

**APPENDIX 31-C
DETAILED ENGINEERING DESIGN DRAWINGS
FOR BRIDGE CROSSINGS, TRANSMISSION LINE,
AND PIPE INTAKES**

Appendix 31-C. Detailed Engineering Design Drawings for Bridge Crossings, Transmission Line, and Pipe Intakes

Table of Contents

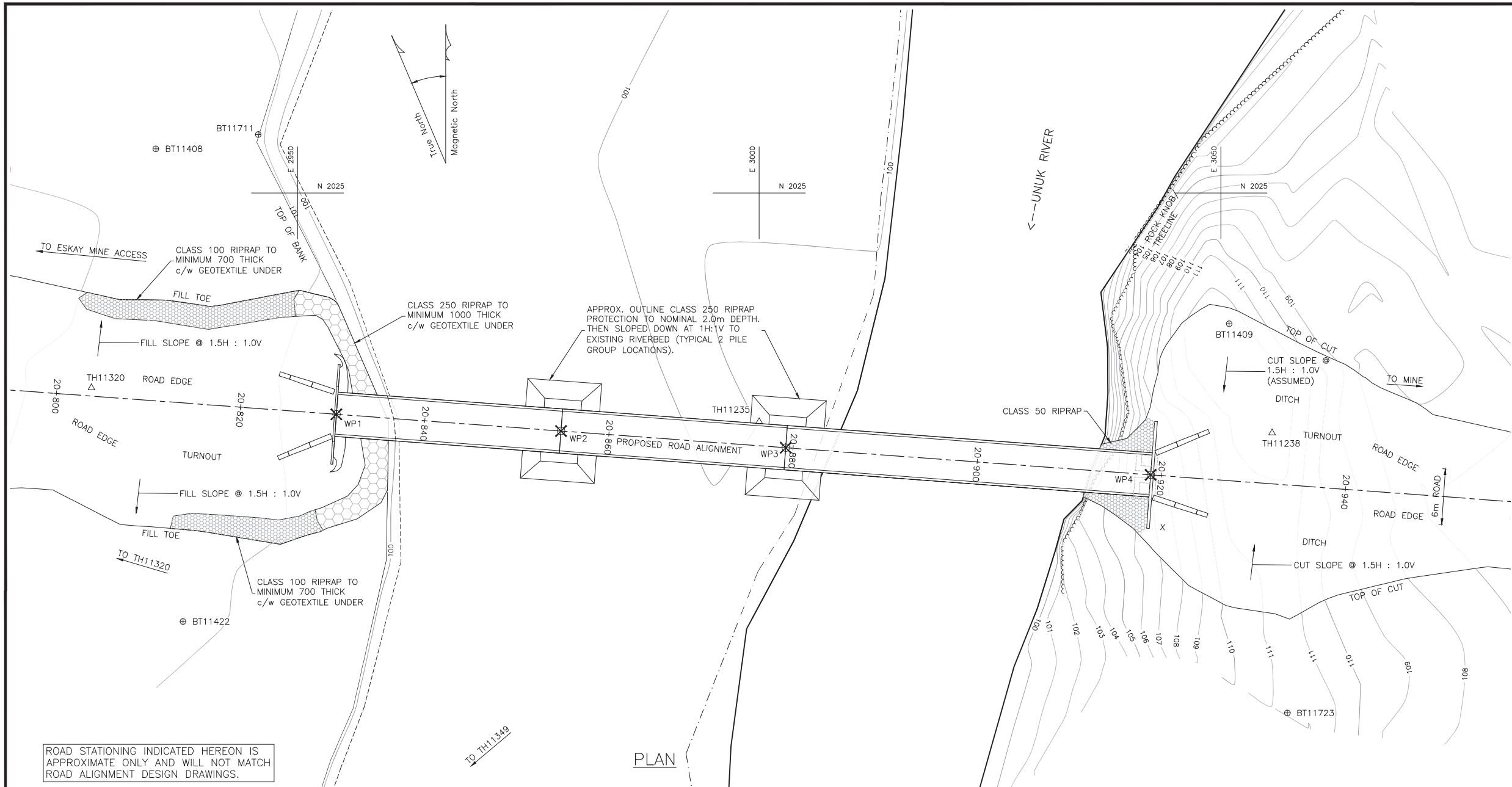
Project Area	Work	Drawing No. ¹	ID # ²	Site # ³	Page
Mine Site – Along Coulter Creek Access Road	Unuk River Bridge (C010)	01506-210-03	26	1025	2
	Unuk River Bridge Details (C010)	01506-210-04	26	1025	3
	Coulter Creek Bridge (C006)	01506-206-03	23	2061	4
	Gingras Creek Bridge (C011)	01506-211-03	29	5001	5
	Mitchell Creek Bridge (C007)	01506-207-03	30	5538	6
	Unnamed Creek Bridge (C024)	01506-224-03	24	2063	7
	Unnamed Creek Bridge (C042)	01506-242-03	27	5007	8
PTMA – Along Treaty Creek Access Road	Bell-Irving River Bridge (R033)	01506-233-03	451	4004	9
	Bell-Irving River Bridge Details (R033)	01506-233-04	451	4004	10
	Bell-Irving River Transmission Line	01798-NW-1	451	4004	14
	North Treaty Creek Bridge (R045)	01506-245-03	445	4011	11
	Unnamed Creek Bridge (R034)	01506-234-03	466	100	12
	Unnamed Creek Bridge (R037)	01506-237-03	446	114	13
Fish Habitat Compensation	Water Intake Pipe Typical Layout: 16" (400 mm)	0868-020-04-01	n/a	n/a	15

Notes:

¹ Drawing numbers are found on the bottom right hand corner of each engineering drawing in this appendix.

² Project component ID numbers are listed in Appendix 31-A Tables 1 and 2, and in Chapter 31 Table 31.6-1.

³ Project site sampling numbers used in baseline studies are found in Appendix 31-A, Table 2, and in Chapter 31 Tables 31.2-1 and 31.6-1.



SURVEY CONTROL					
Point	Northing	Easting	Elevation	H.D.	Bearing
TH11320	2003.890	2927.661	101.532	---	---
BT11422-B.S.	1978.563	2937.587	101.099	27.203	158-35-57
WP1	2001.013	2954.200	106.500*	26.695	96-11-13
WP2	1999.203	2978.529	106.500*	51.084	95-15-50
WP3	1997.393	3002.871	106.500*	75.490	94-56-14
WP4	1994.453	3042.398	106.500*	115.125	94-42-07
TH11235	2000.000	3000.000	100.000	---	---
TH11238	1998.993	3055.546	112.675	---	---
BT11723	1968.653	3057.202	112.470	---	---
BT11409	2010.824	3050.904	113.091	---	---
BT11711	2031.330	2945.735	103.349	---	---
BT11408	2029.776	2934.642	101.489	---	---
BT11349	1932.413	2945.993	102.117	---	---

* NOMINAL DECK ELEVATION

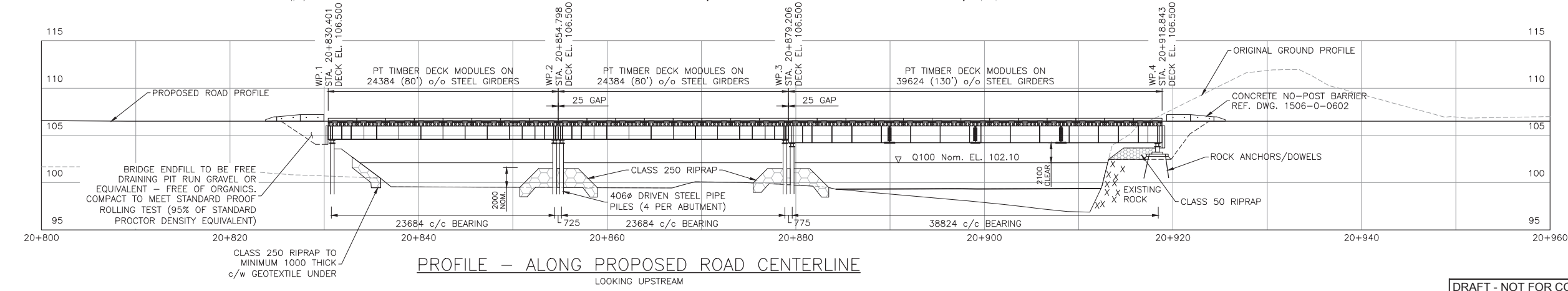
THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH THE APPROPRIATE CODES AND STANDARDS TO SUSTAIN DEAD LOADS, AND THE GIVEN LIVE LOAD WHEN COMPLETE. IT HAS BEEN DESIGNED TO SUSTAIN REASONABLE E LOADS DURING CONSTRUCTION BUT MUST BE CHECKED AGAINST THE LOADINGS IMPOSED BY THE CONTRACTOR'S SPECIFIC METHOD OF CONSTRUCTION. IN ACCORDANCE WITH THE BYLAWS OF THE ASSOCIATION OF PROFESSIONAL ENGINEERS AND GEOSCIENTISTS OF B.C. CLAUSE 14 (b) (4), FIELD REVIEW OF PROJECTS DURING CONSTRUCTION IS A REQUIREMENT. FAILURE TO RETAIN THE ENGINEER, OR HIS CHOICE OF THIRD PARTY, TO REVIEW THE CONTRACTOR'S PROCEDURES AND MONITOR CONSTRUCTION WILL RESULT IN McELHANNEY CONSULTING SERVICES LTD. BEING UNABLE TO CERTIFY THE CONSTRUCTED WORKS.

DESIGN NOTES/SPECIFICATIONS

- SITE LOCATION
LAT. N56-30-38 LONG. W130-29-25
N 6263900 E 408286
- HYDROLOGY: (At Proposed Road Centerline)
-DRAINAGE AREA APPROX 615 sq.km
-AREA ABOVE TREELINE APPROX. 211 sq.km
-Q100 FLOW ESTIMATED AT 582 cu.m/sec
-BOTTOM CREEK APPROX. EL. 96.85 m (Est.)
-ESTIMATED MAX. STREAM VELOCITY = 2.9 m/sec
-ESTIMATED H.W.L. ELEVATION = 102.10 m
- STREAM RIPARIAN CLASS S1 (FISH) PER RESCAN.
- DESIGN IN GENERAL ACCORDANCE WITH CAN/CSA S6-2006 DESIGN SPECIFICATIONS MODIFIED TO BCFS L100 LOADING (90,680 kg. G.V.W.) e= 400 mm, DISTRIBUTION = 60/40 IN ACCORDANCE WITH THE MINISTRY OF FORESTS AND RANGE "FOREST SERVICE BRIDGE DESIGN & CONSTRUCTION MANUAL". FOR OVERLOAD AND CONSTRUCTION LOADING ALLOWANCES, REFER TO GENERAL NOTES.
- THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH McELHANNEY DRAWINGS 1506-0-601 TO 1506-0-605, 1506-0-645 AND 1506-0-670.
- ALL DIMENSIONS IN mm UNLESS NOTED OTHERWISE.
- FOR ADDITIONAL NOTES SEE DRAWING 1506-210-01.

ROAD STATIONING INDICATED HEREON IS APPROXIMATE ONLY AND WILL NOT MATCH ROAD ALIGNMENT DESIGN DRAWINGS.

PLAN



PROFILE - ALONG PROPOSED ROAD CENTERLINE
LOOKING UPSTREAM

DRAFT - NOT FOR CONSTRUCTION



No.	Date	Revision
A	OCT. 2012	ISSUED FOR PERMITTING

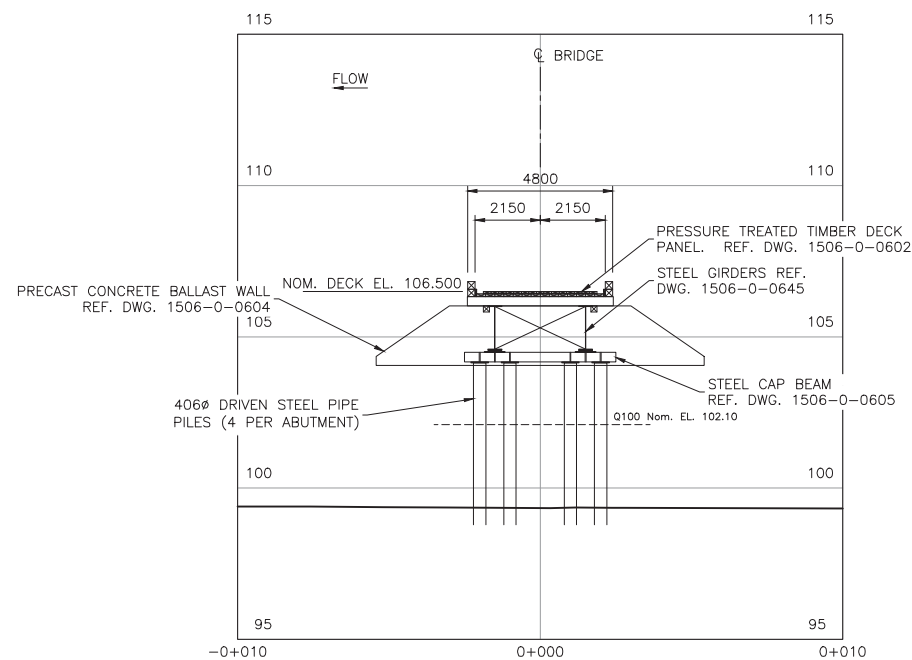
THIS DRAWING AND DESIGN IS THE PROPERTY OF McELHANNEY CONSULTING SERVICES LTD. AND SHALL NOT BE USED, REUSED OR REPRODUCED WITHOUT THE CONSENT OF THE SAID COMPANY. McELHANNEY CONSULTING SERVICES LTD. WILL NOT BE HELD RESPONSIBLE FOR THE IMPROPER OR UNAUTHORIZED USE OF THIS DRAWING AND DESIGN. INFORMATION ON EXISTING FEATURES MAY NOT BE COMPLETE OR ACCURATE. PRIOR TO CONSTRUCTION CONTRACTOR SHALL CONFIRM LOCATIONS OF ALL EXISTING FEATURES AND ADVISE THE ENGINEER OF POTENTIAL CONFLICTS.

McElhanney
 McElhanney Consulting Services Ltd.
 1633 First Avenue PH (250) 561-2229
 Prince George B.C. V2L 2Y8 FAX (250) 563-1941
 www.mcelhanney.com Toll Free (866) 451-2229

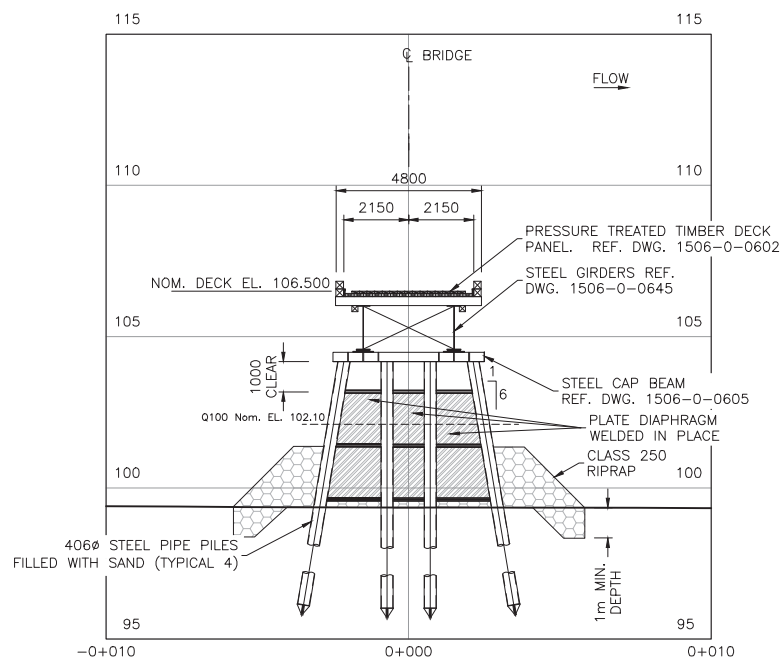
Designed: RAO Checked: WWC QC: RWP
 Drawn: DMW Date: SEPTEMBER 2010
 0 1:500 25
 UNLESS OTHERWISE NOTED

SEABRIDGE GOLD INC.
 PROPOSED MINE ACCESS - COULTER ROUTE
 UNUK RIVER (C010)- km 20.9±
 GENERAL ARRANGEMENT

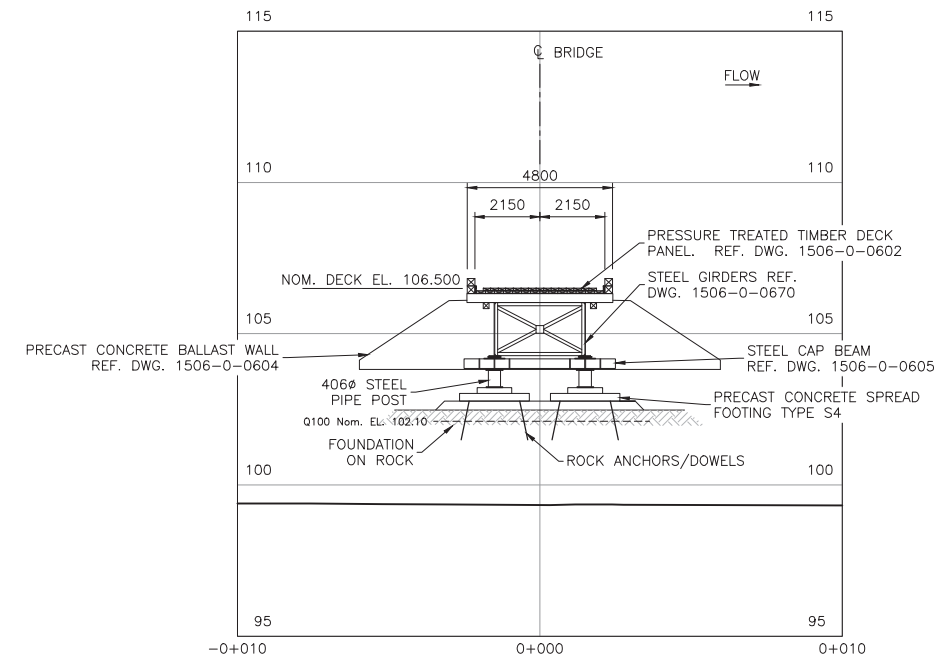
Client Project No
 Client Drawing No
 MCSI Project No. 2341-01506-0
 Drawing No.
01506-210-03
 Sheet 3 of 0 Revision A



ELEVATION - LOW CHAINAGE ABUTMENT
LOOKING DOWN-CHAINAGE



ELEVATION - MID-CHANNEL PIER (2)
LOOKING UP-CHAINAGE



ELEVATION - HIGH CHAINAGE ABUTMENT
LOOKING UP-CHAINAGE



No.	Date	Revision	Dr.	CK'd
A	OCT. 2012	ISSUED FOR PERMITTING		

THIS DRAWING AND DESIGN IS THE PROPERTY OF McELHANNEY CONSULTING SERVICES LTD. AND SHALL NOT BE USED, REUSED OR REPRODUCED WITHOUT THE CONSENT OF THE SAID COMPANY. McELHANNEY CONSULTING SERVICES LTD. WILL NOT BE HELD RESPONSIBLE FOR THE IMPROPER OR UNAUTHORIZED USE OF THIS DRAWING AND DESIGN. INFORMATION ON EXISTING FEATURES MAY NOT BE COMPLETE OR ACCURATE. PRIOR TO CONSTRUCTION CONTRACTOR SHALL CONFIRM LOCATIONS OF ALL EXISTING FEATURES AND ADVISE THE ENGINEER OF POTENTIAL CONFLICTS.

McElhanney
McElhanney Consulting Services Ltd.
1633 First Avenue PH (250) 561-2229
Prince George B.C. V2L 2Y8 FAX (250) 563-1941
www.mcelhanney.com Toll Free (866) 451-2229

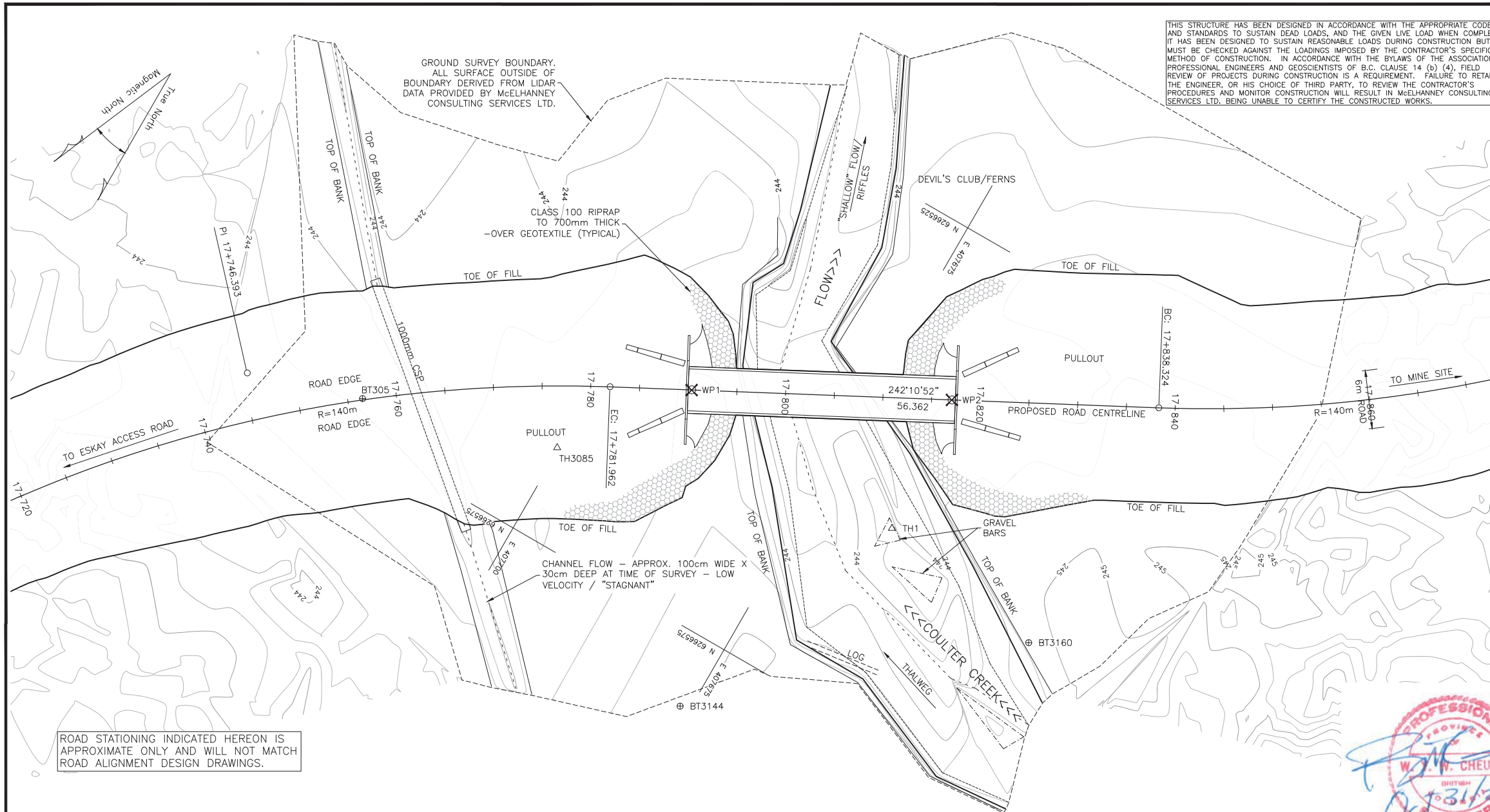
Designed: RAO Checked: WWC QC: RWP
Drawn: DMW Date: SEPTEMBER 2010
0 1:250 10
UNLESS OTHERWISE NOTED

Approved/Sealed

SEABRIDGE GOLD INC.
PROPOSED MINE ACCESS - COULTER ROUTE
UNUK RIVER (C010)- km 20.9±
GENERAL ARRANGEMENT - DETAILS

Client Project No	
Client Drawing No	
MCSL Project No.	2341-01506-0
Drawing No.	01506-210-04
Sheet	4 of 0
Revision	A

H:\PROJ\2341\1506-159A\1506-159A\Drawings\210.10 Drawings\210.10 Working.dwg, 11/19/2012 2:23:17 PM



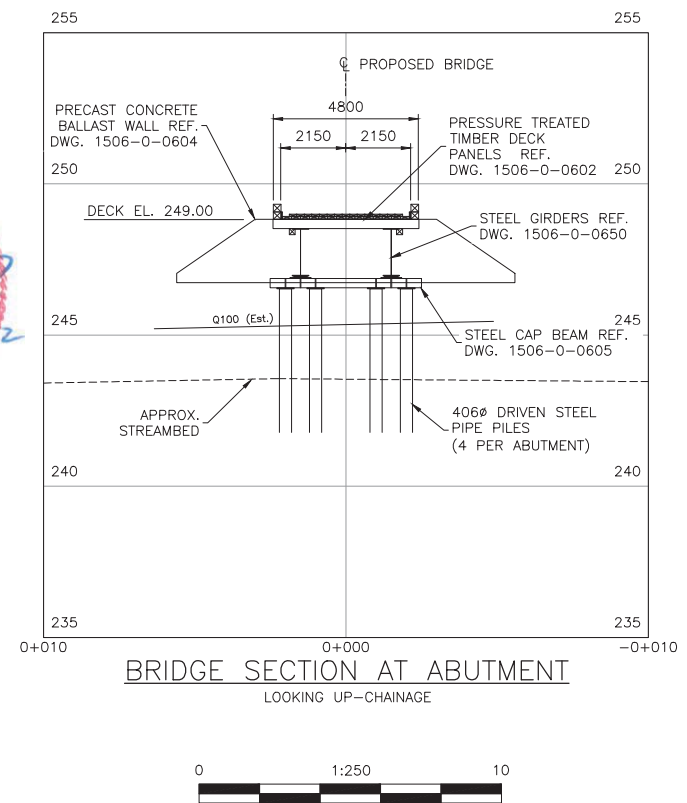
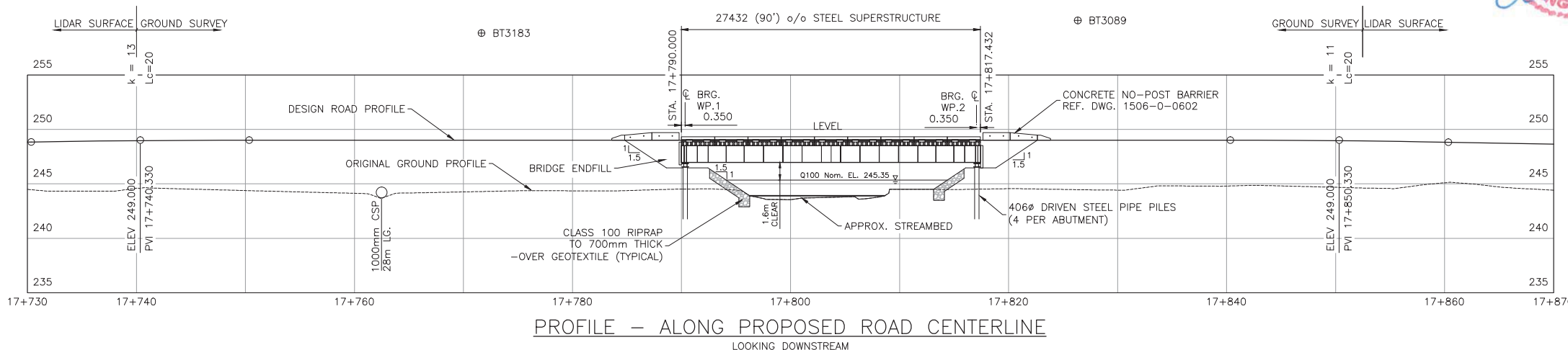
SURVEY CONTROL					
Point	Northing	Easting	Elevation	H.D.	Bearing
1	6266555.596	407666.306	244.500	---	---
3055 - B.S.	6266571.222	407720.019	246.115	55.940	73-46-44
3085	6266565.600	407700.206	244.353	35.345	73-33-29
3089	6266576.778	407640.104	247.097	33.693	308-57-07
3144	6266582.267	407676.015	247.418	28.383	20-00-08
3160	6266558.737	407648.290	246.867	18.288	279-53-27
3183	6266605.133	407686.896	246.561	53.646	22-34-11
WP1	6266553.576	407691.213	249.000*	24.988	94-38-08
WP2	6266541.101	407667.570	249.000*	14.550	175-00-57

* WP's LOCATED AT CENTRELINE OF ROADWAY AND CENTRELINE OF BEARING. ELEVATIONS ARE AT FINISHED GRADE.

DESIGN NOTES/SPECIFICATIONS

- SITE LOCATION
LAT. N56-32-03 LONG. W130-30-05
N 6266555 E 407662 (UTM NAD83, ZONE 9)
- HYDROLOGY: (At Proposed Road Centerline)
- DRAINAGE AREA APPROX. 18.5 sq.km
- Q100 FLOW ESTIMATED AT 78.1 cu.m/sec
- BOTTOM CREEK APPROX. EL. 243.55m
- ESTIMATED MAX. STREAM VELOCITY = 3.5 m/sec
- ESTIMATED H.W.L. ELEVATION = 245.35m
- STREAM RIPARIAN CLASS S1 (FISH) PER RESCAN.
- DESIGN IN GENERAL ACCORDANCE WITH CAN/CSA S6-2006 DESIGN SPECIFICATIONS MODIFIED TO BCFS L100 LOADING (90,680 kg. G.V.W.) e= 400 mm, DISTRIBUTION = 60/40 IN ACCORDANCE WITH THE MINISTRY OF FORESTS AND RANGE "FOREST SERVICE BRIDGE DESIGN & CONSTRUCTION MANUAL". FOR OVERLOAD AND CONSTRUCTION LOADING ALLOWANCES, REFER TO GENERAL NOTES.
- THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH McELHANNEY DRAWINGS 1506-0-601 TO 1506-0-605 AND 1506-0-650.
- ALL DIMENSIONS IN mm UNLESS NOTED OTHERWISE.

ROAD STATIONING INDICATED HEREON IS APPROXIMATE ONLY AND WILL NOT MATCH ROAD ALIGNMENT DESIGN DRAWINGS.



No.	Date	Revision	Dr.	CK'd
A	OCT. 2012	ISSUED FOR PERMITTING		

THIS DRAWING AND DESIGN IS THE PROPERTY OF McELHANNEY CONSULTING SERVICES LTD. AND SHALL NOT BE USED, REUSED OR REPRODUCED WITHOUT THE CONSENT OF THE SAID COMPANY. McELHANNEY CONSULTING SERVICES LTD. WILL NOT BE HELD RESPONSIBLE FOR THE IMPROPER OR UNAUTHORIZED USE OF THIS DRAWING AND DESIGN. INFORMATION ON EXISTING FEATURES MAY NOT BE COMPLETE OR ACCURATE. PRIOR TO CONSTRUCTION CONTRACTOR SHALL CONFIRM LOCATIONS OF ALL EXISTING FEATURES AND ADVISE THE ENGINEER OF POTENTIAL CONFLICTS.

McElhanney
McElhanney Consulting Services Ltd.
 1633 First Avenue PH (250) 561-2229
 Prince George B.C. V2L 2Y8 FAX (250) 563-1941
 www.mcelhanney.com Toll Free (866) 451-2229

Designed: RAO Checked: WWC QC: RWP
 Drawn: DMH Date: 09-10-09
 Scale: 0 1:500 25
 (UNLESS NOTED OTHERWISE)

SEABRIDGE GOLD INC.
PROPOSED MINE ACCESS - COULTER ROUTE
COULTER CREEK (C006) - Km 17.8±
GENERAL ARRANGEMENT

Client Project No. _____
 Client Drawing No. _____
 MCSL Project No. 2341-01506-0
 Drawing No. **01506-206-03**
 Sheet 3 of 3 Revision A
 Destroy all prints bearing previous number ▲

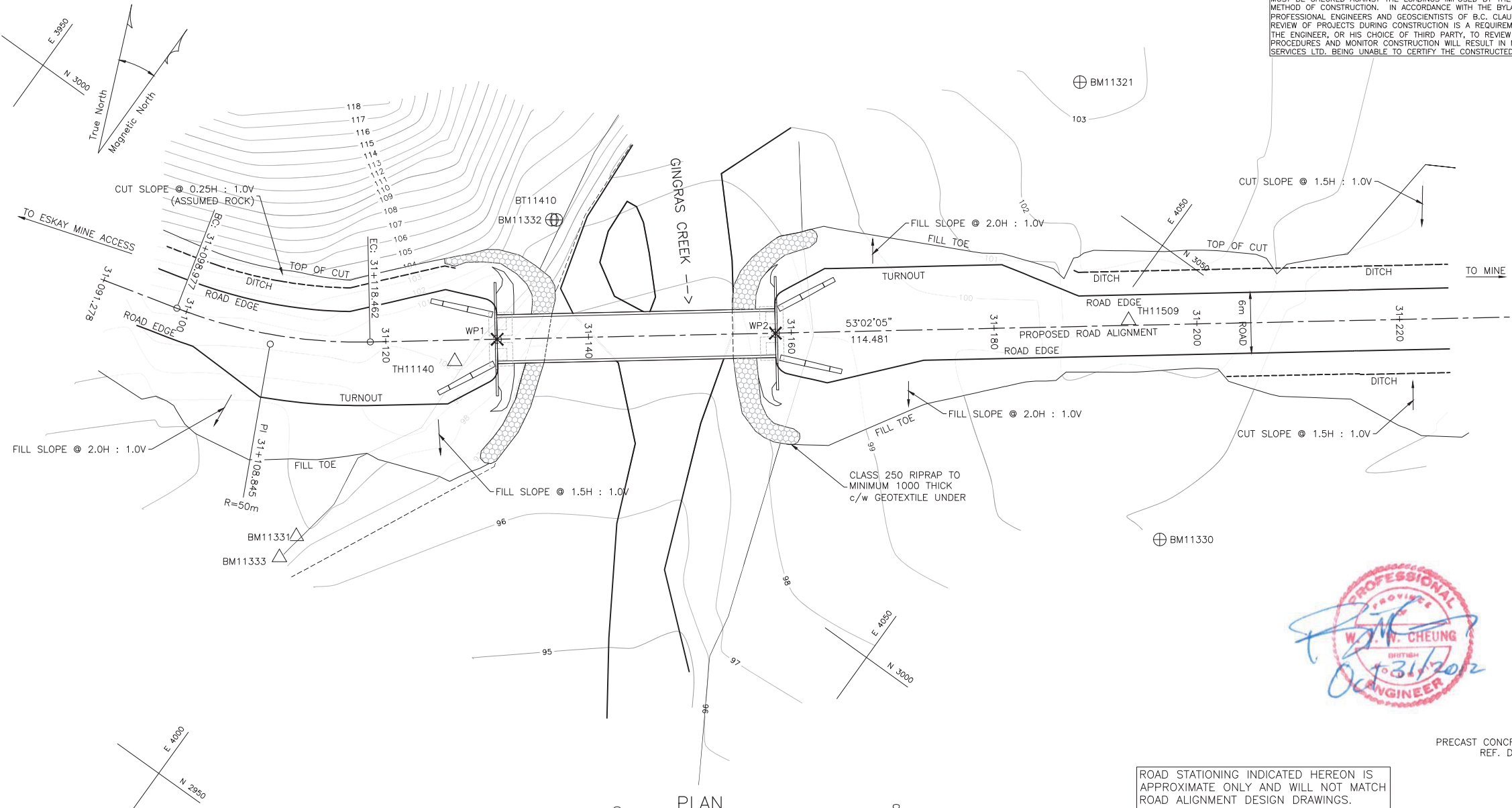
THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH THE APPROPRIATE CODES AND STANDARDS TO SUSTAIN DEAD LOADS, AND THE GIVEN LIVE LOAD WHEN COMPLETE. IT HAS BEEN DESIGNED TO SUSTAIN REASONABLE LOADS DURING CONSTRUCTION BUT MUST BE CHECKED AGAINST THE LOADINGS IMPOSED BY THE CONTRACTOR'S SPECIFIC METHOD OF CONSTRUCTION. IN ACCORDANCE WITH THE BYLAWS OF THE ASSOCIATION OF PROFESSIONAL ENGINEERS AND GEOSCIENTISTS OF B.C. CLAUSE 14 (b) (A), FIELD REVIEW OF PROJECTS DURING CONSTRUCTION IS A REQUIREMENT. FAILURE TO RETAIN THE ENGINEER, OR HIS CHOICE OF THIRD PARTY, TO REVIEW THE CONTRACTOR'S PROCEDURES AND MONITOR CONSTRUCTION WILL RESULT IN McELHANNEY CONSULTING SERVICES LTD. BEING UNABLE TO CERTIFY THE CONSTRUCTED WORKS.

SURVEY CONTROL					
Point	Northing	Easting	Elevation	H.D.	Bearing
BM11332	3016.9	3999.6	101.155	---	---
BM11321-B.S	3058.3	4034.0	103.501	53.810	39-41-30
WP1	3004.225	4002.133	101.850*	12.949	168-50-53
WP2	3020.720	4024.051	101.850*	24.715	81-10-31
BM11330	3026.3	4066.7	99.820	---	---
BM11331	2976.9	3997.4	98.393	---	---
BM11333	2974.2	3997.2	99.088	---	---
BT11410	3017.163	4000.000	102.715	---	---
TH11140	3000.000	4000.000	100.000	---	---
TH11509	3042.081	4051.597	101.832	---	---

* NOMINAL DECK ELEVATION

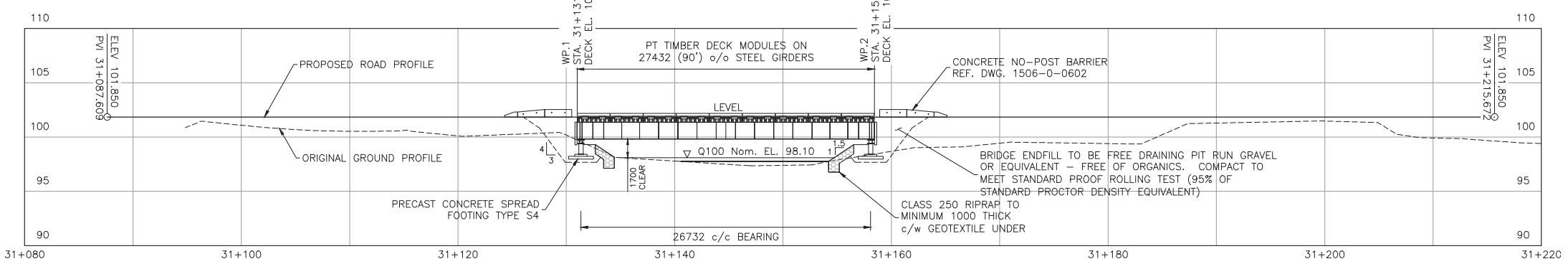
DESIGN NOTES/SPECIFICATIONS

- SITE LOCATION
LAT. N56-30-08 LONG. W130-21-33
N 6262790 E 416340
- HYDROLOGY: (At Proposed Road Centerline)
-DRAINAGE AREA APPROX 10.1 sq.km
-Q100 FLOW ESTIMATED AT 38.9 cu.m/sec
-BOTTOM CREEK APPROX. EL. 97.44 m (Est.)
-ESTIMATED MAX. STREAM VELOCITY = 3.7 m/sec
-ESTIMATED H.W.L. ELEVATION = 98.1 m
- STREAM RIPARIAN CLASS S5 (NO FISH) PER RESCAN.
- DESIGN IN GENERAL ACCORDANCE WITH CAN/CSA S6-2006 DESIGN SPECIFICATIONS MODIFIED TO BCFS L100 LOADING (90,680 kg. G.V.W.) e = 400 mm, DISTRIBUTION = 60/40 IN ACCORDANCE WITH THE MINISTRY OF FORESTS AND RANGE "FOREST SERVICE BRIDGE DESIGN & CONSTRUCTION MANUAL". FOR OVERLOAD AND CONSTRUCTION LOADING ALLOWANCES, REFER TO GENERAL NOTES.
- THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH McELHANNEY DRAWINGS 1506-0-601 TO 1506-0-605 AND 1506-0-650.
- ALL DIMENSIONS IN mm UNLESS NOTED OTHERWISE.
- FOR ADDITIONAL NOTES SEE DRAWING 1506-211-01.

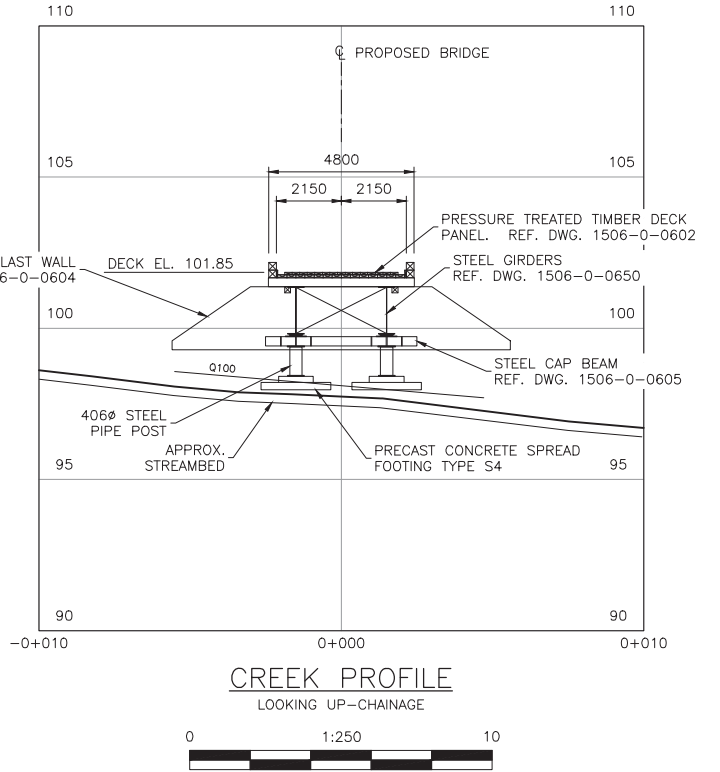


PLAN

ROAD STATIONING INDICATED HEREON IS APPROXIMATE ONLY AND WILL NOT MATCH ROAD ALIGNMENT DESIGN DRAWINGS.



PROFILE - ALONG PROPOSED ROAD CENTERLINE
LOOKING UPSTREAM



CREEK PROFILE
LOOKING UP-CHAINAGE

No.	Date	Revision	Dr.	CK'd
A	OCT. 2012	ISSUED FOR PERMITTING		

THIS DRAWING AND DESIGN IS THE PROPERTY OF McELHANNEY CONSULTING SERVICES LTD. AND SHALL NOT BE USED, REUSED OR REPRODUCED WITHOUT THE CONSENT OF THE SAID COMPANY. McELHANNEY CONSULTING SERVICES LTD. WILL NOT BE HELD RESPONSIBLE FOR THE IMPROPER OR UNAUTHORIZED USE OF THIS DRAWING AND DESIGN. INFORMATION ON EXISTING FEATURES MAY NOT BE COMPLETE OR ACCURATE. PRIOR TO CONSTRUCTION CONTRACTOR SHALL CONFIRM LOCATIONS OF ALL EXISTING FEATURES AND ADVISE THE ENGINEER OF POTENTIAL CONFLICTS.

McElhanney
McElhanney Consulting Services Ltd.
1633 First Avenue PH (250) 561-2229
Prince George B.C. V2L 2Y8 FAX (250) 563-1941
www.mcelhanney.com Toll Free (866) 451-2229

Designed: RAO Checked: WWC QC: RWP
Drawn: DMW Date: SEPTEMBER 2010
0 1:500 25
UNLESS OTHERWISE NOTED

SEABRIDGE GOLD INC.
PROPOSED MINE ACCESS - COULTER ROUTE
GINGRAS CREEK (C011) - km 33.4±
GENERAL ARRANGEMENT

Client Project No
Client Drawing No
MCSL Project No. 2341-01506-0
Drawing No.
01506-211-03
Sheet 3 of 0 Revision A
Destroy all prints bearing previous number ▲

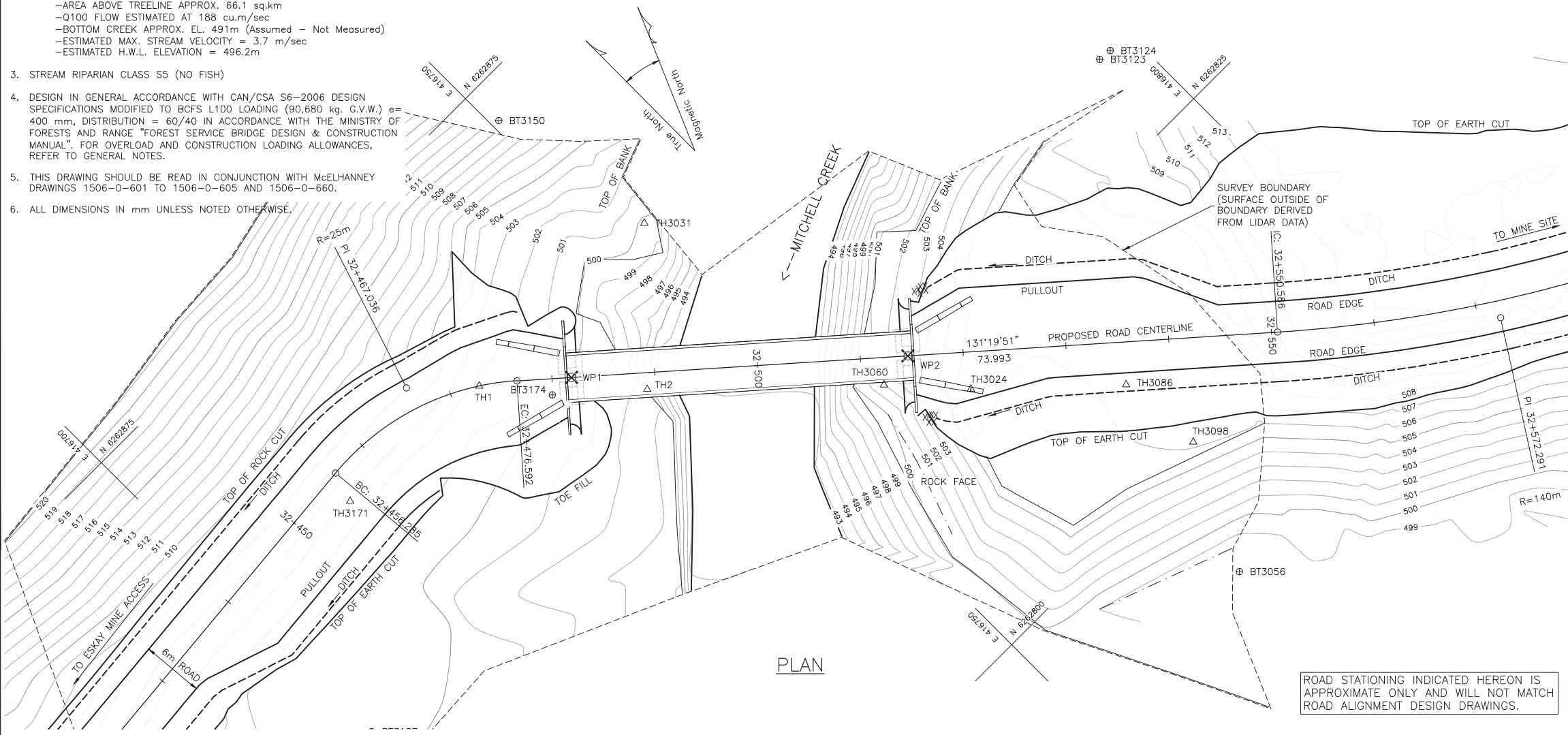
DESIGN NOTES/SPECIFICATIONS

- SITE LOCATION**
LAT. N56-30-10 LONG. W130-21-10
N 6262857 E 416735
- HYDROLOGY:** (At Proposed Road Centerline)
-DRAINAGE AREA APPROX 80.3 sq.km
-AREA ABOVE TREELINE APPROX. 66.1 sq.km
-Q100 FLOW ESTIMATED AT 188 cu.m/sec
-BOTTOM CREEK APPROX. EL. 491m (Assumed - Not Measured)
-ESTIMATED MAX. STREAM VELOCITY = 3.7 m/sec
-ESTIMATED H.W.L. ELEVATION = 496.2m
- STREAM RIPARIAN CLASS S5 (NO FISH)**
- DESIGN IN GENERAL ACCORDANCE WITH CAN/CSA S6-2006 DESIGN SPECIFICATIONS MODIFIED TO BCFS L100 LOADING (90,680 kg. G.V.W.) $e=400$ mm, DISTRIBUTION = 60/40 IN ACCORDANCE WITH THE MINISTRY OF FORESTS AND RANGE "FOREST SERVICE BRIDGE DESIGN & CONSTRUCTION MANUAL". FOR OVERLOAD AND CONSTRUCTION LOADING ALLOWANCES, REFER TO GENERAL NOTES.
- THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH McELHANNEY DRAWINGS 1506-0-601 TO 1506-0-605 AND 1506-0-660.
- ALL DIMENSIONS IN mm UNLESS NOTED OTHERWISE.

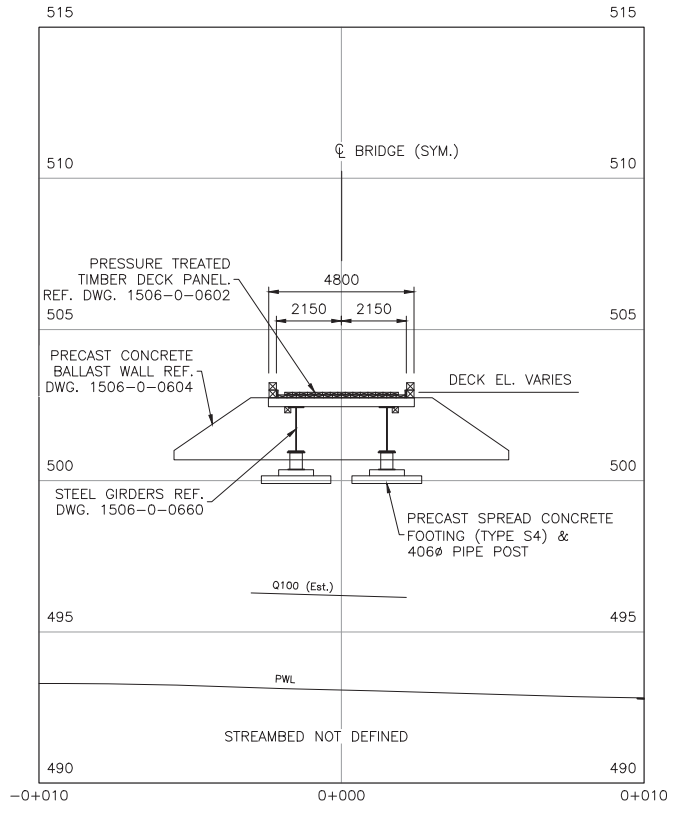
THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH THE APPROPRIATE CODES AND STANDARDS TO SUSTAIN DEAD LOADS, AND THE GIVEN LIVE LOAD WHEN COMPLETE. IT HAS BEEN DESIGNED TO SUSTAIN REASONABLE LOADS DURING CONSTRUCTION BUT MUST BE CHECKED AGAINST THE LOADINGS IMPOSED BY THE CONTRACTOR'S SPECIFIC METHOD OF CONSTRUCTION. IN ACCORDANCE WITH THE BYLAWS OF THE ASSOCIATION OF PROFESSIONAL ENGINEERS AND GEOSCIENTISTS OF B.C. CLAUSE 14 (b) (4), FIELD REVIEW OF PROJECTS DURING CONSTRUCTION IS A REQUIREMENT. FAILURE TO RETAIN THE ENGINEER, OR HIS CHOICE OF THIRD PARTY, TO REVIEW THE CONTRACTOR'S PROCEDURES AND MONITOR CONSTRUCTION WILL RESULT IN McELHANNEY CONSULTING SERVICES LTD. BEING UNABLE TO CERTIFY THE CONSTRUCTED WORKS.

SURVEY CONTROL						
Point	Northing	Easting	Elevation	H.D.	Bearing	
1	6262854.327	416731.208	501.762	22.625	270-23-20	
2	- B.S.	6262842.563	416742.515	497.917	16.145	224-00-46
3024	6262820.363	416764.760	506.777	35.564	161-56-12	
3031	6262854.174	416753.732	499.740	---	---	
3056	6262789.384	416770.658	500.326	66.965	165-21-33	
3060	6262826.600	416759.079	501.893	28.088	169-01-39	
3086	6262809.994	416775.728	506.285	49.353	153-31-58	
3098	6262801.444	416776.389	506.054	57.392	156-44-54	
3122	6262835.009	416693.741	502.083	62.979	252-16-59	
3123	6262834.158	416796.245	508.694	48.240	114-40-49	
3124	6262834.032	416797.566	509.025	46.989	115-12-45	
3150	6262871.202	416750.781	511.720	17.281	350-09-58	
3171	6262855.270	416714.441	502.600	39.306	271-35-53	
3174	6262848.692	416735.623	502.666	18.921	253-09-23	
3187	6262837.980	416700.079	501.889	56.044	253-12-16	
WP1	6262848.575	416738.137	502.196*	16.570	250-15-03	
WP2	6262826.961	416762.712	503.504*	28.656	161-44-15	

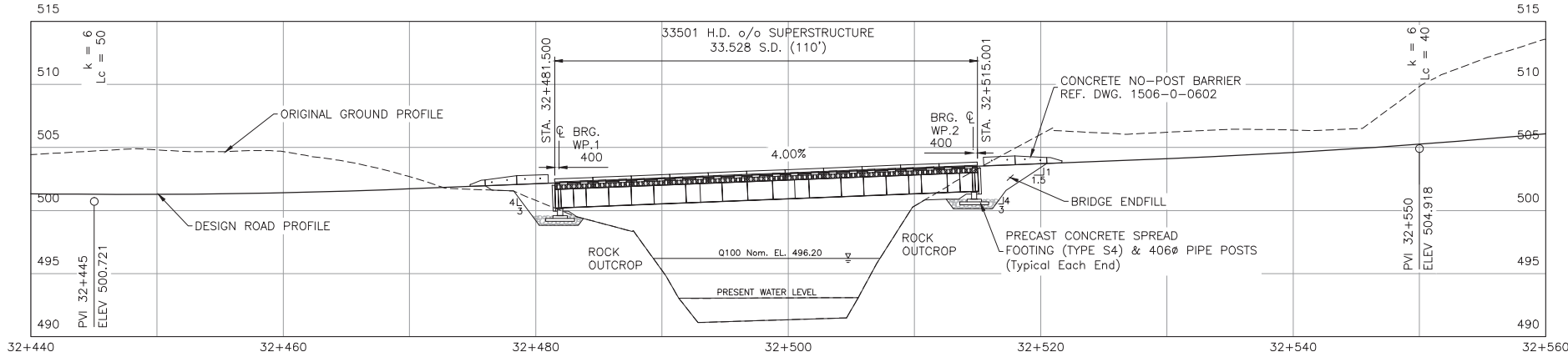
* WP's LOCATED AT CENTRELINE OF ROADWAY AND CENTRELINE OF BEARING. ELEVATIONS ARE AT FINISHED GRADE.



ROAD STATIONING INDICATED HEREON IS APPROXIMATE ONLY AND WILL NOT MATCH ROAD ALIGNMENT DESIGN DRAWINGS.



BRIDGE SECTION AT ABUTMENT
LOOKING UP-CHAINAGE



PROFILE - ALONG PROPOSED ROAD CENTERLINE
LOOKING UPSTREAM



No.	Date	Revision	Dr.	CK'd
A.	OCT. 2012	ISSUED FOR PERMITTING		

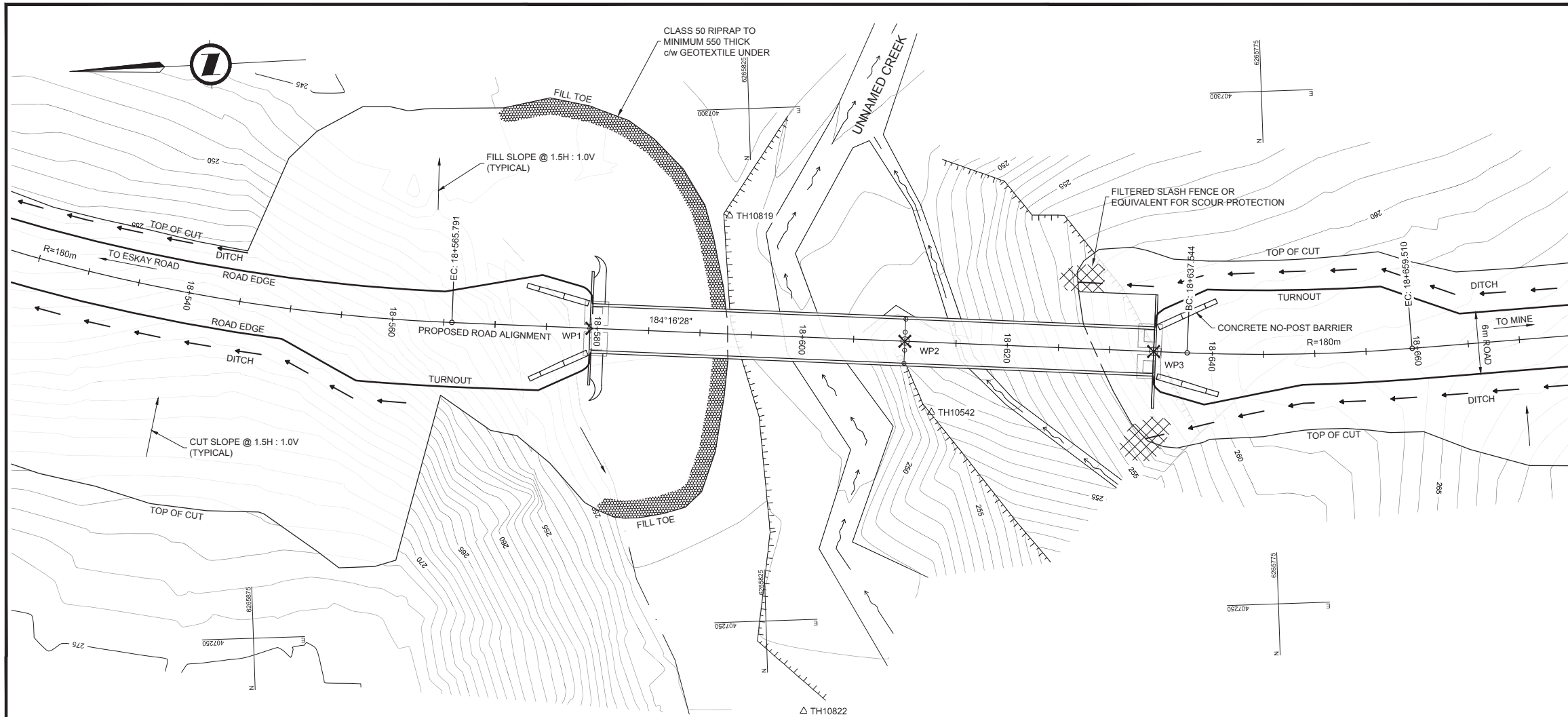
THIS DRAWING AND DESIGN IS THE PROPERTY OF McELHANNEY CONSULTING SERVICES LTD. AND SHALL NOT BE USED, REUSED OR REPRODUCED WITHOUT THE CONSENT OF THE SAID COMPANY. McELHANNEY CONSULTING SERVICES LTD. WILL NOT BE HELD RESPONSIBLE FOR THE IMPROPER OR UNAUTHORIZED USE OF THIS DRAWING AND DESIGN. INFORMATION ON EXISTING FEATURES MAY NOT BE COMPLETE OR ACCURATE. PRIOR TO CONSTRUCTION CONTRACTOR SHALL CONFIRM LOCATIONS OF ALL EXISTING FEATURES AND ADVISE THE ENGINEER OF POTENTIAL CONFLICTS.

McElhanney
McElhanney Consulting Services Ltd.
1633 First Avenue PH (250) 561-2229
Prince George B.C. V2L 2Y8 FAX (250) 563-1941
www.mcelhanney.com Toll Free (866) 451-2229

Designed: RAO Checked: WWC QC: RWP
Drawn: SAB/DMH Date: 09-10-09
0 1:500 25
(UNLESS NOTED OTHERWISE)

SEABRIDGE GOLD INC.
PROPOSED MINE ACCESS - COULTER ROUTE
MITCHELL CREEK (C007) - Km 33.9±
GENERAL ARRANGEMENT

Client Project No. _____
Client Drawing No. _____
MCSL Project No. 2341-01506-0
Drawing No. **01506-207-03**
Sheet 3 of 3 Revision A
Destroy all prints bearing previous number ▲



PLAN

ROAD STATIONING INDICATED HEREON IS APPROXIMATE ONLY AND WILL NOT MATCH ROAD ALIGNMENT DESIGN DRAWINGS.

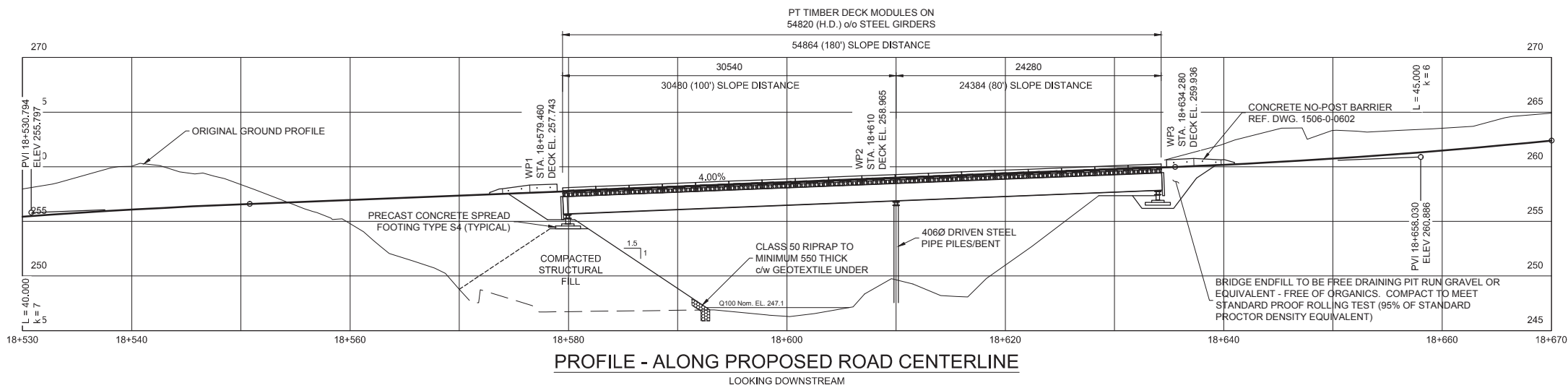
SURVEY CONTROL					
Point	Northing	Easting	Elevation	H.D.	Bearing
TH10822	6265821.612	407241.102	249.017	---	---
TH10542 - B.S.	6265808.200	407269.795	252.478	31.673	115-03-14
TH10819	6265827.198	407289.603	246.568	48.821	83-25-50
WP1	6265841.002	407279.089	257.743*	42.649	62-57-30
WP2	6265810.547	407276.812	258.965*	37.385	107-12-59
WP3	6265786.335	407275.003	259.936*	48.926	136-08-26

*NOMINAL DECK ELEVATION

THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH THE APPROPRIATE CODES AND STANDARDS TO SUSTAIN DEAD LOADS, AND THE GIVEN LIVE LOAD WHEN COMPLETE. IT HAS BEEN DESIGNED TO SUSTAIN REASONABLE LOADS DURING CONSTRUCTION BUT MUST BE CHECKED AGAINST THE LOADINGS IMPOSED BY THE CONTRACTOR'S SPECIFIC METHOD OF CONSTRUCTION. IN ACCORDANCE WITH THE BYLAWS OF THE ASSOCIATION OF PROFESSIONAL ENGINEERS AND GEOSCIENTISTS OF B.C. CLAUSE 14 (b) (4), FIELD REVIEW OF PROJECTS DURING CONSTRUCTION IS A REQUIREMENT. FAILURE TO RETAIN THE ENGINEER, OR HIS CHOICE OF THIRD PARTY, TO REVIEW THE CONTRACTOR'S PROCEDURES AND MONITOR CONSTRUCTION WILL RESULT IN McELHANNEY CONSULTING SERVICES LTD. BEING UNABLE TO CERTIFY THE CONSTRUCTED WORKS.

DESIGN NOTES/SPECIFICATIONS

- DESIGN IN GENERAL ACCORDANCE WITH CAN/CSA S6-2006 DESIGN SPECIFICATIONS MODIFIED TO BCFS L100 LOADING (90,680 kg. G.V.W.) $e = 400$ mm, DISTRIBUTION = 60/40 IN ACCORDANCE WITH THE MINISTRY OF FORESTS AND RANGE "FOREST SERVICE BRIDGE DESIGN & CONSTRUCTION MANUAL". FOR OVERLOAD AND CONSTRUCTION LOADING ALLOWANCES, REFER TO GENERAL NOTES.
- THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH McELHANNEY DRAWINGS 1506-0-601 TO 1506-0-605.
- ALL DIMENSIONS IN mm UNLESS NOTED OTHERWISE.
- FOR ADDITIONAL NOTES SEE DRAWING 1506-224-04.



PROFILE - ALONG PROPOSED ROAD CENTERLINE

LOOKING DOWNSTREAM

DRAFT - NOT FOR CONSTRUCTION

No.	Date	Revision	Dr.	CK'd

THIS DRAWING AND DESIGN IS THE PROPERTY OF McELHANNEY CONSULTING SERVICES LTD. AND SHALL NOT BE USED, REUSED OR REPRODUCED WITHOUT THE CONSENT OF THE SAID COMPANY. McELHANNEY CONSULTING SERVICES LTD. WILL NOT BE HELD RESPONSIBLE FOR THE IMPROPER OR UNAUTHORIZED USE OF THIS DRAWING AND DESIGN. INFORMATION ON EXISTING FEATURES MAY NOT BE COMPLETE OR ACCURATE. PRIOR TO CONSTRUCTION CONTRACTOR SHALL CONFIRM LOCATIONS OF ALL EXISTING FEATURES AND ADVISE THE ENGINEER OF POTENTIAL CONFLICTS.

McElhanney
 McElhanney Consulting Services Ltd.
 1633 First Avenue PH (250) 561-2229
 Prince George B.C. V2L 2Y8 FAX (250) 563-1941
 www.mcelhanney.com Toll Free (866) 451-2229

Designed: RAO Checked: WWC QC: -
 Drawn: DMW Date: 12-02-20

0 1:500 25

Approved Sealed

SEABRIDGE GOLD INC.
 PROPOSED MINE ACCESS - COULTER ROUTE
 UNNAMED CREEK (C024) - Km 18.6±
 GENERAL ARRANGEMENT

Client Project No	
Client Drawing No	
MCSL Project No.	2341-01506-0
Drawing No.	01506-224-03
Sheet	3 of 4
Revision	

Destroy all prints bearing previous number

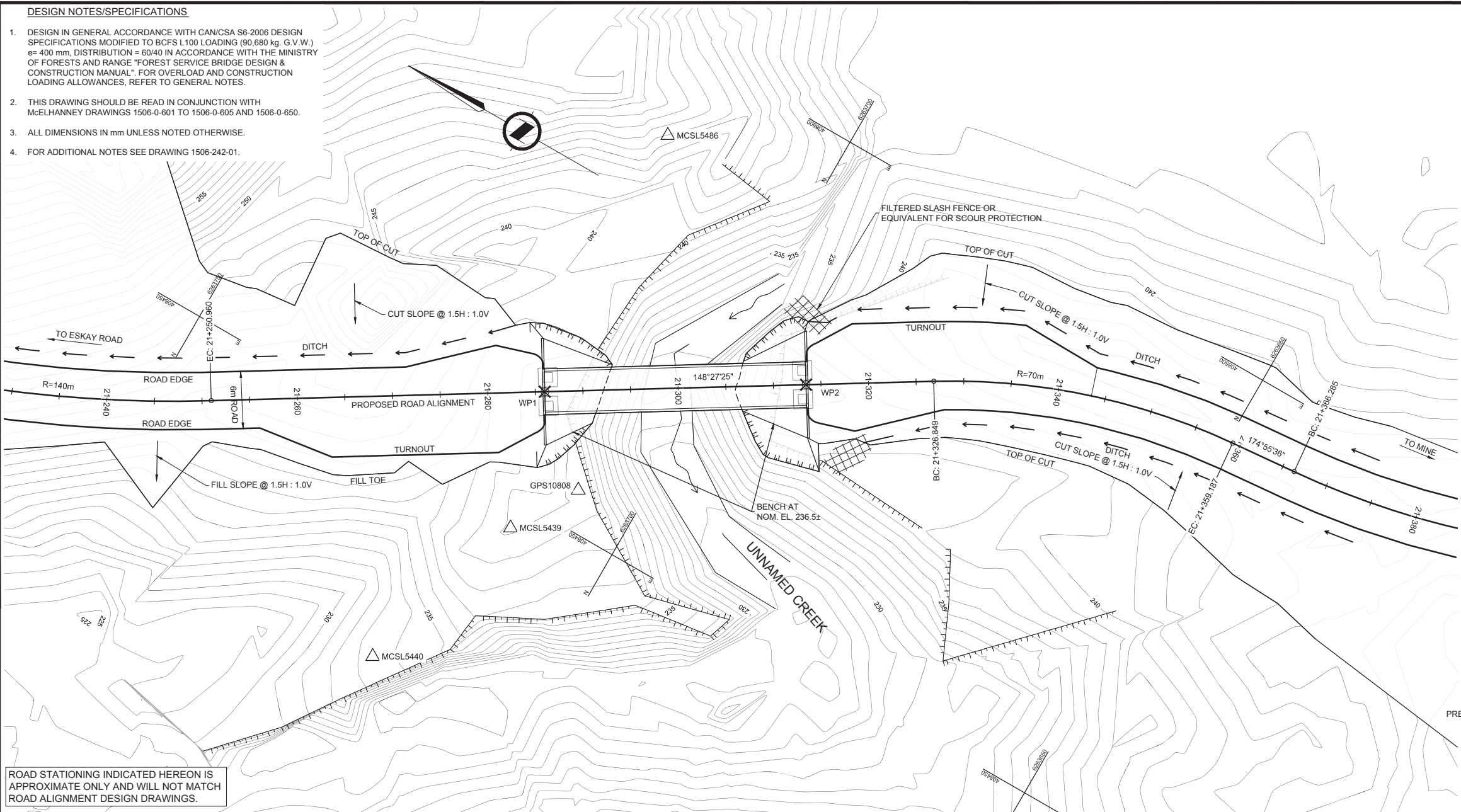
DESIGN NOTES/SPECIFICATIONS

- DESIGN IN GENERAL ACCORDANCE WITH CAN/CSA S6-2006 DESIGN SPECIFICATIONS MODIFIED TO BCFS L100 LOADING (90,680 kg. G.V.W.) e= 400 mm, DISTRIBUTION = 60/40 IN ACCORDANCE WITH THE MINISTRY OF FORESTS AND RANGE "FOREST SERVICE BRIDGE DESIGN & CONSTRUCTION MANUAL". FOR OVERLOAD AND CONSTRUCTION LOADING ALLOWANCES, REFER TO GENERAL NOTES.
- THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH McELHANNEY DRAWINGS 1506-0-601 TO 1506-0-605 AND 1506-0-650.
- ALL DIMENSIONS IN mm UNLESS NOTED OTHERWISE.
- FOR ADDITIONAL NOTES SEE DRAWING 1506-242-01.

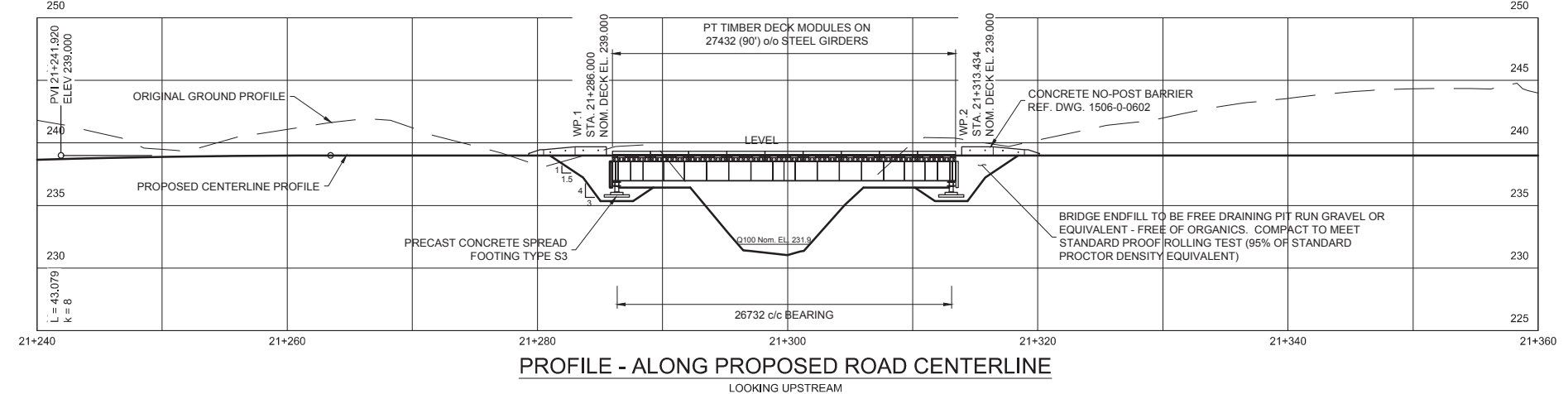
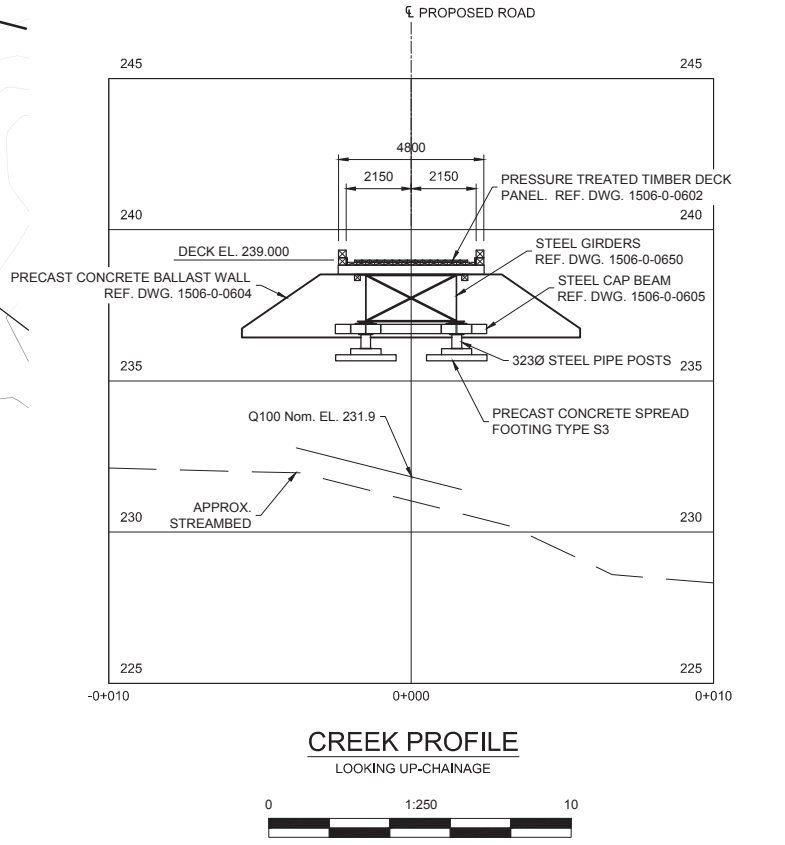
SURVEY CONTROL					
Point	Northing	Easting	Elevation	H.D.	Bearing
WP1	6263714.660	408461.282	239.000	---	---
WP2	- B.S.	6263691.281	408475.632	239.000	38.400 254-10-07
MCSL5486	6263716.934	408491.035	248.895	44.373	261-50-05
GPS10808	6263706.458	408454.092	239.155	62.855	269-31-58
MCSL5439	6263710.632	408447.111	240.242	29.840	265-37-50
MCSL5440	6263716.421	408428.182	233.523	29.921	210-58-54

*NOMINAL DECK ELEVATION

THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH THE APPROPRIATE CODES AND STANDARDS TO SUSTAIN DEAD LOADS, AND THE GIVEN LIVE LOAD WHEN COMPLETE. IT HAS BEEN DESIGNED TO SUSTAIN REASONABLE LOADS DURING CONSTRUCTION BUT MUST BE CHECKED AGAINST THE LOADINGS IMPOSED BY THE CONTRACTOR'S SPECIFIC METHOD OF CONSTRUCTION. IN ACCORDANCE WITH THE BYLAWS OF THE ASSOCIATION OF PROFESSIONAL ENGINEERS AND GEOSCIENTISTS OF B.C. CLAUSE 14 (b) (4), FIELD REVIEW OF PROJECTS DURING CONSTRUCTION IS A REQUIREMENT. FAILURE TO RETAIN THE ENGINEER, OR HIS CHOICE OF THIRD PARTY, TO REVIEW THE CONTRACTOR'S PROCEDURES AND MONITOR CONSTRUCTION WILL RESULT IN McELHANNEY CONSULTING SERVICES LTD. BEING UNABLE TO CERTIFY THE CONSTRUCTED WORKS.



ROAD STATIONING INDICATED HEREON IS APPROXIMATE ONLY AND WILL NOT MATCH ROAD ALIGNMENT DESIGN DRAWINGS.



DRAFT - NOT FOR CONSTRUCTION

No.	Date	Revision	Dr.	CK'd

THIS DRAWING AND DESIGN IS THE PROPERTY OF McELHANNEY CONSULTING SERVICES LTD. AND SHALL NOT BE USED, REUSED OR REPRODUCED WITHOUT THE CONSENT OF THE SAID COMPANY. McELHANNEY CONSULTING SERVICES LTD. WILL NOT BE HELD RESPONSIBLE FOR THE IMPROPER OR UNAUTHORIZED USE OF THIS DRAWING AND DESIGN. INFORMATION ON EXISTING FEATURES MAY NOT BE COMPLETE OR ACCURATE. PRIOR TO CONSTRUCTION CONTRACTOR SHALL CONFIRM LOCATIONS OF ALL EXISTING FEATURES AND ADVISE THE ENGINEER OF POTENTIAL CONFLICTS.

McElhanney
 McElhanney Consulting Services Ltd.
 1633 First Avenue PH (250) 561-2229
 Prince George B.C. V2L 2Y8 FAX (250) 563-1941
 www.mcelhanney.com Toll Free (866) 451-2229

Designed: RAO Checked: RWP QC: -
 Drawn: DMW Date: 12-04-16
 Scale: 1:500
 UNLESS NOTED OTHERWISE

SEABRIDGE GOLD INC.
 PROPOSED MINE ACCESS - COULTER ROUTE
 UNNAMED CREEK (C042) - Km 21.3±
 GENERAL ARRANGEMENT

Client Project No. _____
 Client Drawing No. _____
 MCSL Project No. 2341-01506-0
 Drawing No. **01506-242-03**
 Sheet 0 of 0 Revision _____

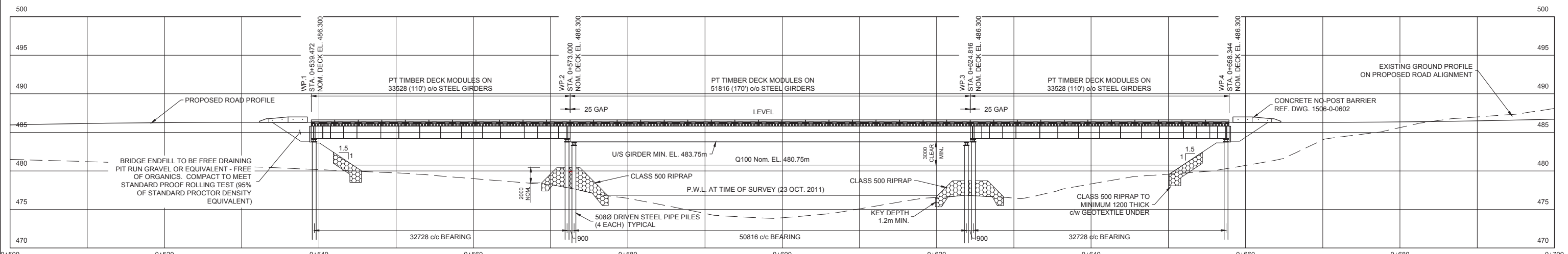
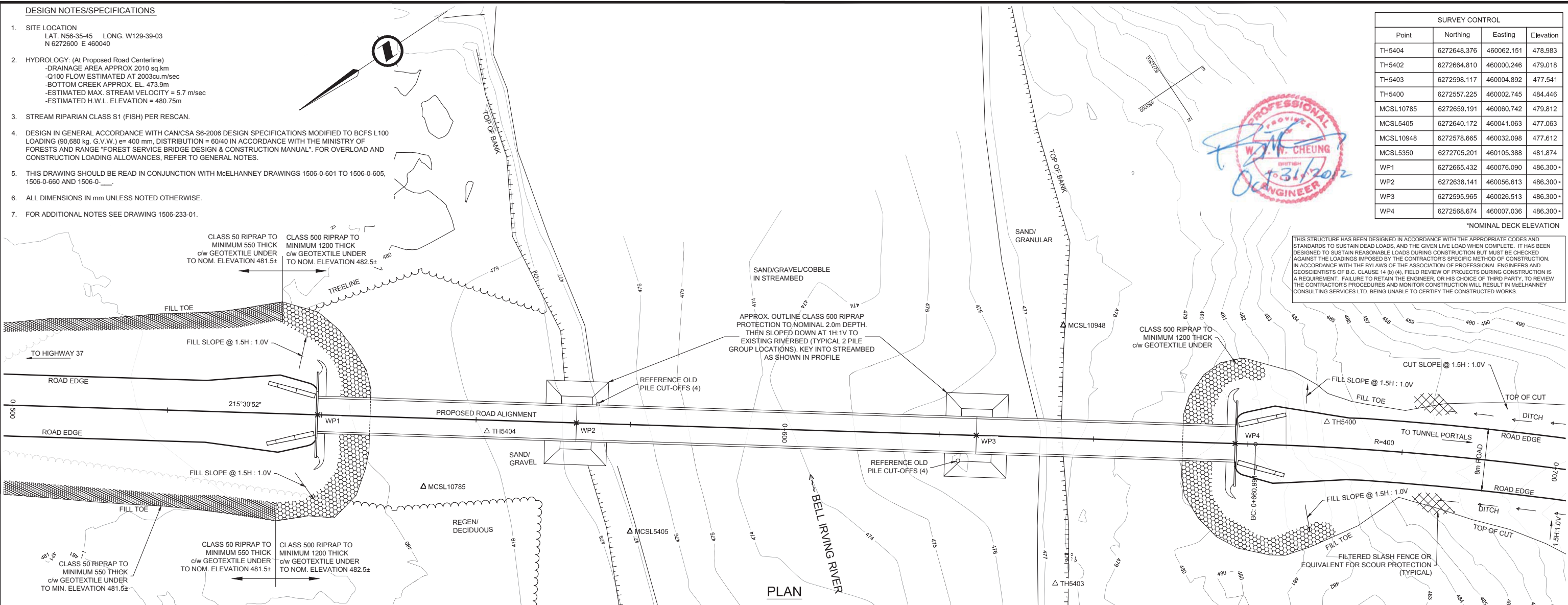
DESIGN NOTES/SPECIFICATIONS

- SITE LOCATION**
LAT. N56-35-45 LONG. W129-39-03
N 6272600 E 460040
- HYDROLOGY:** (At Proposed Road Centerline)
-DRAINAGE AREA APPROX 2010 sq.km
-Q100 FLOW ESTIMATED AT 2003cu.m/sec
-BOTTOM CREEK APPROX. EL. 473.9m
-ESTIMATED MAX. STREAM VELOCITY = 5.7 m/sec
-ESTIMATED H.W.L. ELEVATION = 480.75m
- STREAM RIPARIAN CLASS S1 (FISH) PER RESCAN.**
- DESIGN IN GENERAL ACCORDANCE WITH CAN/CSA S6-2006 DESIGN SPECIFICATIONS MODIFIED TO BCFS L100 LOADING (90,690 kg. G.V.W.) e= 400 mm, DISTRIBUTION = 60/40 IN ACCORDANCE WITH THE MINISTRY OF FORESTS AND RANGE "FOREST SERVICE BRIDGE DESIGN & CONSTRUCTION MANUAL" FOR OVERLOAD AND CONSTRUCTION LOADING ALLOWANCES. REFER TO GENERAL NOTES.**
- THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH McELHANNEY DRAWINGS 1506-0-601 TO 1506-0-605, 1506-0-660 AND 1506-0-___**
- ALL DIMENSIONS IN mm UNLESS NOTED OTHERWISE.**
- FOR ADDITIONAL NOTES SEE DRAWING 1506-233-01.**

SURVEY CONTROL			
Point	Northing	Easting	Elevation
TH5404	6272648.376	460062.151	478.983
TH5402	6272664.810	460000.246	479.018
TH5403	6272598.117	460004.892	477.541
TH5400	6272557.225	460002.745	484.446
MCSL10785	6272659.191	460060.742	479.812
MCSL5405	6272640.172	460041.063	477.063
MCSL10948	6272578.665	460032.098	477.612
MCSL5350	6272705.201	460105.388	481.874
WP1	6272665.432	460076.090	486.300
WP2	6272638.141	460056.613	486.300
WP3	6272595.965	460026.513	486.300
WP4	6272568.674	460007.036	486.300



THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH THE APPROPRIATE CODES AND STANDARDS TO SUSTAIN DEAD LOADS, AND THE GIVEN LIVE LOAD WHEN COMPLETE. IT HAS BEEN DESIGNED TO SUSTAIN REASONABLE LOADS DURING CONSTRUCTION BUT MUST BE CHECKED AGAINST THE LOADINGS IMPOSED BY THE CONTRACTOR'S SPECIFIC METHOD OF CONSTRUCTION. IN ACCORDANCE WITH THE BYLAWS OF THE ASSOCIATION OF PROFESSIONAL ENGINEERS AND GEOSCIENTISTS OF B.C. CLAUSE 14 (b) (4), FIELD REVIEW OF PROJECTS DURING CONSTRUCTION IS A REQUIREMENT. FAILURE TO RETAIN THE ENGINEER, OR HIS CHOICE OF THIRD PARTY, TO REVIEW THE CONTRACTOR'S PROCEDURES AND MONITOR CONSTRUCTION WILL RESULT IN McELHANNEY CONSULTING SERVICES LTD. BEING UNABLE TO CERTIFY THE CONSTRUCTED WORKS.

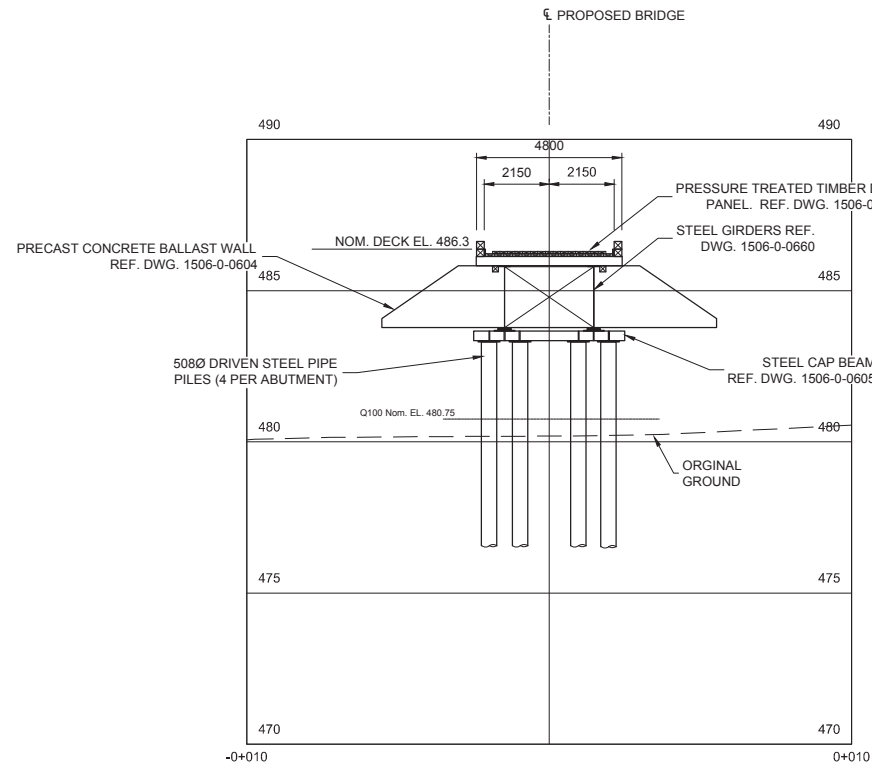


ROAD STATIONING INDICATED HEREON IS APPROXIMATE ONLY AND WILL NOT MATCH ROAD ALIGNMENT DESIGN DRAWINGS.

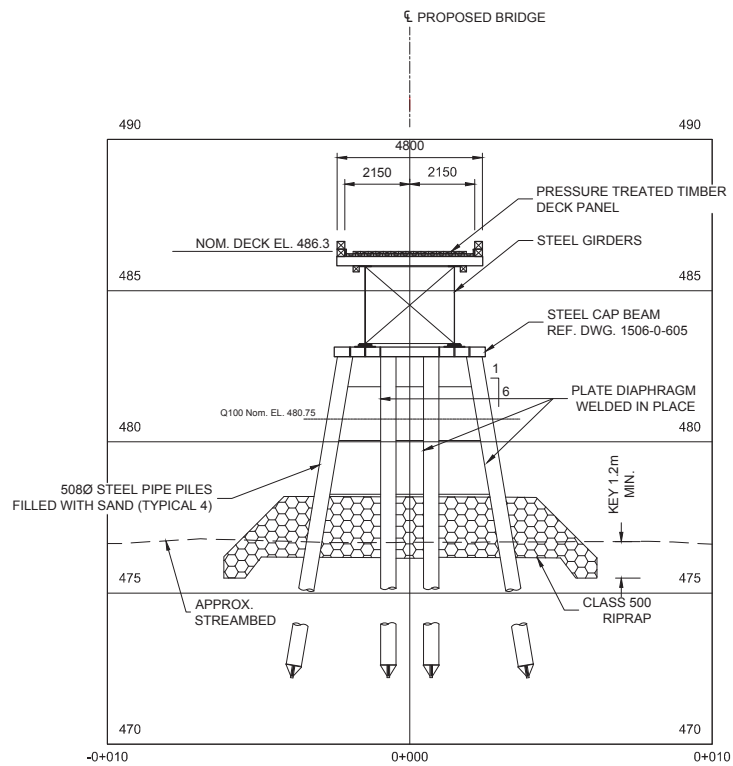
PROFILE - ALONG PROPOSED ROAD CENTERLINE
LOOKING DOWNSTREAM

<p>THIS DRAWING AND DESIGN IS THE PROPERTY OF McELHANNEY CONSULTING SERVICES LTD. AND SHALL NOT BE USED, REUSED OR REPRODUCED WITHOUT THE CONSENT OF THE SAID COMPANY. McELHANNEY CONSULTING SERVICES LTD. WILL NOT BE HELD RESPONSIBLE FOR THE IMPROPER OR UNAUTHORIZED USE OF THIS DRAWING AND DESIGN. INFORMATION ON EXISTING FEATURES MAY NOT BE COMPLETE OR ACCURATE. PRIOR TO CONSTRUCTION CONTRACTOR SHALL CONFIRM LOCATIONS OF ALL EXISTING FEATURES AND ADVISE THE ENGINEER OF POTENTIAL CONFLICTS.</p>		<p>McElhanney McElhanney Consulting Services Ltd. 1633 First Avenue PH (250) 561-2229 Prince George B.C. V2L 2Y8 FAX (250) 563-1941 www.mcelhanney.com Toll Free (866) 451-2229</p>	<p>Designed: RAO Checked: WWC QC: RWP</p>	<p>SEABRIDGE GOLD INC. PROPOSED MINE ACCESS - TREATY ROUTE BELL-IRVING RIVER (R033) - Km 0.6± GENERAL ARRANGEMENT</p>	<p>Client Project No. Client Drawing No. MCSL Project No. 2341-01506-0 Drawing No. 01506-233-03 Sheet 3 of 4 Revision A</p>									
<p>ISSUED FOR PERMITTING</p> <table border="1"> <tr><td>No.</td><td>Date</td><td>Revision</td><td>Dr.</td><td>CK'd</td></tr> <tr><td>A</td><td>OCT. 2012</td><td></td><td></td><td></td></tr> </table>			No.		Date	Revision	Dr.	CK'd	A	OCT. 2012				<p>Drawn: DMW Date: 12-01-12</p>
No.	Date	Revision	Dr.	CK'd										
A	OCT. 2012													

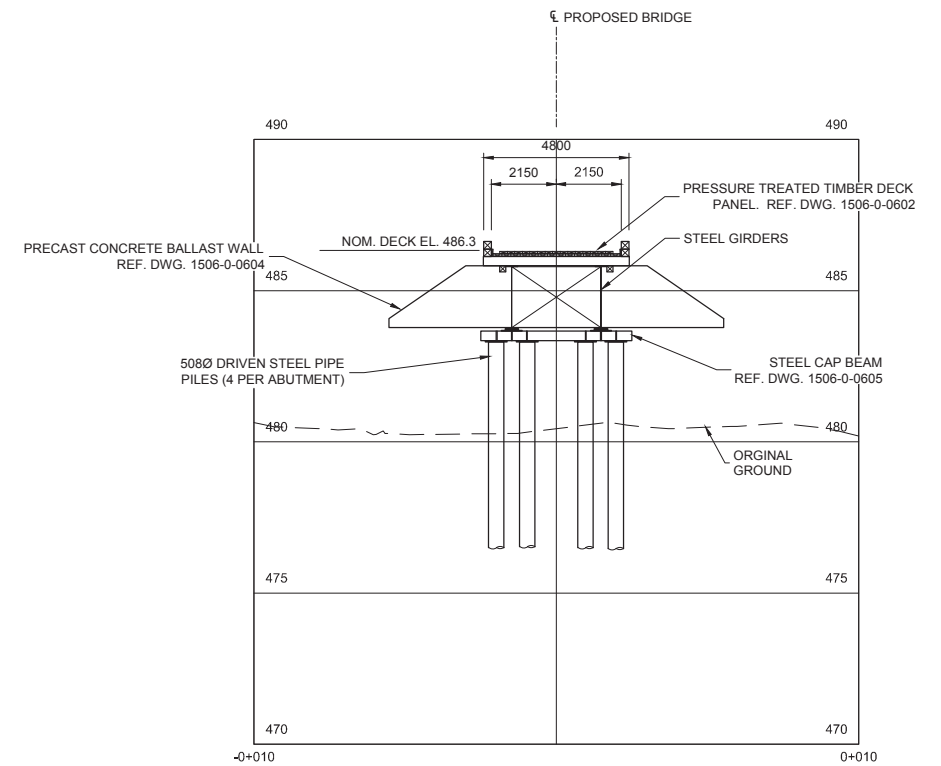
H:\PROJ\2341\1506-159A\1506 Stabridge KSM Project\200.0 Crossings\233.10 Drawings\R033 Bell-Irving River\233.10 Working.dwg, 11/27/2012 3:28:52 PM



ELEVATION - LOW CHAINAGE ABUTMENT
LOOKING DOWN-CHAINAGE



ELEVATION - MID-CHANNEL PIERS (2)
LOOKING UP-CHAINAGE



ELEVATION - HIGH CHAINAGE ABUTMENT
LOOKING UP-CHAINAGE



No.	Date	Revision	Dr.	CK'd
A	OCT. 2012	ISSUED FOR PERMITTING		

THIS DRAWING AND DESIGN IS THE PROPERTY OF McELHANNEY CONSULTING SERVICES LTD. AND SHALL NOT BE USED, REUSED OR REPRODUCED WITHOUT THE CONSENT OF THE SAID COMPANY. McELHANNEY CONSULTING SERVICES LTD. WILL NOT BE HELD RESPONSIBLE FOR THE IMPROPER OR UNAUTHORIZED USE OF THIS DRAWING AND DESIGN. INFORMATION ON EXISTING FEATURES MAY NOT BE COMPLETE OR ACCURATE. PRIOR TO CONSTRUCTION CONTRACTOR SHALL CONFIRM LOCATIONS OF ALL EXISTING FEATURES AND ADVISE THE ENGINEER OF POTENTIAL CONFLICTS.

McElhanney
McElhanney Consulting Services Ltd.
1633 First Avenue PH (250) 561-2229
Prince George B.C. V2L 2Y8 FAX (250) 563-1941
www.mcelhanney.com Toll Free (866) 451-2229

Designed: RAO Checked: WWC QC: RWP
Drawn: DMW Date: 12-01-12
0 1:250 10

Approved Sealed

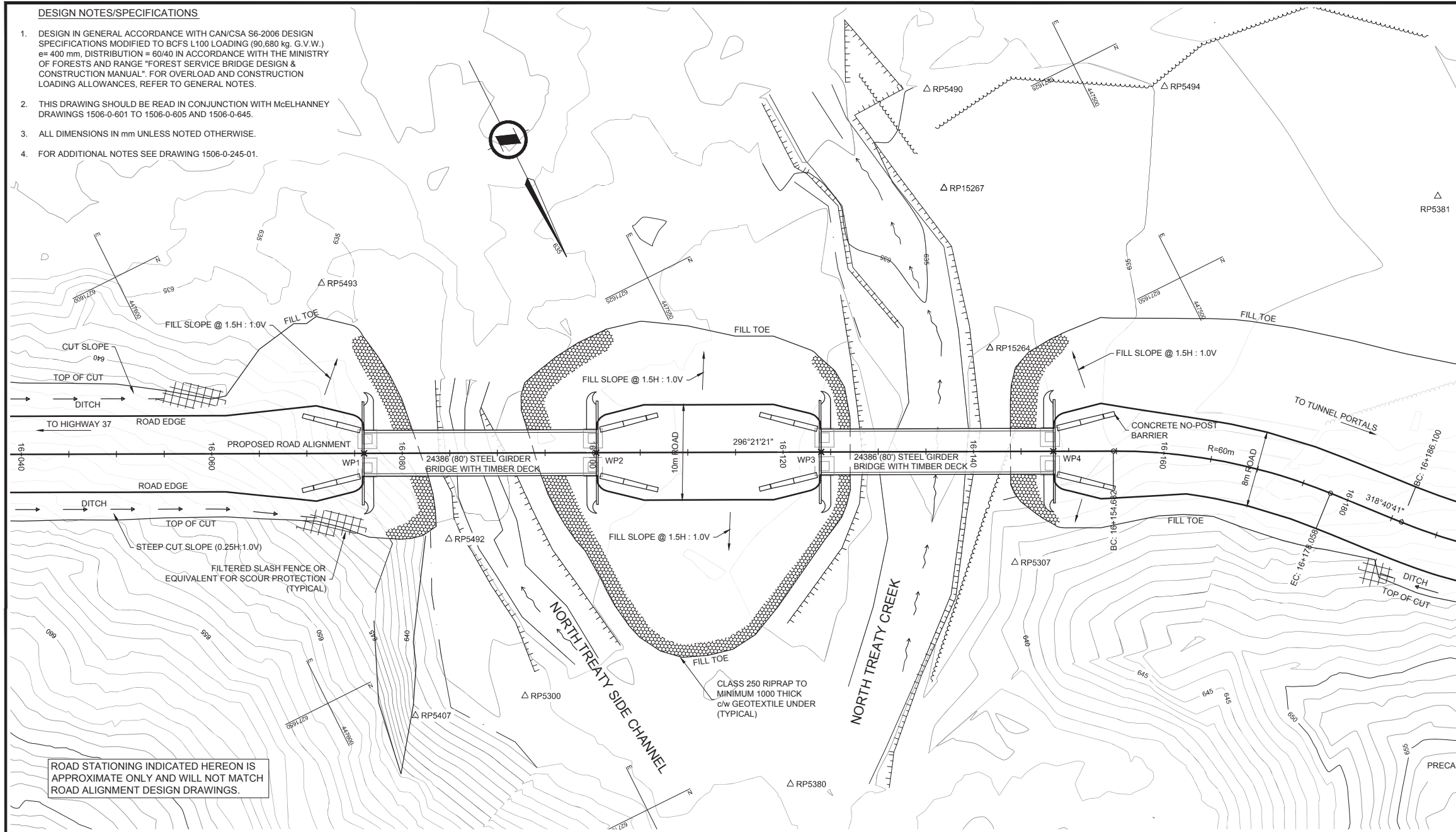
SEABRIDGE GOLD INC.
PROPOSED MINE ACCESS - TREATY ROUTE
BELL-IRVING RIVER (R033) - Km 0.6±
GENERAL ARRANGEMENT - DETAILS

Client Project No	
Client Drawing No	
MCSL Project No.	2341-01506-0
Drawing No.	01506-233-04
Sheet	4 of 4
Revision	A

H:\PROJ\2341\1506-159A\1506-Seabridge_KSM_Project\200.0_Crossings\233.10_Drawings\R033_Working.dwg, 11/2/2012 3:28:27 PM

DESIGN NOTES/SPECIFICATIONS

- DESIGN IN GENERAL ACCORDANCE WITH CAN/CSA S6-2006 DESIGN SPECIFICATIONS MODIFIED TO BCFS L100 LOADING (90,680 kg. G.V.W.) $e = 400$ mm, DISTRIBUTION = 60/40 IN ACCORDANCE WITH THE MINISTRY OF FORESTS AND RANGE "FOREST SERVICE BRIDGE DESIGN & CONSTRUCTION MANUAL". FOR OVERLOAD AND CONSTRUCTION LOADING ALLOWANCES, REFER TO GENERAL NOTES.
- THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH McELHANNEY DRAWINGS 1506-0-601 TO 1506-0-605 AND 1506-0-645.
- ALL DIMENSIONS IN mm UNLESS NOTED OTHERWISE.
- FOR ADDITIONAL NOTES SEE DRAWING 1506-0-245-01.



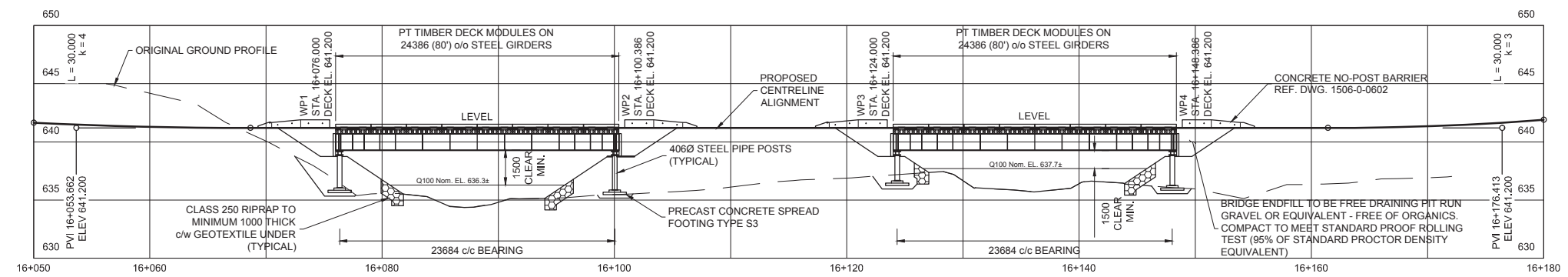
ROAD STATIONING INDICATED HEREON IS APPROXIMATE ONLY AND WILL NOT MATCH ROAD ALIGNMENT DESIGN DRAWINGS.

SURVEY CONTROL - NORTH TREATY SIDE CHANNEL					
Point	Northing	Easting	Elevation	H.D.	Bearing
RP5407	6271655.256	447592.348	641.311	---	---
RP5300 - B.S.	6271658.558	447581.132	639.077	11.692	286-24-14
RP5493	6271610.240	447580.903	634.999	46.448	194-15-53
WP1	6271628.207	447584.885	641.200	28.059	195-25-31
WP2	6271639.032	447563.035	641.200	33.503	241-02-13

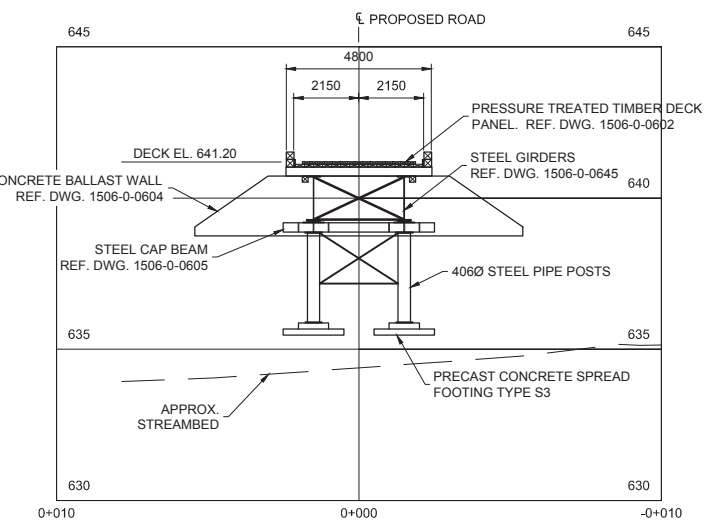
SURVEY CONTROL - NORTH TREATY CREEK					
Point	Northing	Easting	Elevation	H.D.	Bearing
RP15264	6271647.682	447521.123	636.251	---	---
RP5307 - B.S.	6271669.002	447528.842	639.796	22.674	19-54-12
RP5380	6271679.285	447560.327	637.372	50.356	51-07-37
RP15267	6271630.495	447517.950	635.983	17.480	190-27-31
RP5490	6271620.396	447514.903	636.708	27.986	192-50-26
RP5494	6271631.295	447492.456	636.637	33.020	240-14-46
RP5381	6271654.415	447471.930	635.243	49.652	277-47-37
WP3	6271649.517	447541.874	641.200	20.832	84-56-51
WP4	6271660.342	447520.025	641.200	12.707	355-02-32

*NOMINAL DECK ELEVATION

THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH THE APPROPRIATE CODES AND STANDARDS TO SUSTAIN DEAD LOADS, AND THE GIVEN LIVE LOAD WHEN COMPLETE. IT HAS BEEN DESIGNED TO SUSTAIN REASONABLE LOADS DURING CONSTRUCTION BUT MUST BE CHECKED AGAINST THE LOADINGS IMPOSED BY THE CONTRACTOR'S SPECIFIC METHOD OF CONSTRUCTION. IN ACCORDANCE WITH THE BYLAWS OF THE ASSOCIATION OF PROFESSIONAL ENGINEERS AND GEOSCIENTISTS OF B.C. CLAUSE 14 (b) (4), FIELD REVIEW OF PROJECTS DURING CONSTRUCTION IS A REQUIREMENT. FAILURE TO RETAIN THE ENGINEER, OR HIS CHOICE OF THIRD PARTY, TO REVIEW THE CONTRACTOR'S PROCEDURES AND MONITOR CONSTRUCTION WILL RESULT IN McELHANNEY CONSULTING SERVICES LTD. BEING UNABLE TO CERTIFY THE CONSTRUCTED WORKS.



PROFILE - ALONG PROPOSED ROAD CENTERLINE
LOOKING UPSTREAM



CREEK PROFILE
LOOKING UP-CHAINAGE
-LOW CHAINAGE SHOWN
-HIGH CHAINAGE SIMILAR



DRAFT - NOT FOR CONSTRUCTION

No.	Date	Revision	Dr.	CK'd

THIS DRAWING AND DESIGN IS THE PROPERTY OF McELHANNEY CONSULTING SERVICES LTD. AND SHALL NOT BE USED, REUSED OR REPRODUCED WITHOUT THE CONSENT OF THE SAID COMPANY. McELHANNEY CONSULTING SERVICES LTD. WILL NOT BE HELD RESPONSIBLE FOR THE IMPROPER OR UNAUTHORIZED USE OF THIS DRAWING AND DESIGN. INFORMATION ON EXISTING FEATURES MAY NOT BE COMPLETE OR ACCURATE. PRIOR TO CONSTRUCTION CONTRACTOR SHALL CONFIRM LOCATIONS OF ALL EXISTING FEATURES AND ADVISE THE ENGINEER OF POTENTIAL CONFLICTS.

McElhanney
McElhanney Consulting Services Ltd.
1633 First Avenue PH (250) 561-2229
Prince George B.C. V2L 2Y8 FAX (250) 563-1941
www.mcelhanney.com Toll Free (866) 451-2229

Designed: RAO Checked: WWC QC: -
Drawn: DMW Date: 12-01-16
UNLESS OTHERWISE NOTED

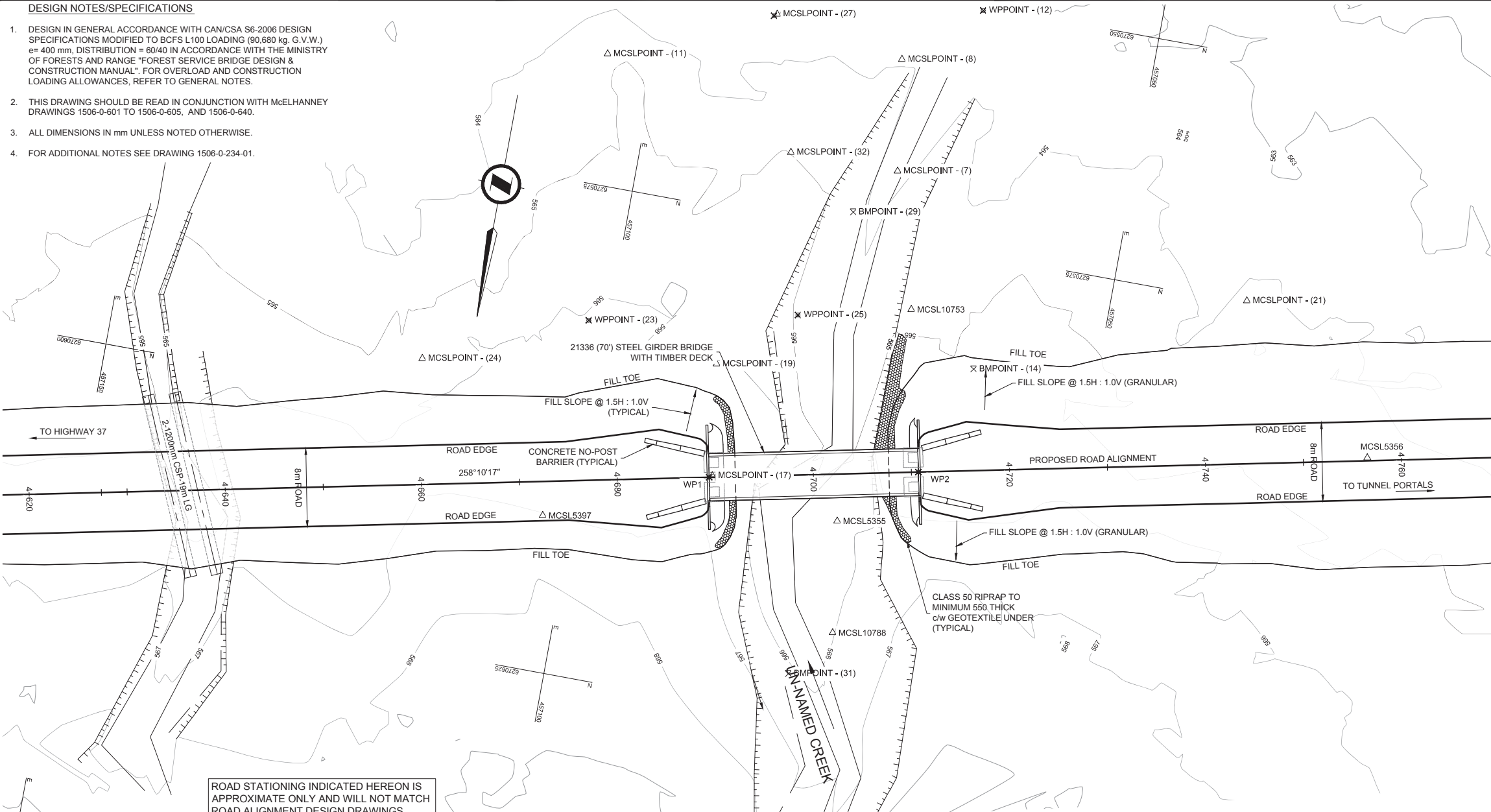
Approved Sealed

SEABRIDGE GOLD INC.
PROPOSED MINE ACCESS - TREATY ROUTE
NORTH TREATY CREEK (R045) - Km 16.11±
GENERAL ARRANGEMENTS

Client Project No	
Client Drawing No	
MCSL Project No.	2341-01506-0
Drawing No.	01506-245-03
Sheet	3 of 3
Revision	

DESIGN NOTES/SPECIFICATIONS

- DESIGN IN GENERAL ACCORDANCE WITH CAN/CSA S6-2006 DESIGN SPECIFICATIONS MODIFIED TO BCFS L100 LOADING (90,680 kg. G.V.W.) e= 400 mm, DISTRIBUTION = 60/40 IN ACCORDANCE WITH THE MINISTRY OF FORESTS AND RANGE "FOREST SERVICE BRIDGE DESIGN & CONSTRUCTION MANUAL". FOR OVERLOAD AND CONSTRUCTION LOADING ALLOWANCES, REFER TO GENERAL NOTES.
- THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH McELHANNEY DRAWINGS 1506-0-601 TO 1506-0-605, AND 1506-0-640.
- ALL DIMENSIONS IN mm UNLESS NOTED OTHERWISE.
- FOR ADDITIONAL NOTES SEE DRAWING 1506-0-234-01.

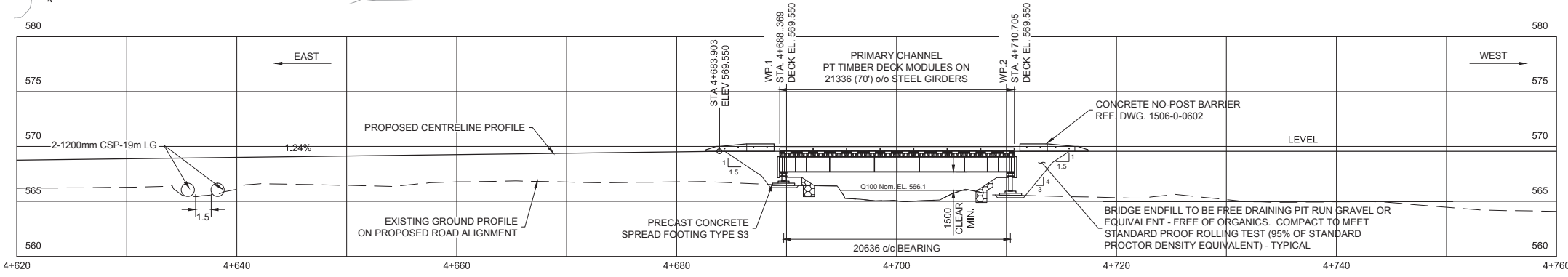


ROAD STATIONING INDICATED HEREON IS APPROXIMATE ONLY AND WILL NOT MATCH ROAD ALIGNMENT DESIGN DRAWINGS.

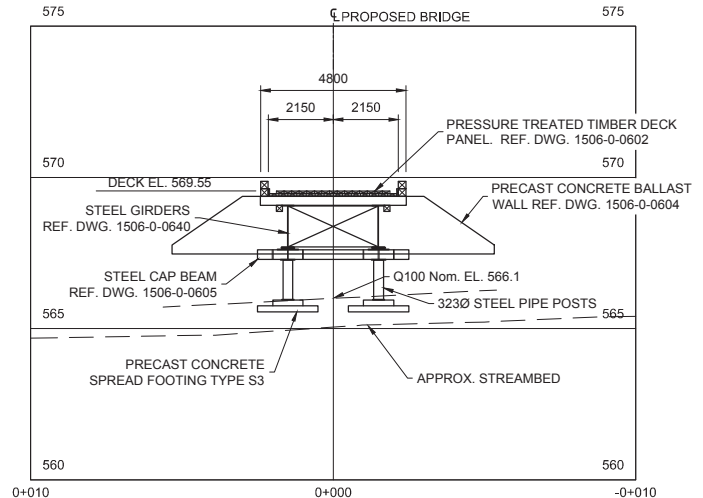
SURVEY CONTROL					
Point	Northing	Easting	Elevation	H.D.	Bearing
MCSL10753-B.S.	6270604.311	457073.393	565.463	---	---
MCSL5355	6270581.721	457069.841	564.948	22.868	188-56-07
BM5353	6270634.064	457060.505	569.952	32.424	336-34-47
MCSL5356	6270588.223	457021.368	564.370	54.455	252-48-56
MCSL5397	6270609.170	457103.023	566.997	30.026	80-41-17
MCSL10788	6270615.601	457071.784	565.941	11.404	351-53-28
WP1	6270602.281	457087.031	569.550	13.789	98-28-01
WP2	6270597.908	457066.148	569.550	9.669	228-31-29

*NOMINAL DECK ELEVATION

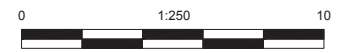
THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH THE APPROPRIATE CODES AND STANDARDS TO SUSTAIN DEAD LOADS, AND THE GIVEN LIVE LOAD WHEN COMPLETE. IT HAS BEEN DESIGNED TO SUSTAIN REASONABLE LOADS DURING CONSTRUCTION BUT MUST BE CHECKED AGAINST THE LOADINGS IMPOSED BY THE CONTRACTOR'S SPECIFIC METHOD OF CONSTRUCTION. IN ACCORDANCE WITH THE BYLAWS OF THE ASSOCIATION OF PROFESSIONAL ENGINEERS AND GEOSCIENTISTS OF B.C. CLAUSE 14 (D) (4), FIELD REVIEW OF PROJECTS DURING CONSTRUCTION IS A REQUIREMENT. FAILURE TO RETAIN THE ENGINEER, OR HIS CHOICE OF THIRD PARTY, TO REVIEW THE CONTRACTOR'S PROCEDURES AND MONITOR CONSTRUCTION WILL RESULT IN McELHANNEY CONSULTING SERVICES LTD. BEING UNABLE TO CERTIFY THE CONSTRUCTED WORKS.



PROFILE - ALONG PROPOSED ROAD CENTERLINE
LOOKING DOWNSTREAM



CREEK PROFILE
LOOKING UP-CHAINAGE



DRAFT - NOT FOR CONSTRUCTION

No.	Date	Revision	Dr.	CK'd

THIS DRAWING AND DESIGN IS THE PROPERTY OF McELHANNEY CONSULTING SERVICES LTD. AND SHALL NOT BE USED, REUSED OR REPRODUCED WITHOUT THE CONSENT OF THE SAID COMPANY. McELHANNEY CONSULTING SERVICES LTD. WILL NOT BE HELD RESPONSIBLE FOR THE IMPROPER OR UNAUTHORIZED USE OF THIS DRAWING AND DESIGN. INFORMATION ON EXISTING FEATURES MAY NOT BE COMPLETE OR ACCURATE. PRIOR TO CONSTRUCTION CONTRACTOR SHALL CONFIRM LOCATIONS OF ALL EXISTING FEATURES AND ADVISE THE ENGINEER OF POTENTIAL CONFLICTS.

McElhanney
McElhanney Consulting Services Ltd.
1633 First Avenue PH (250) 561-2229
Prince George B.C. V2L 2Y8 FAX (250) 563-1941
www.mcelhanney.com Toll Free (866) 451-2229

Designed: RAO Checked: WWC QC: -
Drawn: DMW Date: 12-01-10

0 1:500 25
UNLESS OTHERWISE NOTED

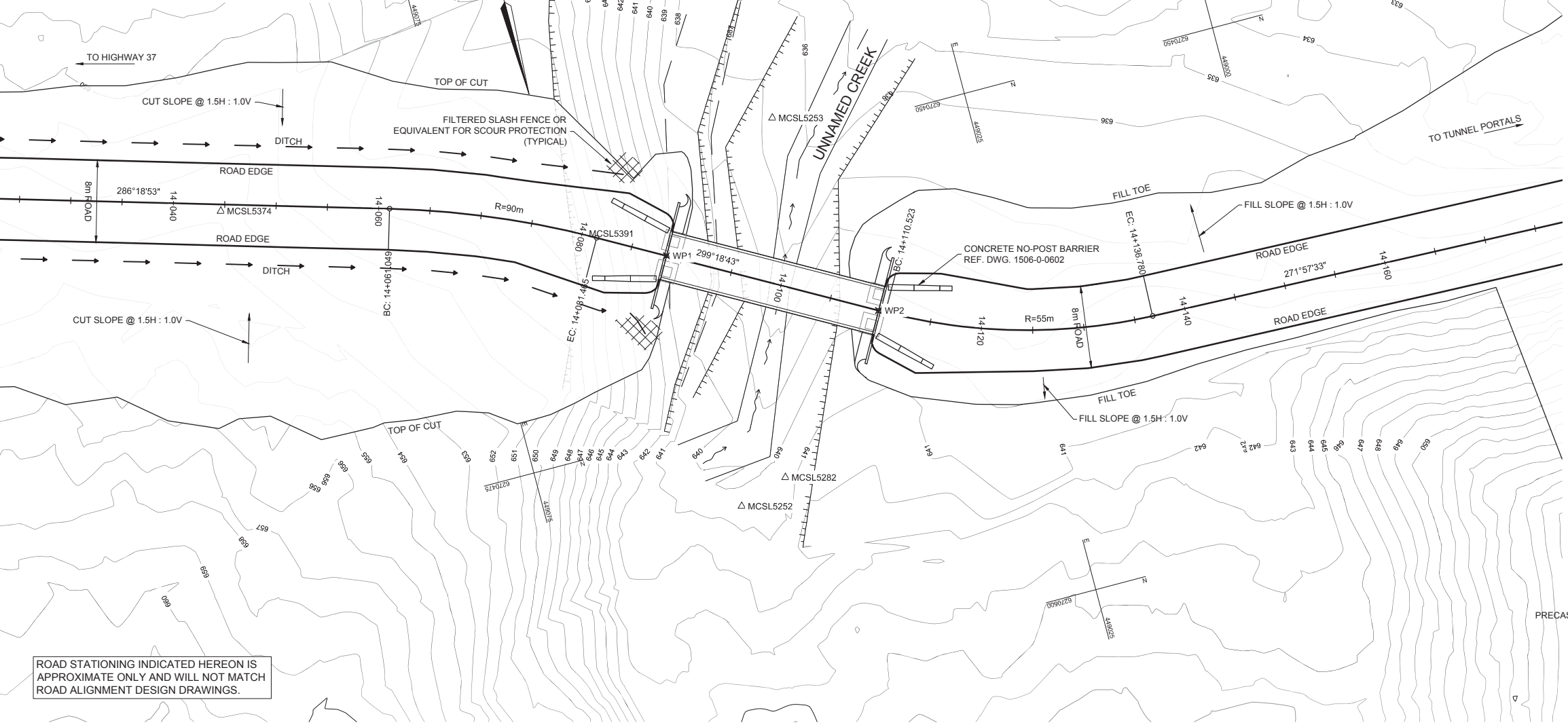
Approved Sealed

SEABRIDGE GOLD INC.
PROPOSED MINE ACCESS - TREATY ROUTE
UNNAMED CREEK (R034) - Km 4.7±
PLAN - GENERAL ARRANGEMENT

Client Project No	
Client Drawing No	
MCSL Project No.	2341-01506-0
Drawing No.	01506-234-03
Sheet	3 of 3
Revision	

DESIGN NOTES/SPECIFICATIONS

- DESIGN IN GENERAL ACCORDANCE WITH CAN/CSA S6-2006 DESIGN SPECIFICATIONS MODIFIED TO BCFS L100 LOADING (90,680 kg. G.V.W.) e= 400 mm, DISTRIBUTION = 60/40 IN ACCORDANCE WITH THE MINISTRY OF FORESTS AND RANGE "FOREST SERVICE BRIDGE DESIGN & CONSTRUCTION MANUAL". FOR OVERLOAD AND CONSTRUCTION LOADING ALLOWANCES, REFER TO GENERAL NOTES.
- THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH McELHANNEY DRAWINGS 1506-0-601 TO 1506-0-605 AND 1506-0-640.
- ALL DIMENSIONS IN mm UNLESS NOTED OTHERWISE.
- FOR ADDITIONAL NOTES SEE DRAWING 1506-0-237-01.

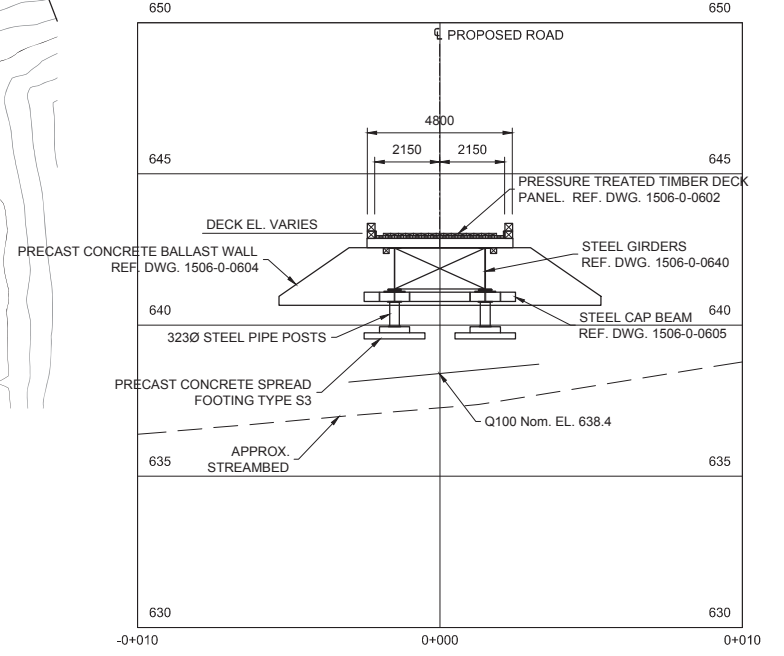


ROAD STATIONING INDICATED HEREON IS APPROXIMATE ONLY AND WILL NOT MATCH ROAD ALIGNMENT DESIGN DRAWINGS.

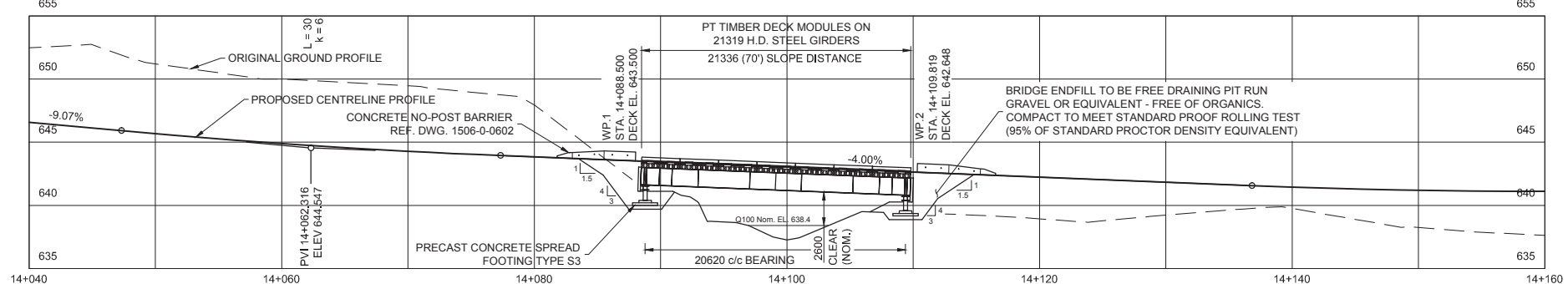
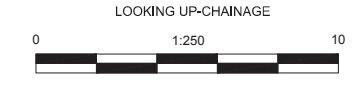
SURVEY CONTROL					
Point	Northing	Easting	Elevation	H.D.	Bearing
MCSL5252	6270483.314	449056.265	641.395	---	---
MCSL5253 - B.S.	6270447.512	449043.681	636.734	37.950	199-21-59
MCSL5282	6270481.691	449051.427	640.541	5.103	251-26-52
MCSL5374	6270442.518	449097.933	652.846	58.314	134-23-40
MCSL5375	6270440.336	449002.203	632.791	69.064	231-30-59
MCSL5391	6270453.667	449064.410	647.880	30.746	164-38-22
BM5393	6270431.439	449040.358	638.443	54.259	197-02-53
WP1	6270457.853	449057.084	643.500	25.475	178-09-29
WP2	6270468.290	449038.495	642.648	23.271	229-47-10

*NOMINAL DECK ELEVATION

THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH THE APPROPRIATE CODES AND STANDARDS TO SUSTAIN DEAD LOADS, AND THE GIVEN LIVE LOAD WHEN COMPLETE. IT HAS BEEN DESIGNED TO SUSTAIN REASONABLE LOADS DURING CONSTRUCTION BUT MUST BE CHECKED AGAINST THE LOADINGS IMPOSED BY THE CONTRACTOR'S SPECIFIC METHOD OF CONSTRUCTION. IN ACCORDANCE WITH THE BYLAWS OF THE ASSOCIATION OF PROFESSIONAL ENGINEERS AND GEOSCIENTISTS OF B.C. CLAUSE 14 (b) (4), FIELD REVIEW OF PROJECTS DURING CONSTRUCTION IS A REQUIREMENT. FAILURE TO RETAIN THE ENGINEER, OR HIS CHOICE OF THIRD PARTY, TO REVIEW THE CONTRACTOR'S PROCEDURES AND MONITOR CONSTRUCTION WILL RESULT IN McELHANNEY CONSULTING SERVICES LTD. BEING UNABLE TO CERTIFY THE CONSTRUCTED WORKS.



CREEK PROFILE



PROFILE - ALONG PROPOSED ROAD CENTERLINE

LOOKING DOWNSTREAM

DRAFT - NOT FOR CONSTRUCTION

No.	Date	Revision	Dr.	CK'd

THIS DRAWING AND DESIGN IS THE PROPERTY OF McELHANNEY CONSULTING SERVICES LTD. AND SHALL NOT BE USED, REUSED OR REPRODUCED WITHOUT THE CONSENT OF THE SAID COMPANY. McELHANNEY CONSULTING SERVICES LTD. WILL NOT BE HELD RESPONSIBLE FOR THE IMPROPER OR UNAUTHORIZED USE OF THIS DRAWING AND DESIGN. INFORMATION ON EXISTING FEATURES MAY NOT BE COMPLETE OR ACCURATE. PRIOR TO CONSTRUCTION CONTRACTOR SHALL CONFIRM LOCATIONS OF ALL EXISTING FEATURES AND ADVISE THE ENGINEER OF POTENTIAL CONFLICTS.

McElhanney
McElhanney Consulting Services Ltd.
 1633 First Avenue PH (250) 561-2229
 Prince George B.C. V2L 2Y8 FAX (250) 563-1941
 www.mcelhanney.com Toll Free (866) 451-2229

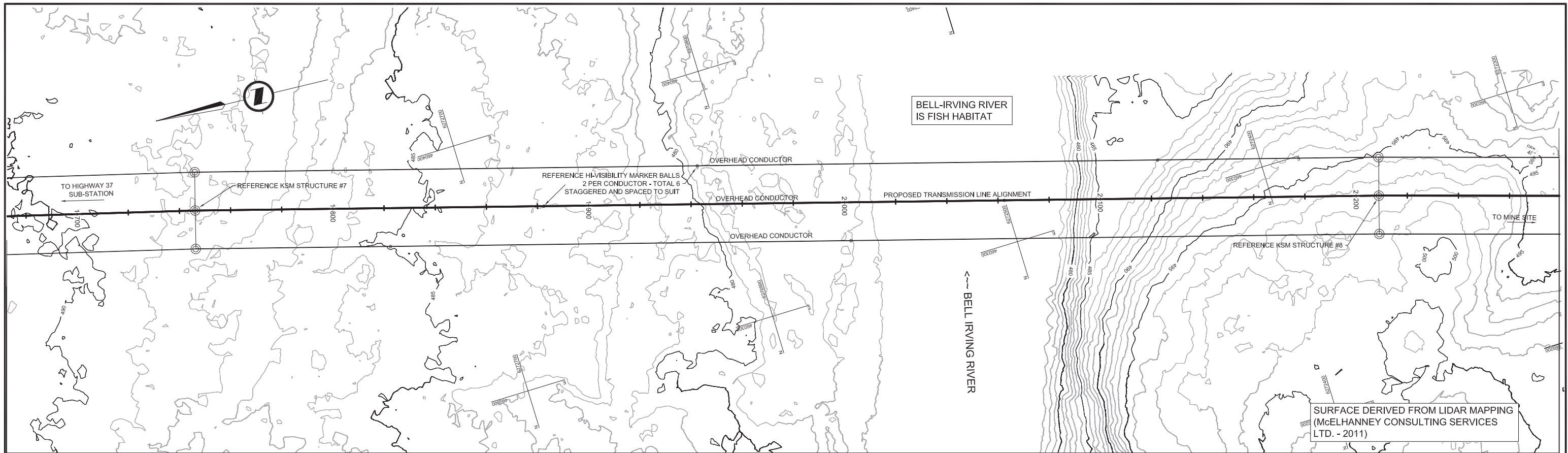
Designed: RAO Checked: WWC QC: -
 Drawn: DMW Date: 11-12-21
 0 1:500 25
 UNLESS OTHERWISE NOTED

Approved Sealed

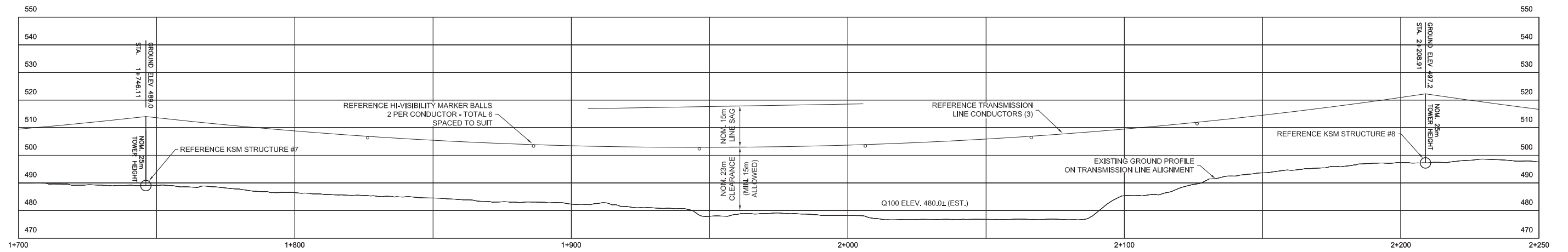
SEABRIDGE GOLD INC.
PROPOSED MINE ACCESS - TREATY ROUTE
UNNAMED CREEK (R037) - Km 14.1±
GENERAL ARRANGEMENT

Client Project No	
Client Drawing No	
MCSL Project No.	2341-01506-0
Drawing No.	01506-237-03
Sheet	0 of 0
Revision	

Destroy all prints bearing previous number



PLAN



PROFILE - ALONG PROPOSED TRANSMISSION LINE
LOOKING DOWNSTREAM

FOR NWPA APPLICATION

No.	Date	Revision	Dr.	CK'd

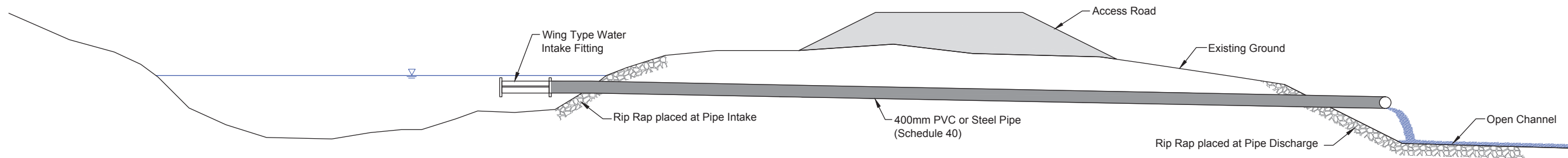
THIS DRAWING AND DESIGN IS THE PROPERTY OF McELHANNEY CONSULTING SERVICES LTD. AND SHALL NOT BE USED, REUSED OR REPRODUCED WITHOUT THE CONSENT OF THE SAID COMPANY. McELHANNEY CONSULTING SERVICES LTD. WILL NOT BE HELD RESPONSIBLE FOR THE IMPROPER OR UNAUTHORIZED USE OF THIS DRAWING AND DESIGN. INFORMATION ON EXISTING FEATURES MAY NOT BE COMPLETE OR ACCURATE. PRIOR TO CONSTRUCTION CONTRACTOR SHALL CONFIRM LOCATIONS OF ALL EXISTING FEATURES AND ADVISE THE ENGINEER OF POTENTIAL CONFLICTS.

McElhanney
McElhanney Consulting Services Ltd.
 1633 First Avenue PH (250) 561-2229
 Prince George B.C. V2L 2Y8 FAX (250) 563-1941
 www.mcelhanney.com Toll Free (866) 451-2229

Designed: - Checked: - QC: -
 Drawn: DMW Date: 13-01-24
 0 1:1500 75
 Approved Sealed

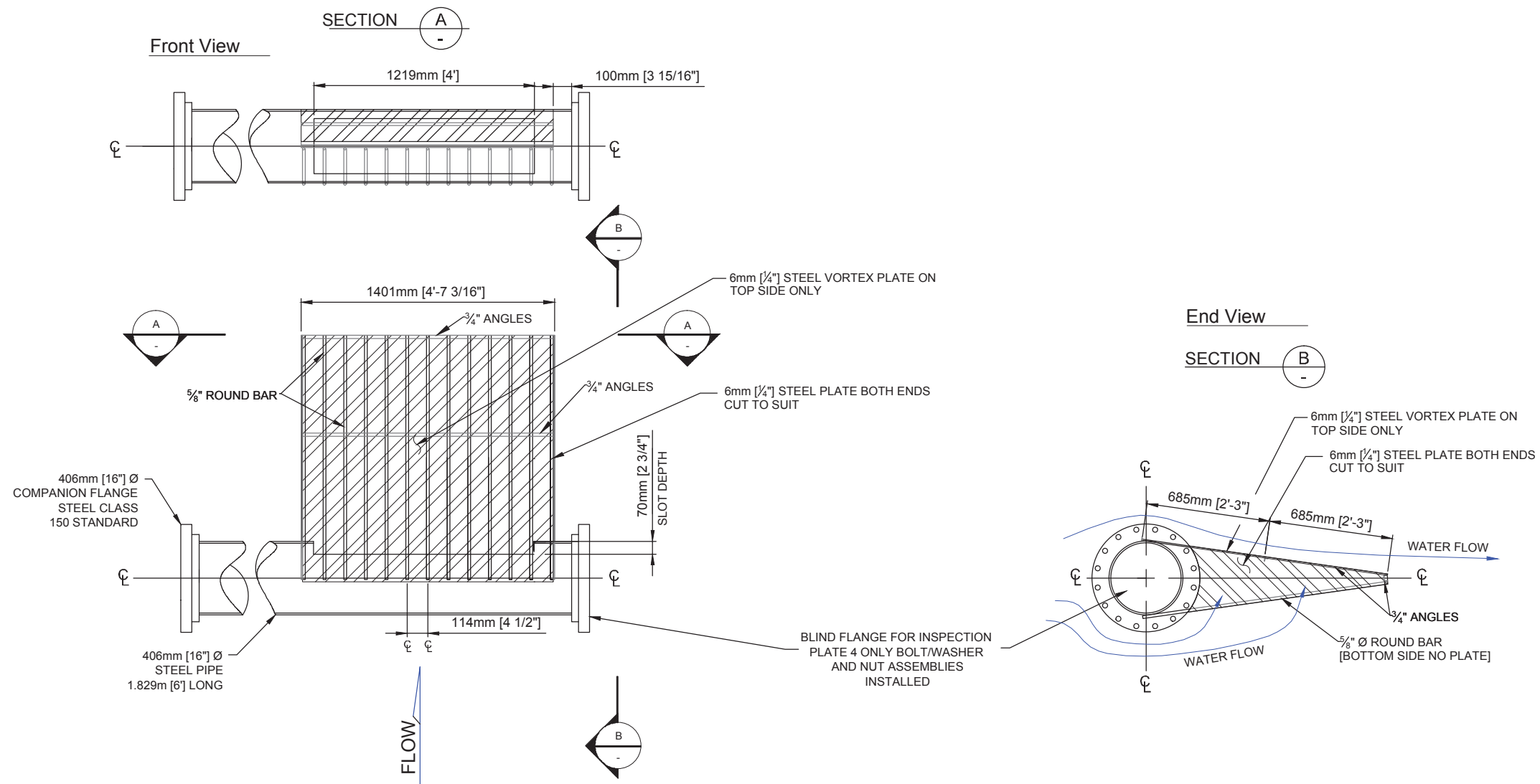
SEABRIDGE GOLD INC.
PROPOSED TRANSMISSION LINE
BELL-IRVING RIVER CROSSING
GENERAL ARRANGEMENT

Client Project No	
Client Drawing No	
MCSL Project No.	2341-01798-NW
Drawing No.	01798-NW-1
Sheet	1 of 1
Revision	



TYPICAL PIPE INTAKE FROM CREEK TO OPEN CHANNEL

Not to Scale



WING TYPE WATER INTAKE PLAN VIEW



Source: Fisheries & Oceans Canada, 2006
Oceans, Habitat & Enhancement - SCD
Drawing No: STD 400

DRAFT

REVISIONS				
NO.	DESCRIPTION	CHK'D	APP'D	DATE
A	Issued for Review	DG	BA	28Sep12



SEABRIDGE GOLD

Professional Engineers Stamp

PROJECT
KSM Fish Habitat
Compensation Project

This drawing is for planning purposes only. Not responsible for any design and construction completed by others

SCALE: as shown

RESCAN JOB NO.: 0868-020-04-01

CAD/GIS No: KSM-GC-012-008

DATE: Sept. 28, 2012

TITLE: Typical Layout for a 16" (400 mm) Diameter Wing Type Water Intake