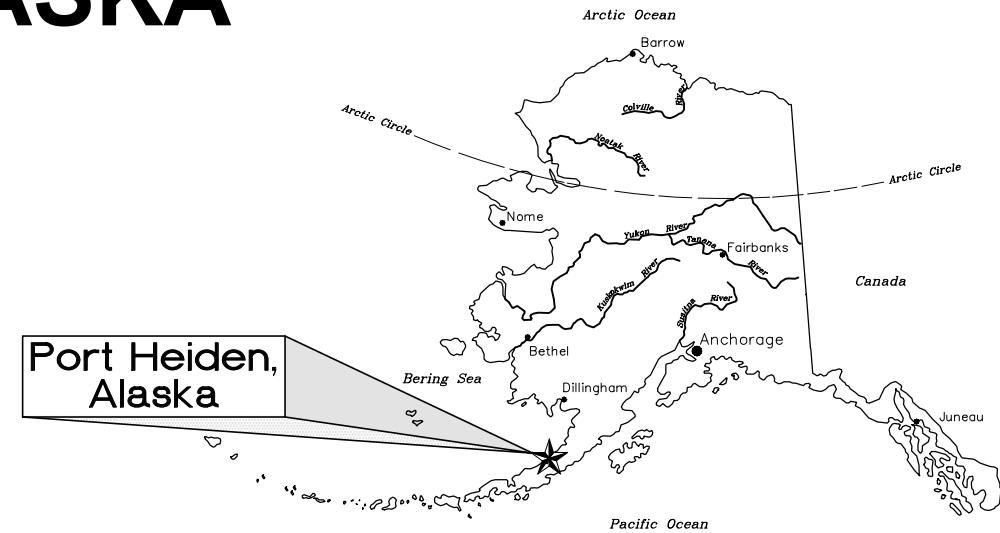


PORT HEIDEN FUEL HEADER PIPELINE UPGRADES PORT HEIDEN, ALASKA



VICINITY MAP



LOCATION MAP

DRAWING INDEX

GENERAL

- G1.01 COVER SHEET, LOCATION MAP, AND DRAWING INDEX
- G1.02 GENERAL NOTES, LEGEND, AND ABBREVIATIONS
- G1.03 PROJECT LAYOUT PLAN
- G1.04 MATERIAL STOCKPILE PHOTOGRAPHS
- G1.05 EXISTING PIPELINE PHOTOGRAPHS
- G1.06 EXISTING PIPELINE PHOTOGRAPHS
- G1.07 SURVEY CONTROL

CIVIL

- D1.01 DEMOLITION EXISTING FUEL HEADER PIPELINE PLAN
- D1.02 DEMOLITION EXISTING FUEL HEADER PIPELINE PLAN
- D1.03 DEMOLITION EXISTING FUEL HEADER PIPELINE PLAN
- C1.01 FUEL HEADER PIPELINE PLANS
- C1.02 FUEL HEADER PIPELINE PLANS
- C2.01 PIPING DETAILS
- C2.02 PIPING DETAILS
- C2.03 SIGNAGE

REVISIONS	MARK	DATE	DESCRIPTION



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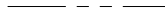
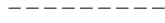
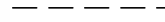
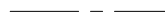
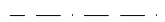

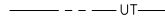

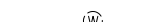


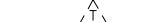

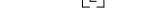





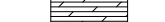

SHEET TITLE	
COVER SHEET, LOCATION MAP, AND DRAWING INDEX	
SHEET	
G1.01	
DRAWN BY:	CHECKED BY:
KK	DEC
DATE:	SCALE:
03/29/21	AS SHOWN
JOB NUMBER:	
20-007-04	

GENERAL NOTES:

- TOPOGRAPHICAL AND PLANIMETRIC INFORMATION SHOWN IN THESE DRAWINGS WAS OBTAINED FROM THE FIELD SURVEYS PERFORMED BY HDL ON JULY 8-10, 2015, APRIL 19-20, 2016 AND SEPT 1-3, 2020.
- CONTRACTOR SHALL VERIFY SITE CONDITIONS, DIMENSIONS, AND DETAILS PRIOR TO THE START OF CONSTRUCTION. IF ANY DISCREPANCIES AND/OR UNKNOWN CONDITIONS WHICH AFFECT THE PROJECT ARE FOUND, THE CONTRACTOR SHALL NOTIFY THE ENGINEER. THE CONTRACTOR WILL BE REQUIRED TO PROVIDE MINOR LAYOUT CHANGES IN THE FIELD, SUBJECT TO APPROVAL BY THE ENGINEER.
- NOT ALL UTILITIES MAY BE SHOWN ON THE PLANS. CONTRACTOR SHALL FIELD VERIFY EXISTING UTILITIES BEFORE CONSTRUCTION. CONTRACTOR SHALL PROTECT UTILITIES AT ALL TIMES DURING CONSTRUCTION, AND REPAIR DAMAGES IN ACCORDANCE WITH THE RESPECTIVE UTILITY COMPANY'S REQUIREMENTS.
- CONTRACTOR SHALL PROVIDE AND MAINTAIN ALL SIGNS, BARRICADES, WARNING LIGHTS, AND OTHER PROTECTIVE DEVICES NECESSARY FOR SAFETY.
- CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF ASME B31.4, THE INTERNATIONAL BUILDING CODE (IBC), INTERNATIONAL FIRE CODE (IFC), STATE AND FEDERAL OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATIONS (OSHA), US ENVIRONMENTAL PROTECTION AGENCY (EPA), ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION (ADEC) AND ALL OTHER STATE, FEDERAL, AND LOCAL LAWS AND REGULATIONS PERTAINING TO THIS PROJECT. ANY WORK PERFORMED BY THE CONTRACTOR CONTRARY TO SUCH LAWS OR REGULATIONS SHALL BE AT THE CONTRACTOR'S SOLE RISK AND EXPENSE.
- CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WORK WITH OTHER CONTRACTORS, HIS SUBCONTRACTORS, THE OWNER, AND STATE AND FEDERAL AUTHORITIES.
- CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS NOT PROVIDED BY THE OWNER INCLUDING BUT NOT LIMITED TO ROW PERMITS, DEWATERING PERMITS, LANDFILL PERMITS, AND LAKE AND PENINSULA BOROUGH DEVELOPMENT PERMITS.

THE FOLLOWING PERMITS HAVE BEEN OBTAINED FOR THIS PROJECT: STATE HISTORIC PRESERVATION OFFICE SECTION 106 CONSULTATION, U.S. FISH AND WILDLIFE SERVICE SECTION 7 CONSULTATION, U.S. ARMY CORP OF ENGINEERS SECTION 404, AND ADEC PERMITS.
- ALL ITEMS SHOWN ARE NEW UNLESS SPECIFICALLY INDICATED AS EXISTING. INSTALL ALL MATERIAL AND EQUIPMENT IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS, INSTRUCTIONS, AND INSTALLATION DRAWINGS UNLESS INDICATED OTHERWISE.
- WORK SHALL BE PERFORMED WITH SKILLED CRAFTSMEN SPECIALIZING IN THE REQUIRED WORK. INSTALL ALL MATERIALS IN A NEAT, ORDERLY, AND SECURE FASHION, AS REQUIRED BY THESE DRAWINGS AND COMMONLY RECOGNIZED STANDARDS OF GOOD WORKMANSHIP.
- THE PURPOSE OF SPECIFYING A NAME BRAND PRODUCT, OR EQUAL, IS TO ESTABLISH THE LEVEL OF QUALITY OF MATERIALS AND EQUIPMENT REQUIRED AND IS NOT A PRODUCT ENDORSEMENT. SUBMIT SUBSTITUTIONS IN WRITING FOR REVIEW AND APPROVAL.
- PROVIDE MARKED UP DESIGN DRAWINGS TO REFLECT FIELD CHANGES THROUGHOUT CONSTRUCTION. TURN OVER "RED LINE" CONSTRUCTION DRAWINGS TO ENGINEER AT COMPLETION OF THE PROJECT.
- CONTRACTOR SHALL PROTECT ALL ITEMS NOT SCHEDULED FOR DEMOLITION DURING CONSTRUCTION. DISTURBED AREAS SHALL BE RESTORED TO PRE-CONSTRUCTION CONDITION.
- DRAWINGS ARE DIAGRAMMATIC AND DO NOT NECESSARILY SHOW ALL FEATURES OF THE REQUIRED WORK. PROVIDE ALL LABOR, EQUIPMENT AND MATERIALS REQUIRED FOR A COMPLETE AND CODE COMPLIANT SYSTEM. VERIFY EXISTING FIELD CONDITIONS PRIOR TO STARTING CONSTRUCTION. IMMEDIATELY CONTACT THE ENGINEER FOR CLARIFICATION OF QUESTIONABLE ITEMS OR APPARENT CONFLICTS.
- CONTRACTOR IS RESPONSIBLE FOR ESTABLISHING AND MAINTAINING AN APPROVED PROJECT SPECIFIC STORM WATER POLLUTION PREVENTION PLAN (SWPPP) IN ACCORDANCE WITH STATE AND FEDERAL REGULATIONS.
- IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR SHALL HAVE SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS, SUBCONTRACTORS, SUPPLIERS, AND PROPERTY. THIS SHALL PERTAIN TO MATERIALS STAGED WHERE THE CONTRACTOR IS NOT ACTIVELY WORKING, STAGING AREAS, AND HAUL ROUTES. THIS SHALL INCLUDE CLEARING SNOW DRIFTS AND MAINTAINING ACCESS TO EXISTING EQUIPMENT AND FACILITIES AT ALL TIMES. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND IS NOT LIMITED TO NORMAL WORKING HOURS.
- CONTRACTOR'S WORK SHALL NOT IMPACT OR RESTRICT VEHICLE MOVEMENT ON TRAVELED WAYS OUTSIDE OF THE PROJECT AREA.
- NO GROUND DISTURBING ACTIVITIES SHALL OCCUR BEYOND THE PROJECT LIMITS.
- CONTRACTOR SHALL PREPARE AND IMPLEMENT AN APPROVED TRAFFIC CONTROL PLAN (TCP) SPECIFIC TO THEIR HAUL ROUTES AND SITE ACCESS. TCP SHALL NOT PREVENT OR HINDER THE FLOW OF VEHICLE OR PEDESTRIAN TRAFFIC IN THE COMMUNITY AND PROVIDE UNFETTER MOVEMENT BY EMERGENCY VEHICLES AT ALL TIMES. THE TCP SHALL CONFORM TO THE STANDARDS IN THE LATEST EDITION OF PART VI OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), AND SHALL ALSO CONFORM TO THE REQUIREMENTS IN THE LATEST EDITION AND SUPPLEMENTS OF THE ALASKA TRAFFIC MANUAL (ATM) PREPARED BY THE ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES.
- INSTALL ALL MATERIALS AND EQUIPMENT IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS, INSTRUCTIONS, INSTALLATION MANUALS AND DRAWINGS.
- NO BARGE LANDING AREAS, HAUL ROUTES, MATERIAL SOURCES, OR STOCKPILE AND STAGING AREAS ARE PROVIDED BY THE OWNER OUTSIDE OF THE PROJECT FOOTPRINT. THESE AREAS AND MATERIALS ARE TO BE CONTRACTOR-PROVIDED. CONTRACTORS SHALL MAKE THEIR OWN ARRANGEMENTS FOR BARGING, HAULING, MATERIAL PROCUREMENT, AND STOCKPILE AND STAGING AREAS SPECIFIC TO THEIR OWN MEANS AND METHODS AND OBTAIN ALL REQUIRED PERMITS, AUTHORIZATIONS, AND APPROVALS FOR THE USE OF THESE ROUTES AND AREAS AT NO ADDITIONAL COST TO THE OWNER. PAY ALL ROYALTIES FOR MATERIALS AND PROVIDE THE OWNER WITH A COPY OF ALL PERMITS, AGREEMENTS, AND APPROVALS. THE CONTRACTOR SHALL VERIFY THE CONDITION OF LOCAL ROADS AND TRADITIONAL BARGE LANDINGS PRIOR TO USE DETERMINE THEIR SUITABILITY TO MEET THEIR NEEDS. CONTRACTOR SHALL TAILOR THEIR OPERATIONS AND EQUIPMENT AS NEEDED TO DELIVER THE SPECIFIED MATERIAL TO THE PROJECT SITE.
- CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL BARGE LANDING AND HAUL ROUTES AND RETURNING THESE AREAS TO THEIR PRE-PROJECT CONDITION AFTER USE.
- RESEED ALL VEGETATED AREAS DISTURBED BY CONSTRUCTION.

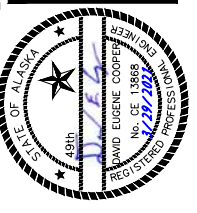
LEGEND

-  EXISTING PROPERTY LINE
-  EXISTING EASEMENT
-  NEW EASEMENT LINE
-  ROAD/TRAIL CENTERLINE
-  EXISTING EDGE OF ROAD
- EXISTING CONTOUR
-  TOE LINE
- EXISTING ABOVE GROUND FUEL LINE
- NEW BURIED BARGE FUEL HEADER PIPELINE
- EXISTING CHAINLINK FENCE
- UNDERGROUND ELECTRIC
- UNDERGROUND TELEPHONE
-  VERTICAL PIPE TRANSITION
-  WATER WELL / MONITORING WELL
-  SEPTIC VENT
-  TELECOMM PEDESTAL
-  ELECTRIC TRANSFORMER
-  POST/BOLLARD
-  FUEL VALVE
-  UNDISTURBED GROUND
-  BACKFILL WITH NATIVE SOILS
-  EXISTING GRAVEL ROAD
-  FLAG NOTES PER SHEET
-  DETAIL CALLOUT
-  SECTION CUT
-  SIGN CALLOUT
-  BUILDING

ABBREVIATIONS

- ADEC ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION
- ASME AMERICAN SOCIETY MECHANICAL ENGINEERS
- ATM ALASKA TRAFFIC MANUAL
- CPS CATHODIC PROTECTION SYSTEMS
- EXIST EXISTING
- FG FINISHED GROUND
- IBC INTERNATIONAL BUILDING CODE
- IFC INTERNATIONAL FIRE CODE
- MAX MAXIMUM
- MIN MINIMUM
- MUTCD MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES
- NFPA NATIONAL FIRE PROTECTION ASSOCIATION
- OC ON CENTER
- OSHA OCCUPATIONAL SAFETY AND HAZARD ADMINISTRATIONS
- PI POINT OF INTERSECTION
- ROW RIGHT OF WAY
- SCH SCHEDULE
- SSPC SOCIETY FOR PROTECTIVE COATINGS
- STA STATION
- SWPPP STORM WATER POLLUTION PREVENTION PLAN
- TCP TRAFFIC CONTROL PLAN
- TYP TYPICAL
- UE UNDERGROUND ELECTRIC
- US UNITED STATES
- UT UNDERGROUND TELEPHONE
- Ø DIAMETER
- ° DEGREE
- #, No. NUMBER
- & AND

REVISIONS	MARK	DATE	DESCRIPTION

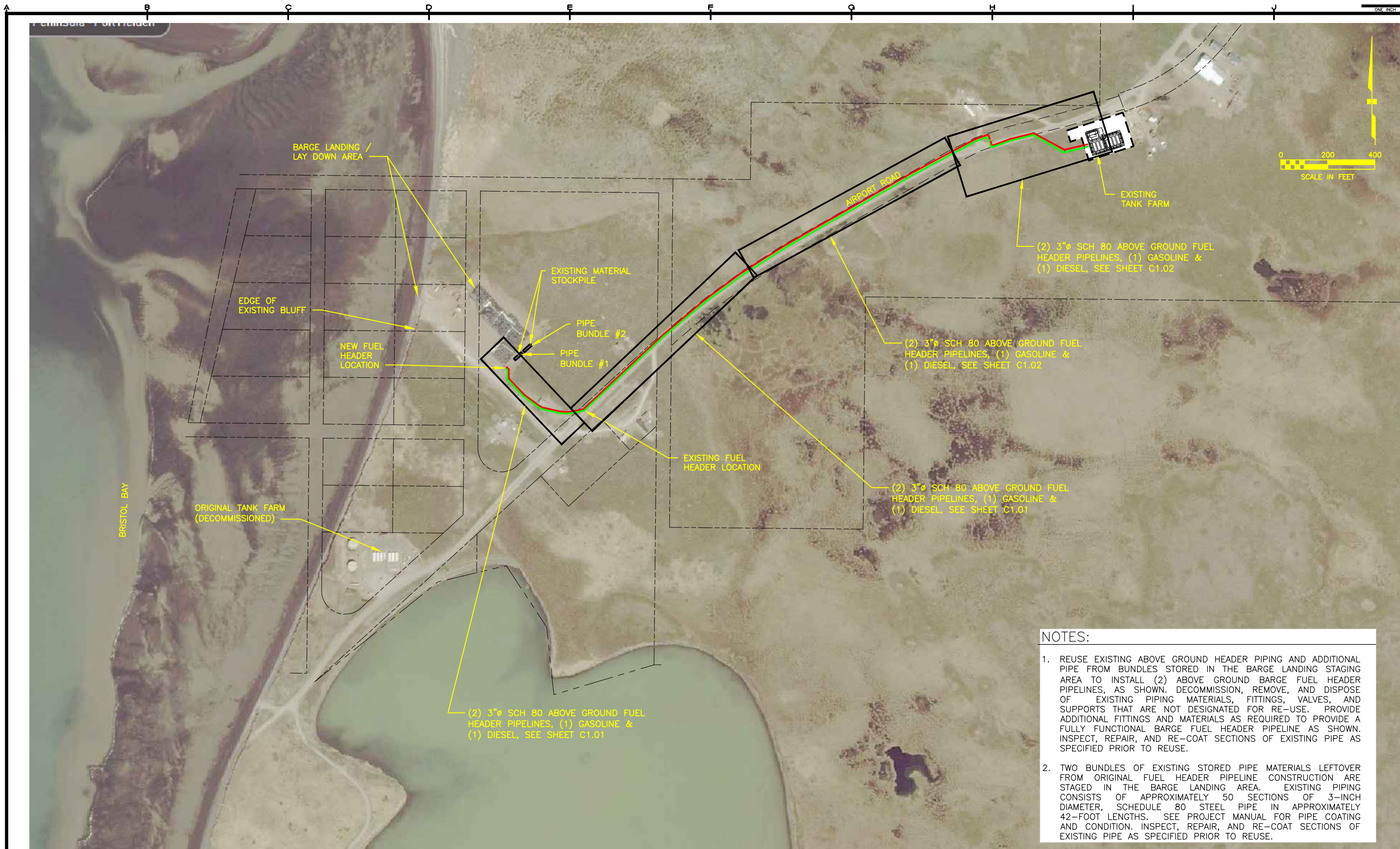


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PORT HEIDEN FUEL HEADER PIPELINE UPGRADES
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SHEET TITLE	
GENERAL NOTES, LEGEND, AND ABBREVIATIONS	
SHEET	
G1.02	
DRAWN BY:	CHECKED BY:
KK	DEC
DATE:	SCALE:
03/29/21	AS SHOWN
JOB NUMBER:	
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NOTES:

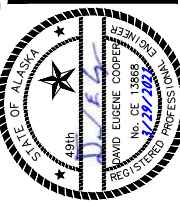
1. REUSE EXISTING ABOVE GROUND HEADER PIPING AND ADDITIONAL PIPE FROM BUNDLES STORED IN THE BARGE LANDING STAGING AREA TO INSTALL (2) ABOVE GROUND BARGE FUEL HEADER PIPELINES, AS SHOWN. DECOMMISSION, REMOVE, AND DISPOSE OF EXISTING PIPING MATERIALS, FITTINGS, VALVES, AND SUPPORTS THAT ARE NOT DESIGNATED FOR RE-USE. PROVIDE ADDITIONAL FITTINGS AND MATERIALS AS REQUIRED TO PROVIDE A FULLY FUNCTIONAL BARGE FUEL HEADER PIPELINE AS SHOWN. INSPECT, REPAIR, AND RE-COAT SECTIONS OF EXISTING PIPE AS SPECIFIED PRIOR TO REUSE.
2. TWO BUNDLES OF EXISTING STORED PIPE MATERIALS LEFTOVER FROM ORIGINAL FUEL HEADER PIPELINE CONSTRUCTION ARE STAGED IN THE BARGE LANDING AREA. EXISTING PIPING CONSISTS OF APPROXIMATELY 50 SECTIONS OF 3-INCH DIAMETER, SCHEDULE 80 STEEL PIPE IN APPROXIMATELY 42-FOOT LENGTHS. SEE PROJECT MANUAL FOR PIPE COATING AND CONDITION. INSPECT, REPAIR, AND RE-COAT SECTIONS OF EXISTING PIPE AS SPECIFIED PRIOR TO REUSE.

IMAGE SOURCE:
BING MAPS © DIGITAL
GLDBE 2015

PROJECT LAYOUT PLAN

SCALE: 1" = 200'

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SHEET TITLE PROJECT LAYOUT PLAN	
SHEET G1.03	
DRAWN BY: KK	CHECKED BY: DEC
DATE: 03/29/21	SCALE: 1" = 200'
JOB NUMBER: 20-007-04	



PIPE BUNDLE No. 1



PIPE BUNDLE No. 1



PIPE BUNDLE No. 1

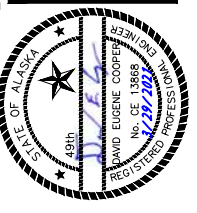


PIPE BUNDLE No. 1

NOTES:

1. SEE SHEET G1.02 FOR GENERAL NOTES, LEGEND, SYMBOLS, AND ABBREVIATIONS.
2. TWO BUNDLES OF 3-INCH SCHEDULE 80 PIPING ARE STOCKPILED ON THE SOUTH EDGE OF THE BARGE LANDING STAGING AREA. THE PIPES WERE PRODUCED IN 42-FOOT RANDOM LENGTHS. THE PIPES WERE LEFT OVER FROM THE 2015 TANK FARM RELOCATION PROJECT. ONE BUNDLE CONTAINS 20 SECTIONS OF PIPE AND THE OTHER BUNDLE CONTAINS APPROXIMATELY 30 SECTIONS OF PIPE. THERE IS A MINIMUM OF 2,000 FEET OF STOCKPILED PIPE ON SITE.
3. THE STOCKPILED PIPING PHOTOS DO NOT SHOW A COMPLETE REPRESENTATION OF THE CURRENT CONDITION OF THE STOCKPILED PIPING. THE CONTRACTOR SHALL MAKE THEIR OWN ESTIMATION OF THE CONDITION OF THE PIPE AND PIPE COATING. THE AMOUNT OF PIPE REPAIRS AND PIPE COATING REPAIRS REQUIRED FOR THE STOCKPILED PIPE WILL BE DETERMINED BASED ON A VISUAL INSPECTION.

REVISIONS	MARK	DATE	DESCRIPTION



PIPE BUNDLE No.1



PIPE BUNDLE No.1



PIPE BUNDLE No.1



PIPE BUNDLE No. 2



PIPE BUNDLE No. 2



PIPE BUNDLE No. 2



PIPE BUNDLE No. 2



PIPE BUNDLE No. 2



PIPE BUNDLE No. 2



PIPE BUNDLE No. 2



PIPE BUNDLE No. 2

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 PORT HEIDEN, ALASKA

SHEET TITLE	
MATERIAL STOCKPILE PHOTOGRAPHS	
BUNDLES No. 1 & 2	
SHEET	
G1.04	
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DATE:	SCALE:
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SPILL BOX



SPILL BOX AND BARGE HEADER VALVES



ABOVE GROUND PIPE



TYPICAL HEAT SHRINK JOINT CLOSURE AND PIPE TUNDRA SUPPORT

NOTES:

- SEE SHEET G1.02 FOR GENERAL NOTES, LEGEND, SYMBOLS, AND ABBREVIATIONS.
- TWO BUNDLES OF 3-INCH SCHEDULE 80 PIPING ARE STOCKPILED ON THE SOUTH EDGE OF THE BARGE LANDING STAGING AREA. THE PIPES WERE PRODUCED IN 42-FOOT RANDOM LENGTHS. THE PIPES WERE LEFT OVER FROM THE 2015 TANK FARM RELOCATION PROJECT. ONE BUNDLE CONTAINS 20 SECTIONS OF PIPE AND THE OTHER BUNDLE CONTAINS APPROXIMATELY 30 SECTIONS OF PIPE. THERE IS A MINIMUM OF 2,000 FEET OF STOCKPILED PIPE ON SITE.
- THE EXISTING PIPELINE PHOTOS DO NOT SHOW A COMPLETE REPRESENTATION OF THE CURRENT CONDITION OF THE EXISTING PIPELINES. AS SHOWN IN THE PHOTOS, LARGE SECTIONS OF THE EXISTING PIPELINES ARE CURRENTLY PARTIALLY OR COMPLETELY COVERED BY VEGETATION. THE EXTENT OF COATING DAMAGE ON THE COVERED SECTIONS OF THE PIPELINES AND THE UNDERSIDE OF THE EXPOSED PIPELINES IS UNKNOWN. THE CONTRACTOR SHALL MAKE THEIR OWN ESTIMATION OF THE CONDITION OF THE PIPE AND PIPE COATING. THE AMOUNT OF PIPE REPAIRS AND PIPE COATING REPAIRS REQUIRED FOR THE EXISTING PIPELINES WILL BE DETERMINED BASED ON A VISUAL INSPECTION.



PIPE FLANGE CONNECTION AT BARGE HEADER



PIPE FLANGE CONNECTION APPROXIMATELY 150-FEET FROM BARGE HEADER



PIPE FLANGE CONNECTION APPROXIMATELY 150-FEET FROM BARGE HEADER



ABOVE GROUND PIPE COATING DAMAGE



ABOVE GROUND PIPE COATING DAMAGE AND TUNDRA PIPE SUPPORT



ABOVE GROUND PIPE COATING DAMAGE



ABOVE GROUND PIPE COATING DAMAGE



ABOVE GROUND PIPE COATING DAMAGE



PIPE FLANGE CONNECTION APPROXIMATELY 300-FEET FROM BARGE HEADER



ABOVE GROUND PIPE COATING DAMAGE



ABOVE GROUND PIPE COATING DAMAGE



ABOVE GROUND PIPE COATING DAMAGE



ABOVE GROUND PIPE COATING DAMAGE

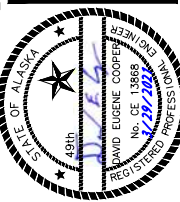


ABOVE GROUND PIPE



ABOVE GROUND PIPE

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SHEET TITLE	
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ABOVE GROUND PIPE COATING DAMAGE



ABOVE GROUND PIPING - SUNKEN INTO TUNDRA



ABOVE GROUND PIPING - SUNKEN INTO TUNDRA



ABOVE GROUND PIPING - SUNKEN INTO TUNDRA



PIPING AT ROAD CROSSING



PIPING AT ROAD CROSSING



ABOVE GROUND PIPING NEAR TANK FARM - SUNKEN INTO TUNDRA



ABOVE GROUND PIPING NEAR TANK FARM

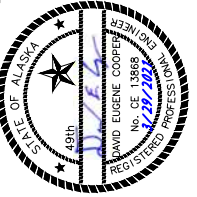


ABOVE GROUND PIPING AT TANK FARM

NOTES:

1. SEE SHEET G1.02 FOR GENERAL NOTES, LEGEND, SYMBOLS, AND ABBREVIATIONS.
2. TWO BUNDLES OF 3-INCH SCHEDULE 80 PIPING ARE STOCKPILED ON THE SOUTH EDGE OF THE BARGE LANDING STAGING AREA. THE PIPES WERE PRODUCED IN 42-FOOT RANDOM LENGTHS. THE PIPES WERE LEFT OVER FROM THE 2015 TANK FARM RELOCATION PROJECT. ONE BUNDLE CONTAINS 20 SECTIONS OF PIPE AND THE OTHER BUNDLE CONTAINS APPROXIMATELY 30 SECTIONS OF PIPE. THERE IS A MINIMUM OF 2,000 FEET OF STOCKPILED PIPE ON SITE.
3. THE EXISTING PIPELINE PHOTOS DO NOT SHOW A COMPLETE REPRESENTATION OF THE CURRENT CONDITION OF THE EXISTING PIPELINES. AS SHOWN IN THE PHOTOS, LARGE SECTIONS OF THE EXISTING PIPELINES ARE CURRENTLY PARTIALLY OR COMPLETELY COVERED BY VEGETATION. THE EXTENT OF COATING DAMAGE ON THE COVERED SECTIONS OF THE PIPELINES AND THE UNDERSIDE OF THE EXPOSED PIPELINES IS UNKNOWN. THE CONTRACTOR SHALL MAKE THEIR OWN ESTIMATION OF THE CONDITION OF THE PIPE AND PIPE COATING. THE AMOUNT OF PIPE REPAIRS AND PIPE COATING REPAIRS REQUIRED FOR THE EXISTING PIPELINES WILL BE DETERMINED BASED ON A VISUAL INSPECTION.

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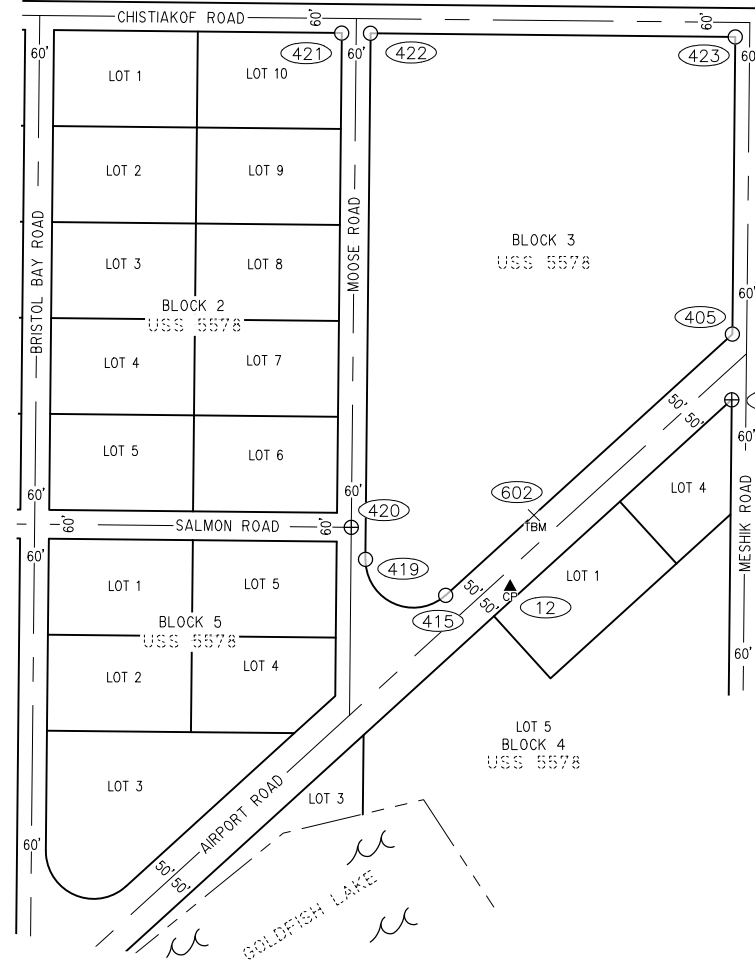


PORT HEIDEN FUEL HEADER PIPELINE UPGRADES
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SHEET TITLE	
EXISTING PIPELINE PHOTOGRAPHS	
SHEET	
G1.06	
DRAWN BY:	CHECKED BY:
KK	MRS
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NOTES

1. ALL MEASUREMENTS ARE IN U.S. SURVEY FEET UNLESS OTHERWISE NOTED.
2. ROAD AND TANK FARM SURVEY FIELD SURVEY WAS PERFORMED BY HATTENBURG, DILLY AND LINNELL FROM JULY 8-10, 2015 AND APRIL 19-20, 2016. FIELD INFORMATION FOR THIS PORTION OF THE PROJECT IS LOCATED IN 15-028, PORT HEIDEN FIELD BOOK, PAGES 1-8. BARGE LANDING FIELD SURVEY WAS PERFORMED BY HDL ENGINEERING CONSULTANTS, LLC FROM SEPTEMBER 1, 2020 SEPTEMBER 3, 2020. FIELD SURVEY INFORMATION FOR THIS PORTION OF THE PROJECT IS LOCATED IN HDL FIELD BOOK "AEA TERM" BOOK 1, PAGES 28 THROUGH 43.
3. ALL UTILITY LOCATIONS ARE APPROXIMATE. UTILITY LOCATIONS WERE DETERMINED BY A TESTIMONY BY BRUCE BISHOP (FUEL PLANT OPERATOR) IN 2016. OTHER UTILITIES MAY EXIST. ALL UTILITY LOCATIONS MUST BE VERIFIED PRIOR TO CONSTRUCTION. OTHER UTILITIES MAY EXIST.
4. A TITLE SEARCH WAS NOT PERFORMED, EASEMENTS OF RECORD OTHER THAN THOSE SHOWN ON THE RECORDED PLATS ARE NOT SHOWN HEREON.



HORIZONTAL CONTROL STATEMENT

THE BASIS OF CONTROL FOR THIS PROJECT IS POINT NUMBER 1, A 12" SPIKE SET DURING AN HDL PROJECT PERFORMED IN JULY OF 2015. THE POSITION WAS DERIVED FROM AN N.G.S. "OPUS" SOLUTION REPORT SUBMITTED AT THAT TIME. PREVIOUS CONTROL WAS RECOVERED AND INCORPORATED WITH NEW SET CONTROL AND A NEW NETWORK WAS CREATED. POINT NUMBER 11, A SET 2" ALCAP ON A 5/"X30" REBAR WAS PROCESSED IN THE NETWORK AND HAS THE FOLLOWING VALUES OF:

NAD 83 (2011) GEODETIC COORDINATES:
 LATITUDE: 56° 55' 18.25291" NORTH
 LONGITUDE: 158° 40' 17.14597" WEST

ALASKA STATE PLANE ZONE 6, NAD 83 (2011) COORDINATES, U.S. SURVEY FEET:
 NORTHING: 1,067,749.6873
 EASTING: 1,506,278.5352'

COORDINATE SYSTEM:
 THIS PROJECT IS LOCATED ENTIRELY WITHIN THE "PHT" 2020 ADJUSTMENT, A LOCAL SURFACE GRID COORDINATE SYSTEM EXPRESSED IN U.S. FEET UNITS DEVELOPED BY HDL ENGINEERING CONSULTANTS, LLC SURVEY DEPARTMENT FOR THIS PROJECT.

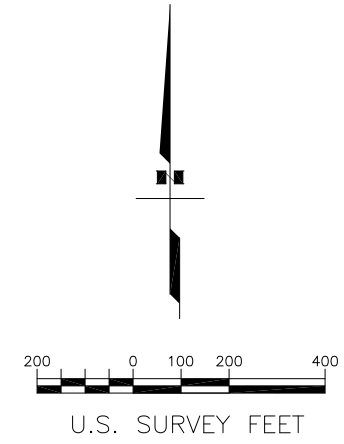
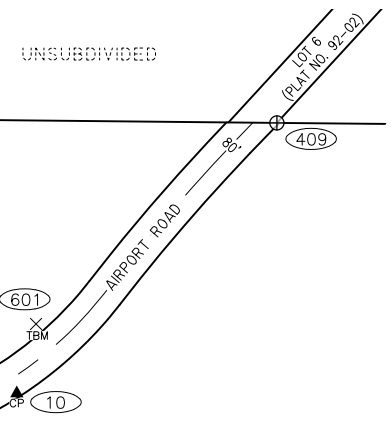
BASIS OF COORDINATES:
 THE BASIS OF COORDINATES IS STATION POINT NO. 11. SAID STATION HAS "PHT" 2017 COORDINATES OF 60,000.0000 N, 40,000.0000 E.

BASIS OF BEARINGS:
 BEARINGS ARE ALASKA STATE PLANE ZONE 6, NAD 83 (2011) FROM GPS OBSERVATIONS.

TRANSLATION PARAMETERS:
 TO CONVERT LOCAL COORDINATES TO NAD83 (2011) STATE PLANE COORDINATES EXPRESSED IN U.S. SURVEY FEET, TRANSLATE USING +1,007,838.1257' NORTH, +1,466,403.2955' EAST, AND SCALE USING 0.9999171800.

VERTICAL CONTROL STATEMENT

VERTICAL CONTROL FOR THIS SURVEY IS BASED ON THE VERTICAL DATUM NAVD 88 (COMPUTED USING GEOID 12B). AN ELEVATION OF 34.45 US SURVEY FEET AT TBM 601 (SET DURING THE 2015 SURVEY) WAS USED AS THE BASIS OF ELEVATIONS. SLIGHT VERTICAL MOVEMENT IN THE RECOVERED 2015 CONTROL WAS DETECTED, THEREFORE DIFFERENTIAL LEVEL LOOPS WERE RUN OVER THE NEW AND RECOVERED CONTROL FROM 2015 TO ESTABLISH NEW VERTICAL CONTROL.



- LEGEND**
- ⊕ FOUND MONUMENT
 - FOUND PROPERTY CORNER
 - ▲ CP CONTROL POINT
 - ✕ TBM TEMPORARY BENCH MARK
 - ## SURVEY POINT NUMBER

RECOVERED MONUMENTATION			
POINT	NORTHING	EASTING	DESCRIPTION
405	59582.3469	39404.5398	FOUND COPPERWELD
406	59445.6215	39403.2921	FOUND 3 1/4" ALUM CAP
409	61224.3953	42161.6703	FOUND 3 1/4" ALUM CAP
415	59038.3382	38807.2245	FOUND COPPERWELD
419	59113.0901	38640.2441	FOUND COPPERWELD
420	59179.8375	38610.7061	FOUND 3 1/4" BRASS CAP
421	60209.4629	38590.5810	FOUND COPPERWELD
422	60209.1091	38650.7491	FOUND COPPERWELD
423	60201.4137	39410.4841	FOUND COPPERWELD

HORIZONTAL CONTROL				
POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
1	60498.5122	40950.0090	27.40	FOUND SPIKE
10	60660.8051	41619.9250	31.80	SET 2" ALUMINUM CAP
11	60000.0000	40000.0000	25.24	SET 2" ALUMINUM CAP
12	59055.7945	38941.6262	27.92	SET 2" ALUMINUM CAP

VERTICAL CONTROL				
POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
601	60806	41660	34.45	SCRIBED "X" ON SOUTH COR. ELEC. PAD
602	59205	38991	30.66	SCRIBED "X" ON NORTHEAST COR. ELEC. PAD

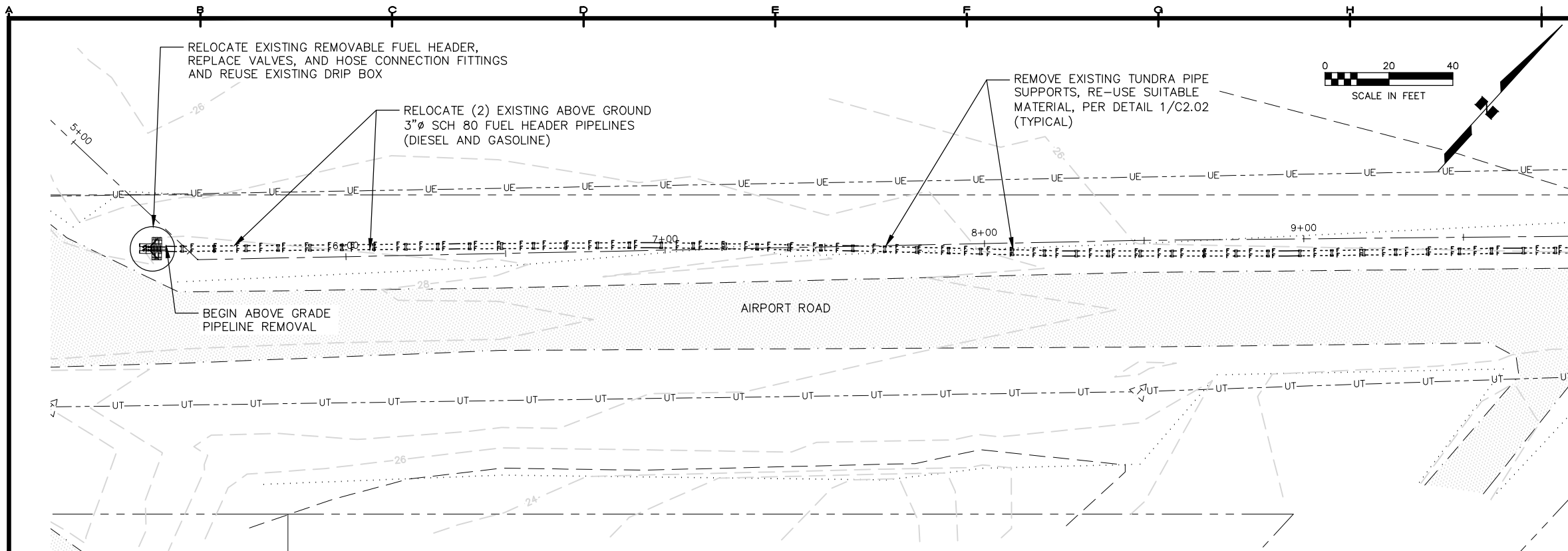
REVISIONS	MARK	DATE	DESCRIPTION



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PORT HEIDEN FUEL HEADER PIPELINE UPGRADES
ALASKA ENERGY AUTHORITY
 PORT HEIDEN, ALASKA

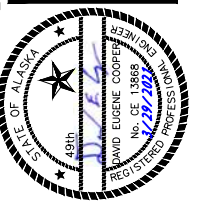
SHEET TITLE SURVEY CONTROL	
SHEET G1.07	
DRAWN BY: GEL	CHECKED BY: JJZ
DATE: 02/03/21	SCALE: 1"=200'
JOB NUMBER: 20-007-04	



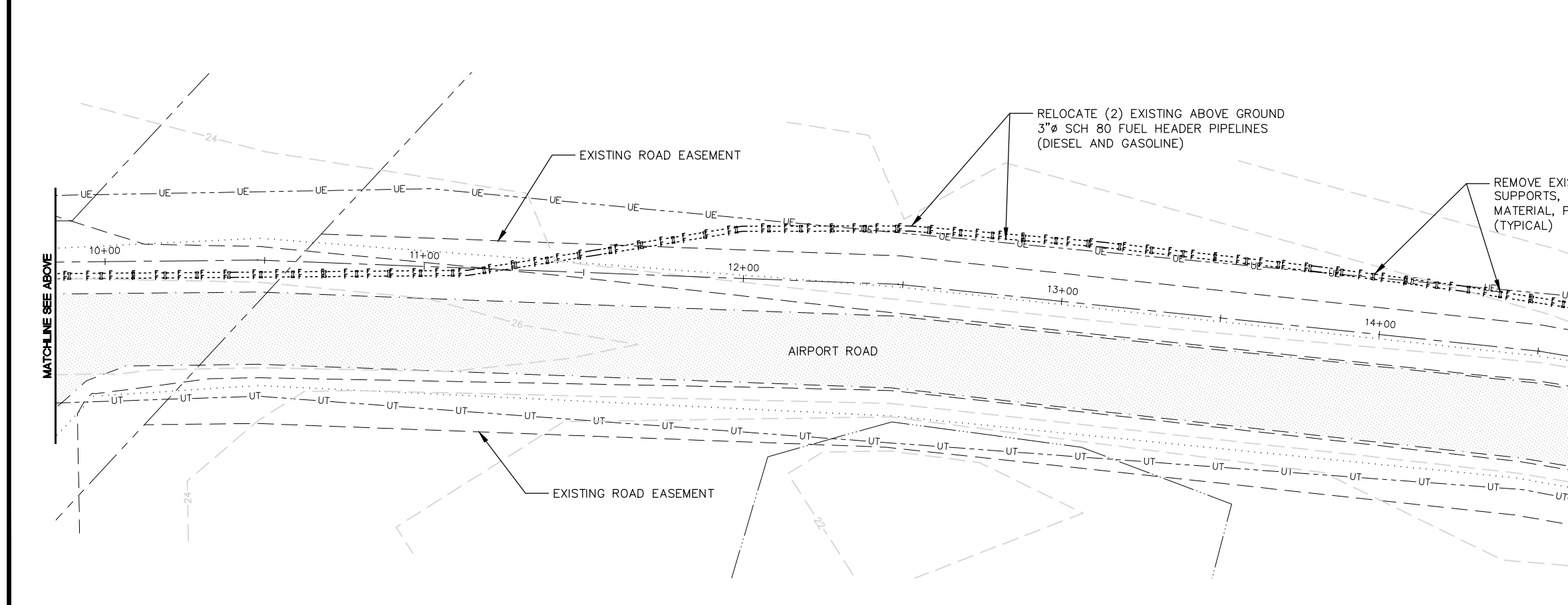
NOTES:

1. SEE SHEET G1.02 FOR GENERAL NOTES, LEGEND, SYMBOLS, AND ABBREVIATIONS.
2. SEE SHEET G1.07 FOR SURVEY CONTROL.
3. CONTRACTOR SHALL PURGE ALL FUEL FROM THE EXISTING BARGE FUEL HEADER PIPELINES IN ACCORDANCE WITH SPECIFICATION SECTION 01 11 00.
4. RELOCATE EXISTING PIPE TO INSTALL (2) ABOVE GROUND FUEL HEADER PIPELINES AS SHOWN ON C1.01 AND C1.02.
5. ALL PIPES SHALL BE VISUALLY INSPECTED. ALL DAMAGED PIPE COATING AREAS SHALL BE SURFACE PREPARED AND COATED IN ACCORDANCE WITH SPECIFICATION SECTION 09 96 00.03.
6. CONTRACTOR SHALL PREPARE AND MAINTAIN A TRAFFIC CONTROL PLAN FOR ALL WORK AREAS.

REVISIONS	DATE	DESCRIPTION



1 DEMOLITION EXISTING FUEL HEADER PIPELINE PLAN
 D1.01 SCALE: 1" = 20'



2 DEMOLITION EXISTING FUEL HEADER PIPELINE PLAN
 D1.01 SCALE: 1" = 20'

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 907.746.5230

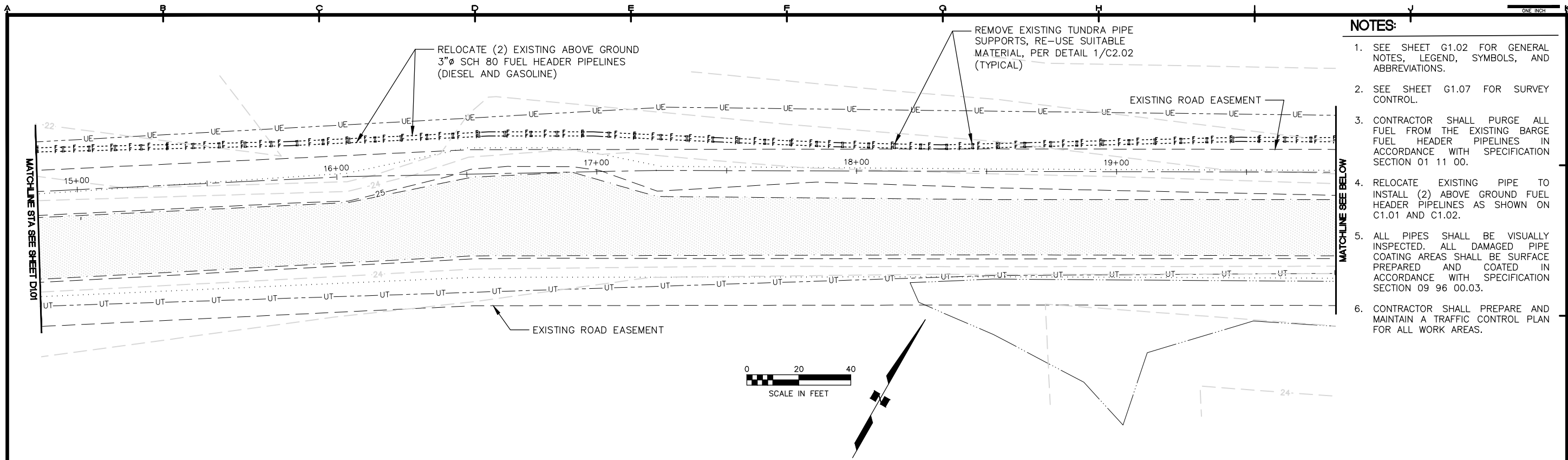
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 PORT HEIDEN, ALASKA

PORT HEIDEN FUEL HEADER PIPELINE UPGRADES

SHEET TITLE
 DEMOLITION EXISTING FUEL HEADER PIPELINE PLAN

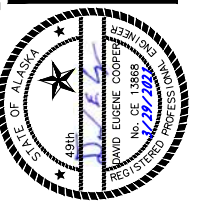
SHEET
 D1.01

DRAWN BY: KK CHECKED BY: DEC
 DATE: 03/29/21 SCALE: 1" = 20'
 JOB NUMBER: 20-007-04



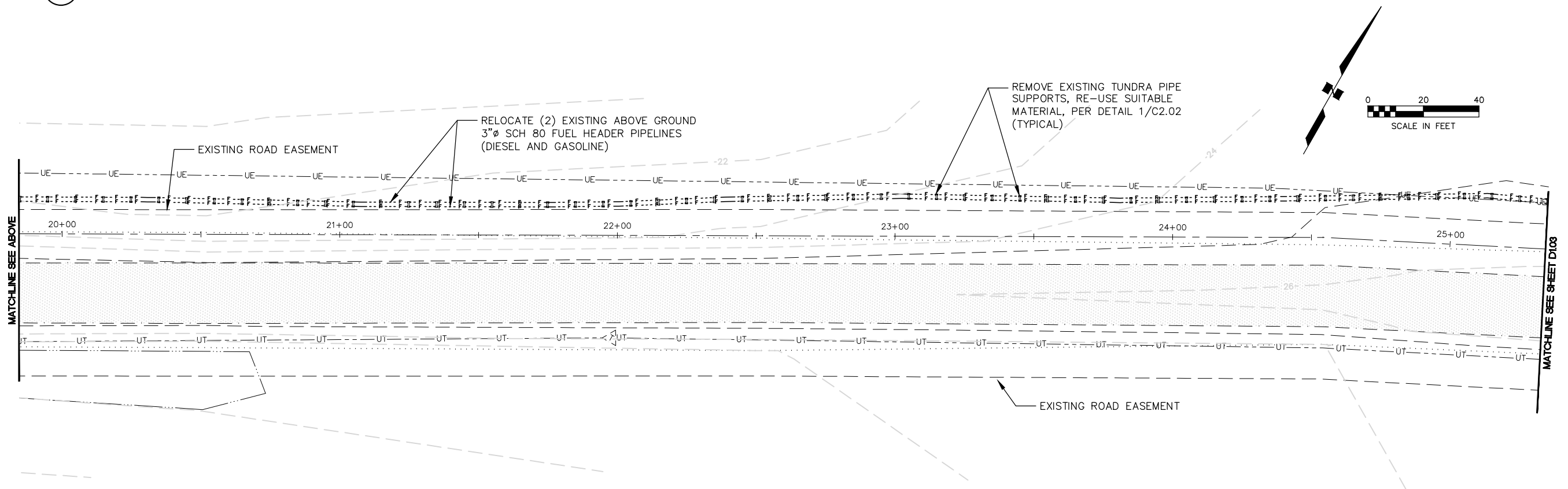
- NOTES:**
- SEE SHEET G1.02 FOR GENERAL NOTES, LEGEND, SYMBOLS, AND ABBREVIATIONS.
 - SEE SHEET G1.07 FOR SURVEY CONTROL.
 - CONTRACTOR SHALL PURGE ALL FUEL FROM THE EXISTING BARGE FUEL HEADER PIPELINES IN ACCORDANCE WITH SPECIFICATION SECTION 01 11 00.
 - RELOCATE EXISTING PIPE TO INSTALL (2) ABOVE GROUND FUEL HEADER PIPELINES AS SHOWN ON C1.01 AND C1.02.
 - ALL PIPES SHALL BE VISUALLY INSPECTED. ALL DAMAGED PIPE COATING AREAS SHALL BE SURFACE PREPARED AND COATED IN ACCORDANCE WITH SPECIFICATION SECTION 09 96 00.03.
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1 DEMOLITION EXISTING FUEL HEADER PIPELINE PLAN
 SCALE: 1" = 20'

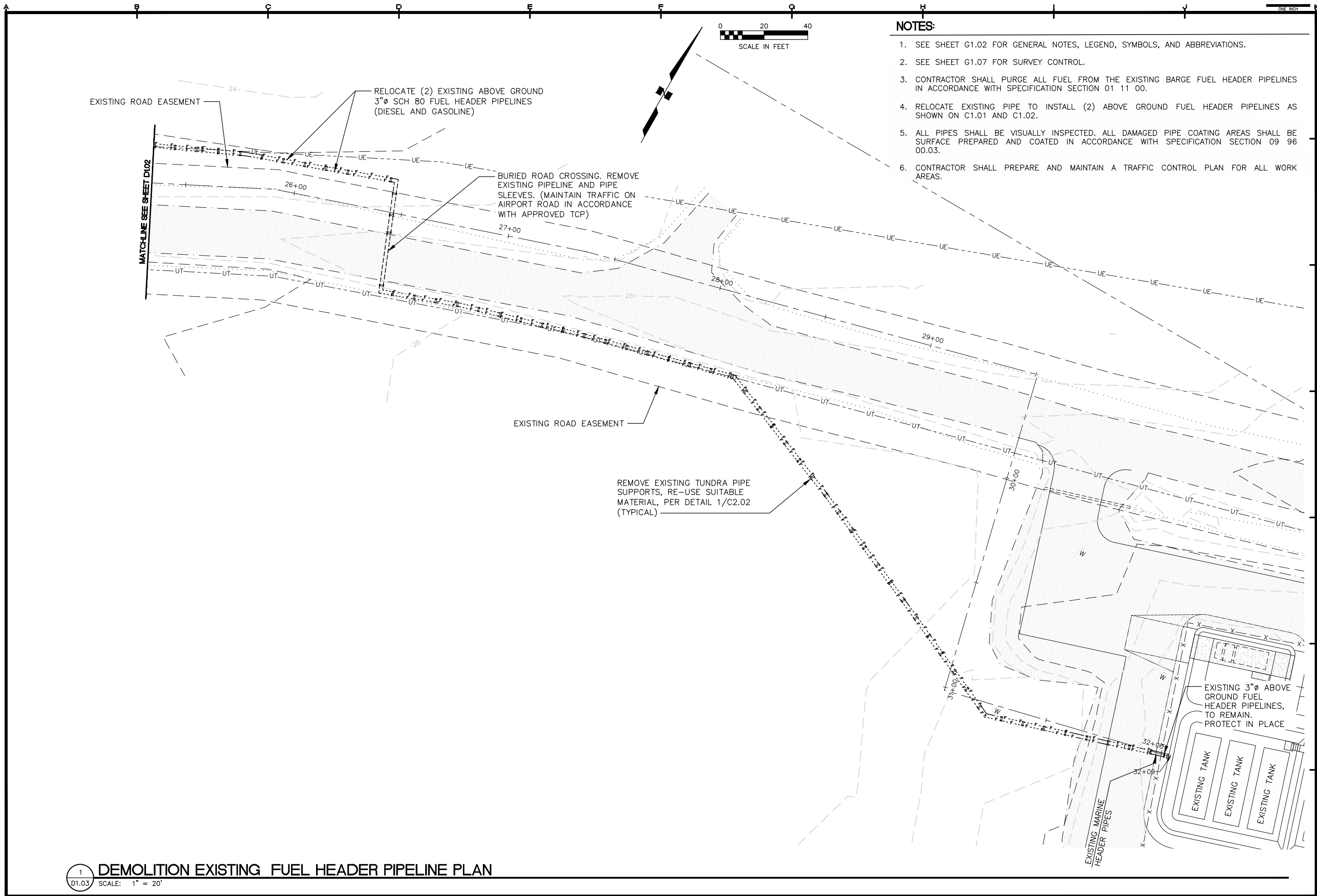


2 DEMOLITION EXISTING FUEL HEADER PIPELINE PLAN
 SCALE: 1" = 20'



PORT HEIDEN FUEL HEADER PIPELINE UPGRADES
ALASKA ENERGY AUTHORITY
 PORT HEIDEN, ALASKA

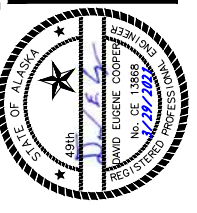
SHEET TITLE	
DEMOLITION EXISTING FUEL HEADER PIPELINE PLAN	
SHEET	
D1.02	
DRAWN BY:	CHECKED BY:
KK	DEC
DATE:	SCALE:
03/29/21	1" = 20'
JOB NUMBER:	
20-007-04	



NOTES:

1. SEE SHEET G1.02 FOR GENERAL NOTES, LEGEND, SYMBOLS, AND ABBREVIATIONS.
2. SEE SHEET G1.07 FOR SURVEY CONTROL.
3. CONTRACTOR SHALL PURGE ALL FUEL FROM THE EXISTING BARGE FUEL HEADER PIPELINES IN ACCORDANCE WITH SPECIFICATION SECTION 01 11 00.
4. RELOCATE EXISTING PIPE TO INSTALL (2) ABOVE GROUND FUEL HEADER PIPELINES AS SHOWN ON C1.01 AND C1.02.
5. ALL PIPES SHALL BE VISUALLY INSPECTED. ALL DAMAGED PIPE COATING AREAS SHALL BE SURFACE PREPARED AND COATED IN ACCORDANCE WITH SPECIFICATION SECTION 09 96 00.03.
6. CONTRACTOR SHALL PREPARE AND MAINTAIN A TRAFFIC CONTROL PLAN FOR ALL WORK AREAS.

REVISIONS	MARK	DATE	DESCRIPTION

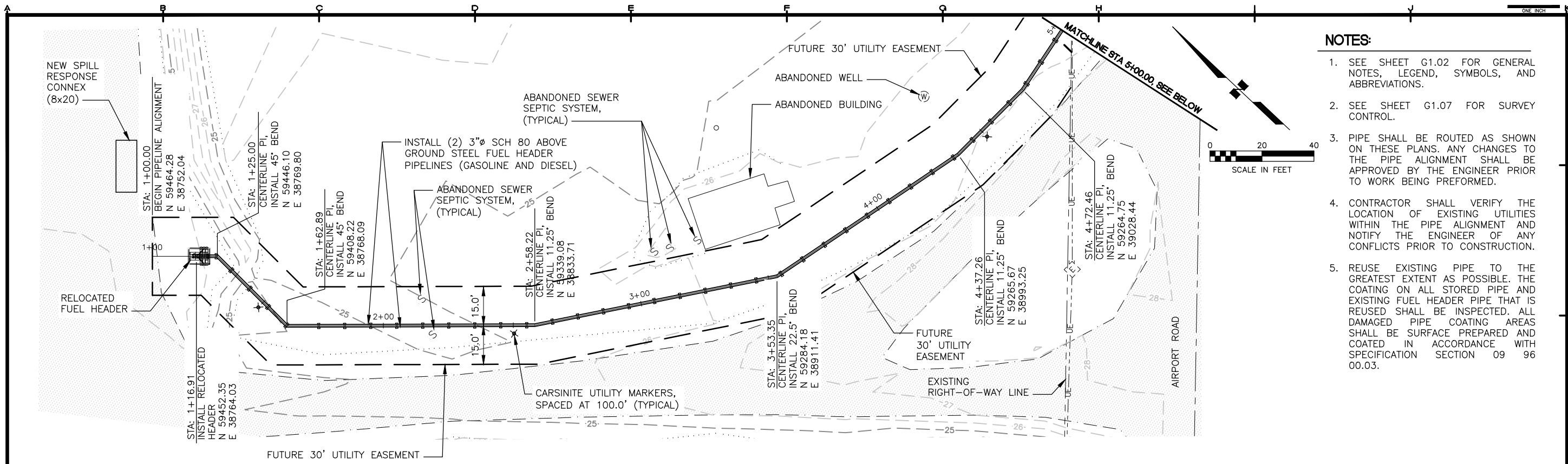


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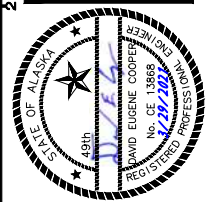
PORT HEIDEN FUEL HEADER PIPELINE UPGRADES
ALASKA ENERGY AUTHORITY
 PORT HEIDEN, ALASKA

SHEET TITLE	
DEMOLITION EXISTING FUEL HEADER PIPELINE PLAN	
SHEET	
D1.03	
DRAWN BY:	CHECKED BY:
KK	DEC
DATE:	SCALE:
03/29/21	1" = 20'
JOB NUMBER:	
20-007-04	

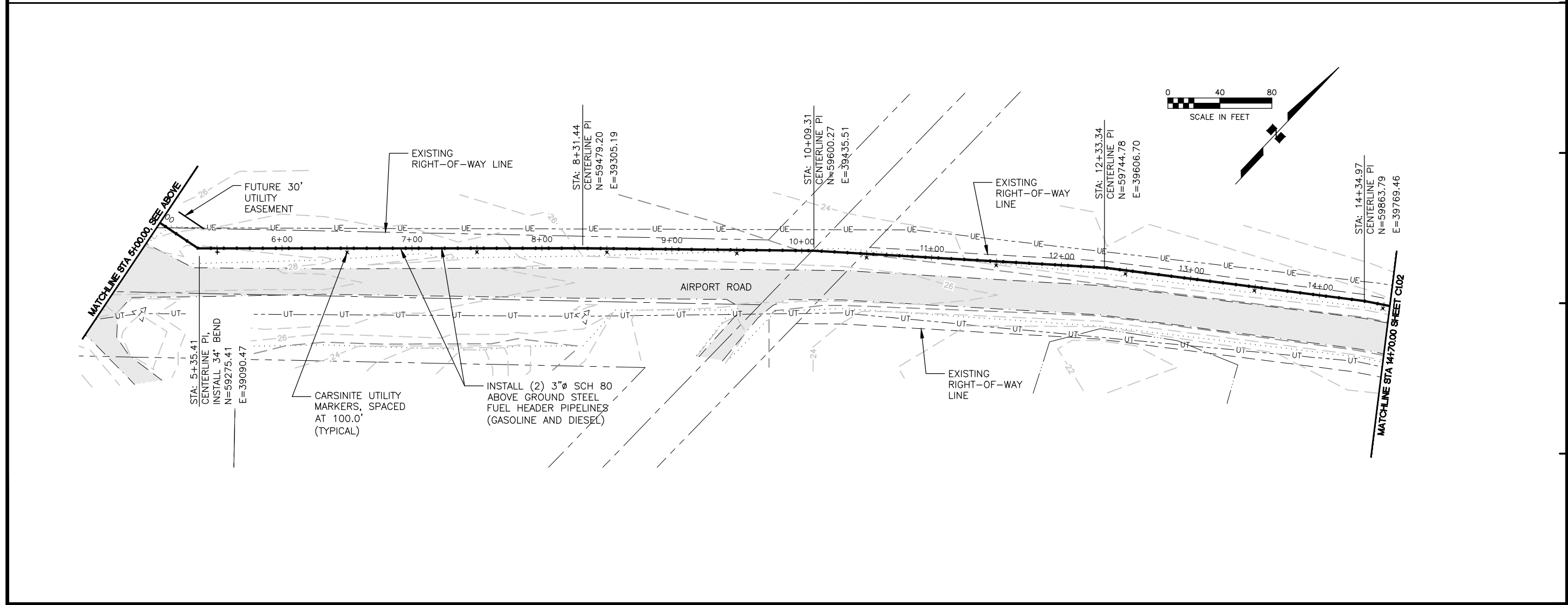


- NOTES:**
- SEE SHEET G1.02 FOR GENERAL NOTES, LEGEND, SYMBOLS, AND ABBREVIATIONS.
 - SEE SHEET G1.07 FOR SURVEY CONTROL.
 - PIPE SHALL BE ROUTED AS SHOWN ON THESE PLANS. ANY CHANGES TO THE PIPE ALIGNMENT SHALL BE APPROVED BY THE ENGINEER PRIOR TO WORK BEING PERFORMED.
 - CONTRACTOR SHALL VERIFY THE LOCATION OF EXISTING UTILITIES WITHIN THE PIPE ALIGNMENT AND NOTIFY THE ENGINEER OF ANY CONFLICTS PRIOR TO CONSTRUCTION.
 - REUSE EXISTING PIPE TO THE GREATEST EXTENT AS POSSIBLE. THE COATING ON ALL STORED PIPE AND EXISTING FUEL HEADER PIPE THAT IS REUSED SHALL BE INSPECTED. ALL DAMAGED PIPE COATING AREAS SHALL BE SURFACE PREPARED AND COATED IN ACCORDANCE WITH SPECIFICATION SECTION 09 96 00.03.

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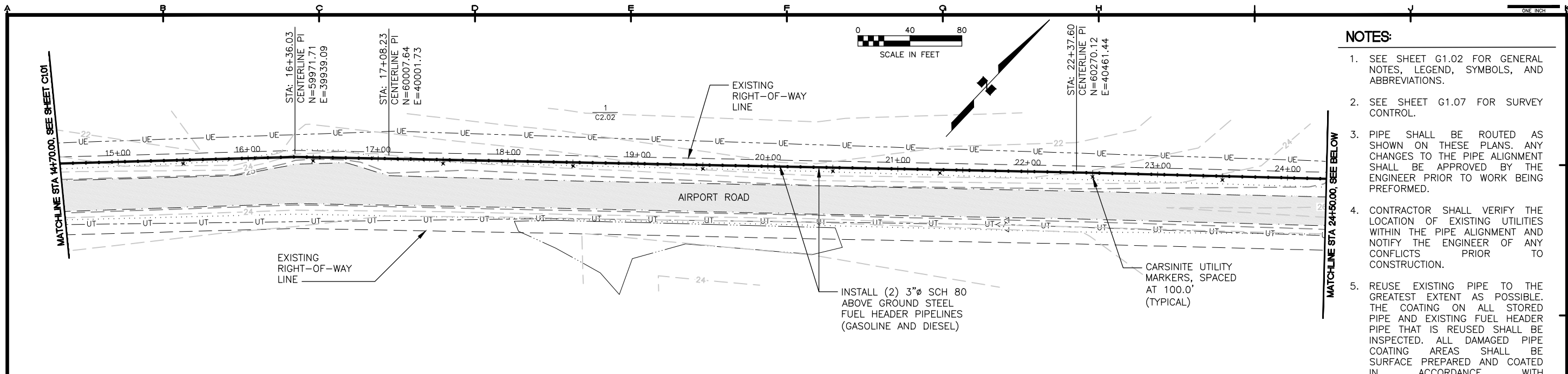


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PORT HEIDEN FUEL HEADER PIPELINE UPGRADES
 FUEL HEADER PIPELINE PLANS

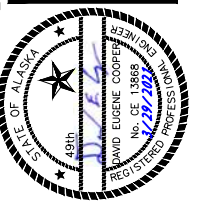
SHEET
C1.01

DRAWN BY: KK	CHECKED BY: DEC
DATE: 03/29/21	SCALE: AS SHOWN
JOB NUMBER: 20-007-04	

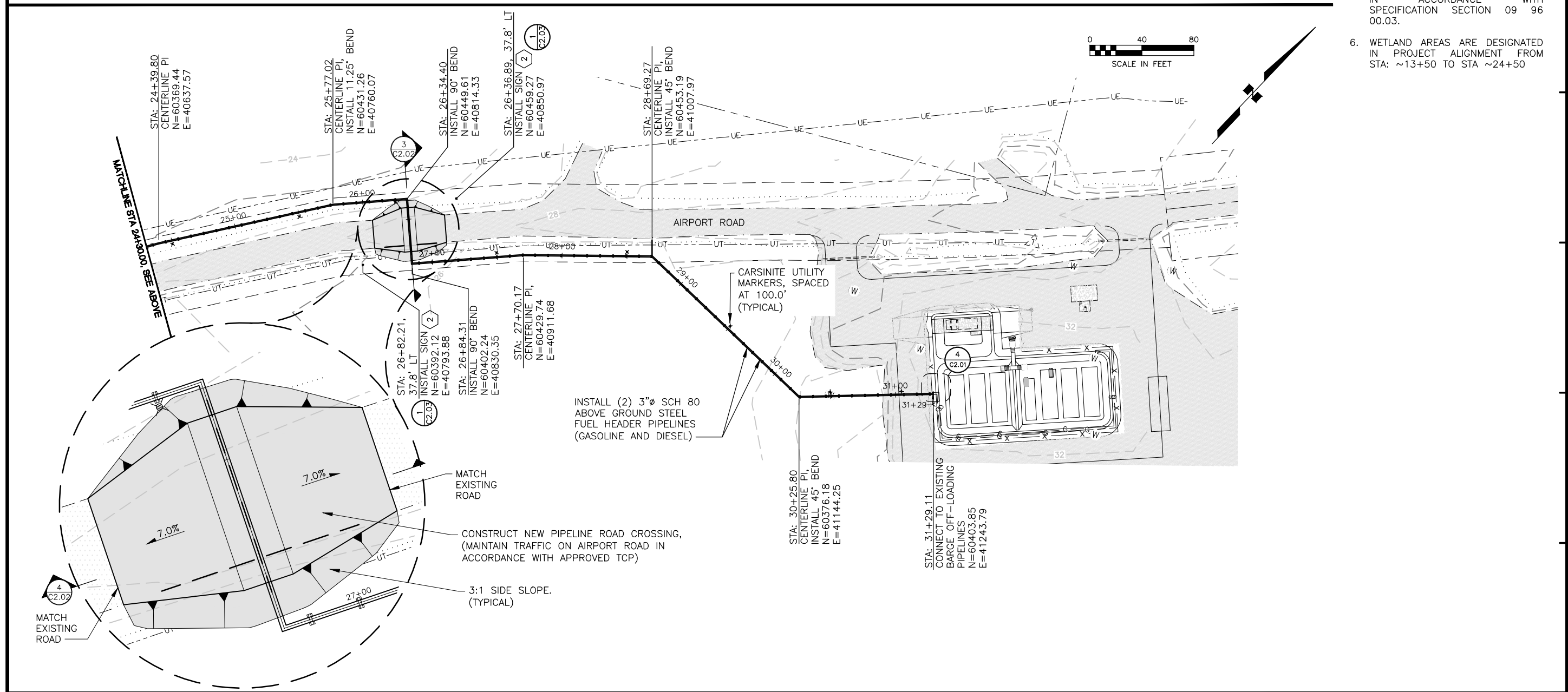


- NOTES:**
- SEE SHEET G1.02 FOR GENERAL NOTES, LEGEND, SYMBOLS, AND ABBREVIATIONS.
 - SEE SHEET G1.07 FOR SURVEY CONTROL.
 - PIPE SHALL BE ROUTED AS SHOWN ON THESE PLANS. ANY CHANGES TO THE PIPE ALIGNMENT SHALL BE APPROVED BY THE ENGINEER PRIOR TO WORK BEING PERFORMED.
 - CONTRACTOR SHALL VERIFY THE LOCATION OF EXISTING UTILITIES WITHIN THE PIPE ALIGNMENT AND NOTIFY THE ENGINEER OF ANY CONFLICTS PRIOR TO CONSTRUCTION.
 - REUSE EXISTING PIPE TO THE GREATEST EXTENT AS POSSIBLE. THE COATING ON ALL STORED PIPE AND EXISTING FUEL HEADER PIPE THAT IS REUSED SHALL BE INSPECTED. ALL DAMAGED PIPE COATING AREAS SHALL BE SURFACE PREPARED AND COATED IN ACCORDANCE WITH SPECIFICATION SECTION 09 96 00.03.
 - WETLAND AREAS ARE DESIGNATED IN PROJECT ALIGNMENT FROM STA: ~13+50 TO STA ~24+50

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PORT HEIDEN FUEL HEADER PIPELINE UPGRADES

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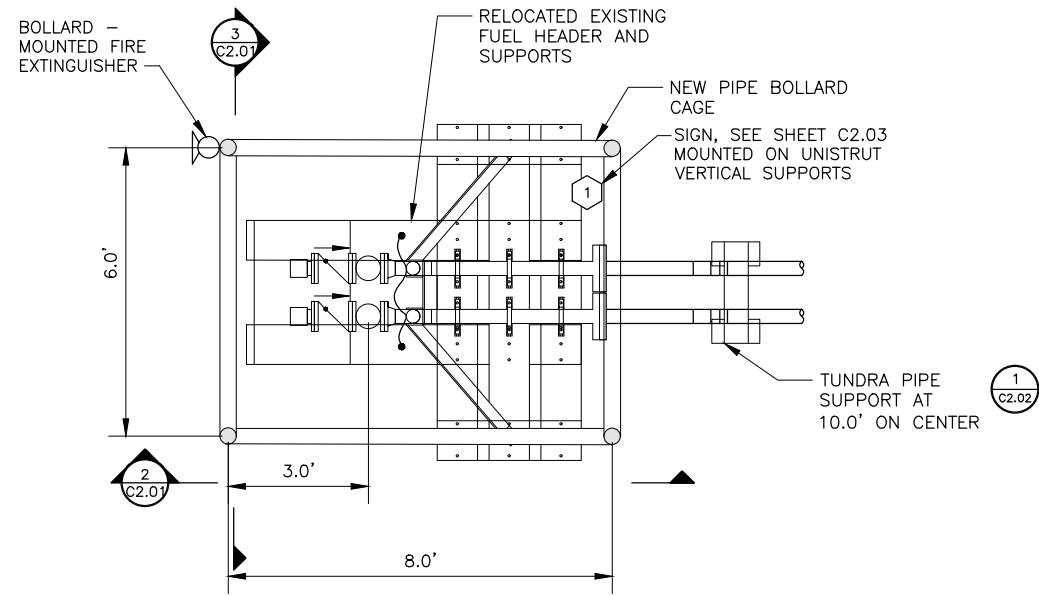
SHEET TITLE
 FUEL HEADER PIPELINE PLANS

SHEET
C1.02

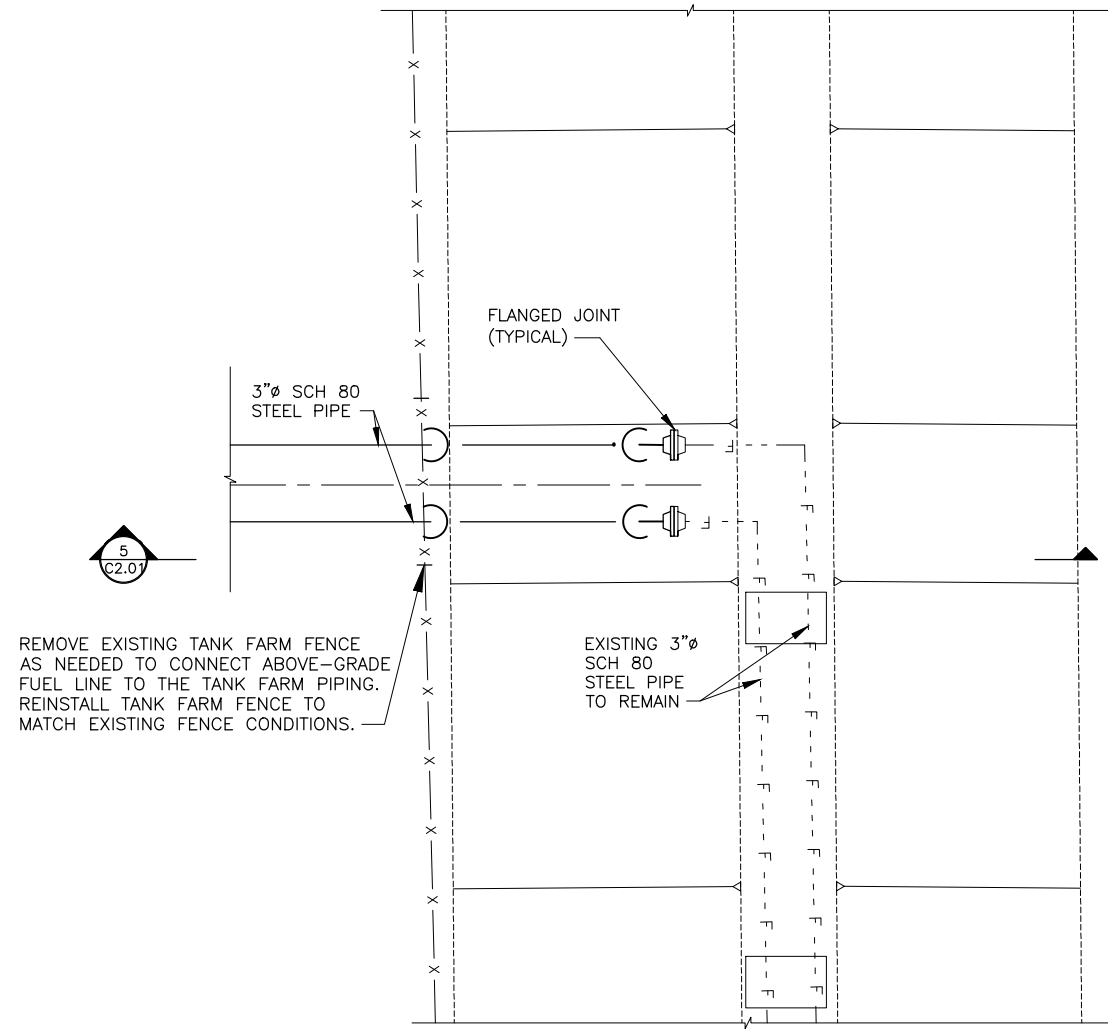
DRAWN BY: KK
 CHECKED BY: DEC

DATE: 03/29/21
 SCALE: 1" = 40'

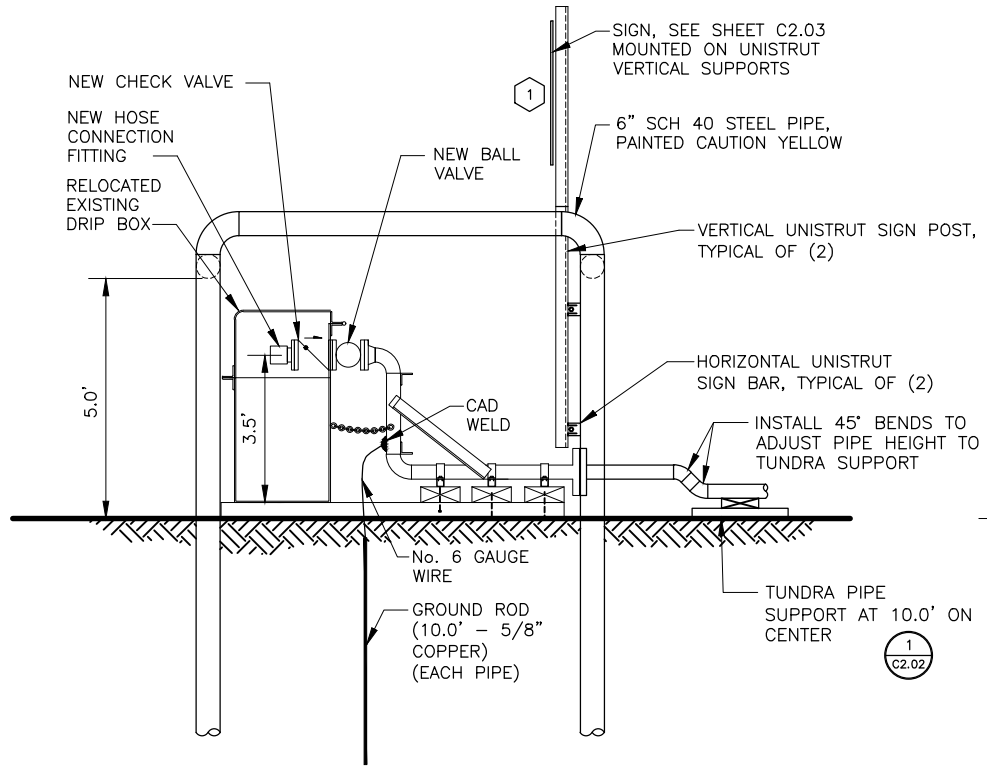
JOB NUMBER: 20-007-04



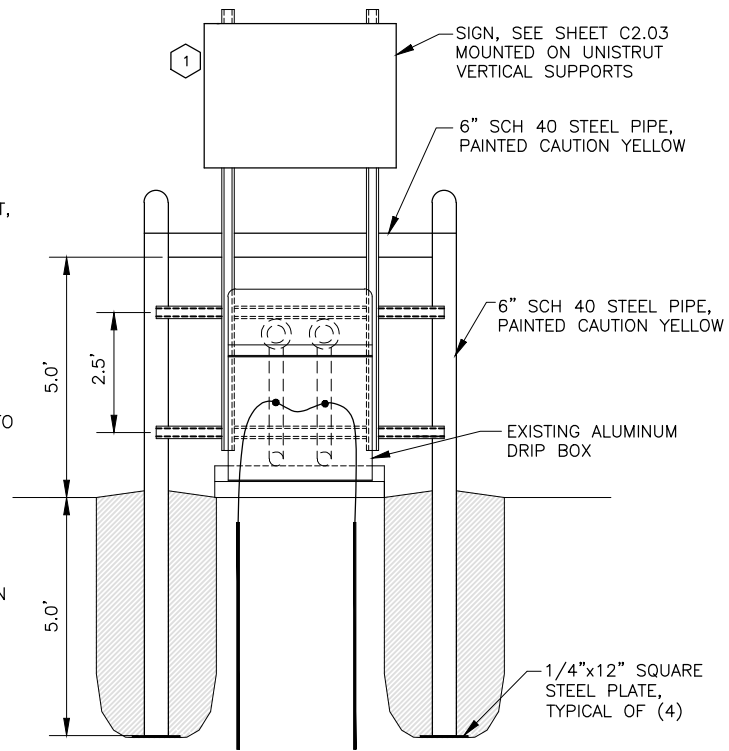
1 PLAN VIEW - FUEL HEADER
 SCALE: NOT TO SCALE



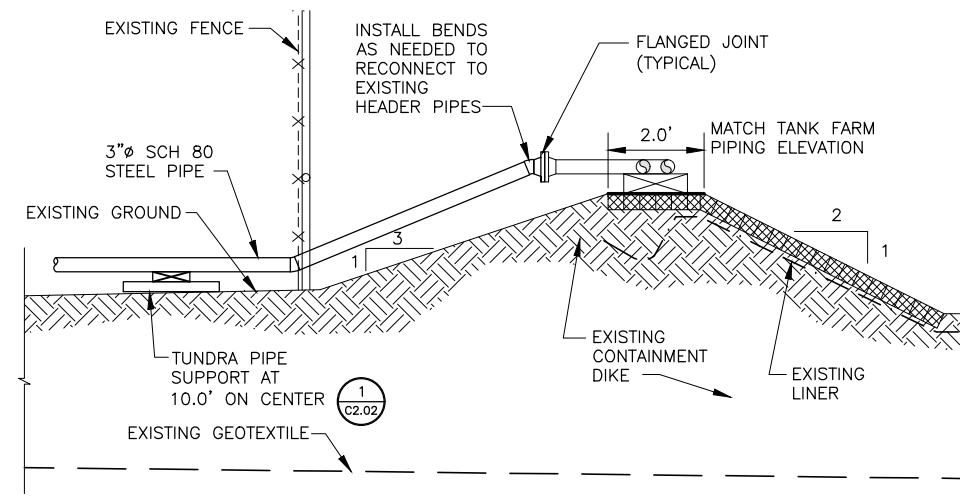
4 PLAN VIEW - TANK FARM HEADER PIPE CONNECTION
 SCALE: NOT TO SCALE



2 SECTION - FUEL HEADER
 SCALE: NOT TO SCALE

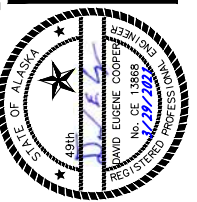


3 SECTION - FUEL HEADER
 SCALE: NOT TO SCALE



5 SECTION - TANK FARM HEADER PIPE CONNECTION
 SCALE: NOT TO SCALE

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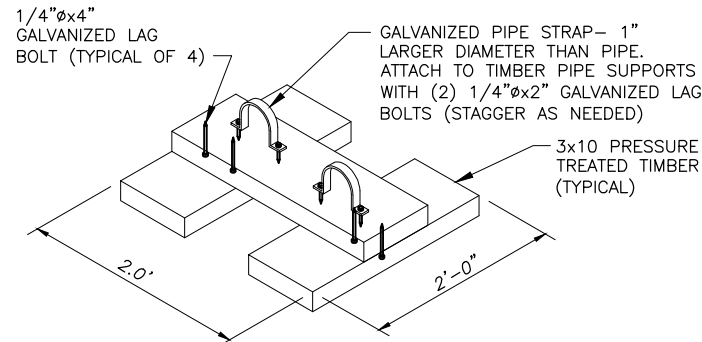


PORT HEIDEN FUEL HEADER PIPELINE UPGRADES
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 PORT HEIDEN, ALASKA

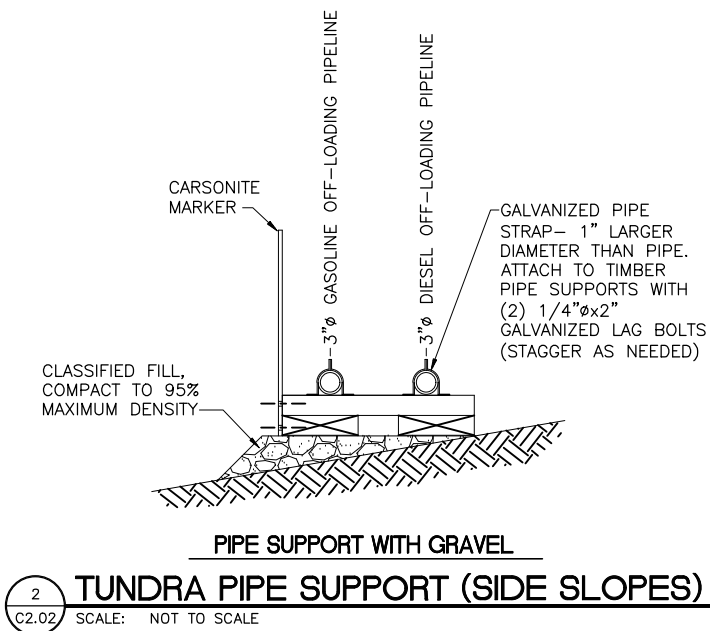
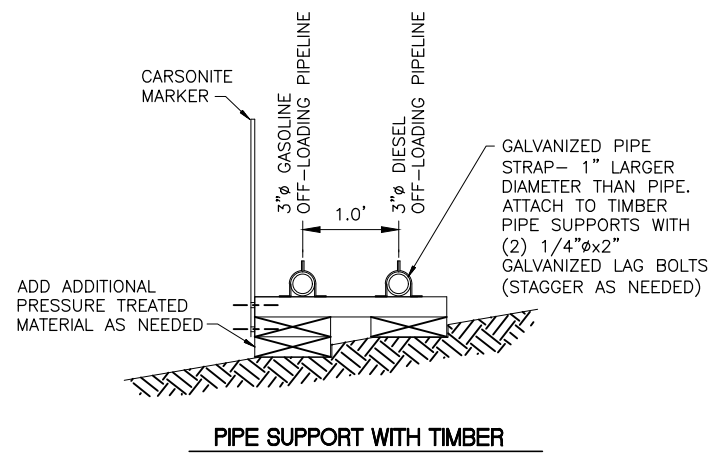
SHEET TITLE PIPING DETAILS	
SHEET C2.01	
DRAWN BY: KK	CHECKED BY: DEC
DATE: 03/29/21	SCALE: AS SHOWN
JOB NUMBER: 20-007-04	

TUNDRA SUPPORT NOTES:

1. PROVIDE PIPE SUPPORTS AT 10' ON CENTER MAX.
2. PROVIDE LEVEL GRAVEL SUPPORT PADS OR PRESSURE TREATED TIMBER AS REQUIRED AT EACH PIPE SUPPORT LOCATION. SEE DETAIL 2/C2.02.
3. REUSE EXISTING TUNDRA PIPE SUPPORT MATERIAL TO CONSTRUCT NEW TUNDRA PIPE SUPPORTS.



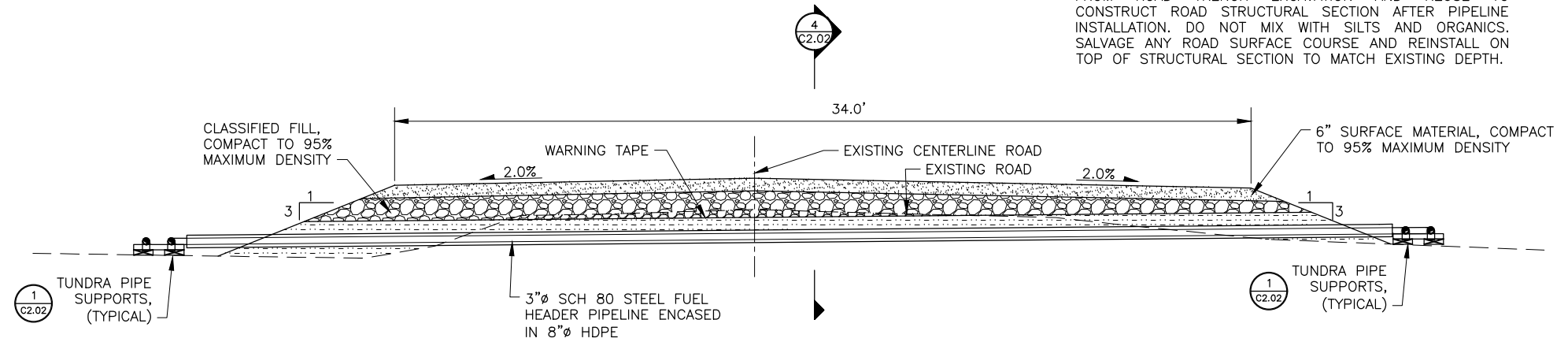
1 TUNDRA PIPE SUPPORT
SCALE: NOT TO SCALE



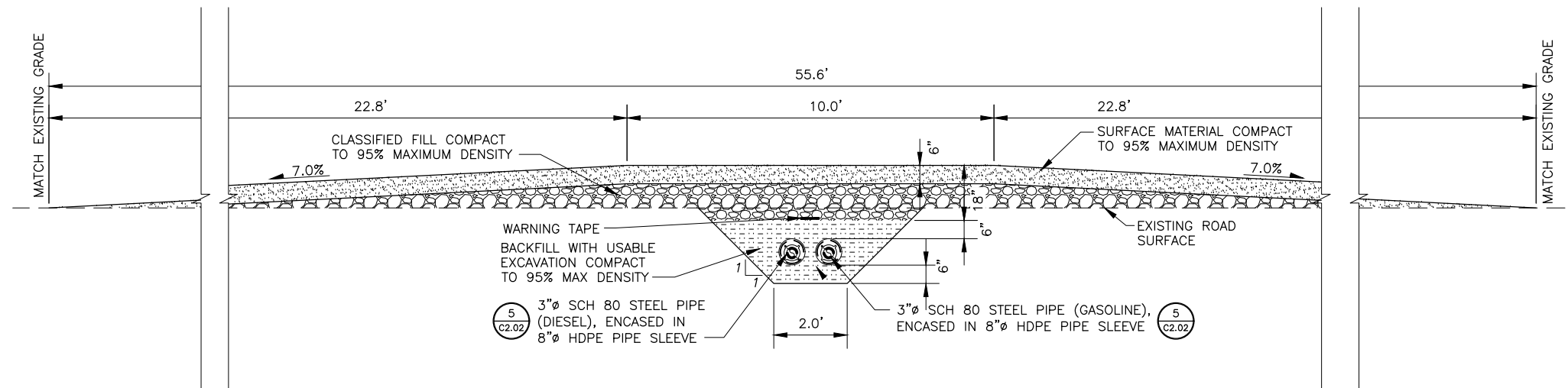
2 TUNDRA PIPE SUPPORT (SIDE SLOPES)
SCALE: NOT TO SCALE

ROAD NOTES:

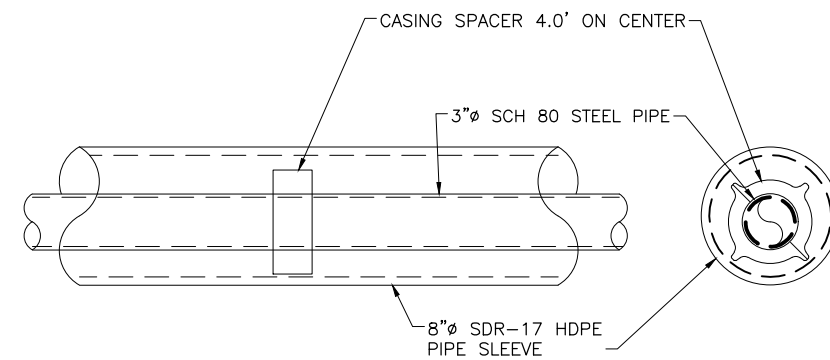
1. SEPARATE UPPER 24 INCHES OF CLEAN GRANULAR FILL FROM ROAD TRENCH EXCAVATION AND REUSE TO CONSTRUCT ROAD STRUCTURAL SECTION AFTER PIPELINE INSTALLATION. DO NOT MIX WITH SILTS AND ORGANICS. SALVAGE ANY ROAD SURFACE COURSE AND REINSTALL ON TOP OF STRUCTURAL SECTION TO MATCH EXISTING DEPTH.



3 TYPICAL ROAD CROSSING SECTION
SCALE: NOT TO SCALE

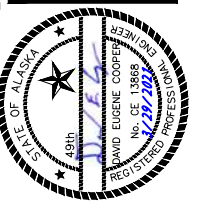


4 TYPICAL ROAD CROSSING SECTION
SCALE: NOT TO SCALE



5 TYPICAL ROAD CROSSING SECTION
SCALE: NOT TO SCALE

REVISIONS	DATE	DESCRIPTION

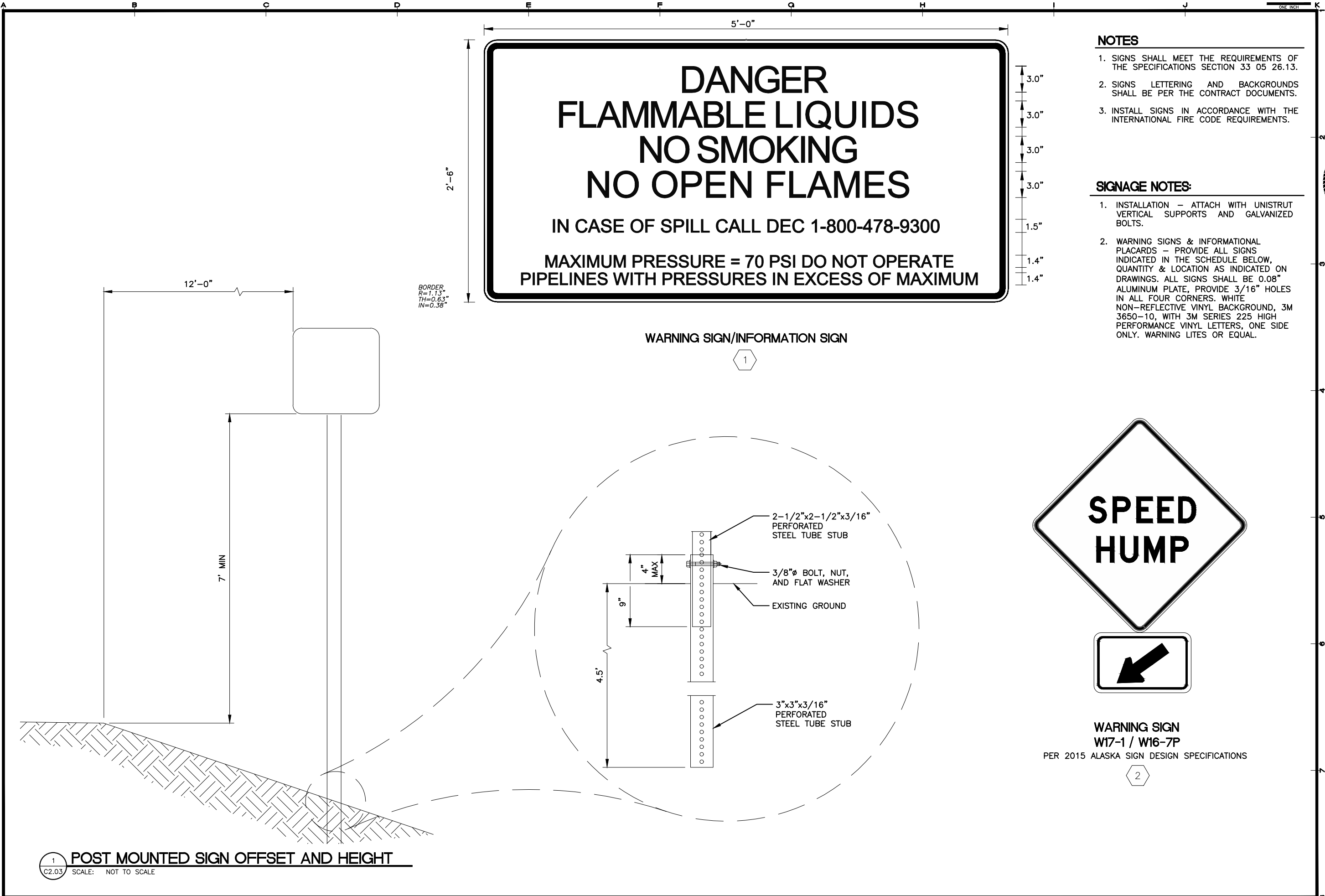


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PORT HEIDEN FUEL HEADER PIPELINE UPGRADES
ALASKA ENERGY AUTHORITY
PORT HEIDEN, ALASKA

SHEET TITLE PIPING DETAILS	
SHEET C2.02	
DRAWN BY: KK	CHECKED BY: DEC
DATE: 03/29/21	SCALE: AS SHOWN
JOB NUMBER: 20-007-04	



DANGER
FLAMMABLE LIQUIDS
NO SMOKING
NO OPEN FLAMES
 IN CASE OF SPILL CALL DEC 1-800-478-9300
 MAXIMUM PRESSURE = 70 PSI DO NOT OPERATE
 PIPELINES WITH PRESSURES IN EXCESS OF MAXIMUM

WARNING SIGN/INFORMATION SIGN
 1



WARNING SIGN
 W17-1 / W16-7P
 PER 2015 ALASKA SIGN DESIGN SPECIFICATIONS
 2

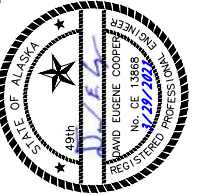
NOTES

1. SIGNS SHALL MEET THE REQUIREMENTS OF THE SPECIFICATIONS SECTION 33 05 26.13.
2. SIGNS LETTERING AND BACKGROUNDS SHALL BE PER THE CONTRACT DOCUMENTS.
3. INSTALL SIGNS IN ACCORDANCE WITH THE INTERNATIONAL FIRE CODE REQUIREMENTS.

SIGNAGE NOTES:

1. INSTALLATION – ATTACH WITH UNISTRUT VERTICAL SUPPORTS AND GALVANIZED BOLTS.
2. WARNING SIGNS & INFORMATIONAL PLACARDS – PROVIDE ALL SIGNS INDICATED IN THE SCHEDULE BELOW, QUANTITY & LOCATION AS INDICATED ON DRAWINGS. ALL SIGNS SHALL BE 0.08" ALUMINUM PLATE, PROVIDE 3/16" HOLES IN ALL FOUR CORNERS. WHITE NON-REFLECTIVE VINYL BACKGROUND, 3M 3650-10, WITH 3M SERIES 225 HIGH PERFORMANCE VINYL LETTERS, ONE SIDE ONLY. WARNING LITES OR EQUAL.

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ALASKA ENERGY AUTHORITY

PORT HEIDEN FUEL HEADER PIPELINE UPGRADES
 ALASKA ENERGY AUTHORITY
 PORT HEIDEN, ALASKA

1 POST MOUNTED SIGN OFFSET AND HEIGHT
 SCALE: NOT TO SCALE

SHEET TITLE SIGNAGE	
SHEET C2.03	
DRAWN BY: KK	CHECKED BY: DEC
DATE: 03/23/21	SCALE: AS SHOWN
JOB NUMBER: 20-007-04	