



June 20, 2024

Mr. Peter Campbell  
Alaska Department of Environmental Conservation  
43335 Kalifornsky Beach Road, Suite 11  
Soldotna, Alaska 99669

RE: SOIL MANAGEMENT PLAN; PORT GRAHAM OCEAN OUTFALL CONSOLIDATION,  
PORT GRAHAM, ALASKA

We are pleased to submit this soil management plan (SMP) to support planned construction activities associated with the Port Graham Ocean Outfall Consolidation project located in Port Graham, Alaska. A vicinity map is included as Figure 1 and design drawings are included in Attachment 1.

As part of the project, Alaska Native Tribal Health Consortium (ANTHC) will excavate soil and bedrock along the alignment to install a sewer main and two septic tanks. Based on previous activities at the site, groundwater is expected to be encountered during project activities. Dewatering activities will be handled in accordance with a dewatering plan which will be submitted under separate cover. Shannon & Wilson has prepared this SMP which details management procedures for potentially contaminated soil which may be encountered during the construction project. This SMP was developed in accordance with the Alaska Department of Environmental Conservation (ADEC's) January 2022 *Field Sampling Guidance* document and April 2017 *Technical Memorandum: Managing Petroleum-Contaminated Soil, Water, or Free Product During Public Utility and Right-of-Way Construction and Maintenance Projects*.

## BACKGROUND

A portion of the sewer construction project will take place adjacent to an active ADEC contaminated site designated "Port Graham Village Corp. Diesel Spill" (ADEC File No. 2327.38.002). An active bulk fuel storage tank farm is located at the site. Reportedly, the tanks contain diesel and gasoline. In 1985, multiple fuel spills were reported to the ADEC. According to the ADEC database, cleanup and assessment activities were conducted at the site between 1991 and 2001.

In 2023, Shannon & Wilson advanced six test pits (Test Pits TP1 through TP6) along the proposed sewer alignment, west and south of the tank farm. Samples collected from Test Pits TP1 and TP2, advanced west of the tank farm, contained concentrations of diesel range

organics (DRO) (maximum of 4,960 milligrams per kilogram [mg/kg]) and/or naphthalene (maximum of 0.0958 mg/kg) exceeding the ADEC Method Two cleanup levels of 230 mg/kg and 0.038 mg/kg, respectively. In addition, a soil sample collected from Test Pit TP5, advanced southeast of the tank farm, contained chloroform (maximum of 0.00724 mg/kg) at a concentration exceeding the ADEC Method Two cleanup level of 0.0071 mg/kg. The approximate locations of the test pits are shown on Figure 2, included in Attachment 2.

Based on the results of Shannon & Wilson's 2023 site characterization activities, Mr. Peter Campbell of the ADEC requested the preparation of a SMP for the planned construction activities. Based on previous investigations conducted in the vicinity of the tank farm, contaminants of concern include gasoline range organics (GRO), DRO, volatile organic compounds (VOCs), and polynuclear aromatic hydrocarbons (PAHs).

## ROLES AND RESPONSIBILITIES

The SMP will be implemented by ANTHC, functioning as both the project owner and construction operator, and their selected subcontractors. No material deviations to this SMP will be implemented in the field prior to notifying ADEC and receiving approval from ADEC. "Material Deviations" is defined as those variances that are likely to impact the type, volume, or quality of data.

ANTHC will be responsible for implementing the SMP and providing assurance that appropriate resources, including a Qualified Environmental Professional (QEP), are retained and mobilized to the site if required. ANTHC will also be responsible for proper management of soil generated during the project in accordance with this plan and all appropriate State and Federal regulations.

## HANDLING OF EXCAVATED SOIL

Soil handling will include temporarily stockpiling soil and backfilling. The procedures outlined in this SMP will be followed during any earthwork activities conducting between Mumchuck Road and Manhole MH 20. If previously unidentified areas of impacted soil are documented, ANTHC will be immediately notified, and ANTHC will notify the ADEC.

If all of the excavated soil cannot be used to backfill the excavation, the excess soil will be placed over the backfilled trench and capped with at least 2 feet of imported fill material. Soil handling during construction should be conducted in a manner that prevents the release of contaminants to surface water. Mitigation techniques will generally include

covering temporary soil stockpiles to prevent stormwater runoff and run-on and directing surface flows around excavations and stockpiles.

In accordance with ADEC's April 2017 *Technical Memorandum: Managing Petroleum-Contaminated Soil, Water, or Free Product During Public Utility and Right-of-Way Construction and Maintenance Projects*, the base and sidewalls of the final limits of the excavation will not be field screened or sampled. In addition, analytical soil samples will not be collected from the excavated material.

## Trench Backfilling

Soil removed from the trench will be temporarily stockpiled directly on the ground surface adjacent to the excavation. If free product or stained soil is observed, the material will be temporarily stockpiled on a liner (minimum 10-mil). In accordance with the ADEC's *Technical Memorandum Managing Petroleum-Contaminated Soil, Water, or Free Product During Public Utility and Right-of-Way Construction and Maintenance Projects*, contaminated soil will be reused as backfill. If free product is encountered, the material cannot be returned to the excavated. Based on previous work conducted at the site, it is assumed that free product will not be encountered.

ANTHC will attempt to return any excavated contaminated soil to approximately the same depth and location from which it was excavated. Mixing of contaminated excavated soil with uncontaminated material is not allowed. Due to the placement of bedding material within the trench, it is anticipated that it will not be possible to return all excavated material to the trench. Excess soil will be placed at the ground surface, above the backfilled trench. Next, at least 2 feet of imported clean material will be placed above the excess soil.

## Reporting

ANTHC will maintain notes that document the excavation activities, the on-site placement of excavated soil, and whether evidence of soil contamination was observed. This information will be provided to the ADEC at the completion of the project.

## CLOSURE/LIMITATIONS

The interpretations and recommendations contained in this work plan are based on our knowledge of the ADEC regulations and existing site conditions, and limited research. This work plan is not intended to facilitate cleanup of impacted soil within the project area, but to assist the Contractor in handling potentially contaminated soil that may be encountered

during the construction efforts. The contractor conducting the excavation will be responsible for hiring an Environmental Consultant to implement this work plan.

If, during construction, subsurface conditions different from those described herein are observed or appear to be present, ANTHC must review these conditions and reconsider the recommendations in this SMP, as necessary. It is our understanding that the project is scheduled for 2024. If there is a substantial lapse of time (greater than one year) between the submittal of this plan and the start of work at the site, or if conditions have changed for any reason, it is recommended that this plan be reviewed to determine the applicability of the conclusions and recommendations considering the changed conditions and time lapse. In addition, note that unanticipated soil conditions are commonly encountered and cannot fully be predicted by previous soil and characterization field efforts.

If you have any questions or comments, please contact the undersigned at (907) 561-2120.

Sincerely,

SHANNON & WILSON



Alec Rizzo  
Environmental Scientist



Dan P. McMahon, PMP  
Vice President

Enc. Figure 1 and Attachments 1 and 2





Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

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Port Graham Ocean Outfall  
Port Graham, Alaska

**VICINITY MAP**

June 2024

110918-001

**SHANNON & WILSON, INC.**  
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

**FIG. 1**

Attachment 1

Design Drawings

**SCOPE OF WORK**

CONSTRUCTION OF A NEW SEWER COLLECTION SYSTEM AND CONSOLIDATED OUTFALL FOR THE VILLAGE OF PORT GRAHAM, ALASKA. PROJECT INCLUDES:

- APPROXIMATELY 4,400 LF 8" C-900 PVC GRAVITY SEWER AND MANHOLES
- INSTALLATION OF APPROXIMATELY 35 SEWER SERVICES AND ARCTIC BOXES CONNECTED TO THE NEW GRAVITY MAIN
- APPROXIMATELY 560 LF 2" SDR 11 HDPE ARCTIC PIPE FORCE MAIN
- INTERMEDIATE LIFT STATION
- 2 (EA) 40' LONG X 10'Ø STEEL REINFORCED HDPE SEPTIC TANKS
- EFFLUENT PUMPING STATION
- APPROXIMATELY 2,200 LF 4" SDR 11 HDPE ARCTIC PIPE FORCE MAIN
- INSTALLATION OF TEMPORARY BY-PASS SEWER SYSTEMS TO MAINTAIN SANITARY SEWER SERVICE DURING CONSTRUCTION
- DECOMMISSION EXISTING SEPTIC TANKS AND OCEAN OUTFALLS
- APPROXIMATELY 1,850 LF 8" SDR 9 HDPE OCEAN OUTFALL
- DIVE SURVEY TO CONFIRM PROPER OUTFALL INSTALLATION

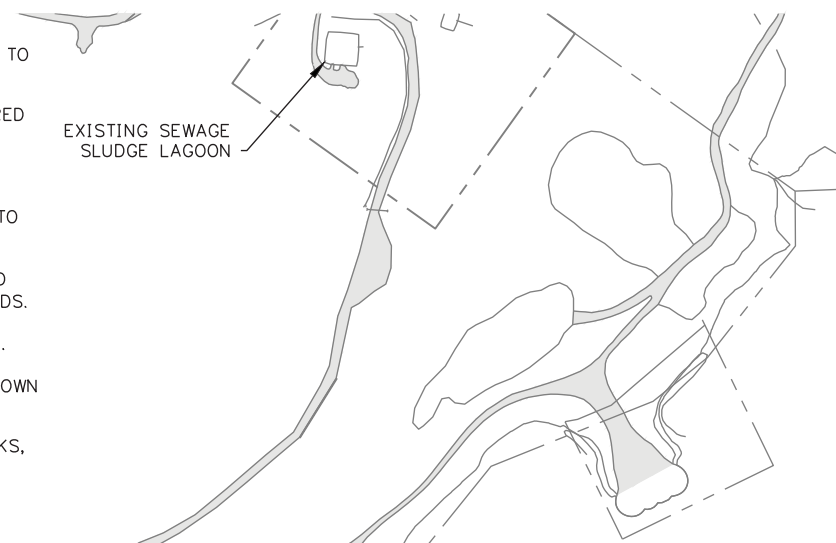
**SEQUENCE OF CONSTRUCTION**

CONTRACTOR SHALL MAINTAIN SEWER SERVICE TO ALL BUILDINGS DURING CONSTRUCTION AND REPLACEMENT OF EXISTING SEWER MAIN AND SEWER SERVICES. WASTEWATER FLOW SHALL BE BY-PASS PUMPED FROM THE UPPER RECEIVING FLOWS TO THE NEW SEWER SYSTEM.

CONTRACTOR SHALL REMOVE AND DEMOLISH EXISTING SEWER SYSTEM AS ENCOUNTERED DURING CONSTRUCTION IN EACH PHASE OF WORK AS SHOWN ON SHEET CD-101.

THE PHASES OF WORK FOR THIS PROJECT ARE LISTED BELOW:

- 1 INSTALL SEPTIC TANKS, LS-2, 4" EFFLUENT FORCE MAIN FROM SEPTIC TANKS TO TERMINAL MANHOLE AT OUTFALL, AND OUTFALL PIPE.
- 2 INSTALL 8" GRAVITY MAIN FROM MH 18 TO EMH 01 (SEE CS-404-CS-405) AND FROM MH 17 TO MH 06 (CS-402-CS-404). WORK FROM SEPTIC TANKS OUTWARDS.
- 3 CONNECT EXISTING FORCE MAIN ON WEST SIDE TO MH 27 (SEE SHEET CS-405).
- 4 INSTALL GRAVITY SEWER, INTERMEDIATE LIFT STATION, AND 2" FORCE MAIN SHOWN ON SHEETS CS-401 AND CF-401.
- 5 REMOVE AND DEMOLISH ALL REMAINING EXISTING SEWER SYSTEMS, SEPTIC TANKS, AND OUTFALL PIPE, AS SHOWN ON SHEET CD-101.

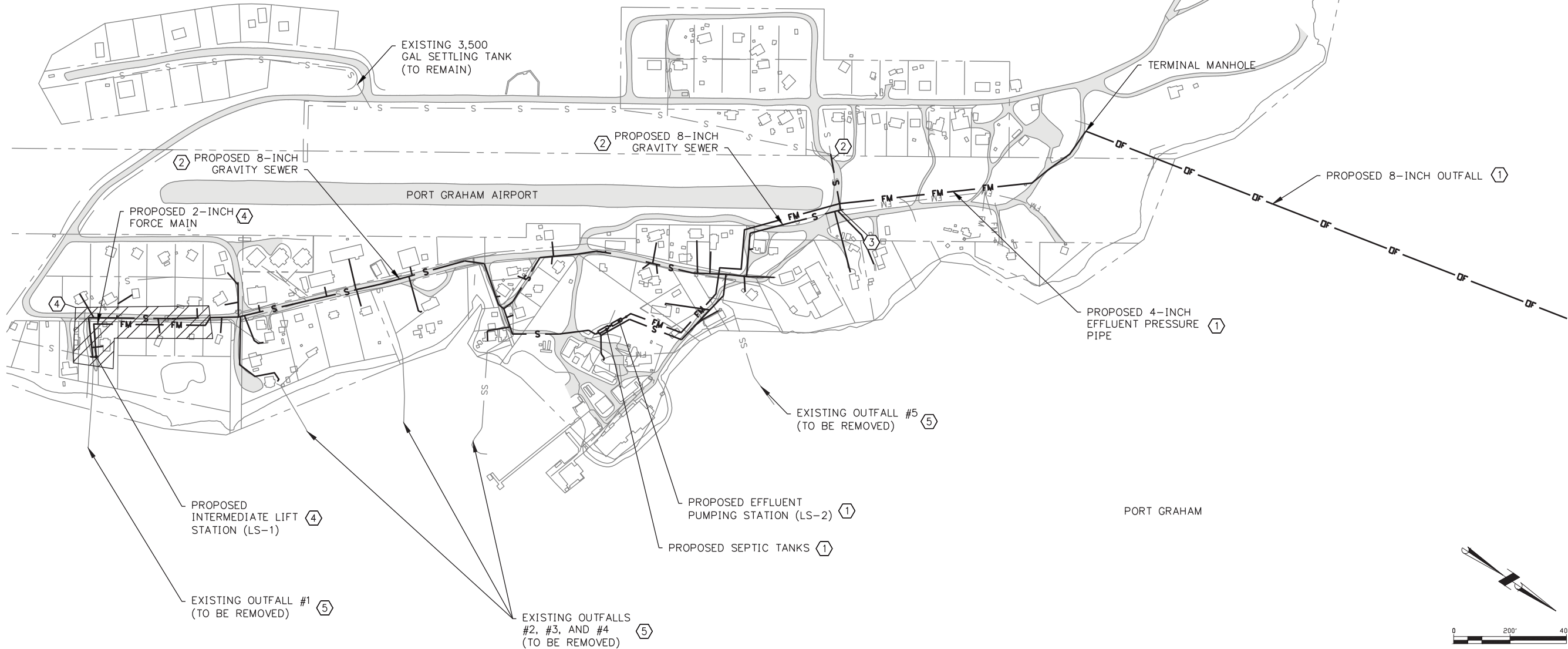


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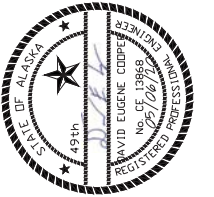
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BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ADJUST SCALES ACCORDINGLY

**PORT GRAHAM, AK  
OUTFALL CONSOLIDATION  
ISSUED FOR CONSTRUCTION**

MRK	DATE	ISSUED FOR CONSTRUCTION	DESCRIPTION	INIT
	MAY 2020			

PLAN SET: PGM-17-006  
PROJ MGR: DEC  
PROJ ENG: DEC  
DRUMS ENG: ----  
DRAWN BY: CMC  
SHEET TITLE

**COMMUNITY SITE PLAN & PROJECT OVERVIEW**

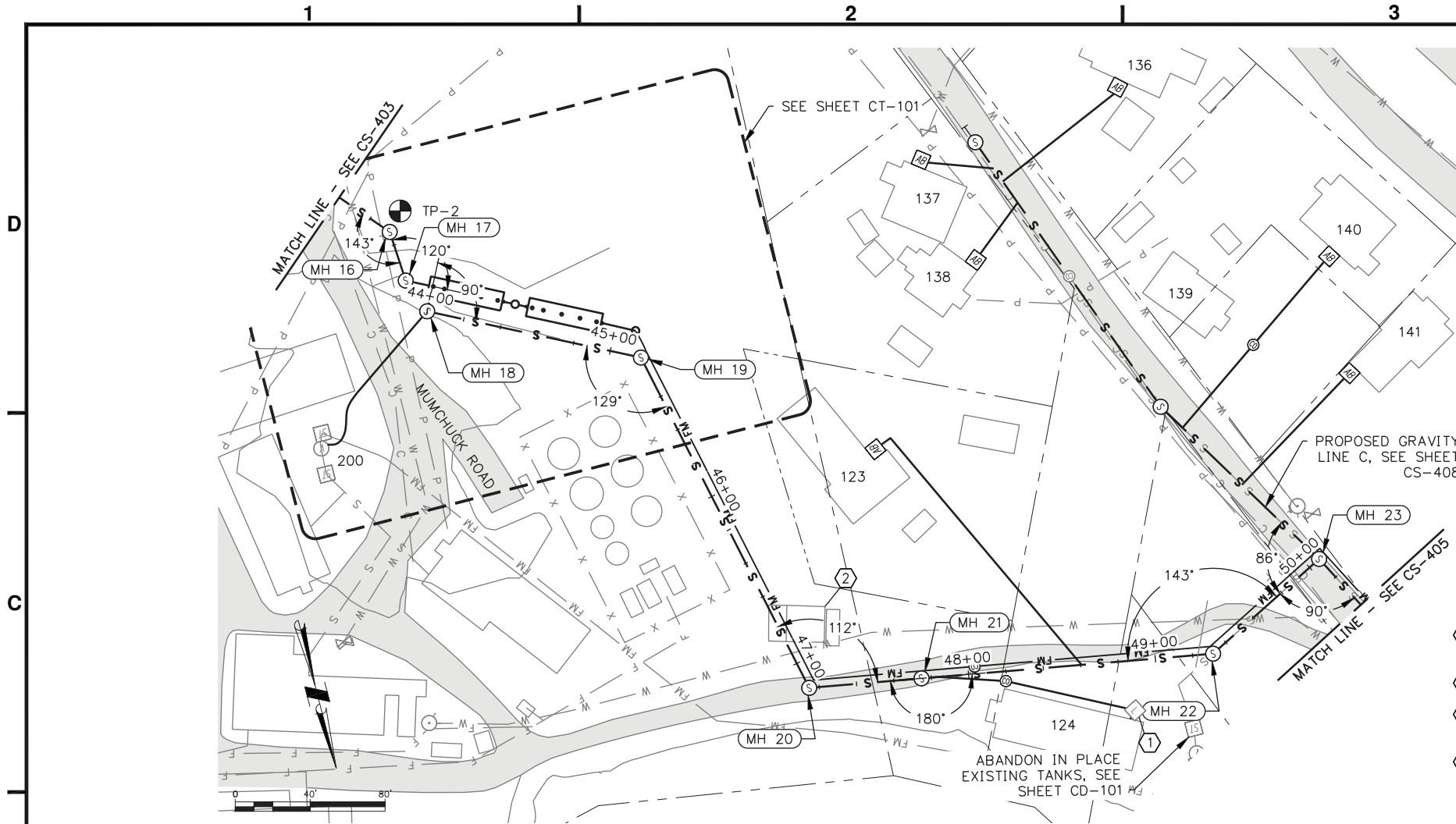
**G-003**

SHEET **3** OF **7**

**A1 COMMUNITY SITE PLAN & PROJECT OVERVIEW**

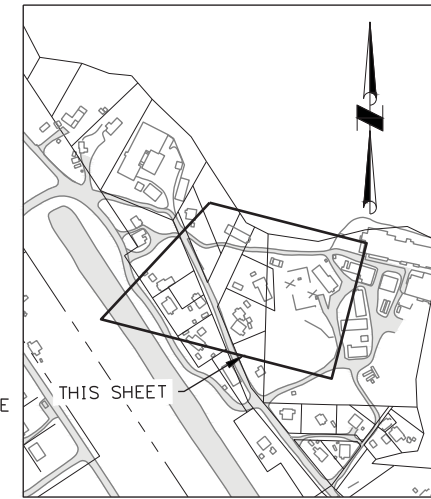
HORZ. SCALE 1" = 200'





**NOTES:**

- A. CONTRACTOR MAY ENCOUNTER BEDROCK IN AREAS WHERE GRAVITY MAIN ALIGNMENT HAS NOT BEEN DISTURBED FROM PREVIOUS CONSTRUCTION OR WHERE PIPE ELEVATION IS LOWER THAN EXISTING SEWER MAIN. SEE GEOTECHNICAL REPORT.
  - B. SEE SHEET CF-402 FOR PROPOSED FORCE MAIN PLAN AND PROFILE.
  - C. INSTALL 4" THICK X 6' WIDE RIGID INSULATION BOARD CENTERED OVER THE PIPE WHERE 6' BURIAL DEPTH CANNOT BE ACHIEVED. INSULATION NOT SHOWN IN PLAN FOR CLARITY.
  - D. SEE SHEET CD-101 FOR REMOVAL OF EXISTING FACILITIES.
  - E. EXISTING UTILITIES ARE SHOWN IN APPROXIMATE LOCATION. PROTECT IN PLACE AND WORK AROUND ALL EXISTING UTILITIES NOT SPECIFICALLY INDICATED TO BE RELOCATED.
  - F. SEE SHEET G-004 FOR SEWER SERVICE INFORMATION.
  - G. APPROXIMATE SEWER SERVICE ALIGNMENTS SHOWN, ADJUST ALIGNMENT AS NECESSARY TO ACCOMPLISH CONSTRUCTION.
  - H. MANHOLE LAYOUT IS TO CENTER OF STRUCTURE UNLESS NOTED OTHERWISE.
  - I. GRADE AREA TO ALLOW FOR POSITIVE DRAINAGE AND SLOPE TO EXISTING GRADE.
- ① EXISTING LIFT STATION TO BE REMOVED. INSTALL NEW SERVICE CONNECTION, SEE G-004.
  - ② RELOCATE EXISTING STRUCTURES.
  - ③ HORIZONTAL SEPARATION DISTANCE WAIVER AREAS, SEE SHEET C-501.
  - ④ FURNISH AND INSTALL ADDITIONAL FILL MATERIAL AS REQUIRED TO PROVIDE 6' MIN COVER OVER PROPOSED GRAVITY SEWER LINE.



VICINITY MAP

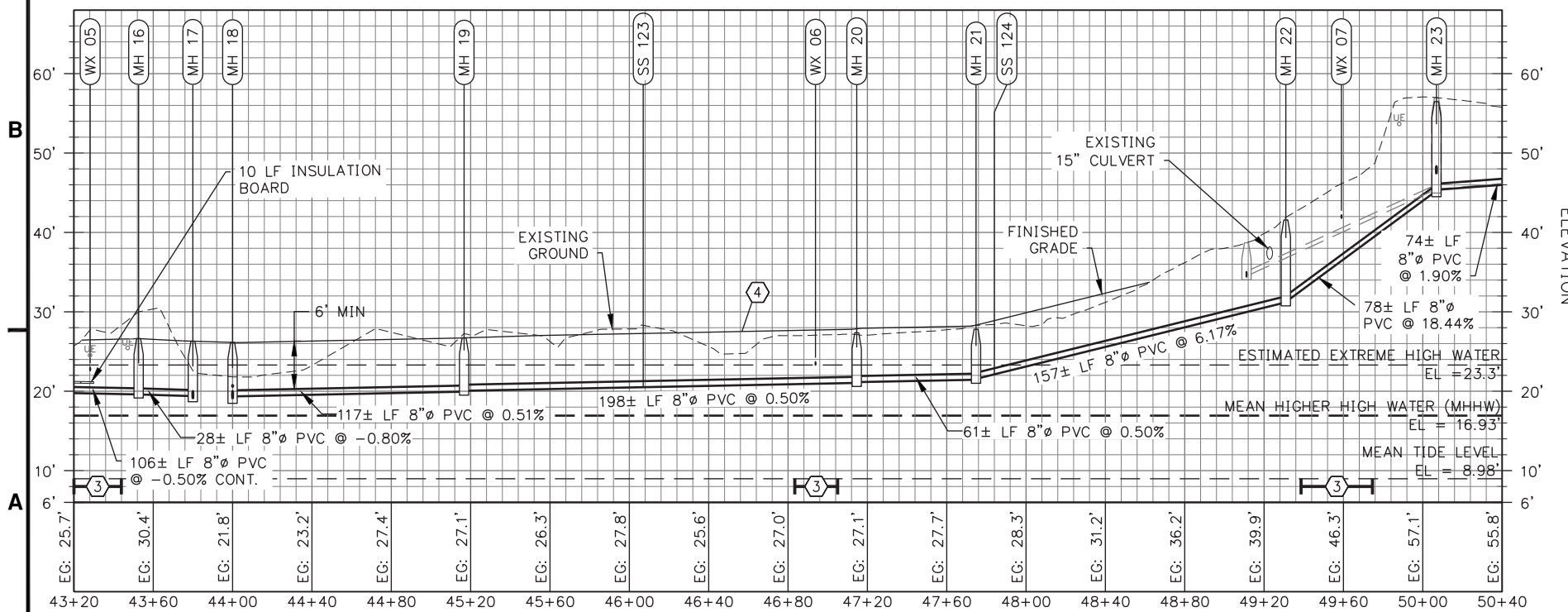


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0 1"  
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CROSSINGS		
ID #	STA	DESCRIPTION
WX 05	43+28±	WATER MAIN CROSSING
WX 06	46+94±	WATER MAIN CROSSING
WX 07	49+59±	WATER MAIN CROSSING



NEW STRUCTURES			
ID #	STA	DESCRIPTION	COORDINATES
MH 16	43+52.6	CONVENTIONAL MANHOLE RIM=26.6 INV IN=19.61 INV OUT=19.58	N=1958992.4' E=1299112.1'
MH 17	43+80.0	TERMINAL MANHOLE RIM=26.3 INV IN=19.40 INV OUT=19.20	N=1959019.7' E=1299110.3'
MH 18	44+00.0	TERMINAL/TRANSITION MANHOLE RIM=26.1 INV IN=19.40 INV OUT=18.97	N=1959038.4' E=1299103.3'
MH 19	45+16.7	CONVENTIONAL MANHOLE RIM=26.7 INV IN=20.07 INV OUT=19.94	N=1959090.8' E=1298998.9'
MH 20	47+14.6	CONVENTIONAL MANHOLE RIM=27.4 INV IN=21.16 INV OUT=21.04	N=1959284.0' E=1298955.9'
MH 21	47+74.8	CONVENTIONAL MANHOLE RIM=27.4 INV IN=21.71 INV OUT=21.44	N=1959294.0' E=1298896.6'
MH 22	49+31.0	CONVENTIONAL MANHOLE RIM=41.6 INV IN=31.68 INV OUT=31.06	N=1959320.0' E=1298742.6'
MH 23	50+06.9	CONVENTIONAL MANHOLE RIM=56.5 INV IN=46.72 LINE C INV IN=45.64 INV OUT=45.41	N=1959285.1' E=1298675.2'

**A1 PLAN AND PROFILE - GRAVITY MAIN**

HORZ. SCALE 1" = 40'  
VERT. SCALE 1" = 10'

**PORT GRAHAM, AK  
OUTFALL CONSOLIDATION  
ISSUED FOR CONSTRUCTION**

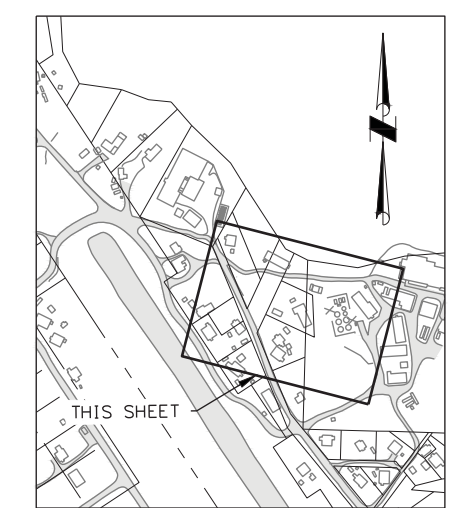
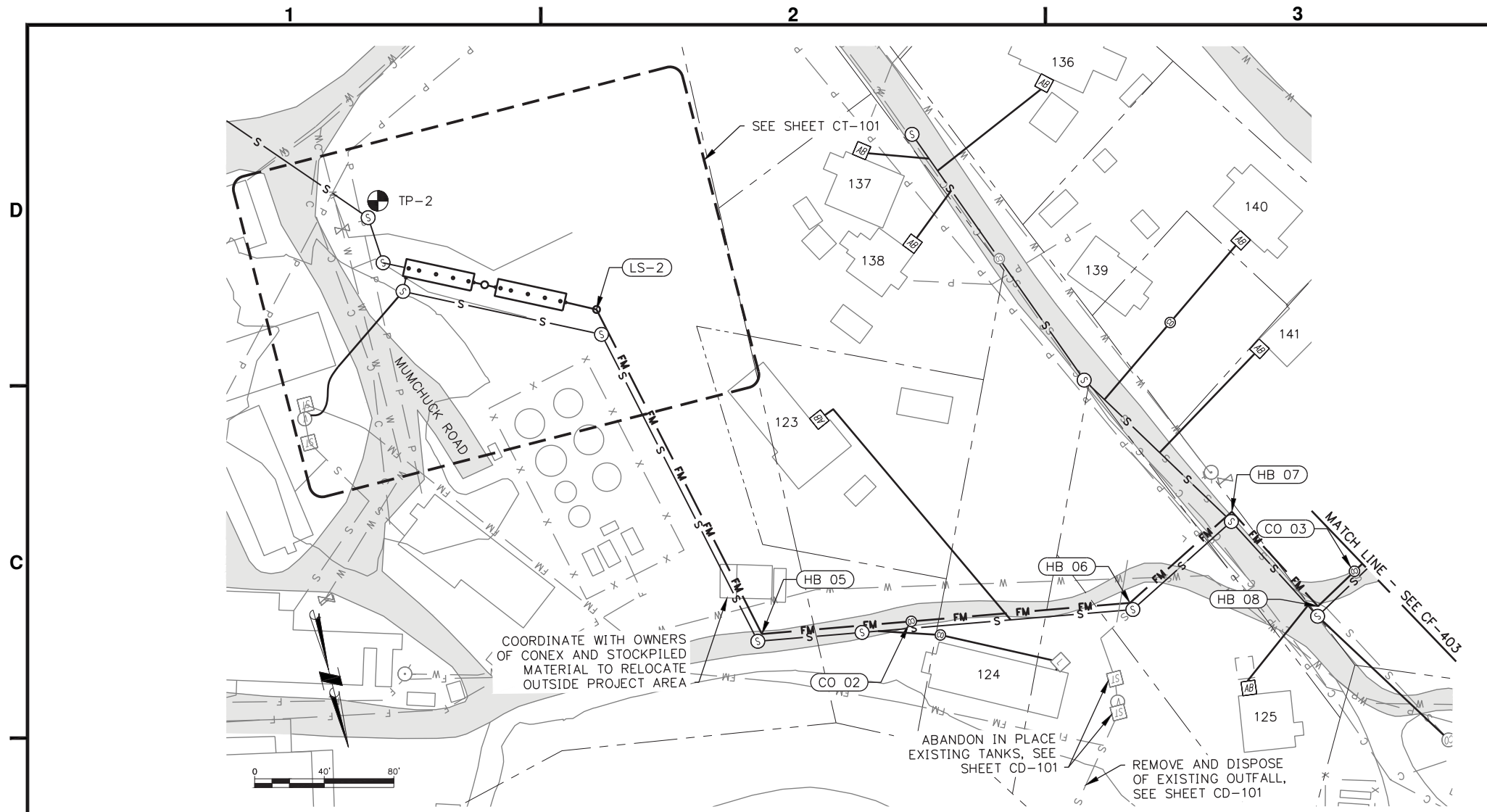
MRK	DATE	DESCRIPTION	INIT
	MAY 2020	ISSUED FOR CONSTRUCTION	

PLAN SET: PGM-17-006  
PROJ MGR: DEC  
PROJ ENG: DEC  
DRUMS ENG: ----  
DRAWN BY: CMC

SHEET TITLE  
**GRAVITY MAIN PLAN  
AND PROFILE STA  
43+20 TO STA 51+40**

**CS-404**  
SHEET **5** OF **17**





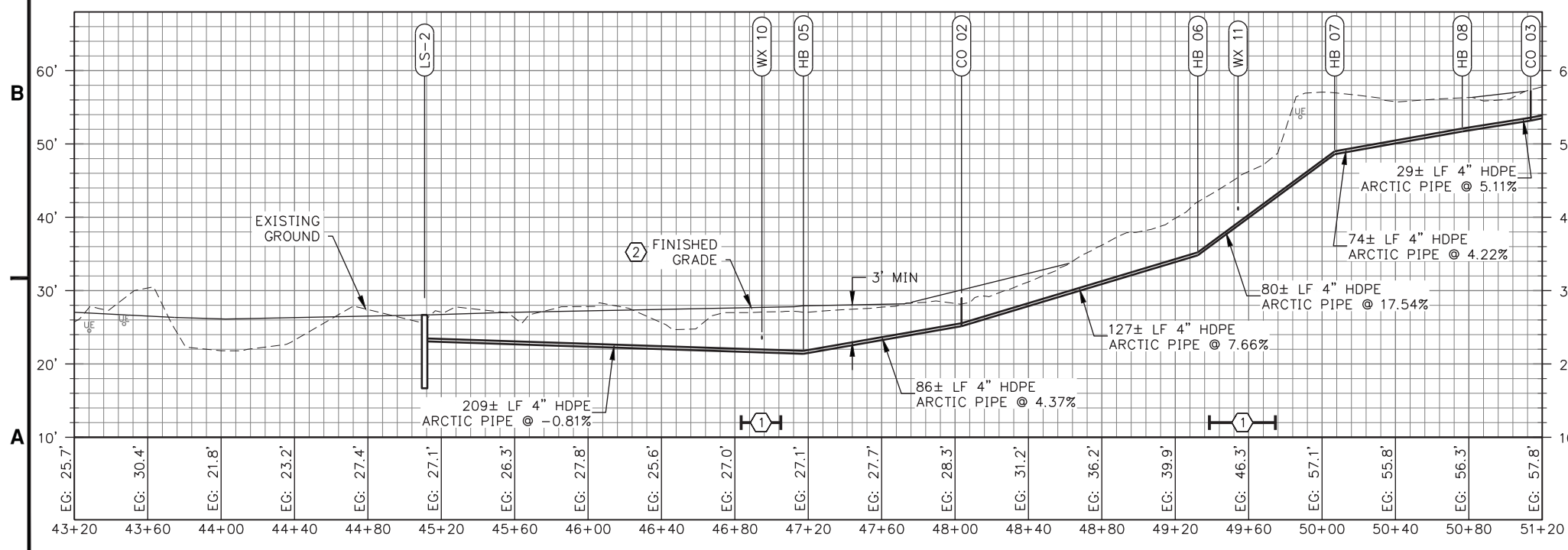
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0 1"  
BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ADJUST SCALES ACCORDINGLY

**NOTES:**

- A. SEE SHEETS CS-404 FOR PROPOSED GRAVITY SEWER PLAN AND PROFILE.
  - B. BEDROCK IS ANTICIPATED AT 2'-3' BELOW EXISTING GROUND. SEE GEOTECHNICAL REPORT.
  - C. PIPE DEFLECTIONS MAY BE USED IN PLACE OF FITTINGS. INSTALL DEFLECTIONS PER MANUFACTURER'S RECOMMENDATIONS.
  - D. GRADE THE BOTTOM OF THE DITCH TO THE SLOPES SHOWN IN THE PROFILE TO ALLOW THE PIPE TO VERTICALLY DEFLECT WITHOUT INSTALLING FITTINGS.
  - E. SEE SHEET CD-101 FOR REMOVAL OF EXISTING FACILITIES.
  - F. EXISTING UTILITIES ARE SHOWN IN APPROXIMATE LOCATION. PROTECT IN PLACE AND WORK AROUND ALL EXISTING UTILITIES NOT SPECIFICALLY INDICATED TO BE RELOCATED.
- ① HORIZONTAL SEPARATION DISTANCE WAIVER AREAS, SEE SHEET C-501.
- ② FURNISH AND INSTALL ADDITIONAL FILL MATERIAL AS REQUIRED TO PROVIDE 6' MIN COVER OVER PROPOSED GRAVITY SEWER LINE SHOWN ON CS-404.



NEW STRUCTURES			
ID #	STA	DESCRIPTION	COORDINATES
LS-2	45+10.9, 4' LT	EFFLUENT LIFT STATION (SEE SHEET M-502)	N=1959076.2' E=1298998.2'
HB 05	47+17.3, 4' LT	INSTALL 1 (EA) 45' HORIZONTAL BEND AND 1 (EA) 22.5' HORIZONTAL BEND	N=1959280.5' E=1298952.6'
CO 02	48+03.5, 4' LT	INSTALL CLEANOUT	N=1959294.9' E=1298867.6'
HB 06	49+32.3, 4' LT	INSTALL 1 (EA) 22.5' HORIZONTAL BEND AND 1 (EA) 11.25' HORIZONTAL BEND	N=1959315.9' E=1298743.3'
HB 07	50+06.9, 4' LT	INSTALL 90° HORIZONTAL BEND	N=1959279.8' E=1298673.5'
HB 08	50+76.4, 4' LT	INSTALL 90° HORIZONTAL BEND	N=1959344.7' E=1298639.2'
CO 03	51+13.7, 4' LT	INSTALL CLEANOUT	N=1959330.5' E=1298613.8'

CROSSINGS		
ID #	STA	DESCRIPTION
WX 10	46+95±, 4' LT	WATER MAIN CROSSING
WX 11	49+54±, 4' LT	WATER MAIN CROSSING

**A1 PLAN AND PROFILE - EFFLUENT PIPE**  
HORZ. SCALE 1" = 40'  
VERT. SCALE 1" = 10'

PORT GRAHAM, AK  
OUTFALL CONSOLIDATION  
ISSUED FOR CONSTRUCTION

MRK	DATE	DESCRIPTION	INIT
	MAY 2020	ISSUED FOR CONSTRUCTION	

PLAN SET: PGM-17-006  
PROJ MGR: DEC  
PROJ ENG: DEC  
DRUMS ENG: ---  
DRAWN BY: CMC

SHEET TITLE  
**FORCE MAIN PLAN AND PROFILE BOP TO STA 51+20**

**CF-402**  
SHEET 4 OF 10

Attachment 2

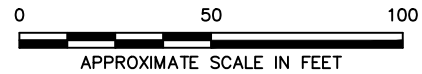
2023 FIGURE



Test Pit advanced by Shannon & Wilson on July 19, 2023

Port Graham Ocean Outfall  
Port Graham, Alaska

**SITE MAP**



February 2024

111803-001



**SHANNON & WILSON, INC.**  
Geotechnical and Environmental Consultants

**FIG. 2**