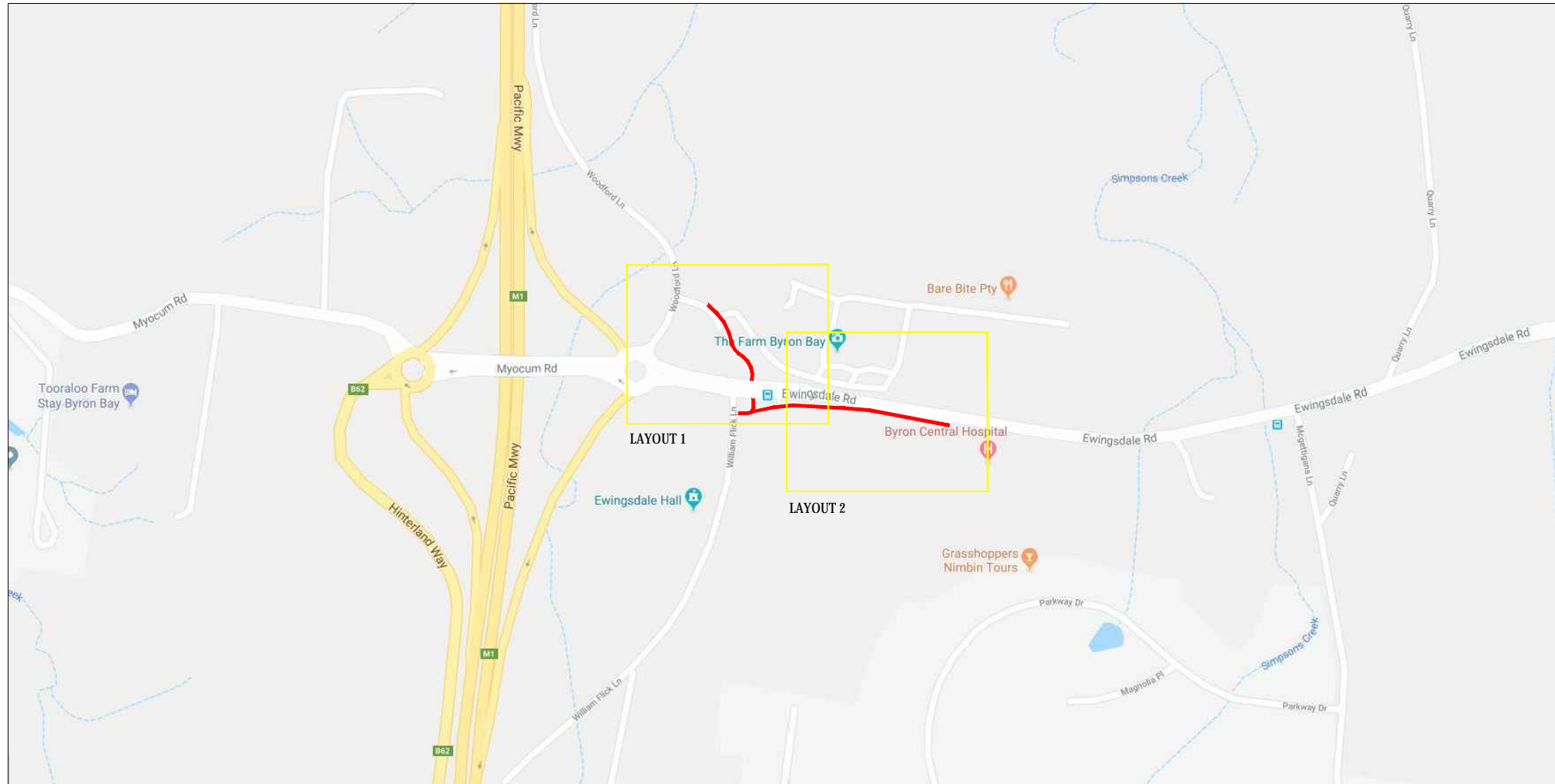


BYRON SHIRE COUNCIL

EWINGSDALE ROAD - SHARED PATH DESIGN

Ewingsdale Road, Byron Bay



PRELIMINARY

Rev. Description	Date	Des.	App.	Chk.
Amendments				

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DWG No.	TITLE
2980/C1000	Cover Sheet, Drawing Schedule and Locality Plan
2980/C1010	Existing Layout
2980/C1011	Design Layout Stage 1 and 2
2980/C1012	Design Layout Stage 3
2980/C1013	Future Works Stage 4
2980/C1020	Longitudinal and Cross Sections Stage 1 Shared Path
2980/C1021	Longitudinal and Cross Sections Stage 3 Shared Path
2980/C1030	Design Notes Sheet 1 of 2
2980/C1031	Design Notes Sheet 2 of 2
2980/C1032	Typical Design Details

REFERENCE DRAWINGS
Northern Rivers Local Government Standard Drawing R-03 - Kerbs and Gutters
Northern Rivers Local Government Standard Drawing R-07 - Concrete Footpath Detail

Project Title

Ewingsdale Road - Shared Path

Client

Byron Shire Council

Designed	MVE	Drawn	JLC	Checked	RWN
Approved	MVE	Date	15/05/2018		

XREFs

Scale

metres 0

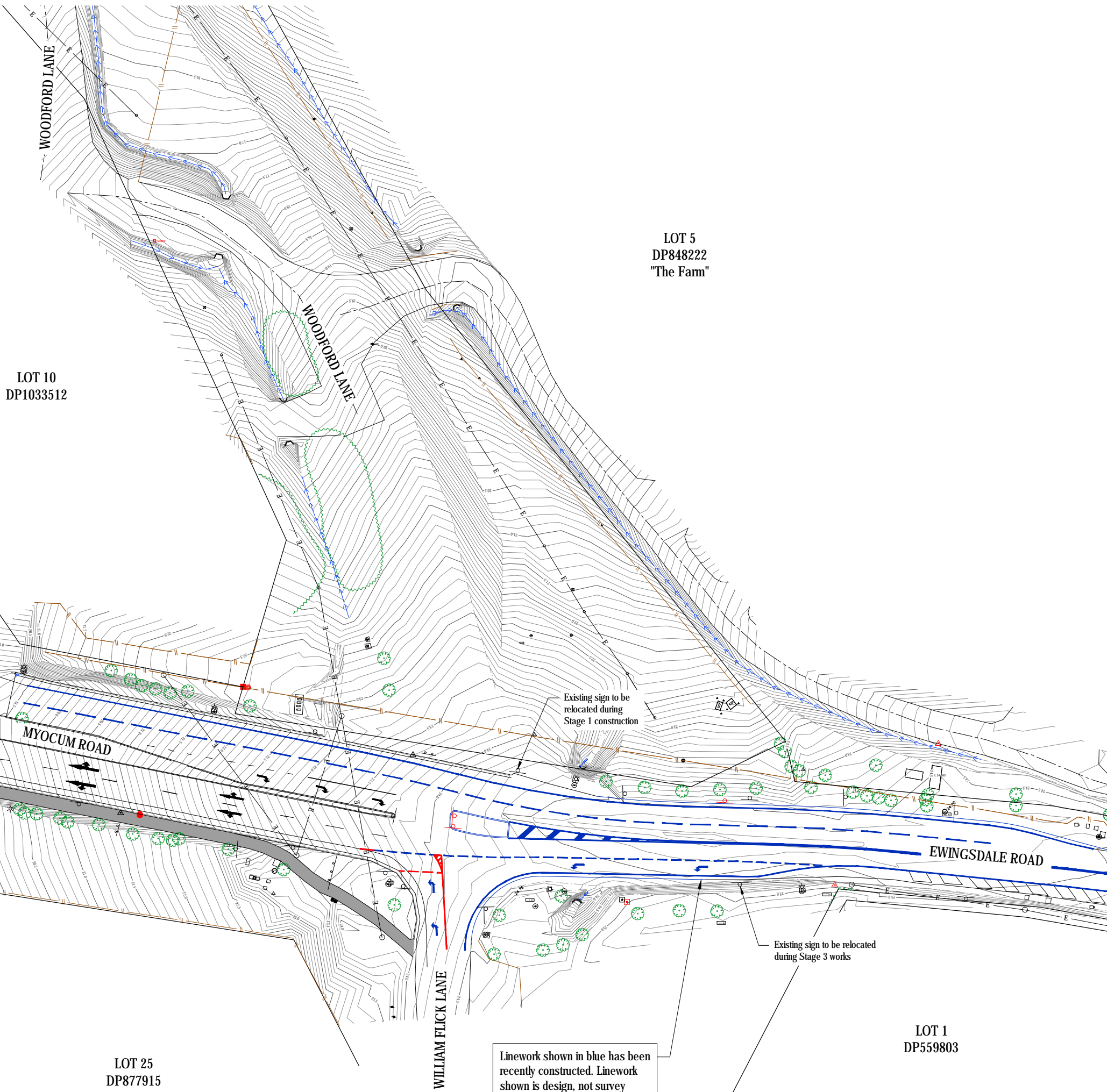
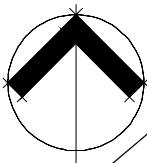
Drawing Title

Cover Sheet, Drawing Schedule and Locality Plan

2980-1020

Drawing Number Revision

2980/C1000



LEGEND

- Existing fence
- Existing sewer main
- Existing electricity overhead
- Existing swale drain
- Existing vegetation line
- Existing communications pit
- Existing headwall
- Existing electricity pole
- Existing electricity pit
- Existing sewer manhole
- Existing telstra services
- Existing trees
- Existing sign
- Existing survey marks
- Existing concrete path

Existing contours are at 0.1m intervals

PRELIMINARY

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<i>Amendments</i>					

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Project Title
Ewingsdale Road - Shared Path

Client
Byron Shire Council

Designed	MVE	Drawn	JLC	Checked	
Approved	MVE	Date	15/05/2018	RWN	

XREFs

Scale



Drawing Title

Existing Layout

2980-1023

Drawing Number
2980/C1010

Revision

Linework shown in blue has been recently constructed. Linework shown is design, not survey

Existing sign to be relocated during Stage 3 works

Existing sign to be relocated during Stage 1 construction

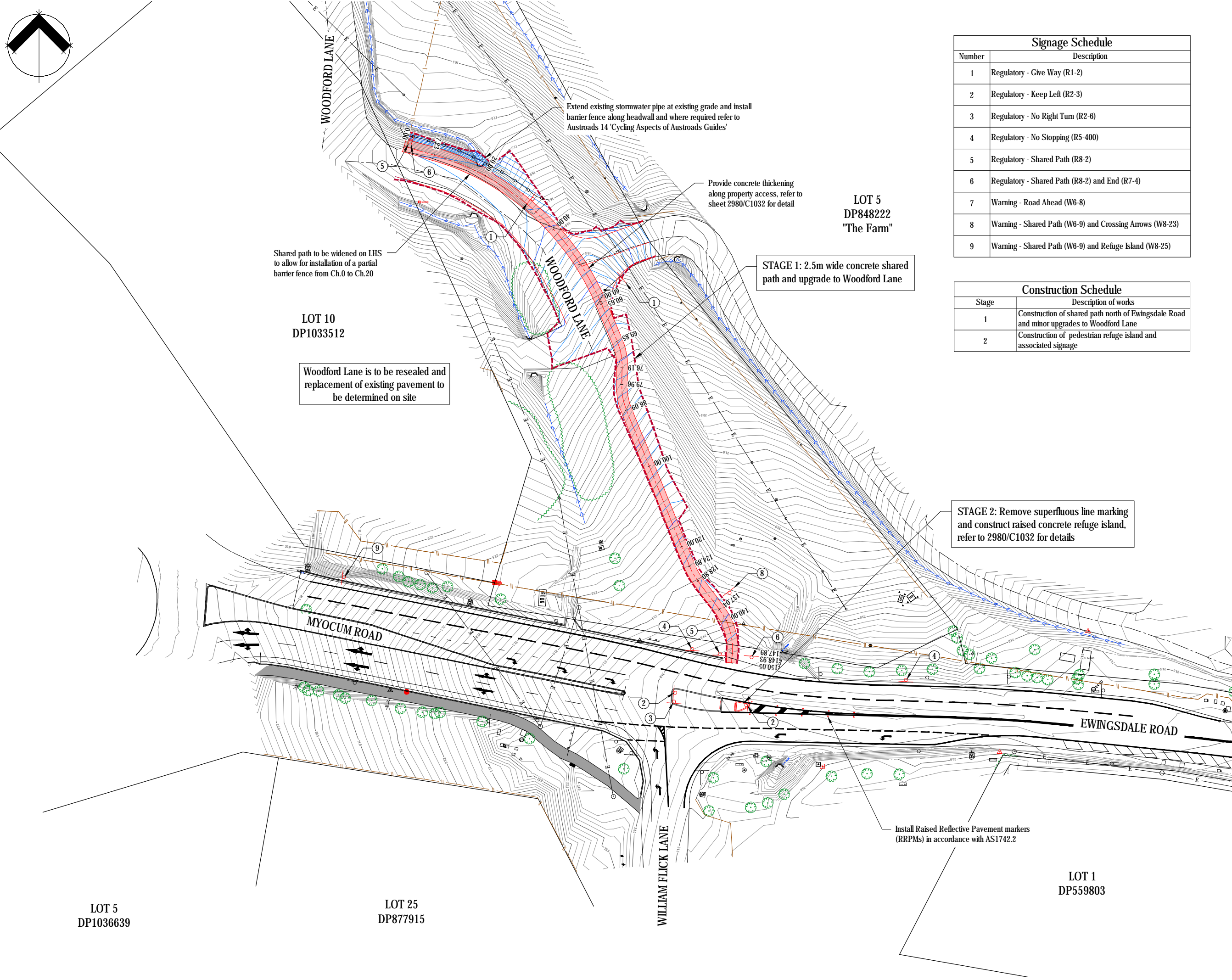
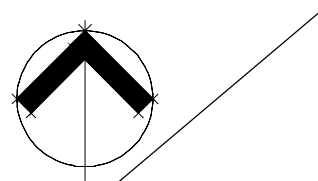
LOT 5
DP1036639

LOT 25
DP877915

LOT 5
DP848222
"The Farm"

LOT 10
DP1033512

LOT 1
DP559803



Signage Schedule	
Number	Description
1	Regulatory - Give Way (R1-2)
2	Regulatory - Keep Left (R2-3)
3	Regulatory - No Right Turn (R2-6)
4	Regulatory - No Stopping (R5-400)
5	Regulatory - Shared Path (R8-2)
6	Regulatory - Shared Path (R8-2) and End (R7-4)
7	Warning - Road Ahead (W6-8)
8	Warning - Shared Path (W6-9) and Crossing Arrows (W8-23)
9	Warning - Shared Path (W6-9) and Refuge Island (W8-25)

Construction Schedule	
Stage	Description of works
1	Construction of shared path north of Ewingsdale Road and minor upgrades to Woodford Lane
2	Construction of pedestrian refuge island and associated signage

- LEGEND**
- Existing fence
 - Existing sewer main
 - Existing electricity overhead
 - Existing swale drain
 - Existing vegetation line
 - Proposed limit of works
 - Existing communications pit
 - Existing headwall
 - Existing electricity pole
 - Existing electricity pit
 - Existing sewer manhole
 - Existing telstra services
 - Existing trees
 - Existing sign
 - Existing survey marks
 - Existing concrete path
 - Stage 1 concrete path

Existing contours are at 0.1m intervals and design contours are at 0.2m intervals

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Project Title

Ewingsdale Road - Shared Path

Client

Byron Shire Council

Designed	MVE	Drawn	JLC	Checked	
Approved	MVE	Date	15/05/2018	Checked	RWN

XREFs

Scale

metres 0 4 8 12 16 20

Drawing Title

**Design Layout
 Stage 1 and 2**

Drawing Number

2980-C1011

Revision

LOT 5
DP1036639

LOT 25
DP877915

LOT 1
DP559803

LOT 5
DP848222
"The Farm"

LOT 10
DP1033512

Woodford Lane is to be resealed and replacement of existing pavement to be determined on site

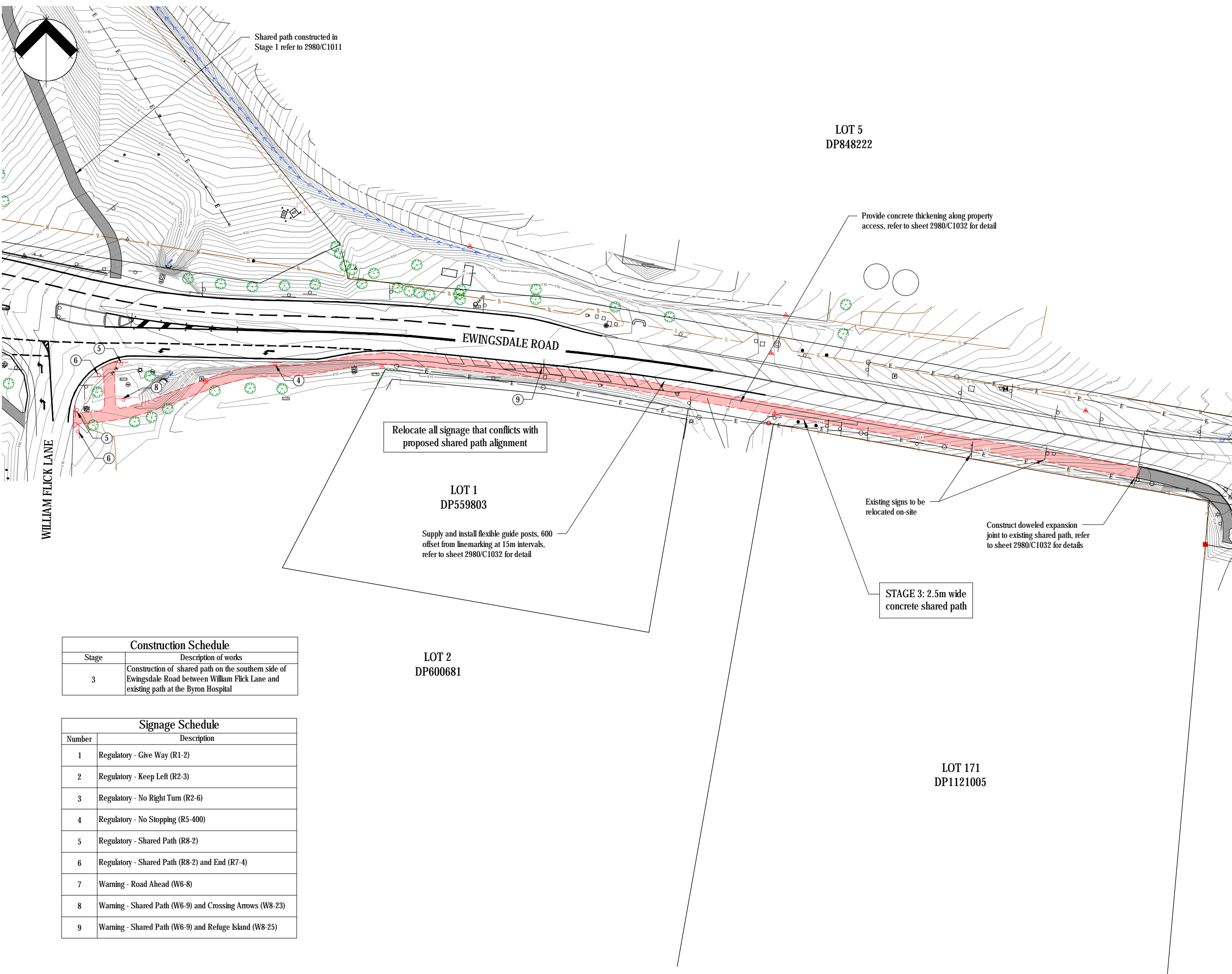
Extend existing stormwater pipe at existing grade and install barrier fence along headwall and where required refer to Austroads 14 'Cycling Aspects of Austroads Guides'

Provide concrete thickening along property access, refer to sheet 2980/C1032 for detail

STAGE 1: 2.5m wide concrete shared path and upgrade to Woodford Lane

STAGE 2: Remove superfluous line marking and construct raised concrete refuge island, refer to 2980/C1032 for details

Install Raised Reflective Pavement markers (RRPMs) in accordance with AS1742.2



LEGEND

- Existing fence
- Existing sewer main
- Existing electricity overhead
- Existing swale drain
- Existing vegetation line
- Proposed limit of works
- Existing communications pit
- Existing headwall
- Existing electricity pole
- Existing electricity pit
- Existing sewer manhole
- Existing telstra services
- Existing trees
- Existing sign
- Existing survey marks
- Existing concrete path
- Stage 3 concrete path

Existing contours are at 0.1m intervals

PRELIMINARY

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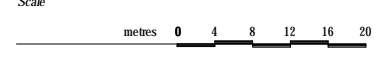
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Project Title
Ewingsdale Road - Shared Path

Client Byron Shire Council				
Designed	MVE	Drawn	JLC	Checked
Approved	MVE	Date	15/05/2018	RWN
XREFs				



Drawing Title
**Design Layout
 Stage 3**
 2980-1023

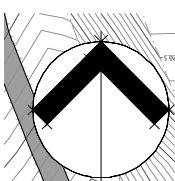
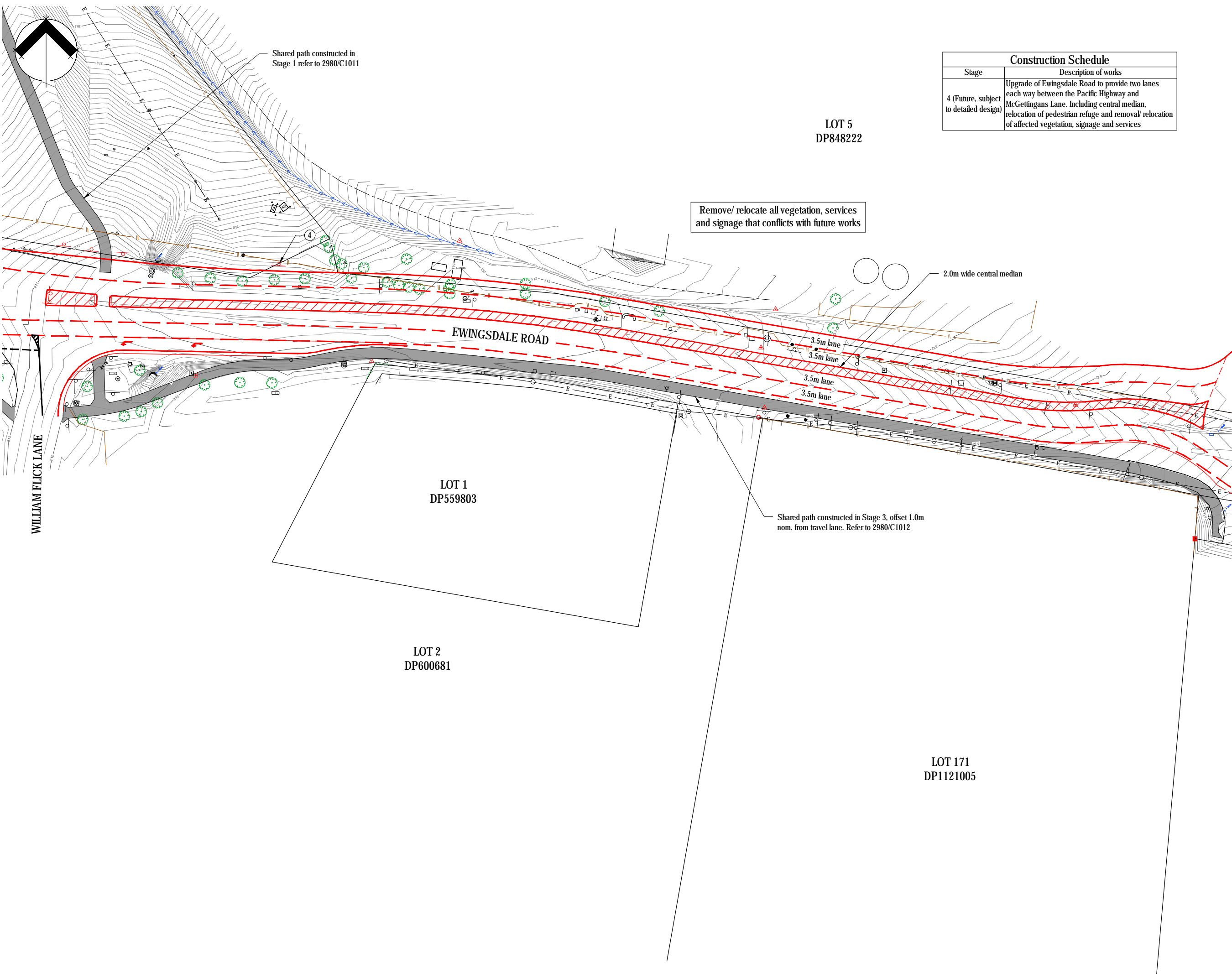
Drawing Number
2980/C1012
 Revision

Construction Schedule

Stage	Description of works
3	Construction of shared path on the southern side of Ewingsdale Road between William Flick Lane and existing path at the Byron Hospital

Signage Schedule

Number	Description
1	Regulatory - Give Way (R1-2)
2	Regulatory - Keep Left (R2-3)
3	Regulatory - No Right Turn (R2-6)
4	Regulatory - No Stopping (R5-400)
5	Regulatory - Shared Path (R8-2)
6	Regulatory - Shared Path (R8-2) and End (R7-4)
7	Warning - Road Ahead (W6-8)
8	Warning - Shared Path (W6-9) and Crossing Arrows (W8-23)
9	Warning - Shared Path (W6-9) and Refuge Island (W8-25)



Construction Schedule	
Stage	Description of works
4 (Future, subject to detailed design)	Upgrade of Ewingsdale Road to provide two lanes each way between the Pacific Highway and McGettings Lane. Including central median, relocation of pedestrian refuge and removal/relocation of affected vegetation, signage and services

- LEGEND**
- Existing fence
 - Existing sewer main
 - Existing electricity overhead
 - Existing swale drain
 - Existing vegetation line
 - Existing communications pit
 - Existing headwall
 - Existing electricity pole
 - Existing electricity pit
 - Existing sewer manhole
 - Existing telstra services
 - Existing trees
 - Existing sign
 - Existing survey marks
 - Existing concrete path

Existing contours are at 0.1m intervals

PRELIMINARY

Rev.	Description	Date	Des.	App.	Chk.
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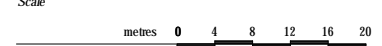
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Project Title
Ewingsdale Road - Shared Path

Client
Byron Shire Council

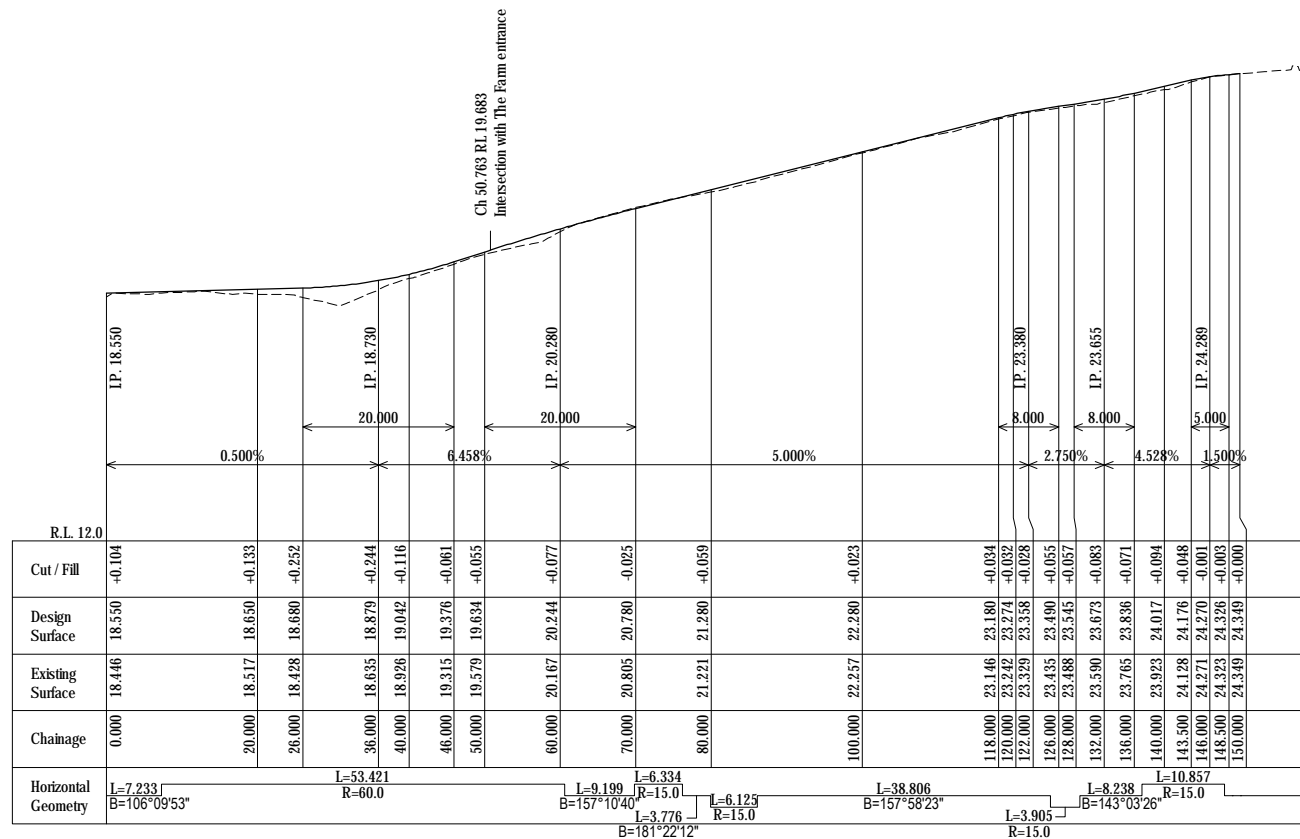
Designed	MVE	Drawn	JLC	Checked	
Approved	MVE	Date	15/05/2018	RWN	
XREFs					
Scale					



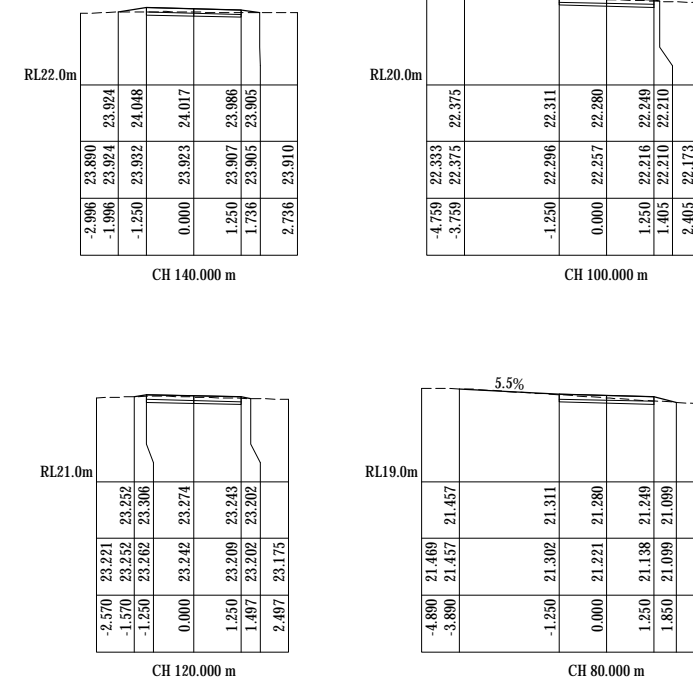
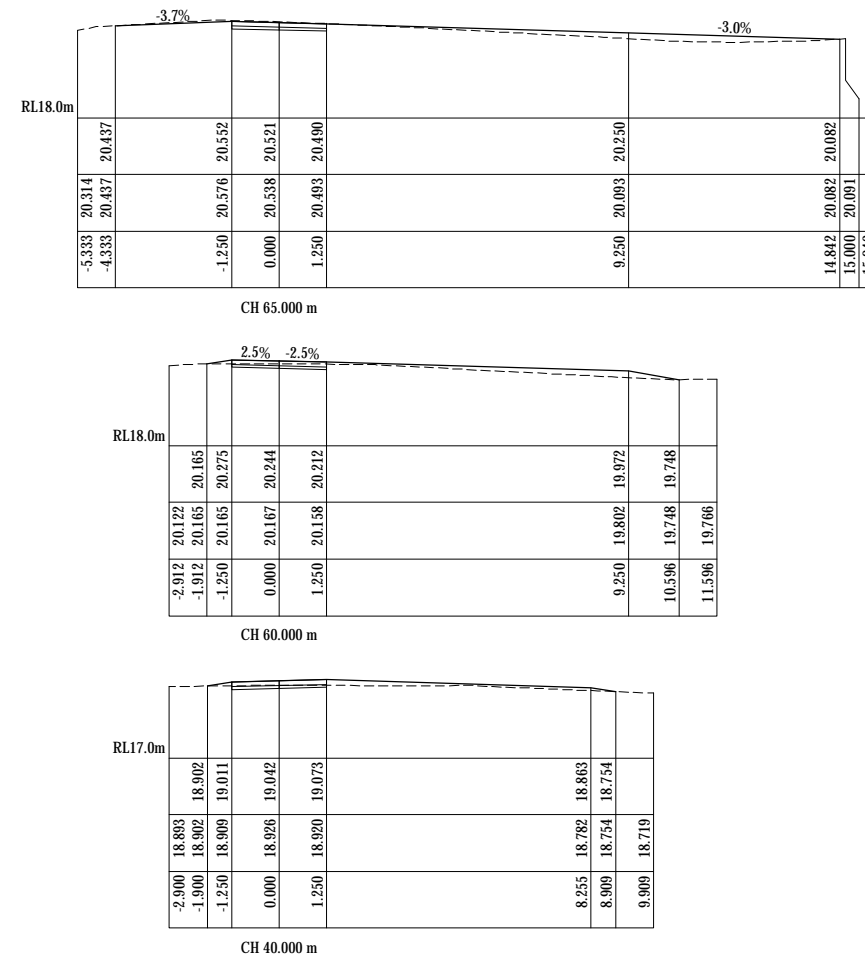
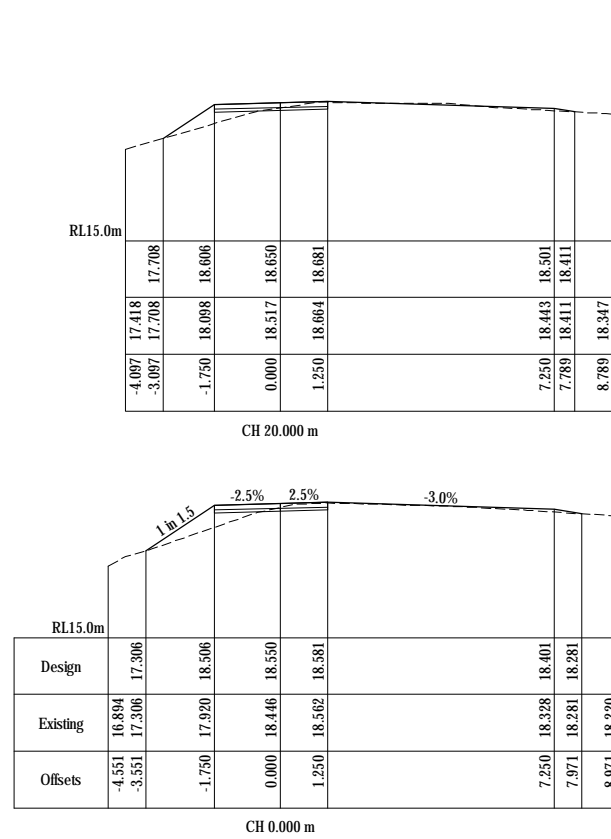
Drawing Title
**Future Works
 Stage 4**
 2980-1023

Drawing Number
2980/C1013

Revision



Stage 1 Shared Path Longitudinal Section
 Horizontal Scale A
 Vertical Scale B



Stage 1 Shared Path Cross Sections
 Scale B

PRELIMINARY

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Project Title
Ewingsdale Road - Shared Path

Client
Byron Shire Council

Designed	MVE	Drawn	JLC	Checked	
Approved	MVE	Date	15/05/2018	RWN	

XREFs

Scale

A metres 0 5 10 15 20 25
 B 0 1 2 3 4 5

Drawing Title
**Longitudinal and Cross Sections
 Stage 1 Shared Path**

Drawing Number
2980/C1020

Revision

PRELIMINARY

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Project Title

Ewingsdale Road - Shared Path

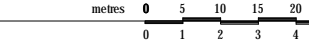
Client

Byron Shire Council

Designed	MVE	Drawn	JLC	Checked
Approved	MVE	Date	15/05/2018	RWN

XREFs

Scale



Drawing Title

Longitudinal and Cross Sections
Stage 3 Shared Path

2980-1024

Drawing Number *Revision*

2980/C1021

These notes shall be read in conjunction with other specified documents. Where a discrepancy occurs between any documents such discrepancy shall be referred to the superintendent before proceeding with construction.

General

- These drawings shall be read with full consideration of all the specifications, acts, regulations, standards, codes of practice and guidelines, both specifically referred to herein and implied, and with other such written instructions as may be issued during the course of the contract. The contractor is responsible for ensuring they, and all site workers as necessary, have access to the relevant specifications, acts, regulations, standards, codes of practice and guidelines and are aware of the requirements and obligations set out therein. Any discrepancies shall be referred to the Superintendent before proceeding with the work.
- All materials and workmanship shall be in accordance with the relevant and current Australian Standards, by-laws and ordinances of the relevant building authorities, and local government specifications.
- All dimensions shown shall be verified by the Contractor on site. The drawings shall not be scaled for dimensions.
- Unless otherwise noted all levels are in metres, and dimensions shown in millimetres.
- The Contractor must ensure they are satisfied as to the site conditions and the requirements of the work. No claim whatsoever will be considered as a consequence of the failure of the Contractor to have made a full and comprehensive investigation of the site and assessment of the conditions likely to affect the works.
- The Contractor shall notify all relevant Local and Public Authorities of any works carried out that may affect those authorities. The Contractor must ensure he is fully aware of the requirements of all relevant authorities such as hold points, testing and analysis, approvals, and inspections of work in progress and meet the requirements of all relevant authorities.
- The contractor shall maintain a full set of the approved Drawings on site throughout the construction period, protect them from damage and make them available whenever required.
- Existing underground facilities may not be shown on the drawings or may be in locations or levels different from those shown on the drawings. The Contractor shall be responsible for ascertaining the exact location of each underground facility prior to undertaking any work that may damage such facility.
- When trade or propriety names, brands, catalogue or reference numbers are nominated, the Contractor shall use such equipment, services unless written approval is obtained from the Superintendent for the Contractor to supply a substitute material or equipment of identical characteristics of type, quality, appearance, finish, method of construction, and/or performance.
- Explosives of any form are NOT permitted on or near this site.
- Plant and equipment stored on site shall be the sole responsibility of the Contractor. A compound for plant and equipment can be established on the property beyond the construction site area subject to the approval of the Superintendent having regard to environmental and operational issues. Upon completion of the works the Contractor shall restore the site compound to a condition acceptable to the Superintendent.
- Unless otherwise agreed or stated in the Specification or Contract (where applicable), the Contractor shall give one clear working day's notice to the Superintendent, in writing, of the construction operations which require examination, inspection or testing under the Contract.
- Unless otherwise stated, all materials, plant, equipment, fixtures and other items salvaged from the Site of the works shall be the property of the Principal and shall not be removed from the Site without the prior approval of the Superintendent.
- Other contractors may be working on the site during the works period. It shall be the contractor's responsibility to liaise with all contractors and ensure that any interference between adjacent works are kept to a minimum, and that all contractors are informed when works (that may affect other contracts) are proposed to be implemented.

Traffic Management

- Where works occur in public areas, road reserves or private developments it shall be the Contractor's responsibility to ensure the safety of pedestrian and vehicular traffic within the works area.
- The Contractor shall ensure that the approved Traffic Management Plans prepared by an accredited traffic consultant, is strictly adhered to during the construction period.

Safety Requirements

General

- The Contractor shall ensure that all the relevant requirements of the Work Health and Safety Act - 2011 (WHS) and Work Health and Safety Regulation - 2011 (WHSR), and those codes of practice, statutory requirements and Australian Standards pertaining to workplace safety, are implemented and maintained throughout the works site and for the entire duration of the works.
- The Contractor shall appoint a Representative or Committee as requested in accordance with the WHSA and WHSR, and provide the name(s), address(es) and contact phone number(s) of the Representative or Committee to the Superintendent in writing upon their appointment.

Fencing of the Construction Site

- The Contractor shall fence the perimeter of the entire works area, to the approval of the superintendent, with an approved perimeter fence prior to the commencement of any construction works. The Contractor shall maintain, or modify as required, the fence to ensure all construction areas are within the fenced area. Upon the cessation of each days work the Contractor shall ensure the fence is in tact and all gates or fence openings are securely fastened or closed. All gates shall be padlocked.

Shoring of Excavations

- The Contractor shall accept responsibility for any damage or injury caused by the fall of any material or the movement of earth in and adjacent to any excavations, and bear any costs associated with such damage or injury.
- The Contractor shall supply, where necessary, all suitable materials necessary and shore excavations. Shoring shall be designed, installed and maintained in accordance with the relevant Occupational Health and Safety Act, Regulations, Statutory requirements or Australian Standard.

Local Amenity

Construction Times

- Construction work must not unreasonably interfere with the amenity of the neighbourhood. Hours of work involving construction noise audible on adjoining premises shall be restricted to:
 - Monday to Friday, from 7 am to 6 pm;
 - Saturday, from 8 am to 1 pm; and
 - No construction work to take place on Sundays or Public Holidays.

Construction Noise

- Construction noise is to be limited as follows:
 - For construction periods of four (4) weeks and under, the L10 noise level measured over a period of not less than fifteen (15) minutes when the construction site is in operation must not exceed the background level by more than 20 dB(A).
 - For construction periods greater than four (4) weeks and not exceeding twenty-six (26) weeks, the L10 noise level measured over a period of not less than fifteen (15) minutes when the construction site is in operation must not exceed the background level by more than 10 dB(A).

Temporary Services

- If necessary for the works, the Contractor shall arrange for supply of the following temporary services:-
 - Potable and non potable water,
 - Electricity,
 The Contractor shall be responsible for making all arrangements necessary for the connection or provision of the service including all charges and fees imposed by the relevant supply and approving authority.
- Amenities. The Contractor shall provide adequate and clean amenities in accordance with the WHSA and WHHR, and the relevant codes of practice. Wastewater shall be connected with the approval of the local authority to existing sewers if available. The Contractor shall disconnect, clear away and remove amenities upon Practical Completion.

Environmental Management

General

- All work shall be undertaken so as to avoid damage to the environment, including erosion, contamination and sedimentation of the site, surrounding country, watercourses and streams.
- The Contractor shall comply with the requirements of environmental legislation enacted by Federal, State and Local governments
- Necessary vegetation clearing and grubbing shall be in accordance relevant specifications, requirements of authorities and the direction of the Superintendent.

Toxic Substances and Contaminants

- Herbicides and other toxic chemicals shall NOT be used without prior written permission of the Superintendent.
- The Contractor shall give written notice to the Superintendent 14 days prior to any toxic substances entering the Site, comply with statutory requirements and take proper precautions to keep poison and other injurious substances in places secured against access by unauthorised persons, children and animals.
- The Contractor shall dispose of all solid, liquid and gaseous contaminants in accordance with all statutory requirements and to locations off Site.
- The Contractor shall service and maintain vehicles and machinery at locations approved by the Superintendent.

Sediment and Erosion Control

- The Contractor shall comply with the requirements of the Clean Water Act and such other statutory requirements as may be appropriate in regard to the quality of water leaving the site.
- The Contractor shall construct appropriate sediment and erosion control measures as directed by an authority or the Superintendent.
- Sediment and erosion control measures must be maintained by the Contractor at all times until the site has been stabilised by permanent vegetation cover or hard surface, or to the satisfaction of the Superintendent.

Disposal of Material

- On site disposal by burning of cleared or excess material is not permitted.
- All construction rubbish is to be contained on the site in a 'Builders Skips' or an enclosure. Footpaths, road reserves and public reserves are to be maintained clear of rubbish, building materials and all other items.
- Material from the site of the Works shall be disposed of by transporting to an approved waste facility. Contractor shall meet all costs associated with such disposal.
- Spoil is surplus material from excavations which is not required to complete the Works as specified, or material from excavations whose quality renders it unacceptable for incorporation in the Works. Excavated material not reusable as filling or the like and any fill excavated containing building rubbish is to be removed from the site and disposed of to an approved waste disposal location. Acceptable spoil shall be stockpiled. All stockpile sites shall be stripped of topsoil, and the surface prepared to a smooth finish prior to the placement of any spoil. The spoil shall be placed in a uniform manner and reprofiled as required to minimise drainage issues within the stockpile. The Contractor shall ensure dust from the stockpiles is managed to an acceptable level and that upon completion the stockpiles are covered with topsoil and the surface regressed.

Dust Control

- Dust control shall be carried out by the Contractor to the complete satisfaction of the Superintendent in accordance with the requirements of authorities. The Contractor shall submit in writing details of the proposed dust control measures for the approval of the Superintendent. The implementation and maintenance of the measures as approved by the Superintendent shall be strictly adhered to by the Contractor.

Protection of Existing Vegetation

- Trees and vegetation to be retained within the construction site shall be protected by a fence to minimise disturbance to existing ground conditions within the dripline of the vegetation. The fence shall be constructed as follows:-
 - with a minimum height of 1.2 metres,
 - outside the dripline of the tree or vegetation,
 - of steel star pickets at a maximum spacing of 2 metres with a minimum of 3 strands of plain steel wire.
 - to completely enclose the tree or vegetation, or attached to existing permanent fencing to effectively enclose the tree/s and / or vegetation, except where the trees and / or vegetation are a continuous edge where the fence shall be constructed to encompass the length of the entire continuous edge and be located such as to exclude access to the vegetated area.
 - with orange barrier mesh or similar, attached to the outside of the fence and continuing around it's perimeter.
- The fence/s shall be erected prior to the commencement of any works within 50 metres of vegetation or trees to be retained. The fence/s shall remain and be maintained for the duration of the site clearing and construction works.
- No filling is to be placed within the dripline of a tree/s or vegetation to be retained, so as to cause changes in surface level by more than 50 mm from the existing level. Such placed soil / fill shall be finer than that being covered in-situ.

Survey Setout

- The Contractor shall at their own expense set out the Works correctly in accordance with the Contract and the drawings and shall provide all instruments and materials necessary for that purpose.
- If at any time during the progress of the work, any error is discovered in the position, level, dimensions or alignment of any part thereof, the Contractor shall immediately notify the Superintendent and shall, unless the Superintendent otherwise directs, rectify the error in accordance with the General Conditions of Contract.
- The Contractor shall preserve and maintain in their true position all State Survey Marks (SSM) and Permanent Marks (PM) whether or not the marks are to be used for the purpose of setting out, checking or measuring the work under the Contract.
- Should any SSM or PM be disturbed or obliterated, the Contractor shall immediately notify the Superintendent and shall arrange for a Registered Surveyor to rectify such disturbance or obliteration. Unless the disturbance or obliteration has been caused by the principle, his employees or agents, the cost of rectification shall be borne by the Contractor. Such notice shall include the requirements of the Local Council for undertaking inspection of the work in progress. The Contractor shall be fully responsible for making himself aware of Council's requirements in this regard and for making all necessary provisions for such Council inspections.



Rev	Description	Date	Des.	App.	Chk.

Amendments

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Project Title

Ewingsdale Road - Shared Path

Client

Byron Shire Council

Designed	MVE	Drawn	JLC	Checked	
Approved	MVE	Date	15/05/2018	RWN	
XREFs					
Scale					
metres 0					

Drawing Title

**Design Notes
Sheet 1 of 2**

2980-1026

Drawing Number

2980/C1030

Revision

These notes shall be read in conjunction with other specified documents. Where a discrepancy occurs between any documents such discrepancy shall be referred to the superintendent before proceeding with construction.

Northern Rivers Local Government (NRLG) Development Construction Specifications

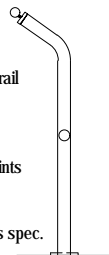
1. Unless otherwise noted all construction works associated with the provision of this project shall be carried out in accordance with the relevant design specifications and standard drawings detailed in the NRLG Development Construction Specification. The Contractor shall obtain a copy of this document and ensure the document is retained on site throughout the construction period.

Path Construction

1. Construct shared path and ancillary works to details shown.
2. All materials and workmanship shall be in accordance with the current Australian Standards, NRLG Guidelines and Standard Drawings and Austroads Specifications and Guidelines
3. Excavate natural surface where required, trim and compact subgrade and construct concrete footpath.
4. Earthworks:
 - a) Fill material shall be clean, well graded (ALD >50mm) with limited plasticity (Pl<20), and free of organic matter.
 - b) Fill shall be placed in layers not exceeding 200mm loose thickness and compacted to 95% standard.
 - c) Side batter slopes shall not be greater than 4H : 1V uno.
 - d) The top 100mm of any fill area outside of the footpath shall be topsoiled and turfed.
5. All concrete footpaths to be constructed in accordance with NRLG std. dwg. R-07 (current version), unless noted otherwise.
6. Concrete footpath to be 25MPa at 28 days.
7. Concrete footpath to have lightly broomed finished perpendicular to pedestrian traffic.
8. Crossfall of footpaths is to be consistent along the path as much as practicable. A maximum crossfall of 2.5% is not to be exceeded.
9. Footpath to be provided with contraction joints as per detail to induce controlled cracking. The joint shall be formed in the freshly placed concrete perpendicularly across the footpath at intervals shown.
10. Match new path to existing concrete driveways and levels unless otherwise stated. Dowel to existing as per detail provided and NRLG Standard Drawing R-07.
11. Where the new footpath crosses a property access, the footpath thickness is to be adjusted to:
 - a) 125mm for domestic driveways.
 - b) 150mm for commercial driveways. The fabric is doubled up. Refer to detail shown.
12. Trim all trees with overhanging limbs 2.4m above footpath to provide adequate headroom clearance and to clear edge of footpath by min. 0.5m.
13. Construct path to height of adjacent pits and services where levels permit. Adjust Telstra Pits, Water Valve Covers and Boxes, Sewer Manholes, and Stormwater Pit Covers to match new path level as required. All services to be provided with isolation joints as per detail provided.
14. All signage and pavement markings are to be in accordance with AS 1742.9. All permanent signs are to be supplied by RVC and installed by contractor.
15. Once completed, the path is to be fully inspected to ensure no trip hazards are present, and all edges have been backfilled.
16. Restoration:
 - a) All distributed areas are to be reinstated to their original line and matching in to new construction.
 - b) The restored surface shall be free of all stones (exceeding 20mm ALD).
 - c) All distributed surfaces or areas of fill are to be sown with an even distribution of seed and fertilizer at the rates specified in NRLG Annexure C273A.

Partial Barrier Fence

1. Posts: 60.3 x 5.4 CHS (C250) HDG at 2000 max. centres with bend to suit offset
2. Mid Rail: 42.4 x 3.2 CHS (C250) HDG mid rail.
3. Fully weld 33.7 x 4.0 CHS spigot to accept mid rail
4. Hand Rail Connector: 'All Tuff' type TS7 galv. bike handrail connector. Weld 48.3 x 3.2 CHS spigot to top of post to accept connector
5. Top Rail: 48.3 c 3.2 CHS (C250) HDG top rail.
6. Provide expansion joints at 20 m spacings and locate joints max. 200 from support with
7. 33.7 x 4 CHS spigot.
8. Fix to footing with base plate and bolts to manufacturer's spec.



Concrete

1. All workmanship and materials shall be in accordance with AS 3600 and AS 3610 current editions.
2. Concrete quality:
 - strength grade (MPa)
 - structures to be immersed in water 32
 - floor & slabs. 25
 - core fillings. 20
 - otherwise in accordance with NRLG Specification C271.29
 - nominal aggregate size (mm)
 - core fillings 10
 - elsewhere. 20
 - slump (mm)
 - u.n.o. core fillings. 230
 - elsewhere. 80
3. All cement shall be sulphate resistant
4. No admixtures shall be used in concrete unless approved in writing.
5. Clear concrete cover to all reinforcement shall be as follows unless shown otherwise (mm)
 - ground floor slabs, top cover to mesh. 30
 - elsewhere 50
 - surfaces in contact with sewerage or groundwater. . . 65
6. All concrete shall be compacted using mechanical vibrators.
7. Construction joints where not shown shall be located to the approval of the Superintendent.
8. All concrete surfaces are to be cured by an approved method for a total of 7 days.
9. Reinforcement symbols:
 - N denotes grade 500 N deformed bars to AS 1302.
 - R denotes grade 250 R hot rolled plain bars to AS 1302
 - SL denotes grade 500 SL hard drawn wire reinforcing fabric to AS 1304.
10. Chamfers:
 - Except as otherwise required, exposed concrete comers and edges shall have 20 mm chamfers

Earthworks

General

1. Earthworks includes the following works:
 - (i) Removal of topsoil
 - (ii) General earthworks, which comprises all activities and quality requirements associated with site regrading, excavation, haulage of material and filling to the extent defined in the Drawings;
 - (iii) Removal and replacement of any unsuitable material from below the work defined for general earthworks; and
 - (iv) Any spoil or borrow activities associated with general earthworks.
2. The Contractor shall undertake all inspection and testing necessary to demonstrate that the quality requirements of this specification have been achieved. All earthworks are to be carried out in accordance with NRLG Specification C213.

Nature of Earthworks Materials

3. The Contractor shall be responsible for any assumptions made in relation to the nature and types of materials encountered in excavation and the bulking and compaction characteristics of the materials incorporated in filling operations.

Protection of Earthworks

4. The Contractor's responsibility for care of the Works shall include the protection of earthworks.
5. Prior to commencement of earthworks operations, the Contractor shall install and maintain effective erosion and sedimentation control measures to the approval of the superintendent.
6. Adequate drainage of all working areas shall be maintained throughout the period of construction to ensure run-off of water without ponding, except where ponding forms part of a planned erosion and sediment control system.
7. When rain is likely or when work is not proposed to continue in a working area on the following day, precautions shall be taken to minimise ingress of any excess water into earthworks material. Ripped material remaining in cuts and material placed as fill shall be sealed off with a smooth roller.
8. Should insitu or stockpiled material become over-wet as a result of the Contractor not providing adequate protection of earthworks, the Contractor shall be responsible for replacing and/or drying out the material and for any consequent delays to his operations.

Pipe Drainage

1. All stormwater drainage construction shall be in accordance NRLG Specifications C221.
2. Drainage pipe 375 diameter and larger shall be precast reinforced concrete supplied and manufactured by an approved pipe manufacturer. Unless otherwise noted on the drawings or specified by the Superintendent concrete pipes shall be a minimum of Class 2.
3. Drainage pipes less than 375 diameter shall be PVC, plain walled, solvent welded joint.
4. Drainage box culverts shall be of precast reinforced concrete construction, supplied and manufactured by an approved manufacturer.
5. Existing services (e.g. water and comms) are to be adjusted locally to allow for culvert extensions.

Drainage Structures

1. Unless otherwise noted and detailed on the design drawings drainage structures such as gully pits, MHs and junction pits shall be supplied and constructed by an approved concrete manufacturer specialising in drainage components.
2. Should the contractor undertake to construct pits insitu, that have not been detailed, before undertaking any construction the contractor shall submit to the Superintendent engineering drawings endorsed by a suitably qualified engineer detailing the proposed construction details.

Acceptance Testing of Works

General

1. The Contractor shall arrange for an approved testing authority to undertake the testing of path subgrades, pavements and concrete slabs, and shall comply with the testing methods and frequencies specified in NRLG Specification CQC.

Testing Authority

2. All acceptance testing shall be carried out by a testing authority certified by the National Association of Testing Authorities (NATA) to conduct the specified tests.
3. Test results shall be endorsed by the NATA certified authority which conducts the tests.
4. The authority conducting the test shall submit a copy of the test result(s) and/or report direct to the Superintendent with the original sent to the Contractor.
5. The Contractor shall supply full details of the testing requirements in the Contract to the testing authority, prior to commencement of work under the Contract.
6. The Contractor shall supply a copy of the Contractor's letter commissioning the testing authority to the Superintendent within seven days of the start of the commission.

Testing

7. The Contractor shall liaise with the testing authority and arrange for all acceptance testing.
8. The Contractor shall, unless agreed or stated otherwise in the Specification give one clear working days written notification to the Superintendent before carrying out acceptance testing.
9. Tests and/or samples shall be representative of the work or material which is being tested for quality and/or acceptance.
10. The Contractor shall arrange for retesting the work when the Superintendent considers that the test and/or samples are not representative of the material or work.
11. The Contractor shall arrange to carry out testing progressively as the work proceeds.
12. The locations of all tests in plan and elevation shall be shown on test certificates and test reports and locate tests relative to the job datum.

Test Results

13. The Contractor shall submit copies of the test results and not proceed with the tested portion of the work until the results are accepted by the Superintendent.
14. The Contractor shall keep on Site an up-to-date record of test results for inspection by the Superintendent.

Completion of Works

1. Prior to the issue of a Certificate of Practical Completion, all surplus material and rubbish shall be removed and the whole of the site left clean and neat in appearance. Similarly, the whole work area shall be left in a neat and tidy condition at the end of the Defects Liability Period.
2. Any road pavement or footpath disturbed or destroyed during construction shall be reinstated to a condition at least equal to that existing before commencement of works.
3. The Contractor shall ensure that deleterious material deposited as a result of the work is removed from roads.
4. Any damage to external areas of the site as a result of the works shall be reinstated by the Contractor as directed by the Superintendent.
5. Any clearing, cleaning or reinstatement by the Contractor shall be carried out at no cost to the Principal.

Maintenance / Defects Liability Period

1. The Contractor shall maintain the work under the contract for the whole of the defects liability period.
2. Maintenance shall include, but not be limited to:
 - (i) Reinstatement of any subsidence in fills, trenches and excavations;
 - (ii) Repair of any erosion or other damage caused to any item of the work by the flow or passage of water on, over or through the Site; and
 - (iii) Reconstruction of any portion or item of the works which has deteriorated or no longer conforms to relevant specifications, the design, or the intent of the works.

PRELIMINARY

Rev/Description	Date	Des.	App.	Chk.
<i>Amendments</i>				

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quality solutions sustainable future

Project Title

Ewingsdale Road - Shared Path

Client

Byron Shire Council

Designed	MVE	Drawn	JLC	Checked
Approved	MVE	Date	15/05/2018	RWN
XREFs				
Scale				
metres 0				

Drawing Title

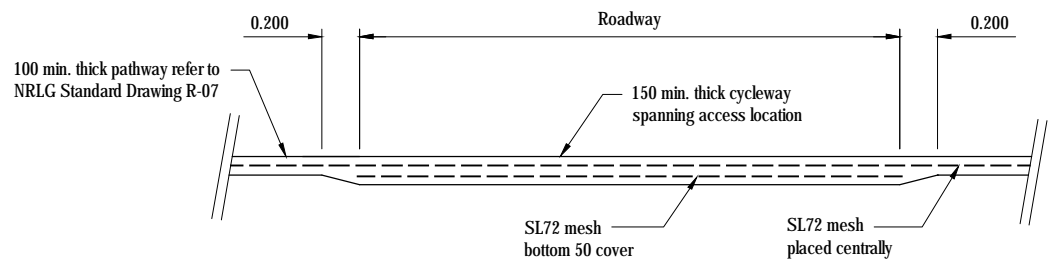
**Design Notes
Sheet 2 of 2**

2980-1026

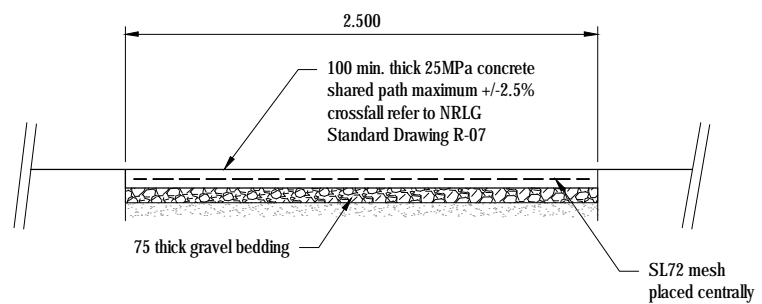
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Revision

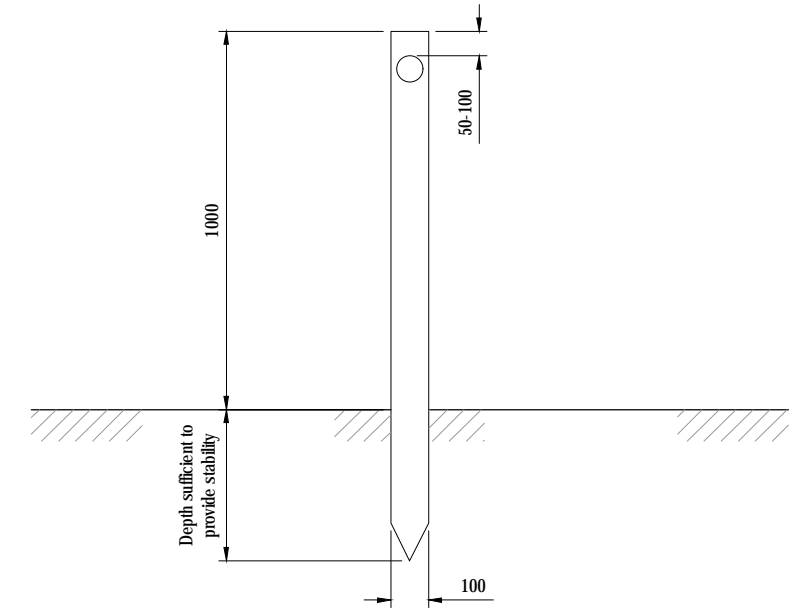
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CYCLEWAY THICKENING - ACCESS CROSSING
SCALE B

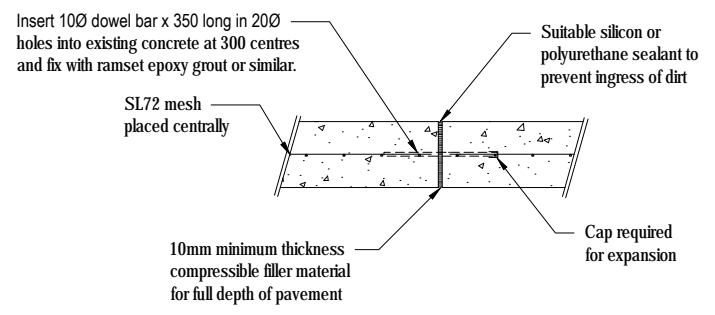


TYPICAL CYCLEWAY SECTION
SCALE B

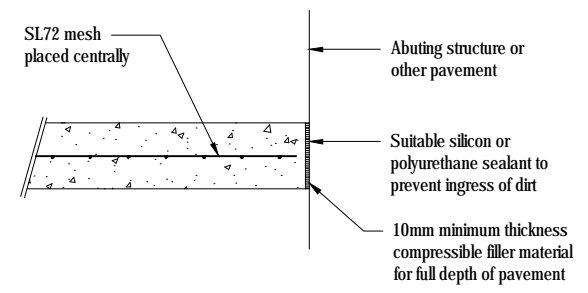


TYPICAL DETAIL - GUIDE POST
SCALE C

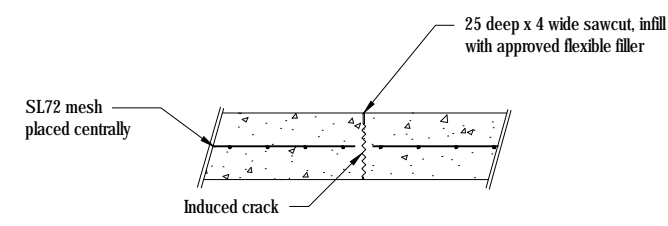
NOTE: Supply and install flexible guideposts adjacent to trafficked area at 15.0m intervals



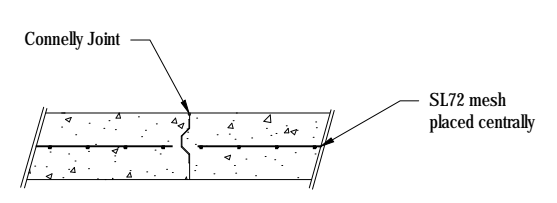
EXPANSION JOINT



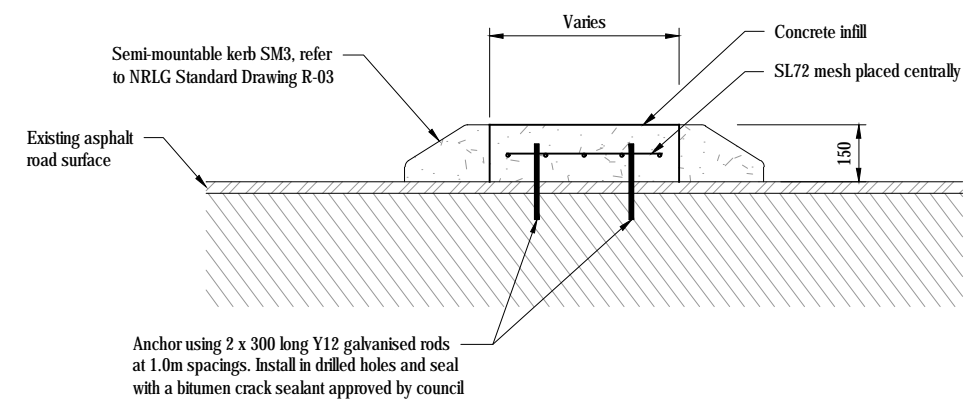
ISOLATION JOINT



CONTROL JOINT - SAW CUT

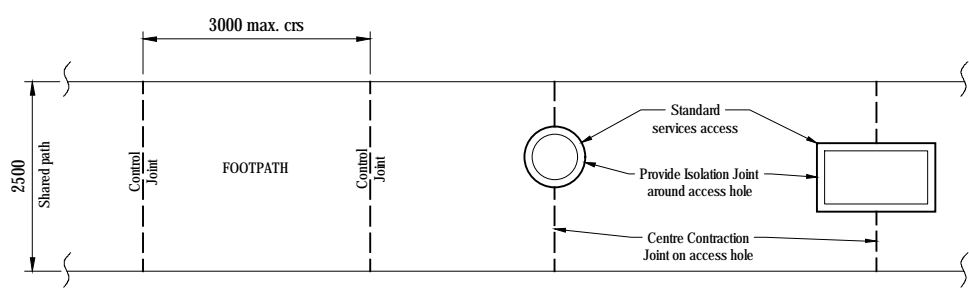


CONTROL JOINT - KEY



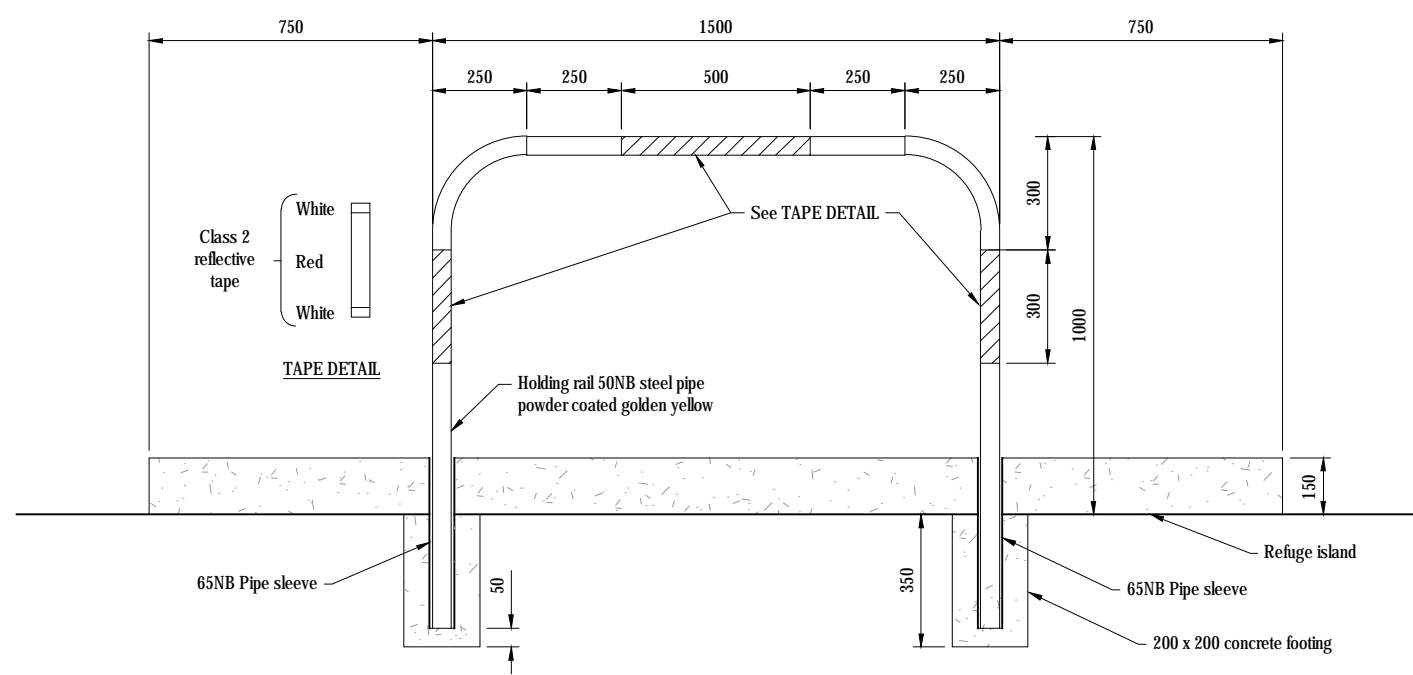
TYPICAL DETAIL - MEDIAN ISLAND
SCALE C

TYPICAL CONCRETE JOINT DETAILS
NTS



TYPICAL CONCRETE JOINT CONSTRUCTIONS
SCALE A

NOTE: Construct a dowelled expansion joint every 15.0m
Expansion joints to be min. width 10mm



1500 HOLDING RAIL SECTION VIEW
SCALE C

PRELIMINARY

Rev.	Description	Date	Des.	App.	Chk.

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Byron Shire Council				
Designed	MVE	Drawn	JLC	Checked
Approved	MVE	Date	15/05/2018	RWN

Scale	metres	0	0.5	1.0	1.5	2.0	2.5
A							
B		0	0.2	0.4	0.6	0.8	1.0
C		0	0.1	0.2	0.3	0.4	0.5

Drawing Title
Design Details

Drawing Number
2980/C1032

2980-1026
Revision