City of Portland, Oregon

Preconstruction Task 26

Guaranteed Maximum Price (GMP)

May 4, 2020

MWH CONSTRUCTORS

APPENDIX A –
SCOPE OF WORK

MWH Constructors, Inc. ("CM/GC") will construct the Corrosion Control Improvements Project as shown and described in the following:

- Project Drawings as prepared by Stantec, Inc. and entitled: Volume 1 Construction Drawings, 90% Design Submittal - November 2019. A listing of project drawings is included as **Attachment A-1** to this Scope of Work.
- Technical Specifications as prepared by Stantec, Inc. and entitled: 90% Design Submittal - Volumes 2, 3, and 4 – November 2019. A listing of technical specifications is included as **Attachment A-2** to this Scope of Work.
- Request for Information (RFI) numbers 1 thru 12 included as **Attachment A-3** to this Scope of Work.
- Items numbers 2 thru 46 excluding item 5 on the 90% Design Clarifications and Changes Log dated 2/25/2020 included as **Attachment A-4** to this Scope of Work.

Construction of the Corrosion Control Improvements Project will include twenty-one subcontract work packages (i.e. S-Packages), four equipment procurement packages (i.e. P-Packages), and one self-perform package (i.e. M-Package). A description of each S-Package, P-Package, and M-Package is provided below.

CM/GC's scope of work is subject to the clarifications and exceptions to the requirements of the Project Drawings and Technical Specifications noted in this Scope of Work.

1.0 SUBCONTRACT WORK PACKAGES (S-PACKAGES)

Package S-1 – Site Conditions Survey

This bid package generally includes the work described in Specification 02 22 00 (Site Conditions Survey). The following clarifications and exceptions apply:

- It is anticipated that 100% of the work included in the S-1 bid package will be completed by a firm(s) that has been certified by the State of Oregon as a Disadvantaged Business Enterprise, a Minority-Owned Business, a Women-Owned Business, or an Emerging Small Business.
- Videos documenting existing site conditions will be provided on compact disc or thumb drive. Videos will not be provided on VHS tape.

Package S-1A – Survey

This bid package generally includes surveying services to provide verification (i.e. spot checking) of work completed by others. The following clarifications and exceptions apply:

- It is anticipated that 100% of the work included in the S-1A bid package will be completed by a firm(s) that has been certified by the State of Oregon as a Disadvantaged Business Enterprise, a Minority-Owned Business, a Women-Owned Business, or an Emerging Small Business.

- Construction surveying will be provided by Portland Water Bureau. The scope of services provided by the S-1A Subcontractor will be limited to spot checking survey work completed by others.

Package S-2 – Site Preparation

This bid package generally includes the work described in Specification 31 10 00 (Site Preparation). This package also generally includes the work shown on the "Erosion and Sediment Control" drawings. The following clarifications and exceptions apply:

- It is anticipated that 75% of the work included in the S-2 bid package will be completed by a firm(s) that has been certified by the State of Oregon as a Disadvantaged Business Enterprise, a Minority-Owned Business, a Women-Owned Business, or an Emerging Small Business.
- Modifications to the Stantec Erosion and Sediment Control drawings, as submitted to Portland Water Bureau on December 13, 2019 and included as **Attachment A-12**, shall govern over the Stantec Erosion and Sediment Control drawings.

Package S-3C – Site Earthwork and Demolition

This bid package generally includes all work shown on Drawing C-3 (Grading and Drainage Plan). The following clarifications and exceptions apply:

- It is anticipated that 75% of the work included in the S-3C bid package will be completed by a firm(s) that has been certified by the State of Oregon as a Disadvantaged Business Enterprise, a Minority-Owned Business, a Women-Owned Business, or an Emerging Small Business.
- Temporary chain link fencing will be provided to maintain security along the eastern perimeter of the existing Lusted Hill Facility until the permanent fencing is installed. Approximate location of the temporary fencing is shown on **Attachment A-5** to this Scope of Work.

Package S-3D – Utility Water Pump Station Earthwork

This bid package generally includes all dewatering, shoring, excavation, and backfill associated with the Utility Water Pump Station. The following clarifications and exceptions apply:

- It is anticipated that 10% of the work included in the S-3D bid package will be completed by a firm(s) that has been certified by the State of Oregon as a Disadvantaged Business Enterprise, a Minority-Owned Business, a Women-Owned Business, or an Emerging Small Business.
- A temporary dewatering system will be provided during construction to address the perched groundwater identified in the geotechnical report (i.e. the elevation of the bottom of the utility water pump station is believed to be above the elevation of the groundwater table).
- Collected groundwater will be settled in an on-site Baker tank and discharged into the site stormwater system.
- The temporary dewatering system is expected to generate a limited amount of perched water. Once settled in the Baker tank, collected groundwater will be metered (pumped) into the site stormwater system at a rate compatible with the capacity of the stormwater system.

Package S-3E – Access Road and Staging Area

This bid package generally includes improving the existing emergency access road and constructing a staging and storage area. The following clarifications and exceptions apply:

- It is anticipated that 75% of the work included in the S-3E bid package will be completed by a firm(s) that has been certified by the State of Oregon as a Disadvantaged Business Enterprise, a Minority-Owned Business, a Women-Owned Business, or an Emerging Small Business.
- Includes $25,000 of road improvements to the existing roadway (private drive) at Diack's pond.

Package S-4 – Utility Water Pump Station Concrete

This bid package generally includes construction of certain cast-in-place concrete structures as shown on the Structural-series drawings and subject to the limits of work identified on the Concrete Key Map (**Attachment A-6** to this Scope of Work). The following clarifications and exceptions apply:

- It is anticipated that 10% of the work included in the S-4 bid package will be completed by a firm(s) that has been certified by the State of Oregon as a Disadvantaged Business Enterprise, a Minority-Owned Business, a Women-Owned Business, or an Emerging Small Business.
- Although not called for on the Drawings, Subcontractor will provide a fall protection system (e.g. net system) with the 4'x8' Bilco double leaf hatch.
- Although not called for on the Drawings, Subcontractor will provide a "safety climb system" with the aluminum ladder.
- At the Bureau's direction, MWH will remove the costs for the fall protection system and safety climb system and add the cost of a davit arm receiver.

Package S-5 – Site Concrete

This bid package generally includes construction of certain cast-in-place concrete structures as shown on the Structural-series drawings and subject to the limits of work identified on the Concrete Key Map (**Attachment A-6** to this Scope of Work). The following clarifications and exceptions apply:

- It is anticipated that 10% of the work included in the S-5 bid package will be completed by a firm(s) that has been certified by the State of Oregon as a Disadvantaged Business Enterprise, a Minority-Owned Business, a Women-Owned Business, or an Emerging Small Business.

Package S-8 – Removal and Disposal of Contaminated Material

This bid package generally includes the work detailed in Specification 02 61 00 (Removal & Disposal of Contaminated Materials). The following clarifications and exceptions apply:

- It is anticipated that 100% of the work included in the S-8 bid package will be completed by a firm(s) that has been certified by the State of Oregon as a Disadvantaged Business Enterprise, a Minority-Owned Business, a Women-Owned Business, or an Emerging Small Business.
- Work under package S-8 is budgeted at $10,000 for (2) taps on conduit 4 only.

Package S-9 – Pre-Engineered Metal Building and Pre-Engineered Metal Canopies (JH Kelly)

This bid package generally includes design, supply, and construction of the Pre-Engineered Metal Building (total of 1) and Pre-Engineered Metal Canopies (total of 3). The following clarifications and exceptions apply:

- It is anticipated that 5% of the work included in the S-9 bid package will be completed by a firm(s) that has been certified by the State of Oregon as a Disadvantaged Business Enterprise, a Minority-Owned Business, a Women-Owned Business, or an Emerging Small Business.

- CM/GC's GMP pricing includes award of this work to JH Kelly at a price of $319,000.
    - CM/GC's GMP pricing includes $300,981 for supply and installation of the pre-engineered metal building and pre-engineered metal canopies. The remaining $18,019 (shop drawings) is included in Amendment 2 to the Pre-Construction Services agreement.
- CM/GC's GMP pricing for the S-9 bid package is based on the draft 90% design documents including the draft 90% Project Drawings listed in **Attachment A-10** and the draft 90% Technical Specifications listed in **Attachment A-11.**
- CM/GC's GMP pricing specifically includes changes made via Specification 01 33 17 – Structural Design Criteria dated 11/18/19 and changes made via Drawings GS-1 – Structural Notes, Revision C dated 11/18/19.

Package S-10 – Tensile Membrane Structure

This bid package generally includes the work detailed in Specification 13 31 00 (Tensile Membrane Structure). The following clarifications and exceptions apply:

- It is anticipated that 5% of the work included in the S-10 bid package will be completed by a firm(s) that has been certified by the State of Oregon as a Disadvantaged Business Enterprise, a Minority-Owned Business, a Women-Owned Business, or an Emerging Small Business.

Package S-12 – Painting and Coatings

This bid package generally includes the work detailed in Specification 09 96 00 (Protective Coatings). The following clarifications and exceptions apply:

- It is anticipated that 100% of the work included in the S-12 bid package will be completed by a firm(s) that has been certified by the State of Oregon as a Disadvantaged Business Enterprise, a Minority-Owned Business, a Women-Owned Business, or an Emerging Small Business.
- CM/GC's GMP excludes painting and/or coating of plastic piping.

Package S-14 – Heating, Ventilating, and Air Conditioning (HVAC)

This bid package generally includes the work shown on the HVAC-series drawings and detailed in Division 23 of the Specifications. The following clarifications and exceptions apply:

- It is anticipated that 75% of the work included in the S-14 bid package will be completed by a firm(s) that has been certified by the State of Oregon as a Disadvantaged Business Enterprise, a Minority-Owned Business, a Women-Owned Business, or an Emerging Small Business.

Package S-15 - Electrical

This bid package generally includes the work shown on the Electrical-series drawings. The following clarifications and exceptions apply:

- It is anticipated that 10% of the work included in the S-15 bid package will be completed by a firm(s) that has been certified by the State of Oregon as a Disadvantaged Business Enterprise, a Minority-Owned Business, a Women-Owned Business, or an Emerging Small Business.
- Electrical package S-15 is budgeted at $2,056,269 per contract documents as modified by 90% Design Clarifications and Changes Log and attachments dated 2/25/2020.
- The standby generator (a.k.a. portable electrical generator) will be provided by Portland Water Bureau.

- Portland Water Bureau will operate the portable electrical generator during switchover from the existing power service to the new power service.
- GMP includes 4% contingency on S-15 & S-15A package for market risks associated with this scope. Un-used amounts after successful negotiations with low bidder shall be returned to PWB.

Package S-15A – Instrumentation and Controls

This bid package generally includes the work shown on the Instrumentation-series drawings. The following clarifications and exceptions apply:

- It is anticipated that 5% of the work included in the S-15A bid package will be completed by a firm(s) that has been certified by the State of Oregon as a Disadvantaged Business Enterprise, a Minority-Owned Business, a Women-Owned Business, or an Emerging Small Business.
- Instrumentation and Controls package S-15A is budgeted at $188,500. Any remaining or additionally needed funds when the S-15A package is awarded will be returned to or provided from project contingency.
- All programming modifications to the existing Lusted Hill Treatment Facility SCADA/HMI system will be provided by Portland Water Bureau.
- All screen modifications to the existing Lusted Hill Treatment Facility SCADA/HMI system will be provided by Portland Water Bureau.

Package S-16 – Utilities Piping

This bid package generally includes supply and installation of certain piping subject to the limits of work identified on the Piping Key Map (**Attachment A-7** to this Scope of Work). The following clarifications and exceptions apply:

- It is anticipated that 30% of the work included in the S-16 bid package will be completed by a firm(s) that has been certified by the State of Oregon as a Disadvantaged Business Enterprise, a Minority-Owned Business, a Women-Owned Business, or an Emerging Small Business.

Package S-17 – Process Piping

This bid package generally includes supply and installation of certain piping subject to the limits of work identified on the Piping Key Map (**Attachment A-7** to this Scope of Work). The following clarifications and exceptions apply:

- It is anticipated that 15% of the work included in the S-17 bid package will be completed by a firm(s) that has been certified by the State of Oregon as a Disadvantaged Business Enterprise, a Minority-Owned Business, a Women-Owned Business, or an Emerging Small Business.
- For purposes of installing the diffusers within Conduits 2, 3, and 4, MWH will excavate (and backfill) the existing manways shown on Drawing C-8. Portland Water Bureau will remove and replace the manways (hatches) themselves.
- It is assumed that no obstructions exist within Conduits 2, 3, and 4 between the point of entry (i.e. existing manways) and the point of diffuser installation.
- For purposes of installing the diffusers within Conduits 2, 3, and 4, Portland Water Bureau will shut down, drain, and clean (if necessary) Conduits 2, 3, and 4. Contractor will perform work and contact spray work areas for disinfection. Following installation of the new diffusers, Portland Water Bureau will fill and place Conduits 2, 3, and 4 back into service.

- Installation of the diffusers will require a single shutdown of each Conduit 2, 3, and 4.
- This package includes a 60 ft receiving pit at the UWPS associated with the horizontal directional drilling (provided under package S-18 below).
- Package includes a 36' x 16' Bore pit at Lusted Road to launch HDD under conduit 3.
- Includes downed tree removal on slope below Lusted road that was not able to be removed as part of the early work.
- An owner-controlled allowance of $850,000 has been included for the utility corridor work between STA 6+10 and 10+25 in package S-17. It is anticipated that a change order for the actual amount of the work will be processed for the actual price of the work when the design is complete.

Package S-18 – Horizontal Directional Drilling

This bid package generally includes supply and installation (via horizontal direction drilling) certain piping subject to the limits of work identified on the Piping Key Map (**Attachment A-7** to this Scope of Work). The following clarifications and exceptions apply:

- It is anticipated that 10% of the work included in the S-18 bid package will be completed by a firm(s) that has been certified by the State of Oregon as a Disadvantaged Business Enterprise, a Minority-Owned Business, a Women-Owned Business, or an Emerging Small Business.
- The GMP pricing is predicated upon use of the horizontal directional drilling (HDD) technology as follows:
    - (1) – 12" HDD from Station 6+10 to UW Valve Vault. This HDD excludes an outer casing.
    - Where outer casings are provided, grouting of the annular spacing is excluded. The annular space will be filled by the drilling mud.
- Use of the HDD technology is based on geotechnical borings provided showing uniform clay at bore elevation without obstructions or cobbles.

Package S-19 – AC Pavement and Base

This bid package generally includes the work detailed in Specification 32 11 13 (A.C. Pavement and Base). The following clarifications and exceptions apply:

- It is anticipated that 75% of the work included in the S-19 bid package will be completed by a firm(s) that has been certified by the State of Oregon as a Disadvantaged Business Enterprise, a Minority-Owned Business, a Women-Owned Business, or an Emerging Small Business.

Package S-20 – Chain Link Fencing

This bid package generally includes the work detailed in Specification 32 31 13 (Chain Link Fencing). The following clarifications and exceptions apply:

- It is anticipated that 100% of the work included in the S-20 bid package will be completed by a firm(s) that has been certified by the State of Oregon as a Disadvantaged Business Enterprise, a Minority-Owned Business, a Women-Owned Business, or an Emerging Small Business.

Package S-21 - Landscaping

This bid package generally includes the work shown on the Landscape-series drawings. The following clarifications and exceptions apply:

- It is anticipated that 100% of the work included in the S-21 bid package will be completed by a firm(s) that has been certified by the State of Oregon as a Disadvantaged Business Enterprise, a Minority-Owned Business, a Women-Owned Business, or an Emerging Small Business.
- CM/GC's GMP pricing includes $51,689 for the secondary fire safety zone referenced in Keynote 2 on Drawing L-1.

2.0 EQUIPMENT PROCUREMENT PACKAGES (P-Packages)

Package P-1 – Carbon Dioxide Feed System (TOMCO2)

This procurement package includes supply of the equipment detailed in Specification 41 35 60 (Carbon Dioxide Feed System). The following clarifications and exceptions apply:

- CM/GC's GMP pricing includes award of this work to TOMCO2 at a price of $685,000. A copy of the TOMCO2 proposal is included as **Attachment A-8** to this Scope of Work.
- CM/GC's GMP pricing is predicated upon TOMCO and Portland Water Bureau's acceptance of the following payment terms for P-1:
  - 3% of purchase price upon submittal of shop drawings
  - 7% of purchase price upon engineer's approval of shop drawings
  - 15% of purchase price at 8 weeks into fabrication
  - 60% of purchase price upon delivery of equipment
  - 10% of purchase price upon successful installation
  - 5% of purchase price upon successful completion of commissioning and start-up
- CM/GC's GMP pricing for the P-1 bid package is based on the draft 90% design documents including the draft 90% Project Drawings listed in **Attachment A-10** and the draft 90% Technical Specifications listed in **Attachment A-11.**
- CM/GC's GMP pricing specifically includes changes made via Specification 01 33 17 – Structural Design Criteria dated 11/18/19 and changes made via Drawings GS-1 – Structural Notes, Revision C dated 11/18/19.

Package P-2 - Pumps

This procurement package includes supply of the equipment detailed in Specification 43 22 93 (Submersible Sump Pumps) and Specification 43 24 03 (Submersible Deep Well Turbine Pumps).

Package P-3 – Chemical Feed System

This procurement package includes supply of the equipment detailed in Specification 43 23 02 (Horizontal ANSI End Suction Pumps).

Package P-4 – Soda Ash Storage and Feed System (Chemco Systems)

This procurement package includes supply of the equipment detailed in Specification 46 32 40 (Soda Ash Storage and Feed System). The following clarifications and exceptions apply:

- CM/GC's GMP pricing includes award of this work to Chemco Systems at a price of $1,012,100. A copy of the Chemco Systems proposal is included as **Attachment A-9** to this Scope of Work.

- CM/GC's GMP pricing includes $917,053 for supply of the soda ash storage and feed system. The remaining $95,047 (shop drawings) is included in Amendment 1 & 2 to the Pre-Construction Services agreement.

- CM/GC's GMP pricing includes $10,000 for design and supply of galvanized grating to function as an extended access platform working surface as depicted in the revised general arrangement plan P103019_REV01.pdf.
- CM/GC's GMP pricing includes $4,800 for suppling a beam and manual hoist and trolley system for each silo. The structural beam will be finish painted and installed above head level while on top of the tank for each silo. The beam would be welded structurally integral to the silo and installed perpendicular to the safety railing at the top of the tank. The manual chain fall hoist & trolley system will have a capacity rating of 1,000lb.
- CM/GC's GMP pricing is predicated upon Chemco Systems and Portland Water Bureau's acceptance of the following payment terms for P-4:
  - 3% of purchase price upon submittal of shop drawings
  - 7% of purchase price upon engineer's approval of shop drawings
  - 15% of purchase price at 8 weeks into fabrication
  - 60% of purchase price upon delivery of equipment
  - 10% of purchase price upon successful installation
  - 5% of purchase price upon successful completion of commissioning and start-up
- CM/GC's GMP pricing for the P-4 bid package is based on the draft 90% design documents including the draft 90% Project Drawings listed in **Attachment A-10** and the draft 90% Technical Specifications listed in **Attachment A-11.**
- CM/GC's GMP pricing specifically includes changes made via Specification 01 33 17 – Structural Design Criteria dated 11/18/19 and changes made via Drawings GS-1 – Structural Notes, Revision C dated 11/18/19.
- Chemco Systems warranty excludes on-site labor and repairs (i.e. defective equipment must be returned to Chemco Systems factory for repair and/or replacement).

3.0 MWH SELF-PERFORM WORK

General Conditions Labor and Other Direct Costs

Provisions of labor and services required to execute the aforementioned work including the Specified General Conditions as detailed in **Attachment B-3** to Appendix B.

Package M-1 – Process Mechanical

This bid package generally includes supply and installation of certain piping subject to the limits of work identified on the Piping Key Map (**Attachment A-7** to this Scope of Work).

M-1 scope also includes $8,000 (total) for CM/GC and PWB inspection travel costs of P-1 (Carbon Dioxide Feed System) and P-4 (Soda Ash Storage and Feed System) equipment during the fabrication process.

Commissioning and Start-up

Provisions of labor and services required to complete commissioning and start-up services as detailed in **Attachment B-4** to Appendix B (Guaranteed Maximum Price).

Digital Delivery Services

- Digital delivery services including:
  - 4D sequencing for facility construction schedule, cost, and operations review
    - Model 1 – Based on current construction schedule and current 90% design models from Stantec
    - Model 2 – Add cost/Earned Value Analysis to above model
    - Model 3 – Simulated construction rehearsal. We propose to utilize the delivery and installation of the Soda Ash silos as demonstration of the spatial coordination clash detection.
  - Design model clash detection based on 90% design review
  - BIM for fabrication workflow
    - Create Level of Design (LOD) 350-400 3D BIM models
    - Export 2D shop drawings
    - Export fabrication-ready models
  - BIM for Asset Management workflow using mobile BIM applications (BIM 360)
    - Laser scan components of the existing Lusted Hill Facility
    - Convert as-built data to 3D BIM
    - Add asset information (tags, specs, etc.) provided by PWB (input into BIM 360)
    - Demonstrate Use of tools for accessing data in the field (including iPad and mixed reality for accessing model)
    - Optional – draft a guideline for CMMS integration
  - BIM with VR "Walkthrough" using Unity for O&M example for new facility
    - Use above model to demonstrate use of VR Walkthrough to simulate work within the new pre-engineered metal building (i.e. within the new treatment building)
    - Demonstrate using a headset device e.g., Hololens
  - The digital delivery scope excludes all below ground/buried features of the work.

4.0 ADDITIONAL CLARIFICATIONS and EXCLUSIONS

In addition to the package-specific clarifications and exclusions shown above, the following clarifications and exclusions apply:

1. CM/GC is closely monitoring the changing circumstances surrounding the Coronavirus Disease ("COVID - 19") to avoid losses, mitigate the impacts, and prepare for what is to come. CM/GC is currently assessing and evaluating the Project schedule, the supply chain for the Project, as well as the Project labor force. At this juncture, the ultimate impact resulting from the COVID-19 pandemic remains unknown. CM/GC reserves the right to submit for adjustment to completion deadlines and costs as a result of COVID-19.
2. Subcontracted work for packages S-9 (Pre-Engineered Metal Building and Pre-Engineered Metal Canopies) and S-22 (Tree Removal) will be provided by the parties identified above.
3. Process equipment for packages P-1 (Carbon Dioxide Feed System) and P-4 (Soda Ash Storage and Feed System) will be provided by the parties identified above.
4. CM/GC will have free and clear access to easement and right-of-way to work. MWH understands the existing facility needs to remain in operation and will work with plant staff to guarantee plant staff have necessary access.
5. CM/GC will have use of the existing emergency access roadway.
6. No re-routing of utilities has been included unless specifically shown on the contract documents.

7. CM/GC's submittals will be provided in electronic format only. Hard copies will not be required.
8. CM/GC's Operation and Maintenance manuals (O&M manuals) will be provided in electronic format only. Hard copies will not be required.
9. CM/GC will be provided a with a copy of the Masterworks database at project completion specifically including electronic copies of all submittals, RFIs, design clarifications, etc.
10. Where detailed schedules have been provided in the Specifications and/or Drawings (e.g. gate schedule, conduit schedule, I/O list, etc.) these detailed schedules shall govern over information shown elsewhere in the contract documents.
11. Record drawings will not require a civil engineer's or professional land surveyor's signature and registration number.
12. Concrete basins and/or structures will not require disinfection.
13. Revisions to specification 01 72 00 - General Conditions are incorporated into contract per attachment A-10 (Pending final negotiations)
14. CM/GC's Scope of Work excludes:
    - All third-party inspection fees
    - All special inspection fees
    - All on-site material testing fees.
    - Part-time and/or full-time on-site security guard. MWH will be responsible for maintaining site security in relation to existing security fence removal & temporary fencing throughout construction activities.
    - Application for, and securing of, all permits required for construction specifically including the land use permit, building permits (excluding trade permits), demolition permit, grading/fill permit, and Oregon Department of Environmental Quality 1200-C permit.
    - Changes made to the Project Drawings and Technical Specifications following issuance of the 90% document set (as detailed in Attachments A-1 and A-2).
    - The cost of electricity, natural gas, and water (potable and non-potable), which are to be provided by Owner at no cost to CM/GC.
    - All third-party utility hook-up fees and/or meter fees.
    - The cost of chemicals needed for commissioning and start-up activities.
    - All Stantec engineering fees specifically including Stantec engineering inspections and/or re-inspections.
    - All fees for Stantec engineering services during construction
    - Material escalation.
    - Hydraulic testing of the Utility Water Pump Station concrete structure.
    - Pigging of pipelines as called for in Part 3.2 of Specification 01 74 30
    - Provision of an Owner/Engineer trailer as called for in Specification 00 72 00
    - Provision of landline phone service.
    - Weekly wetting and sweeping of the entry drive, roadways, and all other streets and walkways affected by the Work and where adjacent to the work. Cleaning and sweeping will be provided as needed.
    - Fire Suppression System: Scope not defined (Carried in Owner Allowance)
    - Utility Corridor Work STA 6+10 to 10+25 (Carried in Owner Allowance)
        i. This scope generally includes all work from STA 6+10 to STA 10+25 including but not limited to Lusted road closure, road crossing, road stabilization, road re-building, exposed

section of piping on downhill slope of Lusted road, and all pipe work associated with stations listed above.

Attachments to Appendix A

A-1 List of 90% Project Drawings

A-2 List of 90% Technical Specifications

A-3 Request for Information Nos. 1 thru 12

A-4 90% to 100% Change Log with attachments

Attachment A – Cable and Conduit Schedule Revision – NOT ATTACHED - CONFIDENTIAL

Attachment B – Erosion and Sedimentation Control Drawings ESC-1 through ESC-5 plotted 2/3/2020 – NOT ATTACHED - CONFIDENTIAL

Attachment C – Security Plan Drawing E-53 & E-55 markups – NOT ATTACHED - CONFIDENTIAL

Attachment D – Example Wiring Diagram dated 11/23/2009 – NOT ATTACHED - CONFIDENTIAL

Attachment E – MCC Information (including pricing) from Schneider Electric printed 2/6/2020 – NOT ATTACHED - CONFIDENTIAL

Attachment F – PWB Guidelines for Utility Protection dated October 2012 – NOT ATTACHED – REFERENCED ONLY

Attachment G – Drawing E-7 revision – NOT ATTACHED - CONFIDENTIAL

Attachment H – PWB Integrated Vegetation Management Plan dated November 2017 – NOT ATTACHED – CONFIDENTIAL

Attachment I – Section 007316 – Insurance Requirements revisions – NOT ATTACHED - CONFIDENTIAL

Attachment J – Electrical Conduit Requirements e-mail from Jon Johnson dated 3/4/2020 including revised Specification 26 05 33 – Table A – NOT ATTACHED - CONFIDENTIAL

A-5 CM/GCs Site Layout Plan

A-6 Concrete Key Map – NOT ATTACHED - CONFIDENTIAL

A-7 Piping Key Map – NOT ATTACHED - CONFIDENTIAL

A-8 TOMCO2 Proposal dated November 7, 2019 – NOT ATTACHED - CONFIDENTIAL

A-9 Chemco Systems Proposal dated December 4, 2019 – NOT ATTACHED - CONFIDENTIAL

A-10 Revisions to 007200 General Conditions – NOT ATTACHED - CONFIDENTIAL

A-11 Risk Matrix

--- End of Appendix A ---

APPENDIX B –
GUARANTEED MAXIMUM PRICE

CM/GC's guaranteed maximum price is $16,139,637 as detailed below:

Subcontracted Bid Packages		
S-1 – Site Conditions Survey		$15,000
S-1A – Survey		$15,000
S-2 – Site Preparation		$337,469
S-3C – Site Earthwork and Demolition		$368,283
S-3D – Utility Water Pump Station Earthwork		$570,934
S-3E – Access Road and Staging Area		$301,178
S-4 – Utility Water Pump Station Concrete		$364,497
S-5 – Site Concrete		$683,673
S-8 – Removal and Disposal of Contaminated Materials		$10,000
S-9 – Pre-Engineered Metal Building and Pre-Engineered Metal Canopies **		$300,981
S-10 – Tensile Membrane Structure		$225,000
S-12 – Painting and Coatings		$134,560
S-14 – HVAC		$205,000
S-15 – Electrical		$2,056,269
S-15A – Instrumentation and Controls		$188,500
S-16 – Utilities Piping		$395,967
S-17 – Process Piping		$2,516,758
S-18 – Horizontal Directional Drilling		$136,188
S-19 – AC Pavement and Base		$158,030
S-20 – Chain Link Fencing		$34,300
S-21 – Landscaping		$237,295
Equipment Procurement Packages		
P-1 – Carbon Dioxide Feed System **		$685,000
P-2 – Pumps		$121,086
P-3 – Chemical Feed Systems		$46,825
P-4 – Soda Ash Storage and Feed Systems **		$917,053
MWH Self-Perform Services		
General Conditions		$1,481,369
M-1 – Self-Perform Process Mechanical		$1,481,980
Commissioning and Start-up		$100,751
Digital Delivery Services		$30,000
	SUBTOTAL =	$14,118,944
Contingency		$494,163
CM/GC Fee (9.61% of Subtotal)		$1,356,831
Payment and Performance Bonds		$106,999
Oregon Corporate Tax (effective 1/1/2020)		$62,700
	GUARANTEED MAXIMUM PRICE =	$16,139,637
Owner Controlled Allowance		$1,850,000
	ANTICIPATED CONTRACT VALUE =	$17,989,637

** indicates a portion of cost for this bid package is carried in Amendment 2 to the Pre-Construction Services Agreement

This Guaranteed Maximum Price (GMP) is predicated upon the following:

1 CM/GC's scope of work shall be as presented in Appendix A.

2 CM/GC's schedule shall be as presented in Appendix C.

3 Inclusion of the Oregon Corporate Tax (effective 1/1/2020).

4 Except for the four bid packages identified in Items 3 thru 6 above, pricing for the remaining bid packages are based on CM/GC's 90% estimate included as **Attachment B-1**.

5 Labor rates used in the CM/GC's 90% estimate reflect the higher of 1) Oregon's Bureau of Labor and Industries (BOLI) wage rates issued 7/1/19 and updated 10/1/19 or 2) and the Davis Bacon wage rate Building Decision #OR20190029 Modification 7 dated 11/14/19.

6 Inclusion of the Specified General Conditions costs identified in **Attachment B-2**.

7 Inclusion of the Commissioning & Start-up costs identified in **Attachment B-3**.

Attachments to Appendix B

B-1 90% Estimates – NOT ATTACHED - CONFIDENTIAL

B-2 General Conditions Estimate – NOT ATTACHED - CONFIDENTIAL

B-3 Commissioning and Start-up Estimate – NOT ATTACHED - CONFIDENTIAL

--- End of Appendix B ---

APPENDIX C –
SCHEDULE

A copy of the CM/GC's baseline schedule is included as **Attachment C-1**. Contractual dates for this GMP shall be as follows:

- Substantial Completion – February 28, 2022
- Final Completion – April 30, 2022

This schedule and completion dates are predicated upon the following:

- CM/GC's scope of work shall be as detailed in Appendix A.
- CM/GC and Portland Water Bureau recognize that certain details regarding the status of 100% Drawings and Specifications as well as construction sequencing of the tie-ins to the three existing conduits (i.e. Conduit 4, Conduit 3, and Conduit 2) are not fully known at this time. CM/GC and Portland Water Bureau agree to work together to identify a mutually acceptable sequence of events that allows for completion of construction in accordance with the regulatory deadline date of April 30, 2022.
- Portland Water Bureau will provide permits as required to support the project schedule.

Attachments to Appendix C

C-1 90% Schedule (run date 4-May-20)

----- End of Appendix C -----

Attachment A-1 -
List of 90% Project Drawings

Drawing Number	Drawing Title	Revision	Date
General			
G-1	Cover		
G-2	Location Map and Vicinity Map	C	11/19/2019
G-3	List of Drawings	C	11/18/2019
G-4	Standard Symbols	C	11/18/2019
G-5	Abbreviations	C	11/18/2019
G-6	Conduit Connections and UW Pump Process Flow Diagram	C	11/19/2019
G-7	Carbon Dioxide (CO_2) System Process Flow Diagram	C	11/19/2019
G-8	Soda Ash and Ammonia Systems Process Flow Diagram	C	11/18/2019
G-9	Existing Utility Water Pump Station Process Flow Diagram	C	11/19/2019
G-10	Design Criteria	C	11/19/2019
G-11	Pipe and Material Schedule	C	11/18/2019
G-12	3D Model	C	11/18/2019
G-13	CWS Hydraulic Profile - I	C	11/19/2019
G-14	CWS Hydraulic Profile - II	C	11/19/2019
Erosion and Sediment Control			
ESC-1	Notes - I	C	11/19/2019
ESC-2	Notes - II	C	11/19/2019
ESC-3	Site Plan	C	11/18/2019
ESC-4	Details - I	C	11/18/2019
ESC-5	Details - II	C	11/18/2019
Civil			
GC-1	Notes and Symbols	C	11/18/2019
GC-2	Standard Details - I	C	11/18/2019
GC-3	Standard Details - II	C	11/18/2019
GC-4	Standard Details - III	C	11/18/2019
GC-5	Standard Details - IV	C	11/18/2019
GC-6	Standard Details - V	C	11/18/2019
GC-7	Standard Details - VI	C	11/18/2019
GC-8	Standard Details VII	C	11/18/2019
C-1	Overall Site Plan and Pipeline Key Plan	C	11/18/2019
C-2	Horizontal Control and Paving Plan	C	11/18/2019
C-3	Grading and Drainage Plan	C	11/18/2019
C-4	Yard Piping Plan - I	C	11/18/2019
C-5	Chlorinated Water Supply Piping Plan and Profile	C	11/19/2019
C-6	Chemical Utility Trench Plan and Profile - I	C	11/19/2019
C-7	Chemical Utility Trench Plan and Profile - II	C	11/19/2019
C-8	Chemical Utility Trench Plan and Profile - III	C	11/19/2019
C-9	Enlarged Plans - I & II	C	11/18/2019
C-10	Enlarged Plans - III & IV	C	11/18/2019
C-11	Conduit Chemical Injection Vault Detail	C	11/18/2019
C-12	Utility Trench Cross Sections	C	11/18/2019
C-13	CWS Conduit Pipe Tap Details	C	11/19/2019
Instrumentation			
GI-1	Symbols and Abbreviation	C	11/18/2019
GI-2	Installation Details - I	C	11/18/2019
GI-3	Installation Details - II	C	11/18/2019
GI-4	Installation Details - III	C	11/18/2019

GI-5	Installation Details - IV	C	11/18/2019
GI-6	Installation Details - V	C	11/18/2019
GI-7	Installation Details - VI	C	11/18/2019
I-1	Conduit Connections	C	11/18/2019
I-2	CO2 Utility Water Pumps P&ID	C	11/18/2019
I-3	Soda Ash Utility Water Pumps P&ID	C	11/18/2019
I-4	Lusted Hill Carbon Dioxide Storage Tank P&ID	C	11/18/2019
I-5	Conduit 2 and 3 CO2 Feeder Panels P&ID	C	11/18/2019
I-6	Conduit 4 and Spare CO2 Feeder Panels P&ID	C	11/18/2019
I-7	Lusted Hill Soda Ash Silo 1 P&ID	C	11/18/2019
I-8	Lusted Hill Soda Ash Silo 2 P&ID	C	11/18/2019
I-9	Soda Ash Solution Pumps No. 1, 2, 3, 4, & 5 P&ID	C	11/18/2019
I-10	Existing Conduit 2 Chemical Feed P&ID	C	11/18/2019
I-11	Existing Conduit 3 & 4 Chemical Feed P&ID	C	11/18/2019
I-12	Power Monitor, ATS, & Generator P&ID	C	11/18/2019

Landscape

GI-1	Standard Details - I	C	11/18/2019
GL-2	Standard Details - II	C	11/18/2019
L-1	Tree Removal Plan - I	C	11/18/2019
L-2	Tree Removal Plan - II	C	11/18/2019
L-3	Mitigation Plan	C	11/18/2019
L-4	Seeding Plan	C	11/18/2019

Architectural

GA-1	Legend and Assemblies	C	11/18/2019
GA-2	Door Types + Schedules and Opening Details	C	11/18/2019
GA-3	Details - I	C	11/18/2019
GA-4	Details - II	C	11/18/2019
GA-5	Details - III	C	11/18/2019
A-1	Code Plan & Building Data	C	11/18/2019
A-2	Enlarged Floor Plans - I	C	11/18/2019
A-3	Enlarged Floor Plans - II	C	11/18/2019
A-4	Roof Plan	C	11/18/2019
A-5	Elevations - I	C	11/18/2019
A-6	Elevations - II	C	11/18/2019
A-7	Sections - I	C	11/18/2019

Stuctural

GS-1	Structural Notes - I	C	11/18/2019
GS-2	Structural Notes - II	C	11/18/2019
GS-3	Standard Details	C	11/18/2019
S-1	Overall Structure/Roof Pla	C	11/18/2019
S-2	Chemical Bldg & Canopy Foundation Plan	C	11/18/2019
S-3	North Walkway Plan & Sections	C	11/18/2019
S-4	Silo Foundation Plan	C	11/18/2019
S-5	Sections and Details - I	C	11/18/2019
S-6	Sections and Details - II	C	11/18/2019
S-7	Sections and Details - III	C	11/18/2019
S-8	Sections and Details - IV	C	11/18/2019
S-9	Valve Vault Plans	C	11/18/2019
S-10	Valve Vault Sections and Details - I	C	11/18/2019
S-11	Valve Vault Sections and Details - II	C	11/18/2019
S-12	Misc Foundation Plans and Details	C	11/18/2019

Mechanical

GM-1	Standard Details - I	C	11/18/2019
GM-2	Standard Details - II	C	11/18/2019
GM-3	Standard Details - III	C	11/18/2019
GM-4	Standard Details - IV	C	11/18/2019
GM-5	Standard Details - V	C	11/18/2019
GM-6	Standard Details - VI	C	11/18/2019
GM-7	Standard Details - VII	C	11/18/2019
M-1	Valve Vault and Pump Station Plans - I	C	11/18/2019
M-2	Valve Vault and Pump Station Plans - II	C	11/18/2019
M-3	Valve Vault and Pump Station Sections - I	C	11/18/2019
M-4	Soda Ash Silos Plans	C	11/18/2019
M-5	Soda Ash Silos Sections	C	11/18/2019
M-6	Chemical Building Lower Plan	C	11/18/2019
M-7	Chemical Building Upper Plan	C	11/18/2019
M-8	Chemical Building Sections - I	C	11/18/2019
M-9	Chemical Building Sections - II	C	11/18/2019
M-10	Chemical Building Sections - III	C	11/18/2019
M-11	Chemical Building Sections - IV	C	11/18/2019
M-12	Existing Chemical Building Plan	C	11/18/2019

HVAC

GH-1	Symbols, Notes and Abbreviations	C	11/18/2019
GH-2	Standard Details - I	C	11/18/2019
GH-3	Equipment Schedules	C	11/18/2019
GH-4	Sequence of Operation	C	11/18/2019
H-1	Chemical Building Lower Plan	C	11/18/2019
H-2	Chemical Building Sections - I	C	11/18/2019
H-3	Chemical Building Sections - II	C	11/18/2019

Plumbing

GP-1	Symbols, Notes, and Abbreviation	C	11/18/2019
GP-2	Standard Details - I	C	11/18/2019
GP-3	Standard Details - II	C	11/18/2019
P-1	Chemical Building Lower Plan	C	11/18/2019
P-2	Isometric	C	11/18/2019

Electrical

GE-1	General Legend - 1	C	11/18/2019
DE-1	Site Plan Demolition	C	11/18/2019
E-1	Site Plan	C	11/18/2019
E-2	Trench Plan	C	11/18/2019
E-3	Utility Power Plan	C	11/18/2019
E-4	MCCA One-Line Diagram	C	11/18/2019
E-4	MCCB One-Line Diagram	C	11/18/2019
E-6	MCCA & MCCB Elevation	C	11/18/2019
E-7	Enclosure Power Plan	C	11/18/2019
E-8	Enclosure Lighting Plan	C	11/18/2019
E-9	Enclosure Control Plan	C	11/18/2019
E-10	Chemical Bulding Power Plan	C	11/18/2019
E-11	Chemical Building Lighting Plan	C	11/18/2019
E-12	Chemical Building Control Plan	C	11/18/2019
E-13	Soda Ash Silo Storage Power & Control Plan	C	11/18/2019
E-14	Soda Ash Silo Storage Lighting Plan	C	11/18/2019
E-15	Soda Ash Silo Storage Elevation	C	11/18/2019

E-16	Utility Water Pump Vault Power Control Plan	C	11/18/2019
E-17	Utility Water Pump Vault Lighting Plan	C	11/18/2019
E-18	CO2 Tank Storage Power & Control Plan	C	11/18/2019
E-19	CO2 Tank Storage Lighting Plan	C	11/18/2019
E-20	Details - I	C	11/18/2019
E-21	Details - II	C	11/18/2019
E-22	Details - III	C	11/18/2019
E-23	Details - IV	C	11/18/2019
E-24	Panel Schedules	C	11/18/2019
E-25	Power Conduit Schedule	C	11/18/2019
E-26	Control Conduit Schedule - I	C	11/18/2019
E-27	Control Conduit Schedule - II	C	11/18/2019
E-28	Trench With Power Conduit Schedule	C	11/18/2019
E-29	Equipment Schedule	C	11/18/2019
E-30	Typical Motor With VFD Wiring Diagram	C	11/18/2019
E-31	Typical Motor Across the Line Wiring Diagram	C	11/18/2019
E-32	Typical Pump LCP	C	11/18/2019
E-33	Lusted Hill Network Diagram	C	11/18/2019
E-34	Typical Flow Loop Diagram	C	11/18/2019
E-35	Typical Pressure Loop Diagram	C	11/18/2019
E-36	Typical Temperature Loop Diagram	C	11/18/2019
E-37	Typical Level Loop Diagram	C	11/18/2019
E-38	Typical Weight Loop Diagram	C	11/18/2019
E-39	Typical Conductivity Loop Diagra	C	11/18/2019
E-40	Control Panel Layout	C	11/18/2019
E-41	PLC Power Schematic & Discrete Input Wiring - I	C	11/18/2019
E-42	Discrete Input Wiring - II	C	11/18/2019
E-43	Discrete Input Wiring - III	C	11/18/2019
E-44	Discrete Input Wiring - IV	C	11/18/2019
E-45	Discrete Outpu Wiring - I	C	11/18/2019
E-46	Discrete Output Wiring - II	C	11/18/2019
E-47	Analog Input Wiring - I	C	11/18/2019
E-48	Analog Input Wiring - II	C	11/18/2019
E-49	Analog Input Wiring - III	C	11/18/2019
E-50	Analog Input Wiring - IV	C	11/18/2019
E-51	Analog Output Wiring - I	C	11/18/2019
E-52	Analog Output Wiring - II	C	11/18/2019
E-53	Security Plan Camera and Gates	C	11/18/2019
E-54	Security Plan Doors	C	11/18/2019
E-55	Security Plan Conduit Utility Water Taps	C	11/18/2019
E-56	Security Plan Diack's Pond - Chemical Injection Vaults	C	11/18/2019
E-57	Security Schedule	C	11/18/2019

ATTACHMENT A-2 -
LISTING OF 90% SPECIFICATIONS

Specification Number	Specification Title	Revision	Date
DIVISION 00-Procurement and Contracting Requirements (ALL)			
00 72 00	General Conditions		Dec-18
00 73 00	Supplementary Conditions		Dec-18
DIVISION 01-General Requirements (ALL)			
01 10 00	Summary of Work	90% Design	11/18/2019
01 16 00	Owner-Furnished Products and Services	90% Design	11/18/2019
01 29 00	Schedule of Values and Measurement	90% Design	11/18/2019
01 31 13	Project Coordination	90% Design	11/18/2019
01 32 25	Construction Management Software	90% Design	11/18/2019
01 33 00	Submittal Procedures	90% Design	11/18/2019
01 33 17	Structural Design Criteria	90% Design	11/18/2019
01 35 43	Environmental Protection	90% Design	11/18/2019
01 35 53	Site Security Attachment A – Confidentiality Statement Form Attachment B – Site Security Access Form	90% Design	11/18/2019
01 43 33	Manufacturers' Field Services	90% Design	11/18/2019
01 50 00	Temporary Facilities and Controls Supplements: Project Construction Signs	90% Design	11/18/2019
01 55 00	Site Access and Storage	90% Design	11/18/2019
01 55 26	Temporary Traffic Control	90% Design	11/18/2019
01 55 26.13	Accommodations for Public Traffic	90% Design	11/18/2019
01 56 39	Tree and Plant Protection	90% Design	11/18/2019
01 57 13	Temporary Erosion and Sediment Control Supplements: DEQ Construction Site BMP Inspection Report, Form 1 & 2	90% Design	11/18/2019
01 74 20	Gravity Pipeline Testing	90% Design	11/18/2019
01 74 30	Pressure Pipe Testing and Disinfection	90% Design	11/18/2019
01 78 23	Operation and Maintenance Data Supplements: Maintenance Summary For	90% Design	11/18/2019
01 78 25	Testing, Equipment Startup and Commissioning	90% Design	11/18/2019
DIVISON 02-Existing Conditions			
02 22 00	Site Condition Surveys	90% Design	11/18/2019
02 22 13	Settlement Monitoring	90% Design	11/18/2019
02 41 00	Removal, Salvage and Disposal	90% Design	11/18/2019
02 61 00	Removal & disposal of Contaminated Media	90% Design	11/18/2019
DIVISON 03-Conditions			
03 01 30	Concrete Repair and Rehabilitation	90% Design	11/18/2019
03 11 00	Concrete Forming	90% Design	11/18/2019
03 21 00	Reinforcement Steel	90% Design	11/18/2019
03 31 00	Cast-In-Place Concrete	90% Design	11/18/2019
03 32 00	Joints in Concrete	90% Design	11/18/2019
03 60 00	Grouting	90% Design	11/18/2019
DIVISION 05 – Metals			
05 05 19	Post Installed Anchors in Concrete	90% Design	11/18/2019
05 12 00	Structural Steel Framing	90% Design	11/18/2019
05 40 00	Cold Formed Metal Framing	90% Design	11/18/2019

05 50 00	Miscellaneous Metalwork	90% Design	11/18/2019
05 52 00	Aluminum Railings	90% Design	11/18/2019
DIVISION 06 – Wood, Plastics, and Composites			
06 10 00	Rough Carpentry	90% Design	11/18/2019
06 60 00	Fiberglass Fabrication	90% Design	11/18/2019
DIVISION 07 – Thermal and Moisture Protection			
07 10 00	Dampproofing	90% Design	11/18/2019
07 92 13	Sealants and Caulking	90% Design	11/18/2019
DIVISION 08 – Openings			
08 11 13	Steel Doors and Frames	90% Design	11/18/2019
08 33 00	Overhead Coiling Doors	90% Design	11/18/2019
08 62 00	Unit Skylights	90% Design	11/18/2019
08 71 00	Door Hardware	90% Design	11/18/2019
08 74 00	Locking Hardware	90% Design	11/18/2019
08 81 00	Glazing	90% Design	11/18/2019
08 91 00	Louvers	90% Design	11/18/2019
DIVISION 09 – Finishes			
09 96 00	Protective Coating	90% Design	11/18/2019
DIVISION 10 – Specialties			
10 14 00	Building Signage	90% Design	11/18/2019
10 44 00	Fire Extinguishers	90% Design	11/18/2019
DIVISION 13 – Special Construction			
13 31 00	Tensile Membrane Structure	90% Design	11/18/2019
13 34 19	Pre-Engineered Metal Buildings	90% Design	11/18/2019
13 34 21	Pre-Engineered Metal Canopies	90% Design	11/18/2019
DIVISION 22 – Plumbing			
22 10 10	Plumbing, Piping, and Specialties	90% Design	11/18/2019
22 30 00	Plumbing Equipment	90% Design	11/18/2019
22 42 00	Plumbing Fixtures	90% Design	11/18/2019
DIVISION 23 – Heating, Ventilating, and Air Conditioning			
23 00 00	Heating, Ventilating, and Air Conditioning	90% Design	11/18/2019
23 05 00	HVAC Testing and Balancing	90% Design	11/18/2019
23 05 29	Hangers and Supports for HVAC Piping and Equipment	90% Design	11/18/2019
23 05 48	Vibration and Seismic Controls for HVAC Piping and Equipment	90% Design	11/18/2019
23 07 13	Duct Insulation	90% Design	11/18/2019
23 09 23	HVAC Instrumentation and Controls	90% Design	11/18/2019
23 31 13	Metal Ductwork Systems	90% Design	11/18/2019
23 34 00	Fan Equipment	90% Design	11/18/2019
23 52 00	Air Handling Units	90% Design	11/18/2019
DIVISION 26 – Electrical			
26 00 00	Electrical Work, General	90% Design	11/18/2019
26 05 10	Electric Motors	90% Design	11/18/2019
26 05 19	Low-Voltage Electrical Power Conductors and Cables	90% Design	11/18/2019
26 05 26	Grounding and Bonding for Electrical Systems	90% Design	11/18/2019
26 05 33	Raceways and Boxes for Electrical Systems	90% Design	11/18/2019
26 05 43	Underground Ducts and Raceways for Electrical Systems	90% Design	11/18/2019
26 05 50	Electrical Heat Tracing	90% Design	11/18/2019

26 05 53	Identification for Electrical Systems	90% Design	11/18/2019
26 05 73	Electrical Power Distribution System Studies	90% Design	11/18/2019
26 08 00	Commissioning of Electrical Systems	90% Design	11/18/2019
26 09 16	Electrical Controls and Relays	90% Design	11/18/2019
26 22 00	Low Voltage Transformers and Switchgear	90% Design	11/18/2019
26 24 16	Panelboards	90% Design	11/18/2019
26 24 19	Motor Control Centers	90% Design	11/18/2019
26 27 26	Wiring Devices	90% Design	11/18/2019
26 28 00	Low-Voltage Circuit Protective Devices	90% Design	11/18/2019
26 28 17	Motor and Circuit Disconnects	90% Design	11/18/2019
26 29 23	Variable Frequency Drive Units	90% Design	11/18/2019
26 36 23	Transfer Switches	90% Design	11/18/2019
26 50 00	Lighting	90% Design	11/18/2019
26 56 13	Lighting Poles and Standards	90% Design	11/18/2019
26 56 19	Exterior Lighting	90% Design	11/18/2019
DIVISION 31 – Earthwork			
31 10 00	Site Preparation	90% Design	11/18/2019
31 12 00	Excavation Support Systems	90% Design	11/18/2019
31 23 19	Dewatering	90% Design	11/18/2019
31 23 33	Trench Excavation, Bedding and Backfil	90% Design	11/18/2019
31 30 00	Earthwork	90% Design	11/18/2019
31 34 19	Geotextiles	90% Design	11/18/2019
31 35 26	Erosion Control Barrier	90% Design	11/18/2019
DIVISION 32 – Exterior Improvements			
32 11 13	A.C. Pavement and Base	90% Design	11/18/2019
32 11 14	Pavement Markings - Legends and Bars (Thermoplastics)	90% Design	11/18/2019
32 11 23	Aggregate Base and Subbase Courses	90% Design	11/18/2019
32 31 13	Chain Link Fencing	90% Design	11/18/2019
32 84 00	Irrigation	90% Design	11/18/2019
32 91 13	Soil Preparation	90% Design	11/18/2019
32 92 00	Seeding	90% Design	11/18/2019
32 93 00	Plants	90% Design	11/18/2019
32 95 00	Plant Establishment and Maintenance	90% Design	11/18/2019
DIVISION 33 – Utilities			
33 05 16	Precast Concrete Manholes and Vaults	90% Design	11/18/2019
33 05 23	Horizontal Directional Drilling	90% Design	11/18/2019
33 92 10	Steel Pipe, Specials, and Fittings	90% Design	11/18/2019
33 92 20	Ductile Iron Piping	90% Design	11/18/2019
33 95 34	Large Polyethylene Pressure Piping	90% Design	11/18/2019
33 95 40	Small Poly Vinyl Chloride Non Pressure Piping Rubber Joints	90% Design	11/18/2019
33 95 50	PVC Pressure Pipe, Rubber Joints	90% Design	11/18/2019
DIVISION 40 – Instrumentation and Control for Process Systems			
40 05 00	Piping General	90% Design	11/18/2019
40 05 02	Piping Identification	90% Design	11/18/2019
40 05 07	Pipe Supports	90% Design	11/18/2019
40 05 17	Copper Water Tube	90% Design	11/18/2019
40 05 18	Cast Iron Soil Pipe	90% Design	11/18/2019
40 05 23	Stainless Steel Pipe	90% Design	11/18/2019
40 05 24	Steel Pipe	90% Design	11/18/2019
40 05 30	PVC Pressure Pipe	90% Design	11/18/2019
40 05 31	CPVC Pressure Pipe	90% Design	11/18/2019
40 10 64	PEX Pressure Pipe (ASTM D 876, Modified)	90% Design	11/18/2019

40 66 00 *	Network Communications Equipment	90% Design	11/18/2019
40 66 33 *	Metallic and Fiber Optic Communications Cabling and Connectors	90% Design	11/8/2019
40 90 10	Control Strategies	90% Design	11/8/2019
40 91 00	Process Control and Instrumentation	90% Design	11/18/2019
40 91 02	In-Line Liquid Flow Measuring	90% Design	11/8/2019
40 91 06	Level Measuring	90% Design	11/18/2019
40 91 08	Pressure Measuring	90% Design	11/18/2019
40 91 12	Process Monitoring	90% Design	11/18/2019
40 95 10	Programmable Logic Controllers	90% Design	11/18/2019
40 95 13	Control Panels	90% Design	11/18/2019
40 95 15	Panel Mounted Instruments	90% Design	11/18/2019

* footer does not match Specification title

DIVISION 41 – Material Processing and Handling Equipment

41 35 60	Carbon Dioxide Feed System	90% Design	11/18/2019

DIVISION 43 – Process Gas and Liquid Handling, Purification, and Storage Equipment

43 07 00	Pipe and Equipment Insulation	90% Design	11/18/2019
43 20 00	Pumps, General	90% Design	11/18/2019
43 22 93	Submersible Sump Pumps	90% Design	11/18/2019
43 23 02	Horizontal ANSI End Suction Pumps	90% Design	11/18/2019
43 24 03	Submersible Deep Well Turbine Pumps	90% Design	11/18/2019
43 30 00	Valves, General	90% Design	11/18/2019
43 30 12	Valves and Gate Actuators	90% Design	11/18/2019
43 30 14	Butterfly Valves	90% Design	11/18/2019
43 30 16	Check Valves	90% Design	11/18/2019
43 30 18	Ball Valves	90% Design	11/18/2019
43 30 22	Gate Valves	90% Design	11/18/2019
43 30 40	Pressure Sustaining Valves	90% Design	11/18/2019
43 30 52	Miscellaneous Valves	90% Design	11/18/2019

DIVISIONS 46 - Water and Wastewater Equipment

46 01 00	Equipment General Provisions	90% Design	11/18/2019
46 30 00	Chemical Feeding Equipment, General	90% Design	11/18/2019
46 32 40	Soda Ash Storage and Feed System	90% Design	11/18/2019

PORTLAND WATER BUREAU
FROM FOREST TO FAUCET

Amanda Fritz, Commissioner
Michael Stuhr, P.E., Administrator

1120 SW 5th Avenue, Room 600
Portland, Oregon 97204-1926
Information: 503-823-7404
www.portlandoregon.gov/water

An Equal Opportunity Employer

REQUEST FOR INFORMATION

Project Name:	Corrosion Control Improvements Project		
Date:	October 25, 2019	**RFI Number:**	001
Contractor:	MWH Constructors, Inc.	**P.O. / Contract Number:**	30006839
Address:	370 Interlocken Blvd. Suite 400	**Ordinance Number:**	188621
City, State, Zip	Broomfield, CO 80021	**Contract Date:**	April 23, 2019
Attn:	Ben McGeachy	**Project Number:**	W02190

Contractor requests information for the reason checked below: *(Check one box only)*

☒ Clarification of Design Intent ☐ Differing Site Conditions ☐ Other:

☐ Change for Contractor Convenience ☐ Possible Betterment

A response to this information request is requested by: _____ *(Month Day, Year)*

Subject: P-04 Soda Ash Storage and Feed System Bid Package

Specification Section: 46 32 40 Soda Ash Storage and Feed System

Drawing No: _____ **Detail No:** _____

Request: *(Limit one issue per RFI)* **Cost Impact:** _____ **Schedule Impact.** _____

1. The specification 09 96 00 – Protective Coatings is used to define the coatings to be used on the project, but the contract documents are not specific about which coating system applies to the Soda Ash Silos and internal equipment. There are a couple systems that could apply such as FM1 or FM16.
   a. Please provide clarification on which system the soda ash equipment should follow
   b. Please provide clarification on which coating system is required for the interior solution tanks (System 107).

2. The P&ID I-7 and I-8 illustrate four level devices on each silo (1 guided wave level sensor and 3 level switches (high/low/reorder). The specification 46 32 40 section 2.1.E. states each silo is to have two (2) continuous radar level sensors, a high level, and a low level switch.
   a. Please confirm the amount and types of level instruments to be provided for each silo.

3. The soda ash specification 46 32 40 does not include any information regarding pump suction components (i.e. motorized and manual valves). The P&ID on sheets I-7 and I-8 illustrate the pump suction isolation valves to be wired to the soda ash control panel, but the soda ash feed pumps and controls are by others.
   a. Please confirm if the pump suction valving (manual ball valves and motorized pinch valve) is to be supplied by the Soda Ash Equipment Manufacturer or the Feed Pump supplier.

_____ _____
Contractor's Representative **Date**

Response:

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Response 1A: Soda Ash equipment coatings should be FM 16.

Response 1B: The interior of the solution tanks should be FM12.

Response 2A: Please follow the P&ID drawings and provide 1 guided wave radar and 3 level switches (on each silo).

Response 3A: The pump suction isolation valving (manual ball valves and motorized pinch valve) is not to be provided by the soda ash equipment vendor. These valves will be supplied by others. The P&ID drawings will be revised to remove the signal between the pump suction isolation valving and the soda ash control panel.

Owner's Representative **Date**

The response to this request by the Owner's representative shall not be construed as direction or advice on the method or manner of performing any work under the contract. The Owner's response does not relieve the Contractor of any of the risks or obligations under the Contract. The Owner's response constitutes a Field Order pursuant to Section 00140.30 of the 2010 City of Portland Standard Construction Specifications.

cc: File,CM,Sr. Inspector,Site Inspector, .

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REQUEST FOR INFORMATION

Project Name:	Corrosion Control Improvements Project		
Date:	October 25, 2019	**RFI Number:**	002
Contractor:	MWH Constructors, Inc.	**P.O. / Contract Number:**	30006839
Address:	370 Interlocken Blvd. Suite 400	**Ordinance Number:**	188621
City, State, Zip	Broomfield, CO 80021	**Contract Date:**	April 23, 2019
Attn:	Ben McGeachy	**Project Number:**	W02190

Contractor requests information for the reason checked below: *(Check one box only)*

☒ Clarification of Design Intent ☐ Differing Site Conditions ☐ Other:

☐ Change for Contractor Convenience ☐ Possible Betterment

A response to this information request is requested by: _____ *(Month Day, Year)*

Subject: P-04 Soda Ash Storage and Feed System Bid Package

Specification Section: 46 32 40 Soda Ash Storage and Feed System

Drawing No: _____ **Detail No:** _____

Request: *(Limit one issue per RFI)* **Cost Impact:** _____ **Schedule Impact.** _____

1. Please provide the centerline-to-centerline dimensional distance between the two soda ash silos. This dimension influences the crosswalk design and if a support structure would be required for the crosswalk.

_____ _____

Contractor's Representative **Date**

Response:

The centerline to centerline distance between the silos is 25'8"

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Owner's Representative **Date**

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REQUEST FOR INFORMATION

Project Name:	Corrosion Control Improvements Project		
Date:	October 25, 2019	**RFI Number:**	003
Contractor:	MWH Constructors, Inc.	**P.O. / Contract Number:**	30006839
Address:	370 Interlocken Blvd. Suite 400	**Ordinance Number:**	188621
City, State, Zip	Broomfield, CO 80021	**Contract Date:**	April 23, 2019
Attn:	Ben McGeachy	**Project Number:**	W02190

Contractor requests information for the reason checked below: *(Check one box only)*

☒ Clarification of Design Intent ☐ Differing Site Conditions ☐ Other:

☐ Change for Contractor Convenience ☐ Possible Betterment

A response to this information request is requested by: _____ *(Month Day, Year)*

Subject: P-04 Soda Ash Storage and Feed System Bid Package

Specification Section: 46 32 40 Soda Ash Storage and Feed System

Drawing No: _____ **Detail No:** _____

Request: *(Limit one issue per RFI)* **Cost Impact:** _____ **Schedule Impact.** _____

1. The specification mentions only a single crosswalk (i.e. the crosswalk from the roof of one silo to the roof of the other silo); however, the drawings show what appears to be a second "intermediate level" crosswalk. Please clarify how many crosswalk(s) are required as well as where the crosswalk(s) are to be located.

2. The contract drawings show that the mixing tank shares one wall with the silo. Due to the size of the mixing tank, we (i.e. equipment manufacturer) will not be able to insulate this wall, which we (i.e. equipment manufacturer) feel can be problematic. We (i.e. equipment manufacturer) feel the tank should be a completely separate item, so that the entire thing can reside inside an insulated, heated silo. Please clarify the intent of the design.

3. We (i.e. equipment manufacturer) will need to mount a pneumatic slide gate between the silo discharge and the delumper. The reason for doing this is that the delumper needs to be isolated in order for it to function properly. Please confirm this approach is acceptable to the Owner and Engineer.

4. There are many components typically provided in the silo skirt that are not mentioned iFAn the silo specification (e.g. lights, receptacles, heater, fans, thermostats, etc.). Please clarify the exact components that are needed in the skirt.

_____ _____

Contractor's Representative **Date**

Response:

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1. The intermediate crosswalk indicted on the drawings would be part of internal skirt equipment access, if required. The specification requires that each silo provide an equipment maintenance system. This system will provide access to all equipment inside the silo skirt without exposure to confined spaces or working at heights. For some manufacturers the best approach to this may be to provide a secondary access by crosswalk to a mezzanine level inside the silo above the soda ash mixing tank.

2. The mixing tank is not required to be constructed exactly as shown on the 90% drawings. The manufacturer may configure the mixing tank to best suit their silo, within the limits of section 2.8 Soda Ash Solution Feed System.

3. It is acceptable to mount a pneumatic slide gate between the silo discharge and the delumper. The existing facility has an existing air compressor for use. The air compressor is rated at 5 hp and delivers 17.3 cfm at 175 psi. The manufacturer should confirm that the silo air requirement can be met by this air compressor.

4. The silo should be suitable for operation and maintenance 24 hours per day, 7 days a week in the Northwest Oregon climate. The equipment and applicable appurtenances required at a minimum shall include:

    - Indoor and outdoor lighting, including lighting of the exterior spiral staircase and roof
    - Skirting insulation
    - Skirt interior exhaust fan
    - Skirt interior heater
    - 2 duplex receptacles
    - Skirt interior thermostat

Owner's Representative **Date**

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REQUEST FOR INFORMATION

Project Name:	Corrosion Control Improvements Project		
Date:	October 28, 2019	**RFI Number:**	004
Contractor:	MWH Constructors, Inc.	**P.O. / Contract Number:**	30006839
Address:	370 Interlocken Blvd. Suite 400	**Ordinance Number:**	188621
City, State, Zip	Broomfield, CO 80021	**Contract Date:**	April 23, 2019
Attn:	Ben McGeachy	**Project Number:**	W02190

Contractor requests information for the reason checked below: *(Check one box only)*

☒ Clarification of Design Intent ☐ Differing Site Conditions ☐ Other:

☐ Change for Contractor Convenience ☐ Possible Betterment

A response to this information request is requested by: _____ *(Month Day, Year)*

Subject: P-01 Carbon Dioxide Feed System Bid Package

Specification Section: 41 35 60 Carbon Dioxide Feed System

Drawing No: _____ **Detail No:** _____

Request: *(Limit one issue per RFI)* **Cost Impact:** _____ **Schedule Impact.** _____

Regarding Specification 41 35 60 – Carbon Dioxide Feed System:

1. 41 35 60, Part 1.1.E – This is the dissolution efficiency at maximum delivery rate (worst case), correct?
2. 41 35 60, Part 2.1.D – What is the maximum water temperature at time of maximum req'd delivery rate?
3. 41 35 60, Parts 2.2.A.5, 2.3.D.2 – Should the latter also be 20 lb/hr instead of 10 lb/hr?

_____ _____

Contractor's Representative **Date**

Response:

1. This is a minimum efficiency, the system should not drop below this at any time.
2. The maximum water temperature is 17°C
3. Yes 2.3.D.2 should also be 20 lbs/hr

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REQUEST FOR INFORMATION

Project Name:	Corrosion Control Improvements Project		
Date:	October 28, 2019	**RFI Number:**	005
Contractor:	MWH Constructors, Inc.	**P.O. / Contract Number:**	30006839
Address:	370 Interlocken Blvd. Suite 400	**Ordinance Number:**	188621
City, State, Zip	Broomfield, CO 80021	**Contract Date:**	April 23, 2019
Attn:	Ben McGeachy	**Project Number:**	W02190

Contractor requests information for the reason checked below: *(Check one box only)*

☒ Clarification of Design Intent ☐ Differing Site Conditions ☐ Other:

☐ Change for Contractor Convenience ☐ Possible Betterment

A response to this information request is requested by: _____ *(Month Day, Year)*

Subject: P-04 Soda Ash Storage and Feed System Bid Package

Specification Section: 46 32 40 Soda Ash Storage and Feed System

Drawing No: _____ **Detail No:** _____

Request: *(Limit one issue per RFI)* **Cost Impact:** _____ **Schedule Impact.** _____

1. The Specifications SECTION 46 32 40 does not contain information on the silo skirt heater, we (i.e. the equipment manufacturer) are requesting acceptance for use of the Dayton 2YU70 product.

2. The Specifications SECTION 46 32 40 does not contain information on the silo skirt exhaust fan, we (i.e. the equipment manufacturer) are requesting acceptance for use of the Dayton 10D985 product.

3. The Specifications SECTION 46 32 40 does not contain information on the silo jib crane, we (i.e. the equipment manufacturer) are requesting acceptance for use of the Thern 5PT10-E4-P product.

4. The Specifications SECTION 46 32 40 does not contain information on the slurry tank heater, we (i.e. the equipment manufacturer) are requesting acceptance for use of the Durex MTL4A-840680W-210C8 product. We want to keep the slurry temperature higher than 60°F, in order to avoid soda ash slurry crystallization.

_____ _____

Contractor's Representative **Date**

Response:

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1. A heater for the silo skirt has been added to the specification. The heater shall maintain a minimum temperature of 50ºF inside the silo skirt to be acceptable.
2. An exhaust fan has been added to the specification. The exhaust fan should be sized to suit the space under the skirt
3. The silo jib crane is found in section 46 32 40 .2.1.D – Silo Roof Davit Crane.
4. The soda ash will be batched to a solution, not a slurry. The solution shall be maintained below 2.5% and should not require a tank heater.

Owner's Representative **Date**

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REQUEST FOR INFORMATION

Project Name:	Corrosion Control Improvements Project		
Date:	October 31, 2019	**RFI Number:**	006
Contractor:	MWH Constructors, Inc.	**P.O. / Contract Number:**	30006839
Address:	370 Interlocken Blvd. Suite 400	**Ordinance Number:**	188621
City, State, Zip	Broomfield, CO 80021	**Contract Date:**	April 23, 2019
Attn:	Ben McGeachy	**Project Number:**	W02190

Contractor requests information for the reason checked below: *(Check one box only)*

☒ Clarification of Design Intent ☐ Differing Site Conditions ☐ Other:

☐ Change for Contractor Convenience ☐ Possible Betterment

A response to this information request is requested by: _____ *(Month Day, Year)*

Subject: P-04 Soda Ash Storage and Feed System Bid Package

Specification Section: 46 32 40 Soda Ash Storage and Feed System

Drawing No: _____ **Detail No:** _____

Request: *(Limit one issue per RFI)* **Cost Impact:** _____ **Schedule Impact.** _____

1. Please clarify the intent of Specification 46 32 40 as it pertains to the handrailing on the spiral staircase (for the soda ash silo). Specifically, is handrailing required along both sides of the spiral staircase? Or is handrailing just required along the exterior of the spiral staircase (i.e. just along the side of the stairs that is NOT adjacent to the tank)?

_____ _____

Contractor's Representative **Date**

Response:

1. Bidder's base bid shall include continuous handrailing along the exterior only of the spiral staircase. Bidder's base bid shall NOT include handrailing along the interior of the spiral staircase (i.e. shall not include handrailing adjacent to the tank).

   Bidder shall submit with their bid an "Optional" price to provide handrailing along the interior of the spiral staircase.

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Owner's Representative **Date**

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REQUEST FOR INFORMATION

Project Name:	Corrosion Control Improvements Project		
Date:	November 1, 2019	**RFI Number:**	007
Contractor:	MWH Constructors, Inc.	**P.O. / Contract Number:**	30006839
Address:	370 Interlocken Blvd. Suite 400	**Ordinance Number:**	188621
City, State, Zip	Broomfield, CO 80021	**Contract Date:**	April 23, 2019
Attn:	Ben McGeachy	**Project Number:**	W02190

Contractor requests information for the reason checked below: *(Check one box only)*

☒ Clarification of Design Intent ☐ Differing Site Conditions ☐ Other:

☐ Change for Contractor Convenience ☐ Possible Betterment

A response to this information request is requested by: **11/7/19** *(Month Day, Year)*

Subject: S-09 Pre-Engineered Metal Building and Pre-Engineered Metal Canopies

Specification Section: 13 34 19 and 01 33 17

Drawing No: **Detail No:**

Request: *(Limit one issue per RFI)* **Cost Impact:** **Schedule Impact.**

1. Regarding Specifications Section 13 34 19, Page 5, Part 1.4 B Manufacturer Qualifications: We are not a member of the Metal Building Manufacture's Association. We are however certified by IAS as an approved fabricator. Can we be allowed to quote this project?

2. Regarding Specifications 01 33 17, Page 2, Part 1.4 A 1a: The Design Requirements Risk Category is listed as "I" which is for an Agricultural Type Building. Should this be a risk category IV Essential Facility?

3. In reviewing the plans and the specifications I can find no collateral load added to the building and I also see connections to the building by the mechanical piping and HVAC equipment but no mention as to the way these items need to be supported or theie weights. Please provide the intended loads for the mechanical piping and HVAC.

4. Is this project required to meet "Buy America" provisions?

Contractor's Representative **Date**

Response:

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1. IAS AC472 certification is an acceptable alternate to MBMA membership
2. This should be Risk Category II
3. Collateral Loads shall be considered be as follows:
   a. Piping and ductwork – a uniform load of 20 PSF shall be assumed throughout the building
   b. Mechanical equipment – Point loads for AHI-01, EF-01 and EF-02 shall be as shown in the schedules on GH-3, at the locations shown on the HVAC drawings.
   c. Connections and supports for the above are the responsibility of the contractor and shall be included as a deferred submittal.
4. Yes, the project is required to comply with the American Iron and Steel provisions (a.k.a. Buy American).

Owner's Representative **Date**

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REQUEST FOR INFORMATION

Project Name:	Corrosion Control Improvements Project		
Date:	November 5, 2019	**RFI Number:**	008
Contractor:	MWH Constructors, Inc.	**P.O. / Contract Number:**	30006839
Address:	370 Interlocken Blvd. Suite 400	**Ordinance Number:**	188621
City, State, Zip	Broomfield, CO 80021	**Contract Date:**	April 23, 2019
Attn:	Ben McGeachy	**Project Number:**	W02190

Contractor requests information for the reason checked below: *(Check one box only)*

☒ Clarification of Design Intent ☐ Differing Site Conditions ☐ Other:

☐ Change for Contractor Convenience ☐ Possible Betterment

A response to this information request is requested by: **11/8/19** *(Month Day, Year)*

Subject: Bid Package S-22 - Tree Removal

Specification Section: 01 56 39 (Tree and Plant Protection)

Drawing No: **Detail No:**

Request: *(Limit one issue per RFI)* **Cost Impact:** **Schedule Impact.**

1. Specification 01 56 39, Part 1.7, Item A - Is a certified arborist required to complete the early-out tree removal package?

2. Specification 01 56 39, Part 1.7, Item B - Is tree protection fencing required to complete the early-out tree removal package? If erected now, the specified orange plastic construction fencing will likely need to be replaced prior to beginning construction work next summer. As an alternate, for the early-out tree removal package, could construction staking be used to identify the limits of the "construction limit fencing"?

3. Specification 01 56 39, Part 1.8, Item B - Is construction limit fencing required to compelte the early-out tree removal package? As an alternative, for the early-out tree removal package, could construction staking be used to identify the limits o fthe "construction limit fencing"?

4. Specification 01 56 39, Part 3.1, Item A - Is flagging of existing trees required to complete the early-out tree removal package? Portland Water Bureau will flag "trees to be removed". It appears that all trees within the "construction limit fencing" are scheduled to be removed. There doesn't appear to be any "trees to remain" within the "construction limit fencing".

5. Specification 01 56 39, Part 3.2, Item B - Is a certified arborist required to complete the early-out tree removal package? It appears that all trees within the construction limits are scheduled to be removed. If all trees are removed, is there a "root protection zone" for existing trees?

6. Specification 01 56 39, Part 3.3, Item C - This item prohibits vehicle traffic "within the limits of the temporary fence". Please confirm that vehicle traffic is not allowed within the "construction limit fencing". If vehicle traffic is not allowed, how will the cut trees be removed? Is the intent of this item to prohibit vehicle traffic "outside" the limits of the fencing?

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Contractor's Representative **Date**

Response:

1. A certified arborist is not required for the early out tree package.
2. Tree protection fencing should be erected prior to tree removal.
3. Tree protection fencing can be used as construction limits fencing for the early out packages.
4. Trees have been marked for removal by PWB with orange paint.
5. A certified arborist is not required for the early out tree package.
6. Vehicle traffic is allowed inside of the construction limits fencing and not beyond the limits or into tree preservation/protection areas.

12/09/2019

Owner's Representative **Date**

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REQUEST FOR INFORMATION

Project Name:	Corrosion Control Improvements Project		
Date:	November 5, 2019	**RFI Number:**	009
Contractor:	MWH Constructors, Inc.	**P.O. / Contract Number:**	30006839
Address:	370 Interlocken Blvd. Suite 400	**Ordinance Number:**	188621
City, State, Zip	Broomfield, CO 80021	**Contract Date:**	April 23, 2019
Attn:	Ben McGeachy	**Project Number:**	W02190

Contractor requests information for the reason checked below: *(Check one box only)*

☒ Clarification of Design Intent ☐ Differing Site Conditions ☐ Other:

☐ Change for Contractor Convenience ☐ Possible Betterment

A response to this information request is requested by: **11/8/19** *(Month Day, Year)*

Subject: Bid Package S-22 - Tree Removal

Specification Section: 31 10 00 (Site Preparation)

Drawing No: **Detail No:**

Request: *(Limit one issue per RFI)* **Cost Impact:** **Schedule Impact.**

1. Specification 31 10 00, Part 1.1, Item B - It is our intent to place erosion and sediment control measures, as necessary, to support the early-out tree removal work. Please confirm that site wide erosion and sediment control measures as well as temporary fencing will NOT be required for the tree removal work.

2. Specification 31 10 00, Part 3.1, Item A - Please confirm that the tree removal subcontractor will have access BOTH via the existing Lusted Hill Treatment Facility as well as via the private access road to the Diack's Pond area.

3. Specification 31 10 00 (general) - This specification does not identify what is to become of the "trees to be removed". Is the intent that the entire tree including all branches, stump material, etc. be removed from the jobsite? Is chipping allowed? If chipping is allowed, can the chips be left at jobsite?

Contractor's Representative **Date**

Response:

1. Site-wide erosion control is not required for the tree removal effort. Care should be taken to ensure the no visible or measurable sediment leaves the site and that all soil that is exposed through this work is covered and protected.
2. The tree removal contractor will have access to both the existing Lusted Hill Facility and the private access road across the Diak property.
3. Chipping is allowed and chips that the prime contractor feels may have beneficial use may remain on site but become the sole property and responsibility of the prime contractor and stockpiles shall be appropriately maintained during construction and removed prior to final project completion.

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11/26/2019

Owner's Representative **Date**

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cc: File,CM,Sr. Inspector,Site Inspector, .

PORTLAND WATER BUREAU
FROM FOREST TO FAUCET

Amanda Fritz, Commissioner
Michael Stuhr, P.E., Administrator
1120 SW 5th Avenue, Room 600
Portland, Oregon 97204-1926
Information: 503-823-7404
www.portlandoregon.gov/water

An Equal Opportunity Employer

REQUEST FOR INFORMATION

Project Name:	Corrosion Control Improvements Project		
Date:	November 12, 2019	**RFI Number:**	010
Contractor:	MWH Constructors, Inc.	**P.O. / Contract Number:**	30006839
Address:	370 Interlocken Blvd. Suite 400	**Ordinance Number:**	188621
City, State, Zip	Broomfield, CO 80021	**Contract Date:**	April 23, 2019
Attn:	Ben McGeachy	**Project Number:**	W02190

Contractor requests information for the reason checked below: *(Check one box only)*

☒ Clarification of Design Intent ☐ Differing Site Conditions ☐ Other:

☐ Change for Contractor Convenience ☐ Possible Betterment

A response to this information request is requested by: **11/15/19** *(Month Day, Year)*

Subject: Bid Package S-09 - Pre-Engineered Metal Building and Pre-Engineered Metal Canopies

Specification Section: 13 34 21 (Pre-Engineered Metal Canopies)

Drawing No: **Detail No:**

Request: *(Limit one issue per RFI)* **Cost Impact:** **Schedule Impact.**

1. Specification 13 34 21, Part 2.1, Item C (page 6) lists Pacific Building Systems (PBS) as an approved manufacture for the pre-engineered metal canopies. Unfortunately, PBS does not meet the requirements of the specification as they do not use HSS tubing in their process. Could the canopies be built using hot rolled W sections for the columns and rafters (in lieu of the specified HSS)?

2. The S-09 Scope of Work document, Item 4.1.12 states " Subcontractor's Scope of Work includes furnish and installation of building appurtenances, including but not limited to, man-doors, overhead coiling doors, windows, skylights, and louvers." We see the skylights on the drawings but cannot find a specification. Please provide a specification for the skylights.

Contractor's Representative **Date**

Response:

1. The canopies can be built using hot rolled W sections for the columns and rafters.

2. The specification 08 62 00 Unit Skylights was omitted from the Early Procurement Package, and is included with this RFI response.

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Owner's Representative **Date**

The response to this request by the Owner's representative shall not be construed as direction or advice on the method or manner of performing any work under the contract. The Owner's response does not relieve the Contractor of any of the risks or obligations under the Contract. The Owner's response constitutes a Field Order pursuant to Section 00140.30 of the 2010 City of Portland Standard Construction Specifications.

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REQUEST FOR INFORMATION

Project Name:	Corrosion Control Improvements Project		
Date:	November 22, 2019	**RFI Number:**	011
Contractor:	MWH Constructors, Inc.	**P.O. / Contract Number:**	30006839
Address:	370 Interlocken Blvd. Suite 400	**Ordinance Number:**	188621
City, State, Zip	Broomfield, CO 80021	**Contract Date:**	April 23, 2019
Attn:	Ben McGeachy	**Project Number:**	W02190

Contractor requests information for the reason checked below: *(Check one box only)*

☒ Clarification of Design Intent ☐ Differing Site Conditions ☐ Other:

☐ Change for Contractor Convenience ☐ Possible Betterment

A response to this information request is requested by: **12/3/19** *(Month Day, Year)*

Subject: Bid Package S-22 - Tree Removal

Specification Section:

Drawing No: **Detail No:**

Request: *(Limit one issue per RFI)* **Cost Impact:** **Schedule Impact.**

1. Removal is tentatively scheduled for 3/30-5/1. Can the work be scheduled to avoid migratory bird nesting season?
2. Some trees slated for removal are within the RPZ of trees designated for preservation. What amount of soil damage/disturbance is acceptable in these situations?
3. Is erosion/expected to be inspected until the next phase of development?
4. Is standing water in clearing area expected to be managed until the next phase of development?
5. What is the price estimate for this portion of work from the Project engineer?

Contractor's Representative **Date**

Response:

1. Yes, the project schedule is somewhat flexible as it pertains to the *S-22 – Tree Removal* work. MWH Constructors is open to beginning and completing the tree removal work prior to the migratory bird nesting season.
2. Project work is limited by the disturbance limits and tree protection fencing. As long as the work occurs inside of those boundaries it is acceptable.
3. It is the contractor's responsibility to ensure that no visible or measurable sediment leaves the project site regardless of the duration between phases.
4. Standing water exists from time to time in the disturbance area. It is the contractor's responsibility to ensure that no visible or measurable sediment leaves the project site.
5. MWH Constructors' estimate of the *S-22 – Tree Removal* work is between $100,000 to $200,000.

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	12/09/2019
Owner's Representative	**Date**

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REQUEST FOR INFORMATION

Project Name:	Corrosion Control Improvements Project		
Date:	December 3, 2019	**RFI Number:**	012
Contractor:	MWH Constructors, Inc.	**P.O. / Contract Number:**	30006839
Address:	370 Interlocken Blvd. Suite 400	**Ordinance Number:**	188621
City, State, Zip	Broomfield, CO 80021	**Contract Date:**	April 23, 2019
Attn:	Ben McGeachy	**Project Number:**	W02190

Contractor requests information for the reason checked below: *(Check one box only)*

☒ Clarification of Design Intent ☐ Differing Site Conditions ☐ Other:

☐ Change for Contractor Convenience ☐ Possible Betterment

A response to this information request is requested by: **12/9/19** *(Month Day, Year)*

Subject: Intent of 90% Documents

Specification Section: 90% Documents

Drawing No: 90% Documents **Detail No:**

Request: *(Limit one issue per RFI)* **Cost Impact:** **Schedule Impact.**

Q1: Part 3.2 of Specification 02 22 00 (Site Conditions Survey) requires significant pre and post topographic surveying of the site and surrounding lands. Please confirm this is the intent of the designer.

Q2: Part 3.02 of Specification 02 61 00 (Removal and Disposal of Contaminated Media) indicates the coating on Conduit 4 is expected to contain asbestos. The notes on the drawings indicate the coating on Conduit 3 is expected to contain asbestos. Is asbestos expected on the coatings of Conduit 3 only? Conduit 4 only? Both Conduits 3 and 4?

Q3: Part 1.1, Item A of Specification 23 09 23 (HVAC Instrumentation and Controls) makes reference to an "existing fire alarm panel". Please confirm if there is, or is not, an existing fire alarm that we are to tie into.

Q4: Part 1.2, Item A of Specification 23 09 23 (HVAC Instrumentation and Controls) states that Contractor is to design and provide a new fire alarm system as indicated. We find no details on the drawing regarding a new fire alarm system. Please clarify.

Q5: Drawing GH-4 (HVAC Sequence of Operation) references a "Carbon Dioxide Monitoring System by I&C". Please provide a specification for the desired CO2 monitoring system.

Q6: Detail C-132 calls for the use of base aggregate for the gravel areas on Drawing C-2 (Horizontal Control and Paving Plan). The drawing implies more of a cobble material. Please confirm base aggregate is the intended material.

Q7: Note 2 on Drawing L-4 (Seeding Plan) states Owner will provide seed. Please confirm PWB will provide all required seed mixes.

Contractor's Representative **Date**

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Response:

Q1: Significant pre and post topographic surveying of the site and surrounding lands is not required.

Q2: The coating on only Conduit 4 is expected to contain asbestos.

Q3: Item A of Specification 23 09 23 has been deleted. There are no duct smoke detectors required in this project's HVAC systems.

Q4: Section 23 09 23 is being modified to incorporate a fire sprinkler system. A new specification for the alarm and sprinklers is being developed.

Q5: Provide ATI model #D121R.

Q6: Base aggregate is the intended material- see specification 32 11 23. The area around the existing antenna was erroneously hatched and this area will not be re-graded.

Q7: The Owner will provide seed mixes as indicated.

Owner's Representative

12/18/2019

Date

The response to this request by the Owner's representative shall not be construed as direction or advice on the method or manner of performing any work under the contract. The Owner's response does not relieve the Contractor of any of the risks or obligations under the Contract. The Owner's response constitutes a Field Order pursuant to Section 00140.30 of the 2010 City of Portland Standard Construction Specifications.

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Corrosion Control Improvements Project

90% Design Clarifications and Changes

2/25/2020

No.	Originator	Document Reference	Description	Reference Infomation	Notes
no	origin	docs	desc	refs	Notes
01	Designer	E-9, E10, E-13, E-16 and E-18.	E-9 - Delete all the "J" labeled vaults E-10- Delete all the "J" labeled vaults E-13 - Delete all the "J" labeled vaults E-16 – increase size of "J" vaults they are incorrectly shown diagrammatically on scaled sheet. They are actually 36" long E18 – Delete all the "J" labeled vaults	N/A	
02	RFI 012 Q1	02 22 00 Site Conditions Survey	Pre- and post- construction topographic surveying is not required	RFI 012 Response (12/18/2019)	
03	RFI 012 Q2	02 60 00 Removal and Disposal of Contaminated Media	Only Conduit 4 coating is expected to contain asbestos	RFI 012 Response (12/18/2019)	
04	RFI 012 Q3	23 09 23 HVAC I&C	No duct smoke detectors required	RFI 012 Response (12/18/2019)	
05	RFI 012 Q4	23 09 23 HVAC I&C Fire alarm specification tbd Fire sprinkler specification tbd	Provide fire sprinkler system	RFI 012 Response (12/18/2019)	Excluded, in owners allowance
06	RFI 012 Q5	GH-4 HVAC Sequence of Operation I&C spec TBD	Provide CO2 monitor ATI modle #D12R	RFI 012 Response (12/18/2019)	
07	RFI 012 Q6	Detail C-132 C-2 Horizontal Control and Paving Plan	Base aggregate is the intended material- see specification 32 11 23. The area around the existing antenna was erroneously hatched and this area will not be re-graded.	RFI 012 Response (12/18/2019)	
08	RFI 012 Q7	L-4 Seeding Plan	The Owner will provide seed mixes as indicated.	RFI 012 Response (12/18/2019)	
09	Designer	26 05 43 - Underground Ducts and Raceways for Electrical Systems	Revise Section 26 05 43 as follows: DELETE requirement in 2.3A that ducts and conduits shall not be less than 4-inch trade size. Duct banks shall utilize direct-buired rigid non-metallic conduit		
10	Designer	E-2	Provide separate power and control handholes for H1, H3, H4 & H5		

Corrosion Control Improvements Project

90% Design Clarifications and Changes

2/25/2020

No.	Originator	Document Reference	Description	Reference Infomation	Notes
11	Designer	09 96 00 - Protective Coating	Revise section 09 96 00 as follows: DELETE requirement in 3.21.A to coat non-ferrous piping (e.g. PVC piping).		
12		09 96 00 - Protective Coating	Change requirement for coating valve vault (System 211 - Buried concrete coating) to "a.Apply two coats of CO-MA-Seal CM exterior vault coating to walls at a rate of 175 sq ft/gallon or equivalent"		
13		09 96 00 - Protective Coating	ADD to 3.18 Coating System Schedule, Ferrous Metal - Not Galvanized: FM-2: All Pipes and appurtenances inside vaults: Surface Prep shall be commercial blast cleaning SSPC SP 6/NACE 3, System No. 5 - Epoxy Mastic. System 5 - Epoxy Mastic shall be aluminum pigmented, high-solids mastic. VOC Content limit - 88 g/L. Prime and finish coat shall be Carboline Carbomastic 15, total system shall build to 7 to 10 mils DFT.		
14	Designer	26 29 23 Variable Frequency Drives	Variable Frequency Drives shall be Schneider/Square -D ATV 630, with 6-pulse width modulation. VFDs shall be mounted inside the MCC.		
15	Designer	26 24 19 Motor Control Centers, E-7	MCC shall be generally as shown in the attached quotation, with general arrangement as shown in revised drawing E-7.	MCC Information, PWB_CCIP-E7.pdf	
16	Designer	40 91 00 Process Control and Instrumentation	Point-to-Point diagrams prepared by the System Integrator, as required under 40 91 00 shall follow the example attached to this document	Example Wiring Diagram	
17	Designer	26 05 33 Raceways and Boxes for Electrical Systems	Conduit requirements shown in 26 05 33 3.1B.1 Table A shall be replaced with a requirement to meet NEC.		
18	Designer	E-25, E-26, E-27, E-28, E-57	Replace power conduit schedules with revised sheets	Cable and Conduit Schedules (E-25, E-26, E-27, E-28, E-57)	
19	Designer	ESC-1, -2, -3, -4, -5	Replace erosion and sediment control sheets with revised drawings.	CCIP_ESC-1--5.pdf	
20	PWB	Section 00 73 16	ADD new Section 00 73 16 - Insurance Requirements	Section 00 73 16	
21	PWB	Various	This project will include Water Infrastructure Finance and Innovation Act (WIFIA) funding. The Contractor is required to comply with all applicable WIFIA statutes and regulations and any additional terms and conditions imposed by EPA in connection with WIFIA funding for the Project.		
22		Various	All communications are to be between the Contractor and the Owner's Representative. This overrides any references in the Specifications that the Contractor is to communicate directly with the Engineer.		
23		Various	All QC inspections are to be by owner. This overrides any references in the specifications about QC inspection by the Contractor		
24		E-57, E-59	Revise conduit routing for owner-provided security cameras as shown on revisions to Sheets E-57 and E-59	Drawing Revisions - Security.pdf	
25		G-6, C-4	Add a buried gate valve and check valve at the connection of the utility water supply pipng to Conduit 3, similar to the valve shown at the connections to Conduits 2 and 4.		
26		GC-5	Chain link fence (Standard Detail W-700) shall have top and bottom rail as required by Specification 32 31 13.		

Corrosion Control Improvements Project

90% Design Clarifications and Changes

2/25/2020

No.	Originator	Document Reference	Description	Reference Infomation	Notes
27		GL-1	Planting Note 7: Change to "Mitigation Planting areas shall have invasive species management and removal throughout the entire mitigation area, in particular clear within 10' of all new tree and shrub planting."		
28		M-4	Add note to 1/2" AIR piping continuity break on left side of page: "Route air piping through existing building to existing air compressor in existing truck unloading room, and connect to existing discharge piping."		
29		C-4	Rerouting of exisitng C3 sample vault sample 1.5" sample line ("SL") no longer required. This vault does not exist, nor does the piping.		
30		C-13	Add installation of an Oldcastle Infrastructure 504-LA vault at the connection of the 12" CWS line on Conduit 2.		
31		C-10	Replace butterfly valves with gate valves at the CWS connection to C2 and C4.		
32		M-3	The Combination air/vac valves are size 1".		
33		C-4	4" SEW (drain line from chemical building sink) to be PVC type PV02. Add CLSM backfill for cross contamination prevention where it crosses other pipe (10' in either direction).		
34		C-4	Use a catch basin instead of MH at location A2 for the SDR line heading north.		
35		C-2	Add four "no parking" signs.		
36		C-2	Reduce width of access gates to 14' (instead of 20').		
37		C-4	Delete the fire hydrant shown south of the paved area add a 6" replacement backflow preventor.		
38		C-6 and C-7	Add 2 trench plugs above Lusted Rd., and 3 Below Lusted Road. 5 total.		
39	PWB		Contractor to provide information requested in the PWB Equipment Schedule Template for each piece of equipment installed.	Equipment Schedule Template	
40		C-4	Swich PEX AA pipe to braided PVC tubing.		
41	PWB	P-1	Underslab SEW and CDR piping shall be PVC type PV02.		
42	PWB	00 73 00	Incorporate PWB Guidelines for Utility Protection into contract documents.	PWB Guidelines for Utility Protection	
43	PWB	M-drawings	All Underslab CWS, CDS and NAC piping shall be type PE05.		
44	PWB	31 30 00	Earthwork Compaction Requirements - Add decompaction of undeveloped areas once the infrastructure is developed. Anywhere that is not covered with concrete and is going to be vegetated should be decompacted to a minimum depth of 18" to assist in establishment of vegetation. In addition, these areas should be comprised of no more than 10% rock, branches or other non-soils.		
45	PWB	M-8, M-9, M-10, M-11	All penetrations through Chemical Building floor to be in accordance with Detail M-130.		
46	PWB	32 91 13	Incorporate PWB Intergrated Vegetation Management Plan into the contract documents.	PWB Integrated Vegetation Management Plan	

B	06/17/19	60% Design Submittal	
A	12/10/18	30% Design Submittal	
No	Date	Description	Appd

Revision

Survey

Stantec

Designed By | Program Mgr
CAD Checked By | Const Mgr
Checked By | Const Supvr
Project Mgr | Date

Warning
0 ½ 1
If this bar does not measure 1" then the drawing is not to scale

PORTLAND WATER BUREAU
FROM FOREST TO FAUCET

Preliminary

Teresa K Elliott, Chief Engineer, PE No
Date
Jodie A. Inman, Principal Engineer, PE No 61197
Date

Corrosion Control Improvements Project

Civil

Grading and Drainage Plan

October 23, 2019

SAP Project No
W02190
1/4 Section
3765 / 3766
Sheet No
C-3
of

Attachment 1
Portland Water Bureau Corrosion Control Improvements Project - RISK REGISTER

Date: 13-Apr-20

Manual Entry	Drop Down	Manual Entry	Manual Entry	Drop Down	Drop Down	Drop Down	Drop Down	Drop Down	Drop Down	Auto	Auto	Manual Entry	Manual Entry	Manual Entry	Auto	Auto	Drop Down	Manual Entry
Risk Identification Information							Qualitative Analysis (Pre-mitigation)					Quantitative Analysis (Pre-Mitigation)						Risk Response
Risk ID	Status	Risk Description	Date Identified	Risk Owner	Risk Category	Funding Category	Probability of Occurrence (Pre)	Cost Impact	Schedule Impact	Risk Score	Risk Rating	Probability % (Pre)	Cost Impact Most Likely	Schedule Impact Most Likely (Weeks)	Schedule Impact Minimum (Weeks)	Schedule Impact Maximum (Weeks)	Impacts Critical Path?	Proposed Response/Mitigation
1	Mitigated	Project Site involves working within a constrained site. Which means construction must avoid unplanned impacts to adjacent habitat. Thus Possible cost impacts could occur due to logistics	Aug 29, 2019	MWH	Construction	Facility Enhancements	0%-10%	$0 - $10,000	<=1 week	NIL	Enter Impact Values	0%	$ -	0wk	0wk	1wk	Yes	Manage Construction Site and Logistics. Using just in time delivery method
2	Active	Do to smaller sized subcontracts and the volume of work in the area. It may be difficult to achieve completion of each subcontractors scope of work through the punch list and final acceptance of the work.	Aug 29, 2019	MWH	External	Management Reserve	36%-65%	$25,001 - $50,000	>1-2 weeks	6	Moderate	50%	$ 45,000	2wk	1wk	2wk	No	Monitor the progress of the work subcontractors work. Also provide cost incentives to complete work.
3	Mitigated	Complexity Associated with the switch over from existing chemicals to new chemicals transition.	Aug 29, 2019	Shared	Design	Facility Enhancements	0%-10%	$0 - $10,000	<=1 week	NIL	Enter Impact Values	0%	$ -	0wk	0wk	1wk	No	Close coordination with the owner to best achieve a smooth transition from the old Chemical treatment to the new chemical treatment
4	Mitigated	Characteristics of existing geotechnical conditions on steep hill/Lusted Road Crossing possible soil stability issues.	Aug 29, 2019	Shared	Environmental	Risk	0%-10%	$0 - $10,000	<=1 week	NIL	Enter Impact Values	0%	$ -	0wk	0wk	1wk	Yes	Perform additional Geotechnical Investigation, Review means and methods for Utilidor Line installation
5	Mitigated	Dewatering requirements for the CCIP Chemical Utilidor Piping Conduit require dewatering over and above those costs included in the MWH cost estimate.	Aug 29, 2019	MWH	Environmental	Risk	0%-10%	$0 - $10,000	<=1 week	NIL	Enter Impact Values	0%	$ -	0wk	0wk	1wk	No	Perform Utilidor Line installation in dry season as much as possible. Price Dewatering system conservatively. Provide an Allowance
6	Mitigated	Dewatering requirements for the CCIP Utility Water Pump Station excavation require dewatering over and above those costs included in the MWH cost estimate.	Aug 29, 2019	MWH	Environmental	Risk	0%-10%	$0 - $10,000	<=1 week	NIL	Enter Impact Values	0%	$ -	0wk	0wk	1wk	No	Perform Utility Pump Station excavation in dry season as much as possible. Price Dewatering system conservatively. Provide an Allowance
7	Mitigated	Contract Documents do not contain any requirements for Cathodic Protection for piping and equipment. If required additional cost could be incurred.	Aug 29, 2019	PWB	Design	Facility Enhancements	0%-10%	$0 - $10,000	<=1 week	NIL	Enter Impact Values	0%	$ -	0wk	0wk	1wk	No	Provide project documents that define the required Scope of Work
8	Active	The field of qualified contractors is limited due to the volume of construction work and the location of the project site, effectively limiting competition, and increasing project costs"	Aug 29, 2019	Shared	Procurement	Market Conditions Adjustments	36%-65%	$50,001 - $100,000	>2 - 4 weeks	9	Significant	65%	$ 100,000	4wk	2wk	4wk	Yes	Proactively manage the bid packaging and procurement process
9	Mitigated	Asbestos removal is referenced in Conduit 4 (see Specification 026100). This Scope of Work is not well defined and not included in the 60% Cost Estimate.	Aug 29, 2019	MWH	Design	Facility Enhancements	0%-10%	$0 - $10,000	<=1 week	NIL	Enter Impact Values	0%	$ -	0wk	0wk	1wk	No	Provide project documents that define the required Scope of Work
10	Mitigated	As the design is at 60%. There is a potential for Design Progression/Scope Creep as the design moves forward to 90% and 100% design completion.	Aug 29, 2019	Shared	Design	Risk	0%-10%	$0 - $10,000	<=1 week	NIL	Enter Impact Values	0%	$ -	0wk	0wk	1wk	No	Provide project documents that define the required Scope of Work
11	Mitigated	Receipt of the Land Use Permit delays construction by an indeterminate number of days.	Aug 29, 2019	PWB	Regulatory	Risk	0%-10%	$0 - $10,000	<=1 week	NIL	Enter Impact Values	0%	$ -	0wk	0wk	1wk	No	Monitor the Progress of the Land Use Permit
12	Mitigated	Unexpected Sub-surface conditions are discovered	Aug 29, 2019	PWB	Environmental	Allowance Item	0%-10%	$0 - $10,000	<=1 week	NIL	Enter Impact Values	0%	$ -	0wk	0wk	1wk	Yes	Perform additional Geotechnical evaluations and testing. And/or provide an allowance item to budget for costs incurred
13	Active	Concerns regarding the ability to find qualified and capable I&C Integrators to perform the Scope of Work required for the project.	Aug 29, 2019	Shared	Procurement	Market Conditions Adjustments	11%-35%	$10,001 - $25,000	>2 - 4 weeks	4	Moderate	25%	$ 25,000	3wk	2wk	4wk	No	Proactively manage the bid packaging and procurement process
14	Mitigated	Delays to the completion of pipelines required to fully commission the CCIP impacts the Substantial Completion Milestone creating a need to treat water for compliance via alternate means to fulfill the requirements for Substantial Completion dates.	Aug 29, 2019	MWH	Environmental	Risk	0%-10%	$0 - $10,000	<=1 week	NIL	Enter Impact Values	0%	$ -	0wk	0wk	1wk	Yes	Proactively monitor and manage the progress of the pipelines
15	Mitigated	Early work packages are delayed due to permitting and or deferred submittal requirements imposed by City of Portland, PWB, Multnomah County, or other permitting agencies	Aug 29, 2019	PWB	Organization	Facility Enhancements	0%-10%	$0 - $10,000	<=1 week	NIL	Enter Impact Values	0%	$ -	0wk	0wk	1wk	No	Provide project documents that define the required Scope of Work
16	Mitigated	As indicated in MWH's Construction Schedule, it will be necessary for the PWB operations team to work in and around an active construction site to accomplish the goal of operating facilities by the contractual Milestone date. Given that this is an active construction site, there is an increased risk for injury to the PWB operators (compared to normal working conditions)	Aug 29, 2019	Shared	External	Risk	0%-10%	$0 - $10,000	<=1 week	NIL	Enter Impact Values	0%	$ -	0wk	0wk	1wk	No	Open and productive communications between operators and CM/GC to make the project team aware of ongoing coordination needed on the project site.
17	Mitigated	The security system has not been defined for the CCIP. Therefore the requirements for security elements was (and is unknown). There is a risk that the scope (and associated costs and schedule) for the desired improvements exceeds what was included in the MWH Cost Estimate.	Aug 29, 2019	PWB	Design	Facility Enhancements	0%-10%	$0 - $10,000	>2 - 4 weeks	2	Minimal	0%	$ -	0wk	2wk	4wk	No	Provide project documents that define the required Scope of Work
18	Active	Conduits cannot be completely isolated and shut off. Requiring that flow be managed while work is performed on the Conduits	Aug 29, 2019	PWB	External	Risk	36%-65%	$10,001 - $25,000	>2 - 4 weeks	6	Moderate	50%	$ 25,000	3wk	2wk	4wk	Yes	Identify issues related to isolation early in construction. So if required alternative means to isolate the lines can be discussed, evaluated and determined.
19	Mitigated	Disinfection of Conduits requires more then local spray disinfection at conduit tap locations	Aug 29, 2019	Shared	Regulatory	Risk	0%-10%	$0 - $10,000	<=1 week	NIL	Enter Impact Values	0%	$ -	0wk	0wk	1wk	No	Provide project documents that define the required Scope of Work
20	Mitigated	Additional geotechnical investigations to be conducted along the utility corridor to identify conditions not anticipated in the Cost Estimate. This may creating changes to the Utility Corridor pipe installation.	Aug 29, 2019	PWB	Environmental	Allowance Item	0%-10%	$0 - $10,000	<=1 week	NIL	Enter Impact Values	0%	$ -	0wk	0wk	1wk	No	Perform additional Geotechnical evaluations and testing. And/or provide an allowance item to budget for costs incurred
21	Active	The bid packaging requirements of this project, have the potential for failure or poor performance of a subcontractors. While it is difficult to estimate the magnitude of impact, some allowance should be created for the predictable occurrence of this risk.	Aug 29, 2019	Shared	Procurement	Market Conditions Adjustments	36%-65%	$50,001 - $100,000	>4 - 6 weeks	9	Significant	50%	$ 100,000	5wk	4wk	6wk	Yes	Provide an Allowance to budget for costs incurred
22	Active	Risk to meeting schedule milestones due to lack of availability of contractors, labor and resources.	Aug 29, 2019	Shared	Procurement	Risk	36%-65%	$25,001 - $50,000	>4 - 6 weeks	9	Significant	50%	$ 40,000	5wk	4wk	6wk	Yes	Proactively manage the bid packaging and procurement process
23	Mitigated	Risk of unforeseen environmental site conditions that could range from new presence of threatened and endangered species, contaminated soil, or archeological finds. The risk response or remediation would depend on the character of the actual occurrence.	Aug 29, 2019	PWB	Environmental	Allowance Item	0%-10%	$0 - $10,000	<=1 week	NIL	Enter Impact Values	0%	$ -	0wk	0wk	1wk	No	Provide an Allowance in the Cost Estimate/GMP to budget for costs incurred
24	Mitigated	Risk that Escalation of labor, equipment, and materials may exceed the 3 percent allowance, and could increase the actual cost of construction.	Aug 29, 2019	PWB	Procurement	Market Conditions Adjustments	0%-10%	$0 - $10,000	<=1 week	NIL	Enter Impact Values	0%	$ -	0wk	0wk	1wk	No	Provide an Allowance to budget for costs incurred
25	Mitigated	Architectural design development could change design assumptions made in 60% design documents.	Aug 29, 2019	PWB	Design	Facility Enhancements	0%-10%	$0 - $10,000	<=1 week	NIL	Enter Impact Values	0%	$ -	0wk	0wk	1wk	No	Provide project documents that define the required Scope of Work
26	Mitigated	Utility Trench Cut-off walls are not defined in the design. MWH Cost Estimate includes cut-off walls at 100 foot intervals	Aug 29, 2019	PWB	Design	Facility Enhancements	0%-10%	$0 - $10,000	<=1 week	NIL	Enter Impact Values	0%	$ -	0wk	0wk	1wk	No	Provide project documents that define the required Scope of Work
27	Mitigated	Weather delays, delay progress of construction and require exercising the coverage of the Builder's Risk Policy to cover delays and damaged works.	Aug 29, 2019	Shared	Environmental	Allowance Item	0%-10%	$0 - $10,000	<=1 week	NIL	Enter Impact Values	0%	$ -	0wk	0wk	1wk	Yes	Provide an Allowance in the Cost Estimate/GMP to budget for costs incurred
28	Mitigated	Risk that equipment pricing could change due to procurement policies, terms and conditions and specific requirements of the project (general conditions which have not been provided).	Aug 29, 2019	PWB	Procurement	Facility Enhancements	0%-10%	$0 - $10,000	<=1 week	NIL	Enter Impact Values	0%	$ -	0wk	0wk	1wk	No	Provide project documents that define the required Scope of Work
29	Mitigated	Utility Trench pipe zone material is not defined. MWH Cost Estimate includes sand. If sand is not acceptable additional cost will be incurred.	Aug 29, 2019	PWB	Design	Facility Enhancements	0%-10%	$0 - $10,000	<=1 week	NIL	Enter Impact Values	0%	$ -	0wk	0wk	1wk	No	Provide project documents that define the required Scope of Work
30	Active	The Lusted Road Pipe Crossing Scope of Work is not defined.	Aug 29, 2019	PWB	Design	Facility Enhancements	36%-65%	$50,001 - $100,000	>4 - 6 weeks	9	Significant	50%	$ 50,001	5wk	4wk	6wk	Yes	Provide project documents that define the required Scope of Work
31	Active	Construction in and adjacent to residential areas could create a need for benefits for the adjoining residual properties, to sustain public support for the project. The City should consider budgeting an allowance for this potential added cost	Aug 29, 2019	Shared	Environmental	Allowance Item	36%-65%	$10,001 - $25,000	<=1 week	3	Minimal	40%	$ 10,001	1wk	1wk	1wk	No	Provide an Allowance in the Cost Estimate/GMP to budget for costs incurred
32	Active	Unknown existing utilities or facilities, there is some risk of additional costs for relocation or repair of existing utilities.	Aug 29, 2019	PWB	External	Allowance Item	36%-65%	$25,001 - $50,000	>2 - 4 weeks	6	Moderate	40%	$ 25,001	3wk	2wk	4wk	No	Provide an Allowance in the Cost Estimate/GMP to budget for costs incurred
33	Mitigated	Coating Specification 09 96 00 does not appear to be specific to the CCIP Project. If MWH's cost estimate assumptions are not correct additional costs could be incurred.	Aug 29, 2019	PWB	Design	Facility Enhancements	0%-10%	$0 - $10,000	<=1 week	NIL	Enter Impact Values	0%	$ -	0wk	0wk	1wk	No	Provide project documents that define the required Scope of Work
34	Mitigated	Ductbank sections shown on E-38 are included in the MWH's cost estimate as minimum code required trench's and depths.	Aug 29, 2019	PWB	Design	Facility Enhancements	0%-10%	$0 - $10,000	<=1 week	NIL	Enter Impact Values	0%	$ -	0wk	0wk	1wk	No	Provide project documents that define the required Scope of Work
35	Mitigated	MWH's Cost estimate includes Reasonably Anticipated Scope (RAS). These items need to be further defined	Aug 29, 2019	PWB	Design	Facility Enhancements	0%-10%	$0 - $10,000	<=1 week	NIL	Enter Impact Values	0%	$ -	0wk	0wk	1wk	No	Provide project documents that define the required Scope of Work

Attachment 1
Portland Water Bureau Corrosion Control Improvements Project - RISK REGISTER

Date: 13-Apr-20

Manual Entry	Drop Down	Manual Entry	Manual Entry	Drop Down	Drop Down	Drop Down	Drop Down	Drop Down	Drop Down	Auto	Auto	Manual Entry	Manual Entry	Manual Entry	Auto	Auto	Drop Down	Manual Entry
Risk Identification Information							Qualitative Analysis (Pre-mitigation)					Quantitative Analysis (Pre-Mitigation)						Risk Response
Risk ID	Status	Risk Description	Date Identified	Risk Owner	Risk Category	Funding Category	Probability of Occurrence (Pre)	Cost Impact	Schedule Impact	Risk Score	Risk Rating	Probability % (Pre)	Cost Impact Most Likely	Schedule Impact Most Likely (Weeks)	Schedule Impact Minimum (Weeks)	Schedule Impact Maximum (Weeks)	Impacts Critical Path?	Proposed Response/Mitigation
36	Mitigated	Requirements and locations for injection and sample vaults not clearly defined. Requirements for valve vaults need to be refined.	Aug 29, 2019	PWB	Design	Facility Enhancements	0%-10%	$0 - $10,000	<=1 week	NIL	Enter Impact Values	0%	$ -	0wk	0wk	1wk	No	Provide project documents that define the required Scope of Work
37	Mitigated	MWH cost estimate includes a auxiliary building for controls and compressor. The cost estimate includes installing the building, but assumes foundation is accounted for with the silo slab	Aug 29, 2019	PWB	Design	Facility Enhancements	0%-10%	$0 - $10,000	<=1 week	NIL	Enter Impact Values	0%	$ -	0wk	0wk	1wk	No	Provide project documents that define the required Scope of Work
38	Active	Electrical and I&C requirements are not clearly defined.	Aug 29, 2019	PWB	Design	Facility Enhancements	66%-90%	100,001 - $250,000	>6 - 8 weeks	16	Severe	67%	$ 115,001	8wk	6wk	8wk	Yes	Provide project documents that define the required Scope of Work
39	Mitigated	MWH's cost estimate and contingency excludes tariffs that are related to materials	Aug 29, 2019	PWB	Procurement	Market Conditions Adjustments	0%-10%	$0 - $10,000	<=1 week	NIL	Enter Impact Values	0%	$ -	0wk	1wk	1wk	No	Provide an Allowance to budget for costs incurred
40	Active	The existing water conduits are old and are installed utilizing Lock-Bar pipe with riveted joints. Making potential damage to the existing conduits more challenging and difficult.	Aug 29, 2019	Shared	Construction	Risk	36%-65%	$0 - $10,000	>1-2 weeks	3	Minimal	33%	$ 10,000	2wk	1wk	2wk	Yes	Pre Plan the work and perform due diligence to ensure damage does not occur to the existing conduits.
41	Mitigated	Quality Inspections and testing is not defined by the project documents inspection.	Aug 29, 2019	PWB	Design	Allowance Item	0%-10%	$0 - $10,000	<=1 week	NIL	Enter Impact Values	0%	$ -	0wk	0wk	1wk	No	Provide an Allowance in the Cost Estimate/GMP to budget for costs incurred
42	Mitigated	Work hours are restricted due to noise ordinances or other public issues that constrain working hours. MWH's Cost Estimate assumed 7 AM to 5 PM.	Aug 29, 2019	MWH	Construction	Facility Enhancements	0%-10%	$0 - $10,000	<=1 week	NIL	Enter Impact Values	0%	$ -	0wk	0wk	1wk	No	Provide project documents that define the required Scope of Work
43	Mitigated	Submittal review is delayed beyond the 20-to 30 day period assumed in MWH's schedule and cost estimate.	Aug 29, 2019	Shared	Design	Facility Enhancements	0%-10%	$0 - $10,000	<=1 week	NIL	Enter Impact Values	0%	$ -	0wk	0wk	1wk	Yes	Project Team to coordinate and schedule timely submittal review
44	Mitigated	Functional Acceptance and Performance Test duration exceeds 40 days, assumed by the MWH cost estimate.	Aug 29, 2019	Shared	Construction	Risk	0%-10%	$0 - $10,000	<=1 week	NIL	Enter Impact Values	0%	$ -	0wk	0wk	1wk	Yes	Provide project documents that define the required Scope of Work
45	Mitigated	Chemical costs have not been included in the MWH Cost Estimate.	Aug 29, 2019	PWB	Design	Facility Enhancements	0%-10%	$0 - $10,000	<=1 week	NIL	Enter Impact Values	0%	$ -	0wk	0wk	1wk	No	Provide project documents that define the required Scope of Work
46	Mitigated	Commissioning requires over-time, and/or exceeds the assumed commissioning time in the cost estimate.	Aug 29, 2019	MWH	Construction	Facility Enhancements	0%-10%	$0 - $10,000	<=1 week	NIL	Enter Impact Values	0%	$ -	0wk	0wk	1wk	Yes	Provide project documents that define the required Scope of Work
47	Mitigated	Formal training needs by the PWB extends beyond Substantial Completion.	Aug 29, 2019	PWB	Organization	Facility Enhancements	0%-10%	$0 - $10,000	<=1 week	NIL	Enter Impact Values	0%	$ -	0wk	0wk	1wk	No	Provide project documents that define the required Scope of Work
48	Mitigated	Equipment training may be required beyond Substantial Completion.	Aug 29, 2019	PWB	Organization	Facility Enhancements	0%-10%	$0 - $10,000	<=1 week	NIL	Enter Impact Values	0%	$ -	0wk	0wk	1wk	Yes	Provide project documents that define the required Scope of Work
49	Mitigated	Training requires training more than two shifts of operators. MWH's cost estimate assumes all process and vendor training can occur in a single operator shift.	Aug 29, 2019	PWB	Organization	Facility Enhancements	0%-10%	$0 - $10,000	<=1 week	NIL	Enter Impact Values	0%	$ -	0wk	0wk	1wk	No	Provide project documents that define the required Scope of Work
50	Mitigated	PWB requires professional videography of training and commissioning, which is not included in the MWH cost estimate.	Aug 29, 2019	PWB	Organization	Facility Enhancements	0%-10%	$0 - $10,000	<=1 week	NIL	Enter Impact Values	0%	$ -	0wk	0wk	1wk	No	Provide project documents that define the required Scope of Work
51	Mitigated	Reinforcing steel densities exceed the assumptions of the MWH Cost Estimate (275lbs/CY).	Aug 29, 2019	PWB	Design	Facility Enhancements	0%-10%	$0 - $10,000	<=1 week	NIL	Enter Impact Values	0%	$ -	0wk	0wk	1wk	No	Provide project documents that define the required Scope of Work
52	Mitigated	Rock excavation is required (and none is included in baseline estimate).	Aug 29, 2019	PWB	Environmental	Allowance Item	0%-10%	$0 - $10,000	<=1 week	NIL	Enter Impact Values	0%	$ -	0wk	0wk	1wk	Yes	Provide an Allowance in the Cost Estimate/GMP to budget for costs incurred
53	Mitigated	MWH's cost estimate assumed minimal impacts for extended weather delays that are not covered by builder's risk insurance policy.	Aug 29, 2019	Shared	Environmental	Allowance Item	0%-10%	$0 - $10,000	<=1 week	NIL	Enter Impact Values	0%	$ -	0wk	0wk	1wk	Yes	Provide an Allowance in the Cost Estimate/GMP to budget for costs incurred
54	Mitigated	PGE Power requirements are not clearly defined at this time to accurately estimate the cost.	Aug 29, 2019	PWB	Design	Facility Enhancements	0%-10%	$0 - $10,000	<=1 week	NIL	Enter Impact Values	0%	$ -	0wk	0wk	1wk	No	Provide project documents that define the required Scope of Work
55	Mitigated	Heat tracing on piping and chemical tanks exceeds what is included in the Cost Estimate.	Aug 29, 2019	PWB	Design	Facility Enhancements	0%-10%	$0 - $10,000	<=1 week	NIL	Enter Impact Values	0%	$ -	0wk	0wk	1wk	No	Provide project documents that define the required Scope of Work
56	Active	Maintaining operations of the existing facilities at all times while construction is ongoing.	Aug 29, 2019	MWH	Regulatory	Facility Enhancements	11%-35%	$0 - $10,000	>1-2 weeks	2	Minimal	35%	$ 11,395	1wk	1wk	2wk	No	Open and productive communications between operators and CM/GC to make the project team aware of ongoing coordination needed on the project site. Develop Maintenance of Plant Operations (MOPO) procedures that minimize impacts to the plant
57	Mitigated	Current cost for offsite warehouse and employee transportation and parking may be inadequate	Aug 29, 2019	MWH	External	Risk	0%-10%	$0 - $10,000	<=1 week	NIL	Enter Impact Values	0%	$ -	0wk	0wk	1wk	No	Include in the Cost Estimate a value for offsite warehouse, transportation and parking that is negotiated and reasonable.
58	Active	Managing and Administration of Multiple Small Business and Minority Enterprise Contracts	Aug 29, 2019	MWH	Project Management	Market Conditions Adjustments	36%-65%	$10,001 - $25,000	<=1 week	3	Minimal	50%	$ 25,000	1wk	1wk	1wk	Yes	Proactively manage the bid packaging and procurement process
64	Active	Coronavirus - Employee Health and Safety - Physical and Mental well being and its affects on the labor force. Anxiety, absenteeism, quarantine, lack of specialty work force and decline in production. Due to lost access to the anticipated workforce caused by mandatory quarantines, lack of childcare or eldercare, or sickness.	Mar 16, 2020	MWH	Regulatory	Risk	66%-90%	$25,001 - $50,000	>8 weeks	20	Worst Case	67%	$ 50,000	8wk	8wk	40wk	Yes	Communicate and educate employees on the current CDC requirements and recommendations . Institute shift work to reduce men per required per shift and promote social distancing. Pre-shift planning meeting conducted to ensure safety and compliance with current COVID recommendations to promote "Flattening the Curve". Developed Covid 19 response team that meets daily to ensure compliance with covid 19 mitigation efforts and evaluates steps forward to ensure employee safety.
65	Active	Coronavirus - Potential delay in production due to social distancing of split or multiple shifts causing a strain on resources.	April 10,2020	MWH	Regulatory	Risk	36%-65%	$10,001 - $25,000	>4 - 6 weeks	9	Significant	50%	$ 15,000	4wk	4wk	6wk	Yes	MWH may evaluate possible incentives to pay or extend hours of work. Flexible crew sizing and start times/hours to reduce personnel on site at one time.
66	Active	Coronavirus Additional Safety Plan Requirements due to State or Federal Rqmts.	April 10,2020	MWH	Regulatory	Risk	36%-65%	$10,001 - $25,000	>4 - 6 weeks	9	Significant	50%	$ 20,000	4wk	4wk	6wk	Yes	Project Team to have active and clear communication and monitoring of dynamic situations associated with COVID-19 as it relates to potential State and Federal requirement changes
67	Active	Coronavirus - General and overall impacts to the project	Apr 10, 2020	Shared	External	Risk	36%-65%	$25,001 - $50,000	>6 - 8 weeks	12	Significant	67%	$ 40,000	6wk	6wk	8wk	Yes	Working together as a team to review ALL the Covid 19 associated impacts to the project. Weekly we will review any and all possible impacts. Monthly review the Risk potential and mitigations efforts.
68	Active	Coronavirus - Direct Impacts to Owner/Engineer Key Personnel where key players become ill or are unable to work due to FMLA or other	April 8 2020	PWB	External	Risk	36%-65%	$10,001 - $25,000	>4 - 6 weeks	9	Significant	50%	$ 10,000	4wk	4wk	6wk	Yes	Implement PWB/Stantec checks for employees before reporting for work. PWN/Stantec working to ensure social distancing measures are followed. PWB/Stantec to provide additional PPE. Implement social distancing measures for those working closely together in tasks. PWB/Stantec to adjust staff sizing and durations as need to achieve the Covid 19 mitigation measures.
69	Active	Coronavirus - Direct Impacts to MWH Key Personnel where key players become ill or are unable to work due to FMLA or other	April 8 2020	MWH	External	Risk	36%-65%	$10,001 - $25,000	>4 - 6 weeks	9	Significant	50%	$ 10,000	4wk	4wk	6wk	Yes	Implement MWH temperature checks for employees before reporting for work. MWH working to ensure social distancing measures are followed. MWH is providing additional PPE. Implement social distancing measures for those working closely together in tasks such as pipe fit and forming concrete concrete. MWH also working to adjust crew sizing and durations as need to achieve the Covid 19 mitigation measures.

Attachment 1
Portland Water Bureau Corrosion Control Improvements Project - RISK REGISTER

Date: 13-Apr-20

Manual Entry	Drop Down	Manual Entry	Manual Entry	Drop Down	Drop Down	Drop Down	Drop Down	Drop Down	Drop Down	Auto	Auto	Manual Entry	Manual Entry	Manual Entry	Auto	Auto	Drop Down	Manual Entry
Risk Identification Information							**Qualitative Analysis (Pre-mitigation)**					**Quantitative Analysis (Pre-Mitigation)**						**Risk Response**
Risk ID	**Status**	**Risk Description**	**Date Identified**	**Risk Owner**	**Risk Category**	**Funding Category**	**Probability of Occurrence (Pre)**	**Cost Impact**	**Schedule Impact**	**Risk Score**	**Risk Rating**	**Probability % (Pre)**	**Cost Impact Most Likely**	**Schedule Impact Most Likely (Weeks)**	**Schedule Impact Minimum (Weeks)**	**Schedule Impact Maximum (Weeks)**	**Impacts Critical Path?**	**Proposed Response/Mitigation**
70	Active	Coronavirus - Reduction in the pool of available apprenticeship and/or journeyman level workers. Potential applicants may determine that the risk of becoming infected is not worth the pay scale.	Apr 10, 2020	MWH	External	Risk	66%-90%	$25,001 - $50,000	>6 - 8 weeks	16	Severe	67%	$ 30,000	6wk	6wk	8wk	Yes	MWH will continue to practice safe distancing measures that are in place on other projects. Educating and working with local building trades to ensure the health and safety of the employees. Ensure employees understand no safety shortcuts will be tolerated as it relates to social distancing and other covid 19 mitigations efforts.
71	Active	Coronavirus - Changes in the law for what is considered Critical Infrastructure or Stoppages of work orders	April 8 2020	Shared	External	Risk	36%-65%	$10,001 - $25,000	>4 - 6 weeks	9	Significant	50%	$ 5,000	4wk	4wk	6wk	Yes	MWH to assist PWB by attending meetings to share nation wide best practices for construction craft employees measures related to Covid 19. Force Majeure contract requirements are enacted. Enacts time but no cost.
72	Active	Coronavirus - Termination by PWB due to Economic Hardship which may lead to the inability to Perform.	April 8 2020	PWB	External	Risk	36%-65%	$10,001 - $25,000	>4 - 6 weeks	9	Significant	50%	$ 13,000	4wk	4wk	6wk	Yes	Team to collaborate for possible solutions to alter the schedule or funding that may be need to mitigate the impacts to the project delivery
73	Active	Coronavirus - Material Delays and Shortages - Due to reductions in work force or factory shutdowns. Leading to material supply shortages and higher cost. And slower project completion. Impacts to steel, pipe valves and fittings.	Mar 16, 2020	MWH	Regulatory	Risk	66%-90%	$10,001 - $25,000	>8 weeks	20	Worst Case	67%	$ 15,000	8wk	8wk	40wk	Yes	MWH to work closing with suppliers to monitor and be proactive in the supply of materials expedite and manage from the submittal phase through final procurement. MWH may increase factory visits to ensure production and will report weekly and/or monthly the status of material delivery to the team.
74	Active	Coronavirus - Impacts to smaller subcontracting companies such as the reduction in the pool of available D/M/W/ESB firms as many small businesses are being driven out of work , causing company defaults	Mar 16, 2020	Shared	Regulatory	Risk	66%-90%	$25,001 - $50,000	>8 weeks	20	Worst Case	67%	$ 30,000	8wk	8wk	40wk	Yes	Work with subcontractors to facilitate diminished work force and work through economic hardships. Tailor work packages as necessary. Administrate duel payment checks. Also monitor financial health (run a D&B) of potential subcontracting firms.
75	Active	Coronavirus - Potential NTP Delay beyond June 15, 2020	Apr 8, 2020	PWB	Procurement	Risk	66%-90%	$10,001 - $25,000	>6 - 8 weeks	16	Severe	67%	$ 25,000	6wk	6wk	8wk	Yes	If project is delayed MWH may reduce impact by working additional/extended hours as allowed to reduce impacts to the project.
76	Active	Coronavirus - Additional opposition from neighbors citing the gathering of construction workers as an unnecessary risk to their own health;	Apr 10, 2020	Shared	Regulatory	Risk	36%-65%	$0 - $10,000	>4 - 6 weeks	9	Significant	50%	$ 5,000	4wk	4wk	6wk	Yes	Work to achieve approval of flex hours or multiple shifts or extended hours to reduce the number of personnel on the project.
77	Active	Coronavirus - Longer review periods from authorities having jurisdiction (AHJ) such as State of Oregon, Multnomah Co. Building Department, etc.	Apr 10, 2020	PWB	Regulatory	Risk	66%-90%	$10,001 - $25,000	>6 - 8 weeks	16	Severe	67%	$ 20,000	6wk	6wk	8wk	Yes	Be proactive in communications to expediting review deliverables to ensure all parties involved understand the deadlines required for the project

Cost Impact TOTAL $869,399

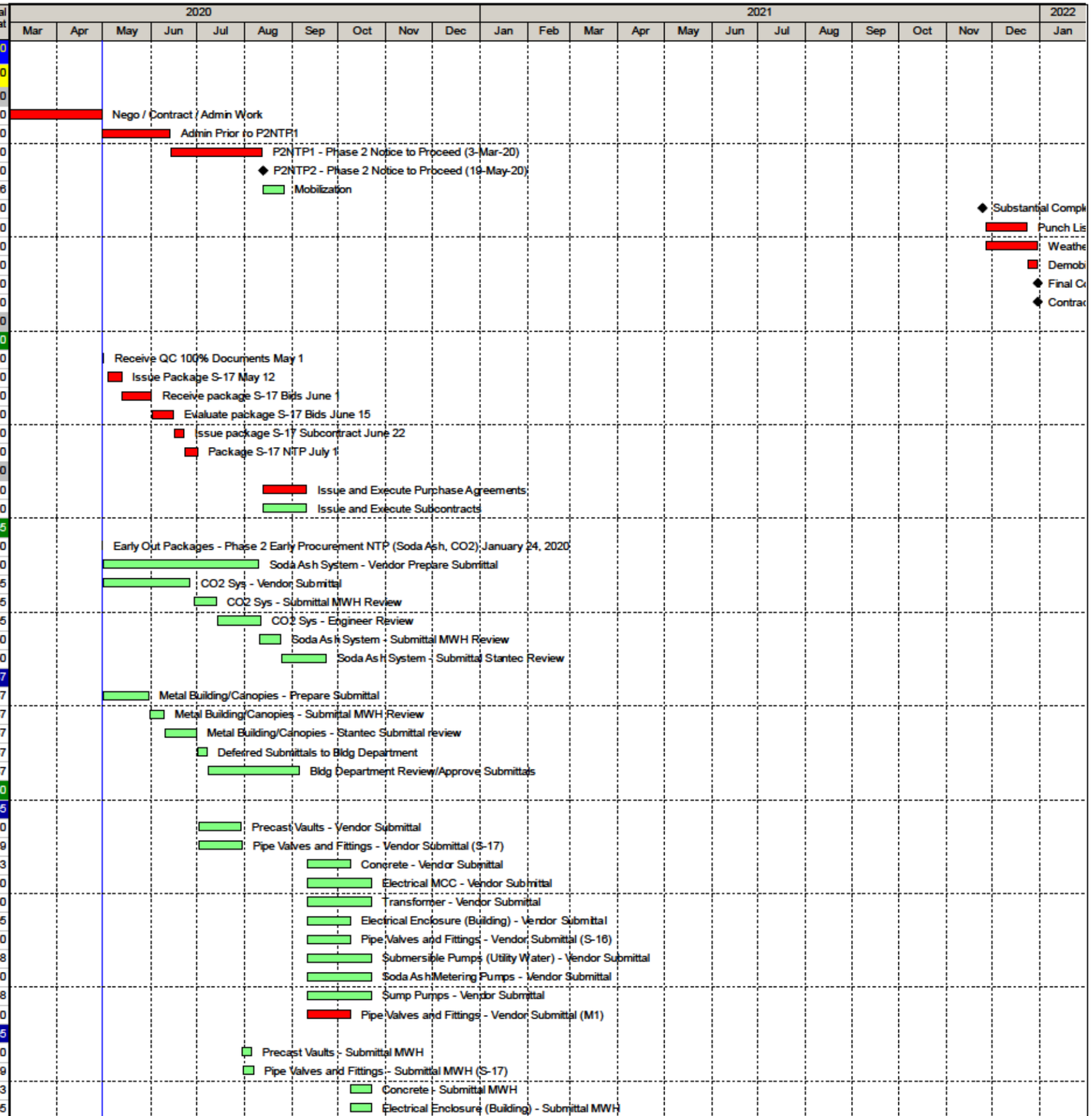
RISK RATING LEGEND - RISK SCORE/ RISK RATING

Probability		Ratings	Impact: Minimal	Moderate	Significant	Severe	Worst Case
	Most likely won't happen	1	1	2	3	4	5
	Likely won't happen	2	2	4	6	8	10
	May happen	3	3	6	9	12	15
	Very likely to happen	4	4	8	12	16	20
	Will most likely happen	5	5	10	15	20	25

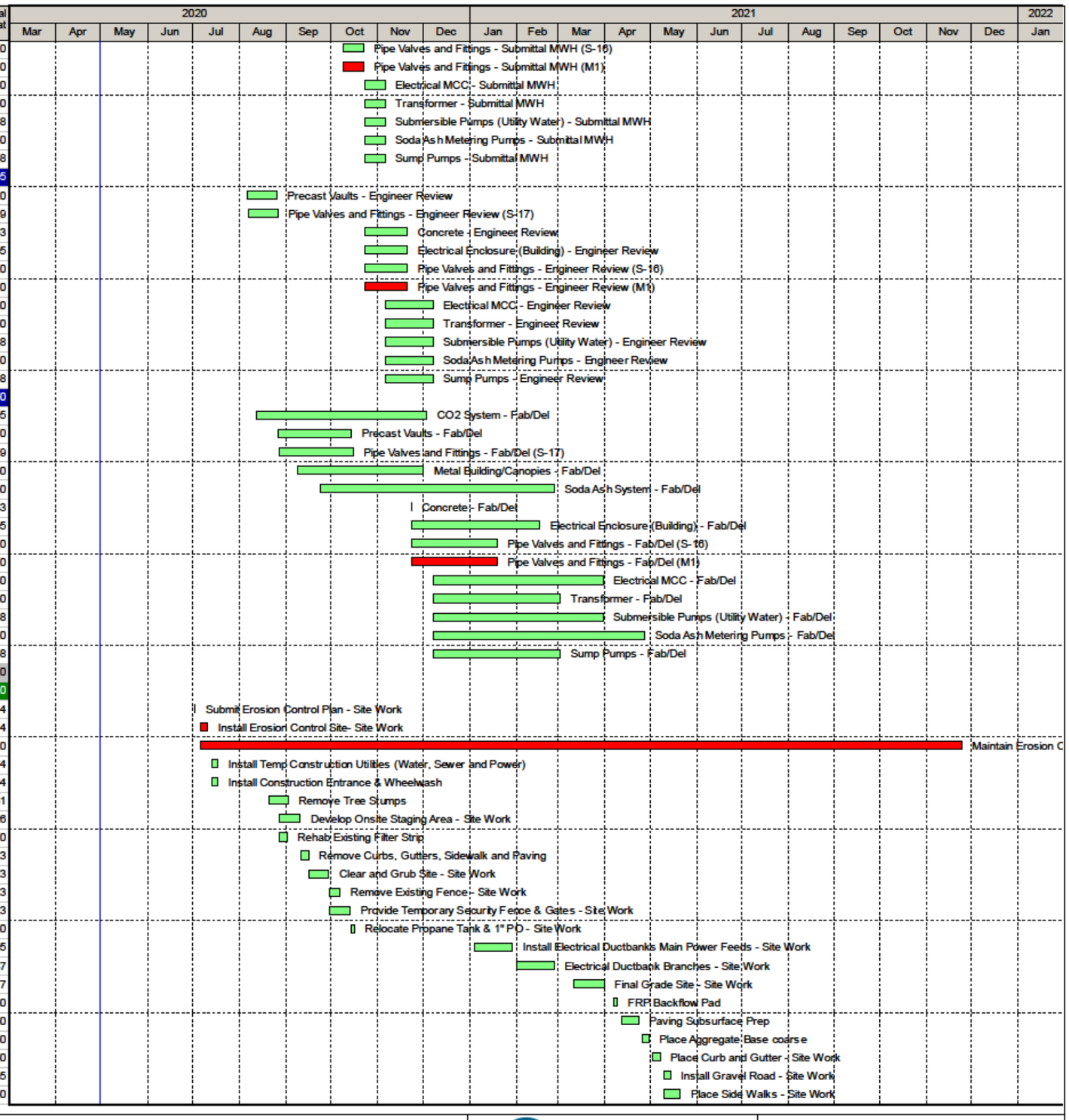
Project-Specific Risk Coding		
From	To	Rating
0	3	Minimal
4	6	Moderate
8	12	Significant
15	16	Severe
20	25	Worst Case

Probability of Occurrence	Probability %
Will not happen	0%
Most likely won't happen	0%-10%
Likely won't happen	11%-35%
May happen	36%-65%
Very likely to happen	66%-90%
Will most likely happen	90%-100%

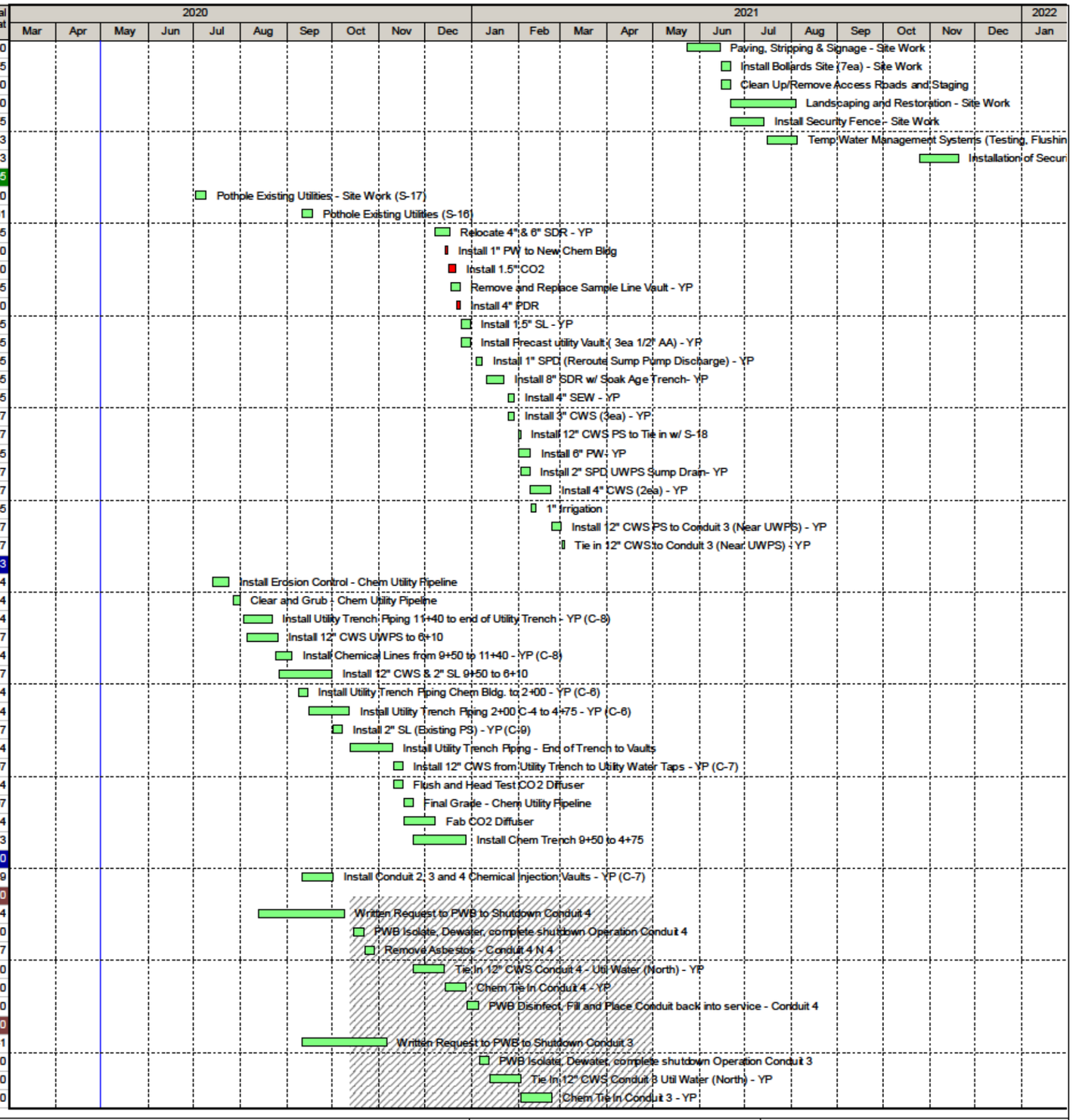
Activity ID	Activity Name	Orig Dur	Start	Finish	Total Float
Total		499	21-Jan-20 A	30-Dec-21	0
Portland CCIP Project - PWB April Update - revised conduit sequence		499	21-Jan-20 A	30-Dec-21	0
Project Milestones		499	21-Jan-20 A	30-Dec-21	0
A6965	Nego / Contract / Admin Work	61	21-Jan-20 A	30-Apr-20	0
P2NTP7	Admin Prior ro P2NTP1	45	30-Apr-20	13-Jun-20	0
P2NTP1	P2NTP1 - Phase 2 Notice to Proceed (3-Mar-20)	60	14-Jun-20	12-Aug-20	0
P2NTP2	P2NTP2 - Phase 2 Notice to Proceed (19-May-20)	0	13-Aug-20		0
A100	Mobilization	10	13-Aug-20	26-Aug-20	26
SC	Substantial Completion	0		24-Nov-21	0
A5685	Punch List	20	26-Nov-21	23-Dec-21	0
WEA	Weather	25	26-Nov-21	30-Dec-21	0
A5690	Demobilization	5	24-Dec-21	30-Dec-21	0
FC	Final Completion	0		30-Dec-21	0
FC10	Contract Completion (30-Apr-22)	0		30-Dec-21	0
Project Setup		43	01-May-20	01-Jul-20	0
S-17		43	01-May-20	01-Jul-20	0
PRO17	Receive QC 100% Documents May 1	1	01-May-20	01-May-20	0
PRO19	Issue Package S-17 May 12	7	04-May-20	12-May-20	0
PRO21	Receive package S-17 Bids June 1	13	13-May-20	01-Jun-20	0
PRO23	Evaluate package S-17 Bids June 15	10	02-Jun-20	15-Jun-20	0
PRO25	Issue package S-17 Subcontract June 22	5	16-Jun-20	22-Jun-20	0
PRO27	Package S-17 NTP July 1	7	23-Jun-20	01-Jul-20	0
Procurement		254	30-Apr-20	27-Apr-21	60
PRO05	Issue and Execute Purchase Agreements	20	13-Aug-20	10-Sep-20	0
PRO5	Issue and Execute Subcontracts	20	13-Aug-20	10-Sep-20	0
Early Out Packages		102	30-Apr-20	23-Sep-20	65
PRO15	Early Out Packages - Phase 2 Early Procurement NTP (Soda Ash, CO2) January 24, 202	1	30-Apr-20	30-Apr-20	50
A6975	Soda Ash System - Vendor Prepare Submittal	70	01-May-20	10-Aug-20	50
A7175	CO2 Sys - Vendor Submittal	40	01-May-20	26-Jun-20	95
A5760	CO2 Sys - Submittal MWH Review	10	29-Jun-20	13-Jul-20	95
A7065	CO2 Sys - Engineer Review	21	14-Jul-20	11-Aug-20	95
A7215	Soda Ash System - Submittal MWH Review	10	11-Aug-20	24-Aug-20	50
A5745	Soda Ash System - Submittal Stantec Review	21	25-Aug-20	23-Sep-20	50
Metal Canopy		128	01-May-20	05-Sep-20	87
A7205	Metal Building/Canopies - Prepare Submittal	30	01-May-20	30-May-20	87
A7225	Metal Building/Canopies - Submittal MWH Review	10	31-May-20	09-Jun-20	87
A5705	Metal Building/Canopies - Stantec Submittal review	21	10-Jun-20	30-Jun-20	87
A6840	Deferred Submittals to Bldg Department	7	01-Jul-20	07-Jul-20	87
A6845	Bldg Department Review/Approve Submittals	60	08-Jul-20	05-Sep-20	87
Submittals - overall		210	02-Jul-20	27-Apr-21	60
Vendor Submittals		79	02-Jul-20	22-Oct-20	95
A7095	Precast Vaults - Vendor Submittal	19	02-Jul-20	29-Jul-20	0
A7245	Pipe Valves and Fittings - Vendor Submittal (S-17)	20	02-Jul-20	30-Jul-20	9
A7105	Concrete - Vendor Submittal	20	11-Sep-20	08-Oct-20	63
A7115	Electrical MCC - Vendor Submittal	30	11-Sep-20	22-Oct-20	80
A7125	Transformer - Vendor Submittal	30	11-Sep-20	22-Oct-20	60
A7135	Electrical Enclosure (Building) - Vendor Submittal	20	11-Sep-20	08-Oct-20	105
A7145	Pipe Valves and Fittings - Vendor Submittal (S-16)	20	11-Sep-20	08-Oct-20	0
A7155	Submersible Pumps (Utility Water) - Vendor Submittal	30	11-Sep-20	22-Oct-20	38
A7165	Soda Ash Metering Pumps - Vendor Submittal	30	11-Sep-20	22-Oct-20	40
A7185	Sump Pumps - Vendor Submittal	30	11-Sep-20	22-Oct-20	58
A7195	Pipe Valves and Fittings - Vendor Submittal (M1)	20	11-Sep-20	08-Oct-20	0
MWH Rev/Sub Submittals		70	30-Jul-20	05-Nov-20	95
A5695	Precast Vaults - Submittal MWH	5	30-Jul-20	05-Aug-20	0
A7255	Pipe Valves and Fittings - Submittal MWH (S-17)	5	31-Jul-20	06-Aug-20	9
A5700	Concrete - Submittal MWH	10	09-Oct-20	22-Oct-20	63
A5730	Electrical Enclosure (Building) - Submittal MWH	10	09-Oct-20	22-Oct-20	105



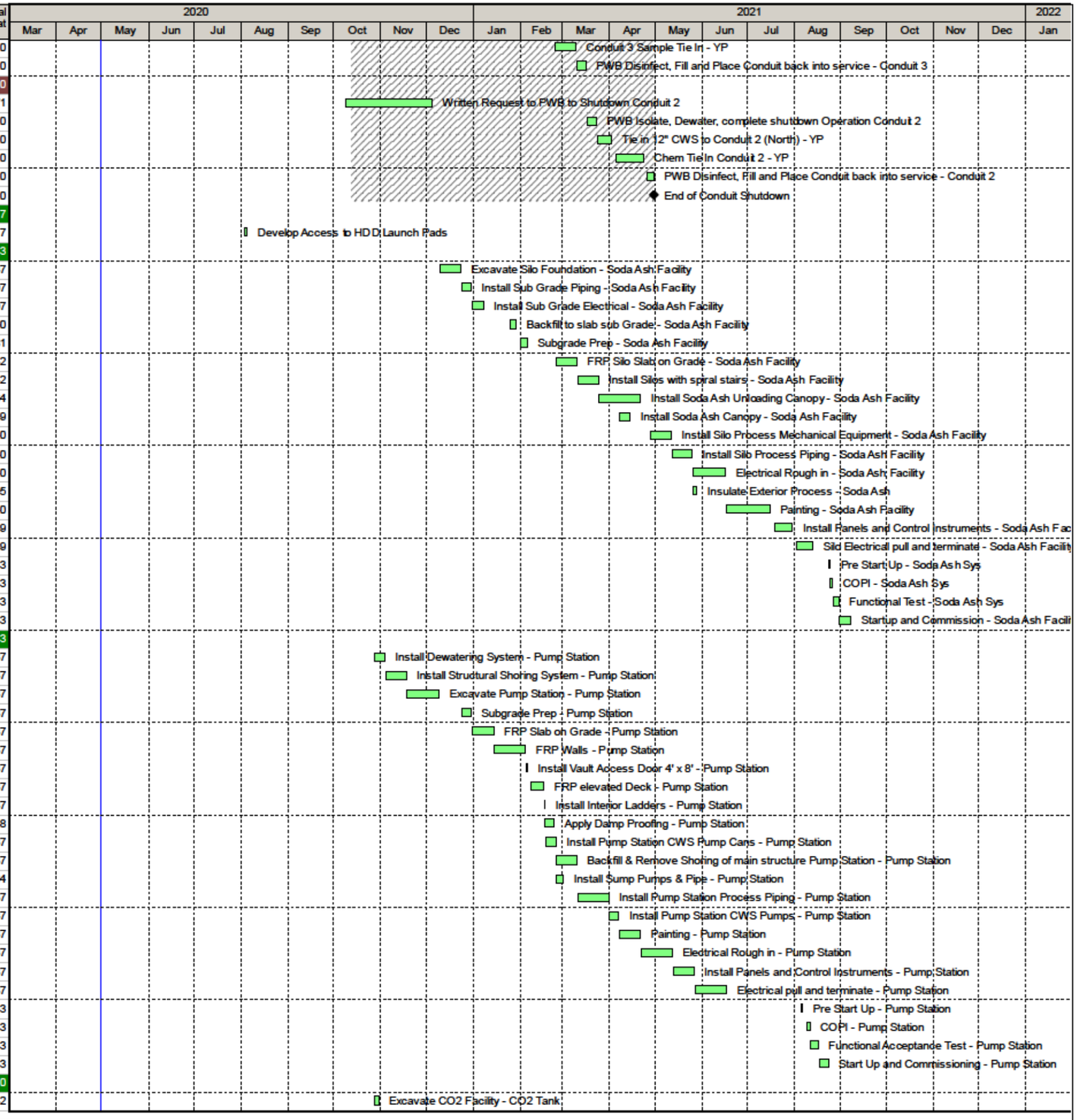
Activity ID	Activity Name	Orig Dur	Start	Finish	Total Float
A5735	Pipe Valves and Fittings - Submittal MWH (S-16)	10	09-Oct-20	22-Oct-20	0
A6006	Pipe Valves and Fittings - Submittal MWH (M1)	10	09-Oct-20	22-Oct-20	0
A5715	Electrical MCC - Submittal MWH	10	23-Oct-20	05-Nov-20	80
A5725	Transformer - Submittal MWH	10	23-Oct-20	05-Nov-20	60
A5740	Submersible Pumps (Utility Water) - Submittal MWH	10	23-Oct-20	05-Nov-20	38
A5755	Soda Ash Metering Pumps - Submittal MWH	10	23-Oct-20	05-Nov-20	40
A5765	Sump Pumps - Submittal MWH	10	23-Oct-20	05-Nov-20	58
Engineer Review		86	06-Aug-20	07-Dec-20	95
A6985	Precast Vaults - Engineer Review	14	06-Aug-20	25-Aug-20	0
A7265	Pipe Valves and Fittings - Engineer Review (S-17)	14	07-Aug-20	26-Aug-20	9
A6995	Concrete - Engineer Review	21	23-Oct-20	20-Nov-20	63
A7025	Electrical Enclosure (Building) - Engineer Review	21	23-Oct-20	20-Nov-20	105
A7035	Pipe Valves and Fittings - Engineer Review (S-16)	21	23-Oct-20	20-Nov-20	0
A7085	Pipe Valves and Fittings - Engineer Review (M1)	21	23-Oct-20	20-Nov-20	0
A7005	Electrical MCC - Engineer Review	21	06-Nov-20	07-Dec-20	80
A7015	Transformer - Engineer Review	21	06-Nov-20	07-Dec-20	60
A7045	Submersible Pumps (Utility Water) - Engineer Review	21	06-Nov-20	07-Dec-20	38
A7055	Soda Ash Metering Pumps - Engineer Review	21	06-Nov-20	07-Dec-20	40
A7075	Sump Pumps - Engineer Review	21	06-Nov-20	07-Dec-20	58
Equipment & Materials Fabrication & Delivery		182	12-Aug-20	27-Apr-21	60
A5825	CO2 System - Fab/Del	80	12-Aug-20	03-Dec-20	95
A5770	Precast Vaults - Fab/Del	35	26-Aug-20	14-Oct-20	0
A7275	Pipe Valves and Fittings - Fab/Del (S-17)	35	27-Aug-20	15-Oct-20	9
A5780	Metal Building/Canopies - Fab/Del	60	08-Sep-20	01-Dec-20	60
A5820	Soda Ash System - Fab/Del	110	24-Sep-20	26-Feb-21	50
A5775	Concrete - Fab/Del	1	23-Nov-20	23-Nov-20	63
A5805	Electrical Enclosure (Building) - Fab/Del	60	23-Nov-20	16-Feb-21	105
A5810	Pipe Valves and Fittings - Fab/Del (S-16)	40	23-Nov-20	19-Jan-21	0
A7235	Pipe Valves and Fittings - Fab/Del (M1)	40	23-Nov-20	19-Jan-21	0
A5790	Electrical MCC - Fab/Del	80	08-Dec-20	30-Mar-21	80
A5800	Transformer - Fab/Del	60	08-Dec-20	02-Mar-21	60
A5815	Submersible Pumps (Utility Water) - Fab/Del	80	08-Dec-20	30-Mar-21	38
A5830	Soda Ash Metering Pumps - Fab/Del	100	08-Dec-20	27-Apr-21	40
A5840	Sump Pumps - Fab/Del	60	08-Dec-20	02-Mar-21	58
Construction		358	02-Jul-20	24-Nov-21	0
General Site Work		358	02-Jul-20	24-Nov-21	0
A6005	Submit Erosion Control Plan - Site Work	1	02-Jul-20	02-Jul-20	4
A6010	Install Erosion Control Site- Site Work	5	06-Jul-20	10-Jul-20	4
A6015	Maintain Erosion Control - Site Work	357	06-Jul-20	24-Nov-21	0
A6091	Install Temp Construction Utilities (Water, Sewer and Power)	5	13-Jul-20	17-Jul-20	74
A6097	Install Construction Entrance & Wheelwash	5	13-Jul-20	17-Jul-20	64
A6885	Remove Tree Stumps	10	20-Aug-20	02-Sep-20	31
A6093	Develop Onsite Staging Area - Site Work	10	27-Aug-20	10-Sep-20	26
A6880	Rehab Existing Filter Strip	4	27-Aug-20	01-Sep-20	210
A6092	Remove Curbs, Gutters, Sidewalk and Paving	3	11-Sep-20	15-Sep-20	23
A6025	Clear and Grub Site - Site Work	10	16-Sep-20	29-Sep-20	23
A6030	Remove Existing Fence - Site Work	5	30-Sep-20	06-Oct-20	23
A6035	Provide Temporary Security Fence & Gates - Site Work	10	30-Sep-20	13-Oct-20	23
A6040	Relocate Propane Tank & 1" PO - Site Work	3	14-Oct-20	16-Oct-20	130
A6045	Install Electrical Ductbanks Main Power Feeds - Site Work	20	04-Jan-21	29-Jan-21	105
A6895	Electrical Ductbank Branches - Site Work	20	01-Feb-21	26-Feb-21	137
A6055	Final Grade Site - Site Work	15	11-Mar-21	31-Mar-21	77
A6935	FRP Backflow Pad	3	07-Apr-21	09-Apr-21	60
A6835	Paving Subsurface Prep	10	12-Apr-21	23-Apr-21	60
A6930	Place Aggregate Base coarse	5	26-Apr-21	30-Apr-21	60
A6070	Place Curb and Gutter - Site Work	5	03-May-21	07-May-21	60
A6065	Install Gravel Road - Site Work	5	10-May-21	14-May-21	65
A6075	Place Side Walks - Site Work	10	10-May-21	21-May-21	60



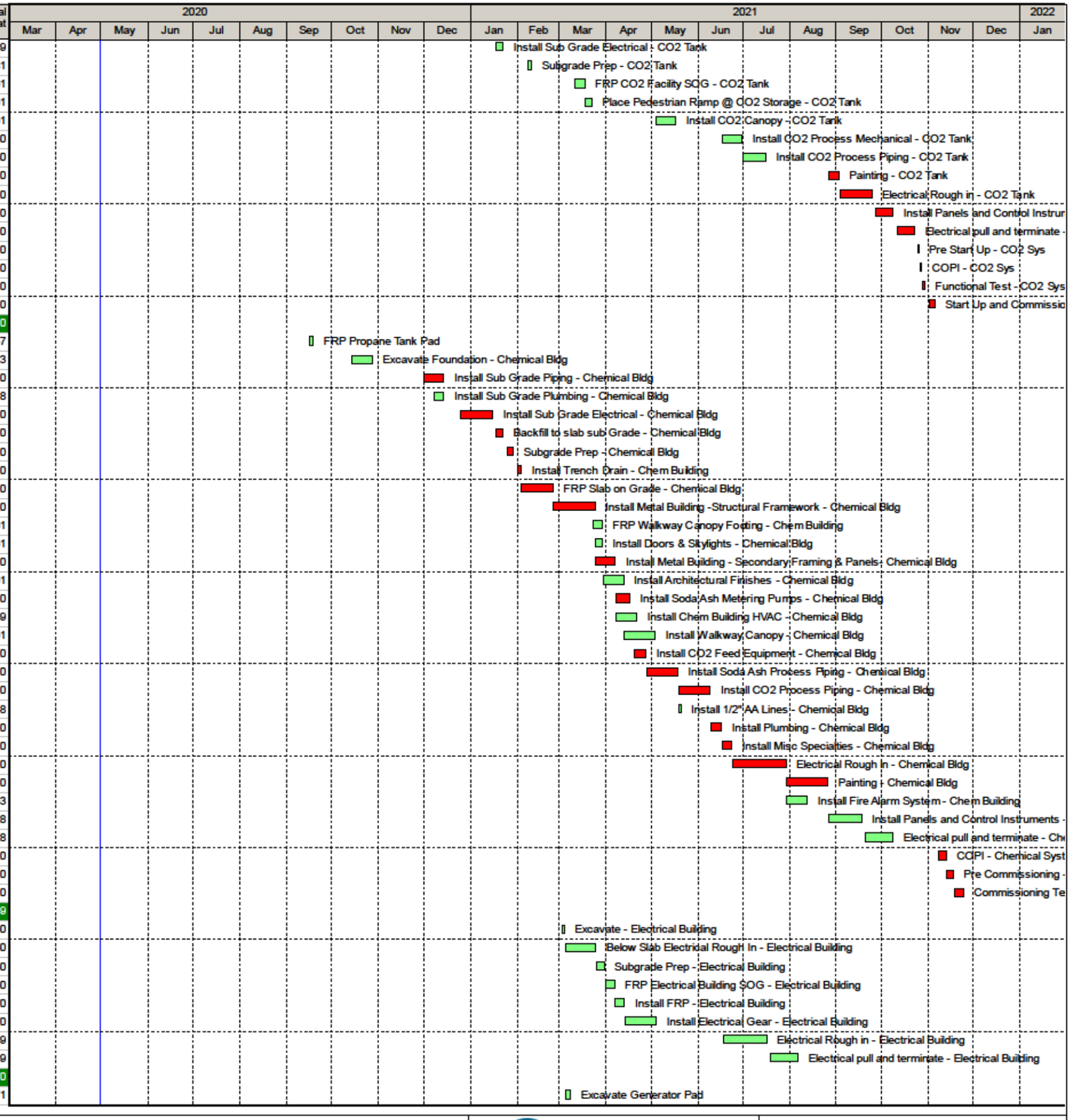
Activity ID	Activity Name	Orig Dur	Start	Finish	Total Float
A6080	Paving, Stripping & Signage - Site Work	15	24-May-21	14-Jun-21	60
A6085	Install Bollards Site (7ea) - Site Work	5	15-Jun-21	21-Jun-21	75
A6096	Clean Up/Remove Access Roads and Staging	5	15-Jun-21	21-Jun-21	60
A6060	Landscaping and Restoration - Site Work	30	22-Jun-21	03-Aug-21	60
A6090	Install Security Fence - Site Work	15	22-Jun-21	13-Jul-21	75
A5675	Temp Water Management Systems (Testing, Flushing, Disinfection)	15	16-Jul-21	05-Aug-21	33
A6095	Installation of Security Systems - Site Work	20	25-Oct-21	19-Nov-21	3
Yard Pipe		213	02-Jul-20	30-Apr-21	95
A6000	Pothole Existing Utilities - Site Work (S-17)	5	02-Jul-20	09-Jul-20	20
A6905	Pothole Existing Utilities (S-16)	5	11-Sep-20	17-Sep-20	151
A6155	Relocate 4" & 6" SDR - YP	8	08-Dec-20	17-Dec-20	95
A6915	Install 1" PW to New Chem Bldg	2	15-Dec-20	16-Dec-20	0
A6920	Install 1.5" CO2	3	17-Dec-20	21-Dec-20	0
A6170	Remove and Replace Sample Line Vault - YP	5	18-Dec-20	24-Dec-20	95
A6925	Install 4" PDR	3	22-Dec-20	24-Dec-20	0
A6160	Install 1.5" SL - YP	5	25-Dec-20	31-Dec-20	95
A6175	Install Precast utility Vault (3ea 1/2" AA) - YP	5	25-Dec-20	31-Dec-20	105
A6150	Install 1" SPD (Reroute Sump Pump Discharge) - YP	5	04-Jan-21	08-Jan-21	95
A6105	Install 8" SDR w/ Soak Age Trench- YP	10	11-Jan-21	22-Jan-21	95
A6100	Install 4" SEW - YP	5	25-Jan-21	29-Jan-21	95
A6110	Install 3" CWS (3ea) - YP	5	25-Jan-21	29-Jan-21	127
A6115	Install 12" CWS PS to Tie in w/ S-18	2	01-Feb-21	02-Feb-21	127
A6900	Install 6" PW- YP	7	01-Feb-21	09-Feb-21	95
A6130	Install 2" SPD UWPS Sump Drain- YP	4	03-Feb-21	08-Feb-21	127
A6135	Install 4" CWS (2ea) - YP	10	09-Feb-21	22-Feb-21	127
A6910	1" Irrigation	3	10-Feb-21	12-Feb-21	95
A6140	Install 12" CWS PS to Conduit 3 (Near UWPS) - YP	5	23-Feb-21	01-Mar-21	127
A6145	Tie in 12" CWS to Conduit 3 (Near UWPS) - YP	2	02-Mar-21	03-Mar-21	127
Utilidor Piping		119	13-Jul-20	28-Dec-20	183
A6021	Install Erosion Control - Chem Utility Pipeline	10	13-Jul-20	24-Jul-20	4
A6026	Clear and Grub - Chem Utility Pipeline	5	27-Jul-20	31-Jul-20	4
A6225	Install Utility Trench Piping 11+40 to end of Utility Trench - YP (C-8)	15	03-Aug-20	21-Aug-20	4
A6950	Install 12" CWS UWPS to 6+10	15	05-Aug-20	25-Aug-20	7
A6230	Install Chemical Lines from 9+50 to 11+40 - YP (C-8)	10	24-Aug-20	04-Sep-20	4
A6955	Install 12" CWS & 2" SL 9+50 to 6+10	25	26-Aug-20	30-Sep-20	7
A6180	Install Utility Trench Piping Chem Bldg. to 2+00 - YP (C-6)	5	08-Sep-20	14-Sep-20	4
A6185	Install Utility Trench Piping 2+00 C-4 to 4+75 - YP (C-6)	20	15-Sep-20	12-Oct-20	4
A6195	Install 2" SL (Existing PS) - YP (C-9)	5	01-Oct-20	07-Oct-20	7
A6200	Install Utility Trench Piping - End of Trench to Vaults	20	13-Oct-20	09-Nov-20	4
A6205	Install 12" CWS from Utility Trench to Utility Water Taps - YP (C-7)	5	10-Nov-20	16-Nov-20	207
A7280	Flush and Head Test CO2 Diffuser	5	10-Nov-20	16-Nov-20	4
A6056	Final Grade - Chem Utility Pipeline	5	17-Nov-20	23-Nov-20	207
A7285	Fab CO2 Diffuser	15	17-Nov-20	08-Dec-20	4
A6960	Install Chem Trench 9+50 to 4+75	25	23-Nov-20	28-Dec-20	173
Setting Vaults at Conduits		184	13-Aug-20	30-Apr-21	0
A6235	Install Conduit 2, 3 and 4 Chemical Injection Vaults - YP (C-7)	15	11-Sep-20	01-Oct-20	9
Conduit 4		101	13-Aug-20	05-Jan-21	0
A6213	Written Request to PWB to Shutdown Conduit 4	40	13-Aug-20	08-Oct-20	4
A6214	PWB Isolate, Dewater, complete shutdown Operation Conduit 4	5	15-Oct-20*	21-Oct-20	0
A6945	Remove Asbestos - Conduit 4 N 4	5	22-Oct-20	28-Oct-20	17
A6215	Tie In 12" CWS Conduit 4 - Util Water (North) - YP	15	23-Nov-20	14-Dec-20	0
A6245	Chem Tie In Conduit 4 - YP	10	15-Dec-20	28-Dec-20	0
A6216	PWB Disinfect, Fill and Place Conduit back into service - Conduit 4	5	29-Dec-20	05-Jan-21	0
Conduit 3		131	11-Sep-20	16-Mar-21	0
A6218	Written Request to PWB to Shutdown Conduit 3	40	11-Sep-20	05-Nov-20	41
A6219	PWB Isolate, Dewater, complete shutdown Operation Conduit 3	5	06-Jan-21	12-Jan-21	0
A6220	Tie In 12" CWS Conduit 3 Util Water (North) - YP	15	13-Jan-21	02-Feb-21	0
A6255	Chem Tie In Conduit 3 - YP	15	03-Feb-21	23-Feb-21	0



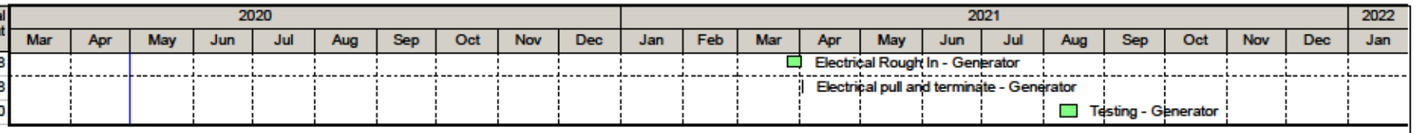
Activity ID	Activity Name	Orig Dur	Start	Finish	Total Float
A6260	Conduit 3 Sample Tie In - YP	10	24-Feb-21	09-Mar-21	0
A6221	PWB Disinfect, Fill and Place Conduit back into service - Conduit 3	5	10-Mar-21	16-Mar-21	0
Conduit 2		144	09-Oct-20	30-Apr-21	0
A6248	Written Request to PWB to Shutdown Conduit 2	40	09-Oct-20	04-Dec-20	71
A6249	PWB Isolate, Dewater, complete shutdown Operation Conduit 2	5	17-Mar-21	23-Mar-21	0
A6125	Tie in 12" CWS to Conduit 2 (North) - YP	8	24-Mar-21	02-Apr-21	0
A6250	Chem Tie In Conduit 2 - YP	15	05-Apr-21	23-Apr-21	0
A6251	PWB Disinfect, Fill and Place Conduit back into service - Conduit 2	5	26-Apr-21	30-Apr-21	0
A6825	End of Conduit Shutdown	0		30-Apr-21*	0
Lusted Road Pipe Crossing		2	03-Aug-20	04-Aug-20	7
A6188	Develop Access to HDD Launch Pads	2	03-Aug-20	04-Aug-20	7
Soda Ash Facility		190	10-Dec-20	07-Sep-21	33
A6265	Excavate Silo Foundation - Soda Ash Facility	10	10-Dec-20	23-Dec-20	37
A6270	Install Sub Grade Piping - Soda Ash Facility	5	24-Dec-20	30-Dec-20	97
A6275	Install Sub Grade Electrical - Soda Ash Facility	5	31-Dec-20	07-Jan-21	97
A6300	Backfill to slab sub Grade - Soda Ash Facility	5	25-Jan-21	29-Jan-21	60
A6280	Subgrade Prep - Soda Ash Facility	5	01-Feb-21	05-Feb-21	81
A6305	FRP Silo Slab on Grade - Soda Ash Facility	10	25-Feb-21	10-Mar-21	42
A6310	Install Silos with spiral stairs - Soda Ash Facility	10	11-Mar-21	24-Mar-21	42
A6320	Install Soda Ash Unloading Canopy - Soda Ash Facility	20	25-Mar-21	21-Apr-21	64
A6850	Install Soda Ash Canopy - Soda Ash Facility	5	08-Apr-21	14-Apr-21	59
A6325	Install Silo Process Mechanical Equipment - Soda Ash Facility	10	28-Apr-21	11-May-21	40
A6330	Install Silo Process Piping - Soda Ash Facility	10	12-May-21	25-May-21	40
A6335	Electrical Rough in - Soda Ash Facility	15	26-May-21	16-Jun-21	40
A6865	Insulate Exterior Process - Soda Ash	3	26-May-21	28-May-21	95
A6340	Painting - Soda Ash Facility	20	17-Jun-21	15-Jul-21	40
A6345	Install Panels and Control Instruments - Soda Ash Facility	10	19-Jul-21	30-Jul-21	39
A6350	Silo Electrical pull and terminate - Soda Ash Facility	10	02-Aug-21	13-Aug-21	39
A6355	Pre Start Up - Soda Ash Sys	1	24-Aug-21	24-Aug-21	33
A6360	COPI - Soda Ash Sys	2	25-Aug-21	26-Aug-21	33
A6370	Functional Test - Soda Ash Sys	2	27-Aug-21	30-Aug-21	33
A6700	Startup and Commission - Soda Ash Facility	5	31-Aug-21	07-Sep-21	33
Pump Station		210	28-Oct-20	23-Aug-21	33
A6375	Install Dewatering System - Pump Station	5	28-Oct-20	03-Nov-20	37
A6380	Install Structural Shoring System - Pump Station	10	04-Nov-20	17-Nov-20	37
A6385	Excavate Pump Station - Pump Station	15	18-Nov-20	09-Dec-20	37
A6390	Subgrade Prep - Pump Station	5	24-Dec-20	30-Dec-20	37
A6405	FRP Slab on Grade - Pump Station	10	31-Dec-20	14-Jan-21	37
A6410	FRP Walls - Pump Station	15	15-Jan-21	04-Feb-21	37
A6805	Install Vault Access Door 4' x 8' - Pump Station	1	05-Feb-21	05-Feb-21	37
A6415	FRP elevated Deck - Pump Station	7	08-Feb-21	16-Feb-21	37
A6416	Install Interior Ladders - Pump Station	1	17-Feb-21	17-Feb-21	37
A6424	Apply Damp Proofing - Pump Station	5	17-Feb-21	23-Feb-21	38
A6420	Install Pump Station CWS Pump Cans - Pump Station	5	18-Feb-21	24-Feb-21	37
A6425	Backfill & Remove Shoring of main structure Pump Station - Pump Station	10	25-Feb-21	10-Mar-21	37
A6860	Install Sump Pumps & Pipe - Pump Station	3	25-Feb-21	01-Mar-21	64
A6430	Install Pump Station Process Piping - Pump Station	15	11-Mar-21	31-Mar-21	37
A6435	Install Pump Station CWS Pumps - Pump Station	5	01-Apr-21	07-Apr-21	37
A6440	Painting - Pump Station	10	08-Apr-21	21-Apr-21	37
A6445	Electrical Rough in - Pump Station	15	22-Apr-21	12-May-21	37
A6450	Install Panels and Control Instruments - Pump Station	10	13-May-21	26-May-21	37
A6455	Electrical pull and terminate - Pump Station	15	27-May-21	17-Jun-21	37
A6460	Pre Start Up - Pump Station	1	06-Aug-21	06-Aug-21	33
A6465	COPI - Pump Station	3	09-Aug-21	11-Aug-21	33
A6475	Functional Acceptance Test - Pump Station	3	12-Aug-21	16-Aug-21	33
A6480	Start Up and Commissioning - Pump Station	5	17-Aug-21	23-Aug-21	33
CO2 Tank		263	28-Oct-20	05-Nov-21	0
A6485	Excavate CO2 Facility - CO2 Tank	3	28-Oct-20	30-Oct-20	142



Activity ID	Activity Name	Orig Dur	Start	Finish	Total Float
A6495	Install Sub Grade Electrical - CO2 Tank	5	18-Jan-21	22-Jan-21	89
A6500	Subgrade Prep - CO2 Tank	3	08-Feb-21	10-Feb-21	81
A6505	FRP CO2 Facility SOG - CO2 Tank	5	11-Mar-21	17-Mar-21	61
A6515	Place Pedestrian Ramp @ CO2 Storage - CO2 Tank	3	18-Mar-21	22-Mar-21	61
A6525	Install CO2 Canopy - CO2 Tank	10	04-May-21	17-May-21	51
A6530	Install CO2 Process Mechanical - CO2 Tank	10	17-Jun-21	30-Jun-21	30
A6535	Install CO2 Process Piping - CO2 Tank	10	01-Jul-21	15-Jul-21	30
A6540	Painting - CO2 Tank	5	27-Aug-21	02-Sep-21	0
A6545	Electrical Rough in - CO2 Tank	15	03-Sep-21	24-Sep-21	0
A6550	Install Panels and Control Instruments - CO2 Tank	10	27-Sep-21	08-Oct-21	0
A6555	Electrical pull and terminate - CO2 Tank	10	11-Oct-21	22-Oct-21	0
A6560	Pre Start Up - CO2 Sys	1	25-Oct-21	25-Oct-21	0
A6565	COPI - CO2 Sys	2	26-Oct-21	27-Oct-21	0
A6575	Functional Test - CO2 Sys	2	28-Oct-21	29-Oct-21	0
A6580	Start Up and Commissioning - CO2 Sys	5	01-Nov-21	05-Nov-21	0
Chemical Building		306	16-Sep-20	24-Nov-21	0
A6890	FRP Propane Tank Pad	3	16-Sep-20	18-Sep-20	147
A6585	Excavate Foundation - Chemical Bldg	10	14-Oct-20	27-Oct-20	23
A6590	Install Sub Grade Piping - Chemical Bldg	10	01-Dec-20	14-Dec-20	0
A6855	Install Sub Grade Plumbing - Chemical Bldg	5	08-Dec-20	14-Dec-20	8
A6595	Install Sub Grade Electrical - Chemical Bldg	15	25-Dec-20	15-Jan-21	0
A6625	Backfill to slab sub Grade - Chemical Bldg	5	18-Jan-21	22-Jan-21	0
A6600	Subgrade Prep - Chemical Bldg	5	25-Jan-21	29-Jan-21	0
A6629	Install Trench Drain - Chem Building	3	01-Feb-21	03-Feb-21	0
A6630	FRP Slab on Grade - Chemical Bldg	15	04-Feb-21	24-Feb-21	0
A6635	Install Metal Building -Structural Framework - Chemical Bldg	20	25-Feb-21	24-Mar-21	0
A6619	FRP Walkway Canopy Footing - Chem Building	5	23-Mar-21	29-Mar-21	61
A6640	Install Doors & Skylights - Chemical Bldg	3	25-Mar-21	29-Mar-21	51
A6815	Install Metal Building - Secondary Framing & Panels- Chemical Bldg	10	25-Mar-21	07-Apr-21	0
A6641	Install Architectural Finishes - Chemical Bldg	10	30-Mar-21	12-Apr-21	51
A6650	Install Soda Ash Metering Pumps - Chemical Bldg	7	08-Apr-21	16-Apr-21	0
A6675	Install Chem Building HVAC - Chemical Bldg	10	08-Apr-21	21-Apr-21	69
A6645	Install Walkway Canopy - Chemical Bldg	15	13-Apr-21	03-May-21	51
A6655	Install CO2 Feed Equipment - Chemical Bldg	7	19-Apr-21	27-Apr-21	0
A6660	Install Soda Ash Process Piping - Chemical Bldg	15	28-Apr-21	18-May-21	0
A6665	Install CO2 Process Piping - Chemical Bldg	15	19-May-21	09-Jun-21	0
A6870	Install 1/2" AA Lines - Chemical Bldg	2	19-May-21	20-May-21	48
A6670	Install Plumbing - Chemical Bldg	5	10-Jun-21	16-Jun-21	0
A6681	Install Misc Specialties - Chemical Bldg	5	17-Jun-21	23-Jun-21	0
A6685	Electrical Rough in - Chemical Bldg	25	24-Jun-21	29-Jul-21	0
A6680	Painting - Chemical Bldg	20	30-Jul-21	26-Aug-21	0
A6691	Install Fire Alarm System - Chem Building	10	30-Jul-21	12-Aug-21	53
A6690	Install Panels and Control Instruments - Chemical Bldg	15	27-Aug-21	17-Sep-21	28
A6695	Electrical pull and terminate - Chemical Bldg	15	20-Sep-21	08-Oct-21	28
A6705	COPI - Chemical Systems	5	08-Nov-21	12-Nov-21	0
A6710	Pre Commissioning - Chemical System	5	13-Nov-21	17-Nov-21	0
A6715	Commissioning Test - Chemical System	7	18-Nov-21	24-Nov-21	0
Electrical Building		111	03-Mar-21	06-Aug-21	39
A6720	Excavate - Electrical Building	2	03-Mar-21	04-Mar-21	60
A6725	Below Slab Electrical Rough In - Electrical Building	15	05-Mar-21	25-Mar-21	60
A6730	Subgrade Prep - Electrical Building	3	26-Mar-21	30-Mar-21	60
A6735	FRP Electrical Building SOG - Electrical Building	5	31-Mar-21	06-Apr-21	60
A6740	Install FRP - Electrical Building	5	07-Apr-21	13-Apr-21	70
A6745	Install Electrical Gear - Electrical Building	15	14-Apr-21	04-May-21	70
A6750	Electrical Rough in - Electrical Building	20	18-Jun-21	16-Jul-21	39
A6755	Electrical pull and terminate - Electrical Building	15	19-Jul-21	06-Aug-21	39
Generator		116	05-Mar-21	17-Aug-21	70
A6760	Excavate Generator Pad	2	05-Mar-21	08-Mar-21	171



Activity ID	Activity Name	Orig Dur	Start	Finish	Total Float
A6765	Electrical Rough In - Generator	5	26-Mar-21	01-Apr-21	158
A6790	Electrical pull and terminate - Generator	1	02-Apr-21	02-Apr-21	158
A6795	Testing - Generator	7	09-Aug-21	17-Aug-21	70



MWH Constructors

Community Equity and Inclusion Plan

Corrosion Control Improvements Project, City of Portland

2-28-2020, **Revision 1**

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1. Community Equity and Inclusion Plan Commitment

The purpose of the Community Equity and Inclusion Plan (CEIP) is to ensure that the public served by the City receives the fullest benefit of the Project undertaken by the City, to improve and increase construction contracting and employment opportunities for racial and ethnic minorities, women, and economically disadvantaged individuals on City projects, to ensure that the City is making conscious and specific efforts through its contracting processes to not discriminate or indirectly perpetuate the historic under-inclusion of racial and ethnic minorities, women, and economically disadvantaged individuals in the construction industry and trades, and to ensure that the City receives the benefit of a highly skilled and well-trained workforce, and provides opportunities for firms that reflect the diversity of Portland in the Contractor and Subcontractor pools.

MWH's objective for this project is to use the goals as a floor and the spirit of the CEIP to maximizing the utilization of DMWESB contractors and suppliers, maximize the utilization of apprentices, and utilize a diverse workforce during construction. In addition, we will make special efforts to outreach to historic under-utilized racial and ethnic minorities, women, and economically disadvantaged individuals in the construction industry and trades and firms. To ensure that the agreed upon goals and aspirations are met, and to assist in the implementation and monitoring, MWH Project Manager, Steve Bjerke, has designated Andre' Baugh, at Group AGB, and Jennifer Erickson, at Pacific Project Partners, LLC, as the DMWESB Coordinators for the project. Andre' and Jennifer will assist MWH in the preparation of Community Equity Inclusion and Subcontracting Plan, Workforce and Hiring Plan, outreach and compliance, and monitoring and reporting during the construction phase.

The MWH CEIP requirements and goals, excerpted from the plan, include:

- Community Apprenticeship Requirements – a requirement of 20% of the labor hours in each apprenticeable trade shall be worked by apprentices

- Community Workforce Goals – a set of goals for women and minority workforce participation are as follows:

A. Apprentices: The workforce diversity goals for minority and women apprentice workers shall be thirty-one percent (31%) of total apprenticeable labor hours by trade, which shall be disaggregated as follows:

i. Twenty-two percent (22%) of total apprentice hours by trade shall be worked by minority apprentices; and

ii. Nine percent (9%) of total apprentice hours by trade shall be worked by women apprentices.

B. Journey Level: The workforce diversity goals for minority and women journey level workers shall be twenty-eight percent (28%) of total journey level hours, which shall be disaggregated as follows:

i. Twenty-two percent (22%) of total journey level hours by trade shall be worked by minority journey level workers; and

ii. Six percent (6%) of total journey level hours by trade shall be worked by women journey level workers.

- Subcontracting Goals –goals of 22% overall- 12% D/MBE, 5% WBE, 5% DMWESB for DMWESB participation on all construction contracts subject to the CEIP.

Aspirational Diversity Targets are not requirements for this Contract; however, MWH views the targets as goals and encourages the highest possible participation of minorities and women in the workforce.

2. Subcontracting Plan

MWH recognizes that a barrier to entry for many DMWESBs is that they are afforded fewer opportunities to contract with non-DMWESB primes on commercial construction contracts and that historical disparity has adversely impacted opportunities for disadvantaged, minority, and women owned firms in the construction industry. MWH views the CEIP DMWESB 22% as a floor and MWH is committed to exceeding the subcontracting goals that are listed below and we have prepared a bid packaging plan (Attachment 1) detailing how these goals will be met.

Subcontracting Goals –goals (22% overall, 12% D/MBE, 5% WBE, 5% DMWESB) for DMWESB participation

Procurement Plan / Bid Packaging Plan

MWH is committed to building the capacity of local DMWESBs, cultivating relationships and building teamwork that will provide specific benefits for us on this project and in the future, and general benefits to the contracting community. MWH will start the evaluation process with the assumption that all non-self performed subcontracted work is potentially available for DMWESB participation. Scopes of work will be further evaluated and refined to maximize the number of opportunities tailored to DMWESB participation. With this goal in mind, MWH was guided by the following principles in designing bid packages:

1. Unbundle large bid packages to create the largest number of opportunities – specifically making sure there are opportunities below $150,000.
2. Research the local DMWESB marketplace to determine the scopes of work with highest DMWESB availability
3. Utilize the City's Prime Contractor Development Program ("PCDP") participants as a first source, where possible, in either direct contracting or soliciting for scopes of work for the Project.
4. Contract with more than one DMWESB for areas of high availability to expand MWH subcontracting pool and increase the number of opportunities to DMWESBs
5. Require DMWESB sub tier outreach and target DMWESBs for all Formal Packages and incorporate participation commitments into our selection criteria.

MWH's procurement/bid packaging plan is summarized in Attachment 1. This plan details our approach to subcontract bid packages, equipment procurement packages, and self-perform work packages and is designed to meet the requirement and goals of the CEIP.

The MWH bid packaging plan shows DMWESB subcontractor participation at 25%, exceeding the 22% set by the City's CEIP.

Estimated values of the hard construction costs shown on the attached bid packaging plan are based on MWH's estimate of the 90% design documents.

MWH will require that all contracts include all CEIP requirements and goals. Also, we will require at bid time, both a plan for meeting the apprenticeship hours for the project and we will require that bidders include their plan for meeting the diversity in the trades goals, as well. Bids received without a demonstrable plan will be considered non-responsive and rejected.

MWH's bid packaging plan – included in Attachment 1 – details:

- Package Number– Package numbers beginning with an "S" represent subcontracted work. Packages beginning with a "P" represent process equipment to be directly purchased by CM/GC.
- Package Description – Describes the scope to be completed under that bid package.
- Estimated Value (of the bid package) – The values shown are based on the 90% Estimate and represent the most accurate and current information available at the time this plan was prepared.
- Opportunity for DMWESB Participation – 1st Tier represents subcontracts directly with the CM/GC. 2nd Tier represents opportunities to work as a subcontractor to the party working directly for CM/GC.
- Procurement Method – "Informal", "Best-Value", and "Price-Based" shall have the meanings defined in Section 3 of this Plan.

  Bid packages highlighted in yellow on Attachment 1 will be procured using the "informal" selection method and will be targeted specifically at D/M/W firms.

  Packages highlighted in green on Attachment 1 will be procured using the "best-value" selection method. Best-value selections will be made based on a combination of DMWESB participation, qualifications, and price. In order to be considered for award, bidders must demonstrate a minimum D/M/W participation level as shown in the columns entitled "DMWESB $" and "DMWESB % Package". Bids unable to demonstrate this level of participation will not be considered and will be rejected.

  For certain "informal" and "best value" packages, and with the City's approval, MWH may bypass the standard procurement procedures and target participants in the City's Prime Contractor Development Program (PCDP) directly.

Bid Packages highlighted in orange on Attachment 1 will be procured using the "price-based" method. Price-based packages will include a prequalification process. These "price-based" packages will include a requirement for a minimum D/M/W participation level as shown in the columns entitled "DMWESB $" and "DMWESB % Package". Bids unable to demonstrate this level of participation will not be considered and will be rejected.

- DMWESB ($) – Values shown represent the expected dollars to be awarded to a qualified DMWESB contractor.
- DMWESB (% Package) – Dollars expected to be awarded to a qualified DMWESB contractor divided by estimated value of the package as expressed as a percentage.
- DMWESB (% Project) – Dollars expected to be awarded to a qualified DMWESB contractor divided by estimated total hard construction cost as expressed as a percentage.

MWH's self-perform work, as approved by the City, shall include purchase, installation, start-up, testing and commissioning of the above-ground components of the soda ash storage and feed system and the carbon dioxide feed system including the associated piping, valves, appurtenances, etc.

Early-Out Bid Packages

As required by our Phase 1 (pre-Construction) scope of work, MWH worked with the City and Stantec to identify bid packages beneficial to fast-tracking of construction including:

- Bid Package S-03B – Tree Removal, and
- Bid Package S-09 – Pre-Engineered Metal Building and Metal Canopies

These early-out bid packages will be let based on the 60% Design Documents provided by Stantec. It is the desire of the project team that the tree removal work included under package S-03B be completed prior to the onset of migratory bird mating season beginning in the month of March. It is the intention of the project team that the manufacturer-specific design details for packages S-09 be secured in advance, and incorporated into, the 100% Design Documents.

Outreach Plan

To assure maximum utilization of DMWESB subcontractors in the work of the Project, solicitation for all informal, formal, best value and RFP project packages will be created utilizing the process discussed below. MWH will utilize equitable procurement procedures which shall consist of an open, fair, and competitive solicitation process, including the following:

1. Early identification of bidding opportunities, including:

   i. Contractor shall identify all divisions of work that will be subcontracted.

      b. DMWESB subcontractor availability determined through state-certified OMWESB list and local market

   ii. Outreach shall start during the pre-construction services phases to provide advance notice to DMWESBs, including:

   a. Advance notice will be sent to key trade and business organizations that promote the utilization of minorities and women in public works projects.

   b. Contractor shall contact firms by email and/or fax notifying them of the anticipated work available on the Project.

   c. Information shall be posted on the Contractor's website, or to a shared website approved by City, to facilitate assessment of the interest of DMWESBs for the Work on the Project.

   d. If deemed necessary by the City, outreach shall continue during the life of the Project and will be tailored to specific opportunities made available in solicitation packages.

   iii. Contractor shall conduct pre-bid/pre-proposal meetings for all solicitation packages, including:

   a. Fulfilling the purpose of the meeting which is to provide clarity and understanding of the Project and solicitation requirements, view the jobsite, and to advise bidders of the importance of the commitment to and expectations for DMWESB utilization.

   b. Bidders/Proposers will be offered assistance in conducting effective solicitation steps to obtain DMWESB participation.

   c. Contractor is required to notify the City's Contract Compliance Specialist and City of all pre-bid/pre-proposal meetings.

   d. For solicitation packages with an estimated value greater than $150,000, Contractor shall coordinate meetings with the City's Contract Compliance Specialist who must attend all pre-bid/pre-proposal meetings.

iv. During the construction services phase, the Contractor and Subcontractors with subcontracts in excess of $150,000 shall conduct outreach apprising the construction industry and DMWESBs of the subcontracting procurement process and approach to DMWESB utilization, including:

a. Information on anticipated solicitation dates and divisions of work identified for DMWESB participation.

b. Information on the resources that will be available to them during the bidding and construction phases.

2. Targeted solicitation methods and conditions, including:

i. Contractor shall provide a solicitation package to interested DMWESBs and/or make it available for pick-up including all of City's contracting requirements as referenced in the Project's Contract Documents, including:

a. Before a solicitation is released, the City's Contract Compliance Specialist and the City's Representative will be provided with a copy of the solicitation package for review and comment.

b. Contractor will make themselves available to assist prospective DDMWESB bidders in understanding solicitation requirements.

ii. Contractor shall procure all Subcontractors and Suppliers for all divisions of work in the completion of the Project by selecting the bidder using one or more of the following methods:

Informal Solicitations – Work packages estimated up to $150,000

a. Optional advertisement at least three weeks prior to bid opening; if advertised, MWH will ensure the package is placed in two of the following publications and will rotate the advertisement for each package – The Skanner, The Portland Observer, The Asian Reporter and El Latino.

b. An advertisement / notification will be placed at least three weeks prior to bid opening:

- The City of Portland for posting on the web page
- Oregon Association of Minority Entrepreneurs (OAME)
- Portland Business Development Group (PBDG)
- Latino Build
- National Association of Minority Contractors Oregon (NAMC)
- Metropolitan Contractor Improvement Partnership Portland (MCIP)

- BEST Hq
- Oregon Native American Chamber

c. Target a minimum of three DMWESBs in each division of work.

d. Hold pre-bid one week prior to bid opening

e. Contractor or Subcontractor shall notify DMWESBs in writing who specialize in the type of work that will be subcontracted and shall provide adequate information for submission of a bid, along with the date and time that sub-bids are due. Contractor shall obtain a total of three (3) bids from DMWESBs who specialize in the type of work that will be subcontracted.

f. If less than two responsive bids are received, proceed to the following steps:

i. MWH will review all bids received with City of Portland to evaluate responsiveness.

ii. If bids are found to be responsive, then a subcontractor selection will be made.

iii. If no responsive bid is received, the proceed to process below.

ID #	Informal	$ Estimated
S-01	Site Conditions Survey	$15,000
S-01A	Construction Survey (Quality Assurance)	$15,000
S-08	Removal & Disposal of Contaminated Material	$10,000
S-12	Paintings and Coatings	$134,560
S-20	Chain Link Fencing	$34,300
S-22	Tree Removal	$73,600

Solicit to Open Market – Price Based

Formal Price-Based Solicitations – Work packages estimated at greater than $150,000

1. Project solicitation packages shall be advertised in the Daily Journal of Commerce and a minimum of two minority publications 4 weeks prior to bid opening date (e.g., El Hispanic News, The Skanner, The Portland Observer, The Asian Reporter).
2. Contractor or Subcontractor shall notify DMWESBs in writing who specialize in the type of work that will be subcontracted and shall provide adequate information for submission of a bid, along with the date and time that sub-bids are due. Contractor shall obtain a total of three (3) bids from DMWESBs who specialize in the type of work that will be subcontracted, where possible.
3. Contractor may maintain three (3) full sets of plans and specifications for solicitation packages where possible for review at local plan centers, such as (but not limited to), Daily Journal of Commerce, Oregon Association of Minority Entrepreneurs ("OAME") Plan Center, Latino Build, Metropolitan Contractors Improvement Partnership ("MCIP"), Portland Business Development Group (PBDG), I-Plan, and Ford Graphics. Confidential drawings must be handled separately and will only be distributed following the City's Confidentiality Policy.

ID #	Priced Based	($) Estimated
S-03D	Earthwork - Utility Water Pump Station Earthwork	$570,934
S-05	Site Concrete	$683,673
S-09	PEMB and Metal Canopies - Completed	$300,981
S-10	Tensile Membrane Structure	$225,000
S-15	Electrical	$2,056,269
S-15A	Instrumentation and Controls	$188,500
S-17	Process Piping	$2,516,758
S-18	Horizontal Directional Drilling	$136,188
P-02	Pumps	$121,086
P-03	Chemical Feed System	$46,825

Best-Value Solicitations – Work packages estimated at greater than $150,000

1. Where the work package involved requires specialized knowledge, skill, experience, and expertise a Request for Proposal ("RFP") may be used. RFPs must include the
following criteria for diversity in contracting:

   i. Describe your company's policy and practice of contracting with DMWESBs including the number of individual DMWESBs contracted, the dollar amount contracted and the amount paid to DMWESBs over the past three years. List the name, nature of work, and dollar amount of each DMWESB for the cited projects.

ii. Describe objectives for increasing DMWESB subcontracting capacity in the work of the Project, including an estimate of the dollar volume of DMWESB utilization you will aspire to achieve.
iii. Describe your company's hiring policy and practice for hiring, retaining and advancing minorities and women in your workforce.

2. RFPs shall be publicly advertised in the Daily Journal of Commerce, and a minimum of two minority publications 4 weeks prior to bid opening (e.g., El Hispanic News, The Skanner, The Portland Observer, The Asian Reporter). In addition, advertisement/notification will be placed at The City of Portland for posting on the web page, Oregon Association of Minority Entrepreneurs (OAME), Portland Business Development Group (PBDG), Latino Build, National Association of Minority Contractors Oregon (NAMC), Metropolitan Contractor Improvement Partnership Portland (MCIP), BEST Hq, and Oregon Native American Chamber
3. Contractor or Subcontractor notify DMWESBs in writing who specialize in the type of work that will be subcontracted and shall provide adequate information for submission of a bid, along with the date and time that sub-bids are due. The contractor shall obtain a total of three (3) bids from DMWESBs who specialize in the type of work that will be subcontracted where possible.
4. Contractor shall maintain three (3) full sets of plans and specifications for solicitation packages for review at local plan centers, such as (but not limited to), Daily Journal of Commerce, Latino Build, OAME Plan Center, MCIP, I-Plan, and Ford Graphics. Confidential drawings must be handled separately and will only be distributed following the City's Confidentiality Policy.

ID #	Best Value	($) Estimated
S-02	Site Preparation	$337,469
S-03C	Site Earthwork and Demolition	$368,283
S-03E	Access Road and Staging Area	$301,178
S-04	Utility Water Pump Station Concrete	$364,497
S-14	HVAC	$205,000
S-16	Utilities Piping	$395,967
S-19	AC Pavement and Base	$158,030
S-21	Landscaping	$237,295

Post Bid

MWH will analyze bid response results against outreach efforts to determine where DMWESBs declined to bid on the project. MWH will follow up with those bidders who initially indicated interest in the project but later did not bid, to find out why they declined to submit. Also, the opportunity will be offered to come in and meet with MWH and review their bid. Feedback from this effort will be used to refine our bid process for future bid packages.

Onboarding

MWH will onboard all subcontractors by scheduling a pre-job startup meeting to go over the requirements and expectations of the CEIP including the project goals, pre-job submittals, and monthly construction submittals. Please see the compliance section for more detail.

Technical/Business Assistance

MWH will offer and provide the following technical assistance services to all DMWESB subcontractors awarded a contract on the Project regardless of subcontracting tier:

- Establishing a schedule of values for the work to be performed
- Preparation of cash flow projections required for successful performance of the work
- Progress payment assistance with mentoring on pay requests, invoices, and required documentation
- Advance payment for materials on hand where appropriate to facilitate successful participation of all tier DMWESBs
- Establish projected measurable capacity building elements (e.g. additional equipment, expanded expertise, improved production efficiency, etc.) anticipated as a result of participating in the capacity building component of this plan.
- Provide technical assistance and training on BIM as needed and as it related to specific scopes of work for subcontractors on the project
- Consider payment advance on progress payment provisions in those instances where prudent and appropriate to facilitate successful participation of first tier DMWESB subcontractors.
- MWH will partner with City Small Business Development Center offering growth and development opportunities for small business owners.

Pre/Post Contract Award Monitoring

MWH will establish and maintain contact with all subcontractors, regardless of tier, to monitor and coordinate efforts to prevent problems from arising and/or solve those that have arisen, which are/or may contribute toward unsuccessful performance by the affected subcontractor(s).

DMWESB Replacement Policy and Procedure

While affording maximum opportunities for DMWESB subcontractors to participate on the Project, it is imperative that the overall Project production schedules be maintained. Any DMWESB subcontractor on the Project deemed to warrant replacement will be terminated in accordance with the relevant contract provisions as set forth in the DMWESB Bid Specifications or Plan requirements. The basis for termination will be one or more of the following with supportive documentation:

1. Inability of the company to perform the work as required

2. Refusal of the company to perform the work as required

3. Mutual agreement of MWH Construction and the company not to perform the work due to reasons beyond the control or influence of MWH Construction

The successful bidder, regardless of tier, will not be permitted to substitute a DMWESB subcontractor without the consent of MWH.

If any subcontractor is added or replaced after the bid is submitted, the successful bidder shall make good faith efforts to contract with a DDMWESB in conformance with the Diversity Construction Plan for the work to be performed by that subcontractor. Documentation of these efforts is required and must be submitted to the CITY regardless of tier.

DMWESB Termination and Substitution

MWH will not terminate any first-tier DMWESB companies on the Project without adhering to the criteria set forth in this Plan. Prior to termination, MWH Construction will notify the City in a written statement of the decision and the basis upon which the DMWESB is being terminated.

1. Subcontractors of any tier bidding or providing quotes on any package, division of work and/or work element having an estimated value greater than $150,000 shall be required to meet the requirements of the Plan. The contractor shall deem bid proposals not meeting this requirement to be non-responsive.

2. If the Contractor or an affiliate or subsidiary of the Contractor will be participating in the solicitations as a bidder for a subcontracted scope of the Work, the Contractor shall disclose that fact in the selection process and announcements. When an affiliate or subsidiary will be bidding, the Contractor shall identify the procedures the Contractor will utilize in order to make the process impartial, competitive and fair. This shall include but is not limited to, the opening of bids by a representative of the City and objective review of bids by an independent third party. The Contractor's participation in solicitations as a bidder is subject to the City's approval.

3. Workforce

MWH is committed to facilitating the recruitment, retention, and promotion of historically disadvantaged or underrepresented people, including racial and ethnic minorities, and women who are interested in careers in the construction industry. MWH's commitment to Workforce Training and Hiring (WFTH) goals include ensuring firm commitment of 20% apprenticeship, ensuring to have a Project workforce that reflects the workforce goals in the CEIP both for journey workers and apprentices. In addition, Steve Bjerke, the Project Manager, personally commits to maintain a Harassment-Free Workplace, in which all work must be assigned in a manner that respects training objectives for apprentices and ensures an equitable distribution of meaningful work, training, and assignments among all workers. Our goal is a Harassment-Free Workplace that is appropriate, productive, safe, free from bullying, hazing or harassment. We will have a workplace free from behaviors that may impair production or undermine the integrity of the work conditions including but not limited to job performance, safety, productivity, or efficiency of workers.

Harassment-Free Workplace – MWH is committed to a harassment-free workplace.

MWH will complete a comprehensive Jobsite orientation for all workers, including City, MWH and all employees of MWH and all subcontractors who will enter the project site. The training is required to be completed, sign a completion form and receive a sticker before any worker enters the project. MWH's harassment-free workplace will cover the following:

a) Dissemination of the Prohibition Against Workplace Harassment, Discrimination and Retaliation Policy
b) Procedures to follow for reporting and expected crew behaviors
c) Verification that employees have received a copy of MWH's and subcontractor's policies regarding harassment, discrimination, and retaliation
d) Provide a list of resources to employees identifying support systems including, but not limited to, Equal Employment Opportunities, Employee Assistance Programs, community resources, and mentors.

The Workplace Harassment will be one hour paid for all who participate and is required as part of the onboarding process MWH will implement. MWH will work to maintain a responsive grievance procedure that supports retention and anti-harassment efforts which will be prominently posted on the ob Jobsite in a conspicuous and accessible location. Also, MWH will take steps to reduce feelings of isolation among racial and ethnic minorities and women by making every attempt to have several racial and ethnic minorities and women at the Jobsite by informing such workers about available support systems. Information will be provided at the jobsite about grievance procedures and complaint processes available to workers via the City of Portland, BOLI, and other resources.

While maintaining and managing a Harassment Free Workplace is MWH's responsibility, each Subcontractor will have accountability for performance in sustaining and managing their own worksite. MWH will monitor the entire worksite to ascertain whether risk or circumstance exists that may merit a remedy. Monitoring may include proactive observations of the worksite, interviews of individuals familiar with the

worksite, collection of data that may evidence disparities, investigation of complaints by an individual familiar with the worksite, or collection of other evidence. If risks or circumstances that may merit a remedy are discovered, MWH will notify and collaborate with the City of Portland to discuss appropriate remedies, and may likewise notify Subcontractors and appropriate workforce providers when necessary for the resolution of the situation, except when unusual circumstances require confidentiality.

Equal Employment Opportunity – MWH is committed to supporting EEO initiatives and will do the following:

a) Review and disseminate, at least annually, MWH and subcontractor's EEO policy and affirmative action obligations under the CEIP with all employees having any responsibility for hiring, assignment, layoff, termination and other employment decisions.
b) Provide cultural competency training, or provide access to such training, to all managers, supervisors, and owners, and conduct a review, at least annually, of all managers' and supervisors' adherence to and performance under MWH and subcontractor's EEO policies, affirmative action obligations, and cultural competencies.
c) Provide the number of toilet facilities in an amount proportional to the ratio of women working on the project – and will maintain a clean and free from graffiti, accessible and locking toilet for crew members who identify as women to help create a respectful environment.
d) Provide clean, accessible, private, and locking lactation facilities separate from toilet facility.
e) Documentation will be maintained by MWH of best efforts of compliance with all EEO strategies, workplace training participants, and MWH and all subcontractors shall exercise best efforts and work in good faith to achieve the workforce diversity goals and fulfill the requirements set forth for the life of the project.

Apprenticeship / Pre-Apprenticeship

MWH recognizes the need to support programs designed to develop adequate numbers of competent workers in the construction industry and that effort is needed to facilitate the entry of historically disadvantaged or underrepresented people, including racial and ethnic minorities, women, and low-income people, who are interested in careers in the construction industry. MWH intends to utilize the trade workers from local 290 in self preformed work.

MWH is fully committed to increasing apprenticeship opportunities to ensure successful completion and retention of workers in the trades.

Goal:

For contracts (including Contractor and Subcontractors) in any tier of $300,000 or more, twenty percent (20%) labor hours in each apprenticeable trade shall be worked by apprentices enrolled in a state-approved or federally approved apprenticeship program during all of the hours worked on the project. However, MWH will encourage all subcontractors regardless of the contract value to employ apprentices on the project in accordance with apprentice ratios.

Apprenticeship/Pre-Apprenticeship Planning, Hiring, and Tracking:

a. As referenced earlier, before each subcontractor starts work on the project, MWH will have a pre-job startup meeting to go over CEIP goals on the project.
b. To ensure that all apprentices on the project are enrolled in a state or federally registered apprenticeship program, MWH will get a workforce/apprenticeship plan (Exhibit 2 Form) before each subcontractor starts work and will verify training agent status in each trade to be worked with BOLI.
c. MWH will ensure that subcontractors are registered with BOLI as approved training agents in all trades of work being performed. If a subcontractor is not approved, MWH will work with the subcontractor to become an approved training agent to ensure that there are no barriers to the apprenticeship goal being met.
d. MWH and subcontractors will work with the union and non-union hiring resources and CBOs for open apprenticeship opportunities.
e. Using a Worker Request Form, MWH will request female and minority apprentices from the union or open shop apprenticeship program to ensure that a diverse workforce is top of mind.
f. If the apprenticeship program is unable to satisfy MWH or subcontractor's request, MWH shall contact recognized pre-apprenticeship programs, and/or CBOs which have been approved by BOLI, as a "first source" for referrals and seek to enroll interested individuals into the apprenticeship programs.

   After the "first source," outreach is exhausted, MWH and subcontractors will contact other CBOs, which may not be BOLI approved, to request information on individuals that are or may be interested in enrolling in an apprenticeship program.

   MWH wants to support those who seek careers in the construction trades and their programs are designed to build the necessary skills to meet the minimum entry qualifications to enter a trade or apprenticeship program.

g. MWH will collect from all subcontractors and keep a list of late-term apprentices or journey workers that are working on the project site who are willing to serve as mentors for apprentices and pre-apprentices.
h. MWH will ensure that apprentices are paid in accordance with state or federal prevailing wage rates applicable with the project.
i. MWH will maintain and submit documentation of equity efforts as outlined in the CEIP.

Documentation, Reporting and Program Evaluation

During the life of the project, MWH will document information regarding the implementation of the CEIP Construction Plan. Information to be documented including all aspects of the program, including but not limited to:

- The creation of DMWESB packages
- Inquiries of DMWESB interest in bidding, bid amounts, and contract awards

- Level of performance
- Subcontractor payments
- Subcontractor replacement requests/decisions
- Technical Assistance Provided
- Workforce Training and Hiring results
- Problems and successes experienced
- Mentoring and capacity building results, apprenticeship results, including disaggregated racial, ethnic, and gender data by the 5th of each month

- Results will be submitted electronically via the Contract Compliance Reporting System monthly and is subject to review by the CEIC. MWY will prepare two copies of these reports and submit them electronically via email to the City by the 15th of each month.

- Within 15 days of submitting the monthly report, MWH will prepare and update the project dashboard with detailed small business and workforce project data. MWH will meet monthly with CEIP to review DMWESB, and WFTH results.

Workforce Diversity, Recruitment, and Retention

MWH recognizes and is fully committed to the recruitment, retention, and promotion of historically disadvantaged or underrepresented people, including racial and ethnic minorities and women who are interested in careers in the construction industry.

For contracts at any tier of $300,000 or more, the goals for workforce diversity are:

A. Apprentices: The workforce diversity goals for minority and women apprentice workers shall be thirty-one (31%) of total apprenticeable labor hours by trade, which shall be disaggregated as follows:
   1. Twenty-two percent (22%) of total apprentice hours by trade shall be worked by minority apprentices; and
   2. Nine percent (9%) of total apprentice hours by trade shall be worked by women apprentices.

B. Journey Level: The workforce diversity goals for minority and women journey level workers shall be twenty-eight percent (28%) of total journey level hours, which shall be disaggregated as follows:
   1. Twenty-two percent (22%) of total journey level hours by trade shall be worked by minority journey level workers; and
   2. Six percent (6%) of total journey level hours by trade shall be worked by women journey level workers.

For contracts at any tier from $100,000 – $300,000, the goals for workforce diversity are:

A. Journey Level: The workforce diversity goals for minority and women journey level workers shall be twenty-eight percent (28%) of total journey level hours, which shall be disaggregated as follows:

1. Twenty-two percent (22%) of total journey level hours by trade shall be worked by minority journey level workers; and
2. Six percent (6%) of total journey level hours by trade shall be worked by women journey level workers.

Hiring Procedures – MWH will establish and maintain hiring practices and opportunities that support the achievement of the diversity goals of the CEIP.

a. As listed above, MWH will ensure that all apprentices on the project are enrolled in a state or federally registered apprenticeship program, MWH will get a workforce/apprenticeship plan before each subcontractor starts work and will verify training agent status in each trade to be worked with BOLI.
b. MWH and subcontractors will work with the union and non-union hiring resources and CBOs for employment opportunities.
c. Within 15 days of being awarded the contract or acceptance of the bid, MWH and subcontractors will notify the unions and non-union organizations of all opportunities for employment on the project.
d. MWH and subcontractors will continue to provide the union and non-union organizations updated information on the project as scopes of work and bid packages are delineated.
e. To attract minority and women workforce candidates, MWH will participate in community job fairs and other community workforce outreach events including – Oregon Tradeswomen Career Fair, etc. MWH and subcontractors will inform unions, non-union organizations, apprenticeship programs, and CBOs of the goals in the CEIP and will request that diverse journey level workers and apprentices be referred.
f. MWH is designating Andre' Baugh and Jennifer Erickson to be the point person(s) for participation and fulfilment of the requirements of the CEIP.

Recruitment and Retention

For contracts in excess of $500,000, MWH and all subcontractors will setup and track the following information on recruitment:

a. Conduct workshops with or otherwise solicit input from employees to enlist suggestions and ideas on how to increase employment of underutilized groups.
b. Participate in or conduct job fairs to discuss the project and to recruit minority and women employees and subcontractors. MWH will participate in the Oregon Tradeswomen Career Fair and other local fairs that promote a diverse workforce in the construction industry.
c. Allow scheduled jobsite visits, as safety allows, by participants in community programs to increase awareness of job and training opportunities in the construction trades. MWH will invite Pre-Apprenticeship program to brown bag site visit and discussion with project apprentices.
d. Keep applications from qualified women and minorities for the duration of the project and notify them when an opening occurs.
e. Participate in community outreach events and keep sign-in sheets from outreach efforts.

4. Compliance

MWH fully intends to meet the compliance requirements of this plan as it is a critical component to tracking, monitoring, and meeting the equity goals.

1. Pre-Construction submittals will include solicitation and outreach efforts and award of subcontracts. Also, Exhibit 2, Projected Hiring Needs Form will be submitted for each subcontractor before they start work onsite.
2. Construction monthly submittals – Certified Payrolls/workforce tracking will be submitted monthly for each firm as well as Monthly Subcontractor Payment and Utilization Reports.
    a. Also, recruitment, retention, and graduation data will be compiled per the CEIP to fulfill the equity requirements.
    b. Ensure timely electronic submittals
3. Monthly Monitoring and Compliance – all workforce, apprenticeship and DMWESB participation will be monitored on a monthly basis to ensure the CEIP requirements and goals are being met for all firms.
    a. Corrective Action Plans (CAP) will be utilized to improve participation efforts, if needed, per the monitoring and compliance that is done each month.
4. Monthly CEIP reporting will be compiled to share with the Community Equity and Inclusion Committee. A project dashboard will be shared monthly with the Community Equity and Inclusion Committee that details small business and workforce project data.
5. Quarterly – MWH will compile disaggregated racial, ethnic, and gender data monthly and provide data to the City for verification, per the CEIP.

ATTACHMENT A

Portland Water Bureau

Corrosion Control Improvements Project

Bid Packaging Plan 90%

Package No.	Package Description	Estimated Value	Opportunity (1st/2nd Tier	Procurement Strategy	D/M/W/ESB ($)	D/M/W/ESB (% Package)	D/M/W/ESB (% Project)
S-01	Site Conditions Survey	$15,000	1st	Informal	$ 15,000	100%	0.16%
S-01A	Construction Survey (Quality Assurance)	$15,000	1st	Informal	$ 15,000	100%	0.16%
S-02	Site Preparation	$337,469	1st/2nd	Best-Value	$ 253,102	75%	2.67%
S-03C	Site Earthwork and Demolition	$368,283	1st	Best-Value	$ 276,212	75%	2.91%
S-03D	Utility Water Pump Station Earthwork	$570,934	1st/2nd	Price-Based	$ 57,093	10%	0.60%
S-03E	Access Road and Staging Area	$301,178	1st	Best-Value	$ 225,884	75%	2.38%
S-04	Utility Water Pump Station Concrete	$364,497	1st/2nd	Best-Value	$ 36,450	10%	0.38%
S-05	Site Concrete	$683,673	1st/2nd	Price-Based	$ 68,367	10%	0.72%
S-08	Removal and Disposal of Contaminated Materia	$10,000	1st	Informal	$ 10,000	100%	0.11%
S-09	PEMB and Metal Canopies	$300,981	1st/2nd	Price-Based	$ 15,049	5%	0.16%
S-10	Tensile Membrane Structure	$225,000	1st/2nd	Price-Based	$ 11,250	5%	0.12%
S-12	Painting and Coatings	$134,560	1st	Informal	$ 134,560	100%	1.42%
S-14	HVAC	$205,000	1st	Best-Value	$ 153,750	75%	1.62%
S-15	Electrical	$2,056,269	1st/2nd	Price-Based	$ 205,627	10%	2.17%
S-15A	Instrumentation and Controls	$188,500	1st/2nd	Price-Based	$ 9,425	5%	0.10%
S-16	Utilities Piping	$395,967	1st/2nd	Best-Value	$ 118,790	30%	1.25%
S-17	Process Piping	$2,516,758	1st/2nd	Price-Based	$ 377,514	15%	3.98%
S-18	Horizontal Directional Drilling	$136,188	1st/2nd	Price-Based	$ 13,619	10%	0.14%
S-19	AC Pavement and Base	$158,030	1st	Best-Value	$ 118,523	75%	1.25%
S-20	Chain Link Fencing	$34,300	1st	Informal	$ 34,300	100%	0.36%
S-21	Landscaping	$237,295	1st	Best-Value	$ 237,295	100%	2.50%
S-22	Tree Removal - **AWARDED**	$73,600	1st	Informal	$ 73,600	100%	0.78%
P-02	Pumps	$121,086	-	Price-Based	$ -	0%	0.00%
P-03	Chemical Feed System	$46,825	-	Price-Based	$ -	0%	0.00%
	Hard Construction Cost =	**$9,496,393**			**$2,460,409**	**25.91%**	**25.91%**

Estimated Values shown above are based on the MWH Estimate of the 90% design documents. This bid packaging plan shows DMWESB participation at a higher rate (i.e. 25.91% of hard construction costs) than the subcontracting goal identified in the CEIP (i.e. 22% of hard construction costs). Actual DMWESB participation will not be known until the work is bid/released.

- DMWESB ($) – Values shown represent the expected dollars to be awarded to a qualified DMWESB contractor.
- DMWESB (% Package) – Dollars expected to be awarded to a qualified DMWESB contractor divided by the estimated value of the package as expressed as a percentage.
- DMWESB (% Project) – Dollars expected to be awarded to a qualified DMWESB contractor divided by estimated total hard construction cost as expressed as a percentage.

ATTACHMENT B

MWH Harassment Free Workplace Signature Page – Sample

MWH - Corrosion Control Improvements Project

I have read and successfully completed the MWH Harassment Free Workplace Training

Name: _____

Signature: _____

Date of Training and: _____

Company & Supervisor: _____

Date: _____

COMMUNITY EQUITY AND INCLUSION PARTNERSHIP AGREEMENT

("Partnership Agreement")

The City of Portland, community-based member organizations, contracting trade organizations, building trades (both union and non-union) and training/workforce pipeline providers, as signatories to this agreement ("Parties"), commit to supporting the social equity components for construction contracts subject to the Community Equity and Inclusion Plan ("CEIP").

The Parties recognize the importance of tracking achievement of diversity goals and reporting on compliance with diversity goals and Equity Efforts set forth in the CEIP for these contracts. Diversity goals include those goals set forth in Sections 2 and 3 of this Partnership Agreement. The Parties are committed to cooperating and communicating with each other to achieve the City's diversity goals on these contracts and will support and work to achieve the diversification of contractors, suppliers, and workers in construction.

In order to further these efforts, the Parties support the following four components included in this Partnership Agreement:

I. **Community Apprenticeship Requirements** - a set of requirements for participation of apprentices on all construction contracts at any tier of $300,000 or more subject to the CEIP, consistent with City contracting requirements for all construction contracts

II. **Community Workforce Recruitment and Retention Goals** - a set of standard aspirational goals for women and minority workforce participation on all construction contracts at any tier of $300,000 or more subject to the CEIP, updated on an annual basis

III. **Subcontracting Goals**- a set of standard aspirational goals for D/M/W/ESB participation on all construction contracts subject to the CEIP, updated on an annual basis

IV. **Community Equity and Inclusion Committee** - a standing committee (or committees) to review and support the work of the City and Contractors to achieve equity goals

Each of these is further described in the following pages.

I. COMMUNITY APPRENTICESHIP REQUIREMENTS

The Parties recognize the need to maintain continuing support of programs designed to develop adequate numbers of competent workers in the construction industry. The Parties agree that effort is needed to facilitate the entry of historically disadvantaged or underrepresented people, including racial and ethnic minorities, women, and low-income people, who are interested in careers in the construction industry. The Parties support the goal of increasing apprenticeship opportunities on public projects and ensuring successful completion and retention of workers in the trades.

For City construction contracts subject to a Community Equity and Inclusion Plan, the requirements for community apprenticeship opportunities shall be as follows.

Community Apprenticeship Requirements

For contracts (including Contractor and Subcontractors) in any tier of $300,000 or more, twenty percent (20%) labor hours in each apprenticeable trade shall be worked by apprentices enrolled in a state-approved or federally-approved apprenticeship program during all of the hours worked on the Project.

Apprenticeable trades shall include only those that are state or federally-certified. It shall not include the following trades or classifications: flag person, timekeeper, office engineer, estimator, bookkeeper, clerk/typist, or secretary. Such trades are exempt from this requirement.

II. COMMUNITY WORKFORCE RECRUITMENT AND RETENTION GOALS

The Parties recognize the need to facilitate the recruitment, retention, and promotion of historically disadvantaged or underrepresented people, including racial and ethnic minorities, and women who are interested in careers in the construction industry.

For City construction contracts subject to a Community Equity and Inclusion Plan, the aspirational goals for community workforce recruitment and retention shall be as follows.

Community Workforce Goals

For contracts at any tier of $300,000 or more, the aspirational goals for workforce diversity as set forth below shall apply.

A. Apprentices: The aspirational workforce diversity goals for minority and women apprentice workers shall be thirty-one percent (31%) of total apprenticeable labor hours by trade, which shall be disaggregated as follows:

1. Twenty-two percent (22%) of total apprentice hours by trade shall be worked by minority apprentices; and

2. Nine percent (9%) of total apprentice hours by trade shall be worked by women apprentices.

B. Journey Level: The aspirational workforce diversity goals for minority and women journey level workers shall be twenty-eight percent (28%) of total journey level hours, which shall be disaggregated as follows:

1. Twenty-two percent (22%) of total journey level hours by trade shall be worked by minority journey level workers; and

2. Six percent (6%) of total journey level hours by trade shall be worked by women journey level workers.

The Parties support allowing for and encouraging workforce providers to prioritize the placement of women and minorities to meet these community workforce goals,and will make efforts to assist the Contractor in achieving these goals.

III. SUBCONTRACTING GOALS

The Parties recognize that one of the barriers to entry for many Disadvantaged Business Enterprise, Minority-Owned Business, Women-Owned Business and Emerging Small Businesses ("D/M/W/ESB") is that D/M/W/ESB firms are afforded fewer opportunities to contract with non-D/M/W/ESB prime contracting firms on commercial construction contracts of the type generally contracted for by the City of Portland. Historical disparity has adversely impacted opportunities for disadvantaged, minority-owned and women-owned firms in the construction industry.

For City construction contracts subject to a Community Equity and Inclusion Plan, the aspirational goals for D/M/W/ESB participation shall be as follows:

Subcontracting Goals

For all work performed on Projects subject to CEIPs, the aspirational base-line utilization goal for firms that have been certified by the State of Oregon as a Disadvantaged Business Enterprise, Minority-Owned Business, a Women-Owned Business, or an Emerging Small Business ("D/M/W/ESB") is twenty-two percent (22%) of the Hard Construction Costs for the Project, which shall be disaggregated as follows:

A. Twelve percent (12%) minimum aspirational goal for firms certified as

Disadvantaged Business Enterprises ("DBE") or Minority-Owned Business Enterprises ("MBE");

B. Five percent (5%) minimum aspirational goal for firms certified as Women-Owned Business Enterprises ("WBE"); and

C. The remaining percentage may be any combination of Disadvantaged Business Enterprises, Minority-Owned Businesses, Women-Owned Businesses, or Emerging Small Businesses.

The Parties support these subcontracting goals and will make efforts to assist the Contractor in achieving these goals.

IV. COMMUNITY EQUITY AND INCLUSION COMMITTEE

In order to help achieve diversity goals and review compliance, the Community Equity and Inclusion Committee ("CEIC") is established as a review body and resource for the City and its Contractors and the broader community. The Contractor and Subcontractors for each project subject to the CEIP are responsible for achieving the Equity Efforts as set forth in the CEIP and for ensuring compliance with the requirements of the CEIP. The CEIC will assist the Contractor and Subcontractors to achieve the goals herein, and will review compliance and Equity Eff ort s.

The CEIC shall:

- Review the performance of City projects subject to the Plan;
- Report on a quarterly basis on whether projects are achieving goals;
- Provide guidance and advice to Contractors on achieving diversity goals, providing assistance in real time in order to help Contractors increase utilization of D/M/W/ESB firms and minority and female workforce on City projects;
- Provide guidance on outreach and engagement of Subcontractors;
- Provide guidance on outreach and engagement of workers, including helping with securing apprentices;
- Facilitate connections to and among Contractor, Subcontractors, unions, non-union organizations, pre-apprenticeship training programs, community organizations, and workers;
- Advise Procurement Services and the bureaus on whether Contractors are meeting the Equity Efforts in the Plan;
- Advise annually on any modifications to standard requirements and goals contained in this agreement;

- Advise on any requests for project-specific exemptions or modifications to the goals contained in this agreement;
- Provide recommendations to the City on potential uses of Community Opportunity and Enhancement Funds.

The City of Portland as Owner is responsible for enforcing the terms of CEIPs and Contracts. The CEIC provides advice, guidance, and input to the City and project managers ("Owner") and to Contractors subject to CEIPs.

Composition of the CEIC

The CEIC shall be composed of individuals representative of the following groups.

- Community Member Organizations
- Contractors (including at least one DMWBE firm and at least one non-DMWESB firm)
- Contracting trade associations (including at least one minority contracting trade association)
- Building Trades (both union and non-union)
- Training/Pipeline Providers (pre-apprenticeship and apprenticeship programs)

Collectively the CEIC should have generalized or specific knowledge of workforce and subcontractor market availability, union and non-union resources, community interests and needs.

Selection of CEIC Members

The Chief Administrative Officer, the Director of the Office of Equity and Human Rights, and a Bureau Director representing one of the major infrastructure bureaus (Water, Parks, BES, or PBOT), will solicit applications and recommendations for members and will appoint members, with the committee including a balance of members from the groups described above.

Size of CEIC

The CEIC may have between nine and fifteen members at any one time with only one person as an official representative of any one organization. The group may split into different sub- committees to consider projects, in order to best use the time of members, address capacity issues (with multiple ongoing projects), and/or avoid potential conflicts of interest for particular members.

Reporting Relationship

The CEIC provides advice and guidance to the Owner (bureau directors and project managers) and the Contractor for construction contracts covered by CEIPs and to the Chief Procurement Officer.

Advisory Role

The CEIC is not a "decision-making" body, but rather an advisory body. The body is not required to vote on recommendations, but rather discusses matters, and individually or collectively, provides advice and guidance.

Staff Support

The CEIC receives staff support from the Procurement Services Division of the Bureau of Revenue and Financial Services.

Conflicts of Interest

All members of the CEIC shall complete Conflict of Interest/Non-Disclosure forms each year they serve as volunteers on the committee. Members will recuse themselves from participating in reviewing and advising on projects that they are involved in which could or would result in financial benefit or detriment to that member, a relative of the member, or a business with which either is associated.

Meetings

Monthly meetings will be scheduled, with a mix of different projects discussed at each meeting.

Attendees

Additional attendees at CEIC meetings may include Contractors, Subcontractors, unions, non- union organizations, CBOs, workers, and any other interested individual or organization.

Exhibit A

Parties to the Community Equity and Inclusion Partnership Agreement

City of Portland (CPO, Bureau Directors), community member organizations, contractors, contracting trade associations, building trades, training/pipeline providers.

Signatures:

MWH Constructors 6/10/20

Date

_____ _____

Date

_____ _____

Date

_____ _____

Date

_____ _____

Date