ADDENDUM NO. 1

AUGUST 24, 2023

CITY OF SEGUIN, TEXAS

GOLF CART BARN
BID NO. TF-2023-44

TRC ENGINEERS, INC.
T.B.P.E. FIRM REGISTRATION # F-8632
809 E. COURT ST, SUITE 106
SEGUIN, TEXAS 78155

BID DATE: September 12, 2023
BID TIME: 3:00 P.M. (CDST)
BID NO.: TF-2023-44

The following additions and changes are hereby made a part of the Specifications and Drawings for TRC Project No. 498355:

1) Reference the BID FORM. Delete in its entirely and replace with the new attached BID FORM. Item 19 has been revised, as the City will now remove the asphalt at this location. Two additive alternatives list has been added about insulation to the roof and walls. Wall insulation shall include overhead doors.

2) Reference the specification, TABLE OF CONTENTS. Delete in its entirely and replace with the new attached TABLE OF CONTENTS

3) Reference the specifications. Insert the attached following Sections to be part of the Specifications:

   a. Section 07620- SHEET METAL FLASHING AND TRIM
   b. Section 13050- METAL BUILDINGS

4) Reference the drawings, Sheet 05, DEMOLITION SITE PLAN. Delete in its entirely and replace with the new Sheet 05. Drawing has been revised to demolish only the existing Golf Cart Barn to the foundation and existing concrete wash rack. City will remove the asphalt surrounding the existing Golf Cart Barn.

5) Reference the drawings, Sheet 08, PROPOSED CONTOURS & SWALE. Delete Sheet 08 in its entirety and replace with the new Sheet 08. Bibb location has been relocated to the middle of wash rack. Contractor to use this sheet to bid material for hose bib.

6) Reference the drawings, Sheet 10, PROPOSED BARN FLOOR PLAN. Delete Sheet 10 in its entirety and replace with the new Sheet 10. Dimensions between all doors have been slightly modified.

7) Reference the drawings, Sheet 11, PROPOSED BARN ELEVATIONS 1. Delete Sheet 11 in its entirety and replace with the new Sheet 11. Dimensions between all doors have been slightly

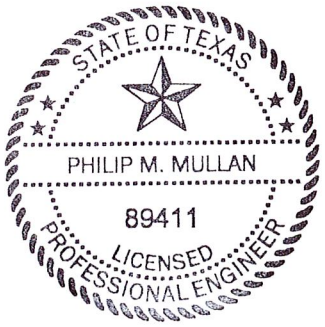
modified. Note has been about blockout wall supports.

8) End this Addendum No. 1, August 24, 2023.

TRC Engineers, Inc.

8/24/23

Philip M. Mullan, P.E.



The Contractor shall acknowledge receipt of this Addendum on the face of the sealed envelope in which he submits his bid, in the space provided in the proposal and by signing this Addendum and attaching it to his bid proposal.

_____ _____

Name and Title Date

SECTION 00 41 00

BID FORM

CITY OF SEGUIN, TEXAS

GOLF CART BARN

DATE: _____

Gentlemen:

Having carefully examined the Instructions to Bidders, the General Conditions of the Contract, and Detailed Plans and Specifications, the undersigned Bidder hereby proposes to do all the work and furnish all necessary superintendence, labor, machinery, equipment, tools and materials, and to complete all the work this refers to, for the construction of all items listed at the prices shown for each item on the following bid schedule.

The bid schedule attached lists the various divisions of construction contemplated in the Plans and Specifications. Bid prices must be shown in Words and Figures for each item listed in the Bid, and in the event of a discrepancy, the words shall control.

Receipt is hereby acknowledged of the following addenda to the Contract Documents:

Addendum No. 1 dated_____ Received_____

Addendum No. 2 dated_____ Received_____

Addendum No. 3 dated_____ Received_____

All the various phases of work enumerated in the detailed specifications with their individual jobs and overhead, whether specifically mentioned, included by implication or appurtenant thereto, are to be performed by the Contractor under one of the items listed in the bid schedule, irrespective of whether it is named in said list.

Bidder agrees to perform all of the work listed in the bid and as described in the specifications and shown on the plans, for the following unit prices:

CITY OF SEGUIN GOLF CART BARN BASE BID				
ITEM NO.	NO. OF UNITS	UNIT	ITEM AND UNIT PRICE (FILL IN BOTH SCRIPT AND FIGURES)	TOTAL AMOUNT
P.1.	1	L.S.	For furnishing the required **Performance and Payment Bonds** for the project, as described in these specifications, for the sum of: _____ _____ Dollars _____ Cents ($) per lump sum	$_____
P.2.	1	L.S.	For furnishing the required **Stormwater Pollution Prevention Plan** and maintaining the plan requirements for the project, complete in place, for the sum of: _____ _____ Dollars _____ Cents ($) per lump sum	$_____
P.3.	4,665	S.Y.	For furnishing and installing seeding (**hydro-mulching**) Bermuda grass, for erosion control, as detailed and directed, at locations shown on the Plans and all disturbed areas, complete in place, for the sum of: _____ _____ Dollars _____ Cents ($) per square yard	$_____

CITY OF SEGUIN GOLF CART BARN BASE BID				
ITEM NO.	NO. OF UNITS	UNIT	ITEM AND UNIT PRICE (FILL IN BOTH SCRIPT AND FIGURES)	TOTAL AMOUNT
P.4.	4	EA.	For furnishing all material, labor, and equipment to install and maintain **tree protection** at location shown on the plans, complete in place, for the sum of: _____ _____ Dollars _____ Cents ($) per each	$_____
P.5.	1	L.S.	For furnishing the required **Proposed Golf Cart Barn Metal Building** for the project, including but not limited to mechanical, electrical, and plumbing systems for both the building and the site, concrete slab foundation, subgrade excavation, fill, and preparation, offsite disposal of excavated material, and miscellaneous appurtenances, to include all construction not specifically described in other bid items, ready for use by the Owner, for the sum of: _____ _____ Dollars _____ Cents ($) per lump sum	$_____
P.6.	1	L.S.	For furnishing the required 1000-gallon **Oil-Water Separator (OWS)** for the project, complete in place, for the sum of: _____ _____ Dollars _____ Cents ($) per lump sum	$_____

CITY OF SEGUIN GOLF CART BARN BASE BID				
ITEM NO.	NO. OF UNITS	UNIT	ITEM AND UNIT PRICE (FILL IN BOTH SCRIPT AND FIGURES)	TOTAL AMOUNT
P.7.	1	L.S.	For furnishing the required reinforced concrete **Wash Rack** for the project, including inlet and subgrade, complete in place, for the sum of: _____ _____ Dollars _____ Cents ($) per lump sum	$_____
P.8.	1	L.S.	For furnishing the required **Wash Rack Canopy** for the project, complete in place, for the sum of: _____ _____ Dollars _____ Cents ($) per lump sum	$_____
P.9.	1	EA.	For furnishing the required **2" Reduced Pressure Zone Backflow Preventer** for the project, complete in place, for the sum of: _____ _____ Dollars _____ Cents ($) per each	$_____
P.10.	1	EA.	For furnishing and installing all materials and equipment to construct **4' diameter standard manholes**, including Raven coating, at locations shown as shown on the Plans, complete in place, for the sum of: _____ _____ Dollars _____ Cents ($) per each	$_____

CITY OF SEGUIN GOLF CART BARN BASE BID				
ITEM NO.	NO. OF UNITS	UNIT	ITEM AND UNIT PRICE (FILL IN BOTH SCRIPT AND FIGURES)	TOTAL AMOUNT
P.11.	1	L.S.	For furnishing and installing **OSHA required trench excavation protection on all waterlines**, complete in place, for the sum of _____ _____ Dollars _____ Cents ($) per lump sum	$_____
P.12.	160	L.F.	For furnishing all labor, materials, and equipment for the inductive **water tracer detection wire** for the water mains, complete in place, for the sum of: _____ _____ Dollars _____ Cents ($) per linear foot	$_____
P.13.	24	EA.	For furnishing all labor and material for **Density Tests** for Contractor's finished subgrade, each base course lift and asphalt. (Retesting of failed tests shall be paid for by Contractor), complete in place, for the sum of: _____ _____ Dollars _____ Cents ($) per each	$_____

CITY OF SEGUIN GOLF CART BARN BASE BID				
ITEM NO.	NO. OF UNITS	UNIT	ITEM AND UNIT PRICE (FILL IN BOTH SCRIPT AND FIGURES)	TOTAL AMOUNT
P.14.	1,548	S.Y.	For **excavation and subgrade preparation** for asphalt paving, including offsite material disposal, complete in place, for the sum of: _____ _____ Dollars _____ Cents ($) per square yard	$_____
P.15.	1,548	S.Y.	For installing **geogrid TenSAR TX-5 TRIAX or approved equivalent** for asphalt paving, complete in place, for the sum of: _____ _____ Dollars _____ Cents ($) per square yard	$_____
P.16.	1,488	S.Y.	For installing **2" type D hot-mix asphalt**, including prime coat (and tack coat if necessary), complete in place, for the sum of: _____ _____ Dollars _____ Cents ($) per square yard	$_____
P.17.	1,548	S.Y.	For installing **8" moisture conditioned/compacted subgrade** for asphalt paving, complete in place, for the sum of: _____ _____ Dollars _____ Cents ($) per square yard	$_____

CITY OF SEGUIN GOLF CART BARN BASE BID				
ITEM NO.	NO. OF UNITS	UNIT	ITEM AND UNIT PRICE (FILL IN BOTH SCRIPT AND FIGURES)	TOTAL AMOUNT
P.18.	1,548	S.Y.	For installing **12" (crushed stone) flex base** for asphalt paving, complete in place, for the sum of: _____ _____ Dollars _____ Cents ($) per square yard	$_____
P.19.	1	L.S.	For **demolition and offsite disposal of existing cart barn and existing wash rack**, including but not limited to mechanical, electrical, and plumbing systems, concrete slab foundation, asphalt base material, and miscellaneous appurtenances, including compacted fill of void areas, releveling, and regrading, complete in place, for the sum of: _____ _____ Dollars _____ Cents ($) per lump sum	$_____
P.20.	1,569	S.Y.	For **asphalt removal at proposed cart barn site & offsite disposal**, at locations shown on the Plans, including base material, complete in place, for the sum of: _____ _____ Dollars _____ Cents ($) per square yard	$_____

CITY OF SEGUIN GOLF CART BARN BASE BID				
ITEM NO.	NO. OF UNITS	UNIT	ITEM AND UNIT PRICE (FILL IN BOTH SCRIPT AND FIGURES)	TOTAL AMOUNT
P.21.	2	EA.	For **tree removal & offsite disposal**, at locations shown on the Plans, complete in place, for the sum of: _____ _____ Dollars _____ Cents ($) per each	$_____
TOTAL BASE BID PROPOSAL: **(SUMMATION OF ITEMS P.1. THROUGH P.21.)** _____ _____**Dollars** _____**Cents**				**$**_____

CITY OF SEGUIN GOLF CART BARN ADDITIVE ALTERNATIVES				
ITEM NO.	NO. OF UNITS	UNIT	ITEM AND UNIT PRICE (FILL IN BOTH SCRIPT AND FIGURES)	TOTAL AMOUNT
P.A.1.	1	L.S.	For installing **insulation**, in Proposed Golf Cart Barn roof, complete in place, for the sum of: _____ _____ Dollars _____ Cents ($) per square yard	$_____
P.A.2.	1	L.S.	For installing **insulation**, in Proposed Golf Cart Barn walls, complete in place, for the sum of: _____ _____ Dollars _____ Cents ($) per square yard	$_____
TOTAL ADDITIVE ALTERNATIVE: (SUMMATION OF ITEMS P.A.1. THROUGH P.A.2) _____ _____ **Dollars** _____ **Cents**				**$**_____

BID SUMMARY	
TOTAL BASE BID:	$
TOTAL ADDITIVE ALTERNATE BID ITEMS:	$
TOTAL BASE BID AND ADDITIVE ALTERNATE BID ITEMS:	**$**

The above prices shall include all labor, materials, overhead, profit, insurance, etc. to cover the finished work of the several kinds called for.

The work proposed to be done shall be accepted when fully completed and finished in accordance with the plans and specifications to the satisfaction of the Engineer.

The undersigned Bidder hereby declares that he has visited the site of the work and has carefully examined the contract documents pertaining to the work covered in the above bid, and that the bid prices contained in the bid form have been carefully checked and are submitted as correct and final.

The Contractor agrees to complete the project on which he has bid, as specified and shown on the plans, within **180** consecutive calendar days as provided in the General Conditions of the Agreement.

EXPERIENCE RECORD

The Contractor shall list in the spaces provided below, similar projects of equal or greater dollar amount that have been installed and are in operation within the past five (5) years. Separate sheets may be attached.

No.	Location	Description (Size, Type, Length)	Contact Person Phone Number	Date of Installation
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				

STATEMENT OF BIDDER'S QUALIFICAONS

All questions must be answered and the data given must be clear and comprehensive. This statement must be notarized. If necessary, questions may be answered on separate attached sheets. The Bidder may submit any additional information he desires.

Name of Bidder:_____ Date Organized:_____

Address:_____ Date Incorporated:_____

Federal ID Number:_____

Number of years in contracting business under present name:_____

List Names of Owners, Partners, or shareholders:_____

_____

_____

_____

_____

Contracts on hand:

Contract	**Amount**	**Anticipated Completion Date**

Type of work performed by your company:_____

Have you ever failed to complete any work awarded to you?_____

Have you ever defaulted on a contract?_____

List the more important projects recently completed by your firm (be sure to include project of similar importance):

Project	**Amount**	**Month / Year Completed**

Major equipment available for this contract:

_____

_____

_____

Credit Available: $_____

Bank reference and bank officer:_____

_____

The undersigned hereby authorizes and requests any person, firm, or corporation to furnish any information requested by the _____ in verification of the recitals comprising this Statement of Bidder's Qualifications.

Executed this _____ day of _____, 2023

By:_____

Title: _____

Email Address: _____

The Owner reserves the right to delete any bid items or portions thereof. If the Owner elects to delete any portions of the PROJECT from the contract, then the contract can be awarded on that basis.

The undersigned Bidder hereby declares that he has visited the site of the work and has carefully examined the Contract Documents pertaining to the work covered by the above bid. Upon issuance of notice to proceed, a mutually agreed upon start date will be determined.

Enclosed with this bid is a Certified Check for:

_____ Dollars ($_____)

or a Bid Bond in the sum of:

5% of Bid Amount Dollars ($ 5% of Bid Amount)

which it is agreed shall be collected and retained by the Owner as liquidated damages in the event this bid is accepted by the Owner within ninety (90) days after bids are received and the undersigned fails to execute the contract and the required bond for the Owner within fifteen (15) days after the date said bid is accepted, otherwise said check or bond shall be returned to the undersigned upon request.

Texas Government Code, Sections 2252.908 requires a business entity to submit a disclosure of interested parties to the governmental entity at the time the business entity submits the signed contract to the governmental entity following the guidelines prescribed by the Texas Ethics Commission at www.ethics.state.tx.us. The law applies to contracts that require an action or vote by the governing body of the governmental entity before the contract is signed. The Form 1295 is included herein for informational purposes. The completed Form 1295 must be submitted electronically by the business entity to the state. The original of the certified Form 1295 including the certification number generated by the state must be provided before a contract can be executed.

_____(Contractor)

By:_____
Printed Name

_____
Signature

Title:_____

Date:_____

Address:_____

_____
City State Zip

Telephone Number:_____

Fax Number:_____

Email Address: _____

STATEMENT OF STATUTORY COMPLIANCE
SB 13, 19, 89 & 2116 VERIFICATION FORM

Pursuant to Senate Bill 13 of the 87th regular Texas Legislature session:

Verification Regarding Boycotting Energy Companies – Pursuant to Chapter 2274, Texas Government Code, Contractor verifies (1) it does not boycott energy companies, and (2) it will not boycott energy companies during the term of this Agreement. Contractor acknowledges this Agreement may be terminated and payment withheld if this verification is inaccurate. (Note: This provision only applies in a contract that (1) has a value of $100,000 or more that is to be paid wholly or partly from public funds and (2) is with a for-profit entity, not including a sole proprietorship, that has ten (10) or more full-time employees.)

Pursuant to Senate Bill 19 of the 87th regular Texas Legislature session:

Discrimination Against Firearm Entities – In accordance with Texas Government Code Chapter 2274, Contractor verifies that it does not have a practice, policy, guidance or directive that discriminates against a firearm entity or firearm trade association; and will not discriminate during the term of the contract against a firearm entity or firearm trade association. This section only applies if: (i) Contractor has ten (10) or more full-time employees and (ii) this Agreement has a value of $100,000 or more to be paid under the terms of this Agreement; and does not apply: (i) if Contractor is a sole proprietor, a non-profit entity, or a governmental entity; (ii) to a contract with a sole-source provider; or (iii) to a contract for which none of the bids from a company were able to provide the required certification.

Pursuant to Senate Bill 2116 of the 87th regular Texas Legislature session:

Section 2274.0102, prohibits a governmental entity from entering into a contract or other agreement relating to "critical infrastructure" (defined to mean a communication infrastructure system, cybersecurity system, electric grid, hazardous waste treatment system, or water treatment facility) in this state with a company if the city knows that the company is: (1) owned by or the majority of stock or other ownership interest of the company is held or controlled by: (a) individuals who are citizens of China, Iran, North Korea, Russia, or other designated countries; or (b) a company or other entity, including a governmental entity, that is owned or controlled by citizens of or is directly controlled by the government of China, Iran, North Korea, Russia, or other designated countries; or (2) headquartered in China, Iran, North Korea, Russia, or other designated countries.

Pursuant to Section 2270.001, 2270.002, 808.001, Texas Government Code:

1. "Boycott Israel" means refusing to deal with, terminating business activities with, or otherwise taking any action that is intended to penalize, inflict economic harm on, or limit commercial relations specifically with Israel, or with a person or entity doing business in Israel or in an Israeli-controlled territory, but does not include an action made for ordinary business purposes; and
2. "Company" has the meaning assigned by Section 808.001, except that the term does not include a sole proprietorship.

I, _____ (*person name*), the undersigned representative of (*company or business name*) _____ (*hereinafter referred to as Company*) being an adult over the age of eighteen (18) years of age, do hereby depose and verify under oath that the company named-above, under the provisions of Subtitle F, Title 10, Government Code Chapter 2270; depose and verify under oath that the Company, under the provisions of Subtitle A, Title 8, Government Code, is amended by adding Chapter 809; do hereby depose and verify under oath that the Company, under the provisions of Subtitle F, Title 10, Government Code, is amended by adding Chapter 2274 will not discriminate and/or boycott any of these provisions outlined and defined in House Bills 13, 19 and 89.

_____ _____

SIGNATURE OF COMPANY REPRESENTATIVE DATE

On this the _____ day of _____, 2023, personally appeared _____, the above-named person, who after by me being duly sworn, did swear and confirm that the above is true and correct.

NOTARY SEAL

_____

NOTARY SIGNATURE

_____

DATE

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SECTION 07620

SHEET METAL FLASHING AND TRIM

PART 1 - GENERAL

1.01 SCOPE OF WORK

A. This section includes requirements for sill flashings, counter flashings over bituminous base flashings, and roof joint cover flashings. This shall include sealing of metal building structures to CMU walls.

B. This project is funded through the Texas Water Development Board (TWDB) and shall include all requirements of the TWDB, including, but not limited to, the American Iron and Steel (AIS) requirements of 33 U.S.C. § 1388. The Contractor's bid costs shall reflect these requirements.

1.02 REFERENCES

A. AA - Aluminum Construction Manual: Specification for Aluminum Sheet Metal Work in Building Construction.

B. ASTM A 525 - Steel Sheet, Zinc Coated, (Galvanized) by the Hot-Dip Process.

C. ASTM B 32 - Solder Metal.

D. ASTM B 209 - Aluminum and Aluminum Alloy Sheet and Plate.

E. ASTM A 792 - Steel Sheet, Aluminum-Zinc Alloy Coated by Hot Dipping Process.

F. Design, Details and Specifications.

G. FS SS-C-153 - Cement, Bituminous, Plastic.

H. NAAMM - Metal Finishes Handbook.

I. NRCA - Roofing Manual.

J. SMACNA - Architectural Sheet Metal Manual.

1.03 SUBMITTALS

A. Product Data: Indicating performance and physical characteristics of rolled products and accessories proposed for use.

B. Shop Drawings: Indicate each type and configuration of flashing and trim work in profile including jointing pattern and details, fastening methods and frequency, locations of expansion and control joints, thickness of materials and finishes.

C. Color Charts: Manufacturer's standard pre-finished product charts showing actual physical coating.

D. Manufacturer's Instructions: Printed manufacturer's installation instructions.

E. Warranty: Two copies of watertightness warranty, and finish coating warranty on pre-finished products.

F. One (1) electronic copy in Portable Document Format (PDF) of all submittals and re-submittals shall be submitted suitable for distribution over electronic mail or File Transfer Protocol (FTP). For final approved submittals provide PDF and two (2) hard copies.

1.04 QUALITY ASSURANCE

A. Installer Qualifications: Company specializing in sheet metal flashing work with three years minimum experience in similar sized installations.

1.05 FIELD SAMPLES

A. Provide one section of each profile, installed in place, including at least one joint. Leave sample in place as standard of workmanship for all remaining work.

1.06 DELIVERY, STORAGE AND HANDLING

A. Stack pre-formed material to prevent twisting, bending, and abrasions, and to provide ventilation.

B. Prevent contact with materials which may cause discoloration or staining.

C. Ship precoated products with strippable covering.

1.07 WARRANTY

A. Provide two (2) years watertightness guarantee beginning at final of acceptance by the OWNER including repair or replacement of defective materials and workmanship.

B. Provide twenty (20) year material finish guarantee against cracks, blistering, crazing, chalking, and color fading on pre-finished materials, commencing at substantial completion.

PART 2 - PRODUCTS

2.01 MANUFACTURERS - SHEET MATERIALS

A. Galvanized Steel: ASTM A 525, G90 coating, hot dipped galvanized both sides flattened sheets, chemically treated, gauge as recommended in Architectural Sheet Metal Manual for intended purposes (but no less than 24 ga.), as manufacturer by Bethlehem Steel or approved equal.

2.02 FABRICATION

A. Form sections true to shape, accurate in size, square, free from distortion and defects to profiles indicated in accordance with SMACNA Architectural Sheet Metal Manual.

B. Fabricate cleats and starter strips of same material as sheet, interlockable with sheet.

C. Form pieces in longest practical lengths.

D. Hem exposed flashings on underside 1/2 in.; miter and seam corners.

E. Form materials which are typically concealed from view by the public with lap seams. On exposed seams, use butt- seam/back-up plate type unless noted or detailed otherwise.

F. Pre-tin edges of copper sheets.

G. Solder and seal metal joints except those indicated or required to be expansive type joints. After soldering, remove flux. Wipe and wash solder joints clean.

H. Fabricate corners from one place with minimum 18 in. long legs; solder for rigidity; seal with sealant.

I. Fabricate vertical faces with bottom edge formed outward 1/4 in. and hemmed to form drip.

J. Fabricate flashings to allow toe to extend minimum 2 in. over wall surfaces.

K. Fabricate as much as possible in shop with machinery to eliminate as much hand tooling on the job as possible. Shop fabricate to allow for adjustments in the field for proper anchoring and joining.

2.03 ACCESSORIES

A. Fasteners

1. Nails: AISI Series 300 for stainless and galvanized steel; aluminum for aluminum sheets. Use annular ring shank type, No. 12 gauge or larger to suit application, of sufficient length to penetrate backing material at least 7/8 in.

2. Screws and Bolts: AISI Series 300 for stainless and galvanized steel; and aluminum for aluminum sheets; of sufficient size and length to sustain imposed stresses.

B. Solder Materials

1. Flux: Type as recommended by sheet material manufacturer; not detrimental to base material. Use resin type flux for terne metal.

2. Solder: ASTM B 32 type. Use 60 percent tin/40 percent lead for stainless steel and lead copper.

C. Underlayment: ASTM D 266, 30 lb./100 sq. ft. weight felt containing no additives corrosive to sheet metals.

D. Waterproof Membrane: WR Grace Vicor Ultra or approved equal.

E. Protective Back Paint: Bituminous.

F. Sealants: Two component polyurethane, non-sagging, sealant as specified in SECTION 07900 - JOINT SEALANTS.

G. Reglets: Type MA SM Spring-lok flashing reglet as made by Fry Reglet, Norcross, GA.

H. Plastic Cement: FS SS-C-153, Bituminous plastic cement.

2.04 FINISHES

A. Galvanized Steel: Twenty (20) year Fluoropolymer equal to Kynar 500 by Penwalt Corp and/or ten (10) year Epoxy Polyester natural finish in accordance with NAAMM Finishes Handbook, Publication No. 605.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Verify that surfaces and conditions are ready to receive work of this section. Notify Architect of any existing conditions which will adversely affect execution. Beginning of execution will constitute acceptance of existing conditions.

B. Verify roof openings, curbs, pipes, sleeves, ducts, and vents through roof are solidly set, cant strips and reglets in place, and nailing strips located.

C. Verify membrane termination and base flashings are in place, sealed, and secure.

3.02 PREPARATION

A. Field measure site conditions prior to fabricating work.

B. Install starter and edge strips, and cleats before starting installation.

C. Install surface mounted reglets true to lines and levels. Seal top of reglets with sealant.

D. Install one layer of underlayment prior to installing copings and parapet caps.

3.03 INSTALLATION

A. Install using skilled workmen in accordance with manufacturer's printed instruction and recommendations.

B. Conform to drawing details included in manuals published by CDA SMACNA.

C. Insert flashings into reglets to form tight fit. Secure in place with wedges at maximum 12 in. on center. Seal flashings into reglets with sealant.

D. Secure flashings in place using concealed fasteners. Use exposed fasteners only in locations approved by Architect.

E. Lap seam flashings and other work not normally exposed to view. Use butt joint with back-up plate joint method all exposed flashings, coping caps, and guards. Seal all joints.

F. Apply plastic cement compound between metal flashings and felt flashings.

G. Fit flashings tight in place. Make corners square, surfaces true and straight in planes, and lines accurate to profiles.

H. Seal metal joints watertight.

I. Provide electrolytic separation between dissimilar metals with protective back paint.

J. On soldered metal joints, make watertight for full metal surface contact. After soldering, wash metal clean with neutralizing solution and rinse with water.

K. Install expansion joints at frequency as recommended in SMACNA Architectural Sheet Metal Manual. Do not fasten seams such that movement is restricted. Coordinate expansion joint locations with joints in adjacent materials.

3.04 FIELD QUALITY CONTROL

A. Install surfaces flat such that from normal viewing distances, no waviness or oil canning is visible.

END OF SECTION

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SECTION 13050

METAL BUILDINGS

PART 1 - GENERAL

1.01 SCOPE OF WORK

A. Provide all materials and labor to design and construct the metal buildings, and canopy structures as shown on the drawings and as specified herein.

B. All structural metal shall be hot-dipped galvanized. Painted metal will not be allowed.

C. Building components specified herein include the following:

1. Structural framing.

2. Roof panels.

3. Wall panels.

4. Insulation.

5. Accessories and trim.

D. Manufacturer shall provide a two (2) year warranty from the date of acceptance of the installation by the OWNER. The warranty shall include replacement of all defective equipment at no cost to the OWNER.

E. The structure roof system shall be designed to support the proposed charger racks

1.02 RELATED WORK

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other DIVISION 1 - GENERAL REQUIREMENTS sections, apply to this Section.

B. Related Sections include the following:

1. SECTION 03300 - CAST-IN-PLACE CONCRETE

2. SECTION 07620 - SHEET METAL FLASHING AND TRIM

3. SECTION 08331 - OVERHEAD COILING DOORS

4. SECTION 09915 - PROTECTIVE COATINGS

C. Seismic Requirements

1. The building design/construction shall meet the following seismic requirements:

a. The seismic site class is C.

b. The design spectral response acceleration in the short period range is Ss = 7.0 %g. The design spectral response acceleration at a period of 1.0 second is S_1 = 2.6 %g.

D. Specific Requirements

1. Building members shall be designed to support electrical racks and chargers shown on the electrical drawings.

2. All fabricated steel primary structural members (columns, rafters, beams, base plates, etc.) shall be hot dipped galvanized after fabrication in accordance with SECTION 09915 - PROTECTIVE COATINGS.

1.03 DEFINITIONS

A. Bay Spacing: Dimension between main frames measured normal to frame (at centerline of frame) for interior bays, and dimension from centerline of first interior main frame measured perpendicular to end wall (outside face of end-wall girt).

B. Building Length: Dimension of the building measured perpendicular to main framing from end wall to end wall (outside face of girt to outside face of girt).

C. Building Width: Dimension of the building measured parallel to main framing from sidewall to sidewall (outside face of girt to outside face of girt).

D. Clear Span: Distance between supports of beams, girders, or trusses (measured from lowest level of connecting area of a column and a rafter frame, or knee).

E. Eave Height: Vertical dimension from finished floor to eave (the line along the sidewall formed by intersection of the planes of the roof and wall).

F. Clear Height Under Structure: Vertical dimension from finished floor to lowest point of any part of primary or secondary structure, not including crane supports, located within clear span.

G. Terminology Standard: Refer to MBMA's "Low Rise Building Systems Manual" for definitions of terms for metal building system construction not otherwise defined in this Section or in referenced standards.

1.04 SYSTEM PERFORMANCE REQUIREMENTS

A. General: Provide a complete, integrated set of mutually dependent components and assemblies that form a metal building system capable of withstanding structural and other loads, thermally induced movement, and exposure to weather without failure or infiltration of water into building interior. Include primary and secondary framing, roof and wall panels, and accessories complying with requirements indicated, including those in this Article.

B. Metal Building System Design: Of size, spacing, slope, and spans indicated, and as follows:

1. Primary Frame Type: Provide the following:

a. Rigid Clear Span: Solid-member structural-framing system without interior columns.

2. End-Wall Framing: Manufacturer's standard, for buildings not required to be expandable, as follows:

    a. Provide primary frame, capable of supporting one-half of a bay design load, and end-wall columns.

3. Secondary Frame Type: Manufacturer's standard purlins and the following girts:

    a. Exterior-framed (flush) girts.

4. Eave Height: As indicated by nominal height on Drawings.

5. Bay Spacing: As indicated.

6. Roof Slope: As indicated.

7. Roof System: Manufacturer's standard lap seam roof panels with insulation.

8. Exterior Wall System: Manufacturers standard field assembled un-insulated wall panels.

C. Structural Performance: Provide metal building systems capable of withstanding the effects of gravity loads and the following loads and stresses within limits and under conditions indicated:

1. Engineer metal building systems according to procedures in MBMA's "Low Rise Building Systems Manual."

2. Live Loads: Include vertical loads induced by the building occupancy indicated on Drawings. Include loads induced by maintenance workers, materials, and equipment for roof live loads.

    a. Building Occupancy: As indicated.

3. Wind Loads: Include horizontal loads induced by a basic wind speed corresponding to building code requirements at Project site.

4. Collateral Loads: Include additional dead loads other than the weight of metal building system for permanent items such as sprinklers, mechanical systems, electrical systems, and ceilings.

5. Auxiliary Loads: Include dynamic live loads, such as those generated by cranes and materials-handling equipment.

6. Load Combinations: Design metal building systems to withstand the most critical effects of load factors and load combinations.

7. Design metal building systems to support electrical chargers and racks. The CONTRACTOR is responsible for all coordination between the electrical rack manufacturer and the metal building manufacturer. The electrical racks manufacturer is responsible for selecting and sizing the electrical rack. The metal building manufacturer is responsible for designing a metal building system that can safely support the electrical racks, and any loads associated with the chargers.

8. Deflection Limits: Engineer assemblies to withstand design loads with deflections no greater than the values of table 1604.3 IBC 2015 and the following:

   a. Purlins and rafters supporting plaster ceilings generally require deflection limit of 1/360 of the span.

   b. Girts: Horizontal deflection of 1/360 of the span.

   c. Roof Panels: Vertical deflection 1/240 of the span.

   d. Wall Panels: Horizontal deflection of 1/240 of the span.

   e. Building sidesway shall be limited to H/400.

9. Design secondary framing system to accommodate deflection of primary building structure and construction tolerances, and to maintain clearances at openings.

10. Lateral drift on all buildings shall not exceed H/400.

D. Thermal Movements: Provide metal building roof and wall panel systems that allow for thermal movements resulting from the following maximum change (range) in ambient and surface temperatures by preventing buckling, opening of joints, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Base engineering calculation on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.

1. Temperature Change (Range): 120°F, ambient; 180°F, material surfaces.

E. Thermal Performance: Provide metal building roof and wall assemblies with the thermal-resistance values (R-value) as indicated.

F. Wind-Uplift Resistance: Provide roof panel assemblies that meet requirements of UL 580 for the following wind-uplift resistance:

1. Class 90.

1.05 SUBMITTALS

A. Product Data: Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for each type of the following metal building system components:

1. Structural-framing system, including connections.

2. Roof panels.

3. Wall panels.

4. Vapor retarders.

5. Insulation.

6. Trim and closures.

7. Doors.

8. Louvers.

9. Accessories.

B. Shop Drawings: For the following metal building system components. Include plans, elevations, sections, details, and attachments to other Work.

1. For installed components indicated to comply with design loads, include structural analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

2. Anchor-Bolt Plans: Include location, diameter, and projection of anchor bolts required to attach metal building to foundation. Indicate column reactions at each location.

3. Structural-Framing Drawings: Show complete fabrication of primary and secondary framing. Indicate welds and bolted connections in detail, distinguishing between shop and field applications. Include transverse cross-sections.

4. Roof and Wall Panel Layout Drawings: Show layouts of panels on support framing, details of edge conditions, joints, panel profiles, corners, custom profiles, supports, anchorages, trim, flashings, closures, and special details. Distinguish between factory- and field-assembled work.

5. Personnel Door Schedule: Provide schedule of doors and frames, using the same reference numbers as indicated on Drawings.

6. Accessory Drawings: Include details of the following items, at a scale of not less than 1-1/2 in. per 12 in.:

a. Ventilators.

b. Louvers.

c. Gutters.

d. Downspouts.

C. Samples for Initial Selection: Manufacturer's color charts showing the full range of colors available for each type of the following products with factory-applied color finishes:

1. Roof panels.

2. Wall panels.

3. Trim and closures.

4. Doors.

5. Accessories.

D. Product Certificates: Signed by manufacturers of metal building systems certifying that products furnished comply with requirements.

1. Letter of Design Certification: Signed and sealed by a qualified professional engineer registered in the State of Texas. Include the following:

a. Name and location of Project.

b. Order number.

c. Name of manufacturer.

d. Name of CONTRACTOR.

e. Building dimensions, including width, length, height, and roof slope.

f. Indicate compliance with AISC standards for hot-rolled steel and AISI standards for cold-rolled steel, including edition dates of each standard.

g. Governing building code and year of edition.

h. Design Loads: Include dead load, roof live load, collateral loads, roof load, deflection, wind loads/speeds and exposure, seismic zone or effective peak velocity-related acceleration/peak acceleration, and auxiliary loads (cranes).

i. Load Combinations: Indicate that loads were applied acting simultaneously with concentrated loads, according to governing building code.

j. Building-Use Category: Indicate category of building use and its effect on load importance factors.

k. International Accreditation Service (IAS) AC472: Include statement that metal building system and components were designed and produced in an IAS AC472 accredited facility by an IAS AC472 accredited manufacturer.

E. Manufacturer Certificates: Signed by manufacturers certifying that they comply with requirements. Include evidence of manufacturing experience.

F. Product Test Reports: Based on evaluation of comprehensive tests performed by manufacturer and witnessed by a qualified testing agency, indicating the following current products comply with requirements.

G. Warranty certificates: Provide certificates in accordance with SECTION 01740 - WARRANTIES AND BONDS.

1.06 QUALITY ASSURANCE

A. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of metal building systems that are similar to those indicated for this Project in material, design, and extent.

B. Manufacturer Qualifications: A firm experienced in manufacturing metal building systems similar to those indicated for this Project and with a record of successful in-service performance.

C. Testing Agency Qualifications: An independent testing agency, acceptable to authorities having jurisdiction, qualified according to ASTM E 329 to conduct the testing indicated, as documented according to ASTM E 548.

D. Source Limitations: Obtain each type of metal building system component through one source from a single manufacturer.

E. Product Options: Information on Drawings and in Specifications establishes requirements for system's aesthetic effects and performance characteristics. Aesthetic effects are indicated by dimensions, arrangements, alignment, and profiles of components and assemblies as they relate to sightlines, to one another, and to adjoining construction. Performance characteristics are indicated by criteria subject to verification by one or more methods including preconstruction testing, field testing, or in-service performance.

1. DO NOT modify intended aesthetic effects, as judged solely by ENGINEER, except with ENGINEER'S approval. If modifications are proposed, submit comprehensive explanatory data to ENGINEER for review.

F. Welding: Qualify procedures and personnel according to AWS D1.1, "Structural Welding Code--Steel"; and AWS D1.3, "Structural Welding Code--Sheet Steel."

G. Regulatory Requirements: Fabricate and label structural framing to comply with special inspection requirements at point of fabrication for welding and other connections required by authorities having jurisdiction.

H. Structural Steel: Comply with AISC 360, "Specification for Structural Steel Buildings" for design requirements and allowable stresses.

I. Cold-Formed Steel: Comply with AISI S100, "North American Specification for the Design of Cold-Formed Steel Structural Members" for design requirements and allowable stresses.

J. Pre-Installation Conference: Conduct conference at Project site to comply with requirements in SECTION 01310 - PROGRESS SCHEDULES/MEETINGS.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Deliver components, sheets, panels, and other manufactured items so as not to be damaged or deformed. Package roof and wall panels for protection during transportation and handling.

B. Handling: Unload, store, and erect roof and wall panels to prevent bending, warping, twisting, and surface damage.

C. Stack materials on platforms or pallets, covered with tarpaulins or other suitable weathertight and ventilated covering. Store roof and wall panels to ensure dryness. DO NOT store panels in contact with other materials that might cause staining, denting, or other surface damage.

D. Protect plastic insulation as follows:

1. DO NOT expose to sunlight, except to extent necessary for period of installation and concealment.

2. Protect against ignition at all times. DO NOT deliver plastic insulation materials to Project site before installation time.

3. Complete installation and concealment of plastic materials as rapidly as possible in each area of construction.

1.08 PROJECT CONDITIONS

A. Weather Limitations: Proceed with installation only when weather conditions permit roof and wall panel installation to be performed according to manufacturer's written instructions and warranty requirements.

B. Field Measurements: Verify metal building system foundations by field measurements before metal building fabrication and indicate measurements on Shop Drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

1. Established Dimensions for Foundations: Where field measurements cannot be made without delaying the Work, establish foundation dimensions and proceed with fabricating structural framing without field measurements. Coordinate anchor-bolt installation to ensure that actual anchorage dimensions correspond to established dimensions.

2. Established Dimensions for Panels: Where field measurements cannot be made without delaying the Work, either establish framing and opening dimensions and proceed with fabricating roof and wall panels without field measurements, or allow for field-trimming panels. Coordinate roof and wall construction to ensure that actual building dimensions, locations of structural members, and openings correspond to established dimensions.

1.09 COORDINATION

A. Coordinate size and location of concrete foundations and casting of anchor-bolt inserts into foundation walls and footings. Concrete, reinforcement, and formwork requirements are specified in SECTION 03300 - CAST-IN-PLACE CONCRETE.

1.10 WARRANTY

A. General Warranty: Special warranties specified in this Article shall not deprive OWNER of other rights OWNER may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by CONTRACTOR under requirements of the Contract Documents.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Varco Pruden

2. Behlen Mfg. Company

3. Butler Manufacturing Company

4. Ceco Building Systems

5. Crown Metal Buildings, Inc.

6. Mesco Metal Buildings

7. Star Building Systems

8. NUCOR

9. Tyler

10. Standard Structures

11. or Engineer Approved Equal

2.02 STRUCTURAL-FRAMING MATERIALS

A. All primary structural steel members, columns, rafters, beams, braces, clips, cables, tie-rods, frames, bracing, etc. shall be hot dipped galvanized after fabrication, per SECTION 09915 - PROTECTIVE COATINGS of these specifications.

B. Structural-Steel Shapes: ASTM A 36/A 36M or ASTM A 529/A 529M, G90 coating designation.

C. Steel Plate, Bar, or Strip: ASTMA529/A529M, ASTMA570/A570M, or ASTM A 572/A 572M; 50,000-psi minimum yield strength, G90 coating designation.

D. Steel Tubing or Pipe: ASTM A 500, Grade B; ASTM A 501; or ASTM A 53, Grade B.

E. Structural-Steel Sheet: Hot-rolled, ASTM A 570/A 570M, Grade 50 or Grade 55; hot-rolled, ASTM 568/A 568M; or cold-rolled, ASTM A 611, structural-quality, matte (dull) finish.

F. Zinc-Coated (Galvanized) Steel Sheet: ASTM A 653/A 653M, structural quality, Grade 50, with G60 coating designation; mill phosphatized.

G. Metallic-Coated Steel Sheet Pre-painted with Coil Coating: Steel sheet metallic coated by the hot-dip process and pre-painted by the coil-coating process to comply with ASTM A 755/A 755M and the following requirements:

1. Zinc-Coated (Galvanized) Steel Sheet: ASTM A 653/A 653M, G90 coating designation; structural quality.

H. Non-High-Strength Bolts, Nuts, and Washers: ASTM A 307, Grade A; carbon-steel, hex-head bolts; carbon-steel nuts; and flat, unhardened steel washers:

1. Finish: Zinc plating, ASTM B 633.

I. High-Strength Bolts, Nuts, and Washers: ASTM A 325, Type 1, heavy hex steel structural bolts, heavy hex carbon-steel nuts, and hardened carbon-steel washers:

1. Finish: Zinc plating, ASTM B 633.

2. Direct-Tension Indicators: ASTM F 959, Type 325 or Type 490.

a. Finish: Zinc plating, ASTM B 633.

J. Anchor Rods, Bolts, Nuts, and Washers: As follows:

1. Unheaded Rods: ASTM A 36/A 36M.

2. Headed Bolts: ASTM A 307, Grade A; carbon-steel, hex-head bolts; and carbon-steel nuts.

3. Headed Bolts: ASTM A 325, Type 1, heavy hex steel structural bolts and heavy hex carbon-steel nuts.

4. Washers: ASTM A 36/A 36M.

K. Primers: As selected by manufacturer for resistance to normal atmospheric corrosion, compatibility with finish paint systems, capability to provide a sound foundation for field-applied topcoats despite prolonged exposure, and as follows:

1. Primer: Manufacturer's standard, lead- and chromate-free, non-asphaltic, rust-inhibiting primer. Color shall be white.

2.03 PANEL MATERIALS

A. Metallic-Coated Steel Sheet Pre-painted with Coil Coating: Steel sheet metallic coated by the hot-dip process and pre-painted by the coil-coating process to comply with ASTM A 755/A 755M and the following requirements:

1. Zinc-Coated (Galvanized) Steel Sheet: ASTM A 653/A 653M, G90 coating designation; structural quality.

2. Surface: Manufacturer’s standard stucco-embossed finish.

B. Panel Sealants: Provide the following:

1. Joint Sealant: ASTM C 920; one-part elastomeric polyurethane, polysulfide, or silicone-rubber sealant; of type, grade, class, and use classifications required to seal joints in panels and remain weathertight; and as recommended by metal building system manufacturer.

2. Translucent Panel Sealant: Non-staining saturated polymer as recommended by manufacturer for sealing laps.

2.04 INSULATION MATERIALS

A. Glass-Fiber-Blanket Insulation: Thermal insulation, complying with ASTM C 991, Type I, of 32 lbs./1,000 ft^2 weight, thickness as required to meet R-value of R-30, with a flame-spread rating of twenty-five (25) or less, and 2 in. wide, continuous, vapor-tight edge tabs.

B. Mineral-Fiber-Blanket Insulation: Thermal insulation combining glass or slag/rock-wool fibers with thermosetting resins, complying with ASTM C 665 and as follows:

1. Type I: Unfaced.

2. Type II: Faced one side with non-reflective vapor-retarder membrane.

a. Class A: Membrane-faced surface with a flame-spread rating of twenty-five (25) or less.

C. Vapor-Retarder Facing: Complying with ASTM C 1136, with permeance not greater than the following when tested according to ASTM E 96, Desiccant Method:

1. Composition: Vinyl-faced, scrim-reinforced polyester, with permeance not greater than 0.02 perm.

2. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

a. CGI Silvercote, Inc.

b. Lamtec Corporation

c. Mizell Bros. Company

d. Owens-Corning Fiberglas Corporation

D. Internal face of all roof and wall panels shall be insulated.

2.05 MISCELLANEOUS MATERIALS

A. Gypsum Board: Type X, of thicknesses indicated, complying with ASTM C 442 or ASTM C 36.

B. Bituminous Coating: Cold-applied asphalt mastic, SSPC-Paint 12, compounded for 15-mil dry film thickness per coat. Provide inert-type non-corrosive compound free of asbestos fibers, sulfur components, and other deleterious impurities.

C. Nonmetallic, Shrinkage-Resistant Grout: Premixed, nonmetallic, non-corrosive, non-staining grout containing selected silica sands, Portland cement, shrinkage compensating agents, plasticizing and water-reducing agents, complying with ASTM C 1107, of consistency suitable for application, and with a thirty (30) minute working time.

D. Shop Primer for Galvanized Metal Surfaces: Zinc dust, zinc-oxide primer selected by manufacturer for compatibility with substrate. Comply with FS TT-P-641.

2.06 FABRICATION, GENERAL

A. General: Design components and field connections required for erection to permit easy assembly and disassembly.

1. Fabricate components in a manner that once assembled in the shop, they may be disassembled, repackaged, and reassembled in the field.

2. Mark each piece and part of the assembly to correspond with previously prepared erection drawings, diagrams, and instruction manuals.

3. Fabricate framing to produce clean, smooth cuts and bends. Punch holes of proper size, shape, and location. Cold-formed members shall be free of cracks, tears, and ruptures.

B. Primary Framing: Shop-fabricate framing components to indicated size and section with baseplates, bearing plates, stiffeners, and other items required for erection welded into place. Cut, form, punch, drill, and weld framing for bolted field assembly.

1. Make shop connections by welding or by using high-strength bolts.

2. Join flanges to webs of built-up members by a continuous submerged arc-welding process.

3. Brace compression flange of primary framing by angles connected between frame web and purlin or girt web, so flange compressive strength is within allowable limits for any combination of loadings.

4. Weld clips to frames for attaching secondary framing members.

5. All primary structural framing members shall be hot-dipped galvanized after fabrication.

C. Secondary Framing: Shop-fabricate framing components to indicated size and section by roll-forming or break-forming, with baseplates, bearing plates, stiffeners, and other plates required for erection welded into place. Cut, form, punch, drill, and weld secondary framing for bolted field connections to primary framing.

1. Make shop connections by welding or by using non-high-strength bolts.

D. Tolerances: Comply with MBMA's "Low Rise Building Systems Manual": Chapter IV, Section 9, "Fabrication and Erection Tolerances."

2.07 STRUCTURAL FRAMING

A. Primary Framing: Manufacturer's standard structural primary framing system, designed to withstand required loads and specified requirements. Primary framing includes transverse and lean-to frames; rafter, rake, and canopy beams; sidewall, intermediate, end-wall, and corner columns; and wind bracing.

1. General: Provide frames with attachment plates, bearing plates, and splice members. Factory drill for field-bolted assembly. Provide frame span and spacing indicated.

a. Slight variations in span and spacing may be acceptable if necessary to meet manufacturer's standard, as approved by ENGINEER.

2. Rigid Clear-Span Frames: I-shaped frame sections fabricated from shop-welded, built-up steel plates or structural-steel shapes.

3. Frame Configuration: Single gable and lean-to.

4. Exterior Column Type: Uniform.

5. Rafter Type: Uniform depth for lean to, tapered or uniform depth at gable.

B. End-Wall Framing: Manufacturer's standard primary end-wall framing fabricated for field-bolted assembly to comply with the following:

1. End-Wall and Corner Columns: I-shaped sections fabricated from structural-steel shapes; shop-welded, built-up steel plates; or C-shaped, cold-formed, structural-steel sheet; with minimum thickness of 0.0747 in.

2. End-Wall Rafters: C-shaped, cold-formed, structural-steel sheet; with minimum thickness of 0.0598 in.

C. Secondary Framing: Manufacturer's standard secondary framing members, including purlins, girts, eave struts, flange bracing, base members, gable angles, clips, headers, jambs, and other miscellaneous structural members. Fabricate framing from cold-formed, structural-steel sheet or roll-formed, metallic-coated steel sheet pre-painted with coil coating, unless otherwise indicated, to comply with the following:

1. Purlins: C- or Z-shaped sections; fabricated from minimum 0.0598 in. thick steel sheet, built-up steel plates, or structural-steel shapes; minimum 2-1/2 in. wide flanges.

   a. Depth: Required to meet deflection criteria.

2. Girts: C- or Z-shaped sections; fabricated from minimum 0.0598 in. thick steel sheet, built-up steel plates, or structural-steel shapes. Form ends of Z-sections with stiffening lips angled 45 to 50 degrees to flange and with minimum 2-1/2 in. wide flanges.

   a. Depth: Required to meet deflection criteria.

3. Eave Struts: Unequal-flange, C-shaped sections; fabricated from 0.0598 in. thick steel sheet, built-up steel plates, or structural-steel shapes; to provide adequate backup for both roof and wall panels.

4. Flange and Sag Bracing: Minimum 1-5/8 in. x 1-5/8 in. structural-steel angles, with a minimum thickness of 0.0598 in., to stiffen primary frame flanges.

5. Base or Sill Angles: Minimum 3 in. x 2 in. x 0.0747 in. zinc-coated (galvanized) steel sheet.

6. Purlin and Girt Clips: Minimum 0.0747 in. thick, zinc-coated (galvanized) steel sheet.

7. Secondary End-Wall Framing: Manufacturer's standard sections fabricated from minimum 0.0747 in. thick, zinc-coated (galvanized) steel sheet.

8. Framing for Openings: Channel shapes; fabricated from minimum 0.0598 in. thick, cold-formed, structural-steel sheet or structural-steel shapes. Frame head and jamb of door openings, and head, jamb, and sill of other openings.

9. Miscellaneous Structural Members: Manufacturer's standard sections fabricated from cold-formed, structural-steel sheet; built-up steel plates, zinc-coated (galvanized) steel sheet; designed to withstand required loads.

D. Bracing: Provide adjustable wind bracing as follows:

1. Rods: ASTM A 36/A 36M; ASTM A 572/A 572M, Grade D; or ASTM A 529/A 529M, Grade 50; 1/2 in. diameter steel; threaded full length or threaded a minimum of 12 in. at each end.

2. Angles: Fabricated from structural-steel shapes to match primary framing, of size required to withstand design loads.

3. Rigid Portal Frames: Fabricate from shop-welded, built-up steel plates or structural-steel shapes to match primary framing; of size required to withstand design loads.

4. Fixed-Base Columns: Fabricate from shop-welded, built-up steel plates or structural-steel shapes to match primary framing; of size required to withstand design loads.

5. Cables: Wound steel cable of sufficient size required to withstand design wind loads.

6. Bracing: Provide wind bracing using any method specified above, at manufacturer's option.

E. Bolts: Provide shop-painted bolts unless structural-framing components are in direct contact with roof and wall panels. Provide zinc-plated bolts when structural-framing components are in direct contact with roof and wall panels.

2.08 ROOF PANELS

A. Lap-Seam Roof Panels: Fabricate from metallic-coated steel sheets pre-painted with coil coating, factory formed to provide 36 in. coverage, with raised trapezoidal major ribs at 12 in. O.C., and intermediate stiffening ribs symmetrically spaced between major ribs for full length of panel. Design panels for mechanical attachment to structure using exposed fasteners, lapping major ribs at panel edges. Comply with the following:

1. Material: Metallic-Coated Steel Sheet Pre-painted with Coil Coating

2. Yield Strength: 50 ksi.

3. Metal Thickness: 0.0239 in.

4. Panel Thickness: 1.250 in. minimum.

B. Roof Panel Accessories: Provide components required for a complete roof panel assembly including trim, copings, fasciae, mullions, sills, corner units, ridge closures, clips, seam covers, battens, flashings, gutters, sealants, gaskets, fillers, closure strips, and similar items. Match materials and finishes of roof panels, unless otherwise indicated.

1. Closures: Provide closures at eave and ridge, fabricated of same metal as roof panels.

2. Clips: Minimum 0.0625 in. thick, stainless steel panel clips designed to withstand negative-load requirements.

3. Cleats: Mechanically seamed cleats formed from minimum 0.0250 in. thick, stainless steel or nylon-coated aluminum sheet.

C. Exterior Finish: Apply the following coil coating to roof panels and accessories:

1. Fluorocarbon Coating: Factory applied Fluoropolymer 3-Coat Coating System: Manufacturer’s standard 3-coat, thermo-cured inhibitive primer 0.2 mil dry film thickness, and thermo-cured fluorocarbon coating containing not less than 70 percent Kynar 500 resin, minimum 0.8 mil dry film thickness.

2. Color: Selected by ENGINEER from full range of manufacturer's standard colors.

D. Concealed Finish: Apply pretreatment and manufacturer's standard white or light-colored backer finish, consisting of prime coat and wash coat with a total minimum dry film thickness of 0.5 mil.

E. Roof Liner Panels: The belt press, pump and blower roof system and the filter roof system shall include liner panels on the underside of the roof to cover the purlins and rafters. The liner panels shall also be used under the eaves and door overhangs on the building exterior. The roof systems shall be bird-proof. Fabricate from metallic-coated steel sheets pre-painted with coil coating, factory formed to provide 36 in. coverage, with raised major ribs at 12 in. O.C., and intermediate stiffening ribs symmetrically spaced between major ribs for full length of panel. Design panels for mechanical attachment to structure using exposed fasteners, lapping major ribs at panel edges. Comply with the following:

1. Material: Metallic-Coated Steel Sheet Pre-painted with Coil Coating

2. Yield Strength: 50 ksi.

3. Metal Thickness: 0.0239 in. minimum.

4. Panel Thickness: 1.250 in. minimum.

2.09 STRUCTURAL DAYLIGHTING PANELS

A. The standard for design, characteristics, and performance shall be Tuff Span roofing and siding as manufactured by Enduro Composites, Houston, Texas or approved equal.

B. Translucent Roof Panels: Provide manufacturer’s standard translucent panels where called for in Drawings. The panels shall meet the following requirements at a minimum:

1. Comply with ASTM E72; ASTM E84; ASTMD696; ASTM D2583; ASTMD1494.

2. Resin type shall be Isophthalic Polyester.

3. Glass fiber reinforcements shall be continuous, straight and bi-directional along the length and width. Glass content shall be 48 percent by weight.

4. Materials shall be fire retardant with UL Class 1 Flame Spread Rating of twenty-five (25) or less per ASTM E-84 test.

5. Materials shall be protected from UV rays by all of the following:

a. UV stabilized resin with neopentyl glycol and acrylic monomer.

b. UV acrylic polymer exterior coating, factory-applied with minimum .4 mil dry film thickness.

c. Surfacing mat or veil.

d. Embossed resin-rich surface.

6. Finish shall be embossed top, smooth bottom.

7. Color shall be Enduro standard or as selected by owner.

C. FRP Flashing and trim shall be thickness, dimensions, and profile required for a complete installation in accordance with manufacturers requirements.

D. Fasteners

1. Structural fasteners shall be (304/316) stainless steel with seal washers installed per manufacturer's guidelines.

2. Panel side lap and flashing fasteners shall be (316) stainless steel SB2 grommets and installed per manufacturer's guidelines.

E. Closures and Sealants

1. EPDM closures shall match unit profile.

2. Sealant tape for roofing side and end laps shall be 3/32 x 1/2 in. thick non-shrink/nonhardening butyl tape.

3. Sealant for translucent panels shall be Boss 380 Silicon or Silglaze II SCS 2800 caulk.

2.10 WALL PANELS

A. Insulated Wall Panels: Provide manufacturer's standard insulated panels. The panels shall meet the following requirements at a minimum:

1. Wall panels shall be insulated with a vinyl faced fiberglass insulation blanket having a 3 in. thickness. Vinyl shall be smooth white vinyl / foil facing with 2 mil vinyl laminated to 0.0007 in. thick foil and fiberglass reinforcement for the panel width plus 2 in. flanges.

2. The insulation blanket shall have a flame spread rating of less than twenty-five (25) and shall have a UL label. The insulation blanket shall be 0.6 lb. density.

3. The vinyl facing shall have a water vapor permeance rating for no more than 0.1 perms when tested in accordance with ASTM E96, Procedure A.

4. Provide an approved corrosion resistant galvanized trim strip at seams and insulation side joints in the facing.

5. Insulation ratings scheduled shall be the rating at 75°F when tested in accordance with the ASTM C518.

B. Wall Panel Accessories: Provide components required for a complete wall panel assembly, including trim, copings, mullions, sills, corner units, clips, seam covers, battens, flashings, sealants, gaskets, fillers, closure strips, and similar items. Match materials and finishes of panels.

1. Backing Plates: Provide metal backing plates at panel end splices, fabricated from material recommended by manufacturer.

C. Exposed Finish for Exterior Panels: Apply the following coil coating:

1. Fluorocarbon Coating: Factory applied Fluoropolymer 3-Coat Coating System: Manufacturer's standard 3-coat, thermo-cured inhibitive primer 0.2 mil dry film thickness, and thermo-cured fluorocarbon coating containing not less than 70 percent Kynar 500 resin, minimum 0.8 mil dry film thickness.

2. Color: Selected by ENGINEER from full range of manufacturer's standard colors.

D. Concealed Finish: Apply pretreatment and manufacturer's standard white or light-colored backer finish, consisting of prime coat and wash coat with a total minimum dry film thickness of 0.5 mil.

2.11 ACCESSORIES

A. General: Provide accessories as standard with metal building system manufacturer, and complying with the following:

1. Provide sheet metal accessories of same material and in same finish as roof and wall panels, unless otherwise indicated.

2. Provide sloped metal door awnings of same material and in same finish as wall panels, unless otherwise indicated.

B. Fasteners: Self-tapping screws, bolts, nuts, self-locking rivets and bolts, end-welded studs, and other suitable fasteners designed to withstand design loads. Provide fasteners with heads matching color of roof or wall sheets by means of plastic caps or factory-applied coating. Comply with the following:

1. Fasteners for Roof and Wall Panels: Self-drilling or self-tapping 410 stainless, aluminum, or zinc-alloy steel hex washer head, with EPDM or PVC washer under heads of fasteners bearing on weather side of panels.

2. Fasteners for Flashing and Trim: Blind fasteners or self-drilling screws with hex washer head.

3. Blind Fasteners: High-strength aluminum or stainless-steel rivets.

C. Flashing and Trim: Form from 0.0179 in. thick, zinc-coated (galvanized) steel sheet or aluminum-zinc alloy-coated steel sheet pre-painted with coil coating (G90). Provide flashing and trim as required to seal against weather and to provide finished appearance. Locations include, but are not limited to, eaves, rakes, corners, bases, framed openings, ridges, fasciae, and fillers. Finish flashing and trim with same finish system as adjacent roof or wall panels.

1. Opening Trim: Minimum 0.028 in. thick steel sheet. Trim head and jamb of door openings, and head, jamb, and sill of other openings.

2. Colors, Textures, and Glosses: Metal building trim shall be Valspar Crimson Red SPR0071 or approved equal.

D. Roof Curbs: Fabricate curbs from 0.0478 in. thick, zinc-coated (galvanized) steel sheet or aluminum-zinc alloy-coated steel sheet pre-painted with coil coating (G90); with welded top box and bottom skirt, and integral full-length cricket. Fabricate curb subframing of minimum 0.0598 in. thick, angle-, C-, or Z-shaped steel sheet. Fabricate curb and subframing to withstand indicated loads, of size and height indicated. Finish roof curbs to match roof panels.

1. Insulate roof curb with 1 in. thick rigid insulation.

E. Closures: Closed-cell, laminated polyethylene; minimum 1 in. thick, flexible closure strips; cut or pre-molded to match roof and wall panel profile. Provide closure strips where indicated or necessary to ensure weathertight construction.

F. Pipe Flashing: Pre-molded, EPDM pipe collar with flexible aluminum ring bonded to base. Pipe flashing shall be Aztec Washer Company Master Flash or approved equal.

G. Gutters: Form from 0.0179 in. thick, zinc-coated (galvanized) steel sheet or aluminum-zinc alloy-coated steel sheet pre-painted with coil coating (G90). Match profile of gable trim, complete with end pieces, outlet tubes, and other special pieces as required. Fabricate in minimum 96 in. long sections, sized according to SMACNA's "Architectural Sheet Metal Manual." Furnish gutter supports spaced 36 in. O.C., fabricated from same metal as gutters. Provide bronze, copper, or aluminum wire ball strainers at outlets. Finish gutters to match roof fascia and rake trim.

H. Downspouts: Form from 0.0179 in. thick, zinc-coated (galvanized) steel sheet or aluminum-zinc alloy-coated steel sheet pre-painted with coil coating (G90); in 10 ft. long sections, complete with formed elbows and offsets. <u>All downspouts to have concrete splash pads. For elevated buildings, the downspouts shall extend to ground level.</u>

I. Ridge Ventilators: 10’ (3050 mm) long, 26 ga. (0.45 mm) Galvalume, with damper with chain and worm gear operator and bird screen, and base configured to match roof panel.

1. In locations shown in Drawings.

2. Throat Opening: 12 in. (305 mm).

3. Connect individual vents to form continuous ridge vent with one (1) operator for each five (5) vents.

2.12 FINISHES, GENERAL

A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

B. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

2.13 SOURCE QUALITY CONTROL

A. Correct deficiencies in or remove and replace structural framing that inspections indicate DO NOT comply with requirements.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Examine substrates, with Erector present, for compliance with requirements for installation tolerances and other conditions affecting performance of metal building system.

1. Proceed with erection only after unsatisfactory conditions have been corrected.

B. Before erection proceeds, survey elevations and locations of concrete and masonry bearing surfaces, baseplates, and anchor bolts to receive structural framing. Verify compliance with requirements and metal building system manufacturer's tolerances.

3.02 PREPARATION

A. Clean substrates of substances, including oil, grease, rolling compounds, incompatible primers, and loose mill scale that impair bond of erection materials.

B. Surface Preparation: Clean and prepare surfaces to be painted according to manufacturer's written instructions for each particular substrate condition and as specified.

3.03 ERECTION

A. Erect metal building system according to manufacturer's written instructions and erection drawings.

B. DO NOT field cut, drill, or alter structural members without written approval from metal building system manufacturer's professional engineer.

C. Set structural framing in locations and to elevations indicated and according to AISC specifications referenced in this section. Maintain structural stability of frame during erection.

D. Align and adjust framing members before permanently fastening. Before assembly, clean bearing surfaces and other surfaces that will be in permanent contact. Make adjustments to compensate for discrepancies in elevations and alignment.

1. Level and plumb individual members of structure.

E. Primary Framing and End Walls: Erect framing true to line, level, plumb, rigid, and secure. Level baseplates to a true even plane with full bearing to supporting structures, set with double-nutted anchor bolts. Use grout to obtain uniform bearing and to maintain a level base-line elevation. Moist cure grout for not less than seven days after placement.

1. Make field connections using high-strength bolts. Tighten bolts by turn-of-the-nut method.

F. Secondary Framing: Erect framing true to line, level, plumb, rigid, and secure. Fasten secondary framing to primary framing using clips with field connections using non-high-strength bolts. Hold rigidly to a straight line by sag rods.

1. Provide rake or gable purlins with tight-fitting closure channels and fasciae.

2. Locate and space wall girts to suit door and window arrangements and heights.

3. Provide supplemental framing at entire perimeter of openings, including doors, windows, louvers, ventilators, and other penetrations of roof and walls.

G. Bracing: Install bracing in roof and sidewalls where indicated on erection drawings.

1. Tighten rod and cable bracing to avoid sag.

2. Locate interior end bay bracing only where indicated.

H. Framing for Openings: Provide shapes of proper design and size to reinforce openings and to carry loads and vibrations imposed, including equipment furnished under mechanical and electrical work. Securely attach to building structural frame.

3.04 ROOF PANEL INSTALLATION

A. General: Provide roof panels of full length from eave to ridge when possible. Install panels perpendicular to purlins.

1. Field cutting by torch is not permitted.

2. Rigidly fasten eave end of roof panels and allow ridge end free movement due to thermal expansion and contraction. Predrill panels.

3. Provide weatherseal under ridge cap.

4. Flash and seal roof panels with weather closures at eaves, rakes, and at perimeter of all openings. Fasten with self-tapping screws.

5. Install screw fasteners with power tools having controlled torque adjusted to compress neoprene washer tightly without damage to washer, screw threads, or panels. Install screws in predrilled holes.

6. Use aluminum or stainless-steel fasteners for exterior applications and galvanized fasteners for interior applications.

7. Locate and space fastenings in true vertical and horizontal alignment.

8. Install ridge caps as roof panel work proceeds.

9. Locate panel splices over, but not attached to, structural supports. Stagger panel splices to avoid a four-panel lap splice condition.

B. Lap-Seam Roof Panels: Fasten roof panels to purlins with exposed fasteners at each lapped joint at location and spacing determined by manufacturer.

1. Arrange and nest side-lap joints so prevailing winds blow over, not into, lapped joints. Lap ribbed or fluted sheets one full rib corrugation. Apply panels and associated items for neat and weathertight enclosure. Avoid "panel creep" or application not true to line.

2. Locate and space exposed fasteners in true vertical and horizontal alignment.

3. Provide sealant tape at lapped joints of roof panels and between panels and protruding equipment, vents, and accessories.

4. Apply a continuous ribbon of sealant tape to weather-side surface of fastenings on end laps, and on side laps of nesting-type panels.

5. At panel splices, nest panels with minimum 6 in. end lap, sealed with butyl sealant and fastened together by interlocking clamping plates.

3.05 WALL PANEL INSTALLATION

A. General: Provide panels full height of building when possible. Install panels perpendicular to girts.

1. Arrange and nest side-lap joints so prevailing winds blow over, not into, lapped joints. Install panels with vertical edges plumb. Lap ribbed or fluted sheets one full rib corrugation. Apply panels and associated items for neat and weathertight enclosure. Avoid "panel creep" or application not true to line.

2. Unless otherwise indicated, begin panel installation at corners with center of rib lined up with line of framing.

3. Field cutting by torch is not permitted.

4. Align bottom of wall panels and fasten with blind rivets, bolts, or self-tapping screws.

5. Fasten flashing and trim around openings and similar elements with self-tapping screws.

6. When two rows of panels are required, lap panels 4 in. minimum. Locate panel splices over structural supports.

7. When building height requires two rows of panels at gable ends, align lap of gable panels over wall panels at eave height.

8. Install screw fasteners with power tools having controlled torque adjusted to compress neoprene washer tightly without damage to washer, screw threads, or panels. Install screws in predrilled holes.

9. Provide weather-resistant escutcheons for pipe and conduit penetrating exterior walls.

10. Flash and seal wall panels with weather closures under eaves and rakes, along lower panel edges, and at perimeter of all openings.

11. Apply elastomeric sealant continuously between metal base channel (sill angle) and concrete, and elsewhere as necessary for waterproofing. Handle and apply sealant and backup according to sealant manufacturer's written instructions.

12. Use aluminum or stainless-steel fasteners for exterior applications and galvanized fasteners for interior applications.

13. Locate and space fastenings in true vertical and horizontal alignment.

3.06 INSULATION INSTALLATION

A. General: Install insulation concurrently with panel installation, according to manufacturer's written instructions and as follows:

1. Set vapor-retarder-faced units with vapor retarder to warm side of construction, unless otherwise indicated. DO NOT obstruct ventilation spaces, except for firestopping.

2. Tape joints and ruptures in vapor retarder, and seal each continuous area of insulation to surrounding construction to ensure airtight installation.

B. Blanket Insulation: Install blankets straight and true in one-piece lengths. Install vapor retarder over insulation with both sets of facing tabs sealed to provide a complete vapor retarder. Comply with the following installation method:

1. Over-Framing Installation: Extend insulation and vapor retarder over and perpendicular to top flange of secondary framing members. Hold in place by panels fastened to secondary framing.

C. Over-Purlin-with-Spacer-Block Installation: Extend insulation and vapor retarder over and perpendicular to top flange of secondary framing members. Install layer of filler insulation over first layer to fill space formed by roof panel standoffs. Hold in-place by panels fastened to standoffs.

3.07 ACCESSORY INSTALLATION

A. General: Install gutters, downspouts, ventilators, louvers, metal door awnings, and other accessories according to manufacturer's written instructions, with positive anchorage to building and weathertight mounting. Coordinate installation with flashings and other components.

B. Flashing and Trim: Comply with performance requirements, manufacturer's written installation instructions, and SMACNA's "Architectural Sheet Metal Manual." Provide for thermal expansion of metal units; conceal fasteners where possible, and set units true to line and level as indicated. Install work with laps, joints, and seams that will be permanently watertight and weather resistant.

1. Install exposed flashing and trim that is without excessive oil canning, buckling, and tool marks and that is true to line and levels indicated, with exposed edges folded back to form hems. Install sheet metal flashing and trim to fit substrates and to result in waterproof and weather-resistant performance.

2. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim. Space movement joints at a maximum of 10 ft. with no joints allowed within 24 in. of corner or intersection. Where lapped or bayonet-type expansion provisions cannot be used or would not be sufficiently weather resistant and waterproof, form expansion joints of intermeshing hooked flanges, not less than 1 in. deep, filled with mastic sealant (concealed within joints).

3. Separations: Separate metal from incompatible metal or corrosive substrates by coating concealed surfaces, at locations of contact, with asphalt mastic or other permanent separation as recommended by manufacturer.

C. Pipe Flashing: Form flashing around pipe penetration and roof panels. Fasten and seal to roof panel as recommended by manufacturer.

3.08 ERECTION AND LOCATION TOLERANCES

A. Structural-Steel Erection Tolerances: Comply with erection tolerance limits of AISC S303, "Code of Standard Practice for Steel Buildings and Bridges," or AISC 360, "Specification for Structural Steel Buildings."

B. Roof Panel Installation Tolerances: Shim and align units within installed tolerance of 1/4 in. in 20 ft. on slope and location lines as indicated and within 1/8 in. offset of adjoining faces and of alignment of matching profiles.

C. Wall Panel Installation Tolerances: Shim and align units within installed tolerance of 1/4 in. in 20 ft. on level, plumb, and location lines as indicated and within 1/8 in. offset of adjoining faces and of alignment of matching profiles.

D. Door Installation Tolerances: Fit doors in frames within clearances specified in SDI 100.

3.09 CLEANING AND PROTECTION

A. Touchup Painting: Immediately after erection, clean, prepare, and prime or reprime welds, bolted connections, and abraded surfaces of prime-painted primary and secondary framing, accessories, and bearing plates.

1. Clean and prepare surfaces by hand-tool cleaning, SSPC-SP 2, or power-tool cleaning, SSPC-SP 3.

2. Apply compatible primer of same type as shop primer used on adjacent surfaces.

B. Touchup Painting: Cleaning and touchup painting of field welds, bolted connections, and abraded surfaces of shop-painted primary and secondary framing, accessories, and bearing plates are included in SECTION 09915 - PROTECTIVE COATINGS.

C. Repair damaged galvanized coatings on exposed surfaces with galvanized repair paint according to ASTM A 780 and manufacturer's written instructions.

D. Roof and Wall Panels: Remove temporary protective coverings and strippable films, if any, as soon as each panel is installed. On completion of panel installation, clean finished surfaces as recommended by panel manufacturer and maintain in a clean condition during construction.

1. Replace panels that have been damaged or have deteriorated beyond successful repair by finish touchup or similar minor repair procedures.

E. Doors: Immediately after erection, sand smooth any rusted or damaged areas of prime coat and apply touchup of compatible air-drying primer.

1. Protection Removal: Immediately before final inspection, remove protective wrappings from doors and frames.

END OF SECTION

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NOTE:

CONTRACTOR SHALL LEGALLY DISPOSE OF ALL EXISTING CART BARN AND DEMO MATERIALS.

LEGEND

- DEMOLISH & REMOVED DEBRIS
- TREE REMOVAL
- EXIST TREE TO REMAIN
- EXIST TREE TO BE PROTECTED
- EXISTING TREE NOT SURVEYED
- DEMOLISH AND REMOVE EXIST PAVEMENT

UTILITY NOTE:

UTILITY LOCATIONS SHOWN HEREON ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT VERTICAL AND HORIZONTAL LOCATION OF ALL EXISTING UTILITIES PRIOR TO COMMENCING CONSTRUCTION. NO REPRESENTATION IS MADE THAT ALL EXISTING UTILITIES ARE SHOWN HEREON. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR UTILITIES NOT SHOWN OR UTILITIES NOT SHOWN IN THEIR PROPER LOCATION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROTECT ALL EXISTING UTILITIES DURING CONSTRUCTION. ANY UTILITIES DAMAGED DURING CONSTRUCTION MUST BE REPAIRED IMMEDIATELY AND TO THE OWNER'S SATISFACTION AT THE CONTRACTOR'S EXPENSE.

NO.	REVISION	DATE
1	ADDENDUM #1	8/24/2023

DESIGN BY: PMULLAN
DRAWN BY: DDALRYMPLE
CHECKED BY: KDITTMAN
SCALE: 1" = 40'
JOB NUMBER: 498355

TRC ENGINEERS, INC.
505 E. HUNTLAND DRIVE, STE. 250 AUSTIN, TX 78752
T.B.P.E. FIRM REGISTRATION NO. F-8632
(512) 454 - 8716

STATE OF TEXAS
PHILIP M. MULLAN
86411
LICENSED
PROFESSIONAL ENGINEER
8/24/23

CITY OF SEGUIN, TEXAS
GOLF CART BARN
DEMOLITION SITE PLAN

SEGUIN TEXAS
It's real.

SHEET
05

JULY 2023

C:\PW\WORKING-TRO\D0145316\DEMOLITION SITE PLAN.DWG - 8/24/23

100-YR FLOODPLAIN WATER SURFACE
ELEVATION (WSEL) = 493.3
PER FIRM 48187C0290G DATED 10/29/2021

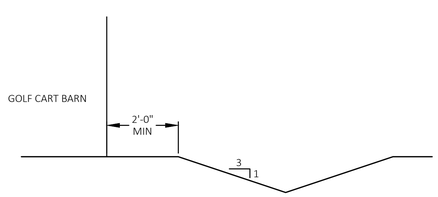
SWALE FL 482.86
SWALE FL 483.00
SWALE FL 482.77
483.33
483.56
483.60
483.50
483.73
SWALE FL 482.68
483.46
TIE INTO EXISTING PAVEMENT. MATCH EXIST ELEVATIONS. EG = 483.33
483.49
483.48
483.92
483.73
484.11
484.20
483.79
SWALE FL 482.57
485.58
485.64
485.73
485.10
485.60
485.76
485.80
485.80
484.90
485.40
485.62
484.90
485.62
PROP GOLF CART BARN
(SEE SHEET 10)
FFE = 485.60
SWALE FL 482.46
485.80
485.10
485.80
485.79
485.77
485.10
485.37
485.60
485.51
SWALE FL 482.27
483.92
PROP ASPHALT PAVEMENT
SWALE FL 482.18
483.75
483.00
SWALE FL 482.08
482.35
TIE INTO
EXISTING ASPHALT
(MATCH EXIST
ELEVATION)
482.20
TIE INTO
EXISTING ASPHALT
(MATCH EXIST
ELEVATION)
EXIST ASPHALT
STORAGE AREA
SWALE FL 482.00

N

10 5 0 10 20
SCALE : 1" = 10'

NOTE:

1. ALIGNMENT AND LOCATION OF THE PROPOSED FUTURE WATER LINE AND WASTEWATER LINE TO BE DETERMINED BY THE CITY OF SEGUIN.
2. SALT LESS WATER SOFTENER OR APPROVED EQUAL WILL NEED TO BE INSTALLED 9 FEET ABOVE THE FLOOR ELEVATION.
3. AREA TO BE LEFT CLEARED AND UNPAVED FOR FUTURE LANDSCAPING BY CITY OF SEGUIN.



SWALE SECTION
SCALE: NTS

UTILITY NOTE:

UTILITY LOCATIONS SHOWN HEREON ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT VERTICAL AND HORIZONTAL LOCATION OF ALL EXISTING UTILITIES PRIOR TO COMMENCING CONSTRUCTION. NO REPRESENTATION IS MADE THAT ALL EXISTING UTILITIES ARE SHOWN HEREON. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR UTILITIES NOT SHOWN OR UTILITIES NOT SHOWN IN THEIR PROPER LOCATION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROTECT ALL EXISTING UTILITIES DURING CONSTRUCTION. ANY UTILITIES DAMAGED DURING CONSTRUCTION MUST BE REPAIRED IMMEDIATELY AND TO THE OWNER'S SATISFACTION AT THE CONTRACTOR'S EXPENSE.

LEGEND

- EXIST TREE TO REMAIN
- EXIST TREE TO BE PROTECTED
- EXISTING TREE NOT SURVEYED
- 552 EXIST MINOR CONTOUR
- 550 EXIST MAJOR CONTOUR
- 550 PROP MINOR CONTOUR
- 550 PROP MAJOR CONTOUR
- 483.83 PROP SPOT ELEVATION

NO.	REVISION	DATE
	ADDENDUM #1	8/24/2023

DESIGN BY: PMULLAN
DRAWN BY: DDALRYMPLE
CHECKED BY: KDITTMAN
SCALE: 1" = 5'-0"
JOB NUMBER: 498355

TRC ENGINEERS, INC.
505 E. HUNTLAND DRIVE, STE. 250 AUSTIN, TX 78752
T.B.P.E. FIRM REGISTRATION NO. F-8632
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STATE OF TEXAS
PHILIP M. MULLAN
86411
LICENSED
PROFESSIONAL ENGINEER
8/24/23

CITY OF SEGUIN, TEXAS
GOLF CART BARN
PROPOSED CONTOURS & SWALE

SEGUIN TEXAS
It's real.

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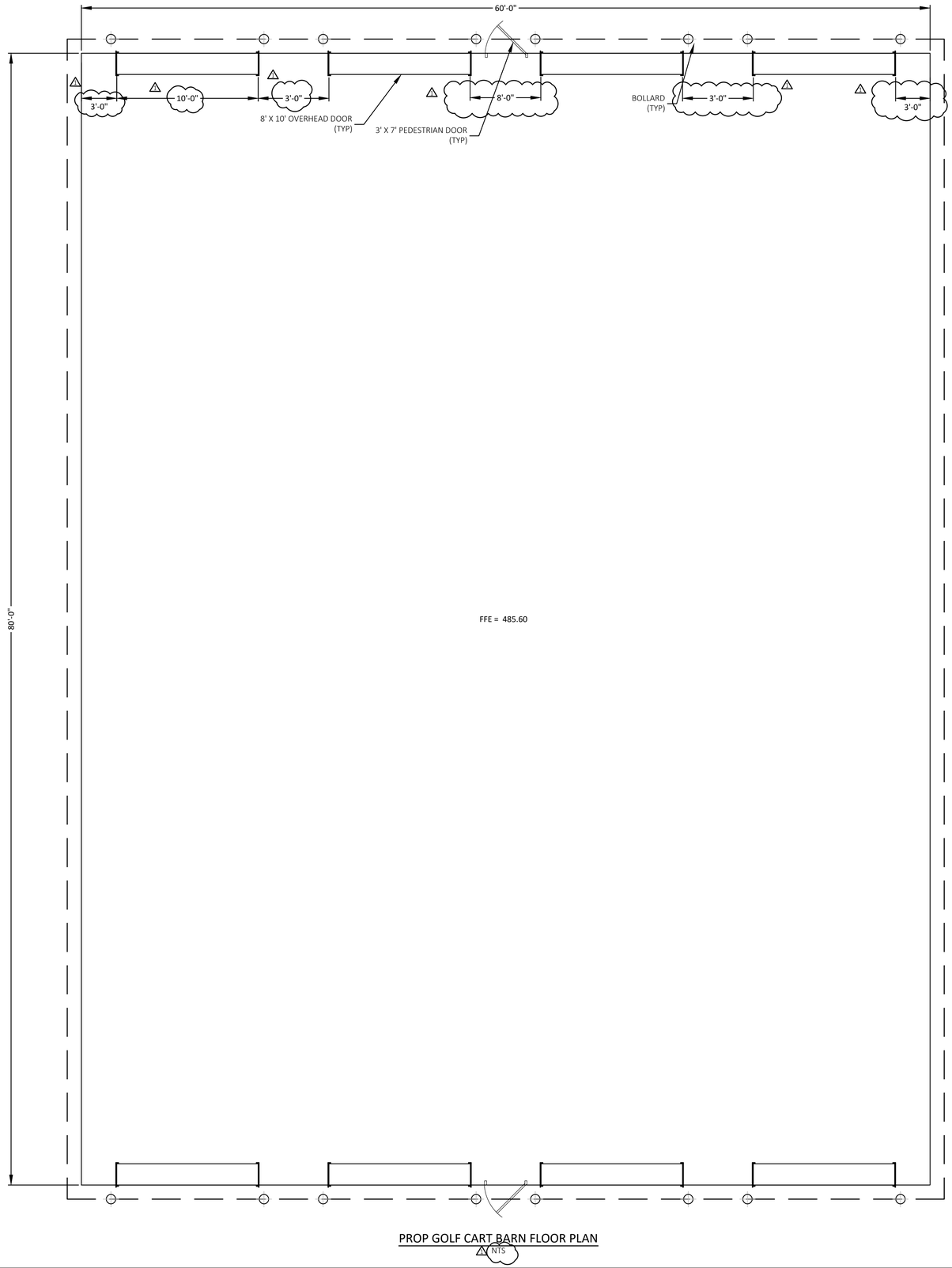
08

JULY 2023

C:\PW\WORKING-TRD\D0145316\ENLARGED PROPOSED SITE PLAN.DWG - 8/24/23



PROP GOLF CART BARN FLOOR PLAN

NTS

NO.	REVISION	DATE
1	ADDENDUM #1	8/24/2023

DESIGN BY: PMULLAN
DRAWN BY: DDALRYMPLE
CHECKED BY: KDITTMAN
SCALE: 1/4" = 1'
JOB NUMBER: 498355

TRC ENGINEERS, INC.
505 E. HUNTLAND DRIVE, STE. 250 AUSTIN, TX 78752
T.B.P.E. FIRM REGISTRATION # F-8632
(512) 454 - 8716

STATE OF TEXAS
PHILIP M. MULLAN
89411
LICENSED
PROFESSIONAL ENGINEER

CITY OF SEGUIN, TEXAS
GOLF CART BARN
PROPOSED BARN FLOOR PLAN

SEGUIN TEXAS
It's real.

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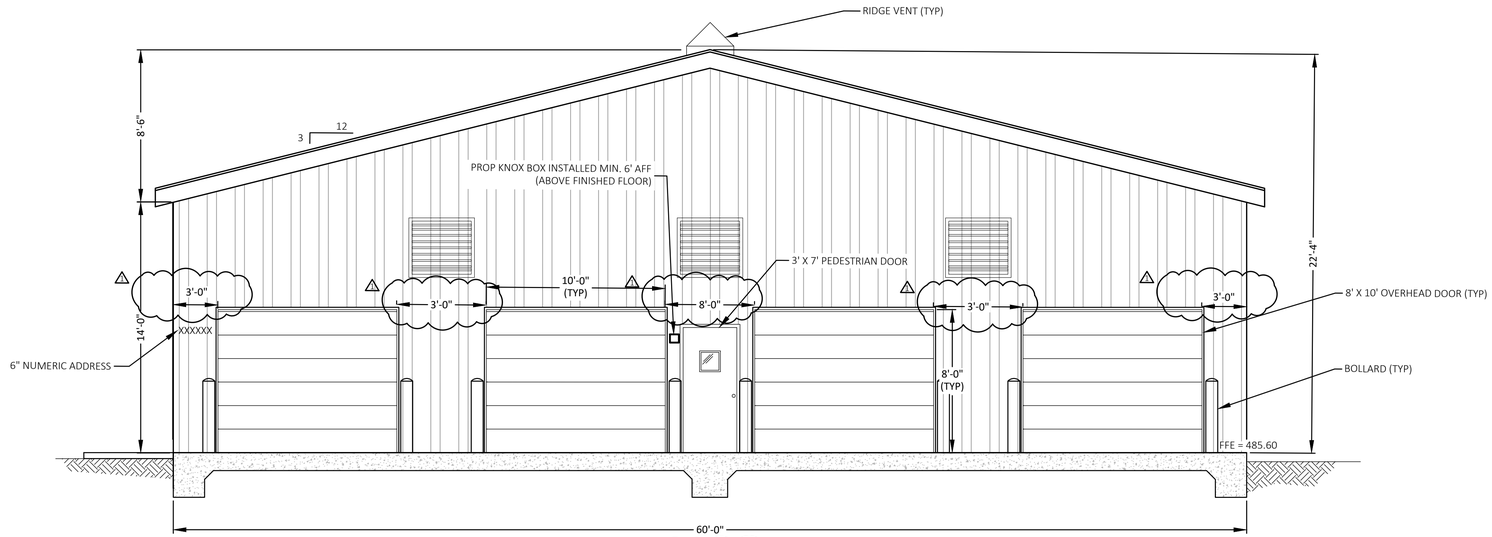
10

JULY 2023

C:\PWWORKING-TRD\D0145320\FLOOR PLAN.DWG - 8/24/23

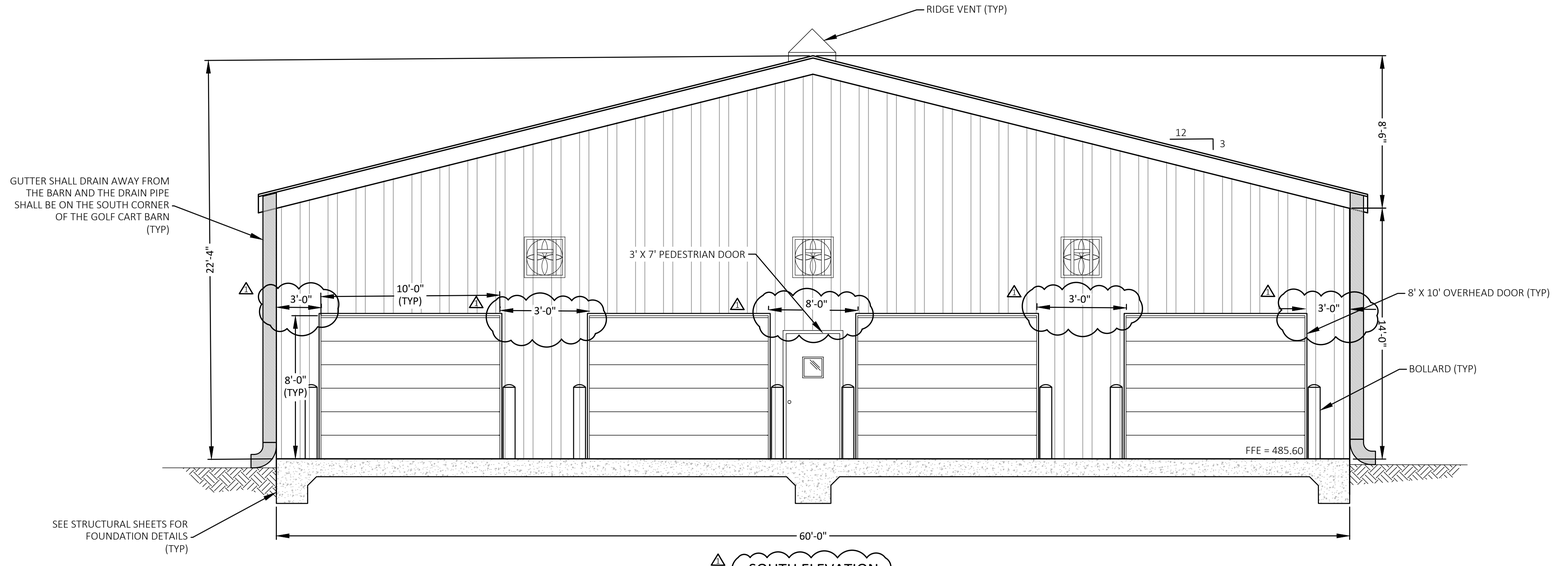
NOTES:

1. CONTRACTOR TO SUBMIT PROPOSED BARN AND DETAILS FOR REVIEW / APPROVAL PRIOR TO CONSTRUCTION.
2. BARN SHALL BE DESIGNED FOR A WIND SPEED OF 110 MPH AND SNOW LOAD OF 5 LB/SF.



NORTH ELEVATION
NTS

NOTE:
1. METAL BUILDING MFR. SHALL PROVIDE BLOCKOUT WALL SUPPORTS FOR VENT FANS, LOVERS AND FLOOD VENTS



SOUTH ELEVATION
NTS

NO.	REVISION	DATE
1	ADDENDUM #1	8/24/2023

DESIGN BY: PMULLAN
DRAWN BY: DDALRYMPLE
CHECKED BY: KDITTMAN
SCALE: AS SHOWN
JOB NUMBER: 498355

TRC ENGINEERS, INC.
505 E. HUNTLAND DRIVE, STE. 250 AUSTIN, TX 78752
T.B.P.E. FIRM REGISTRATION NO. F-8632
(512) 454 - 8716

STATE OF TEXAS
PHILIP M. MULLAN
89411
LICENSED
PROFESSIONAL ENGINEER
8/24/23

CITY OF SEGUIN, TEXAS
GOLF CART BARN
PROPOSED BARN ELEVATIONS 1

SEGUIN TEXAS
It's real.

SHEET
11

JULY 2023

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ADDENDUM NO. 2

SEPTEMBER 1, 2023

CITY OF SEGUIN, TEXAS

GOLF CART BARN
BID NO. TF-2023-44

TRC ENGINEERS, INC.
T.B.P.E. FIRM REGISTRATION # F-8632
809 E. COURT ST, SUITE 106
SEGUIN, TEXAS 78155

BID DATE: September 12, 2023
BID TIME: 3:00 P.M. (CDST)
BID NO.: TF-2023-44

The following additions and changes are hereby made a part of the Specifications and Drawings for TRC Project No. 498355:

1) A pre-bid meeting was held on August 30, 2023, at 10:00 AM at Seguin City Hall, 205 North River, Seguin, Texas 78155. Attached is the meeting sign-in sheet and meeting minutes.
2) Reference the BID FORM. Delete pages 1-9 and replace with the new attached BID FORM pages 1-9 marked "Addendum #2". Item P11 has been revised to clarify trench protection and additional quantity has been added to item P12.
3) Reference the specifications. Insert the attached following Sections to be part of the Specifications:
   a. Section 02490- Loaming and Hydroseeding
4) Reference the drawings, Sheet E-6, ELECTRICAL DETAILS. Detail 13| E-6 has been revised.
5) Questions during the pre-bid meeting are as follows:

   Q#1: Charging Stations provided by the City?
   A: Yes, charging stations will be provided by the City

   Q#2: There is a mesh wall for the golf balls, will one be provided during the demolition:
   A: The driving range will be closed for the demolition of the existing golf cart barn.

6) Questions posted on CivCast as of August 31, 2023 are as follows:

   Q#1: What is the estimated cost range?
   A: we are working on a cost estimate and will update Civcast when it is complete

   Q#2: Are there any specs for the metal building & canopy?
   A: specs for the metal building and canopy will shortly be issued by addendum

   Q#3: Who submits drawings to the city for review and who pays for the permit?

   A: The Engineer is submitting the plans to have the "Site Plan" approved. The contractor will have to submit the plans to obtain the building permit and pay for the permit."

Q# 4: On S2 and E4 there is a concrete apron shown that is not shown on the civil drawings (it is hydromulch). The apron has a steel structure on it. Can you provide the structural details for this structure? What happens to the hydromulch area and its drains?

A: Contractor will submit a final design of the steel support structure. We are looking at the drainage and will have a solution shortly.

Q# 5: On the S3 detail B/S2 the .O.H. door areas have a ramp.Can you provide the dimensions, slope and grades for these ramps?

A: The barn slab will not have ramps leading down into it. We are revising the structural sheets to reflect this and will issue them by a future addendum.

Q# 6: Can you provide specifications for the water softener?

A: We do not currently have a spec on the saltless water softener but will issue one by future addendum

Q# 7: Is the contractor to hire its own testing lab?

A: Yes, the contractor has to hire their own testing lab.

Q# 8: Is the installation of the water lines included in P.5, the golf cart barn?

A: Yes, the water lines are included in bid item P5

Q# 9: Addendum #1 added 30 lf of water line; do we include a tracer for this line? The addendum stills shows 160 lf of water tracer detection wire.

A: Yes, additional footage is needed for the tracer tape. This will be reflected in a future addendum

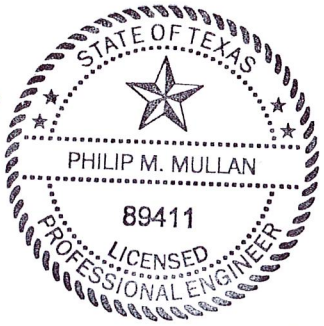
Q# 10: Project requires Hydromulching. After the hydromulching is performed, watering will be needed. Do we provide tempoary irrigtation or will the city be taking care of the watering?

A: Contractor is responsible for watering. A specification of Loaming and Hydroseeding will be issued in a future addendum"

7) End this Addendum No. 2, September 1, 2023.

TRC Engineers, Inc.

9/1/23



Philip M. Mullan, P.E.

The Contractor shall acknowledge receipt of this Addendum on the face of the sealed envelope in which he submits his bid, in the space provided in the proposal and by signing this Addendum and attaching it to his bid proposal.

Name and Title

Date

PRE-BID MEETING SIGN-IN SHEET
August 30, 2023 @ 10:00AM

CLIENT: City of Seguin
PROJECT: Golf Cart Barn Bid No. TF-2023-44
LOCATION: 205 N River, Seguin, TX
ENGINEER: TRC Engineers, Inc

MEETING PARTICIPANTS			
Name	**Phil Mullan**	**Telephone Numbers**	
Position/Title:	Office Practice Leader	**Business:**	
Organizaton:	**TRC**	**Cell No.:**	713-553-4712
E-mail:	pmullan@trccompanies.com		
Name	**Abigail Peredia**	**Telephone Numbers**	
Position/Title:	Civil Engineer I	**Business:**	
Organizaton:	**TRC**	**Cell No.:**	903-286-7136
E-mail:	aperedia@trccompanies.com		
Name	**Bubba Martin**	**Telephone Numbers**	
Position/Title:	Owner	**Business:**	830-303-8624
Organizaton:	Tri-County A/C	**Cell No.:**	830-401-2137
E-mail:	bubbathehunter@aol.com		
Name	**Steve Rodriguez**	**Telephone Numbers**	
Position/Title:	SR Estimator	**Business:**	
Organizaton:	**Geofill Construction**	**Cell No.:**	830-337-8684
E-mail:	srodriguez@geofillconstruction.com		
Name	**Wiley Eckols**	**Telephone Numbers**	
Position/Title:	Superintendent	**Business:**	
Organizaton:	**Sullivan Contracting**	**Cell No.:**	210-862-8830
E-mail:	wiley@SCS-TX.com		
Name	**Jesse Hoover**	**Telephone Numbers**	
Position/Title:	Estimator	**Business:**	830-372-3812
Organizaton:	**Sullivan**	**Cell No.:**	830-743-2647
E-mail:	jesse@scs-tx.com		
Name	**Koray Kirchner**	**Telephone Numbers**	
Position/Title:	President	**Business:**	830-303-0127
Organizaton:	**Kirchner Erection Company**	**Cell No.:**	830-743-0202
E-mail:	Kirchner Erection@att.net		
Name	**Oscar Saavedra**	**Telephone Numbers**	
Position/Title:	President	**Business:**	
Organizaton:	**Sadie Burche**	**Cell No.:**	210-489-080
E-mail:	Oscar@sadieburche.com		
Name	**Stephen J. Perino**	**Telephone Numbers**	
Position/Title:	SR. Estimator	**Business:**	
Organizaton:	**Northstar Elite Construction**	**Cell No.:**	512-529-8945
E-mail:	stephenp@nstarcon.com		

Pre-Bid Meeting
August 30, 2023 @ 10:00 A.M.
Golf Cart Barn
205 N River, Seguin, TX

Name	**Douglas**	**Telephone Numbers**	
Position/Title:	Estimator/ Owner	**Business:**	
Organizaton:	**HBA Construction LLC**	**Cell No.:**	253-226-2970
E-mail:	Dana@askhba.com		
Name	**Mike Boehmer**	**Telephone Numbers**	
Position/Title:	Proj. MNGR	**Business:**	210-649-3130
Organizaton:	**R.L. ROHDE GEN. Contract**	**Cell No.:**	
E-mail:	Eestimating@RLRohde.com		
Name	**Bruce Allen**	**Telephone Numbers**	
Position/Title:	Golf Course Manager	**Business:**	830-660-0344
Organizaton:	**City of Seguin**	**Cell No.:**	
E-mail:	ballen@seguintexas.gov		
Name		**Telephone Numbers**	
Position/Title:		**Business:**	
Organizaton:		**Cell No.:**	
E-mail:			
Name		**Telephone Numbers**	
Position/Title:		**Business:**	
Organizaton:		**Cell No.:**	
E-mail:			
Name		**Telephone Numbers**	
Position/Title:		**Business:**	
Organizaton:		**Cell No.:**	
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Name		**Telephone Numbers**	
Position/Title:		**Business:**	
Organizaton:		**Cell No.:**	
E-mail:			
Name		**Telephone Numbers**	
Position/Title:		**Business:**	
Organizaton:		**Cell No.:**	
E-mail:			
Name		**Telephone Numbers**	
Position/Title:		**Business:**	
Organizaton:		**Cell No.:**	
E-mail:			

PRE-BID MEETING AGENDA

CITY OF SEGUIN

GOLF CART BARN
BID NO. TF-2023-44

AUGUST 30, 2023 @ 10:00 A.M.
(MINUTES ARE SHOWN IN RED

1. Meeting Purpose and Goals

2. Pre-Bid Agenda

   This agenda is used only as a "checklist" for items of discussion for the pre-bid meeting prior to submission of bids by CONTRACTOR. Regardless of items/issues discussed related to this document, CONTRACTOR must comply with all requirements of the engineering plans and specifications, contract documents and additional documents (described in specification).

3. Complete meeting attendance record.

4. Bids are due Tuesday, September 12, 2023, at 3:00 P.M. (CDST) at City of Seguin City Hall, 205 North River Street. Bids will be publicly opened and read aloud at Seguin City Hall at 3:00 P.M. Items required include the following:

   a. Bid Form, Section 00400
   b. Experience Record
   c. Statement of Bidder's Qualifications
   d. Addendums Acknowledgement
   e. Bid Bond/cashier's check (5% of bid amount)

5. Anticipated Award Date: October 3, 2023
   Anticipated Construction NTP: November 6, 2023

6. Engineer / City Personnel Involvement

   Bruce Allen is the Golf Course Manager for the City of Seguin and is the agent for the Owner.

   Phil Mullan, P.E. is TRC's Project Manager for the Project. He has overall responsibility to the Owner for the project and will be responsible for the day-to-day management of the project and in particular the design aspects of the project.

7. Questions/Answers

   a. All future questions, interpretations, etc. shall be posted to the question and answer portal of CivCast (www.civcastusa.com).

8. Schedule

   a. Total Project Completion: 180 calendar days

9. Major Work Items

   a. Prefabricated metal building with concrete slab foundation and electrical, mechanical, and plumbing systems.

   b. Asphalt paving around the barn

   c. Concrete wash rack with prefabricated canopy

   d. Miscellaneous site work The City of Seguin will extend water, sanitary sewer, and electrical to the barn site.

   e. Demolition of existing cart barn, concrete slab, and barn appurtenances. The City of Seguin will remove the existing asphalt from around the existing barn area.

   f. Two Additive Alternate Bid items:

      (1) Installing insulation in the barn roof
      (2) Installing insulation in the barn walls

   g. Miscellaneous appurtenances necessary to complete the Project.

There was a conversation about the estimated construction cost estimate. It is between $700,000 and $800,000.

10. Property Access

   a. All construction activities to have the minimum possible impact on property access, mobility and quality of life. The golf course will remain open during construction.

   b. Emergency access is required at all times.

   c. Employee/equipment parking is not allowed within private property, TxDOT right of way, or on River Drive south of the golf course. Parking is permitted in the parking lot adjacent to the proposed barn location.

   d. If access to construction is through a City Street, residence's driveways shall be accessible at the end of each day (5 pm).

11. Easements/ROW

   a. All work to be done is within the City of Seguin's property.

12. Construction Schedule

   a. Schedule of construction to be maintained. Failure to meet the construction schedule will result in liquidated damages. The contract completion dates are as shown in the supplemental conditions and liquidated damages have been established in the contract documents.

   b. Work hours are from 8:00 AM to 5:00 PM unless alternate hours are approved in advance (48 hours) by the Owner.

13. Construction
    a. Contractor shall coordinate the work with City Golf Course staff.
    b. Contractor is responsible for locating all utilities prior to construction and immediately repairing damage during construction.

14. Trees
    a. There are many well established and large hardwood trees throughout the project. If any oak wilt has been found within the area, precautions should be taken to avoid the spread of this disease per the specifications. The City will inspect, and record known issues. The Contractor should inspect, and record known issues prior to mobilization from area to area.
    b. It is imperative any damage or removed limbs from the trees be painted within 15 minutes of cutting to control the spread of oak wilt.
    c. All equipment must be sanitized immediately after and prior to any cuttings.
    d. All precautions must be taken to protect all trees.
    e. Tree damages will be enforced per specifications.

15. Housekeeping
    a. Housekeeping will be carefully monitored during the duration of the project. Dust and mud will be controlled per the plans and specifications. Toilet facilities shall be maintained regularly.
    b. Contractor shall contain equipment and materials in an organized manner and shall only store materials within the street right-of-way that are being used for that day's construction activity. Any equipment left overnight must be sectioned off with orange plastic fencing or CTBs.
    c. Contractor shall spend time on housekeeping at the end of each workday. Construction ditches shall be closed up (backfilled or steel plates) and materials removed allowing access along the road in the evenings.

16. Control of Project Site
    a. Safety is contractor's responsibility. All OSHA rules and requirements to be followed.
    b. Barricades and Traffic Control must be properly maintained.
    c. All citizen problems and correspondence will be routed through the City.
    d. Contractor shall document the site with video and photo prior to construction.

17. Notify Fire, EMS, City Staff and Police Department for any road closures.
    a. Contractor to contact City Staff about road closure to release public notice (7 days). Once approved, Contractor shall re-notify a minimum of 48 hours prior to actual road closure.

21. Layout and survey work.

    a. Responsibility for surveying – Contractor
    b. Determination of location and types of controls.

22. Progress Meetings

    Monthly progress meetings shall be scheduled to discuss project performance, scheduling, delays, construction issues, equipment or material deliverables, partial payment request review, etc. Contractor's project manager must attend all meetings in addition to the superintendent. Updated construction schedules shall be made available for discussion at the meeting.

    Weekly "Field" meetings shall be held at the Contractor's field office with the superintendent to discuss items listed above and items of work flow from previous week and upcoming week.

23. Record Drawings/As-Built Plans

    a. CONTRACTOR shall maintain a clean set of updated construction plans in the project field office, not intended for field use. All superintendents and lead-men on the ground shall have a working set of updated plans for field use. Plans shall be kept updated with the changes and will be reviewed during the monthly meetings. The plans shall be submitted to TRC as part of the project closeout procedures.

24. Pre-Bid site visit to be conducted by the contractors individually.

25. Questions:

Q#1: Charging Stations provided by the City?

A: Yes, charging stations will be provided by the City

Q#2: There is a mesh wall for the golf balls, will one be provided during the demolition:

A: Driving range will be closed for the demolition of the existing golf cart barn

SECTION 00 41 00

BID FORM

CITY OF SEGUIN, TEXAS

GOLF CART BARN

DATE: _____

Gentlemen:

Having carefully examined the Instructions to Bidders, the General Conditions of the Contract, and Detailed Plans and Specifications, the undersigned Bidder hereby proposes to do all the work and furnish all necessary superintendence, labor, machinery, equipment, tools and materials, and to complete all the work this refers to, for the construction of all items listed at the prices shown for each item on the following bid schedule.

The bid schedule attached lists the various divisions of construction contemplated in the Plans and Specifications. Bid prices must be shown in Words and Figures for each item listed in the Bid, and in the event of a discrepancy, the words shall control.

Receipt is hereby acknowledged of the following addenda to the Contract Documents:

Addendum No. 1 dated_____ Received_____

Addendum No. 2 dated_____ Received_____

Addendum No. 3 dated_____ Received_____

All the various phases of work enumerated in the detailed specifications with their individual jobs and overhead, whether specifically mentioned, included by implication or appurtenant thereto, are to be performed by the Contractor under one of the items listed in the bid schedule, irrespective of whether it is named in said list.

Bidder agrees to perform all of the work listed in the bid and as described in the specifications and shown on the plans, for the following unit prices:

CITY OF SEGUIN GOLF CART BARN BASE BID				
ITEM NO.	NO. OF UNITS	UNIT	ITEM AND UNIT PRICE (FILL IN BOTH SCRIPT AND FIGURES)	TOTAL AMOUNT
P.1.	1	L.S.	For furnishing the required **Performance and Payment Bonds** for the project, as described in these specifications, for the sum of: _____ _____ Dollars _____ Cents ($) per lump sum	$_____
P.2.	1	L.S.	For furnishing the required **Stormwater Pollution Prevention Plan** and maintaining the plan requirements for the project, complete in place, for the sum of: _____ _____ Dollars _____ Cents ($) per lump sum	$_____
P.3.	4,665	S.Y.	For furnishing and installing seeding (**hydro-mulching**) Bermuda grass, for erosion control, as detailed and directed, at locations shown on the Plans and all disturbed areas, complete in place, for the sum of: _____ _____ Dollars _____ Cents ($) per square yard	$_____

CITY OF SEGUIN GOLF CART BARN BASE BID				
ITEM NO.	NO. OF UNITS	UNIT	ITEM AND UNIT PRICE (FILL IN BOTH SCRIPT AND FIGURES)	TOTAL AMOUNT
P.4.	4	EA.	For furnishing all material, labor, and equipment to install and maintain **tree protection** at location shown on the plans, complete in place, for the sum of: _____ _____ Dollars _____ Cents ($) per each	$_____
P.5.	1	L.S.	For furnishing the required **Proposed Golf Cart Barn Metal Building** for the project, including but not limited to mechanical, electrical, and plumbing systems for both the building and the site, concrete slab foundation, subgrade excavation, fill, and preparation, offsite disposal of excavated material, and miscellaneous appurtenances, to include all construction not specifically described in other bid items, ready for use by the Owner, for the sum of: _____ _____ Dollars _____ Cents ($) per lump sum	$_____
P.6.	1	L.S.	For furnishing the required 1000-gallon **Oil-Water Separator (OWS)** for the project, complete in place, for the sum of: _____ _____ Dollars _____ Cents ($) per lump sum	$_____

CITY OF SEGUIN GOLF CART BARN BASE BID				
ITEM NO.	NO. OF UNITS	UNIT	ITEM AND UNIT PRICE (FILL IN BOTH SCRIPT AND FIGURES)	TOTAL AMOUNT
P.7.	1	L.S.	For furnishing the required reinforced concrete **Wash Rack** for the project, including inlet and subgrade, complete in place, for the sum of: _____ _____ Dollars _____ Cents ($) per lump sum	$_____
P.8.	1	L.S.	For furnishing the required **Wash Rack Canopy** for the project, complete in place, for the sum of: _____ _____ Dollars _____ Cents ($) per lump sum	$_____
P.9.	1	EA.	For furnishing the required **2" Reduced Pressure Zone Backflow Preventer** for the project, complete in place, for the sum of: _____ _____ Dollars _____ Cents ($) per each	$_____
P.10.	1	EA.	For furnishing and installing all materials and equipment to construct **4' diameter standard manholes**, including Raven coating, at locations shown as shown on the Plans, complete in place, for the sum of: _____ _____ Dollars _____ Cents ($) per each	$_____

CITY OF SEGUIN GOLF CART BARN BASE BID				
ITEM NO.	NO. OF UNITS	UNIT	ITEM AND UNIT PRICE (FILL IN BOTH SCRIPT AND FIGURES)	TOTAL AMOUNT
P.11.	1	L.S.	For furnishing and installing **OSHA required trench excavation protection on all trenches**, complete in place, for the sum of _____ _____ Dollars _____ Cents ($) per lump sum	$_____
P.12.	190	L.F.	For furnishing all labor, materials, and equipment for the inductive **water tracer detection wire** for the water mains, complete in place, for the sum of: _____ _____ Dollars _____ Cents ($) per linear foot	$_____
P.13.	24	EA.	For furnishing all labor and material for **Density Tests** for Contractor's finished subgrade, each base course lift and asphalt. (Retesting of failed tests shall be paid for by Contractor), complete in place, for the sum of: _____ _____ Dollars _____ Cents ($) per each	$_____

CITY OF SEGUIN GOLF CART BARN BASE BID				
ITEM NO.	NO. OF UNITS	UNIT	ITEM AND UNIT PRICE (FILL IN BOTH SCRIPT AND FIGURES)	TOTAL AMOUNT
P.14.	1,548	S.Y.	For **excavation and subgrade preparation** for asphalt paving, including offsite material disposal, complete in place, for the sum of: _____ _____ Dollars _____ Cents ($) per square yard	$_____
P.15.	1,548	S.Y.	For installing **geogrid TenSAR TX-5 TRIAX or approved equivalent** for asphalt paving, complete in place, for the sum of: _____ _____ Dollars _____ Cents ($) per square yard	$_____
P.16.	1,488	S.Y.	For installing **2" type D hot-mix asphalt**, including prime coat (and tack coat if necessary), complete in place, for the sum of: _____ _____ Dollars _____ Cents ($) per square yard	$_____
P.17.	1,548	S.Y.	For installing **8" moisture conditioned/compacted subgrade** for asphalt paving, complete in place, for the sum of: _____ _____ Dollars _____ Cents ($) per square yard	$_____

CITY OF SEGUIN GOLF CART BARN BASE BID				
ITEM NO.	NO. OF UNITS	UNIT	ITEM AND UNIT PRICE (FILL IN BOTH SCRIPT AND FIGURES)	TOTAL AMOUNT
P.18.	1,548	S.Y.	For installing **12" (crushed stone) flex base** for asphalt paving, complete in place, for the sum of: _____ _____ Dollars _____ Cents ($) per square yard	$_____
P.19.	1	L.S.	For **demolition and offsite disposal of existing cart barn and existing wash rack**, including but not limited to mechanical, electrical, and plumbing systems, concrete slab foundation, asphalt base material, and miscellaneous appurtenances, including compacted fill of void areas, releveling, and regrading, complete in place, for the sum of: _____ _____ Dollars _____ Cents ($) per lump sum	$_____
P.20.	1,569	S.Y.	For **asphalt removal at proposed cart barn site & offsite disposal**, at locations shown on the Plans, including base material, complete in place, for the sum of: _____ _____ Dollars _____ Cents ($) per square yard	$_____

CITY OF SEGUIN GOLF CART BARN BASE BID				
ITEM NO.	NO. OF UNITS	UNIT	ITEM AND UNIT PRICE (FILL IN BOTH SCRIPT AND FIGURES)	TOTAL AMOUNT
P.21.	2	EA.	For **tree removal & offsite disposal**, at locations shown on the Plans, complete in place, for the sum of: _____ _____ Dollars _____ Cents ($) per each	$_____
TOTAL BASE BID PROPOSAL: **(SUMMATION OF ITEMS P.1. THROUGH P.21.)** _____ _____**Dollars** _____**Cents**				**$**_____

CITY OF SEGUIN GOLF CART BARN ADDITIVE ALTERNATIVES				
ITEM NO.	NO. OF UNITS	UNIT	ITEM AND UNIT PRICE (FILL IN BOTH SCRIPT AND FIGURES)	TOTAL AMOUNT
P.A.1.	1	L.S.	For installing **insulation**, in Proposed Golf Cart Barn roof, complete in place, for the sum of: _____ _____ Dollars _____ Cents ($) per square yard	$_____
P.A.2.	1	L.S.	For installing **insulation**, in Proposed Golf Cart Barn walls, complete in place, for the sum of: _____ _____ Dollars _____ Cents ($) per square yard	$_____
TOTAL ADDITIVE ALTERNATIVE: (SUMMATION OF ITEMS P.A.1. THROUGH P.A.) _____ _____**Dollars** _____**Cents**				**$**_____

The above prices shall include all labor, materials, overhead, profit, insurance, etc. to cover the finished work of the several kinds called for.

The work proposed to be done shall be accepted when fully completed and finished in accordance with the plans and specifications to the satisfaction of the Engineer.

The undersigned Bidder hereby declares that he has visited the site of the work and has carefully examined the contract documents pertaining to the work covered in the above bid, and that the bid prices contained in the bid form have been carefully checked and are submitted as correct and final.

The Contractor agrees to complete the project on which he has bid, as specified and shown on the plans, within **180** consecutive calendar days as provided in the General Conditions of the Agreement.

SECTION 02490

LOAMING AND HYDROSEEDING

PART 1 - GENERAL

1.01 SCOPE OF WORK

A. Furnish all labor, materials, equipment and incidentals required, provide erosion control and place topsoil, finish grade, apply fertilizer, hydraulically apply seed and mulch and maintain all seeded areas as shown on the Drawings and as specified herein, including all areas disturbed by the CONTRACTOR.

B. All disturbed, unpaved areas shall be hydroseeded as specified herein.

1.02 RELATED WORK

A. SECTION 01750 – STORM WATER POLLUTION PREVENTION PLAN

1.03 SUBMITTALS

A. Samples of all materials shall be submitted for inspection and acceptance upon ENGINEER'S request.

B. Number of Copies: Submit six (6) copies of each submittal, unless otherwise indicated. ENGINEER will return two (2) copies.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Topsoil shall be fertile, friable, natural topsoil typical of topsoil of the locality and shall be obtained from a well drained site that is free of flooding. It shall be without admixture of subsoil or slag and free of stones, lumps, plants or their roots, sticks, clay, peat and other extraneous matter and shall not be delivered to the site or used while in a frozen or muddy condition. Topsoil as delivered to the site or stockpiled shall have pH between 6.0 and 7.0 and shall contain not less than 3 percent organic matter as determined by loss of ignition of moisture-free samples dried at 100°C. The topsoil shall meet the following mechanical analysis:

	Percentage Finer
1 in. screen opening	100
No. 10 mesh	95-100
No. 270 mesh	35-75
0.002 mm*	5-25

* Clay size fraction determined by pipette or hydrometer analysis.

B. Fertilizer shall be commercial mixed free flowing granules or pelleted fertilizer, 10-20-10 (N-P2O5-K2O) grade for lawn and naturalized areas. Fertilizer shall be delivered to the site in original unopened containers each showing the manufacturer's guaranteed analysis conforming to applicable state fertilizer laws. At least 40 percent of the nitrogen in the fertilizer used shall be in slowly available (organic) form.

C. Seed shall be labeled in accordance with USDA Rules and Regulations under the Federal Seed Act and applicable State seed laws. Seed shall be furnished in sealed bags or containers bearing the date of the last germination, which date shall be within a period of six (6) months prior to commencement of planting operations. Seed shall be from same or previous year's crop; each variety of seed shall have a purity of not less than 85 percent, a percentage of germination not less than 90 percent, shall have a weed content of not more than 1 percent and contain no noxious weeds. The seed mixtures shall consist of seed proportioned by weight as follows:

Mixture for Use in Clay or Tight Soils		Mixture for Use in Sand or Sandy Soils	
Green Sprangletop	0.6	Green Sprangletop	0.9
Sideoats Grama	1.8	Bermudagrass	1.2
(Haskell or Premier)		K-R Bluestem	1.0
Buffalograss	5.3	Sand Dropseed	0.3
Little Bluestem	1.1		
K-R Bluestem	0.7		
Switchgear	1.2		

1. All seeding/planting shall be done between the dates specified except as specifically authorized in writing. If planting is authorized to be done outside the dates specified the seed shall be planted with the addition of winter fescue (Kentucky 31) at a rate of 100 lbs. per acre.

2. The seed shall be furnished and delivered premixed in the proportions specified above. A manufacturer's certificate of compliance to the specified mixes shall be submitted by the manufacturers for each seed type. These certificates shall include the guaranteed percentages of purity, weed content and germination of the seed and also the net weight and date of shipment. No seed may be sown until the CONTRACTOR has submitted the certificates.

3. Seed shall be delivered in sealed containers bearing the dealer's guaranteed analysis.

D. Fiber Mulch shall be a specially processed cellulose fiber containing no growth or germination-inhibiting factors. It shall be manufactured in such a manner that after addition and agitation in slurry tanks with water, the fibers in the material become uniformly suspended to form a homogeneous slurry. When sprayed on the ground, the material shall allow absorption and percolation of moisture. Each package of the cellulose fiber shall be marked by the

manufacturer to show the air dry weight content and not contain in excess of 10 percent moisture.

PART 3 - EXECUTION

3.01 APPLICATION

A. Unless otherwise shown on the Drawings, topsoil shall be placed to a minimum compacted depth of 6 in. and seed applied on all disturbed areas of the site not covered with structures, pavement, or existing woodland.

B. For all areas to be seeded:

1. Fertilizer (10-20-10) shall be applied at the rate of ten pounds per 1,000 sq. ft. or as determined by the soil test.

2. Seed shall be applied at the rates described in Paragraph 2.01C.

3. Fiber mulch shall be applied at the rate of 40 lbs. per 1,000 sq. ft.

C. The application of fertilizer may be performed hydraulically in one operation with hydroseeding and fiber mulching. The CONTRACTOR is responsible for cleaning all structures and paved areas of unwanted deposits of the hydroseeded mixture.

3.02 INSTALLATION

A. Previously established grades, as shown on Drawings shall be maintained in a true and even condition.

B. Subgrade shall be prepared by tilling prior to placement of topsoil to obtain a more satisfactory bond between the two (2) layers. Tillage operations shall be across the slope. Tillage shall not take place on slopes steeper than two (2) horizontal to one (1) vertical or where tillage equipment cannot be operated. Tillage shall be accomplished by discing or harrowing to a depth of 9 in. parallel to contours. Tillage shall not be performed when the subgrade is frozen, excessively wet, extremely dry or in other conditions which would not permit tillage. The subgrade shall be raked and all rubbish, sticks, roots and stones larger than 2 in. shall be removed. Subgrade surfaces shall be raked or otherwise loosened immediately prior to being covered with topsoil.

C. Topsoil shall be placed over approved areas to a depth sufficiently greater than required so that after natural settlement and light rolling, the complete work will conform to the lines, grades and elevations indicated. No topsoil shall be spread in water or while frozen or muddy.

D. After topsoil has been spread, it shall be carefully prepared by scarifying or harrowing and hand raking. All stiff clods, lumps, roots, litter and other foreign material shall be removed from the topsoiled area and disposed of by the CONTRACTOR. The areas shall also be free of smaller stones, in excessive quantities, as determine by the ENGINEER. The whole surface shall then be rolled with a hand roller weighing not more than 100 lbs. per foot of width. During the rolling, all depressions caused by settlement of rolling shall be filled with additional topsoil and the surface shall be regraded and rolled until a smooth and even finished grade is created.

E. Seeding, mulching and conditioning shall only be performed during those periods within the seasons which are normal for such work as determined by the weather and locally accepted practice, as approved by the ENGINEER. The CONTRACTOR shall hydroseed only on a calm day.

F. Schedules for seeding and fertilizing must be submitted to the ENGINEER for approval prior to the work. Seeding as specified herein shall be accomplished between the period of March 1st to June 1st. Seeding during the period from October 1st to March 1st shall only be undertaken upon approval of the ENGINEER. Seeding during the period from June 1st to October 1st shall only be performed if irrigation is provided.

G. Seeding shall be done within ten days following soil preparation. Seed shall be applied hydraulically at the rates and percentages indicated. The spraying equipment and mixture shall be so designed that when the mixture is sprayed over an area, the grass seed and mulch shall be equal in quantity to the specified rates. Prior to the start of work, the CONTRACTOR shall furnish the ENGINEER with a certified statement as to the number of pounds of materials to be used per 100 gallons of water. This statement shall also specify the number of square feet of seeding that can be covered with the quantity of solution in the CONTRACTOR'S hydroseeder. Upon completion of seeding operations, the CONTRACTOR shall furnish the ENGINEER with a certified statement on the actual quantity of solution applied.

H. In order to prevent unnecessary erosion of newly topsoiled and graded slopes and unnecessary siltation of drainageways, the CONTRACTOR shall conduct seeding and mulching as soon as he/she has satisfactorily completed a unit or portion of the project. For the purpose of this project a unit is defined as 10,000 sq. ft. When protection of newly topsoiled and graded areas is necessary at a time which is outside of the normal seeding season, the CONTRACTOR shall protect those areas by whatever means necessary as approved by the ENGINEER and shall be responsible for prevention of siltation in the areas beyond the limit of work.

I. When newly graded subgrade areas cannot be topsoiled and seeded because of season or weather conditions and will remain exposed for more than thirty (30) days, the CONTRACTOR shall protect those areas against erosion and washouts by whatever means necessary such as straw applied with a tar tack, wood chips or by other measures as approved by the ENGINEER. Prior to application of topsoil, any such materials applied for erosion control shall be thoroughly incorporated into the subgrade by discing. Fertilizer shall be applied prior to spreading of topsoil.

J. On slopes, the CONTRACTOR shall provide against washouts by an approved method. Any washout which occurs shall be regraded and reseeded at the CONTRACTOR'S expense until a good sod is established.

3.03 MAINTENANCE, AND PROVISIONAL ACCEPTANCE

A. The CONTRACTOR shall keep all seeded areas watered, lawn areas mowed and in good condition, reseeding all seeded areas if and when necessary until a good, healthy, uniform growth is established over the entire area seeded and shall maintain all seeded areas in an approved condition until provisional acceptance.

B. The ENGINEER will inspect all work for provisional acceptance at the end of the ten week maintenance period, upon the written request of the CONTRACTOR received at least ten days

before the anticipated date of inspection. The maintenance period must occur during the growing season between March 15th and October 1st and shall include a minimum of three mowings.

C. A satisfactory stand will be defined as a section of turf of 10,000 sq. ft. or larger that has:

1. No bare spots larger than 3 sq. ft.

2. No more than 10 percent of total area with bare spots larger than 1 sq. ft.

3. Not more than 15 percent of total area with bare spots larger than 6 in. square.

D. After the inspection has occurred but prior to provisional acceptance, a soil test shall be performed to determine if additional soil fertilization should occur. If necessary, additional fertilizer not to exceed 30 lbs. per 1,000 sq. ft. of 20-10-10 shall be applied as directed by the ENGINEER.

E. The inspection by the ENGINEER will determine whether maintenance shall continue in any area or manner.

F. After all necessary corrective work and clean-up has been completed, the ENGINEER will certify in writing the provisional acceptance of the lawn areas. The CONTRACTOR'S responsibility for maintenance of lawns, or parts of lawns shall cease on receipt of provisional acceptance.

3.04 GUARANTEE PERIOD AND FINAL ACCEPTANCE

A. All seeded areas shall be guaranteed by the CONTRACTOR for not less than two (2) full years from the time of provisional acceptance.

B. At the end of the guarantee period, inspection will be made by the ENGINEER upon written request submitted by the CONTRACTOR at least ten (10) days before the anticipated date. Seeded areas not demonstrating satisfactory stands as outlined above, as determined by the ENGINEER, shall be renovated, reseeded and maintained meeting all requirements as specified herein.

C. After all necessary corrective work has been completed, the ENGINEER shall certify in writing the final acceptance of the seeded areas.

END OF SECTION

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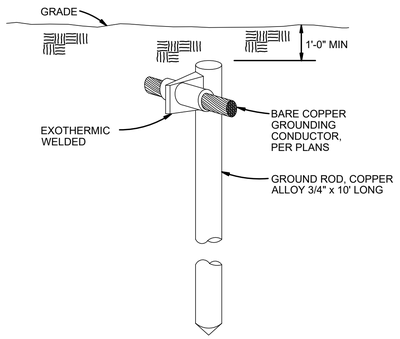
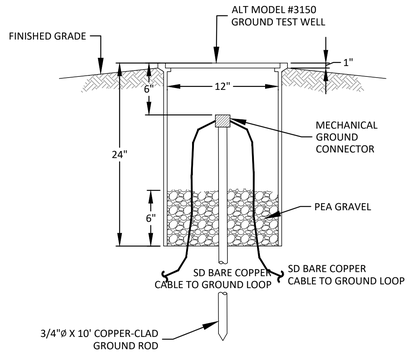


1 E-6 BURIED GROUND ROD DETAIL

SCALE: NTS



GROUNDING SYSTEM TEST WELL INSTALLATION

2 E-6 GROUNDING SYSTEM TEST WELL INSTALLATION

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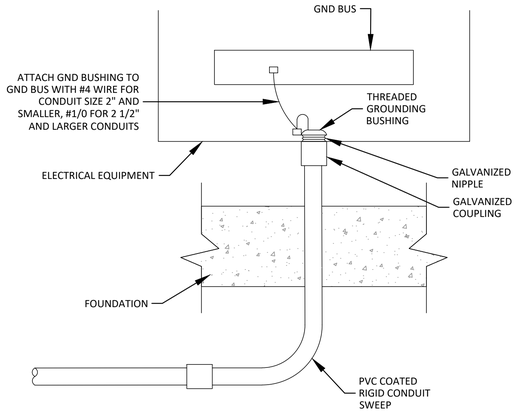
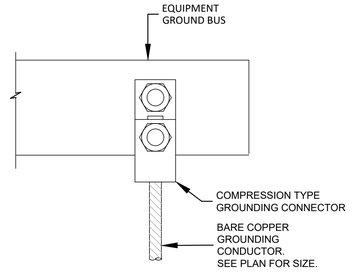


3 E-6 TYPICAL WIRING TERMINATION INTO EQUIPMENT

SCALE: NTS



4 E-6 TYPICAL GROUND BUS CONNECTION

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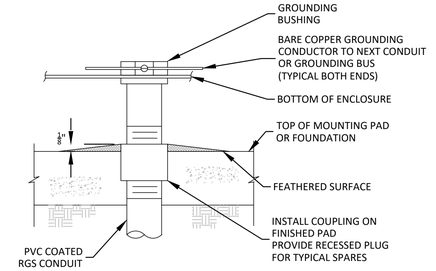
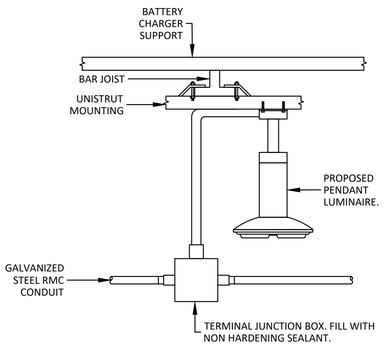


6 E-6 UNDERGROUND CONDUIT STUB UP (SLAB)

SCALE: NTS



6 E-6 CEILING-MOUNTED LUMINAIRE INSTALLATION

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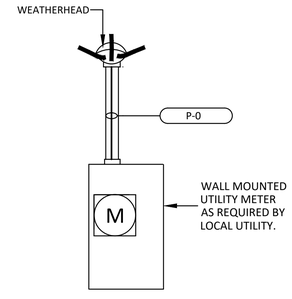
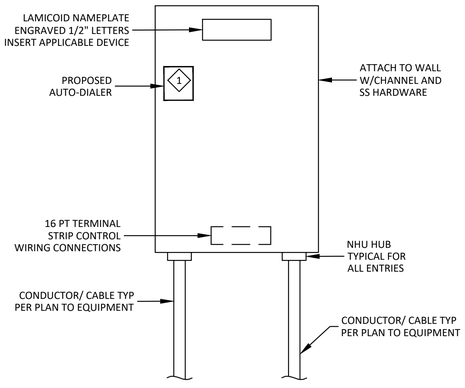


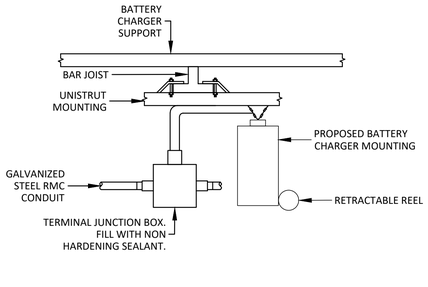
7 E-6 WALL-MOUNTED UTILITY METER DETAIL

SCALE: NTS



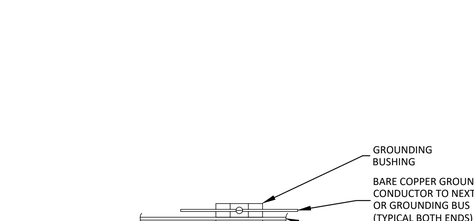
8 E-6 TYPICAL WALL MOUNTED PANEL DETAIL

SCALE: NTS



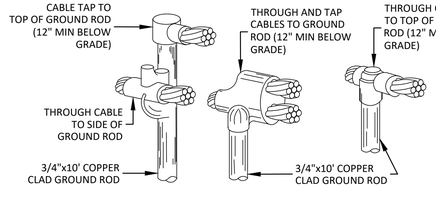
9 E-6 CEILING MOUNTED BATTERY CHARGER

SCALE: NTS



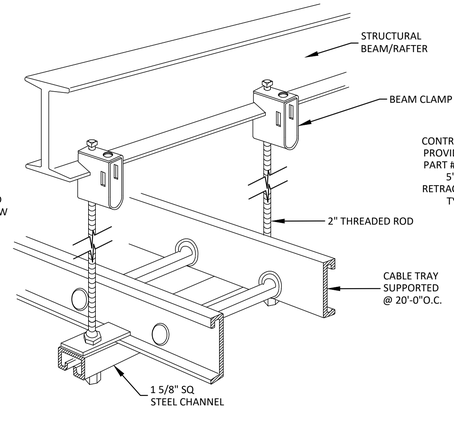
10 E-6 EXOTHERMIC WELDS CABLE TO CABLE

NTS



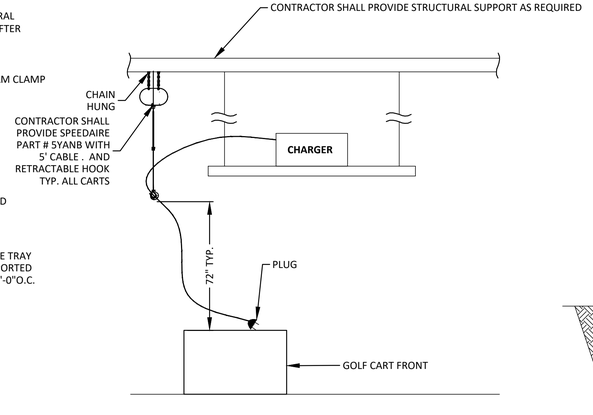
11 E-6 EXOTHERMIC WELDS CABLE TO GROUND ROD

NTS



12 E-6 CABLE TRAY SUPPORT DETAIL

SCALE: NTS



13 E-6 TYPICAL CHARGER SUPPORT DETAIL

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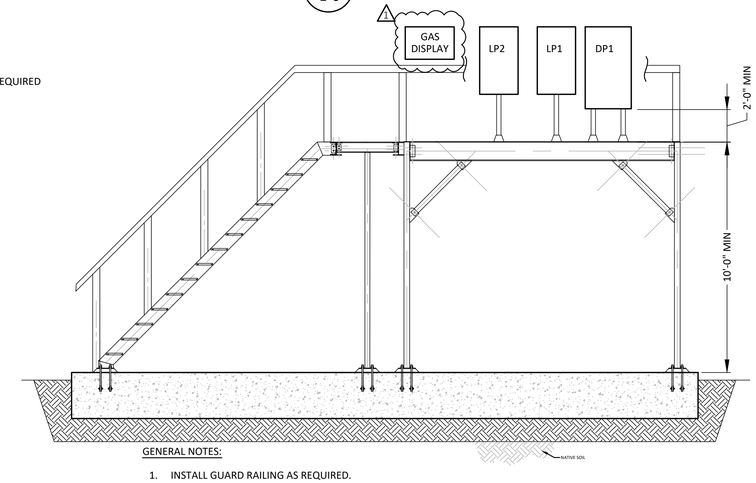


GENERAL NOTES:

1. INSTALL GUARD RAILING AS REQUIRED.

14 E-6 TYPICAL CHARGER SUPPORT DETAIL

SCALE: NTS

NO.	REVISION	DATE
	ADD SHUNT TRIP FOR GAS DETECTORS	7/6/2023
	ADD EM LIGHTING FOR PATH OF EGRESS	
	REVISED CABLE REEL DETAIL	

DESIGN BY: FSANTIAGO
DRAWN BY: FSANTIAGO
CHECKED BY: CRYLES
SCALE: NONE
JOB NUMBER: 498355

TRC ENGINEERS, INC.
505 E. HUNTLAND DRIVE, STE. 250 AUSTIN, TX 78752
T.B.P.E. FIRM REGISTRATION # F-8632
(512) 454 - 8716

STATE OF TEXAS
CHRISTOPHER R. RYLES
114527
LICENSED PROFESSIONAL ENGINEER
APRIL 14, 2023

CITY OF SEGUIN, TEXAS
GOLF CART BARN
ELECTRICAL DETAILS

SEGUIN TEXAS
It's real.

SHEET
E – 6

APRIL 2023

C:\PW\WORKING-TRD\D0145319\E-6 ELECTRICAL DETAILS.DWG - 8/29/23

ADDENDUM NO. 3

SEPTEMBER 7, 2023

CITY OF SEGUIN, TEXAS

GOLF CART BARN
BID NO. TF-2023-44

TRC ENGINEERS, INC.
T.B.P.E. FIRM REGISTRATION # F-8632
809 E. COURT ST, SUITE 106
SEGUIN, TEXAS 78155

BID DATE: September 12, 2023
BID TIME: 3:00 P.M. (CDST)
BID NO.: TF-2023-44

The following additions and changes are hereby made a part of the Specifications and Drawings for TRC Project No. 498355:

1) Reference the BID FORM. Delete page 00 41 00-3 and replace with the new attached 00 41 00-3 page marked "Addendum #3" Bid Item P.6. was 1000 gallons, changed to minimum 450 gallons.

2) Reference the drawings, Sheet S2, FOUNDATION PLAN. And Sheet S3, FOUNDATION SECTION AND DETAILS. Delete Sheets S2 and S3 in their entirety and replace with the new Sheets S2 and S3. Foundation is revised to have a uniform finished floor elevation.

3) Reference Specification 08331 and CivCast Question #18: Overhead doors will be manually operated, not motorized.

4) Construction Cost Estimate is $750,000

5) Questions posted on CivCast after Addendum #2 was posted are as follows:

Q#11: Would you please post the pre-bid meeting attendees list?
A: Attendees list has been posted in Addendum #2

Q#12: Sheet E-5 shows a cable tray coming from both panels to all of the chargers, if we were to do it this way we would provide tray cable from the panels to all of the charger locations ran in the cable tray. However, detail 9 sheet E-6 and the feeder schedule on sheet E-2 shows it to be ran in conduit. Please clarify.
A: Detail 9 on sheet E-6 is no longer valid

Q#13: What submittals are required to be turned in?
A: While not a complete list, the following items will need submittals: Cart Barn, Wash Rack Canopy, Concrete Mix Design, Oil-Water Separator, Inlet, Slab Foundation Design (since it is partially dependent on final submitted barn design), Saltless Water Softener, and Electrical Components.

Q#14: On addendum #2 Bid item P.13 specifies the density test for subgrade and backfill. Which bid item should include the testing for the concrete and how many?

A: Testing for concrete shall be included in the respective bid items for the barn and the wash rack. Per the specifications, frequency is "Obtain one composite sample for each day's pour of each concrete mix exceeding 5 cu. yd., but less than 25 cu. yd., plus one set for each additional 50 cu. yd. or fraction thereof."

Q#15: There is a section 09915 - Protective Coatings - could you please specify what items get painted? any painting inside the barn?

A: "We are not aware of any items that necessarily require painting"

Q#16: Detail 13 on E-6 requires "Contractor shall provide Structural Support as Required." Is this provided by the city as part of the charging Stations? if not, do you have a detail for it?

A: The City is not providing the structural support and there is not a detail for it. The contractor needs to have this design as part of the barn design and provide submittals for review and approval.

Q#17: The overhead doors are calling to be insulated. This building is non-insulated. Are insulated doors necessary as part of basebid?

A: Insulation is included as two additive-alternate items at the end of the bid form. Insulation for the doors shall be included in the bid item for "walls ".

Q#18: The Overhead doors are called out to be motor operated, with a 1hp motor. The manufacturer recommends a 1/3hp motor, will this be sufficient?

A: Overhead doors are manually operated.

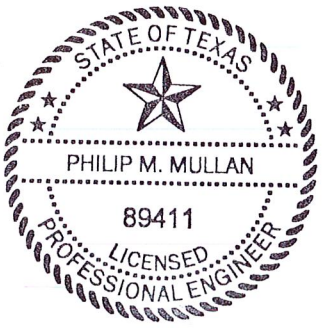
Q#19: The Overhead motor calls for a DC disc with selectable progressive braking. The specified motor, Overhead door RSX does not have this component. Will a standard factory motor be accepted instead?

A: Overhead doors are manually operated.

Q#20: The overhead door specifications call for an adjustable linear limit system activated by opto sensors. Is there any other information that can be provided for this spec? Door manufacture is not sure what to provide.

A: Overhead doors are manually operated.

6) End this Addendum No. 3, September 7, 2023.



TRC Engineers, Inc.

9/7/23

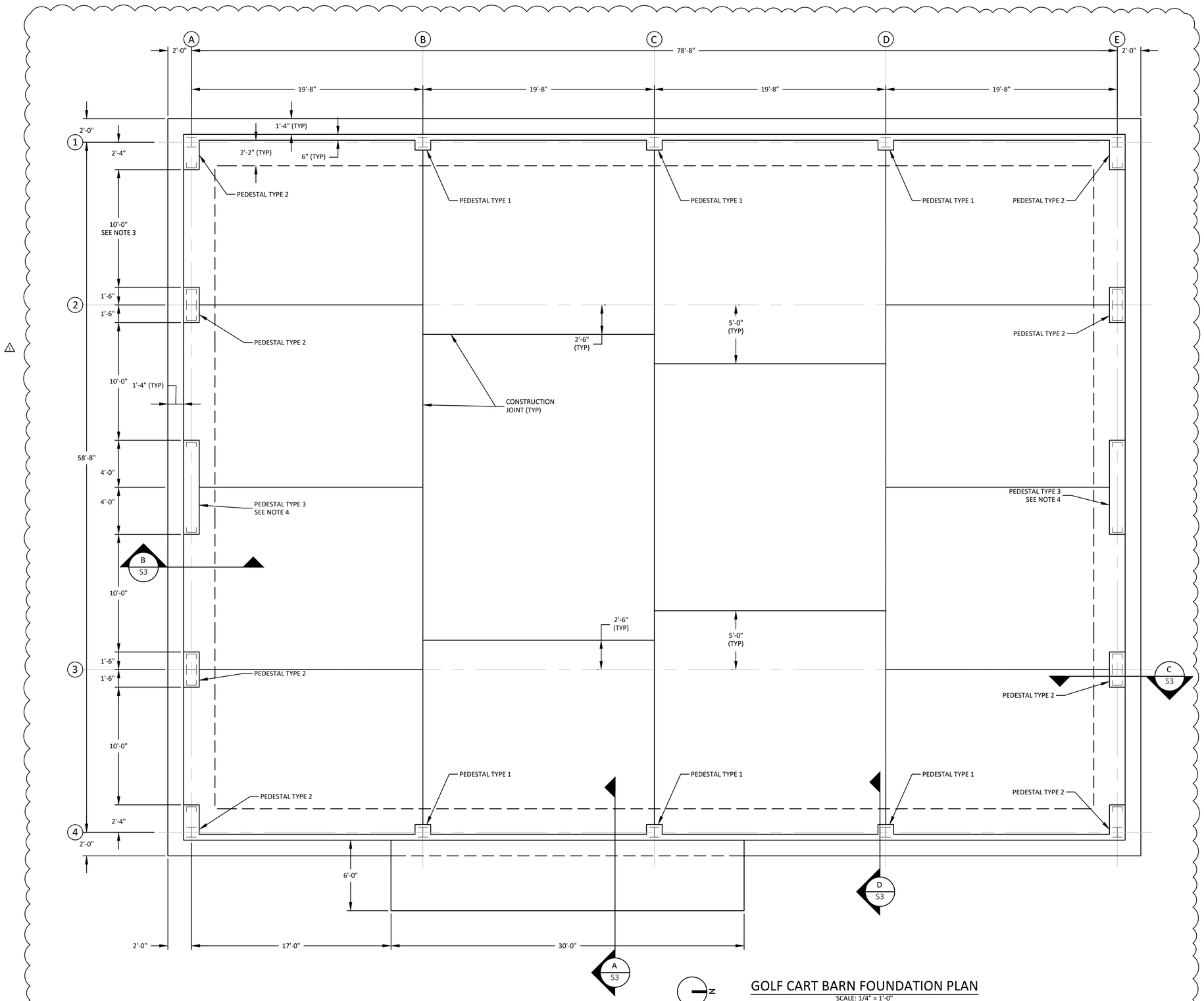
Philip M. Mullan, P.E.

The Contractor shall acknowledge receipt of this Addendum on the face of the sealed envelope in which he submits his bid, in the space provided in the proposal and by signing this Addendum and attaching it to his bid proposal.

_____ _____

Name and Title Date

CITY OF SEGUIN GOLF CART BARN BASE BID				
ITEM NO.	NO. OF UNITS	UNIT	ITEM AND UNIT PRICE (FILL IN BOTH SCRIPT AND FIGURES)	TOTAL AMOUNT
P.4.	4	EA.	For furnishing all material, labor, and equipment to install and maintain **tree protection** at location shown on the plans, complete in place, for the sum of: _____ _____ Dollars _____ Cents ($) per each	$_____
P.5.	1	L.S.	For furnishing the required **Proposed Golf Cart Barn Metal Building** for the project, including but not limited to mechanical, electrical, and plumbing systems for both the building and the site, concrete slab foundation, subgrade excavation, fill, and preparation, offsite disposal of excavated material, and miscellaneous appurtenances, to include all construction not specifically described in other bid items, ready for use by the Owner, for the sum of: _____ _____ Dollars _____ Cents ($) per lump sum	$_____
P.6.	1	L.S.	For furnishing the required minimum 450-gallon **Oil-Water Separator (OWS)** for the project, complete in place, for the sum of: _____ _____ Dollars _____ Cents ($) per lump sum	$_____



GOLF CART BARN FOUNDATION PLAN

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

NOTES:

1. CONTRACTOR TO SUBMIT SEALED PLANS FOR THE PROPOSED BARN STRUCTURE FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.
2. CONTRACTOR TO CONFIRM PEDESTAL SIZES BASED ON THE COLUMN DIMENSIONS FROM THE BUILDING MANUFACTURER.
3. CONTRACTOR TO CONFIRM PEDESTAL SIZES BASED ON THE DOOR JAMB DIMENSIONS TO PROVIDE 10 FT OF CLEARANCE FOR THE DOOR.
4. THE TOP OF PEDESTAL TYPE 3 SHALL BE FLUSHED WITH THE FLOOR.

NO.	REVISION	DATE
1	ADDENDUM NO 1	9/5/2023

DESIGN BY: THPHAM
DRAWN BY: THPHAM
CHECKED BY: RALAVI
SCALE: 1/4" = 1'-0"
JOB NUMBER: 498355

TRC ENGINEERS, INC.
505 E. HUNTLAND DRIVE, STE. 250 AUSTIN, TX 78752
T.B.P.E. FIRM REGISTRATION # F-8632
(512) 454 - 8716

04/28/2023

STATE OF TEXAS
REZA ALAVI
130726
LICENSED
PROFESSIONAL ENGINEER

CITY OF SEGUIN, TEXAS
GOLF CART BARN
FOUNDATION PLAN

SEGUIN TEXAS
It's real.

SHEET
S2

APRIL 2023

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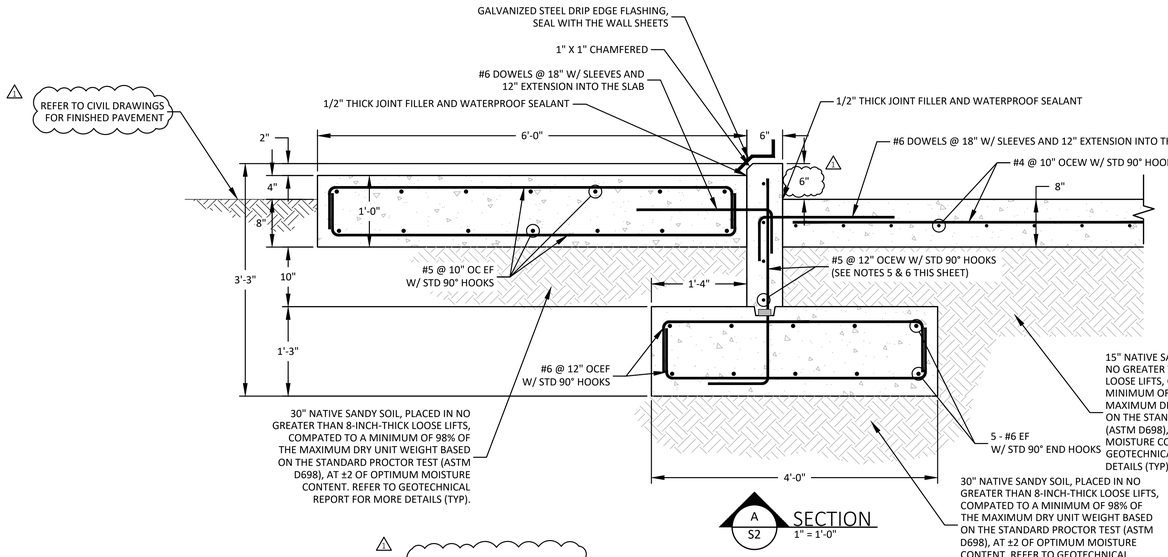
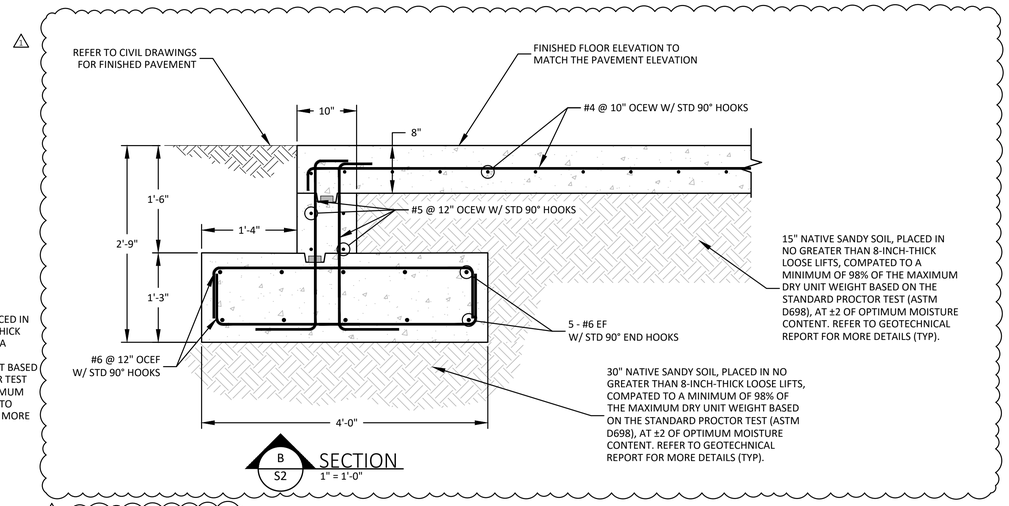
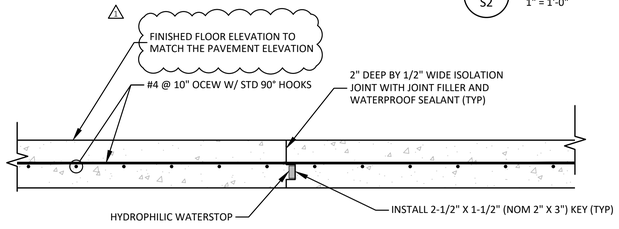
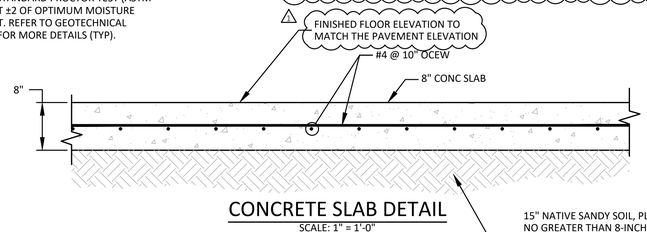






CONSTRUCTION JOINT DETAIL
SCALE: 1" = 1'-0"



CONCRETE SLAB DETAIL
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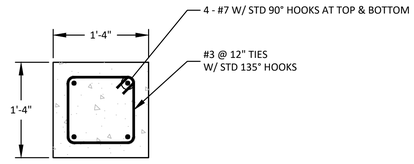
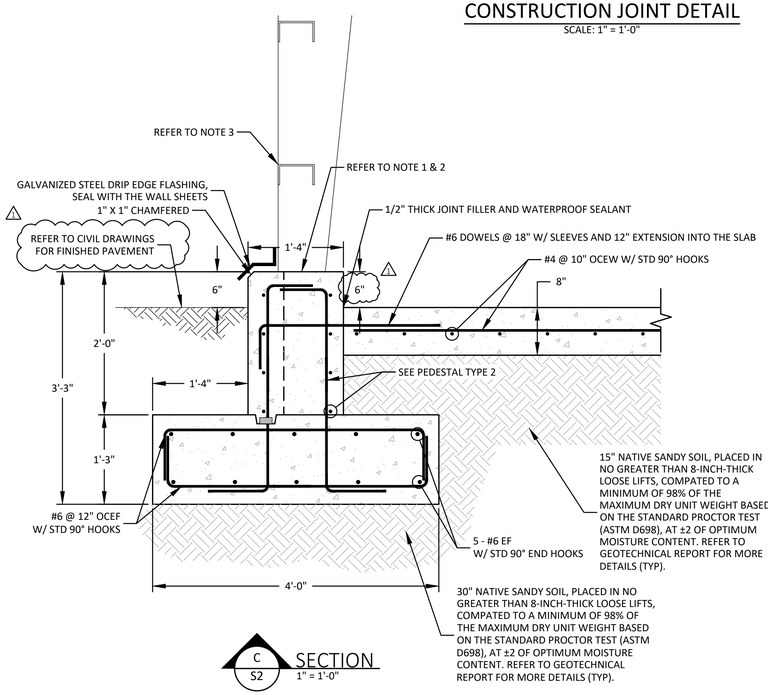
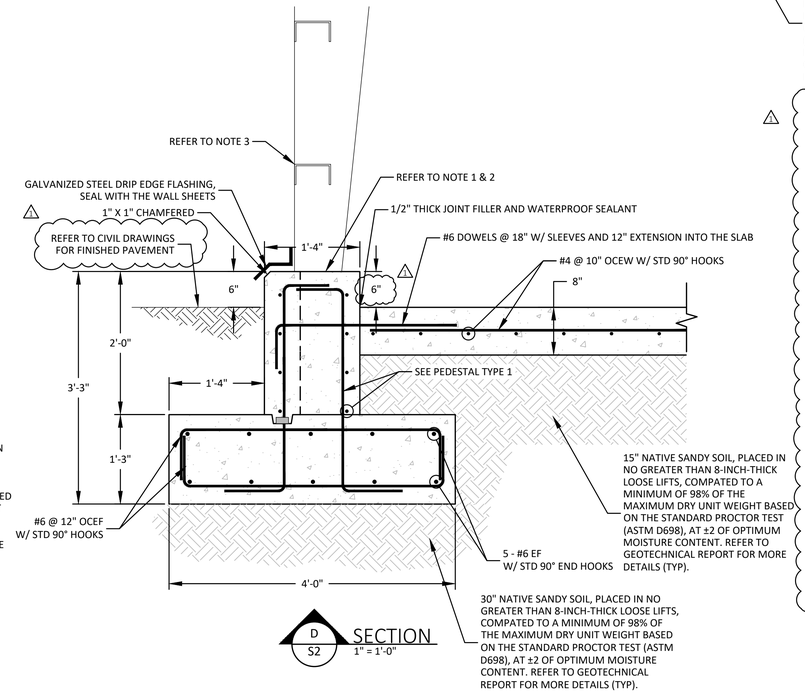
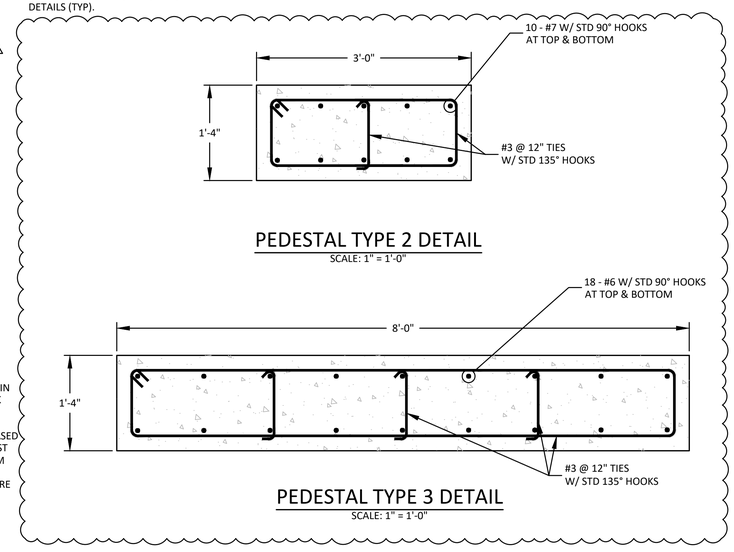


PEDESTAL TYPE 1 DETAIL
SCALE: 1" = 1'-0"







PEDESTAL TYPE 2 DETAIL
SCALE: 1" = 1'-0"

PEDESTAL TYPE 3 DETAIL
SCALE: 1" = 1'-0"

NOTES:
1. CONTRACTOR TO CONFIRM PEDESTAL SIZES BASED ON THE COLUMN DIMENSIONS FROM THE BUILDING MANUFACTURER.
2. THE BASE PLATE OF THE COLUMN SHALL HAVE A MINIMUM OF 2" CLEARANCE ON ALL SIDES.
3. WALL GIRTS TO BE FLUSHED WITH THE COLUMNS.
4. THE HYDROPHILIC WATERSTOP SHALL BE RESISTANT AGAINST ANY POTENTIAL CHEMICALS EXPECTED IN THE BUILDING.
5. THE LONGITUDINAL REBARS OF THE GRADE BEAMS TO BE PLACED CONTINUOUSLY AROUND THE BUILDING INCLUDING THE PEDESTAL LOCATIONS.
6. THE LONGITUDINAL REBARS OF THE GRADE BEAMS SHALL BE TERMINATED AT THE BUILDING CORNERS, USING STANDARD 90° HOOKS. THE END HOOKS SHALL BE PLACED HORIZONTALLY TO INTERLOCK WITH EACH OTHER.

NO.	REVISION	DATE
1	ADDENDUM NO 1	9/5/2023

DESIGN BY: THPHAM
DRAWN BY: THPHAM
CHECKED BY: RALAVI
SCALE: AS SHOWN
JOB NUMBER: 498355

TRC ENGINEERS, INC.
505 E. HUNTLAND DRIVE, STE. 250 AUSTIN, TX 78752
T.B.P.E. FIRM REGISTRATION NO. F-8632
(512) 454 – 8716

04/28/2023
STATE OF TEXAS
REZA ALAVI
130726
LICENSED PROFESSIONAL ENGINEER

CITY OF SEGUIN, TEXAS
GOLF CART BARN
FOUNDATION SECTIONS & DETAILS

SEGUIN TEXAS
It's real.

SHEET
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APRIL 2023

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