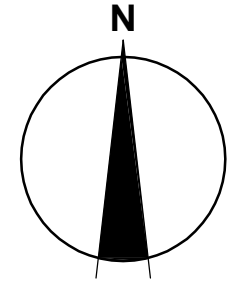


# Estuary

## Stage 8

### City of Greater Geelong



**LOCALITY PLAN**  
MELWAYS REF: 468 D6



### Principal

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

#### Drawing Index

- 0250EHL-08- 01 Cover Plan
- 0250EHL-08- 02 General Notes
- 0250EHL-08- 03 Layout Plan - 1
- 0250EHL-08- 04 Layout Plan - 2
- 0250EHL-08- 05 Services Layout Plan - 1
- 0250EHL-08- 06 Services Layout Plan - 2
- 0250EHL-08- 07 Intersection Detail Plan
- 0250EHL-08- 08 Lip Profiles - 1
- 0250EHL-08- 09 NOT USED
- 0250EHL-08- 10 Setout Information
- 0250EHL-08- 11 Longitudinal Sections -1
- 0250EHL-08- 12 Longitudinal Sections -2
- 0250EHL-08- 13 Longitudinal Sections -3
- 0250EHL-08- 14 Cross Sections - Lemondra Street - 1
- 0250EHL-08- 15 Cross Sections - Lemondra Street - 2
- 0250EHL-06- 16 Cross Sections - Citrina Street
- 0250EHL-08- 17 Cross Sections - Wolla Street - 1
- 0250EHL-08- 18 Cross Sections - Wolla Street - 2
- 0250EHL-08- 19 Cross Sections - Bolivina Street
- 0250EHL-08- 20 Cross Sections - Dandelion Street - 1
- 0250EHL-08- 21 Cross Sections - Dandelion Street - 2
- 0250EHL-08- 22 Cross Sections - Dandelion Street - 3
- 0250EHL-08- 23 Drainage Longitudinal Sections - 1
- 0250EHL-08- 24 Drainage Longitudinal Sections - 2
- 0250EHL-08- 25 Drainage Longitudinal Sections - 3
- 0250EHL-08- 26 Pit Schedule
- 0250EHL-08- 27 Details
- 0250EHL-08- 28 Subdivision Setout Plan - 1
- 0250EHL-08- 29 Subdivision Setout Plan - 2



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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 45o 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 pavement, edgings/kerb sections & Nature Strips** - 20mm Class 3 Fine Crushed Rock or other material as approved by Council.
- 11.2 **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 install 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

**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.

Designed  
C. Barker  
Drawn  
C. Barker  
Checked  
C. Birkett  
Authorised  
J. Golden  
Date  
March 2011

Scale @ A1  
As Shown

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**Estuary**

Stage 8  
City of Greater Geelong  
Roadworks and Drainage  
General Notes

**Drawing No. 0250EHL-08-02 Rev C**  
Sheet No. 2 of 29

Approved for Construction

REVISION	DATE	DES/DFT	APPD
C	19.05.11	CB/CB	JG
B	14.04.11	CB/CB	JG
A	18.03.11	CB/CB	JG

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





**LEGEND - LAYOUT PLAN**

- SWORMWATER DRAIN, PIT & PROPERTY INLET
- SWALE DRAIN
- HOUSE DRAIN
- SEWER & MAINTENANCE STRUCTURES
- 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
- 14.1.34 EXISTING SURFACE LEVEL
- FS14.0.35 FINISHED BUILDING LINE LEVEL
- FR157.40 FINISHED RIDGE LINE LEVEL
- TW159.30 TOP OF RETAINING WALL
- BW159.30 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

**WARNING**  
**BEWARE OF UNDERGROUND SERVICES**  
 The locations of underground services are approximate only and their exact position should be proven on site.  
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 Locate all underground services before commencement of works  
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J	LOT 811 DRIVE WAY AMENDED	31.01.12	CB/CB	JG
H	VEHICLE CROSSINGS AMENDED FOR LOTS 837 & 829	14.12.11	CB/CB	JG
G	ROAD NAMES AMENDED	03.11.11	CB/CB	JG
F	LAYOUT AMENDED	29.07.11	CB/CB	JG
E	DRIVE LOCATION FOR LOT 830 AMENDED	04.06.11	CB/CB	JG
D	MINOR AMENDMENTS	24.05.11	CB/CB	JG
C	ISSUED FOR APPROVAL	19.05.11	CB/CB	JG
B	COUNCIL AMENDMENTS	14.04.11	CB/CB	JG
A	ISSUED TO COUNCIL FOR APPROVAL	18.03.11	CB/CB	JG
REVISION	DATE	DES/DT	APPD	

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

Designed  
C. Barker

Drawn  
C. Barker

Checked  
C. Birckett

Authorised  
J. Golden

Date  
March 2011

Scale @ A1  
1:500

0 5 10 20

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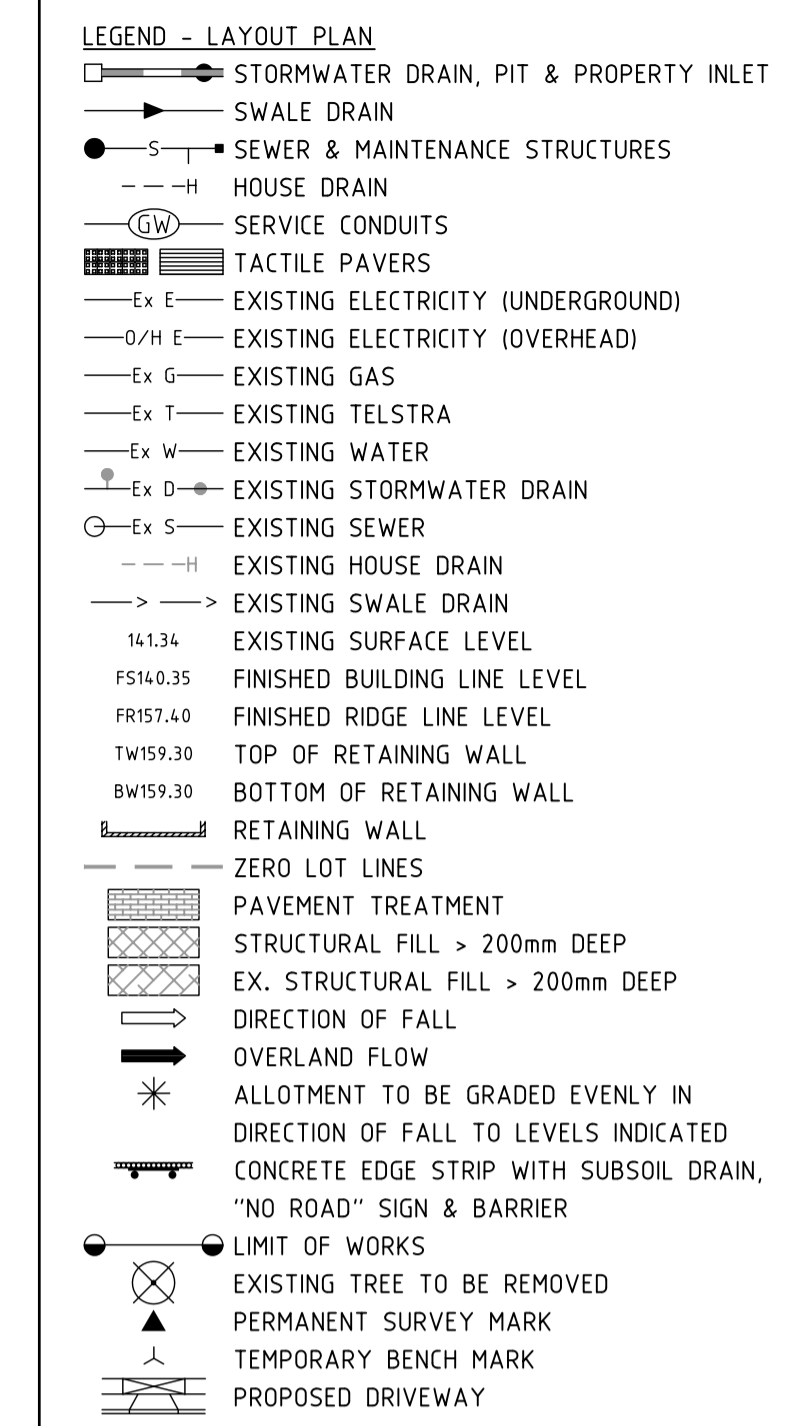
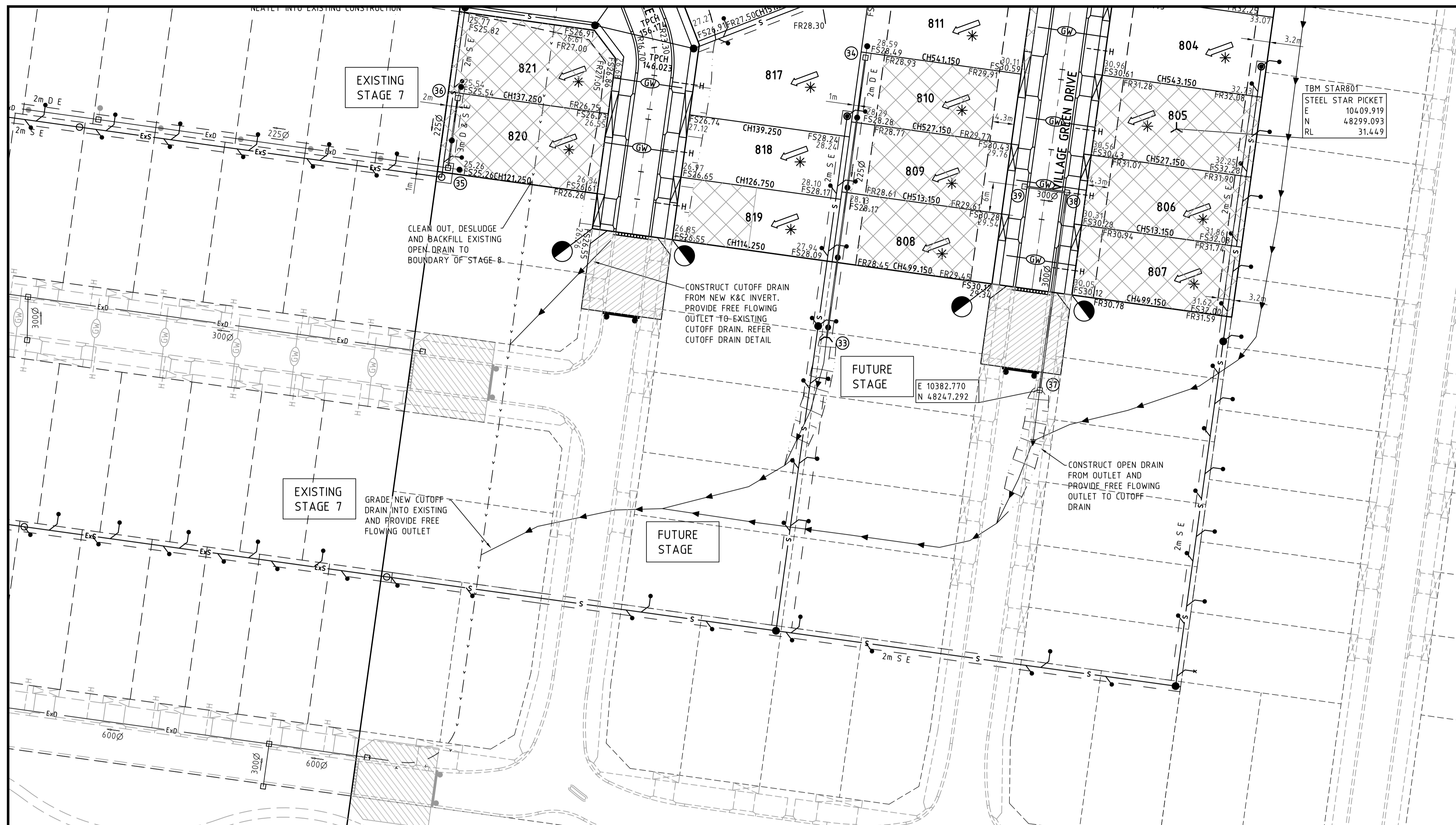
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 Canberra +61 2 6126 1900 Traralgon +61 3 5173 0100

**Estuary**  
 Stage 8  
 City of Greater Geelong  
 Roadworks and Drainage  
 Layout Plan - 1

**Drawing No. 0250EHL-08-03**      **Rev J**  
 Sheet No. 3 of 29

**Approved for Construction**



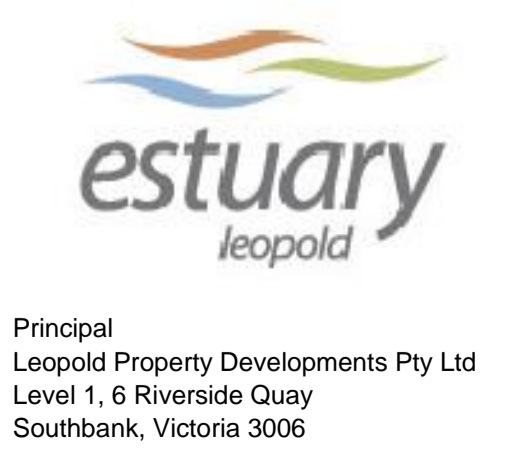


ROAD NAME	RESERVE WIDTH (m)	ROAD WIDTH (m)			KERB TYPE		VERGE WIDTH (m)	
		LIP to LIP	INV to INV	BACK to BACK	NTH/WEST	STH/EAST	NTH/WEST	STH/EAST
EVERGLADE STREET	16.00	6.60	7.20	7.50	B2	B2	4.25	4.25
PARKFRONT DRIVE	16.00	6.60	7.20	7.50	B2	B2	4.25	4.25
TIDAL STREET	16.00	6.60	7.20	7.50	B2	B2	4.25	4.25
VILLAGE GREEN DRIVE LOTS 831-848	14.00	6.60	7.20	7.50	B2	B2	4.25	2.25
VILLAGE GREEN DRIVE LOTS 810-814	16.00	6.60	7.20	7.50	B2	B2	4.25	4.25
TREEFERN STREET	16.00	6.60	7.20	7.50	B2	B2	4.25	4.25

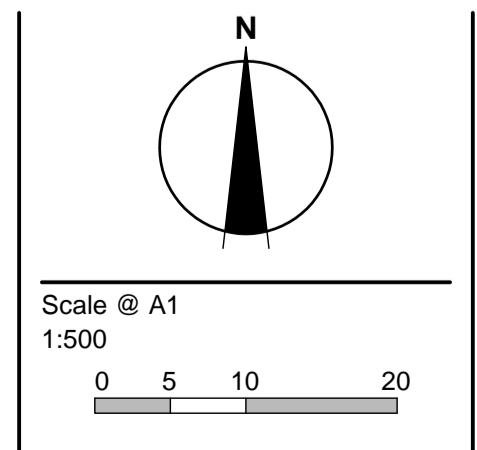
ROAD NAME	SERVICES OFFSET SCHEDULE							
	GAS		WATER		ELECTRICITY		TELSTRA	
	SIDE	OFFSET (m)	SIDE	OFFSET (m)	SIDE	OFFSET (m)	SIDE	OFFSET (m)
EVERGREEN STREET	NORTH	2.10	NORTH	2.70	SOUTH	2.30	SOUTH	1.70
PARKFRONT DRIVE	NORTH	2.10	NORTH	2.70	SOUTH	2.30	SOUTH	1.70
TIDAL STREET	SOUTH	2.10	SOUTH	2.70	NORTH	2.30	NORTH	1.70
VILLAGE GREEN DRIVE LOTS 806-811	WEST	2.10	WEST	2.70	EAST	1.00	EAST	0.50
VILLAGE GREEN DRIVE LOTS 836-840	WEST	2.10	WEST	2.70	EAST	2.30	EAST	1.70
TREEFERN STREET	EAST	2.10	WEST	2.70	EAST	2.30	EAST	1.70

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REVISION	DATE	DESIGN	APPD
G	19.01.12	CB/CB	JG
F	03.11.11	CB/CB	JG
E	29.07.11	CB/CB	JG
D	27.05.11	CB/CB	JG
C	19.05.11	CB/CB	JG
B	14.04.11	CB/CB	JG
A	18.03.11	CB/CB	JG



Designed  
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C. Barker  
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C. Birckett  
Authorised  
J. Golden  
Date  
March 2011



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**Estuary**  
Stage 8  
City of Greater Geelong  
Roadworks and Drainage  
Layout Plan - 2

**Drawing No. 0250EHL-08-04** **Rev G**  
Sheet No. 4 of 29

**Approved for Construction**

**WARNING**  
**BEWARE OF UNDERGROUND SERVICES**  
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Locate all underground services before commencement of works  
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**LEGEND - FUNCTIONAL LAYOUT PLAN**

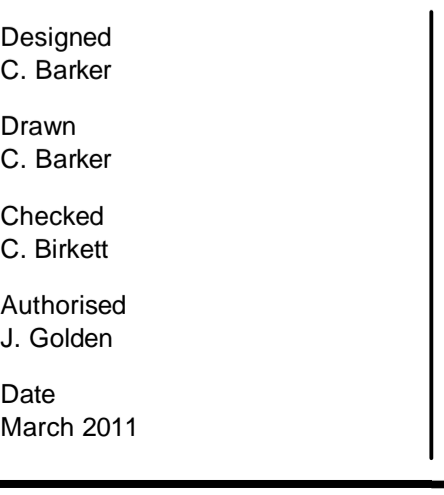
- E ELECTRICITY (UNDERGROUND)
- G GAS
- T TELSTRA
- W WATER
- STORMWATER DRAIN, PIT & PROPERTY INLET
- SWALE DRAIN
- SEWER & MAINTENANCE STRUCTURES
- H HOUSE DRAIN
- GW SERVICE CONDUITS
- ▨ TACTILE PAVERS
- Ex E EXISTING ELECTRICITY (UNDERGROUND)
- Ex H EXISTING ELECTRICITY (OVERHEAD)
- Ex G EXISTING GAS
- Ex T EXISTING TELSTRA
- Ex W EXISTING WATER
- Ex D EXISTING STORMWATER DRAIN
- Ex S EXISTING SEWER
- EX EXISTING HOUSE DRAIN
- EX EXISTING SWALE DRAIN
- EX EXISTING 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

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REVISION	DATE	DES/DFT	APP'D
F ROAD NAMES AMENDED SERVICES TO WATERSIDE LANE	03.11.11	CB/CB	JG
E LAYOUT AMENDED	29.07.11	CB/CB	JG
D WALUKARA SERVICES AMENDED	27.05.11	CB/CB	JG
C ISSUED FOR APPROVAL	19.05.11	CB/CB	JG
B COUNCIL AMENDMENTS	14.04.11	CB/CB	JG
A ISSUED TO COUNCIL FOR APPROVAL	18.03.11	CB/CB	JG

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

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 Drawn  
 C. Barker  
 Checked  
 C. Birckett  
 Authorised  
 J. Golden  
 Date  
 March 2011



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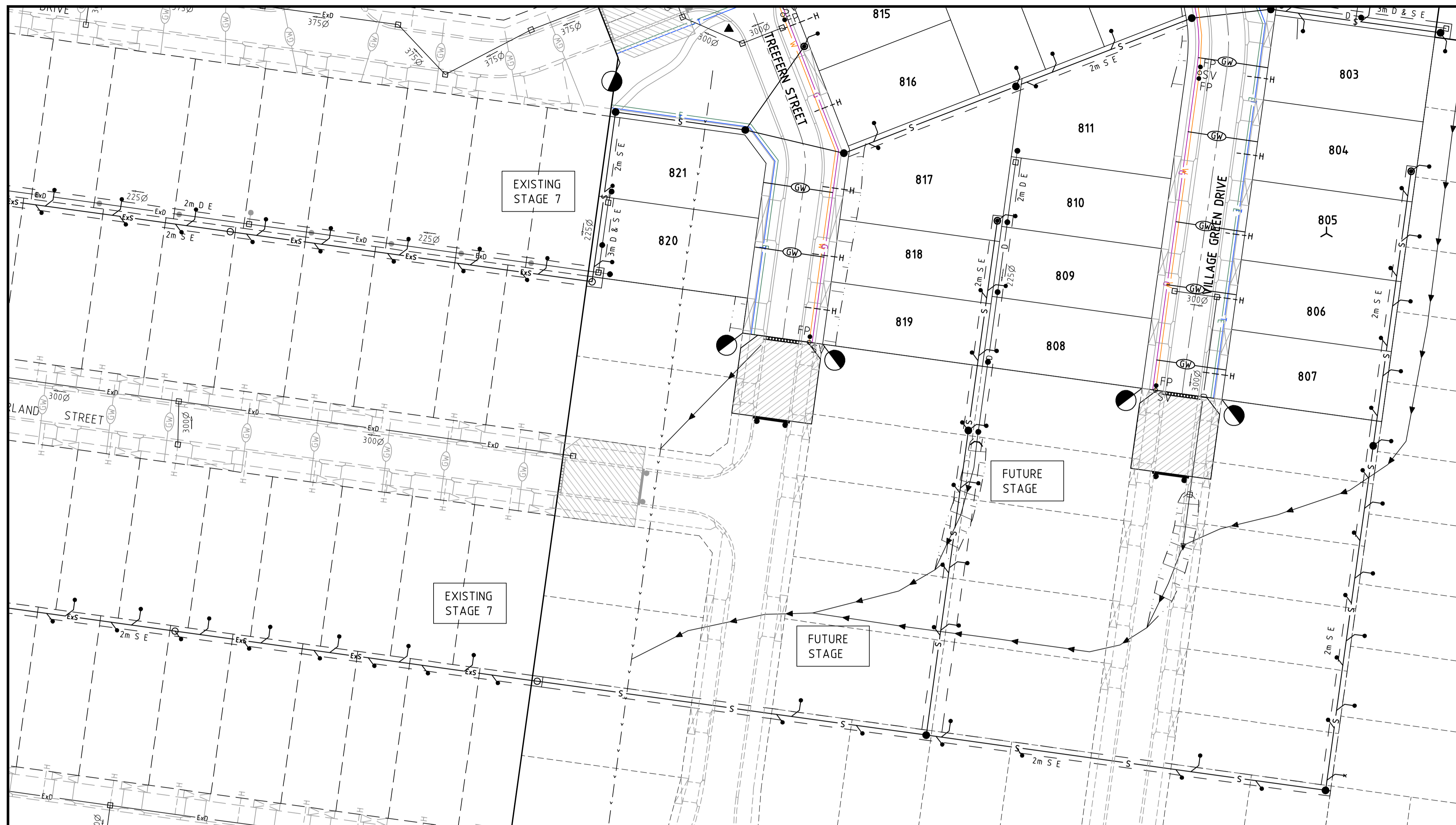
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 Canberra +61 2 6126 1900 Traralgon +61 3 5173 0100

**Estuary**  
 Stage 8  
 City of Greater Geelong  
 Roadworks and Drainage  
 Services Layout Plan - 1

**Drawing No. 0250EHL-08-05** **Rev F**  
 Sheet No. 5 of 29

**Approved for Construction**





**LEGEND - LAYOUT PLAN**

- STORMWATER DRAIN, PIT & PROPERTY INLET
- SWALE DRAIN
- SEWER & MAINTENANCE STRUCTURES
- HOUSE DRAIN
- SERVICE CONDUITS
- ▨ TACTILE PAVERS
- Ex E — EXISTING ELECTRICITY (UNDERGROUND)
- O/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
- H — EXISTING HOUSE DRAIN
- SW — EXISTING SWALE DRAIN
- 14.1.34 — 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
- ▨ 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

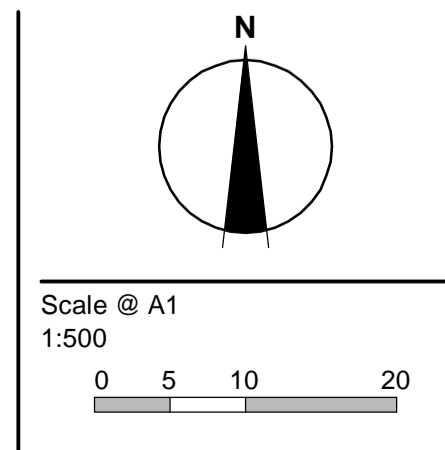
**WARNING**  
**BEWARE OF UNDERGROUND SERVICES**  
 The locations of underground services are approximate only and their exact position should be proven on site. No guarantee is given that all existing services are shown. Locate all underground services before commencement of works  
**DIAL 1100 BEFORE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

ROAD NAME	GAS		WATER		ELECTRICITY		TELSTRA	
	SIDE	OFFSET (m)	SIDE	OFFSET (m)	SIDE	OFFSET (m)	SIDE	OFFSET (m)
EVERGREEN STREET	NORTH	2.10	NORTH	2.70	SOUTH	2.30	SOUTH	1.70
PARKFRONT DRIVE	NORTH	2.10	NORTH	2.70	SOUTH	2.30	SOUTH	1.70
TIDAL STREET	SOUTH	2.10	SOUTH	2.70	NORTH	2.30	NORTH	1.70
VILLAGE GREEN DRIVE LOTS 806-811	WEST	2.10	WEST	2.70	EAST	1.00	EAST	0.50
VILLAGE GREEN DRIVE LOTS 836-840	WEST	2.10	WEST	2.70	EAST	2.30	EAST	1.70
TREEFERN STREET	EAST	2.10	WEST	2.70	EAST	2.30	EAST	1.70

REVISION	DATE	DES/DFT	APP'D
F ROAD NAMES AMENDED	03.11.11	CB/CB	JG
E LAYOUT AMENDED	29.07.11	CB/CB	JG
D WALUKARA SERVICES AMENDED	27.05.11	CB/CB	JG
C ISSUED FOR APPROVAL	19.05.11	CB/CB	JG
B COUNCIL AMENDMENTS	14.04.11	CB/CB	JG
A ISSUED TO COUNCIL FOR APPROVAL	18.03.11	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  
March 2011



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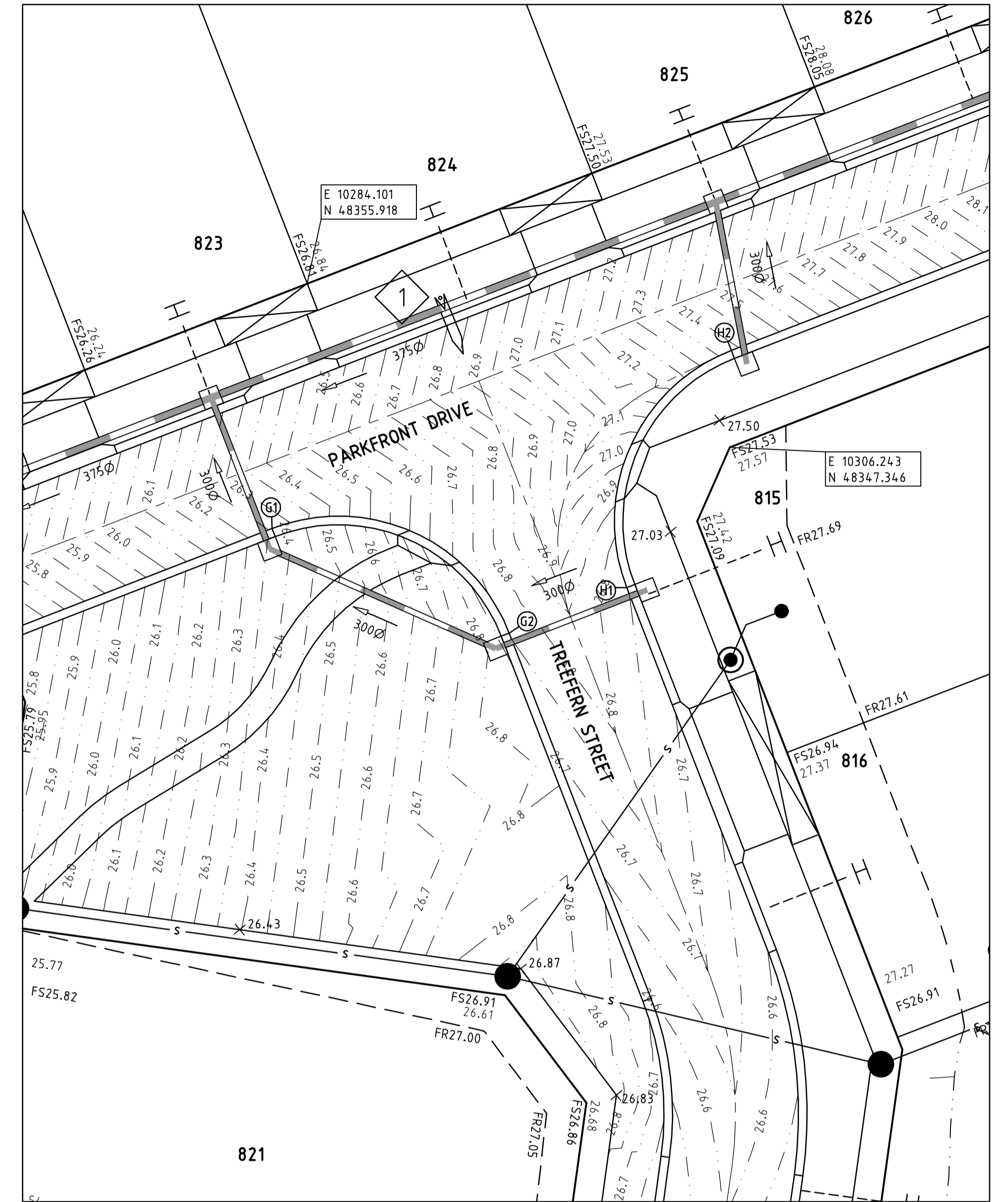
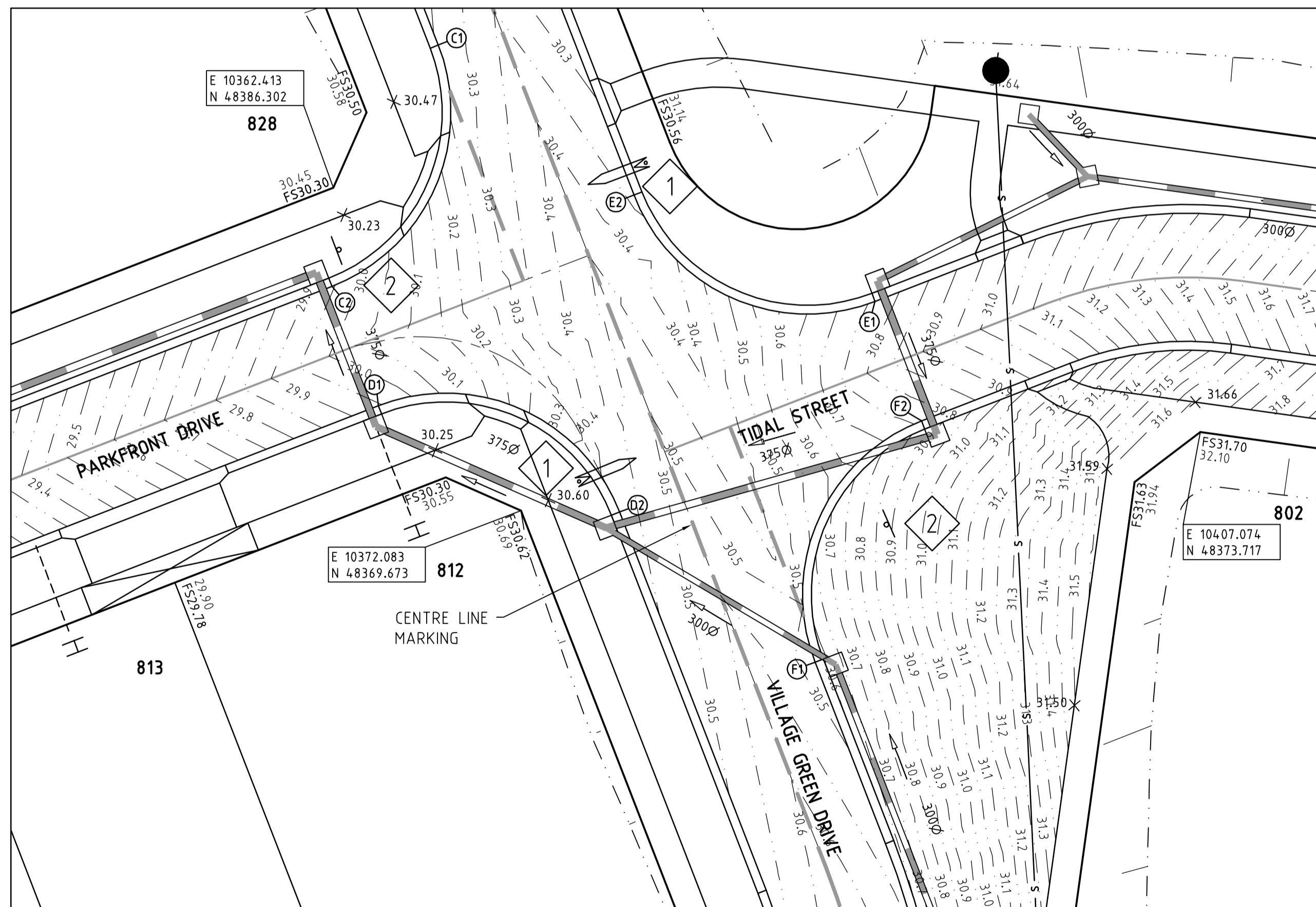
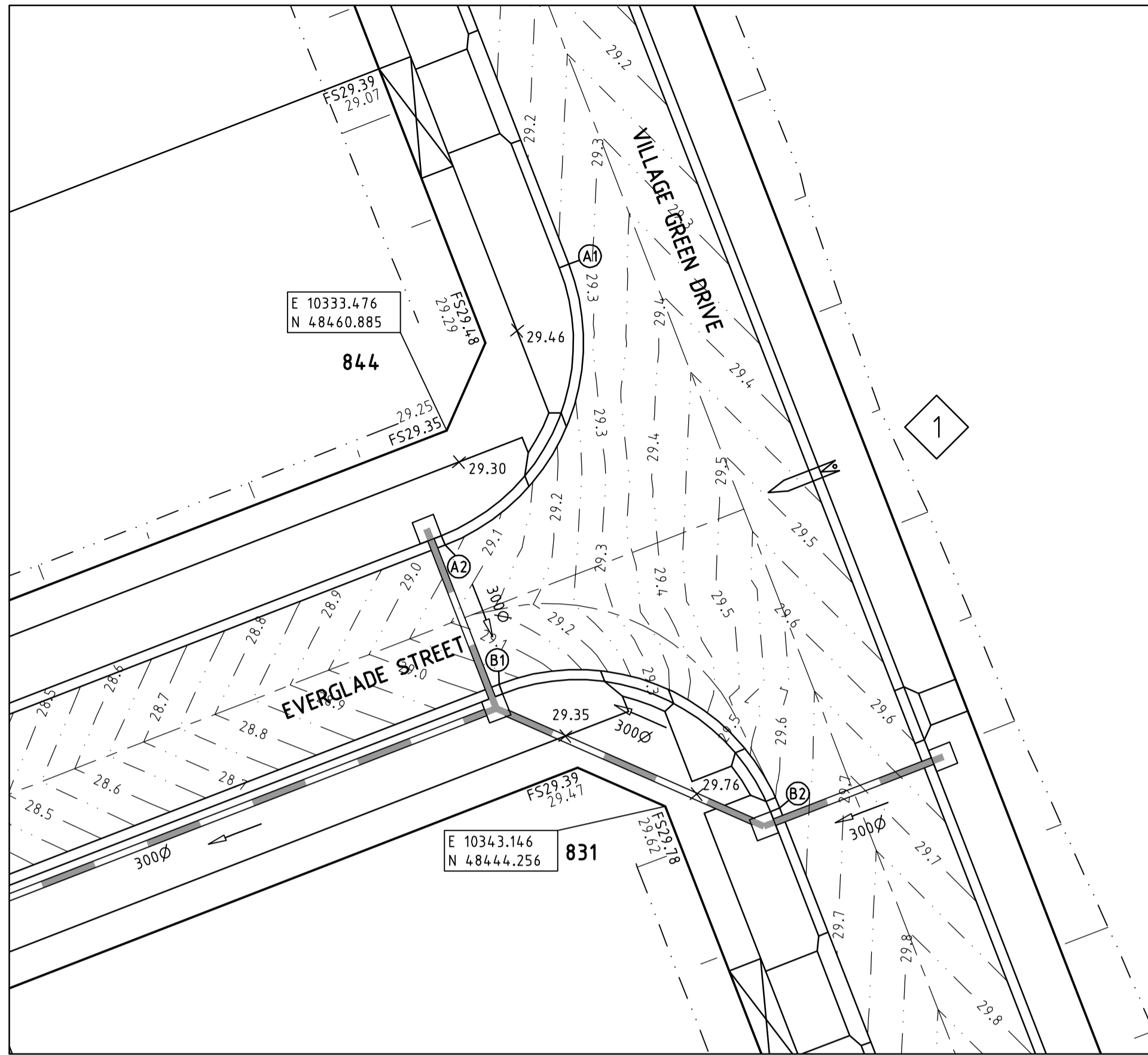
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**Estuary**  
 Stage 8  
 City of Greater Geelong  
 Roadworks and Drainage  
 Services Layout Plan - 2

**Drawing No. 0250EHL-08-06** **Rev F**  
 Sheet No. 6 of 29

**Approved for Construction**





**SIGN SCHEDULE**

SIGN	REF
	1
STREET SIGN	
	2
R1-2	

**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

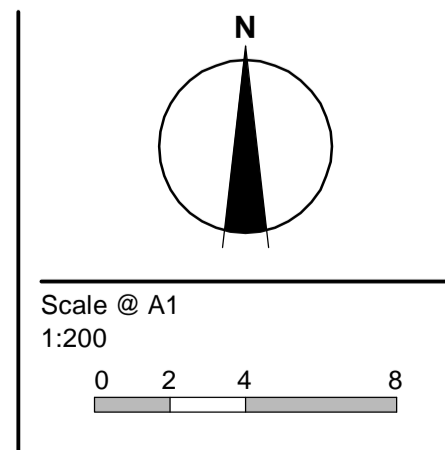
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 Locate all underground services before commencement of works  
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**NOTES**  
 1. REFER TO SHEET No's 8 - 9 FOR LIP PROFILES.  
 2. REFER TO SHEET No 10 FOR SETOUT INFORMATION.

REVISION	DATE	DES/DT	APP'D
A	18.03.11	CB/CB	JG
B	14.04.11	CB/CB	JG
C	19.05.11	CB/CB	JG
D	24.05.11	CB/CB	JG
E	29.07.11	CB/CB	JG
F	03.11.11	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  
 March 2011



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**Estuary**  
 Stage 8  
 City of Greater Geelong  
 Roadworks and Drainage  
 Intersection Detail Plan

Drawing No. **0250EHL-08-07** Rev **F**  
 Sheet No. 7 of 29

Approved for Construction







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

NOT USED

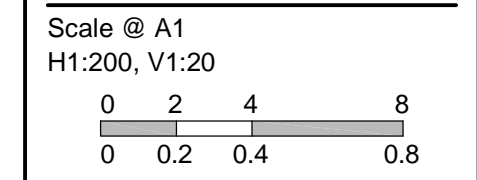
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REVISION	DATE	DES/DFT	APPD
D	29.07.11	CB/CB	JG
C	19.05.11	CB/CB	JG
B	14.04.11	CB/CB	JG
A	18.03.11	CB/CB	JG



Principal  
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Level 1, 6 Riverside Quay  
Southbank, Victoria 3006

Designed  
C. Barker  
Drawn  
C. Barker  
Checked  
C. Birkett  
Authorised  
J. Golden  
Date  
March 2011



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**Estuary**  
Stage 8  
City of Greater Geelong  
Roadworks and Drainage  
Lip Profiles - 2

**Drawing No. 0250EHL-08-09**      **Rev D**

Sheet No. 9 of 29

Approved for Construction



ALIGNMENT A

Table with columns: POINT NO, EASTING, NORTHING, RL, CURVE NO, I, RADIUS, ARC, A, B, X, Y, L, MID POINT, RL. Rows include points A1, A2 and curve A1-A2.

ALIGNMENT B

Table with columns: POINT NO, EASTING, NORTHING, RL, CURVE NO, I, RADIUS, ARC, A, B, X, Y, L, MID POINT, RL. Rows include points B1, B2 and curve B1-B2.

ALIGNMENT C

Table with columns: POINT NO, EASTING, NORTHING, RL, CURVE NO, I, RADIUS, ARC, A, B, X, Y, L, MID POINT, RL. Rows include points C1, C2 and curve C1-C2.

ALIGNMENT D

Table with columns: POINT NO, EASTING, NORTHING, RL, CURVE NO, I, RADIUS, ARC, A, B, X, Y, L, MID POINT, RL. Rows include points D1, D2 and curve D1-D2.

ALIGNMENT E

Table with columns: POINT NO, EASTING, NORTHING, RL, CURVE NO, I, RADIUS, ARC, A, B, X, Y, L, MID POINT, RL. Rows include points E1, E2 and curve E1-E2.

ALIGNMENT F

Table with columns: POINT NO, EASTING, NORTHING, RL, CURVE NO, I, RADIUS, ARC, A, B, X, Y, L, MID POINT, RL. Rows include points F1, F2 and curve F1-F2.

ALIGNMENT G

Table with columns: POINT NO, EASTING, NORTHING, RL, CURVE NO, I, RADIUS, ARC, A, B, X, Y, L, MID POINT, RL. Rows include points G1, G2 and curve G1-G2.

ALIGNMENT H

Table with columns: POINT NO, EASTING, NORTHING, RL, CURVE NO, I, RADIUS, ARC, A, B, X, Y, L, MID POINT, RL. Rows include points H1, H2 and curve H1-H2.

TREEFERN STREET DESIGN LINE

Table with columns: CHAINAGE, EASTING, NORTHING, BEARING. Rows include points 114.250 to 189.599 and intersection points IP 1, IP 2, IP 3, IP 4, IP 5.

Table with columns: RADIUS, LENGTH, INTERSECT ANGLE. Values: RADIUS = -40.0000, LENGTH = 20.3032, INTERSECT ANGLE = 29°04'56"

Table with columns: START TANGENT, END TANGENT. Values for COORDINATE, LENGTH, CHAINAGE, BEARING.

PARKFRONT DRIVE DESIGN LINE

Table with columns: CHAINAGE, EASTING, NORTHING, BEARING. Rows include points 164.369 to 189.5989 and intersection points IP 1, IP 2, IP 4, IP 5.

PARKFRONT DRIVE DESIGN LINE

Table with columns: CHAINAGE, EASTING, NORTHING, BEARING. Rows include points 164.369 to 160.0000 and intersection points IP 1, IP 2.

TIDAL STREET DESIGN LINE

Table with columns: CHAINAGE, EASTING, NORTHING, BEARING. Rows include points 0.000 to 64.830 and intersection points IP 1, IP 2, IP 3, IP 4, IP 5.

EVERGLADE STREET DESIGN LINE

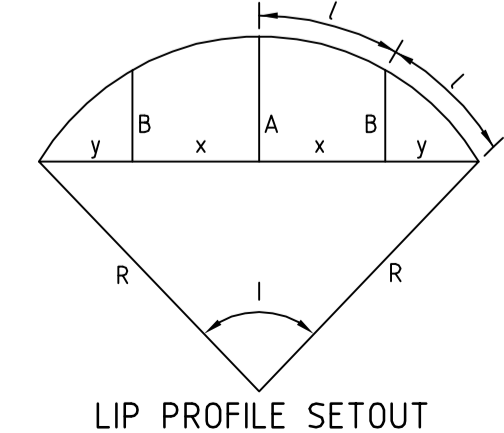
Table with columns: CHAINAGE, EASTING, NORTHING, BEARING. Rows include points 40.000 to 160.0000 and intersection points IP 1, IP 2.

NOTES
1. SETOUT CO-ORDINATES REFER TO LIP OF KERB/EDGE OF CONCRETE.
2. REFER TO SHEET No's 8 - 9 FOR LIP PROFILES.

Table with columns: REVISION, DATE, DES/DT, APP/D. Rows include ROAD NAMES AMENDED, RETURNS I & J REMOVED, ISSUED FOR APPROVAL, COUNCIL AMENDMENTS, 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 March 2011

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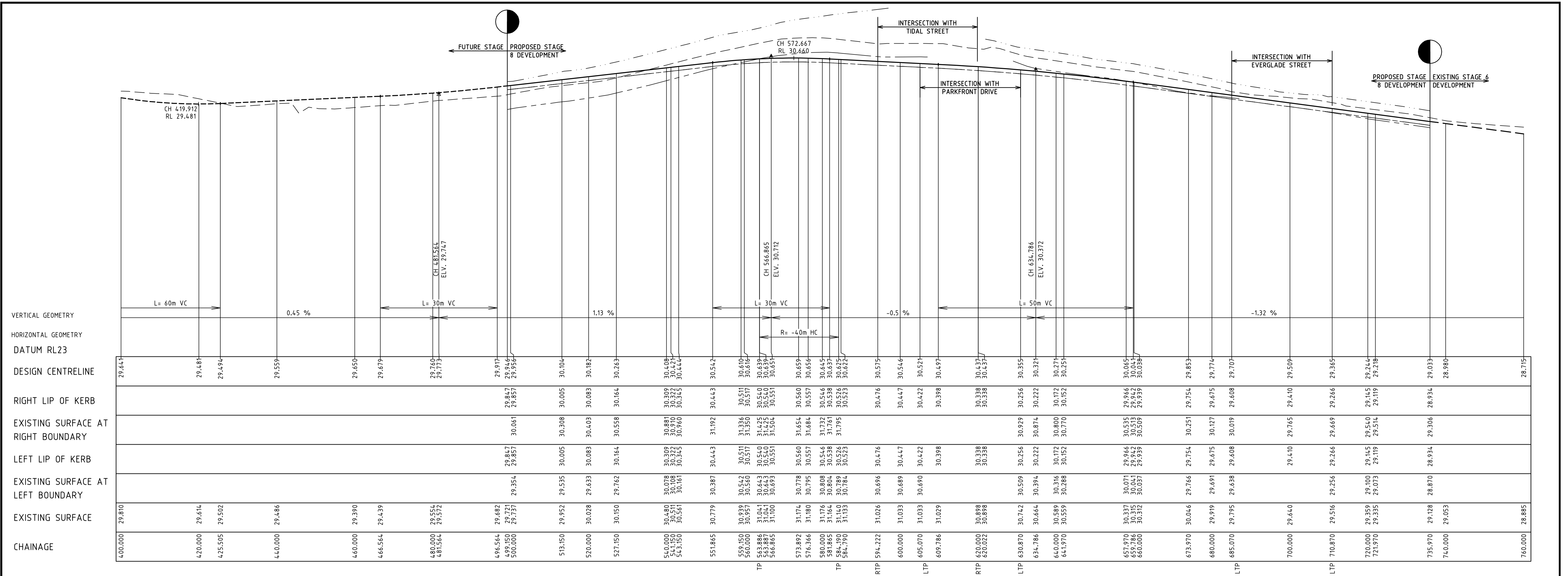
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Estuary
Stage 8
City of Greater Geelong
Roadworks and Drainage
Setout Information

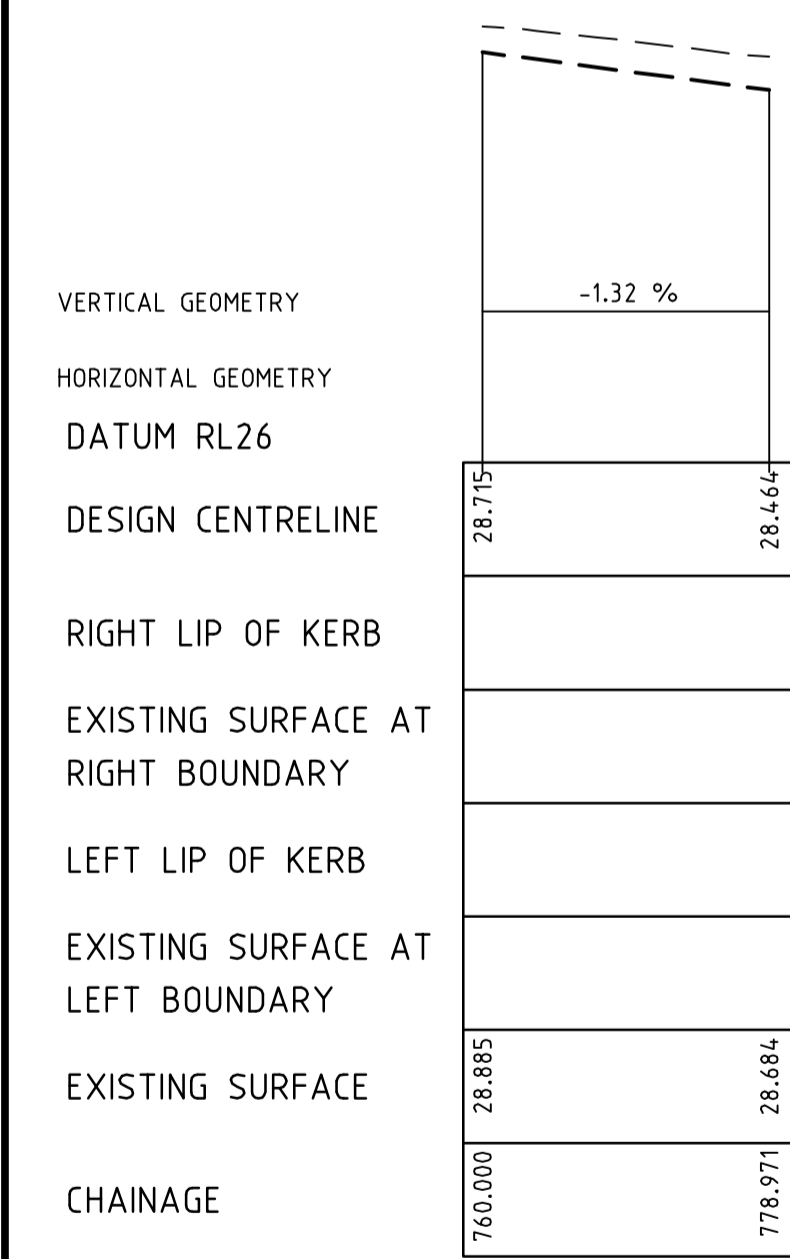
Drawing No. 0250EHL-08-10 Rev E
Sheet No. 10 of 29

Approved for Construction





VILLAGE GREEN DRIVE LONGITUDINAL SECTION



VILLAGE GREEN DRIVE LONGITUDINAL SECTION

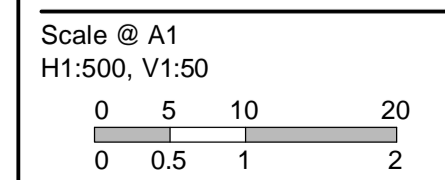
LEGEND	
—	EXISTING SURFACE
—	DESIGN LINE
---	FUTURE DESIGN LINE
---	RIGHT BUILDING LINE
---	LEFT BUILDING LINE
---	RIGHT LIP OF KERB
---	LEFT LIP OF KERB

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REVISION	DATE	DES/DT	APP'D
D ROAD NAMES AMENDED	03.11.11	CB/CB	JG
C ISSUED FOR APPROVAL	19.05.11	CB/CB	JG
B COUNCIL AMENDMENTS	14.04.11	CB/CB	JG
A ISSUED TO COUNCIL FOR APPROVAL	18.03.11	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. Birckett  
Authorised  
J. Golden  
Date  
March 2011



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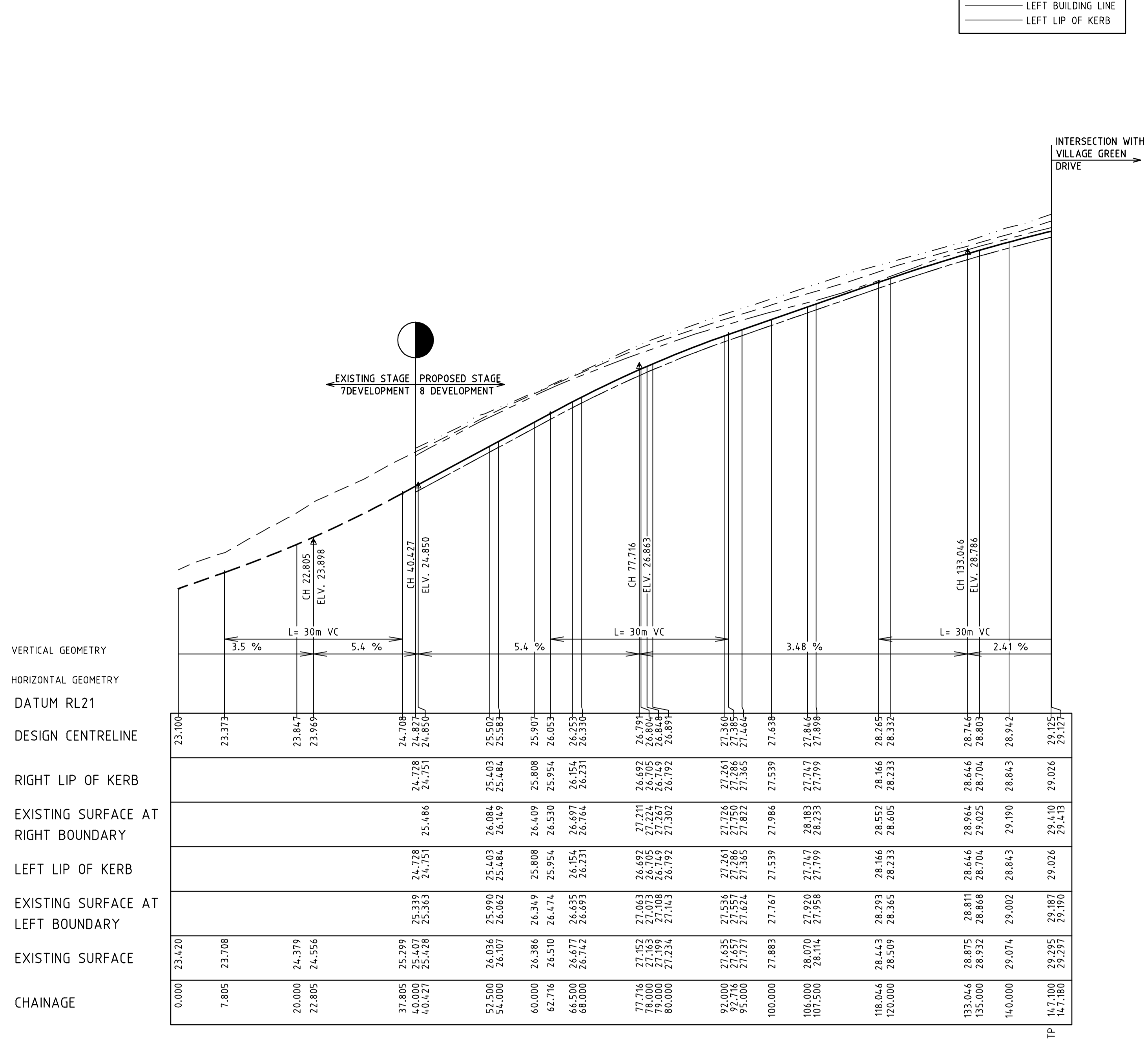
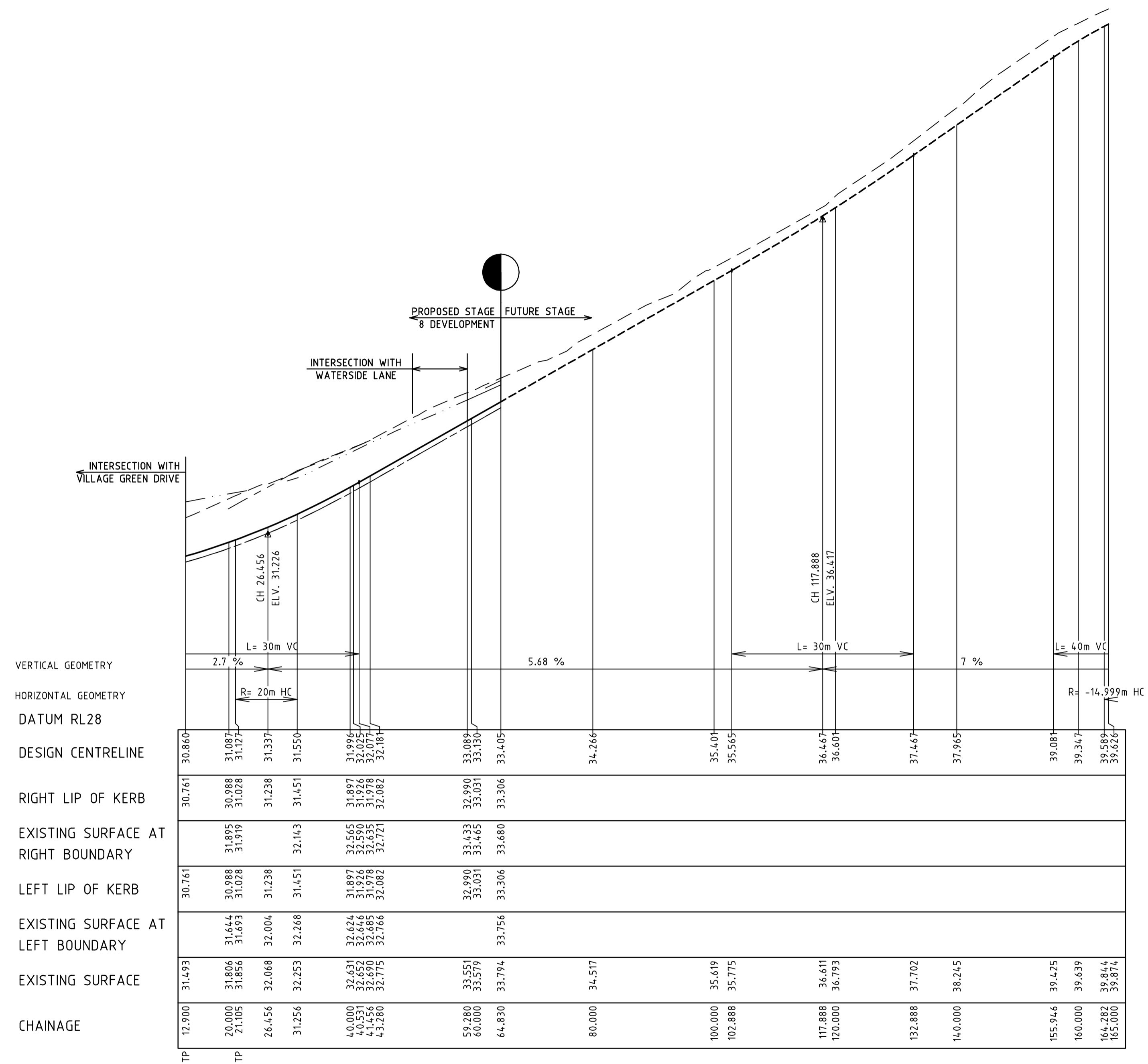
**Estuary**  
Stage 8  
City of Greater Geelong  
Roadworks and Drainage  
Longitudinal Sections -1

Drawing No. **0250EHL-08-11** Rev **D**  
Sheet No. 11 of 29

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



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REVISION	DATE	DES/IFT	APP'D
A	18.03.11	CB/CB	JG
B	14.04.11	CB/CB	JG
C	19.05.11	CB/CB	JG
D	29.07.11	CB/CB	JG
E	03.11.11	CB/CB	JG

Principal  
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Level 1, 6 Riverside Quay  
Southbank, Victoria 3006

Designed  
C. Barker

Drawn  
C. Barker

Checked  
C. Birkett

Authorised  
J. Golden

Date  
March 2011

Scale @ A1  
H1:500, V1:50

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**Estuary**  
Stage 8  
City of Greater Geelong  
Roadworks and Drainage  
Longitudinal Sections -2

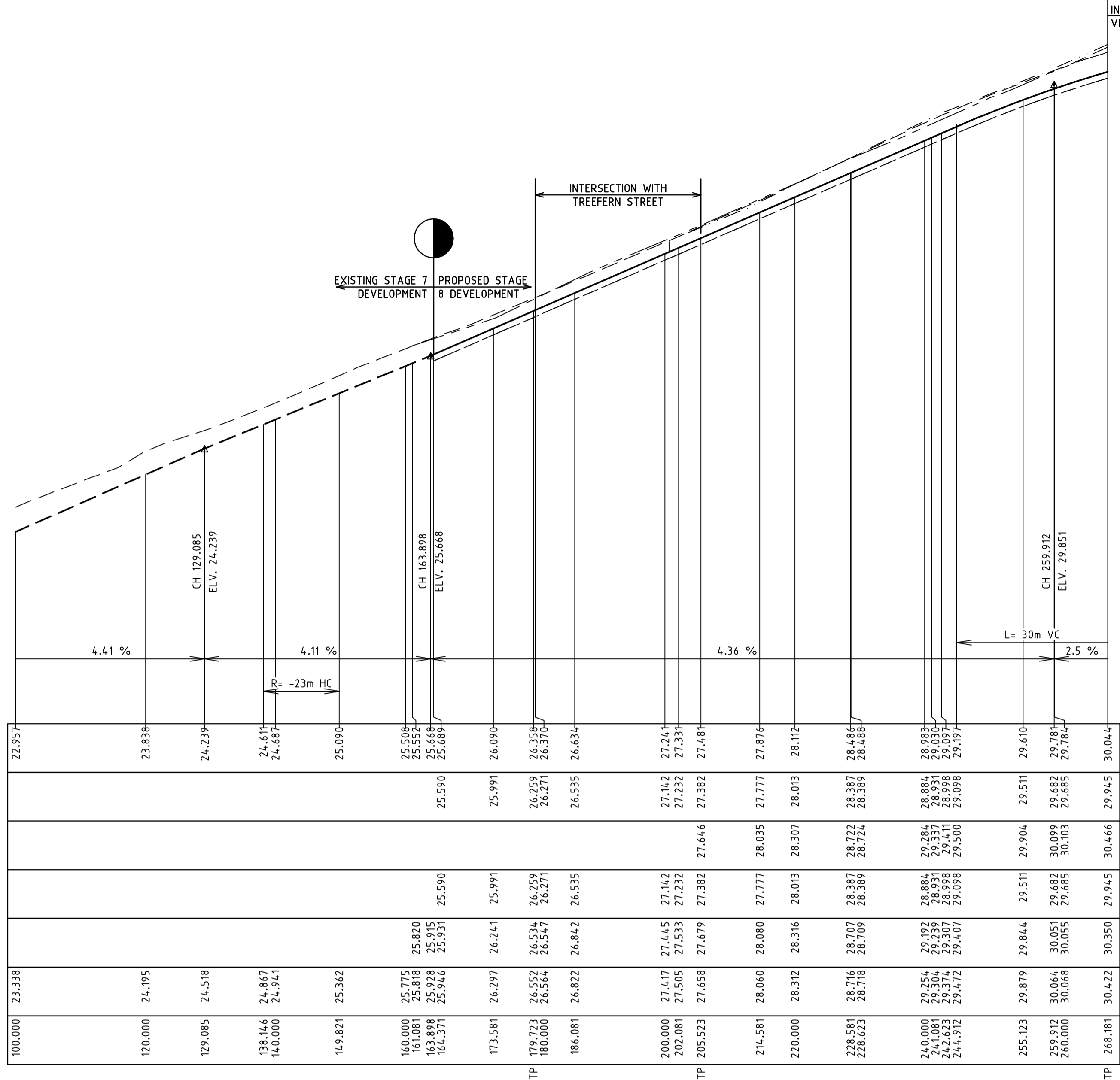
Drawing No. **0250EHL-08-12** Rev E  
Sheet No. 12 of 29

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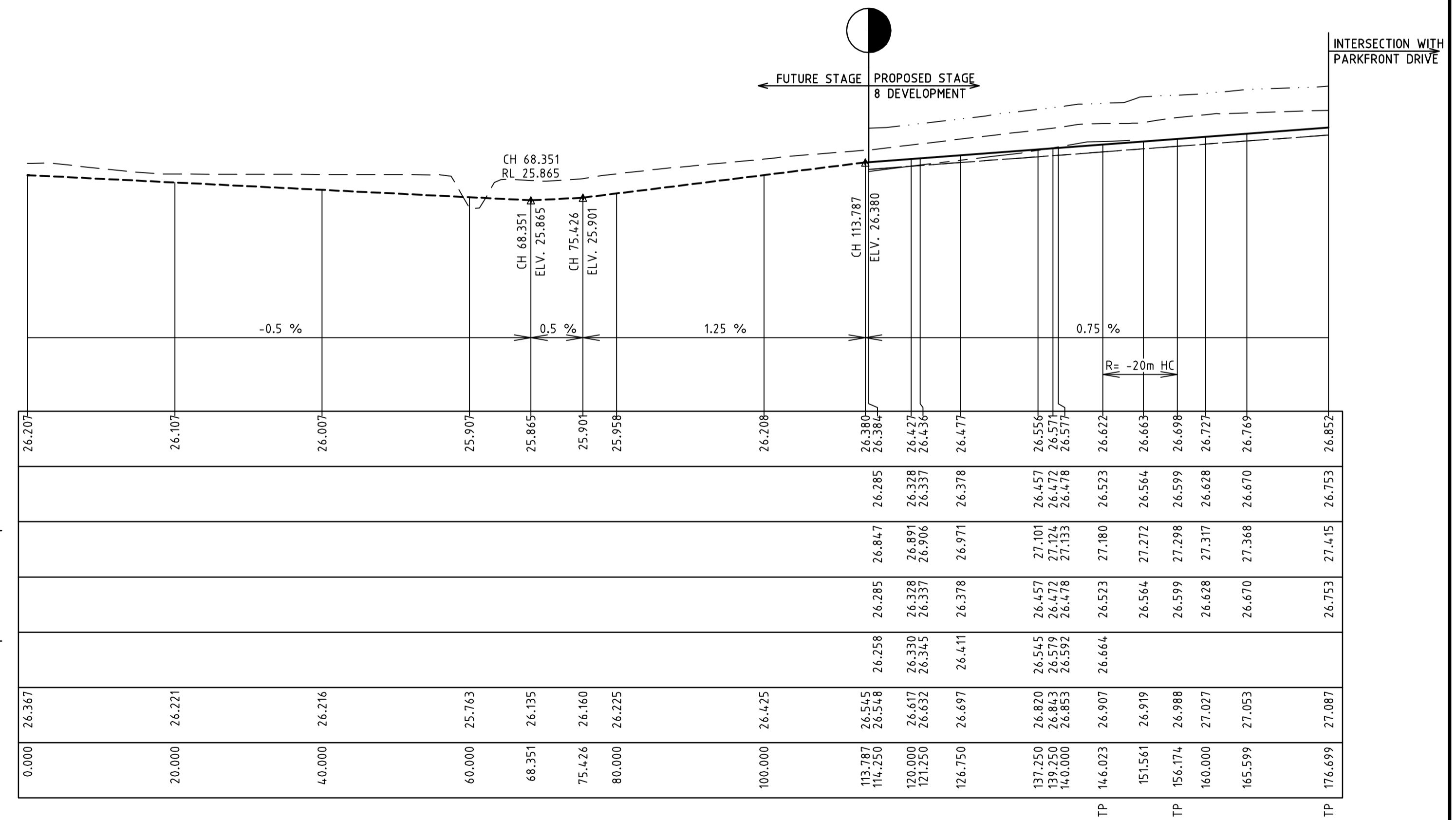
LEGEND	
---	EXISTING SURFACE
---	DESIGN LINE
---	FUTURE DESIGN LINE
---	RIGHT BUILDING LINE
---	RIGHT LIP OF KERB
---	LEFT BUILDING LINE
---	LEFT LIP OF KERB

VERTICAL GEOMETRY  
 HORIZONTAL GEOMETRY  
 DATUM RL20  
 DESIGN CENTRELINE  
 RIGHT LIP OF KERB  
 EXISTING SURFACE AT RIGHT BOUNDARY  
 LEFT LIP OF KERB  
 EXISTING SURFACE AT LEFT BOUNDARY  
 EXISTING SURFACE  
 CHAINAGE



PARKFRONT DRIVE LONGITUDINAL SECTION

VERTICAL GEOMETRY  
 HORIZONTAL GEOMETRY  
 DATUM RL23  
 DESIGN CENTRELINE  
 RIGHT LIP OF KERB  
 EXISTING SURFACE AT RIGHT BOUNDARY  
 LEFT LIP OF KERB  
 EXISTING SURFACE AT LEFT BOUNDARY  
 EXISTING SURFACE  
 CHAINAGE



TREEFERN STREET LONGITUDINAL SECTION

REVISION	DATE	DES/DT	APP'D
E ROAD NAMES AMENDED	03.11.11	CB/CB	JG
D WULAKARA LANE REMOVED	29.07.11	CB/CB	JG
C ISSUED FOR APPROVAL	19.05.11	CB/CB	JG
B COUNCIL AMENDMENTS	14.04.11	CB/CB	JG
A ISSUED TO COUNCIL FOR APPROVAL	18.03.11	CB/CB	JG

**estuary leopard**

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

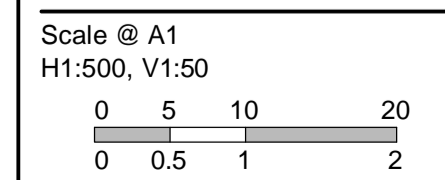
Designed  
C. Barker

Drawn  
C. Barker

Checked  
C. Birckett

Authorised  
J. Golden

Date  
March 2011



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**Estuary**  
 Stage 8  
 City of Greater Geelong  
 Roadworks and Drainage  
 Longitudinal Sections -3

**Drawing No. 0250EHL-08-13**      **Rev E**

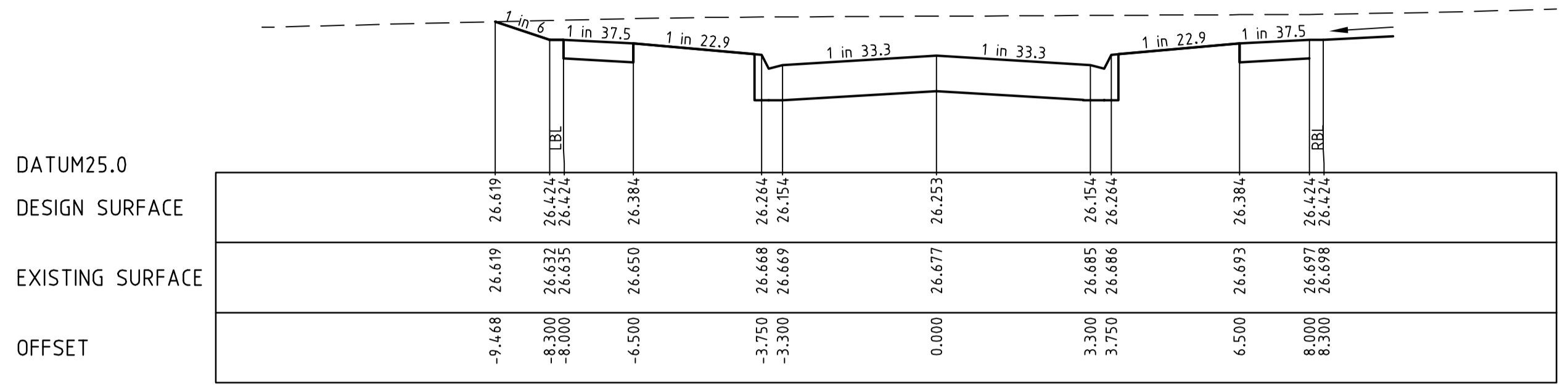
Sheet No. 13 of 29

**Approved for Construction**

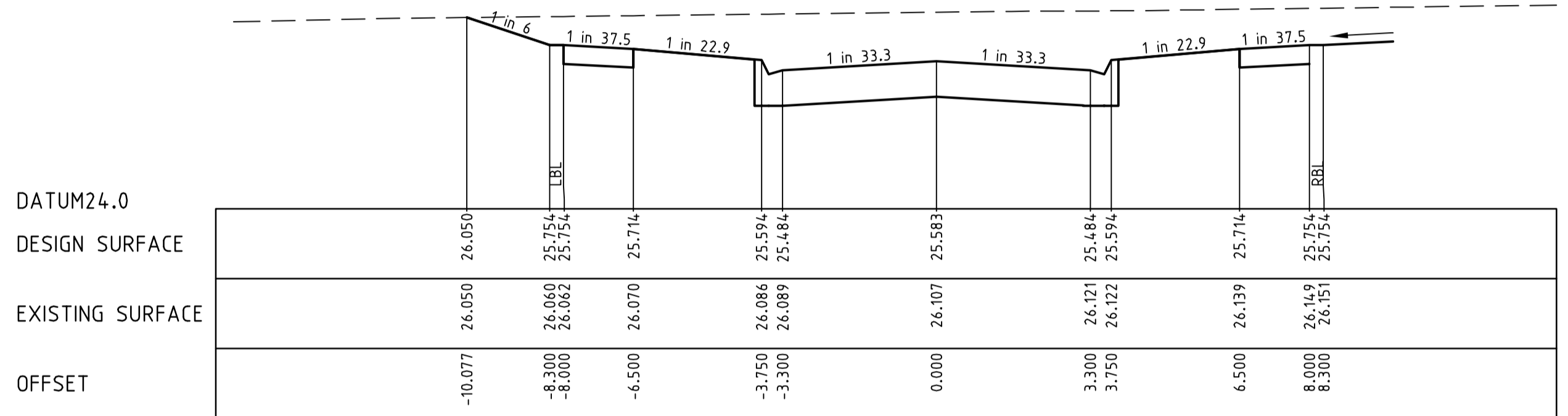
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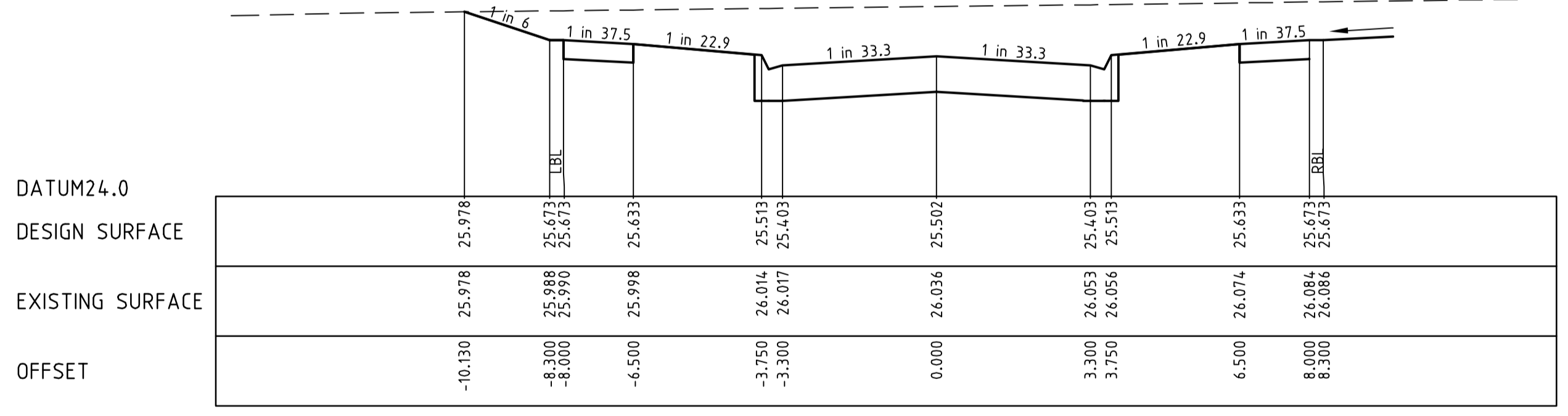
---	EXISTING SURFACE
---	DESIGN LINE
---	FUTURE DESIGN LINE



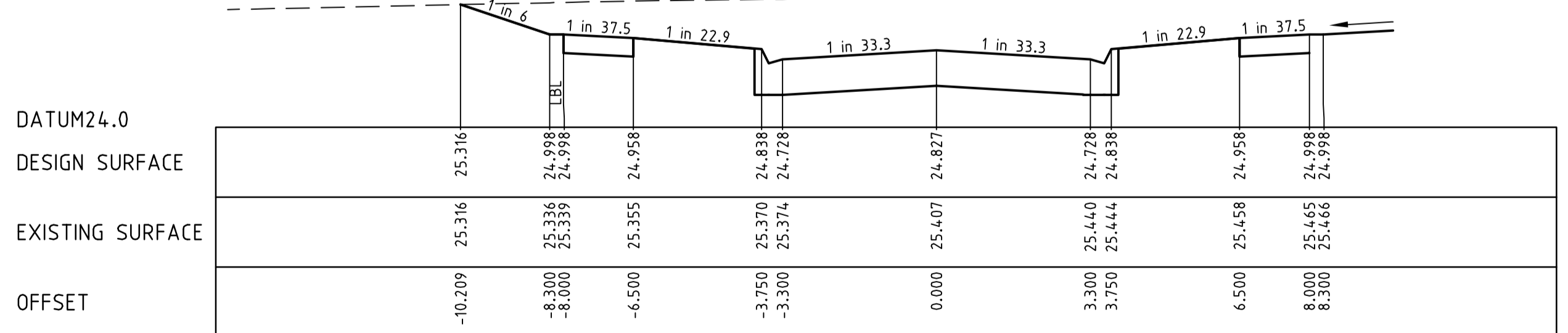
CH 66.500



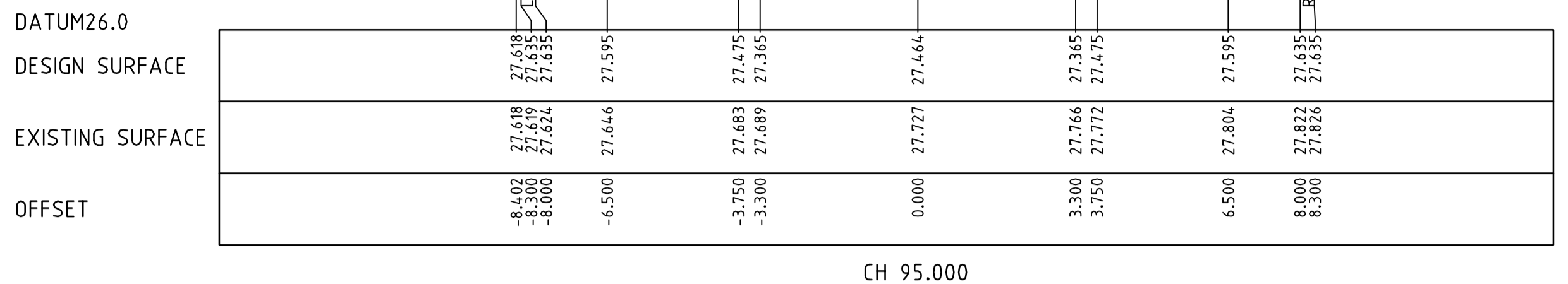
CH 54.000



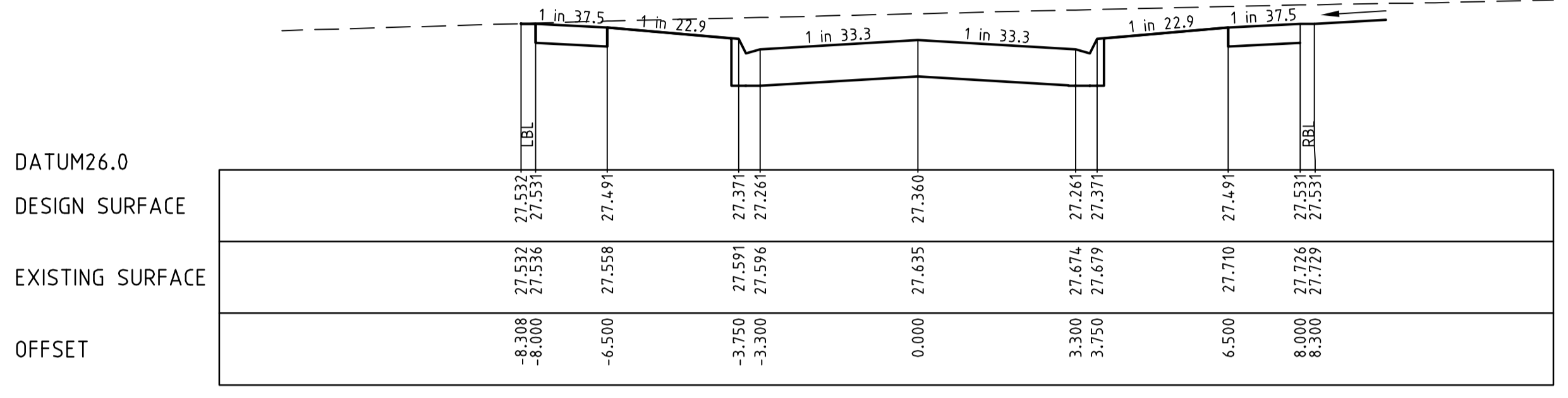
CH 52.500



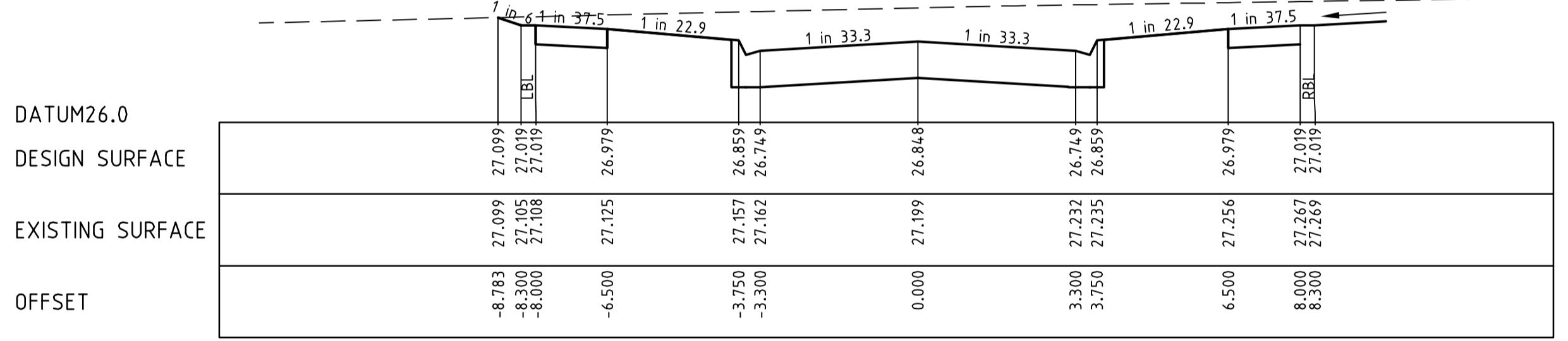
CH 40.000



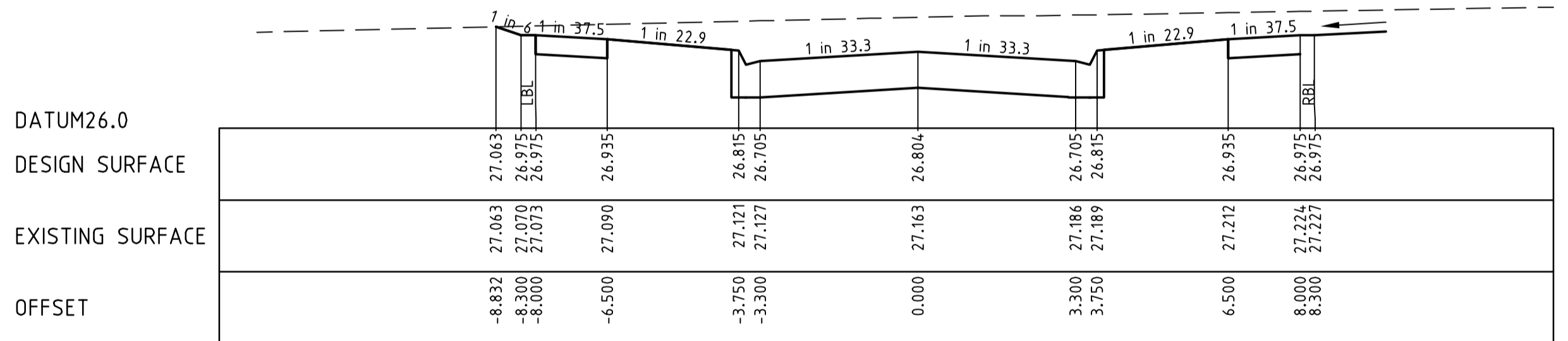
CH 95.000



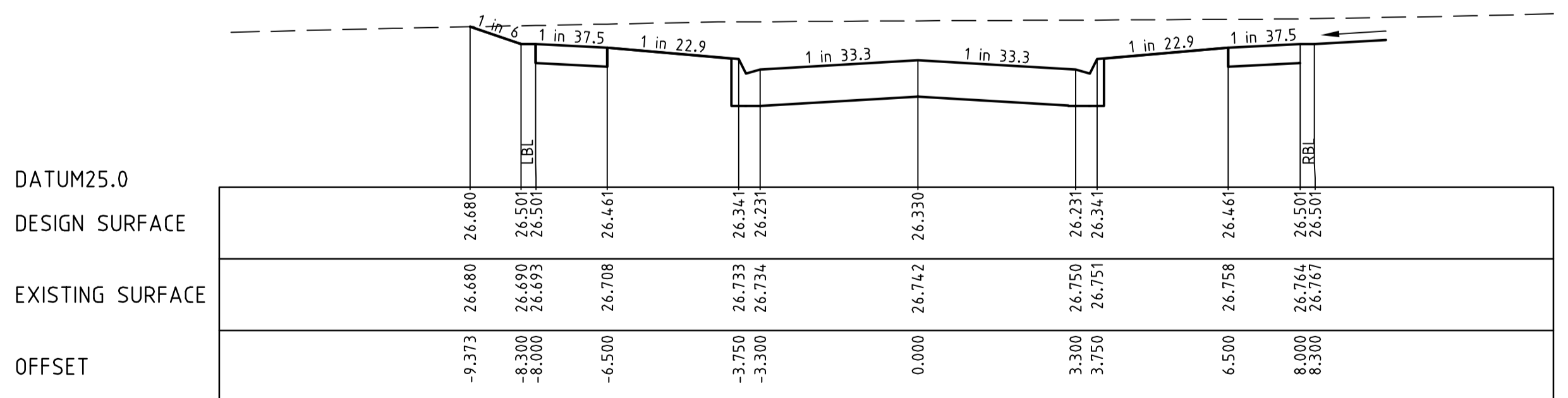
CH 92.000



CH 79.000



CH 78.000



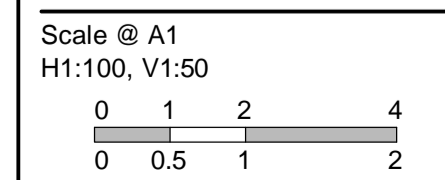
CH 68.000

REVISION	DATE	DES/DF	APP'D
D ROAD NAMES AMENDED	03.11.11	CB/CB	JG
C ISSUED FOR APPROVAL	19.05.11	CB/CB	JG
B COUNCIL AMENDMENTS	14.04.11	CB/CB	JG
A ISSUED TO COUNCIL FOR APPROVAL	18.03.11	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. Birckett  
Authorised  
J. Golden  
Date  
March 2011



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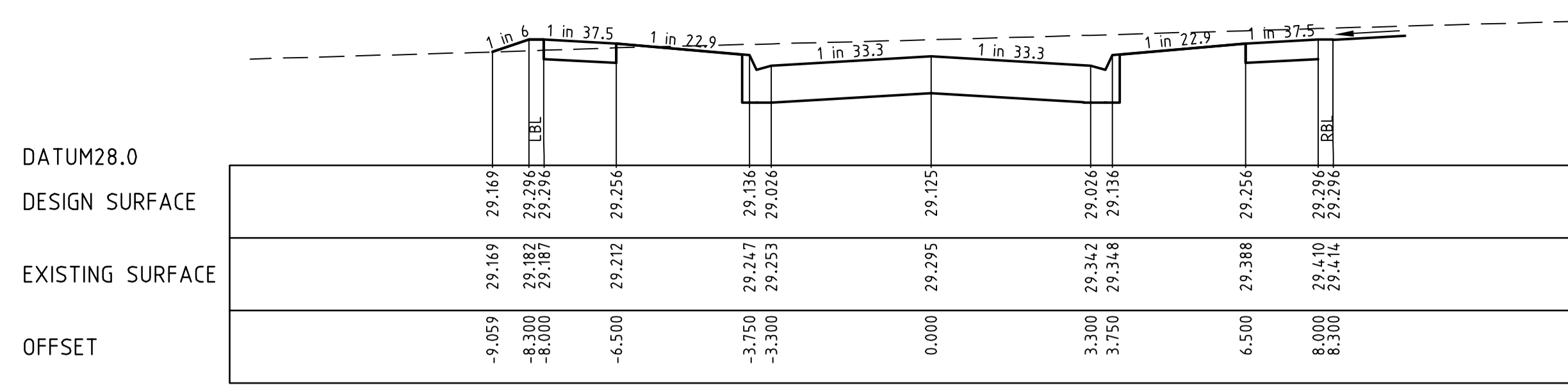
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**Estuary**  
Stage 8  
City of Greater Geelong  
Roadworks and Drainage  
Cross Sections - Everglade Street - 1  
CH40.000 - CH95.000  
**Drawing No. 0250EHL-08-14** Rev D  
Sheet No. 14 of 29

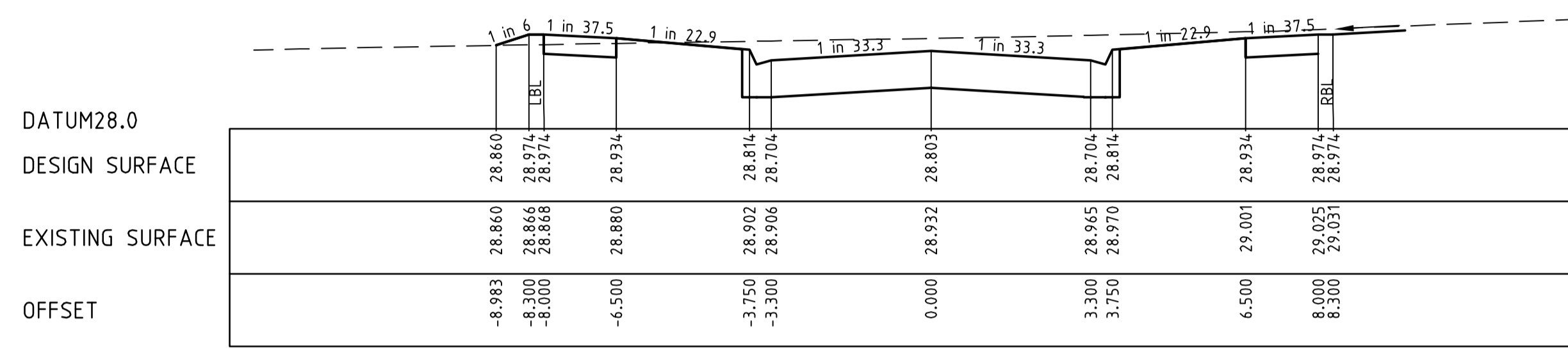
Approved for Construction



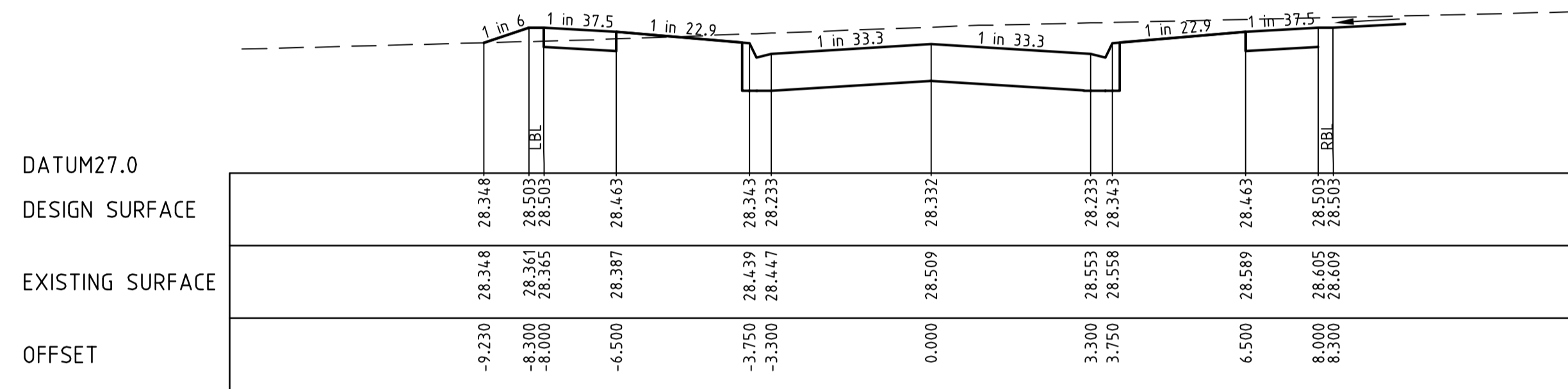
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---	DESIGN LINE
---	FUTURE DESIGN LINE



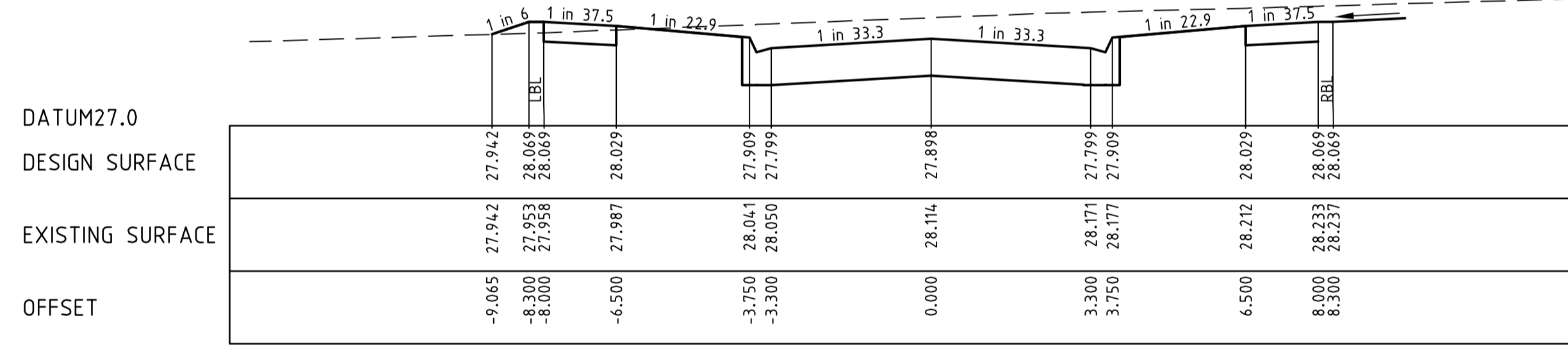
TPCH 147.100



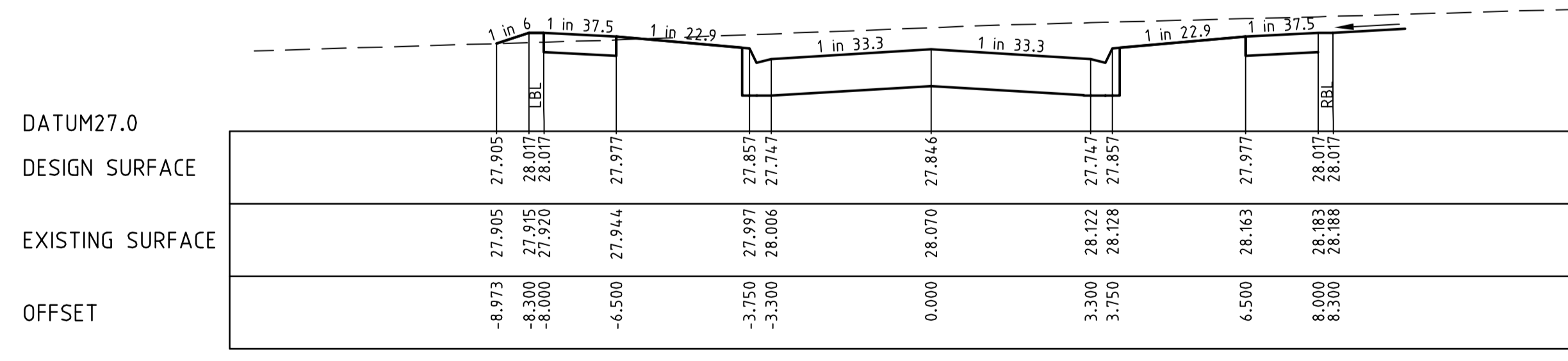
CH 135.000



CH 120.000



CH 107.500



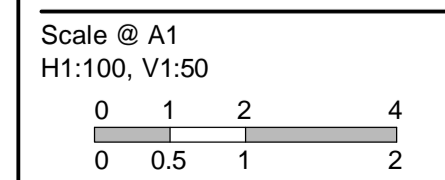
CH 106.000

REVISION	DATE	DES/DT	APP'D
D ROAD NAMES AMENDED	03.11.11	CB/CB	JG
C ISSUED FOR APPROVAL	19.05.11	CB/CB	JG
B COUNCIL AMENDMENTS	14.04.11	CB/CB	JG
A ISSUED TO COUNCIL FOR APPROVAL	18.03.11	CB/CB	JG



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Drawn  
C. Barker  
Checked  
C. Birckett  
Authorised  
J. Golden  
Date  
March 2011



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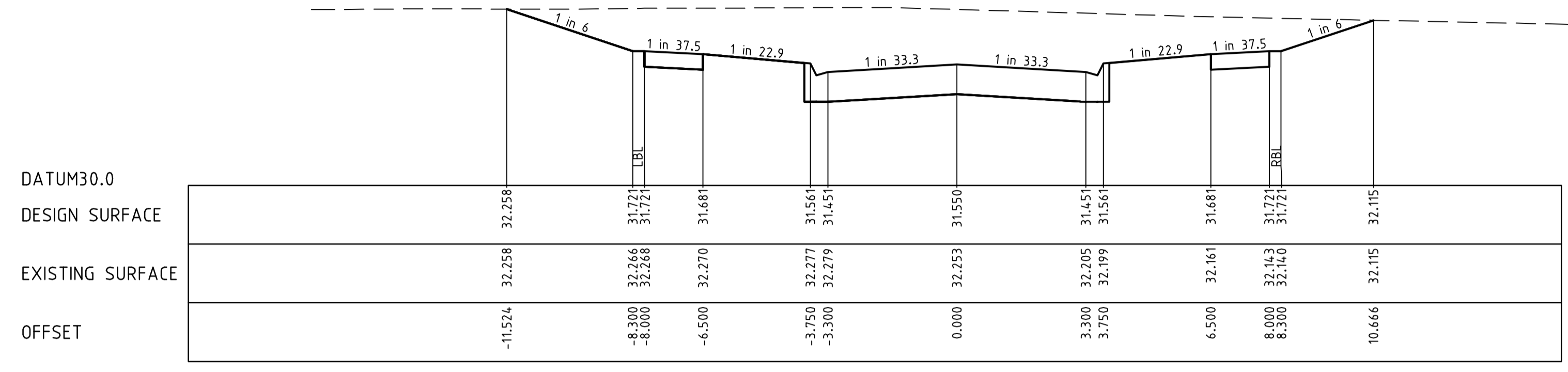
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Canberra +61 2 6126 1900 Trawalgon +61 3 5173 0100

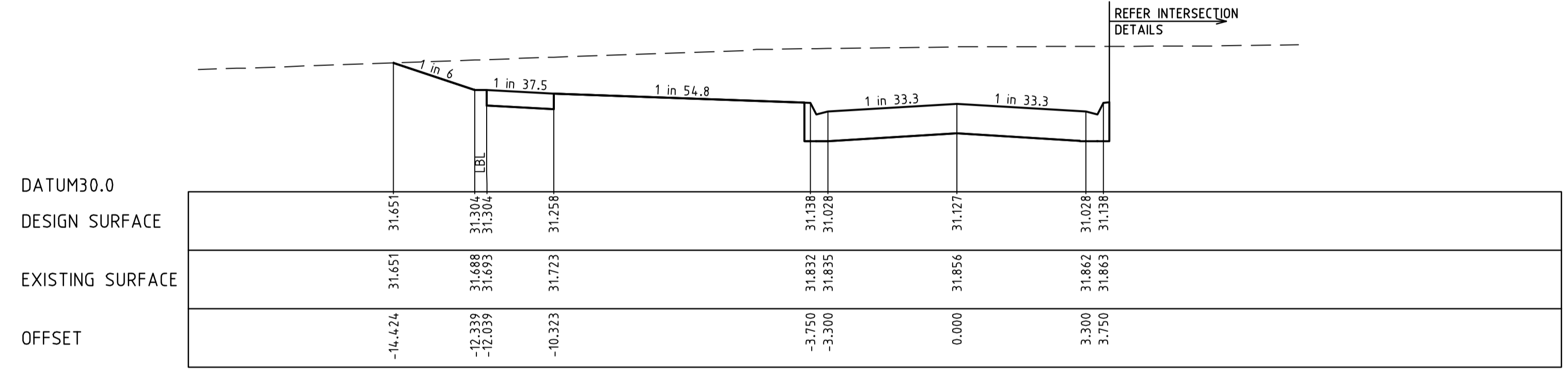
**Estuary**  
Stage 8  
City of Greater Geelong  
Roadworks and Drainage  
Cross Sections - Everglade Street - 2  
CH106.000 - CH147.100  
**Drawing No. 0250EHL-08-15** **Rev D**  
Sheet No. 15 of 29  
**Approved for Construction**



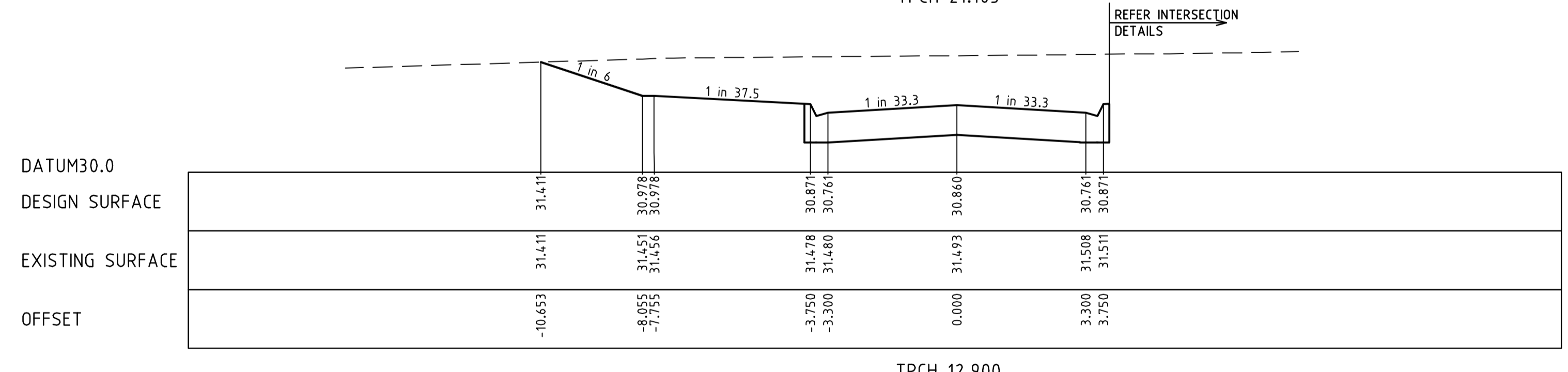
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---	DESIGN LINE
---	FUTURE DESIGN LINE



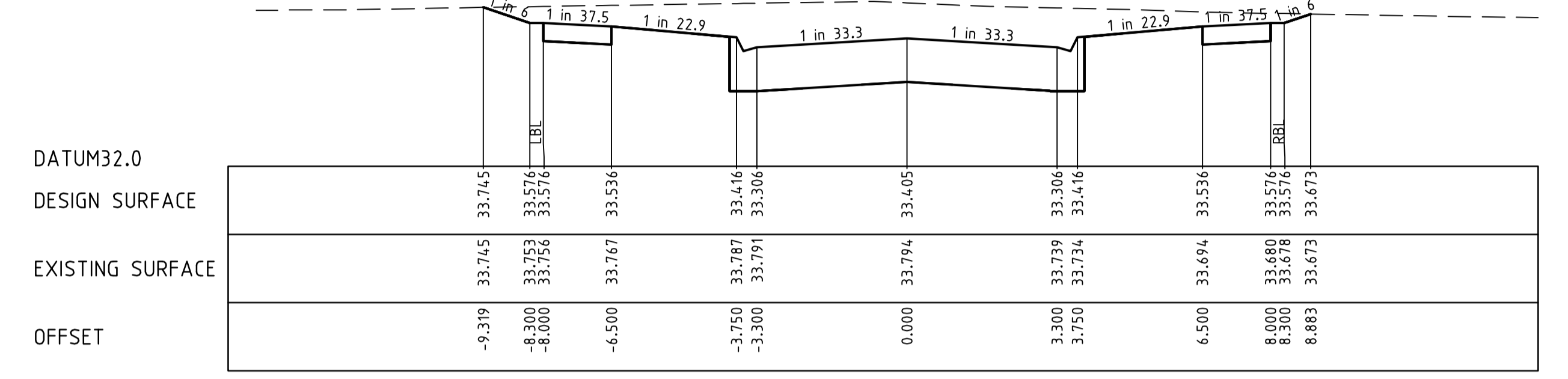
TPCH 31.256



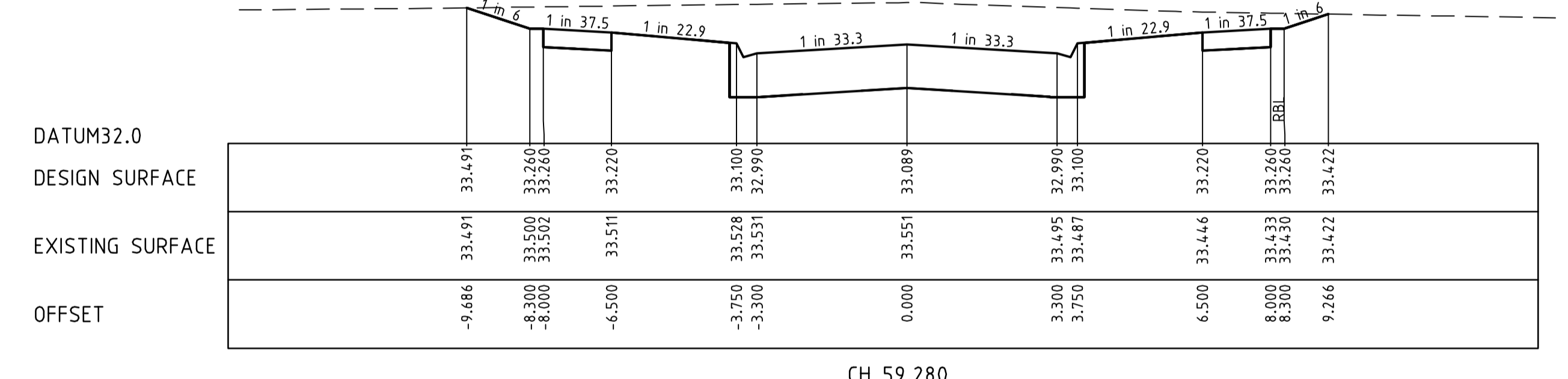
TPCH 21.105



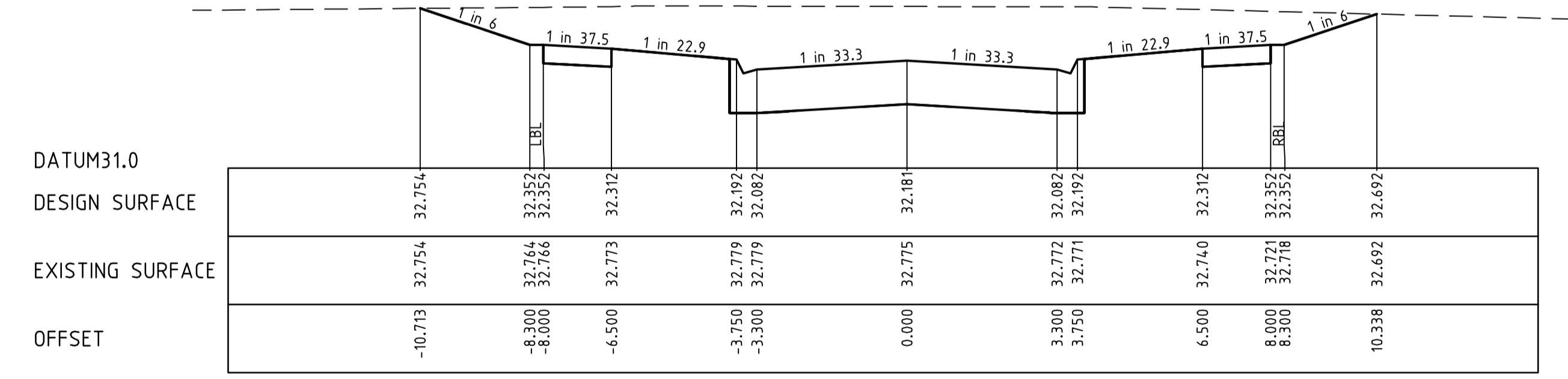
TPCH 12.900



CH 64.830



CH 59.280



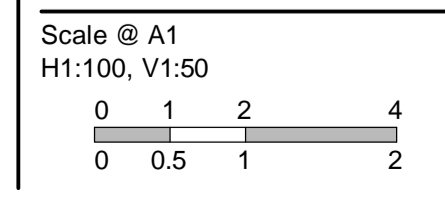
CH 43.280

3				
E	ROAD NAMES AMENDED	03.11.11	CB/CB	JG
D	MINOR AMENDMENTS	29.07.11	CB/CB	JG
C	ISSUED FOR APPROVAL	19.05.11	CB/CB	JG
B	COUNCIL AMENDMENTS	14.04.11	CB/CB	JG
A	ISSUED TO COUNCIL FOR APPROVAL	18.03.11	CB/CB	JG
REVISION	DATE	DESIGNER	APP'D	



Principal  
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Designed  
C. Barker  
Drawn  
C. Barker  
Checked  
C. Birkett  
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J. Golden  
Date  
March 2011



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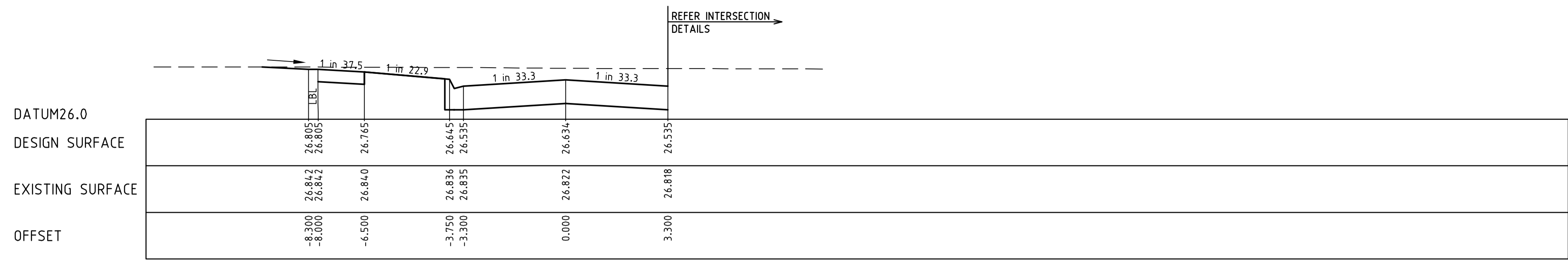
**Estuary**  
Stage 8  
City of Greater Geelong  
Roadworks and Drainage  
Cross Sections - Tidal Street

Drawing No. **0250EHL-08-16** Rev E  
Sheet No. 16 of 29

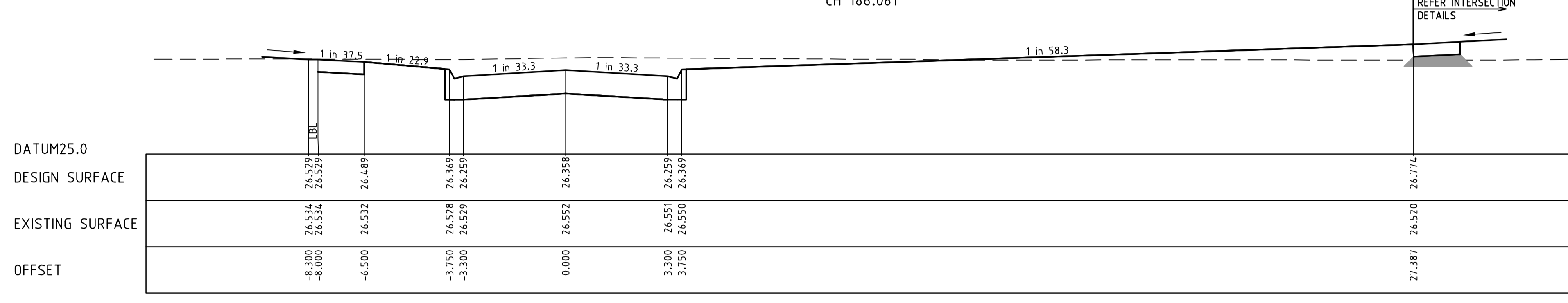
Approved for Construction



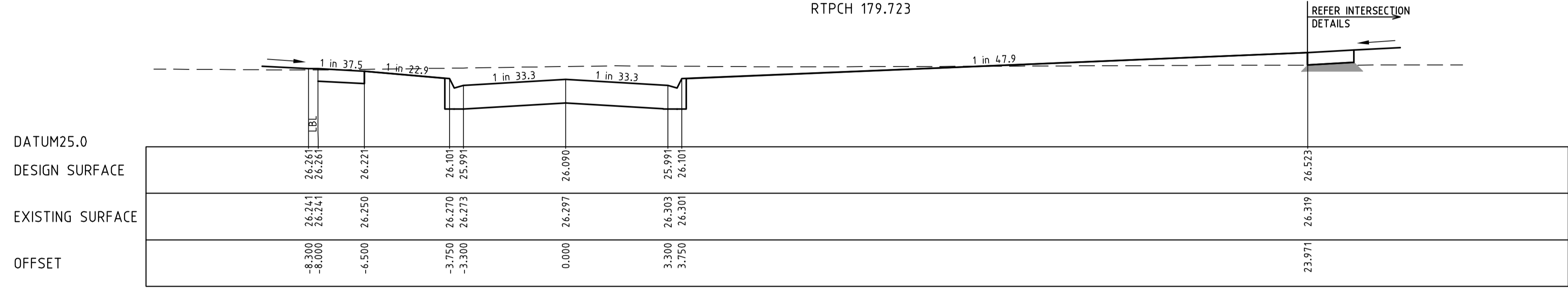
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---	DESIGN LINE
---	FUTURE DESIGN LINE



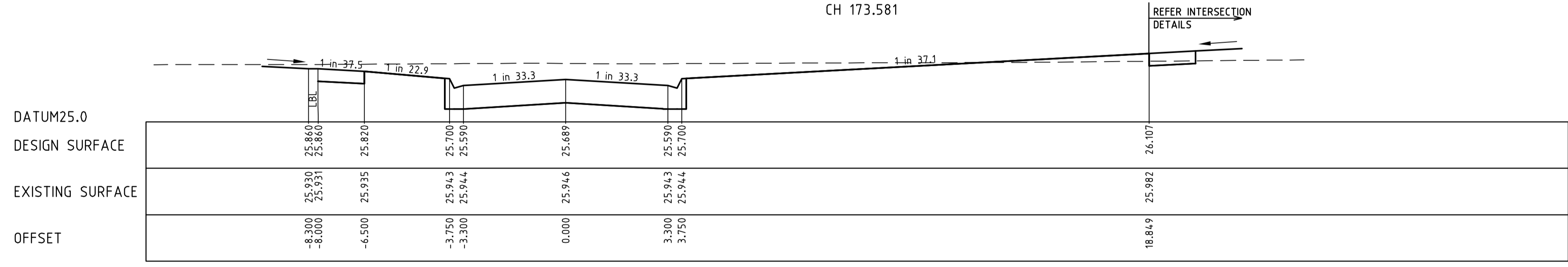
CH 186.081



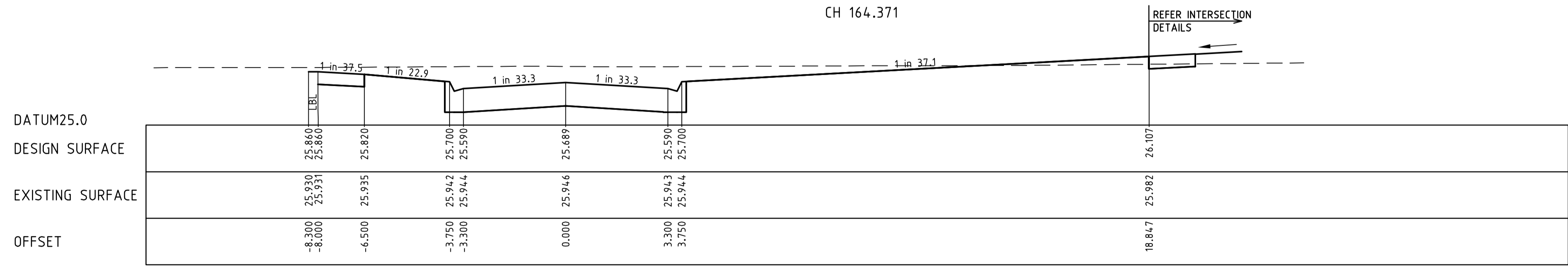
RTPCH 179.723



CH 173.581



CH 164.371



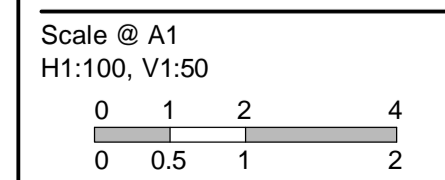
CH 164.369

REVISION	DATE	DESIGNER	APP'D
D ROAD NAMES AMENDED	03.11.11	CB/CB	JG
C ISSUED FOR APPROVAL	19.05.11	CB/CB	JG
B COUNCIL AMENDMENTS	14.04.11	CB/CB	JG
A ISSUED TO COUNCIL FOR APPROVAL	18.03.11	CB/CB	JG



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C. Barker  
Checked  
C. Birckett  
Authorised  
J. Golden  
Date  
March 2011



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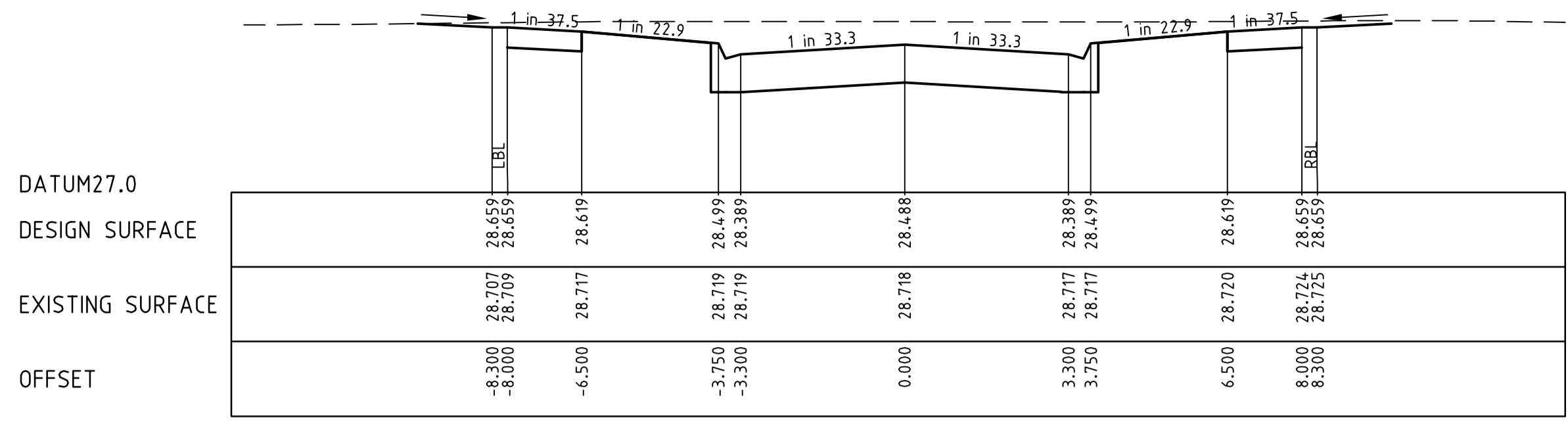
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**Estuary**  
Stage 8  
City of Greater Geelong  
Roadworks and Drainage  
Cross Sections - Parkfront Drive - 1  
CH164.369 - CH186.081  
**Drawing No. 0250EHL-08-17** **Rev D**  
Sheet No. 17 of 29

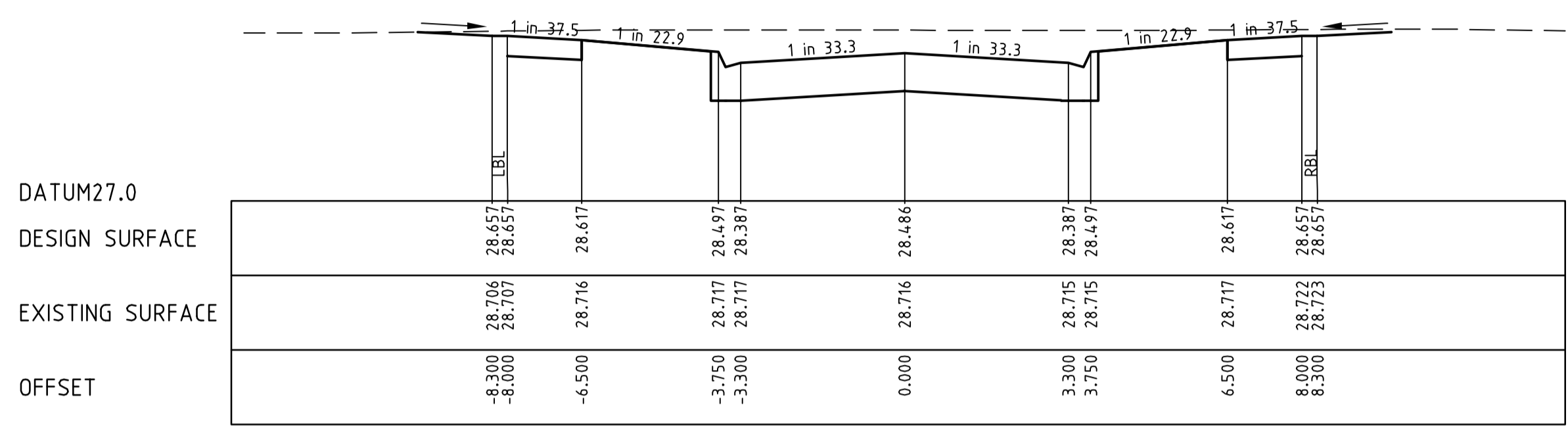
Approved for Construction



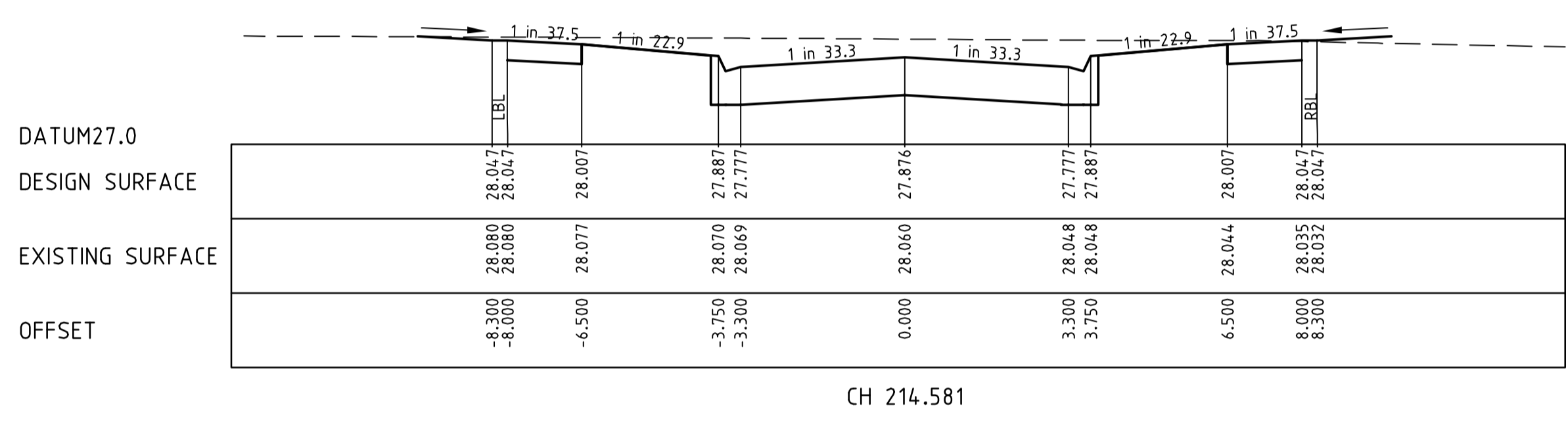
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---	DESIGN LINE
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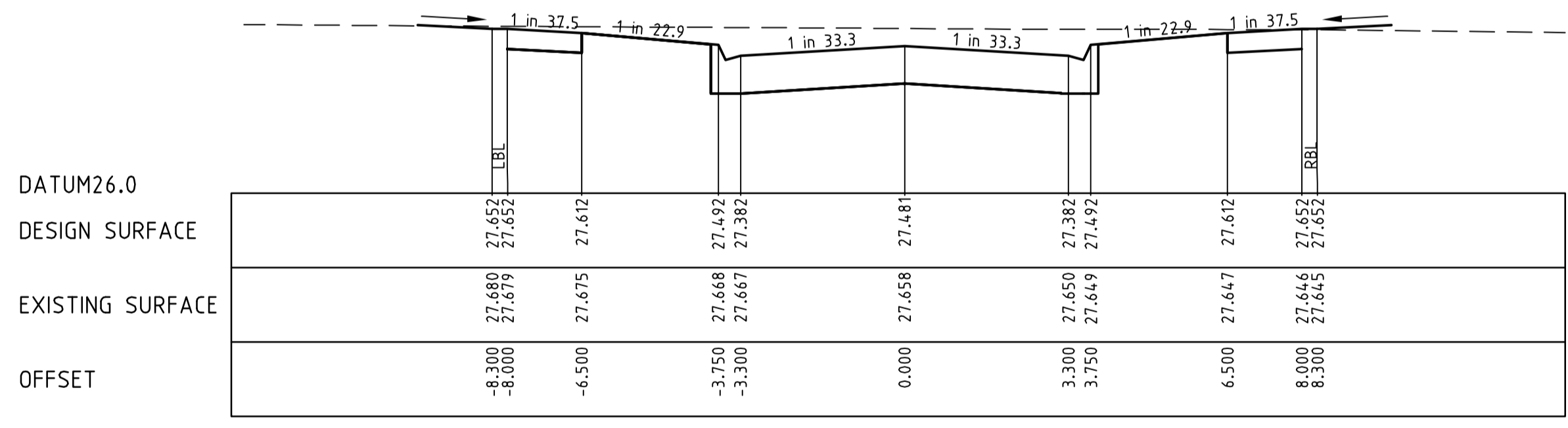
CH 228.623



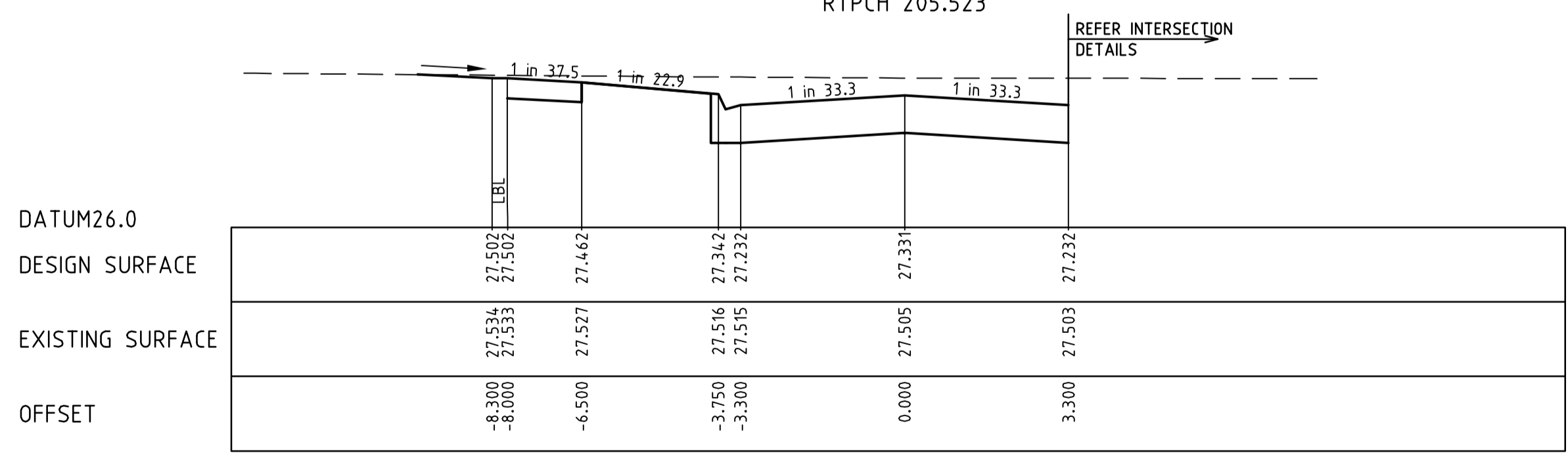
CH 228.581



CH 214.581

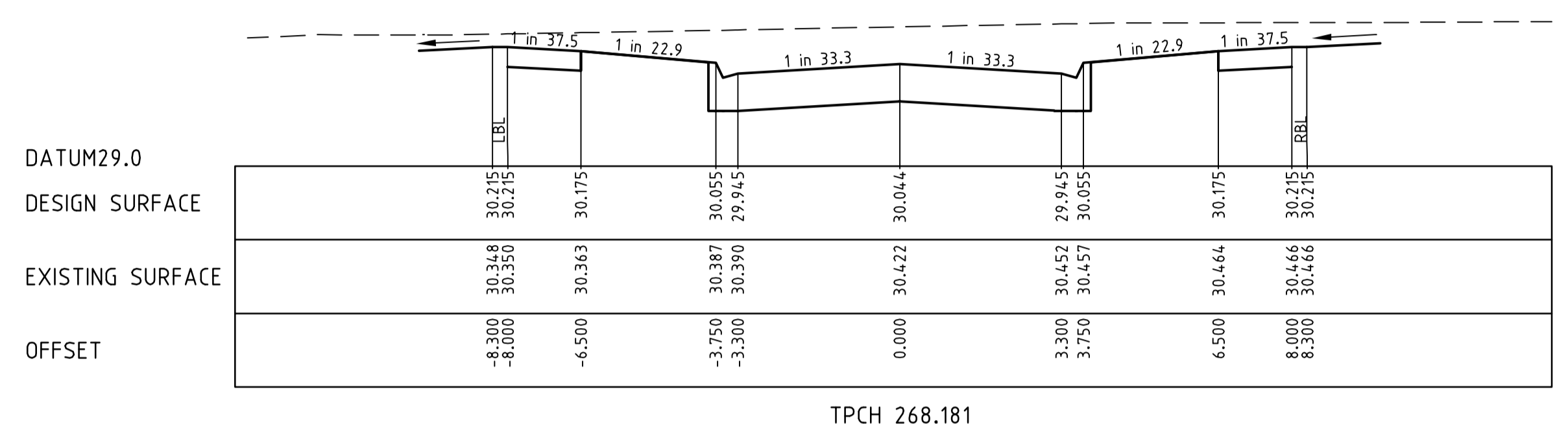


RTPCH 205.523

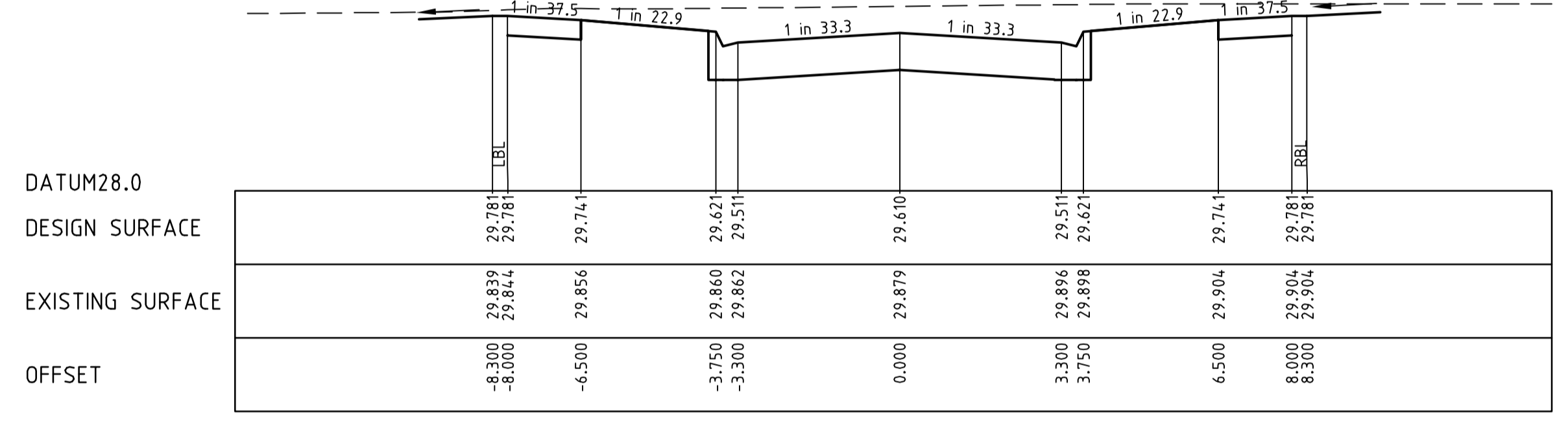


CH 202.081

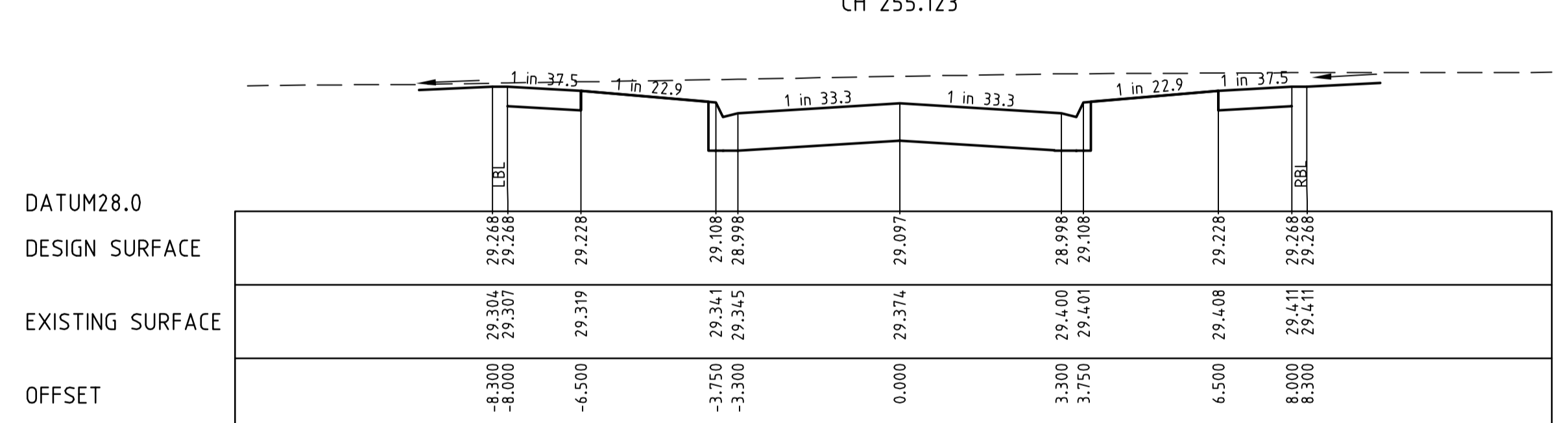
REFER INTERSECTION DETAILS



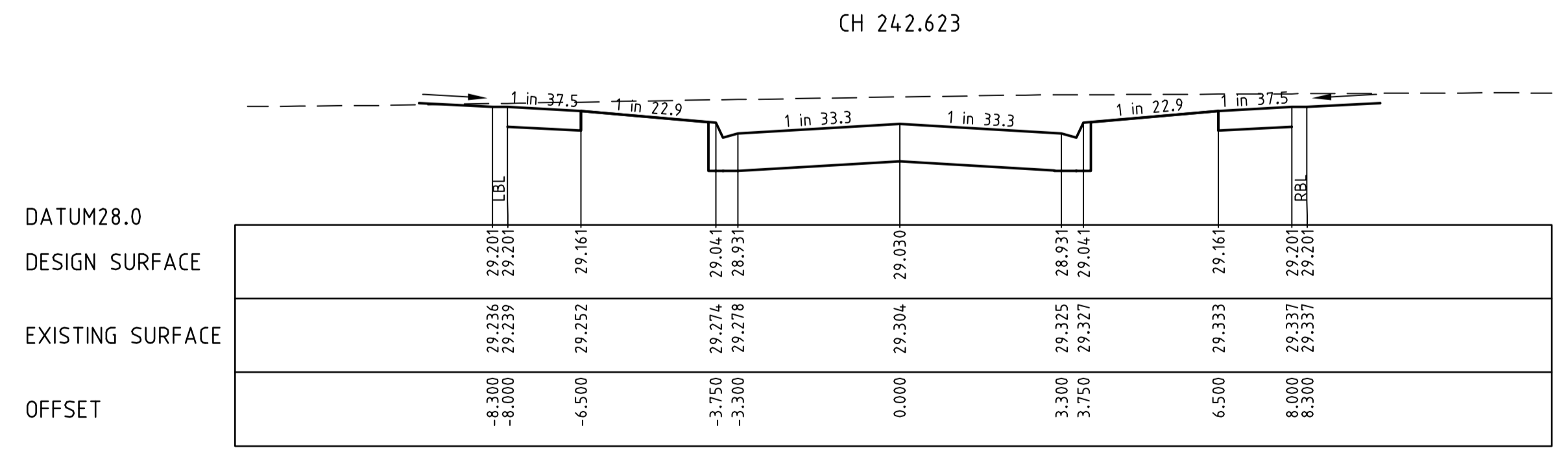
TPCH 268.181



CH 255.123



CH 242.623

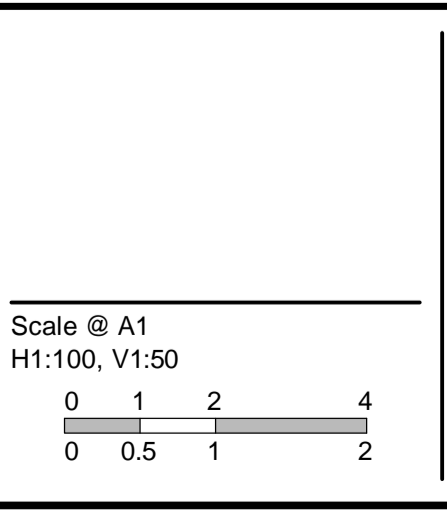


CH 241.081

REVISION	DATE	DES/DF	APP'D
D	03.11.11	CB/CB	JG
C	19.05.11	CB/CB	JG
B	14.04.11	CB/CB	JG
A	18.03.11	CB/CB	JG

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C. Barker  
Drawn  
C. Barker  
Checked  
C. Birkett  
Authorised  
J. Golden  
Date  
March 2011



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

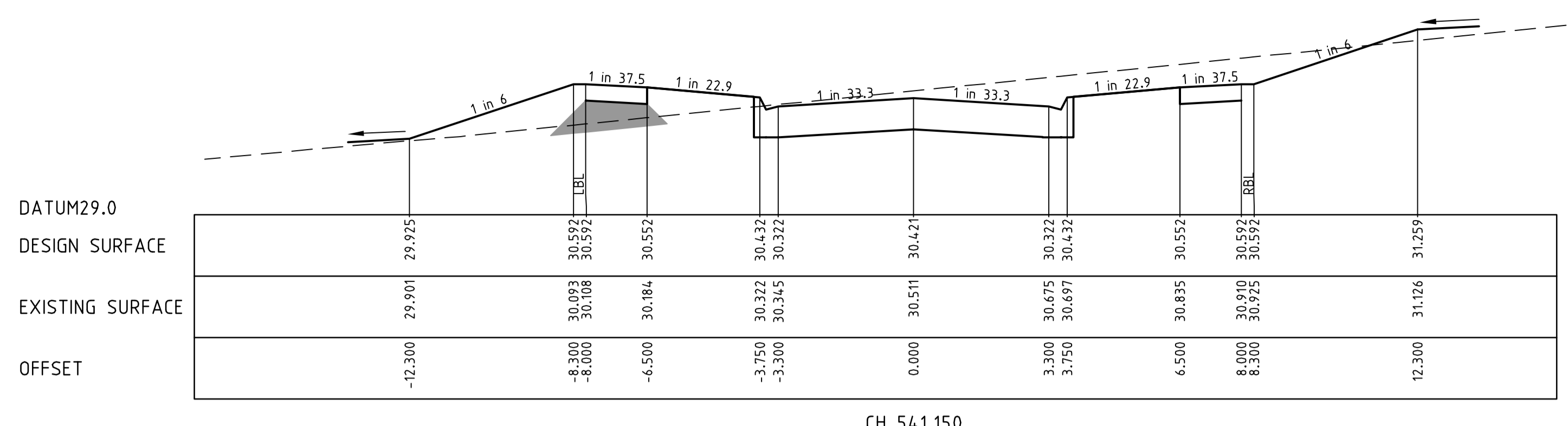
**Estuary**  
Stage 8  
City of Greater Geelong  
Roadworks and Drainage  
Cross Sections - Parkfront Drive - 2  
CH202.081 - CH268.181  
**Drawing No. 0250EHL-08-18** **Rev D**  
Sheet No. 18 of 29  
**Approved for Construction**



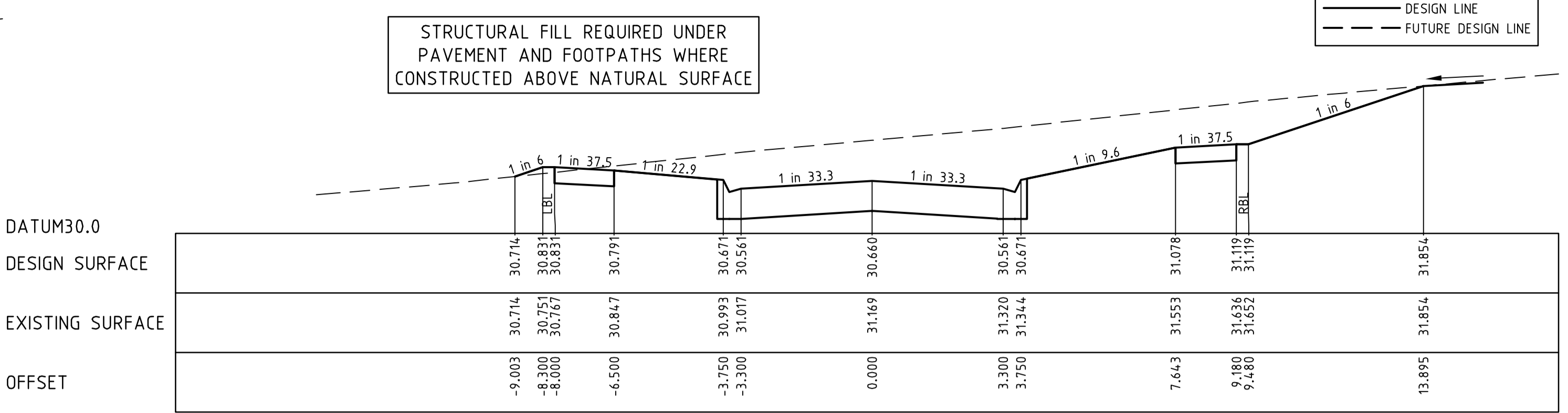




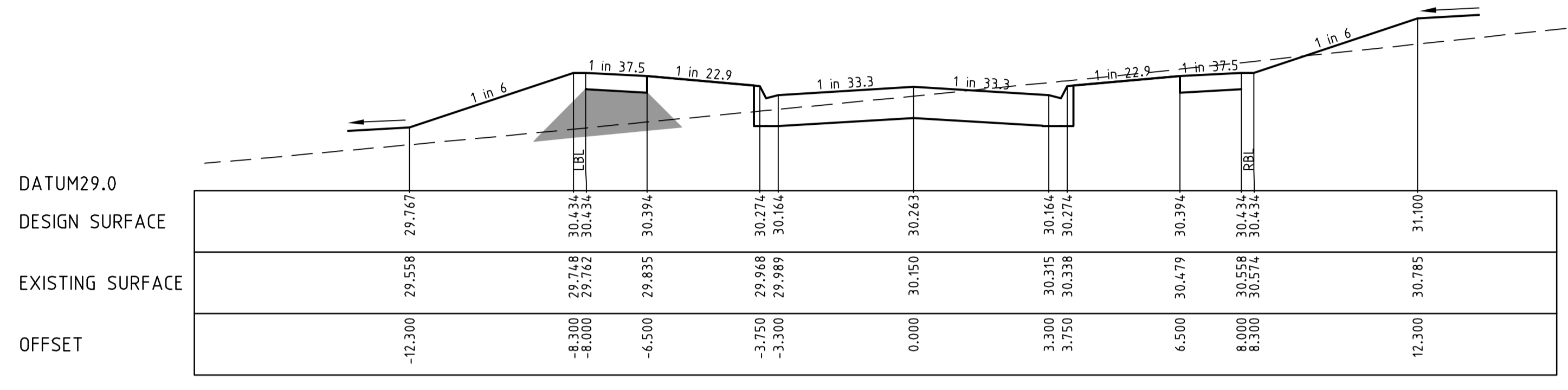
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---	DESIGN LINE
---	FUTURE DESIGN LINE



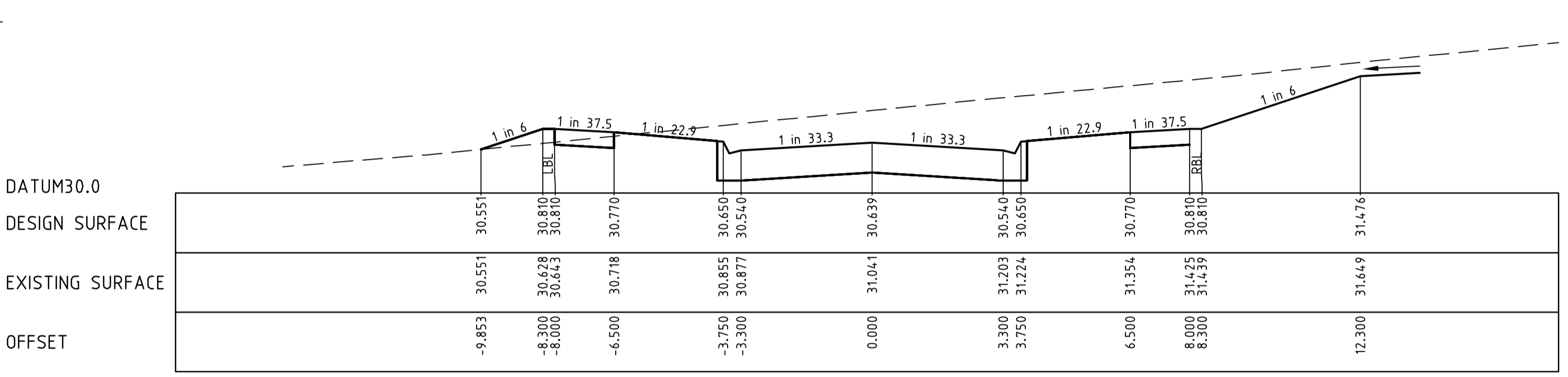
CH 541.150



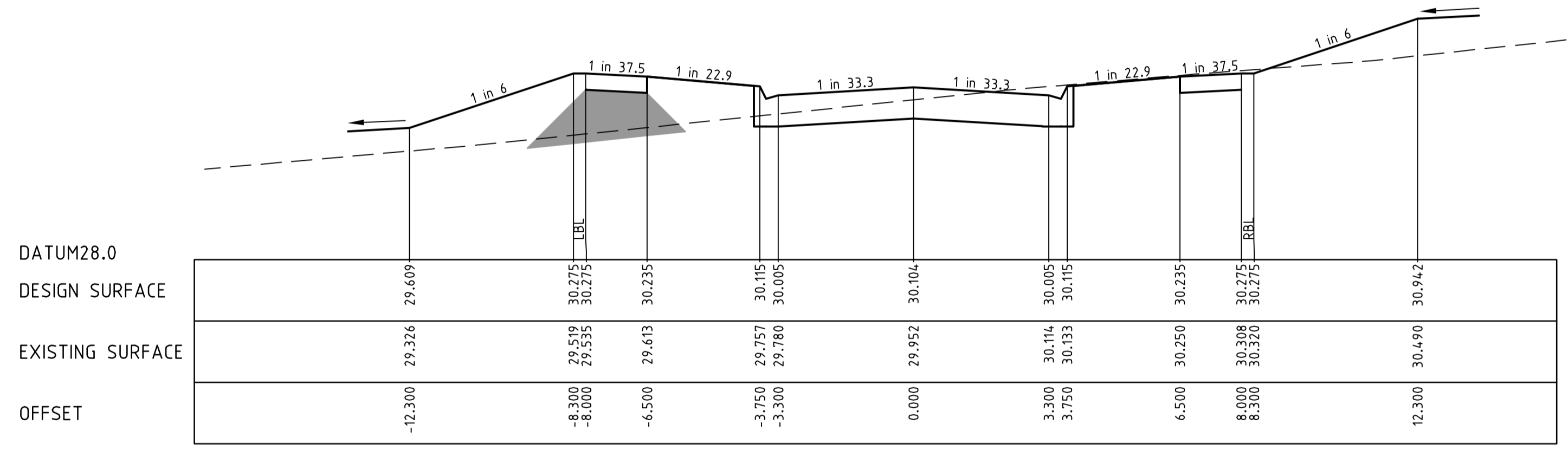
CH 572.667



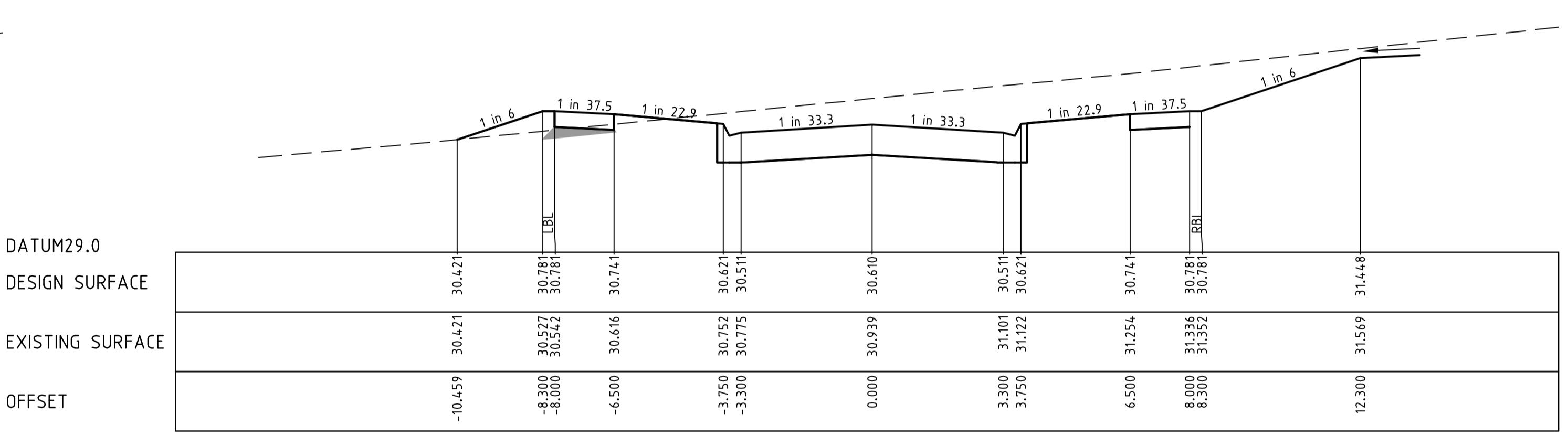
CH 527.150



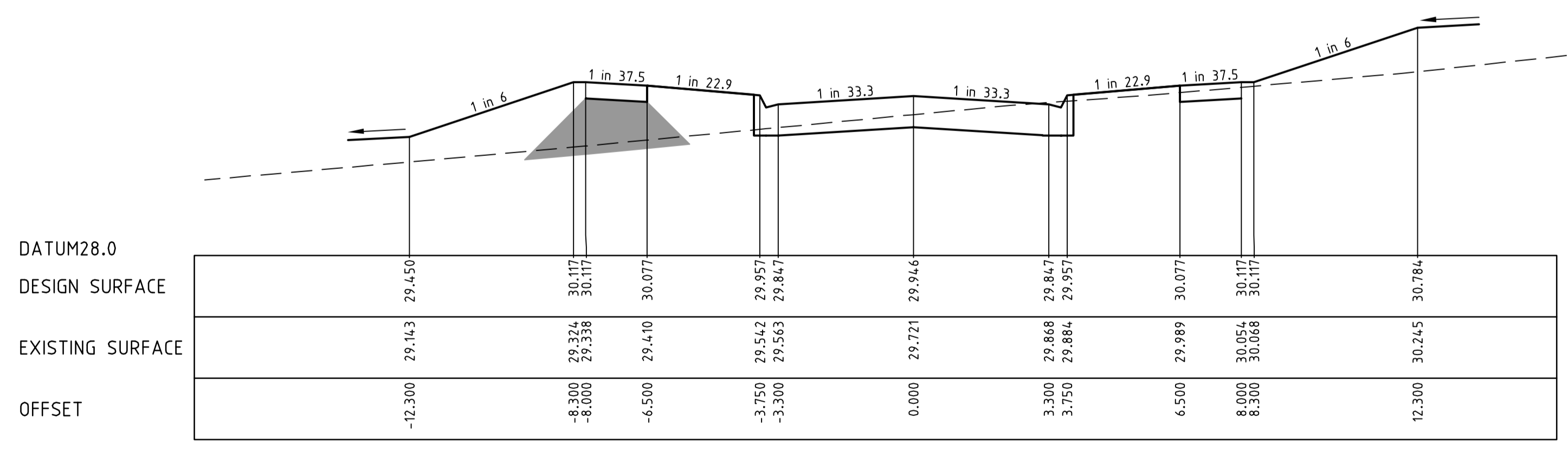
TPCH 563.886



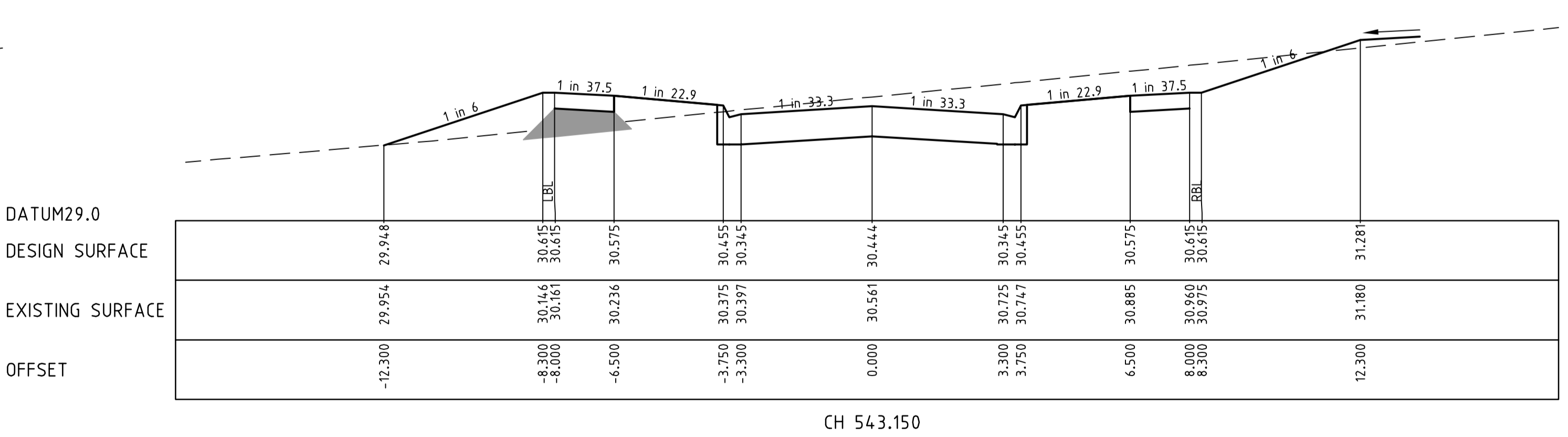
CH 513.150



CH 559.150

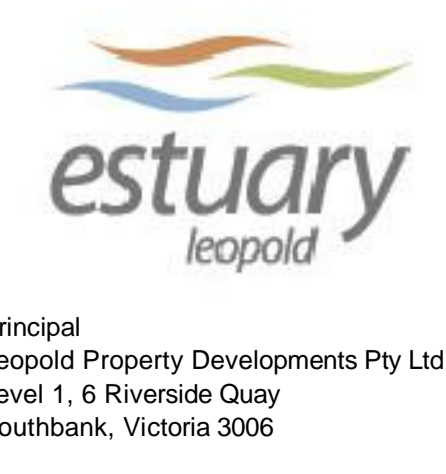


CH 499.150

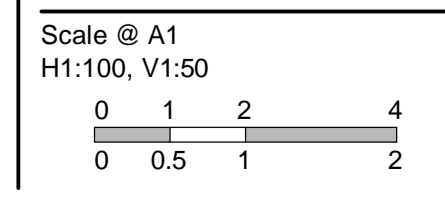


CH 543.150

REVISION	DATE	DES/DT	APP'D
D ROAD NAMES AMENDED	03.11.11	CB/CB	JG
C ISSUED FOR APPROVAL	19.05.11	CB/CB	JG
B COUNCIL AMENDMENTS	14.04.11	CB/CB	JG
A ISSUED TO COUNCIL FOR APPROVAL	18.03.11	CB/CB	JG



Designed  
C. Barker  
Drawn  
C. Barker  
Checked  
C. Birkett  
Authorised  
J. Golden  
Date  
March 2011



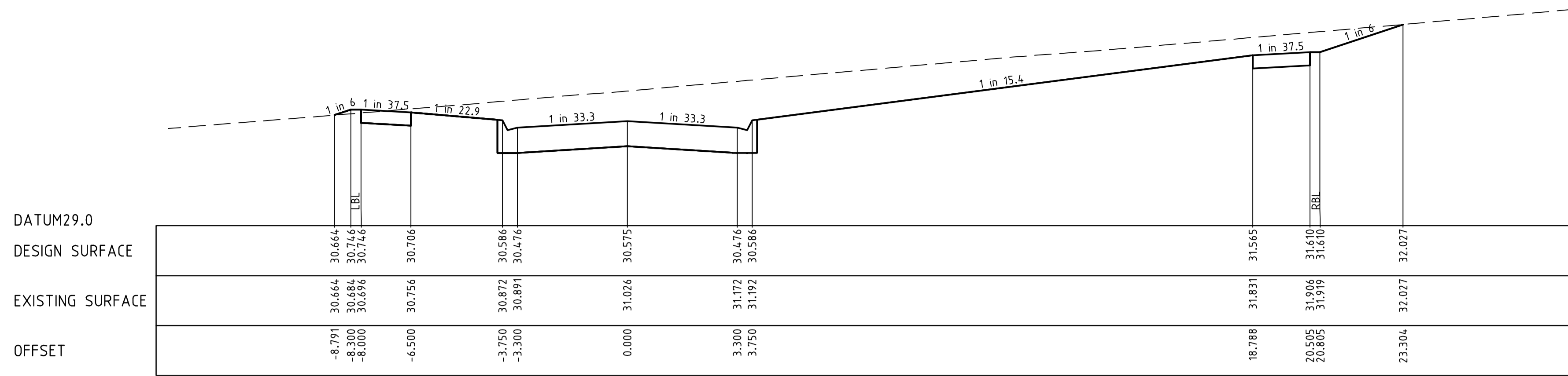
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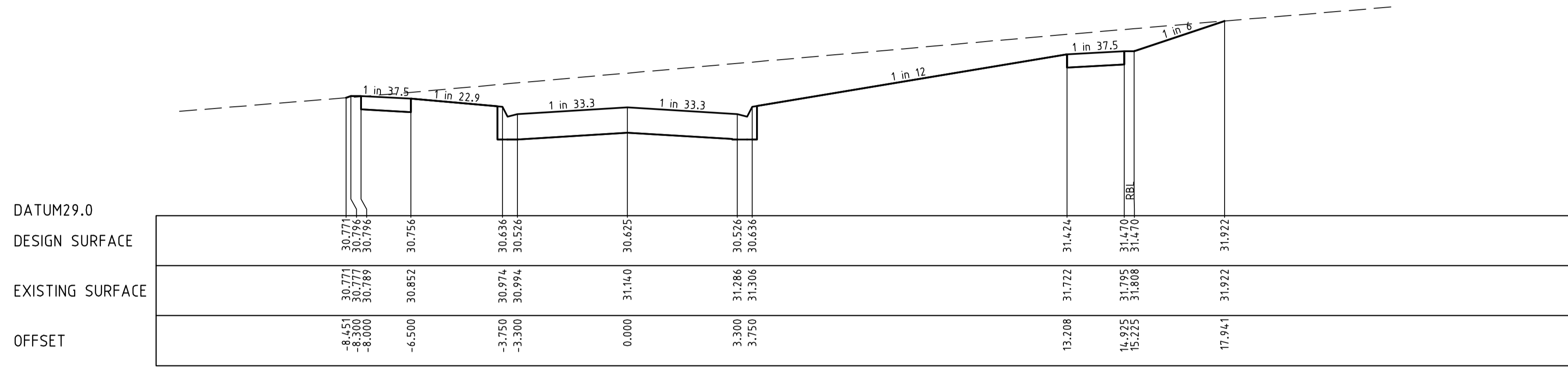
**Estuary**  
Stage 8  
City of Greater Geelong  
Roadworks and Drainage  
Cross Sections - Village Green Drive - 1  
CH114.250 - CH187.767  
**Drawing No. 0250EHL-08-20** **Rev D**  
Sheet No. 20 of 29  
**Approved for Construction**



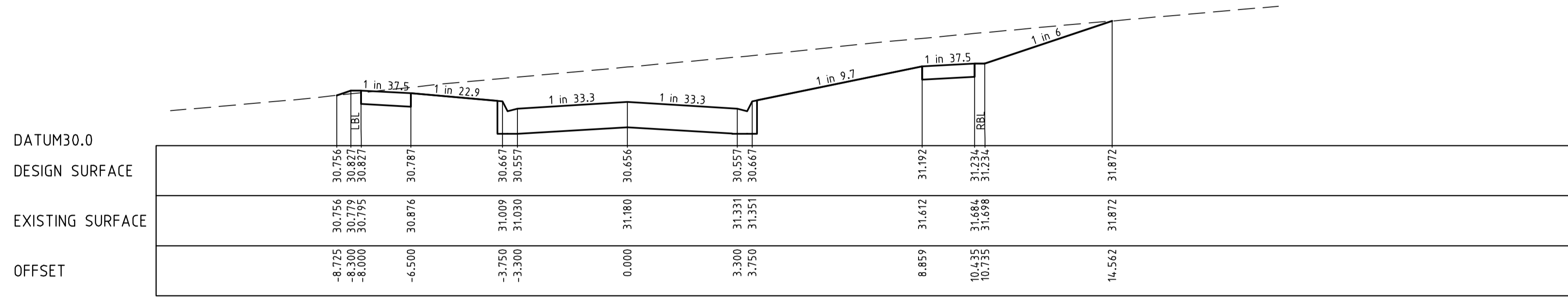
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---	DESIGN LINE
---	FUTURE DESIGN LINE



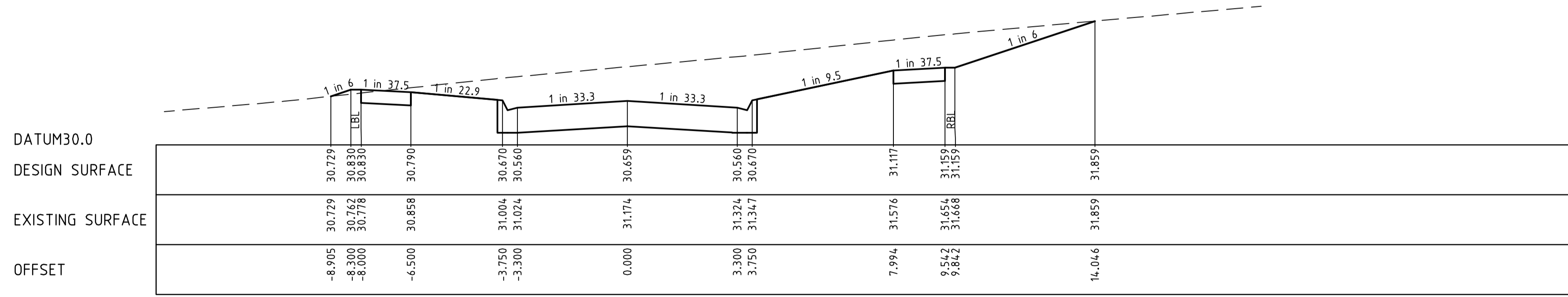
RTPCH 594.222



TPCH 584.189



CH 576.366



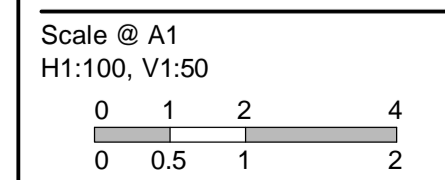
CH 573.892

REVISION	DATE	DES/DF	APP'D
D ROAD NAMES AMENDED	03.11.11	CB/CB	JG
C ISSUED FOR APPROVAL	19.05.11	CB/CB	JG
B COUNCIL AMENDMENTS	14.04.11	CB/CB	JG
A ISSUED TO COUNCIL FOR APPROVAL	18.03.11	CB/CB	JG



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C. Barker  
Checked  
C. Birkett  
Authorised  
J. Golden  
Date  
March 2011



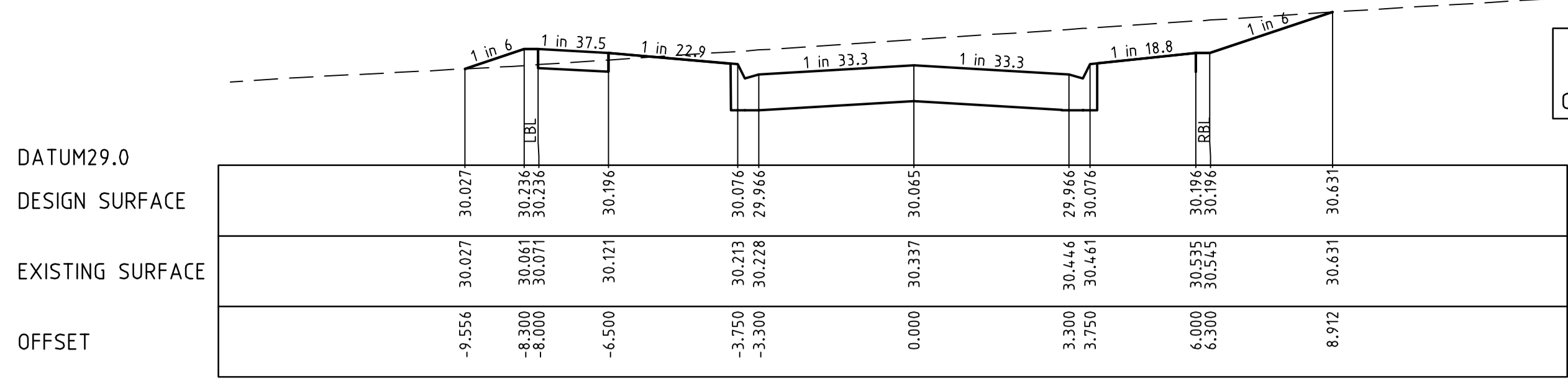
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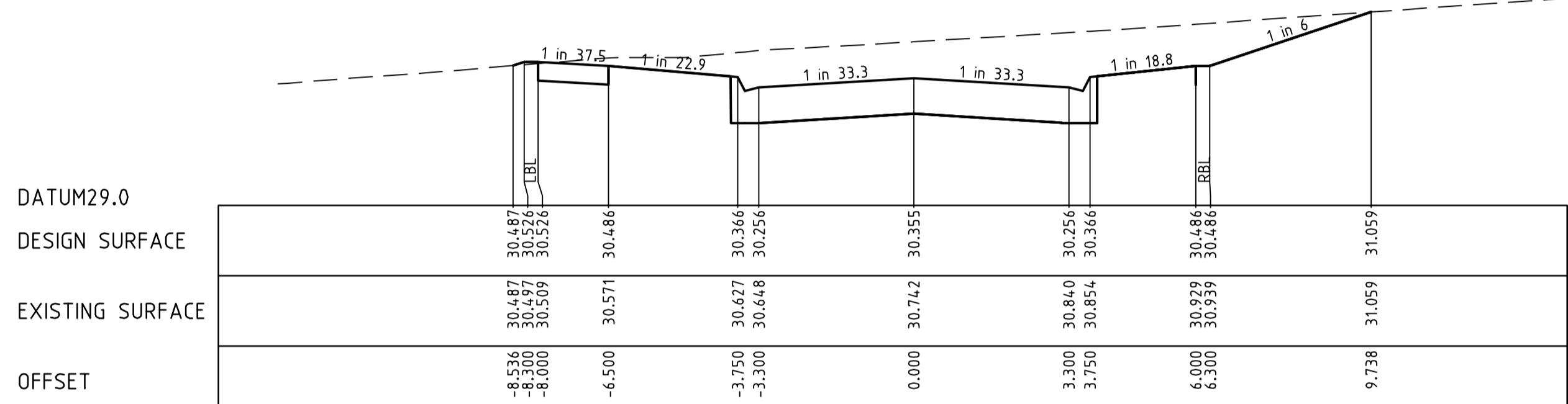
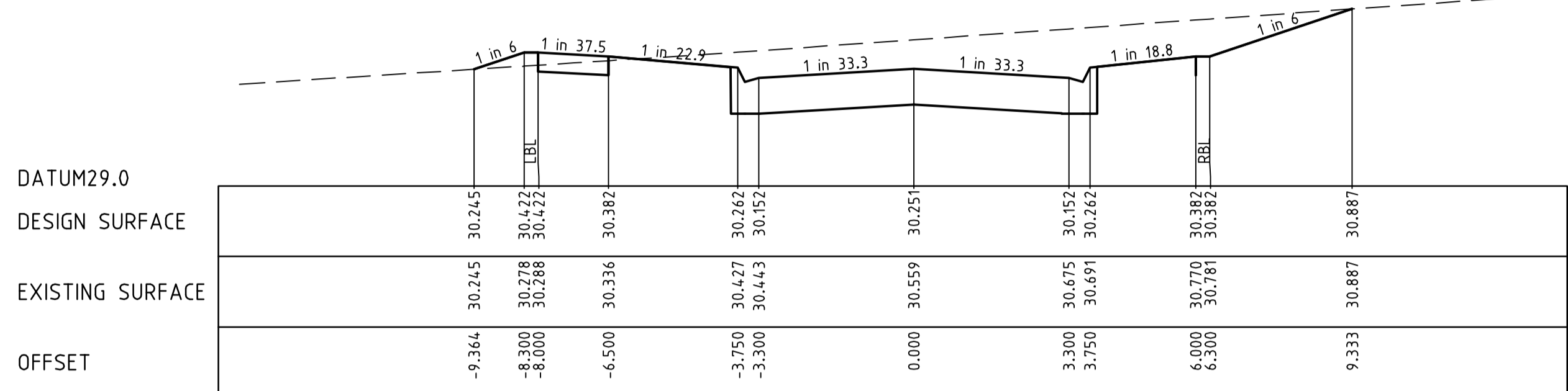
Adelaide +61 8 8223 6455 Gold Coast +61 7 5578 0222  
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**Estuary**  
Stage 8  
City of Greater Geelong  
Roadworks and Drainage  
Cross Sections - Village Green Drive - 2  
CH188.992 - CH209.322  
**Drawing No. 0250EHL-08-21** **Rev D**  
Sheet No. 21 of 29  
**Approved for Construction**

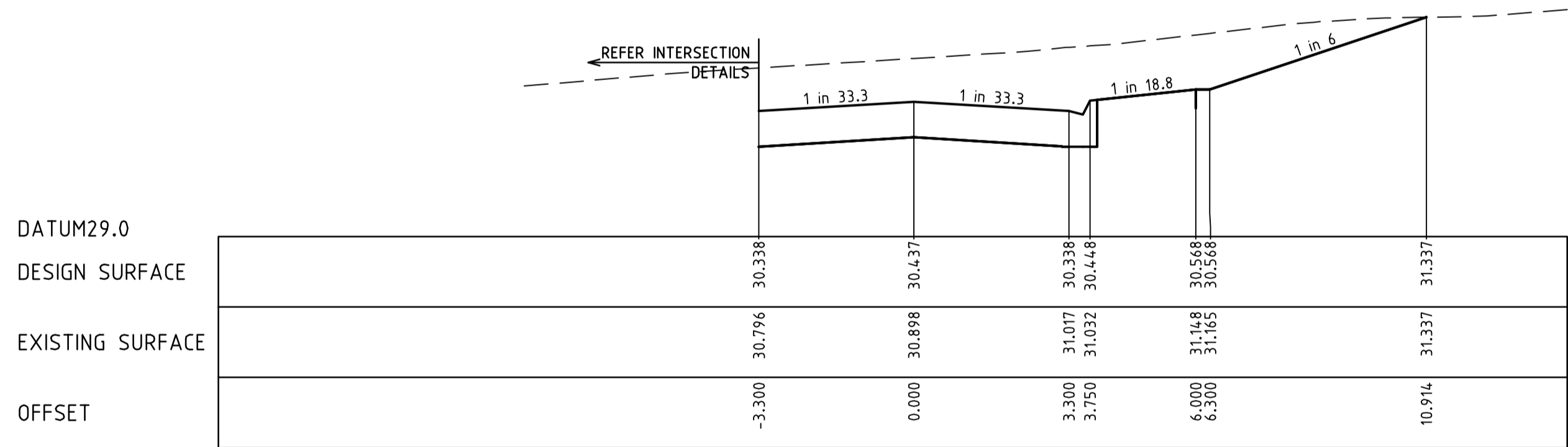




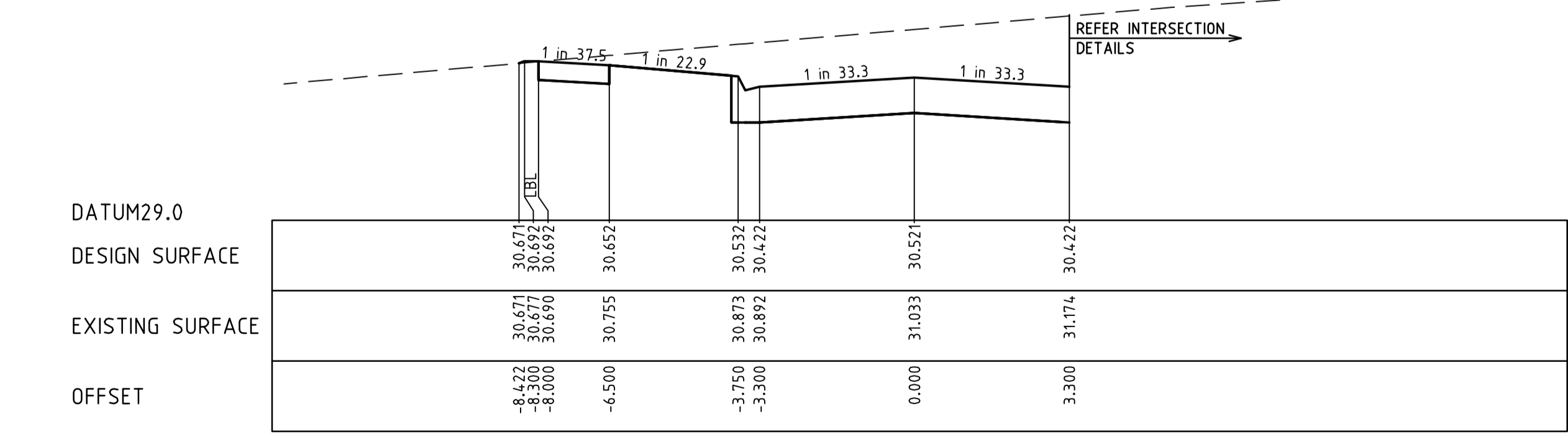
STRUCTURAL FILL REQUIRED UNDER PAVEMENT AND FOOTPATHS WHERE CONSTRUCTED ABOVE NATURAL SURFACE



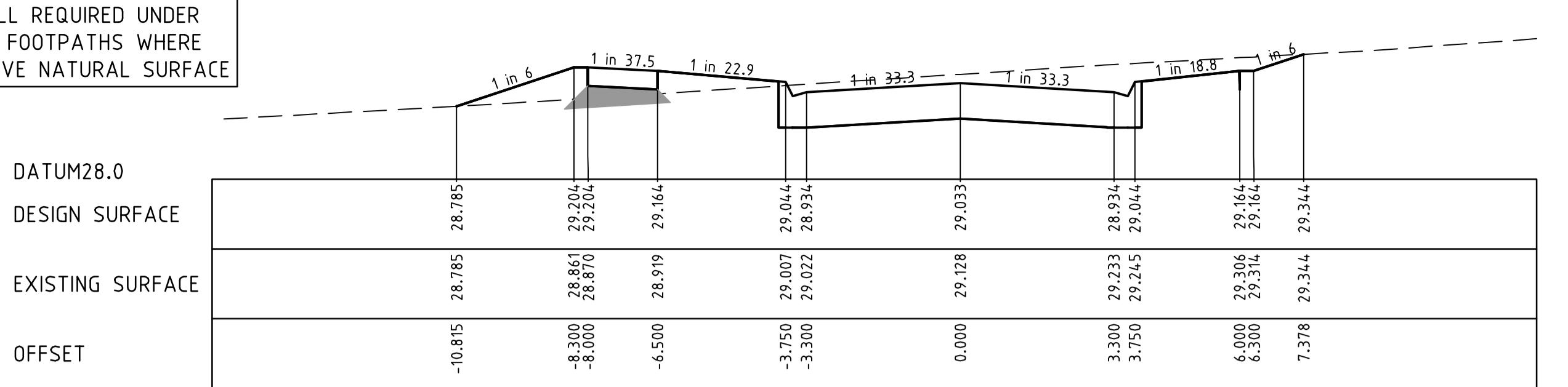
REFER INTERSECTION DETAILS



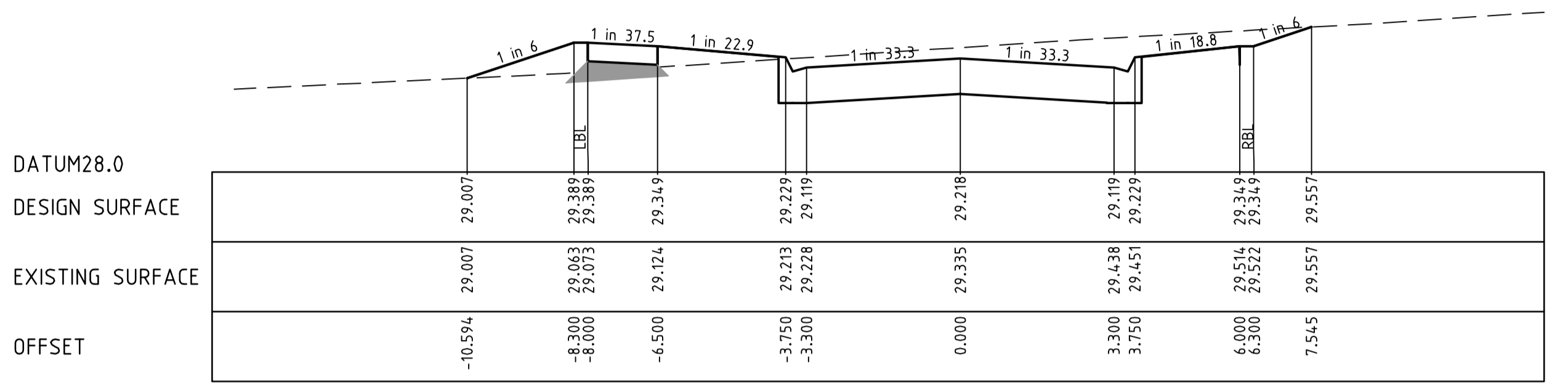
LTPCH 620.022



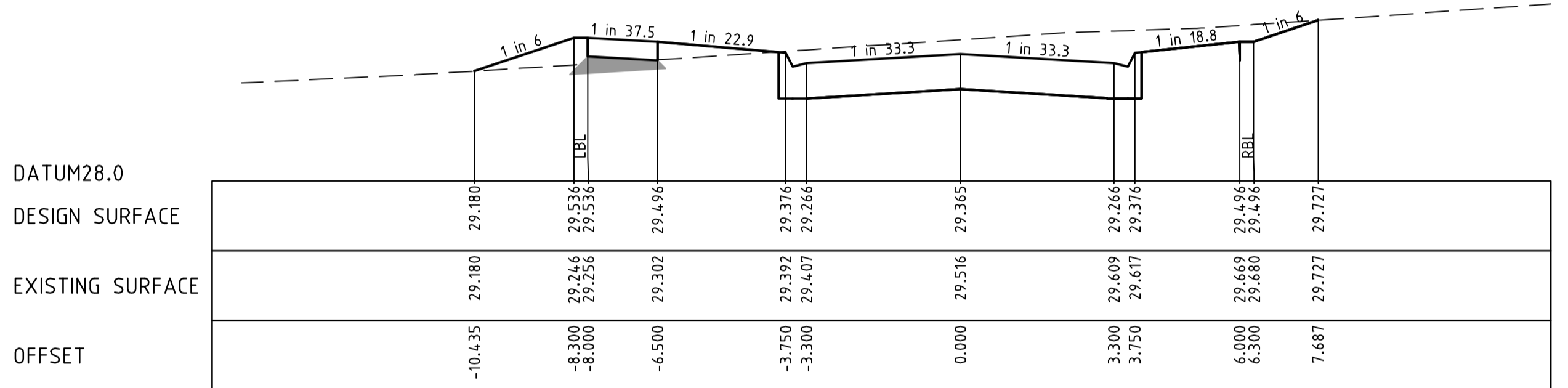
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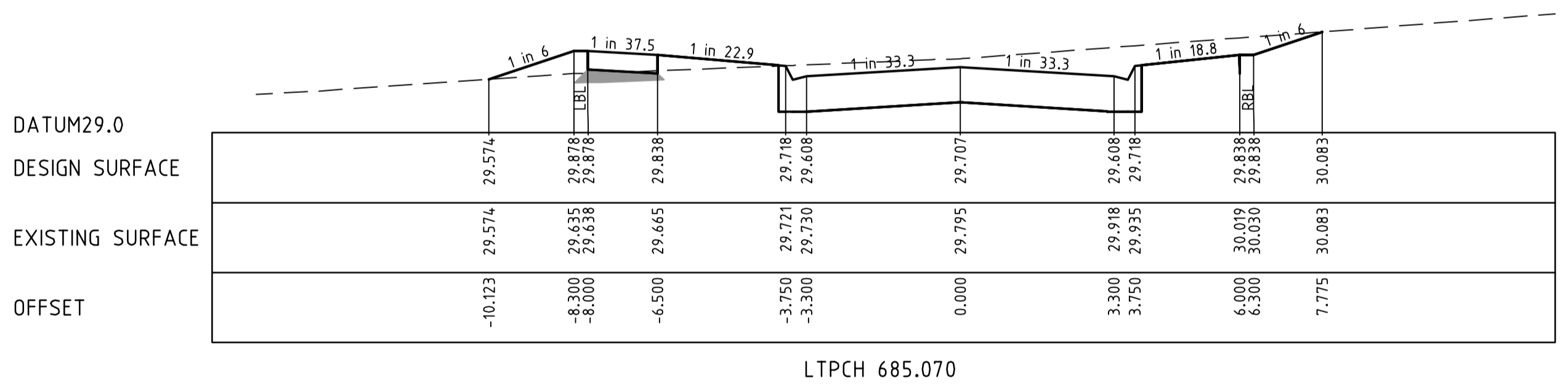
CH 735.970



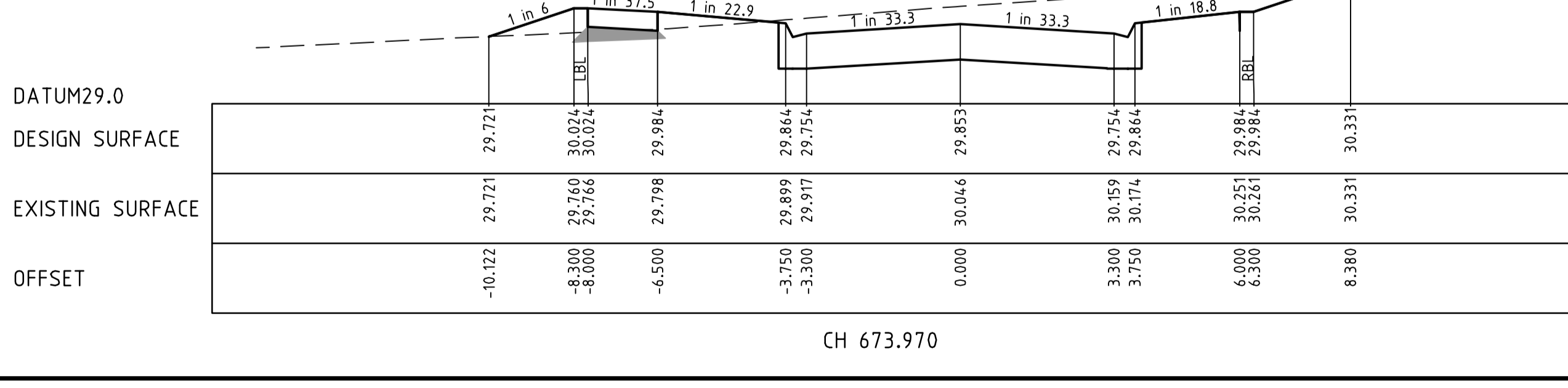
CH 721.970



LTPCH 710.870



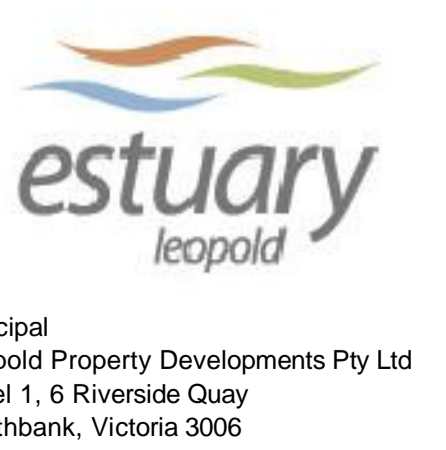
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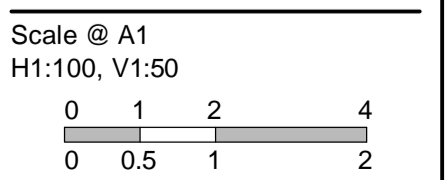
CH 673.970

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

REVISION	DATE	DES/DF	APP'D
D ROAD NAMES AMENDED	03.11.11	CB/CB	JG
C ISSUED FOR APPROVAL	19.05.11	CB/CB	JG
B COUNCIL AMENDMENTS	14.04.11	CB/CB	JG
A ISSUED TO COUNCIL FOR APPROVAL	18.03.11	CB/CB	JG



Designed  
C. Barker  
Drawn  
C. Barker  
Checked  
C. Birkett  
Authorised  
J. Golden  
Date  
March 2011



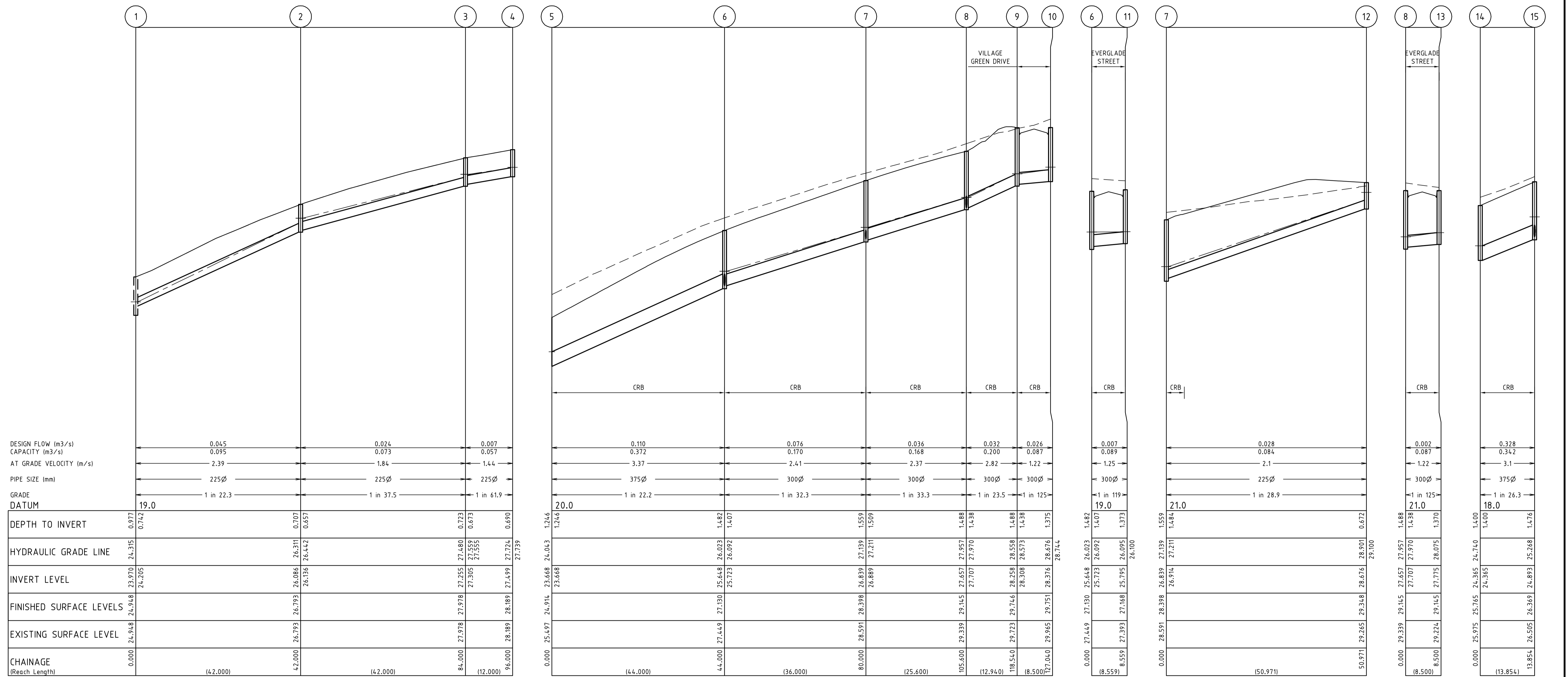
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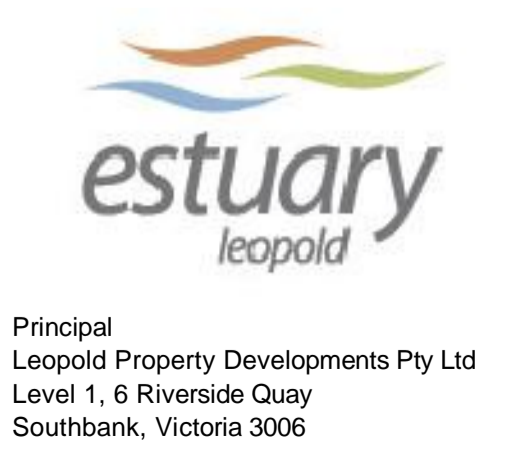
**Estuary**  
Stage 8  
City of Greater Geelong  
Roadworks and Drainage  
Cross Sections - Village Green Drive - 3  
CH220.170 - CH351.070  
**Drawing No. 0250EHL-08-22** **Rev D**  
Sheet No. 22 of 29  
**Approved for Construction**



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

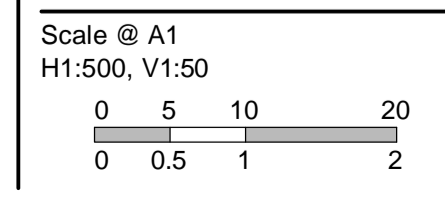


REVISION	DATE	DESIGNER	APP'D
D	03.11.11	CB/CB	JG
C	19.05.11	CB/CB	JG
B	14.04.11	CB/CB	JG
A	18.03.11	CB/CB	JG



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  
March 2011



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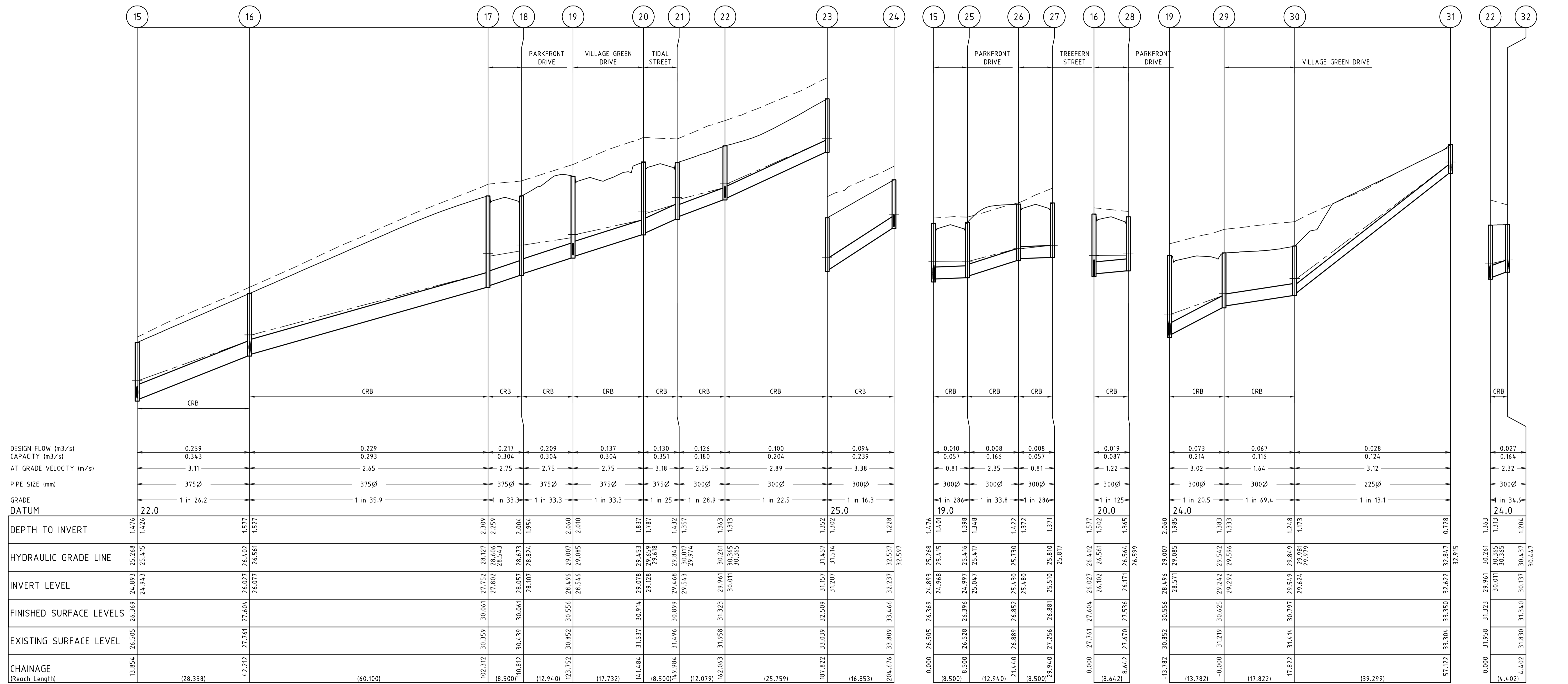
**Estuary**  
Stage 8  
City of Greater Geelong  
Roadworks and Drainage  
Drainage Longitudinal Sections - 1

**Drawing No. 0250EHL-08-23** **Rev D**  
Sheet No. 23 of 29

**Approved for Construction**



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



DEPTH TO INVERT	HYDRAULIC GRADE LINE	INVERT LEVEL	FINISHED SURFACE LEVELS	EXISTING SURFACE LEVEL	CHAINAGE (Reach Length)
1.476	25.268	24.893	26.369	26.505	13.854
1.426	25.415	24.943	27.604	27.761	(28.358)
1.577	26.402	26.027	27.604	27.761	4.212
1.527	26.561	26.077	30.081	30.359	(60.100)
2.309	28.127	27.752	30.081	30.359	102.312
2.259	28.543	27.802	30.081	30.359	(8.500)
2.004	28.673	28.057	30.081	30.359	110.812
1.954	28.824	28.107	30.081	30.359	(12.940)
2.060	29.007	28.486	30.556	30.852	123.752
2.010	29.085	28.546	30.556	30.852	(17.732)
1.837	29.453	29.078	30.914	31.537	141.484
1.787	29.618	29.128	30.914	31.537	(8.500)
1.432	29.843	29.468	30.899	31.496	149.984
1.357	29.974	29.543	30.899	31.496	(12.079)
1.363	30.261	29.961	31.323	31.958	162.063
1.313	30.365	30.011	31.323	31.958	(25.759)
1.352	31.457	31.157	32.509	33.009	187.822
1.302	31.514	31.207	32.509	33.009	(16.853)
1.228	32.537	32.237	33.466	33.809	204.676
1.278	32.597	32.237	33.466	33.809	(8.642)
1.476	25.268	24.893	26.369	26.505	0.000
1.401	25.415	24.968	26.369	26.505	(8.500)
1.398	25.416	24.997	26.396	26.528	8.500
1.348	25.417	25.047	26.396	26.528	(12.940)
1.422	25.730	25.430	26.852	26.889	21.440
1.372	25.440	25.440	26.852	26.889	(8.500)
1.371	25.510	25.510	26.881	27.256	29.940
1.577	26.402	26.027	27.604	27.761	0.000
1.502	26.561	26.102	27.604	27.761	(8.642)
1.365	26.564	26.171	27.536	27.536	8.642
2.060	29.007	28.571	30.556	30.852	-13.782
1.985	29.085	28.571	30.556	30.852	(13.782)
1.383	29.542	29.242	30.625	31.219	-0.000
1.333	29.596	29.292	30.625	31.219	(17.822)
1.248	29.849	29.549	30.797	31.414	17.822
1.173	29.981	29.624	30.797	31.414	(39.299)
0.728	32.847	32.622	33.350	33.350	57.122
0.728	32.915	32.622	33.350	33.350	(16.853)
1.363	30.261	29.961	31.323	31.958	0.000
1.313	30.365	30.011	31.323	31.958	(4.402)
1.204	30.437	30.137	31.340	31.830	4.402
0.447	30.447	30.137	31.340	31.830	(4.402)

REVISION	DATE	DESIGNER	APP'D
A	18.03.11	CB/CB	JG
B	14.04.11	CB/CB	JG
C	19.05.11	CB/CB	JG
D	29.07.11	CB/CB	JG
E	03.11.11	CB/CB	JG

**estuary leopard**

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  
March 2011

Scale @ A1  
H1:500, V1:50

0 5 10 20  
0.5 1 2

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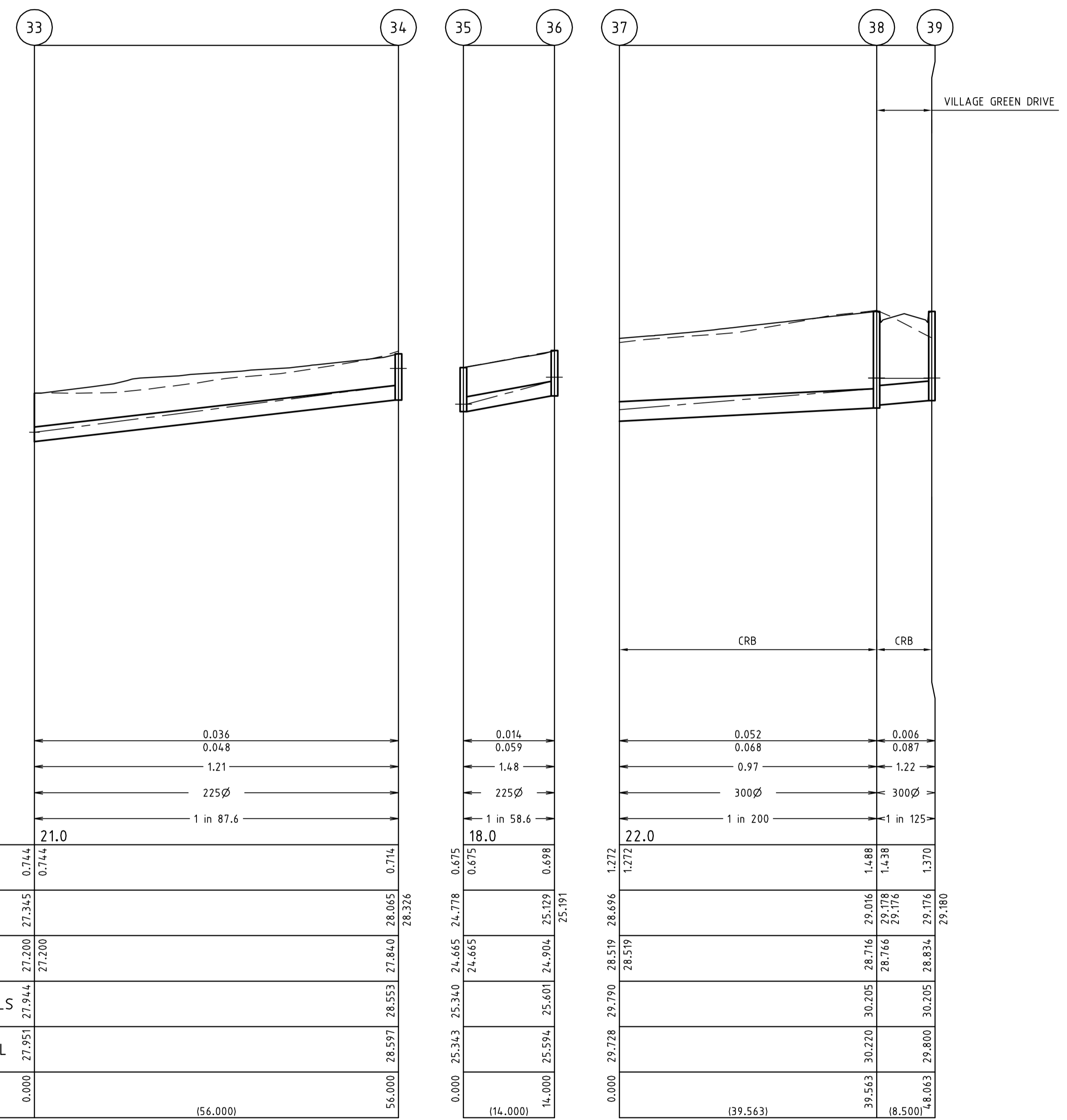
**Estuary**  
Stage 8  
City of Greater Geelong  
Roadworks and Drainage  
Drainage Longitudinal Sections - 2

Drawing No. **0250EHL-08-24** Rev E  
Sheet No. 24 of 29

Approved for Construction



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



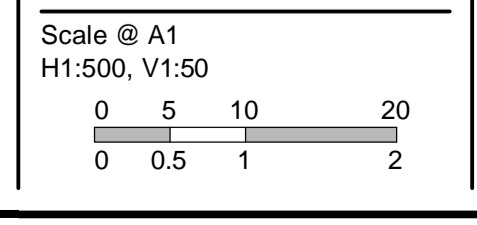
DESIGN FLOW (m <sup>3</sup> /s)	0.036	0.014	0.052	0.006
CAPACITY (m <sup>3</sup> /s)	0.048	0.059	0.068	0.087
AT GRADE VELOCITY (m/s)	1.21	1.48	0.97	1.22
PIPE SIZE (mm)	225Ø	225Ø	300Ø	300Ø
GRADE DATUM	21.0	18.0	22.0	
DEPTH TO INVERT	0.744	0.675	1.272	1.370
HYDRAULIC GRADE LINE	27.345	24.645	29.016	29.176
INVERT LEVEL	27.200	24.645	28.716	28.834
FINISHED SURFACE LEVELS	27.944	25.340	30.205	30.205
EXISTING SURFACE LEVEL	27.951	25.343	30.220	29.800
CHAINAGE (Reach Length)	0.000	0.000	39.563	48.063
	(56.000)	(14.000)	(39.563)	(8.500)

I:\work\0250EHL-08-25\0250EHL-08-25\0250EHL-08-25.dwg

REVISION	DATE	DES/DT	APP'D
A	18.03.11	CB/CB	JG
B	14.04.11	CB/CB	JG
C	19.05.11	CB/CB	JG
D	29.07.11	CB/CB	JG
E	03.11.11	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  
March 2011



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**Estuary**  
Stage 8  
City of Greater Geelong  
Roadworks and Drainage  
Drainage Longitudinal Sections - 3

**Drawing No. 0250EHL-08-25** **Rev E**  
Sheet No. 25 of 29

Approved for Construction









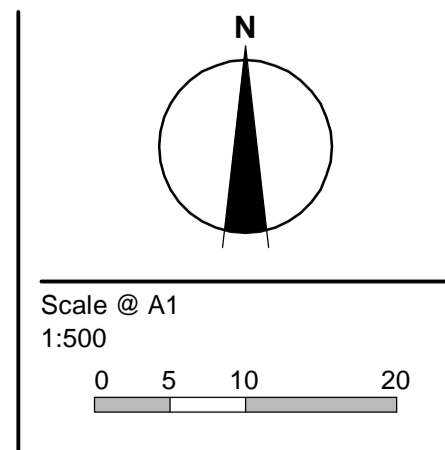




REVISION	DATE	DESIGN	APP'D
A	18.03.11	CB/CE	JG
B	14.04.11	CB/CE	JG
C	19.05.11	CB/CE	JG
D	29.07.11	CB/CE	JG
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**Estuary**  
Stage 8  
City of Greater Geelong  
Roadworks and Drainage  
Subdivision Setout Plan - 1

Drawing No. **0250EHL-08-28** Rev **E**  
Sheet No. 28 of 29

Approved for Construction

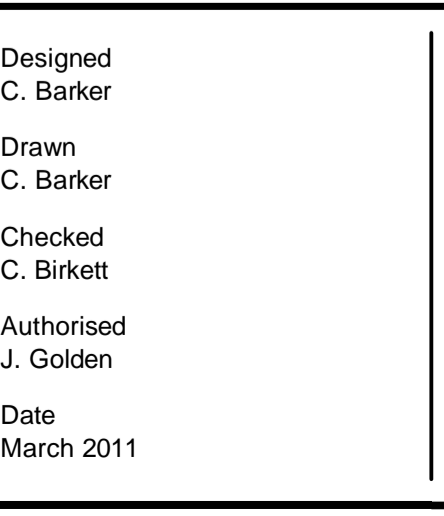




REVISION	DATE	DESIGNER	APP'D
A	18.03.11	CB/CB	JG
B	14.04.11	CB/CB	JG
C	19.05.11	CB/CB	JG
D	29.07.11	CB/CB	JG
E	03.11.11	CB/CB	JG

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C. Barker  
Checked  
C. Birkett  
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J. Golden  
Date  
March 2011



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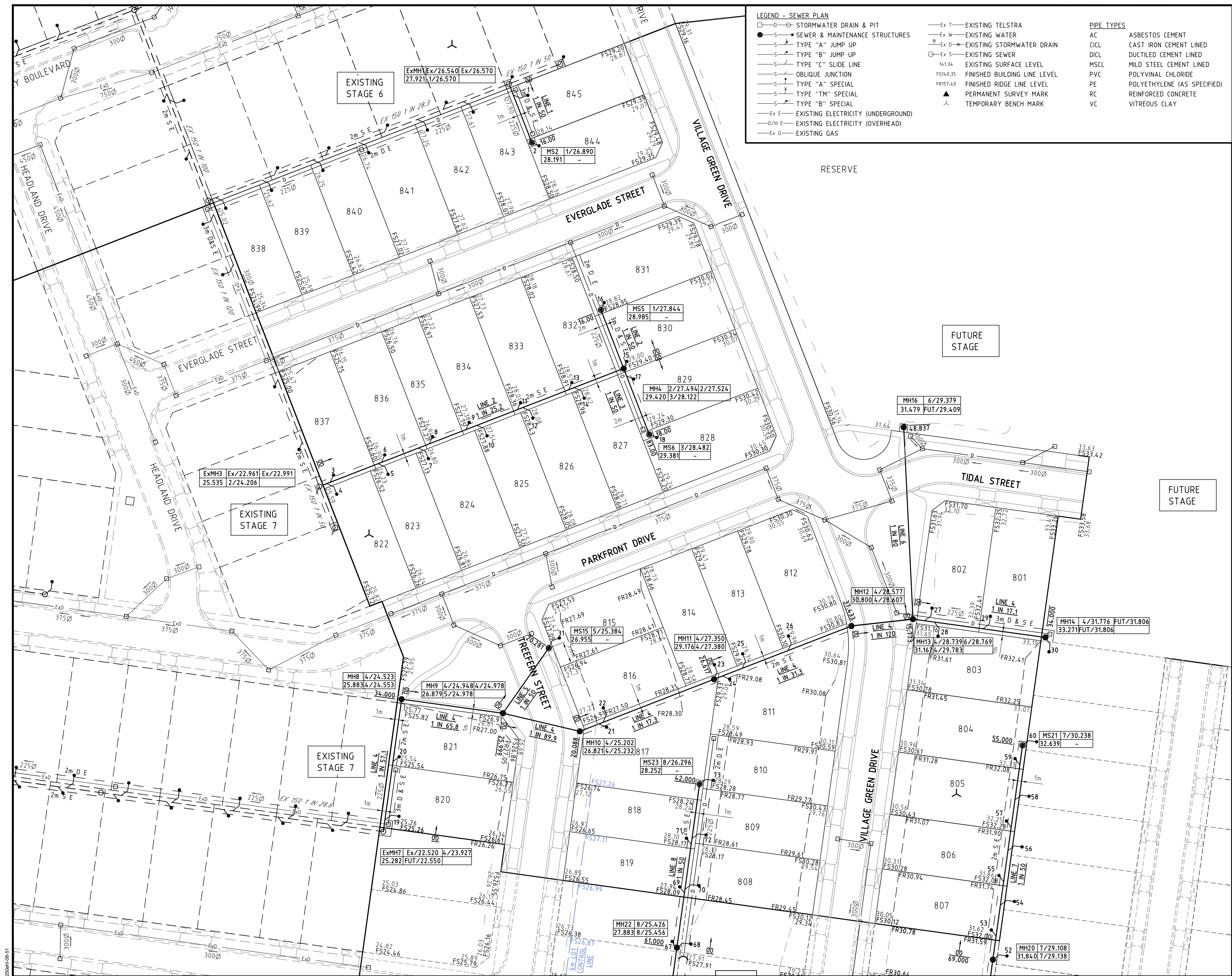
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**Estuary**  
Stage 8  
City of Greater Geelong  
Roadworks and Drainage  
Subdivision Setout Plan - 2

**Drawing No. 0250EHL-08-29** **Rev E**  
Sheet No. 29 of 29

Approved for Construction





**LEGEND - SEWER PLAN**

□	STORMWATER DRAIN & PIT	— Ex T —	EXISTING TELSTRA	PIPE TYPES
●	SEWER & MAINTENANCE STRUCTURES	— Ex W —	EXISTING WATER	AC ASBESTOS CEMENT
—	TYPE "A" JUMP UP	— Ex D —	EXISTING STORMWATER DRAIN	CICL CAST IRON CEMENT LINED
—	TYPE "B" JUMP UP	— Ex S —	EXISTING SEWER	DICL DUCTILE CEMENT LINED
—	TYPE "C" SLIDE LINE	14.1.34	EXISTING SURFACE LEVEL	MSCL MILD STEEL CEMENT LINED
—	OBLIQUE JUNCTION	FS14.0.35	FINISHED BUILDING LINE LEVEL	PVC POLYVINYL CHLORIDE
—	TYPE "A" SPECIAL	FR157.40	FINISHED RIDGE LINE LEVEL	PE POLYETHYLENE (AS SPECIFIED)
—	TYPE "B" SPECIAL	▲	PERMANENT SURVEY MARK	RC REINFORCED CONCRETE
— Ex E —	EXISTING ELECTRICITY (UNDERGROUND)	△	TEMPORARY BENCH MARK	VC VITREOUS CLAY
— D/H —	EXISTING ELECTRICITY (OVERHEAD)			
— Ex G —	EXISTING GAS			

- 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 (03) 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.

**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

NEW SEWER MAINS		
SIZE	TYPE	LENGTH
150	PVC SN8	789m

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

WORKS SHALL NOT COMMENCE UNTIL PLANS ARE SIGNED BY BARWON WATER

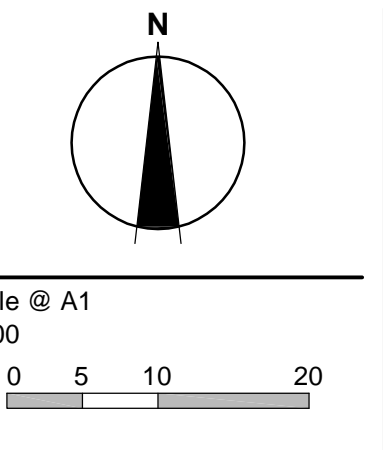
ACCEPTED BY BARWON WATER  
 DEVELOPMENT SERVICES  
 CO-ORDINATOR  
 DEVELOPMENT & CONSERVATION

REVISION	DATE	DES/DT	APPD
E MINOR AMENDMENTS	01.09.11	CB/CB	JG
D SEWER LAYOUT AMENDED AT LOT 817	02.08.11	CB/CB	JG
C LINE 8 ADDED	15.06.11	CB/CB	JG
B MINOR AMENDMENTS	31.05.11	CB/CB	JG
A ISSUED TO BARWON WATER FOR APPROVAL	04.04.11	CB/CB	JG

**estuary leopold**  
 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. Birkett  
 Authorised  
C. Birkett  
 Date  
March 2011



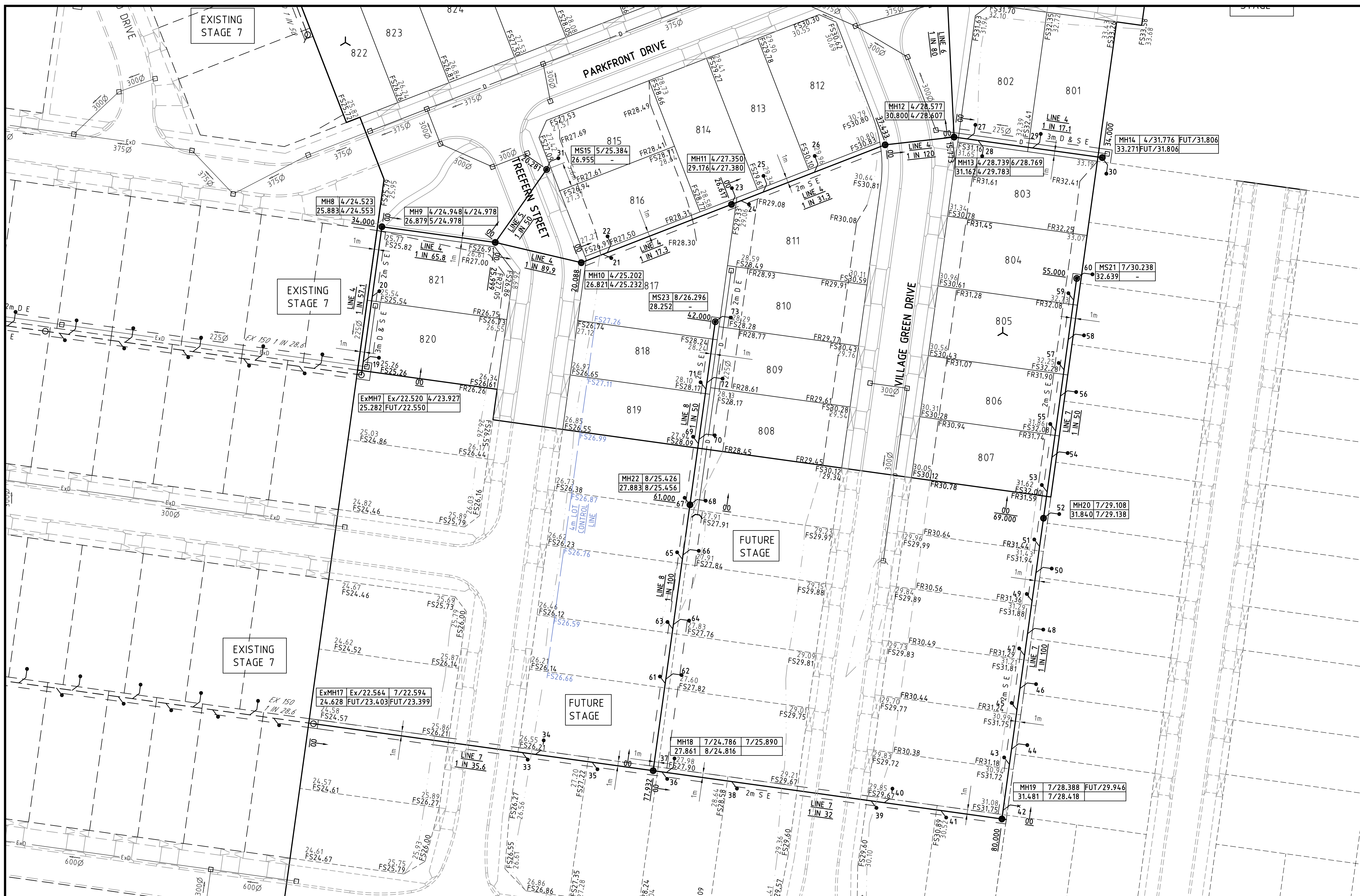
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**Barwon Region Water Authority**  
 Barwon Water No. L006988  
 Estuary  
 Stage No. 8  
 Sewer Detail Plan 1  
 Drawing No. 0250EHL-08-51 Rev E  
 Sheet No. 1 of 5  
 Approved for Construction

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**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
- 14.134 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 DUCTILED CEMENT LINED
- MSLC MILD STEEL CEMENT LINED
- PVC POLYVINYL CHLORIDE
- PE POLYETHYLENE (AS SPECIFIED)
- RC REINFORCED CONCRETE
- VC VITREOUS CLAY

**WARNING**  
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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.

**SERVICES OFFSET SCHEDULE**

ROAD NAME	GAS		WATER		ELECTRICITY		TELSTRA	
	SIDE	OFFSET (m)	SIDE	OFFSET (m)	SIDE	OFFSET (m)	SIDE	OFFSET (m)
LEMONDRA STREET	NORTH	2.10	NORTH	2.70	SOUTH	2.30	SOUTH	1.70
WOLLA STREET	NORTH	2.10	NORTH	2.70	SOUTH	2.30	SOUTH	1.70
CITRINA STREET	SOUTH	2.10	SOUTH	2.70	NORTH	2.30	NORTH	1.70
DANDELION STREET LOTS 806-811	WEST	2.10	WEST	2.70	EAST	1.00	EAST	0.50
DANDELION STREET LOTS 836-840	WEST	2.10	WEST	2.70	EAST	2.30	EAST	1.70
BOLIVINA STREET	EAST	2.10	WEST	2.70	EAST	2.30	EAST	1.70
WALAKARA LANE	WEST	1.60	WEST	2.10	EAST	2.30	EAST	1.70

**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	-	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	-	BRASS PLAQUE
MOOLAP PM321	277040	5769480	9.436	BRASS PLAQUE
MOOLAP PM302	277310	5769280	22.180	BRASS PLAQUE

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

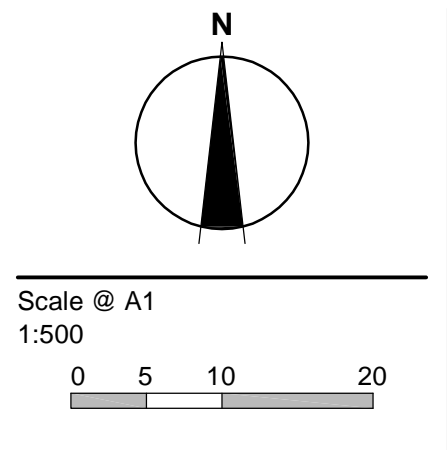
REVISION	DATE	DES/DF	APPD
F MINOR AMENDMENTS	01.09.11	CB/CB	JG
E SEWER LAYOUT AMENDED FOR LOT 817	02.08.11	CB/CB	JG
D MH19 COVER LEVEL AMENDED	01.07.11	CB/CB	JG
C LINE 8 ADDED	15.06.11	CB/CB	JG
B MINOR AMENDMENTS	31.05.11	CB/CB	JG
A ISSUED TO BARWON WATER FOR APPROVAL	04.04.11	CB/CB	JG

**estuary leopard**

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. Birckett  
 Authorised  
 C. Birckett  
 Date  
 March 2011



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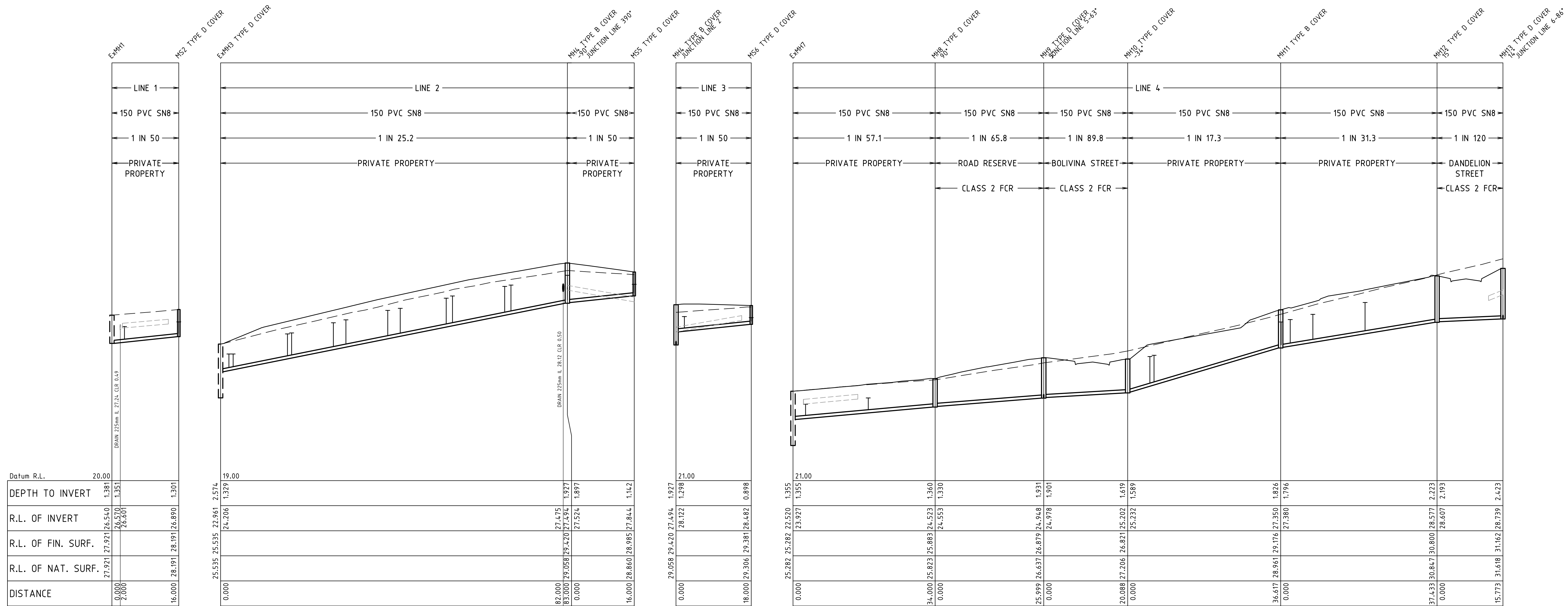
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**Barwon Region Water Authority**  
 Barwon Water No. L006988  
 Estuary  
 Stage No. 8  
 Sewer Detail Plan 2

**Drawing No. 0250EHL-08-52** **Rev F**  
 Sheet No. 2 of 5

**Approved for Construction**





Datum R.L.	20.00		19.00		21.00		21.00		21.00		21.00		21.00	
DEPTH TO INVERT	1.381	1.351	2.574	1.329	1.927	1.927	1.927	1.355	1.355	1.355	1.355	1.355	1.355	1.355
R.L. OF INVERT	26.540	26.540	24.206	24.206	27.475	27.475	27.475	23.927	23.927	23.927	23.927	23.927	23.927	23.927
R.L. OF FIN. SURF.	27.921	27.921	25.535	25.535	29.420	29.420	29.420	25.999	25.999	25.999	25.999	25.999	25.999	25.999
R.L. OF NAT. SURF.	28.191	28.191	28.191	28.191	28.844	28.844	28.844	27.206	27.206	27.206	27.206	27.206	27.206	27.206
DISTANCE	0.000	2.000	0.000	16.000	0.000	16.000	0.000	0.000	34.000	0.000	34.000	0.000	34.000	0.000

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
D SEWER LAYOUT AMENDED AT LOT 817	02.08.11	CB/CB	JG
C MINOR AMENDMENTS	15.06.11	CB/CB	JG
B MINOR AMENDMENTS	31.05.11	CB/CB	JG
A ISSUED TO BARWON WATER FOR APPROVAL	04.04.11	CB/CB	JG

**Principal**  
 Leopold Property Developments Pty Ltd  
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 Southbank, Victoria 3006

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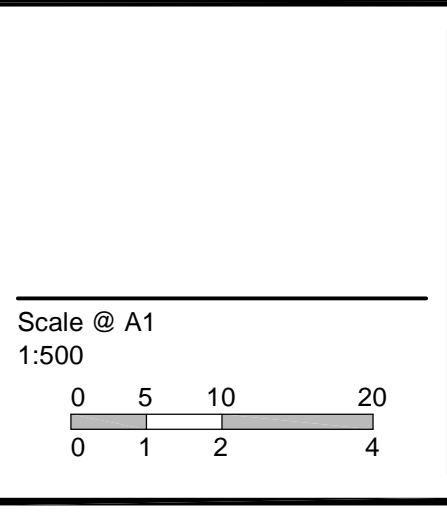
Designed  
C. Barker

Drawn  
C. Barker

Checked  
C. Birkett

Authorised  
J. Golden

Date  
March 2011



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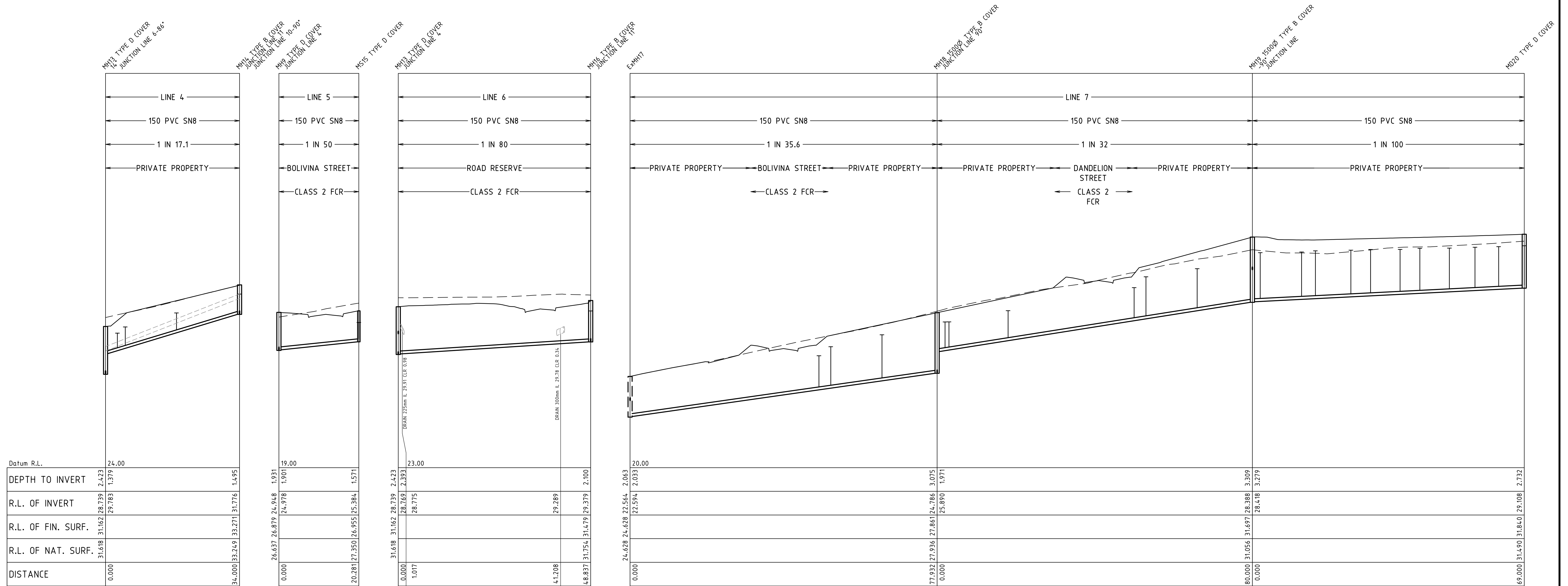
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**Barwon Retion Water Authority**  
 Barwon Water No. L006988  
 Estuary  
 Stage No. 8  
 Sewer Longitudinal Sections - 1

Drawing No. **0250EHL-08-53** Rev D  
 Sheet No. 3 of 5

Approved for Construction





	0.000	34.000	20.281	31.618	0.000	1.017	41.208	48.837	20.000	77.932	0.000	80.000	69.000
Datum R.L.	24.00		19.00	23.00					20.00				
DEPTH TO INVERT	2.423	1.379	1.901	2.423	2.033				2.063	3.075	1.971	3.309	2.732
R.L. OF INVERT	29.783	31.776	24.978	28.775	22.564	22.594	29.289	27.861	22.594	24.786	25.890	28.388	29.108
R.L. OF FIN. SURF.	31.618	33.249	26.879	31.162	24.628	27.936	31.479	27.936	24.628	27.936	27.936	31.697	31.840
R.L. OF NAT. SURF.													
DISTANCE	0.000	34.000	20.281	31.618	0.000	1.017	41.208	48.837	20.000	77.932	0.000	80.000	69.000

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
A	04.04.11	CB/CB	JG
B	31.05.11	CB/CB	JG
C	15.06.11	CB/CB	JG
D	01.07.11	CB/CB	JG
E	02.08.11	CB/CB	JG
F	01.09.11	CB/CB	JG

Principal  
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Southbank, Victoria 3006

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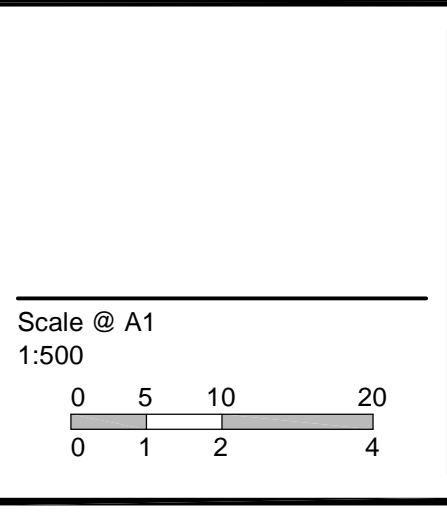
Designed  
C. Barker

Drawn  
C. Barker

Checked  
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J. Golden

Date  
March 2011



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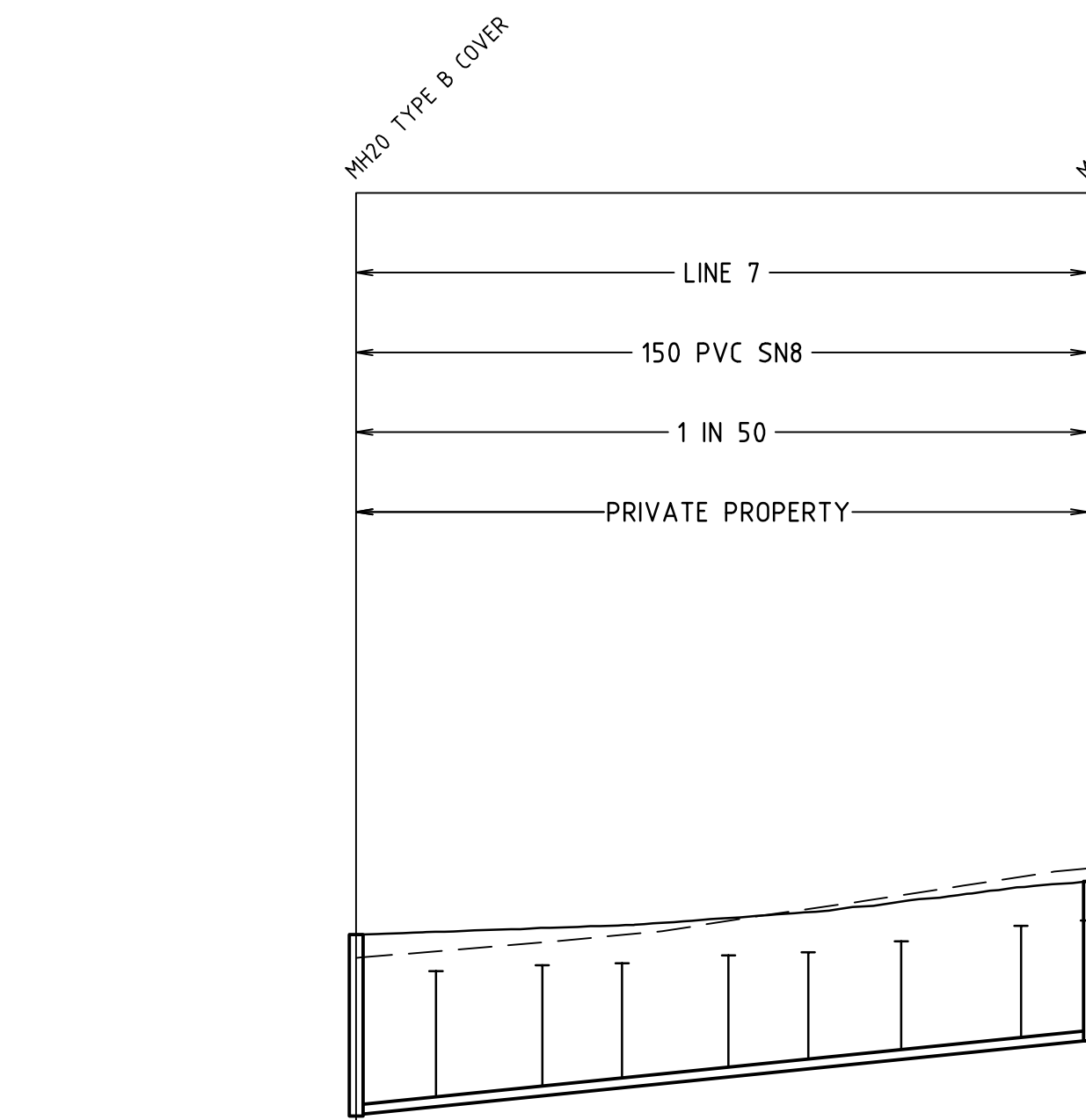
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**Barwon Retion Water Authority**  
Barwon Water No. L006988  
Estuary  
Stage No. 8  
Sewer Longitudinal Sections - 2

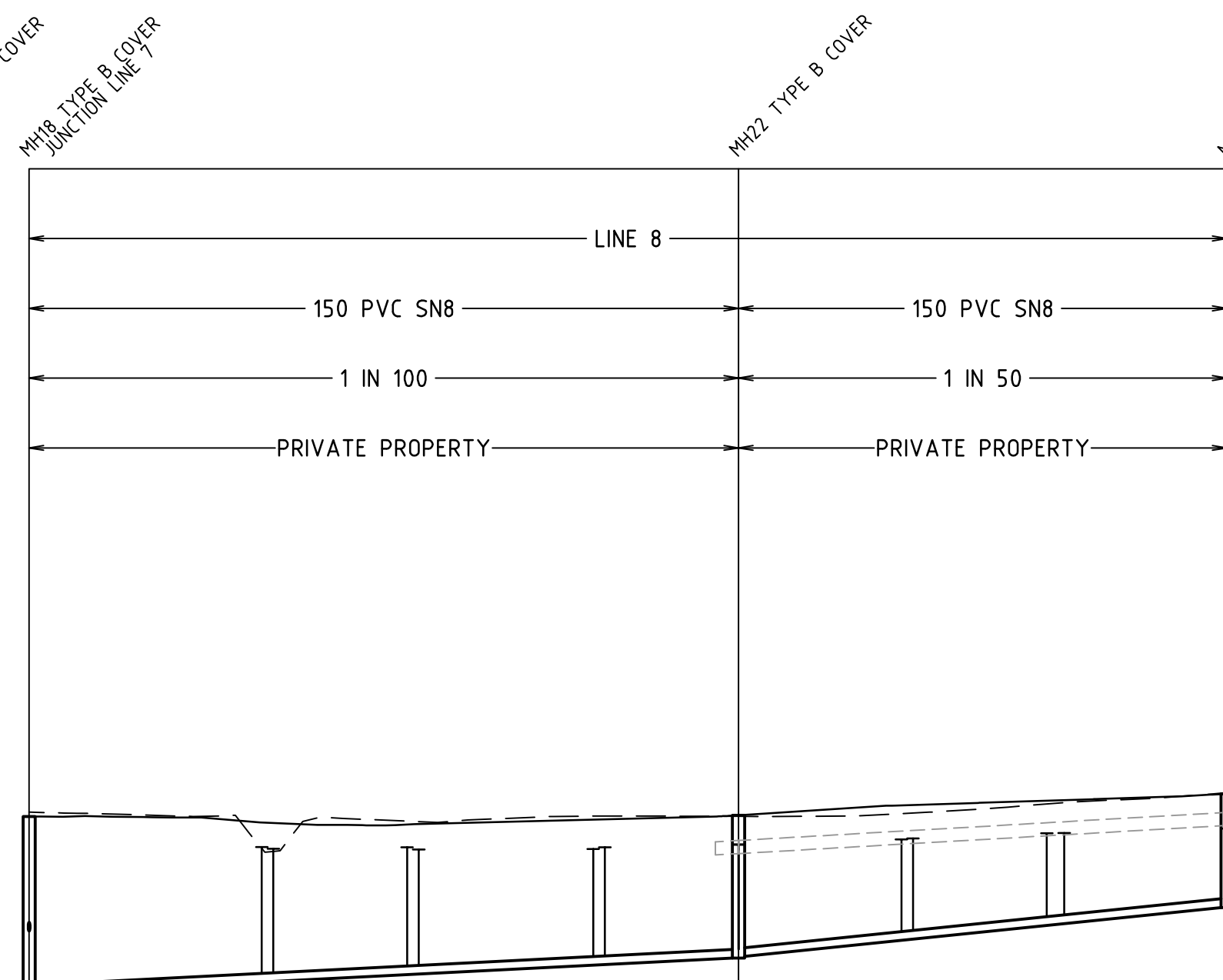
**Drawing No. 0250EHL-08-54**      **Rev F**  
Sheet No. 4 of 5

**Approved for Construction**





Datum R.L.	23.00	
DEPTH TO INVERT	29.108 2.702	30.238 2.401
R.L. OF INVERT	29.138	30.238
R.L. OF FIN. SURF.	31.470 31.840	32.439 32.238
R.L. OF NAT. SURF.		
DISTANCE	0.000	55.000



Datum R.L.	19.00	
DEPTH TO INVERT	24.816 3.045	25.451 2.427
R.L. OF INVERT	24.816	25.451
R.L. OF FIN. SURF.	27.936 27.861 24.786 3.075	28.252 26.296
R.L. OF NAT. SURF.		
DISTANCE	0.000	42.000

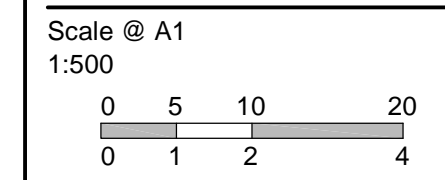
LINE NO.	MANHOLE NO.	HC NO.	LOT NAME	CONNECTION TYPE	CHAINAGE	IL SEWER	IL BRANCH	BRANCH HEIGHT
1	MH1	1	Lot 845	A Special	3.00	26.62	27.37	0.75
1	MS2	2	Lot 844	B	0.00	26.89	27.60	0.71
2	MH3	3	Lot 822	A Special	2.00	24.27	25.06	0.80
2	MH3	3	Lot 837	B	3.00	24.31	25.06	0.76
2	MH3	5	Lot 823	A Special	16.00	24.83	26.02	1.20
2	MH3	6	Lot 836	B	17.00	24.87	26.07	1.20
2	MH3	7	Lot 824	A Special	27.00	25.27	26.56	1.29
2	MH3	8	Lot 835	B	30.00	25.39	26.70	1.31
2	MH3	9	Lot 834	B	40.00	25.79	27.15	1.36
2	MH3	10	Lot 825	A Special	43.00	25.91	27.25	1.33
2	MH3	11	Lot 833	B	54.00	26.35	27.73	1.38
2	MH3	12	Lot 826	A Special	55.50	26.41	27.84	1.43
2	MH3	13	Lot 832	B	68.00	26.91	28.30	1.38
2	MH3	14	Lot 827	A Special	69.50	26.97	28.36	1.39
2	MH4	15	Lot 830	B	0.00	27.49	28.83	1.34
2	MS5	16	Lot 831	B	0.00	27.84	28.40	0.56
3	MH4	17	Lot 829	B	2.00	28.15	28.86	0.70
3	MS6	18	Lot 828	B	0.00	28.48	28.80	0.32
4	MH7	19	Lot 820	A Special	3.00	23.97	24.66	0.69
4	MH7	20	Lot 821	B	18.00	24.24	24.96	0.71
4	MH10	21	Lot 817	B	5.32	25.52	26.94	1.42
4	MH10	22	Lot 816	A Special	6.32	25.58	27.00	1.42
4	MH11	23	Lot 814	A Special	0.00	27.35	28.59	1.24
4	MH11	24	Lot 811	B	2.29	27.44	28.71	1.27
4	MH11	25	Lot 813	A Special	7.70	27.62	28.96	1.34
4	MH11	26	Lot 812	A Special	20.20	28.03	29.52	1.50
4	MH13	27	Lot 802	A Special	3.00	29.93	30.83	0.89
4	MH13	28	Lot 803	A Special	5.00	30.05	31.14	1.09
4	MH13	29	Lot 801	A Special	18.00	30.84	31.85	1.01
4	MH14	30	Lot 1213	A Special	0.00	31.78	32.80	1.03
4	MH15	31	Lot 815	A Special	0.00	25.38	26.37	0.98
		32	NOT USED					
7	MH17	33	Lot 912	B	47.93	23.95	25.68	1.73
7	MH17	34	Lot 911	A Special	50.93	24.03	26.14	2.10
7	MH17	35	Lot 913	B	63.93	24.40	26.74	2.34
7	MH18	36	Lot 914	B	2.00	25.94	27.39	1.46
7	MH18	37	Lot 916	A Special	3.00	25.97	27.40	1.43
7	MH18	38	Lot 915	B	18.00	26.44	27.96	1.52
7	MH18	39	Lot 927	B	50.00	27.46	29.13	1.67
7	MH18	40	Lot 926	A Special	53.00	27.55	29.68	2.13
7	MH18	41	Lot 928	B	66.00	27.96	30.09	2.13
7	MH19	42	Lot 1203	A Special	2.00	28.43	30.91	2.47
7	MH19	43	Lot 925	B	12.50	28.54	30.94	2.40
7	MH19	44	Lot 1204	A Special	16.00	28.58	31.00	2.42
7	MH19	45	Lot 924	B	25.00	28.67	31.03	2.36
7	MH19	46	Lot 1205	A Special	30.00	28.72	31.06	2.35
7	MH19	47	Lot 923	B	37.50	28.79	31.07	2.28
7	MH19	48	Lot 1206	A Special	42.50	28.84	31.12	2.28
7	MH19	49	Lot 922	B	50.00	28.92	31.14	2.22
7	MH19	50	Lot 1207	A Special	56.50	28.99	31.18	2.20
7	MH19	51	Lot 921	B	62.50	29.05	31.21	2.16
7	MH20	52	Lot 1208	A Special	0.00	29.11	31.25	2.15
7	MH20	53	Lot 807	B	6.00	29.25	31.29	2.04
7	MH20	54	Lot 1209	A Special	14.00	29.41	31.38	1.97
7	MH20	55	Lot 806	B	20.00	29.53	31.41	1.87
7	MH20	56	Lot 1210	A Special	28.00	29.70	31.53	1.83
7	MH20	57	Lot 805	B	34.00	29.82	31.57	1.76
7	MH20	58	Lot 1211	A Special	41.00	29.96	31.74	1.78
7	MH20	59	Lot 804	B	50.00	30.14	31.97	1.83
7	MS21	60	Lot 1212	A Special	0.00	30.24	32.05	1.82
8	MH18	61	Lot 910	B	20.00	25.01	27.34	2.32
8	MH18	62	Lot 917	A Special	21.00	25.02	27.30	2.28
8	MH18	63	Lot 909	B	32.50	25.14	27.33	2.19
8	MH18	64	Lot 918	A Special	33.50	25.15	27.29	2.14
8	MH18	65	Lot 908	B	48.50	25.30	27.30	2.00
8	MH18	66	Lot 919	A Special	49.50	25.31	27.33	2.02
8	MH22	67	Lot 907	B	0.00	25.43	27.38	1.95
8	MH22	68	Lot 920	A Special	0.00	25.43	27.38	1.95
8	MH22	69	Lot 819	B	14.00	25.73	27.47	1.73
8	MH22	70	Lot 808	A Special	15.00	25.75	27.48	1.73
8	MH22	71	Lot 818	B	26.50	25.99	27.57	1.59
8	MH22	72	Lot 809	A Special	28.00	26.02	27.58	1.56
8	MH22	73	Lot 810	A Special	0.00	26.30	27.65	1.36

REVISION	DATE	DES/DF	APPD
E	01.09.11	CB/CB	JG
D	02.08.11	CB/CB	JG
C	15.06.11	CB/CB	JG
B	31.05.11	CB/CB	JG
A	04.04.11	CB/CB	JG

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

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  - Nominal size of water mains indicated in millimetres & offsets are indicated in metres.
  - All sewer pipes are 150mm unless otherwise shown.

Designed  
C. Barker  
Drawn  
C. Barker  
Checked  
C. Birkett  
Authorised  
J. Golden  
Date  
March 2011



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**Barwon Retion Water Authority**  
Barwon Water No. L006988  
Estuary  
Stage No. 8  
Sewer Longitudinal Sections - 3

Drawing No. **0250EHL-08-55** Rev E  
Sheet No. 5 of 5

Approved for Construction

WORKS SHALL NOT COMMENCE UNTIL PLANS ARE SIGNED BY BARWON WATER

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

I:\work\0250EHL-08-55 - horizons\0250EHL-08-55.dwg



**LEGEND - WATER PLAN**

□	STORMWATER DRAIN & PIT
—	WATER MAIN
—	CHANGE OF PIPE SIZE
—	MAINS NOT CONNECTED
—	MAINS IN CONDUIT
○	VALVE
○	NON RETURN VALVE
●	FIRE PLUG
—	DEAD END CAP
—	EXISTING ELECTRICITY (UNDERGROUND)
—	EXISTING ELECTRICITY (OVERHEAD)
—	EXISTING GAS
—	EXISTING TELSTRA
—	EXISTING WATER
—	EXISTING STORMWATER DRAIN
—	EXISTING SEWER
141.34	EXISTING SURFACE LEVEL
F514.0.35	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

**WARNING**  
**BWARE 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**  
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- DESIGN HEAD=112.6m AHD**  
**TEST PRESSURE=1600kPa**
- 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 WATERS 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 CAD STRAIGHT MAP GRID (MGAI) 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.
- WATER**
- ENSURE WATERMANS ARE GRADED TO SUFFICIENT DEPTH UNDER ROADWAYS TO OBTAIN REQUIRED CLEARANCE UNDER STORM WATER DRAINS AND PAVEMENT LEVELS.
  - MARKER POSTS TO BE PLACED AT FIRE PLUGS. FIRE PLUG INDICATORS ARE TO BE IN ACCORDANCE WITH CFA & WSAA REQUIREMENTS.
  - 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 (i.e. 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.
  - 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".
  - FITZROY BOXES ARE TO BE PLACED OVER MONT TAP (MT) OR ANY TAPPING LOCATED WITHIN THE ROAD PAVEMENT.
  - THRUST BLOCKS ARE TO BE CONSTRUCTED AS PER BARWON WATER STANDARD DRAWING No'S 70104, 70105 AND 70106
  - 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
  - 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 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**
- TRENCH COMPACTION RESULTS TO BE SUBMITTED BY CONSULTANT WITH 'AS CONSTRUCTED' NOTES.

WORKS SHALL NOT COMMENCE UNTIL PLANS ARE SIGNED BY BARWON WATER

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

REVISION	DATE	DES/DT	APP'D
D MINOR AMENDMENTS	01.05.12	CB/CB	JG
C WULAKARA LANE REMOVED	02.08.11	CB/CB	JG
B MINOR AMENDMENTS	31.05.11	CB/CB	JG
A ISSUED TO BARWON WATER FOR APPROVAL	04.04.11	CB/CB	JG

**estuary leopard**

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

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- 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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  - Nominal size of water mains indicated in millimetres & offsets are indicated in metres.
  - All sewer pipes are 1500mm unless otherwise shown.

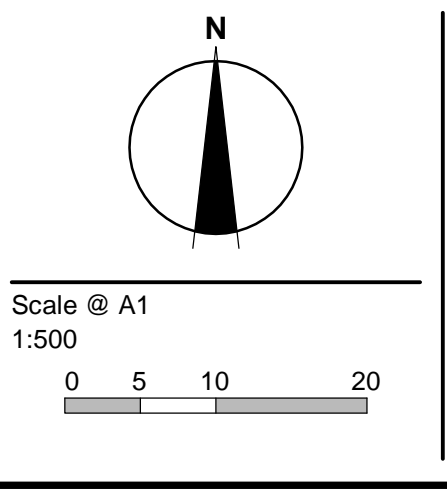
Designed  
 C. Barker

Drawn  
 C. Barker

Checked  
 C. Birckett

Authorised  
 J. Golden

Date  
 March 2011



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 consulting group

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**Barwon Region Water Authority**  
 Barwon Water No. L006988  
 Estuary  
 Stage No. 8  
 Water Detail Plan 1

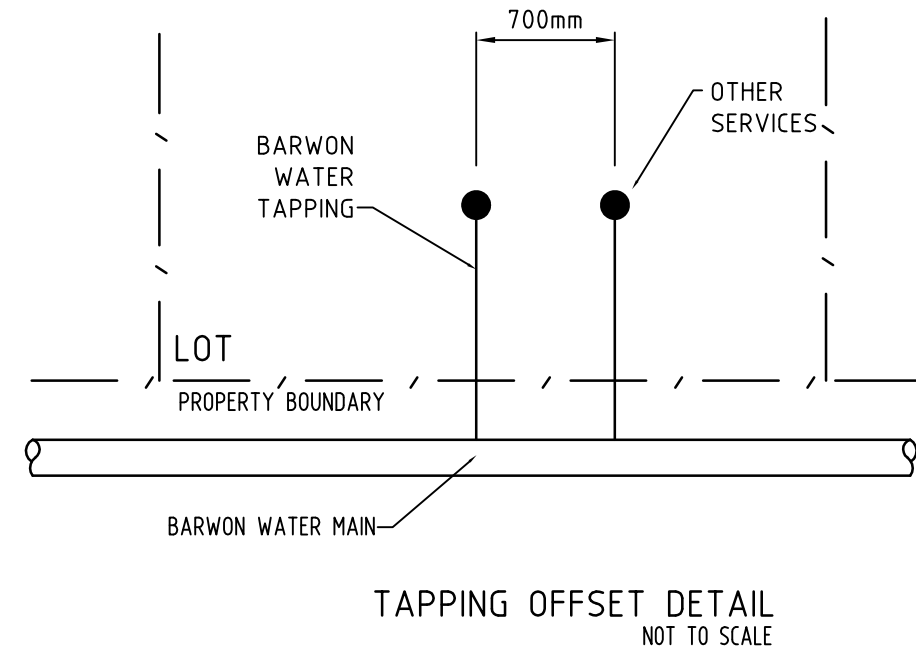
**Drawing No. 0250EHL-08-61** **Rev D**

Sheet No. 1 of 2

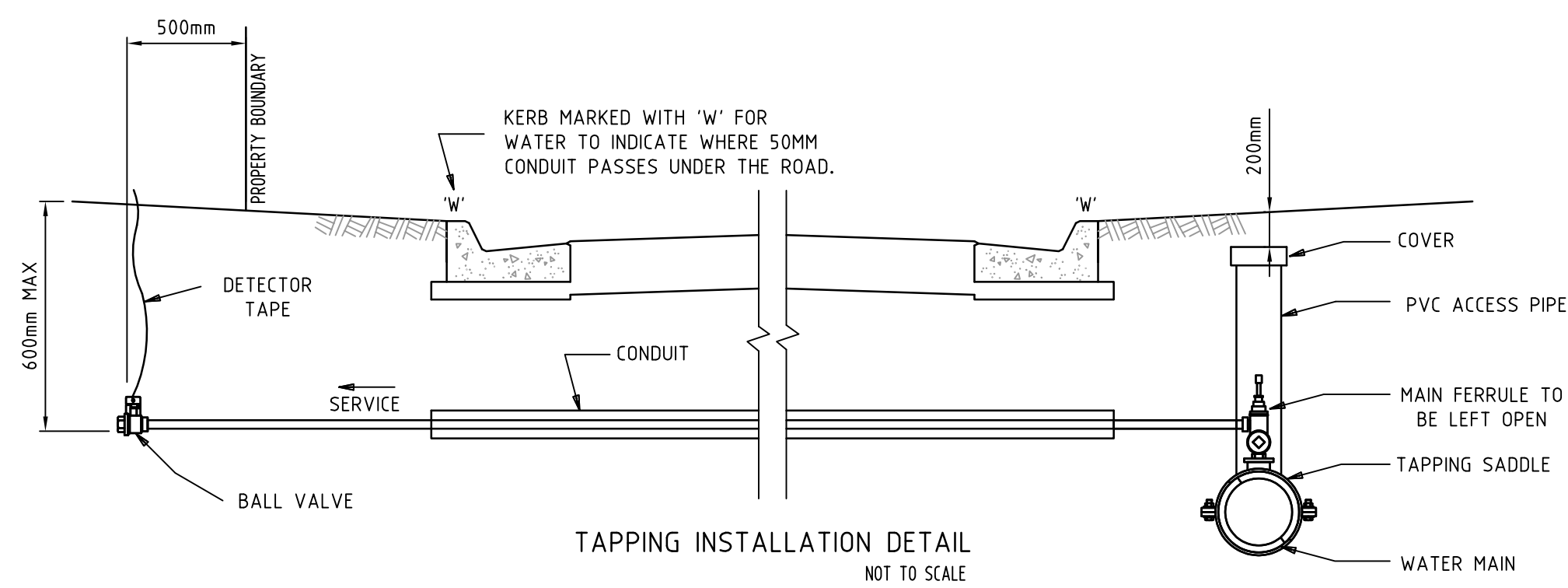
**Approved for Construction**

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TAPPING OFFSET DETAIL  
NOT TO SCALE



TAPPING INSTALLATION DETAIL  
NOT TO SCALE

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 JOINS)
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.
7. DETECTOR TAPE IS TO BE RUN TO SURFACE LEVEL.
8. BALL VALVE TO BE IN ACCORDANCE WITH AUSTRALIAN STANDARDS (IE STAMPED 'W') BRASS FITTING WITH STAINLESS STEEL BALL.

ROAD NAME	GAS		WATER		ELECTRICITY		TELSTRA	
	SIDE	OFFSET (m)	SIDE	OFFSET (m)	SIDE	OFFSET (m)	SIDE	OFFSET (m)
EVERGLADE STREET	NORTH	2.10	NORTH	2.70	SOUTH	2.30	SOUTH	1.70
PARKFRONT DRIVE	NORTH	2.10	NORTH	2.70	SOUTH	2.30	SOUTH	1.70
TIDAL STREET	SOUTH	2.10	SOUTH	2.70	NORTH	2.30	NORTH	1.70
VILLAGE GREEN DRIVE LOTS 806-811	WEST	2.10	WEST	2.70	EAST	1.00	EAST	0.50
VILLAGE GREEN DRIVE LOTS 836-840	WEST	2.10	WEST	2.70	EAST	2.30	EAST	1.70
TREEFERN STREET	EAST	2.10	WEST	2.70	EAST	2.30	EAST	1.70

SURVEY STATIONS (HORIZONTAL - ARBITRARY, VERTICAL - AHD)				
TBM	EASTING	NORTHING	RL	DESCRIPTION
RODS01	10106.39	48560.27	21.19	ROD
RODS02	10309.58	48587.59	28.62	ROD
MOOLAP PM69	1000.00	50000.00	-	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
RODS01	27724.507	5768919.27	21.19	ROD
RODS02	27744.831	5768946.60	28.62	ROD
MOOLAP PM69	277138.66	5770359.31	-	BRASS PLAQUE
MOOLAP PM321	277040	5769480	9.436	BRASS PLAQUE
MOOLAP PM302	277310	5769280	22.180	BRASS PLAQUE

THRUST RESTRAINT SCHEDULE			
LOCATION	TYPE	AREA (m <sup>2</sup> )	NUMBER
A PARKFRONT & TIDAL	150x100 TEE	0.80	2
B VILLAGE GREEN DRIVE	225x150 TEE	1.70	2
C EVERGLADE STREET	225x100 TEE	1.70	1
D TREEFERN & TIDAL	100 CAP	0.38	2
E TREEFERN & TIDAL	100x22.5° BEND	0.16	2
F TIDAL STREET	150x22.5° BEND	0.32	1
G TIDAL STREET	150 CAP	0.80	1
H VILLAGE GREEN DRIVE	225 CAP	1.70	1
I VILLAGE GREEN DRIVE	225x11.25° BEND	0.34	4

NEW WATER MAINS		
SIZE	TYPE	LENGTH
100	PVC (CL-16)	217
150	PVC (CL-16)	179
225	PVC (CL-16)	234

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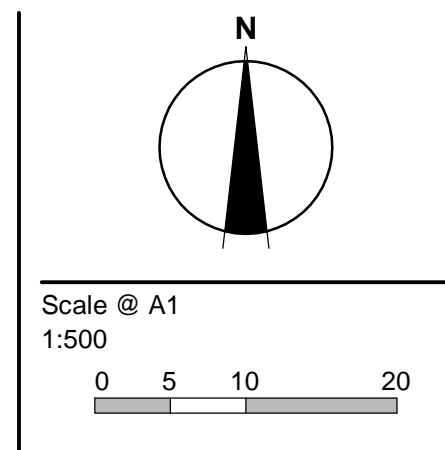
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REVISION	DATE	DESIGN	APPD
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**Barwon Region Water Authority**  
Barwon Water No. L006988  
Estuary  
Stage No. 8  
Water Detail Plan 2

**Drawing No. 0250EHL-08-62** **Rev D**  
Sheet No. 2 of 2

Approved for Construction