ADDENDUM #4
FORMAL BID 2022-104

KITSAP COUNTY PUBLIC WORKS WASTEWATER DIVISION
BANGOR-KEYPORT FORCE MAIN REPLACEMENT

April 1, 2022

TO:	All Respondents
FROM:	Glen McNeill, Buyer
CLOSING DATE:	**April 13th, 2022 at 3:00 PM (CHANGED PER ADDENDUM #3)**
REF NO.:	Bangor-Keyport Force Main Replacement
DATE:	April 1, 2022

The purpose of this addendum is to modify the Contract Documents for the referenced project. This addendum shall become a part of these Contract Documents. Bidder shall acknowledge receipt of this 56-page addendum (including attachments) on the Bid Form.

VOLUME 1 OF 2 OF THE CONTRACT DOCUMENTS IS MODIFIED AS FOLLOWS:

TABLE OF CONTENTS

Item 1. ADD the following Sections to the Table of Contents:

Appendix M – Construction Quality Assurance Plan

TECHNICAL SPECIFICATIONS

Item 2. REVISE Section 22 13 00 (3.02A) to read as follows:

PIPE PRESSURE TESTING: ~~Pipe shall be pressure tested to the test pressure indicated in Section 22 13 11 – Piping Systems~~. Hydrostatic pressure testing shall be in accordance with ASTM F2164 and as specified herein and in Section 22 13 10. Low pressure air testing shall be in accordance with Section 7-17.3(2)F of the Standard Specifications and as specified herein. Pressure testing shall be in accordance with the Uniform Plumbing Code and NFPA where indicated in Section 22 13 11 – Piping Systems.

Item 3. REVISE Section 22 13 00 (3.02A 3.) to read as follows:

3. The Contractor is responsible for conveying and obtaining the water used for testing. ~~Water for testing will be supplied by the Owner.~~ Raw sewage shall not be used as the testing media.

Item 4. REVISE Section 22 13 10 (2.05) to read as follows:

Flange adapters shall be a complete one-piece, polyethylene molded adapter provided with a flange backup ring. Flange backup rings shall be ~~304 stainless steel with 150-pound, ANSI B16.5 standard dimensions~~ epoxy-coated ductile iron unless specified otherwise. Flanged connections shall have the same or greater pressure rating as the pipe. All fasteners shall be ~~316 stainless steel~~ low-carbon steel conforming to ASTM A307 as specified in the Appendix of AWWA C110 and C115 and shall be assembled with anti-seize compound as recommended by the manufacturer. Gaskets shall be installed at all flanged connections.

Item 5. REVISE Section 22 13 10 (3.09) to read as follows:

~~Pressure testing and acceptance shall be conducted in accordance with ASTM F2164. The HDPE shall be filled with water, raised to the test pressure specified in Section 22 13 11 – Piping Systems and allowed to stabilize.~~ The Contractor shall submit a Pressure Testing Plan and Test Results in accordance with Section 22 13 00 – Pipe.

The pipe shall be air tested above-grade following fusing prior to the pullback. After the pipe has been placed into the trench and pulled into place, the installation shall be hydrostatically tested for a second time. This requirement shall apply for all HDPE pipelines.

During the above-grade test, the pipe shall be visually inspected for leaks. All leaks shall be repaired before installing the pipe in the trench or pulling the pipeline into the borehole. Leaks at fusion joints shall be repaired by cutting out the leaking fusion joint, refusing the joint and conducting a new above grade test.

The second pressure test shall be made after the first pressure test has been successfully completed and approved by Engineer and the pipeline is installed. The test section shall be the full length of pipeline that is placed into the trench and pulled into borehole. The procedure for the second pressure test shall be the same as the first pressure test as specified above. If the test fails, the Contractor shall provide satisfactory remedy to the Owner, including the possible abandonment of installed pipe and installation of a new pipeline, at the Contractor's sole expense with no additional compensation from the Owner.

The Contractor shall schedule pressure testing such that pressure changes due to thermal expansion or contraction of the pipe during the test period are minimized.

If the testing reveals any defects, any leakage, or any failure, the Contractor shall furnish all labor, equipment and materials required to locate and make necessary repairs. The testing of the line and repairing of defects, excessive leakage, and failures shall be repeated until a test satisfactory to Engineer has been achieved. All costs for locating, repairing, and retesting shall be borne by the Contractor.

Before commencing above-grade and post-installation hydrostatic testing of HDPE, the pipeline shall be filled with water to the specified test pressure and allowed to stand without makeup pressure until the pressure reaches equilibrium. Equilibrium will usually occur within 2 to 4 hours. After equilibrium has been reached, the test section shall be returned to the specified test pressure and the test period can begin.

Hydrostatic test pressures shall be the pressure rating of the HDPE pipe or fittings per 2.01 of this specification measured at the lowest point along the test section or as shown on the drawings. Testing shall be performed by applying the specified test pressure by pumping. Once the test pressure has been attained, the pump shall be valved off. The test will be conducted for a one - hour period. The required makeup water volume shall not exceed the allowance for expansion during a 60-minute test in the following table.

Nominal Pipe Size (inches)	Allowance for Expansion (US gallons/100ft. of pipe)
8	1.00
10	1.30
12	2.30
16	3.30
18	4.30
20	5.50
22	7.00
24	8.90
28	11.10
30	12.60

Item 6. ADD the following to Section 33 05 23.32 (3.03B):

2. CIPP segment should be hydrostatic pressure tested at a maximum pressure of 60 psi measured at the low end of the segment. Contractor shall hold this pressure for a period of two to three hours to allow for stabilization of the CIPP. After this period, the pressure test will begin for a minimum of one hour. The allowable leakage during the pressure test should be 20 U.S. gallons per inch of internal pipe diameter per mile per day, providing that all air has been evacuated from the line prior to testing and the CIPP has cooled down to ambient temperature.

APPENDICES

Item 7. ADD attached Hydraulic Project Approval to Appendix M – Construction Quality Assurance Plan

VOLUME 2 OF 2 OF THE CONTRACT DOCUMENTS IS MODIFIED AS FOLLOWS:

Item 8. REMOVE sheet G-4 and REPLACE with attached sheet G-4.

Item 9. REMOVE sheet SS-58 and REPLACE with attached sheet SS-58.

Item 10. REMOVE sheet R-29 and REPLACE with attached sheet SS-29.

Attachments For:

Item 6. Appendix M – Construction Quality Assurance Plan

Item 8. Revised Drawing G-4.

Item 9. Revised Drawing SS-58.

Item 10. Revised Drawing R-29.

End Addendum #4

Bangor-Keyport Force Main Replacement

CONSTRUCTION QUALITY ASSURANCE PLAN

Prepared For:

Kitsap County Public Works, MS-26 614 Division Street
Port Orchard, WA 98366

March 2022

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Bangor-Keyport Force Main Replacement

The Construction Quality Assurance Plan was prepared under the supervision and direction of the undersigned whose seal as a Professional Engineer is affixed below:

3/30/2022

Shelby Asato, PE
Project Manager
Murraysmith, Inc.

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Chapter 1 Introduction

A Construction Quality Assurance (CQA) plan for the Bangor-Keyport Force Main Replacement (Project) is a requirement of the State of Washington Department of Ecology. The CQA plan has been prepared in accordance with WAC 173-240-075.

This plan describes the services that will be provided by Murraysmith and its sub-consultants, during the construction of the Project. It is to be used for guidance by Kitsap County Department of Public Works (County) and their representatives responsible for quality assurance during this project.

1.1 Purpose and Scope

The purpose of this CQA Plan is to identify procedures that will be used to obtain independent, documented confirmation that standards of quality required by the Contract Documents for the construction of the Project are met. This CQA Plan:

- Identifies the organization, roles, and responsibilities of individuals who will be participating in the project during construction.
- Describes key activities that will take place and processes that will be used to meet the quality standards including communication, documentation, technical records handling, review and observation functions, sampling and testing requirements, acceptance/rejection criteria, and corrective measures to be used when deficiencies are found
- Includes a summary of documentation procedures for work clarification and changes to the Project.

1.2 Key Terms

Three related but independent processes will be used during construction to verify that the standards of quality identified in the Contract Documents are met. These processes are: Construction Quality Assurance (CQA), Construction Quality Control (CQC), and Construction Management and Administration (CMA). Definitions for each of these processes follow.

- **Construction Quality Assurance** – Refers to a system of activities that provide adequate documentation and confidence that a facility is constructed as specified in the Contract Documents and that the materials used in construction are manufactured according to the Specifications. Construction quality assurance performed for this project generally includes observations, verifications, audits, sampling and evaluation of materials and workmanship necessary to determine and document the quality of the constructed facility.

- Construction Quality Control – Refers to a planned system of actions taken by manufacturers, fabricators, and/or the Contractor to monitor and control the quality of products and work to meet the requirements of the contract. Quality control includes inspections and testing to directly monitor the quality of all furnished, constructed, and installed components. CQC activities are the responsibility of the Contractor. They are independent of CQA activities.

- **Construction Management and Administration –** Refers to those activities taken to

control and administer the construction project, including conducting project meetings, monitoring project schedules, reviewing and acting on requests for payment, and coordinating changes to contract documents resulting from changed site conditions or the selection of alternative methods of construction or installation. Murraysmith, Inc. will be responsible for these CMA activities as described herein.

1.3 Reference Documents

This plan is not part of the construction Contract Documents for the project. However, the Contract Documents issued for construction are referenced by this plan. Additionally, several other documents may be referenced for information pertaining to the project and the County's existing systems/facilities. A list of available reference documents is provided below.

- Contract Construction Plans and Specifications; Kitsap County –Bangor-Keyport Force Main Replacement, Murraysmith, Inc., February 2022 (subject to modifications during the bid period)
- Standard Specifications for Road, Bridge and Municipal Construction, 2020, *Washington State Department of Transportation*
- Storm Water Pollution Prevention Plan for Kitsap County Bangor-Keyport Force Main Replacement, Murraysmith, Inc., March 2022

Chapter 2 Scope of Construction

The Project consists of approximately 5.5 miles of sewer force main replacement, connections to existing individual pump stations (IPS), connections to existing pump stations, pump station modifications, and replacement of existing manholes with new manholes within BPA easement.

The major components of this project include:

- 5.5 miles of HDPE DR 11 Sewer Force Main replacement with diameter varying between 24-30 inches
- Installation of Air/Vacuum relief valves and blow-off assemblies as required
- Connections to existing individual pump stations
- Connections to existing Pump Stations
- Replacement of existing manholes within BPA easement
- Trenchless installation for the SR-3 crossing and for a portion of the pipe along Clear Creek Road

Construction Contract Documents were prepared by Murraysmith, Inc. These documents, titled Bangor-Keyport Force Main Replacement, detail work associated with the improvements, the Contractor's responsibilities, the Engineer's authority, and the County's requirements. All work is to be performed in accordance with the Special Provisions, the 2021 WSDOT Standard Specifications, and the Plans.

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Chapter 3 Construction Schedule

Key dates associated with the anticipated construction schedule are presented in the table below. The actual construction schedule and period will vary based on approved changes. A detailed construction schedule for the contract will be prepared by the Contractor and submitted to the County following award of the contract. The detailed construction schedule will include planned construction activities, their sequence, inter-relationship, duration and completion dates.

Construction Schedule	
Event	**Calendar Date**
Bid Opening	March 30, 2022
Limited Notice to Proceed	May 2022
Notice to Proceed with Construction	August 2022
Substantial Completion	405 Calendar Days from Full Notice To Proceed
Physical Completion	435 Calendar Days from Full Notice To Proceed

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Chapter 4 Project Organization, Roles and Responsibilities

The major parties involved in the construction phase of this project are the County, the Contractor, and the Resident Engineer. Only the County and the Contractor are parties to the Construction Contract. The Resident Engineer serves as the representative of the County for the purpose of providing CQA and CMA services, as well as technical support, as requested by the County.

4.1 Project Organization

The key personnel and the relationships between the County and the CQA organization are shown in Figure 4-1. Lines of communication are discussed in Section 6.

A contact list for specific project personnel and associated addresses and telephone/fax numbers will be prepared and distributed following Contract Award and the Preconstruction Conference.

In general, responsibilities for the Project are as follows:

- Contract Execution and Administration — County
- Construction Management and Administration — Engineer
- Resident Engineer — Engineer
- Construction Quality Control — Contractor
- Construction Quality Assurance — Engineer
- Design Assistance During Construction — Engineer

Kitsap County WWTP Upgrades
CQA\CMA Organization Chart

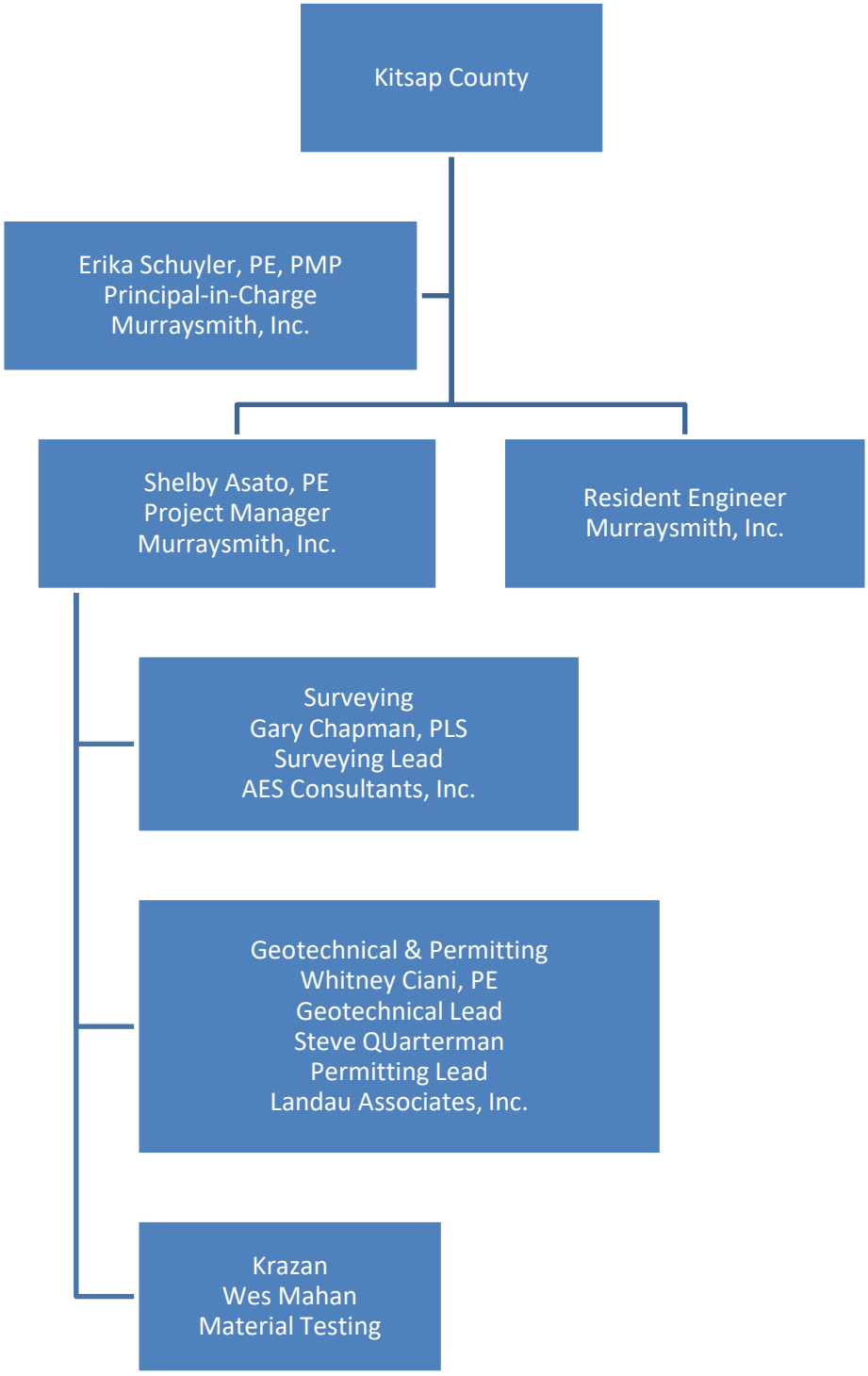

Figure 4-1 - CQA\CMA Organization Chart

4.2 Owner – Kitsap County

The Owner of the project is Kitsap County (County). The County has overall responsibility for the construction of the project in conformance with Washington State Department of Ecology Criteria for Sewer Works Design. The County is responsible for funding the project and has ultimate responsibility for making decisions regarding acceptance of the work.

4.2.1 County Project Engineer

The Kitsap County Project Engineer, Barbara Zaroff, is responsible for overall administration of the project Contract. Responsibilities of the County Project Engineer, or the County's delegated representative, are listed below:

- Approval and execution of contract amendments, request for proposals, and work directives
- Attendance at the preconstruction conference, weekly construction progress meetings, and other meetings as necessary
- Review of Contractor's certified payroll and compliance with prevailing wage. Resident Engineer will assist County staff in gathering required documentation from Contractor.

4.2.2 Construction Manager

The County's Construction Manager, Floyd Bayless, or designated representative, will be involved throughout the construction project. Responsibilities of the Construction Manager, or the County's delegated representative, are listed below:

- Review and approval of Contractor's pay requests
- Coordinate with Contractor to allow continuity of existing and new pump station operations following review and recommendation by the Engineer
- Attend the weekly construction meetings and any other coordination meetings as necessary
- Coordinate with Contractor to meet all regulatory requirements for pump stations and beach line sewer following review and recommendation by the Engineer

4.3 Contractor

The Contractor selected for this project will have the authority and responsibility to perform construction activities within the binding terms of the Project Contract between the County and the Contractor.

The Contractor must be licensed by the State of Washington. In addition, the Contractor will be required to demonstrate qualifications and experience of their employees and subcontractors performing specialized components of the work.

To accomplish the work, the Contractor shall designate individuals to serve as the Contractor's Project Manager and the Contractor's Superintendent throughout the duration of the project.

The Contractor will be responsible for Construction Quality Control (CQC). Specifically, the Contractor will be responsible to provide evidence of the Contractor's, and all its subcontractor's, qualifications, submit quality control documentation and certifications that

materials were made to the requirements of the Contract Documents, and perform the work in accordance with the Contract Documents. The Contractor's responsibilities are fully defined in the Contract Documents and include all the work that the Contractor may delegate to subcontractors.

The Contractor is responsible for the development and maintenance of a detailed construction schedule. The schedule is intended to provide a basis for the Contractor to manage progress, coordinate activities and initiate corrective action as necessary.

The Contractor is responsible for all safety measures on the job. They are responsible to meet all Local, State, and Federal safety requirements.

4.4 Engineer

The Engineer for this Project, Murraysmith, Inc., will assist the County with Construction Management and Administration (CMA) services. The scope of CMA services includes:

- Review of materials/equipment submittals
- Office engineering
- Change order(s) support to County
- Assist in coordinating quality assurance testing of materials included as Appendix B. All other testing coordinated by County.

Murraysmith, Inc. will be supported during construction by the following sub-consultants:

- AES Consultants, Inc.
- Landau Associates, Inc.
- Krazan

Murraysmith, Inc. is responsible for coordinating sub-consultant activities, maintaining records, and functioning as the point of contact between the sub-consultants, the County, and the Contractor. The Contractor will be required to give the County a minimum of 48-hours' notice prior to needing any special inspections or sign-offs from the Engineer or its sub-consultants.

4.4.1 Project Manager

The Project Manager for the Engineer, Shelby Asato, P.E., is responsible for overall engineering administration for this project. Responsibilities of the Project Manager are listed below:

- Budget management for Engineering Services during Construction
- Supervision and coordination of the office and field engineering activities, including overall responsibility for the performance of the engineering services during construction
- Review contract change orders, request for proposals, and work directives
- Coordination with the County and Contractor regarding engineering issues
- Attendance at Preconstruction Conference and other meetings as included in the Engineer's contract

4.4.2 Resident Engineer

The Resident Engineer is responsible for coordination and review of the design requirements, resolution of engineering issues, onsite construction quality assurance, observation and

documentation, and construction management activities for this project. Responsibilities are listed below:

- Review contract change orders, requests for proposals, and work directives as requested by County
- Prepare requests for information responses
- Maintain project files, including distribution of project submittals and other project documents.
- Attendance at the Preconstruction Meeting, Weekly Progress Meetings, and other meetings as necessary, including preparation of meeting minutes
- Assist County in quality assurance activities including observation and documentation of the Contractor's activities and verification that the Contractor is satisfying the requirements of the Contract Documents
- Coordinate with County, County operations personnel, and other project team members
- Coordinate with the engineering office staff and Contractor regarding engineering issues
- Coordinate with the Contractor
- Review County comments of Contractor's Pay Requests
- Maintain project files at the Resident Engineer's office
- Follow the safety polices of the Contractor
- Attendance at the Preconstruction Conference, Weekly Progress Meetings, and other meetings as necessary

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Chapter 5 Field Documentation

Field documentation for this Contract is divided into the following categories:

- Reports
- Photographs
- Quantities
- Survey
- Pay Requests
- QA/QC Test Results
- Contract Correspondence and Forms.

Technical records handling is discussed in Section 8.

5.1 Reports

The Resident Engineer and on-site construction observation inspector will be required to complete a daily report documenting the contract work that was performed. Daily reports will include, at a minimum, the following information:

- Weather and site conditions
- Visitors to the project site
- Contractor's equipment and personnel on site
- Specific contract work (including quantities) performed by the Contractor
- Items requiring special attention, such as:
  - Conflicts or deviations from the plans
  - Environmental issues
  - Erosion control
  - Traffic
  - Lost time

Discussions and conversations between the Contractor, Engineer, County and any public interaction will also be documented in the daily reports. Copies of the daily reports will be distributed to the County and the Engineer.

5.2 Photographs

The Resident Engineer will also document work progress using digital photographs. Photographs will be used to document as-constructed conditions as well as areas of conflict. Photographs will be logged with the following information:

- Date
- Area Designation

Each photograph will also require a brief description of the subject matter. Photographs will be downloaded weekly and maintained at the Resident Engineer's on-site office.

5.3 Quantities

The Resident Engineer will maintain documentation of in-place quantities in their on-site office.

The documentation will include measurements, calculations, weight tickets, and other back-up as required, tabulated per bid item or schedule of value item. In the case of the unit price bid items, a summary sheet for each bid item will also be maintained. This documentation will be used to determine the monthly pay recommendations.

5.4 Survey

The Resident Engineer will obtain and maintain copies of the Contractor's survey control and recorded shots for review and use in verification that lines and grades are within the required tolerances. Copies of the Engineer's survey data will also be kept at the Resident Engineer's on-site office.

5.5 Pay Requests

Review the County's response to the Contractor's monthly pay request(s). Copies of each executed pay request will be in the Resident Engineer's office.

5.6 QA/QC Test Results

Quality assurance (QA) and quality control (QC) testing is discussed further in Section 7. Test results will be documented by the responsible party. Copies of the test results will be forwarded electronically to the County, the Contractor, and the Engineer. Complete testing records will be kept on file in the Resident Engineer's office.

5.7 Contract Correspondence Files

Official contract correspondence files will be kept in the Engineer's office, however, the Resident Engineer will also maintain relevant contract correspondence files that assist with his daily job performance. Correspondence files including letters, memorandums, facsimile correspondence and telephone conversation records, emails, etc., will be on file for correspondence with the County, the Contractor, and sub-consultants.

In addition, correspondence files including Requests for Information (RFI), Work Directives (WDs), Change Orders and Daily Field Reports will be maintained in the Resident Engineer's office.

5.8 Forms

The standard forms used to document and track the work for this project are included in Appendix A. All forms should be filled out by the initiator, i.e. "Request for Submittal Review" form is initiated by the Contractor and all appropriate fields need to be filled in prior to submission. Engineer or County required forms that are to be used by the Contractor will be provided both in digital format, hard copies available upon request.

Chapter 6 Communication

6.1 General

Project communication includes verbal discussions between the Resident Engineer, Engineer and the Contractor, formal written correspondence, and project meetings. Verbal discussions in the field will be documented in daily reports or on telephone conversation record forms and may be followed by formal written correspondence.

6.2 Correspondence

Daily correspondence and communication will occur between the Resident Engineer and Contractor in the field. All formal correspondence issued by the Contractor shall be directed through the Resident Engineer in email or paper form. All formal correspondence from the Engineer or County will be issued through the Engineer's Project Manager or Resident Engineer. Copies of all formal correspondence will be distributed to the County, as appropriate.

6.3 Project Meetings

Project meetings will be scheduled to define and maintain responsibility and authority by promoting communication among the various personnel responsible for designing, constructing, managing, and observing the construction. The Resident Engineer will be responsible for conducting these meetings. Meeting minutes will be taken by the Resident Engineer and distributed to attendees and appropriate non-attending personnel.

At a minimum, all meetings will be attended by a County representative and the Contractor. The Engineer will attend, as requested by the County. The following are formal meetings and every attendee is to conduct themselves in a professional and respectful manner for the purpose of project coordination through constructive behavior and verbal interaction.

6.3.1 Preconstruction Meeting

A meeting will be held prior to the start of construction to review the project schedule and to clarify or resolve issues before construction startup. At a minimum, the County, Engineer's Project Manager, Resident Engineer, the Contractor's Project Manager, and the Contractor's Superintendent shall be present. Topics to be discussed during this meeting are listed below.

- Provide each party with relevant construction documents and supporting information. Supporting information may include construction drawings, specifications, CQA plans, and other applicable documents. This information transfer is not limited to documents distributed by the Engineer.
- The Contractor will submit a preliminary construction schedule and other documents as required in the Contract Documents
- All parties should use the opportunity to distribute documents they believe relevant to the satisfactory completion of the Project.
- Review Division 1 (General Requirements) of the Special Provisions. Identify project limitations, requirements of current permits, and coordination with other possible contractors and utilities.
- Review the responsibilities of each party as outlined in the Contract Documents. Discuss specific milestone dates, project sequencing, working hours, imported material schedule,

etc.

- Discuss the purpose of this CQA Plan and the documentation structure provided by it as a means of verifying that the project will be constructed efficiently and within the specified design criteria and schedule.
- Review lines of authority and communication for each party.
- Discuss the established procedures and protocol for observations and tests, including sampling strategies.
- Discuss the established procedures and protocol for handling construction deficiencies, repairs, and retesting.
- Discuss the established procedures and protocol for handling contract questions/clarifications and contract modifications (change orders, work directives, etc.).
- Review methods for documenting and reporting inspections and testing data.
- Review work area security, traffic control and safety protocol.
- Conduct a site walk to review construction material and equipment storage locations.
- Discuss Contractor's plans for site logistics, including staging area location and preparation, field office setup and utility plans, and onsite parking.
- Discuss payment for work, including schedule of values, retainage, method of payment, unit price work, and lump sum breakdowns.

6.3.2 Weekly Progress Meetings

Weekly progress meetings will be held at the site according to a schedule agreed to by all parties. The purpose of the progress meetings and the topics to be discussed are listed below.

- Review, and revise as necessary, minutes of previous meetings.
- Review any safety issues or incidents
- Review the previous week's activities and accomplishments. Discuss status of critical work elements.
- Review the Contractor's Activity Schedule. Activity Schedule shall include the scheduled construction activities for the following fourteen (14) calendar days. Review the Contractor's updated temporary water pollution/erosion control plan.
- Determine schedule for the Engineer's technical support staff or subcontractor's personnel to witness specified testing.
- Discuss existing or potential design, construction or schedule issues, including delivery of any long-lead items.
- Discuss construction impacts on traffic flow, and utility operations; or constraints on construction activity dictated by these operations.
- Develop corrective measures and procedures to regain planned schedule.
- Discuss status of submittal review.
- Discuss status of contract modifications.
- Review progress payment estimates.

The progress meetings will be documented by the Resident Engineer. Copies of the meeting minutes will be sent to all meeting attendees and others as applicable.

6.3.3 Work Deficiency Meetings

Special meetings may be held if a problem or deficiency is observed or is thought to be likely to occur. At a minimum, such meetings will be attended by the Resident Engineer and Contractor's Superintendent. The Engineer and/or their sub-consultants, Contractor's Project Manager, County and others (as appropriate) may also attend these meetings if necessary.

The purpose of these meetings will be to resolve problems or recurring work deficiencies by defining and discussing the problem or deficiency, reviewing alternative solutions, and implementing plans for resolution.

These meetings will be documented by the Resident Engineer. Copies of the meeting minutes will be sent to all meeting attendees and others as applicable.

6.3.4 Weekly Safety Meetings

The Contractor will hold weekly safety meetings and include all employees, subcontractors and all others working with in the construction area. Contractor will take attendance and take meeting minutes. Attendance by the Resident Engineer will be encouraged but in no way relieve the Contractor of any liability or responsibility for the safety measures of the job.

6.4 Coordination

Installation of the new facilities and conversion from the existing systems to the newly constructed facilities will require coordination and clear communication. The Contractor must coordinate his efforts so that construction activities do not adversely affect existing systems, regulated effluent quality, facilities operations and/or utilities. Clear communication will facilitate the coordination process.

6.4.1 Coordination with County's Contractors and Operations Personnel

It is the responsibility of the Contractor to coordinate his work so that impacts to the County's facilities are either prevented altogether or minimized.

Kitsap County operations personnel include:

Contact Name	Phone Number
Floyd Bayless, Construction Manager	Kitsap County Sewer Utility 360-509-1209
Dennis Graham, Operations Supervisor	Kitsap County Sewer Utility 360-710-2275
Doug Benoit, Collections Supervisor	Kitsap County Sewer Utility 360-710-2569

6.4.2 Coordination with Utilities and Regulatory Agencies

Several existing utilities, including water service, natural gas, power, fiber optic cable, and telephone service utilities are or may be located within the project areas. It is the responsibility of the Contractor to coordinate his construction activities so that interruptions in service are minimized. The Contractor may address correspondence directly to the affected utility; however, the Resident Engineer must receive copies to verify that the intent of the design is maintained and that the interests of the County are not adversely affected. A list of potential utilities that have infrastructure within or near the project limits and their contact information is provided in Section 1-07.17 of the Contract Documents.

See Appendix H “Inadvertent Discovery Plan” in the Contract Documents for additional contacts and procedures regarding archaeological deposits.

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Chapter 7 Quality Assurance/Quality Control

7.1 General

This section describes the Quality Assurance and Quality Control (QA/QC) activities that will take place and processes that will be used during construction. The purpose of the QA activities performed by the County and assisted by the Resident Engineer is to ascertain that the work conforms to the requirements of the Contract Documents. The QA activities include:

- Review and observation
- Sampling and testing
- Use of acceptance/rejection criteria
- Identification of corrective measures

QA activities shall apply to all portions of work in the Contract Documents.

QC activities are required of the Contractor to verify and document that all materials and work conform to the requirements of the Contract Documents. These efforts include, but are not limited to:

- Source testing for all imported and borrow materials
- Review of manufacturer's submittals and certifications prior to submission to the Engineer
- Field and laboratory testing to verify compaction of embankment, trench backfill, road subgrade, crushed surfacing and asphalt
- Material testing for pump station building materials
- Pipe testing for force main & gravity lines
- All other testing required to assure the Contractor's work meets the requirements of the Contract Documents.

QA\QC activities and responsibilities associated with the individual components of the Project are described below. These components are as follows but not limited to:

- Force Main Piping Construction
  - Material submittal review
  - Lines and grades
  - Bedding and backfill compaction
  - Pipe deformation testing
  - Pipe pressure testing
- Pump Station Improvements Construction
- Material submittal review
  - Special inspections required by sub-consultants
- Pavement
- Testing asphalt compaction, temperature at delivery & during compaction
  - Testing crushed surfacing compaction
- CIPP Construction
  - Material submittal review
  - Material installation
  - Pipe pressure testing
- HDD Construction

- Material submittal review
- Material installation
- Pipe pressure testing

7.2 Project Staffing and Effort

On-site construction observation will be performed by the Resident Engineer and an on-site construction observation inspector(s). Additional personnel will be utilized on an as-needed basis. Duties of on-site personnel will involve observation and documentation (see Section 5) of construction activities, verification of conformance with Contract Documents, performance and coordination of CQA activities, as well as communication with the office engineering staff, County, Contractor, and others.
Maintenance of field files and verification of in-place quantities are also responsibilities of on-site personnel.

7.3 Review and Observation

Review, observation, and recording of the Contractor's submittals, quality control testing, and work methods will be performed to confirm that products and methods are meeting the intent and the requirements of the Contract Documents. These efforts will take place before, during and after construction as described in the following subsections.

7.3.1 Preconstruction

The Resident Engineer will familiarize himself with the project design and have an understanding of the intent of the Contract Documents. The Resident Engineer shall also review the observation procedures set forth in this CQA plan. Prior to construction, the Resident Engineer shall review the following:

- Construction schedule
- Contractor's schedule of values
- Submittal log
- Priority Submittals
- Any other schedule or plan required prior to commencement of construction
- Construction testing requirements
- Transportation, unloading, handling, and storage procedures for the construction products
- Contractor's and installer's proposed construction procedures for design and specification compatibility and constructability

7.3.2 Construction

Construction oversight by the County and Resident Engineer will include, but is not limited to, the following:

- Verifying that required submittals have been submitted for review by the Engineer (where applicable) and have been approved for use in construction
- Check any materials coming on site against the accepted material submittals and Contract Documents. The Resident Engineer shall keep a basic log of materials reviewed and accepted or rejected

- Observing that stored or installed pipe, valves, concrete products, etc. are not damaged
- Observing construction and maintenance of erosion control measures and facilities
- Observing each phase of the construction, documenting the contractor's compliance or noncompliance with the Contract Documents, and verifying the correction of defective work
- Reviewing the Contractor's updated Construction Activity Schedule and compare with actual progress
- Confirming that lines and grades have been verified by the Contractor prior to subsequent component construction and recommended conformance survey as needed
- Documentation of imported and in-place quantities completed by the Contractor and recommendations for progress payment
- Checking that the project piping, trenching, and grading work has been performed in general accordance with the Contract Documents
- Observing performance compliance testing performed by the Contractor as part of the Contractor's CQC program

These oversight activities will not relieve the Contractor from meeting the requirements, including Contractor's CQC procedures, set forth in the Contract Documents. Submittal requirements are discussed further in Section 8.

7.4 Sampling and Testing

7.4.1 Quality Control Testing

Quality Control Testing will be provided by the Contractor to verify the quality of construction materials and as the Contractor deems necessary to ensure the work product meets the requirements of the Contract Documents.

7.4.2 QA Testing

QA testing for this project will be performed using a certified testing laboratory under subcontract to the Engineer to determine and document the quality of the constructed facility and to verify the adequacy of the Contractor's QC testing. The testing lab will collect samples and perform in-situ and/or laboratory testing at the types and frequencies specified in the Contract Documents or as specified by the County and/or Engineer. The recommended QC tests including sample collection, in-situ or laboratory testing, field observation and oversight, documentation, and review of test results, as applicable, are detailed in the attached Tables in Appendix B.

The County and/or Engineer may conduct additional sampling and testing beyond that specified at any time.

7.5 Acceptance/Rejection of Work

7.5.1 Criteria for Acceptance/Rejection

The criteria for acceptance or rejection of elements of work will be as stated in the Contract Documents. Regular checks will be made through field and laboratory testing to ensure that the Contractor's QC procedures are adequate. The Resident Engineer is to provide copies of all test results to the County and Contractor. Test results that fail to meet the standards shall require

corrective action by the Contractor as directed by the Engineer.

7.5.2 Corrective Measures

Corrective measures will be implemented as necessary to bring the work to the required quality and may include replacement of the work. Where replacement of work is required, the area to be replaced will be defined by the County, reviewed and documented by the Engineer, and based on test results, visual analysis, and professional judgment. Replacement of work may include special measures at borders of such areas to provide continuity.

Any deficiencies identified will be rectified upon discovery and subsequent Contractor notification. If deficiencies identified during construction are not rectified upon the County's request, payment for non-conforming work will be withheld until the corrections are complete.

Chapter 8 Technical Records Handling

8.1 Submittals

Specific requirements concerning submittals are detailed in the Contract Documents. General features of the submittal process are detailed below.

- The Contractor shall coordinate, check and submit shop drawings, samples, catalog cuts, layouts, color charts, bills of material, etc. as specified in each section of the Specification and required by the Project Data Submittals.
- The Contractor shall submit all submittals through EADOC
- Each Submittal shall receive an individual and unique submittal number. More than one item from a specific section may be included under a submittal number. Submittals for materials in the same section, but submitted at different times, will need separate numbers. Resubmittal of materials, in part or whole, shall have the same number as the original submittal plus a revision number.
- One electronic copy through EADOC will be required for each Submittal. Engineer, appropriate sub-consultant, and the County will be able to access the submittal through EADOC. Submittal responses will be returned to the Contractor via EADOC.

8.1.1 Filing

A complete set of construction management files will be maintained at the Resident Engineer's office including correspondence, submittals, contract administration, pay estimates, and Quality Assurance/Quality Control testing result files. All documents will be maintained on EADOC.

8.1.2 Contract Record Drawings

The Resident Engineer will maintain a set of mark-up Contract Documents in his office to be updated continuously as changes/modifications occur during construction.

The Contractor is also required to maintain an updated set of Contract Drawings at the construction site. Following completion of the project the Contractor must provide a complete set of contract record drawings detailing the constructed project.

The County and Resident Engineer will review the Contractor's record drawings on a monthly basis prior to Pay Requests. The Engineer will prepare the final set of contract record drawings. The final set of contract record drawings will then be submitted to the County.

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Chapter 9 Work Clarification/Changes

During construction and as work progresses, it will be necessary to respond to the Contractor's questions (including providing technical clarification and/or instruction), provide direction to perform extra or modified work and amend the Contract (formally). The intended protocol for these procedures is outlined in the following sections. Specific requirements regarding changes to the Contract are defined in the Contract Documents.

9.1 Request(s) for Information

Request(s) for Information (RFIs) will be used to provide written direction to clarify points or give additional instructions to the Contractor. All work-related questions requiring clarification or additional instruction should be initiated formally by the Contractor using the standard form provided in Appendix A and posted to EADOC. The Engineer may also initiate an RFI to clarify points or provide additional detail.

9.2 Work Directive(s)

Where situations involve changes in the work which, if not processed expeditiously, might delay the project, the modifications may be initiated through use of a Work Directive. The Work Directive is not a Change Order, but only a directive issued by the County to proceed with work that will be included in a subsequent Change Order. Work directives may also be used to document changes in the work that do not involve adjustments to the contract price or contract time.

The intent of this procedure is to help expedite changes and modifications without delaying the construction schedule. Utilization of Work Directives will follow the procedures outlined in the Contract Documents. If deemed necessary, several Work Directives may be grouped into a single Change Order. County authorization may be initiated via facsimile, telephone, or in person.

9.3 Change Order(s)

The County, without invalidating the Contract, may order extra work or may make changes by altering or deleting any portion of the work, as deemed necessary or desirable (as set forth in the Contract Documents). Extra work and changes will be executed in writing by the County by means of a Change Order. Change Orders are required for situations involving the adjustments of Contract Price and/or Contract Time. Change Orders shall be signed by the County, the Engineer, and the Contractor. The value of extra work and changes shall be determined and paid for in accordance with the construction Contract Documents.

9.4 Review and Approval Process for Changes

Changes in the work shall be negotiated by the County and the Contractor. The County may request that the Contractor provide a proposal detailing the impacts to the contract amount and the contract schedule associated with a proposed contract modification. In addition, change orders that represent a significant deviation from the Contract Documents may require review and approval by a regulatory agency prior to execution of the change order. The County shall review and approve all negotiated changes. All Change Order and Work Directive forms require the signature of the County and Contractor in order for a change to be valid.

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APPENDIX A
CONSTRUCTION DOCUMENTATION FORMS

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CONTRACT CLARIFICATION/INTERPRETATION

Project:

KC Contract No:
CCI No: **00**

Contractor:
Subcontractor:

Specification Section:
Drawing Reference:

Subject:

Information Provided:

Date:

Prepared By:

CHANGE NOTICE

Project:

Contract No:
Change Type:

Date: 9/15/2021
Contractor:

CN Number:

Subject:

Document References:

Proposed Change Details:

Reason for Change:

Notification By:

Approved Cost/Credit: $ _____ Approved Contract Time Extension (Days): _____

☐ Minor Changes Allowance ☐ Contract Change Order/Amendment

Contractor's Concurrence:

_____ Date: _____

Owner's Authorization:

_____ Date: _____

Construction Field Report

Project No.:		Report No.:	
Client/Owner:		Date:	
Project Name:		Permit No.:	
Location:			
Weather Conditions:			
Prepared By:		Reviewed By:	

SITE OBSERVATIONS

Visitors:

Unsatisfactory Conditions & Recommended Correction:

Attachments:

Distribution:

Landau Associates' representatives are onsite solely to observe operations of the contractor identified, to form opinions about the adequacy of those operations, and report those opinions to our client. The presence and activities of our field representative do not relieve the contractor from its obligation to meet contractual requirements. The contractor retains sole responsibility for site safety and the methods, operations, and sequences of construction.

A preliminary copy of the Field Report may be provided solely as evidence that field observation was performed. Observations and/or conclusions and/or recommendations conveyed in the Field Report are subject to review and revision by Landau Associates' project manager or designee. A reviewed Field Report shall take precedence over a preliminary report.

Signed:

CONTRACTOR'S
REQUEST FOR INFORMATION

Project:
Date: Click here to enter a date.
Contractor:
Subcontractor: Subcontractor name text.

KC Contract No: KC
RFI No: **RFI No**
Specification Section: Spec Sec Ref.
Drawing Reference: Drawing Ref.

Subject: **RFI subject text.**

Information Requested:
Enter requested information text here.

Contractor Recommendation:
Enter recommendation, if any, here.

Attachments:	Cost Impacts	Est Cost Impact Amount	Work Schedule Impacts:
☐ Yes ☐ No	☐ Yes ☐ No	$0	☐ Yes – Describe Above ☐ No

Date: Click here to enter a date.
Requested By: Enter name & title.

Response:

Date:
Response By:

KITSAP COUNTY PUBLIC WORKS
ENGINEERING DIVISION
CONSTRUCTION INSPECTION

DAILY REPORT OF FORCE ACCOUNT WORKED

PROJECT	DATE
ITEM	CONTRACTOR
N/A	
MATERIAL APPROVAL	SUBCONTRACTOR ☐ *Check if paid by invoice
N/A	

DESCRIPTION OF WORK:

LABOR:		TIME RECORD WORKED						
EMPLOYEE	**OCCUPATION CLASSIFICATION**	**HOURS WORKED**			**LABOR RATES**			**AMOUNT**
		S.T.	**O.T.**	**D.T**	**S.T.**	**O.T.**	**D.T**	
								$ 0.00
								$ 0.00
								$ 0.00
								$ 0.00
								$ 0.00
								$ 0.00
								$ 0.00
								$ 0.00
								$ 0.00
								$ 0.00
LABOR SUBTOTAL								$ 0.00
SMALL TOOLS							0%	$ 0.00
OVERHEAD & TAXES FOR LABOR							29%	$ 0.00

EQUIPMENT:	**Oper. Initials**	**HOURS OPERATED**		**EQUIPMENT RATES**		**AMOUNT**
		Oper.	**Standby**	**Oper.**	**Standby**	
						$ 0.00
						$ 0.00
						$ 0.00
						$ 0.00
						$ 0.00
						$ 0.00
						$ 0.00
						$ 0.00
						$ 0.00
						$ 0.00
EQUIPMENT SUBTOTAL						$ 0.00
OVERHEAD & TAXES FOR EQUIPMENT					21%	$ 0.00

MATERIALS/SERVICES:		**AMOUNT**
Invoice #	**Description**	
		$ 0.00
		$ 0.00
		$ 0.00
MATERIALS/SERVICE SUBTOTAL		$ 0.00
OVERHEAD & TAXES FOR MATERIALS/SERVICES	21%	$ 0.00

SUBTOTAL OF LABOR, EQUIPMENT, MATERIALS, AND SERVICES		$ 0.00
CONTRACTOR'S MARK-UP ON SUBCONTRACTOR WORK (IF APPLICABLE)	12%	$ 0.00
TOTAL		$ 0.00

INSPECTOR	CONTRACTOR'S REP.	REP. TITLE

CALCULATED	Approved for Payment

Invoice/Ticket

REQUEST FOR OUTAGE/SHUTDOWN # 0X

Project:

From: Date:

To:

---

1. A Shutdown is requested on the following system(s):
2. Proposed date of Shutdown:
3. Estimated duration: Beginning at:
4. Reason for Shutdown:
5. Affected System/Equipment:
6. Kitsap County Staff assistance required: ☐ Yes ☐ No
7. Sequence of Events:
8. Contractor Preparation & Temporary Facilities for Shutdown:
9. Contractor Contingency Plans:

REVIEW COMMENTS & STATUS (For County Use Only)

Comments:

Status: ☐ Accepted ☐ Accepted as Noted ☐ Not Accepted Date:

By: _____
Kitsap County
Operations Lead Supervisor

By: _____
Kitsap County
Construction Manager

Submittal Review Comments

Re:

KC

Submittal No.: Enter submittal number here.
Reviewed By: Enter reviewer's name here

Submittal Review Action
REVIEW IS FOR GENERAL COMPLIANCE WITH CONTRACT DOCUMENTS. NO RESPONSIBILITY IS ASSUMED FOR CORRECTNESS OF DIMENSIONS OR DETAILS. THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR DEVIATIONS FROM CONTRACT REQUIREMENTS NOT SPECIFICALLY INDICATED ON THIS SUBMITTAL.

Comment Number	PDF Page	Comment
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
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APPENDIX B
TESTING FORMS

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Project
Pipe Testing

Contractor: _____ Pump Station _____

System: _____ Pipe Size: _____
Service: _____ Pipe Material: _____
Symbol: _____ Approximate Length Tested: _____
Fluid Category _____ Allowable Leakage: _____

Test Requirements:
Medium: _____
Pressure: _____
Duration: _____

Location or area of pipe tested, attach marked-up contract drawing indicating pipe section(s) being tested:

_____

_____

Test Date: _____ PSI Start: _____
Test Start Time: _____ PSI End: _____
Test End Time: _____ Pressure Loss: _____

Comments:

_____

_____

_____

_____

Tested By: _____ Date: _____

Test Approved: Yes _____ No _____

Witnessed By: _____ Date: _____

Krazan & Associates, Inc.
Geotechnical Engineering • Environmental Engineering
Construction Testing and Inspection

Field
Report NO.: _____

DATE:	Set Count:	CONTRACTOR:
PROJECT #:		PERMIT #:
PROJECT:		INSPECTOR:
LOCATION:		JURISDICTION:
KA P.M.:		WEATHER: TEMP:

Reviewed By:		ASTM Test #:		Asset Number(s):	
To the best of my knowledge, the above WAS NOT performed in accordance with the approved plans, specifications and regulatory requirements.					
Superintendent/Representative:			Technician:		

Krazan & Associates, Inc.

Geotechnical Engineering • Environmental Engineering
Construction Testing and Inspection

COMPACTION REPORT NO.: _____

DATE: _____ CONTRACTOR: _____
PROJECT #: _____ PERMIT #: _____
PROJECT: _____ INSPECTOR: _____
LOCATION: _____ JURISDICTION: _____
KA P.M.: _____ WEATHER: _____ TEMP: _____

☐ NUCLEAR DENSOMETER ASTM D6938 ☐ SANDCONE ASTM D1556 ☐ OTHER

LOCATION MAP

☒ Paved Areas : _____
☐ Building Pad(s) :
☐ Utility :
☐ Other :

Curve	Unified Soils Classification or Description	Maximum Dry Density / Rice (PCF)	Optimum Moisture

TEST	ELEVATION	LOCATION	CURVE	MODE & DEPTH	DENSITY (PCF)	MOISTURE	COMPACTION	REQUIRED COMPACTION

EQUIPMENT NO.: _____
DAILY AVERAGE STANDARD DENSITY COUNT: _____
DAILY AVERAGE STANDARD MOISTURE COUNT: _____

Reviewed By: _____

This testing does not preclude the possibility that the soil or hot mix asphalt may be loosened by future construction or rainfall events. The compaction tests were performed at the approximate locations and elevations shown, and indicate relative compaction at those locations. Horizontal and vertical limits of the compacted areas were determined by others. Our firm does not guarantee earthwork or paving construction, nor does our work relieve the contractor's responsibility to conform to the approved project plans and specifications.

To the best of my knowledge, the above WAS NOT performed in accordance with the approved plans, specifications and regulatory requirements.

REMARKS :

Superintendent/Representative: Technician:

Krazan & Associates
Discrepancy Log

Project No:
Project Name:
Project City, State:

A B C	Obs Obs By Deficiency No.	Grid Line No. Grid Line Ltr Detail	Deficiency Description	Action Required	Action Taken	
A				☐ Install Per Plans & Specs ☐ Submit RFI ☐ No. Repair ☐ Owner Approval Required		Status: UNRESOLVED
B						Resolved Date:
C						
A				☐ Install Per Plans & Specs ☐ Submit RFI ☐ No. Repair ☐ Owner Approval Required		Status: UNRESOLVED
B						Resolved Date:
C						
A				☐ Install Per Plans & Specs ☐ Submit RFI ☐ No. Repair ☐ Owner Approval Required		Status: UNRESOLVED
B						Resolved Date:
C						
A				☐ Install Per Plans & Specs ☐ Submit RFI ☐ No. Repair ☐ Owner Approval Required		Status: UNRESOLVED
B						Resolved Date:
C						
A				☐ Install Per Plans & Specs ☐ Submit RFI ☐ No. Repair ☐ Owner Approval Required		Status: UNRESOLVED
B						Resolved Date:
C						

GENERAL NOTES

1. ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH THE 2021 EDITION OF THE STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION (REFERRED TO HEREIN AS THE STANDARD SPECIFICATIONS), PREPARED BY THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION AND THE WASHINGTON STATE CHAPTER OF THE APWA; KITSAP COUNTY DEPARTMENT OF PUBLIC WORKS STANDARD FOR SANITARY SEWER EXTENSIONS; AND KITSAP COUNTY'S ROAD STANDARDS AND SPECIFICATIONS, AS SUPPLEMENTED BY THE DRAWINGS AND CONTRACT DOCUMENTS.

2. VERIFY ALL DIMENSIONS BEFORE STARTING WORK AND IMMEDIATELY NOTIFY THE ENGINEER OF ANY DISCREPANCIES.

3. ALL CONSTRUCTION IS SUBJECT TO INSPECTION BY KITSAP COUNTY. NOTIFY THE COUNTY OF THE SCHEDULE IN SUFFICIENT TIME TO PERMIT INSPECTION PRIOR TO AND DURING WORK.

4. ALL WORK WITHIN THE SITE AND KITSAP COUNTY RIGHT OF WAY SHALL BE SUBJECT TO INSPECTION BY THE COUNTY'S INSPECTOR. NOTIFY THE COUNTY INSPECTOR IN SUFFICIENT TIME TO PERMIT INSPECTION PRIOR TO AND DURING WORK.

5. CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE COUNTY, THE ENGINEER OF RECORD, AND PERMITTING AGENCY AND SHALL BE RESOLVED PRIOR TO PROCEEDING WITH CONSTRUCTION.

6. EMPLOY THE PROPER STANDARD OF CARE FOR ALL WORK AROUND EXISTING OVERHEAD AND UNDERGROUND UTILITIES. PROTECT ALL EXISTING UTILITIES AND VERIFY ALL UTILITY LOCATIONS PRIOR TO CONSTRUCTION BY CALLING THE UTILITIES UNDERGROUND LOCATION CENTER AT 1-800-424-5555 (OR 811), KITSAP COUNTY PUBLIC WORKS AT (360) 337-5777 AND WSDOT, A MINIMUM OF 48 HOURS PRIOR TO ANY EXCAVATION.

7. HAVE A COPY OF THE APPROVED ISSUED FOR CONSTRUCTION PLANS ON THE CONSTRUCTION SITE AT ALL TIMES.

8. OBTAIN ALL APPLICABLE PERMITS AND EASEMENTS AS REQUIRED BY KITSAP COUNTY PUBLIC WORKS DEPARTMENT AND WASHINGTON STATE DEPARTMENT OF TRANSPORTATION.

9. CONSTRUCTION NOISE SHALL BE LIMITED AS PER KITSAP COUNTY MUNICIPAL CODE (SECTION 10.28.040 AND 10.28.070).

10. WHERE CONSTRUCTION IS CARRIED OUT IN AREAS NOT SPECIFIED ON THE PLANS AND WHICH HAVE EXISTING IMPROVEMENTS, APPROPRIATE MEASURES SHALL BE TAKEN TO RESTORE SUCH AREAS TO CONDITIONS EXISTING PRIOR TO CONSTRUCTION OR AS REQUIRED BY KITSAP COUNTY DEPARTMENT OF PUBLIC WORKS.

11. OFF SITE PREMISE STAGING OR STORAGE AREAS SHALL REQUIRE A WRITTEN RELEASE FROM THE AFFECTED PROPERTY OWNER. IN ADDITION, A RELEASE FROM THE COUNTY SHALL BE REQUIRED DESIGNATING THAT DAMAGE TO COUNTY PROPERTY IS NEGLIGIBLE OR NON-EXISTENT.

12. TAKE ALL NECESSARY PRECAUTIONS FOR THE SAFETY OF EMPLOYEES ON THE PROJECT AND COMPLY WITH ALL APPLICABLE PROVISIONS OF FEDERAL, STATE, AND MUNICIPAL SAFETY LAWS AND BUILDING CODES. ERECT AND PROPERLY MAINTAIN, AT ALL TIMES, AS REQUIRED BY THE CONDITIONS AND PROGRESS OF THE WORK, ALL NECESSARY SAFEGUARDS FOR PROTECTION OF WORKERS AND THE PUBLIC; POST DANGER SIGNS WARNING AGAINST KNOWN OR UNUSUAL HAZARDS; AND DESIGNATE A RESPONSIBLE MEMBER OF THE ORGANIZATION ON THE CONSTRUCTION SITE WHOSE DUTY IS THE PREVENTION OF ACCIDENTS.

13. CONTRACTOR IS RESPONSIBLE FOR DAMAGES TO COUNTY PROPERTY, PAVEMENT, WALKS, UTILITIES OR UNDERGROUND CABLES. IT IS STRONGLY RECOMMENDED TO VIDEO RECORD THE EXISTING CONDITIONS OF THE SURROUNDING AREAS AND SUBMITTING THE VIDEO TO THE COUNTY PRIOR TO THE START OF ANY WORK.

14. ALL WORK SHALL BE COORDINATED WITH KITSAP COUNTY STAFF TO MINIMIZE INTERRUPTION TO THE OPERATION OF CKTP AND THE PUMP STATIONS.

15. ALL EQUIPMENT AND VALVES SHALL BE OPERATED ONLY BY KITSAP COUNTY STAFF.

16. ALL PIPING SHALL BE CLEANED AND TESTED PRIOR TO PAVING IN CONFORMANCE WITH THE SPECIFICATIONS.

17. PRIOR TO BACKFILL, ALL PIPES AND APPURTENANCES SHALL BE INSPECTED BY THE COUNTY. INSPECTION SHALL NOT RELIEVE THE CONTRACTOR OF CORRECTION OF ANY DEFICIENCIES AND/OR FAILURES AS DETERMINED BY SUBSEQUENT TESTING AND INSPECTION.

18. COORDINATE WITH THE ENGINEER REGARDING TEMPORARY CONSTRUCTION EASEMENTS PRIOR TO CONSTRUCTION ON EASEMENTS.

19. DEVELOP A SANITARY SEWER TEMPORARY BYPASS PLAN PRIOR TO DISRUPTING ANY LIVE SEWERS, INCLUDING MAIN LINES, FORCE MAINS, OR SIDE SEWERS. PLAN SHALL ADDRESS COUNTY COORDINATION. SUBMIT PLAN TO THE ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION.

20. PHYSICAL CONNECTIONS TO THE EXISTING SEWER SYSTEM SHALL NOT BE MADE UNTIL AUTHORIZED BY THE ENGINEER. SUCH AUTHORIZATION WILL NOT BE GIVEN UNTIL THE CONTRACTOR HAS SATISFIED THE ENGINEER THAT THE NEW FORCE MAIN IS READY TO BE PLACED INTO SERVICE.

21. VERIFY ACCURACY OF ALL UTILITY LOCATIONS SHOWN ON DRAWINGS. DISCOVER AND AVOID ALL UTILITIES, SHOWN OR NOT SHOWN, THAT MAY BE IMPACTED BY THE CONTRACTOR'S WORK.

22. ADJUST ALL MANHOLE RIMS, DRAINAGE STRUCTURES, LIDS, VALVE BOXES, UTILITY ACCESS STRUCTURES, AND MONUMENT COVERS TO FINISH GRADE WITHIN AREAS AFFECTED BY THE CONTRACTOR'S WORK.

23. CDF IS REQUIRED WHERE MINIMUM 3'-0" COVER CANNOT BE MET AND INSTALLED PER SPECIFICATIONS.

NORTHERN SERVICE AREA DESIGN DATA TABLE	
YEAR	POPULATION
2022	17,750
2042	25,409
PEAK FLOW	
YEAR	GPM
2017	5,215
2038	6,800

811 Know what's below. Call before you dig.

NO.	DATE	BY	REVISION
1	03/28/2022	TMH	ADDENDUM #4

NOTICE
0 ½ 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

TMH DESIGNED
HCM DRAWN
EKS CHECKED

SHELBY K. SAYURASATO — STATE OF WASHINGTON — 53542 — REGISTERED PROFESSIONAL ENGINEER
3/30/2022

murraysmith

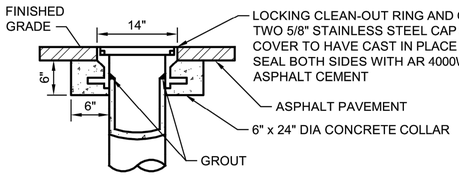
KITSAP COUNTY 18 57 WASHINGTON

BANGOR-KEYPORT FORCE MAIN REPLACEMENT

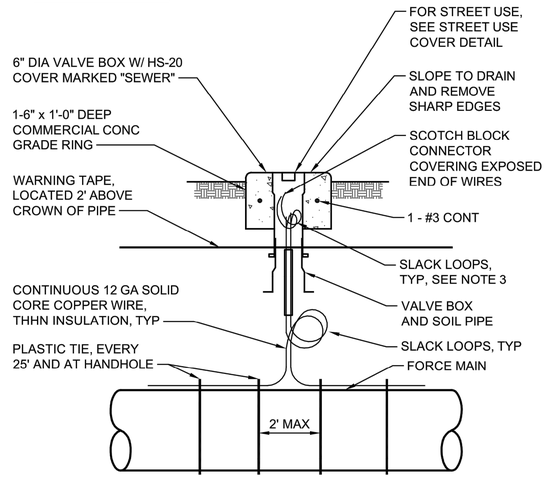
GENERAL NOTES & DESIGN CRITERIA

PROJECT NO.: 20-2815 | SCALE: AS SHOWN | DATE: FEBRUARY 2022

SHEET **G-4**



STREET USE COVER



TRACER WIRE AND HANDHOLE DETAIL

SCALE: NTS

1 / -

NOTES:

FOR ALL SURFACE EXCAVATED FORCE MAINS

1. LOCATE HAND HOLE OVER CENTERLINE OF FORCE MAIN.

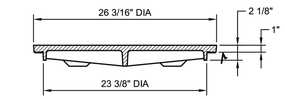
2. NO WIRE SPLICES ALLOWED BETWEEN TRACE WIRE HAND HOLES, UNLESS OTHERWISE APPROVED BY ENGINEER.

3. PROVIDE 24" WIRE LOOP INSIDE VALVE BOX, TYP.

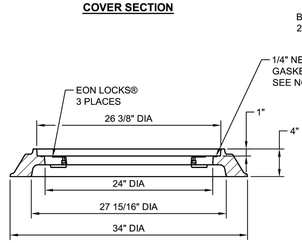
4. PROVIDE WARNING TAPE OVER FORCE MAIN.

5. PLASTIC TIE: 150 LB TENSILE STRENGTH NYLON ZIP TIE.

6. PROVIDE AND LOCATE HAND HOLE AT A MINIMUM SPACING OF 550 FEET AND A MAXIMUM SPACING OF 600 FEET ALONG FORCE MAIN ALIGNMENT.



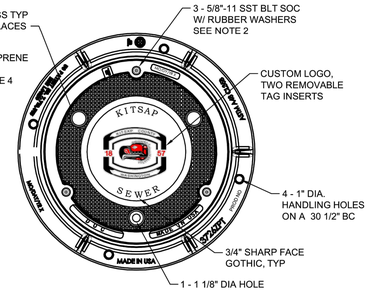
COVER SECTION



SECTION VIEW

NOTES:

1. MATERIALS: FRAME = GREY IRON (CL35B; COVER = DI (80-55-06))
2. POSITION MH FRAME SO ONE BOLT IS DIRECTLY OVER MH SAFETY STEPS.
3. FRAME AND COVER SHALL BE EJ COMPANY NO. 3725 CPT OR ACCEPTED EQUAL.
4. PROVIDE WITH NEOPRENE GASKET FOR WATERTIGHT ASSEMBLY.

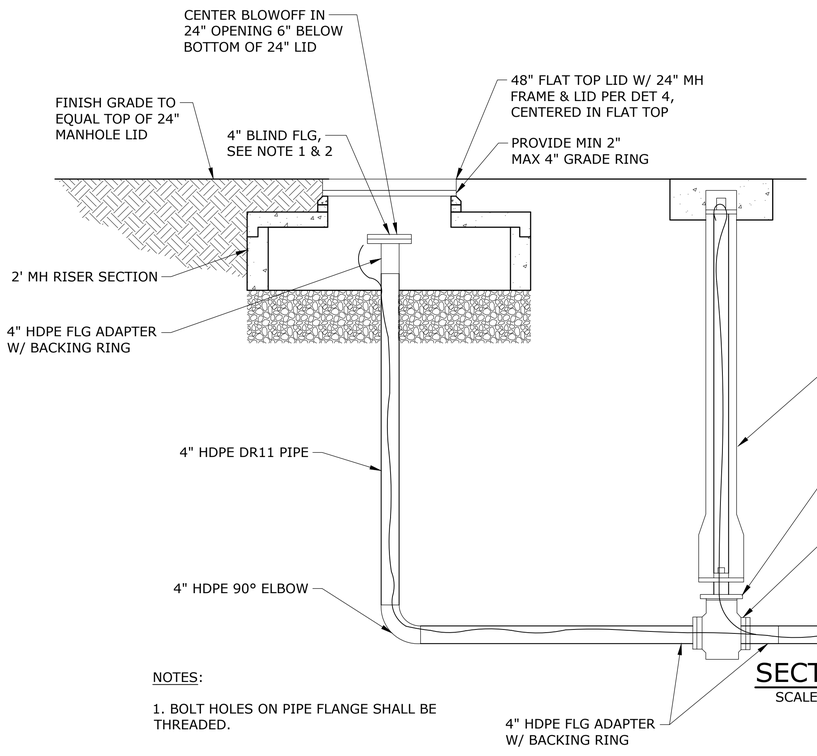


PLAN

24" MANHOLE LID

SCALE: NTS

4 / -

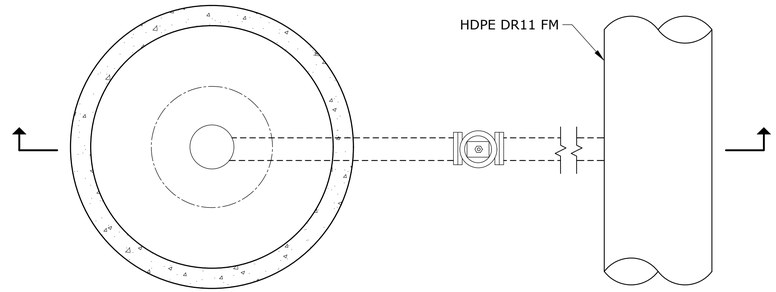


NOTES:

1. BOLT HOLES ON PIPE FLANGE SHALL BE THREADED.

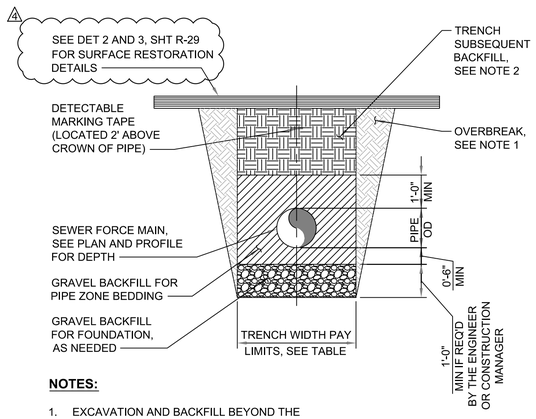
SECTION

SCALE: NTS



PLAN

SCALE: NTS



NOTES:

1. EXCAVATION AND BACKFILL BEYOND THE TRENCH WIDTH PAY LIMITS SHALL BE TREATED ON OVER BREAK AND SHALL BE THE CONTRACTOR'S RESPONSIBILITIES.
2. ALL EXCAVATIONS OVER 4' IN DEPTH SHALL HAVE A TRENCH SUPPORT SYSTEM AS REQUIRED BY STATE AND FEDERAL LAW.
3. CONTRACTOR SHALL MATCH EXISTING SURFACE CONDITIONS.

TRENCH WIDTH PAY LIMITS	
PIPE	**MAX TRENCH WIDTH PAY LIMIT**
24" FM	4'-6"
26" FM	4'-9"
30" FM	5'-3"

TRENCH DETAIL FOR SEWER FORCE MAIN

SCALE: NTS

3 / -

BLOWOFF ASSEMBLY DETAIL

SCALE: NTS

2 / -

NO.	DATE	BY	REVISION
1	03/28/2022	TMH	ADDENDUM #4

NOTICE

0 ½ 1

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

TMH DESIGNED

BAW DRAWN

EKS CHECKED

BRETT A. SAYLES — STATE OF WASHINGTON — 55542 — REGISTERED PROFESSIONAL ENGINEER

3/30/2022

murraysmith

KITSAP COUNTY 18 57 WASHINGTON

BANGOR-KEYPORT FORCE MAIN REPLACEMENT

SCHEDULE A & SCHEDULE B MISCELLANEOUS SEWER DETAILS - 2

PROJECT NO.: 20-2815 | SCALE: AS SHOWN | DATE: FEBRUARY 2022

SHEET

SS-58

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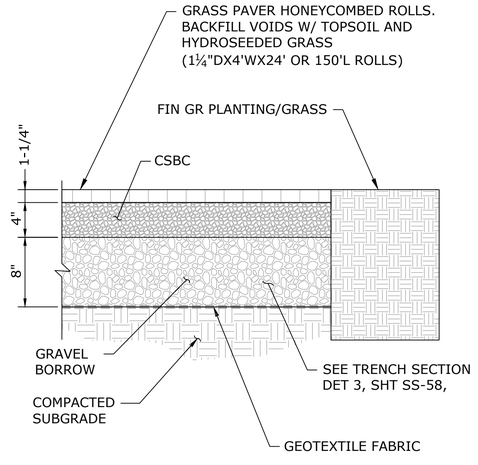

GRASS PAVER DETAIL

SCALE: NTS

1

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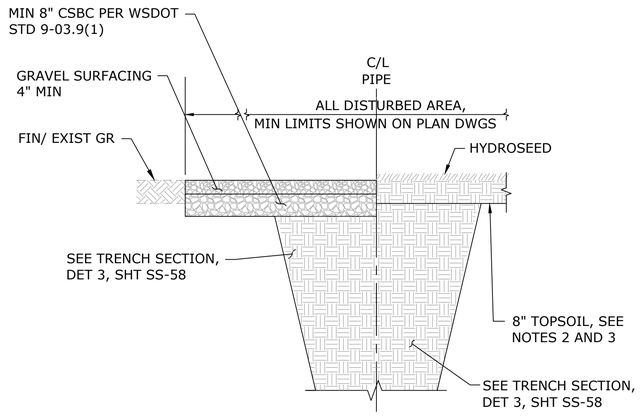

TRENCH WIDTH PAY LIMITS	
PIPE	MAX TRENCH WIDTH PAY LIMIT
24" FM	4'-6"
26" FM	4'-9"
30" FM	5'-3"

NOTES:

1. THIS RESTORATION DETAIL APPLIES TO TRENCHES EXCAVATED IN EXISTING UNPAVED AREAS.

2. REGRADE DISTURBED AREAS TO ORIGINAL OR PROPOSED CONTOURS LESS DEPTH OF NEW TOPSOIL PRIOR TO INSTALLING NEW TOPSOIL. RESTORE ORIGINAL GRADE AND ELEVATIONS AFTER INSTALLATION OF TOPSOIL.

3. TOPSOIL LAYER SHALL HAVE A MINIMUM ORGANIC MATTER CONTENT OF 5% DRY WEIGHT AND A PH FROM 6.0 TO 8.0 OR MATCHING THE PH OF THE UNDISTURBED SOIL. THE TOPSOIL LAYER SHALL HAVE A MINIMUM DEPTH OF EIGHT INCHES EXCEPT WHERE TREE ROOTS LIMIT THE DEPTH OF INCORPORATION OF AMENDMENTS NEEDED TO MEET THE CRITERIA. SUBSOILS BELOW THE TOPSOIL LAYER SHALL BE SCARIFIED AT LEAST 4 INCHES WITH SOME INCORPORATION OF THE UPPER MATERIAL TO AVOID STRATIFIED LAYERS, WHERE FEASIBLE.

4. STOCKPILE EXISTING TOPSOIL DURING GRADING FOR USE IN HYDROSEEDED AREAS. STOCKPILED TOPSOIL SHALL BE AMENDED, IF NEEDED, TO MEET THE ORGANIC MATTER OR DEPTH REQUIREMENTS, AS SHOWN ON THE DRAWINGS. AMENDMENTS SHALL BE AT A DEFAULT "PRE-APPROVED" RATE OR AT A CUSTOM CALCULATED RATE.

5. AS REQUIRED, IMPORT TOPSOIL MIX OF WITH ORGANIC CONTENT THAT MEETS REQUIREMENTS NOTED ABOVE.

6. RESTORE DISTURBED GRAVEL SHOULDER WITH 4" OF CSTC. REMOVE EXISTING GRAVEL AS NECESSARY TO MAINTAIN GRADES.

7. MAX TRENCH WIDTH PAY LIMITS, UNLESS OTHERWISE SHOWN ON THE DRAWINGS.

SURFACE RESTORATION UNPAVED AREA

SCALE: NTS

2

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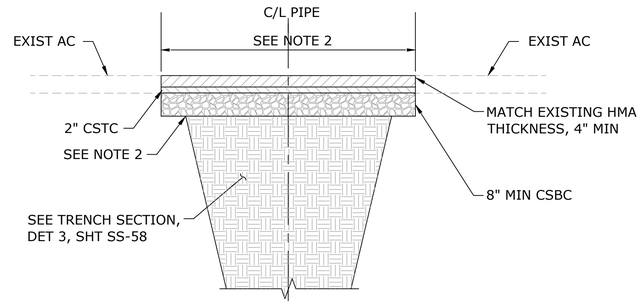

TRENCH WIDTH PAY LIMITS	
PIPE	MAX TRENCH WIDTH PAY LIMIT
24" FM	4'-6"
26" FM	4'-9"
30" FM	5'-3"

NOTES:

1. THIS RESTORATION DETAIL APPLIES TO TRENCHES EXCAVATED IN EXISTING AC-PAVED AND CONCRETE PAVED AREAS.

4 2. SAW CUT EXISTING AC PAVEMENT 2' WIDER THAN TOP OF TRENCH UNLESS SHOWN OTHERWISE ON THE PLANS. CUTS SHALL BE STRAIGHT, VERTICAL, AND FULL DEPTH. REMOVE AND DISPOSE OF EXISTING AC OVER TRENCH. CLEAN, HEAT, AND TACK EDGES OF EXISTING AC WITH SEALER PRIOR TO INSTALLING NEW HMA PATCH. PROVIDE SMOOTH TRANSITION BETWEEN EXISTING AC PAVEMENT AND NEW HMA PATCH.

3. ALL JOINTS SHALL BE SEALED WITH A 4" WIDE STRIP OF ASPHALT SEALER CENTERED ON JOINT. SEALER TO CONFORM TO WSDOT STANDARD SPECIFICATION 9-04.2.

4. MATCH ELEVATIONS OF EXISTING PAVEMENT, DRIVEWAYS, SHOULDERS, AND OTHER SURFACE FEATURES.

5. RESTORE ALL DISTURBED PAVEMENT MARKINGS.

6. MAX TRENCH WIDTH PAY LIMITS, UNLESS OTHERWISE SHOWN ON THE DRAWINGS.

SURFACE RESTORATION PAVED AREAS

SCALE: NTS

3

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NO.	DATE	BY	REVISION
4	03/28/2022	TMH	ADDENDUM #4

NOTICE

0 ½ 1

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TMH DESIGNED

MNF DRAWN

EKS CHECKED

SHELBY SAYURA ASAO — STATE OF WASHINGTON — 18857 — REGISTERED PROFESSIONAL ENGINEER

3/30/2022

murraysmith

KITSAP COUNTY — 18 — 57 — WASHINGTON

BANGOR-KEYPORT FORCE MAIN REPLACEMENT

MISCELLANEOUS RESTORATION DETAILS - 1 SCHEDULE A & SCHEDULE B

PROJECT NO.: 20-2815 | SCALE: AS SHOWN | DATE: FEBRUARY 2022

SHEET

R-29