMMER ARRESTER (WHA), BALL VALVE (BV), CLEANOUTS (CO), ETC. SHALL BE LOCATED ABOVE AN ACCESSIBLE CEILING AS REQUIRED TO KEEP CEILING ACCESS PANELS O A MINIMUM. WHERE ACCESSIBLE CEILINGS ARE NOT PRESENT, PROVIDE ACCESS PANELS PER SECTION 15010 OF SPECIFICATIONS
- CERTAIN PREFIXES OR LINE SYMBOLS, WHEN APPLIED TO PRESENT LINE, DEVICE OR EQUIPMENT, SHALL HAVE THE FOLLOWING MEANINGS. NC: NEW CONNECTION TO EXISTING EQUIPMENT OR MATERIAL. P: PRESENT TO REMAIN UNCHANGED.
- PX: PRESENT TO BE COMPLETELY REMOVED INCLUDING UNNEEDED CONNECTIONS, PIPING, DUCTWORK, CONTROL WIRING, THERMOSTATS, BASES, ETC. OF EVERY KIND. UNUSED OPENINGS PLUGGED OR CAPPED, TESTED, COVERED, PAINTED SAME AS NEW WORK. OTHER DISTURBED WORK OF EVERY KIND RESTORED, PATCHED, TESTED COVERED. PAINTED. ETC. TO EQUAL ORIGINAL CONDITION. REMOVED MATERIALS MUST NOT BE REUSED UNLESS OTHERWISE SPECIFIED OR
- DIRECTED BY ARCHITECT/ENGINEER PIC: SAME AS "PX". EXCEPT LEFT IN PLACE, WITH CAPPED, SEALED OR INSULATED ENDS. SECTIONS WHICH INTERFERE WITH NEW WORK REMOVED SAME AS "PX" PX-DO: SAME AS "PX", EXCEPT REMOVED INTACT, AS FAR AS PRACTICAL, MATCH MARKED AND OTHERWISE IDENTIFIED AS REQUIRED AND DELIVERED TO OWNER
- OUTSIDE OF BUILDING. PXR: SAME AS "PX", EXCEPT REMOVED, CLEANED AND RESTORED TO GOOD OPERATING CONDITION AND REINSTALLED, SAME AS NEW WORK IN ORIGINAL POSITION. IF RECONDITIONING IS IMPRACTICAL, PROVIDE NEW DEVICE, AS APPROVED BY ARCHITECT/ENGINEER, AT NO INCREASE IN CONTRACT PRICE. PXN: SAME AS "PXR" EXCEPT REMOVED, CLEANED AND RESTORED TO GOOD
- OPERATING CONDITION AND REINSTALLED SAME AS NEW WORK, IN NEW POSITION MARKED "PN-1". IF RECONDITIONING IS IMPRACTICAL. PROVIDE NEW DEVICE, AS APPROVED BY ARCHITECT/ENGINEER, AT NO INCREASE IN CONTRACT PRICE.
- PN-1: COMPLETELY REINSTALL DEVICE, LINE OR EQUIPMENT REMOVED AT "PX" IN INDICATED NEW LOCATION, SAME AS NEW WORK.
- VL: VERIFY EXACT LOCATION IN FIELD. THIS NOTE APPLIES TO ALL PRESENT OR EXISTING UTILITIES AND CONSTRUCTION WHETHER CALLED FOR OR NOT.

ALL VENTING AND PIPE SIZES ARE MINIMUMS. ADDITIONAL VENTS SHALL BE ADDED, AND/OR PIPE SIZES SHALL BE INCREASED AS REQUIRED BY APPLICABLE CODES, STATUTES, REGULATIONS, ETC., WITHOUT INCREASE IN CONTRACT PRICE. PIPING STRAIGHT AND PARALLEL TO WALLS, FREE TO EXPAND AND CONTRACT. WATER LINES MUST DRAIN COMPLETELY THRU LOWER FIXTURE, UNION, BRASS CAP, BRASS PLUG AT LOW POINT, AND MUST VENT COMPLETELY THRU FIXTURE ABOVE DR AIR VENT. VALVES MUST BE ACCESSIBLE THRU ACCESS DOOR (AD) AND/OR ACCESS PANEL

PROVIDE FIRE RATED INSULATION TO ALL PVC PIPING LOCATED IN CEILING SPACE.

(AP) AS REQUIRED WITH ADJACENT UNIONS FOR REMOVAL OF BODIES.

#### 1 GENERAL

- 1.1 Drawings and general provisions of Contract, including General and Section
- 1.2 Provide complete systems as called for, and/or shown, and/or specified. Plumbing Contractor shall furnish and completely install the system, service, equipment, or material named, together with other associated devices, equipment, materials, wiring, piping, etc., as required for a complete satisfactory operating installation. Other subcontractors, as required to perform work called for, shall be responsible to the Plumbing Contractor. Secure all permits for work and inspections as required.
- 1.3 Coordination: Before submitting his bid, Contractor shall carefully check all plans and specifications for every trade and shall include in bid all work to be provided by him. All trades shall coordinate their work with that of other trades so as to avoid interferences and conflicts of work Work must be completed as scheduled by the Architect. Any discrepancies noticed at time of pre-bid meeting and/or inspection of site by those inspecting for bidding the project, shall be brought to the Architect's attention immediately, so that revisions can be made by Addendum prior to bid date.
- 1.4 Work Priority Over the Other Trades:
- A. All contractors are to be governed as follows and work in cooperation with one another to work into the structure as job conditions may demand. All final decisions as to right of way and run of pipe, ducts, etc., to be made by Architect.
- Sprinkler heads. Recessed lighting fixtures. Sheet metal duct work/HVAC units. 4. Plumbing waste lines, down spouts and vents. Refrigeration lines. Sprinkler lines.
- Heating lines. 8. Plumbing water lines.
- 9. Electrical conduits. 10. Control air lines or conduits. standards for the construction indicated.
- 1.5 All work shall be performed in a workmanlike manner following industry 1.6 Codes & Standards:
- A. Work performed under this contract shall be governed by AIA
- General Conditions. B. The Plumbing Contractor's work shall conform to all prevailing codes and
- regulations pertaining to their work.
- C. All materials shall conform to applicable standards of such devices, including AGA and UL requirements.
- D. Materials and workmanship shall comply with applicable local, state and federal codes and local utility company regulations.
- 1. In case of differences between building codes, local, state and federal laws, and utility company regulations and contract documents, the most stringent shall apply. Promptly notify Architect/Engineer in writing of any such difference prior to submitting bid. 2. Applicable codes shall include, but not necessarily be limited to the followina:
- a. 2018 Illinois Plumbing Code (IPC) with local amendments b. 2018 International Building Code (IBC) with local amendments c. Illinois Accessibility Code (IAC) d. Americans with Disabilities Act (ADA) e. ANSI Accessibility Standards
- f. Illinois Department of Public Health (IDPH g. 2018 International Fuel Gas Code (IFGC) h. National Electrical Code — NEC
- i. Piping and Equipment Identification per ANSI A13.1 Standard Specifications and OSHA requirements . National Association of Roofing Contractors k. OSHA
- I. Local code amendments to local ordinances or codes. m. ASTM, AWWA, WWP, etc. and other similar codes, standards,
- specifications n. Where reference is made in these or other specifications, it shall be the latest revision at the time of call for bids unless
- specifically noted on plans or in specifications. o. Should work be performed which does not comply with requirements of applicable building codes, state and federal laws, industry standards and utility company regulations, changes for
- compliance shall be done at contractor's expense p. Each trade shall cooperate with and assist other trades on project in conformance with trade jurisdictional rulings and shall perform
- work which is within its jurisdiction. q. Notify Architect/Engineer of any materials or apparatus believed to be inadequate, unsuitable, in violation of laws, ordinances, rules or regulations of authorities having jurisdiction prior to submitting bid.

installation and shall be so labeled where applicable.

- 1.7 Permits & Fees: The Plumbing Contractor shall be responsible for the obtaining of his respective permits and their cost, as well as other fees necessary to the project including inspections. The Plumbing Contractor shall include in his bid fees for all required natural gas, water, sanitary, storm, services and building department requirements.
- 1.8 Materials: All materials are to meet or exceed the minimum standard of A.S.T.M. and the approval of state and local codes responsible for such approvals. In no case shall used or reconditioned material be used. All materials shall be in new and working order.
- 1.9 New Fixtures: Regular and ADA compliant requirements. Fixtures -Commercial grade complete with all associated trim, supports, carriers,
- 1.10 Submittals: A. Submit shop drawings for all required equipment and mat prior to start of construction.
- B. Provide maintenance manuals. C. Provide "As-Built" record drawings in a reproducible form for all
- required systems and associated components.
- 1.11 Openings, Sleeves and Chases: The Plumbing Contractor shall furnish the General Contractor with Contractor will do all flashing, roof patching, etc., unless otherwise

Supplementary Conditions and Division 1 Specification Sections, apply to this

B. In general, priority of the work is to be scheduled as follows:

E. Electrical equipment, wiring, gas burning equipment, handling and storage equipment, all drain piping, refrigeration piping, insulating materials, etc., shall comply with requirements of NFPA, NEC, UL, AGA, OSHA, EPA, state and federal safety codes; for a particular type

- A. The Plumbing Contractor shall set sleeves and inserts required for piping, hangers, intakes, louvers, ventilators, ductwork, curbs, etc., in construction.
- complete information as to size and location of openings through walls, floors, roofs, etc., for installing this work. If this information is not supplied before new floors, walls, new roofs, etc., are built, the Plumbing Contractor shall furnish, cut and patch all required openings for installation of equipment, devices, etc., material, as required and approved by the Architect. For new construction, General Contractor will cut holes through roof and Roofing
- Roof openings 18" and larger shall be framed with headers nected to roof joists with steel members framed between. All roofing work and equipment to meet requirements of National Association of

- 1.12 Equipment Installation (FBO) Furnished by Others: A. Kitchen equipment and other equipment marked (FBO) shall be furnished
- and installed by the Owners Equipment Contractor. B. The exact locations for apparatus, fixtures, equipment and piping shall be obtained from the Equipment Contractor or his representative in the field, and the work shall be laid out accordingly. If the Plumbing Contractor should fail to ascertain such locations before proceeding with his work and if this work does not conform to the intended design, the Plumbing Contractor shall revise his work, at no additional cost to Owner, as directed by the The Owner reserves the right to make minor changes in the locations of piping and equipment, up to the time of roughing-in and installation, and the Plumbing Contractor shall accomodate such without cost to Owner.
- C. Work by Equipment Contractor: The following work will be done by the Equipment Contractor at no expense to any other contractor: 1. Furnishing, installing, fitting to the building, setting, bolting in
- place of kitchen equipment and other equipment marked FBO. 2. Furnishing to the Plumbing Contractor, on the job, loose plumbing
- trim including all above deck faucets, vacuum breakers, gas cocks, automatic valves, etc. 3. Furnishing of approved detailed shop drawings showing method of installing loose trim and making of final connections; wiring and
- control diagram. D. Work by Plumbing Contractor: Plumbing Contractor shall provide all traps
- and below deck supplies and shut-off valves, make all final connections, install gas piping and loose gas shut—off valves, and perform testing.
- 1.13 Examination of Work:
- A. The Plumbing Contractor shall carefully examine the site for the work to eliminate misconceptions of fact. to verify dimensions, elevations, location of existing equipment, services, piping and to observe features effecting working conditions, transportation and storage facilities The Plumbing Contractor shall give due consideration to same in preparing proposals/bids as exceptions will not be considered after awarding of contract, nor will the Plumbing Contractor be entitled to any extra compensation for his failure to determine conditions or connections at the site.
- B. The run of all lines shown on drawings shall be regarded as diagrammatic and tentative. The Plumbing Contractor shall carefully verify location, depth, and size of line service, etc., to which connection is proposed. Before installing any service, line connections, etc., the Plumbing Contractor shall assure that they can be run/made as contemplated without trapping or interfering with footing, other piping, fixtures, etc. Any necessary deviation shall be referred to the Architect/Engineer for approval/authorization to proceed before any line or service is run.
- 1.14 Warranty: All systems, materials, equipment items, etc. shall be guaranteed in writing for a period of one year after systems have been accepted by the Owner.
- 2 PRODUCTS 2.1 Piping:
- A. Domestic Water Piping Above Grade
  - 1. Interior, above grade, piping shall be Type L hard copper seamless tube per ASTM B88 with wrought copper, bronze, or cast brass, 125 Ib. and 250 lb. fittings per ANSI B16.3. with lead free solder joints.
- B. Gas Piping Above Grade:
- 1. Interior, above grade, piping shall be Schedule 40 black steel pipe, welded or seamless, per ASTM A53 with malleable iron fitting, 150 S.W.P., 300 lb. WOG, at -20 to 150 deg. f., per ASTM A197 and ANSI B16.3. For pipe sizes 2" and under with threaded joints per ASTM A120. Steel fitting same thickness as pipe for sizes over 2" with welded joints. (See additional requirements for gas piping in this section of specifications under "Execution".) Piping for 1PSI AND ABOVE higher pressure shall have welded joints.
- C. Sanitary Drainage Above Grade:
- 1. Service weight (SV) cast iron hub and spigot pipe and fittings, 2" through 15", per ASTM A74. Rubber gasket joints per ASTM C564, CISPI HSN 68T.
- 2. Standard hubless cast iron with no hub system fittings (rubber gasket and stainless steel clamp joints) 2" through 10", per FS WW/P/421c, CISPI 301.
- 3. Type DWV hard copper tube per ASTM B306. Cast bronze drainage pattern fittings per ANSI B16.23. Lead-free solder joints per FS QQ/571d. 4. Schedule 40/DWV Polyvinyl Chloride (PVC) plastic drain, waste and
- vent pipe and fittings. 1-1/4" through 12" per ASTM D1785 and ASTM D2665. NSF listed with solvent cement welded joints per ASTM D2564. D. Sanitary Drainage Below Building (OPTIONS):
- 1. Service weight (SV) cast iron hub and spigot pipe and fittings per
- ASTM A74. Rubber gasket joints per ASTM C564, CISPI HSN 68T. 2. Class 52 ductile iron pipe, 4" through 36", per ANSI C600, ASTM
- FS WW/P/401c, AWWA C151. Ductile iron hub and spigot ttings with rubber gasket joints per ASTM C443M.
- Schedule 40/DWV Polyvinyl Chloride (PVC) plastic drain, waste and t pipe and fittings. 1-1/4" through 12" per ASTM D1785 and ASTM 2665. NSF listed with solvent cement welded joints per ASTM D2564. Above Grade (OPTIONS):
- rvice weight (SV) cast iron hub and spigot pipe and fittings, 2" through 15", per ASTM A74. Rubber gasket joints per ASTM C564, CISPI HSN 68T.
- Standard hubless cast iron with no hub system fittings (rubber gasket and stainless steel clamp joints), 1-1/2" through 10", per FS WW/P/421c, CISPI 301.
- 3. Schedule 40/DWV Polyvinyl Chloride (PVC) plastic drain, waste and vent pipe and fittings. 1-1/4" through 12" per ASTM D1785 and ASTM D2665. NSF listed with solvent cement welded joints per ASTM D2564. PVC shall not be used in plenums. F. Vent Below Building (OPTIONS):
- 1. Service weight (SV) cast iron hub and spigot pipe and fittings, 2" through 15", per ASTM A74. Rubber gasket joints per ASTM C564, CISPI HSN 68T.
- 2. Standard hubless cast iron with no hub system fittings (rubber gasket and stainless steel clamp joints), 2" through 10", per FS WW/P/421c, CISPI 301.
- 3. Schedule 40/DWV Polyvinyl Chloride (PVC) plastic drain, waste and vent pipe and fittings. 1-1/4" through 12" per ASTM D1785 and ASTM D2665. NSF listed with solvent cement welded joints per ASTM D2564.
- 2.2 Piping And Equipment Insulation:
- A. All domestic water piping shall be covered with 1" minimum fiberglass insulation with factory-applied all-purpose jacket consisting of highdensity, white kraft paper bonded to aluminum foil and reinforced with fiberglass yarn, stapled 6" O.C. and sealed with vapor barrier adhesive or using self-sealing lap. Covering shall be equal to Manville Products Micro-Lok 650 and shall be suitable for services from 35ø F to 650ø F, 3.5 pound density. Covering shall be Armstrong, Knauf, Manville, Owens-Corning or equivalent make. Covering on piping shall be continuous through hangers and sleeves. Hangers on piping shall encircle pipe covering, bear on a 20 gauge sheet metal plate four diameters long. Ends of covering shall be neatly tapered and sealed. Fittings shall be covered with a Zeston fitting cover and factory-supplied fiberglass insert where available, all installed according to manufacturer's instructions.

- 2.3 Pipe Hangers:

- 2.4 Plumbing Specialties:
- A. Access Panels (AP)
- 1. See schedule on drawings.
- C. Drains 1. See schedule on drawings.
- D. Valves:
- 2. Ball Valves (BV)
- a. Insulated Piping Systems:
- 150 SWP
- Non-Insulated Piping Systems:
- installations E. Check Valves (CKV):

- Mfr CKV 578
- F. Plug Valves (PL):
  - PL Figure 142
- Mfr. Rockwell Nordstrom PL Figure 143 G. Balancing Valves
- NPT or solder connections. H. Gas Cocks:
- . Water Heaters:
- See schedule on drawings. J. Wall Hydrants: 1. See schedule on drawings.
- K. Plumbing Fixtures: 1. See schedule on drawings. 3 EXECUTION
- 3.1 General:
- svstem.
- following:
- 1. Backflow prevention:
- b. Install scheduled BFP and pipe to drain. 2. Cleanouts:

A. Hangers for horizontal domestic water piping (PEX) shall be plastic per manufacturers recommendations. Other hangers to be steel. Hang pipe along walls with ring type or bracket type return line hangers; other piping with adjustable steel rods and ring type clevised hangers. Hangers to be double nutted or coach screw type by Crane, Crawford, Fee Mason, Grinnell or equivalent make Hanger spacing for copper piping shall be as follows: 1/2" - 1 - 1/4": 6.0' 0.C., 1-1/2" and above: 10.0' O.C. Hanger spacing for steel piping shall be as follows: All sizes - 12.0' O. C. Hanger spacing for plastic piping shall be as follows: All sizes - 4.0' O.C.

B. All hangers shall be on exterior of pipe insulation. Place hanger within 1' of each horizontal elbow. Support horizontal soil waste and storm piping near each hub. Support steel vertical piping at every floor line. Where several pipes can be installed in parallel at the same elevation, provide multiple or trapeze hangers. Where practical, support riser piping independently of connected horizontal piping. Support vetical plastic vertical piping every 5'.

1. Access panels for drywall shall have 16 gauge steel frame, 14 gauge panel with a galvanized steel drywall bead surrounding the frame. Prime coat shall be factory applied, baked-on enamel, suitable for painting, Hinges shall be concealed spring type, opening to 175 dearees. Locks shall be flush, screwdriver operated, with metal cam Panels shall not be smaller than 12" x 12". Panels shall be installed t the General Contractor at the expense of the Plumbing Contractor

B. Cleanouts and Cleanout Access Covers (CO):

1. Acceptable Manufacturers: Apollo, Hammond, Mueller Nibco, Powell, Rockwell-Nordstrom, Stockhal

1) Forged brass body and trim, two piece, full port, metal insulated 3" high stem extension lever handle, adjacent union or flange with NPT threaded ends, 1/4" through 4", 600 psi working pressure for 1/4" through 2". 400 psi working pressure for 2-1/2" through 4". All for WOG installations or

orged brass body and trim, two piece, full port, metal insulated 3" high stem extension lever handle, adjacent union with sweat ends, 3/8" through 4", 400 psi working pressure for WOG installations.

Forged brass and trim, two piece, full port, metal insulated extension lever handle, adjacent union or flange with NPT 🖤 threaded ends, 1/4" through 4", 600 psi working pressure for 1/4" through 2". 400 psi working pressure for 2-1/2" through 4. All for WOG installations or 150 SWP.

2) Forged brass body and trim, two piece, full port, metal insulated extension lever handle, adjacent union with sweat ends, 3/8" through 4", 400 psi working pressure for WOG

1. Bronze body, 2" and under, 125 lb. SWP, 200 lb. WOG working pressure, adjacent union with threaded ends, swing check with brass disc and hinge and pin, screw in cap for clear water only. Powell Nibco Milwaukee Т-413-В 509Т

1. Iron body, 1/2" through 4", threaded ends, wrench operated, to 150 deg. F operating temperature at 150 psig CWP with ambient temperatures of -20 to 150 deg. F for WOG installations. Mfr. Rockwell Nordstrom

2. Iron body, 1" through 12", flanged ends, wrench operated, to 150 deg. F operating temperature at 150 psig CWP with ambient temperatures of -20 to 150 deg. F for WOG installations.

Dezincification resistant brass body, 2" and under, 200psi maximum working pressure. Maximum operating temperature not to exceed 250°F, positive shut off, pressure ports, memory stop,

1. 2-1/2" and Smaller: Screwed iron body with brass trim and flat head. 3" and larger: Flanged iron body with iron trim and square head.

A. The Plumbing Contractor shall include all requirements as noted herein and as required to provide a complete, safe, operating building plumbing

B. System and equipment installations shall include, but not be limited to the

a. Install hose connections with vacuum breakers.

a. Cleanouts shall be installed at points as noted on the drawings as well as at the foot of each soil, waste or interior downspout stack, and at other points as required for easy system maintenance. Cleanouts shall be full size of the pipe up to 4", and 4" size for pipes above 4". Grease all cleanout plugs

b. Floor Cleanouts: It shall be the responsibility of this Contractor to determine the type of floor covering to be used at each cleanout location and to rough-in and install each cleanout flush with the finished floor construction.

3. Domestic cold water system:

a. Provide a domestic cold water piping system to all fixtures and equipment requiring same, including valves, hangers and pipe insulation. 4. Domestic hot water system

a. Provide a domestic hot water piping system to all fixtures auiring hot water, including valves, hangers, pipe insulation. 5. Domestic hot water circulating system:

a. Provide a domestic hot water circulating piping system including ot water circulating pump, associated aquastat, valves, hangers and pipe insulation for each hot water system.

Natural gas system:

a. Provide a natural gas piping system. Gas pressure at meter outlet shall be as indicated on plans.

7. Fixtures:

- a. Install each fixture with trap, easily removable for servicing and cleaning. At completion, thoroughly clean plumbing fixtures and equipment.
- b. Provide chrome plated rigid or flexible supplies to fixtures with loose key or wheel handle stops, reducers and escutcheons, all as scheduled.
- c. Install wall mounted fixtures with approved chair carriers or steel plates as specified, model to suit installation. d. Caulk between fixtures, wall and/or floor with butyl rubber,
- non-absorbent caulking compound. Point ends.
- 8. Mount fixtures at heights indicated on architectural drawings.
- 9. This paragraph not used.
- 10. Interior sanitary sewer system:
- a. Provide an interior sanitary sewer and vent piping system including overhead piping, underground piping, vent through roof, hangers, excavation, backfilling and compaction. 11. Sleeves For Penetrations:
- a. All pipe penetrations through walls and floors shall have sleeves. Sleeves shall be caulked in a fireproof and waterproof manner. Trenching
- a. Provide a minimum of 3" granular bedding meeting CA13, CA14 or CA6 modified per ASTM D-2321 under all underground or underfloor piping. Granular bedding shall extend to a minimum of 12" above the spring line of the pipe. Compact to 95% per ASTM
- 13. Wall hydrants: a. Wall hydrants shall be as shown on the drawings and shall have ball valves on the interior. 14. Testing:
- a. All piping systems shall be pressure tested to meet all requirements of all applicable codes and including the following requirements 1) All water piping shall be tested to 125 PSI for two hours. 2) Gas piping shall be tested to 100 PSI for two hours. 3) All waste, vent and storm sewer system shall be tested with
- water with 10' of head. 4) Exterior sanitary sewers shall be air tested. C. Chlorination
- 1. All exterior and interior water systems shall be chlorinated before placing the systems into service. Sterilization procedures shall conform to AWWA Standard C601. Sterilizing agent shall be retained in the piping system long enough to kill all bacteria with a minimum of 24-hour retention time. The affidavit of compliance shall be the bacteriological tests certifying that the water held in the piping system, equipment or storage facility is free of coliform bacteria contamination for two consecutive days.
- D. Cleaning:
- 1. Contractor shall be responsible for cleaning of his equipment, systems, and shall remove all debris created by him from the premises. Entire work area shall also be broom cleaned. E. Painting:
- 1. No painting of interior piping shall be in the plumbing contract. 2. Exterior natural gas piping shall be primed and painted with a corrosion inhibitor type primer and YELLOW paint.
- F. Identification:
- 1. Provide pipe markers on all piping systems per ANSI A13.1 Scheme for the Identification of Piping Systems and 253.1 Safety Color Code for Marking Physical Hazards and include arrows to show normal direction of flow. Locate pipe markers as follows:
- a. Wherever piping is exposed to view in non-concealed locations.
- b. On piping above removable acoustical ceilings.
- c. Within 2' of each valve and control device. d. Within 2' of each branch connection.
- e. Within 2' of locations where pipes pass through walls or floors/ ceilings or enter non-accessible enclosures
- f. At access doors and similar access points. q. Within 2' of major equipment items and other points of origination and termination.
- h. Spaced intermediately at maximum spacing of 50 feet along each piping run, except reduce spacing to 25 feet in congested areas of piping and equipment.
- i. Fuel gas piping shall be identified at intervals of not more than 50 feet in exposed locations, not more than 25 feet in concealed locations and not less than once in any room or space.
- G. Guarantee:
- 1. The Plumbing Contractor shall guarantee all equipment, apparatus, and materials and workmanship. He shall replace all parts at his own expense which have proven defective within one (1) year from formal acceptance. Individual items shall be guaranteed as called for in addition to the above.
- H. Record Documents:
- Contractor to retain on site one (1) complete marked up set of "As-Built" project prints to be turned over to the Owner at completion of project. Final record copies shall be submitted for review, same as required for shop drawings. Contractor shall retain copy of project documents for his records. See 1.10 (C). End of Section 15400 — Plumbing



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NO. DATE DESCRIPTION 05-20-2021 Initial Owner Layout Review 08-18-2021 Owner Layout Review 01-21-2022 Owner Review On 02-04-2022 Owner Review Tw Issued for Zoning Review 5. 07-14-2022 Issued for Bid 08-22-2022 12-16-2022 Issued for Perm 01-17-2023 Issued for Bid

THE CONTRACTOR SHALL DETERMINE EXACT DIMENSIONS AND CONDITIONS AT THE SITE PRIOR TO SUBMITTING. BID. THE CONTRACTOR SHALL COORDINATE ALL DRAWINGS WITH ACTUAL FIFLD 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

Rockford, Illinois

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#### ROCKFORD, ILLINOIS 61107 Professional Design Firm No. 184-003483 815-484-4708 Phone 815-484-4710 Fax e-mail legacy@legacydesigns.net web site www.legacydesigns.net

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Systems Operation

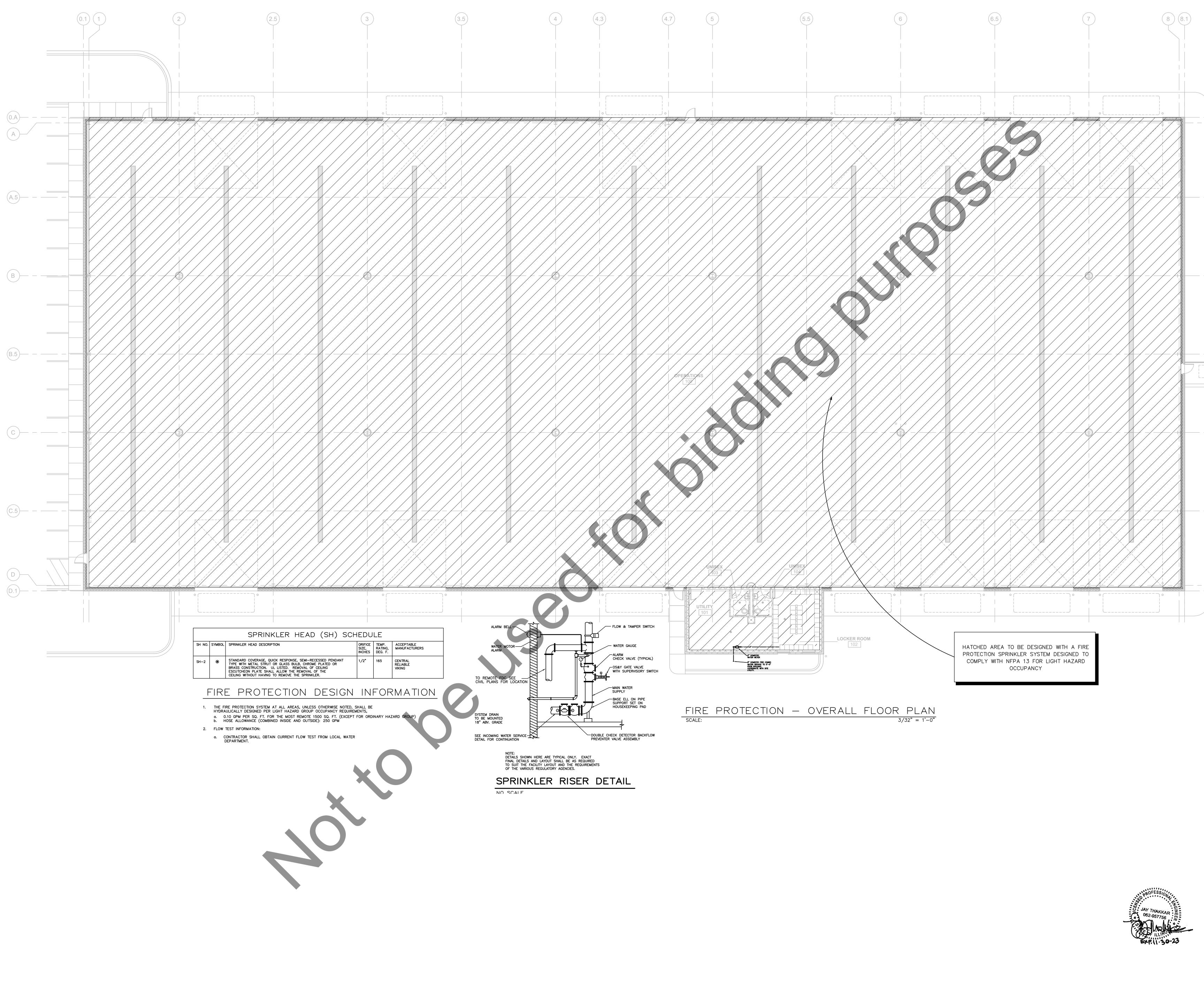
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Capital Project No.

400 N. First Street Rockford, IL 61107 Telephone 815-227-0023 Brian@m-b-arch.com Email: Web: blakemore-architects.com Legacy Designs, Inc. 6116 Mulford Village Drive

BLAKEMORE

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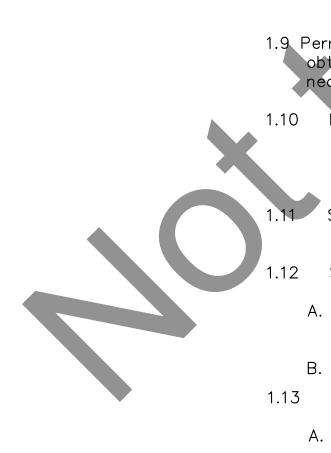


Email:       Brian@m-b-arch.co         blakemore-architects.co         Legacy Designs, Inc.         S116 Mulford Villoge Prive         Professional Design Firm No. 184–003433         B15-484–4708 Phone 815–484–4710 Fixe         e-mail         BegovyBegovedsigns.net         Rockford, Illinois         Capital Project No         2217         for         Second Research         Rockford, Illinois         The contractor shall betterme Exact Dister         Modo control Shall betterme Exact Dister         Modo control on shall bettermine Exact Dister         Modo control on shall betermine Exact Dister </th <th></th> <th></th> <th></th>			
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# 1 General Section. 1.4 Work Priority Over the Other Trades: Architect. 1. Sprinkler heads. 2. Recessed lighting fixtures. 3. Sheet metal duct work/HVAC units. 5. Refrigeration lines. 6. Sprinkler lines. . Heating lines. 8. Plumbing water lines. 9. Electrical conduits. 10. Control air lines or conduits.

1. In case of differences between building codes, local, state and federal laws, and utility company regulations and contract documents, most stringent shall apply. Promptly notify Architect/Engineer in writing of any such difference prior to submitting bid. 2. Applicable codes shall include, but not necessarily be limited to the followina:

c. OSHA



1.1 Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this

1.2 Provide complete systems as called for, and/or shown, and/or specified. Fire Protection Contractor shall furnish and completely install the system, service, equipment, or material named, together with other associated devices, equipment, materials, wiring, piping, etc., as required for a complete satisfactory operating installation. Other subcontractors, as required to perform work called for, shall be responsible to the Fire Protection Contractor. Secure all permits for work and inspections as required.

1.3 Coordination: Before submitting his bid, Contractor and manufacturer shall carefully check all plans and specifications for every trade and shall include in bid all work to be provided by him. All trades shall coordinate their work with that of other trades so as to avoid interferences and conflicts of work indicated. Work must be completed as scheduled by the Architect. Determine at time of bidding to avoid misunderstanding. Any discrepancies noticed at time of pre-bid meeting and/or inspection of site by those inspecting for bidding the project, shall be brought to the Architect's attention immediately, so that corrections can be made by Addendum prior to bid date.

A. All contractors for the Mechanical-Electrical trades are to be governed as follows and work in cooperation with one another to fit piping and ductwork into the structure as job conditions may demand. All final decisions as to right of way and run of pipe, ducts, etc., to be made by

B. In general, priority is to be arranged as follows:

- 4. Plumbing waste lines, down spouts and vents.

1.5 Qualifications: The system shall be designed and installed by a firm regularly engaged in the design and installation of Fire Protection systems in accordance with the requirements of the National Fire Protection Association. The firm shall have a minimum of five (5) years experience in fire protection system design and installation for projects of similar nature to this project. Engineer/Architect may require evidence to support the above qualifications and may reject any proposed installer who cannot show suitable experience.

- 1.6 Workmanship: All work shall be performed in a workmanlike manner following the best practice for the construction indicated.
- 1.7 Correlation of Work: All trades shall correlate their work with that of other trades so as to prevent interference and delays.

#### 1.8 Codes and Standards:

A. Work performed under this contract shall be governed by the latest AIA General Conditions.

B. The Fire Protection Contractor's work shall conform to all prevailing codes and regulations pertaining to their work including all requirements of inspection agency, of Owner's insurance company, to all local and state government requirements, of local water utility and fire marshal.

C. All materials shall conform to applicable standards of such devices, including NFPA and UL, and shall be USA make.

D. Materials and workmanship shall comply with applicable local, state and federal codes and local utility company regulations.

- a. 2003 International Fire Code (IFC) with local amendments b. Owner's Insurance Company Requirements
- d. Local code amendments to local ordinances or codes. e. ASTM, AWWA, WWP, etc. and other similar codes, standards, specifications f. Where reference is made in these or other specifications, it shall
- be the latest revision at the time of call for bids unless
- specifically noted on plans or in specifications. a. Should work be performed which does not comply with
- requirements of applicable building codes, state and federal laws, industry standards and utility company regulations, changes for compliance shall be done at contractor's expense
- h. Each trade shall cooperate with and assist other trades on project in conformance with trade jurisdictional rulings and shall perform work which is within its jurisdiction i. Notify Architect/Engineer of any materials or apparatus believed to be inadequate, unsuitable, in violation of laws, ordinances,
- rules or regulations of authorities having jurisdiction prior to submitting bid.
- E. Electrical equipment, wiring, etc., shall comply with requirements of NFPA, NEC, UL, OSHA, BOCA, state and federal safety codes; for a particular type installation and shall be so labeled where applicable.
- 1.9 Permits and Fees: The Fire Protection Contractor is to be responsible for the obtaining of his respective permits, and their cost, as well as other fees necessary to the project.
  - Materials: All materials are to meet or exceed the minimum standards of A.S.T.M. and the approval of state and local codes responsible for such approvals. In no case shall used or reconditioned material be used. All shall be in new and working order.
  - Scope: The Fire Protection work shall be furnished and installed as stated under systems

#### .12 Submittals

A. Submit signed shop drawings for all required equipment and material items.

- B. Provide maintenance manuals.
- 1.13 Openings, Sleeves and Chases:

A. Contractor shall set sleeves and inserts required for piping, hangers, intakes, louvers, ventilators, ductwork, curbs, etc., in construction. Contractor to furnish General Contractor with complete information as to size and location of openings through walls, floors, roofs, etc., for installing this work. If this information is not supplied before new walls, floors, roofs, etc., are built, respective Contractor shall furnish, cut and patch all required openings for installation of equipment, material, devices, etc., as required and approved by the Architect.

- 1.14 Examination of Work:
- A. Contractor shall carefully examine the site for the work to eliminate misconceptions of fact, to verify dimensions, elevations, location of existing equipment, services, piping and to observe features affecting working conditions, transportation and storage facilities. Contractor shall give due consideration to same in preparing proposals/bids as exceptions will not be considered after awarding of contract, nor will Contractor be entitled to any extra compensation for his failure to determine conditions or connections at the site.
- B. The run of all lines shown on drawings is to be regarded as diagrammatic and tentative. Contractor shall carefully verify location, depth, and size of line service, etc., to which connection is proposed. Before installing any service, line connections, etc., Contractor shall assure that they can be run/made as contemplated without trapping or interfering with footing, other piping, fixtures, etc. Any necessary deviation shall be referred to Architect/Engineer for approval/authorization before any line or service are run.
- 1.15 Warranty: All systems, materials, equipment items, etc. shall be guaranteed in writing for a period of one year after systems have been accepted by the Owner.
- 2 PRODUCTS
- 2.1 Acceptable Manufacturers:

A. Sprinkler Heads, Sprinkler Head Guards, Spare Sprinkler Head Cabinets: Central, Reliable, Viking

2.2 Systems:

- A. Fire Protection: Furnish and install a Fire Protection System of first quality in every and all respects, together with the necessary pipe, fittings, and other apparatus as hereinafter enumerated.
- B. Piping Installation:
- 1. Pipe sizes given on plans are minimums. Pipe sizes not given shall b determined by contractor, as required to conform with these specifications.
- 2. All sprinkler piping shall be concealed in finished spaces. Pipe in unfinished spaces may be exposed as indicated on drawings
- 3. Neither the ceiling nor the ceiling suspension system is to be erected until all piping has been installed, tested, and if specification hereinafter, painted. The pendent sprinklers shall be aligned within normal fabrication installation tolerances and shall be centered or be 1'-0" from tile end and centered in ceiling tile modules.
- 4. All pipe penetrations through walls and floors shall have sleeves. Sleeves shall be caulked in a fireproof and waterproof manner.
- C. Drains:
- 1. Provide drains and drain valves as required to properly drain system. Necessary drains connections shall be to the storm sewer.
- D. Hangers:
- required by applicable codes. 1. Provide hangers
- All pipe materials shall be as approved by code and as follows: 2.3 Pipe Materials:

### A. Interior Systems:

- Interior above ground piping shall be:
- 1"- 2": Schedule 40 black steel with threaded, grooved or flanged fittings.
- Schedule 10 minimum black steel with roll - 4": grooved, mechanical tee or welded outlet
- fittings. c. 6": 0.134 minimum wall thickness black steel with roll arooved, welded or mechanical tee fittings.
- d. No threadable light wall sprinkler pipe nor "crimp-on" nor "plain end" pipe fittings will be permitted.
- 2.4 Sprinkler Equipment:
- A. Sprinkler Heads (SH):
- 1. See Sprinkler Head schedule on drawings.
- B. Sprinkler Guards:
- 1. Standard sprinkler guard of welded steel wire with baked red enamel or standard brass finish in unfinished areas, or bright chrome in finished areas, to fit 1/2" and 3/4" NPT male pipe threads.
- C. Spare Sprinkler Head Cabinets:
- 1. To house spare sprinklers of all types installed and associated sprinkler wrenches as required to accommodate spare sprinkler requirements per NFPA 13.
- 3 EXECUTION
- 3.1 General
- A. The Fire Protection Contractor shall include all requirements as noted herein and as required to provide a complete, safe operating building fire protection system.
- B. Identification
- 1. Identification signs shall be provided for system piping, auxiliary drains, inspector's tests connections, alarms, control valves, cabinets, etc., as required by NFPA 13, NFPA 14, BOCA and local Fire Department requirements.
- C. System and equipment installations shall include, but not be limited to the followina:
- D. Interior Sprinkler System:
- 1. Interior system shall be complete with all required sprinklers, all associated piping, hangers, valves, drains, inspector's test stations, etc. of the wet or dry type as required.
- 2. Sprinkler piping shall be concealed above ceilings in finished areas, other areas may be exposed, unless indicated otherwise on drawings. Exposed sprinkler pipe and fittings shall be suitable for painting. In general, sprinkler piping shall be installed at maximum height throughout the building. Offset piping as required to clear mechanical ductwork, piping, building structure, etc. If necessary, provide appropriate supporting members for piping, which shall be attached to the building structure so that the load imposed by the piping will not exceed the limitations of the structure. The piping installation shall be consistent with fire codes, relative to provisions for drainage and obstruction to spray pattern. Provide necessary deflectors so that heads will not spray onto electrical equipment.

- 3. Sprinklers located 7'-0'' or less above finished floor elevation shall be provided with approved guards. Sprinklers located near heat producing equipment shall conform to NFPA Section 23, relative to temperature ratings. Where ceiling tiles occur, sprinklers shall be located in center of tile. Coordinate with interior design drawings.
- 4. Piping shall be pitched so the entire system can be drained. Drains shall be piped to discharge at safe points outside the building or to sight cone attached to drains of adequate size to readily care for the full flow from each sprinkler drain under maximum pressure. Auxiliary drains shall be provided as required by NFPA Standards.

3.2 Working Drawings:

A. Complete system shall be drawn to scale, with all parts, sprinklers, piping, risers, mains, branches, valves, alarms, wiring, etc. fully coordinated with all construction such as beams, joists, columns, unit heaters, ducts, fans, diffusers, grilles, lighting fixtures, special electrical equipment and systems, etc. and shall be approved in writing by inspection agency, Fire Department and Engineer.

B. All interferences shall be avoided, with sprinkler installation varied as required and as approved by Engineer and inspection agency.

3.3 Inspector's Test Station

. Provide a 1" inspector's test station terminating in a smooth bore corrosion resistant orifice. The orifice shall have a flow equivalent to one sprinkler head. Each sprinkler system shall be provided with an inspector's test tation from the most remote sprinkler in the system. Each test station shall be complete with a globe valve. Where possible, the globe valve shall be located a maximum of 7'-0'' above floor. Test station and location of valve shall be identified by applicable signage.

Testing and Flushing:

- A. Test connections shall be provided for each sprinkler system or portion of each sprinkler system and shall be located at the hydraulically most remote part of each system. Test connection shall be piped to a location where the discharge will be readily visible and where water may be discharged without damage.
- B. All piping shall be thoroughly flushed and tested in accordance with NFPA requirements, and left in good working order. Repair or replace piping to eliminate leakage, in accordance with NFPA requirements. Certificate of tests shall be forwarded to the Architect. All tests shall be made in the presence of a representative of the Architect and proper city officials. All necessary equipment, materials and labor for tests shall be provided by the installing contractor.
- C. Prior to connecting to overhead sprinkler piping, the underground main shall be flushed and tested by installer in the presence of a representative of the Authority having jurisdiction and the Architect and meet with their approval. Certificate of test shall be forwarded to the Architect.
- D. Attention is especially called to the fact that the Contractor shall be responsible for damage to any part of the premises caused by leaks or breaks in the pipe installed under this Section, for a period of one (1) year from the date of acceptance of the work by the Owner.

3.5 Cutting and Patching:

A. Contractor shall be responsible for all cutting and patching as required for his work.

3.6 Cleaning:

A. Contractor shall be responsible for cleaning of his equipment, systems, and shall remove all debris created by him from the premises. Entire work area shall also be broom cleaned.

3.7 Painting:

A. No painting shall be in the fire protection contract.

3.8 Completion and Certification:

A. After completion of the installation, the Fire Protection Contractor shall furnish a written statement to the affect that work has been completed and tested in accordance with the working drawings and specifications. Letter and Contractor's material and test certificate shall be prepared in triplicate and given to the Architect for distribution. Contractor shall furnish owner with copy of NFPA 25 - Inspection, Testing and Maintenance of Water Based Fire Protection Systems.

B. Guarantee:

1. Contractor shall guarantee all equipment, apparatus, materials and workmanship entering into this contract and shall replace all parts at his own expense which have proven defective within one (1) year from formal acceptance. Individual items shall be guaranteed as called for in addition to the above.

C. Record Documents:

1. Contractor to retain on site one (1) complete marked up set of "As-Built" project prints to be turned over to the Owner at completion of project. Contractor shall retain copy of project for his records.

End of Section 15300 - Fire Protection





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BID. THE CONTRACTOR SHALL COORDINATE ALL DRAWINGS WITH ACTUAL FIELD CONDITIONS PRIOR TO PROCEEDING WITH THE WORK AND NOTIFY TH ARCHITECT OF ANY DISCREPANCIES. THIS DRAWING IS THE PROPERTY OF BLAKEMORE ARCHITECTS AND MAY NOT BE REPRODUCED WITHOUT THE PRIOR WRITTEN PERMISSION OF THE ABCHITECT

ΡE	RMISSION	U F	INE	ARCHITECT
NO.	DATE			DESCRIPTIO
1.	05-20-2021		Initial	Owner Layout Review
2.	08-18-2021			Owner Layout Review
3.	01-21-2022			Owner Review On
4.	02-04-2022			Owner Review Tw
5.	07-14-2022		lss	ued for Zoning Review
6.	08-22-2022			Issued for Bid
7.	12-16-2022			Issued for Perm

Issued for Bid

7. 01-17-2023

THE CONTRACTOR SHALL DETERMINE EXACT DIMENSIONS AND CONDITIONS AT THE SITE PRIOR TO SUBMITTING A

Rockford, Illinois



New Collection Systems Operation Facility

Capital Project No.

2217

Professional Design Firm No. 184-003483 815-484-4708 Phone 815-484-4710 Fax e-mail legacy@legacydesigns.net web site www.legacydesigns.net

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