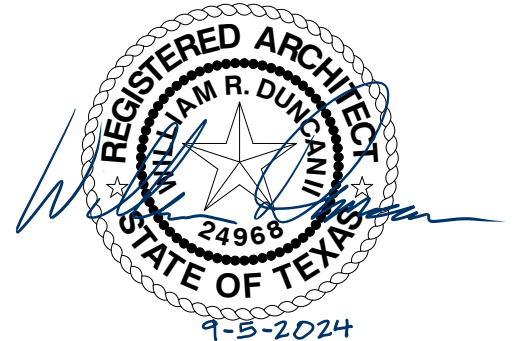


ADDENDUM NO. 2

ISSUE DATE: September 5, 2024

PROJECT: Fire Station #9
City of Abilene, TX



The following are additions, deletions, clarifications or corrections and shall be made to the Plans, Specifications, and Contract Documents for the above referenced project. Bidder shall acknowledge receipt of this Addendum on the Construction Costs Form.

GENERAL

- Item #G1** Exhibit "A" Wage Rate – Add the attached wage decision for Building construction types along with the existing Heavy and Highway wage decision.
- Item #G2** Substitution Request – See attached approved substitution request for Livers Bronze. This company may be added to the 05 73 00 Decorative Metal Railings as an approved Other Manufacturer.
- Item #G3** In the City of Abilene Standard Specifications, Part 1 General Provisions, Item 2 – Instruction to Bidders - OMIT 5. Bid Security. No bid security or bid bond will be required.

SPECIFICATIONS

- Item #S1** **Section 03 11 19 – Insulating Concrete Forming** – In Part 2 Products, Heading 2.1 Basis of Design, Item A Basis of Design, Sub-Item 1 - CHANGE sub item 1 to read as follows. "Tremco Construction Product Group; Nudura; www.nudura.com".
- Item #S2** **Section 04 43 13 – Stone Masonry Veneer** – In Part 2 Products, Heading 2.2 Stone – Item A Limestone - CHANGE sub item 2 to read as follows. "Color: Leuder's region limestone with gray hue".
- Item #S3** **Section 06 53 00 – Plastic Decking** – In Part 2 Products, Heading 2.1 Basis of Design, Item A Plastic Decking, Sub-Item 2 - ADD sub item "e" to include MoistureShield by Oldcastle APG as an approved Other Manufacturer.



- Item #S4** **Section 07 51 00 – Built-Up Bituminous Roofing** - REPLACE with attached Specification Section 07 51 00 – Built Up Bituminous Roofing.
- Item #S5** **Section 08 71 00 – Door Hardware** – In Part 3 Execution, Heading 3.8 Door Hardware Sets – OMIT reference to Door 108 in Hardware Set 2.
- Item #S6** **Section 08 45 00 – Translucent Wall and Roof Assemblies** – OMIT specification section in its entirety.
- Item #S7** **Section 09 77 00 – Special Wall Surfacing** - ADD specification section to specification manual. This section includes Textured Acrylic Coating noted in Alternate #8 and Alternate #9.
- Item #S8** **Section 10 26 00 – Wall and Door Protection** – In Part 2 Products, Heading 2.2 Product Types, Item A Corner Guards Flush Mounted, Sub Item 5 - CHANGE to read “Length: 6’-0”.
- Item #S9** **Section 23 20 00 – VRF Refrigerant Piping** – In Part 1 General, Heading 1.03 Contractor Qualifications, DELETE Item B. In Part 1 General, Heading 1.03 Contractor Qualifications, CHANGE Item C to read as follows:

C. Mechanical Contractor shall meet the following criteria.

- 1.The HVAC company shall have a minimum of (3) VRF completed projects of similar size and system arrangement.
2. All foreman/crew leaders that work on and oversee the installation shall provide proof of manufacturer training to include the “Installation” course for each type of system being installed.
- 3.All crew members must complete manufacturer training include the “Installation” course for each type of system being installed.
4. VRF control installation and system start-up services shall be completed ONLY by a factory authorized agent. The factory authorized agent is responsible for the control installation and start-up and/or for submitting the documents required for warranty.

- Item #S10** **Section 23 81 00 – VRF Refrigerant Piping** – In Part 1 General, Heading 1.06 Contractor Qualifications, DELETE Item B. In Part 1 General, Heading 1.03 Contractor Qualifications, CHANGE Item C to read as follows:



C. Mechanical Contractor shall meet the following criteria.

1. The HVAC company shall have a minimum of (3) VRF completed projects of similar size and system arrangement.
2. All foreman/crew leaders that work on and oversee the installation shall provide proof of manufacturer training to include the “Installation” course for each type of system being installed.
3. All crew members must complete manufacturer training include the “Installation” course for each type of system being installed.
4. VRF control installation and system start-up services shall be completed ONLY by a factory authorized agent. The factory authorized agent is responsible for the control installation and start-up and/or for submitting the documents required for warranty.

DRAWINGS

- Item #D1** **Sheet A2.0 – Keyed Notes** – In Keyed Note #5 OMIT reference to shutters.
- Item #D2** **Sheet A3.0 – Window Elevation A1** – Glazing for Window A1 is to be glazing A as scheduled with added 3M Crystal Glass Finishes Film, Frosted Crystal or equal privacy frosted film.
- Item #D3** **Sheet A2.4 – First Floor Finish Floor Plan** – CHANGE floor hatch from Polished Concrete to Sealed Concrete at Rooms 115, 116A, 116B, 117, 118, 119, 120, 121, 125 and 212.
- Item #D4** **Sheet A3.0 – Door Schedule** – CHANGE Door 108 jamb detail to 36, head detail to 36 sim and sill detail to 2 in the Door Schedule. Door and Frame for opening 108 is H.M and fire rated as marked.
- Item #D5** **Sheet A3.0 – Door Schedule** – CHANGE Doors 119 and 120 jamb details to 36, head details to 36 sim and sill details to 2 in the Door Schedule. Doors and Frames for openings 119 and 120 are H.M.
- Item #D6** **Sheet A4.0 – Exterior Materials Legend** – CHANGE material tag “BO” listed under Material Color in the Exterior Materials Legend to “Tan Timber”.
- Item #D7** **Sheet A4.1 – Exterior Materials Legend** – CHANGE material tag “BO” listed under Material Color in the Exterior Materials Legend to “Tan Timber”.





- Item #D8** **Sheet S2.0 – Second Floor and North Low Roof Framing Plan – 2/S2.0**, CHANGE all T.O.W. elevations noted 114'-0" to 114'-8" between gridline A.8 and A. ADD beam size W8x10 to beam shown at east edge of the canopy along grid line 8 between A and B.5, beam is also shown in detail 8/S4.0.
- Item #D9** **Sheet S4.0 – Framing Details – 14/S4.0**, CHANGE detail title to read as follows "Alternate No. Seven Detail". 15/S4.0, CHANGE detail title to read as follows "Roof Framing Plan - Alternate No. Seven".
- Item #D10** **Sheet E3.0 – First Floor Plan – Lighting** – Add electrical circuit for illuminated signage on face of canopy to the north of Vestibule 100, refer to A4.0 and A4.1 for location of the illuminated signage on the canopy. Extend wiring from canopy lighting circuit MP-14 to weathertight j-box for illuminated sign. Verify location and mounting requirements of j-box with architect prior to rough-in.

QUESTIONS

- Item #Q1** **Question:** Are commissioning costs to be included in the GC's Bid?
- Answer:** Commissioning is being procured and paid for by the owner as stated in Specification 01 91 13 – General Commissioning Requirements in Part 1, Heading 1.1 Summary, Item D. All trades included in the Scope of Commissioning in Part 1, Heading 1.2 will need to provide a start-up plan, start-up report, pre-functional checklist and comply with the commissioning plan as indicated in Part 3 Execution.
- Item #Q2** **Question:** In Section 04 43 13 – Stone Masonry the stone is called out as 10.5" uniform height with random lengths of 18"-36" however the drawings on A4.0 and A4.1 reflect a different pattern/size of stone?
- Answer:** The size of stone listed in the specification is correct and will supersede the pattern illustrated on A4.0 and A4.1.
- Item #Q3** **Question:** Interior Elevation 2/A6.0 indicates (2) 4'x7' and (1) 4'x4' glassless mirror, however the manufacturer does not offer a 4'x4' glassless mirror?
- Answer:** The total length of glassless mirror is 18' on Interior Elevation 2/A6.0, please provide (3) 4'x6' glassless mirrors to achieve the 18' total length of glassless mirror.
- Item #Q4** **Question:** Are the Cabinets intended to be framed or frameless cabinets? The drawings are showing framed but the specifications are calling frameless.
- Answer:** The intent is for frameless cabinets, the 06 41 00 Architectural Wood Casework





specification is dictating the style and grade.

Item #Q5 **Question:** Are the cabinets intended to be Plastic Laminate or Solid Wood finish?

Answer: The millwork is intended to be plastic laminate over the allowed substrates per 06 41 00 Architectural Wood Casework.

Item #Q6 **Question:** Please clarify if the Stationary Slide Pole mentioned on A2.0 keyed note #5 is a Model 19 or 20 due to the mention of shutter?

Answer: Disregard the statement about providing shutters. Stationary Fire Pole is intended to be a Model 19.

Item #Q7 **Question:** Please confirm if there are any openings (walls or skylights) on this project that are designed as a translucent fiberglass system per Spec 08 45 00?

Answer: No there are no openings design with the translucent fiberglass system.

Item #Q8 **Question:** Are all of the appliances Owner Furnished and Contractor Installed?

Answer: Yes

Item #Q9 **Question:** Window Elevations A, B, C, D, G, G1 and G2 shown of plan sheet A3.0 show gypsum board sills in the corresponding details on A3.1. Floor Plan 1/A2.0 and Floor Plan 1/A2.1 note solid surface sills at all these window locations. Please clarify the type of window sill that is required?

Answer: Solid Surface sill as noted on Floor Plan 1/A2.0 and Floor Plan 1/A2.1 will be required where noted.

Item #Q10 **Question:** The partitions are sound rated, do the doors & frames also need to meet a certain STC rating above a standard rating? There are vague mentions of sound control doors within the door specifications, but no clear indication for them.

Answer: There are no doors with required STC ratings in this project.

Item #Q11 **Question:** Is there a location where the ICF is a one-sided form using plywood as one form edge?

Answer: Yes, all the ICF walls in APPARATUS BAY 115 are one sided ICF using plywood or removable metal form. This will leave an exposed concrete wall finish in APPARATUS BAY 115.





Item #Q12

Question: Is the exterior and interior signage covered by the signage allowance? Please clarify what signage is included in the bid and what signage is covered by the signage allowance.

Answer: All exterior signage which includes the large “9” and two locations of “ABILENE FIRE DEPARTMENT” are back lit illuminated signs, these signs are to be included in the base bid cost. All heights of exterior signage and letters are listed on A4.0 and A4.1. Backlit signs to have a dual color film, black during daytime and white at night. The interior stand-off mounted anodized aluminum signage saying “ABILENE FIRE” is also included in base bid, this signage is referenced in 1/A6.0. All interior room signage is also included in base bid. The signage allowance will be used to pay for the Bronze Plaque reference by keyed note #20 on 1/A2.0 and the 5’ diameter fire department logo referenced in 1/A6.0. Disregard any quantities provided in the specification section 10 14 00 Signage and use the quantities outlined above in this “Answer”.

Item #Q13

Question: On Sheet E3.0 in both stairwells there are fixtures with no markings?

Answer: These fixtures are located and marked on the E3.1 on the Second Floor Plan – Lighting plan.

Item #Q14

Question: Mechanical print M1.1 indicates schedule for exhaust fan control by EMS/BAS/DDC System. The specification 26 09 00 indicates electrical to interlock all fans with respective HVAC units. Need clarity if both are to control the exhaust fan or if interlocked is sufficient. This is also mentioned in 23 09 00 section 4.01 F for DDC system to control exhaust fans based on night setup/setback.

Answer: Exhaust fans shall be controlled and monitored through the DDC as indicated in the Mechanical Equipment Control Schedules. Fans shall remain off during unoccupied/night setback periods as specified.

Item #Q15

Question: For Exhaust Fan 1 and 2, the notations on M1.1 indicate motorized damper control for these two exhaust fans with 2-speed operation. The specification for exhaust fans indicates “self-acting anti-backdraft dampers”, nothing motorized noted in specification, nor any other details to reference this control/interaction. The request is to understand if these dampers are integral to the exhaust fan assembly, where the damper operate on call for exhaust fan power or are motorized dampers required outside of the exhaust fan assembly? What will the 2 speeds of exhaust fan be based on if controlled by DDC?

Answer: Self-acting anti-backdraft dampers are accepted in lieu of motorized dampers. Fan speeds to be controlled by 2-speed controller as specified, airflows as indicated on mechanical schedule.





Item #Q16 **Question:** Keyed note #12, M2.0, calls out a Plymovent Vehicle Exhaust System. We're being told by their rep that they will only quote to the GC.

Answer: Plymovent typically quotes only to General Contractors as they provide a complete system install.

Item #Q17 **Question:** The panel specifications call for spare breakers and spare spaces in distribution panelboards. Would that apply to Panel MP, Panel L, or both? Please advise.

Answer: Spare breakers only apply to Panel MP.

Item #Q18 **Question:** Does the DDC system need to monitor kWh?

Answer: The building power does not need to be monitored.

Item #Q19 **Question:** Does the DDC system need to monitor exterior or interior lighting?

Answer: Refer to General Note "E" on sheet E3.0 for exterior lighting control. Interior lighting control system does not need to integrate with BACnet or EMS controls. Interior lighting control system does need to integrate with the Zetron system for light level overrides.

Item #Q20 **Question:** Does the DDC system need to monitor Generator?

Answer: The only monitoring shall come from the remote annunciator placed in Office 104. See NOTE #9 on Sheet MEP1.1.

Item #Q21 **Question:** Control of low intensity infrared gas heaters needs additional clarification. Mechanical Sheet M1.1 – indicates in the schedule for each infrared gas heater to be start/stop by DDC (2-stage), Zone Sensor, and proof of status for each heater. The specification and mechanical floorplans indicate the infrared heaters are grouped into 2 groups of 5 controlled by thermostats, indicating not individual control or proof of status or independent room sensors. In specification, section 2.05E indicates "controls and heater design shall be such that multiple heaters may be controlled by single thermostats". Section 2.05F indicates "each unit shall include remote wall-mounted thermostat which shall stage each heater." There are only 2 thermostat locations shown?

Answer: It is intended that low intensity infrared gas heaters be individually controlled and monitored through the DDC as indicated in the Mechanical Equipment Control Schedules. Multiple heaters are to receive input control signal from a shared zone sensor designated on the Mechanical Floor Plan allowing them to operate together in



designated zones.

Item #Q22 **Question:** Please clarify where fixtures P and T are located?

Answer: Type P and Type T fixtures are shown on Sheet MEP1.1. All of the Type P fixtures are part of base bid except for the two (2) most NW fixtures that overlap the area shown as Alternate #10 on C1.1, these (2) fixtures shall be bid as part of Alternate #10. Five (5) Type T fixtures are associated with the Alternate #4 Parking Canopy, coordinate location of parking canopy with C1.1. See Note #7 on Sheet MEP1.1. The other five (5) Type T fixture can be omitted.

Item #Q23 **Question:** Sheet E1.4 riser diagram: It is required to have an emergency disconnect on the outside of the building. The meter is shown to be at the pad mounted transformer, and not on a rack. There are different ways to install the required disconnecting means for the utility service as well as the emergency generator. Would you like two 400 amp fused disconnects or a shunt trip push button on each of the 300amp breakers?

Answer: If approved by AHJ, provide a keyed Knox Box with push button control of each 300A disconnect.

Item #Q24 **Question:** On the Electrical Riser Diagram on E1.4, will a service-entrance bypass ATS be required?

Answer: Provide a 300A service-entrance rated bypass ATS. MOCP shall be internal to the ATS.

Item #Q25 **Question:** Is Oncore the service provider as indicated on the drawings?

Answer: AEP is the service provider in this area.

Item #Q26 **Question:** On sheet E2.0, the First Floor Power Plan, rooms 118, 119, 120, and 121 show circuits going to the L3 alternate panel. If alternate is not taken, where will these circuits go to?

Answer: Panel L2.

Item #Q27 **Question:** Where is fixture "L" located on the lighting plans?

Answer: Fixture "L" is located in STAIRWELL 213 on sheet E3.1.

Item #Q28 **Question:** Is there any opportunity to use an alternate manufacturer for the 27 10 00 Structured Cabling scope? Are CommScope products required for this project.





Answer: The owner requires CommScope products and certification. Provide a complete CommScope system, if a particular product is no longer manufactured provide a similar product to achieve CommScope certification.

Item #Q29 **Question:** The Specs indicate a combination FA/Voice Evacuation system with LOC and Speaker strobes. Please confirm what type of Fire Alarm system is required?

Answer: Voice evacuation is not required, so standard horn-strobes are acceptable.

Item #Q30 **Question:** On the construction drawings for the Fire Alarm, it indicates that the system will be using strobes and horn-strobes for occupant notification. Since the occupancy for this is S-2 and R-3 this meets code. In specification section 28 30 00 1.02 Scope C, it states that the Fire Alarm System shall include a combination ADA voice evacuation system with speaker strobes and in section 2.01, Silent Knight 6820 EVS panel shall be used which is a voice evacuation panel. Since the drawings and specifications contradict each other, please verify if the desire is a Standard Fire Alarm System or a Combination Fire Alarm and Voice Evacuation system.?

Answer: Voice evacuation is not required, so standard horn-strobes are acceptable, and the standard #6820 Addressable FACP is acceptable.

Item #Q31 **Question:** On the second floor Fire Alarm drawings, in the dorm rooms, it lists a smoke detector and a carbon monoxide detector. Can a single detector that has both smoke and CO detector be used instead of two devices? On the second-floor fire alarm plans it shows a strobe only device in the dorm rooms, the notification device in the dorm room needs to be a low frequency sounder or a low frequency sounder strobe. Which of the low frequency devices is desired to be installed in the dorm room?

Answer: If approved by AHJ, the CO detectors can be removed from the dorm rooms as there is no gas heat in that part of the building. Provide low frequency sounder strobe notification devices in the dorm rooms.

Item #Q32 **Question:** Should the entire length of the existing pipe fence along 707 be painted??

Answer: All of the fence should be painted.

Item #Q33 **Question:** Should the west section of the existing fence that runs along the property line with the residential neighbor be painted?

Answer: All of the fence should be painted.

Item #Q34 **Question:** There is a note on Sheet C1.0 that Existing fence along the West Side is to be





removed. Please clarify.

Answer: This note is not correct. The fence along the west side will remain. All existing fence will remain except where it is noted to be removed for drive approaches.

Item #Q35

Question: Plan Sheet C1.0, landscaping notes, note 6, states any required irrigation system will be provided. Is this irrigation system a temporary system to establish the grass or a designed permanent complete underground system?

Answer: There is no temporary irrigation on this project. The permanent underground system is noted on sheet A1.0, keyed note 3. Irrigation will only be provided at the locations with Bermuda sod as indicated by keyed note 3 on A1.0.

Item #Q36

Question: Plan Sheet C1.0, under landscaping notes, note 2, total landscaped area within the site is 153,798 SF. Does the landscaped area refer to the amount of grass seeding that is required? I thought I heard during the pre-bid meeting there would be some areas that require sod. How much of the 153,798 SF will be sod?

Answer: This is a required site plan note by the City of Abilene which includes proposed sod and native vegetation. The areas requiring sod and hydro mulch are shown on Sheet A1.0, all the areas within the site that do not show to be bermuda sod on sheet A1.0 are expected to be bermuda hydro-mulch as noted on A1.0.

Item #Q37

Question: Is the seeding, sodding and irrigation of the site covered by the Landscape Allowance? There is also a requirement of 1 tree per every 60' of frontage, is this paid for with the Landscape Allowance?

Answer: All noted sod, hydro-mulch and required irrigation at sodded areas as shown on A1.0 will be included in the base bid. The landscape allowance will be for landscaping enhancements and trees.

Item #Q38

Question: Do you have a drawing for the Utility site plan?

Answer: See sheet C4.0 Utility Site Plan & MEP1.1 Site Plan – Mechanical & Electrical.

Item #Q39

Question: The plans also indicate that there will be a landscape and irrigation plan provided, is that something that is still in the works or will we need to go ahead and design the irrigation and trees for the frontage?

Answer: The landscape and irrigation to be included in the base bid is outlined on sheet A1.0. The final irrigation design for the area outlined on sheet A1.0 is a delegated design to the selected landscape contractor. The tree locations will be determined later and will





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be paid for with the Landscape Allowance.

Item #Q40 **Question:** Reference detail 14/S4.0, what type of wood is supposed to be used for the 2x8 trellis beams?

Answer: Provide rough sawn 2x8 western red cedar #2 or better. Seal all cedar beams with Wood Defender 200 Series Transparent Stain & Seal – Leatherwood. Provide mockup for owner approval prior to staining.

Item #Q41 **Question:** Are the HVAC Contractors listed under Contractor Qualifications in the 23 81 00 and 23 20 00 specifications the only HVAC contractors we can use?

Answer: See the revision to the specification sections 23 81 00 and 23 20 00 listed earlier in the addenda. The list of “approved contractors” has been removed, however the HVAC contractor shall meet the criteria outlined in the amended “Contractor Qualifications”.

END OF ADDENDUM



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"General Decision Number: TX20240278 01/05/2024

Superseded General Decision Number: TX20230278

State: Texas

Construction Type: Building

Counties: Callahan, Jones and Taylor Counties in Texas.

BUILDING CONSTRUCTION PROJECTS (does not include single family homes or apartments up to and including 4 stories).

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(1).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:	. Executive Order 14026 generally applies to the contract. . The contractor must pay all covered workers at least \$17.20 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2024.
If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:	. Executive Order 13658 generally applies to the contract. . The contractor must pay all covered workers at least \$12.90 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2024.

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at <http://www.dol.gov/whd/govcontracts>.

BOIL0074-003 07/01/2023

	Rates	Fringes
BOILERMAKER.....	\$ 37.00	24.64

ELEC0681-005 12/01/2023

	Rates	Fringes
ELECTRICIAN (Excludes Low Voltage Wiring).....	\$ 28.44	3.5%+10.10

ENGI0178-005 06/01/2020

	Rates	Fringes
POWER EQUIPMENT OPERATOR		
(1) Tower Crane.....	\$ 32.85	13.10
(2) Cranes with Pile Driving or Caisson Attachment and Hydraulic Crane 60 tons and above.....	\$ 28.75	10.60
(3) Hydraulic cranes 59 Tons and under.....	\$ 32.35	13.10

IRON0084-011 06/01/2023

	Rates	Fringes
IRONWORKER, ORNAMENTAL.....	\$ 27.51	8.13

PLUM0404-001 09/01/2022

	Rates	Fringes
PLUMBER.....	\$ 28.64	10.65

SUTX2014-058 07/21/2014

	Rates	Fringes
BRICKLAYER.....	\$ 20.04	0.00
CARPENTER.....	\$ 12.71 **	0.66
CEMENT MASON/CONCRETE FINISHER...	\$ 15.32 **	0.00
ELECTRICIAN (Low Voltage Wiring Only).....	\$ 17.00 **	0.00
INSULATOR - MECHANICAL (Duct, Pipe & Mechanical System Insulation).....	\$ 19.77	7.13
IRONWORKER, REINFORCING.....	\$ 12.27 **	0.00
IRONWORKER, STRUCTURAL.....	\$ 22.16	5.26
LABORER: Common or General.....	\$ 11.89 **	0.00
LABORER: Mason Tender - Brick...	\$ 11.36 **	0.00
LABORER: Mason Tender -		

Cement/Concrete.....	\$ 10.58 **	0.00
LABORER: Pipelayer.....	\$ 12.49 **	2.13
LABORER: Roof Tearoff.....	\$ 11.28 **	0.00
OPERATOR: Backhoe/Excavator/Trackhoe.....	\$ 14.25 **	0.00
OPERATOR: Bobcat/Skid Steer/Skid Loader.....	\$ 13.93 **	0.00
OPERATOR: Bulldozer.....	\$ 18.29	1.31
OPERATOR: Drill.....	\$ 16.22 **	0.34
OPERATOR: Forklift.....	\$ 14.83 **	0.00
OPERATOR: Grader/Blade.....	\$ 13.37 **	0.00
OPERATOR: Loader.....	\$ 13.55 **	0.94
OPERATOR: Mechanic.....	\$ 17.52	3.33
OPERATOR: Paver (Asphalt, Aggregate, and Concrete).....	\$ 16.03 **	0.00
OPERATOR: Roller.....	\$ 12.70 **	0.00
PAINTER (Brush, Roller, and Spray).....	\$ 14.45 **	0.00
PIPEFITTER.....	\$ 25.80	8.55
ROOFER.....	\$ 13.75 **	0.00
SHEET METAL WORKER (HVAC Duct Installation Only).....	\$ 22.73	7.52
SHEET METAL WORKER, Excludes HVAC Duct Installation.....	\$ 21.13	6.53
TILE FINISHER.....	\$ 11.22 **	0.00
TILE SETTER.....	\$ 14.74 **	0.00
TRUCK DRIVER: Dump Truck.....	\$ 12.39 **	1.18
TRUCK DRIVER: Flatbed Truck.....	\$ 19.65	8.57
TRUCK DRIVER: Semi-Trailer Truck.....	\$ 12.50 **	0.00
TRUCK DRIVER: Water Truck.....	\$ 12.00 **	4.11

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

=====

** Workers in this classification may be entitled to a higher minimum wage under Executive Order 14026 (\$17.20) or 13658 (\$12.90). Please see the Note at the top of the wage determination for more information. Please also note that the

minimum wage requirements of Executive Order 14026 are not currently being enforced as to any contract or subcontract to which the states of Texas, Louisiana, or Mississippi, including their agencies, are a party.

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at <https://www.dol.gov/agencies/whd/government-contracts>.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (iii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that

no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour National Office because National Office has responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

=====

END OF GENERAL DECISION"

SECTION 00 43 25 - SUBSTITUTION REQUEST FORM

TO: JACOB|MARTIN

PROJECT: Fire Station No. 9 - City of Abilene

SPECIFIED ITEM: Decorative Glass and SS Cable Guardrails and Handrails

05 73 00 2 2.1 - B Other Acceptable Manufacturers

Section Page Paragraph Description

The Undersigned requests consideration of the following:

PROPOSED SUBSTITUTION: LIVERS BRONZE LLC "Mirage System" glass and cable railings

Attached data includes product description, specifications, drawings, photographs, performance and test data adequate for evaluation of the request; applicable portions of the data are clearly identified. Product Data Sheet attached. Also, additional information on the company website: <https://www.liversbronze.com/commercial-railing-systems/mirage/>

Attached data also includes description of changes to Contract Documents which proposed substitution will require for its proper installation. None required

The undersigned states that the following paragraphs, unless modified on attachments, are correct:

1. The proposed substitution does not affect dimensions shown on Drawings. No affect
2. The undersigned will pay for changes to the building design, including engineering design, detailing and construction costs caused by the requested substitution. None required
3. The proposed substitution will have no adverse effect on other trades, the construction schedule, or specified warranty requirements. No affect
4. Maintenance and service parts will be locally available for the proposed substitution. Yes

The undersigned further states that the function, appearance and quality of the proposed substitution are equivalent or superior to the specified item.

Submitted by: 

Signature: _____

Firm: LIVERS BRONZE LLC

Address : 4621 East 75th Terrace
Kansas City, MO 64132

Date: 8/13/24

Telephone: (817) 723-2533

FAX: _____

For use by Architect

<input checked="" type="radio"/> Accepted	<input type="radio"/> Accepted as noted
<input type="radio"/> Not Accepted	<input type="radio"/> Received to late
By: <u>William Duncan, AIA</u>	
Date: <u>9-4-2024</u>	
Remarks: _____	

SECTION 07 51 00 - BUILT-UP BITUMINOUS ROOFING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Built-up roofing membrane, conventional and protected membrane application.
- B. Insulation, flat and tapered.
- C. Vapor retarders.
- D. Cover boards.
- E. Base flashings.
- F. Roofing cant strips, accessories, and walkways.

1.2 RELATED REQUIREMENTS

1.3 REFERENCE STANDARDS

- A. ASCE 7 - Minimum Design Loads for Buildings and Other Structures; 2010, with 2013 Supplements and Errata.
- B. ASTM C177 - Standard Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Guarded-Hot-Plate Apparatus; 2013.
- C. ASTM C208 - Standard Specification for Cellulosic Fiber Insulating Board; 2012.
- D. ASTM C552 - Standard Specification for Cellular Glass Thermal Insulation; 2016a.
- E. ASTM C518 - Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus; 2015.
- F. ASTM C578 - Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation; 2016.
- G. ASTM C726 - Standard Specification for Mineral Wool Roof Insulation Board; 2017.
- H. ASTM C728 - Standard Specification for Perlite Thermal Insulation Board; 2017a.
- I. ASTM C1177/C1177M - Standard Specification for Glass Mat Gypsum Substrate for Use as Sheathing; 2013.
- J. ASTM C1289 - Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board; 2017.
- K. ASTM C1396/C1396M - Standard Specification for Gypsum Board; 2014a.
- L. ASTM D41/D41M - Standard Specification for Asphalt Primer Used in Roofing, Dampproofing, and Waterproofing; 2011 (Reapproved 2016).
- M. ASTM D43/D43M - Standard Specification for Coal Tar Primer Used in Roofing, Dampproofing, and Waterproofing; 2000 (Reapproved 2012).
- N. ASTM D226/D226M - Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing; 2009.
- O. ASTM D227/D227M - Standard Specification for Coal-Tar-Saturated Organic Felt Used in Roofing and Waterproofing; 2003, with Editorial Revision (2012).
- P. ASTM D312/D312M - Standard Specification for Asphalt Used in Roofing; 2016a.
- Q. ASTM D448 - Standard Classification for Sizes of Aggregate for Road and Bridge Construction; 2012.
- R. ASTM D450/D450M - Standard Specification for Coal-Tar Pitch Used in Roofing, Dampproofing, and Waterproofing; 2007 (Reapproved 2013).
- S. ASTM D1227 - Standard Specification for Emulsified Asphalt Used as a Protective Coating for Roofing; 2013.
- T. ASTM D1863/D1863M - Standard Specification for Mineral Aggregate Used on Built-Up Roofs; 2005, with Editorial Revision (2012).
- U. ASTM D2178/D2178M - Standard Specification for Asphalt Glass Felt Used in Roofing and Waterproofing; 2015a.
- V. ASTM D2626/D2626M - Standard Specification for Asphalt-Saturated and Coated Organic Felt Base Sheet Used in Roofing; 2004 (Reapproved 2012).

- W. ASTM D2824/D2824M - Standard Specification for Aluminum-Pigmented Asphalt Roof Coatings, Nonfibered, Asbestos Fibered, and Fibered without Asbestos; 2013.
- X. ASTM D3909/D3909M - Standard Specification for Asphalt Roll Roofing (Glass Felt) Surfaced with Mineral Granules; 2014.
- Y. ASTM D4586/D4586M - Standard Specification for Asphalt Roof Cement, Asbestos-Free; 2007 (Reapproved 2012).
- Z. ASTM D4601/D4601M - Standard Specification for Asphalt-Coated Glass Fiber Base Sheet Used in Roofing; 2004, with Editorial Revision (2012).
- AA. ASTM D4897/D4897M - Standard Specification for Asphalt-Coated Glass-Fiber Venting Base Sheet Used in Roofing; 2016.
- BB. ASTM D4990 - Standard Specification for Coal Tar Glass Felt Used in Roofing and Waterproofing; 1997a (Reapproved 2013).
- CC. ASTM D5643/D5643M - Standard Specification for Coal Tar Roof Cement, Asbestos Free; 2006 (Reapproved 2012).
- DD. ASTM D6380/D6380M - Standard Specification for Asphalt Roll Roofing (Organic Felt); 2003 (Reapproved 2013).
- EE. ASTM E96/E96M - Standard Test Methods for Water Vapor Transmission of Materials; 2016.
- FF. ASTM E1980 - Standard Practice for Calculating Solar Reflectance Index of Horizontal and Low-Sloped Opaque Surfaces; 2011.
- GG. FM (AG) - FM Approval Guide; current edition.
- HH. FM DS 1-28 - Wind Design; 2007.
- II. ITS (DIR) - Directory of Listed Products; current edition.
- JJ. NRCA (RM) - The NRCA Roofing Manual; 2017.
- KK. SPRI RP-4 - Wind Design Standard for Ballasted Single-Ply Roofing Systems; 2008.
- LL. UL (DIR) - Online Certifications Directory; current listings at database.ul.com.
- MM. UL (FRD) - Fire Resistance Directory; current edition.

1.4 ADMINISTRATIVE REQUIREMENTS

- A. Coordinate with installation of associated counterflashings installed by other sections as the work of this section proceeds.
- B. Preinstallation Meeting: Convene one week before starting work of this section.
 - 1. Review preparation and installation procedures and coordinating and scheduling required with related work.

1.5 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data indicating membrane and bitumen materials, base flashing materials, insulation, vapor retarder, and surfacing.
 - 1. Sustainable Design Submittal: Include test documentation of solar reflectance and thermal emissivity of membrane, and calculation of solar reflectance index (SRI).
- C. Shop Drawings: Indicate joint or termination detail conditions, conditions of interface with other materials, and setting plan for tapered insulation.
- D. Samples for Verification: Submit two samples 12" by 12" inches in size illustrating insulation.
- E. Samples of Aggregate: Submit two one lb containers of roofing aggregate.
- F. Samples of Pavers: Submit two.
- G. Manufacturer's Installation Instructions: Indicate special procedures.
- H. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.
- I. Manufacturer's Field Reports: Indicate procedures followed.
- J. Warranty: Submit manufacturer warranty and ensure forms have been completed in OWNER's name and registered with manufacturer.

1.6 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years of documented experience.
- B. Installer Qualifications: Company specializing in performing the work of this section with minimum three years documented experience.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products in manufacturer's original containers, dry, undamaged, with seals and labels intact.
- B. Store products in weather protected environment, clear of ground and moisture.
- C. Protect foam insulation from direct exposure to sunlight.

1.8 FIELD CONDITIONS

- A. Do not apply roofing membrane during unsuitable weather.
- B. Do not apply roofing membrane when ambient temperature is below 40 degrees F or above 115 degrees F.
- C. Do not apply roofing membrane to damp or frozen deck surface or when precipitation is expected or occurring.
- D. Do not expose materials vulnerable to water or sun damage in quantities greater than can be weatherproofed the same day.
- E. Schedule applications so that no partially completed sections of roof are left exposed at end of workday.

1.9 WARRANTY

- A. See Section 01 78 00 - Closeout Submittals, for additional warranty requirements.
- B. Correct defective Work within a two year period after Date of Substantial Completion.
- C. Provide ten year manufacturer's material and labor warranty to cover failure to prevent penetration of water.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Sheet and Bitumen Materials:
 - 1. CertainTeed Corporation: www.certainteed.com/#sle.
 - 2. GAF: www.gaf.com/#sle.
 - 3. Johns Manville: www.jm.com/#sle.
 - 4. Koppers Inc: www.koppers.com/#sle.
 - 5. Substitutions: See Section 01 60 00 - Product Requirements.
- B. Insulation:
 - 1. Blue Ridge Fiberboard: www.blueridgefiberboard.com/#sle.
 - 2. Dow Chemical Company: www.dow.com/#sle.
 - 3. GAF: www.gaf.com/#sle.
 - 4. Owens Corning Corporation: www.owenscorning.com/#sle.
 - 5. ROCKWOOL (ROXUL, Inc): www.rockwool.com/#sle.
 - 6. Substitutions: See Section 01 60 00 - Product Requirements.

2.2 ROOFING - CONVENTIONAL APPLICATION

- A. Built-up Bituminous Roofing: Asphalt felt membrane, three ply plus base sheet, with vapor retarder and insulation.
- B. Roofing Assembly Requirements:
 - 1. Solar Reflectance Index (SRI): 78, minimum, calculated in accordance with ASTM E1980, based on 3-year aged data.
 - a. Field applied coating may not be used to achieve specified SRI.
 - 2. Factory Mutual Classification: Class 1 and windstorm resistance of 1-90, in accordance with FM DS 1-28.
 - 3. Insulation Thermal Resistance (R-Value): Total System R-Value of R-30

- C. Acceptable Insulation Types - Constant Thickness Application: Any of the types specified.
 - 1. Minimum 2 layers of polyisocyanurate board.
- D. Acceptable Insulation Types - Tapered Application: Any of the types specified.
 - 1. Tapered polyisocyanurate board.
 - 2. Polyisocyanurate or Tapered extruded polystyrene board covered with uniform thickness glass fiber or composite board.
 - 3. Uniform thickness composite board covered with tapered polyisocyanurate board.
- E. Surfacing: Aggregate.

2.3 SHEET MATERIALS

- A. Vapor Retarder Felt: Peel and Stick type approved by roofing manufacturer for use with their system.
- B. Base Sheet: Asphalt-saturated and -coated, venting glass fiber felt; ASTM D4897/D4897M Type II, heavy-duty.
- C. Roofing Felt: ASTM D2178/D2178M Asphalt-saturated glass fiber felt; heavy duty.
- D. Smooth Cap Sheet: Asphalt-saturated glass fiber roll roofing with manufacturers roof system and floor coat
 - 1. Manufacturers:
 - a. CertainTeed Corporation: www.certainteed.com/#sle.
 - b. GAF: www.gaf.com/#sle.
 - c. Johns Manville: www.jm.com/#sle.
 - d. Substitutions: See Section 01 60 00 - Product Requirements.
- E. Mineral Surface Cap Sheet: Asphalt-saturated organic roll roofing, ASTM D6380/D6380M, Class M, Type II, 2 inch selvage; white colored mineral granules.
- F. Base Flashing Material: Asphalt-impregnated and -coated glass-fiber-reinforced felt, heavy weight; ASTM D 2178, Type IV.
- G. Flexible Flashing Material: ASTM D 6164, Grade G, Type I or II, polyester-reinforced, SBS-modified asphalt sheet; granular surfaced; suitable for application method specified.
 - 1. Color: Gray.
- H. Separation Sheet: Sheet polyethylene; 2 mil thick.
- I. Water Pervious Fabric: Woven polyethylene, UV stabilized, open to moisture movement, black.

2.4 BITUMINOUS MATERIALS

- A. Bitumen: ASTM D312/D312M Type IV, asphalt.
- B. Primer: ASTM D41/D41M, asphalt type.
- C. Roof Cement: ASTM D4586/D4586M, Type I, asbestos free.
- D. Roof Cement: ASTM D4586/D4586M, Type II, asbestos free.
- E. Roof Cement: ASTM D5643/D5643M, coal tar, asbestos free.
- F. Emulsified Asphalt: ASTM D1227 With fiber reinforcement other than asbestos (Type II).
- G. Aluminized Asphalt Coating: ASTM D2824/D2824M Type III, asbestos-free; aluminum-pigmented asphalt-based roof coating.

2.5 COVER BOARDS

- A. Cover Boards: Glass-mat faced gypsum panels complying with ASTM C1177/C1177M.
 - 1. Thickness: 1/2 inch, fire resistant.

2.6 INSULATION

- A. Perlite Board Insulation: Expanded perlite mineral aggregate, and complies with ASTM C728.
 - 1. Board Size: 24 by 48 inch.
 - 2. Board Thickness: 3/4 inch.
 - 3. Tapered Board: Slope as indicated; minimum thickness 1/2 inch; fabricate of fewest layers possible.
 - 4. Board Edges: Square.
 - 5. Thermal Resistance at 1/2 inch Thickness: R-value of 1.4.
 - 6. Substitutions: See Section 01 60 00 - Product Requirements.

- B. Polyisocyanurate (ISO) Board Insulation: Rigid cellular foam, complying with ASTM C1289.
 - 1. Classifications:
 - a. Type II:
 - 1) Class 2 - Faced with coated polymer-bonded glass fiber mat facers on both major surfaces of core foam.
 - 2) Compressive Strength: Classes 1-2-3, Grade 1 - 16 psi (110 kPa), minimum.
 - 3) Thermal Resistance, R-Value: Provide thickness to achieve R-30.
 - 2. Board Thickness: 2 layers to achieve 5.2 inch.
 - 3. Board Edges: Square.

2.7 SURFACING MATERIALS

- A. Aggregate: ASTM D1863/D1863M sound, hard washed river gravel; 1/4 inch minimum to 1/2 inch maximum size.
- B. Walkway Pads: Suitable for maintenance traffic, contrasting color or otherwise visually distinctive from roof membrane.
 - 1. Composition: Asphaltic with mineral granule surface.
 - 2. Size: 18 by 18 inch.
 - 3. Surface Color: White or yellow.
 - 4. Manufacturers:
 - a. W. R. Meadows, Inc; Whitewalk: www.wrmeadows.com/#sle.
 - b. W. R. Meadows, Inc; Duo-Pad: www.wrmeadows.com/#sle.
 - c. Substitutions: See Section 01 60 00 - Product Requirements.

2.8 ACCESSORIES

- A. Cant and Edge Strips: Bitumen-impregnated wood fiberboard, compatible with roofing materials ; cants formed to 45 degree angle, tapered edge strips, and other configurations as detailed.
- B. Cant Strips: Wood; pressure preservative treated.
- C. Cant Strips: Wood, pressure preservative treated; as specified in Section 06 10 00.
- D. Pre-Cut Tapered Insulation:
- E. Sheathing Adhesive: Non-combustible type, for adhering gypsum sheathing to metal deck.
- F. Insulation Joint Tape: Glass fiber reinforced type as recommended by insulation manufacturer, compatible with roofing materials; 6 inches wide; self adhering.
- G. Insulation Fasteners: Appropriate for purpose intended and approved by roofing manufacturer.
 - 1. Length as required for thickness of insulation material and penetration of deck substrate, with metal washers.
- H. Roofing Nails: Galvanized, hot dipped type, size and configuration as required to suit application.
- I. Roof Insulation Vents: Aluminum , with perforated inner tube; protective cap and mounting flange.
- J. Strip Reglet Devices: Galvanized steel, maximum possible lengths per location, with attachment flanges.
- K. Insulation Perimeter Restraint: Stainless steel edge device configured to restrain insulation boards in position and provide top flashing over ballast.
- L. Protective Paint: White latex, residential quality.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that surfaces and site conditions are ready to receive work.
- B. Verify deck is supported and secure.
- C. Verify deck is clean and smooth, flat, free of depressions, waves, or projections, properly sloped and suitable for installation of roof system.
- D. Verify deck surfaces are dry and free of snow or ice.

- E. Verify that roof openings, curbs, and penetrations through roof are solidly set, and cant strips are in place.

3.2 METAL DECK PREPARATION

- A. Install preformed acoustical glass fiber insulation strips as specified in Section 05 31 00 within acoustic deck flutes. Install in accordance with manufacturer's instructions.
- B. Ensure there are no sharp edges or portion of the metal deck that will puncture the vapor barrier.

3.3 VAPOR RETARDER INSTALLATION

- A. Peel and Stick Vapor Retarder:
 - 1. Apply vapor barrier directly to metal deck surface.
- B. Extend vapor retarder under cant strips and blocking.
- C. Install flexible flashing from vapor retarder to air seal material of wall construction, lap and seal to provide continuity of the air barrier plane.

3.4 INSULATION INSTALLATION

- A. Ensure vapor retarder is clean and dry, continuous, and ready for application of roofing system.
- B. Attachment of Insulation: Mechanically fasten insulation to deck in accordance with roofing manufacturer's instructions and FM (AG) Factory Mutual approved requirements.
- C. Cover Boards: Mechanically fasten cover boards in accordance with roofing manufacturer's instructions and FM (AG) Factory Mutual requirements.
- D. Lay subsequent layers of insulation with joints staggered minimum 6 inch from joints of preceding layer.
- E. Place tapered insulation to the required slope pattern in accordance with manufacturer's instructions.
- F. Lay boards with edges in moderate contact without forcing. Cut insulation to fit neatly to perimeter blocking and around penetrations through roof.
- G. Tape joints of insulation in accordance with roofing and insulation manufacturers' instructions.
- H. Do not apply more insulation than can be covered with membrane in same day.

3.5 MEMBRANE APPLICATION

- A. Install built-up bituminous roofing system in accordance with manufacturers recommendations and NRCA (RM) applicable requirements.
- B. Equiviscous Temperature (EVT) at Point of Application: Comply with NRCA (RM) recommendations.
- C. Lay base sheet, coated side down. Lap sides 2 inches; lap ends 6 inches.
 - 1. Lay in bitumen mopped at 20 lbs/square (100 sq ft).
- D. Apply membrane plies, weather lap edges and ends, and mop with 20 lbs/square (100 sq ft) of bitumen per ply. Apply plies 2 on 2 in same direction.
- E. Apply smooth, free from air pockets, wrinkles, fish-mouths, or tears.
- F. At end of day's operation, install two plies membrane and bitumen glaze coat for cut-off. Glaze exposed felts. Remove cut-off before resuming roofing.
- G. At intersections with vertical surfaces:
 - 1. Extend membrane and base sheet over cant strips and up a minimum of 4 inches onto vertical surfaces.
 - 2. Mop on base flashing of two additional plies of felt and one ply of base flashing material.
 - 3. Secure base flashing to nailing strips at 4 inches on center.
- H. At gravel stops, extend membrane and base sheet under gravel stop and to the outside face of the wall.
- I. Around roof penetrations, mop in and seal flanges and flashings with two additional plies of felt.
- J. Install walkway pads in hot bitumen at 20 lbs/square (100 sq ft). Set joints 6 inches apart.
- K. Install one roof vent per 1,000 sq ft or part thereof, of roof area.

- L. Coordinate installation of roof drains and related flashings.

3.6 AGGREGATE SURFACING

- A. Apply uniform flood coat of bitumen at rate of 60 lbs/square (100 sq ft).
- B. While flood coat is hot, embed aggregate at rate of 400 lbs/square (100 sq ft).
- C. Sweep away loose aggregate and apply second flood coat of bitumen at a rate of 40 lbs/square (100 sq ft).
- D. While second flood coat is hot, embed aggregate at rate of 300 lbs/square (100 sq ft).
- E. Evenly distribute aggregate and ensure bond with flood coat. Extend aggregate to bottom edge of cant strips.
- F. Butt aggregate to edge of traffic pads.

3.7 FIELD QUALITY CONTROL

- A. See Section 01 40 00 - Quality Requirements, for general requirements for field quality control and inspection.
- B. Field testing will be performed to:
 - 1. Ascertain bitumen quantities placed.
 - 2. Take and evaluate test cuts of installed membrane.
- C. Require site attendance of roofing and insulation material manufacturers daily during installation of the Work.

3.8 CLEANING

- A. Remove bituminous markings from finished surfaces.
- B. In areas where finished surfaces are soiled by bitumen or other source of soiling caused by work of this section, consult manufacturer of surfaces for cleaning advice and conform to their documented instructions.
- C. Repair or replace defaced or damaged finishes caused by work of this section.

3.9 PROTECTION

- A. Protect installed roofing and flashings from construction operations.
- B. Where traffic must continue over finished roof membrane, protect surfaces using durable materials.

END OF SECTION

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SECTION 09 77 00 - SPECIAL WALL SURFACING

PART 1 GENERAL

1.1 SECTION INCLUDES

1.2 REFERENCE STANDARDS

- A. ASTM C578 - Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation; 2016.
- B. ASTM C920 - Standard Specification for Elastomeric Joint Sealants; 2014a.
- C. ASTM C1382 - Standard Test Method for Determining Tensile Adhesion Properties of Sealants when Used in Exterior Insulation and Finishing Systems (EIFS) Joints; 2016 (Reapproved 2023).
- D. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2016.
- E. SCAQMD 1113 - South Coast Air Quality Management District Rule No.1113; current edition.

1.3 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements for submittal procedures.
- B. Product Data

1.4 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with at least three years of documented experience.
- B. Installer Qualifications: Company specializing in performing work of the type specified and with at least three years of documented experience.

1.5 MOCK-UPS

- A. See Section 01 40 00 - Quality Requirements for additional requirements.
- B. Locate where directed.
- C. Mock-up may remain as part of work.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products in original packaging, labeled with product identification, manufacturer, and batch number.
- B. Store products in a dry area with temperature maintained between 50 and 85 degrees F (10 and 29 degrees C). Protect from direct sunlight. Protect from freezing. Protect from extreme heat (>90 degrees F [32 degrees C]).
- C. Handle products in accordance with manufacturer's printed instructions.

1.7 WARRANTY

- A. See Section 01 78 00 - Closeout Submittals for additional warranty requirements.
- B. Finish Warranty: Provide 5-year manufacturer warranty against excessive degradation of exterior finish. Include provision for replacement of units with excessive fading, chalking, or flaking. Complete forms in OWNER's name and register with warrantor.

PART 2 PRODUCTS

2.1 BASIS OF DESIGN

- A. Provide the following listed products or equal product from the Other Acceptable Manufacturers, equal product must match specified product:
 - 1. Textured Acrylic Coating: StoQuick Finish for ICF by Sto Corp; www.stocorp.com
- B. Other Acceptable Manufacturers:
 - 1. Dryvit; www.dryvit.com
 - 2. Synergy, Sika Corporation; www.synergy-mbcc.sika.com

2.2 MATERIALS

- A. Finishes, primers, adhesives, stains and any other associated materials for the finish system shall be Class A building materials based on testing in accordance with ASTM E84. VOC (Volatile Organic Content) shall be less than 50g/L and shall comply with South Coast AQMD Rule 1113 requirements.
- B. Textured Finish:
 - 1. Stolit® Lotusan® – factory blended decorative and protective textured wall finish with integral color and Lotus-Effect® Technology.
- C. Primer:
 - 1. StoPrime® Sand – acrylic-based sanded primer for use with Sto Textured Finishes, Sto Specialty Finishes, Sto Signature Finishes, and StoCast Finishes .
- D. Base Coat:
 - 1. Sto Primer/Adhesive-B – one component polymer modified portland cement base coat.
 - 2. Sto BTS Plus – one component polymer modified portland cement high build base coat.
- E. Waterproof Base Coat:
 - 1. Sto Flexyl – one component acrylic-based additive combined with portland cement in the field.
 - 2. Sto Watertight Coat – two component acrylic-based additive with pre-proportioned portland cement.
- F. Surface Reinforcement:
 - 1. Sto Mesh – nominal 4.5 oz/sq.yd. (153 g/sq.m.) glass fiber reinforcing mesh treated for compatibility with Sto materials.
- G. Accessories:
 - 1. StoSeal STPE Sealant - high-movement, medium modulus, non-sag one-component silyl-terminated polyether joint sealant in compliance with ASTM C920 and tested in accordance with ASTM C1382.

2.3 FINISH PERFORMANCE REQUIREMENTS

- A. Waterproofing, primers, and applicable finish components: ASTM E84, flame Spread less than 25, smoke developed less than 75, Class A building material
- B. Waterproofing, primers, and applicable finish components: South Coast AQMD Rule 1113, Volatile Organic Content (VOC), comply with applicable requirement of coating category

PART 3 EXECUTION

3.1 EXAMINATION

- A. The ICF must be constructed in conformance with the applicable building code, manufacturer's written installation instructions, and installed in courses with a running bond pattern and inside and outside corners interlocked. ICF units shall not exceed 2 x 4 ft. (1.6 x 3.2 m) in dimension with the long dimension oriented horizontally on the wall surface. ICF joints shall be tightly abutted without concrete in the joints or concrete protrusions. ICF wall surface shall be free of blow-outs, or other surface defects and shall not have planar irregularities in excess of 1/16 inch (1.6 mm). ICF must be clean, dry, and free of surface contamination.

3.2 INSTALLATION

- A. Mix products in accordance with published literature. Refer to applicable Product Bulletins for specific information on use, handling, application, precautions, and limitations of specific products.
- B. Rasp the entire ICF wall surface to remove any UV degradation on the surface, to make abutting joints flush, and to minimize any planar irregularities in the surface. Ensure form ties are not exposed on the ICF surface.
- C. Install nominal 1/8 inch (3 mm) base coat by trowel to the wall surface. Work horizontally or vertically in strips of 40 inches (1016 mm), and immediately embed the mesh into the wet base coat by troweling from the center to the edges of the mesh. Overlap mesh not less than 2-½

inches (64 mm) at mesh seams and feather at seams. Double wrap all inside and outside corners with minimum 6-inch (152 mm) overlap in each direction. Avoid wrinkles in the mesh. The mesh must be fully embedded so that no mesh color shows through. Re-skim with additional base coat if mesh color is visible.

- D. When the base coat application is dry apply the primer by brush or roller to the entire base coat surface.
- E. When the primer application is dry apply the finish.
 - 1. Textured Finish Installation: Refer to applicable Product Bulletin
- F. Do not install base coat, reinforcing mesh or finish over joint sealants. Install over continuous EPS insulation board surface (and edges at EPS board returns) only.

3.3 PROTECTION

- A. Provide protection of installed materials from water infiltration into or behind them during and after construction.
- B. Provide protection of installed materials from dust, dirt, precipitation, freezing and continuous high humidity until they are fully dry.
- C. Provide coping and/or flashing at sills, projecting features, deck attachments, roof/wall intersections, parapets and similar construction details to prevent water entry into wall assembly or into and behind the finish system. Seal penetrations through the finished wall surface with backer rod and sealant or other appropriate means to provide a watertight condition.

3.4 CLOSEOUT ACTIVITIES

- A. See Section 01 78 00 - Closeout Submittals for additional submittals.

END OF SECTION

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