

STAGE 2 DRAINAGE CHANNEL WORKS
COUNCIL REF: SSD-9138102
DEVELOPMENT APPLICATION

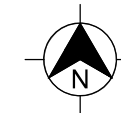
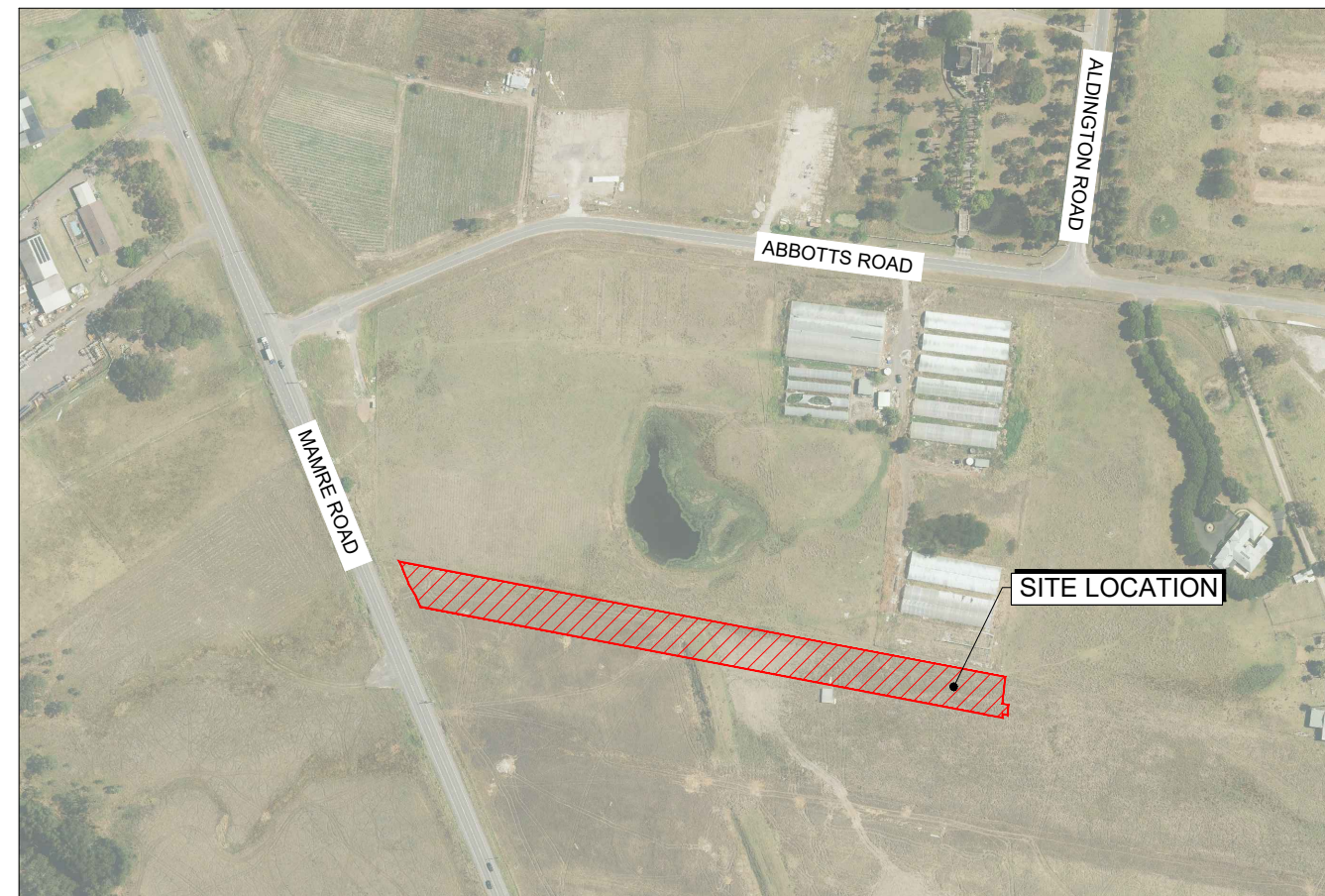


IMAGE REF: METROMAP - 03/01/23

LOCALITY SKETCH
SCALE N.T.S

A	ISSUE FOR DA APPROVAL	DG	DG	PM	PM
	AMENDMENT	DES	DRN	CKD	APR DATE

J. WYNDHAM PRINCE
CONSULTING CIVIL INFRASTRUCTURE ENGINEERS & PROJECT MANAGERS

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CLIENT:



STATUS:

STATUS: **ISSUE FOR
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WESTLINK - ALDINGTON ROAD, KEMPS CREEK
STAGE 2 DRAINAGE CHANNEL WORKS
COVER SHEET

AZIMUTH: M.G.A. 20

0	DATUM: A.H.D.
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ORIGIN:

PLAN No:	110965-04-CD001
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PROJECT No:

110965-04

SHEET No:

CD001

A

Plotted: 5 October, 2023 3:01:35 PM File Name: J:\110965 - WestlinkK04 - Stage 2 Stormwater Design\Civil Design\DA\110965-04-CD002.dwg

LEGEND			
DESCRIPTION	PROPOSED	EXISTING	FUTURE
EXTENT OF WORKS			
KERB & GUTTER			
ROLL KERB			
PRAM RAMP			
DRAINAGE LINE, PIT & EASEMENT			
DRAINAGE LINE & PIT			
HEADWALL			
CONTOURS			
KERB RETURN No			
ELECTRICITY, POWER POLE			
TELECOM, BOX			
WATER, STOP VALVE, HYDRANT			
SEWER, MANHOLE			
GAS			
STREET NAME SIGNS			
STATE SURVEY MARKS			
RETAINING WALLS			
STABILISED SITE ACCESS & WHEEL WASH BAY			
SEDIMENT FENCE			
CATCH DRAIN			
STRAW BALE BARRIER			
STOCKPILE			
MESH AND GRAVEL INLET FILTER			
GEOTEXTILE INLET FILTER			

GENERAL NOTES

- ALL WORKS ARE TO BE IN ACCORDANCE WITH PENRITH CITY COUNCIL'S DESIGN GUIDELINES AND CONSTRUCTION SPECIFICATION (CURRENT VERSION) & SYDNEY WATER'S DESIGN GUIDELINES..
- SURVEY MARKS: -
 - SURVEY MARKS SHOWN THUS SHALL BE RETAINED AT ALL TIMES. WHERE RETENTION IS NOT POSSIBLE THE SUPERINTENDENT MUST BE NOTIFIED AND CONSENT RECEIVED PRIOR TO THEIR REMOVAL.
- THE CONTRACTOR SHALL LOCATE AND LEVEL ALL EXISTING SERVICES PRIOR TO COMMENCING CONSTRUCTION AND MAKE ARRANGEMENTS WITH THE RELEVANT AUTHORITY TO RELOCATE OR ADJUST IF NECESSARY.
- THE CONTRACTOR SHALL NOT ENTER UPON NOR DO ANY WORK WITHIN ADJACENT LANDS WITHOUT THE WRITTEN PERMISSION OF THE OWNERS. TO BE PROVIDED PRIOR TO THE APPROVAL OF THE PLANS.
- THE CONTRACTOR SHALL MAINTAIN SERVICES AND ALL WEATHER ACCESS AT ALL TIMES TO ADJOINING PROPERTIES.
- NO TREE SHALL BE FELLED, LOPPED OR REMOVED WITHOUT THE PRIOR APPROVAL OF COUNCIL'S ENGINEER.
- TREES TO BE RETAINED ON SITE SHALL BE PROTECTED BY SUITABLE STURDY APPROVED PROTECTIVE FENCING PRIOR TO COMMENCEMENT OF SITE WORKS.
- THE CONTRACTOR SHALL CLEAR THE SITE BY REMOVING ALL RUBBISH, FENCES, OUT-HOUSES, CAR BODIES AND DEBRIS ETC.
- FILLING IS TO BE FROM A NOMINATED SOURCE, OF SOUND CLEAN MATERIAL, FREE FROM LARGE ROCK, STUMPS, CONTAMINATED MATTER, INDUSTRIAL AND BUILDING WASTE, ORGANIC MATTER AND OTHER DEBRIS. PLACING OF FILLING ON THE PREPARED AREAS SHALL NOT COMMENCE UNTIL THE AUTHORITY TO DO SO HAS BEEN OBTAINED FROM THE COUNCIL.
- SITE FILL AREAS: - THE CONTRACTOR SHALL TAKE LEVELS OF EXISTING SURFACE AFTER STRIPPING TOPSOIL AND PRIOR TO COMMENCING FILL OPERATIONS.
- ALL SITE FILLING TO BE COMPACTED TO 95% STANDARD COMPACTION AND SHALL BE CONTROLLED BY A REGISTERED SOIL LABORATORY IN ACCORDANCE WITH COUNCIL'S "WORKS SPECIFICATION".
- ALL SITE REGRADING AREAS SHALL BE GRADED AT A MINIMUM 1% TO THE ENGINEER'S REQUIREMENTS.
- SURPLUS EXCAVATED MATERIAL SHALL BE PLACED WHERE DIRECTED BY THE SUPERINTENDENT.
- VEHICULAR CROSSINGS SHALL BE CONSTRUCTED IN KERB AND GETTER WHERE SHOWN.
- ALL NEW WORKS SHALL MAKE A SMOOTH JUNCTION WITH EXISTING CONDITIONS.
- DIMENSIONS OF ANY DETAIL SHALL NOT BE SCALED - DIMENSIONS, IF IN DOUBT, SHALL BE VERIFIED BY THE SUPERINTENDENT.
- ALL CONSTRUCTION AND RESTORATION WORK ON COUNCIL'S ROAD AND FOOTPATH AREA ARE TO BE CARRIED OUT IN ACCORDANCE WITH THE APPROVED DRAWINGS AND COUNCIL'S STANDARD SPECIFICATIONS.

SURVEY SET OUT INFORMATION NOTES:

- ALL SITE SET OUT AND CONTROL POINTS ARE TO BE CERTIFIED BY A REGISTERED SURVEYOR.
- THE INFORMATION DETAILED ON THE CERTIFIED CONSTRUCTION CERTIFICATE PLANS TAKES PRECEDENCE OVER ALL ELECTRONIC INFORMATION PROVIDED. THE ORDER OF PRIORITY FOR USE OF ALL INFORMATION PROVIDED IS AS FOLLOWS:
 - CERTIFIED CONSTRUCTION CERTIFICATE DRAWINGS
 - 2D DRAFTING BASE (ELECTRONIC FILE)
 - 3D DTM (ELECTRONIC FILE)
- ANY DISCREPANCY BETWEEN ANY OF THE INFORMATION CONTAINED WITHIN THESE FILES IS TO BE BROUGHT TO THE ATTENTION OF THE SUPERINTENDENT PRIOR TO CONSTRUCTION WHO WILL SEEK CLARIFICATION AND ISSUE INSTRUCTIONS ON THE APPROPRIATE COURSE OF ACTION.

STORMWATER NOTES

- STORMWATER DESIGN CRITERIA:
ANNUAL EXCEEDANCE PROBABILITY (AEP):
1% AEP MAJOR SYSTEM
5% AEP MINOR SYSTEM (COMMERCIAL) AND INTERALLOTMENT DRAINAGE
- PIPES TO BE INSTALLED TO TYPE HS2 SUPPORT IN ACCORDANCE WITH AS 3725 (1989) IN ALL CASES BACKFILL TRENCH WITH SAND TO 300mm ABOVE PIPE. WHERE PIPE IS UNDER PAVEMENTS BACKFILL REMAINDER OF TRENCH TO UNDERSIDE OF PAVEMENT WITH SAND OR APPROVED GRANULAR MATERIAL COMPACTED IN 300mm LAYERS TO MINIMUM 100% STANDARD MAXIMUM DRY DENSITY IN ACCORDANCE WITH AS 1289 5.2.1. (OR A DENSITY INDEX OF NOT LESS THAN 75)
- ALL INTERNAL WORKS WITHIN PROPERTY BOUNDARIES ARE TO COMPLY WITH THE REQUIREMENTS OF AS 3500 3.1 (1998) AND AS/NZS 3500 3.2 (1998).
- CARE IS TO BE TAKEN WITH LEVELS OF STORMWATER LINES. GRADES SHOWN ARE NOT TO BE REDUCED WITHOUT APPROVAL.
- GRATES AND COVERS SHALL CONFORM TO AS 3996.
- AT ALL TIMES DURING CONSTRUCTION OF STORMWATER PITS, ADEQUATE SAFETY PROCEDURES SHALL BE TAKEN TO ENSURE AGAINST THE POSSIBILITY OF PERSONNEL FALLING DOWN PITS.
- ALL STORMWATER PIPES WITHIN ROADS TO BE REINFORCED CONCRETE PIPE (RRJ) CLASS 2 UNLESS NOTED OTHERWISE.
- DRAINAGE LINES ON PLANS ARE DIAGRAMMATIC ONLY AND PIPE CENTRELINES SHALL ENTER AND EXIT PITS AT THE CENTRE OF THE RESPECTIVE PIT WALLS.
- STEP IRONS REQUIRED WHERE THE PIT EXCEEDS 1200mm IN DEPTH.
- 1% AEP FLOW PATHS TO BE FORMED AT TIME OF CONSTRUCTION.

UNEXPECTED FINDS - CONTAMINATION:

IN THE EVENT OF AN UNEXPECTED FINDS, ALL WORKS SHALL CEASE AND THE SITE FOREMAN SHALL CONTACT THE CERTIFYING AUTHORITY AND A SUITABLY QUALIFIED ENVIRONMENTAL CONSULTANT TO CONDUCT AN ASSESSMENT. APPROPRIATE MEASURES SHALL BE IMPLEMENTED ON THE BASIS OF THE ASSESSMENT INCLUDING BUT NOT LIMITED TO ISOLATION OF THE SITE, FURTHER INVESTIGATION AND ENVIRONMENTAL CONTROLS TO MINIMISE THE POTENTIAL MIGRATION OF CONTAMINANTS FROM THE IMPACTED AREA. AFFECTED AREAS CAN ONLY BE REOPENED SUBJECT TO A CLEARANCE OF THE LOCATION AND ISSUANCE OF A REPORT BY THE ENVIRONMENTAL CONSULTANT.

ANY SUSPECTED ASBESTOS CONTAINING SHOULD BE LEFT IN PLACE AND NOT DISTURBED. THE ENVIRONMENTAL CONSULTANT SHALL ORGANISE FOR FURTHER INVESTIGATION PURPOSES AND SUBSEQUENT REMOVAL BY AN APPROPRIATE LICENSED CONTRACTOR.

ANY UNEXPECTED FINDS ENCOUNTERED SHOULD BE LISTED ON A UFP REGISTER, WHICH SHOULD INCLUDE THE ACTION TAKEN AND THE STATUS OF THE UNEXPECTED FIND. PRIOR TO CLOSING OUT AN UNEXPECTED FIND IT WILL BE IMPORTANT TO ENSURE THE APPROPRIATE DOCUMENTATION IS OBTAINED SUCH AS PHOTOGRAPHS, THE UFP FORM, WASTE CLASSIFICATION LETTER(S) AND VALIDATION REPORT OR LETTER.

CIVIL PLAN INDEX

PLAN NO.	PLAN NAME	REV
110965-04-CD001	COVER SHEET	A
110965-04-CD002	INDEX, NOTES & LEGEND	B
110965-04-CD005	SITE LAYOUT PLAN	B
110965-04-CD011	ENGINEERING PLAN SHEET 1	B
110965-04-CD012	ENGINEERING PLAN SHEET 2	B
110965-04-CD040	CHANNEL LONG SECTION	B
110965-04-CD050	CHANNEL CROSS SECTIONS SHEET 1	A
110965-04-CD051	CHANNEL CROSS SECTIONS SHEET 2	A
110965-04-CD060	STAGE 2 DEVELOPMENT OSD OUTLET AND DETAILS	A
110965-04-CD070	SOIL & WATER MANAGEMENT PLAN	B
110965-04-CD072	SOIL & WATER MANAGEMENT NOTES	A



UTILITIES SHOWN ARE DIAGRAMMATIC ONLY, CONTRACTORS ARE RESPONSIBLE TO LOCATE AND AVOID DAMAGE TO THEM AS SPECIFIED BY EACH UTILITIES EXCAVATION GUIDE LINES & STANDARDS.

NOTE: UTILITIES SHOWN MAY NOT INCLUDE ALL SERVICES WITHIN THE LIMIT OF WORKS

DRAFT ISSUE ONLY
PRELIMINARY DESIGNS SUBJECT TO CHANGE

B	ISSUE FOR DA APPROVAL	DG	DG	PM	PM	29/09/23	
A	ISSUE FOR DA APPROVAL	DG	DG	PM	PM	17/08/23	
	AMENDMENT	DES	DRN	CKD	APR	DATE	

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WESTLINK - ALDINGTON ROAD, KEMPS CREEK
STAGE 2 DRAINAGE CHANNEL WORKS
INDEX, NOTES & LEGEND

PROJECT No:

110965-04

SHEET No:

CD002

AZIMUTH: M.G.A. 20

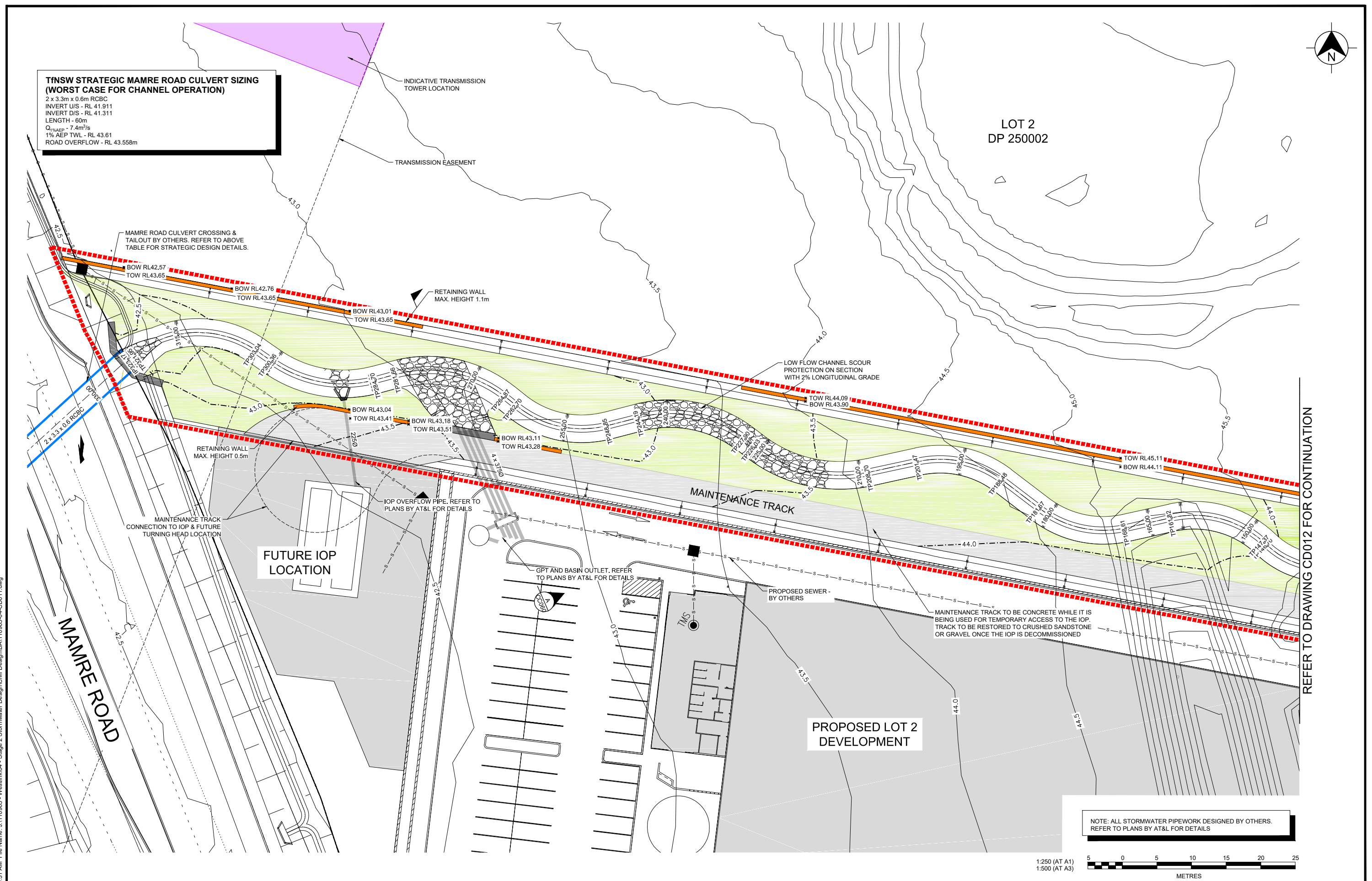
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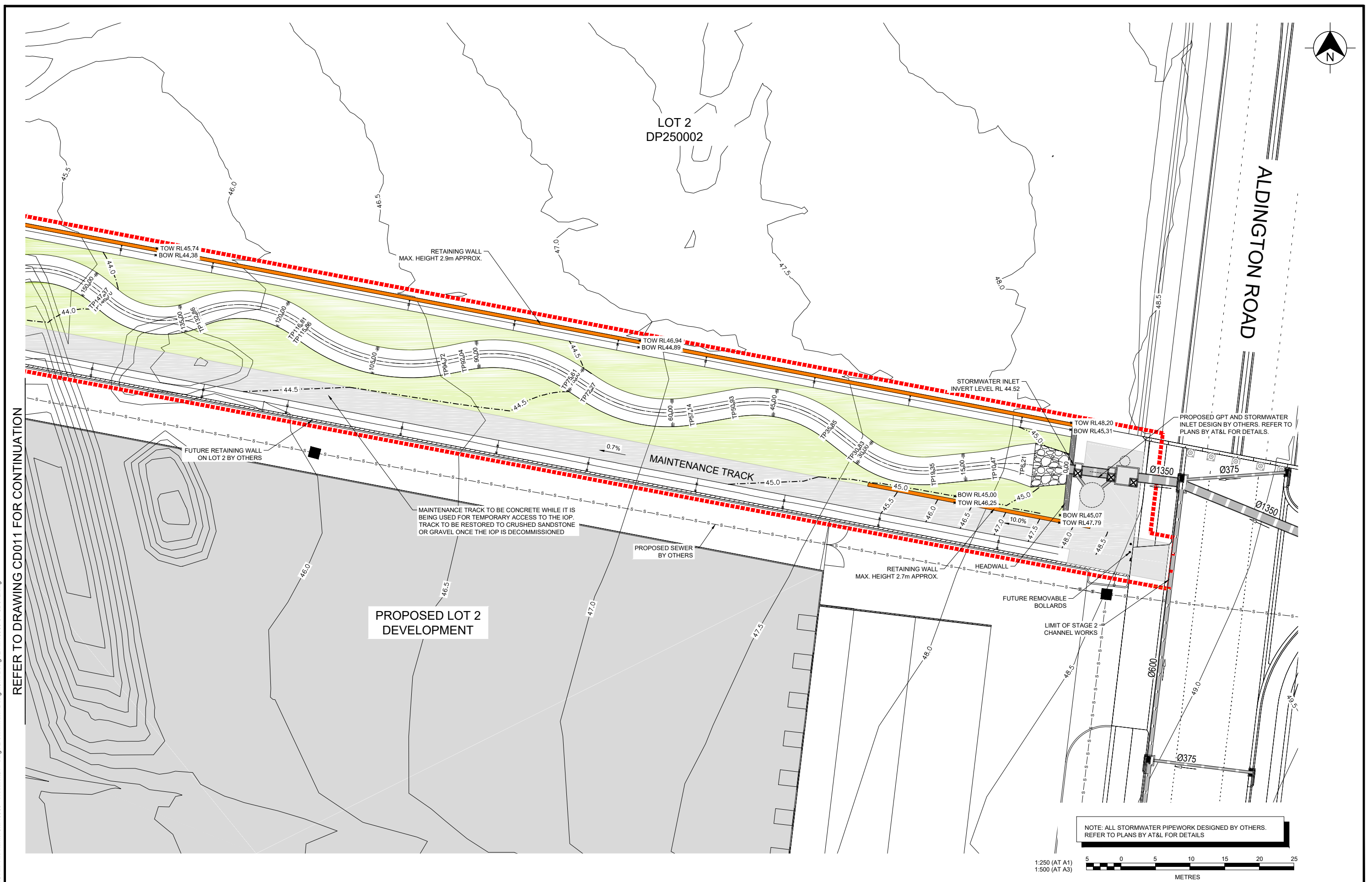
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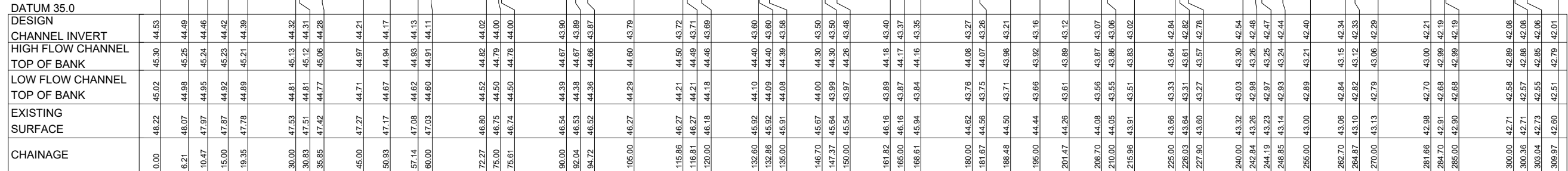
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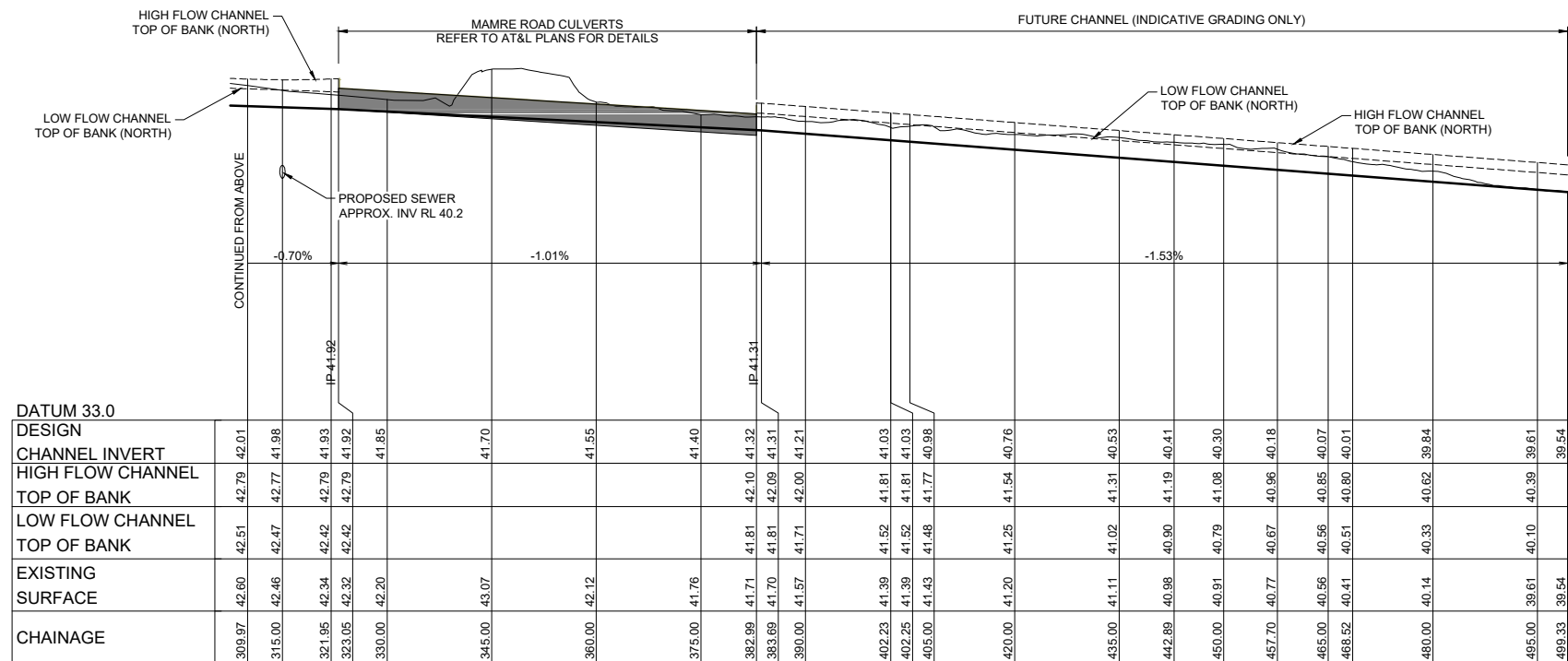
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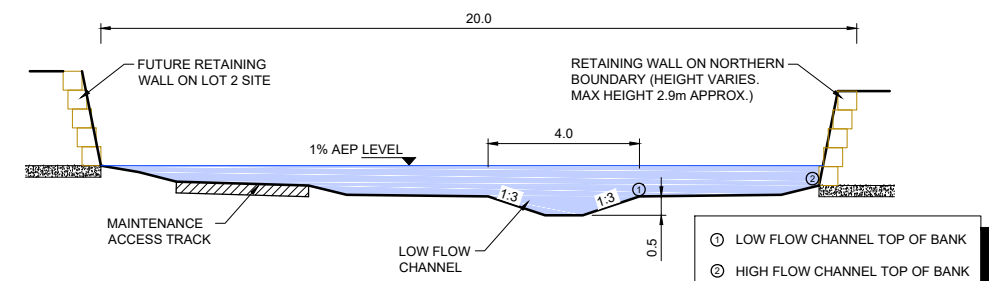
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LONGITUDINAL SECTION STAGE 2 CHANNEL
HORIZONTAL SCALE 1:500
VERTICAL SCALE 1:100



LONGITUDINAL SECTION STAGE 2 CHANNEL
HORIZONTAL SCALE 1:500
VERTICAL SCALE 1:100



TYPICAL CHANNEL CROSS SECTION
(WITH NORTHERN BOUNDARY WALL)

CHANNEL HYDROLOGY AND HYDRAULICS

MAX. CHANNEL SLOPE = 0.7%
LOW FLOW CHANNEL BASE WIDTH = 1.0m
DESIGN FLOW RATE = 4.9m³/s (UPSTREAM OF OSD
OUTLET)

DESIGN
 MANNING'S 'n' LOW FLOW CHANNEL = 0.08
 MANNING'S 'n' OVERBANKS = 0.08
 LOW FLOW CHANNEL AVERAGE VELOCITY = 0.85m/s
 OVERBANK AVERAGE VELOCITY = 0.56m/s
 LOW FLOW CHANNEL SHEAR STRESS = 50N/m²
 OVERBANK SHEAR STRESS = 24N/m²

ESTABLISHMENT
 MANNING'S 'n' = 0.03
 LOW FLOW CHANNEL VELOCITY = 1.75m/s
 OVBANK AVERAGE VELOCITY = 0.85m/s

MAX. CHANNEL SLOPE = 2.0%
LOW FLOW CHANNEL BASE WIDTH = 1.0m
DESIGN FLOW RATE = 4.9m³/s (UPSTREAM OF OSD
OUTLET)

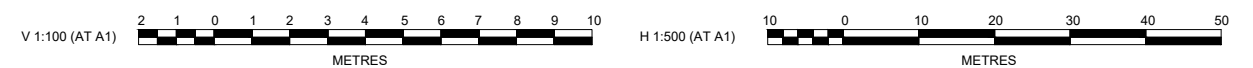
DESIGN
MANNING'S 'n' LOW FLOW CHANNEL = 0.04
MANNING'S 'n' OVERBANKS = 0.08
LOW FLOW CHANNEL AVERAGE VELOCITY = 2.37m/s
OVERBANK AVERAGE VELOCITY = 0.73m/s
LOW FLOW CHANNEL SHEAR STRESS = 104N/m²
OVERBANK SHEAR STRESS = 43N/m²

ESTABLISHMENT
MANNING'S 'n' = 0.03
LOW FLOW CHANNEL VELOCITY = 2.27m/s
OVERBANK AVERAGE VELOCITY = 1.68m/s

MAX. CHANNEL SLOPE = 0.7%
LOW FLOW CHANNEL BASE WIDTH = 1.0m
DESIGN FLOW RATE = 7.4m³/s (DOWNSTREAM OF OSD
OUTLET

DESIGN
MANNING'S 'n' LOW FLOW CHANNEL = 0.08
MANNING'S 'n' OVERBANKS = 0.08
LOW FLOW CHANNEL AVERAGE VELOCITY = 0.94m/s
OVERBANK AVERAGE VELOCITY = 0.72m/s
LOW FLOW CHANNEL SHEAR STRESS = 59N/m²
OVERBANK SHEAR STRESS = 32N/m²

ESTABLISHMENT
MANNING'S 'n' = 0.03
LOW FLOW CHANNEL VELOCITY = 1.96m/s
OVERBANK AVERAGE VELOCITY = 1.10m/s



B	ISSUE FOR DA APPROVAL	DG	DG	PM	PM
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WESTLINK - ALDINGTON ROAD, KEMPS CREEK
STAGE 2 DRAINAGE CHANNEL WORKS
CHANNEL LONG SECTION

AZIMUTH: M.G.A. 20

DATUM: A.H.D.

ORIGIN:

PLAN No.

110965-04-CD040

PROJECT No:

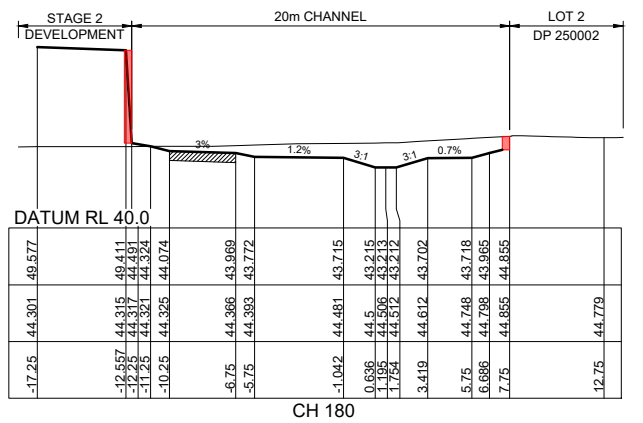
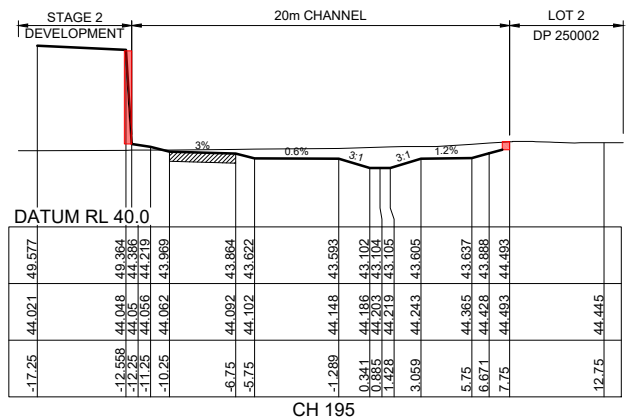
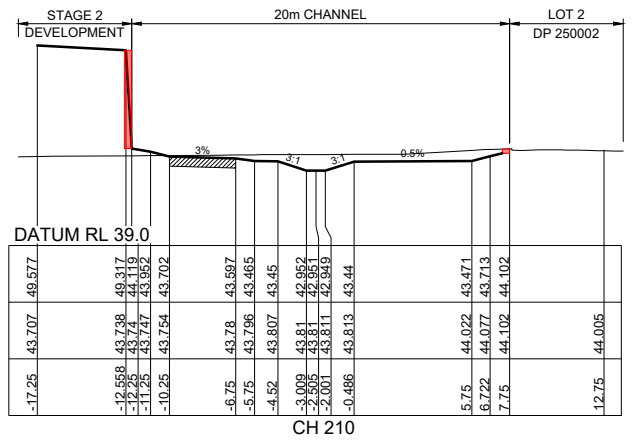
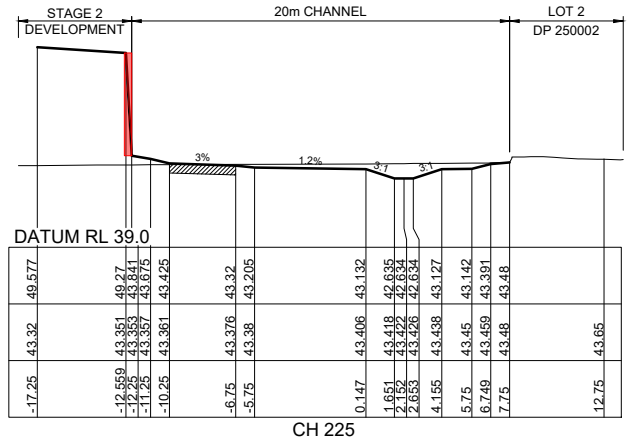
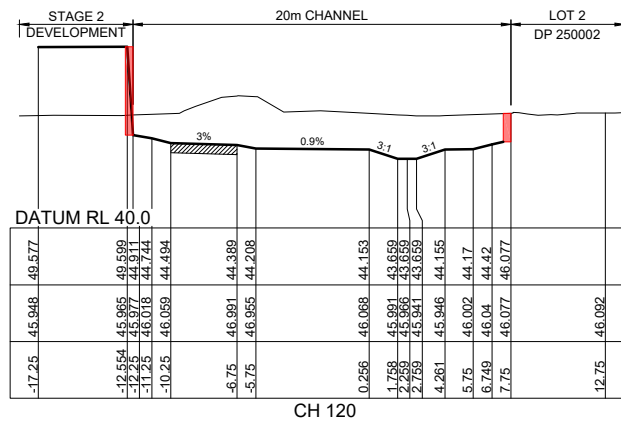
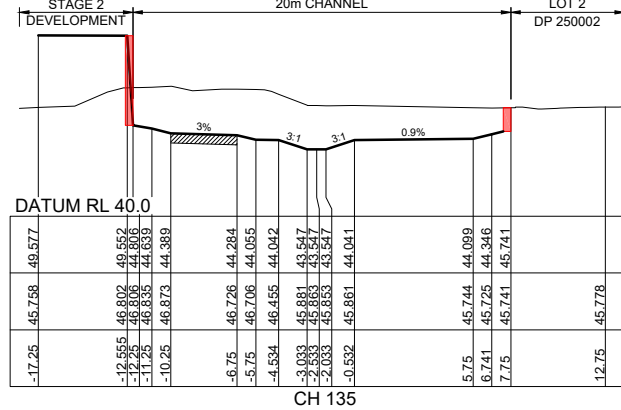
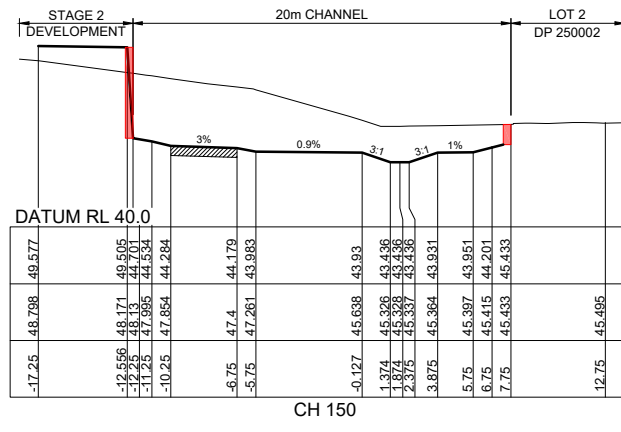
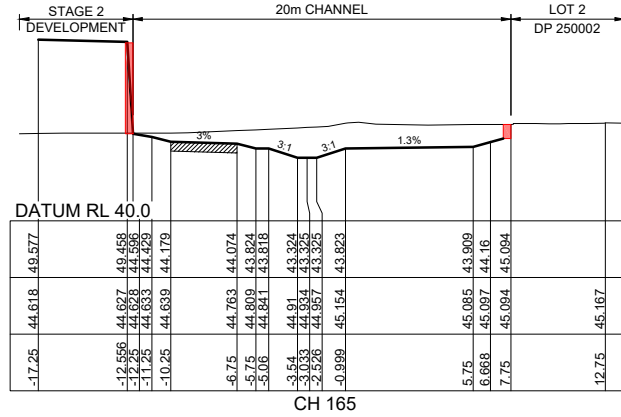
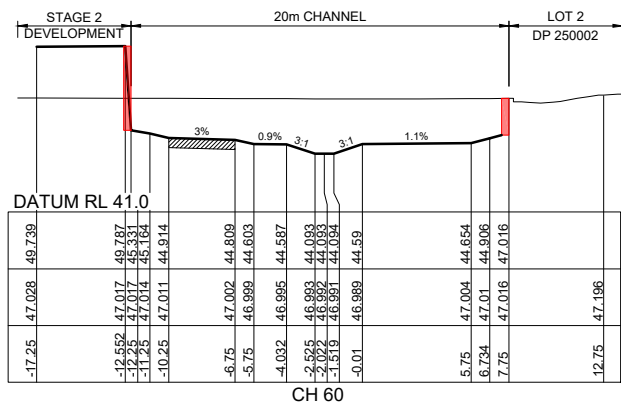
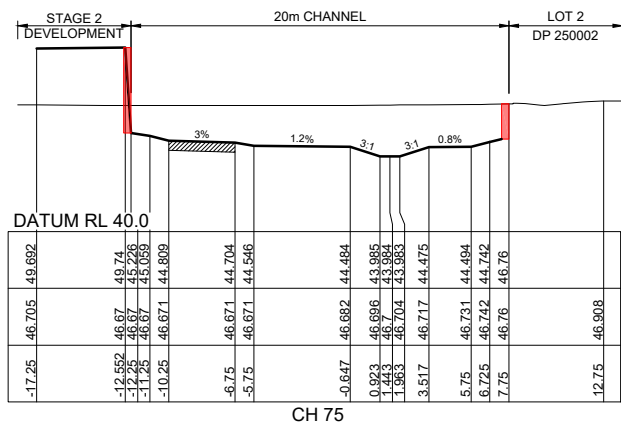
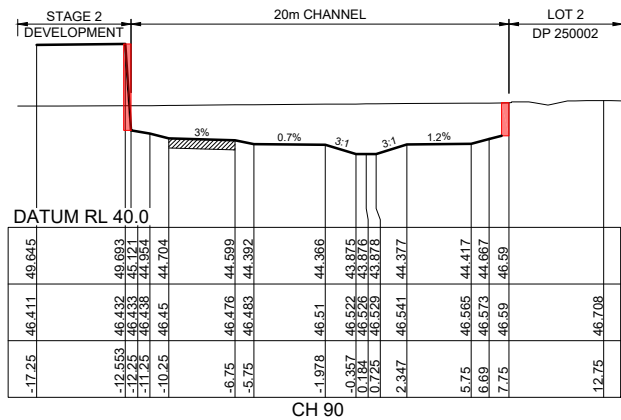
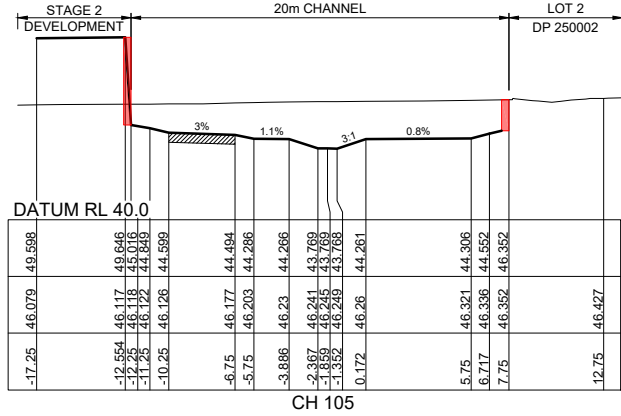
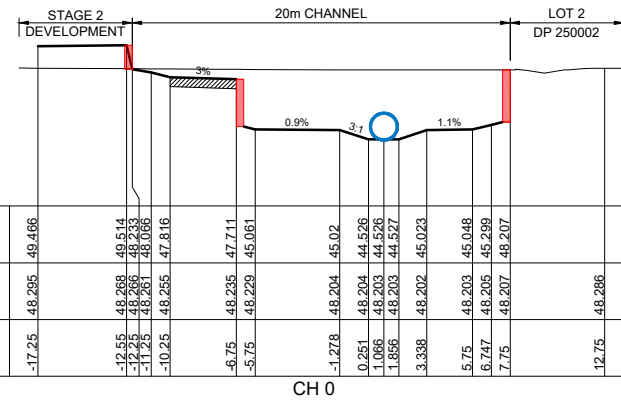
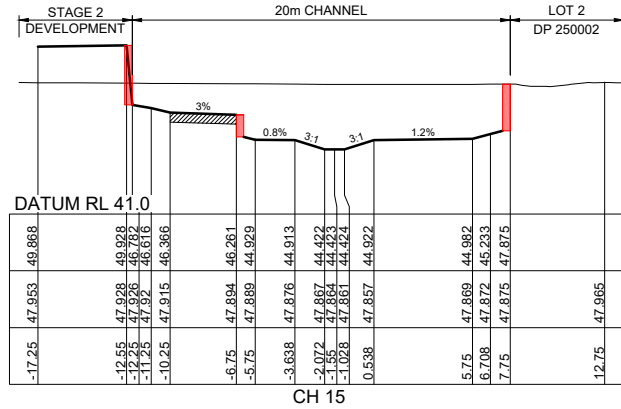
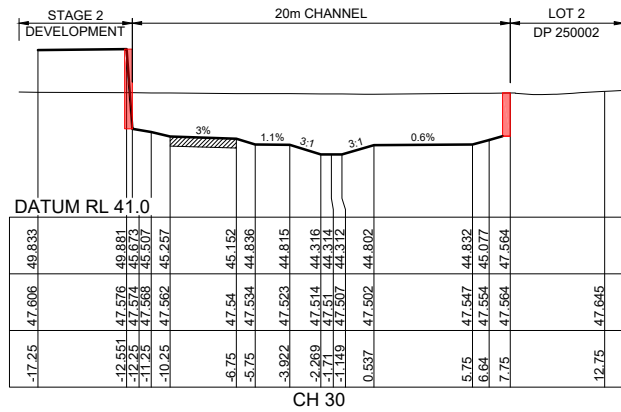
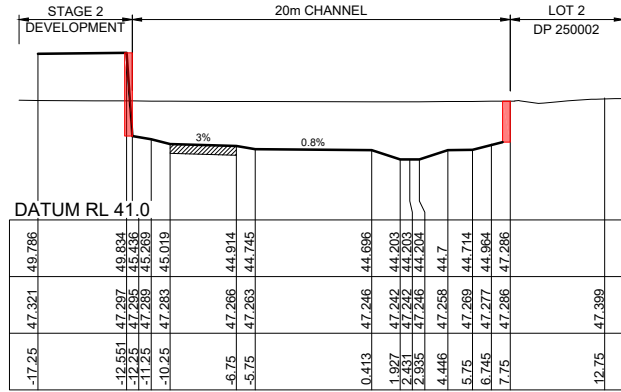
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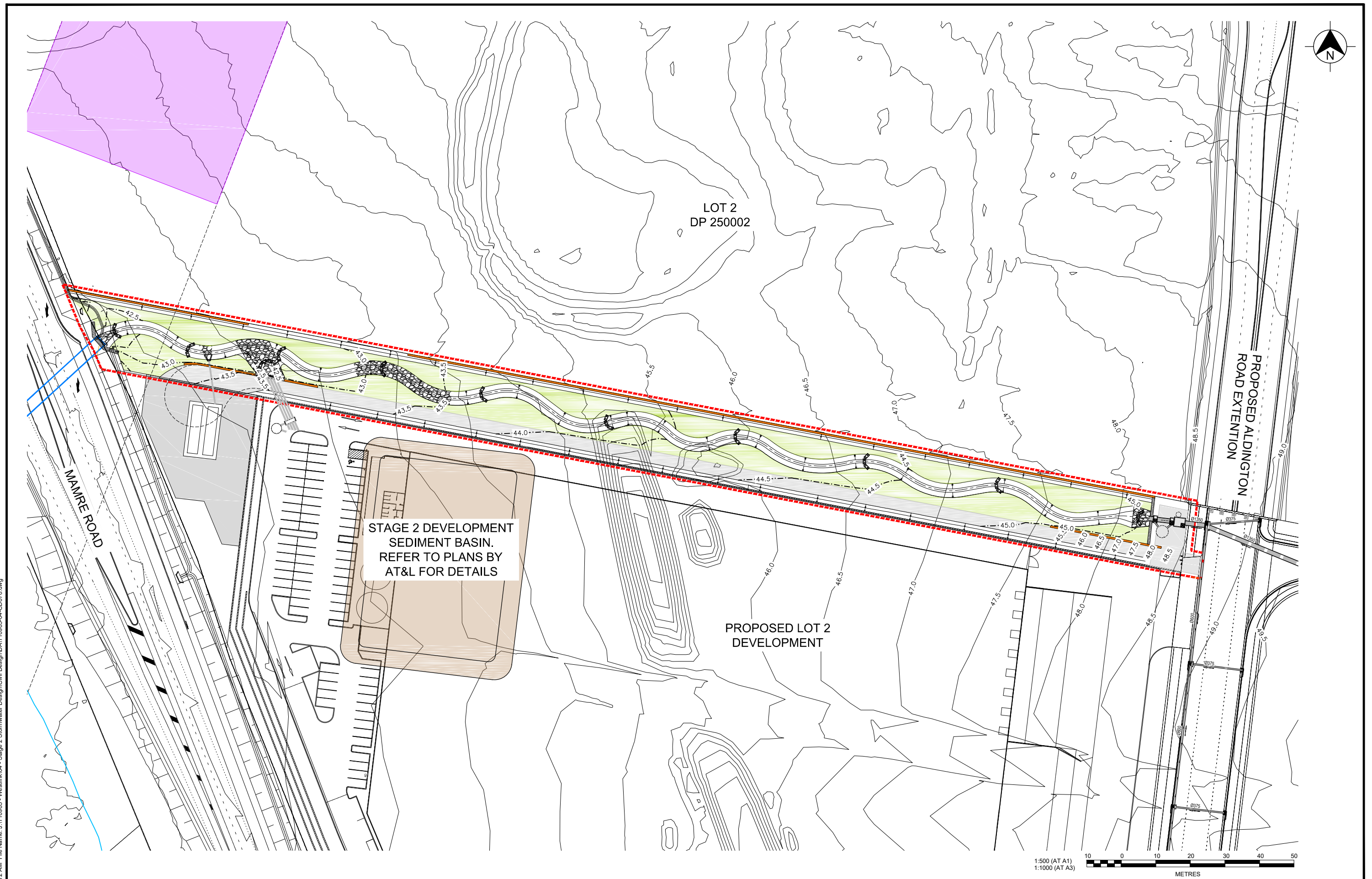
SHEET No:

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STAGE 2 DEVELOPMENT
SEDIMENT BASIN.
REFER TO PLANS BY
AT&L FOR DETAILS

1:500 (AT A1)
1:1000 (AT A3)

B	ISSUE FOR DA APPROVAL	DG	DG	PM	PM
A	ISSUE FOR DA APPROVAL	DG	DG	PM	PM
	AMENDMENT	DES	DRN	CKD	APR
					DATE

SOIL AND WATER MANAGEMENT NOTES

GENERAL NOTES:

1.

ALL EROSION AND SEDIMENT CONTROL MEASURES, INCLUDING REVEGETATION AND STORAGE OF SOIL AND TOPSOIL, SHALL BE IMPLEMENTED TO THE REQUIREMENTS OF THE " SOILS AND CONSTRUCTION - VOLUME 1, 4TH EDITION, MARCH 2004 ".
2.

TOPSOIL FROM ALL AREAS TO BE DISTURBED SHALL BE STOCKPILED AND LATER RESPREAD TO AID REVEGETATION IN THOSE AREAS.
3.

ALL DRAINAGE WORKS SHALL BE CONSTRUCTED AND STABILISED AS EARLY AS POSSIBLE DURING DEVELOPMENT .
4.

ALL TAIL-OUT DRAINS SHALL BE COUCH GRASSED AND TRAPEZOIDAL IN SECTION. STRAW BALES SHALL BE PLACED AS A SEDIMENT CONTROL DEVICE WHERE REQUIRED.
5.

VEHICULAR TRAFFIC SHALL BE CONTROLLED DURING DEVELOPMENT CONFINING ACCESS WHERE POSSIBLE TO PROPOSED OR EXISTING ROAD ALIGNMENTS. AREAS TO BE LEFT UNDISTURBED SHALL BE MARKED OFF.
6.

ROADS SHALL BE PAVED AS EARLY AS POSSIBLE AFTER FORMATION.
7.

DISTURBANCE OF VEGETATION SHALL BE LIMITED TO FILL AREAS, ROADWAYS AND DRAINAGE LINES. NO LOT GRADING SHALL BE CARRIED OUT IN UNDISTURBED AREAS WITHOUT CONSULTATION WITH COUNCIL'S ENGINEER.
8.

ALL DISTURBED AREAS SHALL BE REVEGETATED AS SOON AS THE RELEVANT WORKS ARE COMPLETED.
9.

ALL SEDIMENT BASINS AND TRAPS SHALL BE CLEANED WHEN THE STRUCTURES ARE A MAXIMUM 60% FULL OF SOLID MATERIALS, INCLUDING DURING THE MAINTENANCE PERIOD.
10.

THE SOIL AND WATER MANAGEMENT PLAN IS TO BE READ IN CONJUNCTION WITH THE ENGINEERING PLANS, AND COUNCIL'S WRITTEN GUIDELINES FOR THE DEVELOPMENT OF LAND.
11.

CONTRACTORS SHALL ENSURE THAT ALL SOIL AND WATER MANAGEMENT WORKS ARE UNDERTAKEN AS SPECIFIED ON THE PLAN AND IN ACCORDANCE WITH THE GUIDELINES SHOWN IN "MANAGING URBAN STORMWATER - SOILS AND CONSTRUCTION 4TH EDITION" ("THE BLUE BOOK").
12.

ALL CONTRACTORS AND SUBCONTRACTORS ARE RESPONSIBLE FOR REDUCING THE SOIL EROSION AND POLLUTION OF DOWNSLOPE AREAS.
13.

THE SOIL EROSION HAZARD ON THE SITE IS TO BE KEPT AS LOW AS POSSIBLE AND GENERALLY IN ACCORDANCE WITH THE FOLLOWING SCHEDULE:

LAND USE	LIMITATION	COMMENTS
CONSTRUCTION AREAS	DISTURBANCE TO BE NO FURTHER THAN 5m (PREF 2m) FROM THE EDGE OF ANY ESSENTIAL ENGINEERING ACTIVITY AS SHOWN ON THESE PLANS	ALL SITE WORKERS WILL CLEARLY RECOGNISE THESE ZONES - WHERE APPROPRIATE THE CONSTRUCTION AREAS ARE TO BE IDENTIFIED WITH BARRIER FENCING (DOWNSLOPE) OR SIMILAR MATERIAL.
ACCESS AREAS	LIMITED TO A MAXIMUM WIDTH OF 10m	THE SITE MANAGER SHALL DETERMINE AND MARK THE LOCATION OF THESE ZONES ONSITE. THEY CAN VARY IN POSITION TO BEST CONSERVE THE EXISTING VEGETATION AND PROTECT DOWNSTREAM AREAS WHILE BEING CONSIDERATE OF THE NEEDS OF EFFICIENT WORKS ACTIVITIES. ALL SITE WORKERS SHALL CLEARLY RECOGNISE THEIR BOUNDARIES. WHERE APPROPRIATE THE ACCESS AREAS ARE TO BE MARKED WITH BARRIER MESH, SEDIMENT FENCING OR SIMILAR MATERIALS.
REMAINING LANDS	ENTRY PROHIBITED EXCEPT FOR ESSENTIAL THINNING OF PLANT GROWTH	THINNING OF GROWTH MAY BE REQUIRED FOR FIRE HAZARD REDUCTION.

NOTE:
WORKS WITHIN WATERWAYS AND CREEKS SHALL BE RESTRICTED AS DIRECTED - ALL LANDS WITHIN CREEKS AND WATERWAYS SHALL HAVE A GROUNDCOVER MORE THAN 70%, USING MATERIALS THAT CAN CATER FOR CONCENTRATED FLOWS.

14.

WORKS ARE TO BE UNDERTAKEN IN THE FOLLOWING SEQUENCE. EACH SUBSEQUENT STAGE IS NOT TO COMMENCE UNTIL THE PREVIOUS ONE IS COMPLETE:-

a.

INSTALL ALL BARRIER AND SEDIMENT FENCING WHERE SHOWN ON THE PLAN AND TO DETAIL(SD) 6-8.

b.

CONSTRUCT STABILISED SITE ACCESS AS SHOWN ON THE PLAN AND TO DETAIL (SD) 6-14.

c.

CONSTRUCT LOW FLOW EARTH BANKS WHERE SHOWN ON THE PLAN AND TO DETAIL (SD) 5-5.

d.

PROVIDE TEMP. ACCESS TO THE SEDIMENT BASIN(S)AND PROTECT THIS WITH SEDIMENT FENCING (SD) 6-8 OR BARRIER FENCING AND EARTH BANKS (SD) 5-5.

e.

PLACE SEDIMENT FENCING (SD) 6-8 DOWNSLOPE OF LANDS TO BE DISTURBED FOR CONSTRUCTION OF THE SEDIMENT BASINS.

f.

CONSTRUCT SEDIMENT BASIN(S) GENERALLY IN ACCORDANCE WITH (SD) 6-4

g.

STABILISE LAND SURFACES DISTURBED BY CONSTRUCTION OF THE SEDIMENT BASIN(S) AS SOON AS FINAL LEVELS ARE ESTABLISHED

h.

CLEAR THE SITE AND STRIP AND STOCKPILE THE TOPSOIL IN THE LOCATIONS SHOWN ON THE PLAN OR AS DIRECTED BY THE SITE SUPERINTENDENT TO DETAIL (SD) 4-1.

i.

UNDERTAKE ALL ESSENTIAL CONSTRUCTION WORKS.

j.

GRADE LOT AREAS TO FINAL GRADES AND APPLY PERMANENT STABILISATION (LANDSCAPING) WITHIN 14 DAYS OF COMPLETION OF CONSTRUCTION WORKS.

k.

REMOVE TEMPORARY EROSION CONTROL MEASURES AFTER THE PERMANENT LANDSCAPING HAS BEEN COMPLETED.
15.

CLEARLY VISIBLE BARRIER FENCING SHALL BE INSTALLED WHERE DIRECTED BY THE SITE SUPERINTENDENT TO CONTROL AND PROHIBIT UNNECESSARY SITE DISTURBANCE
16.

EARTH BATTERS SHALL BE CONSTRUCTED WITH AS LOW A GRADIENT AS PRACTICABLE BUT NO STEEPER THAN:-

a.

2(h) - 1(v) WHERE SLOPE LENGTH IS LESS THAN 7m

b.

2.5(h) - 1(v) WHERE SLOPE LENGTH IS BETWEEN 7m AND 10m

c.

3(h) - 1(v) WHERE SLOPE LENGTH IS BETWEEN 10m AND 12m

d.

4(h) - 1(v) WHERE SLOPE LENGTH IS BETWEEN 12m AND 18m

e.

5(h) - 1(v) WHERE SLOPE LENGTH IS BETWEEN 18m AND 27m

f.

6(h) - 1(v) WHERE SLOPE LENGTH IS GREATER THAN 27m

SLOPE LENGTHS CAN BE SHORTENED BY USING LOW FLOW EARTH BANKS AS CATCH DRAINS ABOVE THE EARTH BATTER AREA.

17.

PROTECTION FROM EROSION FORCES SHALL BE UNDERTAKEN ON ALL LANDS. GROUND COVER TO BE IN PLACE WITHIN 10 WORKING DAYS FROM COMPLETION OF FORMATION AND BEFORE THEY ARE ALLOWED TO CARRY ANY CONCENTRATED FLOWS.
18.

TEMPORARY GROUND COVER SHOULD BE MINIMUM 70%. FOOT AND VEHICULAR TRAFFIC SHALL BE KEPT AWAY FROM REHABILITATED AREAS.
19.

WHERE POSSIBLE THE CONSTRUCTION PROGRAM IS TO SCHEDULE WORKS SUCH THAT LAND DISTURBANCE ACTIVITIES ARE COMPLETED IN LESS THAN 6 MONTHS. REVEGETATION WORKS MUST BE CARRIED OUT AS STIPULATED IN THE RELEVANT COUNCIL GUIDELINES / SPECIFICATIONS SUCH THAT A SATISFACTORY GROUND COVER IS PROVIDED TO AT LEAST 60% OF THE DISTURBED AREA WITHIN 10 DAYS AND AT LEAST 70% OF THE DISTURBED AREA WITHIN A FURTHER 60 DAYS..
20.

SEDIMENT FENCES (SD) 6-8 SHALL:-

a.

BE INSTALLED WHERE SHOWN ON THE PLAN AND AS DIRECTED AT THE DISCRETION OF THE SITE SUPERINTENDENT DURING THE COURSE OF CONSTRUCTION TO CONTAIN THE COARSER SEDIMENT FRACTIONS AS NEAR AS POSSIBLE TO THEIR SOURCE.

b.

HAVE A CATCHMENT AREA NOT EXCEEDING 720sq.m. AND A STORAGE DEPTH OF AT LEAST 0.6m.

c.

PROVIDE AN UPSLOPE RETURN OF 1m AT INTERVALS ALONG THE FENCE WHERE THE CATCHMENT AREA EXCEEDS 720sq.m. TO LIMIT THE DISCHARGE REACHING EACH SECTION TO 50litres/sec IN A MAX. 10yr Tc DISCHARGE.
21.

STOCKPILES (SD) 4-1 SHALL BE LOCATED AS SHOWN ON THE PLANS AND AT THE DISCRETION OF THE SITE SUPERINTENDENT.
22.

DURING WINDY WEATHER LARGE UNPROTECTED AREAS ARE TO BE KEPT MOIST (NOT WET) BY SPRINKLING WITH WATER TO KEEP DUST UNDER CONTROL. IN THE EVENT WATER IS NOT AVAILABLE IN SUFFICIENT QUANTITIES SOIL BINDERS AND/OR DUST RETARDANTS SHALL BE USED OR THE SURFACE SHALL BE LEFT IN A CLODDY STATE THAT RESISTS REMOVAL BY WIND.
23.

STOCKPILES SHALL NOT BE LOCATED WITHIN 5m OF HAZARD AREAS, INCLUDING LIKELY AREAS OF HIGH VELOCITY FLOWS SUCH AS WATERWAYS, PAVED AREAS OR DRIVEWAYS.
24.

THE SEDIMENT RETENTION BASINS (SD) 6-4 SHALL:-

a.

BE CONSTRUCTED WHERE SHOWN ON THE PLANS.

b.

BE FLOCCULATED (APPENDIX E MANAGING URBAN STORMWATER SOILS & CONSTRUCTION 4TH ED.) BEFORE DISCHARGE OCCURS (UNLESS THE DESIGN STORM EVENT IS EXCEEDED)

c.

HAVE ONE OR MORE PEGS PLACED ON THE FLOOR TO CLEARLY INDICATE THE LEVEL AT WHICH DESIGN CAPACITY OCCURS AND WHEN SEDIMENT SHALL BE REMOVED.
25.

STORED CONTENTS OF THE BASINS SHALL BE TREATED WITH GYPSUM (APPENDIX E MANAGING URBAN STORMWATER SOILS & CONSTRUCTION 4TH ED.) OR OTHER FLOCCULATING AGENTS WHERE THEY CONTAIN MORE THAN 50mg/litre OF SUSPENDED SOLIDS. TREATMENT SHALL BE AS FOLLOWS:-

a.

LOWER SUSPENDED SOLIDS TO LESS THAN 50mg/litre WITHIN 24hrs OF FILLING

b.

THE BASINS SHALL THEN BE ALLOWED TO STAND 36 TO 48hrs FOR FLOCCULATED PARTICLES TO SETTLE

c.

THE BASINS SHALL THEN BE DRAINED SO THAT FULL STORAGE CAPACITY IS REGAINED WITHOUT DISCHARGING SEDIMENT FROM THE SITE.
26.

SEDIMENT REMOVED FROM ANY TRAPPING DEVICE SHALL BE DISPOSED IN LOCATIONS WHERE FURTHER EROSION AND CONSEQUENT POLLUTION TO DOWNSLOPE LANDS AND WATERWAYS SHALL NOT OCCUR.
27.

WATER SHALL BE PREVENTED FROM DIRECTLY ENTERING THE PERMANENT DRAINAGE SYSTEM UNLESS IT IS RELATIVELY SEDIMENT FREE (ie THE CATCHMENT HAS BEEN LANDSCAPED AND/OR ANY LIKELY SEDIMENT HAS BEEN TREATED IN AN APPROVED DEVICE) NEVERTHELESS STORMWATER INLETS SHALL BE PROTECTED (SD) 6-11 & 6-12.
28.

TEMPORARY SOIL AND WATER MANAGEMENT STRUCTURES SHALL BE REMOVED ONLY AFTER THE LANDS THEY ARE PROTECTING ARE STABILISED.
29.

ACCEPTABLE BINS SHALL BE PROVIDED FOR ANY CONCRETE AND MORTAR SLURRIES, PAINTS, ACID WASHINGS, LIGHTWEIGHT WASTE MATERIALS AND LITTER. CLEARANCE SERVICES SHALL BE PROVIDED AT LEAST ONCE A WEEK.

STOCKPILE NOTES:

1.

SPOIL AND TOPSOIL STOCKPILES SHALL BE LOCATED AWAY FROM DRAINAGE LINES AND AREAS WHERE WATER MAY CONCENTRATE.
2.

IF STOCKPILES ARE TO BE IN PLACE FOR LONGER THAN 14 DAYS THEN THEY SHALL BE STABILIZED BY COVERING WITH A MULCH OR WITH TEMPORARY VEGETATION.
3.

FOLLOWING CONSTRUCTION, TOPSOIL SHALL BE RESPREAD TO A MINIMUM DEPTH OF 100mm ON THE BARE SOIL SURFACES AND REVEGETATED.

SEDIMENTATION CONTROL DEVICES:

1.

ALL STRAW BALES SHALL BE BOUND WITH WIRE. STRAW BALES SHALL BE PLACED END TO END IN A SINGLE ROW AND EMBEDDED INTO THE SOIL TO A DEPTH OF 100mm. EACH BALE SHALL BE SECURELY ANCHORED WITH TWO STEEL STAKES DRIVEN 600mm INTO THE GROUND AND LOCKED ON THE BALE CENTRELINE.
2.

SILT FENCES SHALL BE CONSTRUCTED BY STRETCHING A FILTER FABRIC (PROPEX OR SIMILAR) BETWEEN POSTS AT 2.5m CENTRES. FABRIC SHALL BE BURIED 150mm ALONG ITS LOWER EDGE.
3.

PROVIDE STRIP OF TURF MIN. 300mm WIDE BEHIND KERB + 1m WIDE AROUND ALL SURFACE INLET PITS

SITE INSPECTION AND MAINTENANCE:

1.

A SELF-AUDITING PROGRAM SHALL BE ESTABLISHED BASED ON A INSPECTION TEST PLAN (ITP) OR LOG BOOK. A SITE INSPECTION USING THE ITP SHALL BE MADE BY THE SITE MANAGER:-

a.

AT LEAST WEEKLY

b.

IMMEDIATELY BEFORE SITE CLOSURE

c.

IMMEDIATELY FOLLOWING RAINFALL EVENTS IN EXCESS OF 5mm IN ANY 24hr PERIOD.

THE SELF AUDIT SHALL INCLUDE:-

- a.

RECORDING THE CONDITION OF EVERY 'BEST MANAGEMENT PRACTICE' EMPLOYED
- b.

RECORDING MAINTENANCE REQUIREMENTS (IF ANY) FOR EACH 'BEST MANAGEMENT PRACTICE'
- c.

RECORDING THE VOLUMES OF SEDIMENT REMOVED FROM SEDIMENT RETENTION SYSTEMS WHERE APPLICABLE
- d.

RECORDING THE SITE WHERE SEDIMENT IS DISPOSED
- e.

FORWARDING A SIGNED DUPLICATE OF THE COMPLETED CHECK SHEET TO THE PROJECT MANAGER/DEVELOPER FOR THEIR INFORMATION.
2.

IN ADDITION A SUITABLY QUALIFIED PERSON SHALL BE RESPONSIBLE FOR OVERSEEING THE INSTALLATION AND MAINTENANCE OF ALL SOIL AND WATER MANAGEMENT WORKS ON THE SITE. THE PERSON SHALL BE REQUIRED TO SPEND A MINIMUM OF:-

a.

2hrs ONSITE EACH FORTNIGHT UP UNTIL COMPLETION OF ROAD AND DRAINAGE WORKS AND/OR THE COMMISSIONING OF SEDIMENT BASIN(S)/WATER QUALITY CONTROL FACILITIES, AND DURING THE DECOMMISSIONING OF SAME AND/OR FINAL SITE STABILISATION. TO PROVIDE A SHORT MONTHLY WRITTEN REPORT.

b.

ONE HOUR ONSITE EACH 2 MONTHS DURING THAT PHASE WHERE THE DEVELOPERS RESPONSIBILITIES ARE LIMITED TO MAINTENANCE OF THE SDS DEVICES AND/OR SEDIMENT BASINS (ie DURING THE STAGE WHEN BUILDING WORKS CAN BE UNDERTAKEN) TO PROVIDE A SHORT WRITTEN REPORT EACH 4 MONTHS

THE RESPONSIBLE PERSON SHALL ENSURE THAT:-

- a.

THIS PLAN IS BEING IMPLEMENTED CORRECTLY
- b.

REPAIRS ARE BEING UNDERTAKEN AS REQUIRED
- c.

ESSENTIAL MODIFICATIONS TO THIS PLAN ARE BEING MADE IF AND WHEN NECESSARY. EACH REPORT SHALL CERTIFY THAT WORKS HAVE BEEN CARRIED OUT ACCORDING TO THE APPROVED PLANS.
3.

WASTE BINS SHALL BE EMPTIED AS NECESSARY , DISPOSAL OF WASTE SHALL BE IN A MANNER APPROVED BY THE SITE SUPERINTENDENT
4.

PROPER DRAINAGE OF THE SITE SHALL BE MAINTAINED. DRAINS (INCLUDING INLET AND OUTLET WORKS) SHALL BE CHECKED TO ENSURE THAT THEY ARE OPERATING AS INTENDED,ESPECIALLY THAT:-

a.

NO LOW POINTS EXIST WHICH CAN OVERTOP IN A LARGE STORM EVENT.

b.

AREAS OF EROSION ARE REPAIRED (e.g LINED WITH SUITABLE MATERIAL) AND/OR VELOCITY OF FLOW IS REDUCED APPROPRIATELY THROUGH CONSTRUCTION OF SMALL CHECK DAMS OR INSTALLING ADDITIONAL DIVERSIONS UPSLOPE

c.

BLOCKAGES ARE CLEARED (THESE MIGHT OCCUR BECAUSE OF SEDIMENT POLLUTION, SAND/SOIL/SPOIL BEING DEPOSITED IN OR TOO CLOSE TO THEM, BREACHED BY VEHICLE WHEELS etc)
5.

SAND/SOIL/SPOIL MATERIALS PLACED CLOSER THAN 2m FROM HAZARD AREAS SHALL BE REMOVED SUCH HAZARD AREAS INCLUDE ANY AREAS OF HIGH VELOCITY WATER FLOWS (eg WATERWAYS AND GUTTERS) PAVED AREAS AND DRIVEWAYS.
6.

RECENTLY STABILISED LANDS SHALL BE CHECKED TO ENSURE THAT THE EROSION HAZARD HAS BEEN EFFECTIVELY REDUCED. ANY REPAIRS SHALL BE INITIATED AS APPROPRIATE.
7.

EXCESSIVE VEGETATIVE GROWTH SHALL BE CONTROLLED THROUGH MOWING OR SLASHING.
8.

ALL SEDIMENT DETENTION SYSTEMS SHALL BE KEPT IN GOOD WORKING CONDITION. IN PARTICULAR ATTENTION SHALL BE GIVEN TO:-

a.

RECENT WORKS TO ENSURE THAT THEY HAVE NOT RESULTED IN DIVERSION OF SEDIMENT LADEN WATER AWAY FROM THEM.

b.

DEGRADABLE PRODUCTS TO ENSURE THAT THEY ARE REPLACED AS REQUIRED

c.

SEDIMENT REMOVAL TO ENSURE THE DESIGN CAPACITY OR LESS REMAINS IN THE SETTLING ZONE.
9.

ADDITIONAL EROSION AND/OR SEDIMENT CONTROL WORKS SHALL BE CONSTRUCTED AS MIGHT BECOME NECESSARY TO ENSURE THE DESIRED PROTECTION IS GIVEN TO DOWNSLOPE LANDS AND WATERWAYS (ie MAKE ONGOING CHANGES TO THIS PLAN WHERE IT PROVES INADEQUATE IN PRACTICE OR IS SUBJECTED TO CHANGES IN CONDITIONS AT THE WORKS SITE OR ELSEWHERE IN THE CATCHMENT.
10.

EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED IN A FUNCTIONING CONDITION UNTIL ALL EARTHWORKS ACTIVITIES ARE COMPLETED AND THE SITE STABILISED.
11.

WATERS IN SEDIMENT RETENTION BASIN(S) THAT OCCUPY MORE THAN 1/4 OF THE DESIGN CAPACITY DURING THAT STAGE OF THE WORKS UP UNTIL COMMISSIONING OF THE BASIN(s) SHALL BE:-

a.

TREATED WITH A FLOCCULATING AGENT (APPENDIX E MANAGING URBAN STORMWATER SOILS & CONSTRUCTION 4TH ED.)

b.

DISCHARGED WITHIN 5 days FROM THE CONCLUSION OF ANY STORM EVENT LARGE ENOUGH TO FILL THE BASIN TO THAT LEVEL.
12.

LITTER, DEBRIS AND COARSE SEDIMENT SHALL BE REMOVED FROM THE GROSS POLLUTANT TRAPS AND TRASH RACKS AS REQUIRED.

A	ISSUE FOR DA APPROVAL	DG	DG	PM	PM	17/08/23	
	AMENDMENT	DES	DRN	CKD	APR	DATE	

J. WYNDHAM PRINCE

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CLIENT:



STATUS:

ISSUE FOR DA APPROVAL

NOT FOR CONSTRUCTION

THIS DRAWING MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS PART OF AN APPROVED CONSTRUCTION CERTIFICATE.

WESTLINK - ALDINGTON ROAD, KEMPS CREEK
STAGE 2 DRAINAGE CHANNEL WORKS
SOIL & WATER MANAGEMENT NOTES

PROJECT No:

110965-04

SHEET No:

CD072

AZIMUTH: M.G.A. 20

DATUM: A.H.D.

ORIGIN:

PLAN No: 110965-04-CD072

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