# APPENDIX K

# 2011 AS-BUILT DRAWINGS

# MCLAREN TAILINGS ABANDONED MINE SITE
# RECLAMATION PROJECT
# COOKE CITY, MONTANA
# 2011 AS-BUILT CONSTRUCTION DRAWINGS

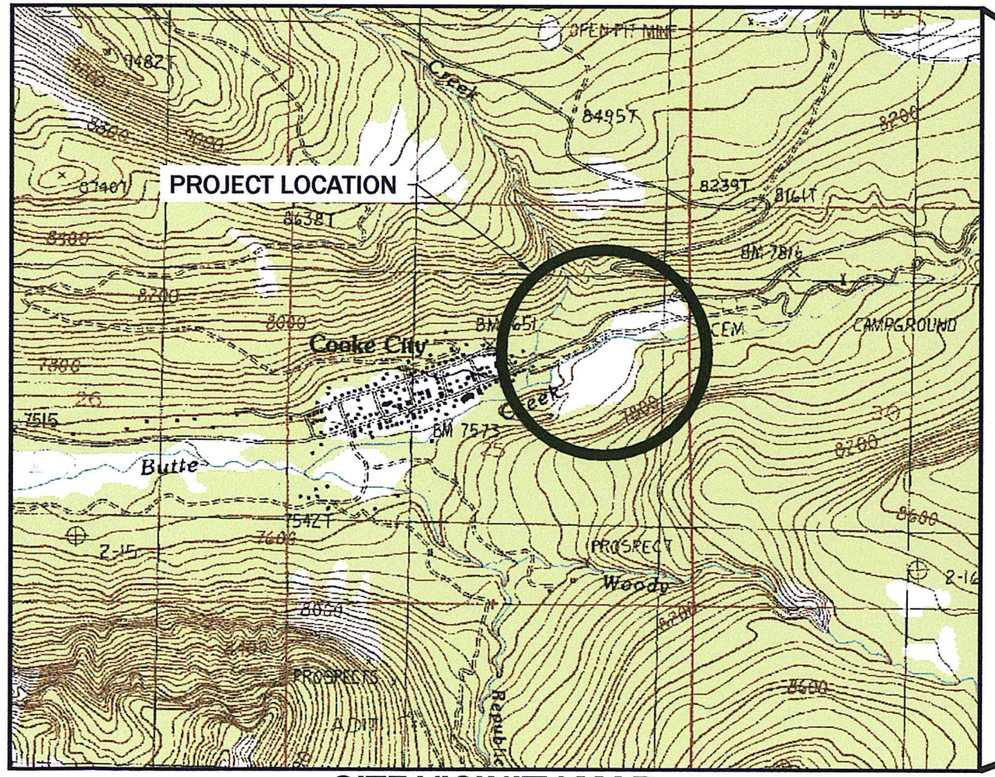
PREPARED FOR

**MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY MINE WASTE CLEANUP**

PREPARED BY

**PIONEER TECHNICAL SERVICES, INC.**

**APRIL 2012**




**SITE VICINITY MAP**

SOURCE: 7.5 MINUTE USGS QUADS

SHEET
G-1AB

# LEGEND

## EXISTING - PLAN VIEW

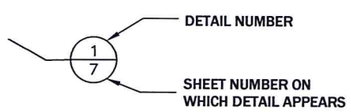
- 7700 — INDEX CONTOURS
- INTERMEDIATE CONTOURS
- CULVERT
- EXISTING ROAD
- STREAM CHANNEL/SURFACE WATER
- PWR — ELECTRICAL LINE
- PROPERTY LINE

## PROPOSED - PLAN VIEW

- 7700 — INDEX CONTOURS
- INTERMEDIATE CONTOURS
- 2+00 — 100 FT. STATIONING
- 2% — GRADE OR SURFACE SLOPE (PERCENT)
- PROPOSED ROAD
- OE — OVERHEAD ELECTRICAL LINE
- UE — UNDERGROUND ELECTRICAL LINE
- JSB — JERSEY BARRIER
- SOX — COMPOST FILTER SOX
- SPS — STREAM PROTECTION STRUCTURE
- PRP — PROPANE LINE
- x — WILDLIFE EXCLUSION FENCE

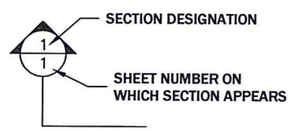
- CENTERLINE
- ℄ CENTERLINE
- SLOPE DESIGNATION (ARROWS POINT DOWN SLOPE)
- 1:3 SLOPE DESIGNATION

## DETAIL INDICATOR



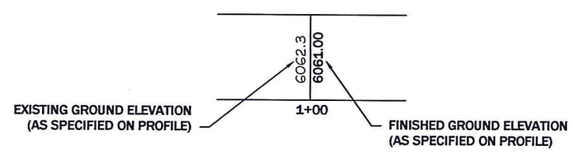

ON PLAN

## SECTION INDICATOR

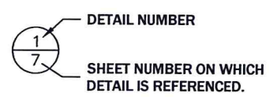



ON PLAN

## PROFILE ELEVATIONS

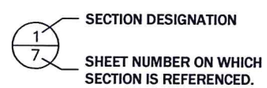



DETAIL




AT DETAIL

SECTION




AT SECTION

NOTES:
ON PLANS: "–" SYMBOL IN UPPER HALF OF BUBBLE INDICATES GENERAL REFERENCE TO NOTED DRAWING NUMBER.
AT DETAIL/SECTIONS: "–" SYMBOL (NO DRAWING NUMBER) IN LOWER HALF OF BUBBLE INDICATES DETAIL/SECTION IS REFERENCED ON MORE THAN ONE DRAWING.

REVISION:

| DATE: | BY: | DESC: |
|---|---|---|
| | | |

DRAWN BY: CLA
DESIGNED BY: JSM\MCB
CHECKED BY: JSM\MWB\MCB
APPROVED BY: JSM
PROJECT NO: 10160
DATE: 4/24/12

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: NA
SOURCE: PIONEER

SCALE IN FEET
0

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED MINE SITE RECLAMATION PROJECT
2011 AS-BUILT DRAWINGS

LEGEND

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)-782-5177

SHEET G-2AB

# SHEET INDEX

| SHEET NO. | DESCRIPTION |
|---|---|
| G-1AB | COVER |
| G-2AB | LEGEND |
| G-3AB | SHEET INDEX |
| G-4AB | SITE VICINITY MAP |
| G-5AB | PROJECT OVERVIEW |
| F-1AB | PROJECT FACILITIES PLAN |
| E-1AB | ELECTRICAL ONE-LINE |
| E-2AB | GROUNDING |
| E-3AB | GROUNDING DETAILS |
| E-4AB | POWER CONDUIT DESIGN LAYOUT |
| E-5AB | PANEL SCHEDULE |
| E-6AB | LIGHTING AND RECEPTACLE LAYOUT |
| E-7AB | MCC ROOM LAYOUT |
| E-8AB | WELL AND PUMP LOCATIONS |
| E-9AB | PANEL LAYOUT |
| E-10AB | TERMINAL BLOCK LAYOUT |
| E-11AB | LOOP DIAGRAMS |
| E-12AB | LOOP DIAGRAMS |
| E-13AB | LOOP DIAGRAMS |
| E-14AB | LOOP DIAGRAMS |
| E-15AB | LOOP DIAGRAMS |
| E-16AB | LOOP DIAGRAMS |
| E-17AB | INSTRUMENTATION CONDUIT DIAGRAM |
| WRE-1AB | WASTE ROCK EXCAVATION PLAN VIEW |
| WRE-2AB | WASTE ROCK EXCAVATION CROSS SECTIONS STA 0+00 TO 4+50 |
| WRE-3AB | WASTE ROCK EXCAVATION CROSS SECTIONS STA 5+00 TO 5+50 |
| TE-1AB | TAILINGS EXCAVATION AND SEQUENCE |
| TE-2AB | TAILINGS EXCAVATION CROSS SECTIONS STA 2+00 TO 6+00 |
| TE-3AB | TAILINGS EXCAVATION CROSS SECTIONS STA 6+50 TO 9+00 |
| TE-4AB | TAILINGS EXCAVATION CROSS SECTIONS STA 9+50 TO 12+50 |
| GW-2AB | PHASE 1 DEWATERING SYSTEM LAYOUT |
| GW-3AB | PHASE I DEWATERING SYSTEM AND PUMPING WELL LOCATIONS |
| GW-4AB | PHASE I DEWATERING SYSTEM AND PUMPING WELL LOCATIONS |
| GW-5AB | DEWATERING CONTROL BUILDING PLAN VIEW |
| GW-6AB | WATER TREATMENT SYSTEM |
| GW-7AB | DEWATERING CONTROL BUILDING INSTRUMENTATION PLAN VIEW |
| GW-8AB | SEDIMENT POND PLAN VIEW |
| GW-9AB | SEDIMENT POND CROSS SECTIONS STA 0+00 TO 2+25 |
| GW-10AB | SEDIMENT POND CROSS SECTIONS STA 2+50 TO 3+25 |
| GW-11AB | SEDIMENT POND CROSS SECTIONS STA 3+50 TO 4+50 |
| GW-12AB | SEDIMENT POND CROSS SECTION STA 4+75 TO 5+75 |
| GW-13AB | SEDIMENT POND CROSS SECTION STA 6+00 TO 6+75 |
| GW-14AB | BUILDING PAD CROSS SECTIONS STA 7+00 TO 7+75 |
| GW-19AB | SEDIMENT DETENTION POND INLETS & PERIMETER WATER BYPASS |
| GW-20AB | SEDIMENT DETENTION POND OUTLET |
| GW-22AB | DEWATERING CONTROL BUILDING PIPING OVERVIEW |
| GW-23AB | DEWATERING CONTROL BUILDING SOUTH WALL |
| GW-24AB | DEWATERING CONTROL BUILDING EAST WALL |
| R-2AB | REPOSITORY FINAL EXCAVATION PLAN |
| R-5AB | REPOSITORY CROSS SECTIONS STA 0+80 TO 1+40 |
| R-6AB | REPOSITORY CROSS SECTIONS STA 1+60 TO 2+20 |
| R-7AB | REPOSITORY CROSS SECTIONS STA 2+40 TO 3+00 |
| R-8AB | REPOSITORY CROSS SECTIONS STA 3+20 TO 3+80 |
| R-9AB | REPOSITORY CROSS SECTIONS STA 4+00 TO 4+60 |
| R-10AB | REPOSITORY CROSS SECTIONS STA 4+80 TO 5+40 |
| R-11AB | REPOSITORY CROSS SECTIONS STA 5+60 TO 6+20 |
| R-12AB | REPOSITORY VOLUMES |
| SW-1AB | STORM WATER CONTROLS PLAN VIEW |
| SW-6AB | CHANNEL #5 PLAN AND PROFILE |
| SW-7AB | STORM WATER DRAIN PLAN AND PROFILE |

NOT INCLUDED IN THIS PACKAGE

| SHEET NO. | DESCRIPTION |
|---|---|
| C-1AB | REVEGETATION PLAN |

| SHEET NO. | DESCRIPTION |
|---|---|
| FD-6AB | WILDLIFE EXCLUSION FENCE DETAIL |
| FD-7AB | WILDLIFE EXCLUSION FENCE DETAILS |
| GWD-1AB | TYPICAL PUMPING WELL DETAILS |
| GWD-2AB | TYPICAL PUMPING WELL DETAILS |
| GWD-3AB | SEDIMENT DETENTION POND DETAILS |
| GWD-4AB | OUTLET STRUCTURE DETAILS |
| GWD-5AB | OUTLET STRUCTURE DETAILS |
| GWD-6AB | LINER DETAILS |
| GWD-7AB | PIPING DETAILS |
| GWD-8AB | 30" DROP STRUCTURE DETAILS |
| GWD-9AB | DEWATERING CONTROL BUILDING DETAILS |
| GWD-10AB | DEWATERING CONTROL BUILDING DETAILS |
| GWD-11AB | DEWATERING CONTROL BUILDING DETAILS |
| GWD-12AB | DEWATERING CONTROL BUILDING DETAILS |
| GWD-13AB | DEWATERING CONTROL BUILDING DETAILS |
| GWD-14AB | DEWATERING CONTROL BUILDING DETAILS |
| GWD-15AB | DEWATERING CONTROL BUILDING DETAILS |
| GWD-16AB | DEWATERING CONTROL BUILDING DETAILS |
| GWD-17AB | DEWATERING CONTROL BUILDING DETAILS |
| GWD-18AB | DEWATERING CONTROL BUILDING DETAILS |
| GWD-19AB | DEWATERING CONTROL BUILDING DETAILS |
| GWD-20AB | DEWATERING CONTROL BUILDING DETAILS |
| GWD-21AB | DEWATERING CONTROL BUILDING DETAILS |
| GWD-22AB | DEWATERING CONTROL BUILDING FOOTING DETAIL |
| GWD-23AB | DEWATERING CONTROL BUILDING FOUNDATION WALL DETAIL |
| GWD-24AB | DEWATERING CONTROL BUILDING SLAB CONTROL JOINTS DETAIL |
| GWD-25AB | DEWATERING CONTROL BUILDING COLUMN FOOTING DETAILS |
| GWD-28AB | RCTS-60HS DETAIL |
| GWD-29AB | FLOCCULANT SYSTEM LAYOUT |
| GWD-30AB | FLOCCULANT TANK DETAIL |
| GWD-31AB | DOSING TANK DETAIL |
| GWD-32AB | DOSING TANK STAND |
| GWD-33AB | FLOCCULANT TANK MIXER DETAILS |
| GWD-34AB | LIME SLURRY TANK MIXER DETAILS |
| GWD-35AB | DOSING TANK MIXER DETAILS |
| GWD-36AB | LIME SILO AND AUGER SYSTEM DETAILS |
| SWD-1AB | STORM WATER CHANNEL DETAILS |
| SWD-2AB | STORM WATER CHANNEL DETAILS |
| SWD-4AB | CULVERT & RIPRAP APRON INSTALLATION DETAILS |
| SWD-5AB | STORM WATER DRAIN SYSTEM AND GROUTED RIPRAP CHANNEL INLET DETAIL |
| SWD-6AB | CHANNEL #5 DETAILS STATION 3+32 TO 4+81 |

REVISION:

| DATE: | BY: | DESC: |
|---|---|---|
| | | |

DRAWN BY: CLA
DESIGNED BY: JSM\MWB\MCB
CHECKED BY: JSM\MWB\MCB
APPROVED BY: JSM
PROJECT NO: 10140
DATE: 2/1/12

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: NA
SOURCE: PIONEER

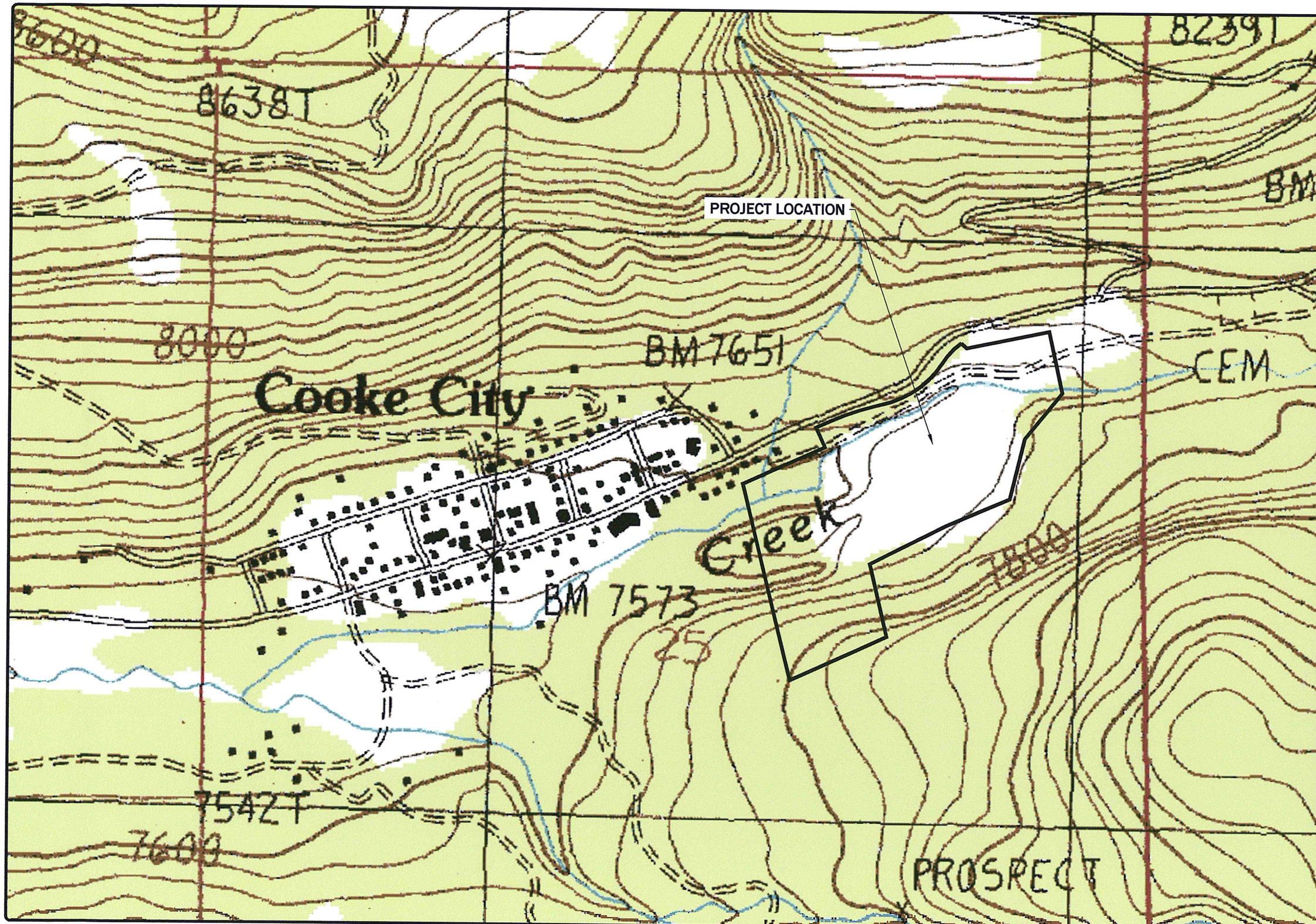
SCALE IN FEET
0

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED MINE SITE RECLAMATION PROJECT
2011 AS-BUILT DRAWINGS

SHEET INDEX

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)-782-5177

SHEET
G-3AB




REVISION:

| DATE: | BY: | DESC: |
|---|---|---|
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DRAWN BY: CLA
DESIGNED BY: JSH
CHECKED BY: MCB
APPROVED BY: JSH
PROJECT NO: 10140
DATE: 4/24/12

DISPLAYED AS:
COORD SYS/ZONE: MSP
DATUM: NAD83
UNITS: FEET
SOURCE: USGS 7.5 MIN QUAD

N

SCALE IN FEET
0 250 500

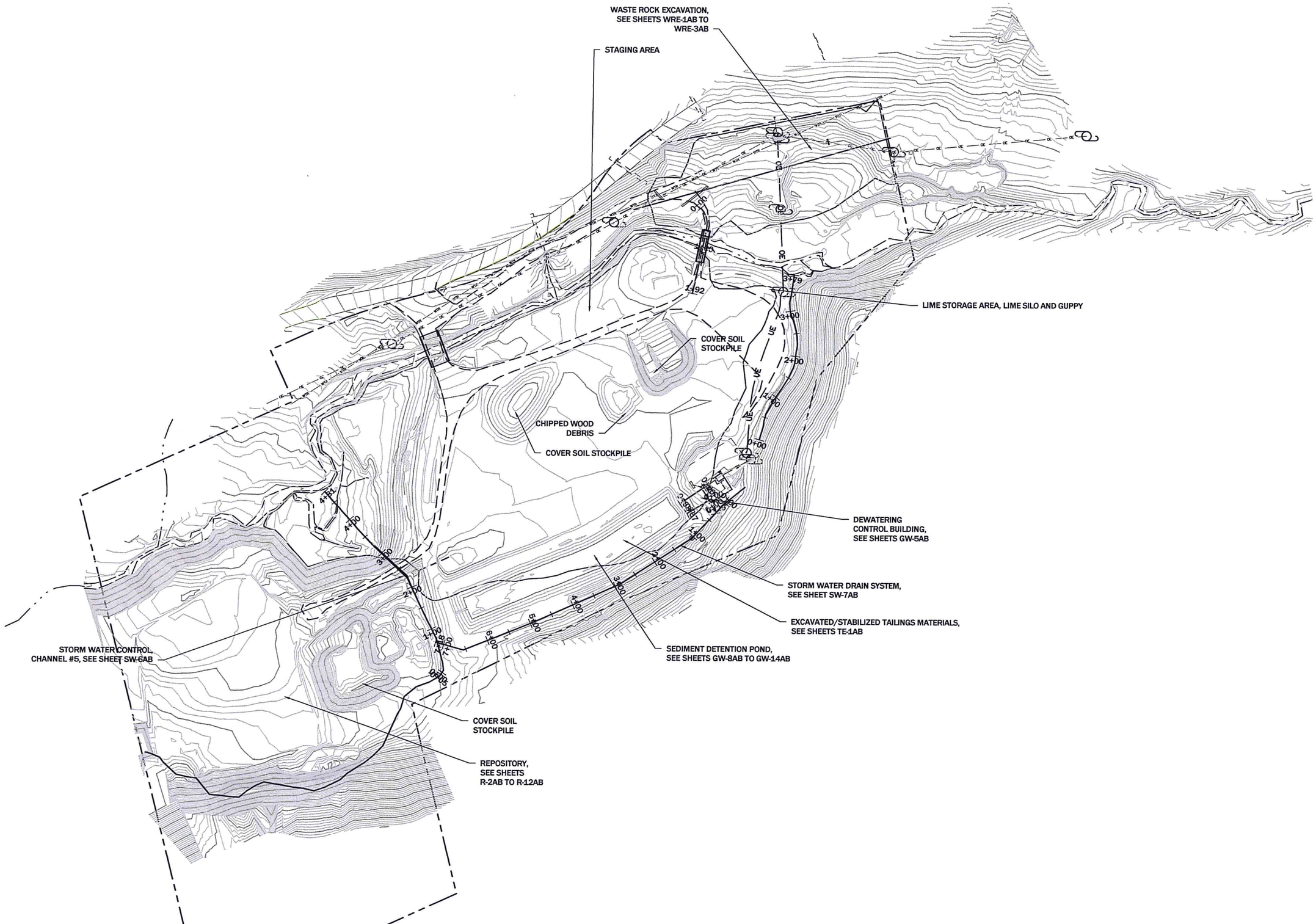
MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2011 AS-BUILT DRAWINGS

SITE
VICINITY
MAP

PIONEER
TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)782-5177

SHEET
G-4AB

4/23/2012 8:18:26 AM P:\DEQ\MCLAREN\2011\DRAWINGS\AS-BUILTS\CONSTRUCTION\MC-FBID-AB-11-PLN-008-09.DWG




REVISION:

| DATE: | BY: | DESC: |
|---|---|---|
| | | |

DRAWN BY: CLA
DESIGNED BY: JSM
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10160
DATE: 4/24/12

DISPLAYED AS:
COORD SYS/ZONE: MSP
DATUM: NAD83
UNITS: FEET
SOURCE: PIONEER

SCALE IN FEET
0 100 200

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED MINE SITE RECLAMATION PROJECT
2011 AS-BUILT DRAWINGS

PROJECT OVERVIEW

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
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(406)-782-5177

SHEET G-5AB

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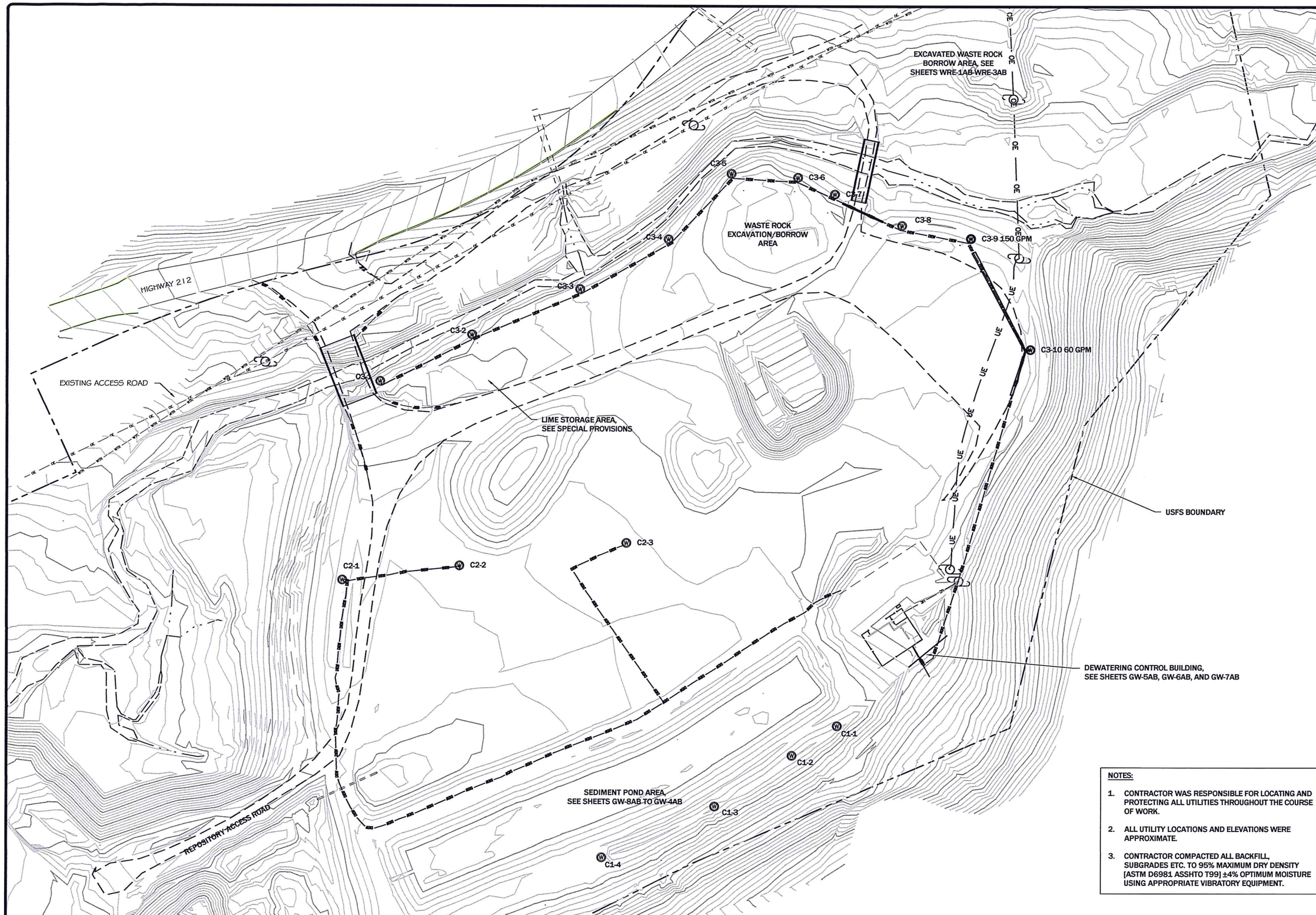



REVISION:

| DATE: | BY: | DESC: |
|---|---|---|
| | | |

DRAWN BY: CLA
DESIGNED BY: JSM
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10160
DATE: 4/24/12

DISPLAYED AS:
COORD SYS/ZONE: MSP
DATUM: NAD83
UNITS: FEET
SOURCE: PIONEER

N

SCALE IN FEET
0 50 100

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED MINE SITE RECLAMATION PROJECT
2011 AS-BUILT DRAWINGS

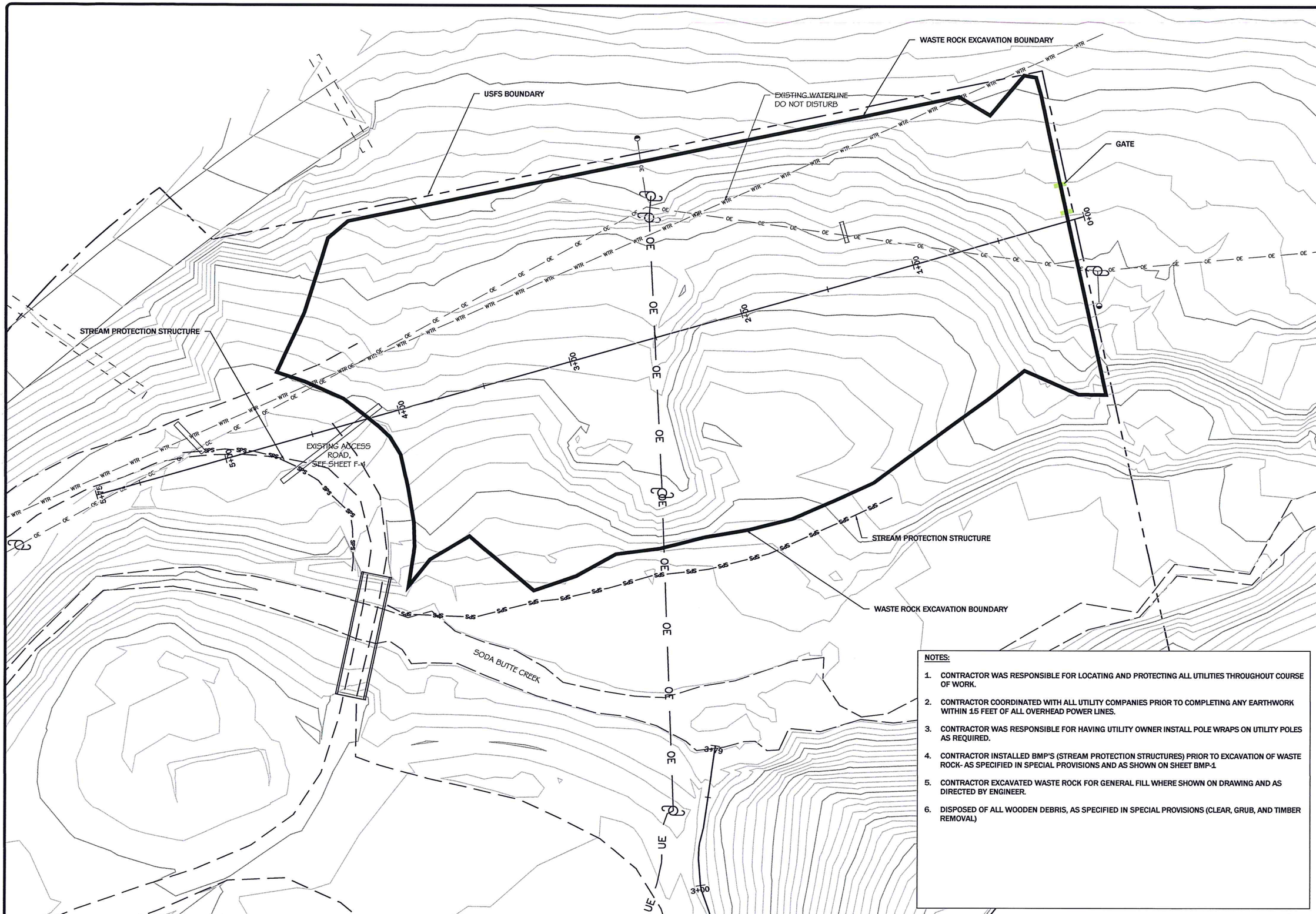
PROJECT FACILITIES PLAN VIEW

NOTES:

1. CONTRACTOR WAS RESPONSIBLE FOR LOCATING AND PROTECTING ALL UTILITIES THROUGHOUT THE COURSE OF WORK.
2. ALL UTILITY LOCATIONS AND ELEVATIONS WERE APPROXIMATE.
3. CONTRACTOR COMPACTED ALL BACKFILL, SUBGRADES ETC. TO 95% MAXIMUM DRY DENSITY [ASTM D6981 ASSHTO T99] ±4% OPTIMUM MOISTURE USING APPROPRIATE VIBRATORY EQUIPMENT.

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)-782-5177

SHEET F-1AB




NOTES:

1. CONTRACTOR WAS RESPONSIBLE FOR LOCATING AND PROTECTING ALL UTILITIES THROUGHOUT COURSE OF WORK.
2. CONTRACTOR COORDINATED WITH ALL UTILITY COMPANIES PRIOR TO COMPLETING ANY EARTHWORK WITHIN 15 FEET OF ALL OVERHEAD POWER LINES.
3. CONTRACTOR WAS RESPONSIBLE FOR HAVING UTILITY OWNER INSTALL POLE WRAPS ON UTILITY POLES AS REQUIRED.
4. CONTRACTOR INSTALLED BMP'S (STREAM PROTECTION STRUCTURES) PRIOR TO EXCAVATION OF WASTE ROCK- AS SPECIFIED IN SPECIAL PROVISIONS AND AS SHOWN ON SHEET BMP-1
5. CONTRACTOR EXCAVATED WASTE ROCK FOR GENERAL FILL WHERE SHOWN ON DRAWING AND AS DIRECTED BY ENGINEER.
6. DISPOSED OF ALL WOODEN DEBRIS, AS SPECIFIED IN SPECIAL PROVISIONS (CLEAR, GRUB, AND TIMBER REMOVAL)

REVISION:

| DATE: | BY: | DESC: |
|---|---|---|
| | | |

DRAWN BY: CLA
DESIGNED BY: MCB
CHECKED BY: JSM
APPROVED BY: JSM
PROJECT NO: 10160
DATE: 4/24/12

DISPLAYED AS:
COORD SYS/ZONE: MSP
DATUM: NAD83
UNITS: FEET
SOURCE: PIONEER

N

SCALE IN FEET
0 25 50

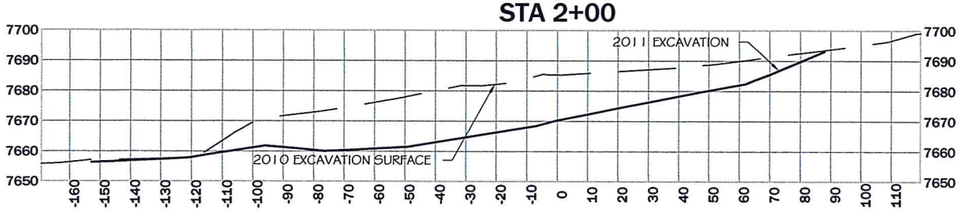
MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2011 AS-BUILT DRAWINGS

WASTE ROCK
EXCAVATION
PLAN
VIEW

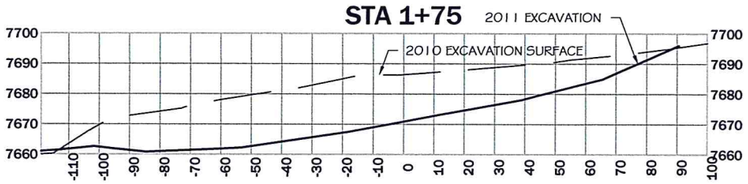
PIONEER
TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)-782-5177

SHEET
WRE-1AB

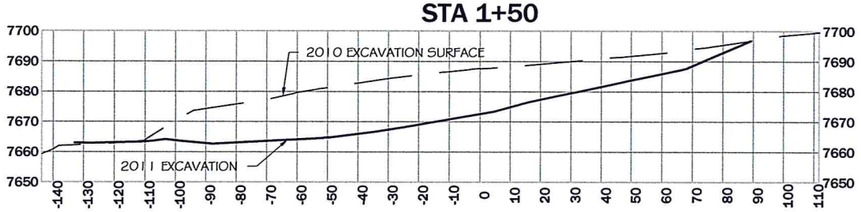
## STA 2+00



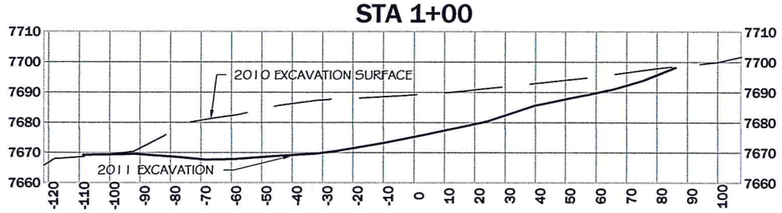

## STA 1+75



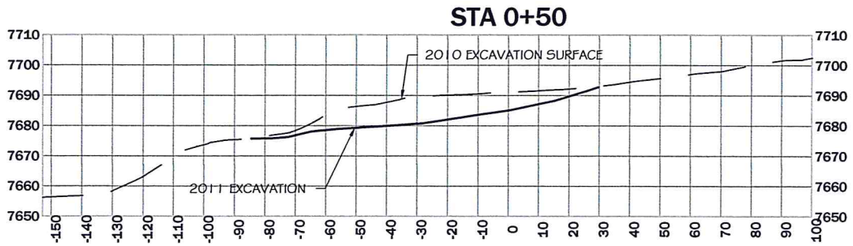

## STA 1+50



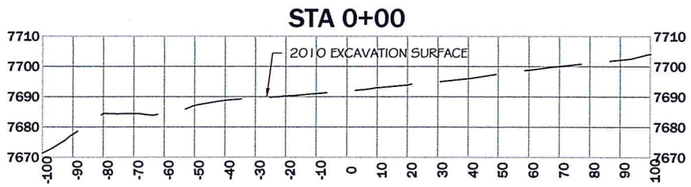

## STA 1+00




## STA 0+50




## STA 0+00

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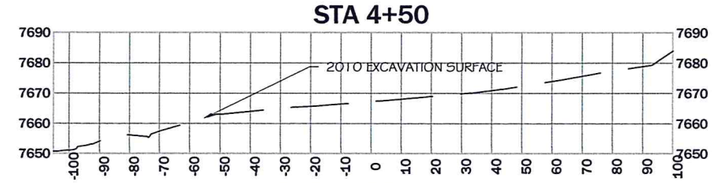
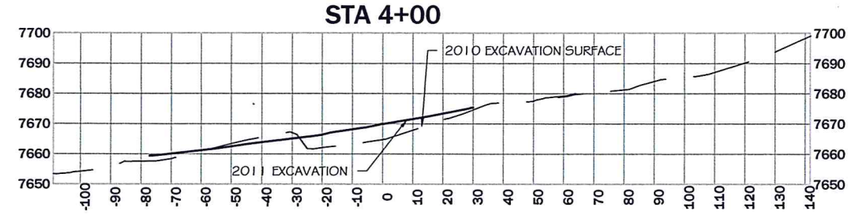



## STA 4+00

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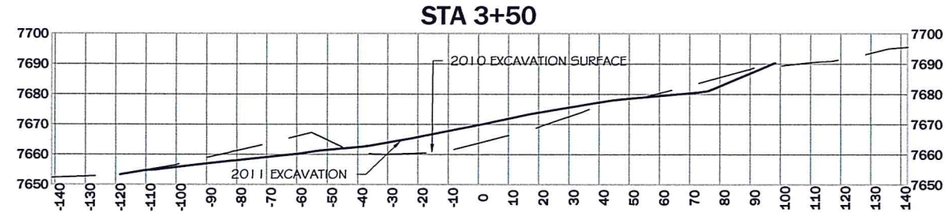
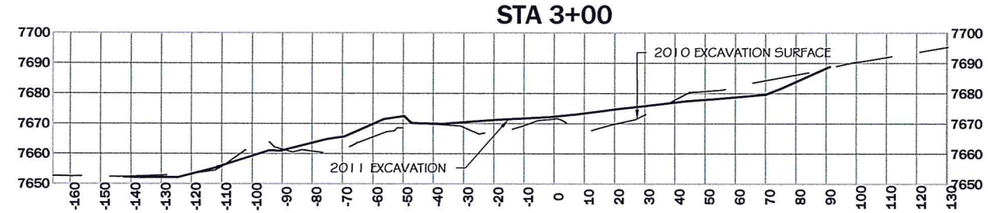



## STA 3+00

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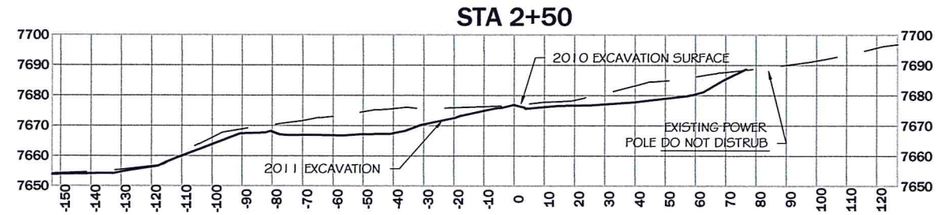


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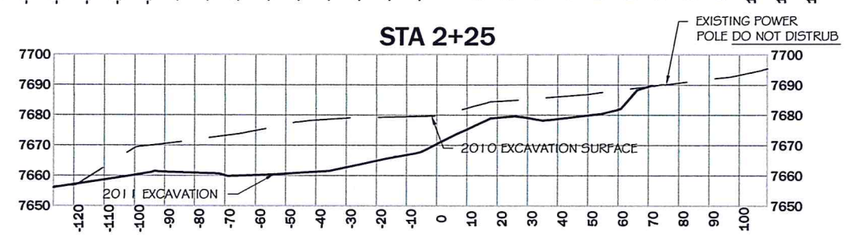


| REVISION: | | |
|---|---|---|
| DATE: | BY: | DESC: |

DRAWN BY: CLA
DESIGNED BY: MCB
CHECKED BY: JSM
APPROVED BY: JSM
PROJECT NO: 10160
DATE: 4/24/12

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: PIONEER

SCALE IN FEET
0 25 50

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2011 AS-BUILT DRAWINGS

WASTE ROCK
EXCAVATION
CROSS SECTIONS
STA 0+00 TO 4+50

PIONEER
TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)-782-5177

SHEET
WRE-2AB

| Waste Rock/Borrow Material Volume Table | | | |
|---|---|---|---|
| Station | Cut Area (ft^2) | Cut Volume (bcy) | Cumulative Cut Vol (bcy) |
| 0+00.00 | 0.00 | 0.00 | 0.00 |
| 0+25.00 | 0.00 | 0.00 | 0.00 |
| 0+50.00 | 589.67 | 273.00 | 273.00 |
| 0+75.00 | 1330.75 | 889.09 | 1162.08 |
| 1+00.00 | 1913.82 | 1502.11 | 2664.20 |
| 1+25.00 | 2090.35 | 1853.78 | 4517.98 |
| 1+50.00 | 2238.94 | 2004.30 | 6522.28 |
| 1+75.00 | 2419.34 | 2156.61 | 8678.89 |
| 2+00.00 | 2342.10 | 2204.37 | 10883.26 |
| 2+25.00 | 1996.57 | 2008.65 | 12891.91 |
| 2+50.00 | 1056.46 | 1413.44 | 14305.35 |
| 2+75.00 | 890.31 | 901.28 | 15206.63 |
| 3+00.00 | 1008.17 | 878.93 | 16085.56 |
| 3+25.00 | 1216.56 | 1029.97 | 17115.53 |
| 3+50.00 | 1019.24 | 1035.09 | 18150.62 |
| 3+75.00 | 670.12 | 782.11 | 18932.73 |
| 4+00.00 | 115.99 | 363.94 | 19296.67 |
| 4+25.00 | 0.00 | 53.70 | 19350.37 |
| 4+50.00 | 0.00 | 0.00 | 19350.37 |
| 4+75.00 | 0.00 | 0.00 | 19350.37 |
| 5+00.00 | 0.00 | 0.00 | 19350.37 |
| 5+25.00 | 0.00 | 0.00 | 19350.37 |
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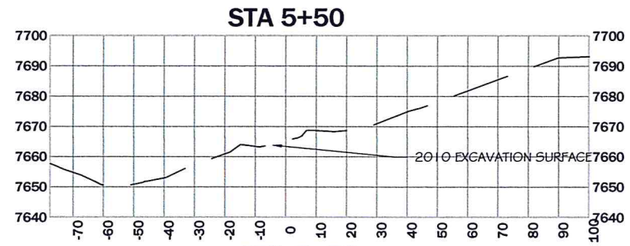
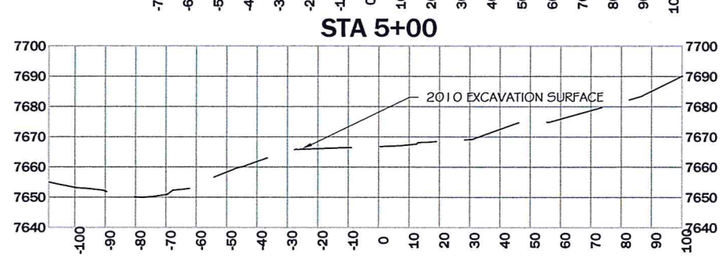
STA 5+50




STA 5+00




REVISION:

| DATE: | BY: | DESC: |
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DRAWN BY: CLA
DESIGNED BY: MCB
CHECKED BY: JSM
APPROVED BY: JSM
PROJECT NO: 10160
DATE: 4/24/12

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: PIONEER

SCALE IN FEET
0 25 50

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2011 AS-BUILT DRAWINGS

WASTE ROCK
EXCAVATION
CROSS SECTIONS
STA 5+00 TO 5+50

PIONEER
TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)-782-5177

SHEET
WRE-3AB

REVISION:

| DATE: | BY: | DESC. |
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DRAWN BY: CLA
DESIGNED BY: MCB
CHECKED BY: JSM
APPROVED BY: JSM
PROJECT NO: 10160
DATE: 4/24/12

DISPLAYED AS:
COORD SYS/ZONE: MSP
DATUM: NAD83
UNITS: FEET
SOURCE: PIONEER

N

SCALE IN FEET
0 100 200

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2011 AS-BUILT DRAWINGS

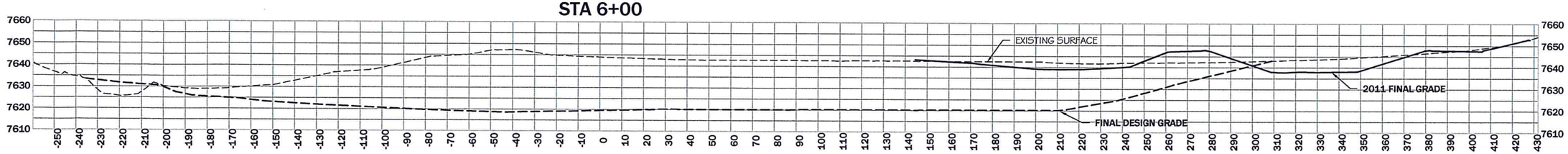
TAILINGS
EXCAVATION
AND
SEQUENCE

PIONEER
TECHNICAL SERVICES, INC
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)-782-5177

SHEET
TE-1AB

4/23/2012 8:40:35 AM P:\DEQ\MCLAREN\2011\DRAWINGS\AS-BUILTS\CONSTRUCTION\MC-FBID-AB-11-PLN-001-09.DWG

## STA 6+00

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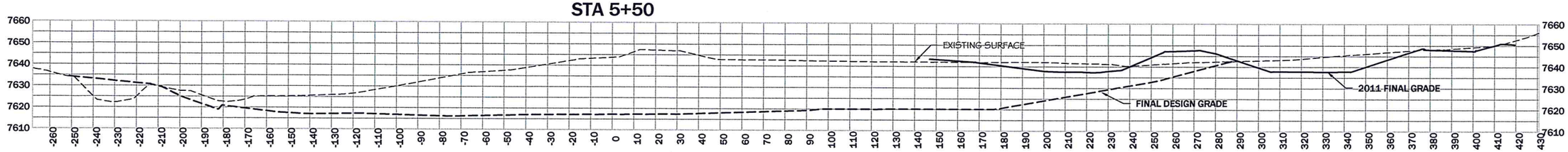


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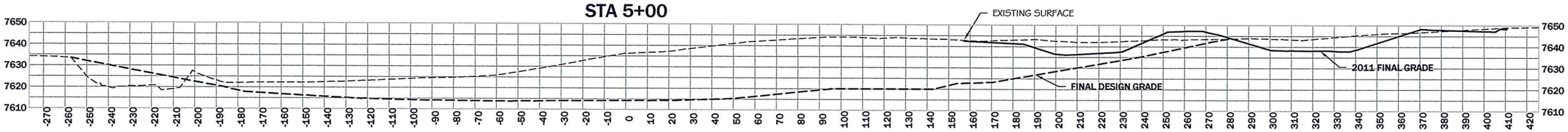


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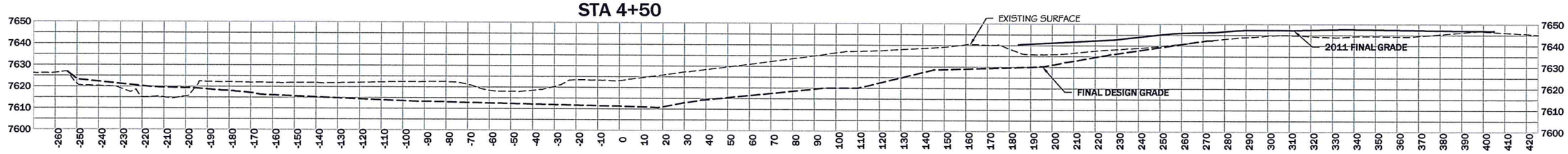


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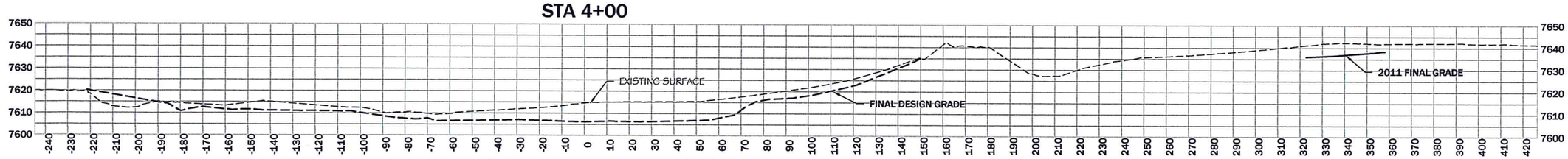


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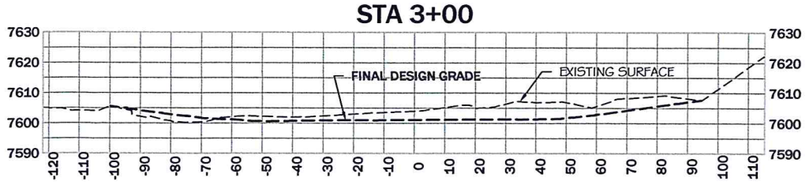


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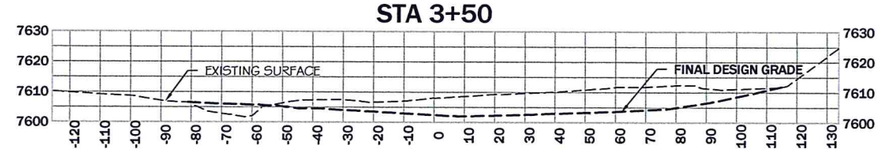


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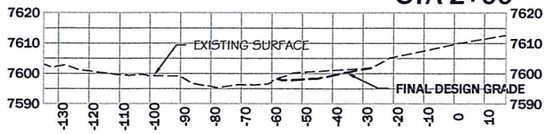


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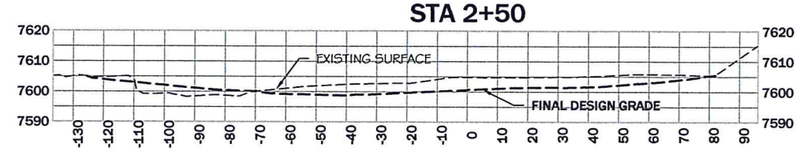


REVISION:

| DATE: | BY: | DESC: |
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DRAWN BY: CLA
DESIGNED BY: MCB
CHECKED BY: JSM
APPROVED BY: JSM
PROJECT NO: 10160
DATE: 4/24/12

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: PIONEER

SCALE IN FEET
0 25 50

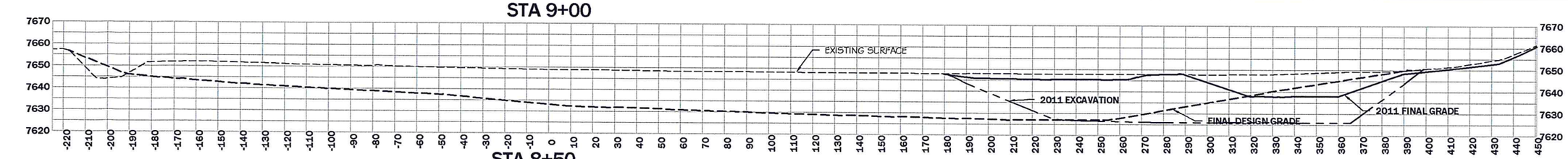
MDEQ/MWCB
MCLAREN TAILINGS ABANDONED MINE SITE RECLAMATION PROJECT
2011 AS-BUILT DRAWINGS

TAILINGS EXCAVATION CROSS SECTIONS STA 2+00 TO 6+00

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)-782-5177

SHEET
TE-2AB

## STA 9+00

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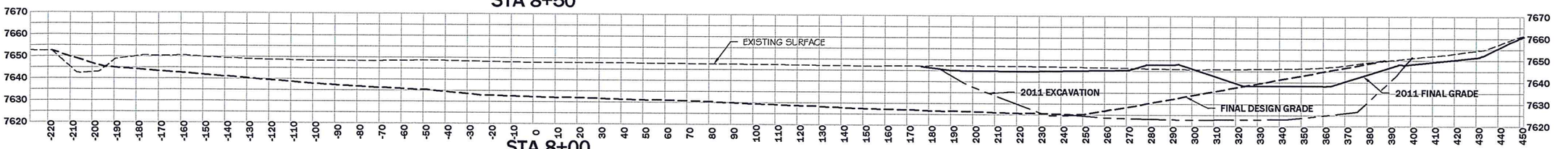


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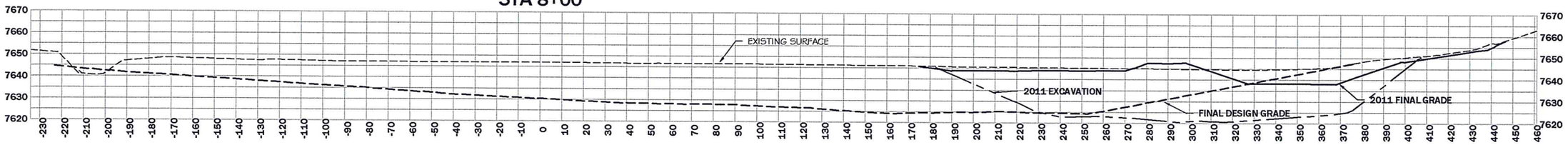


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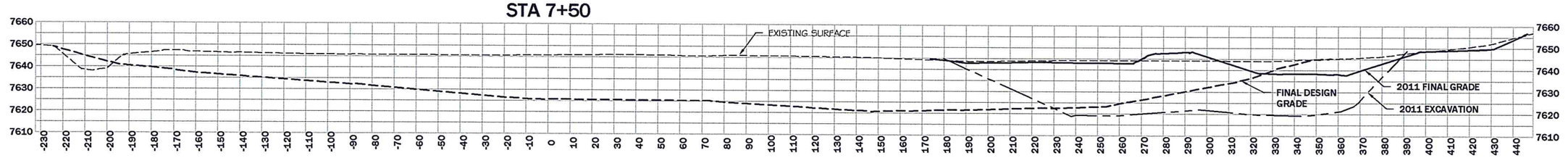


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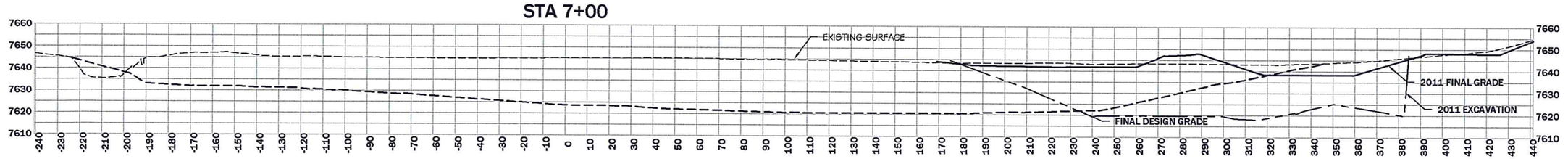


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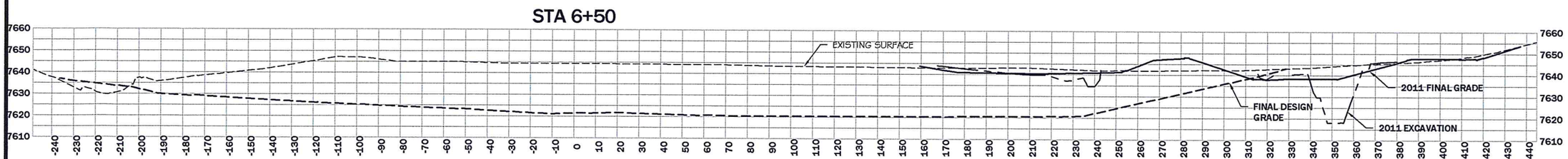


REVISION:

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| DESIGNED BY: | MCB |
| CHECKED BY: | ISM |
| APPROVED BY: | ISM |
| PROJECT NO: | 10160 |
| DATE: | 4/24/12 |

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| COORD SYS/ZONE: | NA |
| DATUM: | NA |
| UNITS: | FEET |
| SOURCE: | PIONEER |

SCALE IN FEET
0 25 50

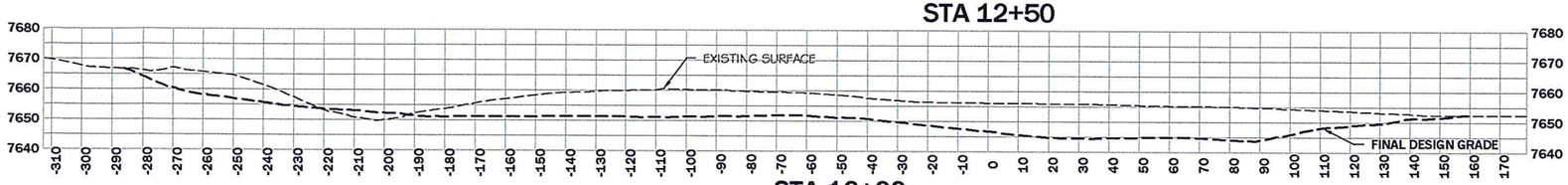
MDEQ/MWCB
MCLAREN TAILINGS ABANDONED MINE SITE RECLAMATION PROJECT
2011 AS-BUILT DRAWINGS

TAILINGS EXCAVATION
CROSS SECTIONS
STA 6+50 TO 9+00

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)782-5177

SHEET
TE-3AB

## STA 12+50

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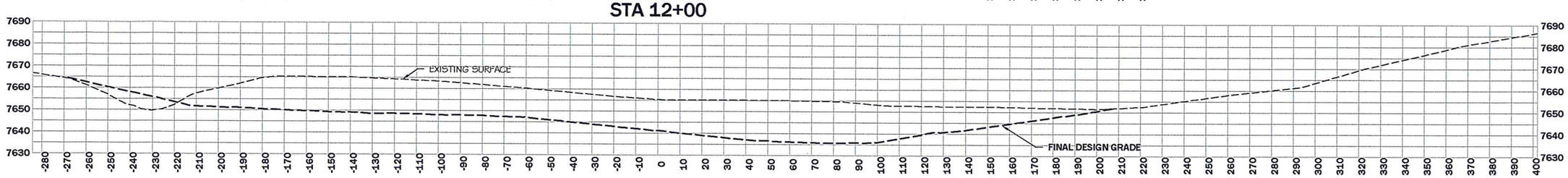


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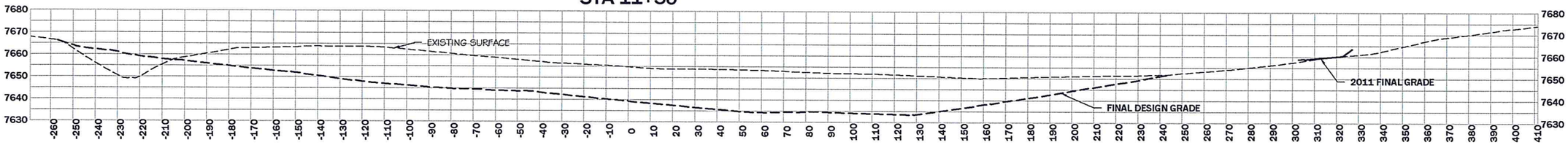


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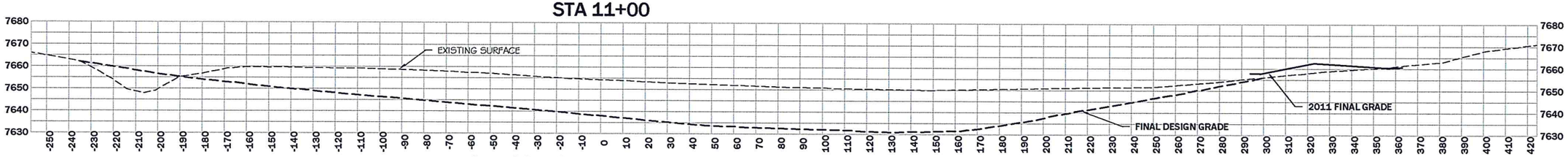


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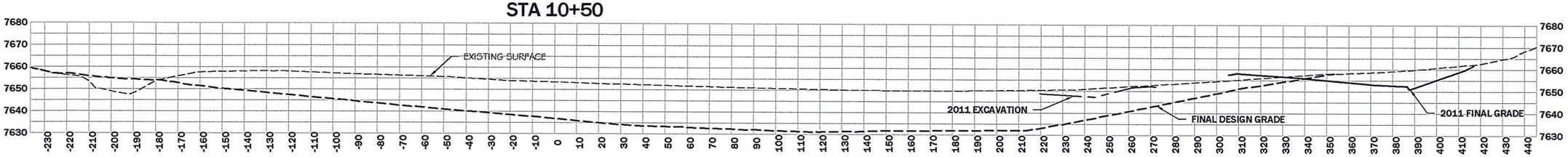


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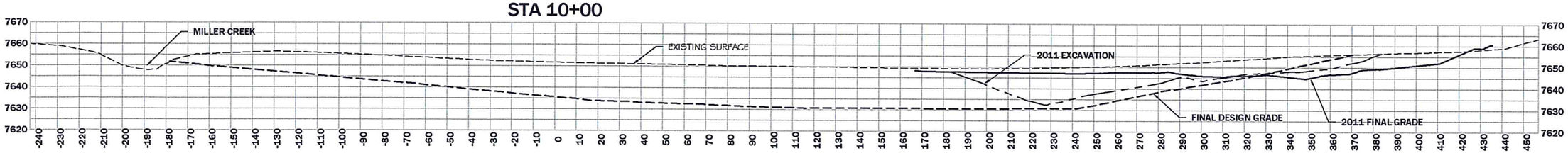


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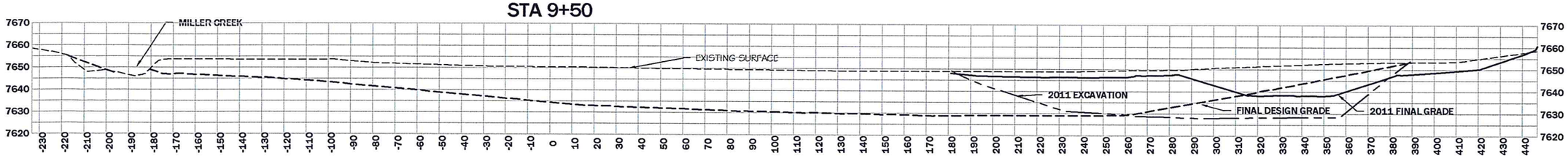


REVISION:

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|---|---|
| DRAWN BY: | CLA |
| DESIGNED BY: | MCB |
| CHECKED BY: | JSM |
| APPROVED BY: | JSM |
| PROJECT NO: | 10160 |
| DATE: | 4/24/12 |

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| COORD SYS/ZONE: | NA |
| DATUM: | NA |
| UNITS: | FEET |
| SOURCE: | PIONEER |

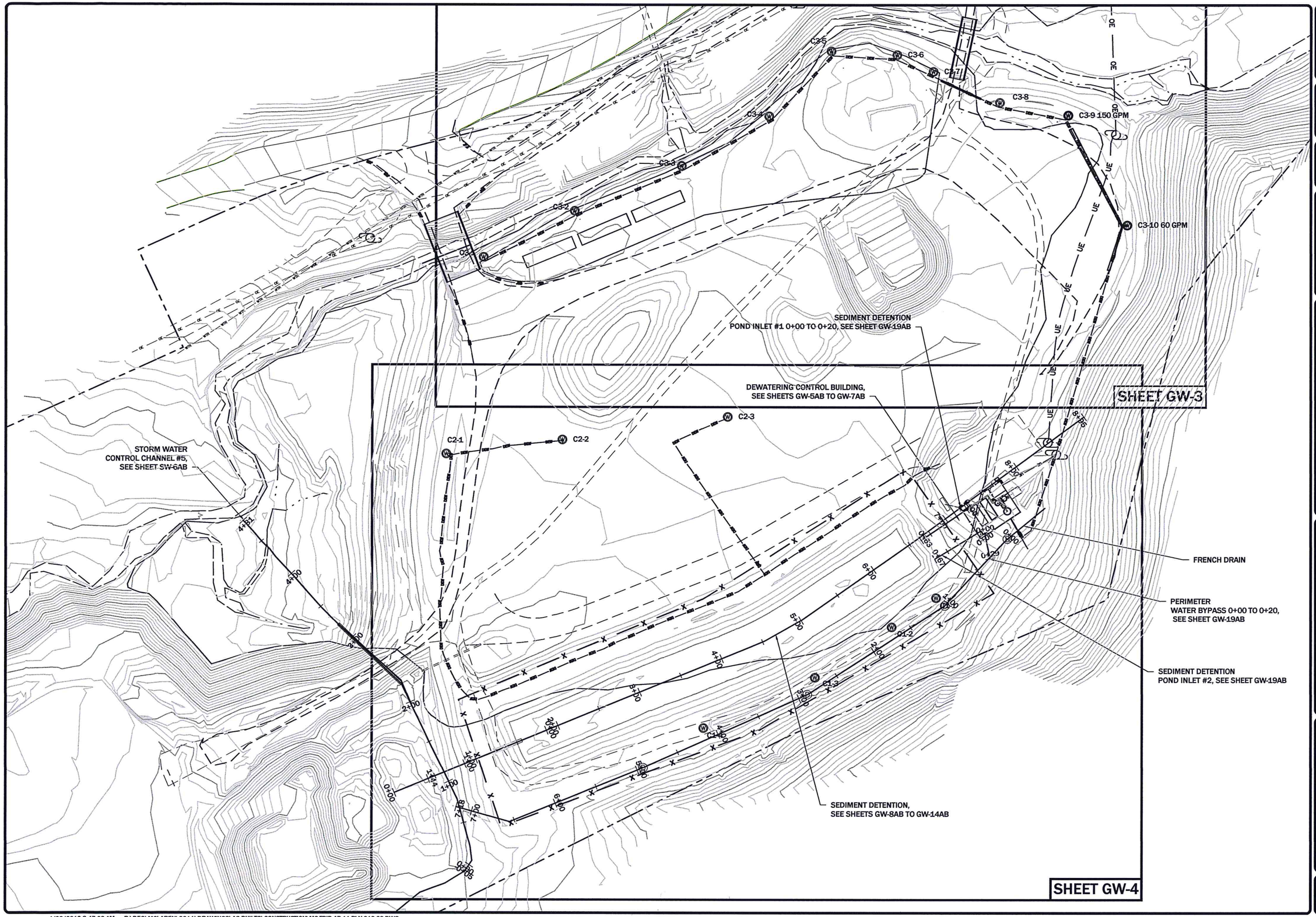
SCALE IN FEET
0 25 50

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2011 AS-BUILT DRAWINGS

TAILINGS EXCAVATION
CROSS SECTIONS
STA 9+50 TO 12+50

PIONEER
TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)-782-5177

SHEET
TE-4AB

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DRAWN BY: CLA
DESIGNED BY: MWB
CHECKED BY: JSM
APPROVED BY: MWB
PROJECT NO: 10160
DATE: 4/24/12

DISPLAYED AS:
COORD SYS/ZONE: MSP
DATUM: NAD83
UNITS: FEET
SOURCE: PIONEER

SCALE IN FEET
0 50 100

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2010 AS-BUILT DRAWINGS

PHASE I
DEWATERING
SYSTEM
LAYOUT

PIONEER
TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406) 782-5177

SHEET
GW-2AB

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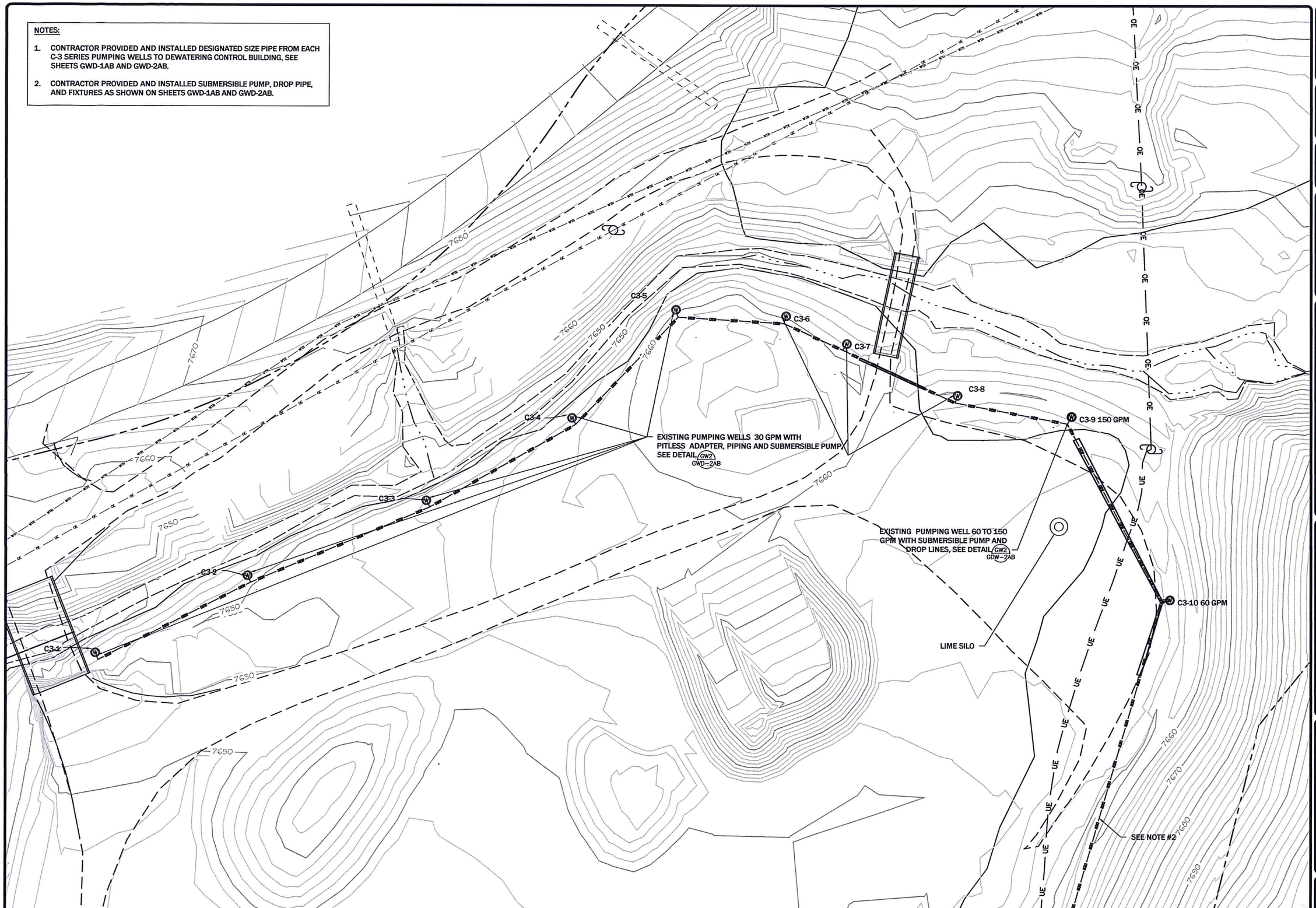
**NOTES:**

1. CONTRACTOR PROVIDED AND INSTALLED DESIGNATED SIZE PIPE FROM EACH C-3 SERIES PUMPING WELLS TO DEWATERING CONTROL BUILDING, SEE SHEETS GWD-1AB AND GWD-2AB.
2. CONTRACTOR PROVIDED AND INSTALLED SUBMERSIBLE PUMP, DROP PIPE, AND FIXTURES AS SHOWN ON SHEETS GWD-1AB AND GWD-2AB.

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| DATE: | BY: | DESC: |

DRAWN BY: CLA
DESIGNED BY: MWB
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10160
DATE: 4/24/12

DISPLAYED AS:
COORD SYS/ZONE: MSP
DATUM: NAD83
UNITS: FEET
SOURCE: PIONEER

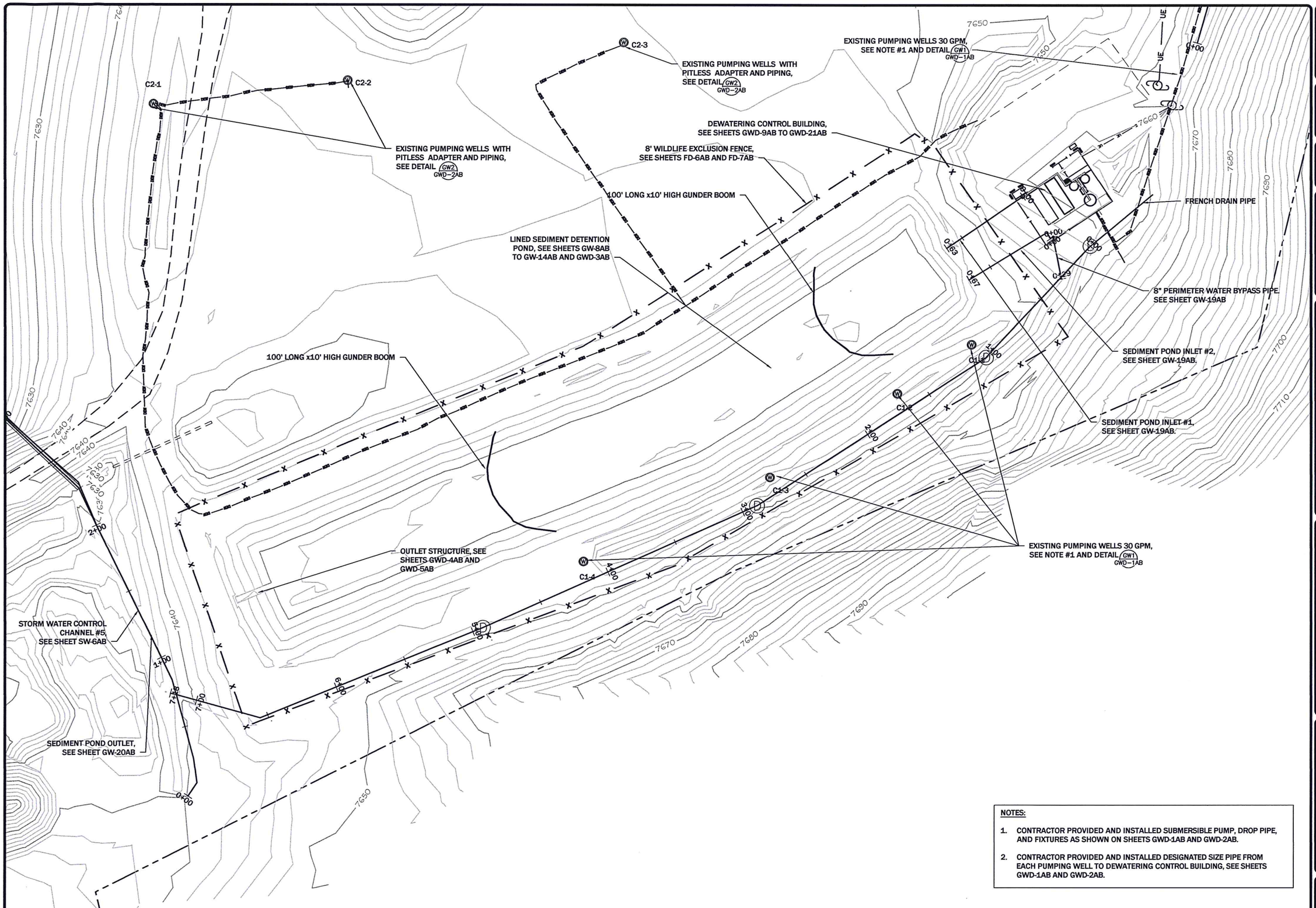
SCALE IN FEET
0 30 60

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED MINE SITE RECLAMATION PROJECT
2011 AS-BUILT DRAWINGS

PHASE I
DEWATERING SYSTEM AND PUMPING WELL LOCATIONS

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)-782-5177

SHEET
GW-3AB




**NOTES:**

1. CONTRACTOR PROVIDED AND INSTALLED SUBMERSIBLE PUMP, DROP PIPE, AND FIXTURES AS SHOWN ON SHEETS GWD-1AB AND GWD-2AB.
2. CONTRACTOR PROVIDED AND INSTALLED DESIGNATED SIZE PIPE FROM EACH PUMPING WELL TO DEWATERING CONTROL BUILDING, SEE SHEETS GWD-1AB AND GWD-2AB.

| REVISION: DATE: | BY: | DESC: |
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| DRAWN BY: | CLA |
| DESIGNED BY: | MWB |
| CHECKED BY: | MCB |
| APPROVED BY: | JSM |
| PROJECT NO: | 10160 |
| DATE: | 4/24/12 |

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| COORD SYS/ZONE: | MSP |
| DATUM: | NAD83 |
| UNITS: | FEET |
| SOURCE: | UNITS |

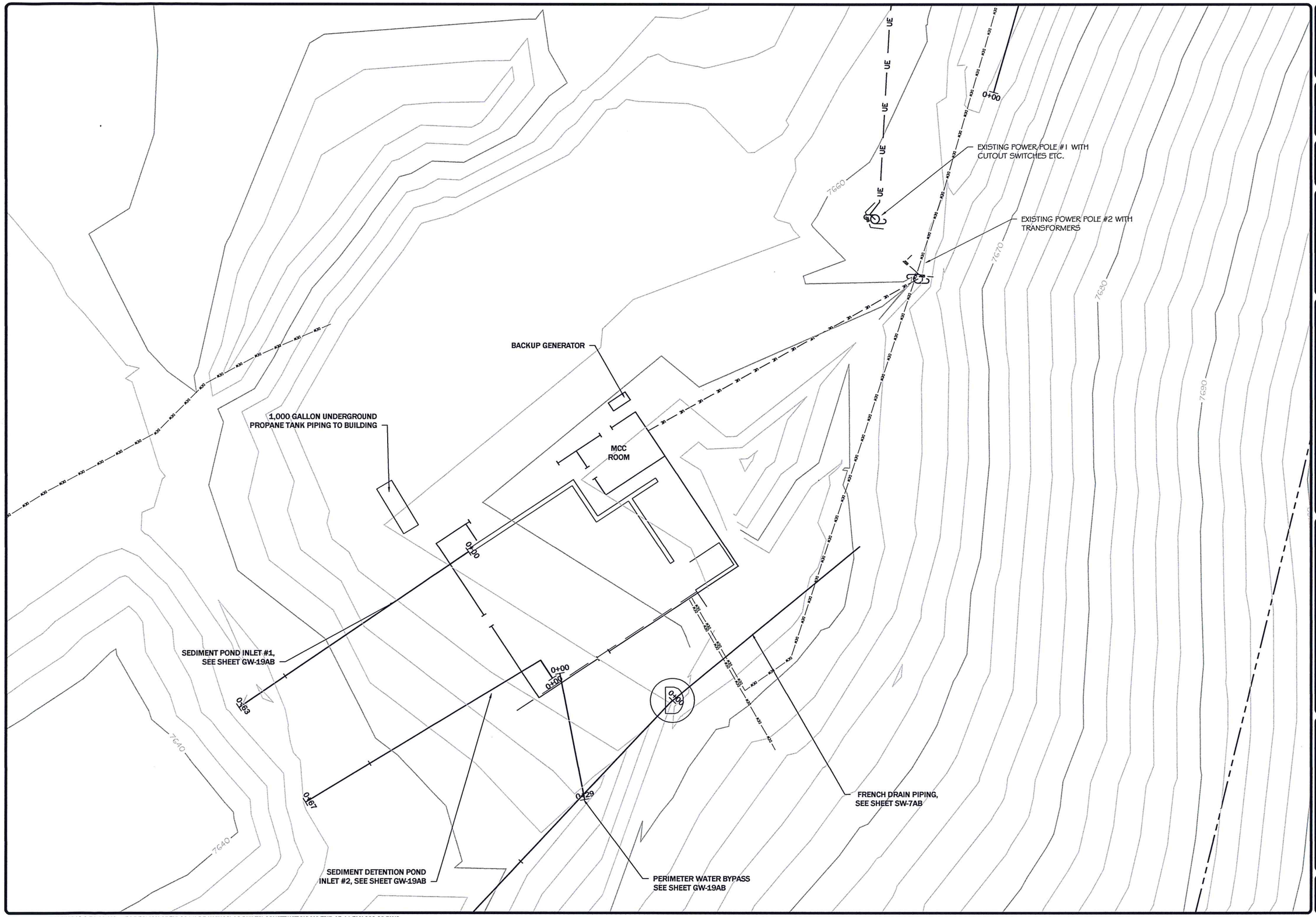
SCALE IN FEET
0 30 60

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2011 AS-BUILT DRAWINGS

PHASE I
DEWATERING SYSTEM
AND PUMPING
WELL LOCATIONS

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)-782-5177

SHEET
GW-4AB

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DESIGNED BY: JSM
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10160
DATE: 4/24/12

DISPLAYED AS:
COORD SYS/ZONE: MSP
DATUM: NAD83
UNITS: FEET
SOURCE: PIONEER

N

SCALE IN FEET
0 10 20

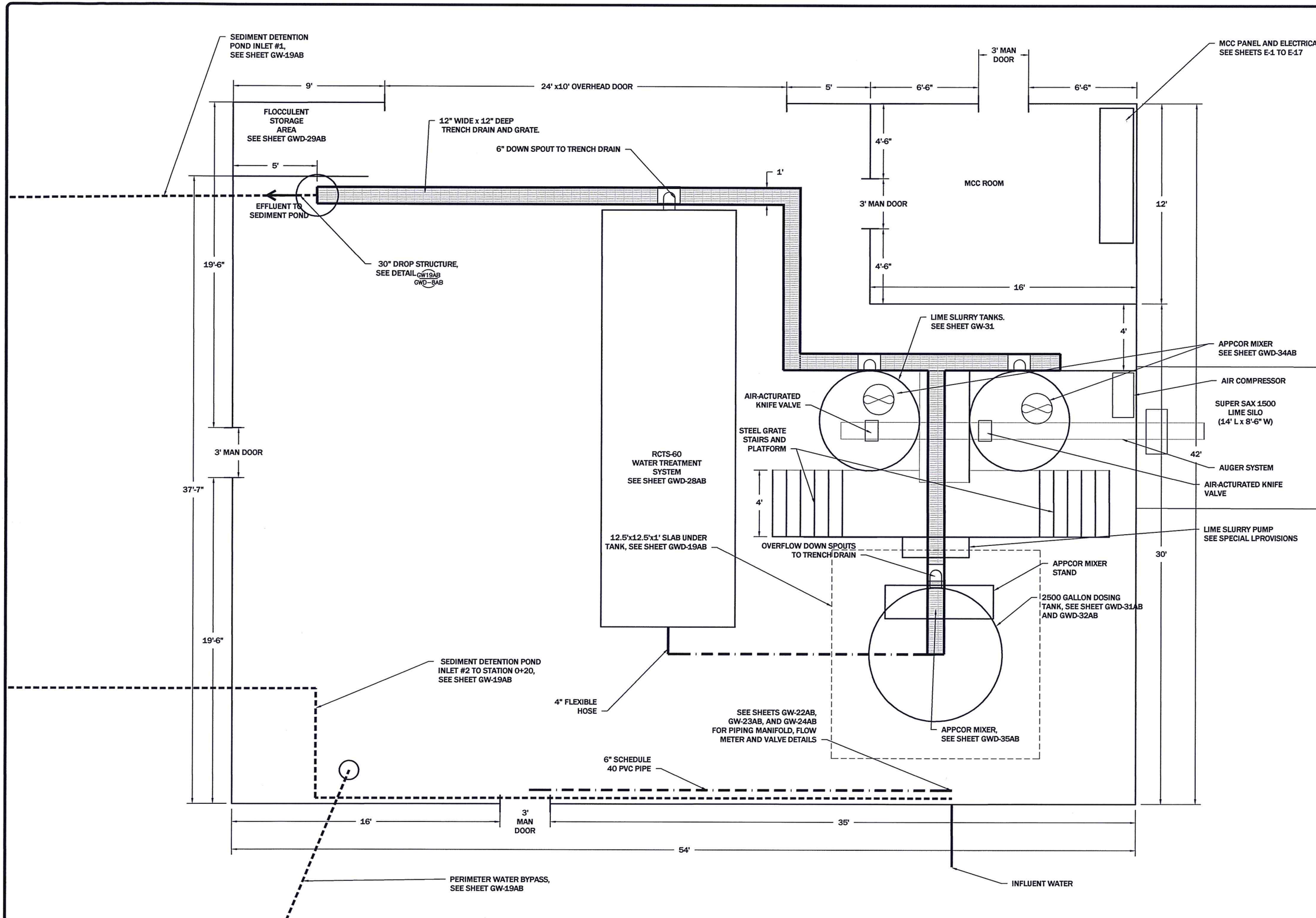
MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2011 AS-BUILT DRAWINGS

# DEWATERING CONTROL BUILDING PLAN VIEW

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)-782-5177

SHEET
GW-5AB

4/23/2012 8:53:13 AM P:\DEQ\MCLAREN\2011\DRAWINGS\AS-BUILTS\CONSTRUCTION\MC-FBID-AB-11-PLN-029-09.DWG




REVISION:

| DATE: | BY: | DESC: |
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DESIGNED BY: JSM
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10160
DATE: 4/24/12

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: PIONEER

1 0 3
SCALE : 3/16"=1'-0"

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2011 AS-BUILT DRAWINGS

# WATER TREATMENT SYSTEM

PIONEER TECHNICAL SERVICES, INC.
BUTTE, MONTANA 59701
63-1/2 WEST BROADWAY
(406)-782-5177

SHEET
GW-6AB

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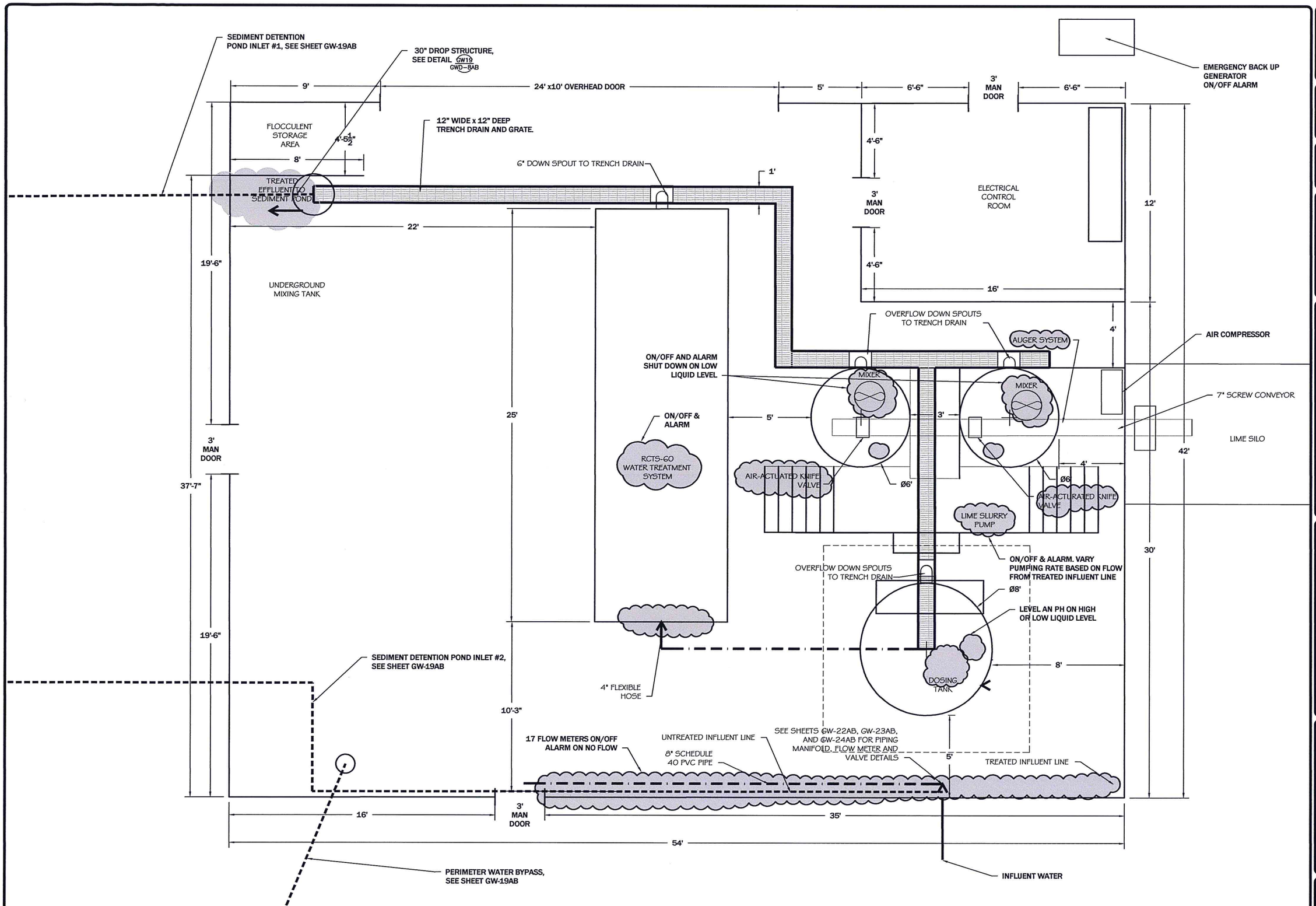


REVISION:

| DATE: | BY: | DESC: |
|---|---|---|
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DRAWN BY: CLA
DESIGNED BY: MWB
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10160
DATE: 4/24/12

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: PIONEER

1 0 3
SCALE : 3/16"=1'-0"

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2011 AS-BUILT DRAWINGS

DEWATERING
CONTROL BUILDING
INSTRUMENTATION
PLAN VIEW

PIONEER TECHNICAL SERVICES, INC.
BUTTE, MONTANA 59701
63-1/2 WEST BROADWAY
(406)-782-5177

SHEET
GW-7AB

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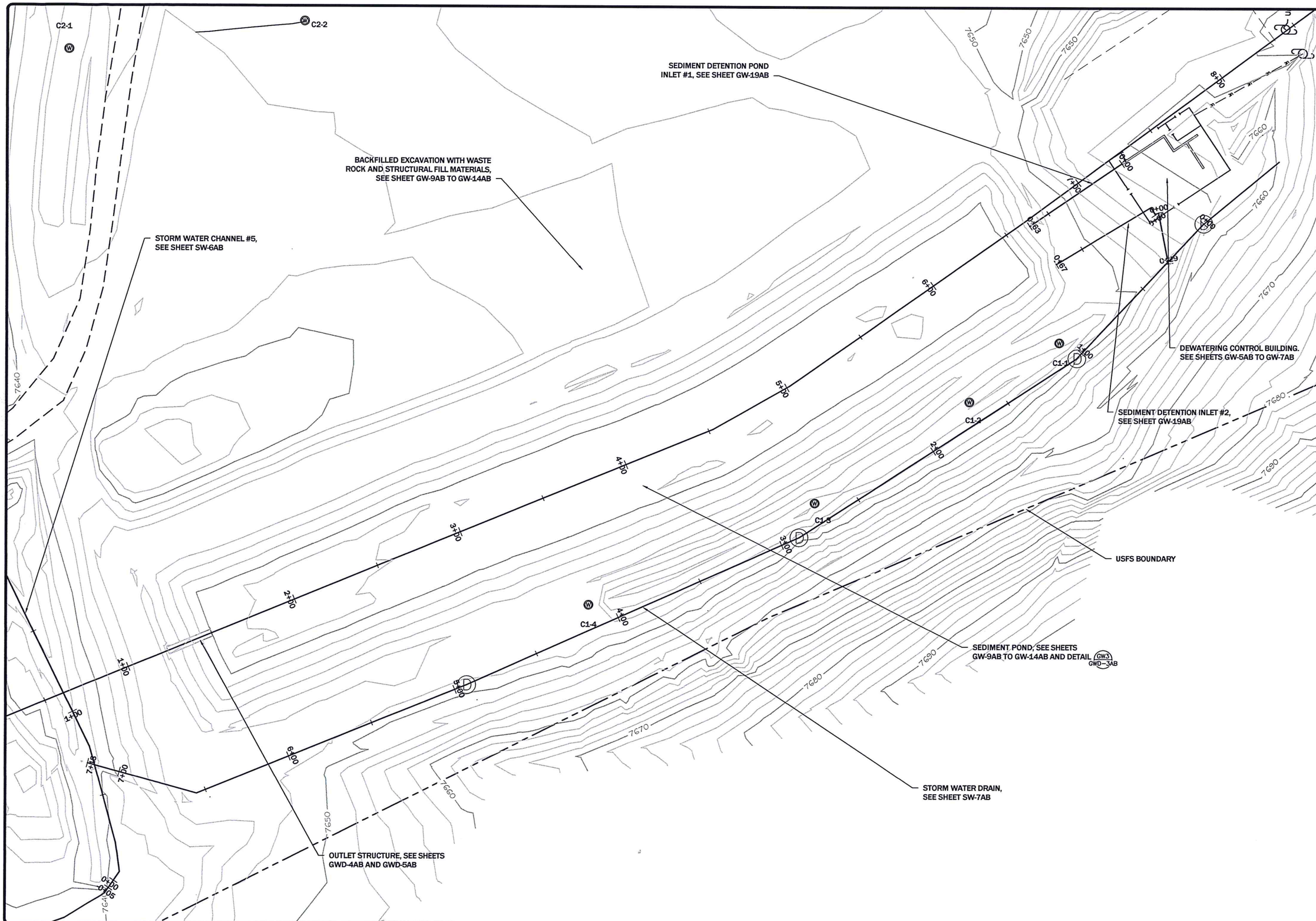


REVISION:

| DATE: | BY: | DESC: |
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DRAWN BY: CLA
DESIGNED BY: JSM
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10160
DATE: 4/24/12

DISPLAYED AS:
COORD SYS/ZONE: MSP
DATUM: NAD83
UNITS: FEET
SOURCE: PIONEER

N

SCALE IN FEET
0 25 50

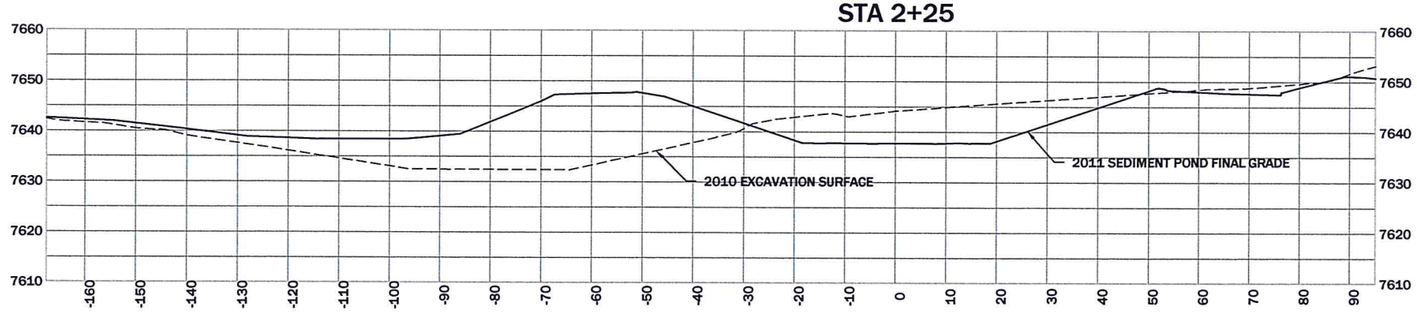
MDEQ\MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2011 AS-BUILT DRAWINGS

# SEDIMENT POND PLAN VIEW

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)-782-5177

SHEET
GW-8AB

## STA 2+25

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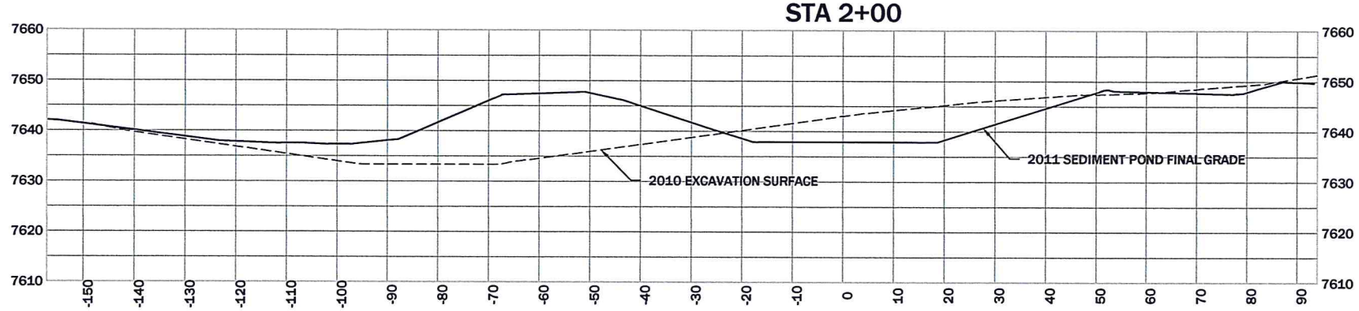


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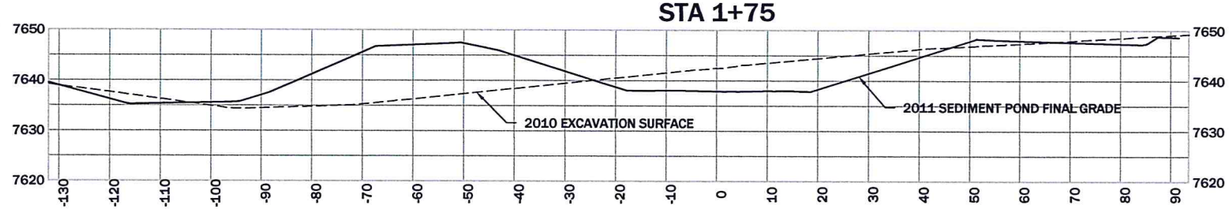


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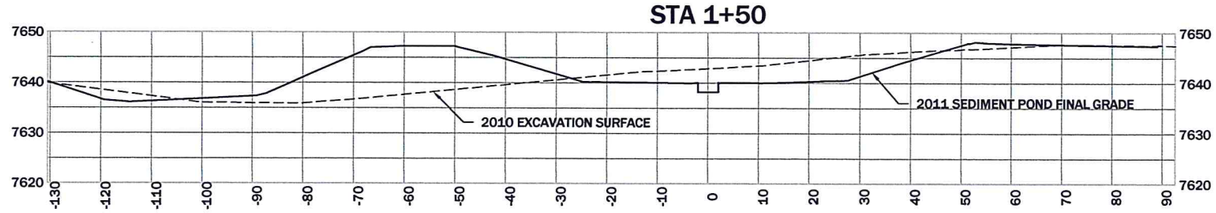


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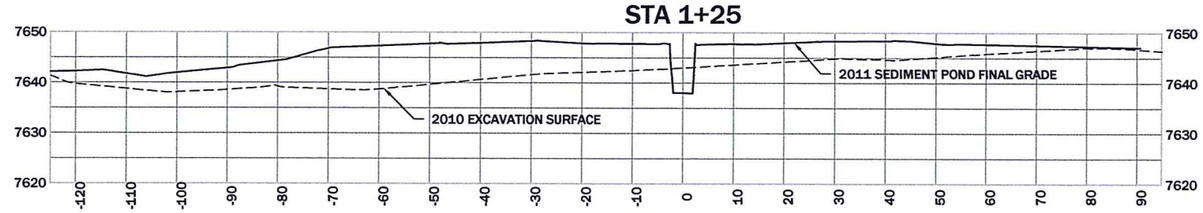


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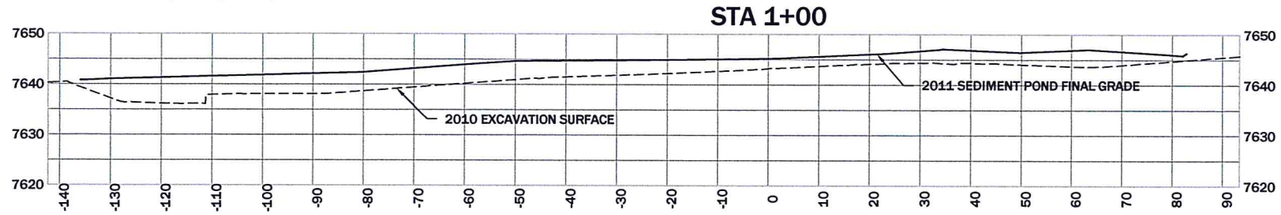


REVISION:

| DATE: | BY: | DESC: |
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DRAWN BY: CLA
DESIGNED BY: JSM
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10160
DATE: 4/24/12

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: PIONEER

SCALE IN FEET
0 15 30

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED MINE SITE RECLAMATION PROJECT
2011 AS-BUILT DRAWINGS

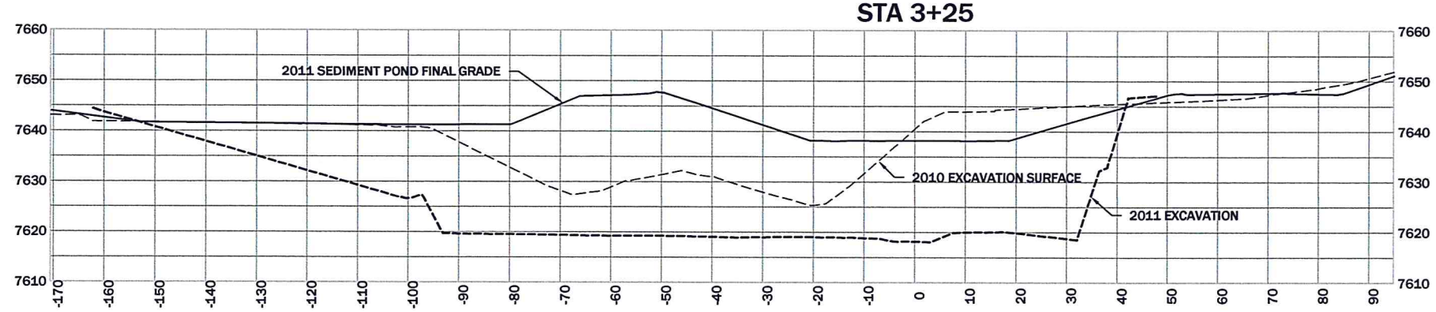
SEDIMENT POND
CROSS SECTIONS
STA 1+00 TO 2+25

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)-782-5177

SHEET
GW-9AB

4/23/2012 8:58:59 AM P:\DEQ\MCLAREN\2011\DRAWINGS\AS-BUILTS\CONSTRUCTION\MC-FBID-AB-11-XSF-001-09.DWG

## STA 3+25

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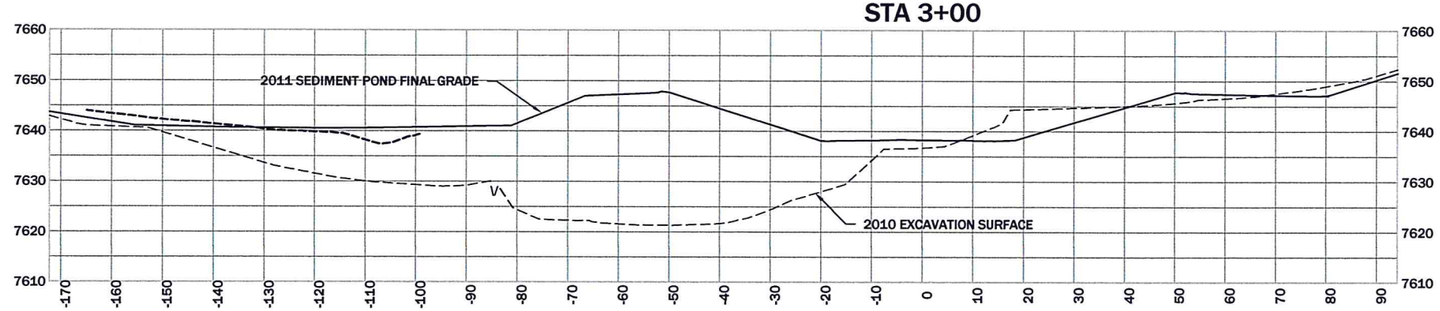


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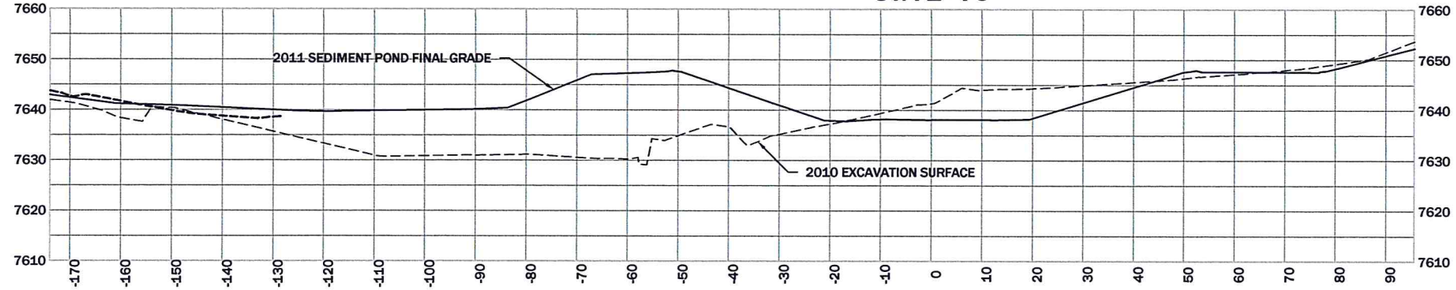


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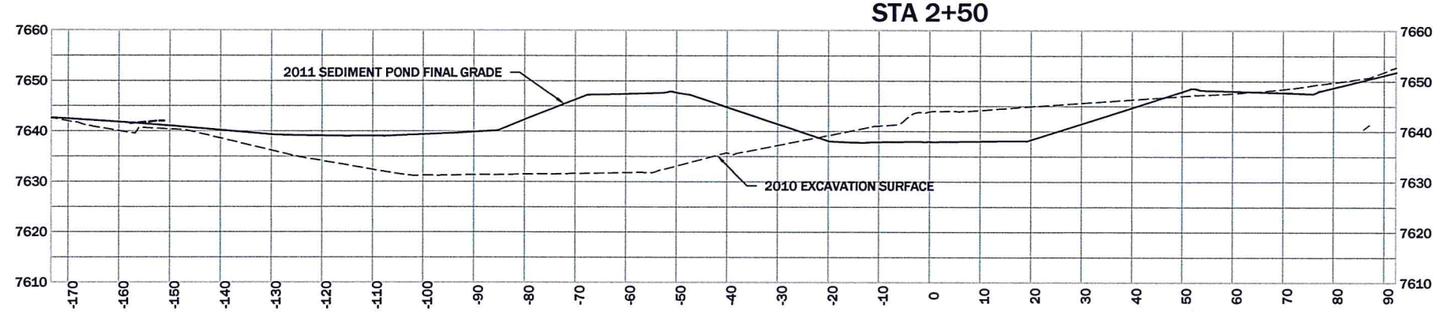


REVISION:

| DATE: | BY: | DESC: |
|---|---|---|
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DRAWN BY: CLA
DESIGNED BY: JSM
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10160
DATE: 4/24/12

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: PIONEER

SCALE IN FEET
0 15 30

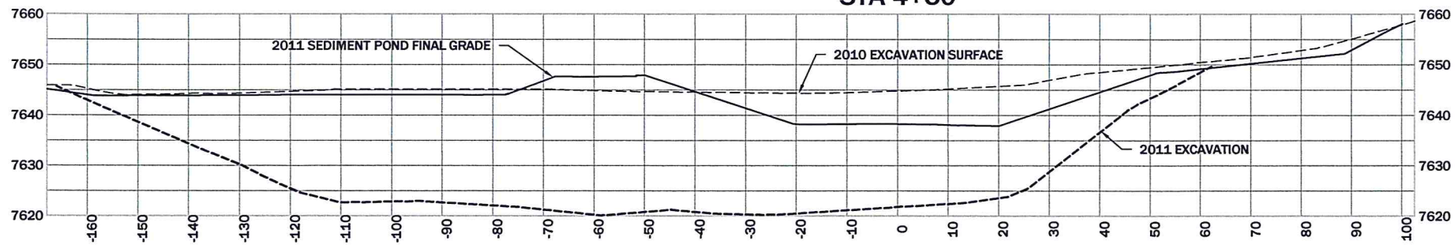
MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2011 AS-BUILT DRAWINGS

SEDIMENT POND
CROSS SECTIONS
STA 2+50 TO 3+25

PIONEER
TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)-782-5177

SHEET
GW-10AB

## STA 4+50

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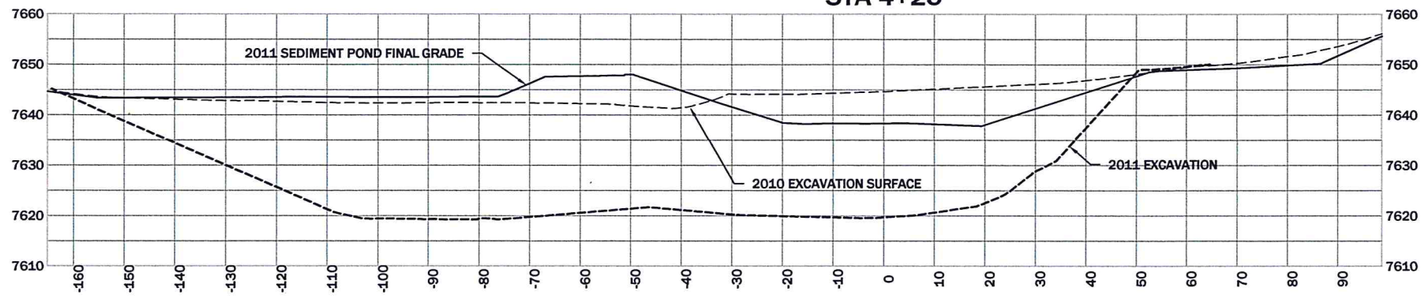


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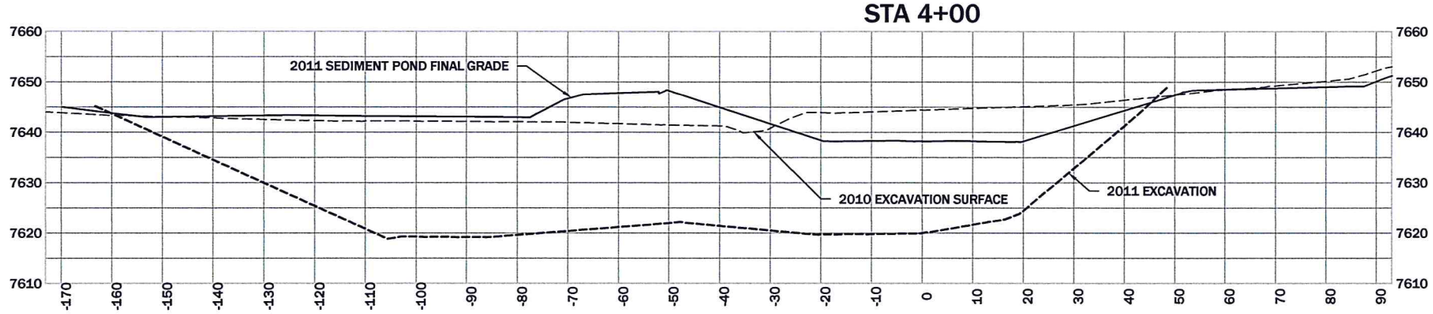


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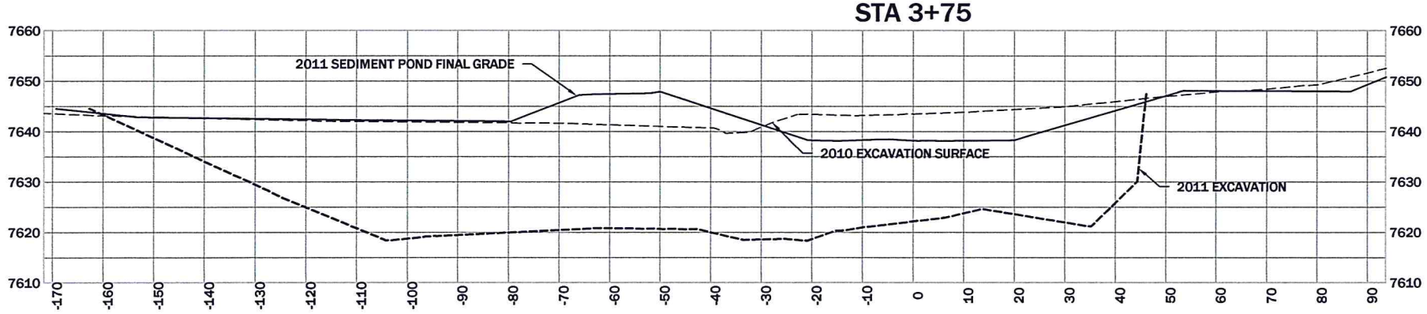


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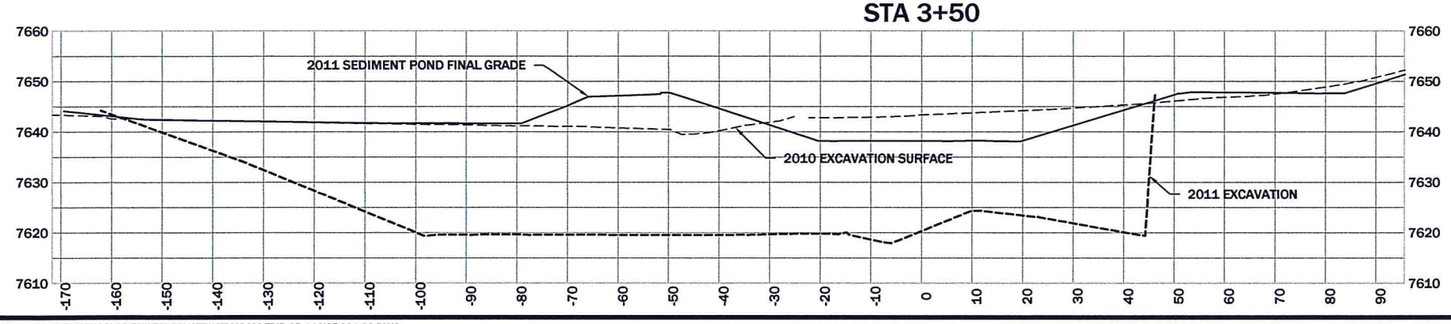


REVISION:

| DATE: | BY: | DESC: |
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DRAWN BY: CLA
DESIGNED BY: JSM
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10160
DATE: 4/24/12

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: PIONEER

SCALE IN FEET
0 15 30

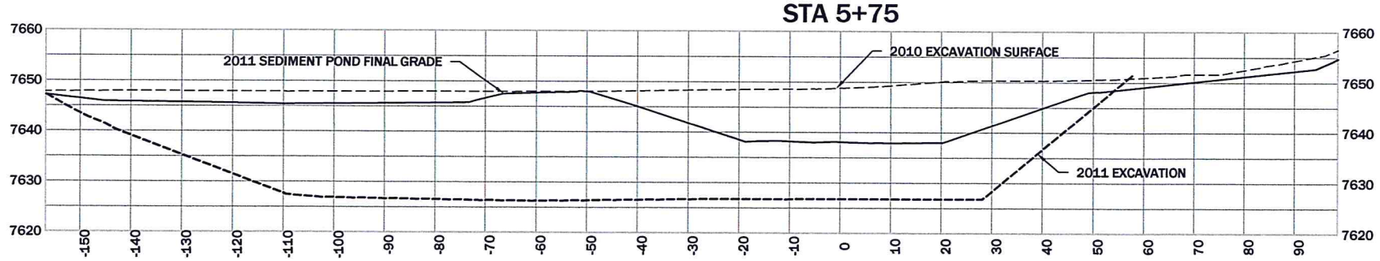
MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2011 AS-BUILT DRAWINGS

SEDIMENT POND
CROSS SECTIONS
STA 3+50 TO 4+50

PIONEER
TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)-782-5177

SHEET
GW-11AB

## STA 5+75

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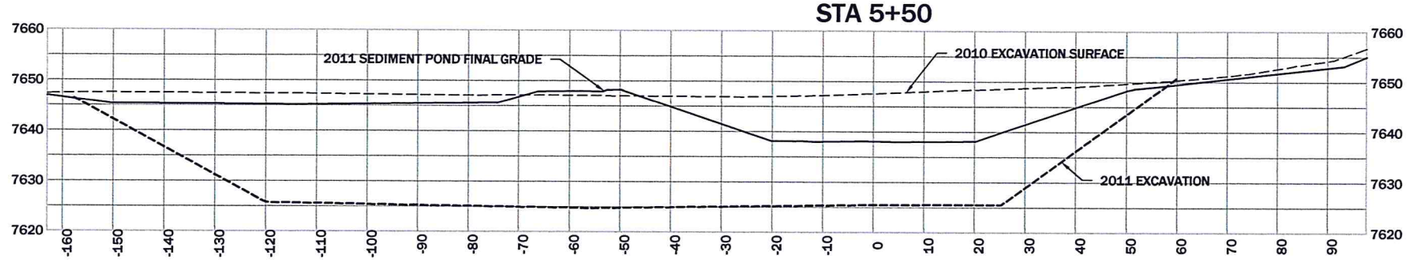


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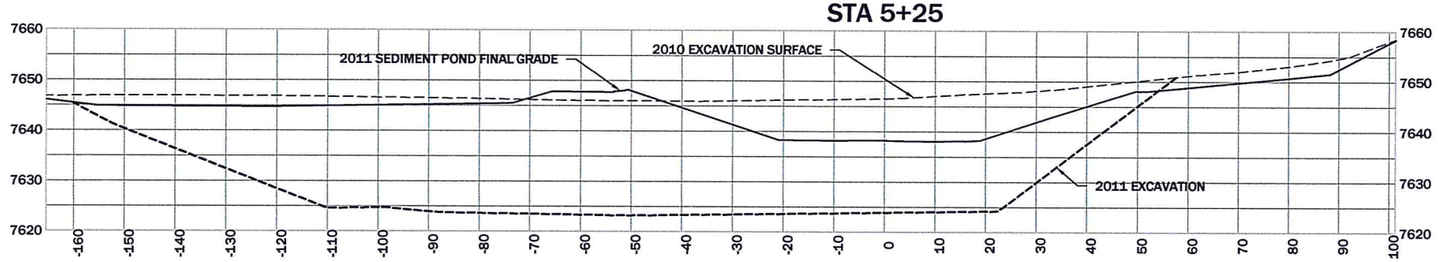


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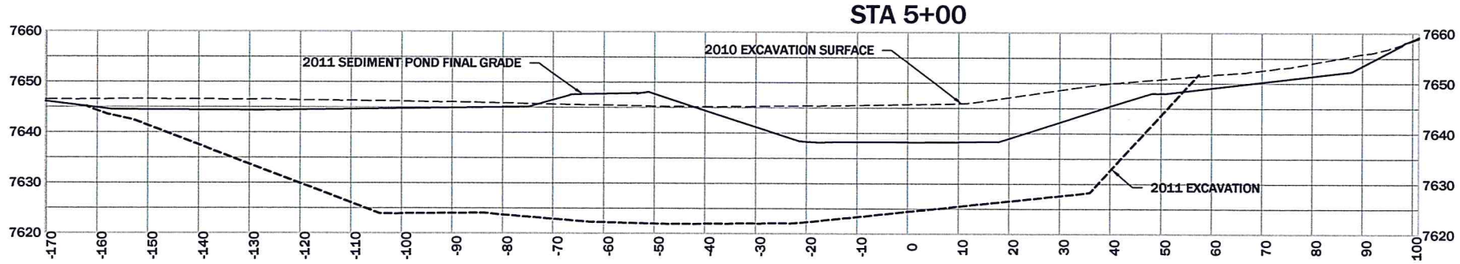


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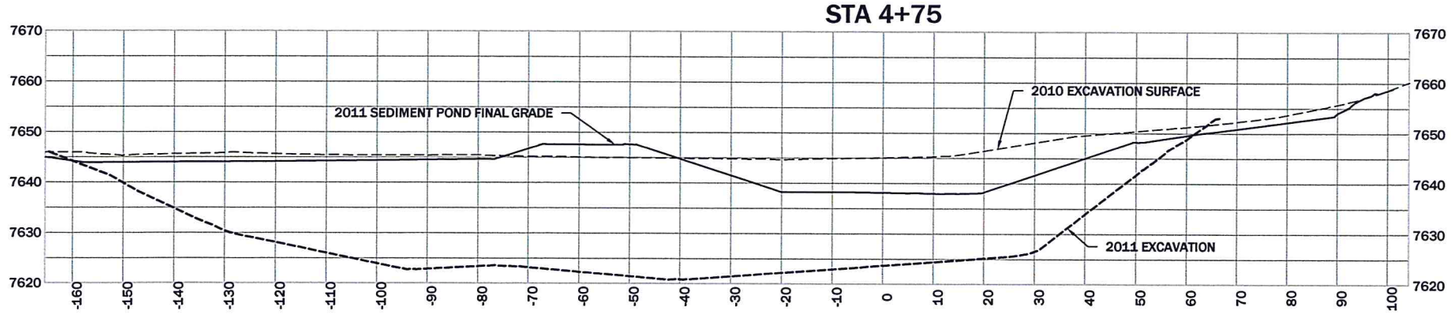


REVISION:

| DATE: | BY: | DESC: |
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DRAWN BY: CLA
DESIGNED BY: JSM
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10160
DATE: 4/24/12

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: PIONEER

SCALE IN FEET
0 15 30

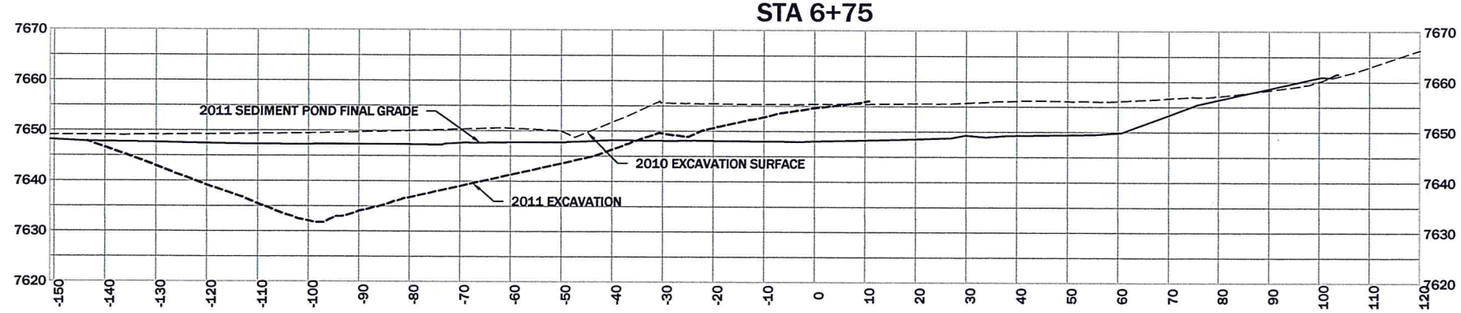
MDEQ/MWCB
MCLAREN TAILINGS ABANDONED MINE SITE RECLAMATION PROJECT
2011 AS-BUILT DRAWINGS

SEDIMENT POND CROSS SECTIONS STA 4+75 TO 5+75

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)-782-5177

SHEET
GW-12AB

## STA 6+75

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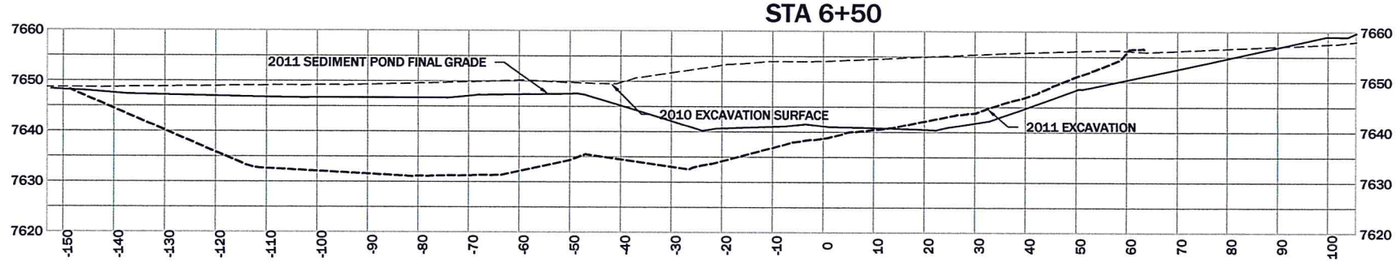


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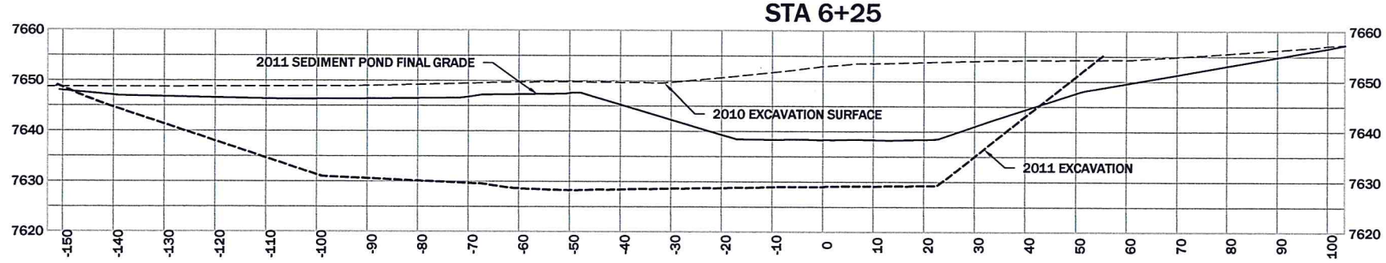


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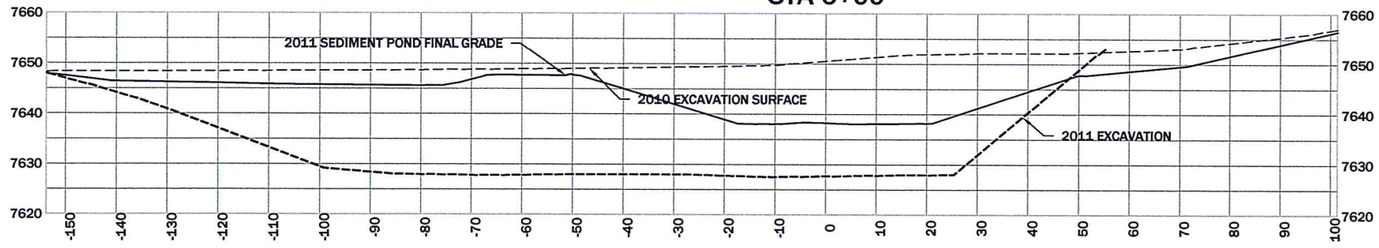


REVISION:

| DATE: | BY: | DESC: |
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DRAWN BY: CLA
DESIGNED BY: JSM
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10160
DATE: 4/24/12

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: PIONEER

SCALE IN FEET
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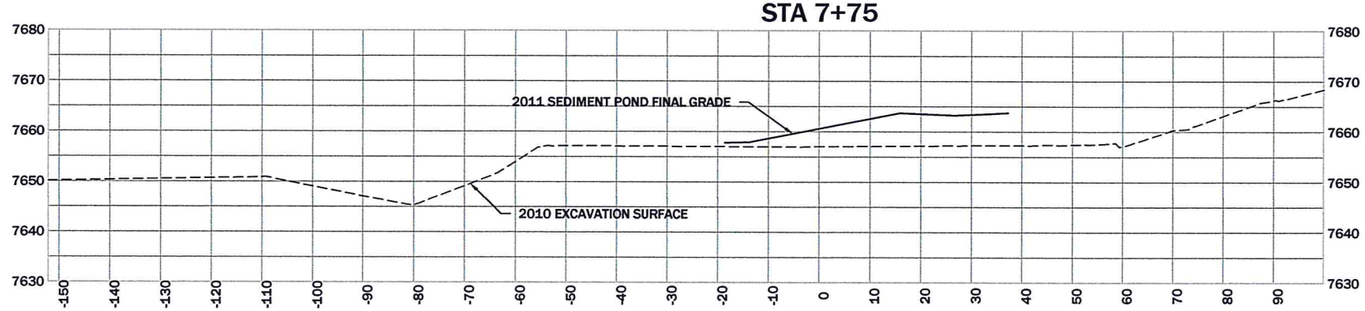
MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2011 AS-BUILT DRAWINGS

SEDIMENT POND
CROSS SECTIONS
STA 6+00 TO 6+75

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)-782-5177

SHEET
GW-13AB

## STA 7+75

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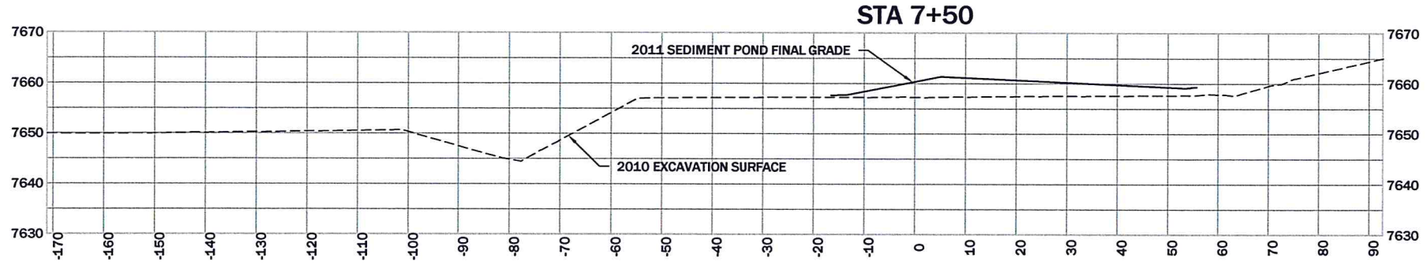


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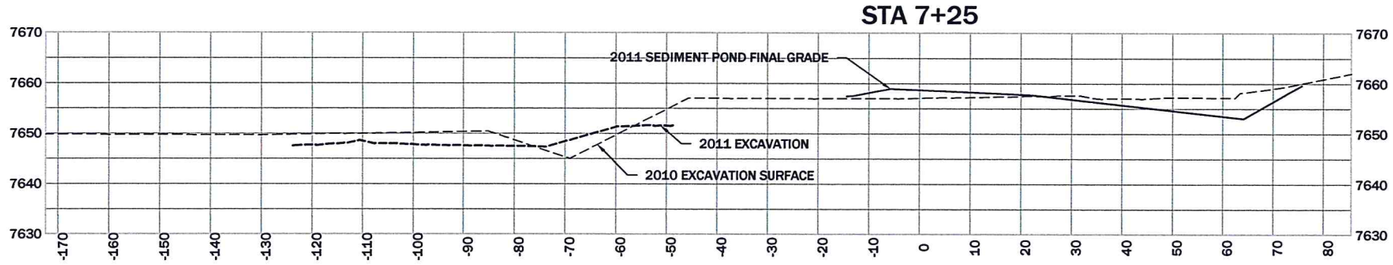


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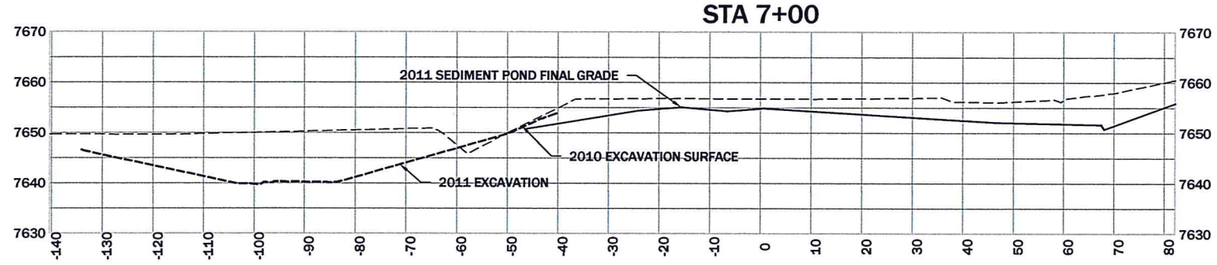


REVISION:

| DATE: | BY: | DESC: |
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DRAWN BY: CLA
DESIGNED BY: JSM
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10160
DATE: 4/24/12

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: PIONEER

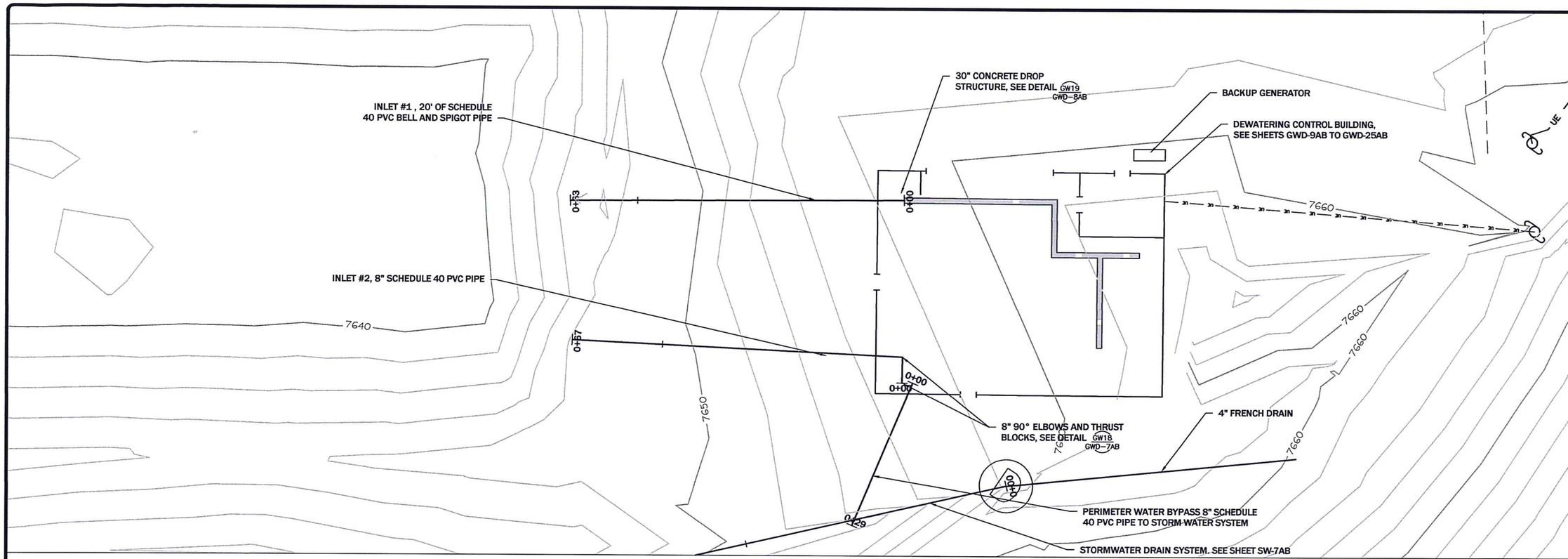
SCALE IN FEET
0 15 30

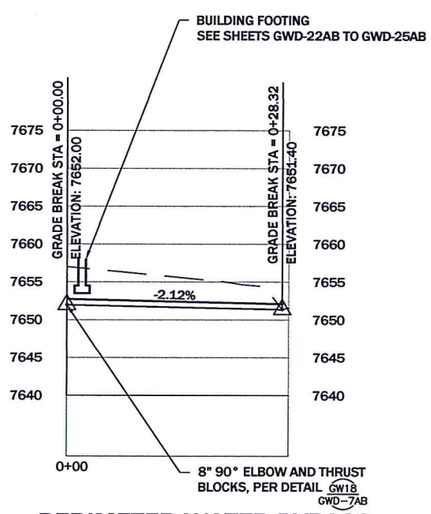
MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2011 AS-BUILT DRAWINGS

BUILDING PAD
CROSS SECTIONS
STA 7+00 TO 7+75

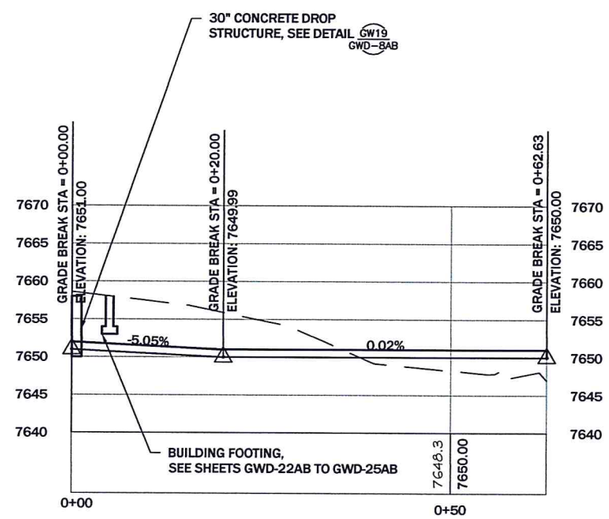
PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)782-5177

SHEET
GW-14AB

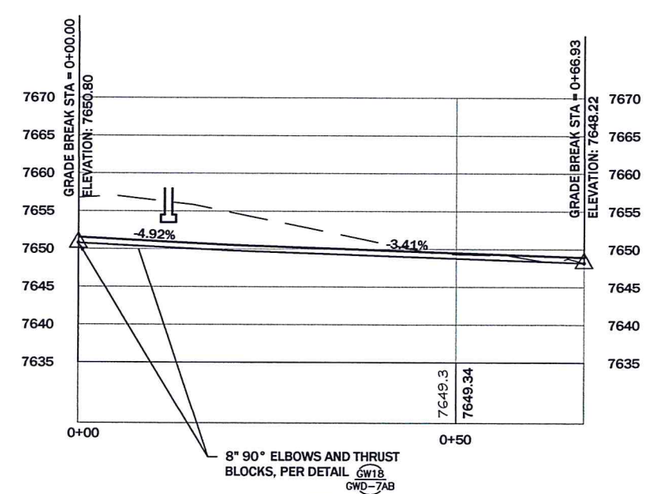



## PERIMETER WATER BYPASS




## INLET #1




## INLET #2

| REVISION: | | |
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| DATE: | BY: | DESC: |

DRAWN BY: CLA
DESIGNED BY: JSM
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10160
DATE: 4/24/12

DISPLAYED AS:
COORD SYS/ZONE: MSP
DATUM: NAD83
UNITS: FEET
SOURCE: PIONEER

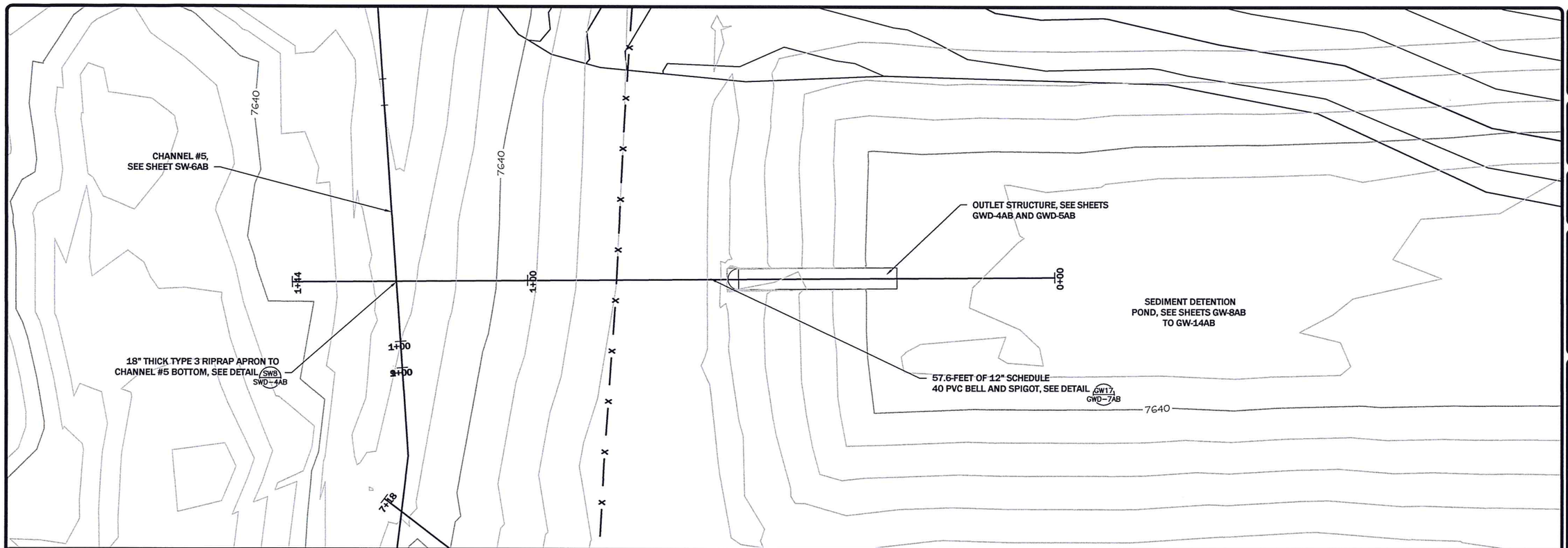
SCALE IN FEET
0 10 20

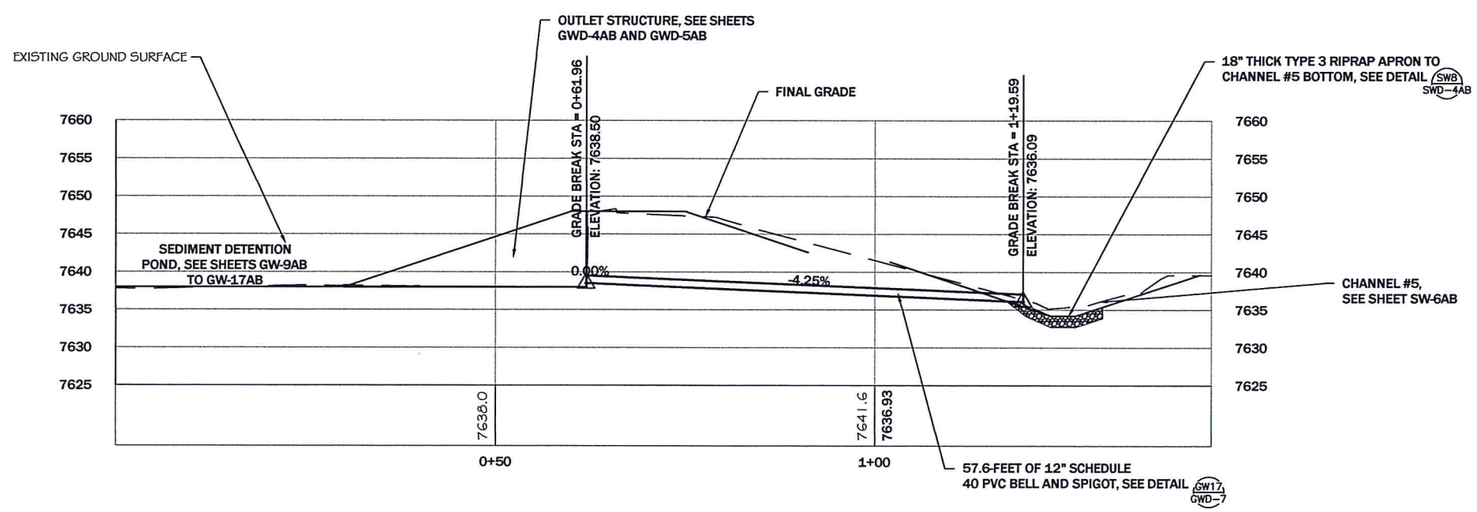
MDEQ/MWCB
MCLAREN TAILINGS ABANDONED MINE SITE RECLAMATION PROJECT
2011 AS-BUILT DRAWINGS

SEDIMENT DETENTION POND INLETS AND PERIMETER WATER BYPASS

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)-782-5177

SHEET GW-19AB




REVISION:

| DATE: | BY: | DESC: |
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DRAWN BY: CLA
DESIGNED BY: JSM
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10160
DATE: 4/24/12

DISPLAYED AS:
COORD SYS/ZONE: MSP
DATUM: NAD83
UNITS: FEET
SOURCE: PIONEER

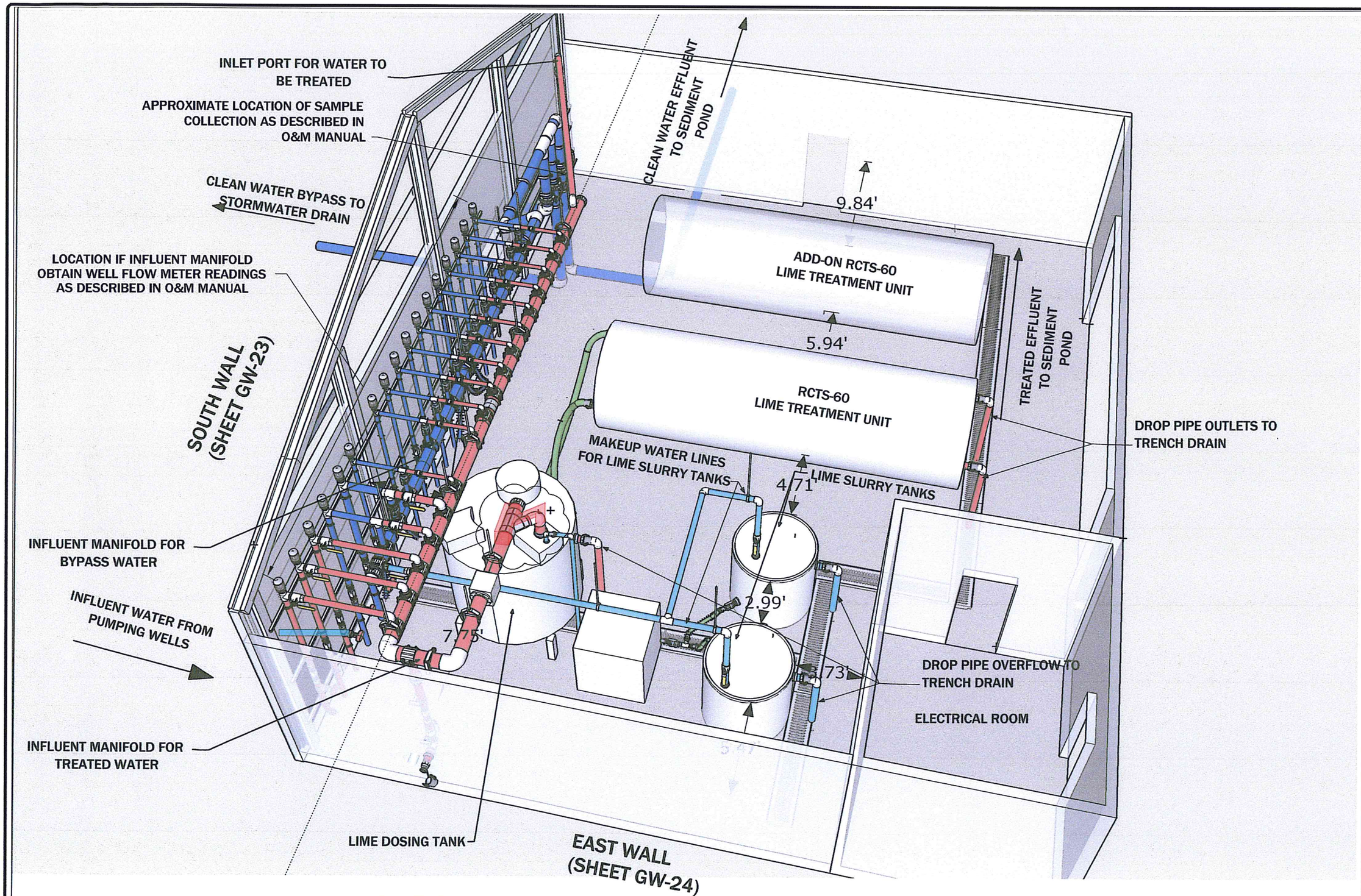
SCALE IN FEET
0 10 20

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2011 AS-BUILT DRAWINGS

SEDIMENT
DETENTION POND
OUTLET

PIONEER
TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)-782-5177

SHEET
GW-20AB




## OBLIQUE VIEW

SCALE IN FEET
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| REVISION: DATE: | BY: | DESC: |
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DRAWN BY: MWB
DESIGNED BY: MWB
CHECKED BY: JSM/MCB
APPROVED BY: MWB
PROJECT NO: 10160
DATE: 4/24/12

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: PIONEER

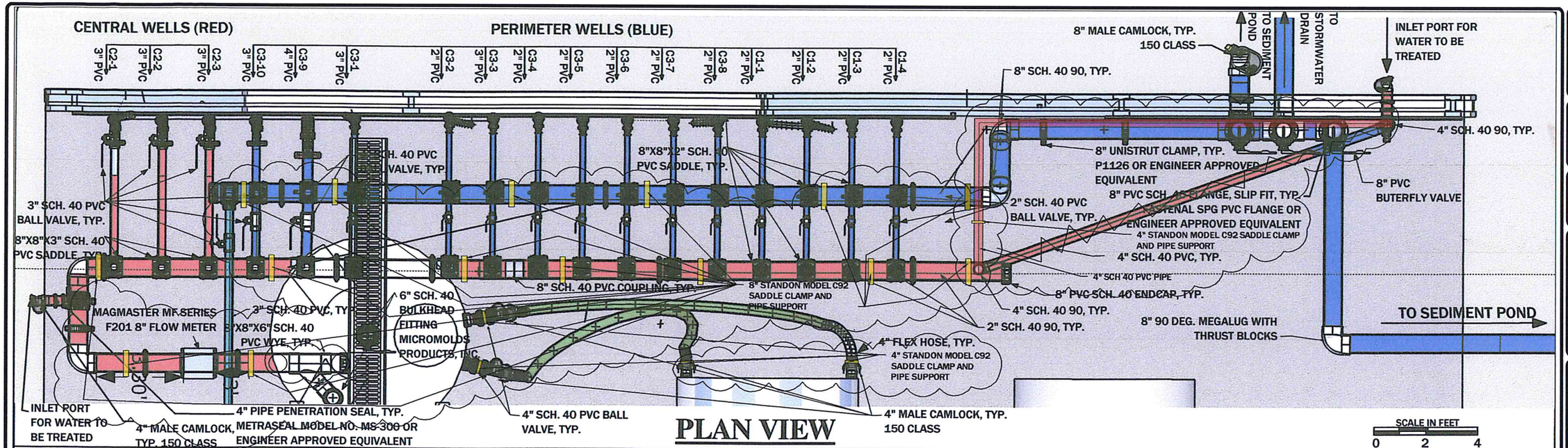
SCALE IN FEET
0 VARIES

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED MINE SITE RECLAMATION PROJECT
2011 AS-BUILT DRAWINGS

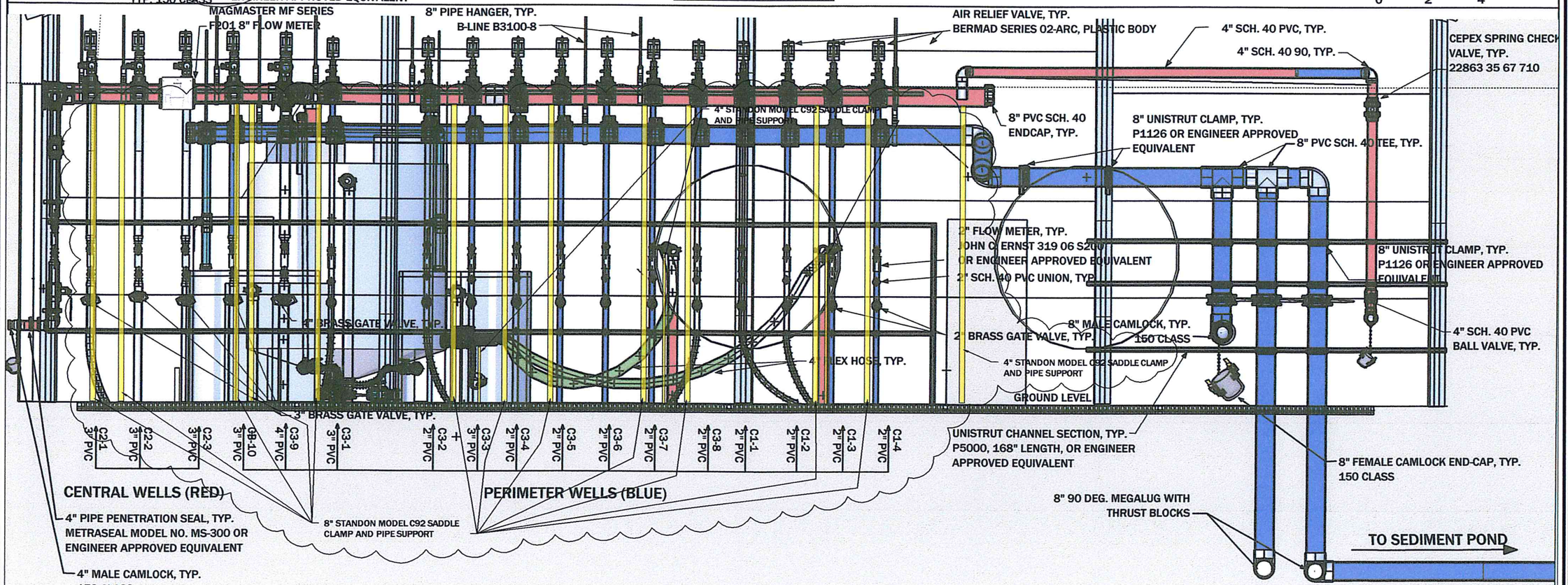
DEWATERING CONTROL BUILDING PIPING OVERVIEW

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406) 782-5177

SHEET GW-22AB




# PLAN VIEW




# ELEVATION VIEW

| REVISION: | | |
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| DATE: | BY: | DESC: |

DRAWN BY: MWB
DESIGNED BY: MWB
CHECKED BY: JSM/MCB
APPROVED BY: MWB
PROJECT NO: 10160
DATE: 4/24/12

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: PIONEER

SCALE IN FEET
0 VARIES

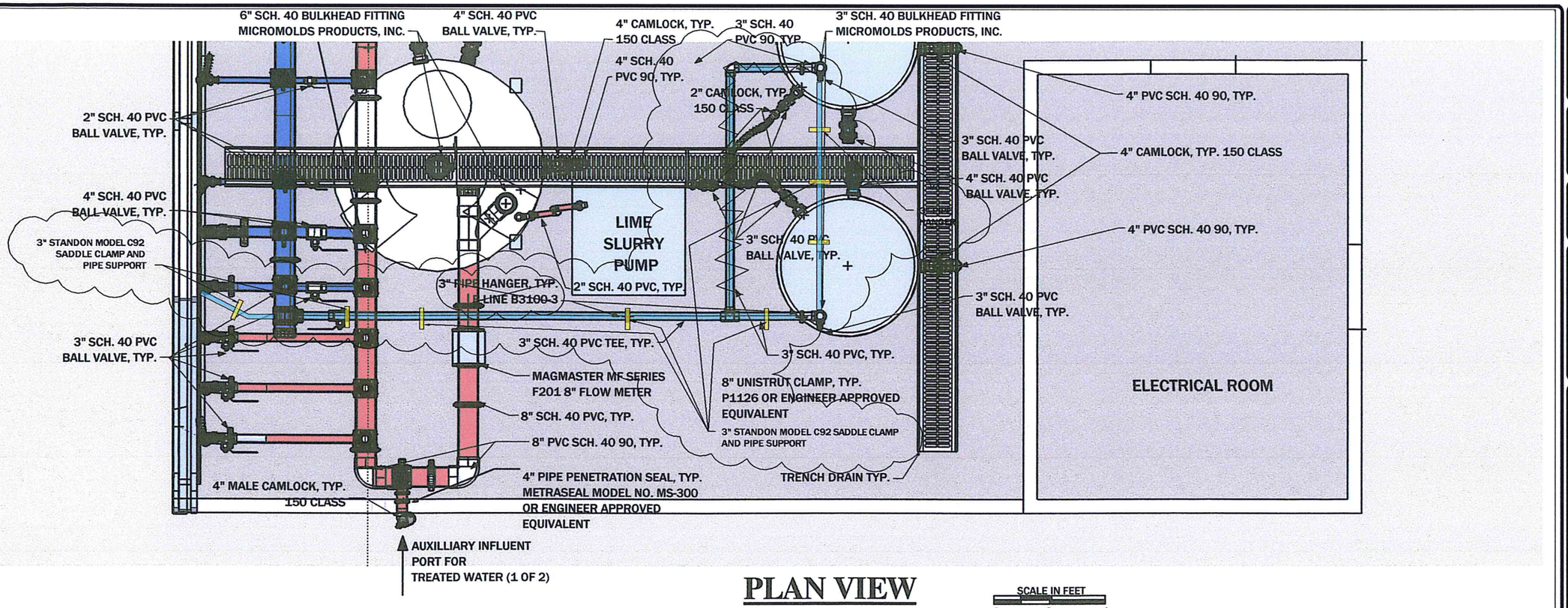
MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2011 AS-BUILT DRAWINGS

DEWATERING
CONTROL BUILDING
SOUTH WALL

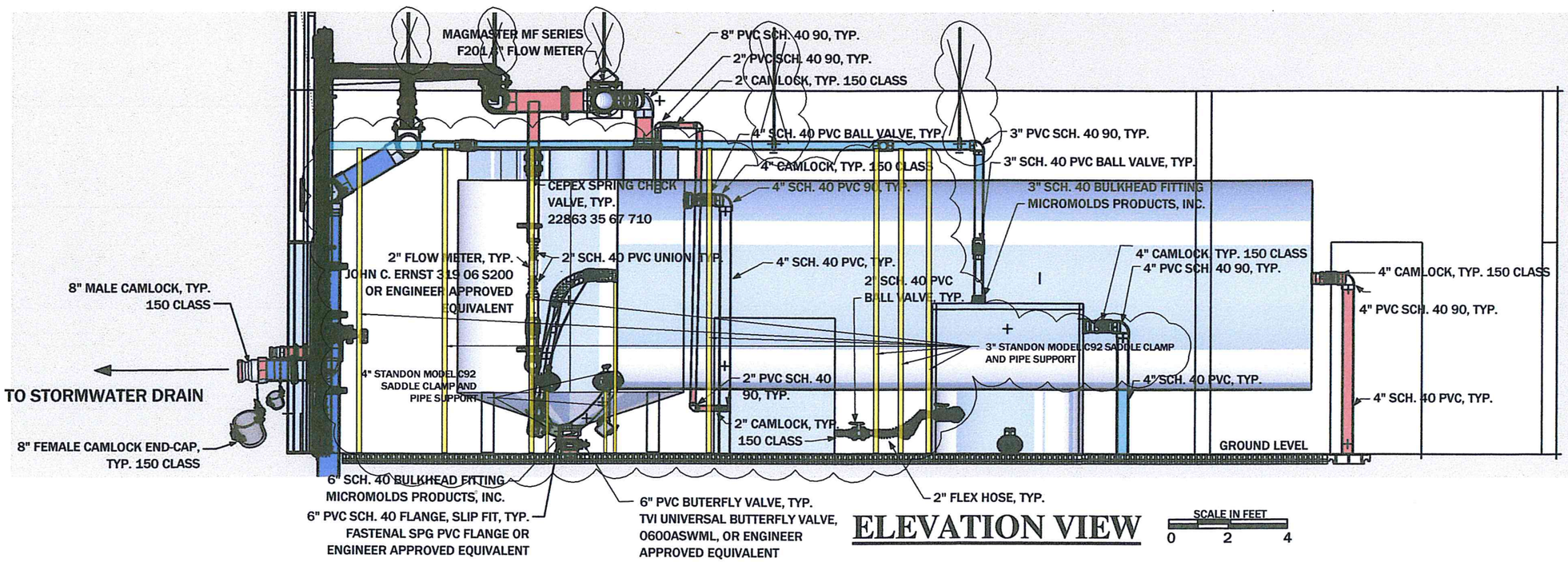
PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406) 782-5177

SHEET
GW-23AB

4/23/2012 9:07:27 AM P:\DEQ\MCLAREN\2011\DRAWINGS\AS-BUILTS\GW23.DWG




# PLAN VIEW




# ELEVATION VIEW

REVISION:

| DATE: | BY: | DESC: |
|---|---|---|
| | | |

DRAWN BY: MWB
DESIGNED BY: MWB
CHECKED BY: JSM/MCB
APPROVED BY: MWB
PROJECT NO: 10160
DATE: 4/24/12

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: PIONEER

SCALE IN FEET
0 VARIES

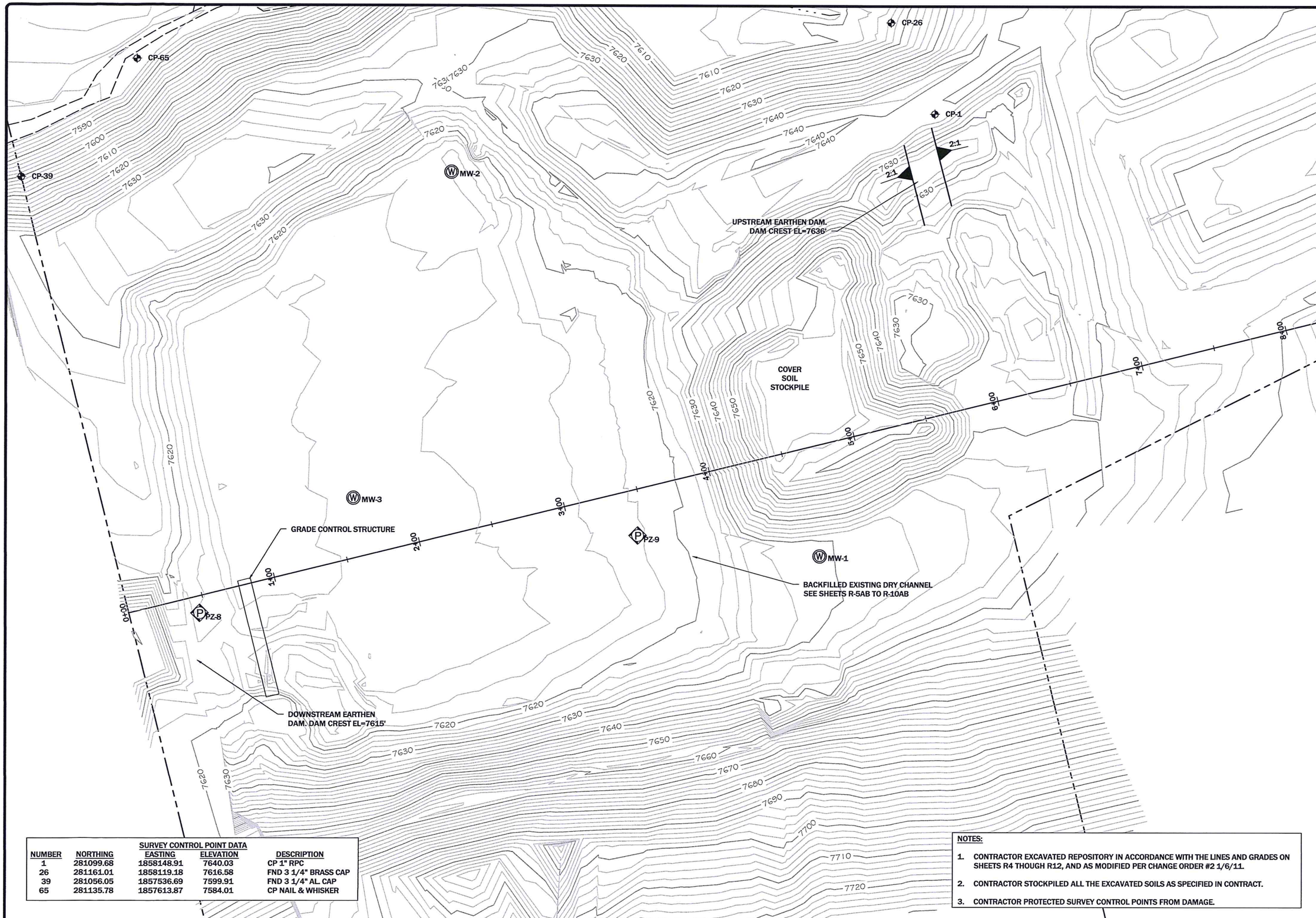
MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2011 AS-BUILT DRAWINGS

DEWATERING
CONTROL BUILDING
EAST WALL

PIONEER
TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406) 782-5177

SHEET
GW-24AB

4/23/2012 9:08:29 AM P:\DEQ\MCLAREN\2011\DRAWINGS\AS-BUILTS\GW24.DWG




**SURVEY CONTROL POINT DATA**

| NUMBER | NORTHING | EASTING | ELEVATION | DESCRIPTION |
|---|---|---|---|---|
| 1 | 281099.68 | 1858148.91 | 7640.03 | CP 1" RPC |
| 26 | 281161.01 | 1858119.18 | 7616.58 | FND 3 1/4" BRASS CAP |
| 39 | 281056.05 | 1857536.69 | 7599.91 | FND 3 1/4" AL. CAP |
| 65 | 281135.78 | 1857613.87 | 7584.01 | CP NAIL & WHISKER |

**NOTES:**

1. CONTRACTOR EXCAVATED REPOSITORY IN ACCORDANCE WITH THE LINES AND GRADES ON SHEETS R4 THOUGH R12, AND AS MODIFIED PER CHANGE ORDER #2 1/6/11.
2. CONTRACTOR STOCKPILED ALL THE EXCAVATED SOILS AS SPECIFIED IN CONTRACT.
3. CONTRACTOR PROTECTED SURVEY CONTROL POINTS FROM DAMAGE.

REVISION:

| DATE: | BY: | DESC: |
|---|---|---|
| | | |

DRAWN BY: CLA
DESIGNED BY: SDB
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10160
DATE: 4/24/12

DISPLAYED AS:
COORD SYS/ZONE: MSP
DATUM: NAD83
UNITS: FEET
SOURCE: PIONEER

N

SCALE IN FEET
0 30 60

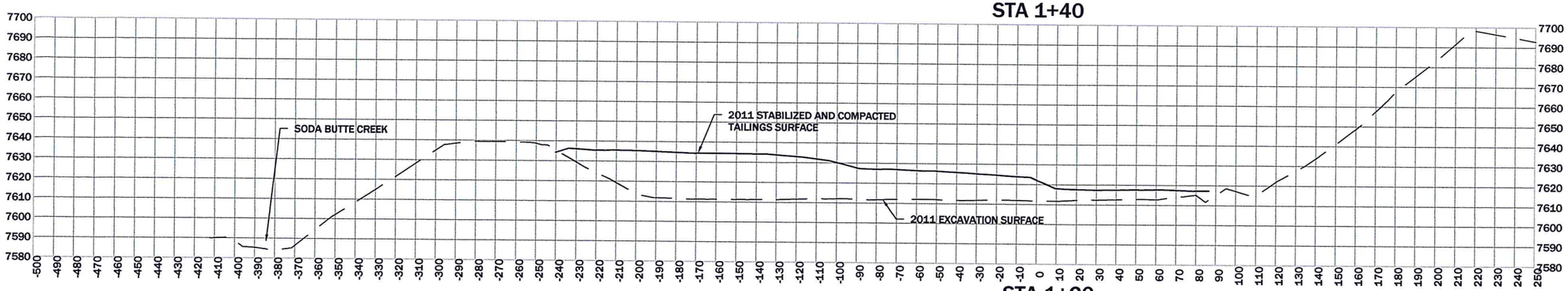
MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2011 AS-BUILT DRAWINGS

# REPOSITORY FINAL EXCAVATION PLAN

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)-782-5177

SHEET
R-2AB

## STA 1+40

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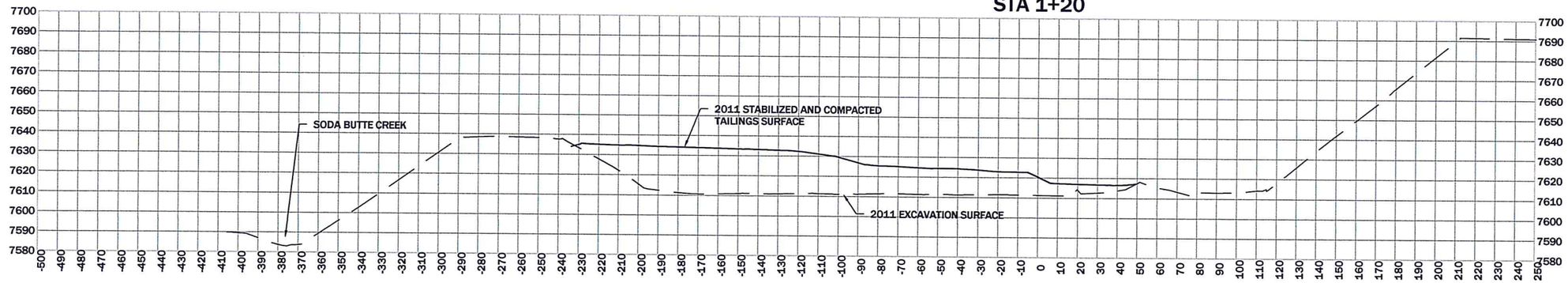
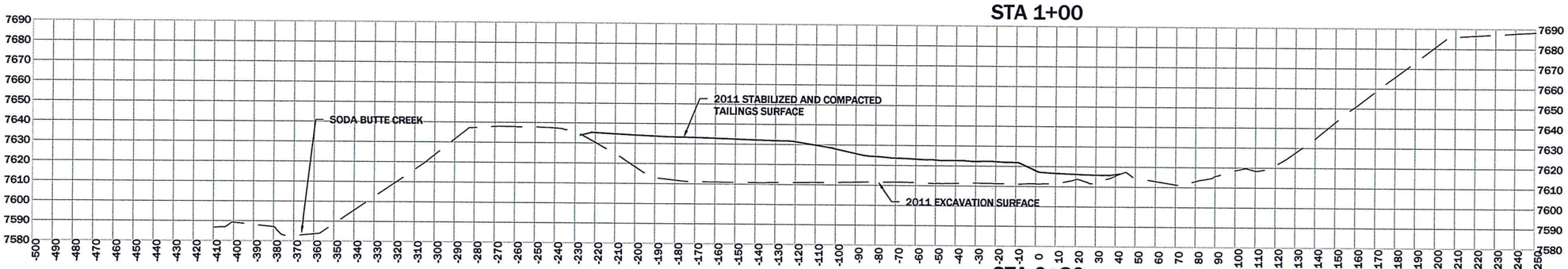
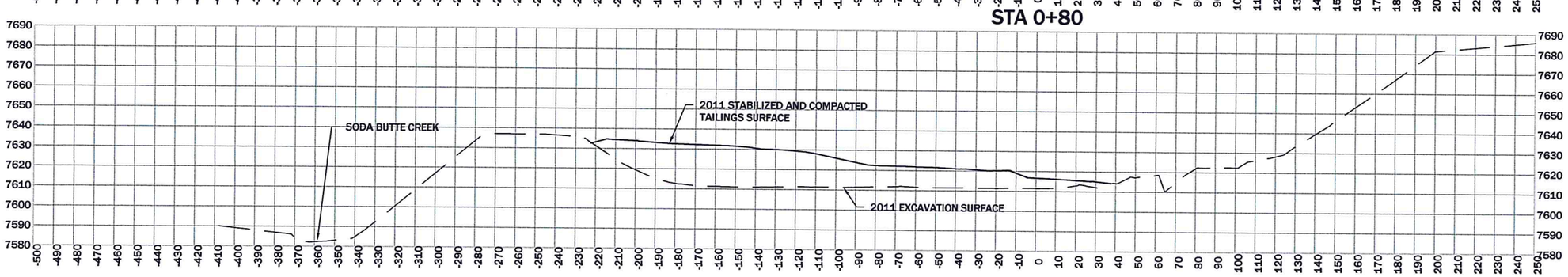



## STA 1+00




## STA 0+80




| REVISION: DATE: | BY: | DESC: |
|---|---|---|
| 1/8/10 | JSM | MODIFIED REPOSITORY FLOOR |

DRAWN BY: CLA
DESIGNED BY: SDB
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10160
DATE: 4/24/12

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: PIONEER

SCALE IN FEET
0 30 60

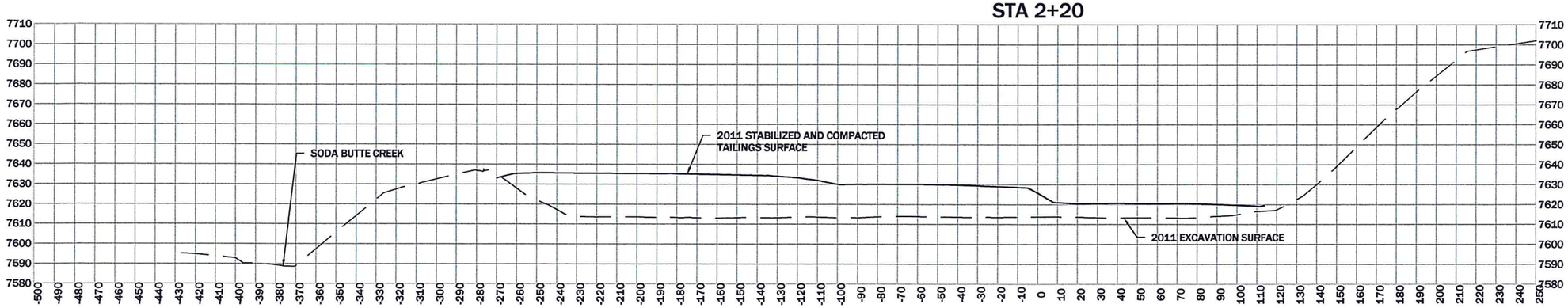
MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2011 AS-BUILT DRAWINGS

REPOSITORY
CROSS
SECTIONS
STA 0+80 TO 1+40

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)-782-5177

SHEET
R-5AB

## STA 2+20

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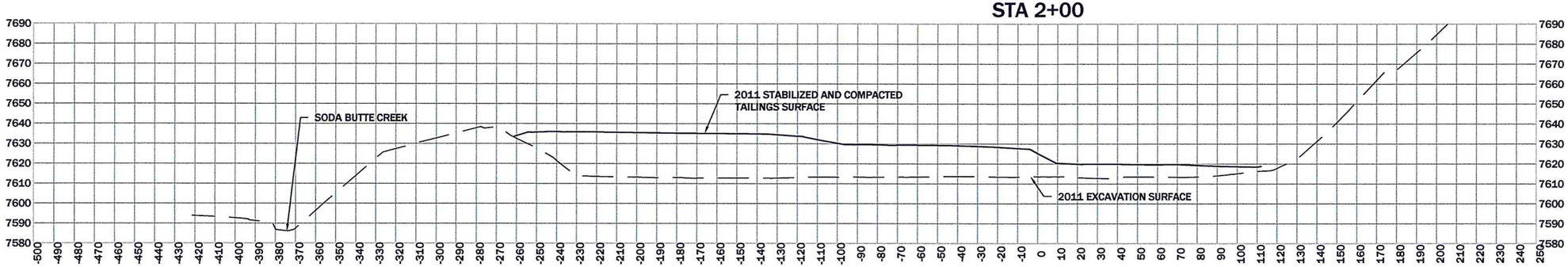


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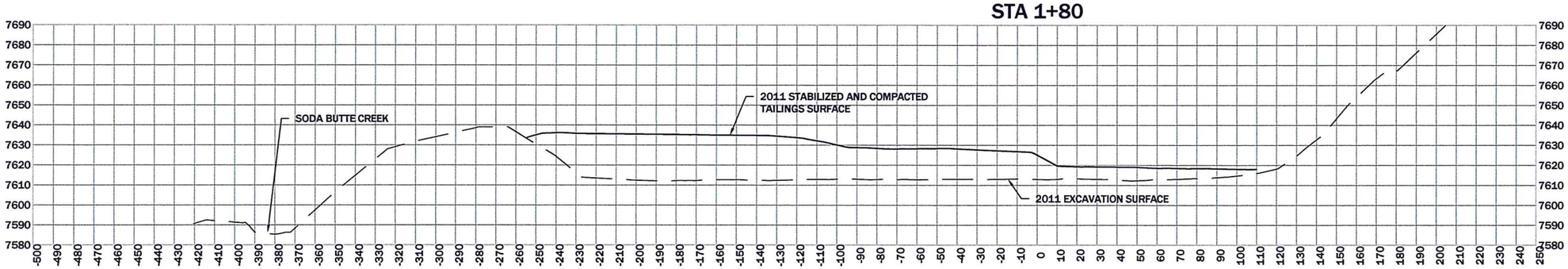
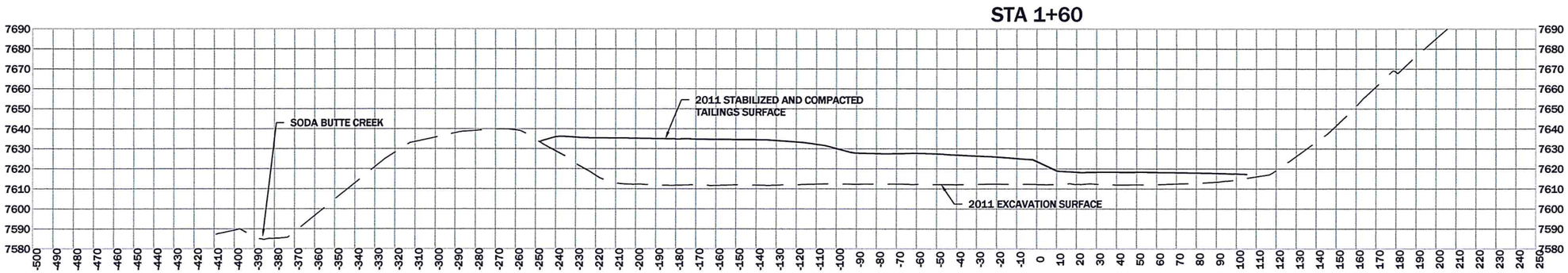



## STA 1+60




| REVISION: DATE: | BY: | DESC: |
|---|---|---|
| 1/6/10 | JSM | MODIFIED REPOSITORY FLOOR |

DRAWN BY: CLA
DESIGNED BY: SDB
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10160
DATE: 4/24/12

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: PIONEER

SCALE IN FEET
0 30 60

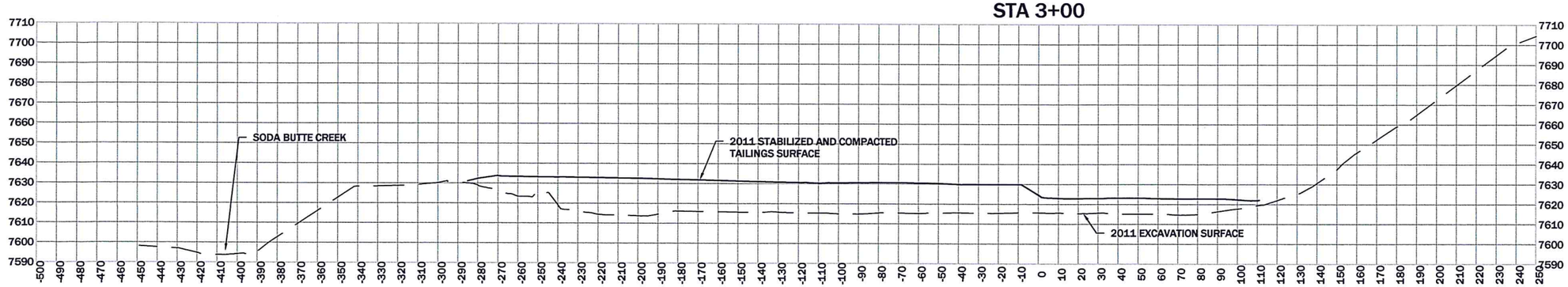
MDEQ/MWCB
MCLAREN TAILINGS ABANDONED MINE SITE RECLAMATION PROJECT
2011 AS-BUILT DRAWINGS

REPOSITORY CROSS SECTIONS
STA 1+60 TO 2+20

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)-782-5177

SHEET
R-6AB

## STA 3+00

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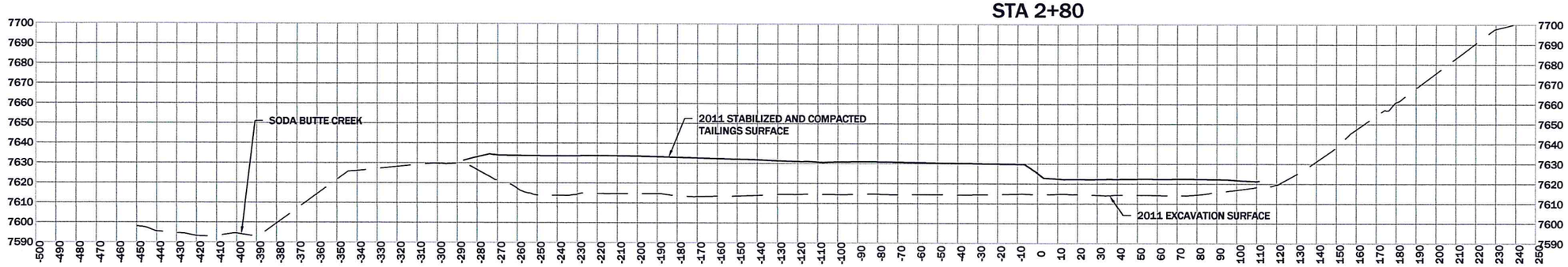


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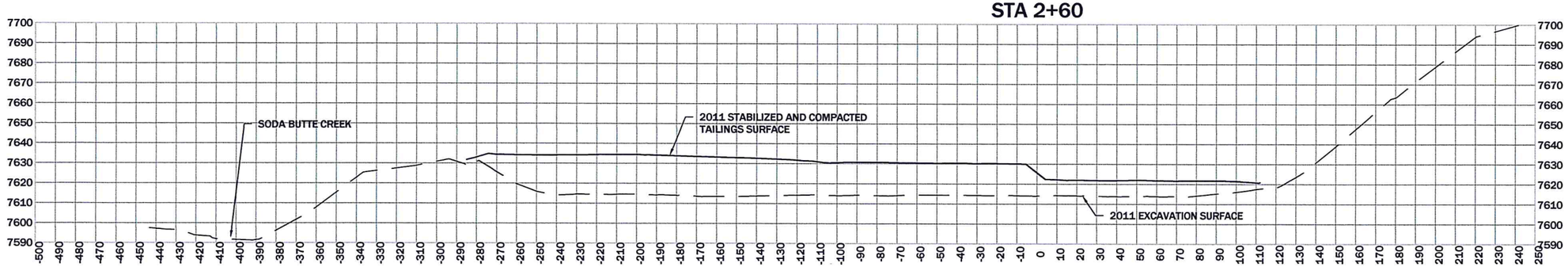


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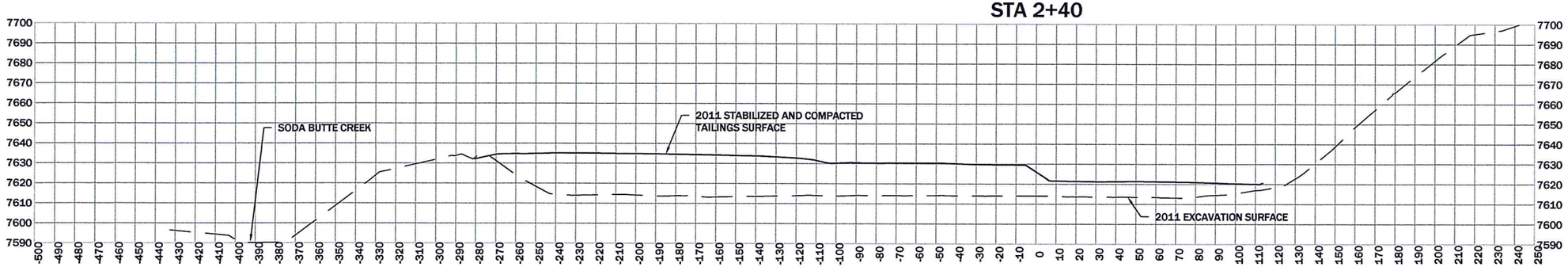



| REVISION: DATE: | BY: | DESC: |
|---|---|---|
| 1/6/10 | JSM | MODIFIED REPOSITORY FLOOR |

DRAWN BY: CLA
DESIGNED BY: SDB
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10160
DATE: 4/24/12

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: PIONEER

SCALE IN FEET
0 30 60

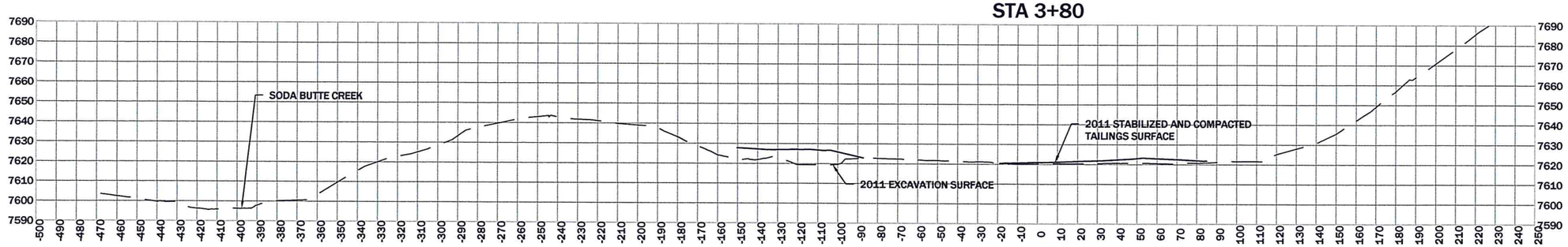
MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2011 AS-BUILT DRAWINGS

REPOSITORY
CROSS
SECTIONS
STA 2+40 TO 3+00

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)-782-5177

SHEET
R-7AB

## STA 3+80

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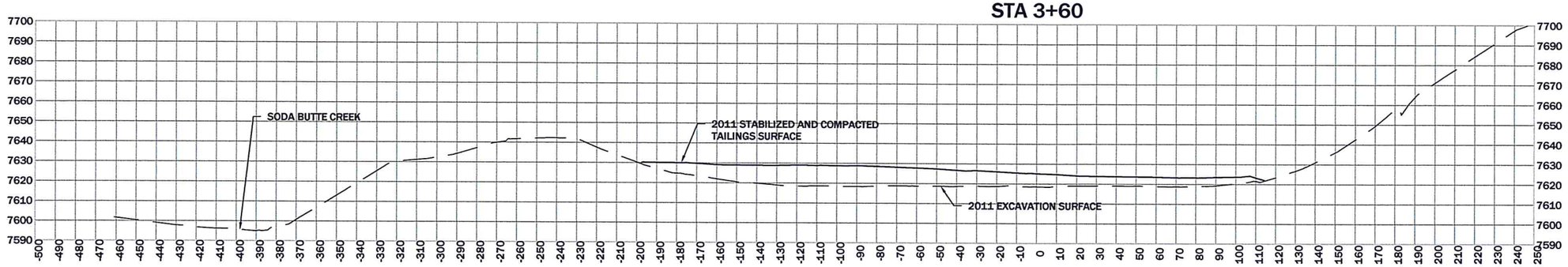


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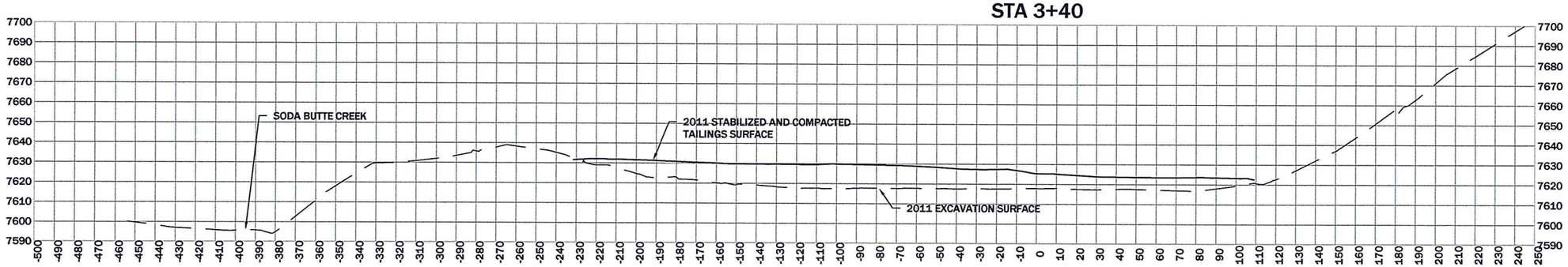


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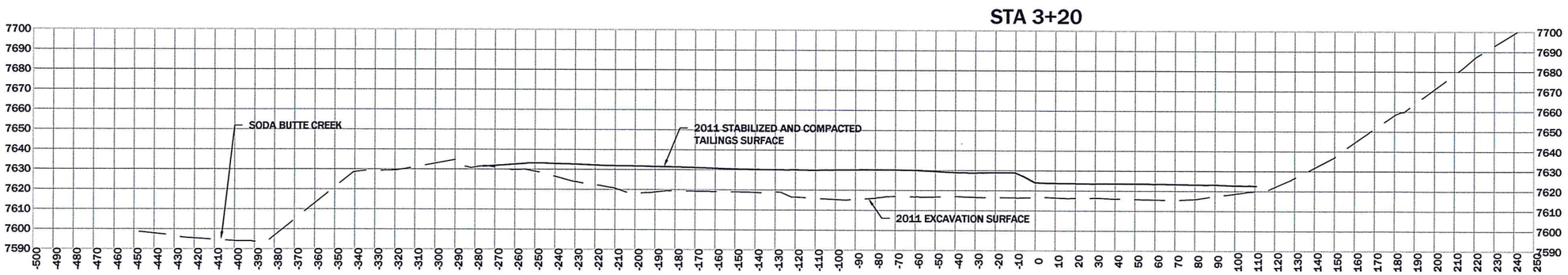



| REVISION: DATE | BY: | DESC. |
|---|---|---|
| 1/6/10 | JSM | MODIFIED REPOSITORY FLOOR |

DRAWN BY: CLA
DESIGNED BY: SDB
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10160
DATE: 4/24/12

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: PIONEER

SCALE IN FEET
0 30 60

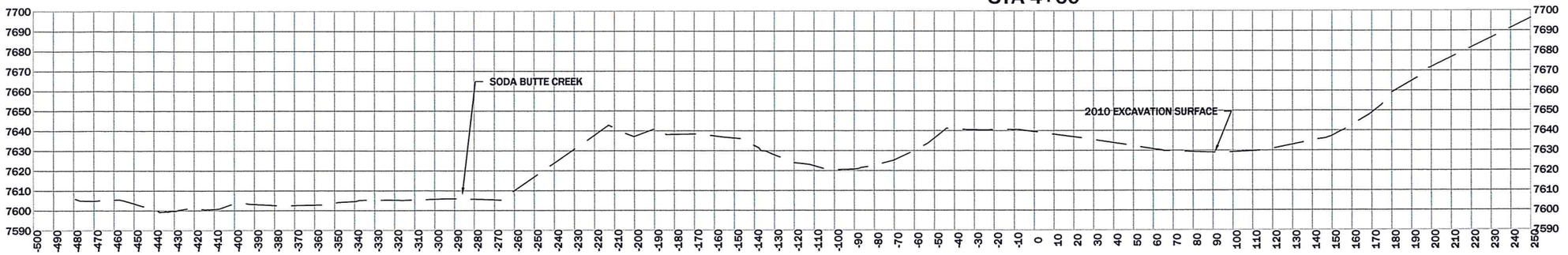
MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2011 AS-BUILT DRAWINGS

REPOSITORY
CROSS
SECTIONS
STA 3+20 TO 3+80

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)-782-5177

SHEET
R-8AB

## STA 4+60

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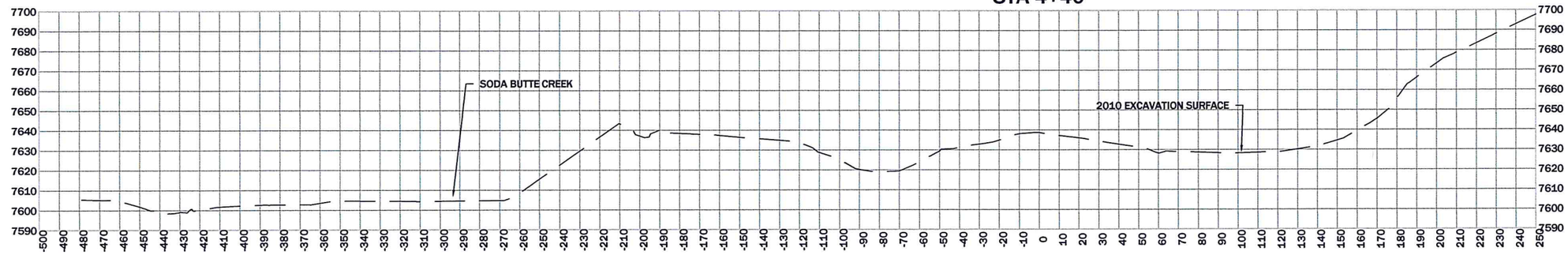


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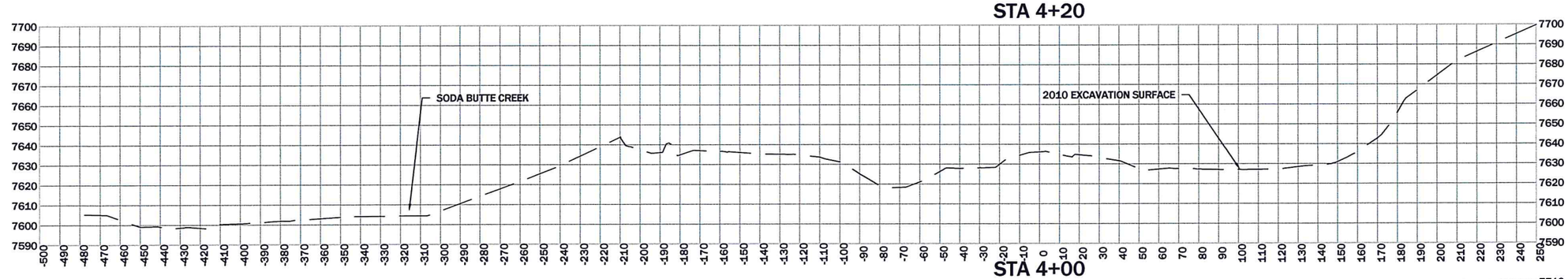


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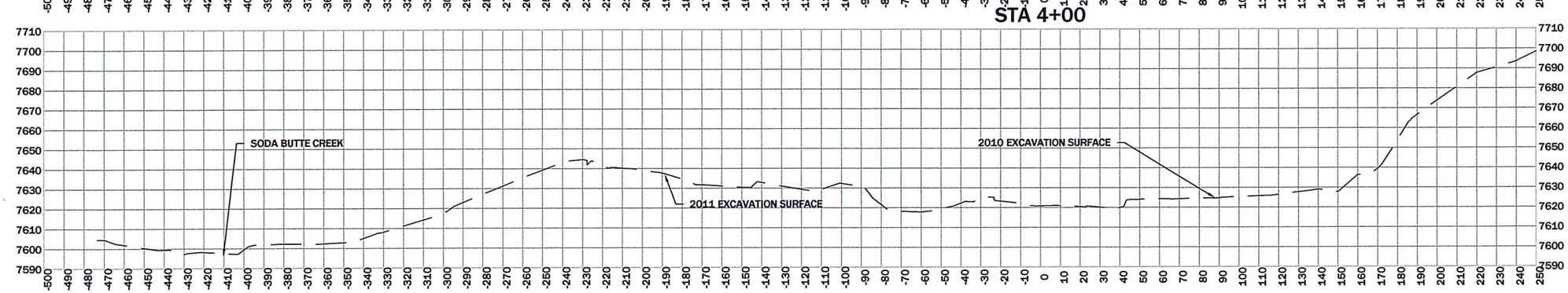



| REVISION: DATE: | BY: | DESC: |
|---|---|---|
| 1/6/10 | JSM | MODIFIED REPOSITORY FLOOR |

DRAWN BY: CLA
DESIGNED BY: SDB
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10160
DATE: 4/24/12

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: PIONEER

SCALE IN FEET
0 30 60

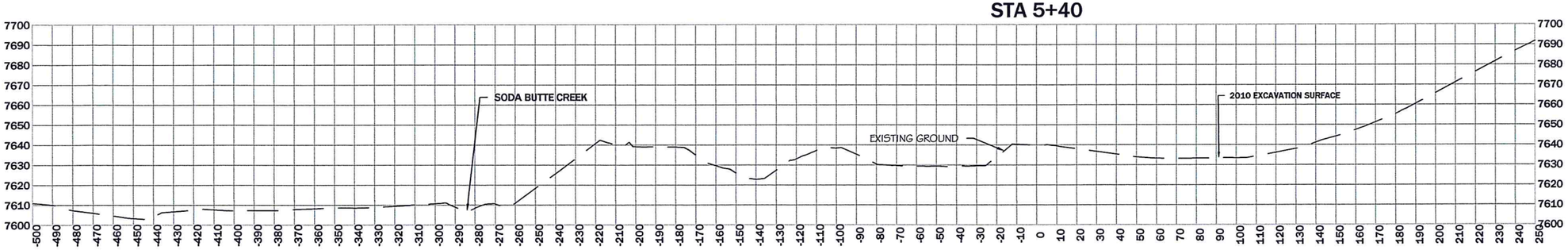
MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2011 AS-BUILT DRAWINGS

REPOSITORY
CROSS
SECTIONS
STA 4+00 TO 4+60

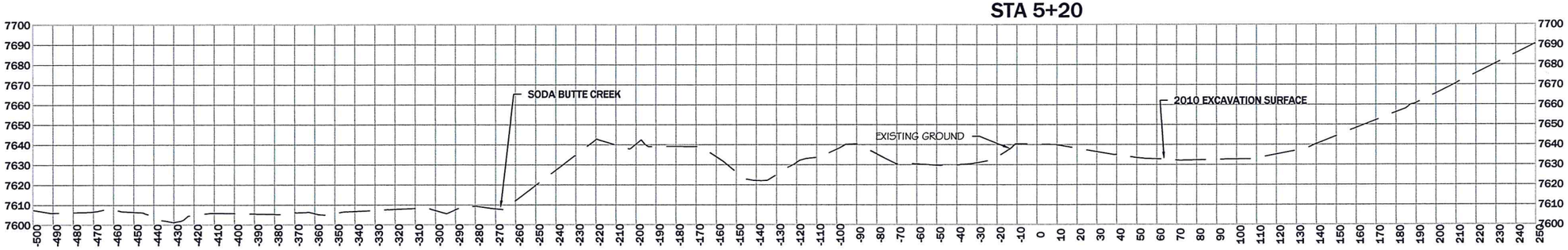
PIONEER
TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)-782-5177

SHEET
R-9AB

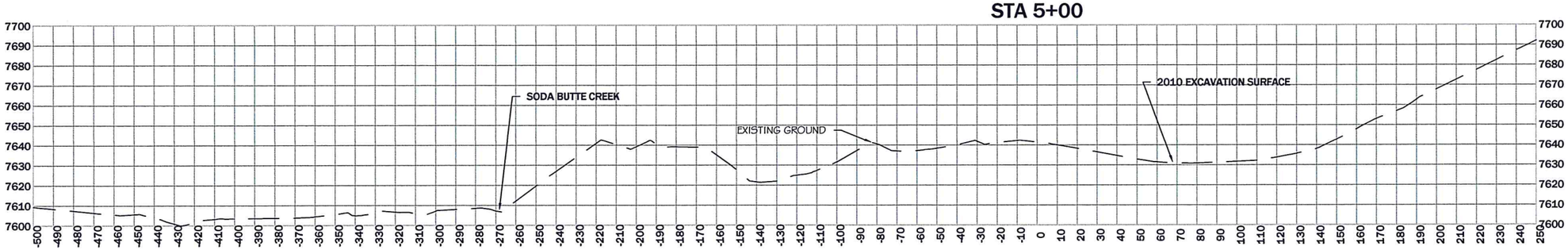
## STA 5+40



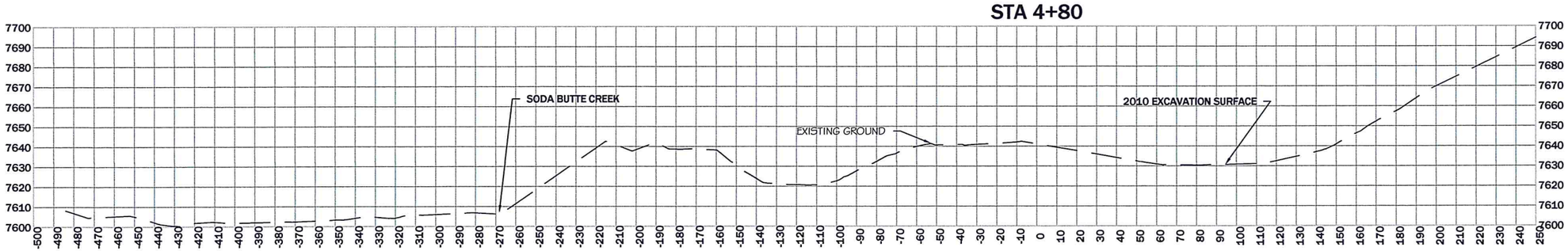

## STA 5+20




## STA 5+00




## STA 4+80




| REVISION: DATE: | BY: | DESC: |
|---|---|---|
| 1/6/10 | JSM | MODIFIED REPOSITORY FLOOR |

DRAWN BY: CLA
DESIGNED BY: SDB
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10160
DATE: 4/24/12

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: PIONEER

SCALE IN FEET
0 30 60

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2011 AS-BUILT DRAWINGS

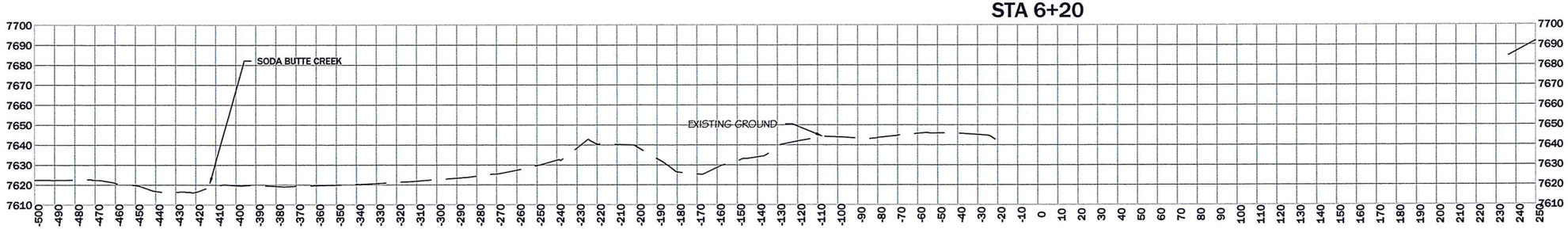
REPOSITORY
CROSS
SECTIONS
STA 4+80 TO 5+40

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)-782-5177

SHEET
R-10AB

4/23/2012 9:21:23 AM P:\DEQ\MCLAREN\2011\DRAWINGS\AS-BUILTS\CONSTRUCTION\MC-FBID-AB-11-XSF-004-09.DWG

## STA 6+20

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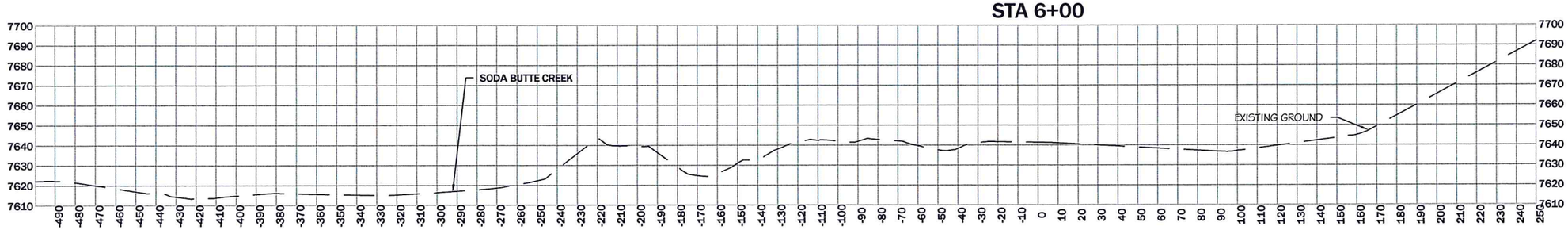


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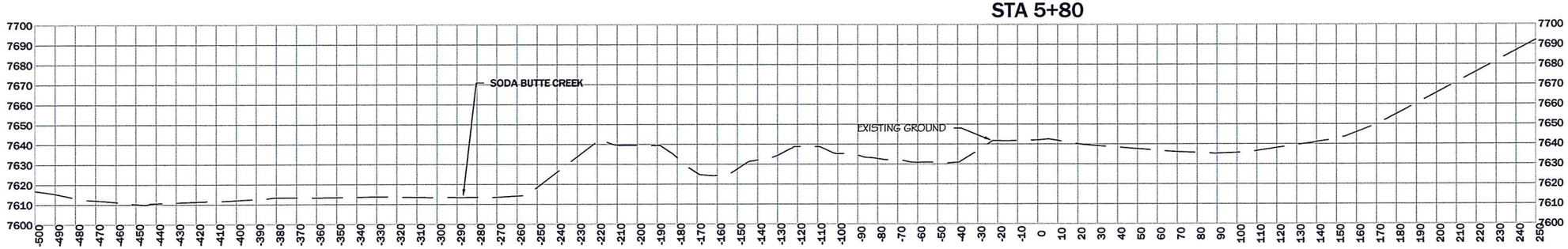


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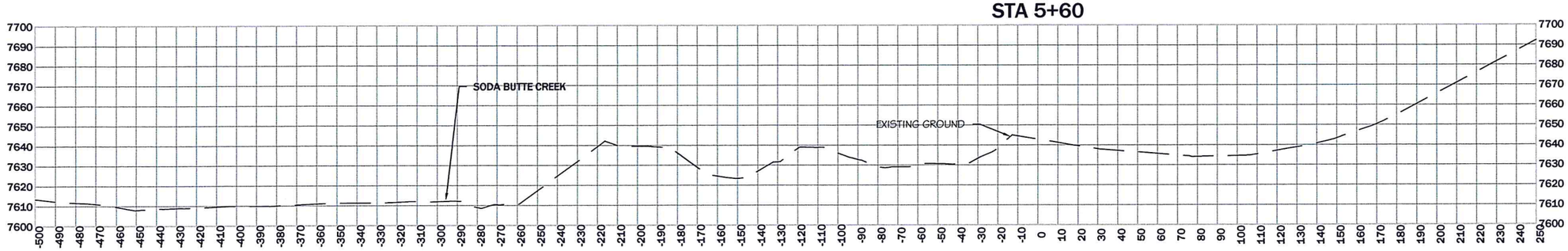



| REVISION: DATE: | BY: | DESC. |
|---|---|---|
| 1/6/10 | JSM | MODIFIED REPOSITORY FLOOR |

DRAWN BY: CLA
DESIGNED BY: SDB
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10160
DATE: 4/24/12

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: PIONEER

SCALE IN FEET
0 30 60

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2011 AS-BUILT DRAWINGS

REPOSITORY
CROSS
SECTIONS
STA 5+60 TO 6+20

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)-782-5477

SHEET
R-11AB

| TOTAL REPOSITORY EXCAVATION (bcy) | | | |
|---|---|---|---|
| Station | Cut Area | Cut Volume | Cumulative Cut Vol |
| 0+00.00 | 0.00 | 0.00 | 0.00 |
| 0+20.00 | 0.00 | 0.00 | 0.00 |
| 0+40.00 | 513.79 | 190.29 | 190.29 |
| 0+60.00 | 2234.64 | 1017.93 | 1208.23 |
| 0+80.00 | 4165.34 | 2370.36 | 3578.59 |
| 1+00.00 | 5010.13 | 3398.32 | 6976.91 |
| 1+20.00 | 5221.10 | 3789.34 | 10766.25 |
| 1+40.00 | 5305.15 | 3898.61 | 14664.86 |
| 1+60.00 | 5863.80 | 4136.65 | 18801.51 |
| 1+80.00 | 6246.20 | 4485.19 | 23286.69 |
| 2+00.00 | 6469.91 | 4709.67 | 27996.36 |
| 2+20.00 | 6755.87 | 4898.44 | 32894.80 |
| 2+40.00 | 7051.43 | 5113.82 | 38008.62 |
| 2+60.00 | 7407.59 | 5355.19 | 43363.81 |
| 2+80.00 | 7855.10 | 5652.85 | 49016.66 |
| 3+00.00 | 7641.18 | 5739.36 | 54756.02 |
| 3+20.00 | 6711.45 | 5315.79 | 60071.81 |
| 3+40.00 | 5713.97 | 4602.01 | 64673.82 |
| 3+60.00 | 3615.28 | 3455.28 | 68129.09 |
| 3+80.00 | 2099.96 | 2116.76 | 70245.85 |
| 4+00.00 | 117.89 | 821.43 | 71067.28 |
| 4+20.00 | 0.00 | 128.71 | 71196.00 |
| 4+40.00 | 0.00 | 0.00 | 71196.00 |
| 4+60.00 | 0.00 | 0.00 | 71196.00 |
| 4+80.00 | 0.00 | 0.00 | 71196.00 |
| 5+00.00 | 0.00 | 0.00 | 71196.00 |
| 5+20.00 | 0.00 | 0.00 | 71196.00 |
| 5+40.00 | 0.00 | 0.00 | 71196.00 |
| 5+60.00 | 0.00 | 0.00 | 71196.00 |
| 5+80.00 | 0.00 | 0.00 | 71196.00 |
| 6+00.00 | 0.00 | 0.00 | 71196.00 |
| 6+20.00 | 0.00 | 0.00 | 71196.00 |
| 6+40.00 | 0.00 | 0.00 | 71196.00 |

| 2011 TAILINGS PLACED IN REPOSITORY | | |
|---|---|---|
| Station | Fill Volume | Cumulative Fill Vol |
| 0+00.00 | 0.00 | 0.00 |
| 0+20.00 | 0.00 | 0.00 |
| 0+40.00 | 0.00 | 0.00 |
| 0+60.00 | 608.53 | 608.53 |
| 0+80.00 | 1787.02 | 2395.55 |
| 1+00.00 | 2519.67 | 4915.22 |
| 1+20.00 | 2838.01 | 7753.23 |
| 1+40.00 | 3171.64 | 10924.86 |
| 1+60.00 | 3538.28 | 14463.14 |
| 1+80.00 | 3809.79 | 18272.93 |
| 2+00.00 | 3941.11 | 22214.04 |
| 2+20.00 | 4063.54 | 26277.59 |
| 2+40.00 | 4155.48 | 30433.07 |
| 2+60.00 | 4178.24 | 34611.31 |
| 2+80.00 | 4169.04 | 38780.35 |
| 3+00.00 | 3901.88 | 42682.23 |
| 3+20.00 | 3232.07 | 45914.30 |
| 3+40.00 | 2465.78 | 48380.08 |
| 3+60.00 | 1849.19 | 50229.27 |
| 3+80.00 | 970.86 | 51200.13 |
| 4+00.00 | 330.67 | 51530.80 |
| 4+20.00 | 0.00 | 51530.80 |
| 4+40.00 | 0.00 | 51530.80 |
| 4+60.00 | 0.00 | 51530.80 |
| 4+80.00 | 0.00 | 51530.80 |
| 5+00.00 | 0.00 | 51530.80 |
| 5+20.00 | 0.00 | 51530.80 |
| 5+40.00 | 0.00 | 51530.80 |
| 5+60.00 | 0.00 | 51530.80 |
| 5+80.00 | 0.00 | 51530.80 |
| 6+00.00 | 0.00 | 51530.80 |
| 6+20.00 | 0.00 | 51530.80 |
| 6+40.00 | 0.00 | 51530.80 |

REVISION:

| DATE: | BY: | DESC: |
|---|---|---|
| 1/6/10 | JSM | MODIFIED REPOSITORY FLOOR |

DRAWN BY: CLA
DESIGNED BY: SDB
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10160
DATE: 4/24/12

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: PIONEER

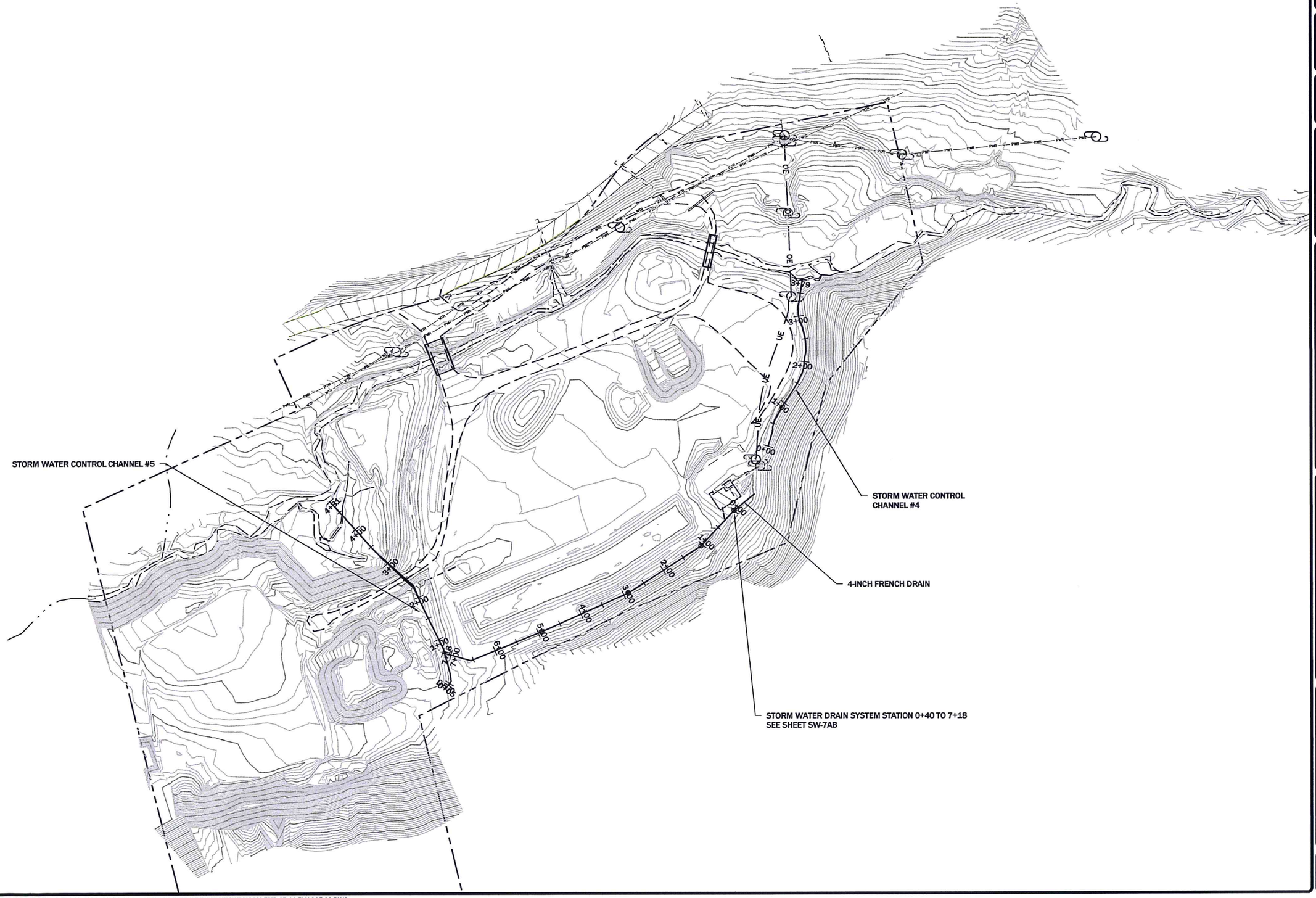
SCALE IN FEET
0 N.T.S.

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2010 AS-BUILT DRAWINGS

REPOSITORY
CROSS
SECTION
VOLUME TABLE

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)-782-5177

SHEET
R-12AB




| REVISION: | | |
|---|---|---|
| DATE: | BY: | DESC: |
| | | |

DRAWN BY: CLA
DESIGNED BY: JSM
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10160
DATE: 4/24/12

DISPLAYED AS:
COORD SYS/ZONE: MSP
DATUM: NAD83
UNITS: FEET
SOURCE: PIONEER

N

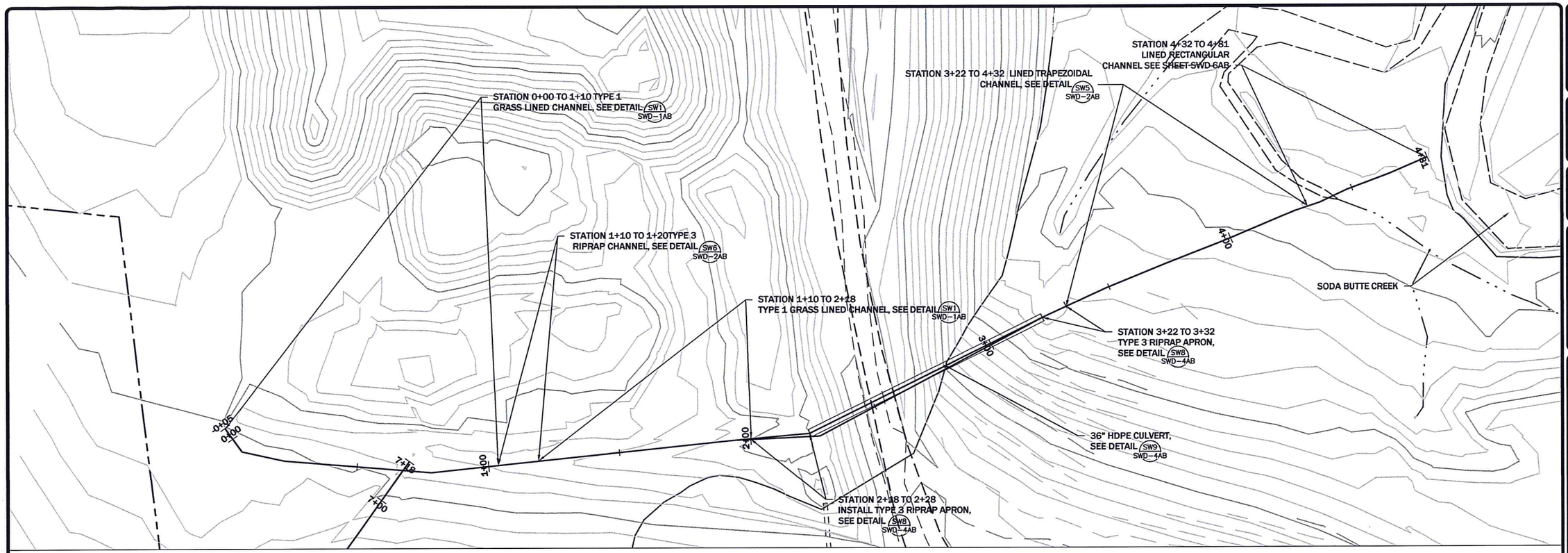
SCALE IN FEET
0 100 200

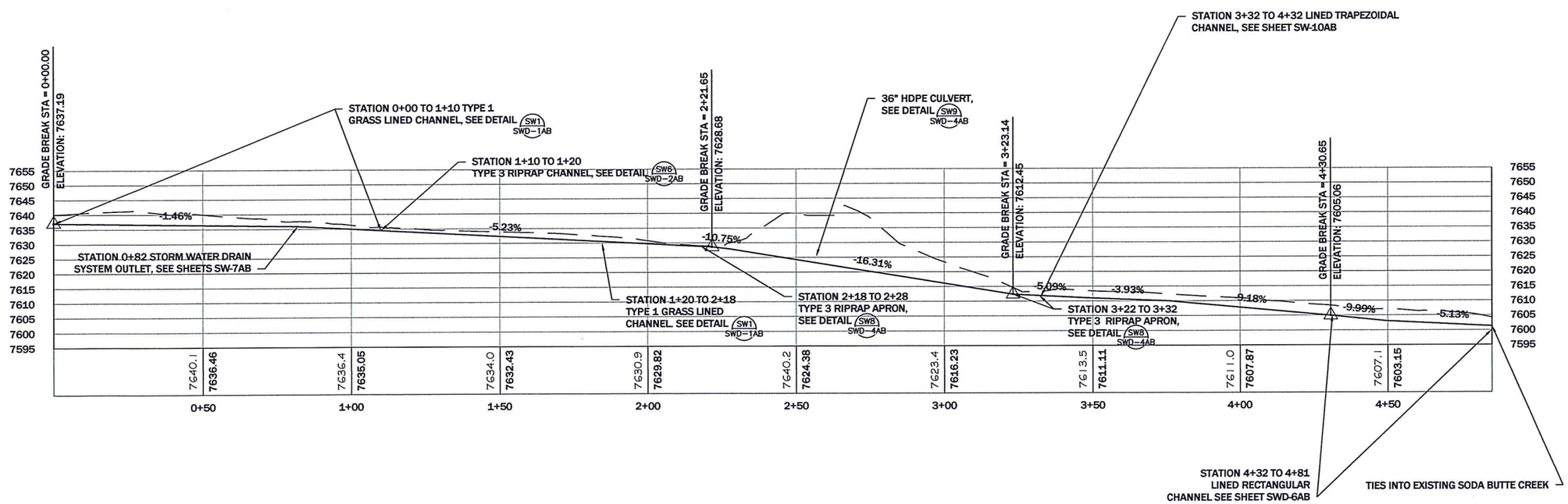
MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2011 AS-BUILT DRAWINGS

# STORM WATER CONTROLS PLAN VIEW

PIONEER
TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)-782-5177

SHEET
SW-1AB




REVISION:

| DATE: | BY: | DESC: |
|---|---|---|
| | | |

DRAWN BY: CLA
DESIGNED BY: JSM
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10160
DATE: 4/24/12

DISPLAYED AS:
COORD SYS/ZONE: MSP
DATUM: NAD83
UNITS: FEET
SOURCE: PIONEER

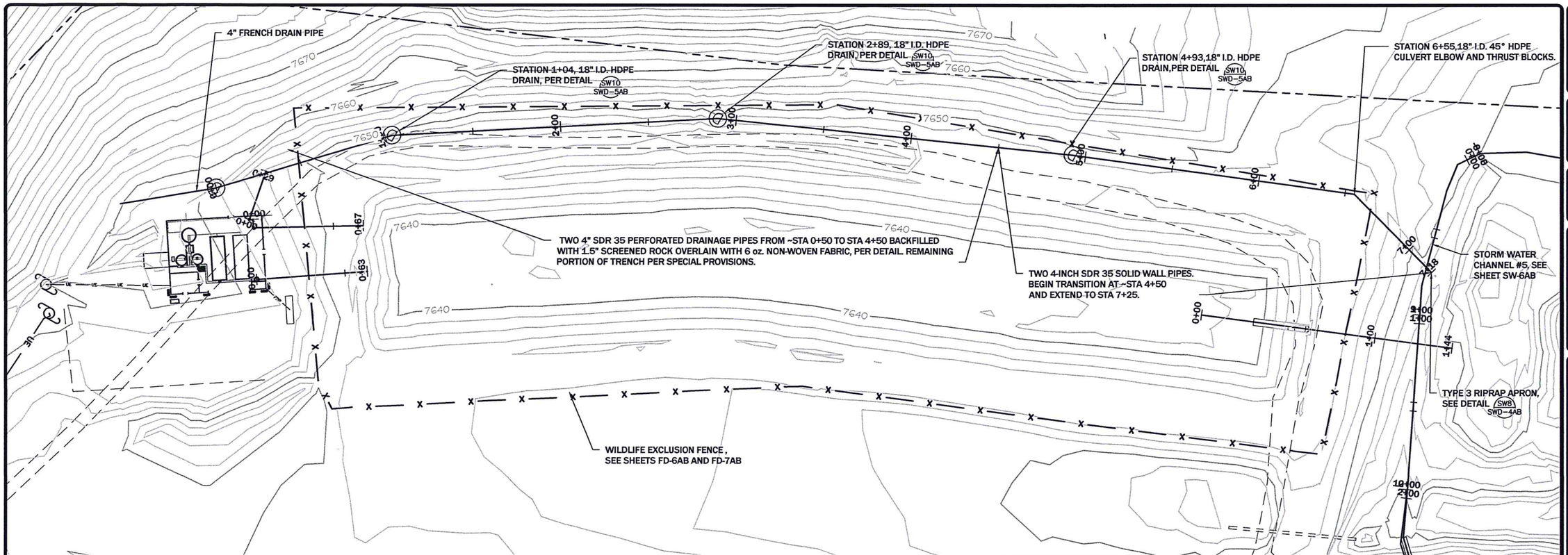
SCALE IN FEET
0 20 40

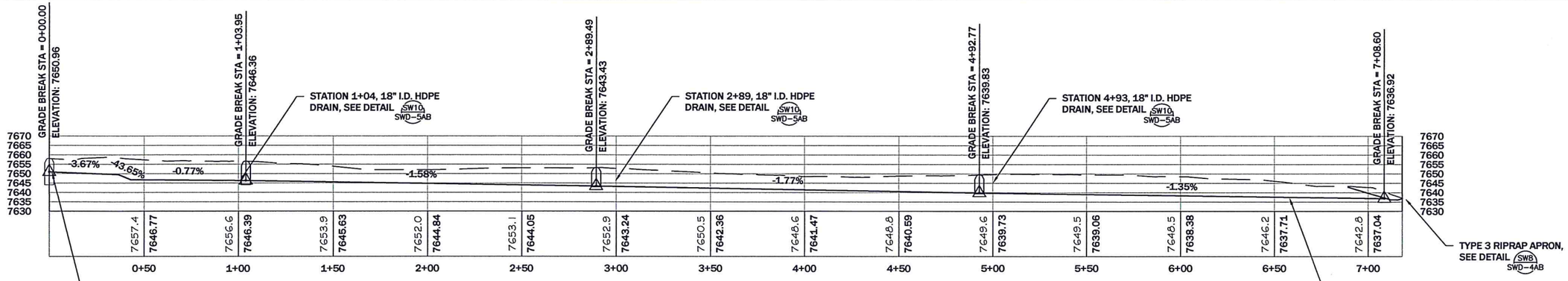
MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2011 AS-BUILT DRAWINGS

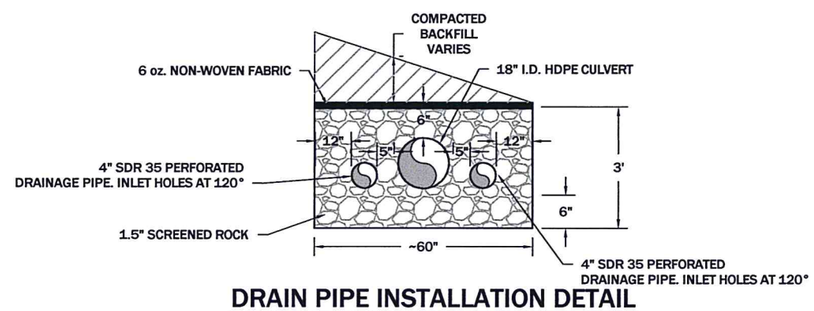
CHANNEL #5
PLAN AND
PROFILE

PIONEER
TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)-782-5177

SHEET
SW-6AB




## DRAIN PIPE INSTALLATION DETAIL

NOT TO SCALE

**NOTES:**

1. 18" HDPE CULVERT INSTALLED HAD CORRUGATED EXTERIOR AND SMOOTH INTERIOR.
2. CONTRACTOR INSTALLED 18" I.D. HDPE PER MANUFACTURERS SPECIFICATIONS.
3. CONTRACTOR COMPACTED BACKFILL AROUND 18" HDPE CULVERT AND DRAINS TO 95% STANDARD PROCTOR (ASTM 698) AND ±4% MOISTURE CONTENT.

| REVISION: DATE: | BY: | DESC: |
|---|---|---|
| 9/21/12 | MCB | ADD 4" SDR PIPE |

| | |
|---|---|
| DRAWN BY: | CLA |
| DESIGNED BY: | JSM |
| CHECKED BY: | MCB |
| APPROVED BY: | JSM |
| PROJECT NO: | 10160 |
| DATE: | 4/24/12 |

| DISPLAYED AS: | |
|---|---|
| COORD SYS/ZONE: | MSP |
| DATUM: | NAD 83 |
| UNITS: | FEET |
| SOURCE: | PIONEER |

SCALE IN FEET
0 30 60

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED MINE SITE RECLAMATION PROJECT
2011 AS-BUILT DRAWINGS

STORM WATER DRAIN PLAN AND PROFILE

PIONEER TECHNICAL SERVICES, INC
63 - 1/2 WEST BROADWAY
BUTTE, MT 59702
(406)-782-5177

SHEET SW-7AB

| REVISION: | | |
|---|---|---|
| DATE: | BY: | DESC: |

DRAWN BY: CLA
DESIGNED BY: JSM
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10160
DATE: 4/24/12

DISPLAYED AS:
COORD SYS/ZONE: MSP
DATUM: NAD83
UNITS: FEET
SOURCE: PIONEER

N

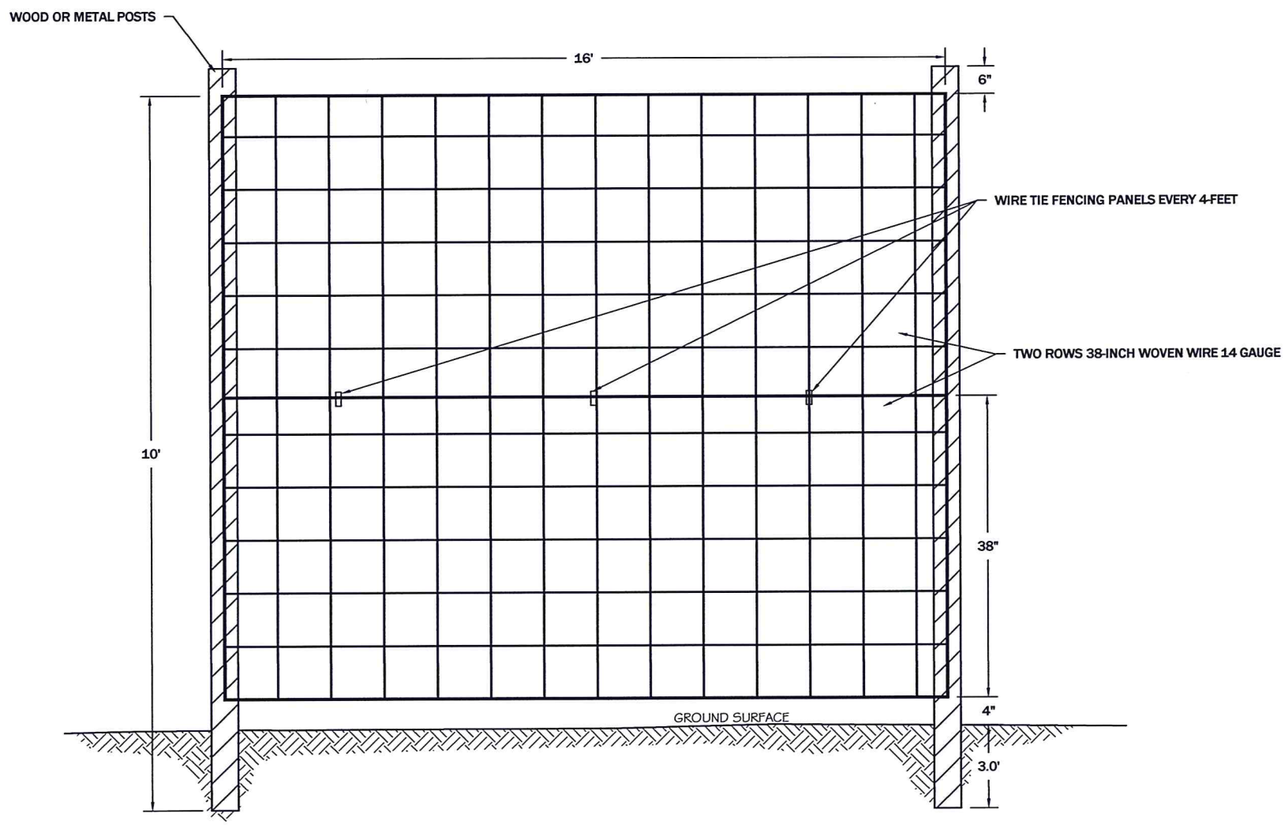
SCALE IN FEET
0 100 200

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2011 AS-BUILT DRAWINGS

REVEGETATION
PLAN

PIONEER
TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)-782-5177

SHEET
C-1AB




## WILDLIFE EXCLUSION FENCE DETAIL

F3 / --

N.T.S.

| REVISION: | | |
|---|---|---|
| DATE: | BY: | DESC: |

DRAWN BY: CLA
DESIGNED BY: MCB
CHECKED BY: JSM
APPROVED BY: JSM
PROJECT NO: 10160
DATE: 4/24/12

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: PIONEER

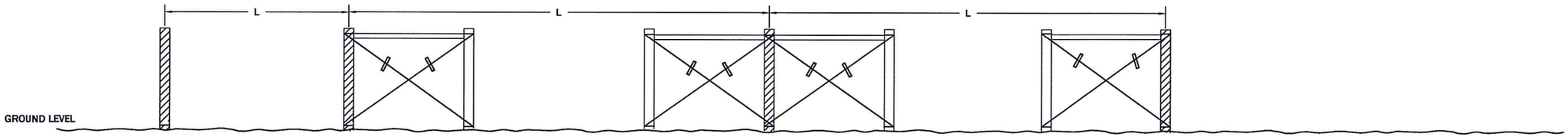
SCALE IN FEET
0 N.T.S.

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2011 AS-BUILT DRAWINGS

WILDLIFE EXCLUSION FENCE DETAIL

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406) 782-5177

SHEET
FD-6AB



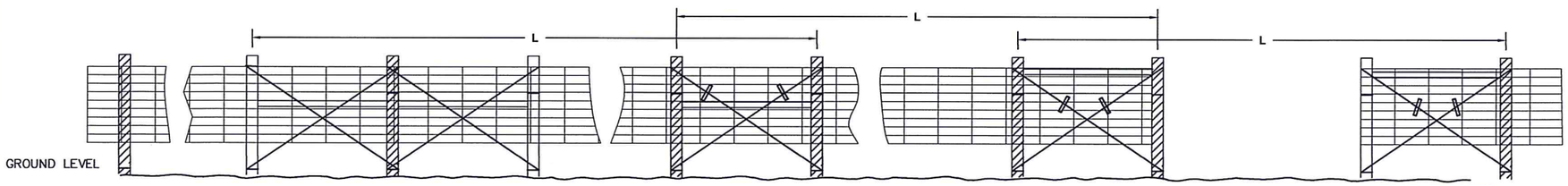

**TERMINAL POST**
(8'-0" X 6" ROUND OR EQUIVELANT WOOD POST)

**SINGLE PANEL**

**DOUBLE PANEL**

**SINGLE PANEL**

NOTE: TIE OFF WIRE ON SHADED POST



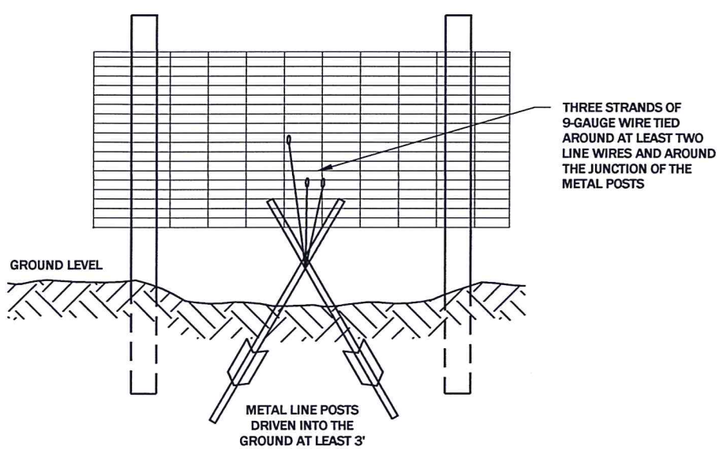

**DOUBLE PANEL**

**SINGLE PANEL**

**SINGLE PANEL**

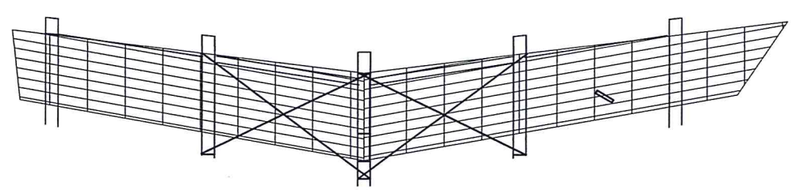
**END PANEL**

| FENCE TYPE | RUN = L | PANELS REQUIRED |
|---|---|---|
| 38-INCH WOVEN WIRE 14 GAUGE | 66' OR LESS | TERMINAL POST |
| | 66' - 660' | SINGLE |
| | OVER 660' TO MAX. 990' | DOUBLE |



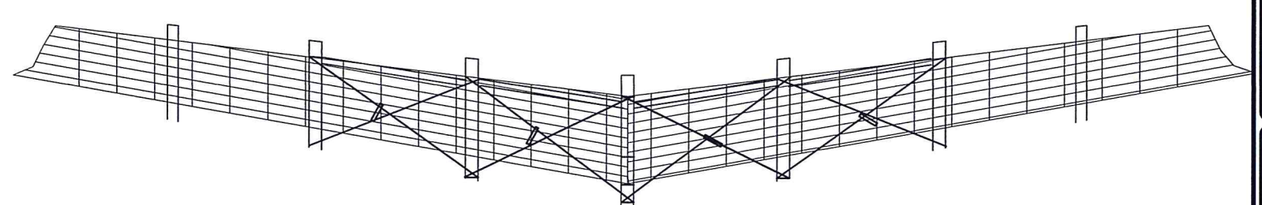

**ALTERNATE DEADMAN**

WHEN APPROVED BY THE ENGINEER, THE ABOVE DEADMAN MAY BE USED IN LIEU OF A ROCK OR PRECAST CONCTETE BLOCK, AS SPECIFIED.



**DOUBLE PANEL**

USE WHERE RUNS ARE LESS THAN 660 FEET OR WHERE CHANGES IN HORIZONTAL ALIGNMENT ARE GREATER THAN 14°



**CORNER PANEL**

(FOR ANGLES GREATER THAN 30° AND WHERE RUNS ARE 660 FEET TO 990 FEET)

**WILDLIFE EXCLUSION FENCE DETAIL** F4 / --

**FENCE PANEL TYPES**

REVISION:

| DATE: | BY: | DESC: |
|---|---|---|
| | | |

DRAWN BY: CLA
DESIGNED BY: MCB
CHECKED BY: JSM
APPROVED BY: JSM
PROJECT NO: 10160
DATE: 4/24/12

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: NA
SOURCE: PIONEER

SCALE IN FEET
0 N.T.S.

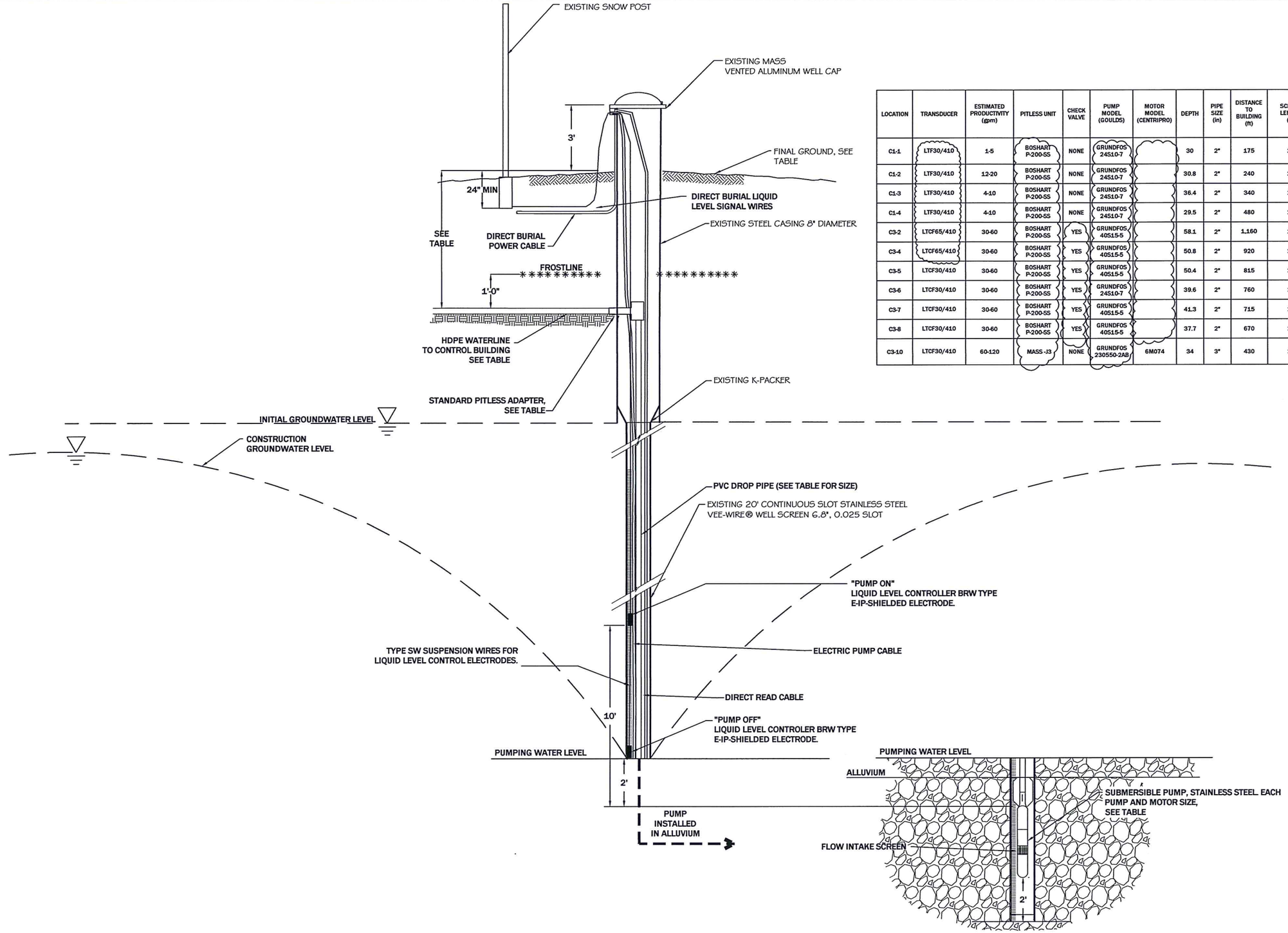
MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2011 AS-BUILT DRAWINGS

WILDLIFE EXCLUSION
FENCE
DETAILS

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406) 782-5177

SHEET
FD-7AB

4/23/2012 12:01:38 PM P:\DEQ\MCLAREN\2011\DRAWINGS\AS-BUILTS\CONSTRUCTION\MC-FBID-AB-11-DET-054-09.DWG




| LOCATION | TRANSDUCER | ESTIMATED PRODUCTIVITY (gpm) | PITLESS UNIT | CHECK VALVE | PUMP MODEL (GOULDS) | MOTOR MODEL (CENTRIPRO) | DEPTH | PIPE SIZE (in) | DISTANCE TO BUILDING (ft) | SCREEN LENGTH (ft) | DEPTH TO PITLESS FROM FINAL GROUND (ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C1-1 | LTF30/410 | 1-5 | BOSHART P-200-SS | NONE | GRUNDFOS 24S10-7 | | 30 | 2" | 175 | 20 | 6 |
| C1-2 | LTF30/410 | 12-20 | BOSHART P-200-SS | NONE | GRUNDFOS 24S10-7 | | 30.8 | 2" | 240 | 20 | 6 |
| C1-3 | LTF30/410 | 4-10 | BOSHART P-200-SS | NONE | GRUNDFOS 24S10-7 | | 36.4 | 2" | 340 | 20 | 6 |
| C1-4 | LTF30/410 | 4-10 | BOSHART P-200-SS | NONE | GRUNDFOS 24S10-7 | | 29.5 | 2" | 480 | 20 | 6 |
| C3-2 | LTCF65/410 | 30-60 | BOSHART P-200-SS | YES | GRUNDFOS 40S15-5 | | 58.1 | 2" | 1,160 | 20 | 6 |
| C3-4 | LTCF65/410 | 30-60 | BOSHART P-200-SS | YES | GRUNDFOS 40S15-5 | | 50.8 | 2" | 920 | 20 | 6 |
| C3-5 | LTCF30/410 | 30-60 | BOSHART P-200-SS | YES | GRUNDFOS 40S15-5 | | 50.4 | 2" | 815 | 20 | 6 |
| C3-6 | LTCF30/410 | 30-60 | BOSHART P-200-SS | YES | GRUNDFOS 24S10-7 | | 39.6 | 2" | 760 | 20 | 6 |
| C3-7 | LTCF30/410 | 30-60 | BOSHART P-200-SS | YES | GRUNDFOS 40S15-5 | | 41.3 | 2" | 715 | 20 | 6 |
| C3-8 | LTCF30/410 | 30-60 | BOSHART P-200-SS | YES | GRUNDFOS 40S15-5 | | 37.7 | 2" | 670 | 20 | 6 |
| C3-10 | LTCF30/410 | 60-120 | MASS -J3 | NONE | GRUNDFOS 230S50-2AB | 6M074 | 34 | 3" | 430 | 20 | 6 |

## 30 TO 120 GPM WELL INSTALLATION DETAIL (GW1)

N.T.S.

| REVISION: DATE: | BY: | DESC: |
|---|---|---|
| 8/3/10 | JSM | PIPE SIZE C3-10 |

DRAWN BY: SKL
DESIGNED BY: MWB
CHECKED BY: JSM
APPROVED BY: MWB
PROJECT NO: 10160
DATE: 4/24/12

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: PIONEER

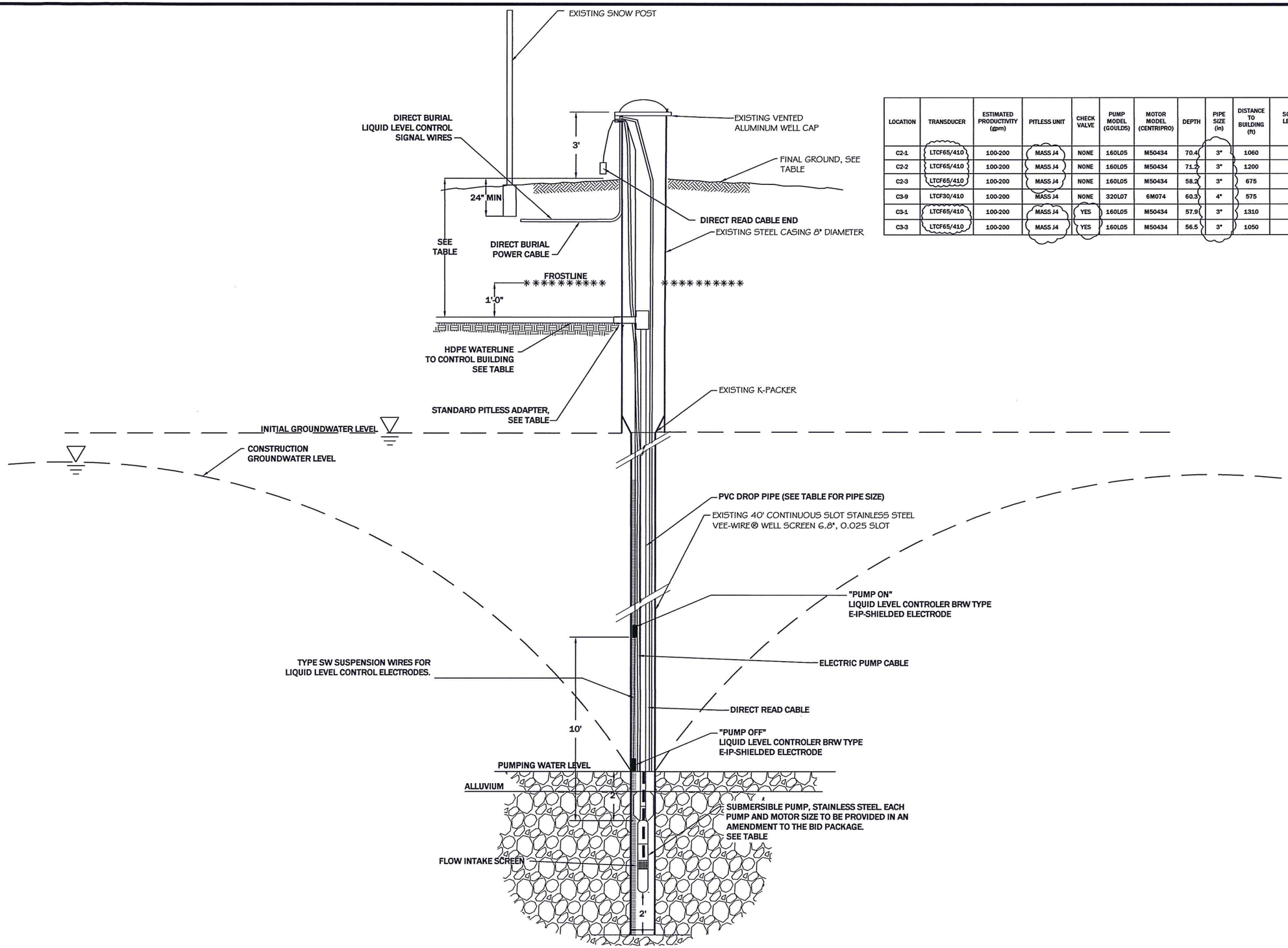
SCALE IN FEET
0 N.T.S.

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2011 AS-BUILT DRAWINGS

TYPICAL 5 TO 120 GPM PUMPING WELL DETAILS

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406) 782-5177

SHEET GWD-1AB




| LOCATION | TRANSDUCER | ESTIMATED PRODUCTIVITY (gpm) | PITLESS UNIT | CHECK VALVE | PUMP MODEL (GOULDS) | MOTOR MODEL (CENTRIPRO) | DEPTH | PIPE SIZE (in) | DISTANCE TO BUILDING (ft) | SCREEN LENGTH (ft) | DEPTH TO PITLESS FROM FINAL GROUND (ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C2-1 | LTCF65/410 | 100-200 | MASS J4 | NONE | 160L05 | M50434 | 70.4 | 3" | 1060 | 40 | 6 |
| C2-2 | LTCF65/410 | 100-200 | MASS J4 | NONE | 160L05 | M50434 | 71.2 | 3" | 1200 | 40 | 6 |
| C2-3 | LTCF65/410 | 100-200 | MASS J4 | NONE | 160L05 | M50434 | 58.2 | 3" | 675 | 40 | 6 |
| C3-9 | LTCF30/410 | 100-200 | MASS J4 | NONE | 320L07 | 6M074 | 60.3 | 4" | 575 | 40 | 6 |
| C3-1 | LTCF65/410 | 100-200 | MASS J4 | YES | 160L05 | M50434 | 57.9 | 3" | 1310 | 20 | 6 |
| C3-3 | LTCF65/410 | 100-200 | MASS J4 | YES | 160L05 | M50434 | 56.5 | 3" | 1050 | 20 | 6 |

## 100 TO 300 GPM WELL INSTALLATION DETAIL (GW2)

N.T.S.

REVISION:
DATE: BY: DESC:

DRAWN BY: SKL
DESIGNED BY: MWB
CHECKED BY: JSM
APPROVED BY: MWB
PROJECT NO: 10160
DATE: 4/24/12

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: PIONEER

SCALE IN FEET
0 N.T.S.

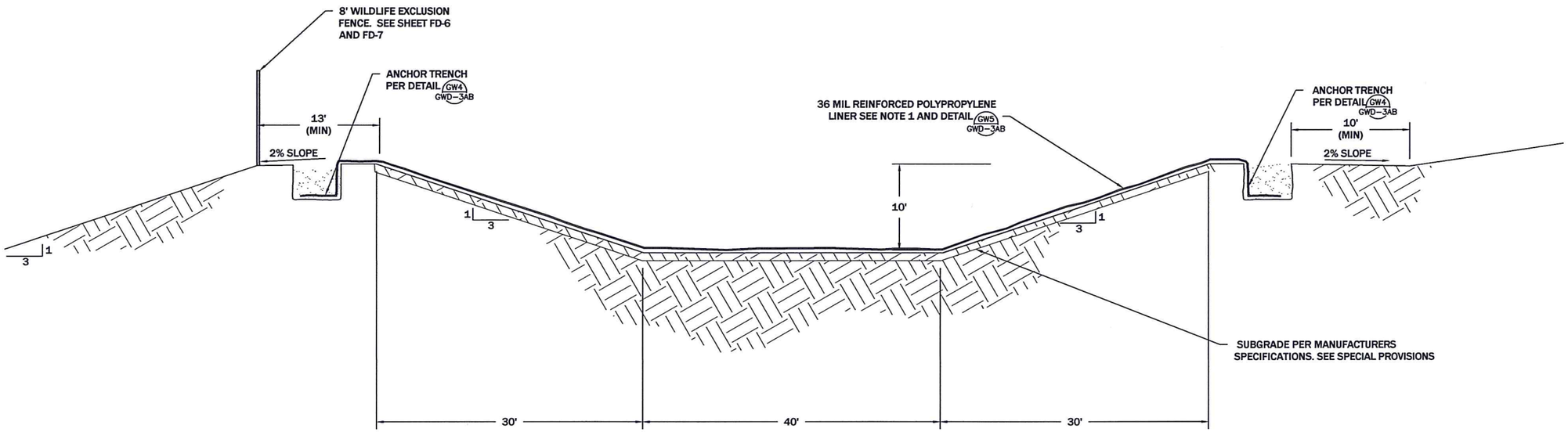
MDEQ/MWCB
MCLAREN TAILINGS ABANDONED MINE SITE RECLAMATION PROJECT
2011 AS-BUILT DRAWINGS

TYPICAL 100 TO 300 GPM PUMPING WELL DETAILS

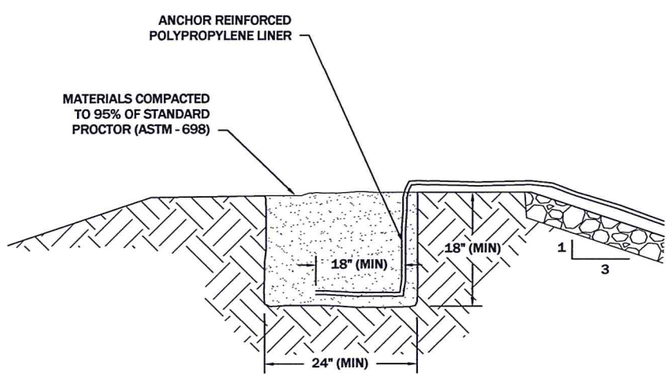
PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406) 782-5177

SHEET GWD-2AB

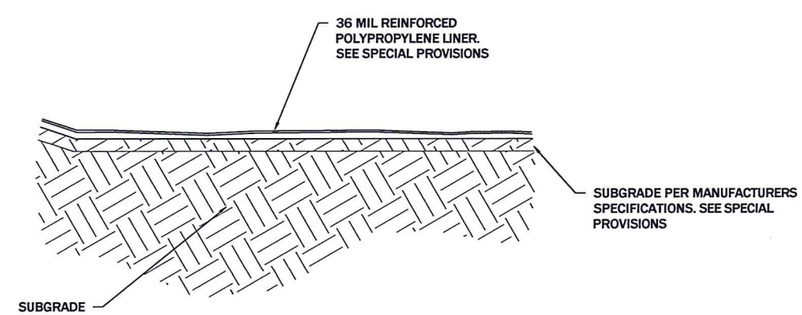
NOTE 1: SEAM LINER AS PER MANUFACTURERS SPECIFICATIONS.




## TYPICAL SEDIMENT DETENTION POND DETAIL GW3




## ANCHOR TRENCH DETAIL GW4




## LINER DETAIL GW5

NOT TO SCALE

REVISION:

| DATE: | BY: | DESC: |
|---|---|---|
| | | |

DRAWN BY: SKL
DESIGNED BY: JSM
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10160
DATE: 4/24/12

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: PIONEER

SCALE IN FEET
0 N.T.S.

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED MINE SITE RECLAMATION PROJECT
2011 AS-BUILT DRAWINGS

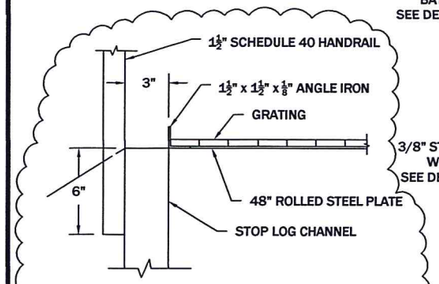
SEDIMENT DETENTION POND DETAILS

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)-782-5177

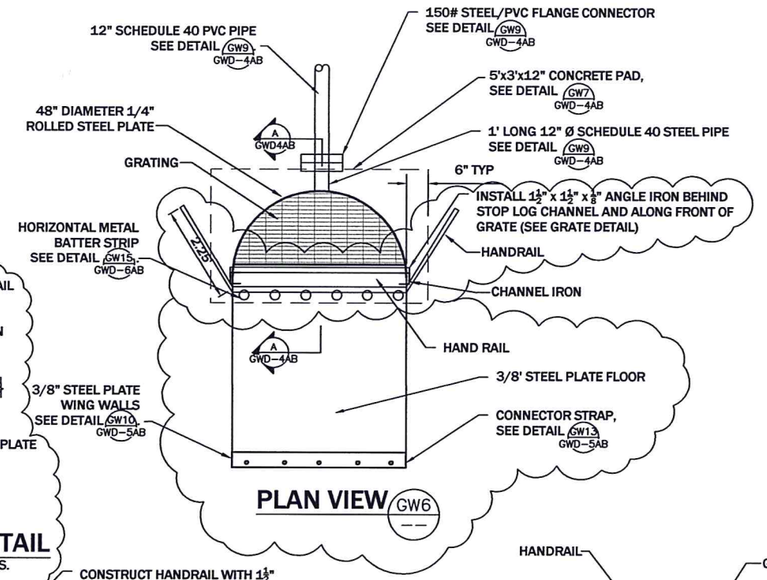
SHEET GWD-3AB

NOTES

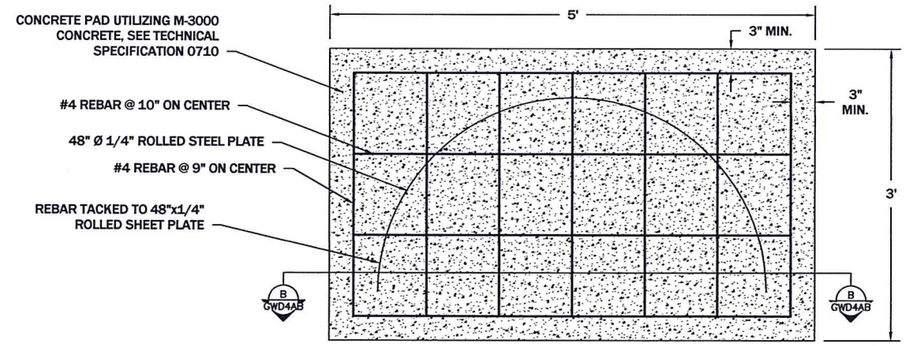
1. FLANGE CONNECTOR ON PVC PIPE WILL BE COMPATIBLE WITH WELD NECK FLANGE ON STEEL PIPE. INSTALL FLANGE CONNECTOR, AND BOLT TO WELD NECK PER MANUFACTURERS SPECIFICATIONS.
2. DRILL 2 ONE-INCH DIAMETER HOLES ON ONE OF THE 2- INCH WIDE FACES OF EACH STOP LOG. POSITION ONE HOLE ON EITHER SIDE OF THE CENTER POINT OF THE SELECTED 2-INCH WIDE FACE.
3. CONTRACTOR SHALL COMPACT BACKFILL AROUND OUTLET STRUCTURE AND PIPING @95% OF STANDARD PROCTOR (ASTM698).



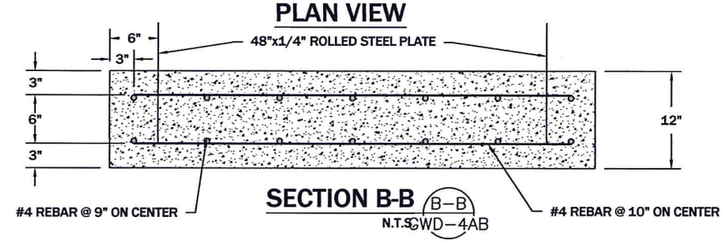

HAND RAIL & GRATING DETAIL
N.T.S.




PLAN VIEW GW6 --

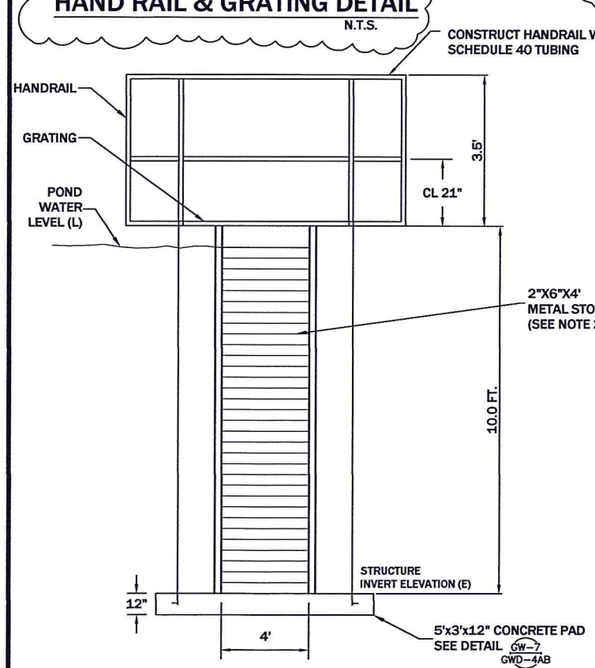



PLAN VIEW

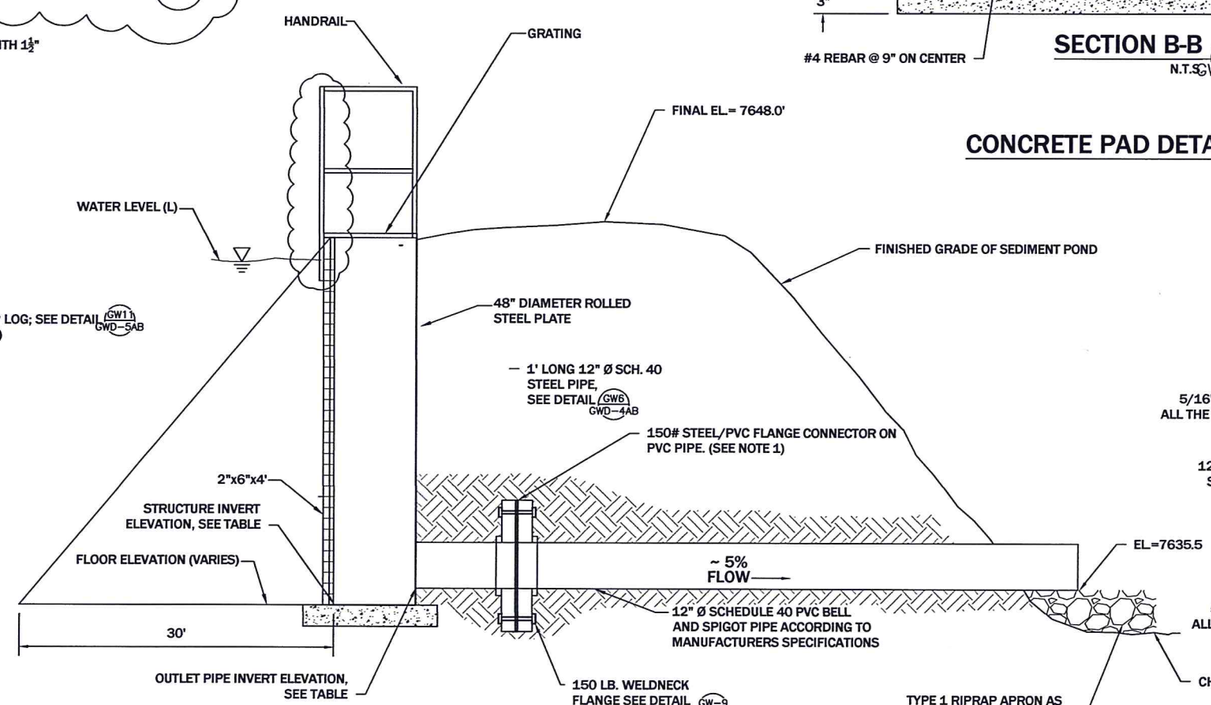



SECTION B-B B-B GWD-4AB
N.T.S.

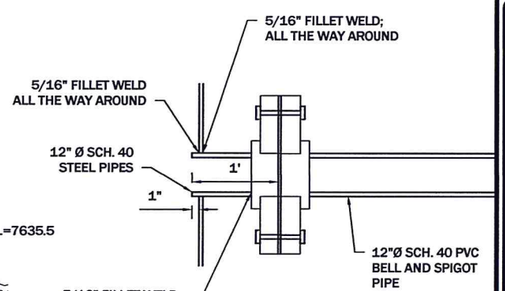
CONCRETE PAD DETAIL GW7 --




ELEVATION VIEW GW8 --
N.T.S.




SECTION A-A A GWD-4AB
N.T.S.




STEEL PIPE DETAIL GW9 GWD-4AB
N.T.S.

| STRUCTURE NAME | STRUCTURE HEIGHT (H) | STRUCTURE INVERT ELEV. (E) | POND OPERATING RANGE (L) | STATUS | OUTLET LAYOUT | STOP LOG HEIGHT (S) | OUTLET PIPE INVERTS AND SIZES |
|---|---|---|---|---|---|---|---|
| O51 | 8' | 7638' | MIN. 7638.5' MAX. 7647.0' | NEW | | 9' | 12"@ 7638.5' |

| REVISION: DATE: | BY: | DESC: |
|---|---|---|
| 2/15/11 | JSM | MODIFIED HANDRAIL LOCATION |

DRAWN BY: SKL
DESIGNED BY: BJS
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10160
DATE: 4/24/12

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: PIONEER

SCALE IN FEET
0 N.T.S.

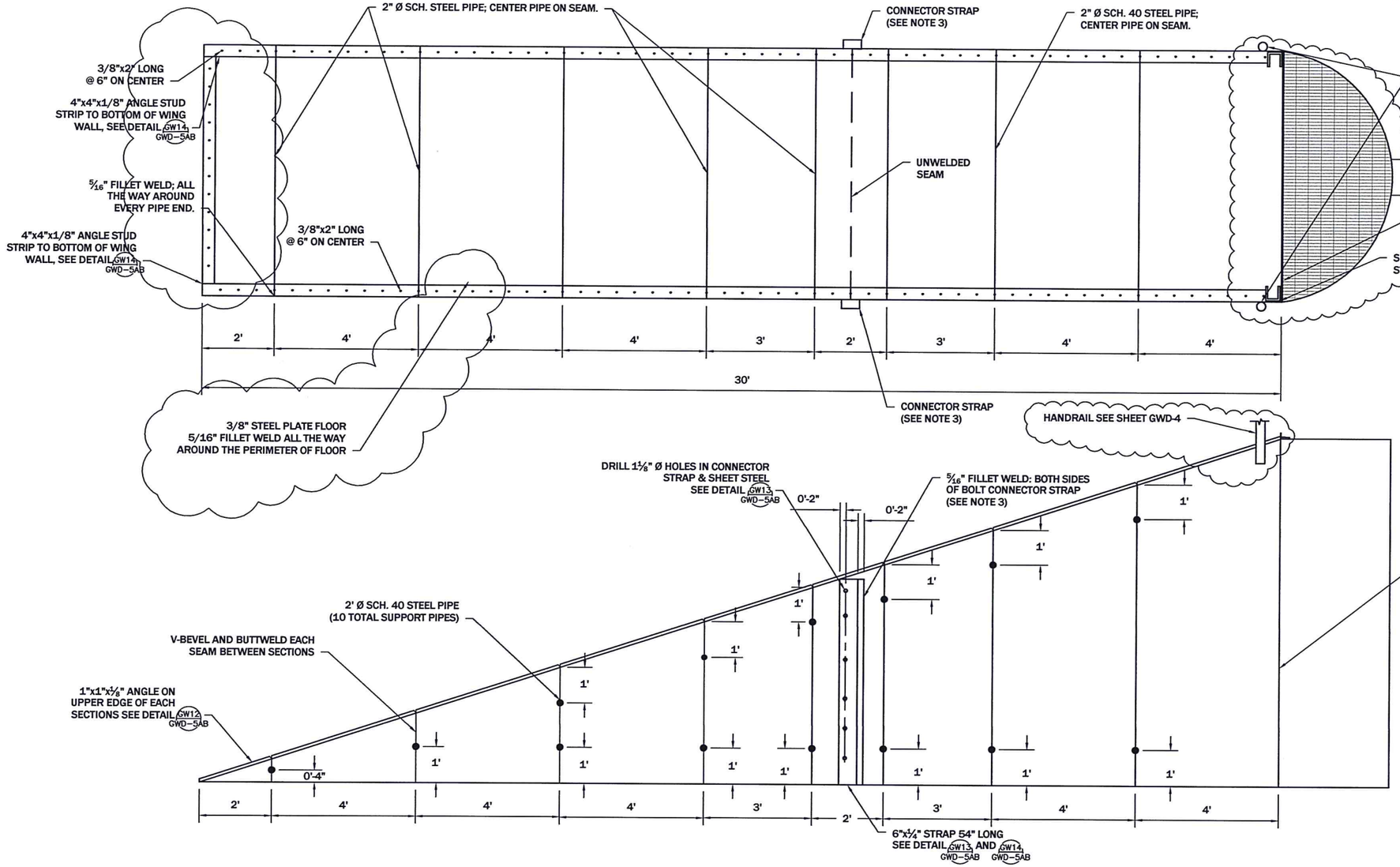
MDEQ/MWCB
MCLAREN TAILINGS ABANDONED MINE SITE RECLAMATION PROJECT
2011 AS-BUILT DRAWINGS

OUTLET STRUCTURE DETAILS

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)-782-5177

SHEET GWD-4AB

4/23/2012 12:18:13 PM P:\DEQ\MCLAREN\2011\DRAWINGS\AS-BUILTS\CONSTRUCTION\MC-FBID-AB-11-DET-017-11.DWG



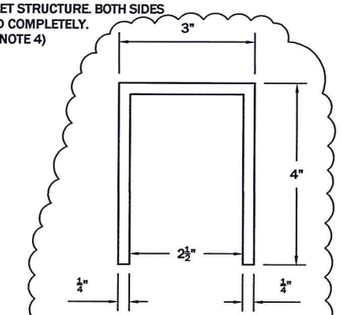




## 3/8" STEEL PLATE WING WALL DETAIL GW10 ——

SCALE: 1:40

5/16" FILLET WELD DIRECTLY TO OUTLET STRUCTURE. BOTH SIDES WELD COMPLETELY. (SEE NOTE 4)

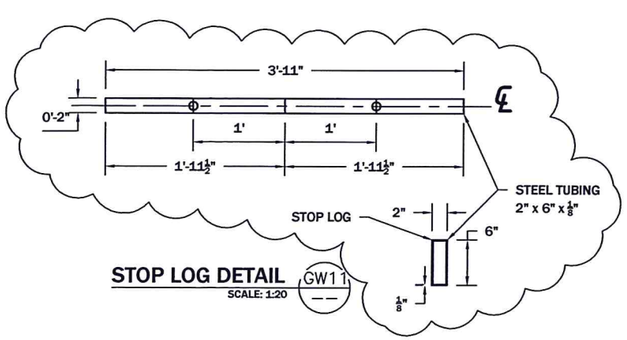



## STOP LOG CHANNEL STEEL

N.T.S.

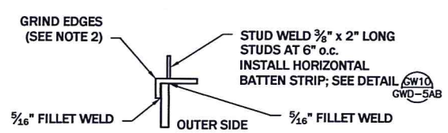
**NOTES**

1. USE 1-INCH DIAMETER GRADE 8 BOLTS, NUTS, FLAT WASHERS, AND LOCK WASHERS. USE ONE FLAT WASHER ON EACH END OF THE BOLT. USE ONE LOCK WASHER AND ONE NUT ON THE THREADED END OF EACH BOLT. ENSURE NUT IS LOCATED ON INSIDE FACE OF SHEET STEEL WING WALLS.
2. GRIND SMOOTH ALL EDGE OF ANGLE STEEL.
3. MATCH CONNECTOR STRAP AND SHEET STEEL WHEN DRILLING HOLES TO ENSURE EASE OF BOLT INSTALLATION WHEN ASSEMBLING. WELD CONNECTOR STRAP TO THE OUTER SIDE OF SHEET STEEL WING WALL.
4. ALL WELDS SHALL COMPLETELY COVER THEIR RESPECTIVE JOINT/SEAM.
5. CONTRACTOR SHALL PAINT ALL METAL SURFACES AS PER TECHNICAL SPECIFICATIONS.



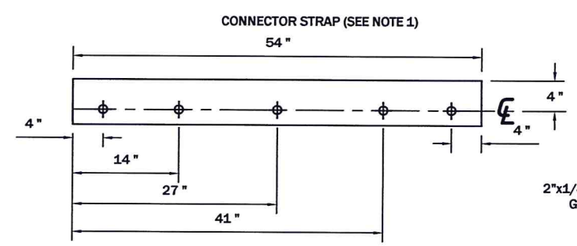

## STOP LOG DETAIL GW11 ——

SCALE: 1:20



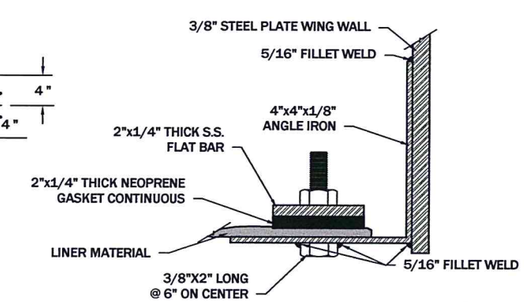

## STUD PLATE DETAIL GW12 ——

SCALE: 1:20




## CONNECTOR STRAP DETAIL GW13 ——

SCALE: 1:20




## 4"x4"x1/8" STUD PLATE DETAIL GW14 ——

N.T.S.

| REVISION: DATE: | BY: | DESC: |
|---|---|---|
| 2/15/11 | JSM | MODIFIED HANDRAIL PLACEMENT & CLARIFIED DRAWING |

DRAWN BY: SKL
DESIGNED BY: BJS
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10160
DATE: 4/24/12

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: PIONEER

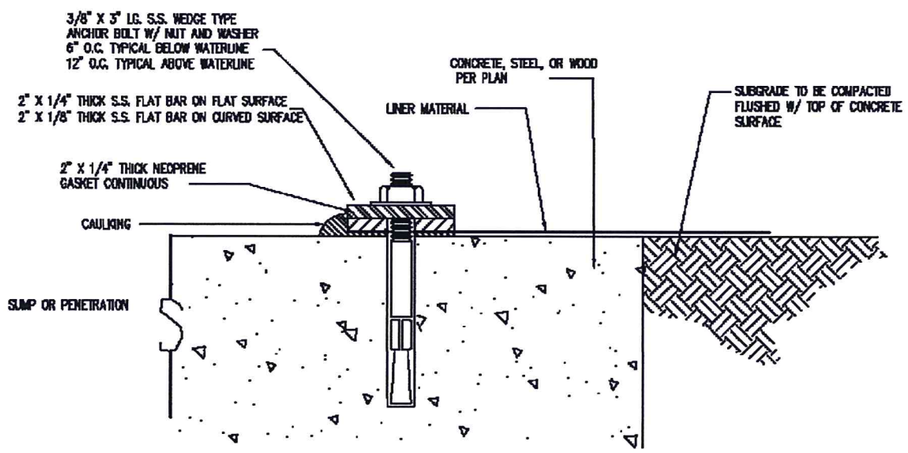
SCALE IN FEET
0 N.T.S.

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED MINE SITE RECLAMATION PROJECT
2011 AS-BUILT DRAWINGS

OUTLET STRUCTURE DETAILS

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)-782-5177

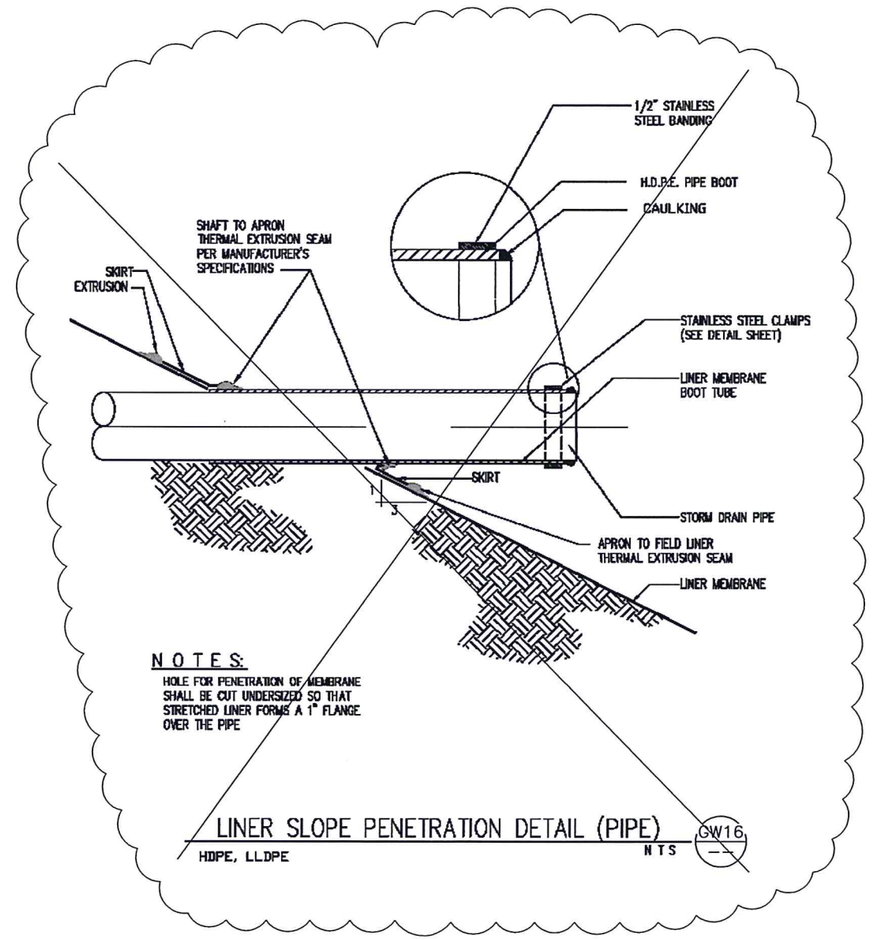
SHEET GWD-5AB




HORIZONTAL METAL BATTEN STRIP DETAIL (GW15 / --)

12" O.C. TYPICAL-ABOVE WATERLINE
6" O.C. TYPICAL-BELOW WATERLINE

NTS




NOTES:

HOLE FOR PENETRATION OF MEMBRANE SHALL BE CUT UNDERSIZED SO THAT STRETCHED LINER FORMS A 1" FLANGE OVER THE PIPE

LINER SLOPE PENETRATION DETAIL (PIPE) (GW16 / --)

HDPE, LLDPE

NTS

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NORTHWEST LININGS &
GEOTEXTILE PRODUCTS, Inc.
www.northwestlinings.com
21000 77TH AVE. SOUTH
KENT, WA. 98032
(253) 872-0244 (253) 872-0245 FAX

REVISION:

| DATE: | BY: | DESC: |
|---|---|---|
| | | |

DRAWN BY: NORTHWEST LININGS
DESIGNED BY: NORTHWEST LININGS
CHECKED BY: JSM
APPROVED BY: JSM
PROJECT NO: 10160
DATE: 4/24/12

DISPLAYED AS:
COORD SYS/ZONE:
DATUM:
UNITS:
SOURCE: NORTHWEST LININGS

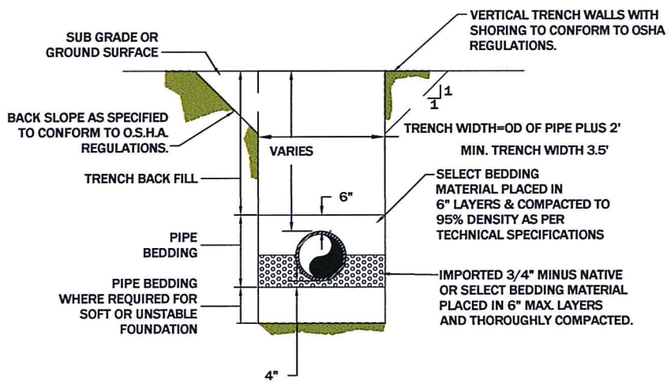
SCALE IN FEET
0 N.T.S.

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINESITE RECLAMATION PROJECT
2011 AS-BUILT DRAWINGS

LINER DETAILS

PIONEER TECHNICAL SERVICES, INC
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)-782-5177

SHEET
GWD-6AB

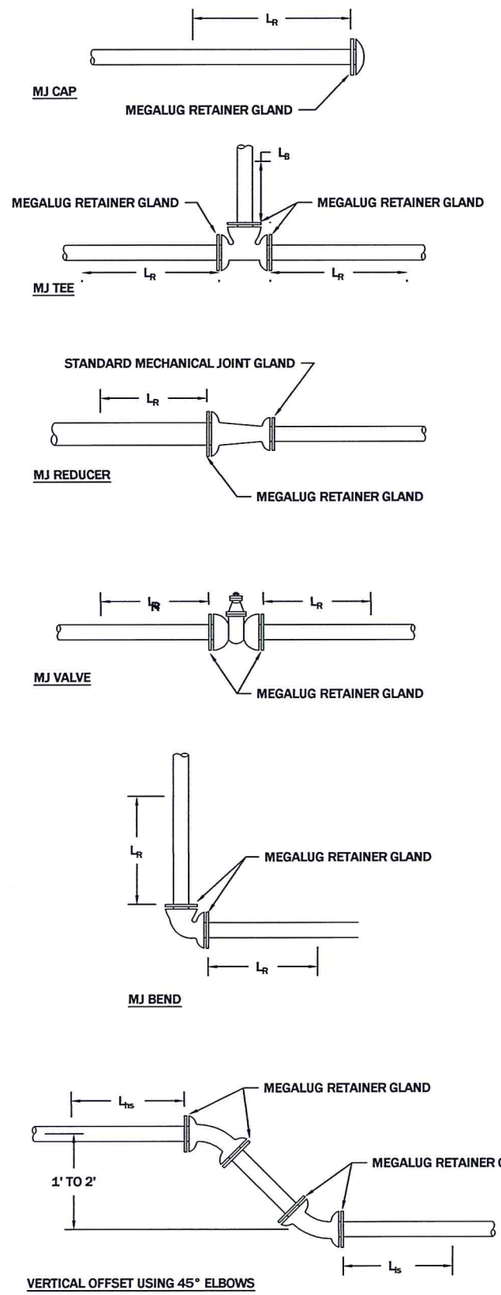



TRENCH BACKFILL SHALL COMPLY WITH TECHNICAL SPECIFICATIONS

PIPE BEDDING SHALL COMPLY WITH TECHNICAL SPECIFICATIONS

## TYPICAL UTILITY TRENCH DETAILS (GW17 / --)

N.T.S.




**NOTES:**

1. THRUST RESTRAINT SHALL BE PROVIDED AT ALL FITTINGS AND VALVES. THE THRUST RESTRAINT SYSTEM SHALL BE EITHER THE CONVENTIONAL CONCRETE THRUST BLOCK SYSTEM AS DEFINED IN THE TECHNICAL SPECIFICATION 02660 OR A COMBINATION OF MEGALUG RETAINER GLANDS AND BELL RESTRAINTS (AS MANUFACTURED BY EBAA IRON, OR APPROVED EQUAL) AS SHOWN IN THIS DETAIL.
2. ANY REBAR HOOPS SUPPLIED FOR A CONVENTIONAL CONCRETE THRUST RESTRAINT SYSTEM SHALL BE EPOXY COATED.
3. L IS THE PIPE LENGTH THAT SHALL BE RESTRAINED BEFORE AND AFTER THE VALVE OR FITTING, AS SHOWN IN THE ADJACENT DRAWINGS. A BELL RESTRAINT SHALL BE INSTALLED WITH ANY JOINTS LOCATED WITHIN THE REQUIRED RESTRAINED LENGTH FROM THE VALVE OR FITTING. THIS APPLIES ONLY IF THE MEGALUG RESTRAINT SYSTEM IS UTILIZED. THE REQUIRED VALUES OF L ARE LISTED IN THE TABLE BELOW.
4. ALL MEGALUGS AND BELL RESTRAINTS SHALL BE POLYWRAPPED OR BITUMINOUS COATED TO PROTECT AGAINST CORROSION.
5. WHEN TWO FITTINGS ARE INSTALLED WITHIN THE RESTRAINED LENGTH OF ONE ANOTHER, THE RESTRAINED LENGTH MUST BE CALCULATED FOR THE COMBINATION OF THE TWO FITTINGS, NOT EACH FITTING INDIVIDUALLY.
6. WHEN A VALVE OR FITTING IS ADJACENT TO A CONNECTION BETWEEN NEW AND EXISTING PIPE (i.e. THE CONNECTION TO THE EXISTING PIPE IS WITHIN THE $L_R$ LENGTH), CONVENTIONAL CONCRETE THRUST BLOCKS SHALL BE USED TO RESTRAIN THE VALVE OR FITTING.
7. $L_R$ MAY BE INCREASED AT THE ENGINEER'S DISCRETION IF WEAK OR UNSTABLE SOILS ARE ENCOUNTERED.

REQUIRED LENGTH OF PIPE RESTRAINT (FEET)

| FITTING | PIPE DIAMETER | $L_R$ | $L_{hs}$ | $L_{ls}$ | L |
|---|---|---|---|---|---|
| VALVE | 6"<br>8" | 28<br>37 | NA | NA | NA |
| 22.5° BEND | 6"<br>8" | 2<br>2 | NA | NA | NA |
| 45° BEND | 6"<br>8" | 4<br>5 | NA | NA | NA |
| 90° BEND | 6"<br>8" | 9<br>12 | NA | NA | NA |
| REDUCER | 8"x6" | 15 | NA | NA | NA |
| CAP | 6"<br>8" | 28<br>37 | NA | NA | NA |
| VERTICAL OFFSET (1'-2') 45° ELBOWS | 6"<br>8" | NA | 17<br>23 | 4<br>5 | NA |
| TEE | 6"x6"x6"<br>8"x8"x6"<br>8"x8"x8" | 10'<br>10'<br>10' | NA | NA | 1'<br>1'<br>1' |

## THRUST RESTRAINT REQUIREMENT DETAIL (GW18 / --)

N.T.S.

REVISION:

| DATE: | BY: | DESC: |
|---|---|---|
| | | |

DRAWN BY: CLA
DESIGNED BY: JSM
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10160
DATE: 4/24/12

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: NA
SOURCE: PIONEER

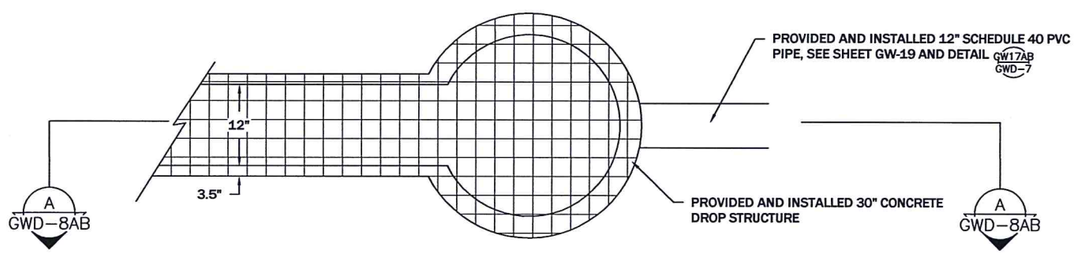
SCALE IN FEET
0 NTS NTS

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED MINE SITE RECLAMATION PROJECT
2011 AS-BUILT DRAWINGS

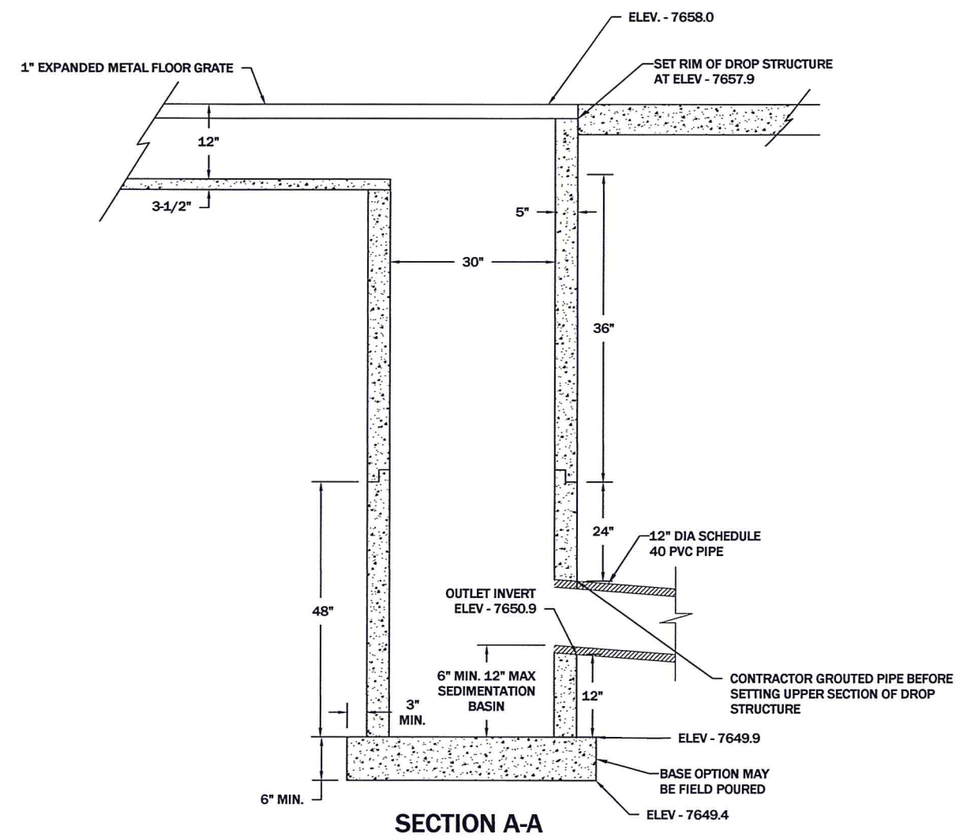
PIPING DETAILS

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406) 782-5177

SHEET
GWD-7AB




PLAN




SECTION A-A

## 30" STANDARD DROP STRUCTURE

GW19 / --

N.T.S.

| REVISION: DATE: | BY: | DESC: |
|---|---|---|
| 7/30/10 | JSM | 30" DROP REVISED |

DRAWN BY: CLA
DESIGNED BY: JSM
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10160
DATE: 4/24/12

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: NA
SOURCE: PIONEER

SCALE IN FEET
0 NTS NTS

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED MINE SITE RECLAMATION PROJECT
2011 AS-BUILT DRAWINGS

30" DROP STRUCTURE DETAILS

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406) 782-5177

SHEET GWD-8AB

# HERITAGE BUILDING SYSTEMS

*Established 1979*

MEMBER

MBMA METAL BUILDING MANUFACTURERS ASSOCIATION

## BUILDING SPECIFICATIONS

THE STRUCTURE UNDER THIS CONTRACT HAS BEEN DESIGNED AND DETAILED FOR THE LOADS AND CONDITIONS STIPULATED IN THE CONTRACT AND SHOWN ON THESE DRAWINGS. ANY ALTERATIONS TO THE STRUCTURAL SYSTEM OR REMOVAL OF ANY COMPONENT PARTS, OR THE ADDITION OF OTHER CONSTRUCTION MATERIALS OR LOADS MUST BE DONE UNDER THE ADVICE OF A REGISTERED ARCHITECT, CIVIL OR STRUCTURAL ENGINEER. HERITAGE BUILDING SYSTEMS WILL ASSUME NO RESPONSIBILITY FOR ANY LOADS NOT INDICATED.

THIS HERITAGE BUILDING SYSTEMS METAL BUILDING IS DESIGNED USING STANDARD DESIGN PRACTICES BASED ON PERTINENT PROCEDURES AND RECOMMENDATIONS OF THE FOLLOWING ORGANIZATIONS AND CODES.

AMERICAN INSTITUTE OF STEEL CONSTRUCTION: "SPECIFICATION FOR THE DESIGN, FABRICATION, AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS", 13TH EDITION.

AMERICAN IRON AND STEEL INSTITUTE: "NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD FORMED STEEL STRUCTURAL MEMBERS", 2001 EDITION (W/ 2004 SUPPLEMENT).

AMERICAN WELDING SOCIETY: "STRUCTURAL WELDING CODE"
AWS D1.1-2006 :STEEL
AWS D1.3-98 :SHEET STEEL

MBMA METAL BUILDING SYSTEMS MANUAL, 2002 ED. WITH 2004 UPDATE

MATERIAL PROPERTIES OF STEEL PLATE USED IN THE FABRICATION OF PRIMARY RIGID FRAMES AND OTHER PRIMARY STRUCTURAL, EXCLUSIVE OF COLD-FORMED SECTIONS, CONFORM TO ASTM A529 OR A572. FLANGES WITH THICKNESS OF 1" OR LESS AND WIDTH OF 12" OR LESS CONFORM TO ASTM A529-05 GRADE 55. FLANGES GREATER THAN 1" IN THICKNESS OR 12" IN WIDTH CONFORM TO ASTM A 572-06 GRADE 50. WEBS OF 3/16" OR LESS CONFORM TO ASTM A1011-06b GRADE 50 AND WEBS GREATER THAN 3/16" CONFORM TO ASTM A1018-06c GRADE 50 OR ASTM A572-06 GRADE 50.

MATERIAL PROPERTIES OF HOT ROLLED SECTIONS W8X10 THROUGH W24X76 CONFORM TO ASTM A572-06 GRADE 50 OR ASTM A992-04A GRADE 50. HOT ROLLED SECTIONS LARGER THAN W24X76 CONFORM TO ASTM A36-05.

MATERIAL PROPERTIES OF PIPE SECTIONS CONFORM TO ASTM A53-06a TYPE "E" GRADE "B", MINIMUM YIELD OF 35,000 PSI.

MATERIAL PROPERTIES OF HOLLOW STRUCTURAL SECTIONS CONFORM TO ASTM A500-03A GRADE "B", MINIMUM YIELD OF 42,000 PSI.

MATERIAL PROPERTIES OF COLD FORMED LIGHT GAGE STEEL MEMBERS CONFORM TO THE REQUIREMENTS OF ASTM A1011-06b GRADE 55 WITH A MINIMUM YIELD OF 55,000 PSI.

MATERIAL PROPERTIES OF CABLE BRACING CONFORM TO ASTM A475-03, CLASS A 7-STRAND WIRE. ROD BRACING CONFORMS TO ASTM A36-05.

HIGH STRENGTH BOLTS AND THEIR INSTALLATION SHALL CONFORM TO ASTM SPECIFICATIONS A-325 AND ARE DESIGNED AS BEARING TYPE CONNECTIONS WITH THREADS INCLUDED IN THE SHEAR PLANE. TIGHTENING OF THESE BOLTS IS RECOMMENDED BY THE "SNUG-TIGHTENED JOINTS" METHOD, PER 2002 RCSC "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR 490 BOLTS."

ALL STEEL MEMBERS EXCEPT BOLTS, FASTENERS, AND CABLE SHALL RECEIVE ONE SHOP COAT OF INHIBITIVE PRIMER, SSPC SPEC. #15, UNLESS STATED OTHERWISE IN THE CONTRACT.

SHOP AND FIELD INSPECTIONS AND ASSOCIATED FEES ARE THE RESPONSIBILITY OF THE OWNER, UNLESS STIPULATED OTHERWISE.

## BUILDERS RESPONSIBILITIES

THE BUILDER MUST SECURE ALL REQUIRED APPROVALS AND PERMITS FROM THE APPROPRIATE AGENCY AS REQUIRED.

APPROVAL OF HERITAGE BUILDING SYSTEMS DRAWINGS AND CALCULATIONS INDICATES THAT HERITAGE HAS CORRECTLY INTERPRETED AND APPLIED THE REQUIREMENTS OF THE CONTRACT DRAWINGS AND SPECIFICATIONS. (SECT. 4.4.1 AISC CODE OF STANDARD PRACTICE, 13TH EDITION.)

WHERE DISCREPANCIES EXIST BETWEEN THE HERITAGE STRUCTURAL STEEL PLANS AND THE PLANS FOR OTHER TRADES, THE STRUCTURAL STEEL PLANS WILL GOVERN. (SECT. 3.3 AISC CODE OF STANDARD PRACTICE, 13TH EDITION.)

DESIGN CONSIDERATIONS OF ANY MATERIALS IN THE STRUCTURE WHICH ARE NOT FURNISHED BY HERITAGE ARE THE RESPONSIBILITY OF THE BUILDER AND ENGINEERS OTHER THAN HERITAGE ENGINEERING UNLESS SPECIFICALLY INDICATED.

THE BUILDER IS RESPONSIBLE FOR ALL ERECTION OF STEEL AND ASSOCIATED WORK IN COMPLIANCE WITH HERITAGE CONSTRUCTION DRAWINGS.

TEMPORARY SUPPORTS, SUCH AS TEMPORARY GUYS, BRACES, FALSEWORK OR OTHER ELEMENTS REQUIRED FOR ERECTION WILL BE DETERMINED, FURNISHED, AND INSTALLED BY THE BUILDER. (SECT 7.10 AISC CODE OF STANDARD PRACTICE, 13TH EDITION.)

IT IS THE BUILDERS RESPONSIBILITY TO APPLY AND OBSERVE ALL PERTINENT SAFETY RULES AND REGULATIONS, AND PER OSHA STANDARDS AS APPLICABLE.

THE BUILDER IS RESPONSIBLE FOR THE VERIFICATION OF ALL SHIPMENTS RECEIVED, AND MUST INVENTORY BUILDING AT TIME OF DELIVERY.

## GENERAL NOTES

NO CHANGES SHOULD BE MADE TO THIS BUILDING SYSTEM UNLESS APPROVED IN WRITING BY THE MANUFACTURERS ENGINEERING DEPARTMENT.

UNAPPROVED CHANGES COULD RESULT IN AN UNSAFE BUILDING DESIGN AND COULD ENDANGER PUBLIC SAFETY.

THIS BUILDINGS ANCHOR BOLTS ARE BY OTHERS. HERITAGE BUILDING SYSTEMS DOES NOT PROVIDE ANCHOR BOLTS.

## ENGINEERING SEAL

THIS CERTIFICATION COVERS PARTS MANUFACTURED AND DELIVERED BY THE MANUFACTURER ONLY, AND EXCLUDES PARTS SUCH AS DOORS, WINDOWS, FOUNDATION DESIGN AND ERECTION OF THE BUILDING.

THESE DRAWINGS AND THE METAL BUILDING SYSTEM THEY REPRESENT ARE THE PRODUCT OF AN AFFILIATE OF NCI GROUP, INC. - 10943 N. SAM HOUSTON PARKWAY W., HOUSTON, TX 77064. THE PROFESSIONAL ENGINEER WHOSE SEAL APPEARS HEREON IS EMPLOYED BY AN AFFILIATE OF NCI GROUP, INC. AND IS NOT THE ENGINEER-OF-RECORD FOR THE OVERALL PROJECT.

JERRY L. LEATHERWOOD, JR. NO. 08777PE LICENSED PROFESSIONAL ENGINEER

9/17/09

## DESIGN LOADING

THIS STRUCTURE IS DESIGNED UTILIZING THE LOADS INDICATED AND APPLIED AS REQUIRED BY:

IBC 06

THE BUILDER IS TO CONFIRM THAT THESE LOADS COMPLY WITH THE REQUIREMENTS OF THE LOCAL BUILDING DEPARTMENT.

| | | |
|---|---|---|
| **FRAME / ROOF DEAD LOAD** | | |
| SUPERIMPOSED | 2.000 | PSF |
| COLLATERAL (LIGHTS) | 1 | PSF |
| **FRAME / ROOF LIVE LOAD** | 20 /20.00 | PSF |
| **SNOW LOAD** | | |
| GROUND SNOW LOAD (Pg) | 178.0000 | PSF |
| FLAT ROOF SNOW LOAD (Pf) | 124.6 | PSF |
| SNOW EXPOSURE FACTOR (Ce) | 1.0 | |
| SNOW LOAD IMPORTANCE FACTOR (Is) | 1.0000 | |
| THERMAL FACTOR (Ct) | 1.00 | |
| **WIND LOAD** | | |
| BASIC WIND SPEED | 90 | MPH |
| WIND IMPORTANCE FACTOR (Iw) | 1.00 | |
| WIND EXPOSURE CATEGORY | C | |
| TOPOGRAPHICAL FACTOR | 1.0 | |
| **SEISMIC LOAD** | | |
| OCCUPANCY CATEGORY | II - Normal | |
| $S_{DS}$ | 0.5154 | |
| $S_{D1}$ | 0.2431 | |
| $S_s$ | 0.5780 | |
| $S_1$ | 0.1730 | |
| SITE CLASS | D | |
| SEISMIC DESIGN CATEGORY | D | |
| SEISMIC IMPORTANCE FACTOR (Ie) | 1.00 | |
| DESIGN BASE SHEAR (V) | 12.06 | KIPS |
| **RAIN INTENSITY** | | |
| 5-MINUTE DURATION, 5-YEAR RECURRENCE (I1) | 4.0000 | IN/HOUR |
| 5-MINUTE DURATION, 25-YEAR RECURRENCE (I2) | 6.0000 | IN/HOUR |

BASIC STRUCTURAL SYSTEM AND SEISMIC RESISTING SYSTEM = ORDINARY MOMENT FRAME OF STEEL.
R = 3.2500
ANALYSIS PROCEDURE IS EQUIVALENT LATERAL FORCE PROCEDURE.

## DRAWING INDEX

| ISSUE | PAGE | DESCRIPTION |
|---|---|---|
| A | L1 of 1 | COVER SHEET |
| A | AB1 | ANCHOR BOLT PLAN |
| A | AB2 | ANCHOR BOLT REACTIONS |
| A | RFP | ROOF FRAMING PLAN |
| A | FCS | FRAME CROSS SECTION |
| A | LEW | LEFT ENDWALL |
| A | REW | RIGHT ENDWALL |
| A | FSW | FRONT SIDEWALL |
| A | BSW | BACK SIDEWALL |
| A | DET | GENERAL DETAILS |

## DRAWING STATUS

☐ FOR APPROVAL
THESE DRAWINGS, BEING FOR APPROVAL, ARE BY DEFINITION NOT FINAL, AND ARE FOR CONCEPTUAL REPRESENTATION ONLY. THEIR PURPOSE IS TO CONFIRM PROPER INTERPRETATION OF THE PROJECT DOCUMENTS. ONLY DRAWINGS ISSUED "FOR CONSTRUCTION" CAN BE CONSIDERED AS COMPLETE.

☐ FOR PERMITS ONLY
THESE DRAWINGS, BEING FOR PERMIT, ARE BY DEFINITION NOT FINAL. ONLY DRAWINGS ISSUED "FOR CONSTRUCTION" CAN BE CONSIDERED AS COMPLETE.

☒ FOR CONSTRUCTION
FINAL DRAWINGS.

FOR QUESTIONS OR ASSISTANCE CONCERNING ERECTION OF HERITAGE BUILDINGS, CALL:
1.800.643.5555
MONDAY - FRIDAY 7:30AM TO 5:00PM CENTRAL STANDARD TIME.

| DRAWN | DATE |
|---|---|
| AKT | 9/17/09 |
| CHECKED | DATE |
| CM | |
| APPROVED | DATE |
| | |
| SCALE | |
| N.T.S. | |

HERITAGE BUILDING SYSTEMS
2612 GRIBBLE STREET
NORTH LITTLE ROCK, AR 72114
800-643-5555

CUSTOMER:
S BAR S
COOKE CITY, MT 59020

BUILDING:
54'-0" x 42'-0" x 16'-0" 4.0:12

JOB NO. 3319-245937

REV. NO. 0 | SHEET NO. L1 of 1

NOTE:

PROVIDED AND INSTALLED 42'x54' STEEL FRAMED BUILDING FROM HERITAGE BUILDING SYSTEMS

REVISION:

| DATE: | BY: | DESC: |
|---|---|---|
| | | |

DRAWN BY: HERITAGE BUILDING
DESIGNED BY: HERITAGE BUILDING
CHECKED BY: HERITAGE BUILDING
APPROVED BY: JSM
PROJECT NO: 10160
DATE: 4/24/12

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: HERITAGE BUILDING

SCALE IN FEET
0 N.T.S

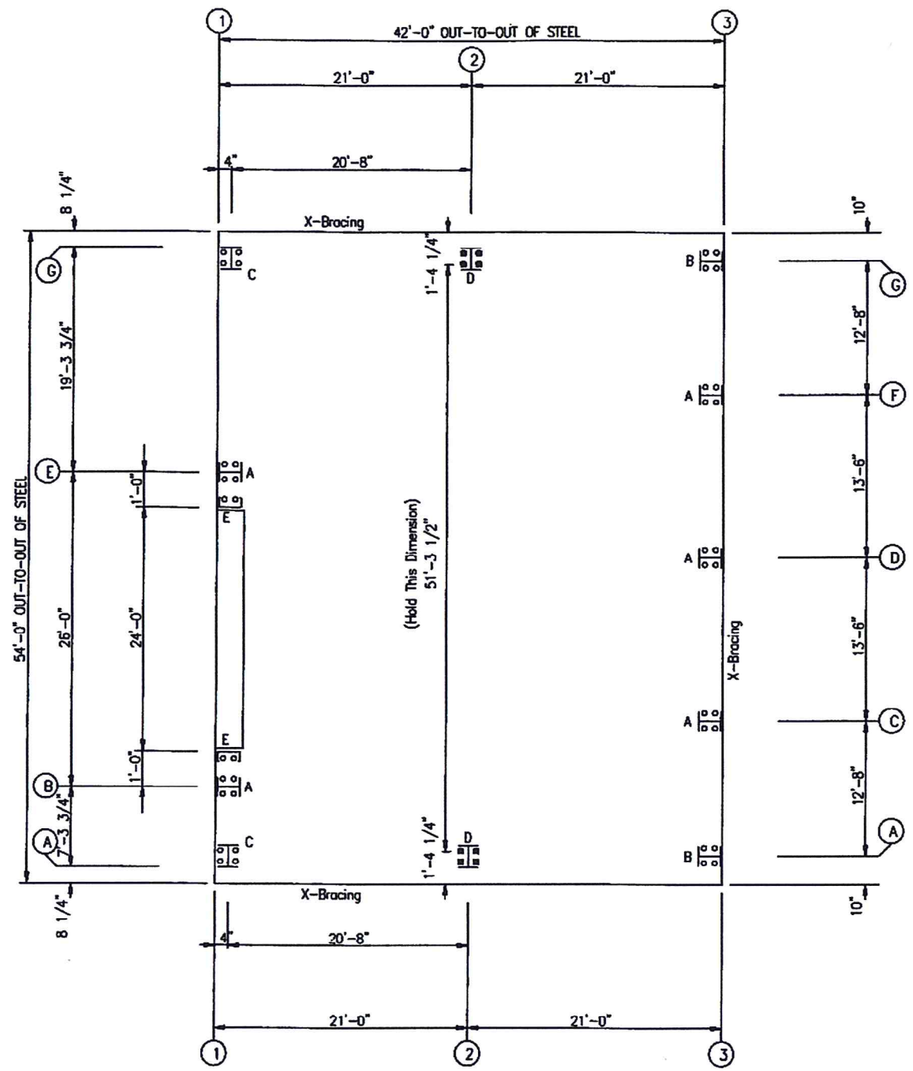
MDEQ/MWCB
MCLAREN TAILINGS ABANDONED MINE SITE RECLAMATION PROJECT
2011 AS-BUILT DRAWINGS

DEWATERING CONTROL BUILDING DETAILS

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406) 782-5177

SHEET GWD-9AB

4/23/2012 12:58:12 PM P:\DEQ\MCLAREN\2011\DRAWINGS\AS-BUILTS\CONSTRUCTION\MC-FBID-AB-11-DET-040-09.DWG




ANCHOR BOLT PLAN

NOTE: ALL BASE PLATES @ 100.0' (U.N.)
ASSUMED FINISH FLOOR @ 100.0' (U.N.)

O Dia= 5/8"

⊠ Dia=1 1/4"

NOTE: ALL WALKDOORS ARE FIELD LOCATED, UNLESS NOTED.

NOTE:
Anchor Bolts By Others!
HERITAGE BUILDING SYSTEMS
Does Not Provide Anchor Bolts.

NOTE:

PROVIDED AND INSTALLED 42'x54' STEEL FRAMED BUILDING
FROM HERITAGE BUILDING SYSTEMS

HERITAGE BUILDING SYSTEMS
2612 GRIBBLE STREET
NORTH LITTLE ROCK, AR 72114
1-800-643-5555

| | |
|---|---|
| DESCRIPTION: | ANCHOR BOLT PLAN |
| CUSTOMER: | S BAR S |
| LOCATION: | COOKE CITY, MT 59020 |
| HERITAGE JOB # | 3319-245937 |

| DRAWING BY | DATE | LOADS | SCALE |
|---|---|---|---|
| AKT | 9/17/09 | SEE COVER | N.T.S. |
| CHECK BY | TIME | DRAWING # | REV # |
| CM | 7:41am | AB1 | 0 |

REVISION:

| DATE: | BY: | DESC: |
|---|---|---|
| | | |

DRAWN BY: HERITAGE BUILDING
DESIGNED BY: HERITAGE BUILDING
CHECKED BY: HERITAGE BUILDING
APPROVED BY: JSM
PROJECT NO: 10160
DATE: 4/24/12

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: HERITAGE BUILDING

SCALE IN FEET
0 N.T.S

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2011 AS-BUILT DRAWINGS

DEWATERING
CONTROL
BUILDING
DETAILS

PIONEER TECHNICAL SERVICES, INC
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406) 782-5177

SHEET
GWD-10AB

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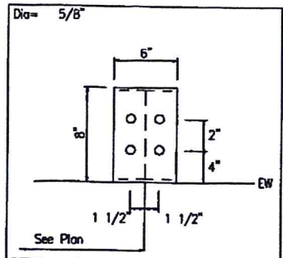
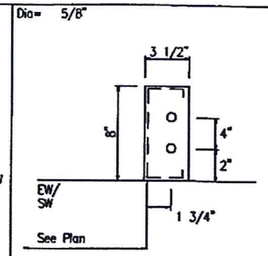
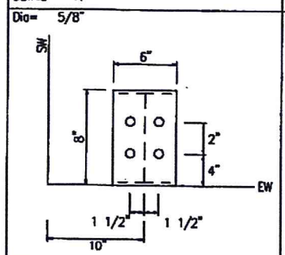


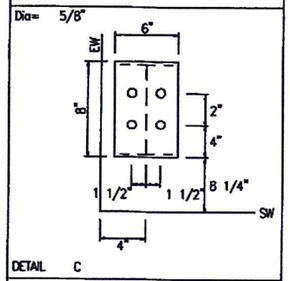

DETAIL A



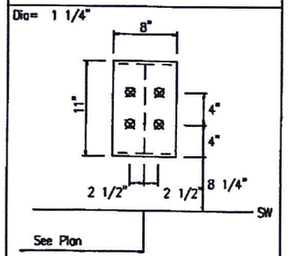

DETAIL E




DETAIL B




DETAIL C




DETAIL D

## BRACING REACTIONS, PANEL SHEAR

| Wall Loc | Wall Line | Col Line | ± Reactions (k) Wind Horz | Wind Vert | Seismic Horz | Seismic Vert | Panel Shear (lb/ft) |
|---|---|---|---|---|---|---|---|
| L_EW | 1 | Bracing In Roof To Rigid Frame | | | | | |
| F_SW | A | 1 ,2 | 3.4 | 2.2 | 5.7 | 3.7 | |
| R_EW | 3 | C ,D | 2.3 | 3.7 | 3.0 | 4.8 | |
| B_SW | C | 2 ,1 | 3.5 | 2.2 | 5.7 | 3.7 | |

## NOTES FOR REACTIONS

Building reactions are based on the following building data:

| | |
|---|---|
| Width (ft) | = 54 |
| Length (ft) | = 42 |
| Eave Height (ft) | = 16 / 16 |
| Roof Slope (rise/12) | = 4.0:12 / 4.0:12 |
| Dead Load (psf) | = 2.000 |
| Collateral Load (psf) | = 1 |
| Roof Live Load (psf) | = 20.00 |
| Frame Live Load (psf) | = 20 |
| Roof Snow Load (psf) | = 124.6 |
| Ground Snow Load (psf) | = 178.0000 |
| Wind Speed (mph) | = 90 |
| Wind Code | = IBC 06 |
| Exposure | = C |
| Closed/Open | = Closed |
| Importance – Wind | = 1.00 |
| Importance – Seismic | = 1.00 |
| Seismic Zone | = D |
| Seismic coeff (Cs) | = 0.773 |

| ID | Description |
|---|---|
| 1 | DL+CL+SL |
| 2 | DL+CL+SL+Slide |
| 3 | 0.600L+WL1 |
| 4 | 0.600L+WR1 |
| 5 | 0.600L+LnWind1+LWIND1_L2E |
| 6 | 0.600L+LnWind1+LWIND1_R2E |
| 7 | 0.530L-0.70Seist. |
| 8 | DL+CL+F1UNB_SL_L |
| 9 | DL+CL+F1UNB_SL_R |
| 10 | 0.600L+WL2+WS |
| 11 | DL+CL+E1UNB_SL_R |
| 12 | 0.600L+WP+LnWind1 |
| 13 | DL+CL+E1UNB_SL_L |
| 14 | 0.600L+WR2+WS |
| 15 | DL+CL+0.75SL+0.75WR2+0.75WS+0.75Slide |
| 16 | DL+CL+E2UNB_SL_L |
| 17 | DL+CL+E2UNB_SL_R |

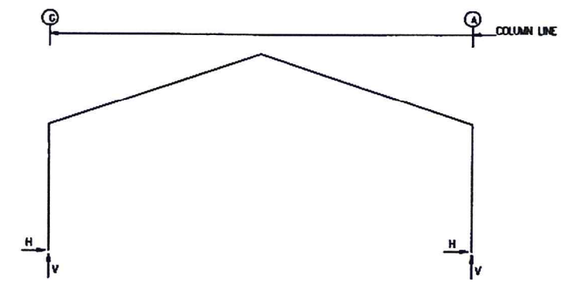
## ANCHOR BOLT SUMMARY

| Qnt | Loc | Dia (in) | Type | Proj (in) |
|---|---|---|---|---|
| O 4 | DJ | 5/8" | | |
| O 36 | EW | 5/8" | | |
| SR 8 | RF | 1 1/4" | A307 | 3.50 |

## GENERAL NOTES

1. THE METAL BUILDING MANUFACTURER IS RESPONSIBLE FOR THE DESIGN OF THE ANCHOR BOLT DIAMETER ONLY TO PERMIT THE TRANSFER OF FORCES BETWEEN THE BASE PLATE AND THE ANCHOR BOLT IN SHEAR, BEARING AND TENSION, BUT IS NOT RESPONSIBLE FOR THE ANCHOR BOLT EMBEDMENT FOR TRANSFER OF FORCES TO THE FOUNDATION.
   THE METAL BUILDING MANUFACTURER DOES NOT DESIGN AND IS NOT RESPONSIBLE FOR THE DESIGN, MATERIAL AND CONSTRUCTION OF THE FOUNDATION EMBEDMENTS. THE END USE CUSTOMER SHOULD ASSURE HIMSELF THAT ADEQUATE PROVISIONS ARE MADE IN THE FOUNDATION DESIGN FOR LOADS IMPOSED BY COLUMN REACTIONS OF THE BUILDING, OTHER IMPOSED LOADS, AND BEARING CAPACITY OF THE SOIL AND OTHER CONDITIONS OF THE BUILDING SITE. IT IS RECOMMENDED THAT THE ANCHORAGE AND FOUNDATION OF THE BUILDING BE DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER EXPERIENCED IN THE DESIGN OF SUCH STRUCTURES. (SECTION A3 MBMA 2006 METAL BUILDING SYSTEMS MANUAL)
2. BOTTOM OF ALL BASE PLATES ARE AT THE SAME ELEVATION. (UNLESS NOTED)

FRAME LINES: 2




## RIGID FRAME: MAXIMUM REACTIONS, ANCHOR BOLTS, & BASE PLATES

| Frm Line | Col Line | Load Id | Hmax H | V Vmax | Load Id | Hmin H | V Vmin | Anc. Bolt No | D(in) | Base Plate (in) Wid | Len | Thk | Grout (in) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Column Reactions (k) | | | | | | | | | | | |
| 2 | G | 1 | 48.1 | 92.3 | 3 | -7.1 | -8.6 | 4 | 1.250 | 8.000 | 11.00 | 0.625 | 0.0 |
| | | 8 | 41.7 | 92.9 | 5 | -1.2 | -11.1 | | | | | | |
| 2 | A | 4 | 7.1 | -8.6 | 1 | -48.1 | 92.6 | 4 | 1.250 | 8.000 | 11.00 | 0.625 | 0.0 |
| | | 9 | -41.7 | 92.9 | 6 | 1.2 | -11.1 | | | | | | |

## ENDWALL COLUMN: MAXIMUM REACTIONS, ANCHOR BOLTS, & BASE PLATES

| Frm Line | Col Line | Load Id | Hmax H | V Vmax | Load Id | Hmin H | V Vmin | Anc. Bolt No | D(in) | Base Plate (in) Wid | Len | Thk | Grout (in) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Column Reactions (k) | | | | | | | | | | | |
| 1 | G | 10 | 0.0 | -1.4 | 10 | 0.0 | -1.4 | 4 | 0.625 | 6.000 | 8.000 | 0.250 | 0.0 |
| | | 11 | 0.0 | 14.8 | | | | | | | | | |
| 1 | E | 10 | 3.9 | -3.2 | 12 | -3.5 | -2.7 | 4 | 0.625 | 6.000 | 8.000 | 0.375 | 0.0 |
| | | 13 | 0.0 | 38.5 | 10 | 3.9 | -3.2 | | | | | | |
| 1 | B | 14 | 2.3 | -3.1 | 12 | -2.1 | -2.5 | 4 | 0.625 | 6.000 | 8.000 | 0.375 | 0.0 |
| | | 11 | 0.0 | 42.8 | 14 | 2.3 | -3.1 | | | | | | |
| 1 | A | 2 | 0.0 | -3.1 | 2 | 0.0 | -3.1 | 4 | 0.625 | 6.000 | 8.000 | 0.250 | 0.0 |
| | | 15 | 0.0 | 4.8 | | | | | | | | | |
| 3 | A | 10 | 0.0 | -0.9 | 10 | 0.0 | -0.9 | 4 | 0.625 | 6.000 | 8.000 | 0.250 | 0.0 |
| | | 2 | 0.0 | 7.6 | | | | | | | | | |
| 3 | C | 10 | 2.0 | -6.4 | 12 | -1.8 | -2.0 | 4 | 0.625 | 6.000 | 8.000 | 0.375 | 0.0 |
| | | 16 | 0.0 | 27.4 | 10 | 2.0 | -6.4 | | | | | | |
| 3 | D | 14 | 2.6 | -4.7 | 12 | -2.3 | -0.8 | 4 | 0.625 | 6.000 | 8.000 | 0.250 | 0.0 |
| | | 2 | 0.0 | 18.7 | 7 | 0.0 | -4.9 | | | | | | |
| 3 | F | 14 | 2.0 | -2.7 | 12 | -1.8 | -2.0 | 4 | 0.625 | 6.000 | 8.000 | 0.375 | 0.0 |
| | | 17 | 0.0 | 27.4 | 14 | 2.0 | -2.7 | | | | | | |
| 3 | G | 14 | 0.0 | -0.9 | 14 | 0.0 | -0.9 | 4 | 0.625 | 6.000 | 8.000 | 0.250 | 0.0 |
| | | 2 | 0.0 | 7.6 | | | | | | | | | |

NOTE:
Anchor Bolts By Others!
HERITAGE BUILDING SYSTEMS
Does Not Provide Anchor Bolts.

NOTE:

PROVIDED AND INSTALLED 42'x54' STEEL FRAMED BUILDING
FROM HERITAGE BUILDING SYSTEMS

HERITAGE BUILDING SYSTEMS
2612 GRIBBLE STREET
NORTH LITTLE ROCK, AR 72114
1-800-643-5555

DESCRIPTION: ANCHOR BOLT REACTIONS
CUSTOMER: S BAR S
LOCATION: COOKE CITY, MT 59020
HERITAGE JOB # 3319-245937

| DRAWING BY | DATE | LOADS | SCALE |
|---|---|---|---|
| AKT | 9/17/09 | SEE COVER | N.T.S. |
| CHECK BY | TIME | DRAWING # | REV # |
| CM | 7:41am | AB2 | 0 |

REVISION:

| DATE: | BY: | DESC: |
|---|---|---|
| | | |

DRAWN BY: HERITAGE BUILDING
DESIGNED BY: HERITAGE BUILDING
CHECKED BY: HERITAGE BUILDING
APPROVED BY: JSM
PROJECT NO: 10160
DATE: 4/24/12

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: HERITAGE BUILDING

SCALE IN FEET
0 N.T.S

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2011 AS-BUILT DRAWINGS

DEWATERING CONTROL BUILDING DETAILS

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406) 782-5177

SHEET
GWD-11AB

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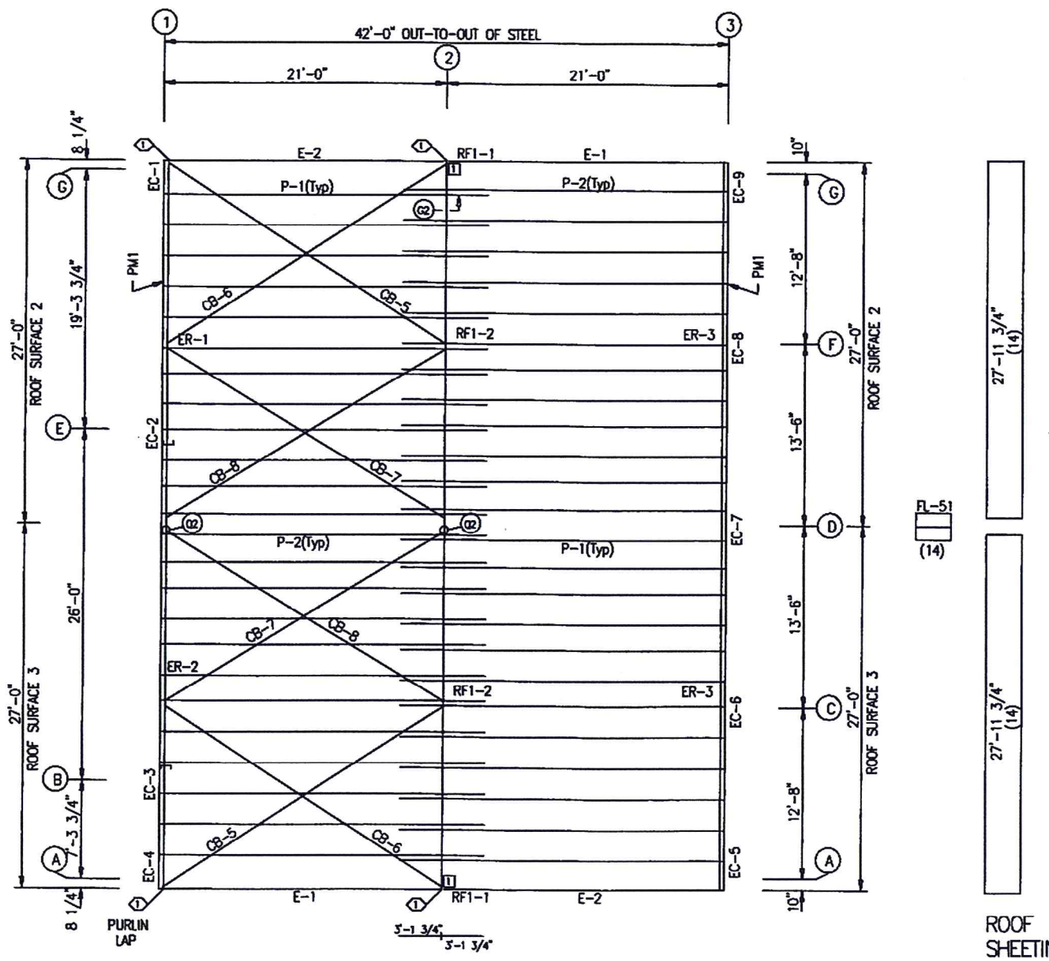
| SPECIAL BOLTS ROOF PLAN | | | | | |
|---|---|---|---|---|---|
| ⊙ ID | QUAN | TYPE | DIA | LENGTH | WASH |
| 1 | 4 | A325 | 1/2" | 1 1/4" | 2 |

| MEMBER TABLE ROOF PLAN | | |
|---|---|---|
| MARK | PART | LENGTH |
| P-1 | 10X25Z12 | 24'-1 1/2" |
| P-2 | 10X25Z12 | 24'-1 1/2" |
| E-1 | 10ES4L14 | 20'-11 1/2" |
| E-2 | 10ES4L14 | 20'-11 1/2" |
| CB-5 | 5/16" Dia. | 25'-2" |
| CB-6 | 5/16" Dia. | 25'-3" |
| CB-7 | 1/4" Dia. | 25'-1" |
| CB-8 | 1/4" Dia. | 25'-0" |

| TRIM TABLE FRAME LINE | |
|---|---|
| PART | DETAIL |
| FL-51 | TRIM_80 |

| CONNECTION PLATES ROOF PLAN | |
|---|---|
| ☐ ID | MARK/PART |
| 1 | SC17A |




ROOF FRAMING PLAN

ROOF SHEETING

PANELS: 26 Ga. PR – Galvalume

GENERAL NOTES:

1. INSTALL ALL PURLIN AND FLANGE BRACES (FB) AS SHOWN.
2. ROOF PANEL PROVIDES STRUCTURAL STABILITY TO THE BUILDING.
3. STRUT PURLINS, IF PROVIDED, MUST BE INSTALLED AND FASTENED TO ROOF SHEETING PER "PBR" PANEL ROOF DETAIL.
4. DO NOT ADD ANY ADDITIONAL ROOF OPENINGS WITHOUT BUILDING MANUFACTURER APPROVAL OR PROFESSIONAL ENGINEER APPROVAL.
5. DO NOT STACK SHEET BUNDLES ON ROOF. ONLY RAISE INDIVIDUAL SHEETS AS NEEDED.
6. AFTER INSTALLATION, WIPE ALL PANELS CLEAN OF METAL SHAVINGS CAUSED BY DRILLING.

NOTE:
Alternate Arrows ∇-Δ
Up And Down From Bay
To Bay For Purlins To Lap.

NOTE:

PROVIDED AND INSTALLED 42'x54' STEEL FRAMED BUILDING FROM HERITAGE BUILDING SYSTEMS.

HERITAGE BUILDING SYSTEMS
2612 GRIBBLE STREET
NORTH LITTLE ROCK, AR 72114
1-800-643-5335

| | | | |
|---|---|---|---|
| DESCRIPTION: ROOF FRAMING PLAN | | | |
| CUSTOMER: S BAR S | | | |
| LOCATION: COOKE CITY, MT 59020 | | | |
| HERITAGE JOB # 3319-245937 | | | |
| DRAWING BY AKT | DATE 9/17/09 | LOAD'S SEE COVER | SCALE N.T.S. |
| CHECK BY CM | TIME 7:41am | DRAWING # RFP | REV # D |

| REVISION: DATE: | BY: | DESC: |
|---|---|---|
| | | |

| | |
|---|---|
| DRAWN BY: | HERITAGE BUILDING |
| DESIGNED BY: | HERITAGE BUILDING |
| CHECKED BY: | HERITAGE BUILDING |
| APPROVED BY: | JSM |
| PROJECT NO: | 10160 |
| DATE: | 4/24/12 |

| DISPLAYED AS: | |
|---|---|
| COORD SYS/ZONE: | NA |
| DATUM: | NA |
| UNITS: | FEET |
| SOURCE: | HERITAGE BUILDING |

SCALE IN FEET
0 N.T.S

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED MINE SITE RECLAMATION PROJECT
2011 AS-BUILT DRAWINGS

DEWATERING CONTROL BUILDING DETAILS

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406) 782-5177

SHEET
GWD-12AB

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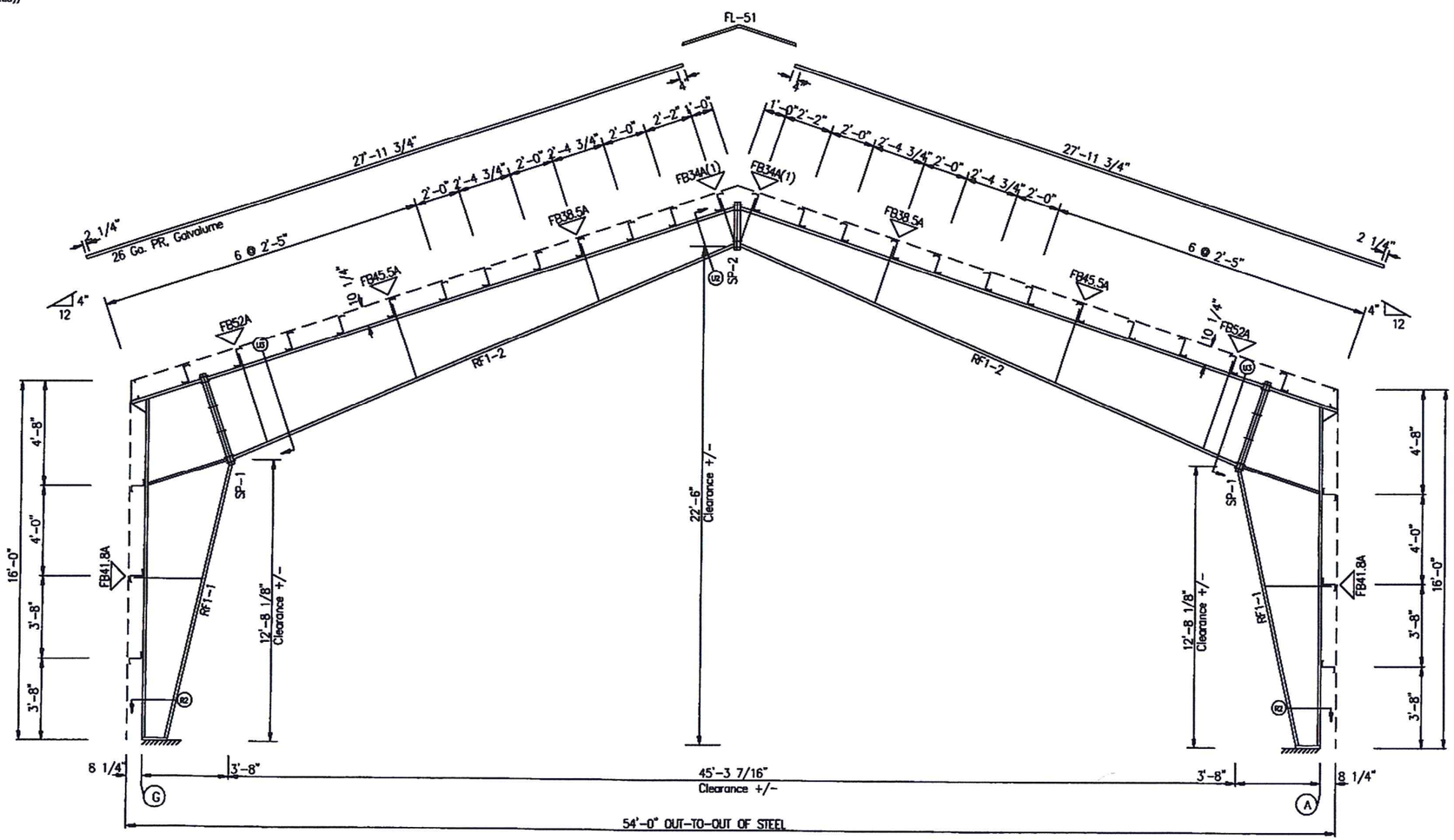
| SPLICE BOLTS | | | | | | |
|---|---|---|---|---|---|---|
| Splice Mark | Quan Top/ | Bolt/ | Int | Bolt Type | Bolt Dia | Bolt Length |
| SP-1 | 4 | 4 | 4 | A325 | 1" | 3 1/4" |
| SP-2 | 4 | 4 | 0 | A325 | 3/4" | 2" |

FLANGE BRACES: Both Sides(Unless Noted))
FBxxA(1): xx=length(in)
A - L2X2X14G

| MEMBER SIZE TABLE (in) | | | | | |
|---|---|---|---|---|---|
| MARK | WEB DEPTH START/END | WEB PLATE THICK | WEB PLATE LENGTH | OUTSIDE FLANGE W x T x LENGTH | INSIDE FLANGE W x T x LENGTH |
| RF1-1 | 10.0/43.1 | 0.313 | 192.0 | 6 x 5/16" x 182.5<br>6 x 3/4" x 38.4 | 6 x 5/8" x 150.6 |
| RF1-2 | 43.0/37.7<br>37.7/17.0 | 0.375<br>0.313 | 60.3<br>240.0 | 6 x 3/8" x 60.3<br>6 x 5/16" x 240.0 | 6 x 3/8" x 60.6<br>6 x 5/16" x 235.1 |




FRAME CROSS SECTION

FOR FRAME LINE 2

GENERAL NOTES:

1. ALL FIELD CONNECTIONS OF PRIMARY FRAMING MEMBERS SHALL BE BOLTED. WITH A325 H. S. BOLTS AND INSTALLED BY THE 'SNUG-TIGHTENED JOINTS' METHOD.
2. ALL FIELD CONNECTIONS OF SECONDARY FRAMING SHALL BE BOLTED WITH A307 MACHINE BOLTS.
3. INSTALL ALL FLANGE BRACES ON COLUMN AND RAFTER AS SHOWN.

NOTE:

PROVIDED AND INSTALLED 42'x54' STEEL FRAMED BUILDING FROM HERITAGE BUILDING SYSTEMS.

HERITAGE BUILDING SYSTEMS
2612 GRIBBLE STREET
NORTH LITTLE ROCK, AR 72114
1-800-643-5555

| | | | |
|---|---|---|---|
| DESCRIPTION: FRAME CROSS SECTION | | | |
| CUSTOMER: S BAR S | | | |
| LOCATION: COOKE CITY, MT 59020 | | | |
| HERITAGE JOB # 3319-245937 | | | |
| DRAWING BY AKT | DATE 9/17/09 | LOADS SEE COVER | SCALE N.T.S. |
| CHECK BY CM | TIME 7:41am | DRAWING # FCS1 | REV # 0 |

REVISION:

| DATE: | BY: | DESC: |
|---|---|---|
| | | |

DRAWN BY: HERITAGE BUILDING
DESIGNED BY: HERITAGE BUILDING
CHECKED BY: HERITAGE BUILDING
APPROVED BY: JSM
PROJECT NO: 10160
DATE: 4/24/12

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: HERITAGE BUILDING

SCALE IN FEET
0 N.T.S

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2011 AS-BUILT DRAWINGS

DEWATERING CONTROL BUILDING DETAILS

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406) 782-5177

SHEET
GWD-13AB

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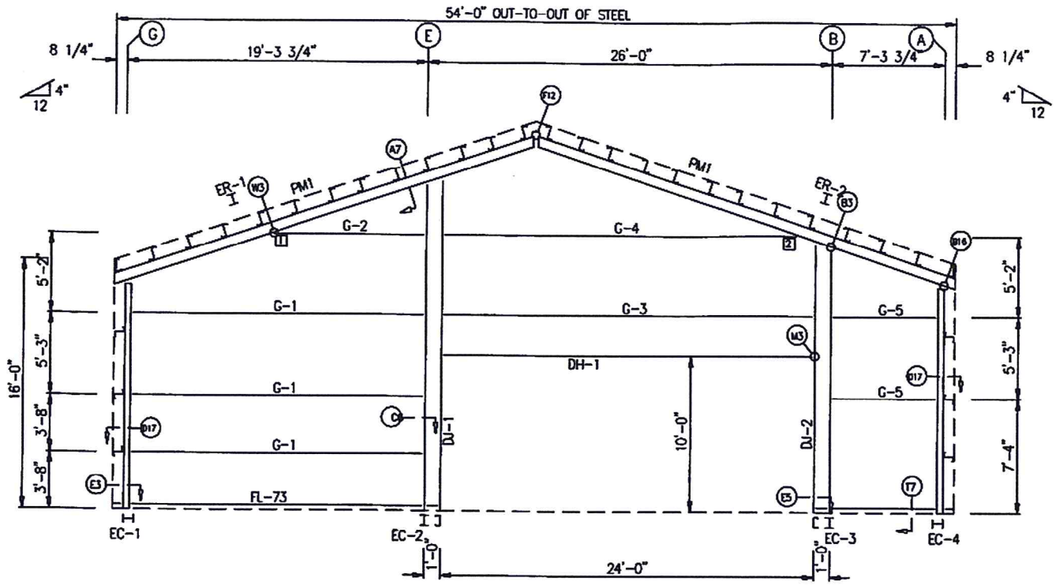
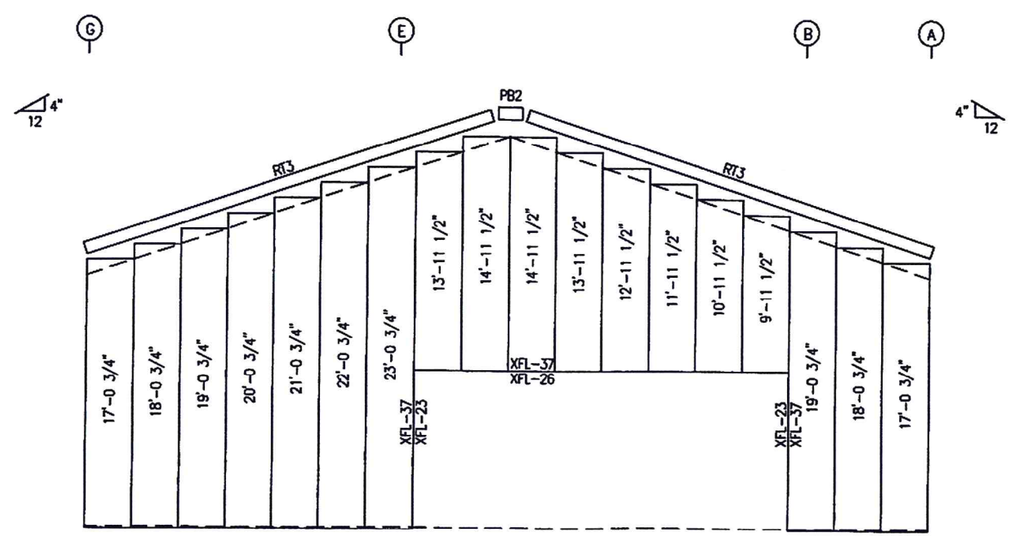



ENDWALL FRAMING: FRAME LINE 1




ENDWALL SHEETING & TRIM: FRAME LINE 1

PANELS: 26 Ga. PR - NEED COLOR

BOLT TABLE
FRAME LINE 1

| LOCATION | QUAN | TYPE | DIA | LENGTH |
|---|---|---|---|---|
| ER-1/ER-2 | 8 | A325 | 5/8" | 1 3/4" |
| Columns/Rof | 4 | A325 | 1/2" | 1 1/4" |
| Jamb | 2 | A325 | 1/2" | 1 1/4" |

MEMBER TABLE
FRAME LINE 1

| MARK | PART | LENGTH |
|---|---|---|
| EC-1 | W8X10 | 14'-4 1/16" |
| EC-2 | W8X13 | 20'-7 3/8" |
| EC-3 | W8X13 | 16'-7 3/8" |
| EC-4 | W8X10 | 14'-4 1/16" |
| ER-1 | W14X22 | 28'-5 1/4" |
| ER-2 | W14X22 | 28'-5 1/4" |
| DJ-1 | 8F25C16 | 20'-9 3/4" |
| DJ-2 | 8F25C16 | 16'-9 3/4" |
| DH-1 | 8F25C16 | 24'-0" |
| G-1 | 8X35Z16 | 18'-3 3/8" |
| G-2 | 8X35Z16 | 8'-1 1/8" |
| G-3 | 8X35Z12 | 23'-11 1/2" |
| G-4 | 8X35Z12 | 21'-4 7/8" |
| G-5 | 8X25Z16 | 6'-3 3/8" |

TRIM TABLE
FRAME LINE 1

| PART | DETAIL |
|---|---|
| XFL-23 | TRIM_5 |
| XFL-26 | TRIM_7 |
| XFL-37 | TRIM_5 |
| XFL-37 | TRIM_7 |
| RT3 | TRIM_4 |
| PB2 | |

CONNECTION PLATES
FRAME LINE 1

| ID | MARK/PART |
|---|---|
| 1 | b1 |
| 2 | c1 |

GENERAL NOTES:

1. INSTALL ALL GIRTS AND FLANGE BRACES (FB) AS SHOWN.
2. WALL PANEL PROVIDES STRUCTURAL STABILITY TO THE BUILDING.
3. OTHER THAN FOR WALK DOORS AND WINDOWS SHOWN ON THE CONTRACT, DO NOT ADD ADDITIONAL WALL OPENINGS WITHOUT APPROVAL OF BUILDING MANUFACTURER OR PROFESSIONAL ENGINEER.
4. AFTER INSTALLATION, WIPE ALL PANELS CLEAN OF METAL SHAVINGS CAUSED BY DRILLING.

NOTE:

PROVIDED AND INSTALLED 42'x54' STEEL FRAMED BUILDING FROM HERITAGE BUILDING SYSTEMS.

HERITAGE BUILDING SYSTEMS
2612 GRIBBLE STREET
NORTH LITTLE ROCK, AR 72114
1-800-643-5555

DESCRIPTION: LEFT ENDWALL
CUSTOMER: S BAR S
LOCATION: COOKE CITY, MT 59020
HERITAGE JOB # 3319-245937

| DRAWING BY | DATE | LOADS | SCALE |
|---|---|---|---|
| AKT | 9/17/09 | SEE COVER | N.T.S. |
| CHECK BY | TIME | DRAWING # | REV # |
| CM | 7:41am | LEW | 0 |

REVISION:

| DATE: | BY: | DESC: |
|---|---|---|
| | | |

DRAWN BY: HERITAGE BUILDING
DESIGNED BY: HERITAGE BUILDING
CHECKED BY: HERITAGE BUILDING
APPROVED BY: JSM
PROJECT NO: 10160
DATE: 4/24/12

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: HERITAGE BUILDING

SCALE IN FEET
0 N.T.S

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2011 AS-BUILT DRAWINGS

DEWATERING CONTROL BUILDING DETAILS

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406) 782-5177

SHEET
GWD-14AB

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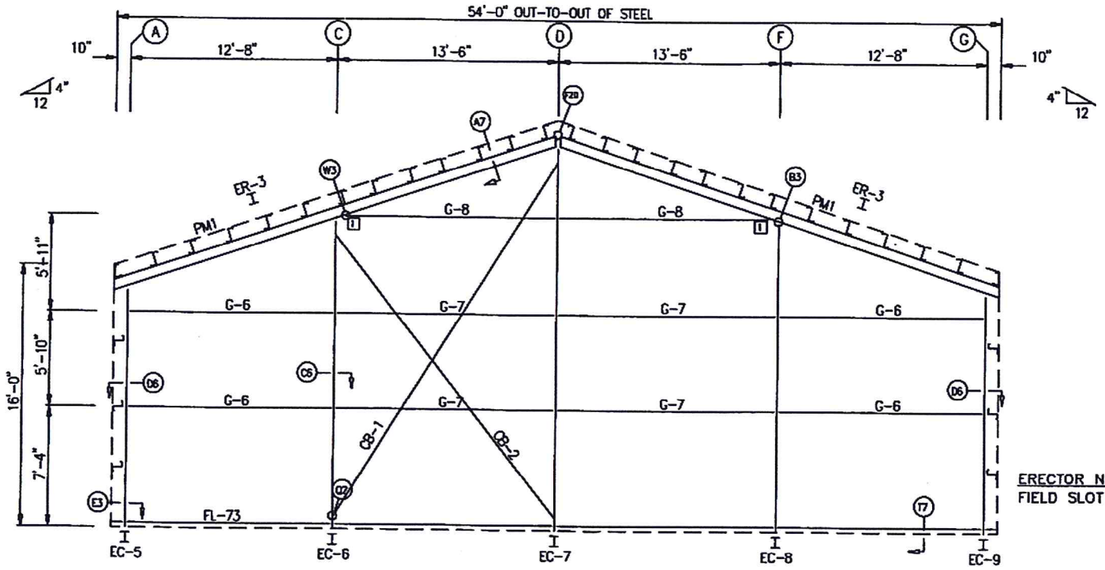
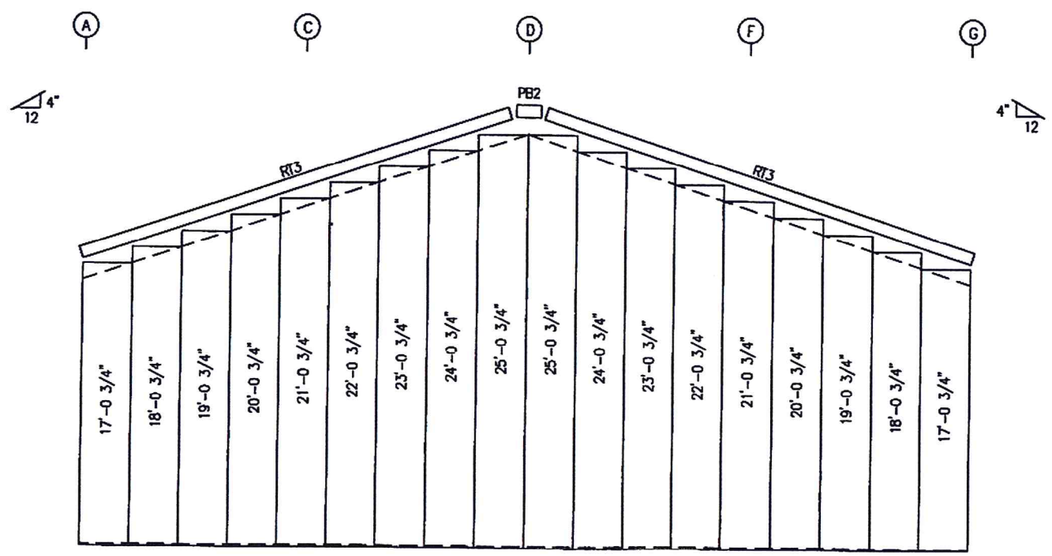



ENDWALL FRAMING: FRAME LINE 3

ERECTOR NOTE:
FIELD SLOT GIRT FOR CABLE PASSAGE




ENDWALL SHEETING & TRIM: FRAME LINE 3

PANELS: 26 Ga. PR – NEED COLOR

BOLT TABLE
FRAME LINE 3

| LOCATION | QUAN | TYPE | DIA | LENGTH |
|---|---|---|---|---|
| ER-3/ER-3 | 6 | A325 | 5/8" | 1 3/4" |
| Columns/Rof | 4 | A325 | 1/2" | 1 1/4" |

MEMBER TABLE
FRAME LINE 3

| MARK | PART | LENGTH |
|---|---|---|
| EC-5 | W8X10 | 14'-4 5/8" |
| EC-6 | W8X10 | 18'-7 5/16" |
| EC-7 | W8X13 | 23'-0 5/8" |
| EC-8 | W8X10 | 18'-7 5/16" |
| EC-9 | W8X10 | 14'-4 5/8" |
| ER-3 | W12X14 | 28'-5 1/4" |
| G-6 | 8X25Z16 | 12'-0" |
| G-7 | 8X25Z16 | 12'-10" |
| G-8 | 8X25Z16 | 11'-6 15/16" |
| CB-1 | 1/2" Dia. | 26'-6" |
| CB-2 | 1/2" Dia. | 22'-11" |

TRIM TABLE
FRAME LINE 3

| PART | DETAIL |
|---|---|
| RT3 | TRIM_4 |
| PB2 | |

CONNECTION PLATES
FRAME LINE 3

| ☐ ID | MARK/PART |
|---|---|
| 1 | b1 |

GENERAL NOTES:

1. INSTALL ALL GIRTS AND FLANGE BRACES (FB) AS SHOWN.
2. WALL PANEL PROVIDES STRUCTURAL STABILITY TO THE BUILDING.
3. OTHER THAN FOR WALK DOORS AND WINDOWS SHOWN ON THE CONTRACT, DO NOT ADD ADDITIONAL WALL OPENINGS WITHOUT APPROVAL OF BUILDING MANUFACTURER OR PROFESSIONAL ENGINEER.
4. AFTER INSTALLATION, WIPE ALL PANELS CLEAN OF METAL SHAVINGS CAUSED BY DRILLING.

NOTE:

PROVIDED AND INSTALLED 42'x54' STEEL FRAMED BUILDING
FROM HERITAGE BUILDING SYSTEMS.

HERITAGE BUILDING SYSTEMS
2612 GRIBBLE STREET
NORTH LITTLE ROCK, AR 72114
1-800-643-5555

| | |
|---|---|
| DESCRIPTION: | RIGHT ENDWALL |
| CUSTOMER: | S BAR S |
| LOCATION: | COOKE CITY, MT 59020 |
| HERITAGE JOB # | 3319-245937 |

| DRAWING BY | DATE | LOADS | SCALE |
|---|---|---|---|
| AKT | 9/17/09 | SEE COVER | N.T.S. |
| CHECK BY | TIME | DRAWING # | REV # |
| CM | 7:41am | REW | 0 |

REVISION:

| DATE: | BY: | DESC: |
|---|---|---|
| | | |

DRAWN BY: HERITAGE BUILDING
DESIGNED BY: HERITAGE BUILDING
CHECKED BY: HERITAGE BUILDING
APPROVED BY: JSM
PROJECT NO: 10160
DATE: 4/24/12

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: HERITAGE BUILDING

SCALE IN FEET
0 N.T.S

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2011 AS-BUILT DRAWINGS

DEWATERING
CONTROL
BUILDING
DETAILS

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406) 782-5177

SHEET
GWD-15AB

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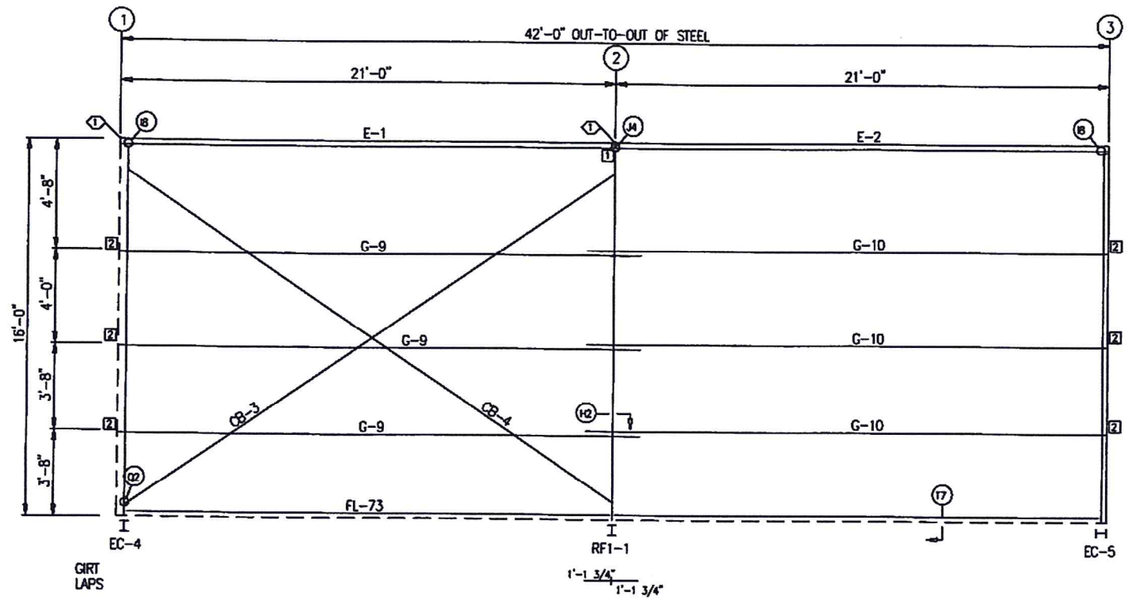
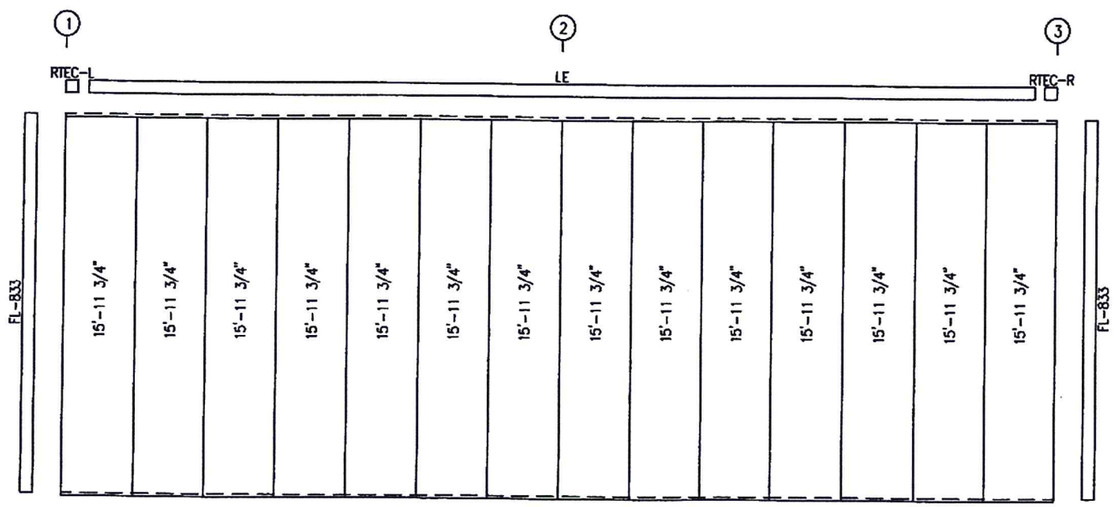



SIDEWALL FRAMING: FRAME LINE A




SIDEWALL SHEETING & TRIM: FRAME LINE A

PANELS: 26 Ga. PR – NEED COLOR

| SPECIAL BOLTS | | | | | |
|---|---|---|---|---|---|
| ID | QUAN | TYPE | DIA | LENGTH | WASH |
| 1 | 4 | A325 | 1/2" | 1 1/4" | 2 |

MEMBER TABLE
FRAME LINE A

| MARK | PART | LENGTH |
|---|---|---|
| E-1 | 10ES4L14 | 20'-11 1/2" |
| E-2 | 10ES4L14 | 20'-11 1/2" |
| G-9 | 8X25Z16 | 22'-1 1/2" |
| G-10 | 8X25Z16 | 22'-1 1/2" |
| CB-3 | 1/2" Dia. | 25'-11" |
| CB-4 | 1/2" Dia. | 25'-4" |

TRIM TABLE
FRAME LINE A

| PART | DETAIL |
|---|---|
| LE | TRIM_3 |
| RTEC-L | |
| RTEC-R | |
| FL-833 | TRIM_9 |

CONNECTION PLATES
FRAME LINE A

| ID | MARK/PART |
|---|---|
| 1 | SC17A |
| 2 | SC-5 |

GENERAL NOTES:

1. INSTALL ALL GIRTS AND FLANGE BRACES (FB) AS SHOWN.
2. WALL PANEL PROVIDES STRUCTURAL STABILITY TO THE BUILDING.
3. OTHER THAN FOR WALK DOORS AND WINDOWS SHOWN ON THE CONTRACT, DO NOT ADD ADDITIONAL WALL OPENINGS WITHOUT APPROVAL OF BUILDING MANUFACTURER OR PROFESSIONAL ENGINEER.
4. AFTER INSTALLATION, WIPE ALL PANELS CLEAN OF METAL SHAVINGS CAUSED BY DRILLING.

NOTE:

PROVIDED AND INSTALLED 42'x54' STEEL FRAMED BUILDING FROM HERITAGE BUILDING SYSTEMS.

HERITAGE BUILDING SYSTEMS
2612 GRIBBLE STREET
NORTH LITTLE ROCK, AR 72114
1-800-643-5555

| | | | |
|---|---|---|---|
| DESCRIPTION: FRONT SIDEWALL | | | |
| CUSTOMER: S BAR S | | | |
| LOCATION: COOKE CITY, MT 59020 | | | |
| HERITAGE JOB # 3319-245937 | | | |
| DRAWING BY AKT | DATE 9/17/09 | LOADS SEE COVER | SCALE N.T.S. |
| CHECK BY CM | TIME 7:41am | DRAWING # FSW | REV # 0 |

REVISION:

| DATE: | BY: | DESC: |
|---|---|---|
| | | |

DRAWN BY: HERITAGE BUILDING
DESIGNED BY: HERITAGE BUILDING
CHECKED BY: HERITAGE BUILDING
APPROVED BY: JSM
PROJECT NO: 10160
DATE: 4/24/12

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: HERITAGE BUILDING

SCALE IN FEET
0 N.T.S

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2011 AS-BUILT DRAWINGS

DEWATERING CONTROL BUILDING DETAILS

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406) 782-5177

SHEET
GWD-16AB

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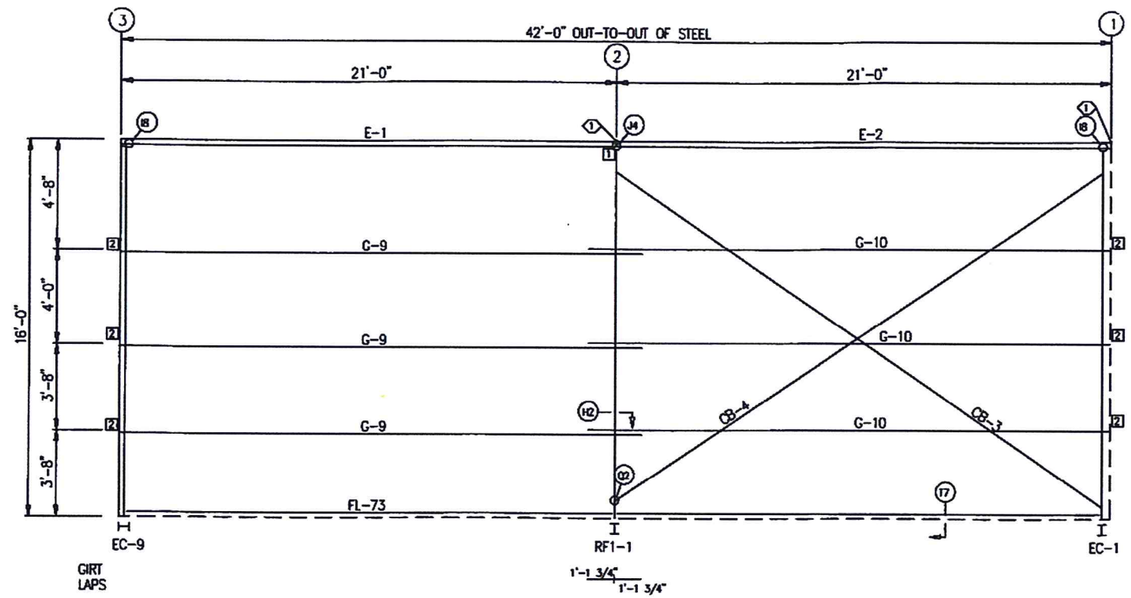
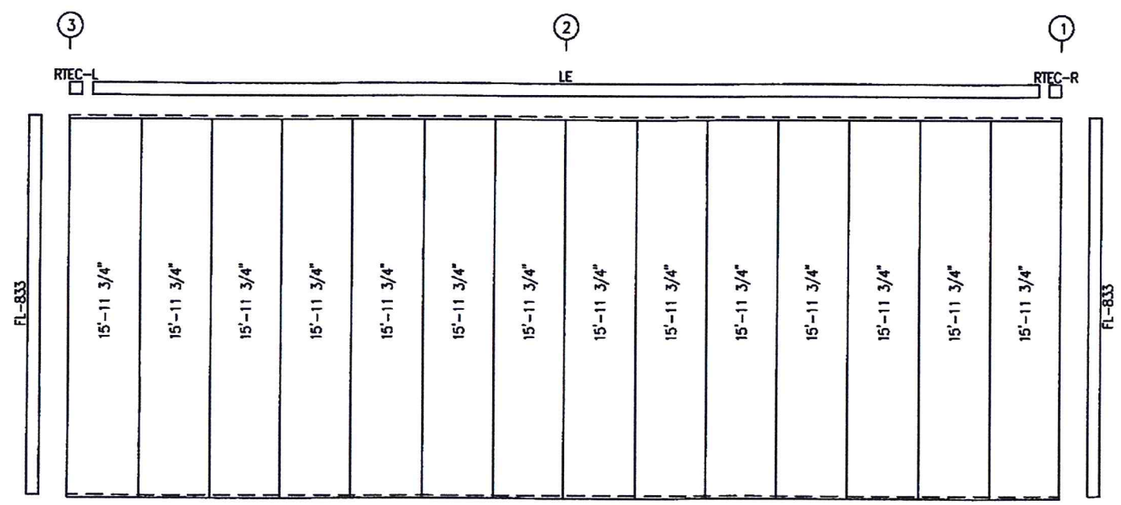



SIDEWALL FRAMING: FRAME LINE G




SIDEWALL SHEETING & TRIM: FRAME LINE G

PANELS: 26 Ga. PR – NEED COLOR

| SPECIAL BOLTS | | | | | |
|---|---|---|---|---|---|
| O ID | QUAN | TYPE | DIA | LENGTH | WASH |
| 1 | 4 | A325 | 1/2" | 1 1/4" | 2 |

MEMBER TABLE
FRAME LINE G

| MARK | PART | LENGTH |
|---|---|---|
| E-1 | 10ES4L14 | 20'-11 1/2" |
| E-2 | 10ES4L14 | 20'-11 1/2" |
| G-9 | 8X25Z16 | 22'-1 1/2" |
| G-10 | 8X25Z16 | 22'-1 1/2" |
| CB-3 | 1/2" Dia. | 25'-11" |
| CB-4 | 1/2" Dia. | 25'-4" |

TRIM TABLE
FRAME LINE G

| PART | DETAIL |
|---|---|
| LE | TRIM_3 |
| RTEC-L | |
| RTEC-R | |
| FL-833 | TRIM_9 |

CONNECTION PLATES
FRAME LINE G

| ID | MARK/PART |
|---|---|
| 1 | SC17A |
| 2 | SC-5 |

GENERAL NOTES:

1. INSTALL ALL GIRTS AND FLANGE BRACES (FB) AS SHOWN.
2. WALL PANEL PROVIDES STRUCTURAL STABILITY TO THE BUILDING.
3. OTHER THAN FOR WALK DOORS AND WINDOWS SHOWN ON THE CONTRACT, DO NOT ADD ADDITIONAL WALL OPENINGS WITHOUT APPROVAL OF BUILDING MANUFACTURER OR PROFESSIONAL ENGINEER.
4. AFTER INSTALLATION, WIPE ALL PANELS CLEAN OF METAL SHAVINGS CAUSED BY DRILLING.

NOTE:

PROVIDED AND INSTALLED 42'x54' STEEL FRAMED BUILDING FROM HERITAGE BUILDING SYSTEMS.

HERITAGE BUILDING SYSTEMS
2612 GRIBBLE STREET
NORTH LITTLE ROCK, AR 72114
1-800-643-5555

DESCRIPTION: BACK SIDEWALL
CUSTOMER: S BAR S
LOCATION: COOKE CITY, MT 59020
HERITAGE JOB # 3319-245937

| DRAWING BY | DATE | LOADS | SCALE |
|---|---|---|---|
| AKT | 9/17/09 | SEE COVER | N.T.S. |
| CHECK BY | TIME | DRAWING # | REV # |
| CM | 7:41am | BSW | 0 |

REVISION:

| DATE: | BY: | DESC: |
|---|---|---|
| | | |

DRAWN BY: HERITAGE BUILDING
DESIGNED BY: HERITAGE BUILDING
CHECKED BY: HERITAGE BUILDING
APPROVED BY: JSM
PROJECT NO: 10160
DATE: 4/24/12

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: HERITAGE BUILDING

SCALE IN FEET
0 N.T.S

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED MINE SITE RECLAMATION PROJECT
2011 AS-BUILT DRAWINGS

DEWATERING CONTROL BUILDING DETAILS

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406) 782-5177

SHEET
GWD-17AB

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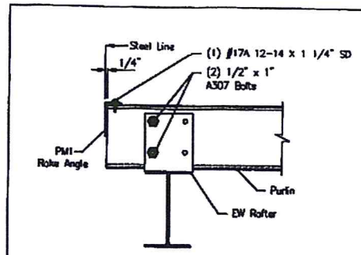
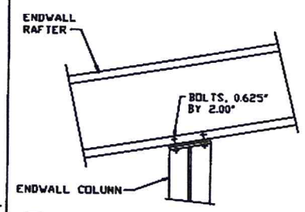
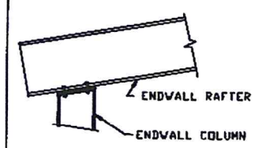


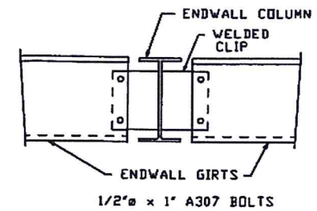

A7 SECTION THRU HOT ROLLED RAFTER



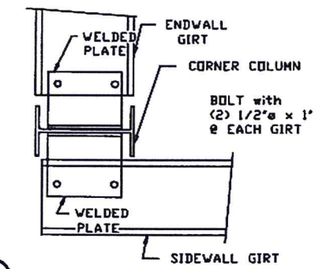

B3 ENDWALL RAFTER TO COLUMN



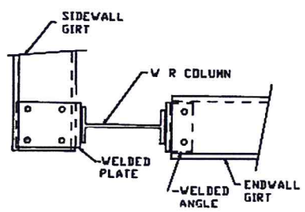

B16 CORNER COLUMN TO ENDWALL RAFTER



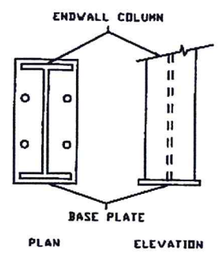

C6 ENDWALL COLUMN TO WALL GIRT



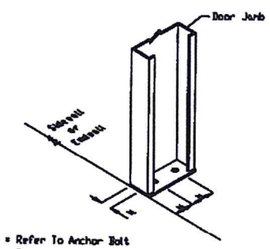

D6 CORNER COLUMN TO WALL GIRT



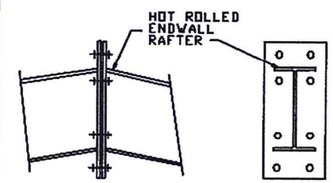

D17 CORNER COLUMN TO WALL GIRT



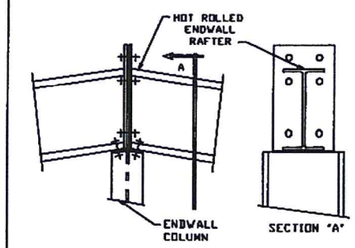

E3 BASE PLATE FOR ENDWALL COLUMN



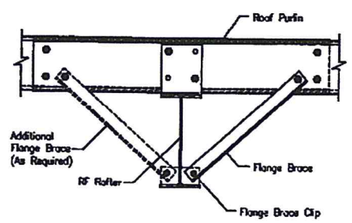

E5 BASE PLATE FOR DOOR JAMB



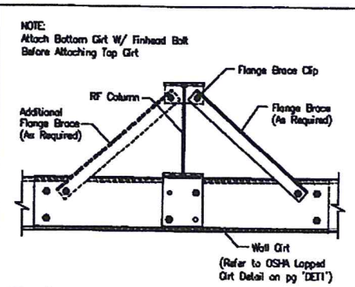

F12 RAFTER SPLICE AT SURFACE CHANGE



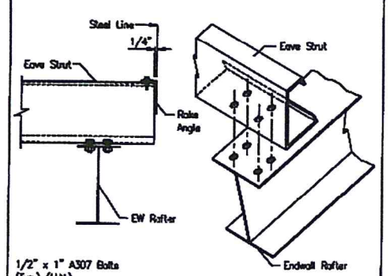

F20 RAFTER SPLICE AT SURFACE CHANGE



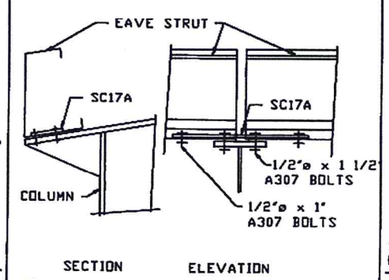

G2 ROOF PURLIN TO INTERIOR FRAME RAFTER



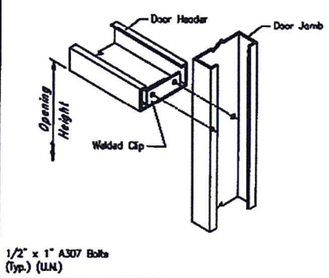

H2 WALL GIRT TO RIGID FRAME COLUMN




I8 LOW SIDE EAVE STRUT TO HOT ROLLED RAFTER




J4 EAVE STRUT TO RIGID FRAME




M3 DOOR HEADER TO DOOR JAMB

NOTE:

PROVIDED AND INSTALLED 42'x54' STEEL FRAMED BUILDING FROM HERITAGE BUILDING SYSTEMS.

HERITAGE BUILDING SYSTEMS
2612 GRIBBLE STREET
NORTH LITTLE ROCK, AR 72114
1-800-643-5555

| | |
|---|---|
| DESCRIPTION: | DETAIL DRAWINGS |
| CUSTOMER: | S BAR S |
| LOCATION: | COOKE CITY, MT 59020 |
| HERITAGE JOB # | 3319-245937 |

| DRAWING BY | DATE | LOADS | SCALE |
|---|---|---|---|
| AKT | 9/17/09 | SEE COVER | N.T.S. |
| CHECK BY | TIME | DRAWING # | REV # |
| CM | 7:41am | DET1 | 0 |

REVISION:

| DATE: | BY: | DESC: |
|---|---|---|
| | | |

| | |
|---|---|
| DRAWN BY: | HERITAGE BUILDING |
| DESIGNED BY: | HERITAGE BUILDING |
| CHECKED BY: | HERITAGE BUILDING |
| APPROVED BY: | JSM |
| PROJECT NO: | 10160 |
| DATE: | 4/24/12 |

DISPLAYED AS:

| | |
|---|---|
| COORD SYS/ZONE: | NA |
| DATUM: | NA |
| UNITS: | FEET |
| SOURCE: | HERITAGE BUILDING |

SCALE IN FEET
0 N.T.S

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2011 AS-BUILT DRAWINGS

DEWATERING CONTROL BUILDING DETAILS

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406) 782-5177

SHEET GWD-18AB

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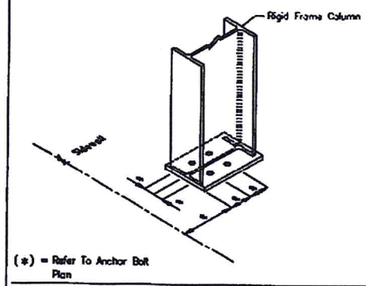
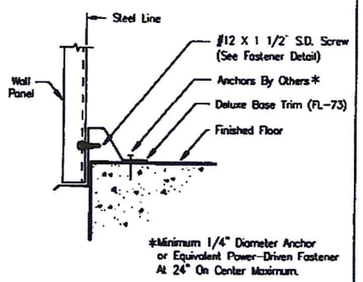
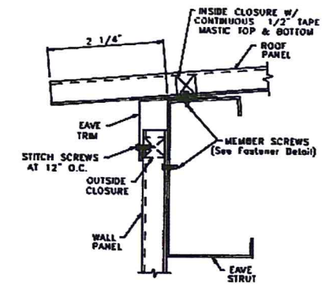


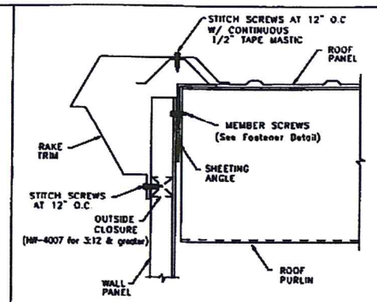

R2 ANCHOR BOLTS AT SIDEWALL COLUMNS



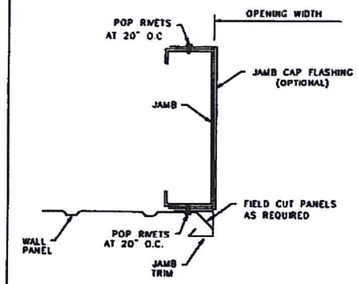

T7 SECTION THRU WALL PANEL AND CONCRETE FOUNDATION WITH DELUXE BASE TRIM



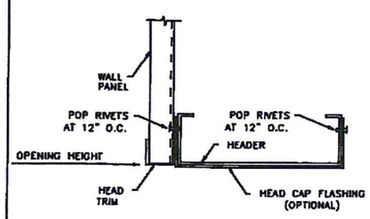

EAVE DETAIL WITH SIMPLE EAVE TRIM AND SHEETED WALL
TRIM_3.DXF



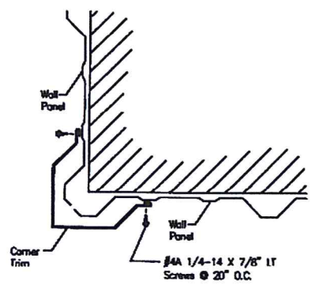

RAKE DETAIL WITH SHEETED WALL
TRIM_4.DXF



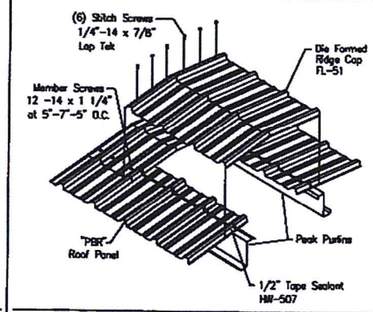

JAMB TRIM DETAIL FOR "R" PANEL
TRIM_5



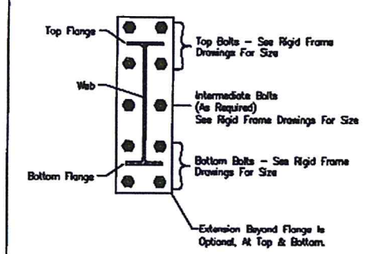

HEAD TRIM DETAIL FOR "R" & "A" PANEL
TRIM_7



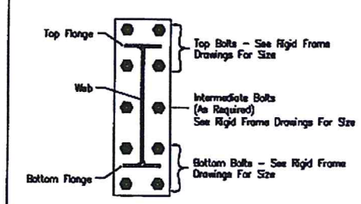

CORNER TRIM DETAIL FOR "R" PANEL
Trim_9



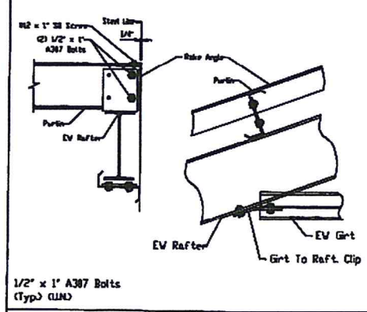

"PBR" ROOF FIXED RIDGE DETAIL
Trim_80



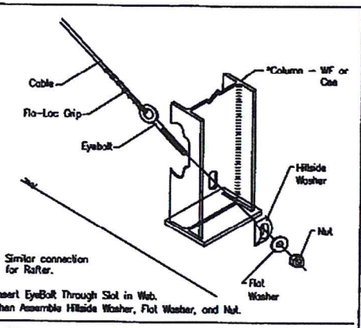

U2 BOLTS FOR RIGID FRAME RAFTER AT BUILDING PEAK



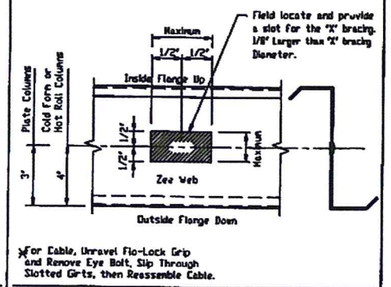

U3 BOLTS FOR RIGID FRAME RAFTER TO COLUMN CONNECTION



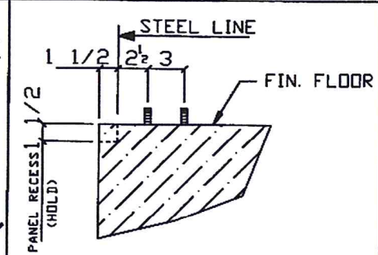

W3 ENDWALL GIRT TO HOT ROLLED RAFTER CONNECTION



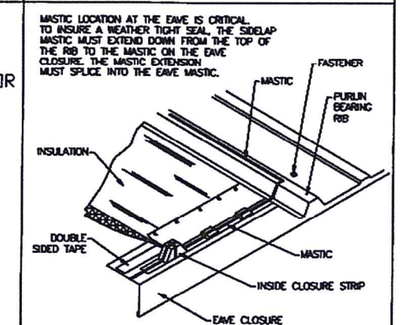

Q2 DIAGONAL CABLE, EYEBOLT END




CABLE AT FLUSH WALL GIRT




CONCRETE DETAIL FOR WALKDOOR




SEALING THE EAVE

NOTE:

PROVIDED AND INSTALLED 42'x54' STEEL FRAMED BUILDING FROM HERITAGE BUILDING SYSTEMS.

HERITAGE BUILDING SYSTEMS
2612 GRIBBLE STREET
NORTH LITTLE ROCK, AR 72114
1-800-643-5555

| | | | |
|---|---|---|---|
| DESCRIPTION: DETAIL DRAWINGS | | | |
| CUSTOMER: S BAR S | | | |
| LOCATION: COOKE CITY, MT 59020 | | | |
| HERITAGE JOB # 3319-245937 | | | |
| DRAWING BY AKT | DATE 9/17/09 | LOADS SEE COVER | SCALE N.T.S. |
| CHECK BY CM | TIME 7:41am | DRAWING # DET2 | REV # 0 |

REVISION:

| DATE: | BY: | DESC: |
|---|---|---|
| | | |

| | |
|---|---|
| DRAWN BY: | HERITAGE BUILDING |
| DESIGNED BY: | HERITAGE BUILDING |
| CHECKED BY: | HERITAGE BUILDING |
| APPROVED BY: | JSM |
| PROJECT NO: | 10160 |
| DATE: | 4/24/12 |

DISPLAYED AS:

| | |
|---|---|
| COORD SYS/ZONE: | NA |
| DATUM: | NA |
| UNITS: | FEET |
| SOURCE: | HERITAGE BUILDING |

SCALE IN FEET
0 N.T.S

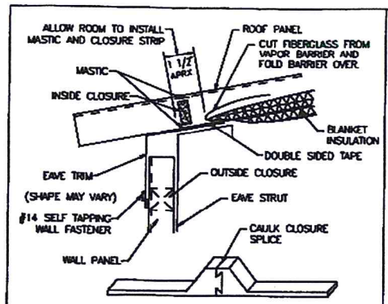
MDEQ/MWCB
MCLAREN TAILINGS ABANDONED MINE SITE RECLAMATION PROJECT
2011 AS-BUILT DRAWINGS

DEWATERING CONTROL BUILDING DETAILS

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406) 782-5177

SHEET GWD-19AB

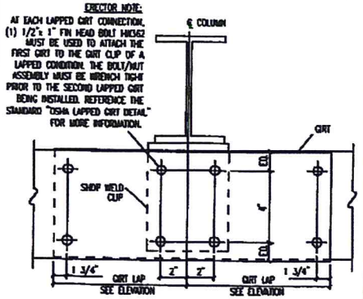
4/23/2012 1:10:23 PM P:\DEQ\MCLAREN\2011\DRAWINGS\AS-BUILTS\CONSTRUCTION\MC-FBID-AB-11-DET-071-09.DWG




NOTE: INSULATION MUST BE INSTALLED AS SHOWN OR ROOF WILL LEAK.

SEALING THE EAVE

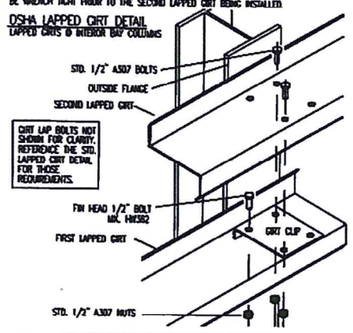
ERECTOR NOTE:
AT EACH LAPPED GIRT CONNECTION, (1) 1/2"x 1" FIN HEAD BOLT HHCM2 MUST BE USED TO ATTACH THE FIRST GIRT TO THE GIRT CLIP OF A LAPPED CONDITION. THE BOLT/NUT ASSEMBLY MUST BE WRENCH TIGHT PRIOR TO THE SECOND LAPPED GIRT BEING INSTALLED. REFERENCE THE STANDARD "OSHA LAPPED GIRT DETAIL" FOR MORE INFORMATION.




SW OR EW GIRT DETAIL
LAPPED GIRTS @ INTERIOR BAY COLUMNS
NOTE: USE (2) 1/2"x1" A307 BOLTS
REFERENCE ERECTOR NOTE FOR TYPICAL WASHER REQUIREMENTS

*** THE FIN HEAD 1/2" A307 BOLT MUST BE INSTALLED INTO THE FIRST GIRT AND CLIP OF A LAPPED CONDITION. THE BOLT/NUT ASSEMBLY MUST BE WRENCH TIGHT PRIOR TO THE SECOND LAPPED GIRT BEING INSTALLED.

OSHA LAPPED GIRT DETAIL
LAPPED GIRTS @ INTERIOR BAY COLUMNS




NOTE:

PROVIDED AND INSTALLED 42'x54' STEEL FRAMED BUILDING FROM HERITAGE BUILDING SYSTEMS.

HERITAGE BUILDING SYSTEMS
2612 GRIBBLE STREET
NORTH LITTLE ROCK, AR 72114
1-800-643-5555

| | | | |
|---|---|---|---|
| DESCRIPTION: DETAIL DRAWINGS | | | |
| CUSTOMER: S BAR S | | | |
| LOCATION: COOKE CITY, MT 59020 | | | |
| HERITAGE JOB # 3319-245937 | | | |
| DRAWING BY AKT | DATE 9/17/09 | LOADS SEE COVER | SCALE N.T.S. |
| CHECK BY CM | TIME 7:41am | DRAWING # DET3 | REV # 0 |

REVISION:

| DATE: | BY: | DESC: |
|---|---|---|
| | | |

DRAWN BY: HERITAGE BUILDING
DESIGNED BY: HERITAGE BUILDING
CHECKED BY: HERITAGE BUILDING
APPROVED BY: JSM
PROJECT NO: 10160
DATE: 4/24/12

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: HERITAGE BUILDING

SCALE IN FEET
0 N.T.S

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED MINE SITE RECLAMATION PROJECT
2011 AS-BUILT DRAWINGS

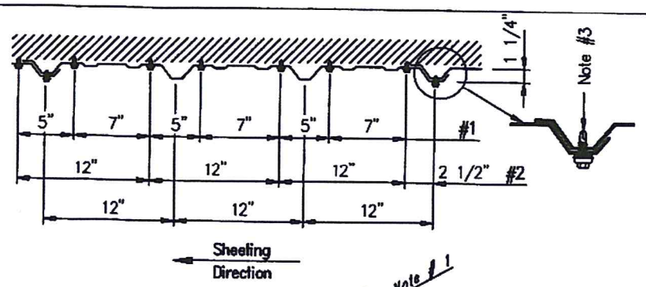
DEWATERING CONTROL BUILDING DETAILS

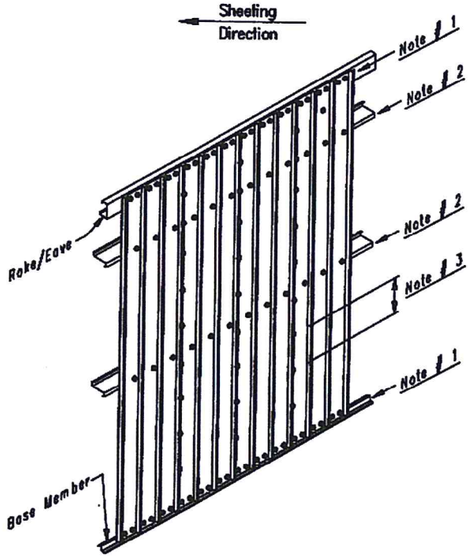
PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406) 782-5177

SHEET
GWD-20AB

4/23/2012 1:11:12 PM P:\DEQ\MCLAREN\2011\DRAWINGS\AS-BUILTS\CONSTRUCTION\MC-FBID-AB-11-DET-072-09.DWG

NOTE: These drawings are intended to depict general installation of item(s) described below. Some item(s) may have been omitted for clarity of presentation. Consult your erection manual or additional Details for further guidelines and/or clarifications.



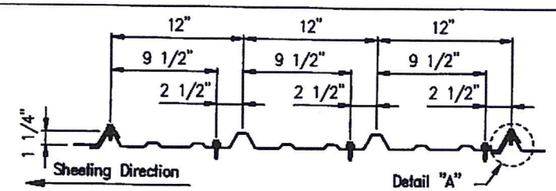

Note # 1
Member Fastener 12-14 x 1 1/4" at 5", 7", 5" pattern

Note # 2
Member Fastener 12-14 x 1 1/4" at 12" O.C.

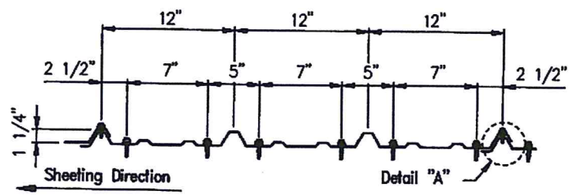
Note # 3
Stitch Fastener 1/4-14 x 7/8" at 20" O.C.

## Fastener Location "PBR" Panel At Wall

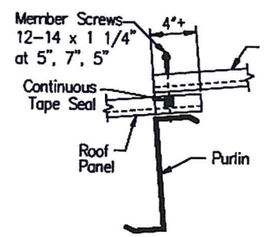
DRAWING NO.
9/28/07 NS1
Created On: 09/15/02



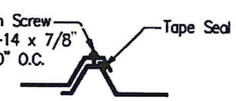

All Roof Members Except As Noted Below




At Eave Strut, Panel End Lap, and Peak Purlin




Section Thru Panel End Laps

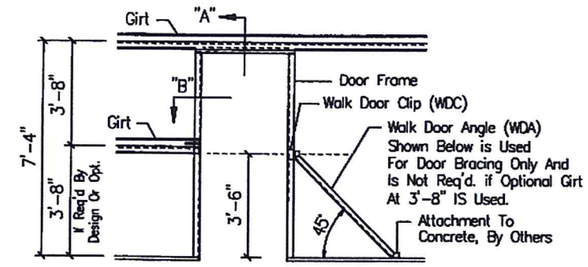



Detail "A"

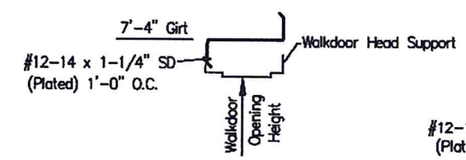
Note:
Screw Patterns Shown Satisfy U.L. 90 Requirements For Roof

## Fastener Location For "PBR" Roof Panel

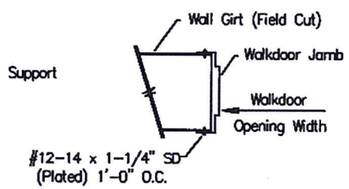
DRAWING NO.
7-17-07 NS2
Created On: 04/15/01



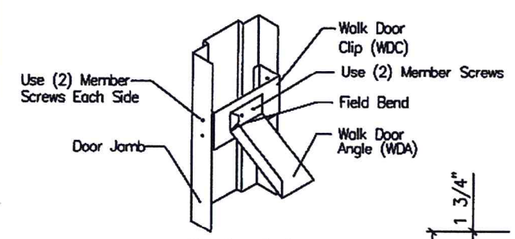

Walkdoor Detail



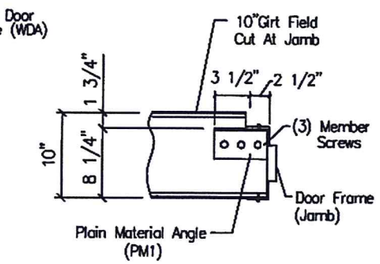

Section "A"




Section "B"




Walkdoor Angle
At Brace (Typ. Both Jambs)




Section "B" @ 10" Girt

ERECTOR NOTE: Field Cut Girts Below 7'-4" to Attach to the Walkdoor Jambs with #12-14 x 1-1/4" Self Driller Screws (2) Each Side as Per Section "B" above.

For Walkdoor with Framed Openings: First Install Walkdoor then Install F.O. Jambs and Header

## Walkdoor Details

HERITAGE BUILDING SYSTEMS
2612 GRIBBLE STREET
NORTH LITTLE ROCK, AR 72114
1-800-643-5555

| | |
|---|---|
| DESCRIPTION: | DETAIL DRAWINGS |
| CUSTOMER: | S BAR S |
| LOCATION: | COOKE CITY, MT 59020 |
| HERITAGE JOB # | 3319-245937 |

| DRAWING BY | DATE | LOADS | SCALE |
|---|---|---|---|
| AKT | 9/17/09 | SEE COVER | N.T.S. |
| CHECK BY | TIME | DRAWING # | REV # |
| CM | 7:41am | DET4 | 0 |

NOTE:

PROVIDED AND INSTALLED 42'x54' STEEL FRAMED BUILDING FROM HERITAGE BUILDING SYSTEMS.

REVISION:

| DATE: | BY: | DESC: |
|---|---|---|
| | | |

DRAWN BY: HERITAGE BUILDING
DESIGNED BY: HERITAGE BUILDING
CHECKED BY: HERITAGE BUILDING
APPROVED BY: JSM
PROJECT NO: 10160
DATE: 4/24/12

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: HERITAGE BUILDING

SCALE IN FEET
0 N.T.S

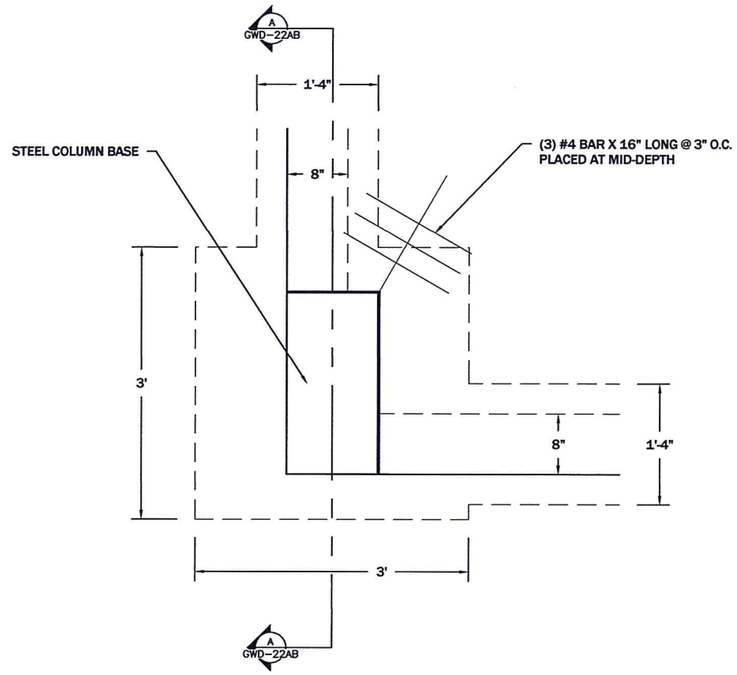
MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2011 AS-BUILT DRAWINGS

4/24/12
CONTROL
BUILDING
DETAILS

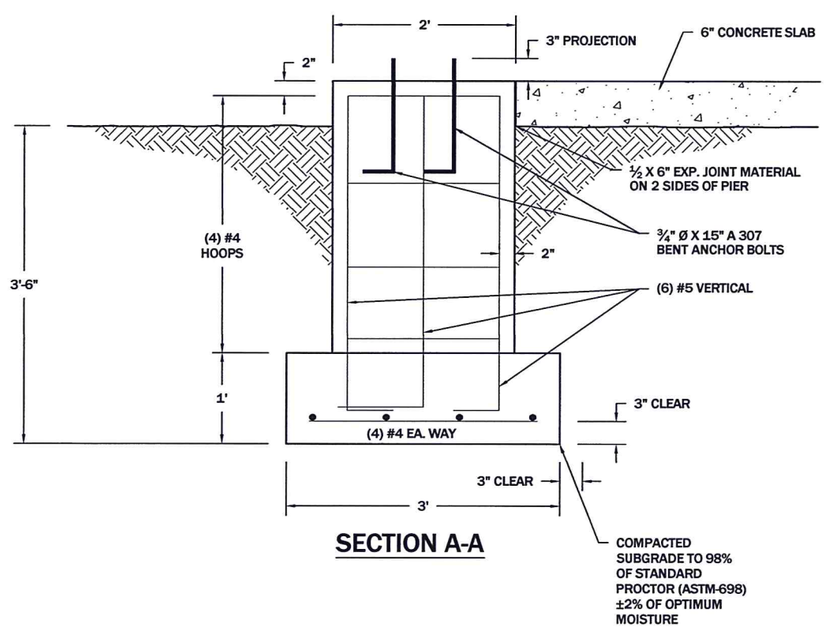
PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406) 782-5177

SHEET
GWD-21AB

4/23/2012 1:21:31 PM P:\DEQ\MCLAREN\2011\DRAWINGS\AS-BUILTS\CONSTRUCTION\MC-FBID-AB-11-DET-073-09.DWG




## PLAN VIEW




## SECTION A-A

REVISION:

| DATE: | BY: | DESC: |
|---|---|---|
| | | |

DRAWN BY: JB
DESIGNED BY: TL
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10160
DATE: 4/24/12

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: NA
SOURCE: PIONEER

SCALE IN FEET
0 NTS NTS

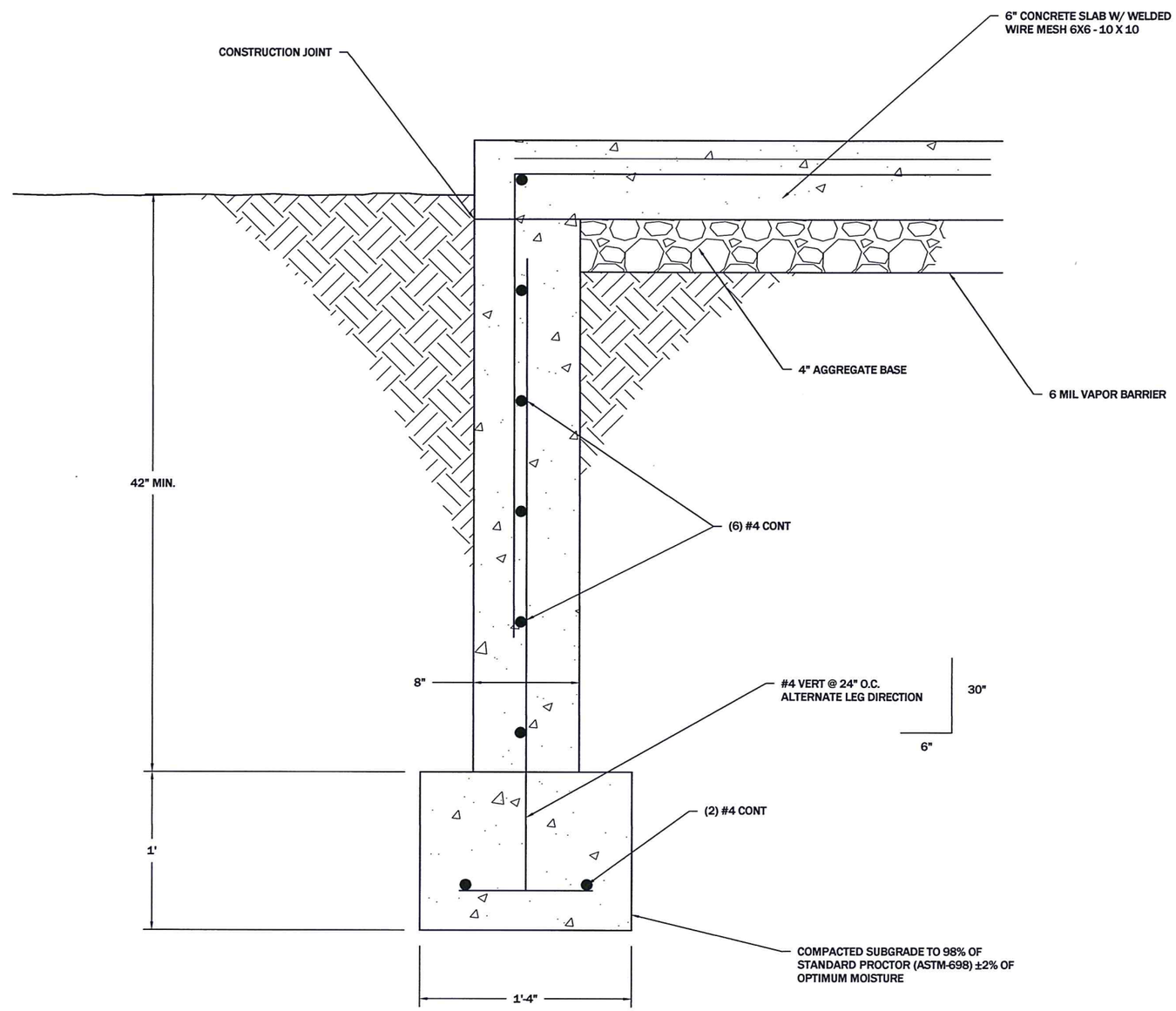
MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2011 AS-BUILT DRAWINGS

DEWATERING CONTROL
BUILDING
FOOTING
DETAIL

PIONEER TECHNICAL SERVICES, INC.
63 - 1/2 WEST BROADWAY
BUTTE, MONTANA 59702
(406) 782-5177

SHEET
GWD-22AB

4/23/2012 1:25:19 PM P:\DEQ\MCLAREN\2011\DRAWINGS\AS-BUILTS\CONSTRUCTION\MC-FBID-AB-11-DET-065-09.DWG




REVISION:

| DATE: | BY: | DESC: |
|---|---|---|
| | | |

DRAWN BY: JB
DESIGNED BY: TL
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10160
DATE: 4/24/12

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: NA
SOURCE: PIONEER

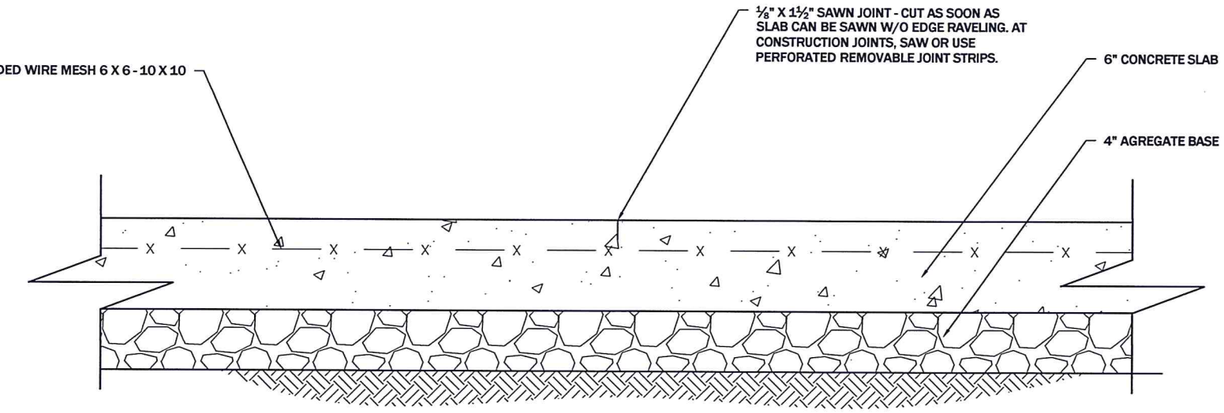
SCALE IN FEET
0 NTS NTS

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED MINE SITE RECLAMATION PROJECT
2011 AS-BUILT DRAWINGS

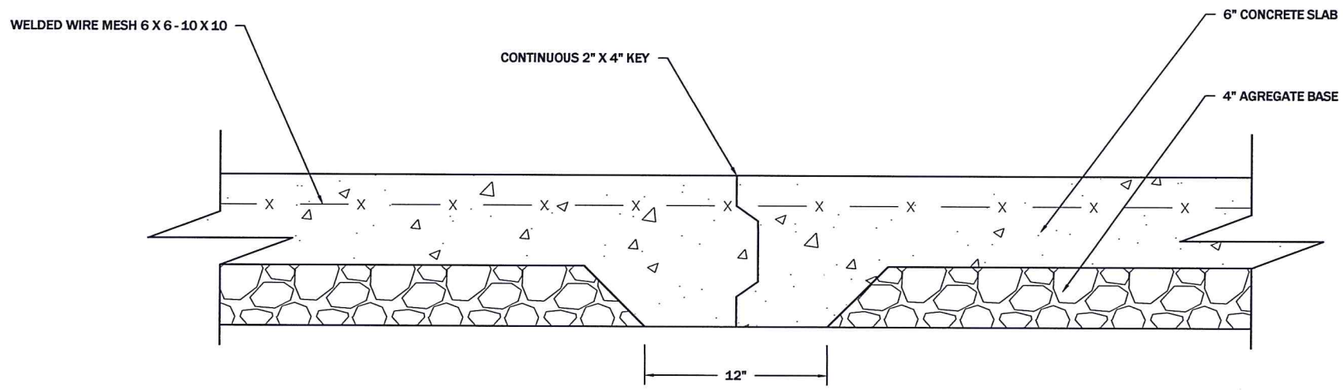
DEWATERING CONTROL BUILDING FOUNDATION WALL DETAIL

PIONEER TECHNICAL SERVICES, INC.
63 - 1/2 WEST BROADWAY
BUTTE, MONTANA 59702
(406) 782-5177

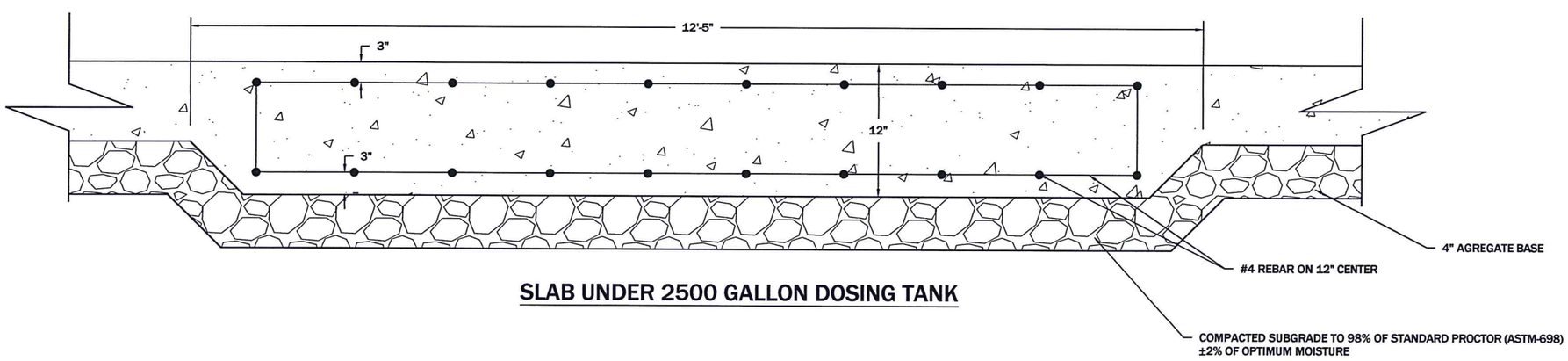
SHEET
GWD-23AB




## SLAB SAWN JOINT




## SLAB CONTROL JOINT




## SLAB UNDER 2500 GALLON DOSING TANK

REVISION:

| DATE: | BY: | DESC: |
|---|---|---|
| | | |

DRAWN BY: JB
DESIGNED BY: TL
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10160
DATE: 4/24/12

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: NA
SOURCE: PIONEER

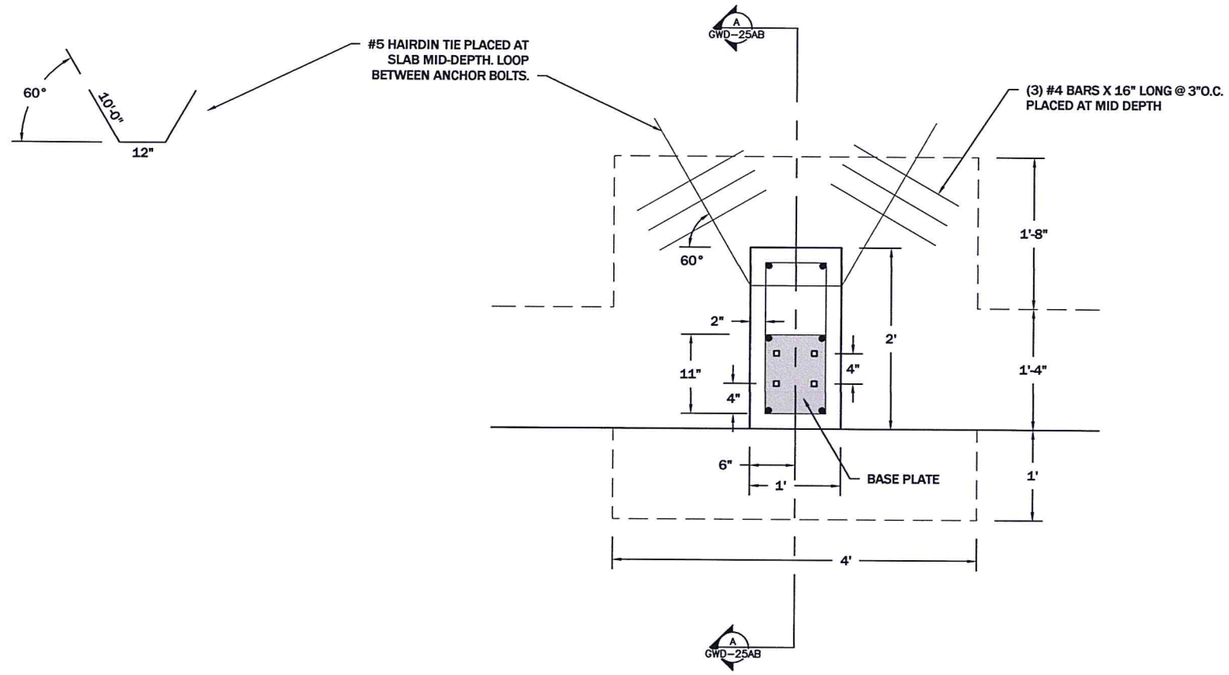
SCALE IN FEET
0 NTS NTS

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2011 AS-BUILT DRAWINGS

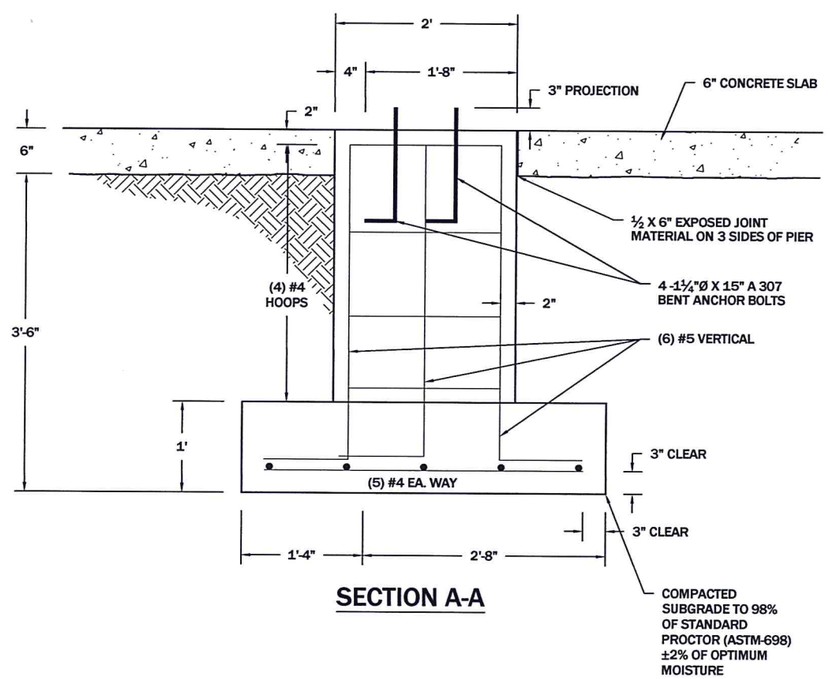
DEWATERING CONTROL
BUILDING
SLAB CONTROL JOINTS
DETAIL

PIONEER
TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59702
(406) 782-5177

SHEET
GWD-24AB




## PLAN VIEW




## SECTION A-A

REVISION:

| DATE: | BY: | DESC: |
|---|---|---|
| | | |

DRAWN BY: JB
DESIGNED BY: TL
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10160
DATE: 4/24/12

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: NA
SOURCE: PIONEER

SCALE IN FEET
0 NTS NTS

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED MINE SITE RECLAMATION PROJECT
2011 AS-BUILT DRAWINGS

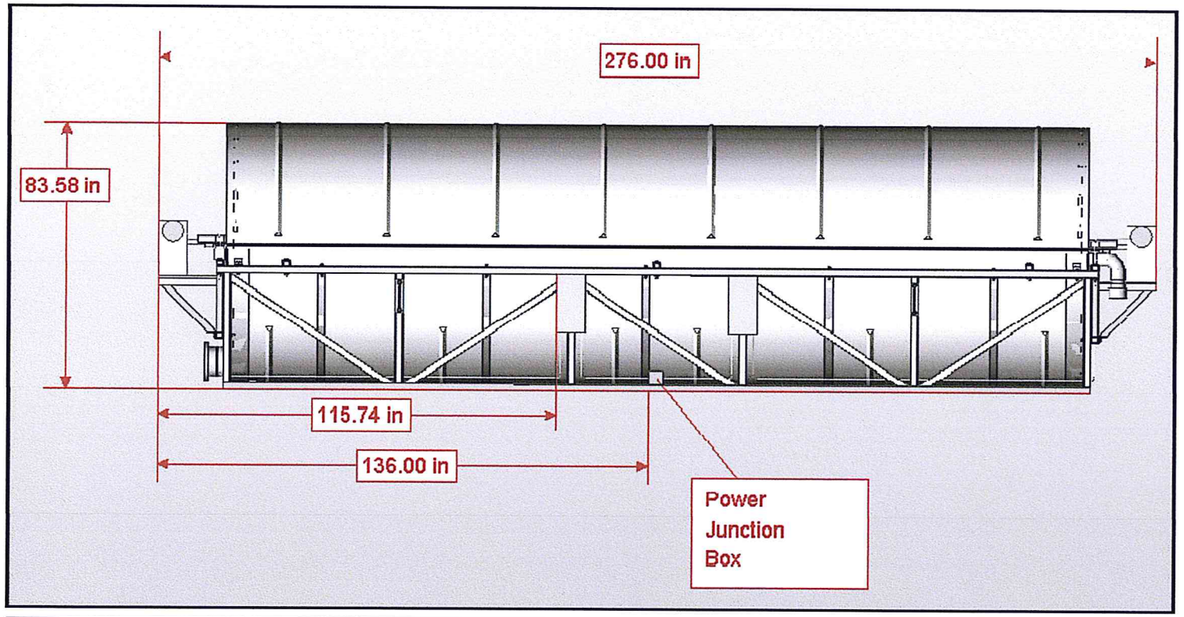
DEWATERING CONTROL BUILDING COLUMN FOOTING DETAIL

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59702
(406) 782-5177

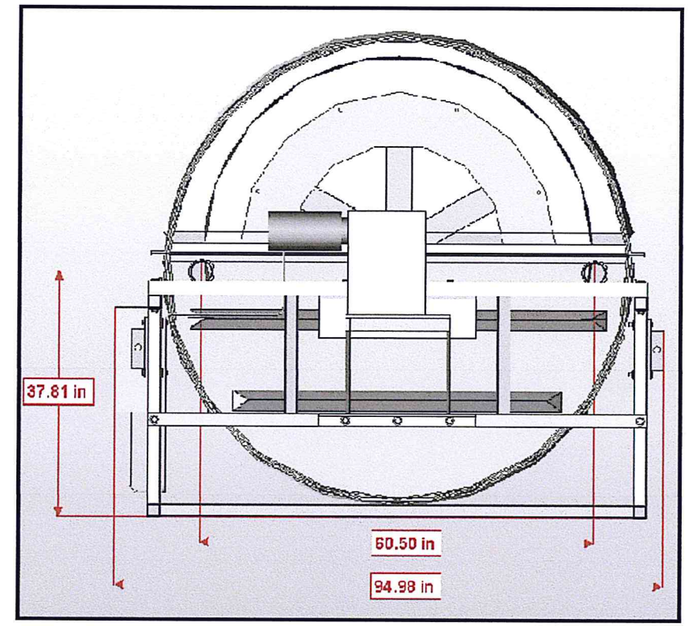
SHEET
GWD-25AB

# RCTS-60HS™

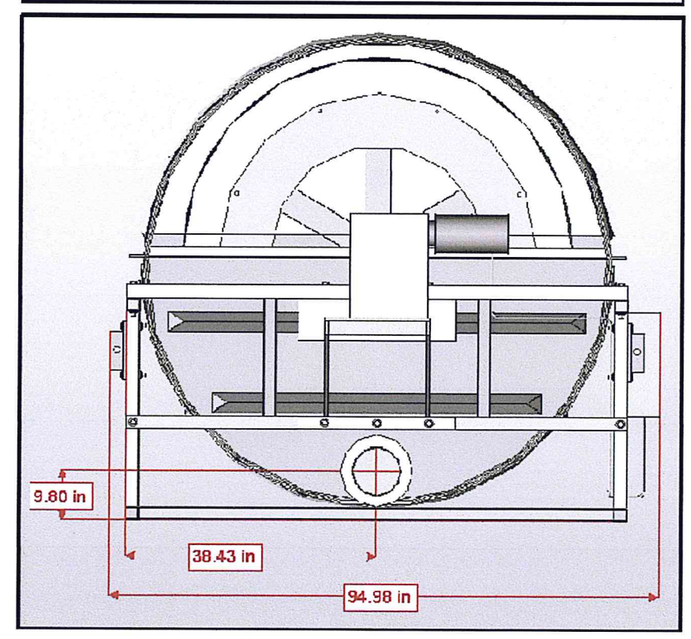
## 60" High Speed System




Side View – Power Disconnect Switch and Junction Box Layout




Influent – (2) 3" Female Pipe Thread




Effluent – 6" Female PVC Slip fit

| | |
|---|---|
| Motor WWE5.18.184TC | World Wide Electric |
| Gear Reduction Box 9032.1 180TC2 | Nord |
| Flex Coupling QF25 | Quick-Flex |

| | |
|---|---|
| Weight | 3000 lbs |
| Full Weight | 7500 lbs |
| Max Flow | 500 Gallons per Minute |
| Power Requirements | 480 Volt 3 Phase |

STANDARD SPECIFICATIONS

**NOTE: CONTRACTOR SUPPLIED TRAILER MOUNTED UNIT TO FACILITATE CLEANING**

REVISION:
DATE: BY: DESC:

DRAWN BY: IONIC
DESIGNED BY: IONIC
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10160
DATE: 4/24/12

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: IONIC

SCALE IN FEET
0 N.T.S.

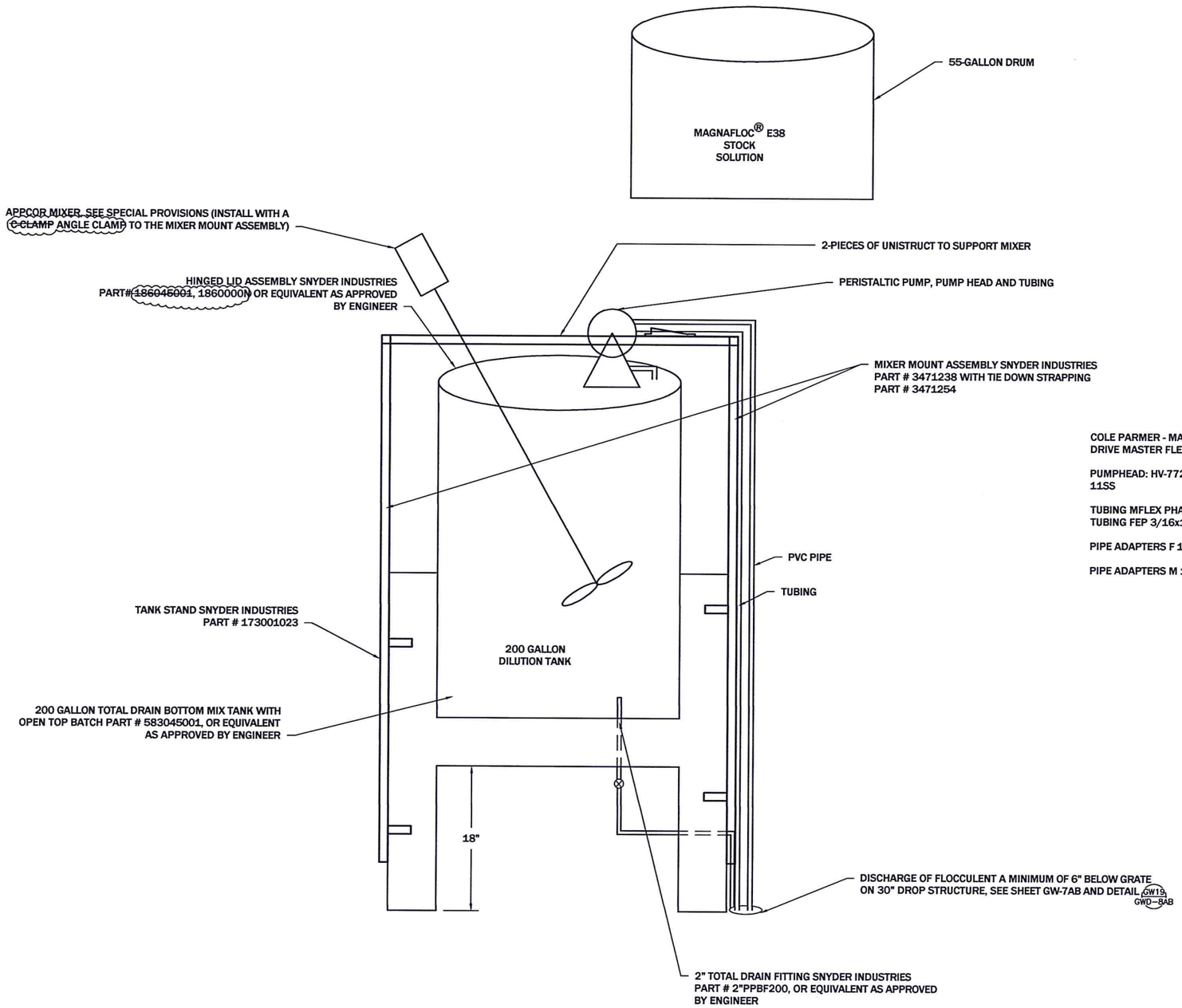
MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2011 AS-BUILT DRAWINGS

RCTS-60HS
DETAILS

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406) 782-5177

SHEET
GWD-28AB

4/23/2012 12:24:24 PM P:\DEQ\MCLAREN\2011\DRAWINGS\AS-BUILTS\CONSTRUCTION\MC-FBID-AB-11-DET-053-09.DWG




COLE PARMER - MASTERFKLEX PUMP: HV07523-80
DRIVE MASTER FLEX L/S 600 RPM 115/200

PUMPHEAD: HV-77200-60 PUMP HEAD L/S EASY LOAD
11SS

TUBING MFLEX PHARMED #2 25-FEET
TUBING FEP 3/16x1/4" 25-FEET

PIPE ADAPTERS F 1/4"x1/4"

PIPE ADAPTERS M 1/4"x3/16"

REVISION:

| DATE: | BY: | DESC: |
|---|---|---|
| | | |

DRAWN BY: CLA
DESIGNED BY: SM
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10160
DATE: 4/24/12

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: PIONEER

SCALE IN FEET
0 N.T.S.

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2011 AS-BUILT DRAWINGS

FLOCCULANT
SYSTEM LAYOUT

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406) 782-5177

SHEET
GWD-29AB

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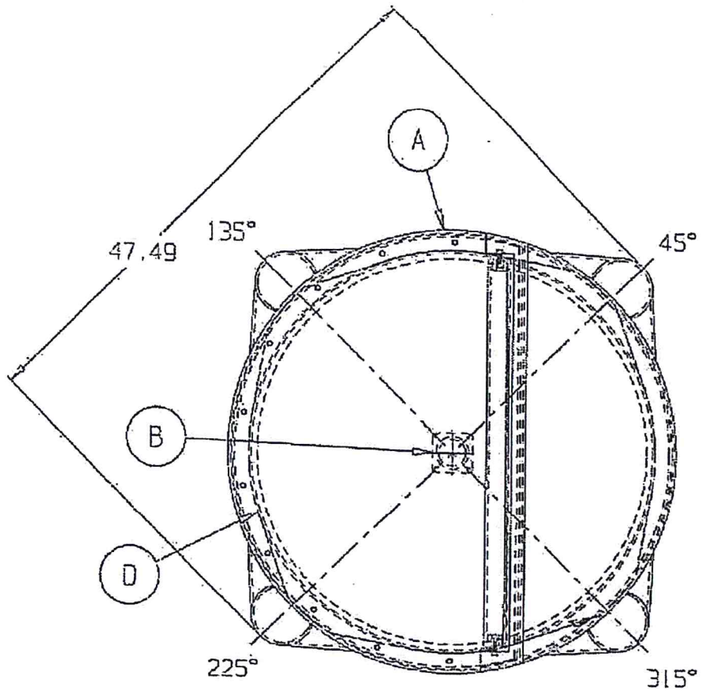
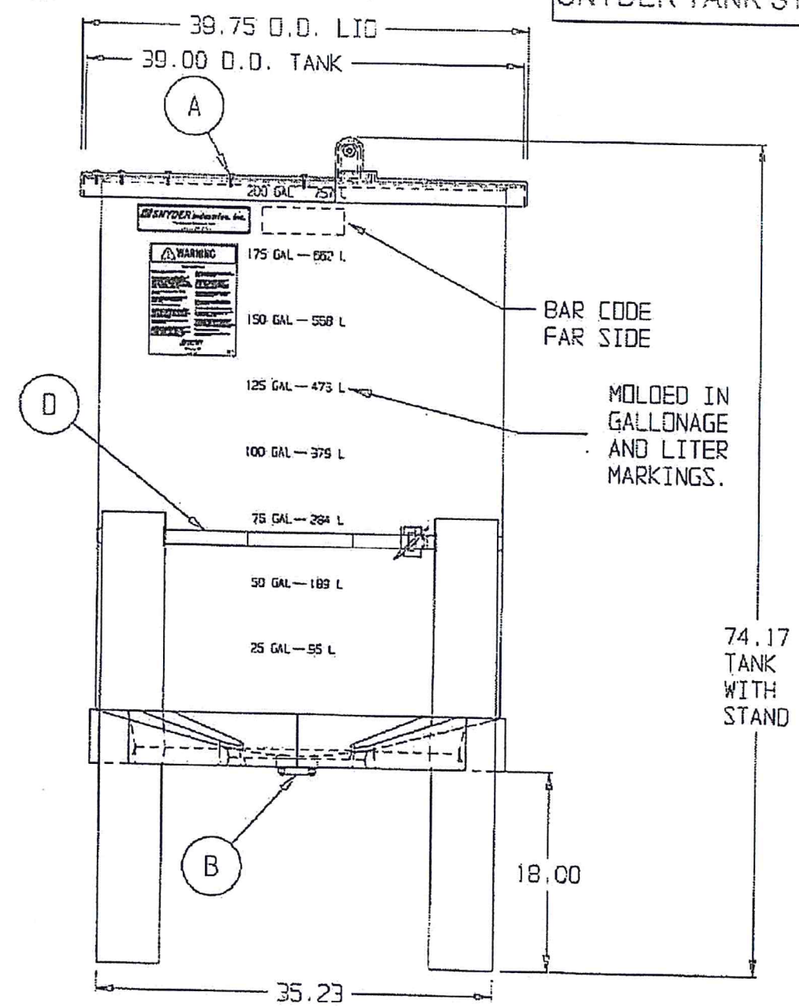
HIP-SPO NE
PO #02156133




SNYDER TANK STAN

SNYDER INDUSTRIES INC.

NOTE:
ALL EXTERNAL PIPING MUST BE INDEPENDENTLY SUPPORTED.

A. HINGED LID ASSY FOR 36" Ø OPEN TOP TANKS [P/N 1860000N95401]
B. 2" PP DBL FLANGED BOLTED BANJO BTM DRAIN FTG W/EPDM GASKETS & SS BOLTS [P/N 34100116]
C. MIXER MOUNT ASSY FOR OPEN TOP TANKS [P/N 34701238] - NOT SHOWN
D. TIE-DOWN BANDING SYSTEM FOR 36" Ø OPEN TOP TANKS [P/N 34701254]
E. PROTECTIVE PLASTIC PACKAGING, 200 - 850 GAL. [P/N 00000171] - NOT SHOWN

* BASE FITTINGS TO BE LEFT INSTALLED AT TIME OF SHIPMENT PER SII PROCEDURE
* Consult Snyder's Guidelines for Use and Installation prior to delivery.
available on-line at www.snydernet.com

APPROVED: _____

SIGNATURE: _____ DATE: ____
DRAWING NOT VALID UNLESS SIGNED
(all dimensions in inches)

PATENT #7,059,575

200 GALLON OPEN TOP TOTAL DRAIN TANK W/36"x18" STAND

PART # TANK: 5830000N97201
HDLPE/NATURAL/1.9 SG
STAND: 1730001N97801
REF#: 24201 05/11/10

| REVISION: DATE: | BY: | DESC: |
|---|---|---|
| 7/30/10 | JSM | RESIZED TO 200 GALLON |

DRAWN BY: CLA
DESIGNED BY: SYNDER
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10160
DATE: 4/24/12

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: SYNDER

SCALE IN FEET
0 N.T.S.

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2011 AS-BUILT DRAWINGS

FLOCCULANT
TANK
DETAIL

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406) 782-5177

SHEET
GWD-30AB

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PROPRIETARY DATA

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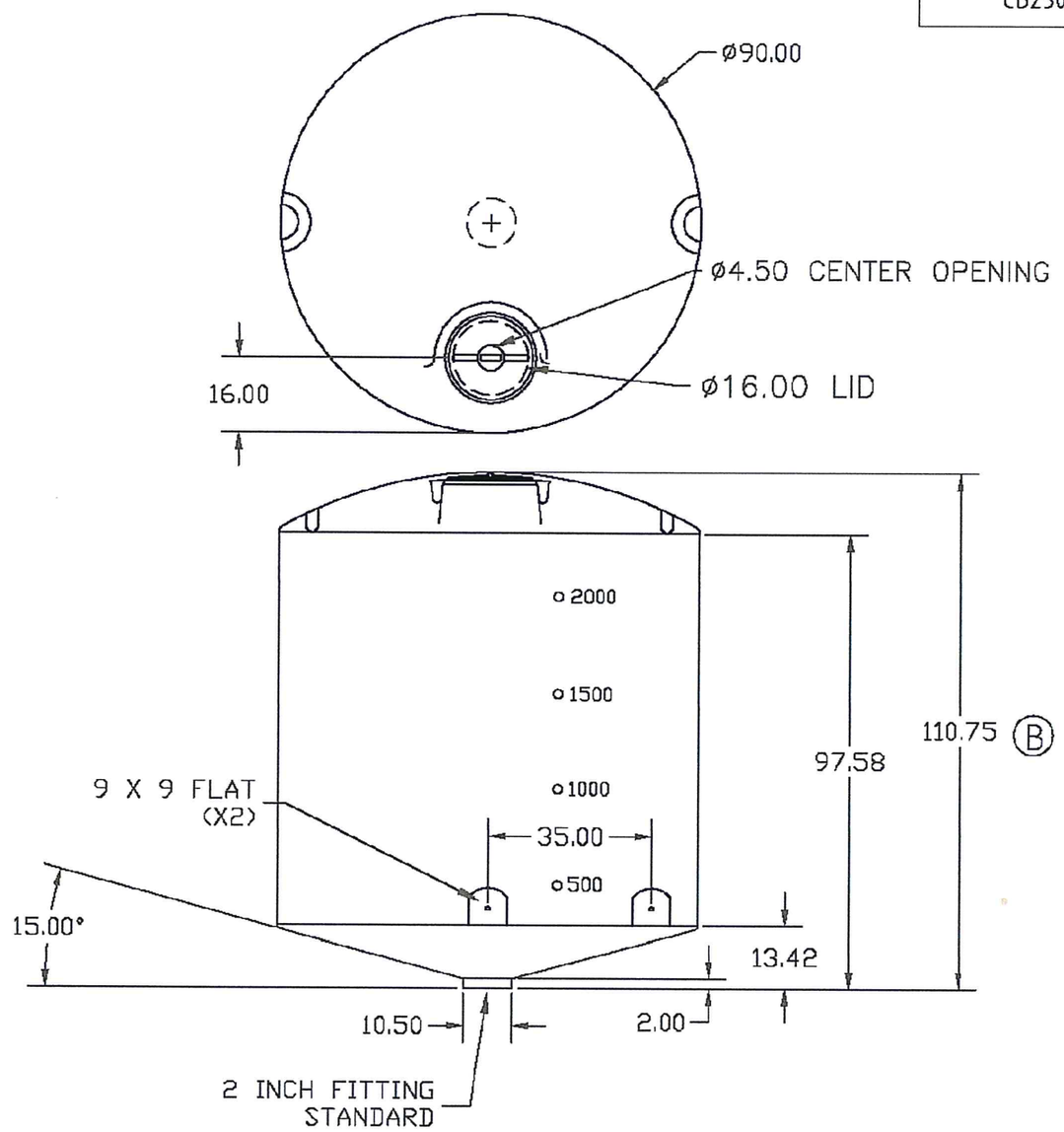
CB2500-90 B




| REV | DESCRIPTION | DATE | APPRD |
|---|---|---|---|
| B | HEIGHT WAS 108.75 | 6/28/06 | NVE |
| A | ISOLATED TANK FROM STAND | 6/13/06 | NVE |

ALL DIMENSIONS ARE IN DECIMAL INCHES
TOLERANCES UNLESS OTHERWISE SPECIFIED
± 1% @ 68° F

DRAWN / DATE: DHJ 10/7/04

APPRD. / DATE: REH 4/18/07

THIRD ANGLE PROJECTION
ANSI 14.5M

MATERIAL

HDPE OR EQUIVALENT
REFERENCE MATERIAL DATA SHEET
FOR SPECIFIC PROPERTIES.

NOTES:

1. SHOT WEIGHT 435 LBS.

ACE ROTO-MOLD
A DIVISION OF DEN HARTOG INDUSTRIES, INC.
4010 HWY. 60 BLVD., BOX 425, HOSPERS, IOWA 51238

CLIENT / DESCRIPTION: 2500 GALLON Ø90" 15° CONE BOTTOM TANK

SCALE: N.S.

PART NO.: CB2500-90

REVISION:
DATE: BY: DESC:

DRAWN BY: CLA
DESIGNED BY: ACE ROTO-MOLD
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10160
DATE: 4/24/12

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: ACE ROTO-MOLD

SCALE IN FEET
0 N.T.S.

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2011 AS-BUILT DRAWINGS

DOSING TANK DETAIL

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406) 782-5177

SHEET
GWD-31AB

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## PROPRIETARY DATA

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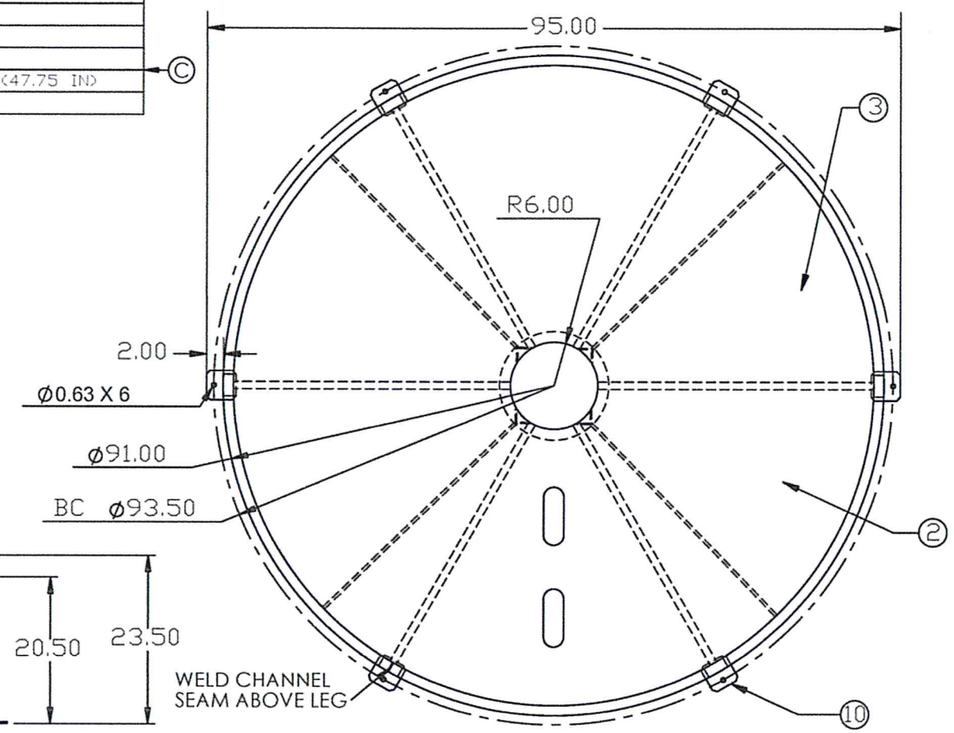
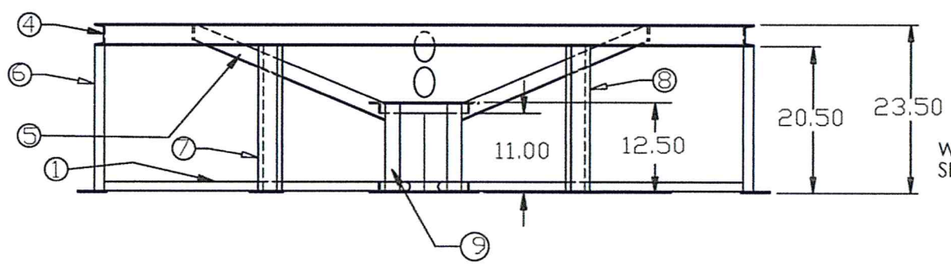
CB090-15ST

C

| KEY | PART NUMBER | MATERIAL | DESCRIPTION | QTY. |
|---|---|---|---|---|
| 1 | CB090-15ST-1 | P10000 | 1" PIPE | 6 @ 37.75 IN (226.5 IN) |
| 2 | CB090-15ST-2 | S-14GA | 14 GA SHEET STEEL(HOLES) | 1 |
| 3 | CB090-15ST-3 | S-14GA | 14 GA SHEET STEEL | 2 @48" X 96" (9216 SI) |
| 4 | CB090-15ST-4 | C03X4.1 | 3" CHANNEL | 298 IN |
| 5 | CB090-15ST-5 | B03750X20000 | 3/8" X 2"MILD STEEL FLAT | 4 @ 38 IN (152 IN) |
| 6 | CB090-15ST-6 | C03X4.1 | 3" CHANNEL | 6 @ 20.50 IN (123 IN LEFT AND RIGHT LEGS INCLUDED) |
| | | | | |
| 7 | CB090-15ST-7 | C03X4.1 | 3" CHANNEL (LEFT) | 1 |
| 8 | CB090-15ST-8 | C03X4.1 | 3" CHANNEL (RIGHT) | 1 |
| 9 | 12521 | RAR-12 | 12" CONE BOTTOM RING | 2 |
| | | 12522 | 3/16" X 2" ANGLE | 4 @ 11 15/16"(47.75 IN) |
| 10 | SJCB86-90ST-7 | SJCB86-90ST-7 | 1/4" X 4" X 4" LEG PAD | 6 |




| REV | DESCRIPTION | BY / DATE | CCN |
|---|---|---|---|
| C | 12521 WAS SJCB85/90ST-2 | ADH 12/7/07 | 1542 |
| B | TOLERANCE WAS 1%@68°F | GWC 3/8/07 | |
| A | ADDED COMPONANT MATERIALS | NVE 4/11/06 | |

DRAWN / DATE: ADH 6/29/07

APPRD. / DATE: REH 7/18/07

MATERIAL

ALL DIMENSIONS ARE IN DECIMAL INCHES
TOLERANCES UNLESS OTHERWISE SPECIFIED

DECIMAL ± .125"
FRACTION ± 1/4"
ANGLE ± 1°

THIRD ANGLE PROJECTION
ANSI 14.5M

NOTES:

**Den Hartog**
INDUSTRIES, INC.

Ace Roto-Mold Injection Molding Blow Molding Sowjoy

4010 HOSPERS DRIVE S. BOX 425, HOSPERS, IOWA 51238-0421

DESCRIPTION: CONE BOTTOM STAND FOR Ø90 15° TANKS

SCALE: N.S.

PART NO.: CB090-15ST

REVISION:

| DATE: | BY: | DESC: |
|---|---|---|
| | | |

DRAWN BY: CLA
DESIGNED BY: SM
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10160
DATE: 4/24/12

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: DEN HARTOG

SCALE IN FEET
0 N.T.S.

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2011 AS-BUILT DRAWINGS

DOSING
TANK
STAND

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406) 782-5177

SHEET
GWD-32AB

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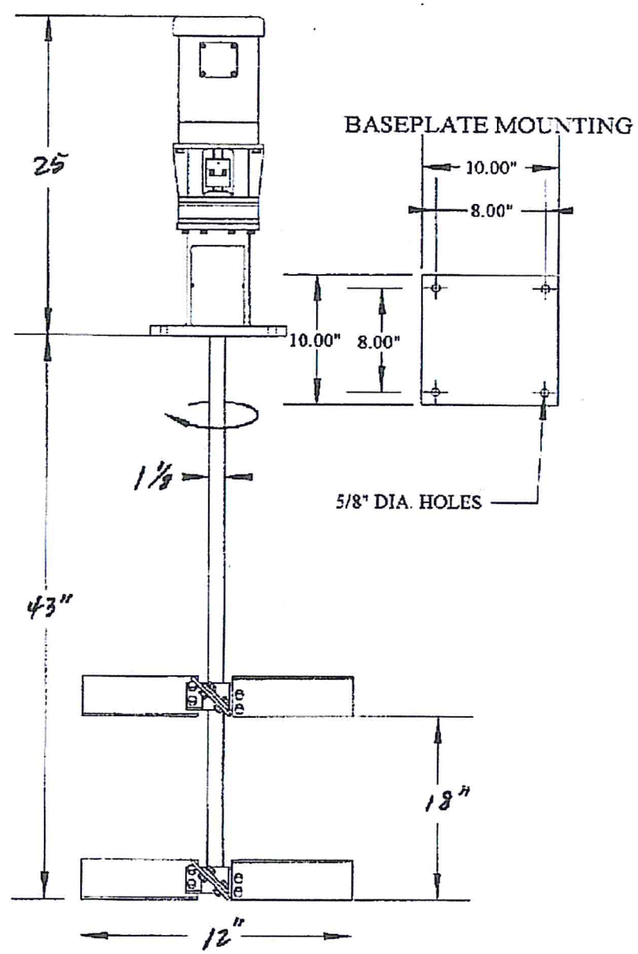
# MODEL CYB APPCOR MIXER

Customer: PIONEER TECH
Application: FLOCCULANT MAKE-UP




MODEL NUMBER: CYB-75
HP: 3/4
WEIGHT: 89 LBS
RPM: 159

MOTOR DATA:
Manufacturer: BALDOR
RPM: 1800
Type: 3/60/230/460, TEFC, 56C
By: APPCOR

TANK DATA:
Size: 36"x 53" PLASTIC
Top: CLOSED
Bottom: FLAT

BAFFLE RECOMMENDATIONS:
Number: NONE
Spacing, Degrees Apart:
Width:
Off-wall Clearance:

NOTES:
316 SS WETTED

McCLAREN
082791-3 8/27/09

| | | |
|---|---|---|
| APPCOR | Scale: NTS | Applications Corporation |
| | Date: 2/10/93 | Model CYB Appcor Mixer |
| | Drawn By: JMZ | General Arrangement Drawing |
| | Dwg No.: CYBGA1125R1 | Standard Base, Bolted Blade Turbine |

7 OF 7

Aug 31 2009 9:27AM HP LASERJET FAX 360-837-3171 p.7

REVISION:

| DATE: | BY: | DESC: |
|---|---|---|
| 7/21/10 | JSM | CORRECT MIXER |

DRAWN BY: CLA
DESIGNED BY: APPCOR
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10160
DATE: 4/24/12

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: APPCOR

SCALE IN FEET
0 N.T.S.

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2011 AS-BUILT DRAWINGS

FLOCCULANT
TANK
MIXER
DETAILS

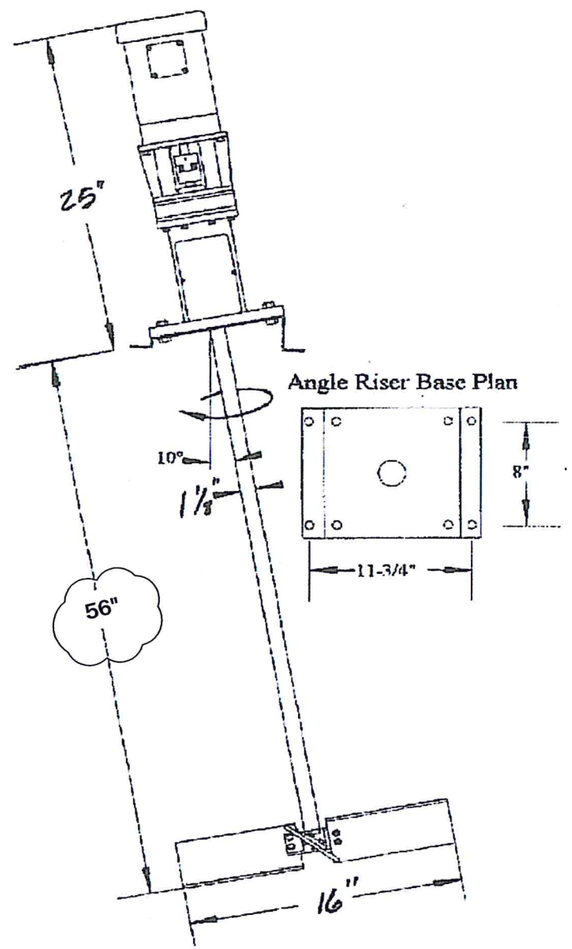
PIONEER TECHNICAL SERVICES, INC
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406) 782-5177

SHEET
GWD-33AB

4/23/2012 12:30:23 PM P:\DEQ\MCLAREN\2011\DRAWINGS\AS-BUILTS\CONSTRUCTION\MC-FBID-AB-11-DET-064-10.DWG

# MODEL CYB APPCOR MIXER

Customer: PIONEER TECH
Application: LIME MAKE-UP




MODEL NUMBER: CYBA-75
HP: 3/4
WEIGHT: 104 LBS
RPM: 159

MOTOR DATA:
Manufacturer: BALDOR
RPM: 1800
Type: 3/60/230/460, TEFC, 56C
By: APPCOR

TANK DATA:
Size: 60" x 60"
Top: OPEN
Bottom: FLAT

BAFFLE RECOMMENDATIONS:
Number: NONE
Spacing, Degrees Apart:
Width:
Off-wall Clearance:

NOTES:
316 SS WETTED PARTS

McCLAIREN
082791-1

8/27/09

| | | |
|---|---|---|
| APPCOR | Scale: NTS | Applications Corporation |
| | Date: 7/11/94 | Model CYB Appcor Mixer |
| | Drwn By: JMZ | General Arrangement Drawing |
| | File: CYBANGLE.CAD | Angle Riser Base, Bolted Blade Turbine |

3 OF 7

Aug 31 2009 9:26AM HP LASERJET FAX 360-837-3171 p.3

| REVISION: DATE: | BY: | DESC: |
|---|---|---|
| 7/22/10 | JSM | CORRECT MIXER |
| 2/1/12 | JSM | EXTENDED MIXER SHAFT |

DRAWN BY: CLA
DESIGNED BY: APPCOR
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10160
DATE: 4/24/12

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: APPCOR

SCALE IN FEET
0 N.T.S.

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2011 AS-BUILT DRAWINGS

LIME SLURRY
TANK
MIXER
DETAILS

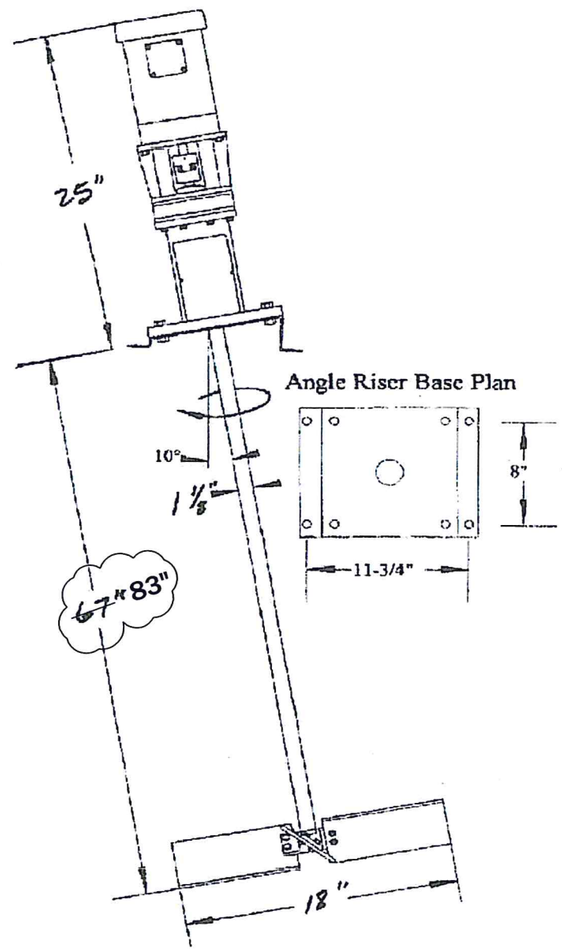
PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406) 782-5177

SHEET
GWD-34AB

4/23/2012 12:31:53 PM P:\DEQ\MCLAREN\2011\DRAWINGS\AS-BUILTS\CONSTRUCTION\MC-FBID-AB-11-DET-061-10.DWG

# MODEL CYB APPCOR MIXER

Customer: PIONEER TECH
Application: LIME STORAGE




MODEL NUMBER: CYBA-75
HP: 3/4
WEIGHT: 107 LBS
RPM: 159

MOTOR DATA:
Manufacturer: BALDOR
RPM: ~~1800~~ 700
Type: 3/60/230/460, TEFC, 56C
By: APPCOR

TANK DATA:
Size: 89" DIA x 91" SIDEWALL
Top: OPEN
Bottom: CONE 26.7"

BAFFLE RECOMMENDATIONS:
Number: NONE
Spacing, Degrees Apart:
Width:
Off-wall Clearance:

NOTES:
316 SS WETTED

McCLAREN
082791-2
8/27/09

| | | |
|---|---|---|
| APPCOR | Scale: NTS | Applications Corporation |
| | Date: 7/11/94 | Model CYB Appcor Mixer |
| | Drawn By: JMZ | General Arrangement Drawing |
| | File: CYBANGLE.CAD | Angle Riser Base, Bolted Blade Turbine |

5 OF 7

Aug 31 2009 9:26AM HP LASERJET FAX 360-837-3171 p.5

REVISION:

| DATE: | BY: | DESC: |
|---|---|---|
| 7/22/10 | JSM | CORRECT MIXER |

DRAWN BY: CLA
DESIGNED BY: APPCOR
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10160
DATE: 12/24/12

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: APPCOR

SCALE IN FEET
0 N.T.S.

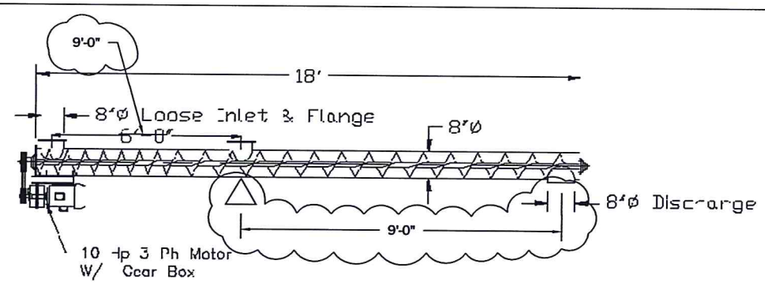
MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2011 AS-BUILT DRAWINGS

DOSING
TANK
MIXER
DETAILS

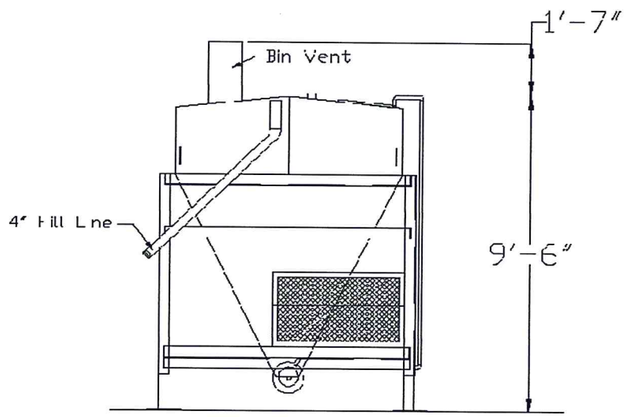
PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406) 782-5177

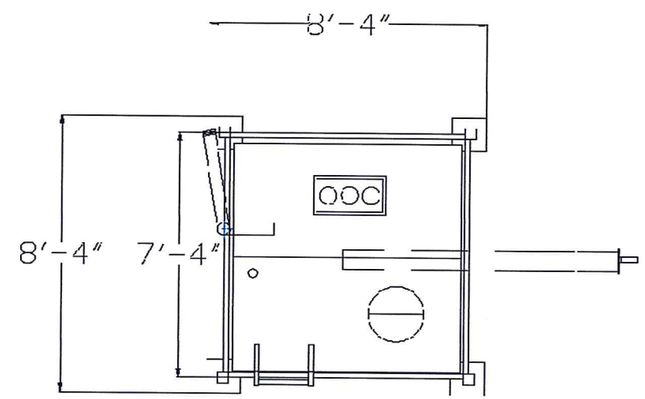
SHEET
GWD-35AB

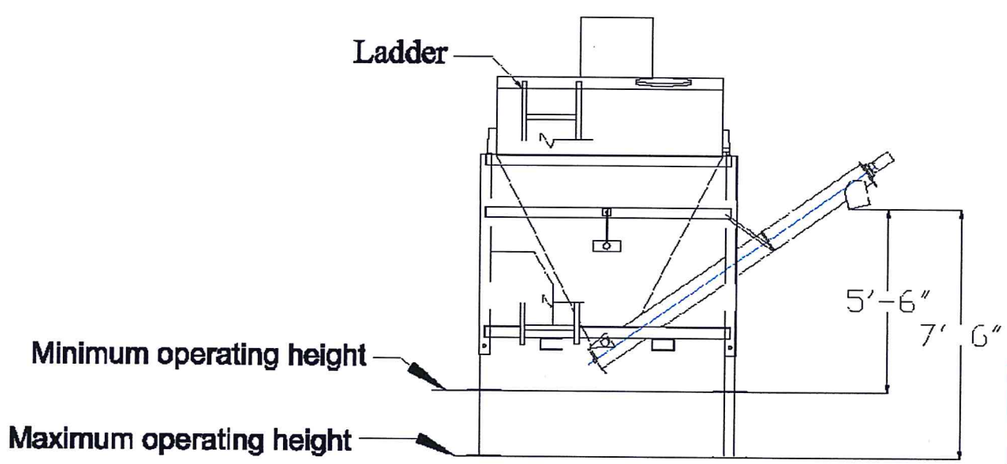
4/23/2012 12:32:49 PM P:\DEQ\MCLAREN\2011\DRAWINGS\AS-BUILTS\CONSTRUCTION\MC-FBID-AB-11-DET-060-10.DWG




7"ø X 18'-0" Screw Conveyor




DIVERSIFIED STORAGE SYSTEMS
(888) SILO-SYS (888) 745-5797

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| | |
|---|---|
| TITLE: SS 1500 Special | |
| DRAWING NUMBER: D 0727039 | DATE: 08/28/09 |
| SCALE: | DRAWN BY: TAD |
| SHEET: | REVISED: 05/29/09 |
| PAGE QUANTITY | APPROVED BY: |
| SERIAL# | |
| FOR: Pioneer Technical | |
| JOB: | |

REVISION:

| DATE: | BY: | DESC: |
|---|---|---|
| | | |

DRAWN BY: CLA
DESIGNED BY: DSS
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10160
DATE: 4/24/12

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: DSS

SCALE IN FEET
0 N.T.S.

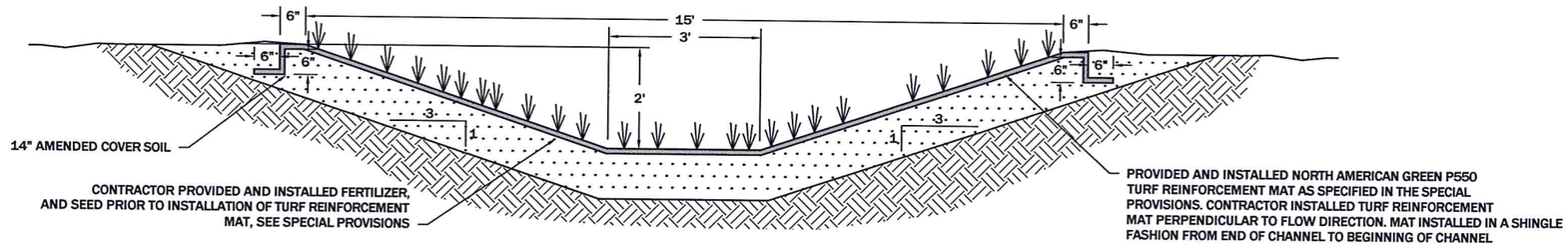
MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2011 AS-BUILT DRAWINGS

LIME SILO
AND
AUGER SYSTEM
DETAILS

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406) 782-5177

SHEET
GWD-36AB

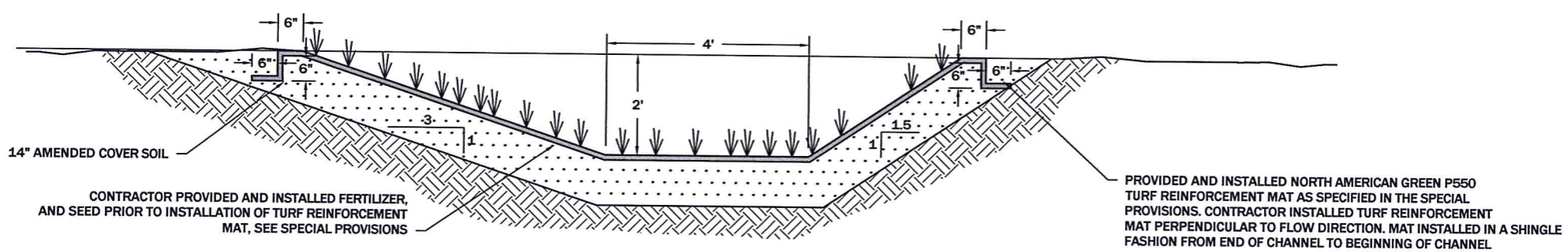
4/23/2012 12:33:46 PM P:\DEQ\MCLAREN\2011\DRAWINGS\AS-BUILTS\CONSTRUCTION\MC-FBID-AB-11-DET-074-09.DWG




## TYPE 1 GRASS LINED TRAPEZOIDAL CHANNEL DETAIL

N.T.S.

SW1 / --




## TYPE 3 GRASS LINED TRAPEZOIDAL CHANNEL DETAIL

N.T.S.

SW3 / --

REVISION:

| DATE: | BY: | DESC: |
|---|---|---|
| | | |

DRAWN BY: CLA
DESIGNED BY: RWH
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10160
DATE: 4/24/12

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: NA
SOURCE: PIONEER

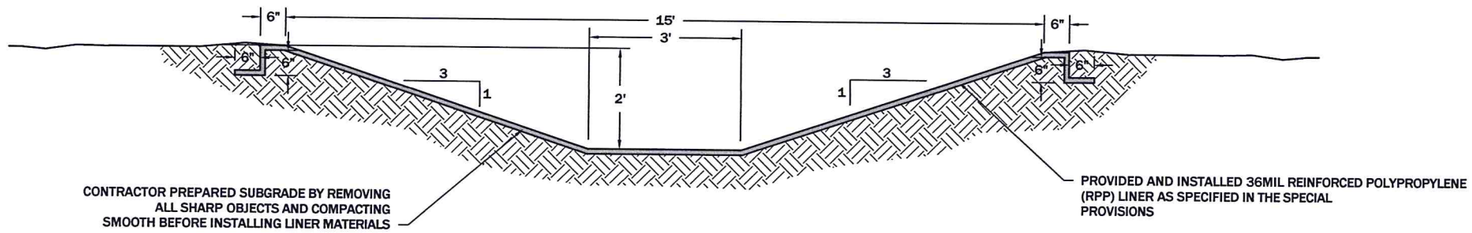
SCALE IN FEET
0 N.T.S.

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2011 AS-BUILT DRAWINGS

STORM WATER
CHANNEL
DETAILS

PIONEER TECHNICAL SERVICES, INC.
63 1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)-782-5177

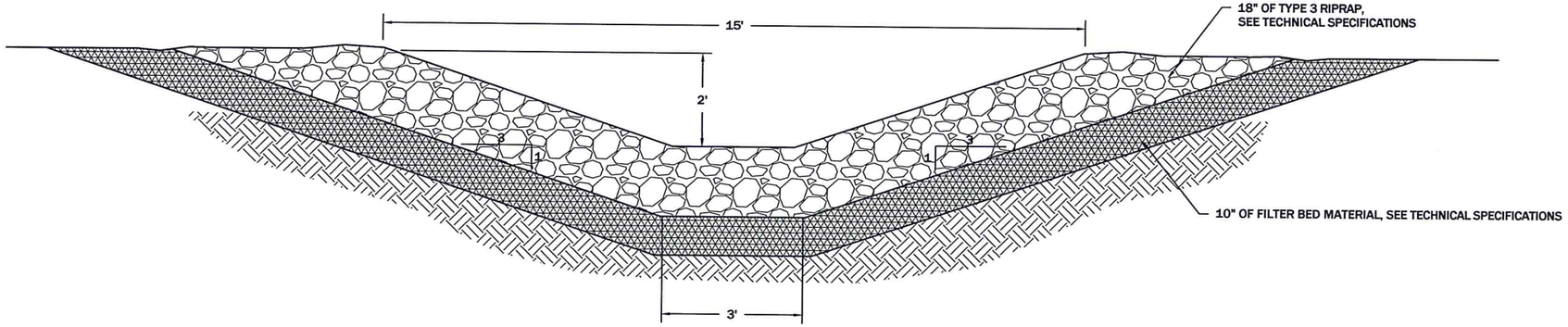
SHEET
SWD-1AB




## POLYPROPYLENE LINED TRAPEZOIDAL CHANNEL DETAIL

N.T.S.

SW5




## TYPE 3 RIPRAP LINED TRAPEZOIDAL CHANNEL DETAIL

N.T.S.

SW6

REVISION:

| DATE: | BY: | DESC: |
|---|---|---|
| | | |

DRAWN BY: CLA
DESIGNED BY: RWH
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10160
DATE: 4/24/12

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: NA
SOURCE: PIONEER

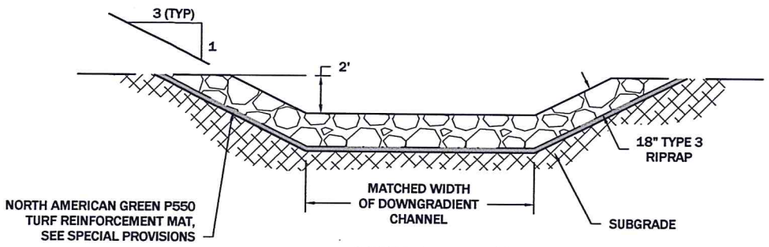
SCALE IN FEET
0 N.T.S.

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED MINE SITE RECLAMATION PROJECT
2011 AS-BUILT DRAWINGS

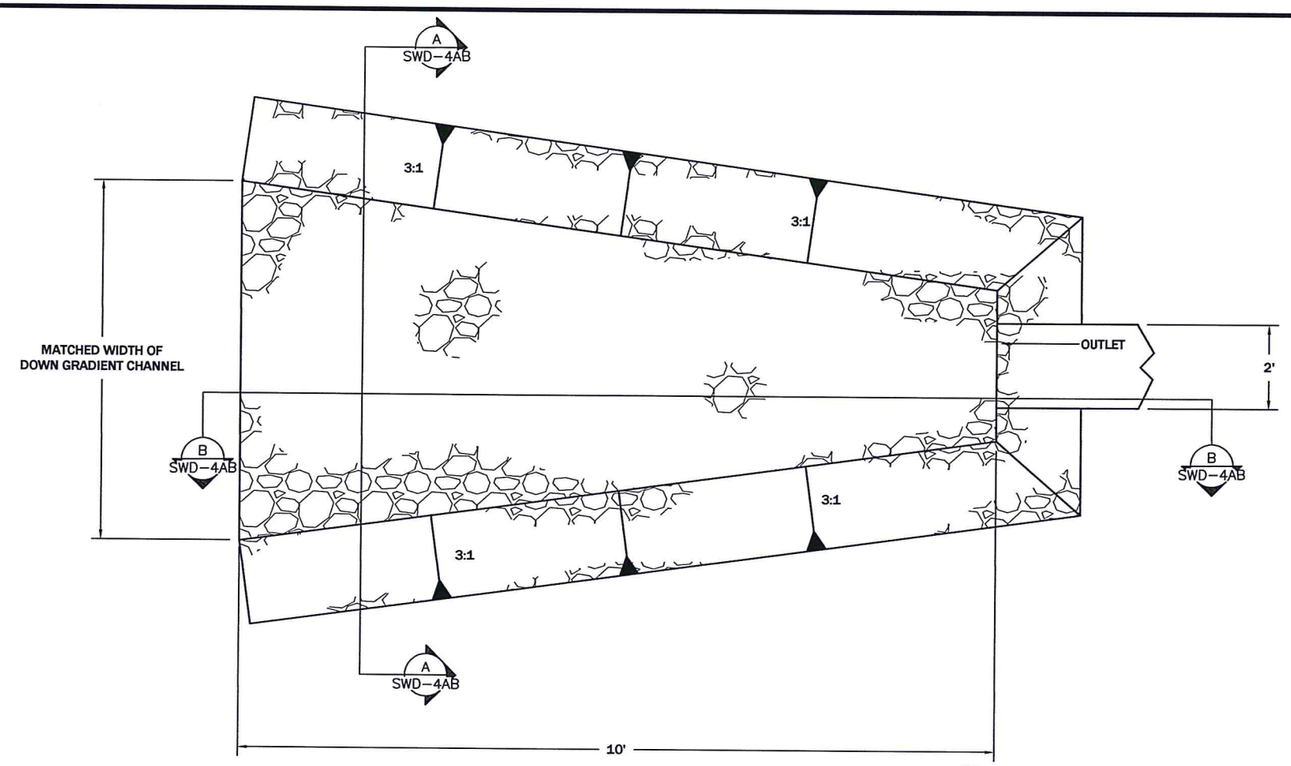
STORM WATER CHANNEL DETAILS

PIONEER TECHNICAL SERVICES, INC.
63 1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)-782-5177

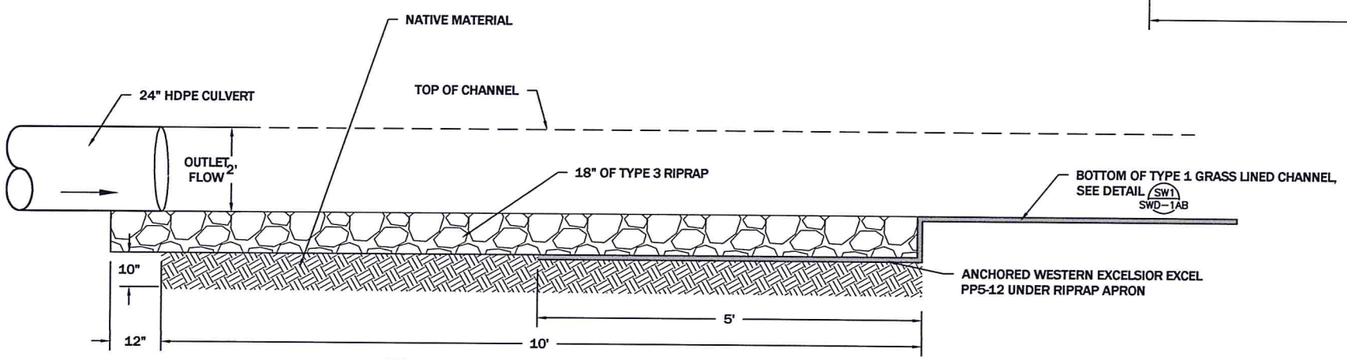
SHEET
SWD-2AB




**SECTION** (A / SWD-4AB)
N.T.S.




**RIPRAP APRON FOR CULVERT DETAIL** (SW8 / --)
N.T.S.

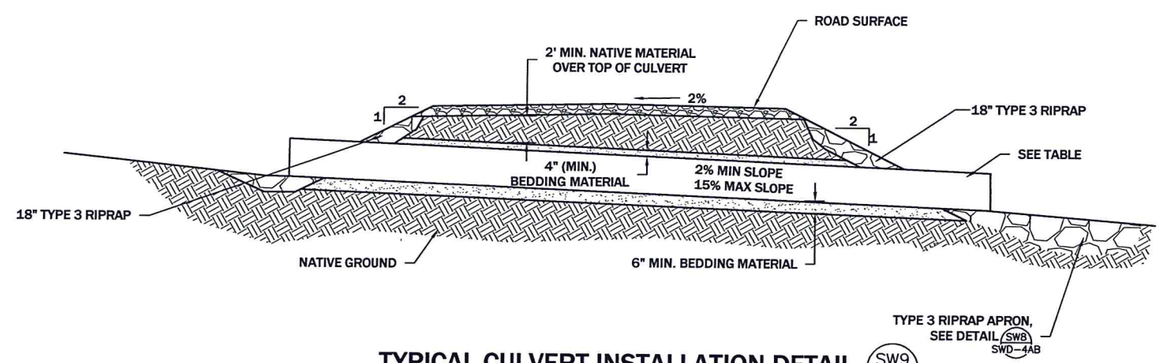



**SECTION** (B / SWD-4AB)
N.T.S.

| CULVERT TABLE | | | | | |
|---|---|---|---|---|---|
| CHANNEL # | SIZE | TYPE | LENGTH | LONG TERM | TEMPORARY |
| 5 | 36" | HDPE | 97 | X | |

NOTE:

1. CULVERT PER MANUFACTURER'S RECOMMENDATIONS.




**TYPICAL CULVERT INSTALLATION DETAIL** (SW9 / --)
N.T.S.

REVISION:

| DATE: | BY: | DESC: |
|---|---|---|
| | | |

DRAWN BY: CLA
DESIGNED BY: JSM
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10160
DATE: 4/24/12

DISPLAYED AS:
COORD SYS/ZONE:
DATUM:
UNITS:
SOURCE: PIONEER

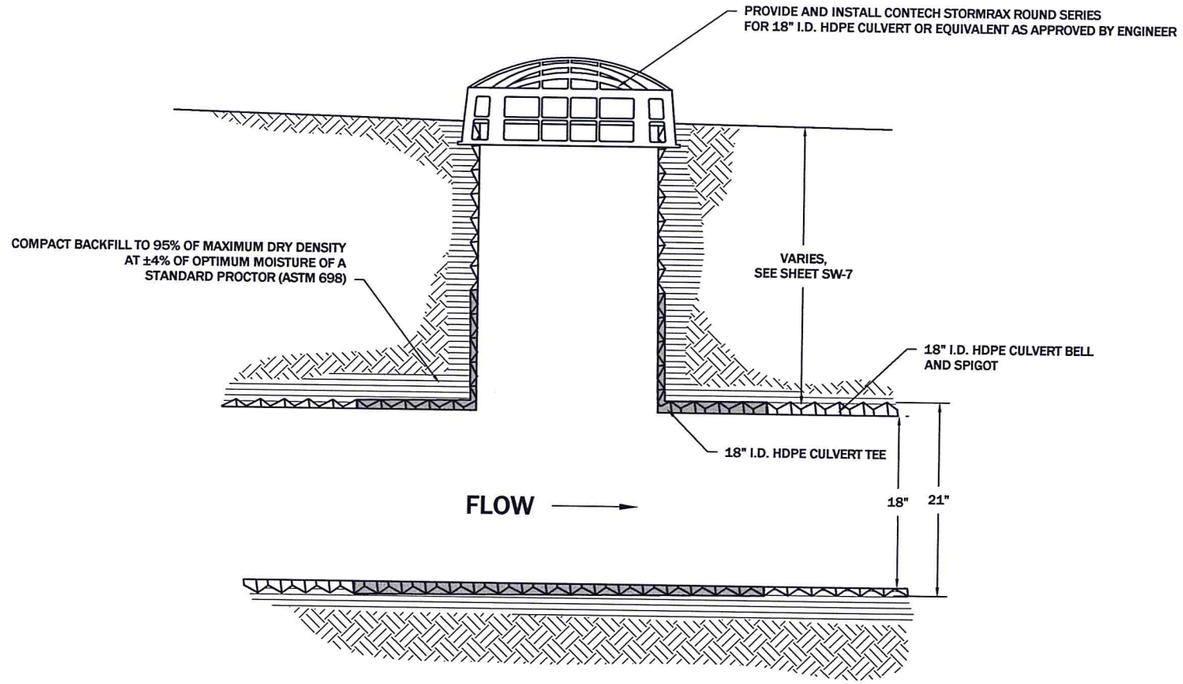
SCALE IN FEET
0 N.T.S.

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2010 AS-BUILT DRAWINGS

CULVERT AND RIPRAP APRON INSTALLATION DETAILS

PIONEER TECHNICAL SERVICES, INC.
63 1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)-782-5177

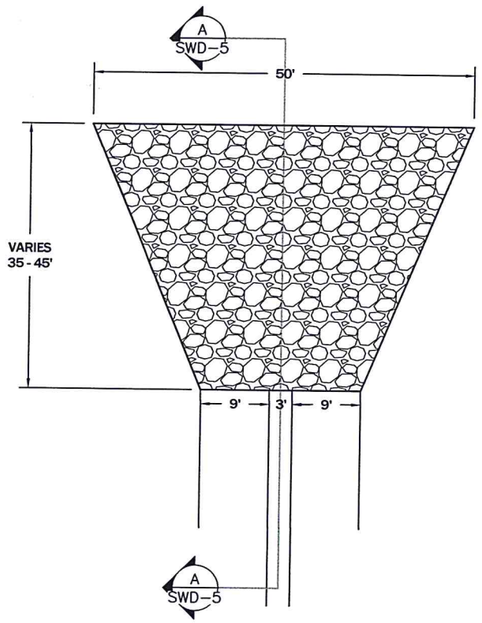
SHEET
SWD-4AB




## 18" HDPE DRAIN DETAIL

SW10 / --

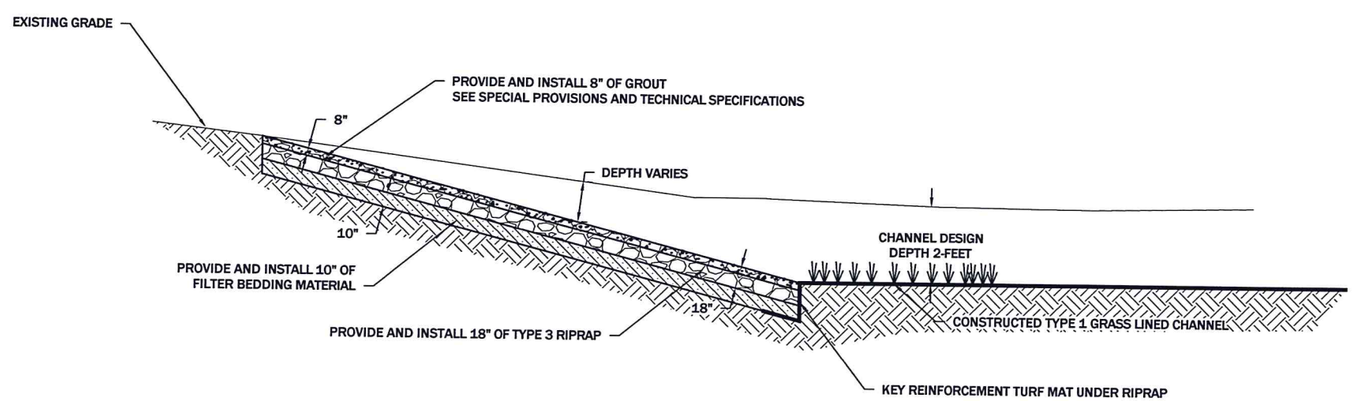
N.T.S




## TYPE 3 GROUTED RIPRAP INLET CHANNEL DETAIL

SW11 / --

N.T.S




## SECTION A-A

N.T.S

REVISION:

| DATE: | BY: | DESC: |
|---|---|---|
| | | |

DRAWN BY: CLA
DESIGNED BY: JSM
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10160
DATE: 4/24/12

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: PIONEER

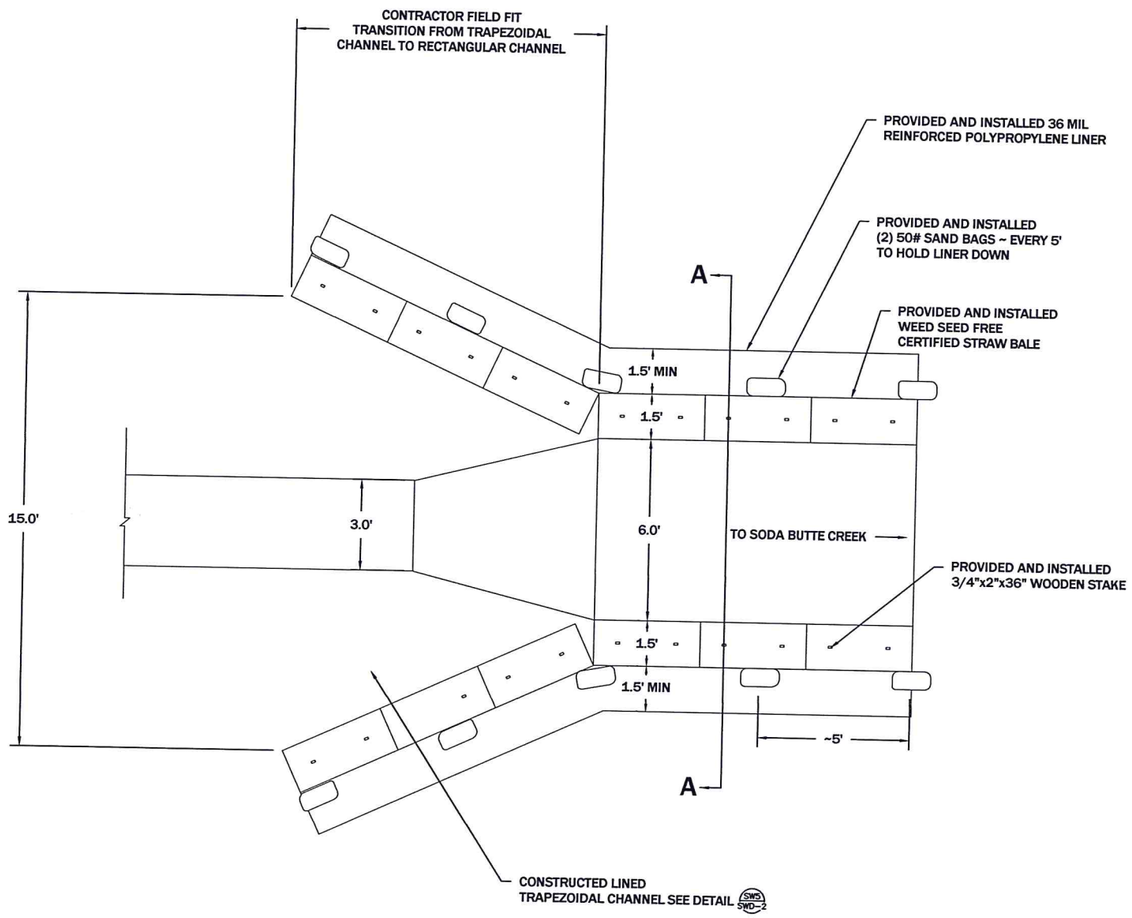
SCALE IN FEET
0 N.T.S.

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE RECLAMATION PROJECT
2011 AS-BUILT DRAWINGS

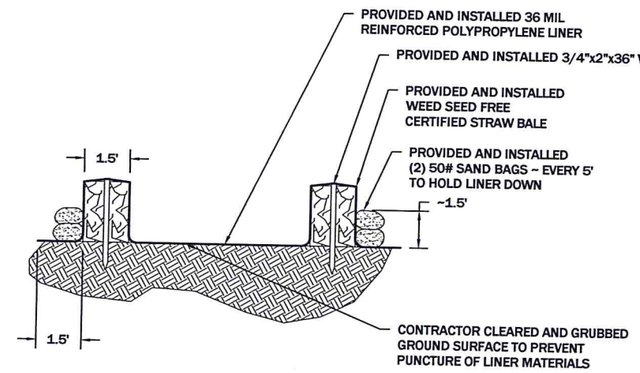
STORM WATER
DRAIN SYSTEM AND
TYPE 3 GROUTED RIPRAP
CHANNEL INLET DETAIL

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406) 782-5177

SHEET
SWD-5AB




## CHANNEL #5 STATION 3+22 TO 4+81 PLAN VIEW




## SECTION A

REVISION:

| DATE: | BY: | DESC: |
|---|---|---|
| | | |

DRAWN BY: CLA
DESIGNED BY: BS
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10160
DATE: 4/24/12

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: PIONEER

SCALE IN FEET
0 N.T.S.

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2010 AS-BUILT DRAWINGS

CHANNEL #5
DETAILS
STATION
3+32 TO 4+81

PIONEER
TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406) 782-5177

SHEET
SWD-6AB