



THE STATE
of **ALASKA**

GOVERNOR MICHAEL J. DUNLEAVY

Department of Natural Resources

DIVISION OF MINING, LAND & WATER

Mining Section

550 West 7th Avenue, Suite 900B

Anchorage, Alaska 99501-3577

Minerals Property Management Main: 907.269.8642

Fax: 907.269.8949

Coal Regulatory/Abandoned Mine Lands Main: 907.269.8631

Fax: 907.269.8930

TDD: 907.269.8411

April 9, 2019

Will Collingwood
Senior Environmental Engineer
Fairbanks Gold Mining, Inc.
PO Box 73726
Fairbanks, AK 99709-3726

**Subject: Fort Knox Mine Reclamation Plan Approval Amendment 4
F20149852RPA.4 for the Construction of a New Fuel Island and
Decommissioning of the Existing Fuel Island**

Dear Mr. Collingwood:

On March 19, 2019, the Division of Mining, Land, and Water (DMLW) received correspondence from Fairbanks Gold Mining, Inc. (FGMI) requesting approval to amend the *Fort Knox Mine Plan of Operations Amendment Approval F20149852POO (POOA)* for constructing a new fuel island and decommissioning the existing fuel island. Clarification received on April 2, 2019 noted that these activities would occur on private land.

The DMLW Mining section has reviewed the proposed amendment. The Alaska Department of Environmental Conservation and the Alaska Department of Fish and Game have been consulted and no objection to the proposed amendment has been provided.

The requested amendment to the POO as proposed and illustrated in the submission dated March 19, 2019 address activities on private land subject to AS 27.19 and are hereby approved as *Fort Knox Mine Reclamation Plan Approval Modification 4, F20149852RPA.4 (RPA)*. Nothing in this decision changes the conditions of the original RPA Approval dated March 28, 2014. These changes should be accounted for in the next update to your Plan of Operations, your Reclamation and Closure Plan, and the closure cost estimate.

Please be advised that this authorization does not eliminate the potential need for authorization of your activity from other Federal, State, or local divisions or agencies.

A person affected by this decision may appeal it, in accordance with 11 AAC 02. Any appeal must be received within 20 calendar days after the date of “issuance” of this decision, as defined in 11 AAC 02.040(c) and (d) and may be mailed or delivered to the Commissioner, Department of Natural Resources, 550 W. 7th Avenue, Suite 1400, Anchorage, Alaska 99501; faxed to 1-907-269-8918, or sent by electronic mail to dnr.appeals@alaska.gov. Under 11 AAC 02.030, appeals and requests for reconsideration filed under 11 AAC 02 must be accompanied by the fee established in 11 AAC 05.160(d)(1)(F), which has been set at \$200 under the provisions of 11 AAC 05.160 (a) and (b).

This decision takes effect immediately. If no appeal is filed by the appeal deadline, this decision becomes a final administrative order and decision of the department on the 31st calendar day after issuance. An eligible person must first appeal this decision in accordance with 11 AAC 02 before appealing this decision to Superior Court. A copy of 11 AAC 02 may be obtained from any regional information office of the Department of Natural Resources.

If you have any questions regarding this approval, please contact Brent Martellaro at 907-451-2788

Sincerely,



Steve Buckley
Mining Section Chief

Enclosure: Copy of FGMI’s March 19, 2019 amendment request

Cc via email:	Mark Huffington, FGMI	Bartly Kleven, FGMI
	Jose Pedro Bolanos Arias, FGMI	Kyle Moselle, ADNR
	Brent Martellaro, ADNR	Kindra Geis, ADNR
	Carolyn Curley, ADNR	William Groom, ADNR
	David Schade, ADNR	Charles Cobb, ADNR
	Tim Pilon, ADEC	Tom DeRuyter, ADEC
	Audra Brase, ADF&G	John Sargeant, USACE

Delivery: kyle.moselle@alaska.gov

March 19, 2019

Kyle Moselle
Department of Natural Resources
Mining, Land & Water
400 Willoughby Street
Juneau, AK 99801-01019

Re: FGMI Fuel Island Relocation 2019

Dear Mr. Moselle:

Fairbanks Gold Mining, Inc. (FGMI) is requesting a modification to the Plan of Operations for the Fort Knox Gold Mine. The modification includes constructing a new fuel island and decommissioning the existing fuel island during the 2019 construction season.

The fuel island relocation is necessary for future construction activities of the Barnes Creek Heap Leach Facility. The new fuel island will be constructed to SPCC standards. The decommissioning of the existing fuel island will be in accordance with DEC standards and a decommissioning plan will be provided to the Division of Spill Prevention and Response for approval at a later date.

Should you have any questions, please contact me at 970-490-2287 or mark.huffington@kinross.com.

Sincerely,



Mark A. Huffington
Environmental Superintendent

Attachments:

1. Construction Drawings for Fuel Island, Fort Knox Gold Mine, March 2019
2. Fuel Island Relocation Figure

Cc: Brent Martellaro, ADNR, brent.martellaro@alaska.gov
Tim Pilon, ADEC, tim.pilon@alaska.gov
Tom DeRuyter, ADEC, tom.deruyter@alaska.gov
John Sargent, USACE, john.c.sargent@usace.army.mil
Bartly Kleven, FGMI
Jose Pedro Bolanos Arias, FGMI

FGMI Fuel Island Relocation



CONSTRUCTION DRAWINGS FOR FUEL ISLAND FORT KNOX GOLD MINE FAIRBANKS, ALASKA

MARCH 2019

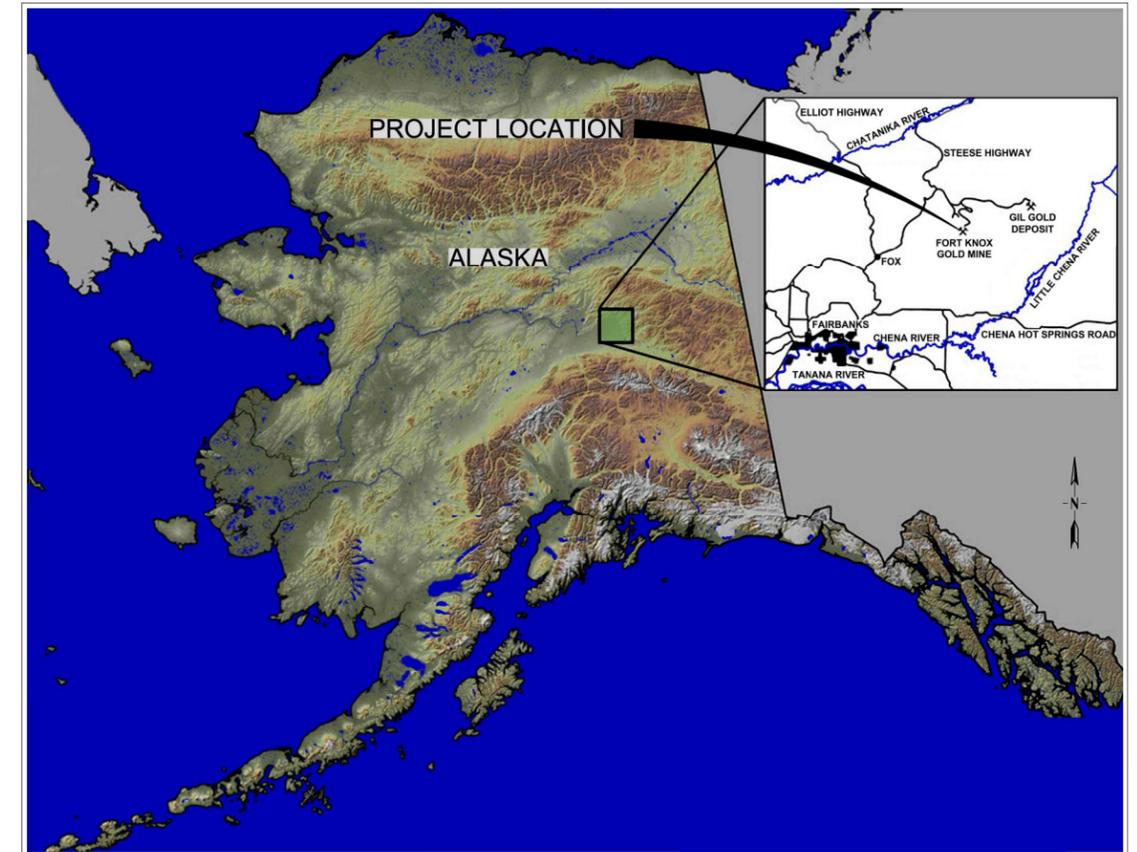
SHEET INDEX	
DWG. No.	TITLE
103-G-0	COVER AND INDEX
103-G-1	LEGEND AND GENERAL NOTES
103-G-2	GENERAL ARRANGEMENT
103-C-1	FUEL ISLAND GRADING PLAN
103-C-2	FUEL ISLAND LINER GRADING PLAN
103-C-3	FUEL ISLAND LINER SECTIONS
103-C-4	DETAILS
103-E-1	OVERALL ELECTRICAL SITE PLAN
103-E-2	FUEL ISLAND ELECTRICAL POWER AND GROUNDING PLAN
103-E-3	FUEL ISLAND BUILDING ELECTRICAL PLAN
103-E-4	FUEL ISLAND CONDUIT AND CABLE SCHEDULE AND ONE-LINE
103-E-5	FUEL ISLAND ELECTRICAL DETAILS

PREPARED BY:



engineers • surveyors • planners • scientists

1055 Mount Avenue, Missoula, MT 59801
406.542.8880 www.m-m.net



VICINITY MAP
NO SCALE

APPROVED BY: _____
DEBORAH JOHNSTON
Morrison-Maierle, Inc.
Project Manager

APPROVED BY: _____
JOSE BOLANOS
Kinross Fort Knox
Industrial Projects Manager

© This document was prepared by Morrison-Maierle, Inc. and may contain confidential or privileged information. Morrison-Maierle, Inc. retains all common law, statutory, and reserved rights including the copyright thereto. Unauthorized use of this document is strictly prohibited and may be unlawful.

ISSUE FOR CONSTRUCTION

SET NO. _____
MMI PROJECT NO. 3924.103
DWG No. 103-G-0

CIVIL ABBREVIATIONS

ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
BLDG	BUILDING
CIC	CARBON IN COLUMN
CIP	CARBON IN PULP
CONC	CONCRETE
CTS	CONTINUOUS
CS	CARBON STEEL
DI	DUCTILE IRON, DRAIN INLET
DIA	DIAMETER
DIM	DIMENSION
DWG	DRAWING
EL, ELEV	ELEVATION
ENGR	ENGINEER
EXIST	EXISTING
FLG	FLANGE
FT	FOOT, FEET
IN.	INCH
H.A.S.	HEX ANCHOR STUD
LBS	POUNDS
LF	LINEAR FEET
MAX	MAXIMUM
MIN	MINIMUM
OC	ON CENTER
PSI	POUNDS PER SQUARE INCH
REBAR	REINFORCEMENT BAR
SCH	SCHEDULE
SECT	SECTION
SPEC	SPECIFICATION
STA	STATION
STL	STEEL
T & B	TOP AND BOTTOM
TYP	TYPICAL
W/	WITH
WS	WATERSTOP

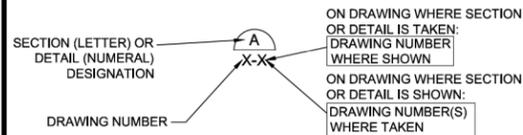
GENERAL NOTES:

- UNDERGROUND UTILITY SIZES, LOCATIONS, AND DEPTHS ARE UNKNOWN. CONTRACTOR SHALL VERIFY PRIOR TO EXCAVATION.
- CONSTRUCTION ACCESS IS LIMITED. CONTRACTOR SHALL MAKE ALL PROVISIONS FOR SIZING AND TRANSPORTING CONSTRUCTION MATERIALS TO AVOID DELAYS IN CONSTRUCTION AS WELL AS DOWN TIME FOR THE EXISTING OPERATIONS.
- CONTRACTOR SHALL PROVIDE 48 HOURS NOTICE IN WRITING TO OWNER PRIOR TO EXECUTING ANY WORK THAT MAY IMPACT OR HALT EXISTING OPERATIONS.
- CONTRACTOR SHALL CONDUCT A WALK THROUGH WITH OWNER TO IDENTIFY CONDITION AND CAPACITY OF ALL SURFACES, STRUCTURES, INFRASTRUCTURES, UTILITIES, AND EQUIPMENT LOCATED AT THE AGREED UPON CONTRACTOR STAGING/LAYDOWN AREA, CONSTRUCTION AREA, AND ALL ANTICIPATED CONSTRUCTION ROUTES BETWEEN THESE AREAS OR LEADING TO AND FROM THESE AREAS. ANY DEFICIENCIES SHALL BE NOTED IN WRITING AND PHOTOGRAPHED, THEN PROVIDED TO OWNER PRIOR TO MOBILIZING ON SITE.
- CONTRACTOR SHALL FIELD VERIFY ALL EXISTING EQUIPMENT, PIPING, AND DIMENSIONS.
- THE MINE OPERATES 24/7/365. CONTRACTOR'S ACTIVITIES SHALL NOT IMPEDE HAUL TRUCK TRAFFIC NOR IMPEDE MINE OPERATIONS.
- PRIOR TO DIGGING OR DRIVING POLES, POSTS, CONDUIT, ECT. BELOW FINISHED GROUND SURFACE VERIFY LLDPE LINER DEPTH AND MAINTAIN 36" MINIMUM SEPARATION.
- GROUND ALL EQUIPMENT.
- PROVIDE PIPE, TANK, AND BUILDING SUPPORTS AND LEVELING PADS IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS.

LEGEND

	EARTH, GROUND
	CENTERLINE
	CONTOUR LINE
	EXIST BURIED PIPE AND SIZE
	ELECTRICAL CABLE(S) ON SURFACE OR BURIED
	EXIST OVERHEAD POWER
	ELECTRICAL LINE
	ELECTRICAL CONDUIT
	NEW PIPING
	CHAIN LINK FENCE
	GRADE BREAK
	INLET
	JERSEY RAIL
	LIGHT POLE / FIXTURE
	MONITORING WELL

DETAIL AND SECTION DESIGNATION



ISSUE FOR CONSTRUCTION

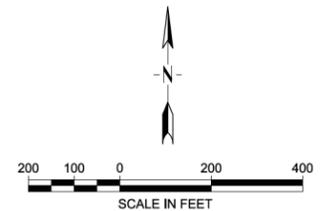
VERIFY SCALE! THESE PRINTS MAY BE REDUCED. LINE BELOW MEASURES ONE INCH ON ORIGINAL DRAWING. MODIFY SCALE ACCORDINGLY!	REVISIONS					1055 Mount Avenue, Missoula, MT 59801 406.542.8880 www.m-m.net		DRWN BY: MDH	FUEL ISLAND KINROSS GOLD CORPORATION	PROJECT NUMBER 3924.103
	NO. 0	DESCRIPTION ISSUE FOR CONSTRUCTION	DATE 3/8/2019	BY DAJ				APPR. BY: DAJ		DATE: 01/2019
LEGEND AND GENERAL NOTES								Q.C. REVIEW BY: ### DATE: ###	DRAWING NUMBER 103-G-1	REVISION

M3924103 FK FUEL ISLAND CAD SHEETS/CIVIL/LEGEND AND GENERAL NOTES.DWG PLOTTED BY: MELINDA HANKEL ON 3/8/2019 12:37 PM

COPYRIGHT © MORRISON-MAIERLE, INC., 2019

NOTES:

1. BULK EXCAVATION PERFORMED BY OWNER.
2. FUEL ISLAND BULK EXCAVATION COMPLETED BY FGMI, WILL BE TO WITHIN 18 INCHES OF SUBGRADE EXCAVATION.



ISSUE FOR CONSTRUCTION

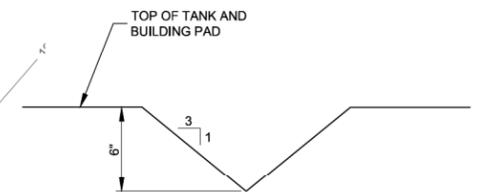
<p>VERIFY SCALE! THESE PRINTS MAY BE REDUCED. LINE BELOW MEASURES ONE INCH ON ORIGINAL DRAWING.</p> <p>MODIFY SCALE ACCORDINGLY</p> <p><small>M:\3924\103 FK FUEL ISLAND\CAD\SHETS\CIVIL\103-G-2 GENERAL ARRANGEMENT.DWG PLOTTED BY MELINDA HANKEL ON 3/8/2019 12:38 PM</small></p>	<p>REVISIONS</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>NO.</th> <th>DESCRIPTION</th> <th>DATE</th> <th>BY</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">0</td> <td>ISSUE FOR CONSTRUCTION</td> <td style="text-align: center;">3/8/2019</td> <td style="text-align: center;">DAJ</td> </tr> </tbody> </table>	NO.	DESCRIPTION	DATE	BY	0	ISSUE FOR CONSTRUCTION	3/8/2019	DAJ	<p>PL473</p>	<p>engineers • surveyors • planners • scientists</p>	<p>1055 Mount Avenue, Missoula, MT 59801</p> <p>406.542.8880</p> <p>www.m-m.net</p>		<p>DRWN BY: MDH</p> <p>DSGN BY:</p> <p>APPR BY: DAJ</p> <p>DATE: 01/2019</p> <p>Q.C. REVIEW BY: ###</p> <p>DATE: ###</p>	<p>FUEL ISLAND KINROSS GOLD CORPORATION</p> <p>FAIRBANKS ALASKA</p> <p>GENERAL ARRANGEMENT</p>	<p>PROJECT NUMBER 3924.103</p> <p>SHEET NUMBER</p> <p>DRAWING NUMBER 103-G-2</p> <p>REVISION 0</p>
	NO.	DESCRIPTION	DATE	BY												
0	ISSUE FOR CONSTRUCTION	3/8/2019	DAJ													

NOTE:

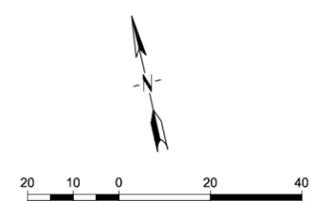
1. BULK EXCAVATION PERFORMED BY OWNER.
2. CATCH LIMITS WILL VARY BASED ON ACTUAL GRADING.
3. SITE WITHIN LINED AREA SHALL BE GRADED SO ONSITE DRAINAGE COLLECTS AT LOW POINT AND TO PREVENT RUN-ON FROM ENTERING FUEL ISLAND LINED AREA.
4. JERSEY RAILS SHALL BE SET WITH 1.0' TYPICAL SPACING.
5. IF EXISTING GROUND ELEVATION VARIES FROM THAT SHOWN ON DRAWINGS, MINIMUM SLOPES AND DISTANCES SHALL BE MAINTAINED TO PROVIDE DRAINAGE AS SHOWN.
6. PROVIDE LEVELING PAD FOR GROUND FORCE FUEL EQUIPMENT AT APPROXIMATE ELEVATION 1611.5. GRADE EDGES OF LEVELING PADS TO DRAIN AROUND TANKS AND BUILDING.
7. FOR 3 DITCH LOCATIONS, TRANSITION FROM 6" DEPTH TO ZERO DEPTH TO MAINTAIN FLOW TO THE SOUTH.

LEGEND:

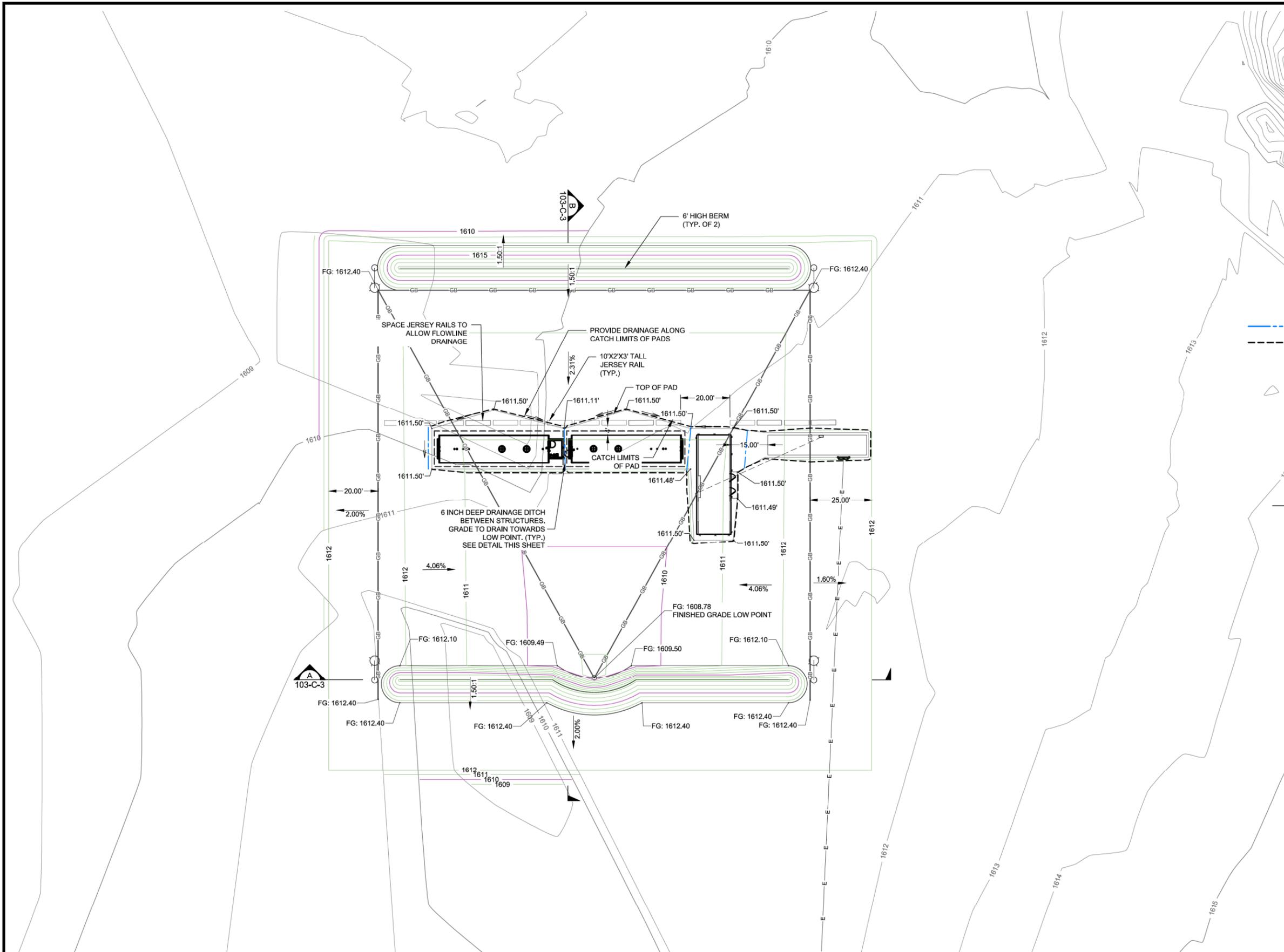
- DITCH LINE
- GRADING BREAK LINE



DITCH DETAIL
SCALE: N.T.S.



SCALE IN FEET
ISSUE FOR CONSTRUCTION



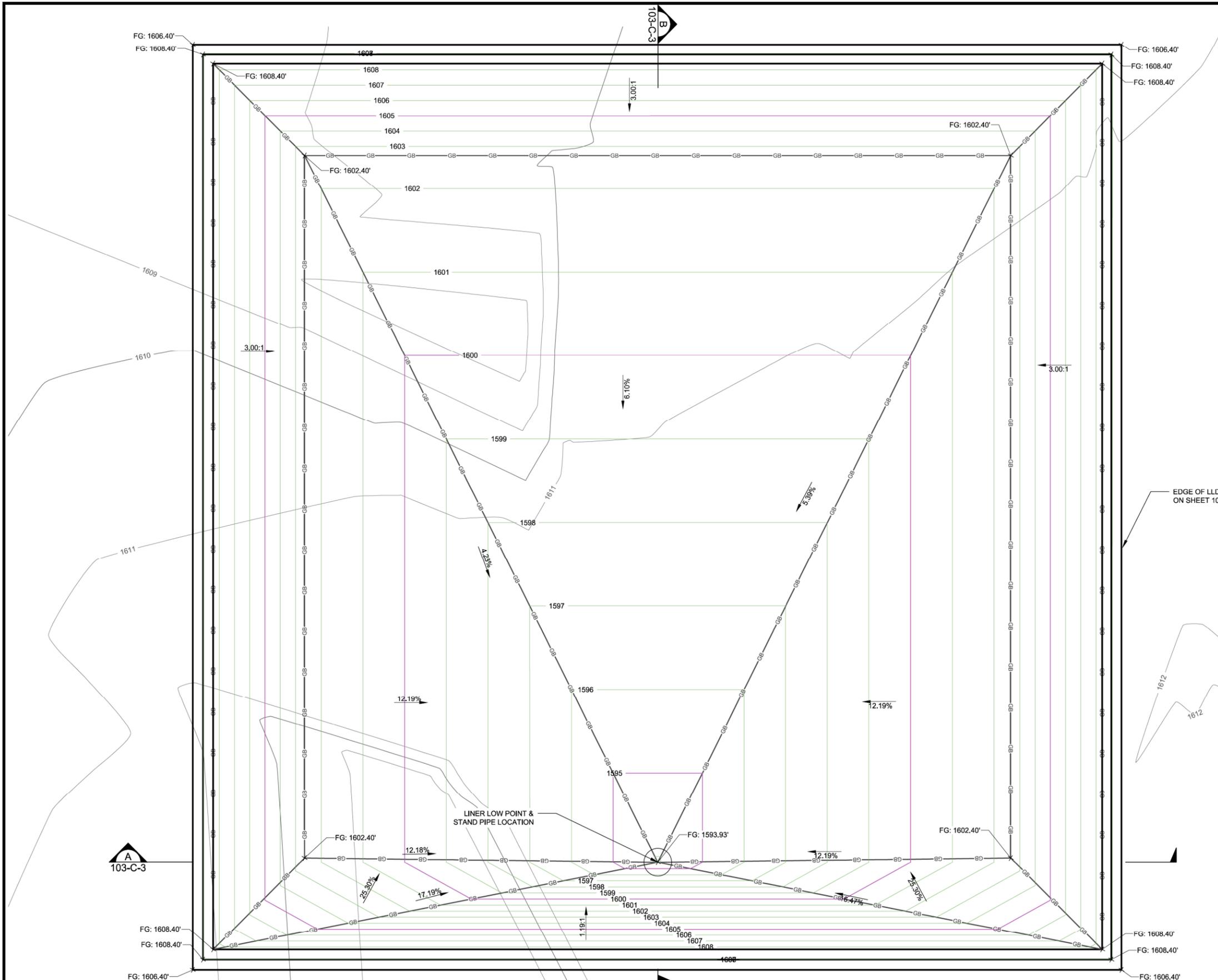
VERIFY SCALE!		REVISIONS			
NO.	DESCRIPTION	DATE	BY		
0	ISSUE FOR CONSTRUCTION	3/8/2019	DAJ		
MODIFY SCALE ACCORDINGLY!					

Morrison Maierle
engineers • surveyors • planners • scientists

1055 Mount Avenue,
Missoula, MT 59801
406.542.8880
www.m-m.net

DRWN BY: MDH
DSGN BY:
APPR BY: DAJ
DATE: 01/2019
Q.C. REVIEW BY: ###
DATE: ###

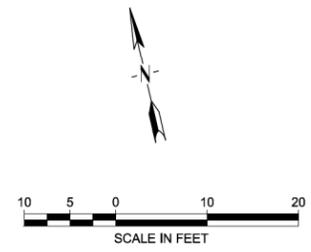
FAIRBANKS		ALASKA	PROJECT NUMBER 3924.103
FUEL ISLAND GRADING PLAN			SHEET NUMBER
		DRAWING NUMBER 103-C-1	REVISION



- NOTE:**
- EXISTING GROUND SURFACE PROVIDED BY OWNER.
 - CATCH LIMITS WILL VARY BASED ON ACTUAL GRADING.
 - SITE SHALL BE GRADED SO ONSITE DRAINAGE COLLECTS AT LOW POINT AND TO PREVENT RUN-ON FROM ENTERING FUEL ISLAND.
 - SEE LINER WELD DETAILS ON SHEET 103-C-4.

A
103-C-3

B
103-C-3



ISSUE FOR CONSTRUCTION

REVISIONS			
NO.	DESCRIPTION	DATE	BY
0	ISSUE FOR CONSTRUCTION	3/8/2019	DAJ

VERIFY SCALE!
THESE PRINTS MAY BE REDUCED. LINE BELOW MEASURES ONE INCH ON ORIGINAL DRAWING.
MODIFY SCALE ACCORDINGLY!



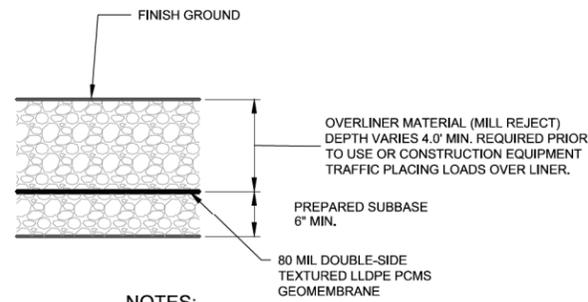
Morrison Maierle
engineers • surveyors • planners • scientists

1055 Mount Avenue,
Missoula, MT 59801
406.542.8880
www.m-m.net

STATE OF ALASKA
49TH
DEBORAH JOHNSON
No. C12927
REGISTERED PROFESSIONAL SURVEYOR

DRWN BY: MDH
DSGN BY:
APPR BY: DAJ
DATE: 01/2019
Q.C. REVIEW BY: ###
DATE: ###

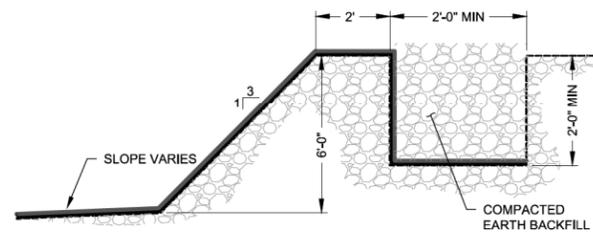
FAIRBANKS		FUEL ISLAND KINROSS GOLD CORPORATION	ALASKA	PROJECT NUMBER 3924.103
FUEL ISLAND LINER GRADING PLAN		DRAWING NUMBER 103-C-2		SHEET NUMBER
		REVISION 0		



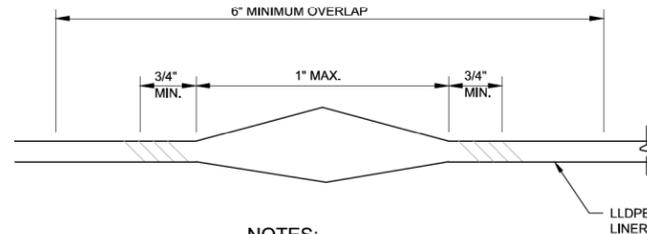
NOTES:

1. PREPARED SUBBASE CUSHION SHALL BE 3/4" MINUS FREE OF ANGULAR ROCKS AND GENERALLY FINE GRAINED WITH NO DEBRIS.

LINER SECTION 1
SCALE: N.T.S.



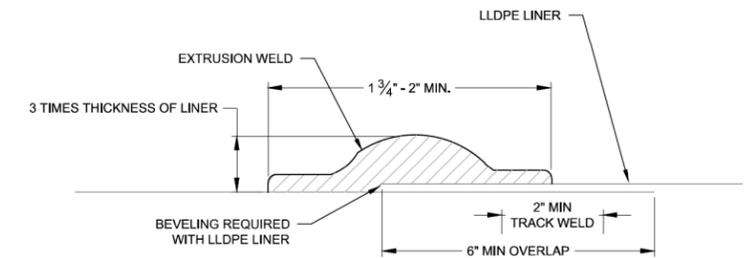
LINER ANCHOR DETAIL 4
SCALE: N.T.S.



NOTES:

1. DOUBLE FUSION WELDS SHALL BE USED FOR ALL PANEL SEAMS AND WHEREVER POSSIBLE AT SPECIAL LOCATIONS.
2. SEE SPECIFICATIONS FOR OTHER DETAILS AND TEST REQUIREMENTS.

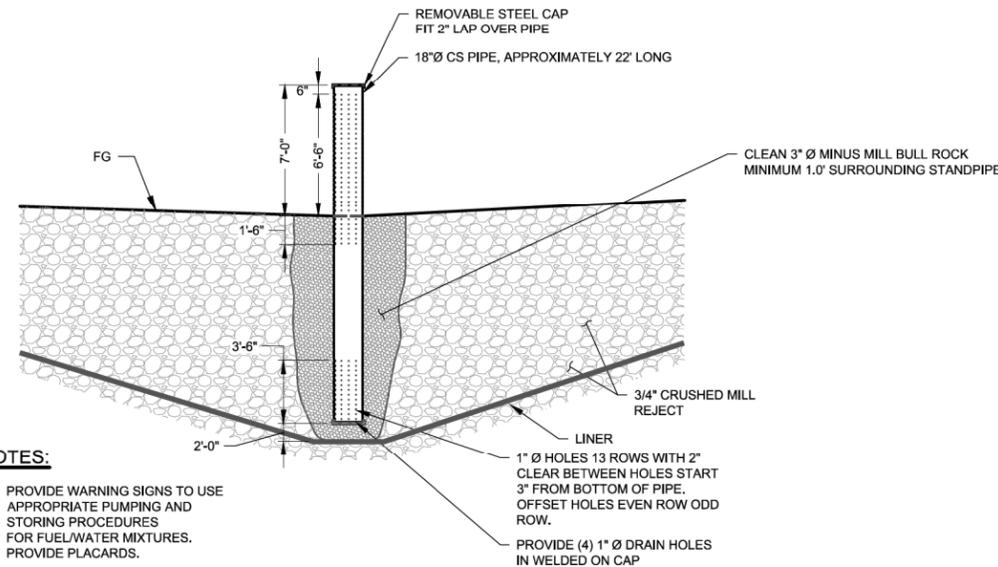
LINER DOUBLE FUSION WELD DETAIL 2
SCALE: N.T.S.



NOTES:

1. EXTRUSION WELDS SHALL ONLY BE USED AT SPECIAL LOCATIONS WHERE SPACE CONSTRAINTS DO NOT ALLOW ROOM FOR DOUBLE FUSION WELDING EQUIPMENT.
2. LINER SHEETS SHALL BE TACK WELDED TOGETHER AT OVERLAP TO FORM TEMPORARY BOND PRIOR TO CONTINUOUS WELDING.
3. SEE SPECIFICATIONS FOR OTHER DETAILS AND TEST REQUIREMENTS.

LINER EXTRUSION WELD DETAIL 3
SCALE: N.T.S.



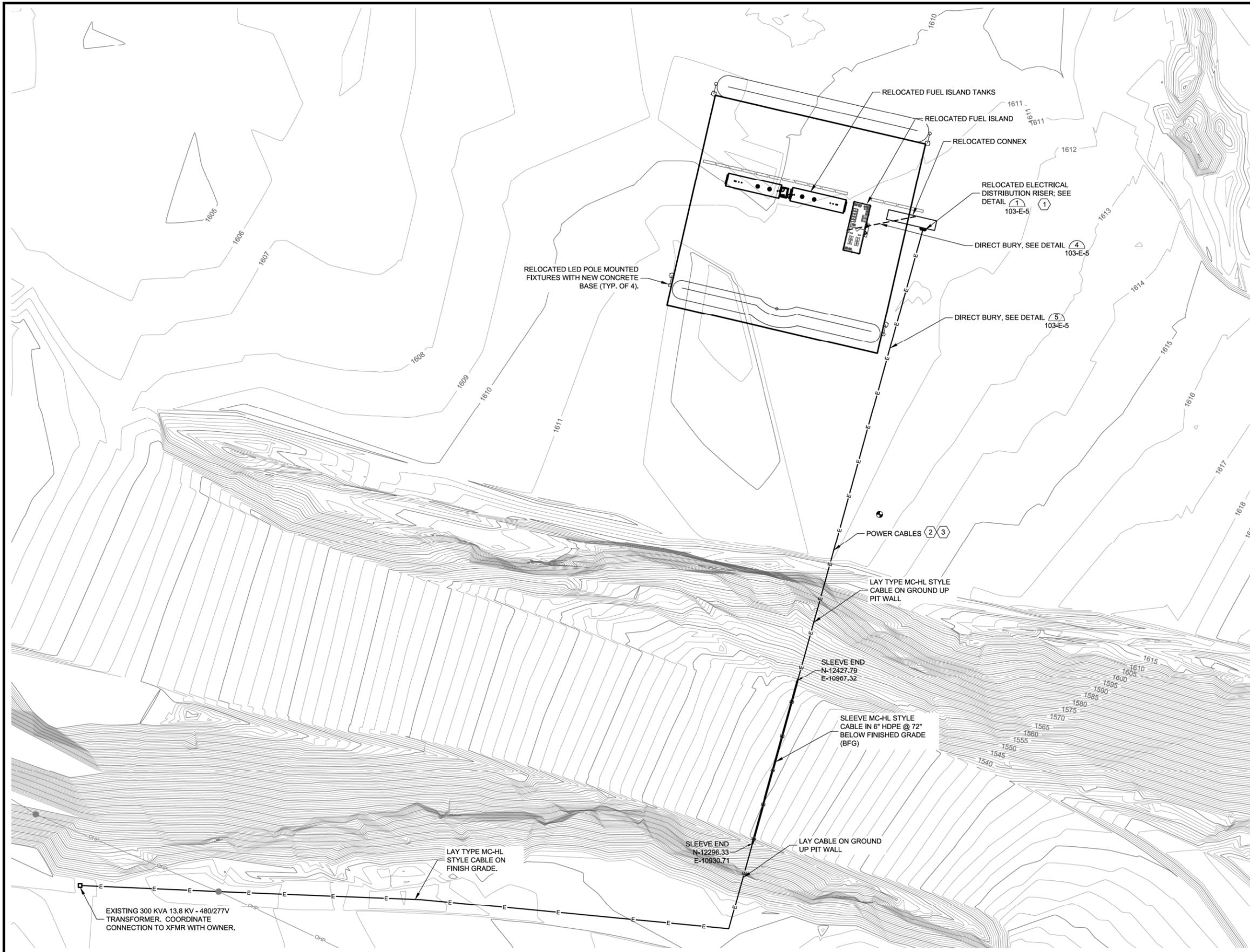
NOTES:

1. PROVIDE WARNING SIGNS TO USE APPROPRIATE PUMPING AND STORING PROCEDURES FOR FUEL/WATER MIXTURES.
2. PROVIDE PLACARDS.

STAND PIPE DETAIL 5
SCALE: N.T.S.

ISSUE FOR CONSTRUCTION

<p>VERIFY SCALE! THESE PRINTS MAY BE REDUCED. LINE BELOW MEASURES ONE INCH ON ORIGINAL DRAWING.</p> <p>MODIFY SCALE ACCORDINGLY!</p>	<p>REVISIONS</p> <table border="1"> <thead> <tr> <th>NO.</th> <th>DESCRIPTION</th> <th>DATE</th> <th>BY</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>ISSUE FOR CONSTRUCTION</td> <td>3/8/2019</td> <td>DAJ</td> </tr> </tbody> </table>				NO.	DESCRIPTION	DATE	BY	0	ISSUE FOR CONSTRUCTION	3/8/2019	DAJ		<p>1055 Mount Avenue, Missoula, MT 59801</p> <p>406.542.8880</p> <p>www.m-m.net</p>		<p>DRWN BY: MDH</p> <p>DSGN BY: CAQ</p> <p>APPR BY: DAJ</p> <p>DATE: 01/2019</p>	<p>FUEL ISLAND KINROSS GOLD CORPORATION</p> <p>FAIRBANKS ALASKA</p>	<p>PROJECT NUMBER 3924.103</p> <p>SHEET NUMBER</p>
	NO.	DESCRIPTION	DATE	BY														
0	ISSUE FOR CONSTRUCTION	3/8/2019	DAJ															
<p>DETAILS</p>	<p>DRAWING NUMBER 103-C-4</p> <p>REVISION 0</p>																	

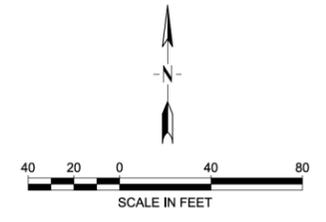


GENERAL NOTES:

- A. THE COMPLETED INSTALLATION SHALL CONFORM TO ALL APPLICABLE FEDERAL, STATE, AND LOCAL ORDINANCES AND REGULATIONS. CONTRACTOR SHALL OBTAIN NECESSARY PERMITS AND INSPECTIONS REQUIRED BY THE GOVERNING AUTHORITIES. ALL WORK SHALL BE DONE IN A NEAT, WORKMANLIKE, FINISHED, AND SAFE MANNER, ACCORDING TO THE LATEST PUBLISHED N.E.C.A. STANDARDS OF INSTALLATION, UNDER COMPETENT SUPERVISION.
- B. THIS PROJECT CONSISTS OF NEW AND RE-WORKED AREAS OF THE FORT KNOX GOLD MINE NEAR FAIRBANKS, AK. VISIT THE SITE PRIOR TO BIDDING TO BECOME FAMILIAR WITH EXISTING CONDITIONS AND ALL FACTORS/INCIDENTAL WORK WHICH MAY AFFECT THE EXECUTION OF THIS WORK.
- C. ALL MATERIALS SHALL BE NEW AND OF THE BEST QUALITY, MANUFACTURED IN ACCORDANCE WITH NEMA, ANSI, U.L., OR OTHER APPLICABLE STANDARDS UNLESS OTHERWISE NOTED. THE USE OF MANUFACTURERS NAMES, MODELS AND NUMBERS IS INTENDED TO ESTABLISH STYLE, QUALITY, APPEARANCE, USEFULNESS AND BID PRICE. PROPOSED SUBSTITUTIONS SHALL BE SUBMITTED DURING THE SUBMITTAL PROCESS IN WRITING AND REVIEWED BY THE ENGINEER PRIOR TO ORDERING THE EQUIPMENT.
- D. PROTECT ALL ELECTRICAL MATERIAL AND EQUIPMENT INSTALLED UNDER THIS DIVISION AGAINST DAMAGE BY OTHER TRADES, WEATHER CONDITIONS OR ANY OTHER CAUSES. EQUIPMENT FOUND DAMAGED OR IN OTHER THAN NEW CONDITION WILL BE REJECTED AS DEFECTIVE.
- E. LEAVE THE SITE CLEAN, REMOVE ALL DEBRIS, EMPTY CARTONS, TOOLS, CONDUIT, WIRE SCRAPS AND ALL MISCELLANEOUS SPARE EQUIPMENT AND MATERIALS USED IN THE WORK DURING CONSTRUCTION. ALL COMPONENTS SHALL BE FREE OF DUST, GRIT, AND FOREIGN MATERIALS, LEFT AS NEW BEFORE FINAL ACCEPTANCE OF WORK. PRIME AND REPAIR ALL STRUCTURAL SURFACES THAT HAVE BEEN DRILLED OR WELDED.
- F. EXISTING INSTALLATION IS DEPICTED ON DRAWINGS IN LIGHT LINE TYPE, WITH NEW WORK INDICATED IN BOLD LINE TYPE AND AS NOTED.
- G. CONSTRUCTION AND POWER OUTAGES SHALL BE SEQUENCED IN ACCORDANCE WITH AN OWNER-APPROVED CONSTRUCTION SCHEDULE. SUBMIT PROPOSED CONSTRUCTION SCHEDULE AND COORDINATE WITH OWNER TO IDENTIFY ALL ACTIVITIES THAT REQUIRE POWER OUTAGES. OBTAIN APPROVAL FOR TEMPORARY OUTAGES AND EXPECTED DURATIONS. SUBJECT TO MANPOWER LIMITATIONS, COORDINATE EXECUTION OF CONSTRUCTION TASKS THAT REQUIRE POWER OUTAGES TO MINIMIZE THE NUMBER AND DURATION OF OUTAGES, UNLESS OTHERWISE APPROVED.
- H. DO NOT PUNCTURE LINER BELOW FUEL ISLAND. ALL CABLES TO BE INSTALLED OVER LINER ANCHOR TRENCH WHEN CROSSING FROM LINED AREAS TO NON-LINED AREAS.

KEY NOTES:

- 1 SEE DRAWING 103-E-5 FOR MORE DETAILS ON POWER RISER AT FUEL ISLAND.
- 2 OKONITE C-L-X, TYPE MC-HL, 600V, WITH IMPERVIOUS, CONTINUOUS, CORRUGATED ALUMINUM SHEATH, BINDER TAPE, PVC OUTER JACKET, AND UL TYPE XHHW-2 INSULATION OR EQUAL FOR ALL POWER CABLING.
- 3 SERVICE FEEDER FROM TRANSFORMER TO PANEL H1 IS APPROXIMATELY 1200'.



ISSUE FOR CONSTRUCTION

VERIFY SCALE!		REVISIONS			
NO.	DESCRIPTION	DATE	BY		
0	ISSUE FOR CONSTRUCTION	3/8/2019	BCL		

THESE PRINTS MAY BE REDUCED. LINE BELOW MEASURES ONE INCH ON ORIGINAL DRAWING.

MODIFY SCALE ACCORDINGLY!

1055 Mount Avenue,
Missoula, MT 59801
406.542.8880
www.m-m.net

DESIGN BY: MDH
REGN. BY: BCL
APPR. BY: DAJ
DATE: 01/2019
Q.C. REVIEW BY: ###
DATE: ##

FAIRBANKS		ALASKA	
FUEL ISLAND KINROSS GOLD CORPORATION		PROJECT NUMBER 3924.103	
OVERALL ELECTRICAL SITE PLAN		SHEET NUMBER	
DRAWING NUMBER 103-E-1		REVISION 0	

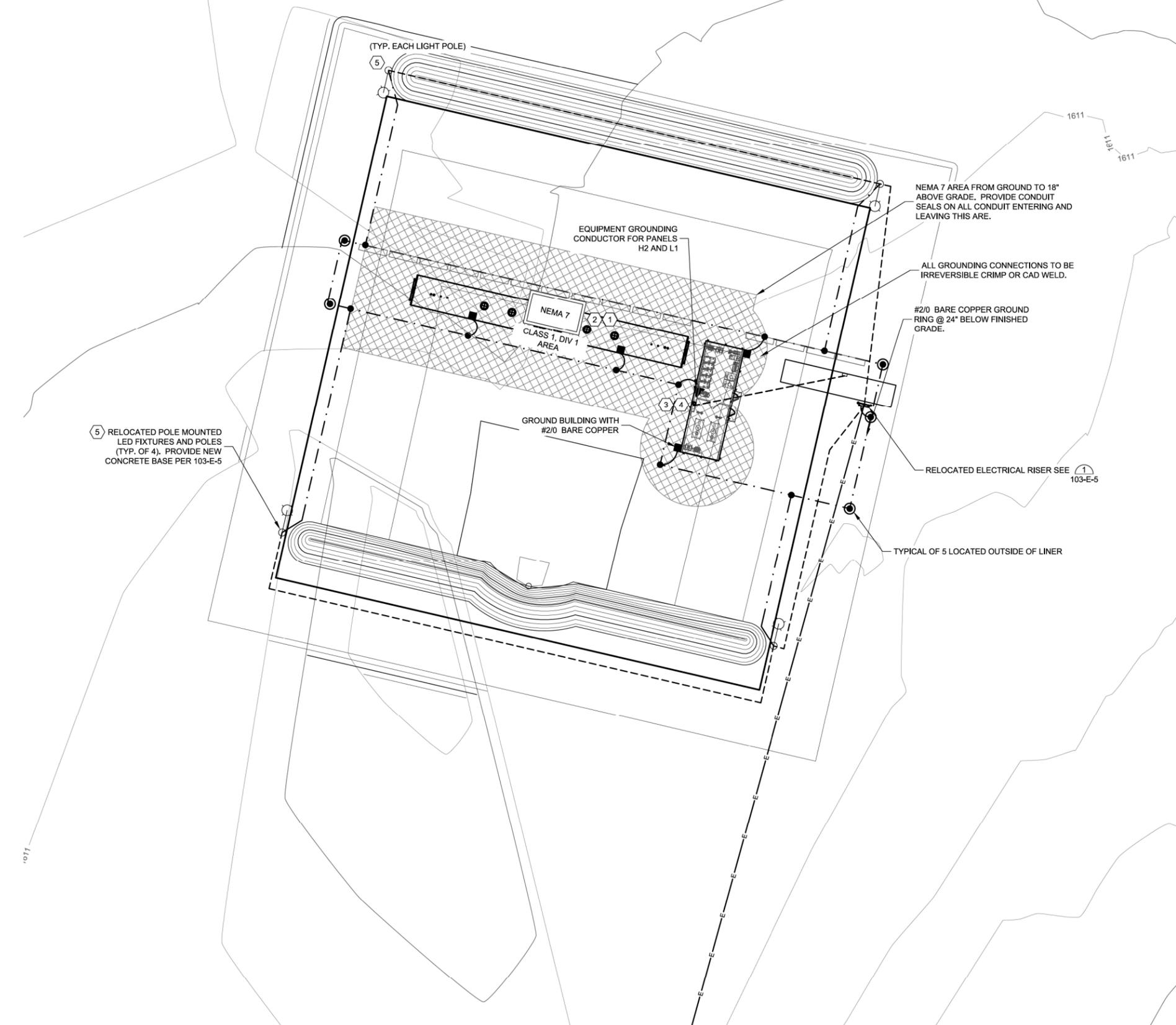
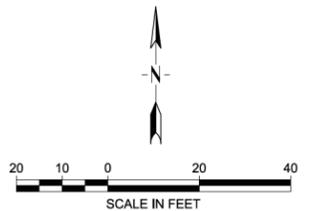
GENERAL NOTES:

- A. ALL CONDUITS TO HAVE A MINIMUM BURIAL DEPTH OF 30IN. SEE TYPICAL TRENCH DETAIL 4, DRAWING 103-E-5. BURIAL DEPTH MAY BE LESS THAN 30" WHEN CROSSING LINED AREAS TO AVOID LINER PENETRATIONS.
- B. ALL TYPE C.L.X. MC-HL CABLE MUST BE TERMINATED w/ APPROPRIATE HAZARDOUS FITTINGS INSIDE NEMA 7 AREA.
- C. ALL 20A, 120VAC, 1-PH FEEDS FROM PANEL L1 TO BE (2#12, 1#12 GND, 3/4"C).
- D. GROUND FORCE FUEL ISLAND BUILDING DETAIL IS ON DWG 103-E-3.
- E. SEE PANEL SCHEDULES ON 103-E-4.
- F. PROVIDE SEAL-OFFS FOR ALL CONDUIT ENTERING NEMA 7 AREA.

KEY NOTES:

- 1 RUN CONDUIT AND CONDUCTORS TO LIGHTING AT EACH TANK. (2#12, 1#12 GND, TYPE CLX MC-HL CABLE w/ APPROVED HAZARDOUS FITTINGS ON EACH END).
- 2 CONDUIT SEAL-OFFS ARE REQUIRED FOR ALL CONDUITS ENTERING AND WITHIN THIS AREA. THESE AREAS ARE CONSIDERED CLASS 1, DIV. 1 AREAS TO 18" ABOVE GRADE PER THE NEC FOR FUELING TANKS. PROVIDE HAZARDOUS RATED FITTINGS ON ALL MC-HL CABLES.
- 3 CONDUIT REQUIREMENTS FROM EACH FUEL FORCE CONTROLLER (NOT SHOWN FOR DRAWING CLARITY):
 - 1. FLOWMETER: (1#18 TSP, 3/4"C).
 - 2. REMOTE OPERATOR (START/STOP) STATIONS: (4#14, 3/4"C) EACH.
 - 3. CONTROL CONDUIT BACK TO TRANSFER PUMP PANEL: (10#14, 3/4"C).
 - 4. DATA CONDUIT BETWEEN FUEL FORCE CONTROLLERS (1#18 TSP, 3/4"C) FOR RS-232.
- 4 FUEL FORCE 814 CONTROLLER IS RESPONSIBLE FOR CONTROLLING SOLENOID VALVES, GATHERING FLOW METER PULSES AND PROVIDING MOTOR CONTACTOR RUN SIGNAL AT TRANSFER PUMP CONTROL PANEL WITH AN AUTHORIZATION SIGNAL (START/STOP). OPERATOR STATIONS, FLOW METERS AND SOLENOID VALVES ARE DIRECTLY WIRED INTO THE FUEL FORCE 814 CONTROLLER.
- 5 RUN 2#12, 1#12 GND, 1"C TO ALL LIGHT POLES FROM PANEL H1. GROUND LIGHT POLE TO GROUNDING COUNTERPOISE USING A #2 GND. DO NOT CONNECT EQUIPMENT GROUND TO POLE GROUNDING AT POLE.
- 6 RUN #2 GROUND FROM PANEL H1, H2, AND L1 TO GROUND COUNTERPOISE. CONNECT NEUTRAL TO GROUND ONLY AT H1 AND L1.
- 7 TOOL CONNEX FEEDER FROM LP-1.

- GND ROD.
- BUILDING/TANK GND.
- EQUIPMENT GND.
- #2/0 BARE COPPER @ 24" BELOW GRADE.
- CRIMPED/CAD WELD CONNECTION, IRREVERSIBLE TYPE.



5) RELOCATED POLE MOUNTED LED FIXTURES AND POLES (TYP. OF 4). PROVIDE NEW CONCRETE BASE PER 103-E-5

ISSUE FOR CONSTRUCTION

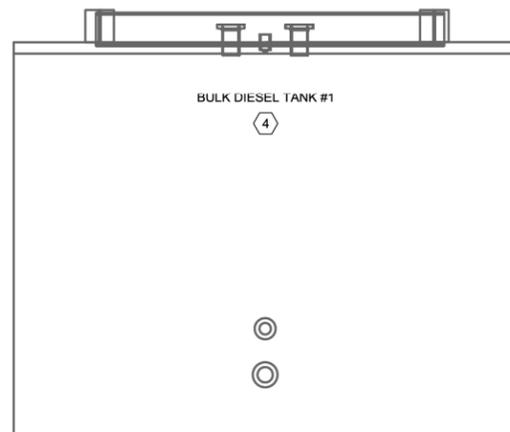
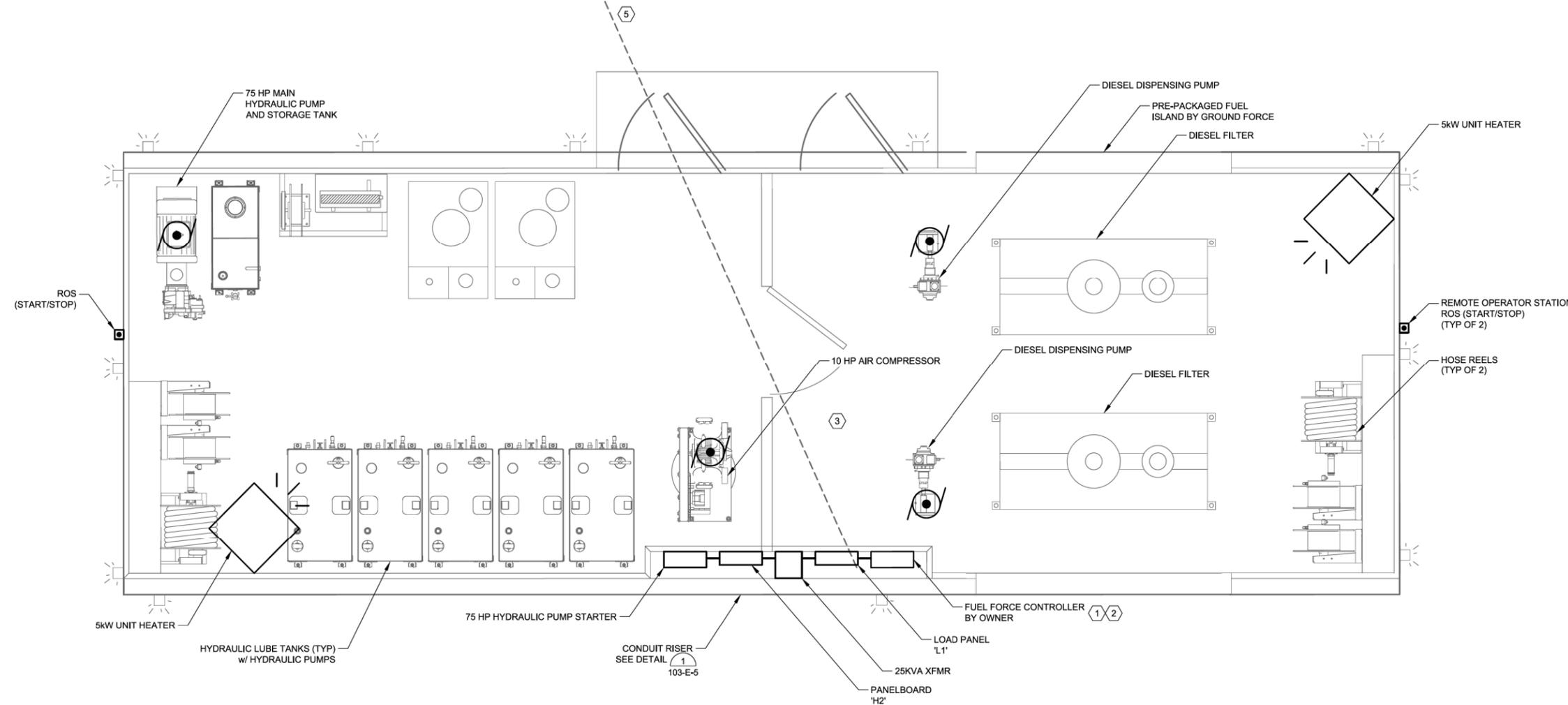
<p>VERIFY SCALE! THESE PRINTS MAY BE REDUCED. LINE BELOW MEASURES ONE INCH ON ORIGINAL DRAWING.</p> <p>MODIFY SCALE ACCORDINGLY!</p>	REVISIONS					<p>engineers • surveyors • planners • scientists</p>	<p>1055 Mount Avenue, Missoula, MT 59801</p> <p>406.542.8880</p> <p>www.m-m.net</p>		DESIGN BY: MDH	<p>FUEL ISLAND KINROSS GOLD CORPORATION</p>	PROJECT NUMBER 3924.103	
	NO.	DESCRIPTION	DATE	BY					APPR. BY: DAJ		DATE: 01/2019	FAIRBANKS
	0	ISSUE FOR CONSTRUCTION	3/8/2019	BCL					Q.C. REVIEW BY: ### DATE: ###	FUEL ISLAND ELECTRICAL POWER AND GROUNDING PLAN	DRAWING NUMBER 103-E-2	REVISION 0

GENERAL NOTES:

- A. FINAL CONNECTIONS TO FUEL FORCE CONTROLLER AND PACKAGED FUEL ISLAND TO BE COORDINATED WITH OWNER.

KEY NOTES:

- 1 CONDUIT REQUIREMENTS FROM EACH FUEL FORCE CONTROLLER:
 - 1. FLOWMETER: (1#18 TSP, 3/4" C).
 - 2. REMOTE OPERATOR (START/STOP) STATIONS: (4#14, 3/4" C) EACH.
 - 3. CONTROL CONDUIT BACK TO TRANSFER PUMP PANEL: (10#14, 3/4" C).
 - 4. DATA CONDUIT BETWEEN FUEL FORCE CONTROLLERS (1#18 TSP, 3/4" C) FOR RS-232.
- 2 FUEL FORCE 814 CONTROLLER IS RESPONSIBLE FOR CONTROLLING SOLENOID VALVES, GATHERING FLOW METER PULSES AND PROVIDING MOTOR CONTACTOR RUN SIGNAL AT TRANSFER PUMP CONTROL PANEL WITH AN AUTHORIZATION SIGNAL (START/STOP). OPERATOR STATIONS, FLOW METERS AND SOLENOID VALVES ARE DIRECTLY WIRED INTO THE FUEL FORCE 814 CONTROLLER. COORDINATE DIRECTLY w/ FUEL ISLAND MFR.
- 3 ALL CONNECTIONS INSIDE OF GROUND FORCE BUILDING ARE PRE-WIRED BY MFR.
- 4 ANY TANK POWER OR CONTROLS CONNECTIONS/ WIRING COORDINATED WITH OWNER.
- 5 TOOL CONNEX FEEDER.



EXISTING GROUND FORCE FUEL ISLAND BUILDING ELECTRICAL PLAN
SCALE: 1/2" = 1'-0"

ISSUE FOR CONSTRUCTION

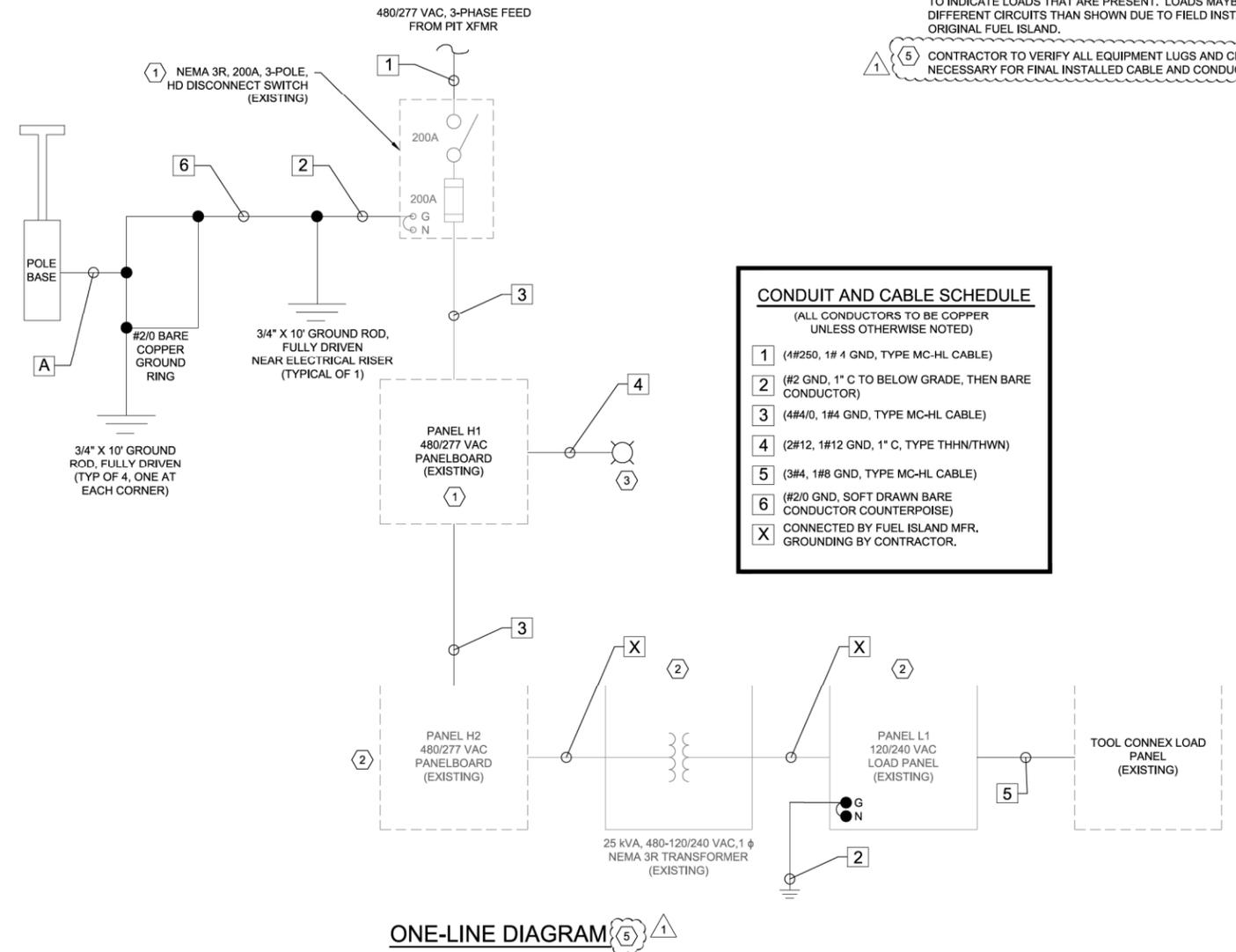
VERIFY SCALE! THESE PRINTS MAY BE REDUCED. LINE BELOW MEASURES ONE INCH ON ORIGINAL DRAWING. MODIFY SCALE ACCORDINGLY!	REVISIONS				Morrison Maierle engineers • surveyors • planners • scientists	1055 Mount Avenue, Missoula, MT 59801 406.542.8880 www.m-m.net		DESIGN BY: MDH CHECKED BY: BCL APPR. BY: DAJ DATE: 01/2019	FAIRBANKS	FUEL ISLAND KINROSS GOLD CORPORATION	PROJECT NUMBER 3924.103		
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>NO.</th> <th>DESCRIPTION</th> <th>DATE</th> <th>BY</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>ISSUE FOR CONSTRUCTION</td> <td>3/8/2019</td> <td>BCL</td> </tr> </tbody> </table>	NO.	DESCRIPTION					DATE	BY	0	ISSUE FOR CONSTRUCTION	3/8/2019	BCL
NO.	DESCRIPTION	DATE	BY										
0	ISSUE FOR CONSTRUCTION	3/8/2019	BCL										
FUEL ISLAND BUILDING ELECTRICAL PLAN								DRAWING NUMBER 103-E-3	REVISION 0				

KEY NOTES:

- ① EXISTING ELECTRICAL EQUIPMENT. RE-LOCATED FROM OLD FUEL ISLAND LOCATION TO NEW FUEL ISLAND LOCATION. COORDINATE WITH OWNER.
- ② EQUIPMENT BY PACKAGED FUEL ISLAND MFR. ELECTRICAL CONNECTIONS BY CONTRACTOR OR MFR AS INDICATED.
- ③ POWER EXTERIOR LIGHTING THROUGH EXISTING 277V LIGHTING CONTACTOR.
- ④ VERIFY PANELS H1 AND H2 CIRCUITING ON-SITE. PANEL SCHEDULE SHOWN TO INDICATE LOADS THAT ARE PRESENT. LOADS MAYBE LOCATED ON DIFFERENT CIRCUITS THAN SHOWN DUE TO FIELD INSTALLATION OF ORIGINAL FUEL ISLAND.
- ⑤ CONTRACTOR TO VERIFY ALL EQUIPMENT LUGS AND CHANGE LUG SIZE AS NECESSARY FOR FINAL INSTALLED CABLE AND CONDUCTORS.

Panel H1		PANEL SCHEDULE										PROJECT: 3924.103 Fuel Island Relocation Project	
277/480V, 3Ph, 4W.		225A Bus		M.L.O.				SURFACE WALL MOUNTED				11-Feb-19	
Ckt. No.	Description / Location	Load (VA)	Load Type	C.B./Frame Amp	C.B. Pole	Phase	C.B./Frame Amp	C.B. Pole	Load (VA)	Load Type	Description / Location	Ckt. No.	
1	Panel H2	46,257	S	200/200	3	A	50	3			Spare	2	
3		35,257	S	-	-	B	-	-				4	
5		46,257	S	-	-	C	-	-				6	
7	LED Area Lights	350	L	15	1	A	20	1			Spare	8	
9	Spare			20	1	B	20	1			Spare	10	
11	Spare			20	1	C	20	1			Spare	12	
13	Spare			20	1	A	20	1			Spare	14	
15	Spare			20	1	B	20	1			Spare	16	
17	Spare			20	1	C	20	1			Spare	18	
Total Connected Load: Ph A		46,607 VA		168 A							EXISTING PANEL		
Total Connected Load: Ph B		35,257 VA		127 A							NEMA 3R		
Total Connected Load: Ph C		46,257 VA		167 A							42 kAIC Rated		
Maximum Phase Connected Load: Ph A		46,607 VA											
Total Connected Load (3 X Maximum):		139.8 KVA		168.2 AMPS			Total Demand Load:		171.1 KVA	205.8 AMPS			

Panel H2		PANEL SCHEDULE										PROJECT: 3924.103 Fuel Island Relocation Project	
277/480V, 3Ph, 4W.		400A Bus		400A M.C.B.				SURFACE MOUNTED				11-Feb-19	
Ckt. No.	Description / Location	Load (VA)	Load Type	C.B. Amp	C.B. Pole	Phase	C.B. Amp	C.B. Pole	Load (VA)	Load Type	Description / Location	Ckt. No.	
1	Hydraulics Main Electric Motor (75HP)	23,900	LM	125	3	A	20	3	831	G	Sola Power Supply	2	
3		23,900	LM	-	-	B	-	-	831	G		4	
5		23,900	LM	-	-	C	-	-	831	G		6	
7	Air Compressor (10HP)	3,324	M	20	3	A	20	3	3,878	M	Misc Customer Pump	8	
9		3,324	M	-	-	B	-	-	3,878	M		10	
11		3,324	M	-	-	C	-	-	3,878	M		12	
13	5kW Unit Heater	1,662	H	20	3	A					Space	14	
15		1,662	H	-	-	B					Space	16	
17		1,662	H	-	-	C			11,000	G	Panel L1	18	
19	5kW Unit Heater	1,662	H	20	3	A			11,000	G		20	
21		1,662	H	-	-	B						22	
23		1,662	H	-	-	C						24	
25						A						26	
27						B						28	
29						C						30	
31						A						32	
33						B						34	
35						C						36	
37						A						38	
39						B						40	
41						C						42	
Total Connected Load: Ph A		46,257 VA		167 A									
Total Connected Load: Ph B		35,257 VA		127 A									
Total Connected Load: Ph C		46,257 VA		167 A									
Maximum Phase Connected Load: Ph A		46,257 VA											
Total Connected Load (3 X Maximum):		138.8 KVA		166.9 AMPS			Total Demand Load:		145.7 KVA	175.2 AMPS			



CONDUIT AND CABLE SCHEDULE	
(ALL CONDUCTORS TO BE COPPER UNLESS OTHERWISE NOTED)	
①	(1#250, 1# 4 GND, TYPE MC-HL CABLE)
②	(#2 GND, 1" C TO BELOW GRADE, THEN BARE CONDUCTOR)
③	(4#4/0, 1#4 GND, TYPE MC-HL CABLE)
④	(2#12, 1#12 GND, 1" C, TYPE THHN/THWN)
⑤	(3#4, 1#8 GND, TYPE MC-HL CABLE)
⑥	(#2/0 GND, SOFT DRAWN BARE CONDUCTOR COUNTERPOISE)
X	CONNECTED BY FUEL ISLAND MFR. GROUNDING BY CONTRACTOR.

ONE-LINE DIAGRAM ⑤ ①

ISSUE FOR CONSTRUCTION

VERIFY SCALE!		REVISIONS			
NO.	DESCRIPTION	DATE	BY		
0	ISSUE FOR CONSTRUCTION	3/8/2019	BCL		
1	ADDED KEYNOTES	3/15/19	BCL		

engineers • surveyors • planners • scientists

1055 Mount Avenue,
Missoula, MT 59801

406.542.8880

www.m-m.net

DESIGN BY: MDH

REGN. BY: BCL

APPR. BY: DAJ

DATE: 01/2019

Q.C. REVIEW BY: ###

DATE: ###

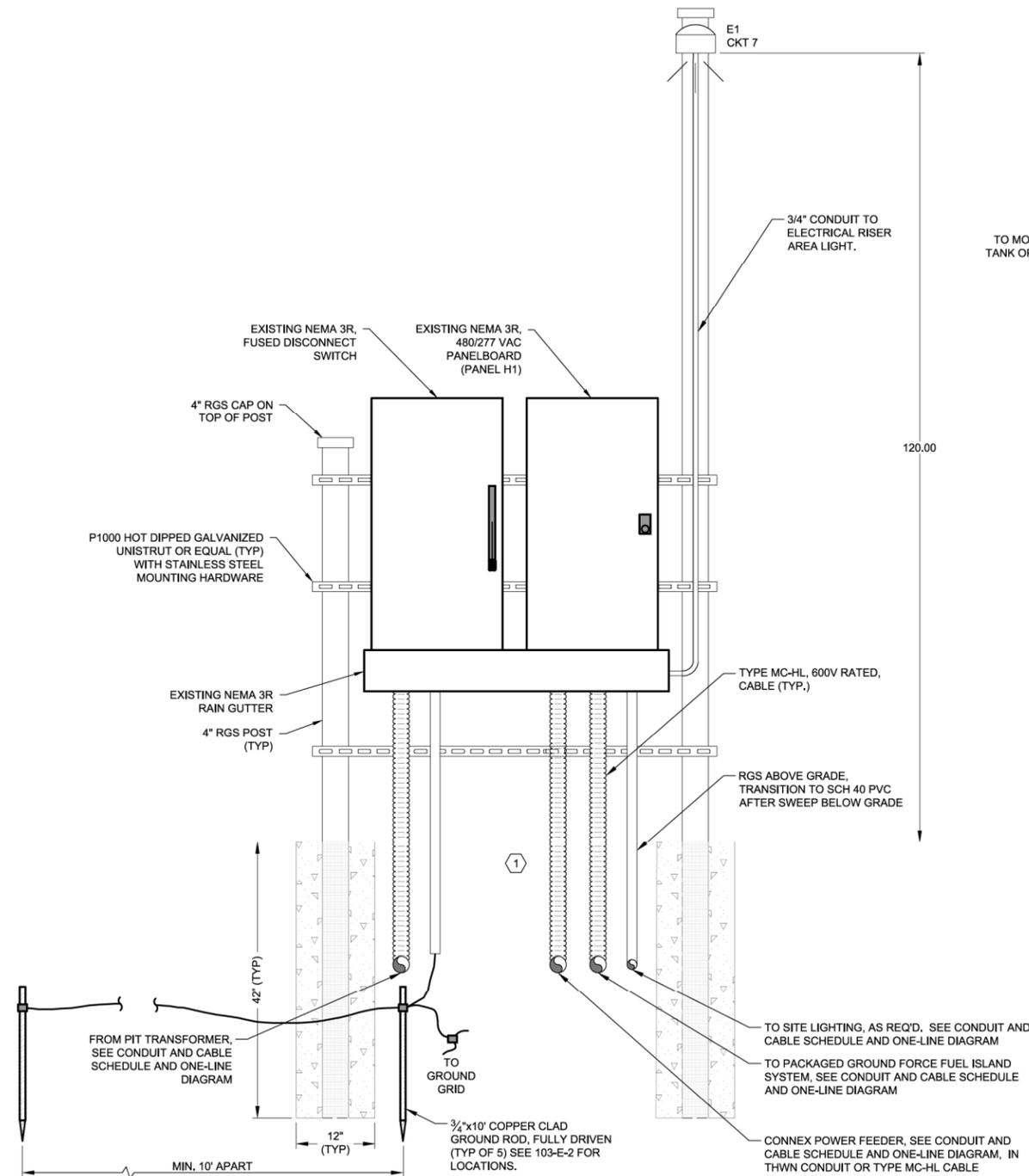
FAIRBANKS		ALASKA	
FUEL ISLAND		KINROSS GOLD CORPORATION	
PROJECT NUMBER		3924.103	
DRAWING NUMBER		103-E-4	
REVISION		①	

M:\3924\103 FK FUEL ISLAND\CADD\SHEETS\ELECTRICAL\103-E-4 FUEL ISLAND CONDUIT AND CABLE SCHEDULE AND ONE-LINE DIAGRAM.DWG PLOTTED BY: CREG DIEZIGER ON 3/15/2019 2:55 PM

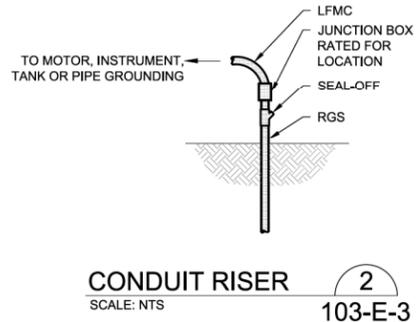
COPYRIGHT © MORRISON-MAIERLE, INC., 2019

KEY NOTES:

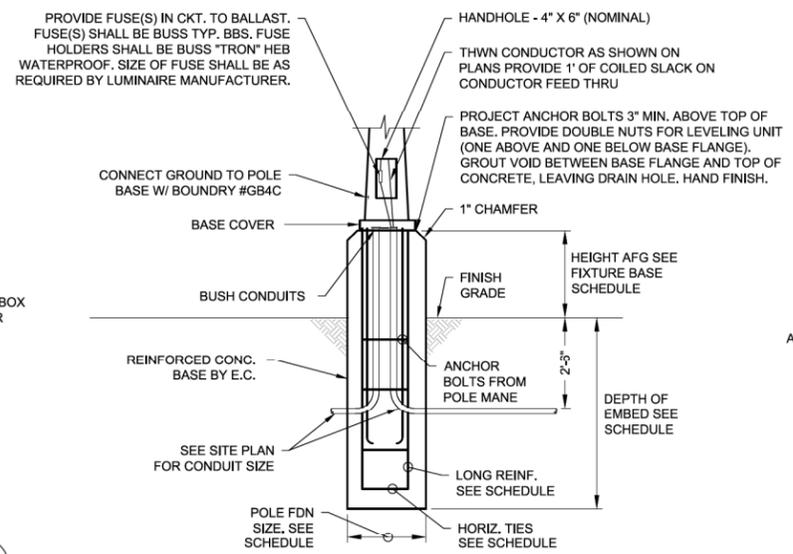
- ① SEAL-OFFS OR LISTED MC-HL CONNECTORS ARE REQUIRED FOR ALL CONDUITS ENTERING THE FUEL ISLAND NEMA 7 AREA AS INDICATED ON 103-E-2.
- ② DETAIL PROVIDED FOR CONTRACTOR TO RELOCATE POLE MOUNTED LED FIXTURES.
- ③ RELOCATED ELECTRICAL RISER. PROVIDE NEW 4" RGS POSTS AND CONCRETE FOUNDATIONS. RE-USE AS MUCH EQUIPMENT AND MATERIAL AS POSSIBLE FROM EXISTING RISER.



ELECTRICAL DISTRIBUTION RISER ① ③
 103-E-1
 103-E-2
 SCALE: NTS



CONDUIT RISER ②
 103-E-3
 SCALE: NTS

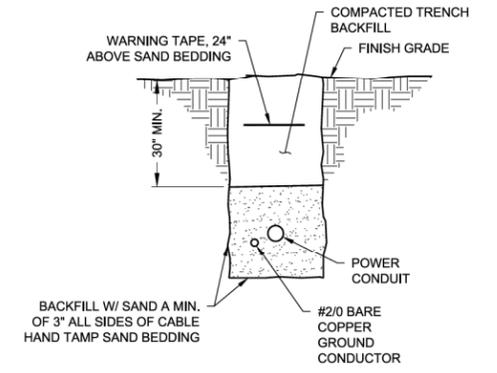


LIGHT FIXTURE BASE SCHEDULE *****

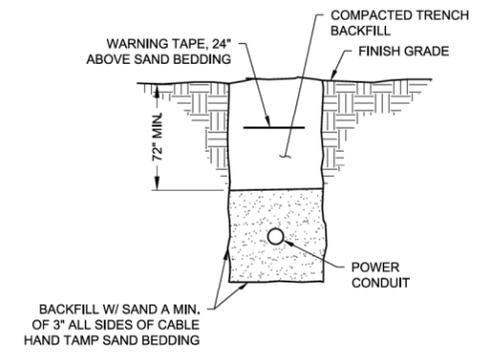
POLE HEIGHT	SIZE	LONG STL	HORIZONTAL STL **	DEPTH ***	HEIGHT AFG
0' - 14'	15\"/>				

- * PROVIDE LONG AT ALL FOUR CORNERS OF SQUARE PIER.
- ** PROVIDE SPACING OF S/2 AT TOP 1'-0\"/>

POLE BASE DETAIL ③ ②
 SCALE: NTS



TYPICAL UNDERGROUND CONDUIT ④
 103-E-2
 SCALE: NTS



NOTE:
 COORDINATE HAUL ROUTE WITH OWNER ON SITE.

TYPICAL UNDERGROUND CONDUIT UNDER HAUL ROUTE ⑤
 103-E-2

ISSUE FOR CONSTRUCTION

VERIFY SCALE!
 THESE PRINTS MAY BE REDUCED. LINE BELOW MEASURES ONE INCH ON ORIGINAL DRAWING.
 MODIFY SCALE ACCORDINGLY!

REVISIONS				
NO.	DESCRIPTION	DATE	BY	
0	ISSUE FOR CONSTRUCTION	3/8/2019	BCL	

engineers • surveyors • planners • scientists

1055 Mount Avenue,
 Missoula, MT 59801
 406.542.8880
 www.m-m.net

DESIGN BY: MDH
 REGN. BY: BCL
 APPR. BY: DAJ
 DATE: 01/2019
 Q.C. REVIEW BY: ###
 DATE: ##

FAIRBANKS	FUEL ISLAND	PROJECT NUMBER
	KINROSS GOLD CORPORATION	3924.103
ALASKA		SHEET NUMBER
FUEL ISLAND ELECTRICAL DETAILS	DRAWING NUMBER	REVISION
	103-E-5	①