

URBAN DEVELOPMENT - BAYWATER DRIVE WENTWORTH POINT
PLAN OF ROADWORKS & DRAINAGE
L.G.A. AUBURN COUNCIL

DESCRIPTION	EXISTING	PROPOSED	FUTURE
<p>ELECTRICITY (AERIAL, POWER POLE, POWER POLE & LIGHT, LIGHT POLE ELECTRICITY (UNDERGROUND), PILLAR, PIT TELECOMMUNICATION CABLE (UNDERGROUND), PIT, ACCESS PIT, PILLAR, EQUIPMENT HOUSING TELECOMMUNICATION CABLE AERIAL), POLE SHARED TELECOMMUNICATION ELECTRICITY WATER MAIN, RECEIVED WATER MAIN, WATER TANK, STOP VALVE GAS MAIN, METER, MARKER, VALVE SINKER MAIN, DRAINAGE CHAMBER, INSPECTION POINT, LAMP HOLE DRAINAGE PIPE, KERB INLET PIT, SEALED PIT, GRAATED PIT, DOWN PIPE, GUTTER OVERFLOW, SIGNAL (GENERAL), TRAFFIC LIGHT, TRAFFIC LIGHT CONTROL BOX, FENCE WATERCOURSE/TABLE DRAIN, EMANKMENT/BATTER, CONTOURS, LEVELS, TOP OF KERB LEVEL, KERB AND GUTTER, KERB AND GUTTER TO BE REMOVED</p>			

DRAWING INDEX			
DRG. NO.	SHEET NO	AMEND	SHEET DESCRIPTION
60123 T (THIS SHEET)	1		DRAWING TITLE SHEET & NOTES
60123 P	2		PLAN OF ROADWORKS AND DRAINAGE
60123 LS	3		LONG SECTION OF NIVOLARI PLACE AND MARINE DRIVE
60123 CS TYP	4		TYPICAL CROSS SECTIONS NIVOLARI PLACE AND MARINE DRIVE
60123 MFI	5		DETAIL OF INTERSECTION OF BAYWATER DRIVE AND MARINE DRIVE
60123 MFI2	6		DETAIL OF INTERSECTION OF MARINE DRIVE AND NIVOLARI PLACE
60123 MFI3	7		DETAIL OF INTERSECTION OF NIVOLARI PLACE AND MONZA DRIVE
60123 LUS	8		DRAINAGE LONG SECTIONS LINES 1, 2 & 3 NETWORK, 1, LINE 4 NETWORK, 2, LINE 5 NETWORK, 3
60123 HYD	9		HYDRAULIC AND HYDROLOGIC TABLES
60123 LM	10		LINE MARKING PLAN
60123 SW	11		SOIL AND WATER MANAGEMENT PLAN
60123 DET BASIN	12		BASIN DETAILS
60123 DET SW	13		SOIL & WATER MANAGEMENT DETAILS
60123 TURN	14		PLAN OF TRUCK TURNING PATHS

GENERAL NOTES

1. ALL WORK SHALL BE CARRIED OUT IN ACCORDANCE TO THE SPECIFICATION OF AUBURN COUNCIL'S (COUNCIL) SPECIFICATION FOR CONSTRUCTION OF SUBSISTENTIAL ROAD AND DRAINAGE WORKS
2. PRIOR TO COMMENCEMENT OF WORKS, COUNCIL IS TO BE ADVISED OF THE STATE OF KERB AND GUTTER/PAVEMENT ADJACENT TO THE SITE.
3. NO TREES SHALL BE REMOVED WITHOUT THE WRITTEN PERMISSION OF COUNCIL.
4. THE CONTRACTOR SHALL TAKE ALL DUE CARE TO USE THE ABSOLUTE MINIMUM AREA FOR CONSTRUCTION AND THAT NO UNDUE DAMAGE IS DONE TO THE EXISTING VEGETATION.
5. TRENCH EXCAVATION SHALL BE KEPT TO A MINIMUM WITHIN LOTS AND NO TRACKED MACHINERY SHALL BE USED FOR THIS PURPOSE.
6. PROVIDE 150mm OF APPROVED SITE TOPSOIL TO ALL BATTERS & DISTURBED AREAS AND REGRASS WITHIN 14 DAYS OF COMPLETION OF WORKS.
7. ALL EXPOSED AREAS TO BE STABILISED AS SOON AS PRACTICAL.
8. THE CONTRACTOR SHALL COMPLY WITH CONDITIONS, AND SPECIFICATIONS OF COUNCIL AND ALL ACTS OF THE NSW EPA.
9. THE CONTRACTOR'S SURVEYOR IS TO CHECK ALL CENTRELINE SET OUT AND LEVELS PRIOR TO CONSTRUCTION AND NOTIFY IF DIFFERENT.
10. ALL SURVEY LEVEL CONTROL, AND WAE IS TO BE DONE TO A.I.D. AND SIGNED BY A REGISTERED SURVEYOR.
11. A KERB IS REQUIRED AT THE TOP AND JOE OF ALL BATTERS WHERE THEY ABUT PRIVATE PROPERTY OR ANY ROAD BOUNDARY. THE WORKS SHALL NOT IMPACT ON ANY ADJOINING PROPERTIES.
12. PERMISSION IS TO BE OBTAINED IN WRITING FROM ADJOINING OWNERS PRIOR TO COMMENCING ANY CONSTRUCTION ON ADJOINING LANDS.
13. PAVEMENT DEPTHS TO MATCH EXISTING PAVEMENT UNLESS DIRECTED OTHERWISE BY COUNCIL OR THE GEOTECHNICAL ENGINEER. TESTING IS TO BE CARRIED OUT VIA A MATA LAB, SATISFACTORY TO COUNCIL.
14. ALL PAVEMENT MATERIALS SHALL CONFORM TO CURRENT RTA SPECIFICATION OR COUNCIL DIRECTION.
15. SERVICES HAVE BEEN PLOTTED FROM SITE INVESTIGATION. THE CONTRACTOR IS TO KEEP THE LOCATION AND LEVEL OF ALL SERVICES PRIOR TO COMMENCEMENT OF WORK.
16. THE CONTRACTOR SHALL TAKE ALL REASONABLE CARE TO PROTECT EXISTING SERVICES.
17. THE CONTRACTOR IS TO LAISE WITH THE SERVICE AUTHORITIES IN ORDER TO ADJUST THEIR SERVICES TO THE FINISH SURFACE LEVELS AS SHOWN ON THE DRAWINGS (REFER TO TYP. CROSS SECTION). THIS WORK IS TO BE DONE TO THE SATISFACTION OF THE RELEVANT SERVICE AUTHORITIES AND COUNCILS ENGINEER.
18. ALL COSTS ASSOCIATED WITH ALTERATIONS/ADJUSTMENTS TO SERVICES SHALL BE BORNE BY THE DEVELOPER.
19. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL COMPLY WITH THE MANAGING URBAN STORMWATER SOILS & CONSTRUCTION MANUAL, 4th EDITION (MARCH 2004)
20. CUT BATTERS STEEPER THAN 1 IN 4 SHALL BE FORMED IN COMPLIANCE WITH THE NSW DEPT. OF HOUSING MANUAL. (CURRENT EDITION AS AMENDED)
21. PUBLIC UTILITY STUD-MANS ARE TO BE INSTALLED PRIOR TO THE PREPARATION OF THE SUB-GRADE.
22. THE SUBGRADE IN ROCK IS TO BE RIPPED, SCARIFIED, SPREAD AND COMPACTED TO A MINIMUM DEPTH OF 300mm BELOW THE FINISHED SUBGRADE LEVEL.
23. WHERE THE SLOPE OF THE NATURAL SURFACE EXCEEDS ONE IN FOUR (1:4) AT FILL EMBANKMENTS OR AS REQUIRED BY COUNCIL'S ENGINEER, BENCHES ARE TO BE CUT TO PREVENT THE FILL MATERIAL SLIPPING.
24. ALL TABLE DRAINS ABOVE 5% LONGITUDINAL GRADE SHALL BE STABILISED TO COUNCIL SATISFACTION.
25. ALL STORMWATER PITS SHALL COMPLY WITH COUNCIL STD DRAWINGS AND SPECIFICATION. MIN. CONCRETE STRENGTH SHALL BE 20 MPa IN 28 DAYS.
26. ALL STORMWATER PIPES SHALL BE BACK FILLED TO COMPLY WITH COUNCIL SPECIFICATION.
27. ALL GROUND AND DRAINAGE TRENCHES ARE TO BE BACK FILLED WITH APPROVED WASHED RIVER SAND, FLOODED AND VIBRATED. COUNCIL TRENCHES ARE TO BE GRADED AT A MINIMUM OF 1% GRADE TO EITHER SUBSOIL OR STORM WATER DRAINS.
28. PRIOR TO COMMENCING ANY ROAD WORKS, THE CONTRACTOR IS TO ENGAGE AN ACCREDITED PERSON TO PREPARE A TRAFFIC CONTROL PLAN (TP) IN ACCORDANCE WITH RTA MANUAL, "TRAFFIC CONTROL AT WORK SITES" AND AUSTRALIAN STANDARD AS 1742.3 AND IMPLEMENT REQUIRED MEASURES. A COPY OF THE APPROVED TP IS TO BE KEPT ON SITE FOR THE DURATION OF WORKS IN ACCORDANCE WITH WORK COVER AUTHORITY REQUIREMENTS.
29. VEHICULAR ACCESS AND ALL SERVICES ARE TO BE MAINTAINED AT ALL TIMES TO ADJOINING PROPERTIES AFFECTED BY CONSTRUCTION WORKS.
30. ALL CONDUITS SHALL BE PLACED CLEAR OF VEHICULAR CROSINGS AND DRAINAGE PITS AND TO THE REQUIREMENTS OF THE RELEVANT AUTHORITY AT NO COST TO COUNCIL.
31. WATER CONDUITS SHALL BE PROVIDED WHERE DIRECTED BY THE SUPERINTENDENT AND MARKED 'W' ON KERB.
32. AGRICULTURAL LINES SHALL BE PLACED GENERALLY ON THE CUT SIDE OF ROADS OR WHERE DIRECTED BY COUNCIL.
33. MINIMUM FALL ON LOTS TO BE 1% AND EVENLY GRADED TO PREVENT PONDING.
34. WHERE KERB AND GUTTER IS LAID USING A KERB AND GUTTER MACHINE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR TAKING CORE SAMPLES, HAVING THEM TESTED AND COMPARING THE RESULTS TO COUNCIL. WHERE THE MINIMUM STRENGTH DOES NOT MEET THE COUNCIL'S STANDARD SPECIFICATIONS, THE CONTRACTOR SHALL REMOVE THE KERB AND GUTTER AT HIS OWN EXPENSE.
35. VEHICULAR CROSINGS SHALL BE ON THE LOW SIDE OF LOTS OR WHERE DIRECTED BY COUNCIL.
36. PERAMBULATOR CROSINGS TO BE PROVIDED IN ALL KERB RETURNS.
37. ALL NEW WORK IS TO MAKE A SMOOTH JUNCTION WITH EXISTING WORK.
38. GUIDE POSTS WITH ATTACHED REFLECTORS ARE TO BE PLACED WHERE DIRECTED.
39. NO WORK SHALL BE CARRIED OUT ON SUNDAYS.
40. CONSTRUCTION OF DRIVEWAYS ACROSS FOOTPATHS IS TO BE DEFERRED UNTIL ALL SERVICES ARE LAID.
41. SUITABLE WARNING SIGNS AND BARRICADES ARE TO BE PROVIDED IN ACCORDANCE WITH THE AUSTRALIAN STANDARDS AND AS DIRECTED BY THE RELEVANT AUTHORITY.
42. ALL RUBBISH, BUILDINGS, SHEDS AND FENCES ARE TO BE REMOVED AS DIRECTED.

FILING NOTES

- 1) LEVELS ARE TO BE TAKEN BY A REGISTERED SURVEYOR ACTING FOR THE PRINCIPAL, PRIOR TO THE PLACEMENT OF FILL AND AFTER SURFACE STRIPPING HAS OCCURRED (GEOTECHNICAL ENGINEER TO APPROVE SUBGRADE) LEVELS TO BE HAD AND SHOWN ON THE W.A.E. PLANS.
- 2) LEVELS VERRIFYING LAYER CONTROL, BY REGISTERED SURVEYOR REQUIRED AND SHOWN ON W.A.E. REDUCED LEVELS AT ALL TEST LOCATIONS WITH LOCATIONS CO-ORDS DEFINING SITE LOCATION.
- 3) BY ALL EXISTING FILL TO BE REMOVED, ASSESSED FOR SUITABILITY BY GEOTECH ENGINEER AND RECOMPACTED PER SPECIFICATION AS PER GENERAL NOTE 1
- 4) A WATA REGISTERED LAB APPOINTED BY THE APPLICANT SHALL UNDERTAKE TESTS ON ANY PROPOSED / REMOVED FILL MATERIAL TO ENSURE THAT THEY DO NOT HAVE A HIGH DISPERSION POTENTIAL, AS DEFINED BY THE EMERSON GRINDO DISPERSION TESTS (AS 1289 (2), (1-1980) AS AMENDED) IN THIS REGARD MATERIALS WITH EMERSON CLASS NUMBERS OF 12 & 83 SHALL NOT BE USED AS FILLING UNLESS THEY ARE TREATED IMPROVED PLACED AND HAVE PROTECTIVE MEASURES INSTALLED IN ACCORDANCE WITH A GEOTECHNICAL REPORT BY A WATA LAB AND ARE CERTIFIED ON COMPLETION BY THE LAB.
- 5) FILL MATERIAL WITH EMERSON CLASS NUMBERS 4 OR 5 MAY ALSO REQUIRE PROTECTIVE MEASURES AS DIRECTED BY THE LABORATORY.
- 6) FILL IN EXCESS OF 300mm IN DEPTH SHALL BE COMPACTED TO HAVE A STANDARD MAXIMUM DRY DENSITY RATIO IN THE RANGE 95% TO A MAXIMUM OF 102% AT -1% TO +3% OF STANDARD OPTIMUM MOISTURE CONTENT AS DETERMINED BY AS 1289.5.4.1, AS AMENDED.
- 7) ALL AREAS WHICH HAVE TEST RESULTS THAT DO NOT COMPLY WITH THE ABOVE REQUIREMENTS SHALL BE REMOVED AND RETESTED TO ENSURE COMPLIANCE.
- 8) E/ THE APPLICANT AND CONTRACTOR SHALL TAKE ALL REASONABLE PRECAUTIONS TO ENSURE THAT THE LAND AND ANY IMPORTED FILLING ARE FREE FROM ALL CONTAMINATION IN ACCORDANCE WITH THE ENVIRONMENTAL HEALTH FORUM, HEALTH BASED SOIL INVESTIGATION - SOIL SERIES NO 1 NOTE: EXISTING FILL TO BE CHECKED PRIOR TO REUSE.
- 9) F/ ALL PROPOSED EARTHWORKS INCLUDING STRIPPING, FILLING AND COMPACTION STANDARD COMPLIANCE AS FOLLOWS:
- 10) UNDERTAKEN IN ACCORDANCE WITH COUNCIL CURRENT STANDARDS PER GENERAL NOTE 1 ALL RELEVANT AUSTRALIAN STANDARDS FOR EARTHWORKS FOR COMMERCIAL AND RESIDENTIAL DEVELOPMENTS (AS AMENDED) ANY GEOTECHNICAL ENGINEER INSTRUCTIONS AND THE APPROVED CONSTRUCTION DRAWINGS.
- 11) SUPERVISED, MONITORED, INSPECTED, TESTED AND REPORTED ON IN ACCORDANCE WITH AS 3798 AS AMENDED LEVEL CONTROL, AND APPENDIX C REQUIREMENTS BY A WATA REGISTERED LAB APPOINTED BY THE APPLICANT TWO (2) COLLATED COPIES OF THE REPORT AND FILL PLAN SHALL BE FORWARDED TO COUNCIL ON COMPLETION OF PROJECT OR AS REQUIRED BY COUNCIL.
- 12) CERTIFIED BY THE LABORATORY UPON COMPLETION AS COMPLYING, SO FAR AS IT HAS BEEN ABLE TO DETERMINE WITH COUNCIL'S SPECIFICATION AND AS3798
- 13) COMPLETION TO THE SATISFACTION OF THE PRINCIPAL CERTIFYING AUTHORITY.
- SW1/ TRENCH EXCAVATION BENDING AND BACKFILLING OF PIPES SHALL BE CARRIED OUT IN ACCORDANCE WITH "CONCRETE PIPES ASSOCIATION OF AUSTRALASIA, CONCRETE PIPE SELECTION AND INSTALLATION MANUAL FOR PIPE TYPE T352" SUPPORT AND SPECIFICATION NO 07/96 AND TO COUNCIL SATISFACTION
- SW2/ ALL DRAINAGE PIPE USED WITHIN THE ROAD CARRIAGEWAY TO BE BACKFILLED WITH CLEAN SAND TO THE TOP OF THE SUBGRADE.
- SW2/ FILTER MATERIAL FOR SUB SOIL DRAIN SHALL BE NOM. 75MM SINGLE (75MM MAX) CLEAN AGGREGATE.
- SW4/ CLEANOUTS PER RITA STANDARD DRAWING AND R33.403.A SHALL BE PROVIDED AT 50M INTERVALS-APPROX.
- SW6/ ALL PITS DEEPER THAN 1.2M SHALL BE PROVIDED WITH STEP IRONS AT MAX. 300mm CENTRES AND STAGGERED.
- SW6/ ALL PITS SHALL BE BENCHING AND STREAMLINED.
- SW7/ ALL PITS SHALL BE TO COUNCIL OR RITA STANDARDS AND SPECIFICATIONS.
- SW8/ ALL PIPE SHALL BE RUBBER RING JOINTED
- SW9/ SAND BACKFILL SHALL BE SHARP CLEAN FILTER SAND PER RITA SPECIFICATION
- SW10/ ALL KERB INLET PITS TO HAVE GUTTER SLOTS TO COUNCIL SATISFACTION
- SW11/ PROVIDE A MINIMUM OF 100mm DIA. AGRICULTURAL LINE C. 1000 TO THE HIGH SIDE OF ALL STRUCTURES

STORMWATER DRAINAGE

- SW1/1. TREND EXCAVATION, BEDDING AND BACKFILLING OF PIPES SHALL BE CARRIED OUT IN ACCORDANCE WITH "CONCRETE PIPES ASSOCIATION OF AUSTRALASIA'S" CONCRETE PIPE SELECTION AND INSTALLATION MANUAL, FOR TYPE "HS2" SUPPORT AND SPECIFICATION NO 07/36 AND TO COUNCIL SATISFACTION
- SW2/1. ALL DRAINAGE PIPE USED WITHIN THE ROAD CARRIAGEWAY TO BE BACKFILLED WITH CLEAN SAND TO THE TOP OF THE SUBGRADE.
- SW3/1. FILTER MATERIAL, FOR SUB SOL. DRAIN SHALL BE NOM. 75MM SINGLE (75MM MAX) CLEAN AGGREGATE.
- SW4/1. CLEANOUTS PER RTA STANDARD DRAINING MD R33.40.1A SHALL BE PROVIDED AT 50M INTERVALS APPROX.
- SW5/1. ALL PITS DEEPER THAN 1.2M SHALL BE PROVIDED WITH STEP RINGS AT MAX. 300mm CENTRES AND STAGGERED.
- SW6/1. ALL PITS SHALL BE BENCHED AND STREAMLINED.
- SW7/1. ALL PITS SHALL BE TO COUNCIL OR RTA STANDARDS AND SPECIFICATIONS.
- SW8/1. ALL PIPES SHALL BE RUBBER RING JOINTED
- SW9/1. SAND BACKFILL SHALL BE SHARP CLEAN FILTER SAND PER RTA SPECIFICATION
- SW10/1. ALL KERB INLET PITS TO HAVE OUTER SLOTS TO COUNCIL SATISFACTION
- SW11/1. PROVIDE A MINIMUM OF 3 METRES OF 100mm DIA. AGRICULTURAL LINE CL 1000 TO THE HIGH SIDE OF ALL STRUCTURES

[illegible]

CLIENT:

HOMEBUSH BAY HOLDINGS Pty Limited

LEAN LACKENBY & HAYWARD
L'POOL PTY LTD
ABN 61 003 107 9774

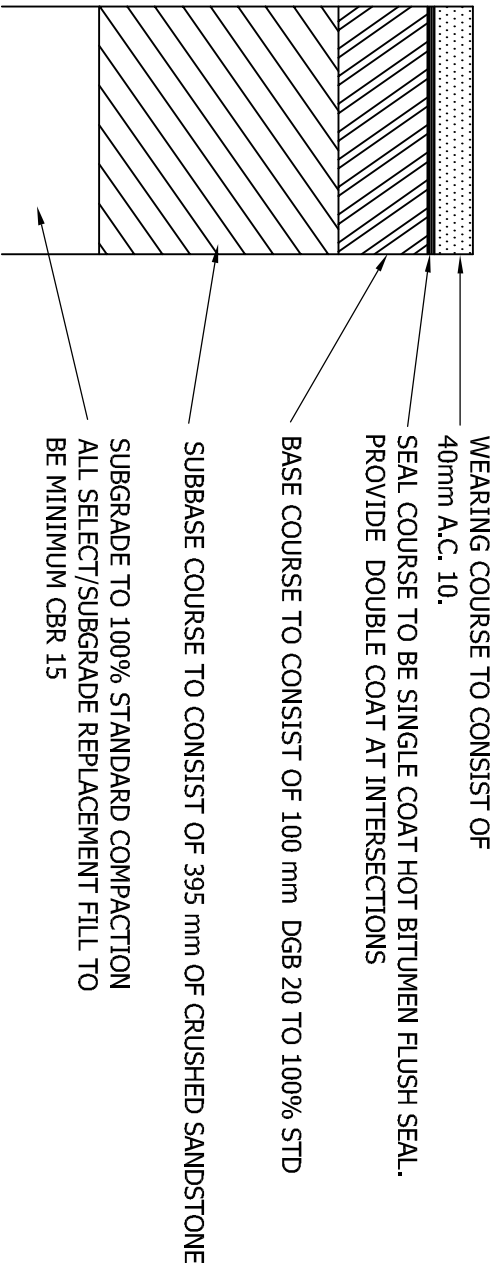
CONSULTANTS IN SURVEYING, ENGINEERING & LAND DEVELOPMENT

1ST FLOOR 209 NORTHUMBERLAND ST, LIVERPOOL PH:(02) 9602 1200 FAX:(02) 9600 6609
PO BOX 160 LIVERPOOL BC NSW 1871. EMAIL: llhpool@lbg.com.au

CHECKED & APPROVED BY: S. ABBOTT NOVEMBER 2015

JOB N° 60123

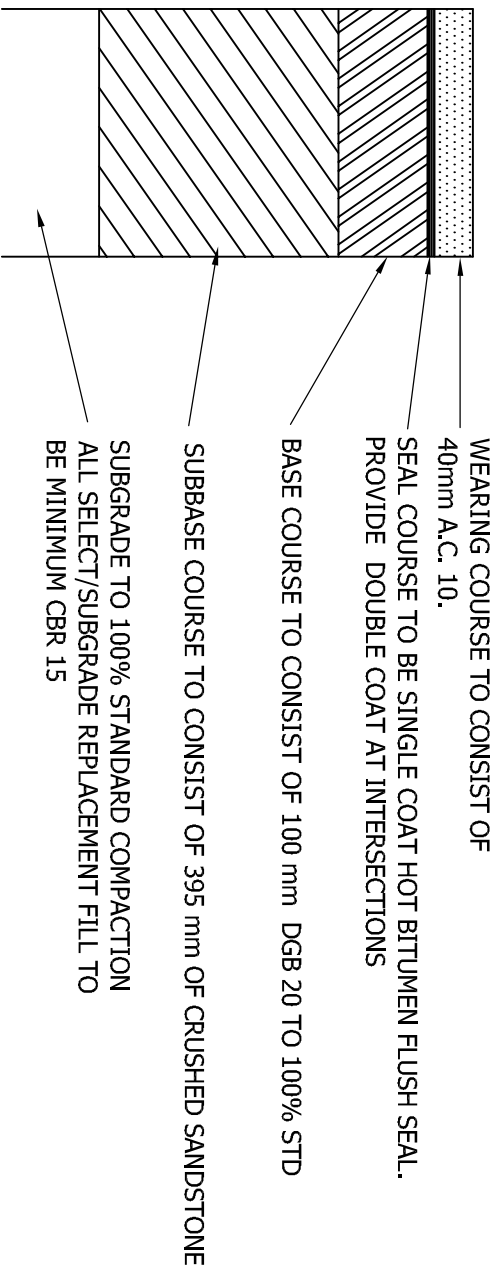
L.G.A.:	ALBUQUERQUE	SCALE	1:500 HORIZONTAL 1:100 VERTICAL
LOCALITY:	WENTWORTH POINT	PROPERTY DESCRIPTION:	SEE SHEET 1
SURVEY	AAH	DDAAM	BG
DESIGN	KB / AAH	APPROVED	SJA
		DATUM & ORIGIN OF LEVELS SEE SHEET 2	



PROPOSED PAVEMENT DETAIL - MARINE DRIVE

PROPOSED ROAD (TRAFFIC LOADING 3x10³)

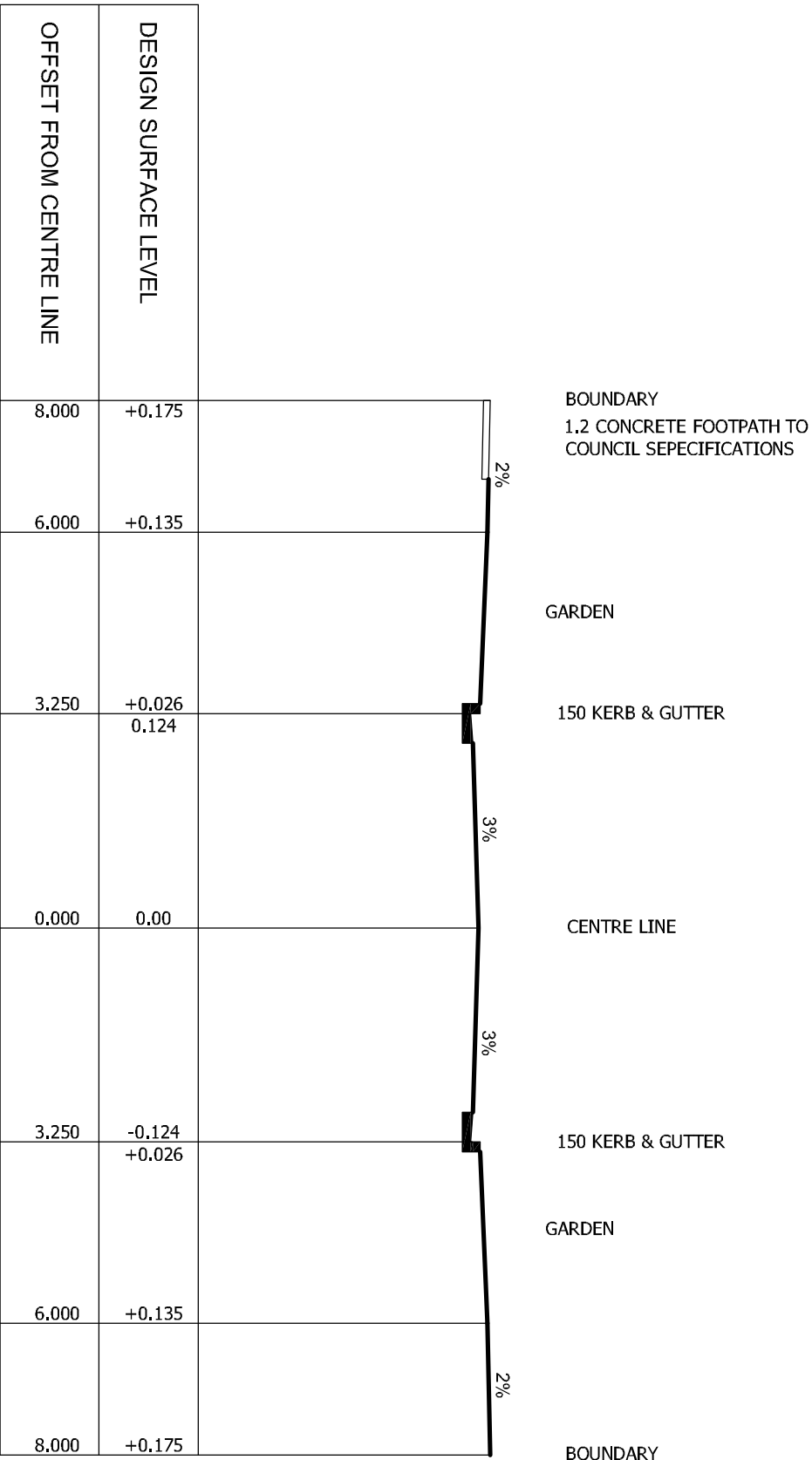
PAVEMENT SUBJECT TO TESTING VIA MATA LAB AND TO THE SATISFACTION OF AUBURN COUNCIL



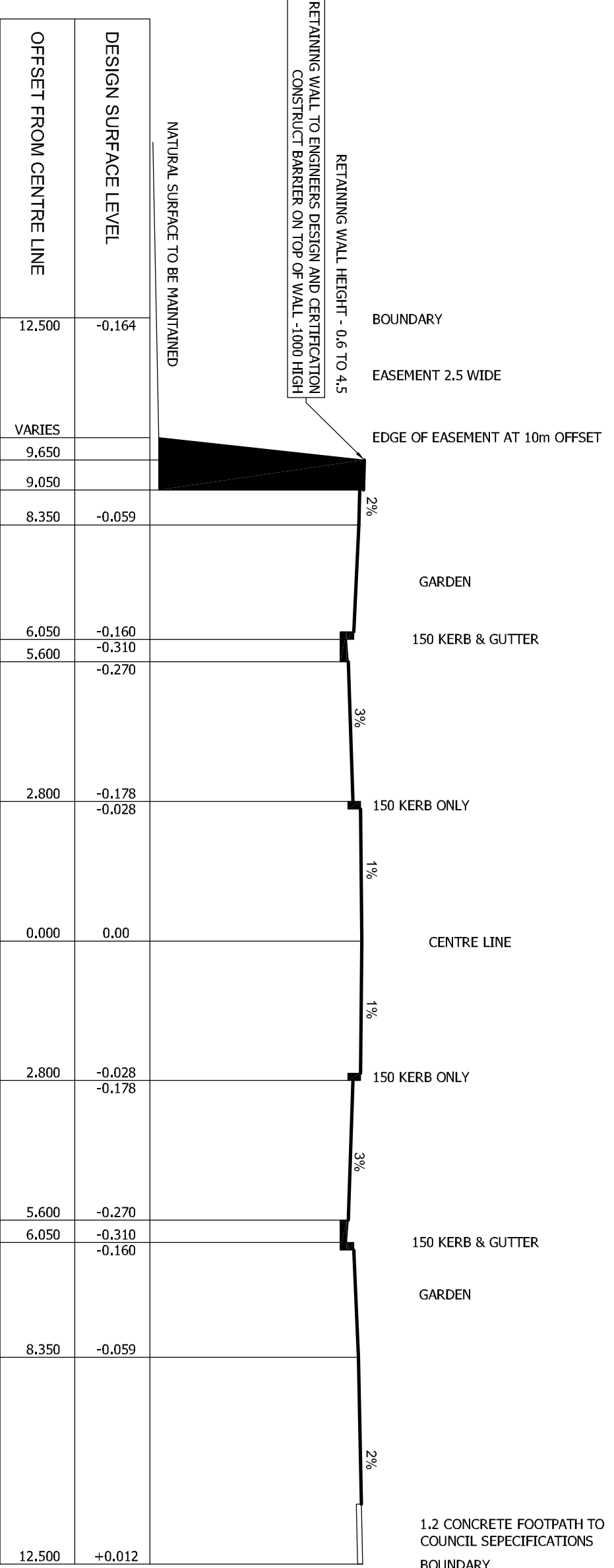
PROPOSED PAVEMENT DETAIL - NULOVARİ PLACE

PROPOSED ROAD (TRAFFIC LOADING 3x10³)

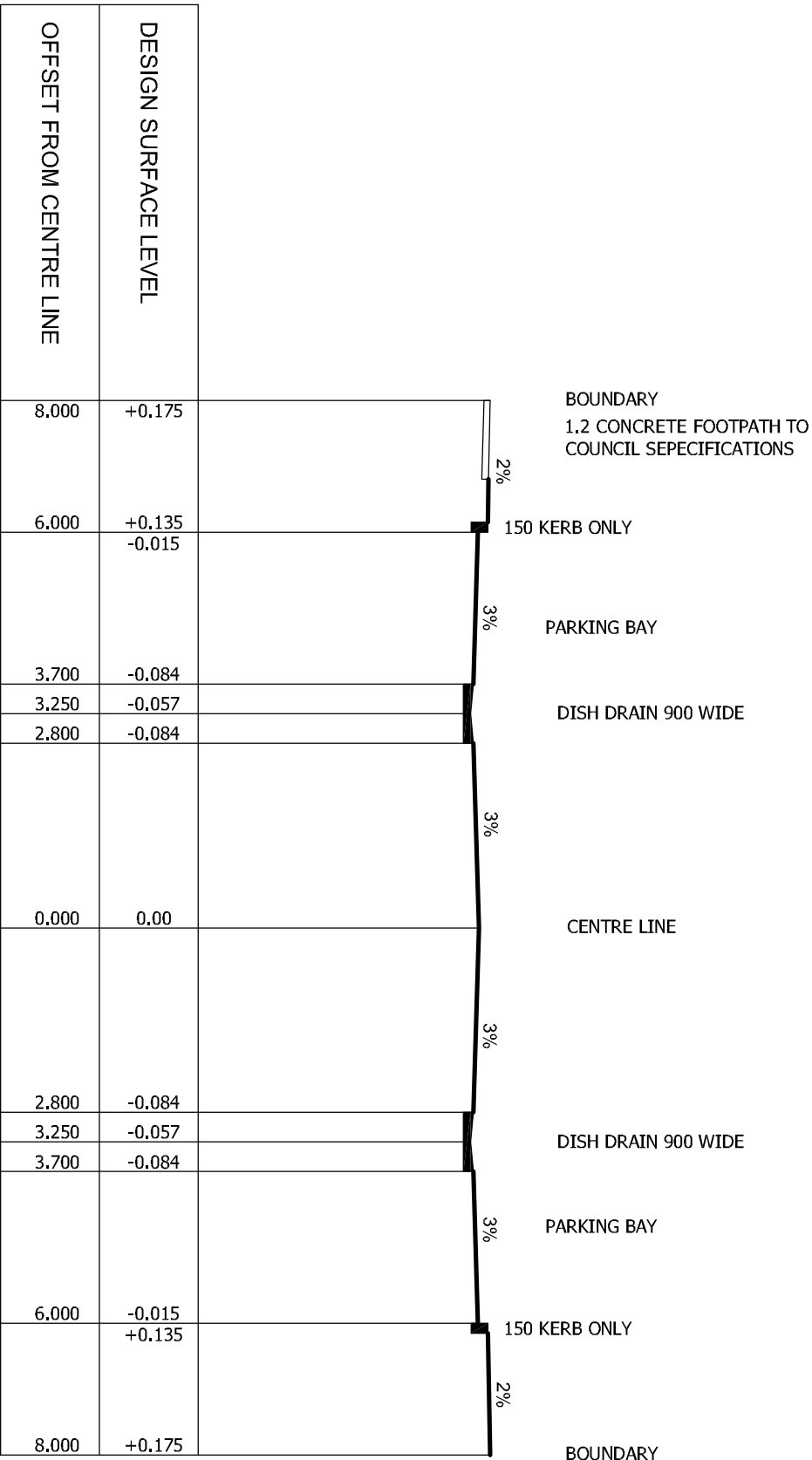
PAVEMENT SUBJECT TO TESTING VIA MATA LAB AND TO THE SATISFACTION OF AUBURN COUNCIL



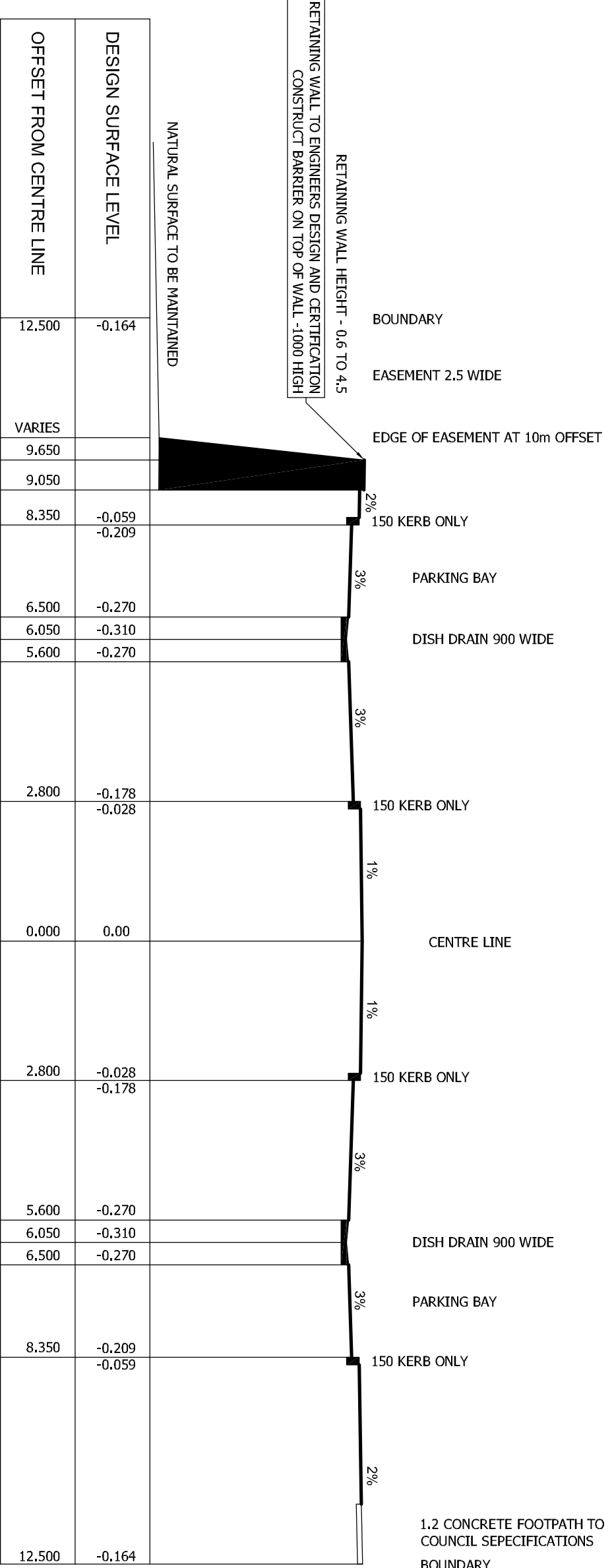
TYPICAL SECTION - MARINE DRIVE
(THROUGH ROAD)



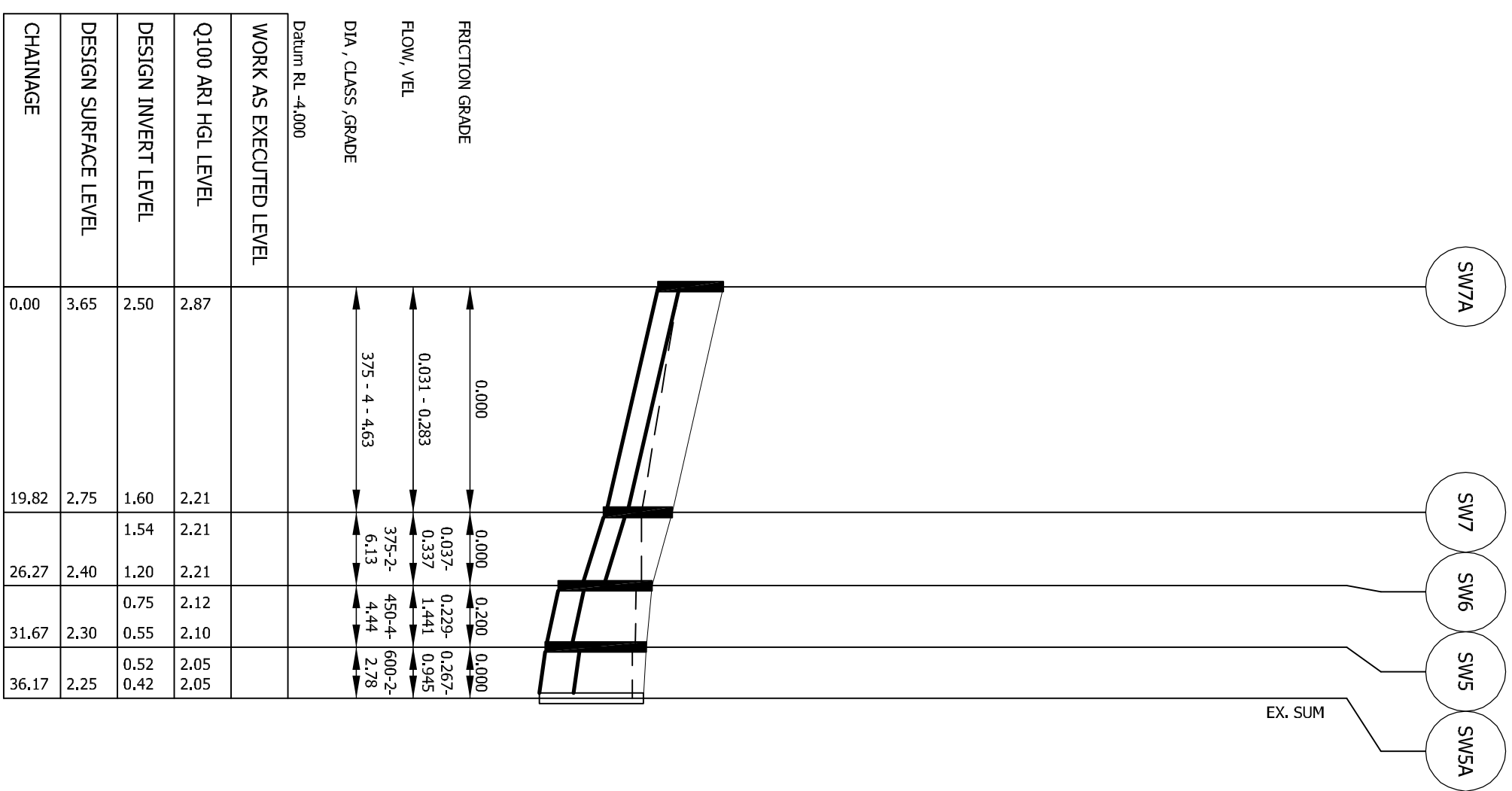
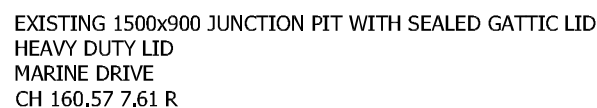
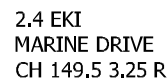
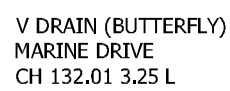
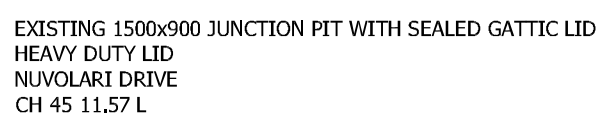
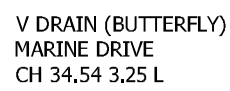
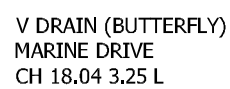
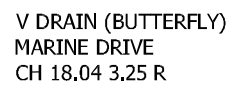
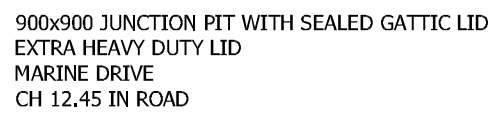
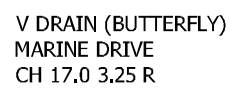
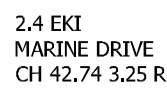
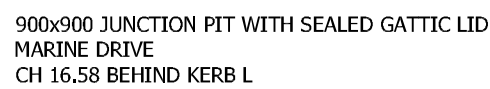
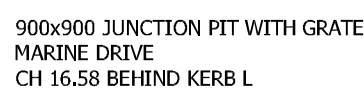
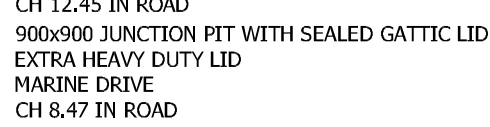
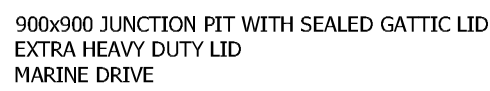
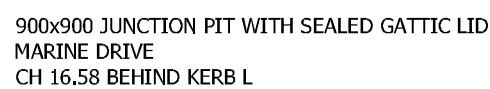
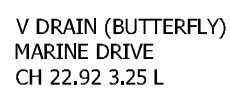
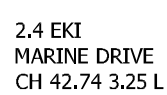
TYPICAL SECTION - NULOVARİ PLACE
(THROUGH ROAD)



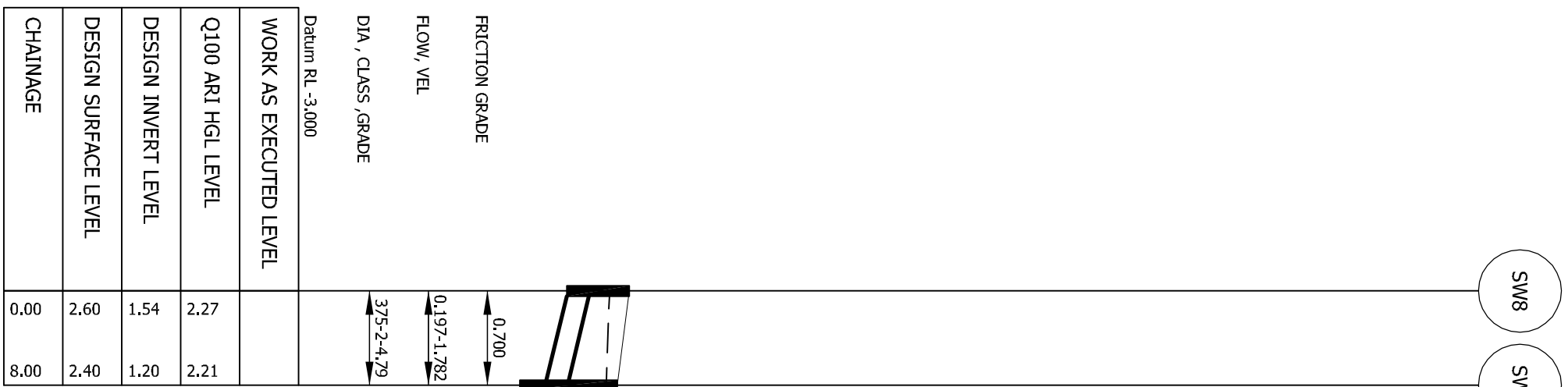
TYPICAL SECTION - MARINE DRIVE
(PARKING BAYS)



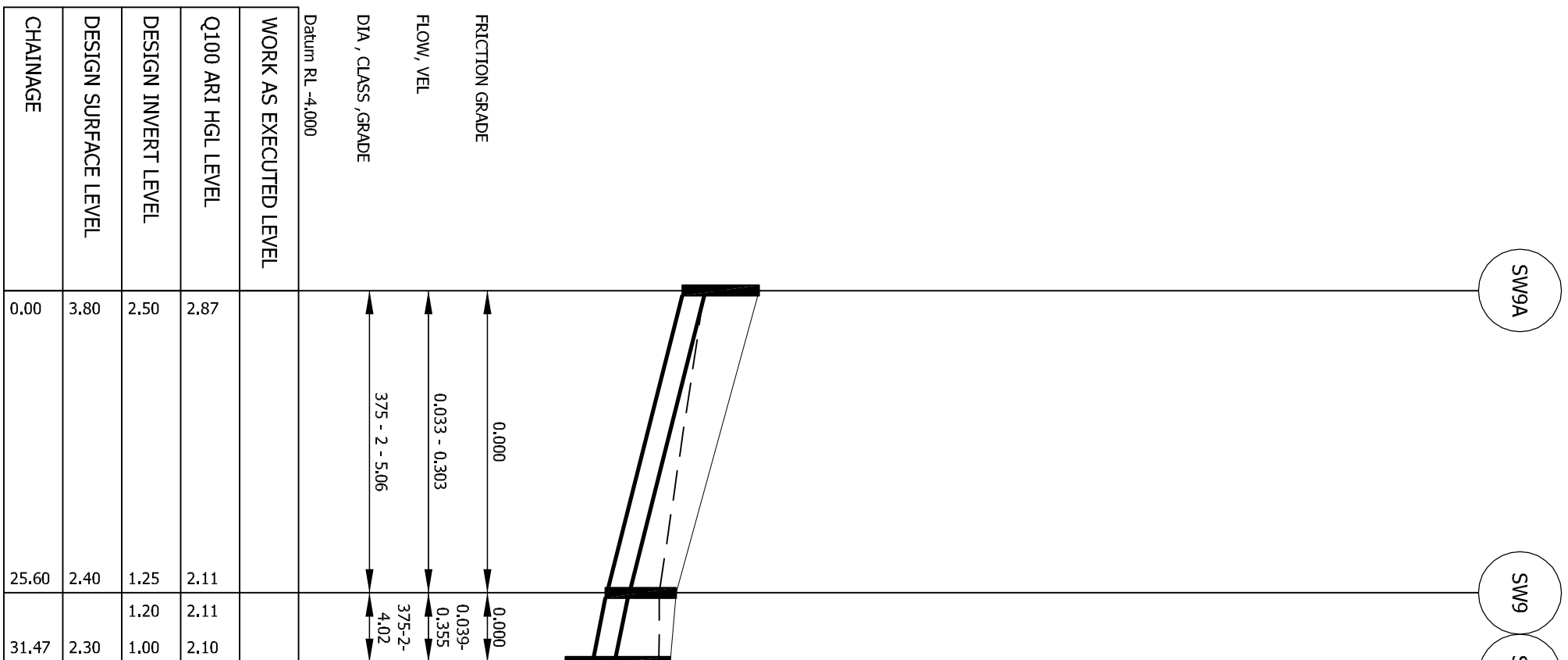
TYPICAL SECTION - NULOVARİ PLACE
(PARKING BAYS)



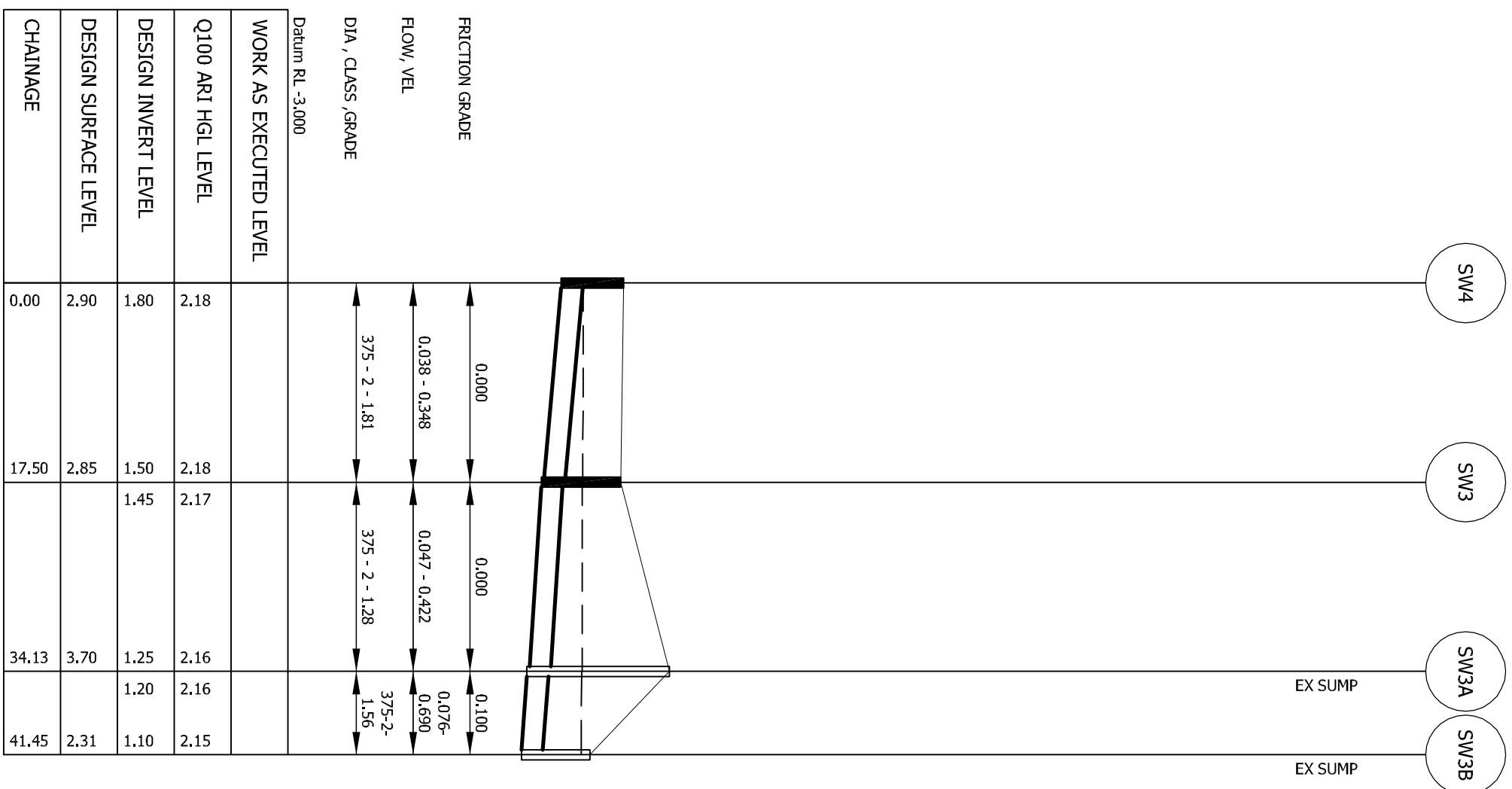
WORK AS EXECUTED LEVEL	Q100 ARI HGL LEVEL	DESIGN INVERT LEVEL	DESIGN SURFACE LEVEL	CHAINAGE
	2.87	2.50	3.65	0.00
	2.21	1.60	2.75	19.82
	2.21	1.54		26.27
	2.12	0.75		31.67
	2.10	0.55		36.17
	2.05	0.52		36.17
	2.05	0.42		



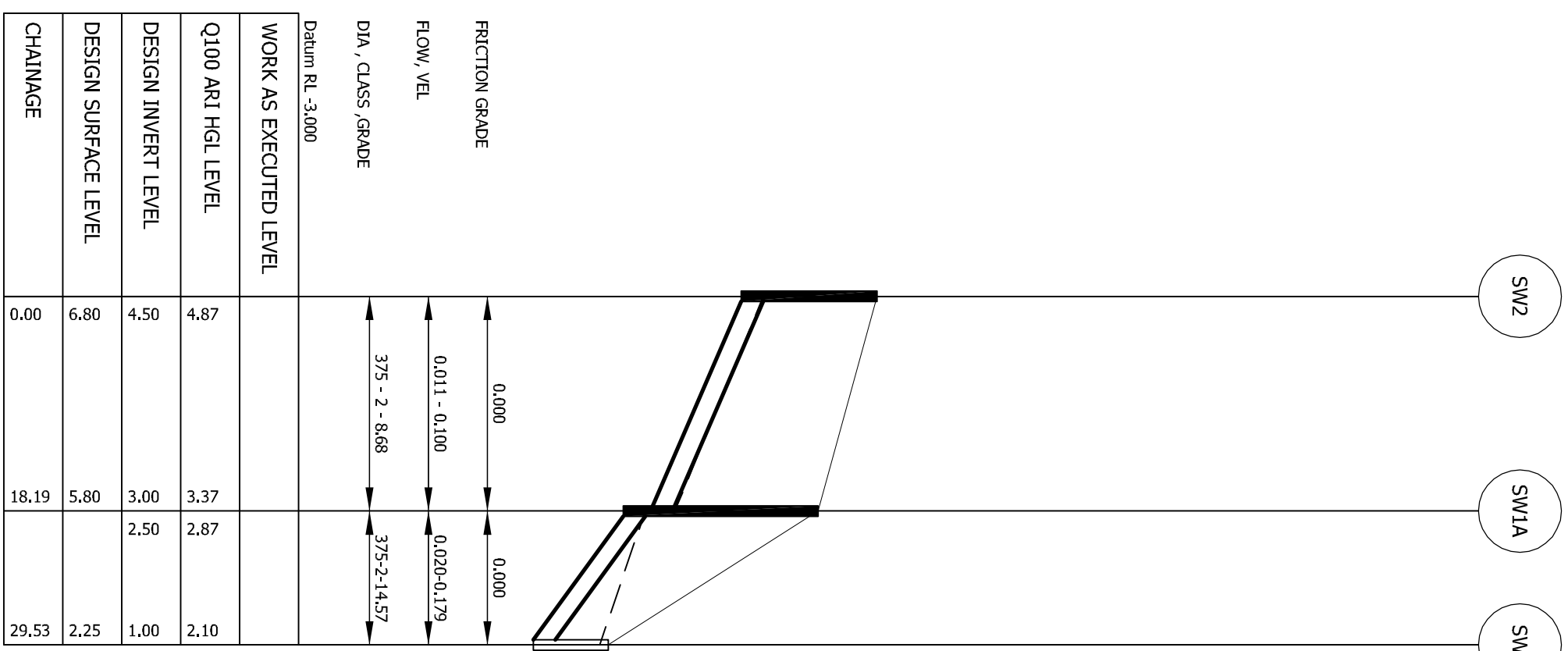
WORK AS EXECUTED LEVEL	
Q100 ARI HGL LEVEL	2.27
DESIGN INVERT LEVEL	1.54
DESIGN SURFACE LEVEL	2.60
CHAINAGE	8.00
	2.40
	1.20
	2.21



WORK AS EXECUTED LEVEL		DESIGN INVERT LEVEL		DESIGN SURFACE LEVEL		CHAINAGE	
2.87		2.50		3.80		0.00	
2.11		1.25		2.40		25.60	
2.11		1.20		2.30		31.47	
2.10		1.00					



WORK AS EXECUTED LEVEL		DESIGN LEVEL	
Q100 ARI HGL LEVEL	2.18	2.18	2.17
DESIGN INVERT LEVEL	1.80	1.50	1.25
DESIGN SURFACE LEVEL	2.90	2.85	3.70
CHAINAGE	0.00	17.50	34.13
			41.45



WORK AS EXECUTED LEVEL		
Q100 ARI HGL LEVEL	4.87	
DESIGN INVERT LEVEL	4.50	3.37
		2.87
DESIGN SURFACE LEVEL	6.80	3.00
		2.50
CHAINAGE	0.00	18.19
		29.53

LINE 1 NET 1

LINE 2 NET 1

LINE 3 NET 1

LINE 4 NET 2

LINE 5 NET 3

NET 1

HYDROLOGY TABLE NET 1															
	SUBCATCH NUMBER	RETURN PERIOD	IMPERVIOUS TC METHOD	IMPERVIOUS TC [MIN]	PERVIOUS TC METHOD	PERVIOUS TC [MIN]	TOTAL AREA [HA]	IMPERVIOUS AREA [HA]	TOTAL NET OVERFLOW [CMS]	LOCAL RUNOFF [CMS]	SURFACE APPROACH FLOW [CMS]	CAPTURED FLOW [CMS]	PRIMARY OVERFLOW [CMS]	CRITICAL RAINFALL INTENSITY [MM/HR]	CRITICAL TC [MIN]
SW5	1	1	Consistent	5	Consistent	5	0	0	0.16	0	0	0	0	83.833	5,528
	2	2	Consistent	5	Consistent	5	0	0	0.12	0	0	0	0	108.833	5,528
	1	10	0.25	5	0.25	5	0	0	0.25	0	0	0	0	151.279	5,525
	1	20	0.26	5	0.26	5	0	0	0.26	0	0	0	0	173.764	5,525
	1	100	0.3	5	0.3	5	0	0	0.3	0	0	0	0	201.765	5,525
SW9	1	1	Consistent	5	Consistent	5	0.015	0.015	0.01	0.003	0.003	0.003	0	84.44	5,427
	2	2	Consistent	5	Consistent	5	0.015	0.015	0.01	0.003	0.003	0.003	0	107.44	5,427
	1	10	0.03	5	0.03	5	0.004	0.004	0.004	0.004	0.004	0.004	0	152.16	5,427
	1	20	0.03	5	0.03	5	0.005	0.005	0.005	0.005	0.005	0.005	0	174.753	5,427
	1	100	0.04	5	0.04	5	0.006	0.006	0.006	0.006	0.006	0.006	0	201.88	5,427
SW6	1	1	Consistent	5	Consistent	5	0	0	0.11	0	0	0	0	64.373	5,438
	2	2	Consistent	5	Consistent	5	0	0	0.14	0	0	0	0	101.373	5,438
	1	10	0.17	5	0.17	5	0	0	0.17	0	0	0	0	154.059	5,438
	1	20	0.22	5	0.22	5	0	0	0.22	0	0	0	0	174.622	5,438
	1	100	0.26	5	0.26	5	0	0	0.26	0	0	0	0	201.766	5,438
SW7	1	1	Consistent	5	Consistent	5	0.015	0.015	0.01	0.003	0.003	0.003	0	85.018	5,433
	2	2	Consistent	5	Consistent	5	0.015	0.015	0.01	0.003	0.003	0.003	0	107.018	5,433
	1	10	0.02	5	0.02	5	0.005	0.005	0.005	0.005	0.005	0.005	0	153.027	5,433
	1	20	0.03	5	0.03	5	0.007	0.007	0.007	0.007	0.007	0.007	0	174.667	5,433
	1	100	0.04	5	0.04	5	0.008	0.008	0.008	0.008	0.008	0.008	0	203.065	5,433
SW6	1	2	Consistent	5	Consistent	5	0.44	0.44	0.12	0.121	0.121	0.121	0	110	5
	1	5	0.15	5	0.154	5	0.154	0.154	0.15	0.152	0.152	0.152	0	140	5
	1	10	0.19	5	0.192	5	0.192	0.192	0.19	0.187	0.187	0.187	0	182	5
	1	20	0.22	5	0.228	5	0.228	0.228	0.22	0.228	0.228	0.228	0	207	5
	1	100	0.25	5	0.252	5	0.252	0.252	0.25	0.252	0.252	0.252	0	229	5
SW7A	1	1	Consistent	5	Consistent	5	0.07	0.07	0.01	0.019	0.019	0.019	0	110	5
	2	2	Consistent	5	Consistent	5	0.07	0.07	0.01	0.019	0.019	0.019	0	140	5
	1	5	0.02	5	0.025	5	0.025	0.025	0.02	0.025	0.025	0.025	0	156	5
	1	10	0.02	5	0.027	5	0.027	0.027	0.02	0.027	0.027	0.027	0	171	5
	1	20	0.03	5	0.03	5	0.036	0.036	0.026	0.036	0.036	0.036	0	207	5
SW8A	1	1	Consistent	5	Consistent	5	0.075	0.075	0.02	0.021	0.021	0.021	0	110	5
	2	2	Consistent	5	Consistent	5	0.075	0.075	0.02	0.021	0.021	0.021	0	140	5
	1	5	0.02	5	0.025	5	0.025	0.025	0.02	0.025	0.025	0.025	0	156	5
	1	10	0.02	5	0.029	5	0.029	0.029	0.026	0.029	0.029	0.029	0	176	5
	1	20	0.03	5	0.039	5	0.039	0.039	0.03	0.039	0.039	0.039	0	207	5
1	100	0.04	5	0.04	5	0.04	0.04	0.04	0.04	0.04	0.04	0	229	5	

NET 2

HYDROLOGY TABLE NET 2															
	SUBCATCH NUMBER	RETURN PERIOD	IMPERVIOUS TC METHOD	IMPERVIOUS TC [MIN]	PERVIOUS TC METHOD	PERVIOUS TC [MIN]	TOTAL AREA [HA]	IMPERVIOUS AREA [HA]	TOTAL NODE OUTFLOW [CMS]	LOCAL RUNOFF [CMS]	SURFACE APPROACH FLOW [CMS]	CAPTURED FLOW [CMS]	PRIMARY OUTFLOW [CMS]	CRITICAL RAINFALL INTENSITY [MM/HR]	CRITICAL TC [MIN]
SW3A	1	2	Constant	5	Constant	5	0.07	0.07	0.016	0.016	0.016	0.016	0.016	136.87	5.569
	2	5													
	5	5													
	10	5													
	20	5													
SW3	1	20	Constant	5	Constant	5	0.02	0.02	0.009	0.009	0.009	0.009	226.066	5.569	
	2	5													
	5	5													
	10	5													
	20	5													
SW4	1	150	Constant	5	Constant	5	0.086	0.086	0.011	0.011	0.011	0.011	226.066	5.569	
	2	5													
	5	5													
	10	5													
	20	5													
1	100	Constant	5	Constant	5	0.04	0.04	0.049	0.049	0.049	0.049	229	5		
2	5														
5	5														
10	5														
20	5														

NET 3

HYDROLOGY TABLE NET 3															
	SUBCATCH NUMBER	RETURN PERIOD	IMPERVIOUS TC METHOD	IMPERVIOUS TC [MIN]	PERVIOUS TC METHOD	PERVIOUS TC [MIN]	TOTAL AREA [HA]	IMPERVIOUS AREA [HA]	TOTAL NODE OUTFLOW [CMS]	LOCAL RUNOFF [CMS]	SURFACE APPROACH FLOW [CMS]	CAPTURED FLOW [CMS]	PRIMARY OVERFLOW [CMS]	CRITICAL RAINFALL INTENSITY [MM/HR]	CRITICAL TC [MIN]
SW1A	1	5	Consistent	5	Consistent	5	0.02	0.02	0.01	0.004	0.004	0.004	0.004	85.181	5.303
	2	5	Consistent	5	Consistent	5	0.02	0.02	0.01	0.004	0.004	0.004	0.004	133.271	5.303
	3	5	Consistent	5	Consistent	5	0.02	0.02	0.01	0.004	0.004	0.004	0.004	158.271	5.303
	4	5	Consistent	5	Consistent	5	0.02	0.02	0.01	0.004	0.004	0.004	0.004	158.271	5.303
	10	5	Consistent	5	Consistent	5	0.02	0.06	0.06	0.06	0.06	0.06	0.06	158.271	5.303
	20	5	Consistent	5	Consistent	5	0.02	0.06	0.06	0.06	0.06	0.06	0.06	175.968	5.303
	50	5	Consistent	5	Consistent	5	0.02	0.06	0.06	0.06	0.06	0.06	0.06	224.766	5.303
	100	5	Consistent	5	Consistent	5	0.02	0.11	0.11	0.11	0.11	0.11	0.11	224.766	5.303
	1	5	Consistent	5	Consistent	5	0.05	0.05	0.005	0.005	0.005	0.005	0.005	87	5
	2	5	Consistent	5	Consistent	5	0.05	0.05	0.005	0.005	0.005	0.005	0.005	140	5
SW2	1	5	Consistent	5	Consistent	5	0.05	0.05	0.009	0.009	0.009	0.009	0.009	27.9	5
	2	5	Consistent	5	Consistent	5	0.05	0.05	0.009	0.009	0.009	0.009	0.009	27.9	5
	10	5	Consistent	5	Consistent	5	0.05	0.05	0.01	0.01	0.01	0.01	0.01	27.9	5
	20	5	Consistent	5	Consistent	5	0.05	0.05	0.01	0.01	0.01	0.01	0.01	27.9	5
	50	5	Consistent	5	Consistent	5	0.05	0.05	0.01	0.01	0.01	0.01	0.01	27.9	5
	100	5	Consistent	5	Consistent	5	0.05	0.05	0.01	0.01	0.01	0.01	0.01	27.9	5
	1	5	Consistent	5	Consistent	5	0.01	0.01	0.014	0.014	0.014	0.014	0.014	229	5
	2	5	Consistent	5	Consistent	5	0.01	0.01	0.014	0.014	0.014	0.014	0.014	229	5
	10	5	Consistent	5	Consistent	5	0.01	0.01	0.014	0.014	0.014	0.014	0.014	229	5
	20	5	Consistent	5	Consistent	5	0.01	0.01	0.014	0.014	0.014	0.014	0.014	229	5

HYDRAULIC TABLE NET 1

HYDRAULIC TABLE NET 1																					
	SUBCATCH NUMBER	RETURN PERIOD	TOTAL LENGTH [M]	PIPE COLEBROOK - WHITE K [MM]	PIPE MANNINGS N	PIPE DIAMETER [M]	PIPE CLASS	INVERT LEVEL (US) [M]	INVERT LEVEL (DS) [M]	PIPE U/S H/GSL [M]	PIPE D/S H/GSL [M]	PIPE FLOW [CMS]	PIPE U/S VELOCITY [M/S]	MANHOLE TYPE	HGL COEFFICIENT (KU)	WSL COEFFICIENT (KW)	CONSTANT INLET CAPACITY [CUMEC]	PIT INFLOW [CMS]	MAX WATER LEVEL [M]	COVER LEVEL [M]	WATER SURFACE LEVEL [M]
SW6 - SW6A (lmsk)	1	1	4.5	0.6	0.012	0.6	2	0.52	0.42	2.05	2.05	0.159	0.392	Other	1.2	1.2	0.05	0	2.3	2.3	2.063
	1	2								2.051	2.05	0.164	0.392	Other	1.2	1.2	0	0			2.071
	1	3								2.051	2.05	0.164	0.392	Other	1.2	1.2	0	0			2.071
	1	10								2.051	2.05	0.233	0.627	Other	1.2	1.2	0	0			2.062
	1	20								2.051	2.05	0.267	0.95	Other	1.2	1.2	0	0			2.066
SW7 - SW7A (lmsk)	1	1	6.45	0.6	0.012	0.375	2	1.54	1.2	2.098	2.098	0.018	0.164	Manhole 03	5	5	0.08	0.017	2.75	2.75	2.089
	1	2								2.112	2.112	0.068	0.307	Other	5	5	0.022	0			2.103
	1	10								2.15	2.149	0.032	0.254	Other	5	5	0.03	0.033			2.159
	1	20								2.215	2.213	0.337	0.937	Other	5	5	0.036	0.216			2.216
	1	50								2.215	2.213	0.337	0.937	Other	5	5	0.036	0.216			2.216
SW8 - SW8A (lmsk)	1	1	8	0.6	0.012	0.375	2	1.54	1.2	2.101	2.088	0.086	0.666	Other	0.45	0.45	0.5	0.096	2.6	2.6	2.116
	1	2								2.133	2.112	0.121	1.095	Other	0.45	0.45	0.121	0.095			2.118
	1	5								2.185	2.149	0.154	1.394	Other	0.45	0.45	0.154	0.154			2.227
	1	10								2.238	2.238	0.154	1.394	Other	0.45	0.45	0.154	0.154			2.238
	1	20								2.242	2.268	0.228	2.061	Other	0.45	0.45	0.228	0.228			2.249
SW6 - SW6A (lmsk)	1	1	5.4	0.6	0.012	0.45	4	0.75	0.55	2.076	2.071	0.191	1.135	Other	0.9	0.9	0.05	0	2.4	2.4	2.142
	1	2								2.091	2.064	0.179	1.135	Other	0.9	0.9	0	0			2.119
	1	5								2.118	2.106	0.259	1.455	Other	0.9	0.9	0	0			2.213
	1	10								2.14	2.125	0.265	1.682	Other	0.9	0.9	0	0			2.268
	1	20								2.172	2.071	0.264	0.418	Manhole 07	0.4	0.4	0.08	0.004	2.4	2.4	2.073
SW9 - SW9A (lmsk)	1	1	5.875	0.6	0.012	0.375	2	1.2	1	2.072	2.071	0.024	0.18	Manhole 07	0.4	0.4	0.08	0.004	2.4	2.4	2.073
	1	2								2.086	2.084	0.03	0.277	Other	0.4	0.4	0.005	0			2.086
	1	5								2.105	2.105	0.03	0.277	Other	0.4	0.4	0.005	0			2.105
	1	10								2.109	2.107	0.038	0.355	Other	0.4	0.4	0.007	0			2.109
	1	20								2.126	2.126	0.044	0.41	Other	0.4	0.4	0.008	0			2.13
SW7A - SW7 (lmsk)	1	1	19.82	0.6	0.012	0.375	4	2.5	1.6	2.128	2.143	0.049	0.454	Manhole 02	0.4	0.4	0.008	0.008	3.6	3.65	2.148
	1	2								2.875	2.113	0.019	0.174	Manhole 02	5	5	0.08	0.019			2.883
	1	5								2.875	2.151	0.024	0.221	Other	5	5	0.024	0.024			2.887
	1	10								2.875	2.116	0.027	0.246	Other	5	5	0.027	0.027			2.885
	1	20								2.875	2.116	0.027	0.246	Other	5	5	0.027	0.027			2.885
SW8A - SW8 (lmsk)	1	1	26.6	0.6	0.012	0.375	2	2.5	1.25	2.875	2.875	0.03	0.186	Manhole 01	5	5	0.08	0.026	3.6	3.6	2.881
	1	2								2.875	2.875	0.03	0.186	Manhole 01	5	5	0.08	0.026			2.881
	1	5								2.875	2.875	0.03	0.186	Manhole 01	5	5	0.08	0.026			2.881
	1	10								2.875	2.875	0.03	0.186	Manhole 01	5	5	0.08	0.026			2.881
	1	20								2.875	2.875	0.03	0.186	Manhole 01	5	5	0.08	0.026			2.881
SW9A - SW9 (lmsk)	1	1	29.3	0.6	0.012	0.375	2	2.5	1.25	2.875	2.875	0.03	0.186	Manhole 01	5	5	0.08	0.026	3.6	3.6	2.881
	1	2								2.875	2.875	0.03	0.186	Manhole 01	5	5	0.08	0.026			2.881
	1	5								2.875	2.875	0.03	0.186	Manhole 01	5	5	0.08	0.026			2.881
	1	10								2.875	2.875	0.03	0.186	Manhole 01	5	5	0.08	0.026			2.881
	1	20								2.875	2.875	0.03	0.186	Manhole 01	5	5	0.08	0.026			2.881

HYDRAULIC TABLE NET 2

HYDRAULIC TABLE NET 2																					
	SUBCATCH NUMBER	RETURN PERIOD	TOTAL LENGTH [M]	PIPE COLEBROOK - WHITE K [MM]	PIPE MANNINGS N	PIPE DIAMETER [M]	PIPE CLASS	INVERT LEVEL (US) [M]	INVERT LEVEL (DS) [M]	PIPE I/D S/HGL [M]	PIPE D/S/HGL [M]	PIPE FLOW [CMS]	PIPE U/S FLOW [M/S]	MANHOLE TYPE	HGL COEFFICIENT (KU)	WSL COEFFICIENT (KW)	CONSTANT INLET CAPACITY [CUMEC]	PIT FLOW [CMS]	MAX WATER LEVEL [M]	COVER LEVEL [M]	WATER SURFACE LEVEL [M]
SWK - SWK (IMB5)	1	2	17.3	0.6	0.012	0.3/3	2	1.8	1.5	2.175	2.162	0.10	0.485	Manhole 02	5	5	0.1	0.029	2.9	2.92	2.184
	1	5								2.175	2.169	0.04	0.212		5	5		0.03		2.184	
	1	10								2.182	2.176	0.03	0.193		5	5		0.02		2.182	
	1	20								2.182	2.176	0.038	0.246		5	5		0.036		2.182	
	1	50								2.196	2.189	0.044	0.402		5	5		0.044	2.85	2.87	2.196
SWK - SWK (IMB7)	1	100	7.5	0.6	0.012	0.3/3	2	1.45	1.25	2.2	2.202	0.105	0.535	Other	0.9	0.9	0.1	0.005	2.85	2.87	2.2
	1	2								2.159	2.157	0.046	0.421		0.9	0.9		0.005		2.159	
	1	10								2.154	2.148	0.036	0.384		0.9	0.9		0.002		2.154	
	1	20								2.162	2.156	0.038	0.402		0.9	0.9		0.002		2.162	
	1	50								2.174	2.167	0.076	0.855		0.9	0.9		0.009		2.174	
SWK - SWK (IMB2)	1	100								2.182	2.175	0.047	0.511		0.9	0.9		0.011		2.182	
	1	2								2.154	2.148	0.036	0.384		0.9	0.9		0.002		2.154	
	1	10								2.162	2.156	0.038	0.402		0.9	0.9		0.002		2.162	
	1	20								2.174	2.167	0.076	0.855		0.9	0.9		0.009		2.174	
	1	50								2.182	2.175	0.047	0.511		0.9	0.9		0.011		2.182	
SWK - SWK (IMB2)	1	1	7.32	0.6	0.012	0.3/3	2	1.2	1.1	2.152	2.15	0.107	0.533	Manhole 07	0.4	0.4	0.1	0.015	2.6	2.6	2.152
	1	2								2.153	2.15	0.047	0.424		0.4	0.4		0.019		2.153	
	1	10								2.158	2.15	0.06	0.459		0.4	0.4		0.02		2.158	
	1	20								2.168	2.16	0.06	0.469		0.4	0.4		0.02		2.168	
	1	50								2.182	2.174	0.076	0.855		0.4	0.4		0.026		2.182	
SWK - SWK (IMB2)	1	1								2.162	2.15	0.066	0.601		0.4	0.4		0.039		2.162	
	1	2								2.162	2.15	0.066	0.601		0.4	0.4		0.039		2.162	
	1	10								2.162	2.15	0.066	0.601		0.4	0.4		0.039		2.162	
	1	20								2.162	2.15	0.066	0.601		0.4	0.4		0.039		2.162	
	1	100								2.192	2.18	0.09	0.98		0.4	0.4		0.039		2.192	

HYDRAULIC TABLE NET 3

HYDRAULIC TABLE NET 3																					
	SUBCATCH NUMBER	RETURN PERIOD	TOTAL LENGTH [M]	PIPE COLEBROOK - WHITE K [MM]	PIPE MANNINGS N	PIPE DIAMETER [M]	PIPE CLASS	INVERT LEVEL (US) [M]	INVERT LEVEL (DS) [M]	PIPE U/S V HGL [M]	PIPE D/S V HGL [M]	PIPE FLOW [CMS]	PIPE U/S VELOCITY [M/S]	MANHOLE TYPE	HGL COEFFICIENT (KU)	WSL COEFFICIENT (KWA)	CONSTANT INLET CAPACITY [CUMEC]	PIT INFLOW [CMS]	MAX WATER LEVEL [M]	COVER LEVEL [M]	WATER SURFACE LEVEL [M]
SWZ - SWA (link1)	3	1	11.345	0.6	0.012	0.375			1	2.675	2.1	0.01	0.087	Manhole 03	0.2	0.2	0.08	0.004	5.65	5.8	2.675
	3	2								2.875	2.1	0.01	0.087	Manhole 03	0.2	0.2	0.08	0.005	5.65		2.875
	3	3								2.875	2.1	0.01	0.156	Manhole 03	0.2	0.2	0.006	0.001	5.65		2.875
	3	10								2.875	2.1	0.017	0.156	0.2	0.2	0.006	0.006	2.875		2.875	
	3	20								2.875	2.1	0.02	0.178	0.2	0.2	0.009	0.009	2.875		2.875	
	3	30								2.875	2.1	0.03	0.191	0.2	0.2	0.011	0.011	2.875		2.875	
	3	40								2.875	2.1	0.04	0.204	0.2	0.2	0.013	0.013	2.875		2.875	
	3	100								2.875	2.1	0.055	0.228	0.2	0.2	0.015	0.015	2.875		2.875	
	3	1	18.19	0.6	0.012	0.375			3	4.875	3.375	0.005	0.045	Manhole 02	5	0.08	0.005	6.65	6.8	4.875	
	3	2								4.875	3.375	0.009	0.076	5	5	0.009	0.009	4.875		4.875	
SWZ - SWA (link2)	1	5								4.875	3.375	0.01	0.088	5	5	0.01	0.01	4.877		4.877	
	1	10								4.875	3.375	0.01	0.088	5	5	0.01	0.01	4.875		4.875	
	1	20								4.875	3.375	0.011	0.11	5	5	0.011	0.011	4.875		4.875	
	1	30								4.875	3.375	0.011	0.11	5	5	0.011	0.011	4.875		4.875	
	1	40								4.875	3.375	0.011	0.11	5	5	0.011	0.011	4.875		4.875	
	1	50								4.875	3.375	0.011	0.11	5	5	0.011	0.011	4.875		4.875	
	1	60								4.875	3.375	0.011	0.11	5	5	0.011	0.011	4.875		4.875	
	1	70								4.875	3.375	0.011	0.11	5	5	0.011	0.011	4.875		4.875	
	1	80								4.875	3.375	0.011	0.11	5	5	0.011	0.011	4.875		4.875	
	1	100								4.875	3.375	0.014	0.129	5	5	0.014	0.014	4.879		4.879	

⑤ EASEMENT FOR SEWERAGE PURPOSES, WATER SUPPLY WORKS, ACCESS AND DRAINAGE VARIABLE WIDTH (DP268663)

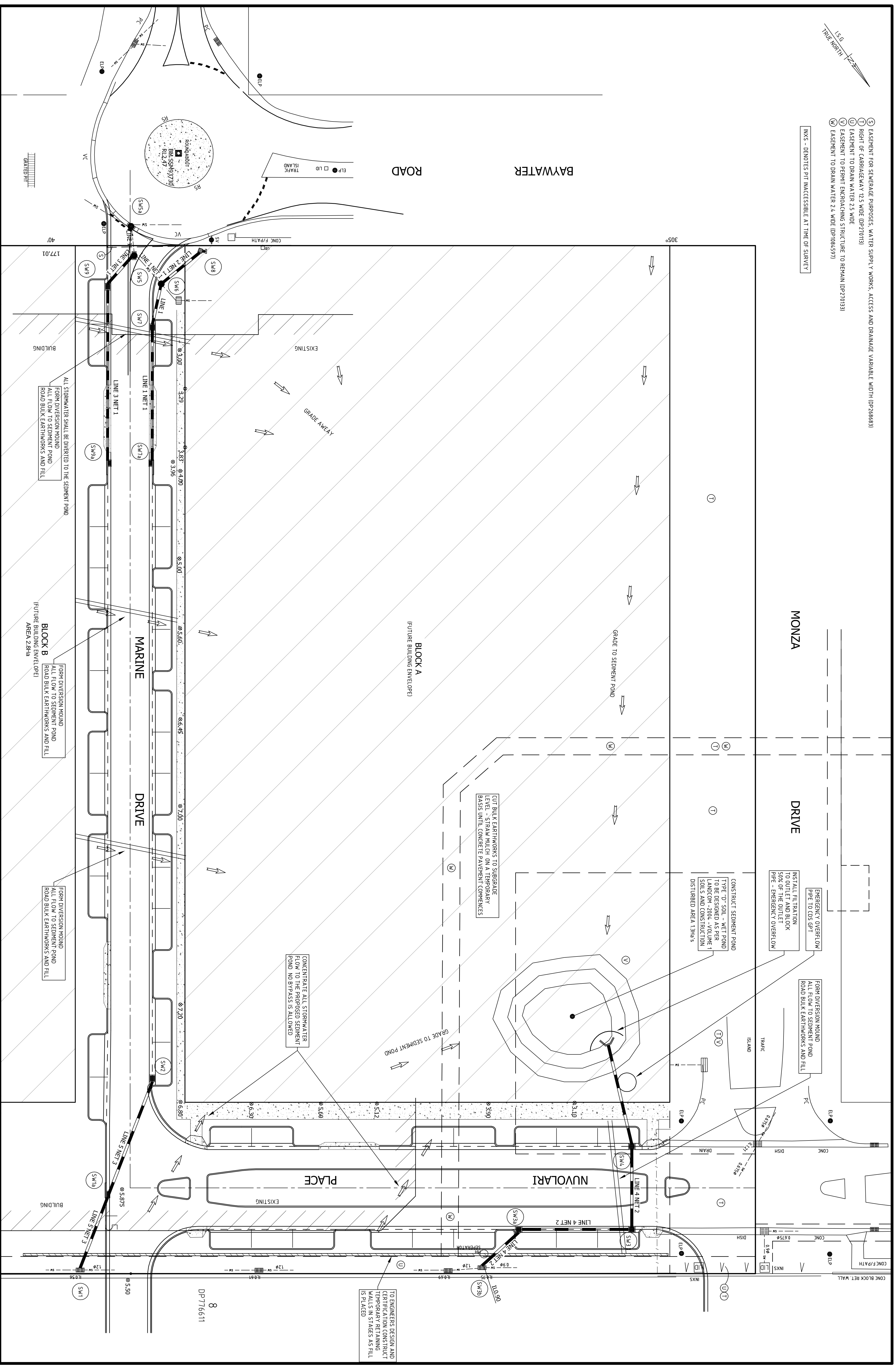
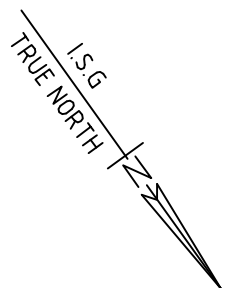
① RIGHT OF CARRIAGEWAY 12.5 WIDE (DP270113)

④ EASEMENT TO DRAIN WATER 2.5 WIDE

⑤ EASEMENT TO PERMIT ENCROACHING STRUCTURE TO REMAIN (DP270133)

(W) EASEMENT TO DRAIN WATER 2.4' WIDE (DP1084597)

INXS - DENOTES PIT INACCESSIBLE AT TIME OF SURVEY



LEAN LACKENBY & HAYWARD
CONSULTANTS IN SURVEYING, ENGINEERING & LAND DEVELOPMENT
1ST FL, 209 NORTHUMBERLAND ST., LIVERPOOL, PH: (02) 9602 1200 FAX: (02) 9600 6661
PO BOX 1660 LIVERPOOL, BC NSW 1871 EMAIL: llh@llool.com.au

L'POOL PTY LTD.
ABN 61 003 107 977

[illegible]

24	30	49	55	TABLE OF mm	100	119	150	180	194

L.G.A.	ALBUQUERQUE		SCALE	1:250
LOCALITY:	WENTWORTH POINT		PROPERTY DESCRIPTION: SEE SHEET 1	
SURVEY	AMH	DRAWN	DATE & ORIGIN OF LEVELS	
DESIGN	KB	APPROVED	SEE SHEET 2	

DATE	SHEET	DRAWING NUMBER	ARENO	FILE
NOV 2015	11 of 14	60123 SW		60123

SOIL & WATER MANAGEMENT PLAN



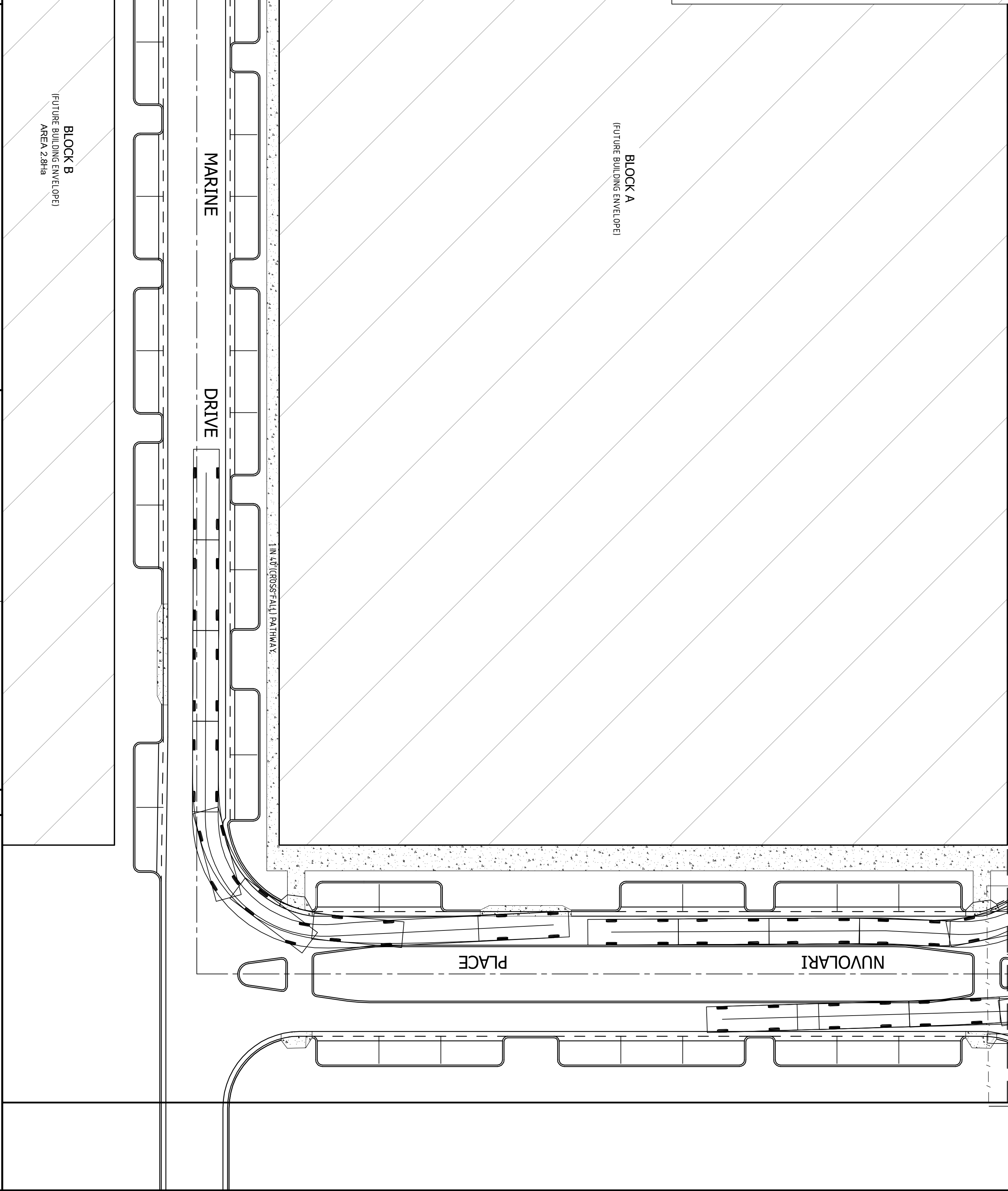
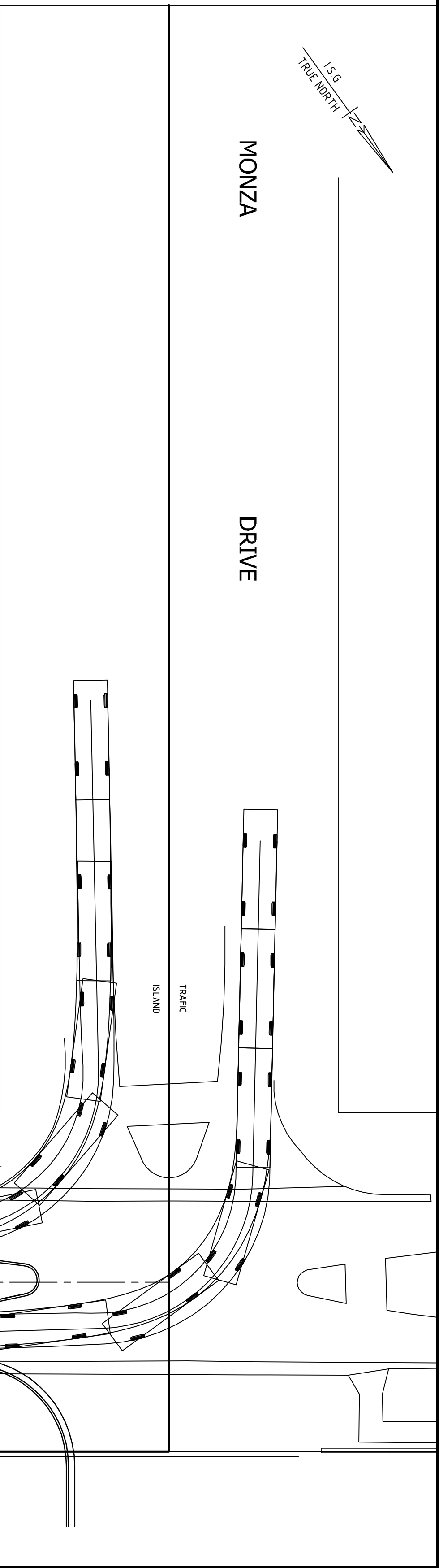
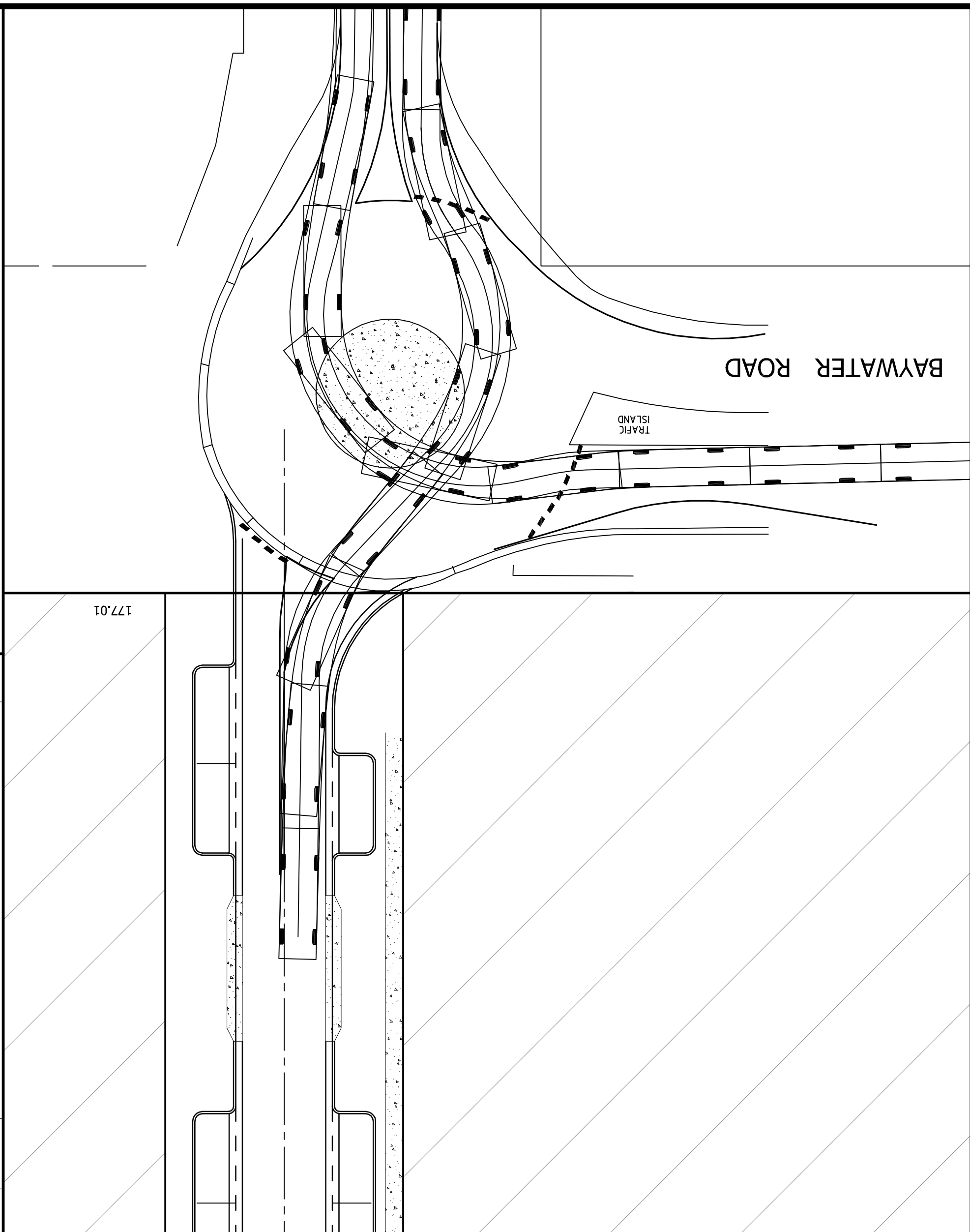
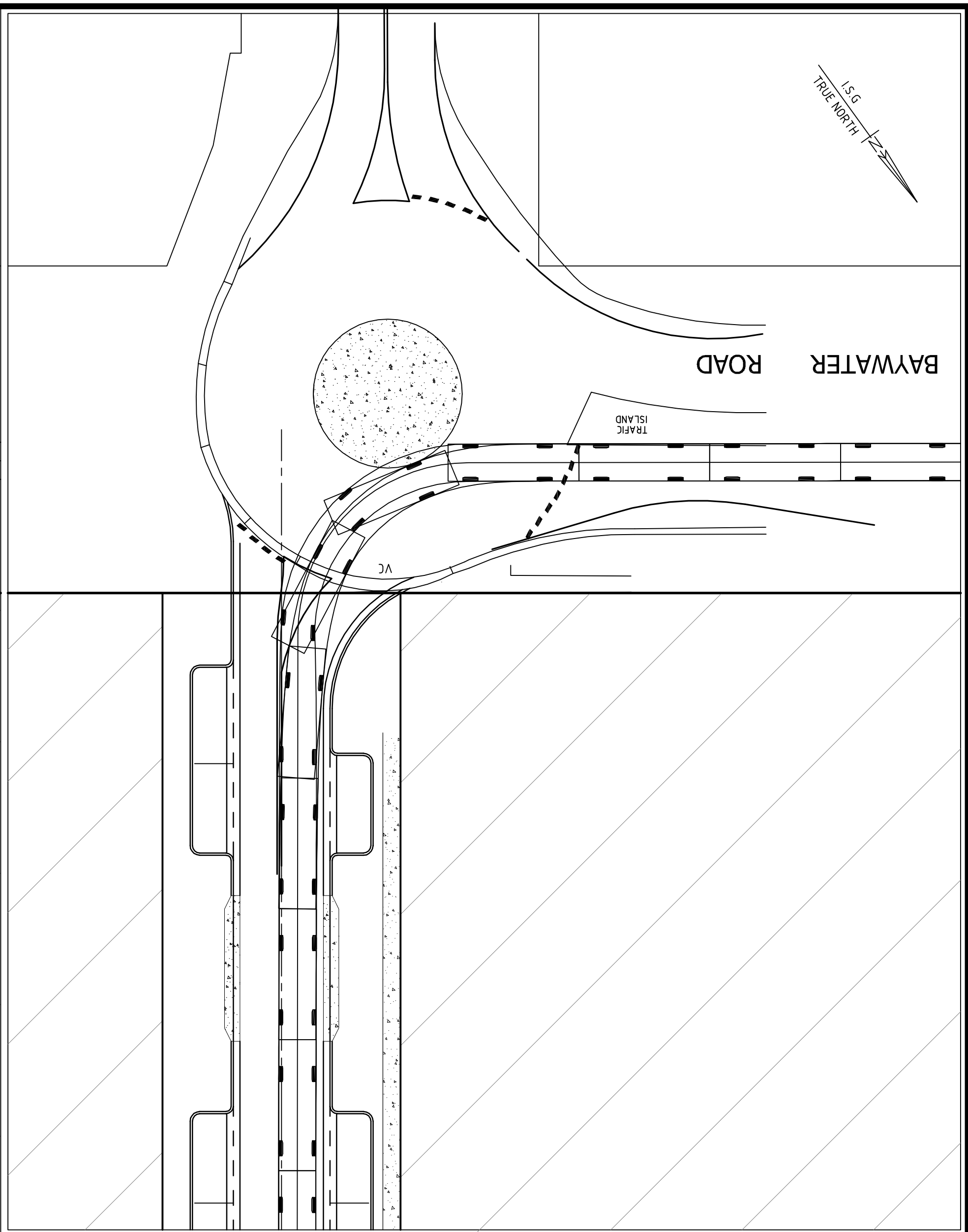

[illegible]

TABLE OF mm											15	20	25	30	40	50	100	110	120	130	140	

L.G.#		AUBURN		SCALE		1:250		A1			
LOCALITY: WENTWORTH POINT				PROPERTY DESCRIPTION: SEE SHEET 1							
SURVEY		AMH		DRAIN		BC		DATUM & ORIGIN OF LEVELS			
DESIGN		KB		APPROVED		AMH		SEE SHEET 2			

PLAN OF TRUCK TUNING PATHS				
DATE	SHEET	DRAWING NUMBER	AMEND	
NOV 2015	14 of 14	60123 TURN	FILE: No:	60123