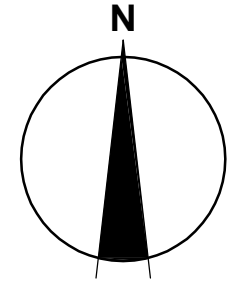


Estuary

Stage 10

City Of Greater Geelong



LOCALITY PLAN
MELWAYS REF: 468 D6

Drawing Index

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- 0250EHL-10- 02 General Notes
- 0250EHL-10- 03 Layout Plan
- 0250EHL-10- 04 Services Layout Plan
- 0250EHL-10- 05 Retaining Wall Layout Plan
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- 0250EHL-10- 20 Details
- 0250EHL-10- 21 Subdivision Setout Plan

Designed for Living



properties

Principal

Leopold Property Development Pty Ltd

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Southbank, Victoria 3006



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Geelong West, VIC, 3218

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A.B.N. 99 124 206 819

Standard Construction Notes

- 1. GENERAL**
- 1.1 **Drawings** - The drawings are to be read in conjunction with the contract specification and the responsible Authorities standard drawings and current specifications for Roadworks and Drainage. Any observed discrepancy to be referred to the Superintendent prior to start of work.
- 1.2 **Responsible Authority Documentation Availability** - A set of the respective responsible Authority standard construction documentation including drawings and specification/s are to be provided by the Contractor and made available on-site for the duration of the construction period.
- 1.3 **Conformity with Drawings** - All works are to be finished in conformity with the lines, grades, thicknesses and cross sections shown in the drawings.
- 1.4 **Materials and Workmanship** - Materials and workmanship to comply with responsible Authority specifications and relevant SAA Codes.
- 1.5 **Tolerances** - Works are to be constructed in compliance with tolerances specified by the relevant responsible Authorities.
- 1.6 **Minimum Standards** - The standards of work and materials stated in the drawings and specification are the minimum acceptable irrespective of relevant responsible Authority minimum standards.
- 1.7 **Sewer/Water Supply** - Construction notes specific to sewer and water supply asset construction are incorporated in the drawings approved by the Water Company as attached hereto.
- 2. EXISTING CONDITIONS**
- 2.1 **Discrepancy with Drawings** - Any discrepancy observed/identified between the drawings and existing conditions and site features are to be referred to the Superintendent prior to start of any related work.
- 2.2 **Municipal Assets & Infrastructure** - The condition of existing Council assets potentially affected by the works is to be assessed by a joint site inspection with Council Officers prior to the start of works. Asset conditions are to be recorded and witnessed by Council and the Contractor. The Contractor is to arrange and record site inspections and is liable for all rectification/reinstatement costs for damage to existing assets.
- 2.3 **Utility Services** - The locations of existing utility services, as shown in the drawings, are not guaranteed. Exact service locations are to be proven prior to start of works. Service location works are to comply with the requirements of the relevant responsible Authority. The Contractor is liable for rectification/reinstatement costs for damage to existing utility services.
- 3. NOTIFICATIONS**
- 3.1 **Council** - Minimum notification periods are:
- (a) **two (2) days** written notice of intention to start works
 (b) **two (2) days** notice to inspect condition of existing Council assets
 (c) **twenty four (24) hours** notice for weekend work
 (d) **twenty four (24) hours** notice for:
- inspection of drainage works
 - inspection of sub-soil drains
 - proof roll of prepared sub-grade or constructed pavement
 - inspection of prepared base for concrete works
 - other works as stated in the drawings or specified
- Or as otherwise agreed with Council Officers.
- 3.2 **Property Owners/Tenants** - Seven (7) days written notice to property owners/tenants affected by the works.
- 4. OCCUPATION OF PUBLIC ROADS**
- All roadworks signage to comply with VicRoads Worksite Traffic Management Code incorporating AS 1742.3.
- 4.1 **Roads under VicRoads jurisdiction** - The Contractor is to arrange VicRoads consent via "Application for Consent - Works within Road Reserves" (refer VicRoads web site).
- 4.2 **Roads under Council control** - The Contractor is to arrange and acquire requisite Road Closure Permits via Council's Traffic Officer.

- 5. SET OUT**
- 5.1 **Survey Stations and Reference Marks** - The locations of survey stations and reference marks are to be verified prior to start of works.
- 5.2 **Road Chainages** - Road chainages as shown in the drawings are to road centreline, unless otherwise stated.
- 5.3 **Kerb & Channel** - Kerb and channel radii and levels relate to edge of channel, unless otherwise stated.
- 5.4 **Drainage Pits** - The locations and orientation of drainage pits are to be accurately set out from co ordinates and/or offsets as stated.
- 5.5 **Pipe Drains** - Drainage lines are to be accurately set out from coordinates and/or offsets as stated. Further to Standard Note 5.4 drainage lines at pits are to be accurately set out to ensure that the outlet pipe is aligned directly opposite the inlet pipe (where deflection angles are 45° or less) or as otherwise stated in the drawings or directed.
- 6. TOPSOIL**
- 6.1 **Stripping Limits** - Clearing and stripping of topsoil to be restricted to areas to be excavated/filled as stated in the drawings or limits as otherwise directed by the Superintendent.
- 6.2 **Surplus Material** - Surplus topsoil must be re-used on-site unless otherwise stated in the drawings or directed by the Superintendent.
- 7. EXISTING VEGETATION**
- All existing trees and significant vegetation within and external to the worksite are to be retained, preserved and protected unless otherwise stated in the drawings or directed by the Superintendent.
- 8. EXCAVATION/TRENCHING**
- 8.1 **Trenching** - Trenching operations exceeding 1.5 metres depth are to comply with the provisions of the Mines (Trenches) Regulations 1982.
- 8.2 **Work close to Trees and Vegetation** - Excavation work within the drip line of trees is not to be performed unless otherwise stated in the drawings or approved by the Superintendent.
- 8.3 **Unstable Sub-Grade** - Unstable sub-grade/"soft spots" to be excavated to a sound proof-rolled base and backfilled with material approved by Council.
- 9. SOIL EROSION**
- The Contractor must install necessary protection works to effectively manage and limit soil erosion within the worksite. Works to include, but are not limited to:
- 9.1 **Silt Fences** - downstream of all exposed areas.
- 9.2 **Silt Barriers** - upstream of all pits
- 10. DRAINAGE WORK**
- 10.1 **Existing Drains** - The location of existing drainage assets to be verified prior to start of works.
- 10.2 **Pipe Class** - Pipes to be, unless otherwise stated in the drawings:
- (a) Roads & Reserves - Class 2 Rubber Ring Jointed RCP
 (b) Easements - Rubber Ring Jointed RCP/FRP or Sewer Class Solvent Cement UPVC
- 10.3 **Pit Covers** - Pit covers are to be placed to match actual finished surface profiles - level and cross fall - of adjacent structures/surfaces. Finished surface levels stated in the drawings are indicative, for depth range purposes, and are not to be used as the basis for setting final pit cover levels
- 10.4 **Pit Construction** - Precast standard pits are to be installed. Cast in-situ standard pits are only to be constructed where approved by the Superintendent. All sumps in precast concrete pits are to be infilled with concrete flush to the inlet level of the outlet pipe unless otherwise approved by the superintendent.
- 10.5 **Sub-Soil Drains**
- (a) Entry to pits to be trimmed flush with inner wall and effectively mortared in place through the full pit wall thickness.
 (b) Details of granular filter material including source to be submitted to the Superintendent prior to start of sub-soil drainage works.

- 11. BACKFILL MATERIAL**
- 11.1 **Trenches under all edgings/kerb sections & Nature Strips** - 20mm Class 3 Fine Crushed Rock or other material as approved by Council.
- 11.2 **Trenches under road pavement - Stormwater pipes** are to be backfilled with two percent (2%) cement stabilised sand to extend from the bottom of the pipe to the springline (mid point) of the pipe. Class 3 Fine Crushed Rock is then to be used as the backfill material from the springline up to the road pavement base.
- 11.3 **Allotments/Reserves/** - Selected best quality excavated in-situ material or other material as approved by Council.
- 12. COMPACTION STANDARDS**
- Compaction standards are to be checked and proven in accordance with the requirements of AS 1289. Where unspecified by the responsible Authority, the following minimum standards will apply:
- 12.1 **Structural Fill**
- (a) Fill base - top 150mm 95% standard compaction
 (b) Fill zone - 95% standard compaction
 (c) Under road pavement - zone less than 450mm under road pavement surface 98% standard compaction
- 12.2 **Road Pavement**
- (a) Road sub-grade - top 150mm 98% standard compaction
 (b) Pavement materials - 98% modified compaction
- 12.3 **Trench Backfill**
- (a) Granular under all pavement & edgings/kerb sections - 98% modified compaction
 (b) Granular behind kerbing - 95% modified compaction
 (c) Earth around structures - 95% standard compaction
- 13. CONCRETE WORK**
- 13.1 **Minimum Strength**
- Concrete for drainage pits to have a minimum compressive strength of 32 MPa at 28 days.
 - Concrete for all other applications to have a minimum compressive strength of 25 MPa at 28 days
- 13.2 **Bar Chairs** - All reinforcement in footpaths, vehicle crossings and roads to be supported by appropriately sized bar chairs.
- 13.3 **Slump** - Concrete to have 75mm maximum slump.
- 13.4 **Kerb Cement Content** - Concrete for kerb extrusion machines to have a minimum cement content of 280 kg/m³.
- 13.5 **Services Distribution Mains & Conduits** - Mains and conduits are to be installed prior to kerb section construction works.
- 13.6 **Footpaths** - All footpaths are to be a minimum of 125mm thick with F62 reinforcement, bedded on min of 75mm compacted Class 3 FCR. Bedding to extend 100mm beyond the edges of the footpath. Contraction joints to be constructed at 12.5m intervals. Class 4 FCR is to be used where filling is required under footpath Class 3 FCR bedding material.
- 13.7 **Continuous Kerb** - To allow for a continuous concrete kerb and channel pour the "Gatic" HD concrete surround is to be in place prior to the pour commencing. If the pit surrounds are not in place then the initial kerb and channel pour is to stop one metre either side of pit.
- 14. ROAD PAVEMENT WORK**
- 14.1 **Pavement Composition** - The minimum standard of pavement composition is stated in the drawings for the respective road sections.
- 14.2 **Road surfacing** - Road surfacing must not be performed until all other works have been completed.
- 15. IDENTIFICATION MARKING**
- All identification marking figures are to be a minimum of 50mm high.
- 15.1 **Conduits** - Letter "W", "G" "E" or "T" for water, gas, electricity or telecommunications conduit to be stamped into face of kerb sections at frontage of lot served.

- 15.2 **House Drain Connections** - Letter "H" to be stamped into face of kerb sections opposite street drain connection point.
- 15.3 **Lot Nos.** - Lot Nos. to be stenciled in white paint on face of kerb sections at lot frontages.
- 16. TESTING**
- 16.1 **Specified Testing** - Testing will be conducted in compliance with specified requirements. The Contractor is liable for all costs.
- 16.2 **Proof-Rolling** - Pneumatic tyred plant minimum weight 20 tonne with minimum ground contact pressure 450 kPa per tyre.
- 17. EXPOSED SURFACES RESTORATION**
- 17.1 **Topsoiling** - All exposed residual surface areas at completion of civil works to be topsoiled with 100mm depth of best available material.
- 17.2 **Allotments/Reserves** - Allotments and reserves are to be evenly graded at a minimum gradient of 1 in 100 to their nominated drainage connection points.
- 17.3 **Nature Strips** - Nature strip surfaces are to be trimmed to grade between adjacent surfaces. Top-soiling and compaction operations are to ensure there is no later settlement/subsidence.
- 17.4 **Top-Dressing** - Undisturbed grassed areas are to be top-dressed and evenly graded as directed by the Superintendent.
- 17.5 **Hydroseeding** - At completion of the above works all prepared exposed surfaces are to be well watered and hydroseeded.
- 17.6 **Batter Slopes** - Batter slopes shall be a maximum of 1 in 5 for fill and 1 in 3 for cut unless otherwise shown.
- 18. FINAL WORKS PRESENTATION**
- At Practical Completion the following minimum standards of presentation will apply:
- 18.1 **Roads/Paved Areas** - All roads and paved areas are to be swept/washed down to produce clean surfaces free of all deleterious materials.
- 18.2 **Pipe Systems** - All pipe systems are to be flushed and cleared of all accumulated debris and deleterious materials.
- 18.3 **Site** - The site is to be prepared to a state acceptable for presentation to the public for sale purposes and is to be in a condition satisfactory to the Superintendent with completion of, at least, the following activities:
- (a) all incidental and minor works
 (b) site clean up operations
 (c) site cleared of all facilities, temporary structures, plant, litter, surplus materials, etc. that are to be removed off-site.
- 18.4 **Reserve Frontages** - Round topped treated pipe bollards (0.6m high) are to be placed across reserve frontages at 1.5m centres. A demountable section for vehicle access consisting of an appropriate length of 50mm diameter (2.3mm wall thickness) galvanised water pipe, short section of chain (3 links) welded to each end. Two galvanised steel bollards - one each side of the entry, with one end to have a D20 padlock, which locks in to a link, which has been welded onto the bollard. Unless otherwise stated on plans.
- 18.5 **Street Signs** - Street signs are to be located as indicated on the plans and installed in accordance with Vicroads Traffic Engineering Manual Volume 2. Mounting height is to be to the underside of the sign and is to be a minimum of 2.1m and maximum of 3.0m
- 18.6 **No Through Road** - No through road signs are to be installed below the street sign where applicable.
- 19. MAINTENANCE WORKS**
- The Contractor must responsively repair/remediate defective works as directed during the maintenance period.
- 19.1 **Council Assets** - for Maintenance Period of 3 months
- 19.2 **Water Company Assets** - for Defects Liability Period of 12 months and Maintenance Period of 2 years
- 19.3 **Inspection & General Maintenance Activities** - the Contractor must undertake regular site inspections of all completed works. Special attention must be given to the adequacy of the following soil protection works:
- (a) Silt fences
 (b) Silt barriers
 (c) Areas hydroseeded
- 19.4 All pipelines are to be inspected via remote camera at the end of the maintenance period at the Contractor's expense and under the supervision of COGG Subdivisions Engineer of Representative.

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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
September 2011

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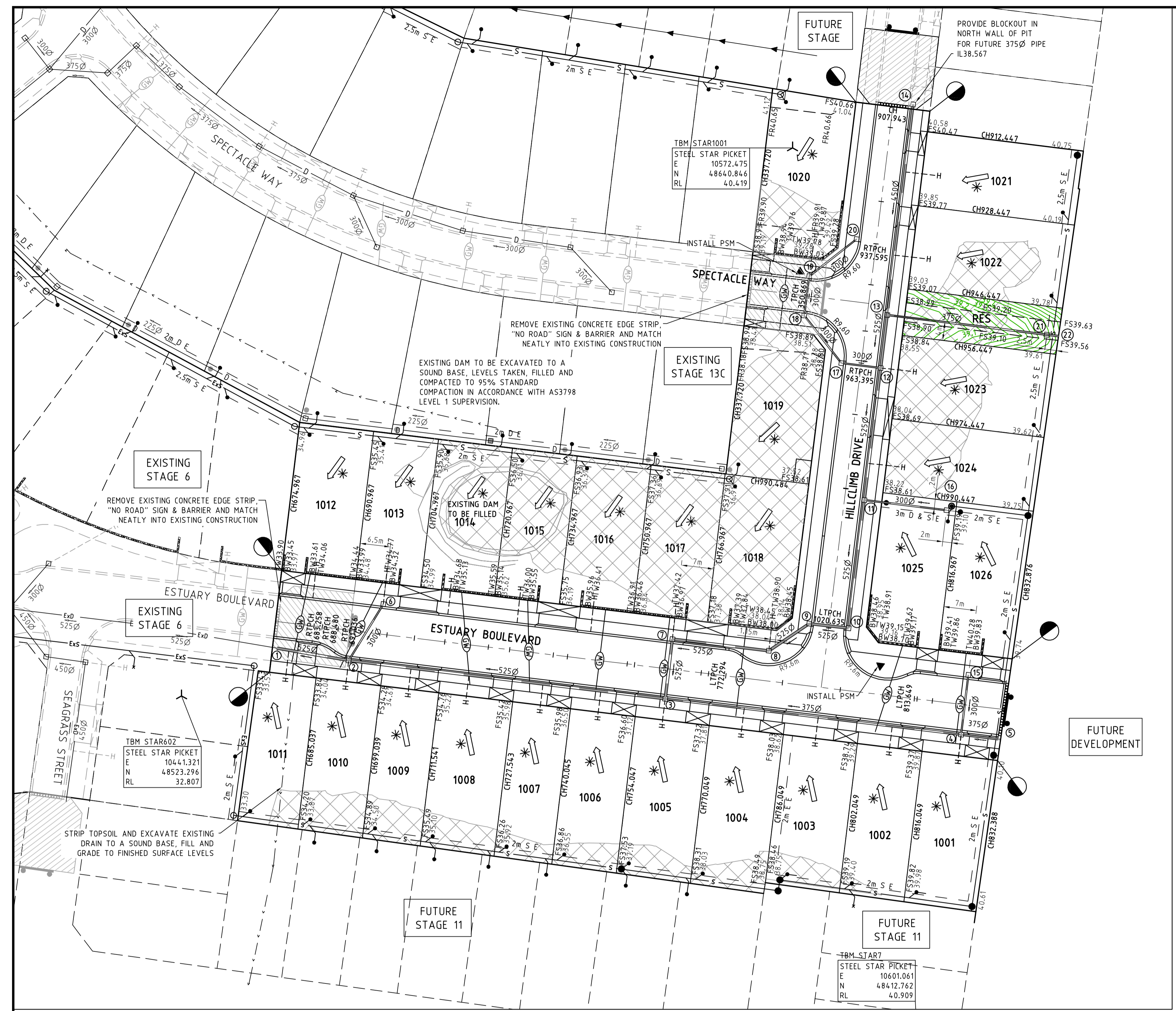
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Estuary

Stage 10
City Of Greater Geelong
Roadworks and Drainage
General Notes

Drawing No. 0250EHL-10-02 Rev B
Sheet No. 2 of 21

Approved for Construction



LOT BENCHING AND GENERAL GRADING NOTES
 1. LOT 1019 & 1020 TO BE BENCHING GENERALLY IN ACCORDANCE WITH TYPICAL SECTION. FALL ALONG BUILDING ENVELOPE OF 1.0m MAX.
 2. REMAINING LOTS WILL BE RETAINED WHERE POSSIBLE TO NATURAL SURFACE WITHIN BUILDING ENVELOPE. LOTS IDENTIFIED WITH AN ASTERISK WILL REQUIRE RE-GRADE TO ACHIEVE MIN. REQUIRED LONGITUDINAL FALL (COUNCIL STANDARD 1 IN 100) CROSS FALL 1.0m MAXIMUM.

LEGEND - FUNCTIONAL LAYOUT PLAN

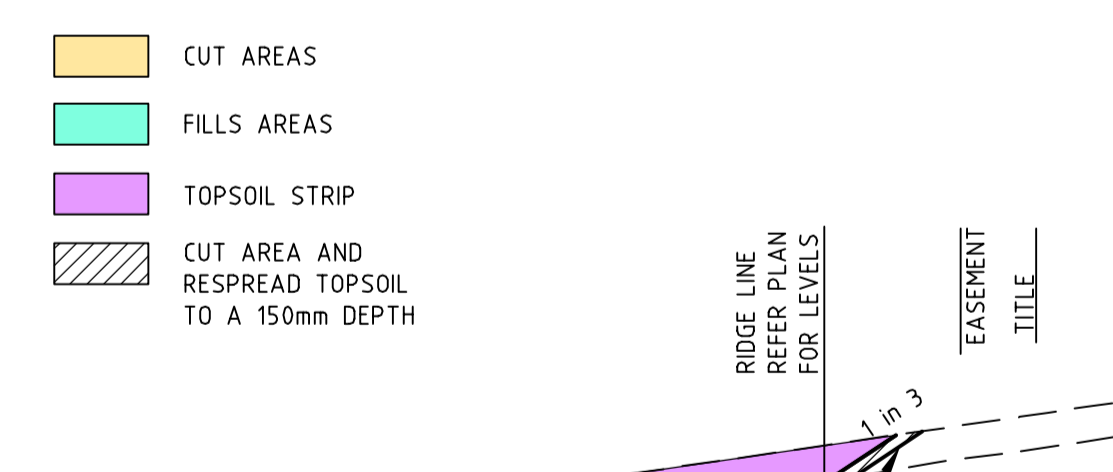
- E- ELECTRICITY (UNDERGROUND)
- G- GAS
- T- TELSTRA
- W- WATER
- STORMWATER DRAIN, PIT & PROPERTY INLET
- SWALE DRAIN
- SEWER & MAINTENANCE STRUCTURES
- H- HOUSE DRAIN
- SERVICE CONDUITS
- TACTILE PAVERS
- Ex- EXISTING ELECTRICITY (UNDERGROUND)
- O/H- EXISTING ELECTRICITY (OVERHEAD)
- Ex- EXISTING GAS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

SERVICES OFFSET SCHEDULE

| ROAD NAME | GAS | | WATER | | ELECTRICITY | | TELSTRA | |
|-------------------|-------|------------|-------|------------|-------------|------------|---------|------------|
| | SIDE | OFFSET (m) | SIDE | OFFSET (m) | SIDE | OFFSET (m) | SIDE | OFFSET (m) |
| ESTUARY BOULEVARD | SOUTH | 2.70 | SOUTH | 3.20 | NORTH | 3.40 | NORTH | 2.80 |
| HILLCLIMB DRIVE | EAST | 1.70 | EAST | 2.30 | WEST | 2.30 | WEST | 1.70 |
| SPECTACLE WAY | NORTH | 2.10 | NORTH | 2.70 | SOUTH | 1.70 | SOUTH | 2.30 |

ROAD LAYOUT TABLE

| ROAD NAME | RESERVE WIDTH (m) | ROAD WIDTH (m) | | | KERB TYPE | | VERGE WIDTH (m) | |
|------------------------------|-------------------|----------------|------------|--------------|-----------|----------|-----------------|----------|
| | | LIP TO LIP | INV TO INV | BACK TO BACK | NTH/WEST | STH/EAST | NTH/WEST | STH/EAST |
| ESTUARY BOULEVARD NO PARKING | 22.00 | 6.40 | 7.00 | 7.30 | B2 | B2 | 7.35 | 7.35 |
| ESTUARY BOULEVARD PARKING | 22.00 | 11.00 | 11.60 | 11.90 | B2 | B2 | 5.05 | 5.05 |
| HILLCLIMB DRIVE | 16.00 | 6.60 | 7.20 | 7.50 | B2 | B2 | 4.25 | 4.25 |
| SPECTACLE WAY | 16.00 | 6.60 | 7.20 | 7.50 | B2 | B2 | 2.25 | 4.25 |



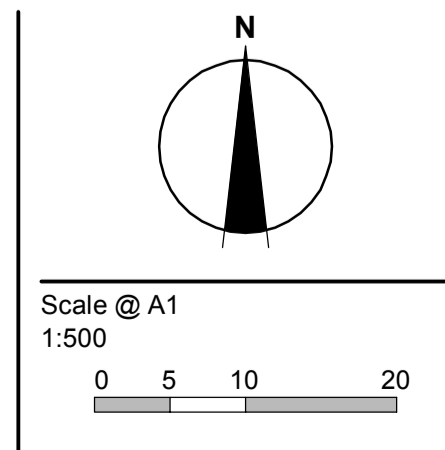
TYPICAL RETAINING WALL SECTION FOR NORTH SOUTH FACING LOTS 1019 AND 1020
 NOT TO SCALE

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

| REVISION | DATE | DESIGN | APP'D |
|---|----------|--------|-------|
| F LEVELS ADDED TO RESERVE & PIT 21 AMENDED TO ENDPipe | 13.08.12 | CB/CB | JG |
| E MINOR AMENDMENTS | 24.04.11 | CB/CB | JG |
| D COUNCIL AMENDMENTS | 10.01.12 | CB/CB | JG |
| C AMENDED FILL LOT 1019-1020, SECTION ADDED | 15.11.11 | CB/AH | JG |
| B AMENDED DRIVEWAY RET WALL LOT 1026 | 11.11.11 | AH/AH | AC |
| A ISSUED TO COUNCIL FOR APPROVAL | 20.10.11 | CB/CB | JG |

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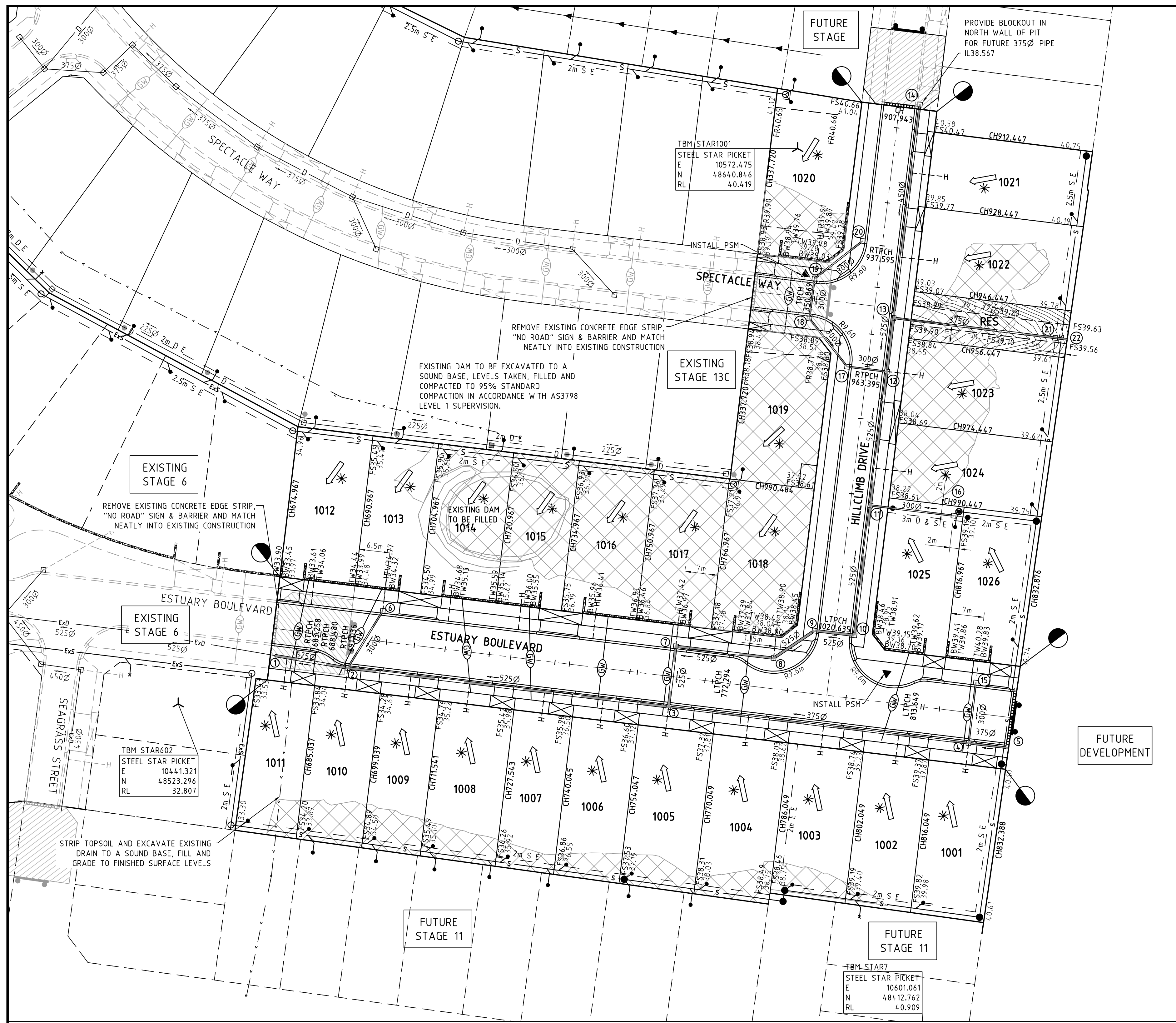
Designed
C. Barker
 Drawn
C. Barker
 Checked
C. Birckett
 Authorised
J. Golden
 Date
September 2011



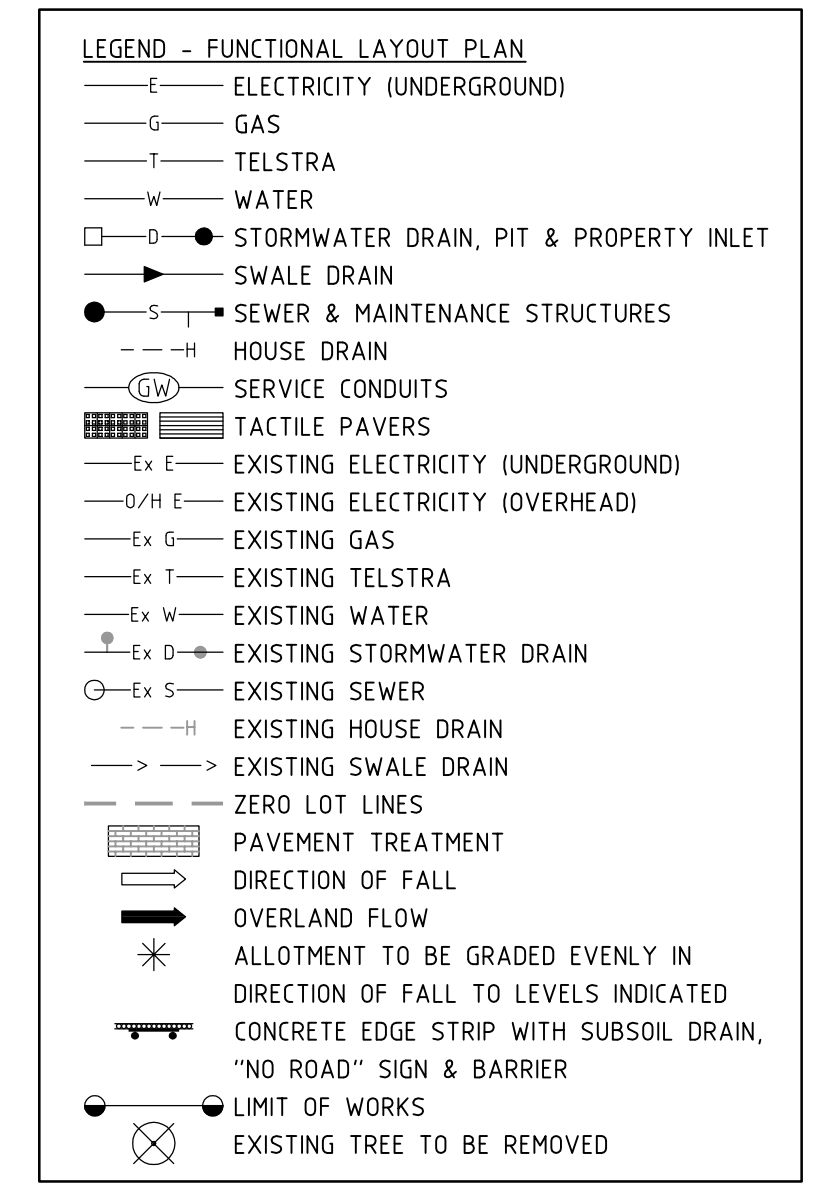
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Estuary
 Stage 10
 City of Greater Geelong
 Roadworks and Drainage
 Layout Plan
 Drawing No. 0250EHL-10-03 Rev F
 Sheet No. 3 of 21
 Approved for Construction

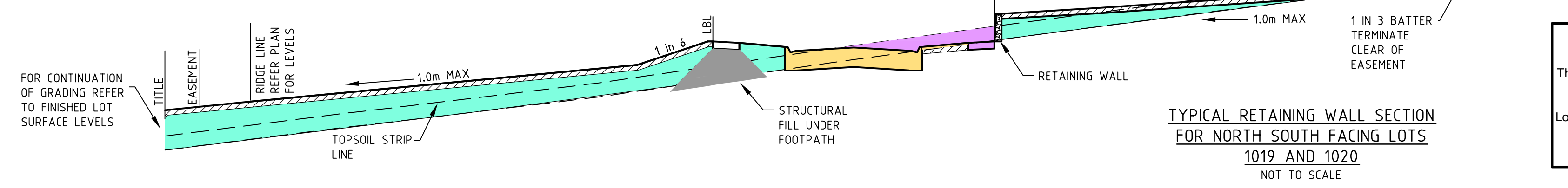
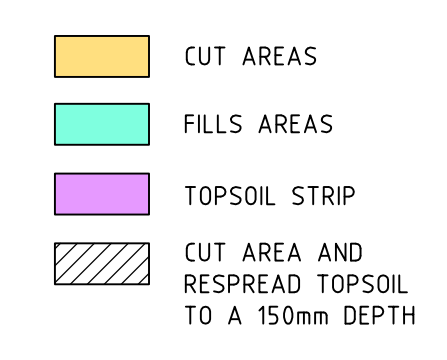


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| ROAD NAME | GAS | | WATER | | ELECTRICITY | | TELSTRA | |
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| ROAD NAME | RESERVE WIDTH (m) | ROAD WIDTH (m) | | | KERB TYPE | | VERGE WIDTH (m) | |
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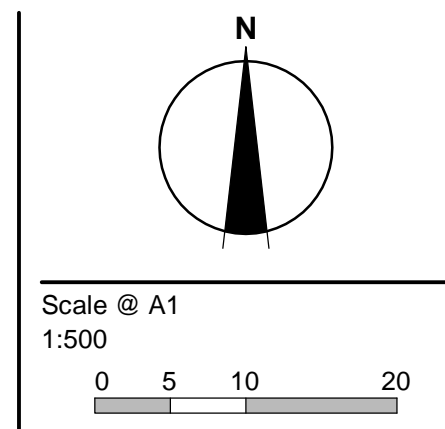


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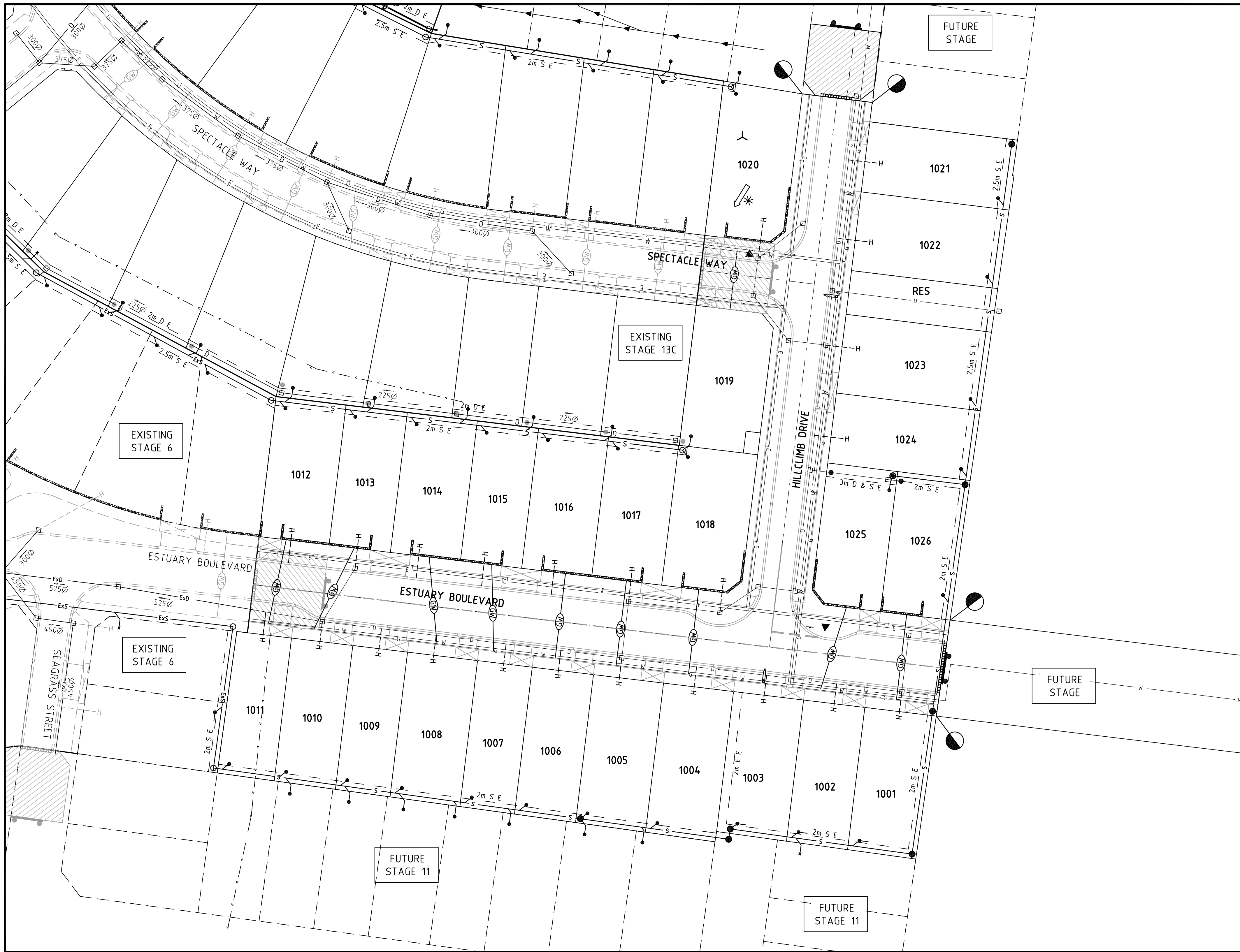
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C. Barker
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C. Birckett
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J. Golden
 Date
September 2011



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Estuary
 Stage 10
 City Of Greater Geelong
 Roadworks and Drainage
 Layout Plan
 Drawing No. 0250EHL-10-03 Rev F
 Sheet No. 3 of 21
 Approved for Construction



LEGEND - FUNCTIONAL LAYOUT PLAN

- E — ELECTRICITY (UNDERGROUND)
- G — GAS
- T — TELSTRA
- W — WATER
- D — STORMWATER DRAIN, PIT & PROPERTY INLET
- S — SWALE DRAIN
- S — SEWER & MAINTENANCE STRUCTURES
- H — HOUSE DRAIN
- GW — 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
- Ex H — EXISTING HOUSE DRAIN
- Ex S — EXISTING SWALE DRAIN
- — — ZERO LOT LINES
- ▨ PAVEMENT TREATMENT
- DIRECTION OF FALL
- OVERLAND FLOW
- * ALLOTMENT TO BE GRADED EVENLY IN DIRECTION OF FALL TO LEVELS INDICATED
- CONCRETE EDGE STRIP WITH SUBSOIL DRAIN
- "NO ROAD" SIGN & BARRIER
- LIMIT OF WORKS
- ⊗ EXISTING TREE TO BE REMOVED

SERVICES OFFSET SCHEDULE

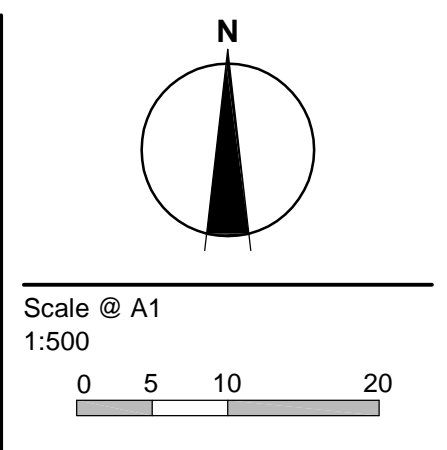
| ROAD NAME | GAS | | WATER | | ELECTRICITY | | TELSTRA | |
|-------------------|-------|------------|-------|------------|-------------|------------|---------|------------|
| | SIDE | OFFSET (m) | SIDE | OFFSET (m) | SIDE | OFFSET (m) | SIDE | OFFSET (m) |
| ESTUARY BOULEVARD | SOUTH | 2.70 | SOUTH | 3.20 | NORTH | 3.40 | NORTH | 2.80 |
| HILLCLIMB DRIVE | EAST | 1.70 | EAST | 2.30 | WEST | 2.30 | WEST | 1.70 |
| SPECTACLE WAY | NORTH | 2.10 | NORTH | 2.70 | SOUTH | 1.70 | SOUTH | 2.30 |

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

| REVISION | DATE | DES/DFT | APPD |
|----------------------------------|----------|---------|------|
| B COUNCIL AMENDMENTS | 20.01.12 | CB/CB | JG |
| A ISSUED TO COUNCIL FOR APPROVAL | 20.10.11 | CB/CB | JG |

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

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



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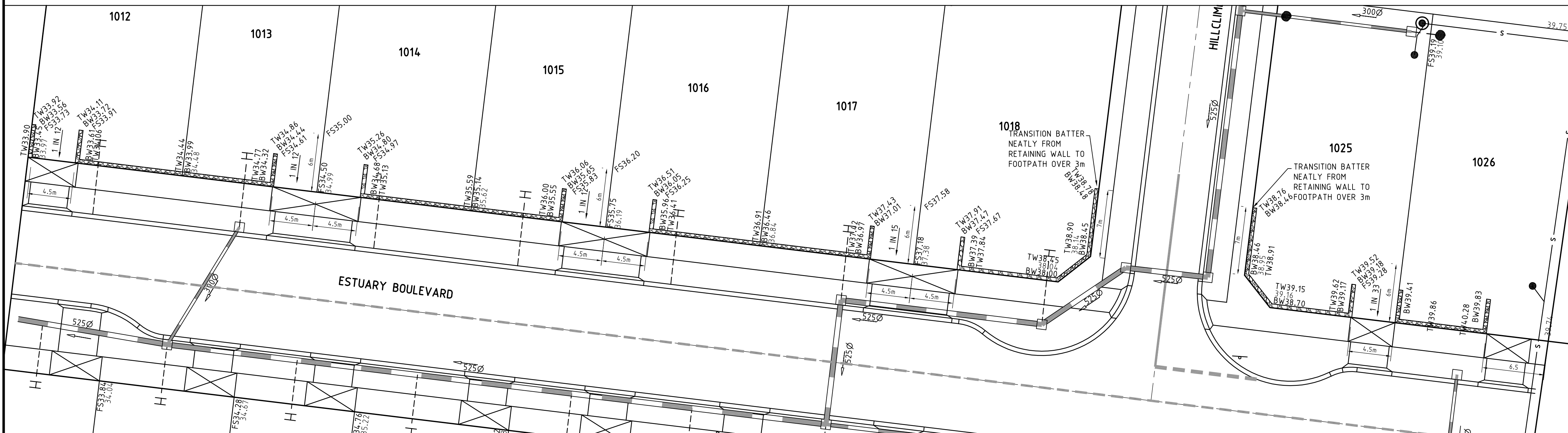
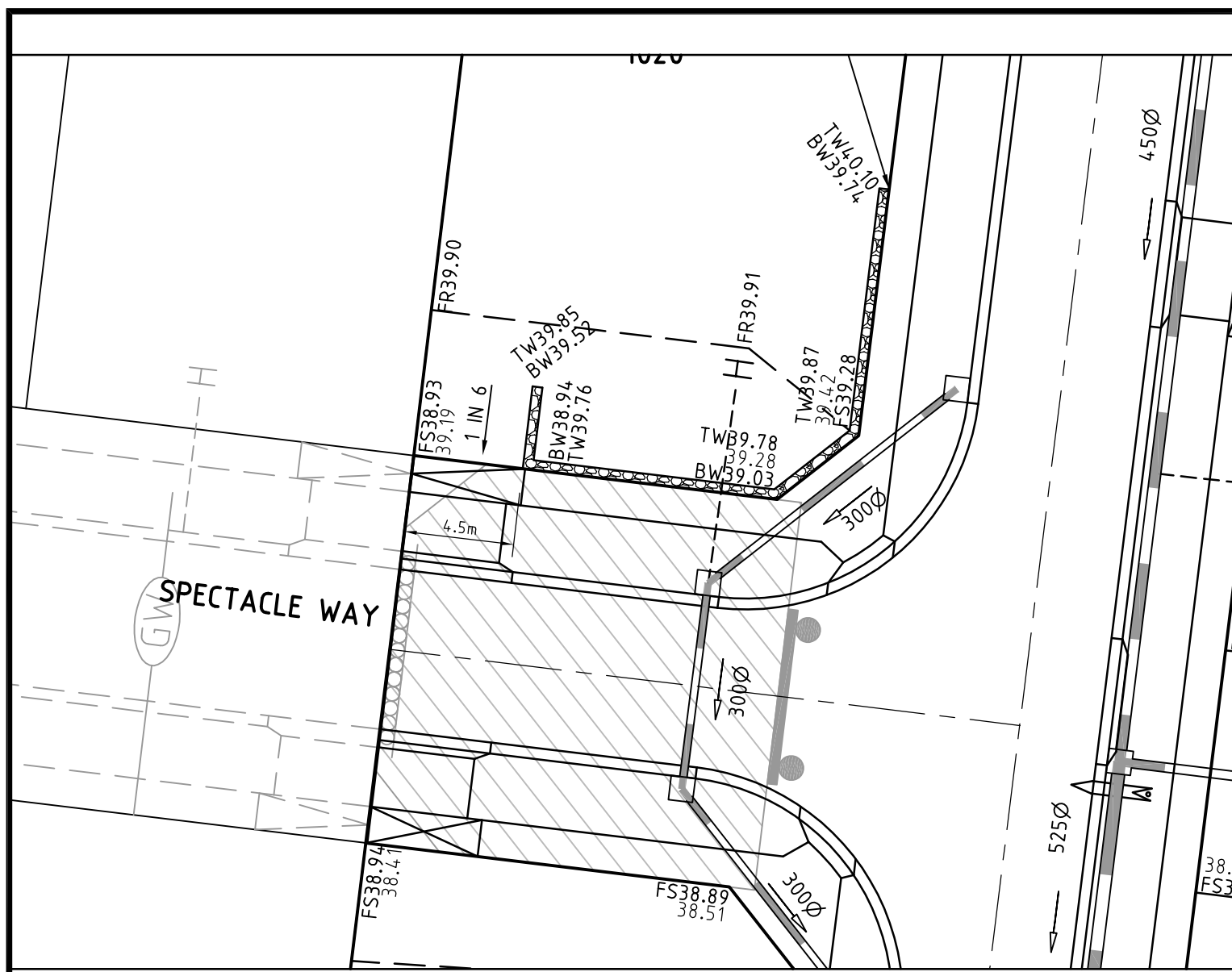
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Estuary
 Stage 10
 City Of Greater Geelong
 Roadworks and Drainage
 Services Layout Plan

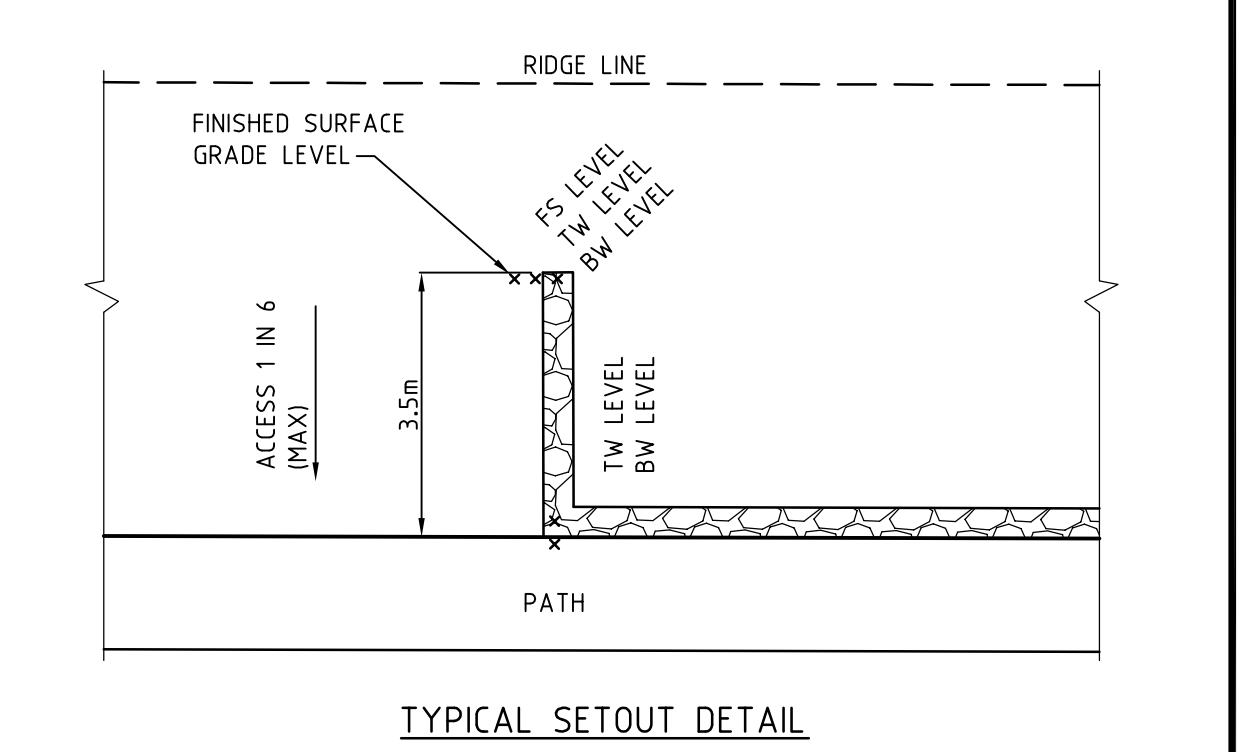
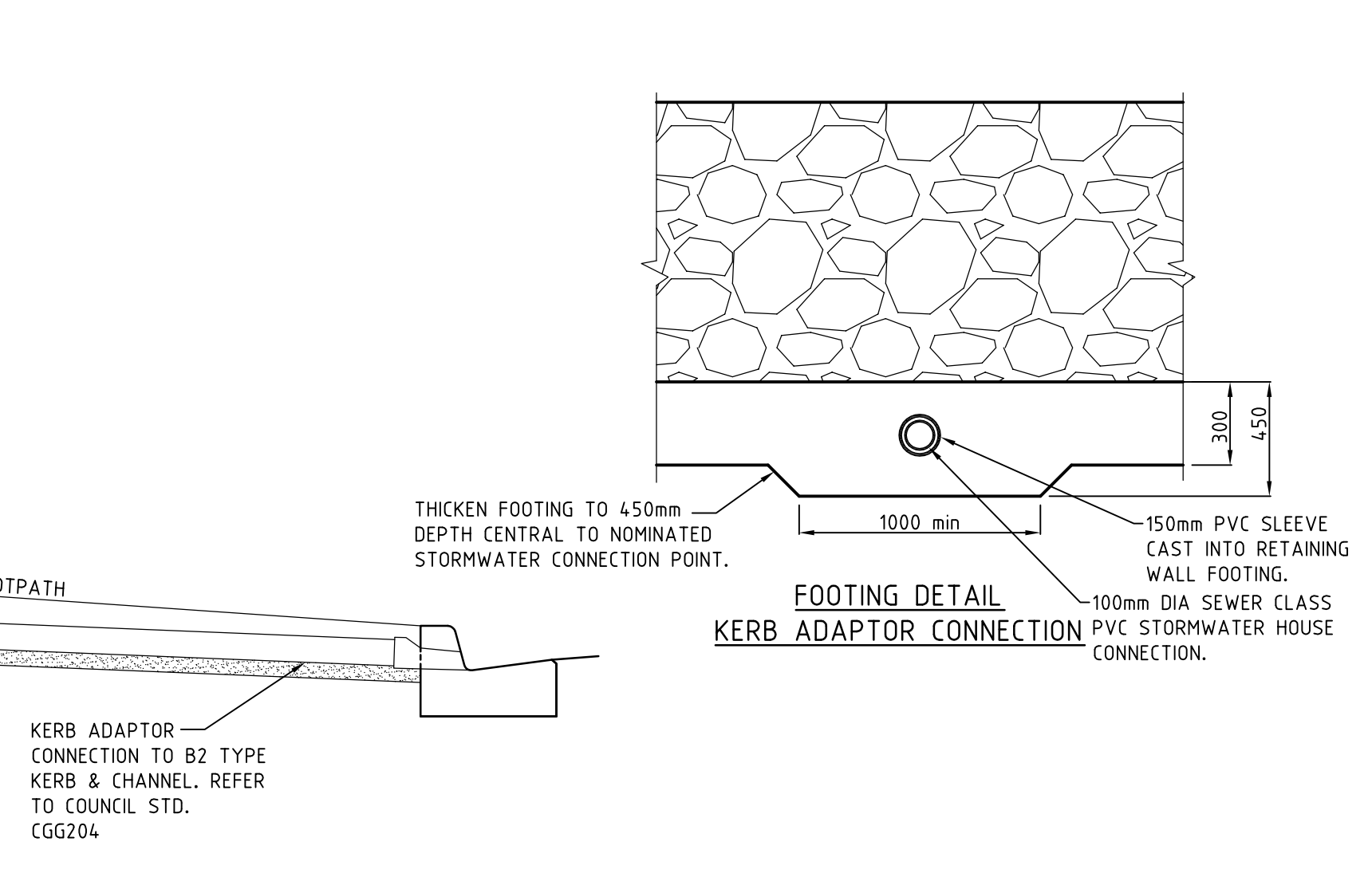
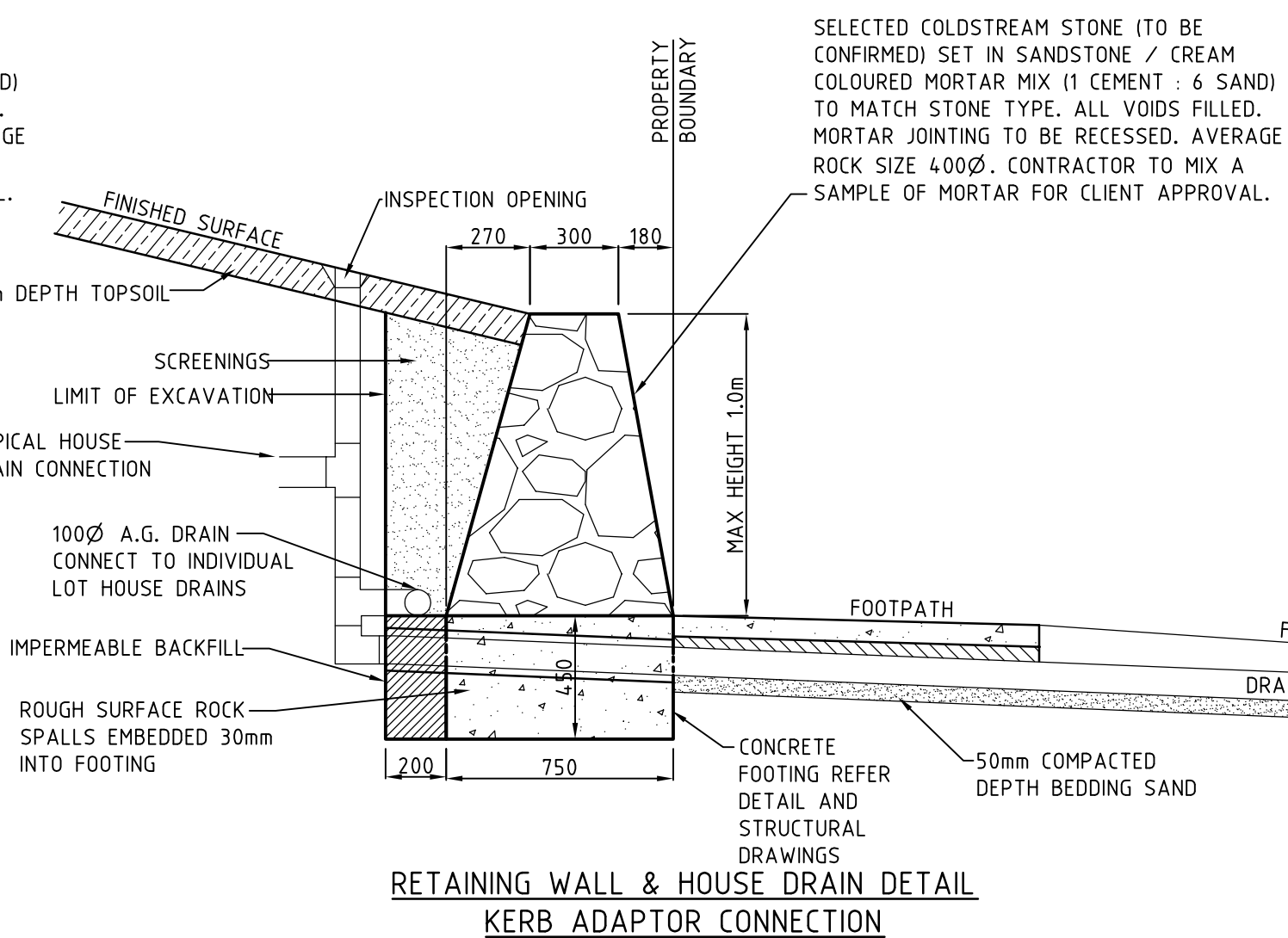
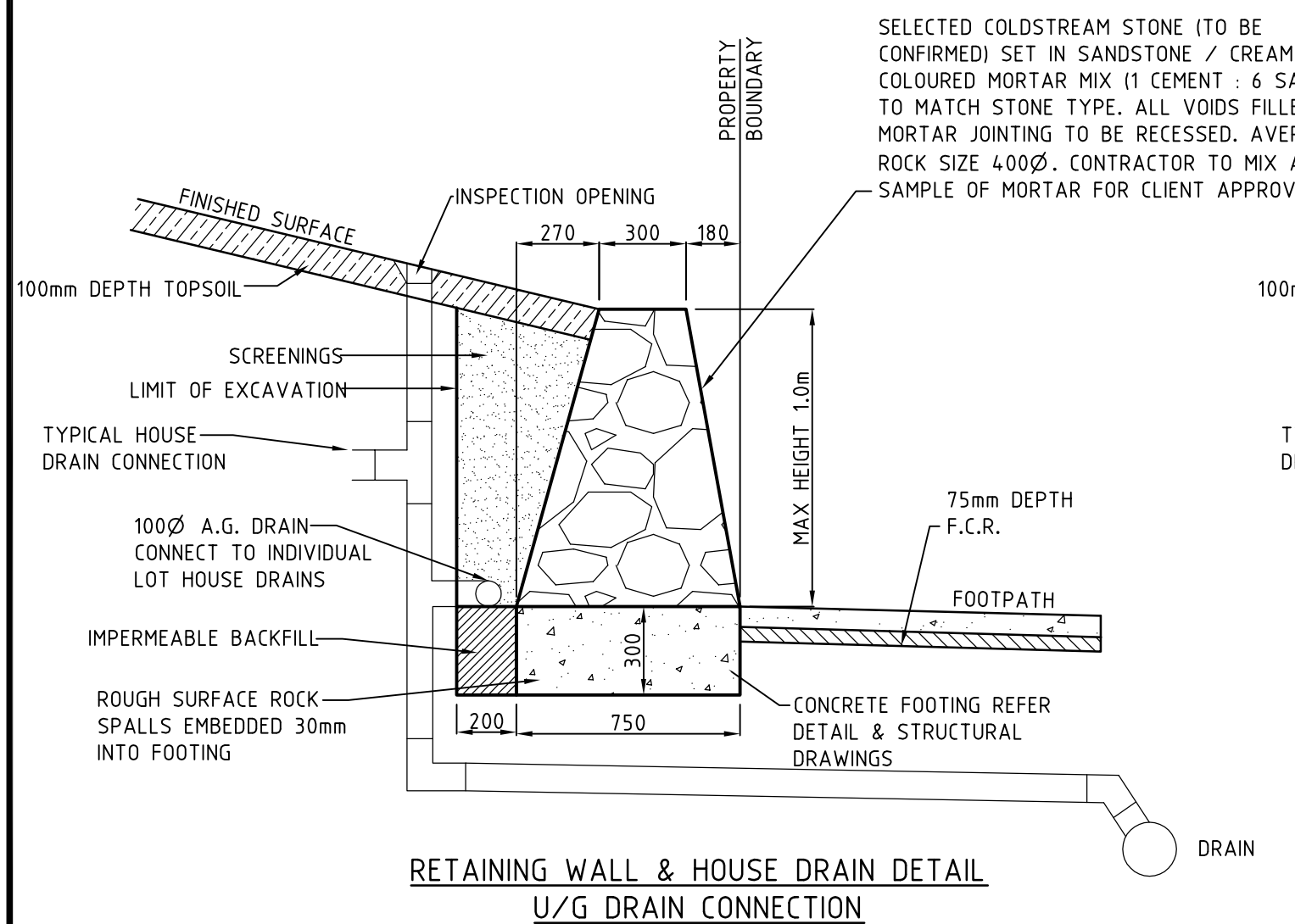
Drawing No. 0250EHL-10-04 **Rev B**
 Sheet No. 4 of 21

Approved for Construction



- LEGEND - LAYOUT PLAN**
- SWALE DRAIN
 - STORMWATER DRAIN, PIT & PROPERTY INLET
 - SEWER & MAINTENANCE STRUCTURES
 - HOUSE DRAIN
 - SERVICE CONDUITS
 - TACTILE PAVERS
 - EXISTING ELECTRICITY (UNDERGROUND)
 - EXISTING ELECTRICITY (OVERHEAD)
 - EXISTING GAS
 - EXISTING TELSTRA
 - EXISTING WATER
 - EXISTING STORMWATER DRAIN
 - EXISTING SEWER
 - EXISTING HOUSE DRAIN
 - EXISTING SURFACE LEVEL
 - FINISHED BUILDING LINE LEVEL
 - FINISHED RIDGE LINE LEVEL
 - TOP OF RETAINING WALL
 - BOTTOM OF RETAINING WALL
 - RETAINING WALL
 - ZERO LOT LINES
 - PAVEMENT TREATMENT
 - STRUCTURAL FILL > 200mm DEEP
 - EX. STRUCTURAL FILL > 200mm DEEP
 - DIRECTION OF FALL
 - OVERLAND FLOW
 - ALLOTMENT TO BE GRADED EVENLY IN DIRECTION OF FALL TO LEVELS INDICATED
 - CONCRETE EDGE STRIP WITH SUBSOIL DRAIN
 - "NO ROAD" SIGN & BARRIER
 - LIMIT OF WORKS
 - EXISTING TREE TO BE REMOVED
 - PERMANENT SURVEY MARK
 - TEMPORARY BENCH MARK
 - PROPOSED DRIVEWAY

CONSTRUCTION NOTE:
 LOTS 1012 TO 1018 & 1025 TO 1026 CONSTRUCT WALL 450mm HIGH INCLUDING RETURNS AND GRADE RETURN FINISHED SURFACE LEVELS AS NOMINATED

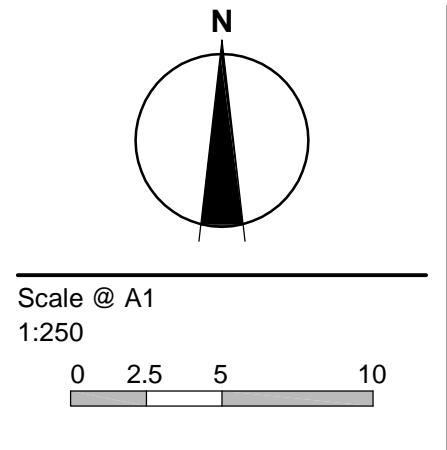


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| REVISION | DATE | DES/DFT | APPD |
|--|----------|---------|------|
| C COUNCIL AMENDMENTS | 10.01.12 | CB/CB | JG |
| B AMENDED DRIVEWAY AND RET WALL LOT 1026 | 11.11.11 | AH/AH | AC |
| A ISSUED TO COUNCIL FOR APPROVAL | 20.10.11 | CB/CB | JG |

estuary
 LEOPOLD PT
 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
 September 2011



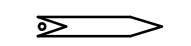

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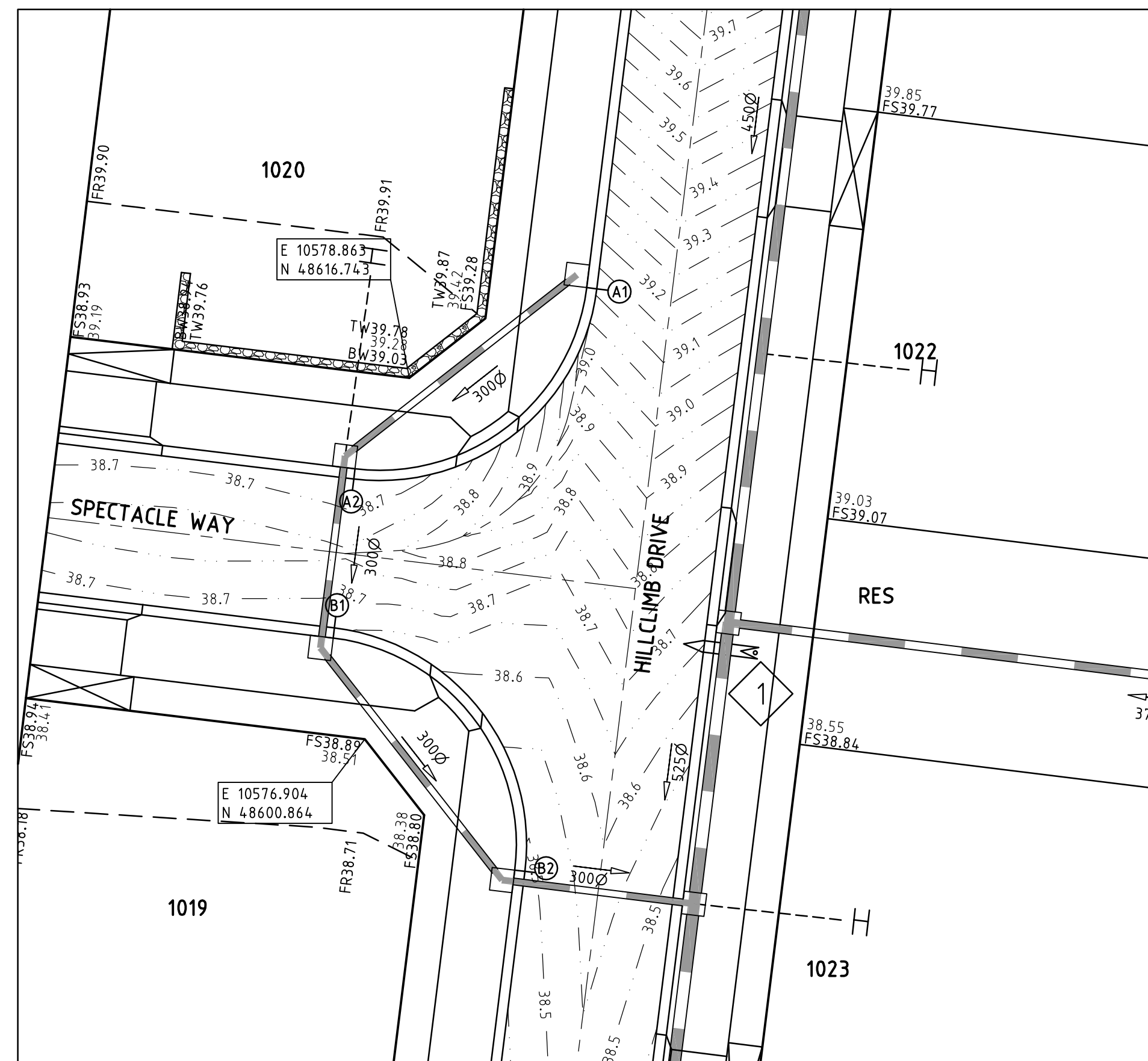
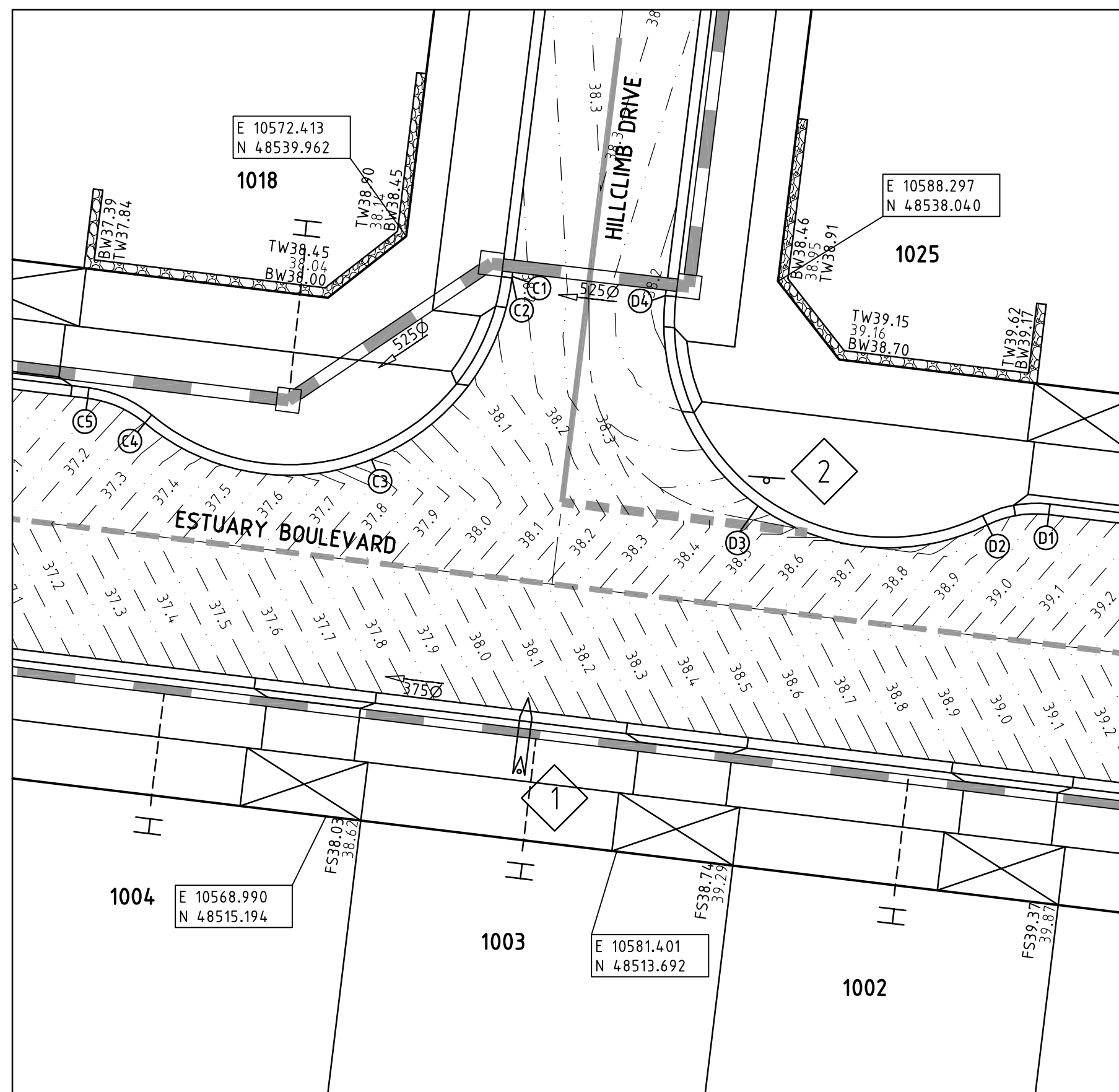
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Estuary
 Stage 10
 City of Greater Geelong
 Roadworks and Drainage
 Retaining Wall Layout Plan
Drawing No. 0250EHL-10-05 **Rev C**
 Sheet No. 5 of 21
Approved for Construction















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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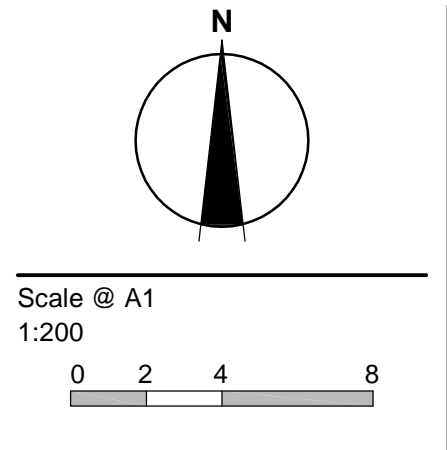
NOTES
 1. REFER TO SHEET No 7 FOR LIP PROFILES.
 2. REFER TO SHEET No 8 FOR SETOUT INFORMATION.

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| REVISION | DATE | DES/DFT | APPD |
|----------------------------------|----------|---------|------|
| B COUNCIL AMENDMENTS | 20.10.12 | CB/CB | JG |
| A ISSUED TO COUNCIL FOR APPROVAL | 20.10.11 | CB/CB | JG |


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

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



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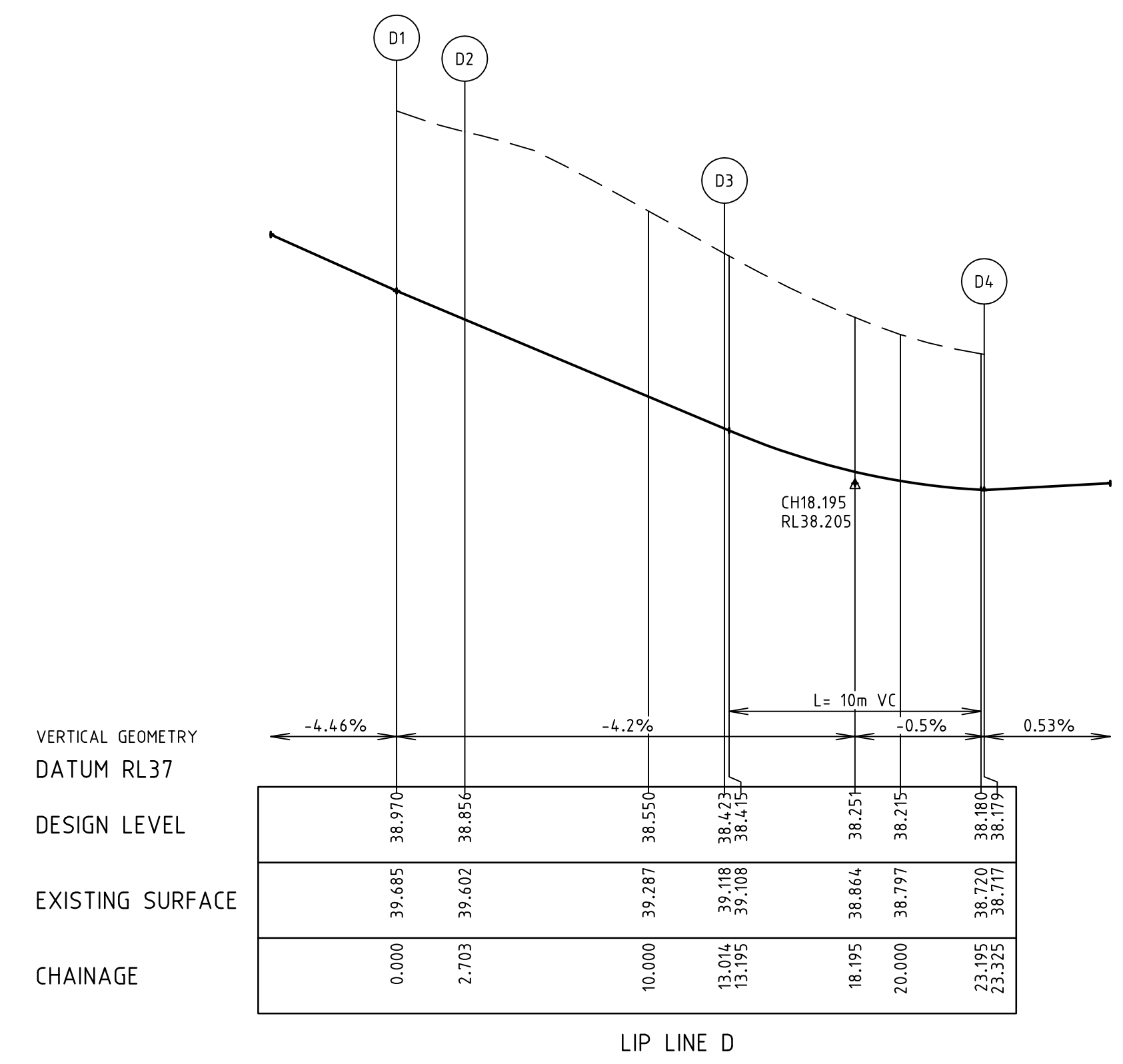
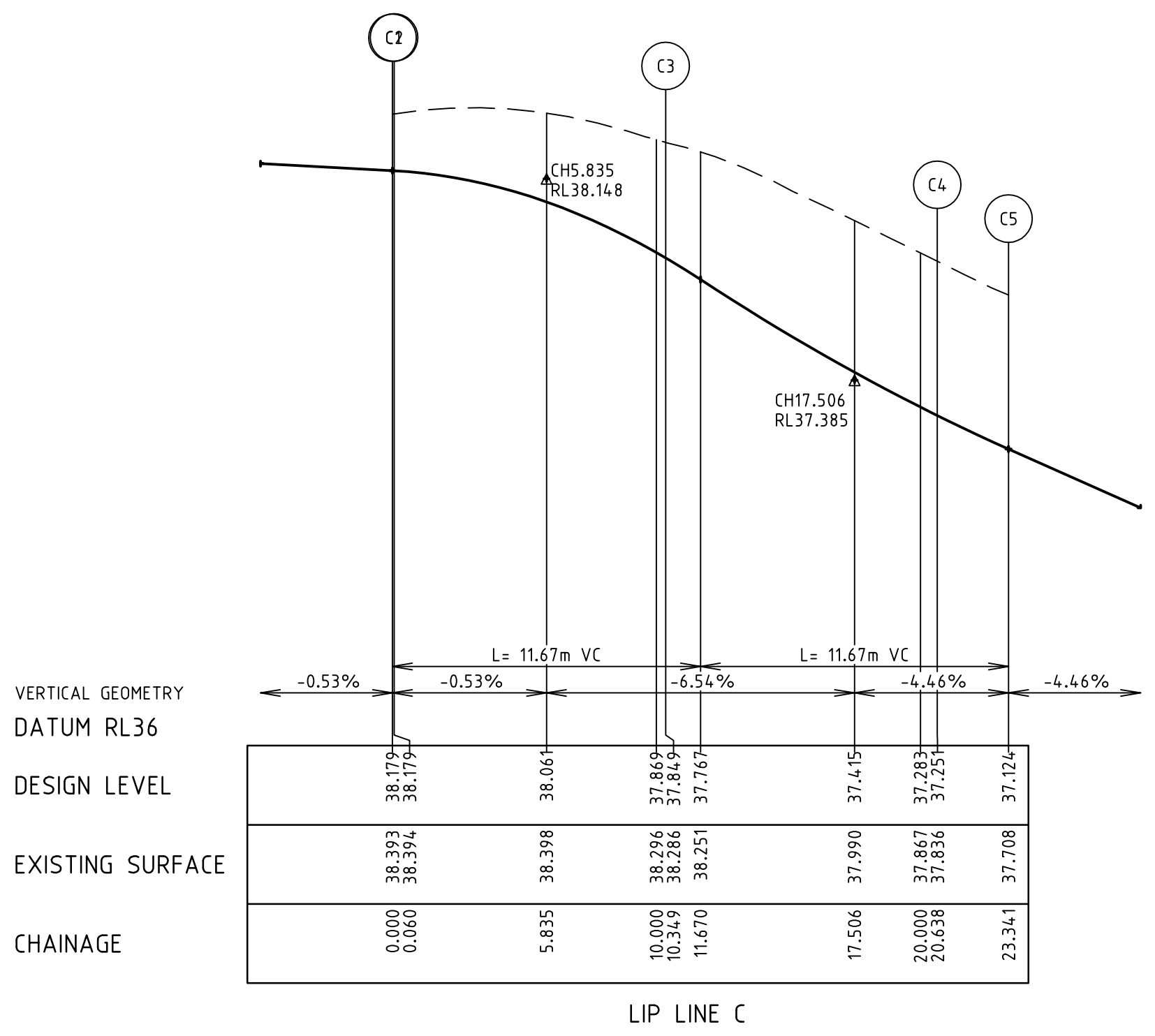
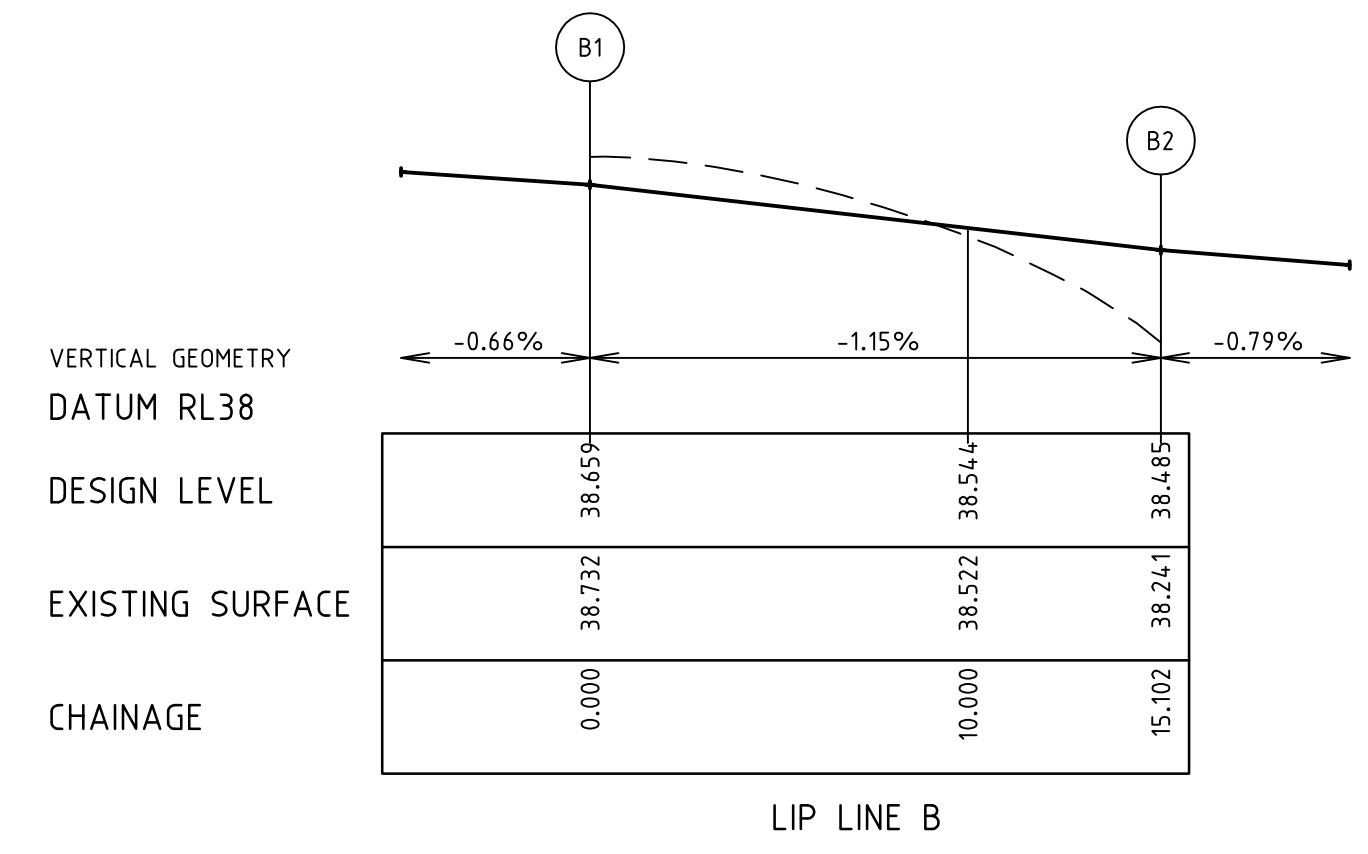
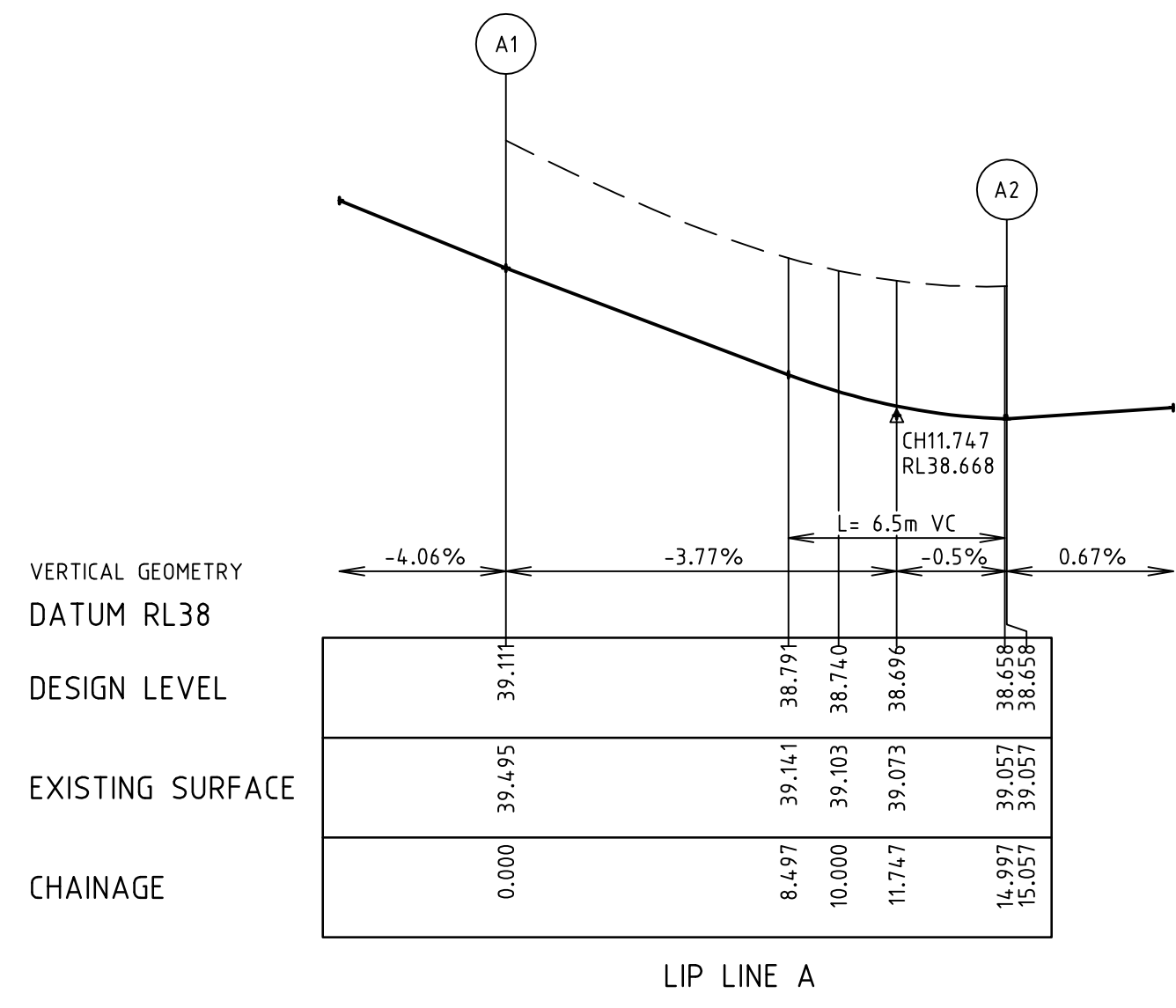
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Estuary
 Stage 10
 City Of Greater Geelong
 Roadworks and Drainage
 Intersection Detail Plan

Drawing No. 0250EHL-10-06 **Rev B**
 Sheet No. 6 of 21

Approved for Construction

| | |
|-----|--------------------|
| --- | EXISTING SURFACE |
| — | DESIGN LINE |
| --- | FUTURE DESIGN LINE |



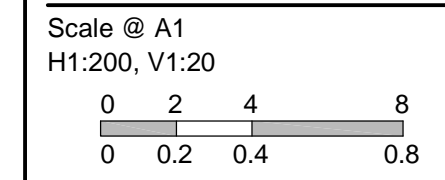
NOTES
 1. CHAINAGES REFER TO LIP OF KERB/EDGE OF CONCRETE.
 2. REFER TO SHEET No 8 FOR SETOUT INFORMATION.

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|----------------------------------|----------|---------|------|
| REVISION | DATE | DES/DFT | APPD |
| B COUNCIL AMENDMENTS | 10.01.12 | CB/CB | JG |
| A ISSUED TO COUNCIL FOR APPROVAL | 20.10.11 | CB/CB | JG |

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

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



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Estuary
 Stage 10
 City Of Greater Geelong
 Roadworks and Drainage
 Lip Profiles

Drawing No. 0250EHL-10-07 **Rev B**
 Sheet No. 7 of 21

Approved for Construction

ESTUARY BOULEVARD DESIGN LINE

| CHAINAGE | EASTING | NORTHING | BEARING |
|----------|-----------|-----------|-----------|
| 674.967 | 10461.521 | 48539.279 | 96°54'00" |
| 700.000 | 10486.373 | 48536.272 | 96°54'00" |
| 800.000 | 10585.648 | 48524.258 | 96°54'00" |
| 832.876 | 10618.287 | 48520.309 | 96°54'00" |

IP 1
 COORDINATE = 10461.5210 48539.2792
 CHAINAGE = 674.9671

IP 2
 COORDINATE = 10618.2866 48520.3085
 CHAINAGE = 832.8764

HILLCLIMB DRIVE DESIGN LINE

| CHAINAGE | EASTING | NORTHING | BEARING |
|----------|-----------|-----------|------------|
| 907.943 | 10594.011 | 48649.685 | 187°02'00" |
| 1000.000 | 10582.739 | 48558.320 | 187°02'00" |
| 1033.466 | 10578.641 | 48525.106 | 187°02'00" |

IP 1
 COORDINATE = 10594.0108 48649.6846
 CHAINAGE = 907.9426

IP 2
 COORDINATE = 10578.6409 48525.1060
 CHAINAGE = 1033.4657

SPECTACLE WAY DESIGN LINE

| CHAINAGE | EASTING | NORTHING | BEARING |
|----------|-----------|-----------|-----------|
| 337.733 | 10562.987 | 48610.606 | 96°54'00" |
| 363.739 | 10588.804 | 48607.482 | 96°54'00" |

TIP 1
 COORDINATE = 10562.9870 48610.6060
 CHAINAGE = 337.7333

IP 2
 COORDINATE = 10588.8041 48607.4818
 CHAINAGE = 363.7386

ALIGNMENT A

| POINT NO | EASTING | NORTHING | RL |
|----------|-----------|-----------|--------|
| A1 | 10587.105 | 48620.659 | 39.111 |
| A2 | 10576.424 | 48612.304 | 38.658 |

| CURVE NO | I | RADIUS | ARC | A | B | X | Y | L | MID POINT RL |
|----------|--------|--------|--------|-------|-------|-------|-------|-------|--------------|
| A1 - A2 | 89.867 | 9.600 | 15.057 | 2.804 | 2.075 | 3.669 | 3.112 | 3.764 | 38.827 |

ALIGNMENT B

| POINT NO | EASTING | NORTHING | RL |
|----------|-----------|-----------|--------|
| B1 | 10575.571 | 48605.759 | 38.659 |
| B2 | 10583.946 | 48595.053 | 38.485 |

| CURVE NO | I | RADIUS | ARC | A | B | X | Y | L | MID POINT RL |
|----------|--------|--------|--------|-------|-------|-------|-------|-------|--------------|
| B1 - B2 | 90.133 | 9.600 | 15.102 | 2.820 | 2.087 | 3.679 | 3.117 | 3.775 | 38.572 |

ALIGNMENT C

| POINT NO | EASTING | NORTHING | RL |
|----------|-----------|-----------|--------|
| C1 | 10576.937 | 48538.244 | 38.179 |
| C2 | 10576.929 | 48538.184 | 38.179 |
| C3 | 10570.929 | 48530.431 | 37.849 |
| C4 | 10561.250 | 48531.989 | 37.251 |
| C5 | 10558.803 | 48533.047 | 37.124 |

| CURVE NO | I | RADIUS | ARC | A | B | X | Y | L | MID POINT RL |
|----------|--------|--------|--------|-------|-------|-------|-------|-------|--------------|
| C2 - C3 | 61.408 | 9.600 | 10.289 | 1.346 | 1.003 | 2.542 | 2.360 | 2.572 | 38.082 |
| C3 - C4 | 61.408 | 9.600 | 10.289 | 1.346 | 1.003 | 2.542 | 2.360 | 2.572 | 37.529 |
| C4 - C5 | 32.948 | 4.700 | 2.703 | 0.193 | 0.144 | 0.673 | 0.659 | 0.676 | 37.186 |

ALIGNMENT D

| POINT NO | EASTING | NORTHING | RL |
|----------|-----------|-----------|--------|
| D1 | 10599.859 | 48528.079 | 38.970 |
| D2 | 10597.231 | 48527.635 | 38.856 |
| D3 | 10587.441 | 48528.444 | 38.423 |
| D4 | 10583.487 | 48537.436 | 38.179 |

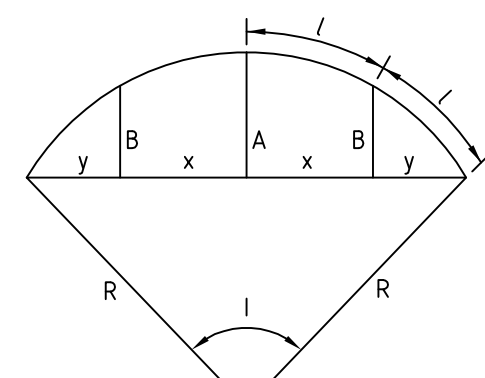
| CURVE NO | I | RADIUS | ARC | A | B | X | Y | L | MID POINT RL |
|----------|--------|--------|--------|-------|-------|-------|-------|-------|--------------|
| D1 - D2 | 32.948 | 4.700 | 2.703 | 0.193 | 0.144 | 0.673 | 0.659 | 0.676 | 38.913 |
| D2 - D3 | 61.541 | 9.600 | 10.311 | 1.351 | 1.007 | 2.547 | 2.364 | 2.578 | 38.640 |
| D3 - D4 | 61.541 | 9.600 | 10.311 | 1.351 | 1.007 | 2.547 | 2.364 | 2.578 | 38.252 |

NOTES

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



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



LIP PROFILE SETOUT

Designed
 C. Barker

Drawn
 C. Barker

Checked
 C. Birkett

Authorised
 J. Golden

Date
 September 2011

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Estuary

Stage 10
 City Of Greater Geelong
 Roadworks and Drainage
 Setout Information Plan

Drawing No. 0250EHL-10-08

Rev B

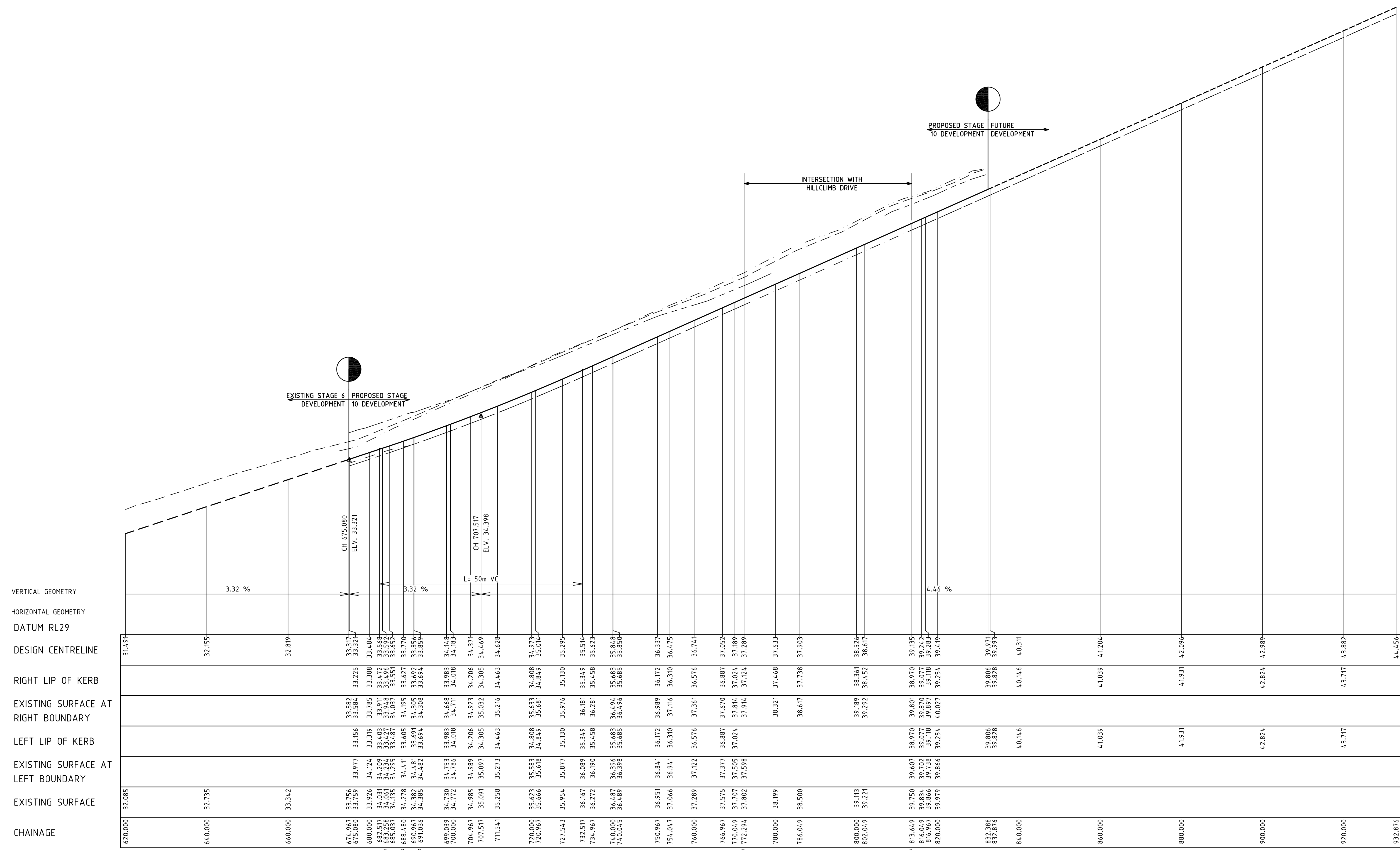
Sheet No. 8 of 21

Approved for Construction

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| REVISION | DATE | DES/DFE | APPD |
|----------------------------------|----------|---------|------|
| B COUNCIL AMENDMENTS | 10.01.12 | CB/CB | JG |
| A ISSUED TO COUNCIL FOR APPROVAL | 20.10.11 | CB/CB | JG |

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



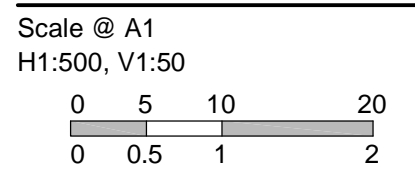
VERTICAL GEOMETRY
HORIZONTAL GEOMETRY
DATUM RL29
DESIGN CENTRELINE
RIGHT LIP OF KERB
EXISTING SURFACE AT RIGHT BOUNDARY
LEFT LIP OF KERB
EXISTING SURFACE AT LEFT BOUNDARY
EXISTING SURFACE
CHAINAGE

ESTUARY BOULEVARD LONGITUDINAL SECTION

| REVISION | DATE | DES/DFT | APPD |
|----------|----------|---------|------|
| B | 10.01.12 | CB/CB | JG |
| A | 20.10.11 | CB/CB | JG |

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Level 1, 6 Riverside Quay
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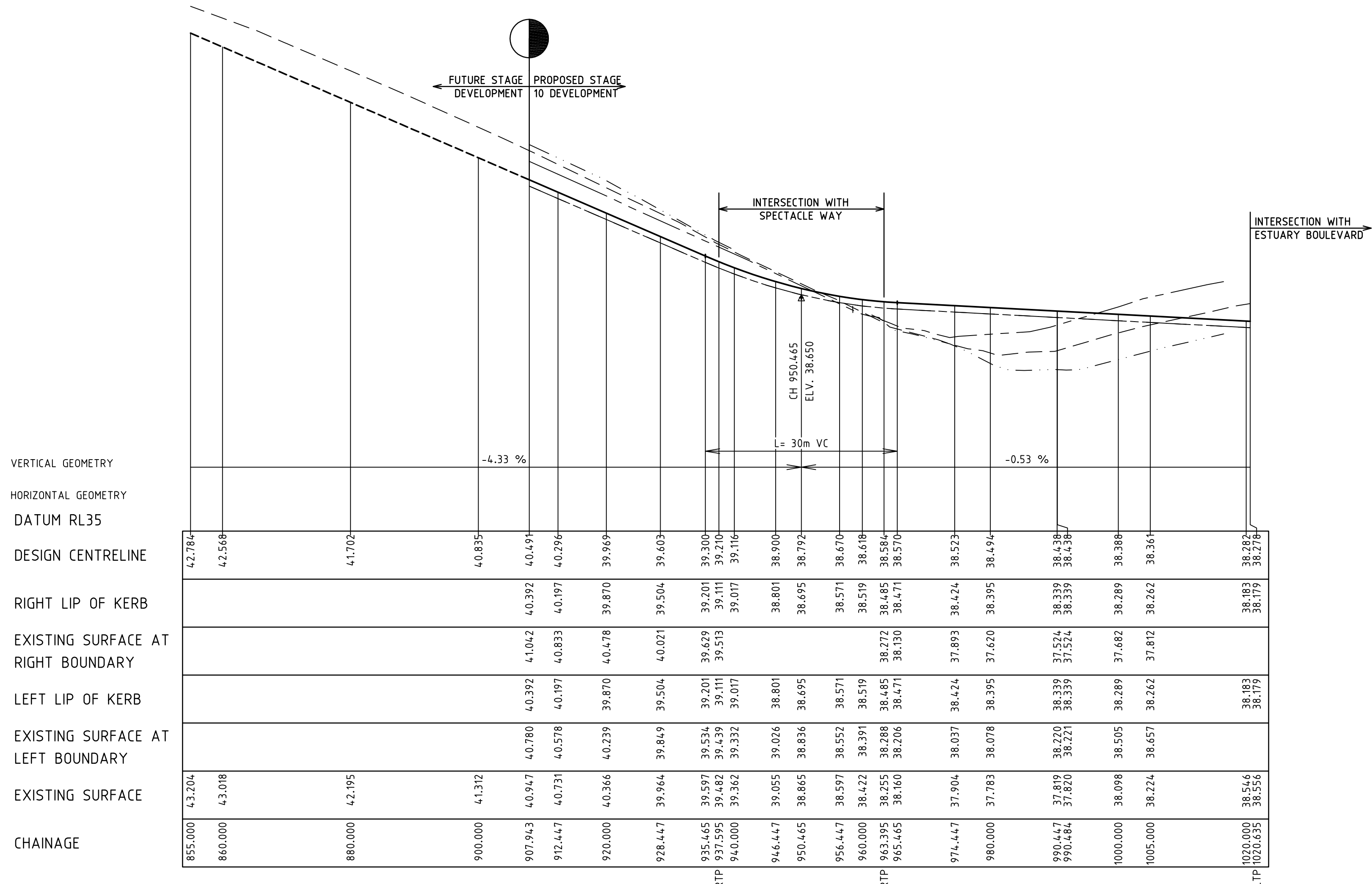
Estuary
Stage 10
City Of Greater Geelong
Roadworks and Drainage
Longitudinal Sections - 1

Drawing No. 0250EHL-10-09 **Rev B**

Sheet No. 9 of 21

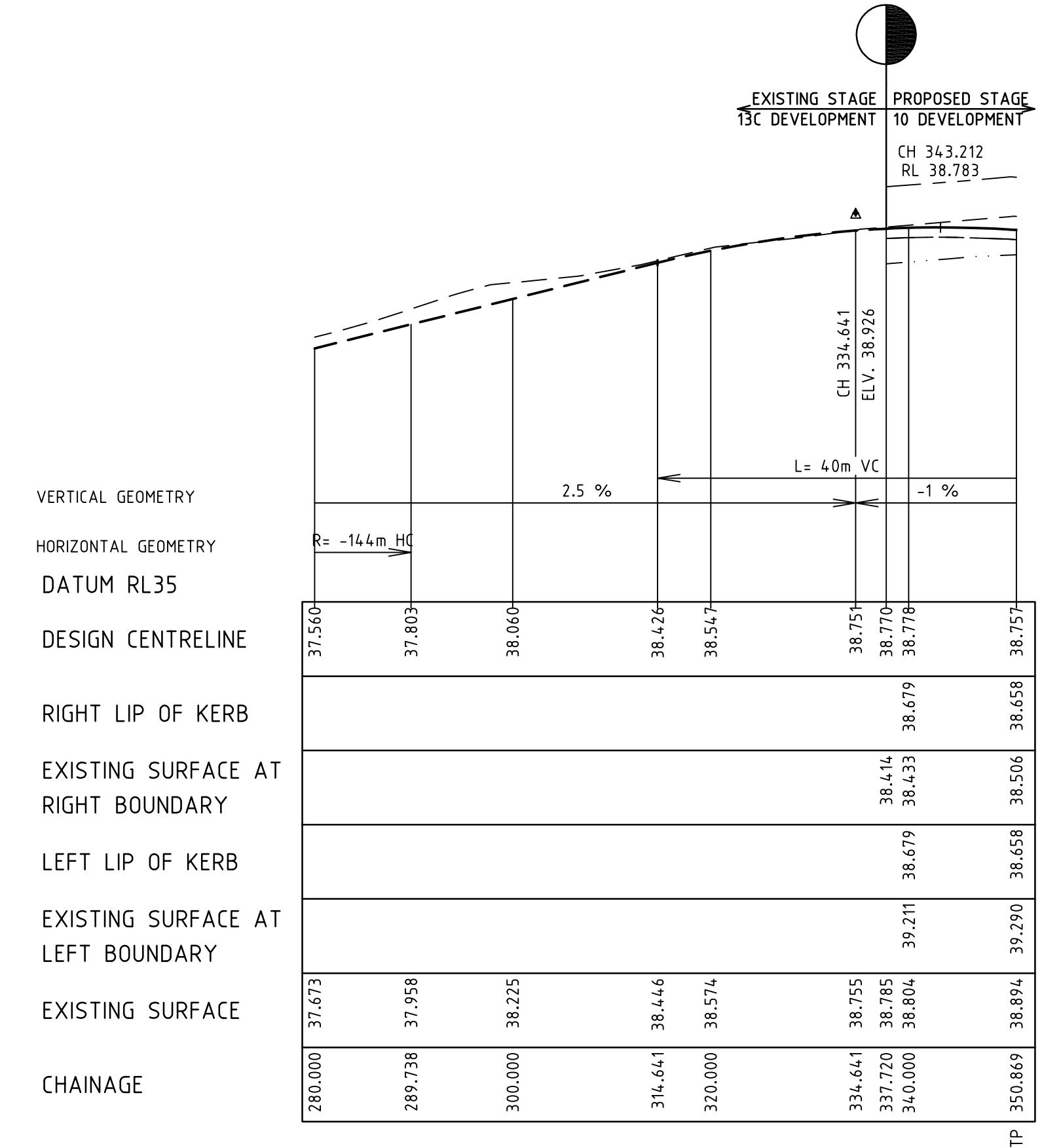
Approved for Construction

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



| | |
|------------------------------------|---|
| VERTICAL GEOMETRY | |
| HORIZONTAL GEOMETRY | |
| DATUM RL35 | |
| DESIGN CENTRELINE | 42.784 42.568 41.702 40.835 40.491 40.296 39.969 39.603 39.300 39.210 39.116 38.900 38.792 38.670 38.519 38.485 38.570 38.523 38.494 38.438 38.339 38.388 |
| RIGHT LIP OF KERB | 40.392 40.197 39.870 39.504 39.201 39.111 39.017 38.801 38.695 38.571 38.519 38.485 38.471 38.424 38.395 38.339 38.339 38.289 |
| EXISTING SURFACE AT RIGHT BOUNDARY | 41.042 40.833 40.478 40.021 39.629 39.513 39.017 38.801 38.695 38.571 38.519 38.485 38.471 38.424 38.395 38.339 38.339 38.289 |
| LEFT LIP OF KERB | 40.392 40.197 39.870 39.504 39.201 39.111 39.017 38.801 38.695 38.571 38.519 38.485 38.471 38.424 38.395 38.339 38.339 38.289 |
| EXISTING SURFACE AT LEFT BOUNDARY | 40.780 40.578 40.239 39.849 39.534 39.439 39.332 39.055 38.865 38.552 38.422 38.288 38.206 38.037 38.078 38.220 38.221 38.505 |
| EXISTING SURFACE | 43.204 43.018 42.195 41.312 40.947 40.731 40.366 39.964 39.597 39.482 39.362 39.055 38.865 38.597 38.422 38.255 38.160 37.904 37.783 37.819 37.820 38.098 |
| CHAINAGE | 855.000 860.000 880.000 900.000 907.943 912.447 920.000 928.447 935.465 937.595 940.000 946.447 950.465 956.447 960.000 963.395 965.465 974.447 980.000 990.447 990.484 1000.000 1005.000 1020.000 1020.635 |

HILLCLIMB DRIVE LONGITUDINAL SECTION



| | |
|------------------------------------|---|
| VERTICAL GEOMETRY | |
| HORIZONTAL GEOMETRY | |
| DATUM RL35 | |
| DESIGN CENTRELINE | 37.560 37.803 38.060 38.426 38.547 38.751 38.770 38.778 38.751 |
| RIGHT LIP OF KERB | 38.751 38.770 38.778 38.679 38.658 |
| EXISTING SURFACE AT RIGHT BOUNDARY | 38.414 38.433 38.679 38.506 |
| LEFT LIP OF KERB | 38.679 38.679 38.658 |
| EXISTING SURFACE AT LEFT BOUNDARY | 39.211 39.290 |
| EXISTING SURFACE | 37.673 37.958 38.225 38.446 38.574 38.755 38.785 38.804 38.894 |
| CHAINAGE | 280.000 289.738 300.000 314.441 320.000 334.644 337.720 340.000 350.869 |

SPECTACLE WAY LONGITUDINAL SECTION

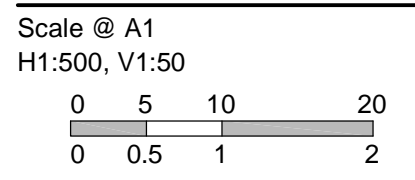
I:\work\eng\0250EHL - horizons\leopard\0250EHL - 10days\0250EHL-10-10

| REVISION | DATE | DES/DFT | APPD |
|----------------------------------|----------|---------|------|
| B COUNCIL AMENDMENTS | 10.01.12 | CB/CB | JG |
| A ISSUED TO COUNCIL FOR APPROVAL | 20.10.11 | CB/CB | JG |



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

Designed
C. Barker
Drawn
C. Barker
Checked
C. Birckett
Authorised
J. Golden
Date
September 2011



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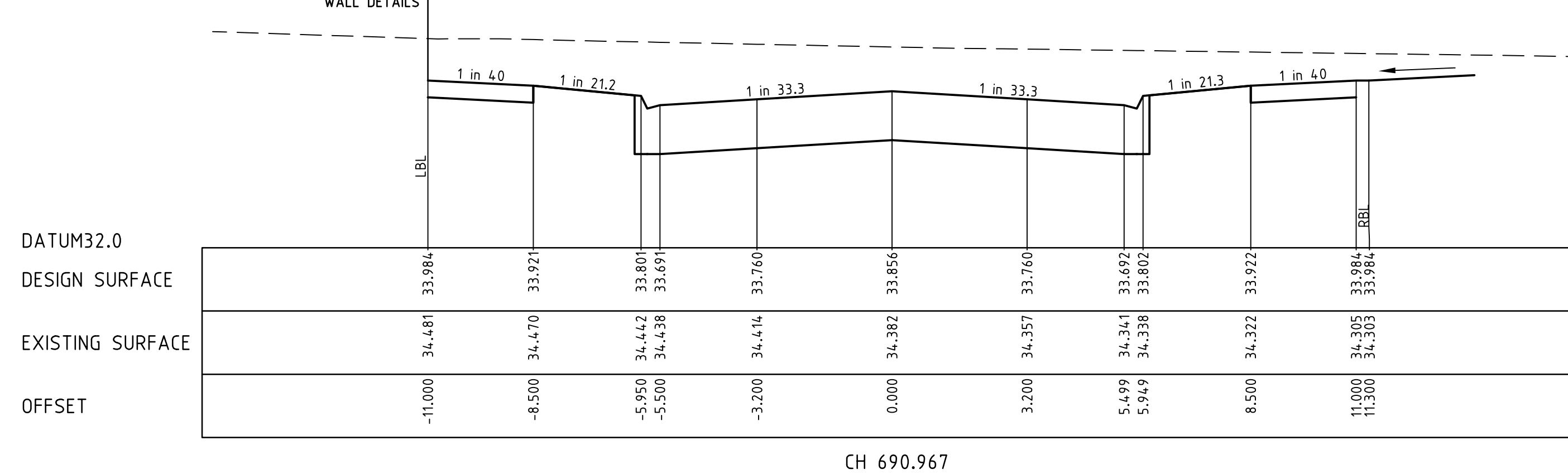
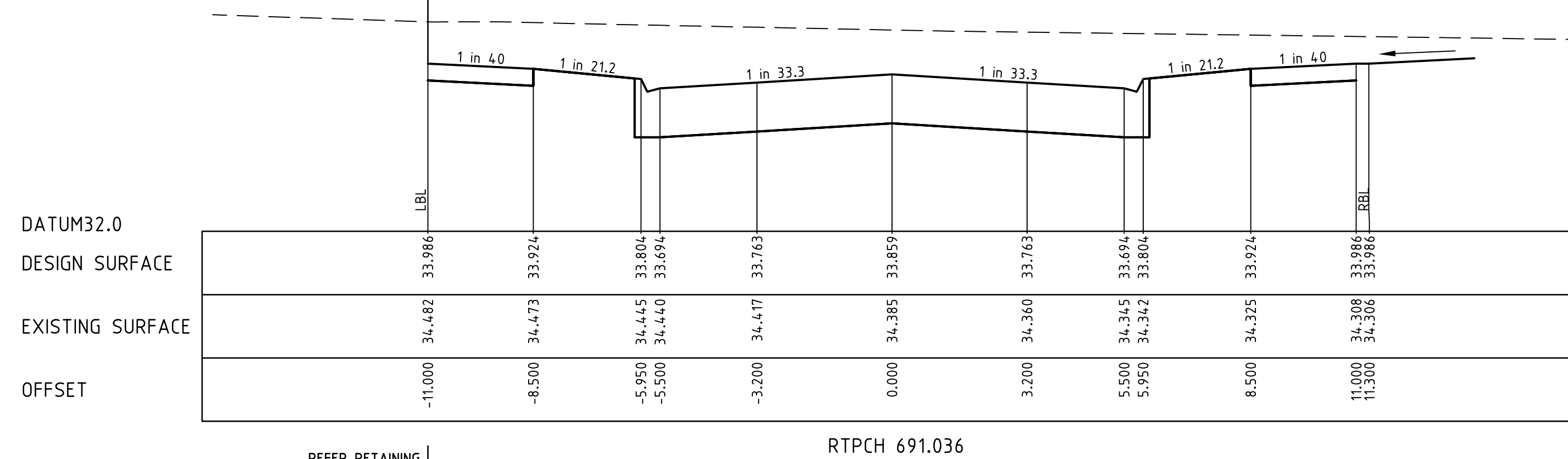
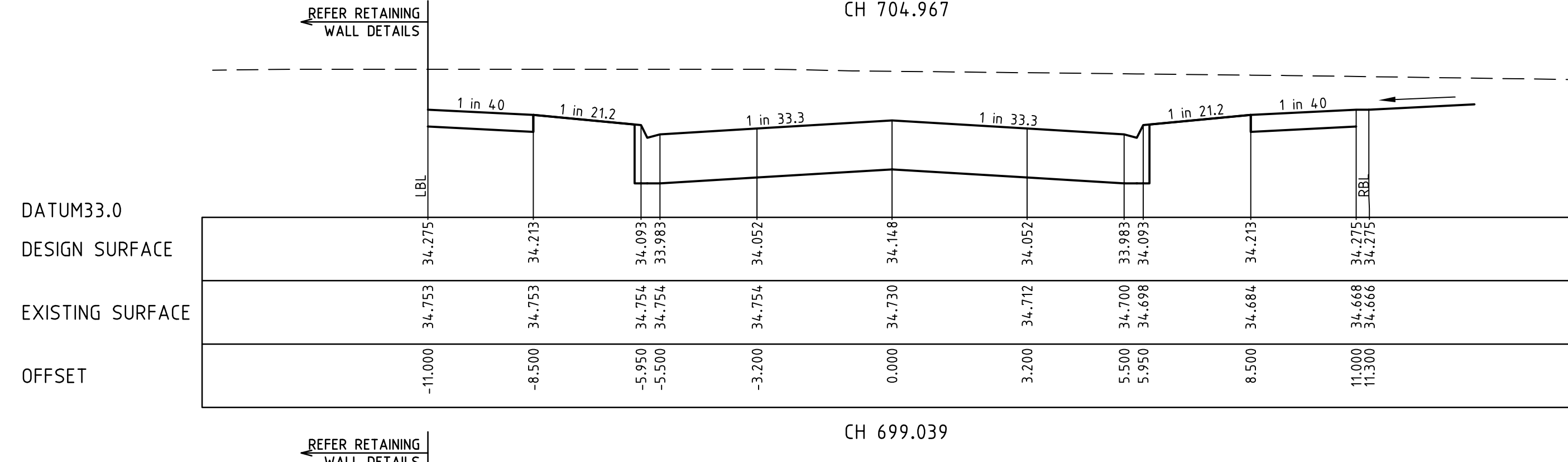
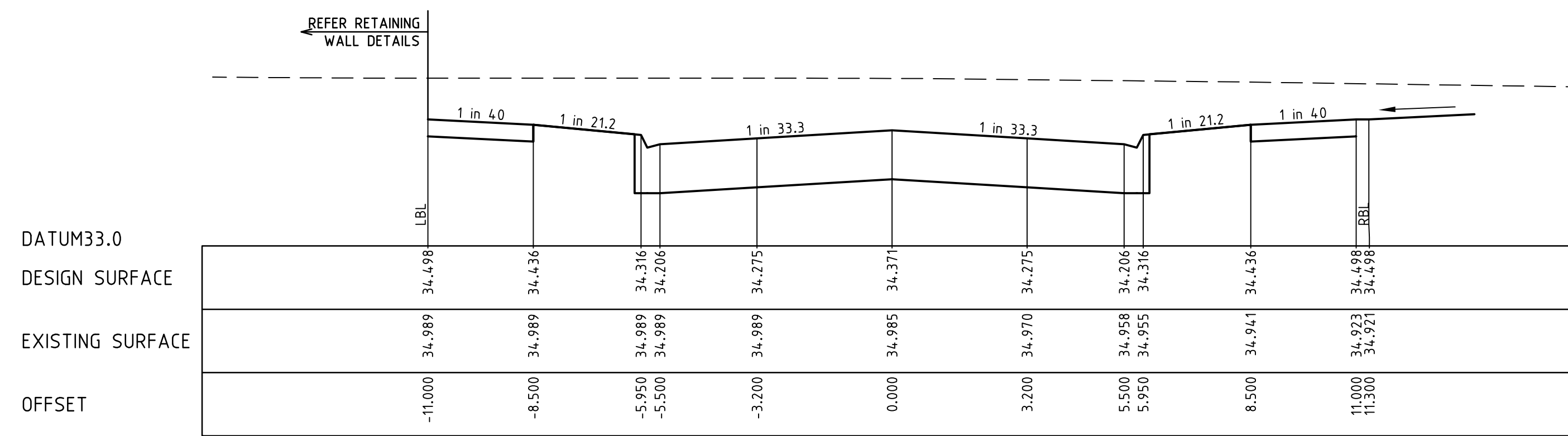
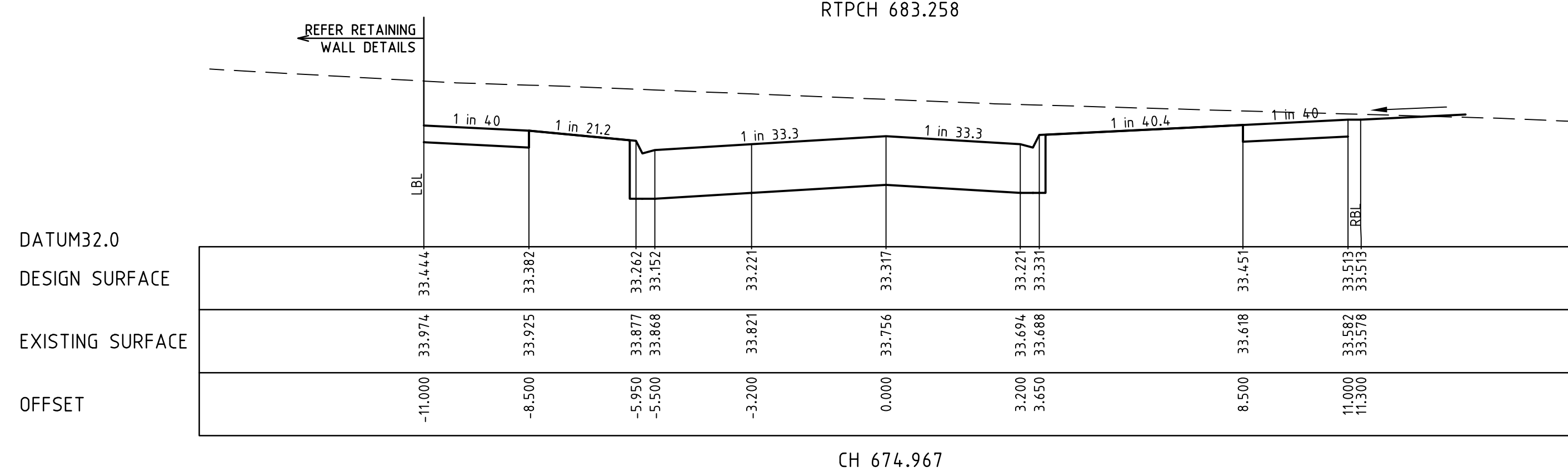
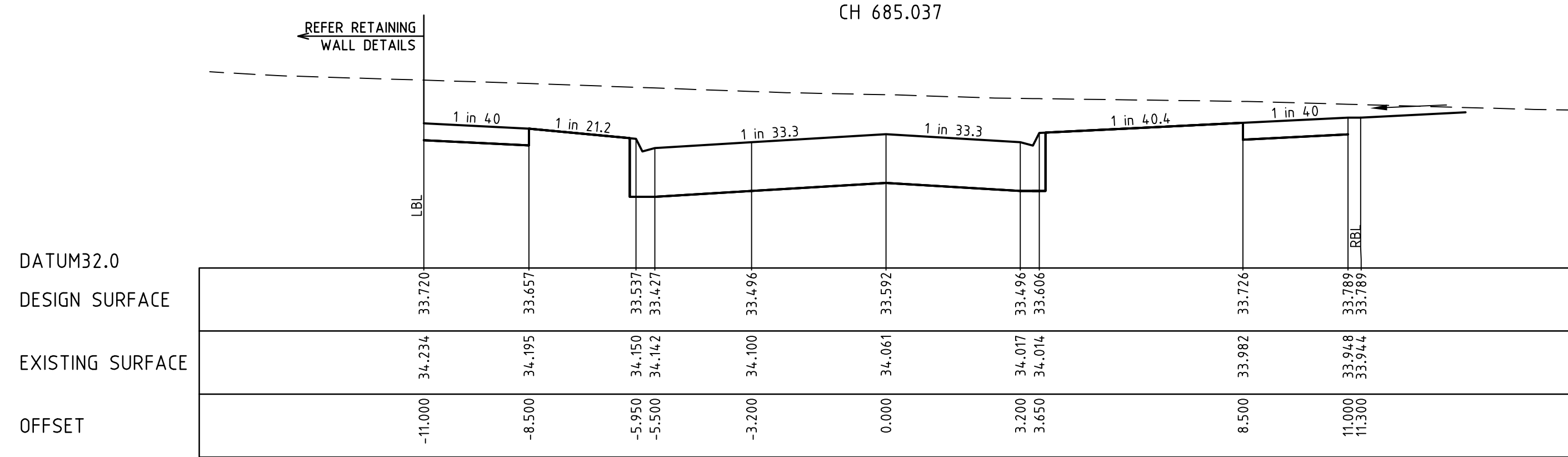
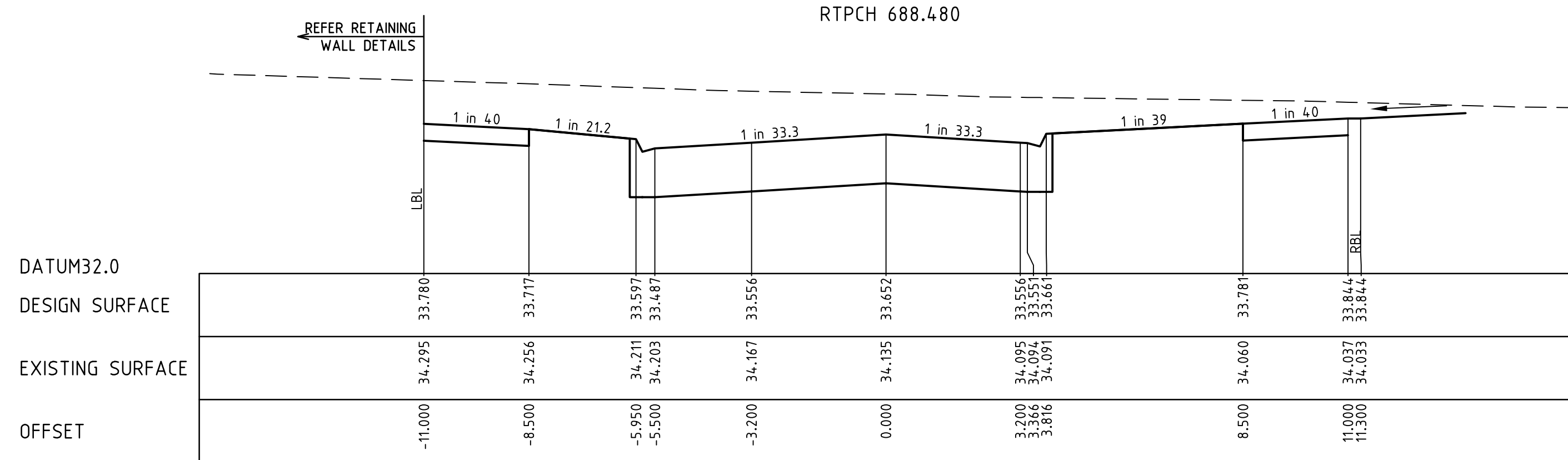
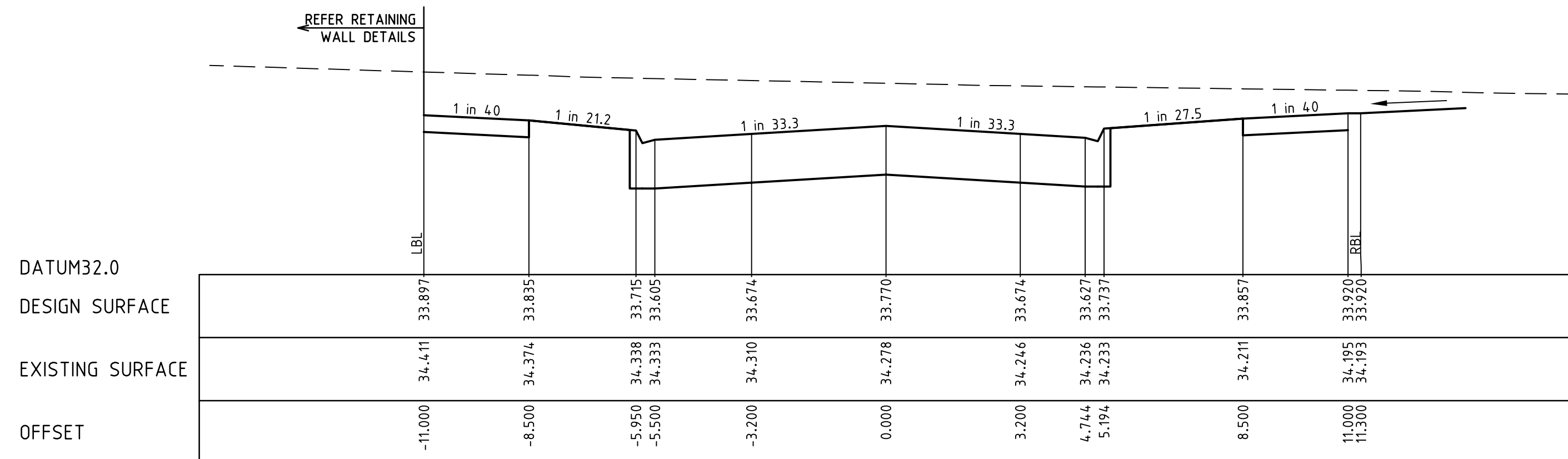
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Estuary
Stage 10
City Of Greater Geelong
Roadworks and Drainage
Longitudinal Sections - 2

Drawing No. **0250EHL-10-10** Rev **B**
Sheet No. 10 of 21

Approved for Construction

| | |
|-----|--------------------|
| --- | EXISTING SURFACE |
| — | DESIGN LINE |
| --- | FUTURE DESIGN LINE |

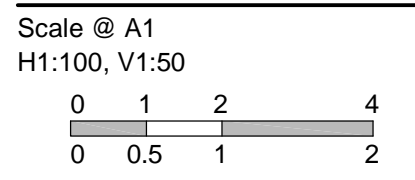


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|----------------------------------|----------|---------|------|
| REVISION | DATE | DES/DFT | APPD |
| B COUNCIL AMENDMENTS | 10.01.12 | CB/CB | JG |
| A ISSUED TO COUNCIL FOR APPROVAL | 20.10.11 | CB/CB | JG |



Principal
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Drawn
C. Barker
Checked
C. Birkett
Authorised
J. Golden
Date
September 2011



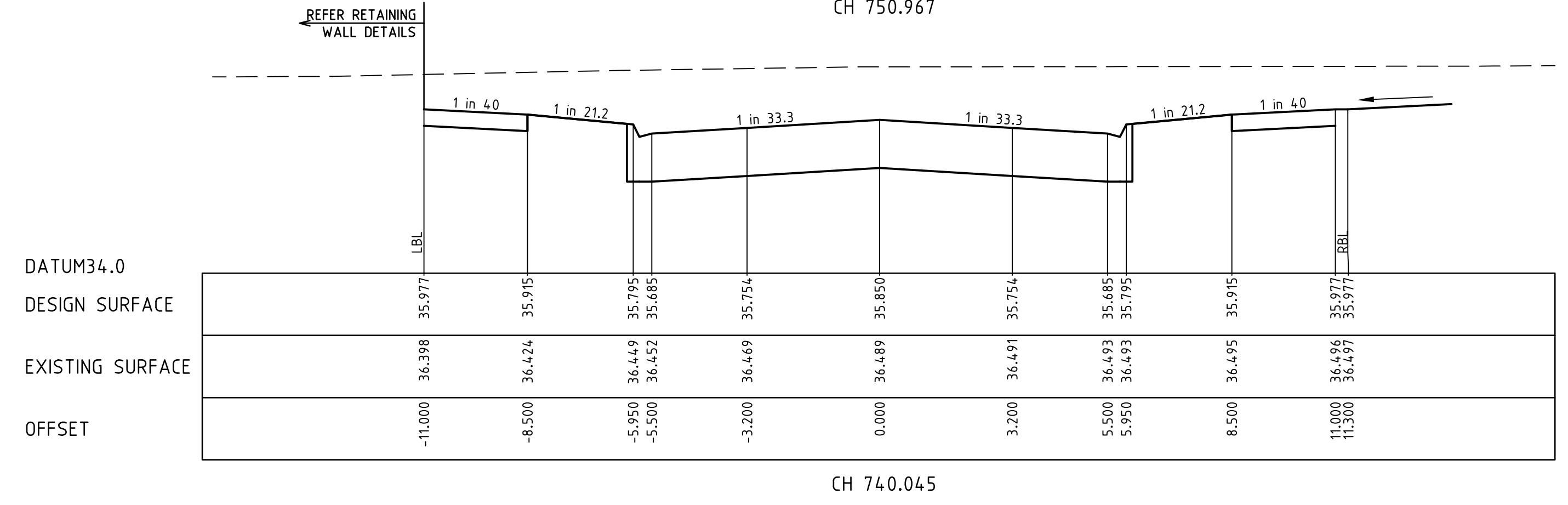
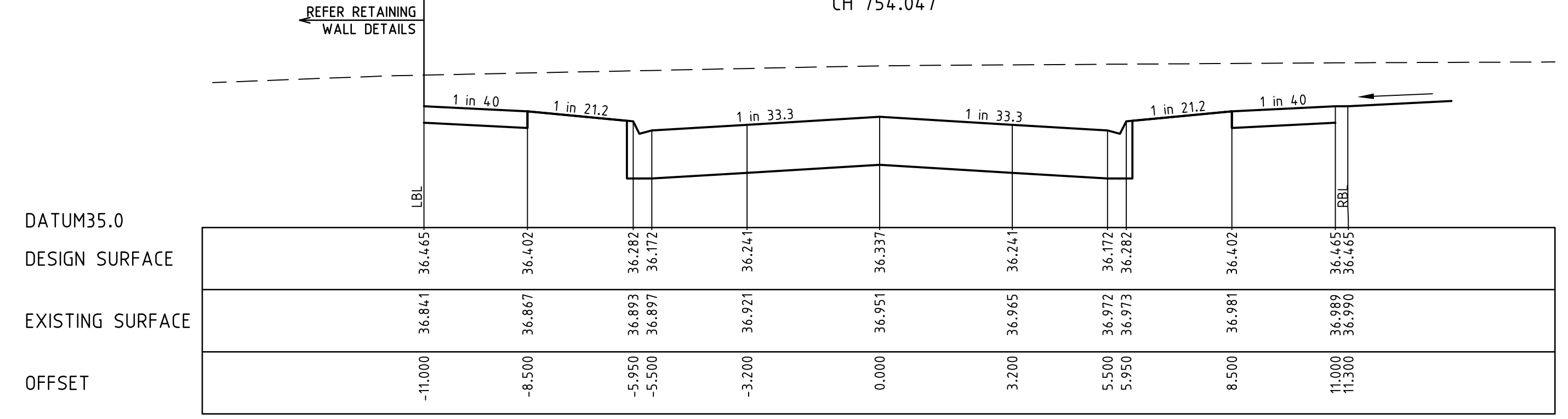
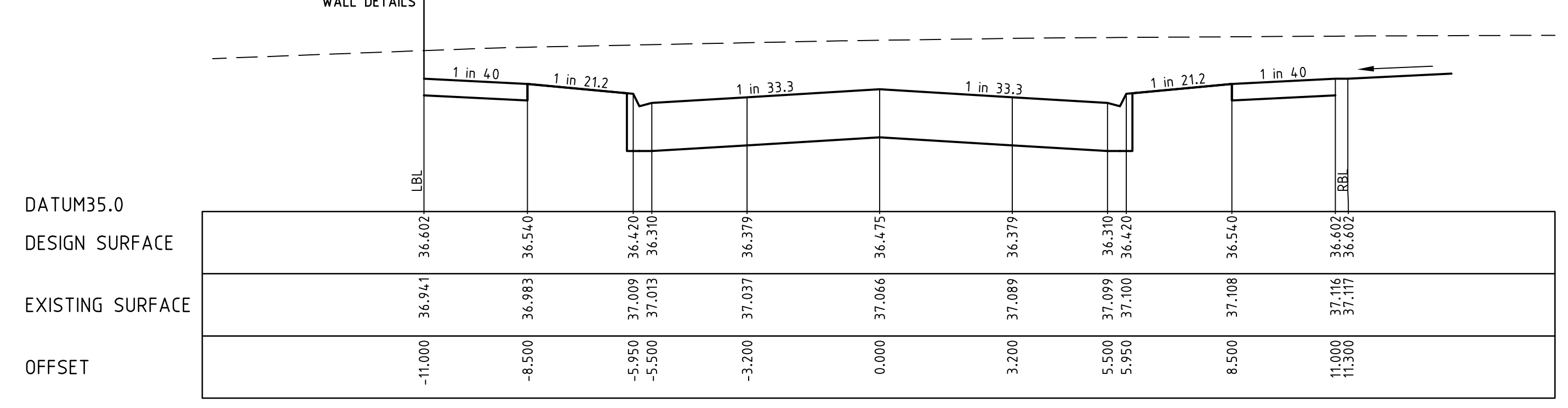
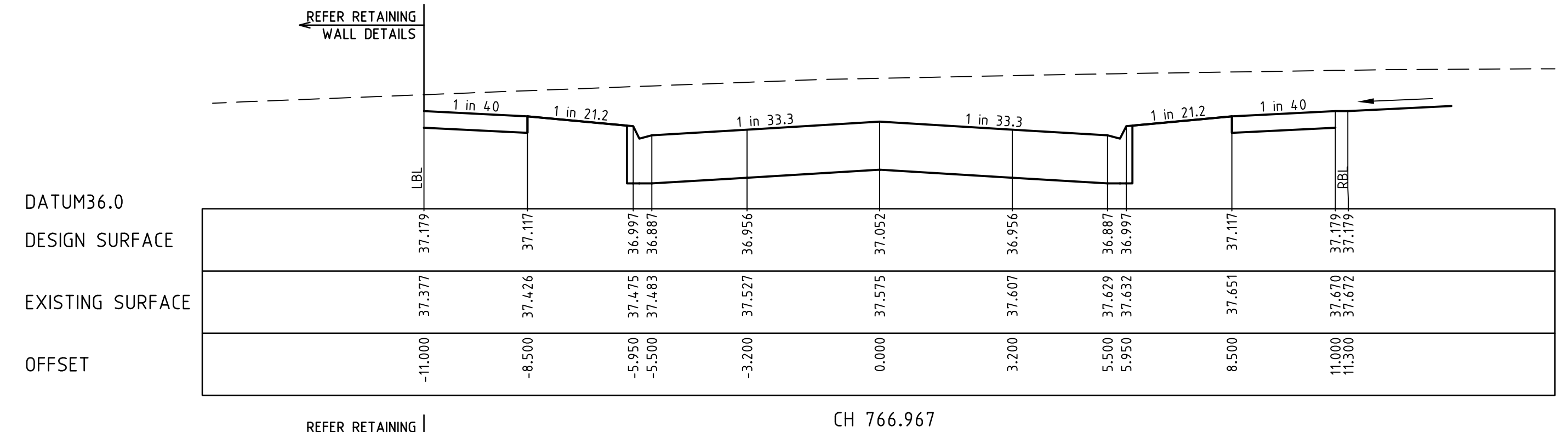
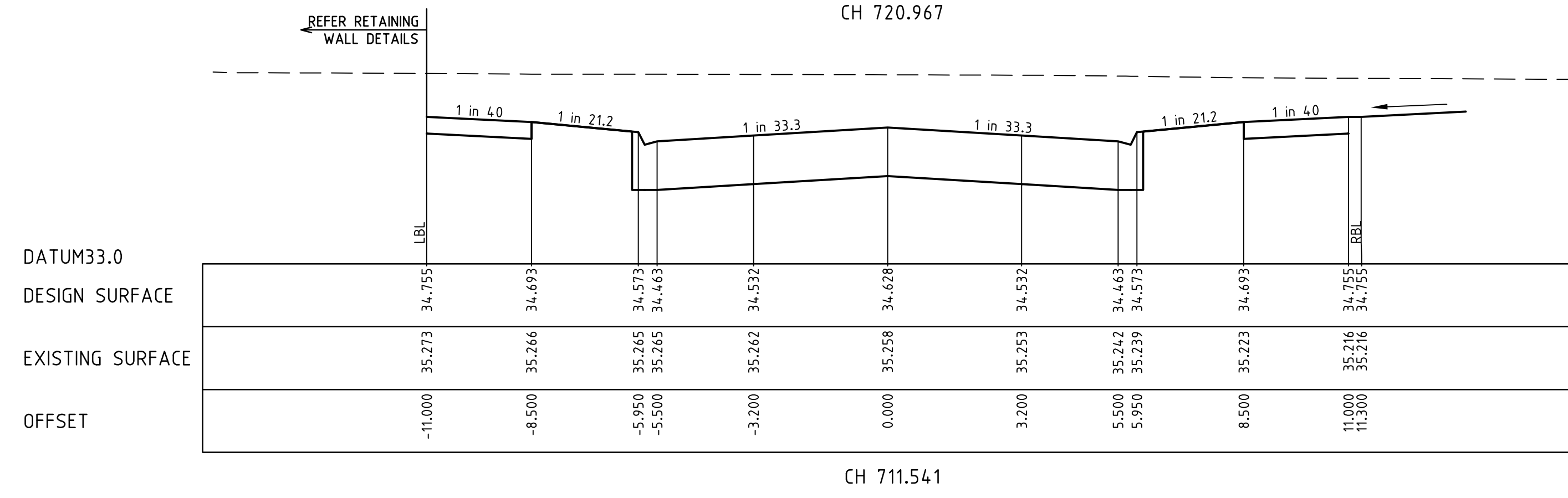
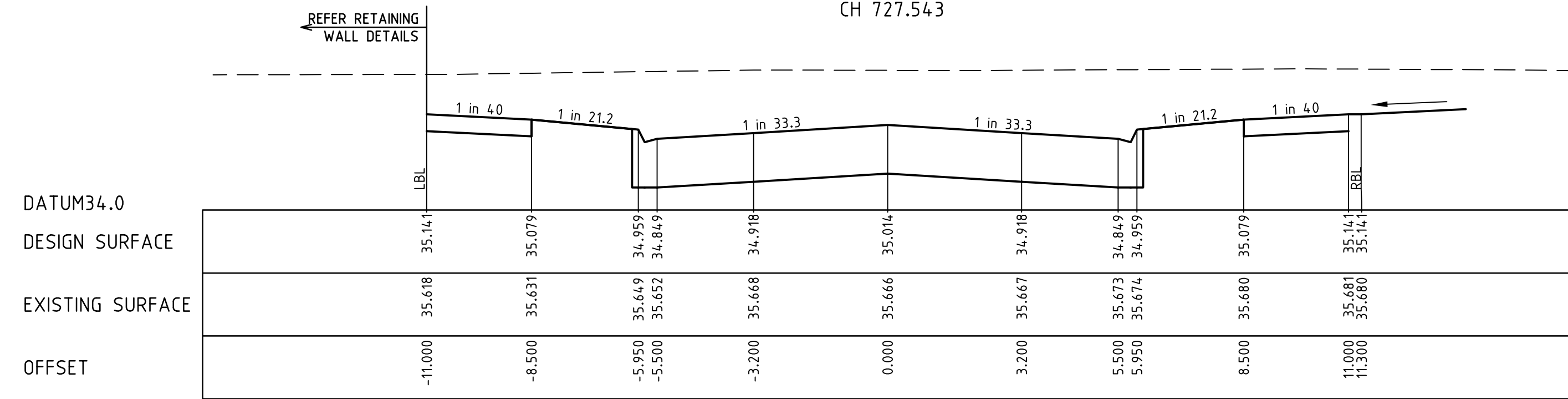
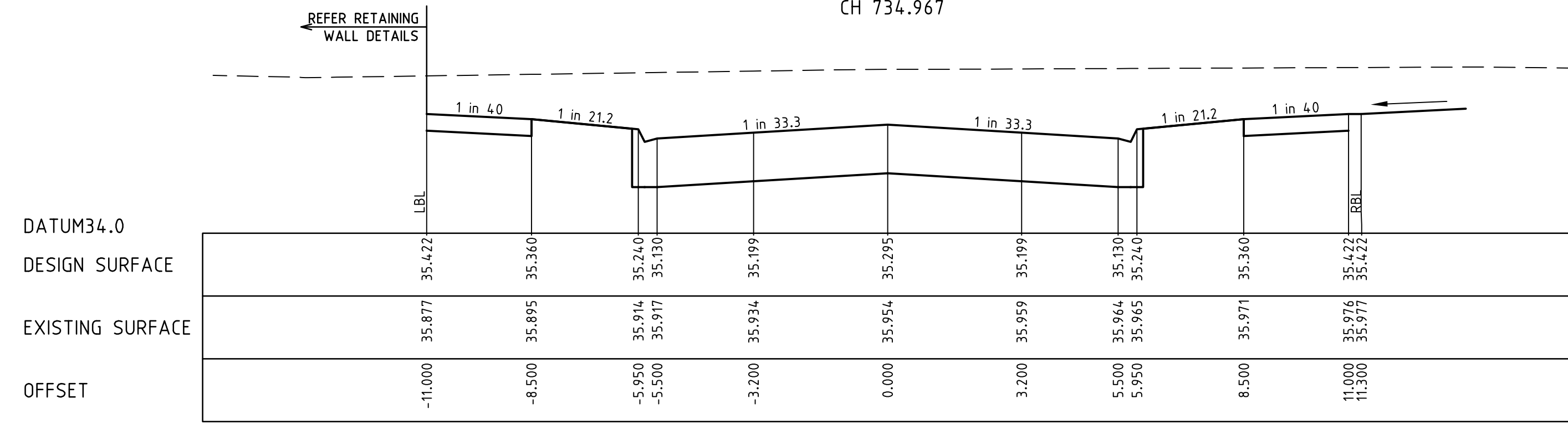
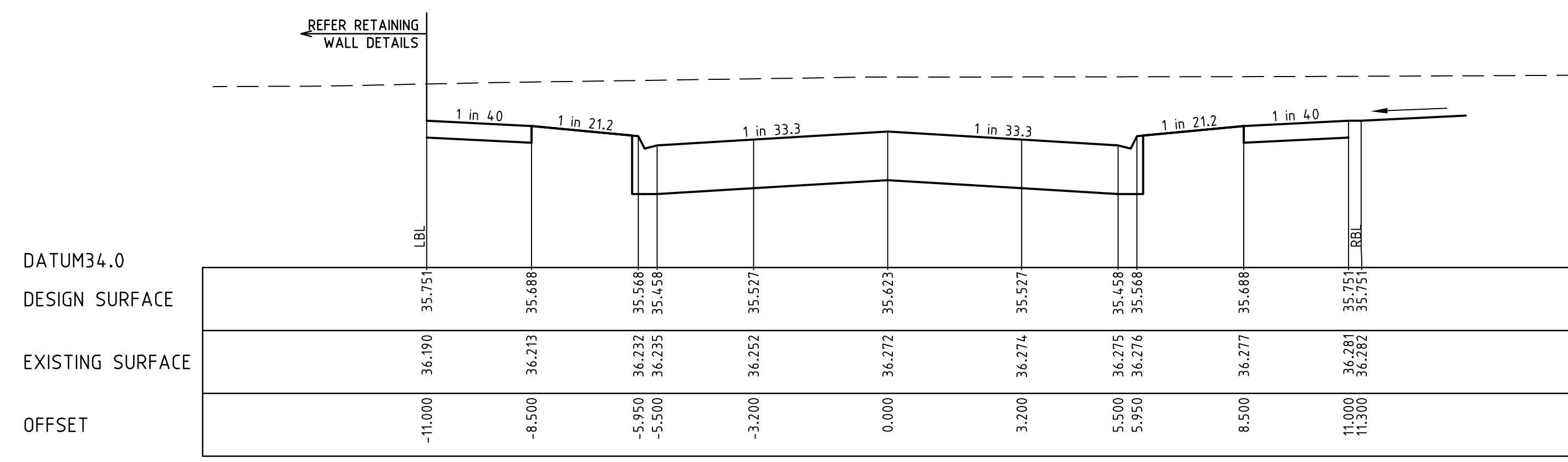
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Estuary
Stage 10
City Of Greater Geelong
Roadworks and Drainage
Cross Sections - Estuary Boulevard - 1
CH674.967 - CH704.967
Drawing No. 0250EHL-10-11 **Rev B**
Sheet No. 11 of 21
Approved for Construction

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

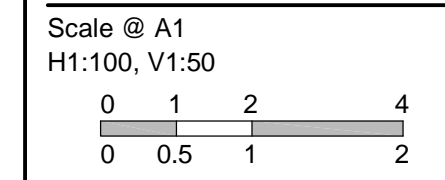


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| B | COUNCIL AMENDMENTS | | | | | |
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| REVISION | | DATE | DES/DFT | APPD | | |



Principal
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Designed
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Drawn
C. Barker
Checked
C. Birckett
Authorised
J. Golden
Date
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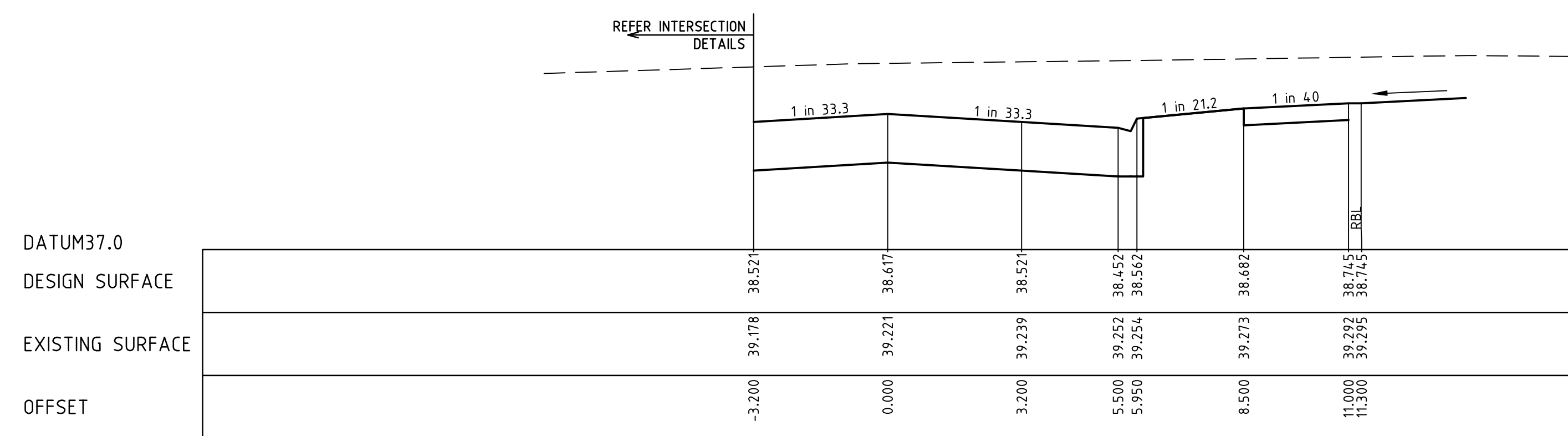
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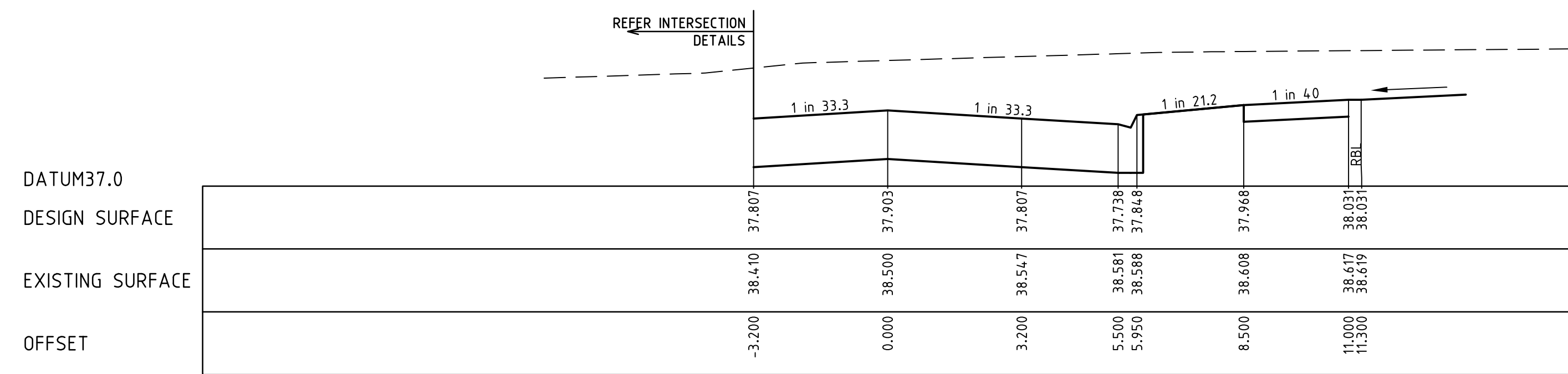
Estuary
Stage 10
City Of Greater Geelong
Roadworks and Drainage
Cross Sections - Estuary Boulevard - 2
CH711.541 - CH766.967
Drawing No. 0250EHL-10-12 **Rev B**
Sheet No. 12 of 21

Approved for Construction

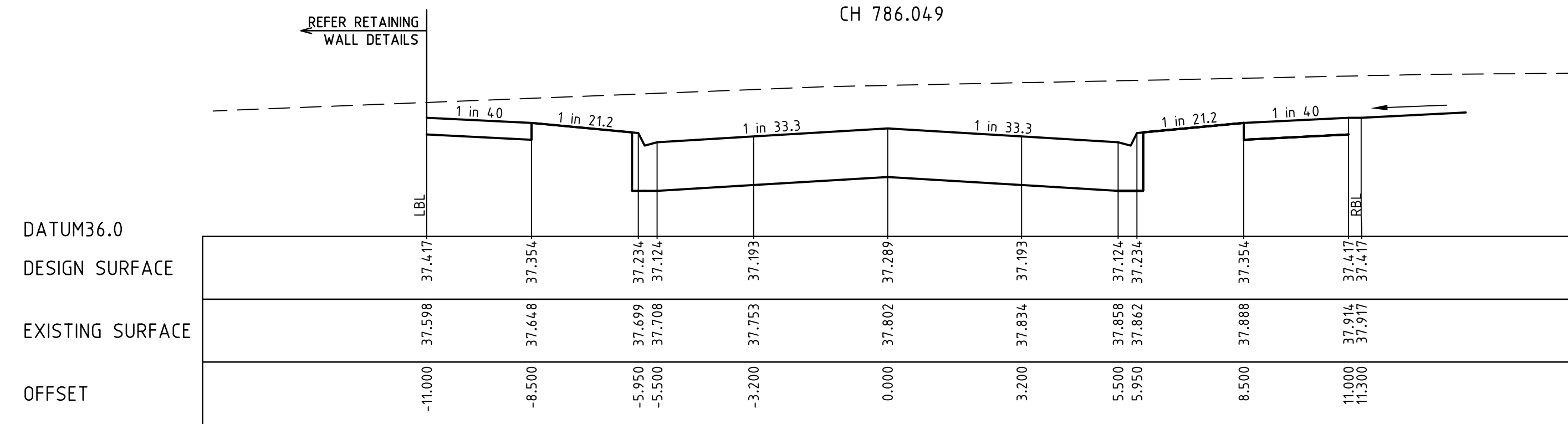
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| — | DESIGN LINE |
| --- | FUTURE DESIGN LINE |



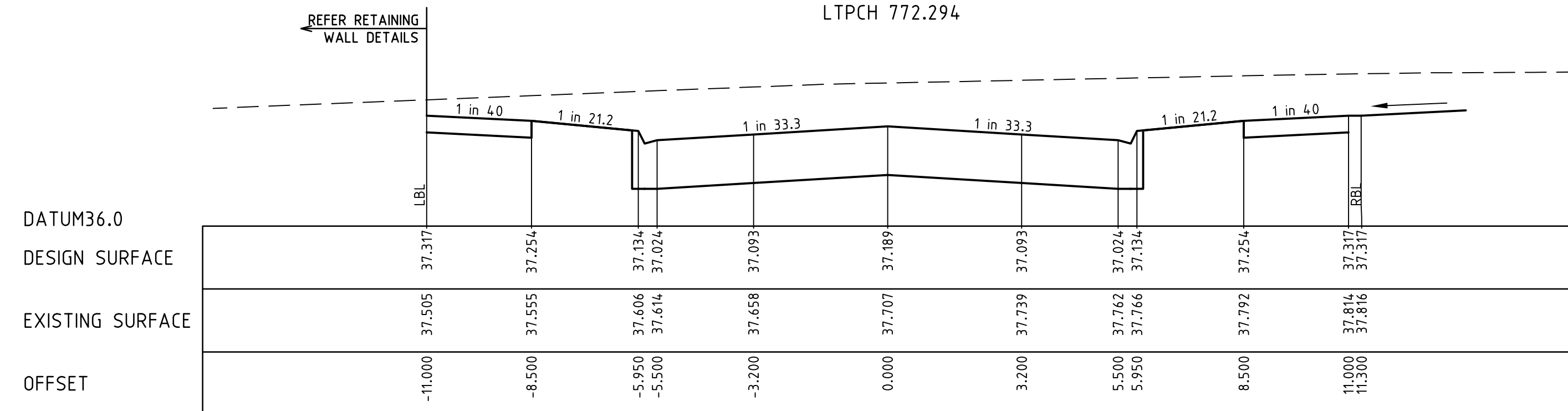
CH 802.049



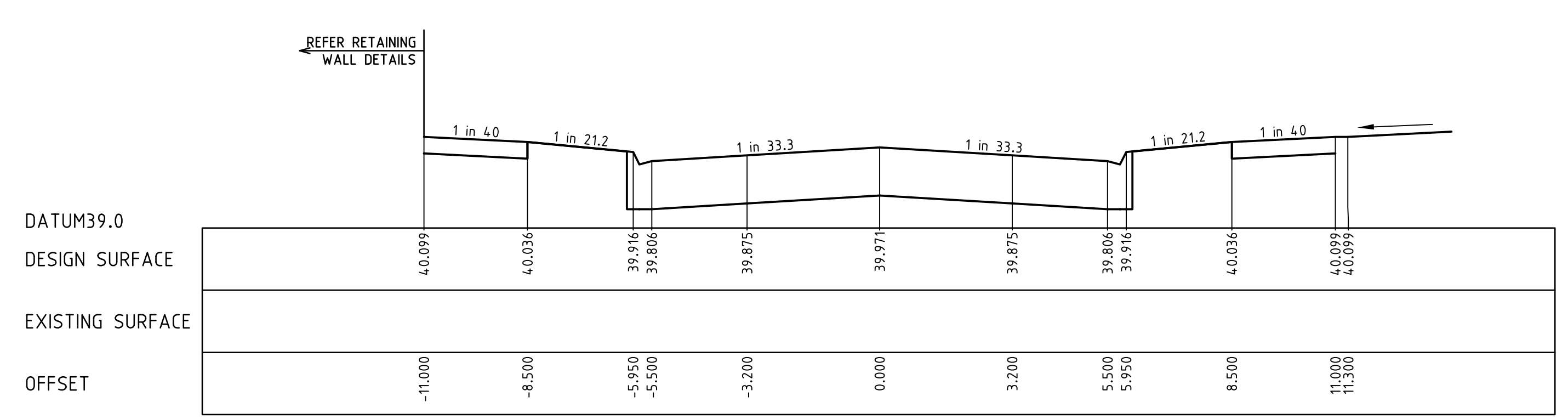
CH 786.049



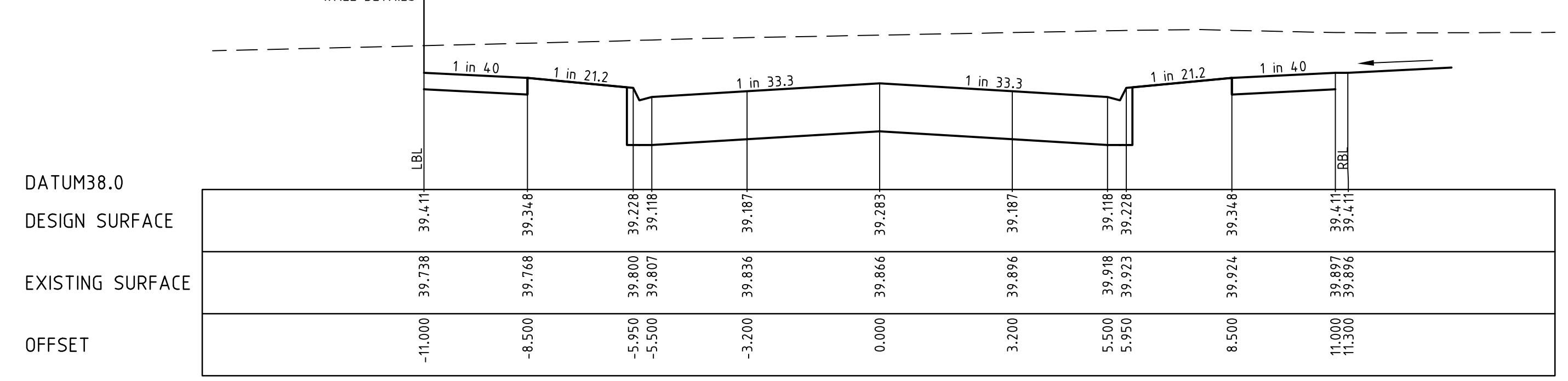
LTPCH 772.294



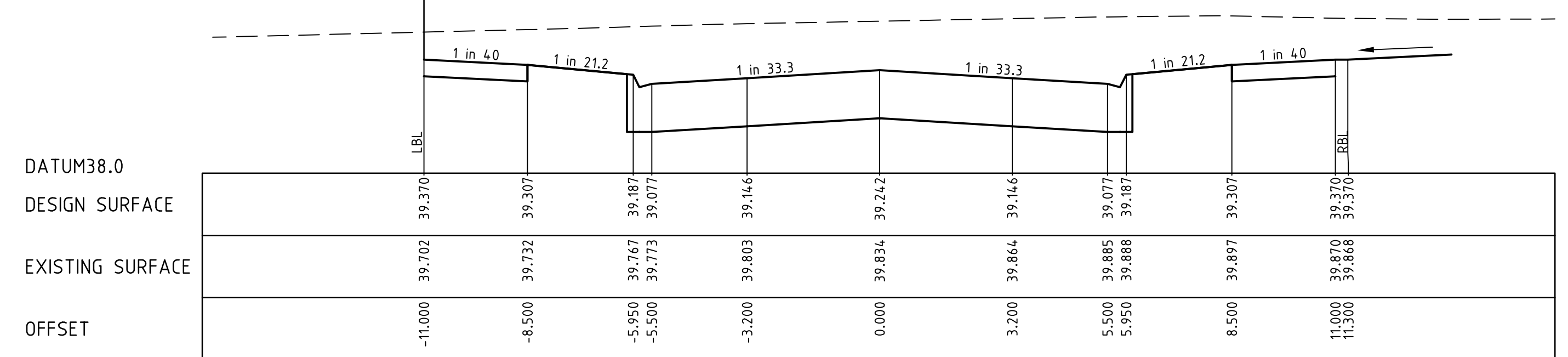
CH 770.049



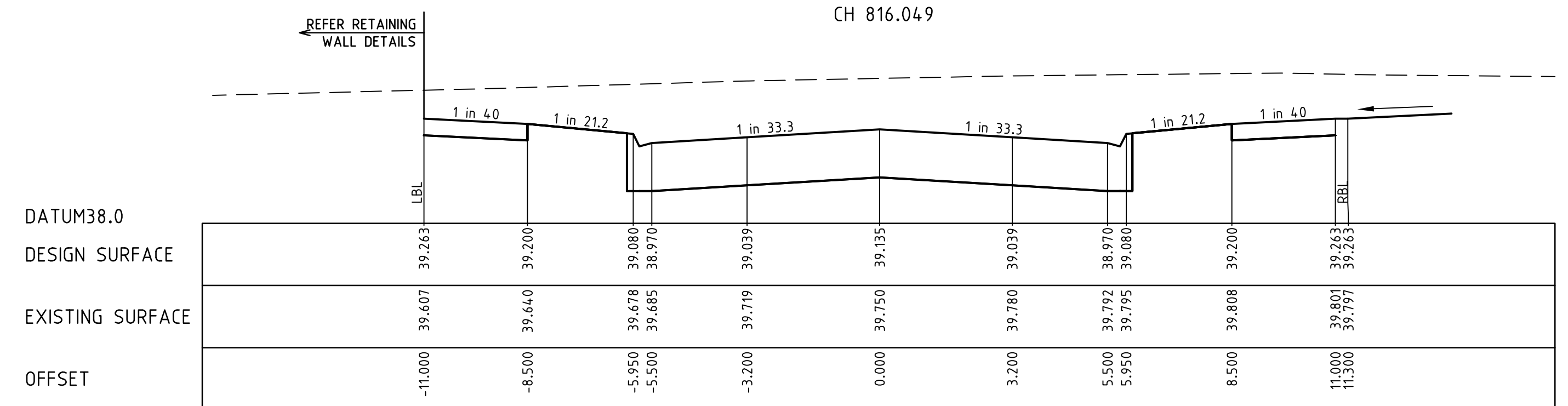
CH 832.388



CH 816.967



CH 816.049



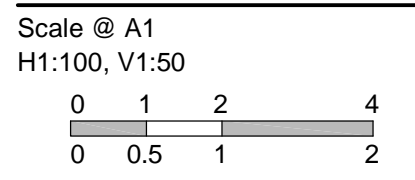
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Principal
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Level 1, 6 Riverside Quay
Southbank, Victoria 3006

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



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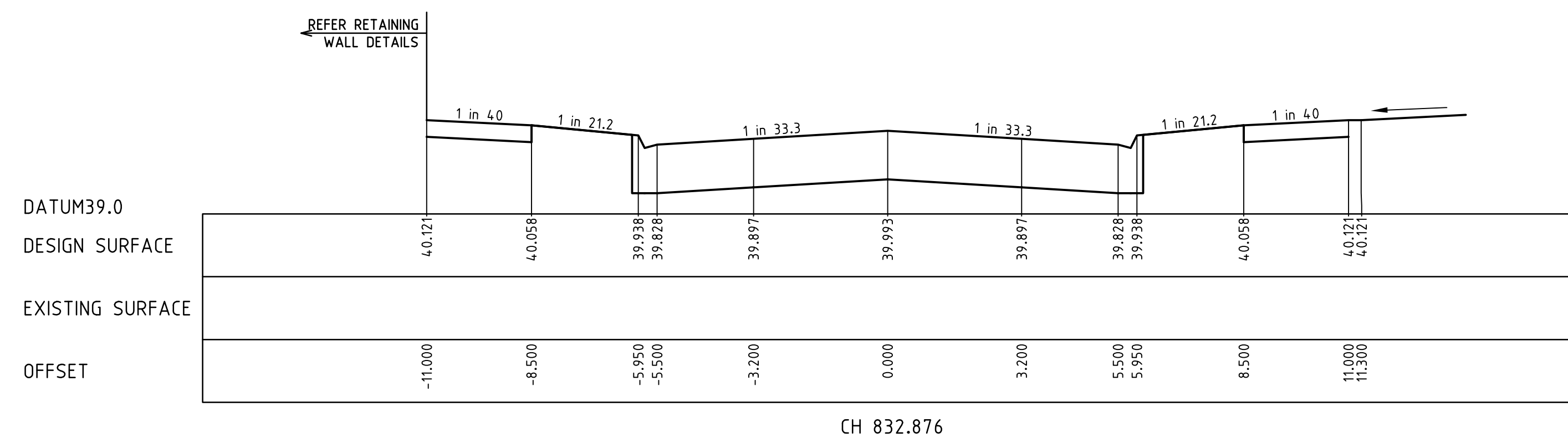
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Estuary
Stage 10
City Of Greater Geelong
Roadworks and Drainage
Cross Sections - Estuary Boulevard - 3
CH770.049 - CH832.388
Drawing No. 0250EHL-10-13 **Rev B**
Sheet No. 13 of 21

Approved for Construction

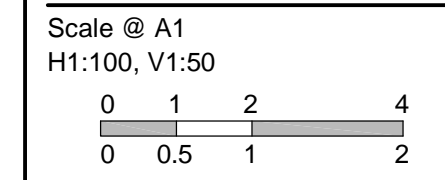
| LEGEND | |
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| — — — | EXISTING SURFACE |
| — — — | DESIGN LINE |
| — — — | FUTURE DESIGN LINE |



| REVISION | DATE | DES/DFT | APPD |
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Principal
Leopold Property Development Pty Ltd
Level 1, 6 Riverside Quay
Southbank, Victoria 3006

Designed
C. Barker
Drawn
C. Barker
Checked
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Authorised
J. Golden
Date
September 2011



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| Brisbane | +61 7 3831 8988 | Melbourne | +61 3 9869 0800 |
| Canberra | +61 2 6126 1900 | Taralgon | +61 3 5173 0100 |

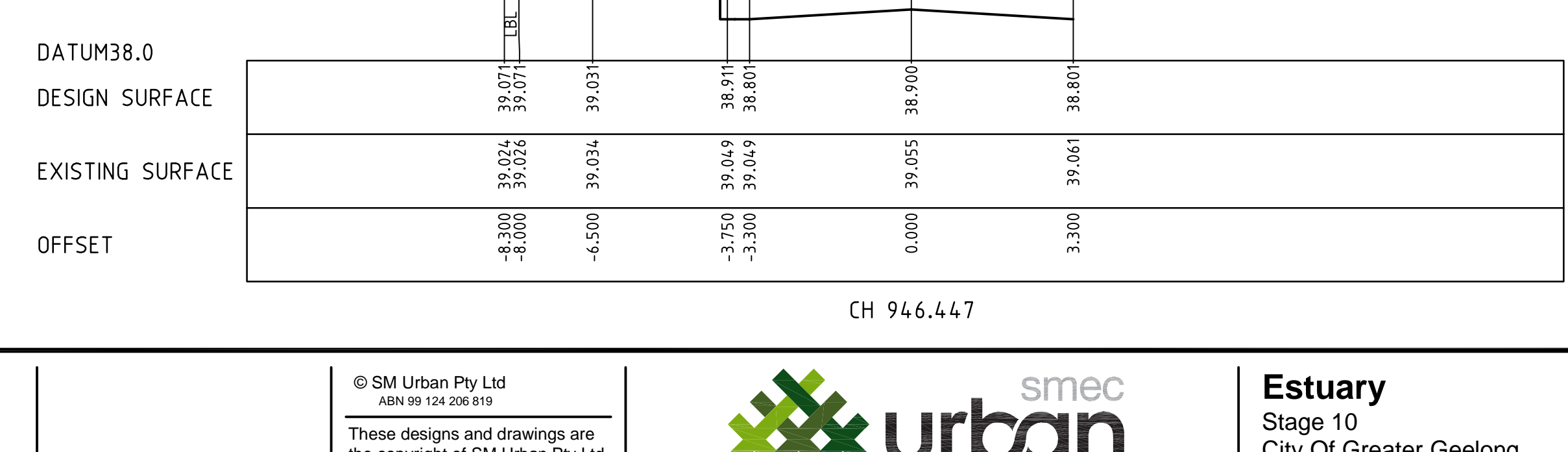
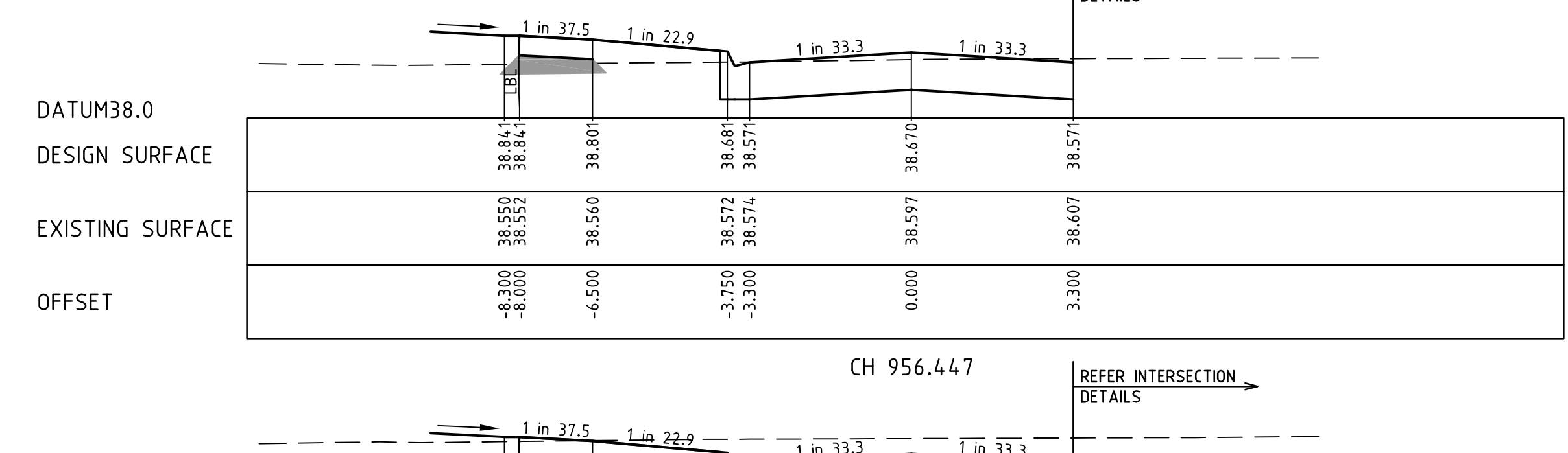
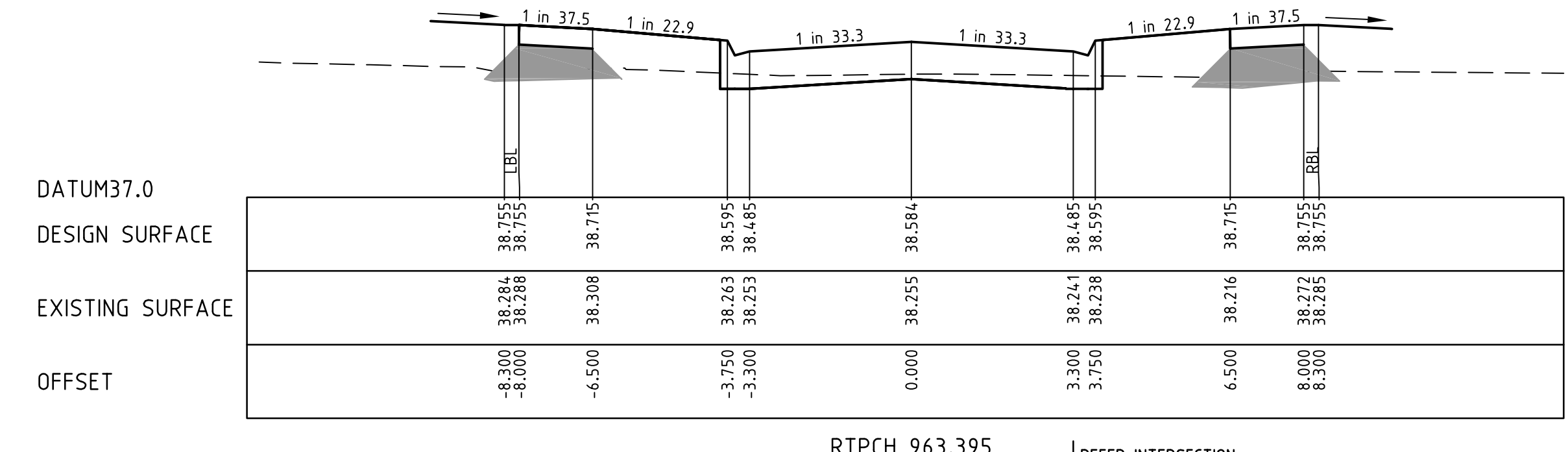
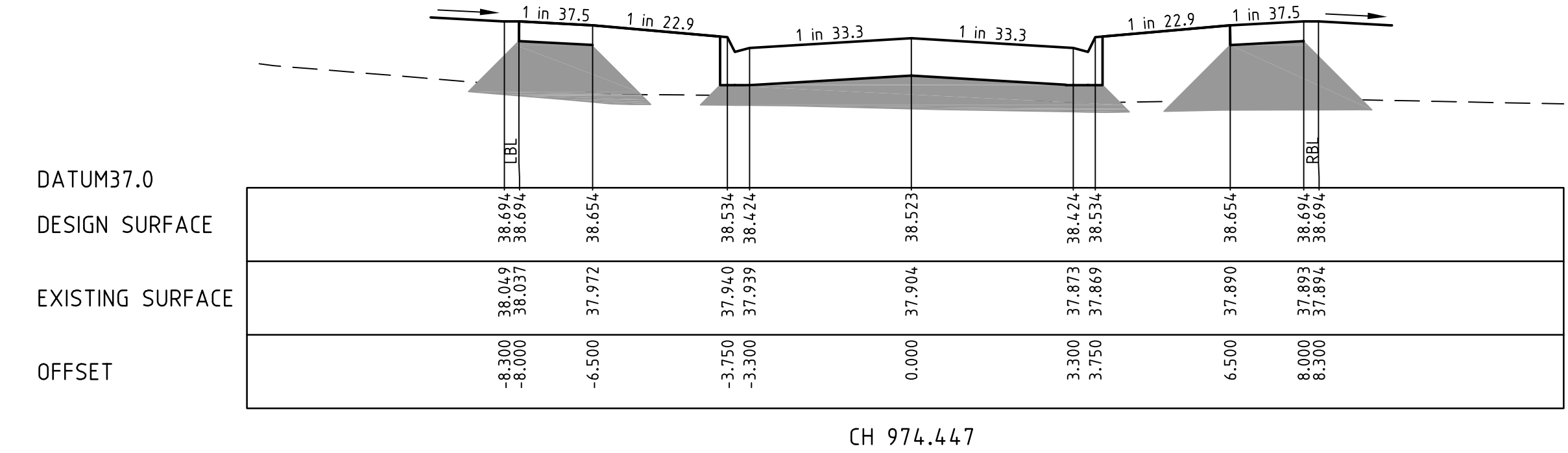
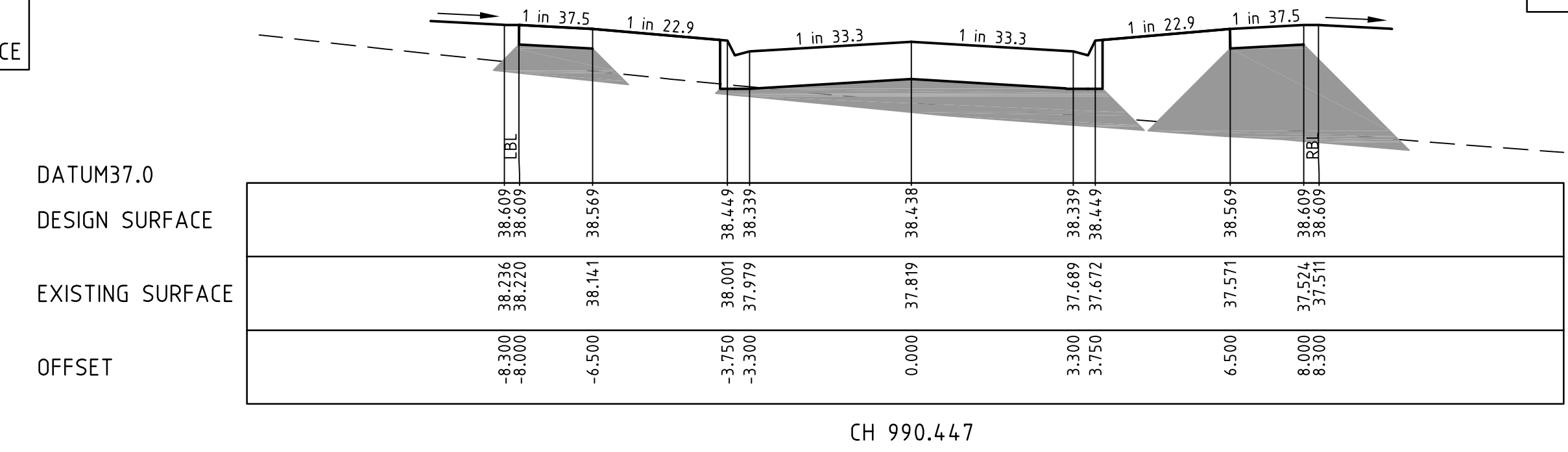
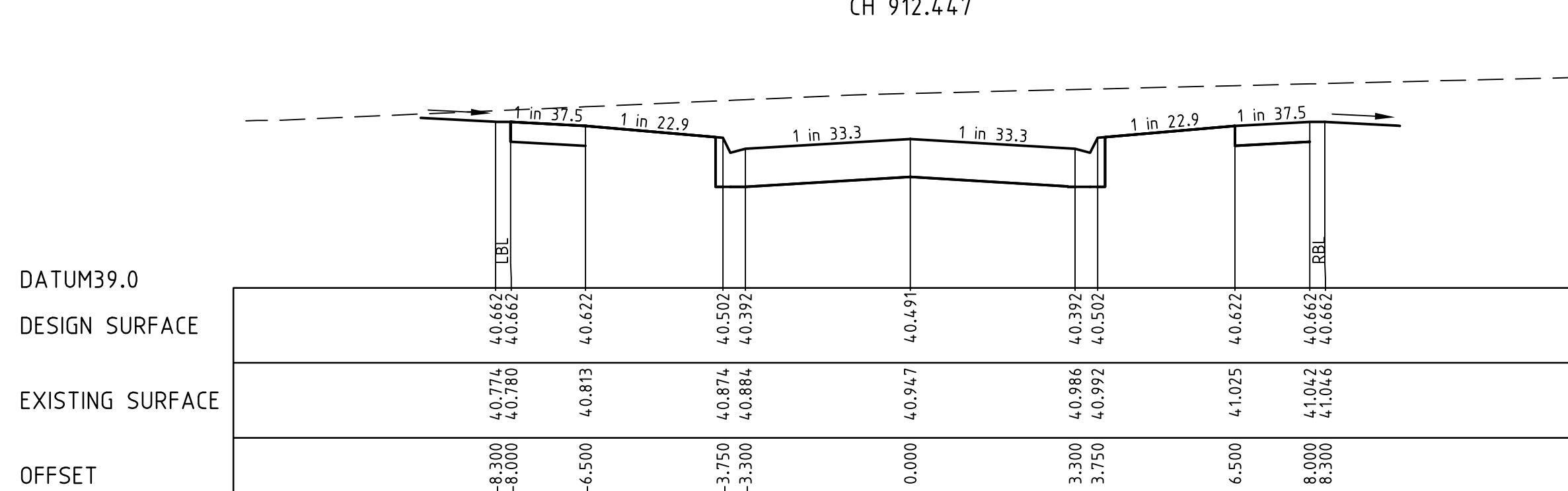
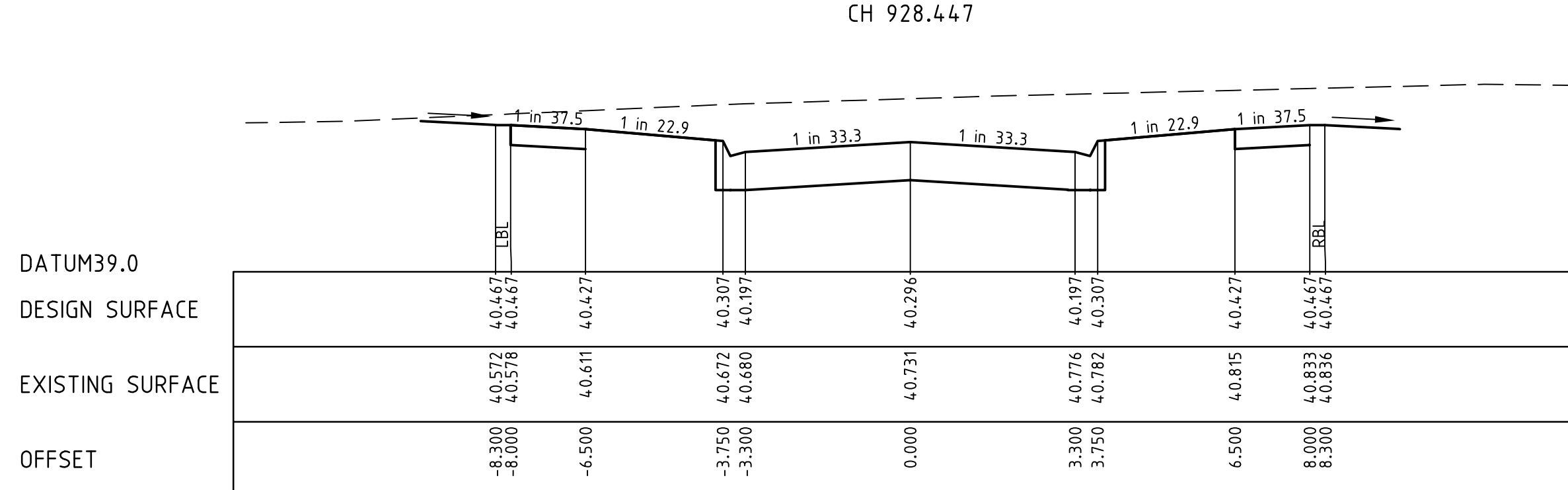
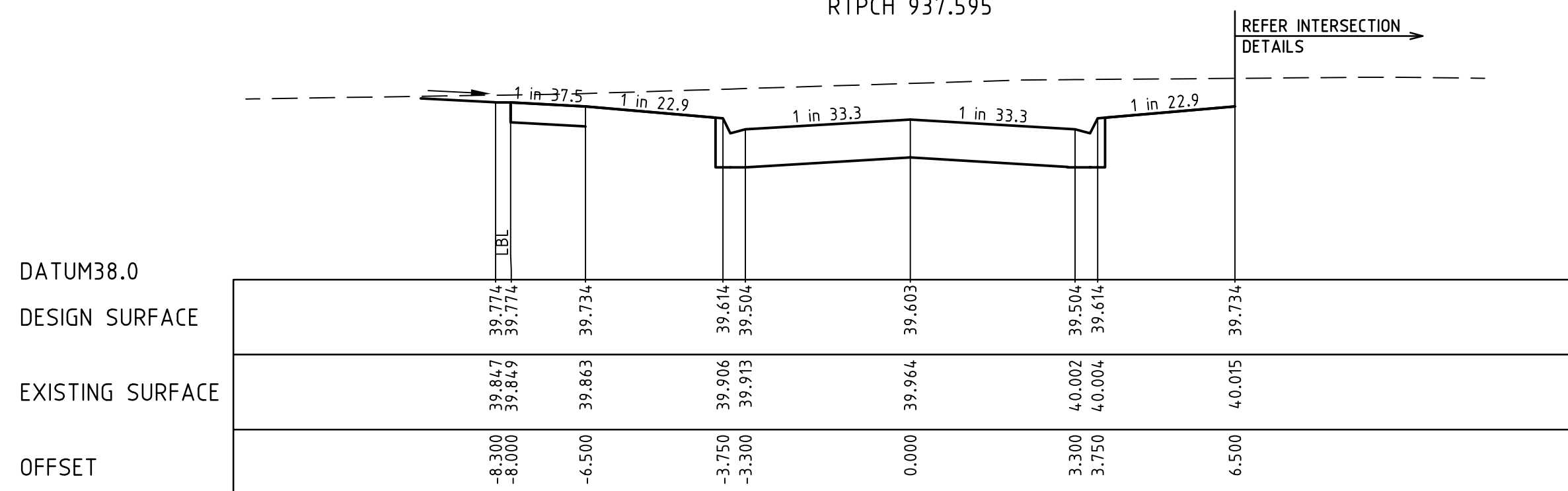
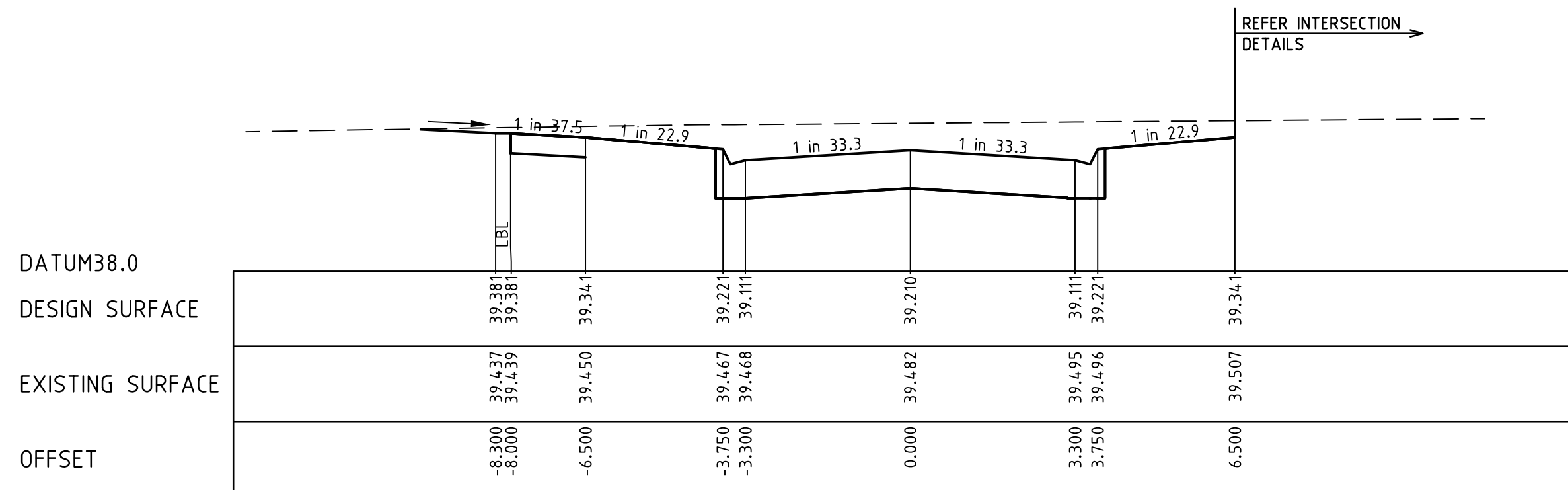
Estuary
Stage 10
City Of Greater Geelong
Roadworks and Drainage
Cross Sections - Estuary Boulevard - 4
CH832.876
Drawing No. 0250EHL-10-14 **Rev B**

Sheet No. 14 of 21

Approved for Construction

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

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

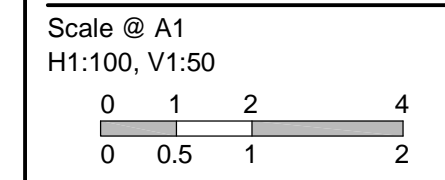


| | | | | | |
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| B | COUNCIL AMENDMENTS | | 20.10.12 | CB/CB | JG |
| A | ISSUED TO COUNCIL FOR APPROVAL | | 20.10.11 | CB/CB | JG |
| REVISION | | DATE | DES/DF | APPD | |



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

Designed
 C. Barker
 Drawn
 C. Barker
 Checked
 C. Birckett
 Authorised
 J. Golden
 Date
 September 2011



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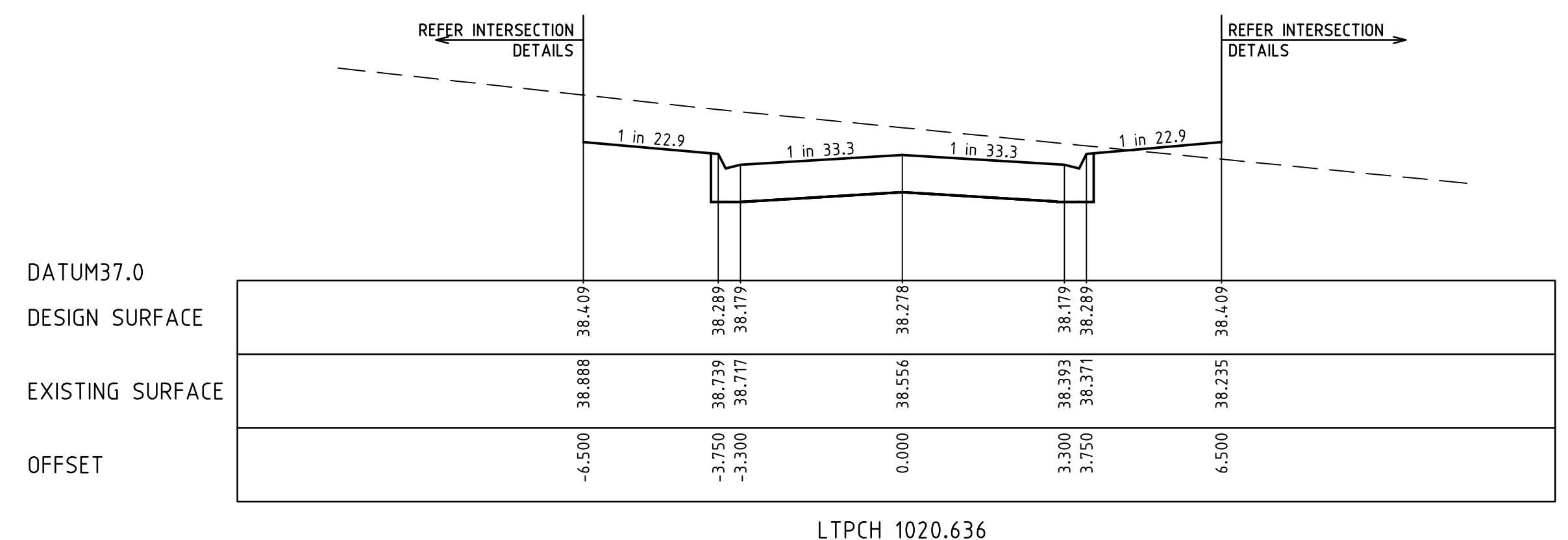
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Estuary
 Stage 10
 City Of Greater Geelong
 Roadworks and Drainage
 Cross Sections - Hillclimb Drive - 1
 CH907.943 - CH990.447
Drawing No. 0250EHL-10-15 Rev B
 Sheet No. 15 of 21

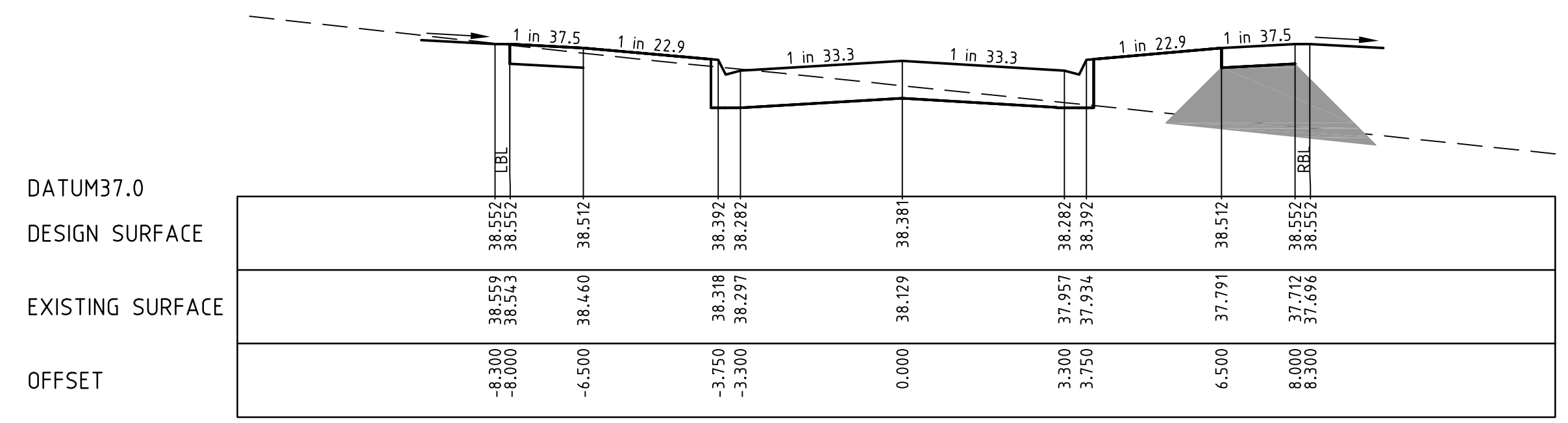
Approved for Construction

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

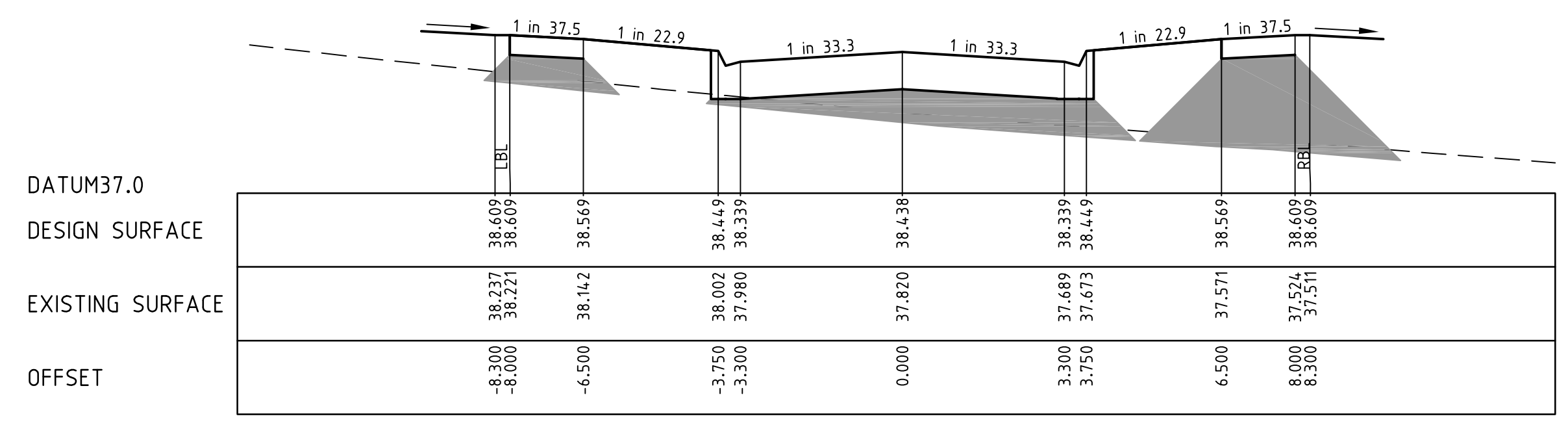
STRUCTURAL FILL REQUIRED UNDER PAVEMENT AND FOOTPATHS WHERE CONSTRUCTED ABOVE NATURAL SURFACE



LTPCH 1020.636



CH 1001.167



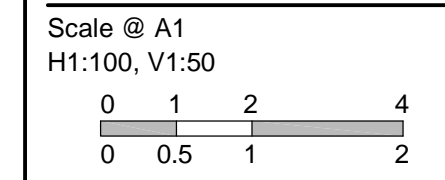
CH 990.484

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|----------------------------------|----------|---------|------|
| REVISION | DATE | DES/DFT | APPD |
| B COUNCIL AMENDMENTS | 10.01.12 | CB/CB | JG |
| A ISSUED TO COUNCIL FOR APPROVAL | 20.10.11 | CB/CB | JG |



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

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



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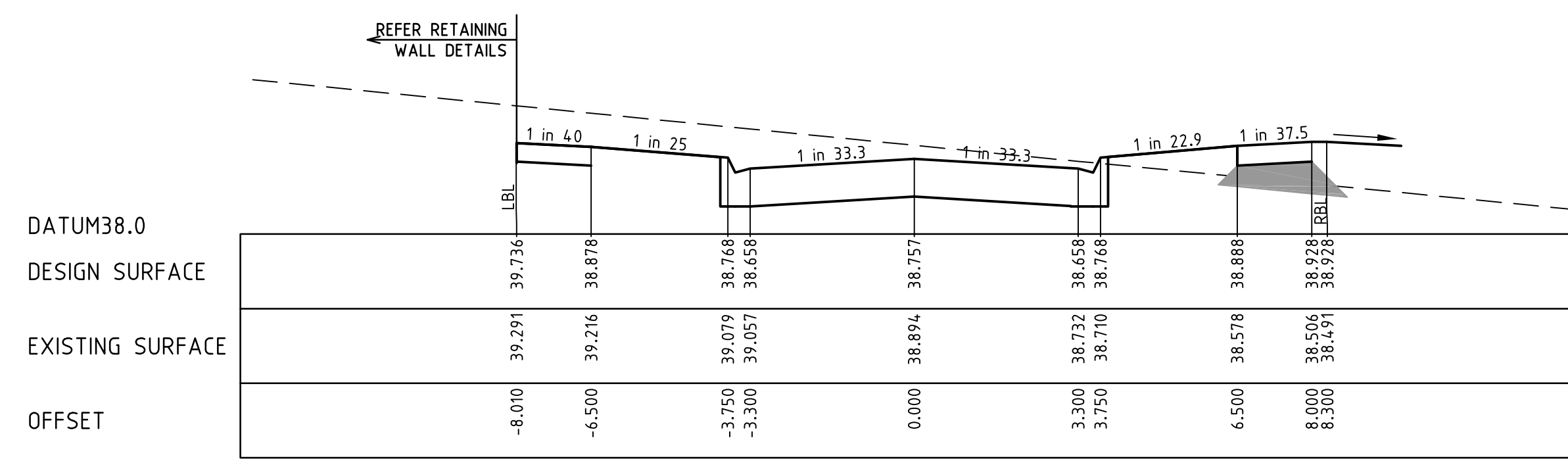
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Canberra +61 2 6126 1900 Taranaki +61 3 5173 0100

Estuary
Stage 10
City Of Greater Geelong
Roadworks and Drainage
Cross Sections - Hillclimb Drive - 2
CH990.484 - CH1020.636
Drawing No. 0250EHL-10-16 **Rev B**
Sheet No. 16 of 21

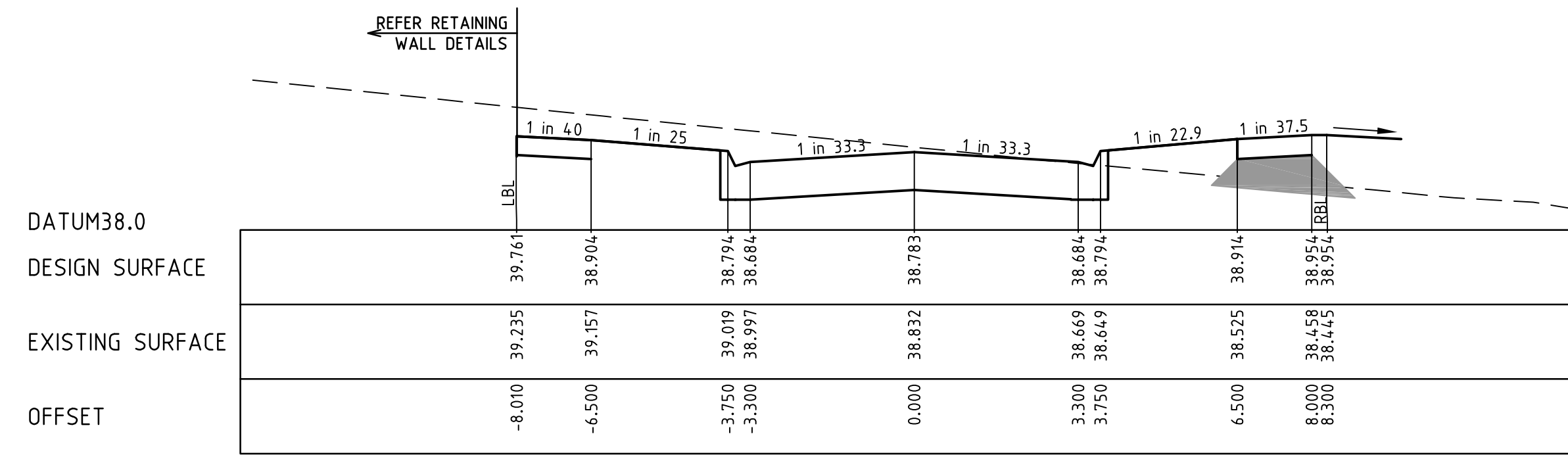
Approved for Construction

| | |
|-------|--------------------|
| --- | EXISTING SURFACE |
| — | DESIGN LINE |
| - - - | FUTURE DESIGN LINE |

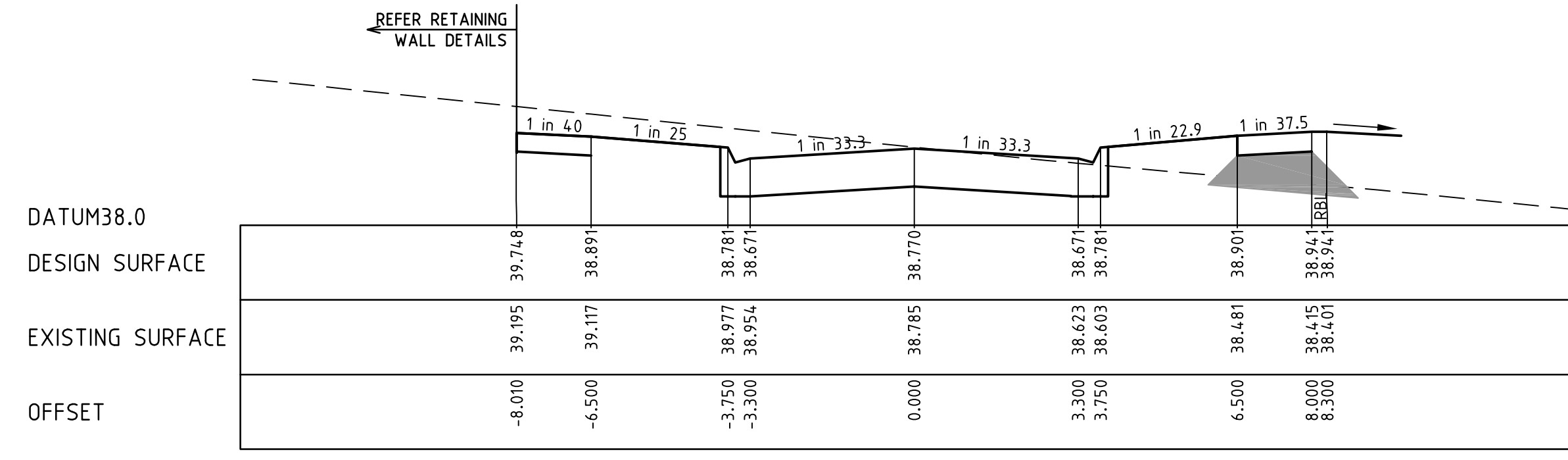
STRUCTURAL FILL REQUIRED UNDER PAVEMENT AND FOOTPATHS WHERE CONSTRUCTED ABOVE NATURAL SURFACE



TPCH 350.869



CH 343.212



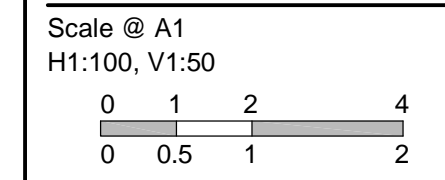
CH 337.757

| | | | |
|----------------------------------|----------|---------|------|
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| A ISSUED TO COUNCIL FOR APPROVAL | 20.10.11 | CB/CB | JG |



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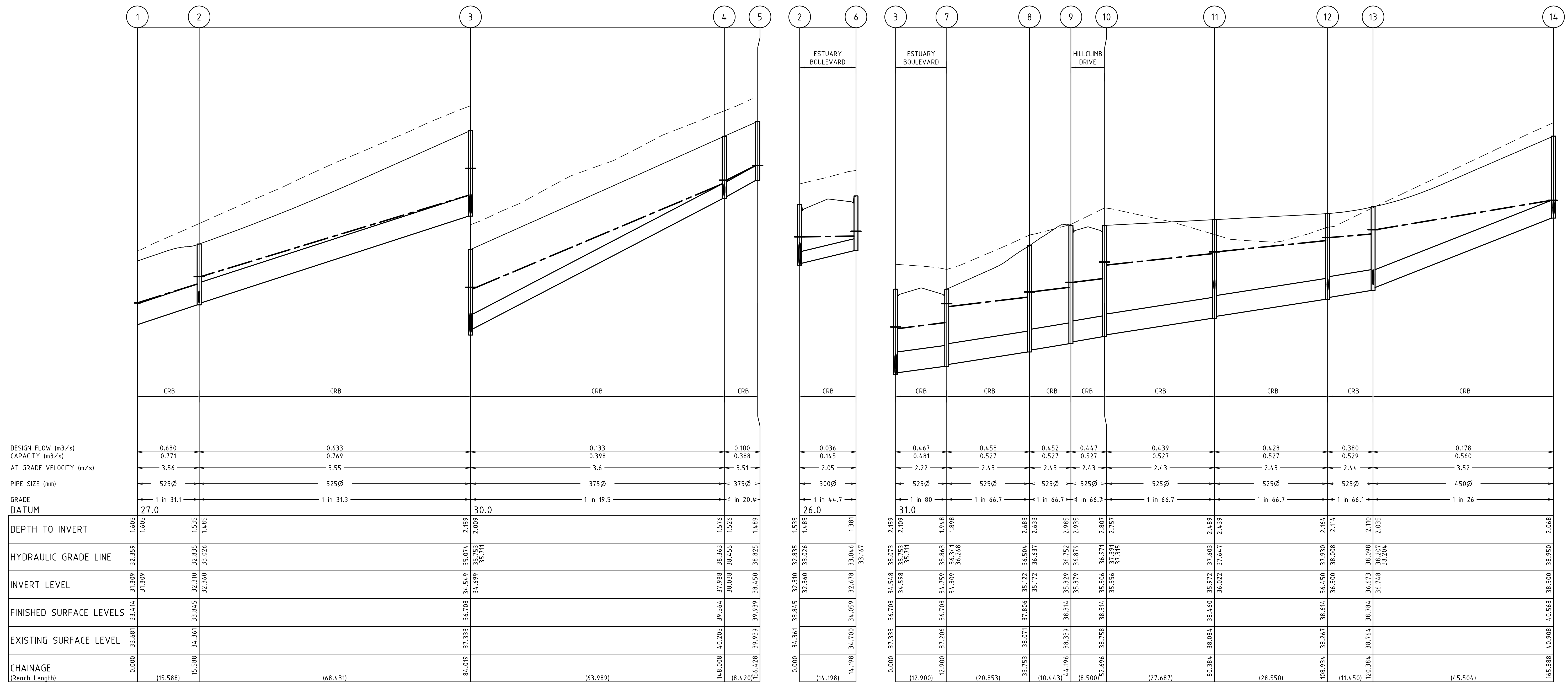
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Estuary
Stage 10
City Of Greater Geelong
Roadworks and Drainage
Cross Sections - Spectacle Way

Drawing No. 0250EHL-10-17 Rev B
Sheet No. 17 of 21

Approved for Construction

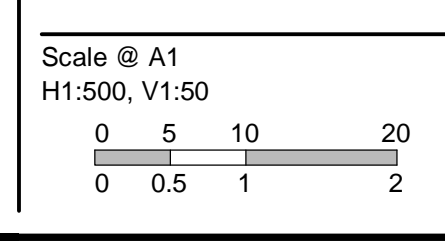
| LEGEND | |
|--------|----------------------------|
| | EXISTING SURFACE |
| | DESIGN SURFACE |
| | DRAINAGE PIPE/PIT |
| | EXISTING DRAINAGE PIPE/PIT |
| | HYDRAULIC GRADE LINE |



| | | | |
|----------------------------------|----------|--------|-------|
| REVISION | DATE | DESIGN | APP'D |
| C MINOR DRAINAGE AMENDMENTS | 13.08.12 | CB/CB | JG |
| B COUNCIL AMENDMENTS | 10.01.12 | CB/CB | JG |
| A ISSUED TO COUNCIL FOR APPROVAL | 20.10.11 | CB/CB | JG |

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

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



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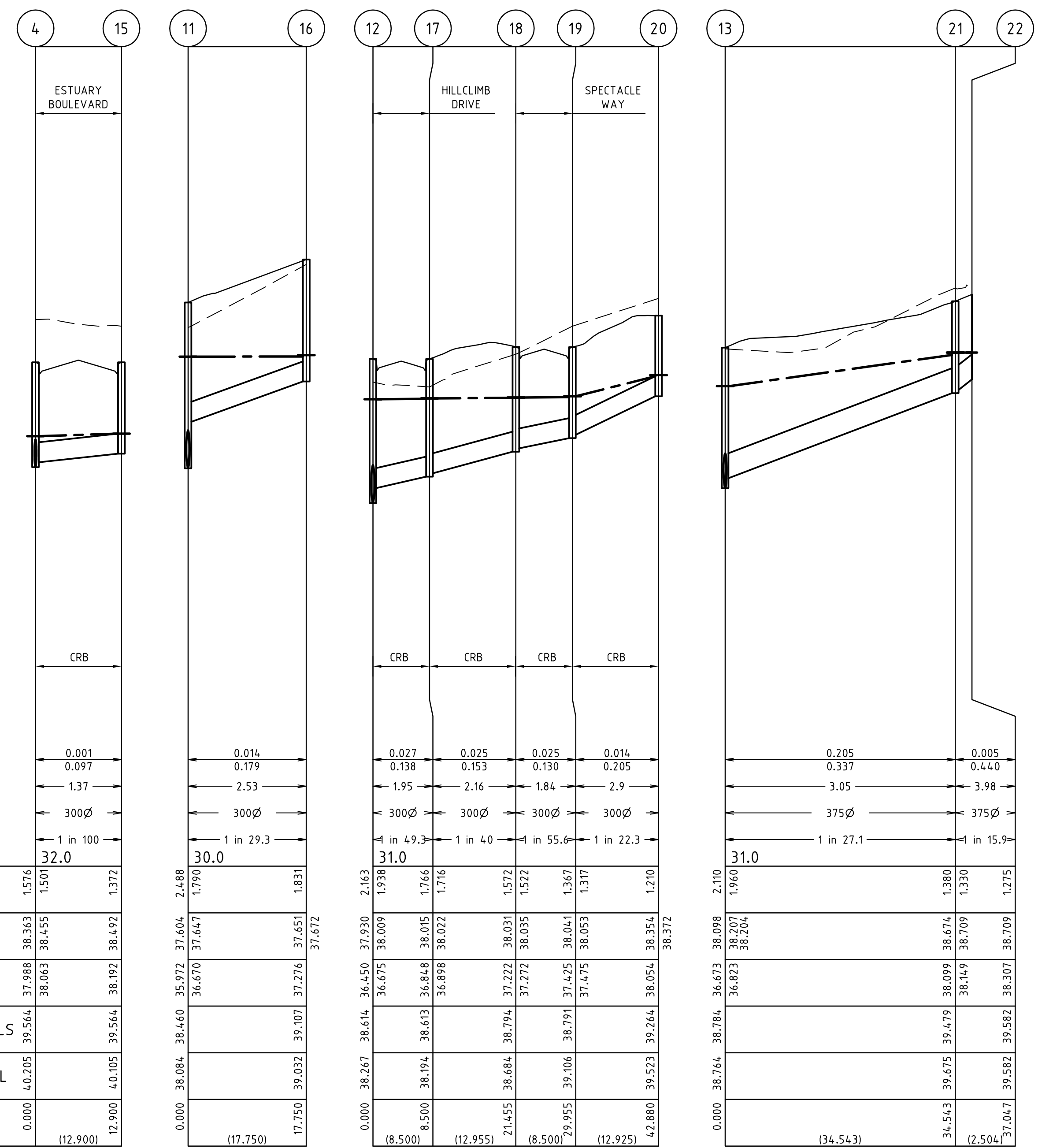
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Melbourne +61 3 9869 0800
Traralgon +61 3 5173 0100

Estuary
Stage 10
City Of Greater Geelong
Roadworks and Drainage
Drainage Longitudinal Sections - 1

Drawing No. **0250EHL-10-18** Rev **C**
Sheet No. 18 of 21

Approved for Construction

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



| DESIGN FLOW (m ³ /s) | 0.001 | | 0.014 | | 0.027 | | 0.025 | | 0.025 | | 0.014 | | 0.205 | | 0.005 | |
|---------------------------------|------------|--------|------------|--------|------------|-------|------------|--------|------------|-------|------------|--------|------------|-------|------------|--------|
| | 0.097 | | 0.179 | | 0.138 | | 0.153 | | 0.130 | | 0.205 | | 0.337 | | 0.440 | |
| AT GRADE VELOCITY (m/s) | 1.37 | | 2.53 | | 1.95 | | 2.16 | | 1.84 | | 2.9 | | 3.05 | | 3.98 | |
| PIPE SIZE (mm) | 300 ϕ | | 300 ϕ | | 300 ϕ | | 300 ϕ | | 300 ϕ | | 300 ϕ | | 375 ϕ | | 375 ϕ | |
| GRADE DATUM | 1 in 100 | | 1 in 29.3 | | 1 in 49.3 | | 1 in 40 | | 1 in 55.6 | | 1 in 22.3 | | 1 in 27.1 | | 1 in 15.9 | |
| DEPTH TO INVERT | 0.000 | 12.900 | 0.000 | 17.750 | 0.000 | 8.500 | 21.455 | 29.955 | 42.880 | 0.000 | 34.543 | 34.543 | 37.047 | 0.000 | 38.764 | 38.764 |
| HYDRAULIC GRADE LINE | 32.0 | 32.0 | 30.0 | 30.0 | 31.0 | 31.0 | 31.0 | 31.0 | 31.0 | 31.0 | 31.0 | 31.0 | 31.0 | 31.0 | 31.0 | 31.0 |
| INVERT LEVEL | 32.0 | 32.0 | 30.0 | 30.0 | 31.0 | 31.0 | 31.0 | 31.0 | 31.0 | 31.0 | 31.0 | 31.0 | 31.0 | 31.0 | 31.0 | 31.0 |
| FINISHED SURFACE LEVELS | 32.0 | 32.0 | 30.0 | 30.0 | 31.0 | 31.0 | 31.0 | 31.0 | 31.0 | 31.0 | 31.0 | 31.0 | 31.0 | 31.0 | 31.0 | 31.0 |
| EXISTING SURFACE LEVEL | 32.0 | 32.0 | 30.0 | 30.0 | 31.0 | 31.0 | 31.0 | 31.0 | 31.0 | 31.0 | 31.0 | 31.0 | 31.0 | 31.0 | 31.0 | 31.0 |
| CHAINAGE (Reach Length) | 0.000 | 12.900 | 0.000 | 17.750 | 0.000 | 8.500 | 21.455 | 29.955 | 42.880 | 0.000 | 34.543 | 34.543 | 37.047 | 0.000 | 38.764 | 38.764 |

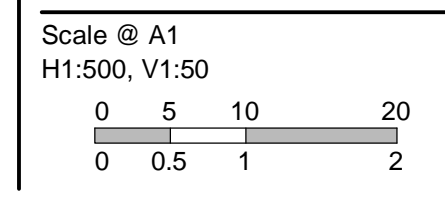
| PIT NUMBER | TYPE | INTERNAL | | INLET | | OUTLET | | F.S.L. (m) | DEPTH (m) | STANDARD DRAWING | REMARKS |
|------------|----------------|------------|-------------|---------------|------------------|---------------|-----------------|------------|-----------|------------------|------------------------------|
| | | WIDTH (mm) | LENGTH (mm) | DIAMETER (mm) | INVERT R.L. (m) | DIAMETER (mm) | INVERT R.L. (m) | | | | |
| 1 | Ex ENDDPIPE | | | 525 | 31.809 | | | 33.414 | 1.605 | | CONNECT TO EXISITNG ENDDPIPE |
| 2 | SIDE ENTRY PIT | 900 | 900 | 525 300 | 32.360 32.360 | 525 | 32.310 | 33.845 | 1.535 | SD430 | |
| 3 | SIDE ENTRY PIT | 900 | 900 | 375 525 | 34.699 34.598 | 525 | 34.548 | 36.708 | 2.159 | SD430 | |
| 4 | SIDE ENTRY PIT | 900 | 900 | 375 300 | 38.038 38.063 | 375 | 37.988 | 39.564 | 1.576 | SD430 | |
| 5 | ENDDPIPE | | | | | 375 | 38.450 | 39.939 | 1.489 | | |
| 6 | SIDE ENTRY PIT | 900 | 900 | | | 300 | 32.678 | 34.059 | 1.381 | SD430 | |
| 7 | SIDE ENTRY PIT | 900 | 900 | 525 | 34.809 | 525 | 34.759 | 36.708 | 1.948 | SD430 | |
| 8 | JUNCTION PIT | 900 | 900 | 525 | 35.172 | 525 | 35.122 | 37.806 | 2.683 | SD420 | |
| 9 | SIDE ENTRY PIT | 900 | 900 | 525 | 35.379 | 525 | 35.329 | 38.314 | 2.984 | SD430 | |
| 10 | SIDE ENTRY PIT | 900 | 900 | 525 | 35.556 | 525 | 35.506 | 38.314 | 2.807 | SD430 | |
| 11 | JUNCTION PIT | 900 | 900 | 525 300 | 36.022 37.670 | 525 | 35.972 | 38.460 | 2.488 | SD420 | |
| 12 | SIDE ENTRY PIT | 900 | 900 | 525 300 | 36.500 36.675 | 525 | 36.450 | 38.614 | 2.163 | SD430 | |
| 13 | JUNCTION PIT | 900 | 900 | 450 375 | 36.748 36.823 | 525 | 36.673 | 38.784 | 2.110 | SD420 | |
| 14 | JUNCTION PIT | 900 | 900 | 375 | 38.550 | 450 | 38.500 | 40.568 | 2.076 | SD420 | |
| 15 | SIDE ENTRY PIT | 900 | 900 | | | 300 | 38.192 | 39.564 | 1.372 | SD430 | |
| 16 | JUNCTION PIT | 900 | 900 | | | 300 | 37.276 | 39.107 | 1.831 | SD425 | |
| 17 | SIDE ENTRY PIT | 900 | 900 | 300 | 36.898 | 300 | 36.848 | 38.613 | 1.766 | SD430 | |
| 18 | SIDE ENTRY PIT | 900 | 900 | 300 | 37.272 | 300 | 37.222 | 38.794 | 1.572 | SD430 | |
| 19 | SIDE ENTRY PIT | 900 | 900 | 300 | 37.475 | 300 | 37.425 | 38.791 | 1.367 | SD430 | |
| 20 | SIDE ENTRY PIT | 900 | 900 | | | 300 | 38.054 | 39.264 | 1.210 | SD430 | |
| 21 | GRATED PIT | 900 | 900 | 375 | 38.149 | 375 | 38.099 | 39.479 | 1.380 | SD 420 | |
| 22 | ENDDPIPE | | | | | 375 | 38.307 | 39.582 | 1.275 | | |

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| REVISION | DATE | DESIGN | APP'D |
|----------------------------------|----------|--------|-------|
| D MINOR DRAINAGE AMENDMENTS | 13.08.12 | CB/CB | JG |
| C CRB ADDED | NI | CB/CB | JG |
| B COUNCIL AMENDMENTS | 10.01.12 | CB/CB | JG |
| A ISSUED TO COUNCIL FOR APPROVAL | 20.10.11 | CB/CB | JG |



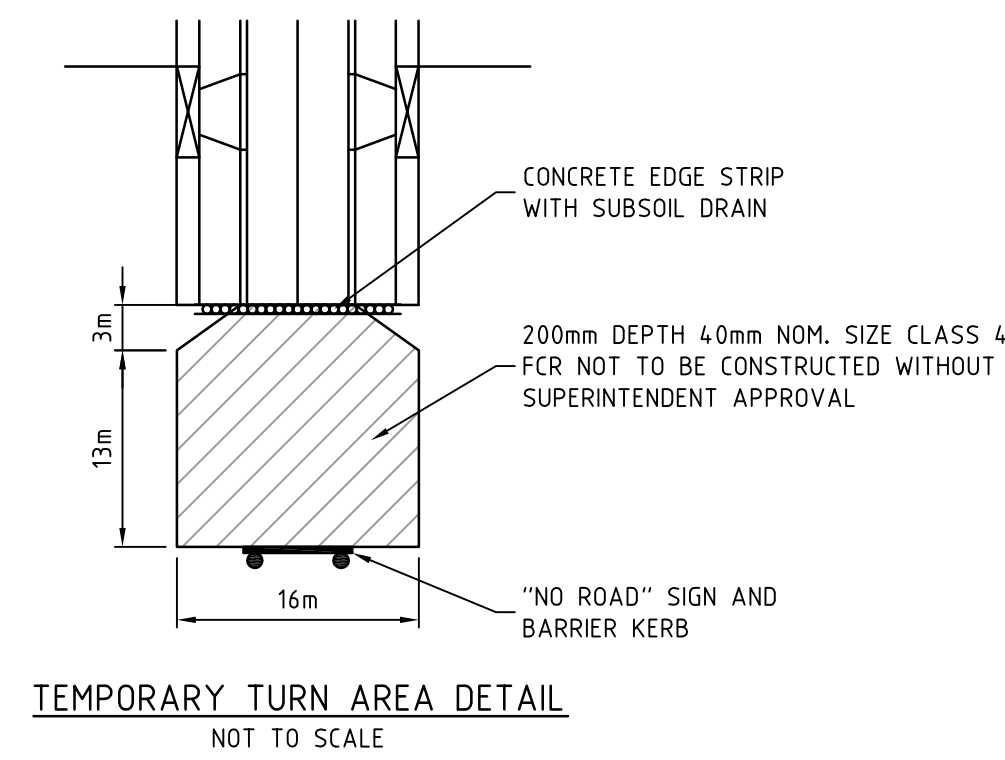
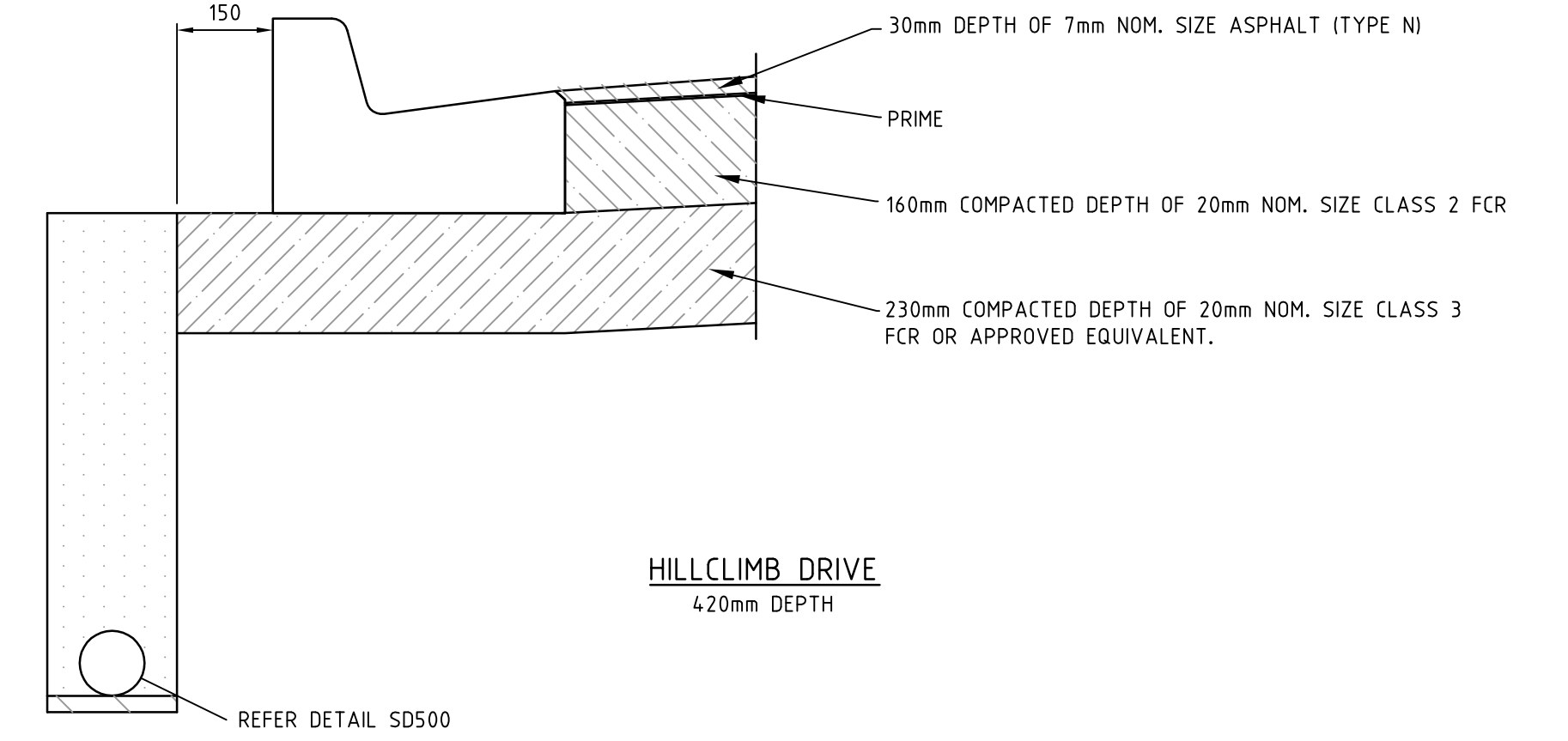
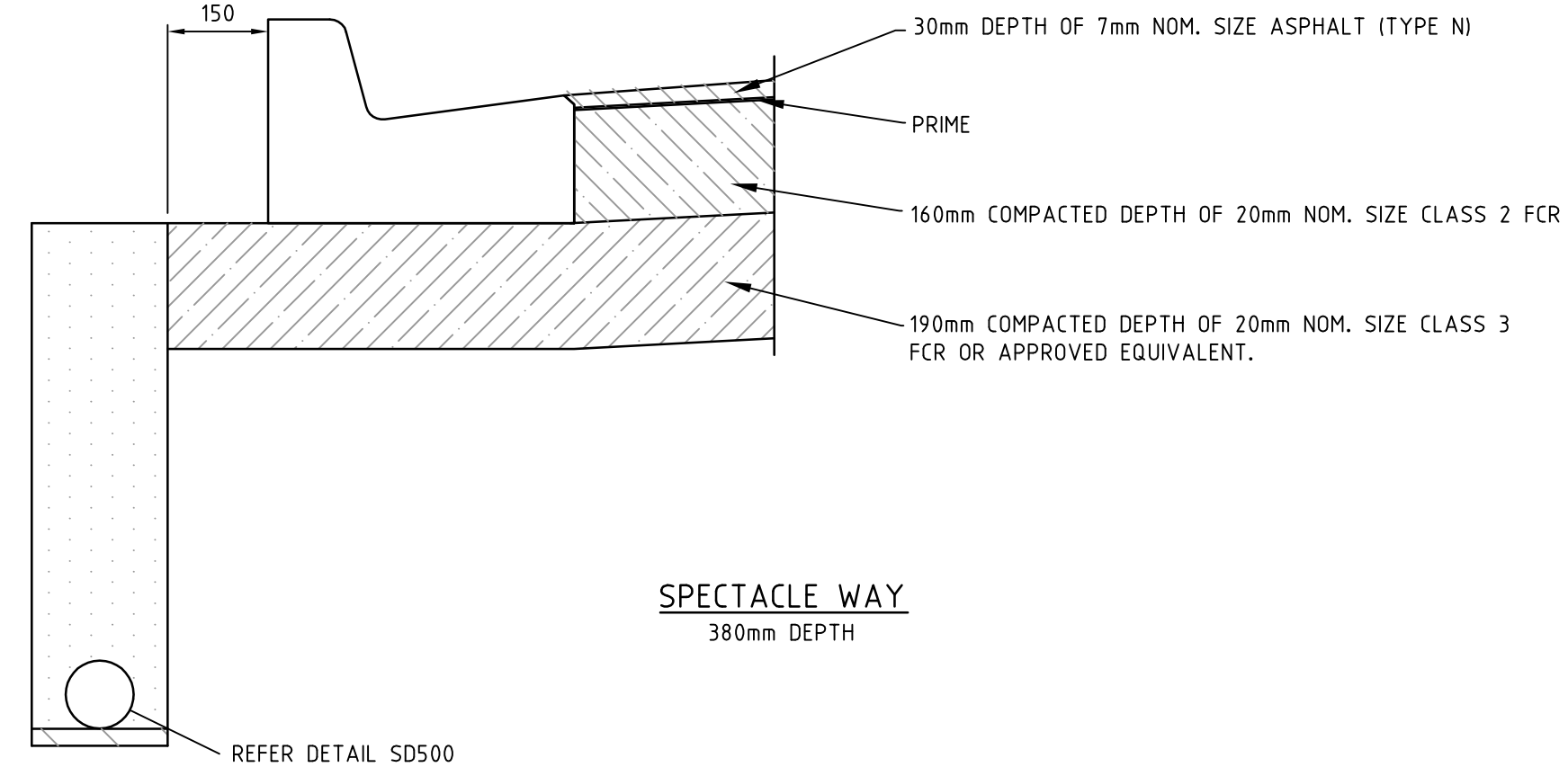
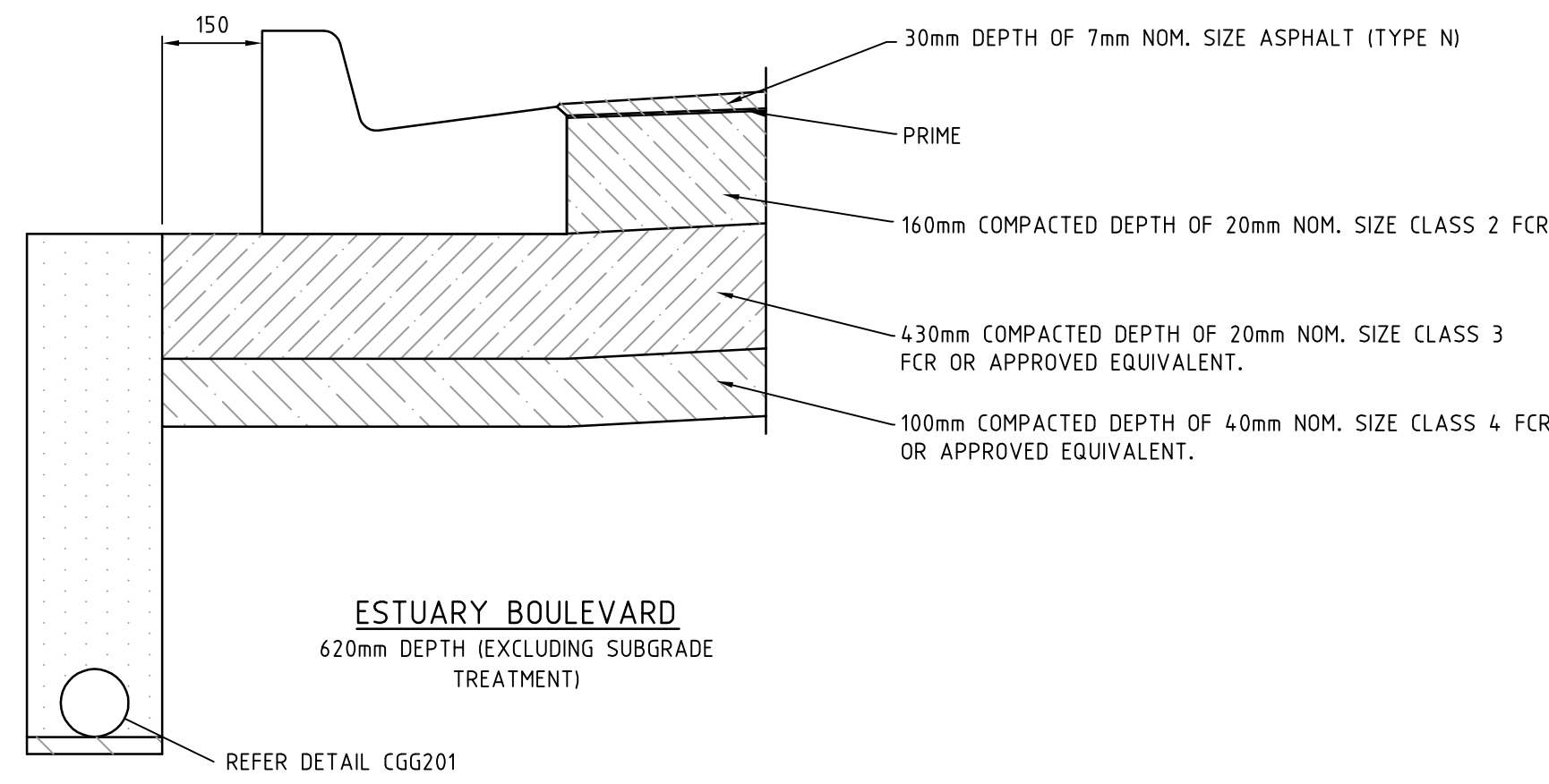
Designed
C. Barker
Drawn
C. Barker
Checked
C. Birkett
Authorised
J. Golden
Date
September 2011



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Estuary
Stage 10
City Of Greater Geelong
Roadworks and Drainage
Drainage Longitudinal Sections - 2
& Pit Schedule
Drawing No. 0250EHL-10-19 Rev D
Sheet No. 19 of 21
Approved for Construction



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| REVISION | DATE | DES/DFT | APPD |
|--------------------------------|----------|---------|------|
| B | 10.01.12 | CB/CB | JG |
| A | 20.10.11 | CB/CB | JG |
| COUNCIL AMENDMENTS | | | |
| ISSUED TO COUNCIL FOR APPROVAL | | | |



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

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

Scale @ A1
As Shown

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Estuary
Stage 10
City Of Greater Geelong
Roadworks and Drainage
Details

Drawing No. 0250EHL-10-20
Sheet No. 20 of 21

Rev B



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| REVISION | DATE | DES/DFT | APPD |
|----------|----------|---------|------|
| B | 10.01.12 | CB/CB | JG |
| A | 20.10.11 | CB/CB | JG |

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

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

Scale @ A1
1:500
0 5 10 20

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Estuary
Stage 10
City Of Greater Geelong
Roadworks and Drainage
Subdivision Setout Plan

Drawing No. 0250EHL-10-21 **Rev B**

Sheet No. 21 of 21

Approved for Construction

LEGEND - SEWER PLAN

- DRAINAGE DRAIN & PIT
- SEWER & MAINTENANCE STRUCTURES
- TYPE "A" JUMP UP
- TYPE "B" JUMP UP
- TYPE "C" SLIDE LINE
- OBLIQUE JUNCTION
- TYPE "A" SPECIAL
- TYPE "TM" SPECIAL
- TYPE "B" SPECIAL
- EXISTING ELECTRICITY (UNDERGROUND)
- EXISTING ELECTRICITY (OVERHEAD)
- EXISTING GAS
- EXISTING TELSTRA
- EXISTING WATER
- EXISTING STORMWATER DRAIN
- EXISTING SEWER
- 141.34 EXISTING SURFACE LEVEL
- FS140.35 FINISHED BUILDING LINE LEVEL
- FR157.4.0 FINISHED RIDGE LINE LEVEL
- ▲ PERMANENT SURVEY MARK
- ▲ TEMPORARY BENCH MARK

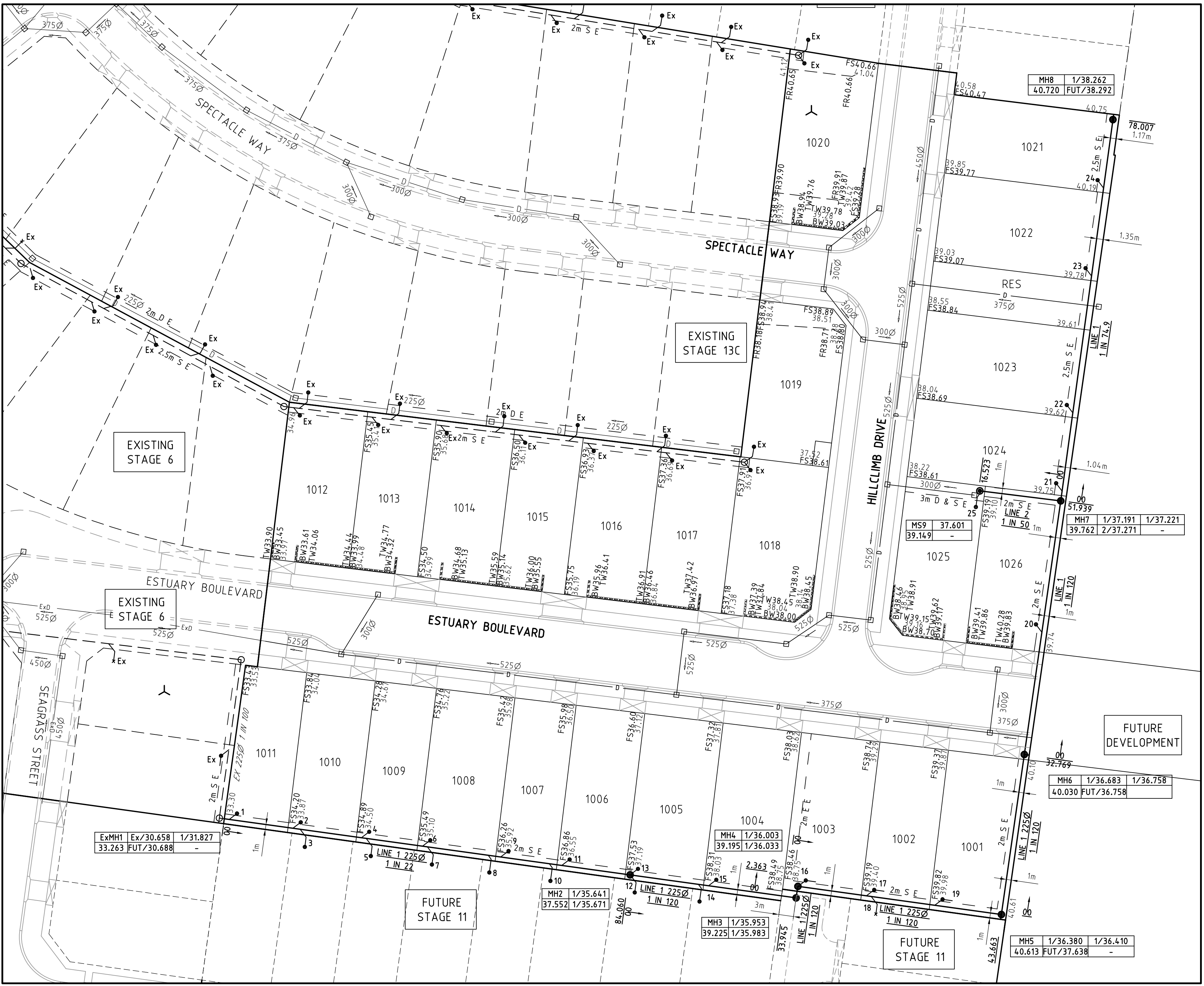
PIPE TYPES

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

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

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

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



- NOTES**
- GENERAL**
- SEWERS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE WATER SERVICES ASSOCIATION OF AUSTRALIA STANDARD CODES (WSA 02-2002 - WSA 03-2002) IN CONJUNCTION WITH BARWON WATER'S SUPPLEMENTS TO THE CODES.
 - BARWON WATER AND THE PROJECT MANAGER TO BE NOTIFIED 7 CLEAR WORKING DAYS NOTICE PRIOR TO COMMENCEMENT OF WORKS.
 - THE CONTRACTOR SHALL:
 - COMPLY WITH SAFETY REQUIREMENTS OF THE MINES ACT, GENERAL REGULATIONS AND STATUTORY RULES, AND THE MINES (TRENCHES) REGULATIONS 1982.
 - NOTIFY THE DEPARTMENT OF LABOUR OF HIS INTENTION TO COMMENCE TRENCHING OPERATIONS WHERE TRENCHES ARE 1.5 METRES OR DEEPER.
 - INSURE THAT THE MINE MANAGER OR HIS DEPUTY AS REQUIRED BY THE REGULATIONS IS IN ATTENDANCE WHEN TRENCHING OPERATIONS ARE IN PROGRESS.
 - THE CONTRACTOR SHALL MAKE ALL WORKS AVAILABLE FOR THE INSPECTOR/SURVEYOR TO CARRY OUT THE NECESSARY INSPECTIONS AND SURVEYING BEFORE BACKFILLING IS COMMENCED.
 - SERVICES ARE APPROXIMATE ONLY. ALL RELEVANT SERVICE AUTHORITY'S ARE TO BE CONTACTED PRIOR TO THE COMMENCEMENT OF EXCAVATION TO ESTABLISH THEIR EXACT LOCATION.
 - CONTACT PRIOR TO COMMENCEMENT OF WORKS:
 CITY OF GREATER GEELONG
 POWERCOR
 TELSTRA
 TRU
 VICTORIAN WORKCOVER AUTHORITY
 - ALL SERVICES ARE TO BE LOCATED ON SITE PRIOR TO ANY EXCAVATION.
 - INVERT LEVELS OF EXISTING SEWERS AND WATERMANS TO BE CHECKED PRIOR TO THE COMMENCEMENT OF WORKS.
 - CLASS 2 BACKFILL TO BE USED UNDER DRIVEWAYS FOR WATER AND SEWER RETICULATION. PROPERTY OWNERS ARE TO BE NOTIFIED IN WRITING BY THE CONSULTANT 14 CLEAR DAYS PRIOR TO COMMENCEMENT OF WORKS.
 - COPY OF CADASTRAL MAP GRID (MGA) CONNECTION & COPY OF AUSTRALIAN HEIGHT DATUM (AHD) CONNECTION IS TO BE PROVIDED BY CONTRACTOR.
 - WORKS SHALL BE EFFECTED BETWEEN THE HOURS OF 8:00am AND 5:00pm MONDAY - FRIDAY. IN THE EVENT THAT WORKS ARE TO BE EFFECTED OUTSIDE THESE WORKING HOURS, A LETTER REQUESTING APPROVAL FOR SUCH OUT OF HOURS WORK SHALL BE LODGED TO THE SENIOR QUALITY AUDITOR.
 - THE CONTRACTOR SHALL COMPLY WITH SAFETY REQUIREMENTS RELATING TO WORKING NEAR POWER LINES AS SET BY THE CHIEF ELECTRICAL INSPECTOR WHERE NECESSARY AN ACCREDITED TRAINED SPOTTER IS TO BE PROVIDED.
 - WATER RESTRICTIONS ARE TO APPLY FROM MIDNIGHT JUNE 30th 2006, IN ACCORDANCE WITH BY-LAW NO. 187. ONLY TRIGGER HOSES (MAXIMUM SIZE 25mm) MAY BE USED FOR CONSTRUCTION WORK NOT INCLUDING TRENCHING, UNLESS OTHERWISE EXEMPTED BY THE AUTHORITY IN WRITING. MECHANICAL COMPACTION IS TO BE USED IN ACCORDANCE WITH MRWA SPECIFICATION 04-03 FOR TRENCH WORKS UNTIL FURTHER NOTICE. ANY WATER USED TO FLUSH WATER MAINS IS TO BE RECLAIMED AND USED FOR CONSTRUCTION PURPOSES.

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

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

SURVEY STATIONS (HORIZONTAL - ARBITRARY, VERTICAL - AHD)

| TBM | EASTING | NORTHING | RL | DESCRIPTION |
|--------------|-------------|-----------|--------|--------------|
| ROD501 | 10106.39 | 48560.27 | 21.19 | ROD |
| ROD502 | 10309.58 | 48587.59 | 28.62 | ROD |
| MOOLAP PM69 | 1000.00 | 50000.00 | - | 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 | 27724.07 | 5768919.27 | 21.19 | ROD |
| ROD502 | 27744.8.31 | 5768946.60 | 28.62 | ROD |
| MOOLAP PM69 | 277138.66 | 5770359.31 | - | BRASS PLAQUE |
| MOOLAP PM321 | 27704.0 | 57694.80 | 9.436 | BRASS PLAQUE |
| MOOLAP PM302 | 277310 | 5769280 | 22.180 | BRASS PLAQUE |

NEW SEWER MAINS

| SIZE | TYPE | LENGTH |
|------|---------|--------|
| 150 | PVC SN8 | 146.5 |
| 225 | PVC SN8 | 194.8 |

MAINTENANCE HOLE CHAMBER INFORMATION LEGEND

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

SERVICES OFFSET SCHEDULE

| ROAD NAME | GAS | | WATER | | ELECTRICITY | | TELSTRA | |
|-------------------|-------|------------|-------|------------|-------------|------------|---------|------------|
| | SIDE | OFFSET (m) | SIDE | OFFSET (m) | SIDE | OFFSET (m) | SIDE | OFFSET (m) |
| ESTUARY BOULEVARD | SOUTH | 2.70 | SOUTH | 3.20, 3.70 | NORTH | 3.40 | NORTH | 2.80 |
| HILLCLIMB DRIVE | EAST | 1.70 | EAST | 2.30, 2.80 | WEST | 2.30 | WEST | 1.70 |
| SPECTACLE WAY | NORTH | 2.10 | NORTH | 2.70 | SOUTH | 1.70 | SOUTH | 2.30 |

WORKS SHALL NOT COMMENCE UNTIL PLANS ARE SIGNED BY BARWON WATER

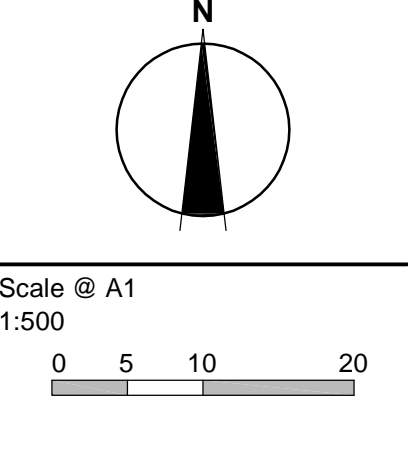
ACCEPTED BY BARWON WATER
 DEVELOPMENT SERVICES
 CO-ORDINATOR
 DEVELOPMENT & CONSERVATION

| REVISION | DATE | DES/DF | APPD |
|----------|----------|--------|------|
| C | 02.04.12 | CB/CB | JG |
| B | 09.02.11 | CB/CB | JG |
| A | 09.11.11 | CB/CB | JG |

estuary
 LEOPOLD PTY LTD
 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.
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 - All sewer pipes are 150mm unless otherwise shown.

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

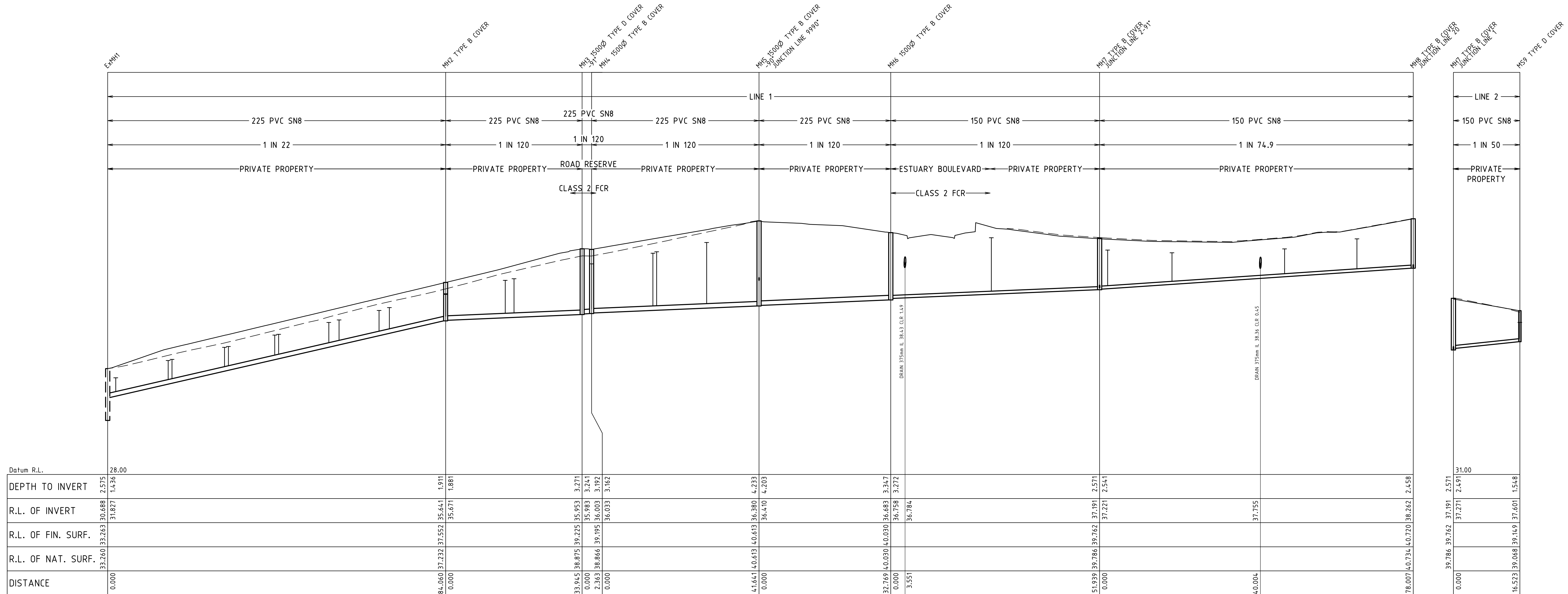


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Barwon Region Water Authority
 Barwon Water No. L007292
 Estuary
 Stage 10
 Sewer Detail Plan
Drawing No. 0250EHL-10-51 **Rev C**
 Sheet No. 1 of 2
Approved for Construction

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| LINE NO. | MANHOLE NO. | HC NO. | LOT NAME | CONNECTION TYPE | CHAINAGE | IL SEWER | IL BRANCH | BRANCH HEIGHT |
|----------|-------------|--------|----------|-----------------|----------|----------|-----------|---------------|
| 1 | EXMH1 | 1 | LOT 1011 | B | 2.00 | 31.89 | 32.81 | 0.91 |
| 1 | EXMH1 | 2 | LOT 1010 | B | 15.04 | 32.49 | 33.67 | 1.18 |
| 1 | EXMH1 | 3 | LOT 1130 | A SPECIAL | 16.00 | 32.54 | 33.72 | 1.18 |
| 1 | EXMH1 | 4 | LOT 1009 | B | 29.04 | 33.14 | 34.33 | 1.19 |
| 1 | EXMH1 | 5 | LOT 1131 | A SPECIAL | 30.02 | 33.18 | 34.37 | 1.18 |
| 1 | EXMH1 | 6 | LOT 1008 | B | 41.55 | 33.71 | 34.93 | 1.22 |
| 1 | EXMH1 | 7 | LOT 1132 | A SPECIAL | 42.52 | 33.76 | 34.97 | 1.22 |
| 1 | EXMH1 | 8 | LOT 1133 | A SPECIAL | 55.00 | 34.33 | 35.56 | 1.23 |
| 1 | EXMH1 | 9 | LOT 1007 | B | 57.55 | 34.45 | 35.69 | 1.24 |
| 1 | EXMH1 | 10 | LOT 1134 | A SPECIAL | 67.50 | 34.90 | 36.16 | 1.25 |
| 1 | EXMH1 | 11 | LOT 1006 | B | 70.06 | 35.02 | 36.30 | 1.28 |
| 1 | MH2 | 12 | LOT 1135 | A SPECIAL | 0.00 | 35.64 | 36.99 | 1.35 |
| 1 | MH2 | 13 | LOT 1005 | B | 0.00 | 35.64 | 36.95 | 1.31 |
| 1 | MH2 | 14 | LOT 1136 | A SPECIAL | 14.82 | 35.79 | 37.66 | 1.86 |
| 1 | MH2 | 15 | LOT 1004 | B | 17.00 | 35.81 | 37.73 | 1.92 |
| 1 | MH4 | 16 | LOT 1003 | B SPECIAL | 0.00 | 36.00 | 38.48 | 2.47 |
| 1 | MH4 | 17 | LOT 1002 | B SPECIAL | 15.25 | 36.16 | 39.01 | 2.85 |
| 1 | MH4 | 18 | LOT 1141 | TM SPECIAL | 16.18 | 36.17 | 39.08 | 2.91 |
| 1 | MH4 | 19 | LOT 1001 | B SPECIAL | 28.61 | 36.27 | 39.54 | 3.27 |
| 1 | MH6 | 20 | LOT 1026 | B SPECIAL | 25.01 | 36.97 | 39.77 | 2.81 |
| 1 | MH7 | 21 | LOT 1024 | B SPECIAL | 2.00 | 37.24 | 39.16 | 1.92 |
| 1 | MH7 | 22 | LOT 1023 | B | 18.00 | 37.46 | 39.03 | 1.57 |
| 1 | MH7 | 23 | LOT 1022 | B | 46.00 | 37.84 | 39.22 | 1.38 |
| 1 | MH7 | 24 | LOT 1021 | B | 64.01 | 38.08 | 39.72 | 1.64 |
| 2 | MS9 | 25 | LOT 1025 | A SPECIAL | 0.00 | 37.60 | 38.56 | 0.96 |

WORKS SHALL NOT COMMENCE UNTIL PLANS ARE SIGNED BY BARWON WATER

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

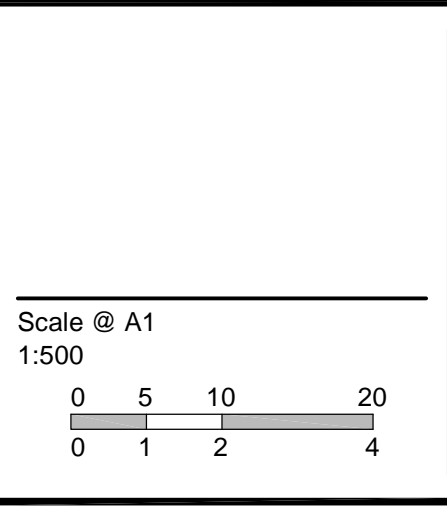
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| REVISION | DATE | DES/DF | APPD |
|----------|----------|--------|------|
| C | 02.04.12 | CB/CB | JG |
| B | 09.02.11 | CB/CB | JG |
| A | 09.11.11 | CB/CB | JG |

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

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 - All sewer pipes are 150mm unless otherwise shown.

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



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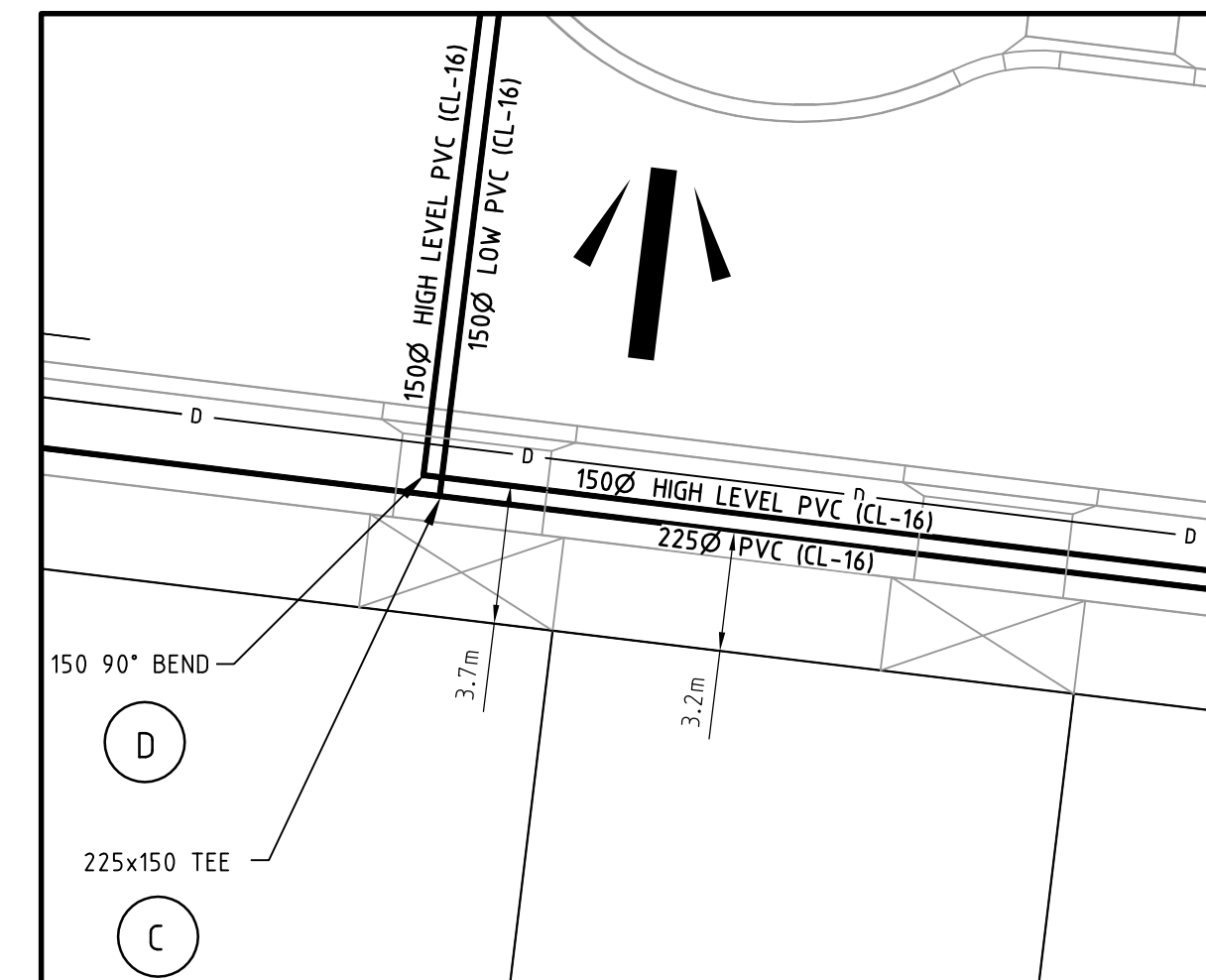
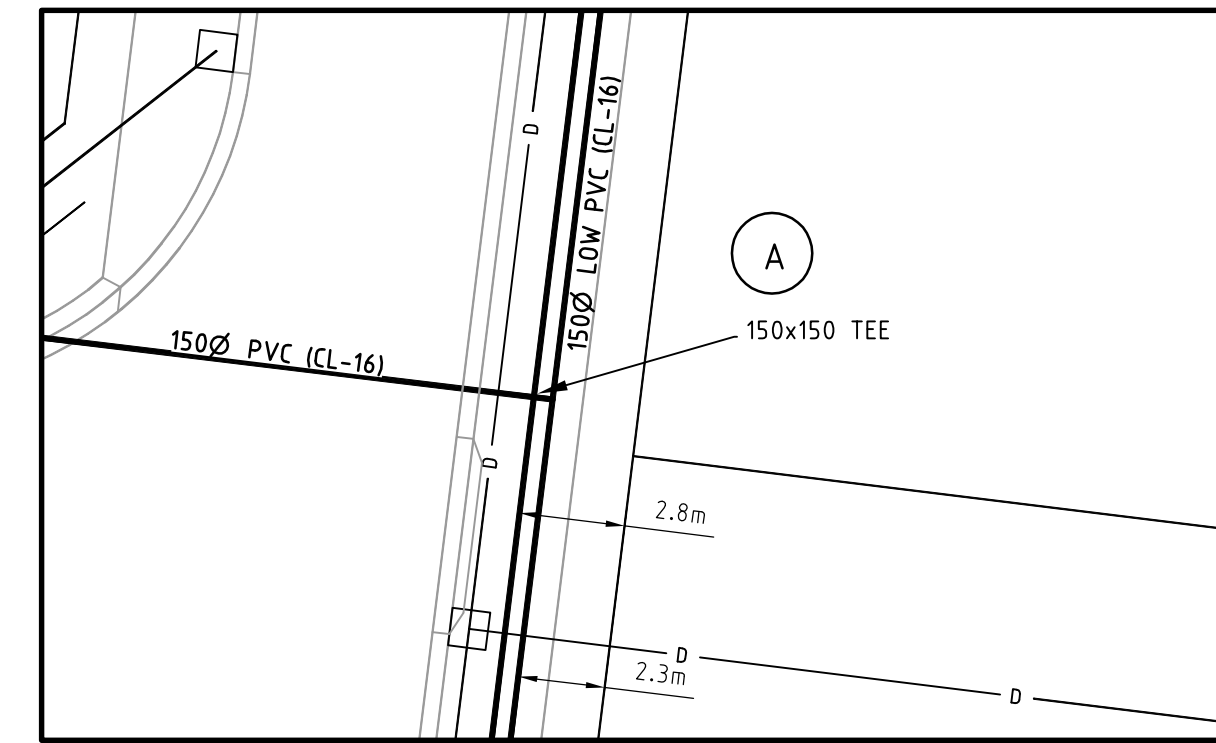
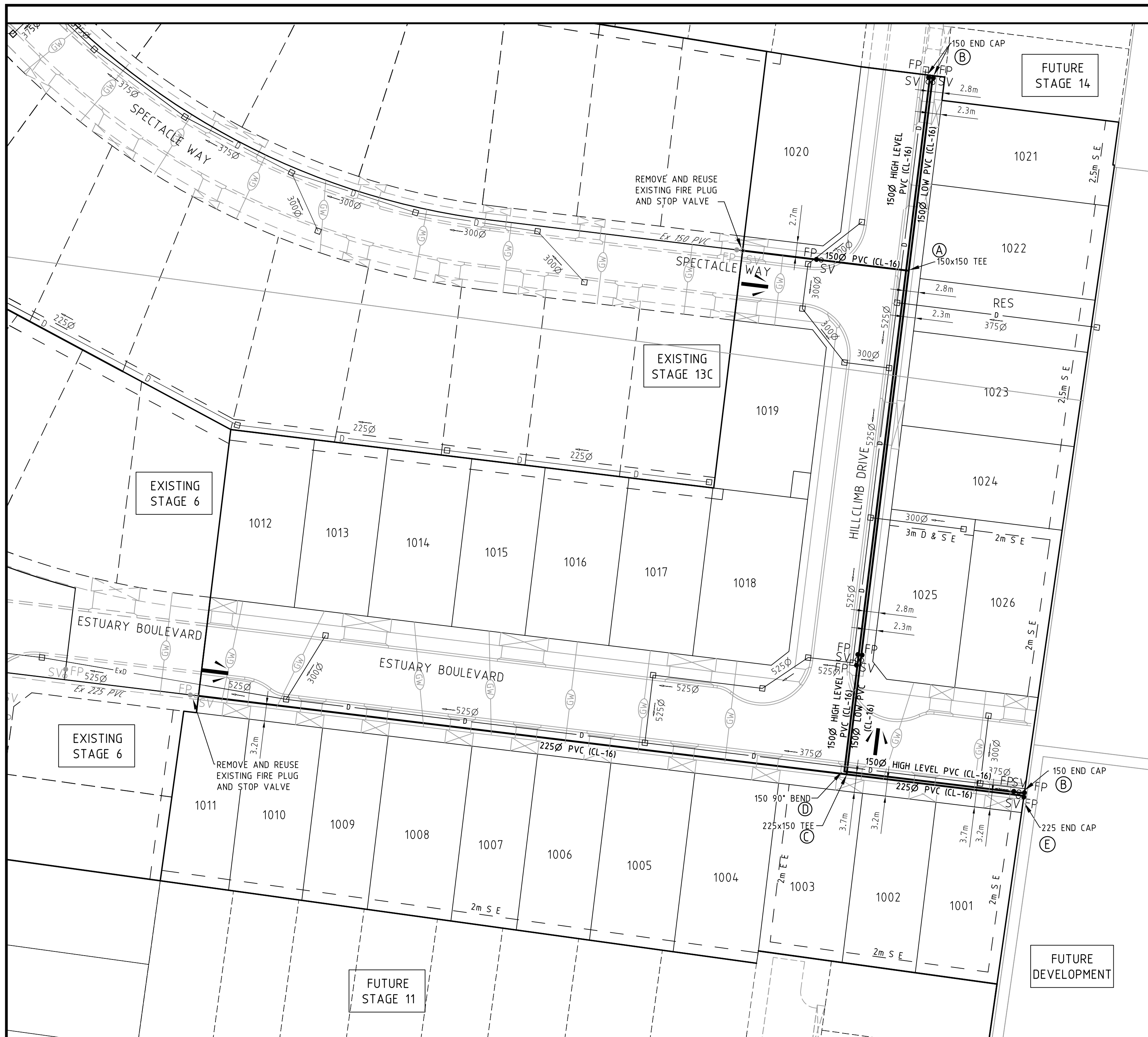
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Melbourne +61 3 9869 0800
Traralgon +61 3 5173 0100

Barwon Region Water Authority
Barwon Water No. L007292
Estuary
Stage 10
Sewer Longitudinal Sections

Drawing No. 0250EHL-10-52 **Rev C**

Sheet No. 2 of 2

Approved for Construction



| LEGEND - WATER PLAN | | PIPE TYPES | |
|---------------------|------------------------------------|------------|---------------------------------|
| □ | STORMWATER DRAIN & PIT | — O/H E | EXISTING ELECTRICITY (OVERHEAD) |
| — | WATER MAIN | — Ex G | EXISTING GAS |
| — | CHANGE OF PIPE SIZE | — Ex T | EXISTING TELSTRA |
| — | MAINS NOT CONNECTED | — Ex W | EXISTING WATER |
| — | MAINS IN CONDUIT | — Ex D | EXISTING STORMWATER DRAIN |
| ○ | VALVE | 14.134 | EXISTING SURFACE LEVEL |
| ○ | NON RETURN VALVE | FS140.35 | FINISHED BUILDING LINE LEVEL |
| ● | FIRE PLUG | FR157.0.0 | FINISHED RIDGE LINE LEVEL |
| — Ex E | EXISTING ELECTRICITY (UNDERGROUND) | ▲ | TEMPORARY BENCH MARK |
| | | ↔ | SWAB DIRECTION |
| | | 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
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

WORKS SHALL NOT COMMENCE UNTIL PLANS ARE SIGNED BY BARWON WATER

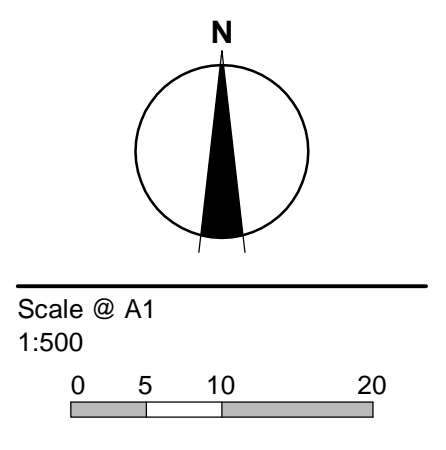
ACCEPTED BY BARWON WATER DEVELOPMENT SERVICES CO-ORDINATOR DEVELOPMENT & CONSERVATION

| REVISION | DATE | DESIGN | APPD |
|----------|----------|--------|------|
| D | 06.06.12 | CB/CB | JG |
| C | 20.03.12 | CB/CB | JG |
| B | 09.02.12 | CB/CB | JG |
| A | 09.11.11 | CB/CB | JG |

estuary
 LEOPOLD
 Principal
 Leopold Property Developments Pty Ltd
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 C. Barker
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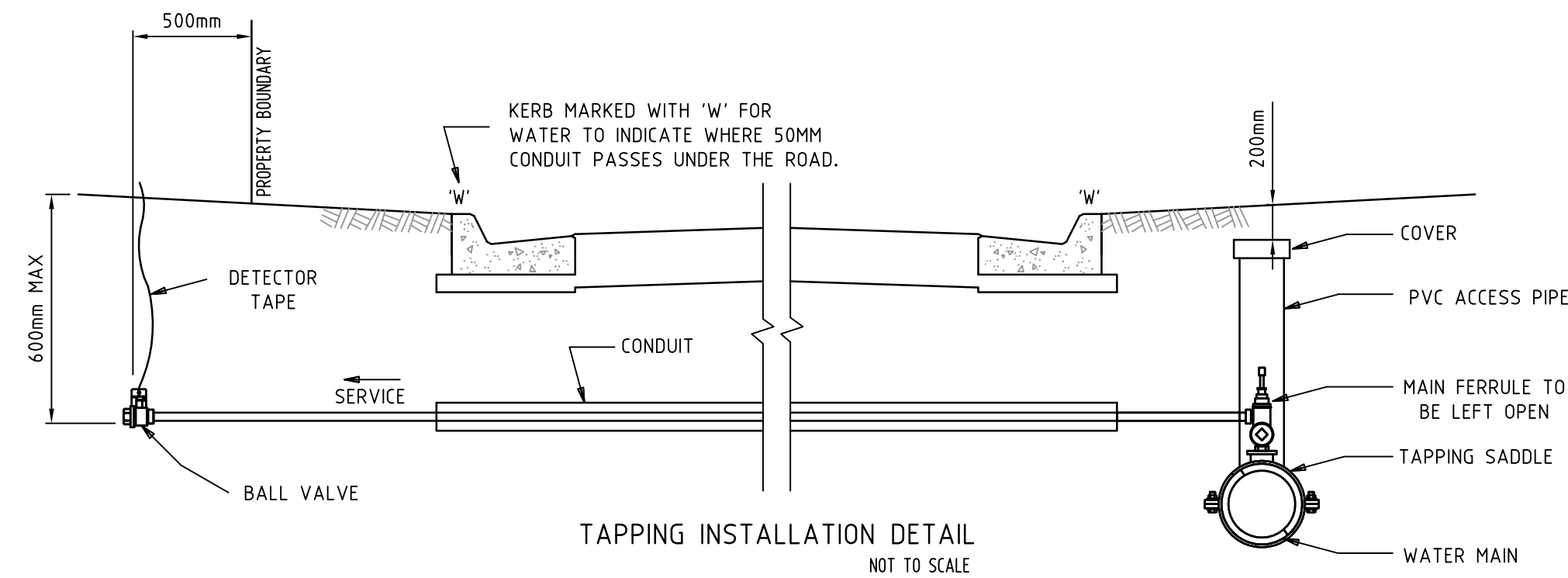


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Barwon Region Water Authority
 Barwon Water No. L007292
 Estuary
 Stage 10
 Water Detail Plan - 1
Drawing No. 0250EHL-10-61 **Rev D**
 Sheet No. 1 of 2
Approved for Construction

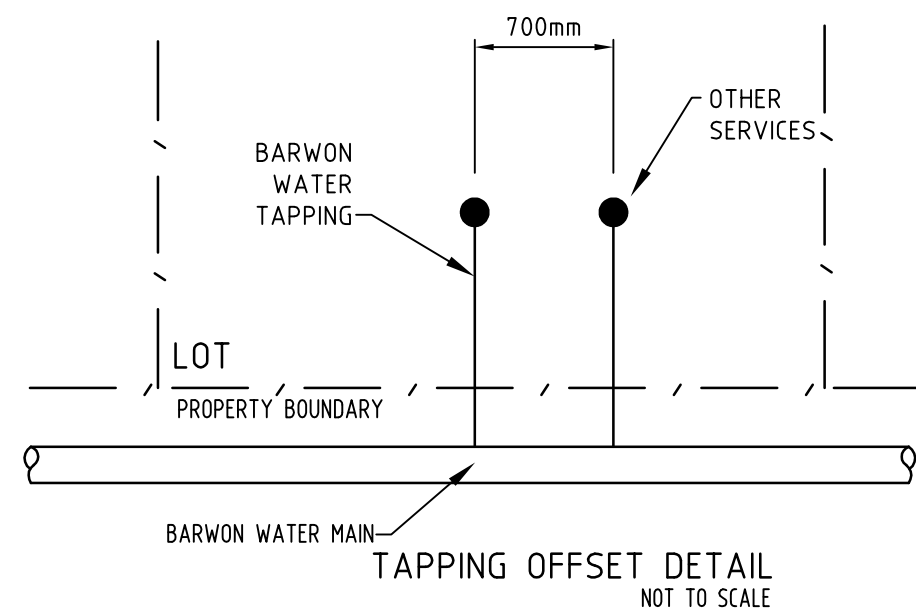
DESIGN HEAD HIGH LEVEL=98.2m AHD
DESIGN HEAD LOW LEVEL=73.2m AHD
TEST PRESSURE=1600kPa



- ALL LOTS ARE TO BE TAPPED USING A TAPPING SADDLE AND PRESSURE FERRULE.
- A MINIMUM SIZE SERVICE (IE 20MM COPPER, 25MM PE) IS THEN TO BE EXTENDED TO A POINT 500MM WITHIN THE PROPERTY.
- SERVICE PIPE BETWEEN MAIN FERRULE AND BALL VALVE TO BE A CONTINUOUS LENGTH (IE NO JOINTS)
- SERVICE TO BE TYPE 'B' COPPER OR CLASS 12 TYPE 50 PE.
- 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.
- DETECTOR TAPE IS TO BE RUN TO SURFACE LEVEL.
- BALL VALVE TO BE IN ACCORDANCE WITH AUSTRALIAN STANDARDS (IE STAMPED 'W') BRASS FITTING WITH STAINLESS STEEL BALL.

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

| SURVEY CONTROL | | | | |
|----------------|------------|------------|--------|--------------|
| TBM | EASTING | NORTHING | RL | DESCRIPTION |
| ROD501 | 27724.5.07 | 5768919.27 | 21.19 | ROD |
| ROD502 | 27744.8.31 | 5768946.60 | 28.62 | ROD |
| MOOLAP PM69 | 277138.66 | 5770359.31 | - | BRASS PLAQUE |
| MOOLAP PM321 | 27704.0 | 57694.80 | 9.436 | BRASS PLAQUE |
| MOOLAP PM302 | 277310 | 5769280 | 22.180 | BRASS PLAQUE |



| NEW WATER MAINS | | |
|-----------------|-------------|--------|
| SIZE | TYPE | LENGTH |
| 150 | PVC (CL-16) | 331.6 |
| 225 | PVC (CL-16) | 157.5 |

| THRUST RESTRAINT SCHEDULE | | | | |
|---------------------------|------------|-----------|--------|---|
| LOCATION | TYPE | AREA (m²) | NUMBER | |
| A | HILLCLIMB | CONCRETE | 0.5 | 1 |
| B | HILLCLIMBY | CONCRETE | 0.5 | 1 |
| C | ESTUARY | CONCRETE | 1.06 | 1 |
| E | ESTUARY | CONCRETE | 1.06 | 1 |

| THRUST RESTRAINT SCHEDULE HIGH LEVEL | | | | |
|--------------------------------------|---------------------|-----------|--------|---|
| LOCATION | TYPE | AREA (m²) | NUMBER | |
| B | HILLCLIMB / ESTUARY | CONCRETE | 0.61 | 2 |
| D | ESTUARY | CONCRETE | 0.61 | 1 |

| ROAD NAME | SERVICES OFFSET SCHEDULE | | | | | | | |
|-------------------|--------------------------|------------|-------|------------|-------------|------------|---------|------------|
| | GAS | | WATER | | ELECTRICITY | | TELSTRA | |
| | SIDE | OFFSET (m) | SIDE | OFFSET (m) | SIDE | OFFSET (m) | SIDE | OFFSET (m) |
| ESTUARY BOULEVARD | SOUTH | 2.70 | SOUTH | 3.20, 3.70 | NORTH | 3.40 | NORTH | 2.80 |
| HILLCLIMB DRIVE | EAST | 1.70 | EAST | 2.30, 2.80 | WEST | 2.30 | WEST | 1.70 |
| SPECTACLE WAY | NORTH | 2.10 | NORTH | 2.70 | SOUTH | 1.70 | SOUTH | 2.30 |

- NOTES GENERAL**
- WATERMANS 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 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.

- 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 & WSA 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 WSA 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 WSA WATER SUPPLY CODE OF AUSTRALIA WSA 03-2002 MRWA EDITION 1.0. THE CONTRACTOR MUST BE GIVE BARWON WATER THREE WORKING DAYS NOTICE IN WRITING OF THE DATE AND TIME OF THE PROPOSED HYDROSTATIC PRESSURE TESTING TO ENSURE THAT BARWON WATER HAS THE OPPORTUNITY TO WITNESS THESE TESTS.

- SPECIAL**
- 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 | APPD |
|----------|----------|--------|------|
| E | 06.06.12 | CB/CB | JG |
| D | 22.03.12 | CB/CB | JG |
| C | 20.03.12 | CB/CB | JG |
| B | 09.02.12 | CB/CB | JG |

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Southbank, Victoria 3006

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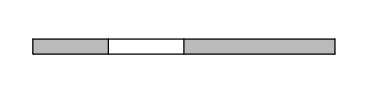
Drawn
C. Barker

Checked
C. Birkett

Authorised
J. Golden

Date
October 2011

Scale @ A1



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Barwon Region Water Authority
Barwon Water No. L007292
Estuary
Stage 10
Water Detail Plan - 2

Drawing No. 0250EHL-10-62 **Rev E**

Sheet No. 2 of 2

Approved for Construction

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