

REFER TO DRAWING C07 DA FOR LEGEND
& STORMWATER CONCEPT PHILOSOPHY

DRAWN: S.Forbes..... DESIGNED: M.McNamara..... JOB MANAGER: M.McNamara..... VERIFIER: A.Brown.....

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE
1	PRELIMINARY	SF		GB	28.03.14
A	ISSUED FOR DA APPROVAL	SF	MM	GB	11.04.14
B	RE-ISSUED FOR DA APPROVAL	SF	MM	GB	24.04.14
C	DEVELOPMENT LAYOUT AMENDED	CS		CS	31.03.15
D	REVISED FOR DA APPROVAL	CD	CS	CS	10.06.15

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PLAN

SCALE 1:1000 @ A1

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Email newcastle@northrop.com.au ABN 81 094 433 100

PROJECT

STOCKLAND GLENDALE
Lake Road, Glendale. N.S.W.

DRAWING TITLE

SITE PLAN

JOB NUMBER

NL130382

DRAWING NUMBER

C00 DA

REVISION

D

DRAWING SHEET SIZE

A1

DA APPROVAL

LEGEND

- x

Denotes site & sediment control fence.
- Denotes stabilised site access.
- PIT

Denotes proposed stormwater pit.
- Denotes proposed stockpile location.
- Denotes sandbag or geotextile sock filled with no fines gravel, placed in invert of gutter.

THE CONTRACTOR SHALL ENSURE COUNCIL ASSETS AND THE UTILITIES ARE PROTECTED AT ALL TIMES. ANY AND ALL DAMAGES TO COUNCIL ASSETS AND/OR UTILITIES SHALL BE REPAIRED BY THE CONTRACTOR TO THE SPECIFICATION OF COUNCIL AND THE UTILITIES AUTHORITY AND AT NO COST TO THE PRINCIPAL OR NORTHROP CONSULTING ENGINEERS.

STAGING CONTRACTOR TO UNDERTAKE WORK IN STAGES TO MINIMISE DISTURBED AREA. NOMINATE DESIGNATED STOCKPILE & WASTE DISPOSAL AREA FOR EACH SITE.

LAY 2 LAYERS OF SAND BAGS WRAPPED IN BIDIM A24 GEOTEXTILE. FILL BEHIND SAND BAGS WITH 50 - 75mmØ CRUSHED STONE

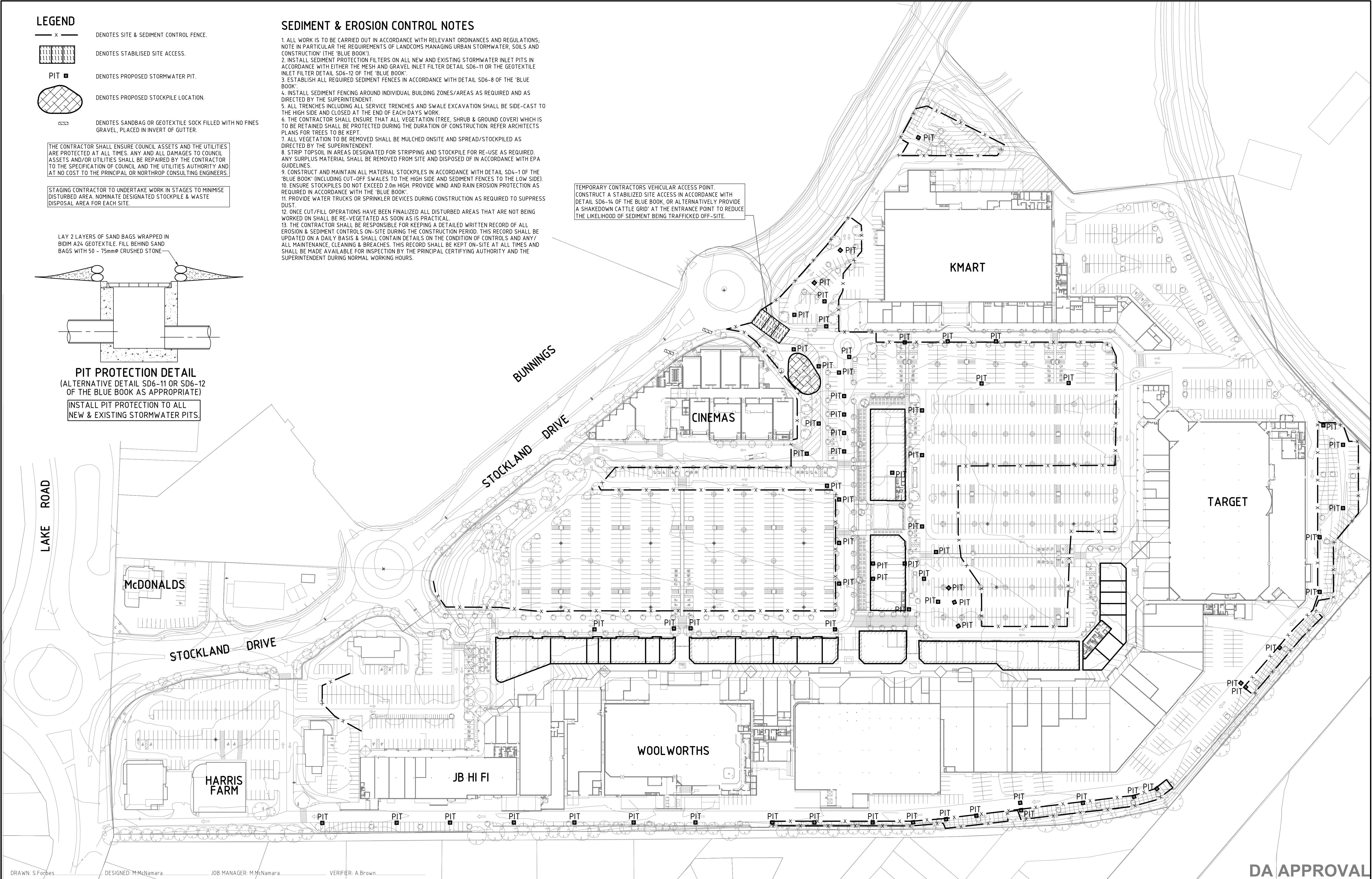
PIT PROTECTION DETAIL
(ALTERNATIVE DETAIL SD6-11 OR SD6-12 OF THE BLUE BOOK AS APPROPRIATE)

INSTALL PIT PROTECTION TO ALL NEW & EXISTING STORMWATER PITS.

SEDIMENT & EROSION CONTROL NOTES

1. ALL WORK IS TO BE CARRIED OUT IN ACCORDANCE WITH RELEVANT ORDINANCES AND REGULATIONS, NOTE IN PARTICULAR THE REQUIREMENTS OF LANDCOMS MANAGING URBAN STORMWATER, SOILS AND CONSTRUCTION (THE 'BLUE BOOK').
2. INSTALL SEDIMENT PROTECTION FILTERS ON ALL NEW AND EXISTING STORMWATER INLET PITS IN ACCORDANCE WITH EITHER THE MESH AND GRAVEL INLET FILTER DETAIL SD6-11 OR THE GEOTEXTILE INLET FILTER DETAIL SD6-12 OF THE 'BLUE BOOK'.
3. ESTABLISH ALL REQUIRED SEDIMENT FENCES IN ACCORDANCE WITH DETAIL SD6-8 OF THE 'BLUE BOOK'.
4. INSTALL SEDIMENT FENCING AROUND INDIVIDUAL BUILDING ZONES/AREAS AS REQUIRED AND AS DIRECTED BY THE SUPERINTENDENT.
5. ALL TRENCHES INCLUDING ALL SERVICE TRENCHES AND SWALE EXCAVATION SHALL BE SIDE-CAST TO THE HIGH SIDE AND CLOSED AT THE END OF EACH DAYS WORK.
6. THE CONTRACTOR SHALL ENSURE THAT ALL VEGETATION (TREE, SHRUB & GROUND COVER) WHICH IS TO BE RETAINED SHALL BE PROTECTED DURING THE DURATION OF CONSTRUCTION. REFER ARCHITECTS PLANS FOR TREES TO BE KEPT.
7. ALL VEGETATION TO BE REMOVED SHALL BE MULCHED ONSITE AND SPREAD/STOCKPILED AS DIRECTED BY THE SUPERINTENDENT.
8. STRIP TOPSOIL IN AREAS DESIGNATED FOR STRIPPING AND STOCKPILE FOR RE-USE AS REQUIRED. ANY SURPLUS MATERIAL SHALL BE REMOVED FROM SITE AND DISPOSED OF IN ACCORDANCE WITH EPA GUIDELINES.
9. CONSTRUCT AND MAINTAIN ALL MATERIAL STOCKPILES IN ACCORDANCE WITH DETAIL SD4-1 OF THE 'BLUE BOOK' (INCLUDING CUT-OFF SWALES TO THE HIGH SIDE AND SEDIMENT FENCES TO THE LOW SIDE).
10. ENSURE STOCKPILES DO NOT EXCEED 2.0m HIGH. PROVIDE WIND AND RAIN EROSION PROTECTION AS REQUIRED IN ACCORDANCE WITH THE 'BLUE BOOK'.
11. PROVIDE WATER TRUCKS OR SPRINKLER DEVICES DURING CONSTRUCTION AS REQUIRED TO SUPPRESS DUST.
12. ONCE CUT/FILL OPERATIONS HAVE BEEN FINALIZED ALL DISTURBED AREAS THAT ARE NOT BEING WORKED ON SHALL BE RE-VEGETATED AS SOON AS IS PRACTICAL.
13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING A DETAILED WRITTEN RECORD OF ALL EROSION & SEDIMENT CONTROLS ON-SITE DURING THE CONSTRUCTION PERIOD. THIS RECORD SHALL BE UPDATED ON A DAILY BASIS & SHALL CONTAIN DETAILS ON THE CONDITION OF CONTROLS AND ANY/ ALL MAINTENANCE, CLEANING & BREACHES. THIS RECORD SHALL BE KEPT ON-SITE AT ALL TIMES AND SHALL BE MADE AVAILABLE FOR INSPECTION BY THE PRINCIPAL CERTIFYING AUTHORITY AND THE SUPERINTENDENT DURING NORMAL WORKING HOURS.

TEMPORARY CONTRACTORS VEHICULAR ACCESS POINT.
CONSTRUCT A STABILIZED SITE ACCESS IN ACCORDANCE WITH DETAIL SD6-14 OF THE BLUE BOOK, OR ALTERNATIVELY PROVIDE A SHAKEDOWN CATTLE GRID AT THE ENTRANCE POINT TO REDUCE THE LIKELIHOOD OF SEDIMENT BEING TRAFFICKED OFF-SITE.



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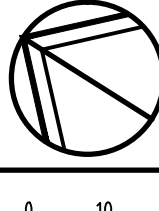
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PROJECT

STOCKLAND GLENDALE
Lake Road, Glendale. N.S.W.

DRAWING TITLE

SEDIMENT & EROSION
CONTROL PLAN

DA APPROVAL

JOB NUMBER

NL130382

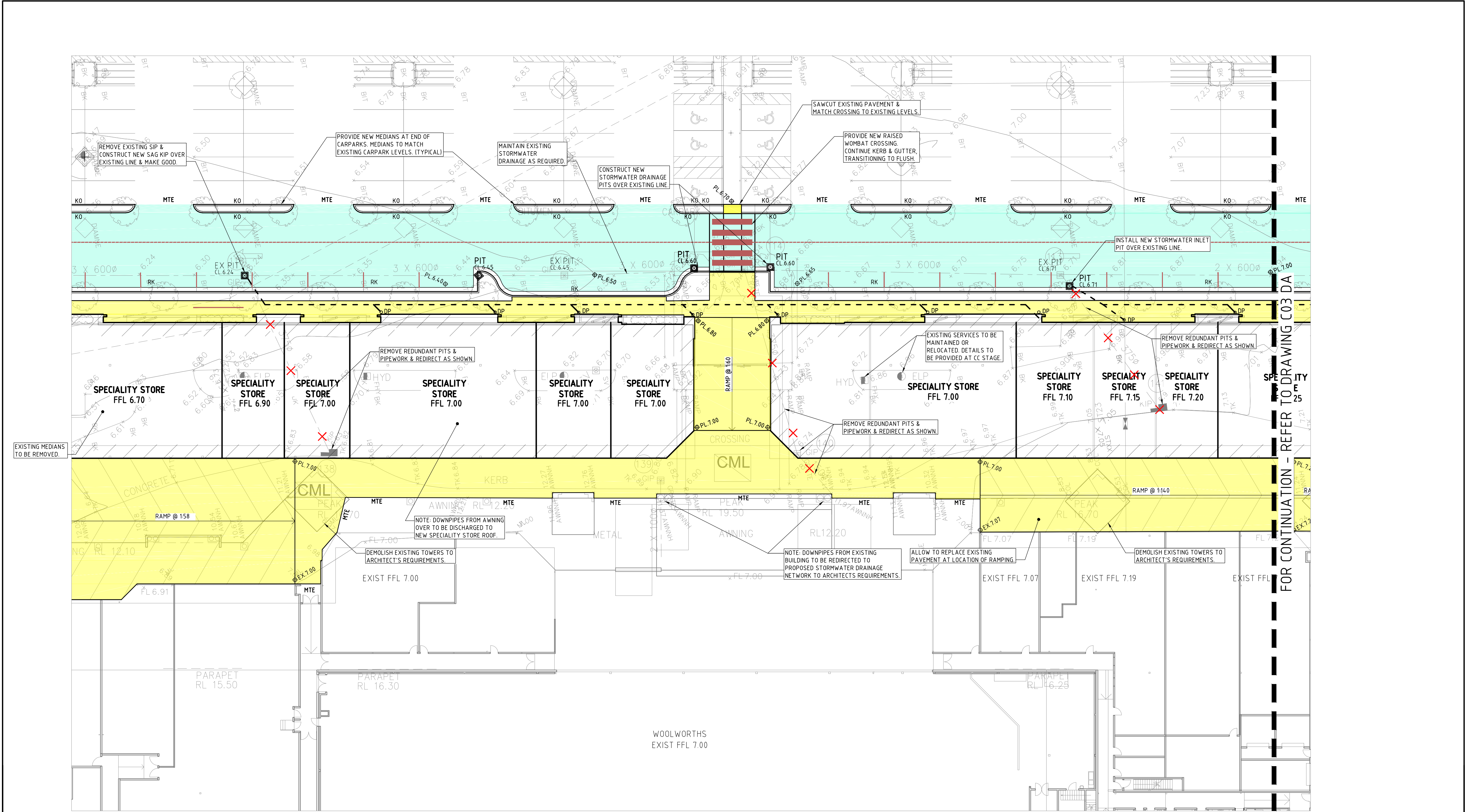
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C01 DA




REVISION

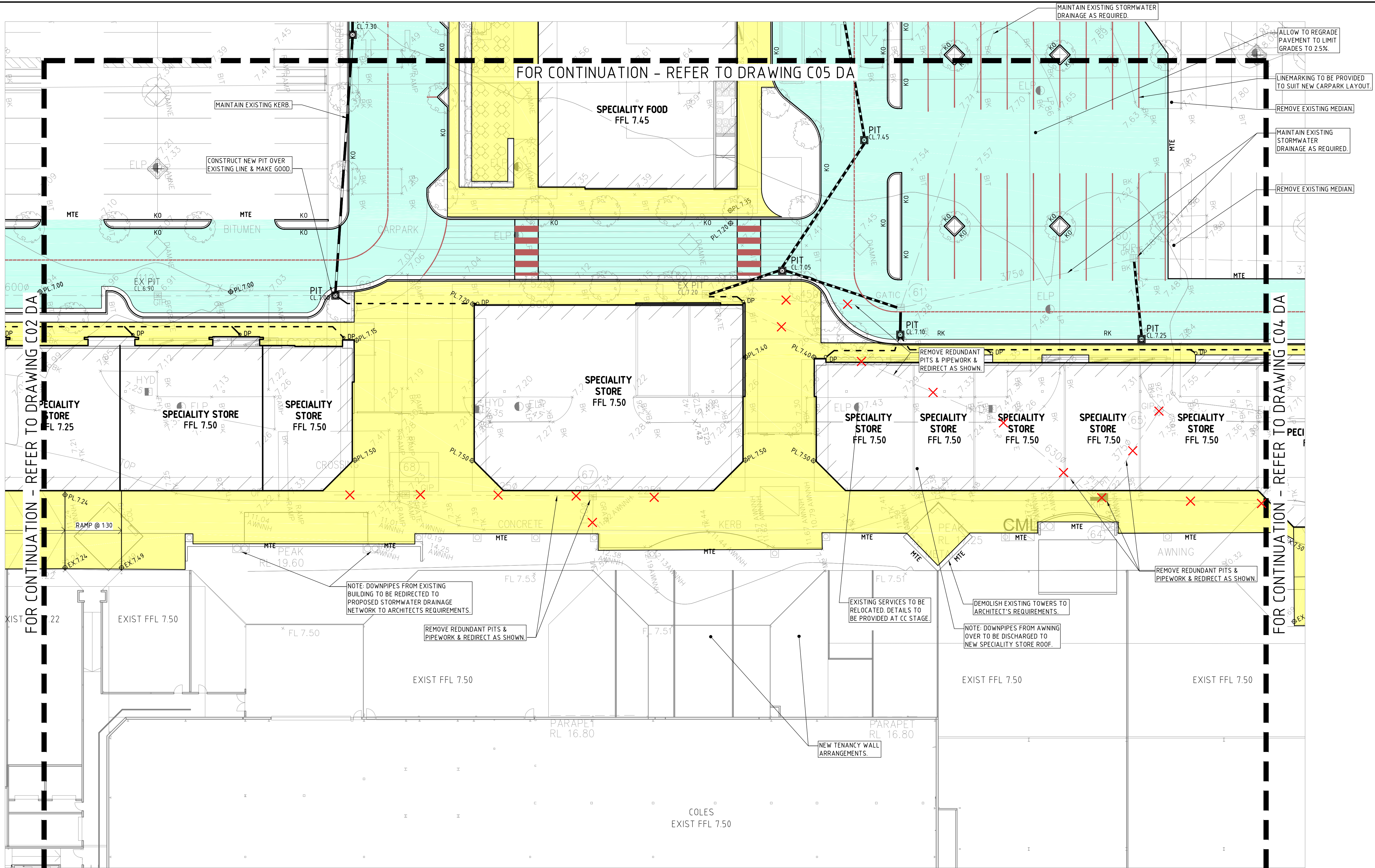
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						 PLAN SCALE 1200 @ A1		STORMWATER MANAGEMENT PART PLAN
								SHEET 1 - 16
								JOB NUMBER NL130382
								DRAWING NUMBER C02 DA
								REVISION C
								DRAWING SHEET SIZE = A1



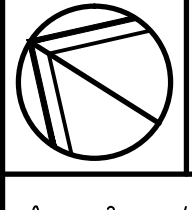
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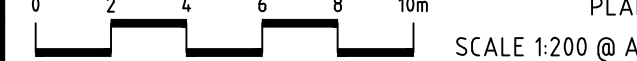
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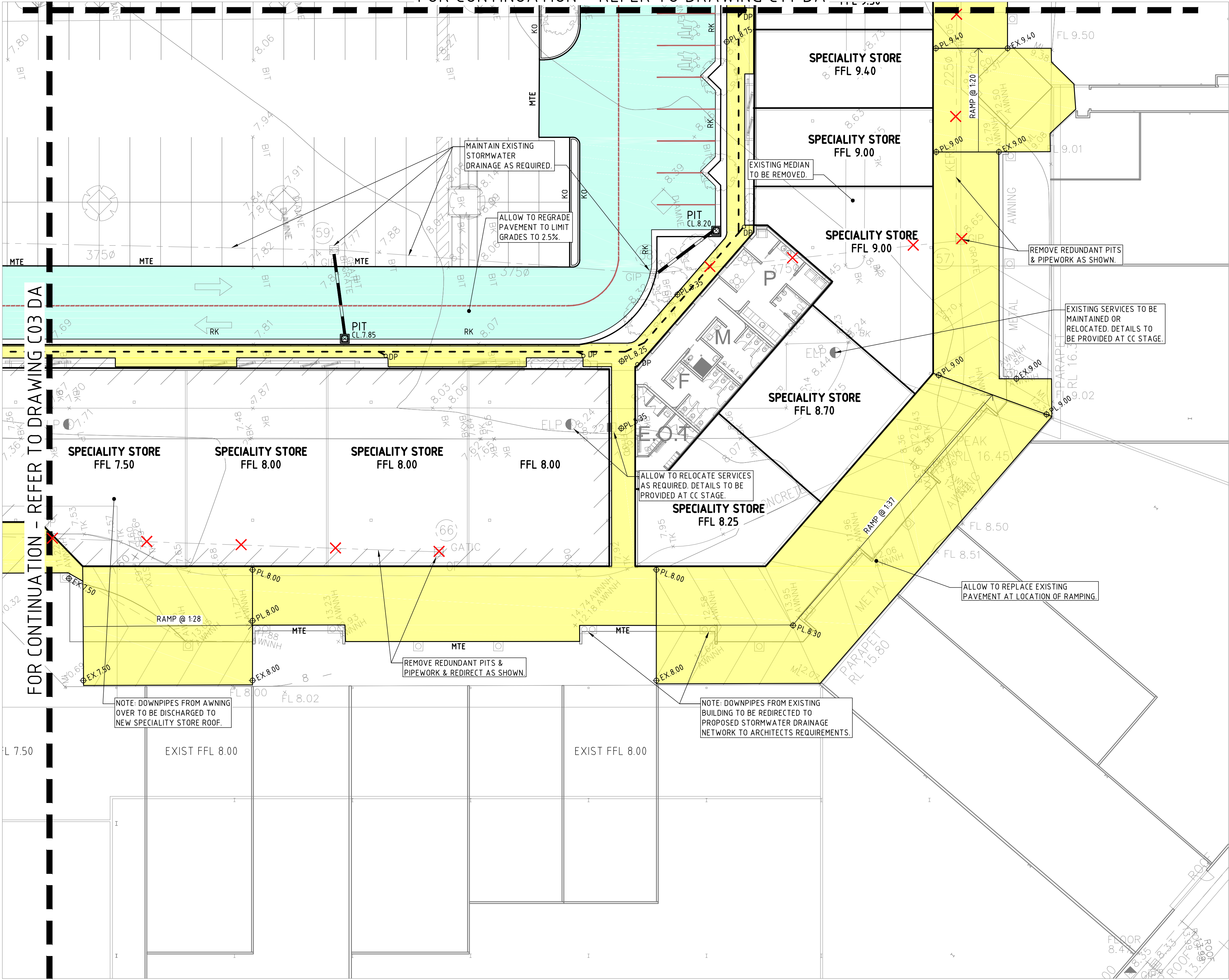
PROJECT
STOCKLAND GLENDALE Lake Road, Glendale. N.S.W.

DRAWING TITLE
STORMWATER MANAGEMENT PART PLAN SHEET 2 - 16

JOB NUMBER
NL130382
DRAWING NUMBER
C03 DA
REVISION
C
DRAWING SHEET SIZE = A1

DA APPROVAL

FOR CONTINUATION - REFER TO DRAWING C14 DA



REFER TO DRAWING C07 DA FOR LEGEND.

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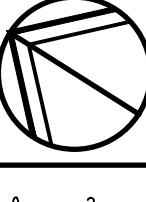
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PROJECT

STOCKLAND GLENDALE
Lake Road, Glendale. N.S.W.

DRAWING TITLE

STORMWATER MANAGEMENT
PART PLAN

SHEET 3 - 16

JOB NUMBER

NL130382

DRAWING NUMBER

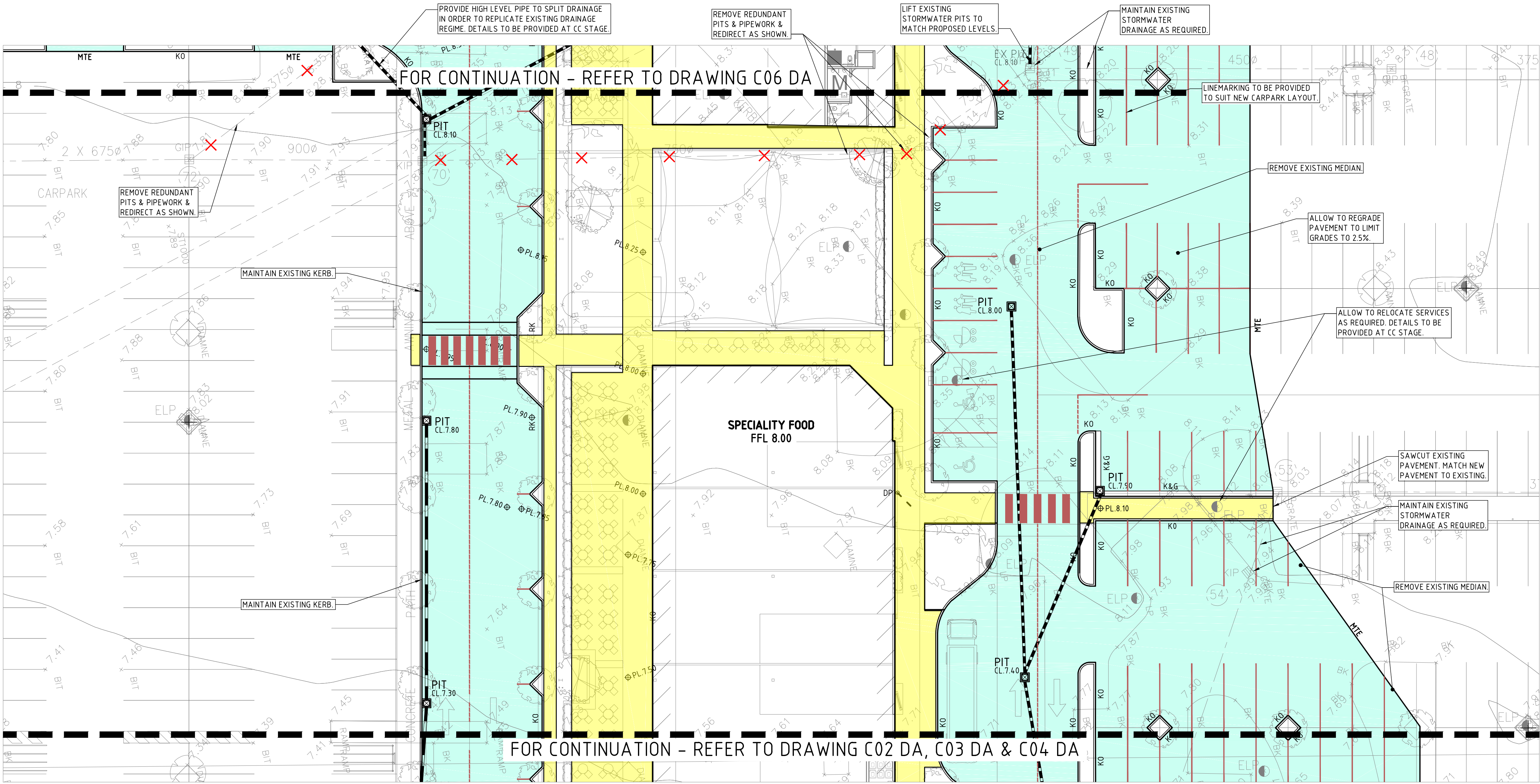
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REVISION




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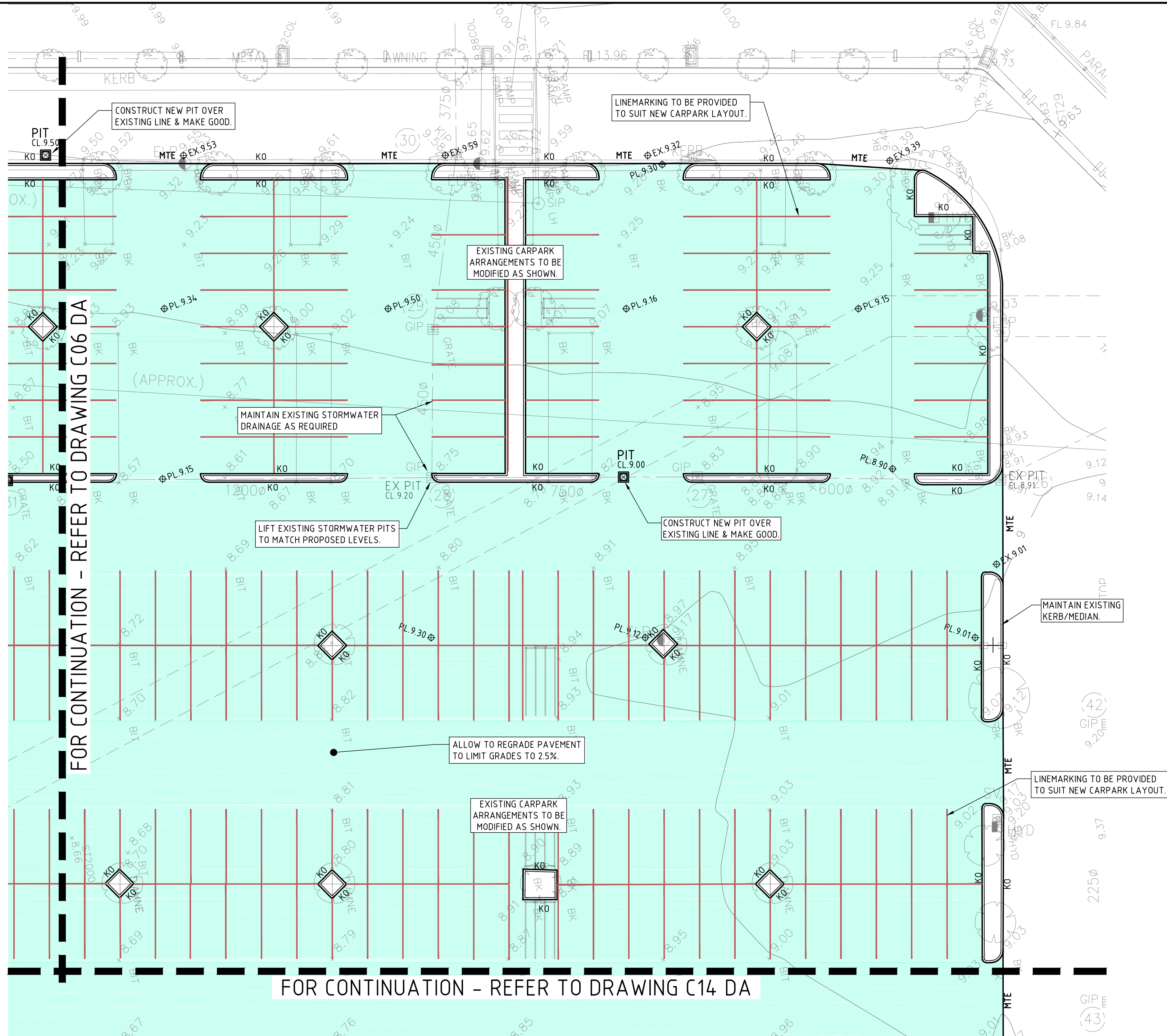
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1		PRELIMINARY				SF		GB	28.03.14			DRAWING NUMBER <div>C05 DA</div>		REVISION <div>C</div>		DRAWING SHEET SIZE ± A1																																	
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STORMWATER CONCEPT PHILOSOPHY

PROPOSED DEVELOPMENT
THIS STORMWATER MANAGEMENT STRATEGY HAS BEEN PREPARED FOR THE PROPOSED REDEVELOPMENT OF STOCKLAND GLENDALE. THE REDEVELOPMENT CONSISTS OF THE CONSTRUCTION OF SEVERAL NEW SPECIALTY STORES LOCATED THROUGHOUT THE SITE. GENERALLY SPEAKING, THE SPECIALTY STORES WILL BE CONSTRUCTED OVER EXISTING CARPARK/HARDSTAND AREAS, WITH MODIFICATION TO THE EXISTING CARPARKS AND TRAFFIC AISLES TO ACCOMMODATE THE NEW SPECIALTY STORES. ADDITIONALLY, TO CATER FOR THE ADDITIONAL TRAFFIC, NEW CARPARKING IS PROPOSED THROUGHOUT THE SITE. DRAWINGS C00DA-C14DA SHOW THE PROPOSED DEVELOPMENT LAYOUT.

EXISTING STORMWATER NETWORK
IN ORDER TO ADEQUATELY CATER FOR THE NEW DEVELOPMENT, THE EXISTING STORMWATER NETWORK WAS REVIEWED. IN ESSENCE, THE PHILOSOPHY OF THE EXISTING STORMWATER MANAGEMENT CAN BE SUMMARISED AS FOLLOWS:
➢ RUNOFF FROM THE PROPOSED ROOFS AND PAVEMENTS ARE CURRENTLY COLLECTED USING SEVERAL STORMWATER TRUNK MAINS AND DIVERTED TO AN EXISTING ABOVE GROUND DETENTION BASIN.
➢ THREE MAIN CREEK LINES ARE COLLECTED UPSLOPE OF THE SITE AND PIPED THROUGH THE NORTH, MIDDLE AND SOUTH PORTIONS OF THE SITE.
➢ OVERFLOW FROM THE DETENTION TANK AND DISCHARGE FROM THE THREE PIPED CREEK LINES CONNECT INTO THE IN TO THE EXISTING COUNCIL INFRASTRUCTURE IN STOCKLAND DRIVE.

CONSULTATION WITH LMCC
A PHONE CONVERSATION WAS HELD WITH MR MATT BROGAN OF LMCC TO DISCUSS THE IMPACT THE PROPOSED DEVELOPMENT MAY HAVE ON THE EXISTING SITE STORMWATER MANAGEMENT, AND THEREFORE, WAHAT ADDITIONAL REQUIREMENTS LMCC MAY HAVE. DURING THE CONVERSATION, MR BROGAN CONFIRMED:
(i) AS THE EXISTING SITE CURRENTLY DISCHARGES THROUGH A DETENTION BASIN, IT IS CONSIDERED REASONABLE THAT NO ADDITIONAL DETENTION OR WATER QUALITY REQUIREMENTS WOULD BE APPLIED PROVIDED THE EXISTING STORMWATER REGIME IS MAINTAINED AND THE PROPOSED DEVELOPMENT HAS NO NET IMPERVIOUS AREA INCREASE.
(ii) SHOULD THE CARPARK INCREASE, OR ADDITIONAL IMPERVIOUS AREAS BE PROPOSED, STORMWATER DETENTION/WATER QUALITY GUIDELINES MUST BE ADHERED TO FOR THESE INDIVIDUAL AREAS.

PROPOSED STORMWATER NETWORK
THE PHILOSOPHY OF STORMWATER MANAGEMENT FOR THE PROPOSED DEVELOPMENT CAN BE SUMMARISED AS FOLLOWS:
➢ RUNOFF FROM THE PROPOSED ROOFS AND PAVEMENTS, MODIFIED ROOFS AND MODIFIED PAVEMENTS WILL BE COLLECTED AND DIVERTED TO THE EXISTING TRUNK MAINS CONVEYING WATER TO THE DETENTION BASIN. THE PROPOSED PIPES (AND REDIRECTED PIPES) WILL BE DESIGNED AT CC STAGE TO MANAGE FLOWS IN ORDER TO REPLICATE THE EXISTING STORMWATER REGIME.
➢ THE ADDITIONAL CARPARK SPACES PROPOSED FOR THE ACCESS ROAD LOCATED ADJACENT TO THE WESTERN AND SOUTHERN BOUNDARY OF THE SITE HAVE INCREASED OVERALL SITE IMPERVIOUS AREAS, AND THEREFORE, HAVE BEEN INDIVIDUALLY DESIGN TO MANAGE STORMWATER FLOWS. RUNOFF HAS BEEN DIRECTED TO BELOW GROUND GRAVEL DISPERSAL TRENCHES, WITH ORIFICE CONTROLLED OUTLET PIPES TO LIMIT FLOWS. DETAILS OF EACH OF THE TRENCHES CAN BE SEEN ON DRAWINGS C11DA-C13DA.

STORMWATER CALCULATIONS
ONSITE STORMWATER CALCULATIONS WERE BASED ON SINGLE CARPARKING SPACES, WITH THE TOTAL STORAGE REQUIREMENTS BEING A DIRECT FUNCTION OF THE AMOUNT OF CONTRIBUTING CARPARKS. STORMWATER CALCULATIONS FOR A SINGLE CARPARK HAS BEEN DOCUMENTED BELOW.

DETENTION REQUIREMENTS	
SINGLE CARPARK AREA (5.5m x 2.6m)	14.3m ²
IMPERMEABLE PERCENTAGE	100%
Q ³ UNDEVELOPED	0.229 L/s
Q ²⁰ DEVELOPED	0.679 L/s
DETENTION VOLUME	.135m ³
Q ¹⁰⁰ UNDEVELOPED	0.383 L/s
Q ¹⁰⁰ DEVELOPED	0.937 L/s
DETENTION VOLUME	0.166m ³

HARVESTING REQUIREMENTS	
SINGLE CARPARK AREA (5.5m x 2.6m)	14.3m ²
MITIGATION DEPTH	7mm
MITIGATION STORAGE	0.100m ³
RETENTION TANK REQUIRED CAPACITY	0.200m ³





LEGEND

- PIT CL.8.80 DENOTES PROPOSED STORMWATER PIT AND COVER LEVEL. DETAILS & PIT SCHEDULE TO BE PROVIDED AT CC STAGE.
- EX PIT DENOTES EXISTING STORMWATER PIT.
- FFL 9.25** DENOTES PROPOSED FINISHED FLOOR LEVEL.
- PL.9.05** DENOTES PROPOSED FINISHED SURFACE LEVEL.
- EX.9.91** DENOTES EXISTING FINISHED SURFACE LEVEL.
- MTE** DENOTES MATCH TO EXISTING LEVELS.
- DP** DENOTES INDICATIVE LOCATION OF DOWN PIPES & TYPE. REFER TO ARCHITECTS & HYDRAULIC ENGINEERS PLANS FOR FINAL LOCATIONS. DETAILS TO BE PROVIDED AT CC STAGE.

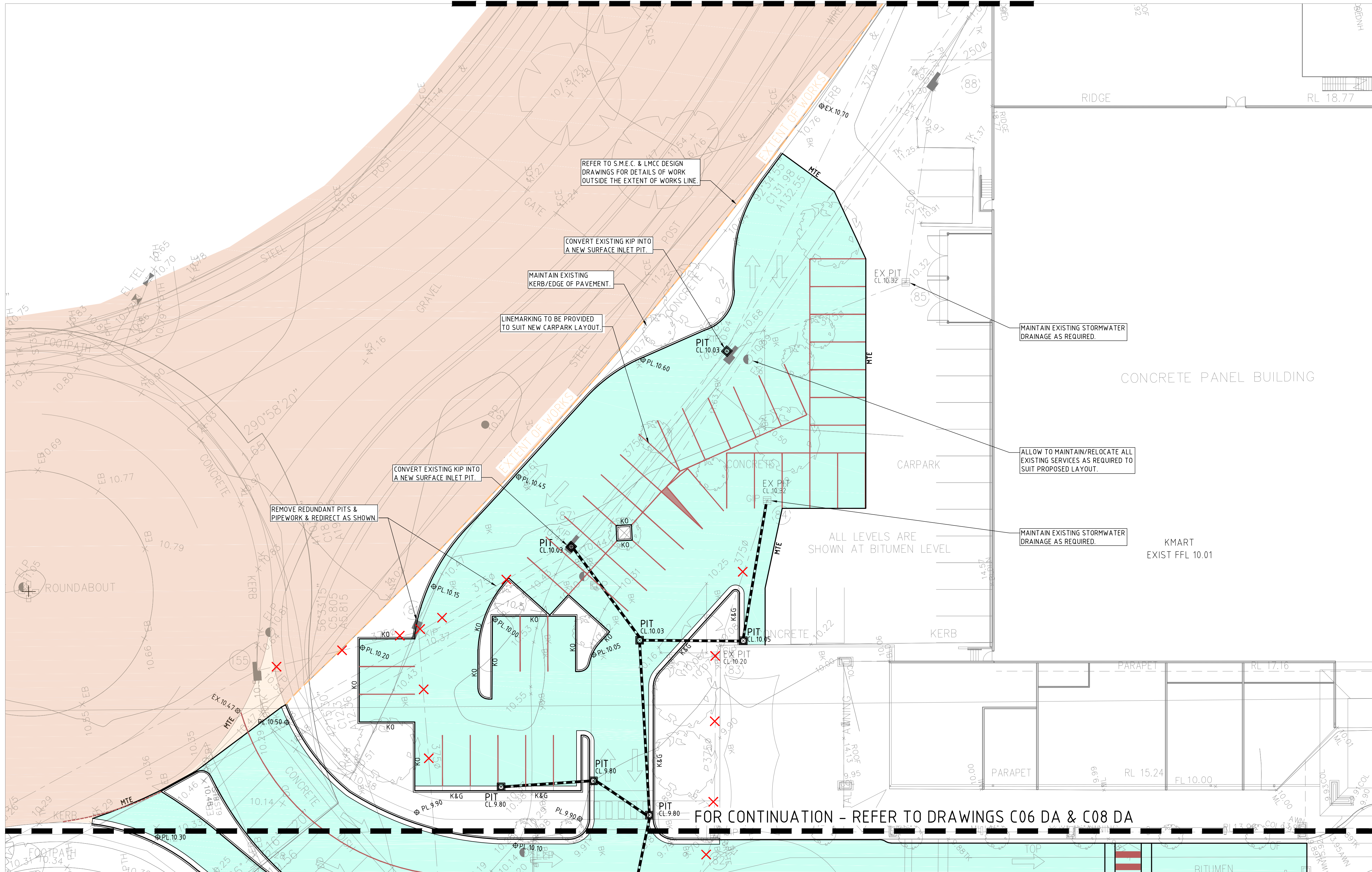
- DENOTES EXTENT OF PROPOSED CARPARK PAVEMENT TO BE CONSTRUCTED AND/OR MODIFIED. DETAILS TO BE PROVIDED AT CC STAGE.
- DENOTES EXTENT OF PROPOSED FOOTPATH AND MALL PAVEMENT. DETAILS TO BE PROVIDED AT CC STAGE.
- DENOTES PROPOSED STORMWATER DRAINAGE PIPE.
- DENOTES EXISTING STORMWATER DRAINAGE PIPE.
- DENOTES EXISTING STORMWATER DRAINAGE PIPE (BEING REMOVED OR MADE REDUNDANT)
- DENOTES PROPOSED DOWNPIPE LINE.
- RW** DENOTES PROPOSED RETAINING WALL & TYPE. DETAILS TO BE PROVIDED AT CC STAGE.

- KO** DENOTES KERB ONLY. DETAILS TO BE PROVIDED AT CC STAGE.
- K&G** DENOTES KERB & GUTTER. DETAILS TO BE PROVIDED AT CC STAGE.
- RK** DENOTES ROLL KERB. DETAILS TO BE PROVIDED AT CC STAGE.
- DD** DENOTES DISH DRAIN. DETAILS TO BE PROVIDED AT CC STAGE.

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FOR CONTINUATION - REFER TO DRAWINGS C06 DA & C08 DA

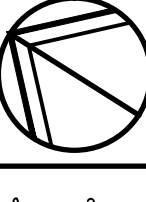
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0 2 4 6 8 10m	PLAN SCALE 1:200 @ A1

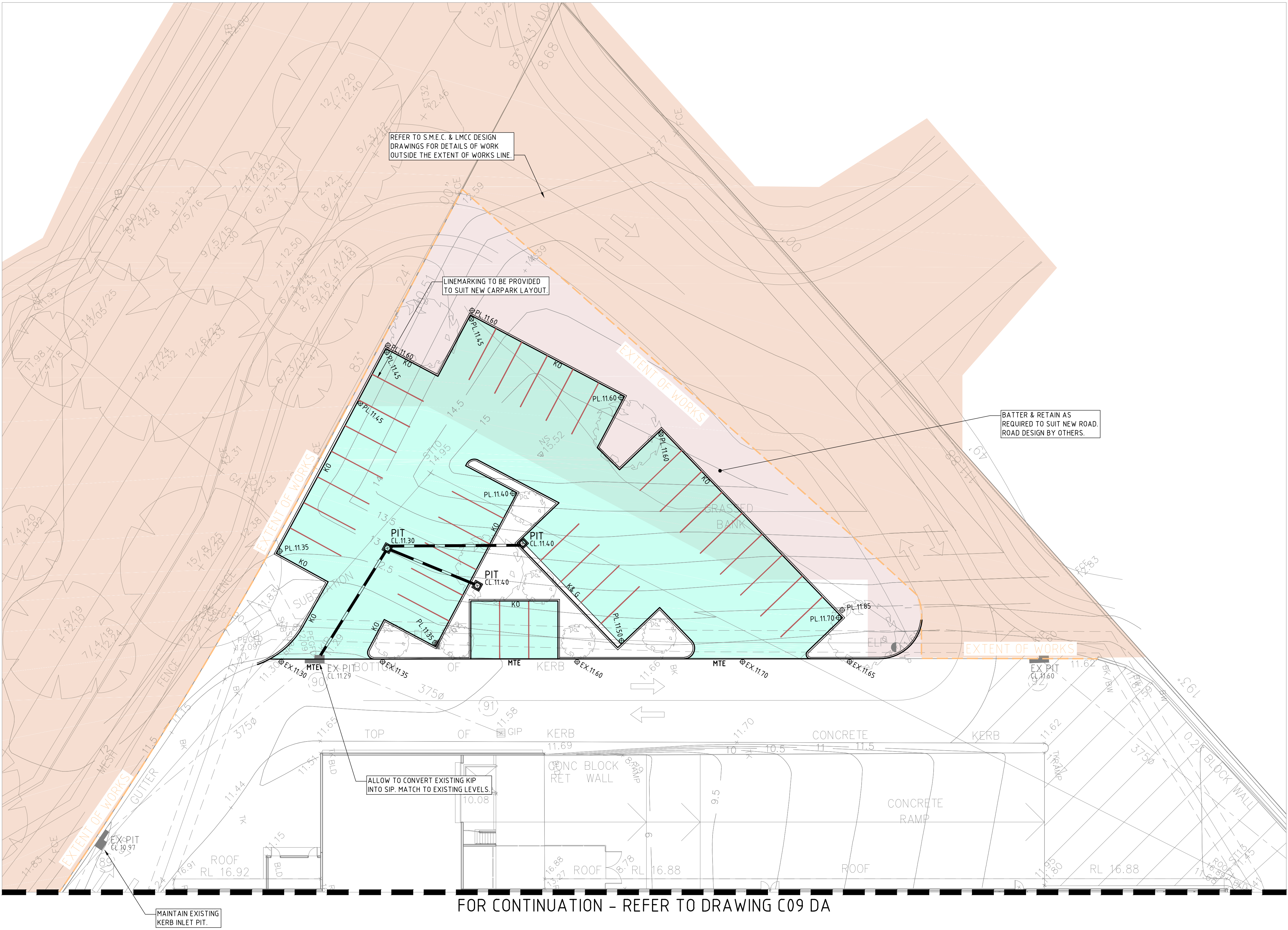

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PROJECT	STOCKLAND GLENDALE Lake Road, Glendale. N.S.W.
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DRAWING TITLE	STORMWATER MANAGEMENT PART PLAN
SHEET 8 - 16	

JOB NUMBER	NL130382
DRAWING NUMBER	C09 DA
REVISION	C
DRAWING SHEET SIZE = A1	

DA APPROVAL



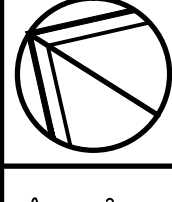
REFER TO DRAWING C07 DA FOR LEGEND.

DRAWN: S.Forbes..... DESIGNED: M.McNamara..... JOB MANAGER: M.McNamara..... VERIFIER: A.Brown.....

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE
1	PRELIMINARY	SF		GB	28.03.14
A	ISSUED FOR DA APPROVAL	SF	MM	GB	11.04.14
B	DEVELOPMENT LAYOUT AMENDED	CS		CS	31.03.15
C	REVISED FOR DA APPROVAL	CD	CS	CS	10.06.15

CLIENT	
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ARCHITECT	
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0 2 4 6 8 10m	PLAN SCALE 1200 @ A1

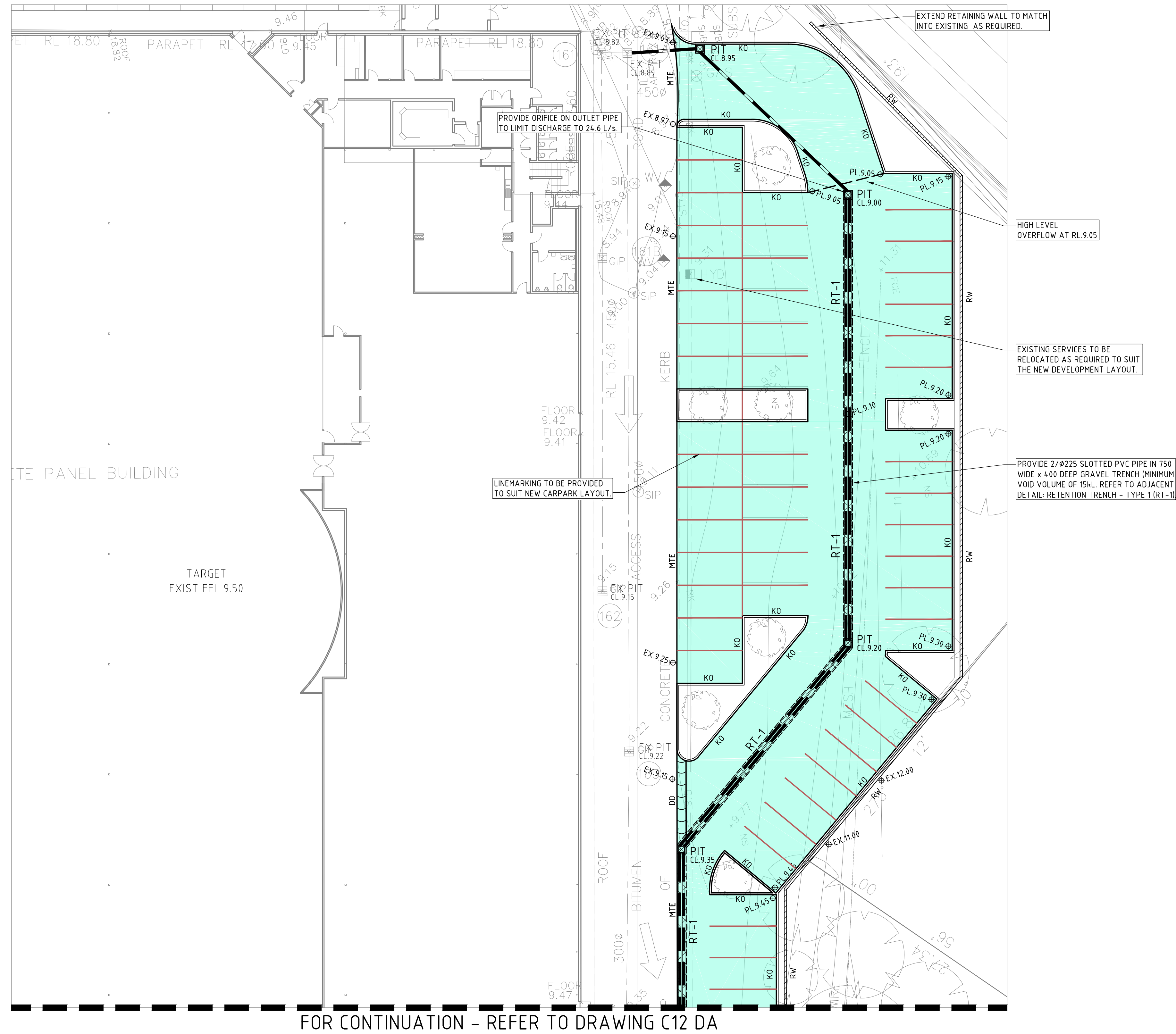
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---	--

PROJECT	STOCKLAND GLENDALE Lake Road, Glendale. N.S.W.
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DRAWING TITLE	STORMWATER MANAGEMENT PART PLAN SHEET 9 - 16
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JOB NUMBER	NL130382
DRAWING NUMBER	C10 DA
REVISION	C
DRAWING SHEET SIZE	A1

DA APPROVAL



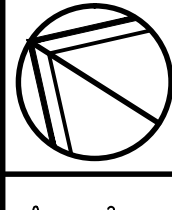

REFER TO DRAWING C07 DA FOR LEGEND.

DRAWN: S.Forbes..... DESIGNED: M.McNamara..... JOB MANAGER: M.McNamara..... VERIFIER: A.Brown.....

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE
1	PRELIMINARY	SF		GB	28.03.14
A	ISSUED FOR DA APPROVAL	SF	MM	GB	11.04.14
B	DEVELOPMENT LAYOUT AMENDED	CS		CS	31.03.15
C	REVISED FOR DA APPROVAL	CD	CS	CS	10.06.15
D	REVISED FOR DA APPROVAL	JB	CS	CS	29.06.15

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	PLAN SCALE 1200 @ A1

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PROJECT	STOCKLAND GLENDALE Lake Road, Glendale. N.S.W.
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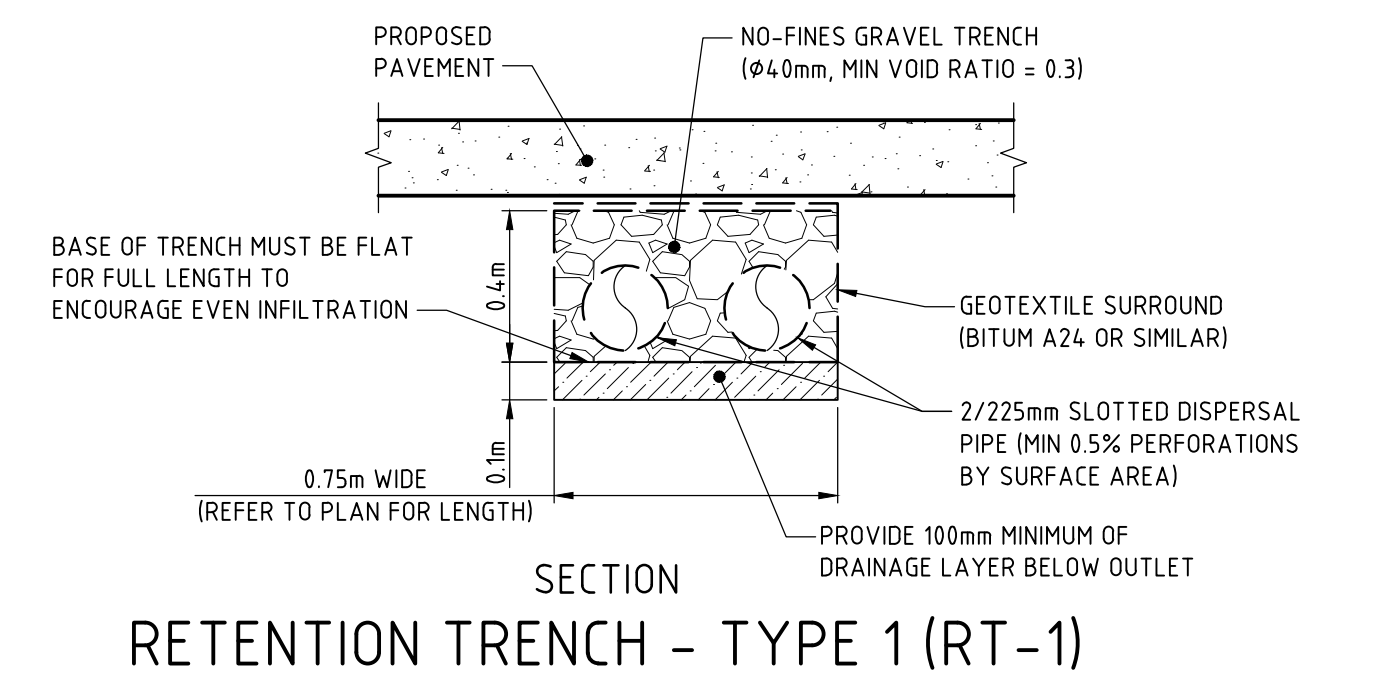
DRAWING TITLE	STORMWATER MANAGEMENT PART PLAN
SHEET 10 - 16	

JOB NUMBER	NL130382
DRAWING NUMBER	C11 DA
REVISION	D
DRAWING SHEET SIZE = A1	




DA APPROVAL

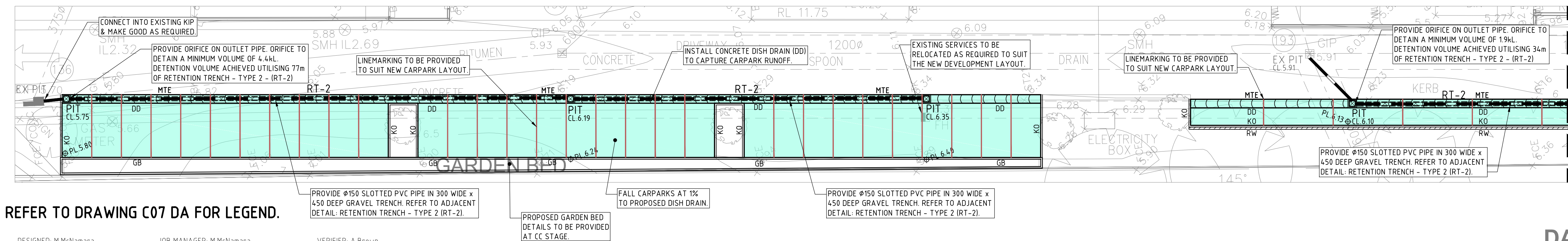
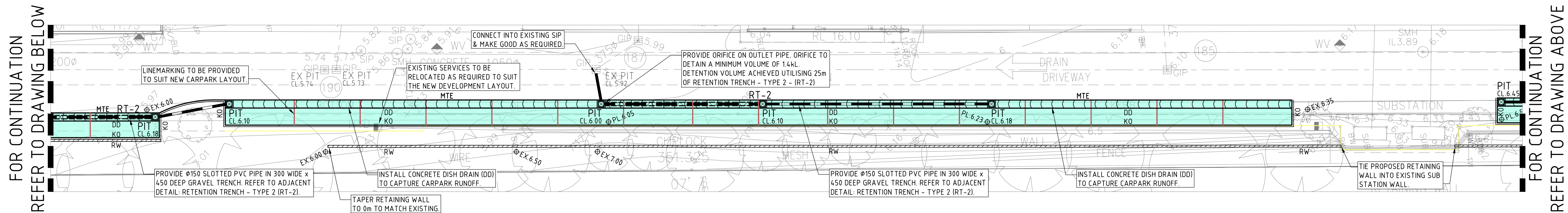
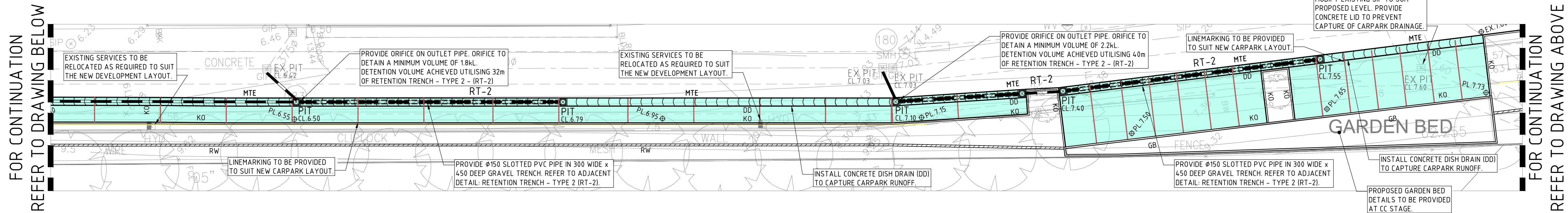
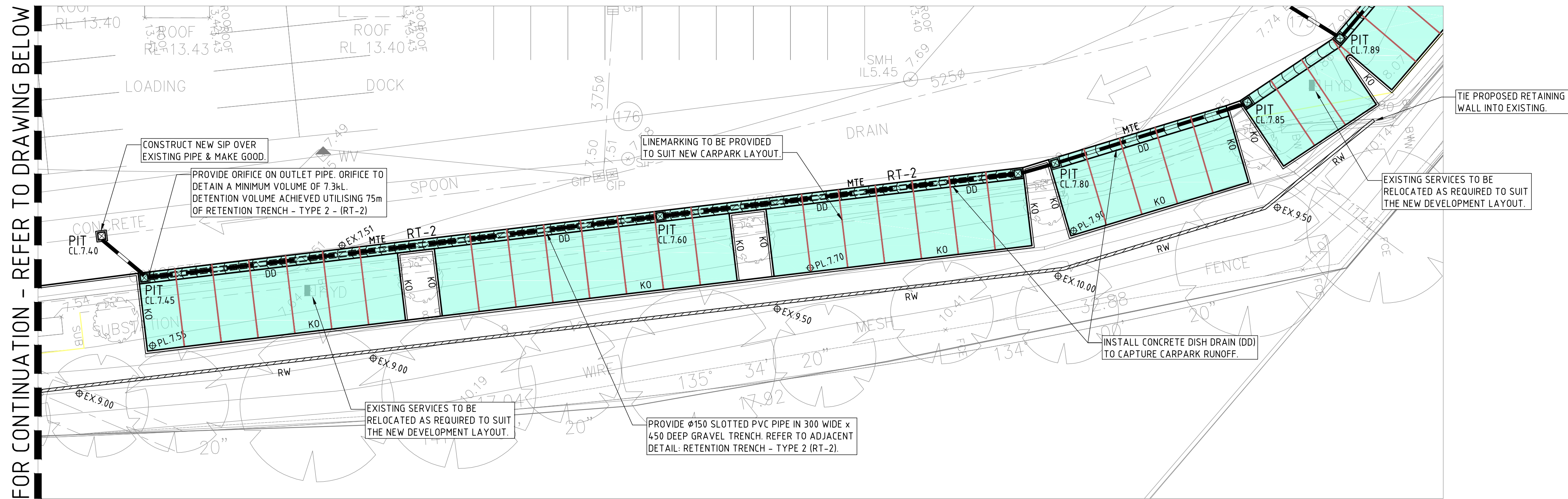
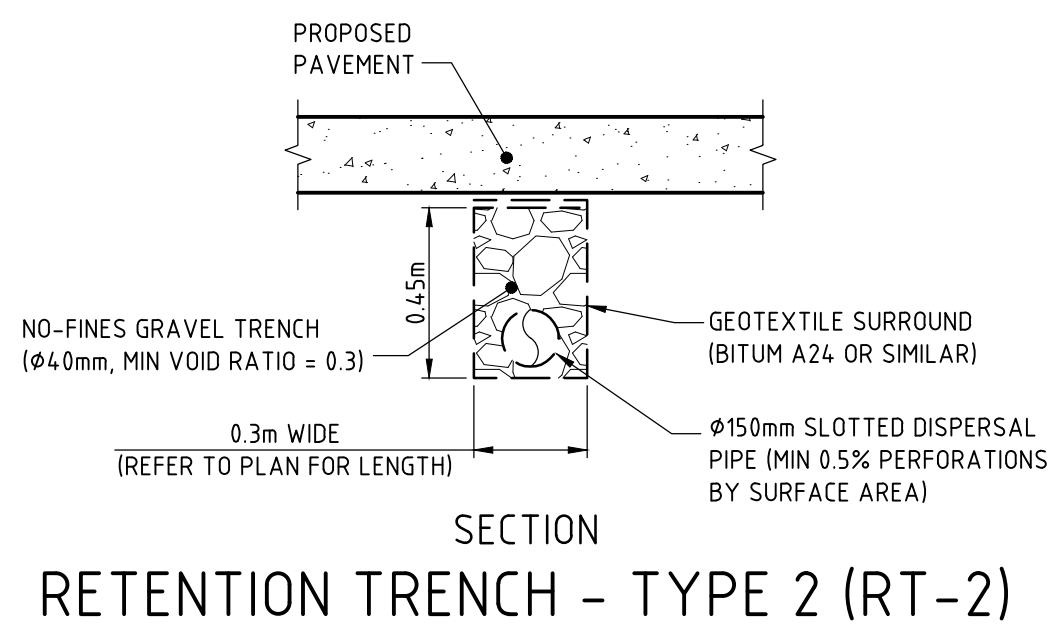
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REFER TO DRAWING C07 DA FOR LEGEND.



DRAWN: S.Forbes..... DESIGNED: M.McNamara..... JOB MANAGER: M.McNamara..... VERIFIER: A.Brown.....

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE	CLIENT	ARCHITECT	PROJECT	DRAWING TITLE	JOB NUMBER
1	PRELIMINARY	SF		GB	28.03.14		 <p>ALL SETOUT TO ARCHITECT'S DRAWINGS. DIMENSIONS TO BE VERIFIED WITH THE ARCHITECT AND ON SITE BEFORE MAKING SHOP DRAWINGS OR COMMENCING WORK. NORTHROP ACCEPTS NO RESPONSIBILITY FOR THE USABILITY, COMPLETENESS OR SCALE OF DRAWINGS TRANSFERRED ELECTRONICALLY.</p>	 <p>STOCKLAND GLENDALE Lake Road, Glendale. N.S.W.</p>	STORMWATER MANAGEMENT PART PLAN SHEET 11 - 16	NL130382
A	ISSUED FOR DA APPROVAL	CS	MM	GB	11.04.14					
B	DEVELOPMENT LAYOUT AMENDED	CS		CS	31.03.15					
C	REVISED FOR DA APPROVAL	CD	CS	CS	10.06.15					
D	REVISED FOR DA APPROVAL	JB	CS	CS	29.06.15					
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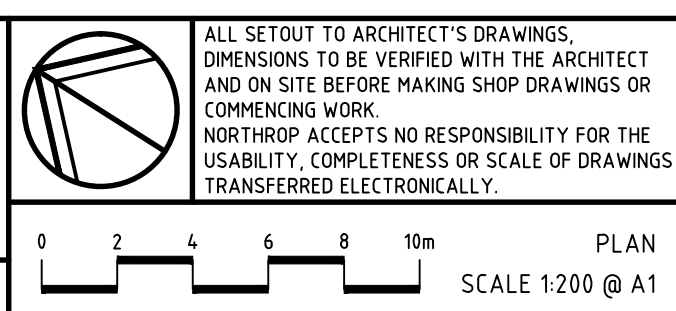
DRAWN: S.Forbes..... DESIGNED: M.McNamara..... JOB MANAGER: M.McNamara..... VERIFIER: A.Brown.....

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE
1	PRELIMINARY	SF	GB		28.03.14
A	ISSUED FOR DA APPROVAL	SF	MM		11.04.14
B	DEVELOPMENT LAYOUT AMENDED	CS		CS	31.03.15
C	REVISED FOR DA APPROVAL	CD	CS	CS	10.06.15
D	REVISED FOR DA APPROVAL	JB	CS	CS	29.06.15
E	REVISED FOR DA APPROVAL	JB	CS	CS	30.06.15



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Email newcastle@northrop.com.au ABN 81 094 433 100

PROJECT

STOCKLAND GLENDALE
Lake Road, Glendale. N.S.W.

DRAWING TITLE

STORMWATER MANAGEMENT
PART PLAN

SHEET 12 - 16

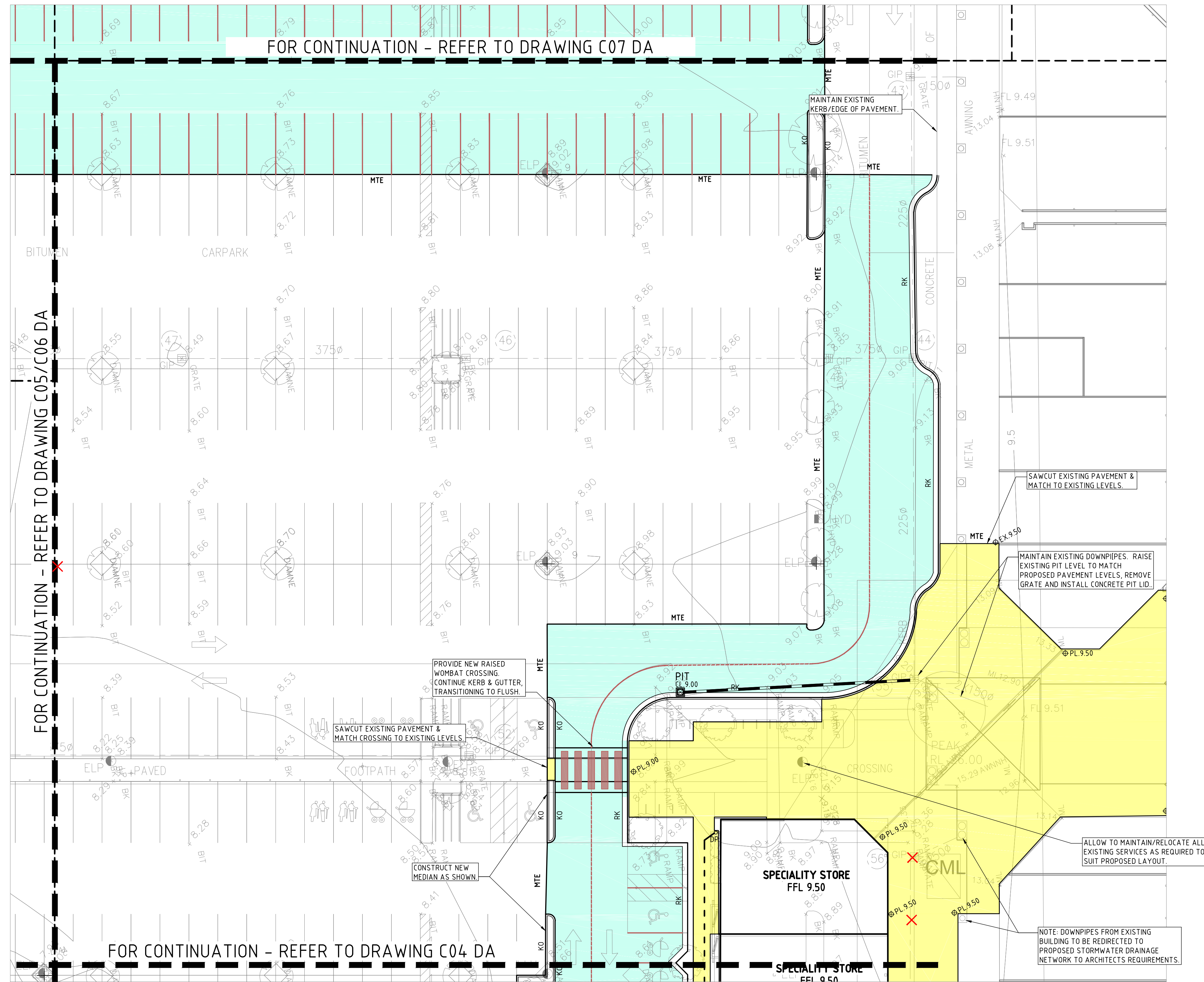
DA APPROVAL

JOB NUMBER
NL130382

DRAWING NUMBER
C13 DA

REVISION
E

DRAWING SHEET SIZE ± A1



DRAWN: S.Forbes..... DESIGNED: M.McNamara..... JOB MANAGER: M.McNamara..... VERIFIER: A.Brown.....

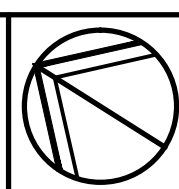
REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE
A	DEVELOPMENT LAYOUT AMENDED	CS		CS	31.03.15
B	REVISED FOR DA APPROVAL	CD	CS	CS	10.06.15



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Email newcastle@northrop.com.au ABN 81 094 433 100

PROJECT

STOCKLAND GLENDALE
Lake Road, Glendale. N.S.W.

DRAWING TITLE

STORMWATER MANAGEMENT PART PLAN

SHEET 13 - 16

DA APPROVAL

JOB NUMBER

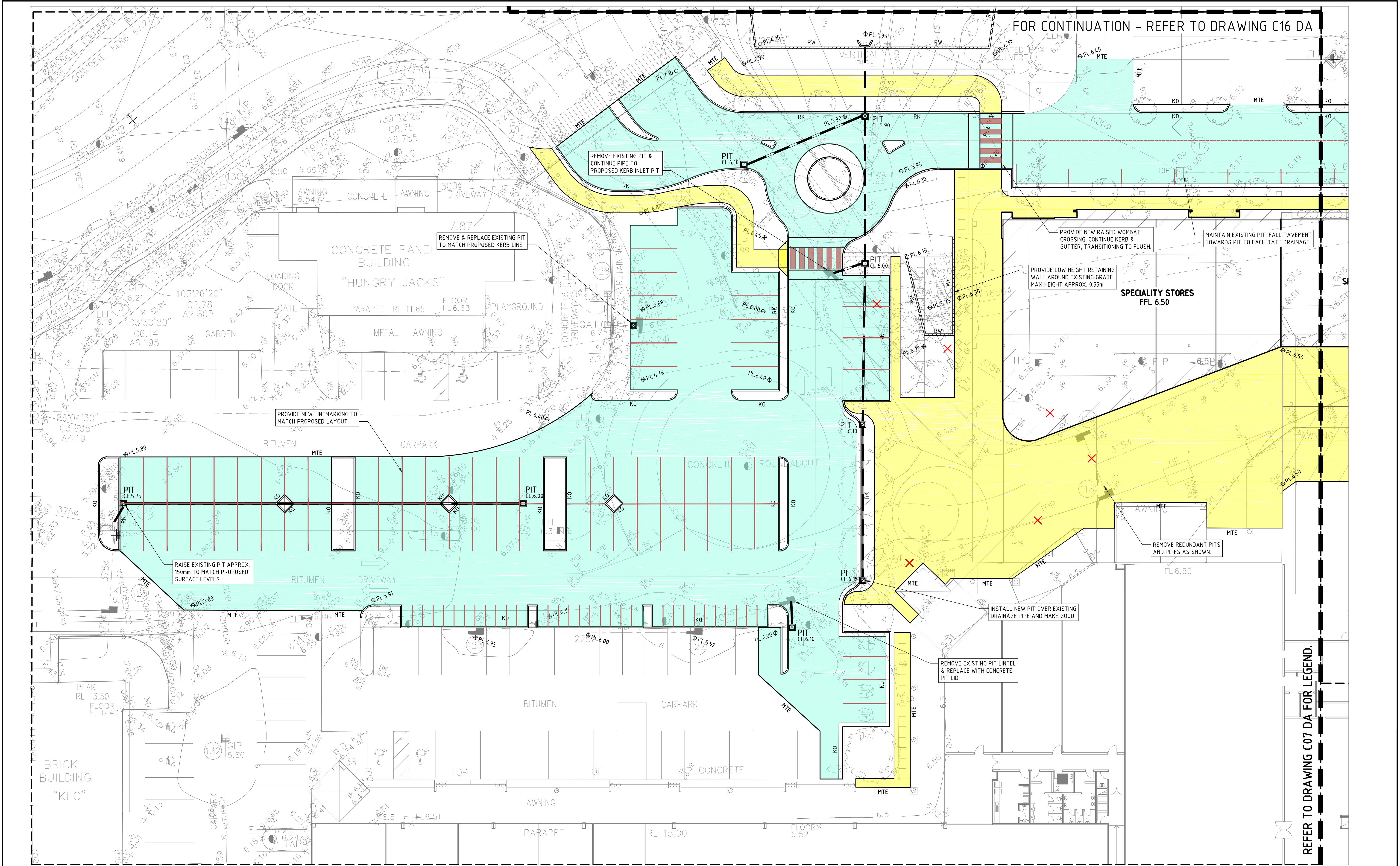
NL130382

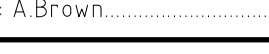



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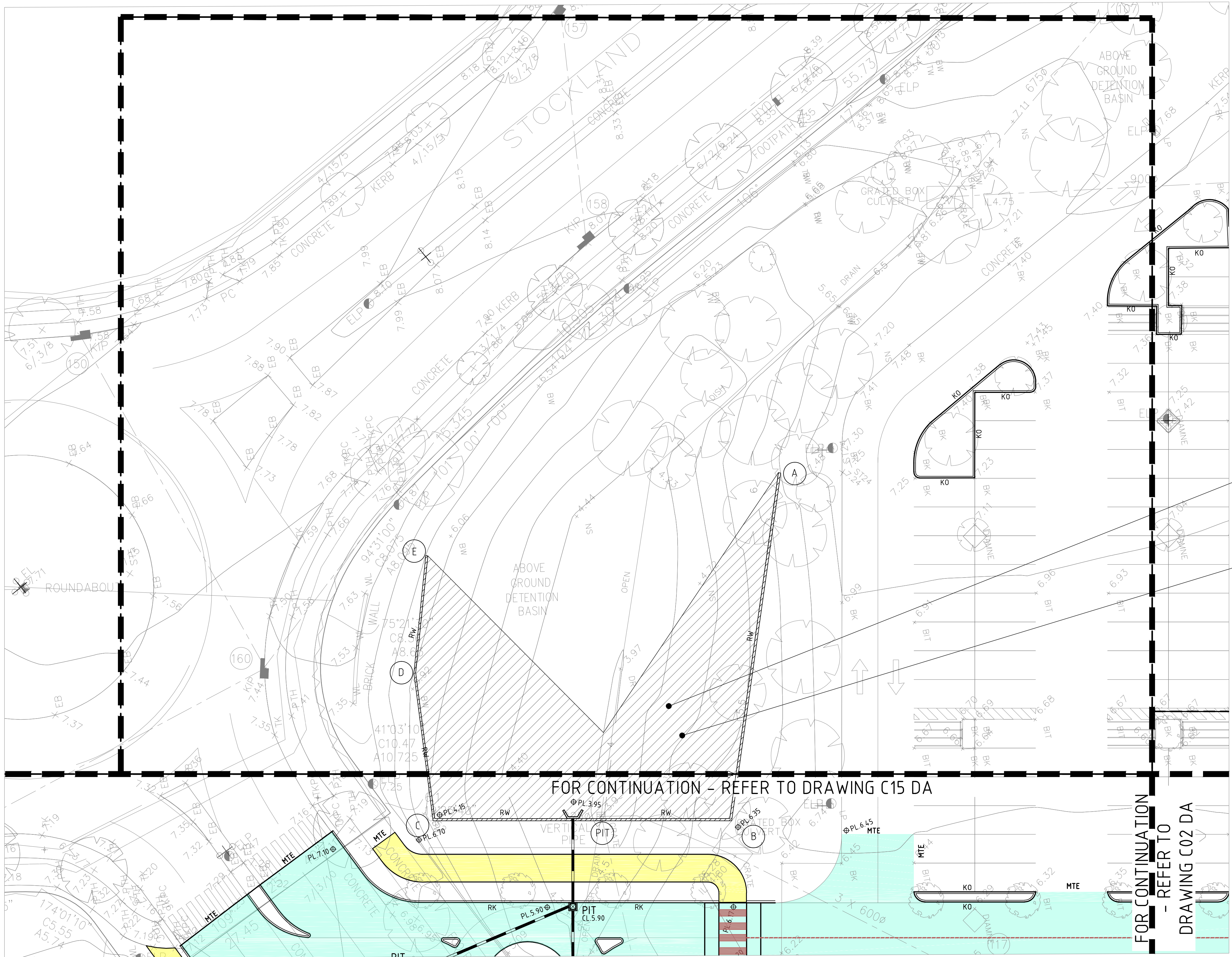
C14 DA	B
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DRAWING SHEET SIZE = A1

DRAWING SHEET SIZE = A1



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REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE	CLIENT	ARCHITECT	PROJECT		DRAWING TITLE	JOB NUMBER	
A	DEVELOPMENT LAYOUT AMENDED	CS		CS	31.03.15	 <div>DRAWING NOT TO BE USED FOR CONSTRUCTION UNLESS VERIFICATION SIGNATURE HAS BEEN ADDED</div>	 <div>ALL SETOUT TO ARCHITECT'S DRAWINGS. DIMENSIONS TO BE VERIFIED WITH THE ARCHITECT AND ON SITE BEFORE MAKING SHOP DRAWINGS OR COMMENCING WORK. NORTHROP ACCEPTS NO RESPONSIBILITY FOR THE USABILITY, COMPLETENESS OR SCALE OF DRAWINGS TRANSFERRED ELECTRONICALLY.</div> <div> PLAN SCALE 1200 @ A1</div>	 <div>NORTHROP Newcastle Suite 4, 215 Pacific Hwy, Charlestown NSW 2290 P.O. Box 180, Charlestown NSW 2290 Ph (02) 4943 1777 Fax (02) 4943 1577 Email newcastle@northrop.com.au ABN 81 094 433 100</div>	STOCKLAND GLENDALE Lake Road, Glendale. N.S.W.	STORMWATER MANAGEMENT PART PLAN	NL130382	
B	REVISED FOR DA APPROVAL	CD		CS	10.06.15						DRAWING NUMBER	REVISION
											C15 DA	B
											DRAWING SHEET SIZE ± A1	
								SHEET 14 - 16				



CONTINUE RETAINING WALL & RE-SHAPE FLOOR OF EXISTING DETENTION BASIN TO PROVIDE APPROX. 235m³ COMPENSATORY STORAGE VOLUME. COMPENSATORY VOLUME IS TO EQUAL THE DETENTION STORAGE LOST BY ROUNDABOUT & ENTRY ROAD CONSTRUCTION.

REFER TO DRAWING C17DA FOR RETAINING WALL DETAILS.

DRAWN: S.Forbes..... DESIGNED: M.McNamara..... JOB MANAGER: M.McNamara..... VERIFIER: A.Brown.....

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE
A	DEVELOPMENT LAYOUT AMENDED	CS		CS	31.03.15
B	REVISED FOR DA APPROVAL	CD	CS	CS	10.06.15

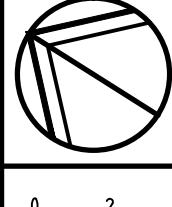


Stockland

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0 2 4 6 8 10m

PLAN

SCALE 1:200 @ A1



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PROJECT

STOCKLAND GLENDALE
Lake Road, Glendale. N.S.W.

DRAWING TITLE

STORMWATER MANAGEMENT
PART PLAN

SHEET 15 - 16

DA APPROVAL

JOB NUMBER

NL130382

DRAWING NUMBER

C16 DA




REVISION

B

DRAWING SHEET SIZE = A1



DA APPROVAL

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE	CLIENT	ARCHITECT	PROJECT	DRAWING TITLE	JOB NUMBER	
1	PRELIMINARY	SF		GB	28.03.14		 <p>NEWCASTLE Suite 4, 215 Pacific Hwy, Charlestown NSW 2290 P.O. Box 180, Charlestown NSW 2290 Ph: (02) 4943 1777 Fax: (02) 4943 1577 Email: newcastle@northrop.com.au ABN 81 094 433 100</p>	STOCKLAND GLENDALE Lake Road, Glendale. N.S.W.	STORMWATER MANAGEMENT PART PLAN SHEET 16 - 16	NL130382	
A	DEVELOPMENT LAYOUT AMENDED	CS		GB	31.03.15						
B	REVISED FOR DA APPROVAL	CD	CS	CS	10.06.15						
DRAWING NOT TO BE USED FOR CONSTRUCTION UNLESS VERIFICATION SIGNATURES ARE ADDED							THE COPYRIGHT OF THIS DRAWING REMAINS WITH NORTHROP CONSULTING ENGINEERS PTY LTD		DRAWING NUMBER C17 DA B		
							 <p>NEWCASTLE Suite 4, 215 Pacific Hwy, Charlestown NSW 2290 P.O. Box 180, Charlestown NSW 2290 Ph: (02) 4943 1777 Fax: (02) 4943 1577 Email: newcastle@northrop.com.au ABN 81 094 433 100</p>		REVISION B		
									DRAWING SHEET SIZE = A1		