

MINTO LOGISTICS HUB

5-7 CULVERSTON ROAD, MINTO, NSW 2566

STATE SIGNIFICANT DEVELOPMENT APPLICATION

MODIFICATION TO SSD7500

DRAWING LIST

DRAWING NO.	DRAWING TITLE
C014506.00-SSDA10	DRAWING LIST & GENERAL NOTES
C014506.00-SSDA20	EROSION AND SEDIMENT CONTROL PLAN
C014506.00-SSDA25	EROSION AND SEDIMENT CONTROL DETAILS
C014506.00-SSDA30	BULK EARTHWORKS PLAN
C014506.00-SSDA31	CUT/FILL PLAN
C014506.00-SSDA35	BULK EARTHWORKS SECTIONS - SHEET 1
C014506.00-SSDA36	BULK EARTHWORKS SECTIONS - SHEET 2
C014506.00-SSDA40	STORMWATER DRAINAGE PLAN
C014506.00-SSDA45	STORMWATER DRAINAGE DETAILS
C014506.00-SSDA50	FINISHED LEVELS PLAN
C014506.00-SSDA65	TYPICAL SECTIONS AND WALL DETAILS

GENERAL NOTES

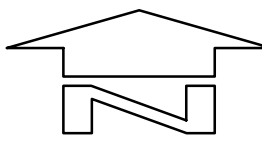
- THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL ARCHITECTURAL AND OTHER CONSULTANT'S DRAWINGS AND SPECIFICATIONS AND WITH SUCH OTHER WRITTEN INSTRUCTIONS AS MAY BE ISSUED DURING THE COURSE OF THE CONTRACT. ANY DISCREPANCY SHALL BE REFERRED TO THE ENGINEER BEFORE PROCEEDING WITH THE WORK.
- ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE RELEVANT AND CURRENT STANDARDS AUSTRALIA CODES AND WITH THE BY-LAWS AND ORDINANCES OF THE RELEVANT BUILDING AUTHORITIES EXCEPT WHERE VARIED BY THE PROJECT SPECIFICATION.
- ALL DIMENSIONS SHOWN SHALL BE VERIFIED BY THE BUILDER ON SITE. ENGINEER'S DRAWINGS SHALL NOT BE SCALED FOR DIMENSIONS. ENGINEER'S DRAWINGS ISSUED IN ANY ELECTRONIC FORMAT MUST NOT BE USED FOR DIMENSIONAL SETOUT. REFER TO THE ARCHITECT'S DRAWINGS FOR ALL DIMENSIONAL SETOUT INFORMATION.
- DURING CONSTRUCTION THE STRUCTURE SHALL BE MAINTAINED IN A STABLE CONDITION AND NO PART SHALL BE OVERSTRESSED. TEMPORARY BRACING SHALL BE PROVIDED BY THE BUILDER TO KEEP THE WORKS AND EXCAVATIONS STABLE AT ALL TIMES.
- UNLESS NOTED OTHERWISE ALL LEVELS ARE IN METRES AND ALL DIMENSIONS ARE IN MILLIMETRES.
- ALL WORKS SHALL BE UNDERTAKEN IN ACCORDANCE WITH ACCEPTABLE SAFETY STANDARDS & APPROPRIATE SAFETY SIGNS SHALL BE INSTALLED AT ALL TIMES DURING THE PROGRESS OF THE JOB.

EXISTING SERVICES

- DURING THE EXECUTION OF WORKS, THE CONTRACTOR SHALL MAINTAIN THE INTEGRITY OF EXISTING SERVICES. THE CONTRACTOR SHALL REPAIR ANY DAMAGE CAUSED TO THE EXISTING SERVICES TO THE SATISFACTION OF THE SUPERINTENDENT AND THE RELEVANT SERVICE AUTHORITY, AT NO COST TO THE PRINCIPAL.
- WHERE IT IS NECESSARY TO REMOVE, DIVERT OR CUT INTO ANY EXISTING SERVICE, THE CONTRACTOR SHALL GIVE AT LEAST THREE (3) DAYS NOTICE OF ITS REQUIREMENTS TO THE SUPERINTENDENT, WHO WILL ADVISE WHAT ARRANGEMENTS SHOULD BE MADE FOR THE ALTERATION OF SUCH EXISTING WORKS.
- ALL NEW AND EXHUMED SERVICES THAT CROSS EXISTING AND FUTURE ROADS/PAVEMENTS WITHIN THE SITE SHALL BE BACKFILLED WITH DGB20 MATERIAL TO SUBGRADE LEVEL AND COMPACTED TO 98% STANDARD DENSITY RATIO. SUBJECT TO PRIOR APPROVAL FROM RELEVANT AUTHORITY.
- ON COMPLETION OF SERVICES INSTALLATION, ALL DISTURBED AREAS SHALL BE RESTORED TO ORIGINAL, INCLUDING KERBS, FOOTPATHS, CONCRETE AREAS, GRAVEL AREAS, GRASSED AREAS AND ROAD PAVEMENTS.
- CARE TO BE TAKEN WHEN EXCAVATING NEAR UTILITY SERVICES. NO MECHANICAL EXCAVATION TO BE UNDERTAKEN OVER SERVICES. LIAISE WITH RELEVANT AUTHORITY.
- THE CONTRACTOR SHALL ALLOW FOR THE CAPPING OFF, EXCAVATION AND REMOVAL IF REQUIRED OF ALL EXISTING SERVICES IN AREAS AFFECTED BY THE WORKS WITHIN THE CONTRACT AREA AS SHOWN ON THE DRAWINGS UNLESS DIRECTED OTHERWISE BY THE SUPERINTENDENT. ALL TO REGULATORY AUTHORITY STANDARDS AND APPROVAL.
- THE CONTRACTOR IS TO MAINTAIN EXISTING STORMWATER DRAINAGE FLOWS THROUGH THE ROADS AT ALL TIMES. MAKE DUE ALLOWANCE FOR ALL SUCH FLOWS AT ALL TIMES.
- PRIOR TO COMMENCEMENT OF ANY WORKS THE CONTRACTOR SHALL OBTAIN THE SUPERINTENDENT'S APPROVAL OF THE PROGRAM FOR THE RELOCATION/CONSTRUCTION OF TEMPORARY SERVICES.
- CONTRACTOR SHALL CONSTRUCT TEMPORARY SERVICES AS REQUIRED TO MAINTAIN EXISTING SUPPLY TO BUILDINGS REMAINING IN OPERATION DURING WORKS TO THE SATISFACTION AND APPROVAL OF THE SUPERINTENDENT. ONCE DIVERSION IS COMPLETE AND COMMISSIONED THE CONTRACTOR SHALL REMOVE ALL SUCH TEMPORARY SERVICES AND MAKE GOOD TO THE SATISFACTION OF THE SUPERINTENDENT.
- INTERRUPTION TO SUPPLY OF EXISTING SERVICES SHALL BE DONE SO AS NOT TO CAUSE ANY INCONVENIENCE OR DAMAGE TO THE ADJACENT RESIDENCES. CONTRACTOR TO GAIN APPROVAL OF THE SUPERINTENDENT FOR TIME OF INTERRUPTION.
- THE CONTRACTOR SHALL UNDERTAKE A DIAL BEFORE YOU DIG (DBYD 1100) SERVICES SEARCH BEFORE THE COMMENCEMENT OF ANY WORKS.

ELECTRONIC INFORMATION NOTES:

- THE ISSUED DRAWINGS IN HARD COPY OR PDF FORMAT TAKE PRECEDENCE OVER ANY ELECTRONICALLY ISSUED INFORMATION, LAYOUTS OR DESIGN MODELS.
- THE CONTRACTOR'S DIRECT AMENDMENT OR MANIPULATION OF THE DATA OR INFORMATION THAT MIGHT BE CONTAINED WITHIN AN ENGINEER-SUPPLIED DIGITAL TERRAIN MODEL AND ITS SUBSEQUENT USE TO UNDERTAKE THE WORKS WILL BE SOLELY AT THE DISCRETION OF AND THE RISK OF THE CONTRACTOR.
- THE CONTRACTOR IS REQUIRED TO HIGHLIGHT ANY DISCREPANCIES BETWEEN THE DIGITAL TERRAIN MODEL AND INFORMATION PROVIDED IN THE CONTRACT AND/OR DRAWINGS AND IS REQUIRED TO SEEK CLARIFICATION FROM THE SUPERINTENDENT.
- THE ENGINEER WILL NOT BE LIABLE OR RESPONSIBLE FOR THE POSSIBLE ON-GOING NEED TO UPDATE THE DIGITAL TERRAIN MODEL, SHOULD THERE BE ANY AMENDMENTS OR CHANGES TO THE DRAWINGS OR CONTRACT INITIATED BY THE CONTRACTOR.



LOCALITY PLAN
NTS

PRELIMINARY ONLY

			ARCHITECT			 [watch this SPACE design]			CLIENT			PROJECT						Costin Roe Consulting Pty Ltd. Consulting Engineers Level 1, 8 Widdell Street Wahia Bay, Sydney NSW 2000 Tel: (02) 9291-7899 Fax: (02) 9291-3723 email: mail@costinroe.com.au © COSTIN ROE CONSULTING PRECISION COMMUNICATION ACCOUNTABILITY			DRAWING TITLE DRAWING LIST & GENERAL NOTES														
PRELIMINARY ONLY			29.09.21			C			DESIGNED ML			DRAWN ML			DATE SEP 21						CHECKED MW			SIZE A0			SCALE AS SHOWN			CNO REF: C014506.00-SSDA10			ISSUE		
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EROSION CONTROL NOTES:

ALL CONTROL WORK INCLUDING DIVERSION BANKS AND CATCH DRAINS, V-DRAINS AND SILT FENCES SHALL BE COMPLETED DIRECTLY FOLLOWING THE COMPLETION OF THE EARTHWORKS.

1. SILT FENCES AND SILT FENCE RETURNS SHALL BE ERECTED CONVEX TO THE CONTOUR TO POND WATER.
2. HAY BALE BARRIERS AND GEOFABRIC FENCES ARE TO BE CONSTRUCTED TO TOE OF BATTER, PRIOR TO COMMENCEMENT OF EARTHWORKS, IMMEDIATELY AFTER CLEARING OF VEGETATION AND BEFORE REMOVAL OF TOP SOIL.
3. ALL TEMPORARY EARTH BERMS, DIVERSION AND SILT DAM EMBANKMENTS ARE TO BE MACHINE COMPACTED, SEEDED AND MULCHED FOR TEMPORARY VEGETATION COVER AS SOON AS THEY HAVE BEEN FORMED.
4. CLEAR WATER IS TO BE DIVERTED AWAY FROM DISTURBED GROUND AND INTO THE DRAINAGE SYSTEM.
5. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING AND PROVIDING ON GOING ADJUSTMENT TO EROSION CONTROL MEASURES AS REQUIRED DURING CONSTRUCTION.
6. ALL SEDIMENT TRAPPING STRUCTURES AND DEVICES ARE TO BE INSPECTED AFTER STORMS FOR STRUCTURAL DAMAGE OR CLOGGING, TRAPPED MATERIAL IS TO BE REMOVED TO A SAFE, APPROVED LOCATION.

7. ALL FINAL EROSION PREVENTION MEASURES INCLUDING THE ESTABLISHMENT OF GRASSING ARE TO BE MAINTAINED UNTIL THE END OF THE DEFECTS LIABILITY PERIOD.
8. ALL EARTHWORKS AREAS SHALL BE ROLLED ON A REGULAR BASIS TO SEAL THE EARTHWORKS.
9. ALL FILL AREAS ARE TO BE LEFT WITH A BUND AT THE TOP OF THE SLOPE AT THE END OF EACH DAYS EARTHWORKS. THE HEIGHT OF THE BUND SHALL BE A MINIMUM OF 200mm.
10. ALL CUT AND FILL SLOPES ARE TO BE SEEDED AND HYDROMULCHED WITHIN 10 DAYS OF COMPLETION OF FORMATION.
11. AFTER REVEGETATION OF THE SITE IS COMPLETE AND THE SITE IS STABLE IN THE OPINION OF A SUITABLY QUALIFIED PERSON ALL TEMPORARY WORK SUCH AS SILT FENCE, DIVERSION DRAINS ETC SHALL BE REMOVED.
12. ALL TOPSOIL STOCKPILES ARE TO BE SUITABLY COVERED TO THE SATISFACTION OF THE SITE MANAGER TO PREVENT WIND AND WATER EROSION.
13. ANY AREA THAT IS NOT APPROVED BY THE CONTRACT ADMINISTRATOR FOR CLEARING OR DISTURBANCE BY THE CONTRACTOR'S ACTIVITIES SHALL BE CLEARLY MARKED AND SIGN POSTED, FENCED OFF OR OTHERWISE APPROPRIATELY PROTECTED AGAINST ANY SUCH DISTURBANCE.

14. ALL STOCKPILE SITES SHALL BE SITUATED IN AREAS APPROVED FOR SUCH USE BY THE SITE MANAGER. A 6m BUFFER ZONE SHALL EXIST BETWEEN STOCKPILE SITES AND ANY STREAM OR FLOW PATH. ALL STOCKPILES SHALL BE ADEQUATELY PROTECTED FROM EROSION AND CONTAMINATION OF THE SURROUNDING AREA BY USE OF THE MEASURES APPROVED IN THE EROSION AND SEDIMENTATION CONTROL PLAN.
15. ACCESS AND EXIT AREAS SHALL INCLUDE SHAKE-DOWN OR OTHER METHODS APPROVED BY THE SITE MANAGER FOR THE REMOVAL OF SOIL MATERIALS FROM MOTOR VEHICLES.
16. THE CONTRACTOR IS TO ENSURE RUNOFF FROM ALL AREAS WHERE THE NATURAL SURFACE IS DISTURBED BY CONSTRUCTION, INCLUDING ACCESS ROADS, DEPOT AND STOCKPILE SITES, SHALL BE FREE OF POLLUTANTS BEFORE IT IS EITHER DISPERSED TO STABLE AREAS OR DIRECTED TO NATURAL WATERCOURSES.
17. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN SLOPES, CROWNS AND DRAINS ON ALL EXCAVATIONS AND EMBANKMENTS TO ENSURE SATISFACTORY DRAINAGE AT ALL TIMES WATER SHALL NOT BE ALLOWED TO POND ON THE WORKS UNLESS SUCH PONDING IS PART OF AN APPROVED ESCP / SWMP.

SEDIMENTATION BASIN NOTE:

REFER TO SEDIMENT & EROSION CONTROL NOTES.

FOR SEDIMENT AND EROSION CONTROL DETAILS, REFER TO THE LANDCOM 'BLUE BOOK' AND EXTRACTS ON DRAWING C014506.00-SSDA25.

SEDIMENTATION BASIN SIZING BASED ON RECOMMENDATIONS OF 'SOILS AND CONSTRUCTION, MANAGING URBAN STORMWATER-THE BLUE BOOK'. CAPACITY BASED ON 5-DAY RAINFALL DEPTHS AT 85th PERCENTILE INTENSITY (35mm) IN THE PENRITH CATCHMENT AREA.

NOTES:

1. ASSUME TYPE D SOIL (CLAY/SILTY CLAY)
2. ASSUME GROUP D SOIL (HIGH PLASTICITY AND SHRINK/SWELL PROPERTIES)

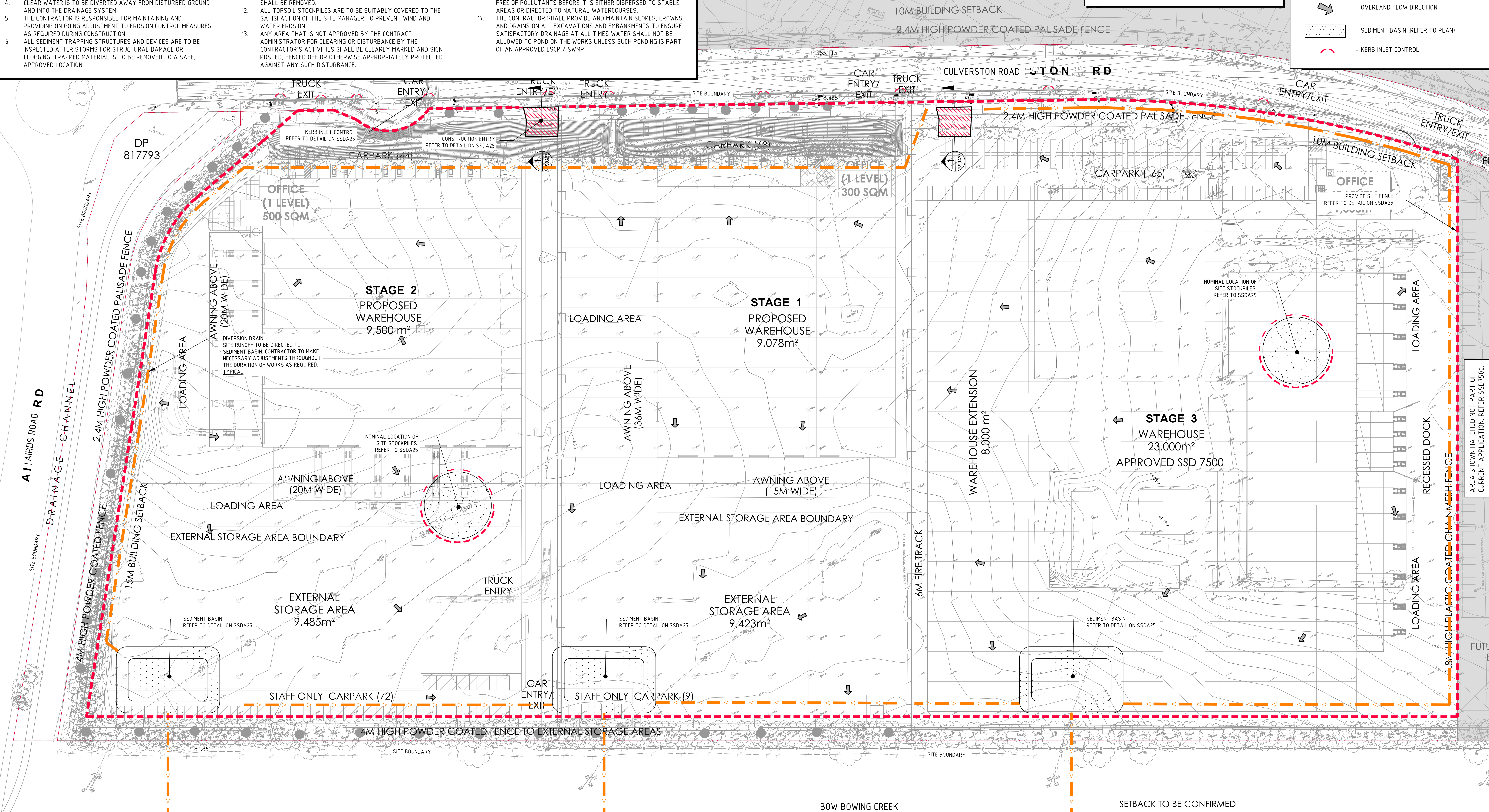
SEDIMENT BASIN DIMENSIONS:

CATCHMENT AREA = 12.5Ha
DISTURBED AREA = 12.5Ha
REQUIRED BASIN VOLUME = 2001m³
BASE DIMENSIONS (L X B) = 30m x 16m
TOP DIMENSIONS (L X B) = 39m x 25m
MAX SIDE SLOPE = 1V:3H
DEPTH = 1.5m
PROVIDED BASIN VOLUME = 2140m³
Q10 WEIR PEAK FLOW = 0.153m³/s

LEGEND:

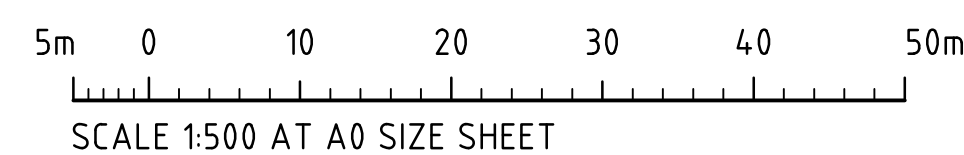
PROVIDE 1m RETURNS TO SILT FENCE AT 30m MAX. INTERVALS. TYPICAL (N.S.D.P.)

- DENOTES DIVERSION DRAIN
- DENOTES SILT FENCE WITH CATCH DRAIN
- DENOTES SILT FENCE ONLY
- DENOTES CONSTRUCTION ENTRY
- OVERLAND FLOW DIRECTION
- SEDIMENT BASIN (REFER TO PLAN)
- KERB INLET CONTROL



EROSION AND SEDIMENT CONTROL PLAN
SCALE 1:500

PRELIMINARY ONLY



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										[watch this SPACE design]										Charter Hall										MINTO LOGISTICS HUB 5-7 CULVERSTON ROAD MINTO NSW 2566										Costin Roe Consulting Pty Ltd. Consulting Engineers Level 1, 8 Windmill Street Mushy Bay, Sydney NSW 2000 Tel: (02) 9251-7099 Fax: (02) 9241-3721 email: mail@costinroe.com.au ©										EROSION & SEDIMENT CONTROL PLAN																																							
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NOTE: PROVIDE 1m RETURNS AT 30m INTERVALS. TYPICAL

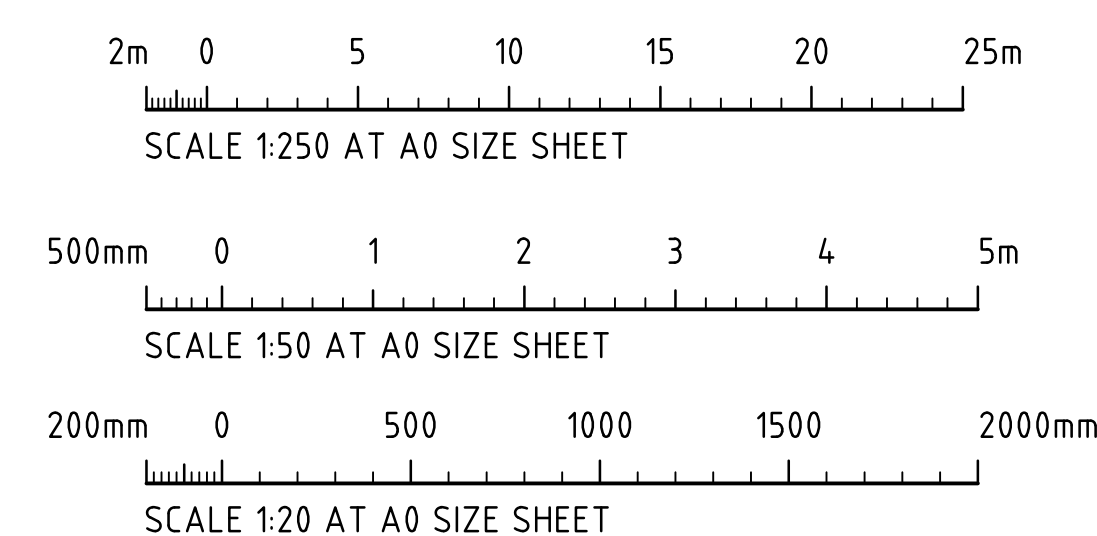


1. PLACE ALL STOCKPILES IN LOCATIONS MORE THAN 5m FROM EXISTING VEGETATION, ROADS & HAZARD AREAS.
2. CONSTRUCT ON THE CONTOUR AS LOW, FLAT ELONGATED MOUNDS.
SIDE SLOPE TO BE 1V : 2 H MAX.
3. WHERE THERE IS SUFFICIENT AREA, TOPSOIL STOCKPILES SHALL BE LESS THAN 2m IN HEIGHT.
4. WHERE STOCKPILES ARE TO BE IN PLACE FOR MORE THAN 10 DAYS, STABILISE USING WOOD CHIP MULCH - 16 TONNE/ha.
5. CONSTRUCT SILT FENCE WITH CATCH DRAIN ON UPSLOPE SIDE TO DIVERT WATER AROUND STOCKPILES & SILT FENCE ONLY 1 TO 2m DOWNSLOPE AS SHOWN.



The diagram illustrates a vertical cross-section of a sedimentation basin. A horizontal line at the top is labeled "TOP WATER LEVEL OF SEDIMENTATION BASIN" with a downward-pointing arrow. A vertical line represents a "MARKER POST" extending from above the water level down into the basin. At the bottom of the basin, a horizontal line is labeled "BASE OF SEDIMENTATION BASIN" with an upward-pointing arrow. A small, shaded, conical object labeled "BRIGHT COLOURED INDICATOR MARKER" is positioned on the marker post just above the base. A vertical dimension line on the right side of the basin, between the water level and the base, is labeled "500". A text label "ONCE SEDIMENT REACHES TOP OF INDICATOR MARKER, REMOVE SEDIMENT AS PER NOTE" has an arrow pointing to the indicator marker.

SCALE 1:20



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PRECISION | COMMUNICATION | ACCOUNTABILITY

DRAWING TITLE
EROSION & SEDIMENT CONTROL
DETAILS

DRAWING No C014.506.00-SSDA25

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ARCHITECT

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CLIENT	
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Charter Hall 

PROJECT
MINTO LOGISTICS HUB
5-7 CULVERSTON ROAD
MINTO NSW 2566



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1. ALL EARTHWORKS SHALL BE COMPLETED UNDER LEVEL 1 SUPERVISION GENERALLY IN ACCORDANCE WITH THE GUIDELINES SPECIFIED BY THE GEOTECHNICAL ENGINEER PROVIDED BY GOLDER ASSOCIATES DATED APRIL 2016.
2. EXISTING LEVELS ARE BASED ON SURVEY INFORMATION PROVIDED BY CARDNO DATED 03/09/21
3. STRIP ANY TOP SOIL OR DELETERIOUS MATERIAL AND DISPOSE OF FROM SITE OR STORE AS DIRECTED.
4. COMPLETE CUT TO FILL EARTHWORKS TO ACHIEVE THE REQUIRED LEVELS AS INDICATED ON THE DRAWINGS WITHIN A TOLERANCE OF $\pm 0\text{mm}/-10\text{mm}$ THROUGH BUILDING PADS/PAVEMENTS AND $\pm 0\text{mm}/-20\text{mm}$ ELSEWHERE.
5. PREPARE STEEP BATTERS TO RECEIVE FILL BY CONSTRUCTING BENCHING TO FACILITATE FILL PLACEMENT AND COMPACTION.
6. AREAS TO RECEIVE FILL (THAT ARE NOT ON BENCHMARK BATTERS) AND AREAS IN CUT SHALL BE PROOF ROLLED TO IDENTIFY ANY SOFT HEAVING MATERIAL. SOFT MATERIAL SHALL BE BOXED OUT AND REMOVED PRIOR TO FILL PLACEMENT. PROOF ROLLING TO BE INSPECTED BY A GEOTECHNICAL ENGINEER OR THE EARTHWORKS DESIGNER.

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|----|--|-----|--|
| 7. | SITE WON FILL SHALL BE COMPACTED IN MAXIMUM 300mm LAYERS AND TO DRY OR HILF DENSITY RATIOS (STANDARD COMPACTION) OF BETWEEN 98% AND 103%. THE PLACEMENT MOISTURE VARIATION OR HILF MOISTURE VARIATION SHALL BE CONTROLLED TO BE BETWEEN 2% DRY AND 2% WET. | 10. | PRIOR TO ANY EARTHWORKS, EROSION CONTROL AS OUTLINED IN THE EROSION AND SEDIMENTATION CONTROL PLAN SHALL BE COMPLETED. |
| 8. | IMPORTED FILL SHALL BE COMPACTED IN MAXIMUM 300mm LAYERS AND TO DRY OR HILF DENSITY RATIOS (STANDARD COMPACTION) OF BETWEEN 98% AND 103%. THE PLACEMENT MOISTURE VARIATION OR HILF MOISTURE VARIATION SHALL BE CONTROLLED TO BE BETWEEN 2% DRY AND 2% WET. | 11. | EXISTING ROCK, IF ANY, SHALL BE REMOVED BY HEAVY ROCK BREAKING OR RIPPING. |
| | | 12. | MATCH EXISTING LEVELS AT BATTER INTERFACE. |
| | | 13. | CONTRACTOR TO MATCH EXISTING LEVELS AT THE INTERFACE OF EARTHWORKS AND EXISTING SURFACE AT BATTER LOCATIONS OR WHERE NO RETAINING WALLS ARE PRESENT. ANY DISCREPANCY BETWEEN DESIGN AND EXISTING LEVELS TO BE REFERRED TO THE ENGINEER FOR DIRECTION OR ADJUSTMENTS TO DESIGN LEVELS. |
| 9. | ALL ENGINEERED FILL PARTICLES SHALL BE ABLE TO BE INCORPORATED WITHIN A SINGLE LAYER. FURTHER, LESS THAN 30% OF PARTICLES SHALL BE RETAINED ON THE 37.5 mm SIEVE. ENGINEERED FILL SHALL BE ABLE TO BE TESTED IN ACCORDANCE WITH THE STANDARD COMPACTION METHOD (AS1289 5.4.1) OR HILF TEST METHOD (AS1289 5.7.1). THESE METHODS REQUIRE LESS THAN 20% RETAINED ON THE 37.5 mm SIEVE. WHERE BETWEEN 20% AND 30% OF PARTICLES ARE RETAINED ON THE 37.5 mm SIEVE THE ABOVE TEST METHODS SHALL STILL BE ADOPTED AND TEST REPORTS ANNOTATED APPROPRIATELY. THESE REQUIREMENTS SHOULD BE MET BY THE MATERIAL AFTER PLACEMENT AND COMPACTION. | 14. | DURING EARTHWORKS THE CONTRACTOR IS TO ENSURE ALL AREAS ARE FREE DRAINING & WILL NOT RETAIN WATER DURING RAINFALL. PROVIDE TEMPORARY MEASURES AS REQUIRED TO ENSURE FREE FLOWING RUNOFF THROUGH MANAGED DRAINAGE PATHS, DIVERSION DRAINS OR OTHER SUITABLE DISPOSAL METHOD AS AGREED DURING THE WORKS. REFER ANY CONCERNS TO THE ENGINEER. REFER TO EROSION AND SEDIMENT CONTROL DRAWINGS AND NOTES. |

SITE AREA = 11.5 Ha

CUT = $-4,500\text{m}^3$

FILL	= +93,900m ³
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DETAILED EXCAVATION (1,200m³/Ha) = -13,800m³

BALANCE	= +75,600m ³ (i.e. IMPORT)
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NOTE

EARTHWORK VOLUMES ARE APPROXIMATE ONLY.

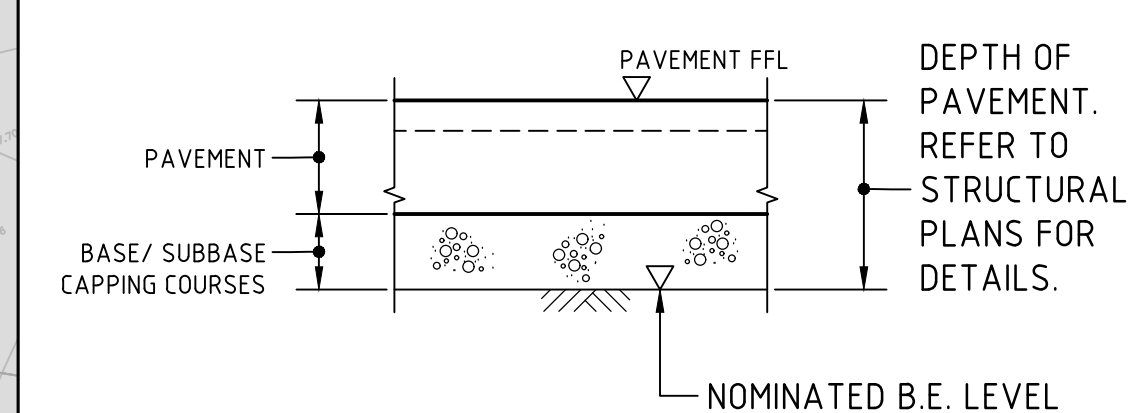
NO ALLOWANCE HAS BEEN MADE FOR DELETERIOUS MATERIAL, EROSION AND SEDIMENT CONTROL, BULKING OR COMPACTION OF FILLED SOILS.

THE EXISTING SURFACE IS BASED ON THE SURVEY INFORMATION PROVIDED BY CARDNO DATED 03/09/21. THIS SURFACE USED IS THE MOST CURRENT AVAILABLE INFORMATION HOWEVER IT MAY NOT ACCURATELY REFLECT ACTUAL GROUND LEVELS OR STOCKPILES ETC ON SITE. IT IS THE CONTRACTORS RESPONSIBILITY TO CONFIRM VOLUMES AND ALLOWANCES FOR EARTHWORKS.

LEVELS DATUM IS AHD.

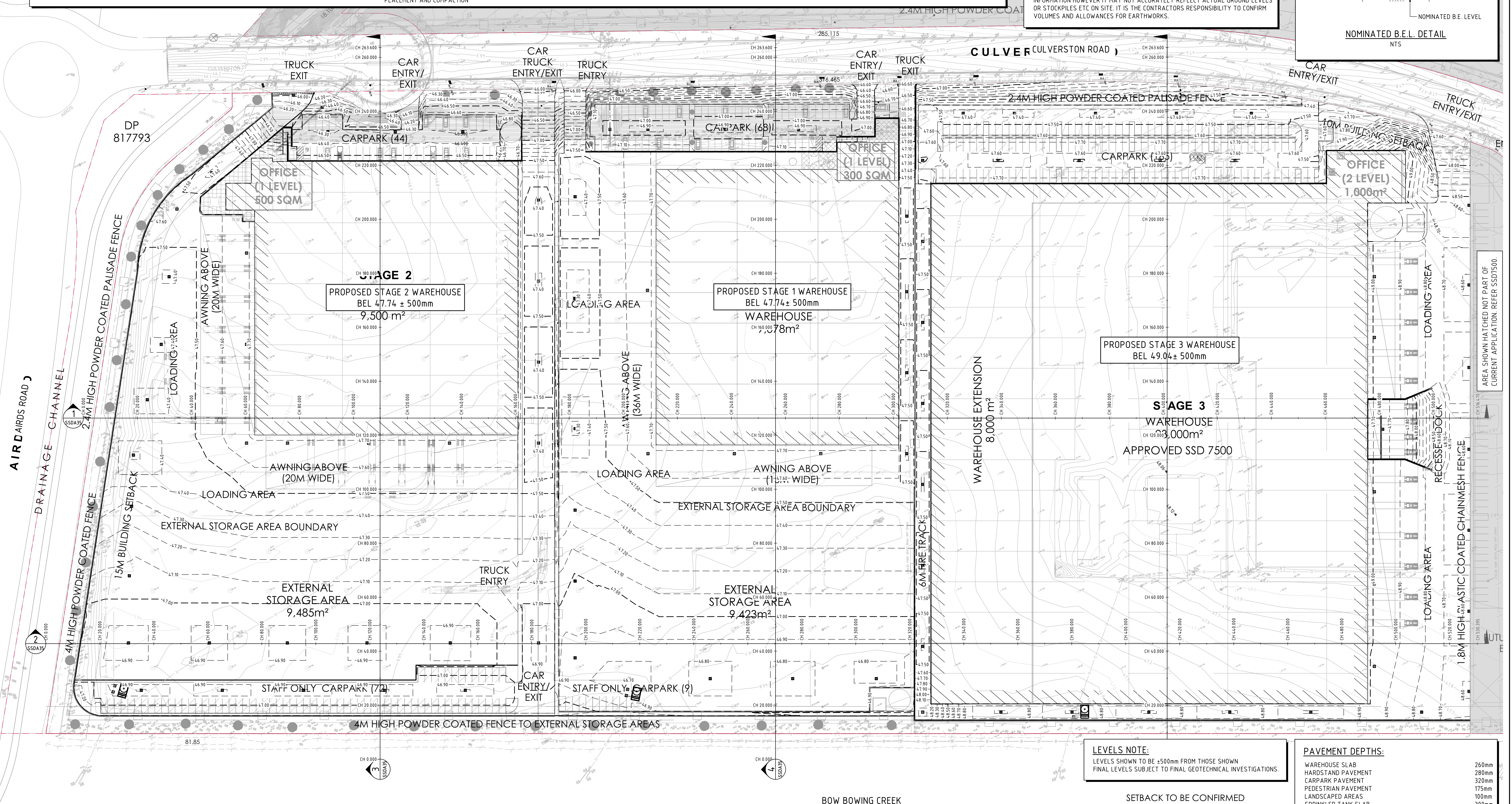
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— 48.00 — - B.E.L. CONTOUR (MA



NOMINATED B.E.L. DETAIL

NTS



AREA SHOWN HATCHED NOT PART OF
CURRENT APPLICATION. REFER SSD7500.

LEVELS NOTE:

LEVELS SHOWN TO BE $\pm 500\text{mm}$ FROM THOSE SHOWN
FINAL LEVELS SUBJECT TO FINAL GEOTECHNICAL INVESTIGATIONS

PAVEMENT DEPTHS:

WAREHOUSE SLAB
HARDSTAND PAVEMENT
CARPARK PAVEMENT
PEDESTRIAN PAVEMENT
LANDSCAPED AREAS
SPRINKLER TANK SLAB

260mm
280mm
320mm
175mm
100mm
300mm

BULK EARTHWORKS PLAN
SCALE 1:500

PRELIMINARY ONLY

Costin Roe Consulting

DRAWING TITLE
BULK EARTHWORKS PLAN

PRECISION | COMMUNICATION | ACCOUNTABILITY

DRAWING No	C014.506.00-SSDA30	ISSUE	B
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ARCHITECT

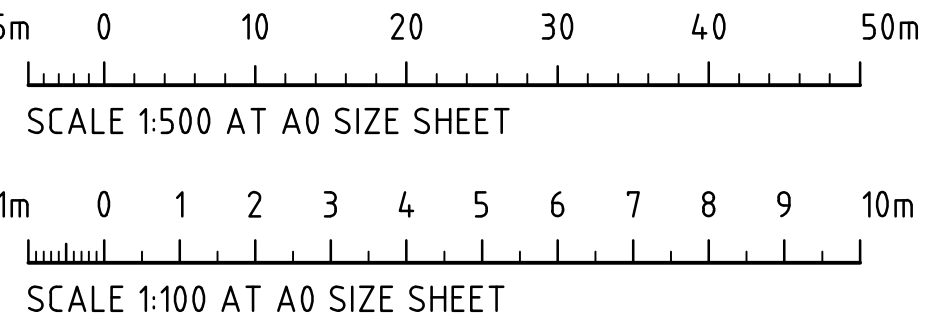
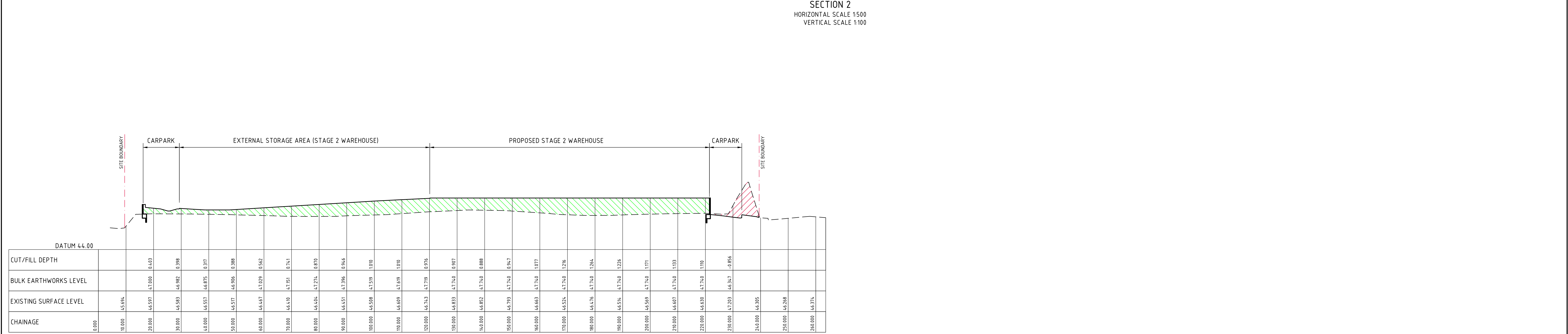
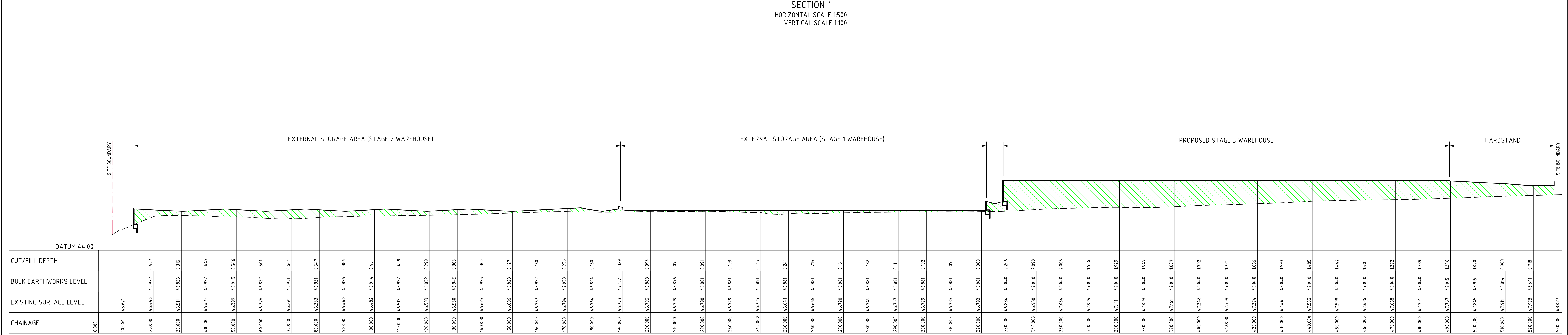
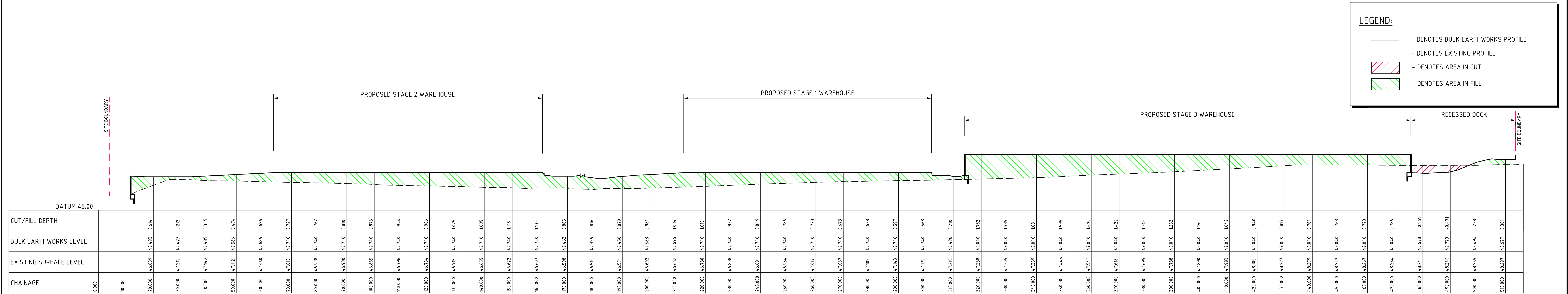
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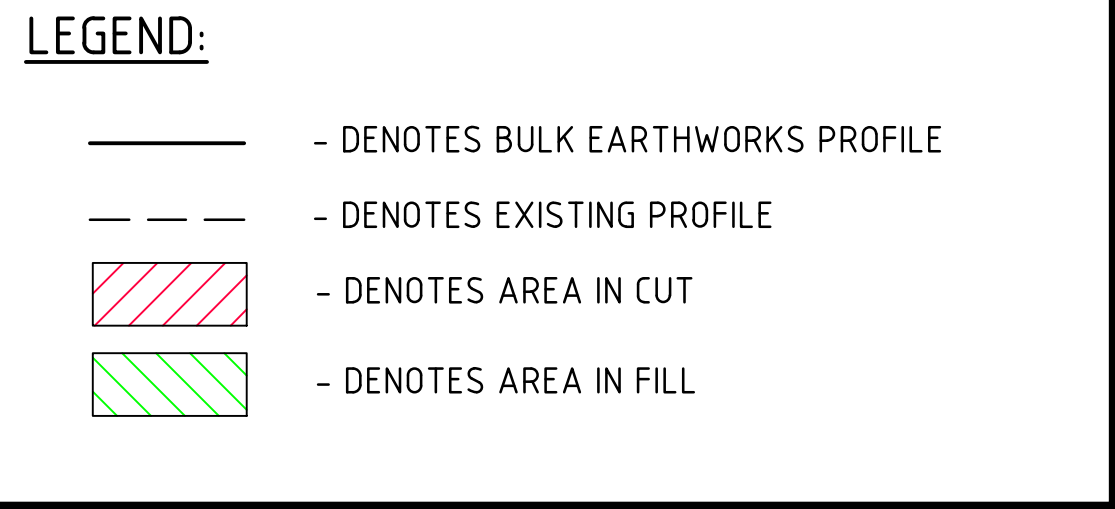
CLIENT

Charter Hall 

PROJECT MINTO LOGISTICS HUB 5-7 CULVERSTON ROAD MINTO NSW 2566								
DESIGNED	DRAWN	DATE	CHECKED	SIZE	SCALE	CAD REF:		

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CUT/FILL DEPTH	BULK EARTHWORKS LEVEL	EXISTING SURFACE LEVEL	CHAINAGE
			0.000
			10.000
			20.000
			30.000
			40.000
			50.000
			60.000
			70.000
			80.000
			90.000
			100.000
			110.000
			120.000
			130.000
			140.000
			150.000
			160.000
			170.000
			180.000
			190.000
			200.000
			210.000
			220.000
			230.000
			240.000
			250.000
			260.000

5m 0 10 20 30 40 50m
SCALE 1:500 AT A0 SIZE SHEET

1m 0 1 2 3 4 5 6 7 8 9 10m
SCALE 1:100 AT A0 SIZE SHEET

1. ALL STORMWATER WORKS TO BE COMPLETED IN ACCORDANCE WITH AUSTRALIAN STANDARD AS3500.3:2018 PLUMBING AND DRAINAGE, PART 3: STORMWATER DRAINAGE.
2. THE MINOR (PIPED) SYSTEM HAS BEEN DESIGNED FOR THE 1 IN 20 YEAR ARI STORM EVENT AND THE MAJOR (OVERLAND) SYSTEM HAS BEEN DESIGNED FOR THE 1 IN 100 YEAR ARI STORM EVENT.
3. ALL FINISHED PAVEMENT LEVELS SHALL BE AS INDICATED ON FINISHED LEVELS PLANS C014506.00-SSDA50.
4. PIT SIZES SHALL BE AS INDICATED IN THE SCHEDULE WHILE PIPE SIZES AND DETAILS ARE PROVIDED ON PLAN.
5. EXISTING STORMWATER PIT LOCATIONS AND INVERT LEVELS TO BE CONFIRMED BY SURVEY PRIOR TO COMMENCING WORKS ON SITE.
6. ALL STORMWATER PIPES Ø375 OR GREATER SHALL BE CLASS 2 (WITH HS2 SUPPORT) REINFORCED CONCRETE WITH RUBBER RING JOINTS UNLESS NOTED OTHERWISE.
7. ALL PIPES UP TO AND INCLUDING Ø300 TO BE uPVC GRADE S8N UNDO.
8. PIPE CLASS NOMINATED ARE FOR IN-SERVICE LOAD CONDITIONS ONLY. CONTRACTOR IS TO MAKE ANY NECESSARY ADJUSTMENTS REQUIRED FOR CONSTRUCTION CONDITIONS.
9. ALL CONCRETE PITS GREATER THAN 1000mm DEEP SHALL BE REINFORCED USING N12-200 EACH WAY CENTERED IN WALL AND BASE. LAP MINIMUM 300mm

WHERE REQUIRED, ALL CONCRETE FOR PITS SHALL BE $F'_{c} = 25 \text{ MPa}$. PRECAST PITS MAY BE USED WITH THE APPROVAL OF THE ENGINEER.

IN ADDITION TO ITEM 6 ABOVE, ALL CONCRETE PITS GREATER THAN 300mm DEEP SHALL HAVE WALLS AND BASE THICKNESS INCREASED TO 200mm.

PIPES SHALL BE LAID AS PER PIPE LAYING DETAILS. PARTICULAR CARE SHALL BE TAKEN TO ENSURE THAT THE PIPE IS FULLY AND EVENLY SUPPORTED. RAM AND PACK FILLING AROUND AND UNDER BACK OF PIPES AND PIPE FAUCETS, WITH NARROW EDGED RAMMERS OR OTHER SUITABLE TAMPING DETAILS.

CONCRETE PIPES UNDER, OR WITHIN THE ZONE OF INFLUENCE OF PAVED AREAS SHALL BE LAID USING HS2 TYPE SUPPORT, AS A MINIMUM, IN ACCORDANCE WITH AS 3725. AGGREGATE BACKFILL SHALL NOT BE USED FOR PIPE BEDDING AND/OR HAUNCH/SIDE SUPPORT.

WHERE PIPE LINES ENTER STOPS, PROVIDE 2m LENGTH OF STOCKING WRAPPED LAYERS @ $\phi 90 \text{ uVC}$ TO EACH SIDE OF PIPE.

ALL SUBSOIL DRAINAGE LINES SHALL BE $\phi 100$ SLOTTED uPVC WITH APPROVED FILTER WRAP LAD IN 300mm wide GRANULAR FILTER UNLESS NOTED OTHERWISE. LAY SUBSOIL LINES TO MATCH FALLS OF LAND AND/OR 1 IN 200 MINIMUM. PROVIDE CAPPED CLEANING EYE (RODDING POINT) AT UPSTREAM END OF LINE AND AT 30m MAX. CTS. PROVIDE SUBSOIL LINES TO ALL PAVEMENT/ LANDSCAPED INTERFACES, TO REAR OF RETAINING WALLS

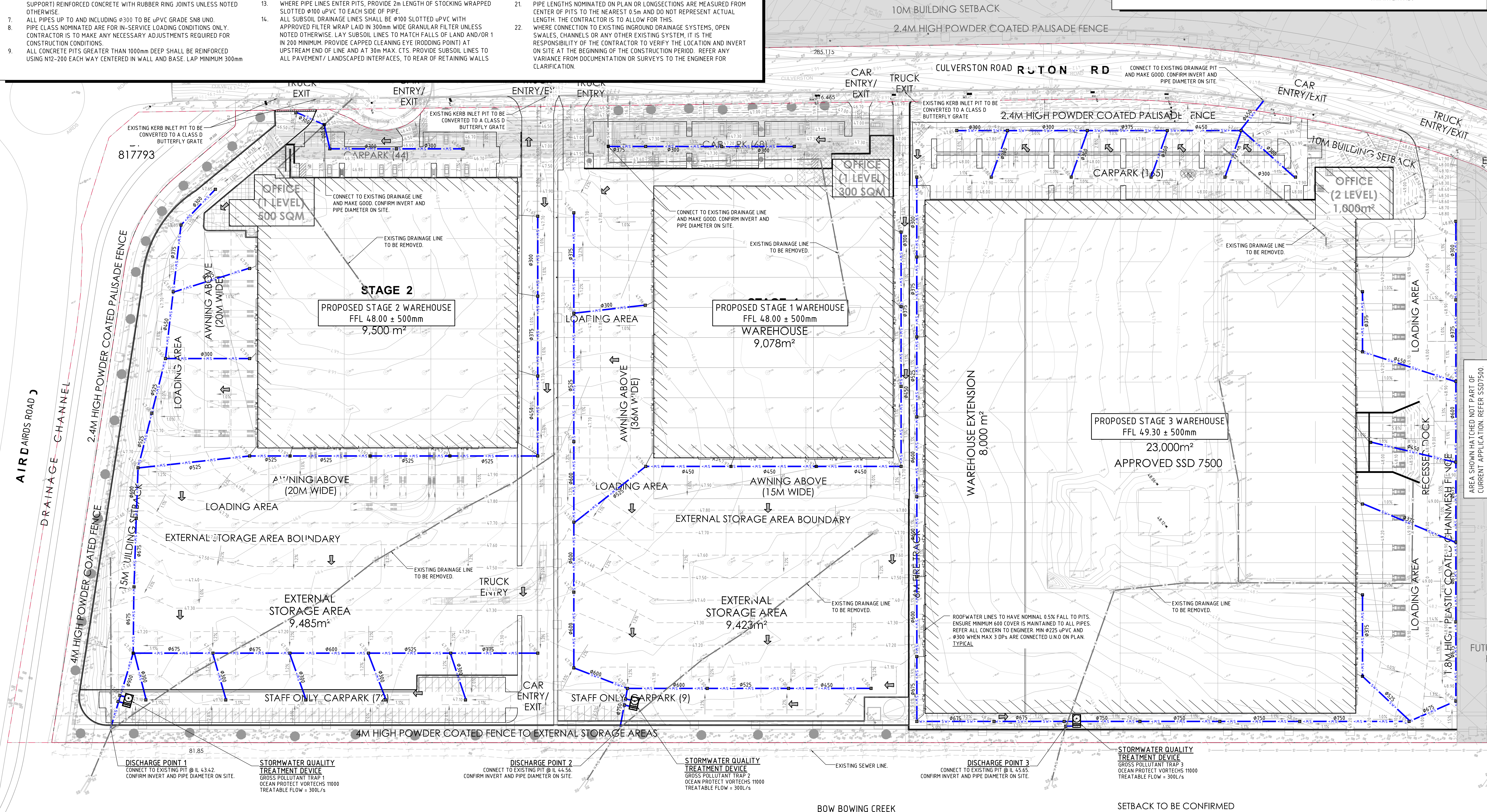
15. (AS NOMINATED BY STRUCTURAL ENGINEER) AND AS SHOWN ON PLAN.
16. ALL PIPE GRADES IN 1200 MINIMUM UNDO.
17. PROVIDE STEP IRONS IN PITS DEEPER THAN 1000mm.
18. MIN. 600 COVER TO PIPE OBJECT BENEATH ROADS & MIN. 400 COVER BENEATH LANDSCAPED AND PEDESTRIAN AREAS.
19. PIT COVERS IN TRAFFICABLE PAVEMENT SHALL BE CLASS D 'HEAVY DUTY', THOSE LOCATED IN NON-TRAFFICABLE AREAS SHALL BE CLASS B 'MEDIUM DUTY' UNDO.
20. PROVIDE CLEANING EYES (RODDING POINTS) TO PIPES AT ALL CORNERS AND T-JUNCTIONS WHERE NO PITS ARE PRESENT.
21. DOWN PIPES (DP) TO BE AS PER HYDRAULIC ENGINEERS DETAILS WITH CONNECTOR TO MATCH DP SIZE UNDO. ON PLAN, PROVIDE CLEANING EYE AT GROUND LEVEL.
22. PIPE LENGTHS NOMINATED ON PLAN OR LONGSECTIONS ARE MEASURED FROM CENTER OF PITS TO THE NEAREST 0.5m AND DO NOT REPRESENT ACTUAL LENGTH. THE CONTRACTOR IS TO ALLOW FOR THIS.
23. WHERE CONNECTION TO EXISTING INGROUND DRAINAGE SYSTEMS, OPEN SWALES, CHANNELS OR ANY OTHER EXISTING SYSTEM, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE LOCATION AND INVERT ON SITE AT THE BEGINNING OF THE CONSTRUCTION PERIOD. REFER ANY VARIANCE FROM DOCUMENTATION OR SURVEYS TO THE ENGINEER FOR CLARIFICATION.

LEVELS NOTE:
LEVELS SHOWN TO BE $\pm 500\text{mm}$ FROM THOSE SHOWN
FINAL LEVELS SUBJECT TO FINAL GEOTECHNICAL INVESTIGATIONS.

ALL PIT GRATES TO BE OF MINIMUM CLASS E.

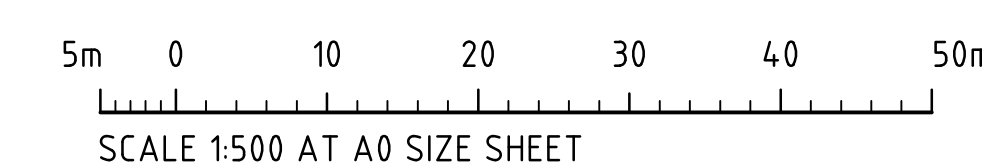
LEVELS DATUM IS AHD.
EXISTING SITE LEVELS AND DETAILS BASED ON SURVEY INFORMATION PROVIDED BY CARDNO DATED 03/09/21.

- | | | | |
|---|--|---|---|
|  | - SGGP, SINGLE GRATED GULLY PIT |  | - ROOFWATER DOWNPIPE (INDICATIVE) |
|  | - S.J.P., SEALED JUNCTION PIT |  | - ROOFWATER LINE |
|  | - PROPOSED DRAINAGE LINE |  | - OVERLAND FLOW DIRECTION |
|  | - EXISTING DRAINAGE LINE TO BE REMOVED |  | - FINISHED PAVEMENT CONTOUR (MAJOR)
0.5m INTERVALS |
|  | - SITE BOUNDARY |  | - FINISHED PAVEMENT CONTOUR (MINOR)
0.1m INTERVALS |

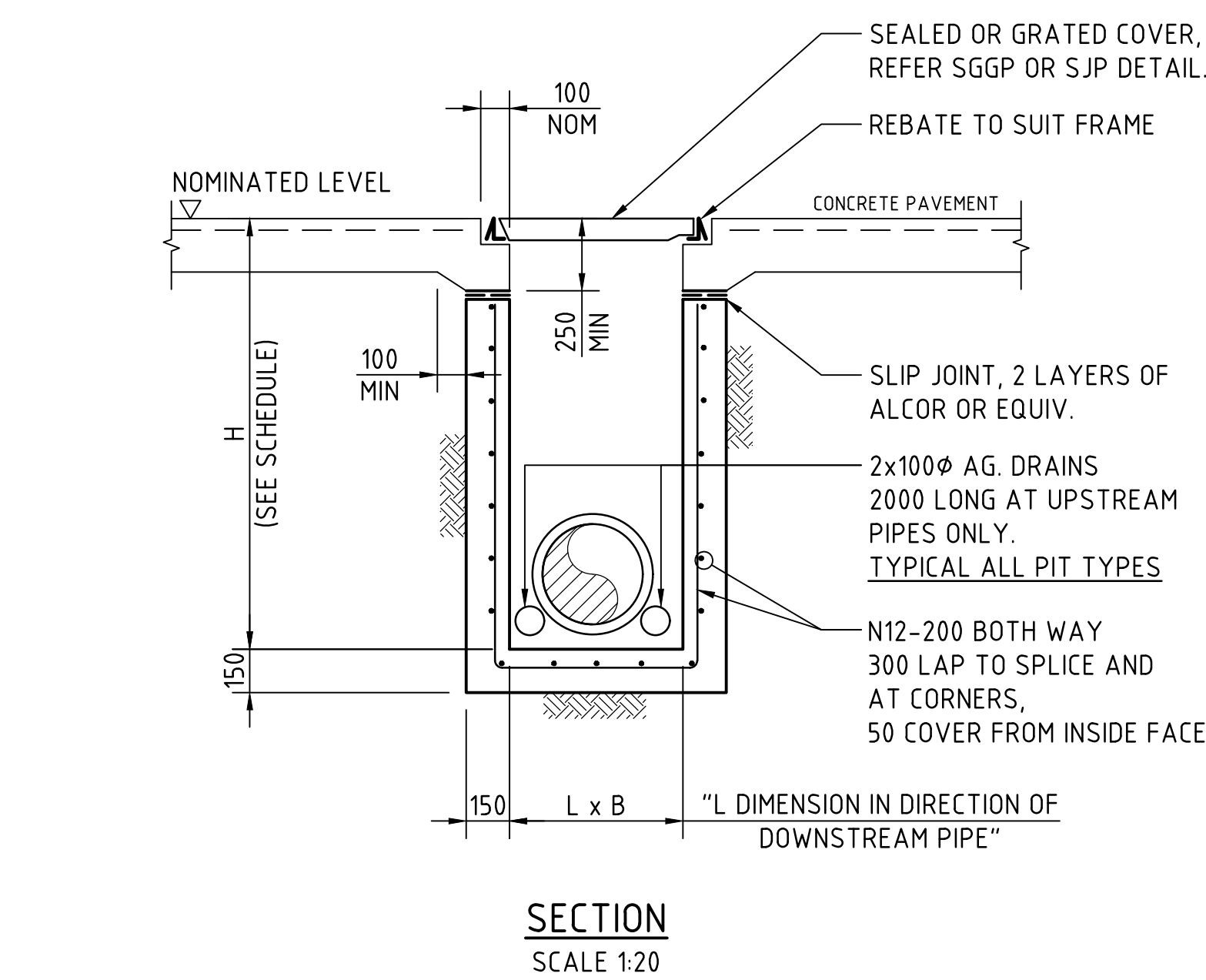
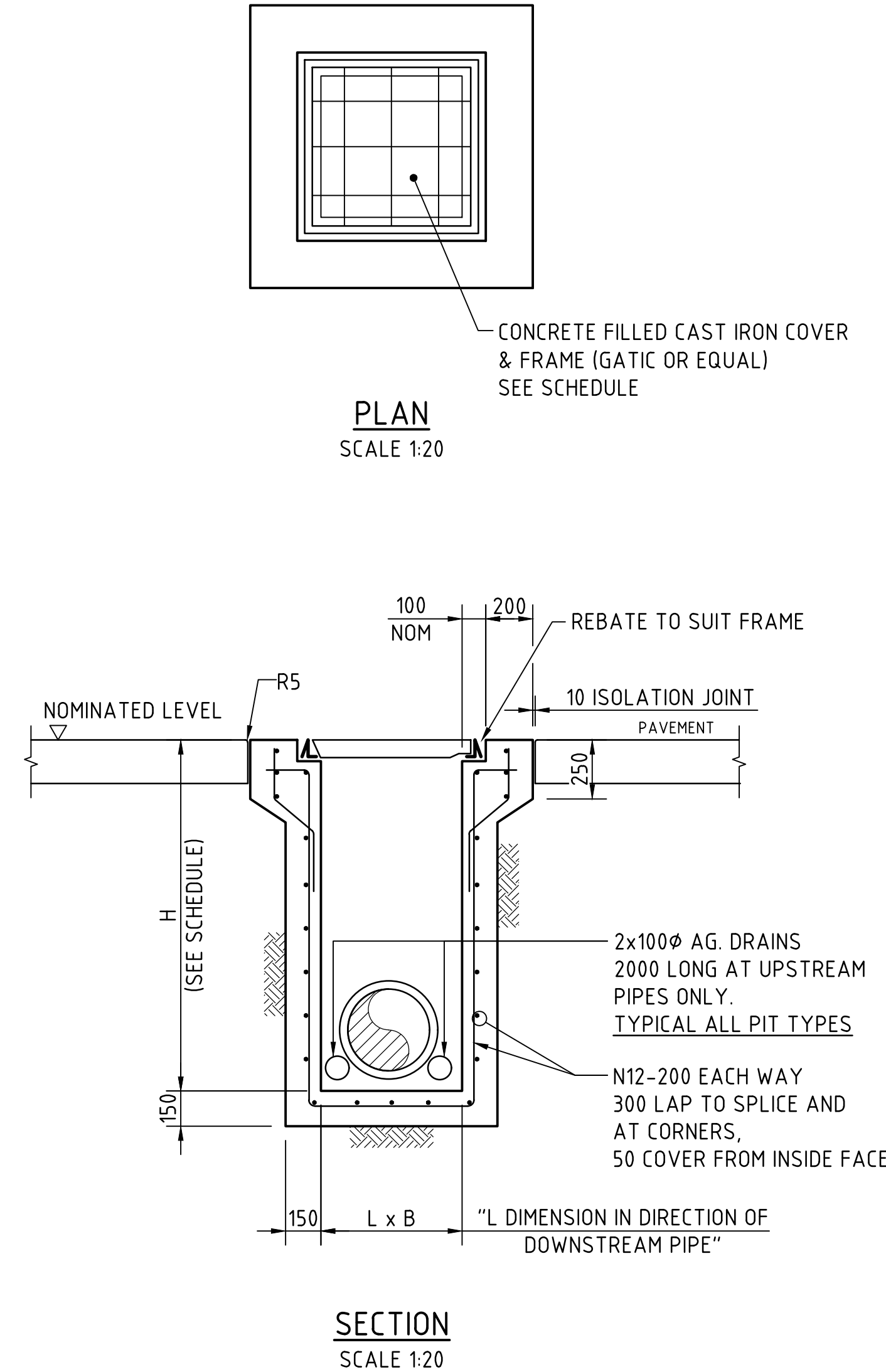
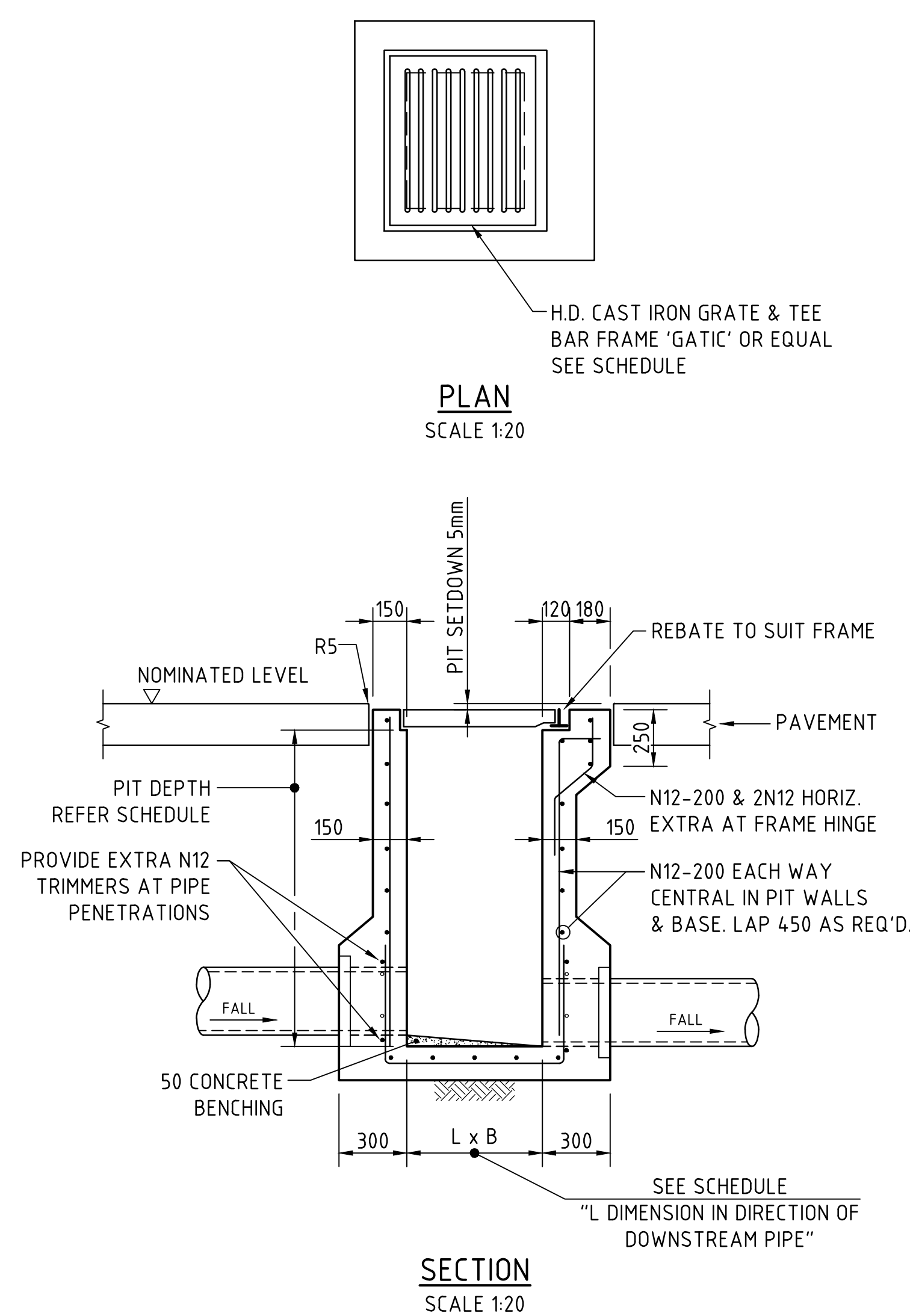


STORMWATER DRAINAGE PLAN
SCALE 1:500

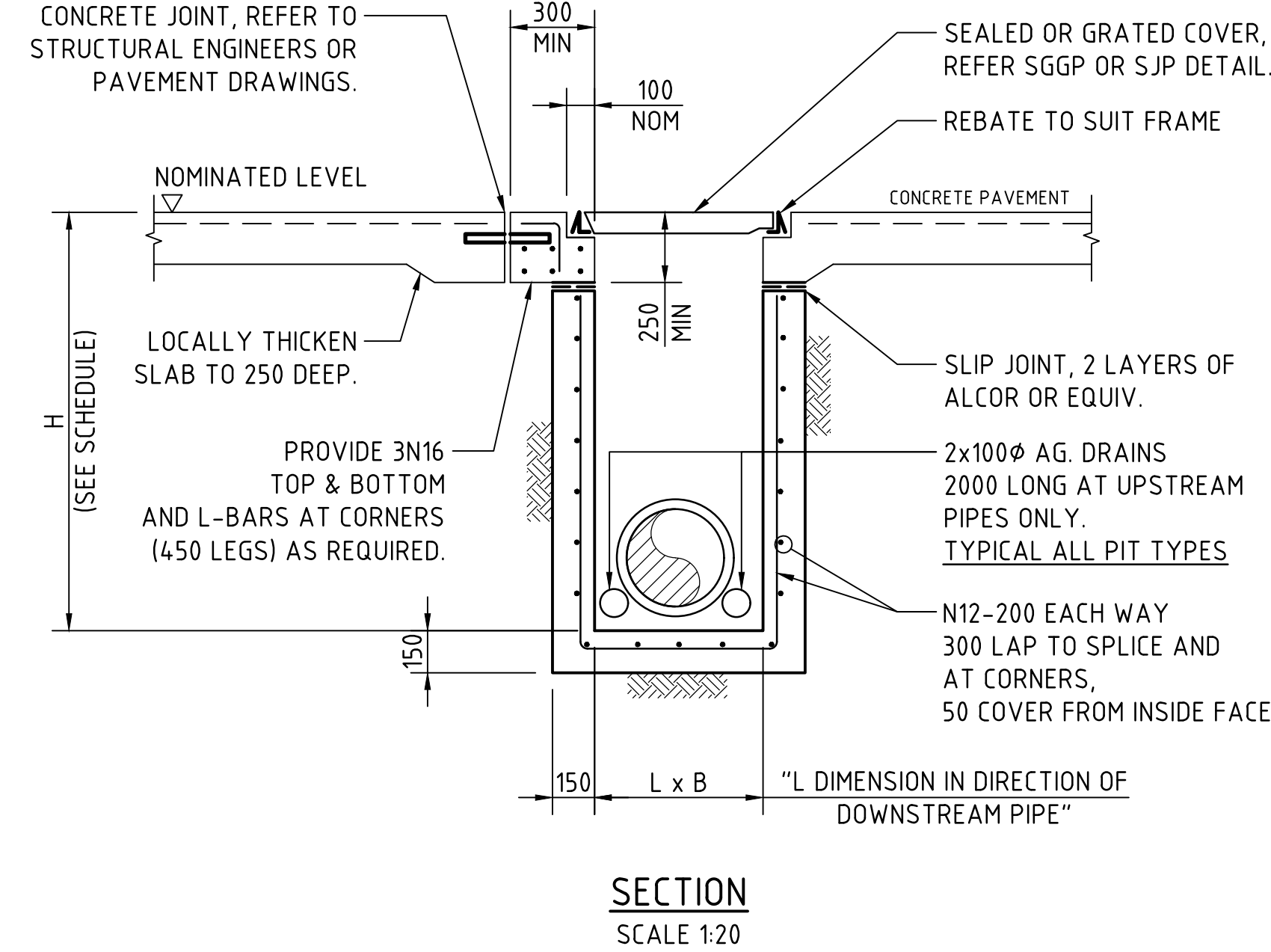
PRELIMINARY ONLY



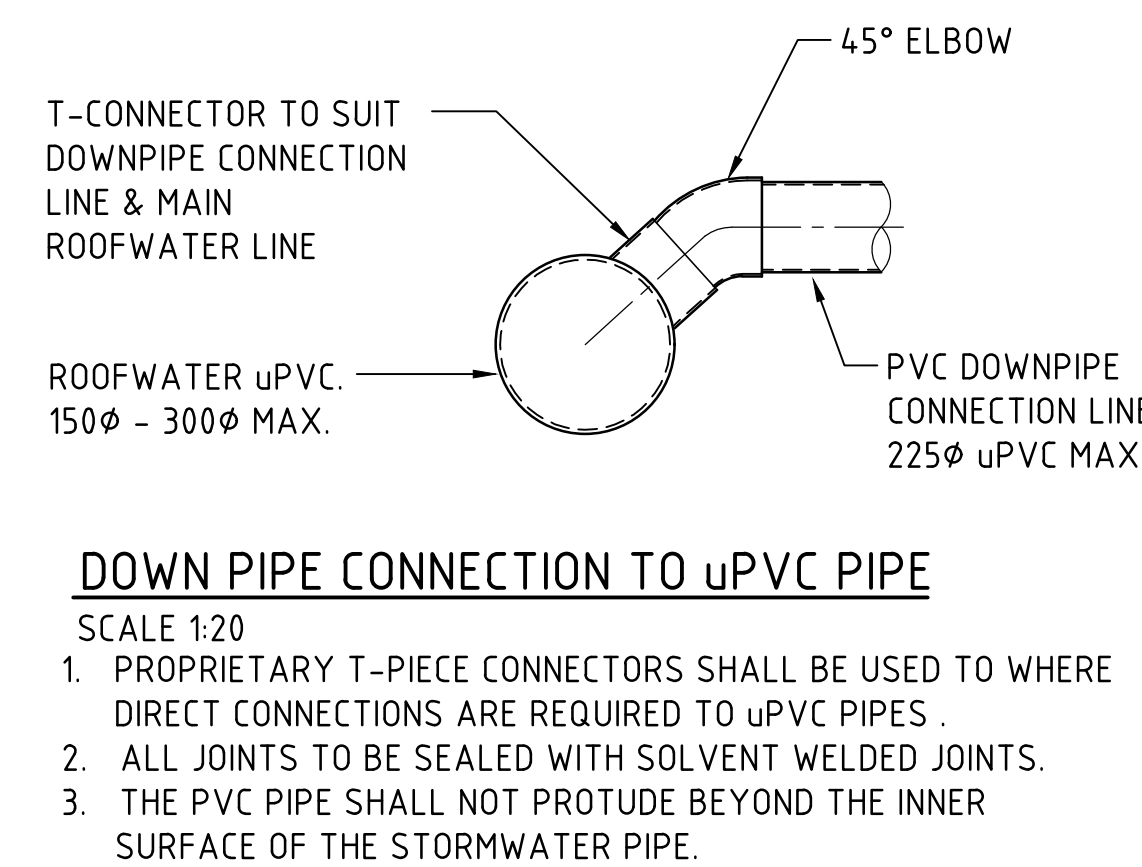
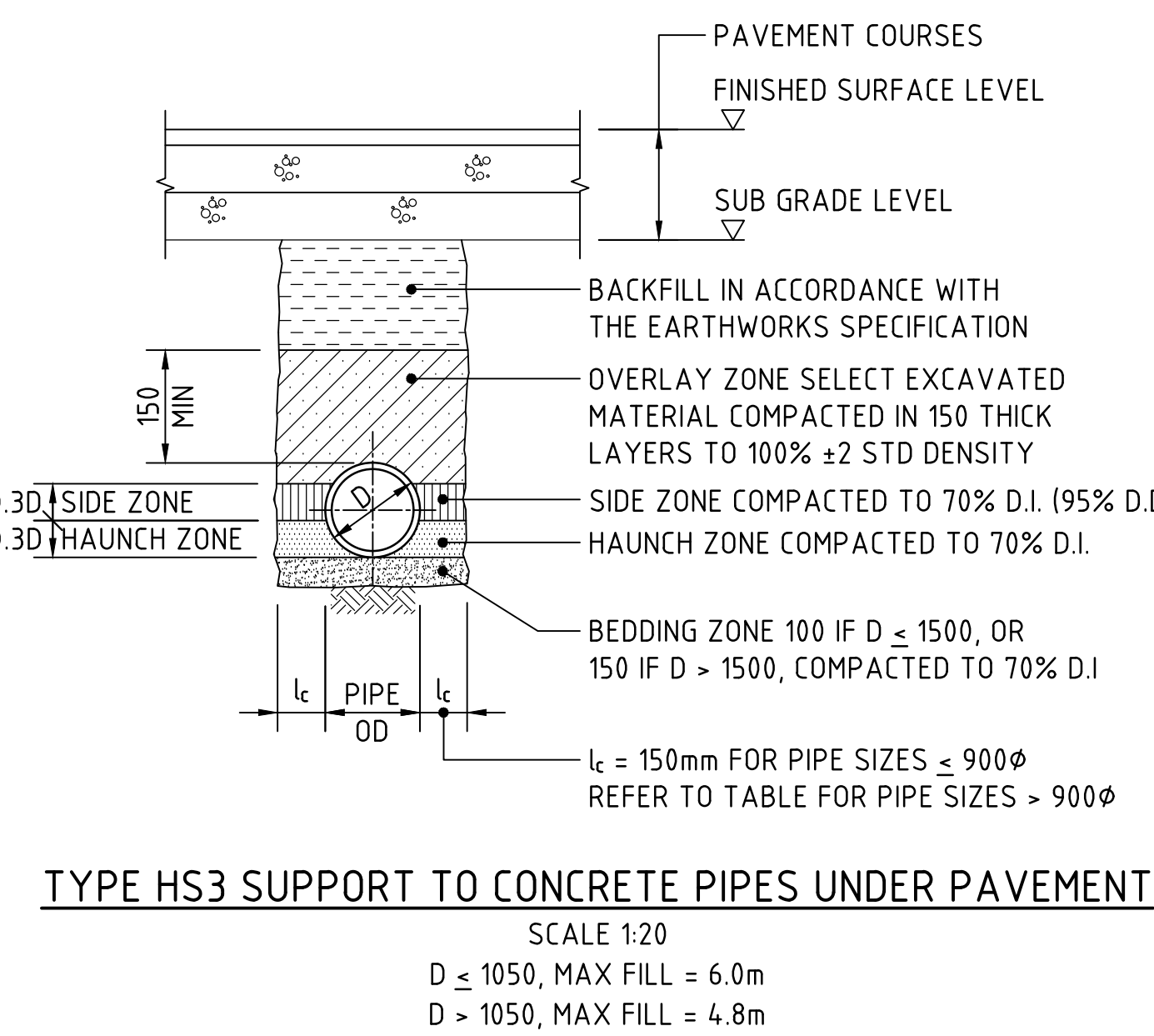
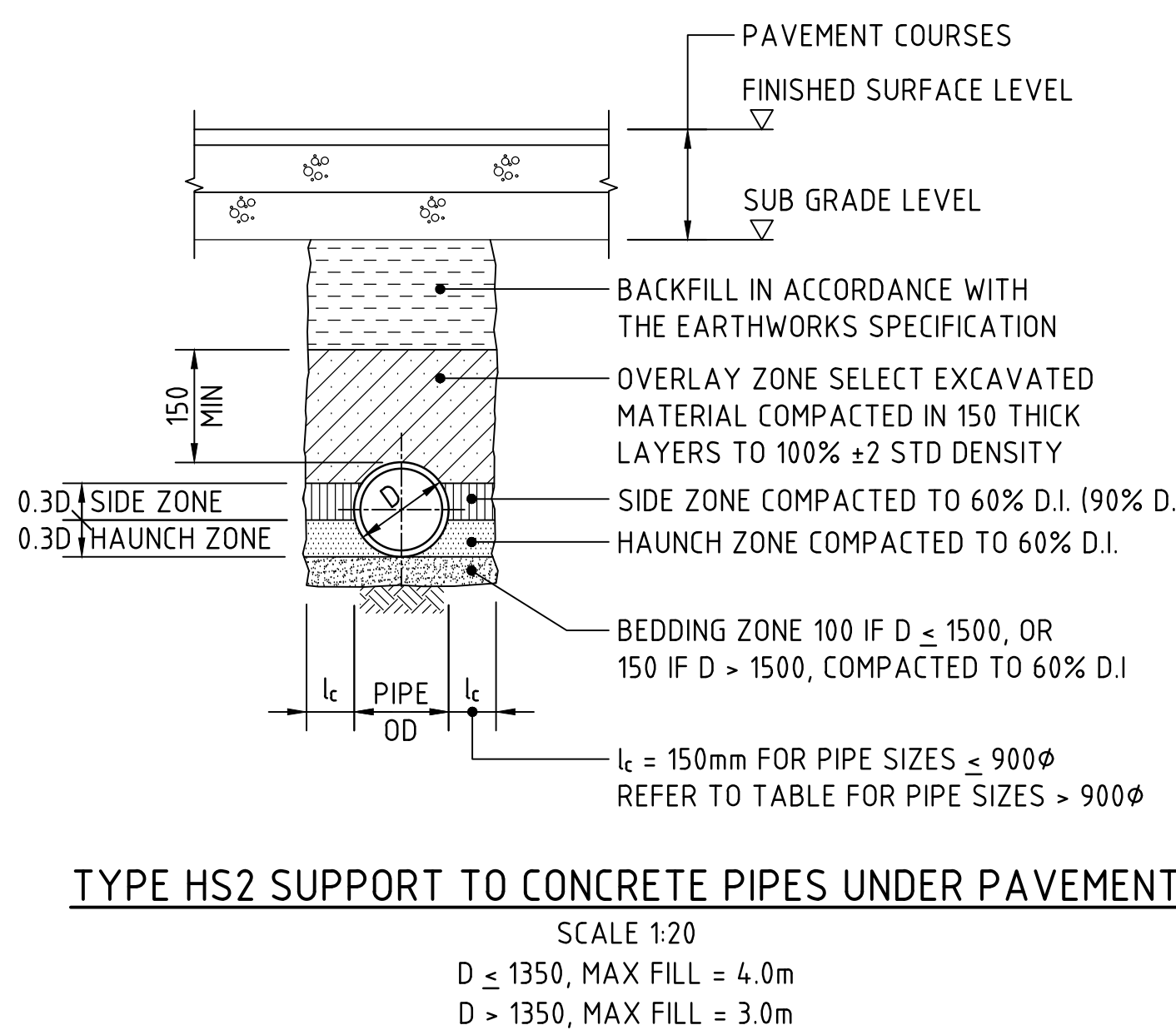
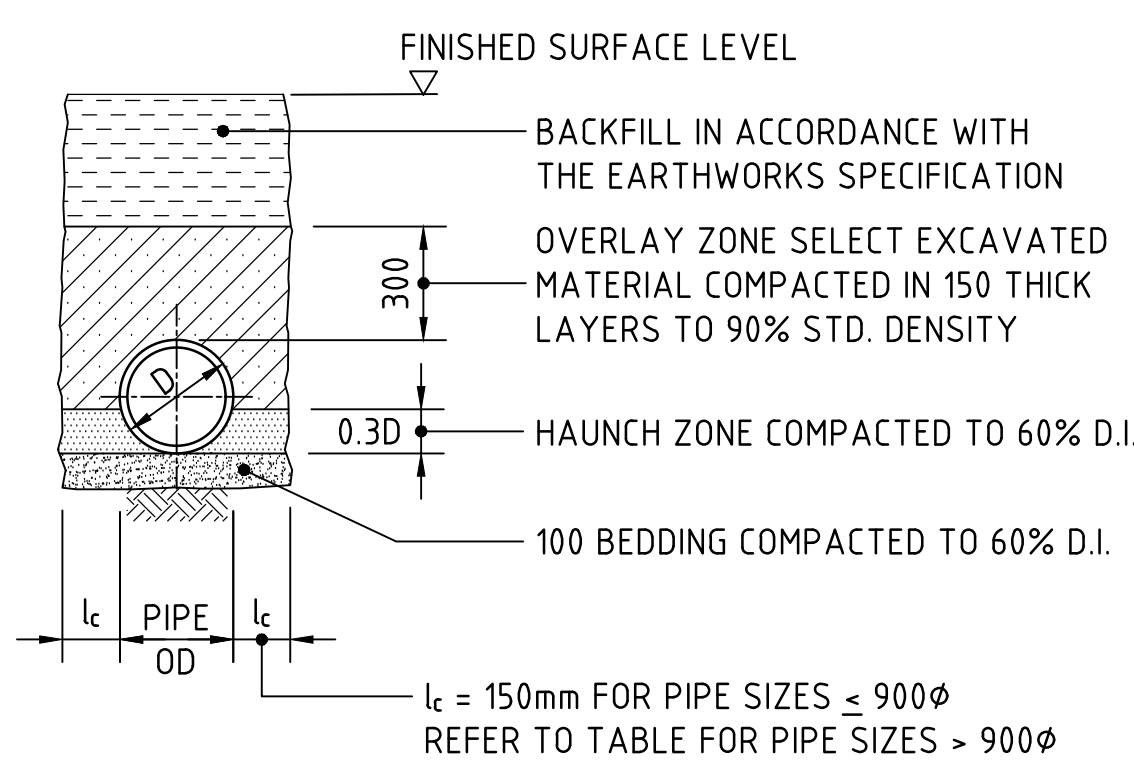
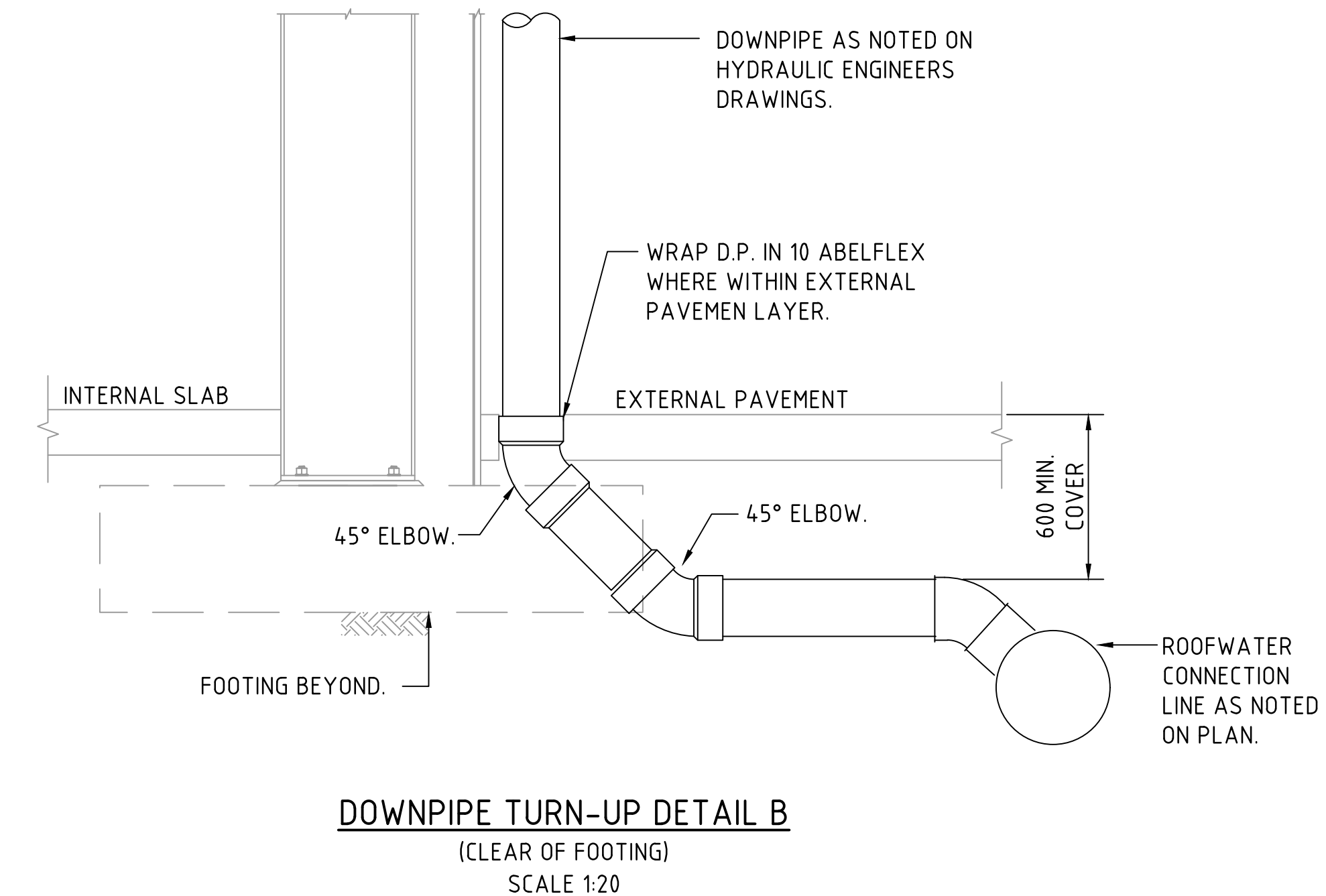
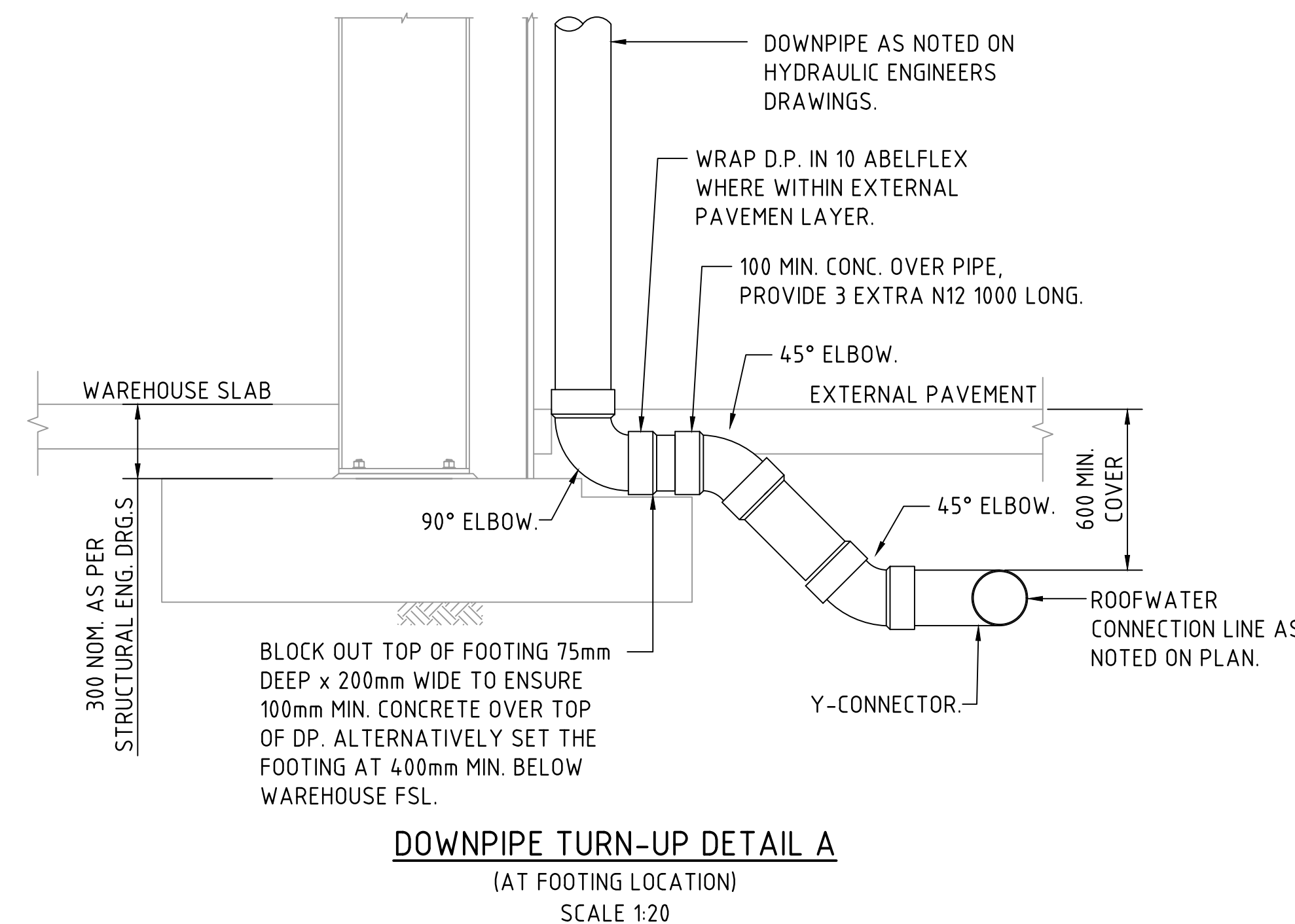
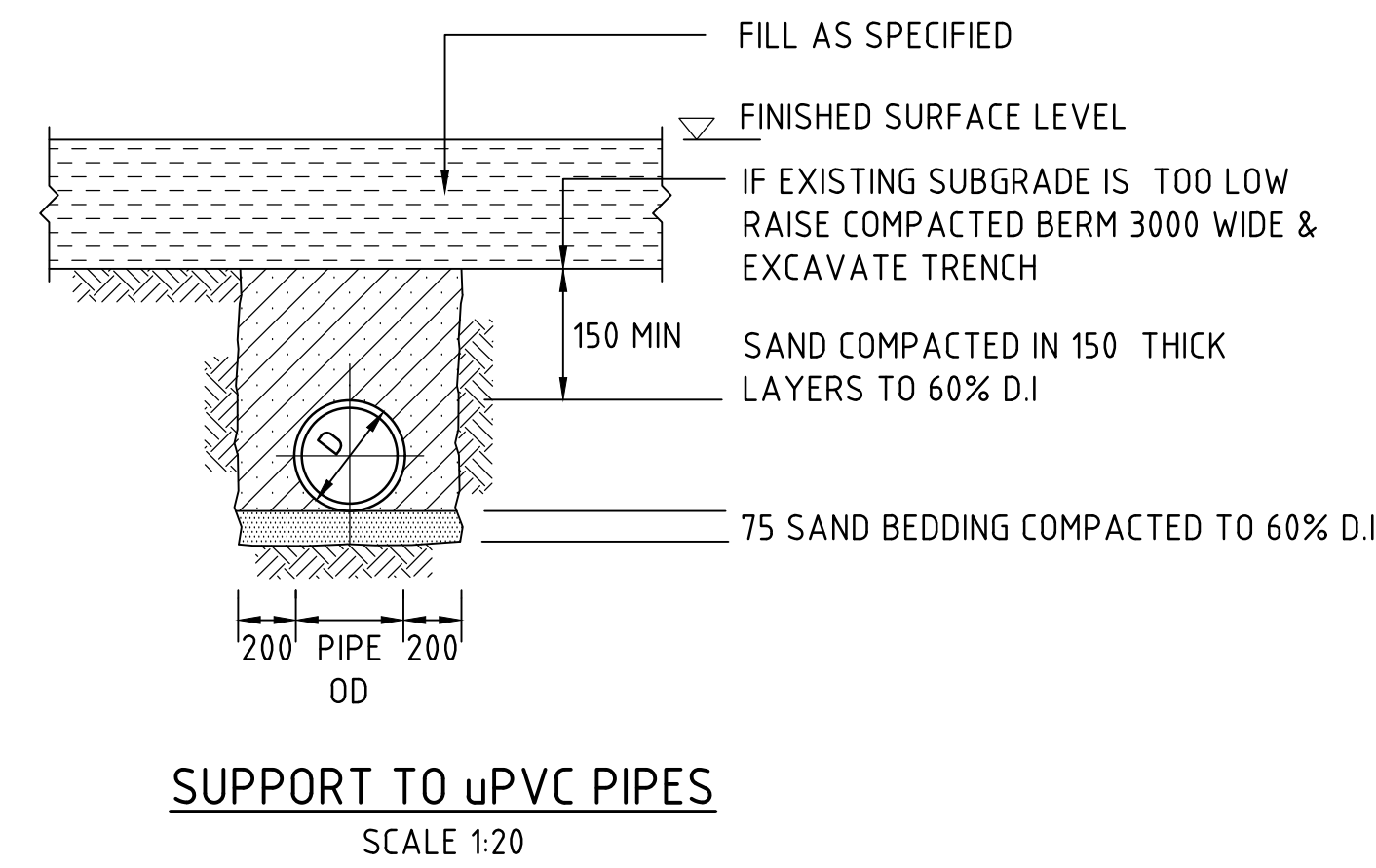
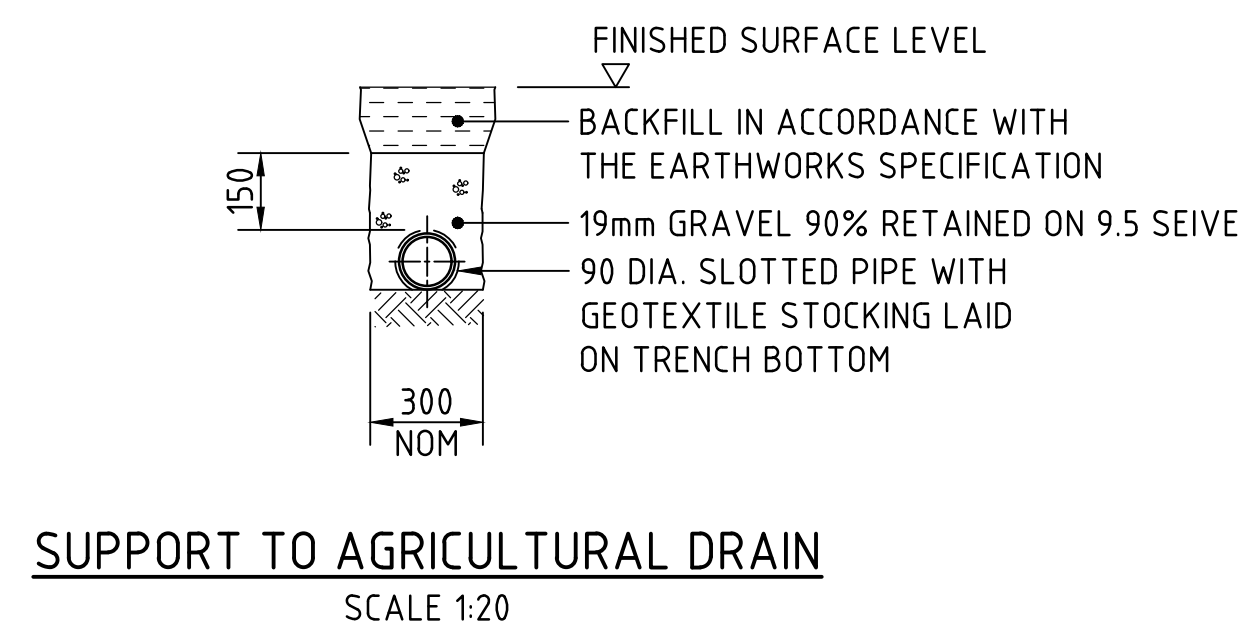
										ARCHITECT		CLIENT		PROJECT		COSTIN ROE CONSULTING PTY LTD.		Costin Roe Consulting Pty Ltd. Consulting Engineers Level 1, 8 Windmill Street Wash Bay, Sydney NSW 2000 Tel: (02) 9651-7099 Fax: (02) 9641-3770 Email: mail@costinroe.com.au @		PRECISION COMMUNICATION ACCOUNTABILITY		DRAWING TITLE	
										[watch this SPACE design]		Charter Hall		MINTO LOGISTICS HUB 5-7 CULVERSTON ROAD MINTO NSW 2566		COVERLY AUSTRALIA						STORMWATER CONCEPT PLAN	
PRELIMINARY ONLY 29.09.21 C PRELIMINARY ONLY 17.09.21 B PRELIMINARY ONLY 03.09.21 A AMENDMENTS DATE ISSUED AMENDMENTS DATE ISSUED AMENDMENTS DATE ISSUED																						DRAWING NO	
																						C014506.00-SSDA00	



SJP/CIS & SGGP/CIS (CAST IN SLAB) PIT DETAIL
GRATE/COVER SUPPORT
CAST-INTO PAVEMENT SLAB
(ADOPT IN CONCRETE PAVEMENTS FOR SGGP's & SJP's, WHERE JOINTS ARE NOT LOCATED WITHIN PROXIMITY OF THE GRATE)



SJP/CIS & SGGP/CIS (CAST IN SLAB) PIT DETAIL
GRATE/COVER SUPPORT
CAST-INTO PAVEMENT SLAB
(ADOPT IN CONCRETE PAVEMENT FOR SGGP's & SJP's, WHERE PITS ARE LOCATED IN THE CORNER OF SLAB PANELS OR ADJACENT TO SLAB PANEL JOINTS)



BEDDING & HAUNCH MATERIAL GRADING	
SIEVE SIZE (mm)	WEIGHT PASSING (%)
19.0	100
2.36	100 TO 50
0.60	90 TO 50
0.30	60 TO 10
0.15	25 TO 0
0.075	10 TO 0

SIDE ZONE WIDTH	
PIPE SIZE (mm)	l_c (mm)
$\leq 900\phi$	100
1050 ϕ	175
1200 ϕ	200
1350 ϕ	225
1500 ϕ	250
1650 ϕ	275
1800 ϕ	300
ENGINEER TO SPECIFY TRENCH WIDTHS FOR PIPE SIZES GREATER THAN 1800 ϕ	

SIDE ZONE MATERIAL GRADING	
SIEVE SIZE (mm)	WEIGHT PASSING (%)
19.0	100
9.5	100 TO 50
2.6	100 TO 30
0.60	50 TO 15
0.075	25 TO 0
SELECT FILL MATERIAL IN ACCORDANCE WITH TABLE 1 AS 3725	

PRELIMINARY ONLY

200mm 0 500 1000 1500 2000mm
SCALE 1:20 AT A0 SIZE SHEET

FINISHED LEVELS PLAN NOTES:

- LEVELS DATUM IS AUSTRALIAN HEIGHT DATUM (A.H.D.).
- GRADING REQUIREMENTS TO BE COMPLETED IN ACCORDANCE WITH AUSTRALIAN STANDARD AS2890.1, AS2890.2 AND AS2890.6.
- ALL CONTOUR LINES & SPOT LEVELS INDICATE FINISHED PAVEMENT LEVELS U.N.O. ON PLAN. CONTOUR INTERVALS
 - THE MINOR CONTOUR INTERVAL IS 0.1m.
 - THE MAJOR CONTOUR INTERVAL IS 0.5m.
- HARDSTAND GRADING
 - MINIMUM PAVEMENT GRADE IS TO BE 1:100 (1%).
 - GRADING OF ON-GRADE DOCKS TO BE 1:100 (1%) FALL AWAY FROM THE DOCK FACE FOR A LENGTH OF 15m U.N.O.
 - GRADING OF TRUCK CIRCULATION ZONES TO BE MINIMUM AS NOTED ABOVE, 3-4% NOMINAL AND MAX. 5%.
- CAR PARKING AREA GRADES
 - MINIMUM PAVEMENT GRADE IS TO BE 1:100 (1%), DESIRABLE MINIMUM GRADE 1:50 (2%).
 - MAXIMUM PAVEMENT GRADE IS TO BE 1:20 (5%) IN CARPARKING AREAS AND 1:25 (4%) ELSEWHERE.
 - DISABLED ACCESS PARKING ZONES AND SHARED SPACE TO BE MAXIMUM OF 1:33 (3%) IN ASPHALT PAVEMENT AND MAXIMUM OF 1:40 (2.5%) IN CONCRETE PAVEMENT.
 - CARPARK RAMP GRADES TO BE MAX 1:5 WITH 2.5m SMOOTH TRANSITION AT TOP AND BOTTOM U.N.O.
- TRUCK RAMP GRADES
 - MAXIMUM B-DOUBLE OR 19.0m AV RAMP GRADES ARE TO BE 1:8.3 (12%) U.N.O. ON PLAN.

- PROVIDE MINIMUM 4.0m LONG TRANSITION WHERE CHANGES OF GRADE EXCEED 1:20 (5%) AT A CREST U.N.O.
 - PROVIDE MINIMUM 3.0m LONG TRANSITION WHERE CHANGE OF GRADE EXCEED 1:20 (5%) AT A SAG U.N.O.
 - TRANSITIONS ARE TO PROVIDE A SMOOTH CONTINUOUS CIRCULAR AND TANGENTIAL CHANGE IN GRADE TO ENSURE NO SHARP OR ACUTE CHANGES IN GRADE ARE PRESENT.
- WHERE FIRE BRIGADE ACCESS IS REQUIRED, MAXIMUM RAMP GRADIENTS ARE TO BE 1:6 (16.6%), DESIRABLE RAMP GRADIENTS ARE TO BE 1:8 (12.5%) WITH 7m TRANSITION TOP AND BOTTOM U.N.O. ON PLAN.
 - PERMANENT BATTER SLOPES ARE TO HAVE A MAXIMUM GRADE OF 1V:3H U.N.O. BASED ON GEOTECHNICAL ASSESSMENT. PROVIDE MINIMUM 0.5m BERM BETWEEN THE BACK OF KERB OR PAVEMENT EDGES AND THE TOP OR TOE OF A BATTER.
 - ALL BATTER SLOPE WITH GRADES AT OR EXCEEDING 1V:6H ARE TO BE TURFED IMMEDIATELY OR APPROPRIATE EROSION CONTROL IS TO BE PROVIDED TO THE SATISFACTION OF THE ENGINEER.
 - ALL FOOTPATHS ARE TO FALL AWAY FROM THE BUILDING AT 2.5% NOMINAL GRADE. ALL PAVEMENTS ARE TO BE SET AT 30mm BELOW THE FINISHED FLOOR LEVEL OF THE WAREHOUSE AND OFFICE AREAS U.N.O. ON PLAN. PROVIDE LOCAL FEATHERING AT DOORWAYS OR ROLLER SHUTTERS TO PROVIDE FLUSH FINISH AS REQUIRED.
 - WHERE NEW AND EXISTING INTERFACING IS REQUIRED, MATCH EXISTING LEVELS AND PROVIDE SMOOTH INTERFACE BETWEEN NEW AND EXISTING GRADIENTS. REFER ANY CONCERNS TO THE ENGINEER.

EXTERNAL
STORAGE AREA
69,066m²

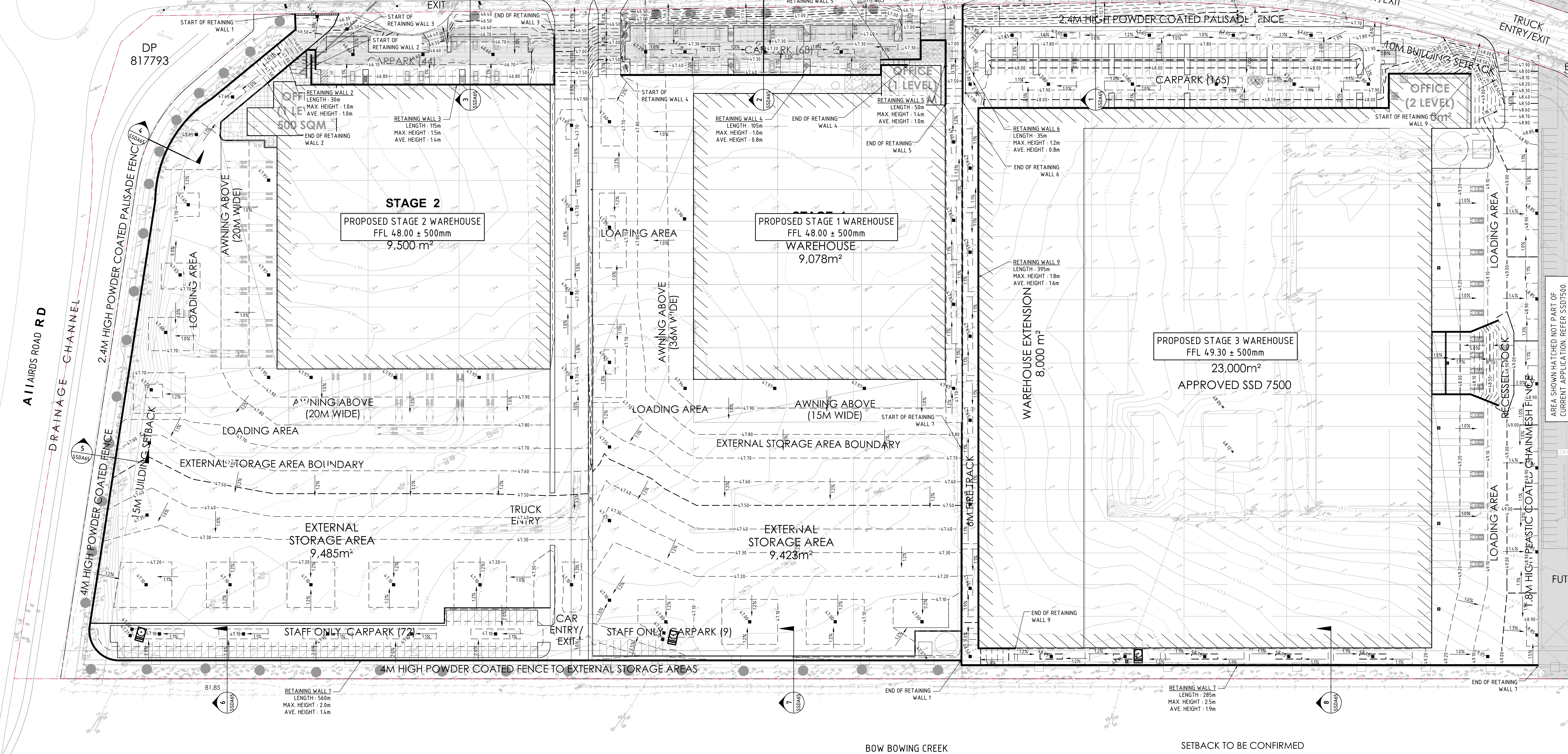
LEGEND:

LEVELS DATUM IS AHD.

- SGGP, SINGLE GRATED GULLY PIT
- SJP, SEALED JUNCTION PIT
- GD, GRATED DRAIN (300W x 225D UNO)
- FINISHED PAVEMENT CONTOUR (MAJOR) 0.5m INTERVALS
- FINISHED PAVEMENT CONTOUR (MINOR) 0.1m INTERVALS
- SITE BOUNDARY
- SITE RETAINING WALL

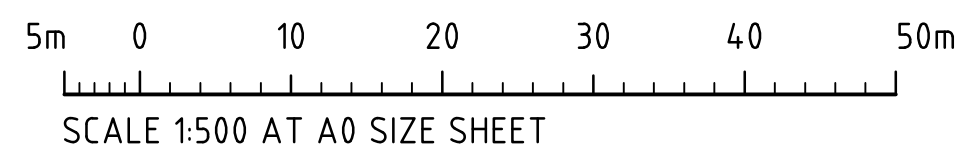
LEVELS NOTE:

LEVELS SHOWN TO BE ±500mm FROM THOSE SHOWN
FINAL LEVELS SUBJECT TO FINAL GEOTECHNICAL INVESTIGATIONS.



FINISHED LEVELS PLAN
SCALE 1:500

PRELIMINARY ONLY



PRELIMINARY ONLY	20.09.21	C
PRELIMINARY ONLY	17.09.21	B
PRELIMINARY ONLY	03.09.21	A
AMENDMENTS	DATE	ISSUE
AMENDMENTS	DATE	ISSUE

ARCHITECT
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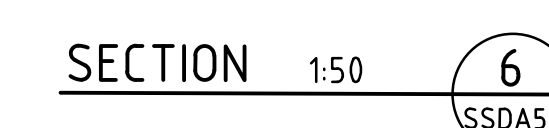
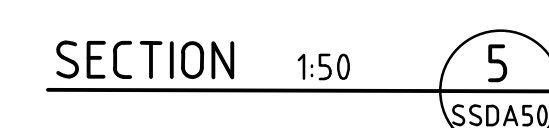
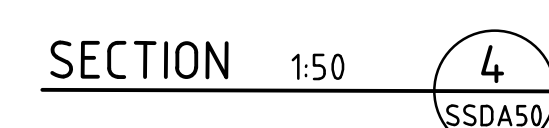
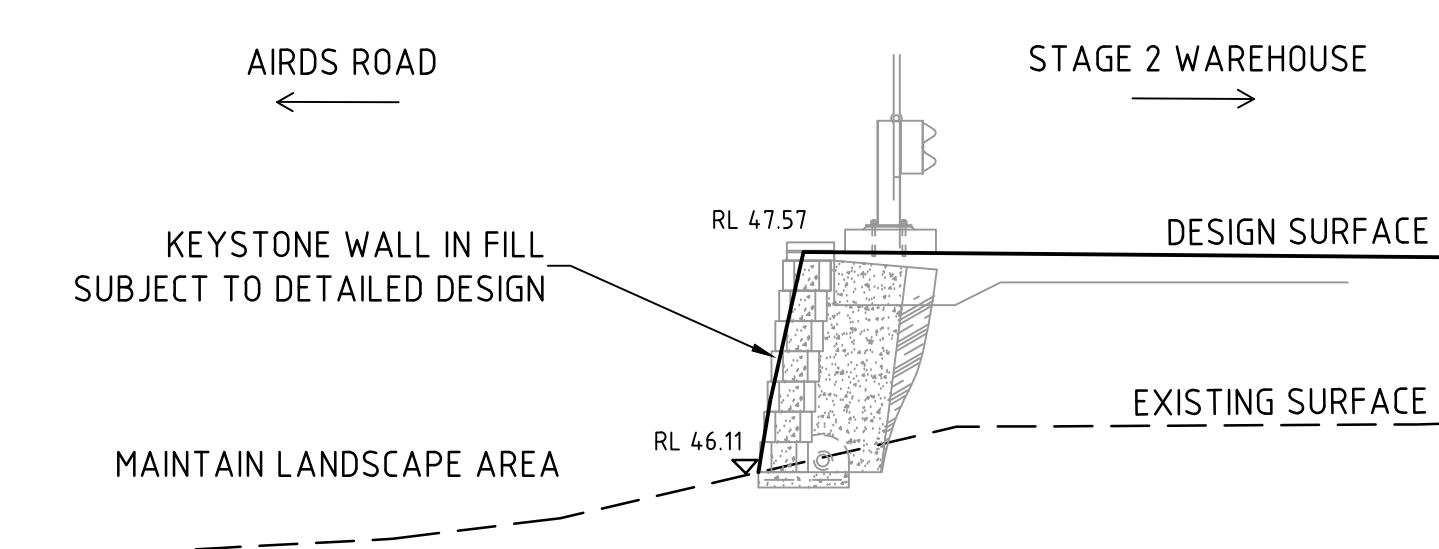
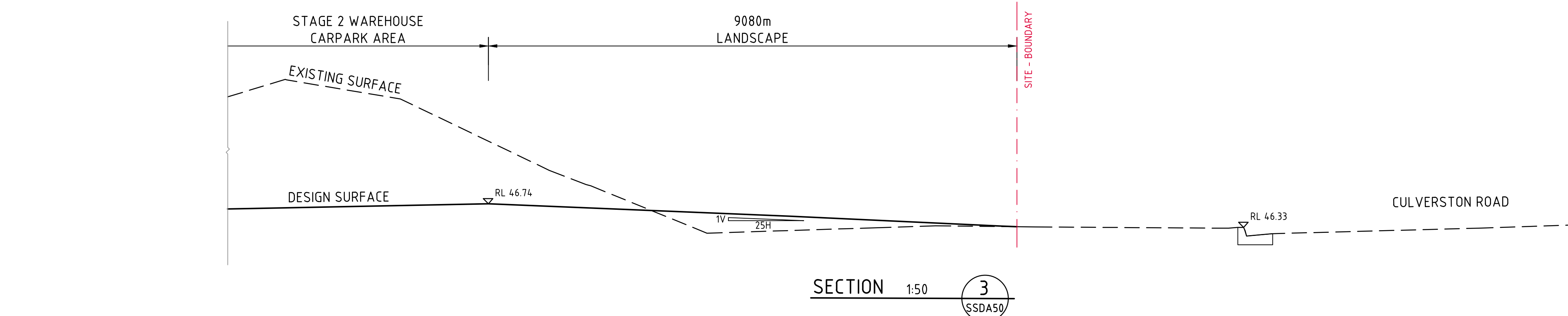
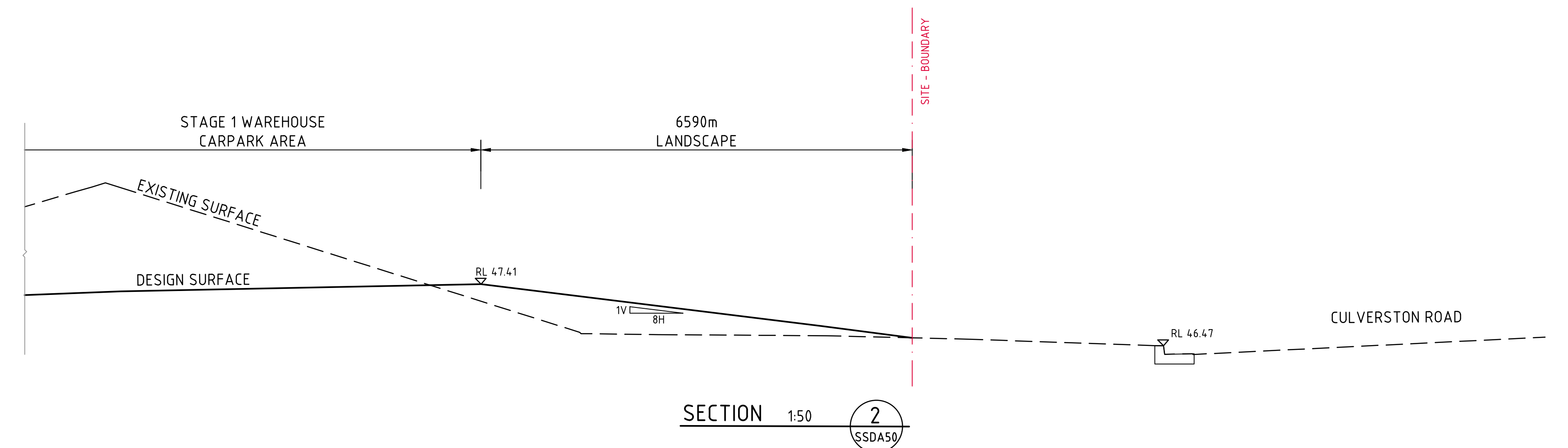
CLIENT
Charter Hall

PROJECT						 CONSULT AUSTRALIA
MINTO LOGISTICS HUB						
5-7 CULVERSTON ROAD						
MINTO NSW 2566						
DESIGNED ML	DRAWN ML	DATE SEP 21	CHECKED MW	SIZE A0	SCALE AS SHOWN	CAD REF: C014506.00-SSDA50

Costin Roe Consulting Pty Ltd.
Consulting Engineers Level 1, 8 Windmill Street Wahia Bay, Sydney NSW 2000 Tel: (02) 8251-7699 Fax: (02) 9241-3731 email: mail@costinroe.com.au

PRECISION	COMMUNICATION	ACCOUNTABILITY

DRAWING TITLE	
FINISHED LEVELS PLAN	
DRAWING No	C014506.00-SSDA50
ISSU	



SECTION 1:50 7
SSDA50.



1. ALL COMPONENTS AND INSTALLATION SHALL COMPLY WITH AS4678 AND THE STANDARDS REFERRED TO THEREIN.
2. MINIMUM BEARING CAPACITY OF FOUNDATION TO BE AS FOLLOWS :
 - a. H MAX. 2.0m = 100 kPa
 - b. H MAX. 3.5m = 150 kPa
 - c. H MAX. 5.0m = 200 kPa
- BEFORE COMMENCEMENT OF CONSTRUCTION THE FOUNDATION SHALL BE INSPECTED AND VERIFIED BY A QUALIFIED GEOTECHNICAL ENGINEER
3. WHERE MINIMUM BEARING IS NOT ACHIEVABLE OR NOT MEETING DESIGN REQUIREMENT, THE FOUNDATION MATERIAL IS TO BE EXCAVATED AND REPLACED WITH APPROVED MATERIAL PLACED IN ACCORDANCE WITH THE FILLING SPECIFICATION TO A MINIMUM COMPACTION OF 100% SMDM AND PLACED WITHIN 2% OF OMC.
4. MINIMUM SURCHARGE LOADS TO BE APPLIED AS FOLLOWS U.N.O.
5. ON PLAN :
 - a. LIVE LOAD = 20 kPa
 - b. DEAD LOAD = 5 kPa
 - c. CONSTRUCTION TRAFFIC LIVE LOAD = 10 kPa
6. MINIMUM WALL EMBEDMENT AT THE TOE OF THE WALL TO BE 300mm MINIMUM UNLESS NOTED OTHERWISE.
7. DESIGN LIFE OF STRUCTURE IS TO BE 100 YEARS.
8. TIED WALLS ARE TO BE TEMPORARILY PROPPED AT TOP UNTIL SUCH TIME THE TOP OF WALL IS TIED TO THE SLAB AND 28-DAY CONCRETE STRENGTH HAS BEEN ACHIEVED.
9. CONSTRUCTION EQUIPMENT WEIGHING MORE THAN 500KG STATIC WEIGHT IS TO BE KEPT BACK 1.5m FROM THE REAR FACE OF THE WALL FACING UNITS. COMPACTION OF THE SELECT FILL MATERIAL WITHIN THE 1.5m STRIP ADJACENT TO THE WALL SHALL BE ACHIEVED BY LIGHT MECHANICAL TAMPERS (VIBRATING PLATE, TRENCH COMPACTOR OR SIMILAR) TO GIVE THE SAME DENSITY AS IN THE REMAINDER OF THE SELECT FILL.
10. ALL DESIGN AND CONSTRUCT WALL SYSTEM TO BE COMPLETED IN ACCORDANCE WITH THESE NOTES.

