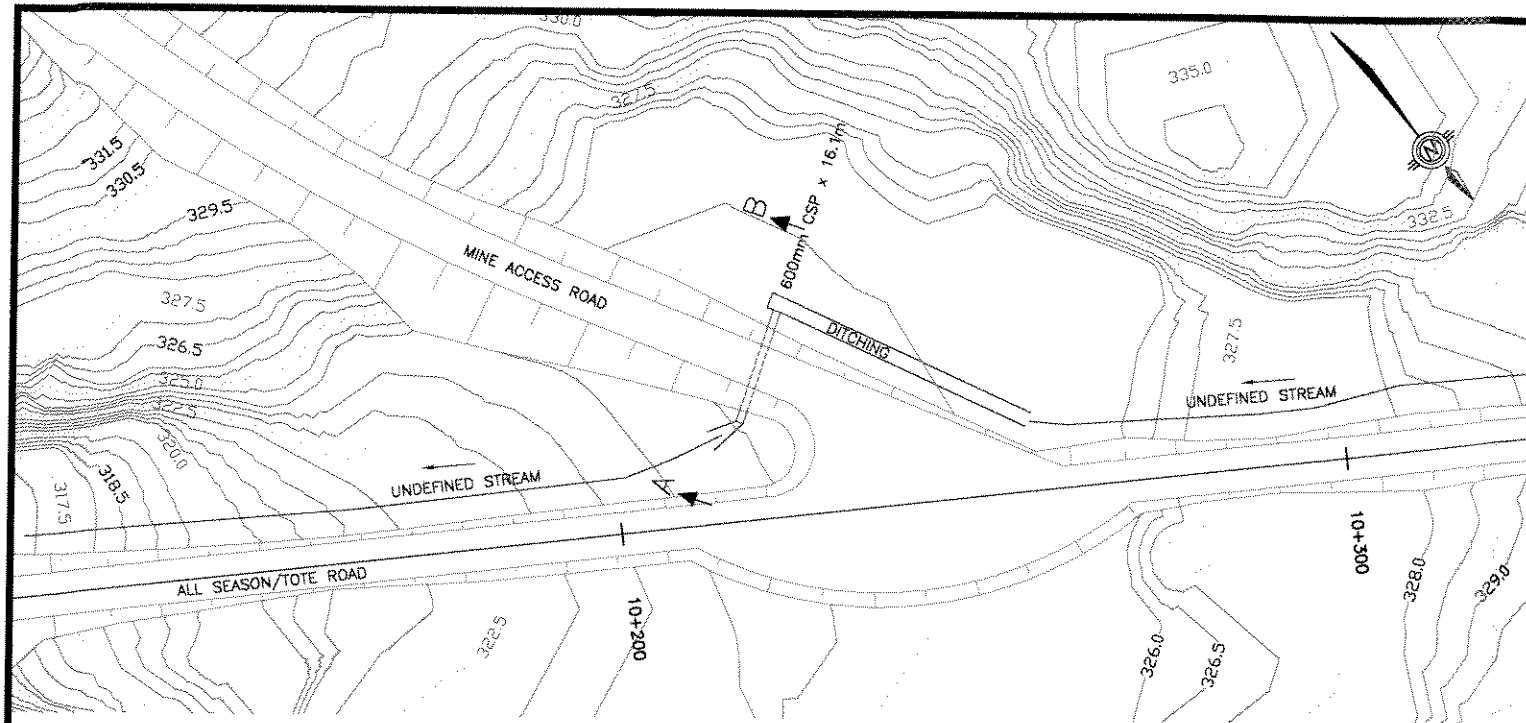
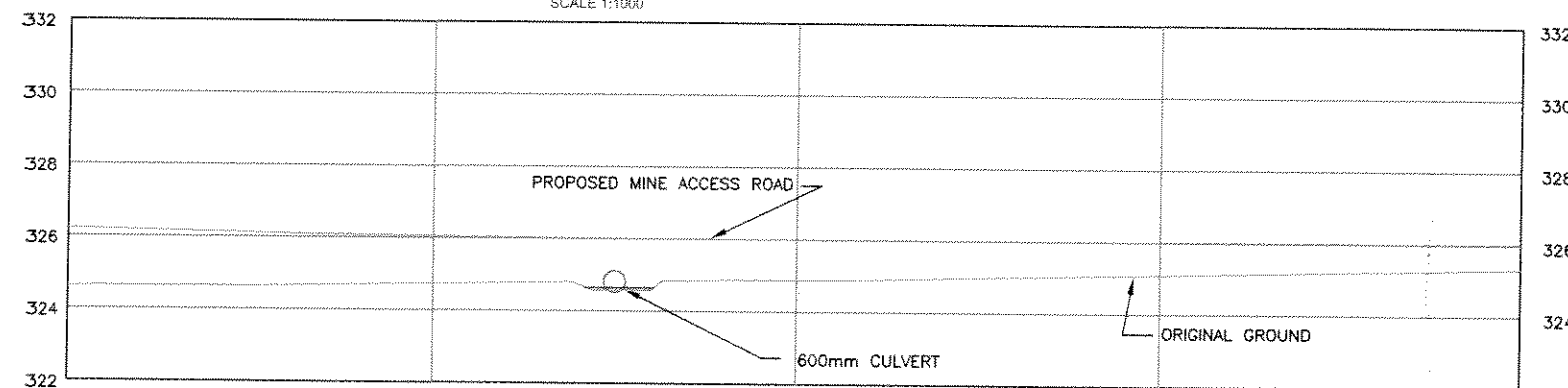




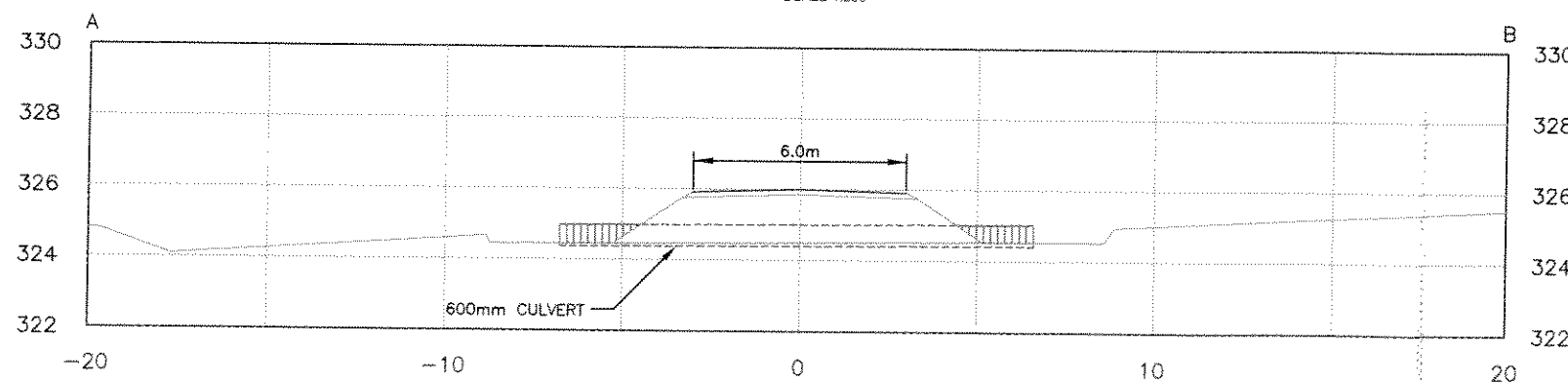
WATER CROSSING PLAN

SCALE 1:1000



PROFILE

SCALE 1:200



CROSS-SECTION

SCALE 1:200

WATER CROSSING DATA

REFERENCE	AS#15
CROSSING	31
SUBSTRATE	BEDROCK/BOULDER
FISH HABITAT (Y/N)	N
WATERSHED AREA	65.9 ha
AREA	0.66 km ²
MEASURED DISCHARGE	0.0123 m ³ /s
DISCHARGE - 100 YR	0.2
DISCHARGE - 10 YR	0.1
CROSSING TYPE	600mm CULVERT

*REFERENCED FROM CROSSING METHOD RECOMMENDATIONS, A-S ROAD, GARTNER LEE, DEC 2005.

NOTES:

1. THIS CROSSING IS CATEGORIZED AS HAVING NO FISH HABITAT, DUE TO LIMITED FLOW AND NO ACCESS TO OTHER WATERBODIES.
2. RIVER BANK LOCATIONS AND WATER LEVELS SHOWN ARE APPROXIMATE.
3. THE BOTTOM OF THE CULVERT SHALL BE BURIED INTO THE STREAMBED NOT LESS THAN 10% OF THE CULVERT HEIGHT.

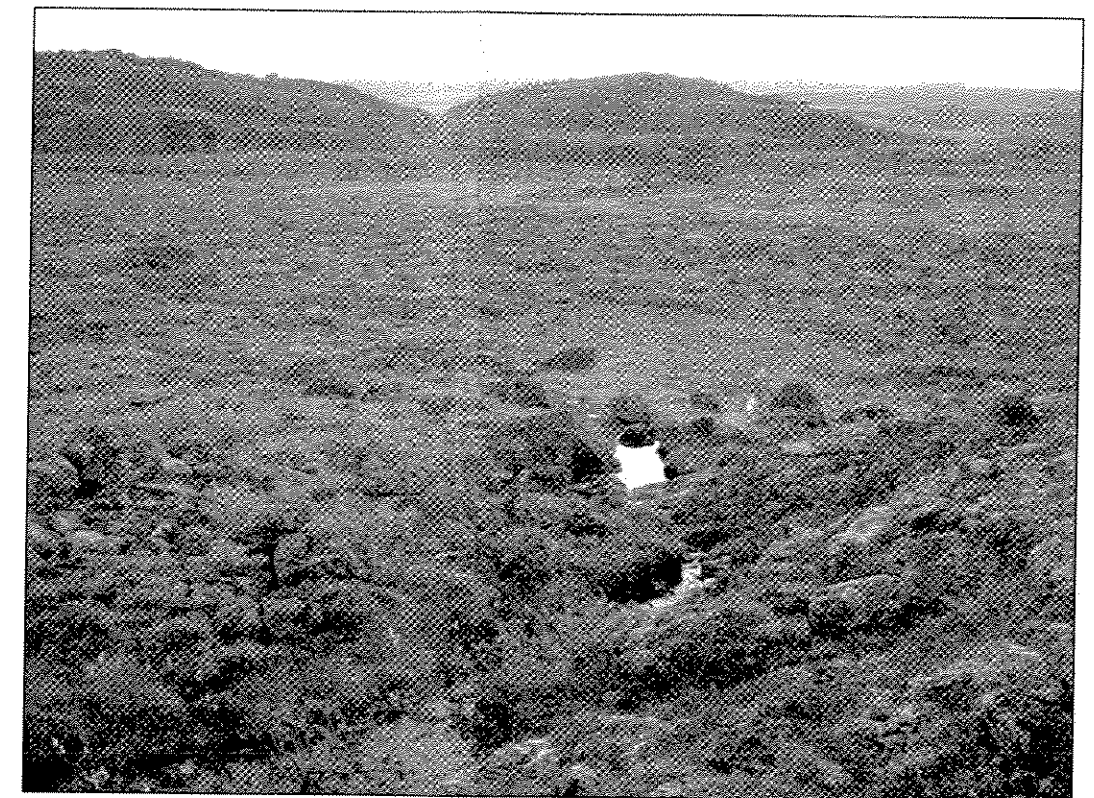


PHOTO AS#15 - LOOKING SOUTHWEST ABOVE CROSSING LOCATION.

STREAM CROSSING SURVEY AND FIELD REVIEW CONDUCTED BY TBT ENGINEERING JULY 2006.

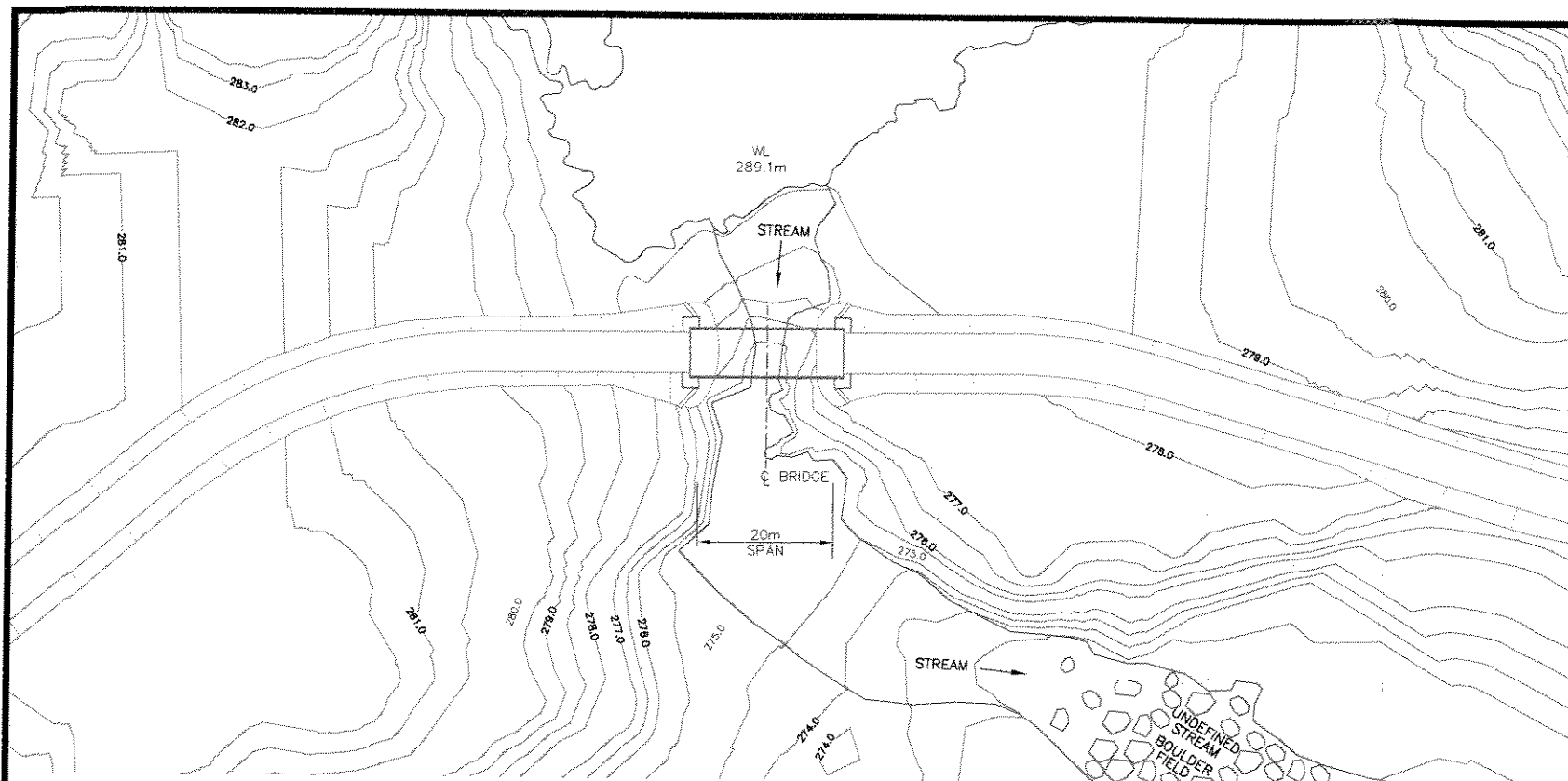
NOT FOR CONSTRUCTION

31/01/07	UPDATED WITH REVISED ALIGNMENT/SURVEY DATA	CVZ
15/05/06	FINAL REPORT	CVZ
DATE	REVISION	BY

DWG. TITLE:	WATER CROSSING LOCATION PLAN AS#15
PROJECT:	ALL-SEASON ROAD DESIGN
	HIGH LAKE, NUNAVUT

TBT ENGINEERING	DRAWN BY:	T.B.	PROJECT NO.	05-160
WOLFDEN Resources Inc.	APPROVED BY:	C.Z.	DATE:	MAY 2006
	SCALE:	AS SHOWN	ENCLOSURE	1

CAD FILE: 400-AS15-FINAL



NOTES:

1. THIS CROSSING IS CATEGORIZED AS HIGH FISH HABITAT, AS IT HAS GOOD MIGRATION AND SEASONAL REARING HABITAT.
2. RIVER BANK LOCATIONS AND WATER LEVELS SHOWN ARE APPROXIMATE.
3. BRIDGE CONSTRUCTION TO CONFORM TO REQUIREMENTS OF THE FISHERIES ACT.
4. DISTURBANCE TO VEGETATION IS TO BE MINIMIZED.
5. SEDIMENT AND EROSION CONTROL MEASURES WILL BE UTILIZED TO PREVENT THE ENTRY OF SEDIMENT INTO THE WATERCOURSE.
6. BRIDGE STRUCTURE WILL BE ENTIRELY ABOVE THE ORDINARY HIGH WATER MARK AND AWAY FROM BANKS.
7. CONSTRUCTION EQUIPMENT WILL BE OPERATED IN A MANNER TO PREVENT DELETERIOUS SUBSTANCES FROM ENTERING THE WATER.

WATER CROSSING DATA

REFERENCE	AS#14
CROSSING	30
SUBSTRATE	BOULDER/COBBLE
FISH HABITAT (Y/N)	Y
WATERSHED AREA	4928.52 ha
AREA	49.29 km ²
MEASURED DISCHARGE	4.5 m ³ /s
DISCHARGE - 100 YR	33.1
DISCHARGE - 10 YR	25.5
CROSSING TYPE	20m BRIDGE

*REFERENCED FROM CROSSING METHOD RECOMMENDATIONS, A-S ROAD, GARTNER LEE, DEC 2005.

WATER CROSSING DETAIL

SCALE 1:200

STREAM CROSSING SURVEY AND FIELD REVIEW CONDUCTED BY TBT ENGINEERING JULY 2006.

NOT FOR CONSTRUCTION

31/01/07	UPDATED WITH REVISED ALIGNMENT/SURVEY DATA	CVZ
15/05/06	FINAL REPORT	CVZ
DATE	REVISION	BY

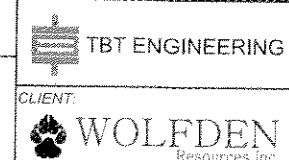
DWG. TITLE:

WATER CROSSING LOCATION PLAN AS#14

PROJECT:

ALL-SEASON ROAD DESIGN

HIGH LAKE, NUNAVUT



DRAWN BY:	PROJECT NO.
T.B.	05-160
APPROVED BY:	DATE:
C.Z.	MAY 2006
SCALE:	ENCLOSURE
AS SHOWN	2

CAD FILE: NO. 1410 FINAL

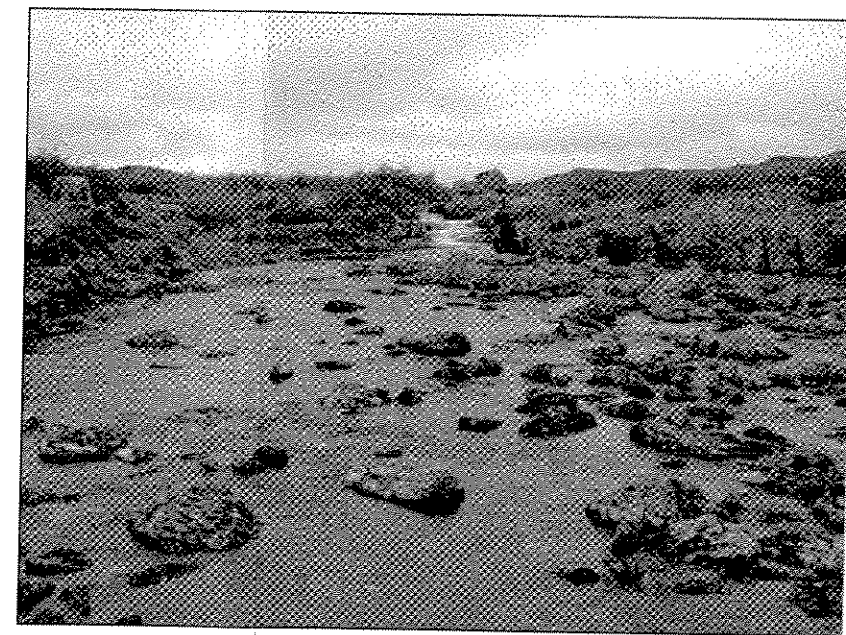
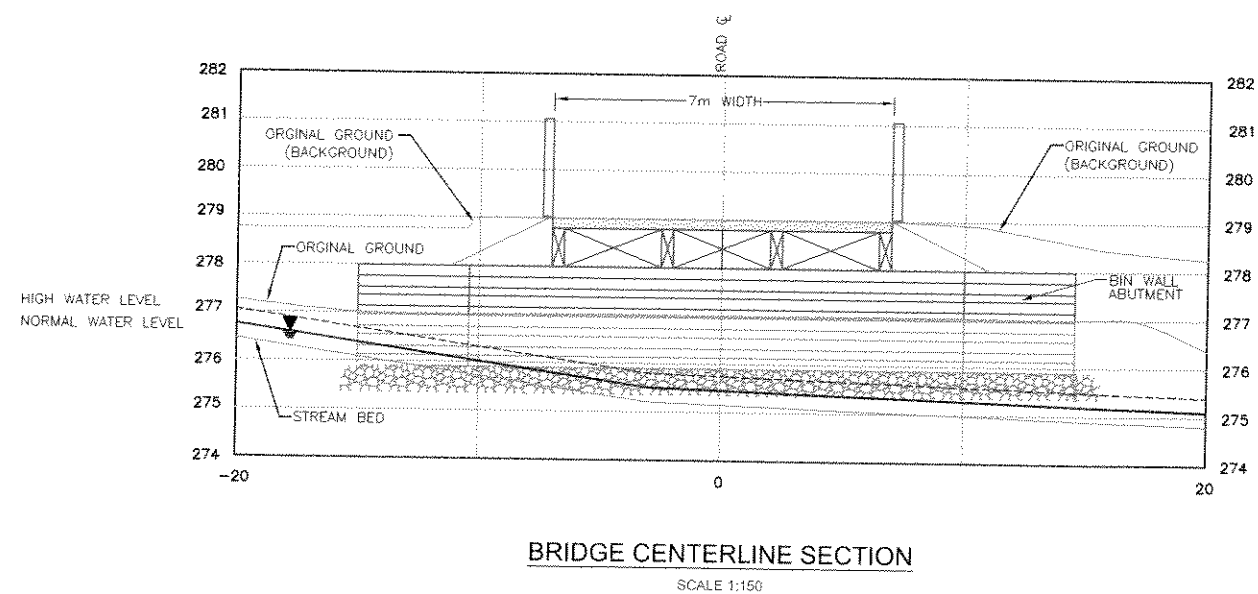
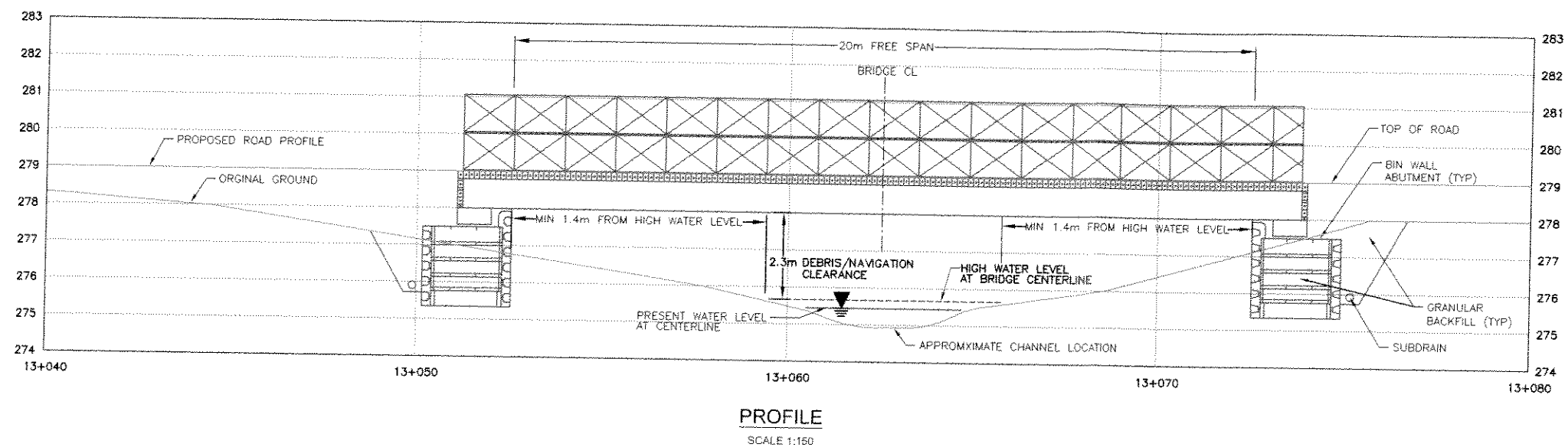


PHOTO AS#14 - LOOKING UPSTREAM AT CROSSING LOCATION.

STREAM CROSSING SURVEY AND FIELD REVIEW CONDUCTED BY TBT ENGINEERING JULY 2006.

NOT FOR CONSTRUCTION

31/01/07	UPDATED WITH REVISED ALIGNMENT/SURVEY DATA	CVZ	
15/05/08	FINAL REPORT	CVZ	
DATE	REVISION	BY	

DWG. TITLE:

WATER CROSSING LOCATION PLAN AS#14

PROJECT:

ALL-SEASON ROAD DESIGN

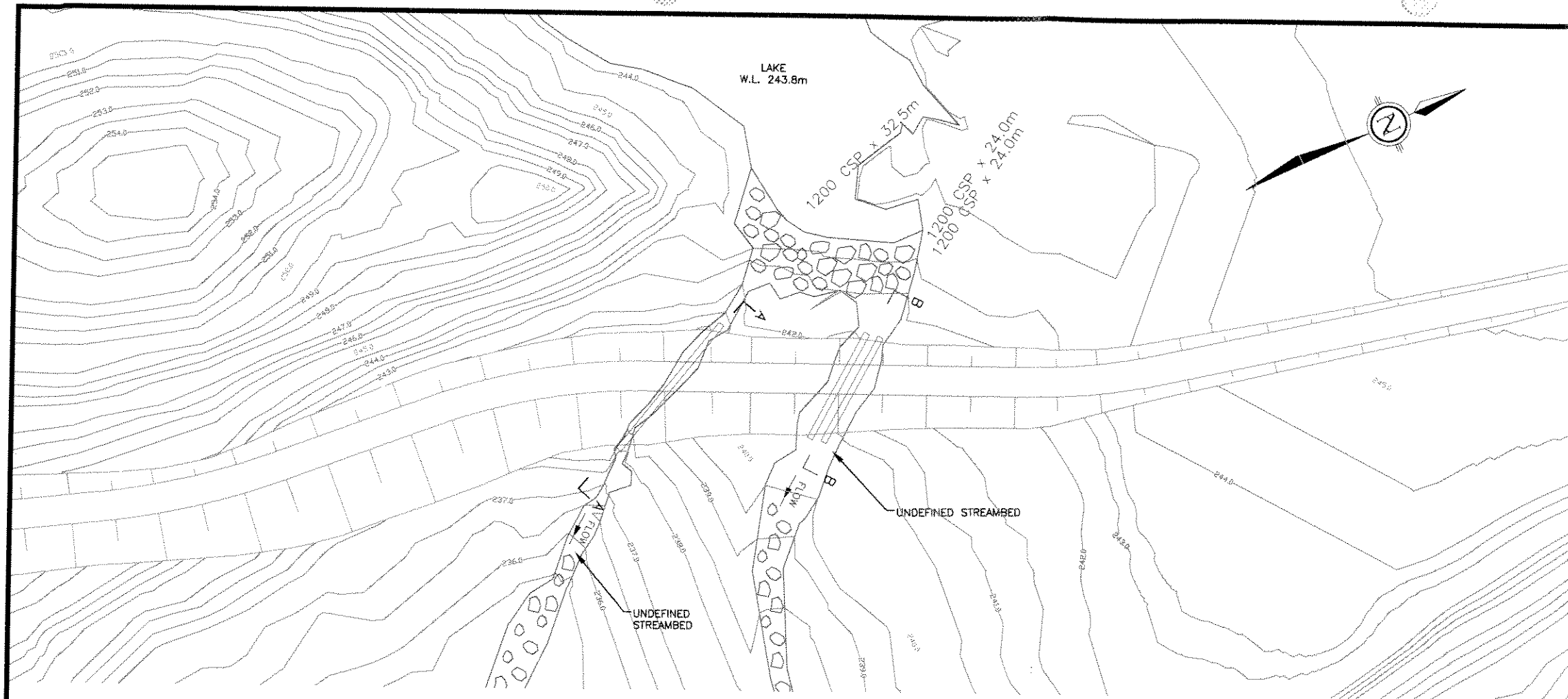
HIGH LAKE, NUNAVUT

TBT ENGINEERING

WOLFDEN
Resources Inc.

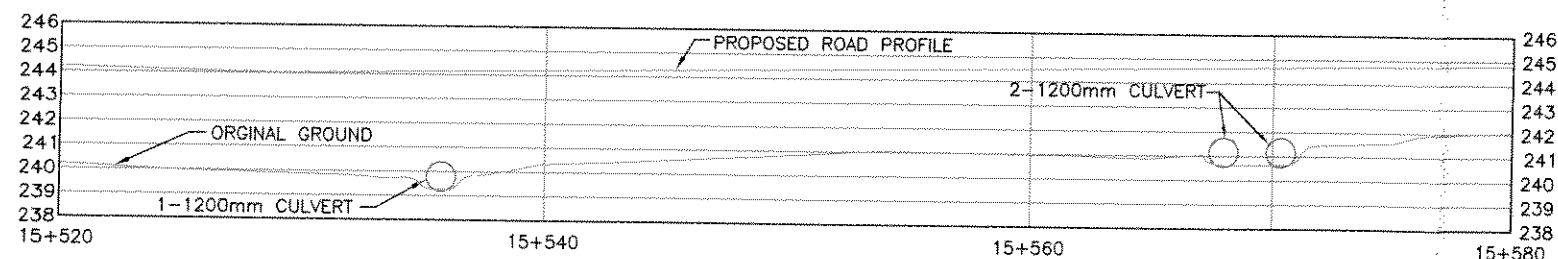
DRAWN BY:	PROJECT NO.
T.B.	05-160
APPROVED BY:	DATE:
C.Z.	MAY 2006
SCALE:	ENCLOSURE
AS SHOWN	3

CAD REF: NO. A514 FINAL



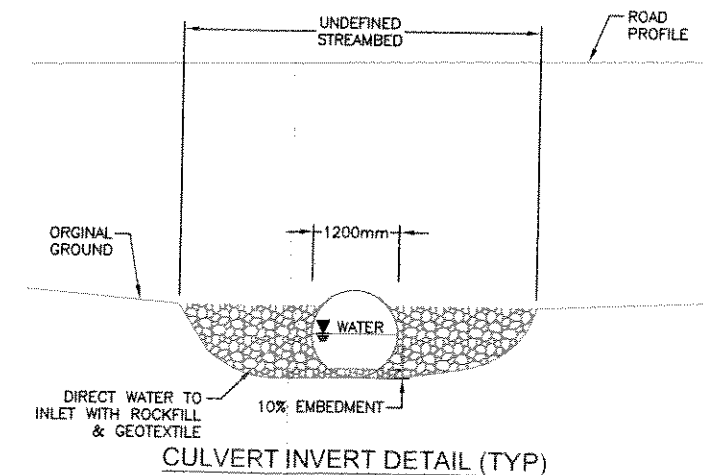
WATER CROSSING PLAN

SCALE 1:1000



PROFILE

SCALE 1:300



CULVERT INVERT DETAIL (TYP)

SCALE: NTS

STREAM CROSSING SURVEY AND FIELD REVIEW CONDUCTED BY TBT ENGINEERING JULY 2006.

NOT FOR CONSTRUCTION

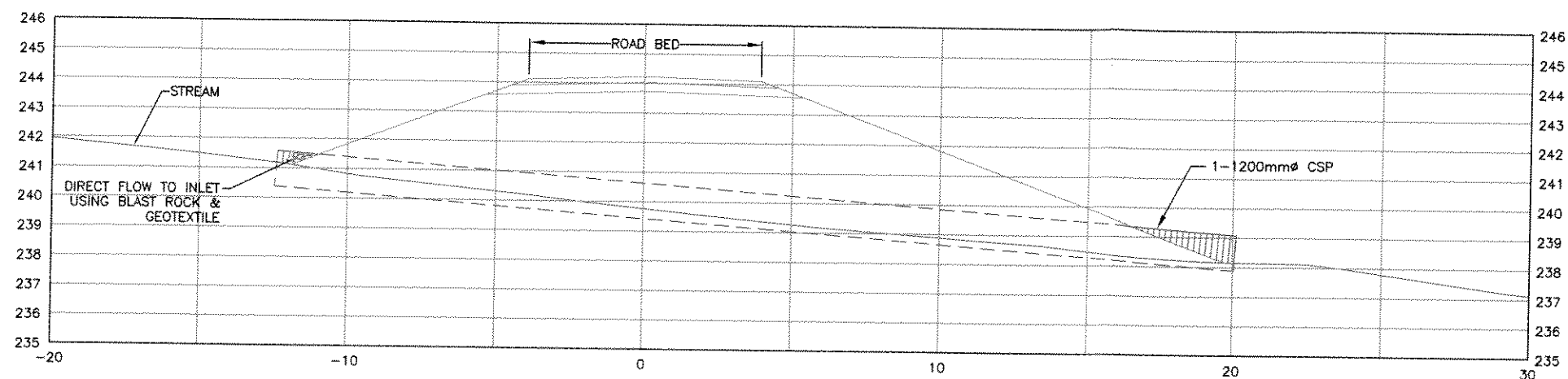
31/01/07	UPDATED WITH REVISED ALIGNMENT/SURVEY DATA	CVZ
15/05/06	FINAL REPORT	CVZ
DATE	REVISION	BY

DWG. TITLE: WATER CROSSING LOCATION PLAN AS#13
PROJECT: ALL-SEASON ROAD DESIGN
HIGH LAKE, NUNAVUT

TBT ENGINEERING
CLIENT: WOLFDEN Resources Inc.

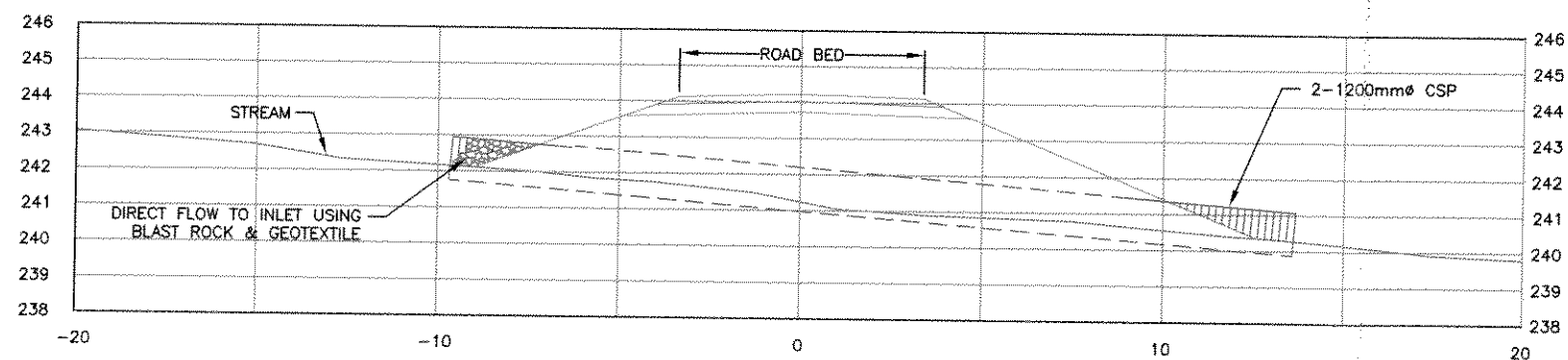
DRAWN BY: T.B.	PROJECT NO. 05-160
APPROVED BY: C.Z.	DATE: JAN 2007
SCALE: AS SHOWN	ENCLOSURE 4

CAD FILE NO: AS13 FINAL



CROSS-SECTION A-A

SCALE 1:200



CROSS-SECTION B-B

SCALE 1:200

NOTES:

1. THIS CROSSING IS CATEGORIZED AS HIGH FISH HABITAT, AS IT HAS GOOD MIGRATION AND SEASONAL REARING HABITAT.
2. RIVER BANK LOCATIONS AND WATER LEVELS SHOWN ARE APPROXIMATE.
3. THE BOTTOM OF THE CULVERT SHALL BE BURIED INTO THE STREAMBED NOT LESS THAN 10% OF THE CULVERT HEIGHT.
4. DISTURBANCE TO VEGETATION IS TO BE MINIMIZED.
5. SEDIMENT AND EROSION CONTROL MEASURES WILL BE UTILIZED TO PREVENT THE ENTRY OF SEDIMENT INTO THE WATERCOURSE.
6. CONSTRUCTION EQUIPMENT WILL BE OPERATED IN A MANNER TO PREVENT DELETERIOUS SUBSTANCES FROM ENTERING THE WATER.

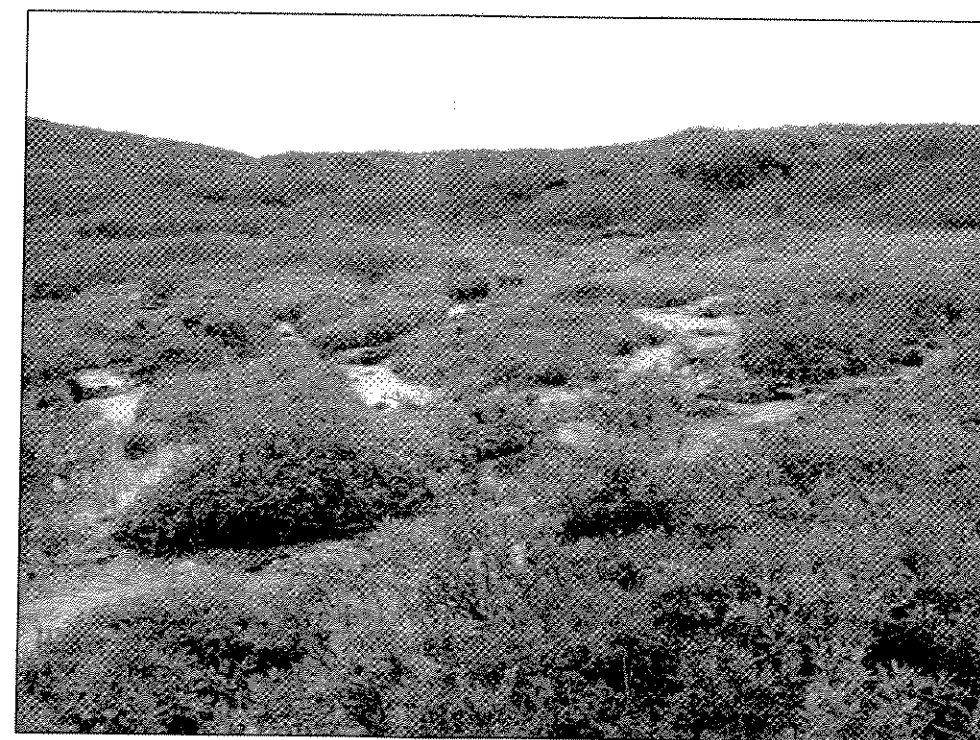


PHOTO AS#13 - LOOKING UPSTREAM AT UNDEFINED STREAMBED.

STREAM CROSSING SURVEY AND FIELD REVIEW CONDUCTED BY TBT ENGINEERING JULY 2006.

NOT FOR CONSTRUCTION

31/01/07	UPDATED WITH REVISED ALIGNMENT/SURVEY DATA	CVZ
15/05/06	FINAL REPORT	CVZ
DATE	REVISION	BY

DWG. TITLE:

WATER CROSSING LOCATION PLAN AS#13

PROJECT:

ALL-SEASON ROAD DESIGN

HIGH LAKE, NUNAVUT



TBT ENGINEERING

CLIENT:

WOLFDEN Resources Inc.

DRAWN BY:

T.B.

APPROVED BY:

C.Z.

SCALE:

AS SHOWN

PROJECT NO.

05-160

DATE:

JAN 2007

ENCLOSURE

5

CAD/REF. AC: A813 FINAL