ADDENDUM NUMBER FOUR
BID S-7-21

To: All Prospective Bidders and all others concerned

From: City of Cheyenne, Purchasing Manager, TJ Barttelbort

Date: January 29, 2021

Subject: Addendum Number Four to Bid S-7-21 for the Happy Jack Landfill Front Entrance and Scale House project

The changes, clarifications, omissions, additions, and/or alterations in, on, and to the bid information and specifications shall apply to the Invitation For Bid submitted for and to the project indicated above. Except as modified by this Addendum Number Four, all of the terms and provisions of the Invitation for Bid for the above listed project remain in full force and effect. This Addendum Number Four supersedes all previous instructions pertaining to the items listed:

REVISED ITEMIZED BID SCHEDULE:

1. Included with this Addendum Four, is a Revised Itemized Bid Schedule. Bidders are instructed to utilize this Bid Schedule for their Bid submission.

CLARIFICATIONS:

C1: Revised civil drawings along with the other documents mentioned in the question responses are included with this Addendum Four. This includes permitting comments and revisions of the civil drawings to show, parcel information, setbacks and moving the entrance signs out of the setback.

QUESTIONS AND RESPONSES:

Q1: If a gravel bypass road is allowed in the vicinity of the new paving/weigh station const, what would be the max width?

A1: Contractor may utilize the area between the new pavement and existing fence as a bypass road. If additional width is needed, Contractor may relocate fence with approval from
Owner. Bypass roads shall be removed at the end of construction and the area disturbed shall be reclaimed. Costs associated with bypass road and reclamation shall be incidental to Bid Item 10500. Any fence relocation shall be completed at no cost to the Owner.

Q2: The parking lights were originally to be supported from the solar panel rack system. This rack system does not exist anymore but the fixtures did not change. Do they want to delete the lights or change to a pole Light.

A2: In the latest revision this has been changed. A different wall mounted fixture was added.

Q3: The data/com is a little vague. It appears we are to provide a rack and patch panels and all the other gear is to be provided by the city's IT department. Please confirm this is true.

A3: Contractor shall provide telecom rack and equipment as shown on detail 2/E200. Network Switches and UPS will be Owner (City) Furnished, Owner Installed. Other division 27 scope to include conduit rough-in, boxes and conduit back to rack for data outlets/schedule as shown on sheets E200 and E501. Final LV horizontal cabling, terminations and fit-out provided by the City.

Q4: Has the city performed an asbestos inspection on the structures to be torn down?

A4: No

Q5: Are the dump fees waived for the demo debris?

A5: Yes

Q6: Can the existing surfacing and foundations be disposed of at the landfill?

A6: Yes

Q7: Can excess dirt be wasted at the land fill and if necessary, can any needed import dirt be made available at the landfill property?

A7: Yes

Q8: Is there a water source available within the landfill property for construction use?

A8: No

Q9: Can a Infiltrater type leach field be used in lieu of the system shown?

A9: The Laramie County Small Wastewater System Regulations allow chamber trenches. Contractor will need to provide information on changes in system layout or dimension for approval before installation.

Q10: The water cistern design off 155ft of head at min. 44 gpm appears excessive for just bathroom requirements. Is this accurate? The design affects the pump requirements and cost.
A10: The 44 gpm is calculated for the fixtures in the new buildings and is accurate.

Q11: Is Intumescent paint going to be required on spray foam above the grid ceiling?

A11: Intumescent paint is required on exposed spray foam insulation above the grid ceiling. Specification 09 96 47 is included with this addendum.

Q12: On page A111, the room finish schedule calls for four (4) interior signage on doors 105, 106, 110 & 116. However, specification section 10 14 00 2.03.D calls for five (5) interior signage the fifth one being on Electrical Room Door #110. Please confirm if a fifth sign is required outside Door 111 entitled Electrical/IT. Also confirm there are no other interior room signs required.

A12: A fifth sign is required for the electrical room as indicated in specifications outside of door number is 109 (Room 111). Drawing A111 and specifications have been revised. No other interior signs are required.

Q13: On Sheet ED101 rev 0, general note #4 says that all electrical devices, conduits, conductors, fixtures, and panel boards from the existing facilities (admin building, scale house and shed) shall be removed and properly disposed of. Are we really going to do that, or do we just need to make the building electrically safe for demolition?

A13: It is acceptable to make the building electrically safe for demo.

Q14: Sheet ES101 rev 0, directs us to run the power for the new admin building from the existing transformer located south of the proposed site. This is approximately 1,300 feet. Is that where they are going to locate it or are they going to install a new transformer on one of the power poles that runs right by the proposed site?

A14: The utility had informed us that the transformer would be able to handle the new load. They wanted to be able to finalize this decision as it got closer to construction. The client may be open to other options, but this was the plan during the design process.

Q15: Does a lower tier sub-contractor have to hold a City of Cheyenne license to work on this project?

A15: The project is occurring in Laramie County, therefore all County rules and regulations will apply to the licensing of Contractors. The City does not control Laramie County Contractor Licensing, therefore the City is unable to provide a direct response for this inquiry. Please contact Laramie County for further information.

Q16: Is the scale house a prefabricated building and if so, will you still be requesting us to install new metal roof and wall panels?

A16: The new scale house is a prefabricated building. All framing and exterior panels shall be by the building manufacturer. Some interior finish work may be required by general contractor after delivery of building.

Q17: If we will be doing roof panel installation could you please provide manufacturer and profile of roof metal?
A17: Roof by building manufacturer.

Q18: Would a substation of Sheffield PVDF equivalent to MBCI 300 be acceptable?

A18: Yes that is an acceptable substitution.

Q19: Upon further review of the Weight Station plans, I cannot find the crosswalk marking's detail. The best imagery of the pavement markings are on page CS105. Out of curiosity what are the specs for the crosswalk markings? (dimensions/thermo/painted). I would imagine they would be painted due to the surface material being asphalt.

A19: Crosswalk markings shall be painted and in accordance with Manual on Uniform Traffic Control Devices per Note 1 on Drawing CP101. Crosswalk lines shall be 5-feet long, 2-feet wide, spaced 2-feet.

ADDENDUM FOUR ACKNOWLEDGED:

BY _______________________________ TITLE _______________________________

(Addendum must be signed and returned with bid or receipt of the addendum must be acknowledged on the Invitation to Bid).

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### ADDENDUM FOUR - REVISED ITEMIZED BID SCHEDULE

**PROJECT:** LANDFILL FRONT ENTRANCE AND SCALE HOUSE  
**BID NO.** S-7-21

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**COMPANY NAME:**

**ADDRESS:**

**CITY, STATE, ZIP:**

**BIDDER'S SIGNATURE:**
1. **THE PROJECT SITE IS LOCATED WEST OF CHEYENNE IN THE SOUTHEAST QUARTER OF SECTION 13T ON THE PARCEL OWNED BY THE CITY OF CHEYENNE, WYOMING (OWNER). CONTRACTOR SHALL CONTRACT WITH OWNER DIRECTLY TO PERFORM WORK.**

2. **CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UTILITIES, FOR REPAIRING ANY DAMAGE TO THEM IN FORMS CLASSES RESULTING FROM HIGHER ACTIONS AND ACTIVITIES. THE CONTRACTOR SHALL IDENTIFY, LOCATE, AND PROTECT ALL UNDERGROUND UTILITIES THAT MAY BE POTENTIALLY AFFECTED BY CONSTRUCTION UNDER THIS CONTRACT. CONTRACTOR SHALL CONTACT WYOMING 811 AT 1-800-849-2476 TO LOCATE UTILITIES A MINIMUM OF THREE BUSINESS DAYS PRIOR TO CONSTRUCTION ACTIVITIES.**

3. **THE CONTRACT DRAWINGS REPRESENT THE FINISHED WORK. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MEANS AND METHODS OF CONSTRUCTION. CONTRACTOR SHALL FURISH ALL LABOR, EQUIPMENT, MATERIALS, AND TOOLS NECESSARY TO COMPLETELY PERFORM THE WORK IN SAFE, EXPEDIENT, AND WORKMAN LIKE MANNER. CONTRACTOR SHALL INSTALL MATERIALS PER MANUFACTURER'S RECOMMENDATIONS UNLESS NOTED OTHERWISE. THE OWNER HAS COMPLETED INSPECTION AND APPROVED THE RE-OPENING OF ACTIVE AREAS.**

4. **THE CONTRACTOR SHALL COMPLY WITH ALL LAWS, RULES, REGULATIONS, AND ORDINANCES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY CLAIMS RESULTING FROM OTHER ACTIONS AND ACTIVITIES. VISITS TO THE SITE BY OWNER OR THE ENGINEER SHALL NOT RELIEVE THE CONTRACTOR OF SUCH RESPONSIBILITY.**

5. **THE CONTRACTOR SHALL ACCEPT FULL RESPONSIBILITY FOR EQUIPMENT AND MATERIALS THROUGH PROJECT COMPLETION. CONTRACTOR SHALL STORE MATERIALS IN A SECURE LOCATION (ON OR OFF-SITE).**

6. **THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER SAVAGEAGING OF THE INSTALLATION AND MATERIALS STORED ON THE SITE TO PREVENT THIEF, VANDALISM OR DAMAGE.**

7. **CONTRACTOR SHALL MINIMIZE DISTURBANCES TO ADJACENT PROPERTIES.**

8. **CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL CONSTRUCTION PERMITS REQUIRED TO PERFORM THE WORK AND TO PROVIDE CERTIFICATES OF INSURANCE AND OTHER DOCUMENTATION REQUIRED BY THE JURISDICTIONAL AGENCY BEFORE PERFORMING THE WORK.**

9. **ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH OSHA REQUIREMENTS.**

10. **ALL WORK SHALL BE COMPLETED TO THE LINES, SLOPES AND GRADES INDICATED IN THESE CONTRACT DRAWINGS.**

11. **THESE NOTES AND OTHER DRAWING NOTES CONTAINED HEREWITH ARE PROVIDED TO MEET SPECIFIC REQUIREMENTS AND TO SUPPLEMENT THE CONTRACT DOCUMENTS. THESE DRAWINGS AND NOTES WILL BE GIVEN PRECEDENCE OVER THE SPECIFICATIONS IN RESOLVING CONFLICTS AND DISCREPANCIES.**

12. **THESE DRAWINGS SHALL BE USED IN CONJUNCTION WITH ANY SHOP DRAWINGS PROVIDED BY SUPPLIERS. ALL SHOP DRAWINGS PROVIDED BY OTHERS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW PRIOR TO THE FABRICATION OF MATERIAL OR THE PURCHASE OF NON-RETURNABLE STOCK. DRAWING REVIEW IS THE CONTRACTOR'S RESPONSIBILITY.**

13. **ALL DIMENSIONS, ELEVATIONS, AND CONDITIONS SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR AND ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR CLARIFICATION BEFORE PROCEEDING WITH THE AFFECTED PART OF WORK.**

14. **ALL WORK SHOWN IS IN APPROXIMATE LOCATIONS. THE CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZE HIMSELF/HERSelf WITH THE EXISTING CONDITIONS BEFORE SUBMITTING HIS/HER BID.**

15. **ALL DRAWING NOTES CONTAINED HEREWITH ARE PROVIDED TO MEET SPECIFIC REQUIREMENTS AND TO SUPPLEMENT THE CONTRACT DOCUMENTS. THESE DRAWINGS AND NOTES WILL BE GIVEN PRECEDENCE OVER THE SPECIFICATIONS IN RESOLVING CONFLICTS AND DISCREPANCIES.**

TRAFFIC CONTROL

1. **PRIOR TO CONSTRUCTION, CONTRACTOR SHALL CORDON OFF THE CONSTRUCTION WORK AREA AND ASSOCIATED ROADWAYS BY USING BARRICADES APPROVED BY THE OWNER.**

2. **CONSTRUCTION EQUIPMENT SHALL HAVE AUTOMATIC SIGNALING DEVICES TO SOUND AN ALARM WHEN MOVING IN REVERSE.**

3. **ONLY RUBBER-TIRE VEHICLES WILL BE ALLOWED ON EXISTING PAVEMENT TO REMAIN.**

4. **NO PEDESTRIAN TRAFFIC SHALL BE ALLOWED INSIDE THE CONSTRUCTION LIMITS.**

5. **PRIOR TO THE REMOVAL OF BARRICADES AND TRAFFIC CONTROL DEVICES, THE CONTRACTOR SHALL REQUEST THE OWNER TO SCHEDULE AN INSPECTION. NO ROADWAY SHALL BE RE-OPENED UNTIL THE OWNER HAS COMPLETED INSPECTION AND APPROVED THE RE-OPENING OF ACTIVE AREAS.**

6. **ANY DAMAGE TO ROADS AND PAVEMENTS TO REMAIN DUE TO CONSTRUCTION EQUIPMENT OR TRAFFIC SHALL BE REPAIRED TO RESTORE THE ROADS AND PAVEMENTS TO THEIR ORIGINAL CONDITION TO THE SATISFACTION OF THE OWNER.**
NOTES:
1. FIELD SURVEY COMPLETED BY INBERG-MILLER ENGINEERS ON AUGUST 23 AND SEPTEMBER 5, 2019. CONTOURS ARE SHOWN AT AN INTERVAL OF 2 FEET. PROPERTY LINES ARE APPROXIMATE BASED ON FIELD SURVEY AND ASSESSOR RECORDS.
2. THE SURVEY PROVIDED IS BASED ON THE STATE PLANE COORDINATE SYSTEM, WYOMING EAST ZONE, NAD 83. ALL LINEAR UNITS ARE DEPICTED FROM SURVEY DATA IN US SURVEY FEET.
3. UTILITY LOCATIONS SHOWN ARE AS MARKED BY THEIR OWNER, FROM THE OWNER'S RECORD, OR FROM FIELD EVIDENCE.
4. DATA PROVIDED FOR INFORMATION ONLY. CONTRACTOR SHALL FIELD VERIFY ALL FEATURES SHOWN ON THIS DRAWING.
NOTES:

1. EXISTING SCALES SHALL BE RELOCATED TO NEW SCALE LOCATIONS SHOWN ON DRAWING CS105. CONTRACTOR SHALL COORDINATE RELOCATION SCHEDULE WITH OWNER AND SHALL MAINTAIN ONE OPERATIONAL SCALE AT ALL TIMES.

2. DEMOLITION OF SCALE FOUNDATIONS, SCALE HOUSE, AND BUILDINGS SHALL BE TO THE FULL EXTENT BELOW GRADE IN ACCORDANCE WITH SPECIFICATIONS.
**DOOR SCHEDULE**

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**REMARKS:**

1. PROVIDE ROOM SIGN AS INDICATED IN FRAME F1.
2. DOOR FRAME SOLID.
3. PROVIDE ADA PUSH BUTTON EACH SIDE OF DOOR. MOUNT PER DETAIL ON AMD.
4. OVERHEAD DOORS ARE LOCATED AT THE EXISTING GARAGE TO THE SOUTH OF THE PRIMARY CONSTRUCTION SITE. CONTRACTOR TO FIELD VERIFY DIMENSIONS OF EXISTING DOORS PRIOR TO ORDERING. SEE SPEC SECTION 08 33 23 FOR ADDITIONAL OVERHEAD TO DOOR REQUIREMENTS.
5. SEE SPEC SECTION 08 700 00 FOR FINISH HARDWARE SETS.

**WINDOW SCHEDULE**

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**REMARKS:**

1. OPERABLE WINDOW

**DOOR LEGEND**

- F: FLUSH PANEL
- H: HALF Lite
- S: SPLIT Lite
- P: FLUSH PANEL SLIDING

**WINDOW LEGEND**

- OH: OVERHEAD DOORS

**Drawing Information**

- Drawing: A111
- Date: 7/10/20
- Issued By: KDT
- Issued For: BID

**Contractor**

- BURNS MCDONNELL
9756 Mission Circle, Suite 400
Centennial, CO 80112
303-721-9292

**Project**

- HAPPY JACK LANDFILL
FRONT ENTRANCE AND SCALE HOUSE

**City of Cheyenne**

- ADDRESS:
9785 Maroon Circle, Suite 400
Centennial, CO 80112
303-721-9292

**City of Cheyenne**

- ADDENDUM:
City of Cheyenne / Bid S-7-21 / Addendum Four / Page 13 of 22
SECTION 09 96 47 – SPRAY-APPLIED THERMAL BARRIER

PART 1 - GENERAL

1.01 SUMMARY
A. This Section includes a thermal barrier coating that shall be applied to all SPRAYED FOAM INSULATING AIR BARRIER SYSTEMS specified in the section indicated below.
B. Flame Seal-TB™ is an intumescent, industrial, white coating designed for application over spray polyurethane foam (SPF) insulation, which has Intertek, Warnock Hersey and ICC certifications.
C. Spray polyurethane foam insulation coated with Flame Seal-TB™ will meet the Thermal Barrier requirements of IBC 2603.4 and 2603.9, and/or the Ignition Barrier requirements of IBC 2603.4.1.6.
D. The contractor will furnish all labor, materials, tools and equipment necessary for the application of Flame Seal-TB™, including accessory items, subject to the general provisions of the contract.
E. Related Work Specified Elsewhere:
a. SECTION 07 27 19 – FOAMED-IN-PLACE INSULATION & AIR BARRIER.

1.02 SUBMITTALS
A. Specialty Products, Inc. to provide datasheets and application guidelines published by Flame Seal, Inc., which include safety, handling, and processing parameter instructions for installation of the material by professional applicators.
B. Approvals and credentials which show material and application compliance with local or national building codes.

1.03 DELIVERY, STORAGE, AND HANDLING
A. Materials shall be delivered in tightly sealed containers or unopened packages, all clearly labeled with the Flame Seal-TB name, product identification, and safety information. Flame Seal-TB™ is provided in 5-gallon kits consisting of: One - 5-gallon pail (4 gallons of resin); One - 1-gallon pail T50 cross-linker; 8 ounces “Quick Cure” additive.
B. Flame Seal-TB™ components should be stored between 40° - 90°F, in tightly sealed containers. If the temperature drops below 60°F, the Flame Seal material must be slowly brought back to 60° - 80°F before using.
C. All materials shall be stored in compliance with local safety requirements.

1.04 SITE CONDITIONS
A. All surfaces to be coated are clean and dry.
B. All equipment for application and clean-up is on site, and as specified in these instructions.
C. The temperature of all Flame Seal-TB™, T50-TB, and Quick Cure to be used is between 60 -80°F.
D. The temperature of all surfaces to be coated is at least 5°F ABOVE the dew point.
E. Maximum humidity does not exceed 90%.
F. The above temperatures, including coating components and surfaces will remain in spec throughout the day.
G. The surfaces will remain at least 5°F above the dew point for a minimum of 48 hours after application. (For cold storage or freezers, this cure period is extended to 4-7 days, in accord with Application Instructions. See section 1.2A.)

1.05 SAFETY REQUIREMENTS
SECTION 09 96 47 – SPRAY-APPLIED THERMAL BARRIER: continued

A. Applicator personal protective equipment should be worn according to OSHA standards:
   a. An Organic Vapor Cartridge Respirator
   b. Safety Glasses
   c. Gloves
   d. Protective Coveralls
B. Proper disposal of waste materials and containers must be done in compliance with federal, state and local regulatory agencies.

1.06 WARRANTY

A. The applied Flame Seal-TB™ coating system is GUARANTEED to perform its specified fire-retardant function as represented by third party tests and certifications, per section 1.2-B, if applied according to Manufacturer’s published instructions. These products may not be diluted or altered in any way prior to use.

PART 2 - PRODUCTS

2.01 SPRAY-APPLIED THERMAL BARRIER AND INTUMESCENT COATING
A. Flame Seal-TB™ is a three-component, intumescent, industrial, white coating designed for application over spray polyurethane foam insulation. Flame Seal-TB™ is manufactured by Flame Seal, Inc. and supplied by Specialty Products, Inc.

PART 3 - EXECUTION

3.01 SITE QUALITY CONTROL
A. Material Thickness:
   a. Thermal Barrier: Material coverage applied at 25 wet mils (18 dry mils) to meet Thermal Barrier Requirements of IBC 2603.4 and 2603.9.
   b. Ignition Barrier: Material coverage applied at 12 wet mils (7 dry mils) to meet Ignition Barrier Requirements of IBC 2603.4.1.6.
B. Architect or architect’s representative to be alerted to product installation and is required to confirm installation before product is concealed.
C. Environment:
   a. Air Movement During Application: To facilitate a proper cure, there must be air movement in the application area during the installation and cure period. In mid-to-high humidity conditions (70-90%), extra care must be taken to ensure air movement, especially over all spray polyurethane foam applied to ceiling areas. The application of Flame Seal-TB™ is not permissible if there is stagnant and still air in high humidity (70+% conditions). Portable auxiliary fans are recommended during installation and cure periods to assure air movement.
   b. Extreme Conditions-Humidity and Moisture Generated by On-Site Mechanical Equipment: When applying Flame Seal-TB™ in areas with extremely high humidity and/or moisture conditions during installation and curing, there must be higher volume, continuous air movement that will visibly move a 1” x 18” strip of cotton fabric held vertically near the ceiling. A 1” x 18” strip of cotton fabric, hung at the ceiling level, one strip for every 400 sq. ft. (20’x20’) of ceiling area is a field
monitoring recommendation. Every strip in the application area (at least 1”
deflection at bottom edge) should move for the duration of the application and the
applicable cure period. Auxiliary fans are recommended in the work area during
installation and cure periods.
c. Water Exposure: Flame Seal-TB™ is an interior product. DO NOT immerse or
expose to any environment in which the surface is wet continuously. (This
includes condensation caused by interior conditions whereby surface
temperatures are at or below the Dew Point much of the time.)

3.02 EQUIPMENT
A. Flame Seal-TB™ is to be installed using a commercial airless paint pump that meets the
following specifications:
a. 3 HP Electric Motor (or); 5 HP Gas powered (or); 30 to 1 Air Driven
b. Output capability of 1.5 gallons per minute with 3000 PSI (dynamic) at the gun
c. Graco RAC tip size should be between .027 - .031 - determined by paint pump
capability
d. Hose(s) must be at least 3/8 ID and no more than 150 feet in total length
NOTE: Do not use a spray tip with a diffuser. Remove paint strainers from the spray
pump and gun, as they may restrict the flow of Flame Seal product. Flame Seal-
TB™ is pre-strained through an 80-mesh filter.

3.03 INSTALLATION
A. Flame Seal-TB™ must be installed in accordance with the manufacturer’s published
installation instructions.

3.04 MAINTENANCE
A. Washing: Flame Seal-TB™ has cured enough to lightly wash with “wet soft rag or sponge”
(1-2 passes, no scrubbing), after 4 weeks of curing under proper conditions as stipulated in
these instructions (all surfaces at least 5°above the dew point, ventilation & air movement)
Flame Seal- TB™ has cured enough for intermittent, light water exposure after 3 months of
curing with all surfaces at least 5° above the dew point. (This may take longer with
variations in dew point conditions.) Only light mist or dispersed water (wide spray pattern
of at least 24”) may be used to clean this coating. The spray pattern must be at least 24”
wide and must be moving at all times. DO NOT FOCUS ON ONE SPOT FOR MORE
THAN A FEW SECONDS AT A TIME. If heavy dirt does not come off with these
methods, use dispersed water (24”+ spray pattern) to remove loose dirt, then wipe stubborn
areas with wet sponge type apparatus, then, rinse again with mist or dispersed water, and let
air dry. Do not dry with cloth or sponges. If there is a need to force a quicker dry, use
warm, dry moving air (convection).

END OF SECTION 09 96 47
SECTION 10 14 00 – SIGNAGE

PART 1 - GENERAL

1.01 RELATED DOCUMENTS:
   A. Drawings and general provisions of the Contract, including General and Supplementary
      Conditions and Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY:
   A. This Section includes the following:
      1. Interior melamine plastic-laminate Plaques.

1.03 REFERENCE STANDARDS:
   A. Publication Dates: Comply with standards in effect as of date of the Contract Documents
      unless otherwise indicated.
   B. ASTM International:
      1. ASTM D256 - Test Methods for Determining the Izod Pendulum Impact Resistance of
         Plastics.
      3. ASTM D648 - Test Method for Deflection Temperature of Plastics Under Flexural Load
         in Edgewise Position.
      4. ASTM D790 - Test Method for Flexural Properties for Unreinforced and Reinforced
         Plastics and Electrical Insulating Materials.
      6. ASTM D4802 - Specification for Poly(Methyl Methacrylate) Acrylic Plastic Sheet
   C. International Code Council/American National Standards Institute:
   D. NFPA:
      1. NFPA 70 - National Electrical Code.
   E. U.S. Architectural & Transportation Barriers Compliance Board:
      1. Americans with Disabilities Act (ADA) Accessibility Guidelines for Build.

1.04 DEFINITIONS:
   A. ADA-ABA Accessibility Guidelines: U.S. Architectural & Transportation Barriers
      Compliance Board's "Americans with Disabilities Act (ADA) Accessibility Guidelines for
      Buildings and Facilities; Architectural Barriers Act (ABA) Accessibility Guidelines."

1.05 SUBMITTALS:
   A. Product Data: For each type of product indicated.
   B. Shop Drawings: Show fabrication and installation details for signs.
      1. Show sign mounting heights, locations of supplementary supports to be provided by
         others, and accessories.
      2. Provide message list, typestyles, graphic elements, including tactile characters and
         Braille, and layout for each sign.
   C. Samples for Verification: For each of the following products and for the full range of color,
      texture, and sign material indicated, of sizes indicated:
      1. Plaque: 6 inches (150 mm) square.
      2. Dimensional Characters: Full-size Samples of each type of dimensional character (letter,
         number, and graphic element).
   D. Sign Schedule.
1.06 QUALITY ASSURANCE:
A. Source Limitations for Signs: Obtain each sign type indicated from one source from a single manufacturer.

1.07 PROJECT CONDITIONS:
A. Weather Limitations: Proceed with installation only when weather conditions permit installation of signs in exterior locations to be performed according to manufacturers’ written instructions and warranty requirements.
B. Field Measurements: Verify recess openings by field measurements before fabrication and indicate measurements on Shop Drawings.

1.08 WARRANTY:
A. Special Warranty: Manufacturer’s standard form in which manufacturer agrees to repair or replace components of signs that fail in materials or workmanship within specified warranty period.
   1. Failures include, but are not limited to, the following:
      a. Deterioration of polymer finishes beyond normal weathering.
      b. Deterioration of embedded graphic image colors and sign lamination.
B. Warranty Period: Two years from date of Substantial Completion.

PART 2 - PRODUCTS

2.01 MATERIALS:
A. Aluminum Castings: ASTM B26/B26M, of alloy and temper recommended by sign manufacturer for casting process used and for use and finish indicated.
B. Acrylic Sheet: ASTM D4802, Category A-1 (cell-cast sheet), Type UVA (UV absorbing).

2.02 DIMENSIONAL CHARACTERS:
A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
   1. ACE Sign Systems, Inc.
   2. Advance Corporation; Braille-Tac Division.
   4. ASI-Modulex, Inc.
   5. Bunting Graphics, Inc.
   6. Charleston Industries, Inc.
   8. Grimco, Inc.
   10. Metal Arts; Div. of L&H Mfg. Co.
   15. Southwell Company (The).
B. Cast Characters: Produce characters with smooth flat faces, sharp corners, and precisely formed lines and profiles, free of pits, scale, sand holes, and other defects. Cast lugs into back of characters and tap to receive threaded mounting studs. Alloy and temper recommended by sign manufacturer for casting process used and for use and finish indicated. Comply with the following requirements.
   2. Thickness: 5/8 inches.
   3. Color(s): As indicated on Drawings.
C. Aluminum Extrusions: Comply with the following requirements:
   1. Finish: Anodized.
   2. Thickness: 5/8 inches.
   3. Color(s): As indicated on drawings.
   4. Mounting: Concealed studs for substrates encountered on 1 ½” standoffs.
D. Dimensional Character Sign Schedule:
   1. Sign Type, Exterior Facility Sign:
      a. Sign Size: As Indicated.
      b. Character Size: As indicated.
      c. Text/Message: As indicated.
      d. Location: North Entrance.

2.03 PANEL SIGNS:
A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
   1. ACE Sign Systems, Inc.
   2. Advance Corporation; Braille-Tac Division.
   3. Allen Industries Architectural Signage
   4. Allenite Signs; Allen Marking Products, Inc.
   5. APCO Graphics, Inc.
   6. ASI-Modulex, Inc.
   7. Best Sign Systems Inc.
  11. Grimco, Inc.
  12. Innerface Sign Systems, Inc.
  13. InPro Corporation
  14. Matthews International Corporation; Bronze Division.
  19. Signature Signs, Incorporated.
  20. Supersine Company (The).
B. Laminated Interior & Exterior Signs: Solid phenolic panel core with graphic image covered with thermosetting resin face layer.
   1. Surface Finish: Mat or UV resistant, outdoor.
   2. Edge Condition: Beveled.
3. Corner Condition: Square.

C. Tactile and Braille Sign: Manufacturer's standard process for producing text and symbols complying with ADA-ABA Accessibility Guidelines and with ICC/ANSI A117.1. Text shall be accompanied by Grade 2 Braille. Produce precisely formed characters with square-cut edges free from burrs and cut marks; Braille dots with domed or rounded shape.
2. Raised-Copy Thickness: Not less than 1/32 inch (0.8 mm).

D. Panel Sign Schedule:
1. Sign Size: 8 inch by 8 inch.
6. Sign Type; Picture Signs:
   a. Room: Women’s Locker Room.
      (1) Location: On Door 106.
      (2) Image: Woman picture and handicap symbol.
      (3) Text/Message: Restroom.
   b. Room: Men’s Locker Room.
      (1) Location: On Door 105.
      (2) Image: Man picture and handicap symbol.
      (3) Text/Message: Restroom.
   c. Room: Public Restroom.
      (1) Location: On Door 116.
      (2) Image: Unisex picture and handicap symbol.
      (3) Text/Message: Restroom.
7. Sign Type; Word Signs:
   a. Room: Utility Room.
      (1) Location: Outside Door 110.
      (2) Text/Message: Utility.
   b. Room: Electrical Room.
      (1) Location: Outside Door 109.
      (2) Text/Message: Electrical/IT.

2.04 ACCESSORIES:
A. Anchors and Inserts: Provide nonferrous-metal or hot-dip galvanized anchors and inserts for exterior installations and elsewhere as required for corrosion resistance. Use toothed steel or lead expansion-bolt devices for drilled-in-place anchors. Furnish inserts, as required, to be set into concrete or masonry work.

2.05 FABRICATION:
A. General: Provide manufacturer's standard signs of configurations indicated.
1. Mill joints to tight, hairline fit. Form joints exposed to weather to exclude water penetration.
2. Preassemble signs in the shop to greatest extent possible. Disassemble signs only as necessary for shipping and handling limitations. Clearly mark units for reassembly and installation, in location not exposed to view after final assembly.
3. Conceal fasteners if possible; otherwise, locate fasteners where they will be inconspicuous.

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

2.07 ALUMINUM FINISHES:
   A. Color Anodic Finish: Manufacturer's standard Class 1 integrally colored or electrolytically deposited color anodic coating, 0.018 mm or thicker, in dark bronze applied over a satin directionally textured mechanical finish, complying with AAMA 611.

2.08 ACRYLIC SHEET FINISHES:
   A. Colored Coatings for Acrylic Sheet: For copy colors, provide colored coatings, including inks, dyes, and paints, that are recommended by acrylic manufacturers for optimum adherence to acrylic surface and that are UV and water resistant for five years for application intended.

PART 3 - EXECUTION

3.01 EXAMINATION:
   A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of Work.
   B. Verify that items are sized and located to accommodate signs.
   C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 INSTALLATION:
   A. Locate signs and accessories where indicated, using mounting methods of types described and complying with manufacturer's written instructions.
      1. Install signs level, plumb, and at heights indicated, with sign surfaces free of distortion and other defects in appearance.
      2. Interior Wall Signs: Install signs on walls adjacent to latch side of door where applicable. Where not indicated or possible, such as double doors, install signs on nearest adjacent walls. Locate to allow approach within 3 inches (75 mm) of sign without encountering protruding objects or standing within swing of door.
   B. Wall-Mounted Signs: Comply with sign manufacturer's written instructions except where more stringent requirements apply.
      1. Two-Face Tape: Mount signs to smooth, nonporous surfaces. Do not use this method for vinyl-covered or rough surfaces.
      2. Shim Plate Mounting: Provide 1/8-inch (3-mm) thick, concealed aluminum shim plates with predrilled and countersunk holes, at locations indicated, and where other mounting methods are not practicable. Attach plate with fasteners and anchors suitable for secure attachment to substrate. Attach panel signs to plate using method specified above.
   C. Dimensional Characters: Mount characters using standard fastening methods to comply with manufacturer's written instructions for character form, type of mounting, wall construction, and...
condition of exposure indicated. Provide heavy paper template to establish character spacing and to locate holes for fasteners.

1. Projected Mounting: Mount characters at projection distance from wall surface indicated.

3.03 CLEANING AND PROTECTION:
   A. After installation, clean soiled sign surfaces according to manufacturer's written instructions. Protect signs from damage until acceptance by Owner.

END OF SECTION 10 14 00