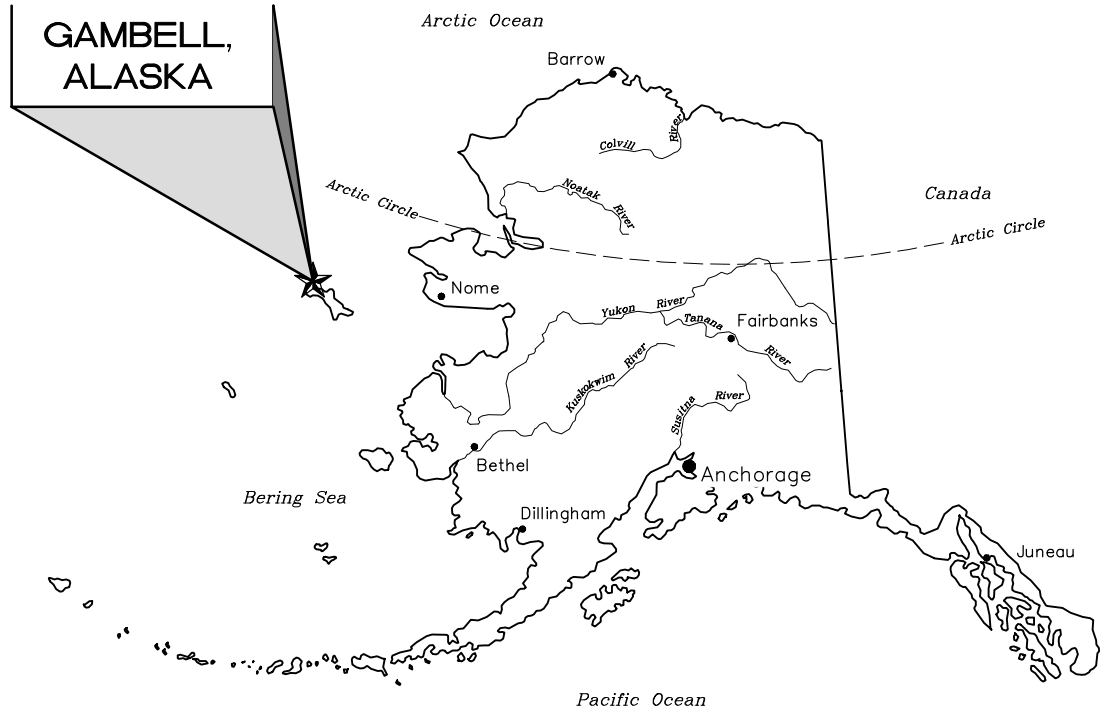
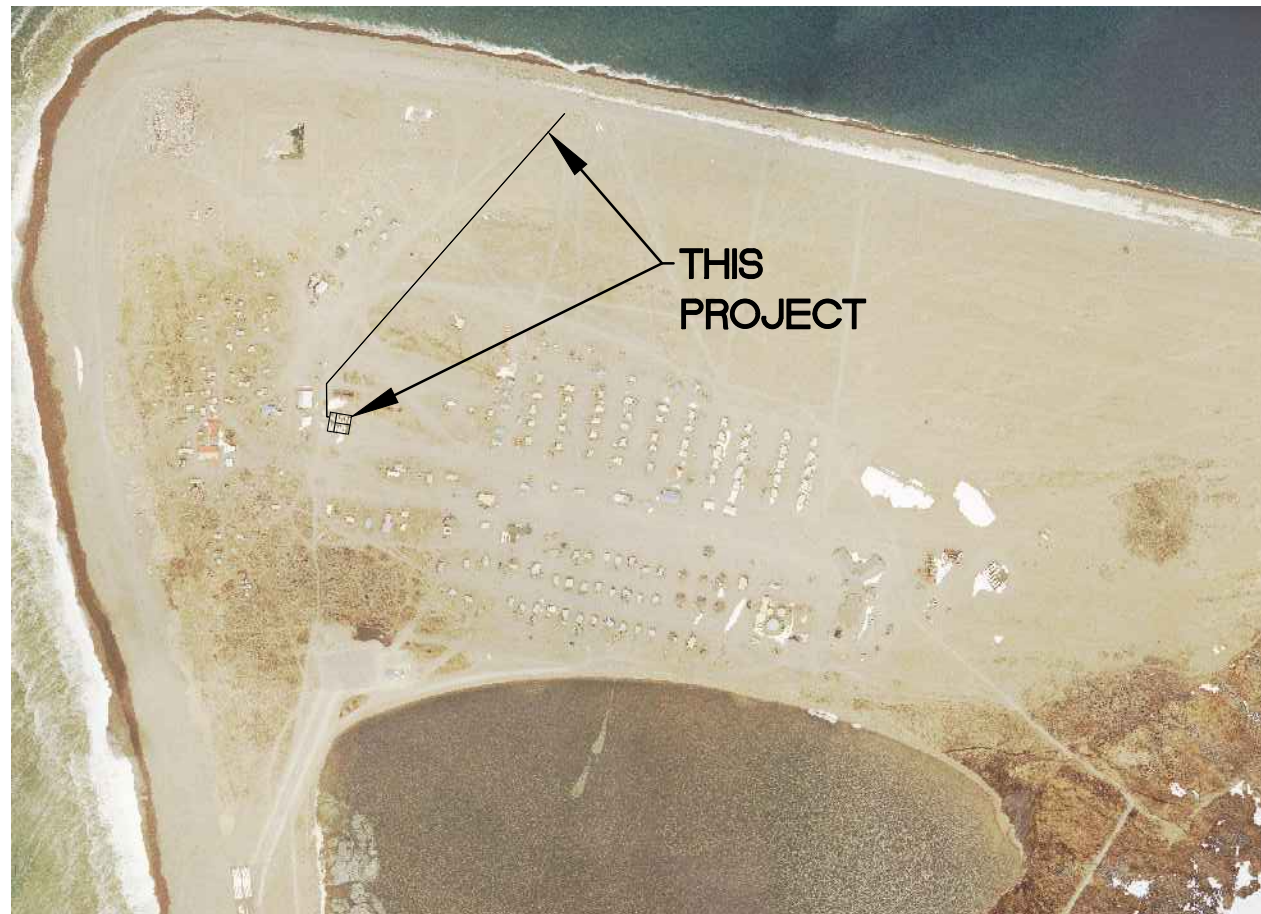


A B C D E F G H I J K ONE INCH

# GAMBELL BARGE HEADER UPGRADES GAMBELL, ALASKA



**LOCATION MAP**

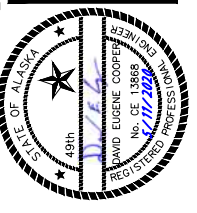


**VICINITY MAP**

**SHEET INDEX**

- G1.01 COVER SHEET AND DRAWING INDEX
- G1.02 GENERAL NOTES, ABBREVIATIONS AND LEGEND
- G1.03 PROJECT LAYOUT PLAN
  
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- C1.04 PLAN AND PROFILE STA 18+00 TO STA 22+00
  
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- CP1 CATHODIC PROTECTION OVERALL SITE PLAN
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- CP4 CATHODIC PROTECTION DETAILS
- CP5 CATHODIC PROTECTION NOTES

REVISIONS	MARK	DATE	DESCRIPTION



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GAMBELL BARGE HEADER UPGRADES

**ALASKA ENERGY AUTHORITY**  
 GAMBELL, ALASKA

SHEET TITLE  
**COVER SHEET AND DRAWING INDEX**

SHEET  
**G1.01**

DRAWN BY: **KK** CHECKED BY: **DEC**

DATE: **05/08/20** SCALE: **AS SHOWN**

JOB NUMBER: **20-007-01**


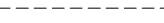
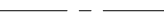

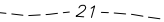
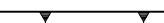











H:\Jobs\20-007\_AEA\_Fuels\Gambell\CAD\Drawings\20007\_01\_G1.01, 1=1, 05-07-20 at 14:18 by jkk  
 LAYOUT: G1.01 COVER SHEET

**GENERAL**

- TOPOGRAPHICAL AND PLANIMETRIC INFORMATION SHOWN IN THESE DRAWINGS WAS OBTAINED FROM DNR COMMUNITY MAPS AND AERIAL PHOTOGRAPHY.
- NO SITE SPECIFIC SURVEY HAS BEEN PERFORMED TO DATE. THE OWNER WILL PERFORM A TOPOGRAPHIC AND BOUNDARY FIELD SURVEY PRIOR TO CONSTRUCTION AND RE-ISSUE THE PLANS TO ADD CURRENT TOPOGRAPHIC, BOUNDARY, AND SURVEY CONTROL INFORMATION. MINOR CHANGES TO THE PIPELINE ALIGNMENT AND MATERIAL QUANTITIES SHOULD BE ANTICIPATED AND THESE CHANGES SHALL BE INCORPORATED INTO THE PROJECT AT NO ADDITIONAL COST TO THE OWNER.
- 5,032 LF OF 3" SCH 80 STEEL PIPE AND MOST OF THE VALVE AND FITTING MATERIAL IS OWNER-PROVIDE. SEE DIVISION 01 FOR A LIST OF OWNER-PROVIDED MATERIAL. THE CONTRACTOR SHALL PROVIDE ALL OTHER MATERIAL NOT PROVIDED BY THE OWNER THAT IS REQUIRED TO COMPLETE THE PROJECT.
- 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 COMPANIES 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 THE INTERNATIONAL BUILDING CODE (IBC), INTERNATIONAL FIRE CODE (IFC), STATE AND FEDERAL OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATIONS (OSHA), US ENVIRONMENTAL PROTECTION AGENCY, ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION 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 CONTRACTORS 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 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.
- ALL CONSTRUCTION SURVEYING AND LAYOUT SHALL BE PROVIDED BY THE CONTRACTOR UNLESS NOTED OTHERWISE.
- 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 CONTRACTORS 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.
- CONTRACTORS WORKS SHALL NOT IMPACT OR RESTRICT VEHICLE MOVEMENT ON TRAVELED WAYS OUTSIDE OF THE PROJECT AREA.
- NO GROUND DISTURBING ACTIVITIES SHALL OCCUR BEYOND THE LIMITS OF THE EASEMENTS, EXCEPT NOTED OTHERWISE.
- 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.
- AEA WILL PROVIDE A TEMPORARY CONSTRUCTION EASEMENT (TCE) FOR FILL PLACEMENT BEYOND THE LIMITS OF THE EXISTING FUEL LINE EASEMENT AS SHOWN IN ON THE PLANS. DO NOT PERFORM WORK IN THIS AREA PRIOR TO RECEIPT OF THE TCE. CONTRACTOR SHALL LIMIT GROUND DISTURBANCE ACTIVITIES WITHIN THE TCE AREAS TO ONLY ACTIVITIES REQUIRED TO PLACE COARSE GRAVEL FILL.

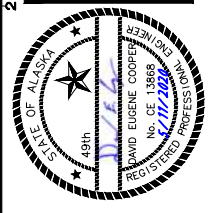
**LEGEND**

-  EXISTING PROPERTY LINE
-  EXISTING EASEMENT
-  ROAD/TRAIL CENTERLINE
-  EXISTING EDGE OF ROAD
-  EXISTING CONTOUR
-  NEW FILL
-  EXISTING CHAINLINK FENCE
-  NEW CHAINLINK FENCE
-  VERTICAL PIPE TRANSITION
-  NEW BURIED BARGE OFF-LOADING PIPELINE
-  NEW UTILITY MARKER
-  UNDISTURBED GROUND
-  COMPACTED GRAVEL FILL
-  FLAG NOTES PER SHEET
-  DETAIL CALLOUT
-  SECTION CUT
-  SIGN CALLOUT

**ABBREVIATIONS**

AAC	ALASKA ADMINISTRATIVE CODE
ACI	AMERICAN CONCRETE INSTITUTE
ADEC	ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION
APS	FIBER EXPANSION JOINT MANUFACTURER
ASME	AMERICAN SOCIETY MECHANICAL ENGINEERS
ASTM	AMERICAN SOCIETY FOR TESTING & MATERIALS
AWPA	AMERICAN WOOD PROTECTION ASSOCIATION
ALUM	ALUMINUM
CMP	CORRUGATED METAL PIPE
CP	CATHODIC PROTECTION
CU	COPPER
ELEV	ELEVATION'
E.W.	EACH WAY
EXIST	EXISTING
FG	FINISHED GROUND
FPT	FEMALE PIPE THREAD
GA	GAUGE
GALV	GALVANIZED
HDPE	HIGH DENSITY POLYETHYLENE
IBC	INTERNATIONAL BUILDING CODE
IFC	INTERNATIONAL FIRE CODE
L	LENGTH
MAX	MAXIMUM
MIN	MINIMUM
MPT	MALE PIPE THREAD
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
OC	ON CENTER
OD	OUTSIDE DIAMETER
OSHA	OCCUPATIONAL SAFETY AND HAZARD ADMINISTRATIONS
PRV	PRESSURE RELEASE VALVE
PSI	POUNDS PER SQUARE INCH
PSIG	POUNDS PER SQUARE INCH GAUGE
ROW	RIGHT OF WAY
SCH	SCHEDULE
STA	STATION
SWPPP	STORM WATER POLLUTION PREVENTION PLAN
TCE	TEMPORARY CONSTRUCTION EASEMENT
TCP	TRAFFIC CONTROL PLAN
TP	TEST PIT
TYP	TYPICAL
UE	UNDERGROUND ELECTRIC
USS	UNIT OF STUDY SURVEY
UT	UNDERGROUND TELEPHONE
Ø	DIAMETER
&	AND

REVISIONS	MARK	DATE	DESCRIPTION



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 GAMBELL, ALASKA

GAMBELL BARGE HEADER UPGRADES

SHEET TITLE  
**GENERAL NOTES, LEGEND, AND ABBREVIATIONS**

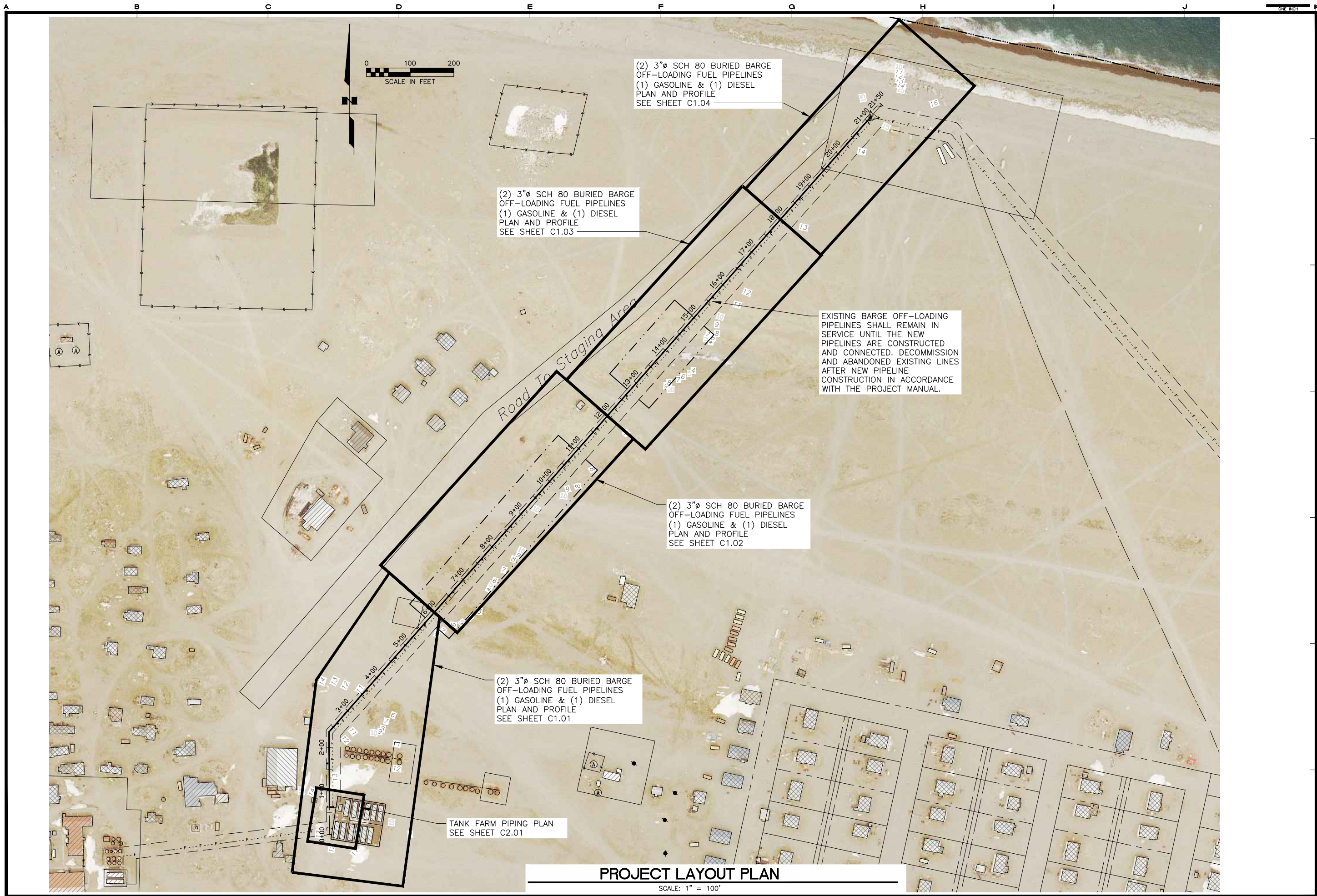
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**G1.02**

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 CHECKED BY: DEC

DATE: 05/08/20  
 SCALE: NONE

JOB NUMBER:  
 20-007-01

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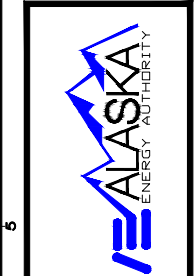
**PROJECT LAYOUT PLAN**

SCALE: 1" = 100'

REVISIONS	MARK	DATE	DESCRIPTION

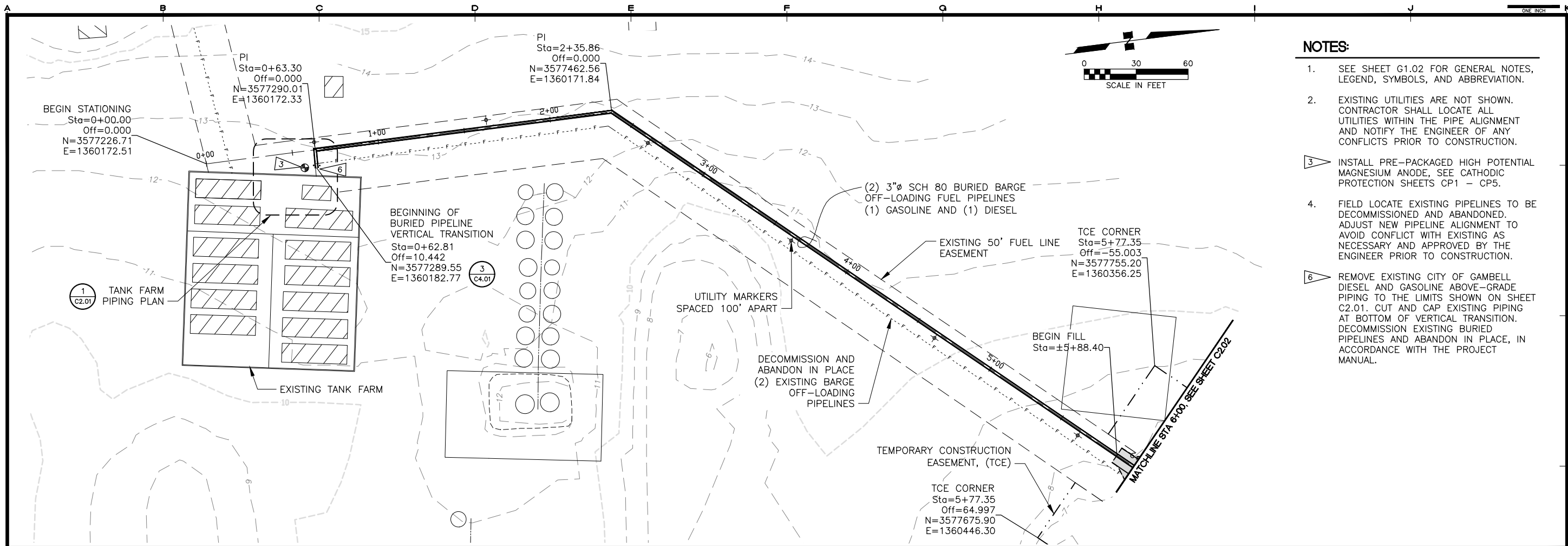


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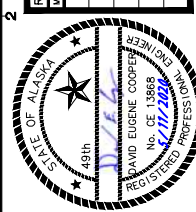
GAMBELL BARGE HEADER UPGRADES  
**ALASKA ENERGY AUTHORITY**  
 GAMBELL, ALASKA

SHEET TITLE	
PROJECT LAYOUT PLAN	
SHEET	
G1.03	
DRAWN BY:	CHECKED BY:
KK	DEC
DATE:	SCALE:
05/08/20	1" = 100'
JOB NUMBER:	
20-007-01	



- NOTES:**
- SEE SHEET G1.02 FOR GENERAL NOTES, LEGEND, SYMBOLS, AND ABBREVIATION.
  - EXISTING UTILITIES ARE NOT SHOWN. CONTRACTOR SHALL LOCATE ALL UTILITIES WITHIN THE PIPE ALIGNMENT AND NOTIFY THE ENGINEER OF ANY CONFLICTS PRIOR TO CONSTRUCTION.
  - INSTALL PRE-PACKAGED HIGH POTENTIAL MAGNESIUM ANODE, SEE CATHODIC PROTECTION SHEETS CP1 - CP5.
  - FIELD LOCATE EXISTING PIPELINES TO BE DECOMMISSIONED AND ABANDONED. ADJUST NEW PIPELINE ALIGNMENT TO AVOID CONFLICT WITH EXISTING AS NECESSARY AND APPROVED BY THE ENGINEER PRIOR TO CONSTRUCTION.
  - REMOVE EXISTING CITY OF GAMBELL DIESEL AND GASOLINE ABOVE-GRADE PIPING TO THE LIMITS SHOWN ON SHEET C2.01. CUT AND CAP EXISTING PIPING AT BOTTOM OF VERTICAL TRANSITION. DECOMMISSION EXISTING BURIED PIPELINES AND ABANDON IN PLACE, IN ACCORDANCE WITH THE PROJECT MANUAL.

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GAMBELL BARGE HEADER UPGRADES

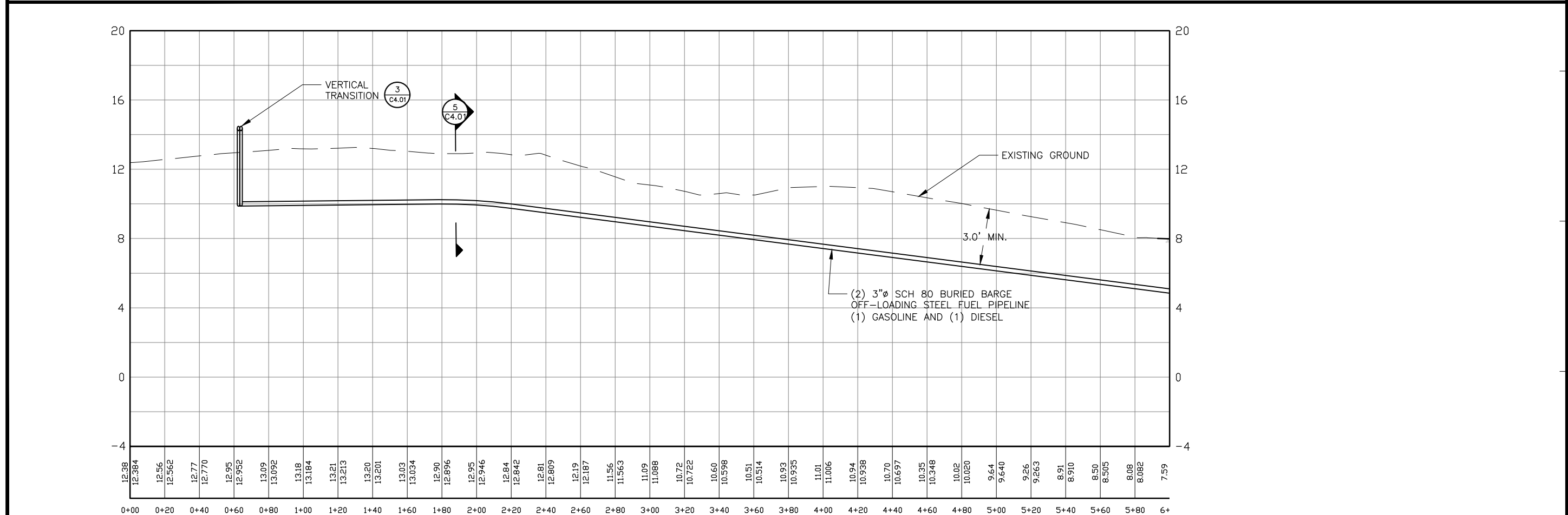
SHEET TITLE  
**PLAN AND PROFILE**  
 STA 0+00 TO 6+00

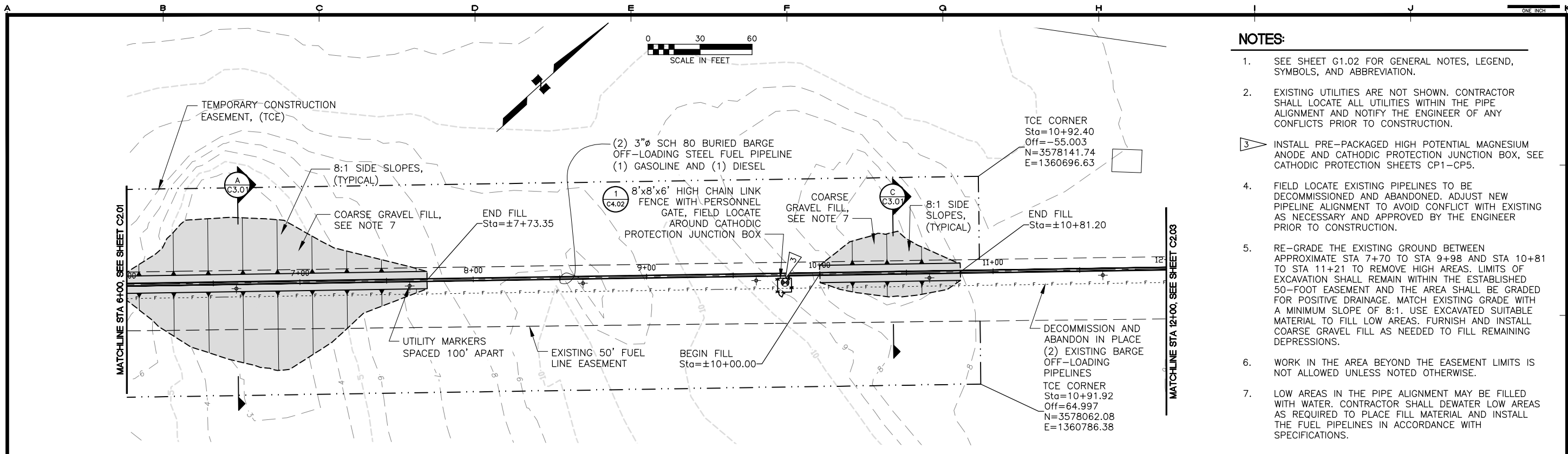
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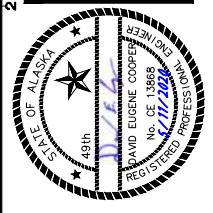




**NOTES:**

- SEE SHEET G1.02 FOR GENERAL NOTES, LEGEND, SYMBOLS, AND ABBREVIATION.
- EXISTING UTILITIES ARE NOT SHOWN. CONTRACTOR SHALL LOCATE ALL UTILITIES WITHIN THE PIPE ALIGNMENT AND NOTIFY THE ENGINEER OF ANY CONFLICTS PRIOR TO CONSTRUCTION.
- INSTALL PRE-PACKAGED HIGH POTENTIAL MAGNESIUM ANODE AND CATHODIC PROTECTION JUNCTION BOX, SEE CATHODIC PROTECTION SHEETS CP1-CP5.
- FIELD LOCATE EXISTING PIPELINES TO BE DECOMMISSIONED AND ABANDONED. ADJUST NEW PIPELINE ALIGNMENT TO AVOID CONFLICT WITH EXISTING AS NECESSARY AND APPROVED BY THE ENGINEER PRIOR TO CONSTRUCTION.
- RE-GRADE THE EXISTING GROUND BETWEEN APPROXIMATE STA 7+70 TO STA 9+98 AND STA 10+81 TO STA 11+21 TO REMOVE HIGH AREAS. LIMITS OF EXCAVATION SHALL REMAIN WITHIN THE ESTABLISHED 50-FOOT EASEMENT AND THE AREA SHALL BE GRADED FOR POSITIVE DRAINAGE. MATCH EXISTING GRADE WITH A MINIMUM SLOPE OF 8:1. USE EXCAVATED SUITABLE MATERIAL TO FILL LOW AREAS. FURNISH AND INSTALL COARSE GRAVEL FILL AS NEEDED TO FILL REMAINING DEPRESSIONS.
- WORK IN THE AREA BEYOND THE EASEMENT LIMITS IS NOT ALLOWED UNLESS NOTED OTHERWISE.
- LOW AREAS IN THE PIPE ALIGNMENT MAY BE FILLED WITH WATER. CONTRACTOR SHALL DEWATER LOW AREAS AS REQUIRED TO PLACE FILL MATERIAL AND INSTALL THE FUEL PIPELINES IN ACCORDANCE WITH SPECIFICATIONS.

REVISIONS	DATE	DESCRIPTION



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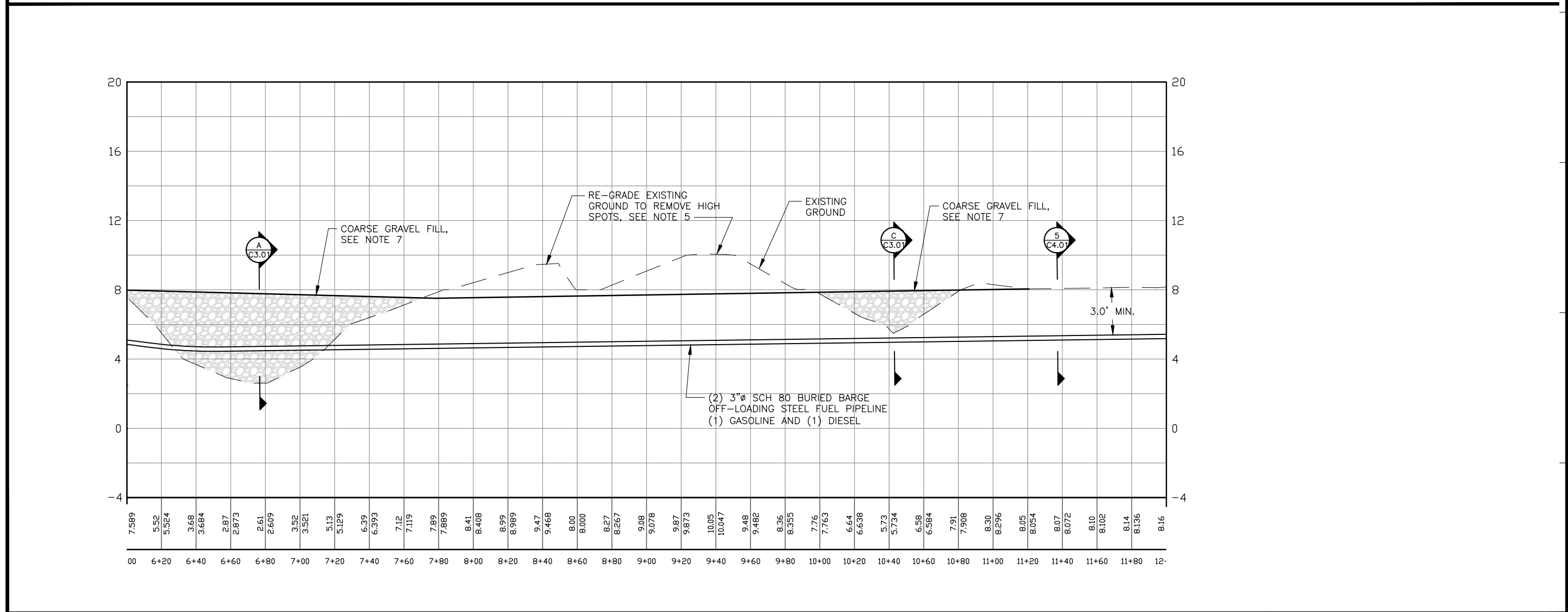
GAMBELL BARGE HEADER UPGRADES

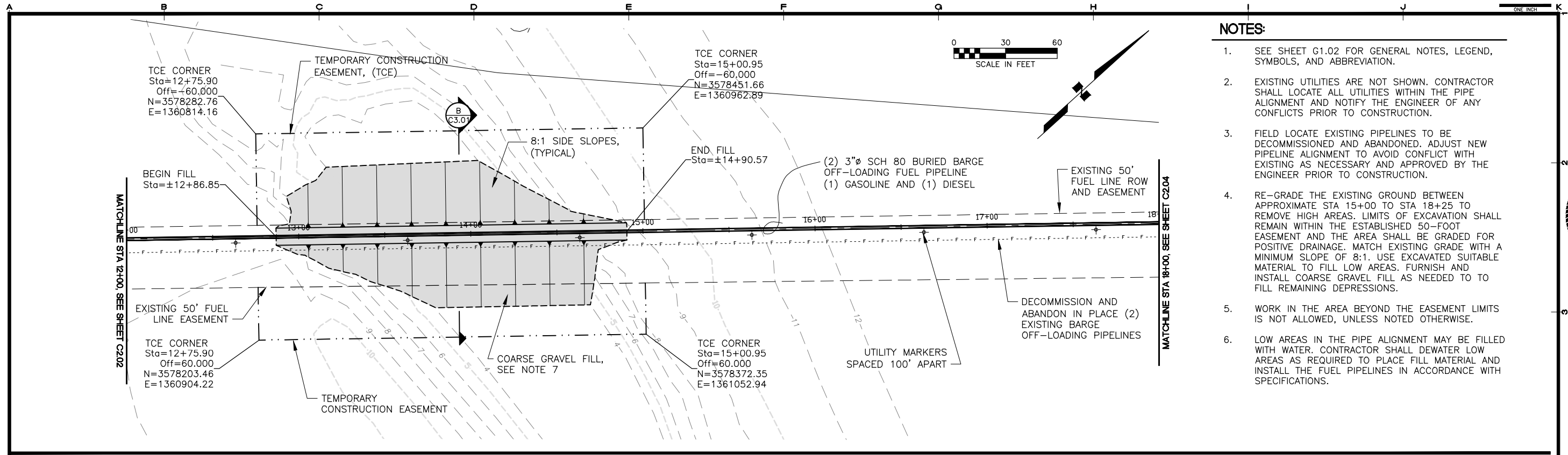
**ALASKA ENERGY AUTHORITY**  
 GAMBELL, ALASKA

SHEET TITLE  
**PLAN AND PROFILE**  
 STA 6+00 TO  
 STA 12+00

SHEET  
**C1.02**

DRAWN BY: **KK** CHECKED BY: **DEC**  
 DATE: **05/08/20** SCALE: **1"=30'**  
 JOB NUMBER: **20-007-01**

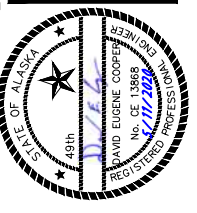




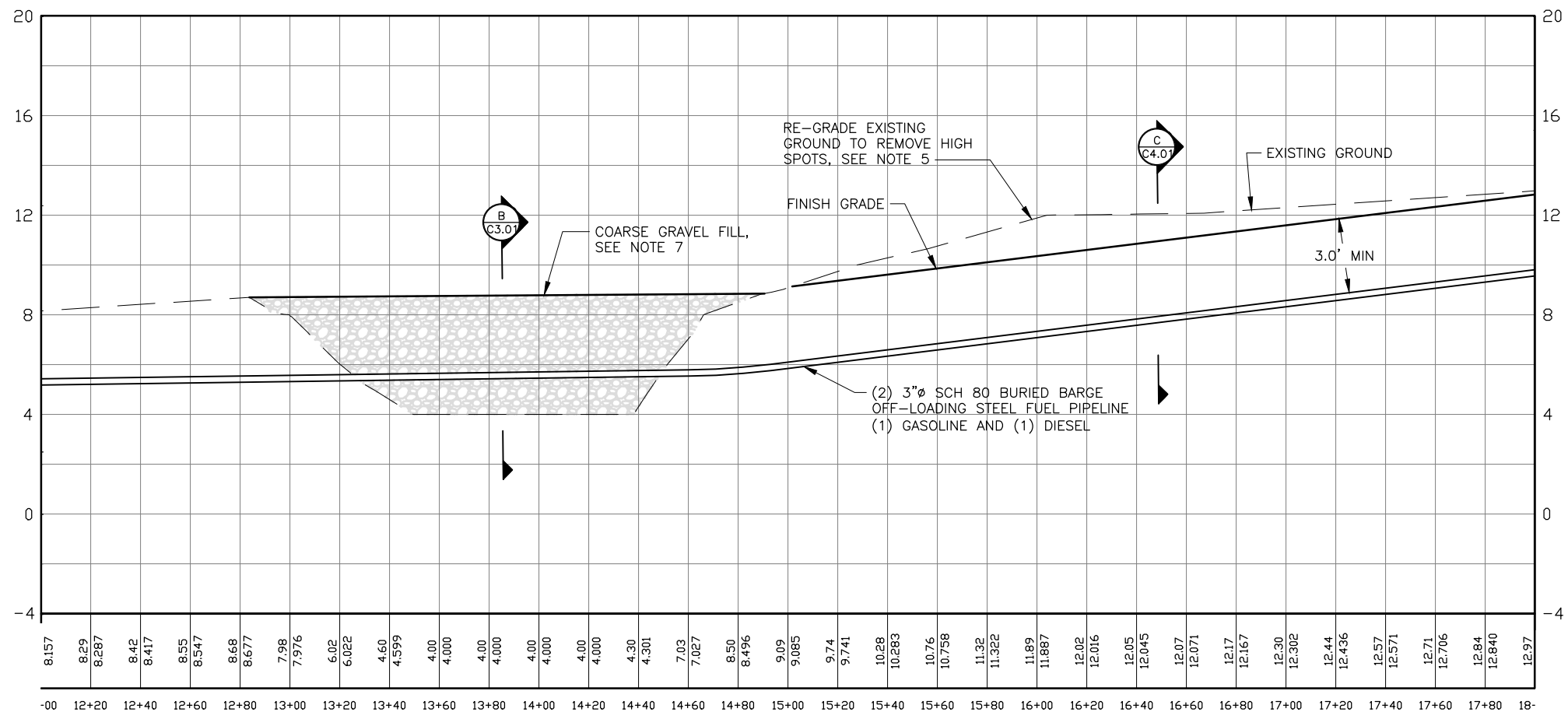
**NOTES:**

1. SEE SHEET G1.02 FOR GENERAL NOTES, LEGEND, SYMBOLS, AND ABBREVIATION.
2. EXISTING UTILITIES ARE NOT SHOWN. CONTRACTOR SHALL LOCATE ALL UTILITIES WITHIN THE PIPE ALIGNMENT AND NOTIFY THE ENGINEER OF ANY CONFLICTS PRIOR TO CONSTRUCTION.
3. FIELD LOCATE EXISTING PIPELINES TO BE DECOMMISSIONED AND ABANDONED. ADJUST NEW PIPELINE ALIGNMENT TO AVOID CONFLICT WITH EXISTING AS NECESSARY AND APPROVED BY THE ENGINEER PRIOR TO CONSTRUCTION.
4. RE-GRADE THE EXISTING GROUND BETWEEN APPROXIMATE STA 15+00 TO STA 18+25 TO REMOVE HIGH AREAS. LIMITS OF EXCAVATION SHALL REMAIN WITHIN THE ESTABLISHED 50-FOOT EASEMENT AND THE AREA SHALL BE GRADED FOR POSITIVE DRAINAGE. MATCH EXISTING GRADE WITH A MINIMUM SLOPE OF 8:1. USE EXCAVATED SUITABLE MATERIAL TO FILL LOW AREAS. FURNISH AND INSTALL COARSE GRAVEL FILL AS NEEDED TO TO FILL REMAINING DEPRESSIONS.
5. WORK IN THE AREA BEYOND THE EASEMENT LIMITS IS NOT ALLOWED, UNLESS NOTED OTHERWISE.
6. LOW AREAS IN THE PIPE ALIGNMENT MAY BE FILLED WITH WATER. CONTRACTOR SHALL DEWATER LOW AREAS AS REQUIRED TO PLACE FILL MATERIAL AND INSTALL THE FUEL PIPELINES IN ACCORDANCE WITH SPECIFICATIONS.

REVISIONS	MARK	DATE	DESCRIPTION



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**GAMBELL BARGE HEADER UPGRADES**

**ALASKA ENERGY AUTHORITY**  
 ENERGY AUTHORITY  
 GAMBELL, ALASKA

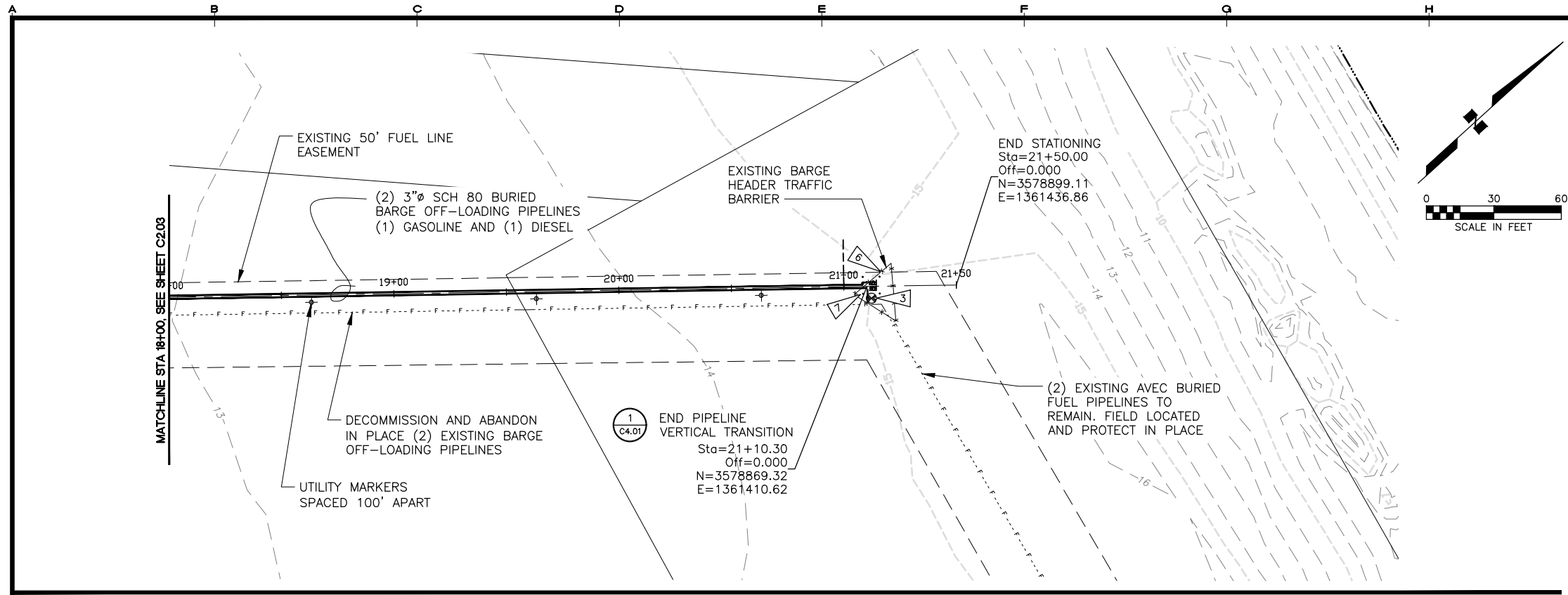
SHEET TITLE  
**PLAN AND PROFILE**  
 STA 12+00 TO  
 STA 18+00

SHEET  
**C1.03**

DRAWN BY: **KK** CHECKED BY: **DEC**

DATE: **05/08/20** SCALE: **1" = 30'**

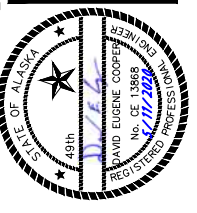
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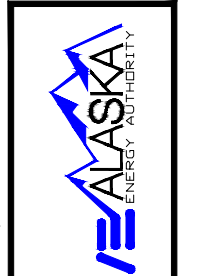
**NOTES:**

1. SEE SHEET G1.02 FOR GENERAL NOTES, LEGEND, SYMBOLS, AND ABBREVIATION.
2. EXISTING UTILITIES ARE NOT SHOWN. CONTRACTOR SHALL LOCATE ALL UTILITIES WITHIN THE PIPE ALIGNMENT AND NOTIFY THE ENGINEER OF ANY CONFLICTS PRIOR TO CONSTRUCTION.
3. INSTALL PRE-PACKAGED HIGH POTENTIAL MAGNESIUM ANODE, SEE CATHODIC PROTECTION SHEETS CP1 - CP5.
4. FIELD LOCATE EXISTING PIPELINES TO BE DECOMMISSIONED AND ABANDONED. ADJUST NEW PIPELINE ALIGNMENT TO AVOID CONFLICT WITH EXISTING AS NECESSARY AND APPROVED BY THE ENGINEER PRIOR TO CONSTRUCTION.
5. WORK IN THE AREA BEYOND THE EASEMENT LIMITS IS NOT ALLOWED, UNLESS NOTED OTHERWISE.
6. REMOVE EXISTING FUEL HEADER STEEL TRAFFIC BARRIER AS NEEDED FOR INSTALLATION OF NEW FUEL HEADER. REINSTALL STEEL TRAFFIC BARRIER AFTER CONSTRUCTION TO MATCH EXISTING.
7. REMOVE EXISTING CITY OF GAMBELL DIESEL AND GASOLINE ABOVE-GRADE PIPING AND FUEL HEADER EQUIPMENT. CUT AND CAP EXISTING PIPING AT BOTTOM OF VERTICAL TRANSITION. DECOMMISSION EXISTING BURIED PIPELINES AND ABANDON IN PLACE.
8. DO NOT DISTURB EXISTING AVEC FUEL HEADER AND PIPELINES. ALL AVEC PIPELINES SHALL REMAIN IN SERVICE THROUGHOUT CONSTRUCTION.
9. RE-GRADE THE EXISTING GROUND BETWEEN APPROXIMATE STA 15+00 TO STA 18+25 TO REMOVE HIGH SPOTS. LIMITS OF EXCAVATION SHALL REMAIN WITHIN THE ESTABLISHED 50-FOOT EASEMENT AND THE AREA SHALL BE GRADED FOR POSITIVE DRAINAGE. MATCH EXISTING GRADE WITH A MINIMUM SLOPE OF 8:1. USE EXCAVATED SUITABLE MATERIAL TO FILL LOW AREAS. FURNISH AND INSTALL COARSE GRAVEL FILL AS NEEDED TO TO FILL REMAINING DEPRESSIONS.

REVISIONS	DATE	DESCRIPTION

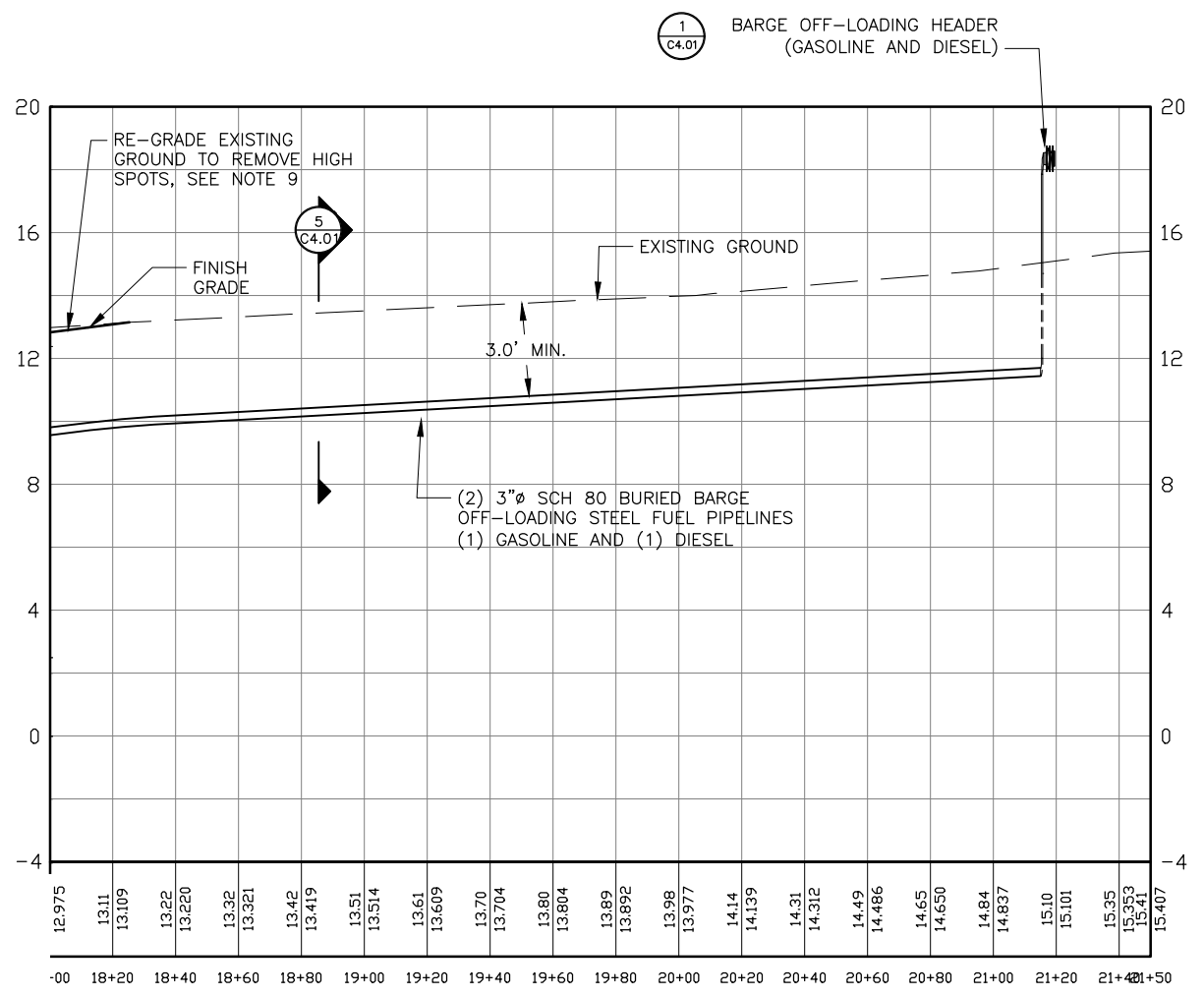


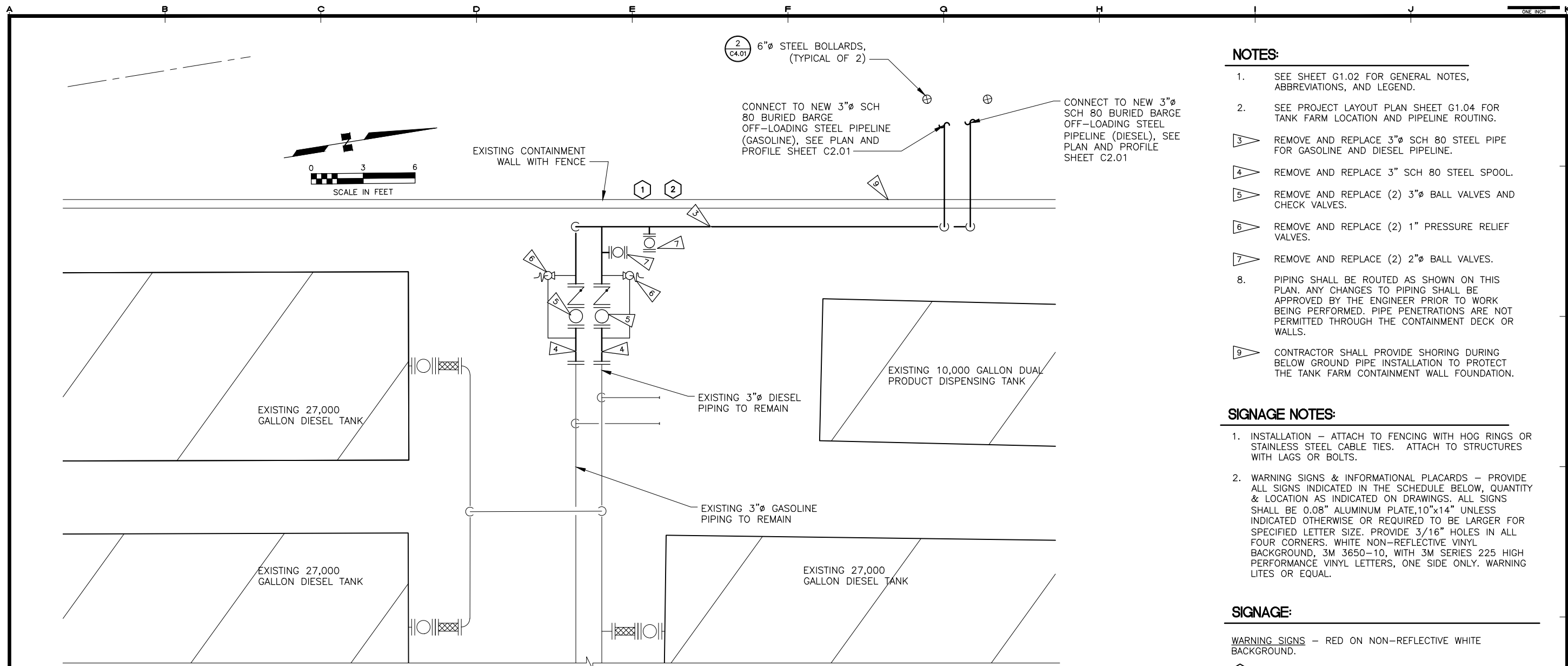
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GAMBELL BARGE HEADER UPGRADES  
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SHEET TITLE	
PLAN AND PROFILE STA 18+00 TO STA 21+64.69	
SHEET	
C1.04	
DRAWN BY:	CHECKED BY:
KK	DEC
DATE:	SCALE:
05/08/20	1" = 30.0'
JOB NUMBER:	
20-007-01	





2  
C4.01 6"Ø STEEL BOLLARDS,  
(TYPICAL OF 2)

CONNECT TO NEW 3"Ø SCH  
80 BURIED BARGE  
OFF-LOADING STEEL PIPELINE  
(GASOLINE), SEE PLAN AND  
PROFILE SHEET C2.01

CONNECT TO NEW 3"Ø  
SCH 80 BURIED BARGE  
OFF-LOADING STEEL  
PIPELINE (DIESEL), SEE  
PLAN AND PROFILE  
SHEET C2.01

EXISTING CONTAINMENT  
WALL WITH FENCE

EXISTING 3"Ø DIESEL  
PIPING TO REMAIN

EXISTING 3"Ø GASOLINE  
PIPING TO REMAIN

EXISTING 10,000 GALLON DUAL  
PRODUCT DISPENSING TANK

EXISTING 27,000  
GALLON DIESEL TANK

EXISTING 27,000  
GALLON DIESEL TANK

EXISTING 27,000  
GALLON DIESEL TANK

1  
C2.01 TANK FARM PIPING PLAN  
SCALE: 1" = 5.0'

NOTES:

- SEE SHEET G1.02 FOR GENERAL NOTES, ABBREVIATIONS, AND LEGEND.
- SEE PROJECT LAYOUT PLAN SHEET G1.04 FOR TANK FARM LOCATION AND PIPELINE ROUTING.
- REMOVE AND REPLACE 3"Ø SCH 80 STEEL PIPE FOR GASOLINE AND DIESEL PIPELINE.
- REMOVE AND REPLACE 3" SCH 80 STEEL SPOOL.
- REMOVE AND REPLACE (2) 3"Ø BALL VALVES AND CHECK VALVES.
- REMOVE AND REPLACE (2) 1" PRESSURE RELIEF VALVES.
- REMOVE AND REPLACE (2) 2"Ø BALL VALVES.
- PIPING SHALL BE ROUTED AS SHOWN ON THIS PLAN. ANY CHANGES TO PIPING SHALL BE APPROVED BY THE ENGINEER PRIOR TO WORK BEING PERFORMED. PIPE PENETRATIONS ARE NOT PERMITTED THROUGH THE CONTAINMENT DECK OR WALLS.
- CONTRACTOR SHALL PROVIDE SHORING DURING BELOW GROUND PIPE INSTALLATION TO PROTECT THE TANK FARM CONTAINMENT WALL FOUNDATION.

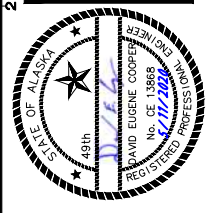
SIGNAGE NOTES:

- INSTALLATION - ATTACH TO FENCING WITH HOG RINGS OR STAINLESS STEEL CABLE TIES. ATTACH TO STRUCTURES WITH LAGS OR BOLTS.
- 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, 10"x14" UNLESS INDICATED OTHERWISE OR REQUIRED TO BE LARGER FOR SPECIFIED LETTER SIZE. 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.

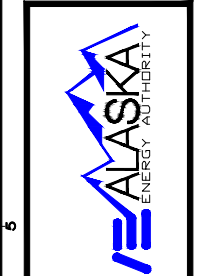
SIGNAGE:

- WARNING SIGNS - RED ON NON-REFLECTIVE WHITE BACKGROUND.
- "DANGER - FLAMMABLE, NO SMOKING" (3" HIGH 1/2" STROKE LETTERS-24"x18")
  - "IN CASE OF SPILL CALL DEC 1-800-478-9300"
  - "DANGEROUS CARGO, NO VISITORS, NO SMOKING, NO OPEN LIGHTS" (3" HIGH 1/2" STROKE LETTERS - 36"x24")
- INFORMATIONAL PLACARDS - BLACK ON NON-REFLECTIVE WHITE BACKGROUND.
- "MAXIMUM PRESSURE" = 90 PSI DO NOT OPERATED PIPELINES WITH PRESSURES IN EXCESS OF MAXIMUM (LOCATED AT MARINE HEADER), SEE DETAIL 1/C3.05.

REVISIONS	MARK	DATE	DESCRIPTION



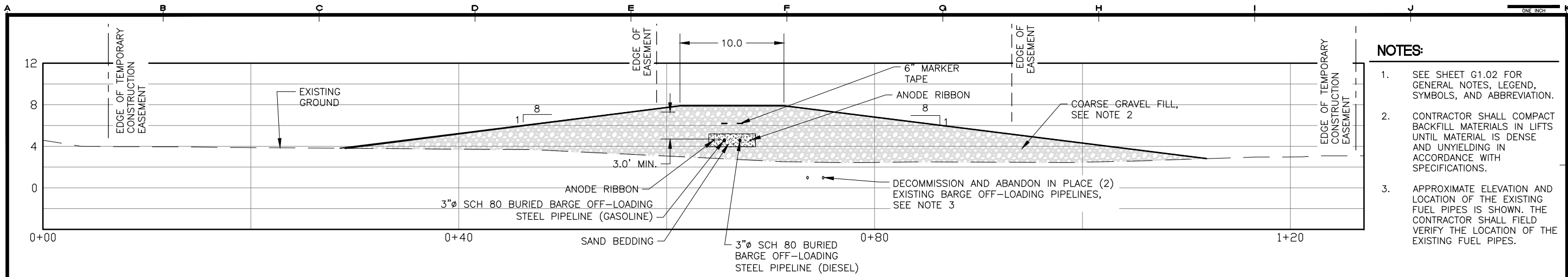
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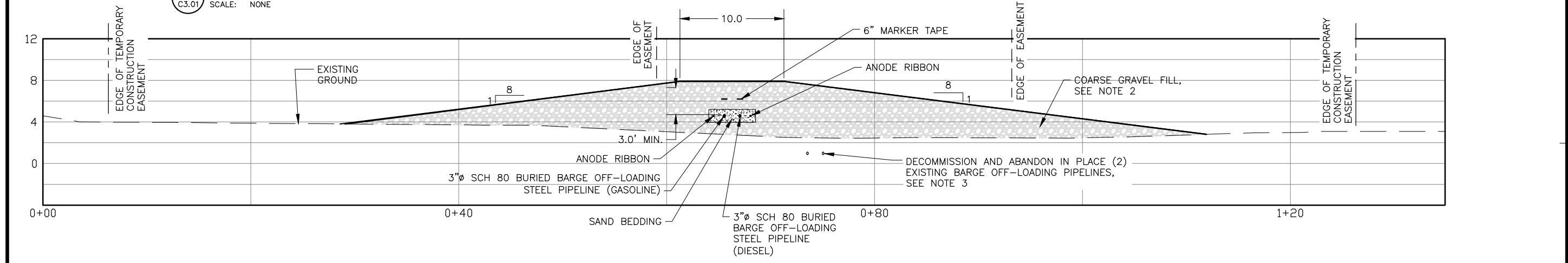
GAMBELL BARGE HEADER UPGRADES  
**ALASKA ENERGY AUTHORITY**  
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SHEET TITLE TANK FARM PIPING PLAN	
SHEET C2.01	
DRAWN BY: KK	CHECKED BY: DEC
DATE: 05/08/20	SCALE: AS SHOWN
JOB NUMBER: 20-007-01	

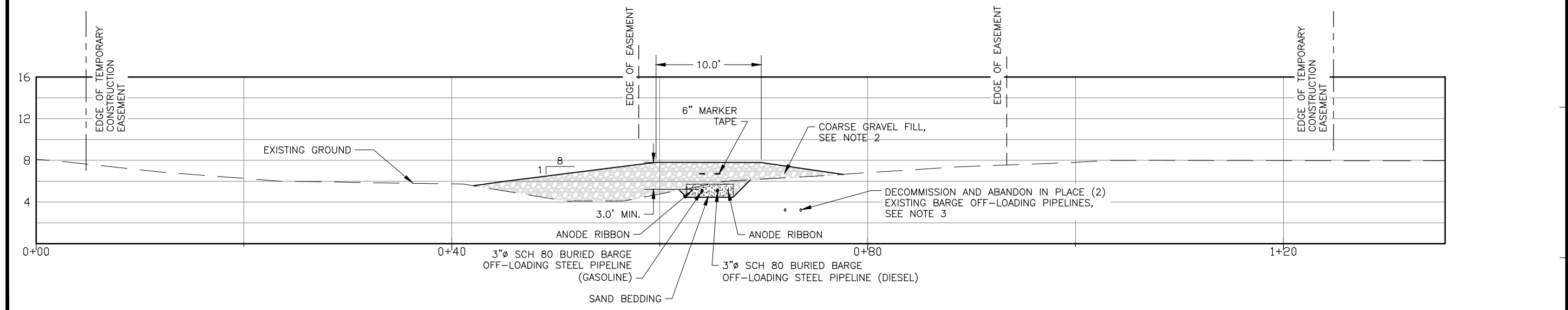




**A SECTION**  
C3.01 SCALE: NONE



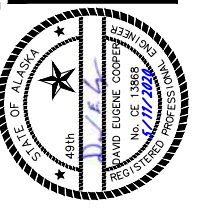
**B SECTION**  
C3.01 SCALE: NONE



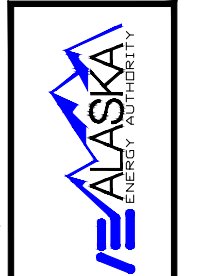
**C SECTION**  
C3.01 SCALE: NONE

- NOTES:**
- SEE SHEET G1.02 FOR GENERAL NOTES, LEGEND, SYMBOLS, AND ABBREVIATION.
  - CONTRACTOR SHALL COMPACT BACKFILL MATERIALS IN LIFTS UNTIL MATERIAL IS DENSE AND UNYIELDING IN ACCORDANCE WITH SPECIFICATIONS.
  - APPROXIMATE ELEVATION AND LOCATION OF THE EXISTING FUEL PIPES IS SHOWN. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION OF THE EXISTING FUEL PIPES.

REVISIONS	DATE	DESCRIPTION

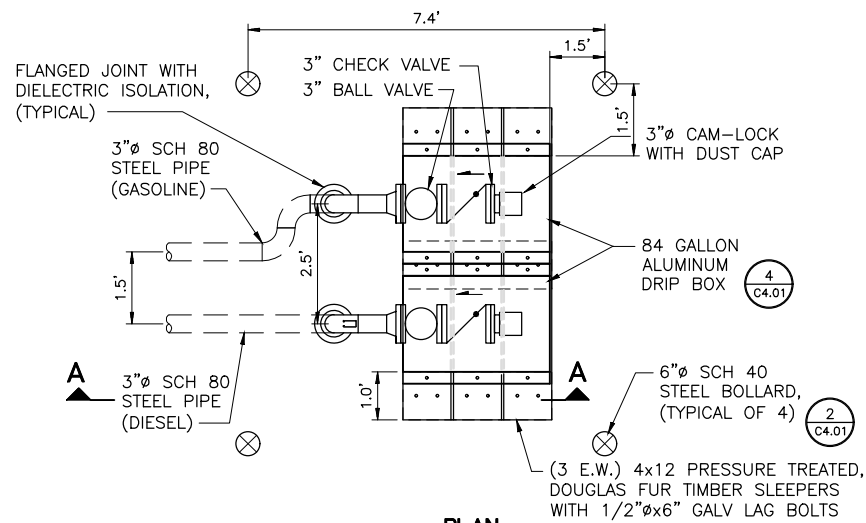


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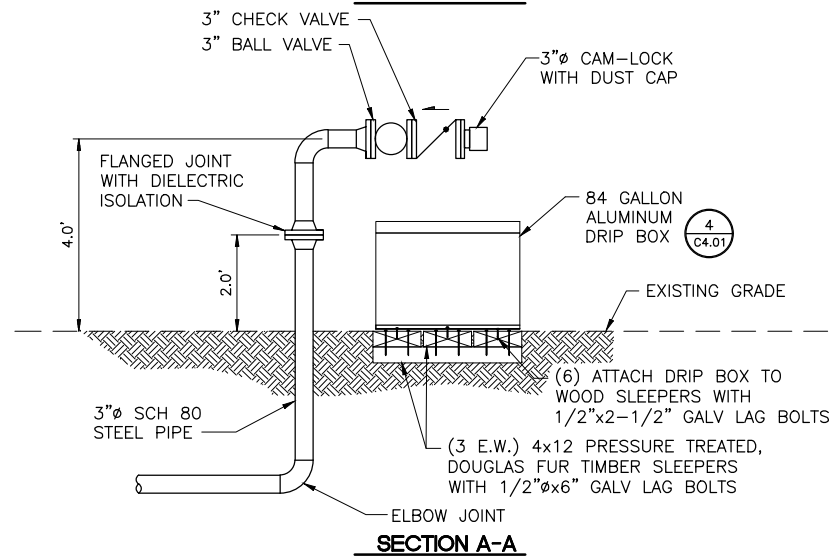


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SHEET TITLE PIPE SECTIONS	
SHEET C3.01	
DRAWN BY: KK	CHECKED BY: DEC
DATE: 05/08/20	SCALE: AS SHOWN
JOB NUMBER: 20-007-01	



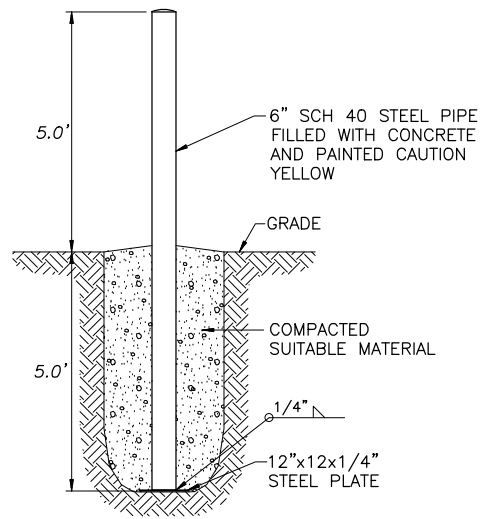
PLAN



SECTION A-A

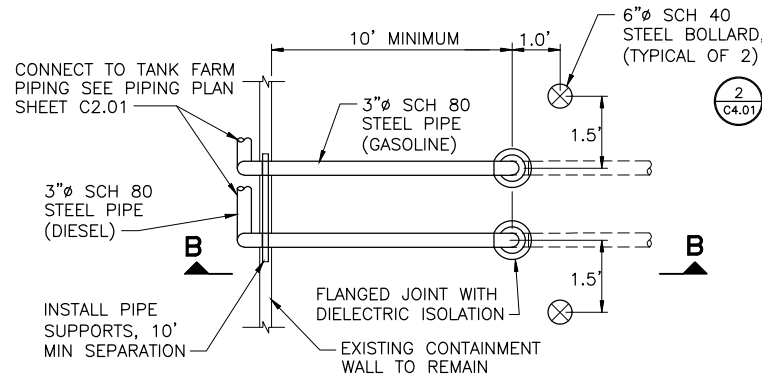
1 HEADER DETAIL

C4.01 SCALE: NONE

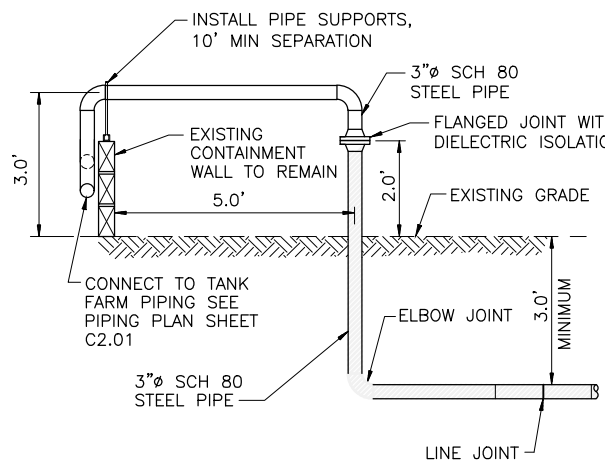


2 STEEL BOLLARD DETAIL

C4.01 SCALE: NONE



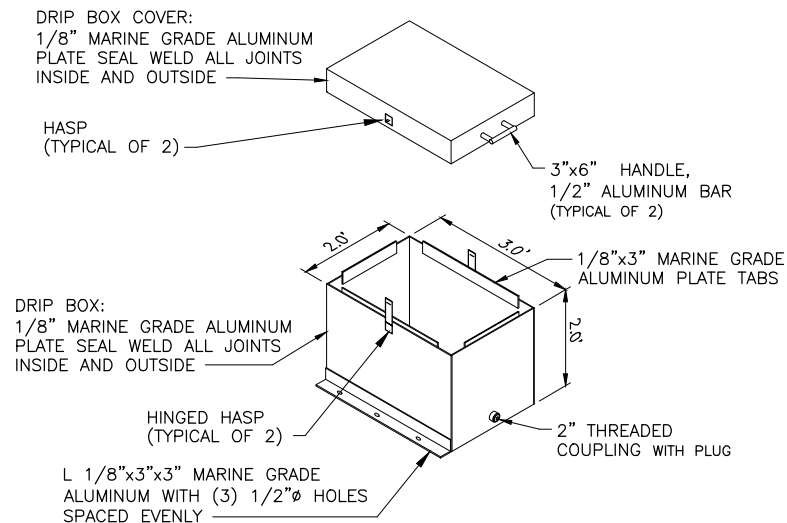
PLAN



SECTION B-B

3 TANK FARM VERTICAL TRANSITION

C4.01 SCALE: NONE

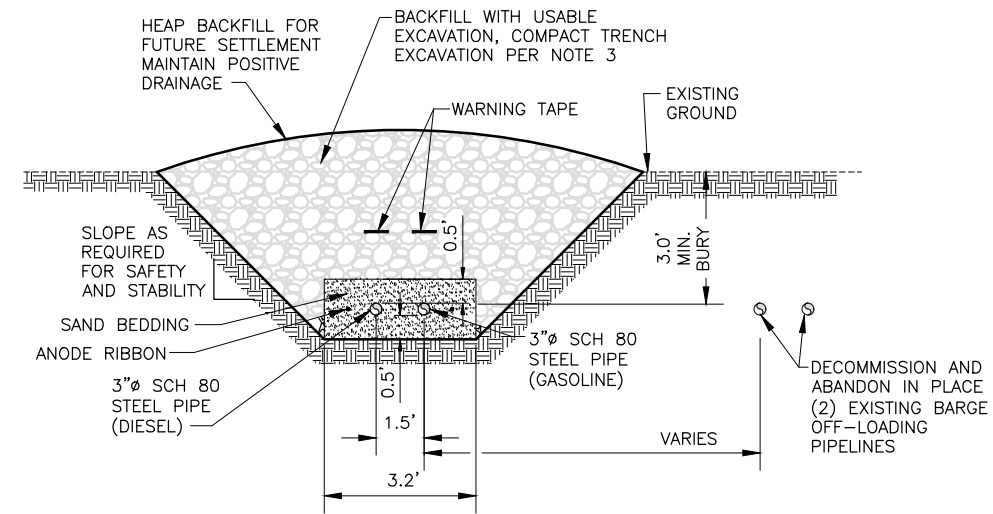


4 DRIP BOX WITH REMOVABLE COVER

C4.01 SCALE: NONE

NOTES

1. SEE SHEET G1.02 FOR GENERAL NOTES, ABBREVIATIONS, AND LEGEND.
2. SEE PIPING PLANS FOR PIPE LAYOUTS AND SIZES.
3. CONTRACTOR SHALL COMPACT TRENCH BACKFILL IN LIFTS UNTIL MATERIAL IS DENSE AND UNYIELDING IN ACCORDANCE WITH SPECIFICATIONS.



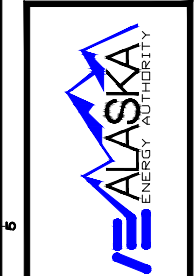
5 TYPICAL TRENCH DETAIL

C4.01 SCALE: NONE

REVISIONS	MARK	DATE	DESCRIPTION



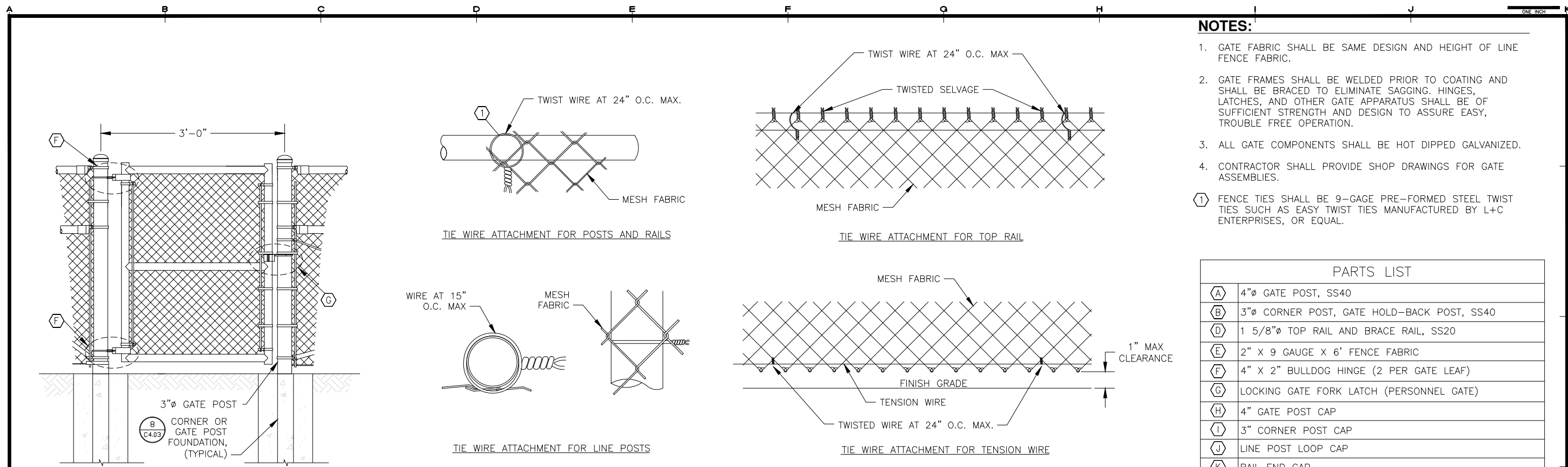
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SHEET TITLE	
PIPING DETAILS	
SHEET	
C4.01	
DRAWN BY: KK	CHECKED BY: MRS
DATE: 05/08/20	SCALE: AS NOTED
JOB NUMBER: 20-007-01	

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 LAYOUT: C4.01  
 VIEW: C405\_H\_PDF



**1 PERSONNEL GATE**  
SCALE: N.T.S.

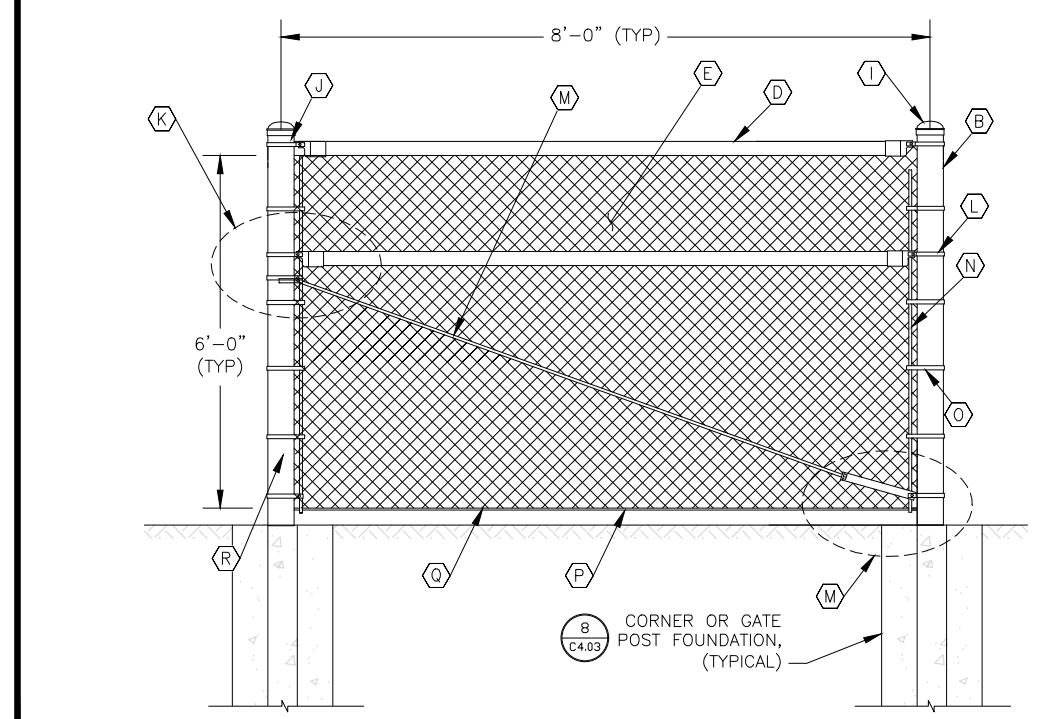
**3 FENCE ATTACHMENT DETAILS**  
SCALE: N.T.S.

**NOTES:**

- GATE FABRIC SHALL BE SAME DESIGN AND HEIGHT OF LINE FENCE FABRIC.
  - GATE FRAMES SHALL BE WELDED PRIOR TO COATING AND SHALL BE BRACED TO ELIMINATE SAGGING. HINGES, LATCHES, AND OTHER GATE APPARATUS SHALL BE OF SUFFICIENT STRENGTH AND DESIGN TO ASSURE EASY, TROUBLE FREE OPERATION.
  - ALL GATE COMPONENTS SHALL BE HOT DIPPED GALVANIZED.
  - CONTRACTOR SHALL PROVIDE SHOP DRAWINGS FOR GATE ASSEMBLIES.
- ① FENCE TIES SHALL BE 9-GAGE PRE-FORMED STEEL TWIST TIES SUCH AS EASY TWIST TIES MANUFACTURED BY L+C ENTERPRISES, OR EQUAL.

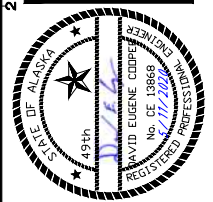
**PARTS LIST**

A	4"Ø GATE POST, SS40
B	3"Ø CORNER POST, GATE HOLD-BACK POST, SS40
D	1 5/8"Ø TOP RAIL AND BRACE RAIL, SS20
E	2" X 9 GAUGE X 6' FENCE FABRIC
F	4" X 2" BULLDOG HINGE (2 PER GATE LEAF)
G	LOCKING GATE FORK LATCH (PERSONNEL GATE)
H	4" GATE POST CAP
I	3" CORNER POST CAP
J	LINE POST LOOP CAP
K	RAIL END CAP
L	RAIL END BAND/TENSION WIRE BAND
M	TRUSS ROD WITH TRUSS ROD TIGHTENER
N	3/4" TENSION BAR
O	TENSION BAND
P	7 GAUGE BOTTOM TENSION WIRE
Q	TENSION WIRE CLIPS (HOG RINGS)
R	9 GAUGE TIE WIRE

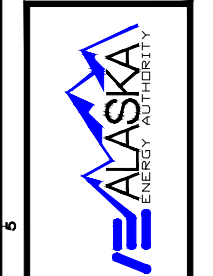


**2 CHAIN LINK FENCE**  
SCALE: N.T.S.

REVISIONS	MARK	DATE	DESCRIPTION



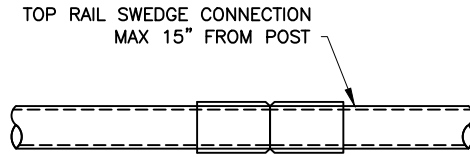
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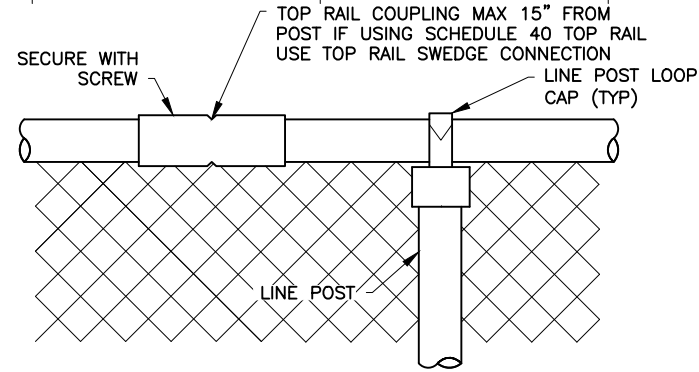
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SHEET TITLE FENCE DETAIL	
SHEET C4.02	
DRAWN BY: KK	CHECKED BY: DEC
DATE: 05/08/20	SCALE: AS SHOWN
JOB NUMBER: 20-007-01	

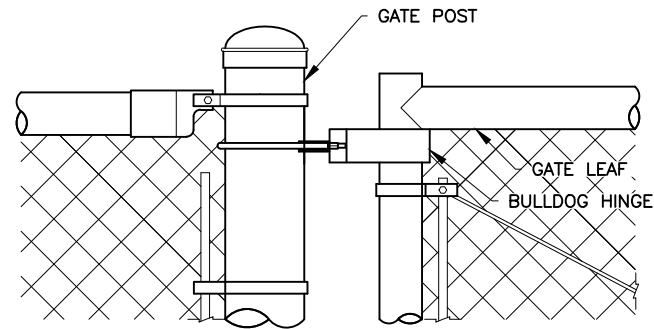
NOTE:  
TOP RAIL SWEDGE CONNECTION NOT AVAILABLE IN SS40.



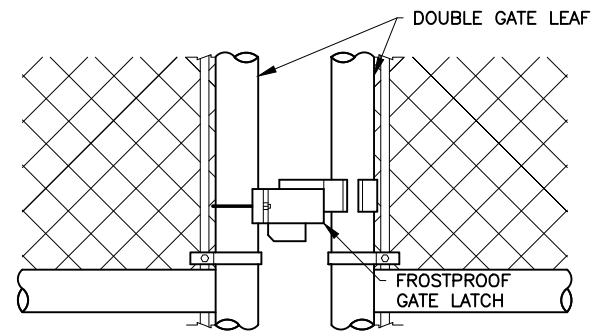
1 TOP RAIL SWEDGE CONNECTION  
C4.03 SCALE: N.T.S.



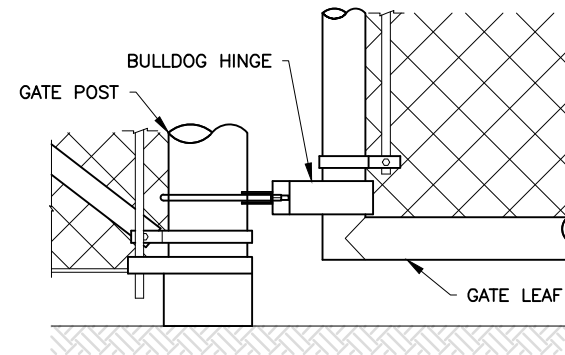
4 TOP RAIL CONNECTION  
C4.03 SCALE: N.T.S.



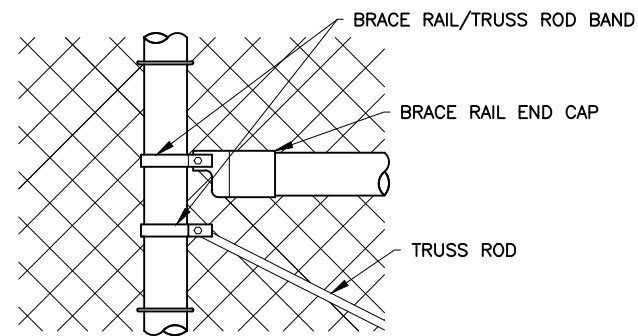
2 TOP GATE HINGE  
C4.03 SCALE: N.T.S.



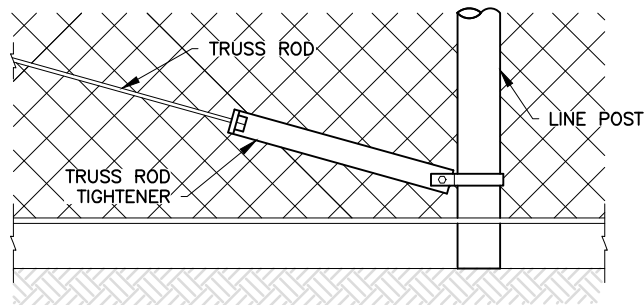
5 FROSTPROOF GATE LATCH  
C4.03 SCALE: N.T.S.



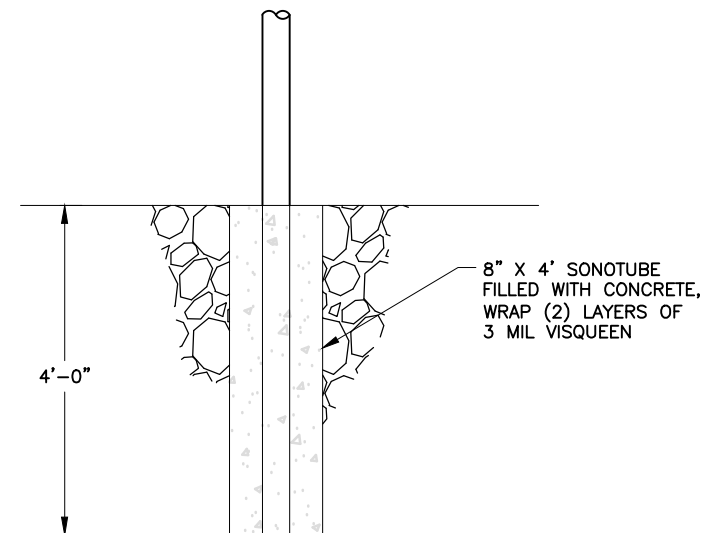
3 BOTTOM GATE HINGE  
C4.03 SCALE: N.T.S.



6 TRUSS ROD TOP CONNECTION  
C4.03 SCALE: N.T.S.



7 TRUSS ROD TIGHTENER  
C4.03 SCALE: N.T.S.



8 CORNER OR GATE POST  
C4.03 SCALE: N.T.S.

REVISIONS	DATE	DESCRIPTION

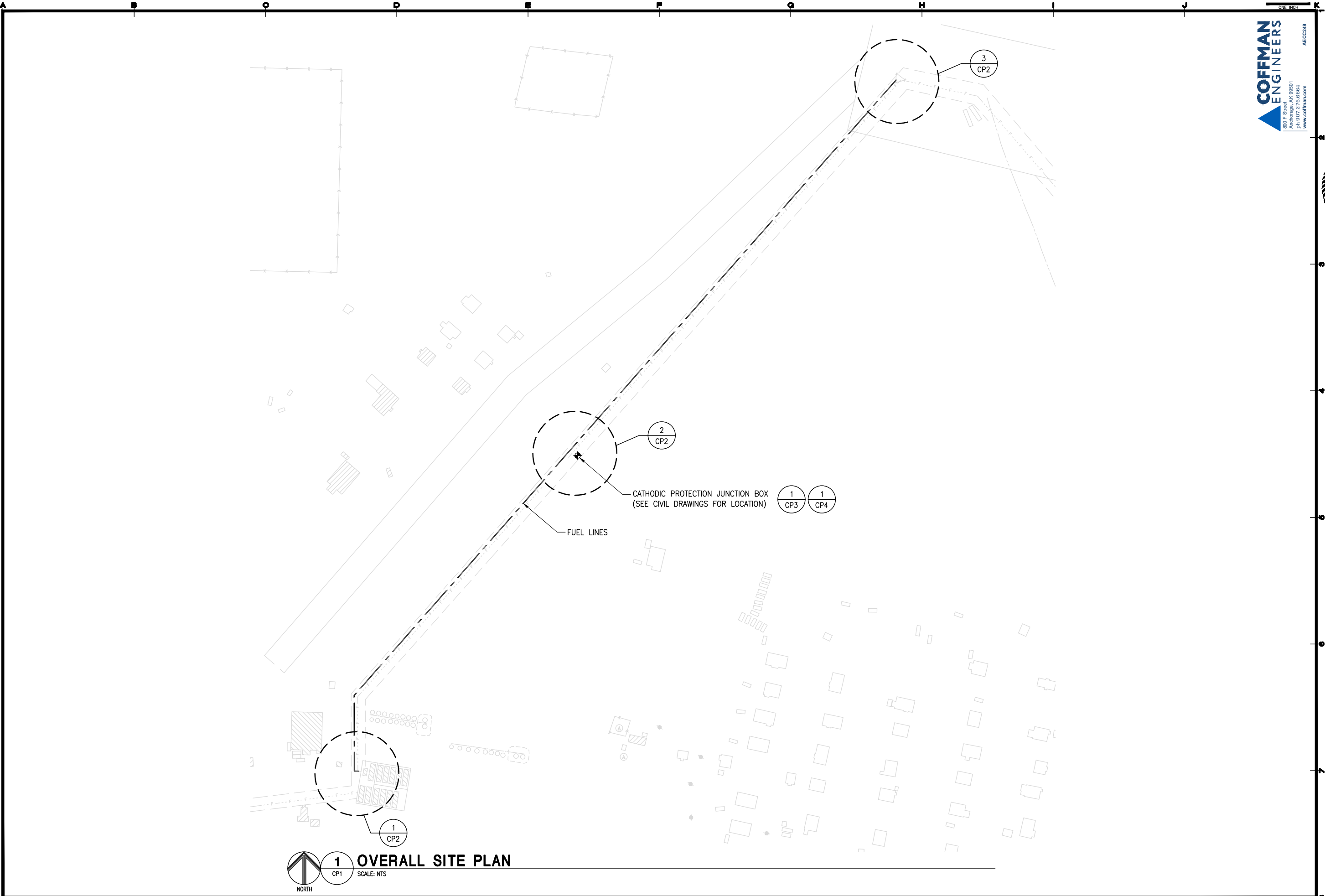


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SHEET TITLE FENCE DETAIL	
SHEET C4.03	
DRAWN BY KK	CHECKED BY DEC
DATE 05/08/20	SCALE AS SHOWN
JOB NUMBER 20-007-01	

Drawing: P:\ANC\0 CORROSION PROJECTS\ALASKA ENERGY AUTHORITY\GAMBELL\DRAWINGS\200717\_CP1.DWG



**1**  
CP1  
SCALE: NTS  
**OVERALL SITE PLAN**

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MARK	DATE	DESCRIPTION



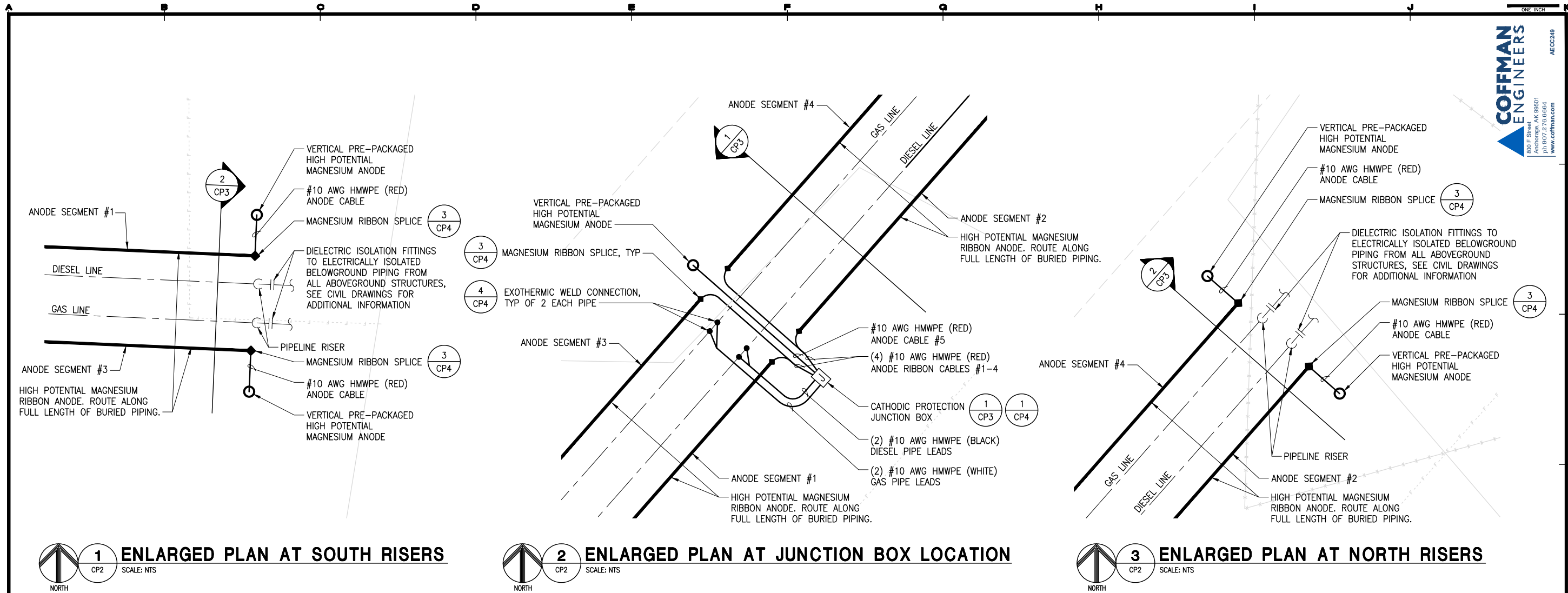
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CATHODIC PROTECTION OVERALL SITE PLAN	
CP1	
DESIGNED BY BRH	CHECKED BY CDS
DATE 05/08/20	SCALE NTS
13-039	

Drawing: P:\ANC\0 CORROSION PROJECTS\ALASKA ENERGY AUTHORITY\GAMBELL\DRAWINGS\200717\_CP2.DWG



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GAMBELL, ALASKA

**ALASKA ENERGY AUTHORITY**

CATHODIC PROTECTION ENLARGED SITE PLANS

CP2

DESIGNED BY	BRH	CHECKED BY	CDS
DATE	05/08/20	SCALE	NTS

13-039

Drawing: P:\ANC\0 CORROSION PROJECTS\ALASKA ENERGY AUTHORITY\GAMBELL\DRAWINGS\200717\_CP3.DWG

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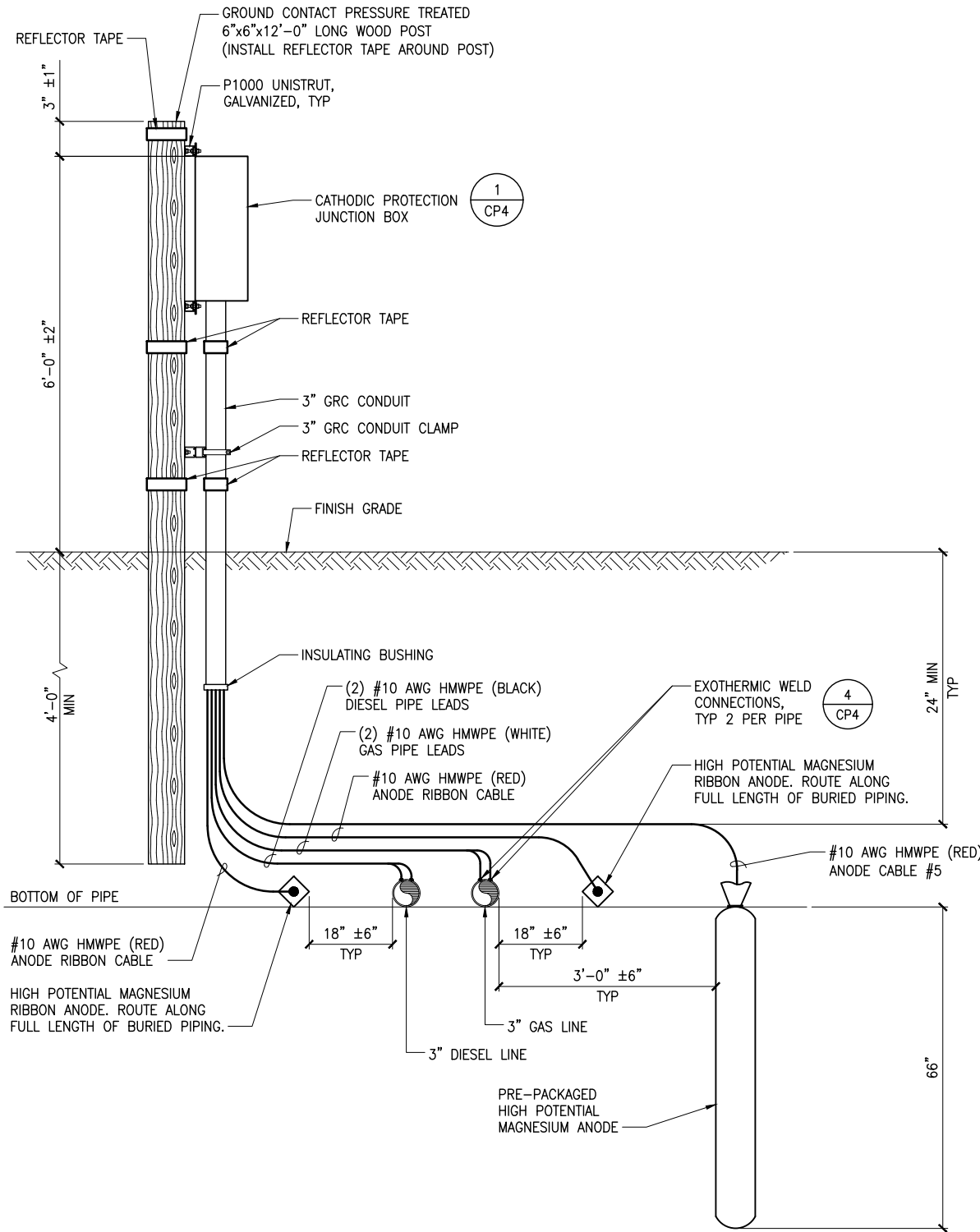
REVISIONS	DATE	DESCRIPTION



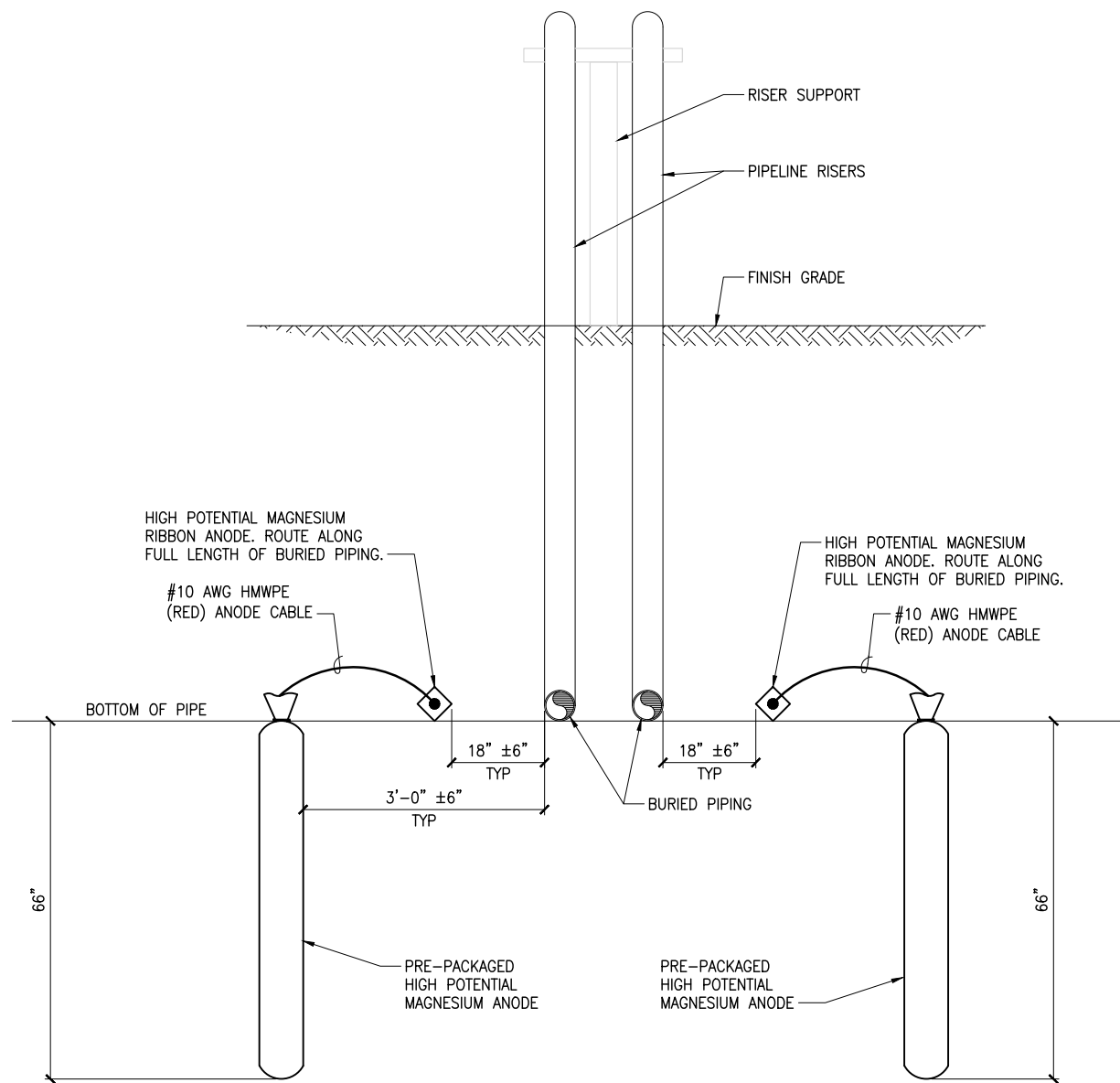
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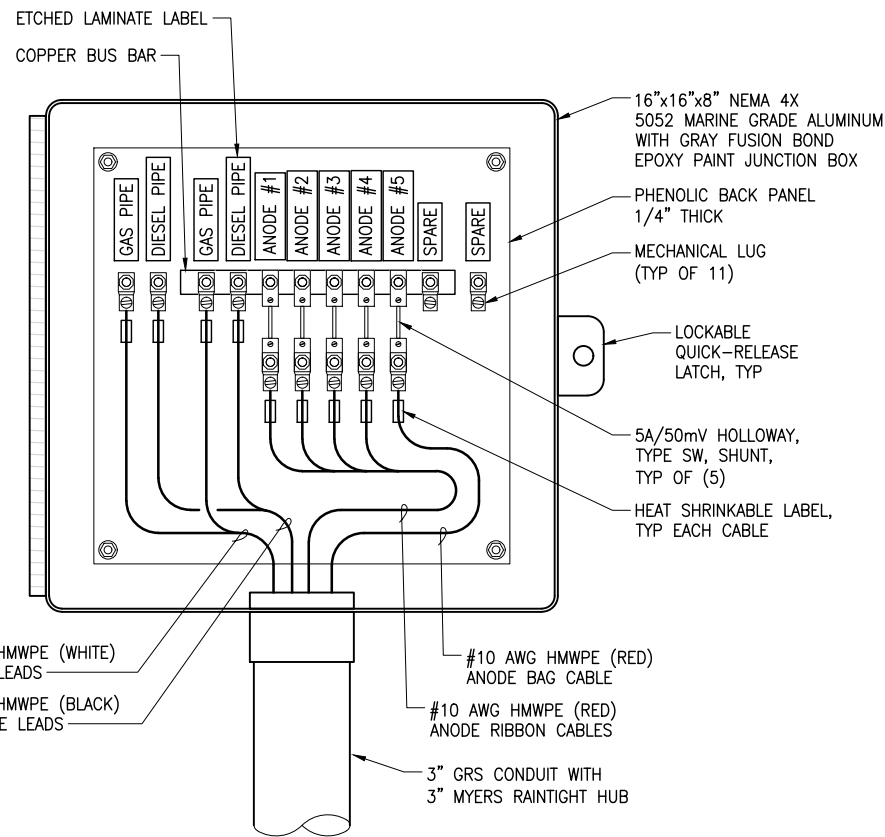
CATHODIC PROTECTION SECTIONS	
CP3	
DESIGNED BY BRH	CHECKED BY CDS
DATE 05/08/20	SCALE NTS
13-039	



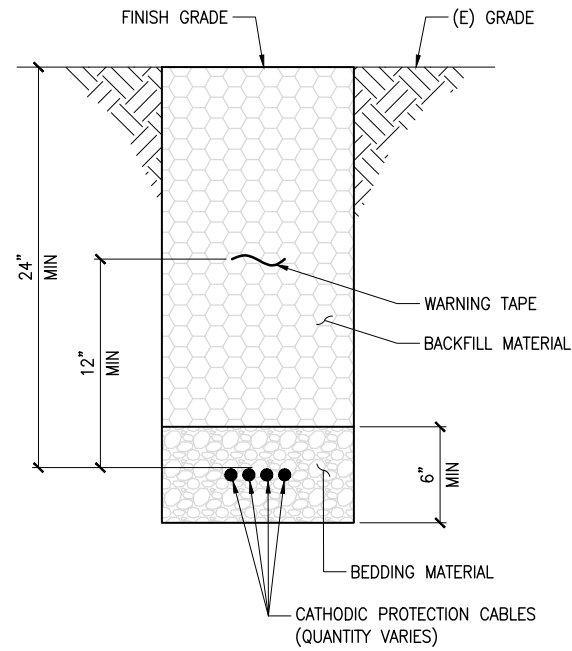
**1 CATHODIC PROTECTION JUNCTION BOX AND ANODE INSTALLATION SECTION**  
 CP3 SCALE: NTS



**2 ANODE INSTALLATION SECTION AT RISER**  
 CP3 SCALE: NTS

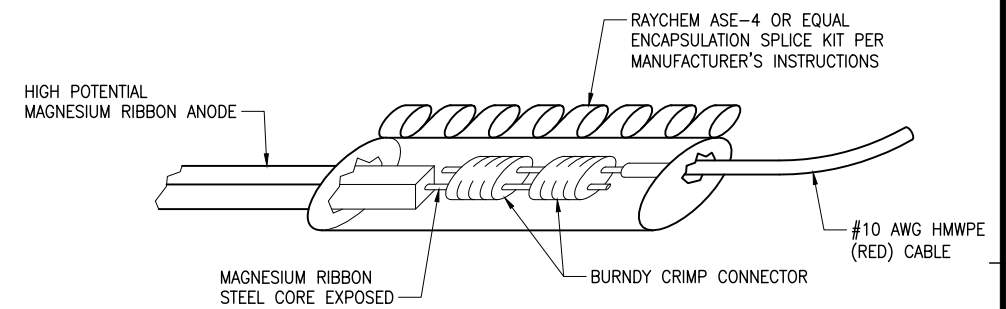


**1 CATHODIC PROTECTION JUNCTION BOX DETAIL**  
CP4 SCALE: NTS

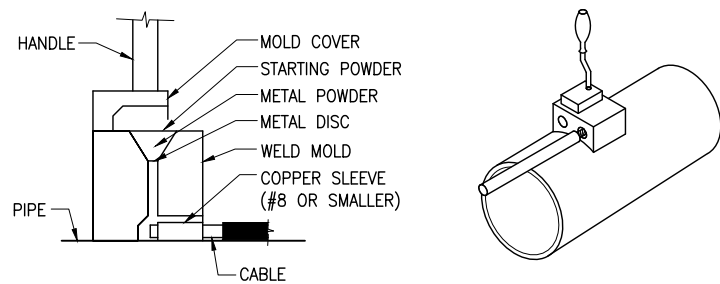


NOTES:  
1. BEDDING MATERIAL - SAND CONFORMING TO ASTM C33.  
2. BACKFILL MATERIAL - SELECT EXCAVATED MATERIAL OR BORROW MATERIAL CONTAINING COARSE-GRAINED SOIL WITH CLAY BINDERS AND FINE-GRAINED SOILS WITH EXPANSION VALUE LESS THAN 3%.

**2 CABLE TRENCH SECTION**  
CP4 SCALE: NTS



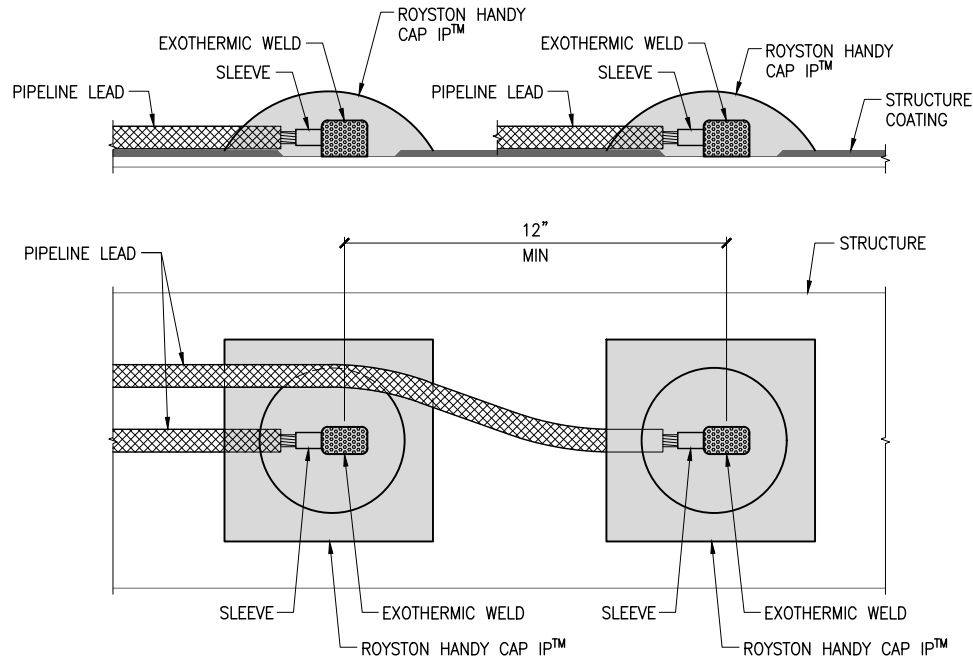
**3 MAGNESIUM RIBBON ANODE SPLICE DETAIL**  
CP4 SCALE: NTS



**GENERAL PROCEDURE:**

- CLEAN & FILE STRUCTURE TO BRIGHT METAL.
- STRIP INSULATION FROM WIRE SUFFICIENT TO CLEAR WELD MOLD, INSTALL COPPER SLEEVE.
- HOLD FIRMLY WITH OPENING AWAY FROM OPERATOR, IGNITE POWDER.
- REMOVE SLAG FROM CONNECTION, TEST WELD WITH SHARP HAMMER BLOW.
- COVER ALL EXPOSED METALS WITH ROYSTON HANDYCAP IP PER MANUFACTURER'S INSTRUCTIONS.

NOTE:  
PROCEDURE SHOWN ABOVE IS ONLY TO BE USED AS A GENERAL GUIDE, SEE PROJECT NOTES AND MANUFACTURER'S LITERATURE FOR SPECIFIC INSTRUCTIONS.



**4 EXOTHERMIC WELD DETAIL**  
CP4 SCALE: NTS





**PART 1 – GENERAL**

1. SCOPE OF WORK
  - A. THE WORK COVERED BY THIS SECTION CONSISTS OF PROVIDING ALL LABOR, EQUIPMENT, SUPPLIES, MATERIALS, TRANSPORTATION, HANDLING AND STORAGE, AND PERFORMING ALL SERVICES NECESSARY TO COMPLETE THE CONSTRUCTION AND INSTALLATION OF A NEW CATHODIC PROTECTION SYSTEM TO PROVIDE CORROSION CONTROL FOR THE GAMBELL BARGE HEADER FUEL LINES AS DESCRIBED IN THESE CONSTRUCTION DOCUMENTS.
2. PERMITS
  - A. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS INCLUDING DEWATERING, EASEMENTS, AND TEMPORARY WORK PERMITS AS REQUIRED BY THE STATE OF ALASKA, TOWN OF GAMBELL, AND OTHER APPLICABLE AUTHORITIES HAVING JURISDICTION.
3. ONE CALL LOCATES
  - A. THE CONTRACTOR SHALL NOTIFY THE ONE CALL LOCATE CENTER PRIOR TO CONDUCTING ANY EXCAVATION ACTIVITIES. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR MAINTAINING THE MARKINGS FROM THE VARIOUS UTILITY COMPANIES AS REQUIRED THROUGHOUT THE CONSTRUCTION.
4. APPLICABLE STANDARDS
  - A. COMPLY WITH THE ALL STATE, CITY, AND LOCAL CODES, NFPA REGULATIONS, OSHA REQUIREMENTS, SAFETY CODES, AND REGULATIONS.
5. EQUIPMENT, MATERIALS, AND WORKMANSHIP
  - A. IT IS THE INTENT OF THESE DOCUMENTS TO ESTABLISH QUALITY STANDARDS FOR ALL EQUIPMENT AND MATERIALS, AND TO ENSURE FIRST CLASS WORKMANSHIP. ALL EQUIPMENT AND MATERIALS SHALL BE NEW AND OF THE HIGHEST QUALITY AVAILABLE. QUALIFIED, EXPERIENCED PERSONNEL WORKING UNDER CONTINUOUS AND COMPETENT SUPERVISION SHALL ACCOMPLISH ALL WORK. THE WORKMANSHIP SHALL BE OF THE HIGHEST GRADE AND SHALL BE IN STRICT ACCORDANCE WITH INSTALLATION INSTRUCTIONS AND RECOMMENDATIONS MADE BY THE MANUFACTURERS OF THE EQUIPMENT AND MATERIALS USED. ALL EQUIPMENT AND MATERIALS SHALL BE HANDLED WITH EXTREME CARE WHEN BEING MOVED OR TRANSPORTED FROM ONE LOCATION TO ANOTHER, IN ORDER TO PREVENT DAMAGE. ALL EQUIPMENT AND MATERIALS SHALL BE PROPERLY STORED. IN THE EVENT THAT IT IS NECESSARY TO STORE EQUIPMENT AND/OR MATERIALS OUTSIDE, THEY SHALL BE STORED AT A SUITABLE DISTANCE OFF OF THE GROUND AND SHALL BE ADEQUATELY COVERED TO PREVENT DAMAGE FROM ADVERSE WEATHER CONDITIONS, I.E. WATER, SNOW, ICE, ETC.; AND POTENTIAL DAMAGE THAT COULD BE CAUSED BY PHYSICAL OR ACCIDENTAL MEANS.
6. TESTING
  - A. THE COMPLETED CATHODIC PROTECTION SYSTEM, INCLUDING THE STRUCTURE CONNECTIONS, ANODE INSTALLATIONS, TEST STATION INSTALLATIONS, AND ALL OTHER ASSOCIATED ITEMS SHALL BE INSPECTED, CHECKED, AND TESTED BY THE ENGINEER, INCLUDING COMMISSIONING AND OPERATIONAL TESTING. ANY DEPARTURES FROM THE CATHODIC PROTECTION SYSTEM DESIGN FOUND, THAT HAD NOT BEEN AUTHORIZED OR APPROVED, SHALL BE REPAIRED AT THE SOLE EXPENSE OF THE CONTRACTOR.
7. COORDINATION
  - A. COORDINATE ALL WORK WITH THE APPROPRIATE ALASKA ENERGY AUTHORITY REPRESENTATIVE.
  - B. COORDINATE ALL WORK WITH OTHER TRADES.
  - C. COORDINATE THE TESTING AND INSPECTION OF THE CATHODIC PROTECTION SYSTEM WITH THE ENGINEER.
8. SUBMITTALS
  - A. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OR CATALOG CUTS OF THE FOLLOWING TO THE ENGINEER FOR APPROVAL PRIOR TO PURCHASING MATERIALS:
    - CABLES
    - JUNCTION BOX
    - MAGNESIUM RIBBON ANODES
    - PRE-PACKAGED MAGNESIUM ANODES
    - MAGNESIUM RIBBON ANODE SPLICE CRIMP CONNECTORS
    - MAGNESIUM RIBBON ANODE SPLICE ENCAPSULATION
    - EXOTHERMIC WELD EQUIPMENT
    - EXOTHERMIC WELD PATCHES AND COATING
    - REFLECTOR TAPE

**PART 2 – CP SYSTEM**

THE WORK REQUIRED UNDER THIS SECTION CONSISTS OF THE PERFORMANCE OF ALL SERVICES REQUIRED FOR THE FURNISHING AND INSTALLATION OF ONE (1) JUNCTION BOX, ANODES, AND STRUCTURE CABLES, INCLUDING ALL ASSOCIATED FITTINGS, HARDWARE, AND EQUIPMENT AS REQUIRED FOR A COMPLETE INSTALLATION AS DETAILED ON THE DRAWINGS AND SPECIFIED HEREIN.

1. MAGNESIUM RIBBON ANODES
  - A. MAGNESIUM RIBBON ANODES SHALL BE HIGH POTENTIAL, 3/8"x3/4" AND WEIGH AN AVERAGE OF 0.23 LBS/FT. ANODES SHALL BE EXTRUDED AND HAVE A STEEL WIRE CORE.
  - B. THE ANODES SHALL BE CONNECTED TO AN ANODE LEAD WIRE. ANODE RIBBON SPLICES SHALL BE MADE USING CRIMP TYPE SPLICE CONNECTORS. EACH SPLICE SHALL BE ENCAPSULATED WITH A RAYCHEM MODEL ASE-4 HEAT SHRINK SPLICE KIT OR APPROVED EQUAL. INLINE SPLICES ARE NOT ALLOWED UNLESS APPROVED BY THE ENGINEER. ANODE LEAD WIRES SHALL BE IDENTIFIED AND LABELED AS INDICATED ON THE DRAWINGS.
  - C. THE ANODE LEAD SHALL BE #10 AWG STRANDED COPPER WITH RED HMWPE INSULATION. THE WIRE SHALL BE SPLICE FREE FROM THE ANODE TO JUNCTION BOX BACK PANEL.
2. MAGNESIUM BAG ANODES
  - A. THE ANODES SHALL BE PRE-PACKAGED, 40D3 HIGH POTENTIAL MAGNESIUM WITH A PACKAGED WEIGHT OF 96-POUNDS AND AN INGOT WEIGHT OF 40-POUNDS NOMINAL. THE MAGNESIUM ALLOY SHALL MEET THE FOLLOWING CHEMICAL ANALYSIS:
 

ELEMENT	CONTENT %
MANGANESE	0.50-1.3%
SILICON	0.05% MAX
IRON	0.03% MAX
COPPER	0.02% MAX
ALUMINUM	0.01% MAX
NICKEL	0.001% MAX
OTHERS EACH	0.05% MAX
MAGNESIUM	REMAINDER
  - B. EACH ANODE SHALL BE CONNECTED WITH #10 AWG STRANDED COPPER LEAD WIRE WITH RED HMWPE INSULATION. ANODE LEAD CABLES SHALL BE SPLICE FREE FROM THE ANODE TO JUNCTION BOX BACK PANEL.
  - C. EACH ANODE SHALL BE PACKAGED IN A COTTON BAG AND FILLED WITH A MIXTURE OF 75% HYDRATED GYPSUM, 20% BENTONITE, AND 5% SODIUM SULFATE.
3. JUNCTION BOX
  - A. THE JUNCTION BOX SHALL BE NEMA TYPE 4X, 5052 MARINE GRADE ALUMINUM WITH GRAY FUSION BOND EPOXY PAINT WITH A CONTINUOUS SIDE OPENING PIANO HINGE AND LOCKABLE QUICK-RELEASE LATCHES, AS MANUFACTURED BY IRT OR APPROVED EQUAL.
  - B. THE JUNCTION BOX SHALL BE FABRICATED AS SHOWN ON THE DRAWINGS, WITH THE FOLLOWING COMPONENTS INSTALLED INSIDE EACH BOX ON A PHENOLIC BACK PANEL:
    - COPPER BAR, FORMED AND FABRICATED AS DETAILED ON THE DRAWINGS TO ACCOMMODATE THE NUMBER OF SHUNTS, LUGS, AND CABLES IDENTIFIED.
    - SHUNTS SHALL BE AS INDICATED ON THE DRAWINGS AND AS MANUFACTURED BY HOLLOWAY OR APPROVED EQUAL.
    - LUGS TO ACCOMMODATE THE CABLE SIZES INDICATED.
    - JUNCTION BOX SHALL HAVE A PERMANENT IDENTIFICATION LABEL ATTACHED TO THE OUTSIDE IDENTIFYING "CATHODIC PROTECTION JUNCTION BOX".
    - EACH TERMINAL SHALL HAVE A PERMANENT IDENTIFICATION LABEL AS INDICATED ON THE DRAWINGS.
4. EXOTHERMIC WELD
  - A. EQUIPMENT AND MATERIALS USED FOR EXOTHERMIC WELDING OF CABLES SHALL BE "CADWELD" TYPE AS MANUFACTURED BY ERICO PRODUCTS. EXOTHERMIC WELDS SHALL BE MADE IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
5. CABLES
  - A. THE PIPELINE LEADS AND ANODE CABLES SHALL BE #10 AWG STRANDED COPPER WITH COLOR CODED HMWPE INSULATION AS SHOWN ON THE PROJECT DRAWINGS. CABLES SHALL BE SPLICE FREE FROM THE EXOTHERMIC WELD OR ANODE TO THE JUNCTION BOX BACK PANEL.

**PART 3 – INSTALLATION**

1. MAGNESIUM RIBBON ANODES
  - A. TWO HIGH POTENTIAL MAGNESIUM RIBBON ANODES SHALL BE INSTALLED ALONG THE ENTIRE BURIED PIPELINE SEGMENTS.
  - B. THE MAGNESIUM RIBBON ANODES SHALL BE INSTALLED AS SHOWN IN THE DRAWINGS.
2. MAGNESIUM BAG ANODES
  - A. FIVE PRE-PACKAGED, HIGH POTENTIAL MAGNESIUM BAG ANODES SHALL BE INSTALLED AS INDICATED ON THE PROJECT DRAWINGS.
  - B. EACH ANODE SHALL BE SOAKED WITH FRESH WATER PRIOR TO FINAL BACKFILL.
  - C. ANODES AND ANODE CABLES SHALL BE BURIED AS INDICATED ON THE PROJECT DRAWINGS.
3. JUNCTION BOX
  - A. JUNCTION BOX SHALL BE INSTALLED AT THE APPROXIMATE MID POINT OF THE BURIED PIPING (STATION 11+00) AS INDICATED ON THE DRAWINGS.
  - B. PIPELINE AND ANODE CABLES SHALL BE LANDED ON THE BACK PANEL AS INDICATED ON THE DRAWINGS.
4. STRUCTURE CONNECTION
  - A. ATTACH THE PIPELINE LEADS TO THE PIPELINE BY EXOTHERMIC WELDING AS SHOWN IN THE DRAWINGS.
  - B. ENSURE THAT THE PIPE SURFACE IS CLEAN, DRY AND FREE OF ANY OIL OR OTHER CONTAMINANTS PRIOR TO APPLYING THE EXOTHERMIC WELD PATCH. LIFT THE WIRE AND COAT ALL THE WAY AROUND THE WIRE TO COMPLETELY SEAL THE WIRE ENTRANCE AND PREVENT MOISTURE FROM ENTERING THE WELD AREA. FIRMLY COMPRESS THE PLASTIC DOME TO WORK THE INTERNAL ADHESIVE AROUND THE EXOTHERMIC WELD. WORK OUTWARD AND FIRM COMPRESS THE EDGES OF THE PATCH TO THE PIPING COATING.
  - C. ENSURE THE PIPELINE LEADS ARE ROUTED APPROPRIATELY TO MINIMIZE BENDING STRESS AT THE WELD CONNECTION.

**PART 4 – CLOSEOUT**

1. CONTRACTOR SHALL RETURN THE SITE TO "AS FOUND" CONDITIONS TO THE ACCEPTANCE OF THE ALASKA ENERGY AUTHORITY ON-SITE REPRESENTATIVE. ALL EXCAVATION AREAS SHALL BE RETURNED TO NEUTRAL GRADE LEVELS.
2. THE ON-SITE ALASKA ENERGY AUTHORITY REPRESENTATIVE SHALL RED LINE THE DESIGN DRAWINGS AND SUBMIT TO THE ENGINEER FOR PREPARATION OF "RECORD" DRAWINGS INDICATING ACTUAL CONDITIONS.

Drawing: P:\ANC\0 CORROSION PROJECTS\ALASKA ENERGY AUTHORITY\GAMBELL\DRAWINGS\200717\_CPS.DWG

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GAMBELL BARGE HEADER UPGRADES  
**ALASKA ENERGY AUTHORITY**  
GAMBELL, ALASKA

CATHODIC PROTECTION NOTES	
CP5	
DESIGNED BY BRH	CHECKED BY CDS
DATE 05/08/20	SCALE NTS
13-039	