TEXAS WOMAN'S UNIVERSITY™

Procurement & Contracts
twubids@twu.edu

ADDENDUM # 2

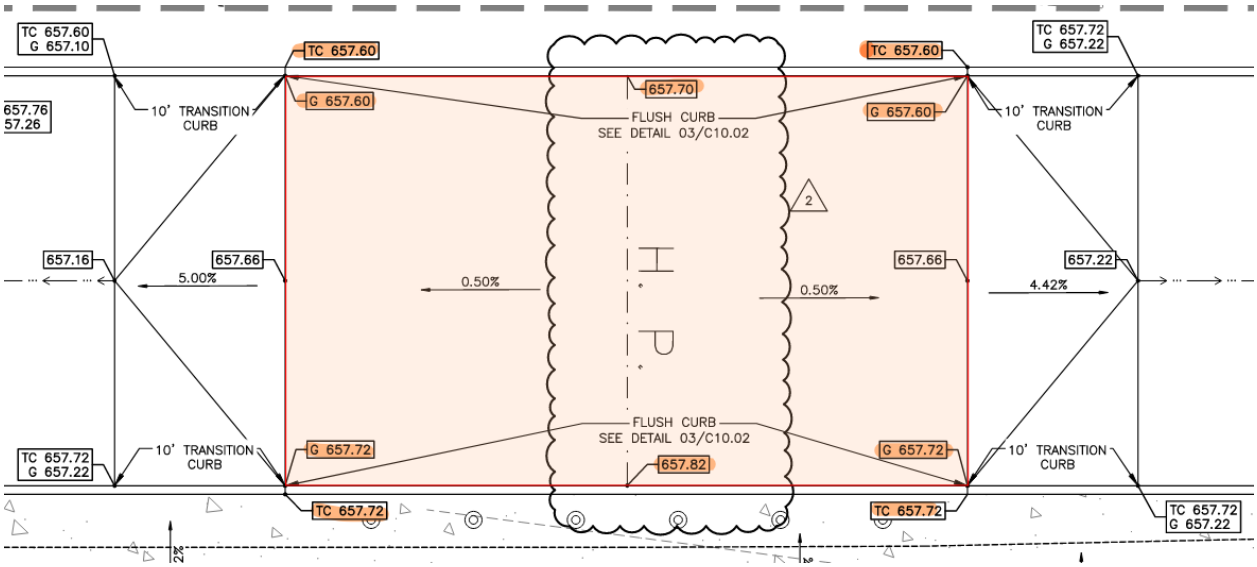
RFP-731-24-008-JC
Bezos Academy Denton
Questions and Answers

The Summary of work section in the specifications (01 11 00) does not appear to have been updated for this proposal.

- Several dates are 2006 and 2007
- 1.6 references FAA Form 746-1
- LDs listed as $1,000/day

Please confirm accuracy/provide updated specification section. New bid form issued as part of Addendum 02.

Please confirm flush curb elevations on C5.01 Detail C The flush curb elevation at the front of the building differs. The following detail has been updated with Addendum #2 to correctly show the high point. The highlighted area below shows the limits of the flush curb.



C8.00 indicates a 6" fire line to building and FDC. P1.00 identifies a 4" line. Please confirm which is correct. Civil will show a reducer 5' from the edge of the building to reduce the 6" fire water line to the 4" line required by MEP internal to the building.

C8.00 indicates a 6" sanitary at grease trap, P1.00 identifies a 4" line. Please confirm which is correct. Civil has updated their plans to show a 4" line to wye off the main 6" line. The Utility Plan has been updated with the correct sewer line sizes, slopes & lengths.

It does not appear that the Geotech report in the specifications has pavement and subgrade recommendations as identified in detail 3/C10.01. Please advise if there is additional Geotech information available. Geotech report is available from architect on request.

in detail 9/C10.01, lime stabilization is identified. We are unable to locate this requirement in the geotechnical report provided. Please clarify Geotech report is available from architect on request.

Please provide signage plans for coordination with detail 6/C10.02 Interior signage is not included in scope of project other than what is require by code.

Per E7.11 one line diagram "CONTRACTOR SHALL PROVIDE (2) 4" CONDUITS WITH PULL WIRE PER GCEC REQUIREMENTS. CONTRACTOR SHALL COORDINATE EXACT ROUTING AND EQUIREMENTS WITH UTILITY REPRESENTATIVE PRIOR TO FINAL BID. PRIMARY CONDUCTORS BY GCEC." It is unlikely this coordination will be able to be completed prior to bid; for bidding purposes can you provide a length or location that should be assumed. Approximate length according to utility is 1,100 ft. per initial utility coordination. Final distance to be verified by utility company.

Please confirm all Data and low voltage will be in the GC contract. Provide all items per the technology drawings and specifications.

Will the contractor be responsible for final test and balance of HVAC systems. GC to bid final test and balance of HVAC system. Owner to decide if this will be in project contract or separate contract.

Who will be the AHJ on this project? TWU is its own AHJ but defers to state fire marshal's office when required. City of Denton will be the AHJ for all utility connections and right-of-way drive connections.

Is permitting and permit cost by owner? Yes, by owner

Please confirm this is a tax exempt project. This is a tax exempt project

Criteria 9 in the RFP states "Complete the "Respondent's Pricing and Delivery Proposal" included with the Bidding Documents" But there is no such documents in the bid package. Please see addendum 02

Can you please provide more information on the security system, cameras etc. There is no information given in the specs. Requirements for the scope of these systems is shown per the technology drawings

Section 3.9.1 states to complete the "Respondent's Pricing and Delivery Proposal" included with the bidding documents. Is there a specific form that will need to be completed as part of this section for submission? See Addendum 02 for bid form

Could you please provide a list of plan holders or general contractors who are bidding this project, or point me in the direction of someone who can? Pre-Bid Conference sign-in sheet issued by addendum

Addendum #1 issued clarifying that the 'Bid Proposal Form referenced throughout document located in the Project Manual by VLK page 27-29. This form must be completed and submitted with proposal. Please see list of RFIs/Clarifications regarding the RFP.' However, in the Project Manual file from VLK, pages 25-27 out of total 1055 pager, are a certification of criminal history record information form and a Crowley ISD Criminal History

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Record Information Authorization form. Attached for reference. Can the Bid Proposal Form be sent out as a separate attachment for the Addendum? See Addendum 02

Will there be a full Geotech report? Structural Drawings only have compaction specifications for the flex base, but no excavation depth of native soils is specified. Specifications only contain the boring logs, but no recommendations for earthwork. Geotech report available through architect by request

Will the Site Furnishings be provided by Owner or G.C.? Site furnishing to be provided by owner/tenant. See allowances for commuter shelter allowance

On drawing A3.21, Details 3 and 7 show some lockers. Are these pre-manufactured lockers or are they millwork? Can you please provide more information on these lockers? Lockers to be by owner/tenant

Will TWU require a specified fire alarm vendor for the Bezos Academy? Yes, we require Notifier and use the CLSS system to communicate via cellular to our contract monitoring company

TWU Preschool

1820 Frame Street, Denton, TX 76209

Date: 04/04/2024

RFIs

- Do we need to include the cost of badging? Yes
- What are items that are included in allowance A? Does it include the structured cabling, low voltage etc.? Please clarify. If referencing Allowance No. 1, generally the scope for technology is covered in the documents. The allowance is intended to help TWU purchase additional equipment, if needed.

Site Utilities:

- Is TWU or the City of Denton responsible for water and sewer tap/connection and bringing utilities to the property? If the contractor does it, who is responsible for the tap fees? Contractor to provide utility connections and runs to serve building Tap fees by owner
- There is not a check valve indicated on the Fireline. If the fire department pressurizes the FDC, what keeps the water from going to the city main? Please clarify. Backflow preventors are to be installed inside building. Refer to sheet P2.11 for installation location
- Are the downspouts connected to the storm drain in the playground area? Nothing is shown on the plans. Per sheet C6.0 DA-1 is not on our scope of work. Please clarify. Downspouts are to be connected to the storm line.
- Who is responsible for the grading in the playground area? Per sheet C7.0 note 2, playground area not factored into drainage analysis. Grading of the playground is included in the scope of work per grading plan.

Attic Plan:

Platform live load is listed on the roof framing plan. See Addendum 02 for all other information

- Is the wood truss package design built? If so, we need the structural loads (including the platform load, pony wall safety handrail, mechanical loads etc.) Wood truss package is turn key.
- Per sheet 4.11, section 3, is continuous acoustical insulation spray foam or batt insulation?
- Per sheet S2.02, please clarify if 6' is the minimum clearance for the truss? Yes, as shown on the Typical Truss Profile drawing

Acoustic batt insulation is to be provided as specfied. this is a separate product from thermal batt insultation

Kitchen:

- Per sheet A3.21 detail 17, please confirm that hand sink, the three compartment sink with built-in stainless-steel tables are owner furnished and contractor installed? Contractor to provide and install these items

Masonry:

- Per sheet A3.11, elevation 6, is the dark grey colored brick considered typical brick type "B"? Please confirm. Contractor to provide and install these items

Storefront:

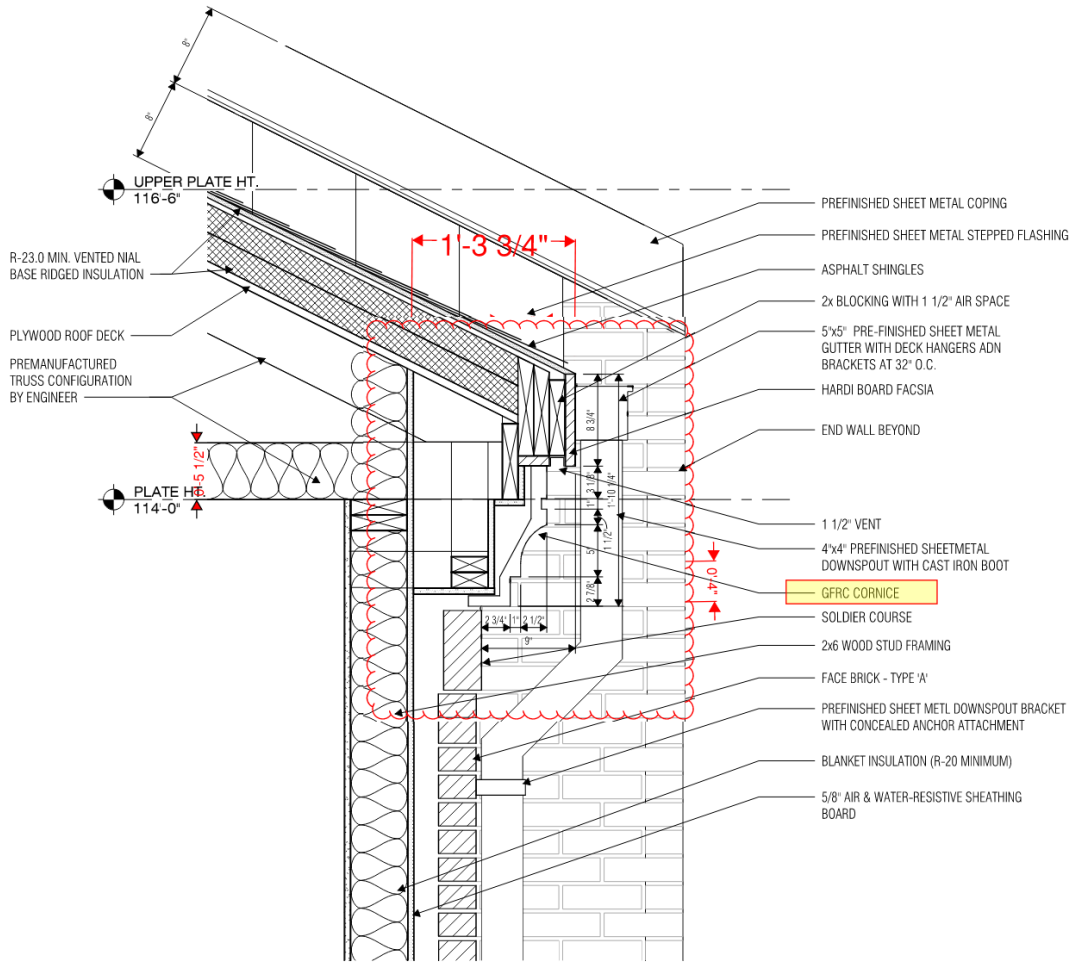
- Are the interior aluminum door frames storefront as detail H4/A7.11 shows or are they Frameworks type 2 as called out in the specs? See Addendum 02 for specification
- Is there a BOD for the impact resistant glazing type CI1 and CI2? School Guard?

Interior Signage:

- Does this project have any interior signage requirements? No interior signage is required other than what is required by code.

GFRC:

- There must be 5-1/2” from the face of the GFRC and the structural back up.

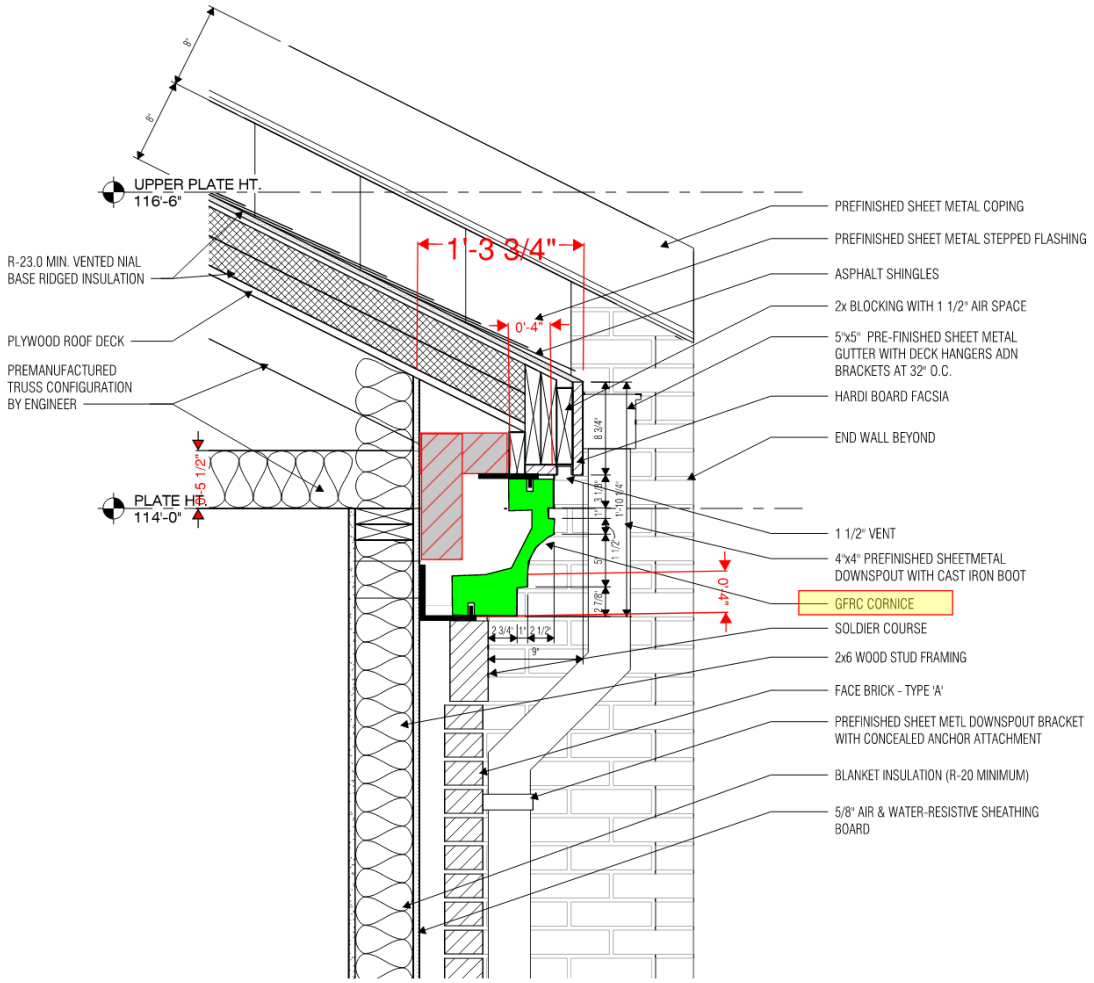


3 WALL SECTION - BACK WALL - ROOF
SCALE: 1 1/2" = 1'-0"

Please see for possible correction below

GFRC profile is shown for design intent. Engineering and final installation of GFRC to be reviewed as part of the submittal process.

Possible correction:



3 WALL SECTION - BACK WALL - ROOF
SCALE: 1 1/2" = 1'-0"

McGOUGH

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TWU – Denton Preschool Facility
Request for Proposal
RFP-731-24-008-JC

Request for Information
April 04, 2024

Below is a list of Request for Information (RFI) items related to above referenced RFP:

1. Civil – The dumpster pad requirement on C3.00 calls for 7" thick pavement and to refer to Detail 3/C10.01. However, Detail 2/S2.01 indicates a 6" slab with grade beams. Please confirm if we are to follow the Civil Drawings or the Structural Drawings for the Dumpster pad requirements. Provide 7" thick pavement as shown on civil drawings
2. Alternates – Specification Section 01 23 00 – Alternates, 1.4, A – Alternate #01 requests to General Contractor to provide an alternate for a structured slab per the narrative listed within this spec section. The narrative doesn't exist in Spec Section 01 23 00. Can you please provide the narrative for Alternate #01. See Addendum 02 for clarification
3. Geotech Report – Can you please provide a copy of the geotechnical report. Only the borings were provided as part of the project manual. Geotech report is available from architect upon request
4. Will a bid form be provided for submission of proposals? See Addendum 02 for clarification
5. Specification Section 10 56 13 Metal Storage Shelving – Can you confirm if this will be Contractor Furnished, Contractor Installed? If so, can you identify where the storage shelving is located on the plans? Metal storage shelving provided owner or tenant
6. Detail 17/A3.21 – There appears to be stainless steel counters, shelving, sinks and faucets. Can you confirm if this is CFCI? If so, please provide additional details / information / specifications. Stainless steel counters, sinks and faucets to be furnished and installed by contractor
7. Sheet E1.00 – The primary ductbank runs plan north, but doesn't show the where the utility connection point is. Can you provide more information to understand primary ductbank routing or provide a linear foot of ductbank that the General Contractor should include in the base bid.
8. Electrical – Will conduit for all branch circuits (lighting & power) be required? Yes, conduit required for all branch circuits per specification 26 05 33 2.2
9. Roofing – The plans call for Modified Bitumen roof, however the specification is for a PVC Membrane Roof. Please confirm roof type and if Modified Bitumen, please provide specification.
10. Roofing – Would a TPO roof system be acceptable? Modified bit will be the only roof accepted. See Addendum 02 for specifications
11. Roofing – Doesn't a Class A roof system require at least ¼" Densdeck over plywood decking? Install deck, insulation, tapered insulation, and cover board per code to accommodate a Modified Bitumenous roof installation.

12. Roofing – Is there a specification for the pre-fabricated, pre-finished operable louver dormers? See Addendum 02 for added specifation

13. Finishes – Will there be a formal specification for the Acoustic Baffels? See Addendum 02 for added specifation

14. Finishes – Classroom 120 shows indicates wall tile T-03/T-04 on the Room Finish Schedule, but other classrooms only indicate paint finish. Please confirm if this is correct. Classroom 0120 will have PT-01 paint finish, not wall tile.

15. Finishes – Room 0121F CR STG indicates ACT-01 ceiling finish, however other CR STG rooms indicate gypsum board ceilings. Can you confirm this is correct? Classroom Storage 0121F and Classroom Storage 0109F will have a gypsum board ceiling because of the attic hatch. The other Classroom Storage rooms will have ACT ceilings.

16. Furnishings – Window Treatment specifications include Draper, Inc., Hunter Douglas & MechoShade as acceptable manufacturers. The finish schedule calls for SWF Contract. Please confirm if the we should follow the specifications or the finish schedule. Please use SWF Contract Precision + Cordless Manual roller shades. See Addendum 02 for added specification

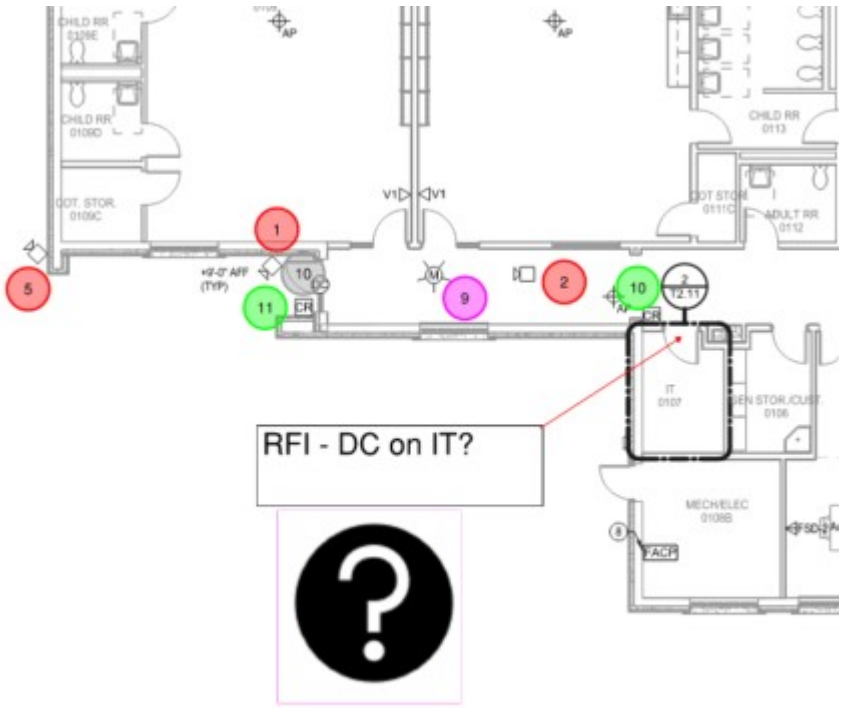
17. Signage – Is there a signage schedule / details for exterior signage? No interior signage is required other than what is required by code. Exterior signage by allowance.

18. Signage – Nothing is indicated for interior room signage in the plans or specifications. Will this be OFOI? If not, please provide interior room signage schedule and specification. No interior signage is required other than what is required by code. Exterior signage by allowance.

1. TWU Denton Preschool needs a few more bath acc. model # from the Architect.

See attached Pg A2.31. Blue marks on Schedule show model # needed and not found in Specs. Specs attached and marked for the only models noted. Items A1, E1, F1, G1, R1, S1 and T1 on Toilet Accessory Legend will be Lessee Furnished and Contractor installed. All other items including K1 will be furnished by owner or leasee and installed by them.

2. Should the below have the IDF door secured with a card reader? That will let administrators know the status of this door which holds a lot of important equipment. Yes, provide pathways as required only.



Thank you,

Ricky DeMalade

Estimator / PM

Harendt Construction Group, LLC.
rdemalade@hcgteam.com
817-854-3080 Office
817-854-3081 Fax
817-896-8633 Mobile
PO BOX 226
Dennis, TX 76439

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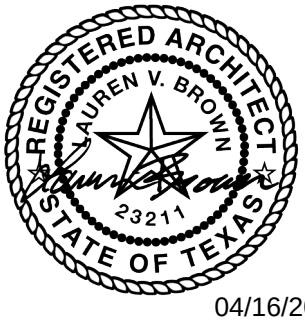
Project No. 23-018.00

April 16, 2024



04/16/2024

ADDENDUM NO. 2
TO THE
DRAWINGS AND PROJECT MANUAL
FOR
TWU - DENTON PRESCHOOL FACILITY
TEXAS WOMAN'S UNIVERSITY
DENTON, TEXAS

VLK ARCHITECTS, INC.
1320 Hemphill St., Suite 400
Fort Worth, TX 76104
817.633.1600 voice
vlkarchitects.com

2.1 GENERAL

A. This addendum modifies the drawings and project manual, dated February 29, 2024, as noted within and shall become part of the Contract Documents.

B. Each holder of proposal documents registered with the Owner will receive a copy of the addendum. Each prime proposer is responsible for distribution of information conveyed by this addendum to its sub-proposers and suppliers.

2.2 DOCUMENT 00 01 10 - TABLE OF CONTENTS

A. Page 00 01 10 – 1, Add the following: "PROPOSAL FORM for TEXAS WOMAN'S UNIVERSITY, Denton Preschool Facility, Bezos Academy"

2.3 PROPOSAL FORM

A. This document, attached hereto, is entirely new and is hereby made a part of this addendum.

3.2 TEXAS WOMAN'S UNIVERSITY SUPPLEMENTARY GENERAL CONDITIONS

A. Delete this document in its entirety and insert attached revised document.

3.3 TEXAS WOMAN'S UNIVERSITY SPECIAL CONDITIONS

A. Delete this document in its entirety and insert attached revised document.

3.4 SECTION 01 11 00 - SUMMARY OF WORK

A. Delete this section in its entirety and insert attached revised section.

3.5 SECTION 01 21 00 - ALLOWANCES

A. Delete this section in its entirety and insert attached revised section.

3.6 SECTION 07 52 00 - MODIFIED BITUMINOUS MEMBRANE ROOFING

A. This section, attached hereto, is entirely new and is hereby made a part of this addendum.

3.7 SECTION 07 53 00 - SINGLE-PLY MEMBRANE ROOFING

A. Delete this section in its entirety.

3.8 SECTION 07 62 00 - SHEET METAL FLASHING AND TRIM

A. Page 07 62 00 - 5, Article 3.3 INSTALLATION; Add the following to Paragraph:
"N. Half Round Dormer Louver: Prefinished aluminum dormer louver as manufactured by Copper Craft, a Flack Global Metals Company; 300 Railhead Road Fort Worth, Texas 76106; 800.486.2723.
1. Diameter and height as indicated on the drawings.
2. Insect screen of compatible material.
3. Color to be selected from manufacturer's full range of colors."

3.9 SECTION 09 51 00 – ACOUSTIC CEILINGS

A. Page 09 51 00 – 2, Article 2.1 MATERIALS; Add the following Paragraph:
"H. Acoustic Baffles (AB-01): Provide acoustic baffles and hanging system by Acoufelt. North Texas representative; Kallaman LLC; Phone 214.842.1010; www.acouflet.com. Refer to Material Finish Schedule for product information."

3.10 SECTION 10 14 00 - IDENTIFYING DEVICES

A. Page 10 14 00 – 1, PART 2 – PRODUCTS; Add the following Article:
"2.3 INTERIOR IDENTIFICATION GRAPHICS

A. Restroom Signage: "InTouch" photopolymer plaque signs as manufactured by ASI Sign Systems, Inc. (8181 Jetstar Drive, Suite 100, Irving, Texas, 75063) or approved equivalent.
1. Manufacture face panels utilizing an 1/8" integral photopolymer panel.
2. Face panel tactile and Grade 2 Braille graphics shall be raised a minimum of 1/32".
3. Treat the face panel to assure paint adhesion.
4. Colors to be selected by Architect to meet ADA requirements for contrast.
5. Characters and background of signs shall have eggshell, non-glare finish.
6. Sign edges shall be painted to match background.
7. Sign edges are to be smooth and free of saw marks and imperfections.
8. Sign design shall be provided at ta later date.
9. Typeface font and size shall be provided at a later date.
10. Lettering shall be computer generated, accurately reproducing the letterform."

B. Page 10 14 00 – 2, PART 3 – EXECUTION; Add the following Paragraph:
"C. Identification Graphics:
1. On hard surfaces (i.e. ceramic tile, masonry, or plastic laminate), install room identification signs plumb and square with the "Tuff-bond" silicone adhesive furnished by the manufacturer (foam tape is not allowed).
2. On painted gypsum wallboard or vinyl wallcovering, install room identification signs on backing plates with the "Tuff-bond" silicone adhesive furnished by the manufacturer (foam tape is not allowed).
a. The backing plate shall be 1/8" thick and shall be the same size as the face panel.
b. Screw the backing panel into molly bolts in the wall with two countersunk, flathead screws.
3. Tactile characters on signs shall be located 48 inches minimum above the finish floor or ground surface, measured from the baseline of the lowest tactile character and 60 inches maximum above the finish floor or ground surface, measured from the baseline of the highest tactile character.
4. Unless noted otherwise, install signs on latch side of the door such that clear floor space of 18 inches minimum by 18 inches minimum, centered on the tactile characters, is provided beyond the arc of any door swing between the closed position and 45 degree open position.
5. Installation shall comply with ADA requirements."

3.11 SECTION 12 24 13 - ROLLER WINDOW SHADES

A. Delete this section in its entirety and insert attached revised section.

3.12 REVISED DRAWINGS

A. Sheet Nos. C2.00, C3.00, C4.00, C5.01, C8.00, C8.01, C9.00, S2.02 and E7.11, dated April 16, 2024 and attached hereto, are revised drawings and are hereby made a part of this addendum.

END OF ADDENDUM NO. 2

PROPOSAL FORM
for

TEXAS WOMAN'S UNIVERSITY
Denton Preschool Facility, Bezos Academy

TEXAS WOMAN'S UNIVERSITY
DENTON CAMPUS

PROJECT NO. 100745

Name of Offeror_____

Date of Proposal_____

To: Board of Regents (Owner)
Texas Woman's University
Denton, Texas

PURSUANT TO AND IN COMPLIANCE WITH THE REQUEST TO PROVIDE A COMPETITVE SEALED PROPOSAL, AND THE CONTRACT DOCUMENTS RELATING TO: PROJECT NO. 100745 DENTON PRESCHOOL FACIILITY, BEZOS ACADEMY. The undersigned, having examined the drawings and specifications with related documents and the site of the proposed work, and being familiar with all of the conditions surrounding the construction of the proposed work, hereby proposes to furnish all labor, material, equipment, and supplies and to fully perform the Work in accordance with the Contract Documents, within the time set forth herein, and at the price set forth below. These prices are to cover all expenses incurred in performing the work required under the Contract Documents of which this proposal is a part.

In submitting this proposal, the Offeror agrees:

1. To hold my Proposal open through the sixtieth (60th) day following the day for submitting this Proposal.

2. To accept the provisions of the Instructions to Offerors regarding disposition of Proposal Security.

3. To enter into and execute an Agreement if awarded on the basis of this Proposal, and to furnish Performance and Payment Bonds in accordance with the Uniform General Conditions and Supplementary General Conditions.

4. To accomplish the Work in accordance with the Contract Documents.

5. To furnish to the Owner within 72 hours of notification as selected Best Value a breakdown of the proposal price separating the cost of materials to be incorporated into the real property from the cost of all other labor, materials, equipment, and services necessary to complete the work. (To be furnished by selected Best Value Offeror only.)

ADDENDA
The Offeror further agrees, and acknowledges, the following Addenda have been received and that the entire contents have been incorporated into this Proposal:

No._____, dated _____ No. _____, dated_____

No._____, dated _____ No. _____, dated_____

PROPOSAL ITEMS:

It is the intention of the Owner to award the contract for this project on the basis of the Best Value Proposal for which funds are available and as may be accepted by the Owner.

Each proposal item shall include all labor, materials, services and equipment necessary to perform all the Work and General Conditions items as described in the contract documents. The following lump sum prices shall be the basis of total compensation for furnishing and installing each item of work, complete in place:

BASE PRICING:

BASE PRICING COST INCLUDES ALL WORK AS SHOWN ON THE PLANS AND SPECIFICATIONS:

BASE PRICE: $_____

ALLOW ANCE NUMBER 1 – MISCELLANEOUS TECHNOLOGY:	$ 10,000.00
ALLOW ANCE NUMBER 2 – EXTERIOR MONUMENT SIGN:	$ 8,000.00
ALLOW ANCE NUMBER 3 - PREFABRICATED COMMUTER SHELTER	$ 25,000.00
ALLOW ANCE NUMBER 4 – EXTERIOR SECURITY CAMERAS	$ 10,000.00
ALLOW ANCE NUMBER 5 – BUILDING DEDICATION PLAQUE	$ 2,500,00

TOTAL BASE PRICE: $_____

ALTERNATE PRICES:

ALTERNATE PRICING INCLUDES ALL WORK AS SHOWN ON THE PLANS AND SPECIFICATIONS (INCLUDING BUT NOT LIMITED TO SECTION 01 23 00 - ALTERNATES):

A. ALTERNATE NO. 1, State in the proposal form the amount to be added to the base proposal to provide a structured slab as described in the narrative provided as a part of this specification section. The narrative provided is intended to allow pricing of a structured slab in lieu of the slab on grade described in the construction documents. If the alternate is accepted, additional drawings and specifications will be provided as required to establish intent for a complete structured slab foundation system.

: $_____

Break Out Pricing:

BUILDER'S RISK INSURANCE COST INLCUDED IN BASE PRICE:

$_____

**Amount shall be shown in both words and figures. In case of discrepancy, the amount shown in words will govern. Total Base Price amount shall include the Owner's Construction Contingency Allowance.

TIME FOR COMPLETION OR LIQUIDATED DAMAGES

The undersigned agrees to complete all of the work, ready for the Owner's acceptance as substantially complete no later than 365 calendar days following notice to proceed with Final Completion not later than 30 days following Substantial Completion, and as set forth in the Special Conditions, and fully realizing that the Contract will carry liquidated damages provisions.

PARTICIPATION BY HISTORICALLY UNDERUTILIZED BUSINESSES:

The Offeror agrees that, if awarded the Contract, it will have "Historically Underutilized Businesses," as that term is defined in the HUB PARTICIPATION PROGRAM section of the Request for Proposals, participate in the Work to the extent indicated below. Such participation in the Work means that amounts equal to or greater than the stated percentages of the total contract amount will be paid to such Historically Underutilized Businesses for work done under Subcontract, for the supply of materials to be incorporated in the Work, and (if the Offeror itself is a Historically Underutilized Business) for work accomplished by the Offeror with its own forces. Double counting shall be avoided.

A. If an award is issued, do you plan to utilize a subcontractor for all or any portion of the contract?
___Yes _____No
B. If yes, what percentage of work will be subcontracted with a HUB? _____%
C. If "no" to question A above, explain below, or in a separate document, why no subcontracting opportunities are available or what efforts were made to subcontract part of this project?

_____

D. Are you certified as a Texas HUB? ___Yes ___No GSC VID/Certificate No.: _____

ADDITIONAL PROPOSAL CONDITIONS:
Under Section 231.006, Family Code (Relating to Child Support), the Offeror certifies that the individual or business entity named in this proposal is not ineligible to receive the specified payment and acknowledges that this contract may be terminated and payment may be withheld if this certification is inaccurate.

.If the paragraph above is applicable, provide name and social security number of each person with at least 25% ownership. Offerors that have pre-registered this information on the GSC centralized master offerors list have satisfied this requirement.

By signature of this proposal, offeror certifies that the corporation is in good standing with all requirements of Chapter 171, State of Texas Tax Code, regarding Franchise Tax as defined in the Tex. Bus. Corp. Act Ann art. 2.45 (Vernon Supp. 1996).

I am an agent of the Proposal Firm named below, authorized to submit this Proposal. A copy of current Power of Attorney is attached certifying agent's authority to bind Offerors. (If required).

Signed and notarized Affidavit form is attached.

PROPOSING FIRM

By: _____ SEAL IF INCORPORATED (TITLE)

ADDRESS:

_____

_____

_____

Phone: _____

Fax: _____

CONTRACT AGREEMENT

1. The agreement between the Owner and the Contractor will be executed on the Owner's Standard Form TWU A202.

This page intentionally left blank

TEXAS WOMAN'S UNIVERSITY
SUPPLEMENTARY GENERAL CONDITIONS

1.0 GENERAL

1.1 These Supplementary General Conditions amend and supplement the Uniform General Conditions and shall govern in the event of any conflict with said General Conditions.

1.2 The Uniform General Conditions, these Supplementary General Conditions and Special Conditions, together with the Drawings, Project Manual and the Owner-Contractor Agreement are complementary to the Contract, each with the other, as if therein specifically reiterated.

1.5 REF: ARTICLE 1.5
The State Fire Marshal's Office is the authority having jurisdiction on life safety items. Otherwise, Texas Woman's University is the authority having jurisdiction.

2.3 REF: ARTICLE 2.3 "Venue in Suits"

2.3.1 The venue for any suit shall be in the jurisdiction of Denton County in lieu of Travis County.

3.1.2 REF: ARTICLE 3.1.2 "Owner's Designated Representative"

3.1.2.5 The Associate Vice President of Facilities Management will provide general administration of the Contract. The Director of Planning and Design Services or their designee will be the Owner's representative during construction and until final payment.

3.3.2 REF: ARTICLE 3.3.2 "Contractor's Management Personnel"
3.3.2.1 TWU requires full-time on-site supervision by dedicated superintendent. The project superintendent shall be responsible for this project and site during the duration of the construction until completion.

5.2 REF: ARTICLE 5.2 Insurance Requirements

5.2. The TWU Third Party Insurance Standards document for supplemental requirements is published via this link: https://twu.edu/media/documents/risk-management/TWU-Third-Party-Insurance-Standards.pdf

6.1.1 REF: ARTICLE 6.1.1 "Copies Furnished"

6.1.1 The Contractor will not be furnished any complete sets of Contract Drawings and Specifications they are posted on line for Contractor to print what is needed for the project.

8.3.1.4 REF: ARTICLE 8.3.1.4 "Shop Drawings and Submittals"

8.3.1.4 All submittals will be subject to review by the Owner and routine review procedures shall be in accordance with those established by the Owner at a pre-construction conference held at the start of the Work. Items on which submittals are required are listed in the specifications but failure to list an item does not exempt the Contractor from being required to submit on such items if requested by the Architect/Engineer and/or Owner.

11.8 REF: 11.8 Pricing Change Order Work.

11.8 The contractor will comply with section 11.8 Pricing Change Order Work when requesting approval to use of the Owner's Contingency funds via the TWU Construction Change Owner's Contingency Authorization (CCOCA) process.

12.1.1 REF: ARTICLE 12.1.1 "Substantial Completion Inspection"

12.1.1 In addition to items listed in this section. The contractor shall submit the following items to the Architect:

1. Report of all tests showing satisfactory function of every operable system as required.
2. Listing of outstanding items for all operable systems and equipment.
3. Certification that the Owner's personnel have been instructed in the use, maintenance and operation of all operable systems and equipment.

END OF SUPPLEMENTARY GENERAL CONDITION

TEXAS WOMAN'S UNIVERSITY
SPECIAL CONDITIONS

1.1 GENERAL

A. These Special Conditions shall be subject to the requirements of the Uniform General Conditions and Supplemental Conditions and shall be used in conjunction therewith as a part of the Contract Documents:

1.2 UNIVERSITY POLICIES

A. Contractor is responsible for ensuring compliance by their personnel with the following University policies. TWU reserves the right to remove any person from our properties if in violation of these policies.
   1. Background checks
      a. Contractor is required to ensure that all workers (including subcontracted workers) who will be performing work for TWU have satisfactorily completed a background check annually, consistent and in compliance with all applicable federal, state, and local requirements, that includes but is not limited to the following:
         1. Social Security Verification/Validation;
         2. Alias and Address History;
         3. Terrorist Watch List Search;
         4. National Criminal Database Search (past 10 years);
         5. Federal Criminal Records Search (all names/aliases and all jurisdictions resided in for the past 10 years);
         6. County Criminal Court Records Search (all names/aliases and all counties resided in for the past 10 years);
         7. National Sexual Offender Registry Search;
      b. The following type of convictions are generally considered relevant to any work conducted at TWU:
         1. Theft;
         2. Injury to person(s);
         3. Weapons;
         4. Threats;
         5. Injury to property;
         6. Sexual misconduct;
         7. Murder;
      c. Additional offenses that may be relevant include those related to the work to be performed. Examples include criminal traffic offenses (e.g. DWI, DUI) if work involves driving or operation of heavy equipment.
      d. Contractor must not allow workers who have relevant convictions to perform work for TWU.
      e. TWU may require contractor to show proof, satisfactory to the university, that appropriate criminal background checks for their workers and subcontractors were performed.
   2. Photo identification for all contract workers
      a. All contract workers (including subcontracted workers) are required to obtain a TWU photo ID card.
      b. ID cards for contract workers will not be issued without documentation of completed background check per the above requirement.
      c. Each contract worker will be required to present valid (current) government issued photo identification at time of TWU photo ID card issuance.
      d. ID cards will be prominently displayed and attached to the worker's outer clothing while on University property.
      e. The contractor is responsible for gathering and returning all ID cards to the contracting TWU department at the termination of the contract,

unless the contractor is a recurring vendor and the contracting TWU department authorizes an exception.

f. Initial issue of photo ID cards will be at no cost. Replacement cards can be obtained at the cost of $25.00 per card.

3. Drug Free Work Place
   a. Texas Woman's University is required by the Drug-Free Work Place Act of 1988 (41 U.S.C.A. 701-707) to notify all contract workers that the unlawful manufacture, sale, distribution, possession, or use of a controlled substance in or on any premises or property owned or controlled by the University is prohibited.
4. Tobacco-Free Environment
   a. The campuses of Texas Woman's University, located in Denton, Dallas and Houston, are designated "Tobacco-Free".
5. No radios are allowed on the job site.
6. Dress Code will be enforced:
   - Full length pants (no holes)
   - Short/long sleeve shirts (buttoned) with sleeves no shorter than 5" from top of the shoulder (no holes)
   - No tank tops
   - No offensive or vulgar language or illustrations on clothing
   - Appropriate personal protective equipment (PPE) as required
7. The use of crude, vulgar, and profane language will not be tolerated.
8. Fraternizing with TWU staff, faculty, or students is not permitted.
9. No alcoholic beverages or illegal drugs are allowed on TWU campuses.
10. Sexual harassment will not be tolerated.
11. Hostile or vulgar behavior towards TWU employees, staff, students, or guests will not be tolerated.

1.3 RISK MANAGEMENT PROGRAMS

A. Insurance

1. Contractors shall maintain at their own cost, and provide proof of, insurance meeting TWU's Third Party Insurance Standards (https://twu.edu/media/documents/risk-management/TWU-Third-Party-Insurance-Standards.pdf). By requiring such minimum insurance, TWU shall not be deemed or construed to have assessed the risk that may be applicable to the Contractors. Therefore, Contractors shall assess their own risks and, if they deem appropriate, maintain higher limits and/or broader coverages. Contractors are not relieved of any liability or obligations assumed or pursuant to the contract because of its failure to obtain or maintain insurance in sufficient amounts, duration, or types.

B. Hazard Communication

1. Contractors must maintain Safety Data Sheets (SDSs) for all materials brought onto campus, and must make the SDSs available to TWU representatives upon request.
2. If materials are brought on site to which TWU faculty, staff, students or visitors may be exposed, the contractor must provide SDSs for the chemicals prior to use of the chemicals.

C. Confined Space Entry

1. Contractors must have a Confined Space Entry program in place prior to conducting any work in or around Permit-Required Confined Spaces on campus. TWU may require contractor to show proof, satisfactory to the university, that the program meets the requirements of OSHA's Permit-Required Confined Spaces standard (29 CFR 1910.146).
2. Contractors must notify TWU of any plans to enter Permit-Required Confined Spaces on campus prior to commencing operations.

3. Contractors must be debriefed by TWU personnel at the conclusion of all confined space entry operations regarding any hazards confronted or created in Permit-Required Confined Spaces on campus during entry operations.
4. If a task involves entry into a Permit-Required Confined Space by both TWU and contractor personnel, the entry will be conducted under the requirements of the TWU Confined Space Entry Program. A TWU Entry Supervisor will be responsible for coordinating entry into the space. The Entry Supervisor will understand the hazards of the work to be performed by all Authorized Entrants and ensure that the activities of contract employees or TWU employees do not endanger Authorized Entrants.

D. Hazardous Energy Control (Lockout/Tagout)
1. Contractors must have a Lockout/Tagout (LOTO) program in place prior to conducting any work on equipment, machines or systems on campus with potentially hazardous energy sources (electrical, compressed air, hydraulic, etc.).
2. If a machine-specific LOTO procedure is required under 29 CFR 1910.147(c)(4)(i) and has not been developed for the equipment in question, one must be developed in cooperation with TWU personnel with appropriate knowledge of the equipment.
3. Contractors will gain approval from the responsible, and appropriately trained, TWU employee before performing work on equipment requiring use of LOTO procedures. The TWU employee will be responsible for notifying all Affected Employees that the energized system or equipment will be shut off and locked and tagged out.
4. As an optional additional safeguard, TWU maintains the option to also place a lock and tag on the equipment, and leave it in place until the work is complete. This allows TWU to have control over when the equipment is re-energized and allow for the notification of Affected Employees prior to doing so.

E. Electrical Safety
1. Contractors must have an electrical work safety program sufficient to protect TWU employees, students, and visitors from injury in place prior to beginning any electrical work on site.
2. Specifically, the program must comply with NFPA 70 and 70E, including the requirement to set up physical barriers sufficient to prevent unqualified individuals from entering the area when conducting work on energized electrical components. Barriers must be placed at the limited approach boundary or the arc flash protection boundary, whichever is farther from the energized component.
3. If an unqualified person must cross only the limited approach boundary, that person must be directly and continuously supervised by a “qualified person” as defined by NFPA 70E.

F. Fall Protection
1. Contractors must have a fall protection program sufficient to protect TWU employees, students, and visitors from injury in place prior to beginning any applicable work on site.
2. Excavations and holes in walking/working surfaces greater in depth than 4 feet where TWU employees, students, or visitors might be present must either be guarded by OSHA standard handrails (29 CFR 1910.23(e)(5)) or provided with a cover capable of supporting the expected weight of traffic. Whenever the cover or railings are out of place, the excavation or hole must be continuously attended.

G. Hot Work

Contractors must obtain a Hot Work Permit from TWU prior to conducting any spark or flame-producing operations in or near occupied buildings, including operations involving cutting, brazing, welding, soldering, and grinding. Contractors must comply will all requirements of the issued permit and return the permit to TWU once the operation is complete.

H. Life Safety System Impairment/Activation
1. Contractors must contact TWU Risk Management prior to impairing any life safety systems, including fire alarms and sprinkler systems.
2. Contractors must also immediately contact TWU DPS if they activate any fire

alarm system for any reason, and provide DPS dispatch with the details of the incident.

I. Fire Stop Systems
   1. All penetrations through firewalls or floors must be done in accordance with NFPA 101 (and other applicable chapters) and “sealed” utilizing a UL listed firestopping system that is appropriate for the penetration and installed correctly. TWU Risk Management reserves the right to conduct destructive testing on installed firestopping, as necessary.
   2. No field modifications shall occur to fire doors or fire door frames, except for the limited allowable exceptions found in NFPA 80, without approval from Risk Management.

J. Storm Water
   1. Contractors conducting work that will disturb one or more acres of soil must obtain coverage under the Texas Commission on Environmental Quality (TCEQ) Construction Storm Water General Permit (No. TXR150000).
   2. Even if disturbing less than one acre of soil, appropriate precautions must be taken to prevent impacts to the storm water and soils on site.
   3. Contractors must immediately inform TWU of any leaks or spills with the potential to affect storm water or soils on site.

K. UAS/UAV/Drone Use
   1. All Unmanned Aircraft Systems (UAS)/Unmanned Aerial Vehicle (UAV) or "drones" must be approved prior to operation on TWU campuses as per TWU URP 04.460.
   2. To obtain approval, contractors must complete the Risk Management Drone Application form online.
   3. Drone use on campus must meet the requirements set by the FAA UAV Rule Part 107, including operation by an individual with a Remote Pilot Certificate.
   4. Please note that all three TWU campuses are located in Class D airspace, which requires FAA approval prior to all outdoor drone operations; this can take up to 90 days to obtain.

1.4 PATENTS AND LICENSES

A. Contractor is responsible for determining the need for and obtaining any patent licenses required by procedures to be used on this Project.

B. Contractor shall submit a list of licenses required and copies of licenses obtained as attachments to the Bid Form.

1.5 ASBESTOS CONTAINING MATERIALS

A. Pursuant to the State of Texas House Bill 1927 passed May 15, 2001, the contractor may not provide or install any material that contains asbestos.

B. Pursuant to the State of Texas House Bill 509 passed April 20, 2001, Texas Woman’s University has on file and accessible for review asbestos surveys of existing buildings.

C. In the event asbestos or asbestos appearing material is encountered during the course of the Contract, the applicable requirements of Title 40 Code of Federal Regulations, Part 61, Subpart M and Texas Department of Health General Rules, Chapter 101, shall be strictly adhered to.

1.6 CONTRACTOR'S RESPONSIBILITY FOR WORK AREA VENTING

A. Whenever products or processes are used that emit noxious, toxic, and/or nuisance fumes or exhausts, or produce excessive dusts, it will be the Contractor's responsibility to vent these fumes, exhausts, or dusts to the atmosphere. If ventilation is not feasible, alternative processes, products, equipment, or filtration shall be used to reduce impact to occupied buildings.

B. Products and processes included in these requirements include, but are not necessarily limited to, the following:
   1. Paint (as used herein means all coating systems materials including primers, emulsions, epoxy, enamels, sealers, fillers and other applied materials).
   2. Adhesives (includes cements, glues, resins, phenols, etc.)
   3. Sealants and caulks (permanently elastic materials, i.e. silicone, latex, polysulfide, etc.)
   4. Petroleum-based fuels (diesel, gasoline, etc.) and equipment/machines that utilize them for energy
   5. Concrete cutting, coring, drilling, demolition, and other processes that may generate dust, including silica dust.

C. Shut down and lock out all heating and air conditioning system components that are in supply or pass through the work area. Seal all intake vents. Seal all vents that do not exhaust outside the building.

1.7 USE OF SITE

A. Owner will provide electrical power and water for construction purposes without charge provided it is readily available from an existing TWU source. Contractor shall furnish all wiring, hoses, fittings, devices, and accessories required for their operation and shall remove same at completion of the Work. If electrical power and water are not available from an existing TWU source, then the contractor is responsible for arranging for and paying for those services.
   1. Contractor shall provide all necessary temporary wiring and extensions for connection to Owner power source.
   2. Contractor shall provide licensed electrician to make connection to Owner power source and install in a manner approved by TWU.

B. Throughout the duration of this Project, the Owner will continue to perform normal activities in and around the building. Proper and safe access to the Owner-occupied areas shall be maintained at all times.

C. The Contractor shall protect and be responsible for any damage to their work or materials, from the date of the Agreement until the final payment is made, and shall make good, without cost to the Owner, any damage or loss that may occur during the period.

D. Storage:
   1. Materials will be stored on the project site where designated by the Owner.
   2. The Contractor will provide any storage facility required for their equipment. All storage areas are to be kept clean and free of fire hazards. Dirty or contaminated materials will be removed daily.

1.8 DEMOLITION

A. Salvageable items not claimed by the Owner shall be removed from the site. Storage and/or sale of items on the site is not permitted.

B. Where indicated on Drawings as "Salvage-Deliver to Owner", carefully remove indicated items, clean, store, and turn over to Owner.

1.9 WASTE DISPOSAL

A. The Contractor is responsible for the legal disposal of all trash and debris. There shall be no dumping on University property.

B. All trash and debris shall be thoroughly removed from the construction area daily. No significant amounts of trash or refuse shall be permitted to accumulate in any occupied areas. Contractor shall keep all exit aisles and exit ways clear of any and all obstructions at all times.

C. The contractor shall be responsible to remove all construction debris that become airborne and drift away from the immediate construction site.

D. Any damage to adjacent property, either public or private, as a result of any construction activity shall be corrected immediately to the Owner's satisfaction.

E. The Contractor shall notify Risk Management of all hazardous waste generation in advance, if possible, or immediately upon generation when unanticipated. The Contractor must comply with all applicable EPA (40 CFR Parts 260 – 273) and TCEQ (30 TAC Chapter 335) regulations and provide TWU with all relevant documentation, including but not limited to, sampling documentation, waste determinations, manifests, and land disposal restriction forms.

1.10 TRUCK ACCESS AND PERSONNEL PARKING

A. The University will impose a fine of $500.00, per occurrence, for a Contractor owned or Contractor employee owned motor vehicle traveling or parking on University owned sidewalks, lawn areas, or improved areas without the express written approval of the Owner.

B. The Contractor shall exercise extreme care to prevent damage to pavement, walks, landscaping, and other existing facilities and improvements. Any damage resulting from work performed under this contract shall be repaired as directed by the Owner and at no cost to the Owner.

C. Privately owned vehicles and Contractor vehicles not actively engaged in construction operations shall be parked in the area designated by the Owner.

D. The Contractor is responsible for obtaining temporary Texas Woman's University parking permits for both their own and their employee's vehicles. Permits may be obtained from the TWU Department of Public Safety, located at 1201 Oakland Street on the Denton campus, on the first floor of the TWU T. Boone Pickens Institute of Health Sciences on the Dallas campus, or on the first floor of the TWU Institute of Health Sciences on the Houston campus.

E. Any parking violations issued to vehicles registered to contractors or subcontractors associated with the construction project must be paid in full prior to final payment by TWU to the General Contractor.

1.11 MONTHLY APPLICATIONS FOR PAYMENT

A. Contractor's request for payment shall be submitted on the following forms:
   1. TWU Document G202 Application and Certificate for Payment (Electronic file shall be made available to successful contractor).
   2. TWU does not have a standard Continuation Sheet.
   3. HUB (HSP) Progress Assessment Report form shall accompany each application for payment. Failure to do so will prevent payment processing (Electronic file shall be made available to successful contractor).

1.12 SIGNS

A. No signs or advertisements may be displayed without written approval from the Owner.

1.13 CONSTRUCTION TIME AND LIQUIDATED DAMAGES

A. The Agreement will include a stipulation that the Work be completed ready for the Owner's acceptance no later than a date established in the Notice to Proceed, fully realizing that the Contract will carry liquidated damages provisions.

is to be in accordance with the schedule as stated in the Special Conditions, and will be assessed per calendar day for each calendar day after the agreed completion date that the Work is not fully certified by the Architect as being Substantially Complete. That stage of completion is defined in the State of Texas Uniform General Conditions for Construction Contracts.

C. REF: UGC ARTICLE 9.10 "Failure to Complete Work within the Contract Time"

Should the Contractor fail to complete the Work within the Contract period, including approved extensions of time, the Owner will suffer financial loss; therefore, for each and every calendar day the Work, or any portion thereof, shall remain incomplete, the amount per calendar day given in the following schedule will be deducted from the money due or to become due to the Contractor, not as a penalty, but as agreed liquidated damages and added expense including administrative and inspection costs.

Contract Amount for More Than	Contract Amount To Including	Calendar Day
$ 1	$ 25,000	$100
$ 25,000	$ 50,000	$150
$ 50,000	$ 100,000	$200
$ 100,000	$ 500,000	$300
$ 500,000	$1,000,000	$400
$1,000,000	+	$500

1.14 CODES AND REGULATIONS

A. Contractors shall comply with all local, state, and federal laws, regulations, ordinances applicable to this construction.

B. The following list are applicable codes and regulations that shall be complied with fully in the installation of the work:
ADA Accessibility Guidelines
ANSI 17.1, Standard for Elevators, Dumbwaiters and Escalators.
ASHRAE 62-1989, Ventilation for Acceptable Indoor Air Quality.
EIA/TIA 568, 569, Standards for Commercial Building Telecommunications Wiring, Pathways & Spaces.
NFPA 70, National Electric Code (NEC).
NFPA 10, Standard for Portable Fire Extinguishers.
NFPA 13, Standard for the installation of Sprinkler Systems.
NFPA 72, National Fire Alarm and Signaling Code
NFPA 101, Life Safety Code.
State of Texas, Energy Conservation Design Standard for New State Buildings.
Texas Accessibility Standards (TAS) of the Architectural Barriers Act.
State of Texas, Sprinkler Rules; Extinguisher Rules; Rules and Regulations of Sales, Installations, Maintenance and Servicing of Fire Detection and Fire Alarm Devices and Systems, and Article 5.43.3 Texas Insurance Code.
International Building Code or applicable local building code.
International Mechanical Code.
International Plumbing Code.
International Fire Code.

1.15 HISTORICALLY UNDERUTILIZED BUSINESS PLAN

A. It is the policy of Texas Woman's University (TWU) to actively seek the involvement of Historically Underutilized Businesses (minority-owned and women-owned businesses)

in its construction projects as prime contractors, subcontractors, and material suppliers. Further, the State of Texas has adopted a law that requires each agency of the State of Texas, including TWU, to maximize opportunities for Historically Underutilized Businesses (HUBs) to provide materials, supplies, equipment, and services.

B. In effect and until the expiration of one year after final completion, the Owner may require information from the Contractor, and may conduct audits, to assure that the Plan is being followed/was followed. Failure of the Contractor to comply with the HUB plan will result in the Contractor's removal from the University bidders list for future projects.

1.16 CONSTRUCTION WORK LIMITATIONS

A. All buildings will be fully occupied during construction. Contractor shall be allowed access during normal working hours where possible. However, any interruption of service must be coordinated with the Facilities Management Construction Observer's office.

B. During the course of construction, buildings will be occupied. The contractor shall be required to limit all unnecessary noise. No radios, tape players, or similar equipment will be permitted on the site. The contractor and/or subcontractors, from time to time, may be required by the University to cease any construction activity in which noise, dust, vibration, odor, disruption of utilities or services, or other type of sensory distraction is created. Contractor may be required to perform these activities after normal working hours or on weekends. No additional time extension or additional compensation to the Contract will be granted for delays created by the temporary suspension of work if requested by the University for the reasons listed above.

C. Use of tobacco is not permitted on any campus of TWU. Anyone found violating this policy will be immediately asked to leave the project site and reported to project superintendent. Second violations will result in a permanent ban of each violator from working on campus.

D. The Contractor shall leave the work site floor free of construction debris at the end of each day and secure equipment and cover holes in wall or floors opened for construction. The contractor must provide their own cleaning equipment. Use of University equipment will not be allowed.

1.17 CONSTRUCTION KEY POLICY

A. Keys for temporary use during construction will be issued in accordance with the TWU Access Key Control Policy.

B. Keys to doors in construction areas will be provided to the General Contractor. For each key requested, the General Contractor shall submit a key request to the TWU Work Control Department. Keys that are issued will be the responsibility of the General Contractor. Keys remain the property of the State, entrusted to the individual key holder for their exclusive use, and must be returned when no longer needed.

C. If keys are lost, stolen or not returned to the Project Manager or Physical Plant, it will be determined whether locks require re-keying. The General Contractor will be required to pay to re-key the area affected per the TWU key policy.

D. Final payment will not be made to the General Contractor until all keys have been returned. Payment for any non-returned keys will be deducted from the final payment to the General Contractor.

END OF SPECIAL CONDITIONS

SECTION 01 11 00

SUMMARY OF WORK

PART 1 - GENERAL

1.1 SUMMARY

A. Related Requirements:
   1. Proposal Form
   2. Document 00 70 00 – Texas Facilities 2015 Uniform Geneal Conditions
   3. Section 01 32 16 - Construction Progress Schedules: Format of work schedule.
   4. Section 01 45 23 - Testing and Inspection Services.
   5. Section 01 50 00 - Temporary Facilities and Controls.

1.2 DESCRIPTION

A. The work comprises the construction of TWU – Denton Preschool Facility for Texas Woman's University, Denton, Texas, as shown on the drawings and described in the specifications. The work will be done under one lump sum contract.

B. Indication on the drawings or mention in the specifications of articles, materials, operations or methods requires that the Contractor provide each item indicated or mentioned of the quality or subject to the qualifications noted, and perform according to the conditions stated each operation described and provide therefor all necessary labor, equipment, services and incidentals.
   1. Subcontractors are responsible for examining the architectural drawings for structural, mechanical, electrical, and plumbing items. Items shown on these drawings shall be furnished by the appropriate subcontractor.

1.3 CONDITIONS OF THE CONTRACT

A. The General Conditions**,** bound herewith as preceding portions of these specifications, form a part thereof and shall govern the work under each section.

1.4 EXISTING SITE CONDITIONS

A. Visit and examine the site. Upon award of the Contract, the Contractor shall accept the condition of the site before beginning the work required.

1.5 SEQUENCE OF CONSTRUCTION

A. Work shall be started upon formal "Notice-to-Proceed" and shall be substantially complete by date determined by the number of calendar days entered by the Proposer on the Proposal Form.

B. The Contractor agrees that, from the compensation otherwise to be paid, the Owner may retain the sum of $500.00 for each calendar day after the Date of Substantial Completion that the work remains incomplete. This sum is agreed upon as the proper measure of Liquidated Damages which the Owner will sustain per diem by the failure of the Contractor to complete the work at the time stipulated in the Contract. This sum is not to be construed in any sense a penalty.

1.6 CONTRACTOR USE OF PREMISES

A. Limit use of premises for work and storage of materials to be sued on the project..

B. Coordinate use of premises under direction of Owner.

C. Assume full responsibility for protection and safekeeping of products under this contract.

D. Obtain and pay for use of additional storage or work areas needed when required for operations under this Contract.

E. Worker Identity Badging Requirements: Provide construction personnel (including subcontractors and suppliers regularly visiting the project site) with identification badges, with photograph. Identification badges shall be worn visibly by construction personnel on the construction site or on Owner's property. NO EMPLOYEE WILL BE PERMITTED ON SITE WITHOUT THIS BADGE DISPLAYED ON THE EMPLOYEE. Contractor must assure that the Crisis Management contact information is provided on the reverse side of each worker's badge. Temporary or visitor badges will be provided for persons who are identified as having an infrequent or temporary legitimate business need for access to the site.

1.7 WORK RESTRICTIONS

A. On-Site Work Hours: Work shall be generally performed on the project site during normal business working hours of 6:00 a.m. to sundown, Monday through Friday Within 300 feet of an occupied residence 7:00 a.m. to 8:00 p.m., or City ordinance whichever is more restrictive.
   1. Weekend Hours: Comply with City ordinance restrictions for weekend work. No work shall be performed on Sundays, unless specifically allowed by City and Owner.
   2. Early Morning Hours: Comply with City noise ordinances for restriction of early-morning concrete pours and other noisy construction activities. Owner's testing laboratory personnel will be available only during on-site work hours listed above.

1.8 OWNER-FURNISHED PRODUCTS

A. Contractor Responsibilities
   1. Protect products from damage.
   2. Repair or replace items damaged by Contractor.

B. Schedule of Owner-furnished items

   1. Refer to Drawings.

1.9 COORDINATION

A. Drawing details and other sections of these specifications covering work connected with or relating to that specified under a specific heading shall be examined for conditions which may affect that part of the work. Failure to do so will not relieve those furnishing materials and/or labor under a specification heading from supplying materials or performing work reasonably necessary to properly coordinate their work with that of other trades.

1.10 LAYING OUT WORK, MEASUREMENTS

A. Employ a competent engineer or surveyor to establish and maintain lines and levels. Establish and maintain at least two elevation bench marks remote from each other and located outside the building area. Set alignment and location stakes.

B. Verify measurements at the building. No extra compensation will be allowed for differences between actual dimensions and dimensions indicated on the drawings. Figured dimensions and measurements taken at the site shall take precedence over scaled dimensions.

1.11 DISCREPANCIES

A. In case of discrepancies within the drawings, within the specifications, or between the drawings and specifications, the better quality and greater quantity, in the opinion of the Architect, shall be furnished and installed.

1.12 PROTECTION

A. General: Limit use of the premises to construction activities in areas indicated; allow for Owner occupancy in adjacent spaces and around the site.
   1. Confine operations to areas within Contract limits indicated.
   2. Keep driveways and entrances serving nearby facilities clear and available to the Owner and the Owner's employees. Do not use these areas for parking or storage of materials without prior approval. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on site.
   3. Do not dispose of organic and hazardous material on site, either by burial or by burning. Disposable material and trash must be removed properly.

B. Assume responsibility for the premises and provide and maintain protections required by the governing laws, regulations and ordinances. The Contractor shall be responsible for loss or damage caused by him or his workmen to the property of the Owner or to the work or materials installed, and shall make good loss, damage or injury without cost to the Owner.

C. The protection of adjacent property shall include but will not necessarily be limited to the erection and maintenance fences as necessary to protect existing work and surrounding facilities.

D. Finished floors shall be protected against damage by workmen and equipment during the work. Where materials are carried into the building, the building floors shall be covered to protect the work against dirt or grit being ground in.

E. Trees and shrubs on the site which do not have to be removed for the new work shall be protected against damage. No Contractor shall remove or trim trees and shrubs in the area without the express approval of the Architect.

F. Send proper notices, make necessary arrangements and perform other services required for the care, protection and maintenance of Public Utilities, including fire plugs and wires and other items of this character on and around the building site.

1.13 CUTTING AND PATCHING

A. Cutting and chasing of existing construction for relocation of mechanical and electrical work and for installation of pipes and ducts will be done by the trades concerned. Patching and finishing shall be done by the Contractor. This work shall be done with proper tools and by careful workmen of the particular trade to which such work belongs and shall be done without extra cost to the Owner.

1.14 RECORD DRAWINGS

A. Maintain a complete clean set of drawings and Project Manual in the project field office for the sole purpose of recording "installed" conditions. Installed conditions shall include addendum items, change orders, or other items which come up during the construction phase which deviate from the Construction Documents. Changes made in these drawings and Project manual in connection with the final construction and installation shall be neatly made in red ink. Upon completion of the project, the marked set of drawings and Project Manual shall be delivered to the Architect for subsequent transmittal to the Owner. These drawings shall be maintained to reflect the current conditions of the work and changes shall be reviewed on a monthly basis with the Architect's representative. The Contractor's updating of the "installed" condition drawings and Project Manual shall be a prerequisite to the monthly review of the Contractor's payment request by the Architect's representative.

1.15 INSTRUCTIONS CONCERNING ASBESTOS

A. In the event the Contractor encounters on the site material reasonably believed to be asbestos which has not been rendered harmless, the Contractor shall immediately stop work in the area affected and report the condition to the Owner in writing. If, in fact the material is asbestos and has not been rendered harmless, the work in the affected area shall not thereafter be resumed until the asbestos has been removed or rendered harmless by the Owner. The work in the affected area shall be resumed in the absence of asbestos, or when it has been rendered harmless, by written agreement of the Owner and Contractor.

B. The Contractor will not be required to perform without consent work relating to asbestos.

PART 2 - PRODUCTS

Not used

PART 3 - EXECUTION

Not used

END OF SECTION

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SECTION 01 21 00

ALLOWANCES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes: Administrative and procedural requirements governing allowances.
   1. Certain materials and equipment are specified in the contract documents by allowances. Allowances have been established in lieu of additional requirements and to defer selection of actual materials and equipment to a later date when additional information is available for evaluation. If necessary, additional requirements will be issued by change order.

B. Related Requirements:
   1. General Conditions of the Contract for Construction.
   2. Section 01 32 16 - Construction Progress Schedules: Product delivery and installation dates.
   3. Individual Specifications Sections Listed Under Schedule of Allowances: Specification of products and installation under allowances.

1.2 COSTS INCLUDED IN ALLOWANCES

A. Cost of product to Contractor or subcontractor, less applicable trade discounts.

B. Delivery to site.

C. Applicable taxes.

1.3 CONTRACTOR COSTS INCLUDED IN CONTRACT SUM

A. Products handling at site, including unloading, uncrating and storage.

B. Protection of products from elements and from damage.

C. Labor for installation and finishing.

D. Other expenses required to complete installation.

E. Contractor overhead and profit.

1.4 ADJUSTMENT OF COSTS

A. Should the net cost be more or less than the specified amount of the allowance, the contract sum will be adjusted accordingly by change order.

B. Submit any claims for anticipated additional costs at the site, or other expenses caused by the selection under the allowance, prior to execution of the work.

C. Submit documentation for actual additional costs at the site, or other expenses caused by the selection under the allowance, prior to execution of the work.

D. Failure to submit claims within the designated time will constitute a waiver of claims for additional costs.

1.5 ARCHITECT RESPONSIBILITIES

A. Consult with Contractor in consideration of products, suppliers and installers.

B. Select products, obtain Owner's written decision, and transmit full information to Contractor as follows
   1. Manufacturer, product, model or catalog number, accessories, attachments and finishes.
   2. Supplier and installer as applicable.
   3. Cost to Contractor, delivered to site (and installed, if so specified).

1.6 CONTRACTOR RESPONSIBILITIES

A. At the earliest practical date after award of the contract, advise Architect of the date when final selection and purchase of each product or system described by an allowance must be completed to avoid delaying the work.

B. Assist Architect in determining suppliers; and installers; obtain proposals when requested.

C. Make recommendations for Architect consideration.

D. Promptly notify Architect of any reasonable objections against supplier or installer.

E. On notification of selection execute purchase agreement with designated supplier and installer.

F. Arrange for and process shop drawings, product data and samples.

G. Arrange for delivery. Promptly inspect products upon delivery for completeness, damage and defects. Submit claims for transportation damage.

H. Install, adjust and finish products.

I. Provide warranties for products and installation.

1.7 CORRELATION WITH CONTRACTOR SUBMITTALS

A. Schedule shop drawings, product data, samples and delivery dates, in progress schedule for products selected under allowances.

PART 2 - PRODUCTS – Not used.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine products covered by an allowance promptly on delivery for damage or defects. Return damaged or defective products to manufacturer for replacement.

3.2 PREPARATION

A. Coordinate allowance work with related work to ensure proper integration and interface.

3.3 SCHEDULE OF ALLOWANCES

A. Allowance No. 1: Allow the lump sum of $10,000.00 for purchase, delivery, and installation of miscellaneous technology equipment and related items necessary for fully functional systems.

B. Allowance No. 2: Allow the lump sum of $8000.00 for the purchase and delivery and installation of an exterior monument sign.

C. Allowance No. 3: Allow the lump sum of $25,000.00 for the purchase, delivery, and installation of a prefabricated commuter shelter complete with foundation.

D. Allowance No. 4: Allow the lump sum of $10,000.00 for the purchase, delivery, and installation of exterior security cameras.

E. Allowance No. 5: Allow the lump sum of $2,500.00 for purchase and delivery of building dedication plaque.

END OF SECTION

SECTION 07 52 00

MODIFIED BITUMINOUS MEMBRANE ROOFING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes: Mechanically fastened, UL Class A, white granule surface, modified bitumen sheet roofing system installed over polyisocyanurate and perlite insulation and metal deck.

B. Related Sections:
1. Section 06 10 00 - Rough Carpentry: Treated wood nailers, blocking and curbs.
2. Section 07 62 00 - Sheet Metal Flashing and Trim.
3. Section 07 72 13 - Manufactured Roof Curbs and Portals.
4. Section 07 72 33 - Roof Hatches.
5. Division 22 - Plumbing: Roof Drains.

04/16/2024

1.2 SUBMITTALS

A. Product Data: Submit in accordance with SECTION 01 33 23 - SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.
1. Furnish manufacturer's printed specifications and instructions for installation of system, include applicable temperature range.
2. Include procedures and materials for terminations, flashing, and expansion joints.

B. Shop Drawings: Submit in accordance with SECTION 01 33 23 - SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES. Indicate roof configuration, sheet layout, mechanical equipment flashing, expansion joints, termination details, penetration details, parapet wall details, design of tapered insulation system showing layout, slope and thickness of entire system.

C. Sample: Submit in accordance with SECTION 01 33 23 - SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES. Submit a 12" x 12" sample of membrane material and each type of fastener.

D. Certificates:
1. Submit manufacturer's certification stating materials ordered and supplied are compatible with each other, suited for locale and purpose intended, and shipped in sufficient quantity to ensure proper, timely installation.
2. Submit manufacturer's approval of proposed fasteners.
3. Submit manufacturer's approval of installer.
4. Submit installer's experience record.
5. Certify materials shipped to site meet membrane manufacturer's published performance requirements.
6. Stating that membrane manufacturer approves of insulation type and method of installation.
7. Indicating that materials specified and details shown conform with manufacturer's requirements for specified warranty.

1.3 QUALITY ASSURANCE

A. Manufacturer:
1. Obtain primary sheet roofing materials from a single manufacturer.
2. Provide secondary materials as recommended by manufacturer of primary materials.
3. Manufacturer's qualified technical representative will be required to visit project site to advise Installer of procedures and precautions for installation of roofing materials and to verify warranty inspection requirements.
4. Provide primary products, including each type of flexible sheet roofing and sheet flashing produced by a single manufacturer, which has produced SBS modified bitumen product successfully for not less than 5 years. Provide accessory products which are acceptable to manufacturers of primary products.

B. Applicator Qualifications: Five years successful experience in installation of roofing systems similar to system for this project and approved by membrane manufacturer.

C. Compatibility or Roofing System: Roof insulation, roof crickets and tapered roof insulation system shall be compatible with the roofing materials to be used and shall be approved by the manufacturer of the membrane roofing materials.

D. Pre-roofing Conference:
1. At least one week prior to start of roofing installation, convene pre-roofing conference at project site.
2. Attendance is required by Contractor, Installer, Manufacturer's Technical Representative, Architect, and Program Manager.
3. Review requirements for work and conditions which could possibly interfere with successful performance of work.
4. Minimum agenda:
   a. Review project specifications and drawings.
   b. Review weather and working conditions.
      1) Substrate requirements.
      2) Membrane installation.
      3) Roof terminations, flashings, and roof drain requirements.
      4) Mechanical equipment placement, supports, and height requirements.
      5) Inspection, testing, and quality control procedures.
      6) Protection requirements for construction period beyond roofing installation.
      7) Procedures for making roof penetrations after membrane installation.
5. Conduct tour of roof deck; report discrepancies and problem areas to Architect.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials in manufacturer's original unopened packaging with legible labels intact.

B. Store materials on site in enclosures or under protective coverings off ground.

C. Do not store material in or on building in such concentrations as to impose excessive strain on deck or structural members.

1.5 PROJECT CONDITIONS

A. Weather:
1. Proceed with roofing work when existing and forecasted weather conditions permit performance in accordance with manufacturer's recommendations and warranty requirements.
2. Take special precautions as recommended by manufacturer when applying roofing below 40°F. Ensure cements, adhesives, mastics, and coatings are not affected by freezing weather.

1.6 WARRANTY

A. Furnish written 20-year no dollar limit warranty of materials and workmanship for watertightness extended to include but not be limited to flashings, seams, membrane and penetrations.

B. Warranty shall be signed by membrane manufacturer, agreeing to repair or replace defects in material or workmanship and failure of roof to resist water penetration for a period of ten years from Substantial Completion of project with no dollar limit.

C. Special Project Warranty: Submit 2 executed copies of standard 5-year "Applicator's Roofing Guarantee" on form included at end of this section, covering work of this section including roofing membrane, composition flashing, roof insulation and roofing accessories, signed and countersigned by installer (roofer) and Contractor.

PART 2 - PRODUCTS

2.1 INSULATION MATERIALS

A. Polyisocyanurate Board Insulation: ASTM C 1289, Type II, felt or glass-fiber mat facer on both surfaces.
1. Compressive Strength: 20 psi
2. Install in not less than 2 layers of 2.5" min. thickness per board to achieve Thermal Resistance (LTTR value) as designated in Building Envelope Assembly Type drawings.

B. Perlite Board Insulation: ASTM C 728; composed of expanded perlite, cellulosic fibers, binders, and waterproofing agents with top surface seal-coated. Provide a single thickness of 3/4" of perlite insulation.

C. Crickets and Cants: Provide crickets and cants at locations as shown. Cricket and cant must be compatible with built-up roofing material.

D. Tapered Roof Insulation: Provide tapered roof insulation as required to fulfill slope requirements. Tapered roof insulation must be compatible with built-up roofing material. Provide of same material as top layer of insulation.

E. Steep Asphalt: ASTM D 312, Type III.

F. Mechanical Fasteners for Insulation: Screw type on metal deck, Tube-Nail type on light weight insulating decks, length required for thickness of material, with plastic washers and fluoropolymer finish, and approved by membrane manufacturer.

2.2 MODIFIED BITUMEN SHEET ROOFING MATERIALS

A. Product/Manufacturer: Provide 2FID system using one-ply each of DynaBase and DynaGlas FR CR cap sheet as manufactured by Johns Manville International, Inc. or approved equivalent.

B. Sheet Size: Maximum width and length of sheet possible as determined by project conditions and manufacturer's recommendations.

C. Base Sheet: As required by membrane manufacturer.

D. Flashing: Manufacturer's approved bonding adhesive for conditions encountered.

E. Base Flashing: DynaClad AL as manufactured by Schuller Roofing Systems or approved equivalent.

2.3 RELATED MATERIALS

A. Bituminous Materials:
1. As recommended by roofing sheet manufacturer for bonding to substrates and for waterproof sealing of seams.
2. Asphalt Bitumen: ASTM D 312, Type III or Type IV.
3. Asphalt Primer: ASTM D 41.
4. Flashing Cement: ASTM D 4586.

B. Fasteners: Provide fasteners as manufactured by or approved by membrane manufacturer for conditions encountered.

C. Accessories: Provide primers, adhesives, sealants, mastics, prefabricated pipe flashing, roof drain flashing, expansion joint flashing, and appropriate cleaning agents and solvents as recommended by membrane manufacturer for conditions encountered.

D. Expansion Joints: Provide expansion joint approved by the manufacturer where required by membrane system and as detailed on the drawings.

E. Walkway Protection: Provide walkway protection pads around all rooftop mechanical units, at roof hatches, access doors, tops and bottoms of ladders and where shown on drawings in accordance with manufacturer's standards.

2.4 PERFORMANCE/DESIGN CRITERIA

A. Wind Up-lift Requirements: Provide a roofing system that is identical to systems that have been successfully tested by a qualified testing and inspecting agency to resist wind uplift pressures calculated according to ASCE-7. Wind uplift pressures for this area, based on a 3-second gust per structural notes and drawings

B. Energy Performance: Roofing system shall have an initial solar reflectance of not less than 0.70 and an emissivity of not less than 0.75 when tested according to CRRC-1.

2.5 ASPHALT FUME CONTROL

A. It is essential that the fumes resulting from the execution of this work be prohibited from entering any of the existing buildings on campus and minimized in the atmosphere around the campus in the exterior.

B. Contractor may elect any means of his choice to reduce the presence of asphaltic fumes, but the following are the minimum requirements:
   1. Conventional kettle application with approved fume recovery system.
   2. Enclosed tanker application with internal heating element and recycle fume recovery system.
   3. Extension of all existing air intake devices in effected areas to an upwind position.
   4. Providing emergency ventilation of any areas which become areas of complaints by the Owner.

PART 3 - EXECUTION

3.1 INSPECTION

A. Examine deck surfaces to receive insulation for conditions that will adversely affect the execution and quality of work. Do not start this work until unsatisfactory conditions are corrected.

B. Verify that deck is supported and secured.

C. Verify that deck is clean and smooth, free of depressions, waves, or projections, properly sloped to drains.

D. Verify that deck surfaces are dry and free of snow or ice. Verify flutes of metal deck are clean and dry.

E. Verify that roof openings, curbs, pipes, sleeves, ducts, and vents through roof are solidly set, and wood cant strips and nailing strips are in place.

F. Examine surfaces scheduled to receive roofing to ensure that they are smooth, dry, and free from oils, grease, and conditions that will adversely affect execution, permanence, or quality of work.

G. Beginning of installation means installer accepts existing substrate.

3.2 PREPARATION OF SURFACES

A. Comply with manufacturer's instructions for substrate preparation.

B. Sweep surfaces upon which sheet is applied, removing loose and foreign materials.

C. Coat metal surfaces with primer or adhesive as recommended by manufacturer.

3.3 INSULATION INSTALLATION

A. Install first two layers (polyisocyanurate insulation) over all areas to receive roof insulation. Mechanically fasten one insulation layer and adhere the second layer of polyisocyanurate insulation.
   1. Apply first layer of insulation with long joints continuous and short joints staggered.
   2. Apply second layer (polyisocyanurate insulation) over first layer in broken joint pattern so that each layer breaks joints both ways with the preceding layer.

B. Apply third layer (perlite insulation) over first layer in broken joint pattern so that each layer breaks joints both ways with the preceding layer.

C. In areas to receive tapered roof insulation or crickets, apply over polyisocyanurate insulation only.

D. Bring insulation panels into moderate contact with each other and cope to fit neatly around projections. Joints parallel to ribs on steel deck installation shall be located over solid bearing.

E. Mechanically fasten first layer of insulation to the deck throughout. Spacing and number of fasteners shall meet current building code requirements and per ASCE 7 calculations. Adhere remaining layers of insulation.

F. Tapered roof insulation system and crickets shall be installed per manufacturer's instructions as required to meet current building code requirements and per ASCE 7 calculations.

G. Do not install more insulation at one time than the amount which can be covered with roofing the same day.

H. At the end of each day's work and after any other work stoppage, apply temporary water cutoffs in accordance with membrane roofing manufacturer's recommendations.

3.4 MEMBRANE INSTALLATION

A. General:
1. Manufacturer's technical representative is required to be present as necessary to ensure proper installation. Install materials in accordance with manufacturer's printed instructions.
2. Protect other work from spillage of roofing materials, and prevent liquid materials from entering or clogging drains and conductors. Replace and restore other work damaged by installation of roofing system work.

B. Cutoffs:
1. Coordinate installation of insulation, roofing sheets, flashings, stripping, coatings and surfacings, so that insulation and felts are not exposed to precipitation nor exposed overnight.
2. Provide cut-offs at end of each day's work, to cover exposed felts and insulation with course of coated felt with joints and edges sealed with roofing cement.
3. Remove cut-offs immediately before resuming work.
4. Glaze coat installed ply-sheet courses at end of each day's work where final surfacing has not been installed.

C. Asphalt Bitumen Heating:
1. Heat and apply bitumen in accordance with equiviscous temperature method ("EVT Method") as recommended by National Roofing Contractor's Association and manufacturer.
2. Do not raise temperature above minimum normal fluid-holding temperature necessary to attain EVT (±25°F. at point of application) more than one hour prior to time of application.
3. Discard bitumen which has been held at temperature exceeding finished blowing temperature (FBT) for period exceeding three hours.
4. Determine flash point, finished blowing temperature and EVT of bitumen, either by information from bitumen producer or by suitable tests, and determine maximum fire-safe handling temperature and do not exceed that temperature in heating bitumen.
5. Do not heat bitumen to temperature higher than 25°F. below flash point.
6. Keep kettle lid closed except when adding bitumen.

D. Substrate Joint Penetrations: Do not allow bitumen to penetrate substrate joints and enter building or damage insulation, or other construction. Tape insulation joints.

E. Membrane Installation:
1. Cut sheets to maximum size possible in order to minimize seams.
2. Roll an 18" wide piece of the base felt into a full mopping of bitumen. The remaining felts are to be applied full width, in the same manner, with 3" side and 4" end laps over the preceding sheets.
3. Roll the sheet out onto the deck over the base sheet, inspecting the membrane for defects as it is being rolled out. Allow membrane to relax for 1/2 hour before fastening or splicing. The sheet should be aligned so that it overlaps the previous sheet by the required lap width and then should be rerolled. A mopping of hot asphalt is then to be applied immediately in front of the roll. Roll the membrane into the hot bitumen in a manner that minimizes voids and wrinkles, taking care to ensure proper lap alignment. Membrane laps are sealed together as the sheet is being adhered to the deck. Laps should be fabricated to shed water wherever possible.
4. Lap adjoining sheets: 4" min. side laps, 6" min. end laps.
5. Apply all felts so that they are firmly and uniformly set, without voids, into the hot bitumen. All felt edges shall be well sealed. The bitumen shall be applied just before the felt, at a nominal rate of 25 lbs. per square. When applying over insulations, more than 25 lbs. per square of bitumen may be needed due to the absorbency of the insulation.
6. Install mechanical fasteners where required at spacings recommended by manufacturer.

F. Equipment Curbs:
1. Adhere membrane over equipment supports prior to installation of mechanical equipment.
2. Provide sealant over exposed fasteners.

G. Expansion Joints: Install expansion joints in accordance with manufacturer's recommendations

H. Cant and Tapered Edge Strips:
1. Install performed 45° insulation cant strips at junctures of roofing membrane with vertical surface.

2. Install tapered edge strips at perimeter edges of roofs which do not terminate at vertical surfaces.
3. Set in plastic cement.

I. Set-on Accessories: Where small roof accessories are set in roofing membrane, set metal flanges in bed of roofing cement, and seal penetration of membrane with bead of roofing cement to prevent flow of bitumen from membrane.

J. Flashing:
1. Install flashings as indicated and recommended by manufacturer.
2. Use longest pieces practicable.
3. Extend splice 3" beyond fasteners which attach membrane to batten strip.
4. Take measures to assure flashing is not ridging where there is change of direction.
5. Fasten top of flashing under metal counterflashing at manufacturer's recommended spacing.
6. Flash penetrations passing through membrane.
7. Use factory prefabricated conduit seals where indicated.
8. When prefabricated pipe seals cannot be used, field fabricate pipe seals.
9. Install fillers around penetrations and fill pocket with non-shrink grout and manufacturer's approved sealer.

K. Roof Drains and Overflow Drains:
1. Fill clamping ring base with heavy coating of roofing cement.
2. Set lead flashing sheet in bed of roofing cement on completed roofing ply sheet courses, with lead sheet clamped in roof drain ring and extended 12" onto roofing.
3. Cover lead sheet with plies extended 4" to 6" beyond edges of lead sheet.

3.5 TERMINATIONS

A. Provide water cutoffs at end of each day's work.

B. Pull membrane loose from water cutoff and remove contaminated material before resuming work.

3.6 WALKWAY PROTECTION

A. Install walkway protection pads as recommended by manufacturer.

END OF SECTION

ROOFING WARRANTY

WHEREAS _____

of (Address) _____

herein called the "Roofing Contractor", has performed roofing and associated work ("work") on following project:

Owner: _____

Address: _____

Name and Type of Building: _____

Address: _____

Area of Work: _____ Date of Acceptance: _____

Warranty Period: _____ Date of Expiration: _____

AND WHEREAS Roofing Contractor has contracted (either directly with Owner or indirectly as a subcontractor) to warrant said work against leaks and faulty or defective materials and workmanship for designated Warranty Period,

NOW THEREFORE Roofing Contractor hereby warrants, subject to terms and conditions herein set forth, that during Warranty Period he will at his own cost and expense, make or cause to be made such repairs to or replacements of said work as are necessary to correct faulty and defective work and as are necessary to maintain said work in watertight condition.

This Warranty is made subject to the following terms and conditions:

1. Specifically excluded from this Warranty are damages to work and other parts of the building, and to building contents, caused by: a) lightning, windstorm; b) fire; c) failure of roofing system substrate including cracking, settlement, excessive deflection, deterioration, and decomposition; d) faulty construction of parapet walls, copings, chimneys, skylights, vents, equipment supports, and other edge conditions and penetrations of the work; e) vapor condensation on bottom of roofing; and f) activity on roofing by others including construction contractors, maintenance personnel, other persons, and animals whether authorized or unauthorized by Owner. When work has been damaged by any of foregoing causes, Warranty shall be null and void until such damage has been repaired by Roofing Contractor, and until cost and expense thereof has been paid by Owner or by another responsible party so designated.

2. The Roofing Contractor is responsible for damage to work covered by this Warranty, but is not liable for consequential damages to building or building contents, resulting from leaks or faults or defects of work.

3. During Warranty Period, if Owner allows alteration of work by anyone other than Roofing Contractor, including cutting, patching, and maintenance in connection with penetrations, attachment of other work, and positioning of anything on roof, this Warranty shall become null and void upon date of said alterations, but only to extent said alterations affect work covered by this Warranty. If Owner engages Roofing Contractor to perform said alterations, Warranty shall not become null and void, unless Roofing Contractor, prior to proceeding with said work, shall have

notified Owner in writing, showing reasonable cause for claim that said alterations would likely damage or deteriorate work, thereby reasonably justifying a limitation or termination of this warranty.

4. During Warranty Period, if original use of roof is changed and it becomes used for, but was not originally specified for, a promenade, work deck, spray-cooled surface, flooded basin, or other use or service more severe than originally specified, this Warranty shall become null and void upon date of said change, but only to extent said change affects work covered by this Warranty.

5. The Owner shall promptly notify Roofing Contractor of observed, known or suspected leaks, defect, or deterioration, and shall afford reasonable opportunity for Roofing Contractor to inspect work, and to examine evidence of such leaks, defects, or deterioration.

6. This Warranty is recognized to be the only warranty of Roofing Contractor on said work and shall not operate to restrict or cut off Owner from other remedies and resources lawfully available to him in cases of roofing failure. Specifically, this Warranty shall not operate to relieve Roofing Contractor of responsibility for performance of original work in accordance with requirements of the Contract Documents, regardless of whether Contract was a contract directly with Owner or a subcontract with Owner's General Contractor.

_____
Installation Company

_____
By

_____
Title

_____
Business Address

_____
Telephone Number FAX Number

ATTEST:

_____
Secretary

IN WITNESS THEREOF, this instrument has been duly executed this

_____day of _____, 20____.

(INSERT APPROPRIATE EXECUTION FORM)

* * *

SECTION 12 24 13

ROLLER WINDOW SHADES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Manually operated roller shades.

1.2 SUBMITTALS

A. General: Submit in accordance with Section 01 33 23 - Shop Drawings, Product Data, and Samples.

B. Product data for each type of shade specified. Include printed data on physical characteristics. Include warranty information.

C. Shop drawings showing location and extent of shades. Show installation details at and relationship to adjoining work. Include elevations indicating shade units. Indicate locations of shade controls.

D. Samples for Verification Purposes: One 18-inch-square sample of shade material for each color, texture, and pattern of shade required.

E. Submit manufacturer's maintenance data for shades.

1.3 QUALITY ASSURANCE

A. Installer Qualifications: Engage an experienced Installer who has specialized in installing shades similar to those required for this Project.

B. Surface Burning Characteristics: Provide shades identical to those tested for the following fire performance characteristics as determined by testing identical products, by UL or another testing and inspecting agency acceptable to authorities having jurisdiction.

C. Field-Constructed Mockup: Prior to installing shades, prepare mockups for each form of construction and finish required to verify selections made under sample submittals, to demonstrate aesthetic effects and to establish application quality standards.

1.4 PROJECT CONDITIONS

A. Field Measurements: Check openings by field measurements before fabrication. Show recorded measurements on shop drawings. Coordinate fabrication schedule with construction progress to avoid delay in the work.

1.5 WARRANTY

A. Twenty-Five-year warranty on the following**.**
   1. Manually operated components.
   2. Shade cloth, with provision that it will not deteriorate, sag or warp and will remain fit for use for the full warranty period.
   3. Hardware components to be free from defects in material and workmanship under normal and proper use.

1.6 EXTRA MATERIALS

A. Extra Materials: Furnished from same production run as products installed, packaged with protective covering for storage, and identified with labels describing contents. Deliver extra materials to Owner.
   1. Shades: Furnish quantity of full-size units equal to 5 percent of amount installed.

PART 2 - PRODUCTS

2.1 MANUFACTURER

Basis of Design Roller Shades: Provide roller shades as manufactured by Springs Window Fashions: 7549 Graber Road, Middleton, WI 53562 phone 1-800-327-9798: architectsoultions@swfcontract.com.

1. Equivalent Roller Shades manufacturers:
   Draper, Inc.
   Hunter Douglas
   Mechoshade Systems, Inc.

2.2 PRODUCTS

A. Manual Shades: Provide Precision + Solar Shades cordless manually operated, pocket units, shade cloth falling at window side of roller, as manufactured by MechoShade Systems, Inc. (phone 214-585-0469) or approved equivalent.

B. Shadecloth shall meet requirements of Fed. Spec. CCC-C-521 E for fire retardancy, NFPA 701 Small-Scale and/or NFPA 701 Large-Scale requirements. Antimicrobial without topical treatment. ASTM E-84: Flame Spread 17, Smoke Density Index 118, Shadecloth seconds or shadecloth manufactured using reprocessed materials are not acceptable.

C. Sunscreen Material Fabrics:
   1. Provide EuroTwill™ 6000 series shade cloth group sunscreen, dense basket weave, 3% openess factor. Color as scheduled in the Material Finish Schedule.

2.3 MATERIALS AND FABRICATION

A. Components: Noncorrosive, self-lubricating materials.

B. Pockets/Snaploc™ Fascia:
   1. Pocket with exposed tile support and pocket closure with clear anodized finish, MechoShade pocket shall be no cost gyp board pocket.
   2. Accessibility by removing closure. No exposed screws or mounting means. Pocket shall be sized for a single shadeband.

C. Installation Fasteners: Not less than two fasteners per bracket, fabricated from metal non-corrosive to shade hardware and adjoining construction and to support shades under conditions of normal use.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine openings where shades will be installed prior to beginning installation. Verify that critical dimensions are correct and surface conditions acceptable.
   1. Complete all finishing operations, including painting, before beginning installation.

B. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. Install shades level and plumb in accordance with manufacturer's instructions and approved submittals, mounted not less than 1 inch from face of exterior glass.

B. Install metal parts isolated from concrete or mortar to prevent corrosion.

C. Install mounting brackets with at least two fasteners per bracket.

3.3 CLEANING

A. After completing the installation, clean shade surfaces according to the manufacturer's instructions.

B. Remove surplus materials, packaging, rubbish and debris resulting from the installation. Leave areas where installation occurred neat, clean, and ready for use.

END OF SECTION

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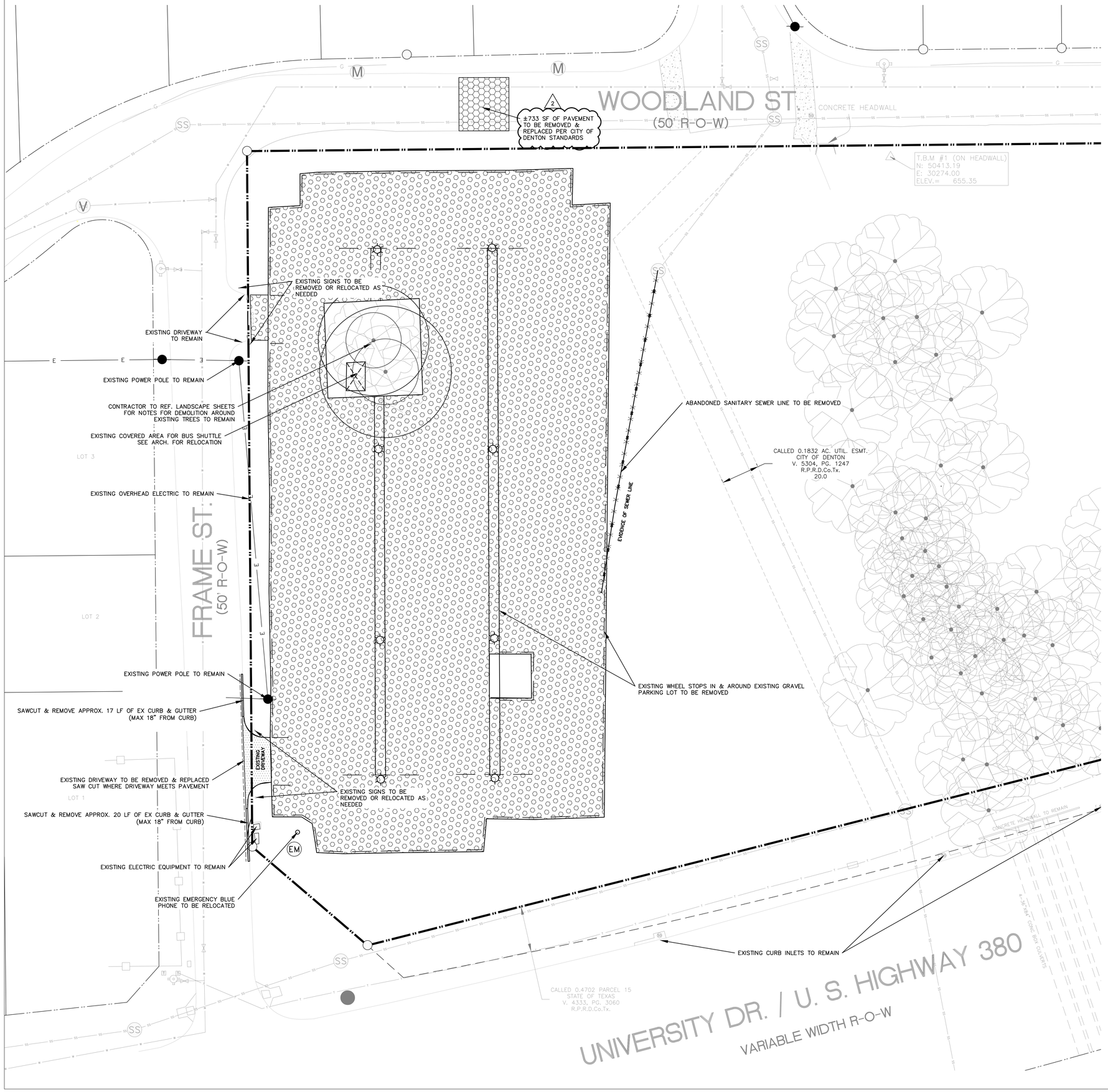

N

GRAPHIC SCALE

0 20 40

(IN FEET)
1 inch = 20 ft.

Legend

- PROPERTY LINE
- ROCK/GRAVEL TO BE REMOVED
- CONCRETE SIDEWALK TO BE REMOVED
- CONCRETE PAVEMENT TO BE REMOVED
- ASPHALT PAVEMENT TO BE REMOVED
- UTILITY LINE TO BE REMOVED
- WHEEL STOPS TO BE REMOVED
- FULL DEPTH SAWCUT [APPROXIMATE LOCATION]
- EXISTING LIGHT POLE TO BE REMOVED & REPLACED (REFER TO MEP FOR DETAILED INFORMATION)
- EXISTING TREES TO REMAIN (REFER TO LANDSCAPE DRAWINGS FOR DETAILED INFORMATION)
- EXISTING TREES TO BE REMOVED (REFER TO LANDSCAPE DEMOLITION DRAWINGS FOR DETAILED INFORMATION)

VLK Architects, Inc.
1320 Hemphill Street, Suite 400
Fort Worth, Texas 76104
Main Phone: 817.633.1600
www.vlkarchitects.com

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LICENSED
PROFESSIONAL ENGINEER
4/16/2024

Revision No.	Revision Date
ADDENDUM #1	3/19/2024
ADDENDUM #2	4/16/2024

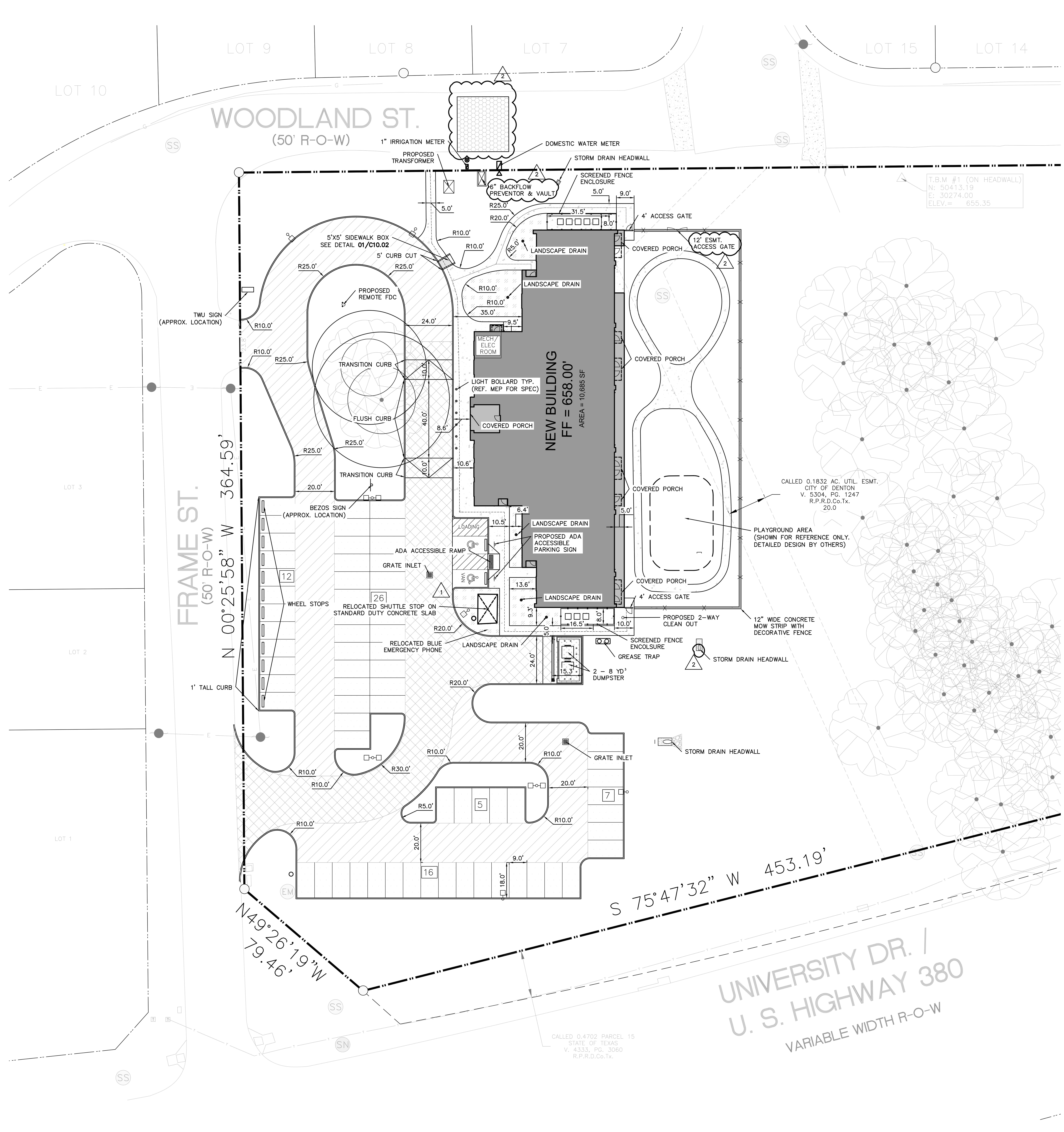
Director — Drawn By: K.Q.
Designer — Quality Control
Proj. Arch.

23-018.00

DEMOLITION PLAN

C2.00

shaping the built environment
JQ INFRASTRUCTURE, LLC
100 GLASS STREET, SUITE 201 — DALLAS, TEXAS 75207
972.392.7340
PROJECT NO: 4230131 — TBPE FIRM 7986



Legend

Symbol	Description
	PROPOSED CONCRETE SIDEWALK **SEE DETAIL 04/C10.02**
	5" STANDARD DUTY CONCRETE **SEE DETAIL 03/C10.01**
	6" MEDIUM DUTY CONCRETE **SEE DETAIL 03/C10.01**
	7" DUMPSTER AREA CONCRETE **SEE DETAIL 03/C10.01**
	FIRE LANE – 6" MEDIUM DUTY **SEE DETAIL 03/C10.01**
	RESTORED ASPHALT PAVEMENT **SEE GEOTECH REPORT.**
	PLANTING AREA **SEE LANDSCAPE PLANS.**
	PROPOSED BUILDING
	PROPOSED EXTENDED SLAB **SEE STRUCTURAL PLANS.**
	PROPOSED CURB (6" HIGH)
	PROPERTY LINE
	PROPOSED SIGN
	ADA ACCESSIBLE PATH
	EXISTING OVERHEAD ELECTRIC LINE
	EXISTING COMMUNICATION LINE
	PROPOSED FENCE
	BUILDING OVERHANG/COVERED PORCH

Notes

1. NO CONSTRUCTION SHALL COMMENCE WITHIN THE CITY OF DENTON RIGHT OF WAY UNTIL ALL NECESSARY PERMITS HAVE BEEN OBTAINED.
2. SEE STRUCTURAL PLANS FOR FULL EXTENT OF SLAB.
3. SIDEWALK SHOWN AROUND BUILDING TO BEGIN AT EDGE OF EXTENDED SLAB NOT AT EDGE OF BUILDING.
4. SEE MEP PLANS FOR EXACT LOCATION AND DESIGN OF A/C CONDENSER UNITS.
5. SEE LANDSCAPE PLANS FOR DETAILED DESIGN OF PLAYGROUND AREA.
6. SEE CIVIL DETAILS FOR REFERENCED ITEMS ON SITE PLAN.

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TWU BEZOS ACADEMY

100% Construction Documents

STATE OF TEXAS
OVIDIU M. SIPOS
111707
LICENSED PROFESSIONAL ENGINEER
4/16/2024

Revision No.	Revision Date
ADDENDUM #1	3/19/2024
ADDENDUM #2	4/16/2024

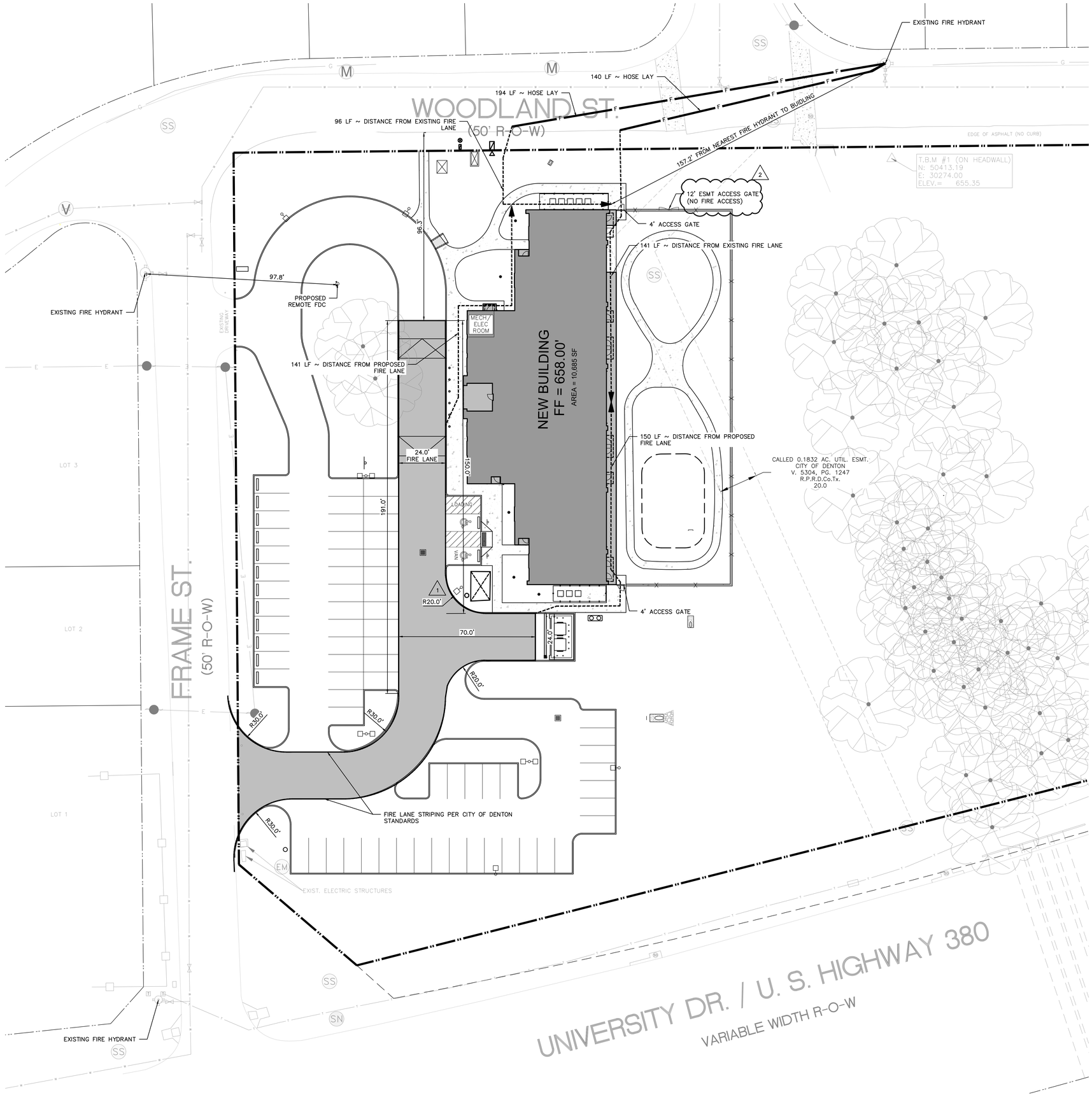
Director — Drawn By: K.Q.
Designer — Quality Control
Proj. Arch.

23-018.00

SITE & PAVING PLAN

shaping the built environment
JQ Infrastructure
JQ INFRASTRUCTURE, LLC
100 GLASS STREET, SUITE 201 DALLAS, TEXAS 75207
972.392.7340
PROJECT NO. 42301.01
TBPE FIRM 7985

C3.00



N

GRAPHIC SCALE

0 20 40

(IN FEET)
1 inch = 20 ft.

Legend

- PROPOSED FIRE LANE
- FH — EXISTING/PROPOSED FIRE HYDRANT
- FDC — EXISTING/PROPOSED FDC
- F — HOSE LAY LENGTH (SPRINKLED BUILDING)
- (150' MAX DISTANCE FROM FIRE LANE TO ALL CORNERS OF THE BUILDING)

Notes

1. NO CONSTRUCTION SHALL COMMENCE WITHIN THE CITY OF DENTON RIGHT OF WAY UNTIL ALL NECESSARY PERMITS HAVE BEEN OBTAINED.
2. FIRE SPRINKLER SYSTEM TO BE INSTALLED IN STRUCTURE. SEE MEP SHEETS FOR BUILDING FIRE SPRINKLER SYSTEM DETAILS.

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FIRE PROTECTION PLAN

C4.00

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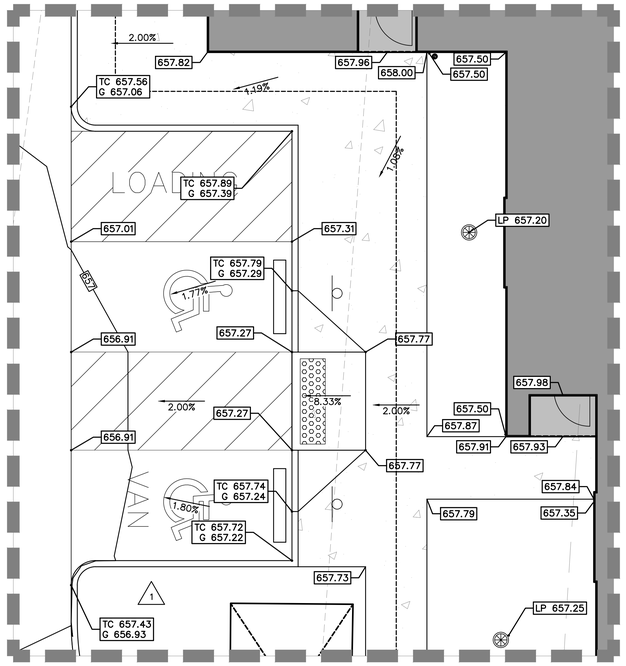
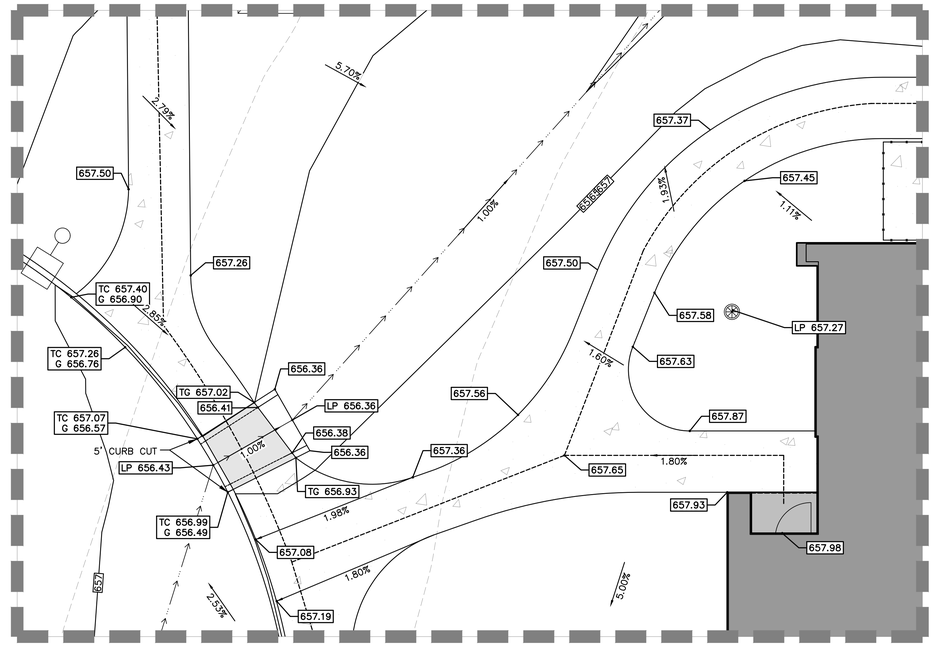


DETAIL 'A'
SCALE 1" = 5'



DETAIL 'B'
SCALE 1" = 5'

DETAIL 'C'
SCALE 1" = 5'

Legend

- - - - - -	MATCH EXISTING AT SAWCUT
→ ··· —	SWALE/LOW POINT FLOW DIRECTION
— - - - —	PROPERTY LINE (RIGHT-OF-WAY LIMITS)
478	EXISTING CONTOUR AND ELEVATION
478	PROPOSED CONTOUR AND ELEVATION
477.09	MATCH EXISTING ELEVATION
477.09	PROPOSED SPOT GRADE
TC	TOP OF CURB ELEVATION
G	GUTTER ELEVATION
TP	TOP OF PAVEMENT
TG	TOP OF GRATE
TOP	TOP OF STRUCTURE
TW	TOP OF WALL AT GRADE
BW	BOTTOM OF WALL AT GRADE
TS	TOP OF STAIR ELEVATION
BS	BOTTOM OF STAIR ELEVATION
BC	BUILDING CORNER AT GRADE
FF	FINISHED FLOOR ELEVATION
NG	NATURAL GRADE
H. P. / L. P.	ELEVATION HIGH POINT / ELEVATION LOW POINT
0.0%	% SLOPE/GRADE
→	FLOW DIRECTION
	LANDSCAPE DOME INLET

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GRADING PLAN DETAILS

C5.01

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TBPE FIRM 7986

GRAPHIC SCALE

0 20 40

(IN FEET)
1 inch = 20 ft.

Legend

- SS — EXISTING SANITARY SEWER LINE
- W — EXISTING WATER LINE (DOM.)
- F — EXISTING WATER LINE (FIRE)
- CW — EXISTING CHILL WATER LINE
- SD — EXISTING STORM SEWER LINE
- G — EXISTING GAS LINE
- E — EXISTING OVERHEAD ELECTRIC
- E — PROP. ELECTRIC (REF. MEP)
- G — PROP. GAS LINE (REF. MEP)
- TEL — PROP. TELECOM CONDUIT (REF. MEP)
- CW — PROP. CHILL WATER LINE (REF. MEP)
- W — PROP. WATER LINE
- PROP. WATER VALVE
- PROP. FIRE HYDRANT
- SS — PROP. SANITARY SEWER LINE
- PROP. SANITARY MANHOLE
- CO — PROP. SANITARY CLEANOUT
- SD — PROP. STORM SEWER LINE
- PROP. JUNCTION BOX OR MANHOLE
- O/H — OVERHEAD ELECTRIC LINE
- EXISTING POWER POLE
- PROP. LIGHT POLE

Notes

1. NO CONSTRUCTION SHALL COMMENCE WITHIN THE CITY OF DENTON RIGHT OF WAY UNTIL ALL NECESSARY PERMITS HAVE BEEN OBTAINED.
2. TAPPING SLEEVE AND VALVE TO BE INSTALLED PER CITY OF DENTON STANDARD DETAIL PIAZ13. REFER TO CITY STANDARD SPECIFICATION 33 14 25 FOR INSTALLATION AND MATERIALS.
3. TYPICAL WATER SERVICE CONNECTION TO BE INSTALLED PER CITY OF DENTON STANDARD DETAIL W501A. REFER TO CITY STANDARD SPECIFICATION 33 14 17 FOR INSTALLATION AND MATERIALS.

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OVERALL UTILITY PLAN

C8.00

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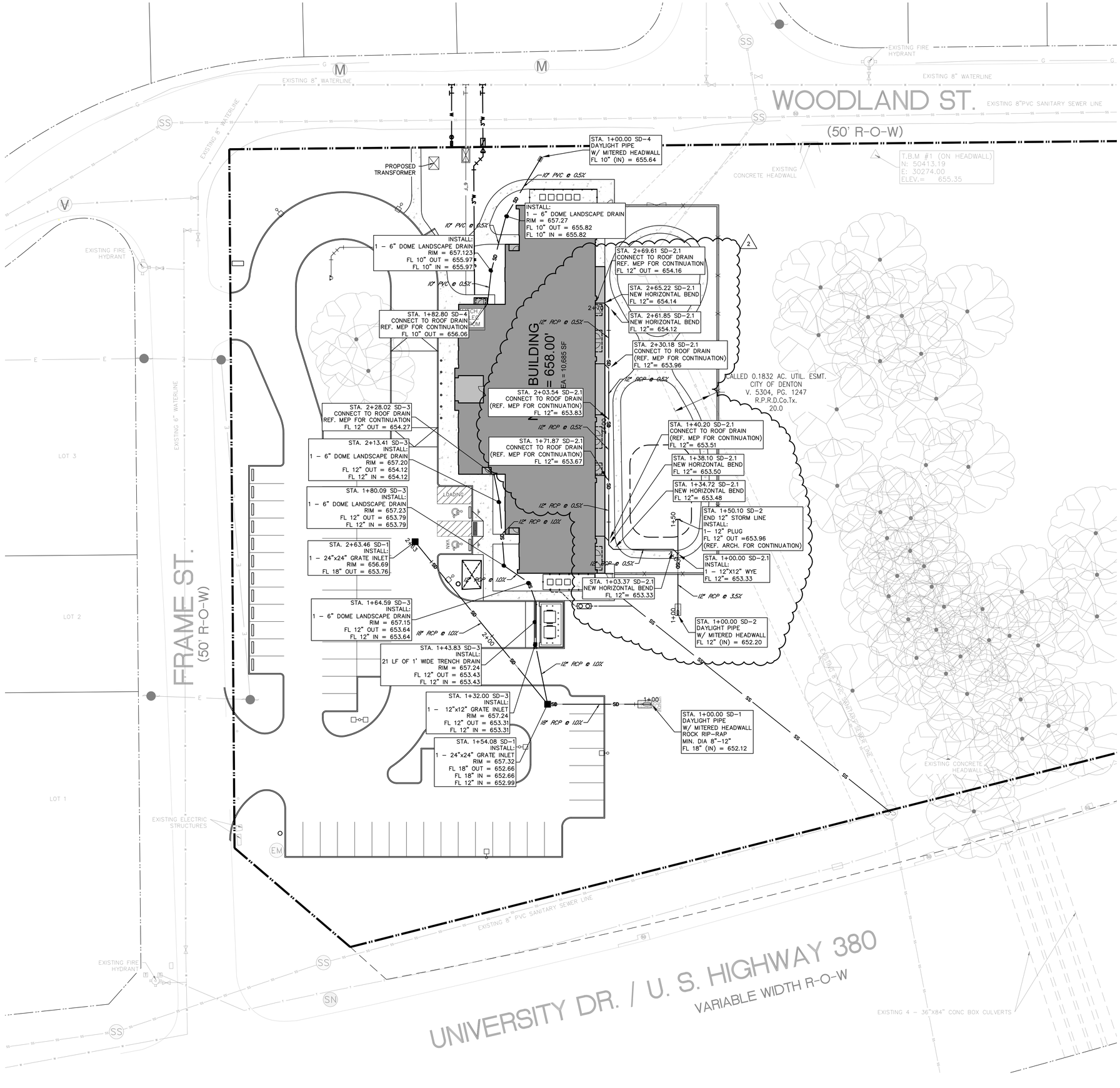

GRAPHIC SCALE

0 20 40

(IN FEET)
1 inch = 20 ft.

Legend

- SS — EXISTING SANITARY SEWER LINE
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- SD — EXISTING STORM SEWER LINE
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- E — EXISTING OVERHEAD ELECTRIC
- E — PROP. ELECTRIC (REF. MEP)
- G — PROP. GAS LINE (REF. MEP)
- TEL — PROP. TELECOM CONDUIT (REF. MEP)
- CW — PROP. CHILL WATER LINE (REF. MEP)
- W — PROP. WATER LINE
- PROP. WATER VALVE
- PROP. FIRE HYDRANT
- SS — PROP. SANITARY SEWER LINE
- PROP. SANITARY MANHOLE
- PROP. SANITARY CLEANOUT
- SD — PROP. STORM SEWER LINE
- PROP. JUNCTION BOX OR MANHOLE
- O/H — OVERHEAD ELECTRIC LINE
- EXISTING POWER POLE
- PROP. LIGHT POLE

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2 DRAINAGE PLAN

C8.01

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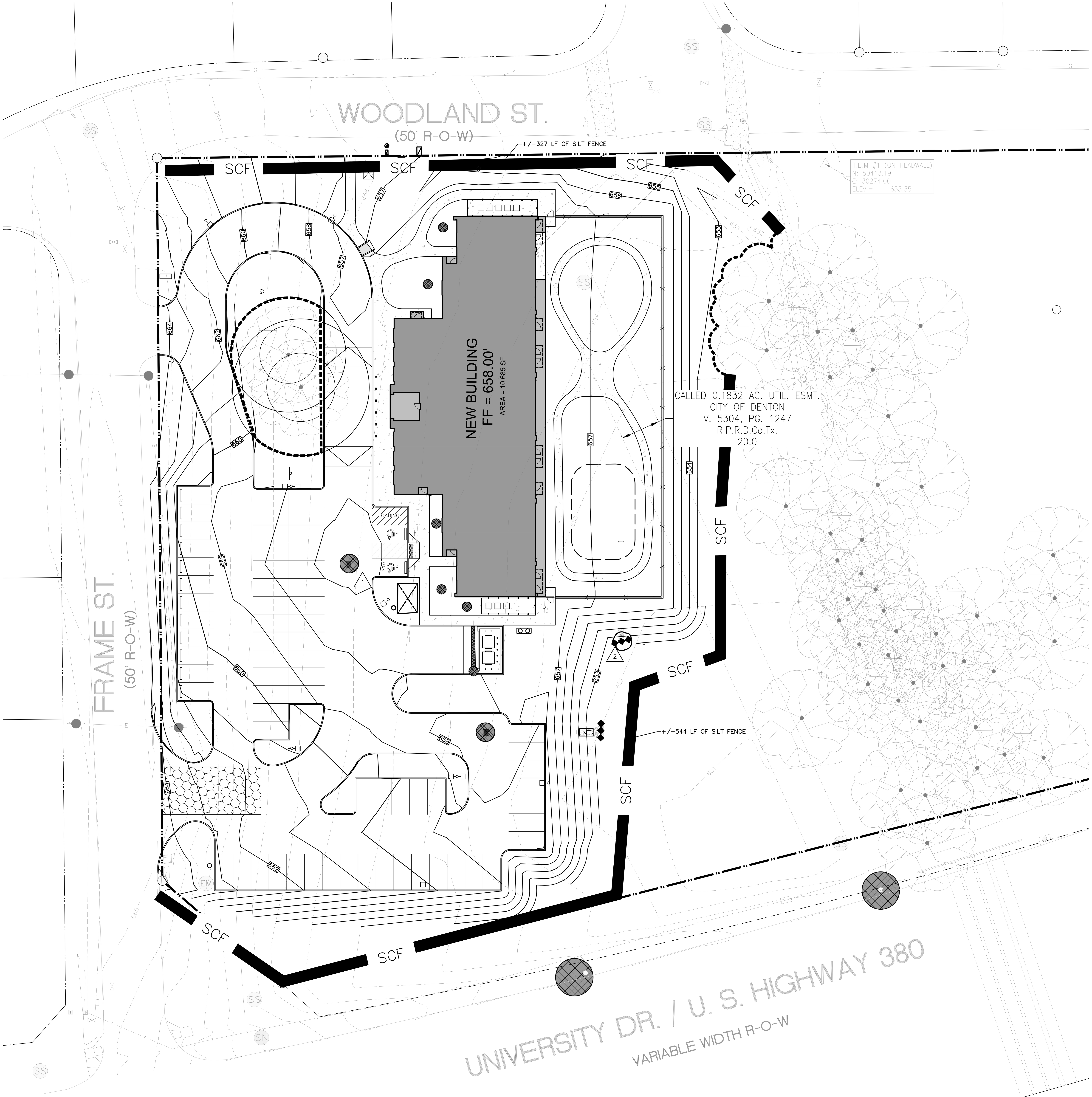

GRAPHIC SCALE

0 20 40

(IN FEET)
1 inch = 20 ft.

Legend

478 (existing)	EXISTING CONTOUR AND ELEVATION
478 (proposed)	PROPOSED CONTOUR AND ELEVATION
	24 FT. X 50 FT. CONSTRUCTION ENTRANCE **(SEE NCTCOG DETAIL 202.11)**
SCF	SILT FENCE **(SEE NCTCOG DETAIL 202.5)**
	INLET PROTECTION **(SEE NCTCOG DETAIL 202.14) FOR DETAILS ON GRATE AND INLET PROTECTION SEE C10.05**
	TREE PROTECTION **(SEE LANDSCAPE PLANS FOR TREE PROTECTION SPECS)**
	ROCK BERM

REF. LANDSCAPE PLANS FOR TREE PROTECTION, DEMOLITION ADJACENT TO TREES AND NOTES FOR CONTRACTOR.

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972.392.7340
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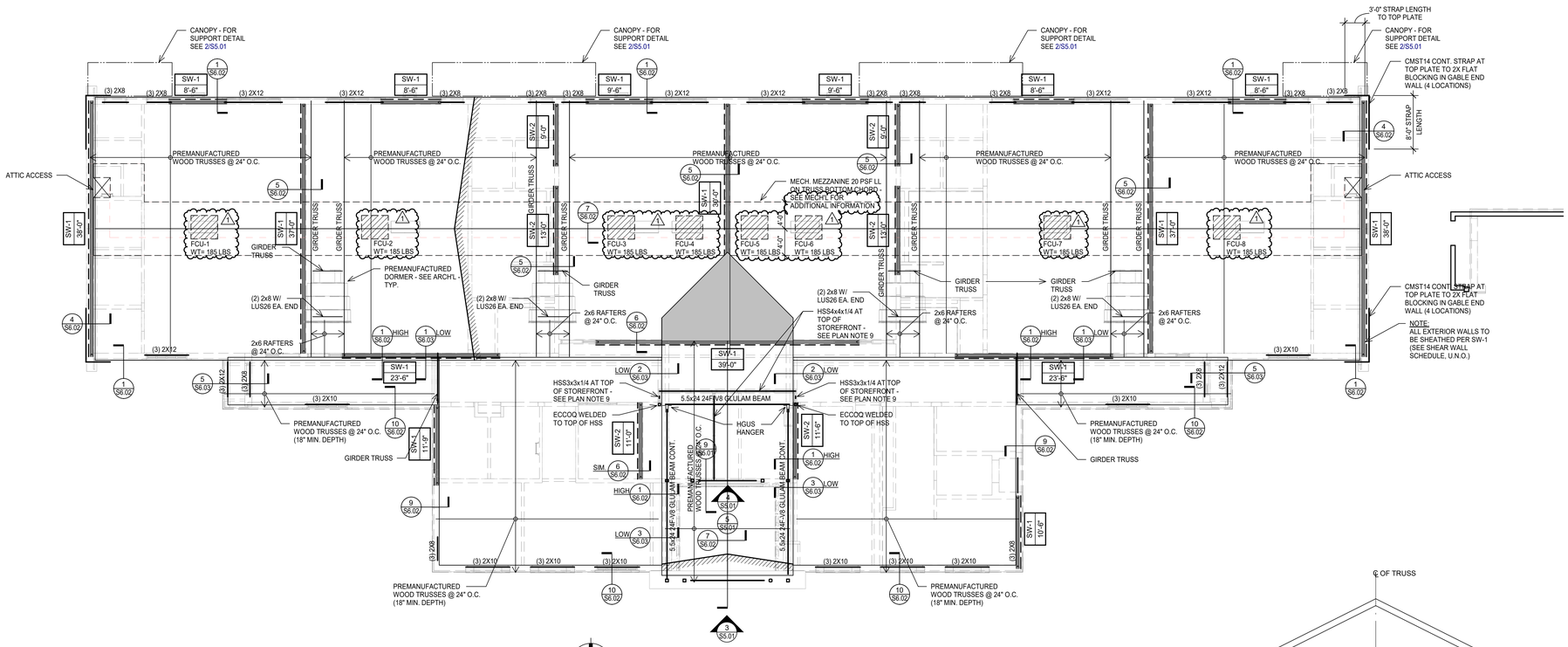
EROSION CONTROL PLAN & DETAILS

C9.00



north

1 ROOF FRAMING PLAN

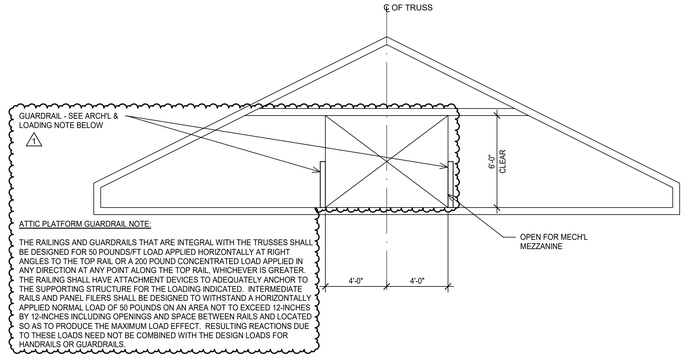
SCALE: 1/8" = 1'-0"

PLAN NOTES:

1. SEE ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS OF ROOF SLOPES, HIPS, VALLEYS, AND RIDGES NOT SPECIFICALLY DIMENSIONED.
2. VERIFY AND COORDINATE ALL DIMENSIONS W/ ARCHITECTURAL DRAWINGS.
3. PROVIDE SPECIFIED HOLDOWN AT EACH END OF WOOD SHEARWALLS.
4. SEE STRUCTURAL NOTES FOR WALL FRAMING SIZES, SPACING, AND SPECIES.
5. REFER TO WOOD BEAM/HEADER SCHEDULE FOR ALL HEADERS IN INTERIOR WOOD FRAMED WALLS.
6. TRUSSES ARE SHOWN ON PLAN TO INDICATE DIRECTION OF FRAMING - LAYOUT TO BE DETERMINED BY TRUSS SUPPLIER.
7. ALL STICK FRAMING FOR CANOPIES, PORCHES, AND OVERHANGS ARE 2x6 @ 24"O.C., UNLESS NOTED OTHERWISE.
8. ALL OVERBUILD FRAMING MEMBERS ARE 2x6 @ 24"O.C., UNLESS NOTED OTHERWISE.
9. COORDINATE STEEL ELEVATION WITH ARCH'L.

SHEET INDEX:

STRUCTURAL NOTES	-S1.01, S1.02
TYPICAL DETAILS	-S6.01, S6.02, S6.03
TRUSS PROFILES	-S5.01



ATTIC PLATFORM GUARDRAIL NOTE:

THE RAILINGS AND GUARDRAILS THAT ARE INTEGRAL WITH THE TRUSSES SHALL BE DESIGNED FOR 50 POUNDS/FT LOAD APPLIED HORIZONTALLY AT RIGHT ANGLES TO THE TOP RAIL OR A 200 POUND CONCENTRATED LOAD APPLIED IN ANY DIRECTION AT ANY POINT ALONG THE TOP RAIL, WHICHEVER IS GREATER. THE RAILING SHALL HAVE ATTACHMENT DEVICES TO ADEQUATELY ANCHOR TO THE SUPPORTING STRUCTURE FOR THE LOADING INDICATED. INTERMEDIATE RAILS AND PANEL FILERS SHALL BE DESIGNED TO WITHSTAND A HORIZONTALLY APPLIED NORMAL LOAD OF 50 POUNDS ON AN AREA NOT TO EXCEED 12-INCHES BY 12-INCHES INCLUDING OPENINGS AND SPACE BETWEEN RAILS AND LOCATED SO AS TO PRODUCE THE MAXIMUM LOAD EFFECT. RESULTING REACTIONS DUE TO THESE LOADS NEED NOT BE COMBINED WITH THE DESIGN LOADS FOR HANDRAILS OR GUARDRAILS.

TYPICAL TRUSS PROFILE

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

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ARCHITECT

VLK Architects, Inc.
1320 Hemphill Street, Suite 400
Fort Worth, Texas 76104
Main Phone: 817.633.1600
www.vlkarchitects.com

STRUCTURAL ENGINEER

JQ INFRASTRUCTURE
3017 W. 7TH St., Suite 400
Fort Worth, TX 76107
Main Phone: 817.546.7200
www.jqleng.com

TEXAS WOMAN'S UNIVERSITY
DENTON, TEXAS

TWU - Denton Preschool Facility

04.16.2024

ISSUED: FEB 29, 2024

REVISIONS

Revision No.		Revision Date
1	ADDENDUM 02	04.16.2024

Director	Drawn By
Approver	Author
Designer	Quality Control
Designer	
Proj. Arch.	
Checker	

PROJECT NO.

23-018.00

SHEET TITLE

ROOF FRAMING PLAN

SHEET NO.

S2.02

shaping the built environment

JQ INFRASTRUCTURE, LLC
3017 WEST 7TH STREET, SUITE 400 FORT WORTH, TEXAS 76107
817.546.7200 JQENG.COM
PROJECT NO: 4230131 TBPE FIRM F-7986

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FEEDER SCHEDULE

AMPERAGE	# SETS	CONDUCTOR (QTY.)/SIZE	GROUND (QTY.)/SIZE	CONDUIT
15A	1	(4) #12	#12	3/4"C
20A	1	(4) #12	#12	3/4"C
25A	1	(4) #10	#10	3/4"C
30A	1	(4) #10	#10	3/4"C
40A	1	(4) #8	#10	3/4"C
50A	1	(4) #6	#10	1"C
60A	1	(4) #4	#10	1-1/4"C
70A	1	(4) #4	#8	1-1/4"C
80A	1	(4) #4	#8	1-1/4"C
90A	1	(4) #2	#8	1-1/4"C
100A	1	(4) #3	#8	1-1/4"C
125A	1	(4) #1	#6	2"C
150A	1	(4) #1/0	#6	2"C
175A	1	(4) #2/0	#6	2"C
200A	1	(4) #3/0	#6	2-1/2"C
225A	1	(4) #4/0	#4	2-1/2"C
250A	1	(4) #250KCMIL	#4	3"C
300A	2	(4) #1/0	#4	2"C
400A	2	(4) #3/0	#3	2-1/2"C
450A	2	(4) #4/0	#2	2-1/2"C
500A	2	(4) #250KCMIL	#2	3"C
600A	2	(4) #350KCMIL	#1/0	3-1/2"C
800A	3	(4) #300KCMIL	#1/0	3"C

1 CONDUIT QUANTITIES BASED ON 3-PHASE, 4-WIRE SYSTEM; FOR EQUIPMENT THAT DOES NOT REQUIRE A NEUTRAL OR IS SINGLE PHASE, DEDUCT
2 CONDUCTOR SIZES BASED ON NEC TABLE 310.16 - COPPER 75°.
3 GROUND SIZES BASED ON NEC TABLE 250.122 - COPPER.
4 CONDUIT FILL BASED ON NEC ANNEX C - THW CONDUCTOR INSULATION.

TRANSFORMER SCHEDULE

PRIMARY (480V 3PH 3W)			SECONDARY (208V 3PH 4W)	
KVA	WIRE & CONDUIT	CIRCUIT BREAKER	WIRE & CONDUIT	CIRCUIT BREAKER
15KVA	3#10, 3/4"C, 1#12G	3P-25A	4#6, 1-1/4", 1#10G	3P-60A
15KVA	3#10, 3/4"C, 1#12G	3P-25A	4#6, 1-1/4", 1#10G	3P-60A
30KVA	3#6, 1"C, 1#10G	3P-45A	4#1, 2"C, 1#6G	3P-100A
30KVA	3#6, 1"C, 1#10G	3P-45A	4#1, 2"C, 1#6G	3P-100A
45KVA	3#4, 1"C, 1#8G	3P-70A	4#1/0, 2"C, 1#6G	3P-150A
45KVA	3#4, 1"C, 1#8G	3P-70A	4#1/0, 2"C, 1#6G	3P-150A
75KVA	3#1, 1-1/4"C, 1#6G	3P-125A	4#250KCMIL, 3"C, 1#4G	3P-250A
75KVA	3#1, 1-1/4"C, 1#6G	3P-125A	4#250KCMIL, 3"C, 1#4G	3P-250A
112.5KVA	3#2/0, 1-1/2"C, 1#6G	3P-175A	(2) SETS: 4#3/0, 2-1/2"C, 1#1/0G	3P-400A
112.5KVA	3#2/0, 1-1/2"C, 1#6G	3P-175A	(2) SETS: 4#3/0, 2-1/2"C, 1#1/0G	3P-400A
150KVA	3#4/0, 2"C, 1#6G	3P-225A	(2) SETS: 4#250KCMIL, 2-1/2"C, 1#1/0G	3P-500A
150KVA	3#4/0, 2"C, 1#6G	3P-225A	(2) SETS: 4#250KCMIL, 2-1/2"C, 1#1/0G	3P-500A
225KVA	(2) SETS: #2/0, 2"C, 1#3G	3P-350A	(3) SETS: 4#300KCMIL, 3"C, 1#1/0G	3P-800A
225KVA	(2) SETS: #2/0, 2"C, 1#3G	3P-350A	(3) SETS: 4#300KCMIL, 3"C, 1#1/0G	3P-800A

MAXIMUM ALLOWABLE VOLTAGE DROP FOR FEEDERS AND BRANCH CIRCUITS (2021 IECC 405.9)

1. Total voltage drop from the point of service to the last outlet or utilization equipment of the same voltage shall not exceed five-percent of rated voltage.
2. Total voltage drop from the point of service to transformers with adjustable taps, buck-boost transformers, uninterruptable power supplies (UPS), or voltage regulators shall not exceed five-percent of rated voltage.
3. Total voltage drop from a separately derived system, transformer with adjustable taps, buck-boost transformer, uninterruptable power supply (UPS), or voltage regulator to the last outlet or utilization equipment of the same voltage shall not exceed five-percent of rated voltage.
4. Total voltage drop from the point of service to distribution equipment of the same voltage shall not exceed two-percent of rated voltage.
5. Branch circuit voltage drop from distribution equipment to the last outlet or utilization equipment shall not exceed three-percent of rated voltage.
6. Provide the same size branch circuit conductors to last outlet on circuit unless specifically noted or indicated otherwise on the drawings. For 20 amp branch circuits operating at 150-Volts or less, provide #10 AWG wire when the first outlet is over 75-feet from the panelboard. For branch circuits operating above 150-Volts to 600-Volts, provide #10 AWG wire when the first outlet is over 150-feet from the panelboard.

ELECTRICAL LOAD ANALYSIS

BUILDING LOADS SUMMARY

PROJECT:	TEXAS WOMEN'S UNIVERSITY						
CITY/STATE:	DENTON, TX						
VOLTAGE:	480						
VOLTAGE TO GND	277						
PHASE	3						
WIRE	4						
SQ. FOOTAGE:	10386	x	3.0	**NEC VA/SF:**	31158	PER NEC 220.12	
TYPE OF LOAD DESCRIPTION	**TYPE LOAD REF. NO.**	**CONN LOAD (KVA)**		**NEC DEMAND FACTOR**	**DEMAND LOAD (KVA)**	**DEMAND LOAD (AMPS)**	**KEYED NOTES**
1. RECEPTACLES	1	31.1	x	SEE NOTE 1	20.6	24.7	1
2. LIGHTING	2	5.8	x	125%	7.3	8.7	2
3. AIR CONDITIONING	3	59.9	x	100%	59.9	72.0	3
4. ELECTRIC HEATING	4	147.8	x	100%	147.8	177.7	4
5. ELEVATOR	5		x	100%	0.0	0.0	5
6. KITCHEN EQUIPMENT	6		x	65%	0.0	0.0	6
7. MISC (FUTURE EXPANSION)	7		x	100%	0.0	0.0	7
8. MISC	8	36.8	x	100%	36.8	44.3	7
TOTALS =		281.4			272.3	327.5	
LOAD ANALYSIS NOTES	**NEC REFERENCE**			**DEMAND LOAD SUMMARY (KVA)**		**(AMPS)**	
NOTE 1	**PER NEC TABLE 220-44**			**DEMAND LOAD**	272.3	327.5	
NOTE 2	**PER NEC TABLE 220-12 & 220-42**			**LARGEST MTR**	13.0	15.6	
NOTE 3	**PER NEC 440**			**ADD -LTG. VA/SF**			
NOTE 4	**PER NEC 422 & 424**			**(SEE NOTE 2)**	29.9	35.9	
NOTE 5	**PER NEC 430**			**SUB-TOTAL**	315.2	379.0	
NOTE 6	**PER NEC TABLE 220-56**			**SCHOOL FACTOR**			
NOTE 7	**DEMAND FACTOR AT 100%**			**(NOTE 9)**	190.4	229.0	
NOTE 8	**DEMAND FACTOR AT 125%**			**TOTAL LOAD**	190.4	229.0	
NOTE 9	**PER NEC TABLE 220-86**						

LOAD ANALYSIS COMPUTATIONS PER NEC 2021

CONTRACTOR NOTES:

IT IS THE RESPONSIBILITY OF THE CONTRACTORS TO NOTIFY THE ARCHITECT OF ANY DISCREPANCIES ENCOUNTERED ON THE PLANS OR IN EXISTING SITE CONDITIONS PRIOR TO COMMENCEMENT OF WORK.

CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZE THEMSELVES WITH EXISTING CONDITIONS AND SATISFY THEMSELVES AS TO THE NATURE AND SCOPE OF THE WORK. THE BASE PROPOSAL SHALL INCLUDE MODIFICATIONS TO SYSTEMS AND DEVICES AS REQUIRED BY STATE AND LOCAL CODES WHETHER INDICATED OR NOT ON CONTRACT DOCUMENTS. THE SUBMISSIONS OF A PROPOSAL WILL BE EVIDENCE THAT SUCH AN EXAMINATION AND COMPLIANCE WITH GOVERNING CODES/REQUIREMENTS HAS BEEN MADE. LATER CLAIMS FOR LABOR, EQUIPMENT, OR MATERIALS REQUIRED, OR FOR DIFFICULTIES ENCOUNTERED WHICH COULD HAVE BEEN FORSEEN HAD AN EXAMINATION AND CODE/REQUIREMENTS REVIEW BEEN MADE, WILL NOT BE ACCEPTED.

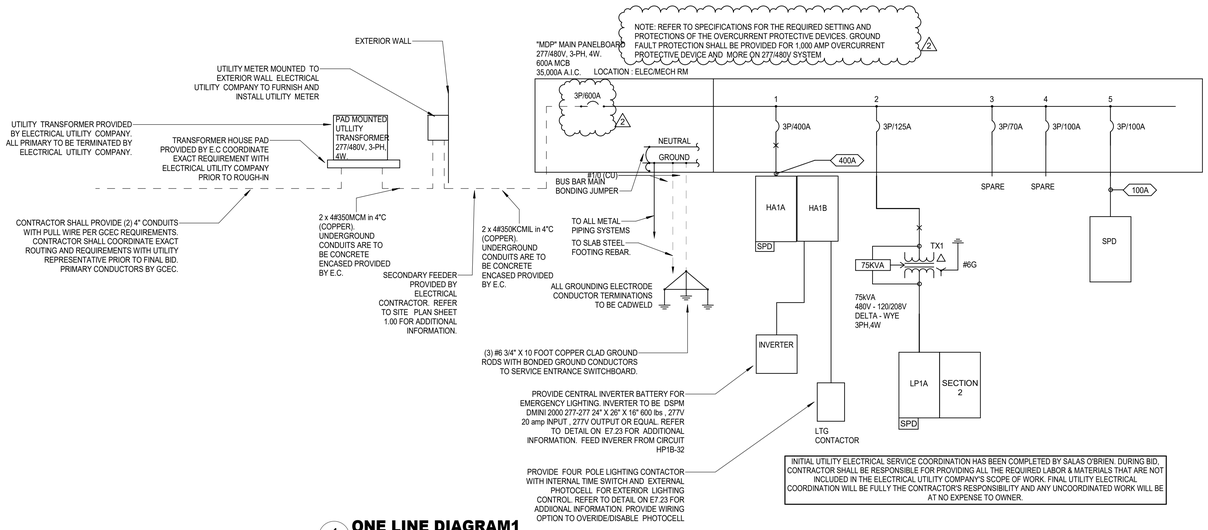
CONTACTOR SCHEDULE

			CONTACTOR RATINGS				CONTROL CIRCUIT		
CONTACTOR ID	LOCATION	LOAD DESCRIPTION	VOLTS	AMPS	POLES	CIRCUITS	VOLTS	CIRCUIT	CONTROL TYPE
1	ELEC 0108B	SITE LIGHTING	277	30	4	HP1B-26,HP1B-27	120	LP1A-6	BUILDING MANAGEMENT
2	ELEC 0108B	EXTERIOR FRONT	277	30	4	HP1B-1,HP1B-33	120	LP1A-6	BUILDING MANAGEMENT
3	ELEC 0108B	EXTERIOR BACK	277	30	4	HP1B-31	120	LP1A-6	BUILDING MANAGEMENT
4	ELEC 0108B	BUS STOP	120	30	4	LP1B-50	120	LP1A-6	BUILDING MANAGEMENT
5	ELEC 0108B	MONUMENT SIGN	120	30	4	LP1B-51	120	LP1A-6	BUILDING MANAGEMENT

LIGHTING FIXTURE SCHEDULE

	CATALOG NUMBER							
Type Mark	MANUFACTURER	MODEL	MOUNTING	LAMP TYPE	CCT	CRI	VOLTAGE	LOAD	REMARKS
A2	CREE LIGHTING	ZR24-40L-840-AR-UNV-10V5-CONFIGURED FROM FLX24-100L-930-ARC-10V1-UNV-xx-EB	RECESSED	4000L LED	4000 K	80	277 V	27 W	CONFIGURED FROM 2x4 FLEX TROFFER, 100L LUMEN PACKAGE, 90 CRI, 4000K, ARC LENS,10V1 CONTROL
A2X	CREE LIGHTING	ZR24-30L-840-AR-UNV-10V5-CONFIGURED FROM FLX24-100L-930-ARC-10V1-UNV-xx-EB	RECESSED	4600L LED	4000 K	80	277 V	21 W	CONFIGURED FROM 2x4FLEX TROFFER, 100L LUMEN PACKAGE, 90 CRI, 4000K, ARC LENS,10V1 CONTROL
B1	CREE LIGHTING	ZR22-30L-840-AR-UNV-10V5- CONFIGURED FROM FLX24-100L-930-ARC-10V1-UNV-xx-EB	RECESSED	3000L LED	4000 K	80	277 V	33 W	CONFIGURED FROM 2x4 FLEX TROFFER, 100L LUMEN PACKAGE, 90 CRI, 4000K, ARC LENS,10V1 CONTROL
B1X	CREE LIGHTING	ZR22-30L-840-AR-UNV-10V5- CONFIGURED FROM FLX24-100L-930-ARC-10V1-UNV-xx-EB	RECESSED	3000L LED	4000 K	80	277 V	24 W	CONFIGURED FROM 2x4 FLEX TROFFER, 100L LUMEN PACKAGE, 90 CRI, 4000K, ARC LENS,10V1 CONTROL
C1	VANTAGE LIGHTING	V60FCRU-1540K	RECESSED	1500L LED	4000 K	80	277 V	21 W	LED OPEN 6" ROUND
C1X	VANTAGE LIGHTING	V60FCRU-1540K	RECESSED	1500L LED	4000 K	80	277 V	20 W	SAME AS C1 WITH EM BATTERY.
C3	VANTAGE LIGHTING	A4VOFLEDU-0735K-L4060SCL ZDM	RECESSED	750L LED	3500 K	80	277 V	8 W	6-INCH MEDIUM BEAM OPEN DOWNLIGHT.
C3X	VANTAGE LIGHTING	A4VOFLEDU-0735K-L4060SCL ZDM	RECESSED	750L LED	3500 K	80	277 V	8 W	6-INCH MEDIUM BEAM OPEN DOWNLIGHT. SAME AS C3 WITH EM BATTERY BACK UP.
N	AMERLUX	LIN3.5-PL.ASW10.3W.35.HW.120/277.IND.4.0-10V	SURFACE / PENDANT	5200L LED	4000 K	80	277 V	28 W	4' LENSED LED STRIPLIGH AND 0-10V DIMMING DRIVER.
NX	AMERLUX	LIN3.5-PL.ASW10.3W.35.HW.120/277.IND.4.0-10V	SURFACE / PENDANT	5200L LED	4000 K	80	277 V	28 W	4' LENSED LED STRIPLIGH AND 0-10V DIMMING DRIVER.
OC	ZANEEN	E9B027-40K-BRZ	BOLLARD	2,000L LED	4000 K	80	277 V	24 W	35" BOLLARD ABOVE GROUND POST MOUNTING.
P	BUZZISHADE M	SOL SOLO SPOT	PENDANT	1500L LED	3000 K	90	277 V	19 W	BUZZISHADE M PENDANT MEDIUM 15.75 TOP 29.13 BOTTOM. 78.74 CABLE LENGTH.
P2	SUN VALLEY LIGHTING	CS-8202	PENDANT	9425/6540L LED	4000 K	80	277 V	40 W	CUSTOM PENDANT FIXTURE PENDANT LENGTH TO BE 48"
R2	SAYLITE	RDX2-48L-Q44W-DMV-40K	SURFACE / PENDANT	5200L LED	4000 K	80	277 V	28 W	4' LENSED LED STRIPLIGH AND 0-10V DIMMING DRIVER.
R2X	SAYLITE	RDX2-48L-Q44W-DMV-40K	SURFACE / PENDANT	4000L LED	4000 K	80	277 V	28 W	4' LENSED LED STRIPLIGHT AND 0-10V DIMMING DRIVER.
S1	ENERGY LITE	GL3-12L-3RM-740-SS	POLE MOUNT 1 @ 90	9569L LED	4000 K	80	277 V	83 W	TYPE III AREA LUMINAIRE. 30' SQUARE STEEL POLE FACTORY CUT TO 27'-6".
S1S	ENERGY LITE	GL3-12L-3RM-740	POLE MOUNT 1 @ 90	12172L LED	4000 K	80	277 V	84 W	TYPE III AREA LUMINAIRE. 30' SQUARE STEEL POLE FACTORY CUT TO 27'-6".
S2S	ENERGY LITE	GL3-12L-3RM-740	POLE MOUNT 2 @ 180	12172L LED	4000 K	80	277 V	84 W	TYPE III AREA LUMINAIRE. 30' SQUARE STEEL POLE FACTORY CUT TO 27'-6".
SE	ISOLITE	ODLE-20-AC-WH-MB-C2	WALL	2000L LED	2900 K	80	277 V	20 W	LED OUTDOOR EGRESS EMERGENCY LIGHT.
W	HUBBELL	TRP2-24L-30-4K7-3	WALL	3747L LED	4000 K	80	277 V	30 W	MOUNT FIXTURE AT +14'-0" AFF
X	HUBBELL	TRP2-24L-30-4K7-3	SURFACE/WALL	LED	4000 K	80	277 V	11 W	UNIVERSAL LED EXIT SIGN WITH WHITE HOUSING,GREEN LETTERIN.

1 FIXTURES SHOWN ON THE FLOORPLAN HAVING A DESIGNATION OF "E" FOLLOWING THE BASE DESIGNATION (I.E. - A FIXTURE TYPE "AE, C2E, FE") AND/OR A HALF SHADED REGION SHALL BE THE BASE FIXTURE TYPE EQUIPPED WITH THE APPROPRIATE BATTERY BACK-UP. BATTERY BACK-UPS SHALL BE INTEGRAL TO THE FIXTURE AND REMOTE SHALL BE SELECTED ONLY IN INSTANCES WHERE IT IS SPECIFIED OR WHEN IT IS THE ONLY AVAILABLE EMERGENCY OPTION. THE LOCATION OF REMOTE BATTERY BACKUPS SHALL BE SELECTED BY THE OWNER/ARCHITECT PRIOR TO INSTALLATION BY THE CONTRACTOR.
2 ALL REQUIRED TEST SWITCHES FOR THE BATTERY BACK-UPS SHALL BE INTEGRAL TO THE FIXTURE.
3 REFER TO THE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS NOT INDICATED IN THE LIGHTING FIXTURE SCHEDULE. WHERE THERE IS AN INCONSISTENCY BETWEEN THE LIGHTING FIXTURE SCHEDULE AND THE SPECIFICATIONS, THE GREATER QUANTITY OR HIGHER QUALITY OF WORK SHALL BE INCLUDED IN THE PROPOSAL.
4 UNLESS OTHERWISE INDICATED ON THE SCHEDULE ABOVE, THE ARCHITECT/OWNER SHALL SELECT ALL FINISHES, COLORS, AND TRIMS.
5 ALL LED FIXTURE BOARDS AND DRIVERS SHALL BE OF THE LATEST GENERATION, BASED UPON THE INDIVIDUAL MANUFACTURER'S STATED LITERATURE. IF A "GEN 5" IS AVAILABLE, "GEN 4" FIXTURES ARE NOT ACCEPTABLE.
6 EXIT SIGNS AND EMERGENCY BATTERY BACK-UPS SHALL BE CONNECTED TO THE NEAREST LIGHTING CIRCUIT AHEAD OF ALL SWITCHING AS REQUIRED TO MAINTAIN THE BATTERIES AT FULL CHARGE. THE CONTRACTOR SHALL PROVIDE ALL ADDITIONAL WIRING AS REQUIRED.
7 LIGHTING FIXTURE MANUFACTURERS OTHER THAN THOSE LISTED IN THE LIGHTING FIXTURE SCHEDULE AND DESIRING TO BID THIS PROJECT SHALL REQUEST PRIOR APPROVAL OF THE FIXTURES THEY WISH TO SUBSTITUTE. PRIOR APPROVAL REQUEST SHALL INCLUDE FIXTURE CUT SHEETS.
8 FOR PRIOR APPROVALS AND SUBMITTALS THAT DEVIATE FROM NOMINAL WATTAGE AND/OR DELIVERED LUMENS, IT SHALL BE UP THE ENGINEER'S SOLE DISCRETION TO APPROVE OR DECLINE THESE FIXTURES BASED ON ANY AND ALL FACTORS INCLUDING BUT NOT LIMITED TO INTENDED LIGHTING LEVELS FOR EACH SPACE AND IMPACT ON THE OVERALL ELECTRICAL POWER SYSTEM.
9 ALL LIGHTING SPECIFIED SHALL BE 4000K INTERIOR UNLESS NOTED OTHERWISE.
10 THE CONTRACTOR SHALL PROVIDE ALL HARDWARE AND ACCESSORIES AS REQUIRED TO INSTALL FIXTURES IN LOCATIONS AS ILLUSTRATED WITH MOUNTING METHODS DESIRED.
11 WHEN A UNIVERSAL (120-277V) VOLTAGE OPTION IS AVAILABLE, IT SHALL BE PROVIDED. OTHERWISE PROVIDE AS INDICATED IN SCHEDULE.
12 FOR ALL SUSPENDED FIXTURES, COORDINATE THE EXACT MOUNTING ELEVATION ABOVE FINISHED FLOOR WITH ARCHITECT PRIOR TO INSTALLATION. PROVIDE SUSPENSION HARDWARE IN LENGTHS AS REQUIRED.
13 FIXTURES SHOWN ON THE FLOORPLAN HAVING A DESIGNATION OF "X" FOLLOWING THE BASE DESIGNATION (I.E. - A FIXTURE TYPE "AX, C2X, FX") SHALL BE THE BASE FIXTURE TYPE CONNECTED TO EMERGENCY LIGHTING INVERTER SYSTEM. REFER TO DETAIL 3 SHEET 10.42 FOR ADDITIONAL INFORMATION.
14 FIXTURES SHOWN ON THE FLOORPLAN HAVING A DESIGNATION OF "A" FOLLOWING THE BASE DESIGNATION (I.E. - A FIXTURE T YPE "A1A, C2A, FA") SHALL BE THE BASE FIXTURE TYPE EXCEPT SUITABLE FOR GYPSUM CEILING INSTALLATION AND EQUIPPED WITH THE APPROPRIATE BATTERY BACK-UP. BATTERY BACK-UPS SHALL BE INTEGRAL TO THE FIXTURE AND REMOTE SHALL BE SELECTED ONLY IN INSTANCES WHERE IT IS SPECIFIED OR WHEN IT IS THE ONLY AVAILABLE EMERGENCY OPTION. THE LOCATION OF REMOTE BATTERY BACKUPS SHALL BE SELECTED BY THE OWNER/ARCHITECT PRIOR TO INSTALLATION BY THE CONTRACTOR.
15 ALL EXTERIOR LIGHT FIXTURES RECESSED IN A CANOPY OR SURFACED MOUNTED DIRECTLY TO THE BOTTOM OF A CANOPY SHALL BE UL OR ETL LISTED AS WET LOCATION. WHERE SPECIFICALLY STATED IN THE LIGHTING FIXTURE SCHEDULE AS "DAMP LOCATION" FIXTURES AND PROTECTED BY THE BUILDING STRUCTURE FROM FALLING OR WIND DRIVEN RAIN OR SNOW, THEY MAY BE EITHER DAMP OR WET LOCATION LISTED.
16 ALL EXTERIOR LIGHT FIXTURES NOT RECESSED IN A CANOPY OR SURFACED MOUNTED DIRECTLY TO THE BOTTOM OF A CANOPY SHALL BE UL OR ETL LISTED AS WET FROM ABOVE LOCATION.



1 **ONE LINE DIAGRAM1**
Scale: N.T.S.

ALL FEEDERS AND BRANCH CIRCUIT CONDUCTORS HAVE BEEN SIZED IN ACCORDANCE TO 2021 IECC C405.9, 2020 NEC 210.19(A), AND 2020 NEC 215.2(A).

ALL DRY-TYPE TRANSFORMERS TO BE GROUNDED TO BUILDING STEEL AND GROUND ROD UNLESS OTHERWISE NOTED.

ALL EXTERIOR ELECTRICAL EQUIPMENT, DEVICES, JUNCTION BOXES, ETC. ARE TO BE NEMA 3R.

DURING BID, CONTRACTORS ARE TO VERIFY ALL POWER COMPANY REQUIREMENTS, METER LOCATION, PRIMARY CONDUITS, TRANSFORMER, TRANSFORMER PAD, SECONDARY ENCLOSURE APPROVAL, CONDUIT DEPTH REQUIREMENTS, CONTRACTOR VS. POWER COMPANY RESPONSIBILITIES, AND ANY OTHER ADDITIONAL REQUIREMENTS. UTILITY ELECTRICAL SOURCE COORDINATION WILL BE FULLY THE CONTRACTORS RESPONSIBILITY AND ANY ADDITIONAL WORK NOT COORDINATED WILL BE AT NO EXPENSE TO OWNER.

Salas O'Brien
salasobrien.com 972-812-1270
Irving
106 Decker Drive, Suite 200
Irving, TX 75062

Registration: F-4111
Project No: 2023-05434

VLK | ARCHITECTS

ARCHITECT
VLK Architects, Inc.
1320 Hemphill Street, Suite 400
Fort Worth, Texas 76104
Main Phone: 817.633.1600
www.vlkarchitects.com

CIVIL ENGINEER
JQ Engineering
100 Glass Street, Suite 201
Dallas, Texas 75201
Main Phone: 214.752.9098
www.jqeng.com

LANDSCAPE / IRRIGATION
The Landscape Alliance
951 W. Pipeline Rd. Suite 410
Hurst, Texas 76053
Main Phone: 817.589.8909
www.thelandscapealliance.com

STRUCTURAL ENGINEER
JQ Engineering
100 Glass Street, Suite 201
Dallas, Texas 75201
Main Phone: 214.752.9098
www.jqeng.com

M.E.P. ENGINEER
Salas O'Brien
106 Decker Dr, Suite 200
Irving, Texas 75062
Main Phone: 972.812.1270
www.salasobrien.com

CONSTRUCTION MANAGER
TBD

TEXAS WOMAN'S UNIVERSITY
DENTON, TEXAS

TWU - Denton Preschool Facility

Issued For Permit

STATE OF TEXAS
KEITH W. GASSMAN
89638
REGISTERED
ARCHITECT
02.29.24

ISSUED: FEB 29, 2024

REVISIONS

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2 ADD#2	4/16/24

Director — Drawn By
Approver — Author
Designer — Quality Control
Designer
Proj. Arch.
Checker

PROJECT NO.
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SHEET TITLE
ELECTRICAL - RISER DIAGRAM

SHEET NO.
E7.11

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