# CITY OF SUPERIOR C. Reiss Dock RFQ #23-17-PL

## ADDENDUM #6

DATE: April 28, 2023

TO: Prospective Applicants

# Bid Opening Date: Tuesday, May 2, 2023, at 2:00 PM

This addendum modifies the Proposal Documents for the above listed project. The addendum consists of 32 pages.

Acknowledge receipt of the Addenda by signing the Addenda Acknowledgment form included within the proposal documents. Failure to do so may subject the Proposer to disqualification.

## Clarifications and answers to questions received:

**1.** Q: Please clarify plan for the "Pad for Office". Is this provided at some later date, but NOT under this contract?

a. Civil drawings call it an office drawing and the plumbing drawings indicate a trailer. Please clarify for us what is to be included.

A: Please see attached revised bid form, revised Specification 13 34 19, revised Specification 01 20 00, and added Specification 13 34 19.10. We have separated the proposed prefabricated office trailer from the lump sum buildings bid item. An allowance is provided for this prefabricated office building (see revised bid form). Specifications for the office building are specified in the added Specification 13 34 19.10.

2. Q: For the concrete strip located on the east side of the access road near the dock, it is shown to be 5' wide and 6' wide on pages C1.02/C1.03/C1.04 and C2.02/C2.03/C2.04, but the width notes are in conflict between the C1.XX and C2.XX sheets. Section 32 13 14 mentions the bid item as "Concrete Strip, 5-Feet Wide". Is the concrete strip 5-feet wide everywhere? What is the height of the concrete strip? Reinforcing details? Joint details?

A: Callouts on Sheets C1.03, C1.04, and C2.04 have been revised to 5' wide. The concrete depth shall be 6" per the detail. Jointing shall be according to Specification Section 32 13 14.

3. Q: Are we to provide a helical anchor with twice the required torsional capacity for the 190KIP ultimate tension load per specs? So, if we bid a 5"(.362) using a Kt of 5.4 the required torque would be 35,185 ftlbs torque. This pile is rated to 72,000 ft-lbs torque, which would conform to specifications, correct? If we use a 4.5"(.337) rated to 48,000 ft-lbs and a Kt of 7 = 27,143 ft-lbs TQ, we'd only have 77% additional torsional capacity and therefore not meet specification, correct?

A: The 2x can be on the allowable tension load anticipated torque requirement.

### **Contract Documents – Bid Form**

1. "Buildings" item has been revised to "Maintenance Building", and the office building has been separated out as an allowance item, "Prefabricated Office Trailer (Allowance)".

## Technical Specifications – Section 01 20 00 – Price and Payment Procedures

1. Allowances Section has been added.

# Technical Specifications – Section 13 34 19 – Metal Building Systems

1. Paragraph 1.02.A.1 has been revised to change the lump sum item name to Maintenance Building.

# Technical Specifications – Section 13 34 19.10 – Prefabricated Buildings

1. This specification section has been added to the Contract Documents.

# Plan Sheet – G-001

1. List of Sheets amended have been rev clouded.

# Plan Sheet – C-103

1. Concrete strip callout revised to 5' wide.

# Plan Sheet – C-104

1. Concrete strip callout revised to 5' wide.

# Plan Sheet – C-204

1. Concrete strip callout revised to 5' wide.

## Attachments:

- 1. Revised Bid Form
- 2. Revised Technical Specifications Section 01 20 00 Price and Payment Procedures
- 3. Revised Technical Specifications Section 13 34 19 Metal Building Systems
- 4. Added Technical Specifications Section 13 34 19.10 Prefabricated Buildings
- 5. Revised Plan Sheet G-001
- 6. Revised Plan Sheet C-103
- 7. Revised Plan Sheet C-104
- 8. Revised Plan Sheet C-204

## END OF ADDENDA TEXT

ITEM #	ITEM NAME	UNITS	QUANTITY	\$/UNIT	EXTENSION
SCHEDU	LE A - SITE CIVIL WORK				
A1	MOBILIZATION	LS	1		
A2	TRAFFIC CONTROL	LS	1		
A3	SILT FENCE	LF	5000		
A4	SILT CURTAIN	LF	310		
A5	INLET PROTECTION	EACH	3		
A6	EROSION MAT CLASS 1 TYPE B	SY	25000		
A7	STRAW BALE DITCH CHECK	EACH	42		
A8	STONE TRACKING PAD	EACH	1		
A9	TEMPORARY DIVERSION BERM	LF	2700		
A10	INTERIM MANUFACTURED PERIMETER CONTROL	LF	2500		
A11	5 MIL. POLYLINER WITH 6" CRUSHED WASHED STONE	SY	1100		
A12	REMOVE RETAINING WALL	LF	475		
A13	REMOVE ABANDONED PETROLEUM LINE, 8-INCH	LF	680		
A14	REMOVE EXISTING HYDRANT	EA	2		
A15	REMOVE EXISTING STORM SEWER PIPE	LF	100		
A16	REMOVE ASPHALTIC SURFACE	SY	135		
A17	REMOVE CONCRETE CURB & GUTTER	LF	24		
A18	CLEARING AND GRUBBING	LS	1		
A19	EXCAVATION COMMON - ONSITE DISPOSAL	CY	61300		
A20	GEOGRID TYPE SR	SY	24400		
A21	BASE AGGREGATE DENSE, 1 1/4-INCH	TON	10400		
A22	TACK COAT	GAL	1500		
A23	HMA PAVEMENT, 3 MT 58-34 S	TON	12		
A24	HMA PAVEMENT, 4 MT 58-34 S	TON	16		
A25	HMA PAVEMENT, 3 MT 58-34 V	TON	2100		
A26	CONCRETE STRIP, 5-FEET WIDE	SY	1260		
A27	CONCRETE PAVEMENT, 8-INCH	SY	100		
A28	CONCRETE CURB & GUTTER	LF	24		
A29	CHAIN LINK FENCE, 6-FEET	LF	7216		
A30	TOPSOIL	TON	4300		
A31	SEED, FERTILIZER, AND MULCH	SY	50000		
A32	STEEL CASING PIPE, 4-INCH	LF	161		
A33	DRY HYDRANT ASSEMBLY	EACH	1		
A34	WATER SERVICE, HDPE, 2-INCH	LF	1620		
A35	WATER SERVICE, HDPE, 1-INCH	LF	50		
A36	SEPTIC TANK	LS	1		

A37	FLARED END SECTION WITH TRASH	EACH	2		
_	GUARD, 30-INCH				
A38	STORM SEWER PIPE, REINFORCED	LF	110		
	CONCRETE CLASS III, 30-INCH				
A39	BENTONITE COLLAR	EACH	2		
A40	TURF REINFORCEMENT MATTING,	SY	260		
	CLASS III, TYPE B				
A41	SITE ELECTRICAL	LS	1		
A42	MAINTENANCE BUILDING	LS	1		
A43	PREFABRICATED OFFICE TRAILER	LS	1	\$325,000	\$325,000
	(ALLOWANCE)				
A44	TRUCK SCALE	LS	1		
SCHEDU	ILE B - RAIL TRACK WORK				
B1	SELECT BORROW	TON	31878		
B2	EXCAVATION COMMON - OFFSITE	CY	27720		
	DISPOSAL				
B3	EXCAVATION COMMON - ONSITE	CY	47940		
	DISPOSAL				
B4	BASE AGGREGATE DENSE 3/4 - INCH	TON	82		
B5	BASE AGGREGATE DENSE 1-1/4 - INCH	TON	26,965		
B6	BREAKER RUN	TON	700		
B7	TACK COAT	GAL	75		
B8	HMA PAVEMENT 3 MT 58-34 S	TON	150		
B9	HMA PAVEMENT 4 MT 58-34 S	TON	150		
B10	CULVERT PIPE CORRUGATED STEEL 18-	LF	50		
	INCH				
B11	CULVERT PIPE CORRUGATED STEEL 24-	LF	50		
	INCH				
B12	ADJUSTING MANHOLE FRAME AND	EACH	1		
	RING CASTING				
B13	POSTS WOOD 4x6 INCH x 14-FOOT	EACH	4		
B14	SIGNS TYPE II REFLECTIVE H	SF	33		
B15	MARKING STOP LINE EPOXY, 24-INCH	LF	24		
B16	TRAFFIC CONTROL	LS	1		
B17	GEOTEXTILE FABIC TYPE SAS	SY	34,100		
B18	TURNOUT (No. 9)	EACH	6		
B19	STEEL CASING PIPE, 15-INCH	LF	110		
B20	CULVERT PIPE STEEL 15-INCH	LF	65		
B21	CULVERT PIPE STEEL 18-INCH	LF	105		
B22	FLARED END SECTION, 18-INCH	EACH	2		
B23	FLARED END SECTION, 24-INCH	EACH	2		
B24	SANITARY SEWER, 8-INCH	LF	130		

B25	RAILROAD CAR SCALE	LS	1	
B26	DERAIL SLIDING WITH WHEEL	EACH	1	
	CROWDER			
B27	CONSTRUCT TRACK	TF	7,828	
B28	CROSSING TIMBER	TF	147	
SCHEDU	LE C - DOCK WALL WORK			
C1	SOIL ANCHOR ENGINEERING	LS	1	
C2	BASE AGGREGATE OPEN-GRADED	TON	11600	
C3	UNDERWATER DRIVELINE SURVEY	LS	1	
C4	UNDERWATER DRIVELINE CLEARING (1	LF	260	
	LF – 260 LF)			
C5	UNDERWATER DRIVELINE CLEARING	LF	2340	
	(261 LF – 2600 LF)			
C6	STEEL SHEET PILES	SF	133310	
C7	STEEL H-PILES	LF	4550	
C8	TIMBER FENDERS	LF	2610	
C9	CAST STEEL BOLLARDS	EACH	13	
C10	WALE AND ANCHOR HARDWARE	LF	2610	
	ASSEMBLIES			
C11	SOIL ANCHORS	EACH	140	
C12	TIEROD ANCHORS	EACH	277	
C13	PILE WALL CAP	LF	2610	
C14	WEEP DRAINS	EACH	44	
C15	SAFETY LADDERS	EACH	12	
C16	EXCAVATION COMMON – ONSITE	CY	2200	
	DISPOSAL			
C17	BREAKER RUN	TON	4900	
C18	BASE AGGREGATE DENSE 1-1/4 - INCH	TON	4500	
	Alternate			
B27	CONSTRUCT TRACK – NEW RAIL	TF	7828	

\_\_\_\_\_

\_\_\_\_\_

Total Schedule A: \$\_\_\_\_\_ Total Schedule A in written words:

Total Schedule B: <u>\$</u> Total Schedule B in written words:

Total Schedule C: \$\_\_\_\_\_ Total Schedule C in written words:

\_\_\_\_\_

BID TOTAL – Schedule A, B, and C: \$\_\_\_\_\_ Bid Total in written words:

Total Alternate Item: B27: \$\_\_\_\_\_

Total Alternate Item B27 in written words:

## SECTION 01 20 00

## PRICE AND PAYMENT PROCEDURES

#### PART 1 GENERAL

#### 1.01 SUMMARY

1. Section Includes

Administrative and procedural requirements for allowances, Alternates, pricing of Work, and request for payment procedures.

#### 1.02 PRICE AND PAYMENT PROCEDURES

1. Measurement and Payment All Work and costs of this Section shall be incidental to the Project and included in the Total Base Bid.

#### 1.03 ALLOWANCES

A. Cash allowances have been included on the Bid Form. These allowances are to be used for bidding purposes. Allowance costs in excess of the funds provided shall be paid by change order. At closeout of contract, allowance funds not authorized for payment will be credited to the owner by change order.

### 1. Prefabricated Office Trailer (Allowance): \$325,000

#### 1.04 ALTERNATES

- 1. This article identifies each Alternate by number and describes the basic changes to be incorporated into the Work as part of that Alternate. Refer also to the Specifications and Drawings for information.
- 2. Alternates may be accepted by the Owner in any order and may be used to determine the award of Contract consistent with the Instructions to Bidders.

#### 3. Alternate No. 1: Construct Track – New Rail

a. This work is the same as the Construct Track bid item with the difference being that all new rail materials, including anchors, tie plates, spikes, joints, and other track materials are to be incorporated into the work to meet the Buy America provision if relay materials do not or wavier is not granted.

#### 1.05 BID UNIT PRICES

- 1. Provide access and assist Engineer in determining actual quantities of Bid Unit Price work.
- 2. Provide documentation to substantiate Bid Unit Price work.
- 3. If the Contractor delivers and places more of any material that is paid for on a Bid Unit Price basis than is required to perform the Work and thereby causes the materials to be

wasted, the quantity wasted will be deducted from the final measurement for that Bid Item.

## 1.06 INCREASED/DECREASED QUANTITIES

- 1. No claim for adjustment in unit price compensation due to increased or decreased quantities is allowed.
- 2. Certain proposal work items are included in anticipation of the possibility that conditions may be encountered which require this work. The estimates of quantities for these proposal items are based upon general experience in the area. They are included in the work to establish a bid unit price in the event that such work is necessary to complete the project. The quantity is not guaranteed and the extent of the work required will be dependent upon prevailing conditions. As such, no unit price adjustments for any magnitude of increased or decreased quantities is allowed for such work.

## 1.07 PAYMENT PROCEDURES

- 1. Engineer will provide initial Application for Payment Form at the Preconstruction Conference.
- 2. Submit 1 preliminary copy of progress payment application for review, consistent with the General Specifications. Submit 4 signed copies of Application for Payment to Engineer prior to the dates identified at the Preconstruction Conference.
- Attach the following supporting documentation, in addition to the requirements of the General Specifications:
   Documentation to substantiate Bid Unit Price work.
   Updated construction schedule consistent with Section 01 33 00.
   Wage reports, etc. required for funded portions of the project.

## PART 2 PRODUCTS

Not Used.

## PART 3 EXECUTION

Not Used.

# END OF SECTION

# SECTION 13 34 19

## METAL BUILDING SYSTEMS

#### PART 1 GENERAL

#### 1.01 SUMMARY

- A. Metal Building System:
  - 1. Structural steel framing system.
  - 2. Metal roof system.
  - 3. Metal wall system.
  - 4. Wall and Roof insulation.
  - 5. Interior metal wall liner panels.
- B. Related Sections:
  - 1. 04 22 00 Concrete Unit Masonry.
  - 2. 08 11 00 Metal Doors and Frames.
  - 3. 08 36 13 Upward Acting Sectional Doors.
  - 4. 08 51 13 Aluminum Windows.
  - 5. 08 71 00 Door Hardware.
  - 6. 08 91 19 Metal Wall Louvers.

### 1.02 PRICE AND PAYMENT PROCEDURES

- A. Measurement and Payment
  - 1. All Work and costs of this Section shall be incidental to the Project and included in the Lump Sum Bid Item for **Maintenance Building**.
  - 2. Work described under the following Divisions shall be considered incidental to this item:
    - a. Division 3 Concrete.
    - b. Division 4 Masonry.
    - c. Division 5 Metals.
    - d. Division 6 Woods, Plastics, Composites.
    - e. Division 7 Thermal and Moisture Protection.
    - f. Division 8 Openings.
    - g. Division 9 Finishes.
    - h. Division 10 Specialties.
    - i. Division 22 Plumbing.
    - j. Division 23 Heating, Ventilating, and Air Conditioning (HVAC).

### 1.03 REFERENCE STANDARDS

- A. American Institute of Steel Construction (AISC):
  - 1. AISC Design Guide 3 Serviceability for Steel Buildings
  - 2. AISC 341 Seismic Provisions for Structural Steel Buildings (when appropriate).
  - 3. AISC 360 Specification for Structural Steel Buildings.
- B. American Iron and Steel Institute (AISI):
  - 1. AISI \$100 North American Specification for the Design of Cold-Formed Steel Structural Members.

- C. American Welding Society (AWS):
  - 1. AWS D1.1 / D1.1M Structural Welding Code Steel.
  - 2. AWS D1.3 / D1.3M Structural Welding Code Sheet Steel.
- D. Association for Iron & Steel Technology (AISE):
  - 1. AISE 13 Specifications for Design and Construction of Mill Buildings.
- E. ASTM International (ASTM):
  - 1. ASTM A 325 Standard Specification for Structural Bolts, Steel, Heat Treated, 120/105 ksi Minimum Tensile Strength.
  - 2. ASTM A 653 / A 653M Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
  - 3. ASTM A 792 / A 792M Standard Specification for Steel Sheet, 55 percent Aluminum-Zinc Alloy-Coated by the Hot-Dip Process.
  - 4. ASTM B 117 Standard Practice for Operating Salt Spray (Fog) Apparatus.
  - 5. ASTM C 518 Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus.
  - 6. ASTM C 1363 Standard Test Method for Thermal Performance of Building Materials and Envelope Assemblies by Means of a Hot Box Apparatus.
  - 7. ASTM D 522 Standard Test Methods for Mandrel Bend Test of Attached Organic Coatings.
  - 8. ASTM D 523 Standard Test Method for Specular Gloss.
  - 9. ASTM D 968 Standard Test Methods for Abrasion Resistance of Organic Coatings by Falling Abrasive.
  - 10. ASTM D 1308 Standard Test Method for Effect of Household Chemicals on Clear and Pigmented Organic Finishes.
  - 11. ASTM D 2244 Standard Practice for Calculation of Color Tolerances and Color Differences from Instrumentally Measured Color Coordinates.
  - 12. ASTM D 2247 Standard Practice for Testing Water Resistance of Coatings in 100 percent Relative Humidity.
  - 13. ASTM D 2794 Standard Test Method for Resistance of Organic Coatings to the Effects of Rapid Deformation (Impact).
  - 14. ASTM D 3361 Standard Practice for Unfiltered Open-Flame Carbon-Arc Exposures of Paint and Related Coatings.
  - 15. ASTM D 4214 Standard Test Methods for Evaluating the Degree of Chalking of Exterior Paint Films.
  - 16. ASTM E 84 Standard Test Method for Surface Burning Characteristics of Building Materials.
  - 17. ASTM E 96 / E 96M Standard Test Methods for Water Vapor Transmission of Materials.
  - 18. ASTM E 1592 Standard Test Method for Structural Performance of Sheet Metal Roof and Siding Systems by Uniform Static Air Pressure Difference.
  - 19. ASTM G 87 Standard Practice for Conducting Moist SO2 Tests.
- F. FM Global:
  - 1. FMRC Standard 4471 Approval Standard for Class 1 Roofs for Hail Damage Resistance, Combustibility, and Wind Uplift Resistance.
- G. Metal Building Manufacturers Association (MBMA):
  - 1. MBMA Metal Building Systems Manual.
  - 2. Seismic Design Guide for Metal Building Systems.

- H. The Society for Protective Coatings (SSPC):
  - 1. SSPC-Paint 15 Primer for Use Over Hand-Cleaned Steel performs to SSPC-Paint 15 standards.
  - 2. SSPC-SP2 Hand Tool Cleaning.
- I. Underwriters Laboratories (UL):
  - 1. UL 580 Standard for Tests for Uplift Resistance of Roof Assemblies.
  - 2. UL 723 Standard for Test for Surface Burning Characteristics of Building Materials.

#### 1.04 PREINSTALLATION MEETINGS

- A. Convene pre-installation meeting 2 weeks before start of installation of metal building system.
- B. Require attendance of parties directly affecting work of this section, including Contractor, Architect, Engineer, installer, and metal building system manufacturer's representative.
- C. Review materials, installation, protection, and coordination with other work.

### 1.05 SUBMITTALS

- A. Comply with Section 01 33 00 Submittal Procedures.
- B. Product Data: Submit metal building system manufacturer's product information, specifications, and installation instructions for building components and accessories.
- C. Erection Drawings: Submit metal building system manufacturer's erection drawings, including plans, elevations, sections, and details, indicating roof framing, transverse cross-sections, covering and trim details, and accessory installation details to clearly indicate proper assembly of building components.
- D. Certification: Submit written "Certificate of design and manufacturing conformance" prepared and signed by a Professional Engineer, registered to practice in Minnesota verifying that the metal building system design and metal roof system design (including panels, clips, and support system components) meet indicated loading requirements and codes of authorities having jurisdiction.
  - Certification shall reference specific dead loads, live loads, snow loads, wind loads/speeds, tributary area load reductions (if applicable), concentrated loads, collateral loads, seismic loads, end-use categories, governing code bodies, including year, and load applications.
  - 2. Submit certification on the metal building system manufacturer's letterhead.
- E. Submit certification verifying that the metal roof system has been tested and approved by Underwriter's Laboratory as Class 90.
- F. Dealer Certification: Submit certification that the metal building system supplier or metal roof system supplier is a manufacturer's authorized and franchised dealer of the system to be furnished.
- G. Certification shall state date on which authorization was granted.

- H. Installer Certification: Submit certification that the metal building system or roof system installer has been regularly engaged in the installation of building systems of the same or equal construction to the system specified.
- I. Warranty Documentation: Submit manufacturer's standard warranty.

## 1.06 QUALITY ASSURANCE

- A. Manufacturer's Qualifications:
  - 1. Manufacturer regularly engaged, for past 10-years, in manufacture of metal building systems of similar type to that specified.
  - 2. Accredited based on IAS Accreditation Criteria AC472 and requirements in International Building Code (IBC), Chapter 17.
- B. Installer's Qualifications:
  - 1. Installer regularly engaged, for past 5-years, in installation of metal building systems of similar type to that specified.
  - 2. Employ persons trained for installation of metal building systems.
- C. Certificate of design and manufacturing conformance:
  - Metal building system manufacturer shall submit written certification prepared and signed by a Professional Engineer, registered to practice in Minnesota verifying that building system design and metal roof system design (including panels, clips, and support system components) meet indicated loading requirements and codes of authorities having jurisdiction.
  - 2. Certification shall reference specific dead loads, live loads, snow loads, wind loads/speeds, tributary area load reductions (if applicable), concentrated loads, collateral loads, seismic loads, end-use categories, governing code bodies, including year, and load applications.
  - 3. Certificate shall be on metal building system manufacturer's letterhead.
  - 4. Refer to Submittals article of this specification section.
- D. Material Testing:
  - 1. In addition to material certifications of structural steel, metal building system manufacturer shall provide, upon request at time of order, evidence of compliance with specifications through testing.
  - 2. This quality assurance testing shall include testing of structural bolts, nuts, screw fasteners, mastics, and metal coatings (primers, metallic coated products, and painted coil products).

## 1.07 DELIVERY, STORAGE, AND HANDLING

- A. Delivery and Acceptance Requirements: Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name and manufacturer.
- B. Storage and Handling Requirements:
  - 1. Store and handle materials in accordance with manufacturer's instructions.
  - 2. Keep materials in manufacturer's original, unopened containers and packaging until installation.
  - 3. Do not store materials directly on ground.
  - 4. Store materials on flat, level surface, raised above ground, with adequate support to prevent sagging.

5. Protect materials and finish during storage, handling, and installation to prevent damage.

### 1.08 WARRANTY

- A. Metal building system manufacturer shall provide a written weathertightness warranty for 25-years against leaks in standing seam roof panels, arising out of or caused by ordinary wear and tear under normal weather and atmospheric conditions.
  - 1. Warranty shall be signed by both the metal roof system manufacturer and the metal roof system installer.
- B. Metal building system manufacturer shall provide a paint film written warranty for 25-years against cracking, peeling, chalking, and fading of exterior coating on painted roof and wall panels.
  - 1. Warranty shall be signed by metal building system or roof system manufacturer and state that the coating contains 70 percent "Kynar 500" or "Hylar 5000" resin.
  - 2. Metal building system manufacturer shall warrant that the coating shall not peel, crack, or chip for 25-years.
  - 3. For a period of 25-years, chalking shall not exceed ASTM D 4214, #8 rating and shall not fade more than 5 color difference units in accordance with ASTM D 2244.
- C. Metal Building System Manufacturer's Certification: Metal building system manufacturer shall submit a signed written Certification stating that the metal roof system manufacturer or approved representative will provide warranties and Inspection and Report Service specified in this specification section.
  - 1. Warranty terms shall be included with the submittals listed above under Paragraph 1.04.

### PART 2 PRODUCTS

- 2.01 MANUFACTURER
  - A. Acceptable Metal Building System Manufacturers:
    - 1. Butler Manufacturing (Standard of Quality).
    - 2. Nucor Building Systems.
    - 3. Rhino Metal Building.
    - 4. American Steel Buildings.
    - 5. Allied Steel Buildings.
    - 6. Burke Steel Buildings.
    - 7. Armstrong Steel Buildings.

### 2.02 BUILDING DESCRIPTION

- A. Building Dimensions: Indicated on the Drawings.
  - 1. Horizontal Dimensions: Measure to inside face of wall sheets.
  - 2. Eave Height: Measure from top of finished floor to intersection of insides of roof and sidewall sheets.
  - 3. Clear Height Between Finished Floor and Bottom of Roof Beams: Indicated on the Drawings.
- B. Primary Structural Members:
  - 1. Primary Framing System: Butler Manufacturing framing system as specified in this specification section.

- 2. Frames: Welded-up plate section columns and roof beams, complete with necessary splice plates for bolted field assembly as specified in this specification section.
- 3. Bolts for Field Assembly of Primary Steel: High-strength bolts as indicated on erection drawings of metal building system manufacturer.
- 4. Beam and Post Endwall Frames: Endwall corner posts, endwall roof beams, and endwall posts as required by design criteria.
- 5. Exterior Columns: Welded-up "H" sections or cold-formed "C" sections.
- 6. Interior Columns: "H" sections or tube columns.
- 7. Connection of Primary Structural Members: ASTM A 325 bolts through factory-punched holes.
- 8. Primary Structural Members: Paint with metal building system manufacturer's standard primer with surface preparation as specified in this specification section.
- C. Secondary Structural Members:
  - 1. Secondary Framing System: Butler Manufacturing framing system as specified in this specification section.
    - a. C/Z Purlins and Girts: Acrylic-coated G30 galvanized finish.
    - b. Truss Purlins: Acrylic-coated G30 galvanized finish.
- D. Metal Roof System: Butler Manufacturing metal roof system as specified in this specification section.
- E. Metal Wall System: Butler Manufacturing metal wall system as specified in this specification section.
- F. Where metal panels are required to be painted, use coating system as specified in this specification section.

## 2.03 DESIGN REQUIREMENTS

- A. Governing Design Code:
  - 1. Structural design for the building structural system shall be provided by the metal building system manufacturer for the following design criteria:
    - a. Governing Building Code: 2020 Minnesota State Building Code, with amendments, has adopted the International Building Code, 2018 Edition.
    - b. Risk Category: II.
- B. Roof Live Load:
  - 1. Roof live loads are loads produced during the life of the structure by moveable objects.
  - 2. Wind, snow, seismic, or dead loads are not live loads.
  - 3. Roof live loads are applied based on the Tributary Area as stated in code.
  - 4. Roof live load shall not be less than 20 psf.
- C. Roof Snow Load:
  - 1. Roof snow load used for designing the structure shall not be reduced and shall be the product of the following criteria:
    - a. Snow Load Coefficient (Ce): 1.0.
    - b. Thermal Factor (Ct): 1.1.
    - c. Snow Importance Factor (I): 1.0.
    - d. Ground Snow Load (Pg): 60 psf.
    - e. Roof Snow Load (Pf): 46.2 psf.

- 2. Design snow load shall include the effects of minimum flat roof load limits, rain on snow, drifting snow, and unbalanced snow load as defined in the governing building code specified above.
- D. Wind Load:
  - 1. Wind load used for designing the structure shall be the product of the following criteria:
    - a. Wind Exposure Category: C.
    - b. Wind Velocity Pressure Exposure Coefficient (Kz): 0.85
    - c. Wind Topographic Factor (K<sub>zt</sub>): 1.0.
    - d. Wind Directionality Factor (K<sub>d</sub>): 0.85.
    - e. Wind Velocity (V), miles per hour: 115.
    - f. Wind Risk Factor: II.
    - g. Building Wind Load (qz): 24.5 psf.
  - 2. Wind Pressure Coefficients and the design pressures shall be applied in accordance with the governing code.
- E. Wall Pressures (minimum):
  - 1. Inward Field: 30 PSF.
  - 2. Inward Corner Areas: 40 PSF.
  - 3. Outward Field: 30 PSF.
  - 4. Outward Corner Areas: 40 PSF.
  - 5. Wall Design Safety Factor: 2.0.
  - 6. Perimeter and Corner dimension: 3'-0".
- F. Seismic Load:
  - 1. Seismic load used for designing the structure shall be based on the following criteria:
    - a. Spectral response acceleration for short periods  $(S_{Ds})$ : 0.54 g.
    - b. Spectral response acceleration for 1-sec. period (SD1): 0.18 g.
    - c. Site Class: D.
    - d. Seismic Importance Factor (I): 1.0.
  - 2. Seismic loads shall be applied in accordance with the governing code.
- G. Dead Load: Dead load shall consist of the weight of building system construction, such as roof, framing, and covering members.
- H. Collateral Load:
  - 1. Collateral load in pounds per square foot shall be applied to the entire structure to account for the weight of additional permanent materials other than the building system, such as sprinklers, mechanical systems, electrical systems, hung partitions, and ceilings.
  - 2. This allowance does not include the weight of hung equipment weighing 50 pounds or more.
  - 3. Equipment loads of 50 pounds or more shall be indicated on the Drawings and the structure shall be strengthened as required.
  - 4. Architect will provide the metal building system manufacturer with the magnitude and approximate location of concentrated loads greater than 50 pounds before design of the building starts.
- I. Auxiliary Loads: Auxiliary loads shall include dynamic loads, such as cranes and material handling systems, and will be defined in the Contract Documents.
- J. Load Combinations: Load combinations used to design primary and secondary structural members shall be in accordance with the governing code.

### 2.04 DEFLECTIONS

- A. Structural Members:
  - 1. Maximum deflection of main framing members shall not exceed 1/240 of their respective spans.
  - 2. Maximum deflection due to snow load in roof panels and purlins shall not exceed 1/180 of their respective spans.
  - 3. Maximum deflection due to wind load in wall panels and girts shall not exceed 1/240 of their respective spans.
- B. Lateral deflections, or drift, at the roof level of the structure in relation to the floor or slab on grade, caused by deflection of horizontal force resisting elements, shall not exceed H/180.
- C. Calculations for deflections shall be done using only the bare frame method.
  - 1. Reductions based on engineering judgment using the assumed composite stiffness of the building envelope shall not be allowed.
  - 2. Drift shall be in accordance with AISC Serviceability Design Considerations for Low-Rise Buildings.
  - 3. Use of composite stiffness for deflection calculations is permitted only when actual calculations for the stiffness are included with the design for the specific project.
  - 4. When maximum deflections are specified, calculations shall be included in the design data.

### 2.05 STRUCTURAL STEEL FRAMING SYSTEM

- A. General:
  - 1. Design of Structural System: Clear or multi-span rigid frame with straight or tapered columns and roof beams, with monoslope roof.
  - 2. Actual Building Length:
    - a. Structural line to structural line.
    - b. Same as nominal; i.e., number of bays times length of bays.
    - c. Structural Line: Defined as inside face of wall sheets.
  - 3. Actual Building Width:
    - a. Structural line to structural line.
    - b. Nominal building width.
  - 4. Roof Slope: 1/2 inch in 12 inches.
  - 5. Components and Parts of Structural System:
    - a. Indicated on the Drawings or the Specifications.
    - b. Clearly marked.
    - c. Erection Drawings: Supply for identification and assembly of parts.
    - d. Drawings: Carry stamp of a registered Professional Engineer.
  - 6. Foundations:
    - a. Foundations, Including Anchor Bolt Embedment Length: Properly designed by qualified engineer, retained by other than metal building system manufacturer, in accordance with specific soil conditions for building site.
    - b. Reactions for Proper Design of Foundations: Supplied by metal building system manufacturer.
    - c. Anchor Bolts:
      - 1) Anchor Bolt Diameter: Indicated on anchor bolt layout drawings furnished by metal building system manufacturer.
      - 2) Anchor Bolts: Supplied by metal building system manufacturer.

- 3) Anchor Bolts on Moment-Resisting Column Bases: Nuts above and below base plates.
- B. Structural Steel Design:
  - 1. Structural Mill Sections or Welded-up Plate Sections: Design in accordance with AISC Specification for Structural Steel Buildings.
  - 2. Cold-Formed Steel Structural Members: Design in accordance with AISI North American Specification for the Design of Cold-Formed Steel Structural Members.
  - 3. Structural System: Design in accordance with specified building code (Refer to Design Loads and Building Codes).
- C. Primary Framing:
  - 1. Rigid Frames:
    - a. Frames: Welded-up plate section columns and roof beams, complete with necessary splice plates for bolted field assembly.
      - 1) Base Plates, Cap Plates, Compression Splice Plates, and Stiffener Plates: Factory welded into place and connection holes factory fabricated.
      - 2) Columns and Roof Beams: Fabricated complete with holes in webs and flanges for attachment of secondary structural members and bracing, except for fieldwork as noted on erection drawings furnished by metal building system manufacturer.
    - b. Bolts for Field Assembly of Frame Members: ASTM A 325 high-strength bolts as indicated on erection drawings furnished by metal building system manufacturer.
  - 2. Endwall Structural Members: Cold-formed channel members designed in accordance with AISI North American Specification for the Design of Cold-Formed Steel Structural Members or welded-up plate sections designed in accordance with AISC Specification for Structural Steel Buildings.
    - a. Endwall Frames: Endwall corner posts, endwall roof beams, and endwall posts as required by design criteria.
      - 1) Splice Plates and Base Clips: Shop fabricated complete with bolt connection holes.
      - 2) Base Plates, Cap Plates, Compression Splice Plates, and Stiffener Plates: Factory welded into place and connection holes shop fabricated.
      - 3) Beams and Posts: Factory fabricated complete with holes for attachment of secondary structural members, except for field work as noted on erection drawings furnished by metal building system manufacturer.
    - b. Intermediate Frames: Substituted for end-wall roof beams, when specified.
      - 1) Factory fabricate necessary endwall posts and holes for connection to intermediate frame used in endwall.
- D. Secondary Structural Members:
  - 1. Purlins:
    - a. Purlins:
      - 1) "Z"-shaped, precision-roll-formed, acrylic-coated G30 galvanized steel in different gauges to meet specified loading conditions.
      - 2) 7-inch, 8-1/2-inch, 10-inch, or 11-1/2-inch-deep "Z" sections.
    - b. Outer Flange of Purlins: Factory-punched holes for panel connections.
    - c. Attach purlins to main frames and endwalls with 1/2-inch-diameter bolts.
    - d. Brace purlins at intervals indicated on erection drawings furnished by metal building system manufacturer.
    - e. Concentrated Loads: Hung at purlin panel points.

- 2. Eave Members:
  - a. Eave Struts: Factory punched 7-inch, 8-1/2-inch, 10-inch, or 11-1/2-inch-deep "C" sections, precision-roll-formed, acrylic-coated G30 galvanized steel in different gauges to meet specified loading conditions.
- 3. Girts:
  - a. "Z" or "C"-shaped, precision-roll-formed, acrylic-coated G30 galvanized steel in different gauges to meet specified loading conditions.
  - b. 7-inch, 8-1/2-inch, 10-inch, or 11-1/2-inch-deep "Z" or "C" sections.
  - c. Outer Flange of Girts: Factory-punched holes for panel connections.
- 4. Bracing:
  - a. Locate bracing as required to accommodate design loads.
  - b. Diagonal Bracing:
    - 1) Hot-rolled rods of sizes as required to accommodate design loads.
    - 2) Attach to columns and roof beams as required to accommodate design loads.
  - c. Optional fixed-base wind posts or pinned-base portal frames may be substituted for wall rod bracing on buildings as required.
  - d. Flange Braces and Purlin Braces: Cold formed and installed as required to accommodate design loads.
- E. Welding:
  - Welding Procedures, Operator Qualifications, and Welding Quality Standards: AWS D1.1 - Structural Welding Code – Steel and AWS D1.3 - Structural Welding Code – Sheet Steel.
  - Welding inspection, other than visual inspection as defined by AWS D1.1, paragraph 6.9, shall as required to comply with current building codes and authority having jurisdiction.
  - 3. Certification of Welder Qualification: Supply when requested.
- F. Painting of Structural Steel Framing System:
  - 1. General:
    - a. Structural Steel: Prime paint as temporary protection against ordinary atmospheric conditions.
    - b. Perform subsequent finish painting with FM-2 system in field as specified in Section 09 91 00 Painting.
    - c. Before painting, clean steel of loose rust, loose mill scale, dirt, and other foreign materials as specified in Section 09 91 00 Painting.
  - 2. Primary Frames:
    - a. Clean steel in accordance with SSPC-SP6 to receive FM-2 paint system per Section 09 91 00 Painting.
    - b. Factory cover steel with 1 coat of gray water-reducible alkyd primer paint formulated to equal or exceed performance requirements SSPC-Paint 15.
  - c. Minimum Coating Thickness: 3.0 5.0 mil.
    3. Secondary Structural Members Roll-Formed:
    - a. Hot-dipped zinc coating, ASTM A 653, G30; followed by 1 coat of clear acrylic finish.
    - b. Acrylic-Coated G30 Galvanized Steel: Equal or exceed performance requirements of SSPC Paint-15.
  - 4. Truss Purlins:
    - a. Hot-dipped zinc coating, ASTM A 653, G30; followed by 1 coat of clear acrylic finish.
    - b. Acrylic-Coated G30 Galvanized Steel: Equal or exceed performance requirements of SSPC Paint-15.

### 2.06 METAL ROOF SYSTEM

- A. Metal Roof System: Butler Manufacturing "VSR IITM" roof system.
- B. Roof System Design:
  - 1. Design roof panels in accordance with AISI North American Specification for the Design of Cold-Formed Steel Structural Members.
  - 2. Design roof paneling system and attachments to support design live, snow, and wind loads.
- C. Roof System Performance Testing:
  - 1. UL Wind Uplift Classification Rating, UL 580: Class 90.
  - 2. Structural Performance Under Uniform Static Air Pressure Difference: Test roof system in accordance with ASTM E 1592.
  - 3. RoofNav Assembly Number: 267000-0-0 with uplift rating of 120 psf.
  - 4. FM Global (Factory Mutual):
    - a. Roof system has been tested in accordance with FMRC Standard 4471 and approved as a Class 1 Panel Roof.
    - b. Metal Building System Manufacturer: Provide specific assemblies to meet required wind rating in accordance with FM Global and RoofNav Assembly Number indicated above.
    - c. Installation modifications or substitutions can invalidate FM Global approval.
- D. Roof Panels:
  - 1. Factory roll-formed, 16-inches wide, with 2 major corrugations, 2-inches high, 16-inches on center, and with minor longitudinal striations in the flat of the panel.
  - 2. Due to steel mill tolerances, slight waviness known as "oil canning" may appear in erected panels.
- E. Panel Material and Finish:
  - 1. 24-gauge painted Galvalume aluminum-zinc alloy (approximately 55 percent aluminum, 45 percent zinc), ASTM A 792.
  - 2. Paint with exterior colors of "Butler-Cote™" finish system, full-strength, 70 percent "Kynar 500" or "Hylar 5000" fluoropolymer (PVDF) coating.
  - 3. PVDF Coating Warranty: Metal building system manufacturer shall warrant coating for 25-years for the following.
    - a. Not to peel, crack, or chip.
    - b. Chalking: Not to exceed ASTM D 4214, #8 rating.
    - c. Fading: Not more than 5 color-difference units, ASTM D 2244.
- F. Provision for Expansion and Contraction:
  - 1. Provision for Thermal Expansion and Contraction Movement of Roof Panels: Clips with movable tab.
    - a. Tabs: Factory centered on roof clip to ensure full movement in either direction.
  - 2. Roof: Provide for thermal expansion and contraction without detrimental effects on roof panels, with plus or minus 100-degree F temperature difference between interior structural framework of building and roof panels.
- G. Fasteners:
  - 1. Make connections of roof panel clips to structural members with self-drilling fasteners.
  - 2. Self-drilling fasteners attach concealed clips to secondary structural members.
  - 3. Make roof panel side laps with field-formed lock seam, formed by a machine seaming device.

- H. Insulation:
  - 1. Faced Blanket Insulation in Specified Thickness: Use with option of using thermal blocks to eliminate "thermal short circuits".
- I. Accessories:
  - 1. Accessories (i.e., ventilators, skylights, eave and gable trim, gutters, jacks, and curbs): Standard with metal building system manufacturer, unless otherwise noted and furnished as specified.
  - 2. Metal Coating on Gutters, Downspouts, Gable Trim, and Eave Trim: "Butler-Cote™" finish system, full-strength, 70 percent "Kynar 500" or "Hylar 5000" fluoropolymer (PVDF) coating.
  - 3. Location of Standard Accessories: Indicated on erection drawings furnished by metal building system manufacturer.

## 2.07 METAL WALL SYSTEM

- A. Exterior Metal Wall System: Butler Manufacturing<sup>™</sup> "Butlerib<sup>®</sup> II" wall system.
- B. Wall System Design: Design wall panels in accordance with AISI North American Specification for the Design of Cold-Formed Steel Structural Members.
- C. Wall Panels:
  - 1. Roll-formed panels, 3-feet wide with 4 major corrugations, 1-1/2 inches high, 12-inches on center, with 2 minor corrugations between each of the major corrugations entire length of panel.
  - 2. 1 piece from base to building eave.
  - 3. Upper End of Panels: Fabricate with mitered cut to match corrugations of "Butlerib<sup>®</sup> II" roof panels of 1/2 inch to 12 inches and square cut for all other roof panels and slopes.
  - 4. Factory punch or field drill wall panels at panel ends and match factory-punched or field-drilled holes in structural members for proper alignment.
  - 5. Panel Material and Finish:
    - a. 24-gauge painted Galvalume aluminum-zinc alloy (approximately 55 percent aluminum, 45 percent zinc), ASTM A 792.
    - b. Paint with exterior colors of "Butler-Cote™" finish system, full-strength, 70 percent "Kynar 500" or "Hylar 5000" fluoropolymer (PVDF) coating.
    - c. PVDF Coating Warranty: Metal building system manufacturer shall warrant coating for 25-years for the following.
      - 1) Not to peel, crack, or chip.
      - 2) Chalking: Not to exceed ASTM D 4214, #8 rating.
      - 3) Fading: Not more than 5 color-difference units, ASTM D 2244.
- D. Fasteners:
  - 1. Wall Panel-to-Structural Connections: Torx-head "Scrubolt™" fasteners.
  - 2. Wall Panel-to-Panel Connections: Torx-head self-drilling screws.
  - 3. Fastener Locations: Indicated on erection drawings furnished by metal building system manufacturer.
  - 4. Exposed Fasteners: Factory painted to match wall color.
- E. Accessories:
  - 1. Accessories (i.e., doors, windows, louvers): Provide doors, windows, and louvers in accordance with related specification sections.

- 2. Location of Standard Accessories: Indicated on erection drawings furnished by metal building system manufacturer.
- 2.08 METAL COATING SYSTEM
  - A. Metal Coating System: Butler Manufacturing<sup>™</sup> "Butler-Cote<sup>™</sup>" finish system a factoryapplied, exterior metal coating system
  - B. Substrate Preparation:
    - 1. G90 Hot-Dipped Galvanized Steel or AZ50 Galvalume: Factory-controlled chemicalconversion treatment.
  - C. Coating:
    - 1. Material: Full-strength, 70 percent, "Kynar 500" or "Hylar 5000" fluoropolymer (PVDF) color coating.
    - 2. After steel preparation, coat exterior exposed surface with primer and PVDF.
    - 3. Nominal Total Dry Film Thickness: 1.0 mil.
    - 4. Interior Exposed Surfaces: Coat with polyester color coat.
    - 5. Apply coatings to entire material dimensions of steel sheets before forming of panels.
  - D. Physical Characteristics of Exterior Coating:
    - 1. Resistance to failure through cracking, checking, peeling, and loss of adhesion.
    - 2. Measure by the following laboratory weather-simulating tests to obtain test results justifying metal building system manufacturer's 25-year warranty:
      - a. Humidity resistance at 100 degrees F and 100 percent relative humidity, ASTM D 2247.
      - b. Salt-spray resistance at 5 percent salt fog, ASTM B 117.
      - c. Reverse impact resistance, ASTM D 2794.
      - d. Resistance to accelerated weathering, Atlas Model XW-R Dew Cycle Weather-O-Meter, ASTM D 3361.
      - e. Resistance to dry heat.
      - f. Abrasion resistance, ASTM D 968.
      - g. Chemical/acid/pollution resistance, ASTM D 1308 and G 87.
      - h. Maintain gloss of finish evenly over entire surface, ASTM D 523.
- 2.09 INSULATION
  - A. Laminated Fiberglass: Owens-Corning Fiberglas, NAIMA 202, "Certified R" metal building insulation.
    - 1. TIMA Insignia and Insulation Thickness: Ink-jet printed on fiberglass.
  - B. Back-Fill Insulation: Owens-Corning Fiberglas unfaced "Pink Metal Building Insulation Plus".
  - C. Roof Insulation:
    - 1. Nominal Thickness: 12-1/4 inches.
    - 2. Certified R-Value: 41.
  - D. Wall Insulation:
    - 1. Nominal Thickness: 6 inches.
    - 2. Certified R-Value: 22.

- E. Roof and Wall Insulation Facing: PSK Standard Duty (WMP-10).
  - 1. 0.0015-inch-thick, UV-stabilized, white metalized polypropylene laminated to 14-pound Kraft paper, reinforced with glass-fiber scrim.
  - 2. Adhere facing to Owens-Corning Fiberglas "Certified R", NAIMA 202, fiberglass blanket.
  - 3. Assembly of Insulation Blanket and Facing:
    - a. Flame Spread Rating: Less than 25.
    - b. UL Label: Submit as specified in Submittals article of this section.
    - c. Perm Rating: 0.02.
- 2.10 INSULATION SUPPORT SYSTEM
  - A. Insulation Support System: Butler Manufacturing™ "Sky-Web®" insulation support system.
  - B. Description:
    - 1. 1,000 denier polyester yarn interwoven on nominal 1/2-inch-square grid coated with fire-retardant, UV-stabilized, PVC-based binder.
    - 2. Polypropylene tape bindings on all 4 edges.
      - a. Two Edges that Attach to Building Eave Members: Reinforce with 1/4-inch-diameter polypropylene rope.
    - 3. Furnish in building bay lengths by building widths.
      - a. Cover 1 bay of building length.
      - b. Extend eave-to-eave across building.
  - C. Physical Properties:
    - 1. Tensile Strength (pounds/yarn):
      - a. Machine Direction: 15 pounds.
      - b. Cross Direction: 15 pounds.
    - 2. Ends per Inch:
      - a. Machine Direction: 2.5.
      - b. Cross Direction: 2.0.
    - 3. Weight: 0.28 to 0.32 ounces per sq ft
  - D. Fasteners and Attachment Hardware:
    - 1. Connections to Eave Members: Steel strapping and self-drilling screws.
    - 2. Mesh-to-Insulation Support System Edge Connections: Plastic cable ties.
  - E. Fire-Hazard Classification:
    - 1. UL Fire-Hazard Classification Ratings, UL 723:
      - a. Flame Spread: 15.
      - b. Smoke Developed: 400.

## PART 3 EXECUTION

- 3.01 EXAMINATION
  - A. Examine area to receive metal building system.
  - B. Notify Architect of conditions that would adversely affect installation or subsequent use.
  - C. Do not begin installation until unacceptable conditions are corrected.

## 3.02 ERECTION - STRUCTURAL STEEL FRAMING SYSTEM

- A. Erect structural steel framing system in accordance with the Drawings and metal building system manufacturer's erection drawings.
- B. Field Modifications:
  - 1. Require approval of metal building system manufacturer.
  - 2. Responsibility of building erector.
  - 3. Field Modifications to Truss Purlins: Not allowed, unless indicated on erection drawings furnished by metal building system manufacturer.
- C. Fixed Column Bases: Grout flush with floor line after structural steel erection is complete.
- 3.03 INSTALLATION METAL ROOF SYSTEM
  - A. Metal Roof System Installation: Butler Manufacturing™ "VSR II™" roof system.
    - 1. Install roof system in accordance with metal building system manufacturer's instructions at locations indicated on the Drawings.
    - 2. Install roof system weathertight.
    - 3. Attach roof panels to supporting structural members with seamed-in-clip device. a. Install clip at panel major corrugation.
    - 4. Design roof panel side laps to be interlocking seams with return leg on lower edge of female rib.
      - a. Factory apply side lap sealant.
    - 5. Roof Panel End Laps:
      - a. Minimum of 6-inches.
      - b. Seal with field-applied sealant.
      - c. Swage 1 panel end to ensure nestible, watertight end laps.
      - d. Install backing plate directly over, but not fastened to, structural support members.
      - e. Self-Drilling Fasteners: Do not use to make panel end splices.
- 3.04 INSTALLATION METAL WALL SYSTEM
  - A. Metal Wall System Installation: Butler Manufacturing<sup>™</sup> "Butlerib<sup>®</sup> II" wall system.
    - 1. Install wall system in accordance with metal building system manufacturer's instructions at locations indicated on the Drawings.
    - 2. Install wall system weathertight.
    - 3. Verify structural system is plumb before wall panels are attached.
    - 4. Align and attach wall panels in accordance with erection drawings furnished by metal building system manufacturer.
    - 5. Install side laps with minimum of 1 full corrugation.
    - 6. Seal wall panels at base with metal trim and foam or rubber closures.
    - 7. Exterior Trim: Apply same finish as exterior color of wall panels, except the following:
      - Gutters, Downspouts, Eave Trim, Gable Trim, Door-Side Flashings, and Header Flashings: Paint with exterior colors of "Butler-Cote™" finish system, full-strength, 70 percent "Kynar 500" or "Hylar 5000" fluoropolymer (PVDF) coating in standard color of metal building system manufacturer.
    - 8. Flashings, Trim, Closures, and Similar Items: Install as indicated on erection drawings furnished by metal building system manufacturer.

## 3.05 PROTECTION

A. Protect installed metal building system to ensure that, except for normal weathering, metal building system will be without damage or deterioration at time of Substantial Completion.

## END OF SECTION

## SECTION 13 34 19.10

# PREFABRICATED BUILDINGS

### PART 1 GENERAL

#### 1.01 SUMMARY

- A. Section Includes:
  - 1. Prefabricated office trailer
    - a. 24'x60' Modular Office with (2) restrooms, (4) private offices and (1) Main Office.

### 1.02 PRICE AND PAYMENT PROCEDURES

- A. Measurement and Payment
  - 1. All Work and costs of this Section shall be incidental to the Project and included in the Lump Sum Bid Item for **Prefabricated Office Trailer (Allowance)**.
    - a. Work to include purchasing of modular trailer, installation, levelling the building on the building pad, construction of building support and/or cribbing, and installation of skirting around perimeter of trailer to prevent buildup of debris beneath the unit.

### 1.03 REFERENCE STANDARDS

- A. Building:
  - 1. WCBC/2009 IBC
  - 2. Wisconsin Legislature CH SPS 362
- B. Electrical:
  - 1. 2011 NEC
- C. Mechanical: 1. 2009 IMC
- D. Plumbing: 1. 2009 IPC
- E. Accessibility: 1. 03 ANSI A117.1
- F. Energy:
  - 1. 2009 IECC

### 1.04 PREINSTALLATION MEETINGS

- A. Convene pre-installation meeting 2 weeks before start of installation of prefab office trailer.
- B. Require attendance of parties directly affecting work of this section, including Contractor, Architect, Engineer, installer, and building manufacturer's representative.
- C. Review materials, installation, protection, and coordination with other work.

### 1.05 SUBMITTALS

- A. Comply with Section 01 33 00 Submittal Procedures.
- B. Product Data: Submit building manufacturer's product information, specifications, and installation instructions for building components and accessories.
- C. Drawings: Submit building manufacturer's construction drawings, including plans, elevations, sections, and details, indicating roof framing, transverse cross-sections, covering and trim details, and accessory installation details to clearly indicate proper assembly of building components.
- D. Certification: Submit written "Certificate of design and manufacturing conformance" prepared and signed by a Professional Engineer, registered to practice in Wisconsin verifying that the prefabricated building design meets indicated loading requirements and codes of authorities having jurisdiction.
  - 1. Certification shall reference specific dead loads, live loads, snow loads, wind loads/speeds, tributary area load reductions (if applicable), concentrated loads, collateral loads, seismic loads, end-use categories, governing code bodies, including year, and load applications.
  - 2. Submit certification on the building manufacturer's letterhead.
  - 3. Certification shall state date on which authorization was granted.
- E. Warranty Documentation: Submit prefabricated building manufacturer's standard warranty.
  - 1. Warranty shall be signed by both the building manufacturer and the building installer.

#### 1.06 QUALITY ASSURANCE

- A. Manufacturer's Qualifications:
  - 1. Manufacturer regularly engaged, for past 10-years, in manufacture of prefabricated building systems of similar type to that specified.
  - 2. Accredited based on IAS Accreditation Criteria AC472 and requirements in International Building Code (IBC), Chapter 17.
- B. Installer's Qualifications:
  - 1. Installer regularly engaged, for past 5-years, in installation of building systems of similar type to that specified.
  - 2. Employ persons trained for installation of prefabricated buildings.
- C. Certificate of design and manufacturing conformance:
  - 1. Prefabricated Office Building manufacturer shall submit written certification prepared and signed by a Professional Engineer, registered to practice in Wisconsin verifying that design meets indicated loading requirements and codes of authorities having jurisdiction.
  - 2. Certification shall reference specific dead loads, live loads, snow loads, wind loads/speeds, tributary area load reductions (if applicable), concentrated loads, collateral loads, seismic loads, end-use categories, governing code bodies, including year, and load applications.
  - 3. Certificate shall be on building manufacturer's letterhead.
  - 4. Refer to Submittals article of this specification section.

#### 1.07 DELIVERY, STORAGE, AND HANDLING

- A. Delivery and Acceptance Requirements: Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name and manufacturer.
- B. Storage and Handling Requirements:
  - 1. Store and handle materials in accordance with manufacturer's instructions.
  - 2. Keep materials in manufacturer's original, unopened containers and packaging until installation.
  - 3. Do not store materials directly on ground.
  - 4. Store materials on flat, level surface, raised above ground, with adequate support to prevent sagging.
  - 5. Protect materials and finish during storage, handling, and installation to prevent damage.

## PART 2 PRODUCTS

- 2.01 MANUFACTURER
  - A. Acceptable Prefabricated Office Trailer Manufacturers or Vendors:
    - 1. United Rentals / Pac-Van
      - a. Contact information for vendor: Chris Desterheft Storage & Office Solutions C: (920) 419 – 8536 O: (920) 423 – 0031 cdesterhef@ur.com Brach AA4 N3760 State Hwy 55
      - Freedom, WI 54130 b. Note that current estimated lead time is 12-16 weeks.

## 2.02 BUILDING DESCRIPTION

## A. 24'x60' Modular Office with (2) restrooms, (4) private offices and (1) Main Office.

- 1. 2460 Modular Office (4' Hitch on Each Module)
- 2. (2) 100- or 125-Amp Electrical Service, 120/240 Volt, Single Phase, 3-Wire, 60 HZ
- 3. Central Heating and Air Conditioning
- 4. Aluminum Exterior Siding and Trim
- 5. Dead-Bolts and Security Latch Guards on Rear Door
- 6. Drain Valve on Water Heater and Main Water Line
- 7. Commercial Block Tile Flooring
- 8. ¼" Birch Hardwood Paneling
- 9. (2) ADA Compliant Restroom
- 10. Central Conference Area with Coffee Bar
- 11. Exterior Lights for Night Security
- 12. Horizontal Sliding Windows with Insect Screens
- 13. Closet with Hanging Bar and Shelf

### 2.03 DESIGN REQUIREMENTS

- A. Building:
  - 1. WCBC/2009 IBC
  - 2. Wisconsin Legislature CH SPS 362

- B. Electrical:1. 2011 NEC
- C. Mechanical: 1. 2009 IMC
- D. Plumbing: 1. 2009 IPC
- E. Accessibility: 1. 03 ANSI A117.1
- F. Energy: 1. 2009 IECC

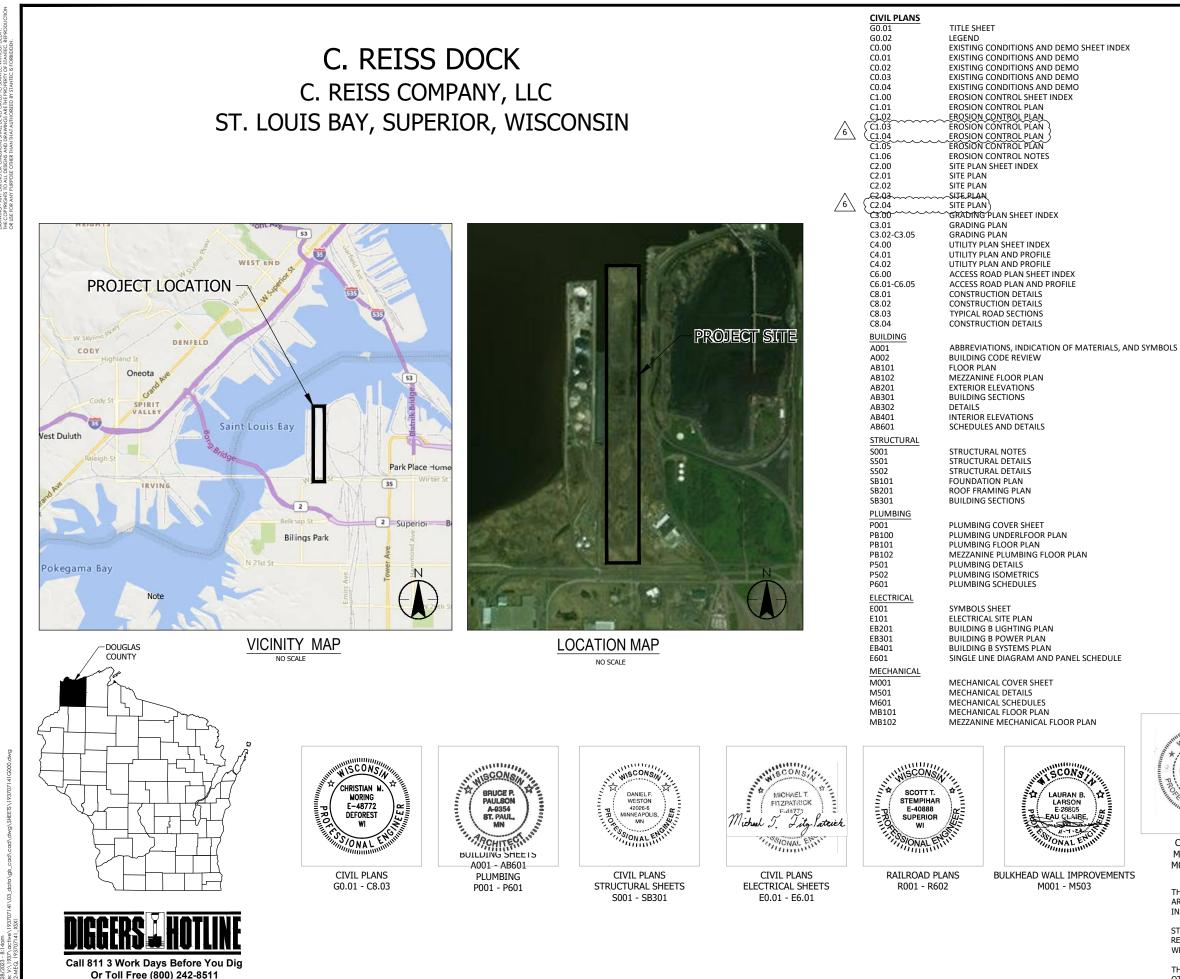
# PART 3 EXECUTION

- 3.01 EXAMINATION
  - A. Examine area to receive office trailer.
  - B. Notify Architect of conditions that would adversely affect installation or subsequent use.
  - C. Do not begin installation until unacceptable conditions are corrected.

# 3.02 PROTECTION

A. Protect installed office trailer to ensure that, except for normal weathering, building will be without damage or deterioration at time of Substantial Completion.

# END OF SECTION



Hearing Impaired TDD (800) 542-2289

www.DiggersHotline.com

RAILROAD PLANS
----------------

GENERAL NOTES
RAIL PROJECT OVERVIEW
TRAFFIC CONTROL PLAN
RAIL SCALE ELECTRICAL PLAN
RAIL SCALE ELECTRICAL PLAN
RAIL SCALE SUB FOUNDATION PLAN
RAIL PLAN AND PROFILE
RAILROAD SHEET PLAN AND PROFILE
TYPICAL SECTIONS
TYPICAL SECTIONS
RAIL CROSS SECTIONS
ROAD CROSS SECTIONS
CULVERT CROSS SECTIONS
DETAILS
ESTIMATED QUANTITIES
ESTIMATED QUANTITIES

#### **BULKHEAD WALL IMPROVEMENTS**

M001	GENERAL STRUCTURAL NOTES & SYMBOLS
M002	GENERAL STRUCTURAL NOTES & SCHEDULES
M101	GENERAL ARRANGEMENT PLAN
M301	EXISTING DOCK SECTION
M302	DOCK SECTION AT TIE BACK
M303	DOCK SECTION AT BOLLARD
M401	ENLARGED DOCK FACE ANCHORAGE PLAN
M402	ENLARGED STRUCTURAL PLANS
M501	SECTIONS & DETAILS
M502	SECTIONS & DETAILS
M503	SECTIONS & DETAILS

ROMY REED 4558	L.	ANIT A	
4558	0 .		
. PAU		1	-
NAL	ENG	ALINE	
	NAL	NAL ENG	NAL ENGINITI

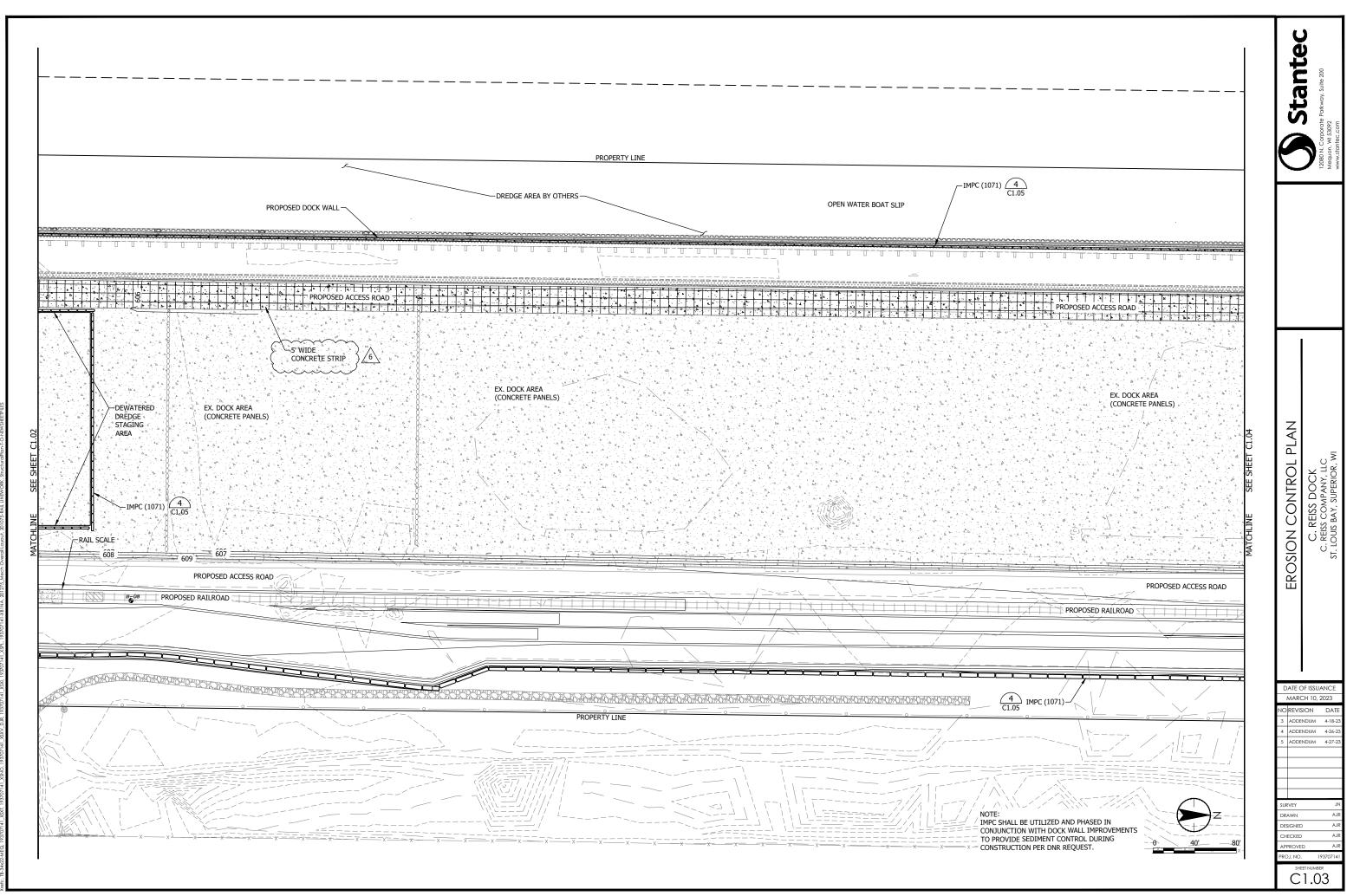
CIVIL PLANS MECHANICAL M001 - MB102

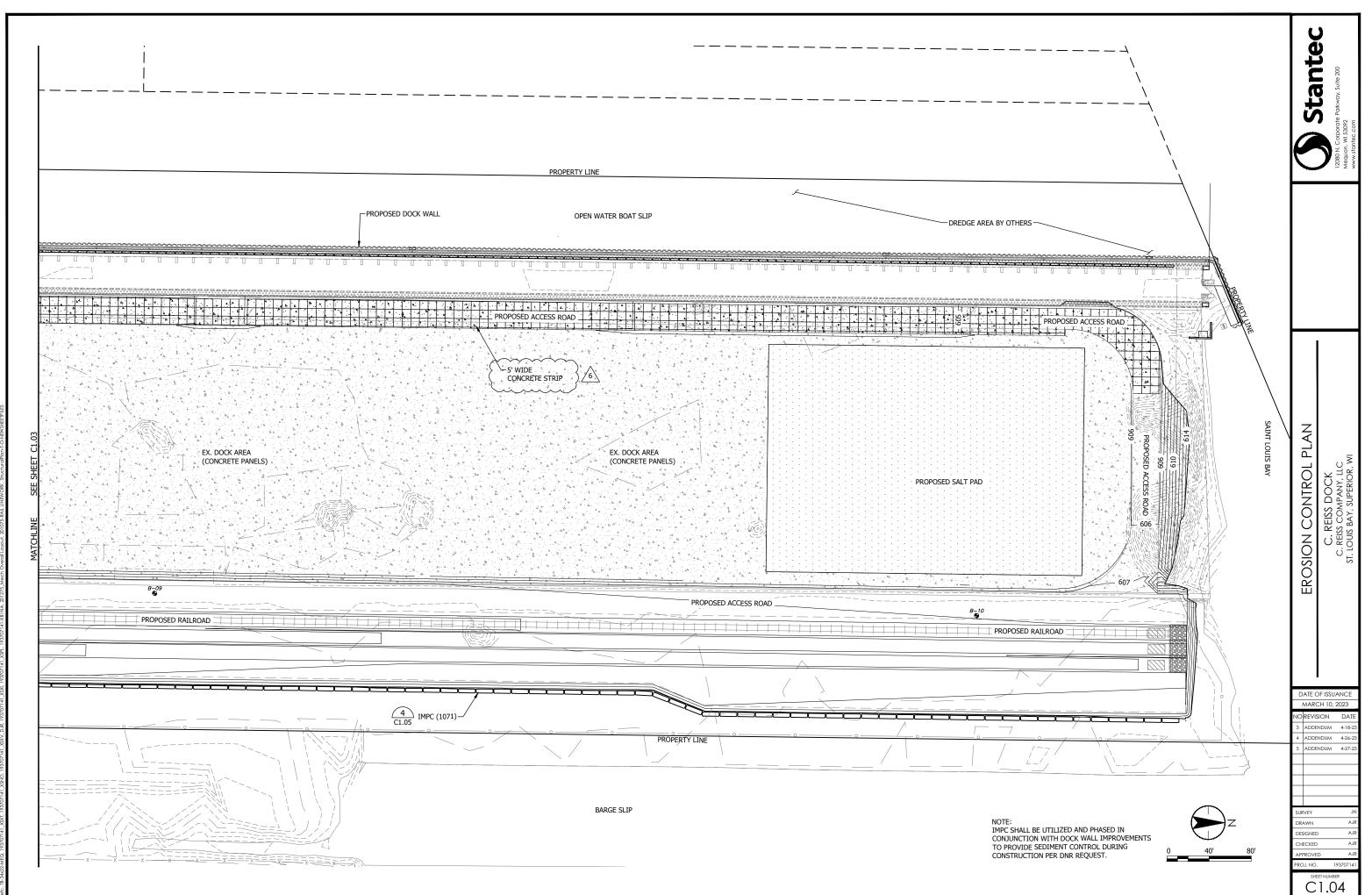
THE LOCATIONS OF EXISTING UTILITY INSTALLATIONS AS SHOWN ON THIS PLAN ARE APPROXIMATE. THERE MAY BE OTHER UNDERGROUND UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.

STANTEC ASSUMES NO RESPONSIBILITY FOR DAMAGES, LIABILITY OR COSTS RESULTING FROM CHANGES OR ALTERATIONS MADE TO THIS PLAN WITHOUT WRITTEN CONSENT OF STANTEC.

THESE DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. STANTEC HAS NOT VERIFIED THE ACCURACY AND/OR COMPLETENESS OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.

e	Ctanter	12080 N. Corporate Parkway, Suite 200	mequon, wi suyz www.stantec.com	
-		1		
	TITLE SHEET	C. REISS DOCK	C. REISS COMPANY, LLC	ST. LOUIS BAY, SUPERIOR, WI
NO 3 4 5 6 SUF DR. DR.	MARC REVIS ADDE ADDE		202 6 4 4	
API PRC			1937	CMM 07141





NITRACTOR SHALL VEREY AND BE RESPONSIBLE FOR ALL DIMENSIONS, DO VIG - ANY ERRORS OR OMISSIONS SHALL BE REPORTED O STANTEE WITHOU PRICHARS OLAL DESGAS AND DRAWINGS ARE THE REPORENT OF STANTE FOR ANY PUBPOSE OTHER THAN THAN THAN ALTHORIZED BY STANTEE SE OSBID

> 4/28/2023 - 7:07am me: V:\ 1937\active\193707141\03\_data\gis\_cad\cad\dwg\\$HEETS\

