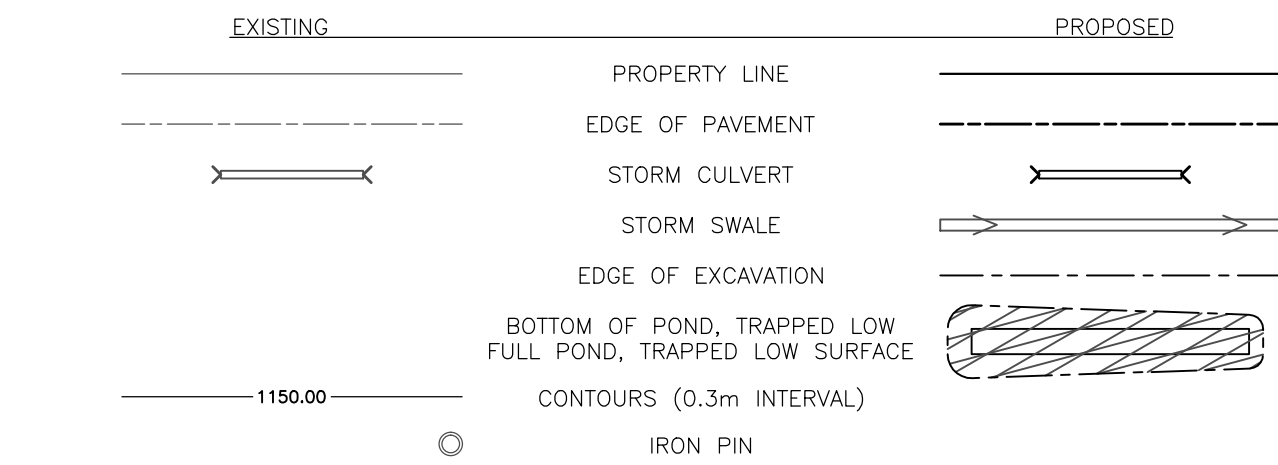


LEGEND

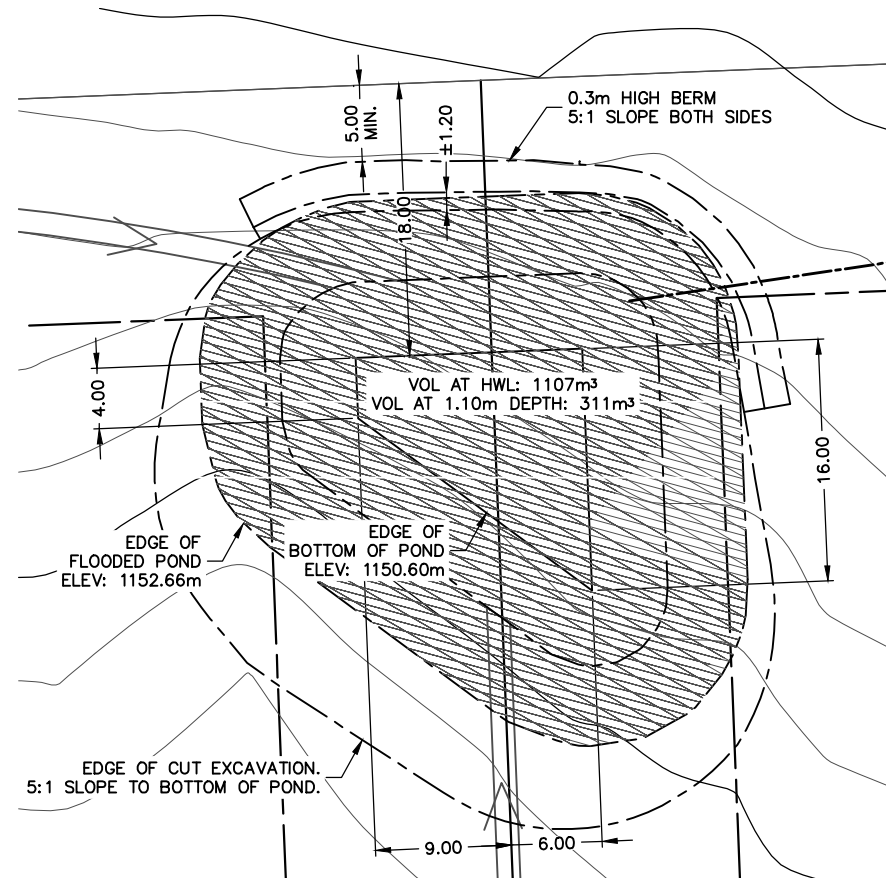


STORM ANALYSIS				
AREA	STORM EVENT	24 HR RUNOFF VOLUME (m³)	SURFACE STORAGE CAPACITY (m³)	NET RUNOFF (m³)
LOT 14	1:5 YEAR PRE-DEVELOPMENT	216	0	216 ^{1,2}
	1:5 YEAR POST-DEVELOPMENT	245	136	109 ^{1,2}
	1:100 YEAR PRE-DEVELOPMENT	387	0	387 ^{1,2}
	1:100 YEAR POST-DEVELOPMENT	438	136	302 ^{1,2}
LOT 15	1:5 YEAR PRE-DEVELOPMENT	172	0	172
	1:5 YEAR POST-DEVELOPMENT	202	66	136 ³
	1:100 YEAR PRE-DEVELOPMENT	307	0	307
	1:100 YEAR POST-DEVELOPMENT	362	66	296 ³
LOT 16	1:5 YEAR PRE-DEVELOPMENT	168	0	168
	1:5 YEAR POST-DEVELOPMENT	198	142	56 ³
	1:100 YEAR PRE-DEVELOPMENT	300	0	300
	1:100 YEAR POST-DEVELOPMENT	354	142	212 ³
LOT 17	1:5 YEAR PRE-DEVELOPMENT	172	0	172
	1:5 YEAR POST-DEVELOPMENT	202	13	189
	1:100 YEAR PRE-DEVELOPMENT	307	0	307
	1:100 YEAR POST-DEVELOPMENT	362	13	349
LOT 18	1:5 YEAR PRE-DEVELOPMENT	160	0	214 ³
	1:5 YEAR POST-DEVELOPMENT	190	1107	0 ⁴
	1:100 YEAR PRE-DEVELOPMENT	286	0	383 ³
	1:100 YEAR POST-DEVELOPMENT	340	1107	394 ³
LOT 19	1:5 YEAR PRE-DEVELOPMENT	173	0	173
	1:5 YEAR POST-DEVELOPMENT	203	0	203 ³
	1:100 YEAR PRE-DEVELOPMENT	309	0	309
	1:100 YEAR POST-DEVELOPMENT	363	0	363 ³
LOT 20	1:5 YEAR PRE-DEVELOPMENT	117	0	117
	1:5 YEAR POST-DEVELOPMENT	117	0	117
	1:100 YEAR PRE-DEVELOPMENT	209	0	209
	1:100 YEAR POST-DEVELOPMENT	209	0	209
ROAD AREA 1	1:5 YEAR PRE-DEVELOPMENT	125	0	287 ³
	1:5 YEAR POST-DEVELOPMENT	250	0	332 ³
	1:100 YEAR PRE-DEVELOPMENT	223	0	513 ³
	1:100 YEAR POST-DEVELOPMENT	446	0	673 ³
ROAD AREA 2	1:5 YEAR PRE-DEVELOPMENT	46	0	46
	1:5 YEAR POST-DEVELOPMENT	120	0	120 ³
	1:100 YEAR PRE-DEVELOPMENT	81	0	81
	1:100 YEAR POST-DEVELOPMENT	215	0	215 ³
TOTALS	1:5 YEAR PRE-DEVELOPMENT	1349	0	1349
	1:5 YEAR POST-DEVELOPMENT	1727	1464	263
	1:100 YEAR PRE-DEVELOPMENT	2409	0	2409
	1:100 YEAR POST-DEVELOPMENT	3087	1464	1623

1. 75% OF RUNOFF FROM LOT 14 CARRIED TO ROAD AREA 1.
2. 25% OF RUNOFF FROM LOT 14 CARRIED TO POND BETWEEN LOTS 17, 18.
3. RUNOFF CARRIED TO POND BETWEEN LOTS 17, 18.
4. INCLUDES 75% OF RUNOFF FROM LOT 14.
5. INCLUDES 25% OF RUNOFF FROM LOT 14.
6. INCLUDES 25% OF RUNOFF FROM LOT 14, RUNOFF FROM LOTS 15, 16, 19, ROAD AREA 2.

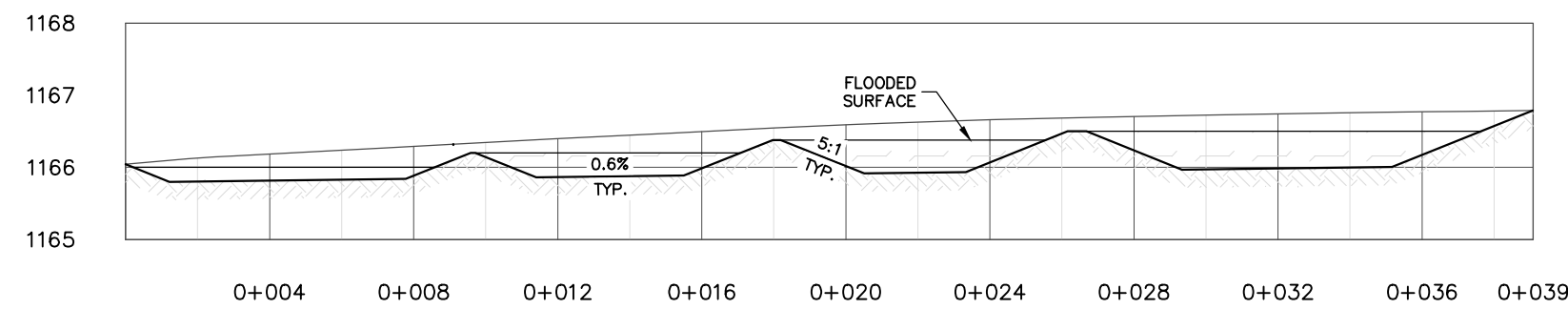
STORM ANALYSIS		
CHANNEL	FLOW CAPACITY REQUIRED (m³/s)	FLOW CAPACITY PROVIDED (m³/s)
WEST DITCH ALONG NORTH ROAD	0.121	0.482
EAST DITCH ALONG NORTH ROAD	0.091	0.482
TO POND VIA 17/18 LOT LINE	0.230	1.052
TO POND VIA BACK OF LOTS 18, 19	0.172	0.242

FLOW CAPACITIES ARE FOR 1:100 YEAR POST-DEVELOPMENT STORM.



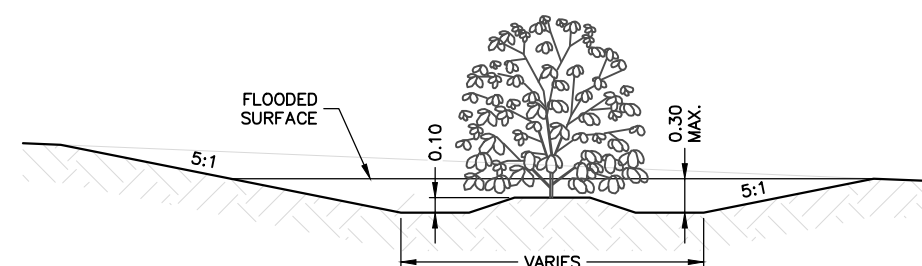
POND 17/18

SCALE: 1:500



TYPICAL TRAPPED LOW PROFILE (LOT 14 EAST)

SCALE: NTS



TYPICAL TRAPPED LOW WIDTH SECTION

SCALE: NTS

- PARAMETERS UTILIZED FOR STORM WATER ANALYSIS (RATIONAL METHOD)
- COEFFICIENTS OF RUNOFF (C) VARY DUE TO SLOPE DIFFERENCES BETWEEN LOTS.
 - 1:100 YEAR 24 HOUR POST-DEVELOPMENT STORM ATTENUATED TO 1:100 YEAR 24 HOUR PRE-DEVELOPMENT STORM.
 - RAINFALL INTENSITY VALUES FOR STORMS TAKEN FROM ENVIRONMENT CANADA STATISTICS FOR CALGARY INTERNATIONAL AIRPORT, AS FOLLOWS:

GREATEST 24 HOUR RAINFALL	1:5 YEAR STORM	53.3mm
	1:100 YEAR STORM	95.3mm
 - 24 HOUR RUNOFF VOLUMES CALCULATED FOR 1:5 AND 1:100 YEAR PRE- AND POST-DEVELOPMENT STORMS USING GREATEST 24 HOUR RAINFALL VALUES.
 - CHANNEL CAPACITIES CALCULATED FOR 1:100 YEAR POST-DEVELOPMENT STORM USING 20 MINUTE RAINFALL INTENSITY VALUE.

- NOTES
- EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES IS NOT GUARANTEED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXISTENCE AND LOCATION OF ALL UTILITIES PRIOR TO GROUND DISTURBANCE.
 - CONTOURS SHOWN ARE PRIOR TO GRADING TO DESIGN ELEVATIONS.

No.	REVISION	DATE	REV. BY	APP. BY

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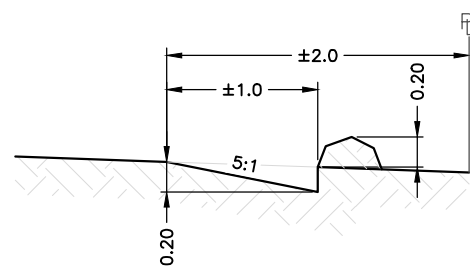
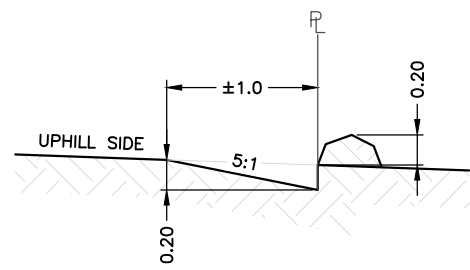
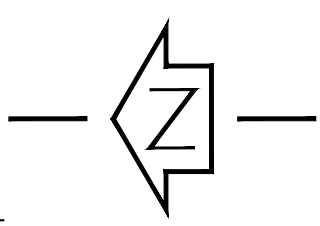


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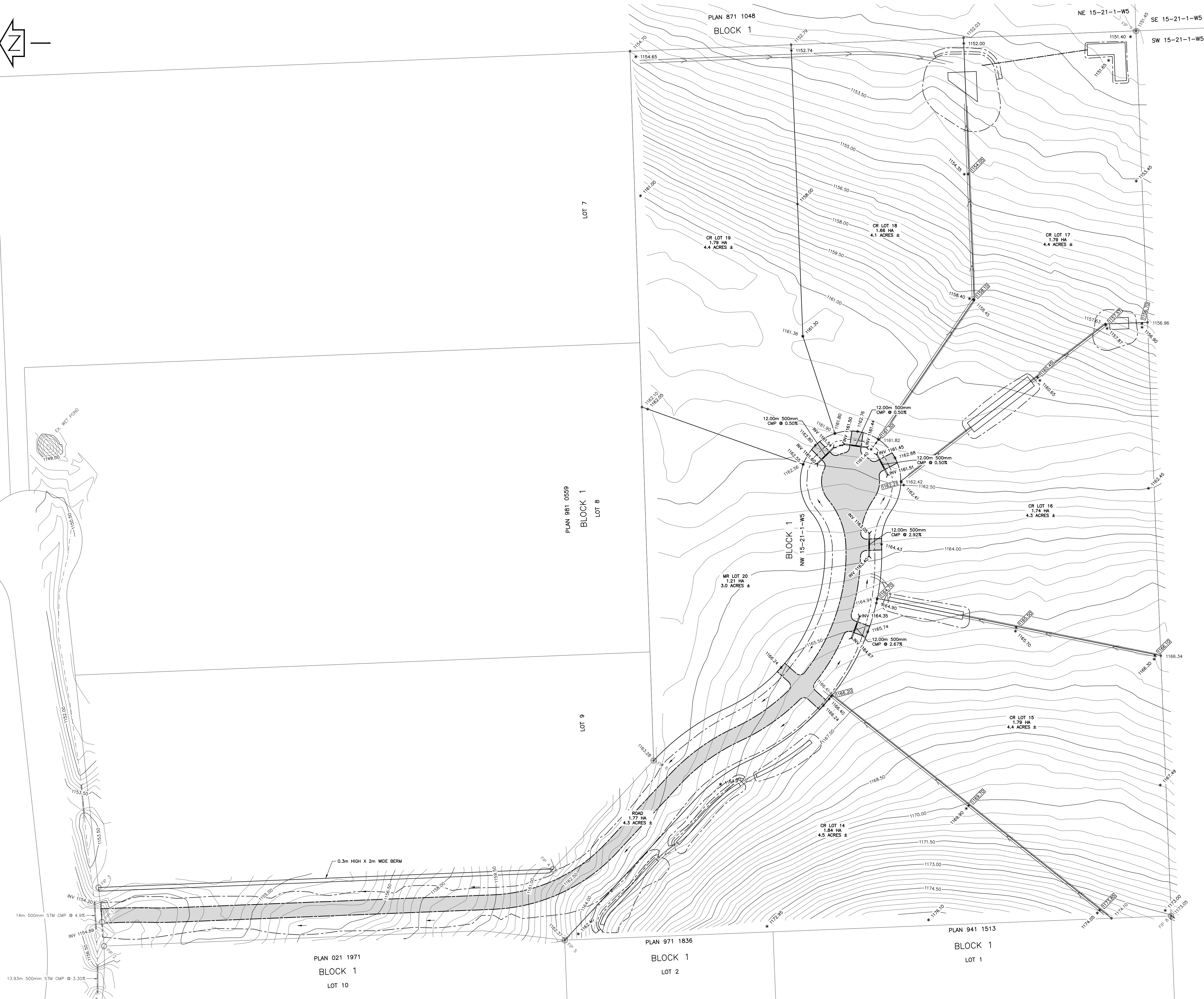
DESIGN BY I.D.C.
DRAWN BY J.C.J.
CHECKED BY R.W.F.
APPROVED BY I.D.C.
SCALE 1:1000

CLIENT/PROJECT
599088 ALBERTA LTD.
CROCUS MEADOWS – M.D. OF FOOTHILLS #31
TITLE STORMWATER MANAGEMENT PLAN

DATE 02/05/14
PROJECT No 509002
ISSUE No 1
SHEET 2 OF 7

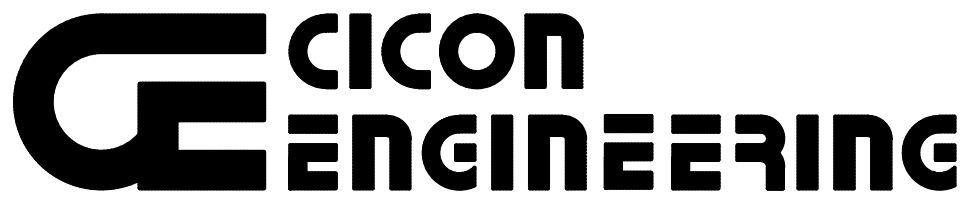


- NOTES**
1. EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES IS NOT GUARANTEED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXISTENCE AND LOCATION OF ALL UTILITIES PRIOR TO GROUND DISTURBANCE.
 2. MAXIMUM DRIVEWAY GRADIENT 1.2%. DRIVEWAY APPROACHES TO INTERNAL ROAD TO SLOPE MAXIMUM 2% FROM PROPERTY LINE TO ROAD INTERSECTION.
 3. ALL FOOTINGS SHALL BE PLACED ON UNDISTURBED VIRGIN SOIL.
 4. MINIMUM GRADIENT OF GROUND SURFACE WITHIN 4m OF BUILDINGS SHALL BE 5% AWAY FROM BUILDING.
 5. CONTOURS SHOWN ARE PRIOR DEVELOPMENT.
 6. FOOTINGS AND FOUNDATIONS SHALL BE DESIGNED TO SUPPORT PROPOSED STRUCTURES.
 7. ALL FOUNDATION CONCRETE SHALL BE TYPE 50 (SULFATE RESISTANT CEMENT).



No.	REVISION	DATE	REV. BY	APP. BY

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DRAWN BY J.C.J.

CHECKED BY R.W.F.

APPROVED BY: I.D.C.

CLIENT/PROJECT

010000

LO

599088 ALBERTA LTD.

CROCUS MEADOWS – M.D. OF FOOTHILLS #31

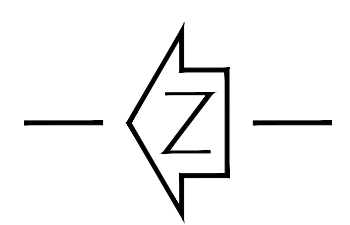
TITLE LOT GRADING AND SITE DRAINAGE PLAN

DATE 02/05/14

PROJECT No 509002

ISSUE No 1

SHEET 3 OF 7



40mm ASPHALT MIX B (CITY OF CALGARY)
50mm ASPHALT MIX A (CITY OF CALGARY)
200mm 20mm# CRUSHED GRAVEL COMPACTED TO 100% S.P.D. AT O.M.C.
PRIME COAT
150mm SUBGRADE COMPACTED TO 100% S.P.D. AT O.M.C.

EXISTING GROUND
FINISHED GROUND

2.0% 2.0%

3:1 3:1 3:1

±0.90 ±0.90

3.00 3.00 3.80 3.80 3.00 3.00

1167
1166
1165
1164

-16 -14 -12 -10 -8 -6 -4 -2 0 2 4 6 8 10 12 14 16

Diagram illustrating the cross-section of a road and culvert structure. The diagram shows a road with a 2.0% slope, a 500mm CMP culvert, a paved driveway, and a ditch. The culvert is 3.00m wide and 0.30m deep. The ditch is 3.00m wide. The road shoulder is 2.0% wide. The culvert is to be filled and compacted to 98% S.F.O. @ O.M.C. prior to culvert installation. The diagram is labeled with stationing from 0+004 to 0+015 and elevation from 1164 to 1168.

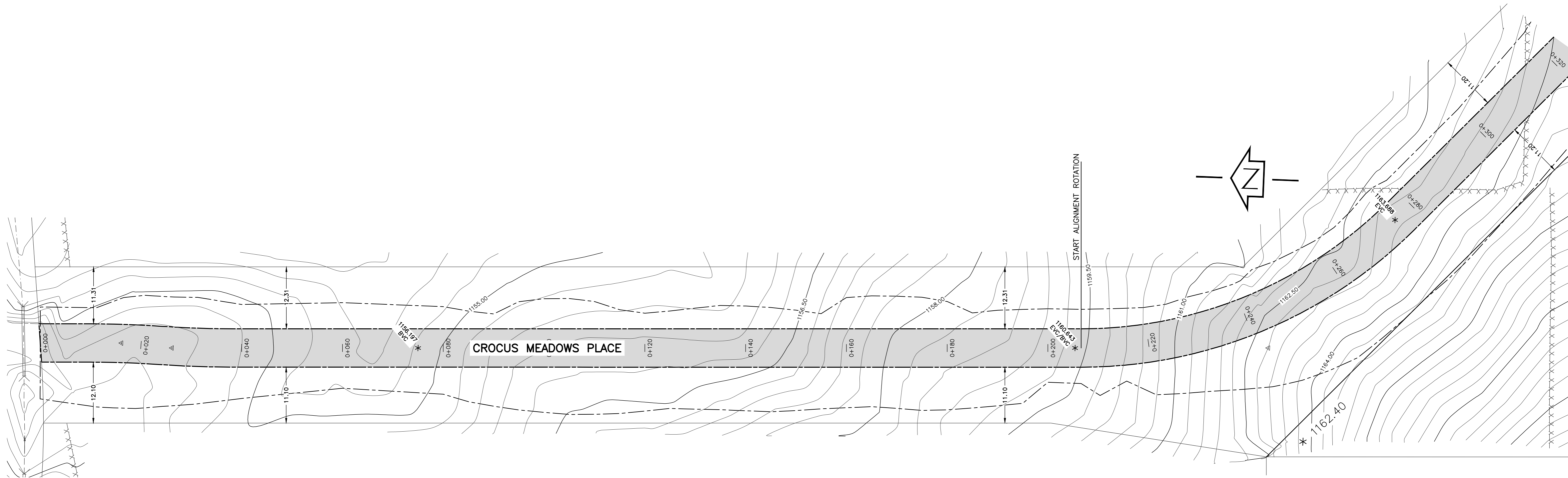
NOTES

1. EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES IS NOT GUARANTEED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXISTENCE AND LOCATION OF ALL UTILITIES PRIOR TO GROUND DISTURBANCE.
2. MAXIMUM DRIVEWAY GRADIENT 12%. DRIVEWAY APPROACHES TO INTERNAL ROAD TO SLOPE MAXIMUM 2% FROM PROPERTY LINE TO ROAD INTERSECTION.
3. CONTOURS SHOWN ARE PRIOR TO GRADING TO DESIGN ELEVATIONS.
4. STRIP TOPSOIL WITHIN ROAD RIGHT-OF-WAY 4m INSIDE R_L ON E/N SIDE TO 1m INSIDE R_L TO W/S SIDE.

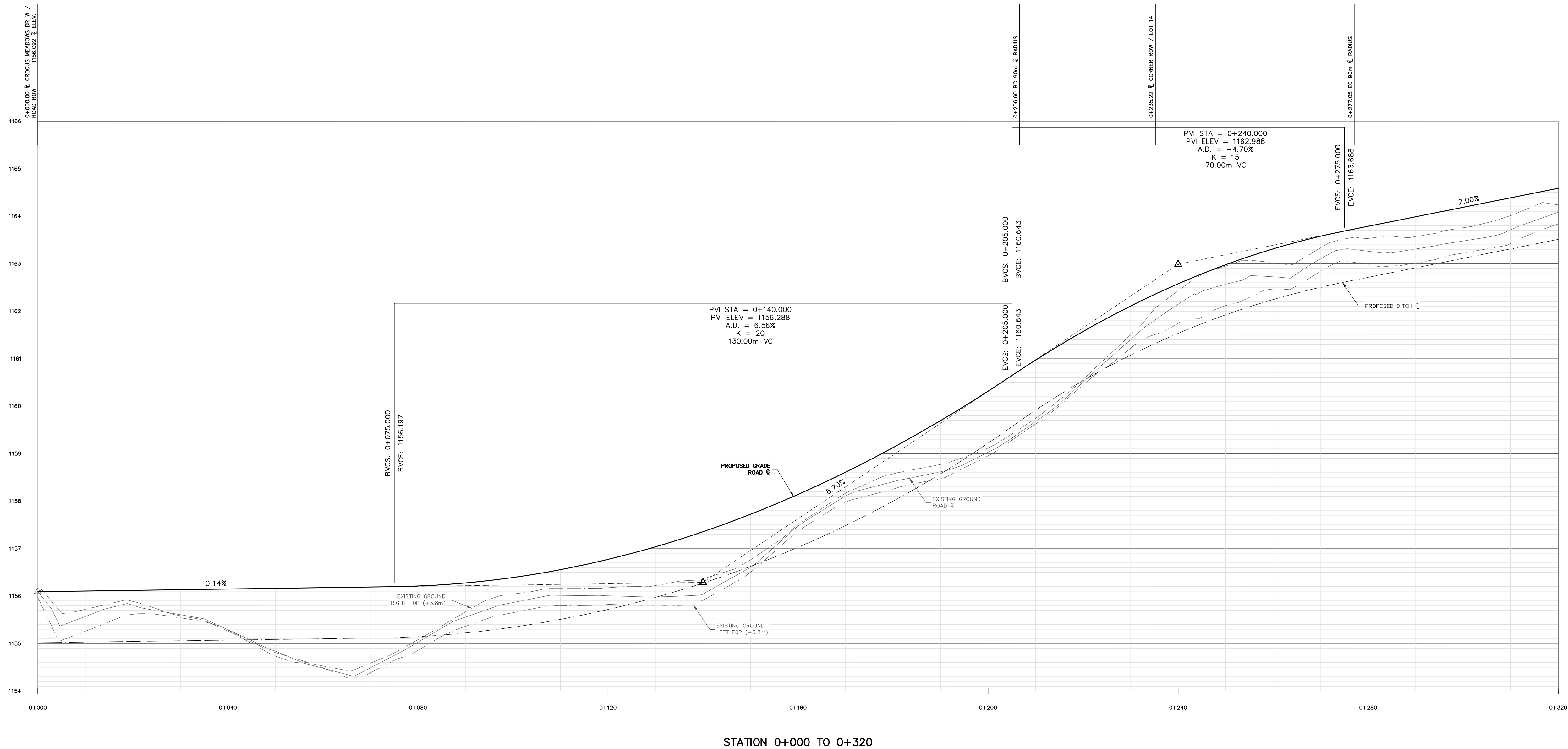


CLIENT/PROJECT 599088 ALBERTA LTD.
CROCUS MEADOWS – M.D. OF FOOTHILLS #31
TITLE OVERALL ROAD PLAN

DATE	02/05/14
PROJECT No	509002
ISSUE No	1
SHEET	5 OF 7



LEGEND	
EXISTING	PROPOSED
	PROPERTY LINE
	EDGE OF PAVEMENT
	PAVED ROAD
	STORM CULVERT
	EDGE OF EXCAVATION
	CONTOURS (0.3m INTERVAL)
	ROAD ELEVATION POINT
	* 1161.350



____	____	____	____	____	____
____	____	____	____	____	____
____	____	____	____	____	____
____	____	____	____	____	____
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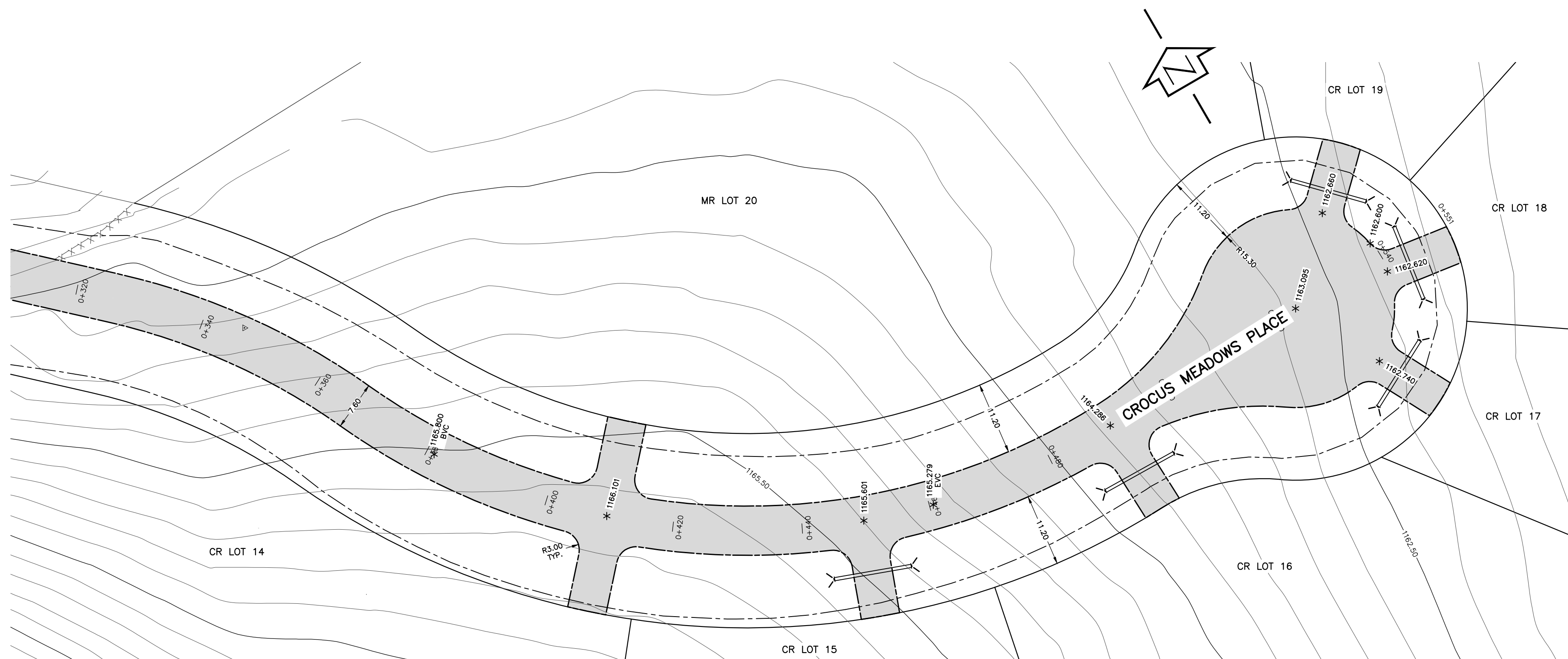


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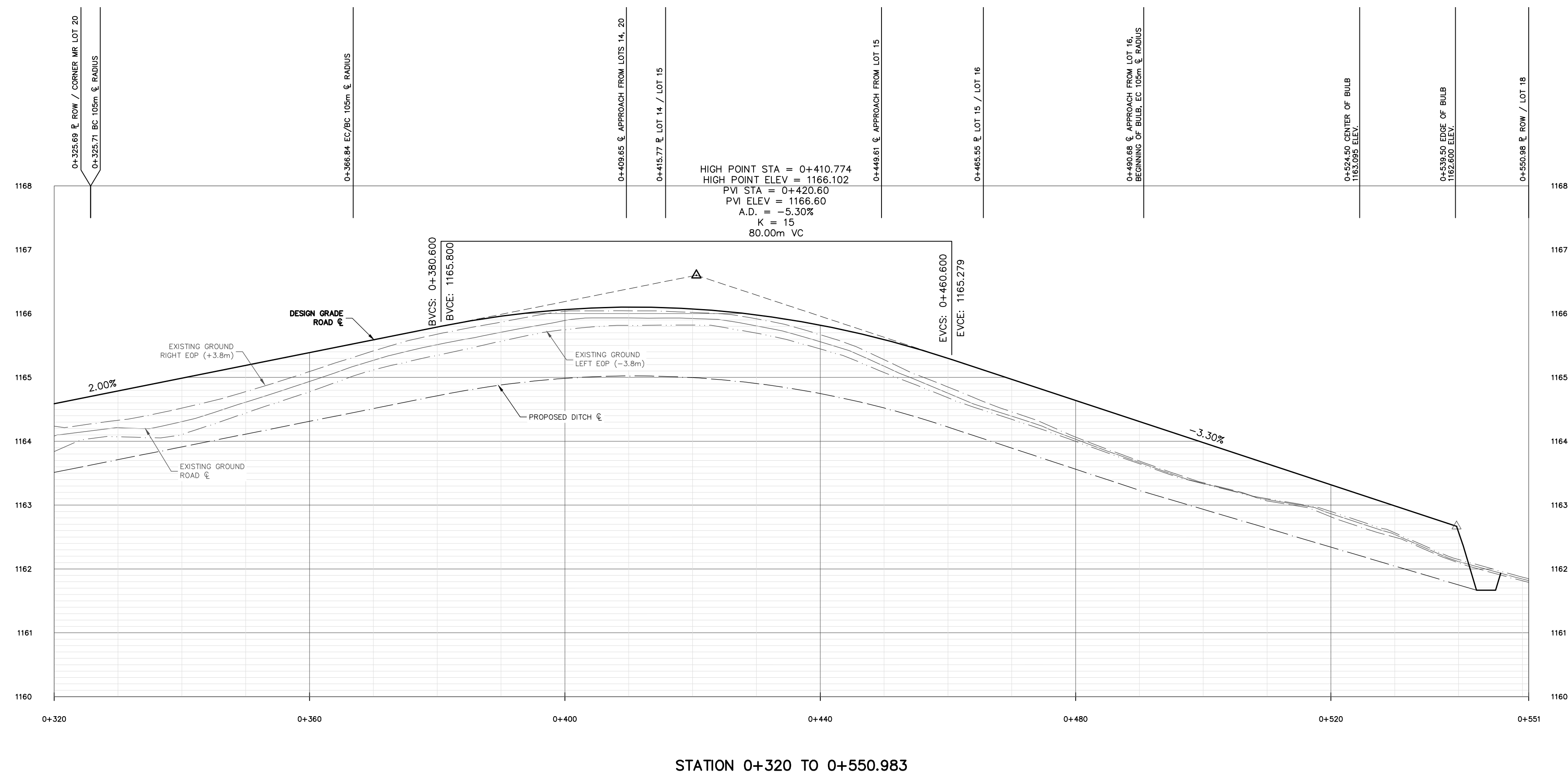
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DRAWN BY	J.C.J.	
CHECKED BY	R.W.F.	
APPROVED BY	I.D.C.	TITLE
SCALE	H 1:500 V 1:50	

599088 ALBERTA LTD.
CROCUS MEADOWS – M.D. OF FOOTHILLS #31
ROAD ALIGNMENT PROFILE
STATION 0+000 TO 0+320

DATE	02/05/14
PROJECT No	509002
ISSUE No	1
SHEET	6 OF 7



LEGEND	
EXISTING	PROPOSED
	PROPERTY LINE
	EDGE OF PAVEMENT
	PAVED ROAD
	STORM CULVERT
	EDGE OF EXCAVATION
	CONTOURS (0.3m INTERVAL)
	ROAD ELEVATION POINT



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APPROVED BY	I.D.C.	TITLE
SCALE	H 1:500 V 1:50	

599088 ALBERTA LTD.
CROCUS MEADOWS – M.D. OF FOOTHILLS #31
ROAD ALIGNMENT PROFILE
STATION 0+320 TO 0+550.983

DATE	02/05/14
PROJECT No	509002
ISSUE No	1
SHEET	7 OF 7