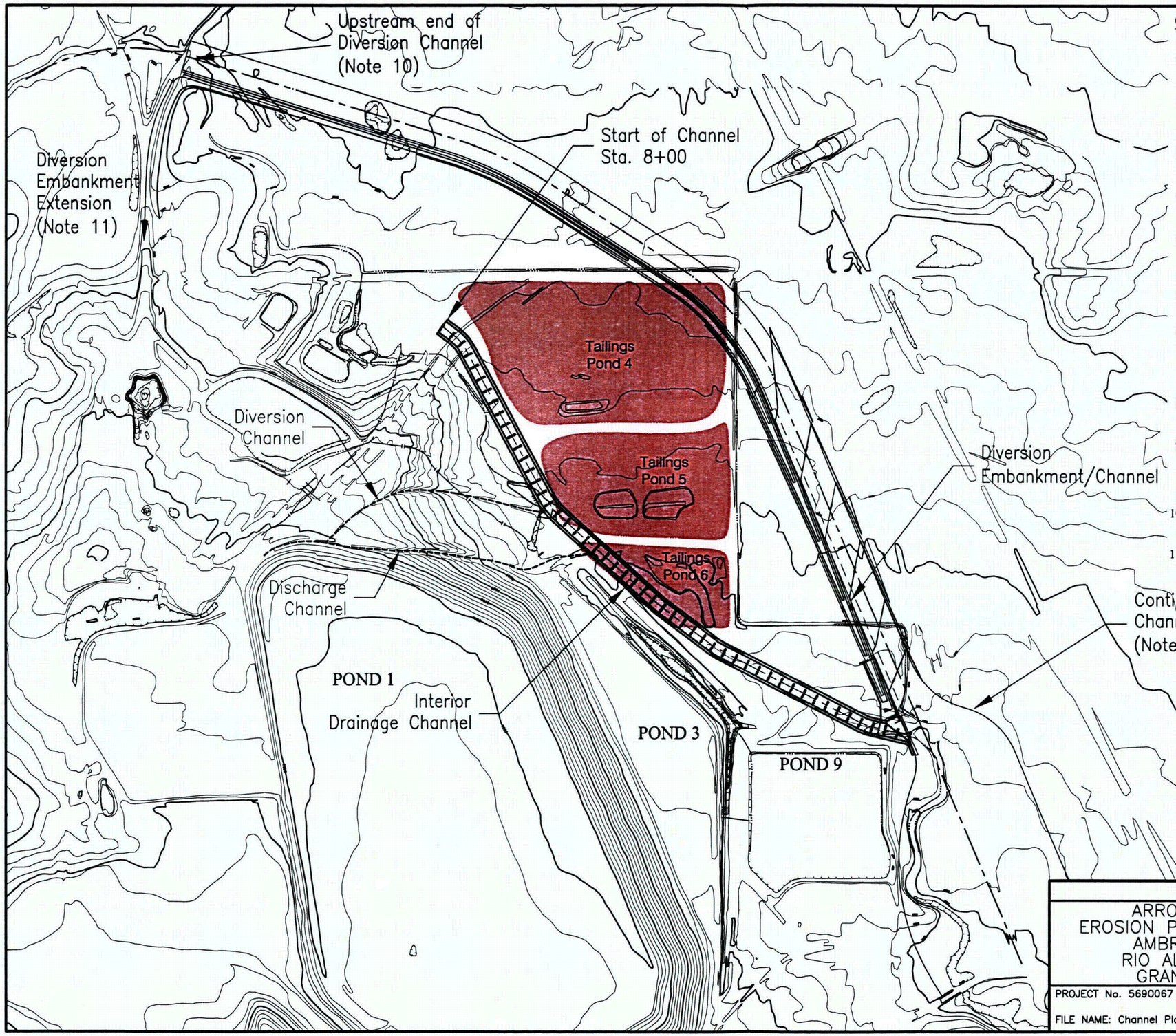
Appendix C ..... Amended Design Drawings

Sheets 1 through 24



CONSTRUCTION NOTES:

1) Location of Interior Drainage Channel and Diversion Embankment/Channel alignment and grade based on 2006 Aerial Survey provided by Rio Algom Mining LLC.

2) Adjustments to the Interior Drainage Channel and Diversion Embankment/Channel alignment and grade will be necessary to fit actual topography.

3) All fill areas adjacent to the Interior Drainage Channel and Diversion Embankment/Channel shall be graded to have positive drainage.

4) Drainage gradients upstream of Station 8+00 shall be graded to allow unobstructed sheet flow directly into the channel.

5) Beginning at Station 8+00 on the Interior Drainage Channel, slopes shall be graded to allow unobstructed sheet flow directly into the adjacent channel.

6) Disturbances to the area shall be kept to a minimum during construction. Temporary erosion control measures shall be taken where necessary.

7) Topsoil that is removed within existing vegetated areas shall be stockpiled for later use where needed as directed by owner. Topsoil removal shall be limited to construction limits. Care shall be taken to prevent damage to vegetated areas outside construction limits.

8) All existing drainages along and near the Interior Drainage Channel and Diversion Embankment/Channel shall remain in place and undisturbed.

9) The locale of the Arroyo del Puerto that is adjacent and southeast of Tailings Pond 9 is presently being used as a fill material borrow source. The final configuration of the channel within this area is shown much wider than the existing alignment indicated on this drawing.

10) Blend Diversion Channel into existing site entrance road from Highway 509 with a smooth transition.

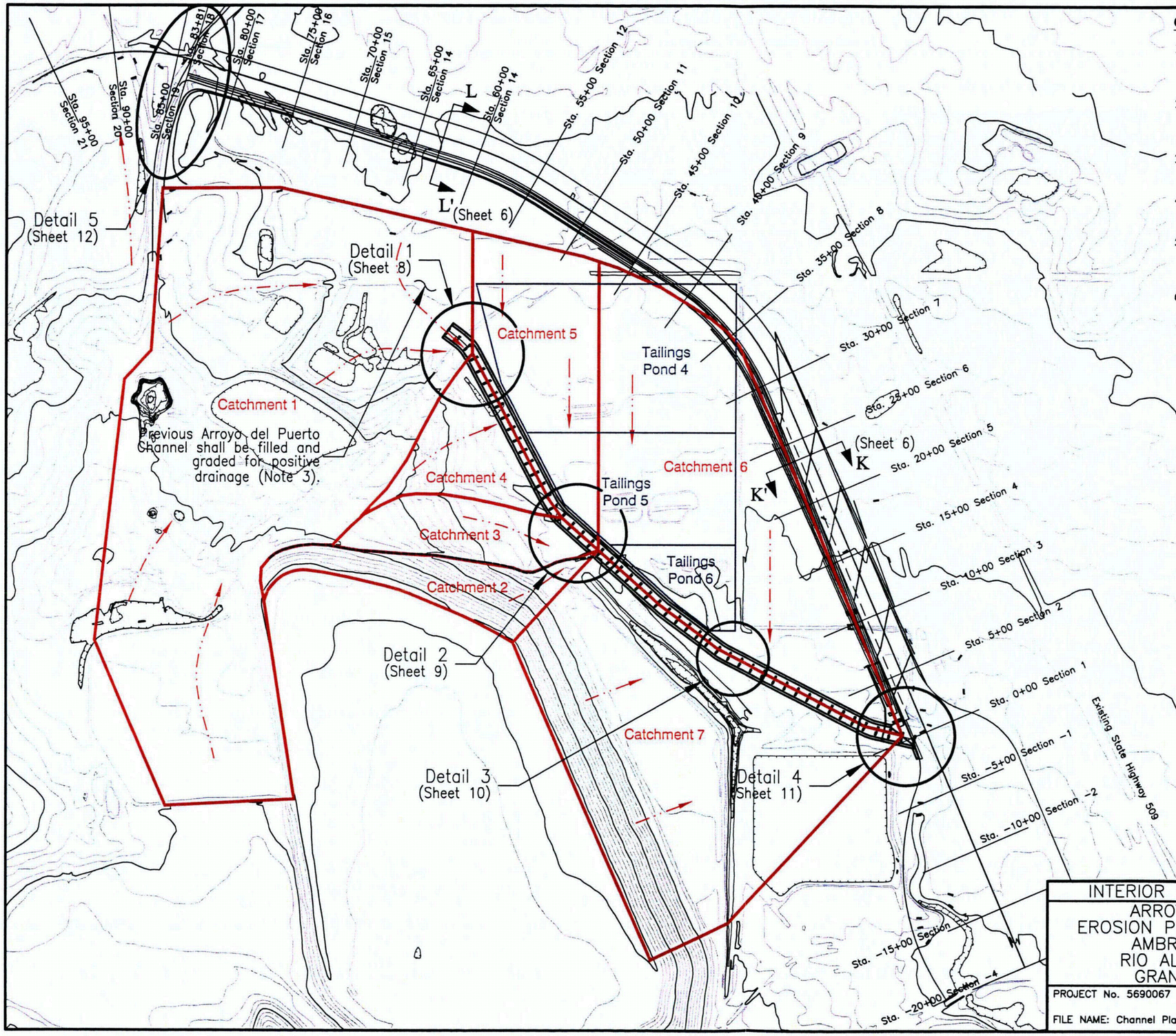
11) Extension of Diversion Embankment along existing site entrance from Highway 509 to blend into elevation 6970.

SITE PLAN
ARROYO DEL PUERTO
EROSION PROTECTION MEASURES
AMBROSIA LAKE MILL
RIO ALGOM MINING LLC
GRANTS, NEW MEXICO

TETRA TECH

PROJECT No. 5690067	DRAWING BY: EJS 03/18/08
FILE NAME: Channel Plan Sh 1.DWG	REVIEWED BY: MEB

SHEET 1



CONSTRUCTION NOTES:

1) Location of Interior Drainage Channel and Diversion Embankment/Channel alignment and grade based on 2006 Aerial Survey provided by Rio Algom Mining LLC.

2) Adjustments to the Interior Drainage Channel and Diversion Embankment/Channel alignment and grade will be necessary to fit actual topography.

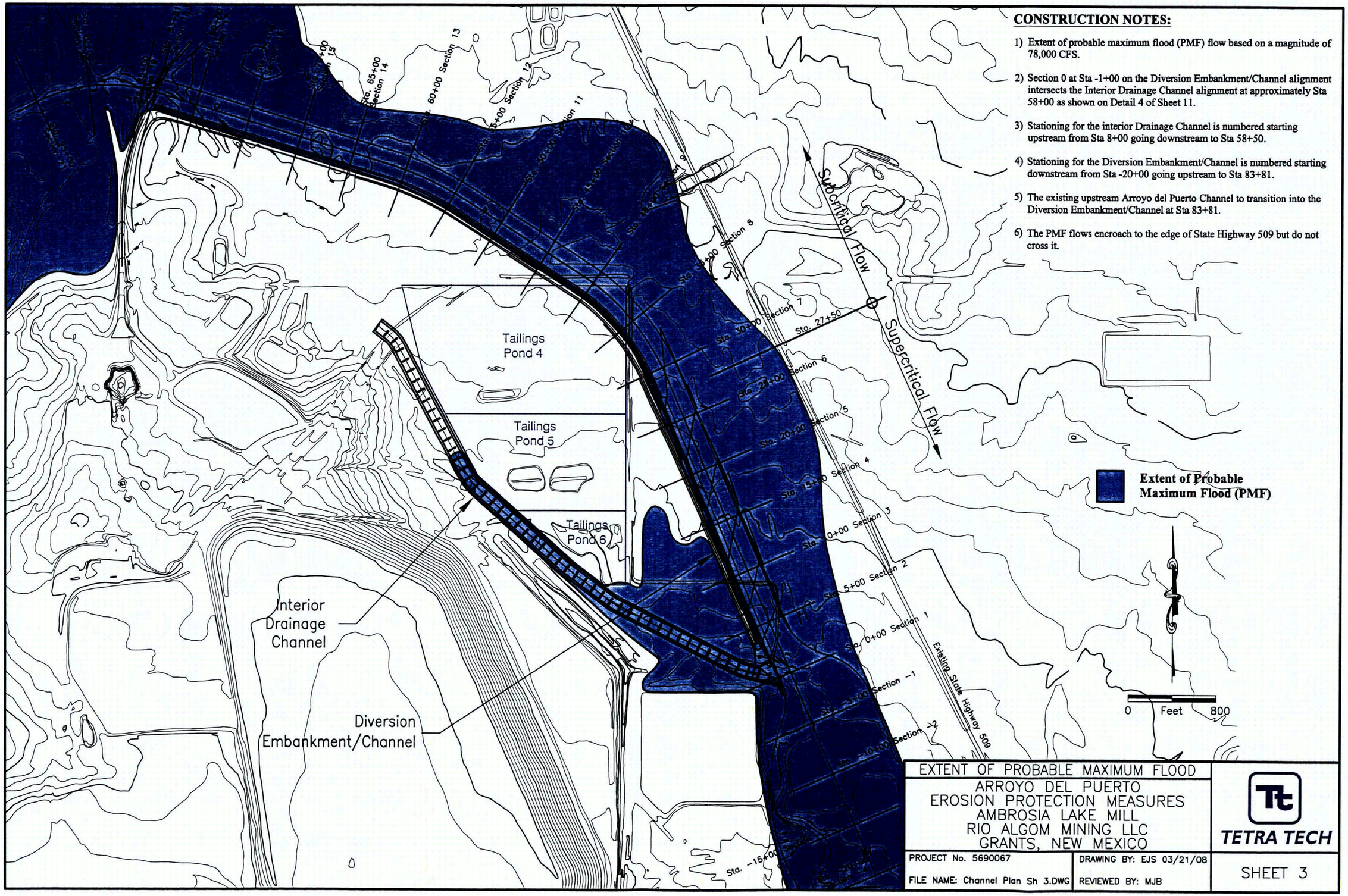
3) All fill areas adjacent to the Interior Drainage Channel and Diversion Embankment/Channel shall be graded to have positive drainage.

4) Drainage gradients upstream of Station 8+00 shall be graded to allow unobstructed sheet flow directly into the channel.

5) Beginning at Station 8+00 on the Interior Drainage Channel, slopes shall be graded to allow unobstructed sheet flow directly into the adjacent channel.

6) Area to the West of Catchment 1 drains North and intersects the Arroyo del Puerto Channel upstream of the Diversion Embankment/Channel.

INTERIOR SITE DRAINAGE PLAN ARROYO DEL PUERTO EROSION PROTECTION MEASURES AMBROSIA LAKE MILL RIO ALGOM MINING LLC GRANTS, NEW MEXICO		TETRA TECH
PROJECT No. 5690067	DRAWING BY: EJS 03/21/08	SHEET 2
FILE NAME: Channel Plan Sh 2.DWG	REVIEWED BY: MJB	



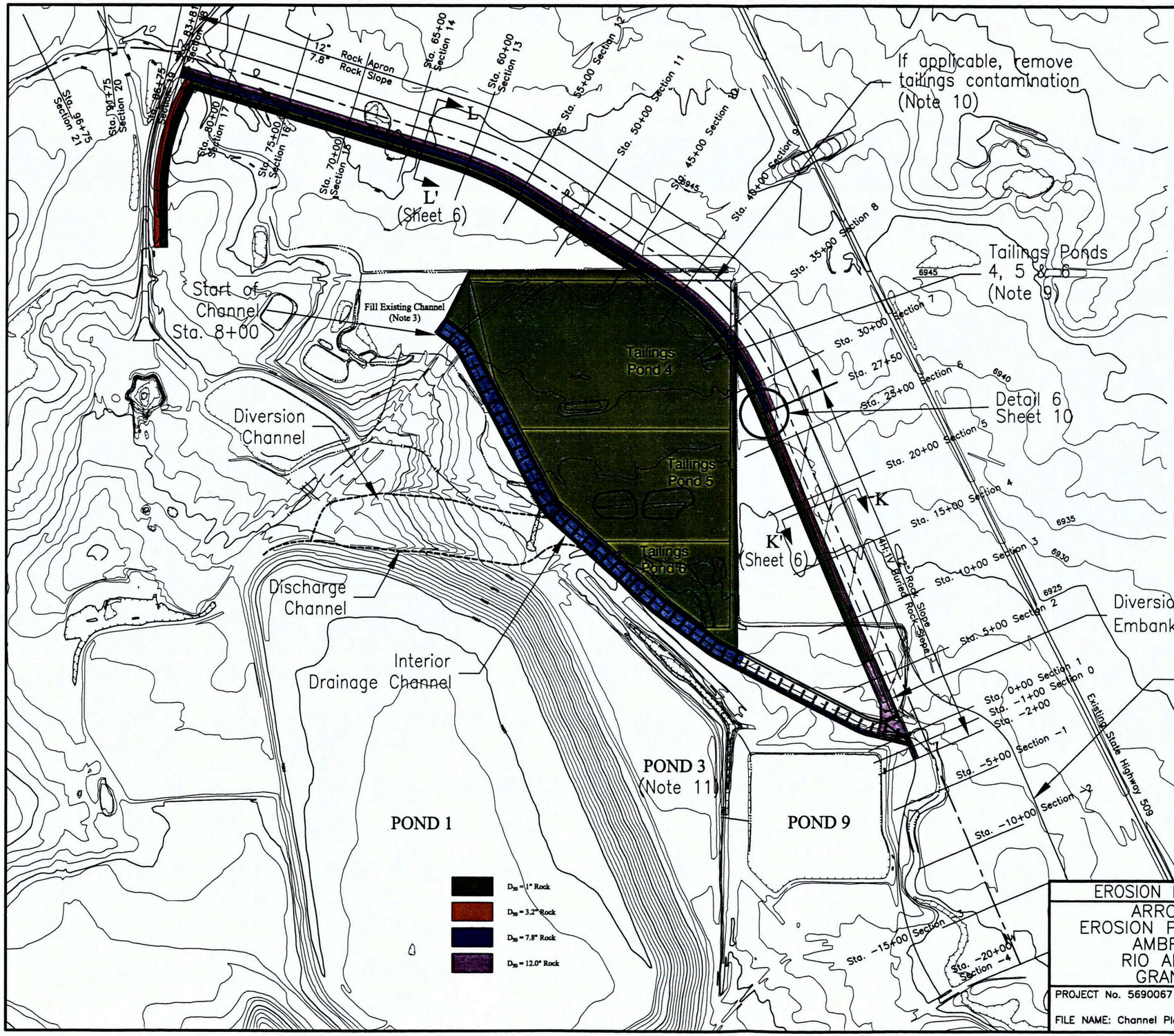
CONSTRUCTION NOTES:

1) Extent of probable maximum flood (PMF) flow based on a magnitude of 78,000 CFS.
2) Section 0 at Sta -1+00 on the Diversion Embankment/Channel alignment intersects the Interior Drainage Channel alignment at approximately Sta 58+00 as shown on Detail 4 of Sheet 11.
3) Stationing for the interior Drainage Channel is numbered starting upstream from Sta 8+00 going downstream to Sta 58+50.
4) Stationing for the Diversion Embankment/Channel is numbered starting downstream from Sta -20+00 going upstream to Sta 83+81.
5) The existing upstream Arroyo del Puerto Channel to transition into the Diversion Embankment/Channel at Sta 83+81.
6) The PMF flows encroach to the edge of State Highway 509 but do not cross it.

EXTENT OF PROBABLE MAXIMUM FLOOD
ARROYO DEL PUERTO
EROSION PROTECTION MEASURES
AMBROSIA LAKE MILL
RIO ALGOM MINING LLC
GRANTS, NEW MEXICO

TETRA TECH

PROJECT No. 5690067	DRAWING BY: EJS 03/21/08	SHEET 3
FILE NAME: Channel Plan Sh 3.DWG	REVIEWED BY: MJB	



CONSTRUCTION NOTES:

1) Location of Interior Drainage Channel and Diversion Embankment/Channel alignment and grade based on 2006 Aerial Survey provided by Rio Algom Mining LLC.
2) Adjustments to the Interior Drainage Channel and Diversion Embankment/Channel alignment and grade will be necessary to fit actual topography.
3) All fill areas adjacent to the Interior Drainage Channel and Diversion Embankment/Channel shall be graded to have positive drainage.
4) Drainage gradients upstream of Station 8+00 shall be graded to allow unobstructed sheet flow directly into the channel.
5) Beginning at Station 8+00 on the Interior Drainage Channel, slopes shall be graded to allow unobstructed sheet flow directly into the adjacent channel.
6) Disturbances to the area shall be kept to a minimum during construction. Temporary erosion control measures shall be taken where necessary.
7) Topsoil that is removed within existing vegetated areas shall be stockpiled for later use where needed as directed by owner. Topsoil removal shall be limited to construction limits. Care shall be taken to prevent damage to vegetated areas outside construction limits.
8) All existing drainages along and near the Interior Drainage Channel and Diversion Embankment/Channel shall remain in place and undisturbed.
9) The areas of Tailings Ponds 4, 5 & 6 to be protected by 12 inches of clean fill covered by a 3-inch thick layer of erosion protection with a rock diameter of D_{50}=1.0" conforming to the gradation as presented on Table 4.1 of the report.
10) The Northern corner of Tailings Pond 4 to be checked to a depth of 10 feet below final grade by Rio Algom Mining LLC for remaining tailings contam[illegible]on. If exists, contamination on the Northeast side of the embankment shall be removed and replaced with clean fill.
11) The erosion protection on Tailings Pond 3 is revised on this design to D_{50} of 3.2" for the sideslope and D_{50} of 9.2" for the apron at the base of the slope.
12) The locale of the Arroyo del Puerto that is adjacent and southeast of Tailings Pond 9 is presently being used as a fill material borrow source. The final configuration of the channel within this area ia shown much wider than the existing alignment.

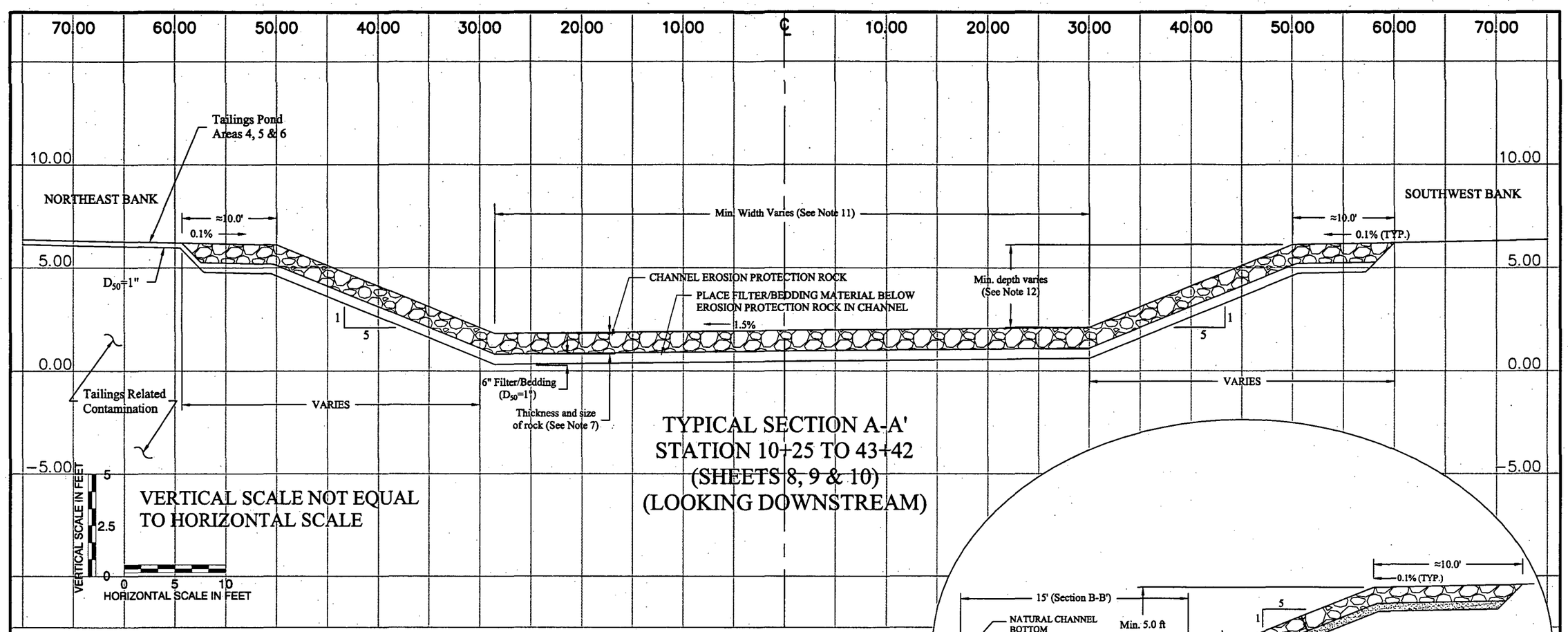
EROSION PROTECTION MEASURES

ARROYO DEL PUERTO
EROSION PROTECTION MEASURES
AMBROSIA LAKE MILL
RIO ALGOM MINING LLC
GRANTS, NEW MEXICO

TETRA TECH

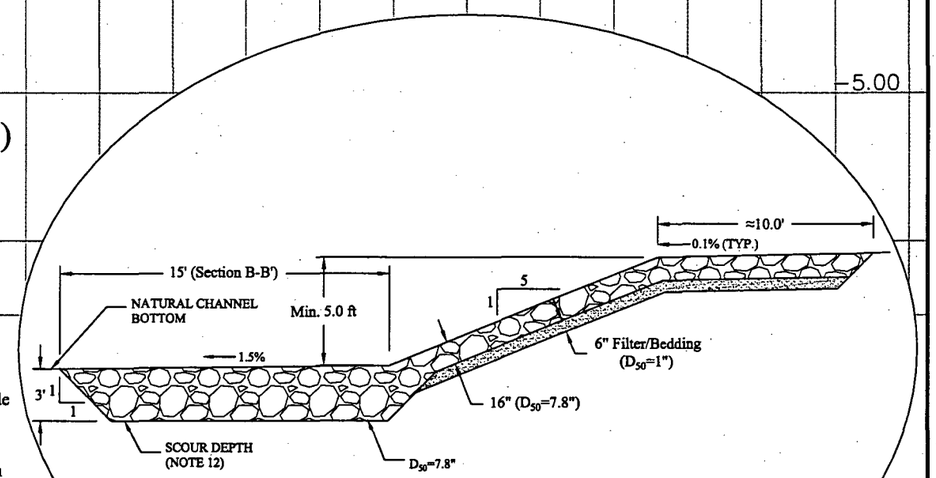
PROJECT No. 5690067	DRAWING BY: EJS 03/21/08
FILE NAME: Channel Plan Sh 4.DWG	REVIEWED BY: MEB

SHEET 4



VERTICAL SCALE NOT EQUAL TO HORIZONTAL SCALE

TYPICAL SECTION A-A'
STATION 10+25 TO 43+42
(SHEETS 8, 9 & 10)
(LOOKING DOWNSTREAM)



TYPICAL SECTION B-B'
STATION 43+42 TO 55+50
(SHEETS 10 & 11)
(Looking downstream)

CONSTRUCTION NOTES:

1) Rock Riprap for erosion protection shall be placed in conformance with Appendix F of *Design of Erosion Protection for Long-Term Stabilization,* U.S. Nuclear Regulatory Commission's NUREG - 1623 Final Report.

2) Constructed channel slopes shall not exceed 5H:1V.

3) The arroyo channel bottom shall be constructed with a slope of 1.5%, sloping down to the northeast bank.

4) The channel excavation shall be constructed with bottoms free of loose debris, vegetation and muddy surfaces.

5) The erosion protection filter/bedding layer shall be placed at a minimum thickness of 6" along the length of the channel. The filter/bedding material shall extend up the 5H:1V side slopes as shown in Section A-A' to the existing grade or berm crest, whichever is greater. Filter/bedding materials shall be spread and compacted in one layer, and be constructed of a rock diameter of D_{50}=1.0" conforming to the gradation as presented on Table 4.1 of the Design Report.

6) The Steep Slope Inlet Apron into the interior site drainage channel shall be constructed fully lined with riprap with a minimum thickness of 16" of D_{50}=7.8" from Station 7+90 to Station 10+25.

7) The channel shall be constructed fully lined with riprap as shown in Section A-A' with a minimum thickness as follows:

Station	D_{50} Rock Diameter	Thickness
10+25 to 43+00	7.8"	16"
43+00 to 43+42	7.8"	3.0'
55+50 to 56+00	12"	3.25'

The rock shall be extended up the side slopes to the existing grade on the exterior.

8) The channel from Station 43+42 to 55+50 shall be constructed with riprap on the South side of the channel as shown in the detail . The riprap shall have a minimum thickness of 16" of D_{50}=7.8" on the side slope. The rock shall be extended up the side slope to the existing grade on the exterior as shown in Section B-B'. The rock at the toe of the slope shall be constructed to the dimensions as shown on the detail.

9) The channel from Station 56+00 to Station 58+00 shall be constructed with riprap on the side slope of the South side and extended across the channel bottom to tie in with the buried rock slope of the Diversion Channel and the Southern nose of the Diversion Embankment. The riprap shall have a minimum thickness of 24" of D_{50}=12.0" on the side slope and channel bottom. The rock shall be extended up the side slope to the existing grade on the exterior.

10) The channel erosion protection rock shall be constructed of the rock diameters as specified and conform to the gradation as presented on Table 4.1 of the Design Report.

11) Minimum width of Channel Bottom varies as follows:

Station	Channel Bottom Width
10+25 to 43+00	125 ft to 160 ft
43+00 to 56+00	160 ft to 190 ft

12) Minimum depth of channel and maximum scour depth vary as follows:

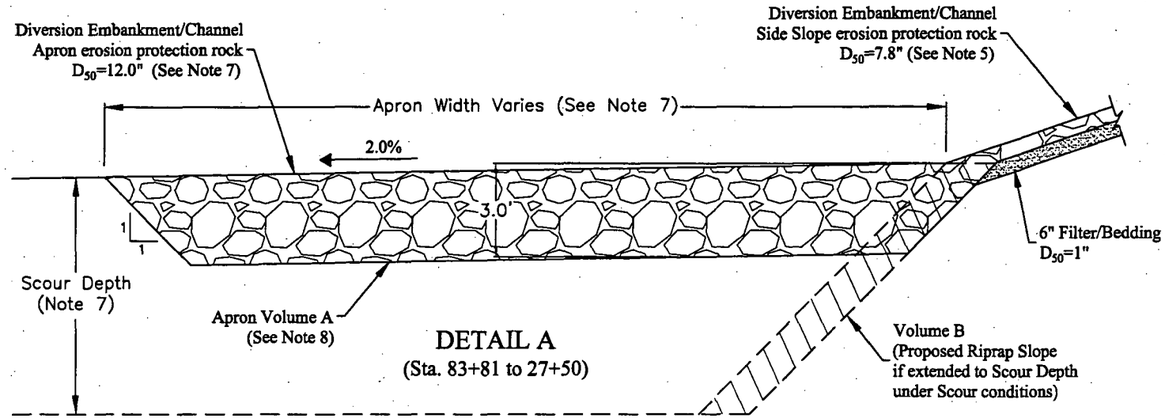
Station	Minimum Channel Depth	Maximum Scour Depth
10+25 to 24+00	4 ft	<3.0 ft
24+00 to 55+50	5 ft	<3.0 ft
55+50 to 58+00	5 ft	<3.2 ft

INTERIOR SITE DRAINAGE
CHANNEL SECTION DETAILS
ARROYO DEL PUERTO
EROSION PROTECTION MEASURES
AMBROSIA LAKE MILL
RIO ALGOM MINING LLC
GRANTS, NEW MEXICO

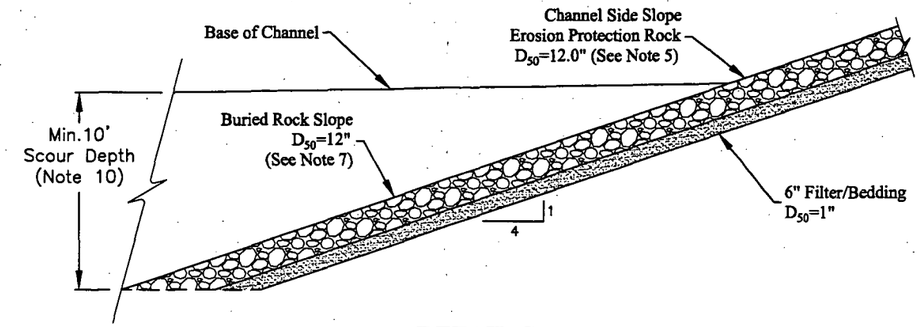
TETRA TECH

PROJECT No. 5690067
DRAWING BY: EJS 03/21/08
FILE NAME: Chanel Section Sh 5.DWG
REVIEWED BY: MJB

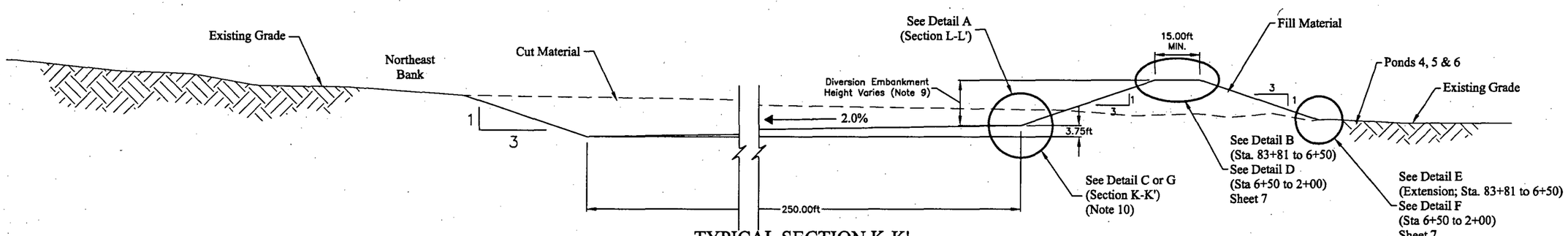
SHEET 5



DETAIL A
(Sta. 83+81 to 27+50)



DETAIL C
(Depth to bedrock >7.5')
(Sta. 27+50 to 1+50)



TYPICAL SECTION K-K'
(Sta. 27+50 to 1+50) (Sheets 2 & 4)
TYPICAL SECTION L-L'
(Sta. 83+81 to 27+50) (Sheets 2, 4 & 12)

CONSTRUCTION NOTES:

1. Rock Riprap for erosion protection shall be placed in conformance with Appendix F of *Design of Erosion Protection for Long-Term Stabilization,* U.S. Nuclear Regulatory Commission's NUREG - 1623 Final Report.

2. Constructed channel slopes shall not exceed 3H:1V.

3. The arroyo channel bottom shall be constructed with a slope of 2.0%, sloping down to the northeast bank.

4. The channel excavation shall be constructed with bottoms free of loose debris, vegetation and muddy surfaces.

5. The Diversion Embankment side slope erosion protection rock shall be constructed on the Right Channel (looking downstream) Diversion Embankment with slopes and rock diameters as follows:

Station	D_{50} Rock Diameter	Thickness	Slope
Berm extension along access road	3.2"	6"	3H:1V
Sta. 83+81 to 28+50	7.8"	16"	3H:1V
Sta. 28+50 to 27+50	7.8"	16"	3H:1V to 4H:1V
Sta. 27+50 to 1+50	12.0"	24"	4H:1V
Sta. -1+50 to -2+00	12.0"	24"	4H:1V

6. The rock diameters specified shall be constructed comforming to the gradations as presented on Table 4.1 of the Design Report.

7. The Apron and buried slope erosion protection rock shall be constructed as follows:

Station	Type	D_{50}Rock Diameter	Scour Depth	Width	Thickness
Berm extension along access road	Apron	3.2"	4.0'	8.0'	12"
83+81 to 27+50	Apron	12.0"	7.0'	15.0'	36"
27+50 to 1+50	Buried 4:1 slope	12.0"	10.0'	N/A	24"
1+50 to -2+00	Buried 4:1 slope	12.0"	4.0'	N/A	24"

8. Apron Volume A equals a minimum of 1.5 x Volume B with a minimum width of 15 x D_{50} and a minimum thickness of 3 x D_{50}.

9. The relative height of the Diversion Embankment from the base of the right channel bottom varies as follows:

Station	Relative Height	Proposed Top of Berm Elevation
83+81 to 80+00	16.62' to 15.00'	6965.00 to 6962.27
80+00 to 75+00	15.00' to 15.00'	6962.27 to 6961.22
75+00 to 40+00	15.00' to 13.00'	6961.22 to 6953.72
40+00 to 20+00	13.00' to 13.00'	6953.72 to 6938.72
20+00 to 15+00	13.00' to 12.50'	6938.72 to 6933.22
15+00 to 5+00	12.50' to 12.50'	6933.22 to 6923.22
5+00 to 2+50	12.50' to 10.00'	6923.22 to 6918.22
2+50 to 1+50	10.00' to 0.00'	6918.22 to 6907.22

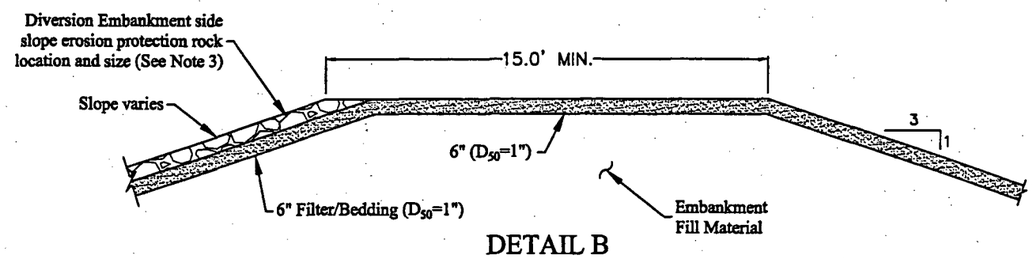
10. Apply Detail C when depth to bedrock from channel bed is >7.5'.
When depth to bedrock is <7.5', apply Detail G, Sheet 7.

DIVERSION EMBANKEMENT/
CHANNEL SECTION DETAILS
ARROYO DEL PUERTO
EROSION PROTECTION MEASURES
AMBROSIA LAKE MILL
RIO ALGOM MINING LLC
GRANTS, NEW MEXICO

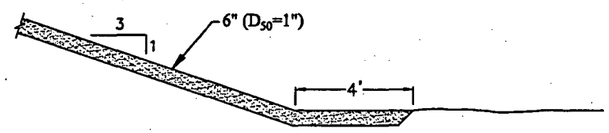
TETRA TECH

PROJECT No. 5690067
DRAWING BY: EJS 03/21/08
FILE NAME: Channel Section Sh 6.DWG
REVIEWED BY: MJB

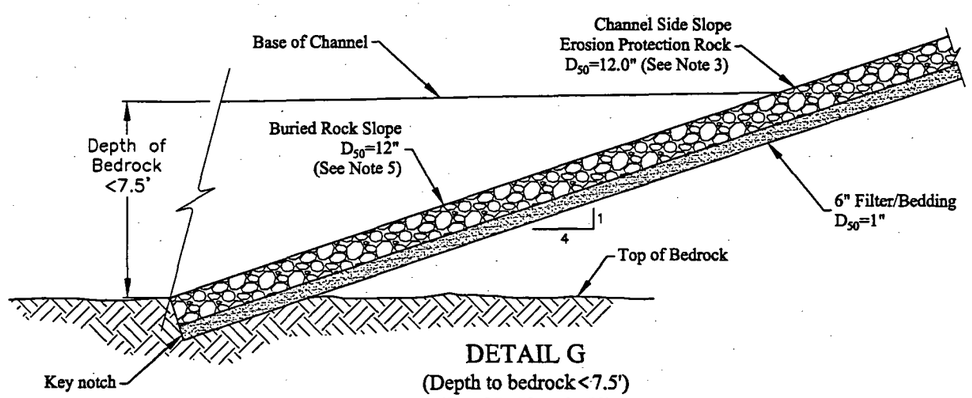
SHEET 6



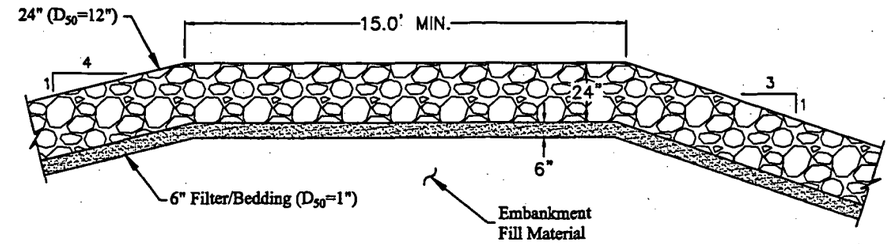
DETAIL B
(Extension; Sta. 83+81 to 6+50)
(Sheet 6)



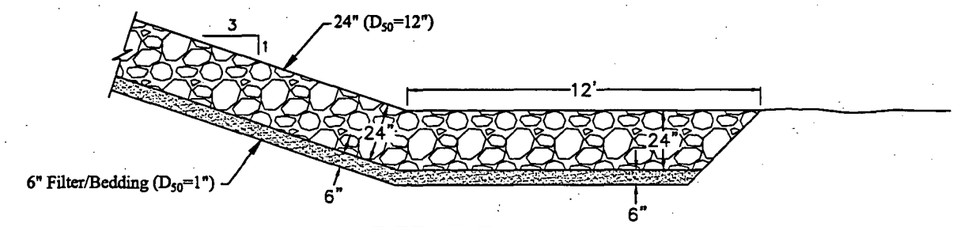
DETAIL E
(Extension; Sta. 83+81 to 6+50)
(Sheets 6 & 12)



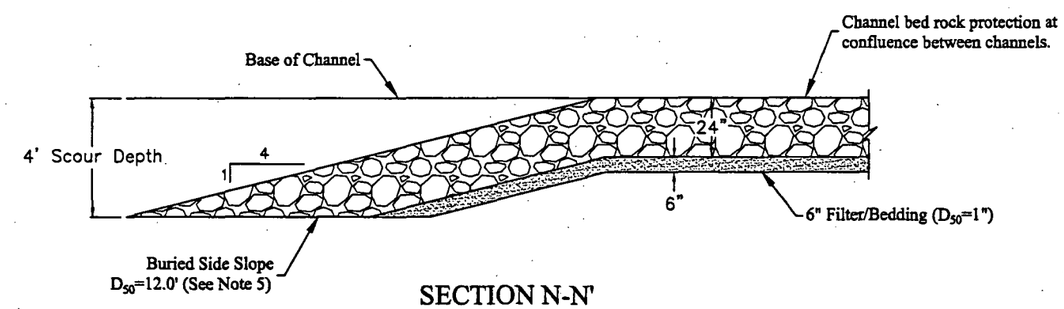
DETAIL G
(Depth to bedrock<7.5')
(Sta. 27+50 to 1+50)
(Sheet 6)



DETAIL D
(Sta. 6+50 to 2+00)
(Sheet 6)



DETAIL F
(Sta. 6+50 to 2+00)
(Sheet 12)



SECTION N-N'
(Sta. 1+50 to -2+00)
(Sheet 11)

CONSTRUCTION NOTES:

1. Rock Riprap for erosion protection shall be placed in conformance with Appendix F of *Design of Erosion Protection for Long-Term Stabilization,* U.S. Nuclear Regulatory Commission's NUREG - 1623 Final Report.

2. Constructed channel slopes shall not exceed 3H:1V.

3. The Diversion Embankment side slope erosion protection rock shall be constructed on the Right Channel (looking downstream) Diversion Embankment with slopes and rock diameters as follows:

Station	D_{50} Rock Diameter	Thickness	Slope
Berm extension along access road	3.2"	6"	3H:1V
Sta. 83+81 to 28+50	7.8"	16"	3H:1V
Sta. 28+50 to 27+50	7.8"	16"	3H:1V to 4H:1V
Sta. 27+50 to 1+50	12.0"	24"	4H:1V
Sta. -1+50 to 2+00	12.0"	24"	4H:1V

4. The rock diameters specified shall be constructed comforming to the gradations as presented on Table 4.1 of the Design Report.

5. The buried slope erosion protection rock shall be constructed as follows:

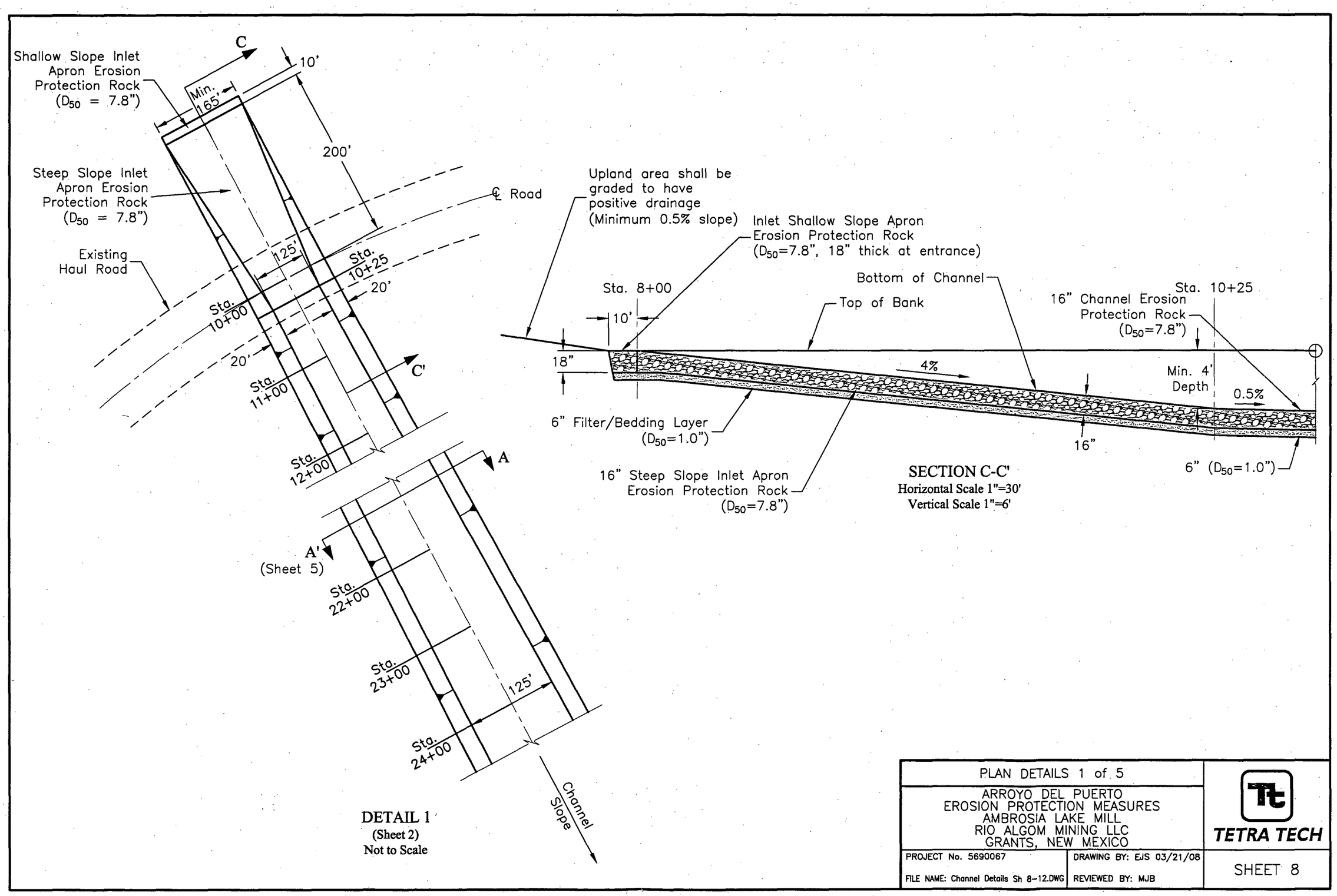
Station	Type	D_{50}Rock Diameter	Scour Depth	Width	Thickness
27+50 to 1+50	Buried 4:1 slope	12.0"	10.0'	N/A	24"
1+50 to -2+00	Buried 4:1 slope	12.0"	4.0'	N/A	24"

DIVERSION EMBANKEMENT/
CHANNEL SECTION DETAILS
ARROYO DEL PUERTO
EROSION PROTECTION MEASURES
AMBROSIA LAKE MILL
RIO ALGOM MINING LLC
GRANTS, NEW MEXICO

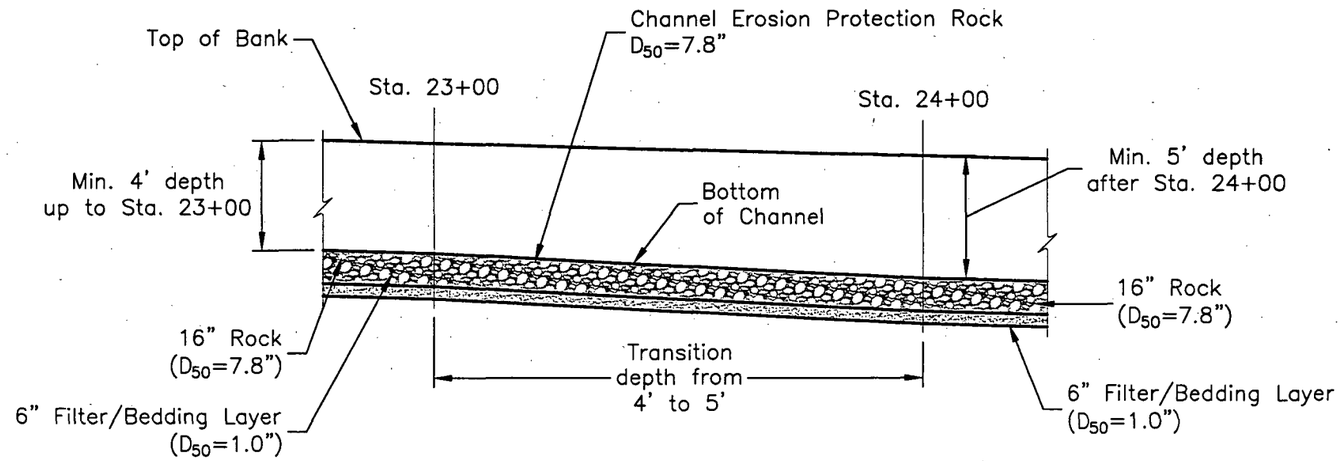
TETRA TECH

PROJECT No. 5690067
DRAWING BY: EJS 03/21/08
FILE NAME: Channel Section Sh 7.DWG
REVIEWED BY: MJB

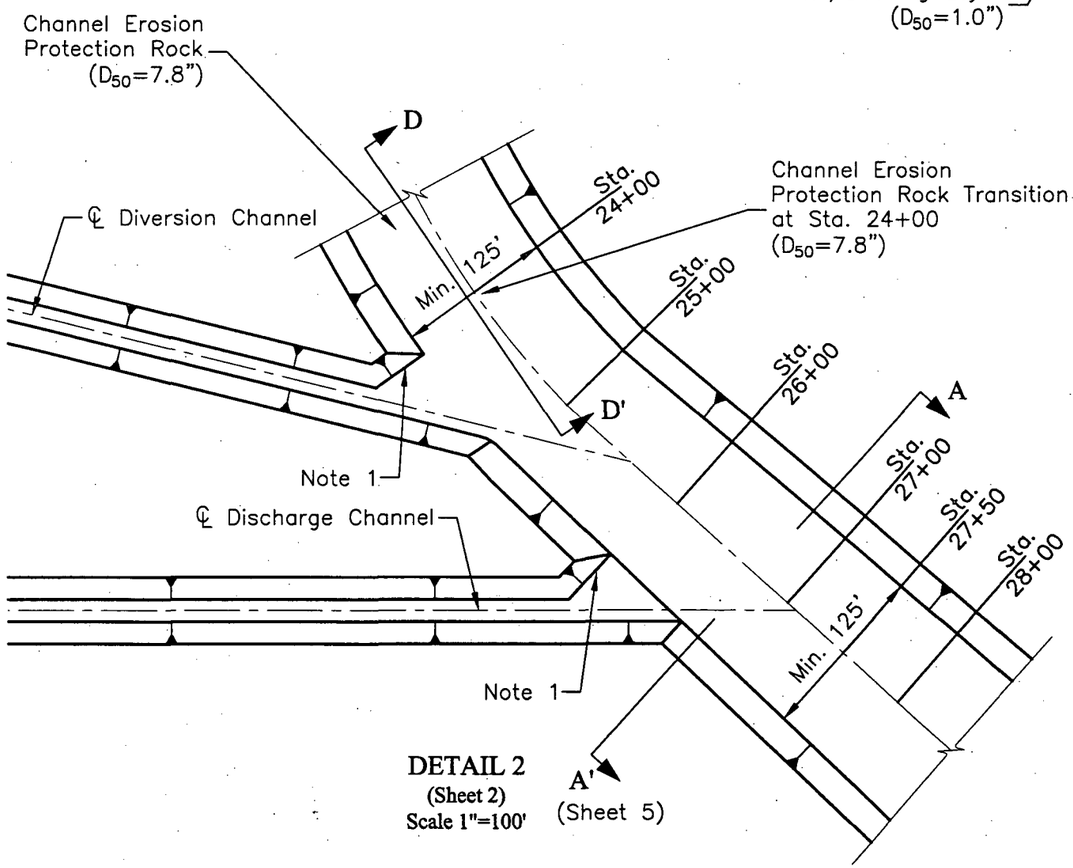
SHEET 7



PLAN DETAILS 1 of 5	TETRA TECH
ARROYO DEL PUERTO EROSION PROTECTION MEASURES AMBROSIA LAKE MILL RIO ALGOM MINING LLC GRANTS, NEW MEXICO	
PROJECT No. 5690067 / DRAWING BY: EJS 03/21/08	SHEET 8
FILE NAME: Channel Details Sh 8-12.DWG / REVIEWED BY: MJB	



SECTION D-D'
Horizontal Scale 1"=30'
Vertical Scale 1"=6'

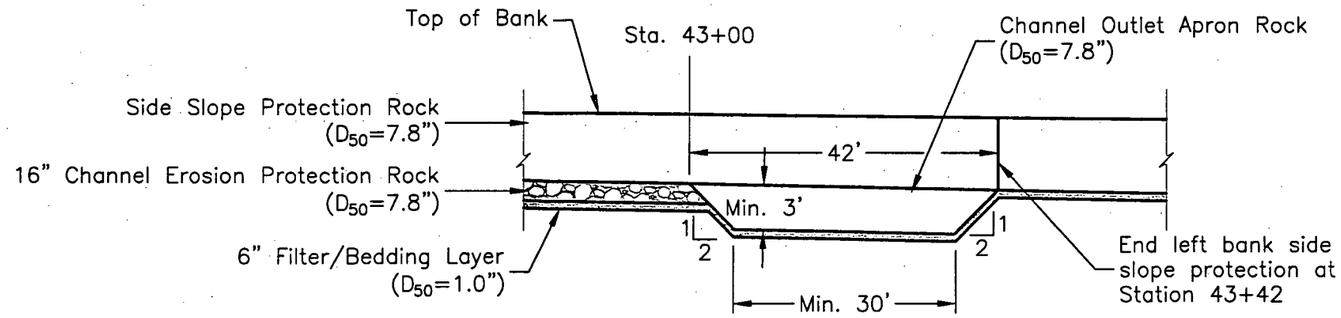


DETAIL 2
(Sheet 2)
Scale 1"=100'

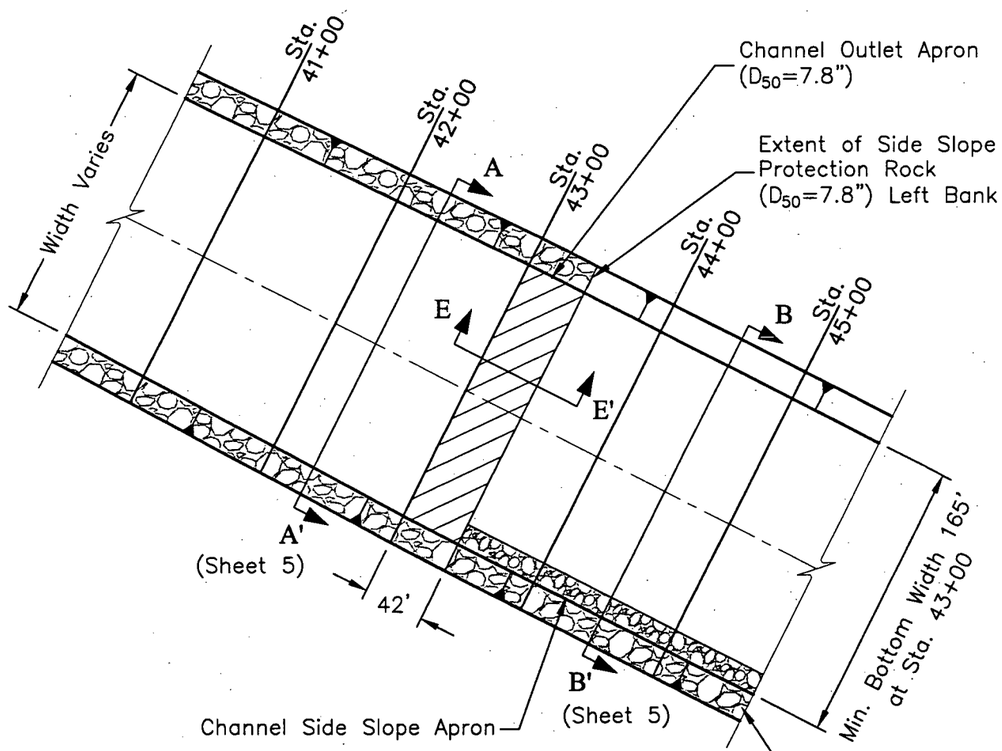
CONSTRUCTION NOTES:

1) Modify exit walls of Discharge Channel and Diversion Channel to blend with transition into Interior Drainage Channel to prevent narrow walls as slopes come together.

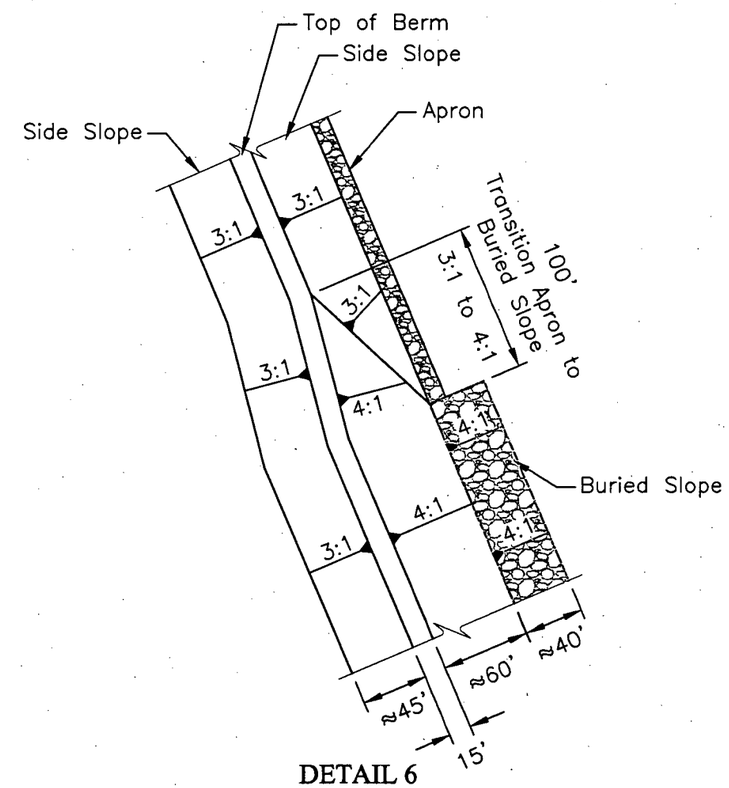
PLAN DETAILS 2 of 5	TETRA TECH
ARROYO DEL PUERTO EROSION PROTECTION MEASURES AMBROSIA LAKE MILL RIO ALGOM MINING LLC GRANTS, NEW MEXICO	
PROJECT No. 5690067 / DRAWING BY: EJS 03/21/08	SHEET 9
FILE NAME: Channel Details Sh 8-12.DWG / REVIEWED BY: MJB	



SECTION E-E'
Horizontal Scale 1"=20'
Vertical Scale 1"=10'

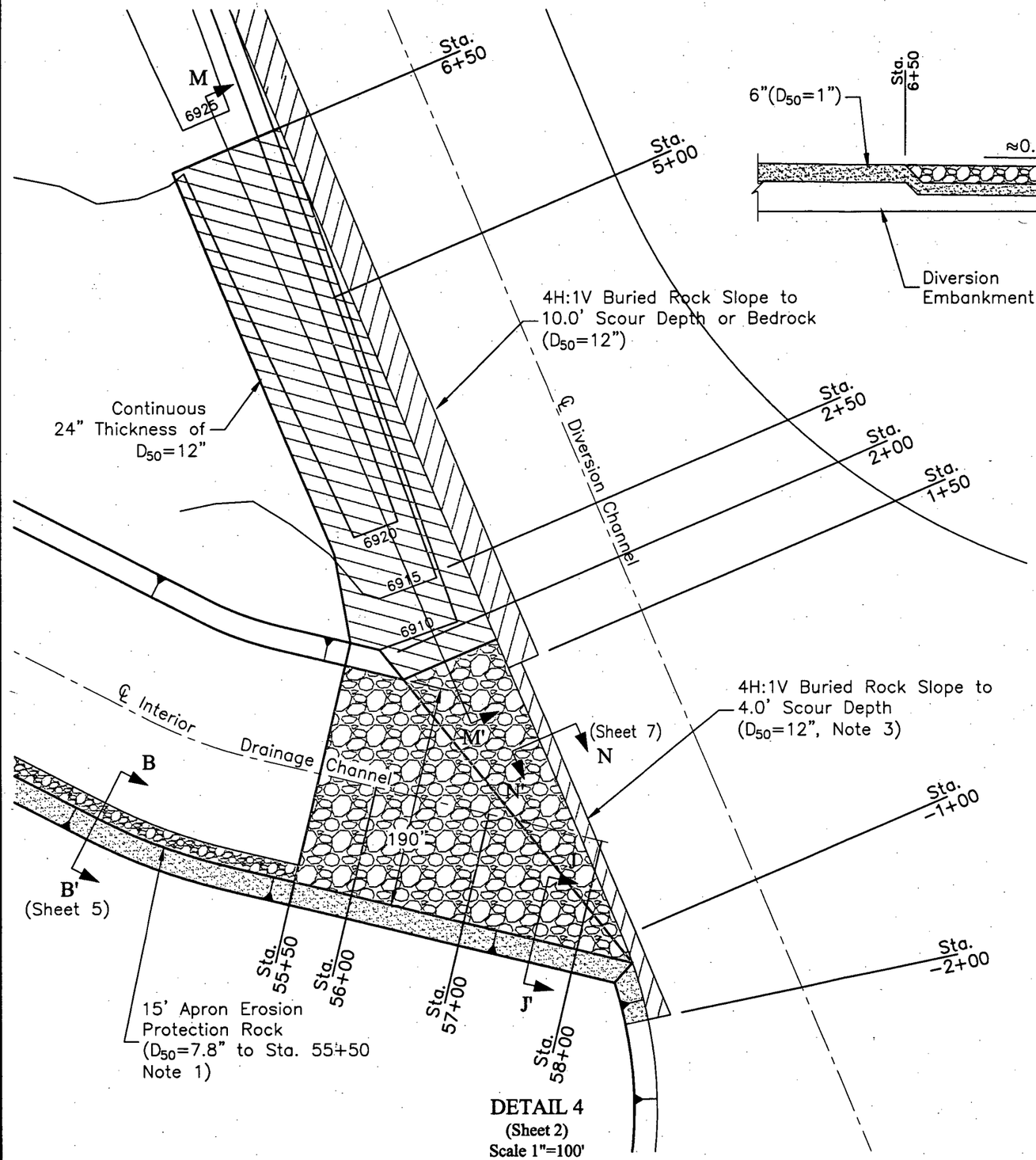


DETAIL 3
(Sheet 2)
Scale 1"=100'

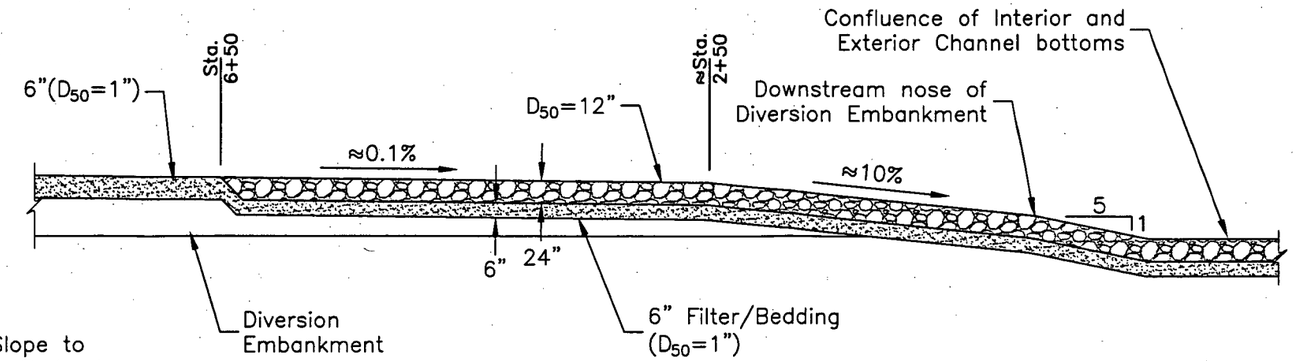


DETAIL 6
(Sheet 4)
Scale 1"=100'

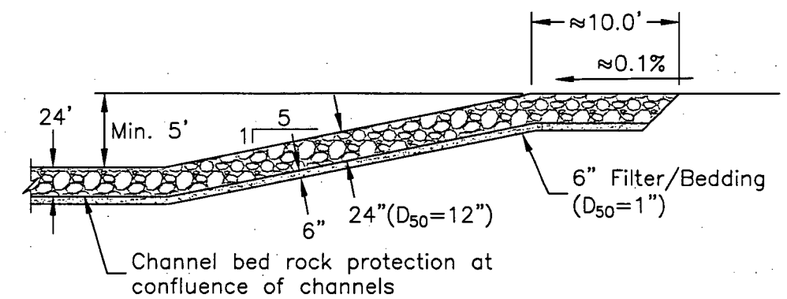
PLAN DETAILS 3 of 5	TETRA TECH
ARROYO DEL PUERTO EROSION PROTECTION MEASURES AMBROSIA LAKE MILL RIO ALGOM MINING LLC GRANTS, NEW MEXICO	
PROJECT No. 5690067 / DRAWING BY: EJS 03/21/08	SHEET 10
FILE NAME: Channel Details Sh 8-12.DWG / REVIEWED BY: MJB	



DETAIL 4
(Sheet 2)
Scale 1"=100'



SECTION M-M'
Scale 1"=120'



SECTION J-J'
Scale 1"=150'
Station 56+00 to Station 58+50

CONSTRUCTION NOTES:

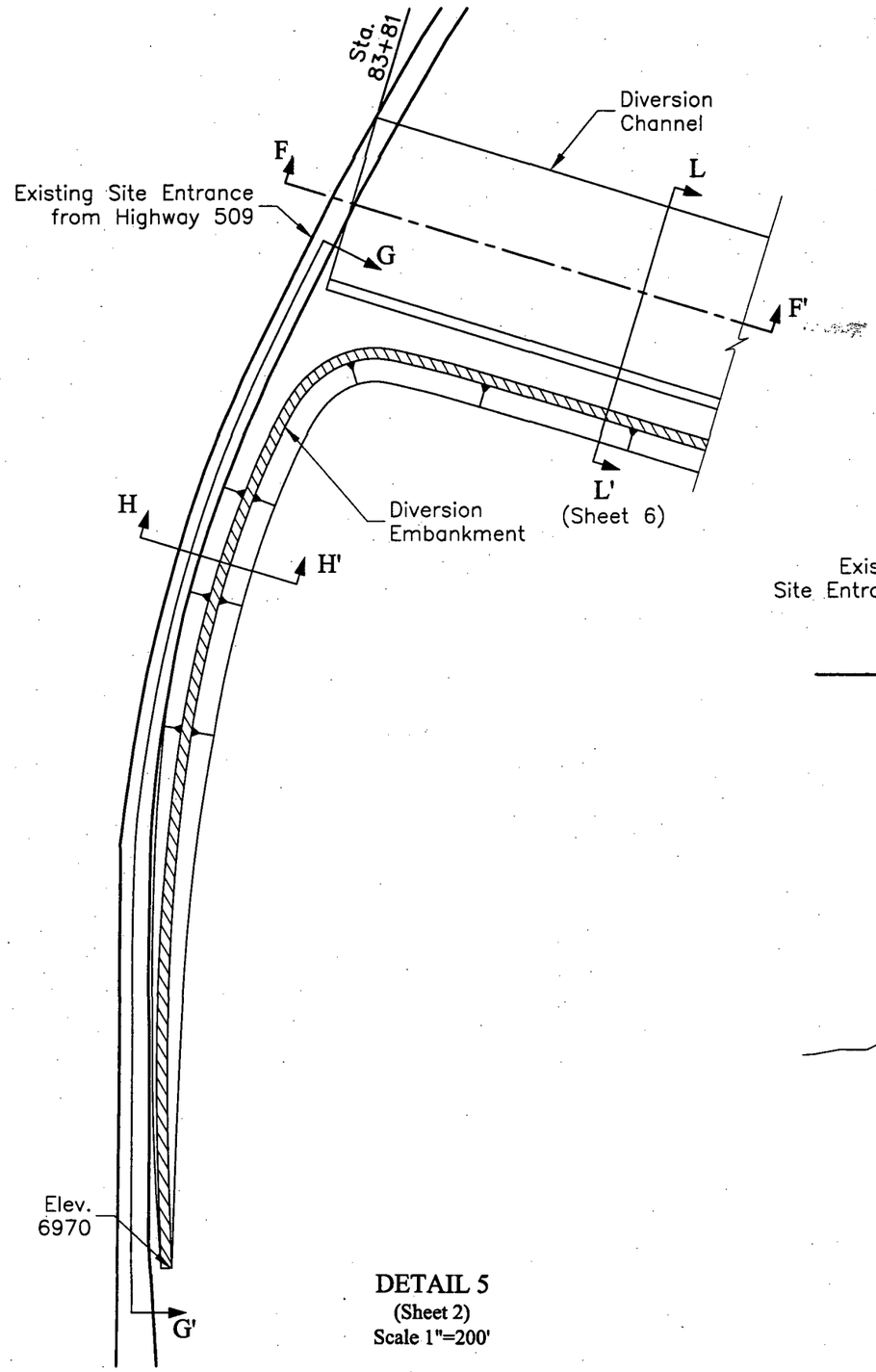
1) The Interior Drainage Channel Side Slope Apron from Station 43+42 to Station 55+50 shall be constructed with riprap on the South side of the Channel. The rock at the toe of the slope shall be constructed of D_{50}=7.8" to the dimensions shown on Section B-B' on Sheet 5.

2) The Interior Drainage Channel Side Slopes from Station 55+50 to Station 58+50 shall be constructed with D_{50}=12" (24" thickness). The interior channel bottom shall be constructed with D_{50}=12", 36" thickness from Station 55+50 to Station 56+00, and 24" thickness from Station 56+00 to Station 58+50.

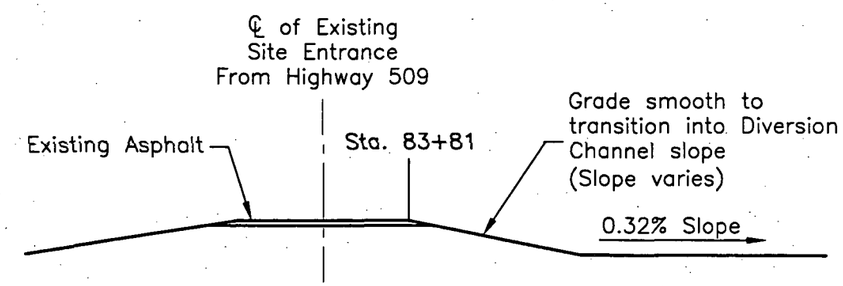
3) The Exterior Diversion Channel Buried Side Slope from Station 1+50 to Station -2+00 shall be constructed of D_{50}=12" to the dimensions shown in Section N-N' on Sheet 7.

4) Channel bed elevations at the intersection of the Interior Drainage Channel and the Exterior Diversion Embankment Channel shall be field adjusted to provide a smooth transition.

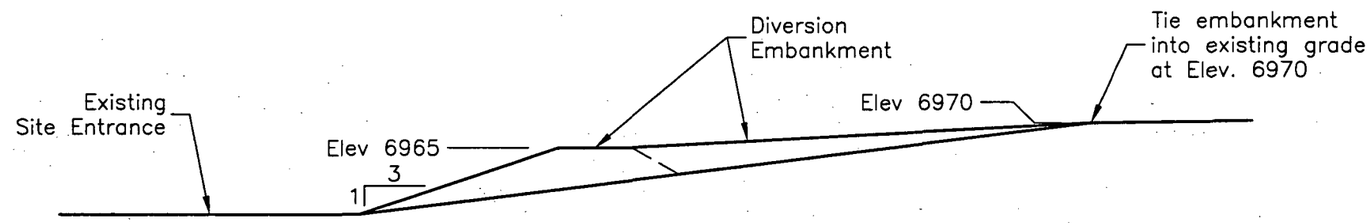
PLAN DETAILS 4 of 5	TETRA TECH
ARROYO DEL PUERTO EROSION PROTECTION MEASURES AMBROSIA LAKE MILL RIO ALGOM MINING LLC GRANTS, NEW MEXICO	
PROJECT No. 5690067 / DRAWING BY: EJS 03/21/08	SHEET 11
FILE NAME: Channel Details Sh 8-12.DWG / REVIEWED BY: MJB	



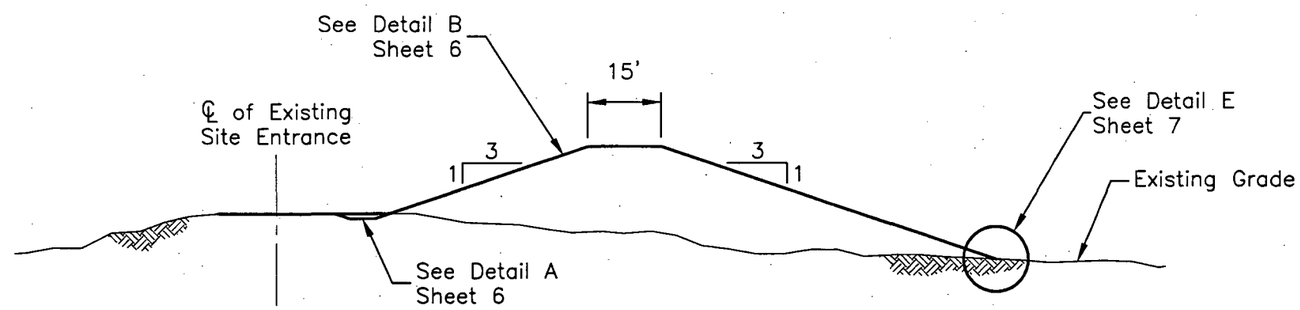
DETAIL 5
(Sheet 2)
Scale 1"=200'



SECTION F-F'
Scale 1"=30'

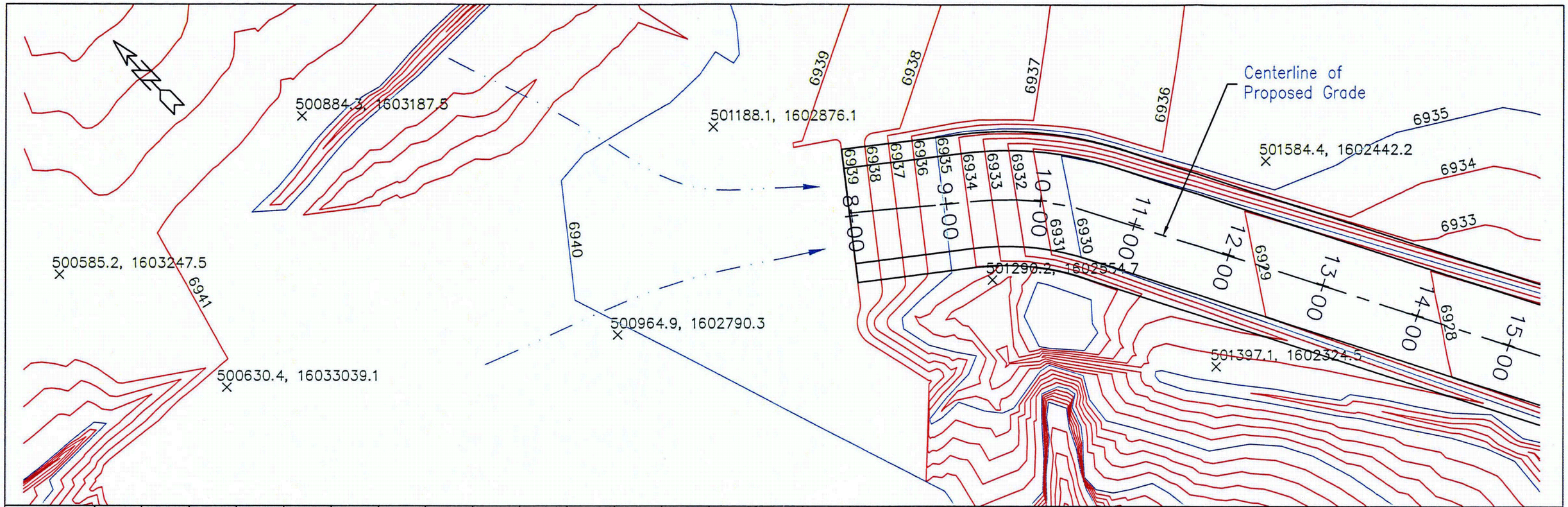


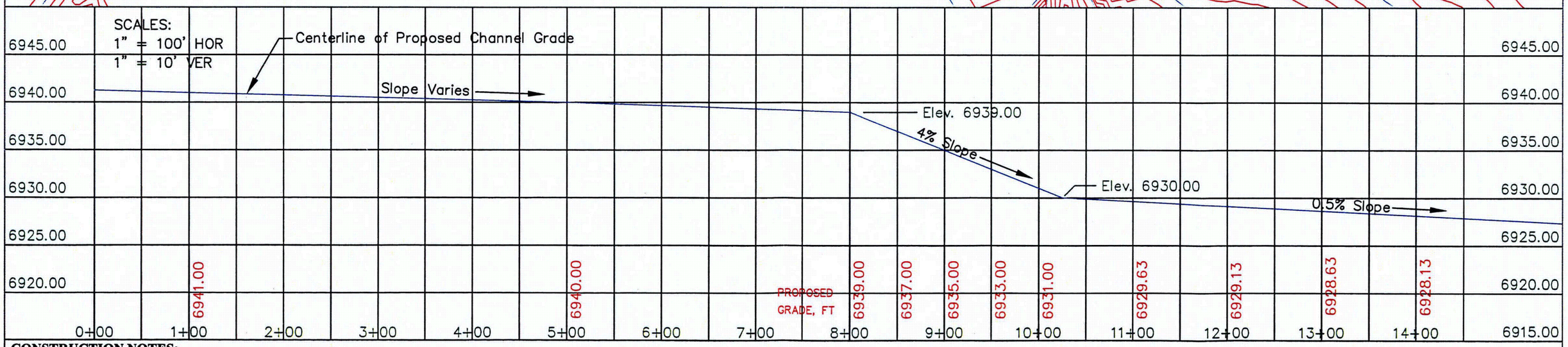
SECTION G-G'
Scale 1"=30'



SECTION H-H'
Scale 1"=30'

PLAN DETAILS 5 of 5		TETRA TECH
ARROYO DEL PUERTO EROSION PROTECTION MEASURES AMBROSIA LAKE MILL RIO ALGOM MINING LLC GRANTS, NEW MEXICO		
PROJECT No. 5690067	DRAWING BY: EJS 03/21/08	SHEET 12
FILE NAME: Channel Details Sh 8-12.DWG	REVIEWED BY: MJB	





CONSTRUCTION NOTES:

1) Location of channel alignment and grade based on June 2006 Aerial Survey provided by Rio Algom Mining, LLC, and performed by New Mexico Aerial Surveys, Inc. of Albuquerque, NM.

2) Adjustments to the channel alignment and grade will be necessary to fit actual topography.

3) Erosion protection rock shall be placed in the entire channel cross section from Station 7+90 to Station 43+42, and Station 55+50 to Station 56+00 according to Section A-A' on Sheet 5.

4) Erosion protection rock shall be placed on the southwest side of the channel cross section from Station 43+42 to Station 55+50, according to Section B-B' on Sheet 5 and from Station 56+00 to Station 58+50, according to Section J-J' on Sheet 11.

5) The channel shall have a minimum depth of 4 feet from Station 10+25 to Station 24+00 and a minimum depth of 5 feet from Station 24+00 to 58+00, with a bottom slope of 1.5% to the northeast side of the channel, and a minimum bottom width as identified on Sheet 5 Details.

6) Actual channel widths will vary according to Note 11 on Sheet 5.

INTERIOR CHANNEL PROFILE 1 of 4

ARROYO DEL PUERTO
EROSION PROTECTION MEASURES
AMBROSIA LAKE MILL
RIO ALGOM MINING LLC
GRANTS, NEW MEXICO

TETRA TECH

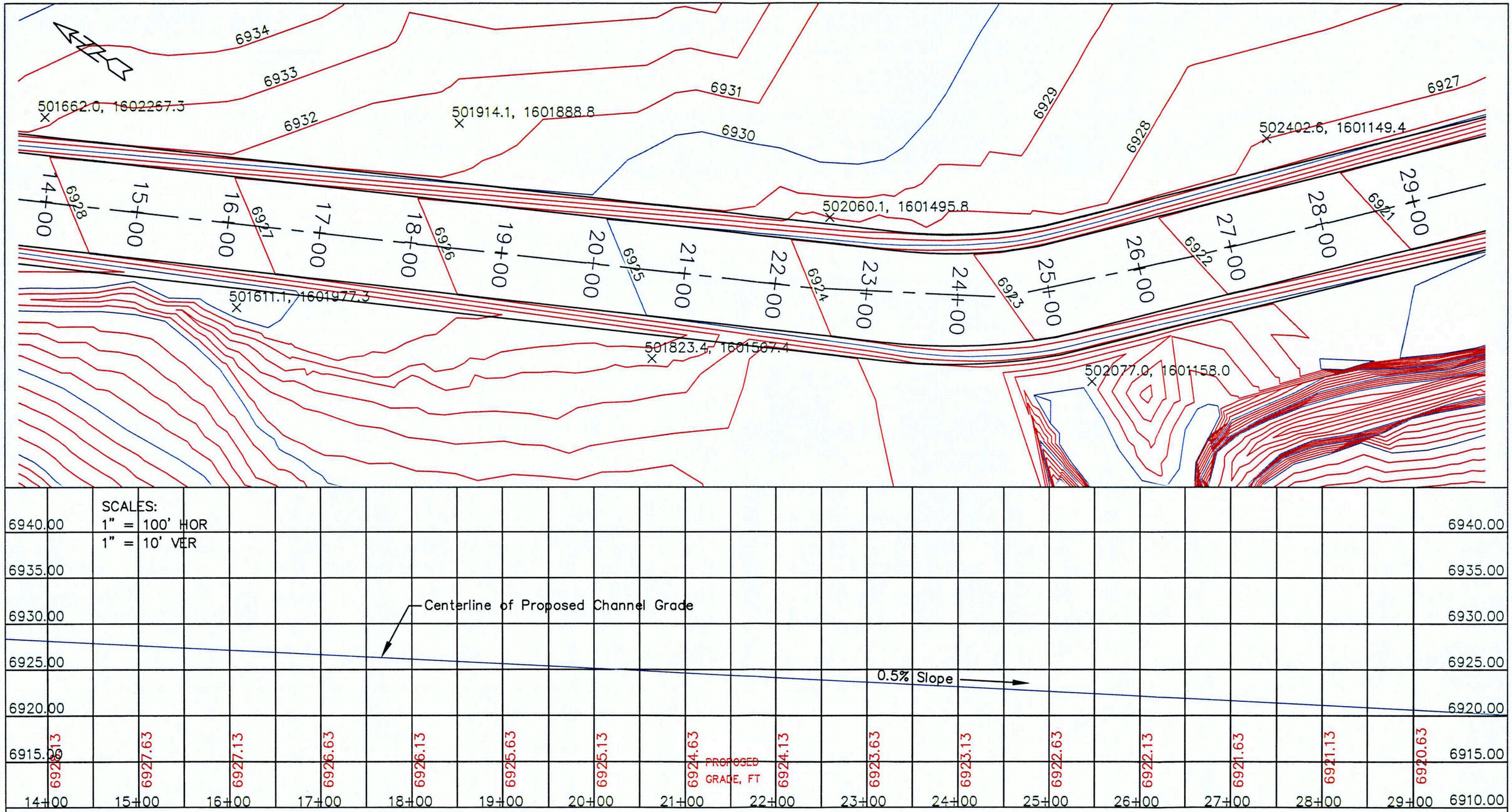
PROJECT No. 5690067

DRAWING BY: EJS 01/18/08

FILE NAME:Channel Profile Sh 13.dwg

REVIEWED BY: MEB

SHEET 13



CONSTRUCTION NOTES:

1) Location of channel alignment and grade based on June 2006 Aerial Survey provided by Rio Algom Mining, LLC, and performed by New Mexico Aerial Surveys, Inc. of Albuquerque, NM.

2) Adjustments to the channel alignment and grade will be necessary to fit actual topography.

3) Erosion protection rock shall be placed in the entire channel cross section from Station 7+90 to Station 43+42, and Station 55+50 to Station 56+00 according to Section A-A' on Sheet 5.

4) Erosion protection rock shall be placed on the southwest side of the channel cross section from Station 43+42 to Station 55+50, according to Section B-B' on Sheet 5 and from Station 56+00 to Station 58+50, according to Section J-J' on Sheet 11.

5) The channel shall have a minimum depth of 4 feet from Station 10+25 to Station 24+00 and a minimum depth of 5 feet from Station 24+00 to 58+00, with a bottom slope of 1.5% to the northeast side of the channel, and a minimum bottom width as identified on Sheet 5 Details.

6) Actual channel widths will vary according to Note 11 on Sheet 5.

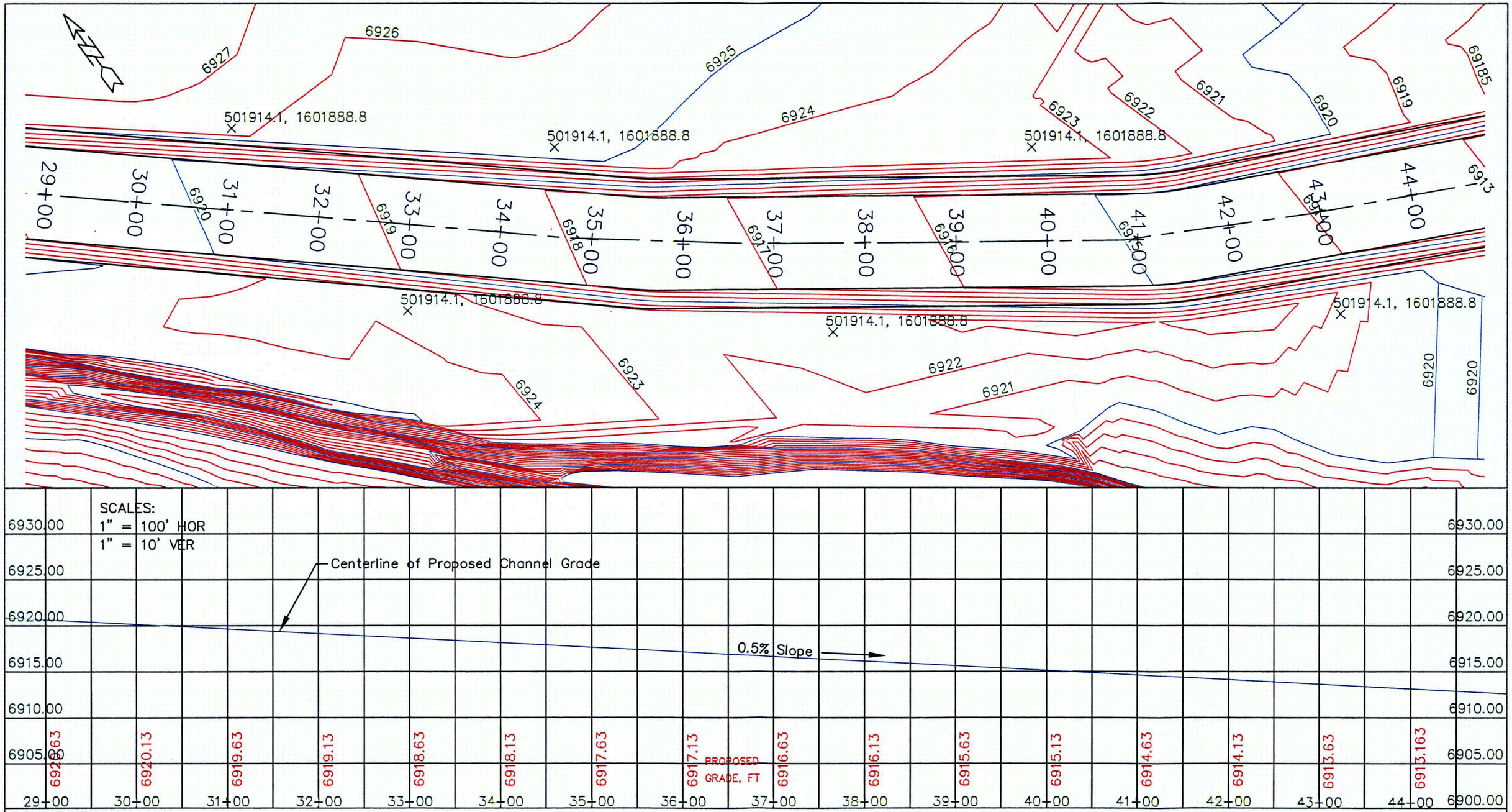
INTERIOR CHANNEL PROFILE 2 of 4

ARROYO DEL PUERTO
EROSION PROTECTION MEASURES
AMBROSIA LAKE MILL
RIO ALGOM MINING LLC
GRANTS, NEW MEXICO

TETRA TECH

PROJECT No. 5690067	DRAWING BY: EJS 01/18/08
FILE NAME:Channel Profile Sh 14.dwg	REVIEWED BY: MEB

SHEET 14



CONSTRUCTION NOTES:

1) Location of channel alignment and grade based on June 2006 Aerial Survey provided by Rio Algom Mining, LLC, and performed by New Mexico Aerial Surveys, Inc. of Albuquerque, NM.

2) Adjustments to the channel alignment and grade will be necessary to fit actual topography.

3) Erosion protection rock shall be placed in the entire channel cross section from Station 7+90 to Station 43+42, and Station 55+50 to Station 56+00 according to Section A-A' on Sheet 5.

4) Erosion protection rock shall be placed on the southwest side of the channel cross section from Station 43+42 to Station 55+50, according to Section B-B' on Sheet 5 and from Station 56+00 to Station 58+50, according to Section J-J' on Sheet 11.

5) The channel shall have a minimum depth of 4 feet from Station 10+25 to Station 24+00 and a minimum depth of 5 feet from Station 24+00 to 58+00, with a bottom slope of 1.5% to the northeast side of the channel, and a minimum bottom width as identified on Sheet 5 Details.

6) Actual channel widths will vary according to Note 11 on Sheet 5.

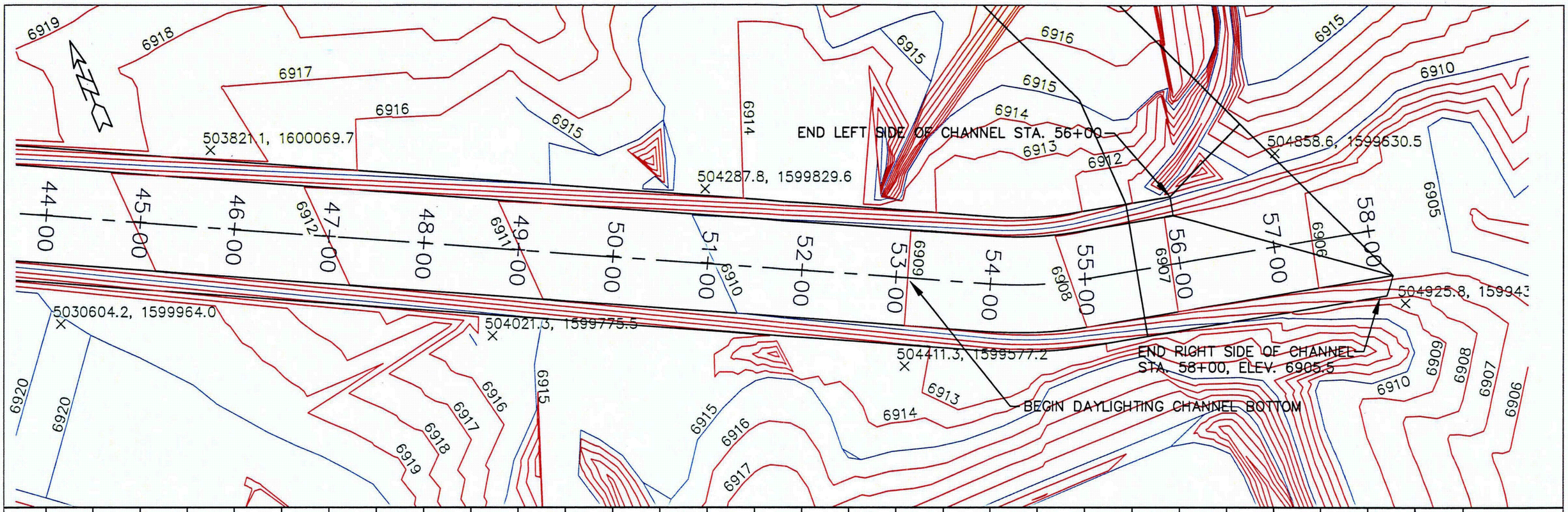
INTERIOR CHANNEL PROFILE 3 of 4

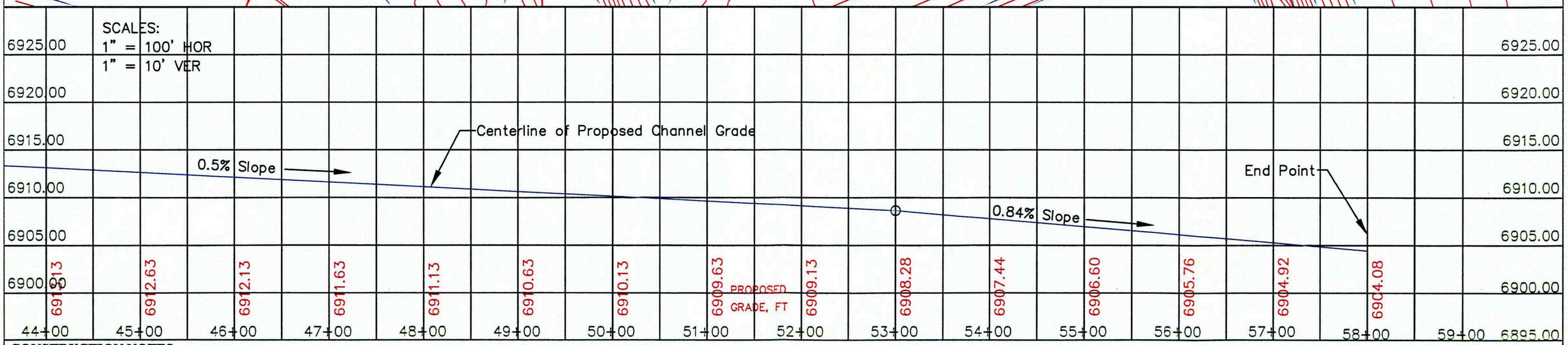
ARROYO DEL PUERTO
EROSION PROTECTION MEASURES
AMBROSIA LAKE MILL
RIO ALGOM MINING LLC
GRANTS, NEW MEXICO

TETRA TECH

PROJECT No. 5690067	DRAWING BY: EJS 01/18/08
FILE NAME:Channel Profile Sh 15.dwg	REVIEWED BY: MEB

SHEET 15





CONSTRUCTION NOTES:

1) Location of channel alignment and grade based on June 2006 Aerial Survey provided by Rio Algom Mining, LLC, and performed by New Mexico Aerial Surveys, Inc. of Albuquerque, NM.

2) Adjustments to the channel alignment and grade will be necessary to fit actual topography.

3) Erosion protection rock shall be placed in the entire channel cross section from Station 7+90 to Station 43+42, and Station 55+50 to Station 56+00 according to Section A-A' on Sheet 5.

4) Erosion protection rock shall be placed on the southwest side of the channel cross section from Station 43+42 to Station 55+50, according to Section B-B' on Sheet 5 and from Station 56+00 to Station 58+50, according to Section J-J' on Sheet 11.

5) The channel shall have a minimum depth of 4 feet from Station 10+25 to Station 24+00 and a minimum depth of 5 feet from Station 24+00 to 58+00, with a bottom slope of 1.5% to the northeast side of the channel, and a minimum bottom width as identified on Sheet 5 Details.

6) Actual channel widths will vary according to Note 11 on Sheet 5.

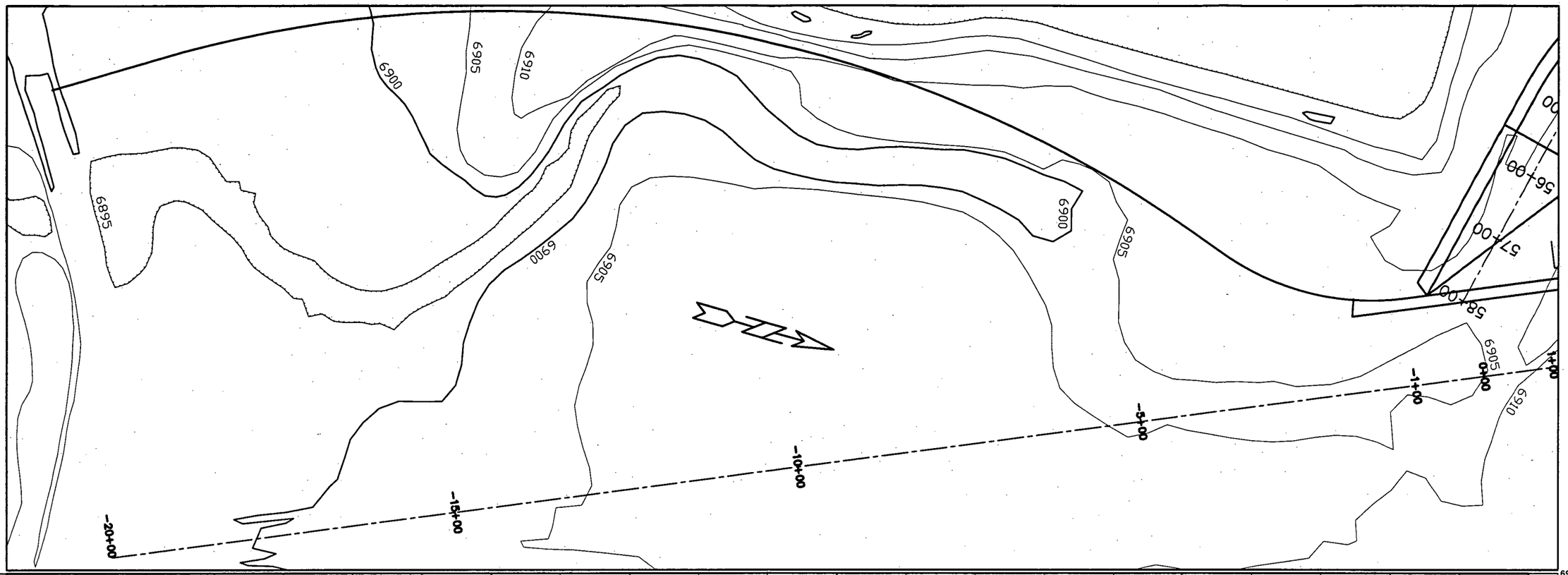
INTERIOR CHANNEL PROFILE 4 of 4

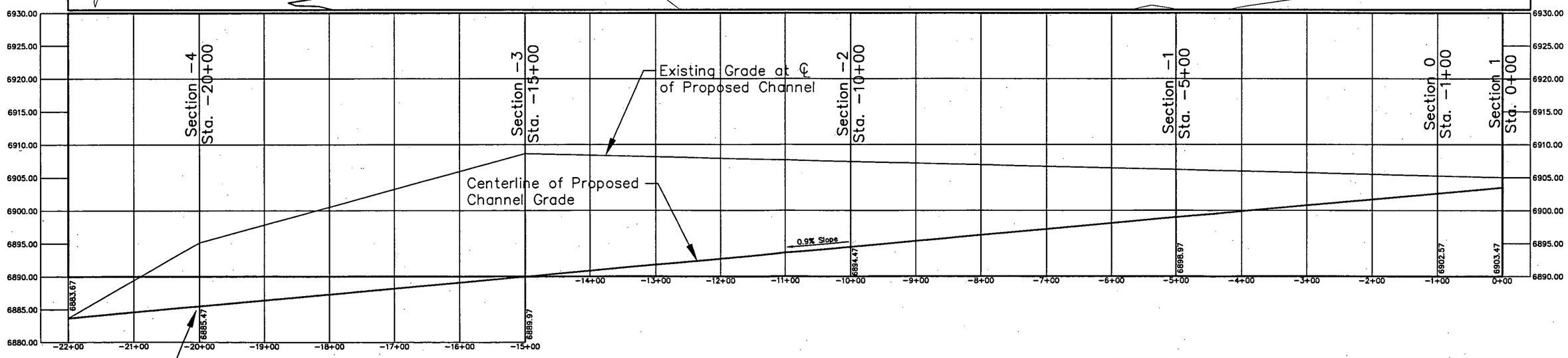
ARROYO DEL PUERTO
EROSION PROTECTION MEASURES
AMBROSIA LAKE MILL
RIO ALGOM MINING LLC
GRANTS, NEW MEXICO

TETRA TECH

PROJECT No. 5690067	DRAWING BY: EJS 01/18/08
FILE NAME:Channel Profile Sh 16.dwg	REVIEWED BY: MEB

SHEET 16





CONSTRUCTION NOTES:

1) Location of channel alignment and grade based on June 2006 Aerial Survey provided by Rio Algom Mining, LLC, and performed by New Mexico Aerial Surveys, Inc. of Albuquerque, NM.

2) Adjustments to the channel alignment and grade will be necessary to fit actual topography.

HORIZONTAL SCALE 0 25' 50' 100' 200'
1" = 50'-0"

VERTICAL SCALE 0 2.5' 5' 10' 20'
1" = 5'-0"

DIVERSION CHANNEL PROFILE 1 of 8

ARROYO DEL PUERTO
EROSION PROTECTION MEASURES
AMBROSIA LAKE MILL
RIO ALGOM MINING LLC
GRANTS, NEW MEXICO

TETRA TECH

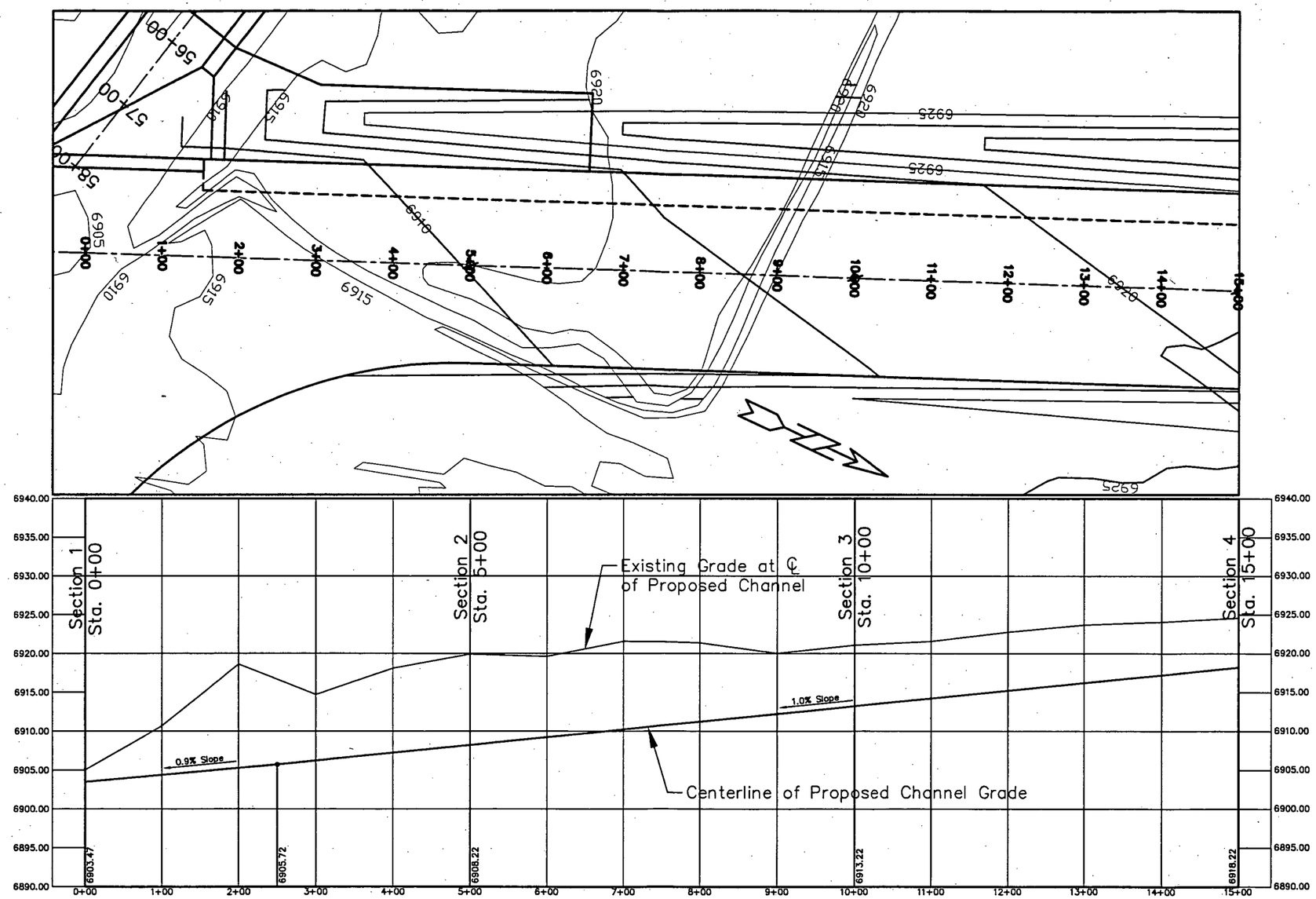
PROJECT No. 5690067

DRAWING BY: EJS 03/20/08

FILE NAME:Diversion Channel Profile Sh 17.dwg

REVIEWED BY: MEB

SHEET 17



CONSTRUCTION NOTES:

1) Location of channel alignment and grade based on June 2006 Aerial Survey provided by Rio Algom Mining, LLC, and performed by New Mexico Aerial Surveys, Inc. of Albuquerque, NM.

2) Adjustments to the channel alignment and grade will be necessary to fit actual topography.

HORIZONTAL SCALE 0 25' 50' 100' 200'
1" = 50'-0"

VERTICAL SCALE 0 2.5' 5' 10' 20'
1" = 5'-0"

DIVERSION CHANNEL PROFILE 2 of 8

ARROYO DEL PUERTO
EROSION PROTECTION MEASURES
AMBROSIA LAKE MILL
RIO ALGOM MINING LLC
GRANTS, NEW MEXICO

TETRA TECH

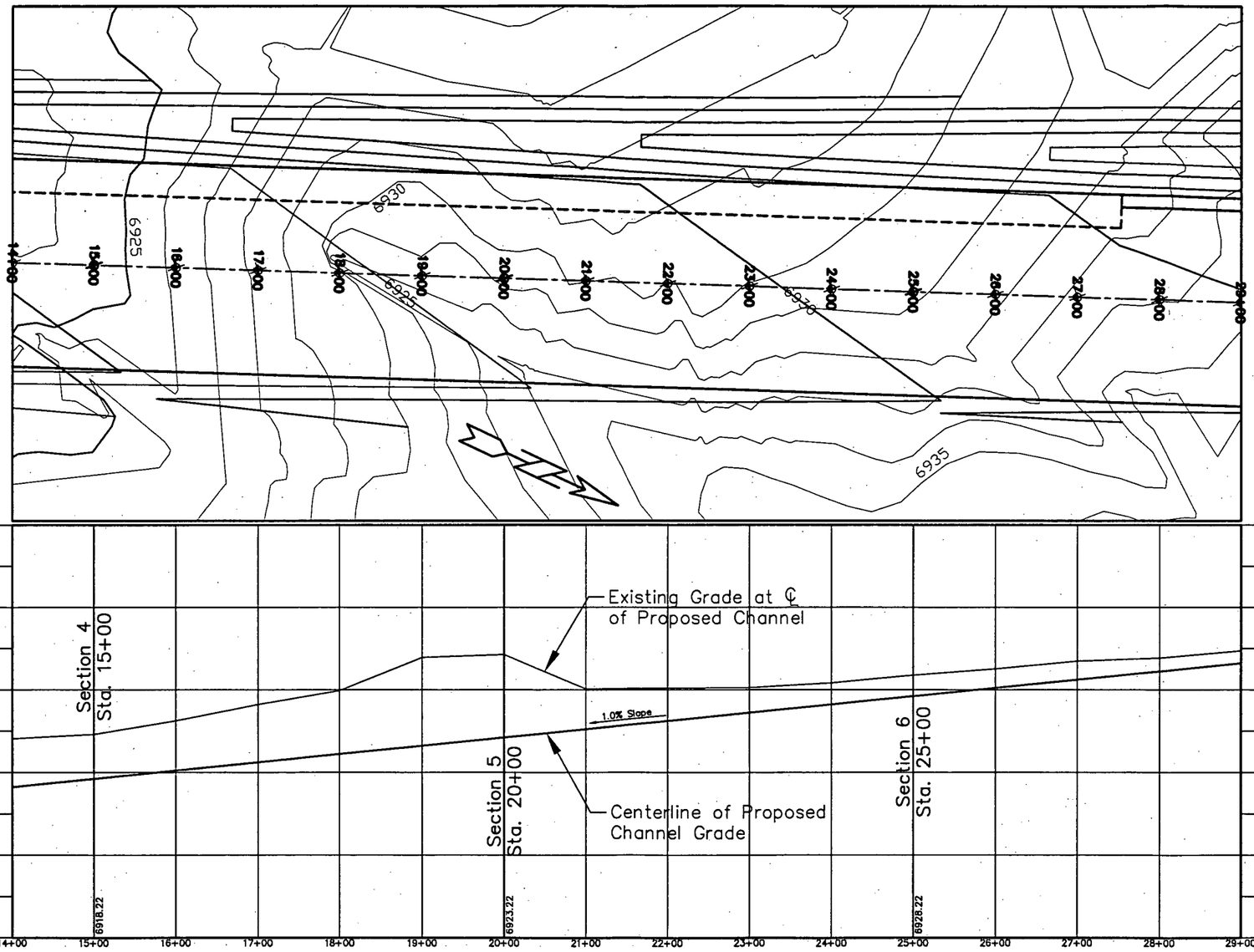
PROJECT No. 5690067

DRAWING BY: EJS 03/20/08

FILE NAME:Diversion Channel Profile Sh 18.dwg

REVIEWED BY: MEB

SHEET 18



CONSTRUCTION NOTES:

1) Location of channel alignment and grade based on June 2006 Aerial Survey provided by Rio Algom Mining, LLC, and performed by New Mexico Aerial Surveys, Inc. of Albuquerque, NM.

2) Adjustments to the channel alignment and grade will be necessary to fit actual topography.

HORIZONTAL SCALE 0 25' 50' 100' 200'
1" = 50'-0"

VERTICAL SCALE 0 2.5' 5' 10' 20'
1" = 5'-0"

DIVERSION CHANNEL PROFILE 3 of 8

ARROYO DEL PUERTO
EROSION PROTECTION MEASURES
AMBROSIA LAKE MILL
RIO ALGOM MINING LLC
GRANTS, NEW MEXICO

TETRA TECH

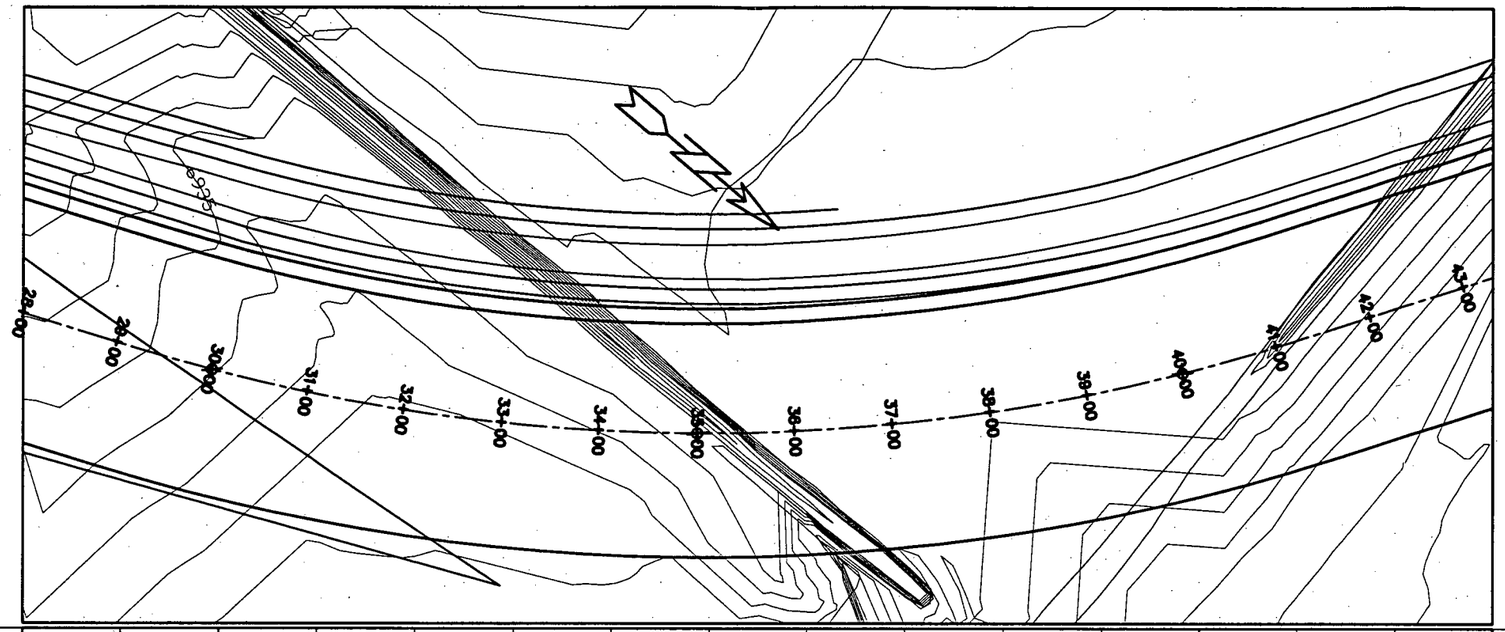
PROJECT No. 5690067

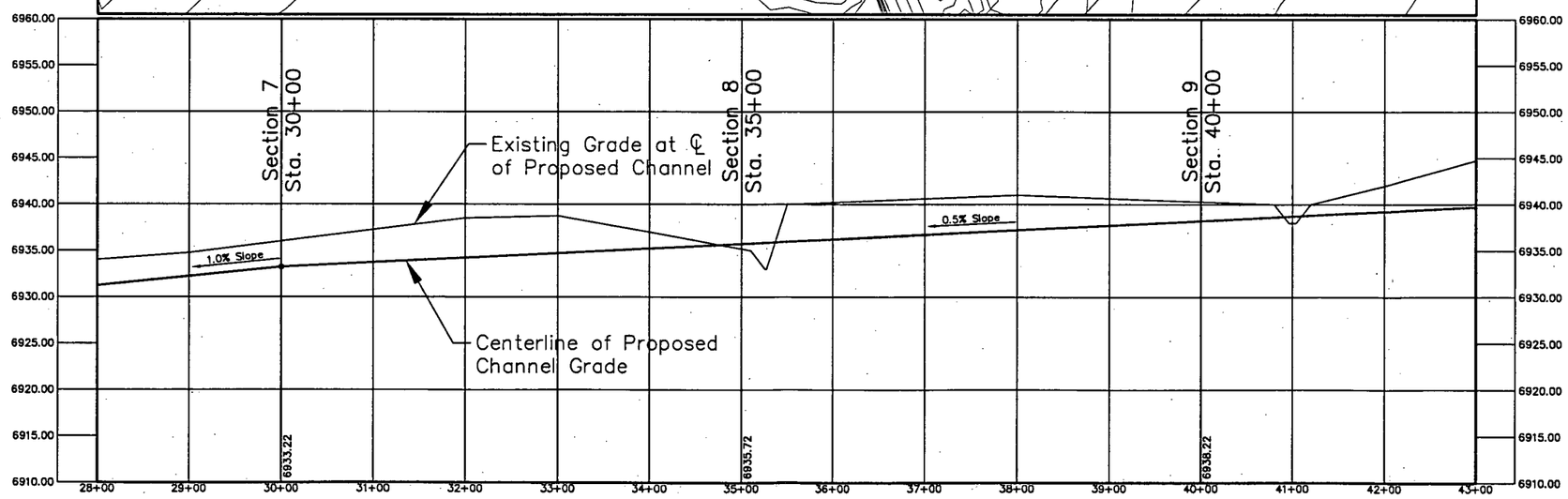
DRAWING BY: EJS 03/20/08

FILE NAME:Diversion Channel Profile Sh 19.dwg

REVIEWED BY: MEB

SHEET 19





CONSTRUCTION NOTES:

1) Location of channel alignment and grade based on June 2006 Aerial Survey provided by Rio Algom Mining, LLC, and performed by New Mexico Aerial Surveys, Inc. of Albuquerque, NM.

2) Adjustments to the channel alignment and grade will be necessary to fit actual topography.

HORIZONTAL SCALE 0 25' 50' 100' 200'
1" = 50'-0"

VERTICAL SCALE 0 2.5' 5' 10' 20'
1" = 5'-0"

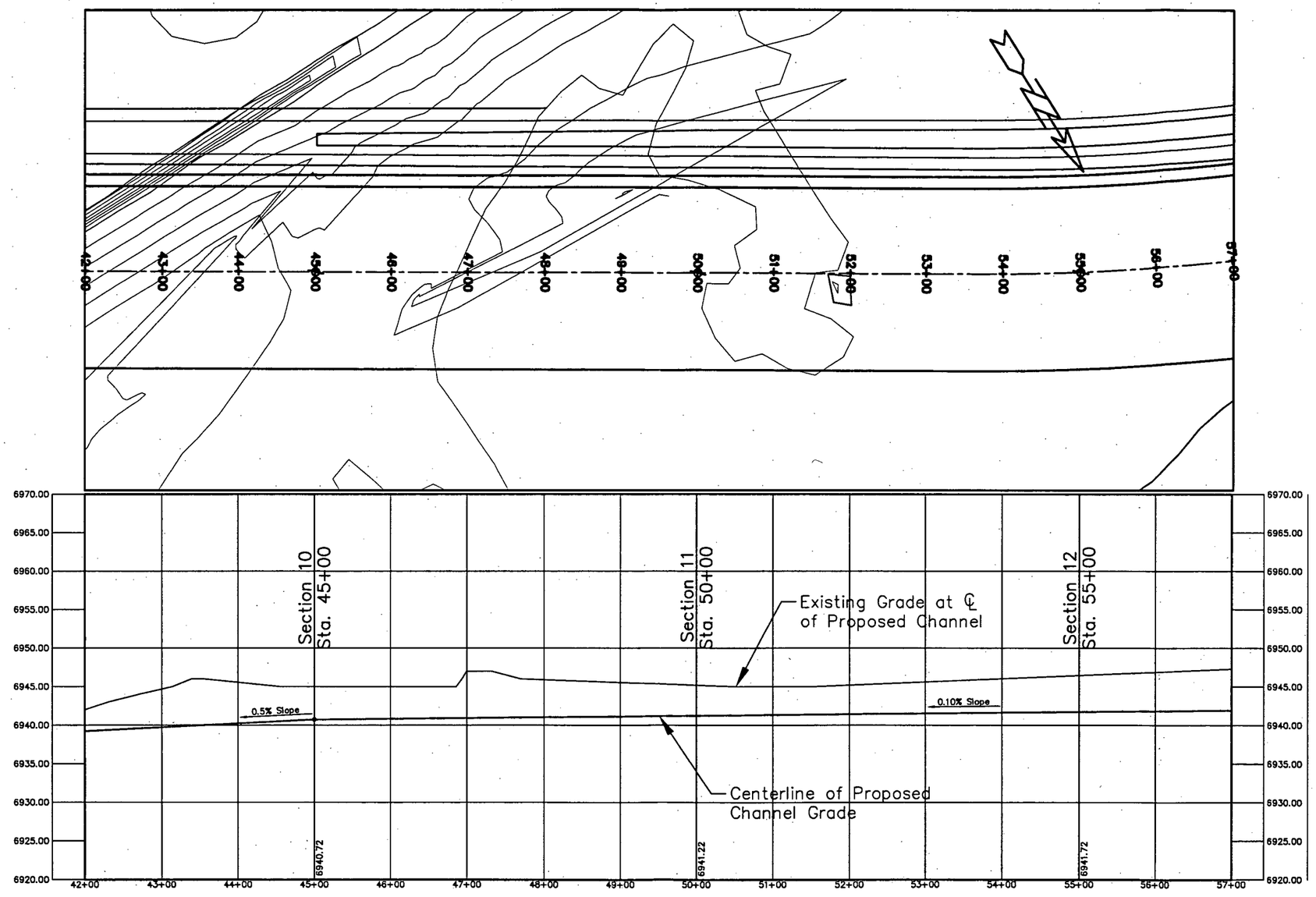
DIVERSION CHANNEL PROFILE 4 of 8

ARROYO DEL PUERTO
EROSION PROTECTION MEASURES
AMBROSIA LAKE MILL
RIO ALGOM MINING LLC
GRANTS, NEW MEXICO

TETRA TECH

PROJECT No. 5690067	DRAWING BY: EJS 03/20/08
FILE NAME:Diversion Channel Profile Sh 20.dwg	REVIEWED BY: MEB

SHEET 20



CONSTRUCTION NOTES:

1) Location of channel alignment and grade based on June 2006 Aerial Survey provided by Rio Algom Mining, LLC, and performed by New Mexico Aerial Surveys, Inc. of Albuquerque, NM.

2) Adjustments to the channel alignment and grade will be necessary to fit actual topography.

HORIZONTAL SCALE 0 25' 50' 100' 200'
1" = 50'-0"

VERTICAL SCALE 0 2.5' 5' 10' 20'
1" = 5'-0"

DIVERSION CHANNEL PROFILE 5 of 8

ARROYO DEL PUERTO
EROSION PROTECTION MEASURES
AMBROSIA LAKE MILL
RIO ALGOM MINING LLC
GRANTS, NEW MEXICO

TETRA TECH

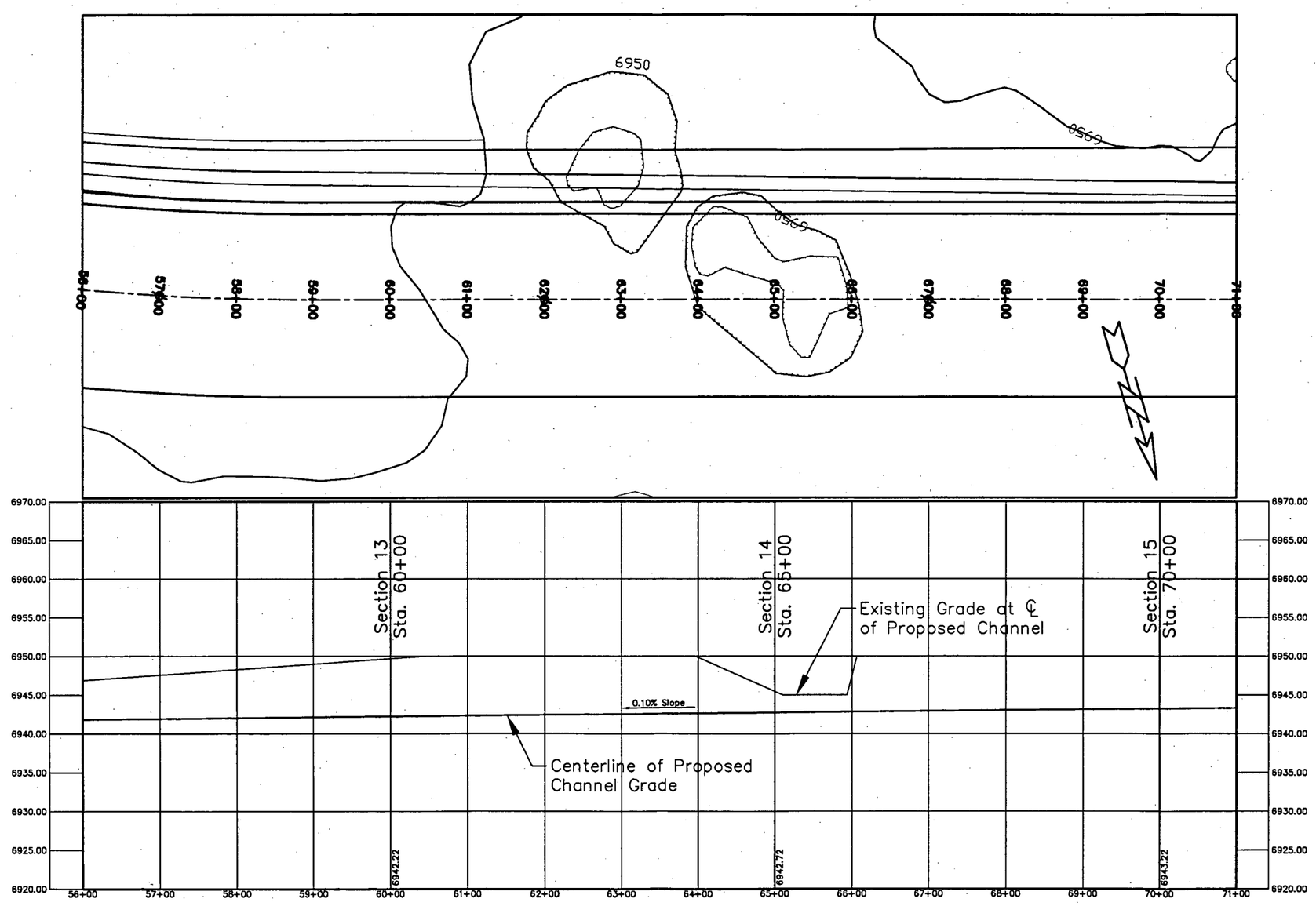
PROJECT No. 5690067

DRAWING BY: EJS 03/20/08

FILE NAME:Diversion Channel Profile Sh 21.dwg

REVIEWED BY: MEB

SHEET 21



CONSTRUCTION NOTES:

1) Location of channel alignment and grade based on June 2006 Aerial Survey provided by Rio Algom Mining, LLC, and performed by New Mexico Aerial Surveys, Inc. of Albuquerque, NM.

2) Adjustments to the channel alignment and grade will be necessary to fit actual topography.

HORIZONTAL SCALE 0 25' 50' 100' 200'
1" = 50'-0"

VERTICAL SCALE 0 2.5' 5' 10' 20'
1" = 5'-0"

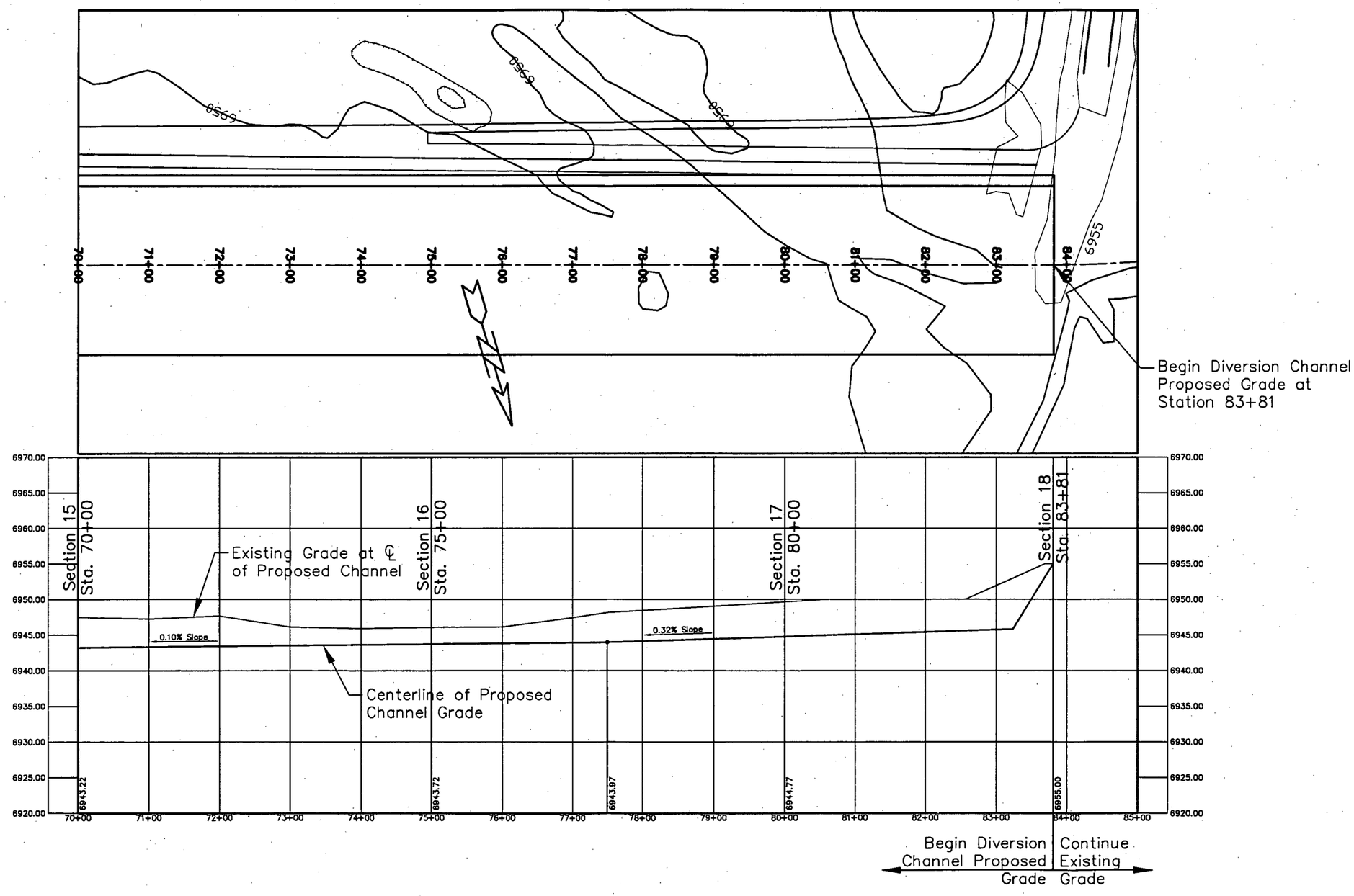
DIVERSION CHANNEL PROFILE 6 of 8

ARROYO DEL PUERTO
EROSION PROTECTION MEASURES
AMBROSIA LAKE MILL
RIO ALGOM MINING LLC
GRANTS, NEW MEXICO

TETRA TECH

PROJECT No. 5690067	DRAWING BY: EJS 03/20/08
FILE NAME:Diversion Channel Profile Sh 22.dwg	REVIEWED BY: MEB

SHEET 22



CONSTRUCTION NOTES:

1) Location of channel alignment and grade based on June 2006 Aerial Survey provided by Rio Algom Mining, LLC, and performed by New Mexico Aerial Surveys, Inc. of Albuquerque, NM.

2) Adjustments to the channel alignment and grade will be necessary to fit actual topography.

HORIZONTAL SCALE 0 25' 50' 100' 200'
1" = 50'-0"

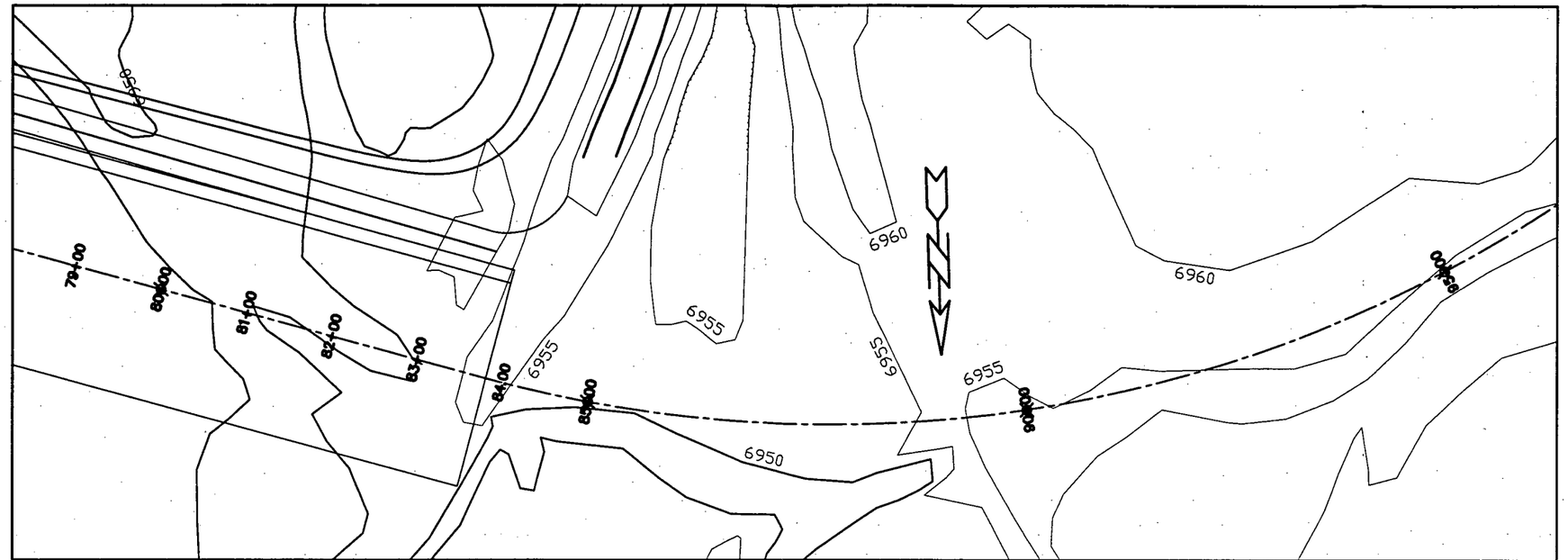
VERTICAL SCALE 0 2.5' 5' 10' 20'
1" = 5'-0"

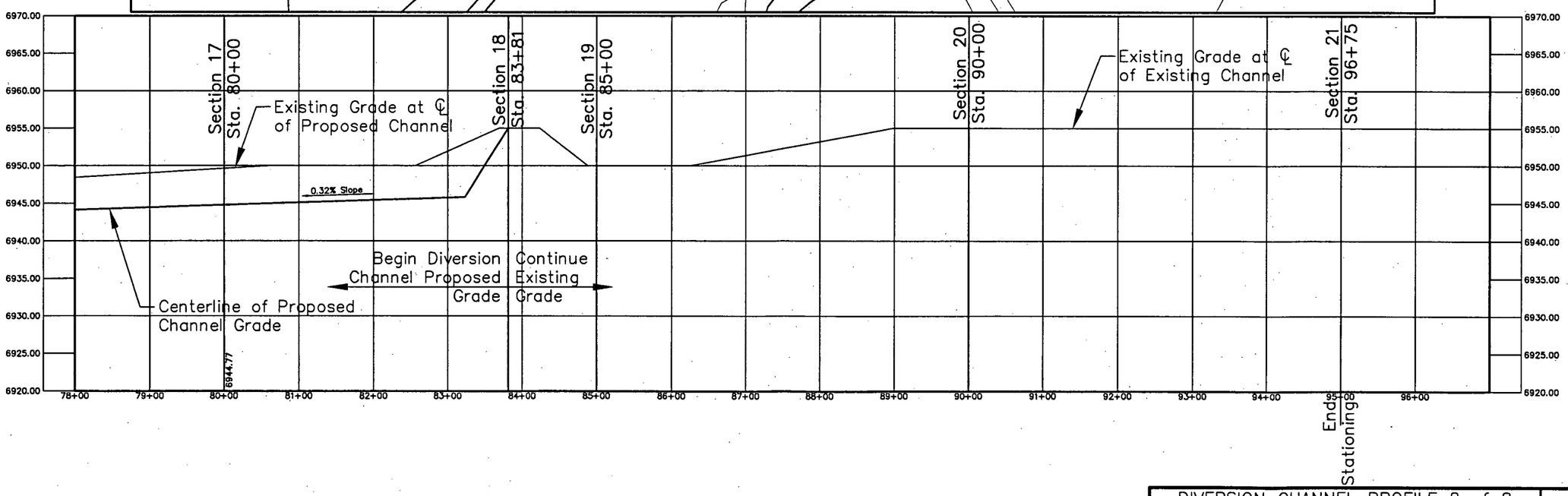
DIVERSION CHANNEL PROFILE 7 of 8
ARROYO DEL PUERTO
EROSION PROTECTION MEASURES
AMBROSIA LAKE MILL
RIO ALGOM MINING LLC
GRANTS, NEW MEXICO

TETRA TECH

PROJECT No. 5690067
DRAWING BY: EJS 03/20/08
FILE NAME:Diversion Channel Profile Sh 23.dwg
REVIEWED BY: MEB

SHEET 23





CONSTRUCTION NOTES:

1) Location of channel alignment and grade based on June 2006 Aerial Survey provided by Rio Algom Mining, LLC, and performed by New Mexico Aerial Surveys, Inc. of Albuquerque, NM.

2) Adjustments to the channel alignment and grade will be necessary to fit actual topography.

HORIZONTAL SCALE 0 25' 50' 100' 200'
1" = 50'-0"

VERTICAL SCALE 0 2.5' 5' 10' 20'
1" = 5'-0"

DIVERSION CHANNEL PROFILE 8 of 8

ARROYO DEL PUERTO
EROSION PROTECTION MEASURES
AMBROSIA LAKE MILL
RIO ALGOM MINING LLC
GRANTS, NEW MEXICO

TETRA TECH

PROJECT No. 5690067

DRAWING BY: EJS 03/20/08

FILE NAME:Diversion Channel Profile Sh 24.dwg

REVIEWED BY: MEB

SHEET 24

Appendix D ..... Enlarged Map Insets

Drawing Sheet 2

Drawing Sheet 4

THIS PAGE IS AN OVERSIZED DRAWING OR FIGURE, THAT CAN BE VIEWED AT THE RECORD TITLED:

DRAWING NO. SHEET 2,
"INTERIOR SITE DRAINAGE PLAN"

WITHIN THIS PACKAGE... OR
BY SEARCHING USING THE
DOCUMENT/REPORT NO.
SHEET 2

D-01

THIS PAGE IS AN OVERSIZED DRAWING OR FIGURE,
THAT CAN BE VIEWED AT THE RECORD TITLED:

DRAWING NO. SHEET 4,
"EROSION PROTECTION MEASURES"

WITHIN THIS PACKAGE... OR
BY SEARCHING USING THE
DOCUMENT/REPORT NO.
SHEET 4

D-02X