



PUBLIC WORKS DEPARTMENT

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**CITY OF KENT
KING COUNTY, WASHINGTON**

**Green River Natural Resource Area (GRNRA)
South Stormwater Pump Station
Project Number: 17-3012**

**ADDENDUM No. 3
October 17, 2019**

**FROM: The Office of the City Engineer, Kent Washington
TO: All Plan Holders of the Project Specifications and Plans**

This addendum forms a part of the Contract documents and modifies the Project Proposal and Specifications and Contract Drawings in accordance with the following:

ALL CHANGES ARE REFLECTED IN RED

I – KENT SPECIAL PROVISIONS

Page 7-3 – Section 7-04.3(1)H – Protection of Adjacent Utilities

ADD the following new subsection:

SECTION 7-04.3(1) IS SUPPLEMENTED BY ADDING THE FOLLOWING NEW SECTION:

7-04.3(1)H Protection of Adjacent Utilities

An irrigation valve box, water meter box, and hydrant are located near the location of the gravity bypass connection to the existing lift station at the Hogan Park site. The Contractor shall protect these items in place or adjust them as required to complete the installation of the 30 Inch Diameter Storm Sewer Pipe. Any damage to the water lines connected to these items shall be repaired prior to the backfilling of the pipe trench.

Page 7-3 – Section 7-04.5 - Payment

ADD the following sentence to the end of the first paragraph:

The unit contract price per lineal foot for the above items shall be complete compensation for all labor, materials, tools, supplies and equipment necessary to furnish

and install the pipe at the locations shown on the plans and described in the specifications. The bid item price includes but is not limited to: trench excavation; unsuitable material excavation, hauling, dewatering; backfill and compaction (when native material is to be used), surface restoration, and cleanup. The bid price shall also include fittings, tees, couplings, gaskets, connection to new or existing storm pipes, catch basins, or ditches, testing, coordination for TV inspection, and additional costs for overtime work when working on weekends. **Storm Sewer Pipe, 30 Inch Diameter, Epoxy-Lined, Ductile Iron, CL52 shall also include the costs related protection and/or adjustment of the existing adjacent water service, water meter box, and hydrant.**

Page 8-47 and 8-48 – Section 8-38.2(1) – Inline Check Valve

COMBINE the two sections titled Inline Check Valve into one as follows:

8-38.2(1) Inline Check Valve

Provide 30-inch diameter in-line, slip-in check valve in new 30-inch diameter ductile iron piping upstream of new cut-in manhole, as shown on the plans.

Check valve shall be elastomeric TideFlex Checkmate UltraFlex, as manufactured by the Red Valve Company.

Check Valves shall be all rubber and flow-operated with a slip-in cuff connection. The entire valve shall be ply reinforced throughout the body, saddle and bill, cured and vulcanized into a one-piece unibody construction. The valve shall be manufactured with no metal, mechanical hinges or fasteners, which would be used to secure any component of the valve to a valve housing. The port area of the saddle shall contour into a circumferential sealing area (the "bill") that is concentric with the pipe which shall allow passage of flow in one direction while preventing reverse flow. The entire valve shall fit within the pipe inside diameter.

The check valve shall be furnished with a set of stainless steel expansion clamps.

Once installed, the check valve shall not protrude beyond the face of the structure or end of the pipe. The outside diameter of the upstream and downstream sections of the valve must be circumferentially in contact with the inside diameter of the pipe.

The stainless steel expansion clamps, which will secure the valve in place, shall be installed in the cuff of the valve per the manufacturer's instructions and shall expand outwards by means of a turnbuckle. Each band shall be pre-drilled, allowing for the valve to be pinned and secured into position in accordance with the manufacturer's installation instructions.

Page 8-48 – Section 8-38.3 – Construction Requirements

ADD the following paragraph to the end of this section:

The gravity bypass connection to the existing lift station at the Hogan Park site shall be performed by cutting off the existing lift station outfall pipe 5.0 feet from the exterior wall of the lift station. The new 30-inch diameter pipe shall be connected to the existing outfall pipe using a mechanical restrained joint coupling. The Contractor shall expose the existing piping to determine the necessary measurements to provide a suitable coupling.

Page 8-48 – Section 8-38.5 – Payment

REVISE the payment description as follows:

The lump sum bid price for "Hogan Park Pump Station Bypass, Complete" shall constitute complete compensation for all labor, supplies, tools, materials and equipment required to furnish and install the inline check valves and make connection of the new 30-inch diameter piping to the existing Hogan Park Pump Station, **including cutting off the existing lift station outfall line, and furnishing and installing a mechanical restrained joint coupling.**

II – APPENDICES

Appendix 7 – Pump Station Structural, Architectural, HVAC, Electrical, and Instrumentation / Control Technical Specifications (CSI Format) – Metal Roof Panels

REPLACE Section 07 41 13 with the attached.

III - PLANS

Plan Sheet E08

The following entries are revised on the Raceway Schedule:

- a. Tag P107, FROM is **REVISED** to **XFMR-2**
- b. Tag P108, TO is **REVISED** to **XFMR-2**
- c. Tag P117, FROM is **REVISED** to **XFMR-1**
- d. Tag P118, TO is **REVISED** to **XFMR-1**

END OF ADDENDUM No. 3


Chad Bieren, P.E. 
Deputy Director/City Engineer Date

Attachments:
Appendix 7 – Section 07 41 13 – Metal Roof and Wall Panels

METAL ROOF AND WALL PANELS

PART 1 GENERAL

1.01 REFERENCES

- A. The following is a list of standards which may be referenced in this section:
1. ASTM International (ASTM):
 - a. A653/A653M, Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
 - b. A792/A792M, Standard Specification for Steel Sheet, 55% Aluminum-Zinc Alloy-Coated by the Hot-Dip Process.
 - c. C1311, Standard Specification for Solvent Release Sealants.
 - d. D226, Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing.
 - e. D523, Standard Test Method for Specular Gloss.
 - f. D1970, Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection.
 - g. D2178, Standard Specification for Asphalt Glass Felt Used in Roofing and Waterproofing.
 2. FM (Factory Mutual) Global (FMG):
 - a. Approval Guide.
 - b. 4471, Approval Standard for Class 1 Panel Roofs.
 3. Sheet Metal and Air Conditioning Contractors' National Association (SMACNA): Architectural Sheet Metal Manual.
 4. UL: 580, Standard for Safety Tests for Uplift Resistance of Roof Assemblies.

1.02 SYSTEM DESCRIPTION

- A. Design Requirements: Provide professional engineering services needed to design roof system and assume engineering responsibility.
- B. Performance Requirements:
1. Water Penetration:
 - a. No water penetration when tested in accordance to ASTM E331 at the following test pressures:
 - 1) Test Pressure:
 - a) Roof slope less than or equal to 30 degrees:
2.86 lbf/square feet.

- 2) Preload Test-Pressure Difference:
 - a) Negative: 50 percent of design wind uplift pressure difference.
2. Wind Uplift Resistance: Provide metal panel assemblies that comply with UL 580 for Class 90.
3. FMG Listing: Provide metal roof panels and system accessories that comply with FMG 4471 as part of a panel roofing system and are listed in FMG "Approval Guide" for Class 1 or noncombustible construction. Materials shall be marked with FMG markings.
 - a. Fire/Windstorm Classification: Class 1A-60.
 - b. Hail Resistance: MH.
4. Thermal Movement: Provide metal roof panel assemblies that allow for thermal movement resulting from temperature change of 120 degrees F, ambient and 180 degrees F, material surface.
5. Solar Reflectance, ASTM E903:
 - a. Solar reflectance for roof slopes over 2:12:
 - 1) Initial: Not less than 0.25.
 - 2) Maintained: Not less than 0.15 for 3 years after installation.

1.03 SUBMITTALS

A. Action Submittals:

1. Shop Drawings: Drawings showing thickness and dimensions of parts and accessories, fastening and anchoring methods, details, and locations of seams, joints, and other provisions for thermal movement. Distinguish between factory-assembled and field-assembled work. Include drawings at not less than 1/4-inch to 1-foot scale and details at not less than 3-inch to 1-foot scale.
2. Samples: 4-inch square Samples of specified metal. Samples will be reviewed for color and texture only.

B. Informational Submittals:

1. Manufacturer's printed installation instructions.
2. A letter from roofing manufacturer stating roofer is approved by manufacturer to apply the roof.
3. Preinstallation Conference meeting minutes.
4. Special guarantee.
5. Test results or calculations, that assure item's and its anchorage's design criteria meets requirements of Section 01 88 15, Anchorage and Bracing.

1.04 QUALITY ASSURANCE

- A. Installer's Qualifications: Approved and trained by materials manufacturer.

- B. Preinstallation Conference:
1. Before starting metal roof installation, conduct a conference with roofing installer, roofing system materials manufacturer, Subcontractors likely to be on roof, and installers whose work affects metal roof installation.
 2. Items to be reviewed and discussed include, but are not limited to, the following items:
 - a. Examine roof deck or substrate conditions for compliance with requirements for flatness and tolerance of structural members.
 - b. Review structural loading limitations of roof deck or purlins and rafters during roofing installation.
 - c. Review flashing details, roof drainage, roof insulation, roof penetrations, roof-mounted mechanical equipment, and other construction and conditions that might affect metal roof panel installation.
 - d. Review governing regulations and requirements for insurance, certificates, and testing and inspecting as applicable.
 - e. Review temporary protection requirements for metal roof panels during and after installation.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Delivery: Deliver components and metal roof panels so as not to be damaged or deformed. Package for protection during transportation and handling.
- B. Storage and Handling:
1. Protect against damage and discoloration.
 2. Handle panels with nonmarring slings.
 3. Do not bend panels.
 4. Store panels aboveground on pallets or platforms, with one end elevated for drainage.
 5. Protect strippable protective covering from exposure to sunlight except as necessary for metal roof installation.
 6. Stack panels to prevent twisting, bending, or abrasion, and to provide ventilation.
 7. Protect panels against standing water and condensation between adjacent surfaces.
 8. If panels become wet, immediately separate sheets, wipe dry with clean cloth, and separate sheets for air-drying.
 9. During storage prevent contact with materials that may cause discoloration or staining.
- C. Coordinate metal roof installation with flashing and trim as specified in Section 07 62 00, Sheet Metal Flashing and Trim.

- D. Coordinate work with construction of decks, purlins and rafters, and other adjoining work.

1.06 SPECIAL GUARANTEE

- A. Product: Provide manufacturer's extended guarantee or warranty, with Owner named as beneficiary, in writing, as Special Guarantee. Special Guarantee shall provide for correction or, at the option of the Owner, removal and replacement of roofing panels, flashing, finish, and accessories found defective during a period of 10 years after the date of Substantial Completion. Duties and obligations for correction or removal and replacement of defective Work shall be as specified the General Conditions.
- B. Conditions:
 - 1. Roofing Panels: No rupture, structural failure, or perforation.
 - 2. Finish: No cracking, blistering, flaking, chipping, checking, chalking, peeling, or fading.
 - 3. Components: Watertight and weathertight with normal usage.

PART 2 PRODUCTS

2.01 ROOFING AND WALL PANELS

- A. Material: Steel, galvanized, ASTM A653/A653M, coating designation G90, or ASTM A792/A792M coated steel, 24-gauge minimum metal thickness.
- B. Surface: Smooth, flat finish.
- C. Finish:
 - 1. Polyvinylidene Fluoride: Kynar 500, two coats minimum.
- D. Color: As selected from manufacturer's standard color range closely matching the color indicated in Exterior Finish Schedule.
- E. Field-assembled preformed Wall Panels with manufacturer's standard concealed fasteners.
 - 1. Vertically installed
 - 2. Panel coverage 12 inches
 - 3. Manufacturers and Products:
 - a. AEP-SPAN; Flush Panel 12-inch.
 - b. Berridge.
 - c. CENTRIA.
 - d. Englert, Inc.
 - 4.

- F. Standing Seam, seamed-joint Roof Panels:
1. Formed with vertical ribs at panel edges and intermediate stiffening ribs symmetrically space between vertical ribs designed for sequential field installation by mechanically attaching panels to supports using concealed clips located under one side of panel and engaging opposite edge of adjacent panels and mechanically seaming panels together.
 2. Panel Coverage 16 inches.
 3. Seam Height: Minimum 2 inches.
 4. Manufacturers and Products:
 - a. AEP-SPAN; Span-Lok, 16-inch.
 - b. Berridge; Z Lock, 16-inch.
 - c. CENTRIA Architectural Systems.
 - d. Englert, Inc.

2.02 METAL SOFFIT PANELS

- A. Where Perforated Metal Screen is called for provide clear anodized aluminum screen material per 07 62 00 Sheet Metal Flashing and Trim.
- B. Prefinished Soffit Panels
1. Same product as metal wall panels.
 - 2.

2.03 ACCESSORIES

- A. Underlayment: Cold applied, self-adhering, polyethylene-faced sheet, consisting of slip-resisting polyethylene-film reinforcing top surface laminated to SBS-modified asphalt adhesive with release-paper backing, 40-mil minimum thickness meeting ASTM D1970.
1. Manufacturer:
 - a. GCP Applied Technologies, Ice and Water Shield HT.
 - b. Approved equal.
- B. Slip Sheet: Coated-glass fiber fire-resistant slip sheet as recommended by sheet metal roofing manufacturer.
- C. Fasteners: Self-tapping screws, bolts, nuts, self-locking rivets and bolts, end-welded studs, and other suitable fasteners designed to withstand design loads. Provide exposed fasteners with heads matching color of metal by means of plastic caps or factory-applied coating.
1. Fasteners for Flashing and Trim: Self-drilling screws with hex washer head or blind fastener rivets of high-strength aluminum or stainless steel.

- D. Holddown Clips: System manufacturer's ASTM A792/A792M standard shape steel.
- E. Closures: Manufacturer's standard neoprene blocks shaped to fit roof metal profile.
- F. Sealant:
 - 1. Joint Sealant: Type 5 as specified in Section 07 92 01, Joint Sealants.
 - 2. Tape Sealant: Type 13 as specified in Section 07 92 01, Joint Sealants.
 - 3. Butyl Sealant: Butyl-rubber based, solvent-release sealant per ASTM C1311.
- G. Isolation Paint: ASTM D1187, asphalt.

2.04 FABRICATION

- A. Fabricate and finish metal roof panels and accessories at factory to the greatest extent possible.
- B. Provide panel profile, including major ribs and any intermediate stiffening ribs for full panel length.
- C. Panel Length: Roof panels shall be full length from eave to ridge, unless otherwise indicated or limited by shipping limitations.
- D. Where indicated, fabricate metal roof panel joints with factory-installed captive gaskets or separator strips that provide a tight seal and prevent metal-to-metal contact.
- E. Form and fabricate sheets, battens, strips, cleats, valleys, ridges, edge treatments, integral flashings, gutters, downspouts, and other components of specified metal roofing panels to profiles, patterns, and drainage arrangement shown, and as required for permanent leakproof construction, and as recommended by SMACNA's "Architectural Sheet Metal Manual."
- F. Provide for thermal expansion and contraction of Work.
- G. Conceal fasteners and methods of expansion where possible. Do not use exposed fasteners on faces of accessories where exposed to view.
- H. Finishes:
 - 1. Protect finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
 - 2. Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half the range of approved sample. Noticeable variations within same piece are not acceptable. Variations in other

component appearances are acceptable if within range of approved samples and are assembled or installed to minimize contrast.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Examine substrates and conditions for compliance with alignment tolerances required by metal roof panel manufacturer. Examine solid roof sheathing to verify sheathing joints are supported by blocking or framing, and flatness is within tolerances required by metal roof panel manufacturer.
- B. Prior to beginning installation, examine rough-in location for items penetrating metal roof panels and coordinate with seam locations.

3.02 PREPARATION

- A. Deck: Firm, dry, free of foreign materials, and smooth. Report immediately to Engineer cracks, breaks, holes, or other unusual irregularities in surface.
- B. Layout Pattern:
 - 1. Lay out to place seams equidistant from corners and aligned with seams on other side of hip or ridge.
 - 2. Coordinate Work of this section with flashing, trim, and other construction to provide a permanently leakproof, secure, and noncorroding installation.

3.03 INSTALLATION

- A. General:
 - 1. Apply roofing only in dry weather and where weather conditions permit.
 - 2. Install in accordance with manufacturer's written instructions and warranty requirements.
 - 3. Comply with recommendations of the SMACNA "Architectural Sheet Metal Manual."
 - 4. Install metal roofing and soffit system consisting of nonstructural sheet metal panels held to substrate with concealed fasteners.
 - 5. Conceal expansion joint provisions wherever possible in exposed Work; locate so as to minimize possibility of leakage. Cover and seal fasteners and anchors as required for a tight installation.
 - 6. Closures and Trim:
 - a. Provide ridges, eaves, rakes, fascia, gutters, downspouts, and other exposed trim and flashing for a weather-tight roofing and soffit system.
 - b. Provide metal closures at peaks, rake edges, and each side.

- c. Flash and seal metal roof panels with weather closures at eaves, rakes, and at perimeter of openings. Fasten with self-tapping screws.
 7. Dissimilar Metals:
 - a. Separate from each other where electrolysis might occur.
 - b. Separate metal panels where contact with corrosive substrates may occur.
 - c. Separation is satisfactorily accomplished by coating metals with isolation Paint.
 - d. Comply with various metals producers' recommendations for other forms of protection against contamination from corrosive materials or agents.
 8. Lap metal flashing over metal roof panels to allow moisture to run over and off the material.
 9. Cutting and Fitting: Neat, square, and true. Saw cut panels, deburr, and use touchup paint immediately as recommended by roofing panel manufacturer. Torch cutting is prohibited.
 10. Gutters, Downspouts, and Flashings:
 - a. Straight, weather-tight, exposed surfaces free of dents, scratches, abrasions, stains, and other visible defects.
 - b. Extend gutter lining under metal roofing 6 inches minimum and terminate in 3/4-inch folded edge secured by cleats.
- B. Underlayment:
 1. Install underlayment on roof sheathing, unless otherwise recommended by metal roof panel manufacturer.
 2. Apply underlayment single-ply lapped shingle fashion, 3 inches at head and 6 inches at sides.
 3. Install no more than can be covered by metal roofing or other approved protection, in same day.
 4. Use adhesive for temporary anchorage, where possible, to minimize use of mechanical fasteners under metal roof panels.
- C. Standing-Seam Metal Roof:
 1. Install as recommended by metal roof panel manufacturer's installation instructions and recommendations.
 2. Begin at eaves. Rigidly fasten eave end of metal roof panels and allow ridge end free movement for thermal expansion and contraction.
 3. Install clips in panel side joints at location, spacing, and with fasteners as recommended by manufacturer for type of substrate and wind loading specified.

3.04 CLEANING AND PROTECTION

A. Cleaning:

1. At the end of each day sweep metal clean of foreign materials, especially metal particles and scrap.
 2. Peel off strippable film.
 3. Where needed, clean metals in conformance with metals industry recommendations or use Basic H organic metal cleaner, Shaklee Products, Hayward, CA.
- B. Protection:
1. Protect material from exposure to chlorides, hydrochloric-based and muriatic acids. If contaminated, wash affected areas immediately with 5 percent soda and water solution and rinse with clear water.
 2. Avoid walking on roof after completion.
- C. Final Cleanup:
1. Remove debris, metal clips, nails, and other materials that could prevent adequate drainage or produce corrosion products through electrolysis.
 2. Repair and touch up damage.
 3. Replace metal roof panels that have been damaged or have deteriorated beyond successful repair.

END OF SECTION