



Sumitomo Metal Mining Pogo LLC

P.O. Box 145
Delta Junction
AK 99737 USA

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February 27, 2012

Ms. Sally S. McLeod, CEM, REM
Environmental Superintendent
Sumitomo Metal Mining Pogo LLC
P.O. Box 145
Delta Junction, AK 99737

RE: Courtesy As-Built Report for Installation of Secondary Containment for Cyanide Contacted Materials, Pogo Mine.

Dear Ms. McLeod,

This correspondence has been prepared to provide a record of construction for the Installation of Secondary Containment for Cyanide Contacted Materials at the Pogo Mine located approximately 40 miles northeast of Delta Junction, Alaska and operated by Sumitomo Metal Mining Pogo LLC.

This report summarizes the construction, quality assurance testing and inspection, and the completed configuration of three containments for tanks, pipes, and drainage area including:

1. As-built drawings of the completed containments (Attachment 1);
2. Photographs taken during construction (Attachment 2).

DESIGN - Tanks

As shown on Drawing Overall Tank Containment Plan, S2.0, the tanks requiring secondary containment are the CIP Tails Storage Tank and the Paste Dilution Water Tank. They are located on the north and west sides of the Filter/Backfill Plant Building. Process flow and operational procedures did not change as the piping to and from the tanks were already within containment.

After considering three types of containment options, Pogo selected a tank in tank concept. The secondary steel tanks were designed and fabricated per API-650 (11th Ed, Ad 2) as noted on Drawing 10123801 and 10123802. The secondary tanks provide a 2.5 foot increase to the base radius resulting in 55'd x 46'h CIP containment and 43'd x 36'h paste dilution containment. Volume of the secondary tank is sufficient to fully contain the primary tank plus ~15%. The containment area is roofed to prevent incidental intrusion by precipitation or other sources. Potential overflow was addressed by incorporating an overflow line on each tank directed to the sump within the filter building. The containment tanks tie into an annular ring on a 5.5-foot thick, steel rebar reinforced, concrete ringwall foundation and are secured with anchor chair mount bolts. Tank penetrations were accommodated by using a pass-through nozzle with an expansion bellow fitting. Both tanks have hatched access for inspection and maintenance as well as a floor level, valved drain to monitor for leakage. The floor drains, directed to existing containment, are the primary indicators of tank failure and are monitored by area operators.

CONSTRUCTION ACTIVITIES

- The area for the concrete foundation was excavated in sections to maintain stability around the existing tanks;
- Concrete was placed in two separate pours, 18 days apart to allow cure of first section;
- Fabrication of the containment tank was performed on-site by certified welders;
- Relocation of process equipment to facilitate construction;
- Final surface preparation and painting was conducted the following summer.

AS-BUILT DRAWINGS

The As-built drawings are represented on Rocky Mountain Fabrication Drawings:

- CIP Tailings Secondary Containment Tank, 10123801,
- Paste Dilution Containment Tank, 10123802.

The drawings are attached to this report in [Attachment 1](#).

The full 32-page set is available upon request

SUMMARY OF QUALITY CONTROL PROCEDURES CARRIED OUT DURING CONSTRUCTION

Quality Control and Quality Assurance activities during construction included:

- Observation of excavation and site preparation;
- Concrete batch testing by **Dowl HKM**;
- Engineer of Record Inspection on the following:
 - Reinforcing Steel
 - Tank Plate Installation
 - Tank Bottom Bolting
- Spot radiographic inspection by **Quality Inspection & Testing, Inc.**

OBSERVATIONS AND TEST RESULTS

The following was observed during construction:

- The foundation area was excavated to the specified standard;
- The soils for the area were typical to the mill bench and sieve tested to verify non-plasticity;
- The steel rebar was installed in accordance with the drawings;
- Water stop was installed as required;
- Failed welds, per radiograph, were ground out, rewelded, and reinspected as required;
- Weather conditions during construction were typical to interior Alaskan summers. Episodic rain mandated covering concrete during cure. Tank welding stopped during rain showers.

The tank in tank system as designed and built provides adequate containment to effectively react and shutdown the process in the event of incidental leakage or catastrophic tank failure.

DESIGN – Pipe in Pipe

As shown on Drawing Pipe and Cable Tray Bridge Elevation and Plan Views, S6.1, the piping between the mill and filter buildings did not have secondary containment for the cyanide contacted materials. Pre-manufactured pipe in pipe is not suitable to our process or maintenance requirements.

The system includes two HSS16x0.375 flanged, containment pipes with two 4-inch, welded HDPE carrier lines in each containment pipe. The steel pipes were modified on-site to include mounts and inspection ports per design. The pipe size and slope was calculated to contain, support, and divert the flow of 130gpm of process material back to the mill. Penetrations into both buildings were sufficient to prevent spillage. Leak detection is accomplished by observation of open end in mill containment and preventive inspections.

CONSTRUCTION ACTIVITIES

- Installation preparation of containment pipes – configure inspection ports, cut to length, weld on flange fittings, and paint;
- Install pipe sections per design and touch-up paint;
- Install carrier lines and tie-in to system;
- Demolish old, non-contained lines.

AS-BUILT DRAWINGS

The As-built drawings are represented on M2C1 Construction and Engineering Drawings:

- Pipe and Cable Tray Bridge Elevation and Plan Views, S6.1,
- General Structure Notes and Details, S6.0.

The drawings are attached to this report in [Attachment 1](#).

SUMMARY OF QUALITY CONTROL PROCEDURES CARRIED OUT DURING CONSTRUCTION

Quality Control and Quality Assurance activities during construction included:

- Observation material preparation;
- Observation of installation;
- Engineer of Record Inspections on the following:
 - Connections;
 - Piping Support
 - Touch-Up Painting

OBSERVATIONS AND TEST RESULTS

The following was observed during construction:

- Skilled workers performed best work practices on preparation and installation;
- Connections completed per design;
- Performed satisfactory leak test on carrier line prior to operation.

The pipe in pipe system as designed and built provides adequate containment to effectively capture and divert the process flow in the event of incidental leakage or catastrophic line failure with capacity that ensures time for discovery and response.

DESIGN – 1690 Splice House Containment

As shown on Drawing 1690 Splice House Containment Plan, the piping between the 1690 splice house and underground portal did not have secondary containment for the cyanide contacted materials. The piping from the conveyor tube, through the splice house, and into the portal is above ground, over the new containment area.

The new containment is a bermed and lined area encompassing the splice house and formed to run parallel the pipes to the hillside adjacent the 1690 portal entry. Approximately 6,000 square feet was bermed to an average depth of 1.5 feet. The total containment of 9,000 cubic feet is more than sufficient to fully contain the 6,800 cubic feet that would result from a 1.5 hour line rupturing event (including flush water).

CONSTRUCTION ACTIVITIES

- Clear and level containment area by cutting and filling as needed;
- Fill with 6-inch base layer of D-1 gravel and compact with walk-behind compactor;
- Berm perimeter to 1.5-foot minimum;
- Place liner system consisting of 8oz Geotex 801, 60 mil HDPE liner, and 8oz Geotex 801;
- Install back-splash wall between conveyor belt and paste pipe.

AS-BUILT DRAWINGS

The As-built drawings are represented on M2C1 Construction and Engineering Drawings:

- Splice House Containment Survey, C1.0.

The drawings are attached to this report in [Attachment 1](#).

SUMMARY OF QUALITY CONTROL PROCEDURES CARRIED OUT DURING CONSTRUCTION

Quality Control and Quality Assurance activities during construction included:

- Observation of clearing, leveling, and compaction;
- Inspection of berms and dividing wall;
- Observation of liner installation;
- Inspection of liner penetrations and building wrap.

OBSERVATIONS

The follow was observed during construction:

- The containment area was cleared of materials and leveled with a tracked skid-steer;
- The D-1 fill material was spread with skid-steer and compacted to a generally level surface;
- Liner system place over berms and covered to key into place;
- Drain installed in splice house to ensure flow into containment area;
- Non-penetrating access platform installed on road side entrance.

The containment area as designed and built provides adequate containment to effectively capture and divert the process flow in the event of incidental leakage or catastrophic line failure with capacity that ensures time for discovery and response.

Please call me at (907) 895-2801 if you have any questions or require further assistance.

Prepared by,



Leif E. Christensen

Sr. Project Coordinator

Sumitomo Metal Mining POGO LLC

PO Box 145 * Delta Junction * AK * 99737

Direct:907.895.2801 Fax:907.895.2789

Email: Leif.Christensen@smpogo.com

Reviewed by,



Stephen Hammond, P.E.

President

M2C1 Construction and Engineering

PO Box 1750 * Delta Junction * AK * 99737

Direct:907.895.5441 Fax:907.895.5443

Email: shammond@m2c1llc.com

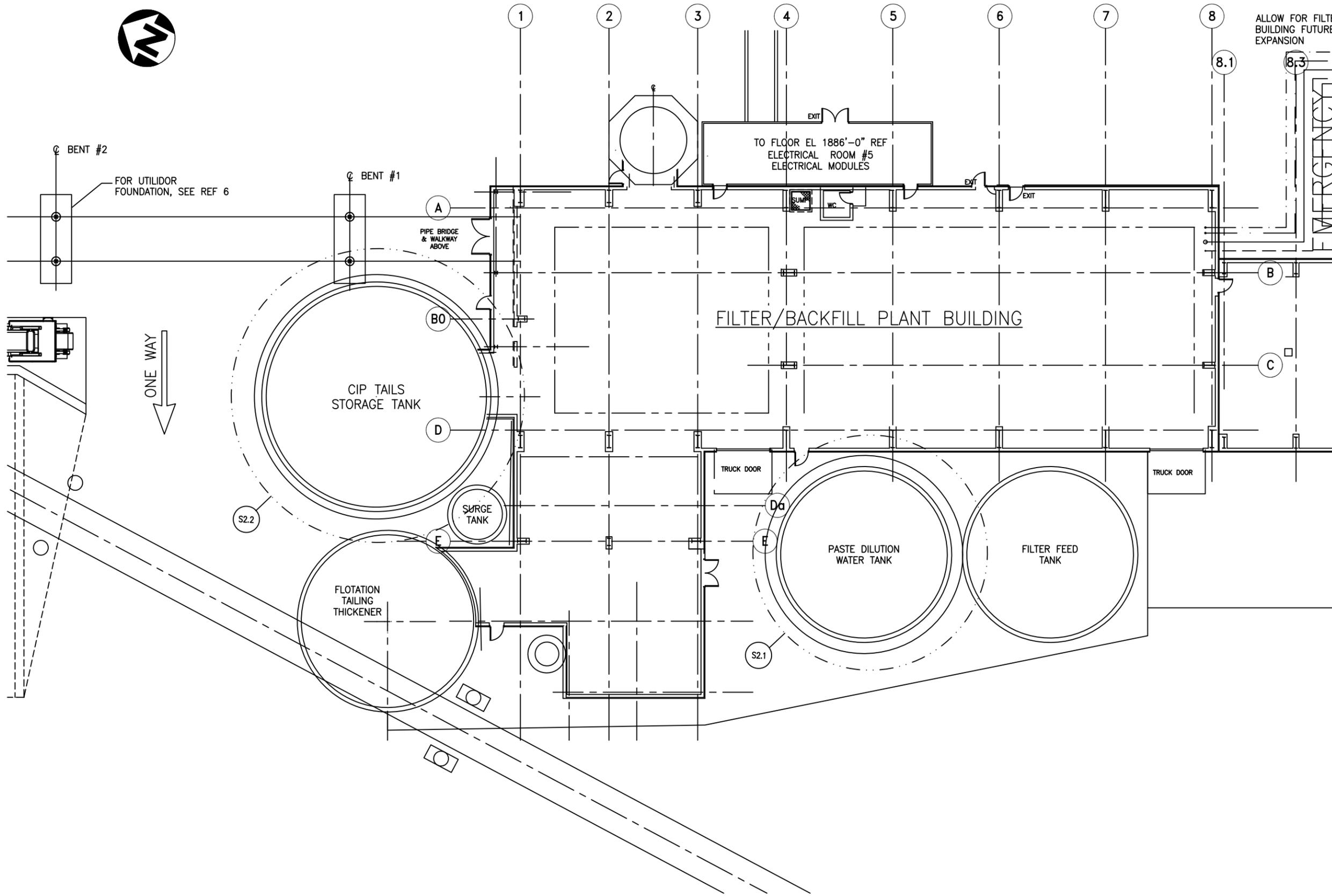
Attachments: Attachment 1: Drawings
Attachment 2: Photographs



ATTACHMENT 1

Drawings

- 1) Overall Tank Containment Plan, S2.0
- 2) CIP Tailings Secondary Containment Tank, 10123801
- 3) Paste Dilution Containment Tank, 10123802
- 4) Pipe and Cable Tray Bridge Elevation and Plan Views, S6.1
- 5) General Structure Notes and Details, S6.0
- 6) 1690 Splice House Containment Plan
- 7) Splice House Containment Survey, C1.0



ALLOW FOR FILTER BUILDING FUTURE EXPANSION

EMERGENCY

FILTER/BACKFILL PLANT BUILDING

CIP TAILS STORAGE TANK

PASTE DILUTION WATER TANK

FILTER FEED TANK

TO FLOOR EL 1886'-0" REF
ELECTRICAL ROOM #5
ELECTRICAL MODULES

FOR UTILIDOR FOUNDATION, SEE REF 6

ONE WAY

ISSUED FOR CONSTRUCTION

POGO MINE CYANIDE
SECONDARY CONTAINMENT
DELTA JUNCTION
ALASKA

DATE: 2/18/10
PROJECT NO.: 509128
DRAWN: DJV
CHECKED: CSZ

TYPE:
OVERALL TANK CONTAINMENT PLAN

SHEET:
S2.0

REVISIONS

CIP TAILINGS AND DILUTION WATER TANK CONTAINMENT BASE PLAN
SCALE: 1" = 10'-0"



M2C1
Construction and Engineering
P.O. Box 1750
Delta Junction, Alaska 99737
Tel: 907-895-5441
Fax: 907-895-5443



Cris Zwickel P.E.
1086 N. 900E
944th St. #274
Delta Junction, AK 99737
Tel: (907) 897-9571
Fax: (907) 897-9542

ACCESSORY LIST								
NO. REQ'D	REF.	DWG NO.	PC. MK.	DESCRIPTION	NOZZLE SCH/THK	FLANGE RATING	ELEVATION	PROJECTION
1	N1	6A	6A-A	8" PUMP SUCTION	-	150# RFSO	1'-7"	SEE DWG
1	N2	6B	6B-A	8" DRAIN	-	150# RFSO	SEE DWG	SEE DWG
1	M4	5A	5A-A	48" MANWAY	-	PLATE	3'-7"	SEE DWG
1	N6	6C	6C-A	6" RECIRCULATION	-	150# RFSO	7'-0"	SEE DWG
1	N7	6D	6D-A	4" INLET	-	150# RFSO	5'-6"	SEE DWG
1	M8	5C	5C-A	24" MANWAY	-	-	3'-0"	SEE DWG
1	N9	6E	6E-A	8" OVERFLOW	-	-	52'-0"	SEE DWG
1	N10	6F	6F-A	6" DRAIN	-	-	8 1/4"	SEE DWG
4	GL	3A	3A-A	GROUNDING LUG	-	-	SEE DWG	SEE DWG
1	NP	15A	15A-0A	NAMEPLATE	-	-	5'-0"	-
79	AC	8A	8A-A/B	ANCHOR CHAIRS	-	-	-	-

GENERAL DESCRIPTION

OWNER: POGO
 LOCATION: DELTA JUNCTION, ALASKA
 TANK QUANTITY: 1 TANK SIZE: 55'-0" X 46'-0"
 TANK TYPE: - TANK NAME: CIP TAILINGS CONTAINMENT
 TANK NUMBER(S): -
 NOMINAL CAPACITY: 817,530 GALS
 PRODUCT STORED: -
 FOUNDATION TYPE: RINGWALL
 OTHER TANK NOTES: -

MATERIALS

BOTTOM: - JOINT TYPE: -
 ANNULAR PLATE: A-516 70 JOINT TYPE: BUTT WELD
 SHELL: A-516 70 JOINT TYPE: BUTT WELD
 ROOF: A36M JOINT TYPE: BUTT WELD
 NOZZLE NECKS: A333 GR8 SMLS/A538 GASKETS: KLINGERSIL 4300 OR EQUAL
 FLANGES: A350 LF2 BOLTS/NUTS: A193-B7/A194-2H
 STRUCTURAL: A36 ANCHOR BOLTS: A36
 CORROSION ALLOWANCE
 ANNULAR: 0" SHELL: 0" ROOF: 0"
 NOZZLE NECKS: 0" STRUCTURAL: 0"

DESIGN CRITERIA

DESIGNED AND FABRICATED PER: API-650, 11TH EDITION, ADDENDUM 2 APPENDIX: E
 SEISMIC DESIGN PER: API-650, 11TH EDITION, ADDENDUM 2 SITE CLASS: D USE GROUP: I S₁: .137 S_s: .415
 SEISMIC OVERTURNING MOMENT: 17,307,397 FT-LBS SEISMIC SHEAR: 959,989 LBS
 WIND DESIGN PER: API-650, 11TH EDITION, ADDENDUM 2 EXPOSURE: C VELOCITY: 100 MPH
 WIND OVERTURNING MOMENT: 635,458 FT-LBS WIND SHEAR: 25,300 LBS
 SPECIFIC GRAVITY: 1.6 FREEBOARD: 0 UNIFORM LIVE LOAD: 25 PSF ROOF SNOW LOAD: 50.4 PSF
 DESIGN PRESSURE (INT.): ATM OPERATING PRESSURE (INT.): ATM DESIGN TEMPERATURE (MAX.): 120°F (MIN.): -45°F
 DESIGN PRESSURE (EXT.): ATM OPERATING PRESSURE (EXT.): ATM
 ANCHOR BOLT DESC. (BY CUSTOMER): (77) 1-1/4" BOLTS ON 55'-7 3/8" B.C. ANCHOR BOLT DESIGN LOAD: 33820 LBS TENSION

TESTING INFORMATION

HYDRO TEST: NO TEST PRESSURE: ATM PWHT: N/A
 RADIOGRAPHY: YES SPOT PER API-650 VACUUM TEST ALL BOTTOM WELDS: YES PER CODE
 PRESSURE TEST RE-PADS: YES @ 2PSIG OTHER TESTING NOTES: TEST SHELL TO BOTTOM JOINT PER API-650, SEC. 7.2.4.1

PAINTING INFORMATION

SHOP: YES
 FIELD: FINISH COAT
 INTERIOR: NONE
 EXTERIOR:
 SURFACE PREP.: SSPC-SP6
 PRIME COAT: CARBOLINE CARBOZINC 11 COLOR: - DFT: 2-4 MILS
 FINISH COAT: CARBOLINE CARBOGUARD 60 COLOR: TAN OR LIGHT GRAY TONE DFT: 4-6 MILS

ARC ON SHELL OUTS
 RAD = 27'-6 7/16"
 FROM 0° - 180°

DEG	ARC
4.42°	2'-1 1/2"
4.52°	2'-2 1/16"
4.56°	2'-2 5/16"
43.15°	20'-8 7/8"
90°	43'-3 1/16"
134.29°	64'-6 1/2"
170.75°	82'-0 3/4"
174.8°	84'-0 1/8"
180°	86'-6 1/8"

ARC ON SHELL OUTS
 RAD = 27'-6 7/16"
 FROM 180° - 360°

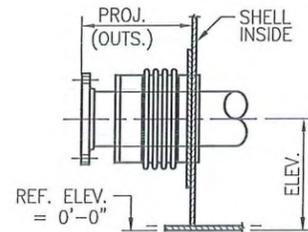
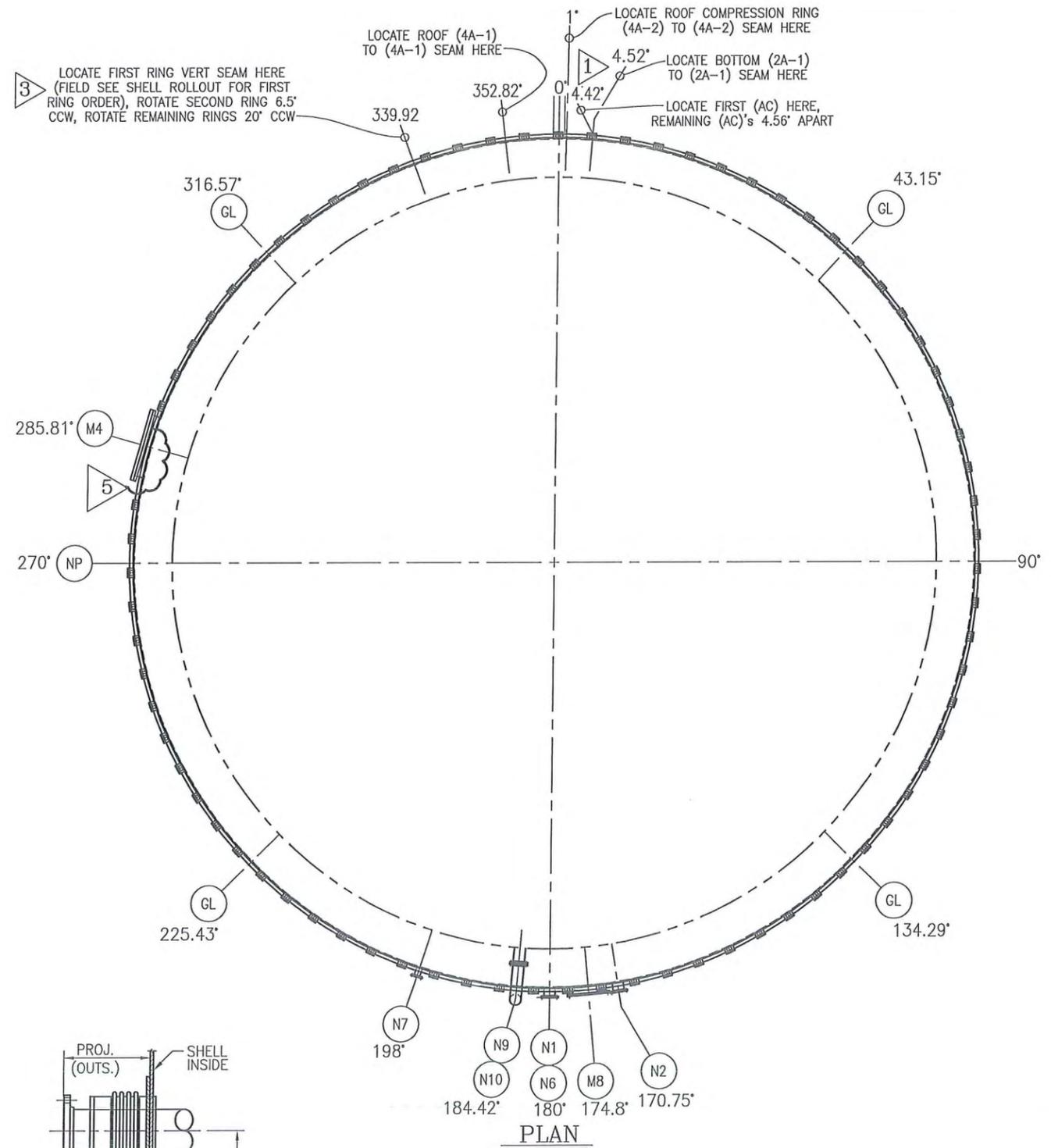
DEG	ARC
184.42°	88'-7 9/16"
198°	8'-7 13/16"
225.43°	21'-10"
270°	43'-3 1/16"
285.81°	50'-10 1/4"
316.57°	65'-7 5/8"
339.92°	76'-10 5/16"
352.82°	83'-0 11/16"
357.58°	85'-4 1/8"
360°	86'-6 1/8"

CHD ON SHELL INS
 RAD = 27'-6"

DEG	ARC
6.5°	3'-1 7/16"
20°	9'-6 5/8"
20.08°	9'-7 1/16"
3A-8	14'-4 15/16"
3A-9	14'-0 3/4"
3A-10	14'-0 3/4"
3A-11	14'-4 15/16"

SHELL STRAPS

RING	LENGTH
1	173'-0 3/16"
2	172'-11 13/16"
3	172'-11 7/16"
4	172'-11"
5	172'-11"
6	172'-11"



TYP. SHELL NOZZLE

Rev	By	Apv'd	Date	Description
5	ITH	gzk	8/15/11	REMOVED (2) ANCHOR CHAIRS TO REFLECT AS BUILT
4	TDG	MWG	8/20/10	REVISED "N10" ELEVATION TO API MINIMUM
3	WEM	MWG	7/22/10	CHANGED SHELL START POINT
2	WEM	MWG	7/21/10	CORRECTED SIZE OF N10 & PIPE MATERIAL
1	WEM	SDK	7/9/10	CORRECTED ANCHOR CHAIR ORIENTATION
0	WEM	SDK	7/8/10	RELEASED FOR FABRICATION

RMF
 ROCKY MOUNTAIN FABRICATION
 1125 WEST 2300 NORTH
 P.O. BOX 16409
 SALT LAKE CITY, UT 84116
 PHONE: 801-596-2400
 FAX: 801-322-2702

PROPRIETARY
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TANK DATA SHEET			
ALASKA INTERSTATE CONSTRUCTION 55'-0" X 46'-0" CIP TAILINGS SECONDARY CONTAINMENT TANK DELTA JUNCTION, AK			
By: WEM	Chk'd: SDK	Eng:	Weight:
Date: 6/14/10	Date: 7/8/10	Date:	-
Contract 10123801		Contract 10123801	
Dwg 1A		Rev 5	

Contract 10123801
 Dwg 1A
AS-BUILT



ACCESSORY LIST								
NO. REQ'D	REF.	DWG NO.	PC. MK.	DESCRIPTION	NOZZLE SCH/THK	FLANGE RATING	ELEVATION	PROJECTION
1	N1	6A	6A-A	4" PUMP SUCTION #1	STD	150# RFSO	4'-0"	SEE DWG
1	N16	6B	6B-A	6" DRAIN (NEW)	XS	150# RFSO	8 1/4"	SEE DWG
1	N4	5A	5A-A	48" SHELL MANWAY	1/2"	PLATE	3'-3"	SEE DWG
1	N10	6C	6C-A	3" PUMP SUCTION #2	STD	150# RFSO	4'-0"	SEE DWG
4	GL	3A	3A-B	GROUNDING LUGS	-	-	-	-
1	NP	15A	15A-A	NAMEPLATE	-	-	-	-
38	AC	8A	8A-A/B	ANCHOR CHAIRS	-	-	-	-

GENERAL DESCRIPTION

MATERIALS

OWNER: POGO
 LOCATION: DELTA JUNCTION, ALASKA
 TANK QUANTITY: 1 TANK SIZE: 43'-0"Ø X 36'-0"
 TANK TYPE: - TANK NAME: PASTE DILUTION CONTAINMENT
 TANK NUMBER(S): -
 NOMINAL CAPACITY: 391,104 GALS
 PRODUCT STORED: -
 FOUNDATION TYPE: RINGWALL
 OTHER TANK NOTES: -

ANNULAR PLATE: A-516 70 JOINT TYPE: BUTT WELD
 SHELL: A-516 70 JOINT TYPE: BUTT WELD
 ROOF: A36M JOINT TYPE: BUTT WELD
 NOZZLE NECKS: A333 GR6 SMLS GASKETS: KLINGERSIL 4300 OR EQUAL
 FLANGES: A350 LF2 BOLTS/NUTS: A193-B7/A194-2H
 STRUCTURAL: A36 ANCHOR BOLTS: A36
 CORROSION ALLOWANCE
 ANNULAR: 0" SHELL: 0" ROOF: 0"
 NOZZLE NECKS: 0" STRUCTURAL: 0"

DESIGN CRITERIA

DESIGNED AND FABRICATED PER: API-650, 11TH EDITION, ADDENDUM 2 APPENDIX: E
 SEISMIC DESIGN PER: API-650, 11TH EDITION, ADDENDUM 2 SITE CLASS: D USE GROUP: I S_r: .137 S_s: .415
 SEISMIC OVERTURNING MOMENT: 4,095,949 FT-LBS SEISMIC SHEAR: 290,817 LBS
 WIND DESIGN PER: API-650, 11TH EDITION, ADDENDUM 2 EXPOSURE: C VELOCITY: 100 MPH
 WIND OVERTURNING MOMENT: 297,839 FT-LBS WIND SHEAR: 15,480 LBS
 SPECIFIC GRAVITY: 1 FREEBOARD: 0 UNIFORM LIVE LOAD: 25 PSF ROOF SNOW LOAD: 50.4 PSF
 DESIGN PRESSURE (INT.): ATM OPERATING PRESSURE (INT.): ATM DESIGN TEMPERATURE (MAX): 120°F (MIN.): -45°F
 DESIGN PRESSURE (EXT.): ATM OPERATING PRESSURE (EXT.): ATM
 ANCHOR BOLT DESC. (BY CUSTOMER): (38) 1-1/4"Ø BOLTS ON 43'-7" B.C. ANCHOR BOLT DESIGN LOAD: 33,820 LBS TENSION

TESTING INFORMATION

HYDRO TEST: NO TEST PRESSURE: ATM PWHT: N/A
 RADIOGRAPHY: YES SPOT PER API-650 VACUUM TEST ALL BOTTOM WELDS: YES PER CODE
 PRESSURE TEST RE-PADS: YES @ 2PSIG OTHER TESTING NOTES: TEST SHELL TO BOTTOM JOINT PER API-650, SEC. 7.2.4.1

PAINTING INFORMATION

SHOP: YES
 FIELD: FINISH COAT
 INTERIOR: NONE
 EXTERIOR:
 SURFACE PREP.: SSPC-SP6
 PRIME COAT: CARBOLINE CARBOZINC 11 COLOR: - DFT: 2 - 4 MILS
 FINISH COAT: CARBOLINE CARBOGUARD 60 COLOR: TAN OR LIGHT GRAY TONE DFT: 4 - 6 MILS

ARC ON SHELL OUTS
 RAD = 21'-6 1/4"
 FROM 0° - 180°

DEG	ARC
9.47'	3'-6 11/16"
24'	9'-0 3/16"
28'	10'-6 3/16"
38'	14'-3 1/4"
45'	16'-10 13/16"
57.7'	21'-8 1/16"
90'	33'-9 11/16"
137.37'	51'-7 3/16"
180'	67'-7 5/16"

ARC ON SHELL OUTS
 RAD = 21'-6 1/4"
 FROM 180° - 360°

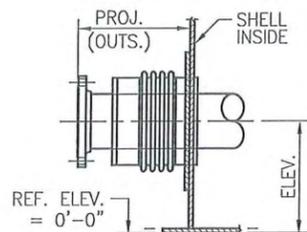
DEG	ARC
224'	16'-6 5/16"
270'	33'-9 11/16"
280'	37'-6 3/4"
317.37'	51'-7 3/16"
350'	63'-10 1/4"
360'	67'-7 5/16"

CHD ON SHELL INS
 RAD = 21'-6"

DEG	ARC
24'	8'-11 5/16"
3A-7	12'-11 5/16"
3A-8	13'-7 5/8"
3A-9	14'-3 1/2"
3A-10	12'-3 3/8"

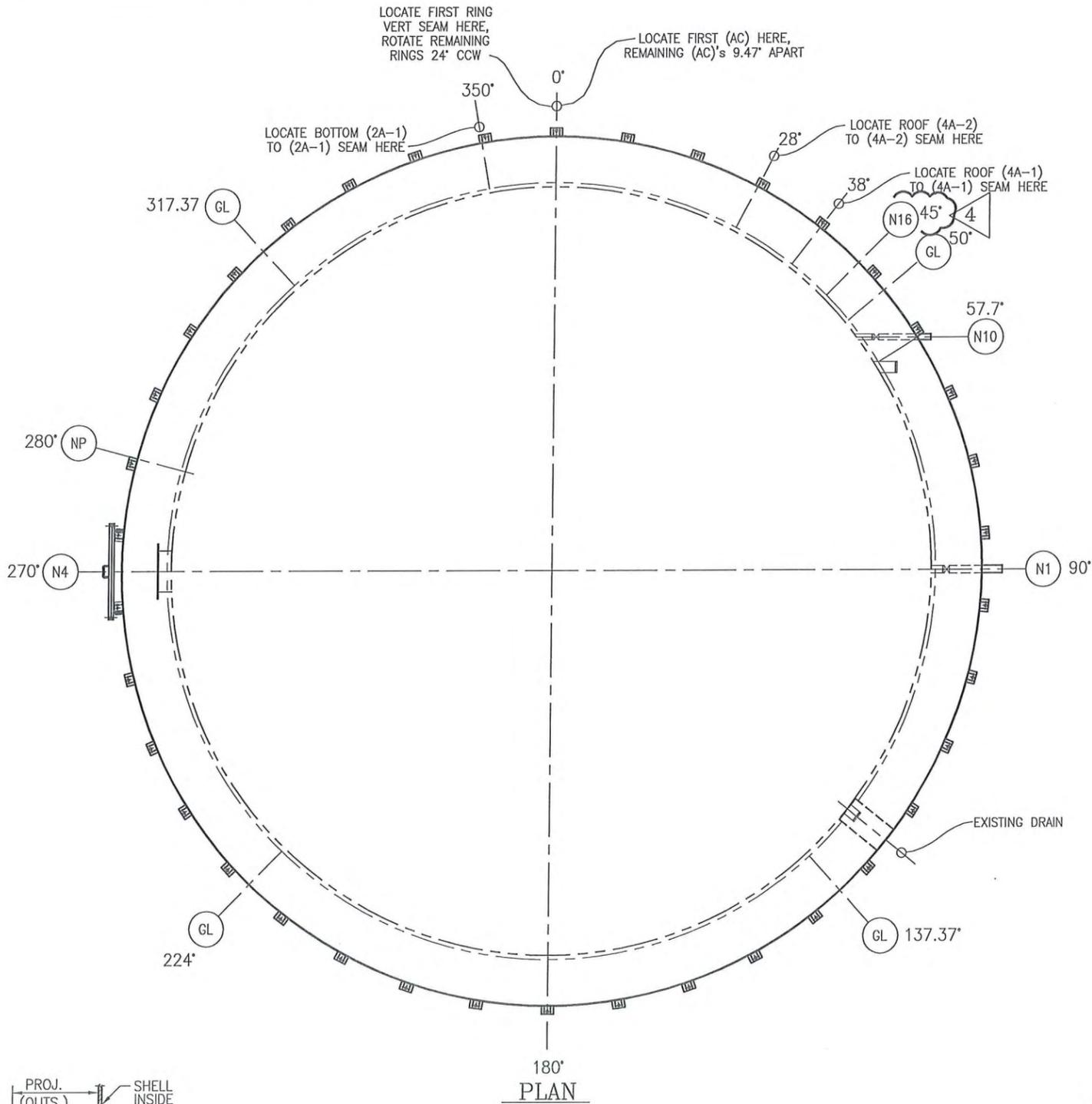
SHELL STRAPS

RING	LENGTH
1	135'-2 5/8"
2	135'-2 1/4"
3	135'-2 1/4"
4	135'-2 1/4"
5	135'-2 1/4"



TYP. SHELL NOZZLE

Rev	By	Apv'd	Date	Description
4	ITH	SDK	4/14/11	MOVED "N16" TO 45" TO REFLECT ASBUILT
3	TDG	MWG	8/20/10	REVISED "N16" ELEVATION TO API MINIMUM
2	WEM	MWG	7/21/10	CORRECTED NOZZLE SCH
1	WEM	SDK	7/9/10	CORRECTED ARC CHARTS TO SHOW ALL ORIENTATIONS
0	WEM	SDK	7/8/10	RELEASED FOR FABRICATION



<p>ROCKY MOUNTAIN FABRICATION</p>	<p>1125 WEST 2300 NORTH P.O. BOX 16409 SALT LAKE CITY, UT 84116 PHONE: 801-596-2400 FAX: 801-322-2702</p>	<p>PROPRIETARY This page not to be used or duplicated without prior written consent of RMF</p>	
		<p>TANK DATA SHEET ALASKA INTERSTATE CONSTRUCTION 43'-0"Ø X 36'-0" PASTE DILUTION CONTAINMENT TANK DELTA JUNCTION, AK</p>	
By: WEM	Chk'd: SDK	Eng:	Weight:
Date: 6/16/10	Date: 7/8/10	Date:	-
Contract 10123802		Contract 10123802	
Dwg 1A		Rev 4	

Contract

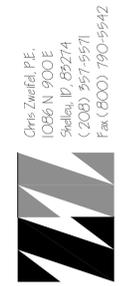
Dwg

10123802

AS-BUILT



1A



Chris Zweifel, P.E.
1086 N. 900 E
Skelton, ID 89274
(208) 597-5971
Fax (800) 790-5542

M2C1
Construction and Engineering
P.O. Box 1750
Delta Junction, Alaska 99737
Tel: 907-895-5441
Fax: 907-895-5443

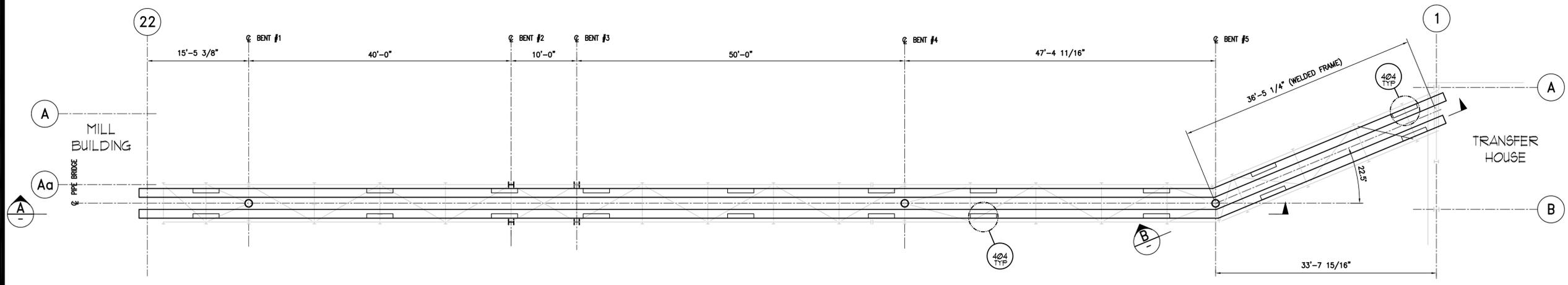


AS-BUILT
 POGO MINE CYANIDE
 SECONDARY CONTAINMENT
 DELTA JUNCTION
 ALASKA

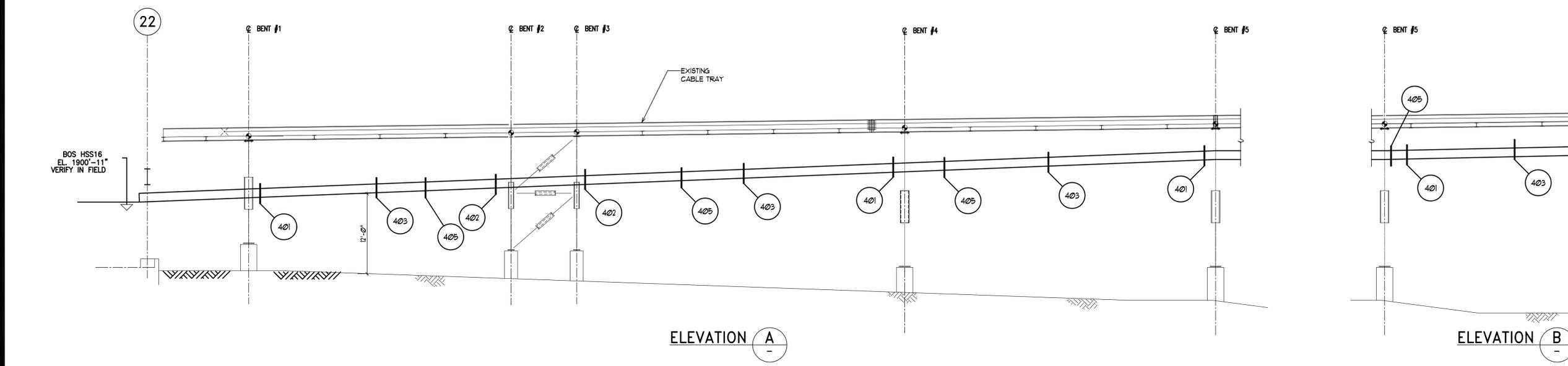
DATE: 2/18/10
PROJECT NO.: 509128
DRAWN: KTH
CHECKED: CSZ

TITLE:
PIPE AND CABLE TRAY BRIDGE
ELEVATION AND
PLAN VIEWS

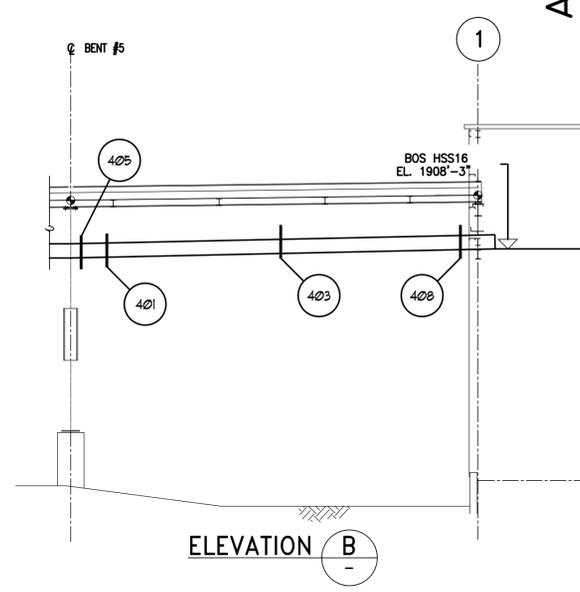
SHEET:
S6.1
REVISIONS
27 JUNE 2011



PLAN - PIPE & CABLE TRAY BRIDGE
1/8"=1'-0"



ELEVATION A



ELEVATION B

EXISTING INFORMATION SHOWN
TAKEN FROM DRAWING
D-141198-29-S-0560

GENERAL

- THE PRIMARY PURPOSE OF THESE STRUCTURAL DRAWINGS IS TO PROVIDE SAFETY THROUGH STRENGTH AND NOT NECESSARILY TO PREVENT ALL DAMAGE OR MAINTAIN NON-ESSENTIAL SERVICE FUNCTIONS.
- THESE DRAWINGS DO NOT NECESSARILY SHOW PRECISE CONDITIONS. IT IS ASSUMED THAT CONSTRUCTION WILL BE PERFORMED BY CONTRACTORS EXPERIENCED IN THE TYPES OF WORK INVOLVED IN THIS PROJECT AND THAT HAVE A WORKING KNOWLEDGE OF THE APPLICABLE CODES, STANDARDS, AND CORRECT INDUSTRY ACCEPTED PRACTICES. WHERE EXACT CONDITIONS ARE NOT SHOWN, CONSTRUCTION SHALL BE OF THE SAME TYPE AND CHARACTER AS SHOWN FOR SIMILAR CONDITIONS, SUBJECT TO REVIEW OF THE STRUCTURAL ENGINEER. WHERE CONFLICTS BETWEEN GENERAL REQUIREMENTS AND SPECIFIC REQUIREMENTS OCCUR ON THESE DRAWINGS, THE SPECIFIC REQUIREMENTS SHALL APPLY.
- THESE DRAWINGS REPRESENT THE FINISHED STRUCTURE AND, UNLESS NOTED OTHERWISE, ARE NOT INTENDED TO SPECIFY CONSTRUCTION OR FABRICATION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, COORDINATION OF WORK, SHORING, TEMPORARY BRACING, FORM-WORK, ETC. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ADEQUATELY BRACE THE STRUCTURE AGAINST WIND, SEISMIC, AND SOIL PRESSURE FORCES UNTIL THE STRUCTURE IS COMPLETE. WEIGHTS OF CONSTRUCTION MATERIALS ON FINISHED FLOORS AND ROOFS SHALL NOT EXCEED LIVE LOADS INDICATED ON THESE DRAWINGS.
- DESIGN OF MISCELLANEOUS OR PREFABRICATED ITEMS SUCH AS STAIRS, LADDERS, RAILINGS, PARTITION WALLS, AND TRUSSES ARE NOT INCLUDED AND SHALL BE PROVIDED BY OTHERS.
- THE STRUCTURAL ENGINEER SHALL REVIEW AND APPROVE CONTRACTOR SUBMITTALS SUCH AS SHOP DRAWINGS AND PRODUCT DATA FOR ITEMS SUCH AS PREFABRICATED COMPONENTS AND SPECIALTY ITEMS, BUT ONLY FOR GENERAL CONFORMANCE WITH STRUCTURAL INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. SUBMITTALS SHALL INCLUDE ITEMS REQUIRED IN THE GENERAL STRUCTURAL NOTES. ITEMS DESIGNED BY A SPECIALTY ENGINEER SHALL INCLUDE STAMPED DRAWINGS AND CALCULATIONS. REVIEW SHALL NOT NECESSARILY INCLUDE DIMENSIONS, QUANTITIES, WEIGHTS, CONSTRUCTION OR FABRICATION MEANS, METHODS, TECHNIQUES, SEQUENCES, OR PROCEDURES, OR COORDINATION OF WORK WITH OTHER TRADES. REVIEW SHALL BE LIMITED TO DETERMINING THAT ITEMS ARE COMPATIBLE WITH THE PRIMARY STRUCTURAL SYSTEM AND NOT FOR ADEQUACY OF THE ITEM. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR COMPLIANCE WITH CONTRACT DOCUMENTS.
- SITE VISITS BY THE STRUCTURAL ENGINEER SHALL IN NO WAY CONSTITUTE INSPECTION. ALL REQUIRED INSPECTIONS SHALL BE PROVIDED BY THE BUILDING DEPARTMENT OR A QUALIFIED INDEPENDENT INSPECTION AGENCY.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL DIMENSIONS AND ELEVATIONS WITH THE ARCHITECTURAL DRAWINGS, VERIFICATION OF ALL EXISTING CONDITIONS SHOWN, AND VERIFICATION OF INFORMATION TO BE COORDINATED WITH OTHERS. THE CONTRACTOR SHALL REPORT ANY UNCLEAR INFORMATION AND DISCREPANCIES WITH ARCHITECTURAL DRAWINGS OR OTHER REQUIREMENTS.
- PRODUCTS AND MATERIALS SHALL BE PLACED, ERECTED, AND INSTALLED IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS, MINIMUM CODE REQUIREMENTS, AND CORRECT INDUSTRY ACCEPTED PRACTICES, UNLESS NOTED OTHERWISE IN THESE DRAWINGS.

BASIS FOR DESIGN

- BUILDING CODE: 2006 EDITION OF THE INTERNATIONAL BUILDING CODE.

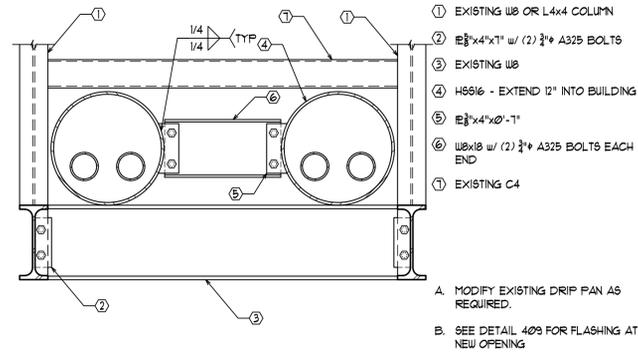
STEEL

- ALL DETAILING, FABRICATION, AND ERECTION SHALL CONFORM TO APPLICABLE AISC AND AWS SPECIFICATIONS AND CODES AND OSHA REQUIREMENTS.
- THE FOLLOWING SPECIFICATIONS SHALL APPLY TO STEEL, UNLESS NOTED OTHERWISE:

SHAPE	SPECIFICATION, GRADE
ROLLED WIDE FLANGE	A57M A992 (F _y +50 KSI, F _u +65 KSI)
BARNS AND PLATES	A57M A36 (F _y +36 KSI, F _u +58 KSI)
TUBES / PIPES	A57M A500 GRADE B (F _y +46 KSI, F _u +58 KSI)
BOLTS / PIPES	A57M A325
WELDS	E70 OR E71T-B SERIES ELECTRODES
- WELDS SHALL BE PER AWS SPECIFICATIONS. WELDS SHOWN AS SHOP WELDS MAY BE SHOP OR FIELD WELDS AT CONTRACTOR'S OPTION. ALL WELDS NOT NOTED, INCLUDING FOR STIFFENERS, MISC. PLATES, ETC., SHALL BE MINIMUM WELD SIZE PER AISC SPECIFICATION CHAPTER J.
- ALL BOLTS SHALL BE SNUG-TIGHTENED BEARING TYPE X (THREADS EXCLUDED FROM SHEAR PLANE) UNLESS NOTED OTHERWISE. ALL HIGH STRENGTH BOLTS SHALL BE INSTALLED WITH NUTS CONFORMING TO ASTM A563 AND WASHERS CONFORMING TO ASTM F436.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ERECTION PROCEDURES AND SEQUENCES TO ACCOUNT FOR TEMPERATURE DIFFERENTIAL.
- CONTRACTOR SHALL SUBMIT STEEL SHOP DRAWINGS FOR REVIEW PRIOR TO FABRICATION.

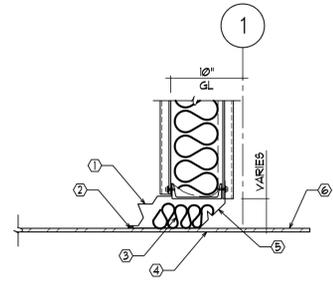
PAINT

- STEEL SHALL BE HAND OR POWER TOOL CLEANED TO SSPC SP 2 OR SSPC SP 3.
- ALKYD:
 - MPI EXT 510-G5 (OWNER TO SELECT COLOR)
 - PRIMER COAT: MPI 23
 - INTERMEDIATE COAT: MPI 94
 - TOP COAT: MPI 94
 - SYSTEM DFT: 5.25 MILS
- PREPARATION:
 - GALVANIZED SURFACES: REMOVE SURFACE CONTAMINATION AND OILS AND WASH WITH SOLVENT. APPLY COAT OF ETCHING PRIMER.
 - UNCOATED STEEL AND IRON SURFACES: REMOVE GREASE, MILL SCALE, WELD SPLATTER, DIRT AND RUST. WHERE HEAVY COATINGS OF SCALE ARE EVIDENT, REMOVE BY WIRE BRUSHING OR SANDBLASTING, CLEAN BY WASHING WITH SOLVENT. APPLY A TREATMENT OF PHOSPHORIC ACID SOLUTION, ENSURING WELD JOINTS, BOLTS, AND NUTS ARE SIMILARLY CLEANED. SPOT PRIME AFTER REPAIRS.
 - SHOP PRIMER STEEL SURFACES: SAND AND SCRAPE TO REMOVE LOOSE PRIMER AND RUST. FEATHER EDGES TO MAKE TOUCH-UP PATCHES INCONSPICUOUS. CLEAN SURFACES WITH SOLVENT. PRIME BARE STEEL SURFACES. PRIME METAL ITEMS INCLUDING SHOP PRIMED ITEMS.
- APPLICATION:
 - APPLY PRODUCTS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
 - DO NOT APPLY FINISHES TO SURFACES THAT ARE NOT DRY.
 - APPLY EACH COAT TO A UNIFORM FINISH.
 - ALLOW APPLIED COAT TO DRY BEFORE NEXT COAT IS APPLIED.

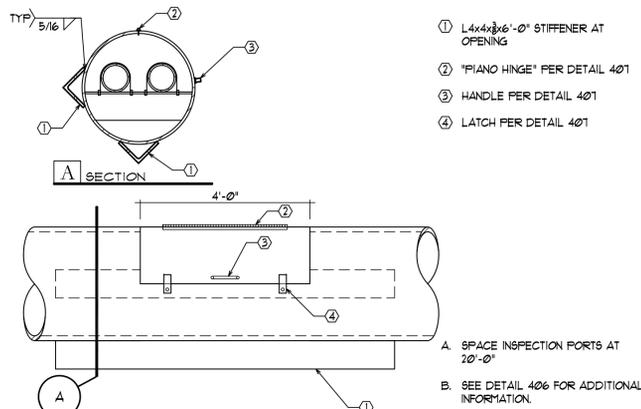


408 CONNECTION AT TRANSFER HOUSE

- METAL FLASHING AND CAULKING TO SEAL AT ALL STEEL PENETRATIONS, TYP. (2"x2" EXP NODE)
- SEALANT AT CONTACT
- LOOSE FILL INSULATION
- CONTAINMENT PIPING, TYP.
- FLEXIBLE METAL FLASHING
- EXTEND 10" INSIDE BUILDING

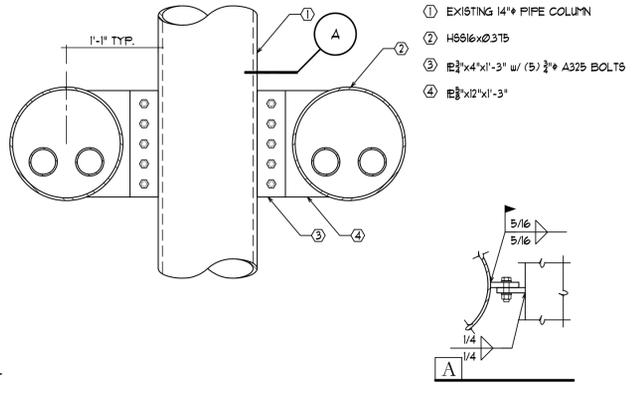


409 TYPICAL FLASHING DETAIL



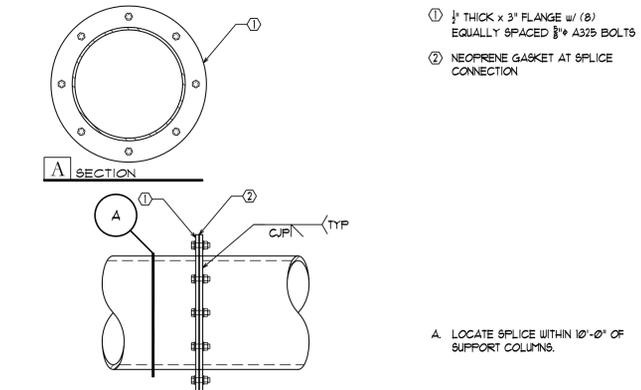
404 TYPICAL INSPECTION PORT

- L4x4x1/8" STIFFENER AT OPENING
- "PIANO HINGE" PER DETAIL 407
- HANDLE PER DETAIL 407
- LATCH PER DETAIL 407



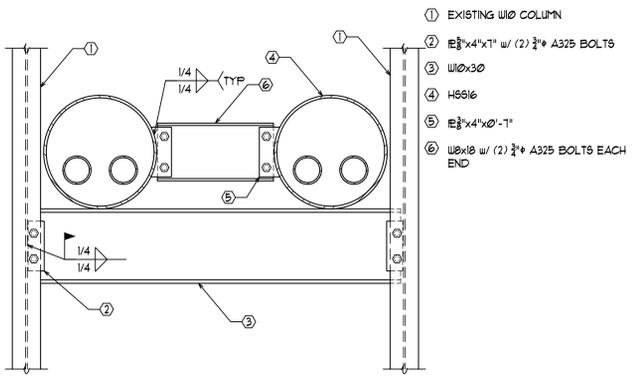
401 CONNECTION AT PIPE COLUMN

- EXISTING 14" PIPE COLUMN
- H8916x0.375
- E3/4x4x11-3" w/ (5) 3/4 A325 BOLTS
- E3/4x12"x1-3"



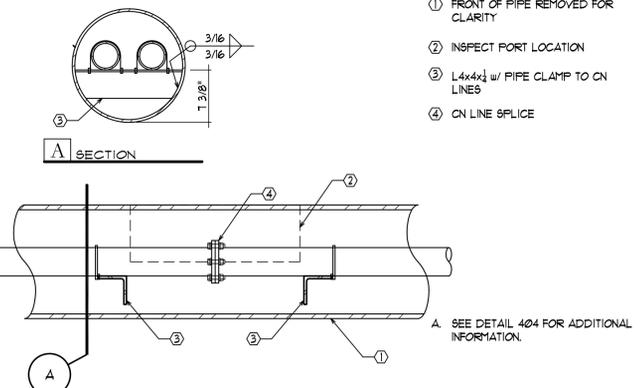
405 TYPICAL PIPE SPLICE CONNECTION

- 1/2" THICK x 3" FLANGE w/ (8) EQUALLY SPACED 3/8" A325 BOLTS
- NEOPRENE GASKET AT SPLICE CONNECTION



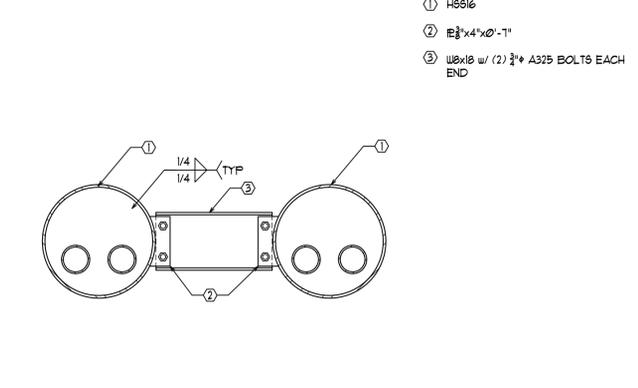
402 CONNECTION AT W COLUMNS

- EXISTING W10 COLUMN
- E3/4x4x11 w/ (2) 3/4 A325 BOLTS
- W8x20
- H8916
- E3/4x4x0" TYP
- W8x18 w/ (2) 3/4 A325 BOLTS EACH END



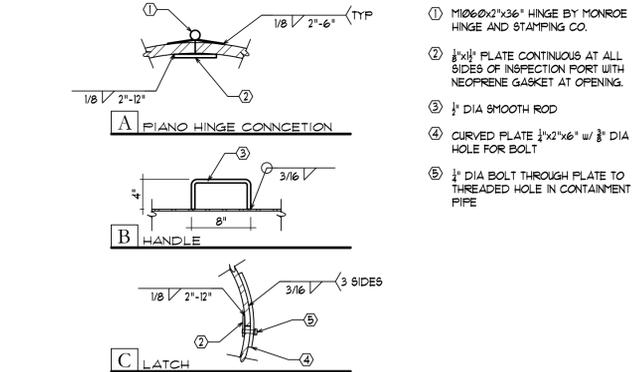
406 PIPE CONFIGURATION AT INSPECTION PORTS

- FRONT OF PIPE REMOVED FOR CLARITY
- INSPECT PORT LOCATION
- L4x4x1/8" PIPE CLAMP TO CN LINES
- CN LINE SPLICE



403 CONNECTION MIDWAY BETWEEN COLUMNS

- H8916
- E3/4x4x0" TYP
- W8x18 w/ (2) 3/4 A325 BOLTS EACH END



407 INSPECTION PORT DETAILS

- 1/8"x2"x36" HINGE BY MONROE HINGE AND STAMPING CO.
- 1/2"x1" PLATE CONTINUOUS AT ALL SIDES OF INSPECTION PORT WITH NEOPRENE GASKET AT OPENING.
- 1/2" DIA SMOOTH ROD
- CURVED PLATE 1/2"x2"x6" w/ 3/8" DIA HOLE FOR BOLT
- 1/2" DIA BOLT THROUGH PLATE TO THREADED HOLE IN CONTAINMENT PIPE

SHEET INDEX	
SHEET	TITLE
S6.0	GENERAL STRUCTURAL NOTES / DETAILS
S6.1	PIPE AND CABLE TRAY MODIFICATIONS

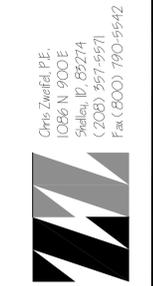
AS-BUILT

POGO MINE CYANIDE
SECONDARY CONTAINMENT
DELTA JUNCTION
ALASKA

DATE: 2/18/10
PROJECT NO: 509128
DRAWN: KTH
CHECKED: CSZ

TITLE: GENERAL
STRUCTURAL
NOTES AND
DETAILS

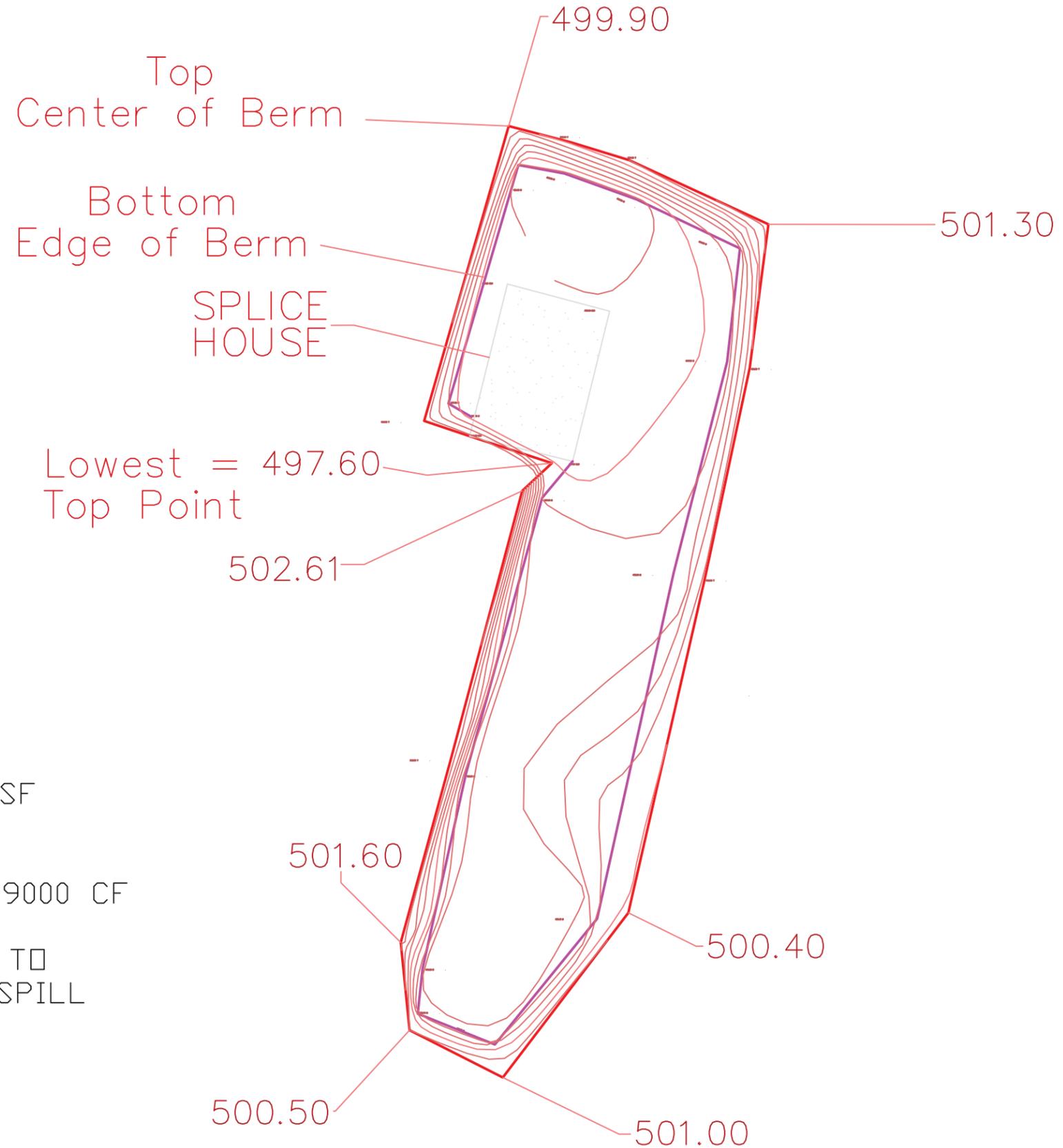
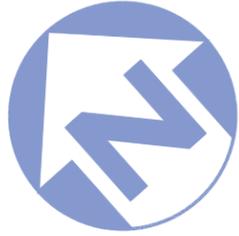
SHEET:
S6.0
REVISIONS



M2C1
Construction and Engineering
P.O. Box 1750
Delta Junction, Alaska 99737
Tel: 907-895-5441
Fax: 907-895-5443



27 JUNE 2011



NOTES:

CONTAINMENT AREA ~ 6000 SF
 AVERAGE DEPTH ~ 1.5 FT

TOTAL MEASURED VOLUME ~9000 CF

** CONTAINMENT ADEQUATE TO
 CONTAIN THE ANTICIPATED SPILL
 EVENT **



M2C1
 Construction and Engineering
 P.O. Box 1750
 Delta Junction, Alaska 99737
 Tel: 907-895-5441
 Fax: 907-895-5443



POGO MINE
 SPLICE SHACK CONTAINMENT SURVEY
 DELTA JUNCTION, ALASKA

DATE: 09/20/11
 PROJECT NO: C102-10
 DRAWN: SPH
 CHECKED:

TITLE:
 CONTAINMENT
 TOPO

SHEET:
 C1.0

REVISIONS
 AS-Built

ATTACHMENT 2

Photographs

- 1) CIP Tails Stock Tank, Pre-Containment
- 2) Paste Dilution Water Tank, Pre-Containment
- 3) CIP Tails Stock Tank, Initial Foundation Pour
- 4) Paste Dilution Water Tank, Initial Foundation Pour
- 5) CIP Tails Stock Tank, Typical Second Foundation Pour
- 6) CIP Tails Stock Tank, Containment Tank In-Progress
- 7) Paste Dilution Water Tank, Access Hatch After Inspection
- 8) Paste Dilution Water Tank, Access Hatch After Painting
- 9) 1690 Splice House, Pre-Containment
- 10) 1690 Splice House, Drain from Building
- 11) 1690 Splice House, Wooden Dividing Wall
- 12) 1690 Splice House, Containment In-Progress
- 13) 1690 Splice House, Pillar Wrap Detail
- 14) 1690 Splice House, Contained, Road View
- 15) Filter Building Penetration, Pre-Containment
- 16) Filter Building Catch Pan
- 17) Filter Building Catch Pan Drain to Sump
- 18) Mill Building Penetration
- 19) Pipe in Pipe Containment Section, with Inspection Hatch
- 20) Filter Building Penetration, Directed to Catch Pan
- 21) Pipe in Pipe Containment, View South
- 22) Mill Building Penetration, Contained in Mill



Photo 1, CIP Stock Tank



Photo 2, Paste Dilution Tank



Photo 3, CIP Initial Foundation Pour



Photo 4, Paste Dilution Initial Foundation Pour



Photo 5, CIP Second Foundation Pour



Photo 6, CIP Containment Tank In-Progress

Pogo Secondary Containment Courtesy As-Built Report, Attachment 2
February 27, 2012



Photo 7, Paste Dilution, Access Hatch After Inspection



Photo 8, Paste Dilution, Access Hatch Painted



Photo 9, 1690 Splice House, Pre-Containment



Photo 10, 1690 Splice House, Drain



Photo 11, 1690 Splice House, Wooded Wall



Photo 12, 1690 Splice House, In-Progress



Photo 13, 1690 Splice House, Pillar Detail



Photo 14, 1690 Splice House, Contained



Photo 15, Filter Building Penetration, Pre-Cont.



Photo 16, Filter Building Catch Pan



Photo 17, Filter Building Drain to Sump

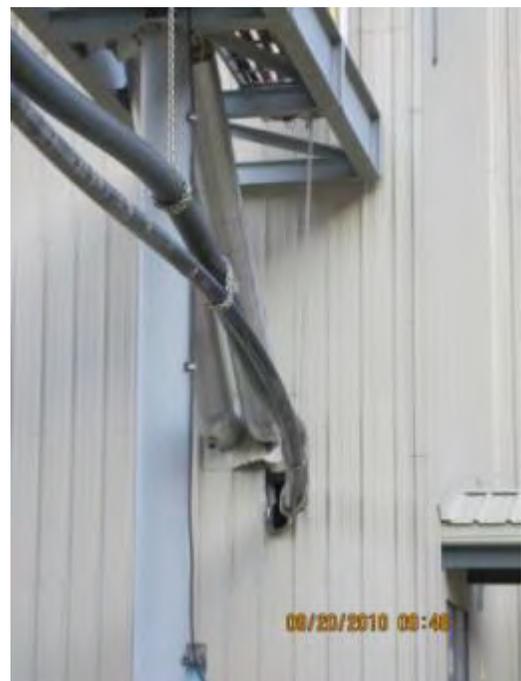


Photo 18, Mill Building Penetration, Pre-Cont.



Photo 19, Pipe in Pipe Containment Section



Photo 20, Filter Building Penetration, Contained



Photo 21, Pipe in Pipe Containment



Photo 22, Mill Building Penetration Contained