VOLUME III DRAWING SET

DESIGN OF A SUBDIVISION IN MAPLE RIDGE, BC

CONSULTANT:

West Coast Civil Consultants

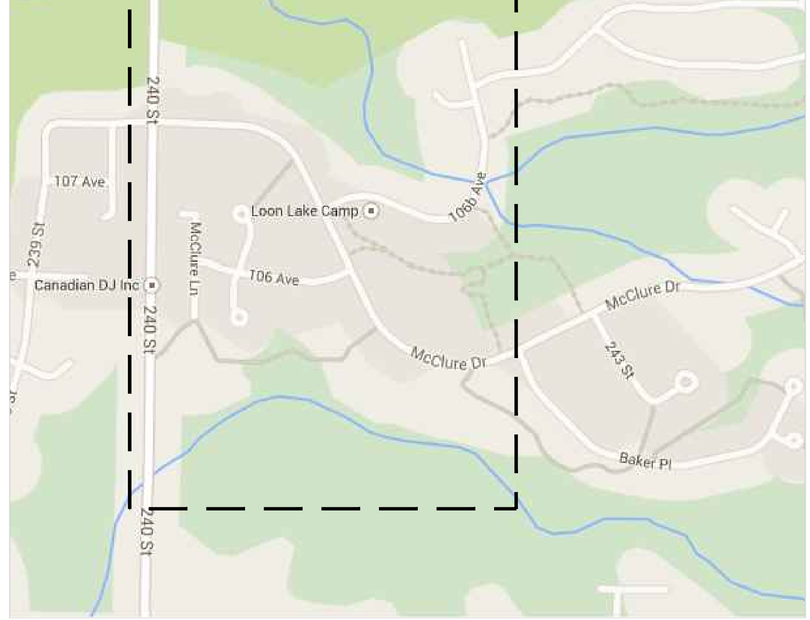
COMPUTER # 3
SW1 – 1080 3700 WILLINGDON AVENUE
BURNABY, BC V5G 3H2

CAPSTONE GROUP# 6

SPONSOR:

URBAN systems

550–1090 HOMER STREET
VANCOUVER, BC V6B 2W9



LOCATION MAP

DRAWING INDEX

MARCH 2015
WEST COAST CIVIL CONSULTANTS

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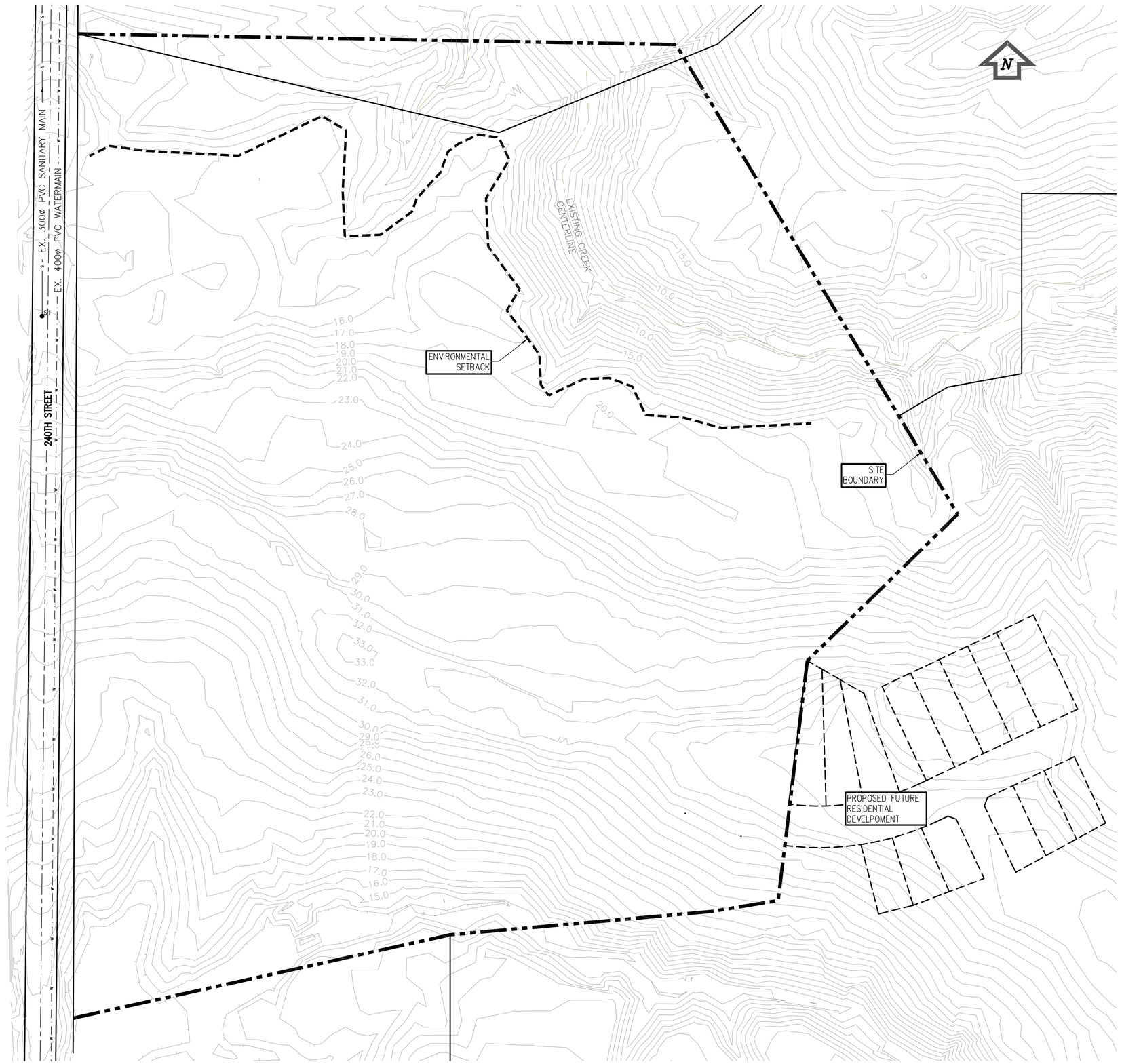

GRAPHIC SCALE

−20 0 20 40

SCALE: 1:1000

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EXISTING CONDITIONS

DESIGN OF A SUBDIVISION IN MAPLE RIDGE, BC

DESIGN NO. ◆

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FILENAME:

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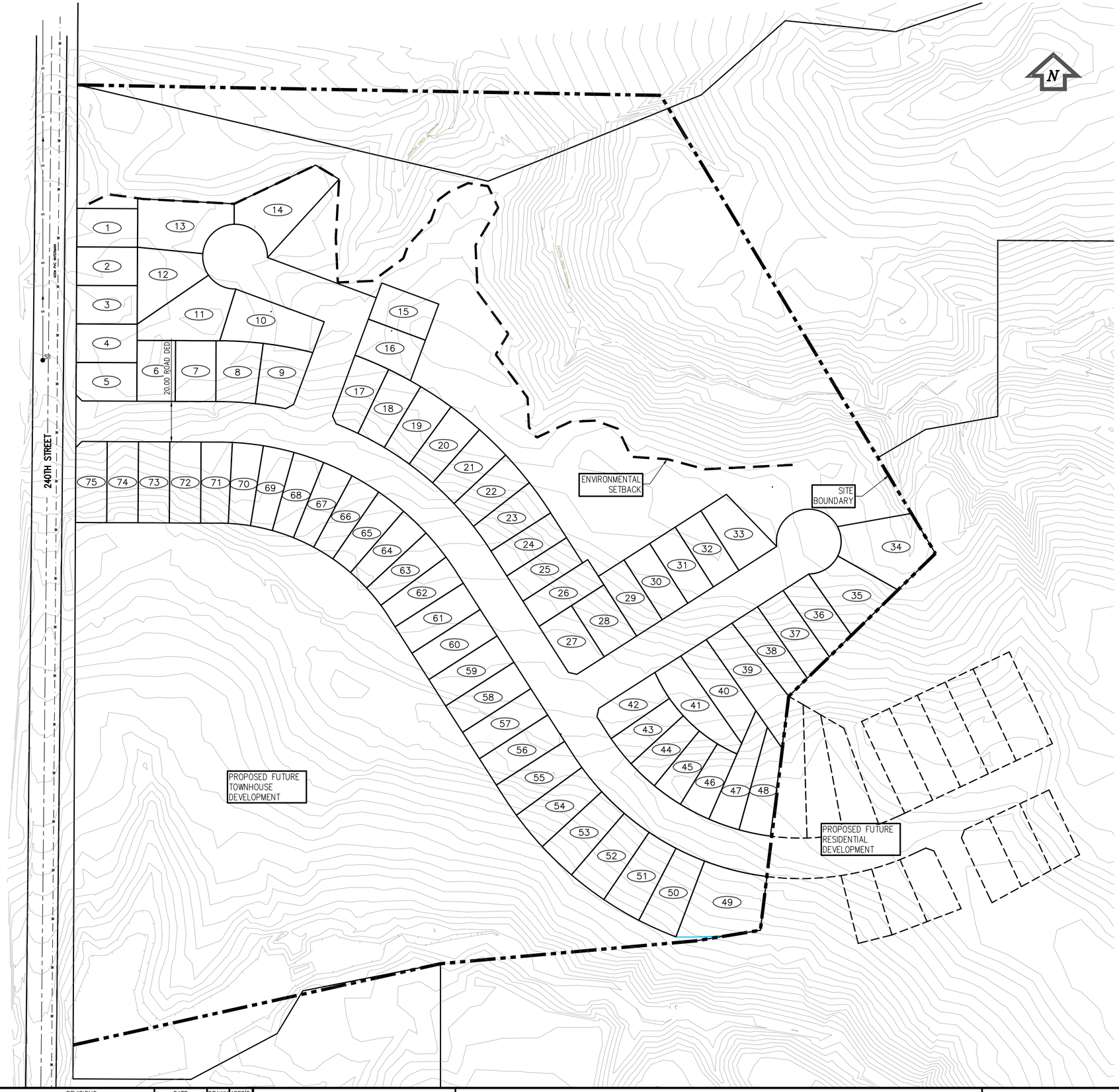

GENERAL NOTES

1. TOTAL NUMBER OF LOTS = 75
2. TOTAL LENGTH OF ROAD = 714 METERS
3. TOTAL SITE AREA = 15.6 HA
4. TOTAL SITE AREA CONSUMED = 11.1 HA
5. LOT DENSITY = 6.76 LOTS/HA

LOT LAYOUT NOTES

MINIMUM LOT AREA = 480 sq.m.
MINIMUM LOT WIDTH = 15 METERS.
MINIMUM LOT DEPTH = 28 METERS.
MINIMUM BUILDING ENVELOPE = 13 METERS by 9 METERS

FRONT YARD SETBACK = 7.5 METERS
REAR YARD SETBACK = 7.5 METERS
SIDE YARD SETBACK = 1.8 METERS
SIDE YARD ON FLANKING STREET = 3.6 METERS

GRAPHIC SCALE

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SCALE: 1:1000

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LOT LAYOUT
OPTION 1

DESIGN OF A SUBDIVISION IN MAPLE RIDGE, BC

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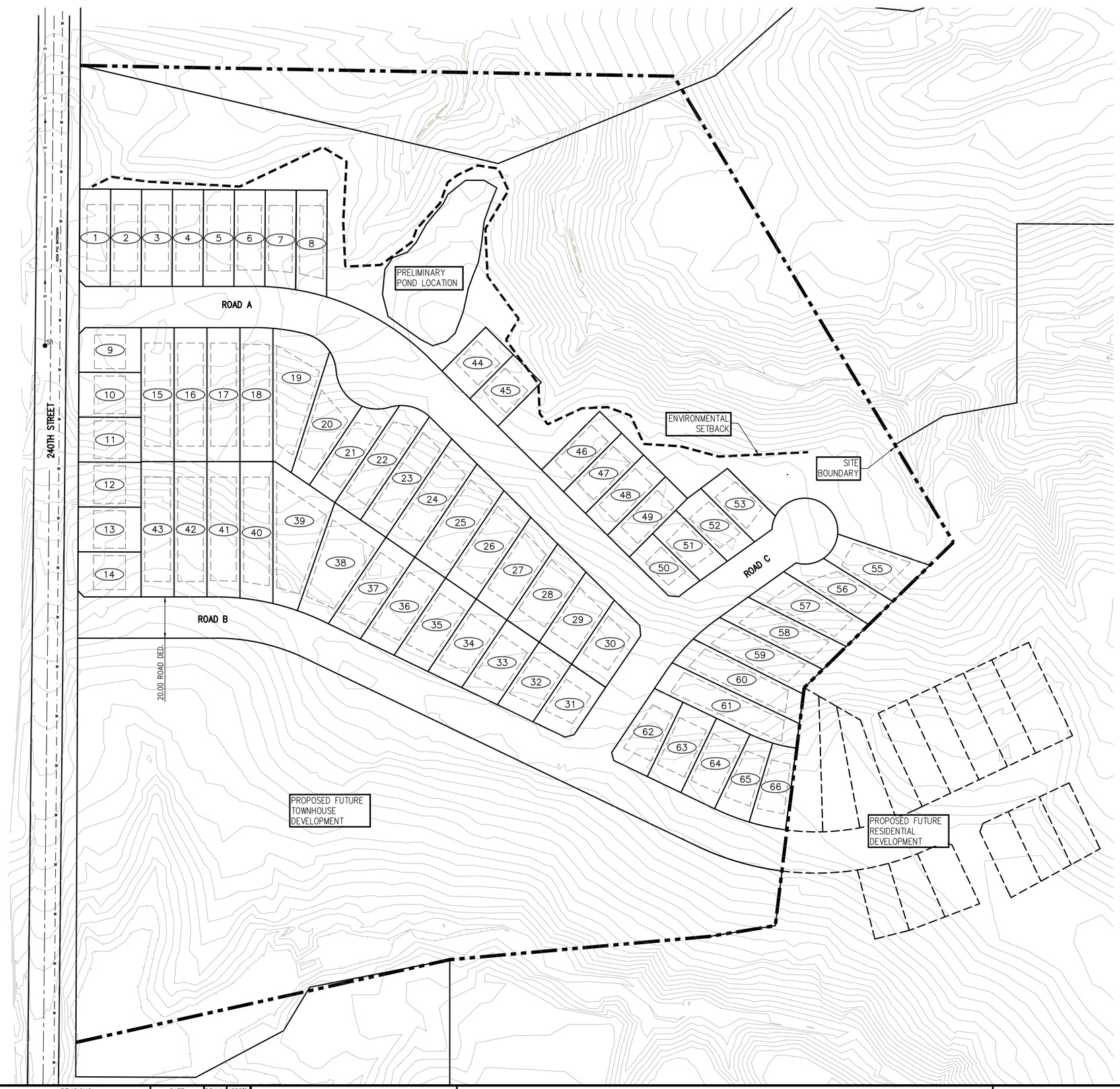

GENERAL NOTES

1. TOTAL NUMBER OF LOTS =65
2. TOTAL LENGTH OF ROAD = 934 METERS
3. TOTAL SITE AREA = 15.6 HA
4. TOTAL SITE AREA CONSUMED = 11.6 HA
5. LOT DENSITY = 5.6 LOTS/HA

LOT LAYOUT NOTES

MINIMUM Lot AREA = 480 sq.m.
MINIMUM LOT WIDTH = 15 METERS.
MINIMUM LOT DEPTH = 28 METERS.
MINIMUM BUILDING ENVELOPE = 13 METERS by 9 METERS

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GRAPHIC SCALE

−20 0 20 40

SCALE: 1:1000

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LOT LAYOUT
OPTION 2

DESIGN OF A SUBDIVISION IN MAPLE RIDGE, BC

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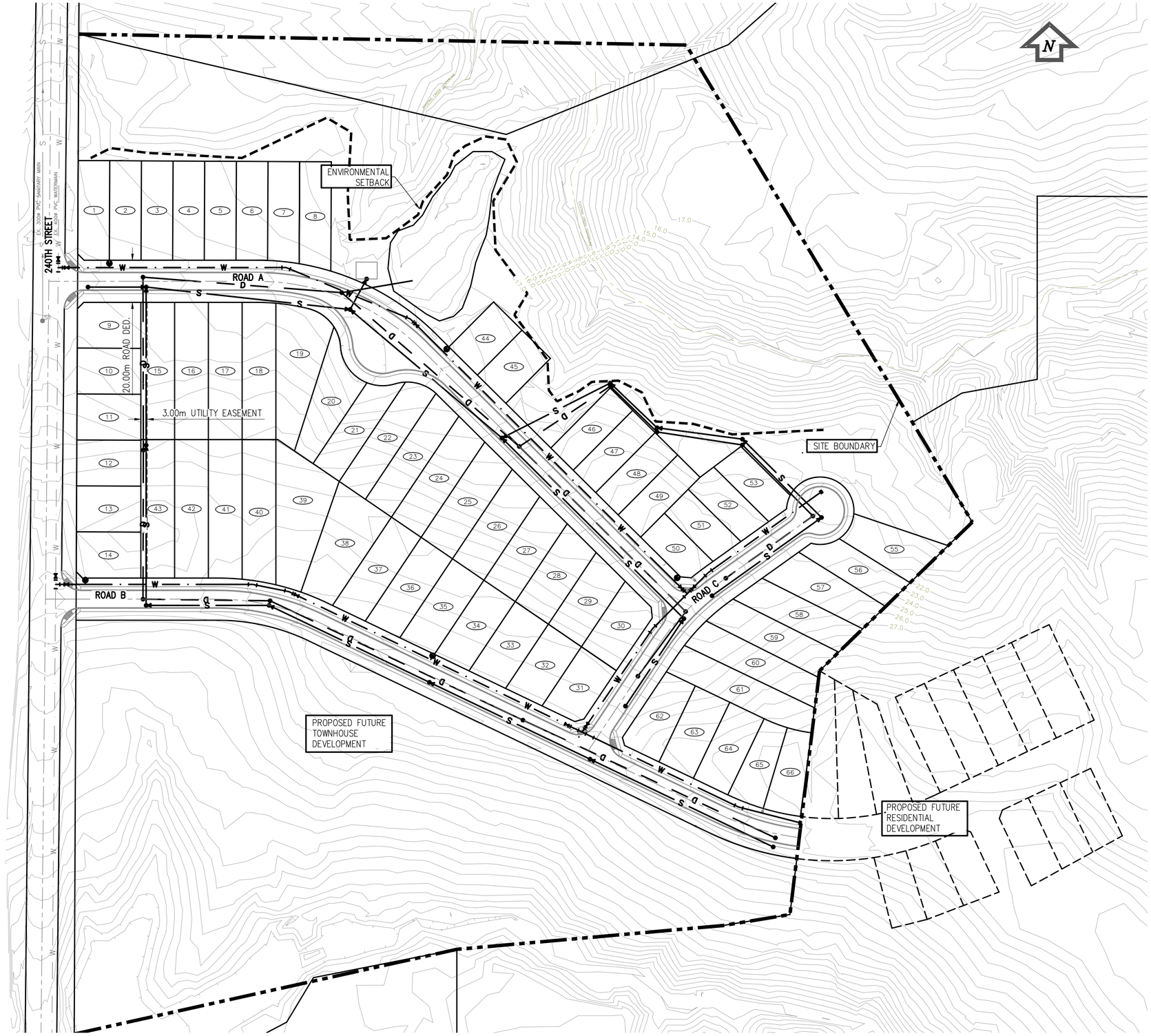

GRAPHIC SCALE

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SCALE: 1:1000

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KEY PLAN

DESIGN OF A SUBDIVISION IN MAPLE RIDGE, BC

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FILENAME:

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GRAPHIC SCALE

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GRADING PLAN
PROPOSED CONTOURS

DESIGN OF A SUBDIVISION IN MAPLE RIDGE, BC

DESIGN NO. ◆

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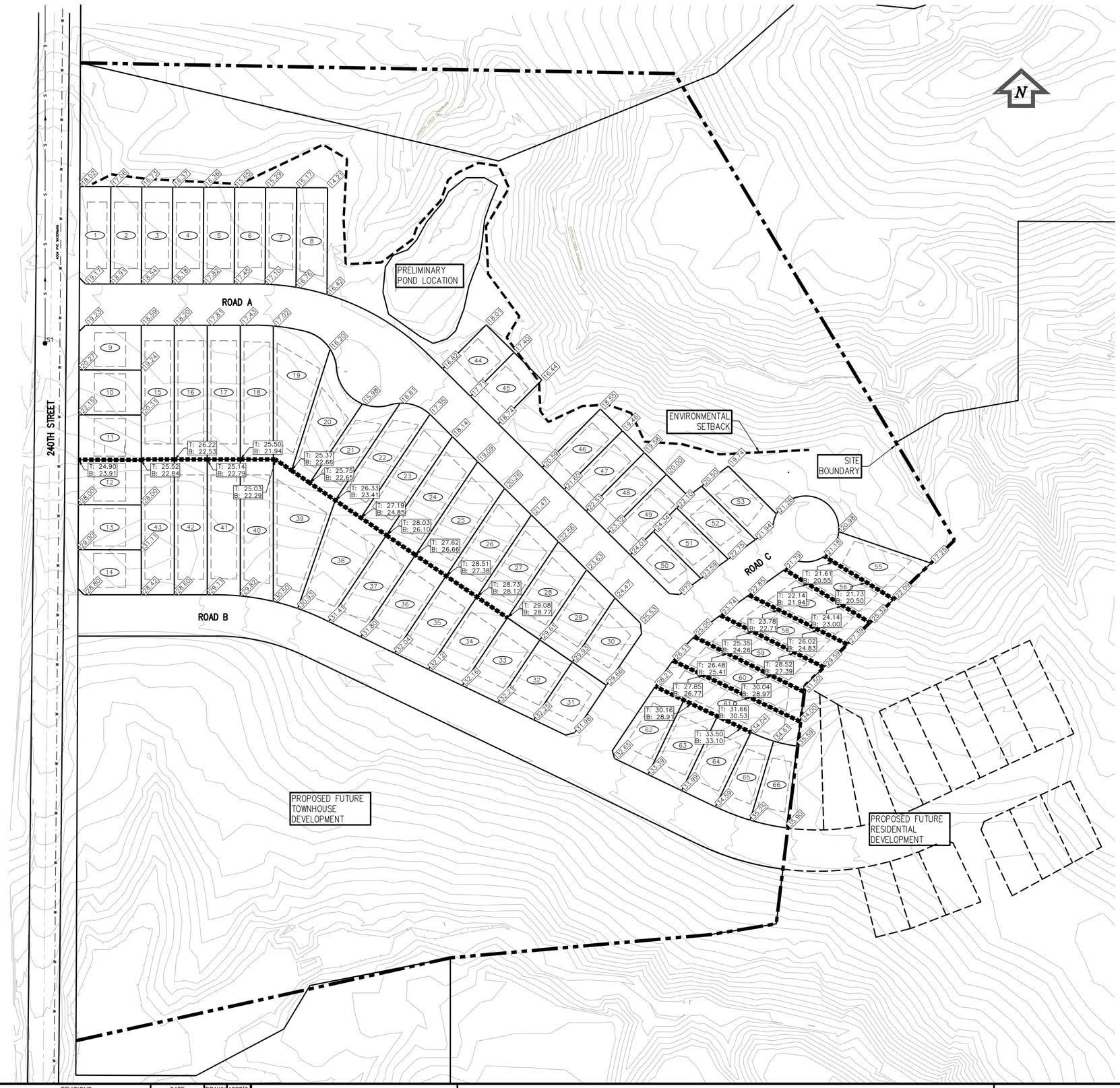

GRADING NOTES

GRADING CRITERIA:
- MAX LOT GRADIENT FRONT TO BACK = 25%
- MAX LOT GRADIENT SIDE TO SIDE = 5%

EARTHWORKS:
- TOTAL CUT VOLUME = 57,000 CUBIC METERS
- TOTAL FILL VOLUME = 43,000 CUBIC METERS
- NET = 14,000 CUBIC METERS OF CUT

##.## PROPOSED LOT CORNER ELEVATION

T: ##.## B: ##.## PROPOSED GROUND ELEVATIONS AT TOP AND BOTTOM OF RETAINING WALL

SEE SHEET XX FOR RETAINING WALL DESIGN
SEE SHEET XX FOR LOCATIONS OF LAWN BASINS

Lot #	MBE
1	16.774
2	16.016
3	15.791
4	15.474
5	15.195
6	14.904
7	14.545
8	14.225
9	17.292
10	17.999
11	19.597
12	24.165
13	24.681
14	25.820
15	15.901
16	15.515
17	15.463
18	15.119
19	14.350
20	15.361
21	15.426
22	15.554
23	15.826
24	16.169
25	16.551
26	19.210
27	20.094
28	20.921
29	21.865
30	22.757
31	28.226
32	30.622
33	30.428
34	30.186
35	30.004
36	29.829
37	29.625
38	29.474
39	29.472
40	28.869
41	28.182
42	27.306
43	21.466
44	15.713
45	16.188
46	17.258
47	17.809
48	18.389
49	18.528
50	22.265
51	21.442
52	18.636
53	18.432
55	19.973
56	20.320
57	20.886
58	21.713
59	22.539
60	24.633
61	25.719
62	27.120
63	32.249
64	32.837
65	33.358
66	34.099

GRAPHIC SCALE

−20 0 20 40

SCALE: 1:1000

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GRADING PLAN
LOT ELEVATIONS

DESIGN OF A SUBDIVISION IN MAPLE RIDGE, BC

DESIGN NO. ◆

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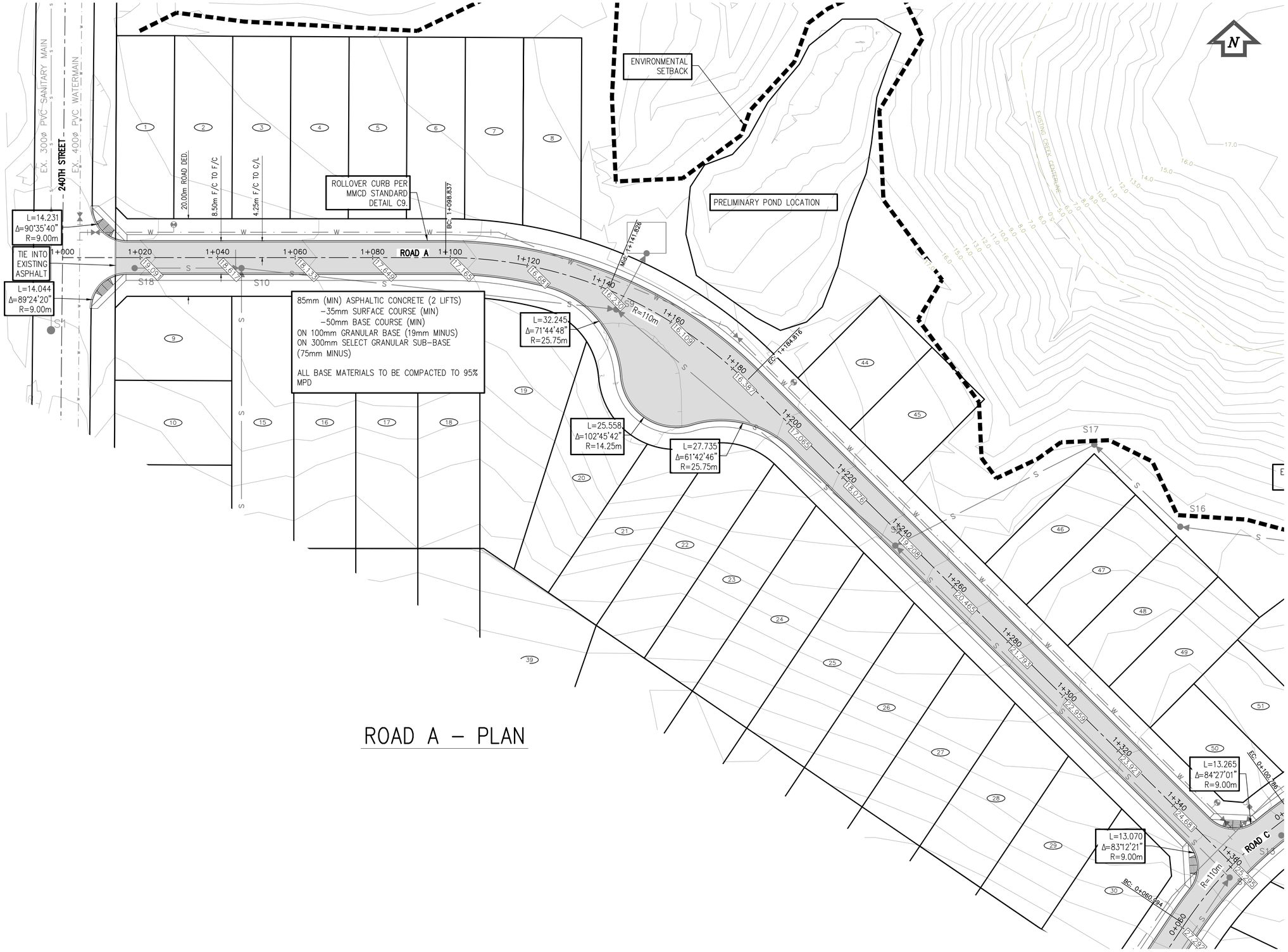

ROAD A – PLAN

GRAPHIC SCALE
−10 0 10 20
SCALE: 1:500

ROAD WORKS NOTES

1. ALL WORK SHALL CONFORM TO THE LATEST MASTER MUNICIPAL CONSTRUCTION DOCUMENTS SPECIFICATIONS AND THE CITY OF SURREY SUPPLEMENTARY MMCD.
2. ALL SUBGRADES, GRANULAR BASE AND SUBBASE MATERIALS TO BE COMPACTED TO 95% MODIFIED PROCTOR DENSITY.
3. CHANGES OF GRADE SHALL BE FORMED BY SMOOTH CURVES.
4. ALL LOOSE OR ORGANIC MATERIAL TO BE EXCAVATED FROM ROADWAY.
5. CONCRETE ROLLOVER CURB AND GUTTER SHALL BE IN ACCORDANCE WITH MMCD STANDARD DETAIL C5.
6. ALL NECESSARY SIGNAGE AND PAVEMENT MARKINGS BY CITY FORCES AT THE DEVELOPER'S EXPENSE.

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ROAD WORKS

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IN MAPLE RIDGE, BC

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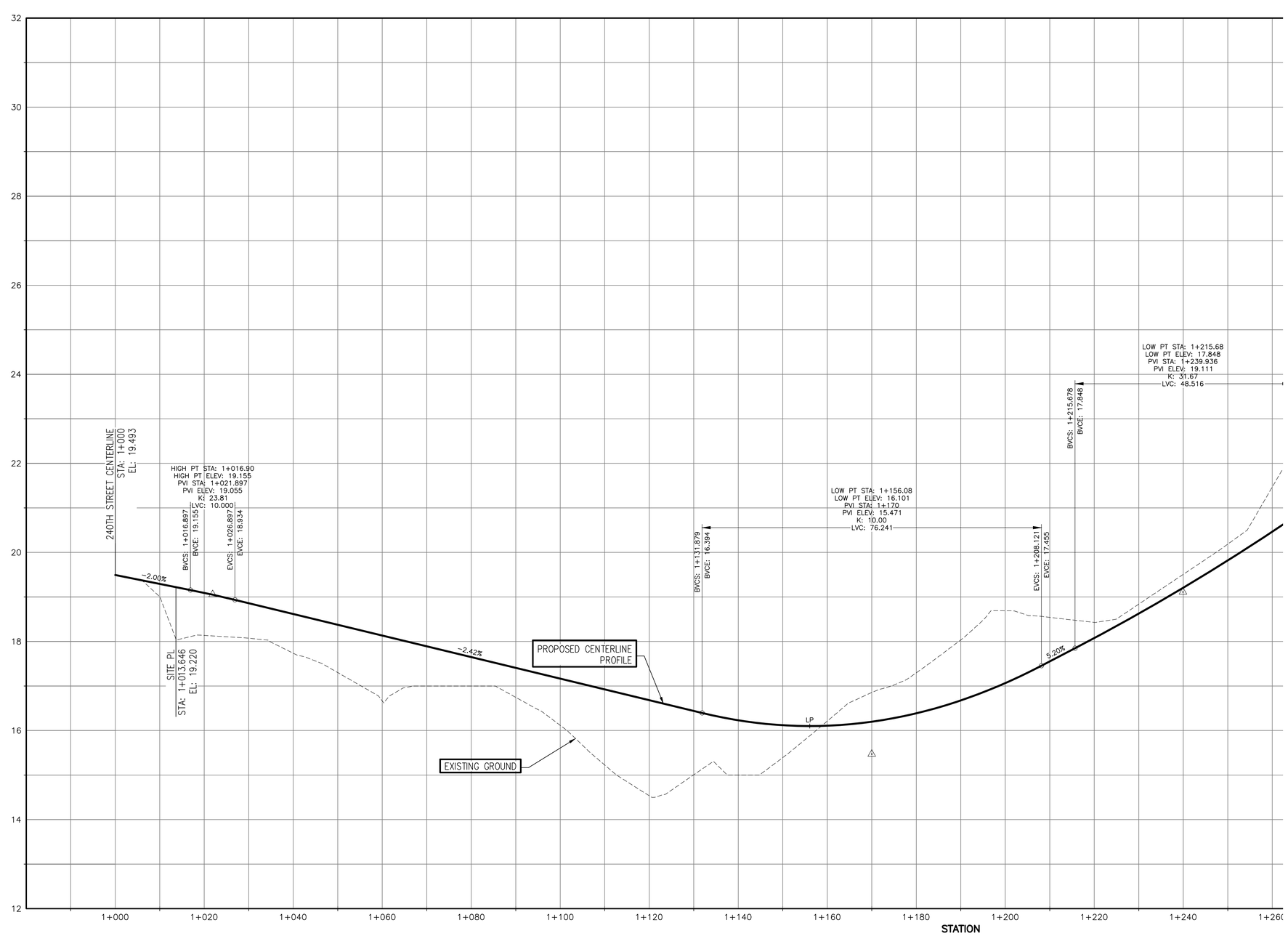
NOTES

SEE SHEET 08 FOR ROAD WORKS NOTES



ROAD A – PROFILE STA: 1+000 TO STA: 1+260

GRAPHIC SCALE

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SCALE: 1:500

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ROAD WORKS

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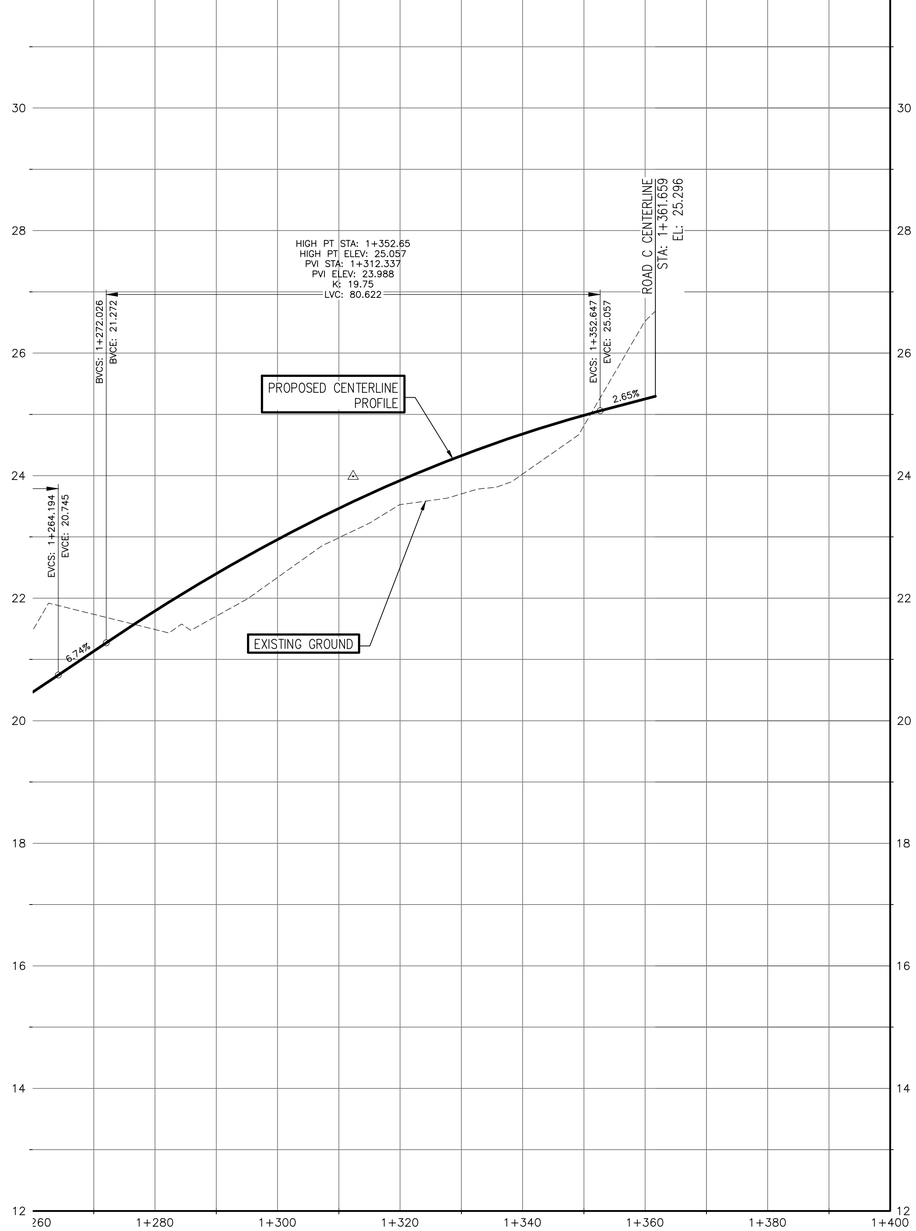
FILENAME:

CONTINUATION SEE SHEET 09



NOTES

SEE SHEET 08 FOR ROAD WORKS NOTES

ROAD A – PROFILE STA: 1+260 TO STA: 1+361

GRAPHIC SCALE

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SCALE: 1:500

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ROAD WORKS

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NOTES

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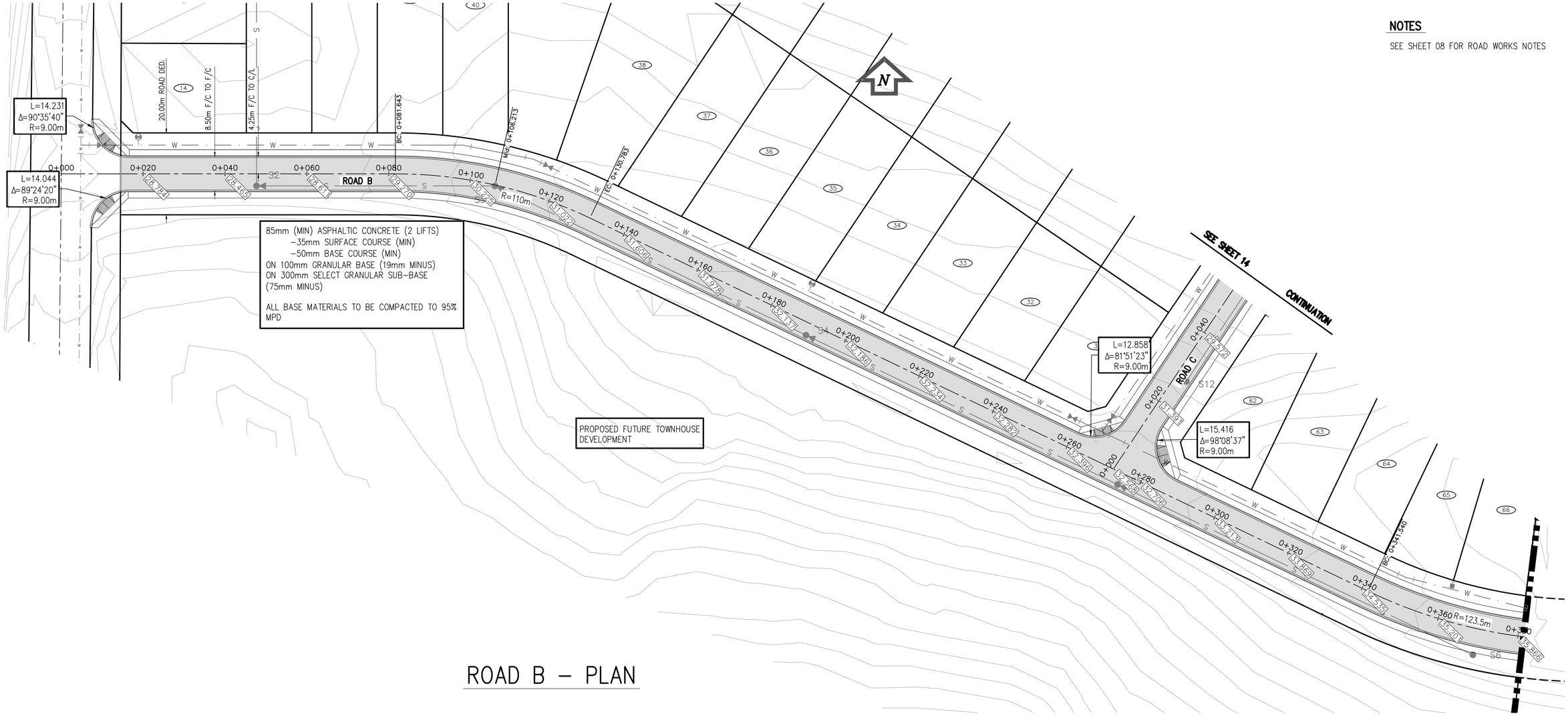

ROAD B – PLAN

GRAPHIC SCALE

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SCALE: 1:500

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ROAD WORKS

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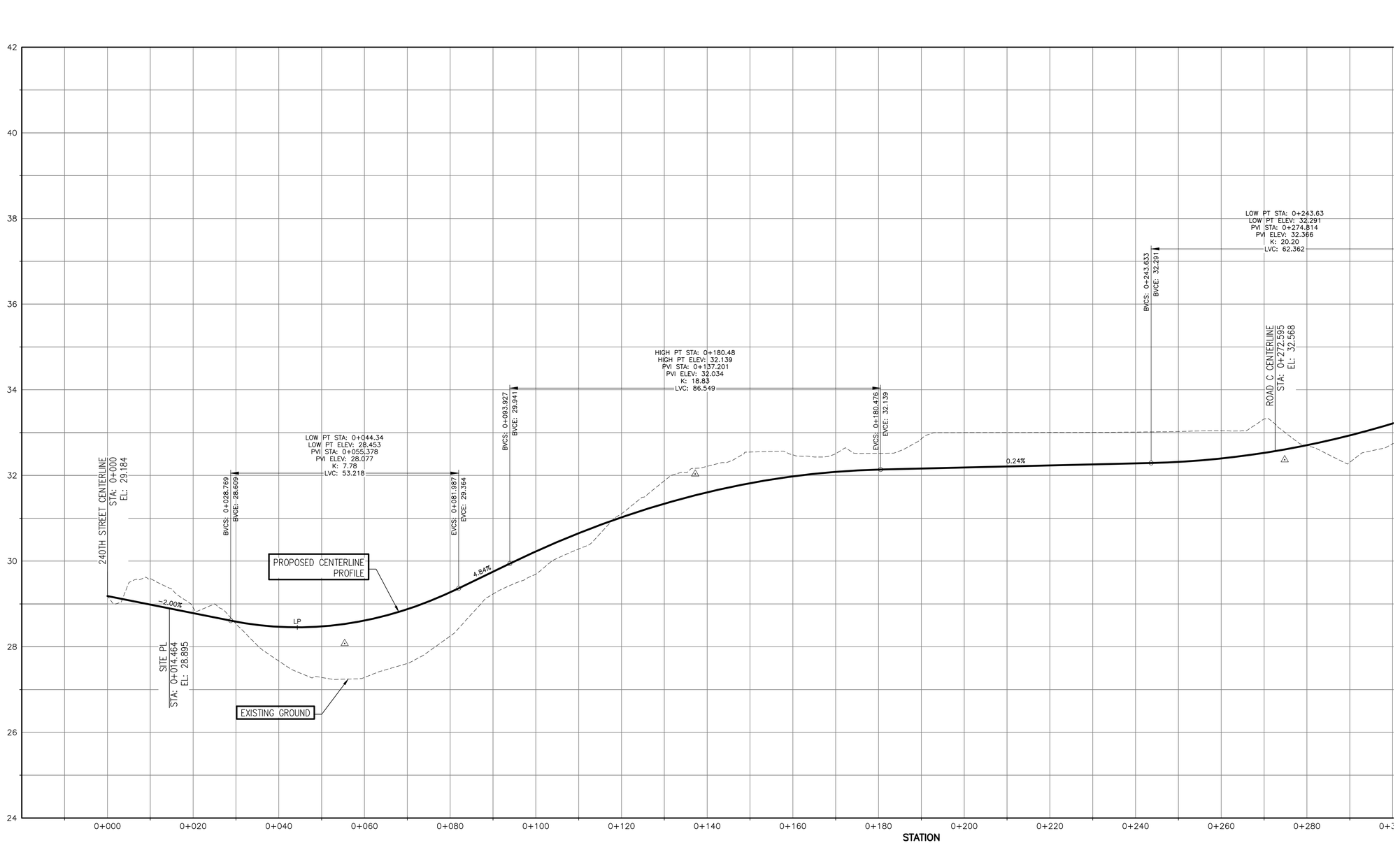
FILENAME:

NOTES

SEE SHEET 08 FOR ROAD WORKS NOTES



SEE SHEET 13
CONTINUATION

ROAD B – PROFILE STA: 0+000 TO STA: 0+300

GRAPHIC SCALE

-10 0 10 20

SCALE: 1:500

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ROAD WORKS

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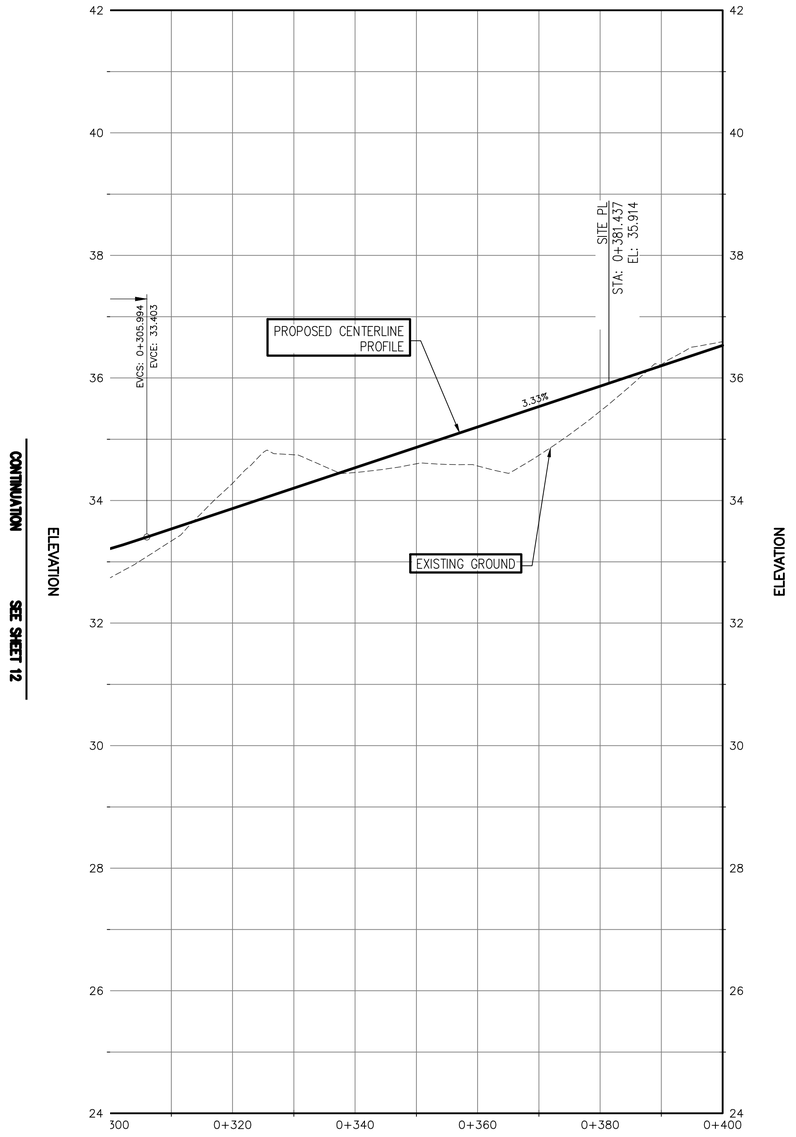

NOTES

SEE SHEET 08 FOR ROAD WORKS NOTES

ROAD B – PROFILE STA: 0+300 TO 0+381

GRAPHIC SCALE

−10 0 10 20

SCALE: 1:500

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ROAD WORKS

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NOTES

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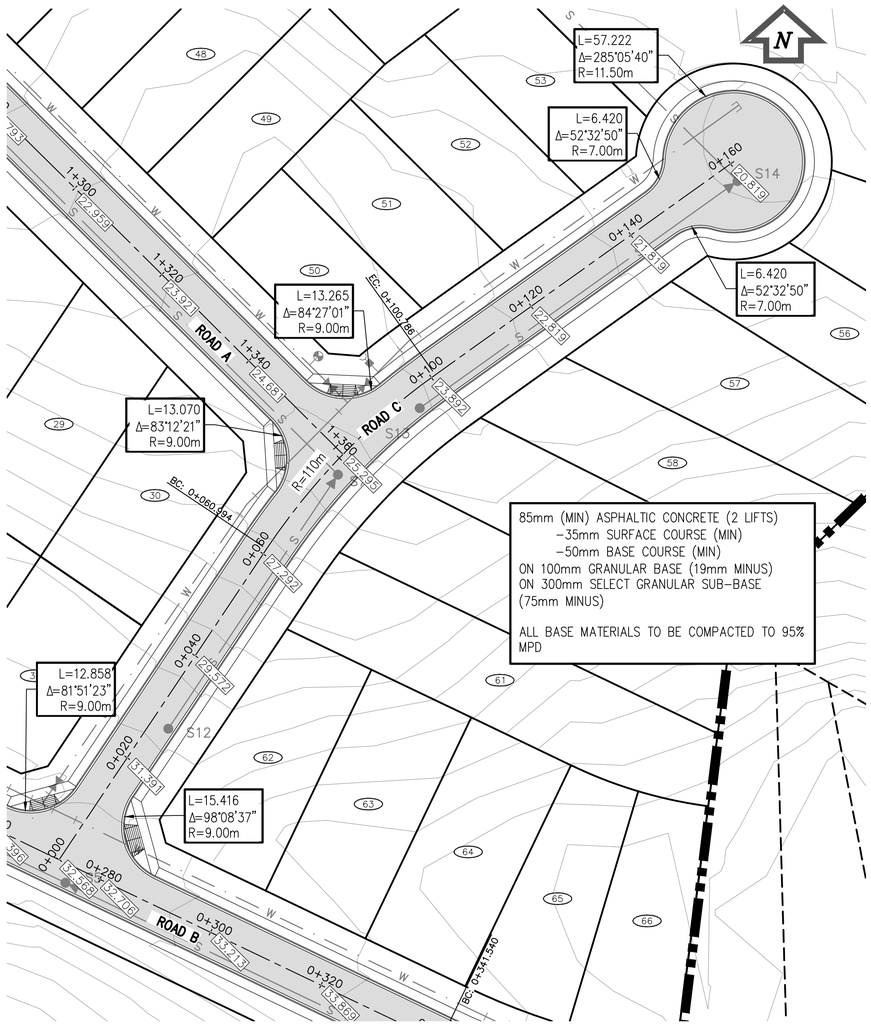
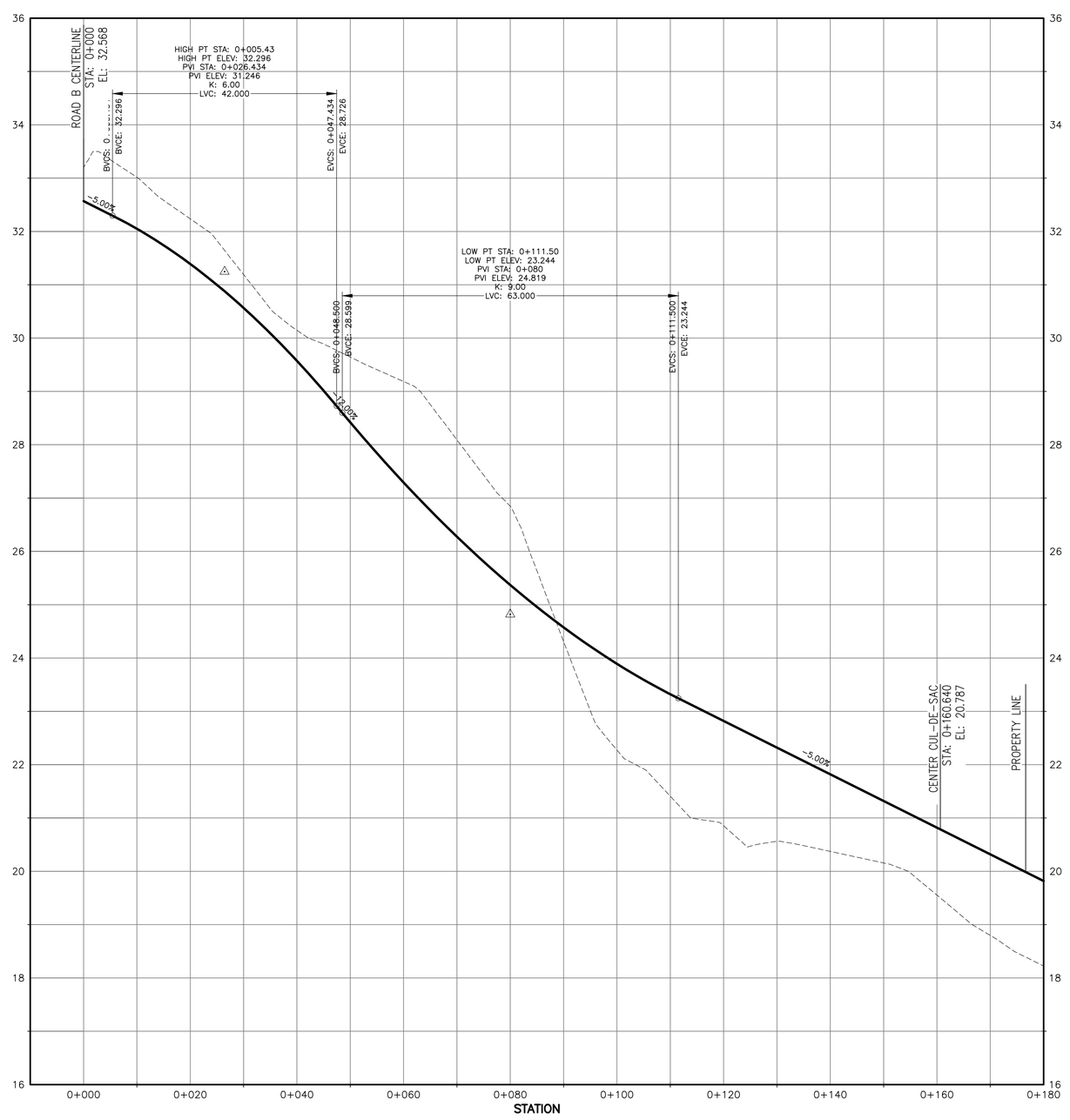


ROAD C – PLAN



ROAD C – PROFILE

GRAPHIC SCALE

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SCALE: 1:500

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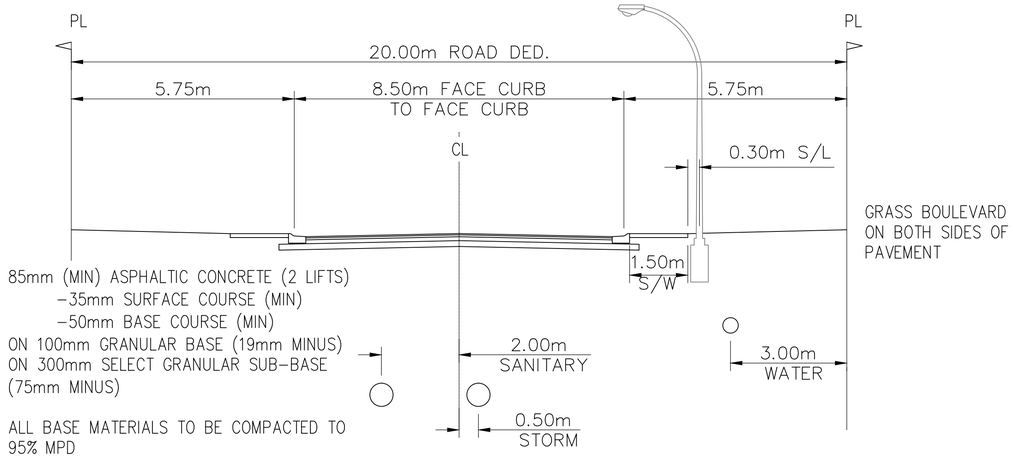

TYPICAL SECTION – ROAD A, B AND C

SCALE : NTS

NOTES

SEE SHEET ?? FOR ROAD WORKS NOTES

GRAPHIC SCALE

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SCALE: 1:500

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ROAD WORKS

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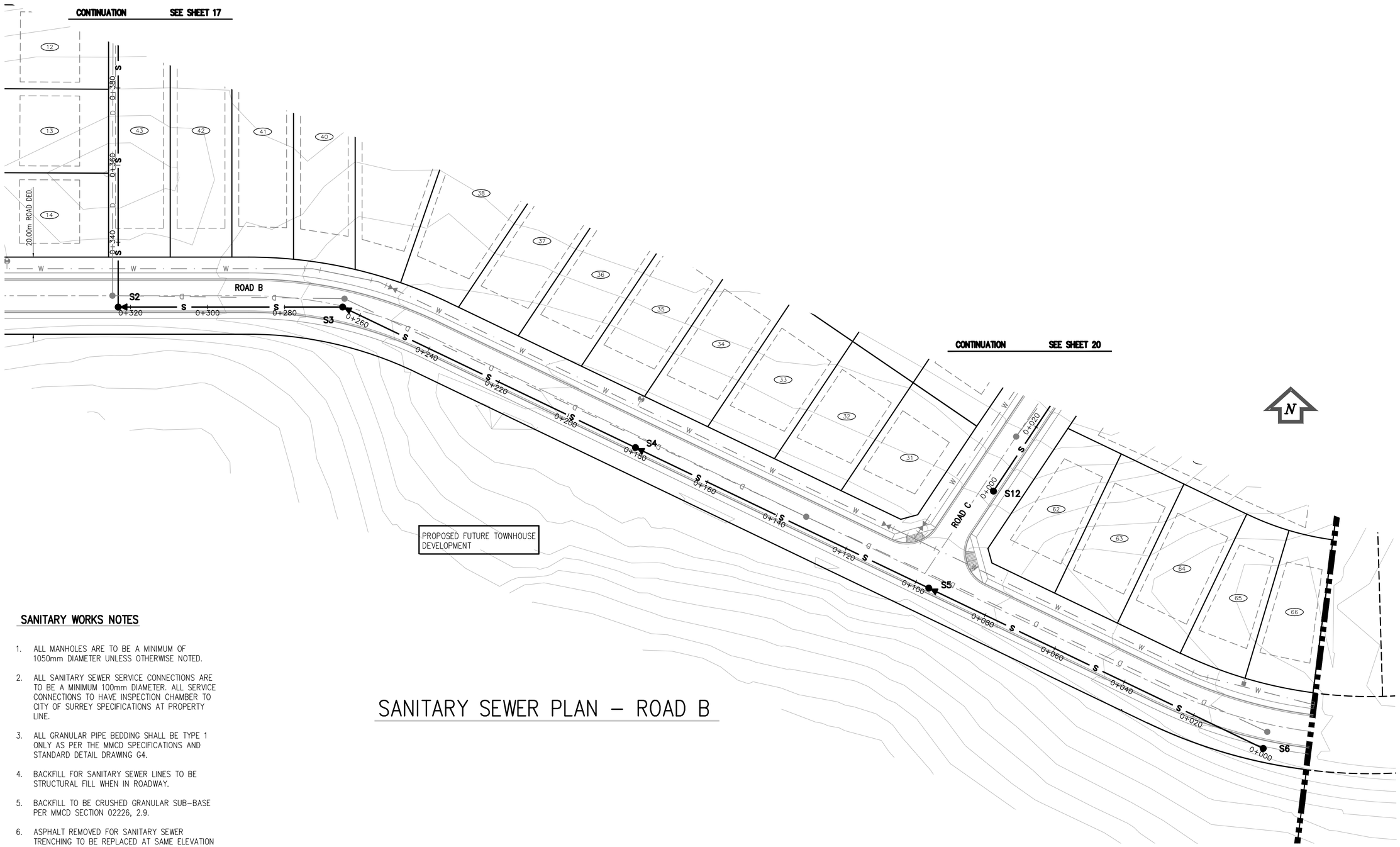

SANITARY WORKS NOTES

1. ALL MANHOLES ARE TO BE A MINIMUM OF 1050mm DIAMETER UNLESS OTHERWISE NOTED.
2. ALL SANITARY SEWER SERVICE CONNECTIONS ARE TO BE A MINIMUM 100mm DIAMETER. ALL SERVICE CONNECTIONS TO HAVE INSPECTION CHAMBER TO CITY OF SURREY SPECIFICATIONS AT PROPERTY LINE.
3. ALL GRANULAR PIPE BEDDING SHALL BE TYPE 1 ONLY AS PER THE MMCD SPECIFICATIONS AND STANDARD DETAIL DRAWING G4.
4. BACKFILL FOR SANITARY SEWER LINES TO BE STRUCTURAL FILL WHEN IN ROADWAY.
5. BACKFILL TO BE CRUSHED GRANULAR SUB-BASE PER MMCD SECTION 02226, 2.9.
6. ASPHALT REMOVED FOR SANITARY SEWER TRENCHING TO BE REPLACED AT SAME ELEVATION AND WIDTH AS PER CITY OF SURREY STANDARDS. WIDER WIDTH TO PROVIDE SMOOTH SURFACE MAY BE REQUIRED.

SANITARY SEWER PLAN – ROAD B

GRAPHIC SCALE

-10 0 10 20

SCALE: 1:500

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SANITARY WORKS

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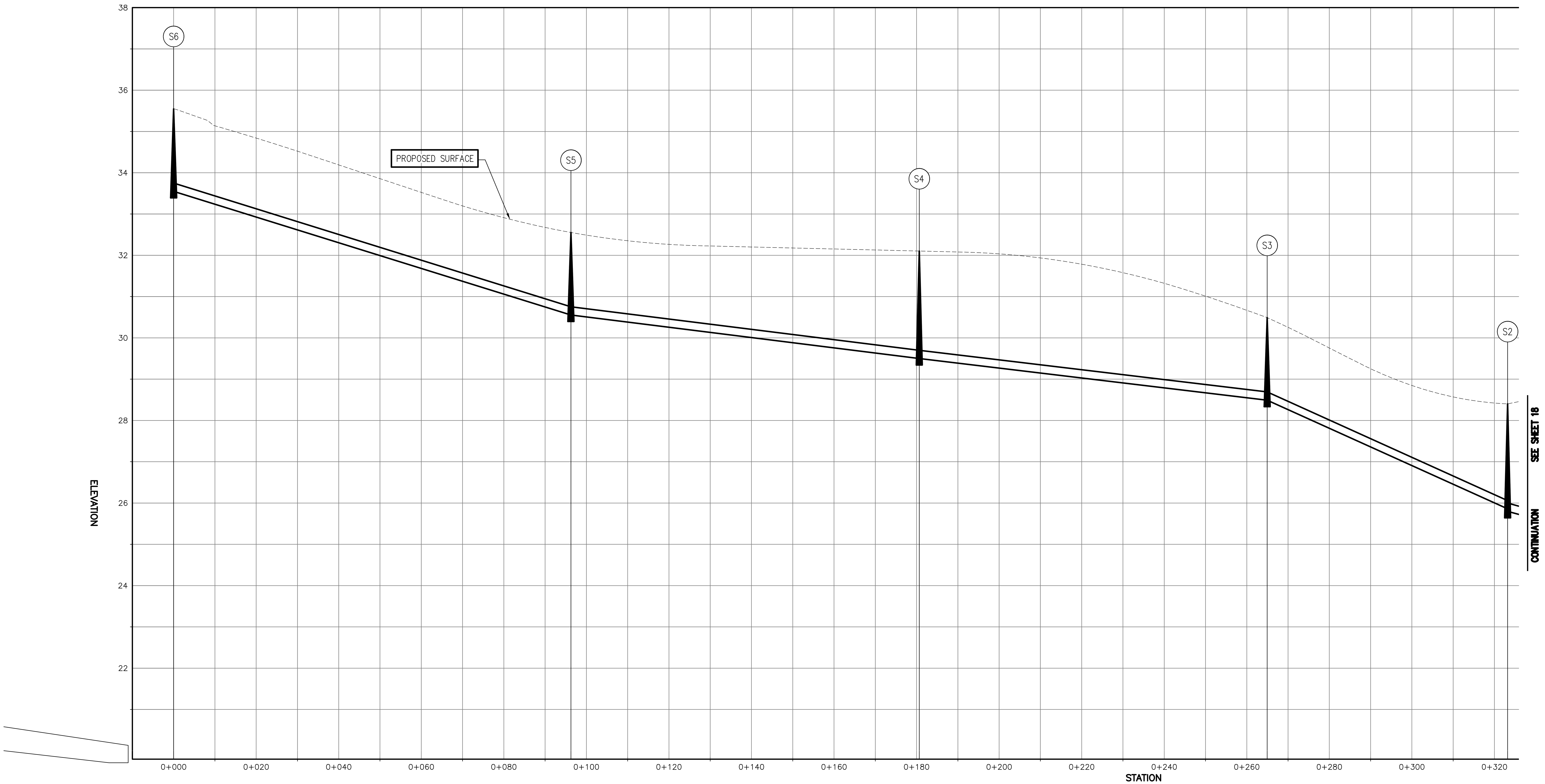

SANITARY SEWER DATA	STA:0+000 1050 MH RIM:35.55	200ø PVC 96.302 @ 3.11% START: 33.550 END: 30.554	STA:0+096.26 1050 MH RIM:32.55	200ø PVC 84.405 @ 1.25% START: 30.554 END: 29.500	STA:0+180.65 1050 MH RIM:32.10	200ø PVC 84.294 @ 1.20% START: 29.500 END: 28.491	STA:0+264.94 1050 MH RIM:30.49	200ø PVC 58.311 @ 4.52% START: 28.491 END: 25.859	STA:0+323.19 1050 MH RIM:28.40

NOTES

SEE SHEET 16 FOR SANITARY WORKS NOTES

SANITARY SEWER PROFILE – ROAD B STA: 0+000 TO 0+320

GRAPHIC SCALE

-10 0 10 20

SCALE: 1:500

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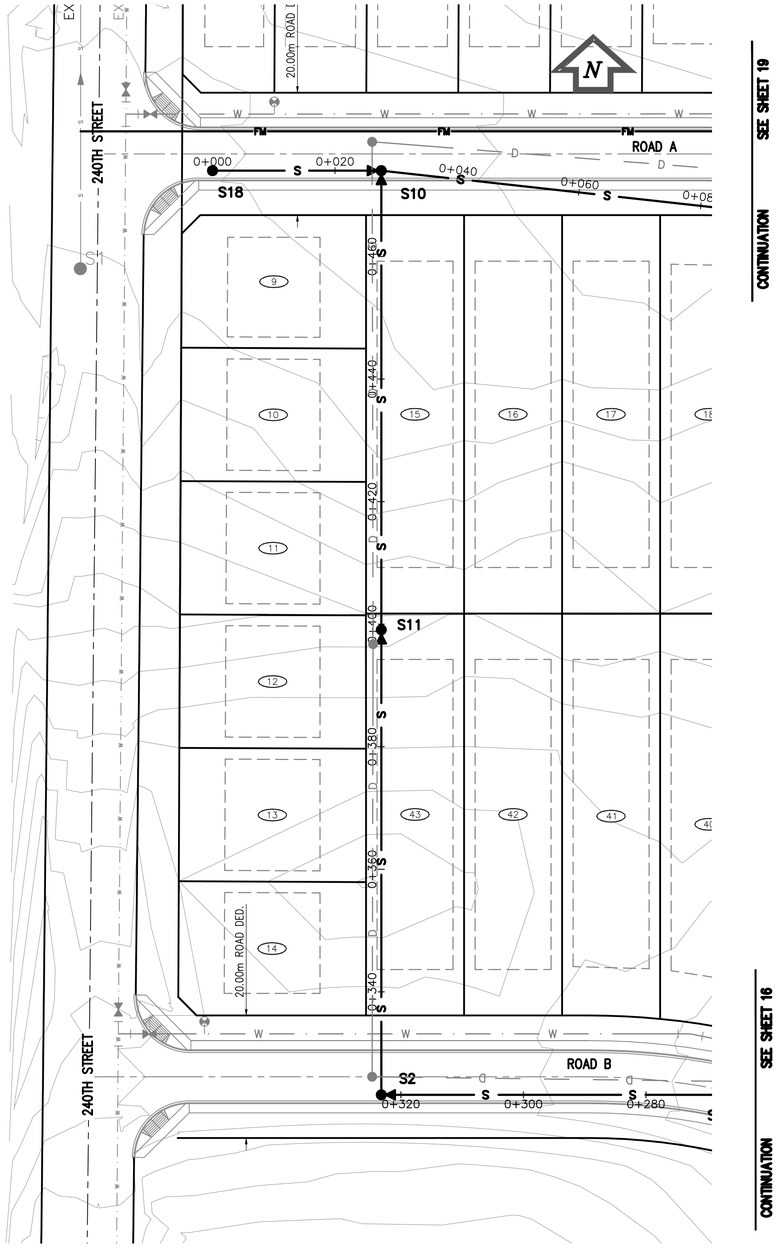

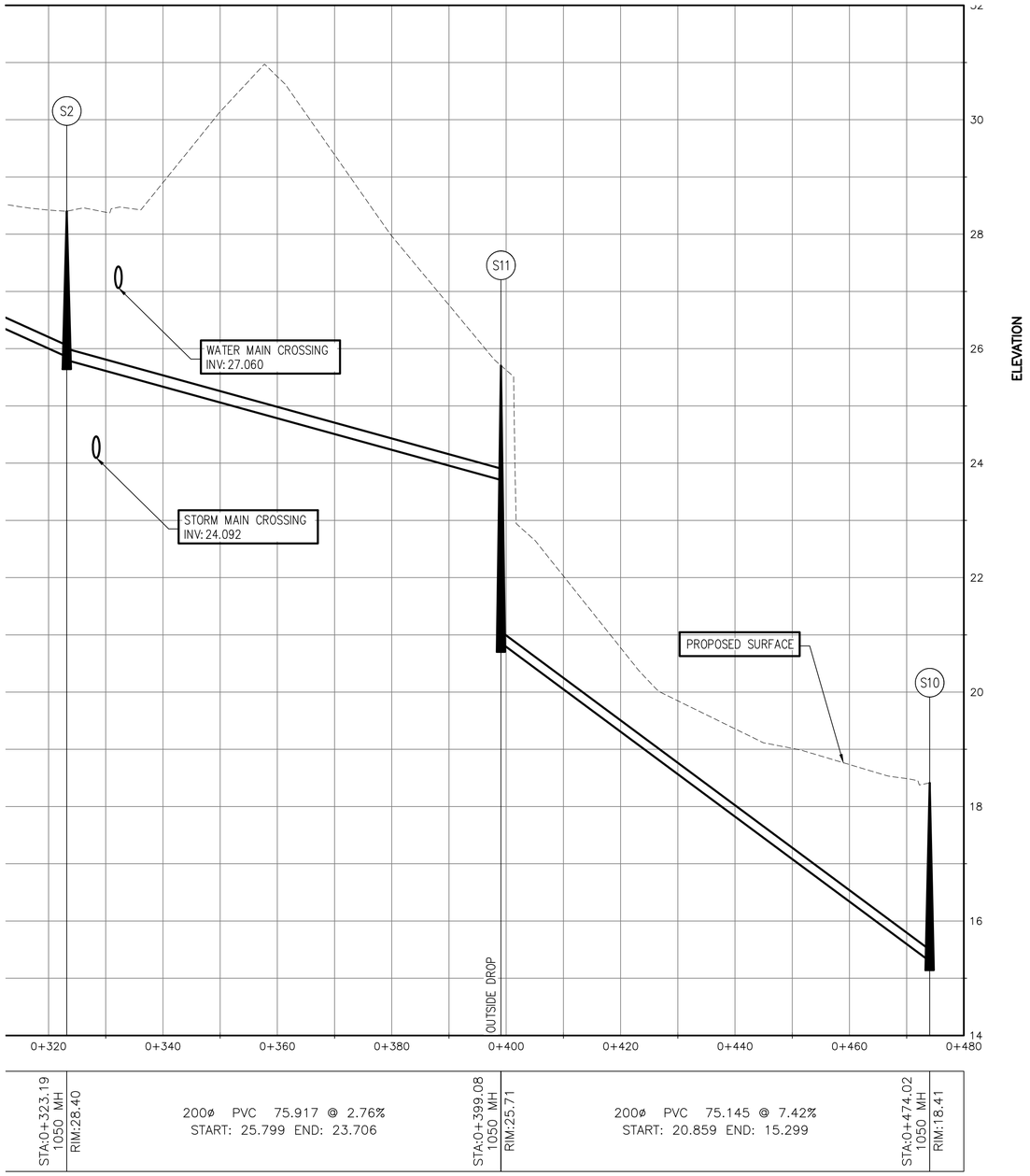

SANITARY SEWER PLAN – EASEMENT

SANITARY SEWER PROFILE – STA: 0+320 TO 0+480

NOTES

SEE SHEET 16 FOR SANITARY WORKS NOTES

GRAPHIC SCALE

–10 0 10 20

SCALE: 1:500

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SANITARY WORKS

DESIGN OF A SUBDIVISION IN MAPLE RIDGE, BC

DESIGN NO. ◆

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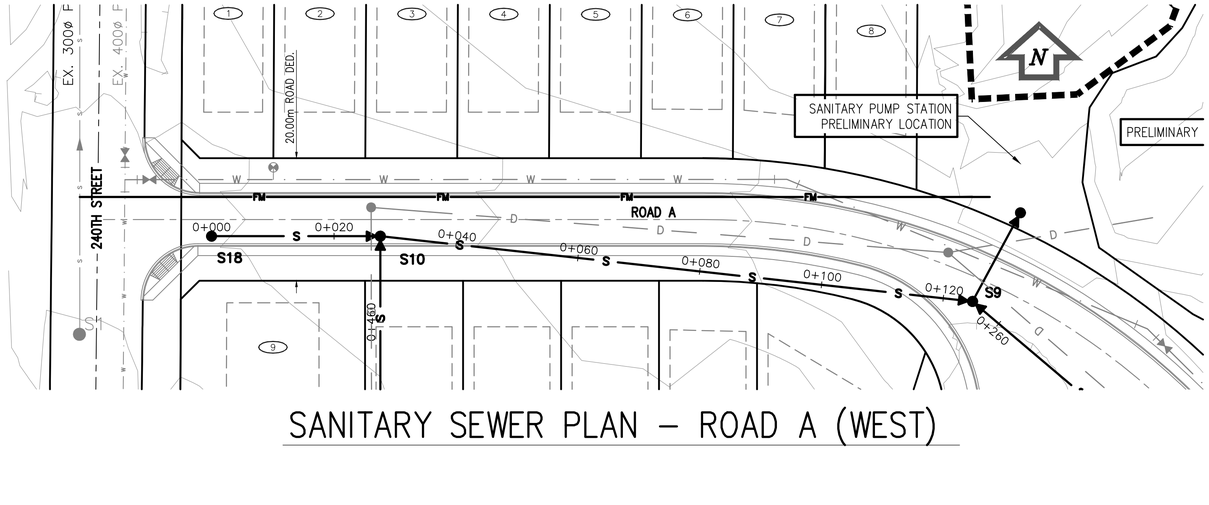
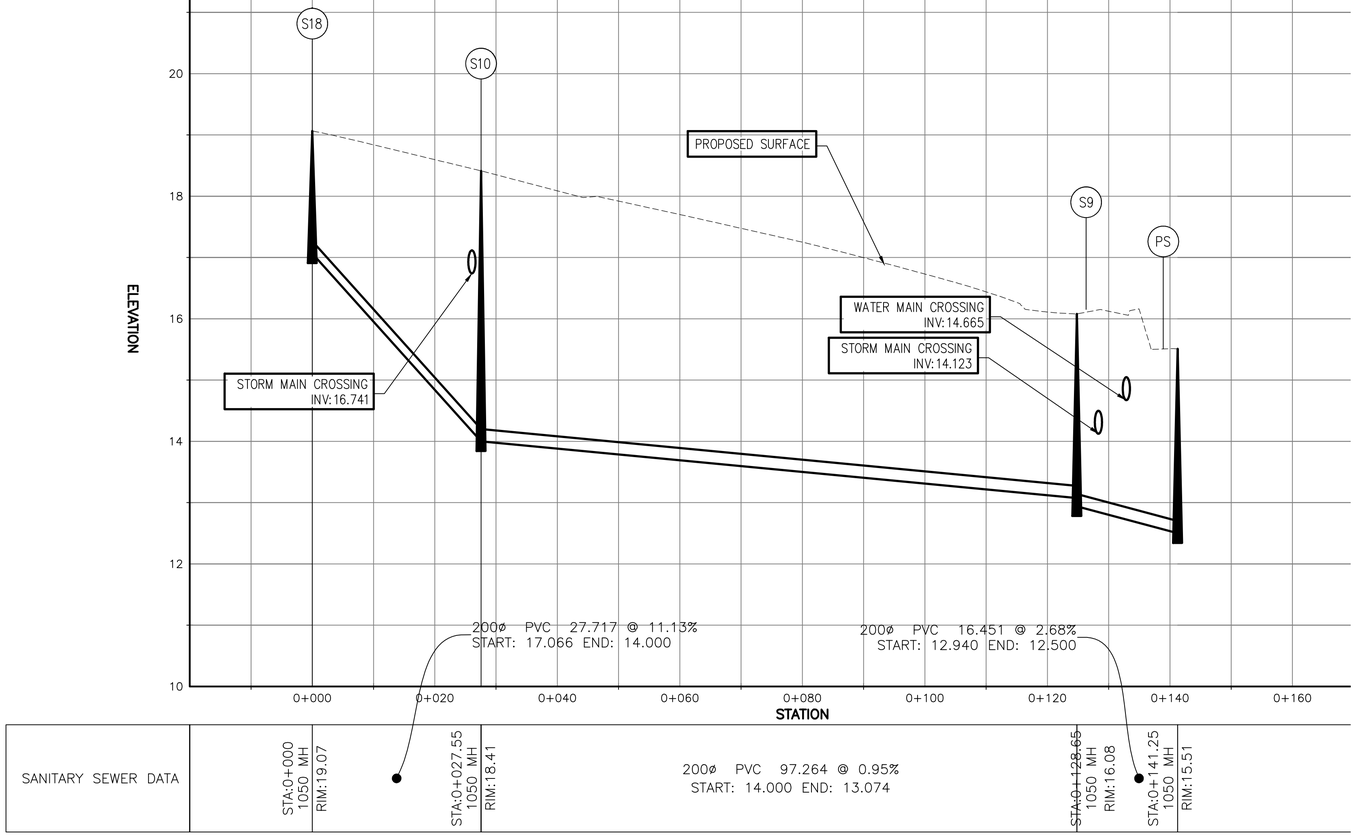
REV. A

DESTROY ALL PRINTS BEARING PREVIOUS NO. _____

FILENAME:



SANITARY SEWER PLAN – ROAD A (WEST)



SANITARY SEWER DATA	STA:0+000 1050 MH RIM:19.07	STA:0+027.55 1050 MH RIM:18.41	200ø PVC 97.264 @ 0.95% START: 14.000 END: 13.074	STA:0+128.65 1050 MH RIM:16.08	STA:0+141.25 1050 MH RIM:15.51

SANITARY SEWER PROFILE – ROAD A (WEST)

NOTES

SEE SHEET 16 FOR SANITARY WORKS NOTES

GRAPHIC SCALE

−10 0 10 20

SCALE: 1:500

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SANITARY WORKS

DESIGN OF A SUBDIVISION IN MAPLE RIDGE, BC

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FILENAME:

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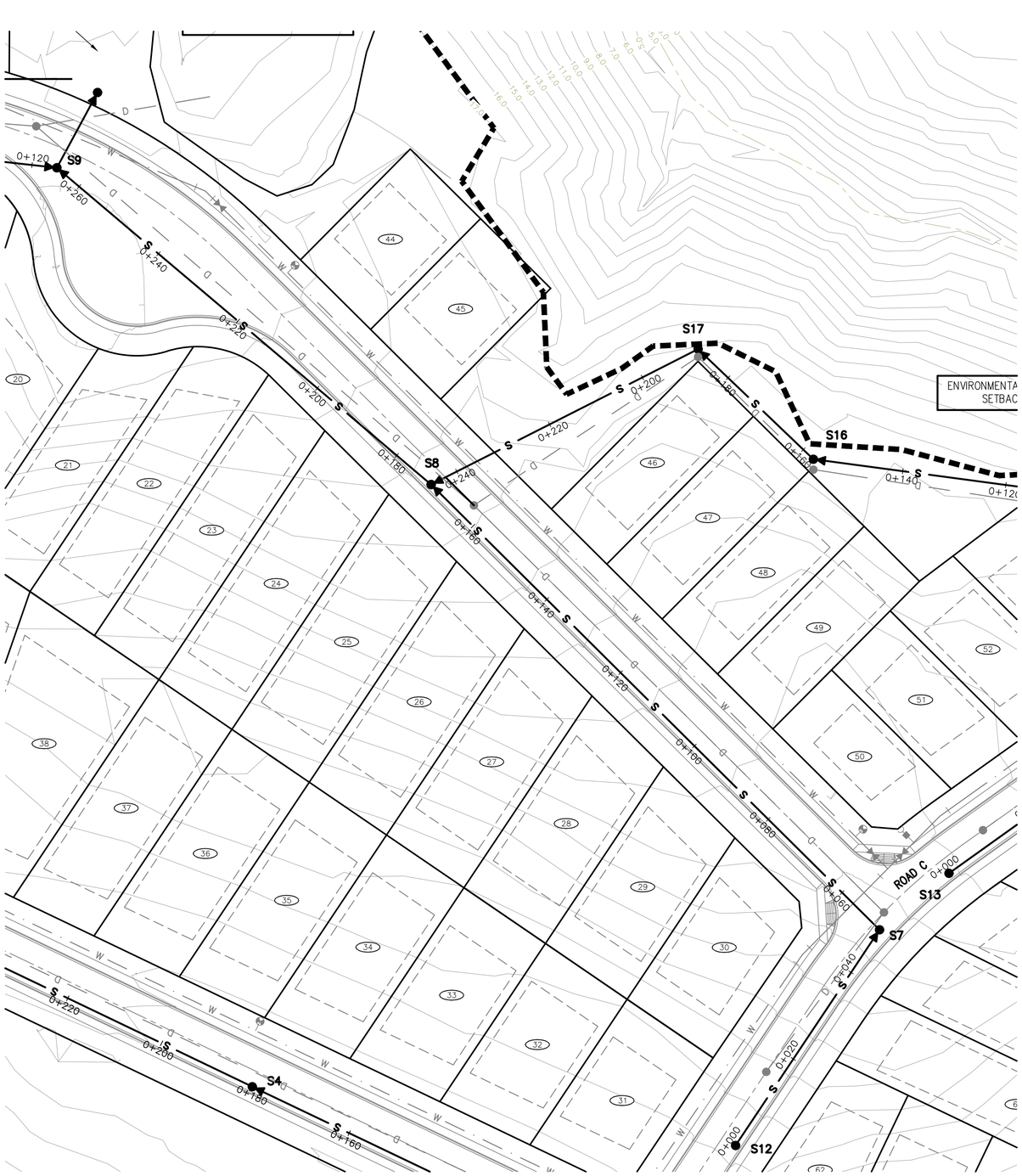

SANITARY SEWER PLAN – ROAD A (EAST)

NOTES

SEE SHEET 16 FOR SANITARY WORKS NOTES

GRAPHIC SCALE

−10 0 10 20

SCALE: 1:500

DESIGN NO. ◆

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SANITARY WORKS

DESIGN OF A SUBDIVISION
IN MAPLE RIDGE, BC

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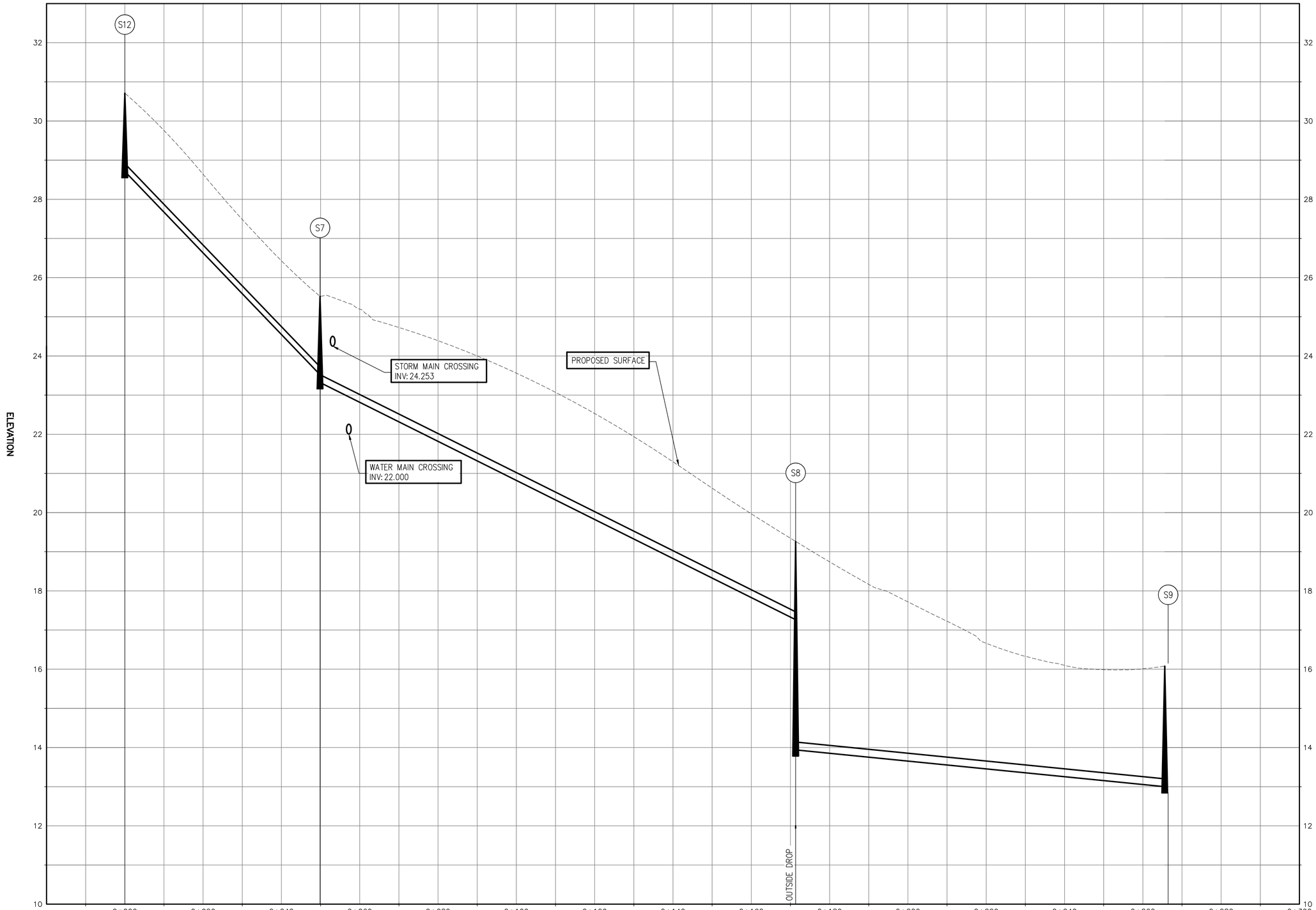
FIELD BOOK NO.				REV. A

FILENAME:

DESTROY ALL PRINTS BEARING PREVIOUS NO. ____



SANITARY SEWER DATA	STA:0+000 1050 MH RIM:30.71	200ø PVC 50.123 @ 10.41% START: 28.712 END: 23.521	STA:0+049.85 1050 MH RIM:25.52	200ø PVC 121.633 @ 4.99% START: 23.321 END: 17.265	STA:0+171.34 1050 MH RIM:19.26	200ø PVC 94.269 @ 1.00% START: 13.940 END: 13.000	STA:0+265.60 1050 MH RIM:16.08

SANITARY SEWER PROFILE – ROAD A (EAST)

NOTES

SEE SHEET 16 FOR SANITARY WORKS NOTES

GRAPHIC SCALE

−10 0 10 20

SCALE: 1:500

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SANITARY WORKS

DESIGN OF A SUBDIVISION IN MAPLE RIDGE, BC

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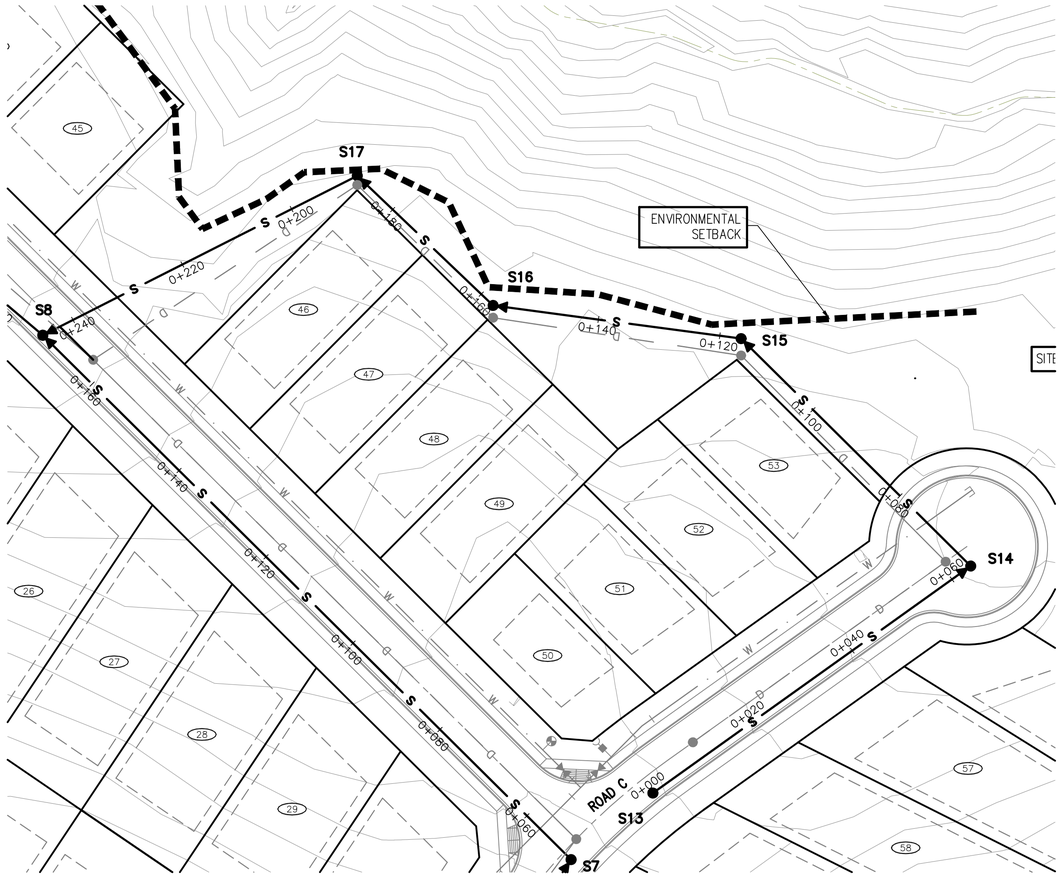
REV. A

DESTROY ALL PRINTS BEARING PREVIOUS NO. ____

FILENAME:



SANITARY SEWER PLAN –CUL DE SAC

NOTES

SEE SHEET 16 FOR SANITARY WORKS NOTES

GRAPHIC SCALE

–10 0 10 20

SCALE: 1:500

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SANITARY WORKS

DESIGN OF A SUBDIVISION IN MAPLE RIDGE, BC

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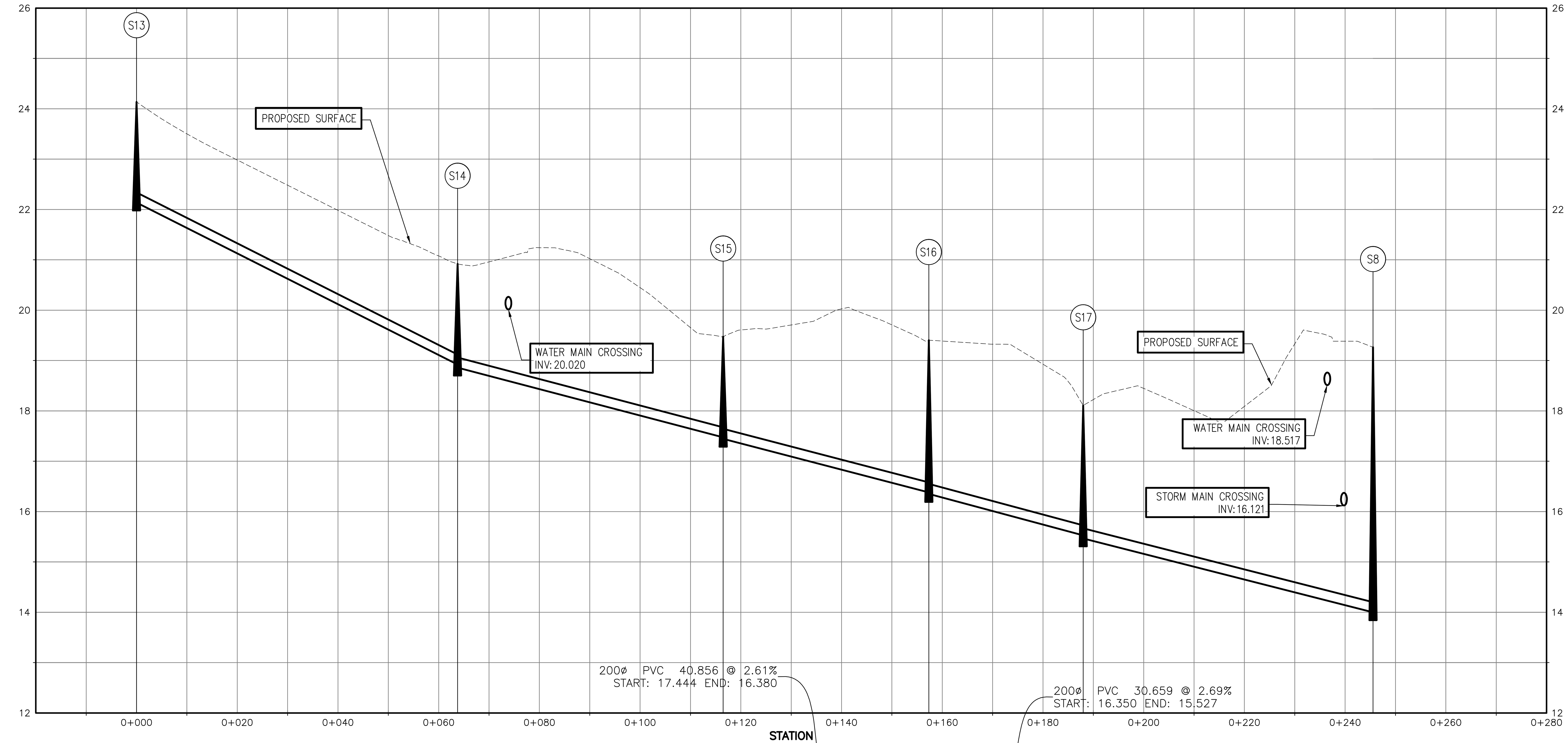
FILENAME:

DESTROY ALL PRINTS BEARING PREVIOUS NO. ____



SANITARY SEWER DATA	STA:0+000 1050 MH RIM:24.14	200ø PVC 63.831 @ 5.05% START: 22.137 END: 18.919	STA:0+063.75 1050 MH RIM:20.92	200ø PVC 52.761 @ 2.63% START: 18.859 END: 17.474	STA:0+116.49 1050 MH RIM:19.47		STA:0+157.33 1050 MH RIM:19.40		STA:0+187.98 1050 MH RIM:18.11	200ø PVC 57.571 @ 2.55% START: 15.467 END: 14.000	STA:0+245.54 1050 MH RIM:19.26

SANITARY SEWER PLAN –CUL DE SAC

NOTES

SEE SHEET 16 FOR SANITARY WORKS NOTES

GRAPHIC SCALE

–10 0 10 20

SCALE: 1:500

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SANIATRY WORKS

DESIGN OF A SUBDIVISION IN MAPLE RIDGE, BC

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REV. A

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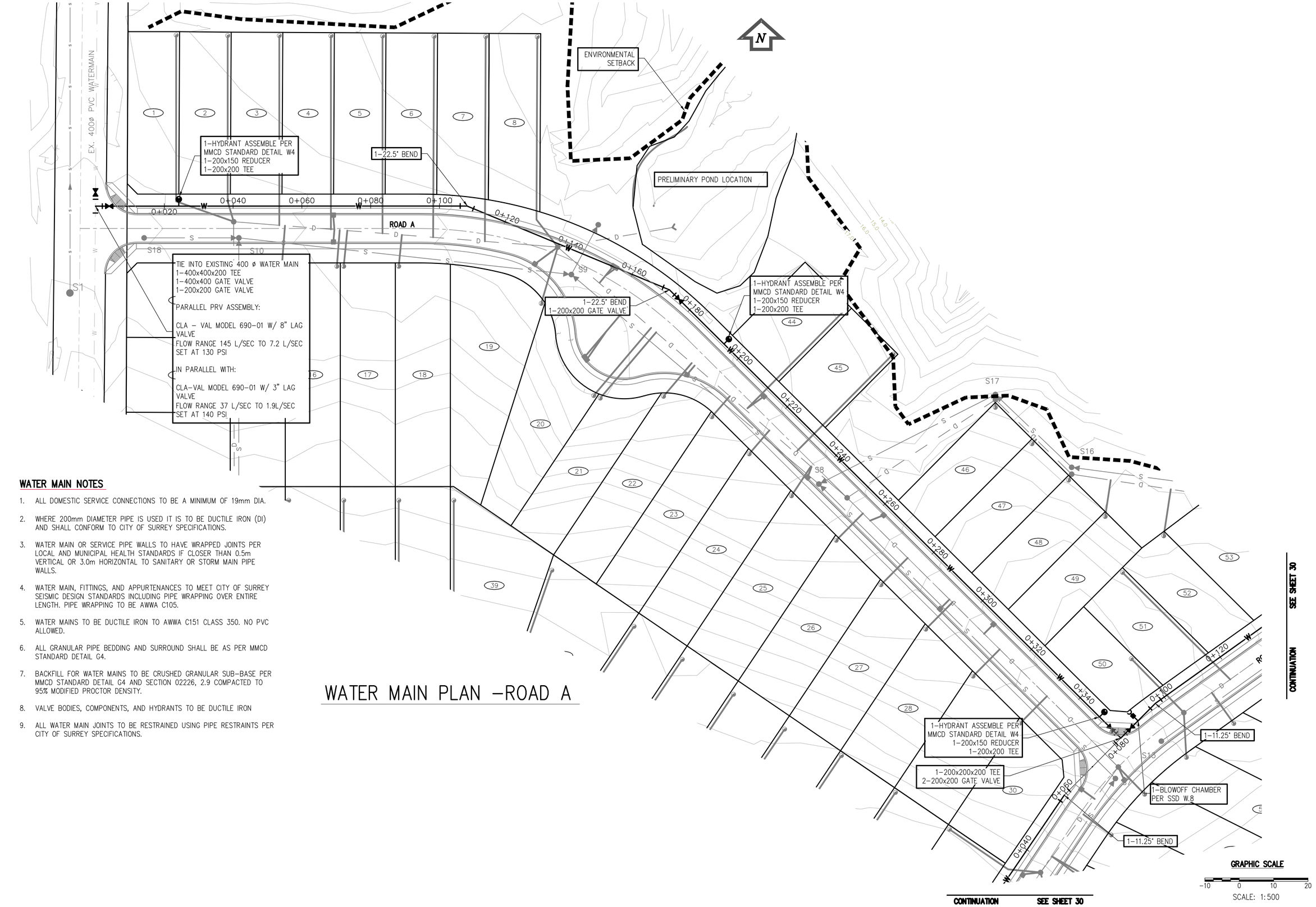
PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT



WATER MAIN NOTES

1. ALL DOMESTIC SERVICE CONNECTIONS TO BE A MINIMUM OF 19mm DIA.
2. WHERE 200mm DIAMETER PIPE IS USED IT IS TO BE DUCTILE IRON (DI) AND SHALL CONFORM TO CITY OF SURREY SPECIFICATIONS.
3. WATER MAIN OR SERVICE PIPE WALLS TO HAVE WRAPPED JOINTS PER LOCAL AND MUNICIPAL HEALTH STANDARDS IF CLOSER THAN 0.5m VERTICAL OR 3.0m HORIZONTAL TO SANITARY OR STORM MAIN PIPE WALLS.
4. WATER MAIN, FITTINGS, AND APPURTENANCES TO MEET CITY OF SURREY SEISMIC DESIGN STANDARDS INCLUDING PIPE WRAPPING OVER ENTIRE LENGTH. PIPE WRAPPING TO BE AWWA C105.
5. WATER MAINS TO BE DUCTILE IRON TO AWWA C151 CLASS 350. NO PVC ALLOWED.
6. ALL GRANULAR PIPE BEDDING AND SURROUND SHALL BE AS PER MMCD STANDARD DETAIL G4.
7. BACKFILL FOR WATER MAINS TO BE CRUSHED GRANULAR SUB-BASE PER MMCD STANDARD DETAIL G4 AND SECTION 02226, 2.9 COMPACTED TO 95% MODIFIED PROCTOR DENSITY.
8. VALVE BODIES, COMPONENTS, AND HYDRANTS TO BE DUCTILE IRON
9. ALL WATER MAIN JOINTS TO BE RESTRAINED USING PIPE RESTRAINTS PER CITY OF SURREY SPECIFICATIONS.

WATER MAIN PLAN -ROAD A

GRAPHIC SCALE
-10 0 10 20
SCALE: 1:500

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WATER WORKS

DESIGN OF A SUBDIVISION IN MAPLE RIDGE, BC

DESIGN NO. ◆

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REV. A

DESTROY ALL PRINTS BEARING PREVIOUS NO. _____

FILENAME:

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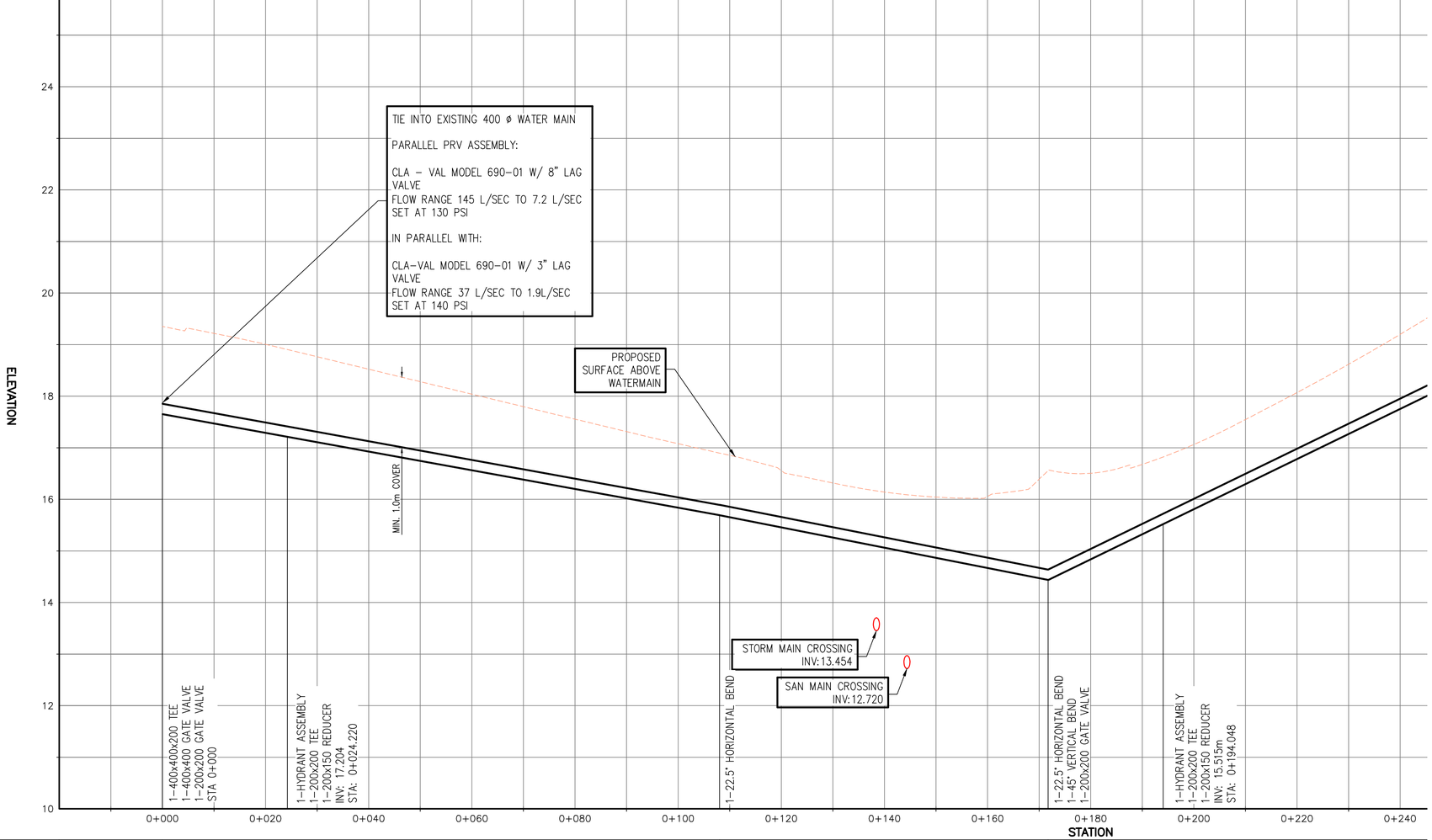
NOTES

SEE SHEET 24 FOR WATER MAIN NOTES



CONTINUATION SEE SHEET 26

WATWER MAIN DATA		200 ø DUCTILE IRON 108.054 @ 1.81% Start Elev: 17.653 End Elev: 15.693	200 ø DUCTILE IRON 63.724 @ 1.97% Start Elev: 15.693 End Elev: 14.437	200 St

WATER MAIN PROFILE – ROAD A STA: 0+000 TO 0+240

GRAPHIC SCALE

–10 0 10 20

SCALE: 1:500

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WATER WORKS

DESIGN OF A SUBDIVISION IN MAPLE RIDGE, BC

DESIGN NO. ◆

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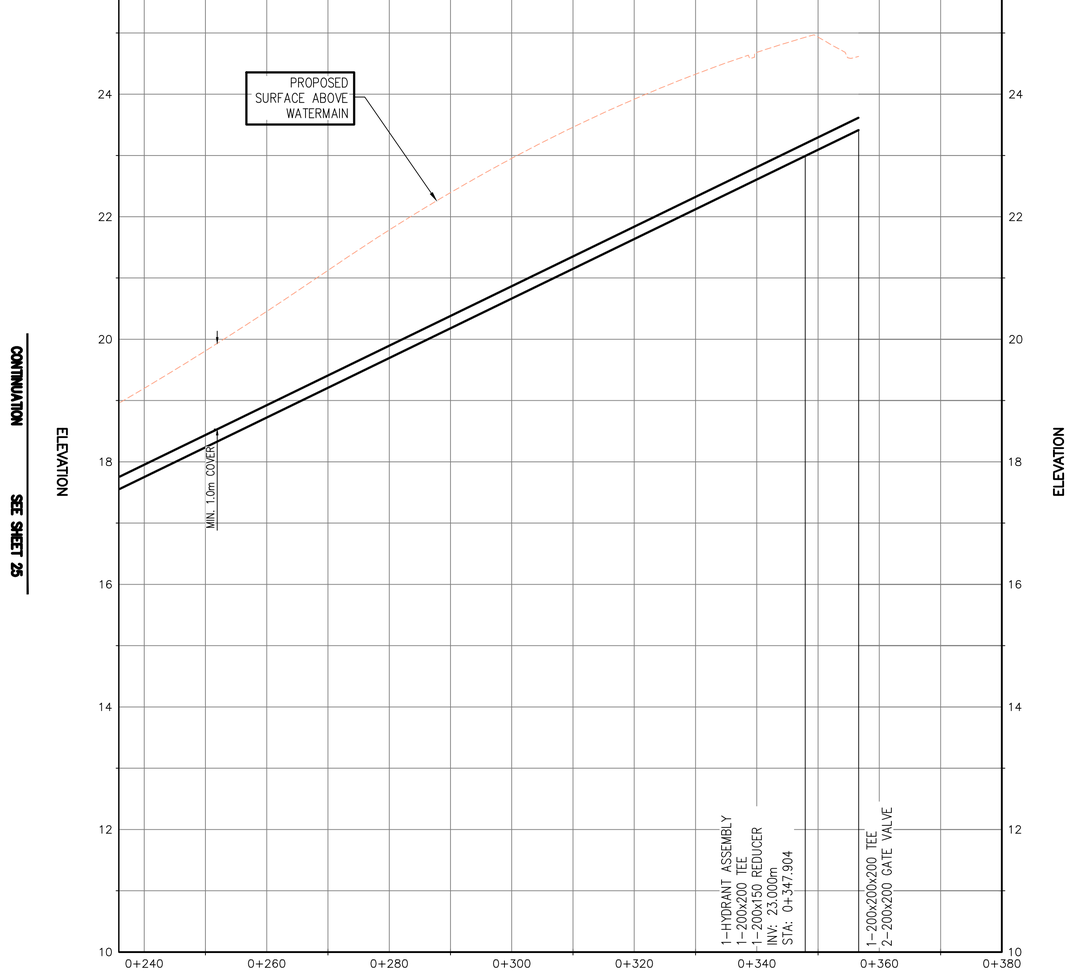
FIELD BOOK NO.				REV. A

FILENAME:

DESTROY ALL PRINTS BEARING PREVIOUS NO. _____

NOTES

SEE SHEET 24 FOR WATER MAIN NOTES



CONTINUATION SEE SHEET 25

WATWER MAIN DATA	200 ø DUCTILE IRON 185.106 @ −4.86% Start Elev: 14.437 End Elev: 23.417

WATER MAIN PROFILE – ROAD A STA: 0+240 TO 0+380

GRAPHIC SCALE

−10 0 10 20

SCALE: 1:500

REV. NO.	REVISIONS	DATE	DRAWN	APPR'D
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WATER MAIN - PROFILE
ROAD A

DESIGN OF A SUBDIVISION
IN MAPLE RIDGE, BC

DESIGN NO. ◆

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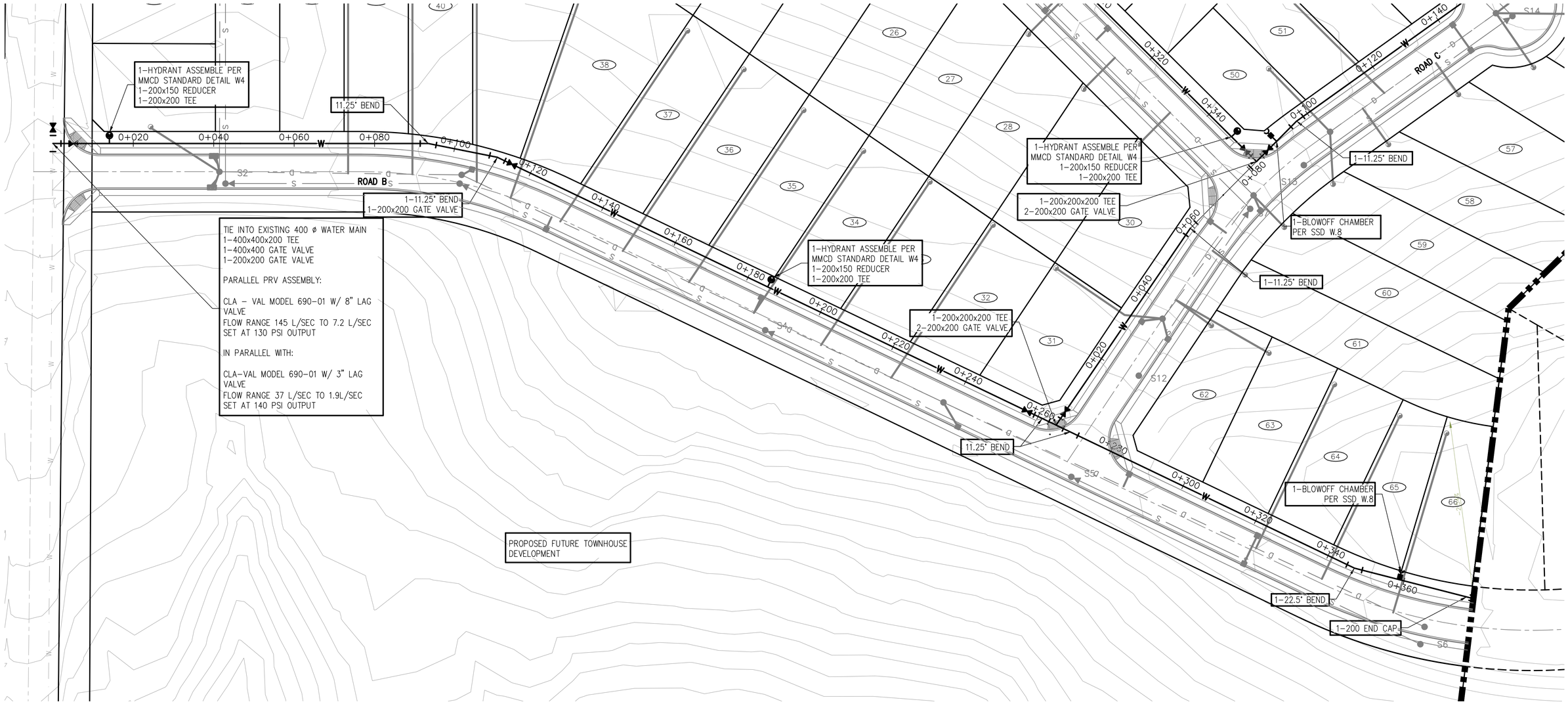
REV. A

DESTROY ALL PRINTS BEARING PREVIOUS NO. _____

FILENAME:



WATER MAIN PLAN – ROAD B

NOTES

SEE SHEET 24 FOR WATER MAIN NOTES

GRAPHIC SCALE

SCALE: 1:500

DESIGN NO. ◆

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FILENAME:

WATER MAIN - PLAN
ROAD B

DESIGN OF A SUBDIVISION
IN MAPLE RIDGE, BC

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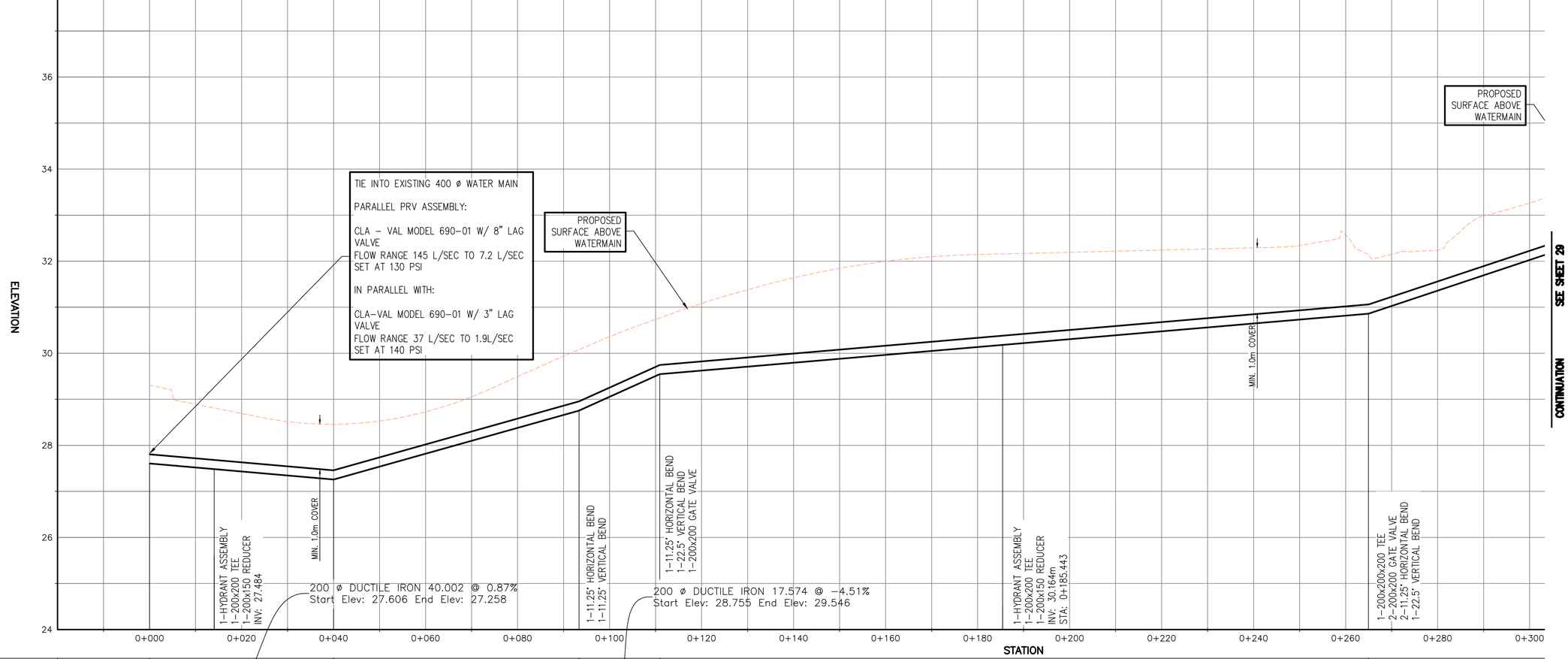
DESTROY ALL PRINTS BEARING PREVIOUS NO.

NOTES

SEE SHEET 24 FOR WATER MAIN NOTES



WATWER MAIN DATA			200 ø DUCTILE IRON 53.379 @ –2.81% Start Elev: 27.258 End Elev: 28.755		200 ø DUCTILE IRON 154.061 @ –0.85% Start Elev: 29.546 End Elev: 30.860	200 ø DUCTILE IR Start Elev: 30.8

WATER MAIN PROFILE – ROAD B STA: 0+000 TO 0+300

GRAPHIC SCALE

–10 0 10 20

SCALE: 1:500

REV. NO.	REVISIONS	DATE	DRAWN	APPR'D
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FILENAME:

WATER MAIN - PROFILE
ROAD B

DESIGN OF A SUBDIVISION
IN MAPLE RIDGE, BC

DESIGN NO. ◆

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REV. A

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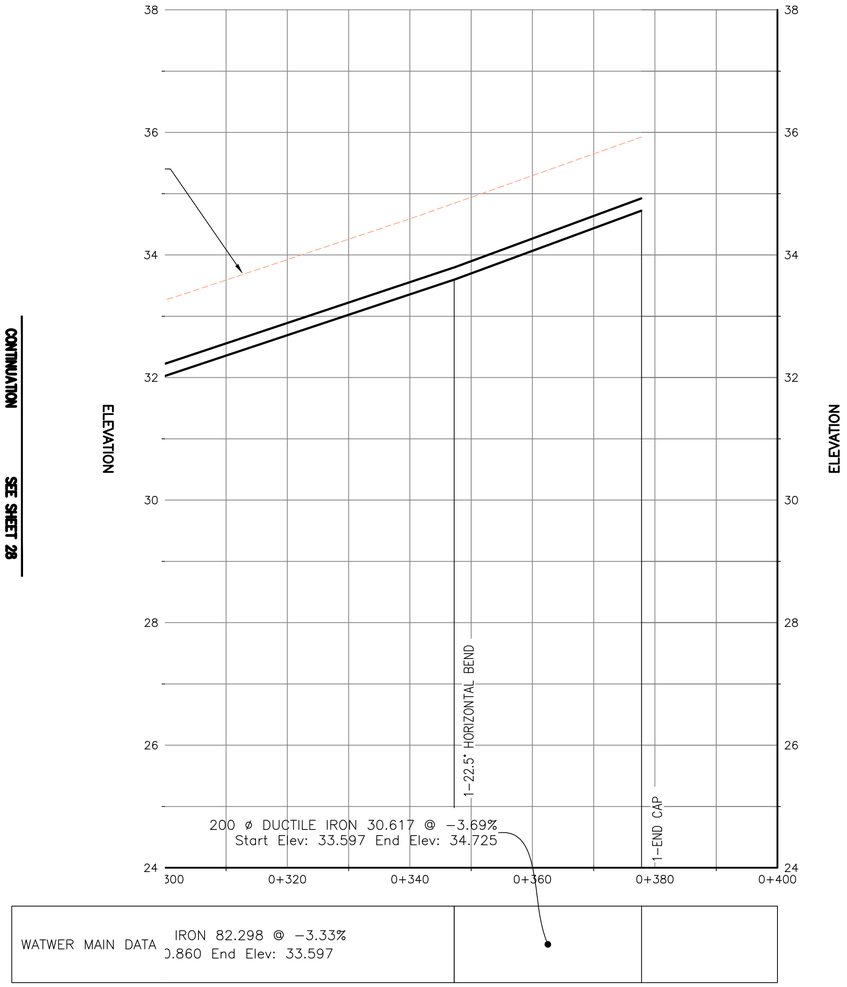

NOTES

SEE SHEET 24 FOR WATER MAIN NOTES

WATER MAIN PROFILE – ROAD B STA: 0+300 TO 0+380

GRAPHIC SCALE

-10 0 10 20

SCALE: 1:500

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WATER MAIN - PROFILE
ROAD B

DESIGN OF A SUBDIVISION
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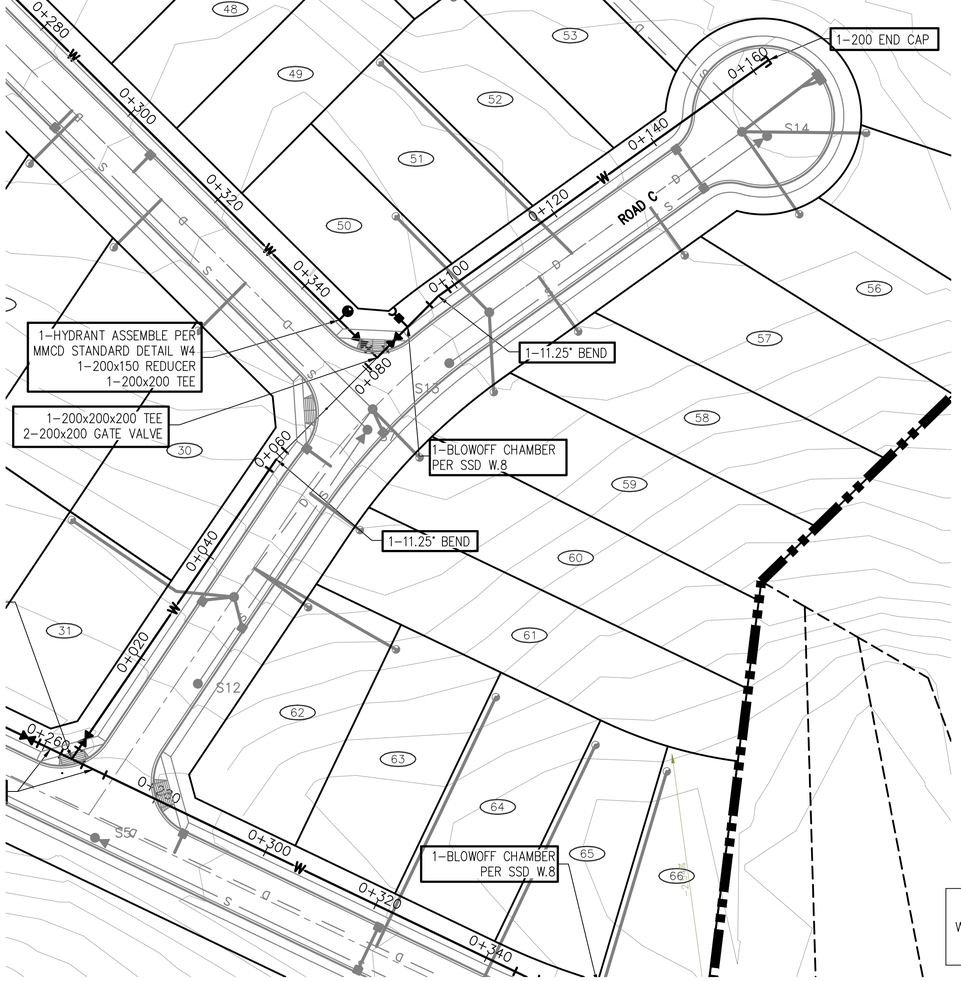
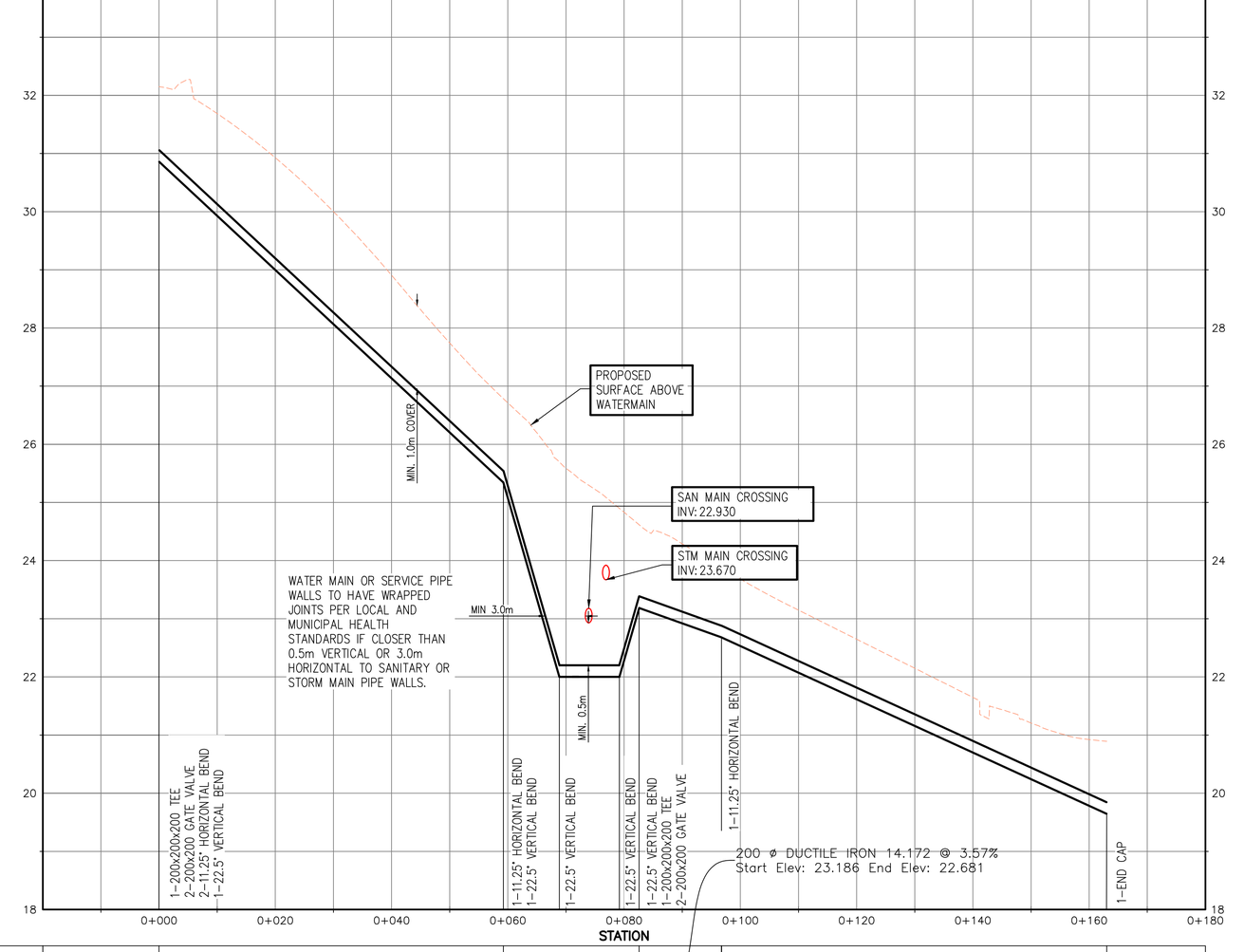
NOTES

SEE SHEET 24 FOR WATER MAIN NOTES





WATWER MAIN DATA		200 ø DUCTILE IRON 59.482 @ 9.31% Start Elev: 30.860 End Elev: 25.344			200 ø DUCTILE IRON 66.345 @ 4.58% Start Elev: 22.681 End Elev: 19.645	

WATER MAIN PLAN – ROAD C

WATER MAIN PROFILE – ROAD C

GRAPHIC SCALE

-10 0 10 20

SCALE: 1:500

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WATER MAIN - PLAN / PROFILE ROAD C

DESIGN OF A SUBDIVISION IN MAPLE RIDGE, BC

DESIGN NO. ◆

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REV. A

DESTROY ALL PRINTS BEARING PREVIOUS NO. ____

FILENAME:

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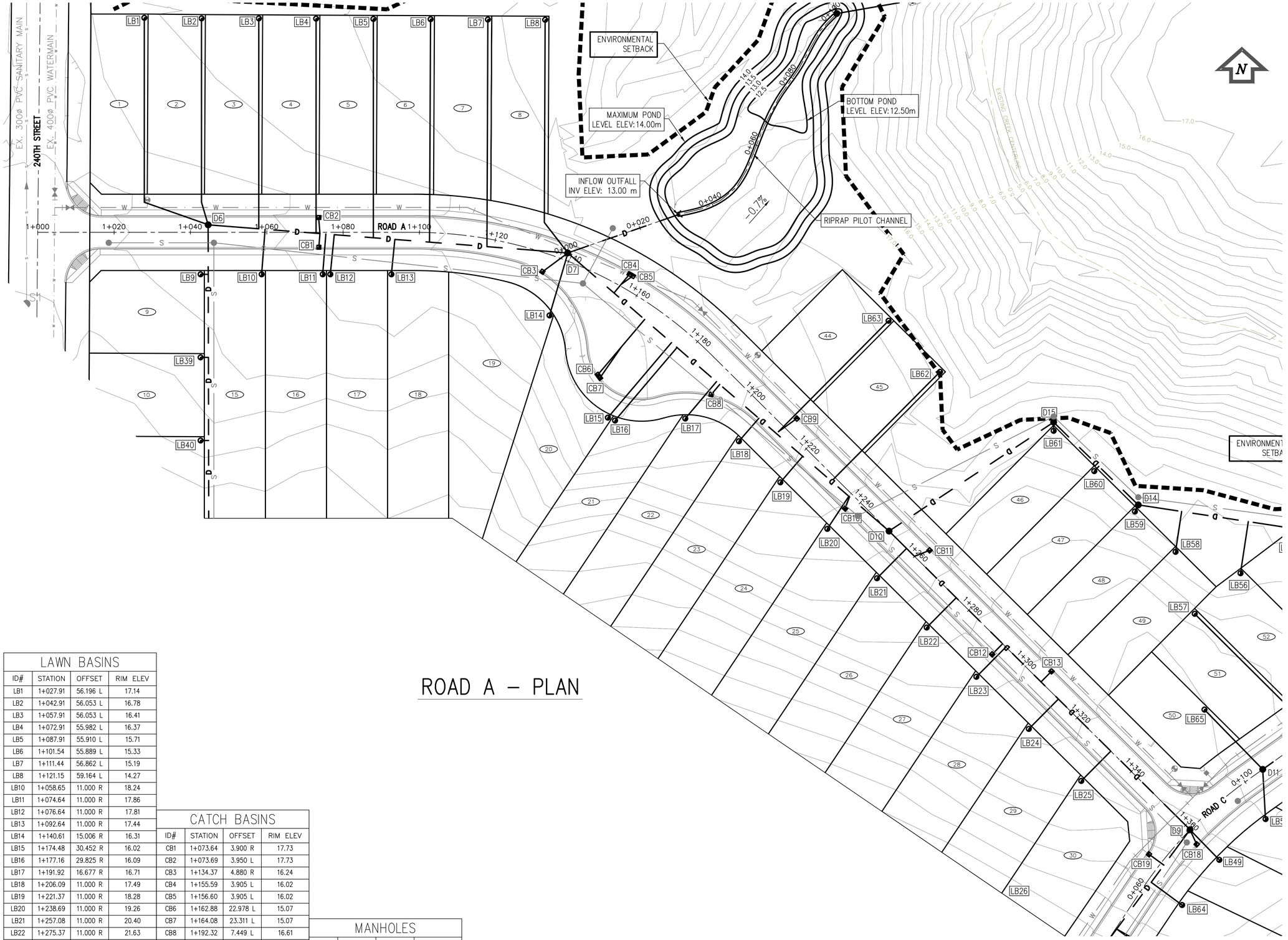
PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT



ROAD A – PLAN

NOTES

1. SEE DWG 32 FOR ROAD A STORM SEWER PROFILE.

STORM SEWER NOTES

1. STORM SEWER TO BE REINFORCED CONCRETE PER CSA c/w GASKETS (UNLESS OTHERWISE NOTED) AND SHALL HAVE A MINIMUM SDR 35 SPECIFICATION FOR MAIN LINES AND MINIMUM SDR 28 FOR SERVICE CONNECTIONS.
2. CATCH BASIN LEADS TO BE 200mm AT 1.00% MIN. DOUBLE CATCH BASIN LEADS TO BE 250mm AT 1.00% MIN. CATCH BASIN LEADS SHALL BE P.V.C. SDR 28 PIPE IN ACCORDANCE WITH THE CITY OF SURREY STD. DWGS. SSD–D.26.
3. CATCH BASIN RIM ELEVATION SHALL BE 30mm BELOW FINISHED GUTTER GRADE.
4. ALL MANHOLE BARRELS SHALL BE 1050mm DIAMETER PER MMCD S1 UNLESS NOTED OTHERWISE.
5. ALL MANHOLES TO BE INSTALLED PER MMCD STD. DET. S1, MANHOLE CONNECTIONS TO BE INSTALLED AS PER MMCD STD. DET. S2, AND MANHOLE INSIDE RAMP CONNECTIONS TO BE INSTALLED PER MMCD STD. DET. S3.
6. ALL LAWN BASINS SHALL BE IN ACCORDANCE WITH MMCD STD. DET. S12 TYPE 1. ALL LAWN BASIN LEADS TO BE 200mm AT 1.00% MIN.
7. STORM SERVICE CONNECTIONS SHALL BE 200mm SDR 28 @ MIN 2.0% GRADE AS PER CITY OF SURREY STD. DWGS. SSD–D.23 C/W INSPECTION CHAMBER AT PROPERTY LINE UNLESS OTHERWISE NOTED.
8. ALL WYES TO BE MANUFACTURED.
9. THE CONTRACTOR SHALL BE RESPONSIBLE IN ENSURING THAT THE FINISHED RIM ELEVATION OF THE STORM SEWER MANHOLE MATCHES THE FINISHED ROAD GRADES AND ELEVATIONS.
10. ALL STORM SYSTEMS TO BE IN ACCORDANCE WITH B.C. BUILDING CODE (2012).
11. CLEANOUTS TO BE INSTALLED TO SECTION 4.7, B.C. BUILDING CODE (2012).
12. ALL STORM SEWER SYSTEMS TO BE TESTED PER SECTION 3.6 OF THE B.C. PLUMBING CODE.
13. STORM SEWERS SHALL BE VIDEO INSPECTED PER MMCD SPECIFICATIONS.

GRAPHIC SCALE

–10 0 10 20

SCALE: 1:500

LAWN BASINS

ID#	STATION	OFFSET	RIM ELEV
LB1	1+027.91	56.196 L	17.14
LB2	1+042.91	56.053 L	16.78
LB3	1+057.91	56.053 L	16.41
LB4	1+072.91	55.982 L	16.37
LB5	1+087.91	55.910 L	15.71
LB6	1+101.54	55.889 L	15.33
LB7	1+111.44	56.862 L	15.19
LB8	1+121.15	59.164 L	14.27
LB10	1+058.65	11.000 R	18.24
LB11	1+074.64	11.000 R	17.86
LB12	1+076.64	11.000 R	17.81
LB13	1+092.64	11.000 R	17.44
LB14	1+140.61	15.006 R	16.31
LB15	1+174.48	30.452 R	16.02
LB16	1+177.16	29.825 R	16.09
LB17	1+191.92	16.677 R	16.71
LB18	1+206.09	11.000 R	17.49
LB19	1+221.37	11.000 R	18.28
LB20	1+238.69	11.000 R	19.26
LB21	1+257.08	11.000 R	20.40
LB22	1+275.37	11.000 R	21.63
LB23	1+293.71	11.000 R	22.73
LB24	1+313.07	11.000 R	23.77
LB25	1+332.05	11.000 R	24.63
LB62	1+230.56	39.000 L	16.66
LB63	1+211.67	39.000 L	17.54

CATCH BASINS

ID#	STATION	OFFSET	RIM ELEV
CB1	1+073.64	3.900 R	17.73
CB2	1+073.69	3.950 L	17.73
CB3	1+134.37	4.880 R	16.24
CB4	1+155.59	3.905 L	16.02
CB5	1+156.60	3.905 L	16.02
CB6	1+162.88	22.978 L	15.07
CB7	1+164.08	23.311 L	15.07
CB8	1+192.32	7.449 L	16.61
CB9	1+212.67	3.950 R	17.61
CB10	1+238.26	3.900 L	19.03
CB11	1+261.72	3.950 R	20.50
CB12	1+292.50	3.900 L	22.47
CB13	1+306.72	3.950 R	23.22

MANHOLES

ID#	STATION	OFFSET	RIM ELEV
D6	1+044.65	1.975 R	18.47
D7	1+139.02	2.000 R	16.21
D9	1+361.66	0.022 R	25.50
D10	1+250.54	0.000	19.86

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STORM SEWER - PLAN
ROAD A

DESIGN OF A SUBDIVISION
IN MAPLE RIDGE, BC

DESIGN NO. ◆

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FIELD BOOK NO.			

DWG. NO. 31 OF 44

REV. A

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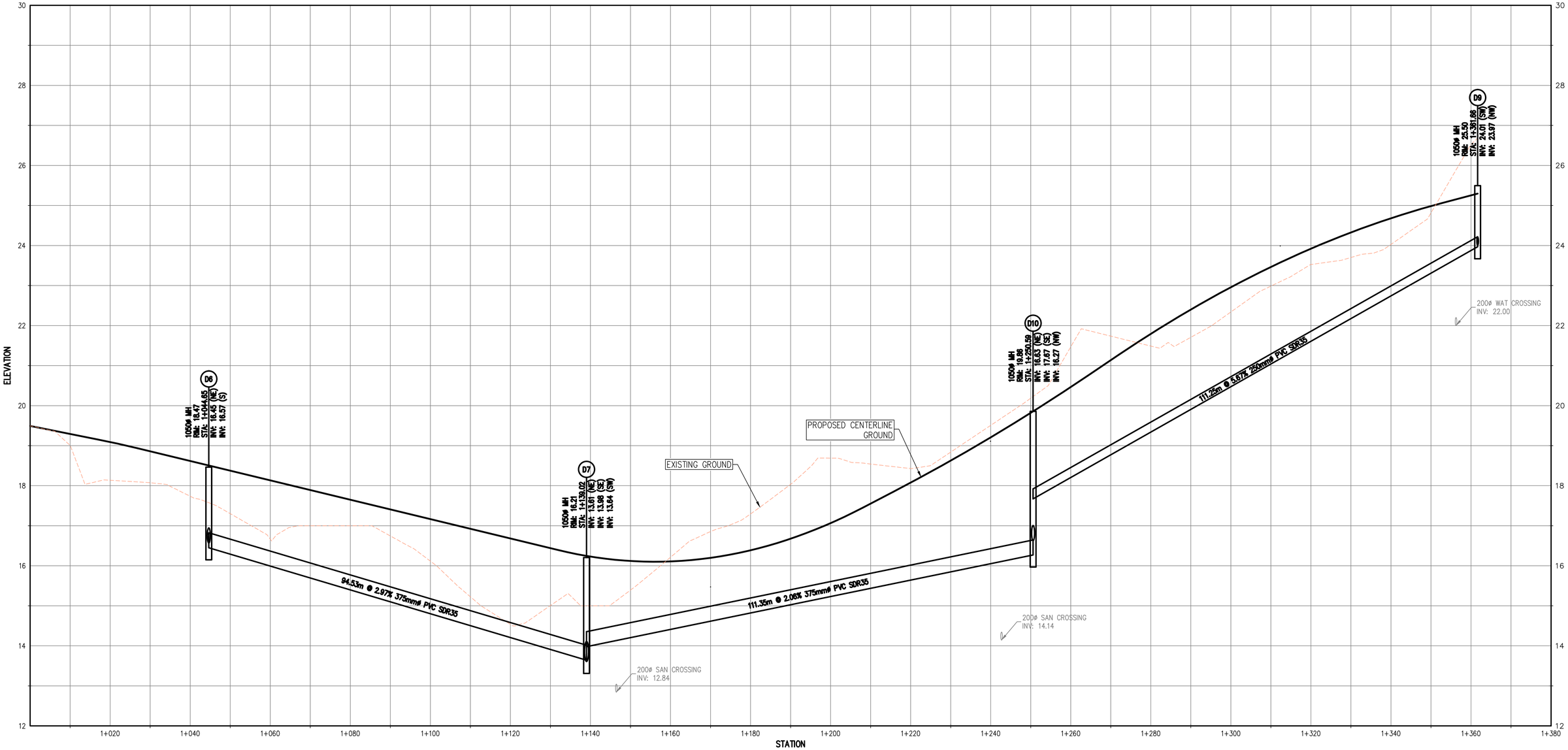
FILENAME:

NOTES

1. SEE DWG 31 FOR ROAD A STORM SEWER PLAN.



ROAD A – PROFILE

GRAPHIC SCALE

−10 0 10 20

SCALE: 1:500

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STORM SEWER - PROFILE
ROAD A

DESIGN OF A SUBDIVISION
IN MAPLE RIDGE, BC

DESIGN NO. ◆

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DWG. NO. 32 OF 44

REV. A

FILENAME:

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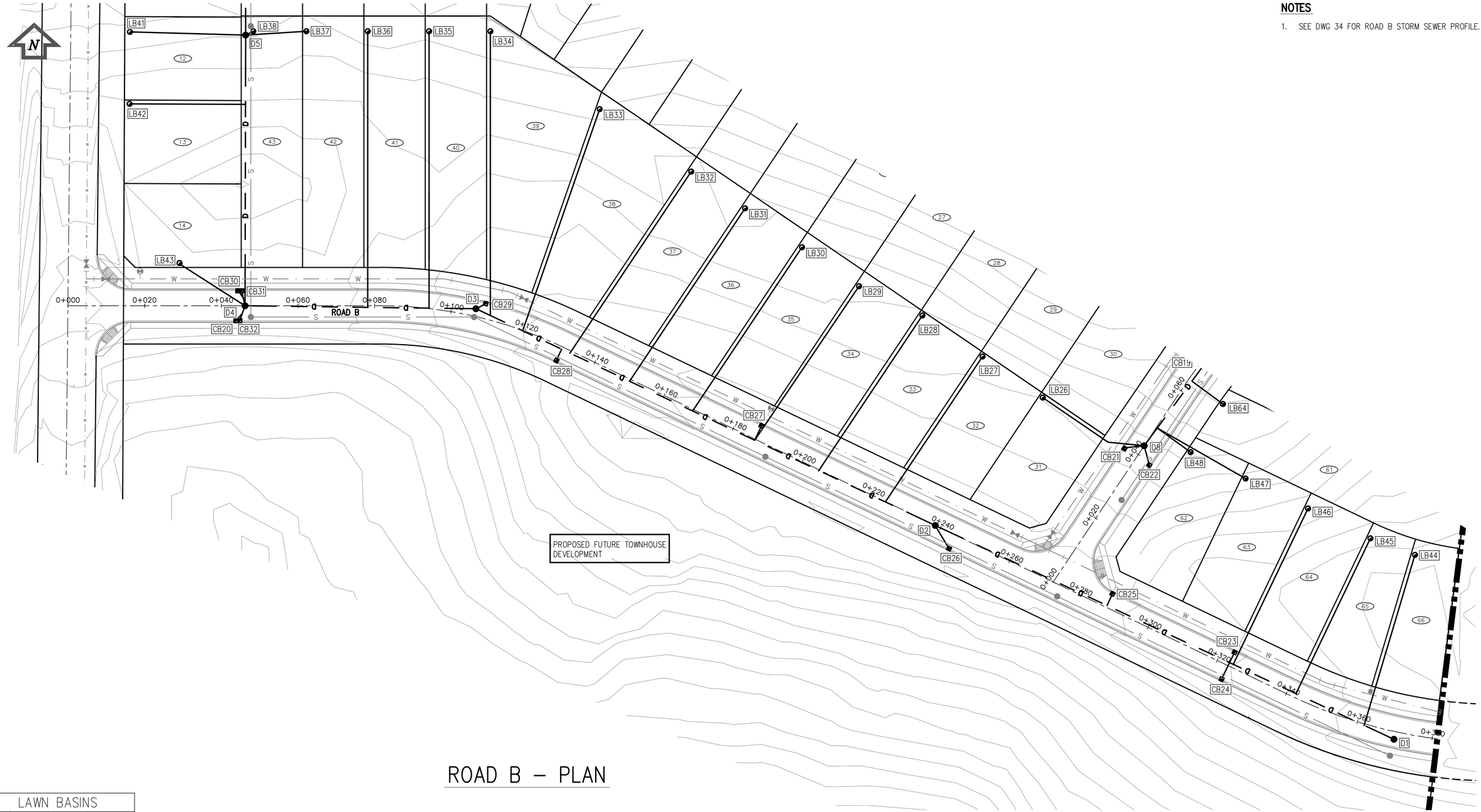
NOTES

1. SEE DWG 34 FOR ROAD B STORM SEWER PROFILE.



ROAD B – PLAN

LAWN BASINS			
ID#	STATION	OFFSET	RIM ELEV
LB27	0+230.55	45.061 L	29.67
LB28	0+211.77	47.940 L	29.09
LB28	0+193.55	47.698 L	28.84
LB30	0+175.76	50.425 L	28.57
LB31	0+157.97	53.153 L	27.75
LB32	0+111.16	55.729 L	28.03
LB33	0+119.05	61.083 L	26.72
LB34	0+098.80	73.838 L	25.29
LB35	0+089.24	72.949 L	25.75
LB36	0+078.21	71.656 L	25.50
LB43	0+029.09	11.138 L	28.57
LB44	0+362.53	46.000 L	35.29
LB45	0+342.76	46.000 L	34.65
LB46	0+324.25	46.000 L	32.45

CATCH BASINS			
ID#	STATION	OFFSET	RIM ELEV
CB23	0+323.20	3.900 L	33.90
CB24	0+323.17	3.900 R	33.90
CB25	0+287.86	3.900 L	32.75
CB26	0+244.31	3.900 R	32.21
CB27	0+186.35	3.900 L	32.07
CB28	0+130.75	3.900 R	31.28
CB29	0+108.33	3.900 L	30.50
CB30	0+044.34	3.900 L	28.38
CB31	0+045.34	3.900 L	28.38
CB32	0+044.84	3.900 R	28.38
CB20	0+043.84	3.900 R	28.38

MANHOLES			
ID#	STATION	OFFSET	RIM ELEV
D1	1+370.29	2.000 R	35.50
D2	1+238.49	0.022 R	32.28
D3	1+106.21	1.970 L	30.46
D4	0+046.21	0.000	28.46

GRAPHIC SCALE

−10 0 10 20

SCALE: 1:500

REV. NO.	REVISIONS	DATE	DRAWN	APPR'D
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FILENAME:

STORM SEWER - PLAN
ROAD B

DESIGN OF A SUBDIVISION
IN MAPLE RIDGE, BC

DESIGN NO. ◆

SCALE	1:500	DATE	16–03–15
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CHECKED BY	GP	APPROVED BY	GP
FIELD BOOK NO.			

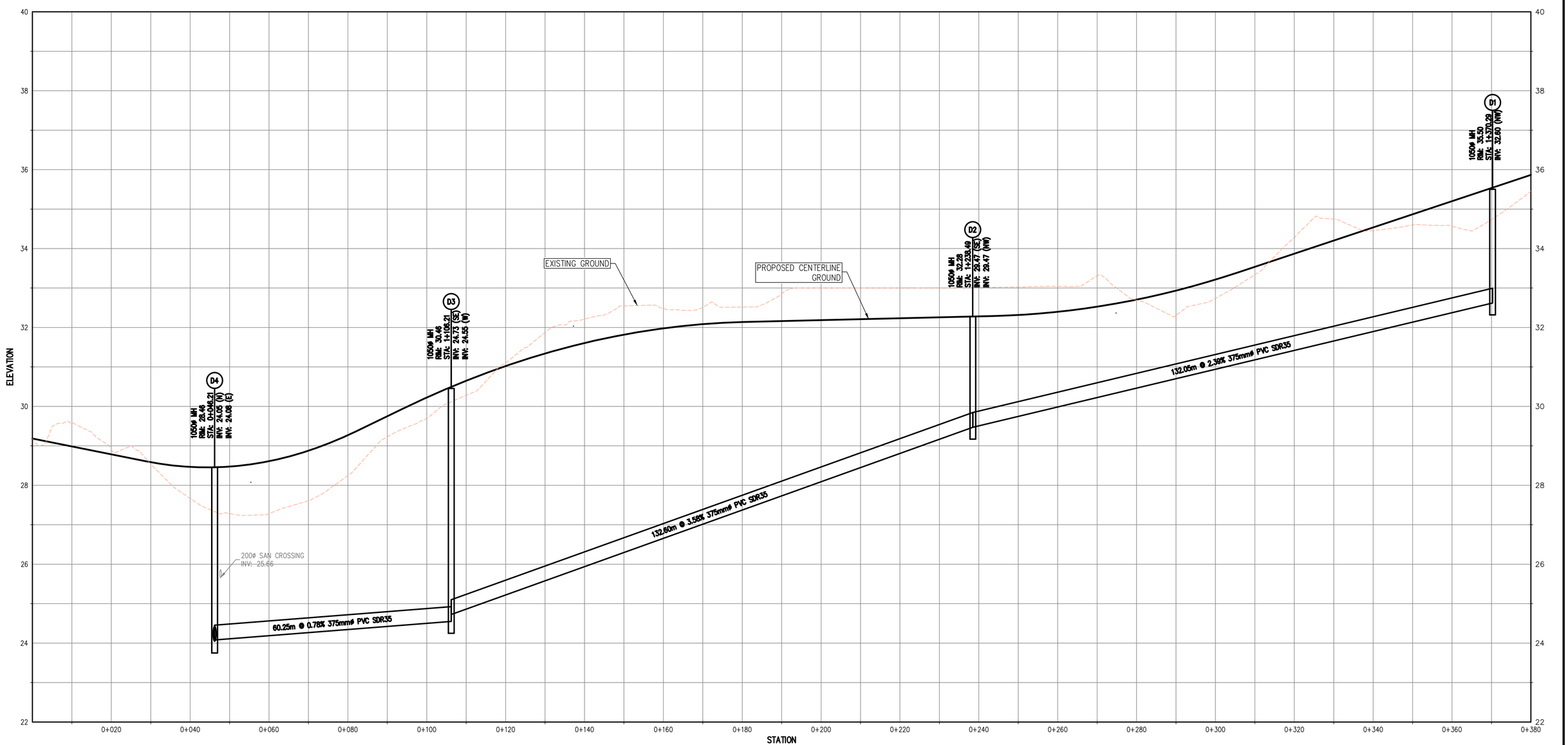
DWG. NO. 33 OF 44

REV. A

DESTROY ALL PRINTS BEARING PREVIOUS NO. _____

NOTES

1. SEE DWG 33 FOR ROAD B STORM SEWER PLAN.



ROAD B – PROFILE

GRAPHIC SCALE

−10 0 10 20

SCALE: 1:500

DESIGN NO. ◆

REV. NO.	REVISIONS	DATE	DRAWN	APPR'D
A	FOR REVIEW	16/03/15	TP	GP

STORM SEWER- PROFILE
ROAD B

DESIGN OF A SUBDIVISION
IN MAPLE RIDGE, BC

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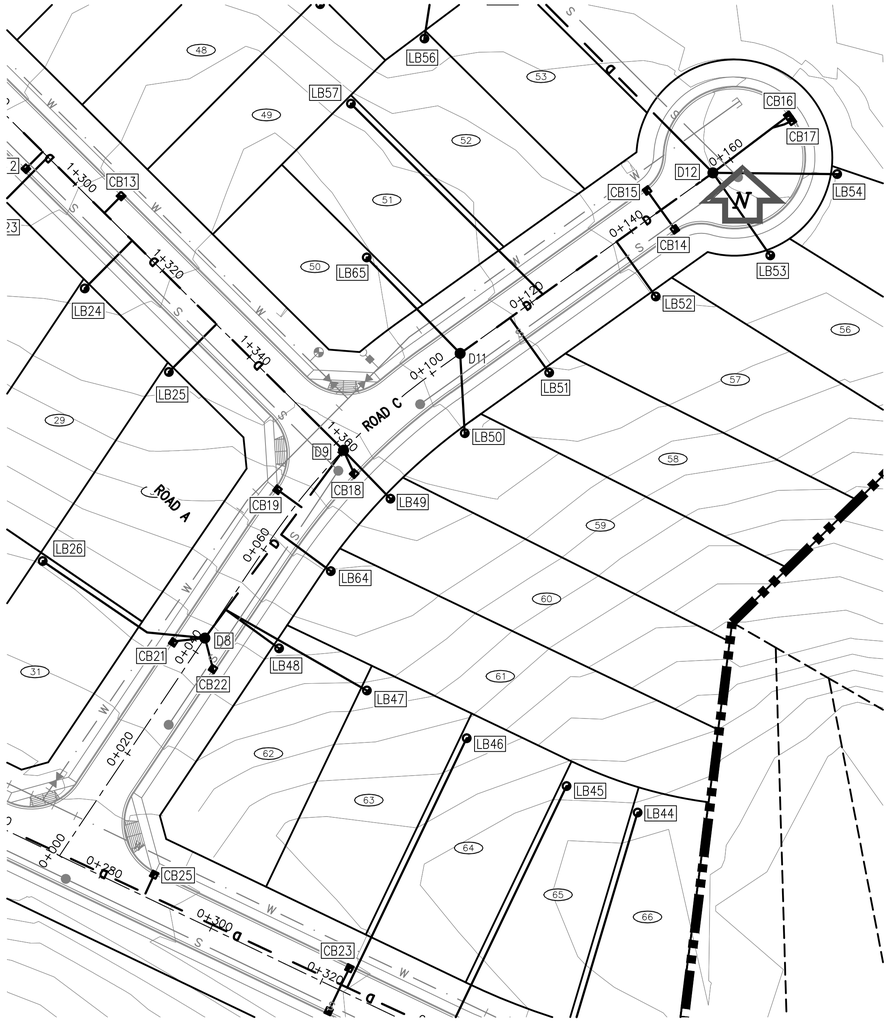
DWG. NO. 34 OF 44

REV. A

DESTROY ALL PRINTS BEARING PREVIOUS NO. _____

FILENAME:



ROAD C – PLAN

ROAD C – PROFILE

ROAD B

LAWN BASINS

ID#	STATION	OFFSET	RIM ELEV
LB26	0+038.46	29.000 L	29.97
LB47	0+050.30	26.737 R	30.32
LB48	0+048.04	11.000 R	28.77
LB49	0+080.49	11.000 R	25.40
LB50	0+098.48	11.000 R	24.07
LB51	0+115.66	11.000 R	23.08
LB52	0+137.03	11.000 R	22.00
LB53	0+156.14	16.393 R	21.25
LB54	0+172.74	11.945 R	20.97
LB57	0+114.84	43.526 R	22.37
LB64	0+063.44	11.000 R	27.05
LB65	0+102.35	21.600 L	24.04

CATCH BASINS

ID#	STATION	OFFSET	RIM ELEV
CB14	0+145.95	3.900 R	21.44
CB15	0+145.95	3.900 L	21.44
CB16	0+171.79	0.430 L	20.73
CB17	0+171.79	0.570 R	20.73
CB18	0+079.24	3.900 R	25.36
CB19	0+069.15	3.900 L	26.28
CB21	0+039.27	3.900 L	29.57
CB22	0+039.22	3.900 R	29.58

MANHOLES

ID#	STATION	OFFSET	RIM ELEV
D8	0+042.72	0.000	29.27
D9	0+089.89	0.022 L	25.50
D11	0+105.67	0.000	23.55
D12	0+156.37	0.000	21.00

GRAPHIC SCALE
−10 0 10 20
SCALE: 1:500

REV. NO.	REVISIONS	DATE	DRAWN	APPR'D
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STORM SEWER - PLAN / PROFILE ROAD C

DESIGN OF A SUBDIVISION IN MAPLE RIDGE, BC

DESIGN NO. ◆

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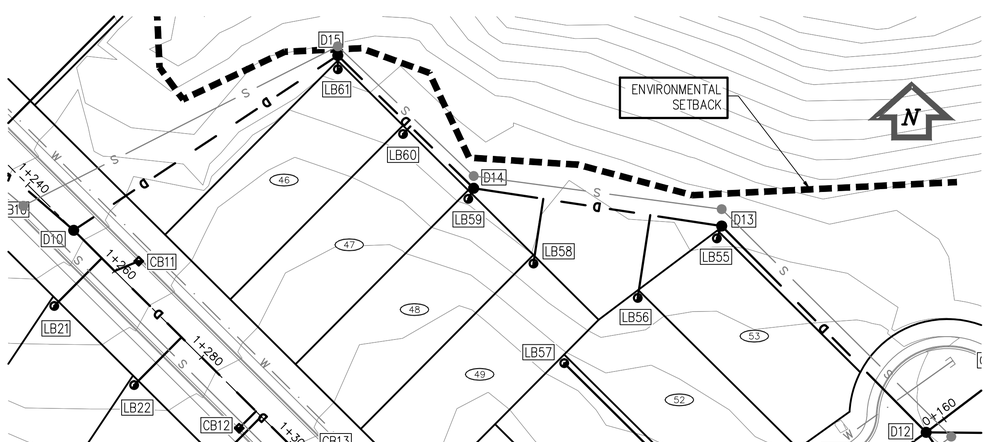
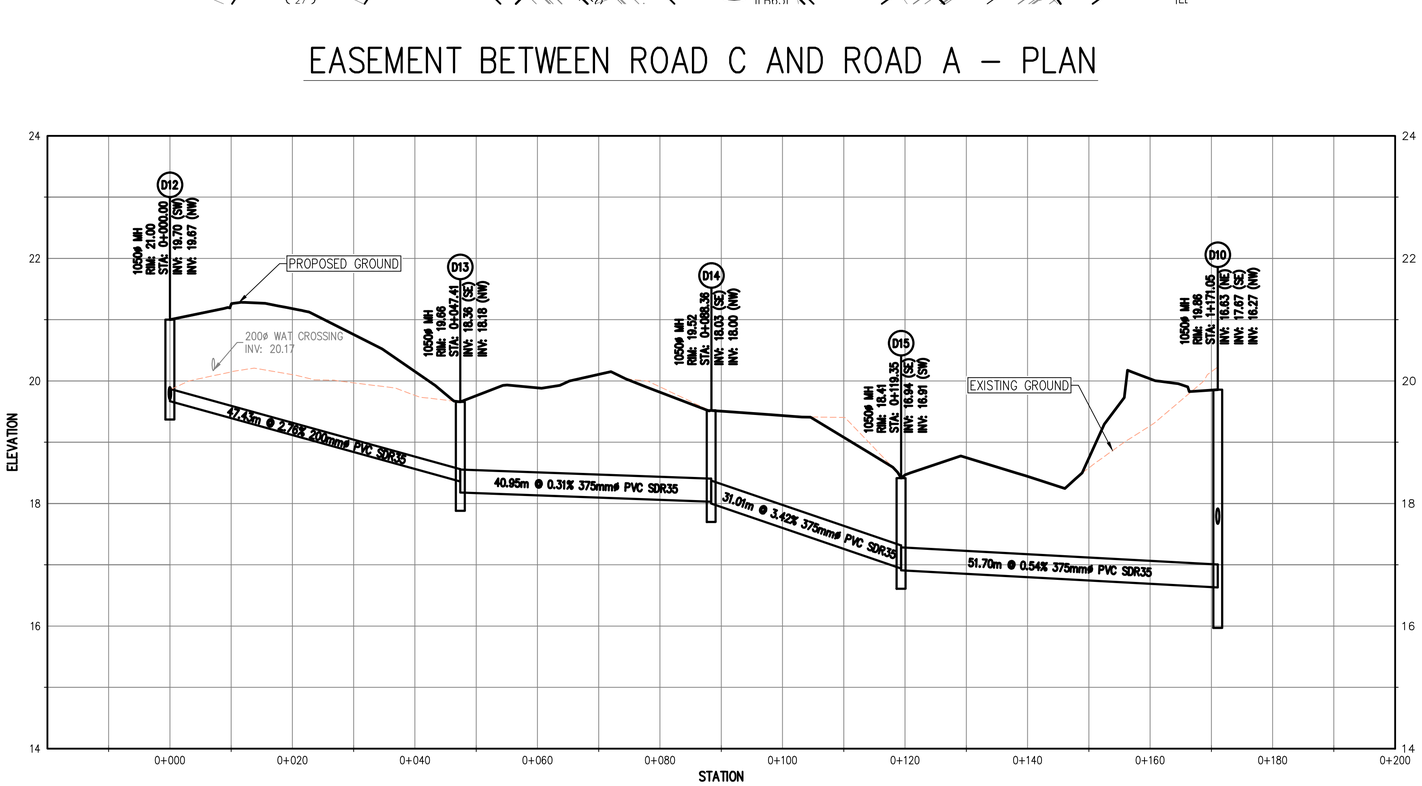
CHECKED BY	GP	APPROVED BY	GP	
FIELD BOOK NO.				REV. A

DESTROY ALL PRINTS BEARING PREVIOUS NO. _____

FILENAME:



EASEMENT BETWEEN ROAD C AND ROAD A – PLAN



EASEMENT BETWEEN ROAD C AND ROAD A – PROFILE

LAWN BASINS			
ID#	STATION	OFFSET	RIM ELEV
LB55	0+046.53	1.993 L	19.87
LB56	0+059.20	13.679 L	20.57
LB58	0+076.85	10.692 L	20.24
LB59	0+088.33	1.949 L	19.83
LB60	0+102.78	1.746 L	19.63
LB61	0+117.78	1.630 L	18.74

MANHOLES			
ID#	STATION	OFFSET	RIM ELEV
D12	0+000.00	0.000	21.00
D13	0+047.41	0.000	19.66
D14	0+088.36	0.000	19.52
D15	0+119.35	0.000	18.41
D10	1+171.05	0.000	19.86

GRAPHIC SCALE

−10 0 10 20

SCALE: 1:500

REV. NO.	REVISIONS	DATE	DRAWN	APPR'D
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FILENAME:

STORM SEWER- PLAN / PROFILE EASEMENT 1

DESIGN OF A SUBDIVISION IN MAPLE RIDGE, BC

DESIGN NO. ◆

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CHECKED BY	GP	APPROVED BY	GP
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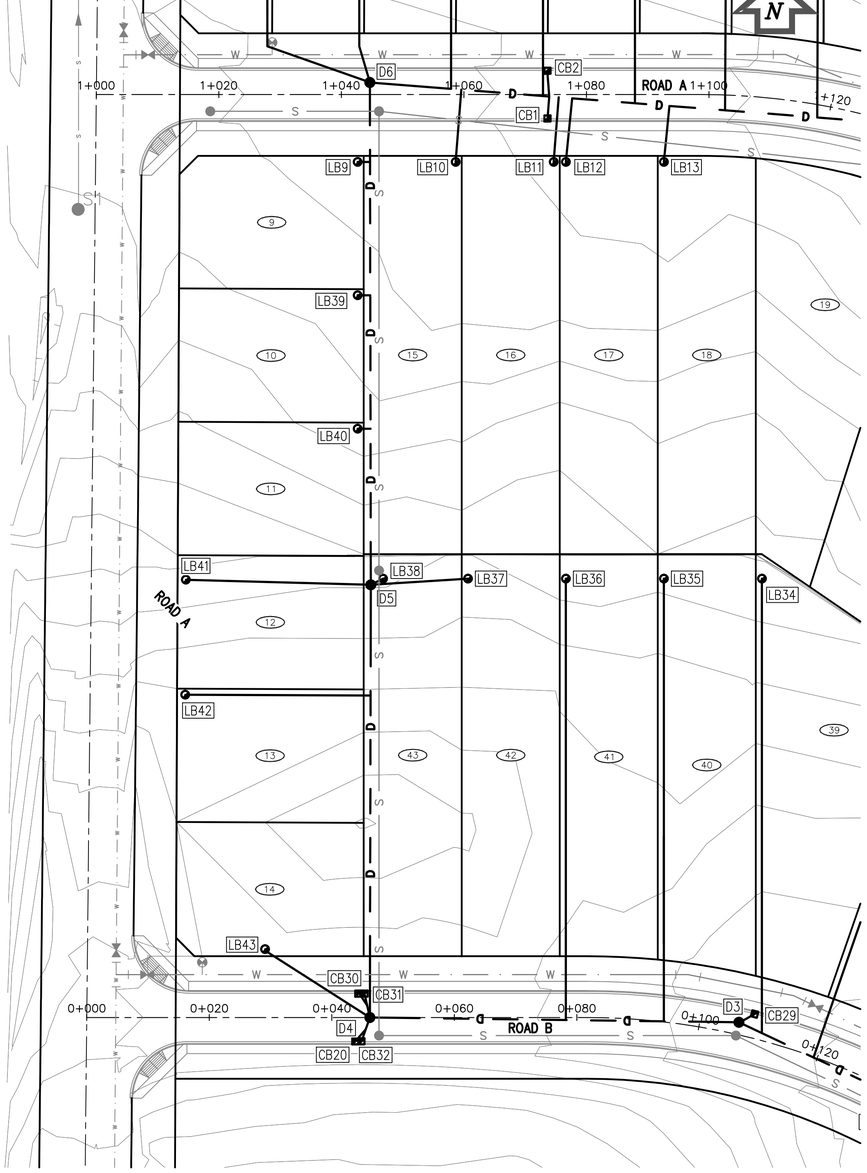
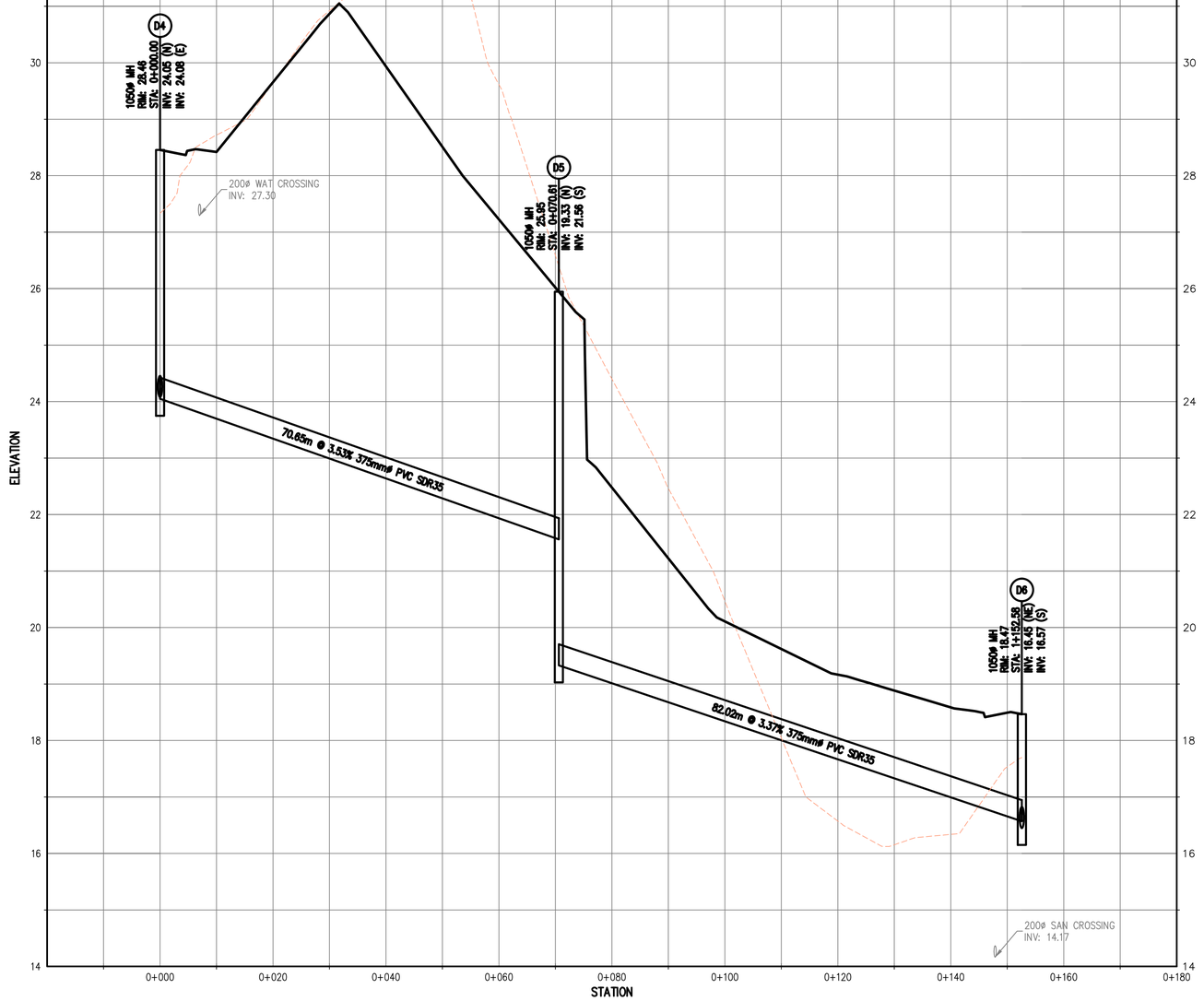
REV. A

DESTROY ALL PRINTS BEARING PREVIOUS NO. _____



EASEMENT BETWEEN ROAD B AND ROAD A – PLAN



EASEMENT BETWEEN ROAD B AND ROAD A – PROFILE

LAWN BASINS			
ID#	STATION	OFFSET	RIM ELEV
LB9	0+139.61	2.025 L	18.65
LB37	0+071.58	15.841 R	26.45
LB38	0+071.60	1.986 R	25.85
LB39	0+117.85	2.068 L	19.35
LB40	0+096.08	2.111 L	20.50
LB41	0+071.85	30.205 L	25.31
LB42	0+052.59	30.269 L	28.05

MANHOLES			
ID#	STATION	OFFSET	RIM ELEV
D4	0+000.00	0.000	28.46
D5	0+070.61	0.000	25.95
D6	1+152.58	0.000	18.47

GRAPHIC SCALE
−10 0 10 20
SCALE: 1:500

REV. NO.	REVISIONS	DATE	DRAWN	APPR'D
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STORM SEWER - PLAN / PROFILE EASEMENT 2

DESIGN OF A SUBDIVISION IN MAPLE RIDGE, BC

DESIGN NO. ◆

SCALE	1:500	DATE	16–03–15
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CHECKED BY	GP	APPROVED BY	GP
FIELD BOOK NO.			

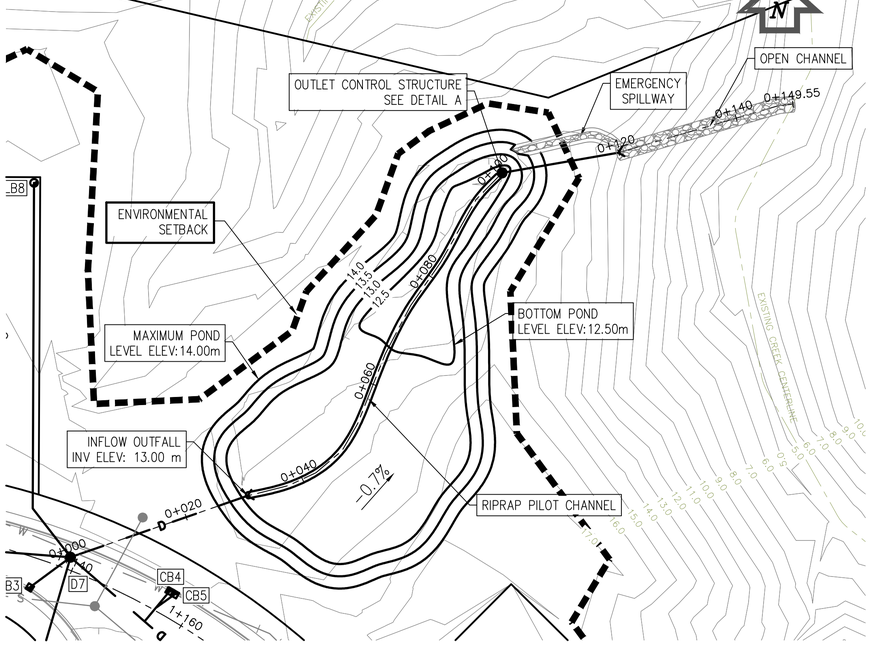
DWG. NO. 37 OF 44
REV. A

DESTROY ALL PRINTS BEARING PREVIOUS NO. _____

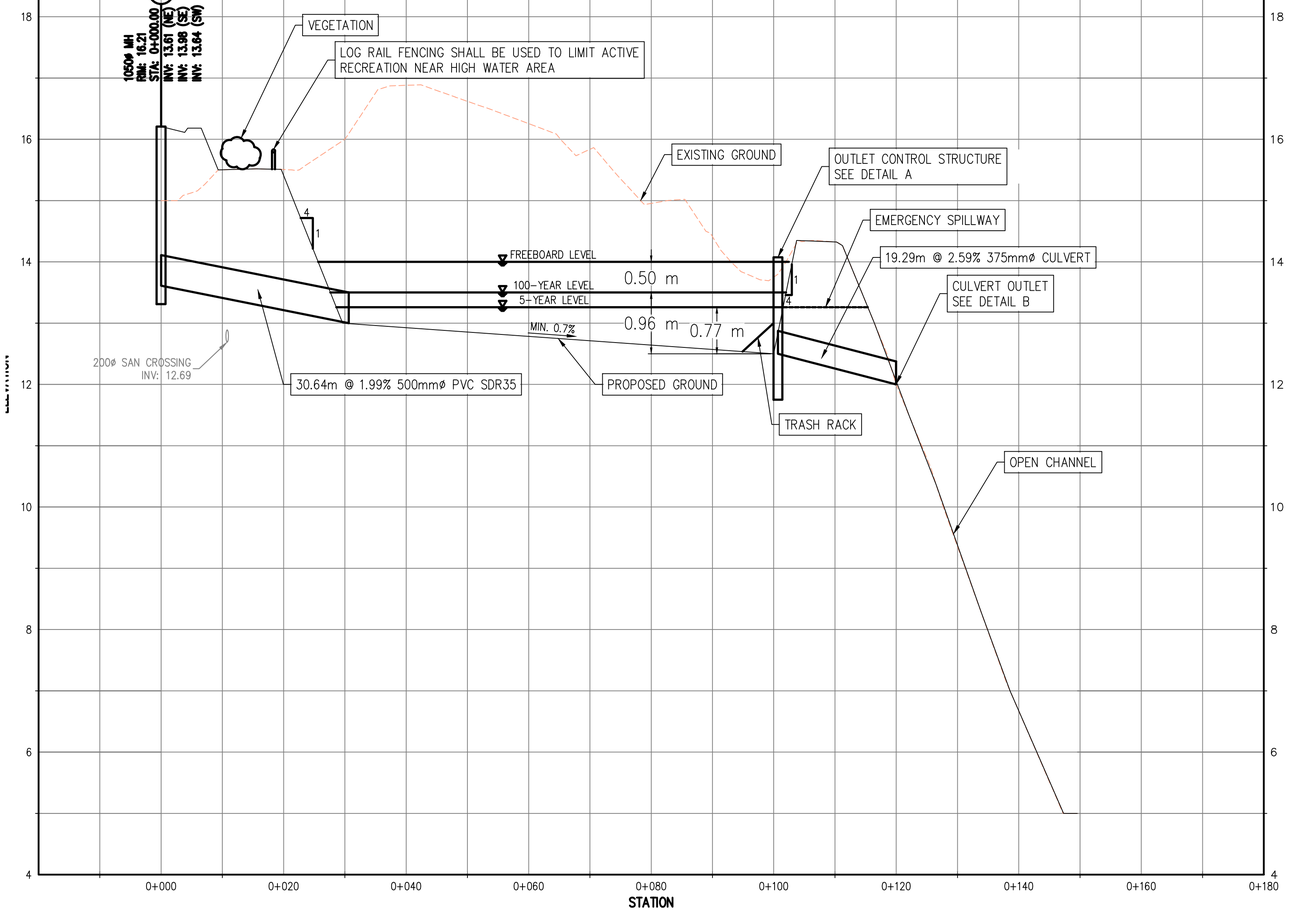
FILENAME:

NOTES

1. SEE DWG 39 FOR DETENTION POND DETAILS.



DETENTION POND – PLAN



DETENTION POND – PROFILE

GRAPHIC SCALE

-10 0 10 20

SCALE: 1:500

REV. NO.	REVISIONS	DATE	DRAWN	APPR'D
A	FOR REVIEW	16/03/15	TP	GP

DETENTION POND - PLAN / PROFILE

DESIGN OF A SUBDIVISION IN MAPLE RIDGE, BC

DESIGN NO. ◆

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CHECKED BY	GP	APPROVED BY	GP	
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DESTROY ALL PRINTS BEARING PREVIOUS NO. ____

FILENAME:

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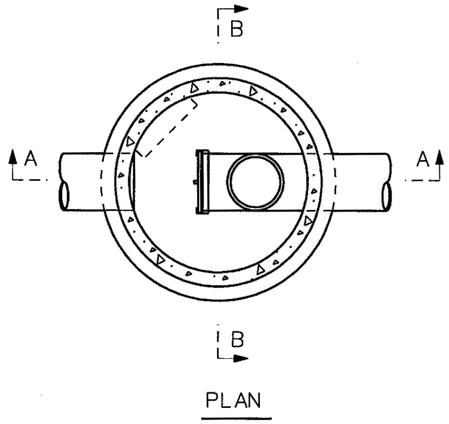
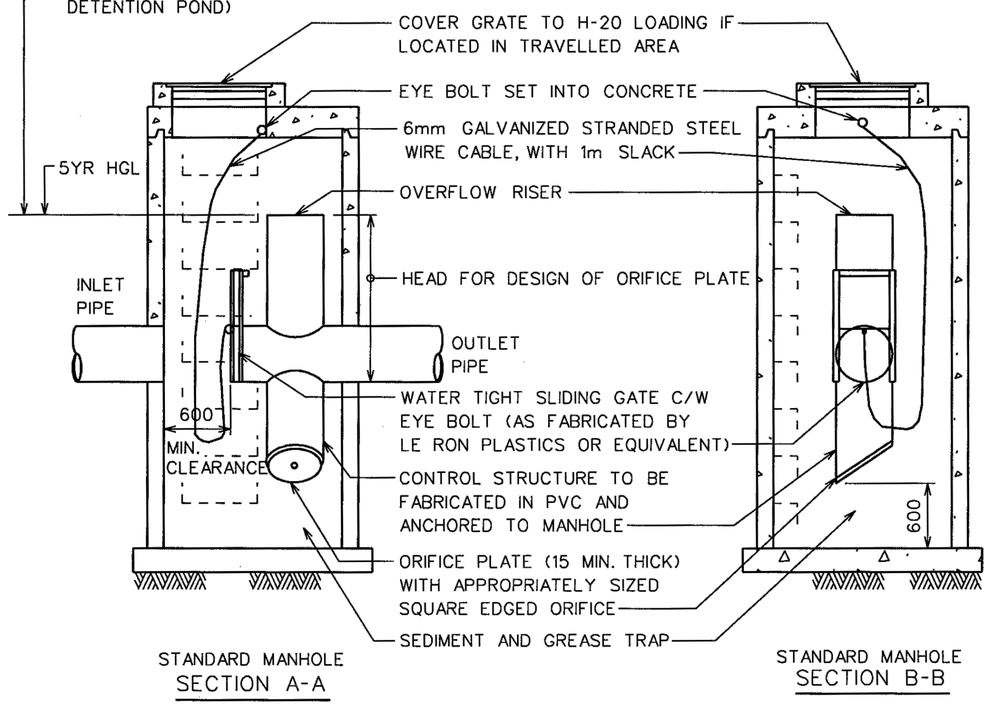
PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT



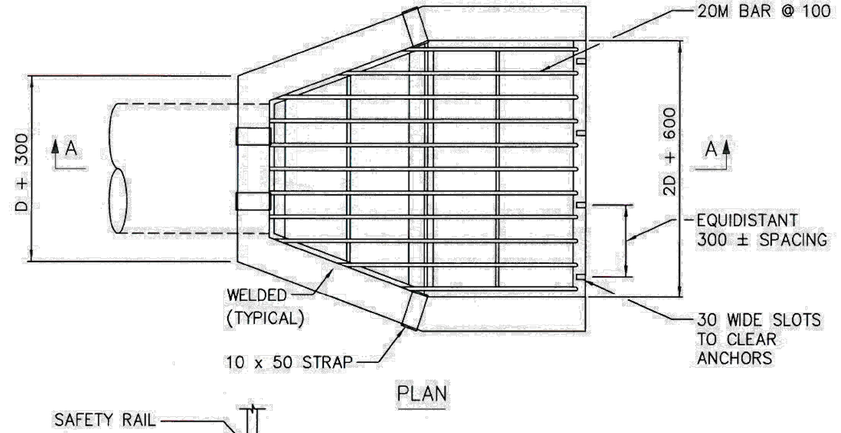
PLAN



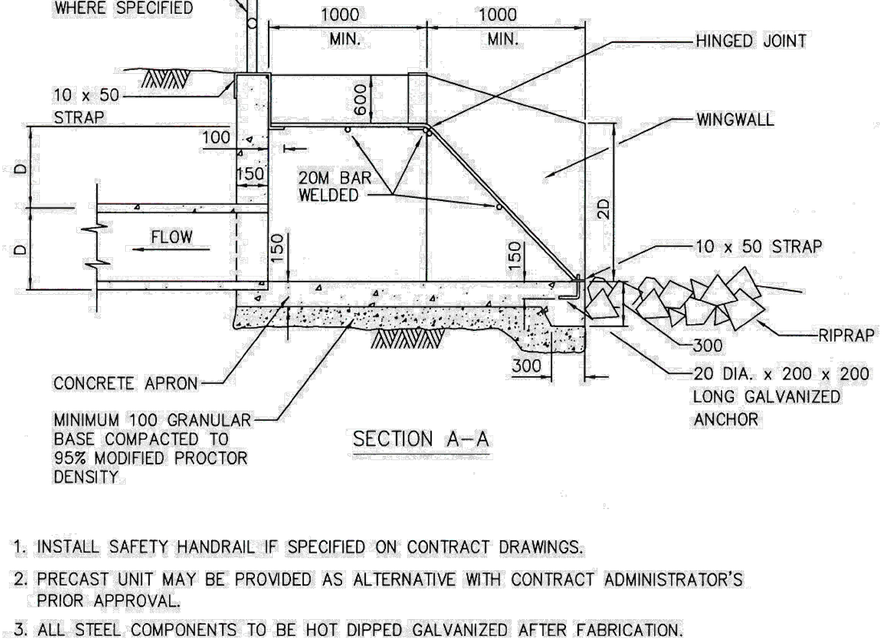
STANDARD MANHOLE
SECTION A-A

STANDARD MANHOLE
SECTION B-B

A DETAIL N.T.S.
CONTROL STRUCTURE



PLAN



SECTION A–A

NOTE:
1. INSTALL SAFETY HANDRAIL IF SPECIFIED ON CONTRACT DRAWINGS.
2. PRECAST UNIT MAY BE PROVIDED AS ALTERNATIVE WITH CONTRACT ADMINISTRATOR'S PRIOR APPROVAL.
3. ALL STEEL COMPONENTS TO BE HOT DIPPED GALVANIZED AFTER FABRICATION.
4. SAFETY GRILLAGE TO BE WELDED AT ALL JOINTS AND CONNECTIONS EXCEPT AT ANCHOR BOLTS.
5. REFER TO CONTRACT DRAWINGS FOR LOCATIONS AND SITE SPECIFIC DIMENSIONS. REFER TO SECTIONS 03 20 01 AND 03 30 53 FOR DETAILED SPECIFICATIONS.

B DETAIL N.T.S.
CULVERT OUTLET

GRAPHIC SCALE
−10 0 10 20
SCALE: 1:500

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DETENTION POND - DETAILS

DESIGN OF A SUBDIVISION IN MAPLE RIDGE, BC

DESIGN NO. ◆

SCALE	1:500	DATE	16-03-15
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CHECKED BY	GP	APPROVED BY	GP
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REV. A

DESTROY ALL PRINTS BEARING PREVIOUS NO. _____

FILENAME:

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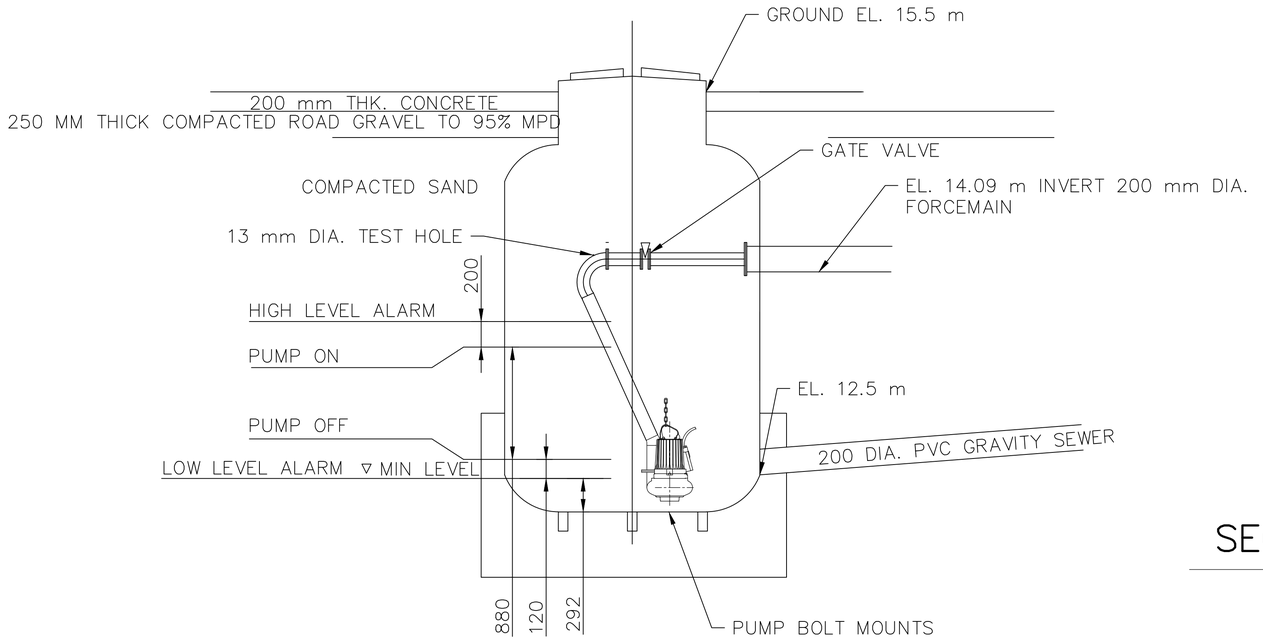
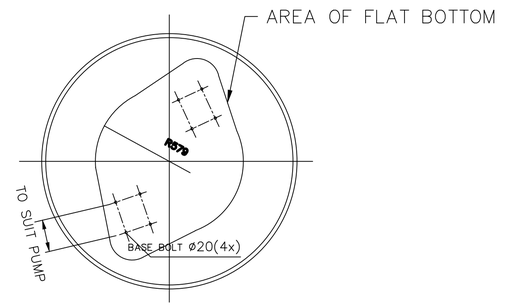
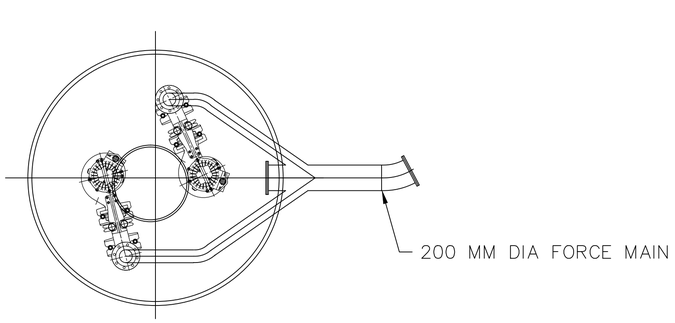
PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT





SECTION B–B – BASE LAYOUT

PUMP CHAMBER DETAILS



SECTION A–A – PUMPS LAYOUT

NOTES:

1. ALL CONSTRUCTION MATERIALS TO BE IN ACCORDANCE WITH CITY OF SURREY SUP PLEMENTARY SPECIFICATIONS AND DETAIL DRAWINGS AND WITH THE CURRENT CITY APPROVED EDITION OF THE MMCD STANDARDS AND SPECIFICATIONS UNLESS OTHERWISE NOTED
2. PUMP STATION PAD TO BE GRADED TO ENSURE DRAINAGE AWAY FROM WETWELL, KIOSK AND OTHER PHYSICAL STRUCTURES.
3. STRUCTURAL DESIGN OF FIBERGLASS WET WELL, FIBREGLASS PIPING, PIPE SUPPORTS , AND LADDER TO BE SEALED BY A PROFESSIONAL ENGINEER.
4. PIPEWORK AND FITTINGS TO BE SUITABLE FOR WORKING PRESSURE OF 345 kPa.
5. ALL METALWORK TO BE GALVANIZED OR STAINLESS STEEL WHERE SHOWN.
6. DISCHARGE BEND MOUNTING BOLTS TO SUIT PUMPS.
7. PUMP STATION FLOOR TO BE SUFFICIENTLY STIFF TO PREVENT BUCKLING UNDER HYDRO–STATIC UPLIFT FORCE.

GRAPHIC SCALE

–20 0 20 40

SCALE: 1:150000

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DESIGN OF A SUBDIVISION IN MAPLE RIDGE, BC

DESIGN NO. ◆

SCALE	1:150000	DATE	16–03–15	DWG. NO.
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DESTROY ALL PRINTS BEARING PREVIOUS NO. ____

FILENAME:

NOTES

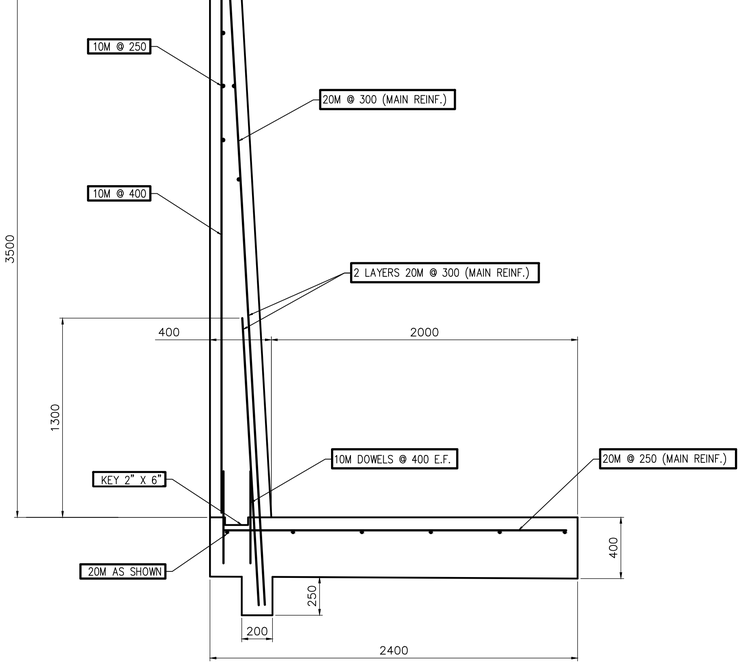
1.UNDER THE PROPOSED RETAINING WALL, REMOVE ALL SOFT/LOOSE/ORGANIC SOIL

2.RETAINING WALL MUST HAVE GUARDRAIL OR FENCE AT TOP

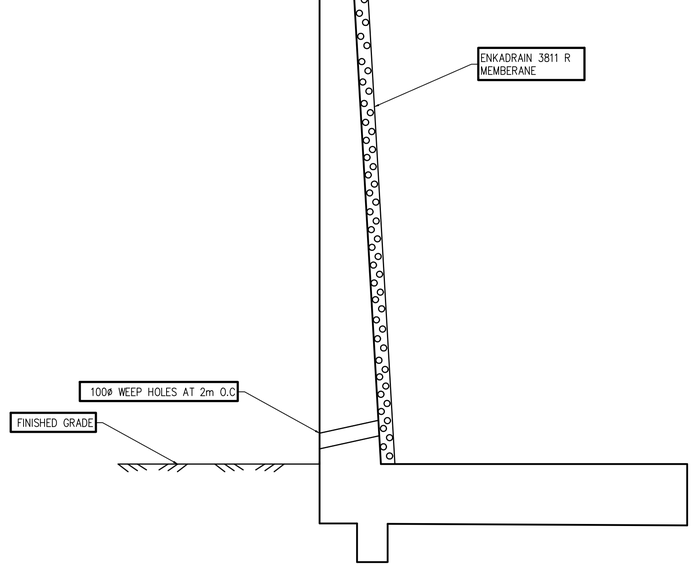
3.MINIMUM 100mm THICK LEVELING PAD OF 19mm ø MINUS CRUSHED GRAVEL.

4.75mm ø MINUS GRAVEL AND SAND BACKFILL UP TO MEMBRANE BACK. COMPACTED WITH AT LEAST 500 LB PLATE COMPACTOR. USE SMALLER LIGHTWEIGHT EQUIPMENT, SUCH AS HAND-OPERATED COMPACTORS WITHIN 0.3 m OF WALL.

5.STRUCTURAL BACKFILL SHOULD BE PLACED IN 12" THK. LOOSE LIFTS AND COMPACTED TO A MINIMUM OF 95% STANDARD PROCTOR DENSITY.



TYPICAL RETAINING WALL SECTION



WALL DRAINAGE

REV. NO.	REVISIONS	DATE	DRAWN	APPR'D
A	FOR REVIEW	16/03/15	GP	–

DESIGN OF A SUBDIVISION
IN MAPLE RIDGE, BC

DESIGN NO. ◆

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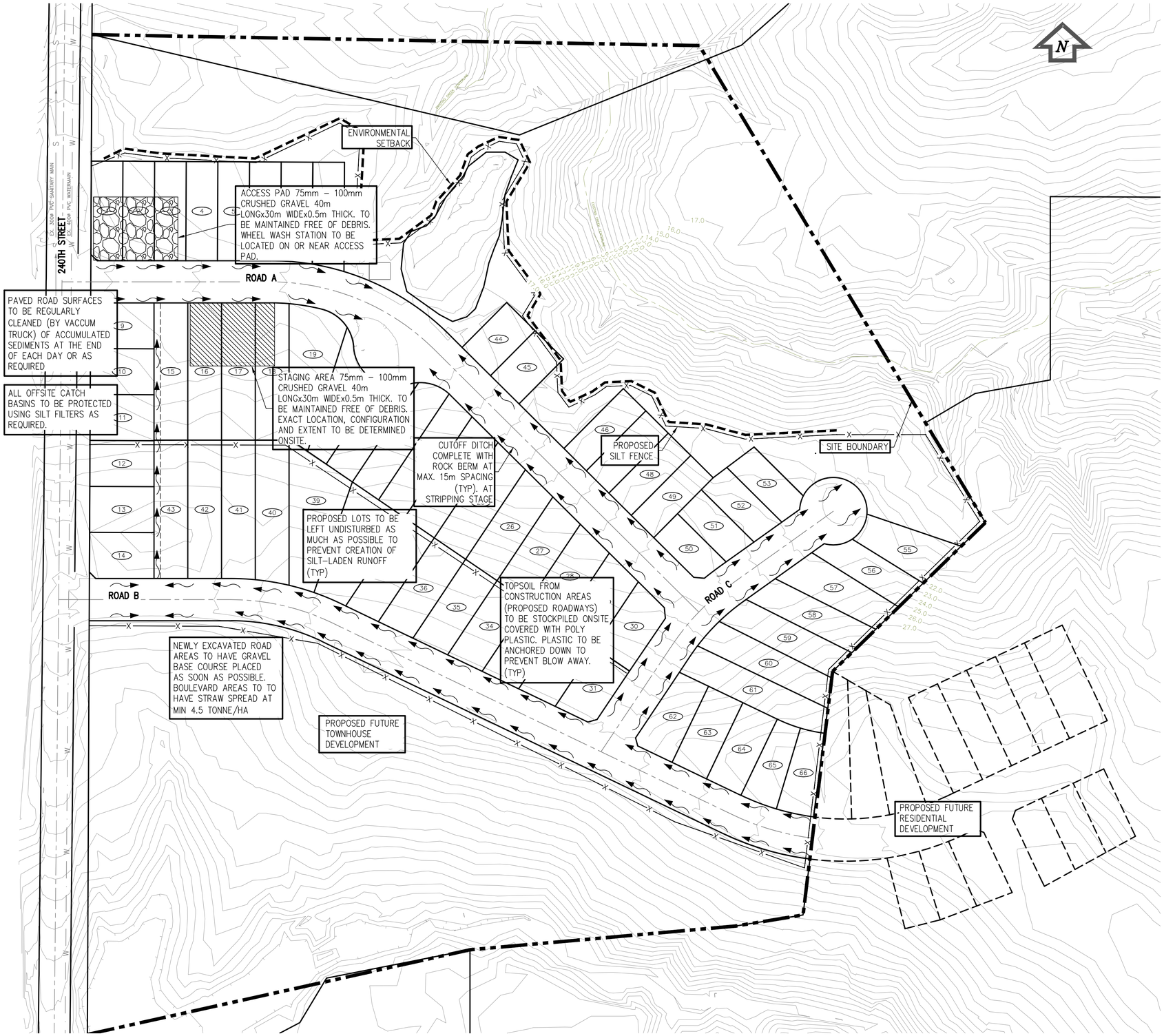
FILENAME:



STAGE 1 – CLEARING, ROAD STRIPPING, GRAVELLING, AND ROUGH GRADING STAGE

GRAPHIC SCALE

–20 0 20 40

SCALE: 1:1000

REV. NO.	REVISIONS	DATE	DRAWN	APPR'D
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EROSION AND SEDIMENT CONTROL PLAN

DESIGN OF A SUBDIVISION IN MAPLE RIDGE, BC

DESIGN NO. ◆

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DESTROY ALL PRINTS BEARING PREVIOUS NO. _____

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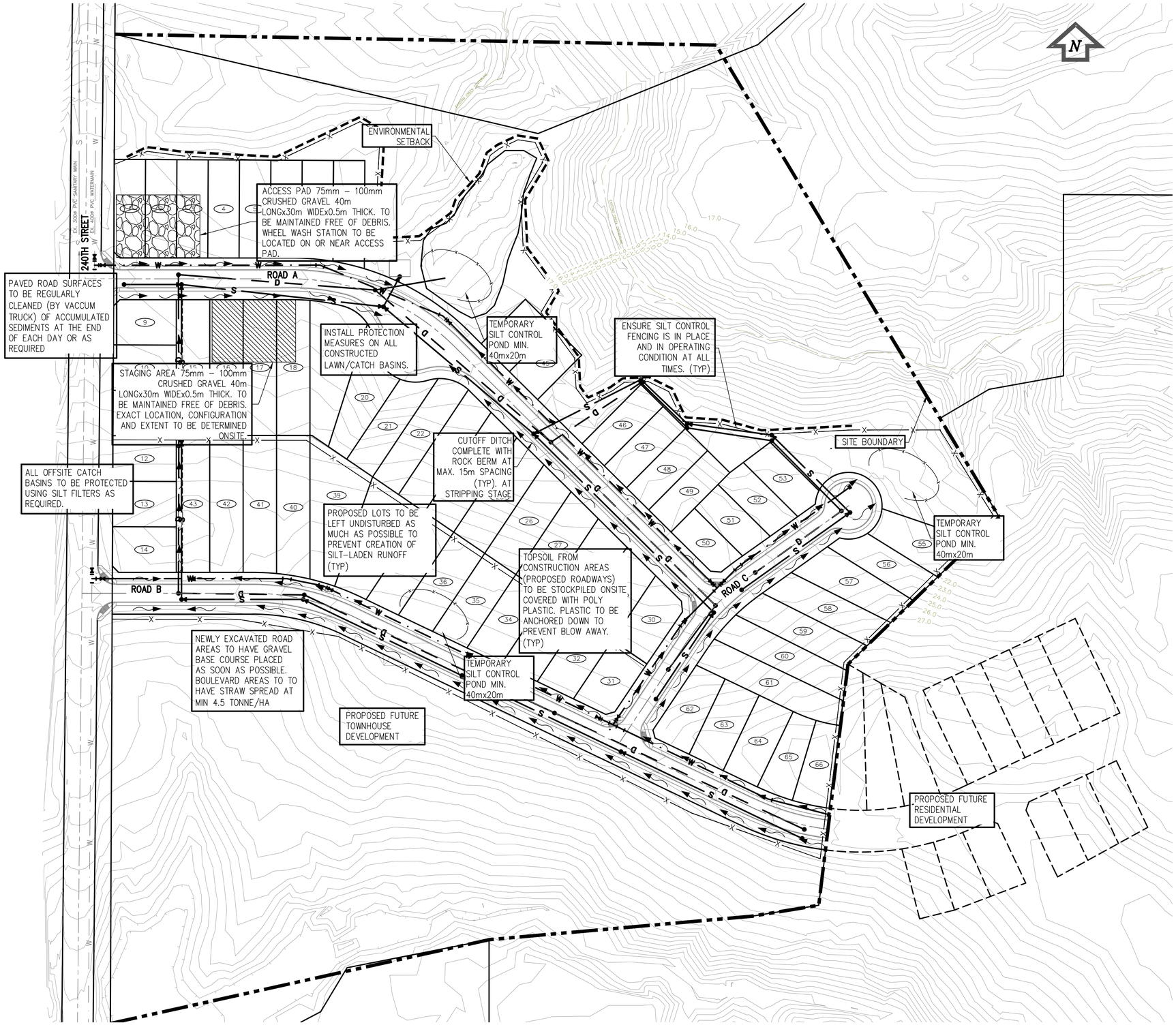

STAGE 2 – UTILITY AND ROADWORKS INSTALLATION

GRAPHIC SCALE

–20 0 20 40

SCALE: 1:1000

REV. NO.	REVISIONS	DATE	DRAWN	APPR'D
A	FOR REVIEW	16/03/15	GP	–

EROSION AND SEDIMENT CONTROL PLAN

DESIGN OF A SUBDIVISION IN MAPLE RIDGE, BC

DESIGN NO. ◆

SCALE	1:1000	DATE	16–03–15	DWG. NO. 43 OF 44
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CHECKED BY	TP	APPROVED BY	–	
FIELD BOOK NO.				REV. A

DESTROY ALL PRINTS BEARING PREVIOUS NO. _____

FILENAME:

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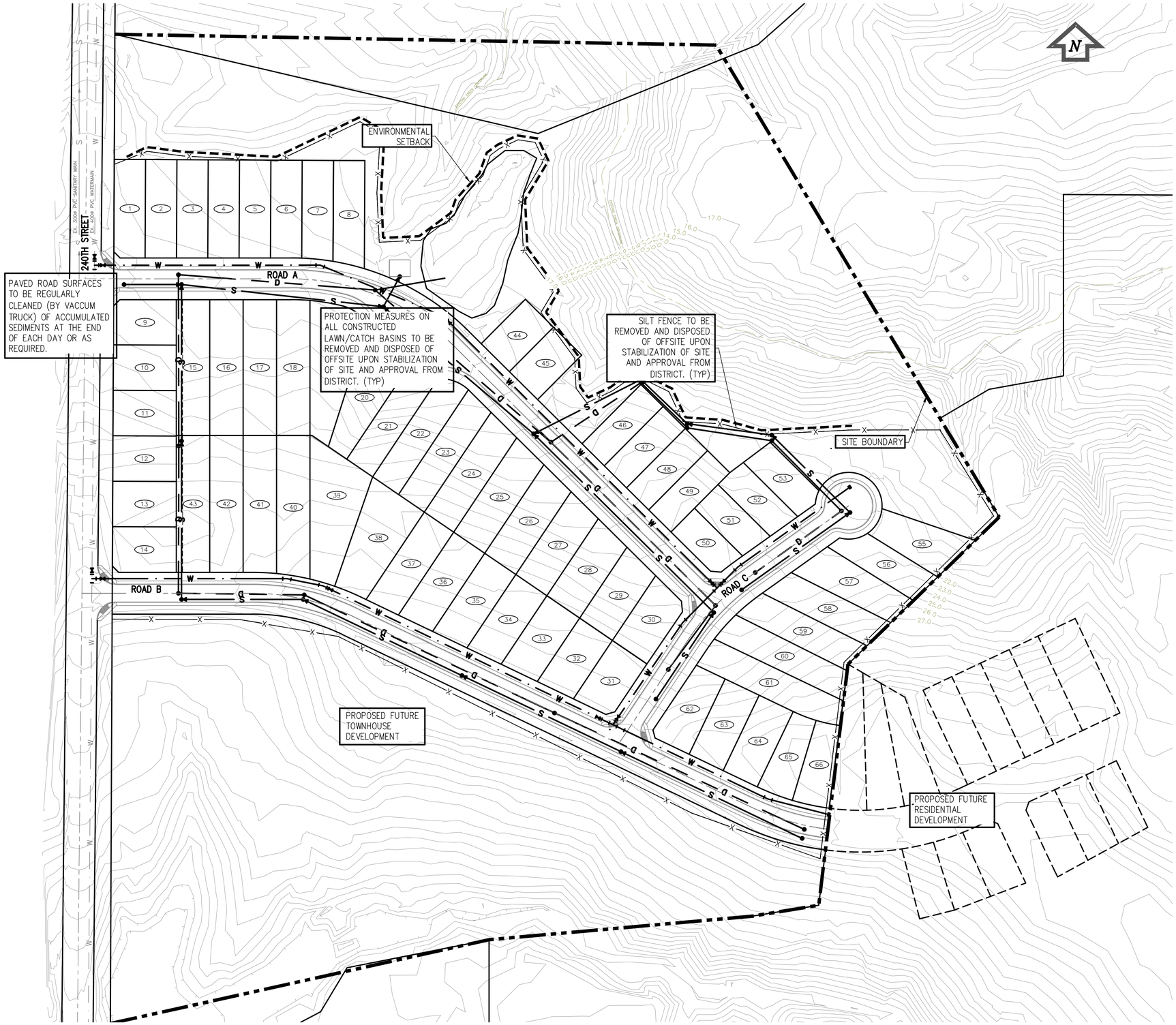
PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT



STAGE 3 – FINAL GRADING TO SUBSTANTIAL COMPLETION

GRAPHIC SCALE

−20 0 20 40

SCALE: 1:1000

REV. NO.	REVISIONS	DATE	DRAWN	APPR'D
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EROSION AND SEDIMENT CONTROL PLAN

DESIGN OF A SUBDIVISION IN MAPLE RIDGE, BC

DESIGN NO. ◆

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CHECKED BY	TP	APPROVED BY	–	
FIELD BOOK NO.				REV. A

DESTROY ALL PRINTS BEARING PREVIOUS NO. _____

FILENAME:

NOTES

1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONSTRUCT AND MAINTAIN THE SILTATION AND EROSION CONTROL WORKS DURING CONSTRUCTION.
2. ALL SILT CONTROL WORKS TO BE CONSTRUCTED PRIOR TO COMMENCEMENT OF EARTHWORKS, FOUNDATION EXCAVATION, AND UNCAPPING OF THE STORM SERVICE SERVICE CONNECTION CAP AND DISCHARGING INTO THE STORM SEWER SYSTEM. ADDITIONAL FACILITIES MAY BE REQUIRED, AS NECESSARY, TO CONTROL THE DISCHARGE OF SILT LADEN WATERS.
3. THE ONLY ACCESS TO THE SITE IS TO BE VIA THE SITE ACCESS PAD. ACCESS PAD TO BE INSTALLED PRIOR TO EARTHWORKS ACTIVITIES. ANY SILTATIOUS OR OTHER DELETERIOUS MATERIALS DEPOSITED ON THE ROADS MUST BE CLEANED UP IMMEDIATELY.
4. NO SILT LADEN WATER FROM EXCAVATIONS SHALL BE PUMPED OUT OR OTHERWISE DIRECTLY DISCHARGED TO A DITCH SYSTEM THUS BYPASSING THE SEDIMENT CONTROL FACILITIES.
5. ROAD MAINTENANCE – CONTRACTOR MUST MAKE EVERY EFFORT TO MINIMIZE THE AMOUNT OF SOIL TRANSPORTED FROM THE SITE ONTO THE ROADWAY. THIS IS PARTICULARLY IMPORTANT WHEN ACCESSING THE SITE. THE PAVED ROAD SURFACE MUST BE REGULARLY CLEANED OF ACCUMULATIONS OF SOIL BY THE CONTRACTOR. NO SOIL, SAND, OR OTHER MATERIAL WITH A HIGH SEDIMENT CONTENT SHALL BE DEPOSITED OR PILED OUTSIDE OF THE PROPERTY BOUNDARIES, PARTICULARLY ON THE PAVED ROAD SURFACE. NO MATERIAL OF ANY TYPE IS TO BE DEPOSITED IN SUCH A WAY THAT IT INTERFERES WITH THE FLOW OF WATER ALONG THE CURBS OR INTO CATCH BASINS.
6. DISTURBED SOILS WHICH WILL BE LEFT "AS–IS" FOR MORE THAN 30 DAYS WILL BE MULCHED, SEEDED, OR OTHERWISE EROSION CONTROLLED ON A SEMI–PERMANENT BASIS.
7. ALL EARTHWORKS TO BE CARRIED OUT IN DRY WEATHER, PREFERABLY BETWEEN MAY & SEPTEMBER. CONTRACTOR TO SUSPEND EARTHWORKS OPERATIONS DURING HEAVY RAINFALLS.
8. MECHANICAL TREATMENT USING SAND FILTER AND FLOCSOCKS TO BE INSTALLED IF REQUIRED.

SEDIMENT CONTROL NOTES

1. DEVELOPER'S CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE SITE SILTATION CONTROL AS NECESSARY TO PREVENT THE RELEASE OF SILT LADEN WATERS FROM ENTERING ANY STORM SEWER AND DITCH SYSTEM.
2. DEVELOPER'S CONTRACTOR TO INSTALL TEMPORARY SITE SILTATION CONTROL TRAPS AT EACH CATCHBASIN WHICH ACCEPTS ANY SILT LADEN WATERS.
3. DEVELOPER'S CONTRACTOR TO INSTALL TEMPORARY GRAVEL BERM OR SILT FENCE BESIDE ALL CURB & GUTTER AREAS PRIOR TO EARTHWORKS ACTIVITY.
4. DEVELOPER'S CONTRACTOR TO PROPERLY INSTALL TEMPORARY SILT FENCE AROUND ALL STOCKPILES OR UNVEGETATED FILL AREAS.
5. DEVELOPER'S CONTRACTOR TO INSTALL DIVERSION SWALES FOR ALL SLOPES EXCEEDING 30m LENGTH.
6. DEVELOPER'S CONTRACTOR TO MAINTAIN SILTATION CONTROL TRAPS AS NECESSARY TO ENSURE TO PROPER OPERATION UNTIL UNTIL ALL CIVIL CONSTRUCTION FOR LOTS IS COMPLETED. AT TIME OF FINAL INSPECTION, CONTRACTOR TO CAP PIPE LEADS TO CATCHBASINS AND INFILL TRAPS, SWALES AND TO INSTALL ASPHALT CATCH BASIN SEDIMENT TRAPS.
7. DEVELOPER'S CONTRACTOR TO REMOVE SILT FROM ASPHALT CATCH BASIN SEDIMENT TRAPS ON A REGULAR AND AS–NEEDED BASIS UNTIL THE END OF THE MAINTENANCE PERIOD OR UNTIL 90% OF THE LOTS HAVE BEEN BUILT ON, WHICHEVER OCCURS LATER.
8. SITE DISCHARGE TO BE LIMITED TO 25 NTU AFTER NON–SIGNIFICANT & 75 NUT AFTER SIGNIFICANT RAINFALL EVENTS WEN PERMIT ISSUED.
9. EXPOSED SLOPES TO BE COVERED IN POLY PLASTIC IMMEDIATELY TO PREVENT CREATION OF SILT–LADEN RUNOFF. PERMANENT (AND TEMPORARY SLOPES TO BE LEFT FOR MORE THAN 30 DAYS WITHIN THE GROWING SEASON (PRIOR TO SEPTEMBER 15)) TO BE SEEDED AND COVERED WITH STRAW AT A MINIMUM RATE OF 5,000 kg/ha.
10. IN ADDITION TO WORKS DESCRIBED ABOVE, AREAS WITH SLOPING TERRAIN BETWEEN 20% AND 30% TO HAVE:
    - 10.1. INTERCEPTOR DITCHES AT 5 METER INTERVALS VERTICALLY
    - 10.2. SEDIEMENT CONTROL POND FOR 1.0% TOTAL DISTRIBUTED AREA, OR IN ACCORDANCE WITH A DESIGN WITH A REGISTERED PROFESSIONAL ENGINEER WITH ALL RUNOFF FROM THE DISTURBED AREA DIRECTED TO THE THE POND; AND
    - 10.3. AS REQUIRED FOR OTHER AREAS

STAGE 1

1. PRIOR TO ANY CLEARING OR EXCAVATION, THE SITE CONTRACTOR SHALL INSTALL SNOW FENCE AROUND THE PERIMETER OF THE WORK AREA AS SHOWN TO PREVENT ACCESS TO UNDISTURBED AREA (AS APPLICABLE).

STAGE 2

1. ALL SILT–LADEN WATER TO BE DIRECTED TO AND FLOW THROUGH SEDIMENT CONTROL PONDS.
2. EXPOSED SLOPES AND EARTH TO BE COVERED IMMEDIATELY TO PREVENT CREATION OF SILT–LADEN RUNOFF.
3. SEDIMENT CONTROL FACILITIES TO BE CHECKED FOR PROPER OPERATION AND MAINTAINED AS NECESSARY (MIN. ONCE PER WEEK).

STAGE 3

1. ALL CB SEDIMENT TRAPS TO BE REMOVED AND CONTENTS DISPOSED OF OFFSITE.
2. SEDIMENT TO BE REMOVED FROM SEDIMENT CONTROL POND (WITH VACUUM TRUCK) AND DISPOSED OF OFFSITE. POND TO BE BACKFILLED WITH GRANULAR MATERIAL.
3. TEMPORARY SNOW FENCE TO BE REMOVED.

GRAPHIC SCALE

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SCALE: 1:1000

REV. NO.	REVISIONS	DATE	DRAWN	APPR'D
A	FOR REVIEW	16/03/15	GP	–

FILENAME:

EROSION AND SEDIMENT CONTROL PLAN

DESIGN OF A SUBDIVISION IN MAPLE RIDGE, BC

DESIGN NO. ◆

				DWG. NO.
SCALE	1:1000	DATE	16–03–15	14A OF 44
DRAWN BY	GP	DESIGN BY	GP/GS/RR	
CHECKED BY	TP	APPROVED BY	–	
FIELD BOOK NO.				REV. A

DESTROY ALL PRINTS BEARING PREVIOUS NO. _____

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