YOUR REF:
OUR REF: OP 2417/2017 (857019)

4 June 2018

DATSIP
C/- Trinity Engineering & Consulting
PO Box 7963
CAIRNS QLD 4870

Attention: Scott Christensen

Dear Sir

DECISION NOTICE FOR OPERATIONAL WORKS
- MOSSMAN GORGE COMMUNITY – MOSSMAN GORGE

Please find attached the relevant Decision Notice for the above Operational Works. Also find attached a 'Pre-Start' meeting template, which identifies the information that must be provided for Council approval, prior to the commencement of works.

The template also provides the Consulting Engineer with a format for conducting the meeting. An invitation to attend the meeting must be sent to Council's representative Neil Beck on telephone number 07 4099 9451, giving at least five (5) working days notification if possible.

In addition to the Decision Notice, Council provides the following 'Advice Statement' which relates to issues that are relevant to the proposed works:

1. The design of lighting works are subject to separate agreement and must be submitted to Council, prior to the commencement of associated works; and

2. The Consulting Engineer is to present all contractors with a copy of this Decision Notice and the Council approved plans, prior to the commencement of works.

Should you require further information or assistance, please contact Neil Beck of Development Assessment and Coordination on telephone 07 4099 9451.

Yours faithfully

Paul Hoye
Manager Sustainable Communities

Att

Copy To: A/Manager Infrastructure – Peter Logan
Co-ordinator Water & Waster – Peter White
Co-ordinator Civil Works – Daryl Cheer

YOUR REF:
OUR REF: OP 2417/2017 (857019)

4 June 2018

DECISION NOTICE FOR OPERATIONAL WORKS
MOSSMAN GORGE COMMUNITY – MOSSMAN GORGE

PROPOSAL:
Operational Works (Engineering) excluding Lighting Works

TYPE OF DEVELOPMENT:
Operational Work

REAL PROPERTY DESCRIPTION:
Lot 100 on RP911412 & Lot 152 SR832

REFERRAL AGENCY CONDITIONS:
None applicable

FURTHER DEVELOPMENT PERMITS OR APPROVALS REQUIRED:
None applicable

DECISION DATE:
4 June 2018

DECISION:
Approved subject to conditions

TYPE OF APPROVAL:
Development Permit

ASSESSMENT MANAGER CONDITIONS – STANDARD:

The standard conditions are shown in Appendix B and must be read in conjunction with any approved plans and project specific conditions identified below.

ASSESSMENT MANAGER CONDITIONS – PROJECT SPECIFIC:

1. General

a. The conditions require amendments to the drawings. The revised drawings must be submitted "for construction" and must be certified as approved by a registered professional engineer of Queensland (RPEQ).

b. An updated Statement of Compliance must be provided with the revised drawings required under the conditions of this approval.
Reference is made to FNQROC Development Manual (refer Appendix A of Application Procedures (AP1)).

c. Materials shall be in accordance with the provisions of the FNQROC Development Manual. Where alternative materials are proposed details are to be provided to Council for consideration and approval prior to incorporation into the works.

2. Earthworks

a. The applicant is to ensure that any earthworks undertaken as part of the works maintains a free draining surface with no ponding of standing water resulting. Any amendments proposed to the existing finished surface profiles are to be identified and reported to Council prior to being undertaken on site. Resultant amendments shall be recorded on as constructed drawings to be submitted at the completion of the project.

3. Site Establishment

The contractor's site compound is to be agreed with community and Council representatives prior to establishment on site. The site is to be secured when not attended and clear signage displayed to identify the site as a no go area for the public. The site is to be kept in a clean and tidy state for the duration of the project and rehabilitated to the same condition prior to the project commencing.

Photos of the site are to be taken before establishing to document the site condition.

4. Traffic Management & Staging of Works

The contractor shall prepare a traffic management and staging plan for the works. The works shall be undertaken in order to minimise the disruption to the community. At least weekly updates shall be provided to the community and Council identifying the following:

a. Works to be undertaken in the upcoming week
b. Probable works in the upcoming fortnight
c. Traffic and pedestrian management plans for the planned works

These plans shall be clearly displayed in the community no later than the midday on the Friday of the preceding week.

Where works will impact residents directly (e.g. water supply cut off, car access not possible), the contractor shall, with a nominated member of the community, undertake face to face contact with the affected resident to explain the scope of the disruption and the measures in place to minimise the effect of the disruption.

5. Stormwater

Where properties have current connections to discharge roofwater to the kerb, the connection is to be reinstated in the new kerb. Where a connection is not existing a roofwater kerb adaptor is to be installed in the kerb at the low side of the property.

6. Water and Sewer

a. Provision is to be made for the future installation of a booster station to be located on Lot 49. The arrangement shall be cut into the existing main. Details of the arrangement are to be shown on amended drawings and submitted to Council for approval prior to installation on site.

b. As per the TEC Water Reticulation File Note, a new section of main is to be provided to connect Node 2 to Node 14. Details of the new main are to be shown on amended drawings and submitted to Council for approval prior to installation on site.

c. New water services are to be provided to each allotment, as per FNQROC requirements. The new service shall connect to the existing water service to each house, terminating at a new water meter, to be provided as part of these works.

d. Any incident involving damage to water and sewerage infrastructure must be reported to Council immediately. Damage resulting from an incident or any defect to water and sewerage infrastructure found to be caused by the works will be repaired by Council at the Developer's cost.

e. Where concrete footpaths are proposed in the verge for existing and new roads, conduits are to be provided under the footpath for future water connections to the property. At a minimum of two (2) conduits must be provided per lot located at either side of the lot. Suitable locating markers are to be installed per FNQROC Development Manual requirements. Please include a detail showing these on the drawings.

f. Sewage pump station;

(i) The proposed FRP Packaged Sewage Pump Station is accepted in principle, however the applicant must provide Council with a copy of the "For Construction" drawings for the pump station prior to placing the order with the supplier. Council approval of the "For Construction" plans will be a holdpoint on this item.

(ii) Details of the pump station switchboard, SCADA and telemetry are to be confirmed with Council's Water and Sewerage department prior to construction. All requirements to provide consistent operating systems are to be included in the works at no cost to Council. The requirements of the Douglas Shire Council Specific Clauses of FNQROC (D7.25 Telemetry Systems) must be included in the documentation. The applicant is advised to confirm these requirements with Council's Water and Sewer Officers at the earliest opportunity to avoid project delays.

(iii) The new sewage pump station shall incorporate a trash basket within the zero manhole and macerator pump (Mono Muncher or approved equivalent) in the pump station.

(iv) Details of the pump station switchboard, SCADA and telemetry are to be confirmed with Council's Water and Sewerage department prior to construction. All requirements to provide consistent operating systems are to be included in the works at no cost to Council. The requirements of the Douglas Shire Council Specific Clauses of FNQROC (D7.25 Telemetry Systems) must be included in the documentation. The applicant is advised to confirm these requirements with Council's Water and Sewer Officers at the earliest opportunity to avoid project delays.

(v) Amended drawings are required for the overflow detail to confirm the location of the valve. Council is not permitted to have an open overflow that may allow storm water ingress or uncontrolled release of sewage.

(vi) The applicant is to provide calculations of the overflow operation including hydraulic grade line based on downstream tail water level at the outlet. Note the outlet level in a sewage overflow scenario will not be the same as the hydraulic grade level for the stormwater minor flow system. The additional calculations are to confirm sufficient freeboard exists to all residential lots in the local sewage catchment in the event of a sewage overflow for the outlet at the proposed location and levels.

g. A detailed methodology for the decommissioning of the existing sewage pump station is to be provided to Council for approval prior to decommissioning works commencing. The methodology should be submitted a minimum of 3 weeks prior to the commencement of decommissioning to enable council to review and approve.

As a minimum the methodology shall address:

1. Pump station changeover plan including step by step actions
2. Proposed method to isolate the existing pump station
3. Proposed method to demolish existing pump station including the treatment of the pump station site.

7. Roads and Paths

a. Pavement design details are to be confirmed prior to pavement construction. Details provided to Council shall include subgrade CBR results for each pavement section, confirmation of traffic loadings adopted (as per FNQROC requirements) and final pavement design.

b. Where proposed roadworks or verge works lower the existing finished surface level and result in a reduction of cover over services, the services must be accurately located and the relevant authority contacted to confirm required treatments.

Where final covers are non standard (with the approval of the relevant authority) this is to be clearly identified on as constructed drawings and approvals from the authority provided as part of the handover package.

8. Erosion and Sediment Control

A copy of the Contractor's Erosion and Sediment Control (ESC) Plan is to be submitted to Council and endorsed by the Consulting Engineer, prior to commencement of any works. In particular, the ESC Plan must address the Institution of Engineers Australia Guidelines for Soil Erosion and Sediment Control and the Environment Protection (Water) Policy and Clauses CP1.05, CP1.13 and D5.10 of Council's FNQROC Development Manual.

The ESC Plan must be relevant to all phases of the construction and be updated where necessary as works progress. Individual drawings showing the measures to be installed for each phase of the works is required.

9. As Constructed Plans and Handover Documents

Given the nature of the project with existing infrastructure being handed over to Council the need for accurate records is critical. As Constructed and Handover Document must be in accordance with the requirements of the FNQROC Manual and should be presented as a consolidated model of new and existing infrastructure within the community.

Details of existing infrastructure identified during the construction phase as a result of services potholing, exposing existing infrastructure for connections, etc. shall be documented and included in the handover package to supplement the as constructed details.

In addition to the above, a full set of certified as constructed engineering plans must be submitted at Work Acceptance.

APPROVED PLANS AND SPECIFICATIONS:

Generally in accordance with the following drawings submitted by Trinity Engineering and Consulting subject to any alterations made by conditions of Development Permit for Operational Work OP 2417/2017.

Drawing No.	Title	Revision
1020-001	LOCALITY PLAN & DRAWING SCHEDULE	D
1020-002	GENERAL ARRANGMENT	C
1020-003	ROADWORKS & STORMWATER PLAN – SHEET 1 OF 2	D
1020-004	ROADWORKS & STORMWATER PLAN – SHEET 2 OF 2	D
1020-005	TYPE CROSS SECTIONS & CONTROL LINE SETOUT	C
1020-006	MISCELLANEOUS DETAILS	D
1020-007	ROAD LONGITUDINAL SECTIONS – SHEET 1 OF 3	C
1020-008	ROAD LONGITUDINAL SECTIONS – SHEET 2 OF 3	C
1020-009	ROAD LONGITUDINAL SECTIONS – SHEET 3 OF 3	C
1020-010	JUNKURRJI STREET ANNOTATED CROSS SECTIONS	C
1020-011	KANKARR STREET EAST & KANKARR STREET WEST ANNOTATED CROSS SECTIONS	C
1020-012	LUND STREET ANNOTATED CROSS SECTIONS –	C

	SHEET 1 OF 3	
1020-013	LUND STREET ANNOTATED CROSS SECTIONS – SHEET 2 OF 3	C
1020-014	LUND STREET ANNOTATED CROSS SECTIONS – SHEET 3 OF 3	C
1020-015	JANKAJI CLOSE, MANJAL CLOSE & WALKARR CLOSE ANNOTATED ROAD CROSS SECTIONS	C
1020-016	BAMA BUBU STREET ANNOTATED CROSS SECTIONS	C
1020-017	INTERSECTION SETOUT & DETAILS - SHEET 1 OF 3	D
1020-018	INTERSECTION SETOUT & DETAILS - SHEET 2 OF 3	D
1020-019	INTERSECTION SETOUT & DETAILS - SHEET 3 OF 3	D
1020-020	INTERSECTION LINEMARKING & SIGNAGE PLAN	C
1020-021	STORMWATER LONGITUDINAL SECTIONS – SHEET 1 OF 2	D
1020-022	STORMWATER LONGITUDINAL SECTIONS – SHEET 2 OF 2	C
1020-023	STORMWATER STRUCTURE DETAILS	D
1020-024	SEWERAGE RETICULATION PLAN – SHEET 1 OF 2	D
1020-025	SEWERAGE RETICULATION PLAN – SHEET 2 OF 2	D
1020-026	SEWERAGE LONGITUDINAL SECTIONS & DETAILS	D
1020-027	SEWERAGE PUMP STATION PLAN & DETAILS	D
1020-028	WATER RETICLATION PLAN – SHEET 1 OF 2	D
1020-029	WATER RETICLATION PLAN – SHEET 2 OF 2	D
1020-030	EROSION & SEDIMENT CONTROL STRATEGY SHEET 1 OF 2	E
1020-031	EROSION & SEDIMENT CONTROL STRATEGY SHEET 2 OF 2	E

Note – The approved plans above will require amending to satisfy conditions of this Development Permit.

EROSION AND SEDIMENT CONTROL DRAWINGS

The following drawings must form the basis of the contractor's Erosion and Sediment Control Plan in accordance with the *FNQROC Development Manual*, Clause CP1.06.

Drawing Description	No	Rev
EROSION & SEDIMENT CONTROL STRATEGY SHEET 1 OF 2	1020-030	E
EROSION & SEDIMENT CONTROL STRATEGY SHEET 2 OF 2	1020-031	E

For information relating to the *Sustainable Planning Act* 2009 log on to www.dsdip.qld.gov.au . To access the *FNQROC Development Manual*, Local Laws and other applicable Policies log on to www.douglas.qld.gov.au .

RIGHTS OF APPEAL
Attached

End of Decision Notice

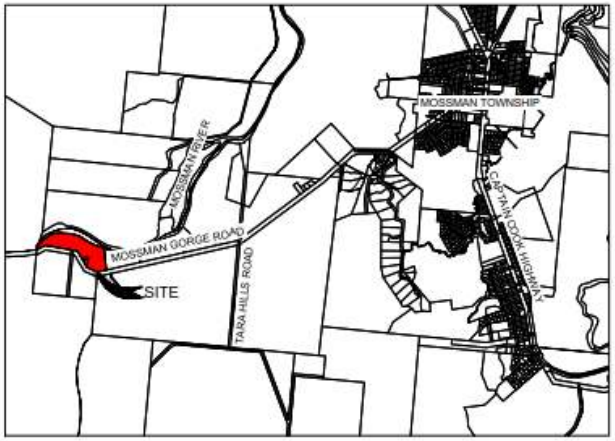
Att Appeal Rights
Pre-Start Meeting Template
Approved Drawings, Appendix A
Standard Conditions, Appendix B

Trinity Engineering and Consulting

MOSSMAN GORGE INFRASTRUCTURE UPGRADE

for

DEPARTMENT OF ABORIGINAL AND TORRES STRAIT ISLANDER PARTNERSHIPS



LOCALITY PLAN
NOT TO SCALE

SCHEDULE OF PROJECT DRAWINGS

1020–001	LOCALITY PLAN AND DRAWING SCHEDULE
1020–002	GENERAL ARRANGEMENT
1020–003	ROADWORKS AND STORMWATER PLAN – SHEET 1 OF 2
1020–004	ROADWORKS AND STORMWATER PLAN – SHEET 2 OF 2
1020–005	TYPE CROSS SECTIONS AND CONTROL LINE SETOUT
1020–006	MISCELLANEOUS DETAILS
1020–007	ROAD LONGITUDINAL SECTIONS – SHEET 1 OF 3
1020–008	ROAD LONGITUDINAL SECTIONS – SHEET 2 OF 3
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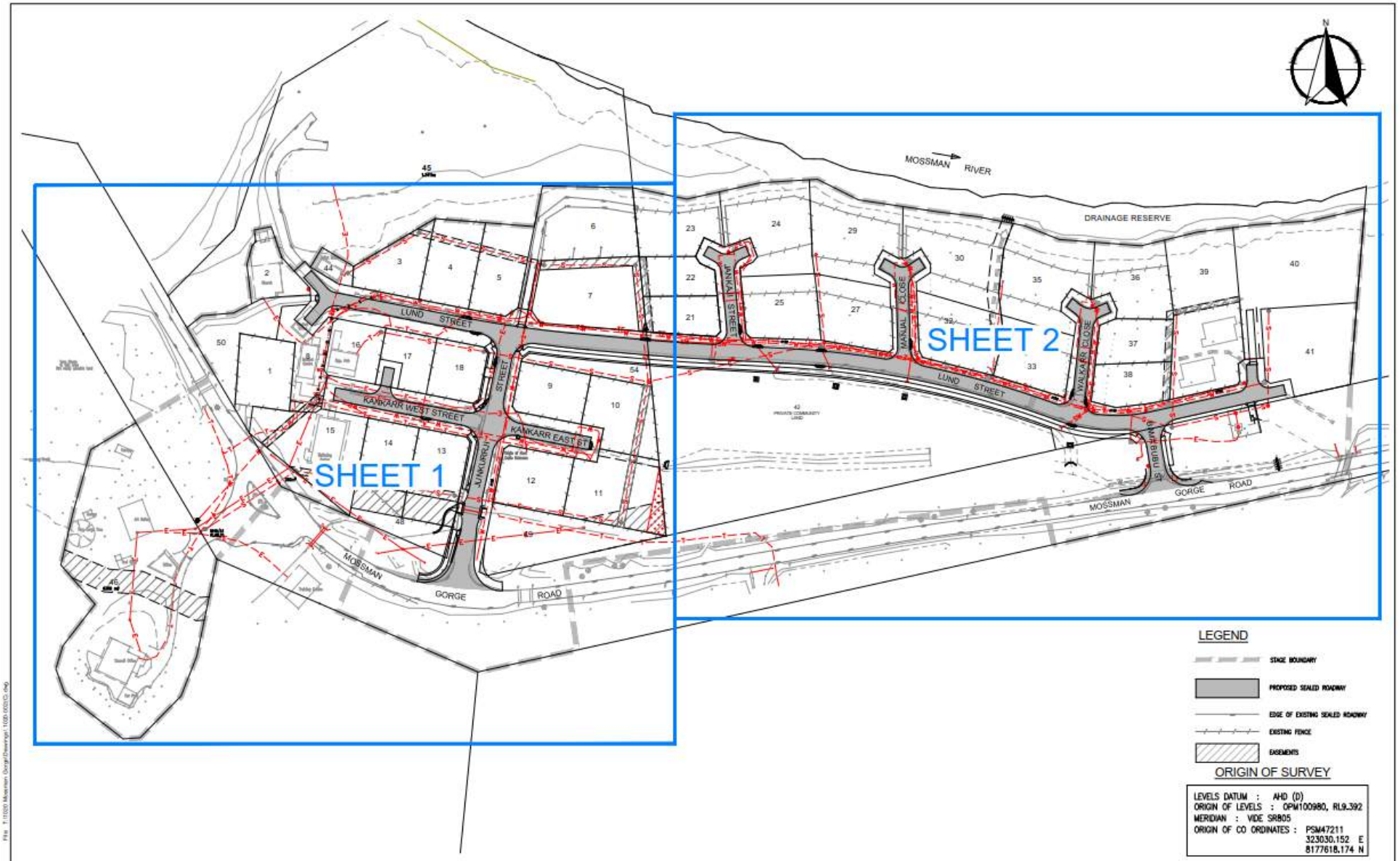
1020–027	SEWERAGE PUMP STATION PLAN AND DETAILS
1020–028	WATER RETICULATION PLAN – SHEET 1 OF 2
1020–029	WATER RETICULATION PLAN – SHEET 2 OF 2
1020–030	EROSION AND SEDIMENT CONTROL STRATEGY – SHEET 1 OF 2
1020–031	EROSION AND SEDIMENT CONTROL STRATEGY – SHEET 2 OF 2



No.	Description	Reviewed	Approved	Date
C	MINOR AMENDMENTS	SC	PCS	29/03/18
B	OPERATIONAL WORKS ISSUE	–	–	07/12/17
A	PRELIMINARY ISSUE	–	–	17/08/17

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Trinity Engineering and Consulting

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Email: admin@trinityengineering.com.au

Scale (A1 size): 1:750
Drawing is not to be used for construction unless approved.

Client: DATSIP
Project: MOSSMAN GORGE INFRASTRUCTURE UPGRADES
Title: GENERAL ARRANGEMENT

Drawn	Designed	Drawing Check	Design Check	Approved	SPEC	Date	Drawing No.	Revision
MS	MS	ARH	ARH	P. C. STEELE	8462	29/03/18	1020-002	C

External References: TEC-TITLE-A1_b.dwg ; 1020-X-SURVEY.dwg ; 1020-X-DESIGN.dwg

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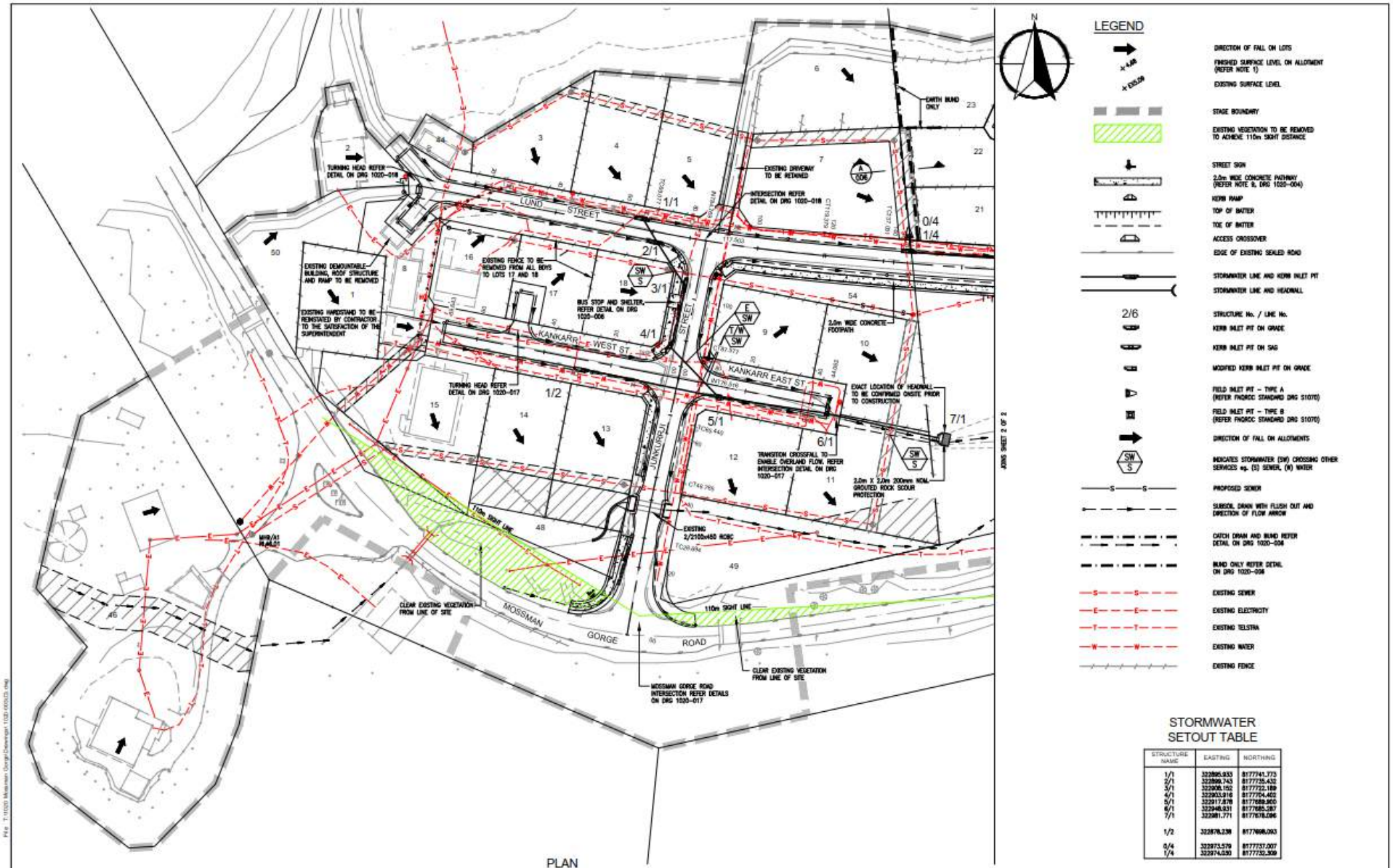

PLAN
SCALE 1:500

STORMWATER SETOUT TABLE

STRUCTURE NAME	EASTING	NORTHING
1/1	323866.933	8177741.773
2/1	323869.743	8177735.432
3/1	323905.152	8177722.189
4/1	323903.916	8177704.403
5/1	323917.878	8177688.900
6/1	323948.531	8177685.287
7/1	323981.771	8177678.096
1/2	323878.238	8177698.093
0/4	323973.579	8177737.007
1/4	323974.030	8177732.309

No.	Description	Reviewed	Approved	Date
D	MINOR AMENDMENTS	SC	PCS	29/03/18
C	OPERATIONAL WORKS	–	–	07/12/17
B	MISCELLANEOUS AMENDMENTS	–	–	06/10/17
A	PRELIMINARY ISSUE	–	–	17/08/17

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SCALE 1:500 (A1 SIZE)

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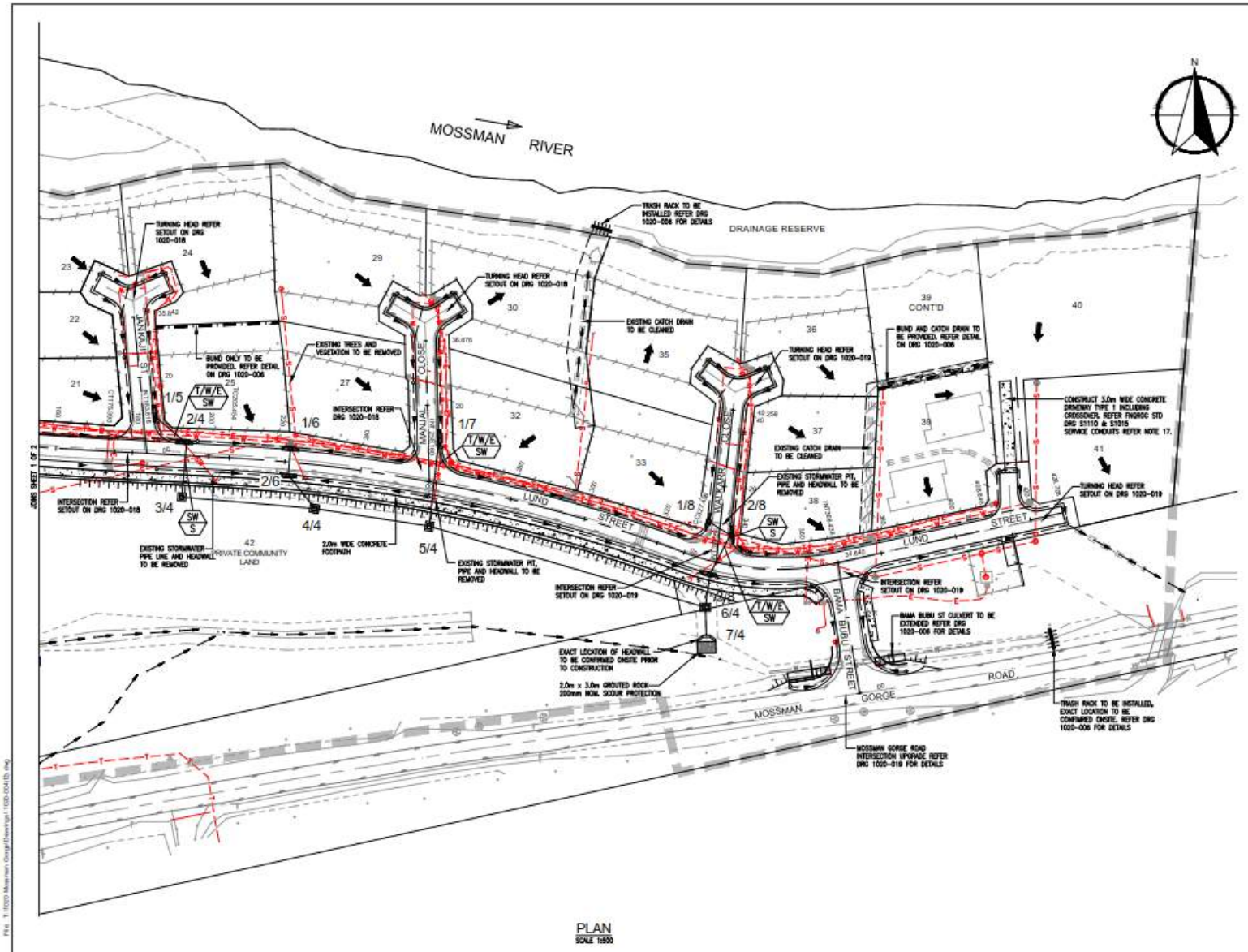
Scale (A1 size): 1:500
Drawing is not to be used for construction unless approved.

Drawn: MS | Designed: MS | Drawing Check: ARH | Design Check: ARH | Approved: P.C.STEELE | RPEQ: 8462 | Date: 29/03/18

Client: DATSIP
Project: MOSSMAN GORGE INFRASTRUCTURE UPGRADES
Title: ROADWORKS AND STORMWATER PLAN SHEET 1 OF 2
Drawing No.: 1020-003
Revision: D

External References: TEC-TITLE-A1_b.dwg ; 1020-X-SURVEY.dwg ; 1020-X-DESIGN.dwg



PLAN
SCALE 1:500

NOTES

1. REFER DRG 1020-003 FOR LEGEND.
2. ALL WORKS AND MATERIALS TO BE IN ACCORDANCE WITH FNQROC DEVELOPMENT MANUAL GUIDELINES AND SPECIFICATIONS.
3. LOCATION OF ALL EXISTING SERVICES TO BE CONFIRMED PRIOR TO CONSTRUCTION BY CONTRACTOR THROUGH LIAISON WITH RELEVANT AUTHORITIES.
4. DESIGN SURFACE LEVELS SHOWN ARE AFTER ALL EARTHWORKS ARE COMPLETED, INCLUDING 75mm TOPSOILING.
5. ALL DESIGN SURFACES ARE TO BE GRADED EVENLY BETWEEN SHOWN LEVELS UNLESS OTHERWISE SHOWN.
6. REFER TO FNQROC STANDARD DRAWINGS:
   - S1000 : CONCRETE KERB & CHANNEL
   - S1010 : PUBLIC UTILITIES ON ROADS AND VERGES
   - S1015 : ACCESS CROSSOVERS
   - S1016 : KERB RAMP
   - S1035 : PATHWAYS/BIKEWAYS
   - S1040 : STREET NAME SIGNS
   - S1062 – KERB AND CHANNEL DRAINAGE CONNECTOR
   - S1043 – EXCAVATION, BEDDING AND BACKFILLING OF PRE-CAST BOX CULVERTS
   - S1060 – GRATED KERB INLET PIT – PIPE DIAMETER < 600mm
   - S1065 – KERB INLET GRATE AND FRAME S1070 – FIELD INLET PIT
   - S1075 – RC PIPE HEADWALL – DIA. 375 TO 675mm
   - S1085 – CONCRETE PIPE HEADWALL, WINGWALLS AND APRON
   - S1095 – SUBSURFACE FLUSHING POINTS
7. KERB ROADWORKS AND KERBING TO JOIN SMOOTHLY TO EXISTING WORKS. PROVIDE CUT BACK TO EXISTING SEALED ROADS WHERE NECESSARY.
8. TRIM AND GRASS SEED ALL FOOTPATHS/ROAD VERGES AFTER FINAL EARTHWORKS AND TOPSOILING IS COMPLETED.
9. TOPSOIL STOCKPILE TO BE LOCATED AT LOCATION CONFIRMED BY SUPERINTENDENT.
10. 2.0m WIDE CONCRETE PATHWAY TO BE LOCATED AS PER FNQROC STD DRG S1010. KERB RAMPS AND ACCESS CROSSOVERS TO BE INSTALLED IN ACCORDANCE WITH FNQROC STD DRGS S1016 AND S1015.
11. ENSURE SUBSOIL DRAINS ARE GRADED AT 0.5% MIN. REFER TO DRG 1020-005 FOR SUBSOIL DETAIL.
12. FLUSHING POINTS FOR SUBSOIL DRAINAGE TO BE AT THE END OF EACH LINE AND AT MAX 50m SPACING. FLUSHING POINTS SHALL BE LOCATED WITHIN PITS. A SCREW CAP MUST BE PROVIDED TO EACH FLUSHING POINT.
13. REFER TO EROSION & SEDIMENT CONTROL STRATEGY DRG 1020-030 AND 1020-031 FOR EROSION AND SEDIMENT CONTROL MEASURES.
14. STORMWATER TO DISCHARGE TO TEMPORARY ROCK FILTER DAMS PRIOR TO CONSTRUCTION OF ULTIMATE DRAINAGE NETWORK.
15. CONTRACTOR TO CONFIRM ALL OUTLET LEVELS PRIOR TO COMMENCEMENT OF WORKS.
16. CONTRACTOR IS TO REINSTATE ALL ALLOTMENT DRIVEWAYS DAMAGED DURING CONSTRUCTION.
17. SERVICE CONDUITS FOR LOT 40 TO BE INSTALLED IN COMMON TRENCH ADJACENT TO PROPERTY DRIVEWAY. 50mm DIA uPVC CONDUIT FOR EACH FUTURE WATER, TELSTRA AND ERGON SERVICE. ENDS TO BE CAPPED AND LOCATION MARKED.

STORMWATER SETOUT TABLE

STRUCTURE NAME	EASTING	NORTHING
2/4	323023.142	8177729.252
3/4	323021.915	8177715.156
4/4	323056.739	8177712.126
5/4	323086.680	8177707.542
6/4	323158.954	8177696.327
7/4	323159.172	8177679.036
1/5	323014.579	8177736.459
1/6	323060.347	8177727.500
2/6	323049.761	8177721.033
1/7	323089.129	8177730.009
1/8	323140.067	8177708.570
2/8	323145.455	8177705.337
3/8	323140.229	8177695.140

No.	Description	Reviewed	Approved	Date
D	MINOR AMENDMENTS	SIT	PCS	29/03/18
C	OPERATIONAL WORKS	–	–	07/12/17
B	MISCELLANEOUS AMENDMENTS	–	–	06/10/17
A	PRELIMINARY ISSUE	–	–	17/08/17

Revisions

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Scale (A1 size): 1:500
Drawing is not to be used for construction unless approved.

Client: DATSIP
Project: MOSSMAN GORGE INFRASTRUCTURE UPGRADES
Title: ROADWORKS AND STORMWATER PLAN SHEET 2 OF 2

Drawn	Designed	Drawing Check	Design Check	Approved	RPEQ	Date	Drawing No.	Revision
MS	MS	ARH	ARH	P.C.STEELE	8462	29/03/18	1020-004	D

External References: TEC-TITLE-A1_b.dwg ; 1020-X-SURVEY.dwg ; 1020-X-DESIGN.dwg

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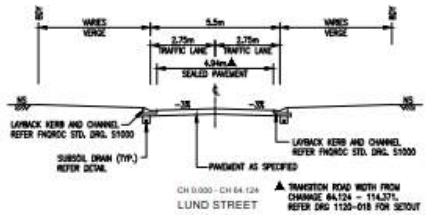
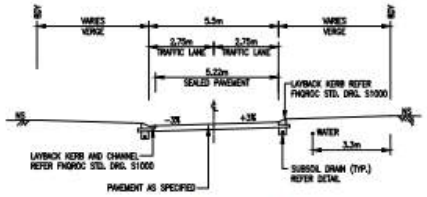


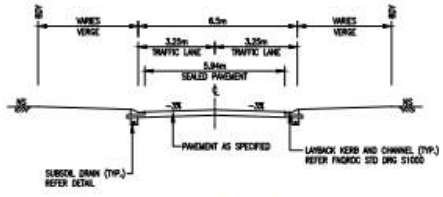
CH 0.000 - CH 64.124

LUND STREET

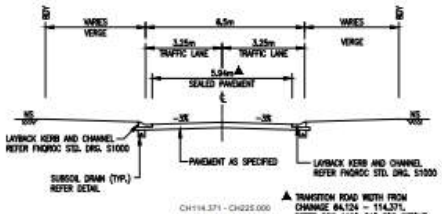
▲ TRANSITION ROAD WIDTH FROM CHAINAGE 64.124 – 114.371, REFER DRG 1120-018 FOR SETOUT



KANKARR (WEST) STREET



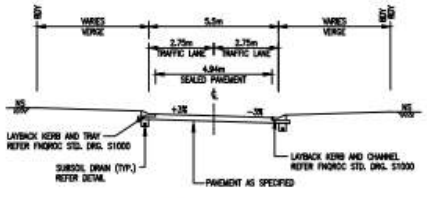
BAMA BUBU STREET



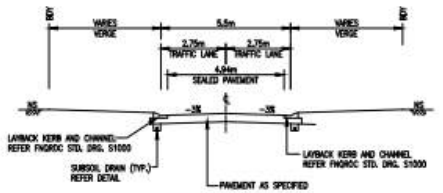
CH114.371 - CH225.000
CH325.000 - CH360.000

LUND STREET

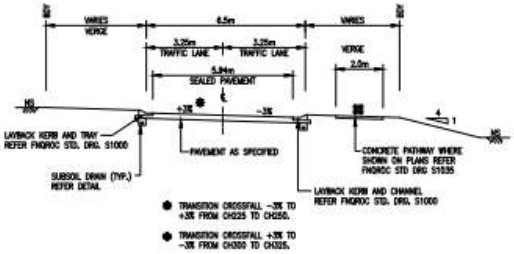
▲ TRANSITION ROAD WIDTH FROM CHAINAGE 64.124 – 114.371, REFER DRG 1120-018 FOR SETOUT



KANKARR (EAST) STREET

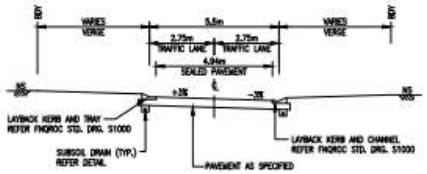


WALKARR CLOSE

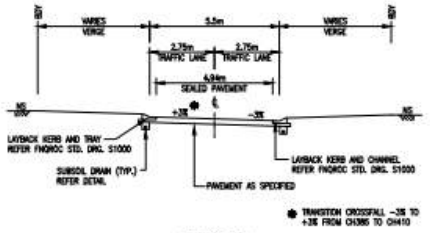


CH225.000 - 325.000

LUND STREET

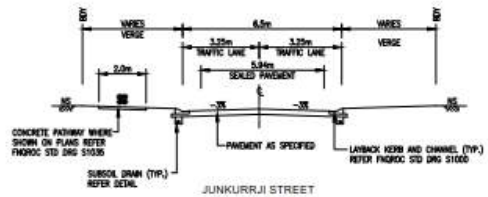


JANKAJI CLOSE
MANJAL CLOSE



CH385.000 - END

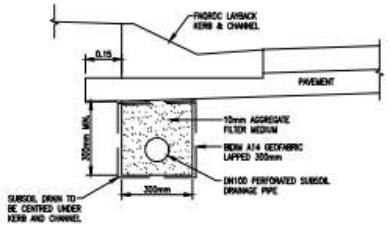
LUND STREET



JUNKURRJI STREET

TYPICAL CROSS SECTIONS

SCALE 1:100



SUBSOIL DRAIN

SCALE 1:10

JUNKURRJI STREET CONTROL LINE SETOUT

CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	ALLENGTH	DEF. ANGLE
0.000	322891.067	8177620.489	10°01'34.28"			
TC 28.694	322896.063	8177648.744	10°01'34.28"			
37.740	322897.639	8177657.654		400.000	18.092	2°35'29.18"
CT 46.785	322899.614	8177666.482	12°37'03.46"			
TC 65.440	322903.659	8177684.657	12°37'03.46"			
76.509	322906.107	8177695.488		-1000.000	22.137	1°16'06.02"
CT 87.577	322908.285	8177706.341	11°20'57.44"			
117.893	322914.176	8177735.681	11°20'57.44"			

KANKARR STREET (WEST) CONTROL LINE SETOUT

CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	ALLENGTH	DEF. ANGLE
0.000	322906.044	8177695.501	280°58'43.48"			
69.843	322837.675	8177705.764	280°58'43.48"			

KANKARR STREET (EAST) CONTROL LINE SETOUT

CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	ALLENGTH	DEF. ANGLE
0.000	322906.045	8177695.500	100°58'27.00"			
44.082	322949.350	8177687.112	100°58'27.00"			

LUND STREET CONTROL LINE SETOUT

CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	ALLENGTH	DEF. ANGLE
0.000	322835.913	8177751.584	100°58'45.22"			
TC 69.077	322898.726	8177738.438	100°58'45.22"			
94.228	322923.438	8177733.634		-500.000	50.302	5°45'51.06"
CT 119.379	322948.506	8177731.346	95°12'54.14"			
TC 137.031	322966.084	8177729.741	95°12'54.14"			
156.212	322985.188	8177727.997		-1000.000	38.362	2°11'52.82"
CT 175.393	323004.345	8177726.888	93°01'01.32"			
TC 205.454	323034.384	8177725.406	93°01'01.32"			
231.857	323060.719	8177724.017		400.500	52.706	7°32'24.70"
CC 258.160	323086.883	8177719.181	100°33'26.02"			
282.829	323120.831	8177712.813		400.500	69.338	9°55'10.46"
CC 327.498	323153.391	8177703.655	110°28'36.48"			
347.836	323172.784	8177693.413		-70.000	40.254	32°56'55.32"
CT 367.753	323182.898	8177687.584	77°31'41.16"			
428.708	323252.512	8177711.247	77°31'41.16"			

JANKAJI CLOSE CONTROL LINE SETOUT

CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	ALLENGTH	DEF. ANGLE
0.000	323012.758	8177726.544	354°34'33.02"			
35.842	323009.370	8177762.226	354°34'33.02"			

MANJAL CLOSE CONTROL LINE SETOUT

CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	ALLENGTH	DEF. ANGLE
0.000	323086.663	8177719.181	358°29'18.42"			
36.576	323085.691	8177756.544	358°29'18.42"			

WALKARR CLOSE CONTROL LINE SETOUT

CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	ALLENGTH	DEF. ANGLE
0.000	323161.765	8177698.112	6°19'15.02"			
40.256	323160.198	8177738.125	6°19'15.02"			

BAMA BUBU STREET CONTROL LINE SETOUT

CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	ALLENGTH	DEF. ANGLE
0.000	323199.349	8177663.563	350°33'18.83"			
34.640	323193.665	8177698.033	350°33'18.83"			

PAVEMENT DETAILS

NOT TO SCALE

NOTES

1. CONCRETE PATHWAYS TO HAVE MAX. CROSSFALL OF 2.5% IN ACCORDANCE WITH FNQROC DEVELOPMENT MANUAL. VERGE PROFILE MAY NEED TO BE STEEPENED LOCALLY TO FACILITATE FOOTPATH CROSSFALL

Revisions					
No.	Description	Reviewed	Approved	Date
C	MINOR AMENDMENTS	SC	PCS	29/03/18
B	OPERATIONAL WORKS ISSUE	–	–	07/12/17
A	PRELIMINARY ISSUE	–	–	17/08/17

SCALE 1:10 (A1 SIZE)

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Drawn: MS | Designed: MS | Drawing Check: ARH | Design Check: ARH | Approved: P.C.STEELE | RPEQ: 8462 | Date: 29/03/18

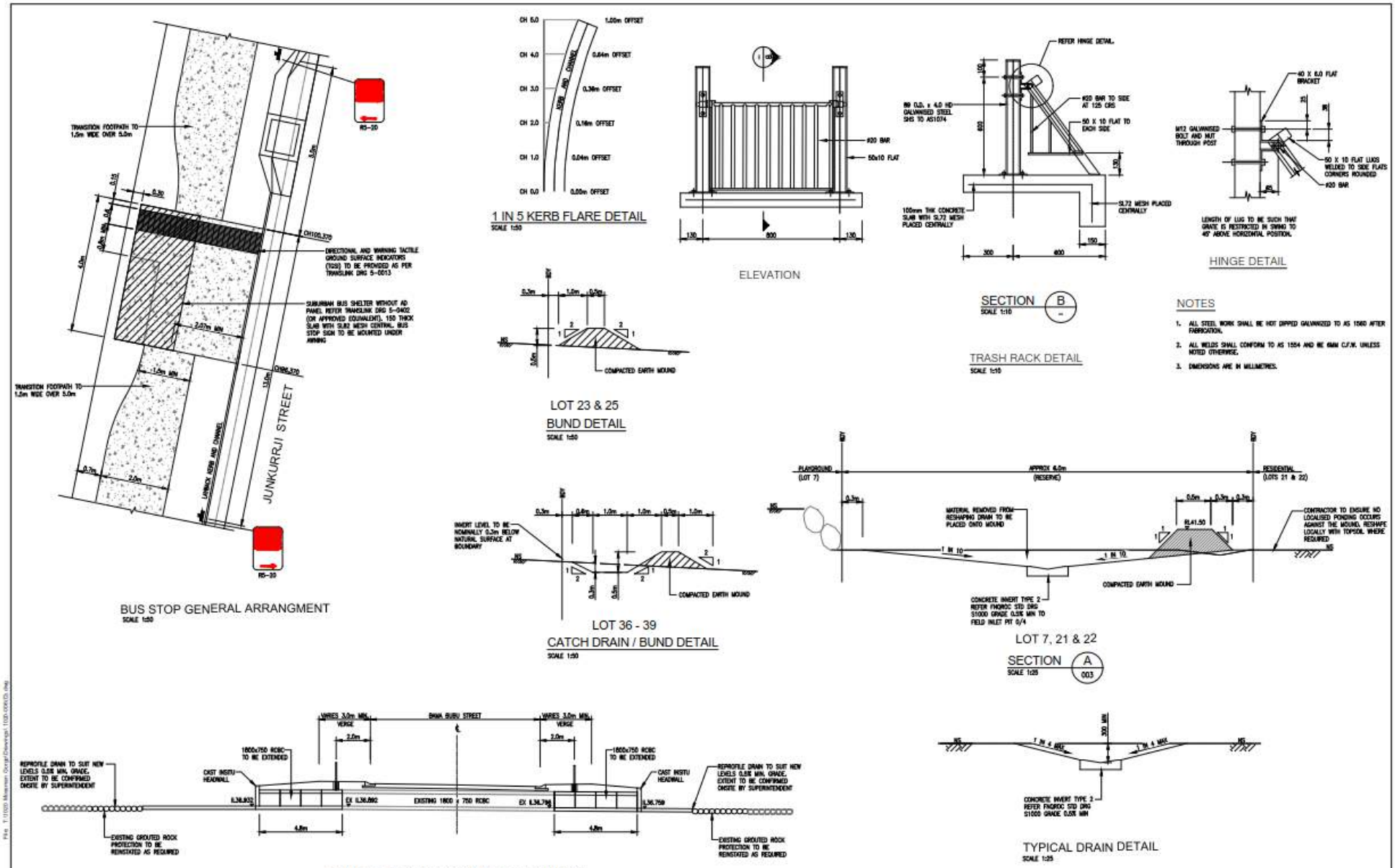
Client: DATSIP

Project: MOSSMAN GORGE INFRASTRUCTURE UPGRADES

Title: TYPE CROSS SECTIONS AND CONTROL LINE SETOUT

Drawing No.: 1020-005 | Revision: C

External References: TEC-TITLE-A1_b.dwg



No.	Description	Reviewed	Approved	Date
D	MINOR AMENDMENTS	SC	PCS	29/03/18
C	OPERATIONAL WORKS	-	-	07/12/17
B	MISCELLANEOUS CHANGES	-	-	06/10/17
A	PRELIMINARY ISSUE	-	-	17/08/17

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SCALE 1:50 (A1 SIZE)
SCALE 1:25 (A1 SIZE)

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Client: DATSIP
Project: MOSSMAN GORGE INFRASTRUCTURE UPGRADES
Title: MISCELLANEOUS DETAILS

Drawn	Designed	Drawing Check	Design Check	Approved	RPEQ	Date	Drawing No.	Revision
MS	MS	AEH	AEH	P.C.STEELE	8462	29/03/18	1020-006	D

Plotted: 06 April 2018, 9:16 AM
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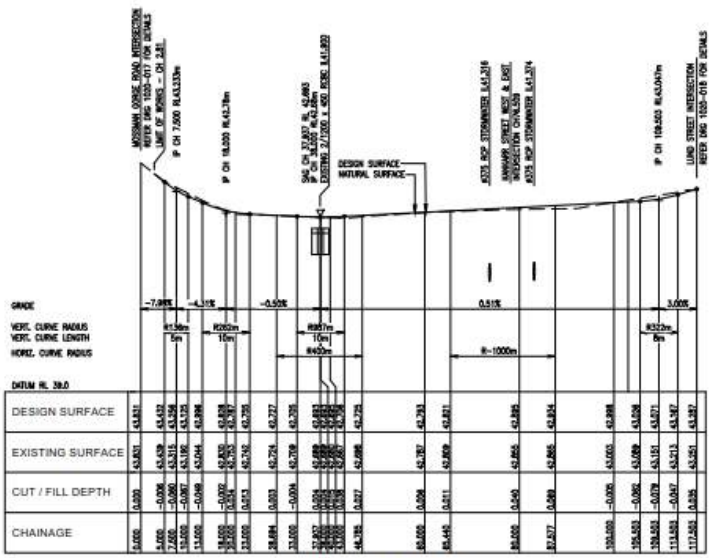
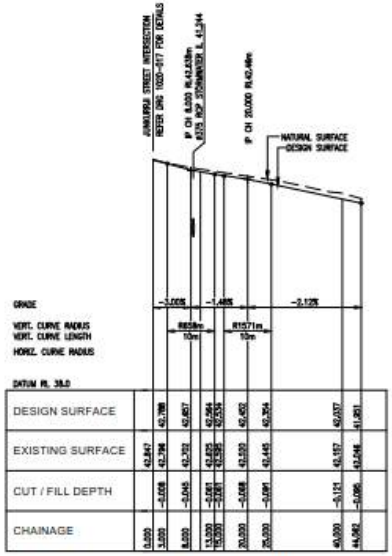
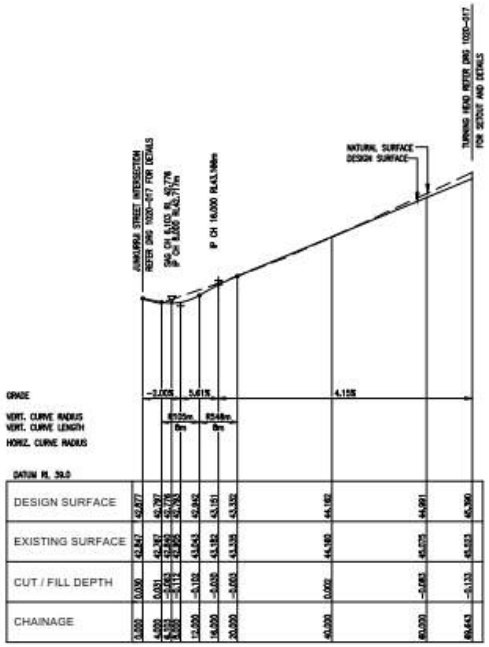
External References: TEC-TITLE-A1_b.dwg | 1020-X-DESIGN.dwg



JUNKURRJI STREET
SCALE 1:500 HOR 1:50 VERT



KANKARR EAST STREET
SCALE 1:500 HOR 1:50 VERT



KANKARR WEST STREET
SCALE 1:500 HOR 1:50 VERT

No.	Description	Reviewed	Approved	Date
C	MINOR AMENDMENTS	SC	PCS	29/03/18
B	OPERATIONAL WORKS ISSUE	–	–	07/12/17
A	PRELIMINARY ISSUE	–	–	17/08/17

Revisions

HORIZ. SCALE 1:500
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0 0.5 1.0 1.5 2.0 2.5m
VERT. SCALE 1:50

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Drawn: MS | Designed: MS | Drawing Check: ARH | Design Check: ARH | Approved: P.C.STEELE | RPEQ: 8462 | Date: 29/03/18

Client: DATSIP
Project: MOSSMAN GORGE INFRASTRUCTURE UPGRADES
Title: ROAD LONGITUDINAL SECTION - SHEET 1 OF 3
Drawing No.: 1020-007
Revision: C

Printed: 06 April 2018, 9:16 AM
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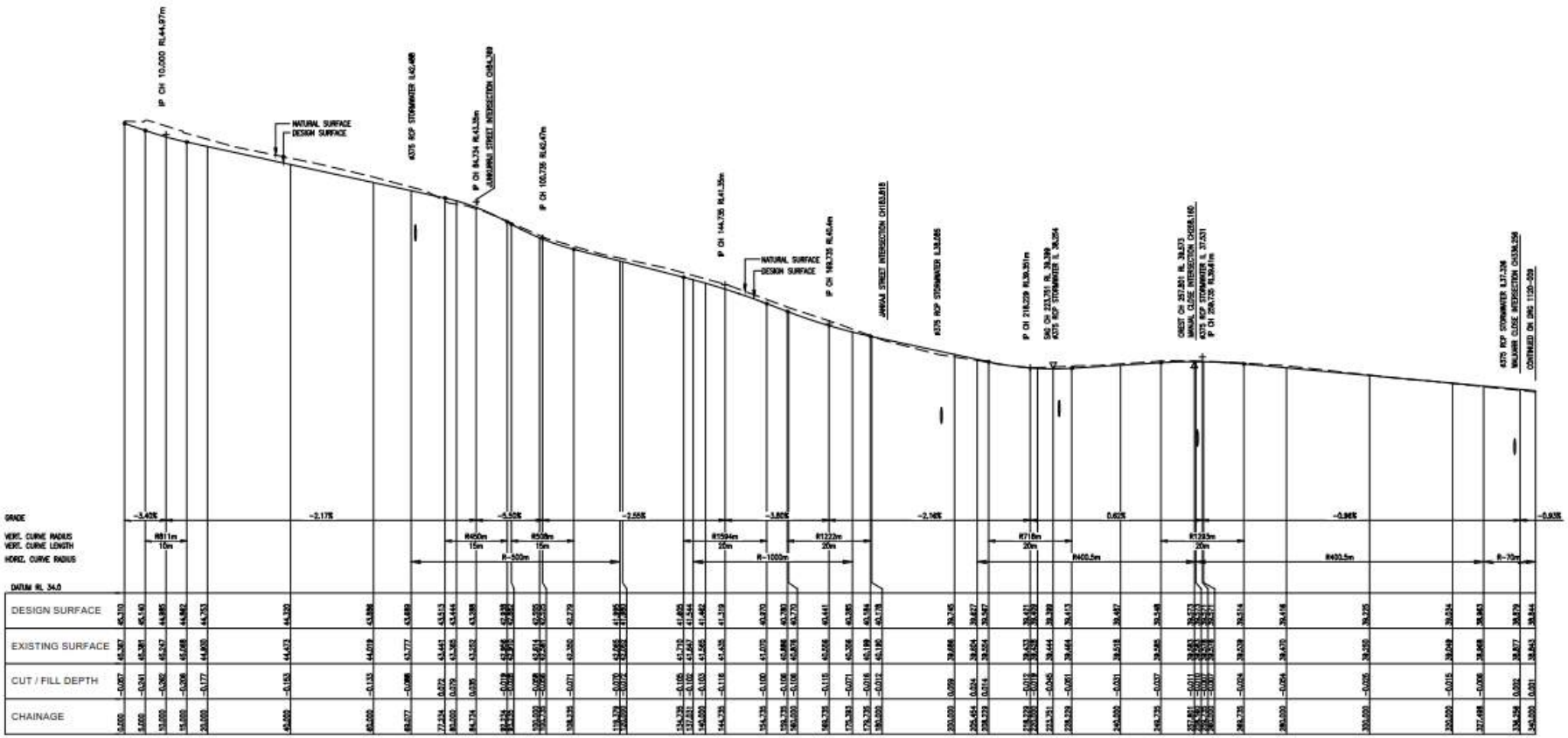
External References: TEC-TITLE-A1_b.dwg



LUND STREET (0.000 - 340.00)

SCALE 1:500 HOR 1:50 VERT

No.	Description	Reviewed	Approved	Date
C	MINOR AMENDMENTS	SC	PCS	29/03/18
B	OPERATIONAL WORKS ISSUE	–	–	07/12/17
A	PRELIMINARY ISSUE	–	–	17/08/17

HORIZ. SCALE 1:500 (A1)
VERT. SCALE 1:50

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Client: DATSIP
Project: MOSSMAN GORGE INFRASTRUCTURE UPGRADES
Title: ROAD LONGITUDINAL SECTION - SHEET 2 OF 3

Drawn	Designed	Drawing Check	Design Check	Approved	RPEQ	Date	Drawing No.	Revision
MS	MS	AEH	ARW	P.C.STEELE	8462	29/03/18	1020-008	C

External References: TEC-TITLE-A1_b.dwg

Plotted: 06 April 2018, 9:19 AM
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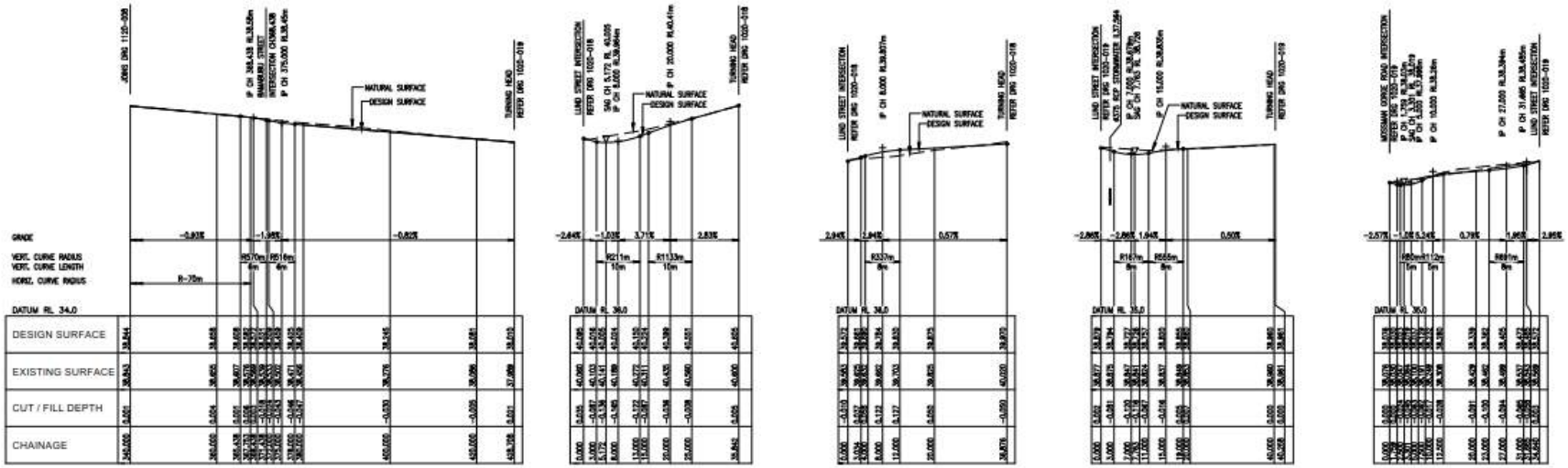

LUND STREET (CH340.000 - END)
SCALE 1:500 HOR 1:50 VERT

JANKAJI CLOSE
SCALE 1:500 HOR 1:50 VERT

MANJAL CLOSE
SCALE 1:500 HOR 1:50 VERT

WALKARR CLOSE
SCALE 1:500 HOR 1:50 VERT

BAMA BUBU STREET
SCALE 1:500 HOR 1:50 VERT

No.	Description	Reviewed	Approved	Date
C	MINOR AMENDMENTS	SC	PCS	29/03/18
B	OPERATIONAL WORKS ISSUE	-	-	07/12/17
A	PRELIMINARY ISSUE	-	-	17/08/17

HORIZ. SCALE 1:500
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0 0.5 1.0 1.5 2.0 2.5m
VERT. SCALE 1:50

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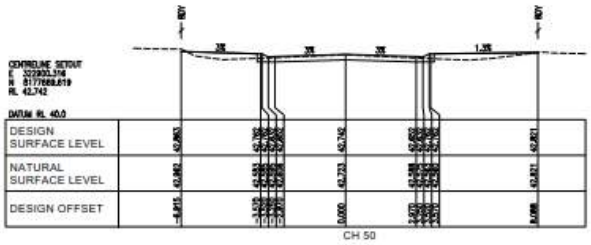
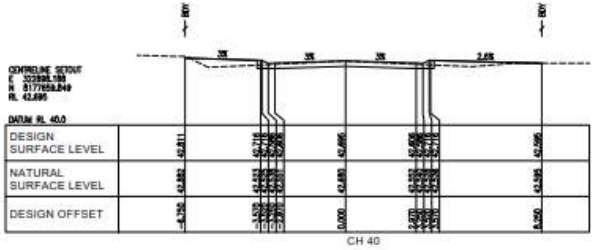
Drawn: MS | Designed: MS | Drawing Check: ARH | Design Check: ARH | Approved: P.C.STEELE

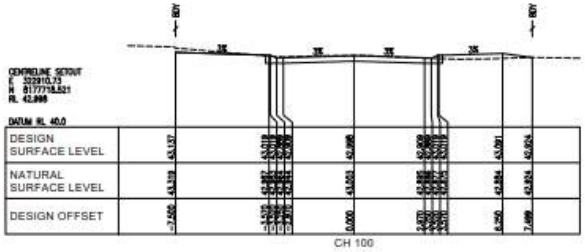
Client: DATSIP
Project: MOSSMAN GORGE INFRASTRUCTURE UPGRADES
Title: ROAD LONGITUDINAL SECTION - SHEET 3 OF 3

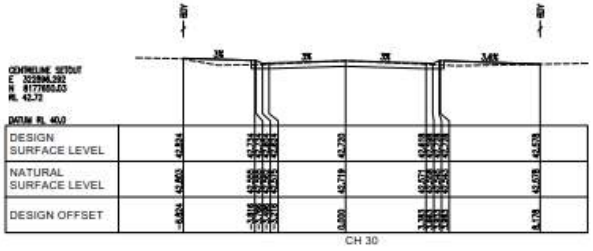
RPEQ: 8462 | Date: 29/03/18 | Drawing No.: 1020-009 | Revision: C

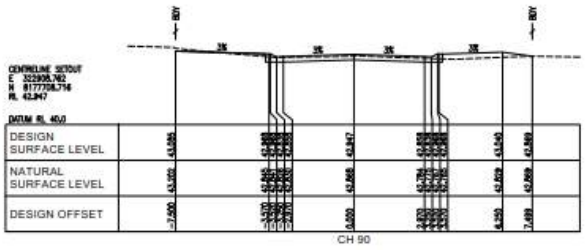
External References: TEC-TITLE-A1_b.dwg

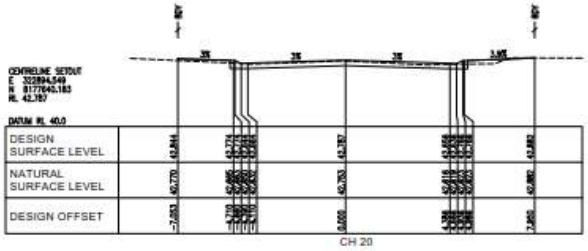






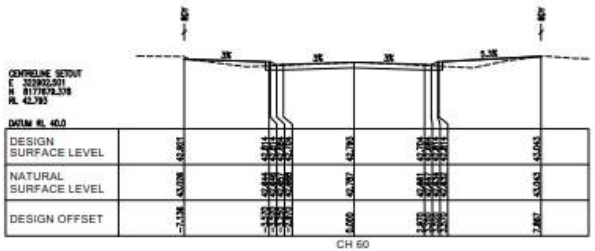




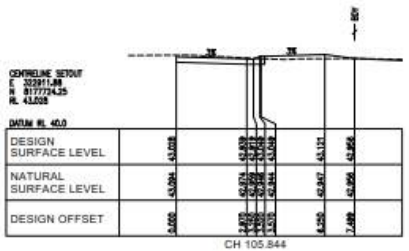


MOSSMAN GORGE ROAD / JUNKURRJI STREET INTERSECTION REFER DRG 1020-017 FOR SETOUT AND DETAILS

JUNKURRJI STREET / KAMWARR STREET INTERSECTION REFER DRG 1020-017 FOR SETOUT AND DETAILS



JUNKURRJI STREET / LUMO STREET INTERSECTION REFER DRG 1020-018 FOR SETOUT AND DETAILS



No.	Description	Reviewed	Approved	Date
B	OPERATIONAL WORKS ISSUE	-	-	07/12/17
A	PRELIMINARY ISSUE	-	-	17/08/17

Revisions

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Scale (A1 size): 1:100
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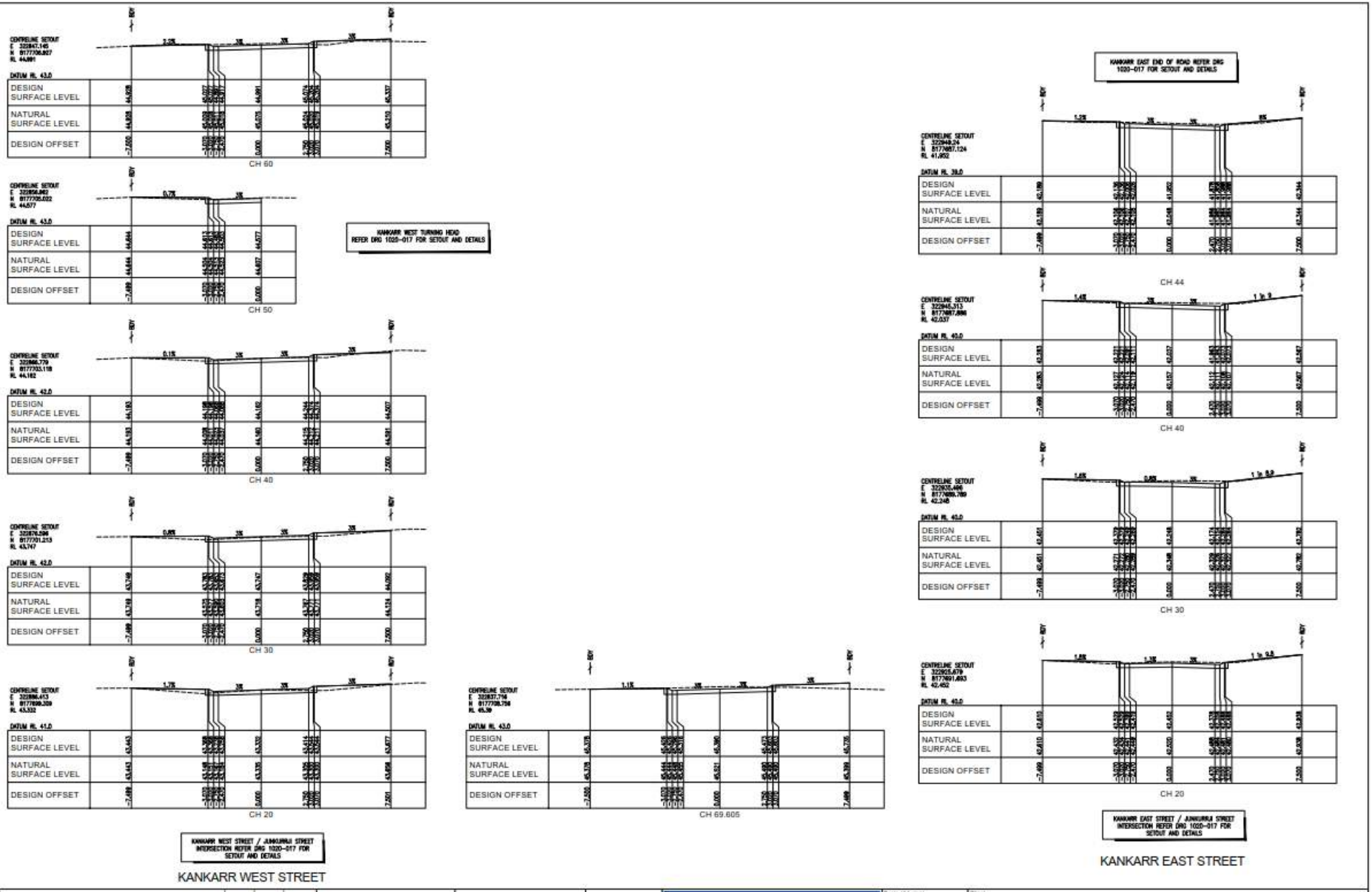
Client: DATSIP
Project: MOSSMAN GORGE INFRASTRUCTURE UPGRADES
Title: JUNKURRJI STREET ANNOTATED CROSS SECTIONS

Drawn	Designed	Drawing Check	Design Check	Approved	RPEQ	Date	Drawing No.	Revision
MS	MS						1020-010	B

External References: TEC-TITLE-A1_b.dwg



No	Description	Reviewed	Approved	Date
C	MINOR AMENDMENTS	SC	PCS	29/03/18
B	OPERATIONAL WORKS ISSUE	-	-	07/12/17
A	PRELIMINARY ISSUE	-	-	17/08/17

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Scale (A1 size): 1:100
Drawing is not to be used for construction unless approved

Client: DATSIP
Project: MOSSMAN GORGE INFRASTRUCTURE UPGRADES
Title: KANKARR STREET EAST AND KANKARR STREET WEST ANNOTATED CROSS SECTIONS

Drawn	Designed	Drawing Check	Design Check	Approved	RPEQ	Date	Drawing No.	Revision
MS	MS	ARH	ARH	P.C.STEELE	8462	29/03/18	1020-011	C

Plotted: 04 April 2018, 10:54 AM
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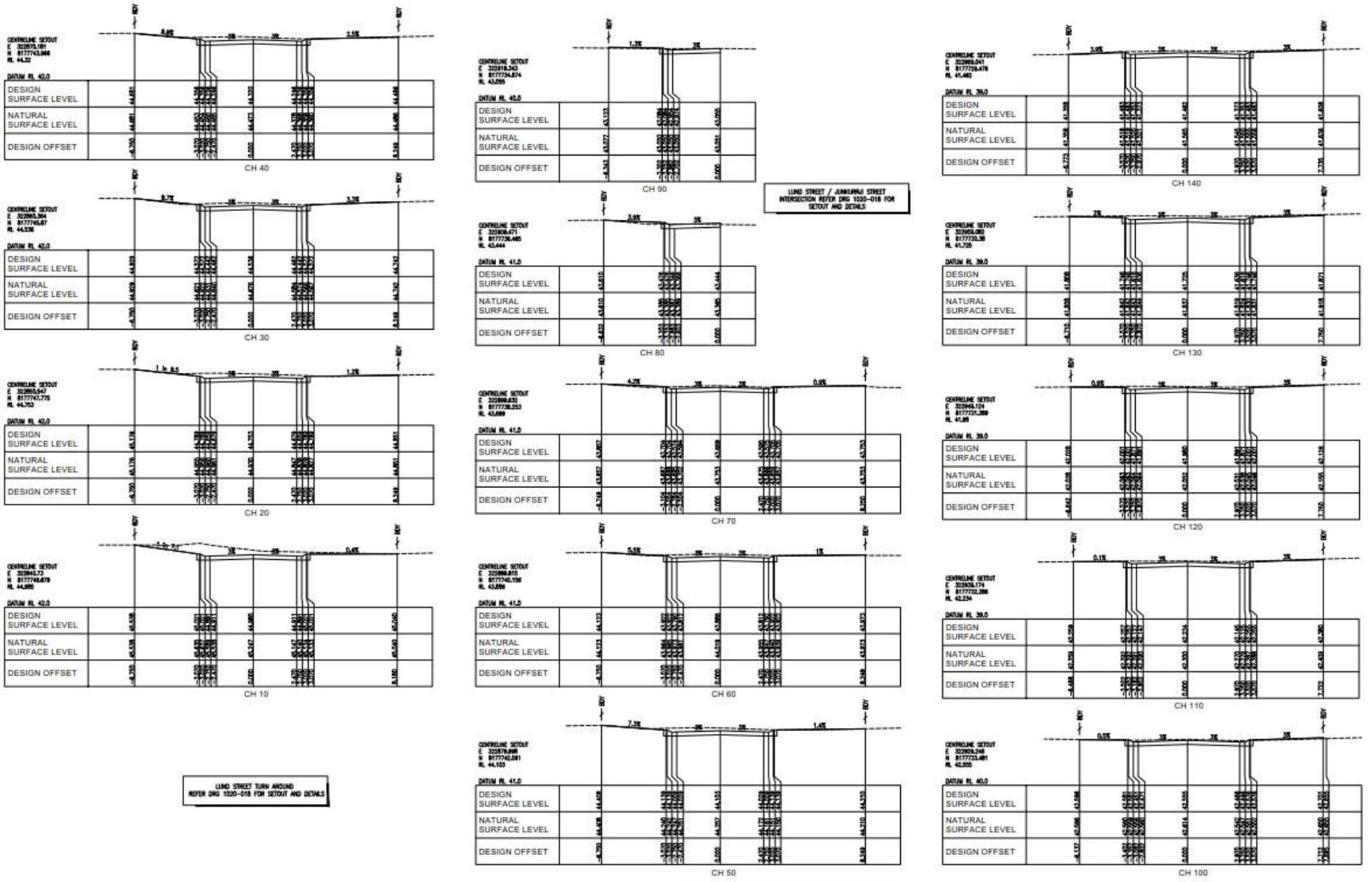
External References: TEC-TITLE-A1 b.dwg



No.	Description	Reviewed	Approved	Date
C	APPROVAL ISSUE	SC	PCS	26/03/18
B	OPERATIONAL WORKS ISSUE	–	–	07/12/17
A	PRELIMINARY ISSUE	–	–	17/08/17

Revisions

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Client: DATSIP
Project: MOSSMAN GORGE INFRASTRUCTURE UPGRADES
Title: LUND STREET ANNOTATED CROSS SECTIONS SHEET 1 OF 3

Drawn	Designed	Drawing Check	Design Check	Approved	RPEQ	Date	Drawing No.	Revision
MS	MS	ARH	ARH	P.C.STEELE	8462	29/03/18	1020-012	C

Printed: 06 April, 2018, 9:54 AM
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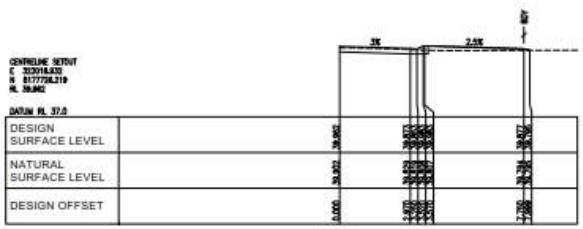
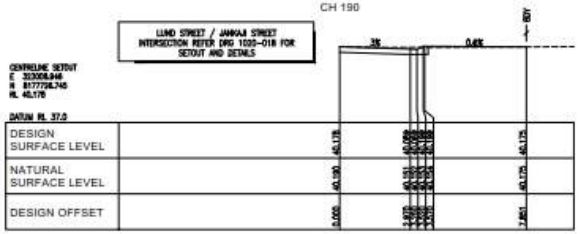
External References: TEC-TITLE-A1_0.dwg



CH 190



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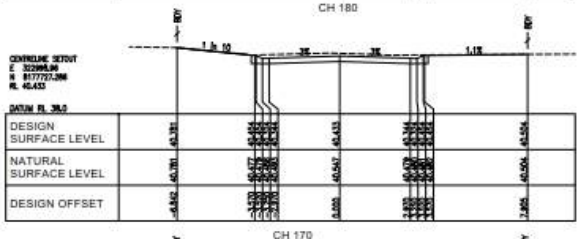

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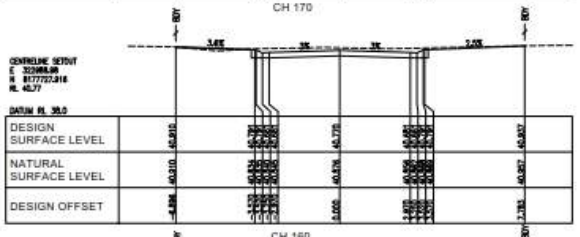

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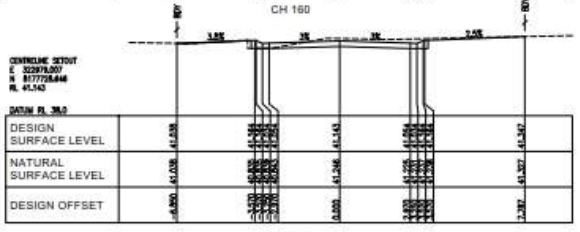

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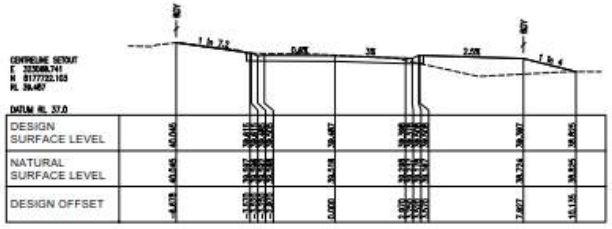

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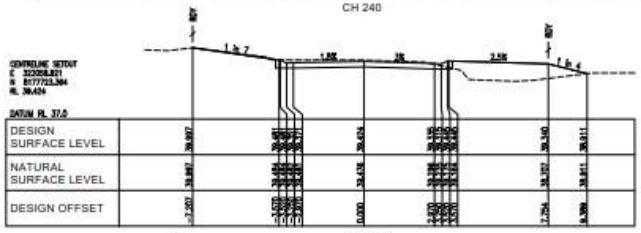

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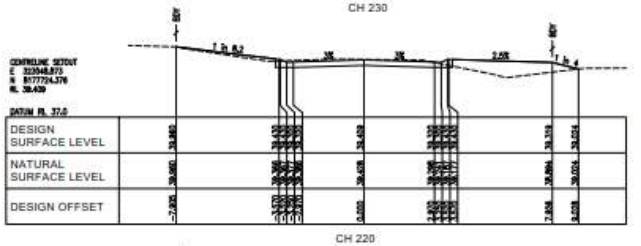

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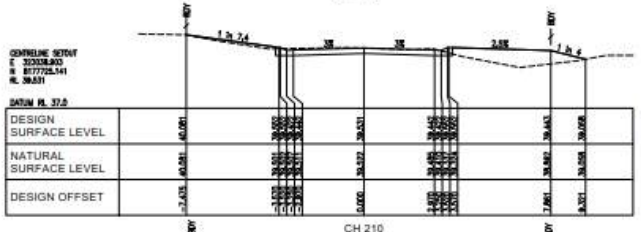

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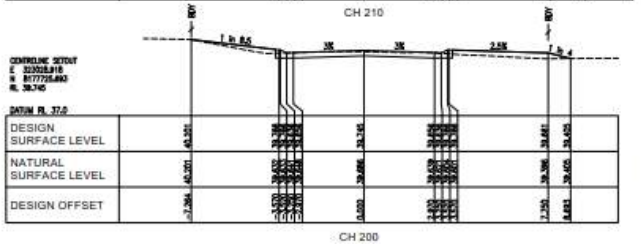

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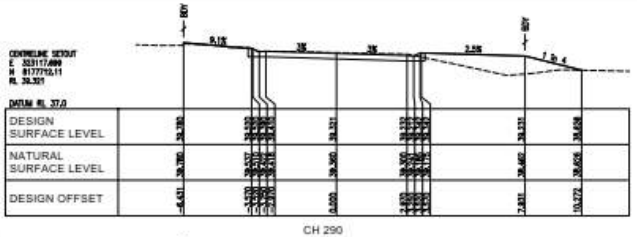

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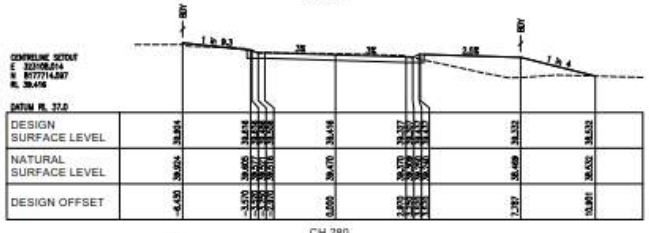

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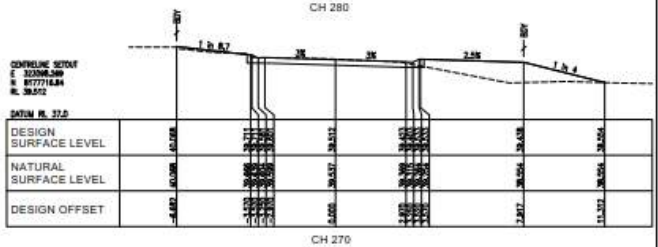

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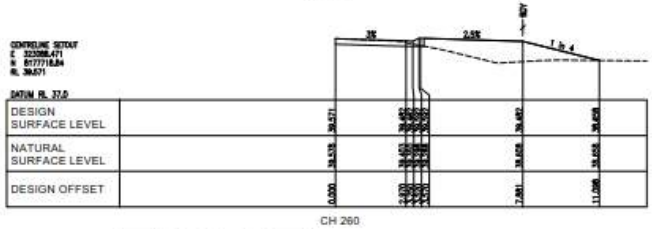

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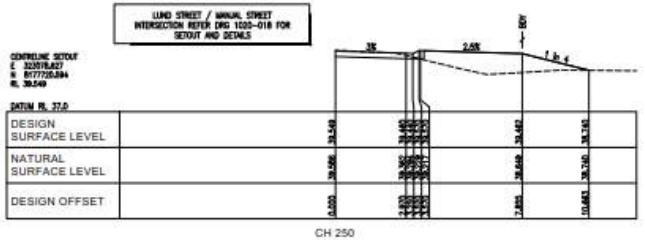

CH 250

No.	Description	Reviewed	Approved	Date
C	APPROVAL ISSUE	SC	PCS	29/03/18
B	OPERATIONAL WORKS ISSUE	–	–	07/12/17
A	PRELIMINARY ISSUE	–	–	17/08/17

0 1 2 3 4 5m
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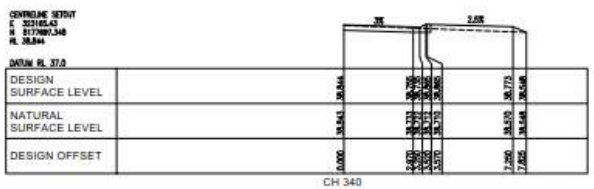
Client: DATSIP
Project: MOSSMAN GORGE INFRASTRUCTURE UPGRADES
Title: LUND STREET ANNOTATED CROSS SECTIONS SHEET 2 OF 3

Drawn	Designed	Drawing Check	Design Check	Approved	RPEQ	Date	Drawing No.	Revision
MS	MS	ARH	ARH	P.C.STEELE	8462	29/03/18	1020-013	C

External References: TEC-TITLE-A1_0.dwg



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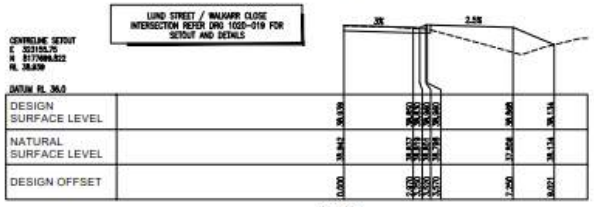

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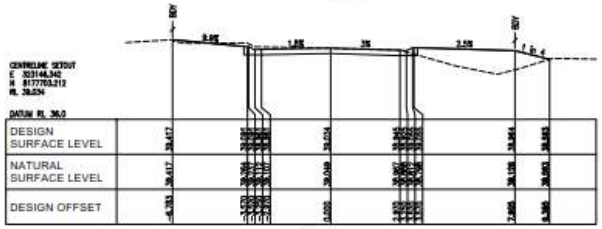

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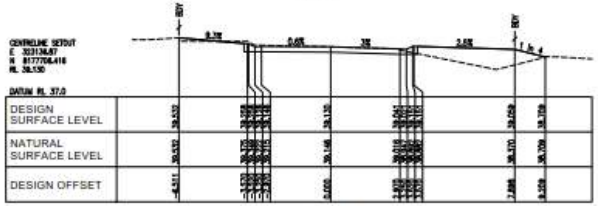

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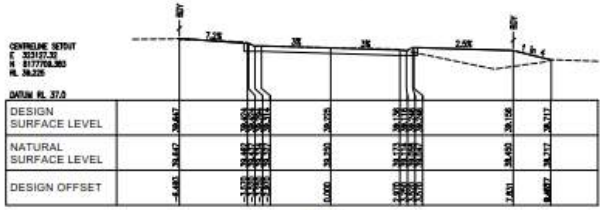

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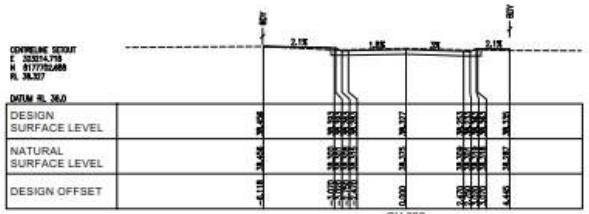

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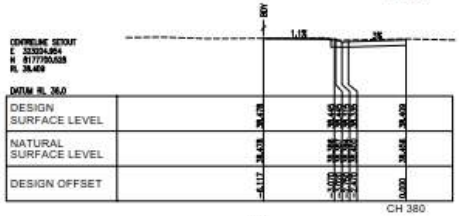

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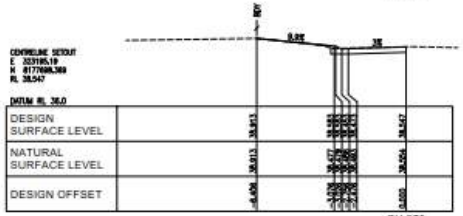

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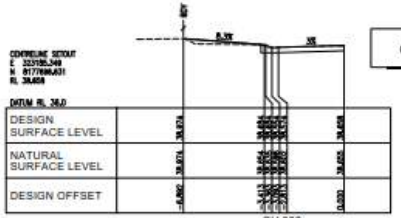

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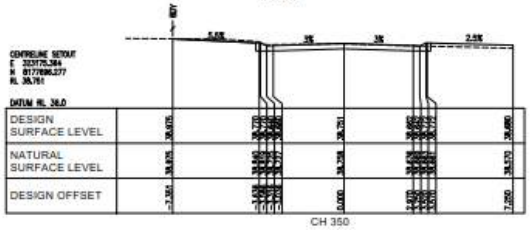

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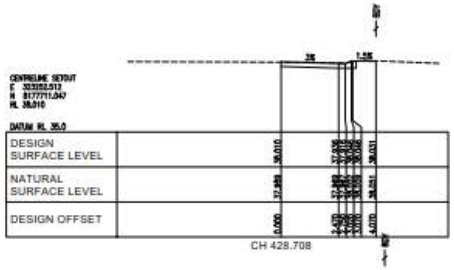
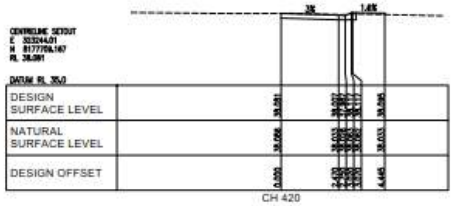


CH 428.708



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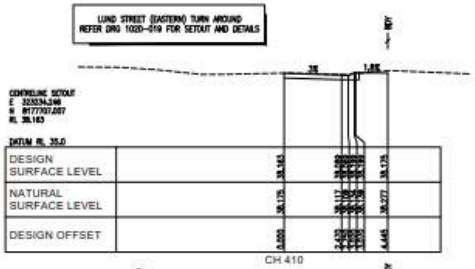

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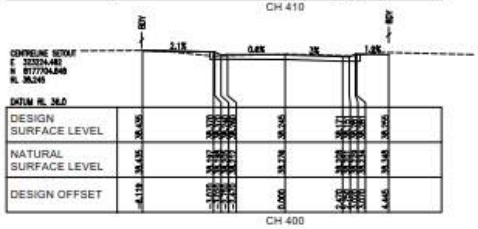

CH 400

No.	Description	Reviewed	Approved	Date
C	MINOR AMENDMENTS	SC	PCS	29/03/18
B	OPERATIONAL WORKS ISSUE	–	–	07/12/17
A	PRELIMINARY ISSUE	–	–	17/08/17

Revisions

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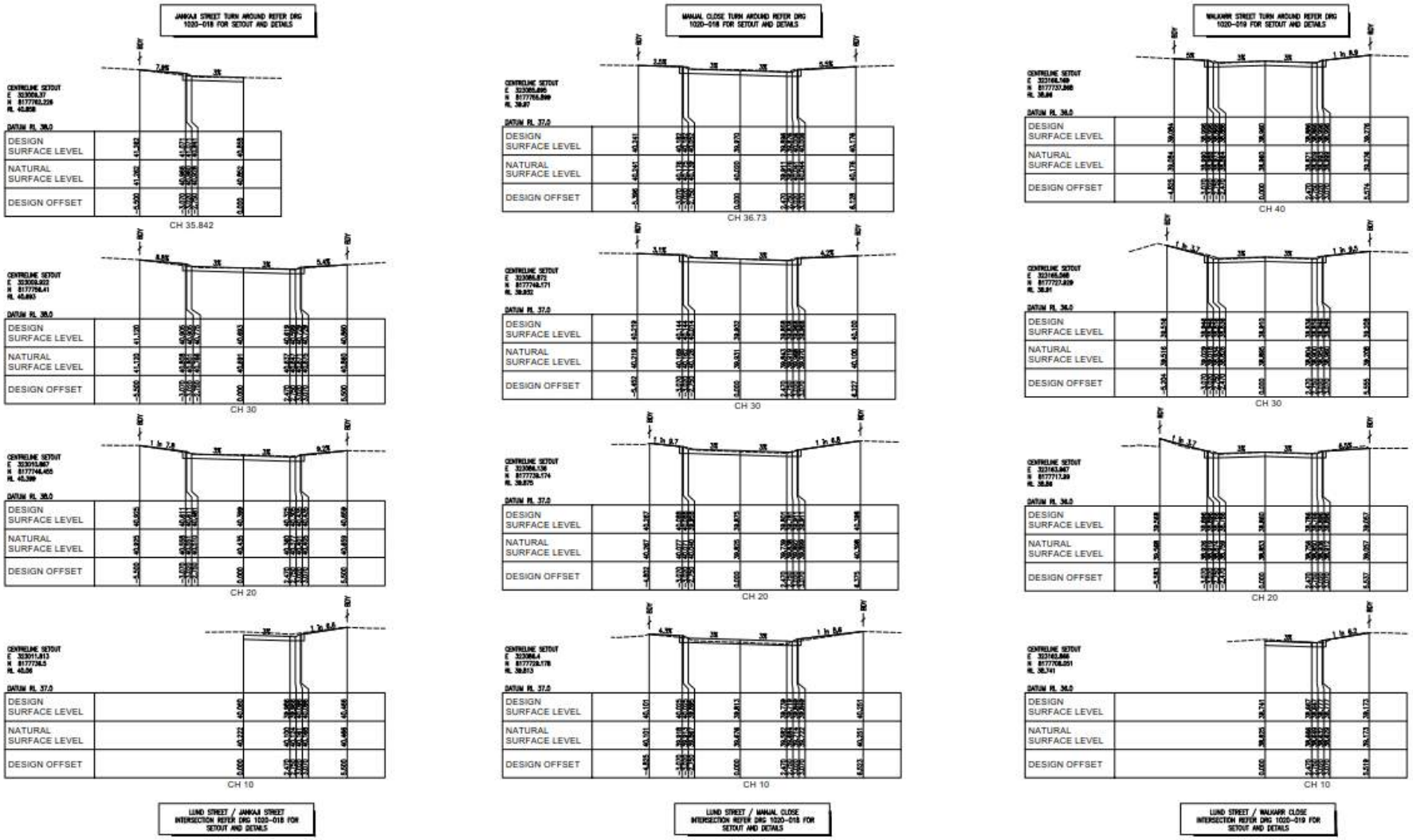
Client: DATSIP

Project: MOSSMAN GORGE INFRASTRUCTURE UPGRADES

Title: LUND STREET ANNOTATED CROSS SECTIONS SHEET 3 OF 3

Drawn	Designed	Drawing Check	Design Check	Approved	RPEQ	Date	Drawing No.	Revision
MS	MS	ARH	ARH	P.C.STEELE	8462	29/03/18	1020-014	C

External References: TEC-TITLE-A1_S.dwg



JANKAJI CLOSE

MANJAL CLOSE

WALKARR CLOSE

No.	Description	Reviewed	Approved	Date
C	APPROVAL ISSUE	SC	PCS	29/03/18
B	OPERATIONAL WORKS ISSUE	–	–	07/12/17
A	PRELIMINARY ISSUE	–	–	17/08/17

Revisions

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Client: DATSIP

Project: MOSSMAN GORGE INFRASTRUCTURE UPGRADES

Title: JANKAJI CLOSE, MANJAL CLOSE AND WALKARR CLOSE ANNOTATED CROSS SECTIONS

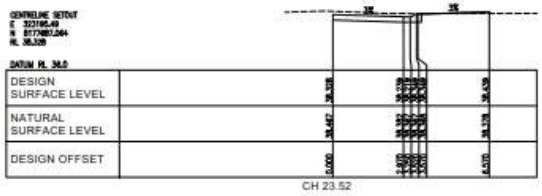
Drawn	Designed	Drawing Check	Design Check	Approved	SPEC	Date	Drawing No.	Revision
MS	MS	ARH	ARH	P.C.STEELE	8462	29/03/18	1020-015	C

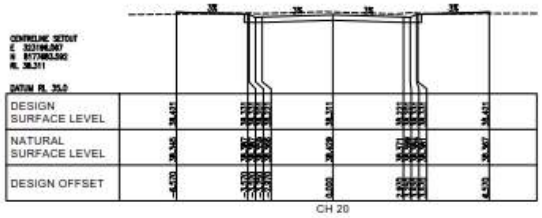
External References: TEC-TITLE-A1_0.dwg

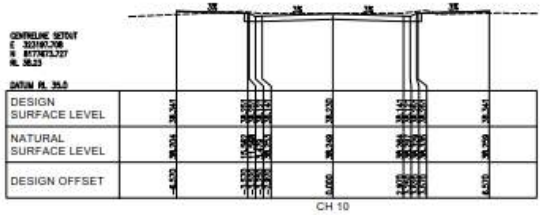
Plot: 7:11020 Mossman Gorge\Drawings\1020-015(C).dwg

Plotted: 06 April 2018, 8:54 AM

LUND STREET / BAMA BUBU STREET INTERSECTION
REFER DRG 1020-019 FOR SETOUT AND DETAILS







MOSSMAN GORGE ROAD / BAMA BUBU STREET
INTERSECTION REFER DRG 1020-019 FOR
SETOUT AND DETAILS

No.	Description	Reviewed	Approved	Date
C	APPROVAL ISSUE	SC	PCS	29/03/18
B	OPERATIONAL WORKS ISSUE	-	-	07/12/17
A	PRELIMINARY ISSUE	-	-	17/08/17

Revisions

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Drawn: MS | Designed: MS | Drawing Check: ARH | Design Check: ARH | Approved: P.C.STEELE | RPEQ: 8462 | Date: 29/03/18

Client: DATSIP

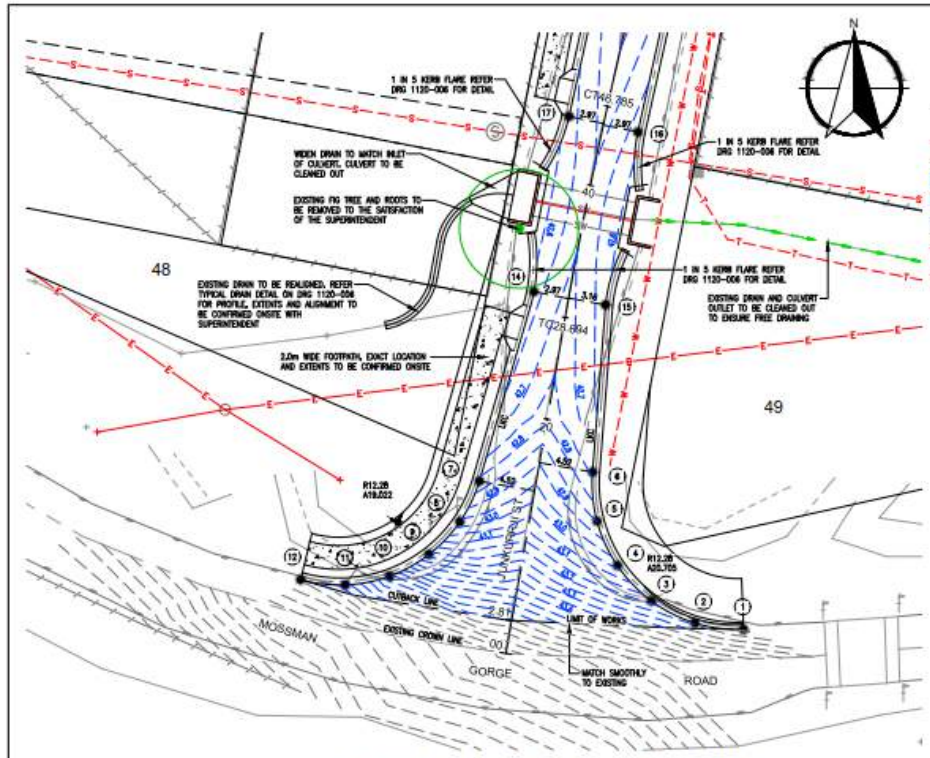
Project: MOSSMAN GORGE INFRASTRUCTURE UPGRADES

Title: BAMA BUBU STREET ANNOTATED CROSS SECTIONS

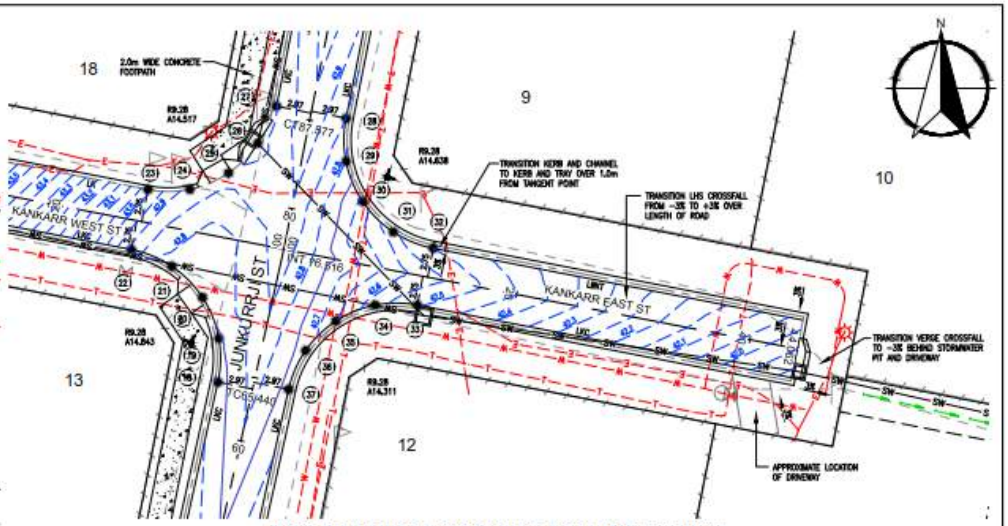
Drawing No.: 1020-016 | Revision: C

Printed: 06 April 2018, 9:34 AM
File: T:\1020 Mossman Gorge\Drawings\1020-016(C).dwg

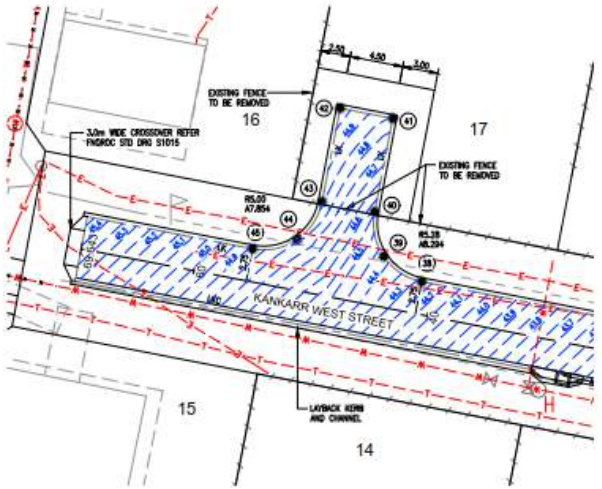
External References: TEC-TITLE-A1_b.dwg



MOSSMAN GORGE ROAD / JUNKURRJI STREET INTERSECTION
SCALE 1:200



JUNKURRJI STREET / KANKARR STREET INTERSECTION
SCALE 1:200



KANKARR WEST STREET TURNING HEAD
SCALE 1:200

LEGEND

- LKC — LAYBACK KERB AND CHANNEL
- LK — LAYBACK KERB
- LBKT — LAYBACK KERB AND TRAY
- 4.6 — DESIGN SURFACE CONTOUR (0.05m INTERVAL)
- R10.00 — RADIUS
- A15.75 — ARC LENGTH
- 3.00 — OFFSET FROM ROAD CENTRELINE
- ROAD CHAINAGE
- (25) — KERB SETOUT POINT
- STREET SIGN
- 2m WIDE CONCRETE FOOTPATH (REFER NOTE 8)
- KERB RAMP
- ACCESS CROSSOVER

NOTES

1. ALL WORKS AND MATERIALS TO BE IN ACCORDANCE WITH FNQROC DEVELOPMENT MANUAL GUIDELINES AND SPECIFICATIONS.
2. KERB LEVELS SHOWN ARE TO LIP OF KERB AND CHANNEL OR PAVEMENT AT FACE OF KERB.
3. DIMENSIONS AND KERB RADII SHOWN ARE TO LIP OF KERB AND CHANNEL OR TO FACE OF KERB ONLY.
4. KERB LEVELS ARE SHOWN EQUALLY DIVIDED BETWEEN KERB TANGENT POINTS.
5. REFER ALSO TO ROAD SETOUT DETAILS ON DRG 1020-005 FOR COORDINATES OF ROAD CHAINAGES AND TANGENT POINTS.
6. REFER TO THE FOLLOWING FNQROC STANDARD DRAWINGS:
   - S1000 – CONCRETE KERB AND CHANNEL
   - S1015 – ACCESS CROSSOVERS
   - S1016 – KERB RAMP
7. ASPHALTIC CONCRETE THICKNESS ON ALL ROADS TO BE INCREASED TO 50mm AT ALL INTERSECTIONS.
8. 2.0m WIDE CONCRETE PATHWAY TO BE LOCATED AS PER FNQROC STD DRG S1010, KERB RAMPS AND ACCESS CROSSOVERS TO BE INSTALLED IN ACCORDANCE WITH FNQROC STD DRGS S1016 AND S1015.

KERB SETOUT

POINT	EASTING	NORTHING	LEVELS	POINT	EASTING	NORTHING	LEVELS
1	322911.063	8177622.506	43.136	24	322894.328	8177700.028	43.860
2	322905.977	8177623.049	43.185	25	322901.462	8177701.290	43.822
3	322903.308	8177624.909	43.129	26	322903.916	8177704.402	43.818
4	322900.445	8177627.882	42.983	27	322905.480	8177707.517	43.848
5	322898.735	8177631.631	42.847	28	322911.347	8177706.503	43.849
6	322898.362	8177635.736	43.739	29	322911.344	8177702.867	43.798
7	322898.842	8177634.973	43.817	30	322913.738	8177699.509	43.683
8	322901.201	8177631.562	43.966	31	322915.315	8177696.944	43.564
9	322904.599	8177628.812	43.327	32	322918.679	8177695.568	43.499
10	322911.283	8177626.986	43.510	33	322917.337	8177690.795	43.506
11	322917.569	8177626.256	43.820	34	322913.781	8177690.760	43.574
12	322873.809	8177626.692	43.960	35	322910.488	8177689.449	43.657
				36	322907.941	8177686.968	43.721
14	322893.433	8177630.906	43.639	37	322908.514	8177683.711	43.730
15	322899.460	8177648.793	43.624	38	322898.311	8177706.011	44.386
16	322902.180	8177664.333	43.628	39	322883.119	8177706.121	44.423
17	322886.383	8177665.431	43.638	40	322882.354	8177711.871	44.561
18	322900.585	8177694.326	43.726	41	322883.878	8177718.725	44.841
19	322900.640	8177688.011	43.744	42	322859.480	8177720.582	44.976
20	322899.274	8177691.434	43.739	43	322857.937	8177712.738	44.861
21	322896.683	8177694.056	43.775	44	322855.606	8177709.536	44.811
22	322893.276	8177695.463	43.807	45	322852.076	8177706.772	44.888
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No.	Description	Reviewed	Approved	Date
D	MINOR AMENDMENTS	SC	PCS	29/03/18
C	OPERATIONAL WORKS APPLICATION	–	–	07/12/17
B	MISCELLANEOUS AMENDMENTS	–	–	06/10/17
A	PRELIMINARY ISSUE	–	–	17/08/17

Revisions

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SCALE 1:200 (A1 SIZE)

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Scale (A1 size): 1:200
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Client: DATSIP
Project: MOSSMAN GORGE INFRASTRUCTURE UPGRADES
Title: INTERSECTION SETOUT AND DETAILS SHEET 1 OF 3

Drawn	Designed	Drawing Check	Design Check	Approved	RPEQ	Date	Drawing No.	Revision
MS	MS	ARH	ARH	P.C.STEELE	8462	29/03/18	1020-017	D

Printed: 29 March 2018, 9:04 AM
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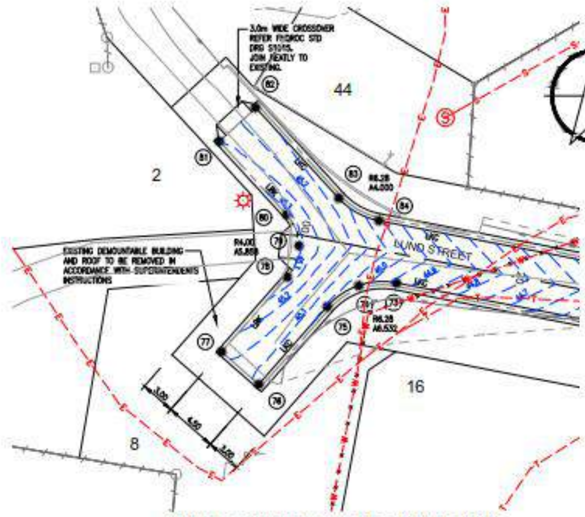
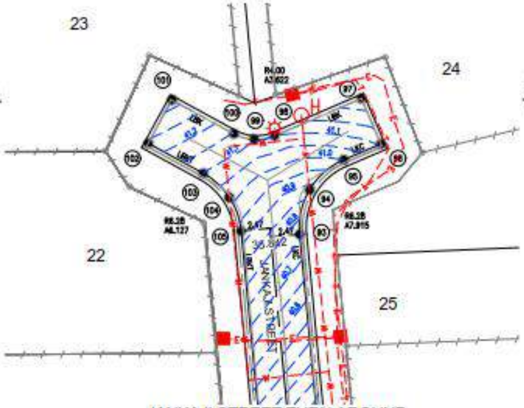
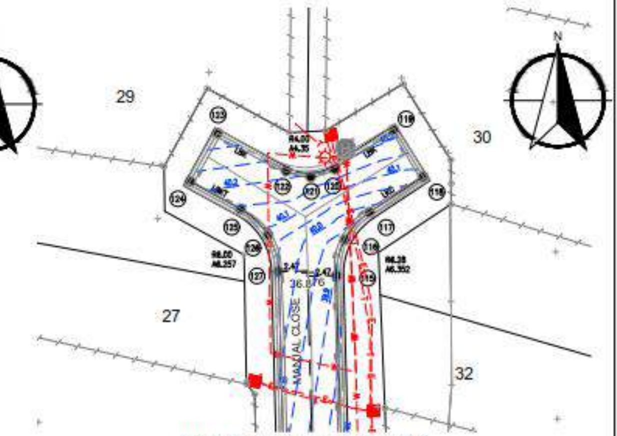
External References: TEC-TITLE-A1_b.dwg ; 1020-X-SURVEY.dwg ; 1020-X-DESIGN.dwg



LUND STREET (WESTERN) TURN AROUND
SCALE 1:200



JANKAJI STREET TURN AROUND
SCALE 1:200

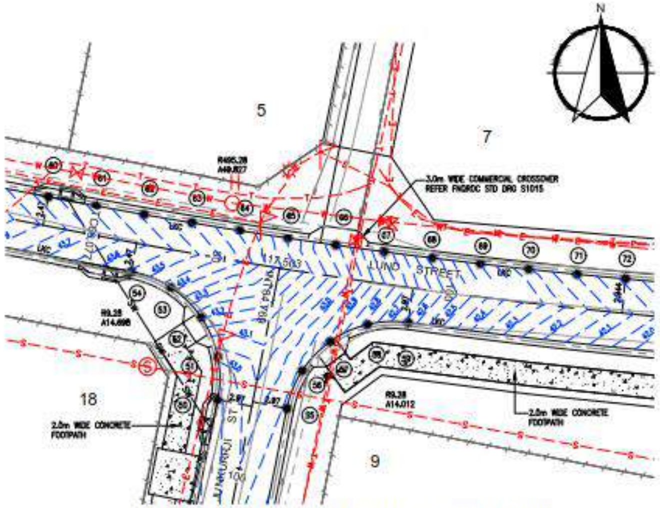


MANJAL CLOSE TURN AROUND
SCALE 1:200

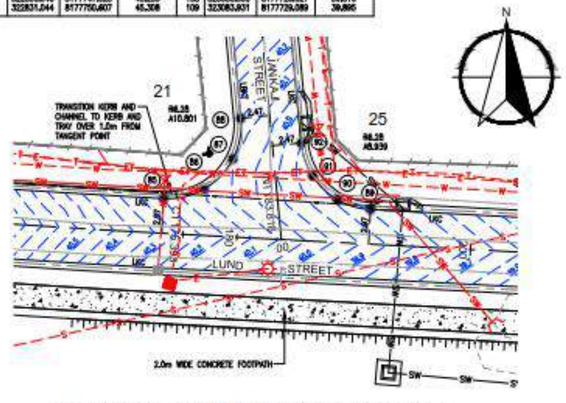
KERB SETOUT

POINT	EASTING	NORTHING	LEVEL	POINT	EASTING	NORTHING	LEVEL	POINT	EASTING	NORTHING	LEVEL
50	322908.888	8177724.437	42.937	80	322829.992	8177753.271	45.313	110	323095.482	8177720.469	39.630
51	322908.889	8177728.088	43.016	81	322824.247	8177759.535	45.250	111	323092.912	8177721.473	39.650
52	322907.481	8177731.456	43.210	82	322827.321	8177762.427	45.168	112	323090.804	8177723.280	39.670
53	322904.883	8177734.021	43.421	83	322834.434	8177754.871	45.113	113	323089.423	8177725.849	39.695
54	322901.497	8177735.385	43.544	84	322837.888	8177752.751	45.013	114	323088.892	8177728.357	39.727
55	322914.792	8177723.888	42.939	85	323002.895	8177730.050	40.243	115	323088.172	8177755.640	39.894
56	322916.106	8177726.891	42.935	86	323006.154	8177730.885	40.157	116	323088.678	8177758.702	39.919
57	322918.516	8177729.405	42.882	87	323008.814	8177733.429	40.102	117	323090.978	8177761.039	39.973
58	322921.682	8177730.853	42.782	88	323009.292	8177736.915	40.150	118	323095.561	8177764.079	40.078
59	322925.180	8177731.033	42.635	89	323020.377	8177729.117	39.845	119	323093.055	8177768.081	40.220
60	322894.421	8177741.779	43.721	90	323017.548	8177729.961	39.891	120	323088.008	8177764.733	40.190
61	322898.500	8177741.005	43.630	91	323015.418	8177732.004	39.910	121	323085.985	8177764.089	40.192
62	322902.588	8177740.288	43.539	92	323014.456	8177734.795	39.950	122	323083.873	8177764.559	40.217
63	322908.678	8177739.561	43.447	93	323011.901	8177761.702	40.763	123	323077.991	8177767.798	40.340
64	322910.776	8177738.890	43.340	94	323012.752	8177765.500	40.880	124	323075.688	8177763.676	40.220
65	322914.879	8177738.253	43.198	95	323015.677	8177768.088	41.001	125	323079.964	8177761.320	40.137
66	322918.987	8177737.651	43.012	96	323018.837	8177769.423	41.107	126	323082.305	8177759.084	40.085
67	322923.100	8177737.084	42.791	97	323017.174	8177773.301	41.234	127	323083.222	8177755.979	40.053
68	322927.218	8177736.550	42.579	98	323009.773	8177770.127	41.103				
69	322931.340	8177736.052	42.401	99	323008.006	8177769.808	41.109				
70	322935.467	8177735.588	42.257	100	323006.277	8177770.294	41.147				
71	322939.597	8177735.159	42.144	101	323001.006	8177773.177	41.324				
72	322943.730	8177734.764	42.037	102	322998.981	8177769.474	41.234				
73	322838.368	8177747.427	44.937	103	323003.672	8177766.938	41.094				
74	322836.146	8177747.207	45.025	104	323005.903	8177764.928	41.017				
75	322833.460	8177746.414	45.041	105	323006.911	8177761.892	40.941				
76	322827.593	8177738.755	45.085	106	323077.809	8177723.738	39.821				
77	322824.427	8177741.545	45.170	107	323080.766	8177724.111	39.880				
78	322830.046	8177747.923	45.285	108	323083.050	8177726.027	39.816				
79	322831.044	8177750.407	45.308	109	323083.931	8177729.089	39.886				

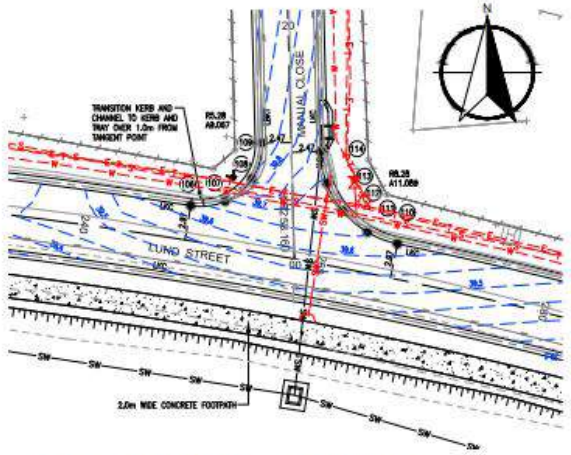
NOTE
1. REFER DRAWING 1120-017 FOR INTERSECTION LEGEND AND NOTES.



LUND STREET / JUNKURRJI STREET INTERSECTION
SCALE 1:200



LUND STREET / JANKAJI STREET INTERSECTION
SCALE 1:200



LUND STREET / MANJAL CLOSE INTERSECTION
SCALE 1:200

No.	Description	Reviewed	Approved	Date
D	MINOR AMENDMENTS	SC	FCS	29/03/18
C	OPERATIONAL WORKS APPLICATION	-	-	07/12/17
B	MISCELLANEOUS AMENDMENTS	-	-	08/10/17
A	PRELIMINARY ISSUE	-	-	17/08/17

SCALE 1:200 (A1 SIZE)

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Scale (A1 size) 1:200

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Client: DATSIP

Project: MOSSMAN GORGE INFRASTRUCTURE UPGRADES

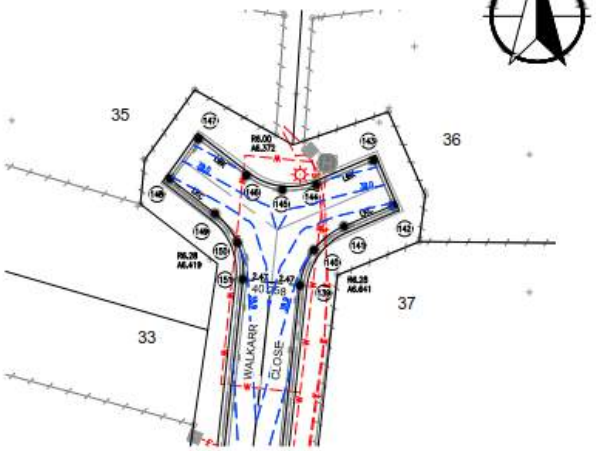
Title: INTERSECTION SETOUT AND DETAILS SHEET 2 OF 3

Drawn	Designed	Drawing Check	Design Check	Approved	RPEQ	Date	Drawing No.	Revision
MS	MS	ARH	ARH	P.C.STEELE	4862	29/03/18	1020-018	D

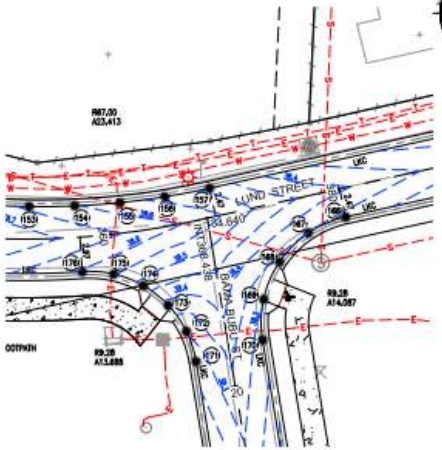
File: T:\1020 Mossman Gorge\Drawings\1020-018(D).dwg

Printed: 06 April 2018 9:36 AM

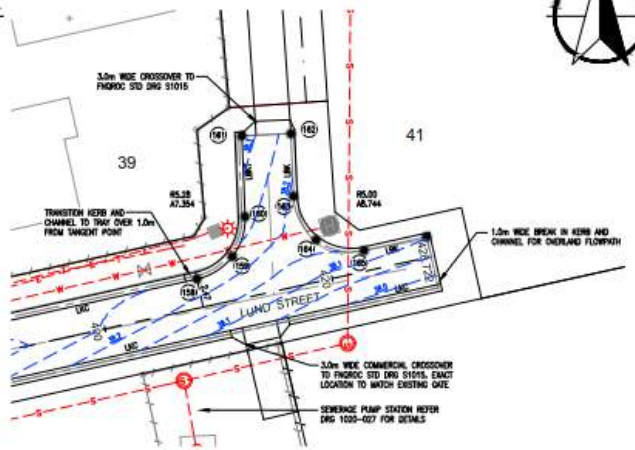
External References: TEC-TITLE-A1_b.dwg ; 1020-X-DESIGN.dwg ; 1020-X-SURVEY.dwg



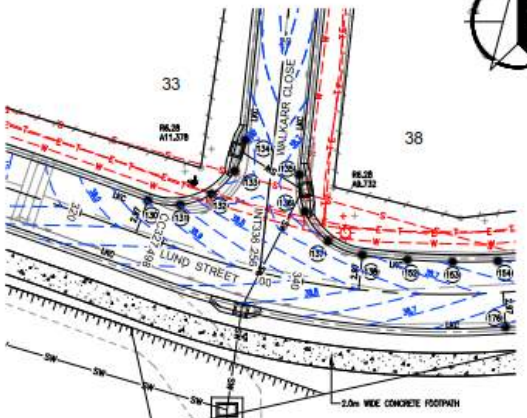
WALKARR CLOSE TURN AROUND
SCALE 1:200



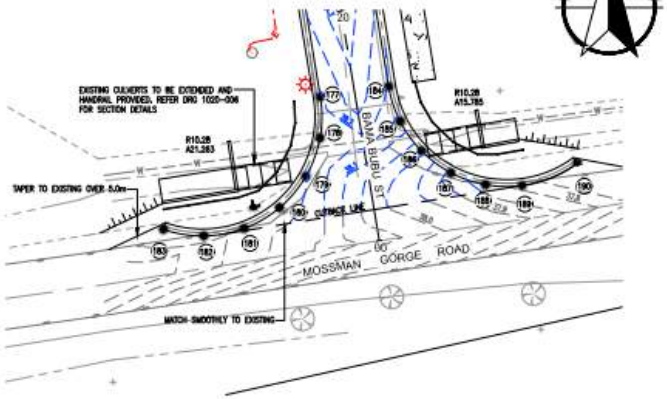
LUND STREET / BAMABUBU STREET INTERSECTION
SCALE 1:200



LUND STREET (EASTERN) TURN AROUND
SCALE 1:200



LUND STREET / WALKARR CLOSE INTERSECTION
SCALE 1:200



MOSSMAN GORGE ROAD / BAMA BUBU STREET INTERSECTION
SCALE 1:200

KERB SETOUT

POINT	EASTING	NORTHING	LEVEL	POINT	EASTING	NORTHING	LEVEL
130	323152.139	8177704.395	38.847	160	323236.027	8177714.491	38.269
131	323154.838	8177703.634	38.847	161	323236.251	8177721.454	38.329
132	323157.808	8177704.843	38.752	162	323240.468	8177721.421	38.224
133	323159.859	8177706.828	38.676	163	323240.680	8177716.251	38.190
134	323160.241	8177709.060	38.686	164	323242.624	8177712.469	38.164
135	323165.181	8177706.517	38.654	165	323246.756	8177711.567	38.138
136	323165.854	8177703.344	38.661	166	323255.570	8177698.135	38.334
137	323167.633	8177700.819	38.708	167	323262.356	8177696.748	38.349
138	323170.580	8177699.402	38.710	168	323199.884	8177694.269	38.335
139	323168.853	8177737.953	38.887	169	323198.027	8177691.251	38.306
140	323169.854	8177740.907	38.864	170	323196.420	8177687.251	38.277
141	323172.432	8177742.939	38.820	171	323192.706	8177685.700	38.270
142	323176.853	8177744.738	38.843	172	323191.868	8177688.296	38.309
143	323174.962	8177746.096	38.869	173	323190.311	8177690.536	38.361
144	323170.058	8177746.513	39.046	174	323188.170	8177692.226	38.479
145	323167.136	8177746.061	39.040	175	323185.631	8177693.222	38.554
146	323164.029	8177747.289	39.046	176	323182.912	8177693.435	38.594
147	323158.915	8177750.473	39.070	177	323194.281	8177676.231	38.195
148	323157.468	8177747.033	39.043	178	323194.265	8177672.705	38.185
149	323161.344	8177744.031	38.919	179	323193.038	8177669.395	38.205
150	323163.381	8177741.516	38.903	180	323190.774	8177666.691	38.225
151	323163.745	8177738.375	38.887	181	323187.730	8177664.911	38.232
152	323174.481	8177699.203	38.675	182	323184.263	8177664.265	38.215
153	323178.359	8177699.029	38.640	183	323180.782	8177664.826	38.191
154	323182.281	8177699.063	38.604	184	323050.158	8177677.104	38.194
155	323186.152	8177699.364	38.569	185	323201.142	8177674.117	38.135
156	323190.021	8177699.671	38.534	186	323202.983	8177671.568	38.012
157	323191.853	8177700.603	38.457	187	323205.509	8177669.695	37.898
158	323232.391	8177709.127	38.240	188	323208.482	8177668.672	37.820
159	323235.433	8177711.056	38.246	189	323211.626	8177668.597	37.784
				190	323216.387	8177670.508	37.698

NOTE

1. REFER DRAWING 1120-017 FOR INTERSECTION LEGEND AND NOTES.

No.	Description	Reviewed	Approved	Date
D	MINOR AMENDMENTS	SC	PCS	29/03/18
C	OPERATIONAL WORKS APPLICATION	–	–	07/12/17
B	MISCELLANEOUS AMENDMENTS	–	–	08/10/17
A	PRELIMINARY ISSUE	–	–	17/08/17

Revisions

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Scale (A1 size): 1:200
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Client: DATSIP
Project: MOSSMAN GORGE INFRASTRUCTURE UPGRADES
Title: INTERSECTION SETOUT AND DETAILS SHEET 3 OF 3

Drawn	Designed	Drawing Check	Design Check	Approved	RPEQ	Date	Drawing No.	Revision
MS	MS	AEH	AEH	P.C.STEELE	8462	29/03/18	1020-019	D

External References: TEC-TITLE-A1_3.dwg ; 1020-X-SURVEY.dwg ; 1020-X-DESIGN.dwg

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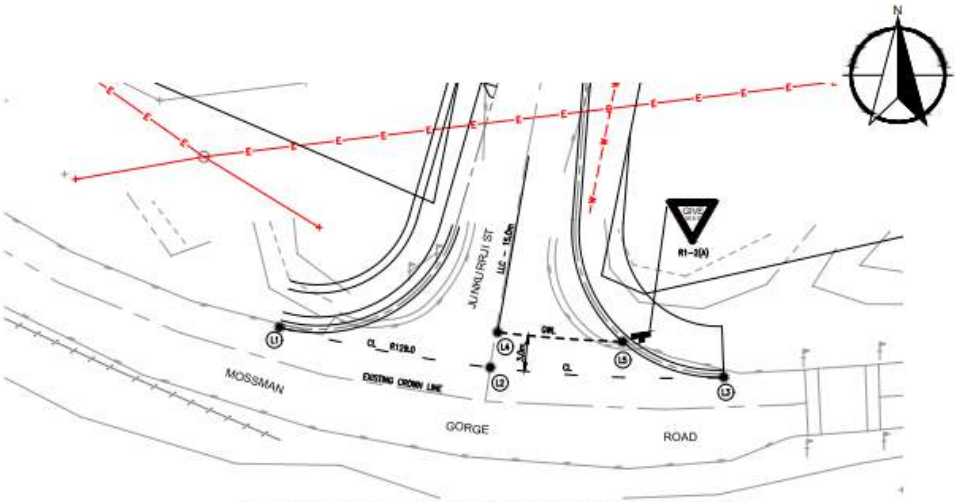
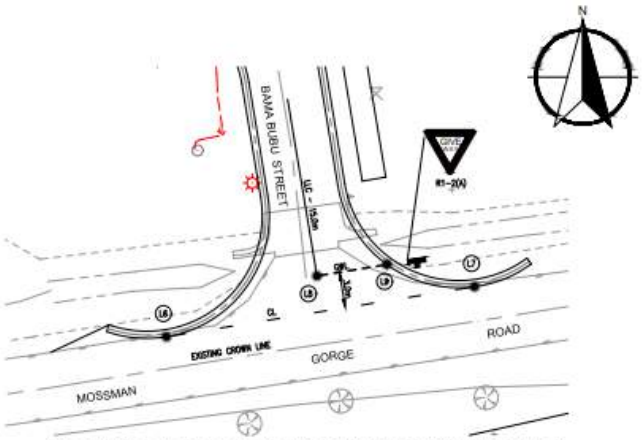


MOSSMAN GORGE ROAD / JUNKURRJI STREET INTERSECTION
SCALE 1:200



MOSSMAN GORGE ROAD / BAMA BUBU STREET INTERSECTION
SCALE 1:200

LINEMARKING SETOUT

POINT NO.	EASTING	NORTHING
L1	322873.790	8177626.696
L2	322891.479	8177623.335
L3	322911.063	8177622.548
L4	322880.083	8177626.283
L5	322902.571	8177625.492
L6	323185.780	8177664.397
L7	323211.626	8177668.097
L8	323196.412	8177668.496
L9	323204.291	8177670.448

LINEMARKING DIMENSIONS TABLE

TYPE	DESCRIPTION	LENGTH (mm)	GAP (mm)	WIDTH (mm)
— — — CL	CONTINUITY LINE	1000	3000	200
- - - - - - - - CWL	GIVE WAY LINE	600	600	300
——— LLC	LANE LINE CONTINUOUS	-	-	80

NOTES

1. ALL WORKS AND MATERIALS TO BE IN ACCORDANCE WITH FNQROC DEVELOPMENT MANUAL GUIDELINES AND SPECIFICATIONS.
2. LINEMARKING (WHITE PAINT) AND SIGNAGE TO BE IN ACCORDANCE WITH MUTCD.

No.	Description	Reviewed	Approved	Date
C	MINOR AMENDMENTS	SC	PCS	29/03/18
B	OPERATIONAL WORKS ISSUE	-	-	07/12/17
A	PRELIMINARY ISSUE	-	-	17/08/17

Revisions

0 2 4 6 8 10m
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Scale (A1 size)	1:200
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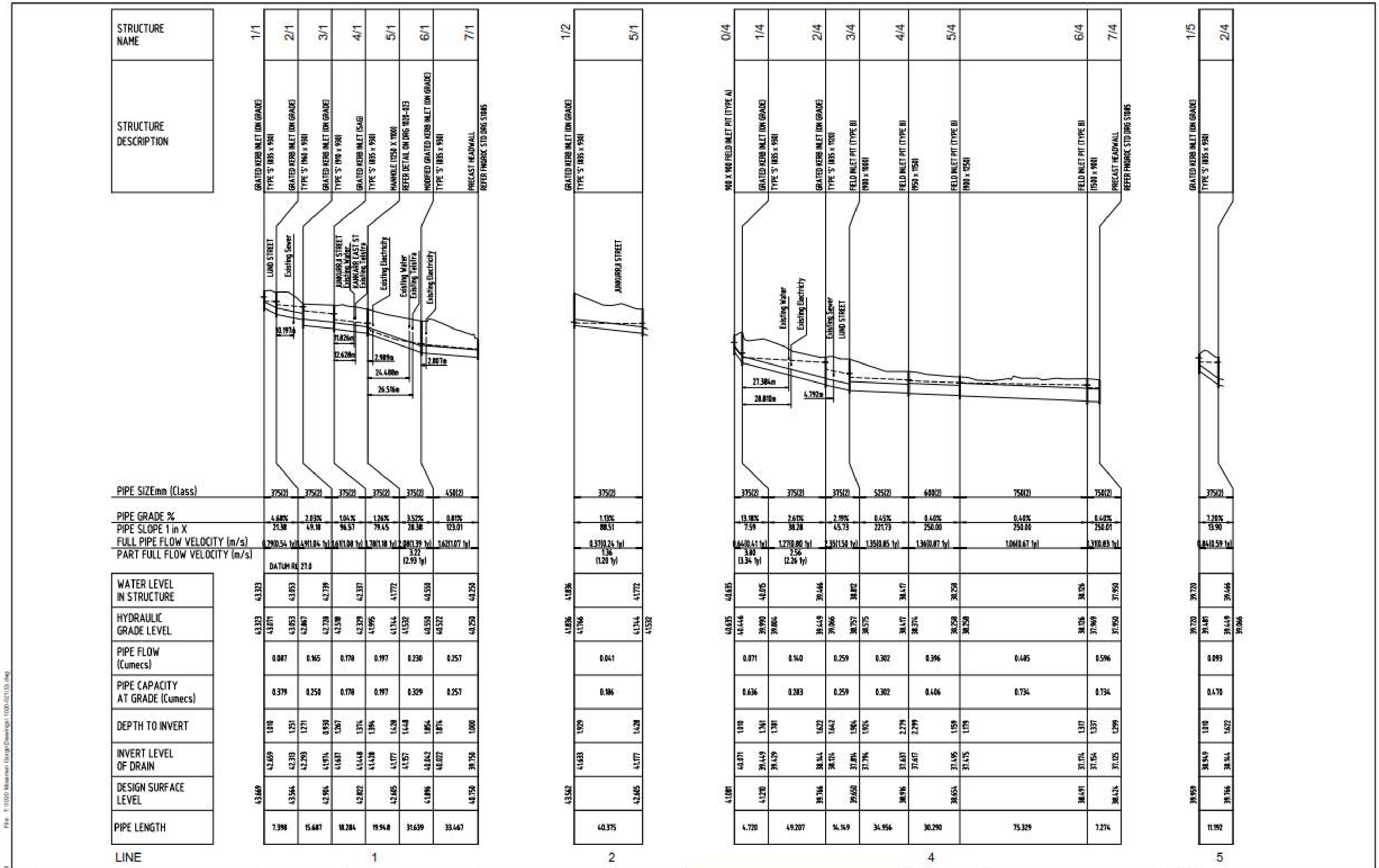
Client	DATSIP
Project	MOSSMAN GORGE INFRASTRUCTURE UPGRADES
Title	INTERSECTION LINEMARKING AND SIGNAGE PLAN

Drawn	Designed	Drawing Check	Design Check	Approved	RPEQ	Date	Drawing No.	Revision
MS	MS	AKH	AKH	P.C.STEELE	8462	29/03/18	1020-020	C

Printed: 06 April 2018, 9:06 AM
File: T:\1020 Mossman Gorge\Drawings\1020-020(C).dwg
External References: TEC-TITLE-A1_0.dwg ; 1020-X-SURVEY.dwg ; 1020-X-DESIGN.dwg



No.	Description	Reviewed	Approved	Date
D	MINOR AMENDMENTS	SC	PCS	29/03/18
C	OPERATIONAL WORKS ISSUE	-	-	07/12/17
B	MISCELLANEOUS AMENDMENTS	-	-	08/10/17
A	PRELIMINARY ISSUE	-	-	17/08/17

HORIZ. SCALE 1:1000 (A1)
VERT. SCALE 1:100

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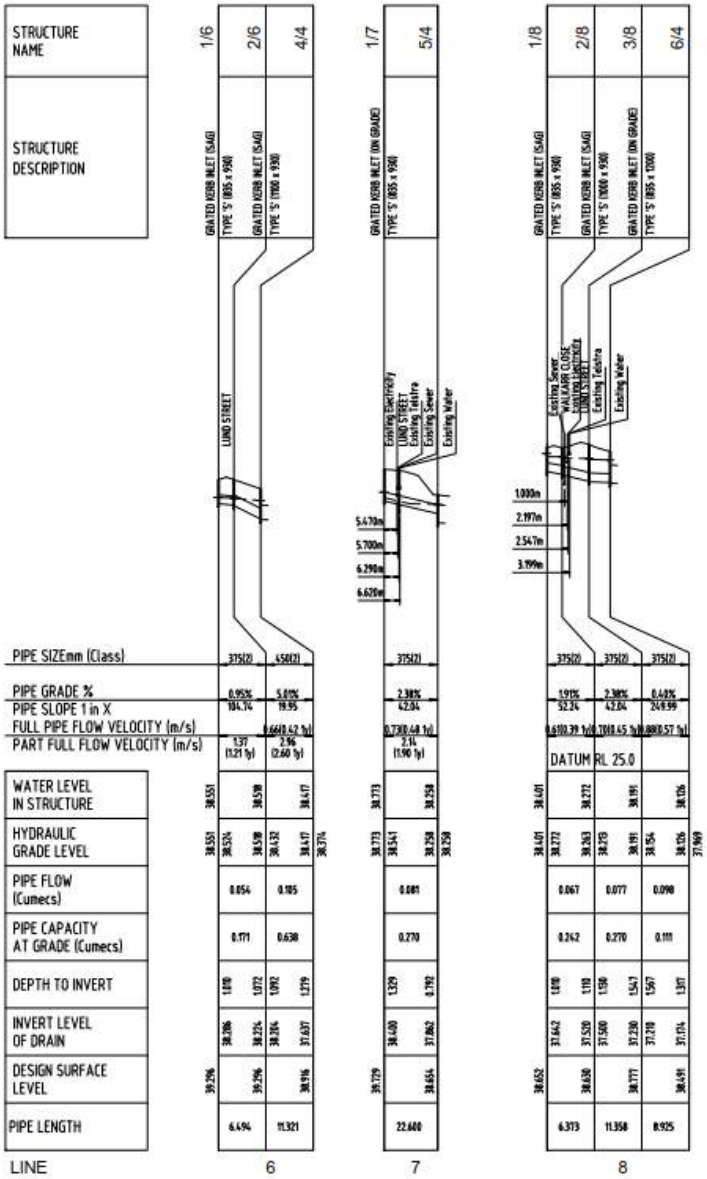
Scale (A1 size): 1:1000 HOR 1:100 VERT

Client: DATSIP

Project: MOSSMAN GORGE INFRASTRUCTURE UPGRADES

Title: STORMWATER LONGITUDINAL SECTIONS SHEET 1 OF 2

Drawn	Designed	Drawing Check	Design Check	Approved	RPEQ	Date	Drawing No.	Revision
MS	MS	ARH	ARH	P.C. STEELE	8462	29/03/18	1020-021	D



No.	Description	Reviewed	Approved	Date
C	MINOR AMENDMENTS	SC	PCS	29/03/18
B	OPERATIONAL WORKS ISSUE	-	-	07/12/17
A	PRELIMINARY ISSUE	-	-	17/08/17

HORIZ. SCALE 1:1000
0 10 20 30 40 50m (A1)
VERT. SCALE 1:100
0 1 2 3 4 5m

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Scale (A1 size): 1:1000 HOR 1:100 VERT
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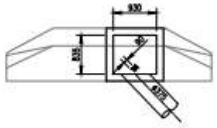
Client: DATSIP
Project: MOSSMAN GORGE INFRASTRUCTURE UPGRADES
Title: STORMWATER LONGITUDINAL SECTIONS SHEET 2 OF 2

Drawn	Designed	Drawing Check	Design Check	Approved	RPEQ	Date	Drawing No.	Revision
MS	MS	ARH	ARH	P.C.STEELE	8462	29/03/18	1020-022	C

External References: TEC-TITLE-A1_b.dwg



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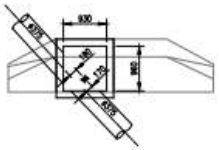
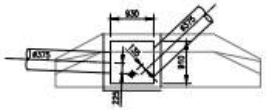
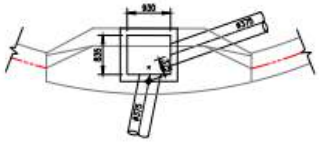


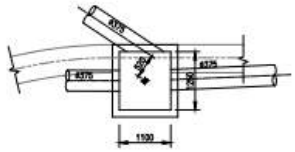
2/1 - 960 x 930
SCALE 1:50



3/1 - 910 x 930
SCALE 1:50



4/1 - 835 x 930
SCALE 1:50



5/1 - 1250 x 1100
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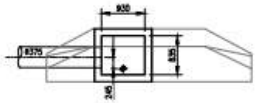

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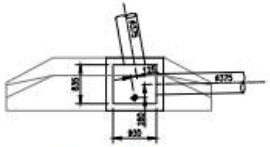

1/4- 835 x 930
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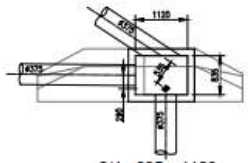

2/4 - 835 x 1120
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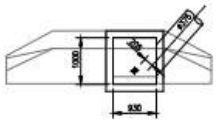

1/5 - 1000 x 930
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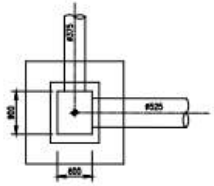

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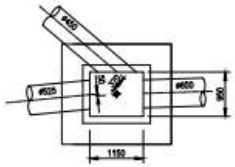

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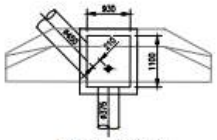

2/6 -1100 x 930
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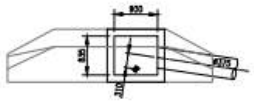
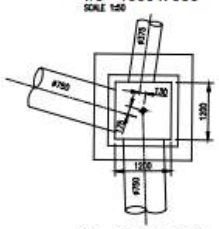


1/7 - 835 x 930
SCALE 1:50



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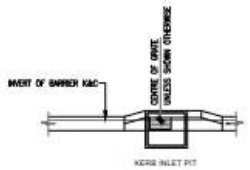
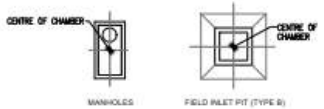
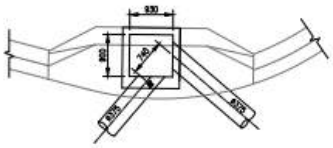


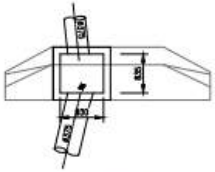
KERB INLET PIT



MANHOLES FIELD INLET PIT (TYPE B)



2/8 - 900 x 930
SCALE 1:50



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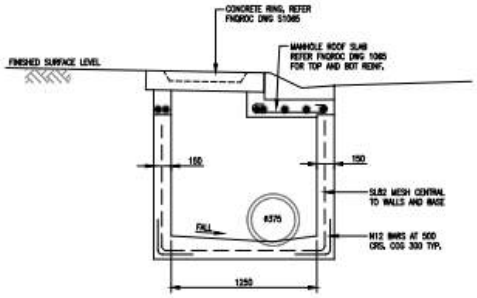

MANHOLE 5/1
SCALE 1:20

SETOUT POINT

DRAINAGE STRUCTURE SETOUT POINT
NOT TO SCALE

NOTE

1. STORMWATER STRUCTURES NOT DETAILED ON THIS DRAWING ARE TO BE STANDARD SIZE AS PER FNQROC STD DWG S1050.

No.	Description	Reviewed	Approved	Date
D	MINOR AMENDMENTS	SC	PCS	29/03/18
C	OPERATIONAL WORKS ISSUE	-	-	07/12/17
B	MISCELLANEOUS AMENDMENTS	-	-	08/10/17
A	PRELIMINARY ISSUE	-	-	17/08/17

Revisions

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SCALE 1:20 (A1 SIZE)

0 0.5 1 1.5 2 2.5m
SCALE 1:50 (A1 SIZE)

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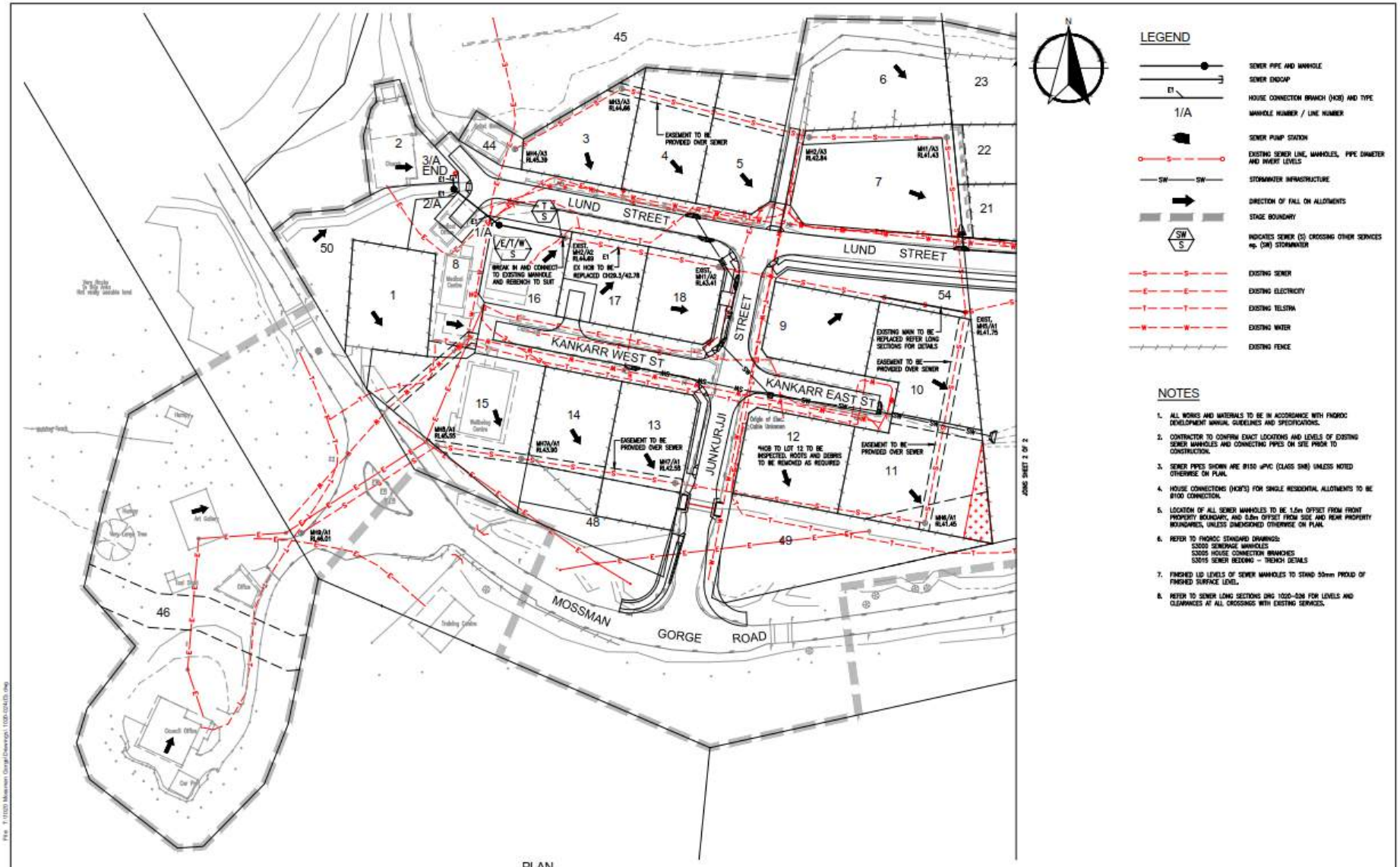
Scale (A1 size): AS SHOWN
Drawing is not to be used for construction unless approved.

Client: DATSIP
Project: MOSSMAN GORGE INFRASTRUCTURE UPGRADES
Title: STORMWATER STRUCTURE DETAILS

Drawn	Designed	Drawing Check	Design Check	Approved	RPEQ	Date	Drawing No.	Revision
MS	MS	AEH	AEH	P.C.STEELE	8462	29/03/18	1020-023	D

Printed: 04 April 2018, 9:48 AM
File: T:\1020 Mossman Gorge\Drawings\1020-023D.dwg
External References: TEC-TITLE-A1_b.dwg



PLAN
SCALE 1:500

No	Description	Reviewed	Approved	Date
D	MINOR AMENDMENTS	SD	PCS	29/03/18
C	OPERATIONAL WORKS ISSUE	-	-	07/12/17
B	MISCELLANEOUS AMENDMENTS	-	-	08/10/17
A	PRELIMINARY ISSUE	-	-	17/08/17

Revisions

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SCALE 1:500 (A1 SIZE)

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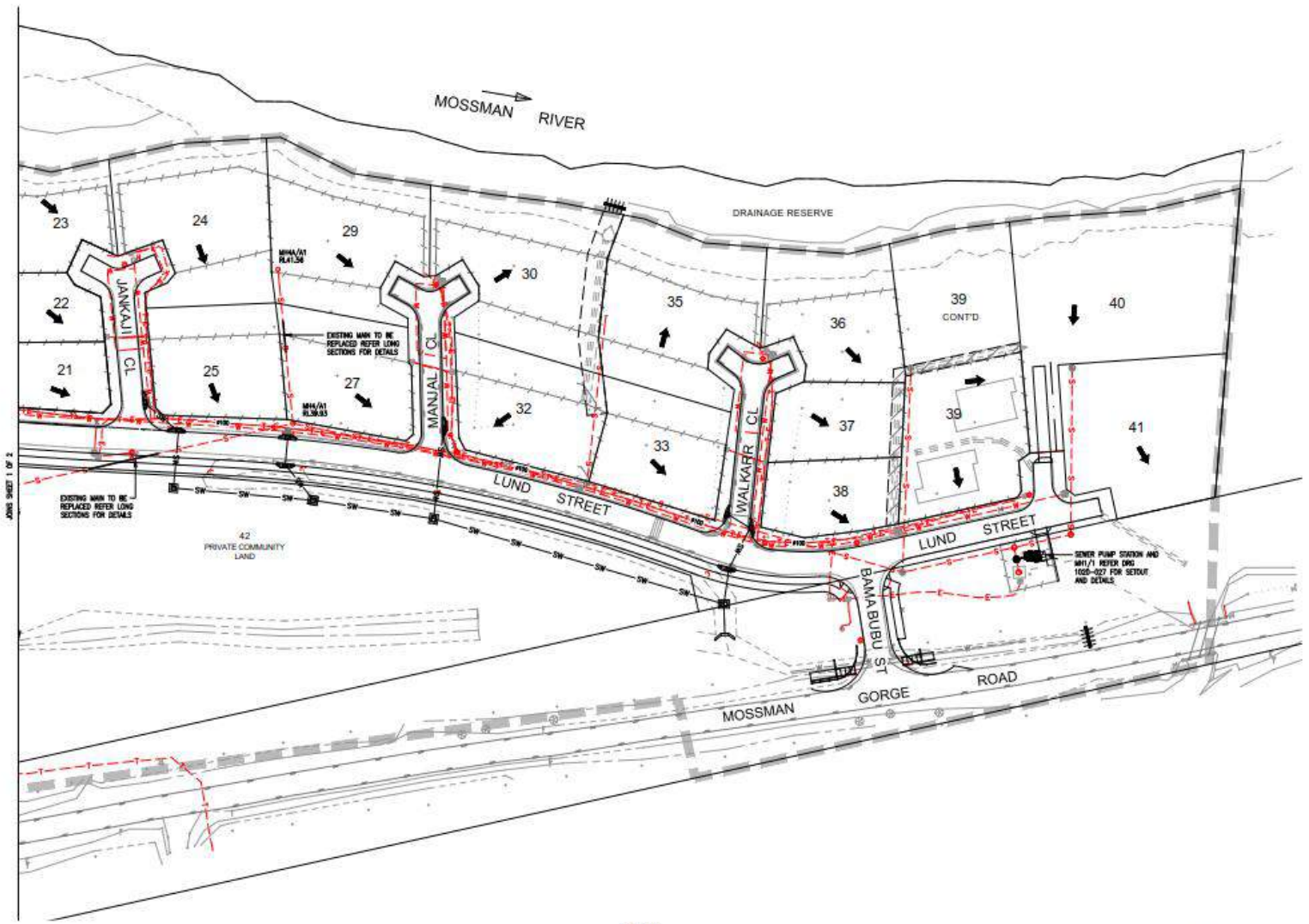
Drawn: MS | Designed: MS | Drawing Check: AKH | Design Check: AKH | Approved: P.C.STEELE | RPEQ: 8462 | Date: 29/03/18

Client: DATSIP
Project: MOSSMAN GORGE INFRASTRUCTURE UPGRADES
Title: SEWERAGE RETICULATION PLAN SHEET 1 OF 2
Drawing No.: 1020-024 | Revision: D

External References: TEC-TITLE-A1_b.dwg ; 1020-X-SURVEY.dwg ; 1020-X-DESIGN.dwg



PLAN
SCALE 1:500

NOTE
REFER DRG 1020-024 FOR SEWERAGE RETICULATION LEGEND AND NOTES.

No.	Description	Reviewed	Approved	Date
D	MINOR AMENDMENTS	SC	PCS	29/03/18
C	OPERATIONAL WORKS ISSUE	–	–	07/12/17
B	MISCELLANEOUS AMENDMENTS	–	–	06/10/17
A	PRELIMINARY ISSUE	–	–	17/08/17

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SCALE 1:500 (A1 SIZE)

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Scale (A1 size) 1:500
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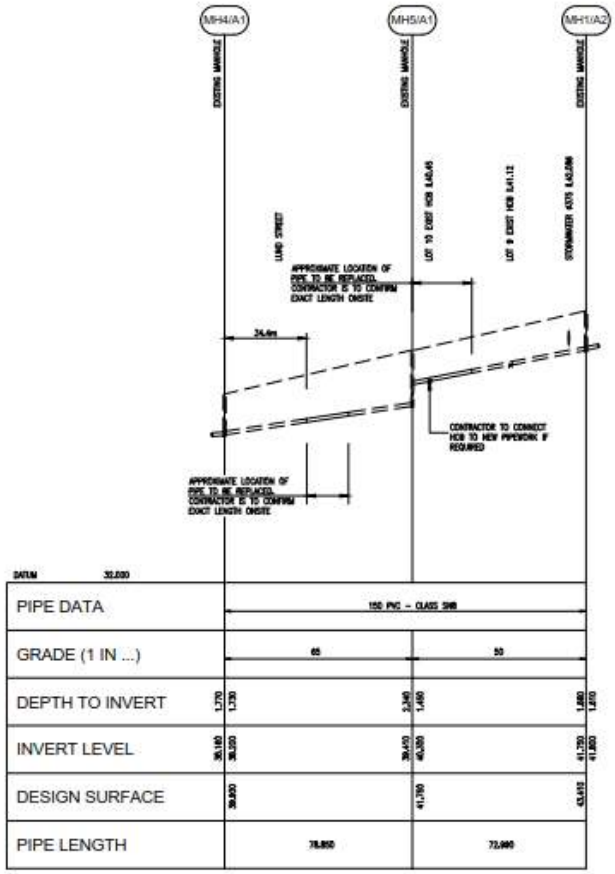
Drawn MS | Designed MS | Drawing Check AEH | Design Check AEH | Approved P.C.STEELE | RPEQ 8462 | Date 29/03/18

Client: DATSIP
Project: MOSSMAN GORGE INFRASTRUCTURE UPGRADES
Title: SEWERAGE RETICULATION PLAN SHEET 2 OF 2
Drawing No. 1020-025 | Revision D

External References: TEC-TITLE-A1_b.dwg ; 1020-X-SURVEY.dwg ; 1020-X-DESIGN.dwg



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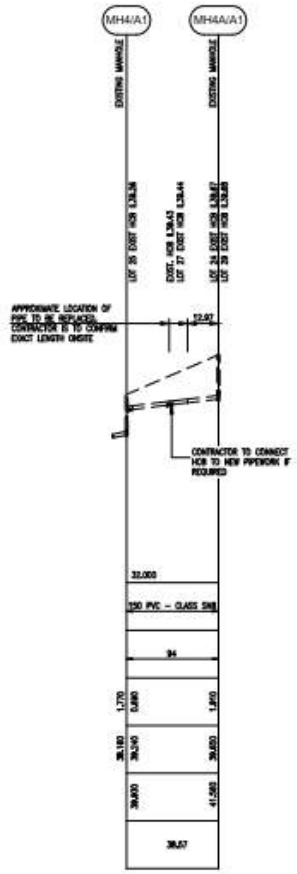

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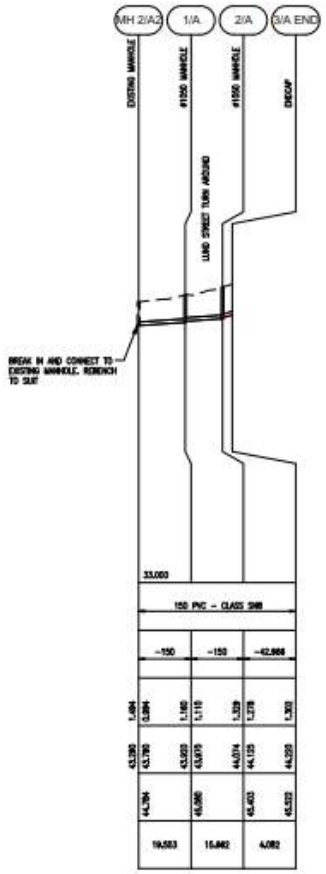

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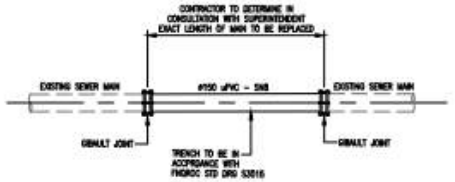

EXISTING SEWER MAIN CUTOUT DETAIL

SCALE 1:20

SEWERAGE LONGITUDINAL SECTIONS

SCALE 1:1000 HOR 1:100 VERT

No.	Description	Reviewed	Approved	Date
D	MINOR AMENDMENTS	SC	FCS	29/03/18
C	OPERATIONAL WORKS ISSUE	-	-	07/12/17
B	MISCELLANEOUS AMENDMENTS	-	-	06/10/17
A	PRELIMINARY ISSUE	-	-	17/08/17

SCALE 1:20 (A1 SIZE)

HORIZ. SCALE 1:1000 (A1)

VERT. SCALE 1:100

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Scale (A1 size): AS SHOWN

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Client: DATSIP

Project: MOSSMAN GORGE INFRASTRUCTURE UPGRADES

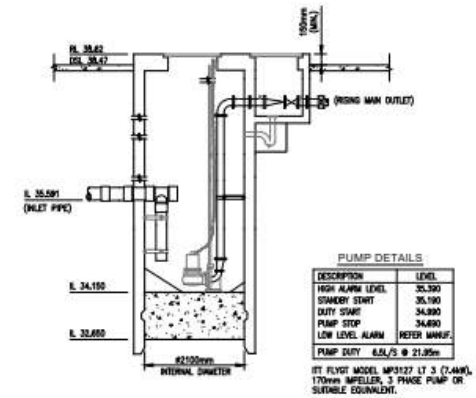
Title: SEWERAGE LONGITUDINAL SECTIONS AND DETAILS

Drawn	Designed	Drawing Check	Design Check	Approved	RPEQ	Date	Drawing No.	Revision
MS	MS	ARH	ARH	P.C.STEELE	8462	29/03/18	1020-026	D

External References: TEC-TITLE-A1_3.dwg

Plotted: 06 April 2018, 10:46 AM

File: T:\1020\Mossman Gorge\Drawings\1020-026(D).dwg



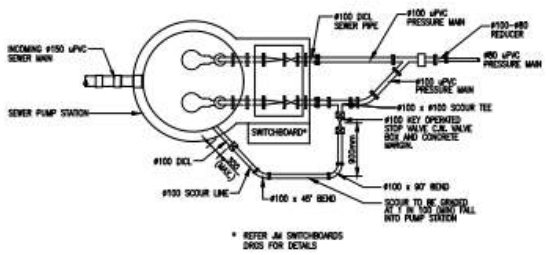
PUMP DETAILS

DESCRIPTION	LEVEL
HIGH ALARM LEVEL	35.390
STANDBY START	35.190
DUTY START	34.990
PUMP STOP	34.690
LOW LEVEL ALARM	REFER MANUF.
PUMP DUTY	6.0L/S @ 21.85m

ITT FLYGT MODEL MP3127 LT 3 (7.4kW), 170mm IMPELLER, 3 PHASE PUMP OR SUITABLE EQUIVALENT.

SEWER PUMP STATION LEVELS

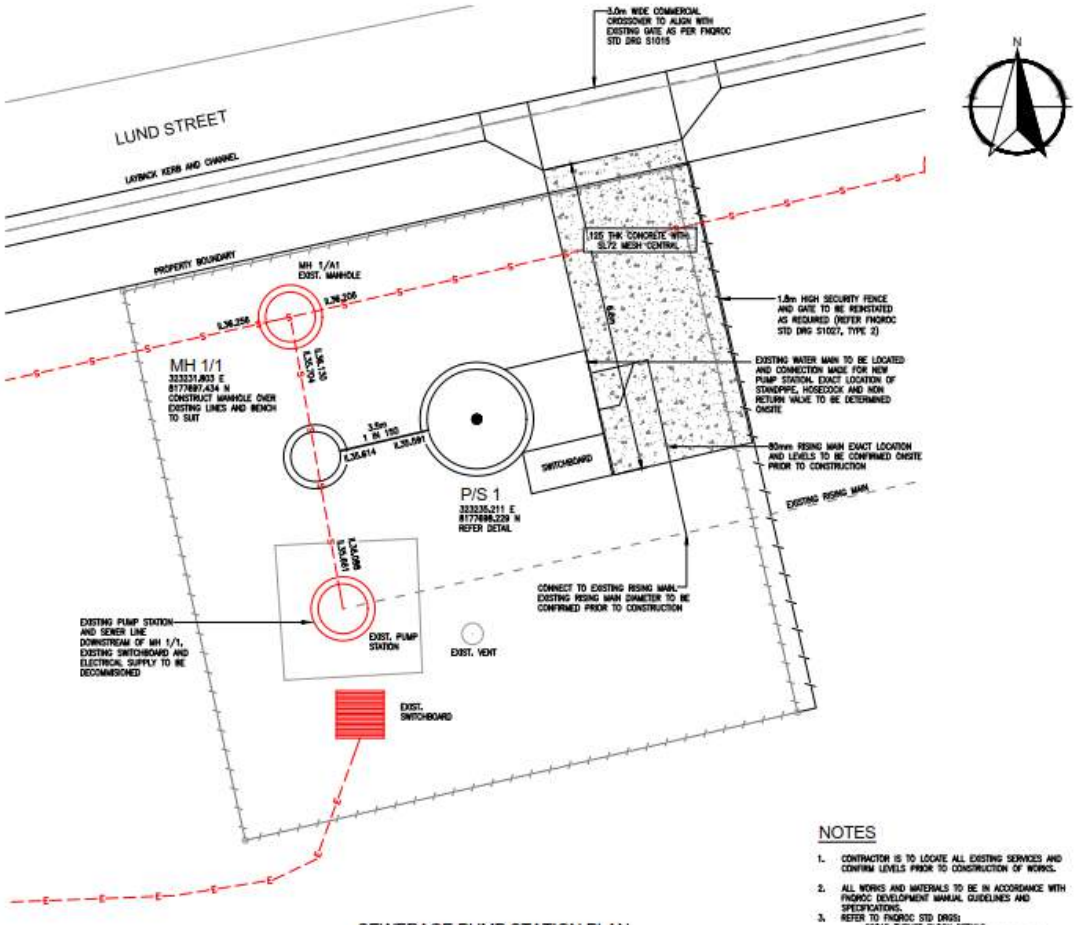
NOT TO SCALE (SCHEMATIC ONLY)



* REFER /A4 SWITCHBOARDS DRGS FOR DETAILS

SEWER PUMP STATION DETAIL

NOT TO SCALE (SCHEMATIC ONLY)



SEWERAGE PUMP STATION PLAN

SCALE 1:50

NOTES

1. CONTRACTOR IS TO LOCATE ALL EXISTING SERVICES AND CONFIRM LEVELS PRIOR TO CONSTRUCTION OF WORKS.
2. ALL WORKS AND MATERIALS TO BE IN ACCORDANCE WITH FNQROC DEVELOPMENT MANUAL GUIDELINES AND SPECIFICATIONS.
3. REFER TO FNQROC STD DRGS:
   - S3015 THRUST BLOCK DETAILS
   - S3016 WATER RETICULATION BEDDING DETAILS
   - S3000 SEWERAGE MANHOLE DETAILS
   - S3015 SEWER BEDDING – TRENCH DETAILS
   - S3025 SEWERAGE PUMP STATION PRECAST UNITS
   - S3030 SEWERAGE PUMP STATION DETAILS
4. PUMP STATION TO BE CONSTRUCTED IN ACCORDANCE WITH FNQROC STANDARD DRAWINGS S3025, S3030 AND SPECIFICATION.
5. ACCESS HATCHES MUST SATISFY DOUGLAS SHIRE COUNCIL'S REQUIREMENTS.
6. ALL WORKS TO BE IN ACCORDANCE WITH THE LATEST FNQROC SPECIFICATIONS.
7. MINIMUM DEPTH OF COVER TO SEWER RISING MAIN SHALL BE AS PER FNQROC DEVELOPMENT MANUAL SECTIONS D7.19 AND D8.11.

No.	Description	Reviewed	Approved	Date
D	MINOR AMENDMENTS	SC	PCS	29/03/18
C	OPERATIONAL WORKS ISSUE	–	–	07/12/17
B	MISCELLANEOUS AMENDMENTS	–	–	06/10/17
A	PRELIMINARY ISSUE	–	–	17/08/17

Revisions

0 0.5 1 1.5 2 2.5m
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Scale (A1 size): AS SHOWN
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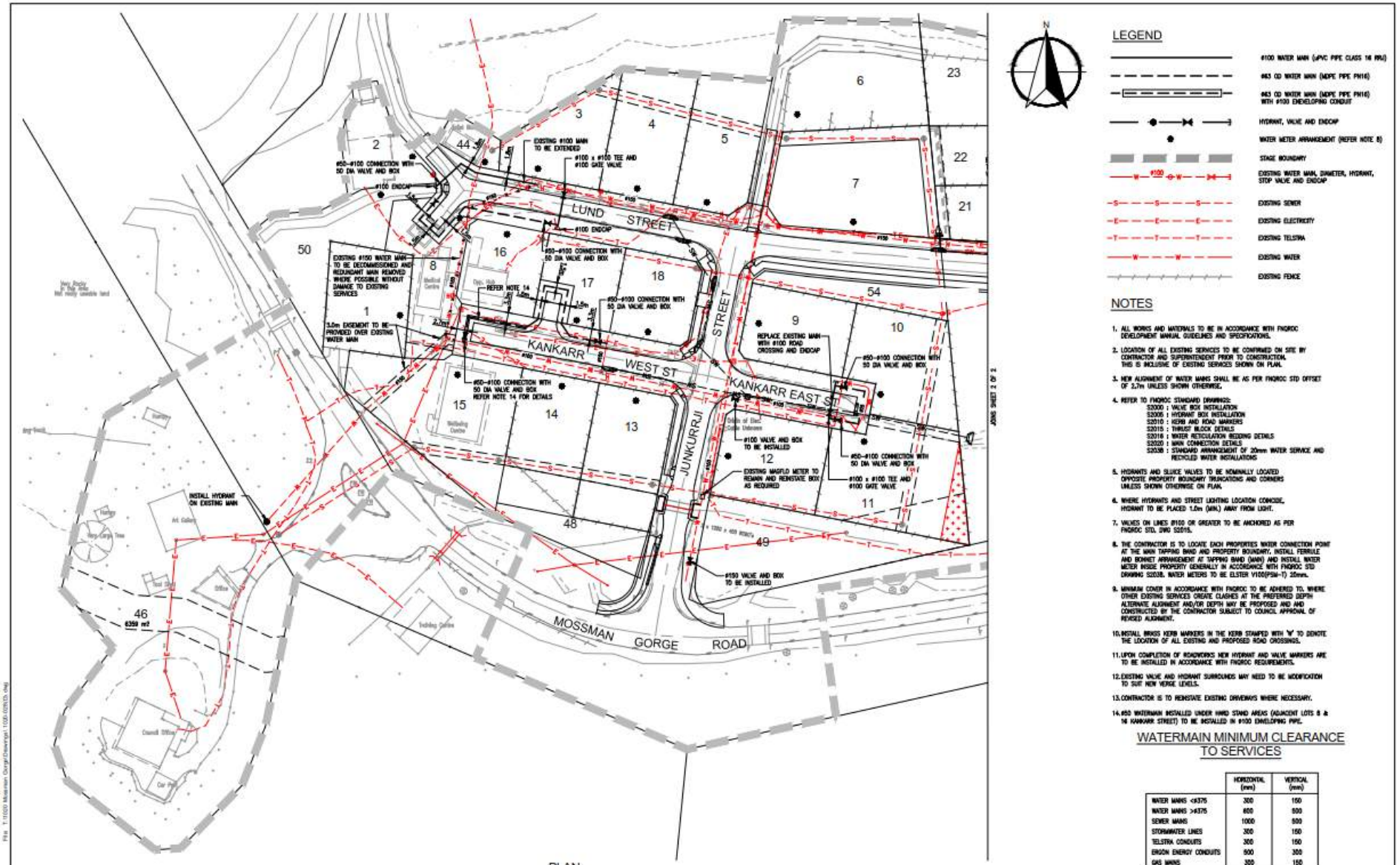
Drawn: MS | Designed: MS | Drawing Check: ARH | Design Check: ARH | Approved: P.C.STEELE | RPEQ: 8462 | Date: 29/03/18

Client: DATSIP
Project: MOSSMAN GORGE INFRASTRUCTURE UPGRADES
Title: SEWERAGE PUMP STATION PLAN AND DETAILS
Drawing No: 1020-027
Revision: D

External References: TEC-TITLE-A1_b.dwg | 1020-X-DESIGN.dwg | 1020-X-SURVEY.dwg

Plotted: 06 April 2018, 9:44 AM File: T:\1020 Mossman Gorge\Drawings\1020-027(D).dwg



PLAN
SCALE 1:500

JOINS SHEET 2 OF 2

LEGEND

- #100 WATER MAIN (uPVC PIPE CLASS 16 RRJ)
- #63 OD WATER MAIN (MDPE PIPE PN16)
- #63 OD WATER MAIN (MDPE PIPE PN16) WITH #100 ENVELOPING CONDUIT
- HYDRANT, VALVE AND ENDCAP
- WATER METER ARRANGEMENT (REFER NOTE 8)
- STAGE BOUNDARY
- EXISTING WATER MAIN, DIAMETER, HYDRANT, STOP VALVE AND ENDCAP
- EXISTING SEWER
- EXISTING ELECTRICITY
- EXISTING TELSTRA
- EXISTING WATER
- EXISTING FENCE

NOTES

1. ALL WORKS AND MATERIALS TO BE IN ACCORDANCE WITH FNQROC DEVELOPMENT MANUAL GUIDELINES AND SPECIFICATIONS.
2. LOCATION OF ALL EXISTING SERVICES TO BE CONFIRMED ON SITE BY CONTRACTOR AND SUPERINTENDENT PRIOR TO CONSTRUCTION. THIS IS INCLUSIVE OF EXISTING SERVICES SHOWN ON PLAN.
3. NEW ALIGNMENT OF WATER MAINS SHALL BE AS PER FNQROC STD OFFSET OF 2.7m UNLESS SHOWN OTHERWISE.
4. REFER TO FNQROC STANDARD DRAWINGS:
   - S2000 : VALVE BOX INSTALLATION
   - S2005 : HYDRANT BOX INSTALLATION
   - S2010 : KERB AND ROAD MARKERS
   - S2015 : THRUST BLOCK DETAILS
   - S2018 : WATER RETICULATION BEDDING DETAILS
   - S2020 : MAIN CONNECTION DETAILS
   - S2038 : STANDARD ARRANGEMENT OF 20mm WATER SERVICE AND RECYCLED WATER INSTALLATIONS
5. HYDRANTS AND SLUICE VALVES TO BE NOMINALLY LOCATED OPPOSITE PROPERTY BOUNDARY TRUNCATIONS AND CORNERS UNLESS SHOWN OTHERWISE ON PLAN.
6. WHERE HYDRANTS AND STREET LIGHTING LOCATION COINCIDE, HYDRANT TO BE PLACED 1.0m (MIN.) AWAY FROM LIGHT.
7. VALVES ON LINES Ø100 OR GREATER TO BE ANCHORED AS PER FNQROC STD. DWG S2015.
8. THE CONTRACTOR IS TO LOCATE EACH PROPERTIES WATER CONNECTION POINT AT THE MAIN TAPPING BAND AND PROPERTY BOUNDARY. INSTALL FERRULE AND BONNET ARRANGEMENT AT TAPPING BAND (MAIN) AND INSTALL WATER METER INSIDE PROPERTY GENERALLY IN ACCORDANCE WITH FNQROC STD DRAWING S2038. WATER METERS TO BE ELSTER V100(PSM-1) 20mm.
9. MINIMUM COVER IN ACCORDANCE WITH FNQROC TO BE ADHERED TO. WHERE OTHER EXISTING SERVICES CREATE CLASHES AT THE PREFERRED DEPTH ALTERNATE ALIGNMENT AND/OR DEPTH MAY BE PROPOSED AND AND CONSULTED BY THE CONTRACTOR SUBJECT TO COUNCIL APPROVAL OF REVISED ALIGNMENT.
10. INSTALL BRIGGS KERB MARKERS IN THE KERB STAMPED WITH 'W' TO DENOTE THE LOCATION OF ALL EXISTING AND PROPOSED ROAD CROSSINGS.
11. UPON COMPLETION OF ROADWORKS NEW HYDRANT AND VALVE MARKERS ARE TO BE INSTALLED IN ACCORDANCE WITH FNQROC REQUIREMENTS.
12. EXISTING VALVE AND HYDRANT SURROUNDS MAY NEED TO BE MODIFICATION TO SUIT NEW VERGE LEVELS.
13. CONTRACTOR IS TO REINSTATE EXISTING DRIVEWAYS WHERE NECESSARY.
14. Ø50 WATERMAIN INSTALLED UNDER HARD STAND AREAS (ADJACENT LOTS 8 & 16 KANKARR STREET) TO BE INSTALLED IN Ø100 ENVELOPING PIPE.

WATERMAIN MINIMUM CLEARANCE TO SERVICES

	HORIZONTAL (mm)	VERTICAL (mm)
WATER MAINS <Ø375	300	150
WATER MAINS >Ø375	600	300
SEWER MAINS	1000	300
STORMWATER LINES	300	150
TELSTRA CONDUITS	300	150
ERGON ENERGY CONDUITS	500	300
GAS MAINS	300	150

No.	Description	Reviewed	Approved	Date
D	MINOR AMENDMENTS	SC	PCS	29/03/18
C	OPERATIONAL WORKS ISSUE	–	–	07/12/17
B	MISCELLANEOUS AMENDMENTS	–	–	06/10/17
A	PRELIMINARY ISSUE	–	–	17/08/17

Revised: 06 April 2018, 9:45 AM
File: T:\1020 Mossman Gorge\Drawings\1020-028.DS.dwg

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Scale (A1 size): 1:500
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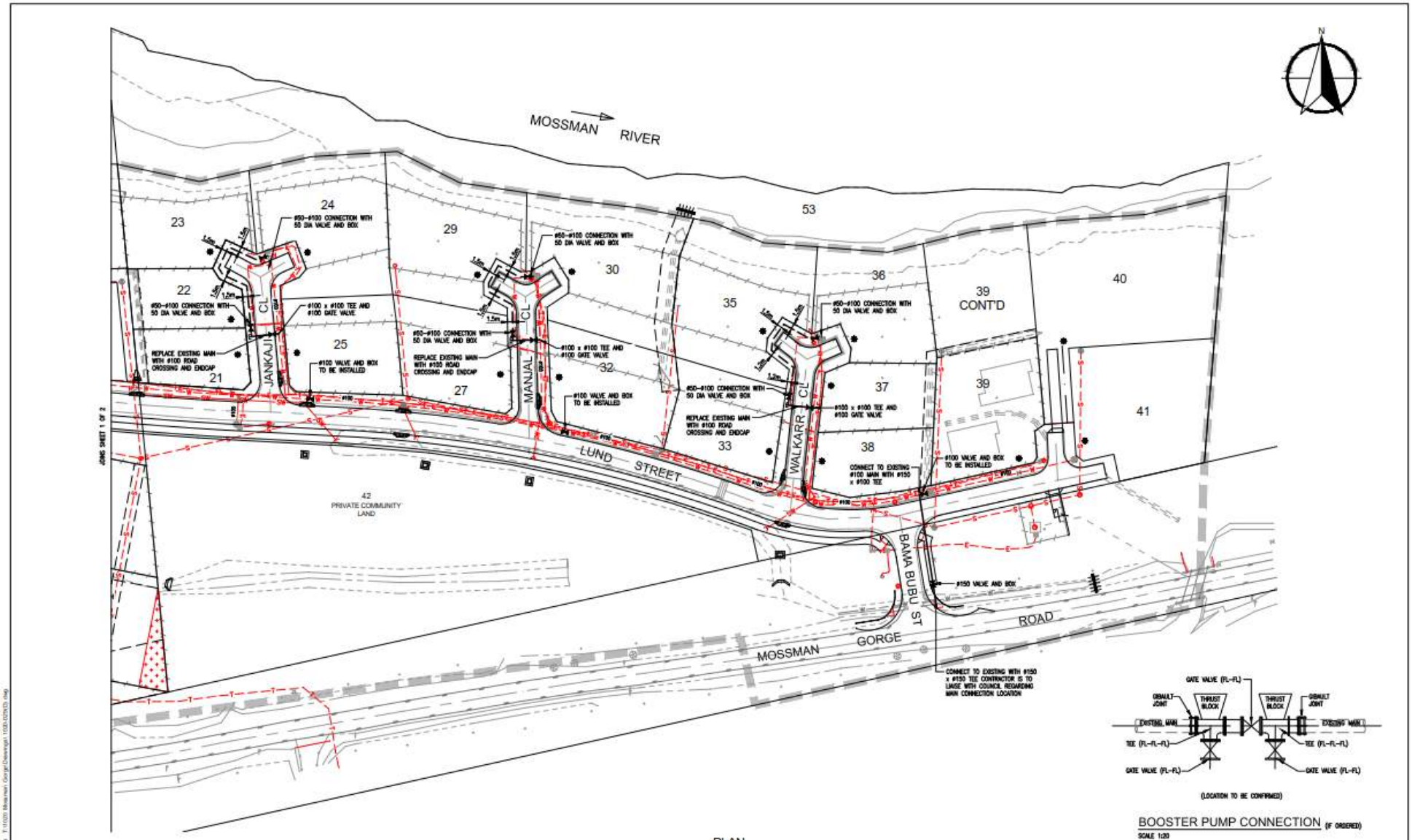
Client: DATSIP
Project: MOSSMAN GORGE INFRASTRUCTURE UPGRADES
Title: WATER RETICULATION PLAN SHEET 1 OF 2

Drawn	Designed	Drawing Check	Design Check	Approved	RPEQ	Date	Drawing No.	Revision
MS	MS	ARH	ARH	P.C.STEELE	8462	29/03/18	1020-028	D

External References: TEC-TITLE-A1_S.dwg ; 1020-X-SURVEY.dwg ; 1020-X-DESIGN.dwg



PLAN
SCALE 1:500

BOOSTER PUMP CONNECTION (IF ORDERED)
SCALE 1:20

NOTES
REFER TO DRG 1020–028 FOR LEGEND AND NOTES.

No.	Description	Reviewed	Approved	Date
C	MINOR AMENDMENTS	SC	PCS	29/03/18
B	OPERATIONAL WORKS ISSUE	–	–	07/12/17
A	PRELIMINARY ISSUE	–	–	17/08/17

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0 5 10 15 20 25m
SCALE 1:500 (A1 SIZE)

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Scale (A1 size): AS SHOWN
Drawing is not to be used for construction unless approved.

Client: DATSIP
Project: MOSSMAN GORGE INFRASTRUCTURE UPGRADES
Title: WATER RETICULATION PLAN SHEET 2 OF 2

Drawn	Designed	Drawing Check	Design Check	Approved	RPEQ	Date	Drawing No.	Revision
MS	MS	ARH	ARH	P.C.STEELE	8462	29/03/18	1020-029	C

External References: TEC-TITLE-A1_b.dwg ; 1020-X-SURVEY.dwg ; 1020-X-DESIGN.dwg

PLAN
SCALE 1:500

No.	Description	Reviewed	Approved	Date
D	MINOR AMENDMENTS	SC	PCS	29/03/18
C	OPERATIONAL WORKS ISSUE	-	-	07/12/17
B	MISCELLANEOUS AMENDMENTS	-	-	08/10/17
A	PRELIMINARY ISSUE	-	-	17/08/17

Revisions

0 5 10 15 20 25m
SCALE 1:500 (A1 SIZE)

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Scale (A1 size)	1:500
	Drawing is not to be used for construction unless approved
Drawn	MS
Designed	MS
Drawing Check	AEH
Design Check	AEH
Approved	P.C.STEELE
RPEQ	8462
Date	29/03/18
Drawing No.	1020-030
Revision	D

Client: DATSIP
Project: MOSSMAN GORGE INFRASTRUCTURE UPGRADES
Title: EROSION AND SEDIMENT CONTROL STRATEGY SHEET 1 OF 2

External References: TEC-TITLE-A1_s.dwg ; 1020-X-SURVEY.dwg ; 1020-X-DESIGN.dwg

Plotted: 06 April 2018, 8:47 AM
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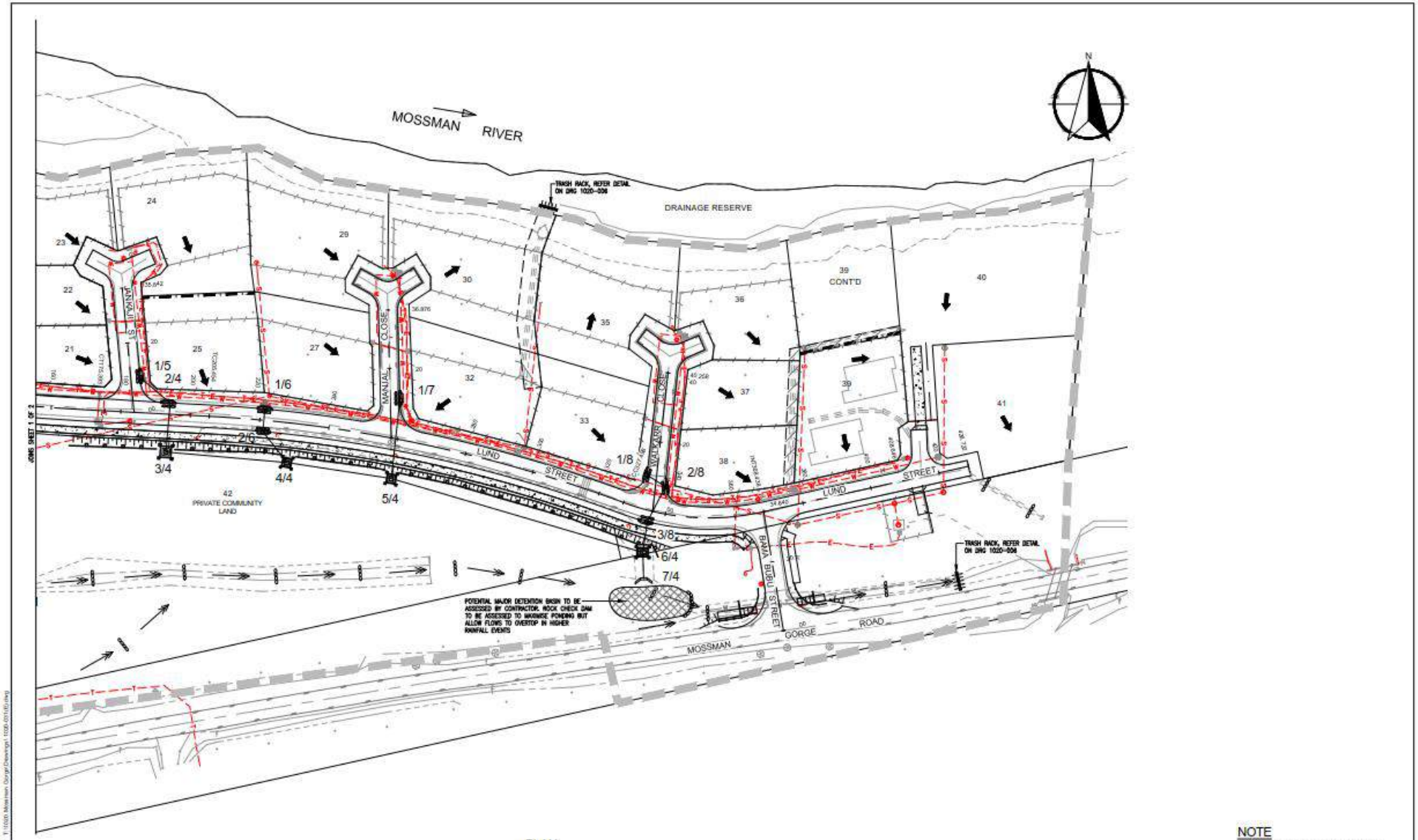

PLAN
SCALE 1:500

NOTE
REFER TO DRG 1020-030 FOR LEGEND AND NOTES.

No.	Description	Reviewed	Approved	Date
D	MINOR AMENDMENTS			
C	OPERATIONAL WORKS ISSUE	–	–	07/12/17
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Revisions

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Scale (A1 size): 1:500
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Drawn	Designed	Drawing Check	Design Check	Approved	RPEQ	Date
MS	MS					

Client: DATSIP
Project: MOSSMAN GORGE INFRASTRUCTURE UPGRADES
Title: EROSION AND SEDIMENT CONTROL STRATEGY SHEET 2 OF 2
Drawing No.: 1020-031
Revision: D

External References: TEC-TITLE-A1_si.dwg ; 1020-X-SURVEY.dwg ; 1020-X-DESIGN.dwg

Plotted: 06 April 2018, 9:47 AM
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APPENDIX B: STANDARD CONDITIONS

General

1. The proposed works are permitted subject to any alterations:

    a. found necessary by Chief Executive Officer at the time of examination of Engineering drawings or during construction of the works because of particular engineering requirements and.

    b. to ensure the works comply in all respects with the requirements of the *FNQROC Development Manual* and good engineering practice; and

    c. to comply with project specific conditions and the following standard conditions of approval.

    All works must be carried out in accordance with the approved plans, conditions and specifications, to the requirements and satisfaction of the Chief Executive Officer.

2. The conditions of any Reconfiguration of Lot or Material Change of Use permits applicable to the subject lot or lots shall be complied with in conjunction with this development permit.

3. Council's examination of the documents should not be taken to mean that the documents have been checked in detail and Council takes no responsibility for their accuracy. If during construction, inadequacies of the design are discovered, it is the responsibility of the Principal Consulting Engineer to resubmit amended plans to Council for approval and rectify works accordingly.

4. Notwithstanding any approval given to engineering documents, where a discrepancy occurs between these documents and Council's standards, then Council's standards shall apply. All works must be performed in accordance with Council standards and Local Laws and other statutory requirements.

5. If in fact there are errors, omissions or insufficient detail on the plans for the purpose of construction, these deficiencies shall be made good during construction and Council reserves the right to withhold approval of construction until such deficiencies are made good to its satisfaction.

6. Work and or Technical Documents identified within these Development Approval Conditions require Council approval prior to granting Early Plan Sealing or Plan Sealing of a Subdivision Plan or the issue of a Works Acceptance Certificate, whichever occurs first.

Timing of Effect

7. The conditions of this development permit must be effected prior to the approval and dating of the survey plan, except where specified otherwise in these conditions of approval, or at Council's discretion.

Easement Documentation

8. Easement documents are to be submitted to Council's solicitors for checking in accordance with the conditions of the Reconfiguration Development Permit. Contact Council for current nominated solicitors details.

Portable Long Service Leave Notification

9. As per the QLeave – Building and Construction Industry Authority Guidelines, if the works are over $150 000, Council must sight a copy of the receipted Portable Long Service Notification and Payment form prior to commencement of work.

Construction Security Bond

10. Lodgement of Construction Security Bond as per the *FNQROC Development Manual*, Section CP1.07, (ie, five (5) per cent of the value of the works) is required, prior to commencement of work. The bond shall be in favour of Council and in the format of cash or an unconditional bank guarantee, which must cover all aspects of the construction and have no termination date.

Third Party Agreement

11. The developer must obtain written agreement from third parties and/or Referral Agencies for any works proposed on adjacent properties. The agreement(s) must be provided prior to the associated works commencing on site. All agreements must be available for Council scrutiny, upon request.

Commencement of Works

12. Council is to receive written Notice of Intention to Commence Works and all matters relevant to the Pre-Start meeting are to be attended to in accordance with Section CP1.07, CP1.08 and Section CP1.09, of the *FNQROC Development Manual*.

Hours of Work

13. Work involving the operation of construction plant and equipment of any description, shall only be carried out on site during the following times:

    a. 7:00 am to 6:00 pm, Monday to Friday;

    b. 7:00 am to 1:00 pm, Saturdays; and

    c. no work is permitted on Sundays or Public Holidays.

    Any variations to the above working hours must be authorised by the Chief Executive Officer, prior to the commencement of such works.

Public Notification of the Works

14. The developer or the nominated representative must provide:

    a. Public notification of the development in local newspapers in accordance with Section CP1.11 of the *FNQROC Development Manual*.

    b. Signage identifying the location of the project, general allotment layout, contact numbers (including out-of-office hours emergency numbers) must be provided at all entrance points to the development. All signage must be appropriately positioned, prior to the commencement of any works on the site.

Site Inspections

15. Council requires a number of major inspections to be completed as Witness and Hold Points for Consulting Engineers and Council officers during the construction of the works. Inspections undertaken during construction shall be in accordance with Section CP1.16 (Inspection and Testing) of the *FNQROC Development Manual*. These Witness and Hold points are to be included in the contractors Inspection and Test Plan (ITP) and be made available for inspection, prior to the commencement of any works on the site.

Soil and Water Management

16. All works must be in accordance with Section CP1.13 and D5 of the *FNQROC Development Manual,* and must comply with the following:

    a. A copy of the contractor's Erosion and Sediment Control (ESC) Plan is to be submitted to Council and endorsed by the Consulting Engineer, prior to commencement of any works. In particular, the ESC Plan must address the Institution of Engineers' Australia *Guidelines for Soil Erosion and Sediment Control and the Environment Protection (Water) Policy* and Clauses CP1.06, CP1.13 and D5.10 of Council's *FNQROC Development Manual*. The ESC Plan must be relevant to all phases of the construction and be updated where necessary as works progress.

    b. Any dewatering activities will require approval from Council's Environmental Protection Unit, telephone number 07 4099 9475 and a valid permit obtained prior to commencement.

    c. During the construction period, the Consulting Engineer shall randomly audit and inspect ESC measures for compliance with the Engineer endorsed contractor's ESC Plan, derived from the Engineer's ESC Strategy (As per *FNQROC Development Manual* CP1 Appendix A).

    d. It is the contractor's responsibility to ensure that the ESC Plan is updated and amended to reflect any changes in the construction methodology. All such amendments shall be approved by the Engineer and presented to Council.

    e. The developer shall be held responsible for any rectification works required to clean up dust, pollutants and sediments that may leave the site as a result of construction activities.

    f. The developer or their representative shall be responsible for communicating with third parties affected by any dust, pollutants or sediment leaving the site as a result of any construction activity that is associated with the project site.

Street Lighting

17. The provision of street lighting is to be in accordance with the *FNQROC Development Manual* D8 and designed to comply with the Road Lighting Standard AS/NZS 1158, a compliance certificate that has been certified by an appropriate Registered Professional Engineer of Queensland (RPEQ) must be provided to demonstrate the lighting design complies to the requirements of the Road Lighting Standard AS/NZS 1158. New street lighting is to be erected as a Rate 2 public lighting installation, Rate 1 will only be considered where an overhead electricity reticulation exists:

    a. Lighting columns, luminaires and lamps are to be of a type specified in Ergon Energy's *Lighting Construction Manual*, unless approved otherwise by Council.

    b. The applicable lighting category for roads associated with this project having a road hierarchy of residential access and above is identified in Table D8.1 of the *FNQROC Development Manual.*

    c. Local Area Traffic Management (LATM) devices including roundabouts, must be provided with an illumination of not less than 3.5 Lux as specified in the Road Lighting Standard AS/NZS 1158.

    d. Street lighting located adjacent to the development frontage must be located behind the kerb (usually a minimum of 820 mm from the invert of the kerb) and spaced to meet the required lighting category for the road.

Infrastructure Plans for Utility Services

18. Approved infrastructure plans for gas, electrical and telecommunications services must be endorsed by Council, prior to the commencement of associated works.

Landscaping General

19. Landscaping shall be provided in accordance with Part D9 and Part S8 of the *FNQROC Development Manual*, unless approved otherwise by Council.

20. The landscaping works must be constructed in accordance with the approved plans and conditions. The developer must seek approval in writing from the Council for any changes to the plan or the landscaping works on the site. This approval must be obtained prior to commencement of these works on site.

21. The landscape must be maintained in good order by the developer for at least three (3) months during the Works Acceptance period, and generally timed to coincide with the Final Works Acceptance Inspection, when all landscaping works must be in a condition suitable for Council to commence regular maintenance.

Trees

22. Any trees must be planted and staked in accordance with the *FNQROC Development Manual* drawing S4210, with root barriers installed such that they are just visible at the finished surface level. Note that where footpaths are to be provided, a root barrier must also be provided between the tree and the path. Root barriers must be installed and appropriate topsoil, level of compaction and drainage provided, as specified by the manufacturer.

23. Street tree planting locations must be in compliance with *FNQROC Development Manual* D9.07.6 'Alignment and placement of Street Trees'. Trees shall be positioned a minimum of:

    a. 7.5 metres from streetlights;

    b. two (2) metres from the inlet or outlet of stormwater pipes;

    c, three (3) metres from any driveways;

    d. ten (10) metres back from the apex of both boundaries of a corner lot;

    e. 0.8 metres – one (1) metres from the back of kerbs.

24. All trees must be watered directly after planting and prior to laying mulch. The mulch must be left clear of the trunk and be laid in accordance with *FNQROC Development Manual* drawing S4210 and S8.14, at a radius of 0.5 metre around the base of the tree and out to the back of kerb.

25. All trees must be of good vigour and health and must not be root-bound at the time of planting. They should be approximately 1.5 metres – two (2) metres tall with well-established root and branch formation. Trees should have a clear dominant central leader.

26. A joint site inspection is to be held with Council officers and developer's representative to assess the general condition of any existing trees and shrubs within six (6) metres of any property boundary abutting the road reserve, or other Council land. If any dead, dying or dangerous trees are identified during the meeting, with the landowner's consent, they are to be removed to the satisfaction of Council officers, prior to the sealing of plans for the associated lot.

27. Any trees identified on drawings to be retained, are to be protected in accordance with approved plans. This must include, but is not limited to, the erection and continued maintenance of suitable

physical barrier(s) placed around the tree to protect the tree and the root system. Additional protection of tree trunks by the fixing of timber planks using wire loops is also required unless approved otherwise by Council. Any damage caused to nominated trees as a result of construction activity, will require inspection by Council and will require a specified number of suitable replacements trees of suitable maturity to be provided to replace the loss in amenity.

Verges

28. All verges are to be covered full-width with topsoil (AS 4419/Soils for Landscaping and Garden Use) to a depth of not less than 40 mm, lightly compacted and grassed in accordance with Council's Guidelines and Specifications.

29. Any island beds or any shrub beds must have a permanent irrigation system installed, which must be connected to the Douglas Water Network. An Application for a Water Service Connection must be presented to Douglas Water & Waste to facilitate the connection, and must include the installation of a flow meter and associated valves.

30. All water reticulation, including permanent irrigation systems, are to be identified in as-constructed plans which must be submitted to Council for approval prior to the Works Acceptance (On Maintenance) meeting for landscaping.

Structures and Retaining Walls

31. Separate building certification and/or structural certification is required for any works to alter existing structures, provide new structures or construct retaining walls that are over 900 mm high. Certification by a suitably qualified engineer must be provided, prior to opening the work site to the public.

The Location of Stormwater Quality Interception Devices (SQIDs)

32. Council must approve the location of any SQIDs prior to installation. They shall be positioned to allow for economic and efficient maintenance operations, and will require a reinforced concrete hard standing area to be provided from the edge of the carriageway to the SQID location. Vehicular access from the public road reserve to the SQID must remain unrestricted.

Sewer and Water

33. All water and sewerage works must be in accordance with Sections D6 and D7 of the *FNQROC Development Manual*, and must comply with the following:

    a. Douglas Shire Council requires a minimum of five (5) working days notice of intention to commence water and sewerage related works. The notice shall be given to the Senior Plumbing Inspector at Douglas Shire Council either in writing, by telephone 07 4099 9479, fax 07 4098 2902 or email to enquiries@douglas.qld.gov.au prior to the commencement of works.

    b. The developer shall be responsible for confirming the location of all existing sewer, water and utility service infrastructure prior to the commencement of works on site. Any permits necessary to alter/interfere with such services must be obtained prior to the commencement of work and be available for Council inspection if required.

    c. Any works over or within the zone of influence of Council's existing water and sewerage infrastructure must be approved by Douglas Shire Council prior to the commencement of the proposed works. Unless otherwise approved in writing, existing infrastructure impacted by the development shall be subject to the maintenance period provisions contained in this Decision Notice.

Construction works shall include any works that may impact on existing infrastructure such as, but not limited to, mobilisation of heavy earthmoving equipment, stripping and grubbing, site filling, stockpiling of materials and installation of erosion and sediment control measures.

d. All testing and acceptance of water and sewerage works shall be in accordance with CP1 Construction Procedures of the *FNQROC Development Manual*. Works are to be certified as acceptable by Douglas Water & Waste, and any operating manuals etc be provided to Council, prior to making an application for the acceptance of the works.

Sewer

34. Douglas Water & Waste must be contacted to perform any direct connection to live sewer mains. Unless otherwise approved in writing, separate applications for approval on the prescribed forms shall be made to Douglas Water & Waste for each connection together with payment of the relevant fee. All connections are to be provided subject to the terms and conditions of Douglas Shire Council's 'Application for Plumbing Works'.

    a. Amended drawings in accordance with these conditions must be approved prior to the pre-start meeting.

    b. The Inspection and Test Plan (ITP) must be approved prior to the pre-start meeting. At project completion the completed and validated ITP must be submitted and approved prior to the issue of a Works Acceptance Certificate.

    c. Where retaining walls are located within the zone of influence of a sewer the footings must be 1000 mm clear of the sewer and designed in accordance with the *Queensland Development Code*. Full design details and structural certification must be approved prior to commencement of works.

    d. Minimum clearances between sewer mains and other services must be in accordance with the *Sewerage Code of Australia*. Clearances must be included on the long-section drawing.

    e. Where a manhole is located in a batter, a flat area of 1.5 metres radius from the centre of the manhole must be provided. Where the manhole is located along a side or rear boundary and is on the 0.8 metre standard alignment then the flat area must be on at least three (3) sides.

    f. Where an easement is required the property connection branch must be extended at least one (1) metre from the easement boundary.

    g. House drains are to extend one (1) metre past the end of the driveway on hatchet blocks and 1.5 metres beyond the top of batters. An I.O. is to be provided at the downstream end of the house drain within one (1) metre of the boundary to delineate the end of the property connection branch.

    h. As-constructed sewerage drawings must be approved prior to granting of Early Plan Sealing or Issue of a Works Acceptance Certificate whichever occurs first. The as-constructed submission is to include the 'Statement of Compliance – As-constructed Documentation' and must be the final issue.

Water

35. Douglas Shire Council must be contacted to perform any direct connection to live water mains whether being as a permanent connection, a connection for irrigation purposes or for construction water. Unless otherwise approved in writing, separate applications on the prescribed forms shall be made to Douglas Shire Council for connections, together with payment of the relevant fee. All

connections are to be provided subject to the terms and conditions of Douglas Shire Council's 'Application for a Water Service Connection'.

a. Amended drawings in accordance with these conditions must be approved prior to the pre-start meeting.

b. The Inspection and Test Plan (ITP) must be approved prior to the pre-start meeting. At project completion the completed and validated ITP must be submitted and approved prior to the issue of a Works Acceptance Certificate.

c. Minimum clearances between water mains and other services must be in accordance with the *Water Supply Code of Australia* in particular the minimum clearance between water mains and sewer mains must be 500 mm with the sewer under the water main.

d. As-constructed water drawings must be approved prior to Issue of a Works Acceptance Certificate. The as-constructed submission is to include the 'Statement of Compliance – As-constructed Documentation' and must be the final issue.

Roads and Footpaths

36. All works are to be designed and constructed in accordance with AS 1428.1-2001: *'Design for access and mobility'* – General requirements for access – New building work, and associated standard AS/NZS 1428.4 2002, *'Design for Access and Mobility'* – Tactile Indicators. The design is required to provide equal access for people with disability and include the provision of suitable ramps and landing areas and the installation of Tactile Ground Surface Indicators (TGSIs) where required.

Cultural Heritage

37. The *Aboriginal Cultural Heritage Act* 2003 (the Act) seeks to protect artefacts and cultural sites that are of significance to Aboriginal people. The Act requires anyone carrying out an activity to exercise a Duty of Care. Guidelines have been produced to enable assessment of sites under the Act. These are available from Department of Environment Heritage Protection and can be downloaded from their website at www.ehp.qld.gov.au. The work identified in the project documentation is likely to require assessment of the site under the Act.