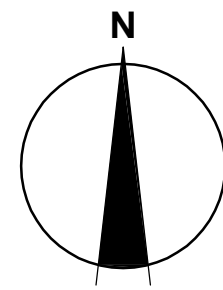


Estuary

Stage 11B

City of Greater Geelong



LOCALITY PLAN
MELWAYS REF: 468 D6



Principal

Leopold Property Developments Pty Ltd
Level 1, 6 Riverside Quay
Southbank, Victoria 3006

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Standard Construction Notes

- 1. GENERAL**
 - 1.1 Drawings** - The drawings are to be read in conjunction with the contract specification and the responsible Authorities standard drawings and current specifications for Roadworks and Drainage. Any observed discrepancy to be referred to the Superintendent prior to start of work.
 - 1.2 Responsible Authority Documentation Availability** - A set of the respective responsible Authority standard construction documentation including drawings and specification/s are to be provided by the Contractor and made available on-site for the duration of the construction period.
 - 1.3 Conformity with Drawings** - All works are to be finished in conformity with the lines, grades, thicknesses and cross sections shown in the drawings.
 - 1.4 Materials and Workmanship** - Materials and workmanship to comply with responsible Authority specifications and relevant SAA Codes.
 - 1.5 Tolerances** - Works are to be constructed in compliance with tolerances specified by the relevant responsible Authorities.
 - 1.6 Minimum Standards** - The standards of work and materials stated in the drawings and specification are the minimum acceptable irrespective of relevant responsible Authority minimum standards.
 - 1.7 Sewer/Water Supply** - Construction notes specific to sewer and water supply asset construction are incorporated in the drawings approved by the Water Company as attached hereto.
- 2. EXISTING CONDITIONS**
 - 2.1 Discrepancy with Drawings** - Any discrepancy observed/identified between the drawings and existing conditions and site features are to be referred to the Superintendent prior to start of any related work.
 - 2.2 Municipal Assets & Infrastructure** - The condition of existing Council assets potentially affected by the works is to be assessed by a joint site inspection with Council Officers prior to the start of works. Asset conditions are to be recorded and witnessed by Council and the Contractor. The Contractor is to arrange and record site inspections and is liable for all rectification/reinstatement costs for damage to existing assets.
 - 2.3 Utility Services** - The locations of existing utility services, as shown in the drawings, are not guaranteed. Exact service locations are to be proven prior to start of works. Service location works are to comply with the requirements of the relevant responsible Authority. The Contractor is liable for rectification/reinstatement costs for damage to existing utility services.
- 3. NOTIFICATIONS**
 - 3.1 Council** - Minimum notification periods are:
 - (a) **two (2) days** written notice of intention to start works
 - (b) **two (2) days** notice to inspect condition of existing Council assets
 - (c) **twenty four (24) hours** notice for weekend work
 - (d) **twenty four (24) hours** notice for:
 - inspection of drainage works
 - inspection of sub-soil drains
 - proof roll of prepared sub-grade or constructed pavement
 - inspection of prepared base for concrete works
 - other works as stated in the drawings or specified

Or as otherwise agreed with Council Officers.
 - 3.2 Property Owners/Tenants** - Seven (7) days written notice to property owners/tenants affected by the works.
 - 4. OCCUPATION OF PUBLIC ROADS**

All roadworks signage to comply with VicRoads Worksite Traffic Management Code incorporating AS 1742.3.

 - 4.1 Roads under VicRoads jurisdiction** - The Contractor is to arrange VicRoads consent via "Application for Consent - Works within Road Reserves" (refer VicRoads web site).
 - 4.2 Roads under Council control** - The Contractor is to arrange and acquire requisite Road Closure Permits via Council's Traffic Officer.

- 5. SET OUT**
 - 5.1 Survey Stations and Reference Marks** - The locations of survey stations and reference marks are to be verified prior to start of works.
 - 5.2 Road Chainages** - Road chainages as shown in the drawings are to road centreline, unless otherwise stated.
 - 5.3 Kerb & Channel** - Kerb and channel radii and levels relate to edge of channel, unless otherwise stated.
 - 5.4 Drainage Pits** - The locations and orientation of drainage pits are to be accurately set out from co ordinates and/or offsets as stated.
 - 5.5 Pipe Drains** - Drainage lines are to be accurately set out from coordinates and/or offsets as stated. Further to Standard Note 5.4 drainage lines at pits are to be accurately set out to ensure that the outlet pipe is aligned directly opposite the inlet pipe (where deflection angles are 45° or less) or as otherwise stated in the drawings or directed.
- 6. TOPSOIL**
 - 6.1 Stripping Limits** - Clearing and stripping of topsoil to be restricted to areas to be excavated/filled as stated in the drawings or limits as otherwise directed by the Superintendent.
 - 6.2 Surplus Material** - Surplus topsoil must be re-used on-site unless otherwise stated in the drawings or directed by the Superintendent.
- 7. EXISTING VEGETATION**

All existing trees and significant vegetation within and external to the worksite are to be retained, preserved and protected unless otherwise stated in the drawings or directed by the Superintendent.
- 8. EXCAVATION/TRENCHING**
 - 8.1 Trenching** - Trenching operations exceeding 1.5 metres depth are to comply with the provisions of the Mines (Trenches) Regulations 1982.
 - 8.2 Work close to Trees and Vegetation** - Excavation work within the drip line of trees is not to be performed unless otherwise stated in the drawings or approved by the Superintendent.
 - 8.3 Unstable Sub-Grade** - Unstable sub-grade/"soft spots" to be excavated to a sound proof-rolled base and backfilled with material approved by Council.
- 9. SOIL EROSION**

The Contractor must install necessary protection works to effectively manage and limit soil erosion within the worksite. Works to include, but are not limited to:

 - 9.1 Silt Fences** - downstream of all exposed areas.
 - 9.2 Silt Barriers** - upstream of all pits
- 10. DRAINAGE WORK**
 - 10.1 Existing Drains** - The location of existing drainage assets to be verified prior to start of works.
 - 10.2 Pipe Class** - Pipes to be, unless otherwise stated in the drawings:
 - (a) Roads & Reserves - Class 2 Rubber Ring Jointed RCP
 - (b) Easements - Rubber Ring Jointed RCP/FRP or Sewer Class Solvent Cement UPVC
 - 10.3 Pit Covers** - Pit covers are to be placed to match actual finished surface profiles - level and cross fall - of adjacent structures/surfaces. Finished surface levels stated in the drawings are indicative, for depth range purposes, and are not to be used as the basis for setting final pit cover levels
 - 10.4 Pit Construction** - Precast standard pits are to be installed. Cast in-situ standard pits are only to be constructed where approved by the Superintendent. All sumps in precast concrete pits are to be infilled with concrete flush to the inlet level of the outlet pipe unless otherwise approved by the superintendent.
 - 10.5 Sub-Soil Drains**
 - (a) Entry to pits to be trimmed flush with inner wall and effectively mortared in place through the full pit wall thickness.
 - (b) Details of granular filter material including source to be submitted to the Superintendent prior to start of sub-soil drainage works.

- 11. BACKFILL MATERIAL**
 - 11.1 Trenches under all edgings/kerb sections & Nature Strips** - 20mm Class 3 Fine Crushed Rock or other material as approved by Council.
 - 11.2 Trenches under road pavement** - Stormwater pipes are to be backfilled with two percent (2%) cement stabilised sand to extend from the bottom of the pipe to the springline (mid point) of the pipe. Class 3 Fine Crushed Rock is then to be used as the backfill material from the springline up to the road pavement base.
 - 11.3 Allotments/Reserves/** - Selected best quality excavated in-situ material or other material as approved by Council.
- 12. COMPACTION STANDARDS**

Compaction standards are to be checked and proven in accordance with the requirements of AS 1289. Where unspecified by the responsible Authority, the following minimum standards will apply:

 - 12.1 Structural Fill**
 - (a) Fill base - top 150mm 95% standard compaction
 - (b) Fill zone - 95% standard compaction
 - (c) Under road pavement - zone less than 450mm under road pavement surface 98% standard compaction
 - 12.2 Road Pavement**
 - (a) Road sub-grade - top 150mm 98% standard compaction
 - (b) Pavement materials - 98% modified compaction
 - 12.3 Trench Backfill**
 - (a) Granular under all pavement & edgings/kerb sections - 98% modified compaction
 - (b) Granular behind kerbing - 95% modified compaction
 - (c) Earth around structures - 95% standard compaction
- 13. CONCRETE WORK**
 - 13.1 Minimum Strength**
 - Concrete for drainage pits to have a minimum compressive strength of 32 MPa at 28 days.
 - Concrete for all other applications to have a minimum compressive strength of 25 MPa at 28 days
 - 13.2 Bar Chairs** - All reinforcement in footpaths, vehicle crossings and roads to be supported by appropriately sized bar chairs.
 - 13.3 Slump** - Concrete to have 75mm maximum slump.
 - 13.4 Kerb Cement Content** - Concrete for kerb extrusion machines to have a minimum cement content of 280 kg/m3.
 - 13.5 Services Distribution Mains & Conduits** - Mains and conduits are to be installed prior to kerb section construction works.
 - 13.6 Footpaths** - All footpaths are to be a minimum of 125mm thick with F62 reinforcement, bedded on min of 75mm compacted Class 3 FCR. Bedding to extend 100mm beyond the edges of the footpath. Contraction joints to be constructed at 12.5m intervals. Class 4 FCR is to be used where filling is required under footpath Class 3 FCR bedding material.
 - 13.7 Continuous Kerb** - To allow for a continuous concrete kerb and channel pour the "Gatic" HD concrete surround is to be in place prior to the pour commencing. If the pit surrounds are not in place then the initial kerb and channel pour is to stop one metre either side of pit.
- 14. ROAD PAVEMENT WORK**
 - 14.1 Pavement Composition** - The minimum standard of pavement composition is stated in the drawings for the respective road sections.
 - 14.2 Road surfacing** - Road surfacing must not be performed until all other works have been completed.
- 15. IDENTIFICATION MARKING**

All identification marking figures are to be a minimum of 50mm high.

 - 15.1 Conduits** - Letter "W", "G" "E" or "T" for water, gas, electricity or telecommunications conduit to be stamped into face of kerb sections at frontage of lot served.

- 15.2 House Drain Connections** - Letter "H" to be stamped into face of kerb sections opposite street drain connection point.
- 15.3 Lot Nos.** - Lot Nos. to be stenciled in white paint on face of kerb sections at lot frontages.
- 16. TESTING**
 - 16.1 Specified Testing** - Testing will be conducted in compliance with specified requirements. The Contractor is liable for all costs.
 - 16.2 Proof-Rolling** - Pneumatic tyred plant minimum weight 20 tonne with minimum ground contact pressure 450 kPa per tyre.
 - 17. EXPOSED SURFACES RESTORATION**
 - 17.1 Topsoiling** - All exposed residual surface areas at completion of civil works to be topsoiled with 100mm depth of best available material.
 - 17.2 Allotments/Reserves** - Allotments and reserves are to be evenly graded at a minimum gradient of 1 in 100 to their nominated drainage connection points.
 - 17.3 Nature Strips** - Nature strip surfaces are to be trimmed to grade between adjacent surfaces. Top-soiling and compaction operations are to ensure there is no later settlement/subsidence.
 - 17.4 Top-Dressing** - Undisturbed grassed areas are to be top-dressed and evenly graded as directed by the Superintendent.
 - 17.5 Hydroseeding** - At completion of the above works all prepared exposed surfaces are to be well watered and hydroseeded.
 - 17.6 Batter Slopes** - Batter slopes shall be a maximum of 1 in 5 for fill and 1 in 3 for cut unless otherwise shown.
 - 18. FINAL WORKS PRESENTATION**

At Practical Completion the following minimum standards of presentation will apply:

 - 18.1 Roads/Paved Areas** - All roads and paved areas are to be swept/washed down to produce clean surfaces free of all deleterious materials.
 - 18.2 Pipe Systems** - All pipe systems are to be flushed and cleared of all accumulated debris and deleterious materials.
 - 18.3 Site** - The site is to be prepared to a state acceptable for presentation to the public for sale purposes and is to be in a condition satisfactory to the Superintendent with completion of, at least, the following activities:
 - (a) all incidental and minor works
 - (b) site clean up operations
 - (c) site cleared of all facilities, temporary structures, plant, litter, surplus materials, etc. that are to be removed off-site.
 - 18.4 Reserve Frontages** - Round topped treated pipe bollards (0.6m high) are to be placed across reserve frontages at 1.5m centres. A demountable section for vehicle access consisting of an appropriate length of 50mm diameter (2.3mm wall thickness) galvanised water pipe, short section of chain (3 links) welded to each end. Two galvanised steel bollards - one each side of the entry, with one end to have a D20 padlock, which locks in to a link, which has been welded onto the bollard. Unless otherwise stated on plans.
 - 18.5 Street Signs** - Street signs are to be located as indicated on the plans and installed in accordance with Vicroads Traffic Engineering Manual Volume 2. Mounting height is to be to the underside of the sign and is to be a minimum of 2.1m and maximum of 3.0m
 - 18.6 No Through Road** - No through road signs are to be installed below the street sign where applicable.
 - 19. MAINTENANCE WORKS**

The Contractor must responsively repair/remediate defective works as directed during the maintenance period.

 - 19.1 Council Assets** - for Maintenance Period of 3 months
 - 19.2 Water Company Assets** - for Defects Liability Period of 12 months and Maintenance Period of 2 years
 - 19.3 Inspection & General Maintenance Activities** - the Contractor must undertake regular site inspections of all completed works. Special attention must be given to the adequacy of the following soil protection works:
 - (a) Silt fences
 - (b) Silt barriers
 - (c) Areas hydroseeded
 - 19.4** All pipelines are to be inspected via remote camera at the end of the maintenance period at the Contractor's expense and under supervision of COGG Subdivisions Engineer or Representative.

DRAWING NOTES

1. Do not scale drawings - use only dimensions stated.
2. Dimensions - Dimensions are in metres [m] unless otherwise stated.
3. Australian Height Datum - Reduced levels are to Australian Height (AHD) unless otherwise stated.

Principal
Leopold Property Developments Pty Ltd
Level 1, 6 Riverside Quay
Southbank, Victoria 3006

Designed
C. Barker

Drawn
C. Barker

Checked
C. Birkett

Authorised
J. Golden

Date
January 2012

Scale @ A1
As Shown

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Estuary

Stage 11B
City of Greater Geelong
Roadworks and Drainage
General Notes

Drawing No. 0250EHL-11B-02 Rev C
Sheet No. 2 of 22

Approved for Construction



LEGEND - LAYOUT PLAN

- STORMWATER DRAIN, PIT & PROPERTY INLET
- SWALE DRAIN
- SEWER & MAINTENANCE STRUCTURES
- HOUSE DRAIN
- SERVICE CONDUITS
- TACTILE PAVERS
- EXISTING ELECTRICITY (UNDERGROUND)
- EXISTING ELECTRICITY (OVERHEAD)
- EXISTING GAS
- EXISTING TELSTRA
- EXISTING WATER
- EXISTING STORMWATER DRAIN
- EXISTING SEWER
- EXISTING HOUSE DRAIN
- EXISTING SWALE DRAIN
- EXISTING SURFACE LEVEL
- FINISHED BUILDING LINE LEVEL
- FINISHED RIDGE LINE LEVEL
- TOP OF RETAINING WALL
- BOTTOM OF RETAINING WALL
- 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
- EXISTING TREE TO BE REMOVED
- PERMANENT SURVEY MARK
- TEMPORARY BENCH MARK
- PROPOSED DRIVEWAY

ROAD LAYOUT TABLE

ROAD NAME	RESERVE WIDTH (m)	ROAD WIDTH (m)			KERB TYPE		VERGE WIDTH (m)	
		LIP to LIP	INV to INV	BACK to BACK	NTH/WEST	STH/EAST	NTH/WEST	STH/EAST
SEAGRASS STREET	16.00	6.60	7.20	7.50	B2	B2	4.25	4.25
TIDAL STREET	16.00	6.60	7.20	7.50	B2	B2	4.25	4.25
TIDAL STREET DRIVEWAY	14.00	6.00	-	-	-	-	3.00	5.00
ANCHORAGE WAY	16.00	6.60	7.20	7.50	B2	B2	4.25	4.25
VILLAGE GREEN DRIVE	16.00	6.60	7.20	7.50	B2	B2	4.25	4.25

SERVICES OFFSET SCHEDULE

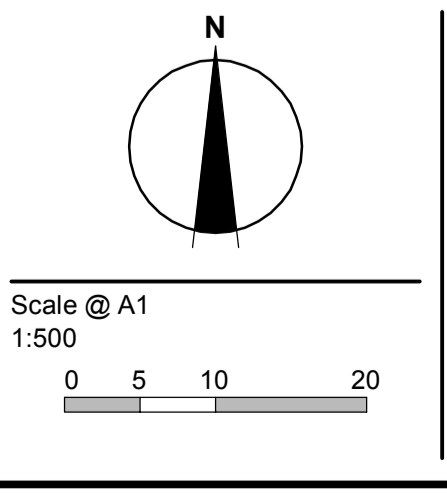
ROAD NAME	GAS		WATER		ELECTRICITY		TELSTRA	
	SIDE	OFFSET (m)	SIDE	OFFSET (m)	SIDE	OFFSET (m)	SIDE	OFFSET (m)
SEAGRASS STREET	NORTH	2.10	NORTH	2.70	SOUTH	2.30	SOUTH	1.90
TIDAL STREET E-W	SOUTH	2.10	SOUTH	2.70	NORTH	2.30	NORTH	1.90
TIDAL STREET N-S	EAST	2.10	EAST	2.70	WEST	2.30	WEST	1.90
TIDAL STREET DRIVEWAY	EAST/WEST	2.10/1.50	EAST/WEST	2.70/2.10	WEST	1.00	WEST	0.30
ANCHORAGE WAY	WEST	2.10	WEST	2.70	EAST	2.30	EAST	1.90
VILLAGE GREEN DRIVE	EAST	2.10	EAST	2.70	WEST	2.30	WEST	1.90

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

REVISION	DATE	DES/DT	APP'D
H CROSSOVER AMENDMENTS	08.07.13		
G OPEN DRAIN TO STAGE 9 EXTENDED	03.05.13	CB/CB	JG
F MINOR AMENDMENTS	04.04.13	CB/CB	JG
E SERVICES TABLE AMENDED	4.09.12	CB/CB	JG
D SERVICES TABLE AMENDED	17.05.12	CB/CB	JG
C AMENDMENTS TO LOTS 1105 & 1106	11.04.12	CB/CB	JG
B COUNCIL AMENDMENTS	05.03.12	CB/CB	JG
A ISSUED TO COUNCIL FOR APPROVAL	13.01.12	CB/CB	JG

Principal
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 Level 1, 6 Riverside Quay
 Southbank, Victoria 3006

Designed
C. Barker
 Drawn
C. Barker
 Checked
C. Birckett
 Authorised
J. Golden
 Date
January 2012



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Estuary
 Stage 11B
 City of Greater Geelong
 Roadworks and Drainage
 Layout Plan

Drawing No. 0250EHL-11B-03 **Rev H**
 Sheet No. 3 of 22

Approved for Construction



LEGEND - FUNCTIONAL LAYOUT PLAN

- E — ELECTRICITY (UNDERGROUND)
- G — GAS
- T — TELSTRA
- W — WATER
- — STORMWATER DRAIN, PIT & PROPERTY INLET
- SW — SWALE DRAIN
- — SEWER & MAINTENANCE STRUCTURES
- H — HOUSE DRAIN
- S — SERVICE CONDUITS
- — TACTILE PAVERS
- Ex E — EXISTING ELECTRICITY (UNDERGROUND)
- Ex T — EXISTING TELSTRA
- Ex G — EXISTING GAS
- Ex W — EXISTING WATER
- Ex SW — EXISTING SWALE DRAIN
- Ex S — EXISTING SEWER
- Ex H — EXISTING HOUSE DRAIN
- Ex SW — EXISTING SWALE DRAIN
- — ZERO LOT LINES
- ▨ — PAVEMENT TREATMENT
- — 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

ROAD NAME	RESERVE WIDTH (m)	ROAD WIDTH (m)			KERB TYPE		VERGE WIDTH (m)	
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ROAD NAME	SERVICES OFFSET SCHEDULE							
	GAS		WATER		ELECTRICITY		TELSTRA	
	SIDE	OFFSET (m)	SIDE	OFFSET (m)	SIDE	OFFSET (m)	SIDE	OFFSET (m)
SEAGRASS STREET	NORTH	2.10	NORTH	2.70	SOUTH	2.30	SOUTH	1.90
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TIDAL STREET N-S	EAST	2.10	EAST	2.70	WEST	2.30	WEST	1.90
TIDAL STREET DRIVEWAY	EAST/WEST	2.10/1.50	EAST/WEST	2.70/2.10	WEST	1.00	WEST	0.30
ANCHORAGE WAY	WEST	2.10	WEST	2.70	EAST	2.30	EAST	1.90
VILLAGE GREEN DRIVE	EAST	2.10	EAST	2.70	WEST	2.30	WEST	1.90

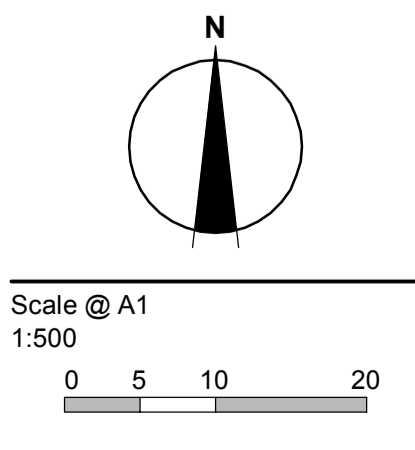
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REVISION	DATE	DES/DT	APP'D
E SERVICES TABLE AMENDED	04.09.12	CB/CB	JG
D SERVICES TABLE AMENDED	17.05.12	CB/CB	JG
C AMENDMENTS TO LOTS 1105 & 1106	11.04.12	CB/CB	JG
B COUNCIL AMENDMENTS	05.03.12	CB/CB	JG
A ISSUED TO COUNCIL FOR APPROVAL	13.01.12	CB/CB	JG



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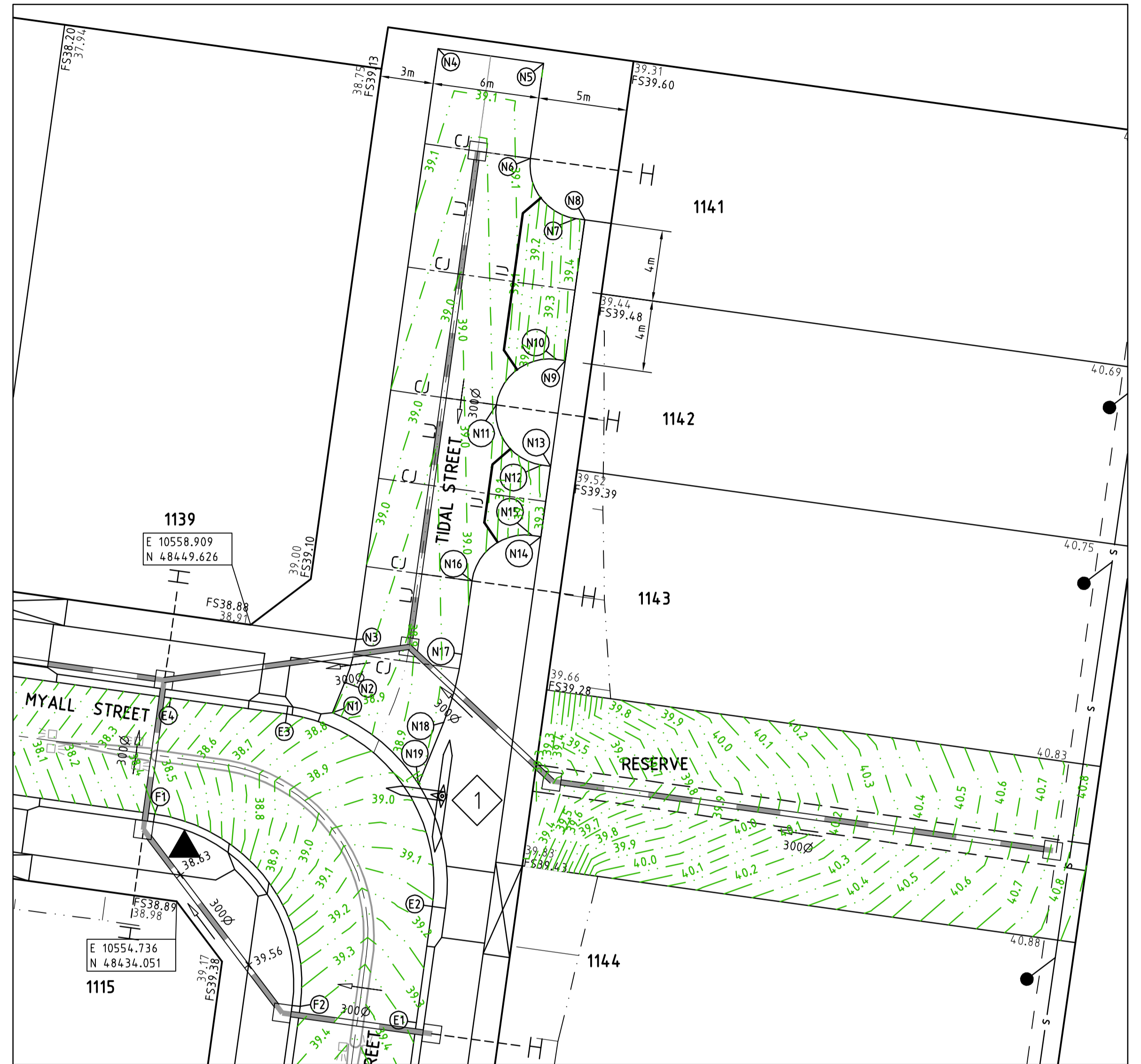
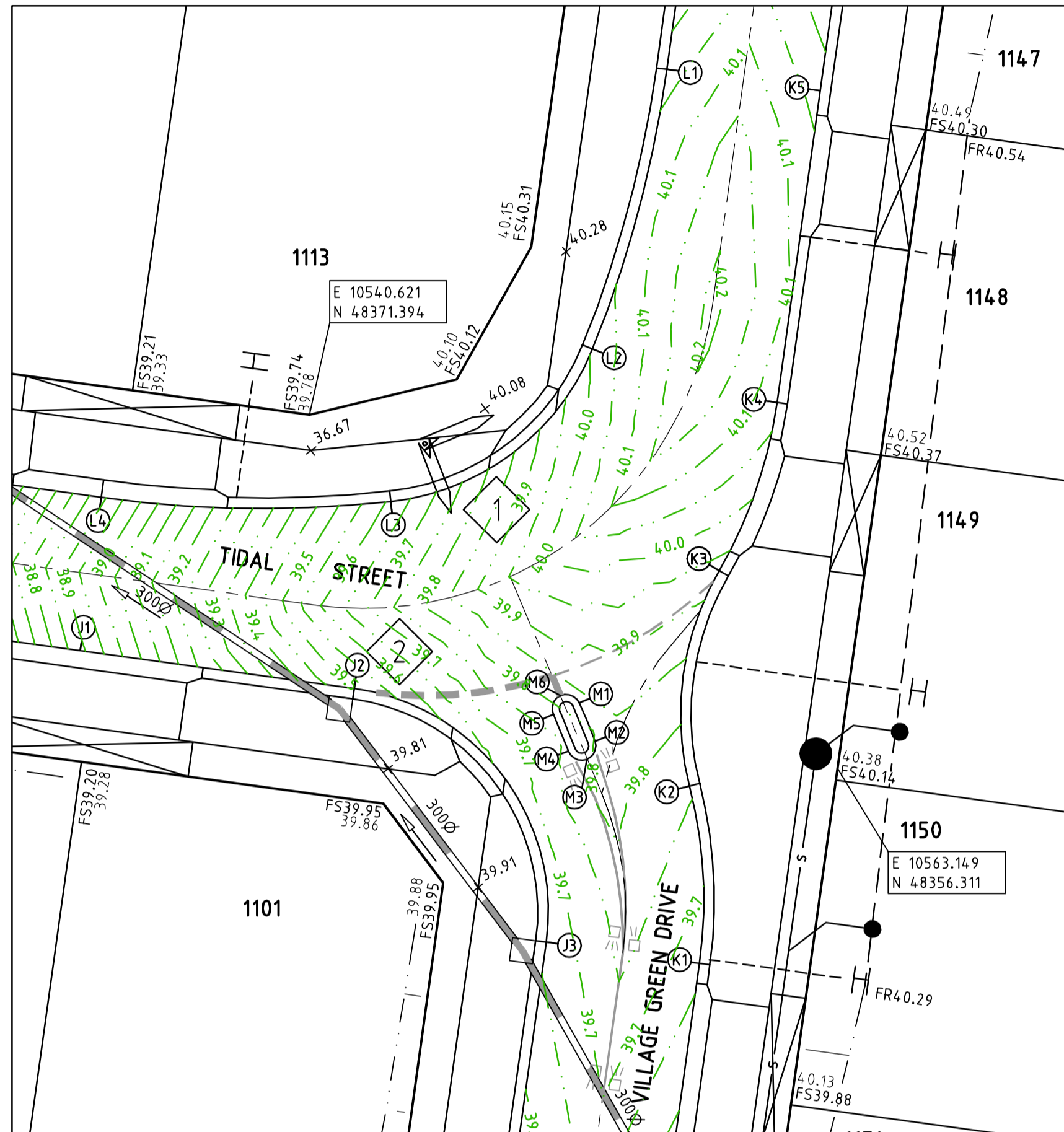
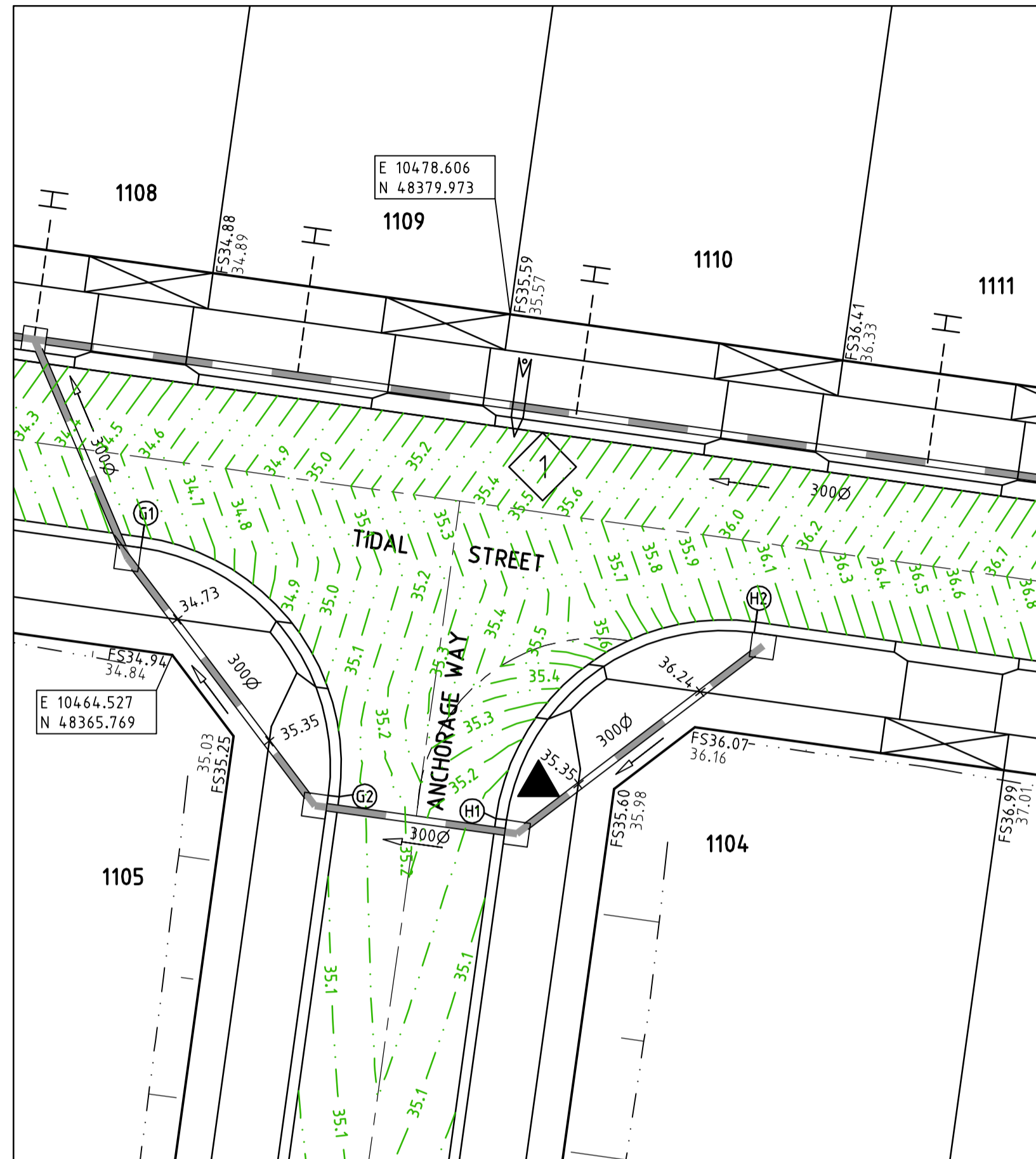
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Estuary
 Stage 11B
 City of Greater Geelong
 Roadworks and Drainage
 Services Layout Plan

Drawing No. 0250EHL-11B-04 Rev E
 Sheet No. 4 of 22

Approved for Construction



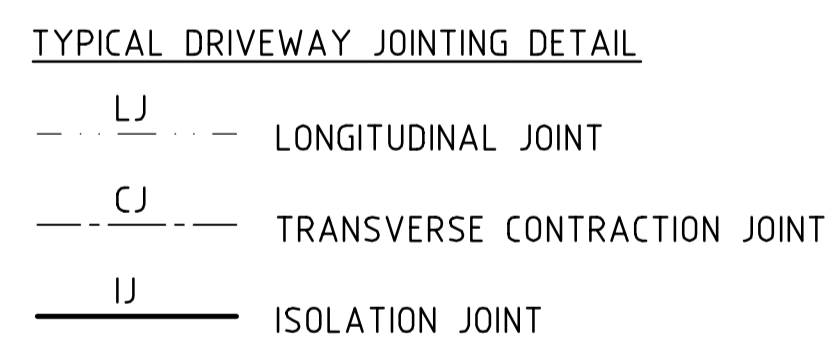
LEGEND - INTERSECTION PLAN

- STORMWATER DRAIN, PIT & PROPERTY INLET
- SWALE DRAIN
- SEWER & MAINTENANCE STRUCTURES
- HOUSE DRAIN
- TACTILE PAVERS
- 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

SIGN SCHEDULE

SIGN	REF
	1
	2

RI-2



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

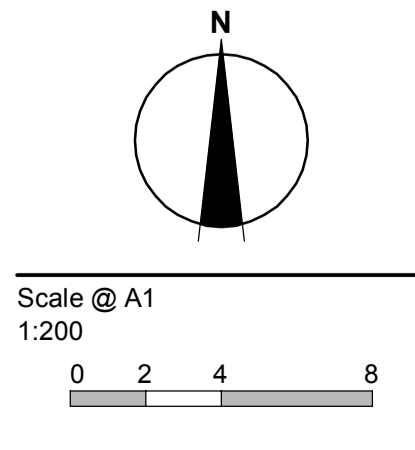
NOTES

1. REFER TO SHEET No's 6 - 7 FOR LIP PROFILES.
2. REFER TO SHEET No 8 FOR SETOUT INFORMATION.
3. 90° BENDS TO HAVE CENTRELINE MARKING WITH RRPM'S AT MAX 6m SPACING.

REVISION	DATE	DES/DFT	APPD
D CROSSOVER AMENDMENTS	08.07.13	CB/CB	JG
C MINOR AMENDMENTS	11.04.12	CB/CB	JG
B COUNCIL AMENDMENTS	05.03.12	CB/CB	JG
A ISSUED TO COUNCIL FOR APPROVAL	13.01.12	CB/CB	JG

estuary
 LEOPOLD™
 Principal
 Leopold Property Developments Pty Ltd
 Level 1, 6 Riverside Quay
 Southbank, Victoria 3006

Designed
 C. Barker
 Drawn
 C. Barker
 Checked
 C. Birkett
 Authorised
 J. Golden
 Date
 January 2012

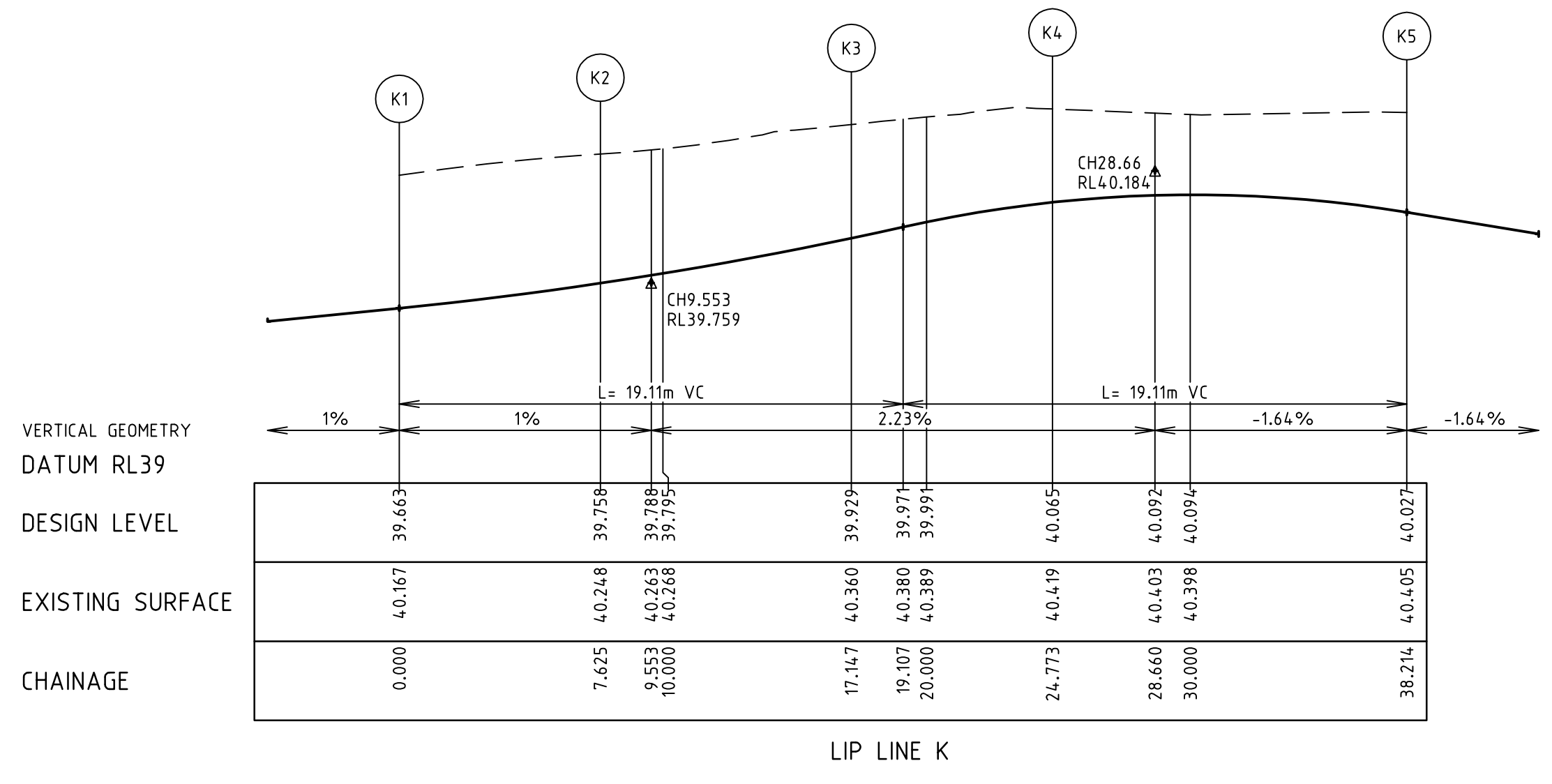
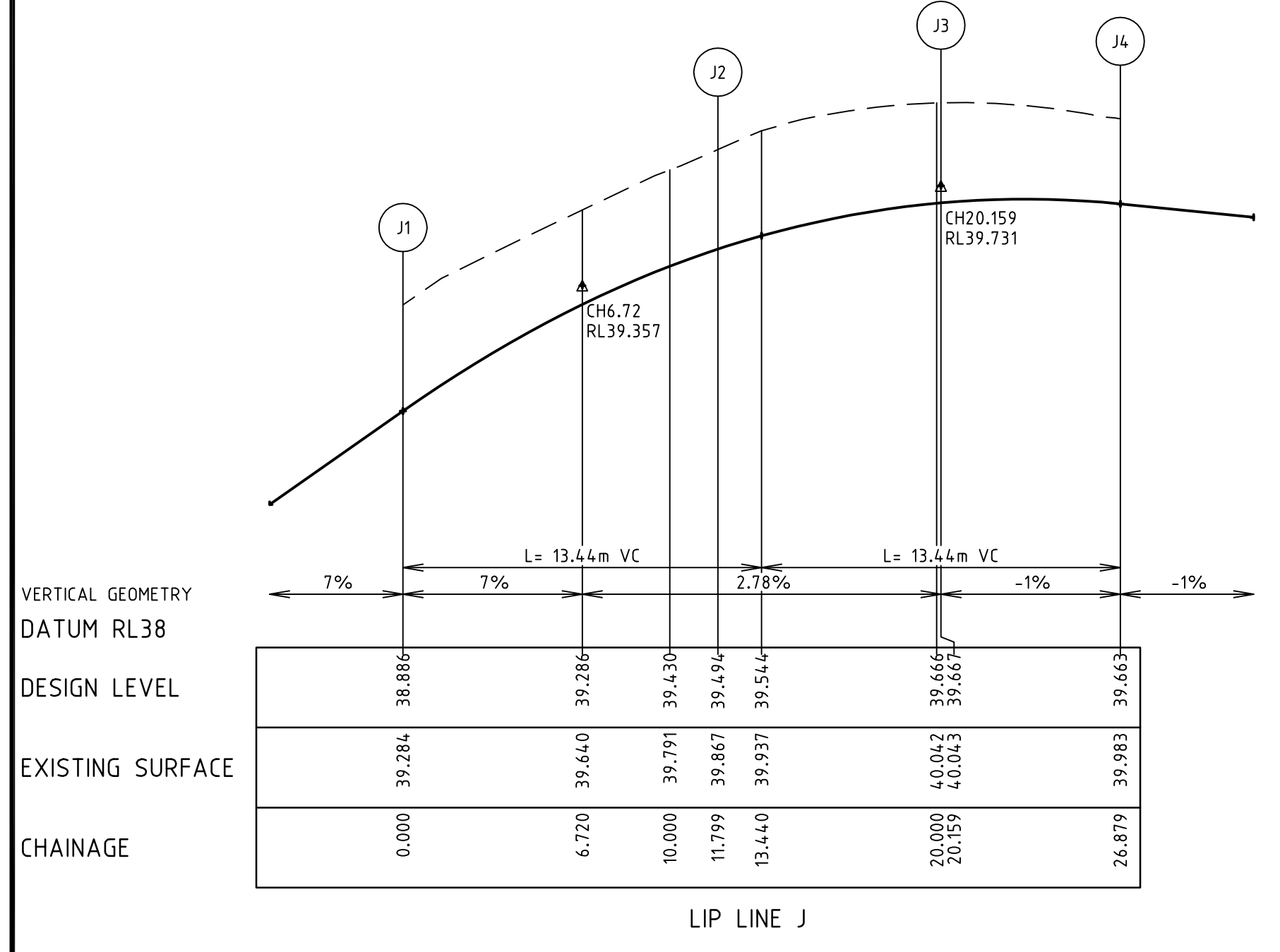
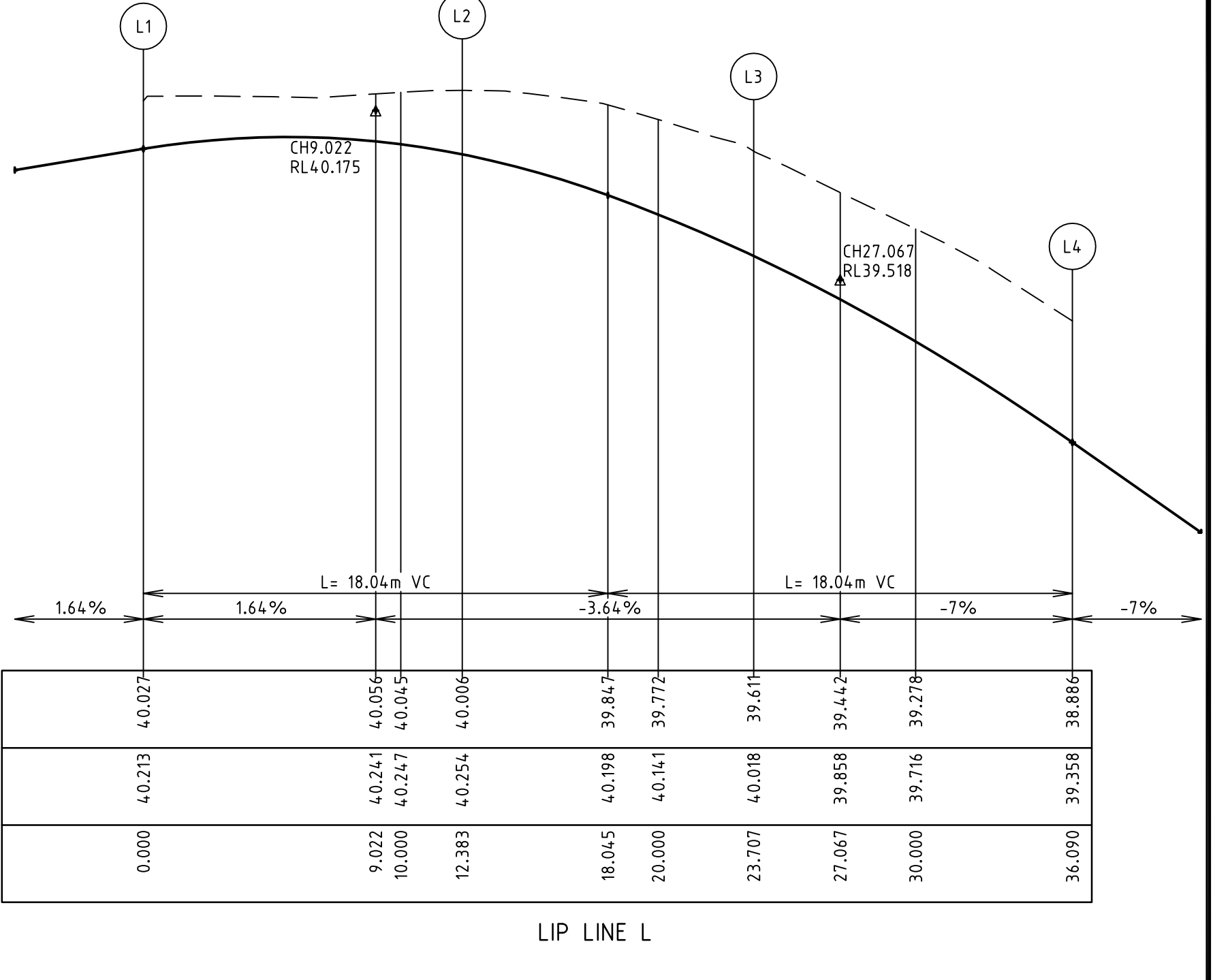
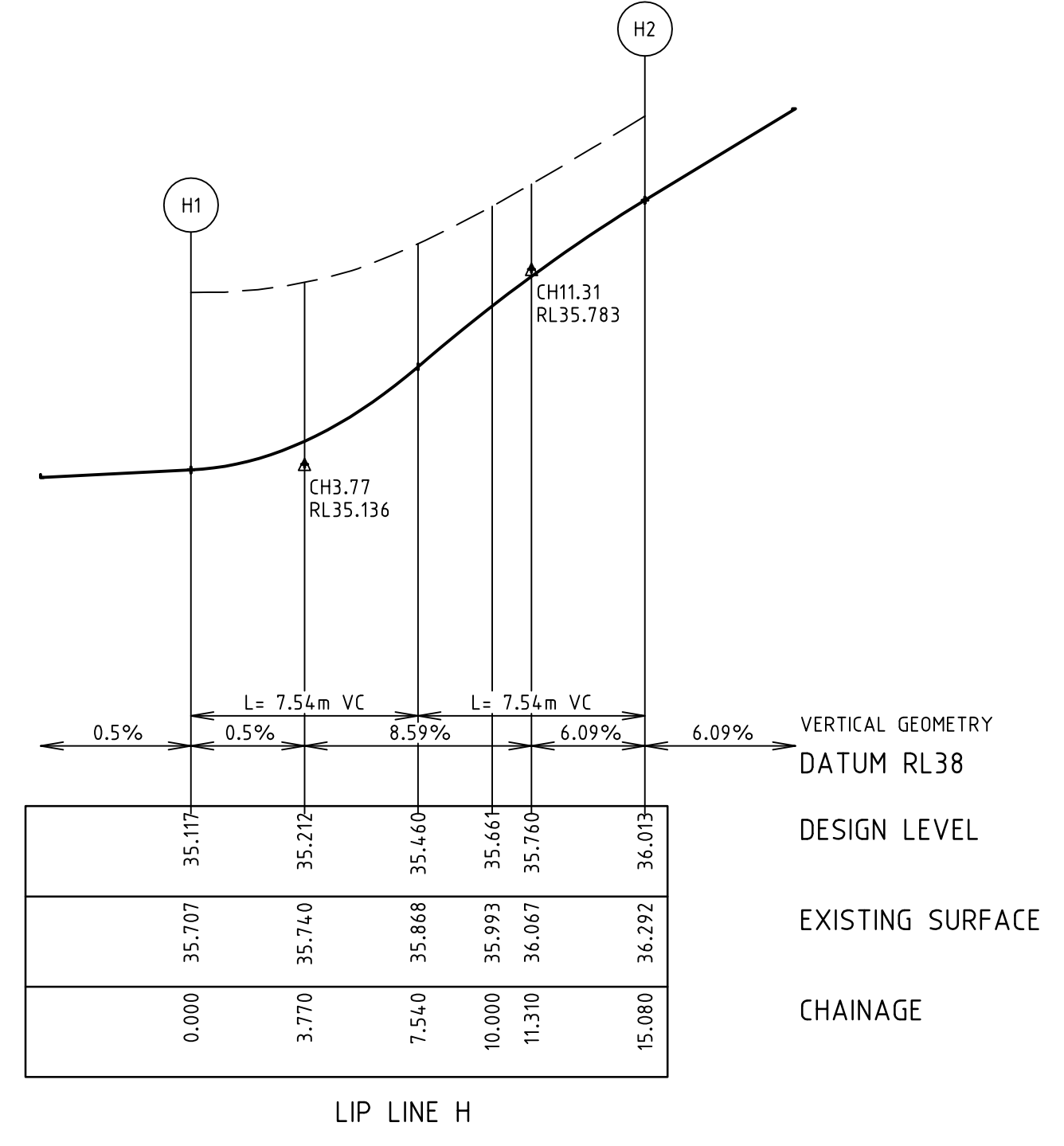
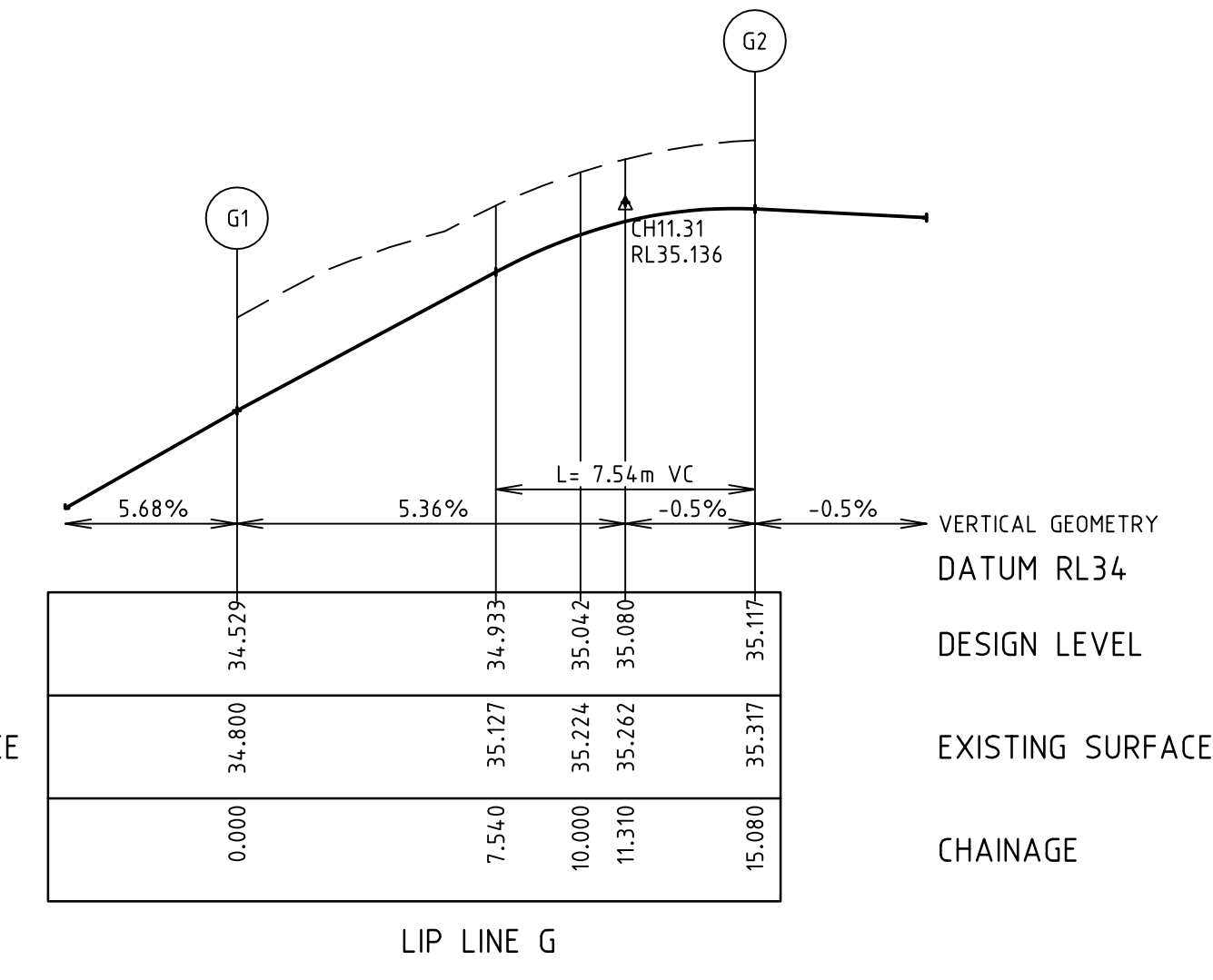
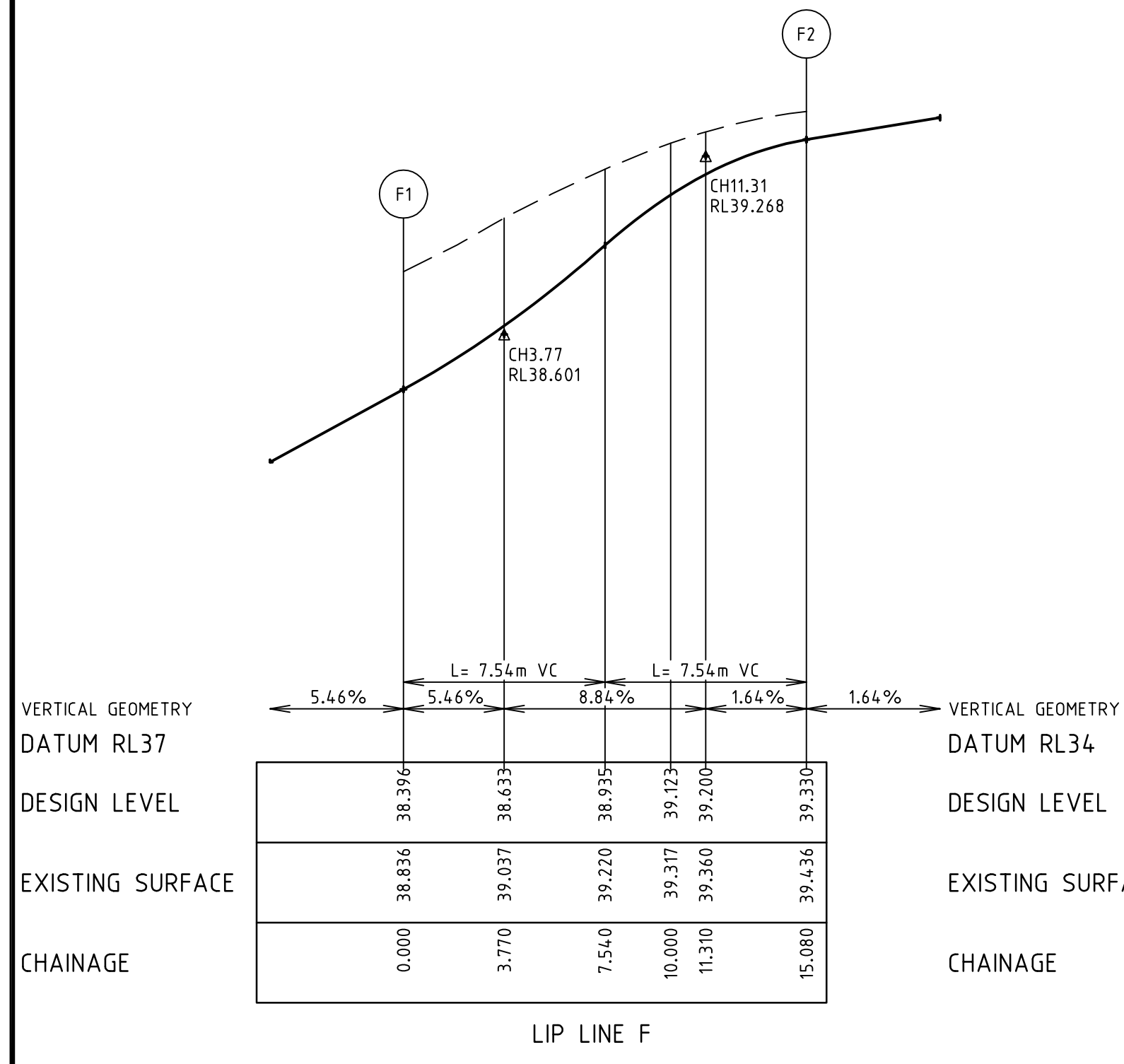


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 consulting group
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 Brisbane +61 7 3831 8988 Melbourne +61 3 9869 0800
 Canberra +61 2 6126 1000 Tarragona +61 3 5173 0100

Estuary
 Stage 11B
 City of Greater Geelong
 Roadworks and Drainage
 Intersection Detail Plan
Drawing No. 0250EHL-11B-05 **Rev D**
 Sheet No. 5 of 22
Approved for Construction

LEGEND
 --- EXISTING SURFACE
 ——— DESIGN LINE
 - - - FUTURE DESIGN LINE

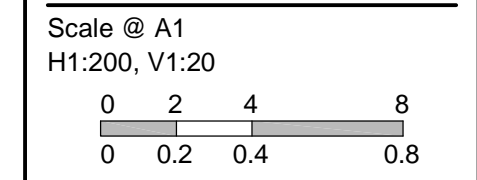


NOTES
 1. CHAINAGES REFER TO LIP OF KERB/EDGE OF CONCRETE.
 2. REFER TO SHEET No 8 FOR SETOUT INFORMATION.

REVISION	DATE	DES/DFT	APPD
C MINOR AMENDMENTS	11.04.12	CB/CB	JG
B COUNCIL AMENDMENTS	05.03.12	CB/CB	JG
A ISSUED TO COUNCIL FOR APPROVAL	13.01.12	CB/CB	JG



Designed
 C. Barker
 Drawn
 C. Barker
 Checked
 C. Birkett
 Authorised
 J. Golden
 Date
 January 2012



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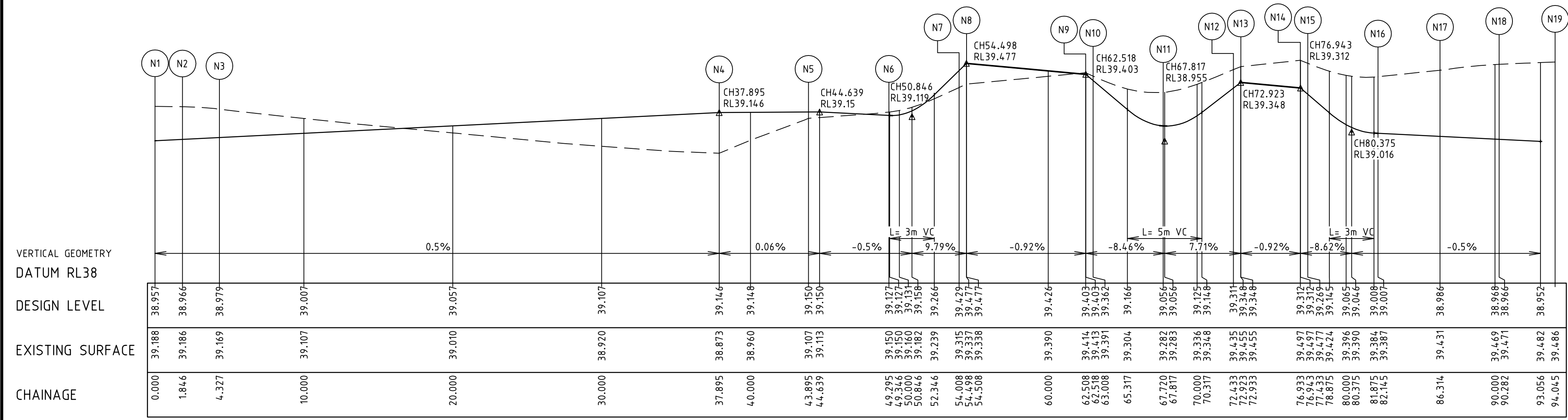
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Estuary
 Stage 11B
 City of Greater Geelong
 Roadworks and Drainage
 Lip Profiles - 1

Drawing No. 0250EHL-11B-06 **Rev C**
 Sheet No. 6 of 22

Approved for Construction

---	EXISTING SURFACE
---	DESIGN LINE
---	FUTURE DESIGN LINE



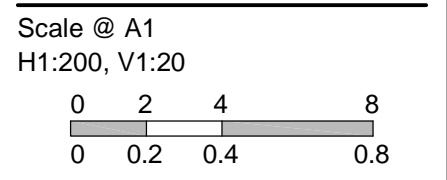
LIP LINE N

- NOTES**
- CHAINAGES REFER TO LIP OF KERB/EDGE OF CONCRETE.
 - REFER TO SHEET No 8 FOR SETOUT INFORMATION.

REVISION	DATE	DES/DFT	APPD
C	11.04.12	CB/CB	JG
B	05.03.12	CB/CB	JG
A	13.01.12	CB/CB	JG

Principal
Leopold Property Developments Pty Ltd
Level 1, 6 Riverside Quay
Southbank, Victoria 3006

Designed
C. Barker
Drawn
C. Barker
Checked
C. Birkett
Authorised
J. Golden
Date
January 2012



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Estuary
Stage 11B
City of Greater Geelong
Roadworks and Drainage
Lip Profiles - 2

Drawing No. 0250EHL-11B-07 **Rev C**
Sheet No. 7 of 22

Approved for Construction

Table with columns for Alignment (E, F, G, H, J, K, L, M, N), Point No, Easting, Northing, RL, and Curve details (Curve No, I, Radius, Arc, A, B, X, Y, L, Mid Point, RL).

ANCHORAGE WAY DESIGN LINE table with columns: Chainage, Easting, Northing, Bearing.

IP 1 and IP 2 coordinate and chainage data.

SEAGRASS STREET DESIGN LINE table with columns: Chainage, Easting, Northing, Bearing.

IP 1 and IP 2 coordinate and chainage data for Seagrass Street.

TIDAL STREET DESIGN LINE table with columns: Chainage, Easting, Northing, Bearing.

IP 1 and IP 2 coordinate and chainage data for Tidal Street.

IP 1 and IP 2 coordinate, chainage, centre, radius, length, and intersect angle data.

START TANGENT data for the intersection.

END TANGENT data for the intersection.

IP 3 coordinate, centre, radius, length, and intersect angle data.

START TANGENT data for the intersection.

END TANGENT data for the intersection.

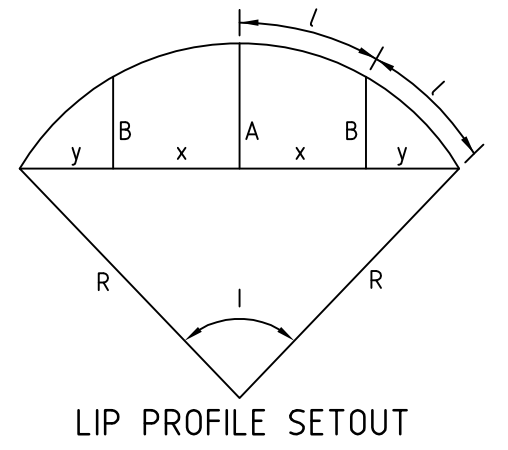
IP 4 coordinate and chainage data.

VILLAGE GREEN DRIVE DESIGN LINE table with columns: Chainage, Easting, Northing, Bearing.

IP 1 and IP 2 coordinate and chainage data for Village Green Drive.

START TANGENT and END TANGENT coordinate, length, chainage, and bearing data.

- NOTES: 1. SETOUT CO-ORDINATES REFER TO LIP OF KERB/EDGE OF CONCRETE. 2. REFER TO SHEET No's 6 - 7 FOR LIP PROFILES.



Revision table with columns: No., Description, Date, DES/DFT, APPD.

Logo for 'estuary LEOPOLD' and contact information for Leopold Property Developments Pty Ltd.

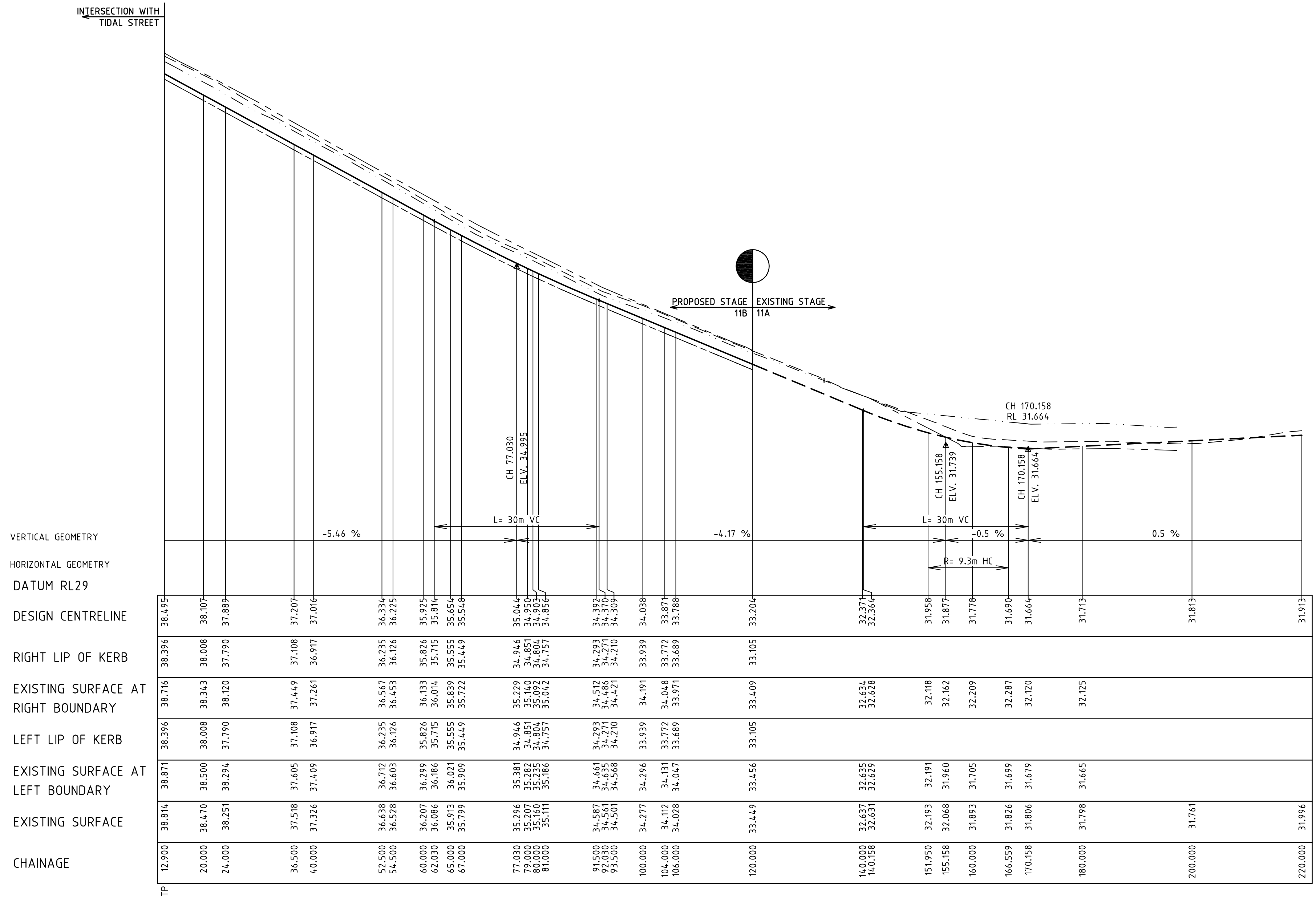
Design and drawing information including designer (C. Barker), checked (C. Birkett), authorised (J. Golden), and date (January 2012).

SM Urban Pty Ltd logo and contact information.

smec consulting group logo and contact information for various locations.

Estuary Stage 11B City of Greater Geelong Roadworks and Drainage Setout Information Plan. Drawing No. 0250EHL-11B-08 Rev C. Sheet No. 8 of 22. Approved for Construction.

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



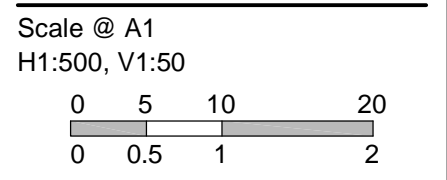
SEAGRASS STREET LONGITUDINAL SECTION

I:\work\eng\0250EHL - horizons@leopold.com.au - 1104wgl\0250EHL-1109

REVISION	DATE	DES/DFT	APPD
C	11.04.12	CB/CB	JG
B	05.03.12	CB/CB	JG
A	13.01.12	CB/CB	JG

Principal
Leopold Property Developments Pty Ltd
Level 1, 6 Riverside Quay
Southbank, Victoria 3006

Designed
C. Barker
Drawn
C. Barker
Checked
C. Birkett
Authorised
J. Golden
Date
January 2012



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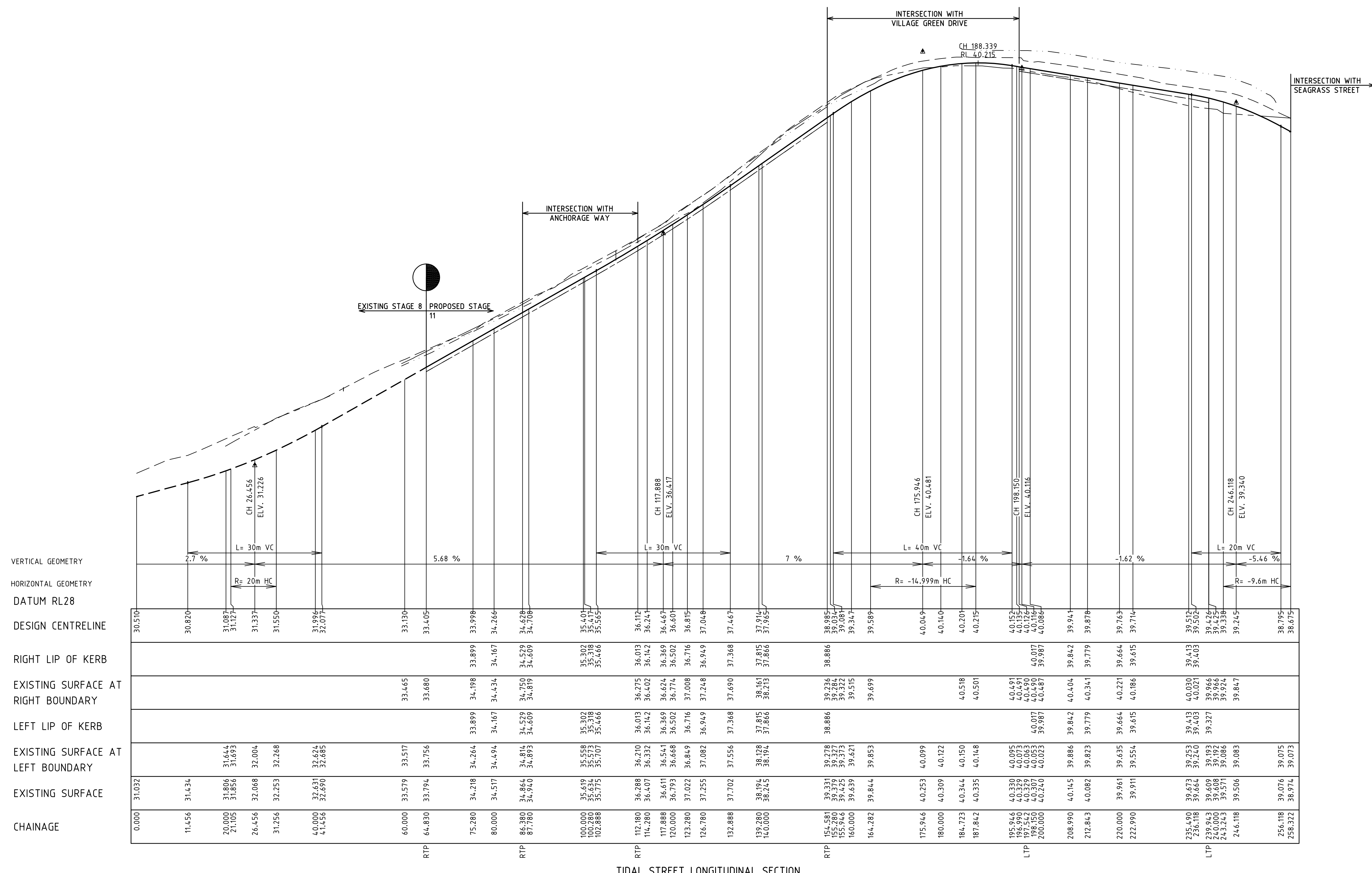
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Carlisle +61 2 6126 1900
Gold Coast +61 7 5578 0222
Melbourne +61 3 9869 0800
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Estuary
Stage 11B
City of Greater Geelong
Roadworks and Drainage
Longitudinal Sections - 1

Drawing No. **0250EHL-11B-09** Rev C
Sheet No. 9 of 22

Approved for Construction

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

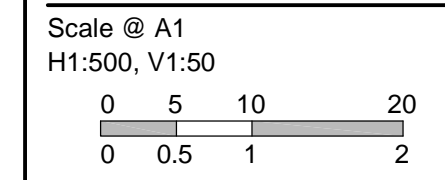


L:\work\eng\0250EHL-11B\0250EHL-11B.dwg, 0250EHL-11B

C	MINOR AMENDMENTS	11.04.12	CB/CB	JG
B	COUNCIL AMENDMENTS	05.03.12	CB/CB	JG
A	ISSUED TO COUNCIL FOR APPROVAL	13.01.12	CB/CB	JG
REVISION	DATE	DES/DF	APPD	

Principal
Leopold Property Developments Pty Ltd
Level 1, 6 Riverside Quay
Southbank, Victoria 3006

Designed
C. Barker
Drawn
C. Barker
Checked
C. Birkett
Authorised
J. Golden
Date
January 2012



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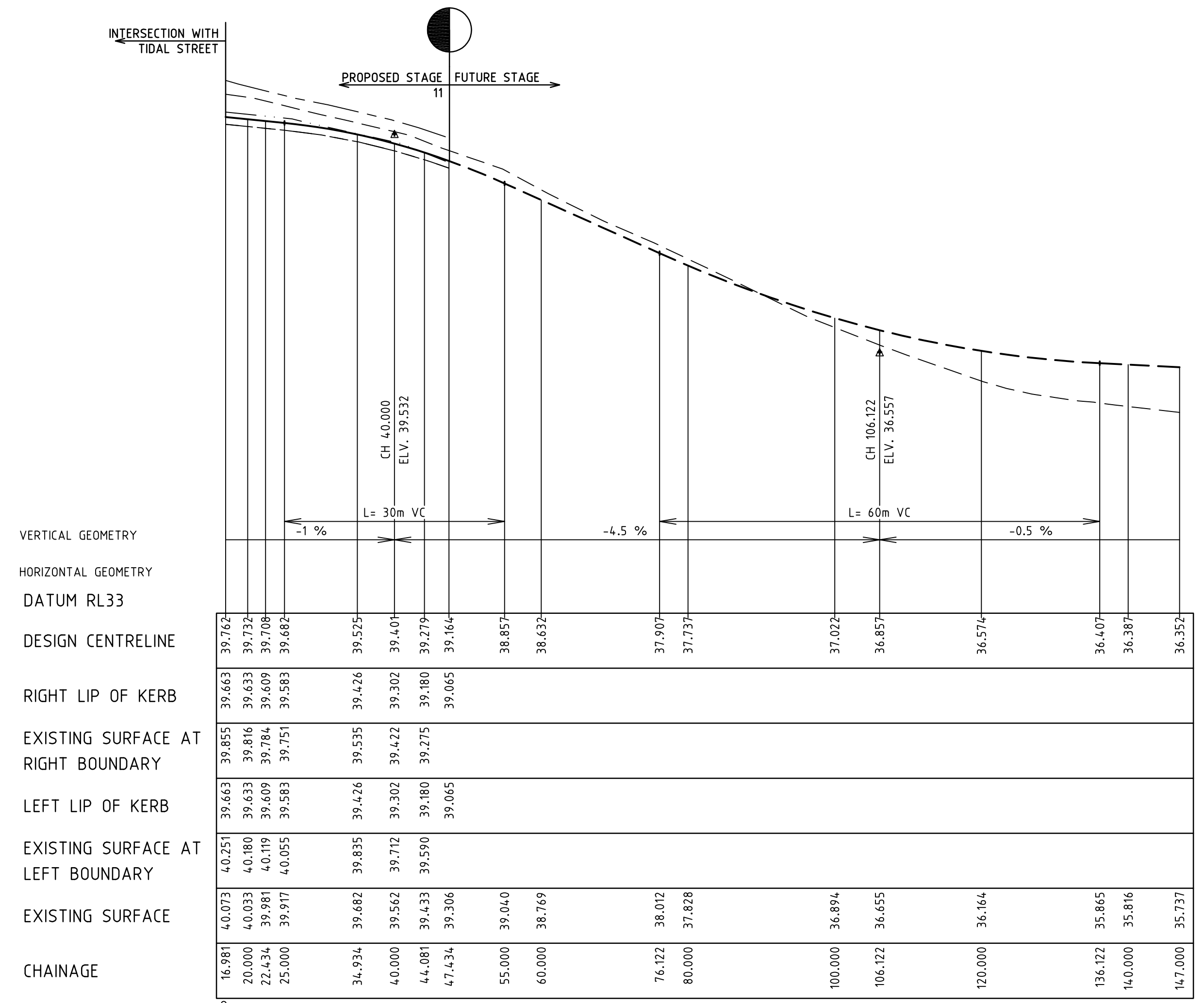
Adelaide +61 8 8223 6455
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Gold Coast +61 7 5578 0222
Melbourne +61 3 9869 0800
Perth +61 8 9479 0100

Estuary
Stage 11B
City of Greater Geelong
Roadworks and Drainage
Longitudinal Sections - 2

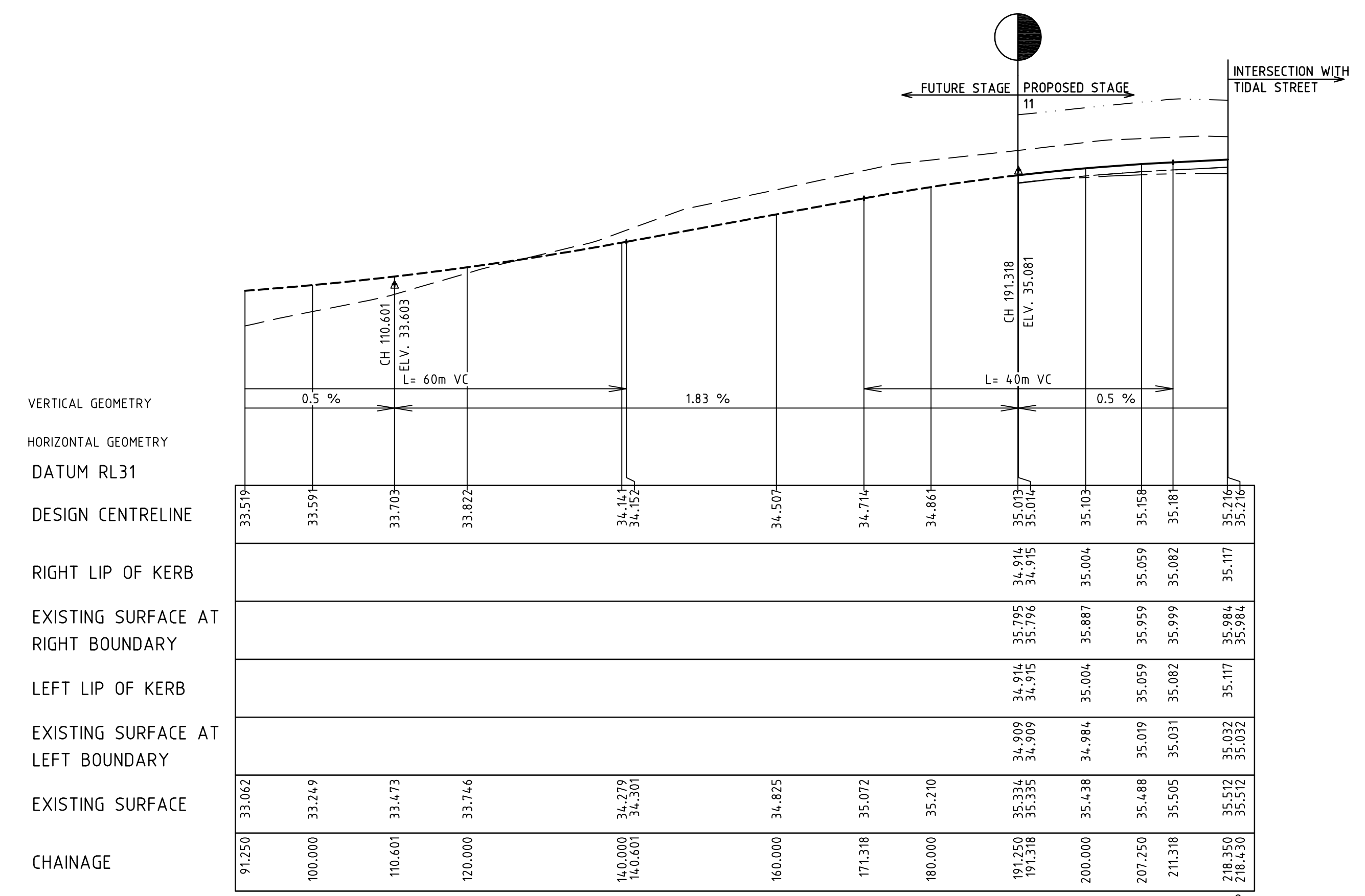
Drawing No. **0250EHL-11B-10** Rev C
Sheet No. 10 of 22

Approved for Construction

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



VILLAGE GREEN DRIVE LONGITUDINAL SECTION



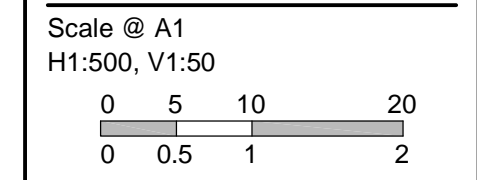
ANCHORAGE WAY LONGITUDINAL SECTION

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REVISION	DATE	DES/DFT	APPD
C	11.04.12	CB/CB	JG
B	05.03.12	CB/CB	JG
A	13.01.12	CB/CB	JG
ISSUED TO COUNCIL FOR APPROVAL			

Principal
Leopold Property Developments Pty Ltd
Level 1, 6 Riverside Quay
Southbank, Victoria 3006

Designed
C. Barker
Drawn
C. Barker
Checked
C. Birkett
Authorised
J. Golden
Date
January 2012



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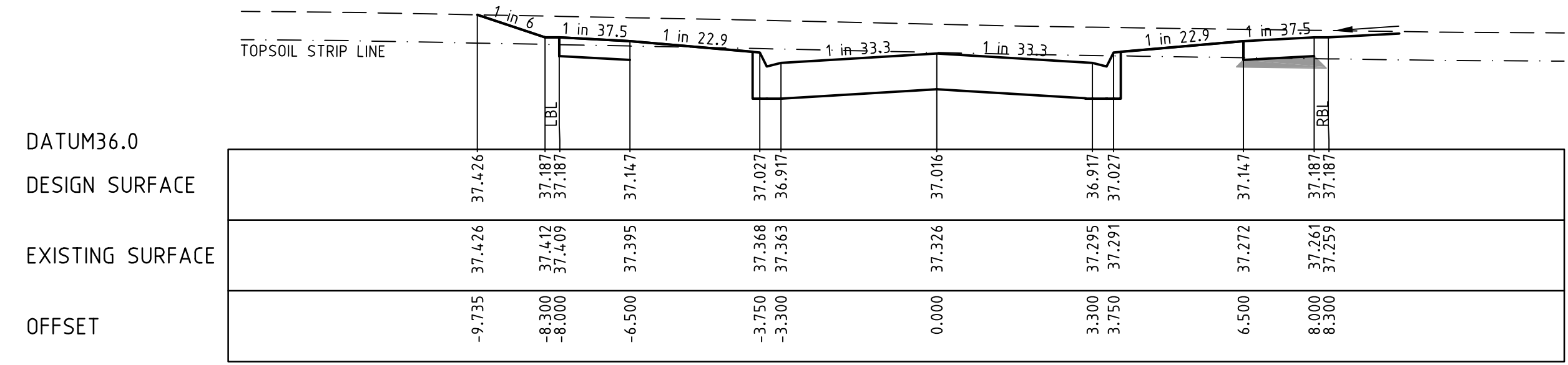
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Estuary
Stage 11B
City of Greater Geelong
Roadworks and Drainage
Longitudinal Sections - 3

Drawing No. 0250EHL-11B-11 Rev C
Sheet No. 11 of 22

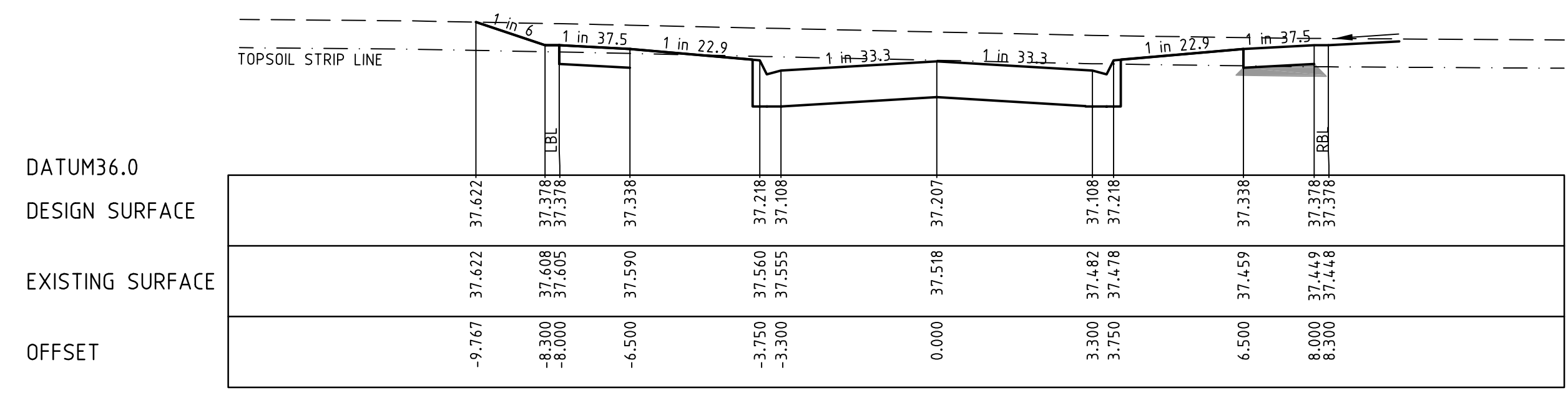
Approved for Construction

LEGEND
 --- EXISTING SURFACE
 --- DESIGN LINE
 --- FUTURE DESIGN LINE



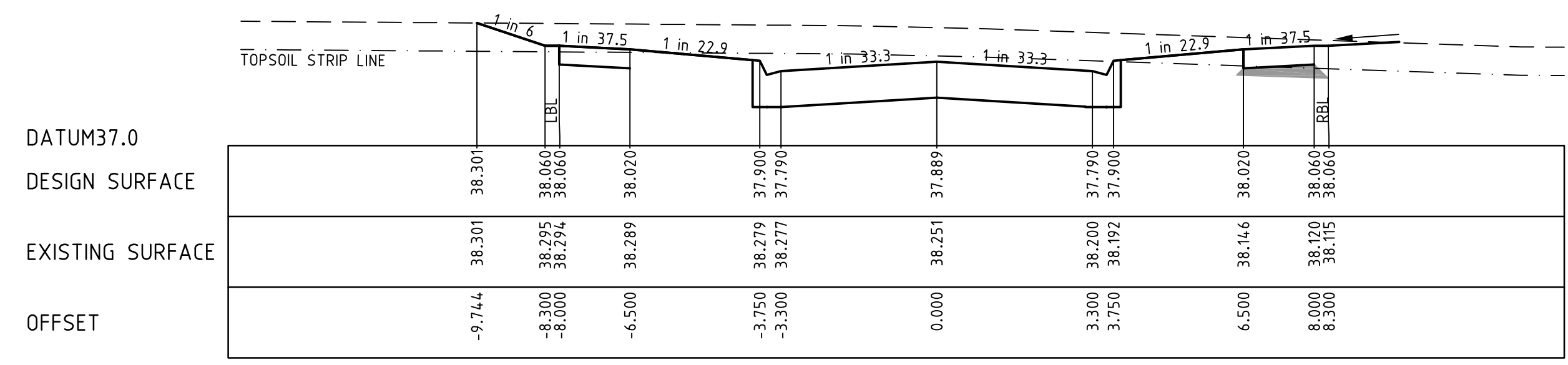
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EXISTING SURFACE	37.426 37.443 37.409 37.395 37.386 37.383 37.326 37.291 37.291 37.261 37.259
OFFSET	-9.735 -8.300 -8.000 -6.500 -3.750 -3.300 0.000 3.300 3.750 6.500 8.000 8.300

CH 40.000



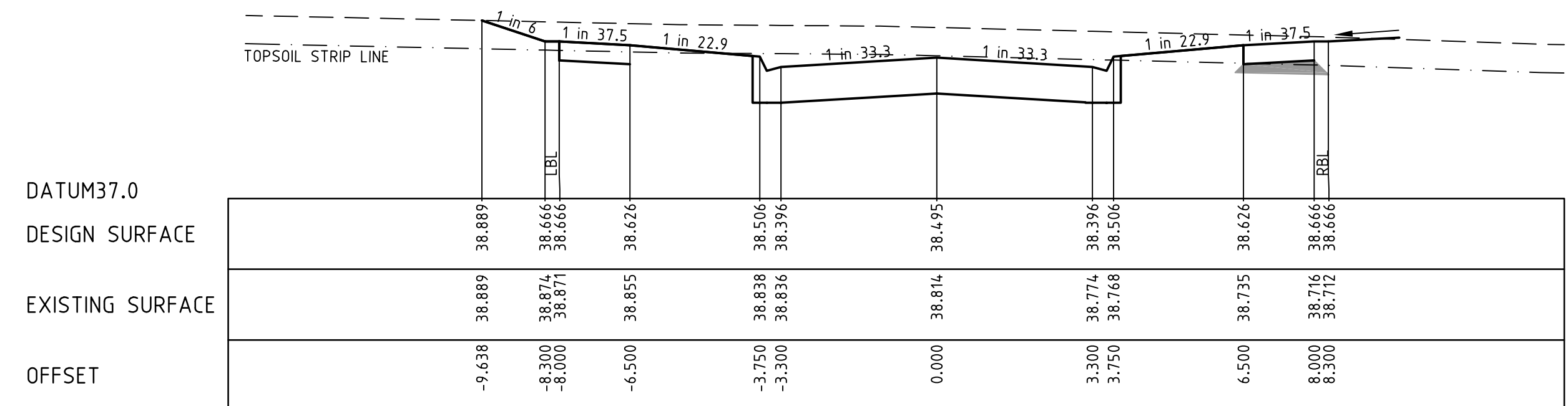
DATUM36.0	
DESIGN SURFACE	37.622 37.376 37.376 37.338 37.218 37.108 37.207 37.218 37.338 37.376 37.376
EXISTING SURFACE	37.622 37.608 37.605 37.590 37.560 37.555 37.518 37.478 37.459 37.448 37.448
OFFSET	-9.767 -8.300 -8.000 -6.500 -3.750 -3.300 0.000 3.300 3.750 6.500 8.000 8.300

CH 36.500



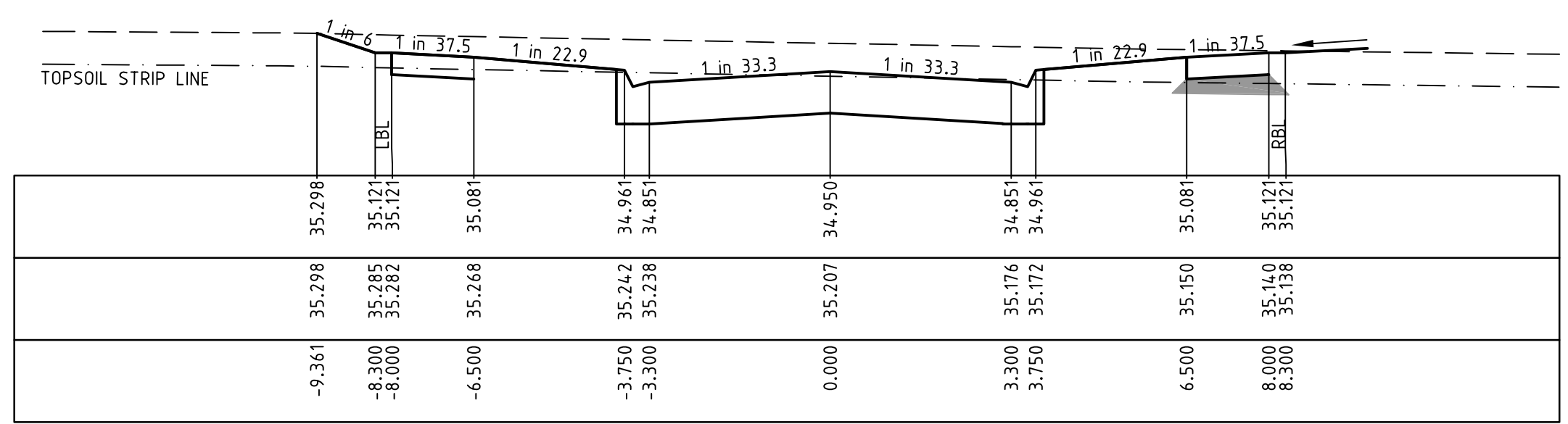
DATUM37.0	
DESIGN SURFACE	38.301 38.060 38.060 38.020 37.900 37.790 37.889 37.900 38.020 38.060 38.060
EXISTING SURFACE	38.301 38.295 38.292 38.289 38.279 38.277 38.251 38.192 38.146 38.140 38.115
OFFSET	-9.744 -8.300 -8.000 -6.500 -3.750 -3.300 0.000 3.300 3.750 6.500 8.000 8.300

CH 24.000



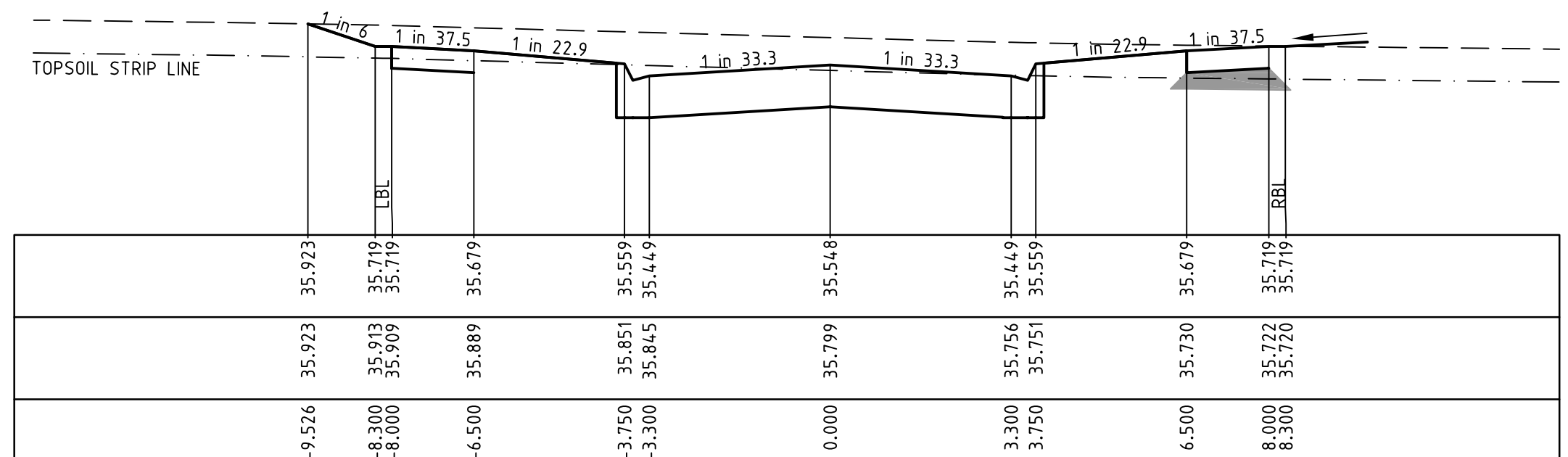
DATUM37.0	
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EXISTING SURFACE	38.889 38.874 38.871 38.855 38.838 38.836 38.814 38.768 38.735 38.716 38.712
OFFSET	-9.638 -8.300 -8.000 -6.500 -3.750 -3.300 0.000 3.300 3.750 6.500 8.000 8.300

TPCH 12.900



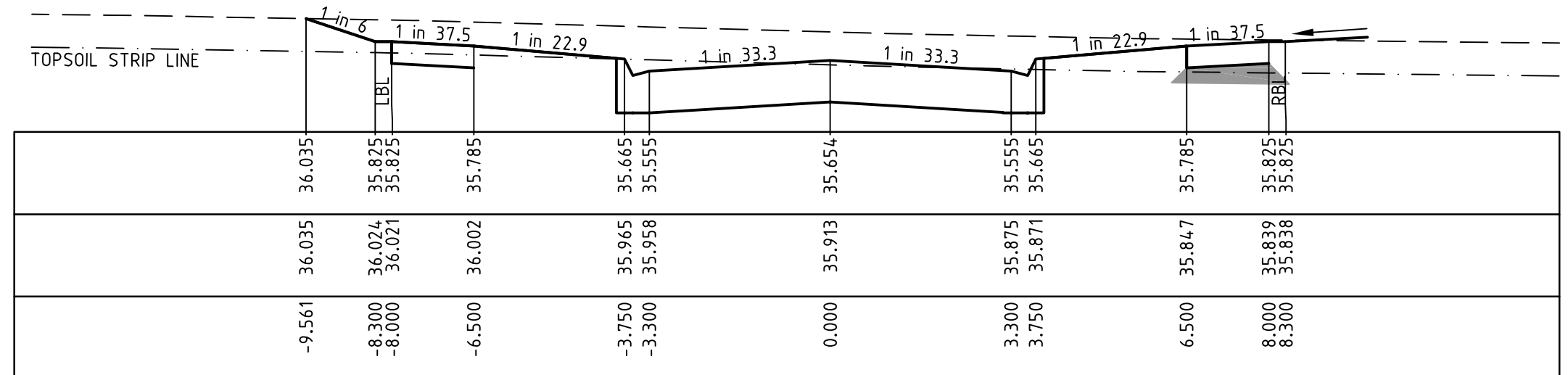
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DESIGN SURFACE	35.298 35.121 35.121 35.081 34.961 34.851 34.950 34.950 34.851 34.961 35.081 35.121
EXISTING SURFACE	35.298 35.285 35.282 35.268 35.242 35.238 35.207 35.207 35.176 35.172 35.150 35.140 35.138
OFFSET	-9.361 -8.300 -8.000 -6.500 -3.750 -3.300 0.000 3.300 3.750 6.500 8.000 8.300

CH 79.000



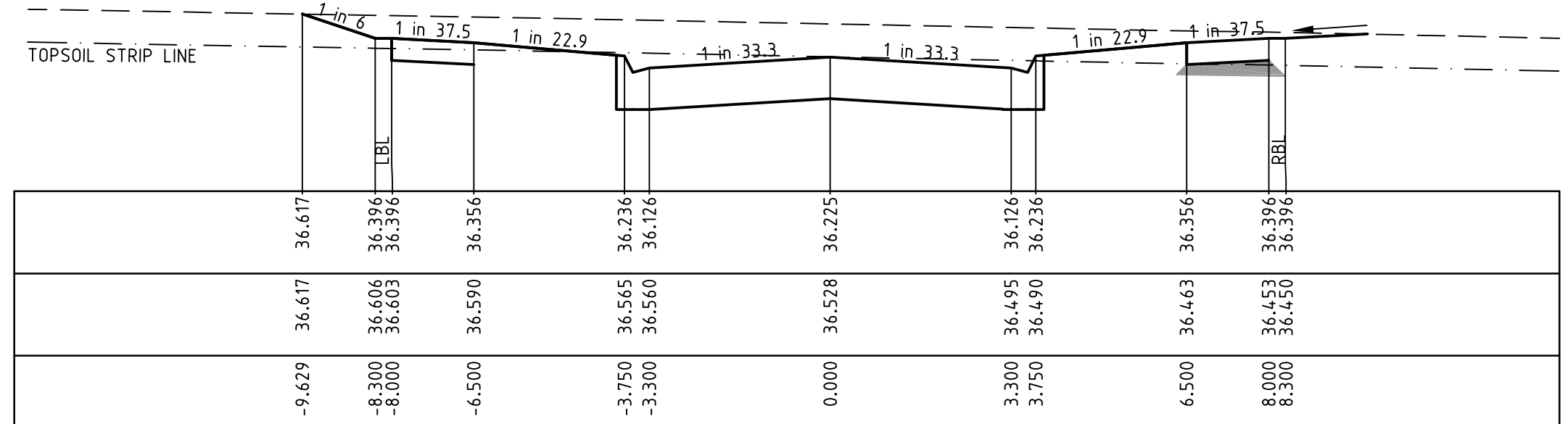
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DESIGN SURFACE	35.923 35.719 35.719 35.679 35.559 35.449 35.548 35.548 35.449 35.559 35.679 35.719 35.719
EXISTING SURFACE	35.923 35.913 35.909 35.889 35.851 35.845 35.799 35.799 35.756 35.751 35.730 35.720 35.720
OFFSET	-9.526 -8.300 -8.000 -6.500 -3.750 -3.300 0.000 3.300 3.750 6.500 8.000 8.300

CH 67.000



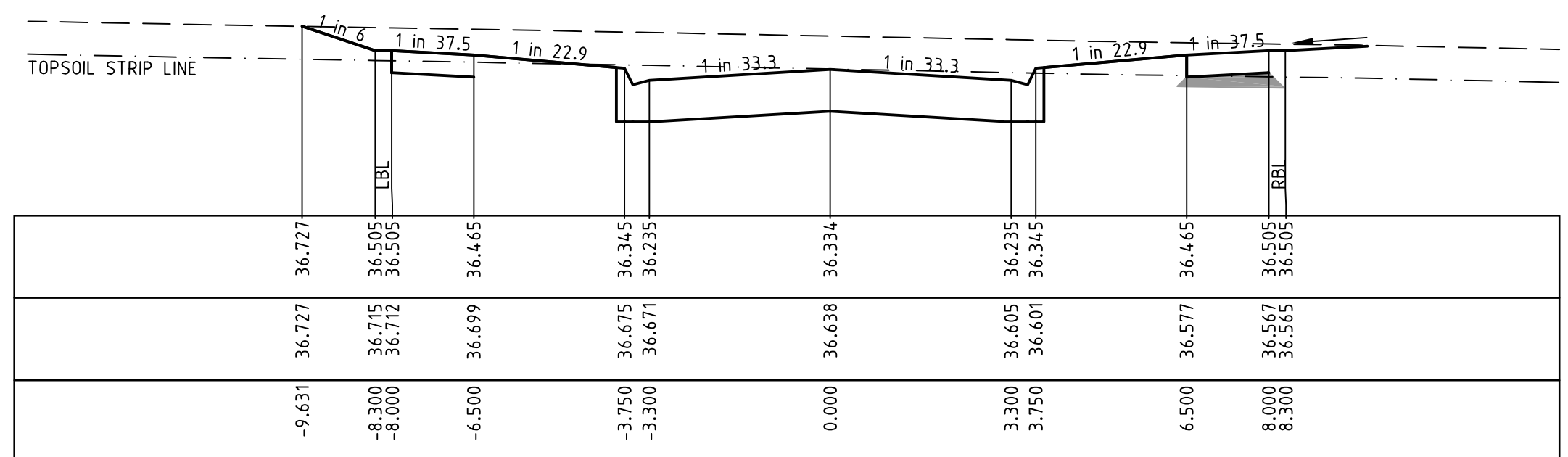
DATUM35.0	
DESIGN SURFACE	36.035 35.825 35.825 35.785 35.665 35.555 35.654 35.654 35.555 35.665 35.785 35.825 35.825
EXISTING SURFACE	36.035 36.024 36.021 36.002 35.965 35.955 35.913 35.913 35.871 35.865 35.847 35.839 35.838
OFFSET	-9.561 -8.300 -8.000 -6.500 -3.750 -3.300 0.000 3.300 3.750 6.500 8.000 8.300

CH 65.000



DATUM35.0	
DESIGN SURFACE	36.617 36.396 36.396 36.356 36.236 36.126 36.225 36.225 36.126 36.236 36.356 36.396 36.396
EXISTING SURFACE	36.617 36.606 36.603 36.590 36.565 36.540 36.528 36.528 36.495 36.490 36.463 36.453 36.450
OFFSET	-9.629 -8.300 -8.000 -6.500 -3.750 -3.300 0.000 3.300 3.750 6.500 8.000 8.300

CH 54.500



DATUM35.0	
DESIGN SURFACE	36.727 36.505 36.505 36.465 36.345 36.235 36.334 36.334 36.235 36.345 36.465 36.505 36.505
EXISTING SURFACE	36.727 36.715 36.712 36.699 36.675 36.671 36.638 36.638 36.605 36.601 36.577 36.567 36.565
OFFSET	-9.631 -8.300 -8.000 -6.500 -3.750 -3.300 0.000 3.300 3.750 6.500 8.000 8.300

CH 52.500

REVISION				
C	MINOR AMENDMENTS	11.04.12	CB/CB	JG
B	COUNCIL AMENDMENTS	05.03.12	CB/CB	JG
A	ISSUED TO COUNCIL FOR APPROVAL	13.01.12	CB/CB	JG
	DATE	DES/DT	APPD	

Principal
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 Level 1, 6 Riverside Quay
 Southbank, Victoria 3006

Designed
C. Barker
 Drawn
C. Barker
 Checked
C. Birckett
 Authorised
J. Golden
 Date
January 2012

Scale @ A1
 H1:100, V1:50

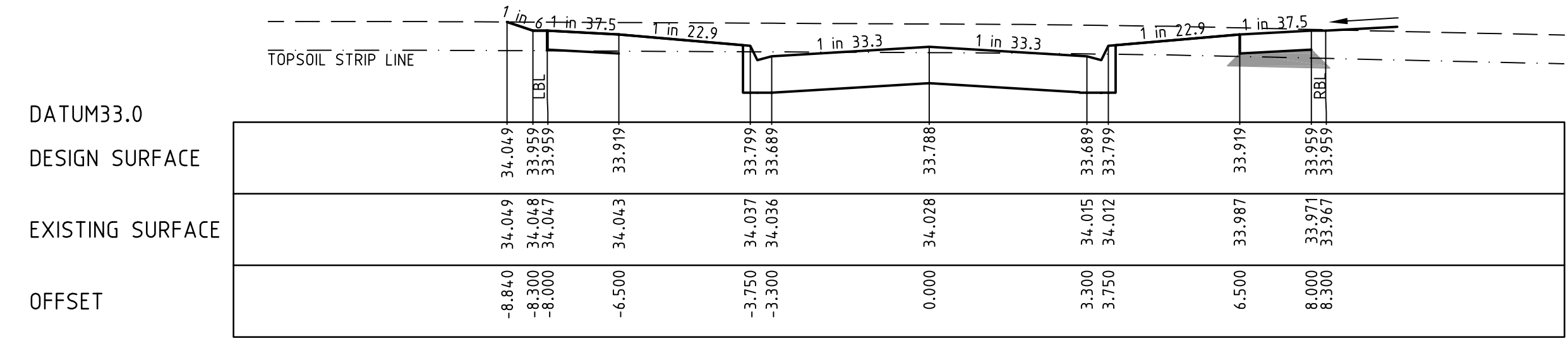
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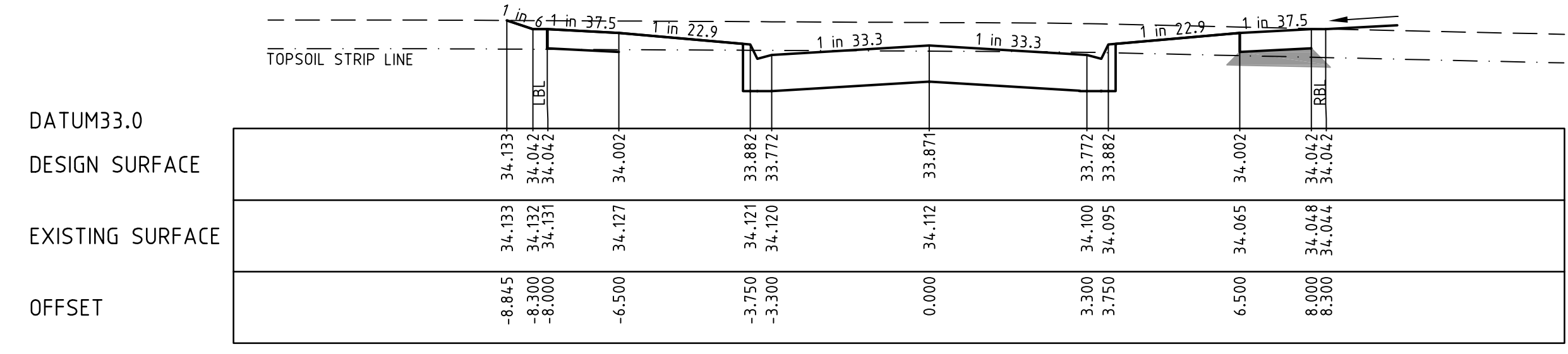
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Estuary
 Stage 11B
 City of Greater Geelong
 Roadworks and Drainage
 Cross Sections - Seagrass Street - 1
 CH12.900 - CH79.000
Drawing No. 0250EHL-11B-12 **Rev C**
 Sheet No. 12 of 22
 Approved for Construction

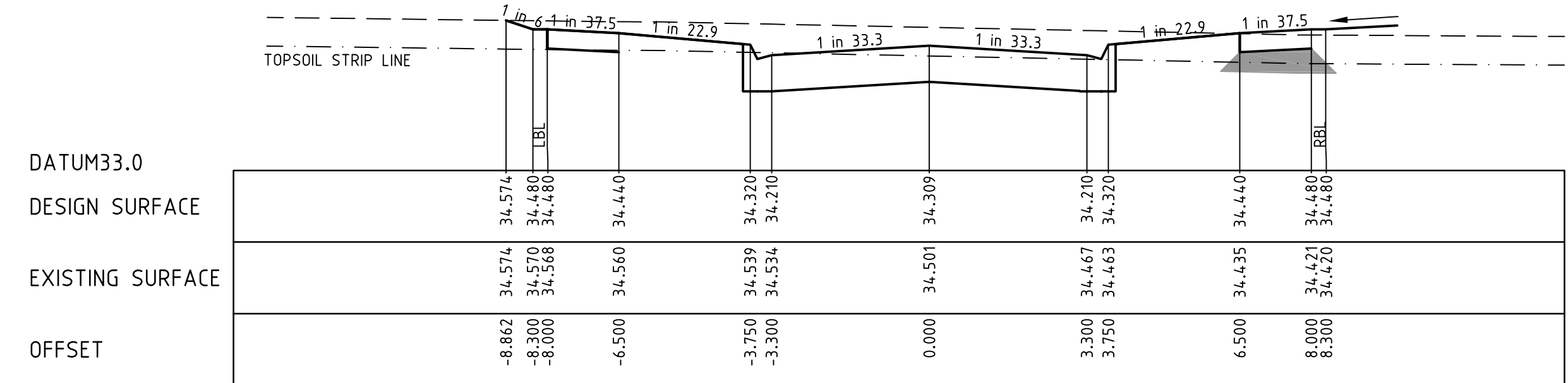
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---	DESIGN LINE
---	FUTURE DESIGN LINE



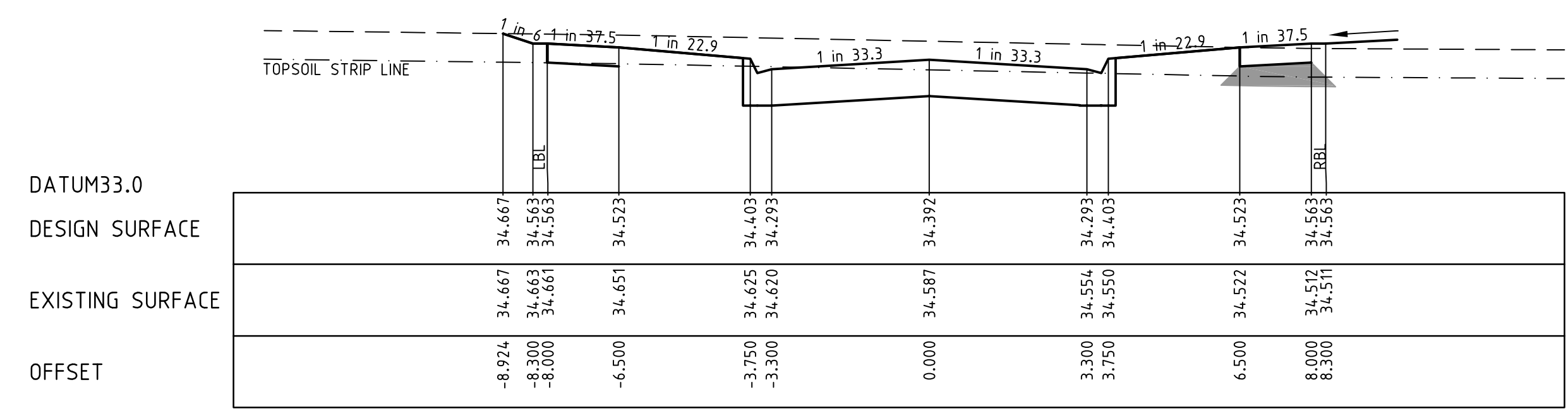
CH 106.000



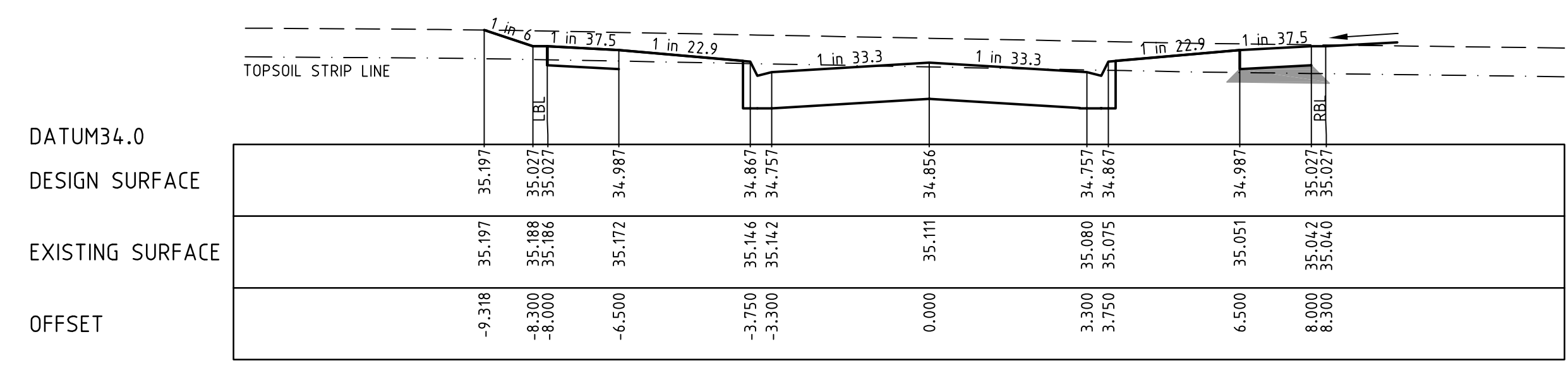
CH 104.000



CH 93.500

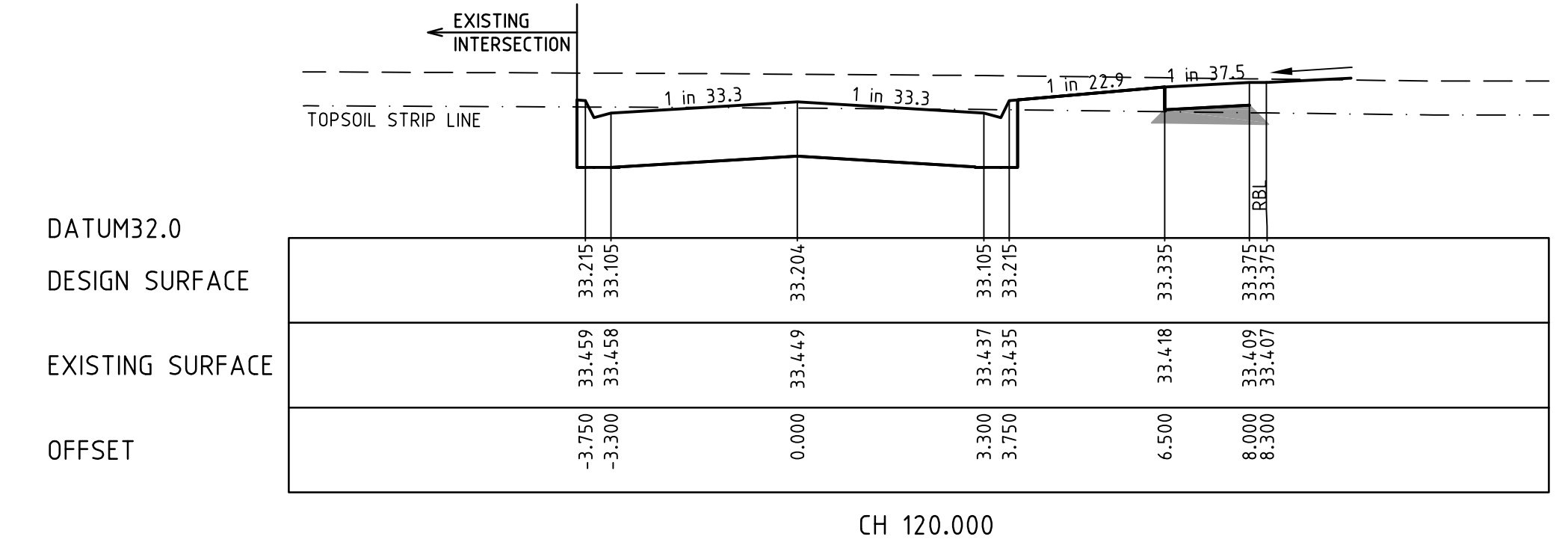


CH 91.500



CH 81.000

STRUCTURAL FILL REQUIRED UNDER PAVEMENT AND FOOTPATHS WHERE CONSTRUCTED ABOVE NATURAL SURFACE

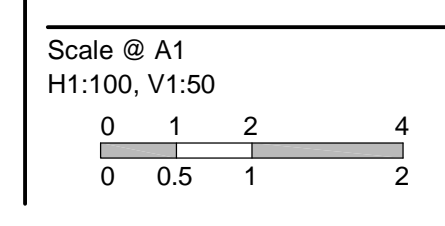


CH 120.000

REVISION	DATE	DES/DFE	APPD
C	11.04.12	CB/CB	JG
B	05.03.12	CB/CB	JG
A	13.01.12	CB/CB	JG

Principal
Leopold Property Developments Pty Ltd
Level 1, 6 Riverside Quay
Southbank, Victoria 3006

Designed
C. Barker
Drawn
C. Barker
Checked
C. Birkett
Authorised
J. Golden
Date
January 2012



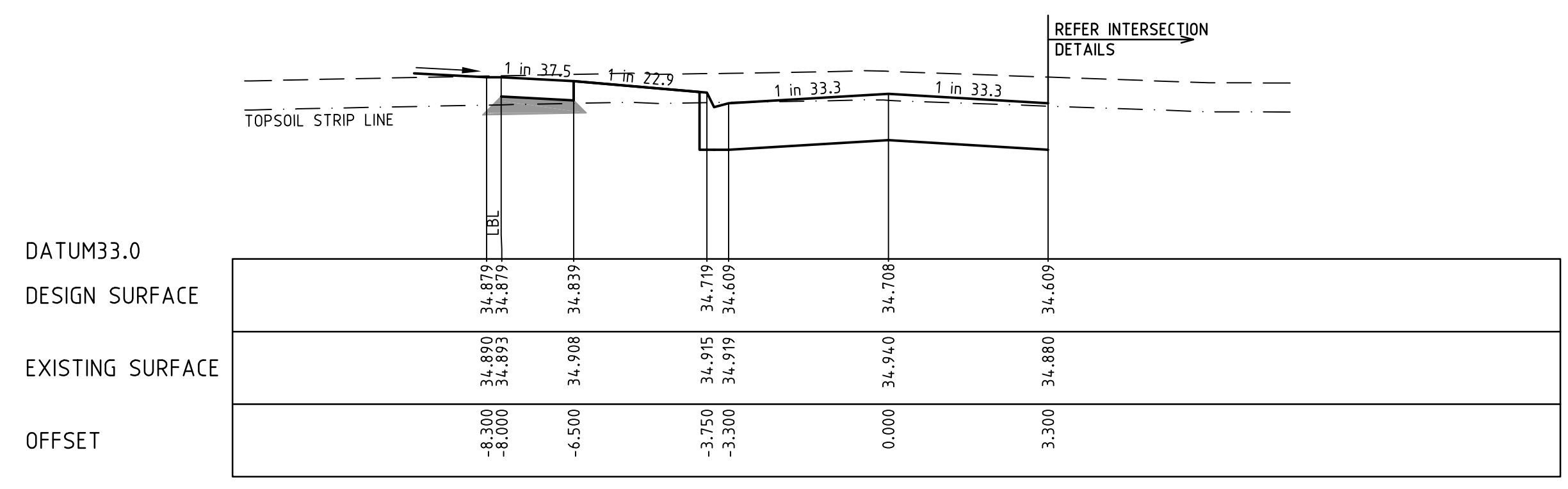
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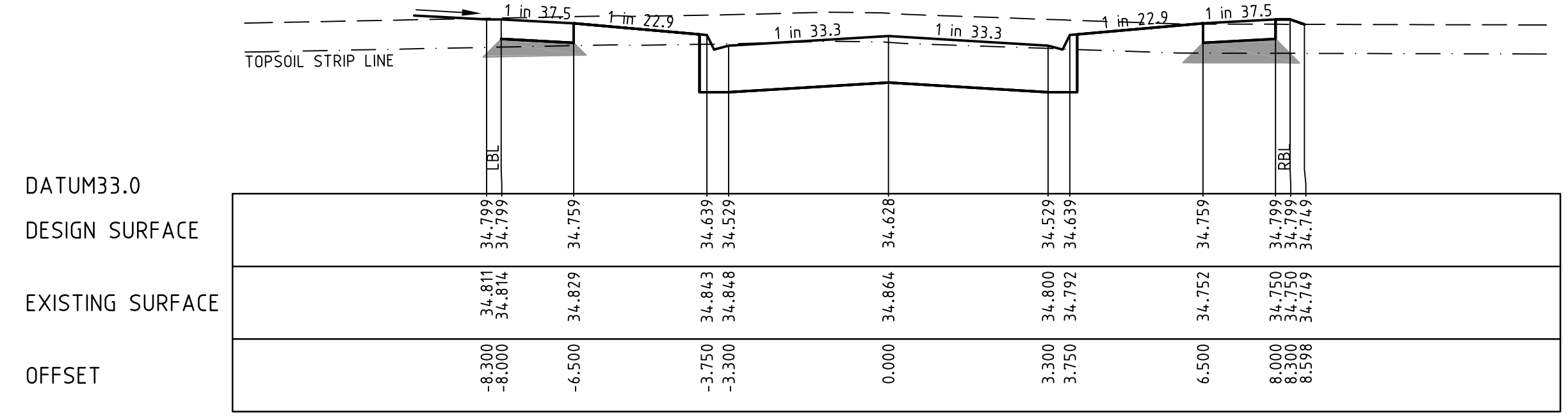
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Estuary
Stage 11B
City of Greater Geelong
Roadworks and Drainage
Cross Sections - Seagrass Street - 2
Ch81.000 - Ch120.000
Drawing No. 0250EHL-11B-13 **Rev C**
Sheet No. 13 of 22
Approved for Construction

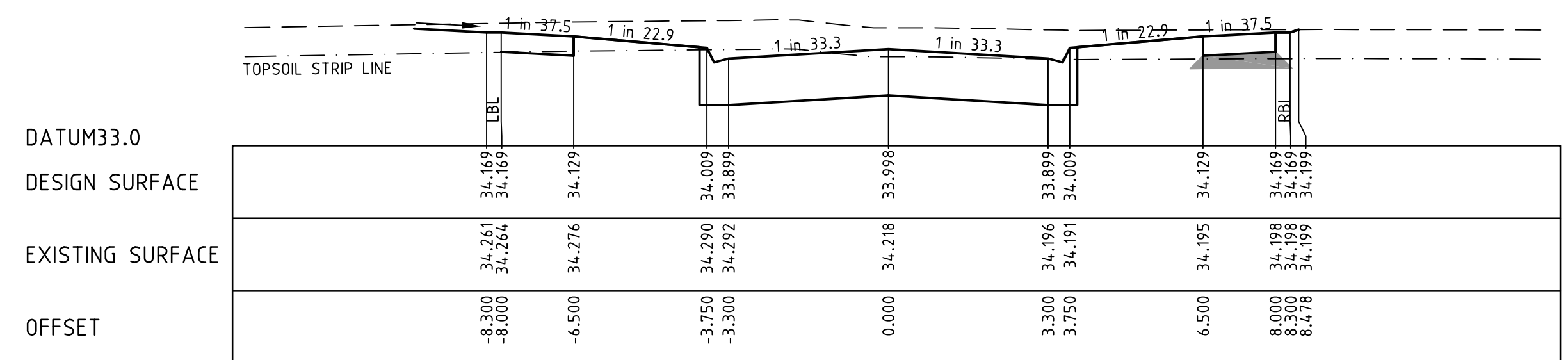
---	EXISTING SURFACE
---	DESIGN LINE
---	FUTURE DESIGN LINE



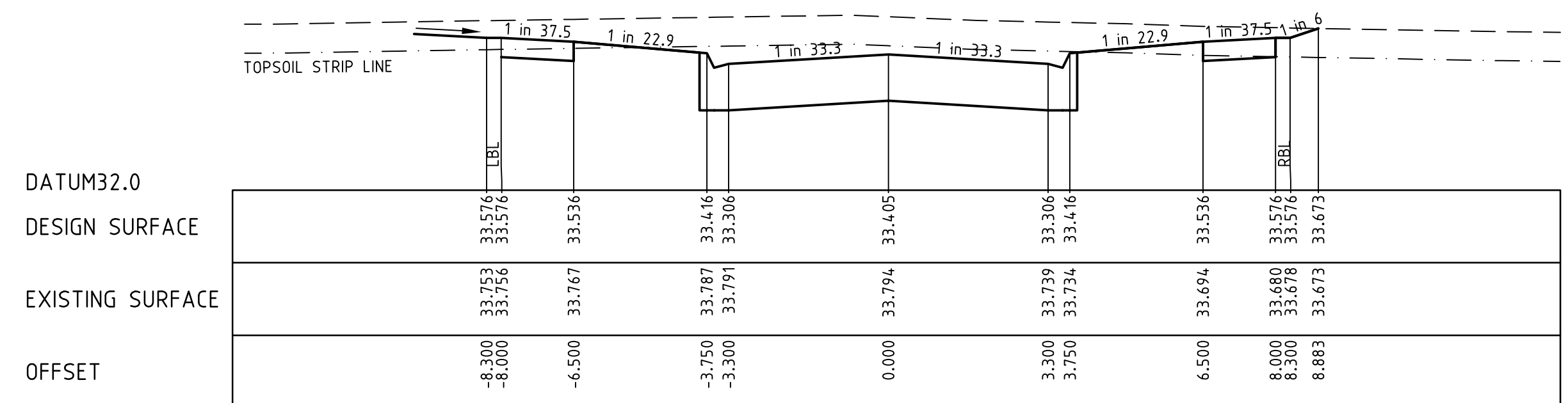
CH 87.780



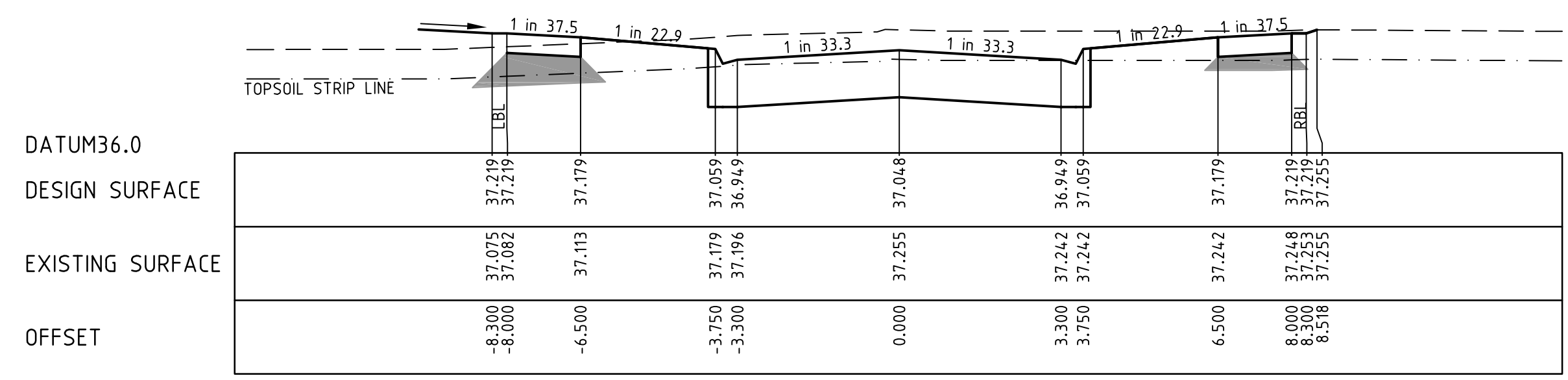
RTPCH 86.380



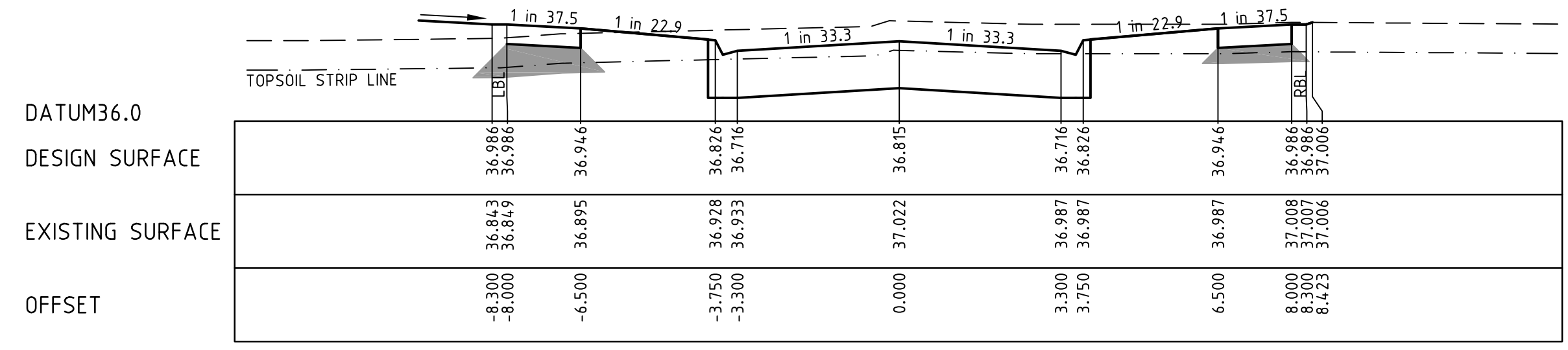
CH 75.280



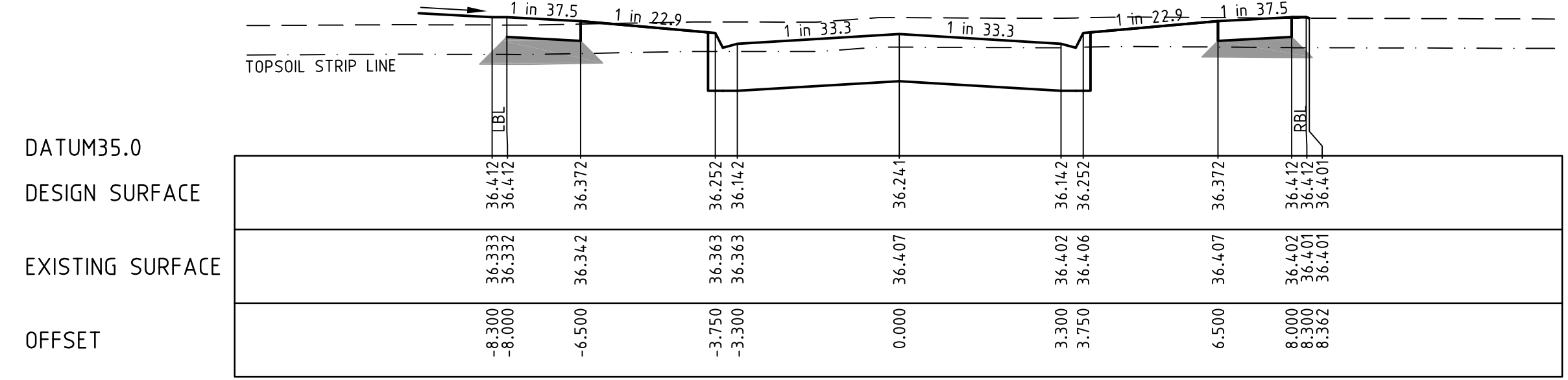
RTPCH 64.830



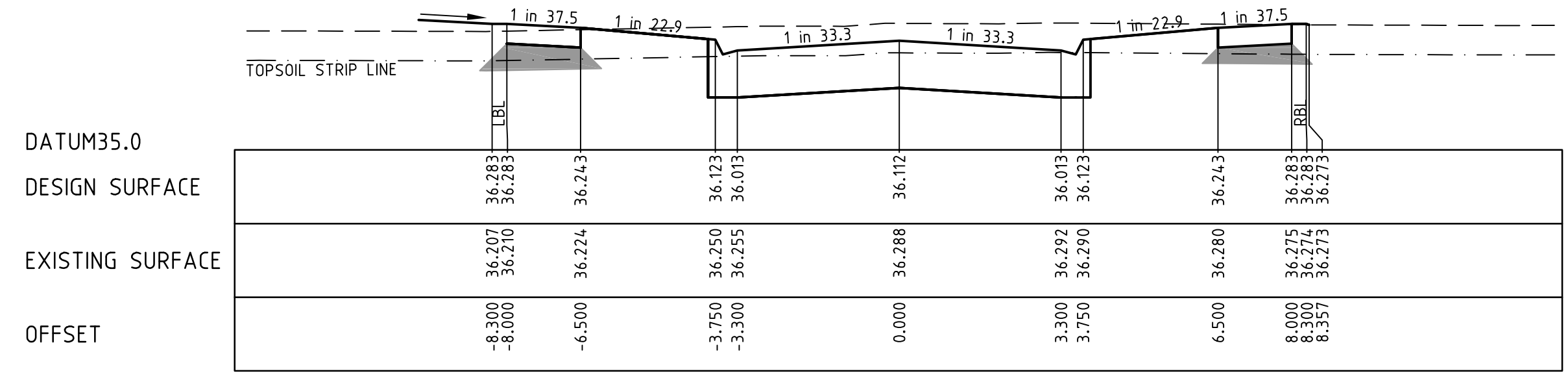
CH 126.780



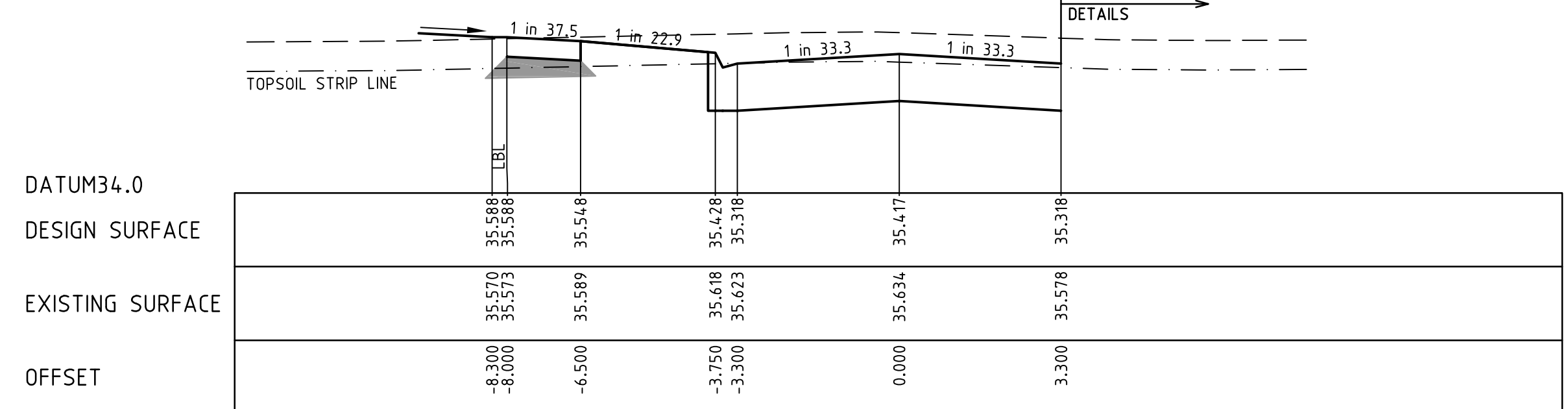
CH 123.280



CH 114.280



RTPCH 112.180

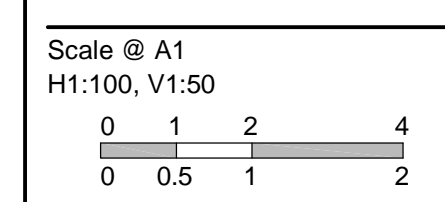


CH 100.280

REVISION	DATE	DES/DFT	APPD
C MINOR AMENDMENTS	11.04.12	CB/CB	JG
B COUNCIL AMENDMENTS	05.03.12	CB/CB	JG
A ISSUED TO COUNCIL FOR APPROVAL	13.01.12	CB/CB	JG

Principal
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Level 1, 6 Riverside Quay
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Designed
C. Barker
Drawn
C. Barker
Checked
C. Birkett
Authorised
J. Golden
Date
January 2012



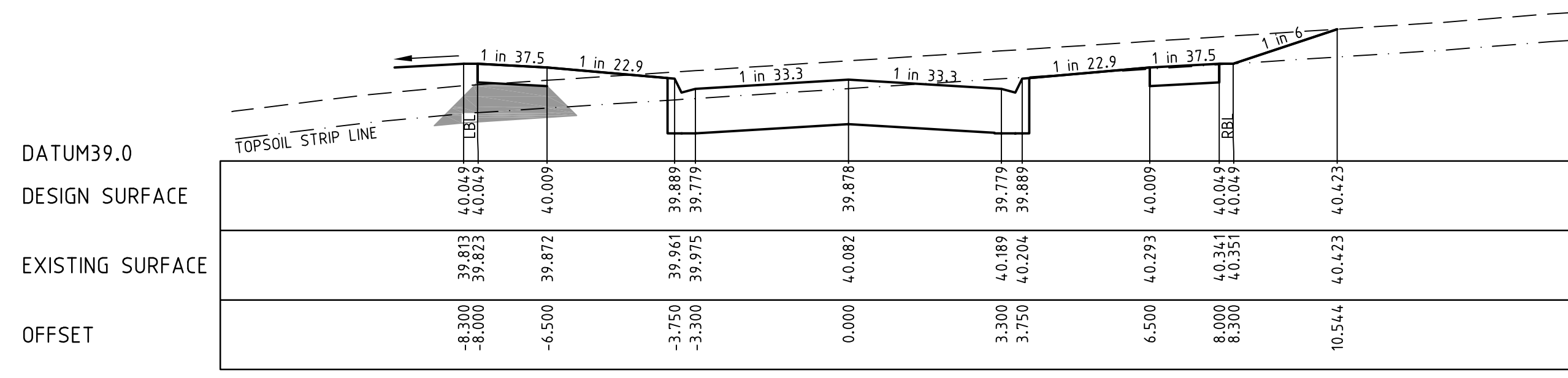
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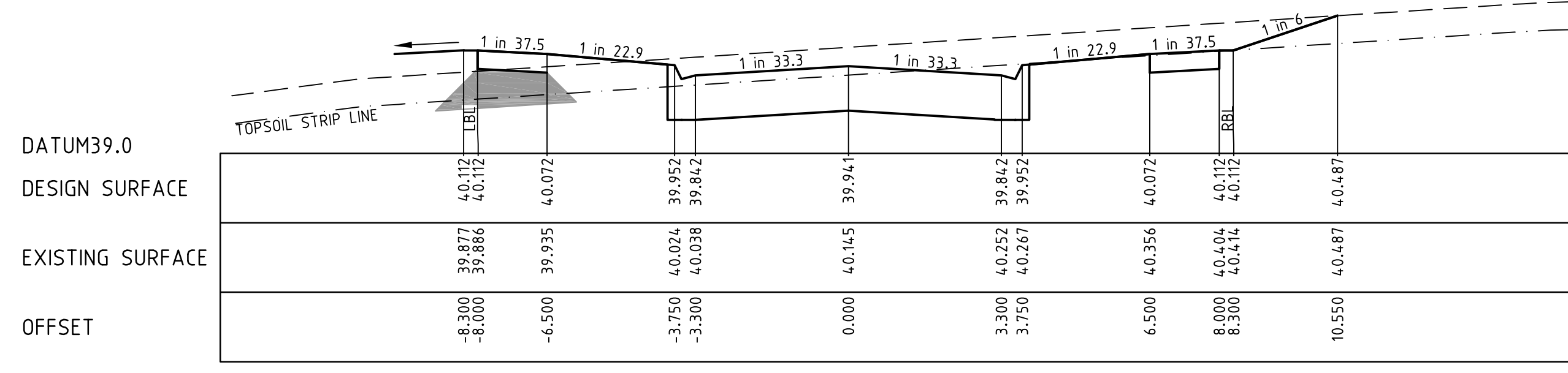
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Taranaki +61 3 5173 0100

Estuary
Stage 11B
City of Greater Geelong
Roadworks and Drainage
Cross Sections - Tidal Street - 1
Ch64.830 - Ch126.780
Drawing No. 0250EHL-11B-14 **Rev C**
Sheet No. 14 of 22
Approved for Construction

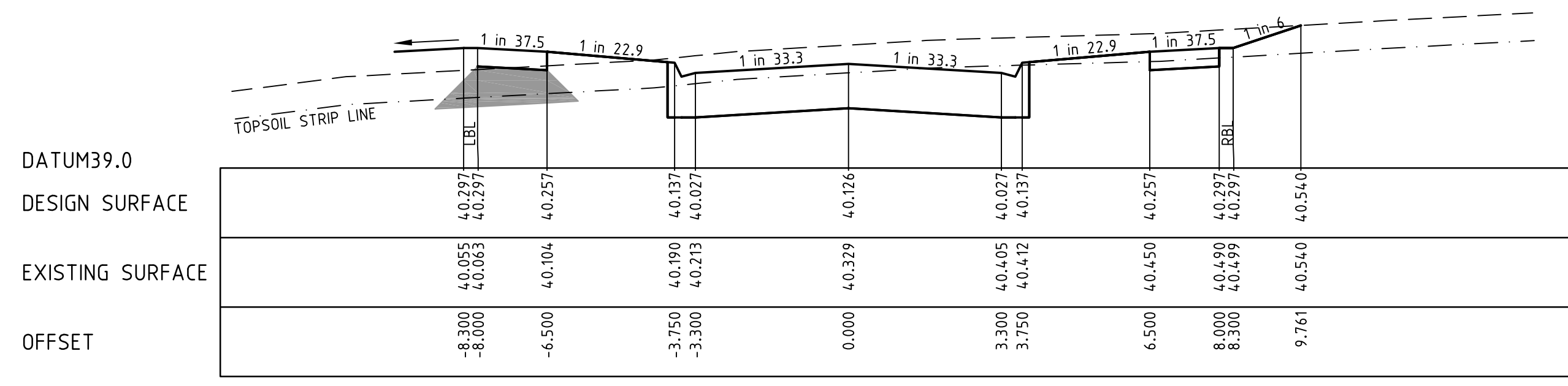
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---	DESIGN LINE
---	FUTURE DESIGN LINE



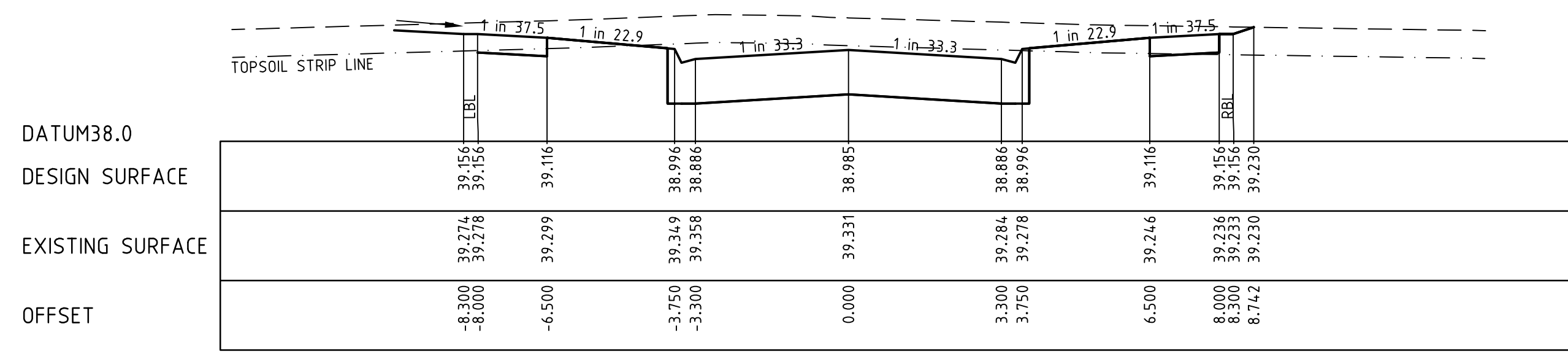
CH 212.843



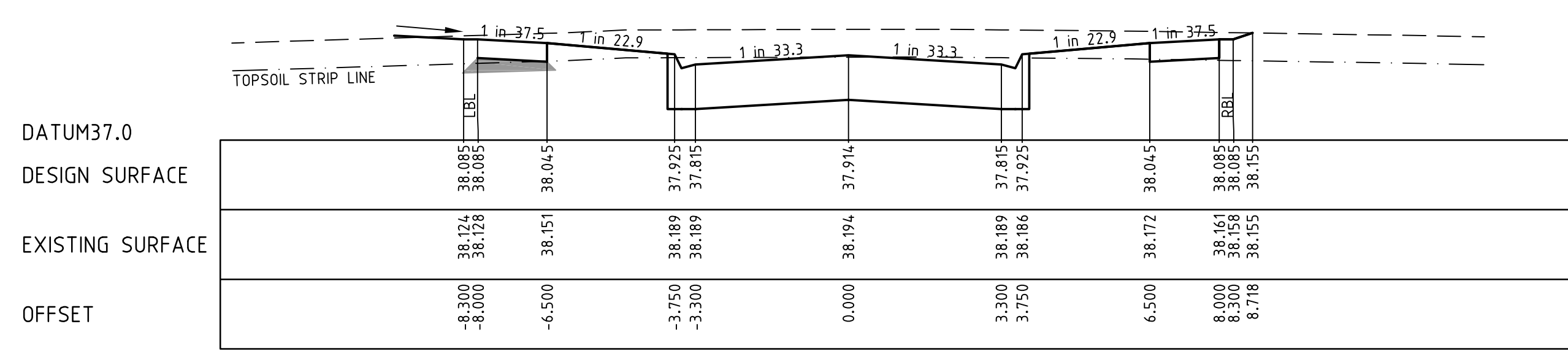
CH 208.990



LTPCH 197.542

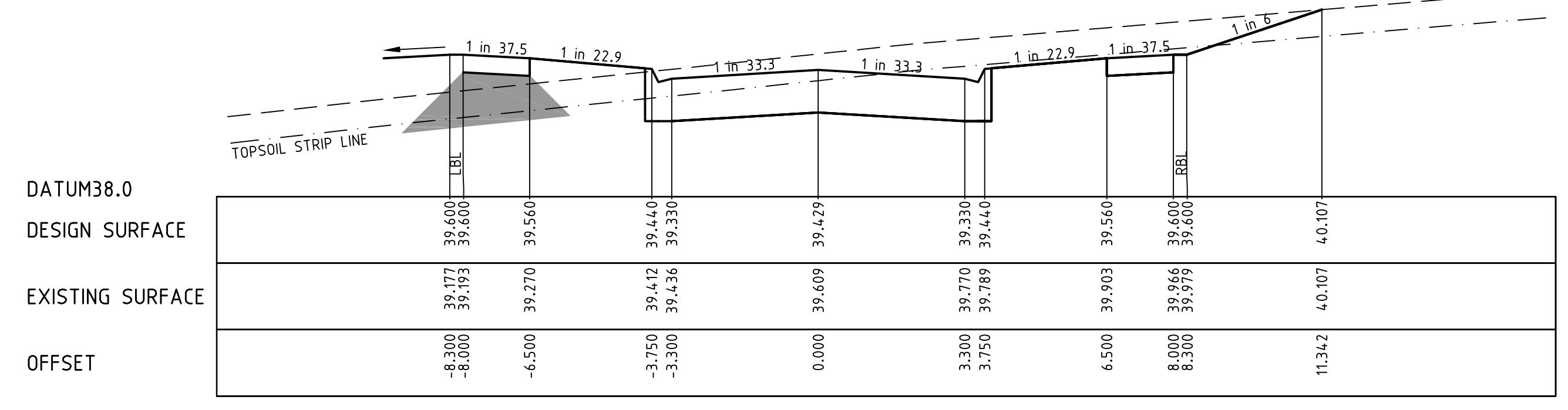


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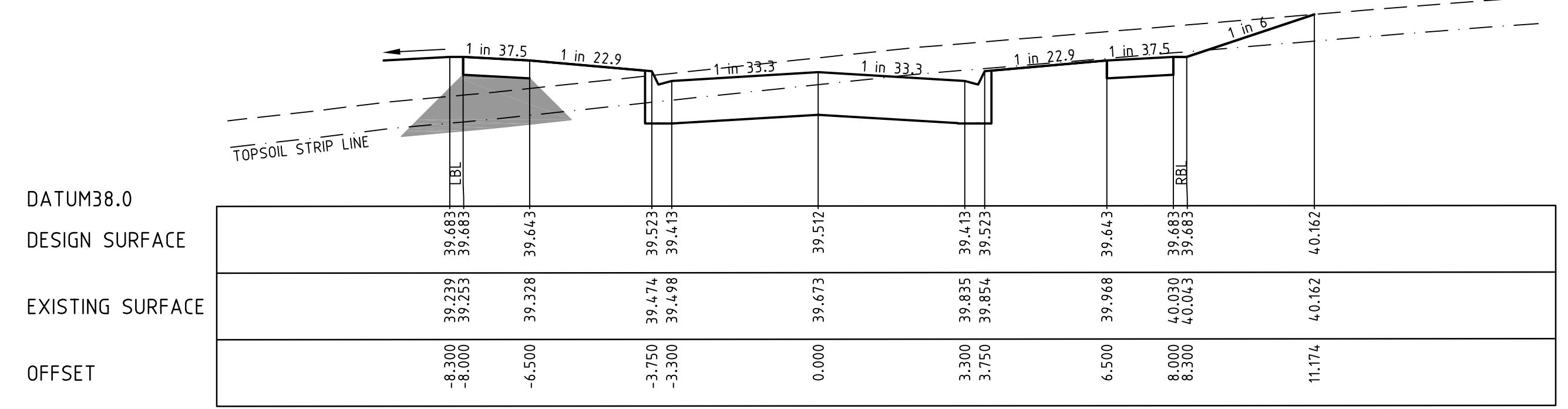


CH 139.280

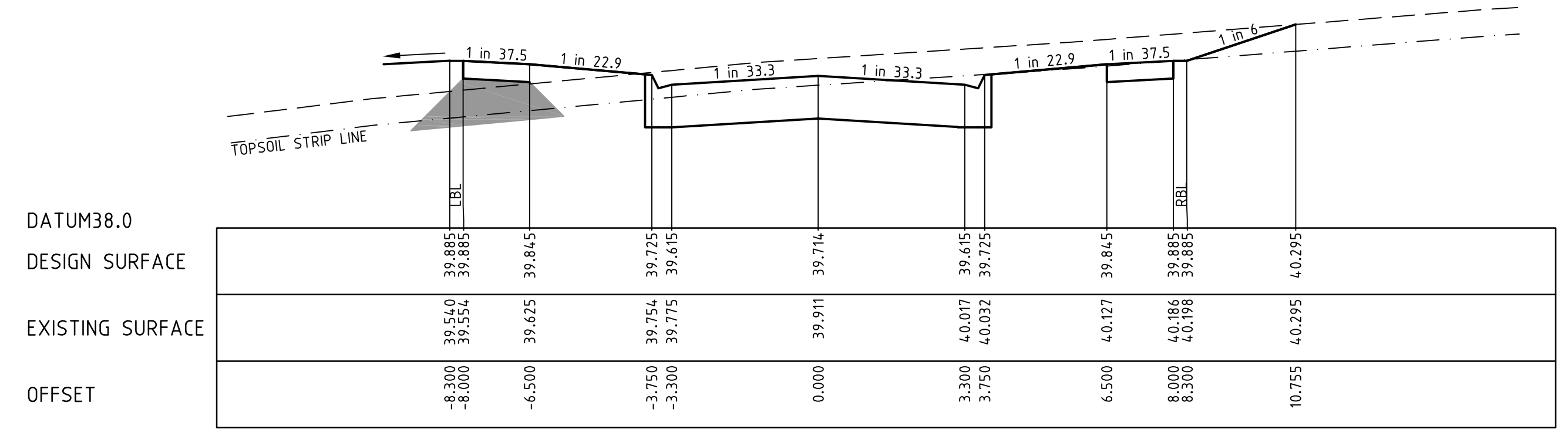
STRUCTURAL FILL REQUIRED UNDER PAVEMENT AND FOOTPATHS WHERE CONSTRUCTED ABOVE NATURAL SURFACE



LTPCH 239.943



CH 235.490

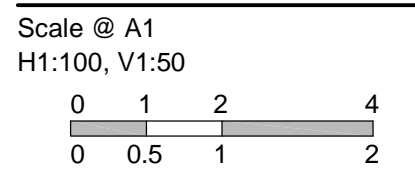


CH 222.990

REVISION	DATE	DES/DF	APPD
C MINOR AMENDMENTS	11.04.12	CB/CB	JG
B COUNCIL AMENDMENTS	05.03.12	CB/CB	JG
A ISSUED TO COUNCIL FOR APPROVAL	13.01.12	CB/CB	JG

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C. Barker
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C. Birkett
Authorised
J. Golden
Date
January 2012



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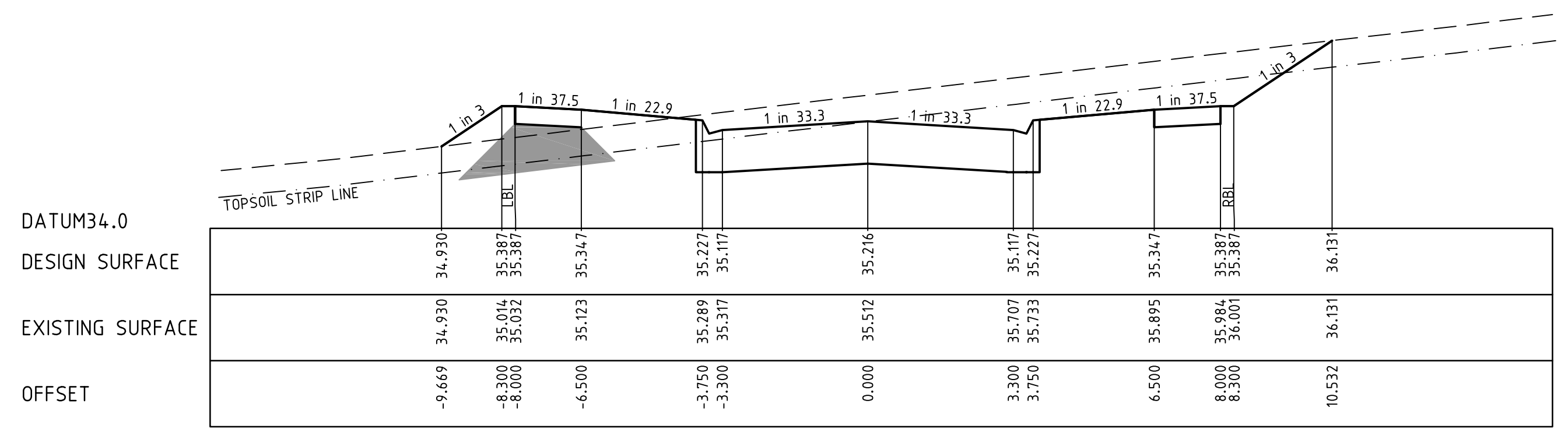
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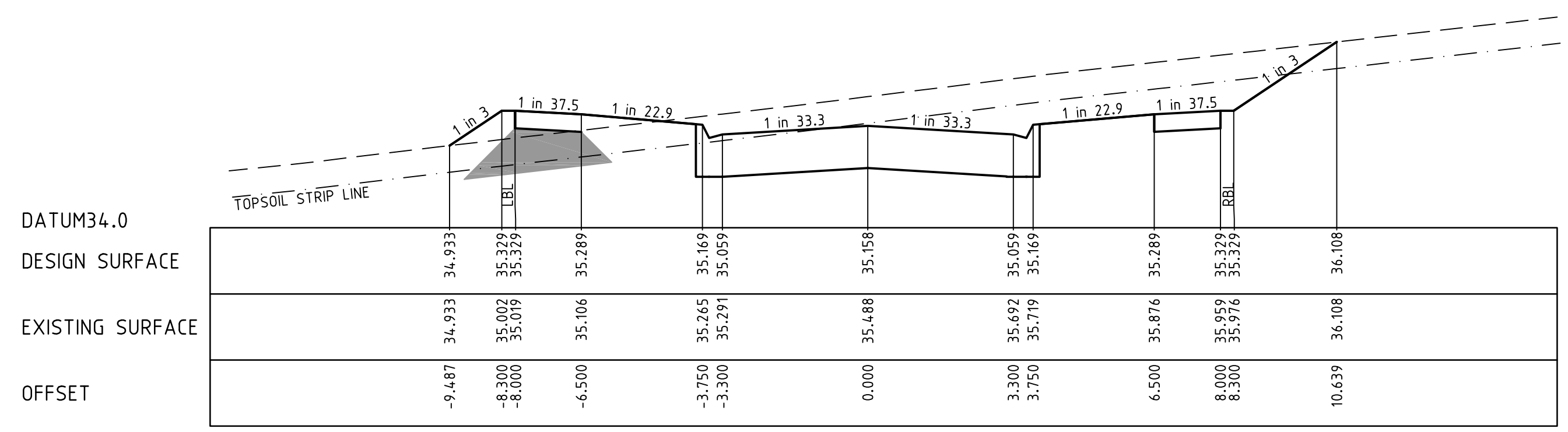
Estuary
Stage 11B
City of Greater Geelong
Roadworks and Drainage
Cross Sections - Tidal Street - 2
Ch139.280 - Ch239.943
Drawing No. 0250EHL-11B-15 **Rev C**
Sheet No. 15 of 22
Approved for Construction

---	EXISTING SURFACE
---	DESIGN LINE
---	FUTURE DESIGN LINE

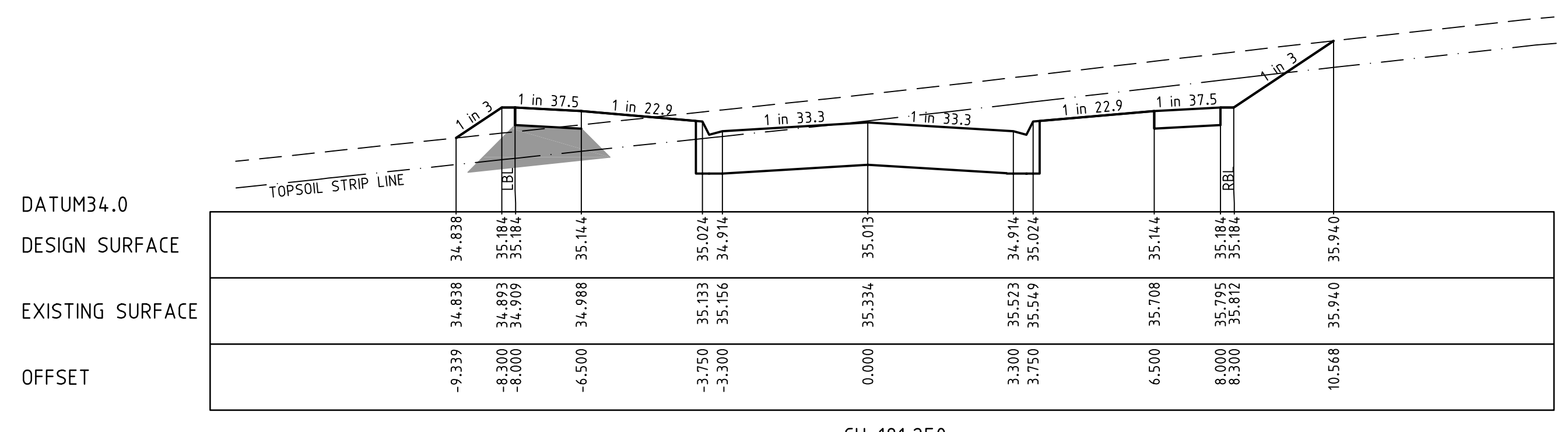
STRUCTURAL FILL REQUIRED UNDER PAVEMENT AND FOOTPATHS WHERE CONSTRUCTED ABOVE NATURAL SURFACE



TPCH 218.350



CH 207.250



CH 191.250

REVISION	DATE	DES/DFE	APPD
C MINOR AMENDMENTS	11.04.12	CB/CB	JG
B COUNCIL AMENDMENTS	05.03.12	CB/CB	JG
A ISSUED TO COUNCIL FOR APPROVAL	13.01.12	CB/CB	JG

estuary
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Principal
Leopold Property Developments Pty Ltd
Level 1, 6 Riverside Quay
Southbank, Victoria 3006

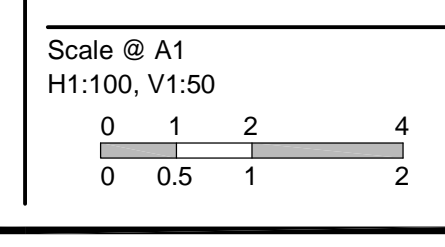
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C. Barker

Drawn
C. Barker

Checked
C. Birkett

Authorised
J. Golden

Date
January 2012



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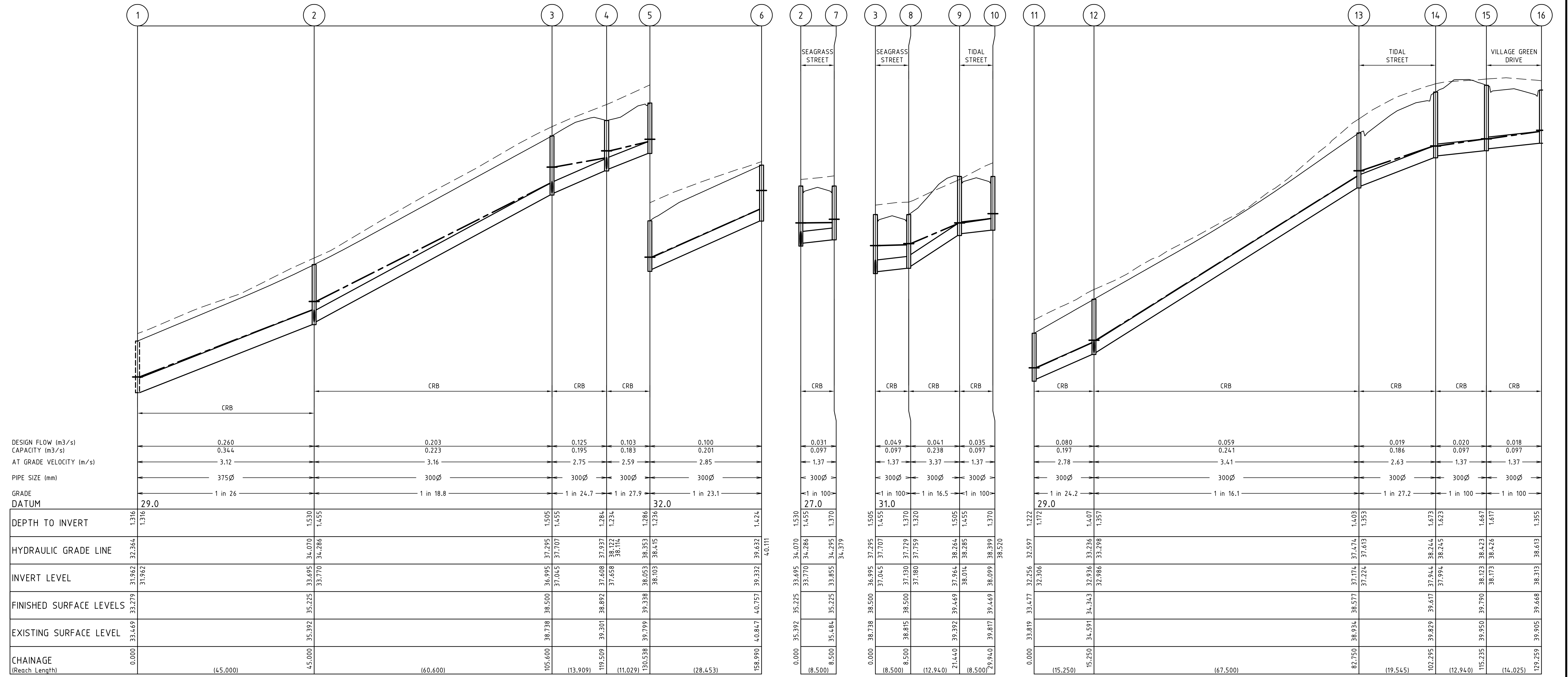
Estuary
Stage 11B
City of Greater Geelong
Roadworks and Drainage
Cross Sections - Anchorage Way

Drawing No. 0250EHL-11B-16 **Rev C**

Sheet No. 16 of 22

Approved for Construction

LEGEND	
---	EXISTING SURFACE
---	DESIGN SURFACE
---	DRAINAGE PIPE/PIT
---	EXISTING DRAINAGE PIPE/PIT
---	HYDRAULIC GRADE LINE



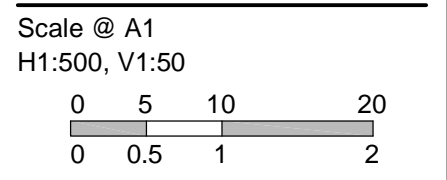
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
DESIGN FLOW (m ³ /s)		0.260	0.203	0.125	0.103	0.100	0.031	0.049	0.041	0.035	0.080	0.059	0.019	0.020	0.018		
CAPACITY (m ³ /s)		0.344	0.223	0.195	0.183	0.201	0.097	0.097	0.238	0.097	0.197	0.186	0.186	0.097	0.097		
AT GRADE VELOCITY (m/s)		3.12	3.16	2.75	2.59	2.85	1.37	1.37	3.37	1.37	2.78	3.41	2.63	1.37	1.37		
PIPE SIZE (mm)		375Ø	300Ø	300Ø	300Ø	300Ø	300Ø	300Ø	300Ø	300Ø	300Ø	300Ø	300Ø	300Ø	300Ø		
GRADE		1 in 26	1 in 18.8	1 in 24.7	1 in 27.9	1 in 23.1	1 in 100	1 in 100	1 in 16.5	1 in 100	1 in 24.2	1 in 16.1	1 in 27.2	1 in 100	1 in 100		
DATUM	29.0					32.0	27.0	31.0			29.0						
DEPTH TO INVERT	1.316	1.316					1.530	1.505	1.455	1.505	1.222	1.172	1.403	1.353	1.673	1.355	
HYDRAULIC GRADE LINE	32.364	34.070	37.295	37.707	37.937	39.632	34.286	37.707	37.729	38.264	32.597	32.936	37.474	38.244	38.423	38.613	
INVERT LEVEL	31.962	33.695	36.995	37.045	37.608	39.332	33.770	37.045	37.130	38.014	32.306	32.986	37.224	37.994	38.173	38.313	
FINISHED SURFACE LEVELS	33.279	35.225	38.500	38.892	39.338	40.751	35.225	38.500	39.469	39.817	33.477	34.343	38.577	39.617	39.950	39.668	
EXISTING SURFACE LEVEL	33.469	35.392	38.738	39.301	39.799	40.847	35.484	38.815	39.392	39.817	33.819	34.591	38.934	39.829	39.950	39.905	
CHAINAGE (Reach Length)	0.000	(45.000)	(60.600)	(105.600)	(113.909)	(111.029)	(130.538)	(158.990)	(18.500)	(12.940)	(8.500)	(15.250)	(67.500)	(82.750)	(102.295)	(115.235)	(129.259)

REVISION	DATE	DES/DFT	APPD
C	11.04.12	CB/CB	JG
B	05.03.12	CB/CB	JG
A	13.01.12	CB/CB	JG



Principal
Leopold Property Developments Pty Ltd
Level 1, 6 Riverside Quay
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C. Barker
Drawn
C. Barker
Checked
C. Birkett
Authorised
J. Golden
Date
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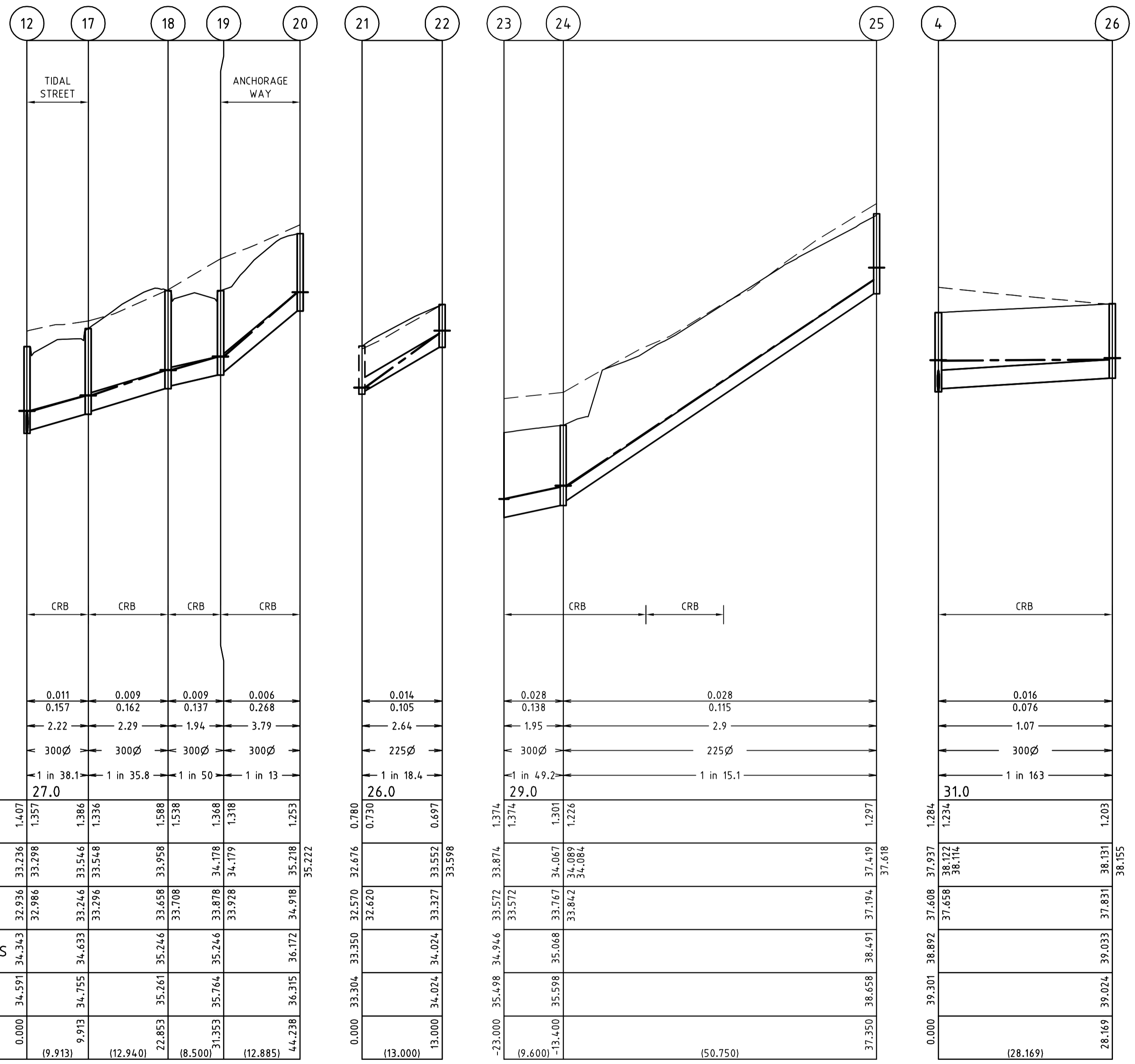
Estuary
Stage 11B
City of Greater Geelong
Roadworks and Drainage
Drainage Longitudinal Sections - 1

Drawing No. **0250EHL-11B-18** Rev C
Sheet No. 18 of 22

Approved for Construction

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LEGEND	
---	EXISTING SURFACE
---	DESIGN SURFACE
---	DRAINAGE PIPE/PIT
---	EXISTING DRAINAGE PIPE/PIT
---	HYDRAULIC GRADE LINE

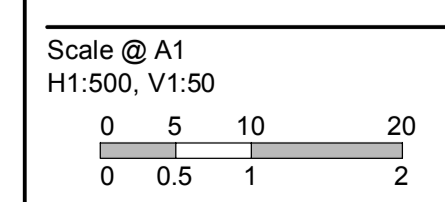


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REVISION	DATE	DES/DFT	APP'D
D DRAIN LINE 23 TO 24 AMENDED	03.05.13	CB/CB	JG
C MINOR AMENDMENTS	11.04.12	CB/CB	JG
B COUNCIL AMENDMENTS	05.03.12	CB/CB	JG
A ISSUED TO COUNCIL FOR APPROVAL	13.01.12	CB/CB	JG

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Southbank, Victoria 3006

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Estuary
Stage 11B
City of Greater Geelong
Roadworks and Drainage
Drainage Longitudinal Sections - 2

Drawing No. 0250EHL-11B-19 **Rev D**

Sheet No. 19 of 22

Approved for Construction

LEGEND	
---	EXISTING SURFACE
---	DESIGN SURFACE
---	DRAINAGE PIPE/PIT
---	EXISTING DRAINAGE PIPE/PIT
---	HYDRAULIC GRADE LINE

PIT SCHEDULE											
PIT NUMBER	TYPE	INTERNAL		INLET		OUTLET		F.S.L. (m)	DEPTH (m)	STANDARD DRAWING	REMARKS
		WIDTH (mm)	LENGTH (mm)	DIAMETER (mm)	INVERT R.L.(m)	DIAMETER (mm)	INVERT R.L. (m)				
1	Ex PIT			375	31.962			33.279	1.316		
2	SIDE ENTRY PIT	600	900	300	33.770	375	33.695	35.225	1.530	SD 430	
3	SIDE ENTRY PIT	600	900	300	37.045	300	36.995	38.500	1.505	SD 430	
4	GRATED PIT	600	900	300	37.658	300	37.608	38.892	1.284	SD 420	
5	GRATED PIT	600	900	300	38.103	300	38.053	39.338	1.286	SD 455	
6	JUNCTION PIT	600	900			300	39.332	40.757	1.424	SD 420	CLASS D COVER
7	SIDE ENTRY PIT	600	900			300	33.855	35.225	1.370	SD 430	
8	SIDE ENTRY PIT	600	900	300	37.180	300	37.130	38.500	1.370	SD 430	
9	SIDE ENTRY PIT	600	900	300	38.014	300	37.964	39.469	1.505	SD 430	
10	SIDE ENTRY PIT	600	900			300	38.099	39.469	1.370	SD 430	
11	Ex PIT			300	32.306			33.477	1.222		CONNECT TO EXISTING PIT
12	SIDE ENTRY PIT	600	900	300	32.986	300	32.936	34.343	1.407	SD 430	
13	SIDE ENTRY PIT	600	900	300	37.224	300	37.174	38.577	1.403	SD 430	
14	SIDE ENTRY PIT	600	900	300	37.994	300	37.944	39.617	1.673	SD 430	
15	SIDE ENTRY PIT	600	900	300	38.173	300	38.123	39.790	1.667	SD 430	
16	SIDE ENTRY PIT	600	900			300	38.313	39.668	1.355	SD 430	
17	SIDE ENTRY PIT	600	900	300	33.296	300	33.246	34.633	1.386	SD 430	
18	SIDE ENTRY PIT	600	900	300	33.708	300	33.658	35.246	1.588	SD 430	
19	SIDE ENTRY PIT	600	900	300	33.928	300	33.878	35.246	1.368	SD 430	
20	SIDE ENTRY PIT	600	900			300	34.918	36.172	1.253	SD 430	
21	Ex PIT			225	32.620			33.350	0.730		CONNECT TO EXISTING PIT
22	JUNCTION PIT	600	900			225	33.327	34.024	0.697	SD 425	
23	ENDWALL			300	33.572			34.946	1.374		
24	JUNCTION PIT	600	900	225	33.842	300	33.767	35.068	1.301	SD 420	CLASS D COVER
25	JUNCTION PIT	600	900			225	37.194	38.491	1.297	SD 425	
26	JUNCTION PIT	600	900			300	37.831	39.033	1.203	SD 420	CLASS D COVER

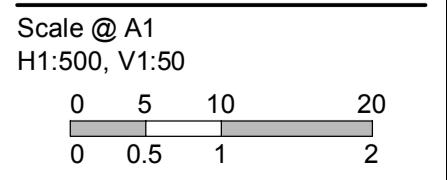
I:\work\90250EHL-11B\90250EHL-11B.dwg 11/10/2011 11:20

REVISION	DATE	DES/DFT	APP'D
D PIT 23 AMENDED	03.05.13	CB/CB	JG
C MINOR AMENDMENTS	11.04.12	CB/CB	JG
B COUNCIL AMENDMENTS	05.03.12	CB/CB	JG
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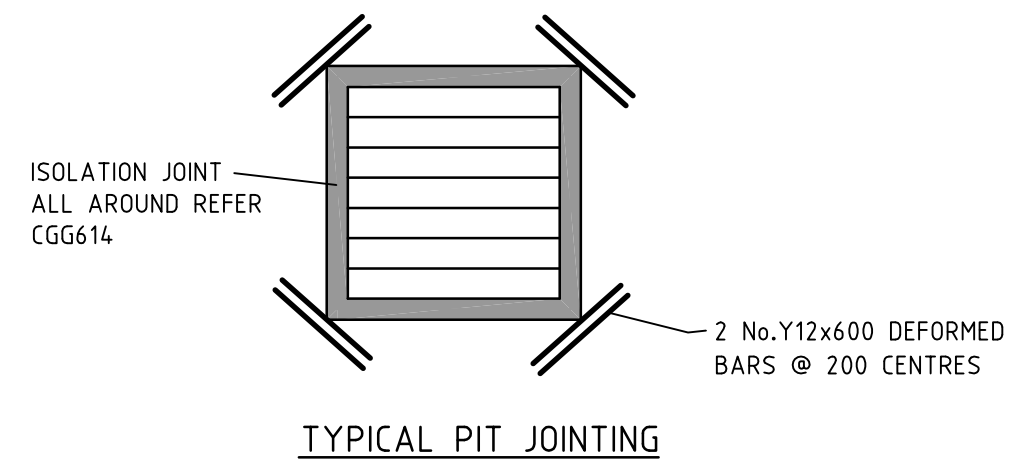
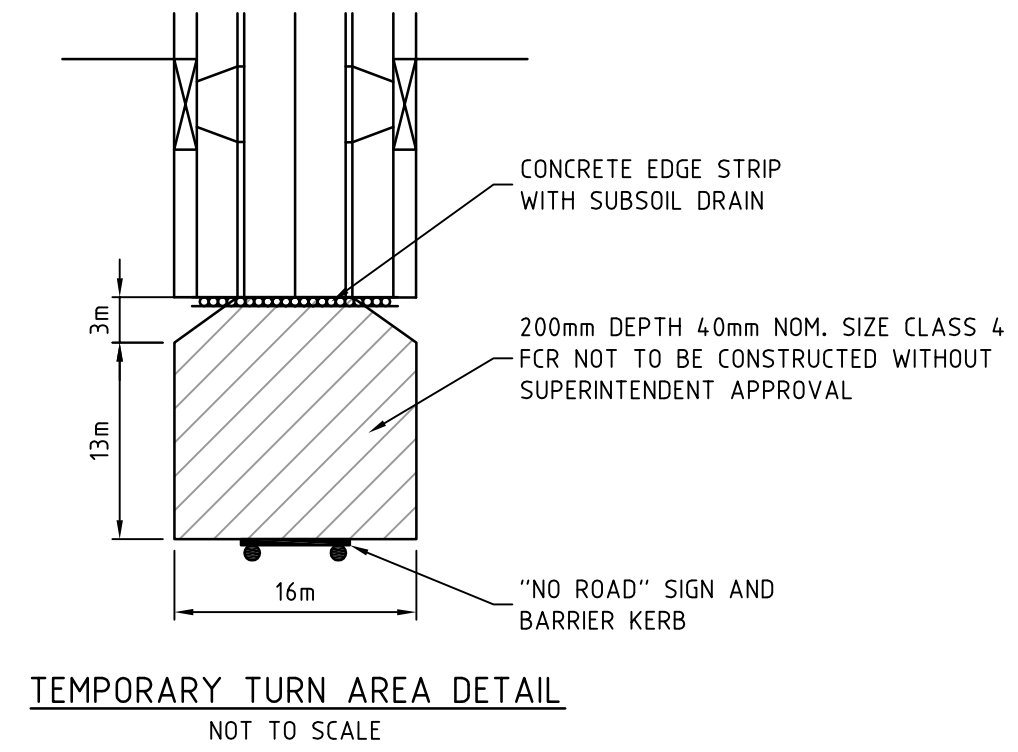
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Estuary
Stage 11B
City of Greater Geelong
Roadworks and Drainage
Pit Schedule

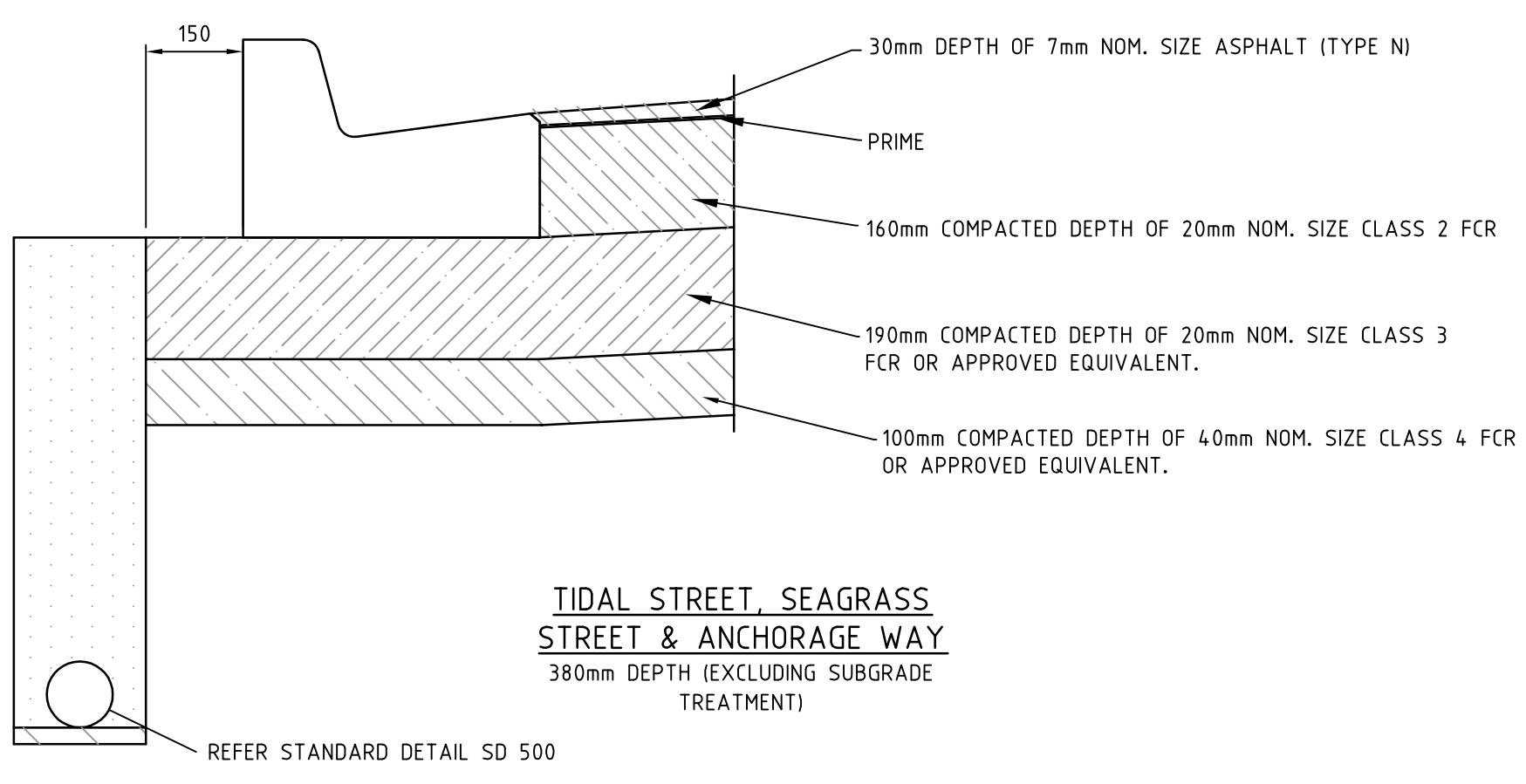
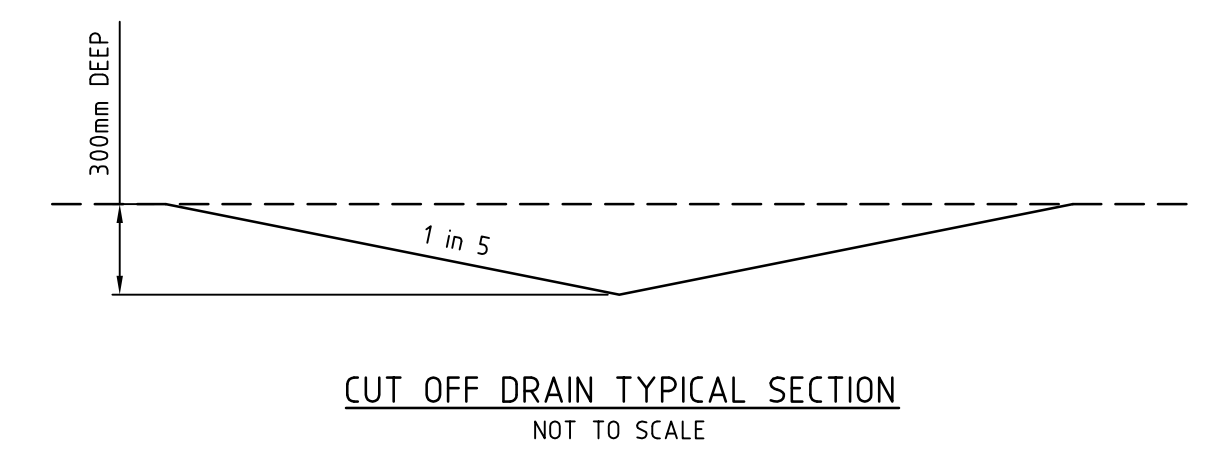
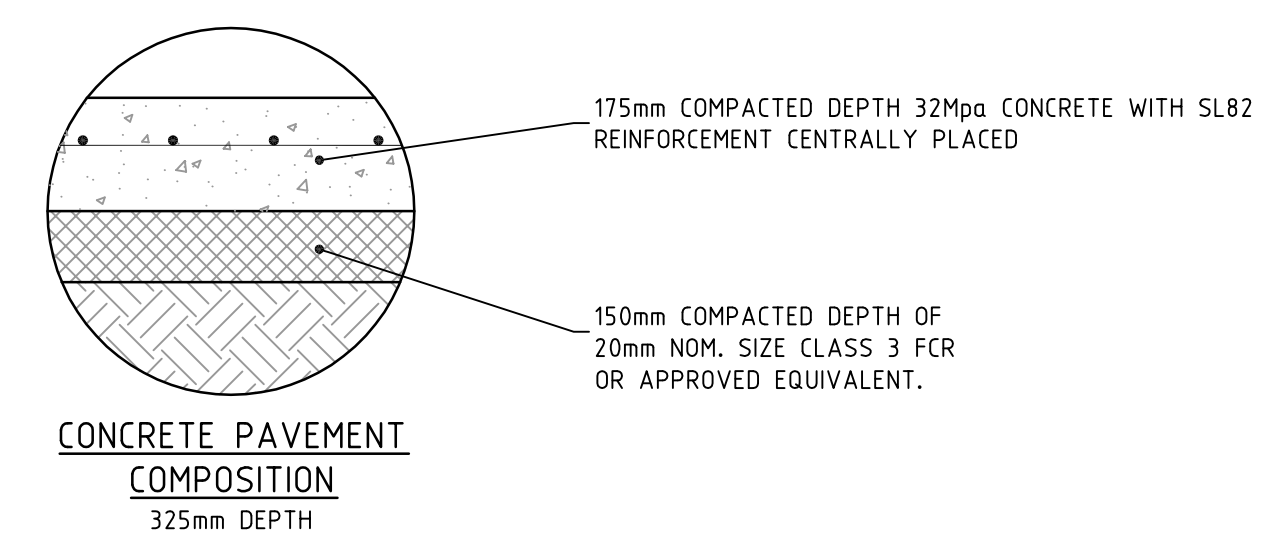
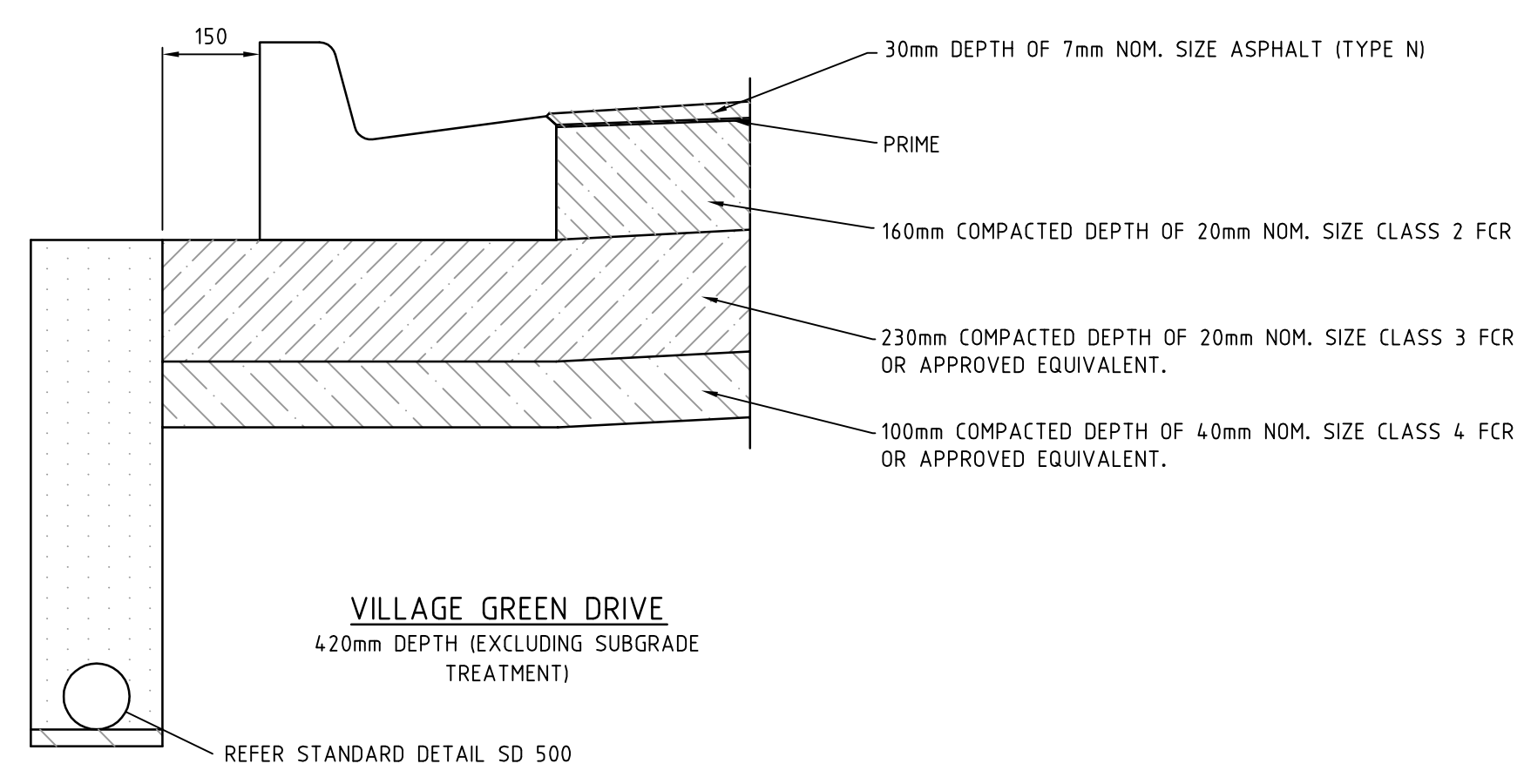
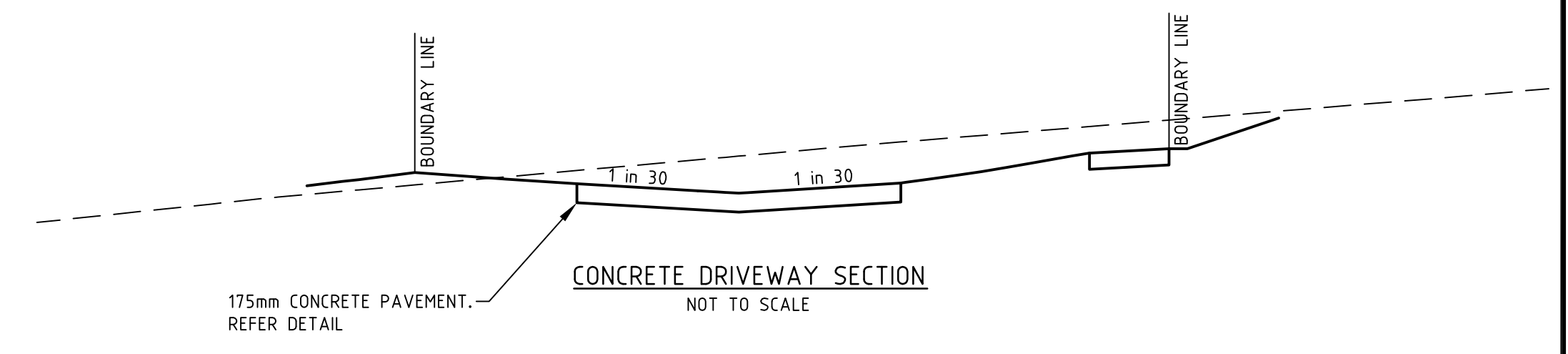
Drawing No. 0250EHL-11B-20 **Rev D**

Sheet No. 20 of 22

Approved for Construction



- CONCRETE JOINTING NOTES**
1. SAW JOINTS ARE TO BE PLACED AT A MAXIMUM 5m SPACING AT INTERSECTIONS AND CONSTRUCTED 18-24 HOURS AFTER POURING.
 2. TRANSVERSE/CONTRACTION JOINTS ARE TO BE PLACED AT A MAXIMUM SPACING OF 15m.
 3. ISOLATION JOINTS ARE TO BE PLACED AROUND PITS
 4. ALL JOINTS SHALL BE LOCATED AND SPACED IN ACCORDANCE WITH "CEMENT AND CONCRETE ASSOCIATION OF AUSTRALIA - CONCRETE PAVEMENT DESIGN FOR RESIDENTIAL STREETS 1997"
 5. ALL JOINTS TO COMPLY WITH IDM STANDARD DRAWINGS



I:\work\eng\0250EHL - horizons@leopold\0250EHL - 1104\eng\0250EHL-1121

REVISION	DATE	DES/DFT	APPD
C	11.04.12	CB/CB	JG
B	05.03.12	CB/CB	JG
A	13.01.12	CB/CB	JG

Principal
Leopold Property Developments Pty Ltd
Level 1, 6 Riverside Quay
Southbank, Victoria 3006

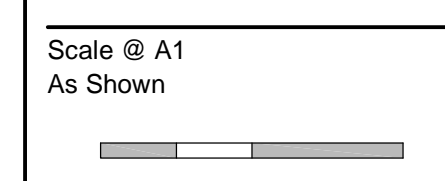
Designed
C. Barker

Drawn
C. Barker

Checked
C. Birkett

Authorised
J. Golden

Date
January 2012



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Estuary
Stage 11B
City of Greater Geelong
Roadworks and Drainage
Details

Drawing No. 0250EHL-11B-21 **Rev C**

Sheet No. 21 of 22

Approved for Construction

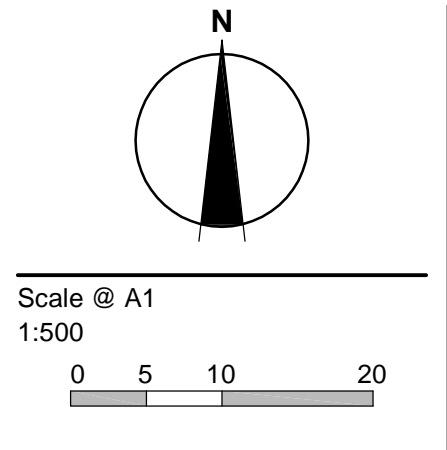


REVISION	DATE	DES/DFT	APPD
C	11.04.12	CB/CB	JG
B	05.03.12	CB/CB	JG
A	13.01.12	CB/CB	JG

AMENDMENTS TO LOTS 1105 & 1106
 COUNCIL AMENDMENTS
 ISSUED TO COUNCIL FOR APPROVAL



Designed
 C. Barker
 Drawn
 C. Barker
 Checked
 C. Birkett
 Authorised
 J. Golden
 Date
 January 2012



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Estuary
 Stage 11B
 City of Greater Geelong
 Roadworks and Drainage
 Subdivision Setout Plan

Drawing No. **0250EHL-11B-22** Rev C
 Sheet No. 22 of 22

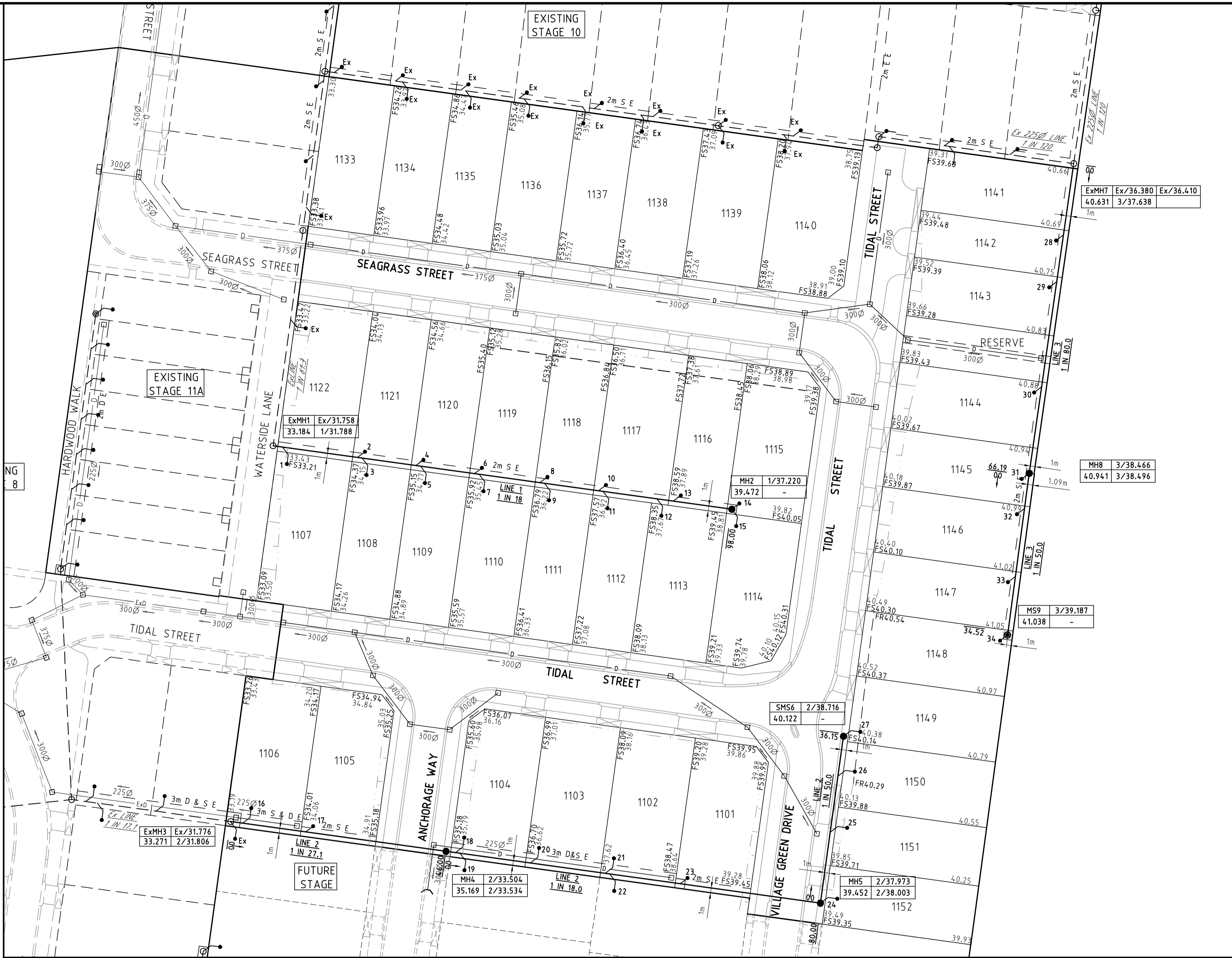
Approved for Construction

- LEGEND - SEWER PLAN**
- STORMWATER DRAIN & PIT
 - SEWER & MAINTENANCE STRUCTURES
 - TYPE "A" JUMP UP
 - TYPE "B" JUMP UP
 - TYPE "C" SLIDE LINE
 - OBLIQUE JUNCTION
 - TYPE "A" SPECIAL
 - TYPE "TM" SPECIAL
 - TYPE "B" SPECIAL
 - EXISTING ELECTRICITY (UNDERGROUND)
 - EXISTING ELECTRICITY (OVERHEAD)
 - EXISTING GAS
 - EXISTING TELSTRA
 - EXISTING WATER
 - EXISTING STORMWATER DRAIN
 - EXISTING SEWER
 - 141.34 EXISTING SURFACE LEVEL
 - FS14.0.35 FINISHED BUILDING LINE LEVEL
 - FR157.4.0 FINISHED RIDGE LINE LEVEL
 - ▲ PERMANENT SURVEY MARK
 - ▲ TEMPORARY BENCH MARK
- PIPE TYPES**
- AC ASBESTOS CEMENT
 - CICL CAST IRON CEMENT LINED
 - DICL DUCTILE CEMENT LINED
 - MSCL MILD STEEL CEMENT LINED
 - PVC POLYVINYL CHLORIDE
 - PE POLYETHYLENE (AS SPECIFIED)
 - RC REINFORCED CONCRETE
 - VC VITREOUS CLAY

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

BARWON WATER APPROVED CONTRACTOR TO CONNECT TO EXISTING ACCESS CHAMBER AT CONTRACTORS COST. 7 CLEAR DAYS NOTICE PRIOR TO THE COMMENCEMENT OF WORKS MUST BE GIVEN TO THE SUPERINTENDENT AND BARWON WATER SENIOR QUALITY AUDITOR.

BARWON WATER APPROVED CONTRACTOR TO CONSTRUCT NEW HOUSE CONNECTIONS OVER EXISTING MAIN AT CONTRACTORS COST. 7 CLEAR DAYS NOTICE PRIOR TO THE COMMENCEMENT OF WORKS MUST BE GIVEN TO THE SUPERINTENDENT AND BARWON WATER SENIOR QUALITY AUDITOR.



- NOTES GENERAL**
- SEWERS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE WATER SERVICES ASSOCIATION OF AUSTRALIA STANDARD CODES (WSA 02-2002 - WSA 03-2002) IN CONJUNCTION WITH BARWON WATER'S SUPPLEMENTS TO THE CODES.
 - BARWON WATER AND THE PROJECT MANAGER TO BE NOTIFIED 7 CLEAR WORKING DAYS NOTICE PRIOR TO COMMENCEMENT OF WORKS.
 - THE CONTRACTOR SHALL
 - COMPLY WITH SAFETY REQUIREMENTS OF THE MINES ACT, GENERAL REGULATIONS AND STATUTORY RULES, AND THE MINES (TRENCHES) REGULATIONS 1982.
 - NOTIFY THE DEPARTMENT OF LABOUR OF HIS INTENTION TO COMMENCE TRENCHING OPERATIONS WHERE TRENCHES ARE 1.5 METRES OR DEEPER.
 - INSURE THAT THE MINE MANAGER OR HIS DEPUTY AS REQUIRED BY THE REGULATIONS IS IN ATTENDANCE WHEN TRENCHING OPERATIONS ARE IN PROGRESS.
 - THE CONTRACTOR SHALL MAKE ALL WORKS AVAILABLE FOR THE INSPECTOR/SURVEYOR TO CARRY OUT THE NECESSARY INSPECTIONS AND SURVEYING BEFORE BACKFILLING IS COMMENCED.
 - SERVICES ARE APPROXIMATE ONLY. ALL RELEVANT SERVICE AUTHORITY'S ARE TO BE CONTACTED PRIOR TO THE COMMENCEMENT OF EXCAVATION TO ESTABLISH THEIR EXACT LOCATION.
 - CONTACT PRIOR TO COMMENCEMENT OF WORKS:
 CITY OF GREATER GEELONG
 POWERCOR
 TELSTRA
 TRU
 VICTORIAN WORKCOVER AUTHORITY
 - ALL SERVICES ARE TO BE LOCATED ON SITE PRIOR TO ANY EXCAVATION.
 - INVERT LEVELS OF EXISTING SEWERS AND WATERMANS TO BE CHECKED PRIOR TO THE COMMENCEMENT OF WORKS.
 - CLASS 2 BACKFILL TO BE USED UNDER DRIVEWAYS FOR WATER AND SEWER RETICULATION. PROPERTY OWNERS ARE TO BE NOTIFIED IN WRITING BY THE CONSULTANT 14 CLEAR DAYS PRIOR TO COMMENCEMENT OF WORKS
 - COPY OF CADASTRAL MAP GRID (MGA) CONNECTION & COPY OF AUSTRALIAN HEIGHT DATUM (AHD) CONNECTION IS TO BE PROVIDED BY CONTRACTOR
 - WORKS SHALL BE EFFECTED BETWEEN THE HOURS OF 8.00am AND 5.00pm MONDAY - FRIDAY. IN THE EVENT THAT WORKS ARE TO BE EFFECTED OUTSIDE THESE WORKING HOURS, A LETTER REQUESTING APPROVAL FOR SUCH OUT OF HOURS WORK SHALL BE LODGED TO THE SENIOR QUALITY AUDITOR.
 - THE CONTRACTOR SHALL COMPLY WITH SAFETY REQUIREMENTS RELATING TO WORKING NEAR POWER LINES AS SET BY THE CHIEF ELECTRICAL INSPECTOR WHERE NECESSARY AN ACCREDITED TRAINED SPOTTER IS TO BE PROVIDED.
 - WATER RESTRICTIONS ARE TO APPLY FROM MIDNIGHT JUNE 30th 2006, IN ACCORDANCE WITH BY-LAW NO. 187. ONLY TRIGGER HOSES (MAXIMUM SIZE 25mm) MAY BE USED FOR CONSTRUCTION WORK NOT INCLUDING TRENCHING, UNLESS OTHERWISE EXEMPTED BY THE AUTHORITY IN WRITING. MECHANICAL COMPACTION IS TO BE USED IN ACCORDANCE WITH MRWA SPECIFICATION 04-03 FOR TRENCH WORKS UNTIL FURTHER NOTICE. ANY WATER USED TO FLUSH WATER MAINS IS TO BE RECLAIMED AND USED FOR CONSTRUCTION PURPOSES.

- SEWER**
- THE CONTRACTOR SHALL CORE CUT ALL HOLES INTO EXISTING PRECAST SEWER MAINTENANCE HOLES.
 - ALL FSL'S SHOWN IN MAINTENANCE HOLES INFORMATION BOX ARE TOP OF MANHOLE LEVELS.
 - ALL END OF LINES NOMINATED AS TMS ARE TO HAVE A TERMINAL MAINTENANCE SHAFT AS PER BARWON WATER STANDARD DRAWING 70095.
 - WHERE FUTURE SEWER MAINS ARE INDICATED A 150mm ACCESS COUPLING AND CAP ARE TO BE PLACED OUT OF THE MANHOLE.
 - WARNING, ENTRY INTO ANY MAINTENANCE HOLE IS CONTROLLED BY CONFINED SPACE REGULATIONS BEING "OCCUPATIONAL HEALTH & SAFETY (CONFINED SPACES) REGULATIONS 1996, STATUTORY RULE NO 148/1996 AND A.S. 2865 - 1995 SAFE WORKING IN CONFINED SPACES". PERSONS REQUIRING ACCESS TO ANY BARWON WATER MANHOLE AS PART OF THE DEVELOPER WORKS PROCESS MUST CONTACT THE SENIOR QUALITY AUDITOR PH 1031 5226 9204 FOR ANY REQUIREMENTS DURING THE CONSTRUCTION OF WORKS TO GAIN ACCESS TO A BARWON WATER MANHOLE THE PROCEDURE AS OUTLINED IN THE ATTACHED FLOWCHART IS TO BE FOLLOWED, AND "THE CONFINED SPACE ENTRY PERMIT APPLICATION FORM" (ALSO ATTACHED) IS TO BE COMPLETED AND LODGED WITH THE SENIOR QUALITY AUDITOR 3 (THREE) CLEAR WORKING DAYS PRIOR TO ENTRY.
 - ALL SEWERS ARE TO BE PVC-SN8
 - DETECTOR TAPE TO BE PLACED OVER SEWERS AT ALL ROAD CROSSINGS AND ALL CURVED SEWER MAINS.
 - BORED SECTIONS OF SEWER TO BE CCTV INSPECTED IN ACCORDANCE WITH BARWON WATER'S LAND DEVELOPMENT MANUAL AND SUBMITTED TO BARWON WATER FOR ACCEPTANCE.
 - ALL MANHOLE JOINTS, INCLUDING DROPS TO BE SEALED WITH FERROPRE OR APPROVED EQUIVALENT.
 - ALL EXCAVATIONS AROUND A NEWLY CONSTRUCTED MANHOLE TO BE BACKFILLED WITH 3% CEMENT STABILISED SAND.

SPECIAL

- TRENCH COMPACTION RESULTS TO BE SUBMITTED BY CONSULTANT WITH 'AS CONSTRUCTED' NOTES.

SURVEY STATIONS (HORIZONTAL - ARBITRARY, VERTICAL - AHD)

TBM	EASTING	NORTHING	RL	DESCRIPTION
ROD501	10106.39	48560.27	21.19	ROD
ROD502	10309.58	48587.59	28.62	ROD
MOOLAP PM69	1000.00	50000.00	8.503	BRASS PLAQUE
MOOLAP PM321	9897.742000	48994.921	9.436	BRASS PLAQUE
MOOLAP PM302	10212.03	48959.504	22.180	BRASS PLAQUE

SURVEY CONTROL

TBM	EASTING	NORTHING	RL	DESCRIPTION
ROD501	27724.507	5768919.27	21.19	ROD
ROD502	27744.831	5768946.60	28.62	ROD
MOOLAP PM69	277138.66	5770359.31	8.503	BRASS PLAQUE
MOOLAP PM321	277040	5769480	9.436	BRASS PLAQUE
MOOLAP PM302	277310	5769280	22.180	BRASS PLAQUE

NEW SEWER MAINS

SIZE	TYPE	LENGTH
150	PVC SN8	359.4m

MAINTENANCE HOLE CHAMBER INFORMATION LEGEND

MH No.	LINE No. / DOWNSTREAM INVERT	LINE No. / UPSTREAM INVERT
F.S.L.	LINE No. / UPSTREAM INVERT	LINE No. / UPSTREAM INVERT

SERVICES OFFSET SCHEDULE

ROAD NAME	GAS		WATER		ELECTRICITY		TELSTRA	
	SIDE	OFFSET (m)	SIDE	OFFSET (m)	SIDE	OFFSET (m)	SIDE	OFFSET (m)
SEAGRASS STREET	NORTH	2.10	NORTH	2.70	SOUTH	2.30	SOUTH	1.90
TIDAL STREET E-W	SOUTH	2.10	SOUTH	2.70	NORTH	2.30	NORTH	1.90
TIDAL STREET N-S	EAST	2.10	EAST	2.70	WEST	2.30	WEST	1.90
TIDAL STREET DRIVEWAY	EAST/WEST	2.10/1.50	EAST/WEST	2.70/2.10	WEST	1.00	WEST	0.30
ANCHORAGE WAY	WEST	2.10	WEST	2.70	EAST	2.30	EAST	1.90
VILLAGE GREEN DRIVE	EAST	2.10	EAST	2.70	WEST	2.30	WEST	1.90

WORKS SHALL NOT COMMENCE UNTIL PLANS ARE SIGNED BY BARWON WATER

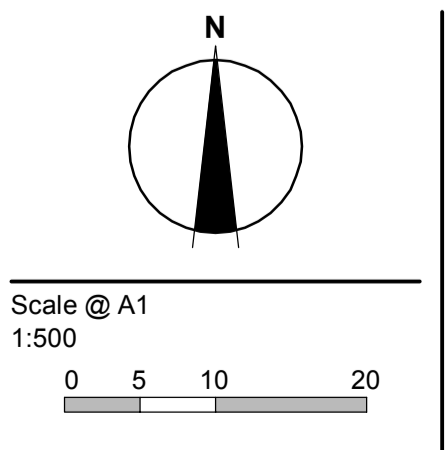
ACCEPTED BY BARWON WATER DEVELOPMENT SERVICES CO-ORDINATOR DEVELOPMENT & CONSERVATION

REVISION	DATE	DESIGN	APP'D
D	04.09.12	CB/CB	JG
C	3.07.12	CB/CB	JG
B	05.06.12	CB/CB	JG
A	11.04.12	CB/CB	JG

estuary
 IFCOPOID
 Principal
 Leopold Property Developments Pty Ltd
 Level 1, 6 Riverside Quay
 Southbank, Victoria 3006

- Construction Notes**
- Construction of the sewer and water mains is to be in accordance with the Barwon Water standard specifications "Construction of gravity sewers and rising mains" and "Construction of water mains".
 - Every endeavour to ensure the location of all existing services on the plan are correct. However actual locations are to be checked on site prior to commencement of excavations.
 - Nominal size of water mains indicated in millimetres & offsets are indicated in metres.
 - All sewer pipes are 1500mm unless otherwise shown.

Designed
C. Barker
 Drawn
C. Barker
 Checked
C. Birckett
 Authorised
J. Golden
 Date
January 2012



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smec urban
 consulting group

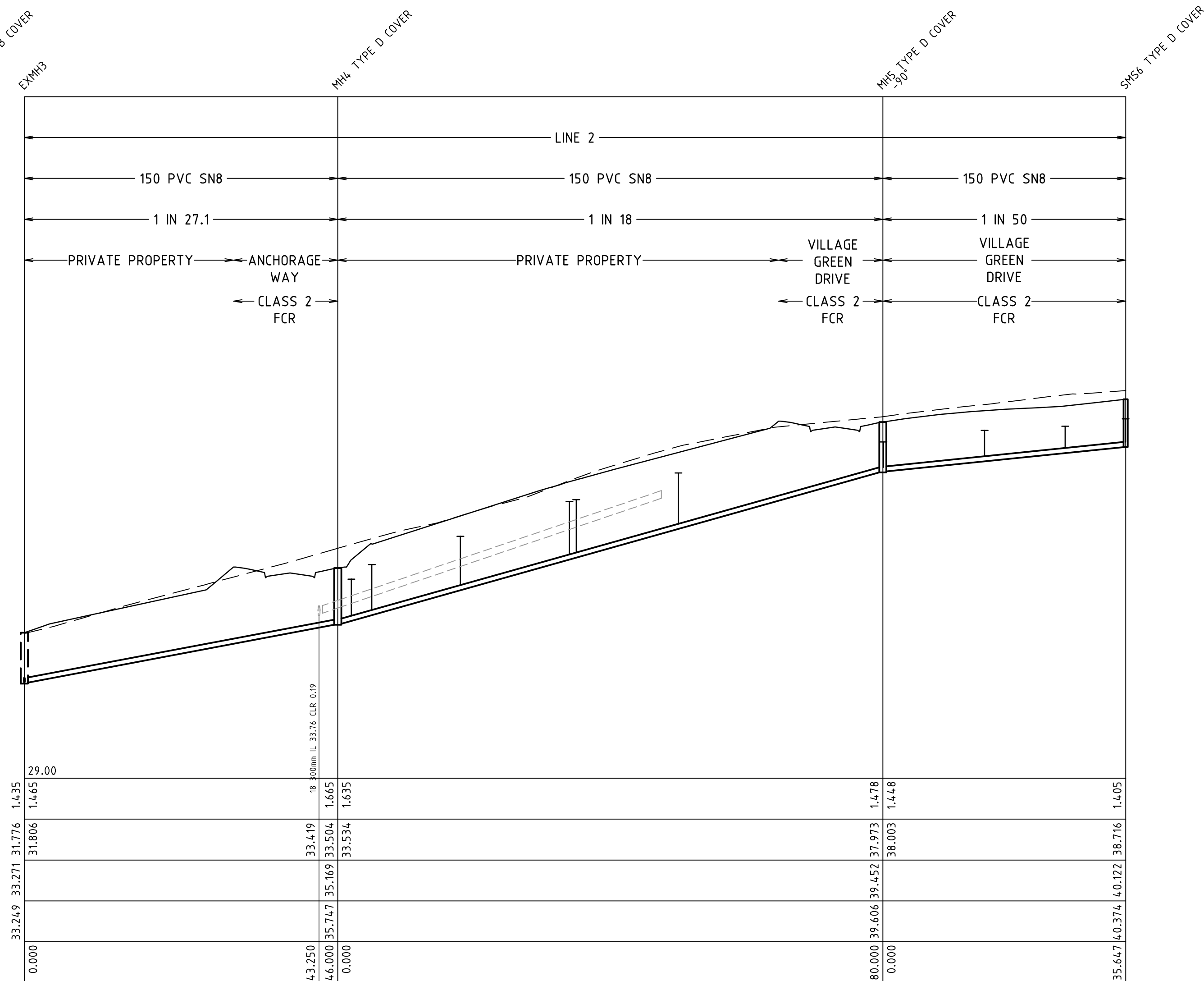
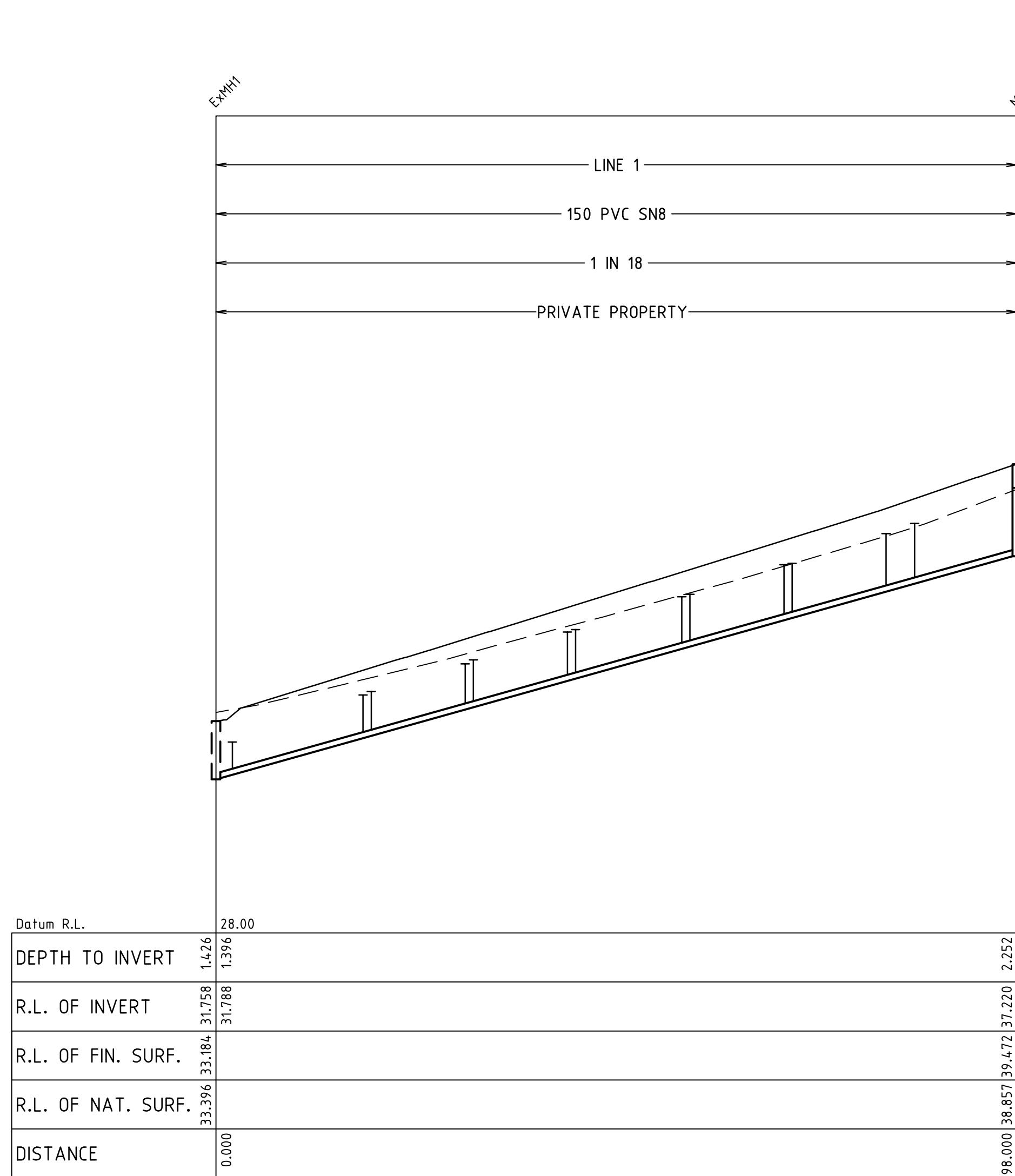
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Barwon Region Water Authority
 Barwon Water No. L007791
 Estuary
 Stage 11B
 Sewer Detail Plan

Drawing No. 0250EHL-11B-51 **Rev D**
 Sheet No. 1 of 3

Approved for Construction



WORKS SHALL NOT COMMENCE UNTIL
PLANS ARE SIGNED BY BARWON WATER

ACCEPTED BY BARWON WATER
DEVELOPMENT SERVICES
CO-ORDINATOR
DEVELOPMENT & CONSERVATION

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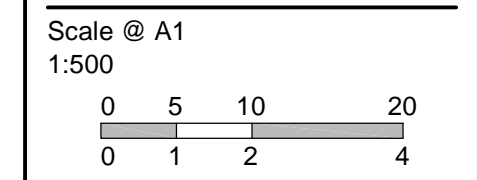
REVISION	DATE	DES/DF	APPD
C MINOR AMENDMENTS	03.07.12	CB/CB	JG
B BARWON WATER AMENDMENTS	05.06.12	CB/CB	JG
A ISSUED TO BARWON WATER FOR APPROVAL	11.04.12	CB/CB	JG

estuary
LEOPOLD

Principal
Leopold Property Developments Pty Ltd
Level 1, 6 Riverside Quay
Southbank, Victoria 3006

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 - All sewer pipes are 150mm unless otherwise shown.

Designed
C. Barker
Drawn
C. Barker
Checked
C. Birkett
Authorised
J. Golden
Date
January 2012



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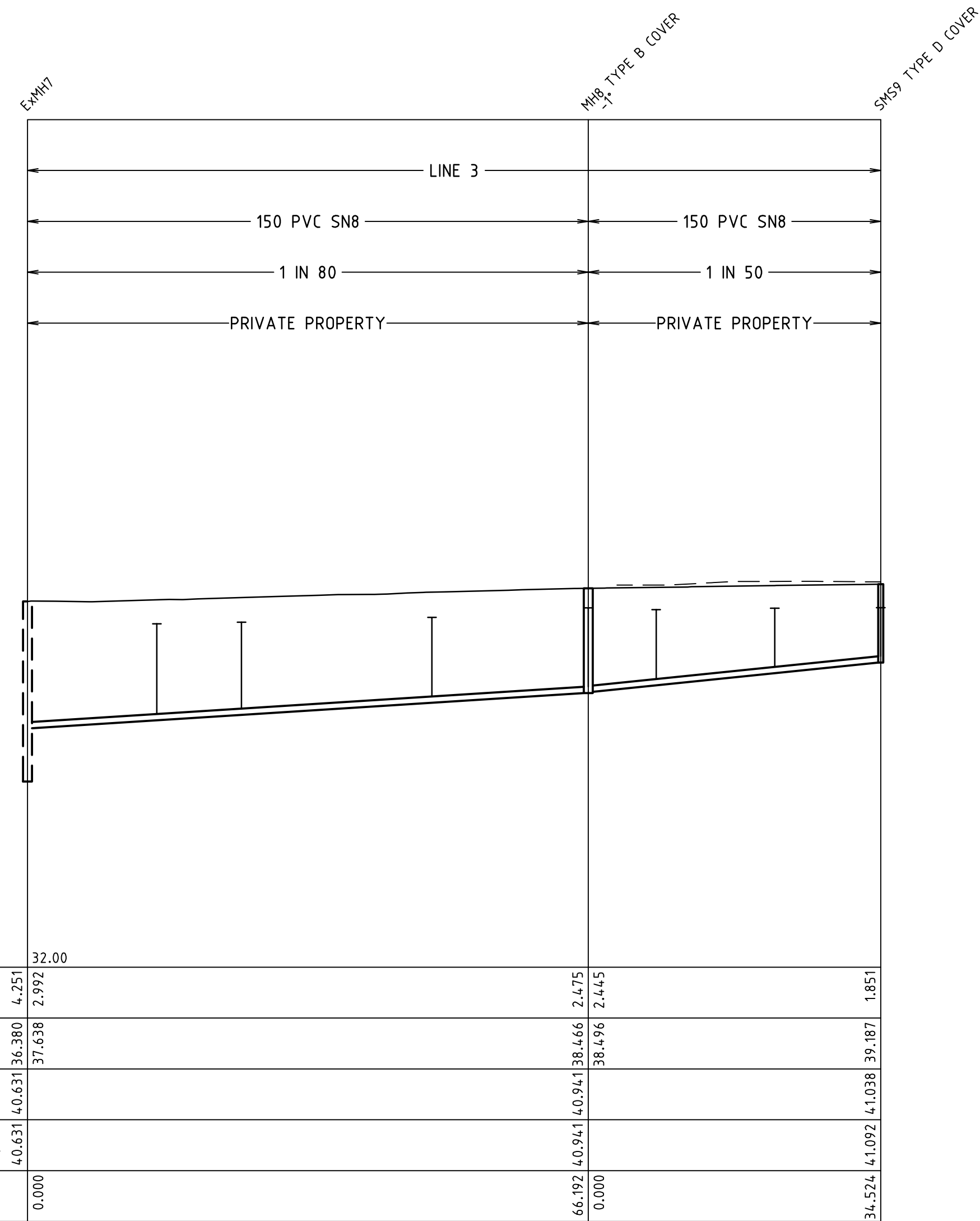
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Carlisle +61 2 6126 1900

Gold Coast +61 7 5578 0222
Melbourne +61 3 9869 0800
Traralgon +61 3 5173 0100

Barwon Region Water Authority
Barwon Water No. L007791
Estuary
Stage 11B
Sewer Longitudinal Sections

Drawing No. **0250EHL-11B-52** Rev C
Sheet No. 2 of 3

Approved for Construction



LINE NO.	MANHOLE NO.	HC NO.	LOT NAME	CONNECTION TYPE	CHAINAGE	IL SEWER	IL BRANCH	BRANCH HEIGHT
1	MH1	1	LOT 1107	A SPECIAL	2.00	31.87	32.67	0.80
1	MH1	2	LOT 1121	B	18.00	32.77	33.83	1.06
1	MH1	3	LOT 1108	A SPECIAL	19.00	32.82	33.91	1.09
1	MH1	4	LOT 1120	B	30.50	33.47	34.59	1.12
1	MH1	5	LOT 1109	A SPECIAL	31.50	33.52	34.68	1.16
1	MH1	6	LOT 1119	B	43.00	34.17	35.37	1.20
1	MH1	7	LOT 1110	A SPECIAL	44.00	34.22	35.42	1.20
1	MH1	8	LOT 1118	B	57.00	34.95	36.23	1.28
1	MH1	9	LOT 1111	A SPECIAL	58.00	35.01	36.29	1.28
1	MH1	10	LOT 1117	B	69.50	35.65	37.01	1.36
1	MH1	11	LOT 1112	A SPECIAL	70.50	35.71	37.05	1.34
1	MH1	12	LOT 1113	A SPECIAL	82.00	36.35	37.77	1.42
1	MH1	13	LOT 1116	B	85.50	36.55	38.03	1.48
1	MH2	14	LOT 1115	B	0.00	37.22	38.89	1.67
1	MH2	15	LOT 1114	A SPECIAL	0.00	37.22	38.90	1.68
2	MH3	16	LOT 1106	A SPECIAL	2.50	31.88	32.82	0.94
2	MH3	17	LOT 1105	B	16.00	32.39	33.45	1.06
2	MH4	18	LOT 1104	A SPECIAL	2.00	33.62	34.84	1.22
2	MH4	19	FUT LOT	A SPECIAL	5.00	33.79	35.27	1.48
2	MH4	20	LOT 1103	A SPECIAL	18.00	34.52	36.10	1.58
2	MH4	21	LOT 1102	A SPECIAL	34.00	35.42	37.12	1.70
2	MH4	22	FUT LOT	A SPECIAL	35.00	35.47	37.17	1.70
2	MH4	23	LOT 1101	B	50.00	36.32	37.95	1.64
2	MH5	24	LOT 1152	A SPECIAL	0.00	37.97	38.87	0.89
2	MH5	25	LOT 1151	A SPECIAL	14.94	38.30	39.21	0.91
2	MH5	26	LOT 1150	A SPECIAL	26.77	38.54	39.33	0.79
2	SMS6	27	LOT 1149	A SPECIAL	0.00	38.72	39.55	0.83
3	MH7	28	LOT 1142	B	15.27	37.83	40.10	2.28
3	MH7	29	LOT 1143	B	25.27	37.95	40.14	2.19
3	MH7	30	LOT 1144	B	47.74	38.24	40.25	2.02
3	MH8	31	LOT 1145	B	0.00	38.47	40.48	2.01
3	MH8	32	LOT 1146	B	8.02	38.65	40.44	1.79
3	MH8	33	LOT 1147	B	22.02	38.94	40.47	1.54
3	SMS9	34	LOT 1148	B	0.00	39.19	40.48	1.30

	0.000	66.892	40.941	40.631	36.380	4.251
Datum R.L.		32.00				
DEPTH TO INVERT		2.992				
R.L. OF INVERT		37.638				
R.L. OF FIN. SURF.		40.941	38.466	38.496	39.187	
R.L. OF NAT. SURF.		40.631	41.038			
DISTANCE	0.000		0.000			34.524

WORKS SHALL NOT COMMENCE UNTIL PLANS ARE SIGNED BY BARWON WATER

ACCEPTED BY BARWON WATER DEVELOPMENT SERVICES CO-ORDINATOR DEVELOPMENT & CONSERVATION



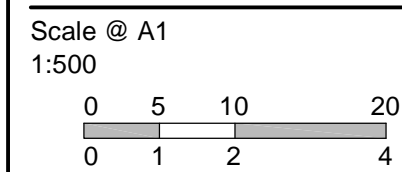
Principal
Leopold Property Developments Pty Ltd
Level 1, 6 Riverside Quay
Southbank, Victoria 3006

- Construction Notes
- Construction of the sewer and water mains is to be in accordance with the Barwon Water standard specifications "Construction of gravity sewers and rising mains" and "Construction of water mains".
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Designed
C. Barker
Drawn
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Date
January 2012

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Barwon Region Water Authority
Barwon Water No. L007791
Estuary
Stage 11B
Sewer Longitudinal Sections

Drawing No. 0250EHL-11B-53 Rev C
Sheet No. 3 of 3

Approved for Construction

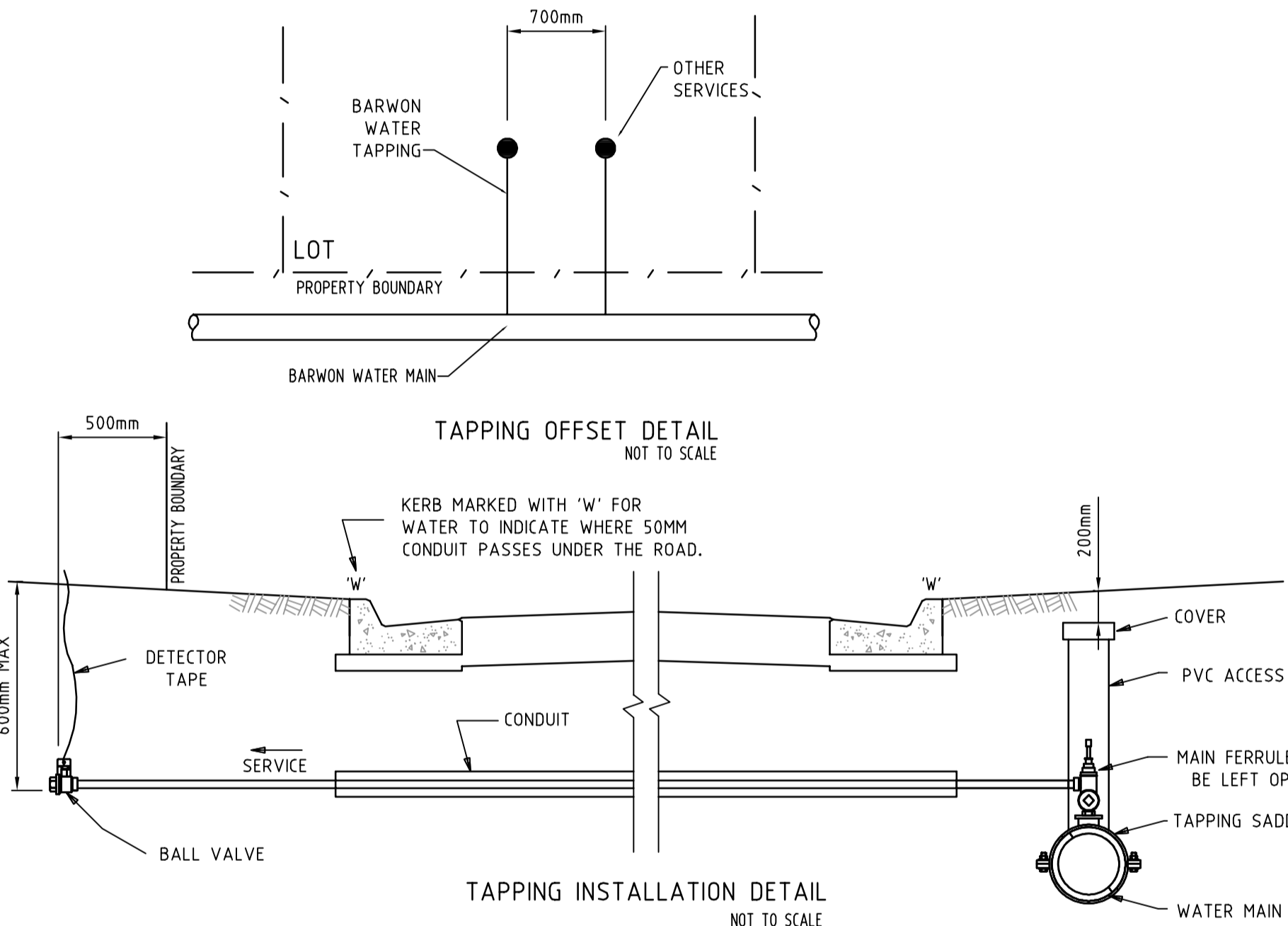
LEGEND - WATER PLAN

- STORMWATER DRAIN & PIT
- W — WATER MAIN
- CHANGE OF PIPE SIZE
- MAINS NOT CONNECTED
- MAINS IN CONDUIT
- VALVE
- NON RETURN VALVE
- FIRE PLUG
- DEAD END CAP
- Ex E — EXISTING ELECTRICITY (UNDERGROUND)
- D/H E — EXISTING ELECTRICITY (OVERHEAD)
- Ex G — EXISTING GAS
- Ex T — EXISTING TELSTRA
- Ex W — EXISTING WATER
- Ex D — EXISTING STORMWATER DRAIN
- Ex S — EXISTING SEWER
- 14.1.34 EXISTING SURFACE LEVEL
- FS14.0.35 FINISHED BUILDING LINE LEVEL
- FR157.4.0 FINISHED RIDGE LINE LEVEL
- ▲ PERMANENT SURVEY MARK
- ▲ TEMPORARY BENCH MARK
- ↔ SWAB DIRECTION

PIPE TYPES

- AC ASBESTOS CEMENT
- CICL CAST IRON CEMENT LINED
- DICL DUCTILED CEMENT LINED
- MSCl MILD STEEL CEMENT LINED
- PVC POLYVINYL CHLORIDE
- PE POLYETHYLENE (AS SPECIFIED)
- RC REINFORCED CONCRETE
- VC VITREOUS CLAY

NEW WATER MAINS		
SIZE	TYPE	LENGTH
100	PVC (CL-16)	14.7.2m
150	PVC (CL-16)	319.5m



1. ALL LOTS ARE TO BE TAPPED USING A TAPPING SADDLE AND PRESSURE FERRULE.
2. A MINIMUM SIZE SERVICE (IE 20MM COPPER, 25MM PE) IS THEN TO BE EXTENDED TO A POINT 500MM WITHIN THE PROPERTY.
3. SERVICE PIPE BETWEEN MAIN FERRULE AND BALL VALVE TO BE A CONTINUOUS LENGTH (IE NO JOINTS)
4. SERVICE TO BE TYPE 'B' COPPER OR CLASS 12 TYPE 50 PE.
5. IN THE CASE OF PE OR ANY OTHER NON-METALLIC SERVICE BEING INSTALLED, A COPPER TRACE WIRE IS TO BE INCORPORATED.
6. A BURIED BALL VALVE IS TO BE PLACED AT THE END OF THE SERVICE. DETECTOR TAPE IS TO BE RUN TO SURFACE LEVEL.
7. BALL VALVE TO BE IN ACCORDANCE WITH AUSTRALIAN STANDARDS (IE STAMPED 'W') BRASS FITTING WITH STAINLESS STEEL BALL.

SURVEY STATIONS (HORIZONTAL - ARBITRARY, VERTICAL - AHD)				
TBM	EASTING	NORTHING	RL	DESCRIPTION
ROD501	10106.39	48560.27	21.19	ROD
ROD502	10309.58	48587.59	28.62	ROD
MOOLAP PM69	1000.00	50000.00	8.503	BRASS PLAQUE
MOOLAP PM321	9897.742000	48994.921	9.436	BRASS PLAQUE
MOOLAP PM302	10212.03	48959.504	22.180	BRASS PLAQUE

SURVEY CONTROL				
TBM	EASTING	NORTHING	RL	DESCRIPTION
ROD501	27724.5.07	5768919.27	21.19	ROD
ROD502	27744.8.31	5768946.60	28.62	ROD
MOOLAP PM69	277138.66	5770359.31	8.503	BRASS PLAQUE
MOOLAP PM321	277040	57694.80	9.436	BRASS PLAQUE
MOOLAP PM302	277310	5769280	22.180	BRASS PLAQUE

THRUST RESTRAINT SCHEDULE				
LOCATION	TYPE	AREA (m²)	NUMBER	
A ANCHORAGE DRIVE	CONCRETE	0.32	1	
B VILLAGE GREEN DRIVE	CONCRETE	0.660	1	
C TIDAL STREET	CONCRETE	0.66	2	
D VILLAGE GREEN DRIVE	CONCRETE	0.660	1	
E TIDAL STREET	CONCRETE	0.92	3	
F VILLAGE GREEN DRIVE	CONCRETE	0.34	1	

WARNING
BEWARE OF UNDERGROUND SERVICES

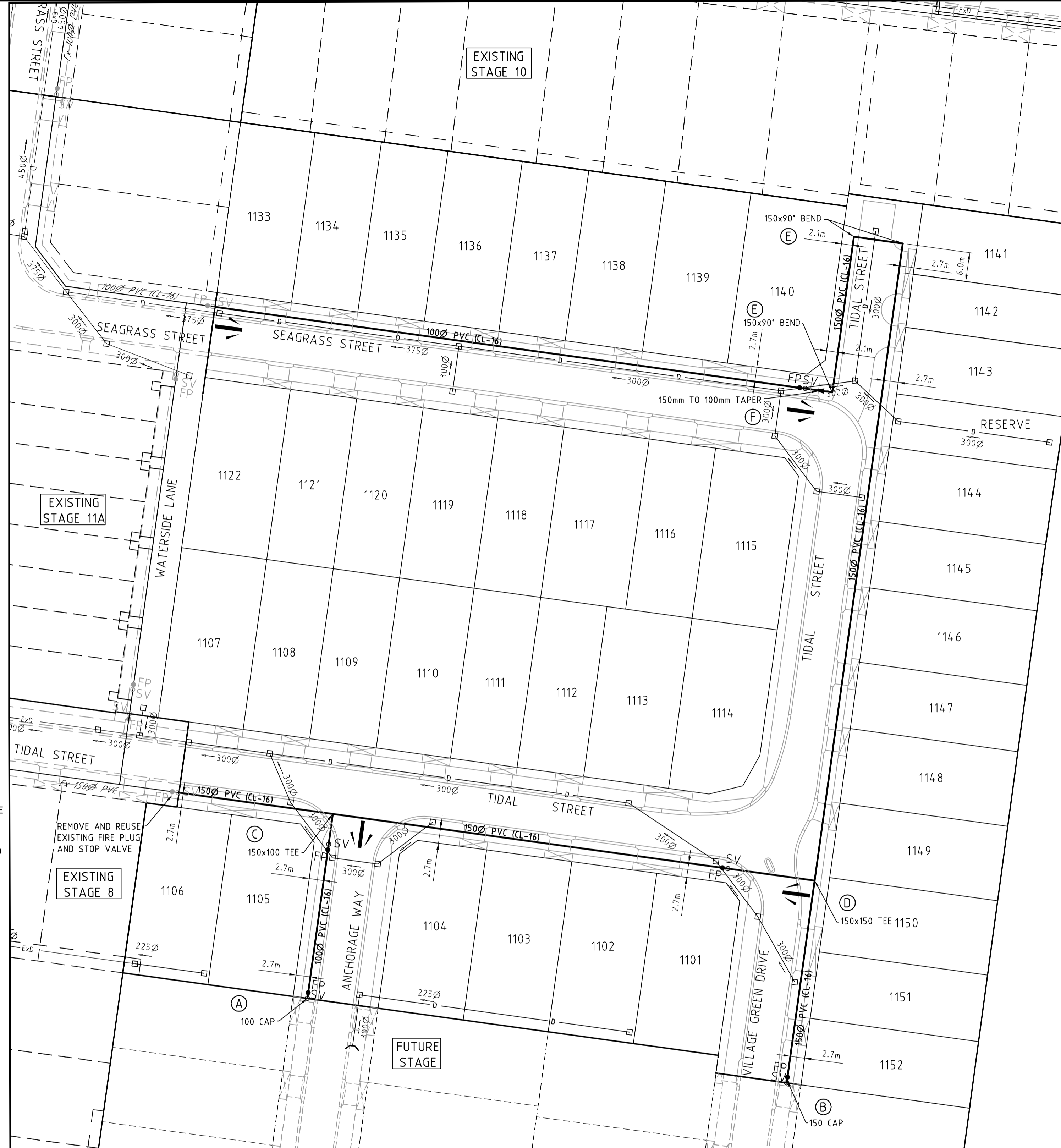
The locations of underground services are approximate only and their exact position should be proven on site. No guarantee is given that all existing services are shown. Locate all underground services before commencement of works

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ROAD NAME	GAS		WATER		ELECTRICITY		TELSTRA	
	SIDE	OFFSET (m)	SIDE	OFFSET (m)	SIDE	OFFSET (m)	SIDE	OFFSET (m)
SEAGRASS STREET	NORTH	2.10	NORTH	2.70	SOUTH	2.30	SOUTH	1.90
TIDAL STREET E-W	SOUTH	2.10	SOUTH	2.70	NORTH	2.30	NORTH	1.90
TIDAL STREET N-S	EAST	2.10	EAST	2.70	WEST	2.30	WEST	1.90
TIDAL STREET DRIVEWAY	EAST/WEST	2.10/1.50	EAST/WEST	2.70/2.10	WEST	1.00	WEST	0.30
ANCHORAGE WAY	WEST	2.10	WEST	2.70	EAST	2.30	EAST	1.90
VILLAGE GREEN DRIVE	EAST	2.10	EAST	2.70	WEST	2.30	WEST	1.90

WORKS SHALL NOT COMMENCE UNTIL PLANS ARE SIGNED BY BARWON WATER

ACCEPTED BY BARWON WATER DEVELOPMENT SERVICES CO-ORDINATOR DEVELOPMENT & CONSERVATION



DESIGN HEAD=105.3m AHD
TEST PRESSURE=1600kPa

- NOTES GENERAL**
1. SEWERS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE WATER SERVICES ASSOCIATION OF AUSTRALIA STANDARD CODES (WSA 02-2002 - WSA 03-2002) IN CONJUNCTION WITH BARWON WATER'S SUPPLEMENTS TO THE CODES.
 2. BARWON WATER AND THE PROJECT MANAGER TO BE NOTIFIED 7 CLEAR WORKING DAYS NOTICE PRIOR TO COMMENCEMENT OF WORKS.
 3. THE CONTRACTOR SHALL:
 - 3.A. COMPLY WITH SAFETY REQUIREMENTS OF THE MINES ACT, GENERAL REGULATIONS AND STATUTORY RULES, AND THE MINES (TRENCHES) REGULATIONS 1982.
 - 3.B. NOTIFY THE DEPARTMENT OF LABOUR OF HIS INTENTION TO COMMENCE TRENCHING OPERATIONS WHERE TRENCHES ARE 1.5 METRES OR DEEPER.
 - 3.C. INSURE THAT THE MINE MANAGER OR HIS DEPUTY AS REQUIRED BY THE REGULATIONS IS IN ATTENDANCE WHEN TRENCHING OPERATIONS ARE IN PROGRESS.
 4. THE CONTRACTOR SHALL MAKE ALL WORKS AVAILABLE FOR THE INSPECTOR/SURVEYOR TO CARRY OUT THE NECESSARY INSPECTIONS AND SURVEYING BEFORE BACKFILLING IS COMMENCED.
 5. SERVICES ARE APPROXIMATE ONLY. ALL RELEVANT SERVICE AUTHORITY'S ARE TO BE CONTACTED PRIOR TO THE COMMENCEMENT OF EXCAVATION TO ESTABLISH THEIR EXACT LOCATION.
 6. CONTACT PRIOR TO COMMENCEMENT OF WORKS: CITY OF GREATER GEELONG POWERCOR TELSTRA TRU VICTORIAN WORKCOVER AUTHORITY
 7. ALL SERVICES ARE TO BE LOCATED ON SITE PRIOR TO ANY EXCAVATION.
 8. INVERT LEVELS OF EXISTING SEWERS AND WATERMAINS TO BE CHECKED PRIOR TO THE COMMENCEMENT OF WORKS.
 9. CLASS 2 BACKFILL TO BE USED UNDER DRIVEWAYS FOR WATER AND SEWER RETICULATION.
 10. PROPERTY OWNERS ARE TO BE NOTIFIED IN WRITING BY THE CONSULTANT 14 CLEAR DAYS PRIOR TO COMMENCEMENT OF WORKS.
 11. COPY OF CADASTRAL MAP GRID (MG1) CONNECTION & COPY OF AUSTRALIAN HEIGHT DATUM (AHD) CONNECTION IS TO BE PROVIDED BY CONTRACTOR.
 12. WORKS SHALL BE EFFECTED BETWEEN THE HOURS OF 8.00am AND 5.00pm MONDAY - FRIDAY. IN THE EVENT THAT WORKS ARE TO BE EFFECTED OUTSIDE THESE WORKING HOURS, A LETTER REQUESTING APPROVAL FOR SUCH OUT OF HOURS WORK SHALL BE LODGED TO THE SENIOR QUALITY AUDITOR.
 13. THE CONTRACTOR SHALL COMPLY WITH SAFETY REQUIREMENTS RELATING TO WORKING NEAR POWER LINES AS SET BY THE CHIEF ELECTRICAL INSPECTOR WHERE NECESSARY AN ACCREDITED TRAINED SPOTTER IS TO BE PROVIDED.
 14. WATER RESTRICTIONS ARE TO APPLY FROM MIDNIGHT JUNE 30th 2006. IN ACCORDANCE WITH BY-LAW NO. 187. ONLY TRIGGER HOSES (MAXIMUM SIZE 25mm) MAY BE USED FOR CONSTRUCTION WORK NOT INCLUDING TRENCHING. UNLESS OTHERWISE EXEMPTED BY THE AUTHORITY IN WRITING. MECHANICAL COMPACTION IS TO BE USED IN ACCORDANCE WITH MRWA SPECIFICATION 04-03 FOR TRENCH WORKS UNTIL FURTHER NOTICE. ANY WATER USED TO FLUSH WATER MAINS IS TO BE RECLAIMED AND USED FOR CONSTRUCTION PURPOSES.

- WATER**
1. ENSURE WATERMAINS ARE GRADED TO SUFFICIENT DEPTH UNDER ROADWAYS TO OBTAIN REQUIRED CLEARANCE UNDER STORM WATER DRAINS AND PAVEMENT LEVELS.
 2. MARKER POSTS TO BE PLACED AT FIRE PLUGS. FIRE PLUG INDICATORS ARE TO BE IN ACCORDANCE WITH CFA & WSAA REQUIREMENTS.
 3. ALL ALLOTMENTS ARE TO BE PROVIDED WITH A WATER SERVICE AS PART OF WATER RETICULATION WORKS. THE WATER MAIN IS TO BE TAPPED USING A TAPPING SADDLE AND PRESSURE FERRULE (FERRULE TO BE LEFT OPEN). A MINIMUM SIZE SERVICE (IE. 20mm COPPER, 25mm PE) IS THEN TO BE EXTENDED TO A POINT 500mm WITHIN THE PROPERTY. THE SERVICE IS TO BE A CONTINUOUS LENGTH WITH NO JOINTS. IN THE CASE OF PE OR ANY OTHER NON-METALLIC SERVICE BEING INSTALLED, A COPPER TRACE WIRE IS TO BE INCORPORATED. A BURIED BALL VALVE IS TO BE PLACED AT THE END OF THE SERVICE AND BACKFILLED WITH SAND TO DESIGN SURFACE LEVEL. DETECTOR TAPE FROM BALL VALVE TO BE RUN TO SURFACE LEVEL.
 4. PE PIPE TO BE LAID IN ACCORDANCE WITH WSA-01 WITH LONG RADIUS BENDS OR DEFLECTION ONLY. NO COMPRESSION BENDS TO BE USED.
- AC PIPE NOTE**
- ANY WORK INVOLVING THE REMOVAL (CUTTING AND HANDLING), STORAGE, TRANSPORTATION AND DISPOSAL OF WASTE ASBESTOS CEMENT (AC) PIPES MUST BE CARRIED OUT IN ACCORDANCE WITH THE OCCUPATIONAL, HEALTH AND SAFETY (ASBESTOS) REGULATIONS 1992 AND RELEVANT CODES OF PRACTICE (REMOVAL). THE ENVIRONMENT PROTECTION (PRESCRIBED WASTE) REGULATIONS 1998 (STORAGE, TRANSPORTATION AND DISPOSAL), AND BARWON WATER'S SAFETY MANAGEMENT SYSTEM "SAFEAS".
6. FITZROY BOXES ARE TO BE PLACED OVER MONT TAP (MT) OR ANY TAPPING LOCATED WITHIN THE ROAD PAVEMENT.
 7. THRUST BLOCKS ARE TO BE CONSTRUCTED AS PER BARWON WATER STANDARD DRAWING No'S 70104, 70105 AND 70106
 8. SWABBING OF WATER MAINS IS TO BE DONE IN ACCORDANCE WITH SECTION 6.7 AND SECTION 18 OF WSAA WATER SUPPLY CODE OF AUSTRALIA WSA 03-2002 MRWA EDITION 1
 9. ALL WATER MAINS MUST BE HYDROSTATIC PRESSURE TESTED IN ACCORDANCE WITH SECTION 19.4 OF WSAA WATER SUPPLY CODE OF AUSTRALIA WSA 03-2002 MRWA EDITION 1.0. THE CONTRACTOR MUST BE GIVE BARWON WATER THREE WORKING DAYS NOTICE IN WRITING OF THE DATE AND TIME OF THE PROPOSED HYDROSTATIC PRESSURE TESTING TO ENSURE THAT BARWON WATER HAS THE OPPORTUNITY TO WITNESS THESE TESTS.

SPECIAL

1. TRENCH COMPACTION RESULTS TO BE SUBMITTED BY CONSULTANT WITH 'AS CONSTRUCTED' NOTES.

REVISION	DATE	DESIGN	APP'D
D TELSTRA OFFSETS AMENDED	04.09.12	CB/CB	JG
C SERVICES TABLE UPDATED TO SUIT TIDAL STREET DRIVEWAY	03.07.12	CB/CB	JG
B BARWON WATER AMENDMENTS	05.06.12	CB/CB	JG
A ISSUED TO BARWON WATER FOR APPROVAL	11.04.12	CB/CB	JG



Principal
Leopold Property Developments Pty Ltd
Level 1, 6 Riverside Quay
Southbank, Victoria 3006

- Construction Notes**
1. Construction of the sewer and water mains is to be in accordance with the Barwon Water standard specifications "Construction of gravity sewers and rising mains" and "Construction of water mains".
 2. Every endeavour to ensure the location of all existing services on the plan are correct. However actual locations are to be checked on site prior to commencement of excavations.
 3. Nominal size of water mains indicated in millimetres & offsets are indicated in metres.
 4. All sewer pipes are 1500mm unless otherwise shown.

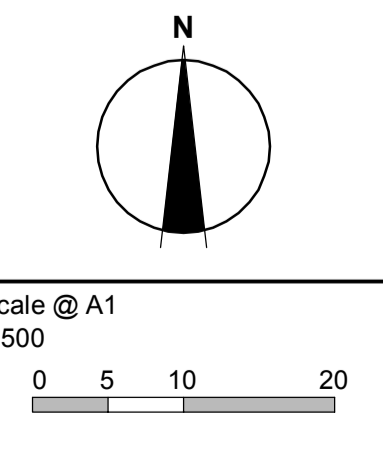
Designed
C. Barker

Drawn
C. Barker

Checked
C. Birckett

Authorised
J. Golden

Date
January 2012



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Barwon Region Water Authority
Barwon Water No. L007791
Estuary
Stage 11B
Water Detail Plan

Drawing No. 0250EHL-11B-61 Rev D
Sheet No. 1 of 1

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