LUCAS

RESIDENTIAL DEVELOPMENT - STAGE G3

CITY OF BALLARAT

CONSTRUCTION NOTES (CITY OF BALLARAT)

SITE MANAGEMENT

1. Prior to commencement of works on site, the contractor must ensure that all matters relating to the Occupational Health and Safety Act 2004, including all relevant regulations, have been addressed. In particular, the required notifications must be conveyed to the Victorian Workcover Authority - Health & Safety division with respect to trenching operations. Details of the contractors occupational health & safety procedures must be lodged with the Superintendent prior to commencement of works.

2. All native trees and shrubs to be retained unless road construction necessitates their removal or removal is directed by the engineer. A town planning permit is required for the removal of native trees and/or vegetation. The removal or retention of any existing trees must be in accordance with the approved landscape plan, or else approval will be required from the City of Ballarat landscape approvals officer.

3. Existing dams or watercourses to be excavated to a firm base and backfilled as specified. Consulting engineer to be notified when the dam or watercourses are excavated to a firm base. No filling is to be placed prior to dams being inspected and levels taken. Backfilling is to be carried out to the satisfaction of the Superintendent and Council Works Supervisor.

4. Prior to commencement of works, the contractor must submit a Construction Management Plan (CMP) to the Superintendent for approval. The contractor must comply with the recommendations of the Environment Protection Authority publication No.275 "Construction techniques for sediment pollution control". Appropriate siltation control is to be maintained throughout the construction and maintenance period of the works.

GENERAL

5. All levels are in metres to Australian Height datum and taken from Level Plan by Beveridge Williams & Co. Pty Ltd.

6. All works to be carried out in accordance with AS2124-1992 General Conditions of Contract, City of Ballarat and Infrastructure Design Manual (IDM) current specification and standard drawings and to the satisfaction of the Superintendent and City of Ballarat works supervisor. The contractor shall ensure that they are conversant with all current revisions, amendments and updates that have been made that have been made to these standards.

7. The Superintendent, Council and all service authorities should be notified by the contractor, in writing, seven days prior to commencement of the works.

8. All existing services shall be confirmed to have been located prior to commencement of works. Where services have not been previously proven or located the Contractor shall make allowance or be satisfied that construction in accordance with the design can be achieved.

9. Where works are in the vicinity of existing services these services are to be located and the various authorities notified prior to the commencement of works.

10. The contractor shall erect and maintain all shoring, planking and strutting,dewatering devices, barricades, signs, lights, etc., necessary to keep works in a safe and stable condition and for the protection of the public.

11. Before commencement of works on trenches in excess of 1.5m deep, the civil contractors construction supervisor must give notice in writing of such proposals to Worksafe Victoria in accordance with Part 5.1, Division 4 of the Occupational Health & Safety regulations (2007) and undertake safety precautions in trenching operations in accordance with Workcover's Code of Practice (1988).

12. Lots to be graded (1 in 200 min slope) & left clean to the satisfaction of the engineer. Finished levels to be compatible with lots adjoining this stage.

13. On completion the contractor is responsible for the removal of all rubbish and spoil from site. No surplus trees, vegetation or other material is to be burnt on site.

14. Reserves to be free draining and to be left in a condition satisfactory to the Superintendent and City of Ballarat works supervisor.

15. All TBM's and control points are to be maintained and protected at all times during construction.Should any marks be disturbed, the contractor will immediately notify the consultant to arrange re-instatement at the contractors expense.

EARTHWORKS

16. All areas shown on the drawings to be cut or filled are to be stripped of topsoil (unless filling is less than 200mm) and all topsoil must be stockpiled on site.

17. Upon completion of the bulk earthworks topsoil is to be spread to a depth of 100mm over the nominated area and graded to finished levels shown on the drawings with a minimum slope of 1 in 200.

18. Batters to be 1 in 5 for fill and 1 in 5 for cut unless noted otherwise.

19. All nature strips and batters shall be covered with 75mm min. depth topsoil and seeded with an approved seed.

20. Filling in all properties and road reserves is to be carried out using approved clay fill. Top soil and all vegetable matter to be stripped from site prior to filling. All filling to be carried out in 150mm layers. For lot fill and general fill compact to 95% of max dry density For road subgrade (to depth of 0.3m) compact to 98% of max dry density.

21. Importing Fill:- All imported fill must be tested by a NATA approved laboratory to ensure it is suitable for use on site, and any contaminates are within accepted levels. Under No circumstances should fill material enter or leave the site without the permission of the Superintendent or prior to it being appropriately tested.

22. All fill material shall be clean, uniform and free of organic matter and meet requirements of AS 3798-2007 "Guidelines on Earthworks for Commercial and Residential Developments".

23. Fill material should be placed in layers of uniform thickness, deposited systematically across the fill area. The contractor must excavate or "box" into the existing surface at the edge of fill to provide a suitable junction with the existing surface and to avoid feathered edges.

24. Prior to disposal of excess spoil the truck route and disposal location is to be approved by the Superintendent prior to commencing to dispose of spoil.

25. All vehicles transporting fill material to and from the site must have appropriate measures in place to ensure that material does not get onto roads and into stormwater systems and natural waterways.

26. Cut batters behind vehicular accesses must not exceed maximum grade of 1 in 8.

27. Before any loose layer of fill is compacted, the material and its moisture condition should be as uniform as is practicable throughout its depth.

28. If there is a delay in the placement of subsequent fill layers, previously accepted layers should conform with the specification before further fill is placed. If these layers have wetted up or dried out, they may inhibit compaction or cause heaving of subsequent layers. In these instances, drying or wetting of the fill by the contractor will be required to achieve optimum compaction.

29. All lots are to be brought to a finished surface level and top soiled to ensure that front boundaries are a minimum of 125mm above the top of kerb.

30. The maximum particle size of any rocks or other lumps within the fill layer, after compaction, should not exceed 100mm or two-thirds of the compacted layer thickness.

31. Fill is to be tested in increments of depth not greater than 500mm.

32. Fill batter faces are to be overfilled and cut back. the trimmed and compacted face should have a roughened surface to reduce runoff.

33. The surface of all fill layers must be shaped to provide drainage and to prevent ponding.

34. All fill to be compacted to that shown or 95% standard density or better. Moisture content must be in the range of -10% to +5% optimum.

35. Where fill placement is less than 200mm stripping of topsoil may be deleted.

36. Filling to be completed prior to sewer and drainage construction, unless approved by the Superintendent and relevant Authority.

ROADWORKS

37. 100mm dia. agricultural pipe drains (Refer BCC SD-D2-1) to be placed behind kerb and channel or as directed by Superintendent and at minimum grade of 1 in 250.

38. The water conduit offset from the lot boundary is given on the water reticulation plan. The contractor must construct conduits to accord with the given offset and ensure that the concreter marks the kerb and footpath exactly above the conduit.

39. All footpaths and shared pedestrian/bicycle paths are to be 125mm thick concrete as per IDM Standard Drawings SD205, 210, 215, 220 and 225.

40. Telcommunication contractor to be notified seven (7) days prior to concrete works being placed.

41. Electrical distribution pits within footpaths are to be a minimum of 300mm from the edge of the path. Concrete is to be placed around distribution pits to a minimum depth of 200mm.

42. All street signs to be constructed and erected to current City of Ballarat standards including logo. Sign to be placed in 300Ø hole 500mm deep 15MPa concrete to 100mm below FSL of nature strip.

43. Traffic control signs, markings & delineators to be installed in accordance with AS1742.2. All line marking is to be long life road marking, with longitudinal lines in thermoplastic and transverse markings in cold applied.

44. Kerb transition to take place in the minor street over a 1.0m length from either the tangent point or TP pit.

45. Existing road works to be reconstructed as required to provide, without discontinuity, a connection in accordance with design levels and grades.

46. Tactile ground surface indicators (TGSI) are to be installed at all pram crossings and pedestrian cross points in accordance with AS1428.4 : 2002 and BCC Standard Drawings SD-C4.

PAVEMENT

47. Pavement shall be constructed in accordance with construction plans, IDM and City of Ballarat Specifications and Standard Drawings.

48. Modification of the pavement requires approval by the City of Ballarat and Superintendent.

49. Prior to the commencement of the works, the contractor shall provide to Superintendent and Council the following information:-
    a. Source of quarry material.
    b. Optimum Moisture Content and Maximum Modified Dry Density of the F.C.R to be used (from NATA approved laboratory).
    c. If the source of the quarry material is changed during the course of the works, new test results shall be provided.

50. Subgrade, sub base and base compaction densities shall be in accordance with that shown in Table 1 and Clause 304.07 of Vicroads Standard Specification for Roadworks and Bridgeworks.

51. Compaction testing must be undertaken by NATA approved laboratory.

52. Compaction testing and proof rolling shall be undertaken on same day.

53. Superindendent and Council must be given minimum 24 hours notice of proof roll.

54. All pavement areas shall be proof rolled in the presence of Superintendent and Council Inspection Engineer, at the expense of contractor and in accordance with AS 3798 and Clause 173 and 204.12 of Vicroads Standard Specification for Roadworks and Bridgeworks.

55. If more than 20 percent of pavement area fails proof roll then total area must be reworked.

56. The next layer of pavement shall not be placed until previous layer has been approved. Following approval the contractor shall ensure that the next layer is placed within a reasonable period of time. If this is not possible it is the contractors responsibility to protect the pavement already approved. Failure to do so shall render contractor responsible for any pavement damage and rectification.

57. All geotechnical and compaction results are to be submitted to Superintendent and Council.

DRAINAGE

58. Drainage and pits to be set out from offsets shown rather than from centreline pipe chainages.

59. Stormwater pits shall be reinforced concrete and constructed in accordance with IDM and City of Ballarat Specifications and Standard Drawings. Minimum drop through pit shall be 20mm unless shown otherwise. For specific details refer Pit Schedule and IDM Standard Drawings SD 400 to SD 495. Minimum Concrete Strength F'c 25MPa at 28 Days.

60. Precast pits are permitted where manufacturer can demonstrate compliance with requirements of IDM and City of Ballarat Specifications and Standard Drawings.

61. Pit Covers and surrounds in trafficable areas shall be Class D Gatic or similar, other areas shall be Class B precast reinforced concrete unless otherwise shown.

62. All pipes under pavement to be RCP(RRJ) Class 3. All 150mm diameter pipes to be UPVC SN4. Pipes other than under pavement or trafficable area may be approved ribbed stormwater pipe such as Blackmax or Stormpro®. Where ribbed stormwater pipe is used embedment shall be to manufacturers specification.

63. Pipe trenches beneath the road pavement and footpath to be backfilled with 20mm Class 3 F.C.R. At all other locations backfill with an approved material to a minimum 300mm above top of pipe. Backfill material shall be in maximum 150mm layers and in accordance with BCC Standard Drawing SD-D8-1.

64. Pipe trenches behind kerb and in easements or nature strips to be backfilled with Red Dredge or other approved material in 150mm layers to 300mm above top of pipe and in accordance with BCC Standard Drawing SD-D8-1.

65. Easement Property Inlets at rear of property shall be 100mm PVC SN4 constructed in accordance with BCC Standard Drawing SD-D9 located 1.0m. from the low corner of the lot unless otherwise shown.

66. House Drain Property Inlets at front of property shall be 100mm PVC SN4 constructed in accordance with BCC Standard Drawing SD-D9 and located 1.0m from the low corner of the lot unless otherwise shown. Lots denoted H shall be connected to kerb. Lots denoted PI shall be connected to pipe to pit.

67. Property Inlets for allotments shall be at a sufficient depth to control drainage at minimum of 1 in 200 fall from all points within the building area.

68. All proposed drainage stubs to be blanked off at end of pipe with timber planks to the satisfaction of the Superintendent and Council supervising engineer.

69. All drainage backfill under pavement shall be tested and results provided to the Superintendent.

SERVICES

70. All service trenches under footpath, vehicular crossings and kerb & channel shall be backfilled with 20mm Class 3 crushed rock. All service conduit trenches under road pavement shall be backfilled with compacted crushed rock.

71. Gas and water conduits and mains must be laid in trenches excavated and backfilled by the contractor. Conduits are to be 50mm diameter Class 12 PVC service conduits laid at a minimum depth of 600mm below finished surface level. Contractor shall supply all sand embedment. The contractor shall give the gas contractor 7 days notice prior to commencing work.

72. Telecommunications conduits and cable ducts must be laid in trenches excavated and backfilled by the contractor. Conduits are to be type and size as shown on approved telecommunications plans and laid at a minimum depth of 600mm below finished surface level. Contractor shall supply all sand embedment. The contractor shall give the Telecommunications contractor 7 days notice prior to commencing work.

73. Electrical conduits and cables must be laid in trenches excavated and backfilled by an VEDN approved contractor. Conduits are to be type and size as shown on approved electrical plans and laid at a minimum depth of 600mm below finished surface level. Contractor shall supply all sand embedment. The contractor shall give the Electrical contractor 7 days notice prior to commencing work.

74. All conduit ends immediately upon placement of the conduit must be plugged.

75. Conduits under footpaths to be 450mm deep extending a minimum of 250mm either side of the path. The footpath above the conduits is to be marked with two contraction joints over the conduits 400mm apart.

76. The reinstatement and compaction of public authority service trenches shall be the contractor's responsibility.

77. The contractor must note the existence of telecom, gas, power, water and any other services in the area prior to tendering. Any disturbance to existing services, footpaths etc. shall be rectified at the contractor's expense to the satisfaction of the superintendent and relevant service authority as appropriate.

ATTENTION TO CONTRACTOR

In accordance with Clause 15 of AS2124 Australian Standard Conditions of Contract, the contractor must ensure the safety of the contractor's employees and all other people who are on or adjacent to the site. The contractor must comply with the Victorian Occupational Health and Safety Act

78. The contractor must ensure that all people employed on the site wear approved safety apparel. This includes safety helmets, vests, safety boots, eye & ear protection, where appropriate.

79. The contractor shall reinstate any affected footpath, vehicle crossing and nature strip to the satisfaction of the City of Ballarat

80. Beveridge Williams & Co Pty Ltd is responsible for design of the works. Any proposed alterations to the design shall be directed to the consultant for approval prior to making any alterations to the design.

81. The contractor is directly responsible for the setout. Should actual site conditions conflict in any way with that documented, the contractor must contact the office of Beveridge Williams & Co. Pty. Ltd. for clarification before proceeding.

SITE PLAN

NOT TO SCALE

APPROVED
By JeffColb at 5:08 pm, May 13, 2020

AS CONSTRUCTED PLANS

DRAWING INDEX

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REV	DESCRIPTION	DATE	DRN.	APP.
D	CAPPING LAYER DESCRIPTION CHANGE	24.10.19	TT	JS
C	INTEGRA REVIEW	03.10.19	JS	JZ
B	AMENDED DRAINAGE	28.08.19	TT	JS
A	AMENDED AS PER COUNCIL COMMENTS	08.07.19	JS	JZ
P1	AMENDED AS PER INTEGRA COMMENTS	29.05.19	JS	JZ
F	AS CONSTRUCTED PLANS	13.05.20	TT	JS
E	SODERDTROM PLACE TO SODER STROM STREET	06.02.20	TT	JS

Designed	J.SPARK
Date	29.01.19
Drawn	J.SPARK
Approved	J.ZAAL
Date	29.01.19
PS Number	PS825912E

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Project Details	LUCAS STAGE G3 CITY OF BALLARAT
Drawing Title	COVER SHEET

Sheet 01 of 26

Scale: NOT TO SCALE

Project Ref	Stage No	Drawing No	Rev
1800971	G3	001	F

N

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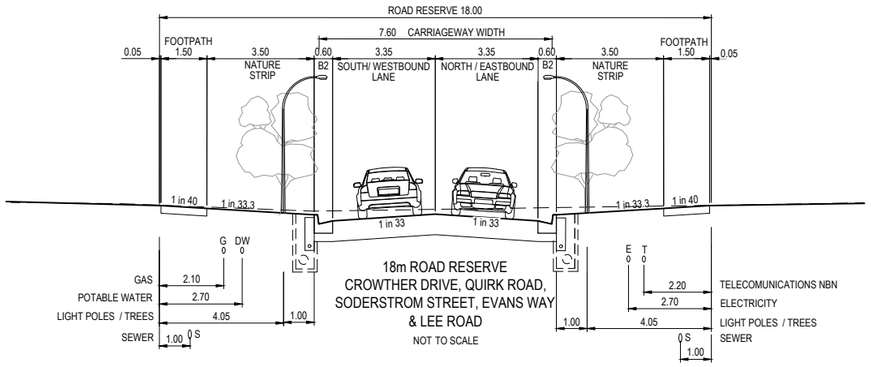
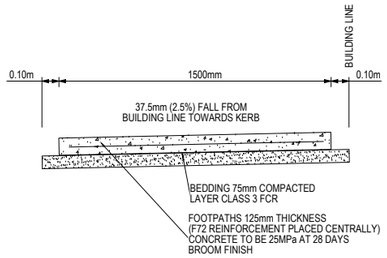
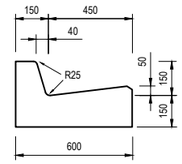


18m ROAD RESERVE
CROWTHER DRIVE, QUIRK ROAD,
SODERSTROM STREET, EVANS WAY
& LEE ROAD
NOT TO SCALE



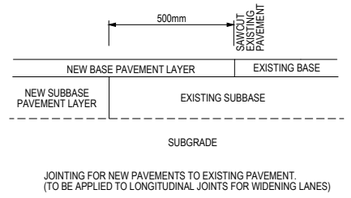
EXPANSION JOINTS TO BE CONSTRUCTED WITH BITUMINOUS FIBRE BOARD OR EQUIVALENT. THEY SHALL BE PLACED EVERY 12 METRES, AT BOTH SIDES OF DRIVEWAYS AND WHERE PEDESTRIAN LAYBACKS ARE CONSTRUCTED. TRAVERSE JOINTS AT 1.5 METRES SPACINGS. WHERE REQUIRED STARTER BARS TO BE USED TO TIE INTO EXISTING PAVING.

FOOTPATH DETAIL
NOT TO SCALE



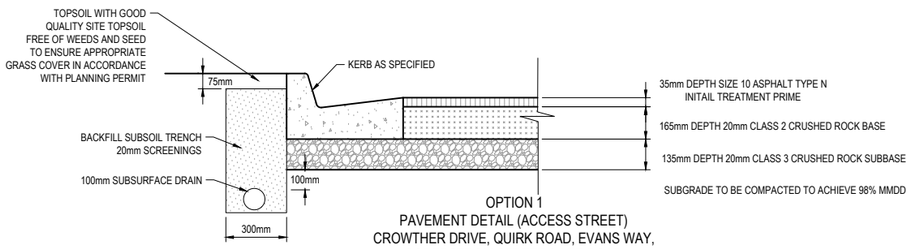
BARRIER KERB No. 2

KERB DETAILS

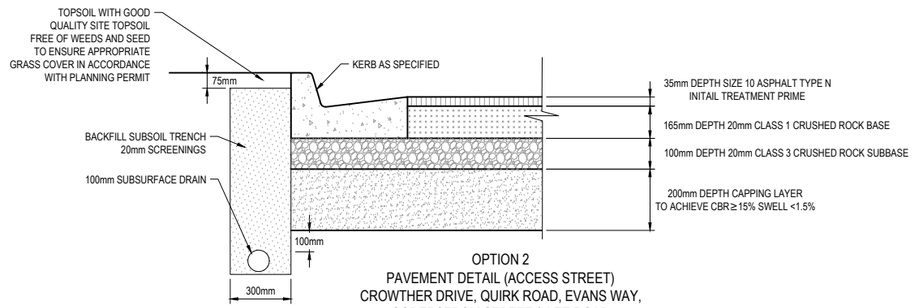


JOINTING FOR NEW PAVEMENTS TO EXISTING PAVEMENT.
(TO BE APPLIED TO LONGITUDINAL JOINTS FOR WIDENING LANES)

PAVEMENT JOINT
LAPPING BASE LAYER
NOT TO SCALE



OPTION 1
PAVEMENT DETAIL (ACCESS STREET)
CROWTHER DRIVE, QUIRK ROAD, EVANS WAY,
SODERSTROM STREET & LEE ROAD
NOT TO SCALE
SUBGRADE TO BE EVALUATED IN CONSULTATION WITH CITY OF BALLARAT TO DETERMINE APPROPRIATE PAVEMENT OPTION



OPTION 2
PAVEMENT DETAIL (ACCESS STREET)
CROWTHER DRIVE, QUIRK ROAD, EVANS WAY,
SODERSTROM STREET & LEE ROAD
NOT TO SCALE
SUBGRADE TO BE EVALUATED IN CONSULTATION WITH CITY OF BALLARAT TO DETERMINE APPROPRIATE PAVEMENT OPTION

WARNING
BEWARE OF UNDERGROUND SERVICES
The locations of underground services are approximate only and their exact position should be proven on site,
No guarantee is given that all existing services are shown.
Locate all underground services before commencement of works
DIAL 1100 BEFORE YOU DIG
www.1100.com.au

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APPROVED
By JeffColb at 5:08 pm, May 13, 2020

AS CONSTRUCTED PLANS

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D	CAPPING LAYER DESCRIPTION CHANGE	24.10.19	TT	JS
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A	AMENDED AS PER COUNCIL COMMENTS	08.07.19	JS	JZ
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Project Details	LUCAS STAGE G3 CITY OF BALLARAT
Drawing Title	TYPICAL ROAD CROSS SECTIONS, PAVEMENT MAKEUP & GENERAL DETAILS

Sheet 02 of 26
Scale: NOT TO SCALE

Project Ref	Stage No	Drawing No	Rev
1800971	G3	002	F

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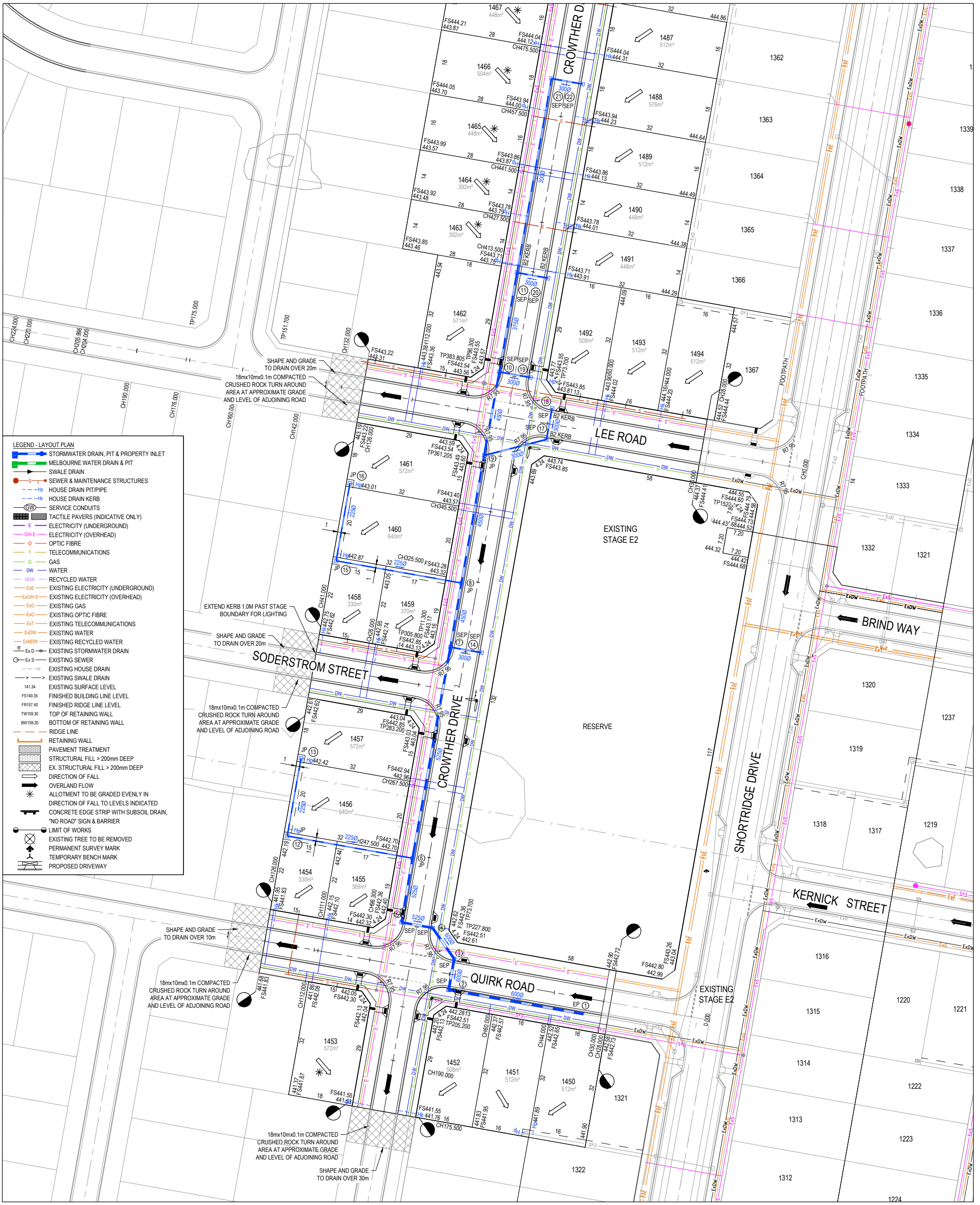
FOR CONTINUATION REFER SHEET 4



LEGEND - LAYOUT PLAN

- STORMWATER DRAIN, PIT & PROPERTY INLET
- MELBOURNE WATER DRAIN & PIT
- SWALE DRAIN
- SEWER & MAINTENANCE STRUCTURES
- Hp HOUSE DRAIN PIT/PIPE
- Hk HOUSE DRAIN KERB
- GW SERVICE CONDUITS
- TACTILE PAVERS (INDICATIVE ONLY)
- E ELECTRICITY (UNDERGROUND)
- O/H E ELECTRICITY (OVERHEAD)
- O OPTIC FIBRE
- T TELECOMMUNICATIONS
- G GAS
- DW WATER
- NDW RECYCLED WATER
- ExE EXISTING ELECTRICITY (UNDERGROUND)
- ExO/H E EXISTING ELECTRICITY (OVERHEAD)
- ExG EXISTING GAS
- ExO EXISTING OPTIC FIBRE
- ExT EXISTING TELECOMMUNICATIONS
- ExDW EXISTING WATER
- ExNDW EXISTING RECYCLED WATER
- Ex D EXISTING STORMWATER DRAIN
- Ex S EXISTING SEWER
- H EXISTING HOUSE DRAIN
- EXISTING SWALE DRAIN
- 141.34 EXISTING SURFACE LEVEL
- FS140.35 FINISHED BUILDING LINE LEVEL
- FR157.40 FINISHED RIDGE LINE LEVEL
- TW159.30 TOP OF RETAINING WALL
- BW159.30 BOTTOM OF RETAINING WALL
- RIDGE LINE
- RETAINING WALL
- PAVEMENT TREATMENT
- STRUCTURAL FILL > 200mm DEEP
- EX. STRUCTURAL FILL > 200mm DEEP
- DIRECTION OF FALL
- OVERLAND FLOW
- ALLOTMENT TO BE GRADED EVENLY IN DIRECTION OF FALL TO LEVELS INDICATED
- CONCRETE EDGE STRIP WITH SUBSOIL DRAIN, "NO ROAD" SIGN & BARRIER
- LIMIT OF WORKS
- EXISTING TREE TO BE REMOVED
- PERMANENT SURVEY MARK
- TEMPORARY BENCH MARK
- PROPOSED DRIVEWAY

SERVICES OFFSET SCHEDULE

ROAD NAME	GAS		WATER		ELECTRICITY		TELECOMUNICATIONS		SEWER	
	SIDE	OFFSET (m)	SIDE	OFFSET (m)	SIDE	OFFSET (m)	SIDE	OFFSET (m)	SIDE	OFFSET
CROWTHER DRIVE	EAST	2.1	EAST	2.7	WEST	2.7	WEST	2.1	WEST	1.0
EVANS WAY	SOUTH	2.1	SOUTH	2.7	NORTH	2.7	NORTH	2.0	NORTH	1.0
LEE ROAD	SOUTH	2.1	SOUTH	2.7	NORTH	2.7	NORTH	2.1	SOUTH	1.0
SODERSTROM STREET	SOUTH	2.1	SOUTH	2.7	NORTH	2.7	NORTH	2.1	SOUTH	1.0
QUIRK WAY	SOUTH	2.1	SOUTH	2.7	NORTH	2.7	NORTH	2.1	SOUTH	1.0

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APPROVED
By JeffColb at 5:08 pm, May 13, 2020

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F	AS CONSTRUCTED PLANS	13.05.20	TT	JS
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D	CAPPING LAYER DESCRIPTION CHANGE	24.10.19	TT	JS
C	INTEGRA REVIEW	03.10.19	JS	JZ
B	AMENDED DRAINAGE	28.08.19	TT	JS

0 5 10 20 30 40 50

Designed J.SPARK 29.01.19
Drawn J.SPARK
Approved J.ZAAL 29.01.19
PS Number PS825912E

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Project Details: LUCAS STAGE G3 CITY OF BALLARAT

Drawing Title: LAYOUT PLAN (SHEET 1 OF 2)

Sheet 03 of 26

Scale 1:500 @ A1

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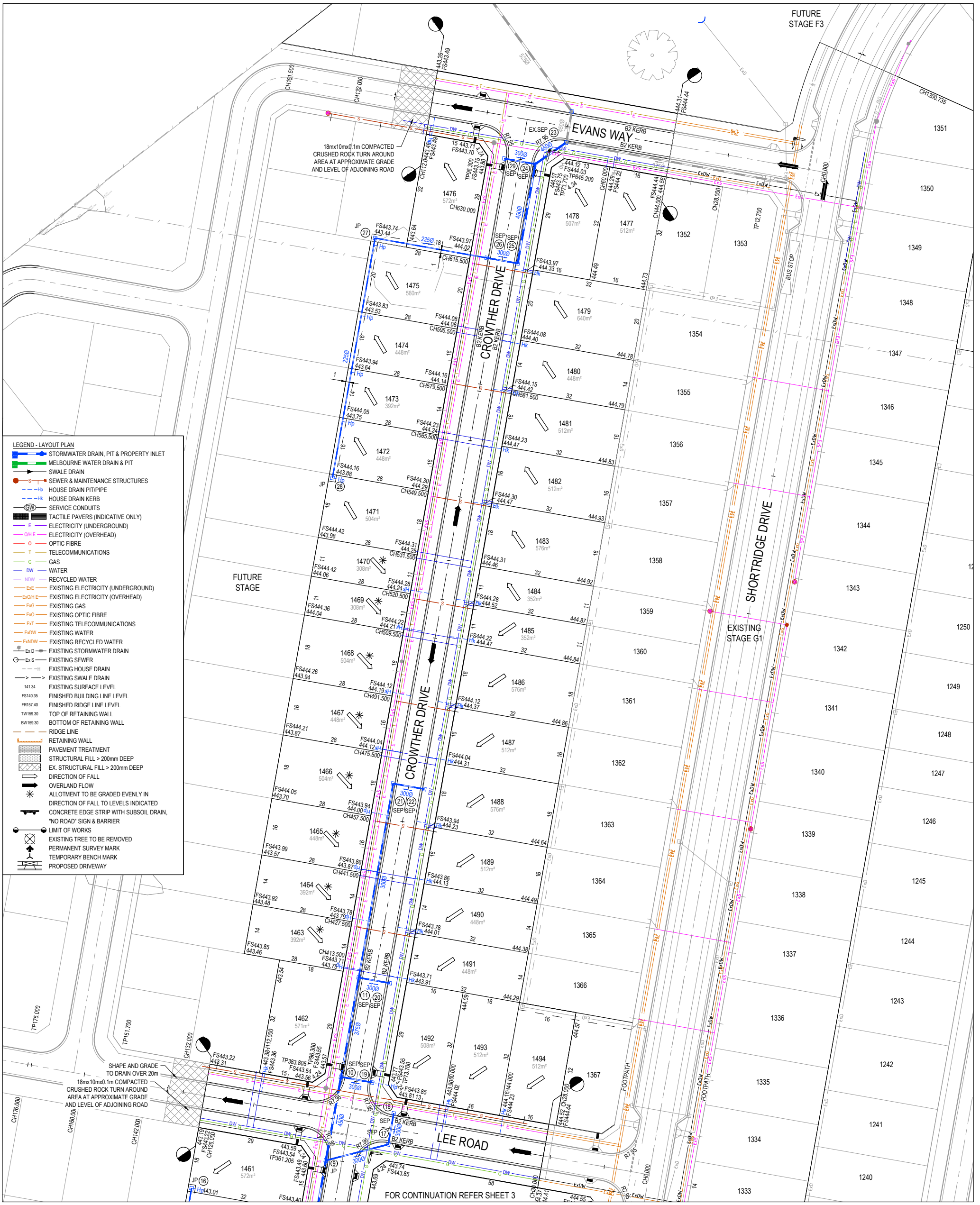
Project Ref	Stage No	Drawing No	Rev
1800971	G3	010	F



LEGEND - LAYOUT PLAN

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- ExG EXISTING GAS
- ExO EXISTING OPTIC FIBRE
- ExT EXISTING TELECOMMUNICATIONS
- ExDW EXISTING WATER
- ExNDW EXISTING RECYCLED WATER
- Ex D EXISTING STORMWATER DRAIN
- Ex S EXISTING SEWER
- EXISTING HOUSE DRAIN
- EXISTING SWALE DRAIN
- 141.34 EXISTING SURFACE LEVEL
- FS140.35 FINISHED BUILDING LINE LEVEL
- FR157.40 FINISHED RIDGE LINE LEVEL
- TW159.30 TOP OF RETAINING WALL
- BW159.30 BOTTOM OF RETAINING WALL
- RIDGE LINE
- RETAINING WALL
- PAVEMENT TREATMENT
- STRUCTURAL FILL > 200mm DEEP
- EX. STRUCTURAL FILL > 200mm DEEP
- DIRECTION OF FALL
- OVERLAND FLOW
- ALLOTMENT TO BE GRADED EVENLY IN DIRECTION OF FALL TO LEVELS INDICATED
- CONCRETE EDGE STRIP WITH SUBSOIL DRAIN, "NO ROAD" SIGN & BARRIER
- LIMIT OF WORKS
- EXISTING TREE TO BE REMOVED
- PERMANENT SURVEY MARK
- TEMPORARY BENCH MARK
- PROPOSED DRIVEWAY

SERVICES OFFSET SCHEDULE

ROAD NAME	GAS		WATER		ELECTRICITY		TELECOMUNICATIONS		SEWER	
	SIDE	OFFSET (m)	SIDE	OFFSET (m)	SIDE	OFFSET (m)	SIDE	OFFSET (m)	SIDE	OFFSET
CROWTHER DRIVE	EAST	2.1	EAST	2.7	WEST	2.7	WEST	2.1	WEST	1.0
EVANS WAY	SOUTH	2.1	SOUTH	2.7	NORTH	2.7	NORTH	2.0	NORTH	1.0
LEE ROAD	SOUTH	2.1	SOUTH	2.7	NORTH	2.7	NORTH	2.1	SOUTH	1.0
SODERSTROM STREET	SOUTH	2.1	SOUTH	2.7	NORTH	2.7	NORTH	2.1	SOUTH	1.0
QUIRK WAY	SOUTH	2.1	SOUTH	2.7	NORTH	2.7	NORTH	2.1	SOUTH	1.0

WARNING

BEWARE OF UNDERGROUND SERVICES

The locations of underground services are approximate only and their exact position should be proven on site.
No guarantee is given that all existing services are shown.
Locate all underground services before commencement of works

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APPROVED
By JeffColb at 5:08 pm, May 13, 2020

AS CONSTRUCTED PLANS

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REV	DESCRIPTION	DATE	DRN.	APP.
F	AS CONSTRUCTED PLANS	13.05.20	TT	JS
E	SODERDTROM PLACE TO SODER STROM STREET	06.02.20	TT	JS
D	CAPPING LAYER DESCRIPTION CHANGE	24.10.19	TT	JS
C	INTEGRA REVIEW	03.10.19	JS	JZ
B	AMENDED DRAINAGE	28.08.19	TT	JS

0 5 10 20 30 40 50

Designed J.SPARK 29.01.19
Drawn J.SPARK
Approved J.ZAAL 29.01.19
PS Number PS825912E

Beveridge Williams
96 Main Road
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ph: 03 5327 2000
www.beveridgewilliams.com.au

Project Details: LUCAS STAGE G3 CITY OF BALLARAT

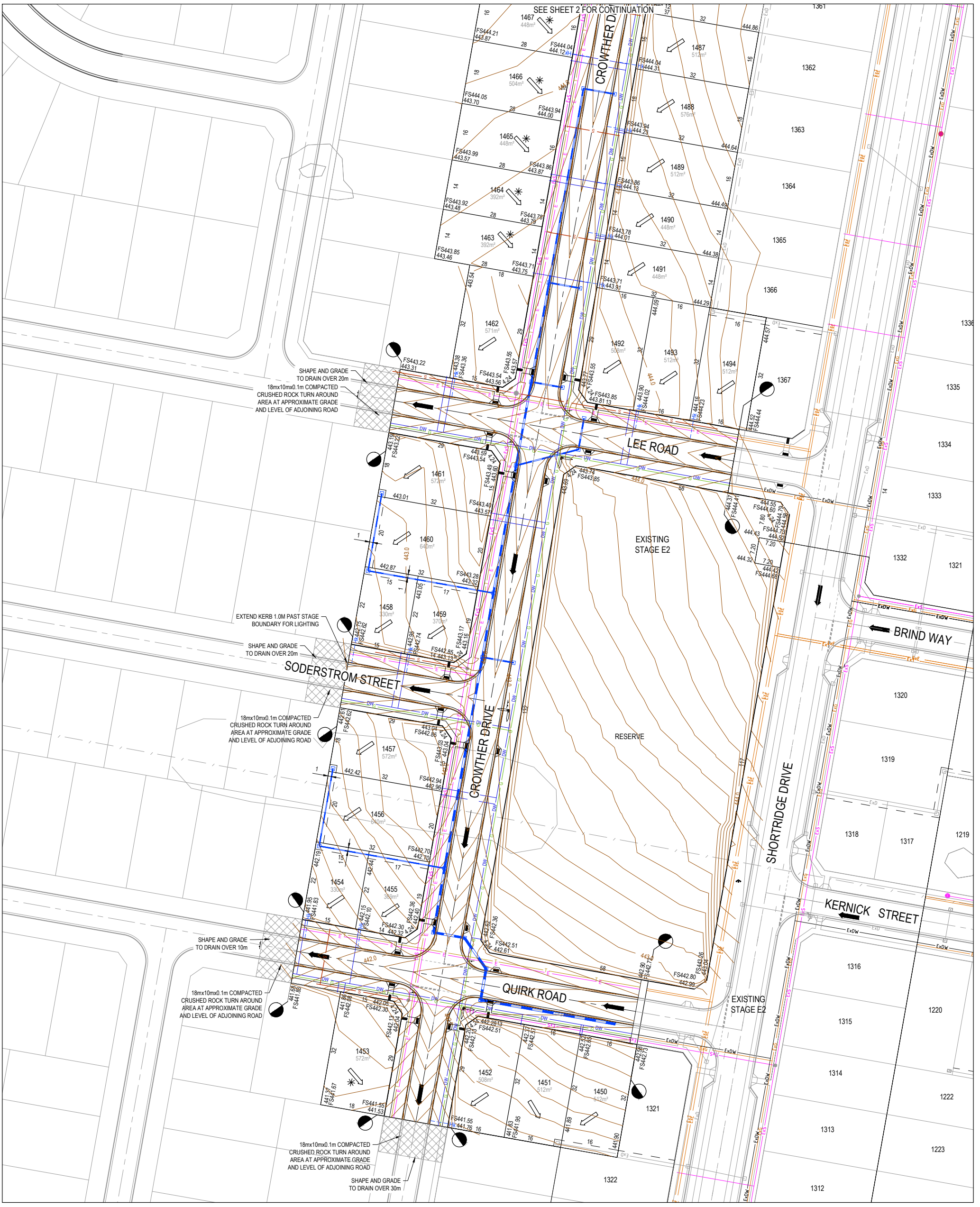
Drawing Title: LAYOUT PLAN (SHEET 2 OF 2)

Sheet 04 of 26

Scale 1:500 @ A1

N

Project Ref	Stage No	Drawing No	Rev
1800971	G3	011	F



LEGEND - LAYOUT PLAN

- STORMWATER DRAIN, PIT & PROPERTY INLET
- SWALE DRAIN
- SEWER & MAINTENANCE STRUCTURES
- HOUSE DRAIN
- SERVICE CONDUITS
- ELECTRICITY (UNDERGROUND)
- ELECTRICITY (OVERHEAD)
- OPTIC FIBRE
- TELECOMMUNICATIONS
- GAS
- WATER
- RECYCLED WATER
- EXISTING STORMWATER DRAIN
- EXISTING ELECTRICITY (UNDERGROUND)
- EXISTING ELECTRICITY (OVERHEAD)
- EXISTING GAS
- EXISTING OPTIC FIBRE
- EXISTING TELECOMMUNICATIONS
- EXISTING WATER
- EXISTING RECYCLED WATER
- EXISTING SEWER
- EXISTING HOUSE DRAIN
- EXISTING SWALE DRAIN
- TACTILE PAVERS (INDICATIVE ONLY)
- EXISTING SURFACE LEVEL
- FINISHED BUILDING LINE LEVEL
- FINISHED RIDGE LINE LEVEL
- TOP OF RETAINING WALL
- BOTTOM OF RETAINING WALL
- RIDGE LINE
- RETAINING WALL
- ZERO LOT LINES
- PAVEMENT TREATMENT
- STRUCTURAL FILL > 200mm DEEP
- EX. STRUCTURAL FILL > 200mm DEEP
- DIRECTION OF FALL
- OVERLAND FLOW
- ALLOTMENT TO BE GRADED EVENLY IN DIRECTION OF FALL TO LEVELS INDICATED
- CONCRETE EDGE STRIP WITH SUBSOIL DRAIN, "NO ROAD" SIGN & BARRIER
- LIMIT OF WORKS
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APPROVED
By JeffColb at 5:08 pm, May 13, 2020

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B	AMENDED DRAINAGE	28.08.19	TT	JS

0 5 10 20 30 40 50

Designed J.SPARK 29.01.19
Drawn J.SPARK
Approved J.ZAAL 29.01.19
PS Number PS825912E

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Project Details: LUCAS STAGE G3 CITY OF BALLARAT

Drawing Title: FINISHED SURFACE & OVERLAND FLOW PLAN (SHEET 1 OF 2)

Sheet 05 of 26

Scale 1:500 @ A1

Project Ref	Stage No	Drawing No	Rev
1800971	G3	012	F

LEGEND - LAYOUT PLAN

- STORMWATER DRAIN, PIT & PROPERTY INLET
- SWALE DRAIN
- SEWER & MAINTENANCE STRUCTURES
- HOUSE DRAIN
- SERVICE CONDUITS
- ELECTRICITY (UNDERGROUND)
- ELECTRICITY (OVERHEAD)
- OPTIC FIBRE
- TELECOMMUNICATIONS
- GAS
- WATER
- RECYCLED WATER

- EXISTING STORMWATER DRAIN
- EXISTING ELECTRICITY (UNDERGROUND)
- EXISTING ELECTRICITY (OVERHEAD)
- EXISTING GAS
- EXISTING OPTIC FIBRE
- EXISTING TELECOMMUNICATIONS
- EXISTING WATER
- EXISTING RECYCLED WATER
- EXISTING SEWER
- EXISTING HOUSE DRAIN
- EXISTING SWALE DRAIN
- TACTILE PAVERS (INDICATIVE ONLY)

- EXISTING SURFACE LEVEL
- FINISHED BUILDING LINE LEVEL
- FINISHED RIDGE LINE LEVEL
- TOP OF RETAINING WALL
- BOTTOM OF RETAINING WALL
- RIDGE LINE
- RETAINING WALL
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- STRUCTURAL FILL > 200mm DEEP
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- DIRECTION OF FALL
- OVERLAND FLOW
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APPROVED
By JeffColb at 5:09 pm, May 13, 2020

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B	AMENDED DRAINAGE	28.08.19	TT	JS

0 5 10 20 30 40 50

Designed J.SPARK 29.01.19
Drawn J.SPARK
Approved J.ZAAL 29.01.19
PS Number PS825912E

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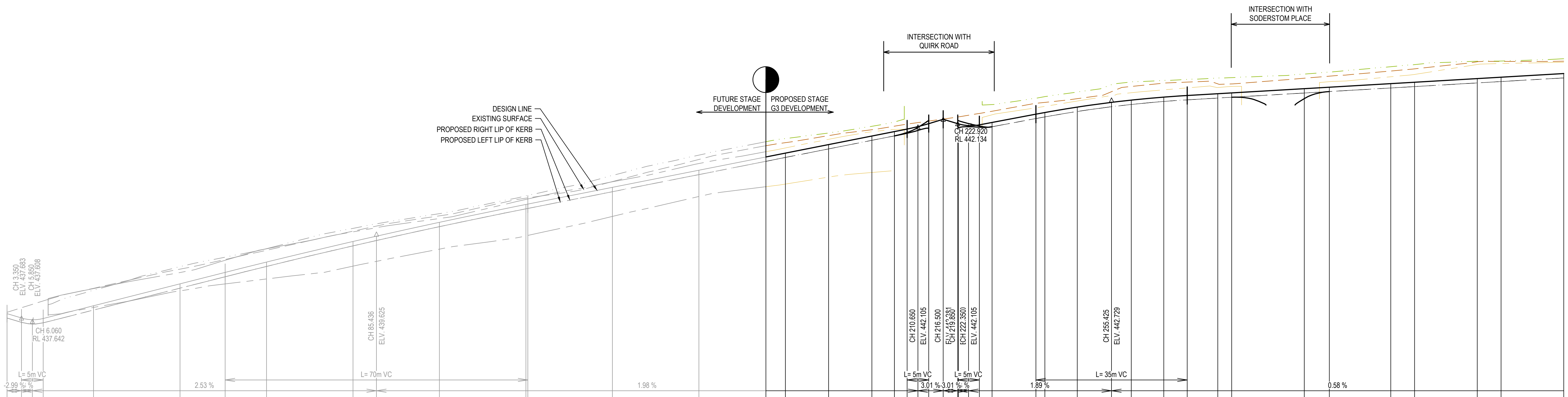
Project Details: LUCAS STAGE G3 CITY OF BALLARAT
Drawing Title: FINISHED SURFACE & OVERLAND FLOW PLAN (SHEET 2 OF 2)

Sheet 06 of 26
Scale 1:500 @ A1
N

Project Ref	Stage No	Drawing No	Rev
1800971	G3	013	F

LEGEND

- EXISTING SURFACE
- DESIGN LINE
- FUTURE DESIGN LINE
- RIGHT BUILDING LINE
- RIGHT LIP OF KERB
- LEFT BUILDING LINE
- LEFT LIP OF KERB



VERTICAL GEOMETRY

HORIZONTAL GEOMETRY

DATUM RL435

CHAINAGE	DESIGN CENTRELINE	RIGHT LIP OF KERB	EXISTING SURFACE AT RIGHT BOUNDARY	LEFT LIP OF KERB	EXISTING SURFACE AT LEFT BOUNDARY	EXISTING SURFACE
0.000	437.783	437.682		437.682		437.814
3.350	437.683	437.583		437.583		437.920
5.850	437.643	437.543		437.543		437.999
8.350	437.671	437.571		437.571		438.078
20.000	437.967	437.866	438.323	437.866	438.363	438.370
40.000	438.473	438.373	438.868	438.373	438.735	438.813
50.436	438.738	438.637	439.089	438.637	439.018	439.038
60.000	438.977	438.876	439.287	438.876	439.284	439.249
80.000	439.453	439.352	439.757	439.352	439.676	439.692
85.436	439.577	439.476	439.860	439.476	439.773	439.810
100.000	439.897	439.796	440.097	439.796	439.985	440.047
120.000	440.310	440.209	440.507	440.209	440.426	440.455
120.436	440.318	440.218	440.517	440.218	440.436	440.462
140.000	440.706	440.605	440.980	440.605	440.834	440.840
160.000	441.102	441.001	441.451	441.001	441.258	441.352
175.500	441.409	441.308	441.762	441.308	441.531	441.669
180.000	441.498	441.397	441.834	441.397	441.618	441.740
190.000	441.696	441.596	441.963	441.596	441.818	441.902
200.000	441.894	441.794	442.119	441.794	441.992	442.039
205.200	441.997	441.897	442.217	441.897	442.045	442.121
208.150	442.055					442.169
210.650	442.111					442.204
213.150	442.180					442.239
216.500	442.281					442.286
219.850	442.180					442.333
220.000	442.176					442.336
222.350	442.136					442.375
224.850	442.152					442.415
227.800	442.208	442.107	442.622	442.107	442.384	442.468
237.925	442.399	442.298	442.767	442.298	442.545	442.650
240.000	442.437	442.337	442.805	442.337	442.579	442.671
247.500	442.562	442.462	442.911	442.462	442.703	442.758
255.425	442.672	442.571	443.079	442.571	442.826	442.919
260.000	442.725	442.624	443.144	442.624	442.896	443.040
267.500	442.794	442.693	443.177	442.693	442.962	443.117
272.925	442.831	442.731	443.201	442.731	443.007	443.141
280.000	442.872	442.772	443.232	442.772	443.017	443.100
283.200	442.891	442.791	443.245	442.791	443.040	443.099
300.000	442.989	442.889	443.326	442.889		443.231
305.800	443.023	442.922	443.372	442.922	443.151	443.279
320.000	443.106	443.005	443.497	443.005	443.264	443.398
325.500	443.138	443.037	443.546	443.037	443.319	443.448
340.000	443.222	443.122	443.625	443.122	443.549	443.611
345.500	443.255	443.154	443.628	443.154	443.570	443.620
360.000	443.339	443.239	443.683	443.239	443.598	443.625

CROWTHER DRIVE LONGITUDINAL SECTION

APPROVED
By JeffColb at 5:09 pm, May 13, 2020

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C	INTEGRA REVIEW	03.10.19	JS	JZ
B	AMENDED DRAINAGE	28.08.19	TT	JS
A	AMENDED AS PER COUNCIL COMMENTS	08.07.19	JS	JZ
P1	AMENDED AS PER INTEGRA COMMENTS	29.05.19	JS	JZ

HORIZONTAL 0 5 10 20 30 40 50
VERTICAL 0 0.5 1 2 3 4 5

Designed J.SPARK
Date 29.01.19
Drawn J.SPARK
Approved J.ZAAL
Date 29.01.19
PS Number PS825912E

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Project Details: LUCAS, STAGE G3, CITY OF BALLARAT

Drawing Title: CROWTHER DRIVE LONGITUDINAL SECTIONS (SHEET 1 OF 6)

Scale: 1:500 H 1:50 V @ A1

Project Ref	Stage No	Drawing No	Rev
1800971	G3	100	F

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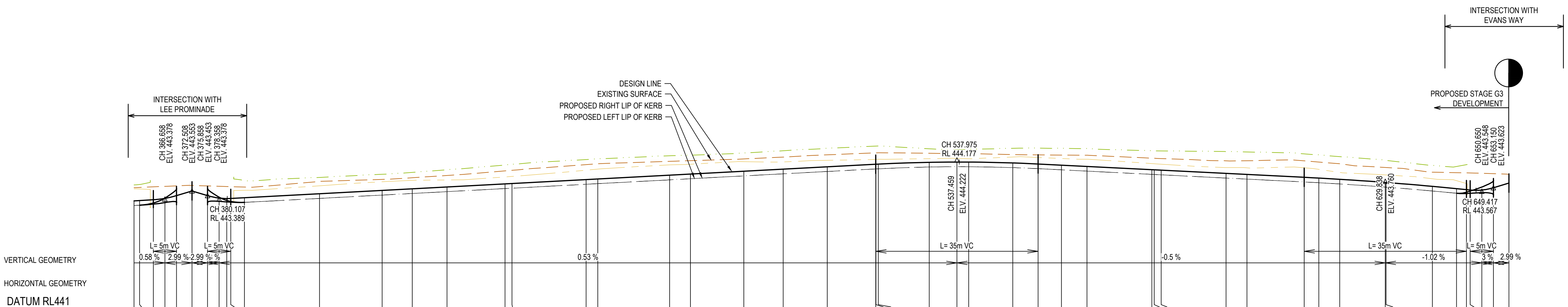

DATUM RL441

CHAINAGE	DESIGN CENTRELINE	RIGHT LIP OF KERB	EXISTING SURFACE AT RIGHT BOUNDARY	LEFT LIP OF KERB	EXISTING SURFACE AT LEFT BOUNDARY	EXISTING SURFACE
360.000	443.339	443.239	443.683	443.239	443.598	443.625
361.205	443.346	443.246	443.693	443.246	443.595	443.629
364.158	443.363					443.642
366.658	443.393					443.652
369.158	443.453					443.663
372.508	443.553					443.673
375.858	443.453					443.662
378.358	443.400					443.653
380.000	443.389					443.648
380.858	443.391					443.645
383.805	443.407		443.779		443.567	443.637
400.000	443.493	443.392	443.844	443.392	443.665	443.758
413.500	443.564	443.464	443.913	443.464	443.751	443.801
420.000	443.599	443.498	443.953	443.498	443.781	443.838
427.500	443.639	443.538	444.009	443.538	443.790	443.887
440.000	443.705	443.604	444.112	443.604	443.855	443.986
441.500	443.713	443.612	444.125	443.612	443.866	443.999
457.500	443.798	443.697	444.230	443.697	444.002	444.121
460.000	443.811	443.711	444.244	443.711	444.025	444.140
475.500	443.893	443.793	444.312	443.793	444.116	444.193
480.000	443.917	443.817	444.325	443.817	444.130	444.207
491.500	443.978	443.878	444.370	443.878	444.185	444.245
500.000	444.023	443.923	444.421	443.923	444.179	444.284
509.500	444.074	443.973	444.471	443.973	444.214	444.333
519.959	444.129	444.029	444.521	444.029	444.235	444.375
520.000	444.129	444.029	444.522	444.029	444.235	444.375
520.500	444.132	444.031	444.524	444.031	444.237	444.377
531.500	444.171	444.070	444.463	444.070	444.251	444.366
537.459	444.177	444.076	444.443	444.076	444.257	444.362
540.000	444.176	444.076	444.450	444.076	444.251	444.359
549.500	444.157	444.057	444.473	444.057	444.286	444.339
554.959	444.134	444.034	444.477	444.034	444.276	444.332
560.000	444.109	444.009	444.471	444.009	444.254	444.328
565.500	444.082	443.981	444.466	443.981	444.238	444.324
579.500	444.012	443.911	444.420	443.911	444.144	444.261
580.000	444.009	443.909	444.419	443.909	444.140	444.258
581.500	444.002	443.901	444.416	443.901	444.131	444.253
595.500	443.932	443.831	444.404	443.831	444.059	444.204
600.000	443.909	443.809	444.394	443.809	444.052	444.205
612.338	443.848	443.747	444.354	443.747	444.053	444.203
615.500	443.831	443.730	444.329	443.730	444.019	444.177
620.000	443.805	443.704	444.295	443.704	443.953	444.140
629.838	443.737	443.637	444.215	443.637	443.899	444.061
630.000	443.736	443.636	444.213	443.636	443.898	444.060
640.000	443.652	443.552	444.102	443.552	443.816	443.958
645.200	443.603	443.503	444.081	443.503	443.776	443.948
647.338	443.582		444.121		443.714	443.944
648.150	443.573					443.942
650.650	443.573					443.934
653.150	443.623					443.926
656.500	443.723					443.912

CROWTHER DRIVE LONGITUDINAL SECTION

LEGEND
- EXISTING SURFACE
- DESIGN LINE
- FUTURE DESIGN LINE
- RIGHT BUILDING LINE
- RIGHT LIP OF KERB
- LEFT BUILDING LINE
- LEFT LIP OF KERB

APPROVED
By JeffColb at 5:09 pm, May 13, 2020

AS CONSTRUCTED PLANS

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REV	DESCRIPTION	DATE	DRN.	APP.	REV	DESCRIPTION	DATE	DRN.	APP.
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C	INTEGRA REVIEW	03.10.19	JS	JZ					
B	AMENDED DRAINAGE	28.08.19	TT	JS					
A	AMENDED AS PER COUNCIL COMMENTS	08.07.19	JS	JZ	F	AS CONSTRUCTED PLANS	13.05.20	TT	JS
P1	AMENDED AS PER INTEGRA COMMENTS	29.05.19	JS	JZ	E	SODERDTROM PLACE TO SODER STROM STREET	06.02.20	TT	JS

HORIZONTAL 0 5 10 20 30 40 50
VERTICAL 0 0.5 1 2 3 4 5

Designed J.SPARK
Date 29.01.19
Drawn J.SPARK
Approved J.ZAAL
Date 29.01.19
PS Number PS825912E

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Project Details: LUCAS
STAGE G3
CITY OF BALLARAT

Drawing Title: CROWTHER DRIVE
LONGITUDINAL SECTIONS (SHEET 2 OF 6)

Scale 1:500 H 1:50 V @ A1

Project Ref	Stage No	Drawing No	Rev
1800971	G3	101	F

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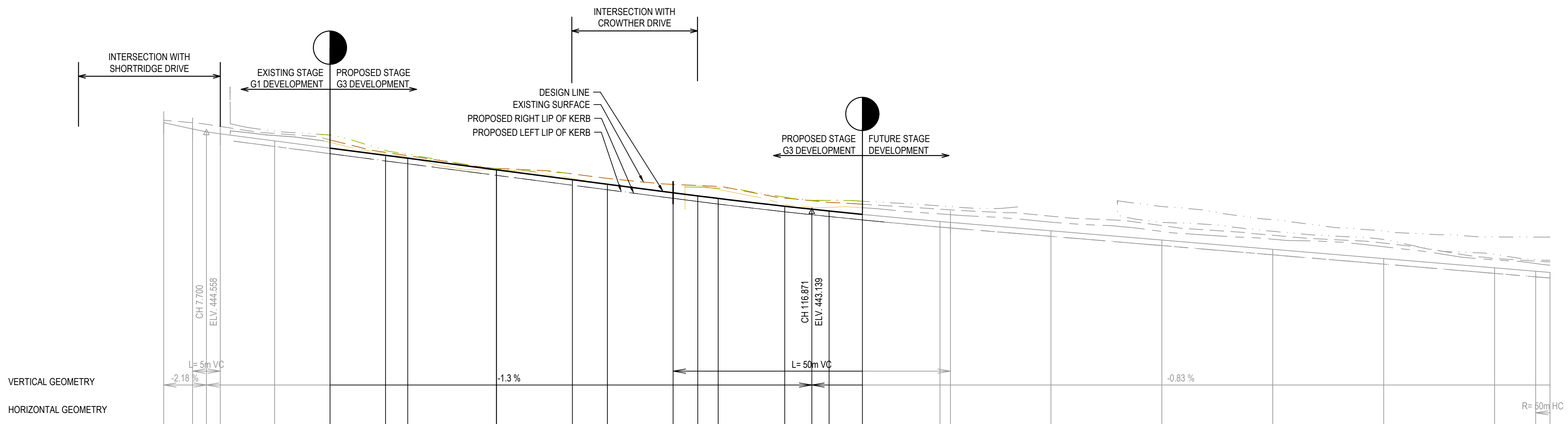

DATUM RL439

DESIGN CENTRELINE	444.726	444.613	444.564	444.526	444.398	444.268	444.138	444.086	443.878	443.878	443.700	443.618	443.464	443.407
RIGHT LIP OF KERB					444.298	444.168	444.038	443.986	443.778	443.778	443.600	443.518	443.363	443.307
EXISTING SURFACE AT RIGHT BOUNDARY					444.571	444.504	444.226	444.158	443.900	443.900	443.803			443.564
LEFT LIP OF KERB					444.298	444.168	444.038	443.986	443.778	443.778	443.600	443.518	443.363	443.307
EXISTING SURFACE AT LEFT BOUNDARY					444.495	444.371	444.167	444.108	443.875	443.875	443.724			443.589
EXISTING SURFACE	444.770	444.726	444.697	444.658	444.532	444.416	444.191	444.133	443.903	443.903	443.803	443.723	443.615	443.594
CHAINAGE	0.000	5.200	7.700	10.200	20.000	30.000	40.000	43.998	59.998	60.000	73.702	80.000	91.871	96.302

DESIGN CENTRELINE	443.361	443.221	443.168	443.135	443.075	442.946	442.930	442.779	442.612	442.445	442.279	442.112	442.050	442.028
RIGHT LIP OF KERB	443.261	443.121	443.068	443.035	442.974	442.846	442.830	442.679	442.512	442.345	442.178	442.011	441.949	441.928
EXISTING SURFACE AT RIGHT BOUNDARY	443.546	443.384	443.327	443.326	443.311	443.226	443.213		442.931	442.770	442.623	442.349	442.255	442.246
LEFT LIP OF KERB	443.261	443.121	443.068	443.035	442.974	442.846	442.830	442.679	442.512	442.345	442.178	442.011	441.949	441.928
EXISTING SURFACE AT LEFT BOUNDARY	443.526	443.258	443.203	443.200	443.195	443.083	443.069	442.934	442.767	442.627	442.491	442.255	442.190	442.160
EXISTING SURFACE	443.577	443.369	443.321	443.290	443.257	443.168	443.155	443.041	442.871	442.698	442.556	442.280	442.232	442.219
CHAINAGE	100.000	111.998	116.871	120.000	125.998	140.000	141.871	160.000	180.000	200.000	220.000	240.000	247.421	250.000

LEE ROAD LONGITUDINAL SECTION

APPROVED
By JeffColb at 5:09 pm, May 13, 2020

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REV	DESCRIPTION	DATE	DRN.	APP.
D	CAPPING LAYER DESCRIPTION CHANGE	24.10.19	TT	JS
C	INTEGRA REVIEW	03.10.19	JS	JZ
B	AMENDED DRAINAGE	28.08.19	TT	JS
A	AMENDED AS PER COUNCIL COMMENTS	08.07.19	JS	JZ
P1	AMENDED AS PER INTEGRA COMMENTS	29.05.19	JS	JZ

REV	DESCRIPTION	DATE	DRN.	APP.
F	AS CONSTRUCTED PLANS	13.05.20	TT	JS
E	SODERDTROM PLACE TO SODER STROM STREET	06.02.20	TT	JS

HORIZONTAL 0 5 10 20 30 40 50
VERTICAL 0 0.5 1 2 3 4 5

Designed J.SPARK
Date 29.01.19
Drawn J.SPARK
Approved J.ZAAL
Date 29.01.19
PS Number PS825912E

Beveridge Williams
96 Main Road
Ballarat Vic 3350
ph: 03 5327 2000
www.beveridgewilliams.com.au

Project Details: LUCAS
STAGE G3
CITY OF BALLARAT

Drawing Title: LEE ROAD
LONGITUDINAL SECTIONS (SHEET 3 OF 6)

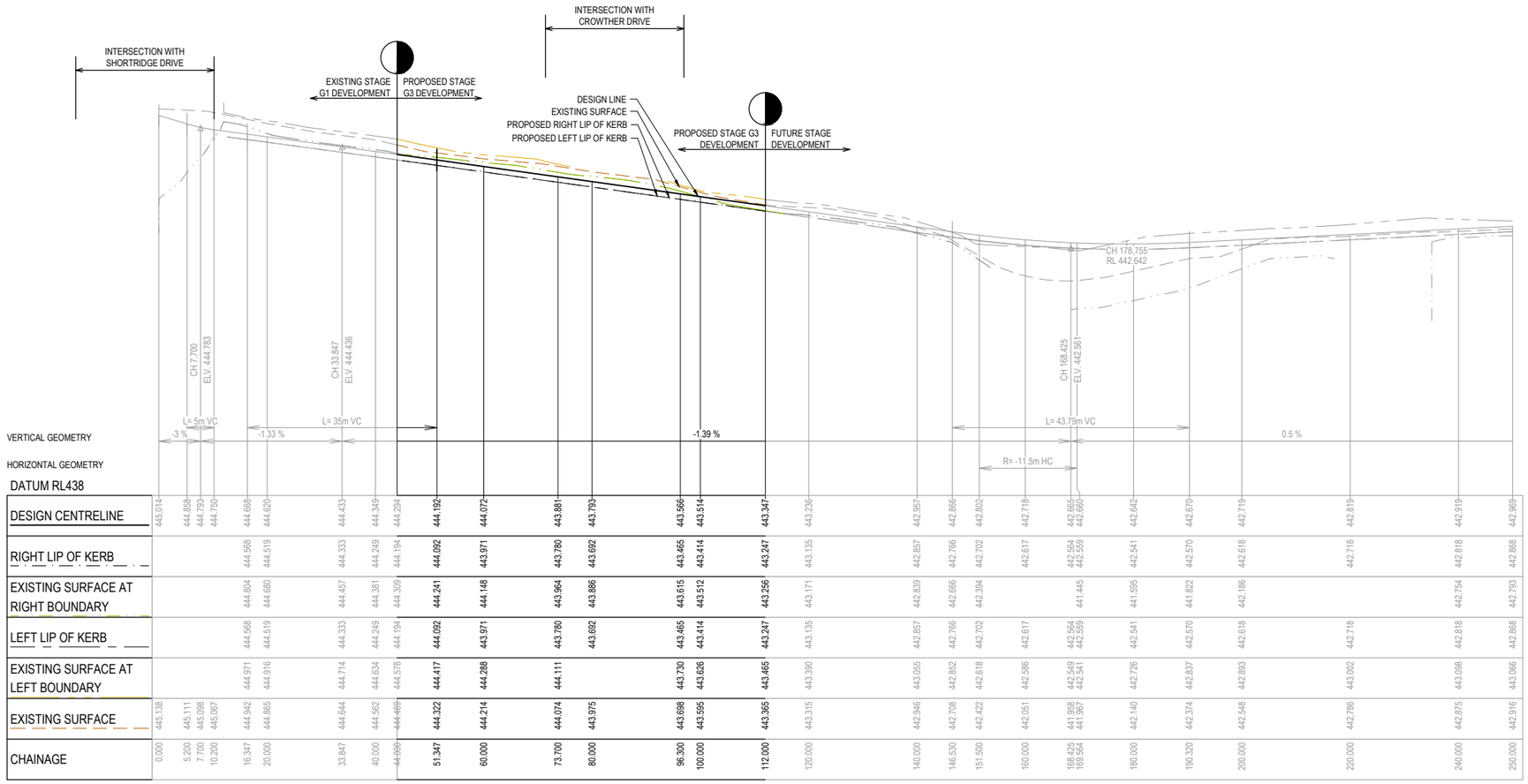
Sheet 09 of 26

Scale: 1:500 H 1:50 V @ A1

Project Ref	Stage No	Drawing No	Rev
1800971	G3	102	F

X:\18\1800971 Lucas_Eng\Stage G3\Drawings\1800971-G3-100-RLS.dwg

LEGEND
- EXISTING SURFACE
- DESIGN LINE
- FUTURE DESIGN LINE
- RIGHT BUILDING LINE
- RIGHT LIP OF KERB
- LEFT BUILDING LINE
- LEFT LIP OF KERB



CHAINAGE	0.000	5.200	7.700	10.200	16.347	20.000	33.847	40.000	44.666	51.347	60.000	73.700	80.000	96.300	100.000	112.000	120.000	140.000	146.530	151.500	160.000	168.425	169.564	180.000	190.320	200.000	220.000	240.000	250.000
DESIGN CENTRELINE	445.014	444.858	444.793	444.750	444.668	444.620	444.433	444.349	444.294	444.192	444.072	443.881	443.793	443.566	443.514	443.347	443.236	442.957	442.866	442.802	442.718	442.655	442.660	442.642	442.670	442.719	442.819	442.919	442.969
RIGHT LIP OF KERB					444.568	444.519	444.333	444.249	444.194	444.092	443.971	443.780	443.692	443.465	443.414	443.247	443.135	442.857	442.766	442.702	442.617	442.564	442.559	442.541	442.570	442.618	442.718	442.818	442.868
EXISTING SURFACE AT RIGHT BOUNDARY					444.804	444.680	444.457	444.381	444.309	444.241	444.148	443.964	443.886	443.615	443.512	443.256	443.171	442.839	442.666	442.394		441.445		441.595	441.822	442.186		442.754	442.793
LEFT LIP OF KERB					444.568	444.519	444.333	444.249	444.194	444.092	443.971	443.780	443.692	443.465	443.414	443.247	443.135	442.857	442.766	442.702	442.617	442.564	442.559	442.541	442.570	442.618	442.718	442.818	442.868
EXISTING SURFACE AT LEFT BOUNDARY					444.971	444.916	444.714	444.634	444.578	444.417	444.288	444.111		443.730	443.626	443.465	443.390	443.055	442.852	442.818	442.986	442.549	442.541	442.726	442.837	442.893	443.002	443.098	443.066
EXISTING SURFACE	445.138	445.111	445.098	445.067	444.942	444.865	444.644	444.562	444.469	444.322	444.214	444.074	443.975	443.698	443.595	443.365	443.315	442.946	442.708	442.422	442.051	441.958	441.967	442.140	442.374	442.548	442.786	442.875	442.916

EVAN WAY LONGITUDINAL SECTION

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P1	AMENDED AS PER INTEGRA COMMENTS	29.05.19	JS	JZ
F	AS CONSTRUCTED PLANS	13.05.20	TT	JS
E	SODERDTROM PLACE TO SODER STROM STREET	06.02.20	TT	JS

HORIZONTAL 0 5 10 20 30 40 50
VERTICAL 0 0.5 1 2 3 4 5

Designed J.SPARK 29.01.19
Drawn J.SPARK
Approved J.ZAAL 29.01.19
PS Number PS825912E

Beveridge Williams
96 Main Road
Ballarat Vic 3350
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Project Details: LUCAS STAGE G3 CITY OF BALLARAT
Drawing Title: EVANS WAY LONGITUDINAL SECTIONS (SHEET 4 OF 6)

Sheet 10 of 26
Scale 1:500 H 1:50 V @ A1
Project Ref 1800971 | Stage No G3 | Drawing No 103 | Rev F

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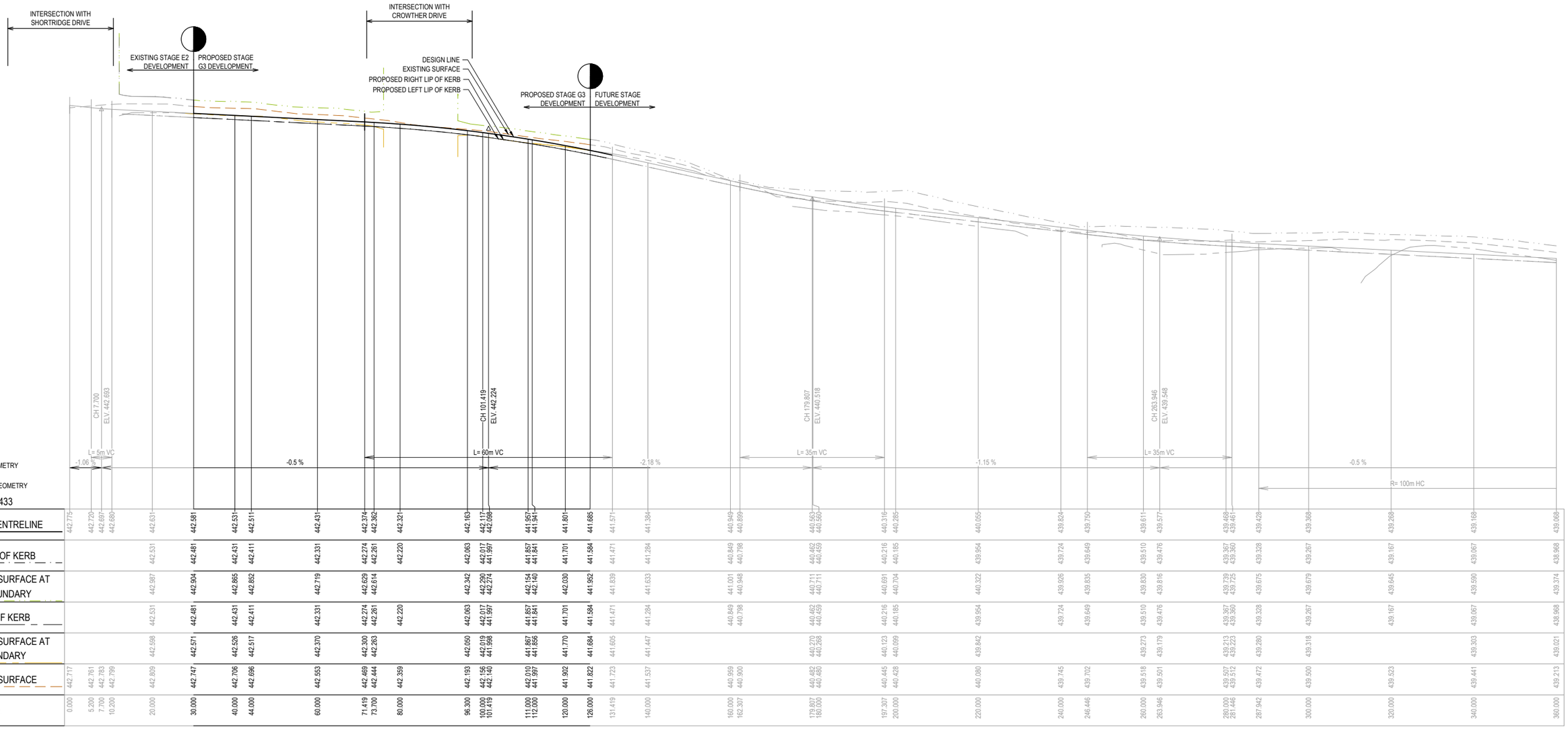

QUIRK ROAD LONGITUDINAL SECTION

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F	AS CONSTRUCTED PLANS	13.05.20	TT	JS
E	SODERDTROM PLACE TO SODER STROM STREET	06.02.20	TT	JS

HORIZONTAL
0 5 10 20 30 40 50
0 0.5 1 2 3 4 5
VERTICAL

Designed J.SPARK 29.01.19
Drawn J.SPARK
Approved J.ZAAL 29.01.19
PS Number PS825912E

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Project Details: LUCAS
STAGE G3
CITY OF BALLARAT

Drawing Title: QUIRK ROAD
LONGITUDINAL SECTIONS (SHEET 5 OF 6)

Sheet 11 of 26
Scale 1:500 H 1:50 V @ A1

Project Ref	Stage No	Drawing No	Rev
1800971	G3	104	F

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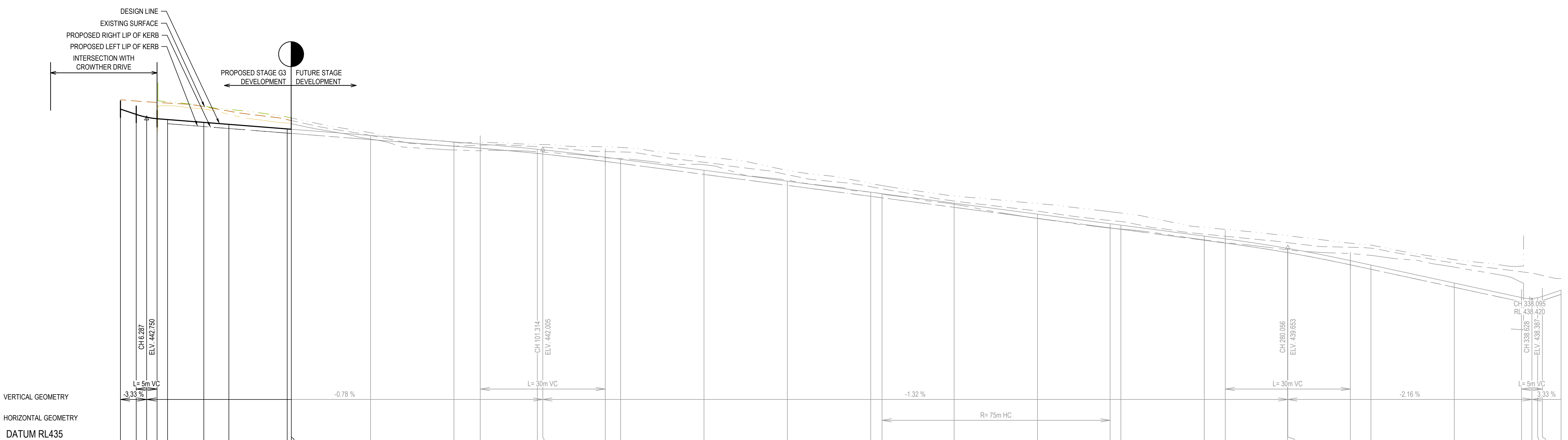
LEGEND
- EXISTING SURFACE
- DESIGN LINE
- FUTURE DESIGN LINE
- RIGHT BUILDING LINE
- RIGHT LIP OF KERB
- LEFT BUILDING LINE
- LEFT LIP OF KERB



DESIGN CENTRELINE	442.960	442.834	442.766	442.731	442.711	442.643	442.596	442.486	442.478
RIGHT LIP OF KERB					442.611	442.542	442.495	442.386	442.378
EXISTING SURFACE AT RIGHT BOUNDARY					443.137	443.032	442.952	442.771	442.749
LEFT LIP OF KERB					442.611	442.542	442.495	442.386	442.378
EXISTING SURFACE AT LEFT BOUNDARY					443.043	442.965	442.833	442.626	442.612
EXISTING SURFACE	443.186	443.155	443.135	443.121	443.106	443.019	442.913	442.709	442.687
CHAINAGE	0.000	3.787	6.287	8.787	11.300	20.000	26.000	40.000	41.000

DESIGN CENTRELINE	442.329	442.172	442.123	441.999	441.985	441.808	441.759	441.496	441.233
RIGHT LIP OF KERB	442.229	442.072	442.022	441.898	441.884	441.707	441.659	441.396	441.132
EXISTING SURFACE AT RIGHT BOUNDARY	442.396	442.166	442.166	442.114	442.112	442.056	442.041	441.817	441.491
LEFT LIP OF KERB	442.229	442.072	442.022	441.898	441.884	441.707	441.659	441.396	441.132
EXISTING SURFACE AT LEFT BOUNDARY	442.242	441.981	441.965	441.940	441.931	441.797	441.774	441.628	441.262
EXISTING SURFACE	442.328	442.075	442.095	442.058	442.051	441.943	441.933	441.685	441.388
CHAINAGE	60.000	80.000	86.314	100.000	101.314	116.314	120.000	140.000	160.000

DESIGN CENTRELINE	440.970	440.934	440.706	440.443	440.214	440.180	439.917	439.850	439.622
RIGHT LIP OF KERB	440.869	440.834	440.606	440.343	440.113	440.079	439.816	439.750	439.521
EXISTING SURFACE AT RIGHT BOUNDARY	441.179	441.127	440.877	440.696	440.502	440.469	440.125	440.077	439.925
LEFT LIP OF KERB	440.869	440.834	440.606	440.343	440.113	440.079	439.816	439.750	439.521
EXISTING SURFACE AT LEFT BOUNDARY	440.971	440.928	440.680	440.338	440.108	440.087	439.826	439.760	439.589
EXISTING SURFACE	441.100	441.051	440.757	440.518	440.291	440.265	439.963	439.911	439.759
CHAINAGE	180.000	182.699	200.000	220.000	237.427	240.000	260.000	265.056	280.000

DESIGN CENTRELINE	439.621	439.329	439.222	438.790	438.441	438.421	438.440	438.470	438.620
RIGHT LIP OF KERB	439.520	439.228	439.121	438.689	438.341	438.325	438.339	438.370	438.520
EXISTING SURFACE AT RIGHT BOUNDARY	439.924	439.746	439.701	439.350	439.197				
LEFT LIP OF KERB	439.520	439.228	439.121	438.689	438.341	438.325	438.339	438.370	438.519
EXISTING SURFACE AT LEFT BOUNDARY	439.589	439.497	439.454	439.172	438.807				
EXISTING SURFACE	439.758	439.648	439.626	439.272	439.060	439.027	439.000	438.973	438.899
CHAINAGE	280.056	295.056	300.000	320.000	336.128	338.628	340.000	341.128	345.617

SODERSTROM STREET LONGITUDINAL SECTION

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By JeffColb at 5:10 pm, May 13, 2020

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REV	DESCRIPTION	DATE	DRN.	APP.
F	AS CONSTRUCTED PLANS	13.05.20	TT	JS
E	SODERDTROM PLACE TO SODER STROM STREET	06.02.20	TT	JS

HORIZONTAL 0 5 10 20 30 40 50
VERTICAL 0 0.5 1 2 3 4 5

Designed	J.SPARK
Date	29.01.19
Drawn	J.SPARK
Approved	J.ZAAL
Date	29.01.19
PS Number	PS825912E

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Project Details: LUCAS
STAGE G3
CITY OF BALLARAT

Drawing Title: SODERSTROM STREET
LONGITUDINAL SECTIONS (SHEET 6 OF 6)

Scale: 1:500 H 1:50 V @ A1

Project Ref	Stage No	Drawing No	Rev
1800971	G3	105	F

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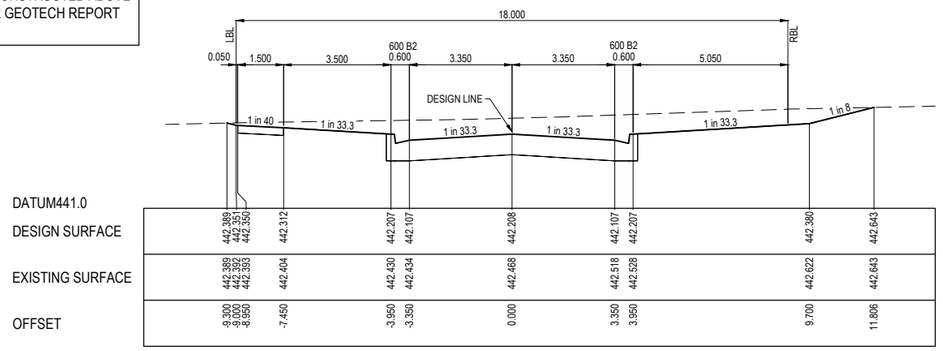
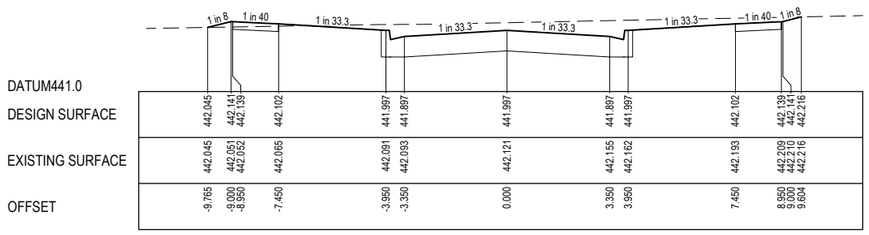
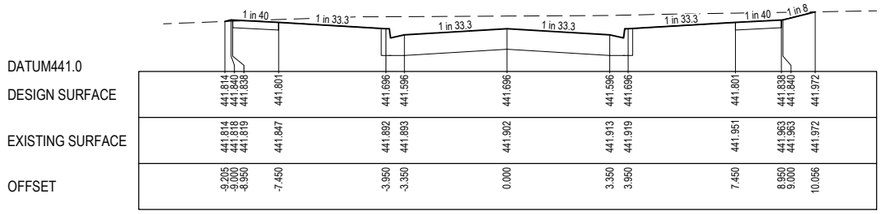
STRUCTURAL FILL REQUIRED UNDER PAVEMENT AND FOOTPATHS WHERE CONSTRUCTED ABOVE NATURAL SURFACE. REFER GEOTECH REPORT FOR SPECIFICATION



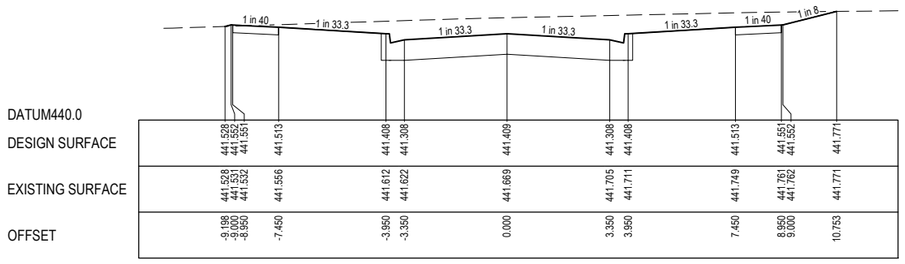
CH 227.800



CH 205.200



CH 190.000



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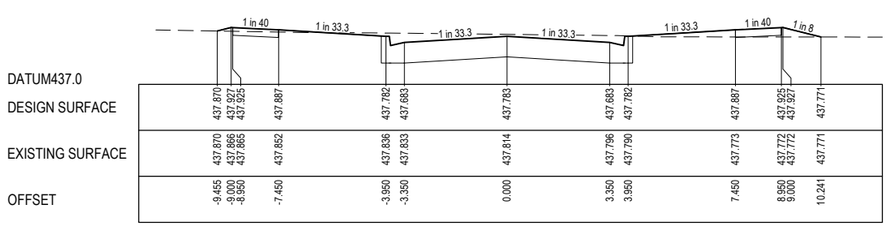

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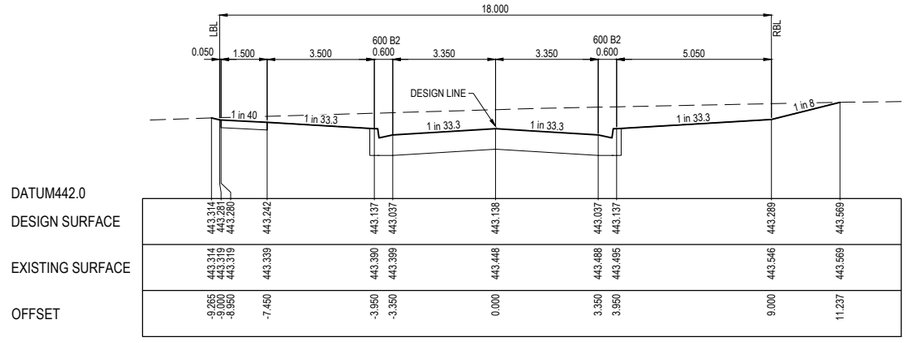
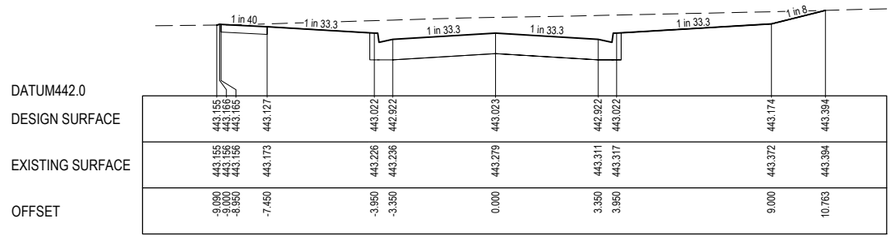
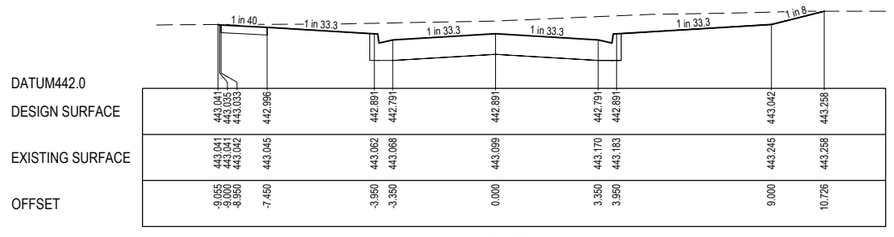


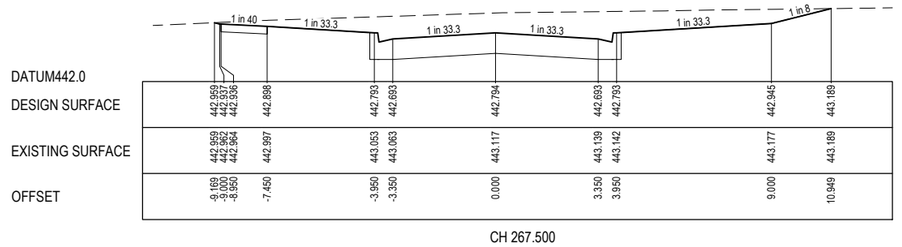
CH 325.500



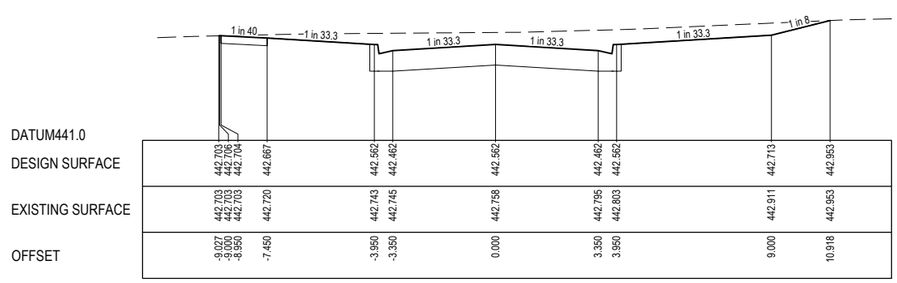
CH 305.800



CH 283.200



CH 267.500



CH 247.500

LEGEND

- EXISTING SURFACE
- DESIGN SURFACE
- STRUCTURAL FILL

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By JeffColb at 5:10 pm, May 13, 2020

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REV	DESCRIPTION	DATE	DRN.	APP.
F	AS CONSTRUCTED PLANS	13.05.20	TT	JS
E	SODERDTROM PLACE TO SODER STROM STREET	06.02.20	TT	JS

HORIZONTAL 0 1 2 4 6 8 10
VERTICAL 0 0.5 1 2 3 4 5

Designed	J.SPARK
Date	29.01.19
Drawn	J.SPARK
Approved	J.ZAAL
Date	29.01.19
PS Number	PS825912E

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Project Details	LUCAS STAGE G3 CITY OF BALLARAT
Drawing Title	CROWTHER DRIVE CROSS SECTIONS (SHEET 1 OF 7)

Sheet 13 of 26

Scale 1:100 H 1:50 V @ A1

Project Ref	Stage No	Drawing No	Rev
1800971	G3	200	F

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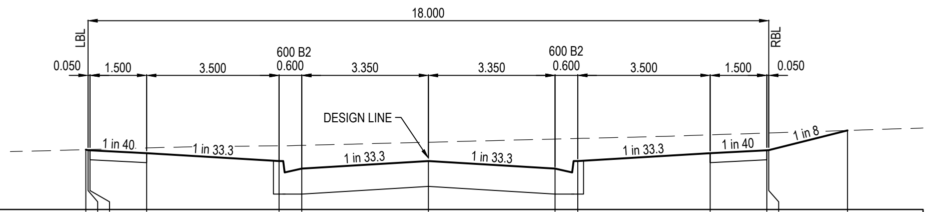
AS CONSTRUCTED PLANS

STRUCTURAL FILL REQUIRED UNDER PAVEMENT AND FOOTPATHS WHERE CONSTRUCTED ABOVE NATURAL SURFACE. REFER GEOTECH REPORT FOR SPECIFICATION

LEGEND

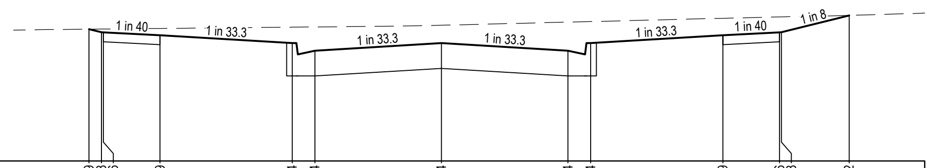
- — — — — EXISTING SURFACE
- ——— DESIGN SURFACE



DATUM443.0

DESIGN SURFACE	443.790	443.782	443.781	443.743	443.638	443.538	443.639	443.538	443.638	443.743	443.781	443.782	444.042
EXISTING SURFACE	443.790	443.790	443.791	443.811	443.839	443.845	443.887	443.929	443.936	443.984	444.008	444.009	444.042
OFFSET	-9.059	-9.000	-8.950	-7.450	-3.950	-3.350	0.000	3.350	3.950	7.450	8.950	9.000	11.081

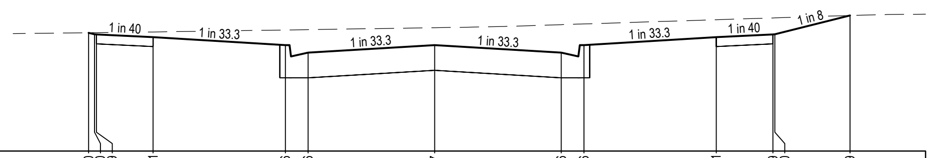
CH 427.500



DATUM442.0

DESIGN SURFACE	443.749	443.708	443.706	443.669	443.564	443.464	443.564	443.464	443.564	443.669	443.706	443.708	443.932
EXISTING SURFACE	443.749	443.751	443.751	443.759	443.776	443.779	443.801	443.843	443.850	443.894	443.912	443.913	443.932
OFFSET	-9.331	-9.000	-8.950	-7.450	-3.950	-3.350	0.000	3.350	3.950	7.450	8.950	9.000	10.793

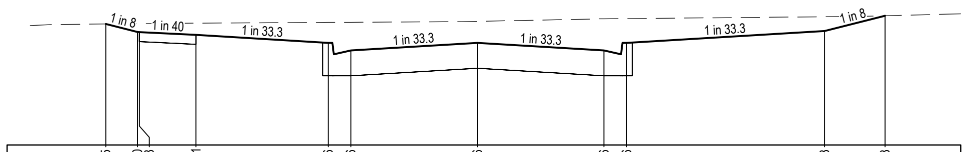
CH 413.500



DATUM442.0

DESIGN SURFACE	443.570	443.550	443.549	443.511	443.406	443.306	443.407	443.306	443.406	443.511	443.549	443.550	443.799
EXISTING SURFACE	443.570	443.571	443.571	443.581	443.607	443.612	443.637	443.678	443.687	443.743	443.767	443.768	443.799
OFFSET	-9.157	-9.000	-8.950	-7.450	-3.950	-3.350	0.000	3.350	3.950	7.450	8.950	9.000	10.989

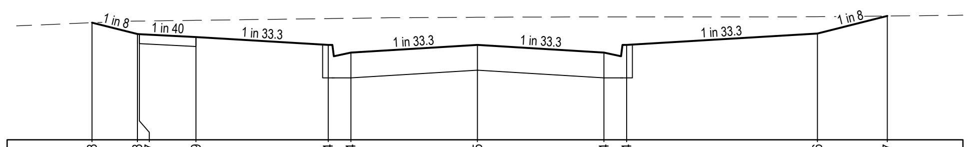
CH 383.805



DATUM442.0

DESIGN SURFACE	443.595	443.490	443.488	443.451	443.346	443.246	443.346	443.246	443.346	443.503	443.703
EXISTING SURFACE	443.595	443.598	443.599	443.606	443.616	443.617	443.629	443.663	443.665	443.690	443.703
OFFSET	-9.839	-9.000	-8.950	-7.450	-3.950	-3.350	0.000	3.350	3.950	9.190	10.792

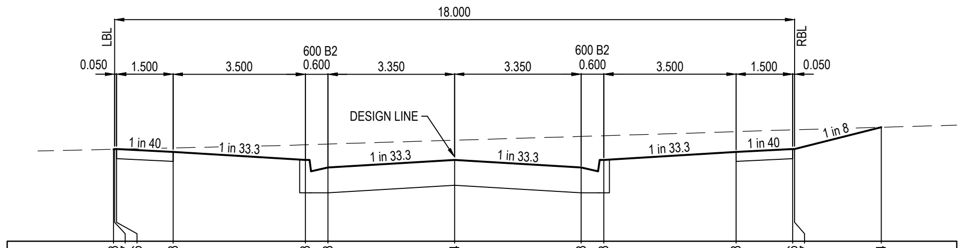
CH 361.205



DATUM442.0

DESIGN SURFACE	443.548	443.398	443.397	443.359	443.254	443.154	443.255	443.154	443.254	443.406	443.637
EXISTING SURFACE	443.548	443.570	443.570	443.580	443.603	443.607	443.620	443.625	443.625	443.628	443.637
OFFSET	-10.201	-9.000	-8.950	-7.450	-3.950	-3.350	0.000	3.350	3.950	9.000	10.851

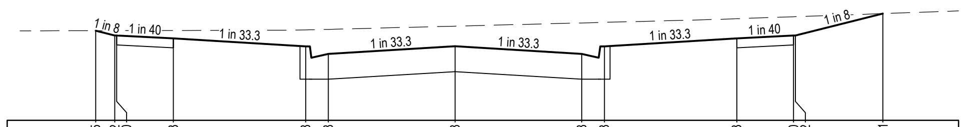
CH 345.500



DATUM443.0

DESIGN SURFACE	444.213	444.217	444.216	444.178	444.073	443.973	444.074	443.973	444.073	444.178	444.216	444.217	444.504
EXISTING SURFACE	444.213	444.214	444.214	444.231	444.273	444.282	444.333	444.383	444.392	444.447	444.470	444.471	444.504
OFFSET	-9.031	-9.000	-8.950	-7.450	-3.950	-3.350	0.000	3.350	3.950	7.450	8.950	9.000	11.294

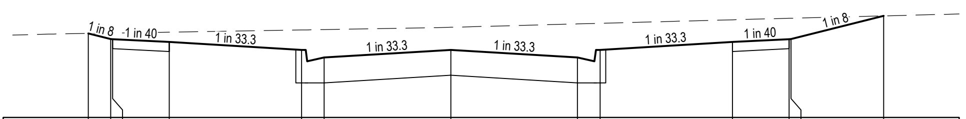
CH 509.500



DATUM443.0

DESIGN SURFACE	444.185	444.122	444.120	444.083	443.978	443.878	443.978	443.878	443.978	444.083	444.120	444.122	444.411
EXISTING SURFACE	444.185	444.185	444.185	444.187	444.195	444.202	444.245	444.287	444.295	444.343	444.369	444.370	444.411
OFFSET	-9.504	-9.000	-8.950	-7.450	-3.950	-3.350	0.000	3.350	3.950	7.450	8.950	9.000	11.313

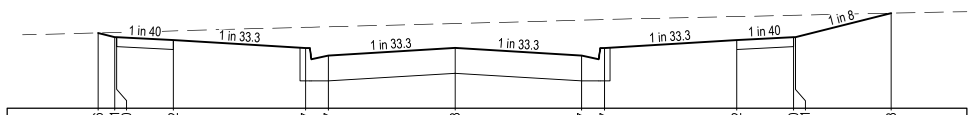
CH 491.500



DATUM443.0

DESIGN SURFACE	444.111	444.037	444.035	443.998	443.893	443.793	443.893	443.793	443.893	443.998	444.035	444.037	444.343
EXISTING SURFACE	444.111	444.116	444.116	444.129	444.157	444.162	444.193	444.237	444.245	444.292	444.311	444.312	444.343
OFFSET	-9.592	-9.000	-8.950	-7.450	-3.950	-3.350	0.000	3.350	3.950	7.450	8.950	9.000	11.452

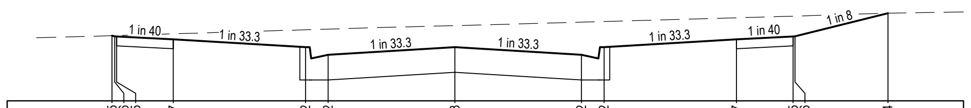
CH 475.500



DATUM443.0

DESIGN SURFACE	443.996	443.941	443.940	443.902	443.797	443.697	443.798	443.697	443.797	443.902	443.940	443.941	444.258
EXISTING SURFACE	443.996	444.002	444.002	444.023	444.071	444.078	444.121	444.165	444.174	444.213	444.230	444.230	444.258
OFFSET	-9.439	-9.000	-8.950	-7.450	-3.950	-3.350	0.000	3.350	3.950	7.450	8.950	9.000	11.533

CH 457.500



DATUM443.0

DESIGN SURFACE	443.865	443.856	443.855	443.817	443.712	443.612	443.713	443.612	443.712	443.817	443.855	443.856	444.164
EXISTING SURFACE	443.865	443.866	443.867	443.890	443.944	443.953	443.999	444.045	444.053	444.103	444.124	444.125	444.164
OFFSET	-9.070	-9.000	-8.950	-7.450	-3.950	-3.350	0.000	3.350	3.950	7.450	8.950	9.000	11.458

CH 441.500

APPROVED
By JeffColb at 5:10 pm, May 13, 2020

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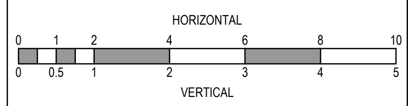
REV	DESCRIPTION	DATE	DRN.	APP.
D	CAPPING LAYER DESCRIPTION CHANGE	24.10.19	TT	JS
C	INTEGRA REVIEW	03.10.19	JS	JZ
B	AMENDED DRAINAGE	28.08.19	TT	JS
A	AMENDED AS PER COUNCIL COMMENTS	08.07.19	JS	JZ
P1	AMENDED AS PER INTEGRA COMMENTS	29.05.19	JS	JZ

REV	DESCRIPTION	DATE	DRN.	APP.
F	AS CONSTRUCTED PLANS	13.05.20	TT	JS
E	SODERDTROM PLACE TO SODER STROM STREET	06.02.20	TT	JS



Designed	J.SPARK
Date	29.01.19
Drawn	J.SPARK
Approved	J.ZAAL
Date	29.01.19
PS Number	PS825912E

Beveridge Williams
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Ballarat Vic 3350
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Project Details: LUCAS
STAGE G3
CITY OF BALLARAT

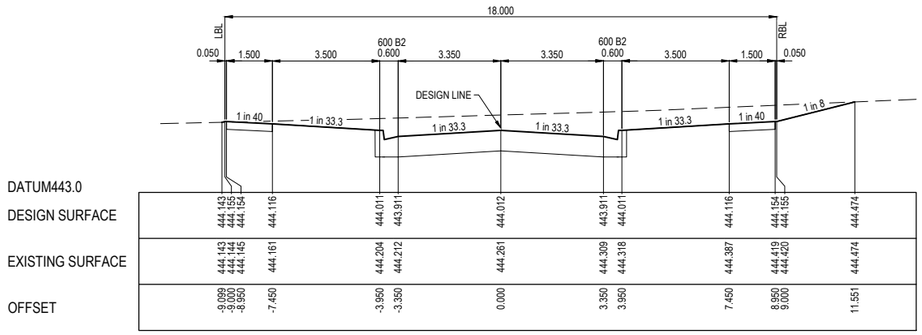
Drawing Title: CROWTHER DRIVE CROSS SECTIONS
(SHEET 2 OF 7)

Scale: 1:100 H 1:50 V @ A1

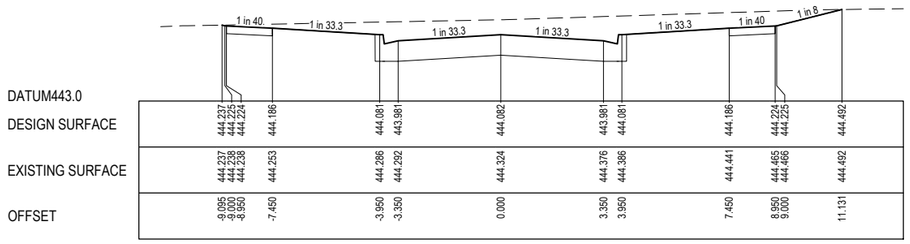
Project Ref	Stage No	Drawing No	Rev
1800971	G3	201	F

X:\18\1800971 Lucas_Eng\Stage G3\Drawings\1800971-G3-200-RXS.dwg

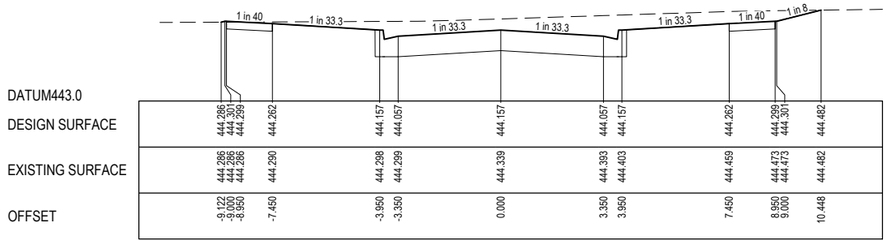
AS CONSTRUCTED PLANS



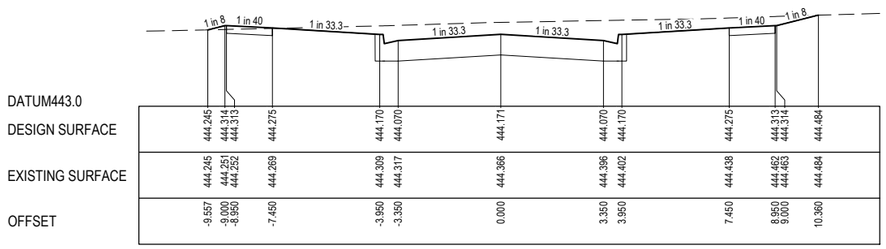
CH 579.500



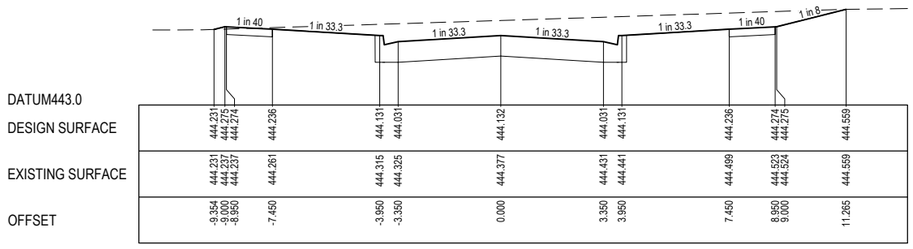
CH 565.500



CH 549.500



CH 531.500



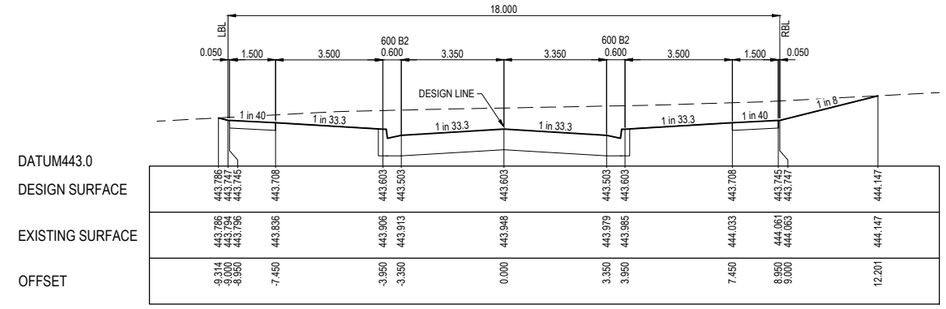
CH 520.500

LEGEND

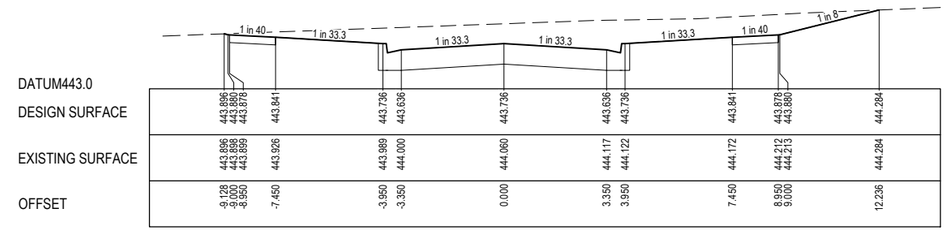
EXISTING SURFACE

DESIGN SURFACE

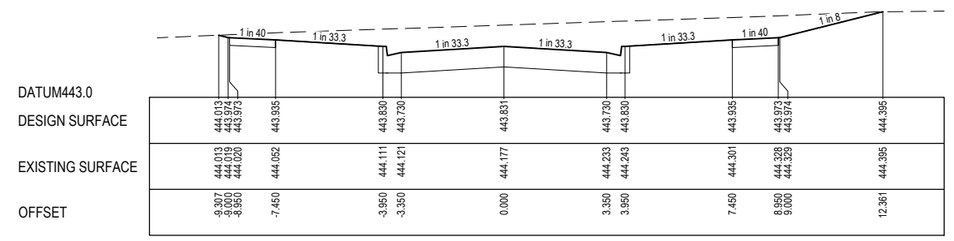
STRUCTURAL FILL REQUIRED UNDER PAVEMENT AND FOOTPATHS WHERE CONSTRUCTED ABOVE NATURAL SURFACE. REFER GEOTECH REPORT FOR SPECIFICATION



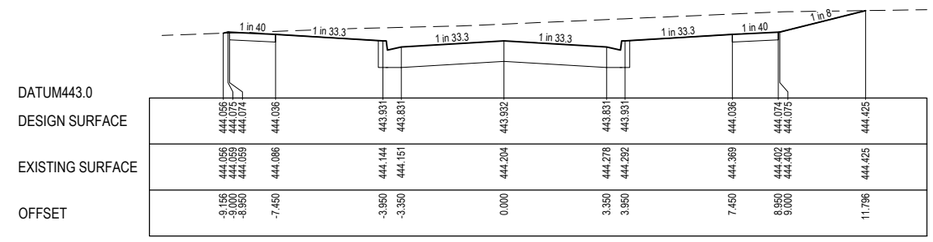
CH 645.200



CH 630.000



CH 615.500



CH 595.500

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REV	DESCRIPTION	DATE	DRN.	APP.
D	CAPPING LAYER DESCRIPTION CHANGE	24.10.19	TT	JS
C	INTEGRA REVIEW	03.10.19	JS	JZ
B	AMENDED DRAINAGE	28.08.19	TT	JS
A	AMENDED AS PER COUNCIL COMMENTS	08.07.19	JS	JZ
P1	AMENDED AS PER INTEGRA COMMENTS	29.05.19	JS	JZ

REV	DESCRIPTION	DATE	DRN.	APP.
F	AS CONSTRUCTED PLANS	13.05.20	TT	JS
E	SODERDTROM PLACE TO SODER STROM STREET	06.02.20	TT	JS

HORIZONTAL 0 1 2 4 6 8 10
VERTICAL 0 0.5 1 2 3 4 5

Designed J.SPARK 29.01.19
Drawn J.SPARK
Approved J.ZAAL 29.01.19
PS Number PS825912E

Beveridge Williams
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Ballarat Vic 3350
ph: 03 5327 2000
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Project Details: LUCAS STAGE G3 CITY OF BALLARAT
Drawing Title: CROWTHER DRIVE CROSS SECTIONS (SHEET 3 OF 7)

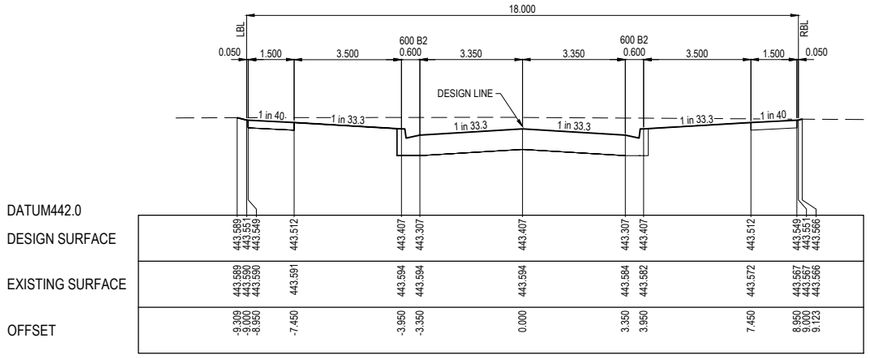
Sheet 15 of 26
Scale 1:100 H 1:50 V @ A1

Project Ref	Stage No	Drawing No	Rev
1800971	G3	202	F

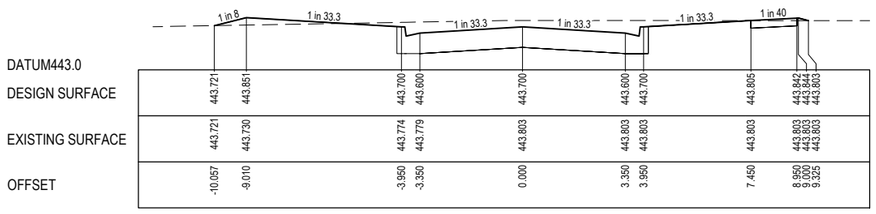
X:\18\1800971 Lucas_Eng\Stage G3\Drawings\1800971-G3-200-RXS.dwg

STRUCTURAL FILL REQUIRED UNDER PAVEMENT AND FOOTPATHS WHERE CONSTRUCTED ABOVE NATURAL SURFACE. REFER GEOTECH REPORT FOR SPECIFICATION

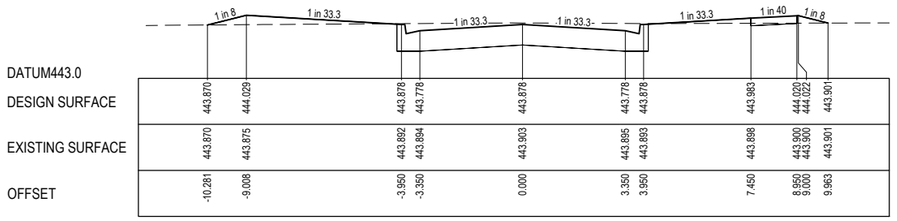
LEGEND
- EXISTING SURFACE
- DESIGN SURFACE



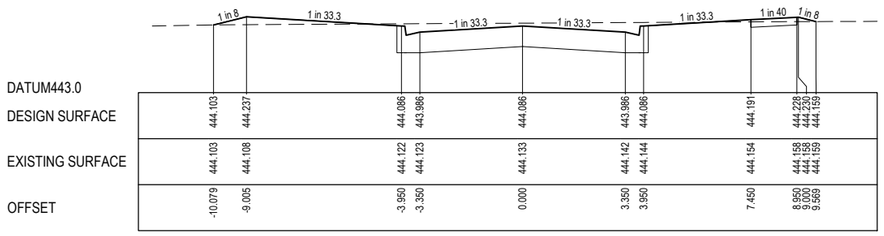
CH 96.302



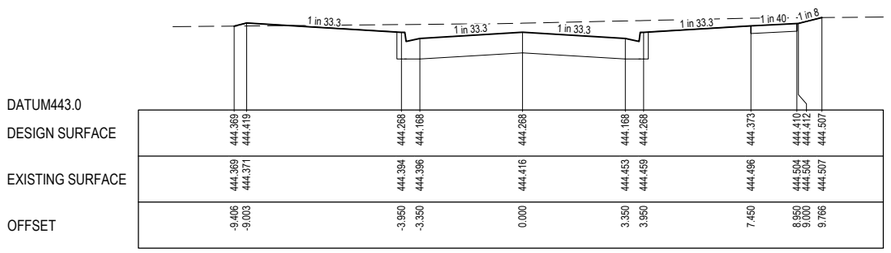
CH 73.698



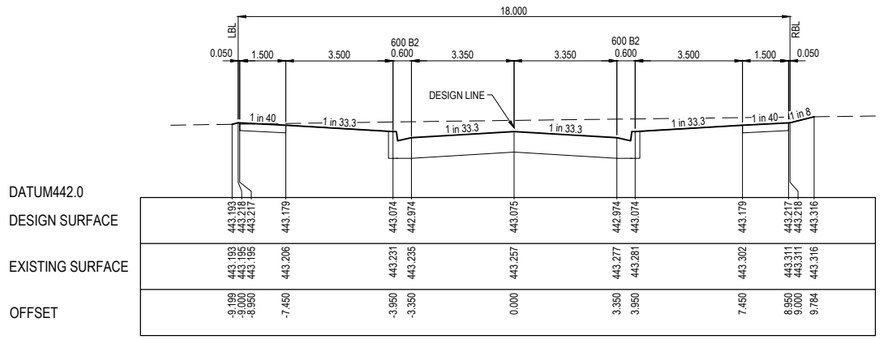
CH 59.998



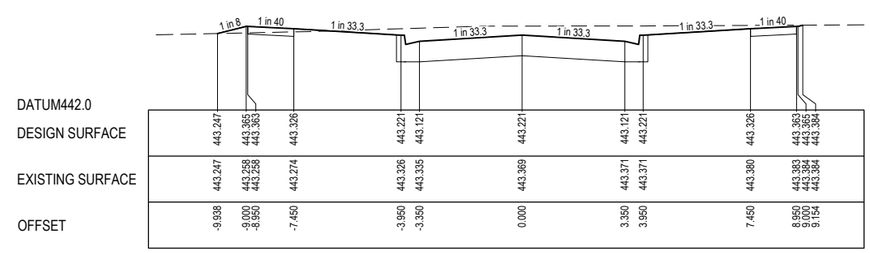
CH 43.998



CH 30.000



CH 125.998



CH 111.998

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A	AMENDED AS PER COUNCIL COMMENTS	08.07.19	JS	JZ
P1	AMENDED AS PER INTEGRA COMMENTS	29.05.19	JS	JZ

REV	DESCRIPTION	DATE	DRN.	APP.
F	AS CONSTRUCTED PLANS	13.05.20	TT	JS
E	SODERDTROM PLACE TO SODER STROM STREET	06.02.20	TT	JS

HORIZONTAL 0 1 2 4 6 8 10
VERTICAL 0 0.5 1 2 3 4 5

Designed J.SPARK 29.01.19
Drawn J.SPARK
Approved J.ZAAL 29.01.19
PS Number PS825912E

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Project Details: LUCAS STAGE G3 CITY OF BALLARAT
Drawing Title: LEE ROAD CROSS SECTIONS (SHEET 4 OF 7)

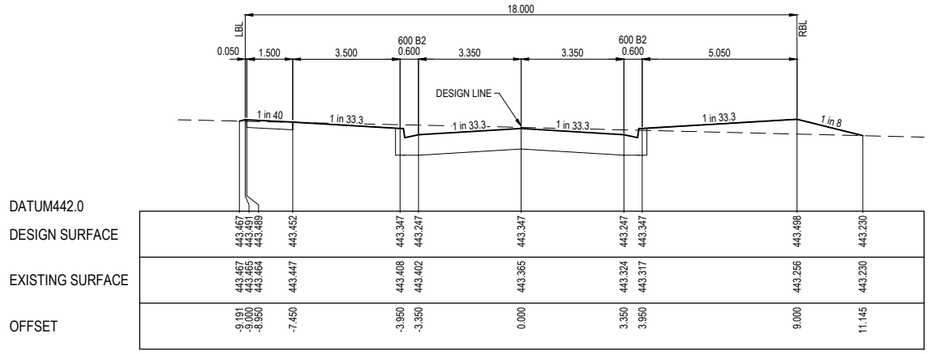
Sheet 16 of 26
Scale 1:100 H 1:50 V @ A1

Project Ref	Stage No	Drawing No	Rev
1800971	G3	203	F

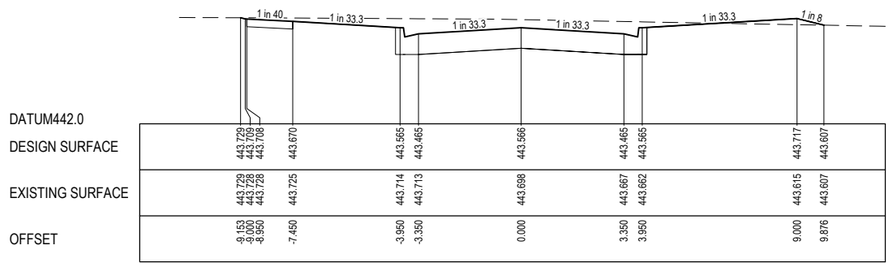
X:\1\81800971 Lucas_Engi\Stage G3\Drawings\1800971-G3-200-RXS.dwg

STRUCTURAL FILL REQUIRED UNDER PAVEMENT AND FOOTPATHS WHERE CONSTRUCTED ABOVE NATURAL SURFACE. REFER GEOTECH REPORT FOR SPECIFICATION

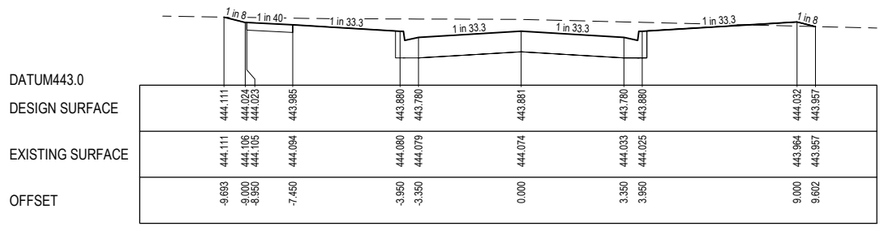
LEGEND
- EXISTING SURFACE
- DESIGN SURFACE



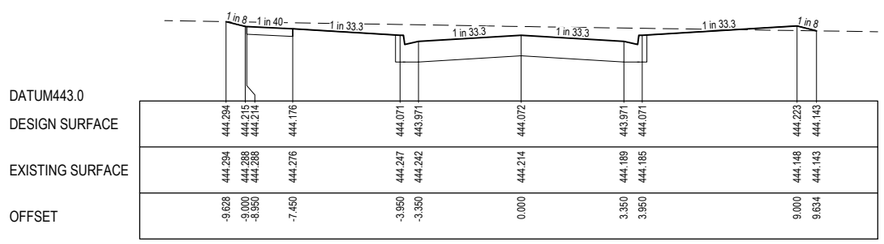
CH 112.000



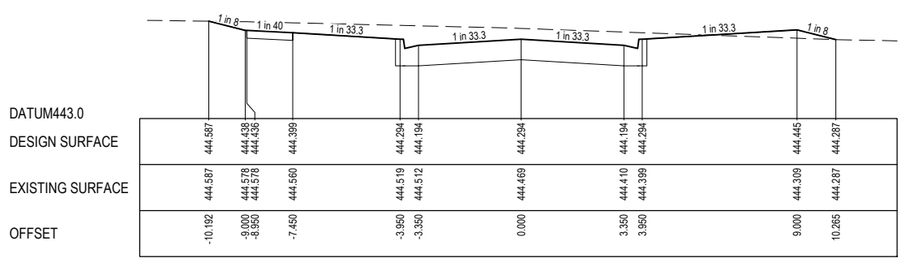
CH 96.300



CH 73.700



CH 60.000



CH 44.000

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REV	DESCRIPTION	DATE	DRN.	APP.
D	CAPPING LAYER DESCRIPTION CHANGE	24.10.19	TT	JS
C	INTEGRA REVIEW	03.10.19	JS	JZ
B	AMENDED DRAINAGE	28.08.19	TT	JS
A	AMENDED AS PER COUNCIL COMMENTS	08.07.19	JS	JZ
P1	AMENDED AS PER INTEGRA COMMENTS	29.05.19	JS	JZ

REV	DESCRIPTION	DATE	DRN.	APP.
F	AS CONSTRUCTED PLANS	13.05.20	TT	JS
E	SODERDTROM PLACE TO SODER STROM STREET	06.02.20	TT	JS

HORIZONTAL 0 1 2 4 6 8 10
VERTICAL 0 0.5 1 2 3 4 5

Designed J.SPARK 29.01.19
Drawn J.SPARK
Approved J.ZAAL 29.01.19
PS Number PS825912E

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Ballarat Vic 3350
ph: 03 5327 2000
www.beveridgewilliams.com.au

Project Details: LUCAS STAGE G3 CITY OF BALLARAT
Drawing Title: EVANS WAY CROSS SECTIONS (SHEET 5 OF 7)

Sheet 17 of 26
Scale 1:100 H 1:50 V @ A1

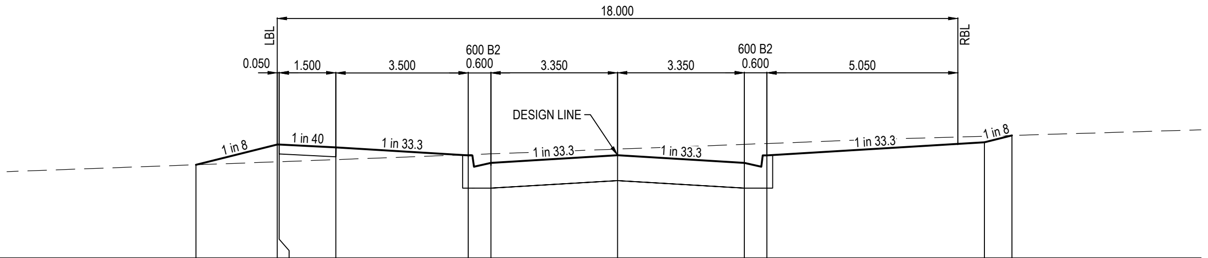
Project Ref	Stage No	Drawing No	Rev
1800971	G3	204	F

X:\1\B\1800971 Lucas_Engi\Stage G3\Drawings\1800971-G3-200-RXS.dwg

STRUCTURAL FILL REQUIRED UNDER PAVEMENT AND FOOTPATHS WHERE CONSTRUCTED ABOVE NATURAL SURFACE. REFER GEOTECH REPORT FOR SPECIFICATION

LEGEND

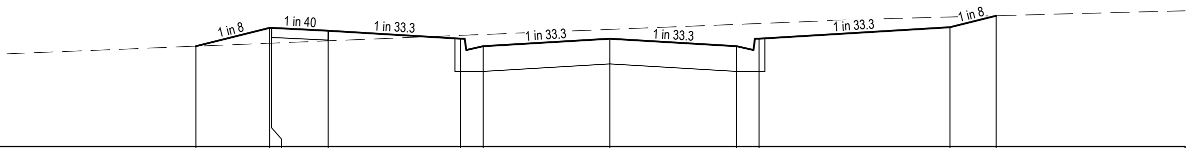
- – – – – – EXISTING SURFACE
- ——— DESIGN SURFACE



DATUM441.0

DESIGN SURFACE	442.237	442.505 442.504	442.466	442.361	442.261	442.362	442.261	442.361	442.534	442.625
EXISTING SURFACE	442.237	442.276 442.277	442.305	442.370	442.381	442.444	442.507	442.518	442.614	442.625
OFFSET	-11.152	-9.000 -8.950	-7.450	-3.950	-3.350	0.000	3.350	3.950	9.700	10.428

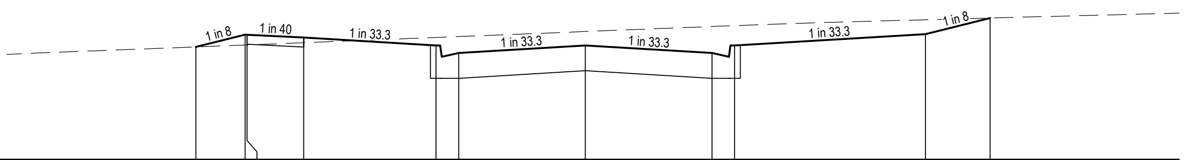
CH 73.700



DATUM441.0

DESIGN SURFACE	442.331	442.575 442.573	442.536	442.431	442.331	442.431	442.331	442.431	442.582	442.735
EXISTING SURFACE	442.331	442.370 442.371	442.402	442.474	442.486	442.553	442.620	442.632	442.719	442.735
OFFSET	-10.954	-9.000 -8.950	-7.450	-3.950	-3.350	0.000	3.350	3.950	9.000	10.221

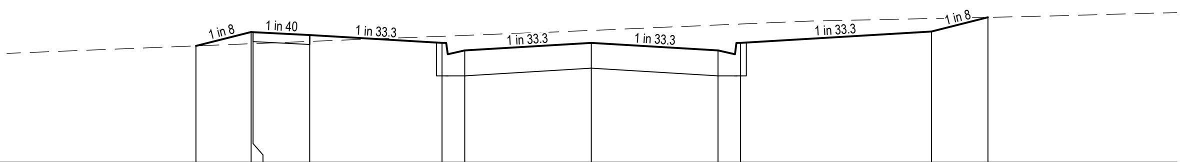
CH 60.000



DATUM441.0

DESIGN SURFACE	442.492	442.655 442.653	442.616	442.511	442.411	442.511	442.411	442.511	442.662	442.876
EXISTING SURFACE	442.492	442.517 442.518	442.548	442.617	442.629	442.696	442.763	442.774	442.852	442.876
OFFSET	-10.306	-9.000 -8.950	-7.450	-3.950	-3.350	0.000	3.350	3.950	9.000	10.707

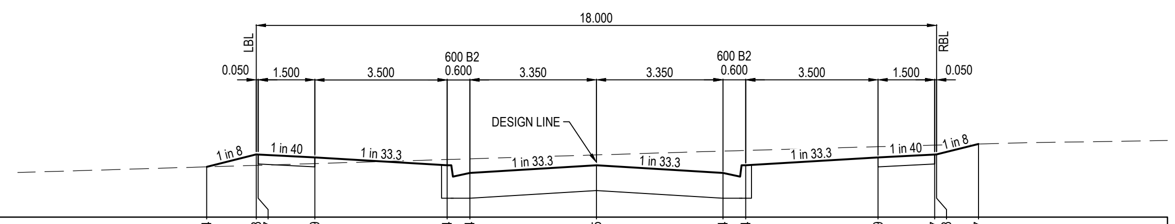
CH 44.000



DATUM441.0

DESIGN SURFACE	442.542	442.725 442.723	442.686	442.581	442.481	442.581	442.481	442.581	442.732	442.919
EXISTING SURFACE	442.542	442.571 442.572	442.601	442.669	442.680	442.747	442.818	442.831	442.904	442.919
OFFSET	-10.464	-9.000 -8.950	-7.450	-3.950	-3.350	0.000	3.350	3.950	9.000	10.494

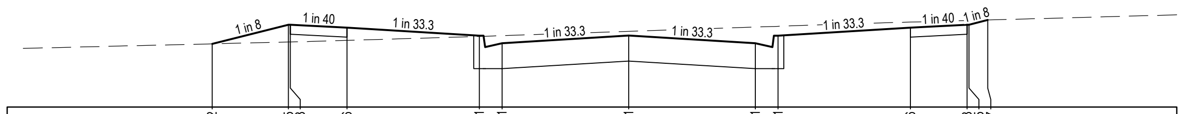
CH 30.000



DATUM441.0

DESIGN SURFACE	441.664	441.828 441.827	441.789	441.684	441.584	441.685	441.584	441.684	441.789	441.827 441.828	441.967
EXISTING SURFACE	441.664	441.684 441.685	441.708	441.761	441.771	441.822	441.872	441.881	441.931	441.951 441.952	441.967
OFFSET	-10.313	-9.000 -8.950	-7.450	-3.950	-3.350	0.000	3.350	3.950	7.450	8.950 9.000	10.108

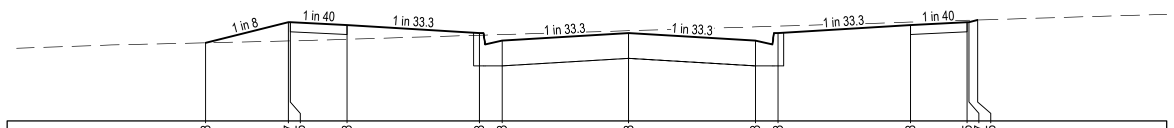
CH 126.000



DATUM441.0

DESIGN SURFACE	441.832	442.085 442.083	442.046	441.941	441.841	441.941	441.841	441.941	442.046	442.083 442.085 442.147
EXISTING SURFACE	441.832	441.856 441.857	441.878	441.930	441.940	441.997	442.053	442.063	442.119	442.139 442.140 442.147
OFFSET	-11.017	-9.000 -8.950	-7.450	-3.950	-3.350	0.000	3.350	3.950	7.450	8.950 9.000 9.496

CH 112.000



DATUM441.0

DESIGN SURFACE	442.033	442.307 442.305	442.268	442.163	442.063	442.163	442.063	442.163	442.268	442.305 442.307 442.335
EXISTING SURFACE	442.033	442.058 442.059	442.080	442.133	442.142	442.193	442.244	442.253	442.308	442.331 442.332 442.335
OFFSET	-11.188	-9.000 -8.950	-7.450	-3.950	-3.350	0.000	3.350	3.950	7.450	8.950 9.000 9.227

CH 96.300

APPROVED
By JeffColb at 5:11 pm, May 13, 2020

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REV	DESCRIPTION	DATE	DRN.	APP.
D	CAPPING LAYER DESCRIPTION CHANGE	24.10.19	TT	JS
C	INTEGRA REVIEW	03.10.19	JS	JZ
B	AMENDED DRAINAGE	28.08.19	TT	JS
A	AMENDED AS PER COUNCIL COMMENTS	08.07.19	JS	JZ
P1	AMENDED AS PER INTEGRA COMMENTS	29.05.19	JS	JZ

REV	DESCRIPTION	DATE	DRN.	APP.
F	AS CONSTRUCTED PLANS	13.05.20	TT	JS
E	SODERDTROM PLACE TO SODER STROM STREET	06.02.20	TT	JS

HORIZONTAL: 0 1 2 4 6 8 10
VERTICAL: 0 0.5 1 2 3 4 5

Designed	J.SPARK
Date	29.01.19
Drawn	J.SPARK
Approved	J.ZAAL
Date	29.01.19
PS Number	PS825912E

Beveridge Williams
96 Main Road
Ballarat Vic 3350
ph: 03 5327 2000
www.beveridgewilliams.com.au

Project Details: LUCAS
STAGE G3
CITY OF BALLARAT

Drawing Title: QUIRK ROAD CROSS SECTIONS
(SHEET 6 OF 7)

Scale: 1:100 H 1:50 V @ A1

Project Ref	Stage No	Drawing No	Rev
1800971	G3	205	F

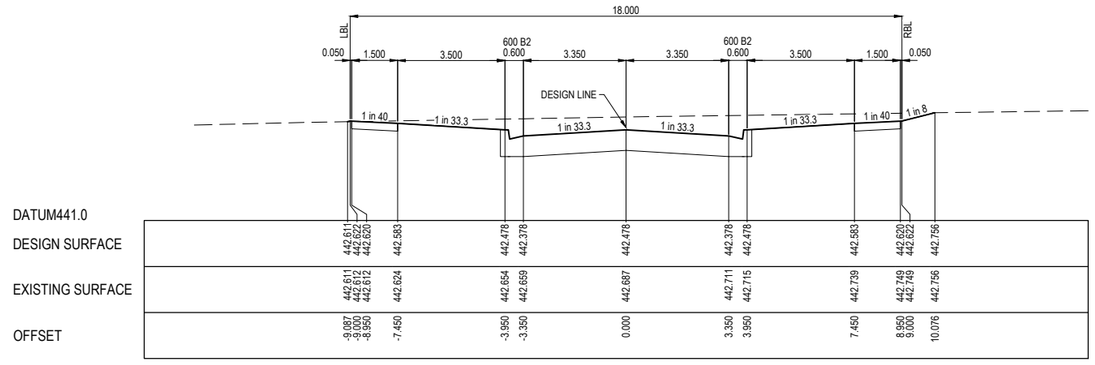
X:\18\1800971 Lucas_Eng\Stage G3\Drawings\1800971-G3-200-RXS.dwg

STRUCTURAL FILL REQUIRED UNDER PAVEMENT AND FOOTPATHS WHERE CONSTRUCTED ABOVE NATURAL SURFACE. REFER GEOTECH REPORT FOR SPECIFICATION

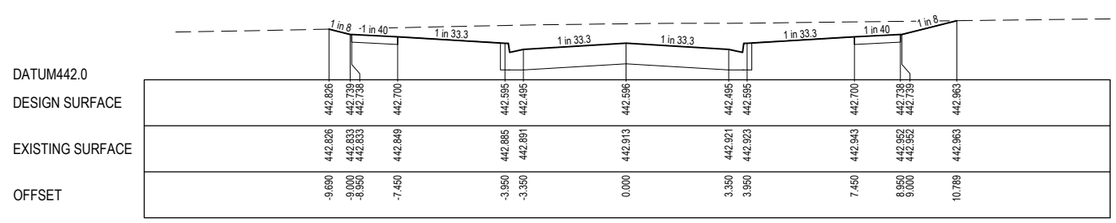
LEGEND

EXISTING SURFACE

DESIGN SURFACE



CH 41.000



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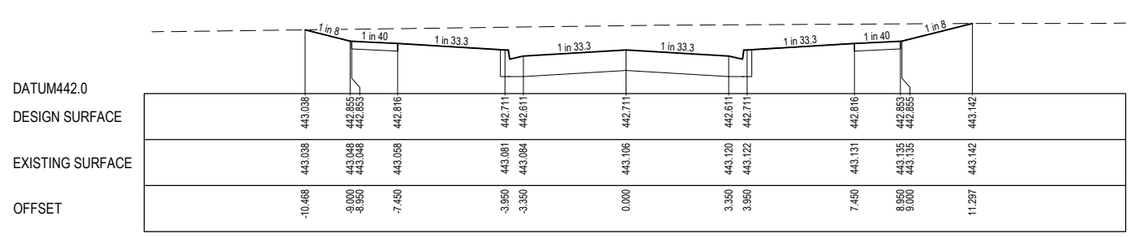

CH 11.300

APPROVED
By JeffColb at 5:11 pm, May 13, 2020

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REV	DESCRIPTION	DATE	DRN.	APP.
D	CAPPING LAYER DESCRIPTION CHANGE	24.10.19	TT	JS
C	INTEGRA REVIEW	03.10.19	JS	JZ
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A	AMENDED AS PER COUNCIL COMMENTS	08.07.19	JS	JZ
P1	AMENDED AS PER INTEGRA COMMENTS	29.05.19	JS	JZ

REV	DESCRIPTION	DATE	DRN.	APP.
F	AS CONSTRUCTED PLANS	13.05.20	TT	JS
E	SODERDTROM PLACE TO SODER STROM STREET	06.02.20	TT	JS

HORIZONTAL 0 1 2 4 6 8 10
VERTICAL 0 0.5 1 2 3 4 5

Designed J.SPARK 29.01.19
Drawn J.SPARK
Approved J.ZAAL 29.01.19
PS Number PS825912E

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Ballarat Vic 3350
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Project Details: LUCAS
STAGE G3
CITY OF BALLARAT

Drawing Title: SODERSTROM STREET CROSS SECTIONS (SHEET 7 OF 7)

Sheet 19 of 26
Scale 1:100 H 1:50 V @ A1

Project Ref	Stage No	Drawing No	Rev
1800971	G3	206	F

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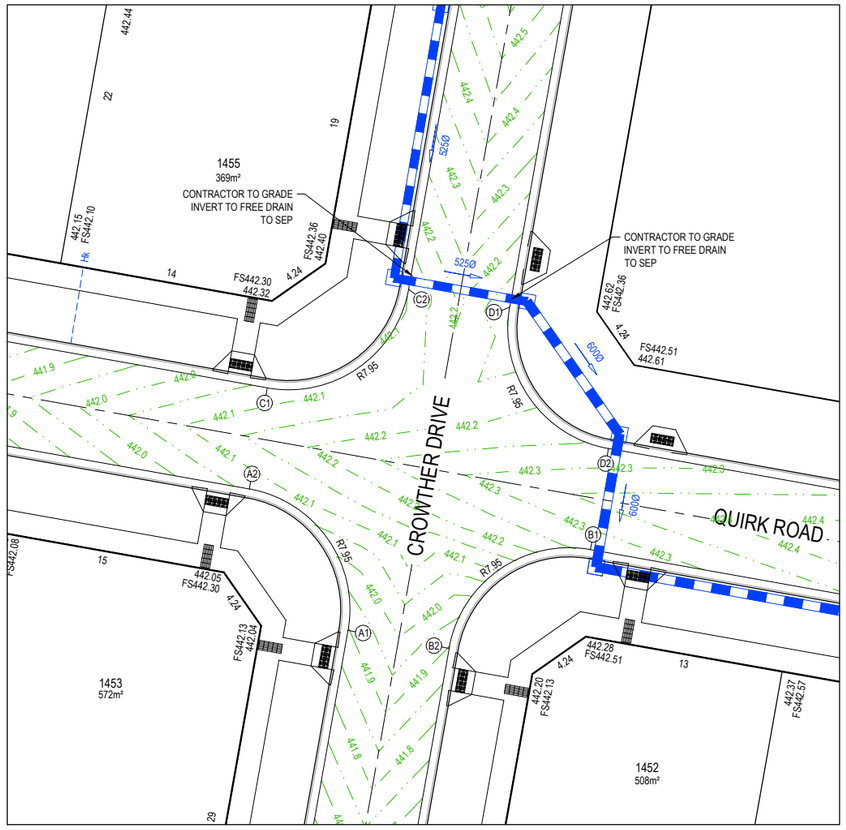
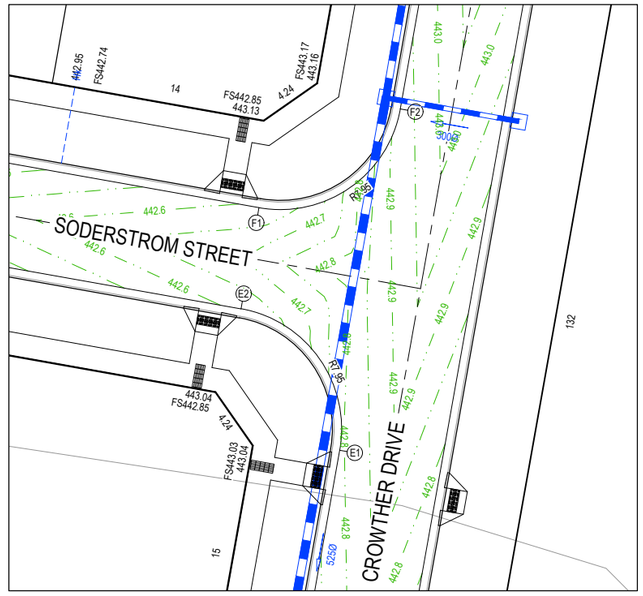




Alignment A

Point no	Easting	Northing	RL
A1	744648.872	5840910.261	441.897
A2	744642.435	5840919.479	442.063

Curve no	I	Radius	Arc	A	B	X	Y	I	Mid point RL
A1 - A2	90.000	7.950	12.488	2.329	1.723	3.042	2.579	3.122	442.029

Alignment B

Point no	Easting	Northing	RL
B1	744664.687	5840915.526	442.261
B2	744655.469	5840909.089	441.897

Curve no	I	Radius	Arc	A	B	X	Y	I	Mid point RL
B1 - B2	90.000	7.950	12.488	2.329	1.723	3.042	2.579	3.122	442.102

Alignment C

Point no	Easting	Northing	RL
C1	744643.607	5840926.076	442.063
C2	744652.825	5840932.512	442.107

Curve no	I	Radius	Arc	A	B	X	Y	I	Mid point RL
C1 - C2	90.000	7.950	12.488	2.329	1.723	3.042	2.579	3.122	442.110

Alignment D

Point no	Easting	Northing	RL
D1	744659.422	5840931.340	442.107
D2	744665.859	5840922.122	442.261

Curve no	I	Radius	Arc	A	B	X	Y	I	Mid point RL
D1 - D2	90.000	7.950	12.488	2.329	1.723	3.042	2.579	3.122	442.186

Alignment E

Point no	Easting	Northing	RL
E1	744662.516	5840987.058	442.791
E2	744656.079	5840996.276	442.611

Curve no	I	Radius	Arc	A	B	X	Y	I	Mid point RL
E1 - E2	90.000	7.950	12.488	2.329	1.723	3.042	2.579	3.122	442.722

Alignment F

Point no	Easting	Northing	RL
F1	744657.251	5841002.873	442.611
F2	744666.469	5841009.310	442.922

Curve no	I	Radius	Arc	A	B	X	Y	I	Mid point RL
F1 - F2	90.000	7.950	12.488	2.329	1.723	3.042	2.579	3.122	442.770

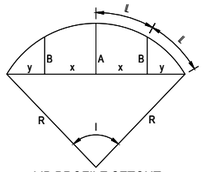
LEGEND

- STORMWATER DRAIN, PIT & PROPERTY INLET
- MELBOURNE WATER DRAIN & PIT
- SWALE DRAIN
- SEWER & MAINTENANCE STRUCTURES
- HOUSE DRAIN
- TACTILE PAVERS (INDICATIVE ONLY)
- EXISTING HOUSE DRAIN
- RETAINING WALL
- PAVEMENT TREATMENT
- CONCRETE EDGE STRIP WITH SUBSOIL DRAIN, "NO ROAD" SIGN & BARRIER
- LIMIT OF WORKS
- EXISTING TREE TO BE REMOVED
- PERMANENT SURVEY MARK
- TEMPORARY BENCH MARK
- PROPOSED DRIVEWAY

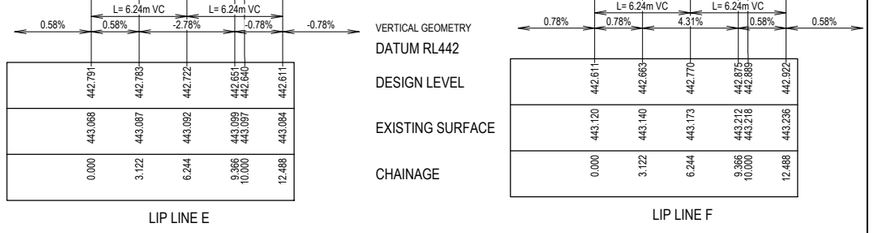
HORIZONTAL 0 2 4 8 12 16 20

VERTICAL 0 0.2 0.4 0.8 1.2 1.6 2

1:200 H 1:20 V @ A1

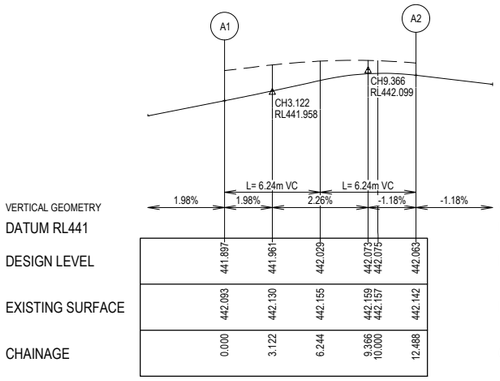


LIP PROFILE SETOUT

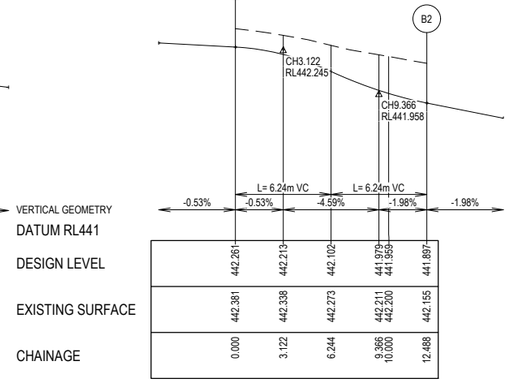


LIP LINE E

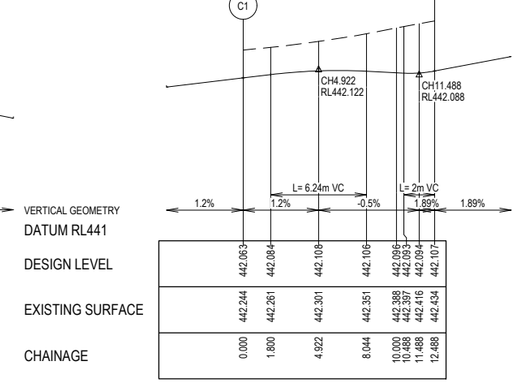
LIP LINE F



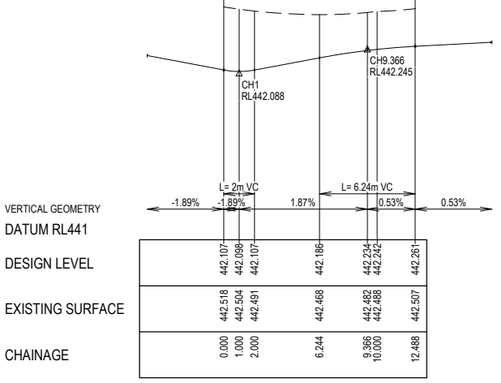
LIP LINE A



LIP LINE B



LIP LINE C



LIP LINE D

APPROVED
By JeffColb at 5:11 pm, May 13, 2020

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P1	AMENDED AS PER INTEGRA COMMENTS	29.05.19	JS	JZ
F	AS CONSTRUCTED PLANS	13.05.20	TT	JS
E	SODERDTROM PLACE TO SODER STROM STREET	06.02.20	TT	JS

0 2 4 8 12 16 20

Designed	J.SPARK
Date	29.01.19
Drawn	J.SPARK
Approved	J.ZAAL
Date	29.01.19
PS Number	PS825912E

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Project Details	LUCAS STAGE G3 CITY OF BALLARAT
Drawing Title	INTERSECTION DETAILS (SHEET 1 OF 2)

Sheet 20 of 26

Scale 1:200 @ A1

Project Ref	Stage No	Drawing No	Rev
1800971	G3	300	F

N

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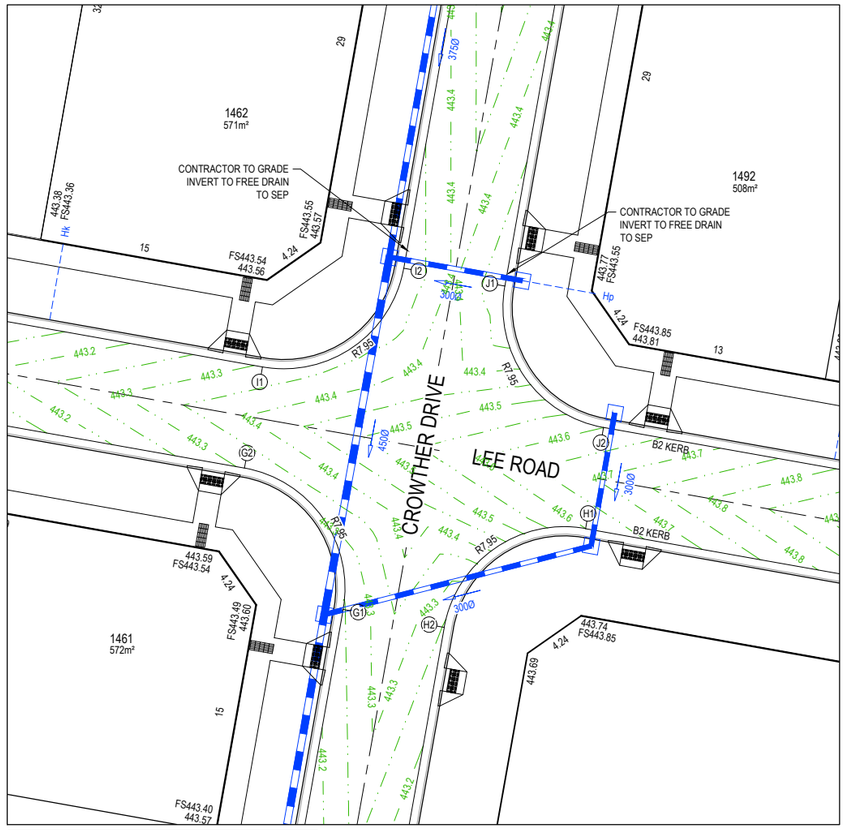

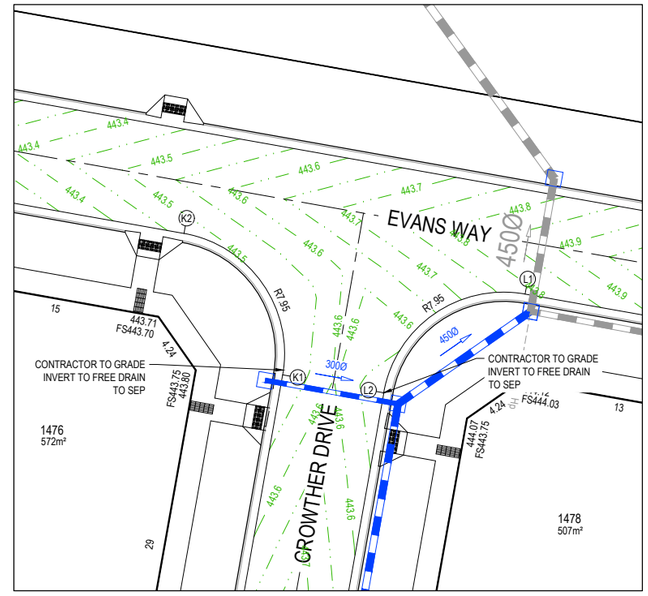

Alignment G

Point no	Easting	Northing	RL
G1	744676.161	5841063.861	443.246
G2	744669.723	5841073.079	443.307

Curve no	I	Radius	Arc	A	B	X	Y	I	Mid point RL
G1 - G2	90.011	7.950	12.489	2.329	1.724	3.043	2.579	3.122	443.305

Alignment H

Point no	Easting	Northing	RL
H1	744691.975	5841069.130	443.600
H2	744682.758	5841062.693	443.246

Curve no	I	Radius	Arc	A	B	X	Y	I	Mid point RL
H1 - H2	89.989	7.950	12.486	2.328	1.723	3.042	2.579	3.122	443.411

Alignment I

Point no	Easting	Northing	RL
I1	744670.897	5841079.676	443.307
I2	744680.114	5841086.113	443.306

Curve no	I	Radius	Arc	A	B	X	Y	I	Mid point RL
I1 - I2	89.989	7.950	12.486	2.328	1.723	3.042	2.579	3.122	443.329

Alignment J

Point no	Easting	Northing	RL
J1	744686.711	5841084.945	443.306
J2	744693.150	5841075.726	443.600

Curve no	I	Radius	Arc	A	B	X	Y	I	Mid point RL
J1 - J2	90.010	7.950	12.489	2.329	1.724	3.043	2.579	3.122	443.424

Alignment K

Point no	Easting	Northing	RL
K1	744725.837	5841343.477	443.503
K2	744719.400	5841352.695	443.465

Curve no	I	Radius	Arc	A	B	X	Y	I	Mid point RL
K1 - K2	90.000	7.950	12.488	2.329	1.723	3.042	2.579	3.122	443.529

Alignment L

Point no	Easting	Northing	RL
L1	744741.652	5841348.742	443.780
L2	744732.434	5841342.305	443.503

Curve no	I	Radius	Arc	A	B	X	Y	I	Mid point RL
L1 - L2	90.000	7.950	12.488	2.329	1.723	3.042	2.579	3.122	443.646

LEGEND

- STORMWATER DRAIN, PIT & PROPERTY INLET
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- SWALE DRAIN
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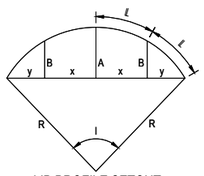
- PROPOSED DRIVEWAY

HORIZONTAL 0 2 4 8 12 16 20
VERTICAL 0 0.2 0.4 0.8 1.2 1.6 2

1:200 H 1:20 V @ A1



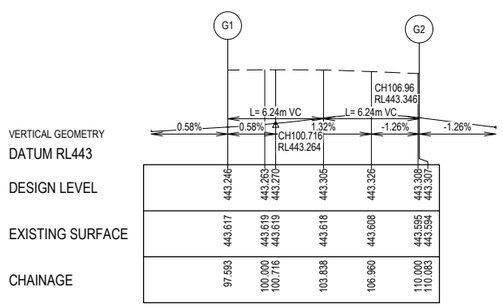
LIP PROFILE SETOUT

VERTICAL GEOMETRY										
DATUM RL443										
DESIGN LEVEL	443.503	443.526	443.527	443.504	443.500	443.465				
EXISTING SURFACE	443.913	443.882	443.850	443.789	443.782	443.713				
CHAINAGE	0.000	4.721	7.221	9.721	10.000	12.488				

LIP LINE K

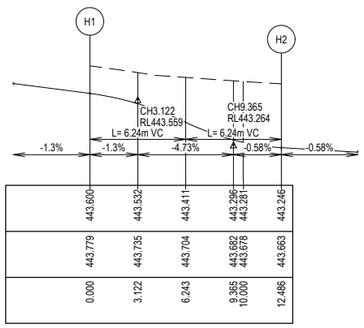
VERTICAL GEOMETRY										
DATUM RL443										
DESIGN LEVEL	443.780	443.725	443.646	443.536	443.522	443.503	443.503			
EXISTING SURFACE	444.079	444.034	443.997	443.978	443.977	443.978	443.979			
CHAINAGE	0.000	3.122	6.244	10.000	10.488	11.488	12.488			

LIP LINE L



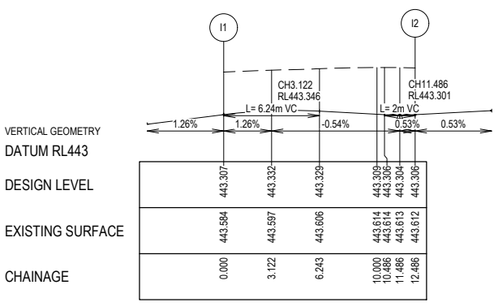
VERTICAL GEOMETRY						
DATUM RL443						
DESIGN LEVEL	443.246	443.263 443.270	443.305	443.326	443.308 443.307	
EXISTING SURFACE	443.617	443.619 443.619	443.618	443.608	443.595 443.594	
CHAINAGE	97.593	100.000 100.716	103.838	106.960	110.000 110.083	

LIP LINE G



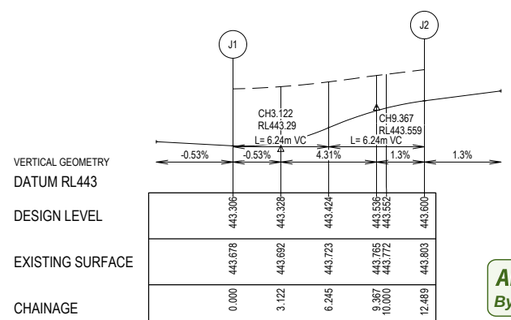
VERTICAL GEOMETRY						
DATUM RL443						
DESIGN LEVEL	443.600	443.532	443.411	443.296 443.281	443.246	
EXISTING SURFACE	443.779	443.735	443.704	443.682 443.676	443.663	
CHAINAGE	0.000	3.122	6.243	9.365 10.000	12.486	

LIP LINE H



VERTICAL GEOMETRY						
DATUM RL443						
DESIGN LEVEL	443.307	443.332	443.329	443.309 443.306	443.304	443.306
EXISTING SURFACE	443.584	443.597	443.606	443.614 443.614	443.613	443.612
CHAINAGE	0.000	3.122	6.243	10.000 10.486	11.486	12.486

LIP LINE I



VERTICAL GEOMETRY						
DATUM RL443						
DESIGN LEVEL	443.306	443.328	443.424	443.536 443.552	443.600	
EXISTING SURFACE	443.678	443.692	443.723	443.765 443.772	443.803	
CHAINAGE	0.000	3.122	6.245	9.367 10.000	12.489	

LIP LINE J

APPROVED
By JeffColb at 5:11 pm, May 13, 2020

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REV	DESCRIPTION	DATE	DRN.	APP.
D	CAPPING LAYER DESCRIPTION CHANGE	24.10.19	TT	JS
C	INTEGRA REVIEW	03.10.19	JS	JZ
B	AMENDED DRAINAGE	28.08.19	TT	JS
A	AMENDED AS PER COUNCIL COMMENTS	08.07.19	JS	JZ
P1	AMENDED AS PER INTEGRA COMMENTS	29.05.19	JS	JZ
F	AS CONSTRUCTED PLANS	13.05.20	TT	JS
E	SODERDTROM PLACE TO SODER STROM STREET	06.02.20	TT	JS

0 2 4 8 12 16 20

Designed	J.SPARK
Date	29.01.19
Drawn	J.SPARK
Approved	J.ZAAL
Date	29.01.19
PS Number	PS825912E

Beveridge Williams
96 Main Road
Ballarat Vic 3350
ph: 03 5327 2000
www.beveridgewilliams.com.au

Project Details	LUCAS STAGE G3 CITY OF BALLARAT
Drawing Title	INTERSECTION DETAILS (SHEET 2 OF 2)

Sheet 21 of 26

Scale 1:200 @ A1

Project Ref	Stage No	Drawing No	Rev
1800971	G3	301	F

N

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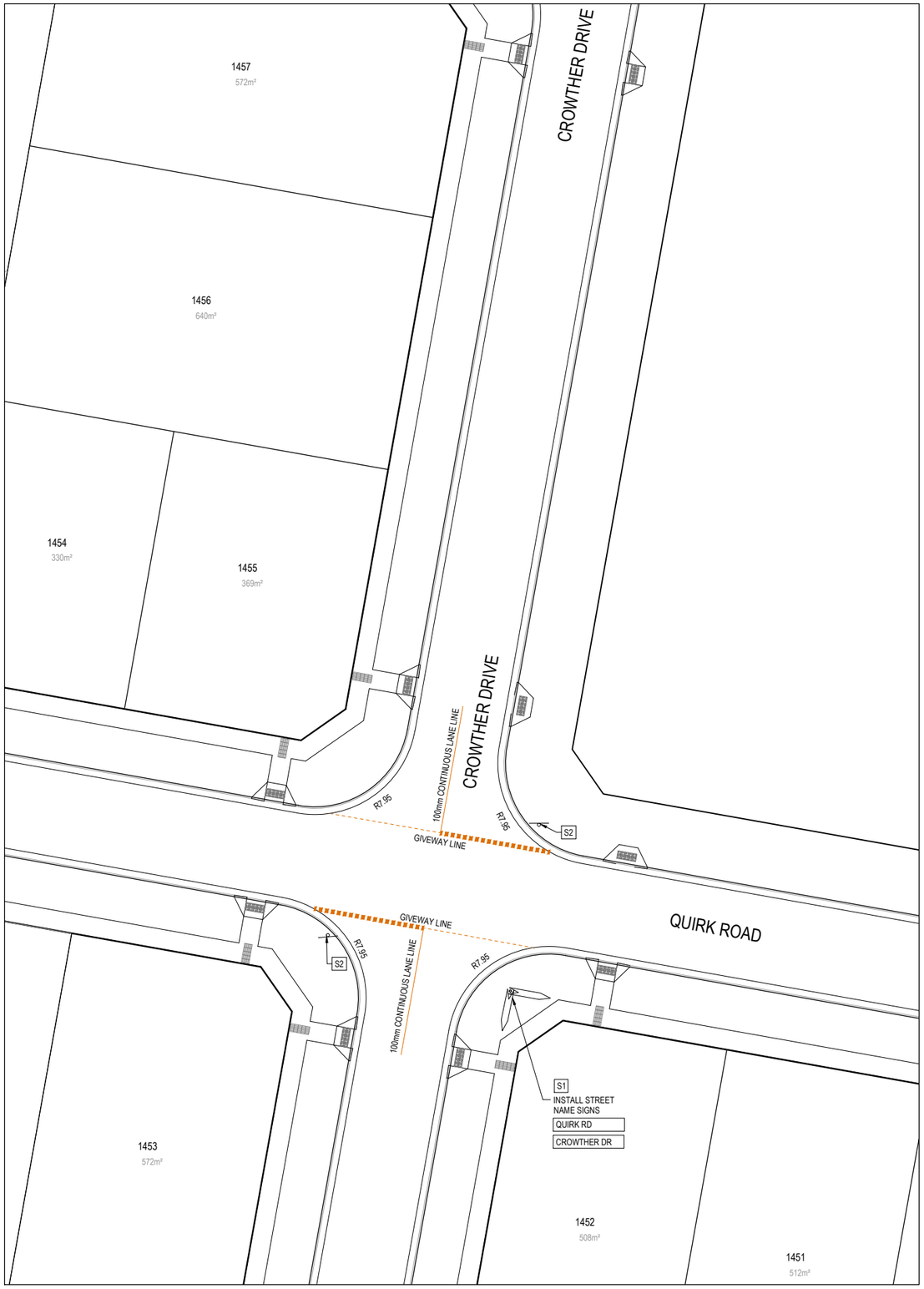

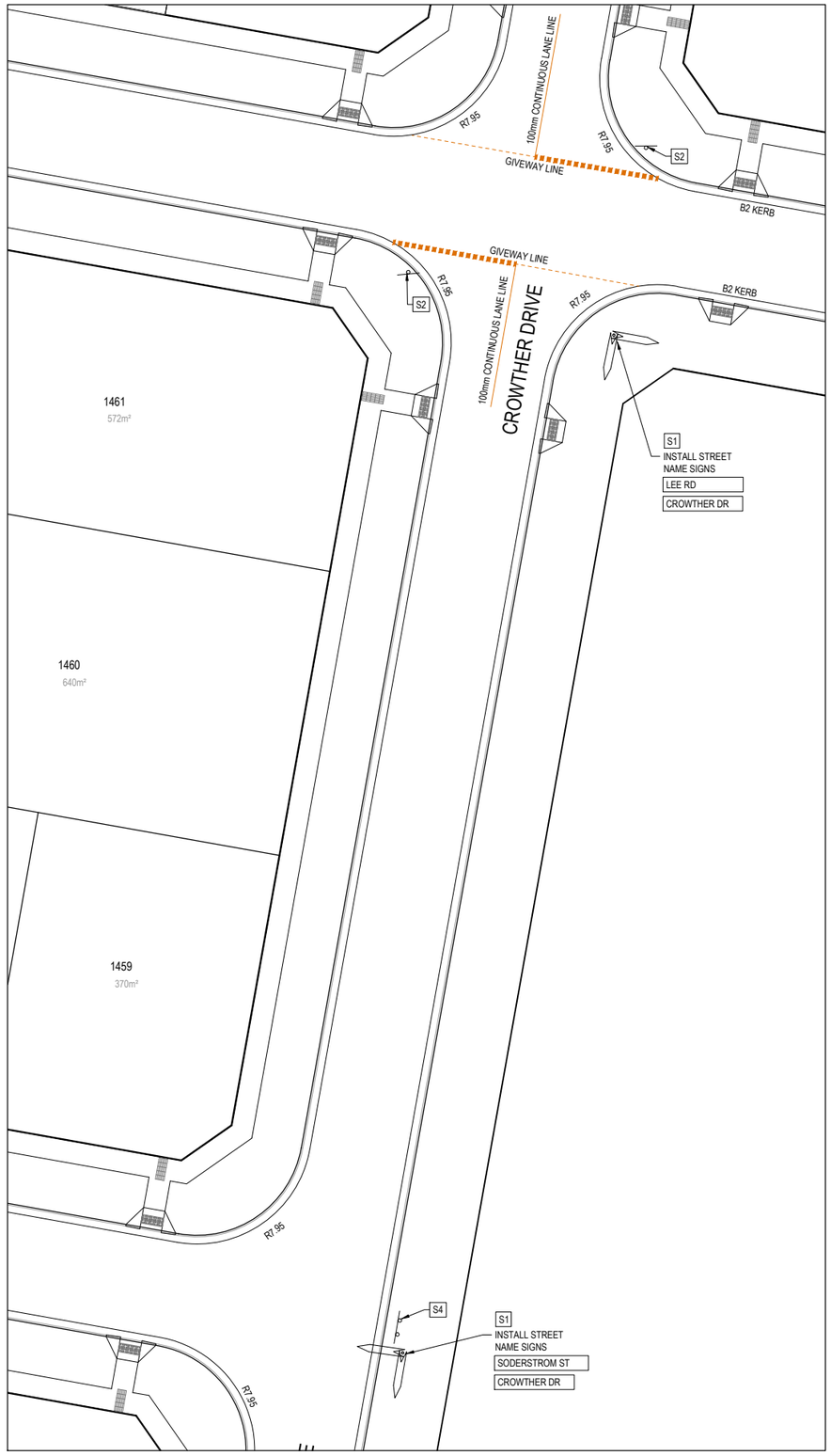

SIGN SCHEDULE

IDENTIFIER	NUMBER	SIGN
S1	STREET NAME SIGN	
S2	R1-2	
S3	D4-5	
S4	D4-2-1	

SIGNS SHALL BE LOCATED SUCH THAT THE EDGE OF THE SIGN IS MINIMUM 0.5m BEHIND THE KERB INVERT.

APPROVED
By JeffColb at 5:11 pm, May 13, 2020

NOTES
1. RRPM'S AT MAX 6m SPACING.
2. LINEMARKING TO BE EXTENDED AT LEAST 5m FROM THE TANGENT POINT
3. LINEMARKING IN ACCORDANCE WITH AS1742.
4. TGSI TO BE INSTALLED IN ACCORDANCE WITH COUNCIL STANDARD SD-C4-1

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A	AMENDED AS PER COUNCIL COMMENTS	08.07.19	JS	JZ
P1	AMENDED AS PER INTEGRA COMMENTS	29.05.19	JS	JZ

REV	DESCRIPTION	DATE	DRN.	APP.
F	AS CONSTRUCTED PLANS	13.05.20	TT	JS
E	SODERDTROM PLACE TO SODER STROM STREET	06.02.20	TT	JS

0 2 4 8 12 16 20

Designed J.SPARK 29.01.19
Drawn J.SPARK
Approved J.ZAAL 29.01.19
PS Number PS825912E

Beveridge Williams
96 Main Road
Ballarat Vic 3350
ph: 03 5327 2000
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Project Details: LUCAS STAGE G3 CITY OF BALLARAT
Drawing Title: SIGNAGE & LINE MARKING PLANS (SHEET 1 OF 2)

Sheet 22 of 26
Scale 1:200 @ A1

Project Ref	Stage No	Drawing No	Rev
1800971	G3	350	F

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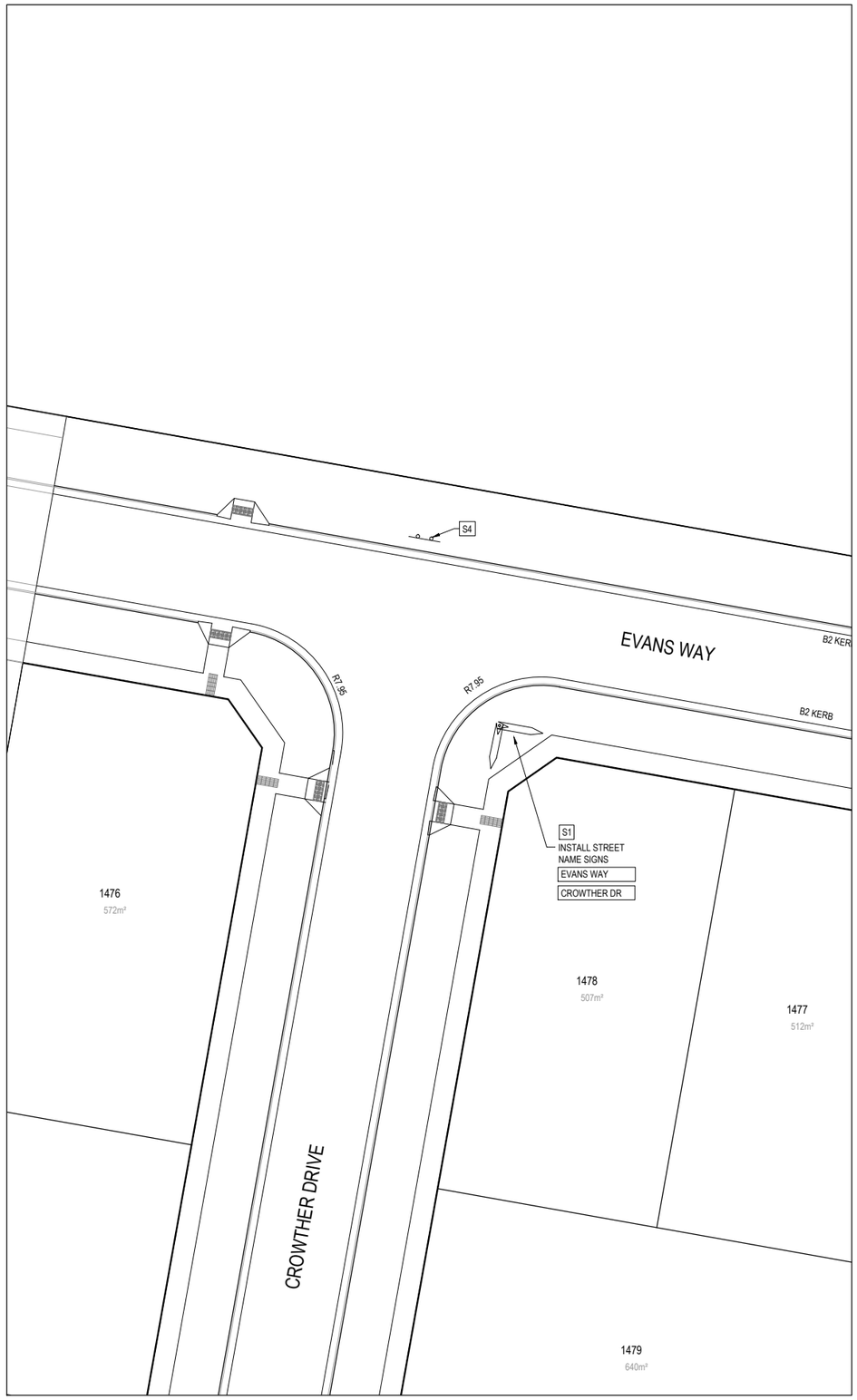

NOTES
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SIGN SCHEDULE

IDENTIFIER	NUMBER	SIGN
S1	STREET NAME SIGN	
S2	R1-2	
S3	D4-5	
S4	D4-2-1	

SIGNS SHALL BE LOCATED SUCH THAT THE EDGE OF THE SIGN IS MINIMUM 0.5m BEHIND THE KERB INVERT.

APPROVED
By JeffColb at 5:12 pm, May 13, 2020

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Date 29.01.19
Drawn J.SPARK
Approved J.ZAAL
Date 29.01.19
PS Number PS825912E

Beveridge Williams
96 Main Road
Ballarat Vic 3350
ph: 03 5327 2000
www.beveridgewilliams.com.au

Project Details: LUCAS
STAGE G3
CITY OF BALLARAT

Drawing Title: SIGNAGE & LINE MARKING PLANS
(SHEET 2 OF 2)

Sheet 23 of 26
Scale 1:200 @ A1
Project Ref 1800971 | Stage No G3 | Drawing No 351 | Rev F

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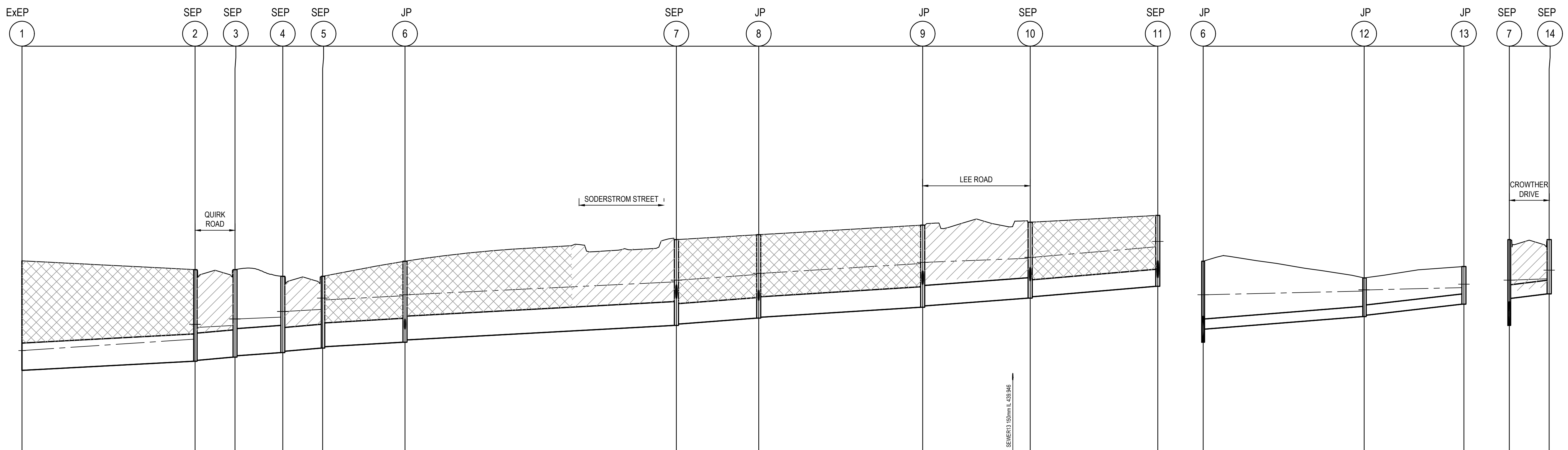
NOTES:
STORMWATER DRAINS SHOWN AS FJ CLASS 2 RCP CAN ALSO BE SUBSTITUTED FOR SIMILAR PVC PIPE. EG BLACK MAX

LEGEND
- EXISTING SURFACE
- DESIGN SURFACE
- DRAINAGE PIPE/PIT
- EXISTING DRAINAGE PIPE/PIT
- HYDRAULIC GRADE LINE
- DENOTES 20mm CLASS 3 FCR BACKFILL.
- DENOTES RED DREDGE OR OTHER APPROVED QUARRIED PRODUCT.



DATUM 435.0

Reach (pits)	Pipe	Bedding	Design flow (m3/s)	Capacity (m3/s)	At grade velocity (m/s)	Pipe size (mm)	Pipe grade	Depth to invert	H.G.L	Invert level	Finished surface	Existing surface	Pipe chainage	Reach length
1–2	FJ Class2 RCP	Red Dredge or Similar	0.441	0.446	1.58	600Ø	1 in 190	2.412, 2.412 / 2.018	440.595 / 440.845	440.159, 440.159 / 440.360	442.571 / 442.378	442.630 / 442.368	0.000 / 38.154	(38.154)
2–3	RRJ Class3 RCP	Class 3 CRB	0.433	0.548	1.94	600Ø	1 in 126	1.998 / 1.928	441.172, 441.104 / 441.148	440.380 / 440.450	442.378	442.533	46.954	(8.800)
3–4	FJ Class2 RCP	Refer BCC SD-D8-1 detail C	0.382	0.501	1.77	600Ø	1 in 151	1.898 / 1.681	441.291 / 441.331	440.480 / 440.550	442.231	442.545	57.492	(10.539)
4–5	RRJ Class3 RCP	Class 3 CRB	0.311	0.384	1.77	525Ø	1 in 126	1.651 / 1.581	441.456 / 441.502	440.580 / 440.650	442.231	442.436	66.292	(8.800)
5–6	FJ Class2 RCP	Red Dredge or Similar	0.306	0.319	1.48	525Ø	1 in 182	1.551 / 1.783	441.750, 441.711 / 441.802	440.680 / 440.780	442.563	442.728	84.443	(18.150)
6–7	RRJ Class3 RCP	Red Dredge or Similar / Class 3 CRB	0.296	0.315	1.45	525Ø	1 in 187	1.733 / 1.889	441.825 / 442.108	440.830 / 441.150	443.039	443.222	144.293	(59.850)
7–8	FJ Class2 RCP	Red Dredge or Similar	0.237	0.241	1.52	450Ø	1 in 140	1.859 / 1.838	442.145 / 442.270	441.180 / 441.310	443.148	443.372	162.443	(18.150)
8–9	FJ Class2 RCP	Red Dredge or Similar	0.221	0.222	1.4	450Ø	1 in 164	1.818 / 1.809	442.296 / 442.513	441.330 / 441.550	443.359	443.613	198.599	(36.155)
9–10	RRJ Class3 RCP	Class 3 CRB	0.176	0.242	1.52	450Ø	1 in 139	1.779 / 1.673	442.539 / 442.629	441.580 / 441.72 / 441.750	443.423	443.603	218.464 / 222.299	(23.700)
10–11	FJ Class2 RCP	Red Dredge or Similar	0.159	0.159	1.44	375Ø	1 in 122	1.643 / 1.562	442.649 / 442.880 (442.999)	441.780 / 442.010	443.572	443.768	250.439	(28.140)
6–12	FJ Class2 RCP	Refer BCC SD-D8-1 detail C	0.021	0.040	1	225Ø	1 in 128	1.783, 1.497 / 0.851	441.802, 441.825 / 441.904	440.780, 441.066 / 441.344	442.563 / 442.195	442.728 / 442.195	0.000 / 35.500	(35.500)
12–13	FJ Class2 RCP	Refer BCC SD-D8-1 detail C	0.022	0.047	1.18	225Ø	1 in 90.9	0.821 / 0.830	441.933, 441.930 / 441.982 (442.058)	441.374 / 441.616	442.446	442.446	57.500	(22.000)
7–14	RRJ Class3 RCP	Class 3 CRB	0.056	0.103	1.46	300Ø	1 in 88	1.889, 1.295 / 1.195	442.108, 442.145 / 442.175 (442.366)	441.150, 441.744 / 441.844	443.039 / 443.039	443.222 / 443.327	0.000 / 8.800	(8.800)

APPROVED
By JeffColb at 5:12 pm, May 13, 2020

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F	AS CONSTRUCTED PLANS	13.05.20	TT	JS
E	SODERDTROM PLACE TO SODER STROM STREET	06.02.20	TT	JS
D	CAPPING LAYER DESCRIPTION CHANGE	24.10.19	TT	JS
C	INTEGRA REVIEW	03.10.19	JS	JZ
B	AMENDED DRAINAGE	28.08.19	TT	JS
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HORIZONTAL 0 5 10 20 30 40 50
VERTICAL 0 0.5 1 2 3 4 5

Designed J.SPARK Date 29.01.19
Drawn J.SPARK
Approved J.ZAAL Date 29.01.19
PS Number PS825912E

Beveridge Williams
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ph: 03 5327 2000
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Project Details: LUCAS, STAGE G3, CITY OF BALLARAT

Drawing Title: DRAINAGE LONGITUDINAL SECTIONS (SHEET 1 OF 3)

Scale 1:500 H 1:50 V @ A1

Project Ref	Stage No	Drawing No	Rev
1800971	G3	400	F

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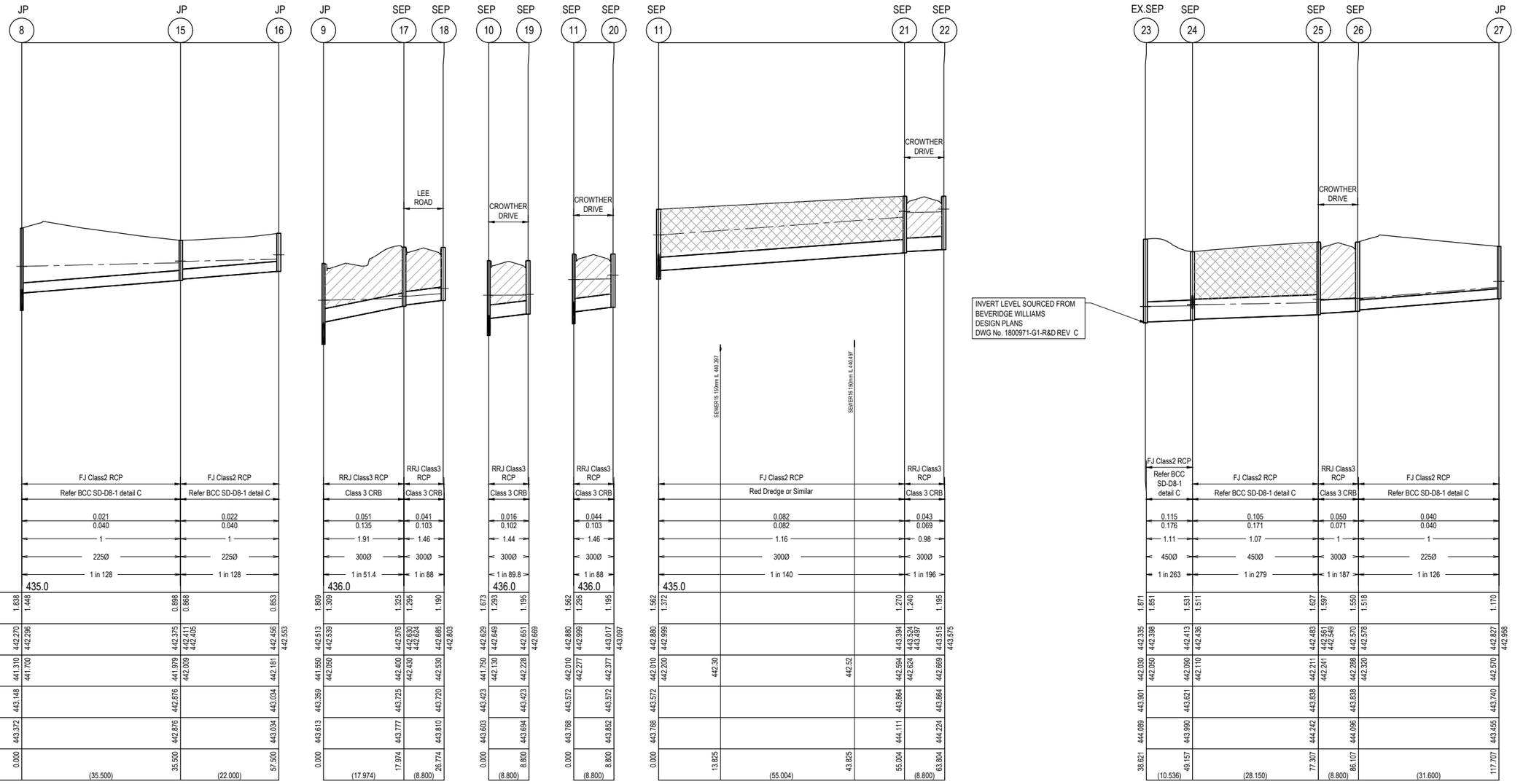
NOTES:
STORMWATER DRAINS SHOWN AS FJ CLASS 2 RCP CAN ALSO BE SUBSTITUTED FOR SIMILAR PVC PIPE. EG BLACK MAX

LEGEND
- EXISTING SURFACE
- DESIGN SURFACE
- DRAINAGE PIPE/PIT
- EXISTING DRAINAGE PIPE/PIT
- HYDRAULIC GRADE LINE
- DENOTES 20mm CLASS 3 FCR BACKFILL.
- DENOTES RED DREDGE OR OTHER APPROVED QUARRIED PRODUCT.



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HORIZONTAL 0 5 10 20 30 40 50
VERTICAL 0 0.5 1 2 3 4 5

Designed	J.SPARK
Date	29.01.19
Drawn	J.SPARK
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Date	29.01.19
PS Number	PS825912E

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Project Details: LUCAS STAGE G3 CITY OF BALLARAT
Drawing Title: DRAINAGE LONGITUDINAL SECTIONS (SHEET 2 OF 3)

Sheet 25 of 26
Scale: 1:500 H 1:50 V @ A1

Project Ref	Stage No	Drawing No	Rev
1800971	G3	401	F

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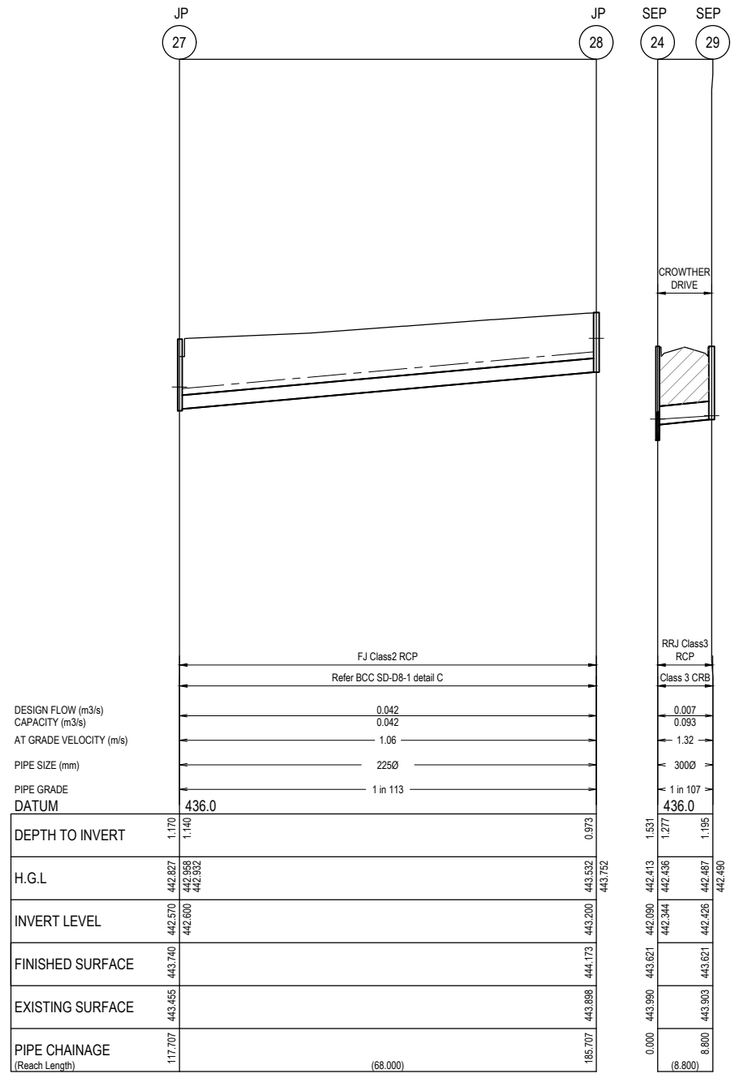
NOTES:
STORMWATER DRAINS SHOWN AS FJ CLASS 2 RCP CAN ALSO BE SUBSTITUTED FOR SIMILAR PVC PIPE. EG BLACK MAX

LEGEND
- EXISTING SURFACE
- DESIGN SURFACE
- DRAINAGE PIPE/PIT
- EXISTING DRAINAGE PIPE/PIT
- HYDRAULIC GRADE LINE
- DENOTES 20mm CLASS 3 FCR BACKFILL.
- DENOTES RED DREDGE OR OTHER APPROVED QUARRIED PRODUCT.



PIT SCHEDULE

Pit Name	TYPE	EASTING	NORTHING	INTERNAL WD	INTERNAL LEN	INLET DIA	INLET INV LEV	OUTLET DIA	OUTLET INV LEV	PIT SETOUT RL	PIT DEPTH	REMARKS
1	Ex ENDPIPE	744702.603	5840907.658	0	0	600	440.159			442.571	2.412	
2	SIDE ENTRY PIT	744665.049	5840914.395	0.9	0.9	600	440.380	600.000	440.360	442.378	2.018	PROVIDE STEP IRONS
3	SIDE ENTRY PIT	744666.584	5840923.060	0.9	0.9	600	440.480	600	440.450	442.378	1.928	PROVIDE STEP IRONS
4	SIDE ENTRY PIT	744660.553	5840931.702	0.9	0.9	525	440.580	600	440.550	442.231	1.681	PROVIDE STEP IRONS
5	SIDE ENTRY PIT	744651.888	5840933.238	0.9	0.9	525	440.680	525	440.650	442.231	1.581	PROVIDE STEP IRONS
6	JUNCTION PIT	744654.964	5840951.125	0.9	0.9	525	440.830	525	440.780	442.563	1.783	PROVIDE STEP IRONS
						225	441.066					
7	SIDE ENTRY PIT	744665.532	5841010.035	0.9	0.9	450	441.180	525	441.150	443.039	1.889	PROVIDE STEP IRONS
						300	441.744					
8	JUNCTION PIT	744668.608	5841027.923	0.9	0.9	450	441.330	450	441.310	443.148	1.838	PROVIDE STEP IRONS
						225	441.700					
9	JUNCTION PIT	744674.932	5841063.521	0.9	0.9	450	441.580	450	441.550	443.359	1.809	PROVIDE STEP IRONS
						300	442.050					
10	SIDE ENTRY PIT	744679.176	5841086.838	0.9	0.9	375	441.780	450	441.750	443.423	1.673	PROVIDE STEP IRONS
						300	442.130					
11	SIDE ENTRY PIT	744684.099	5841114.544	0.9	0.9			375	442.010	443.572	1.562	PROVIDE STEP IRONS
						300	442.277					
						300	442.200					
12	JUNCTION PIT	744620.011	5840957.335	0.6	0.9	225	441.374	225	441.344	442.195	0.851	
13	JUNCTION PIT	744623.860	5840978.996	0.6	0.9			225	441.616	442.446	0.830	
14	SIDE ENTRY PIT	744674.197	5841008.500	0.75	0.9			300	441.844	443.039	1.195	PROVIDE STEP IRONS
15	JUNCTION PIT	744633.655	5841034.132	0.6	0.9	225	442.009	225	441.979	442.876	0.898	
16	JUNCTION PIT	744637.504	5841055.793	0.6	0.9			225	442.181	443.034	0.853	
17	SIDE ENTRY PIT	744692.340	5841067.999	0.9	0.9	300	442.430	300	442.400	443.725	1.325	PROVIDE STEP IRONS
18	SIDE ENTRY PIT	744693.875	5841076.664	0.75	0.9			300	442.530	443.720	1.190	PROVIDE STEP IRONS
19	SIDE ENTRY PIT	744687.841	5841085.303	0.75	0.9			300	442.228	443.423	1.195	PROVIDE STEP IRONS
20	SIDE ENTRY PIT	744692.764	5841113.009	0.75	0.9			300	442.377	443.572	1.195	PROVIDE STEP IRONS
21	SIDE ENTRY PIT	744693.720	5841168.700	0.9	0.9	300	442.624	300	442.594	443.864	1.270	PROVIDE STEP IRONS
22	SIDE ENTRY PIT	744702.385	5841167.165	0.75	0.9			300	442.669	443.864	1.195	PROVIDE STEP IRONS
23	EX.SIDE ENTRY PIT	744742.010	5841347.612	0.9	0.9	450	442.050	450	EX.442.03	443.901	1.871	EX SIDE ENTRY PIT
24	SIDE ENTRY PIT	744733.372	5841341.580	0.9	0.9	450	442.110	450	442.090	443.621	1.531	PROVIDE STEP IRONS
						300	442.344					
25	SIDE ENTRY PIT	744728.448	5841313.864	0.9	0.9	300	442.241	450	442.211	443.838	1.627	PROVIDE STEP IRONS
26	SIDE ENTRY PIT	744719.783	5841315.403	0.9	0.9	225	442.320	300	442.288	443.838	1.550	PROVIDE STEP IRONS
27	JUNCTION PIT	744688.670	5841320.931	0.6	0.9	225	442.600	225	442.570	443.740	1.170	PROVIDE STEP IRONS
28	JUNCTION PIT	744676.776	5841253.979	0.6	0.9			225	443.200	444.173	0.973	
29	SIDE ENTRY PIT	744724.707	5841343.119	0.75	0.9			300	442.426	443.621	1.195	PROVIDE STEP IRONS

NOTES

1. SETOUT CO-ORDINATES TO PIT CENTRE
2. SETOUT LEVEL TO PIT COVER LEVEL
3. STEP IRONS ARE TO BE PROVIDED IN PITS DEEPER THAN 1m
4. COVER LEVELS AND PIT CO-ORDINATES ARE APPROX ONLY AND SHOULD BE CONSTRUCTED TO SUIT FINISHED SURFACE
5. PITS IN NON TRAFFICABLE AREAS TO HAVE CONCRETE LIDS AND SURROUNDS AS PER BALLARAT CITY STANDARD DRAWING SD-P1-1 / SD-P10-1

APPROVED
By JeffColb at 5:12 pm, May 13, 2020

AS CONSTRUCTED PLANS

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HORIZONTAL 0 5 10 20 30 40 50
VERTICAL 0 0.5 1 2 3 4 5

Designed J.SPARK Date 29.01.19
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PS Number PS825912E

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Project Details: LUCAS STAGE G3 CITY OF BALLARAT
Drawing Title: DRAINAGE LONGITUDINAL SECTIONS & PIT SCHEDULE (SHEET 3 OF 3)

Sheet 26 of 26
Scale 1:500 H 1:50 V @ A1

Project Ref	Stage No	Drawing No	Rev
1800971	G3	402	F

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