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Our Reference: P3378.002L

8 May 2019

NSW Health Infrastructure
C/- TSA Management
Level 15, 207 Kent Street
Sydney NSW 2000

Attention: Sue Folliott
Sent via email: sfolliott@tsamanagement.com.au

Dear Sue

RE: TWEED VALLEY HOSPITAL EIS RESPONSE TO DPE REGARDING TWEED COAST ROAD / CUDGEN ROAD INTERSECTION

The original Traffic Impact Assessment (TIA) was prepared in accordance with RMS's Guide to Traffic Generating Developments and includes assessment of both background and 'project case' scenarios. This process identified various short-term upgrades to improve operational performance of the Tweed Coast Road / Cudgen Road intersection during peak periods under both background and 'project case' scenarios.

The works associated with upgrades at Tweed Coast Road / Cudgen Road signalised intersection are expected to include updates to both road infrastructure as well as the signal phase sequencing. Both Tweed Shire Council (TSC) and Roads and Maritime (RMS) have reviewed the assessment and were consulted through the assessment process. This consultation will continue through the Stage 2 application process.

At the time of the original assessment, TSC were in the process of reviewing the design of Tweed Coast Road duplication. These works are however only related to extending through lanes on Tweed Coast Road approaches to Cudgen Road. Council has no plans to increase turn movement capacity at this intersection. Rather, Council's plans relate to 4-laning Tweed Coast Road through the intersection as well as implement two (2) additional east-west road links north of Cudgen Road to improve connectivity to Kingscliff and reduce the reliance on Cudgen Road.

The existing intersection form was demonstrated to operate over capacity irrespective of the project (under base conditions) by 2023. Table 3.6 of the original TIA identified a base case operation at 2023 of LOS D, with many turn lanes operating at LOS F.

In regard to the operational performance of the proposed intersection upgrade, the original TIA submission within the EIS was undertaken prior to further consultation with Tweed Shire Council officers on the upgrade of Tweed Coast Road. Based on discussions with Tweed Shire Council officers post lodgement of the original TIA and considering the future planning for the road network connecting to Tweed Coast Road to the north, it was not considered appropriate to provide significant additional turning capacity to and from Cudgen Road over and above that required for the project. In addition, the detailed review of proposed upgrades identified restrictions in available roads reserve and services in proximity to the intersection. On this basis, the upgrades to cater for Project design traffic at the intersection were identified as follows:

- addition of a 100m southbound left-turn lane on Tweed Coast Road;

- phase sequence change to allow the southbound left-turn to overlap with the westbound right-turn (i.e. possible with the provision of a dedicated southbound left-turn lane);
- lane discipline change for the two approach lanes on the south-eastern approach:
    - Change of the left through lane to a through and right lane;
    - Change of the right through and right lane to a right only lane;
- extension of the northbound departure lane from approximately 85m to approximately 200m; and
- conversion of the north-western leg departure to a single lane (no physical changes. i.e. through provision of chevron line marking). With the lane discipline changes on the south-eastern approach, there is only one lane travelling through to the north-western departure lane.

Civil design concept plans were prepared and submitted as part of the Response to Submission (RtS) (See Attachment 1). The proposed infrastructure works at the Tweed Coast Road / Cudgen Road intersection are commensurate with TCS's future planning for Tweed Coast Road. Please note that, these plans are concept only and subject to further detailed assessment and consultation.

Table 1 below details the intersection movement summaries for the proposed upgrade in 2023 peak periods.

Table 1: Tweed Coast Road / Cudgen Road Intersection Performance - Proposed Works - Design Case

Approach	Year 2023 AM Peak - MVT					Year 2023 PM Peak - EVT				Year 2023 PM Peak - PVT			
	OD Movement	DOS	Ave Delay (s)	LOS	95%ile Queue (m)	DOS	Ave Delay (s)	LOS	95%ile Queue (m)	DOS	Ave Delay (s)	LOS	95%ile Queue (m)
South: Tweed Coast Road (S)	L1	0.319	26.6	LOS B	50	0.277	35.6	LOS C	35.8	0.277	35.6	LOS C	35.8
	T1	0.58	23.9	LOS B	102.7	0.504	32.5	LOS C	69.9	0.504	32.5	LOS C	69.9
	R3	0.866	52.4	LOS D	121.8	0.87	62.2	LOS E	62.3	0.841	58.4	LOS E	68.9
	Approach	0.866	33.9	LOS C	121.8	0.87	41.3	LOS C	69.9	0.841	40.9	LOS C	69.9
SouthEast: Cudgen Road (SE)	L3	0.099	7.9	LOS A	7	0.224	11.7	LOS A	38.8	0.204	11.4	LOS A	27.4
	T1	0.517	33.8	LOS C	60.6	0.526	28.9	LOS C	85	0.528	30.4	LOS C	81.4
	R1	0.868	47.5	LOS D	127.4	0.883	44.4	LOS D	194.9	0.888	46.2	LOS D	185.1
	Approach	0.868	37.7	LOS C	127.4	0.883	35.2	LOS C	194.9	0.888	36.3	LOS C	185.1
North: Tweed Coast Road (N)	L1	0.854	27	LOS B	20.9	0.515	11.5	LOS A	63.9	0.646	13	LOS A	91.9
	T1	0.458	35.2	LOS C	6.5	0.885	42.4	LOS C	148.4	0.885	42.4	LOS C	148.4
	R3	0.298	53.3	LOS D	1.4	0.317	50.2	LOS D	18.7	0.268	47.7	LOS D	18.1
	Approach	0.854	30	LOS C	20.9	0.885	29.1	LOS B	148.4	0.885	28.2	LOS B	148.4
NorthWest: Cudgen Road (NW)	L3	0.07	14.6	LOS B	7	0.059	16.8	LOS B	6.6	0.051	14.5	LOS B	5.8
	T1	0.596	42.6	LOS D	39.8	0.871	54.3	LOS D	40.1	0.53	44.9	LOS D	35.1
	R1	0.596	47.7	LOS D	39.8	0.871	62.1	LOS E	40.1	0.53	50	LOS D	35.1
	Approach	0.596	36.5	LOS C	39.8	0.871	47.1	LOS D	40.1	0.53	38.9	LOS C	35.1
All Vehicles		0.868	33.8	LOC C	120.8	0.885	34.5	LOS C	194.9	0.888	33.8	LOS C	185.1

It is noted that the operational performance of the current proposal for intersection differs slightly from the original TIA and reduces the intersection performance from LOS B to LOS C. The differences in intersection performance between the original assessment and the current design iteration primarily relate to select intersection movements and available turn pocket extensions. As previously mentioned, the existing intersection form was demonstrated to operate over capacity irrespective of the project (under base conditions) by 2023. Table 3.6 of the original TIA identified a base case operation at 2023 of LOS D, with many turn lanes operating at LOS F. Council has no plans to increase turn movement capacity at this intersection. Rather, Council's plans relate to 4-laning Tweed Coast Road through the intersection as well as implement two (2) additional east-west road links north of Cudgen Road to improve connectivity to Kingscliff and reduce the reliance on Cudgen Road.

The proposed upgrades considerably improve the performance of the intersection beyond base case (background) conditions and within acceptable performance limits for a signalised intersection in terms of LOS and DOS. Therefore, the project is seeking to address existing deficiencies whilst mitigating against its impacts.

Further consultation with Tweed Shire Council (TSC) and Roads and Maritime Service (RMS) will be undertaken including design, scope and timing as part of the Stage 2 application. For this reason, we are of the view that conditions relating to the current application should acknowledge the plan for traffic infrastructure works at Tweed Coast Road / Cudgen Road intersection but should not explicitly condition specific works at this stage.

It is also noted that RMS has identified within their response to the TIA that the proposed traffic assessment and recommended works are feasible and advised that works associated with the traffic signals shall require a Works Agreement Deed (WAD). As part of the WAD process, the detailed design including specific phase sequences updates will be resolved in consultation with RMS.

I trust that the above information is sufficient to respond to the questions received by DPE and will allow for reasonable and relevant conditions of approval to be prepared.

Yours faithfully

Andrew Eke
Manager – Major Projects
Principal Traffic Engineer / Transport Planner
BITZIOS CONSULTING

ATTACHMENT 1

TWEED COAST ROAD / CUDGEN ROAD CONCEPT PLAN

TWEED VALLEY HOSPITAL DEVELOPMENT
CUDGEN AND TWEED COAST ROAD INTERSECTION WORKS

DRAWING No.	DESCRIPTION
20 10748 C300	DRAWING REGISTER AND CONSTRUCTION NOTES
20 10748 C330	GENERAL ARRANGEMENT AND KEY PLAN
20 10748 C331	CONCEPT INTERSECTION WORKS PLAN SHEET 1 OF 2
20 10748 C332	CONCEPT INTERSECTION WORKS PLAN SHEET 2 OF 2

GENERAL NOTES

G1 THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ARCHITECTURAL AND OTHER CONSULTANTS DRAWINGS AND SPECIFICATIONS AND WITH SUCH OTHER WRITTEN INSTRUCTIONS OR SKETCHES AS MAY BE ISSUED DURING THE COURSE OF THE CONTRACT. ANY DISCREPANCY SHALL BE REFERRED TO THE SUPERINTENDENT BEFORE PROCEEDING WITH WORK.

G2 MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE SPECIFICATION, CURRENT SAA CODES, BUILDING REGULATIONS AND THE REQUIREMENTS OF ANY OTHER RELEVANT STATUTORY AUTHORITIES.

G3 THESE DRAWINGS MUST NOT BE SCALED. ALL DIMENSIONS ARE IN METERS. ALL SET OUT DIMENSIONS AND LEVELS, INCLUDING THOSE SHOWN ON THESE DRAWINGS SHALL BE IN ACCORDANCE WITH THE ARCHITECT'S DRAWINGS AND VERIFIED ON SITE.

G4 ALL SETOUT AND DIMENSIONS OF THE STRUCTURE INCLUDING KERBS AND RETAINING WALLS, AND BULK EARTHWORKS MUST BE TAKEN FROM THE ARCHITECT'S DRAWINGS. SETOUT OF THE STORMWATER PITS BY OTHERS. CONTRACTOR TO CONFIRM SETOUT OF SERVICE TRENCHING INCLUDING SUBSOIL ON SITE.

G5 THE CONTRACTOR SHALL COMPLY WITH ALL REGULATIONS OF AUTHORITIES HAVING JURISDICTON OVER THE WORKS. REFER TO GEOTECHNICAL REPORT BY MORRISON GEOTECHNIC PTY LTD, REFERENCE: GE18/144, DATED AUGUST 2018.

G6 ALL DIMENSIONS AND REDUCED LEVELS MUST BE VERIFIED ON SITE BEFORE THE COMMENCEMENT OF ANY WORK.

G7 THE APPROVAL OF A SUBSTITUTION SHALL BE SOUGHT FROM THE SUPERINTENDENT BUT IS NOT AN AUTHORISATION OF A COST VARIATION. THE SUPERINTENDENT MUST APPROVE ANY COST VARIATION INVOLVED BEFORE ANY WORK STARTS.

G8 ALL LEVELS SHOWN ARE TO THE AUSTRALIAN HEIGHT DATUM.

G9 SERVICE INFORMATION SHOWN IS APPROXIMATE ONLY. PRIOR TO COMMENCEMENT OF ANY WORKS, THE CONTRACTOR SHALL LOCATE ALL UNDERGROUND SERVICES AND COMPLY WITH ALL REQUIREMENTS OF THOSE AUTHORITIES.

G10 EXISTING SURFACE CONTOURS, WHERE SHOWN, ARE INTERPOLATED AND MAY NOT BE ACCURATE.

G11 UNLESS NOTED OTHERWISE, ALL VEGETATION SHALL BE STRIPPED TO A MINIMUM DEPTH OF 150mm UNDER ALL PROPOSED PAVEMENT AND BUILDING AREAS.

G12 MAKE SMOOTH CONNECTION WITH ALL EXISTING WORKS.

SITEWORKS NOTES

S1 PRIOR TO THE PLACEMENT OF ANY PAVEMENTS, BUILDINGS OR DRAINS THE EXPOSED SUBGRADE SHALL BE COMPACTED TO A MINIMUM OF 98% STANDARD COMPACTION IN ACCORDANCE WITH TEST 'E1.1' OF A.S. 1289 FOR THE TOP 300mm. ANY SOFT SPOTS SHALL BE REMOVED AND REPLACED WITH GRANULAR FILL TO THE ENGINEERS APPROVAL AND COMPACTED IN ACCORDANCE WITH THE COMPACTION REQUIREMENTS SET OUT BELOW. ON HIGHLY REACTIVE CLAY AREAS SITE EXCAVATED MATERIAL MAY BE USED WITH THE PRIOR AUTHORISATION OF THE ENGINEER.

S2 ALL FILL AND PAVEMENT MATERIALS SHALL BE COMPACTED IN ACCORDANCE WITH GEOTECHNICAL REPORT BY MORRISON GEOTECHNIC PTY LTD REFERENCE: GE18/144 DATED AUGUST 2018 MOISTURE CONTENT TO BE MAINTAINED AT +/- 2% OMC. MINIMUM COMPACTION REQUIREMENTS ARE DETAILED BELOW FOR (ALL REQUIREMENTS ARE TO VERIFIED BY A SUITABLY QUALIFIED GEOTECHNICAL ENGINEER):

- LANDSCAPED AREAS — 95% STD.
- FILL UNDER ANY FOOTINGS AND FLOOR SLABS FOR ANY STRUCTURE TO SUBGRADE LEVEL;
  - FINE CRUSHED ROCK — 98% STD.
  - SELECTED FILL WITHOUT CONSPICUOUS CLAY CONTENT — 98% STD.
- BUILDING BASECOURSE — 98% MOD
- FILL UNDER ROAD PAVEMENTS;
  - TO WITHIN 500mm OF FINISHED SUBGRADE LEVEL — 98% STD.
  - UP TO FINISHED SUBGRADE LEVEL — 98% STD.
- ROAD PAVEMENT MATERIALS;
  - SUB BASE — 98% MOD.
  - BASE COURSE — 98% MOD.

THE MAXIMUM COMPACTION IS TO BE NO GREAT THAN 4% ON TOP OF THE ABOVE MENTION VALUES.

S3 GRADE EVENLY BETWEEN FINISHED SURFACE SPOT LEVELS. FINISHED SURFACE CONTOURS ARE SHOWN FOR CLARITY. WHERE FINISHED SURFACE LEVELS ARE NOT SHOWN, THE SURFACE SHALL BE GRADED SMOOTHLY SO THAT IT WILL DRAIN AND MATCH ADJACENT SURFACES OR STRUCTURES.

S4 ALL DIMENSIONS GIVEN ARE TO FACE OF KERB, CENTER OF PIPE OR EXTERIOR FACE OF BUILDING UNLESS NOTED OTHERWISE.

S5 ANY STRUCTURES, PAVEMENTS OR SURFACES DAMAGED, DIRTIED OR MADE UNSERVICABLE DUE TO CONSTRUCTION WORK SHALL BE REINSTATED TO THE SATISFACTION OF THE ENGINEER.

S6 ANY FILL REQUIRED SHALL BE APPROVED BY THE ENGINEER / GEOTECHNICAL CONSULTANT

S7 CONTRACTOR IS TO ENSURE THAT ALL EXCAVATIONS ARE MAINTAINED IN A DRY CONDITION WITH NO WATER ALLOWED TO REMAIN IN THE EXCAVATIONS.

S8 ALL FINISHES AND COLOURS TO BE IN ACCORDANCE WITH ARCHITECTURAL SPECIFICATIONS.

S9 REFER TO STRUCTURAL DRAWINGS FOR CONCRETE, REINFORCEMENT AND RETAINING WALL DETAILS.

S10 GENERALLY FOR TRENCHING WORKS THE CONTRACTOR MUST:
A) COMPLY WITH THE GENERAL PROVISIONS OF PART 3.1 "MANAGING RISKS TO HEALTH AND SAFETY" OF NSW WORK AND HEALTH AND SAFETY REGULATION 2011

B) COMPLY PART 6.3 DIVISION 3 "EXCAVATION WORK" OF NSW WORK HEALTH AND SAFETY REGULATION NSW 2011

S11 PRIOR TO THE EXCAVATION OF ANY TRENCH DEEPER THAN 1.5 METRES THE CONTRACTOR MUST:
A) NOTIFY THE OCCUPATIONAL HEALTH AND SAFETY AUTHORITY ON THE APPROPRIATE FORM.

STORMWATER DRAINAGE NOTES

SW1 UNLESS NOTED OTHERWISE BY HYDRAULIC ENGINEERS DRAWINGS, ALL DOWNPIPES & GRATED INLETS SHALL BE CONNECTED TO PITS OR MAIN STORMWATER DRAINS WITH 150 DIA. UPVC PIPES LAID AT A MINIMUM GRADE OF 1 IN 100. FOR SYPHONIC ROOF DRAINAGE SYSTEMS ALL DOWNPIPES CONNECTION DRAIN SIZES TO BE CONNECTED INTO MAIN STORMWATER DRAINS SHALL BE IN ACCORDANCE WITH HYDRAULIC ENGINEERS DRAWINGS.

SW2 ALL MAIN STORMWATER DRAINS SHALL BE CONSTRUCTED USING MATERIALS AS SPECIFIED ON THE DRAWINGS IN ACCORDANCE WITH THE APPROPRIATE A.S. IF NOT SPECIFIED THEN CLASS 2 RRJ RCP SHALL BE USED FOR DIAMETERS > 225mm. SEWER CLASS SEH UPVC IN ACCORDANCE WITH AS1260 SHALL BE USED FOR Ø225mm OR SMALLER.

SW3 ALL PIPEWORK TO BE INSTALLED IN ACCORDANCE WITH AS3725 FOR RCP AND AS2032 FOR PVC. ALL BEDDING TO BE TYPE H2 UNLESS NOTED OTHERWISE.

SW4 FOR ALL PITS > 1.2m DEEP, STEP IRONS SHALL BE INSTALLED.

SW5 PRECAST PITS MAY BE USED EXTERNAL TO THE BUILDING SUBJECT TO APPROVAL BY BONACCI GROUP.

SW6 ENLARGERS, CONNECTIONS AND JUNCTIONS TO BE PREFABRICATED FITTINGS WHERE PIPES ARE LESS THAN 300 DIA.

SW7 WHERE SUBSOIL DRAINS PASS UNDER FLOOR SLABS AND VEHICULAR PAVEMENTS, UNSLOTTED uPVC SEWER GRADE PIPE IS TO BE USED.

SW8 GRATES AND COVERS SHALL CONFORM WITH AS 3996 AND AS 1428.1 FOR ACCESS REQUIREMENTS.

SW9 CARE IS TO BE TAKEN WITH LEVELS OF STORMWATER LINES. GRADES ARE NOT TO BE REDUCED WITHOUT APPROVAL.

SW10 AT ALL TIMES DURING CONSTRUCTION OF STORMWATER PITS, ADEQUATE SAFETY PROCEDURES SHALL BE TAKEN TO ENSURE AGAINST THE POSSIBILITY OF PERSONNEL FALLING DOWN PITS.

SW11 ALL EXISTING STORMWATER DRAINAGE LINES AND PITS THAT ARE TO REMAIN ARE TO BE INSPECTED AND CLEANED. DURING THIS PROCESS ANY PART OF THE STORMWATER DRAINAGE SYSTEM THAT WARRANTS REPAIR SHALL BE REPORTED TO THE SUPERINTENDENT/ENGINEER FOR FURTHER DIRECTIONS.

KERBING NOTES

K1 ALL CONCRETE TO HAVE A MINIMUM COMPRESSIVE STRENGTH OF 32 MPa U.N.O.

K2 ALL KERBS, GUTTERS, DISH DRAINS AND CROSSINGS TO BE CONSTRUCTED ON 75mm GRANULAR BASECOURSE COMPACTED TO A MINIMUM 98% MAXIMUM DRY DENSITY IN ACCORDANCE WITH AS1289 5.2.1.

K3 EXPANSION JOINTS (EJ) TO BE FORMED FROM 10mm COMPRESSIBLE CORK FILLER BOARD FOR THE FULL DEPTH OF THE SECTION AND CUT TO PROFILE. EXPANSION JOINTS TO BE LOCATED AT DRAINAGE PITS, ON TANGENT POINTS OF CURVES AND ELSEWHERE AT MAX 12m CENTRES EXCEPT FOR INTEGRAL KERBS WHERE THE EXPANSION JOINTS ARE TO MATCH THE JOINT LOCATIONS IN THE SLAB.

K4 WEAKENED PLANE JOINTS TO BE MIN 3mm WIDE AND LOCATED AT 3m CENTRES EXCEPT FOR INTEGRAL KERBS WHERE THE WEAKENED PLANE JOINTS ARE TO MATCH THE JOINT LOCATIONS IN THE SLAB.

K5 BROOMED FINISH TO ALL RAMPED AND VEHICULAR CROSSINGS. ALL OTHER KERBING OR DISH DRAINS TO BE STEEL FLOAT FINISHED.

K6 IN THE REPLACEMENT OF KERBS:-
- EXISTING ROAD PAVEMENT IS TO BE SAWCUT 900mm U.N.O. FROM THE LIP OF GUTTER. UPON COMPLETION OF THE NEW KERB AND GUTTER, NEW BASECOURSE AND SURFACE TO BE LAID 600mm WIDE U.N.O.
- EXISTING KERBS ARE TO BE COMPLETELY REMOVED WHERE NEW KERBS ARE SHOWN.

JOINTING NOTES

PEDESTRIAN FOOTPATH JOINTS

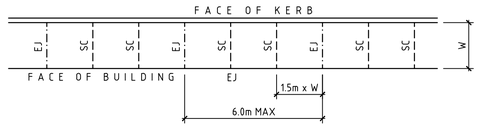
J1 EXPANSION JOINTS (EJ) ARE TO BE LOCATED WHERE POSSIBLE AT TANGENT POINTS OF CURVES AND ELSEWHERE AT 6m CENTRES.

J2 SAWCUT JOINTS (SC) ARE TO BE LOCATED AT A MAX 1.5m x WIDTH OF PAVEMENT. THE TIMING OF THE SAWCUT IS TO BE CONFIRMED BY THE CONTRACTOR ON SITE. SITE CONDITIONS WILL DETERMINE HOW MANY HOURS AFTER THE CONCRETE POUR BEFORE THE SAW CUTS ARE COMMENCED.

J3 WHERE POSSIBLE JOINTS SHOULD BE LOCATED TO MATCH KERBING AND / OR ADJACENT PAVEMENT JOINTS.

J4 PROVIDE 10mm WIDE FULL DEPTH EXPANSION JOINTS (EJ) BETWEEN BUILDINGS AND ALL CONCRETE OR UNIT PAVERS

J5 ALL PEDESTRIAN FOOTPATH JOINTINGS AS FOLLOWS (U.N.O.).



VEHICULAR PAVEMENT JOINTS

J6 ALL VEHICULAR PAVEMENTS TO BE JOINTED AS SHOWN ON DRAWINGS.

J7 LONGITUDINAL WARPING JOINTS (LWJ) SHOULD GENERALLY BE LOCATED AT A MAXIMUM OF 3m TO 4.5m MAX CENTERS. ALL LWJ's SHOULD BE TIED UP TO A MAXIMUM TOTAL WIDTH OF 30m.

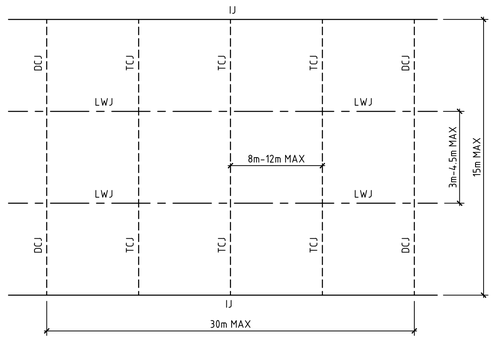
J8 TRANSVERSE CONTRACTION JOINTS (TCJ) SHOULD GENERALLY BE LOCATED AT A MAXIMUM OF 8m TO 12m MAX CENTERS. TCJ's CAN BE SPACED AT SUITABLE INTERVALS UP TO A RECOMMENDED MAXIMUM LENGTH OF 15m.

J9 TRANSVERSE DOWELLED CONSTRUCTION JOINTS (DCJ) TO BE PROVIDED FOR PLANNED INTERRUPTIONS SUCH AS AT THE END OF EACH DAY'S OPERATIONS (POUR BREAK), AT BLOCK OUTS FOR BRIDGES AND INTERSECTIONS OR FOR UNEXPECTED DELAYS WHEN THE SUSPENSION OF OPERATIONS IS LIKELY TO CREATE A JOINT.

J10 ISOLATION JOINTS WITH SUB-GRADE BEAM (IJ) TO BE PROVIDED AT INTERSECTIONS OR AT THE JUNCTION OF A POUR BREAK.

J11 ALL VEHICULAR PAVEMENTS TO BE JOINTED IN ACCORDANCE WITH AUSTROADS AGPT02-12 GUIDE TO PAVEMENT TECHNOLOGY PART 2 STRUCTURAL PAVEMENT DESIGN AND SUPPLEMENT AP-T36-06 PAVEMENT DESIGN FOR LIGHT TRAFFIC

J12 VEHICULAR PAVEMENT JOINTING AS FOLLOWS (U.N.O.)



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Rev	Description	Date	By	App
P1	ISSUED FOR REF APPROVAL	30.10.18	PA	-

Rev	Description	Date	By	App

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Project Name: TWEED VALLEY HOSPITAL DEVELOPMENT, KINGSCLIFF, NSW

Drawing Title: DRAWING REGISTER AND CONSTRUCTION NOTES

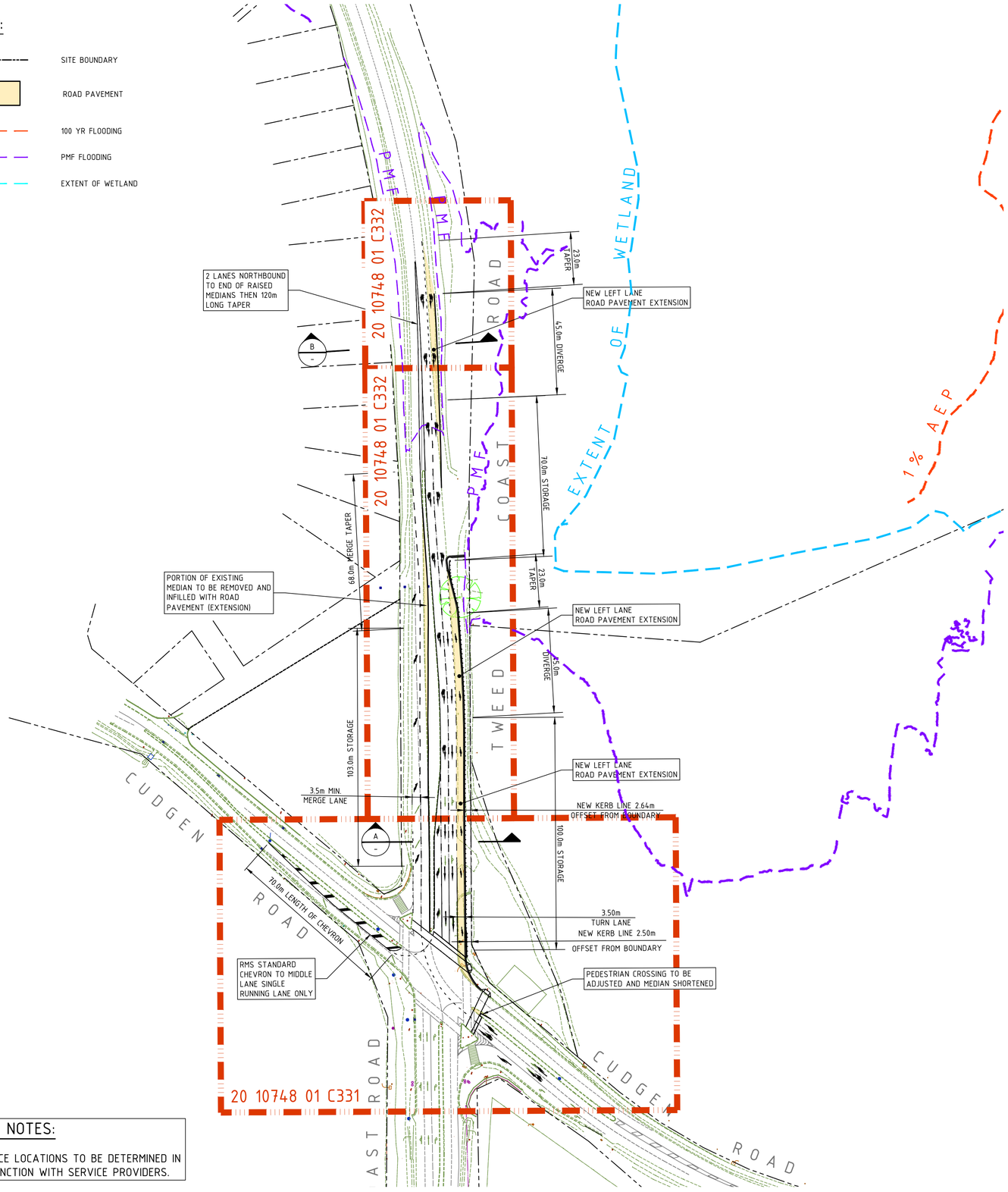
PRELIMINARY

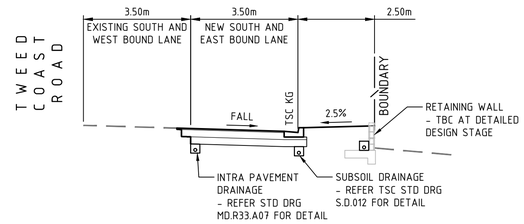
Designed	PN	Project Director Approved	Date
Drawn	PN		North
Scale	NTS	Project Ref	Drawing No / Rev
Date	3.10.2018	20 10748 01	C300 P1
Sheet	A1		

File: G:\Job\10748\01_Civil\Issued\Dwg\10748C-C300-CAD[P1].dwg Plotted: 30.10.18 at 3:00 PM By: Prawal Adhikari

LEGEND:

- SITE BOUNDARY
- ROAD PAVEMENT
- 100 YR FLOODING
- PMF FLOODING
- EXTENT OF WETLAND





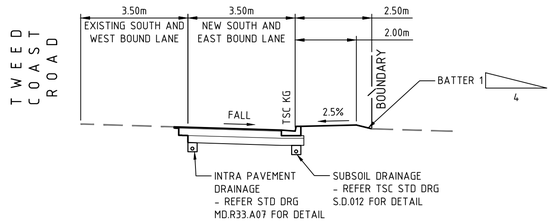
TWEED COAST ROAD TYPICAL CROSS-SECTION

(4 LANES CONVERTED TO 5 LANES)

SCALE 1:100

SECTION B(i) ?

SCALE 1:100



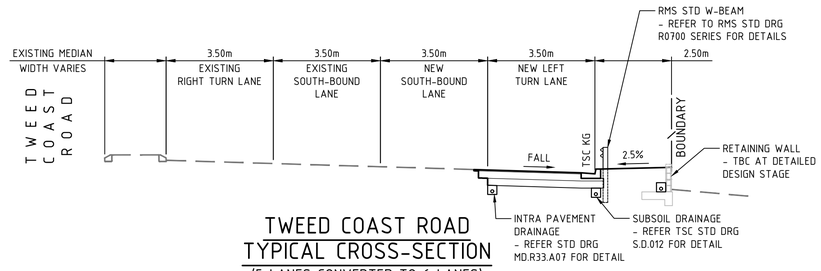
TWEED COAST ROAD TYPICAL CROSS-SECTION

(4 LANES CONVERTED TO 5 LANES)

SCALE 1:100

SECTION B(i) ?

SCALE 1:100



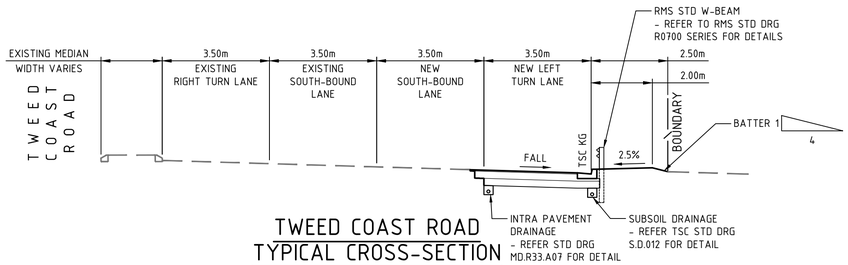
TWEED COAST ROAD TYPICAL CROSS-SECTION

(5 LANES CONVERTED TO 6 LANES)

SCALE 1:100

SECTION A(ii) ?

SCALE 1:100



TWEED COAST ROAD TYPICAL CROSS-SECTION

(5 LANES CONVERTED TO 6 LANES)

SCALE 1:100

SECTION A(ii) ?

SCALE 1:100

GENERAL NOTES:

1. SERVICE LOCATIONS TO BE DETERMINED IN CONJUNCTION WITH SERVICE PROVIDERS.

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Rev	Description	Date	By	App
P3	ISSUED FOR REVIEW	17.12.18	CS	-
P2	ISSUED FOR REF APPROVAL	31.10.18	PA	-
P1	ISSUED FOR REF APPROVAL	30.10.18	PA	-

Rev	Description	Date	By	App

1.0 0 1.0 2.0 3.0 4.0 5.0m
X-SECTIONS SCALE 1:100 A1 SHEET

10 0 10 20 30 40 50m
PLAN SCALE 1:1000 A1 SHEET

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Project Name: TWEED VALLEY HOSPITAL CUDGEN AND TWEED COAST ROAD INTERSECTION WORKS

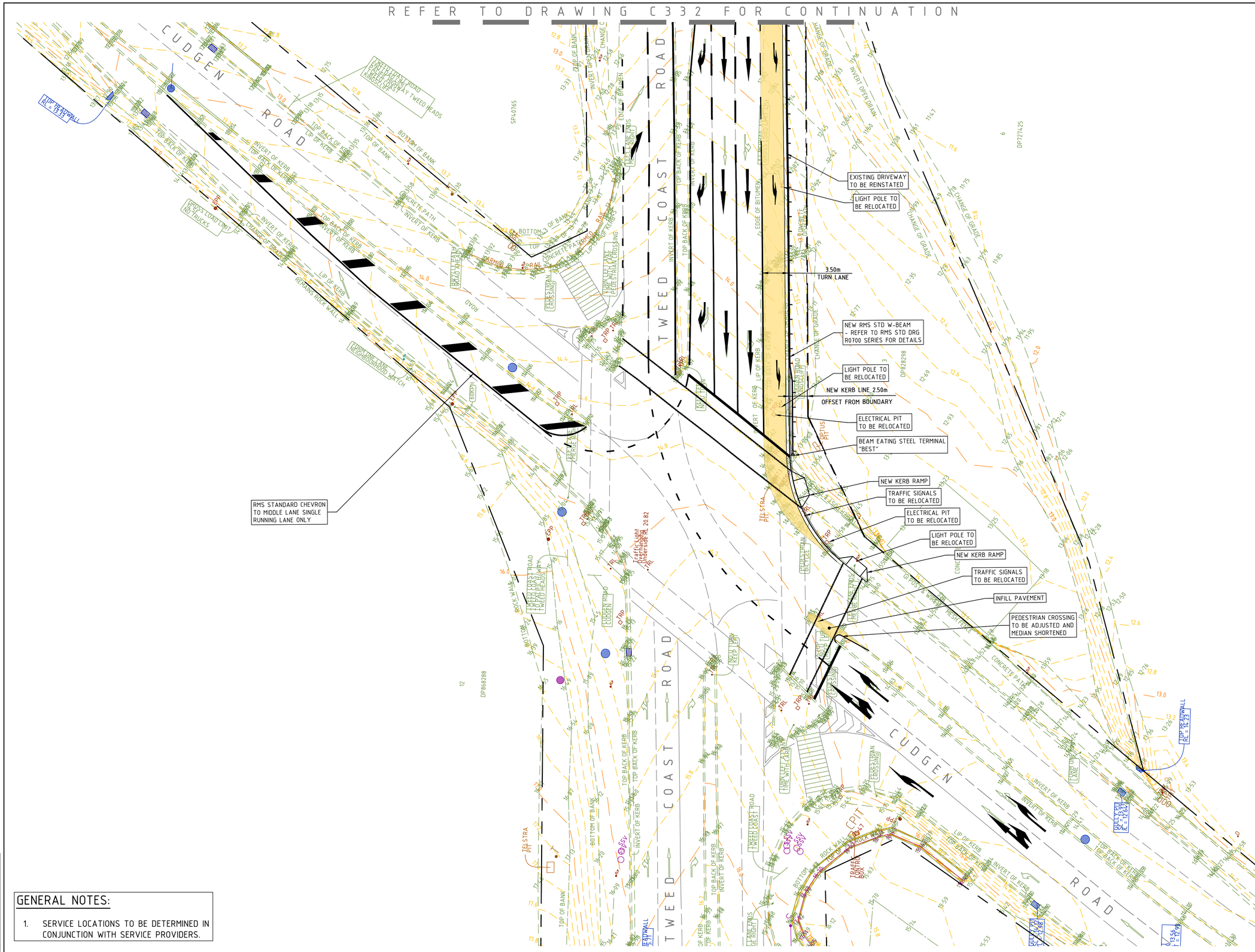
Drawing Title: GENERAL ARRANGEMENT AND KEY PLAN

PRELIMINARY

Designed	CS	Project Director Approved	Date
Drawn	PA		
Scale	1:1000,1:100		
Date	02.10.18	Project Ref	Drawing No / Rev
Sheet	A1	20 10748 01	C330 P3

North

File: G:\Job\10748\03 Work in Progress\02 Civil\01 CAD\01 Autocad\300 Series - Tweed Coast Road Intersection\10748C-C330.dwg Plotted: 21.01.19 at 11:16 AM By: Dean Bowen



GENERAL NOTES:

1. SERVICE LOCATIONS TO BE DETERMINED IN CONJUNCTION WITH SERVICE PROVIDERS.

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Rev	Description	Date	By	App
P3	ISSUED FOR REVIEW	17.12.18	CS	"
P2	ISSUED FOR REF APPROVAL	31.10.18	PA	"
P1	ISSUED FOR REF APPROVAL	30.10.18	PA	"

Rev	Description	Date	By	App

File: G:\Job\10748\03 Work in Progress\02 Civil\01 CAD\01 Autocad\300 Series - Tweed Coast Road Intersection\10748C-C331.dwg Plotted: 21.01.19 at 11:17 AM By: Dean Bowen

PLAN SCALE 1:250 A1 SHEET (5.0 0 2.5 5.0 7.5 10.0m)

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Project Name: TWEED VALLEY HOSPITAL DEVELOPMENT, KINGSCLIFF, NSW

Drawing Title: CONCEPT INTERSECTION WORKS PLAN SHEET 1 OF 2

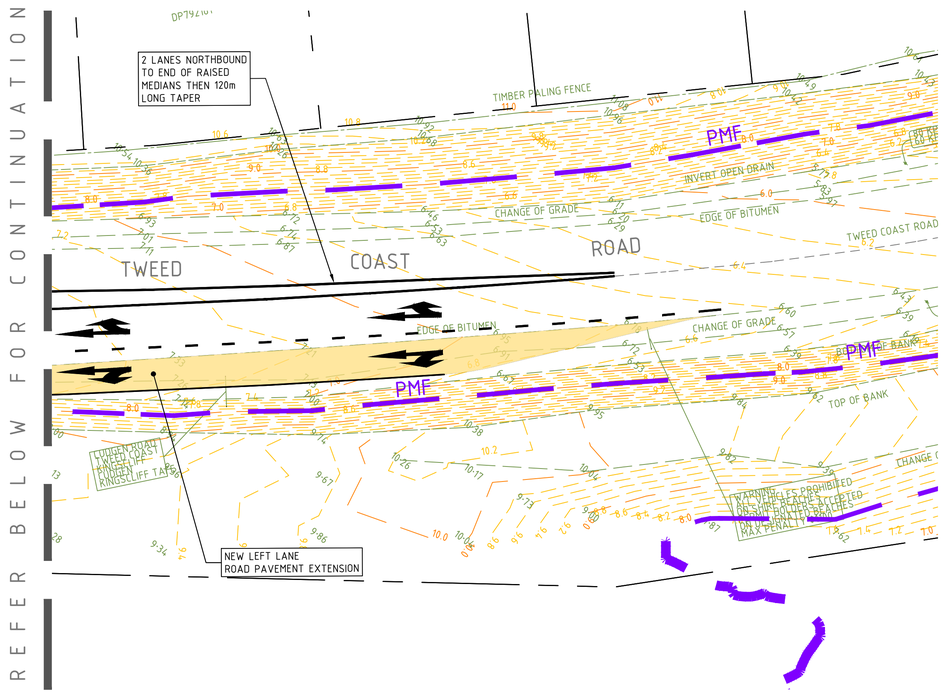
PRELIMINARY

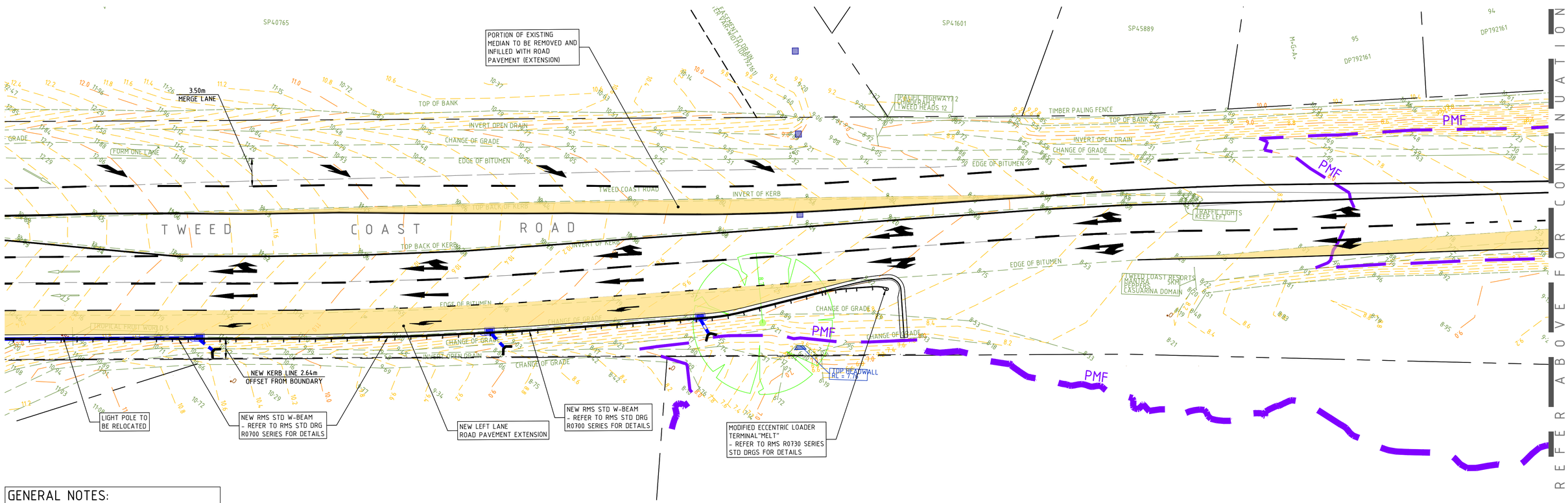
Designed	CS	Project Director Approved	Date
Drawn	PA		
Scale	1:250	Project Ref	Drawing No / Rev
Date	3.10.2018	20 10748 01	C331 P3
Sheet	A1		

North

LEGEND:

Ex S	EXISTING SEWER
Ex OH	EXISTING OVERHEAD LINES
Ex T	EXISTING TELSTRA
Ex SW	EXISTING STORMWATER
Ex W	EXISTING WATER
	SITE BOUNDARY
	ROAD PAVEMENT
	100 YR FLOODING
	PMF FLOODING
	EXTENT OF WETLAND
C1 (0.15m wide, 3m gap, 1m line, 3m gap)	CONTINUITY LINE
L1 (0.1m wide, 3m line, 9m gap)	LANE LINE
E1 (0.15m wide)	EDGE LINE
E5 (0.15m wide)	EDGE LINE (PAINTED MEDIAN)
T1 (0.1m wide, 0.6m gap, 0.6m line, 0.6m gap)	TURN LINE
TF (0.3m wide)	STOP LINE
PCW (0.15m wide, 0.3m gap, 1m line, 0.3m gap)	PEDESTRIAN CROSS WALK LINES
KG	KERB AND GUTTER
DD	DISH DRAIN
	RMS STD W-BEAM - REFER TO RMS STD DRG R0700 SERIES FOR DETAILS
	STORMWATER PIPE
	KERB INLET PIT
	HEADWALL





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Rev	Description	Date	By	App
P4	ISSUED FOR REVIEW	07.02.19	JF	"
P3	ISSUED FOR REVIEW	17.12.18	CS	"
P2	ISSUED FOR REF APPROVAL	31.10.18	PA	"
P1	ISSUED FOR REF APPROVAL	30.10.18	PA	"

Rev	Description	Date	By	App

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5.0 0 2.5 5.0 7.5 10.0m
PLAN SCALE 1:250 A1 SHEET

Project Name: TWEED VALLEY HOSPITAL DEVELOPMENT, KINGSCLIFF, NSW

Drawing Title: CONCEPT INTERSECTION WORKS PLAN SHEET 2 OF 2

PRELIMINARY

Designed	CS	Project Director Approved	Date
Drawn	PA		
Scale	1:250		
Date	27.09.18		
Sheet	A1		

North

Project Ref	Drawing No	Rev
20 10748 01	C332	P4

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