Barton Malow BUILDERS

WATERFORD SCHOOL DISTRICT

Waterford School District

Bid Pack 23-06
Warehouse Exterior Bulk Storage Building

Addendum No. 3

Issued July 28, 2023

- **Pre-Bid Site Walk Sign In Sheet**
- **Pre-Bid RFI's**

PRE-BID RFI'S

- Question 1:

  1. Can you verify the size of columns? It says HSS6x6, no thickness is provided (no base plate)
  2. Drawings do not specifically call for steel to be galvanized (only deck) but scope does, can you verify if steel is galvanized or painted?

- Answer:
- Please see the attached Structural drawings that indicate the columns to be HSS6X6X1/4 with 12"x3/4"x1'-0" base plate and a note directly below that that All exposed steel to be galvanized. These note can be found on Sheet S2.02

Barton Malow

MEETING SIGN-IN SHEET

DATE: 7/26/23
TIME: 8:00 A.M.
LOCATION: 1145 TEE CEE DRIVE WATERFORD

PROJECT: BP 23-06_WAREHOUSE EXTERIOR BULK STORAGE BUILDING
SUBJECT: PRE-BID SITE WALK

ATTENDEES (Please print legibly)	COMPANY	CATEGORY BIDDING	TELEPHONE	E-MAIL ADDRESS
DAVE DELLER	CHRISTMAN CONSTRUCTORS	CONCRETE	517.599.5571	dave.deller@christman
Amanda Zomerfeld	Simone	Concrete	248.390.8359	Amanda@bmg.com
Brandon Watkins	Gemini Electric	Electrical	313 802 75000	simonecompanies.com brandonwatkins@gemini electric.net
DEREK BAUN	SOURCE ONE CONSTRUCTION	ROOFING	248-515-4642	DBAUN@SOURCEONECS.COM

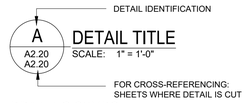
MATERIAL LEGEND

- SOIL
- ASPHALT AGGREGATE
- GRANULAR FILL
- STONE/GRAVEL
- CONCRETE
- CONCRETE MASONRY UNIT
- BRICK
- GLAZED HOLLOW CMU
- STRUCTURAL GLAZED TILE
- LIMESTONE
- MARBLE
- FINISH WOOD
- COMPOSITION/PLYWOOD
- CONTINUOUS WOOD BLOCKING
- BLOCKING OR SHIMS
- BATT INSULATION
- RIGID INSULATION
- PREMOLDED EXPANSION JOINT/ COMPRESSIBLE FILLER STRIP
- PLASTER OR GYPSUM BOARD
- CERAMIC OR QUARRY TILE
- TERRAZZO
- ACOUSTICAL PANEL OR ACOUSTICAL TILE
- EXISTING MATERIAL (IN SECTION)
- EXISTING MATERIAL (IN PLAN)
- DEMOLITION - TO BE REMOVED

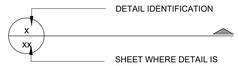
ABBREVIATIONS

AC	AIR CONDITIONING
ACOUST	ACOUSTICAL
ACT	ACOUSTICAL CEILING TILE
ADA	AMERICANS WITH DISABILITIES ACT
ADJ	ADJUSTABLE
AFF	ABOVE FINISHED FLOOR
AGG	AGGREGATE
ALT	ALTERNATE
AL/ALUM	ALUMINUM
ANOD	ANODIZED
APC	ARCHITECTURAL PRECAST LINTEL
APPROX	APPROXIMATE
ARCH	ARCHITECT(URAL)
ASPH	ASPHALT
AV	AUDIO/VISUAL
L	ANGLE
B CMU	BURNISHED CMU
BIT	BITUMINOUS
BD	BOARD
BF	BARRIER FREE
BLDG	BUILDING
BLK	BLOCK
BLKG	BLOCKING
BM	BENCH MARK/BEAM
BOT	BOTTOM
BRG	BEARING
BUR	BUILT-UP ROOF
CAB	CABINET
CUH	CABINET UNIT HEATER
CB	CHALKBOARD/CATCH BASIN
CEM	CEMENT
CER	CERAMIC
CFM	CUBIC FEET PER MINUTE
CJ	CONTROL JOINT
CL	CENTERLINE
CLG	CEILING
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
COMP	COMPACTED
CONC	CONCRETE
CONST	CONSTRUCTION
CONT	CONTINUOUS/CONTINUE
CONTR	CONTRACTOR
CORR	CORRUGATED
CPL	CEMENT PLASTER
CPT	CARPET
CT	CERAMIC TILE
CU	CONDENSING UNIT
CUSP	CUSPIDOR
CWF	CURTAINWALL FRAMING
D	DEPTH/DEEP
°	DEGREE
DC	DISPLAY CASE
DEMO	DEMOLISH/DEMOLITION
DTL	DETAIL
DF	DRINKING FOUNTAIN
DIA/Ø	DIAMETER
DIM	DIMENSION
DIV	DIVISION
DS	DOWNSPOUT
DWG	DRAWING
EA	EACH
EJ	EXPANSION JOINT
EL	ELEVATION
ELEC	ELECTRIC(AL)
ELEV	ELEVATOR
EQ	EQUAL
EQUIP	EQUIPMENT
EIFS	EXTERIOR INSULATION FINISH
EWC	ELECTRIC WATER COOLER
EXH	EXHAUST
EX/EXIST	EXISTING
EXP	EXPANSION
EXT	EXTERIOR
FD	FLOOR DRAIN
FEC	FIRE EXTINGUISHER CABINET
FF	FORCED FLOW CABINET HEATER
FHC	FIRE HOSE CABINET
FIN	FINISH
FIN FL	FINISH FLOOR
FLR	FLOOR
FOUND	FOUNDATION
FT/	FEET
FTG	FOOTING
FRP	FIBERGLASS REINFORCED POLYESTER
GA	GAUGE
GALV	GALVANIZE(D)
GB	GRAB BARS
GHT	GLAZED HOLLOW TILE
GL	GLASS
GLCMU	GLAZED CMU
GLZD	GLAZED
GYP	GYPSUM
H/HGT	HEIGHT
HB	HOSE BIB
HM	HOLLOW METAL
HORIZ	HORIZONTAL
HP	HIGH POINT
HR	HOUR
HVAC	HEATING/VENTILATING/AIR CONDITIONING
ID	INSIDE DIAMETER
IN/"	INCH
INCL	INCLUDE(D),(ING)
INSUL	INSULATION/INSULATE(D)
INT	INTERIOR
KIT	KITCHEN
JST	JOIST
JT	JOINT
L	LENGTH
LAM	LAMINATE(D)
LAV	LAVATORY
LB/#	POUND
LGF	LIGHT GAUGE FRAMING
LIN	LINOLEUM
LKR	LOCKER
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LMC	LINEAR METAL CEILING
LOC	LOCATION(S)
LP	LOW POINT
MANUF	MANUFACTURER
MAR	MARBLE THRESHOLD
MB	MARKER BOARD
MAS	MASONRY
MAT	MATERIAL/MAT
MAU	MAKE UP AIR UNIT
MAZ	MAXIMUM
MECH	MECHANICAL
MEZZ	MEZZANINE
MIN	MINIMUM/MINUTE
MISC	MISCELLANEOUS
ML	MASONRY LINTEL
MP	METAL PANEL
MWP	METAL WALL PANEL
MO	MASONYOPENING
MET/MTL	METAL
MSF	METAL STUD FRAMING
MT	METAL THRESHOLD
NIC	NOT IN CONTRACT
NO/#	NUMBER
NOM	NOMINAL
NSF	NON-SLIP FINISH
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OHD	OVERHEAD DOOR
OPNG	OPENING
OPP	OPPOSITE
OS	OVERFLOW SUMP
PART	PARTICLE
PART'N	MOVABLE PARTITION
PC	PRECAST CONCRETE
PL	PLATE/PROPERTY LINE
PLAS	PLASTER
PLAM	PLASTIC LAMINATE
PLYWD	PLYWOOD
PREFAB	PREFABRICATED
PREFIN	PREFINISHED
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PTD	PAINTED
PVC	POLYVINYL CHLORIDE
QT	QUARRY TILE
R	RISER/RADIUM
RB	RESILIENT WALL BASE/RUBBER BASE
RBF	RUBBER FLOORING
RC	RAIN CONDUCTOR
RES	RESILIENT
RS	ROOF SUMP
REF	REFERENCE
REFR	REFRIGERATOR
REINF	REINFORCING
REQ'D	REQUIRED
REV	REVISION(S)
RF	ROOF EXHAUST FAN
RM	REMOVABLE MULLION/ROOM
RO	ROUGH OPENING
RWO	RIGHT OF WAY
RTU	ROOF TOP UNIT
RV	ROOF VENT
S	SINK
SAAC	SPRAY APPLIED ACOUSTICAL COATING
SCHED	SCHEDULE
SEAL	CONCRETE SEALER
SEC	SECTION
SFF	STOREFRONT FRAMING
SHT	SHEET
SIM	SIMILAR
SPEC(S)	SPECIFICATIONS
SP CMU	SPLIT FACE CMU
SPI	SPORTS IMPACT FLOORING
SPKR	SPEAKER
SQ	SQUARE
SS	SERVICE SINK/STAINLESS STEEL
SSM	SOLID SURFACE MATERIAL
STD	STANDARD
STL	STEEL
STRUCT	STRUCTURAL
SUSP	SUSPENDED
SVT	SOLID VINYL TILE
SV	SHEET VINYL
T	TREAD
T&B	TOP AND BOTTOM
TB	TACK BOARD
TC	TOP OF CURB
TEMP	TEMPERED
TER	TERRAZZO
TOC	TOP OF CONCRETE
TOF	TOP OF FOOTING
TOM	TOP OF MASONRY
TOS	TOP OF STEEL
TS	TUBE STEEL
TV	TELEVISION
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
UV	UNIT VENTILATOR
VCT	VINYL COMPOSITION TILE
VCG	VINYL COVERED GYPSUM BOARD
VERT	VERTICAL
VIF	VERIFY IN FIELD
VUV	VERTICAL UNIT VENTILATOR
W/	WITH
W/O	WITHOUT
WC	WATER CLOSET
WD	WOOD
WDSC	WOOD SOUND CONTROL
WH	WATER HEATER
WP	WORKING POINT / WATERPROOF
WWF	WELDED WIRE FABRIC

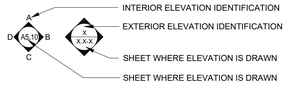
SYMBOL LEGEND



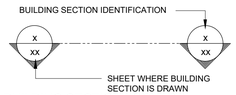
DRAWING SYMBOL



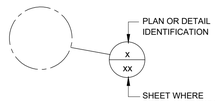
DETAIL LOCATOR



ELEVATION SYMBOL

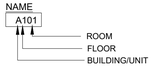


BUILDING SECTION LOCATOR

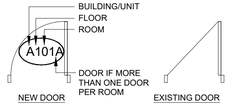


PLAN OR DETAIL BLOW-UP

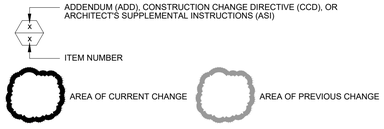
COLUMN GRID



ROOM NAME AND NUMBER

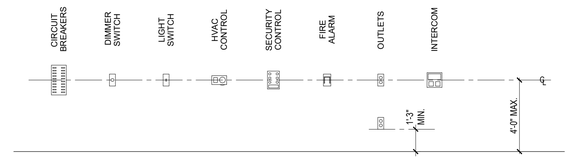


DOOR NUMBER AND SYMBOLS

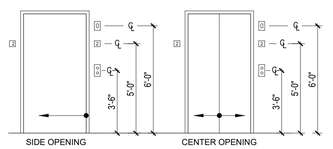


MISCELLANEOUS SYMBOLS

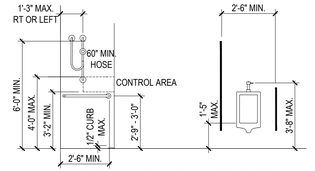
MOUNTING HEIGHTS



CONVENIENCE CONTROLS AND OUTLETS

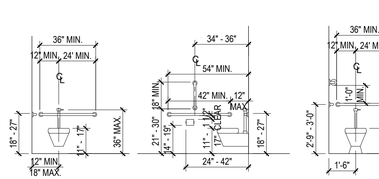


ELEVATORS

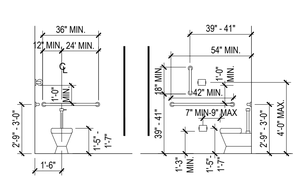


SHOWER UNIT

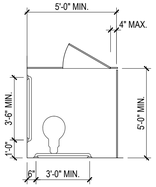
BARRIER FREE URINAL



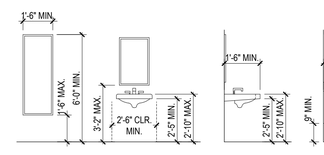
BARRIER FREE WATER CLOSET MOUNTING HEIGHTS FOR CHILDREN

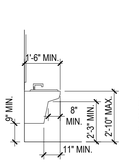


BARRIER FREE WATER CLOSET

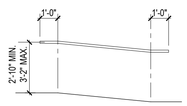


STALL LAYOUT

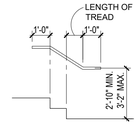




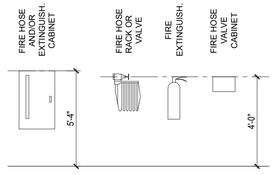
BARRIER FREE LAVATORIES AND MIRRORS



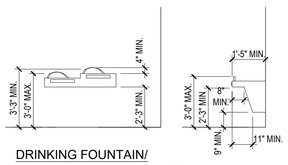
RAMP HANDRAIL



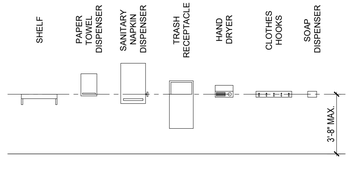
STAIR HANDRAIL



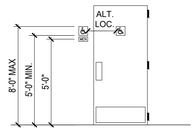
FIRE EXTINGUISHER EQUIPMENT



DRINKING FOUNTAIN/ ELECTRIC WATER COOLER

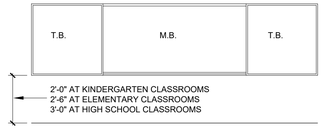


TOILET ROOM ACCESSORIES

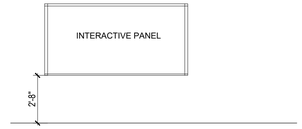


TOILET ROOM SIGNAGE

NOTE: HEIGHT ABOVE FLOOR TO BASELINE OF CHARACTER TO COMPLY WITH ICC/ANSI A117.1-2009 TABLE 703.2.4



TACK BOARDS AND MARKER BOARDS



INTERACTIVE PANEL MOUNTING

KEY PLAN

ISSUE DATE	ISSUED FOR
06/02/2023	BID DOCUMENTS
-	-
DRAWN	
CHECKED	
APPROVED	

xxx
xxx
xxx

FRENCH associates
architects planners interiors

236 MILL STREET
ROCHESTER, MI
48307

T: 248.656.1377
frenchaia.com

PROJECT

WSD- BP 32-06
Warehouse Exterior
Bulk Storage Building

Waterford
Michigan

SHEET

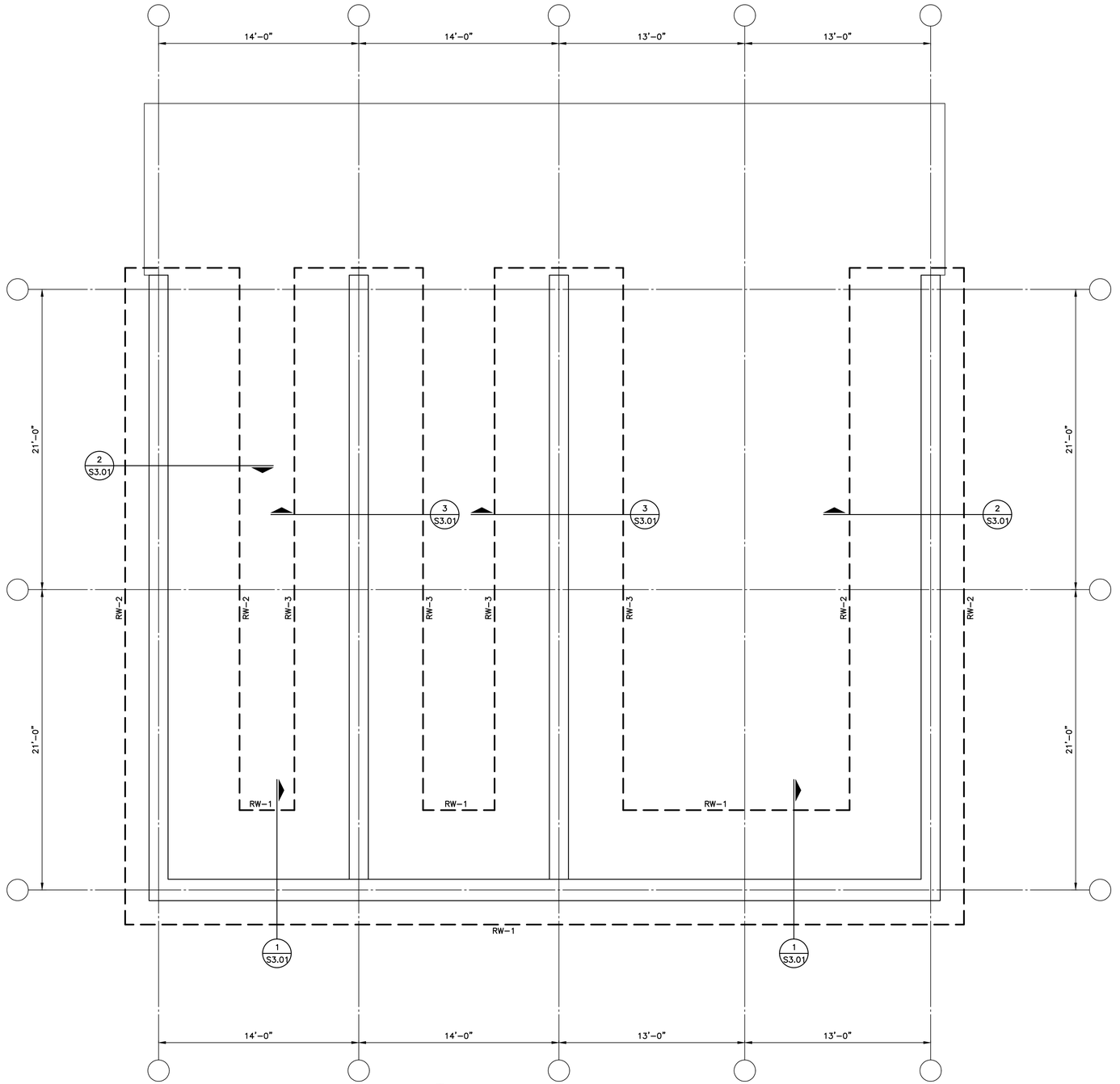
ARCHITECTURAL
REFERENCE
SHEET

PROJECT NUMBER

2022-061

SHEET NUMBER

A0.01



FOUNDATION PLAN

SCALE : 1/4" = 1'-0"

BOTTOM OF EXTERIOR FOOTING ELEVATION = -3'-6"
UNLESS OTHERWISE NOTED (X'-X")

ALL CONCRETE TO BE 4000 PSI

ISSUE DATE	ISSUED FOR
05/19/2023	BIDS
DRAWN	RC
CHECKED	TS
APPROVED	TS

Shymanski & Associates, L.L.C.
STRUCTURAL ENGINEERS
33426 Five Mile Rd.
Livonia, Michigan 48154
ph. 734.855.4810 fx. 734.855.4809
email@sastructuralengineers.com

architects planners interiors
FRENCH associates
236 Mill Street
Rochester, MI
48307
T 248.656.1377
F 248.656.7746
©FRENCH ASSOCIATES, INC.

PROJECT

Waterford
School District
Bulk Storage
Building

Waterford
Michigan

SHEET

FOUNDATION PLAN

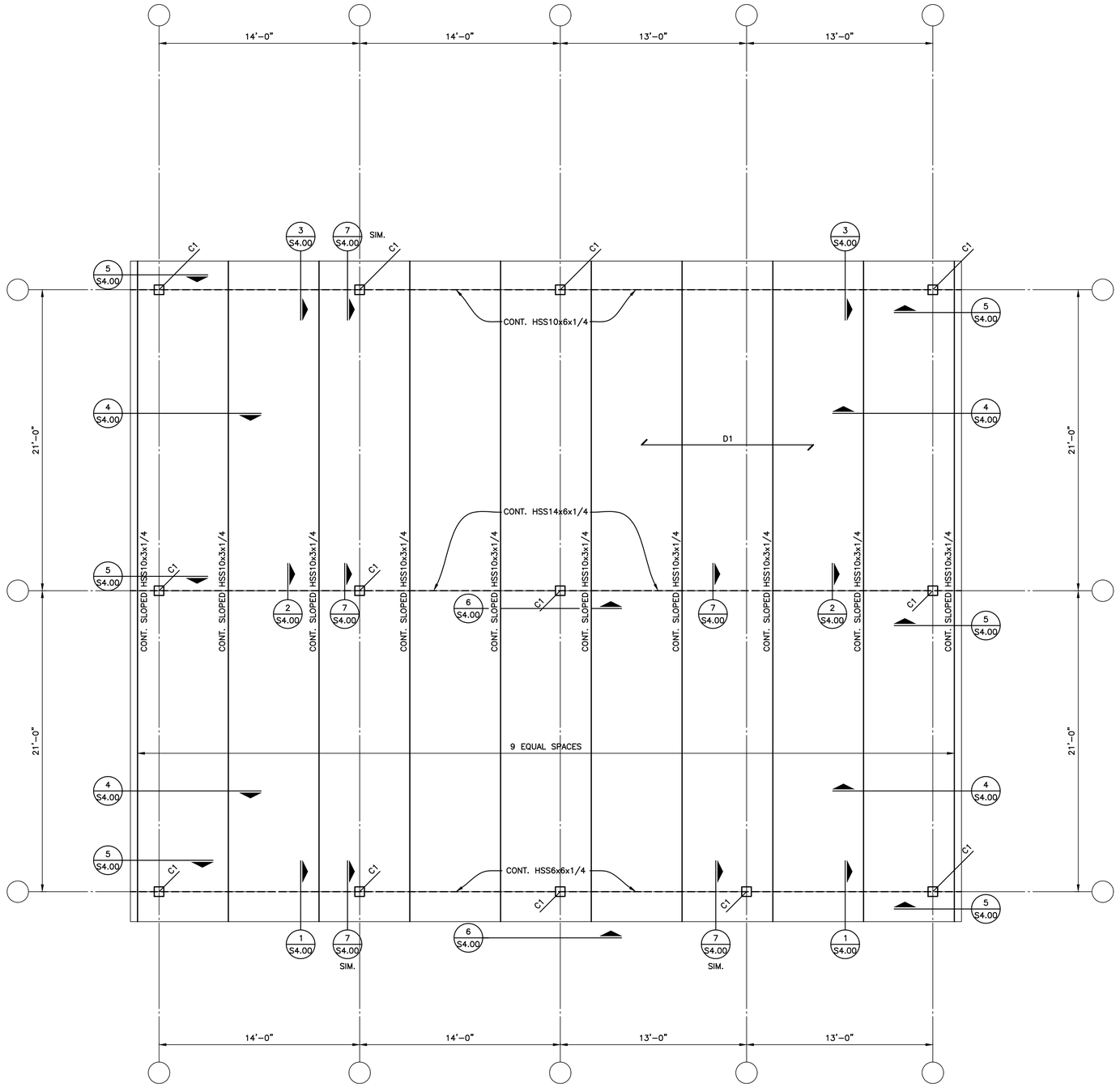
PROJECT NUMBER

2022-061

SHEET NUMBER

S2.01

2022-061 Bulk Storage Building



ROOF FRAMING PLAN

SCALE : 1/4" = 1'-0"

D1 — 1 1/2-20" GA. GALVANIZED WIDE RIB METAL DECK (3 SPAN MINIMUM) SEE DETAIL 8/S4.00

C1: HSS6x6x1/4 WITH 12"x3/4"x1'-0" BASE PLATE WITH (4)3/4"ø HILTI HAS THREADED RODS WITH HILTI HIT HY-200 ADHESIVE. PROVIDE 9" MINIMUM EMBEDMENT INTO CONCRETE.

ALL EXPOSED STEEL TO BE GALVANIZED

ISSUE DATE	ISSUED FOR
05/19/2023	BIDS
DRAWN	RC
CHECKED	TS
APPROVED	TS

Shymanski & Associates, L.L.C.
STRUCTURAL ENGINEERS
33426 Five Mile Rd.
Livonia, Michigan 48154
ph. 734.855.4810 fx. 734.855.4809
email@sastructuralengineers.com

architects planners interiors
FRENCH associates
236 Mill Street
Rochester, MI 48307
T 248.656.1377
F 248.656.7746
©FRENCH ASSOCIATES, INC.

PROJECT

Waterford School District Bulk Storage Building

Waterford
Michigan

SHEET

ROOF FRAMING PLAN

PROJECT NUMBER

2022-061

SHEET NUMBER

S2.02

2022-061 Bulk Storage Building

G E N E R A L N O T E S

GENERAL CONDITIONS

1. IF ANY GENERAL NOTE CONFLICTS WITH ANY DETAIL OR NOTE ON THE PLANS OR IN THE SPECIFICATIONS, THE STRICTEST PROVISION SHALL GOVERN.

2. THE STRUCTURAL DRAWINGS ARE FOR THE PLACEMENT AND SIZE OF STRUCTURAL COMPONENTS ONLY. O.S.H.A., LOCAL GOVERNMENT CODES AND SAFETY CODE REQUIREMENTS SHALL BE ADHERED TO BY THE CONTRACTOR.

3. THE STRUCTURE IS DESIGNED TO BE SELF-SUPPORTING AND STABLE AFTER IT IS FULLY COMPLETED. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE ERECTION PROCEDURE AND SEQUENCE, AND TO ENSURE THE SAFETY OF THE STRUCTURE AND ITS COMPONENT PARTS DURING ERECTION. THIS INCLUDES PROVIDING TEMPORARY BRACING, SHORING, GUYS OR TIE- DOWNS. THESE TEMPORARY SUPPORTS WILL REMAIN IN PLACE UNTIL ALL STRUCTURAL COMPONENTS ARE IN PLACE AND COMPLETED.

4. USE OF ENGINEERING DRAWINGS AS ERECTION DRAWINGS BY THE CONTRACTOR IS STRICTLY PROHIBITED. DIMENSIONS SHOWN ON THE STRUCTURAL DRAWINGS ARE FOR REFERENCE ONLY AND SHOULD NOT BE USED FOR BUILDING LAYOUT AND LOCATION. SEE ARCHITECTURAL DRAWINGS AND SITE PLAN FOR THESE PURPOSES.

5. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AT THE RATE OF NO MORE THAN 80 DRAWINGS PER WEEK. THE CONTRACTOR SHALL SUBMIT A SCHEDULE OF SHOP DRAWINGS PRIOR TO SUBMITTAL. THE CONTRACTOR SHALL CHECK SHOP DRAWINGS PRIOR TO SUBMITTAL AND IS SOLELY RESPONSIBLE FOR ERRORS & OMISSION IN THE PREPARATION OF SHOP DRAWINGS TO CONFORM TO THE DESIGN DRAWINGS. SUBMIT ELECTRONIC SHOP DRAWINGS FOR ENGINEER REVIEW.

6. IT IS THE CONTRACTORS RESPONSIBILITY TO VERIFY ALL RELEVANT DIMENSIONS AND ELEVATIONS FOR EQUIPMENT INSTALLATIONS AGAINST PURCHASED MANUFACTURER'S CERTIFIED EQUIPMENT DRAWINGS. DIMENSIONS THAT DEPEND UPON SPECIFIC EQUIPMENT SUCH AS ELEVATOR OPENINGS, MECHANICAL EQUIPMENT SUPPORTS, ETC. SHALL BE COORDINATED BY THE CONTRACTOR PRIOR TO SUBMITTAL TO THE ARCHITECT/ENGINEER. SUCH DIMENSIONS SHALL BE PROVIDED ON THE SHOP DRAWINGS BY THE CONTRACTOR PRIOR TO SUBMITTAL TO THE ARCHITECT/ENGINEER.

FOUNDATIONS

1. FOOTINGS SHALL BEAR ON FIRM, UNDISTURBED SOIL WITH A SAFE BEARING CAPACITY OF 2000 P.S.F. IF SOIL OF THIS CAPACITY IS NOT FOUND AT THE ELEVATIONS INDICATED, FOOTINGS SHALL BE ENLARGED OR LOWERED AT THE DIRECTION OF THE ARCHITECT. VERIFY FOUNDATION SOIL BEARING PRESSURE IN FIELD BY SOILS ENGINEER.

2. PROVIDE NECESSARY SHEETING SHORING BRACING, ETC. AS REQUIRED DURING EXCAVATIONS TO PROTECT SIDES OF EXCAVATIONS.

3. COMPLY FULLY WITH REQUIREMENTS OF OSHA AND OTHER REGULATORY AGENCIES FOR SAFETY PROVISIONS.

CONCRETE

1. MINIMUM CONCRETE STRENGTH TO BE 3000 P.S.I. @ 28 DAYS, U.O.N.; SLABS SHALL BE 3500 P.S.I. MIN. U.O.N. EXPOSED CONCRETE SHALL BE 4000 PSI WITH 6% + 1% ENTRAINED AIR U.O.N.

   A. PROVIDE 3000 P.S.I. 28-DAY COMPRESSIVE STRENGTH; W/C RATIO, 0.58 MAXIMUM (NON-AIR-ENTRAINED), 5.0 BAG CEMENT MIX FOR ALL FOUNDATION WORK UNLESS NOTED OTHERWISE.

   B. PROVIDE 3500 P.S.I. 28-DAY COMPRESSIVE STRENGTH; W/C RATIO, 0.53 MAXIMUM (NON-AIR-ENTRAINED), 5.5 BAG CEMENT MIX FOR ALL INTERIOR SLABS UNLESS NOTED OTHERWISE.

   C. PROVIDE 4000 P.S.I. 28-DAY COMPRESSIVE STRENGTH; W/C RATIO, 0.45 MAXIMUM (AIR-ENTRAINED), 6.0 BAG CEMENT MIX FOR ALL EXTERIOR CONCRETE UNLESS NOTED OTHERWISE.

2. FLYASH OR GROUND GRANULATED BLAST FURNACE SLAG MAY BE SUBSTITUTED UP TO 25% MAXIMUM OF MIX DESIGN CEMENT CONTENT IN NON-EXPOSED CONCRETE MIXES. DO NOT USE IN EXPOSED MIX DESIGNS.

3. ALL CONCRETE WORK AND PLACEMENT SHALL CONFORM TO THE LATEST RECOMMENDATIONS OF A.C.I.

4. ALL REINFORCING BARS, DOWELS AND TIES SHALL CONFORM TO A.S.T.M. A615 GRADE 60. REINFORCING STEEL SHALL BE CONTINUOUS AND SHALL HAVE MINIMUM 36 BAR DIAMETER LAP AND BE FABRICATED AND PLACED IN ACCORDANCE WITH A.C.I. - 315 LATEST EDITION.

5. REINFORCED CONCRETE WALLS AND WALL FOOTINGS SHALL HAVE CORNER BARS AT ALL INTERSECTIONS OF THE SAME SIZE AND SPACING AS THE MAIN HORIZONTAL REINFORCING. PROVIDE 2-#5 BARS EACH SIDE OF ALL OPENINGS AND 2-#5 X 4'-0" DIAGONAL BARS AT CORNERS OF OPENINGS.

6. ALL SLABS ON GROUND SHALL BE 4" THICK AND HAVE 6" X 6" W1.4 X W1.4 WELDED WIRE FABRIC IN THE TOP 1/3 OF THE SLAB, UNLESS OTHERWISE NOTED.

7. ALL WALLS SHALL HAVE #4 @ 12" O.C. BOTH WAYS, INSIDE FACE, AND #3 @ 12" O.C. BOTH WAYS, OUTSIDE FACE, EXCEPT AS NOTED, AND ALL HORIZONTAL WALL STEEL SHALL BEND 2'0" AROUND CORNERS. BEND VERTICAL WALL STEEL 2'0" INTO FLOOR SLAB.

8. CONCRETE CONTRACTOR SHALL INCLUDE IN HIS COST ADDITIONAL CONCRETE QUANTITY AS REQUIRED TO COMPENSATE FOR DEFLECTIONS OF METAL DECK AND UNSHORED COMPOSITE BEAMS AND TO PROVIDE A LEVEL CONCRETE SURFACE.

9. FIELD AND SHOP TESTING OF CONCRETE WORK SHALL INCLUDE INSPECTION OF REINFORCING STEEL PLACEMENT, REBARS, NUMBER, LOCATION, AND LAP SPLICE LENGTH.

10. PROVIDE DOWELS INTO FOUNDATION TO MATCH SIZE AND SPACING OF VERTICAL REINFORCEMENT AT ALL COLUMNS AND WALLS, UNLESS OTHERWISE NOTED.

11. UNLESS OTHERWISE SHOWN, PROVIDE THE FOLLOWING COVER FOR REINFORCING STEEL:

A.	UNFORMED SURFACES IN CONTACT WITH EARTH	-3 IN.
B.	UNFORMED SURFACES OVER MOISTURE BARRIERS	-2 IN.
C.	FORMED SURFACES EXPOSED TO EARTH OR WEATHER OR WATER PROOFING/DAMP PROOFING	
	#6 OR LARGER	-2 IN.
	#5 OR SMALLER	-1 1/2 IN.
D.	FORMED SURFACES NOT EXPOSED TO EARTH OR WEATHER	
	SLABS AND WALLS	-3/4 IN.
	COLUMNS	-1 1/2 IN.
	BEAMS AND GIRDERS	-1 1/2 IN.

STRUCTURAL STEEL

1. STEEL DESIGN, FABRICATION AND ERECTION TO BE IN ACCORDANCE WITH THE LATEST A.I.S.C. MANUAL AND SPECIFICATION FOR STRUCTURAL STEEL FOR BUILDINGS. ALL WIDE FLANGE BEAMS AND COLUMNS SHALL CONFORM TO THE LATEST ASTM. SERIAL DESIGNATION A992, GR50; ALL MISCELLANEOUS STEEL PLATES, BARS, ANGLES, ETC., SHALL CONFORM TO ASTM A36; STEEL TUBING TO BE ASTM A500, GRADE B; STEEL PIPE ASTM. A-53, GRADE B. ANCHOR BOLTS TO BE ASTM F1554 GRADE 36 KSI MINIMUM UNLESS OTHERWISE NOTED

2. UNLESS OTHERWISE NOTED OR SHOWN, ALL BEAM CONNECTIONS TO HSS 5 X 5 OR SMALLER COLUMN,5"Ø OR SMALLER COLUMN, OR ANY TUBE COLUMN REGARDLESS OF SIZE WITH A WALL THICKNESS LESS THAN 3/8" SHALL BE MADE WITH THRU PLATES WELDED TO BOTH WALLS OF COLUMN.

3. ALL WELDED CONNECTIONS SHALL BE IN ACCORDANCE WITH THE LATEST AWS CODE, E70XX ELECTRODES, WITH WELDING PERFORMED BY QUALIFIED WELDERS.

4. BOLTED CONNECTIONS SHALL BE MADE WITH A-325 OR A-490 BOLTS. ALL BOLTS ARE TO BE INSTALLED IN ACCORDANCE WITH THE LATEST SPECIFICATIONS FOR "STRUCTURAL JOINTS USING A.S.T.M. A-325 OR A-490 BOLTS." TYPICAL BOLTED CONNECTIONS ARE "BEARING TYPE" UNLESS NOTED OTHERWISE.

5. DESIGN CONNECTIONS FOR MINIMUM ONE-HALF THE TOTAL ALLOWABLE UNIFORM LOAD PER A.I.S.C. BEAM LOAD TABLES, UNLESS OTHERWISE NOTED. (MIN. 2 BOLTS EACH CONNECTION).

6. THE DESIGN, CONFIGURATION & ERECTION SAFETY OF ALL STRUCTURAL STEEL CONNECTIONS SHALL BE THE RESPONSIBILITY OF THE STRUCTURAL STEEL FABRICATOR. REVIEW AND ACCEPTANCE OF THE SHOP DRAWINGS BY THE ENGINEER SHALL CONSTITUTE APPROVAL OF THE LOAD CARRYING ADEQUACY ONLY.

7. TYPE OF CONSTRUCTION PER ASCE A2.2 IS TYPE 2 "SIMPLE FRAMING" UNLESS NOTED OTHERWISE.

8. TEMPORARY ERECTION SEATS SHALL BE PROVIDED AS RECOMMENDED ON PAGE 3-59 OF THE A.I.S.C. PUBLICATION "ENGINEERING FOR STEEL CONSTRUCTION".

9. METAL DECK SHALL CONFORM TO ALL REQUIREMENTS OF "BASIC DESIGN SPECIFICATION" AS ADOPTED BY THE STEEL DECK INSTITUTE (S.D.I.). METAL ROOF DECK SHALL BE WIDE RIB WITH NESTING SIDE SEAMS OF DEPTH AND GAGE INDICATED ON THE DRAWINGS. DECK SHALL BE WELDED TO ALL SUPPORTING STEEL WITH PUDDLE WELDS (5/8" DIAMETER MINIMUM), AT 12" ON CENTER MAXIMUM SPACING AND 6" O/C (ALL FLUTES) AT END LAP SUPPORT POINTS AND BUILDING PERIMETER ATTACHMENTS. SIDE LAP CONNECTIONS SHALL BE MADE AT MAXIMUM 3'-0" ON CENTER.(AT MIDPOINT OF SPAN FOR SPAN LESS THAN 6'-0" AT THIRD POINTS OF SPAN FOR SPANS GREATER THAN 6'-0") WITH #10 TEK SCREW MIN. REFER TO SPECIFICATIONS FOR ADDITIONAL ERECTION PROCEDURES.

10. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL ANGLES, PLATES, BARS, CLIPS, ETC., ATTACHED TO STRUCTURAL STEEL.

11. THE CONTRACTOR SHALL FURNISH ALL ACCESSORIES INCLUDING CLOSURES, "Z" CLOSURES, COLUMN CLOSURES, SCREED ANGLES AND GIRDER FILLERS AS REQUIRED.

12. NO LOADS SHALL BE PERMITTED TO BE HUNG FROM ANY ROOF DECK. ALL HANGERS FOR CEILINGS, DUCTWORK, ELECTRICAL CONDUIT, PIPING, ETC., SHALL BE HUNG DIRECTLY FROM STRUCTURAL STEEL WORK OR SUPPLEMENTARY MEMBERS.

SPECIAL INSPECTION

1. WORK CONSTRUCTED SHALL BE INSPECTED BY AN INDEPENDENT TESTING AGENCY TO ENSURE COMPLIANCE WITH THE REQUIREMENTS SHOWN ON THE DRAWINGS. INSPECTIONS REQUIRED BY CHAPTER 17 OF THE MICHIGAN BUILDING CODE; LOCAL BUILDING DEPARTMENTS AND THE CONTRACT DOCUMENTS SHALL BE PERFORMED BY AN INDEPENDENT TESTING AGENCY. SITE VISITS BY THE DESIGN ENGINEER DO NOT CONSTITUTE OR REPLACE INSPECTION

2. THE FOLLOWING ITEMS SHALL BE INSPECTED IN ACCORDANCE WITH MBC 2015 SEC. 1704 & 1705 BY A CERTIFIED SPECIAL INSPECTOR UNLESS NOTED OTHERWISE IN REMARKS COLUMN. ALL INSPECTION SHALL BE CONTINUOUS UNLESS OTHERWISE NOTED. ALL PRODUCTS WITH ICC APPROVALS SHALL BE INSTALLED PER THE APPROVAL AND PER MANUFACTURER'S RECOMMENDATIONS. FOR MATERIAL TESTING REQUIREMENTS, SEE SPECIFICATIONS AND/OR GENERAL NOTES. TESTING AGENCY SHALL SEND COPIES OF ALL STRUCTURAL TESTING AND INSPECTION REPORTS DIRECTLY TO THE ARCHITECT.

INSPECTION OF FABRICATOR'S (SEC. 1704.2.5) *

FABRICATION AND IMPLEMENTATION PROCEDURES 1704.2.5.1

*SPECIAL INSPECTION IS NOT REQUIRED FOR FABRICATOR SHOP IF CERTIFICATE OF APPROVAL SUBMITTED BY FABRICATOR'S INSPECTION AGENCY PER EXCEPTION 1704.2.5.1

TABLE 1705.2.2
REQUIRED VERIFICATION AND
INSPECTION OF STEEL CONSTRUCTION OTHER THAN STRUCTURAL STEEL

VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	NOT APPLICABLE	REFERENCED STANDARD
1. MATERIAL VERIFICATION OF COLD-FORMED STEEL DECK:				
a. IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS.	-	X	-	APPLICABLE ASTM MATERIAL STANDARDS
b. MANUFACTURER'S CERTIFIED TEST REPORTS.	-	X	-	-
2. INSPECTION OF WELDING:				
a. COLD-FORMED STEEL DECK:				
1) FLOOR AND ROOF DECK WELDS.	-	X	-	AWS D1.3
b. REINFORCING STEEL:				
1) VERIFICATION OF WELDABILITY OF REINFORCING STEEL OTHER THAN ASTM A 706.	-	X	-	AWS D1.4 ACI 318: SECTION 3.5.2
2) REINFORCING STEEL RESISTING FLEXURAL AND AXIAL FORCES IN INTERMEDIATE AND SPECIAL MOMENT FRAMES, AND BOUNDARY ELEMENTS OF SPECIAL STRUCTURAL WALLS OF CONCRETE AND SHEAR REINFORCEMENT.	X	-	-	
3) SHEAR REINFORCEMENT.	X	-	-	
4) OTHER REINFORCING STEEL.	-	X	-	

SPECIAL INSPECTION(CONT.)

TABLE N5.4-1
INSPECTION TASKS PRIOR TO WELDING

INSPECTION TASKS PRIOR TO WELDING	QC	QA	NOT APPLICABLE
WELDING PROCEDURE SPECIFICATIONS (WPSs) AVAILABLE	P	P	-
MANUFACTURER CERTIFICATION FOR WELDING CONSUMABLES AVAILABLE	P	P	-
MATERIAL IDENTIFICATION (TYPE/GRADE)	O	O	-
WELDER IDENTIFICATION SYSTEM[1]	O	O	-
FIT-UP OF GROOVE WELDS (INCLUDING JOINT GEOMETRY) • JOINT PREPARATION • DIMENSIONS (ALIGNMENT, ROOT OPENING, ROOT FACE, BEVEL) • CLEANLINESS (CONDITION OF STEEL SURFACES) • TACKING (TACK WELD QUALITY AND LOCATION) • BACKING TYPE AND FIT (IF APPLICABLE)	O	O	-
CONFIGURATION AND FINISH OF ACCESS HOLES	O	O	-
FIT-UP OF FILLET WELDS • DIMENSIONS (ALIGNMENT, GAPS AT ROOF) • CLEANLINESS (CONDITION OF STEEL SURFACES) • TACKING (TACK WELD QUALITY AND LOCATION)	O	O	-
CHECK WELDING EQUIPMENT	O	-	-

[1]THE FABRICATOR OR ERECTOR, AS APPLICABLE, SHALL MAINTAIN A SYSTEM BY WHICH A WELDER WHO HAS WELDED A JOINT OR MEMBER CAN BE IDENTIFIED. STAMPS, IF USED, SHALL BE THE LOW-STRESS TYPE.

TABLE N5.4-2
INSPECTION TASKS DURING WELDING

INSPECTION TASKS DURING TO WELDING	QC	QA	NOT APPLICABLE
USE OF QUALIFIED WELDERS	O	O	-
CONTROL AND HANDLING OF WELDING CONSUMABLES • PACKAGING • EXPOSURE CONTROL	O	O	-
NO WELDING OVER CRACKED TACK WELDS	O	O	-
ENVIRONMENTAL CONDITIONS • WIND SPEED WITHIN LIMITS • PRECIPITATION AND TEMPERATURE	O	O	-
WPS FOLLOWED • SETTINGS ON WELDING EQUIPMENT • TRAVEL SPEED • SELECTED WELDING MATERIALS • SHIELDING GAS TYPE/FLOW RATE • PREHEAT APPLIED • INTERPASS TEMPERATURE MAINTAINED (MIN./MAX.) • PROPER POSITION (F, V, H, OH)	O	O	-
WELDING TECHNIQUES • INTERPASS AND FINAL CLEANING • EACH PASS WITHIN PROFILE LIMITATIONS • EACH PASS MEETS QUALITY REQUIREMENTS	O	O	-

TABLE N5.4-3
INSPECTION TASKS AFTER WELDING

INSPECTION TASKS AFTER WELDING	QC	QA	NOT APPLICABLE
WELDS CLEANED	O	O	-
SIZE, LENGTH AND LOCATION OF WELDS	P	P	-
WELDS MEET VISUAL ACCEPTANCE CRITERIA • CRACK PROHIBITION • WELD/BASE-METAL FUSION • CRATER CROSS SECTION • WELD PROFILES • WELD SIZE • UNDERCUT • POROSITY	P	P	-
ARC STRIKES	P	P	-
K-AREA[1]	P	P	-
BACKING REMOVED AND WELD TABS REMOVED (IF REQUIRED)	P	P	-
REPAIR ACTIVITIES	P	P	-
DOCUMENT ACCEPTANCE OR REJECTION OF WELDED JOINT OR MEMBER	P	P	-

[1]WHEN WELDING OF DOUBLER PLATES, CONTINUITY PLATES OF STIFFENERS HAS BEEN PERFORMED IN THE K-AREA, VISUALLY INSPECT THE WEB K-AREA FOR CRACKS WITHIN 3 IN. (75MM) OF THE WELD.

TABLE N5.6-1
INSPECTION TASKS PRIOR TO BOLTING

INSPECTION TASKS PRIOR TO BOLTING	QC	QA	NOT APPLICABLE
MANUFACTURER'S CERTIFICATIONS AVAILABLE FOR FASTENER MATERIALS	O	P	-
FASTENERS MARKED IN ACCORDANCE WITH ASTM REQUIREMENTS	O	O	-
PROPER FASTENERS SELECTED FOR THE JOINT DETAIL (GRADE, TYPE, BOLT LENGTH IF THREADS ARE TO BE EXCLUDED FROM SHEAR PLANE)	O	O	-
PROPER BOLTING PROCEDURE SELECTED FOR JOINT DETAIL	O	O	-
CONNECTING ELEMENTS, INCLUDING THE APPROPRIATE FAYING SURFACE CONDITION AND HOLE PREPARATION, IF SPECIFIED, MEET APPLICABLE REQUIREMENTS	O	O	-
PRE-INSTALLATION VERIFICATION TESTING BY INSTALLATION PERSONNEL OBSERVED AND DOCUMENTED FOR FASTENER ASSEMBLIES AND METHODS USED	P	O	-
PROPER STORAGE PROVIDED FOR BOLTS, NUTS, WASHERS AND OTHER FASTNER COMPONENTS	O	O	-

TABLE N5.6-2
INSPECTION TASKS DURING BOLTING

INSPECTION TASKS DURING BOLTING	QC	QA	NOT APPLICABLE
FASTENERS ASSEMBLIES, OF SUITABLE CONDITION, PLACED IN ALL HOLES AND WASHERS (IF REQUIRED) ARE POSITIONED AS REQUIRED	O	O	-
JOINT BROUGHT TO THE SNUG-TIGHT CONDITION PRIOR TO THE PRETENSIONING OPERATION	O	O	-
FASTENER COMPONENT NOT TURNED BY THE WRENCH PREVENTED FROM ROTATING	O	O	-
FASTENERS ARE PRETENSIONED IN ACCORDANCE WITH THE RCSC SPECIFICATION, PROGRESSING SYSTEMATICALLY FROM THE MOST RIGID POINT TOWARD THE FREE EDGES	O	O	-

TABLE N5.6-3
INSPECTION TASKS AFTER BOLTING

INSPECTION TASKS AFTER BOLTING	QC	QA	NOT APPLICABLE
FASTENER COMPONENT NOT TURNED BY THE WRENCH PREVENTED FROM ROTATING	O	O	-

O - OBSERVE THESE ITEMS ON A RANDOM BASIS. OPERATIONS NEED NOT BE DELAYED PENDING THESE INSPECTIONS.

P - PERFORM THESE TASKS FOR EACH WELDED JOINT OR MEMBER.

SPECIAL INSPECTION(CONT.)

TABLE 1705.3
REQUIRED SPECIAL INSPECTIONS AND TESTS OF CONCRETE CONSTRUCTION

TYPE	CONTINUOUS SPECIAL INSPECTION	PERIODIC SPECIAL INSPECTION	NOT APPLICABLE	REFERENCED STANDARD [a]	IBC REFERENCE
1. INSPECT REINFORCEMENT, INCLUDING PRESTRESSING TENDONS, AND VERIFY PLACEMENT.	-	X	-	ACI 318 CH. 20, 25.2, 25.3, 26.6.1-26.6.3	1908.4
2. REINFORCING BAR WELDING:					
a. VERIFY WELDABILITY OF REINFORCING BARS OTHER THAN ASTM A706;	-	X	-	AWS D1.4 ACI 318: 26.6.4	-
b. INSPECT SINGLE-PASS FILLET WELDS, MAXIMUM 5/16" AND	-	X	-		
c. INSPECT ALL OTHER WELDS.	X	-	-		
3. INSPECT ANCHORS CAST IN CONCRETE	-	X	-	ACI 318: 17.8.2	-
4. INSPECT ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS.[b]					
a. ADHESIVE ANCHORS INSTALLED IN HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENTION LOADS.	X	-	-	ACI 318: 17.8.2.4	-
b. MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED IN 4.a.	-	X	-	ACI 318: 17.8.2	
5. VERIFY USE OF REQUIRED DESIGN MIX.	-	X	-	ACI 318: CH.19. 26.4.3, 26.4.4	1904.1, 1904.2, 1908.2, 1908.3
6. PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE	X	-	-	ASTM C172 ASTM C31 ACI 318: 26.4,26.12	1908.10
7. INSPECT CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES.	X	-	-	ACI 318: 26.5	1908.6, 1908.7, 2908.8
8. VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.	-	X	-	ACI 318: 26.5.3-26.5.5	1908.9
9. INSPECT PRESTRESSED CONCRETE FOR:					
a. APPLICATION OF PRESTRESSING FORCES; AND	X	-	-	ACI 318: 26.10	-
b. GROUTING OF BONDED PRESTRESSING TENDONS.	X	-	-		
10. INSPECT ERECTION OF PRECAST CONCRETE MEMBERS.	-	X	-	ACI 318: CH. 26.8	-
11. VERIFY IN-SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENDONS IN POST-TENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS.	-	X	-	ACI 318: 26.11.2	-
12. INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED.	-	X	-	ACI 318: 26.11.1.2(b)	-

FOR SI: 1 INCH = 25.4 MM

a. WHERE APPLICABLE, SEE ALSO SECTION 1705.12, SPECIAL INSPECTIONS FOR SEISMIC RESISTANCE.

b. SPECIFIC REQUIREMENTS FOR SPECIAL INSPECTION SHALL BE INCLUDED IN THE RESEARCH REPORT FOR THE ANCHOR ISSUED BY AN APPROVED SOURCE IN ACCORDANCE WITH 17.8.2 IN ACI 318, OR OTHER QUALIFICATION PROCEDURES. WHERE SPECIFIC REQUIREMENTS ARE NOT PROVIDED, SPECIAL INSPECTION REQUIREMENTS SHALL BE SPECIFIED BY THE REGISTERED DESIGN PROFESSIONAL AND SHALL BE APPROVED BY THE BUILDING OFFICIAL PRIOR TO THE COMMENCEMENT OF THE WORK.

TABLE 1705.6
REQUIRED SPECIAL INSPECTIONS AND TESTS OF SOILS

VERIFICATION AND INSPECTION TASK	CONTINUOUS SPECIAL INSPECTION	PERIODIC SPECIAL INSPECTION	NOT APPLICABLE
1. VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY.	-	X	
2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL.	-	X	
3. PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS.	-	X	
4. VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL.	X	-	
5. PRIOR TO PLACEMENT OF COMPACTED FILL, OBSERVE SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY.	-	X	

ISSUE DATE	ISSUED FOR
05/19/2023	BIDS

DRAWN RC
CHECKED TS
APPROVED TS

Shymanski & Associates, L.L.C.
STRUCTURAL ENGINEERS
33426 Five Mile Rd.
Livonia, Michigan 48154
ph. 734.855.4810 fx. 734.855.4809
email@sastructuralengineers.com

FRENCH associates
architects planners interiors
236 Mill Street
Rochester, MI 48307
T 248.656.1377
F 248.656.7746
©FRENCH ASSOCIATES, INC.

PROJECT
Waterford School District Bulk Storage Building

Waterford Michigan

SHEET
GENERAL NOTES

PROJECT NUMBER
2022-061

SHEET NUMBER
S3.00

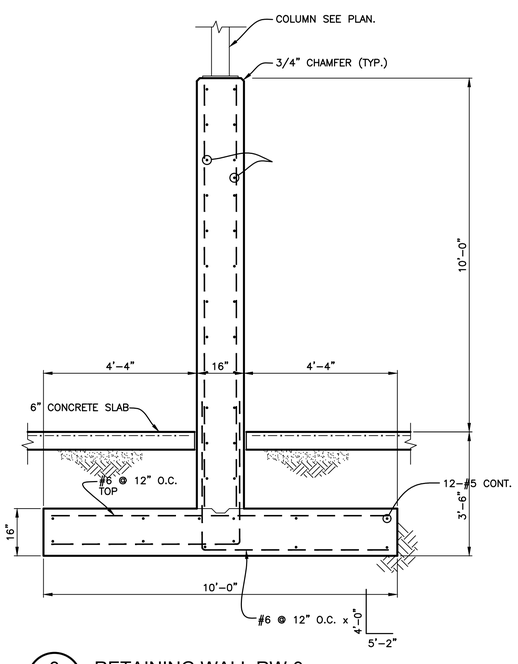
2022-061 Bulk Storage Building

DESIGN CRITERIA		
CODE: WBC 2015 THE STRUCTURE IS DESIGNED FOR THE FOLLOWING LIVE LOADS, IN ADDITION TO THE LATERAL LOADS, SUPER-IMPOSED DEAD LOADS, & SELF WEIGHT OF THE STRUCTURE. WHERE APPLICABLE LIVE LOADS ARE REDUCED IN ACCORDANCE WITH THE PROVISIONS OF THE BUILDING CODE. A. AMERICAN CONCRETE INSTITUTE BUILDING CODE (ACI-318). B. MANUAL OF STEEL CONSTRUCTION BY AMERICAN INSTITUTE OF STEEL CONSTRUCTION (LATEST EDITION). C. LATEST MASONRY STANDARDS JOINT COMMITTEE (MSJC) BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES (TMS 402/ACI 530/ASCE 5) AND SPECIFICATIONS FOR MASONRY STRUCTURES (TMS 602/ACI 530.1/ASCE 6) D. AMERICAN INSTITUTE OF TIMBER CONSTRUCTION (AITC) STANDARDS AND SPECIFICATIONS. E. NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION (NDS) AS PUBLISHED BY AMERICAN FOREST AND PAPER ASSOCIATION.		
		CODE REFERENCE
BUILDING OCCUPANCY CATEGORY	I	MBC-Table 1604.5 ASCE Table 1.5-1

SNOW LOADS/ROOF LIVE LOADS		
SNOW CRITERIA		CODE REFERENCE
GROUND SNOW LOAD	Pg = 25 PSF	MBC FIG. 1608.2 ASCE Fig. 7-1
FLAT ROOF SNOW LOAD	Pf = 20 PSF (MINIMUM)	ASCE Sec. 7.3
EXPOSURE FACTOR	Ce = 1.0	ASCE Table 7-2
IMPORTANCE FACTOR	I = .8	ASCE Table 1.5-2
THERMAL FACTOR	Ct = 1.2	ASCE Table 7-3
ROOF LIVE LOADS	Lr = 20 PSF	ASCE Table 4-1
NOTE: SNOW LOADS ADJACENT VERTICAL PROJECTIONS, ON LOWER ROOFS, ADJACENT TO HIGH ROOFS, OR SLOPED ROOFS ARE INCREASED FOR THE EFFECT ON DRIFTING		

WIND LOADS		
WIND CRITERIA		CODE REFERENCE
BASIC WIND SPEED (3 SEC. GUST)	V = 105 MPH, V = 82 MPH ALLOWABLE	ASCE FIG. 26.5-1A, 26.5-1B, 26.5-1C
RISK CATEGORY	I	ASCE Table 1.5-1
EXPOSURE CATEGORY	B	ASCE Sec. 26.7.3
INTERNAL PRESSURE COEFFICIENT	± 0.18 (ENCLOSED)	ASCE TABLE 26.11-1
MWFRS ANALYSIS PROCEDURE	DIRECTIONAL PROCEDURE	ASCE CHAP. 27
COMPONENTS AND CLADDING	± 33 PSF WINIMUM ULTIMATE AND PER CODE REQUIREMENTS BASED ON ABOVE INFORMATION	ASCE Sec. 30.2.2

SEISMIC LOADS		
SEISMIC CRITERIA		CODE REFERENCE
SEISMIC RISK CATEGORY	I	ASCE Table 1.5-1
SEISMIC IMPORTANCE FACTOR	I = 1.0	ASCE Table 1.5-2
-0.2 SEC MAPPED SPECTRAL RESPONSE ACCELERATION (5% OF CRITICAL DAMPING) Ss	Ss = .089	ASCE Sec. 11.4
-1.0 SEC MAPPED SPECTRAL RESPONSE ACCELERATION (5% OF CRITICAL DAMPING) S1	S1 = .045	ASCE Sec. 11.4
SOIL SITE CLASS	D	ASCE Sec. 11.4.2
SEISMIC DESIGN CATEGORY	B	ASCE Sec. 11.6
SEISMIC FORCE RESISTING SYSTEM	STEEL NOT SPECIFICALLY DETAILED FOR SEISMIC	ASCE Table 12.2-1
RESPONSE MODIFICATION FACTOR	R = 3.0	ASCE Table 12.2-1
DEFLECTION AMPLIFICATION FACTOR	Cd = 3.0	ASCE Table 12.2-1
ANALYSIS PROCEDURE	EQUIVALENT LATERAL FORCE	ASCE Sec. 12.8

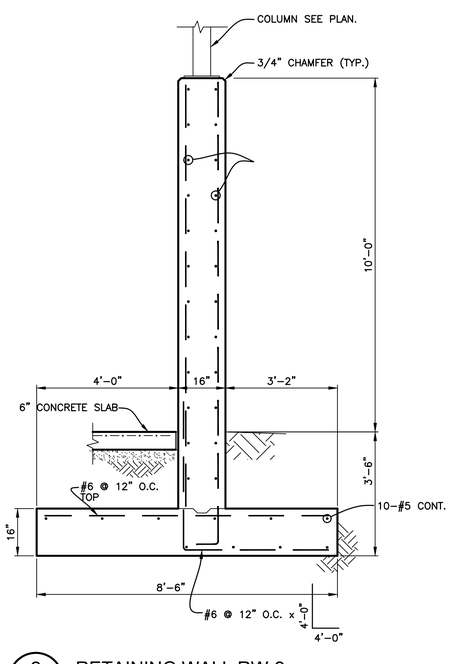


3 S3.01 RETAINING WALL RW-3

SCALE : 1/2" = 1'-0"

ALL CONCRETE TO BE 4000 PSI

ALL REBAR TO BE EPOXY COATED

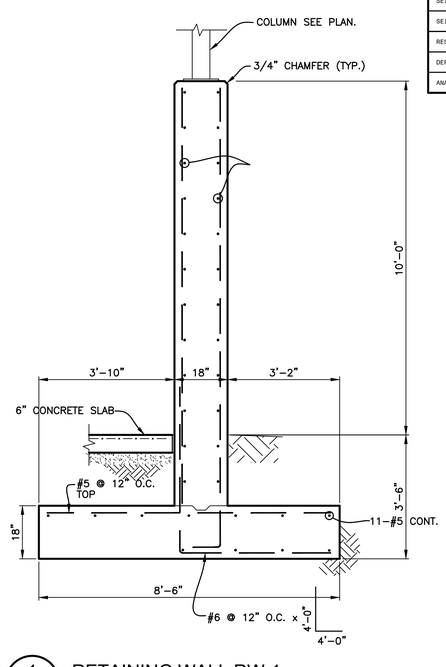


2 S3.01 RETAINING WALL RW-2

SCALE : 1/2" = 1'-0"

ALL CONCRETE TO BE 4000 PSI

ALL REBAR TO BE EPOXY COATED



1 S3.01 RETAINING WALL RW-1

SCALE : 1/2" = 1'-0"

ALL CONCRETE TO BE 4000 PSI

ALL REBAR TO BE EPOXY COATED

ISSUE DATE	ISSUED FOR
05/19/2023	BIDS
DRAWN	RC
CHECKED	TS
APPROVED	TS

Shymanski & Associates, L.L.C.
STRUCTURAL ENGINEERS
33426 Five Mile Rd.
Livonia, Michigan 48154
ph. 734.855.4810 fx. 734.855.4809
email@sastructuralengineers.com

architects planners interiors
FRENCH associates
236 Mill Street
Rochester, MI
48307
T 248.656.1377
F 248.656.7746

PROJECT

Waterford School District Bulk Storage Building

Waterford Michigan

SHEET

DETAILS

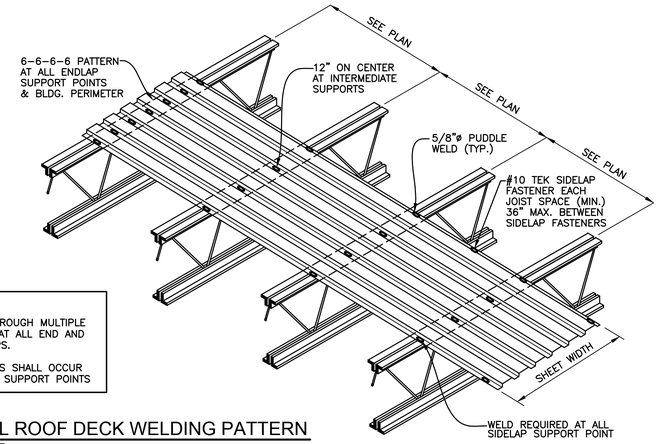
PROJECT NUMBER

2022-061

SHEET NUMBER

S3.01

2022-061 Bulk Storage Building

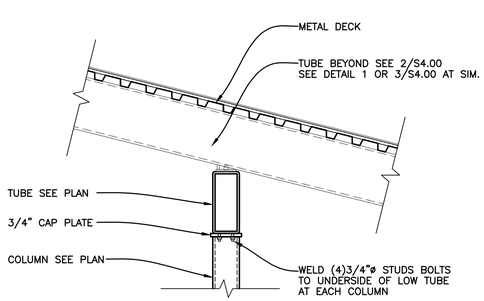


NOTES:

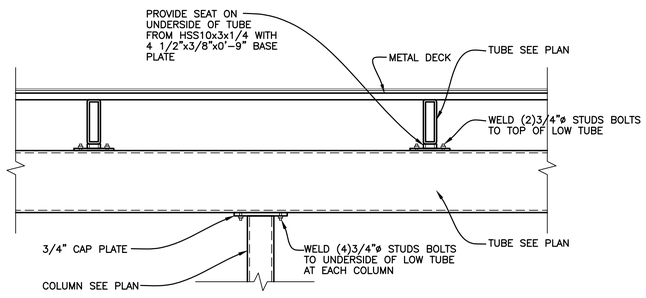
WELD THROUGH MULTIPLE SHEETS AT ALL END AND SIDE LAPS.

END LAPS SHALL OCCUR ONLY AT SUPPORT POINTS

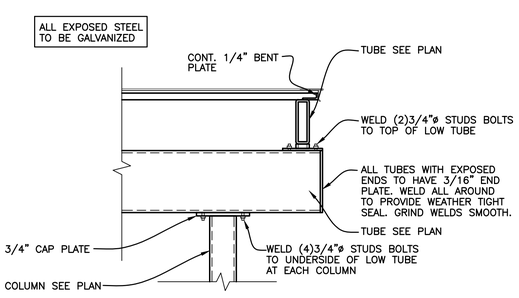
8 S4.00 TYPICAL ROOF DECK WELDING PATTERN
SCALE : NONE



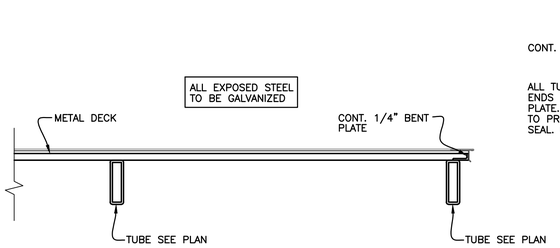
7 S4.00 SECTION
SCALE : 3/4" = 1'-0"



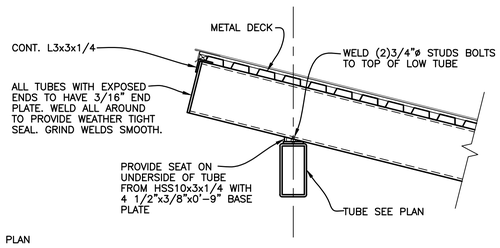
6 S4.00 SECTION
SCALE : 3/4" = 1'-0"



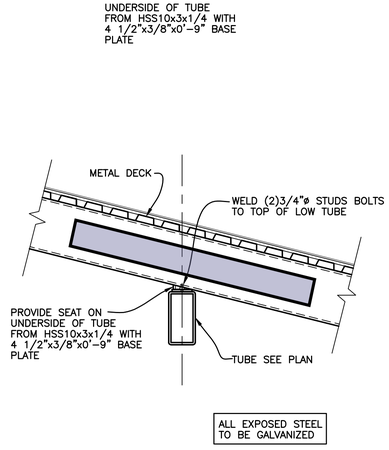
5 S4.00 SECTION
SCALE : 3/4" = 1'-0"



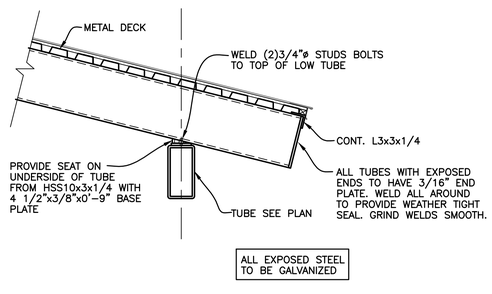
4 S4.00 SECTION
SCALE : 3/4" = 1'-0"



3 S4.00 SECTION
SCALE : 3/4" = 1'-0"



2 S4.00 SECTION
SCALE : 3/4" = 1'-0"



1 S4.00 SECTION
SCALE : 3/4" = 1'-0"

ISSUE DATE	ISSUED FOR
05/19/2023	BIDS
DRAWN	RC
CHECKED	TS
APPROVED	TS

Shymanski & Associates, L.L.C.
STRUCTURAL ENGINEERS
33426 Five Mile Rd.
Livonia, Michigan 48154
ph. 734.855.4810 fx. 734.855.4809
email@sastructuralengineers.com

architects planners interiors

FRENCH associates
236 Mill Street
Rochester, MI 48307
T 248.656.1377
F 248.656.7746
©FRENCH ASSOCIATES, INC.

PROJECT
Waterford School District Bulk Storage Building

Waterford
Michigan

SHEET
DETAILS

PROJECT NUMBER
2022-061

SHEET NUMBER
S4.00

2022-061 Bulk Storage Building