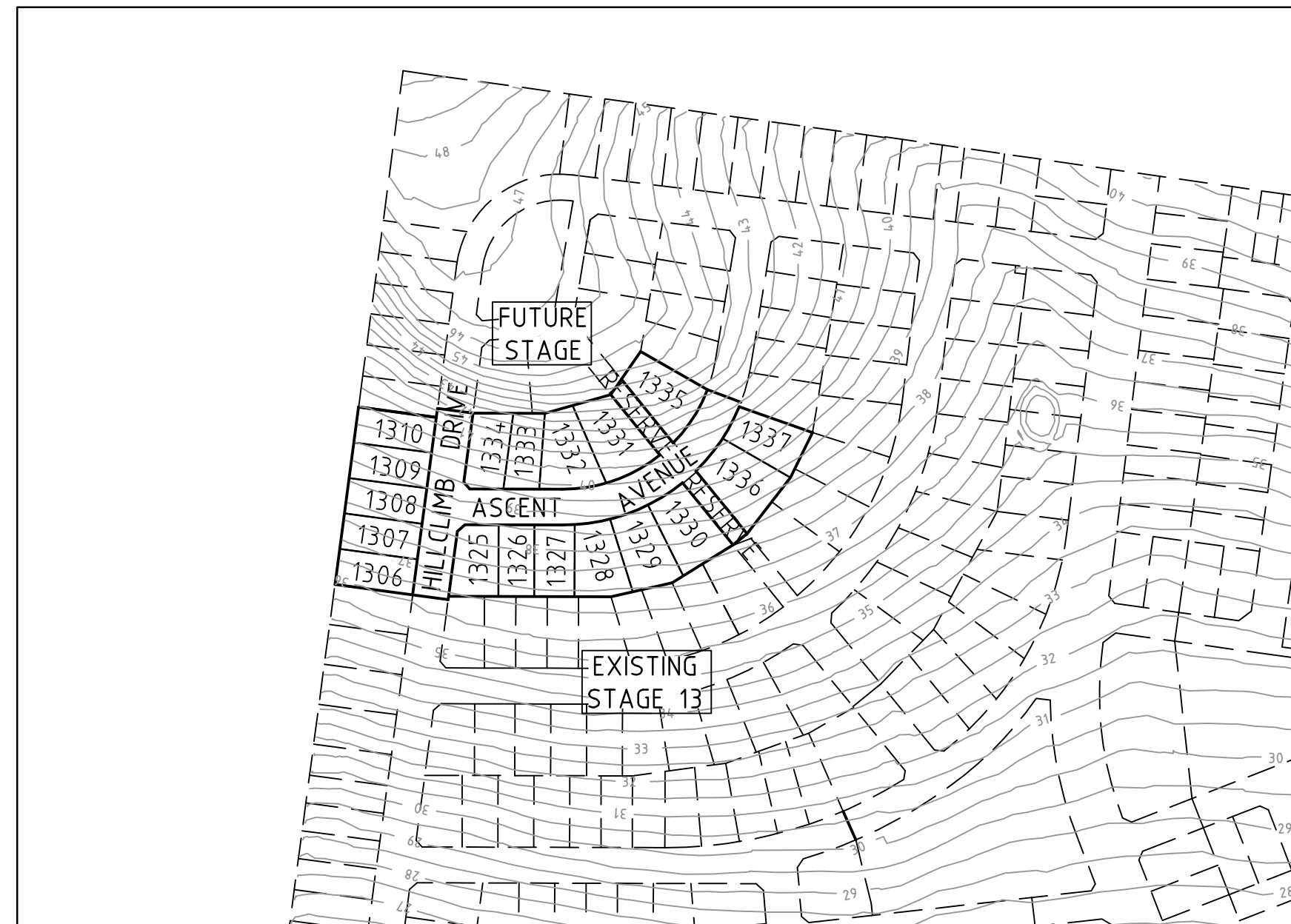
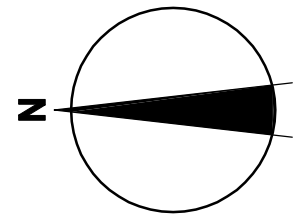


Estuary

Stage 13B

City Of Greater Geelong



LOCALITY PLAN
MELWAYS REF: 468 D6

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- 0250EHL-13B - 02 General Notes
- 0250EHL-13B - 03 Layout Plan
- 0250EHL-13B - 04 Services Layout Plan
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- 0250EHL-13B - 18 Details
- 0250EHL-13B - 19 Subdivision Setout Plan



Designed for Living



Principal

Leopold Property Developments Pty Ltd
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Southbank, Victoria 3006



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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 supervision of COGG Subdivisions Engineer or representative.

REVISION	DATE	DES/DFT	APPD
C	09.01.12	CB/CB	JG
B	05.11.11	CB/CB	JG
A	24.08.11	CB/CB	JG

DRAWING NOTES

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

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

Designed
C. Barker

Drawn
C. Barker

Checked
C. Birkett

Authorised
J. Golden

Date
August 2011

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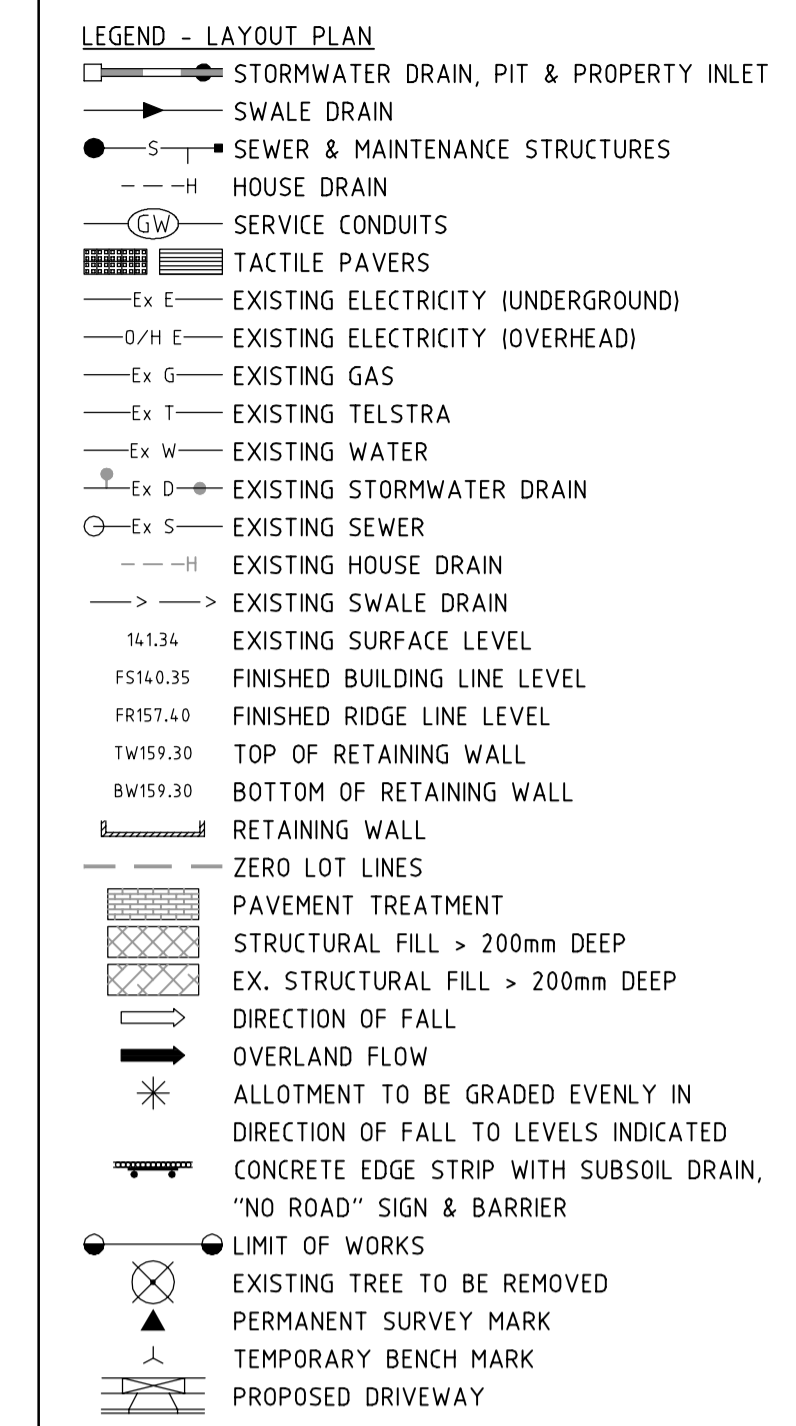
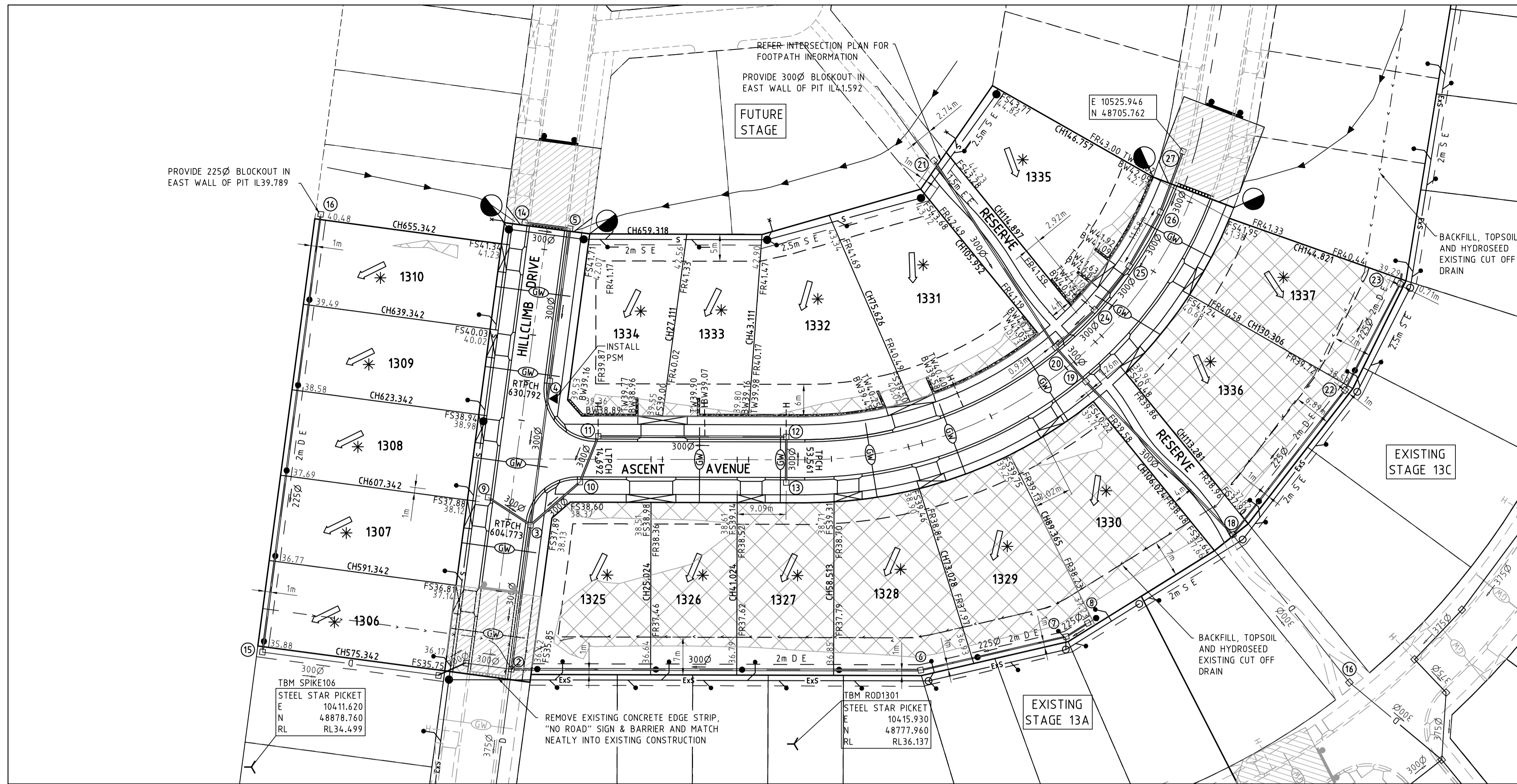
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Estuary
Stage 13B
City Of Greater Geelong
Roadworks and Drainage
General Notes

Drawing No. 0250EHL-13B-02 **Rev C**
Sheet No. 2 of 19

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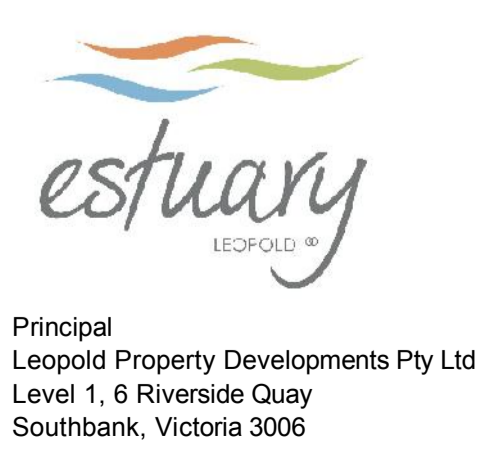


ROAD NAME	SERVICES OFFSET SCHEDULE							
	GAS		WATER		ELECTRICITY		TELSTRA	
	SIDE	OFFSET (m)	SIDE	OFFSET (m)	SIDE	OFFSET (m)	SIDE	OFFSET (m)
HILLCLIMB DRIVE	SOUTH	2.10	SOUTH	2.70	NORTH	2.30	NORTH	1.70
ASCENT AVENUE	EAST	2.10	EAST	2.70	WEST	2.30	WEST	1.70

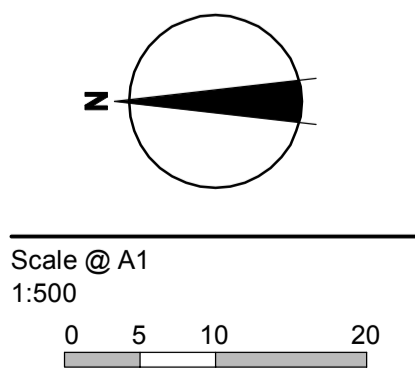
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	RESERVE WIDTH (m)	ROAD WIDTH (m)			KERB TYPE		VERGE WIDTH (m)	
		LIP to LIP	INV to INV	BACK to BACK	NTH/WEST	STH/EAST	NTH/WEST	STH/EAST
HILLCLIMB DRIVE	16.00	6.60	6.90	7.50	B2	B2	4.25	4.25
ASCENT AVENUE	16.00	6.60	6.90	7.50	B2	B2	4.25	4.25

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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REVISION	DATE	DESIGN	APP'D
H LOT 1335 RETAINING WALL LEVELS AMENDED	20.08.13	CB/CB	JG
G LOT 1333 DRIVEWAY AMENDED	24.04.13	CB/CB	JG
F LOT 1335 DRIVEWAY LOCATION AMENDED	05.04.13	CB/CB	JG
E LOT 1335 REAR LOT LEVEL AMENDED	28.02.13	CB/CB	JG
D LOT 1330 & 1335 CROSSOVER LOCATION AMENDED	09.01.13	CB/CB	JG
C MINOR AMENDMENTS	09.01.12	CB/CB	JG
B ISSUED TO COUNCIL FOR APPROVAL	05.11.11	CB/CB	JG
A ISSUED TO COUNCIL FOR APPROVAL	24.08.11	CB/CB	JG



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



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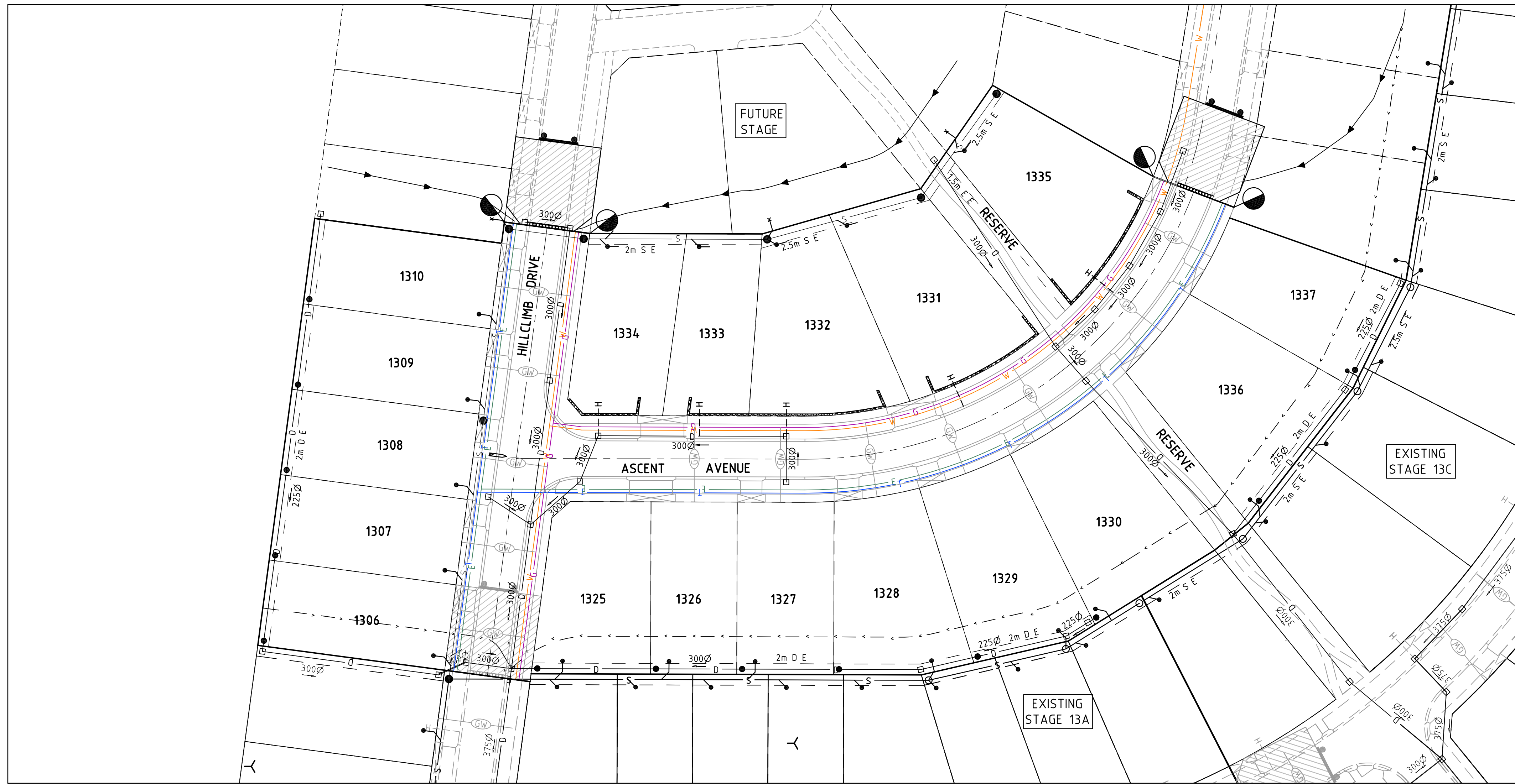
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Estuary
 Stage 13B
 City Of Greater Geelong
 Roadworks and Drainage
 Layout Plan

Drawing No. 0250EHL-13B-03 **Rev H**
 Sheet No. 3 of 19

Approved for Construction



LEGEND - FUNCTIONAL LAYOUT PLAN

- E — ELECTRICITY (UNDERGROUND)
- G — GAS
- W — WATER
- T — TELSTRA
- — STORMWATER DRAIN, PIT & PROPERTY INLET
- S — SWALE DRAIN
- — 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

ROAD NAME	SERVICES OFFSET SCHEDULE							
	GAS		WATER		ELECTRICITY		TELSTRA	
	SIDE	OFFSET (m)	SIDE	OFFSET (m)	SIDE	OFFSET (m)	SIDE	OFFSET (m)
HILLCLIMB DRIVE	SOUTH	2.10	SOUTH	2.70	NORTH	2.30	NORTH	1.70
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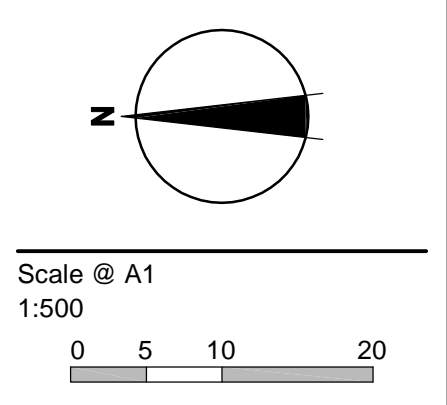
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REVISION	DATE	DES/DFT	APPD
C	09.01.12	CB/CB	JG
B	05.11.11	CB/CB	JG
A	24.08.11	CB/CB	JG

estuary
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 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
 August 2011



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 consulting group

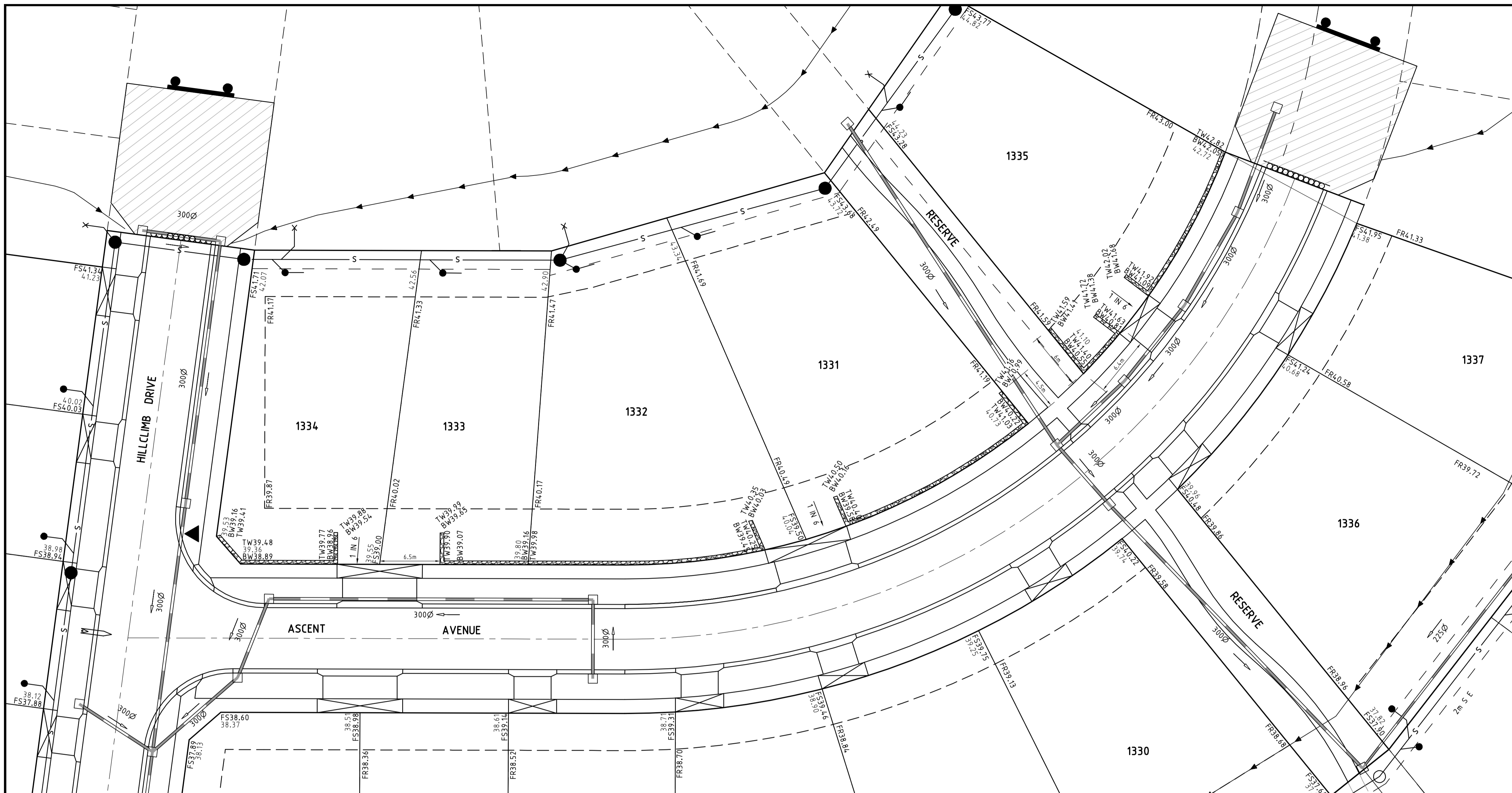
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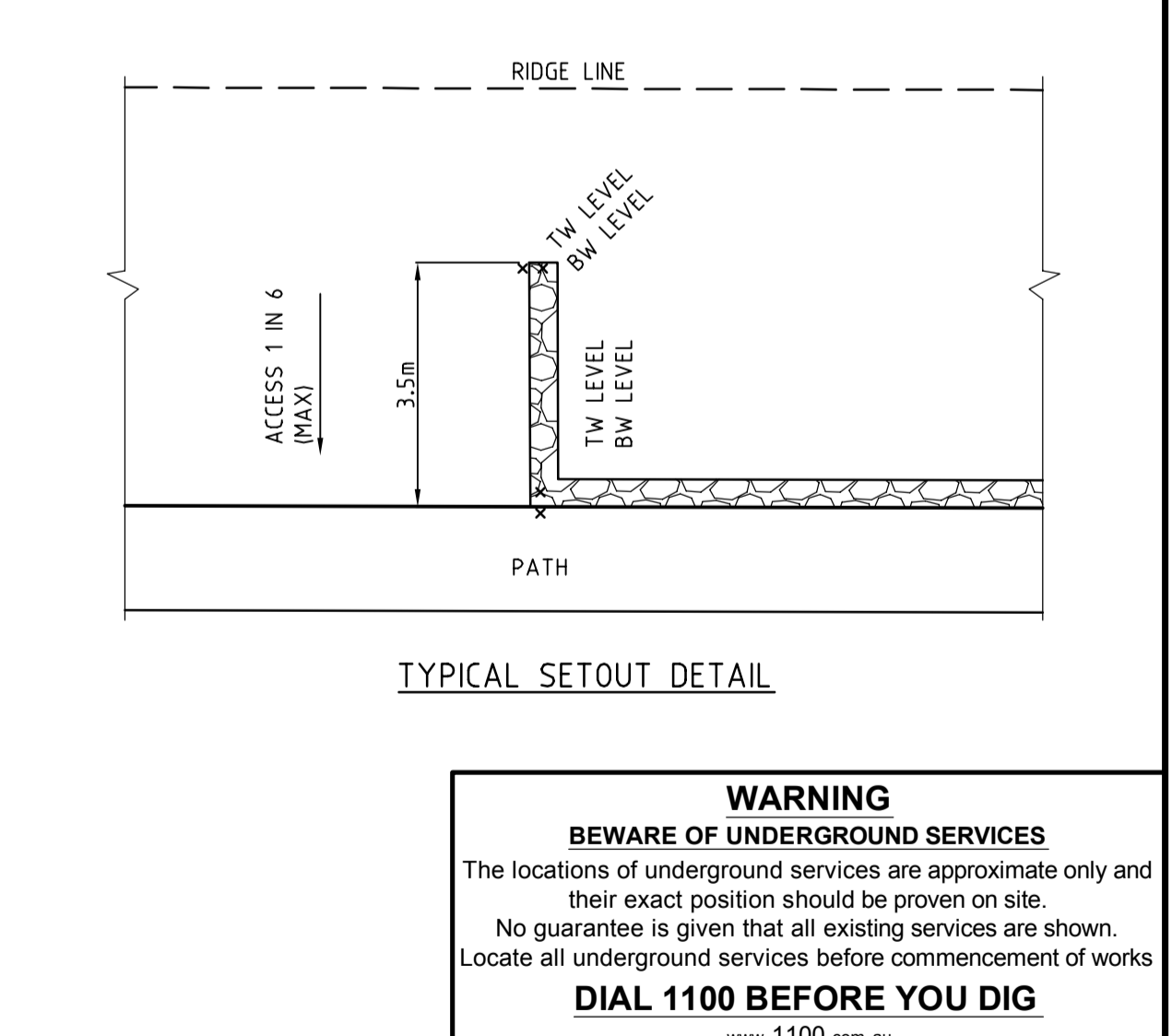
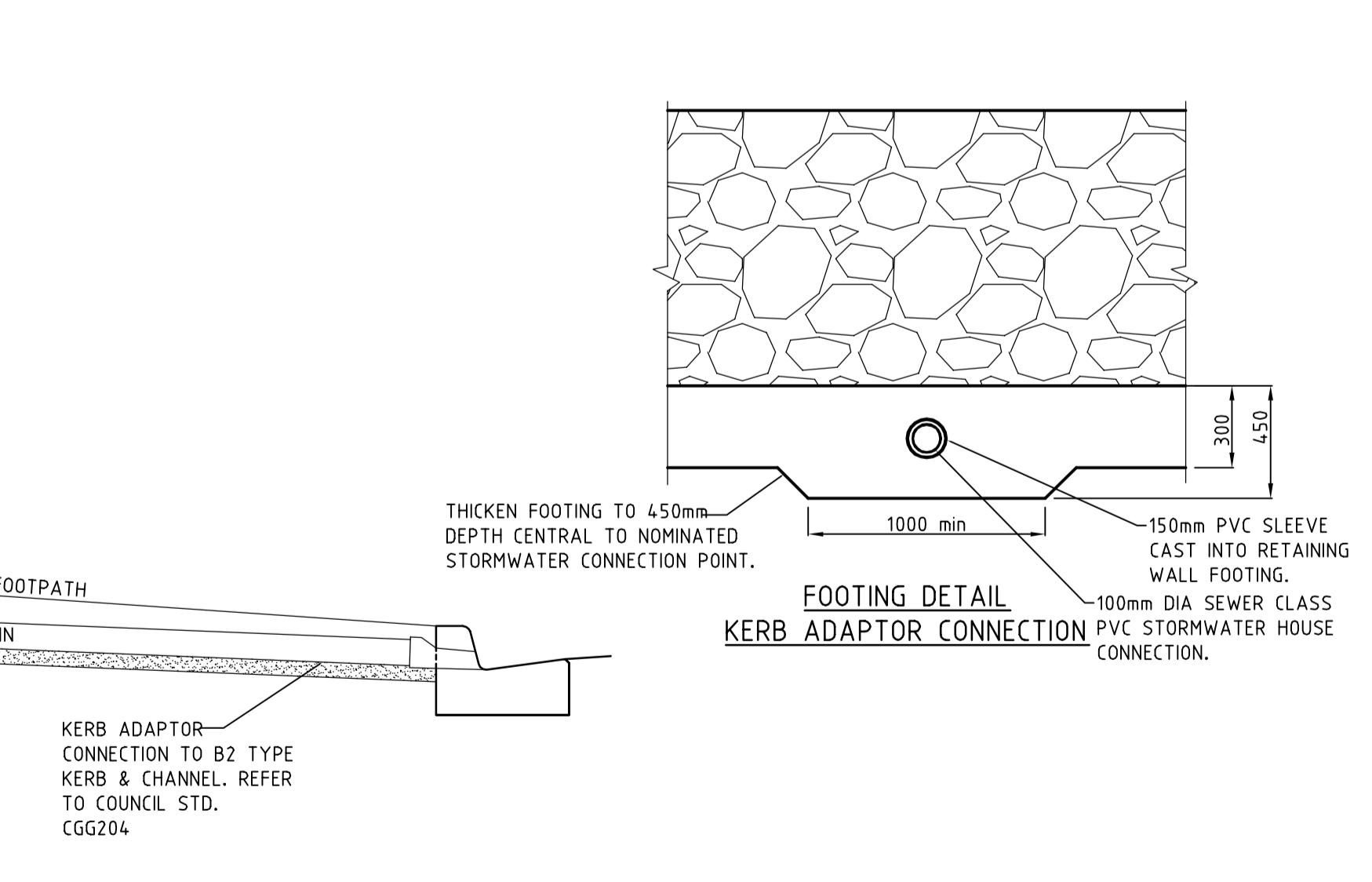
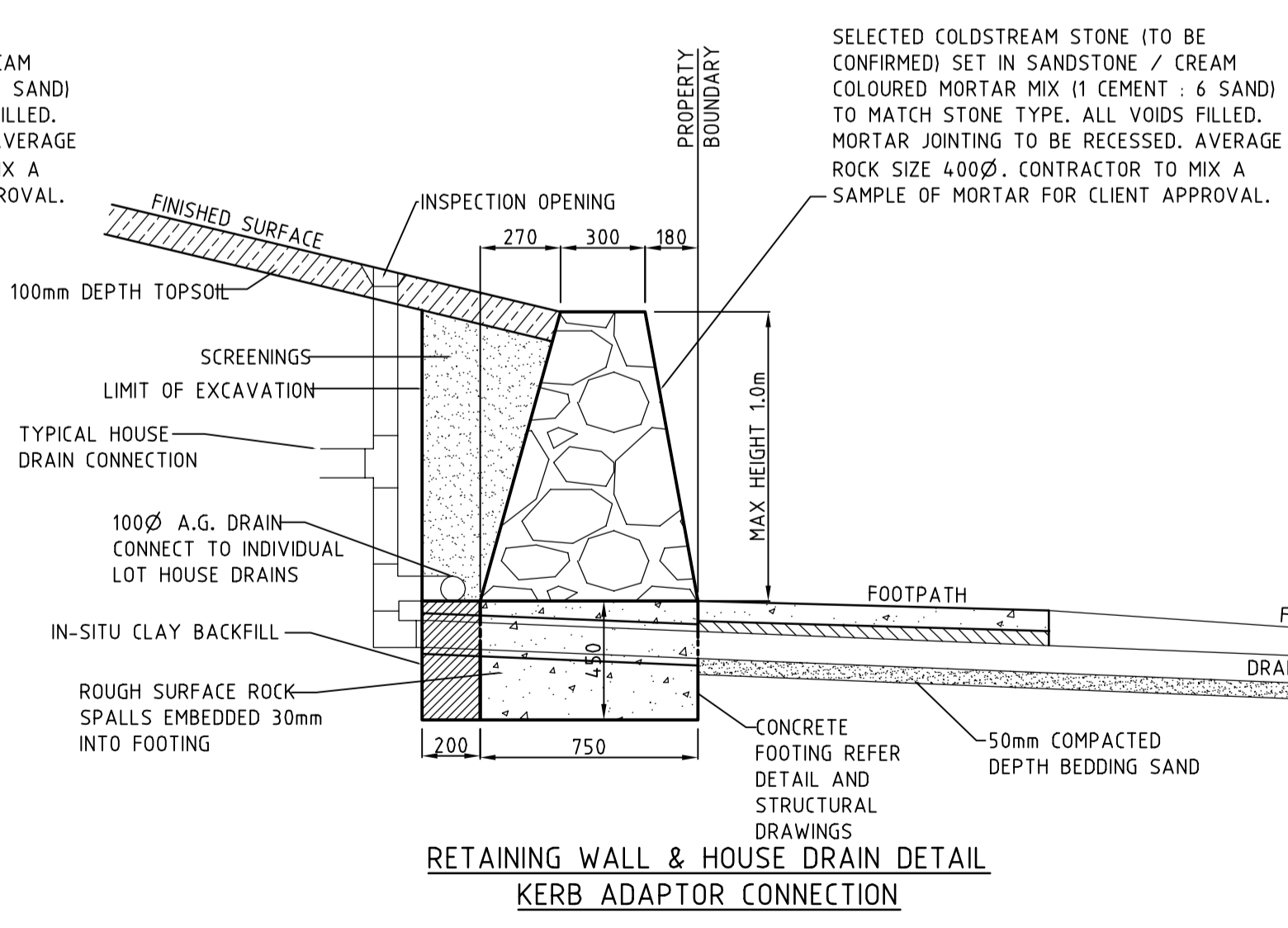
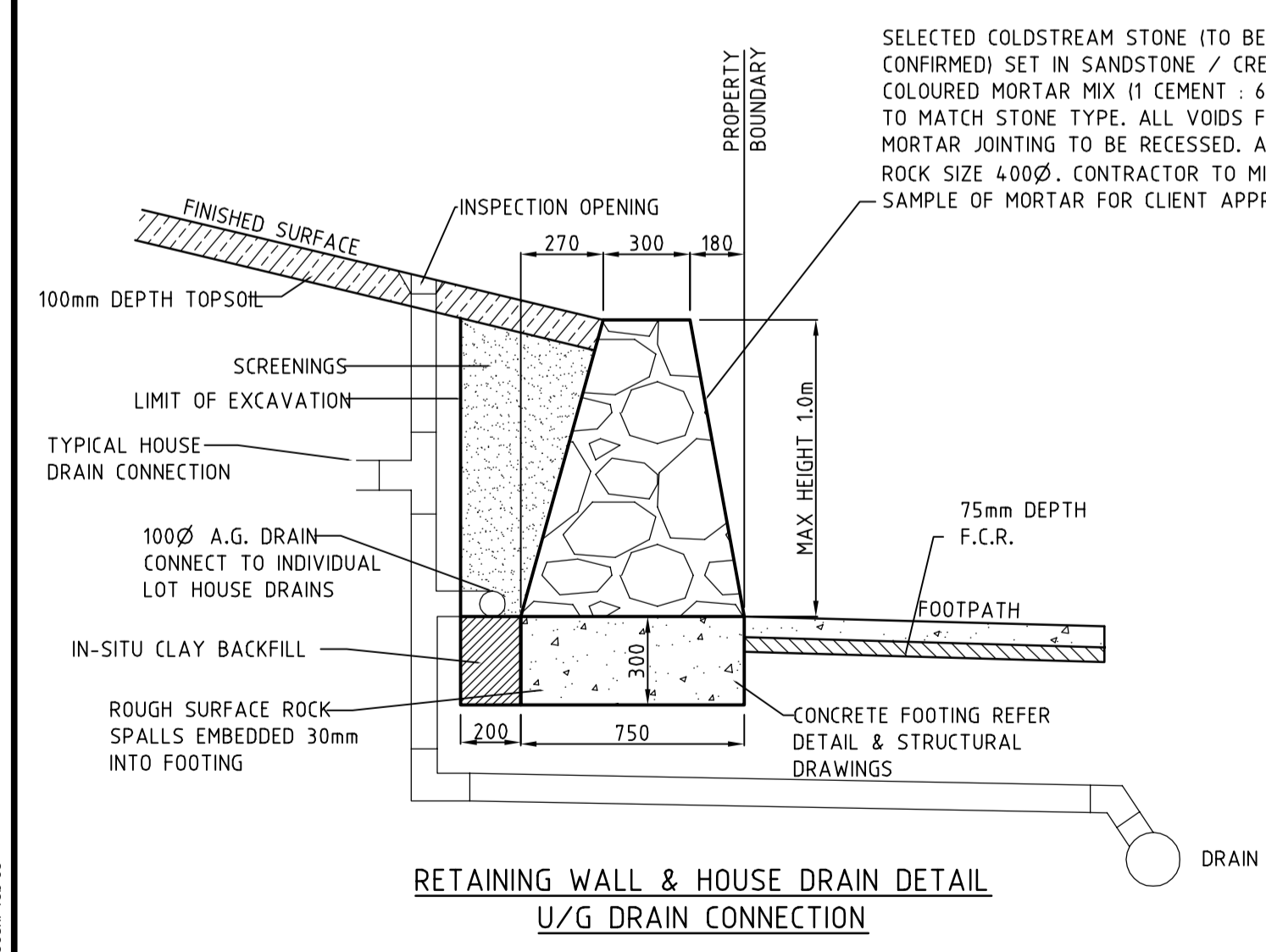
Estuary
 Stage 13B
 City Of Greater Geelong
 Roadworks and Drainage
 Services Layout Plan

Drawing No. 0250EHL-13B-04 **Rev C**
 Sheet No. 4 of 19

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- LEGEND - LAYOUT PLAN**
- SWORMWATER DRAIN, PIT & PROPERTY INLET
 - SWALE DRAIN
 - SEWER & MAINTENANCE STRUCTURES
 - HOUSE DRAIN
 - SERVICE CONDUITS
 - TACTILE PAVERS
 - EXISTING ELECTRICITY (UNDERGROUND)
 - EXISTING ELECTRICITY (OVERHEAD)
 - EXISTING GAS
 - EXISTING TELSTRA
 - EXISTING WATER
 - EXISTING STORMWATER DRAIN
 - EXISTING SEWER
 - EXISTING HOUSE DRAIN
 - EXISTING SURFACE LEVEL
 - EXISTING 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
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 - LIMIT OF WORKS
 - EXISTING TREE TO BE REMOVED
 - PERMANENT SURVEY MARK
 - TEMPORARY BENCH MARK
 - PROPOSED DRIVEWAY

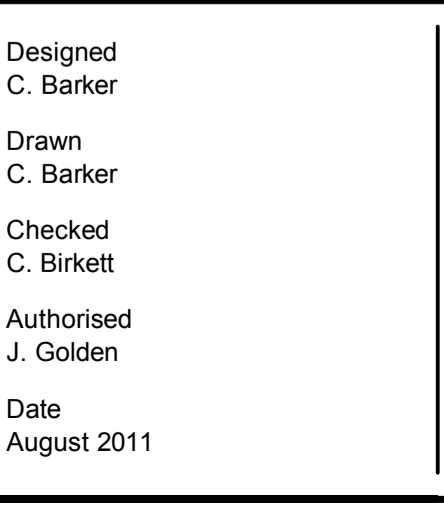


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F	05.04.13	CB/CB	JG
E	28.02.13	CB/CB	JG
D	16.01.13	CB/CB	JG
C	09.01.12	CB/CB	JG
B	05.11.11	CB/CB	JG
A	24.08.11	CB/CB	JG

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

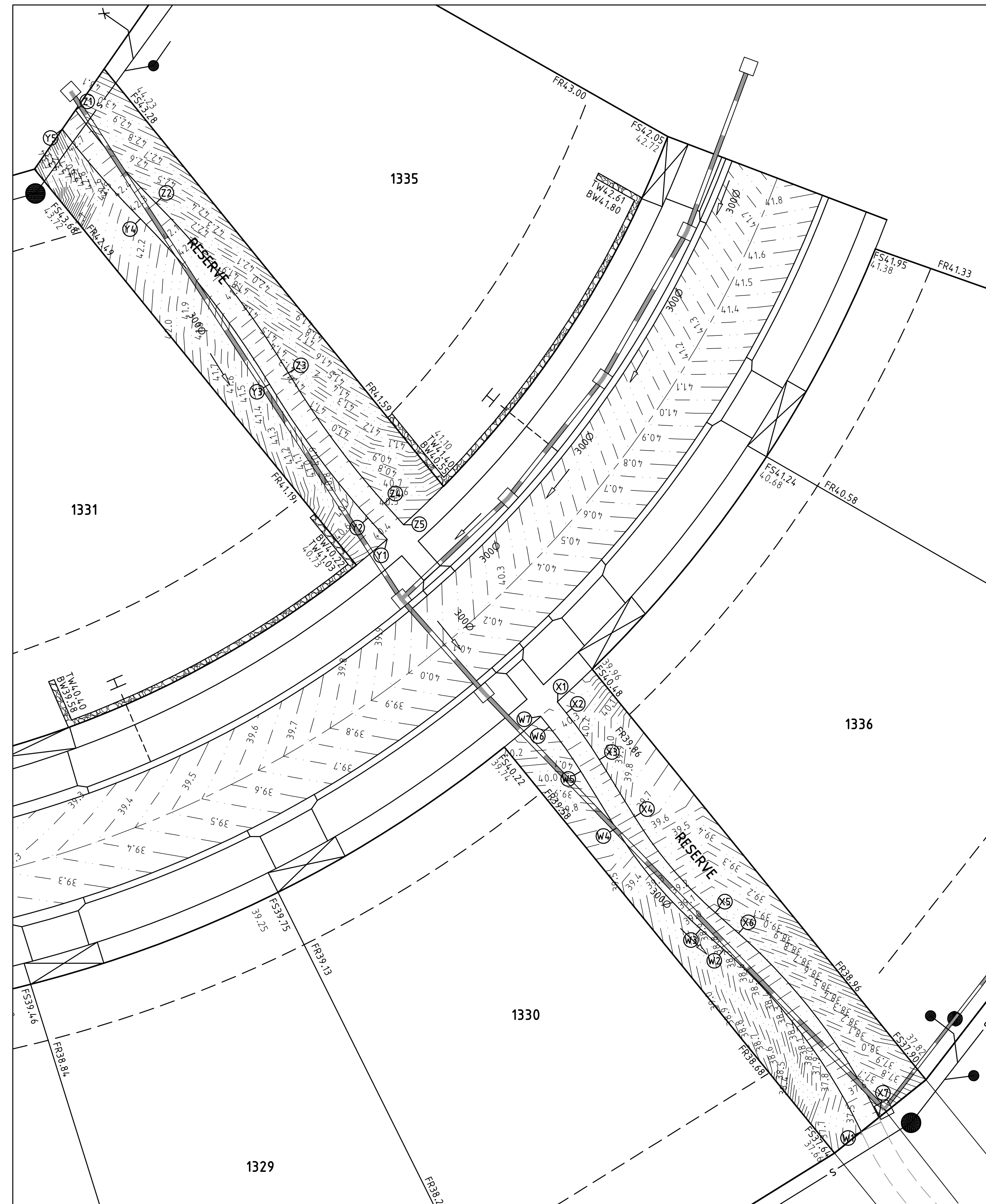
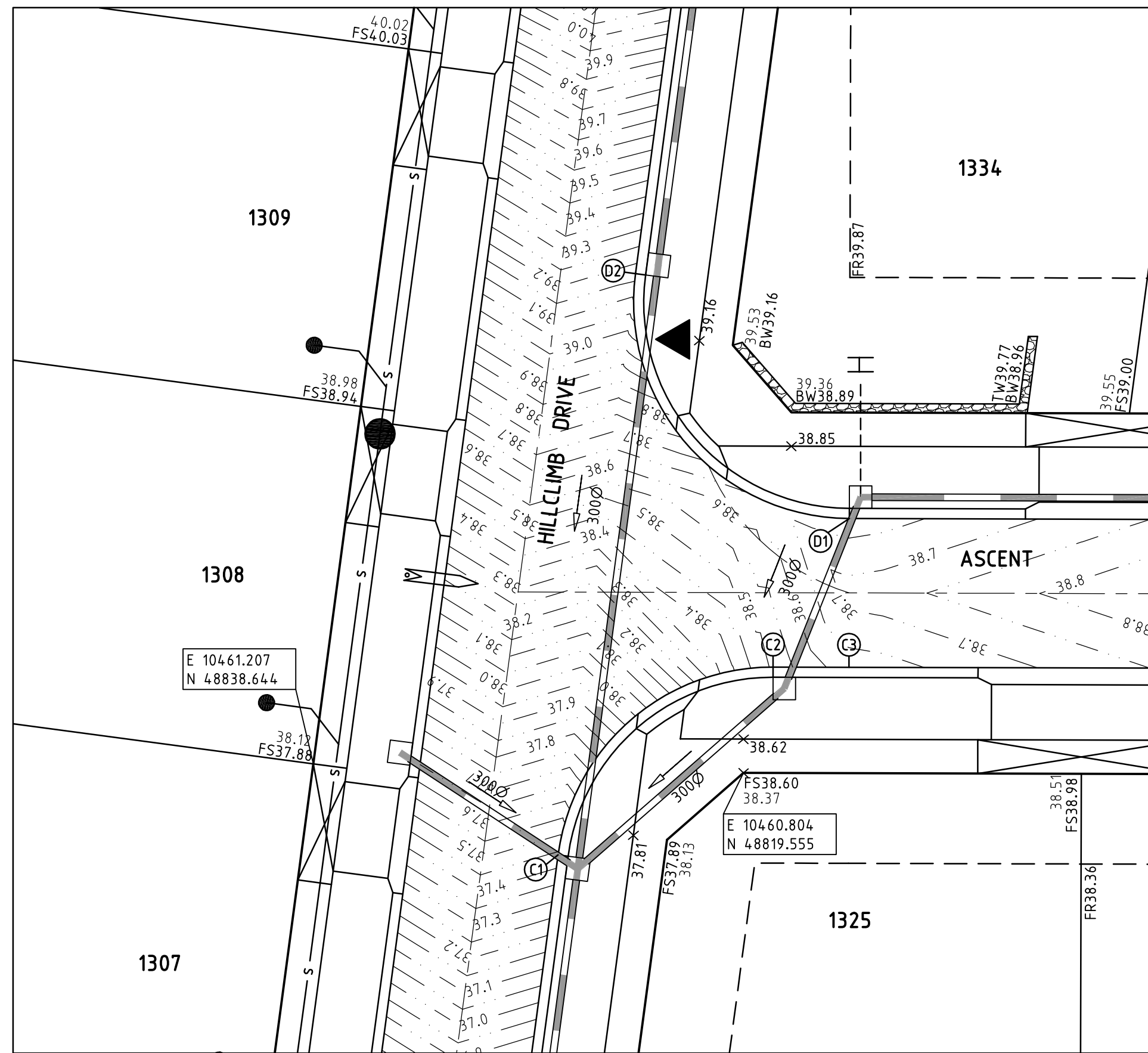


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Estuary
 Stage 13B
 City Of Greater Geelong
 Roadworks and Drainage
 Retaining Wall Layout Plan
Drawing No. 0250EHL-13B-05 **Rev H**
 Sheet No. 5 of 19
Approved for Construction



SIGN SCHEDULE	
SIGN	REF
	1
STREET SIGN	

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

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

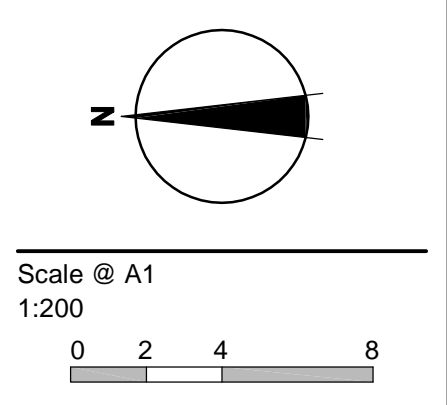
NOTES
 1. REFER TO SHEET No 7 FOR LIP PROFILES.
 2. REFER TO SHEET No 8 FOR SETOUT INFORMATION.

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REVISION	DATE	DES/DFT	APPD
C	09.01.12	CB/CB	JG
B	05.11.11	CB/CB	JG
A	24.08.11	CB/CB	JG

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

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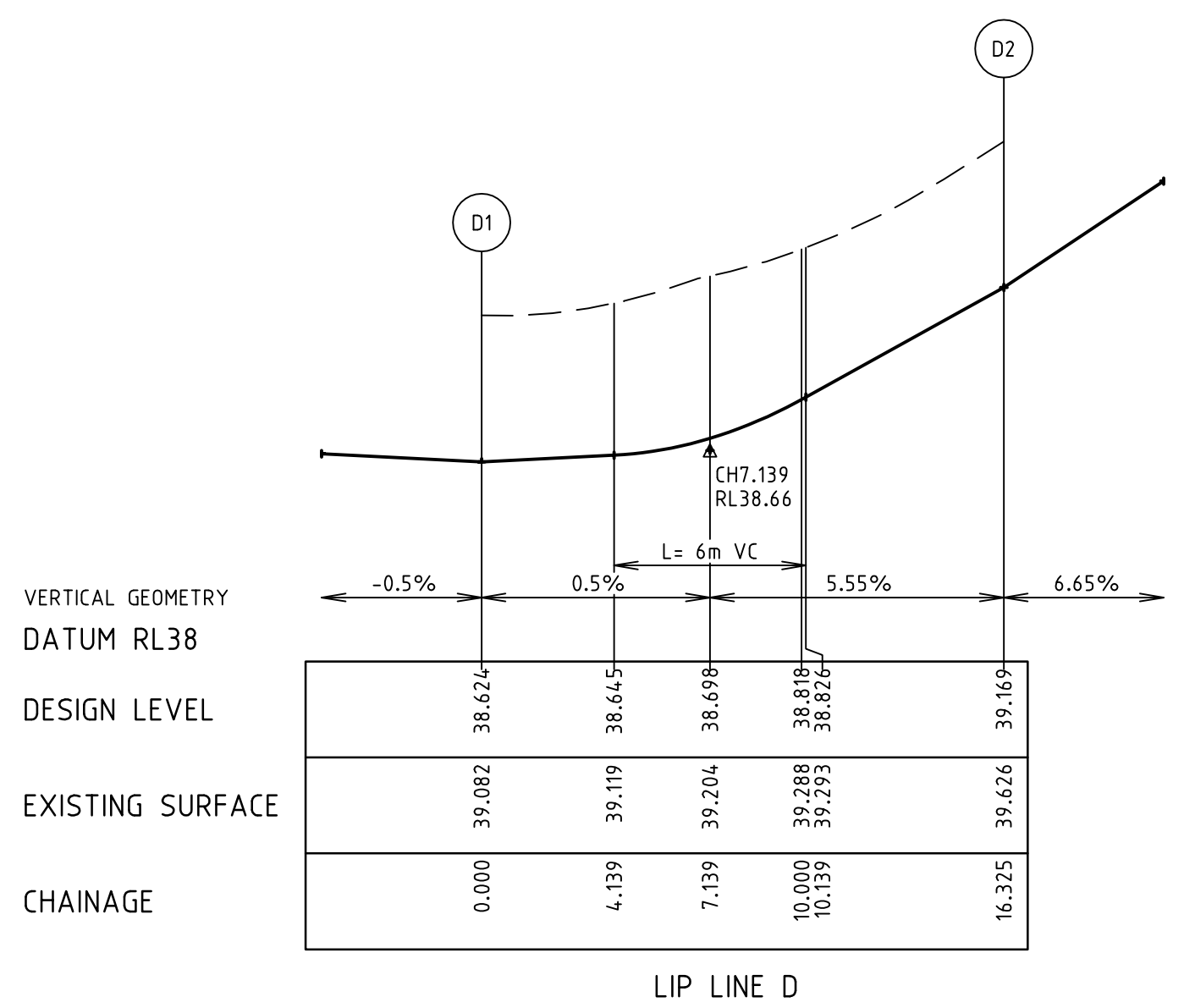
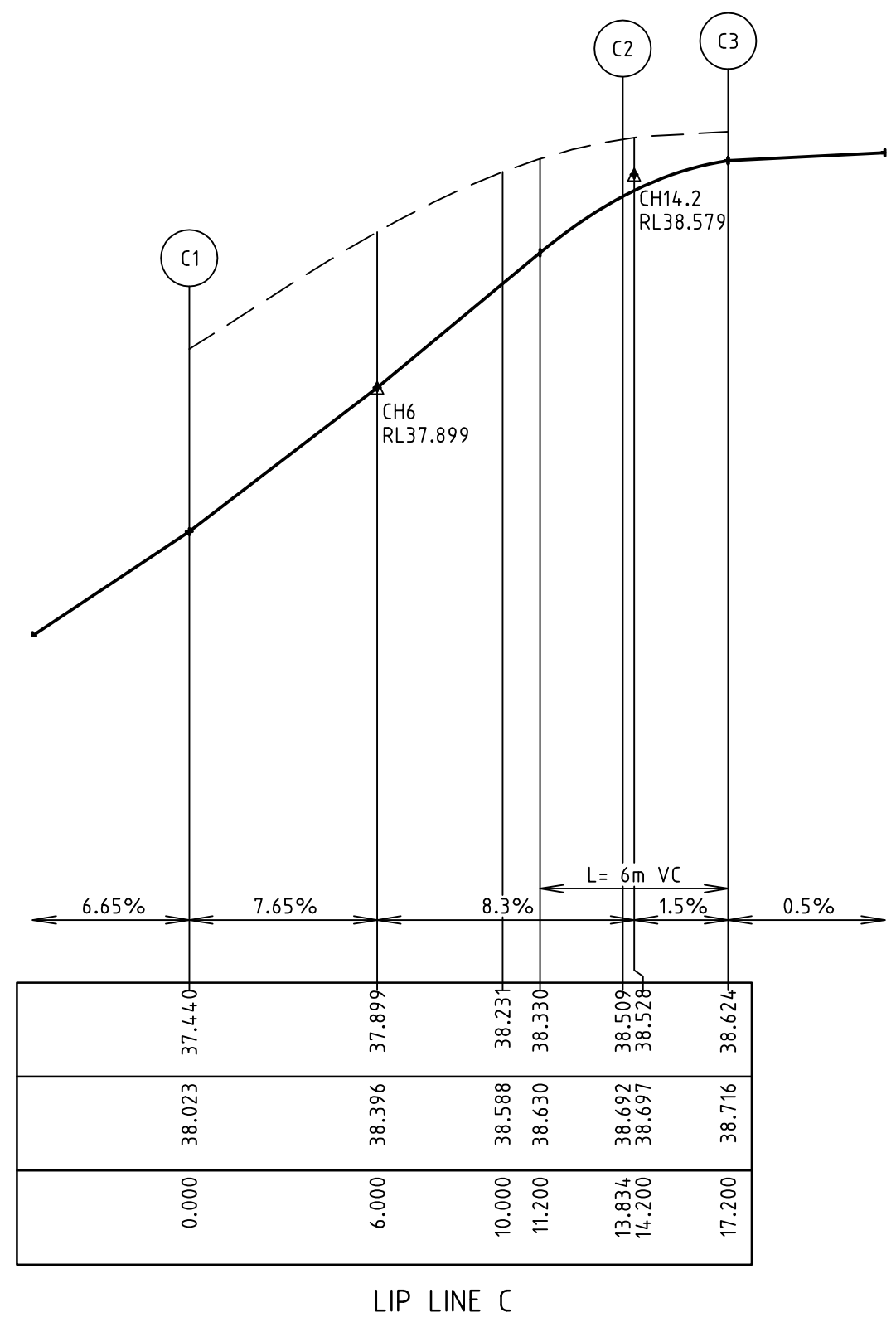


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Estuary
 Stage 13B
 City Of Greater Geelong
 Roadworks and Drainage
 Intersection Detail Plan
Drawing No. 0250EHL-13B-06 **Rev C**
 Sheet No. 6 of 19
Approved for Construction

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



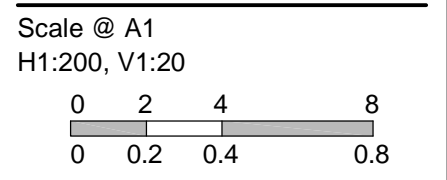
NOTES
 1. CHAINAGES REFER TO LIP OF KERB/EDGE OF CONCRETE.
 2. REFER TO SHEET No 8 FOR SETOUT INFORMATION.

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REVISION	DATE	DES/DFT	APPD
C MINOR AMENDMENTS	09.01.12	CB/CB	JG
B ISSUED TO COUNCIL FOR APPROVAL	05.11.11	CB/CB	JG
A ISSUED TO COUNCIL FOR APPROVAL	24.08.11	CB/CB	JG

Principal
 Leopold Property Developments Pty Ltd
 Level 1, 6 Riverside Quay
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Estuary
 Stage 13B
 City Of Greater Geelong
 Roadworks and Drainage
 Lip Profiles

Drawing No. **0250EHL-13B-07** Rev **C**
 Sheet No. 7 of 19

Approved for Construction

HILLCLIMB DRIVE DESIGN LINE

CHAINAGE	EASTING	NORTHING	BEARING	
576.073	10429.155	48834.844	97°35'25"	IP
600.000	10452.873	48831.683	97°35'25"	
659.318	10511.671	48823.848	97°35'25"	IP

ASCENT AVENUE DESIGN LINE

CHAINAGE	EASTING	NORTHING	BEARING	
0.000	10468.831	48829.557	180°09'30"	IP
53.561	10468.683	48775.996	180°09'30"	IP
53.561	10468.683	48775.996	180°09'30"	TC
100.000	10482.147	48732.284	145°36'11"	
105.992	10485.721	48727.476	141°08'40"	IP
105.992	10485.721	48727.476	141°08'40"	TC
146.757	10518.326	48703.807	110°48'40"	CT

ALIGNMENT C

POINT NO	EASTING	NORTHING	RL
C1	10457.168	48827.782	37.440
C2	10465.500	48818.239	38.509
C3	10465.491	48814.874	38.624

CURVE NO	I	RADIUS	ARC	A	B	X	Y	L	MID POINT RL
C1 - C2	82.568	9.600	13.834	2.386	1.770	3.384	2.950	3.459	37.975

ALIGNMENT D

POINT NO	EASTING	NORTHING	RL
D1	10472.091	48814.856	38.624
D2	10482.959	48824.345	39.169

CURVE NO	I	RADIUS	ARC	A	B	X	Y	L	MID POINT RL
D1 - D2	97.432	9.600	16.325	3.266	2.411	3.959	3.255	4.081	38.733

ALIGNMENT W

POINT NO	EASTING	NORTHING	RL
W1	10453.276	48698.076	37.398
W2	10465.684	48707.443	38.730
W3	10467.096	48709.037	38.914
W4	10473.970	48714.820	39.692
W5	10477.862	48717.220	40.075
W6	10480.891	48719.366	40.317
W7	10481.622	48719.957	40.346

CURVE NO	I	RADIUS	ARC	A	B	X	Y	L	MID POINT RL
W1 - W2	22.846	39.250	15.651	0.778	0.583	3.906	3.867	3.913	38.052
W3 - W4	16.799	30.750	9.016	0.330	0.247	2.252	2.240	2.254	39.303
W5 - W6	7.276	29.250	3.714	0.059	0.044	0.928	0.927	0.929	40.219

ALIGNMENT X

POINT NO	EASTING	NORTHING	RL
X1	10482.565	48718.791	40.352
X2	10481.834	48718.199	40.324
X3	10478.649	48715.944	40.077
X4	10474.758	48713.543	39.696
X5	10468.219	48708.042	38.952
X6	10466.807	48706.448	38.767
X7	10454.239	48696.876	37.419

CURVE NO	I	RADIUS	ARC	A	B	X	Y	L	MID POINT RL
X2 - X3	7.276	30.750	3.905	0.062	0.046	0.976	0.975	0.976	40.225
X4 - X5	16.799	29.250	8.576	0.314	0.235	2.142	2.131	2.144	39.324
X6 - X7	22.355	40.750	15.899	0.773	0.579	3.968	3.931	3.975	38.077

ALIGNMENT Y

POINT NO	EASTING	NORTHING	RL
Y1	10493.682	48730.425	40.352
Y2	10495.145	48731.729	40.486
Y3	10504.269	48738.450	41.260
Y4	10515.557	48747.260	42.238
Y5	10521.670	48752.589	42.792

CURVE NO	I	RADIUS	ARC	A	B	X	Y	L	MID POINT RL
Y2 - Y3	10.684	60.862	11.349	0.264	0.198	2.836	2.830	2.837	40.873
Y3 - Y4	13.880	59.250	14.353	0.434	0.325	3.586	3.573	3.588	41.749
Y4 - Y5	7.655	60.750	8.116	0.135	0.102	2.029	2.026	2.029	42.515

ALIGNMENT Z

POINT NO	EASTING	NORTHING	RL
Z1	10522.966	48751.688	42.821
Z2	10516.616	48746.197	42.249
Z3	10505.043	48737.165	41.246
Z4	10496.144	48730.610	40.492
Z5	10494.680	48729.305	40.358

CURVE NO	I	RADIUS	ARC	A	B	X	Y	L	MID POINT RL
Z1 - Z2	8.125	59.250	8.402	0.149	0.112	2.100	2.097	2.101	42.535
Z2 - Z3	13.880	60.750	14.716	0.445	0.334	3.677	3.663	3.679	41.747
Z3 - Z4	10.684	59.362	11.069	0.258	0.193	2.766	2.760	2.767	40.869

IP 1
COORDINATE = 10429.1554 48834.8439
CHAINAGE = 576.0733

IP 2
COORDINATE = 10511.6712 48823.8482
CHAINAGE = 659.3184

IP 3
COORDINATE = 10468.6078 48748.7184
CENTRE = 10545.6829 48775.7832
RADIUS = -77.0000
LENGTH = 52.4310
INTERSECT ANGLE = 39°00'50"

START TANGENT
COORDINATE = 10468.6832 48775.9960
LENGTH = 27.2777
CHAINAGE = 53.5611
BEARING = 180°09'30"

END TANGENT
COORDINATE = 10485.7208 48727.4765
LENGTH = 27.2777
CHAINAGE = 105.9920
BEARING = 141°08'40"

IP 4
COORDINATE = 10485.7208 48727.4765
CHAINAGE = 105.9920
INTERSECT ANGLE = 0°00'00"

IP 5
COORDINATE = 10498.8152 48711.2227
CENTRE = 10545.6829 48775.7832
RADIUS = -77.0000
LENGTH = 40.7649
INTERSECT ANGLE = 30°19'60"

START TANGENT
COORDINATE = 10485.7208 48727.4765
LENGTH = 20.8723
CHAINAGE = 105.9920
BEARING = 141°08'40"

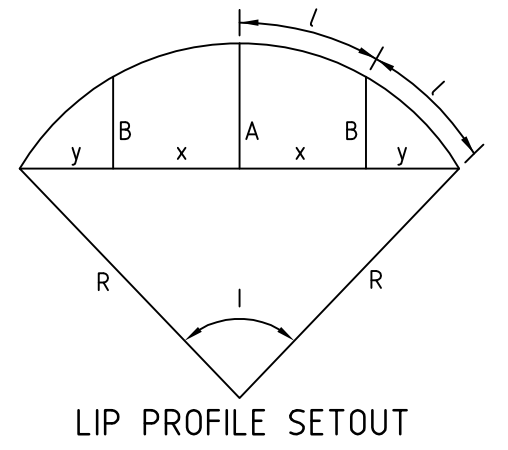
END TANGENT
COORDINATE = 10518.3257 48703.8070
LENGTH = 20.8723
CHAINAGE = 146.7570
BEARING = 110°48'40"

IP 6
COORDINATE = 10518.3257 48703.8070
CHAINAGE = 146.7570

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



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

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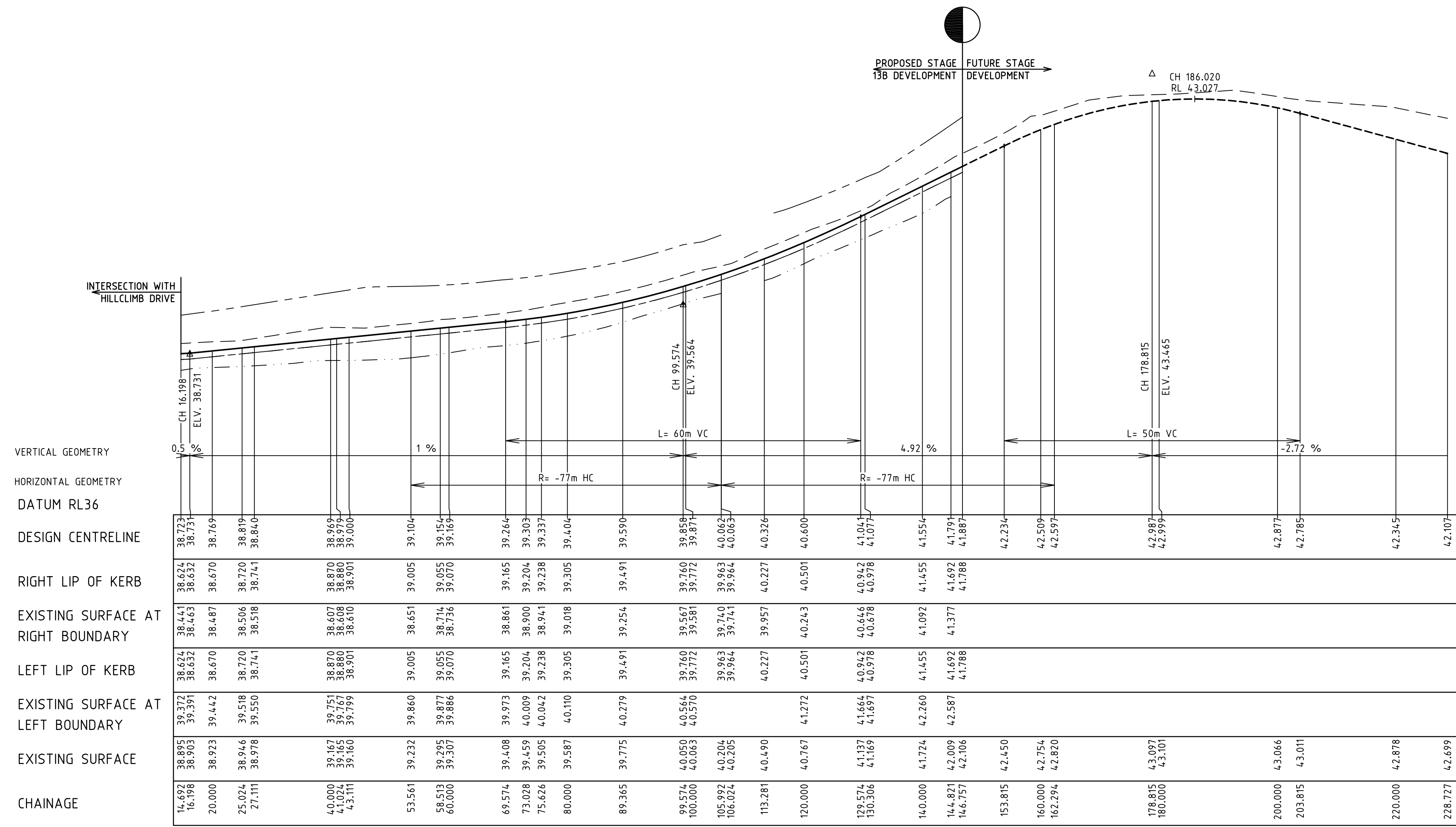
Estuary
Stage 13B
City Of Greater Geelong
Roadworks and Drainage
Setout Information Plan

Drawing No. 0250EHL-13B-08 Rev C
Sheet No. 8 of 19

Approved for Construction

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



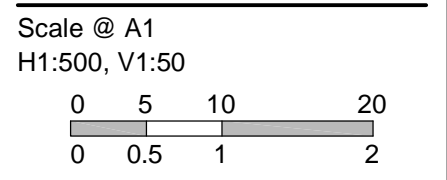
ASCENT AVENUE LONGITUDINAL SECTION

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REVISION	DATE	DES/DFT	APPD
C	09.01.12	CB/CB	JG
B	05.11.11	CB/CB	JG
A	24.08.11	CB/CB	JG

Principal
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 Southbank, Victoria 3006

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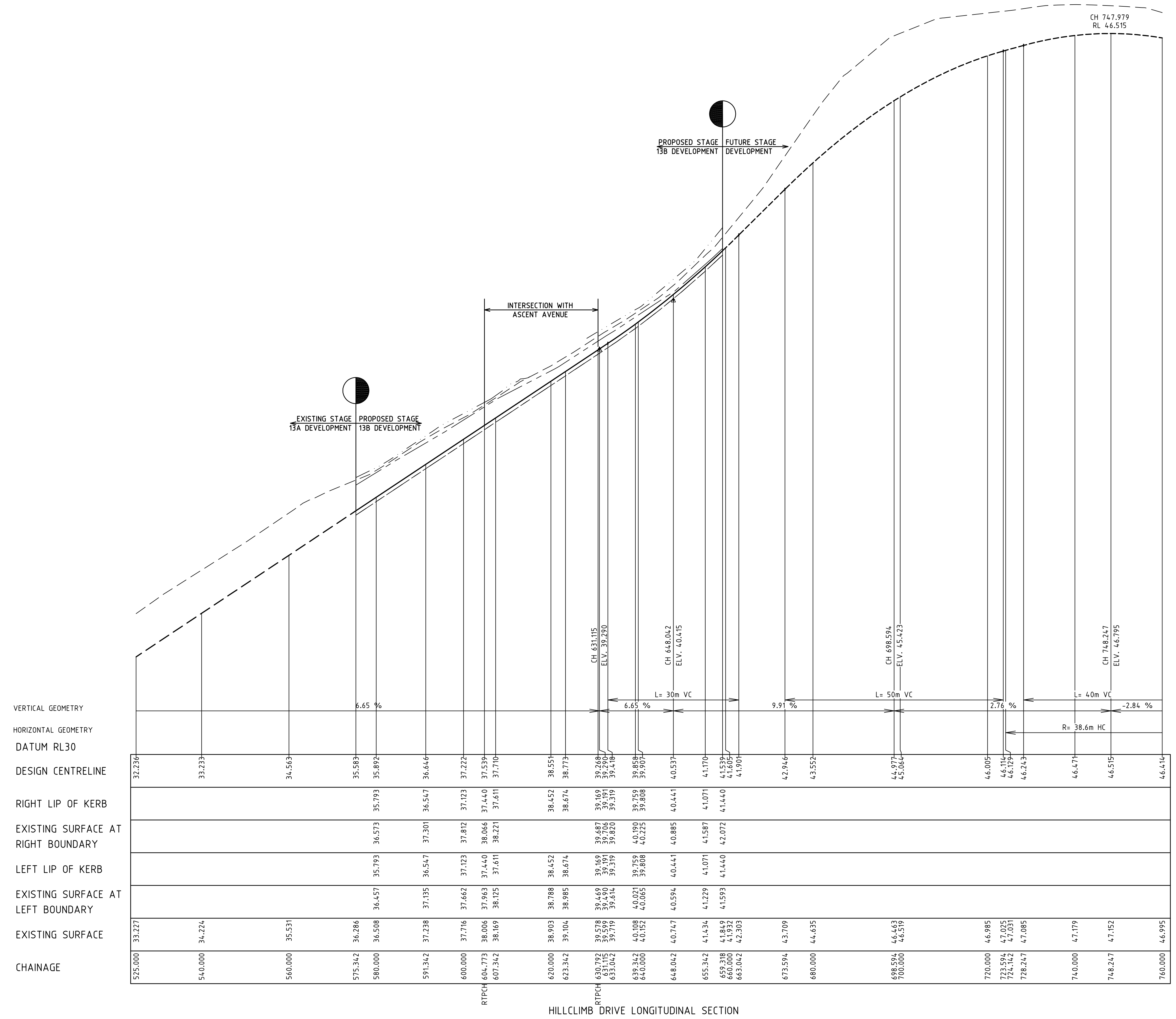
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Estuary
 Stage 13B
 City Of Greater Geelong
 Roadworks and Drainage
 Longitudinal Sections - 1

Drawing No. 0250EHL-13B-09 Rev C
 Sheet No. 9 of 19

Approved for Construction

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



REVISION	DATE	DES/DFT	APPD
C	09.01.12	CB/CB	JG
B	05.11.11	CB/CB	JG
A	24.08.11	CB/CB	JG

MINOR AMENDMENTS
ISSUED TO COUNCIL FOR APPROVAL
ISSUED TO COUNCIL FOR APPROVAL

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

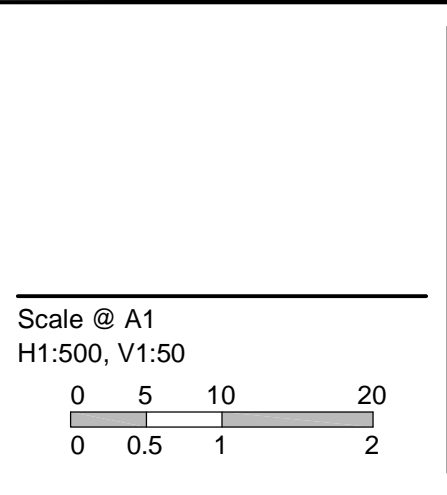
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Perth +61 8 9479 1000

Estuary
Stage 13B
City of Greater Geelong
Roadworks and Drainage
Longitudinal Sections - 2

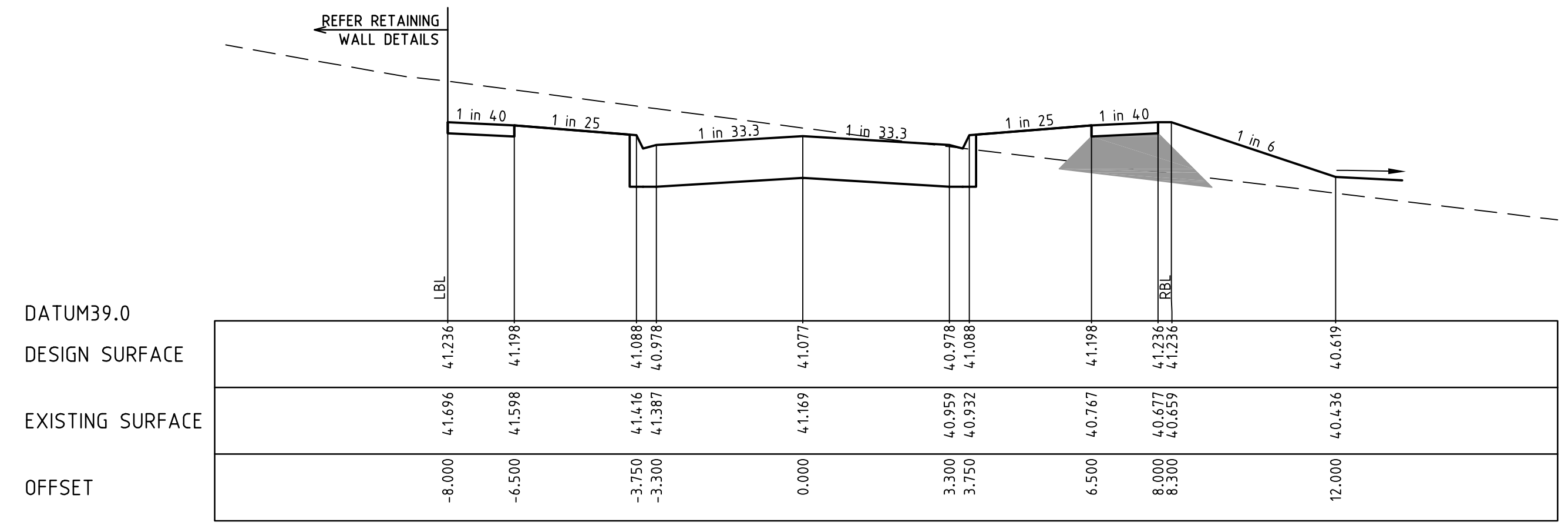
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Sheet No. 10 of 19

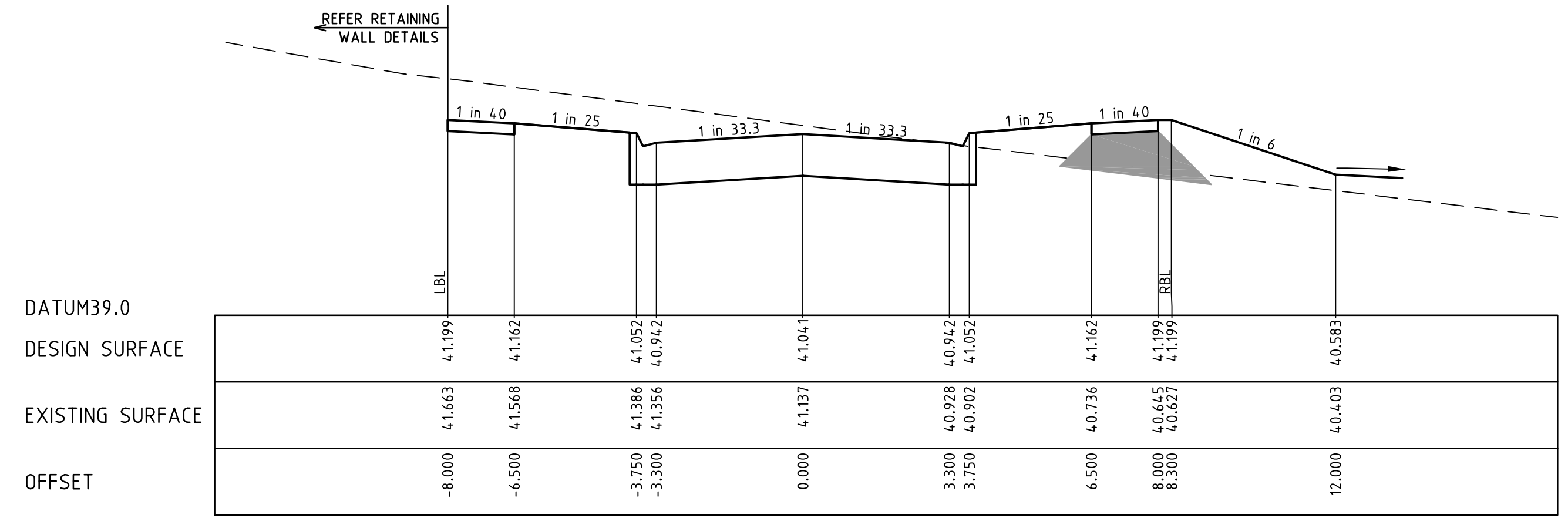
Approved for Construction

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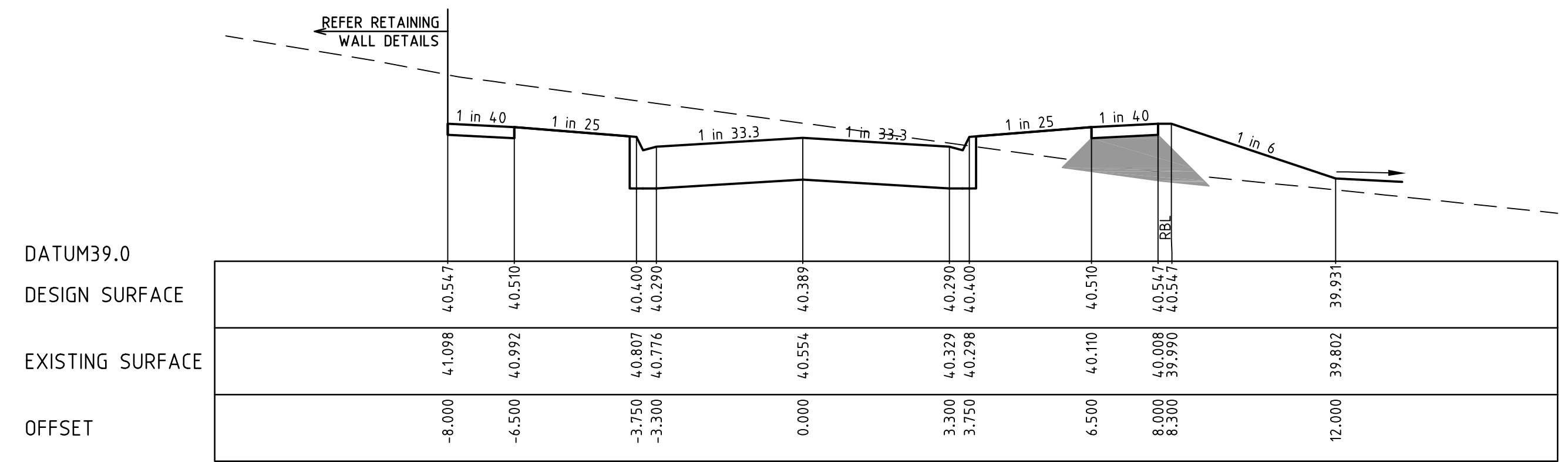
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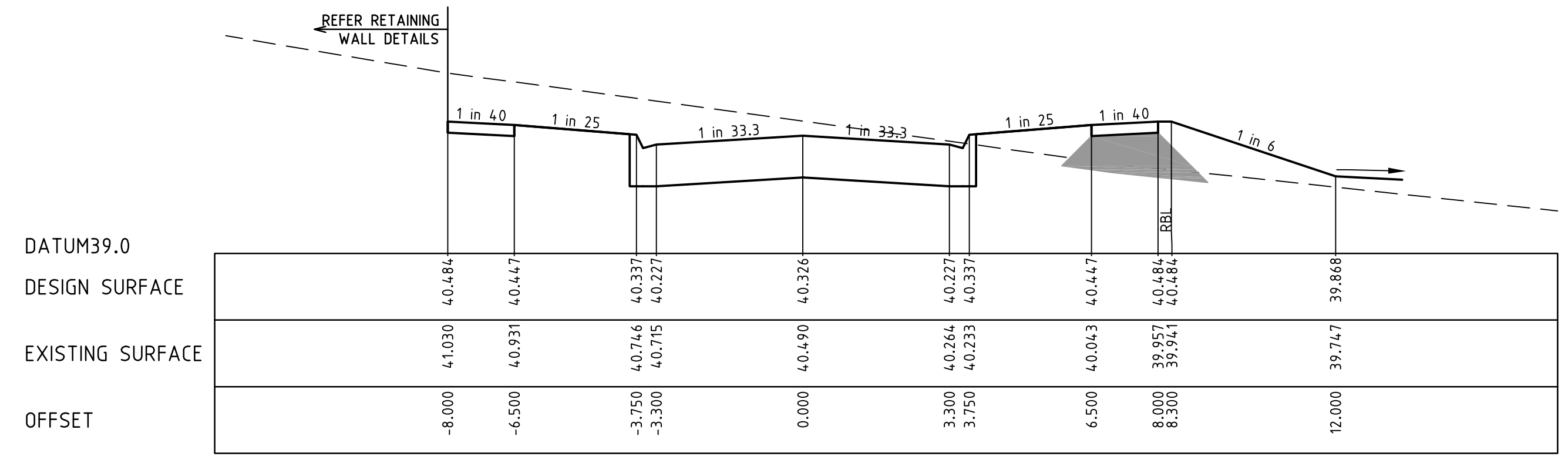
CH 130.306



CH 129.574

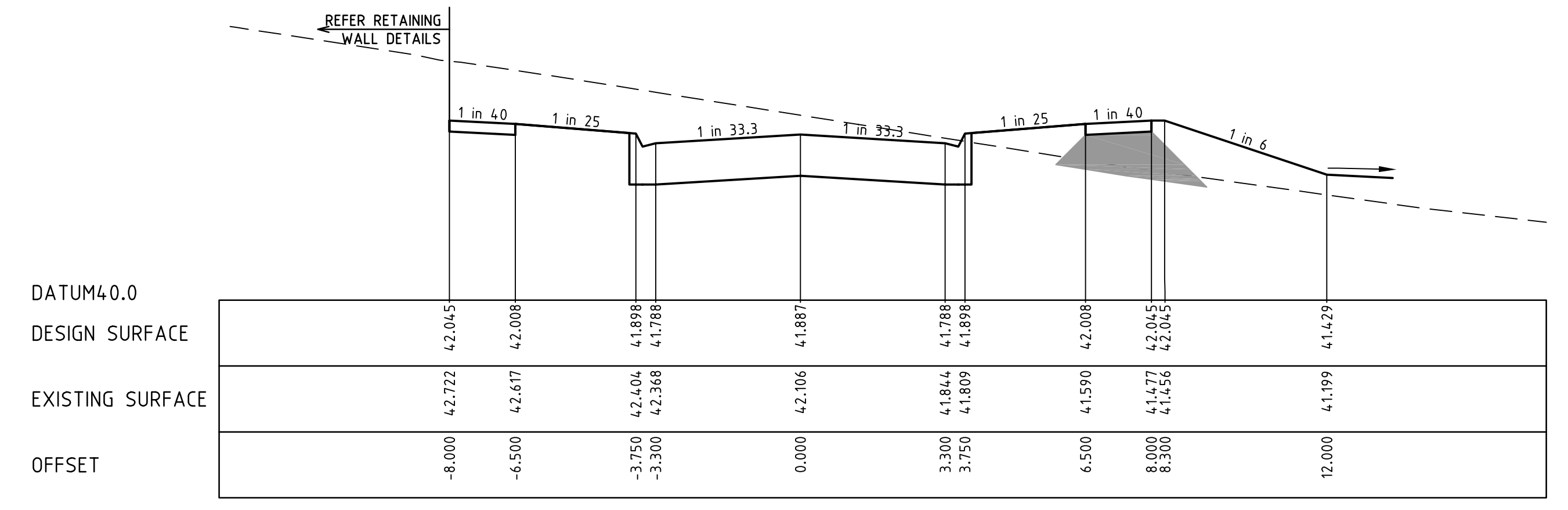


CH 114.897

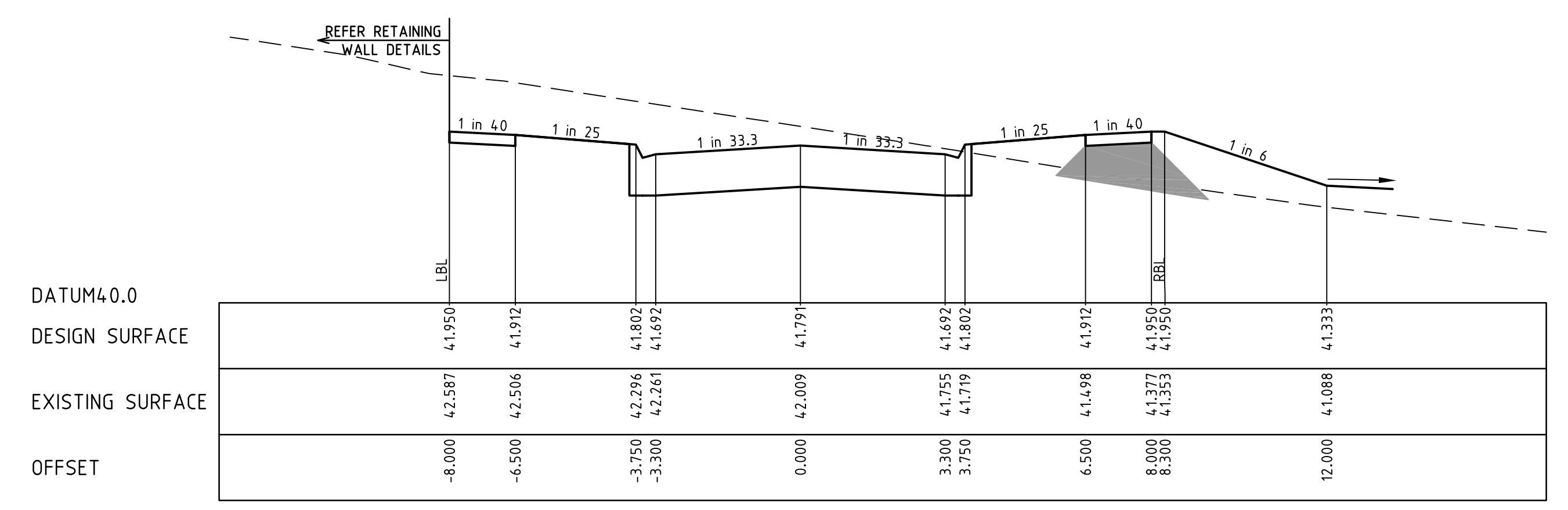


CH 113.281

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



CH 146.757



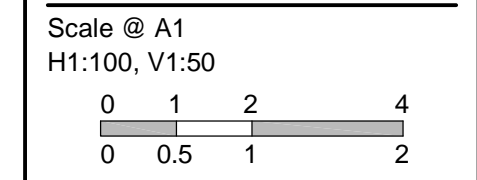
CH 144.821

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REVISION	DATE	DES/DFT	APPD
C	09.01.12	CB/CB	JG
B	05.11.11	CB/CB	JG
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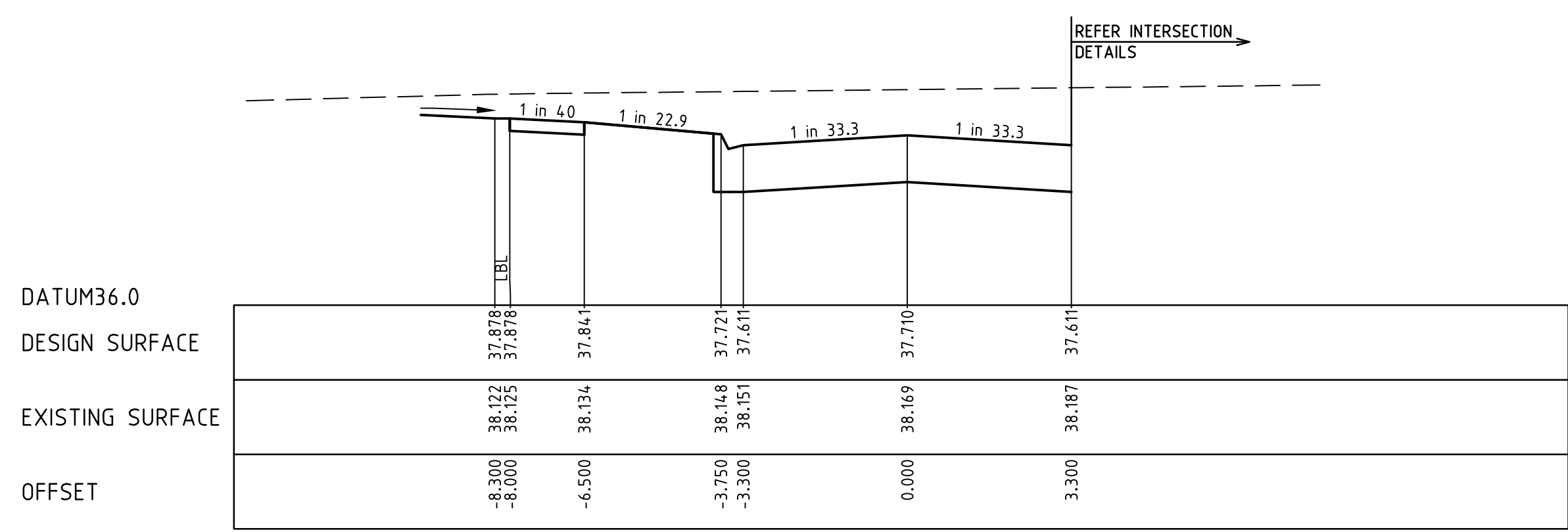
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Estuary
Stage 13B
City Of Greater Geelong
Roadworks and Drainage
Cross Sections - Ascent Avenue - 3

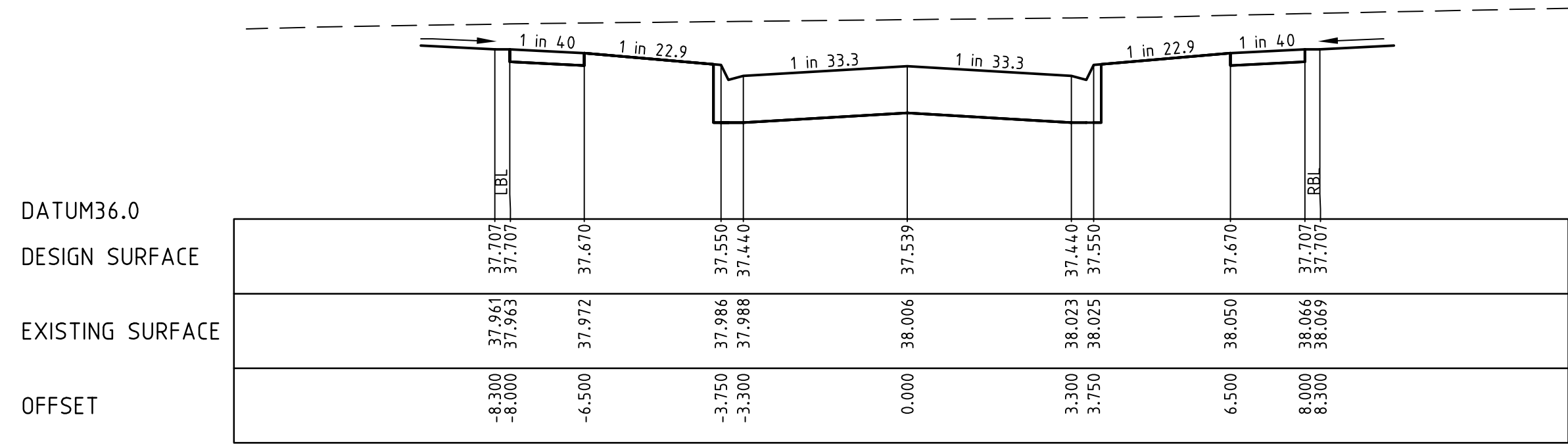
Drawing No. **0250EHL-13B-13** Rev C
Sheet No. 13 of 19

Approved for Construction

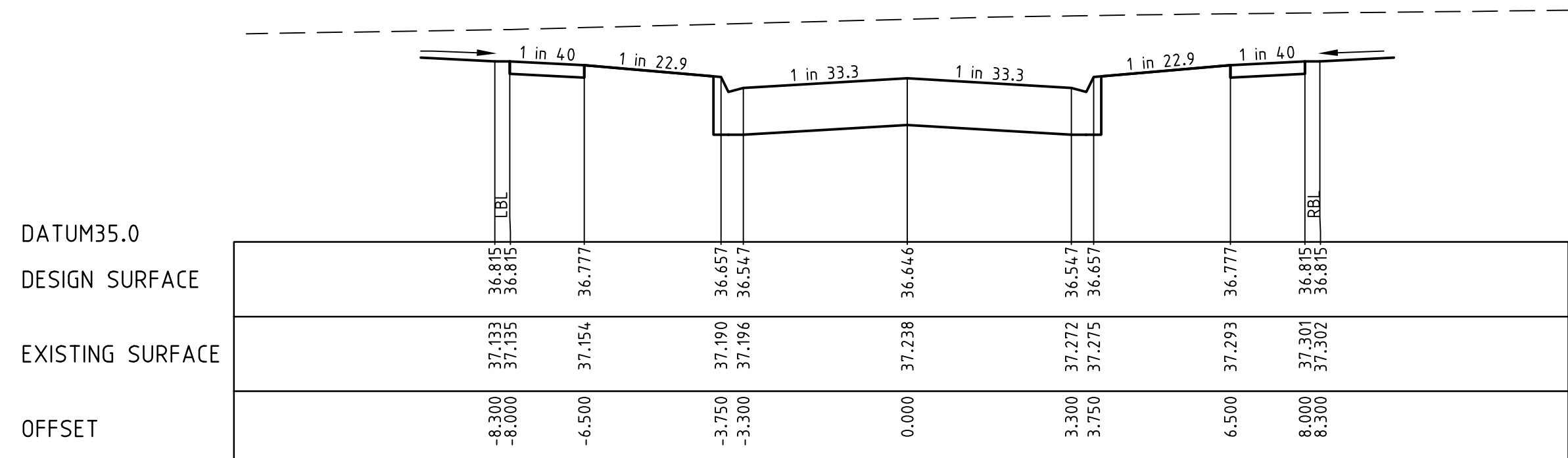
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---	DESIGN LINE
---	FUTURE DESIGN LINE



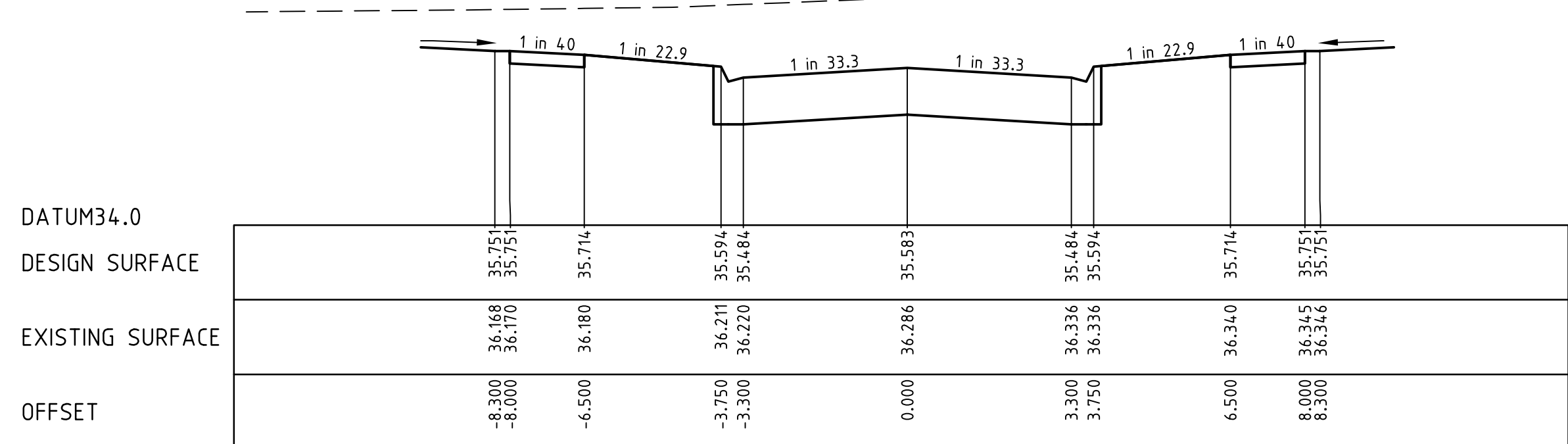
CH 607.342



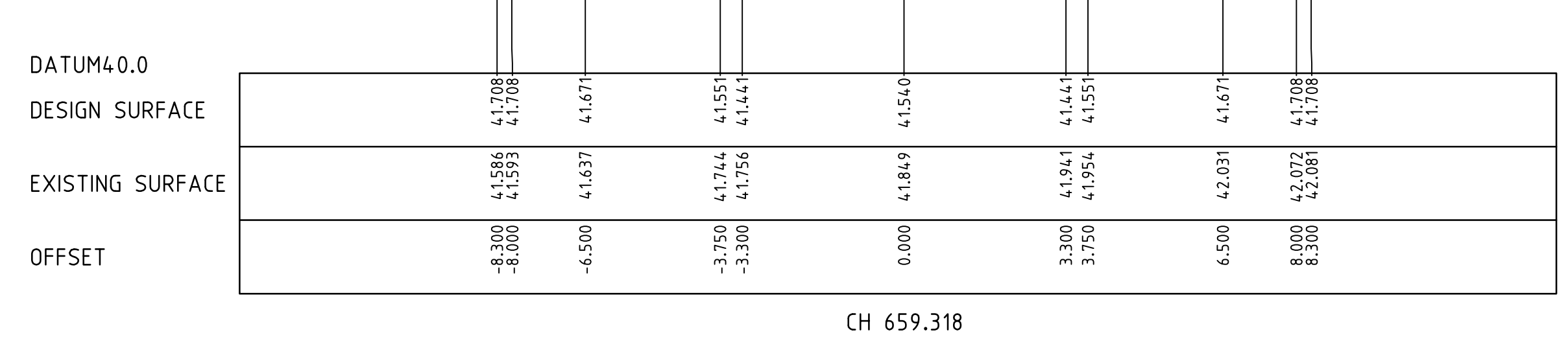
LTPCH 604.773



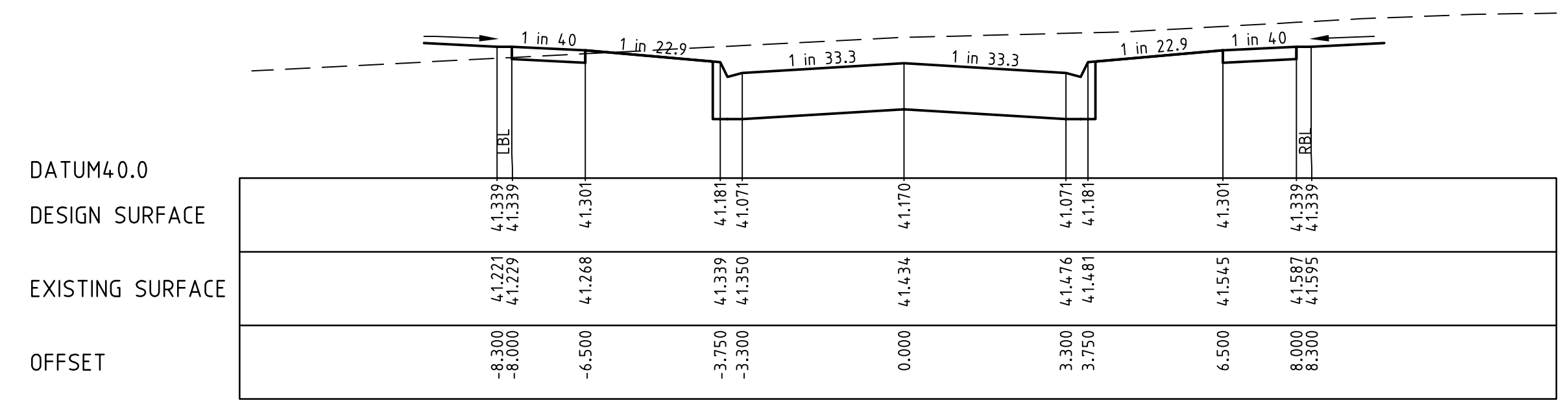
CH 591.342



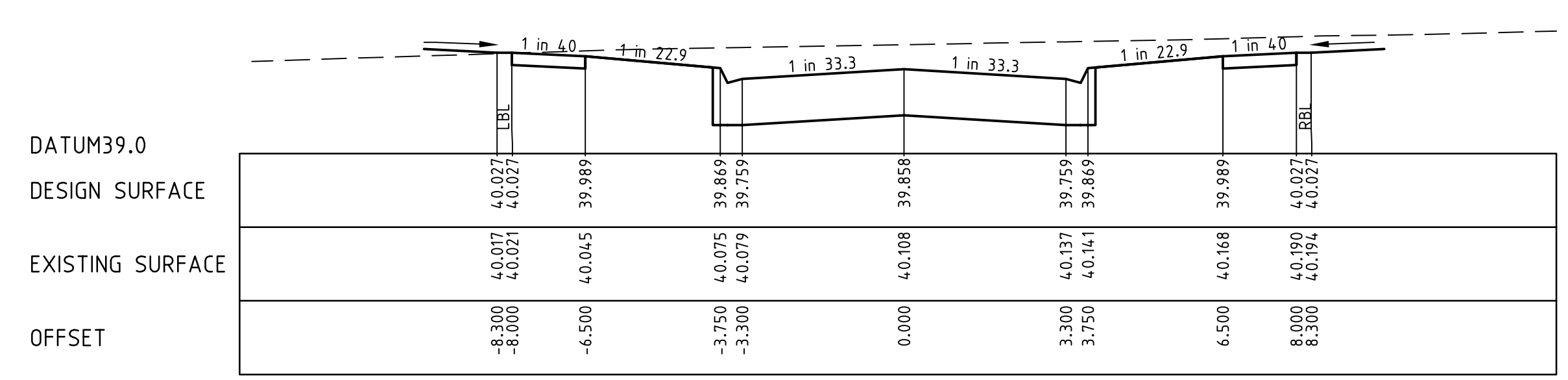
CH 575.342



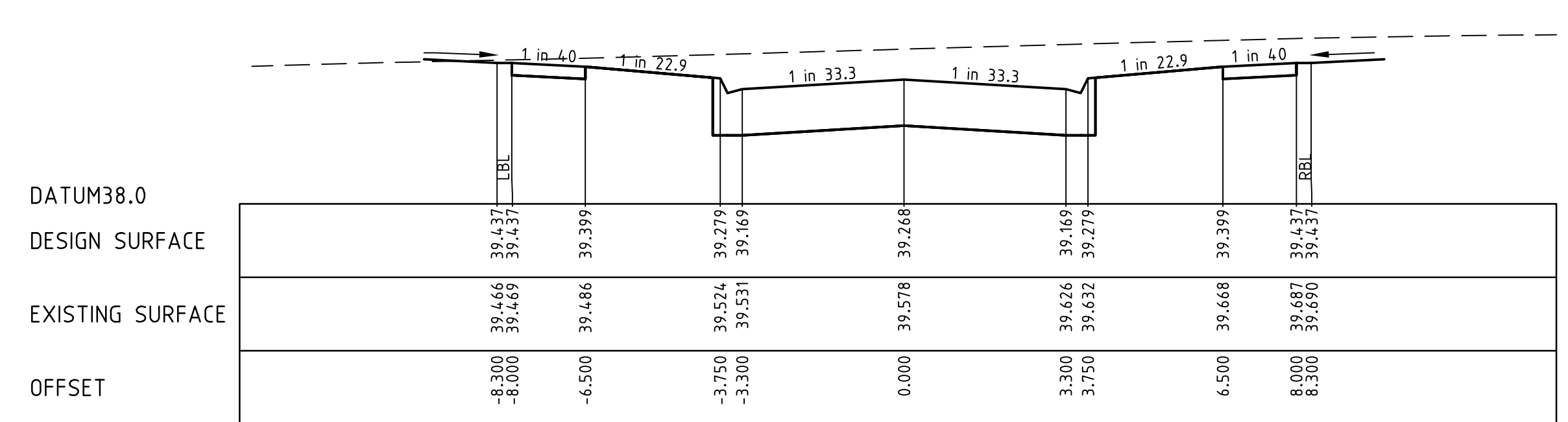
CH 659.318



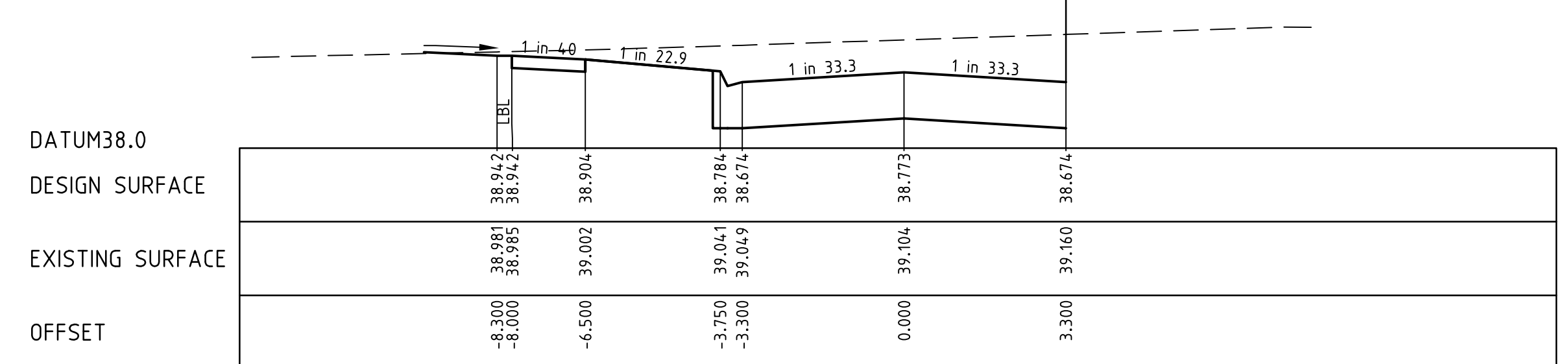
CH 655.342



CH 639.342



LTPCH 630.792



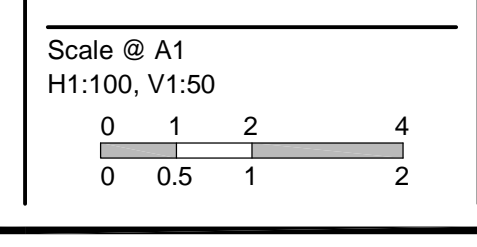
CH 623.342

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REVISION	DATE	DES/DF	APPD
C MINOR AMENDMENTS	09.01.12	CB/CB	JG
B ISSUED TO COUNCIL FOR APPROVAL	05.11.11	CB/CB	JG
A ISSUED TO COUNCIL FOR APPROVAL	24.08.11	CB/CB	JG

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

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



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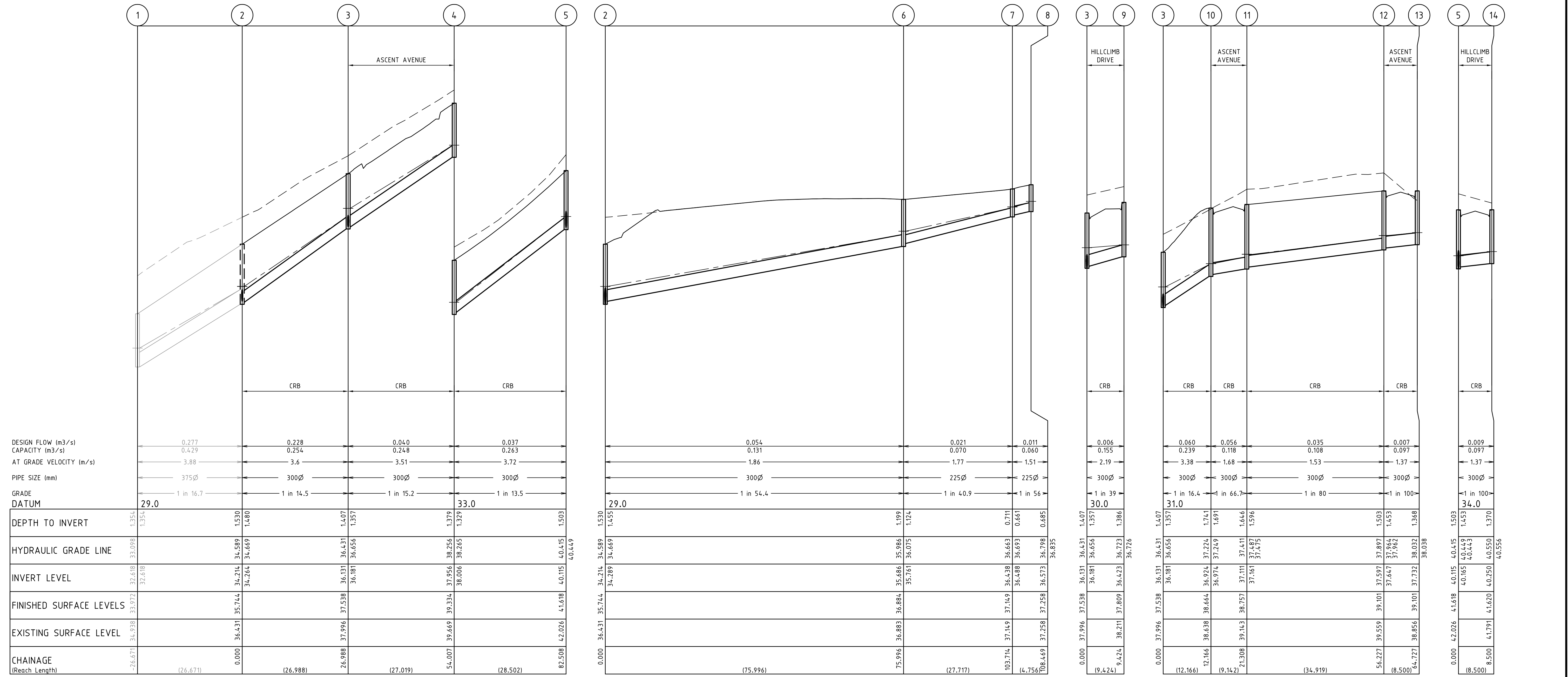
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Canberra +61 2 6126 1900 Darwin +61 8 1573 0100

Estuary
Stage 13B
City Of Greater Geelong
Roadworks and Drainage
Cross Sections - Hillclimb Drive

Drawing No. 0250EHL-13B-14 **Rev C**
Sheet No. 14 of 19

Approved for Construction

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



DEPTH TO INVERT	HYDRAULIC GRADE LINE	INVERT LEVEL	FINISHED SURFACE LEVELS	EXISTING SURFACE LEVEL	CHAINAGE (Reach Length)
1.354		32.618	33.972	34.938	-26.671
1.530		34.214	35.744	36.431	0.000
1.407		36.131	37.538	37.996	26.988
1.329		37.956	39.334	39.669	54.007
1.503		40.115	41.618	42.026	82.508
1.455		34.289	35.744	36.431	0.000
1.199		35.686	36.884	36.883	75.996
0.711		36.438	37.169	37.169	103.714
0.661		36.693	36.488	37.258	108.469
0.685		36.798	37.258	37.258	108.469
1.357		36.656	37.538	37.996	0.000
1.386		36.723	38.211	38.211	9.424
1.407		36.431	37.538	37.996	0.000
1.596		37.411	38.751	39.143	21.308
1.503		37.897	39.001	39.559	56.227
1.453		37.962	38.856	38.856	84.727
1.368		38.032	39.001	39.001	84.727
1.503		40.415	41.618	42.026	0.000
1.453		40.443	40.65	41.791	8.500
1.370		40.550	41.620	41.791	8.500
1.370		40.556	41.620	41.791	8.500

REVISION	DATE	DES/DFT	APPD
C	09.01.12	CB/CB	JG
B	05.11.11	CB/CB	JG
A	24.08.11	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
August 2011

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H1:500, V1:500

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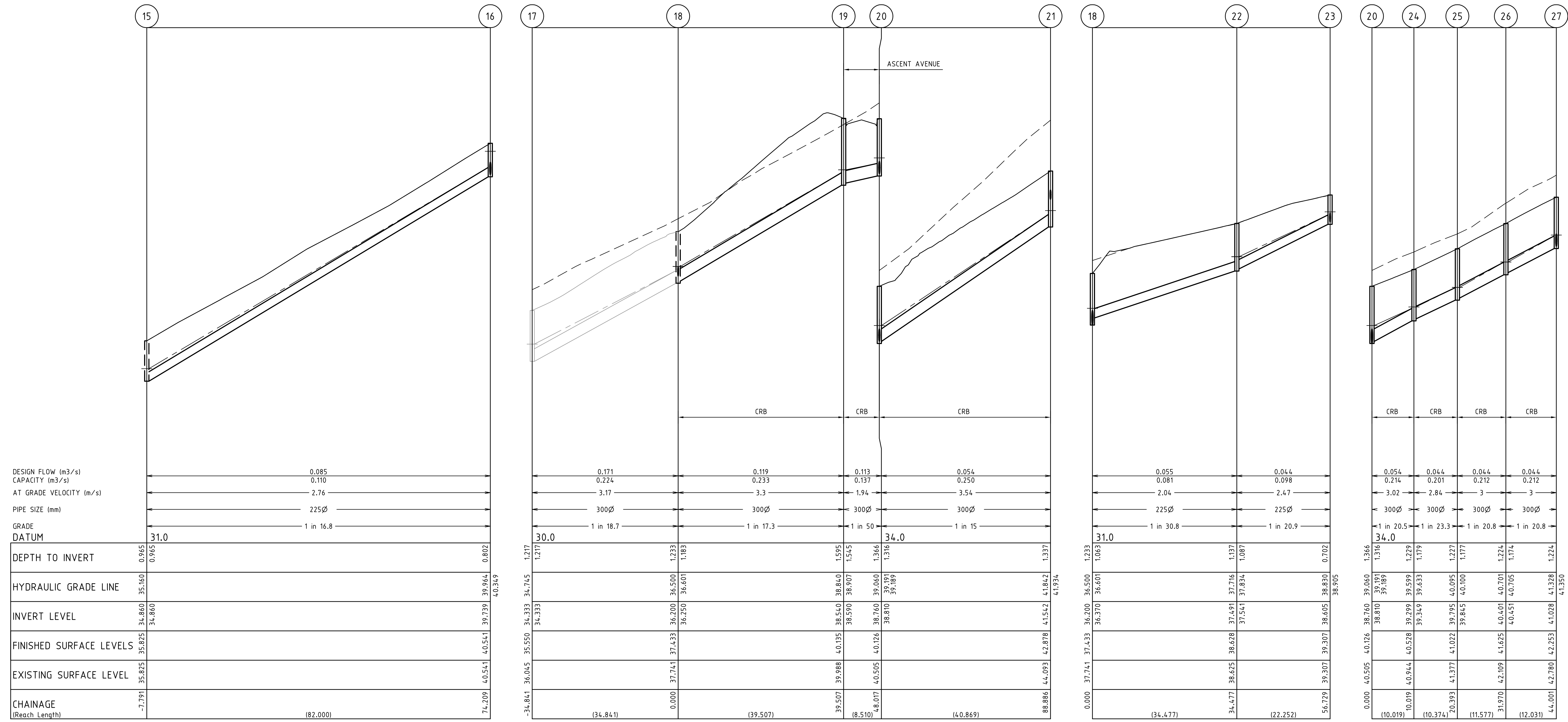
Estuary
Stage 13B
City Of Greater Geelong
Roadworks and Drainage
Drainage Longitudinal Sections - 1

Drawing No. **0250EHL-13B-15** Rev C
Sheet No. 15 of 19

Approved for Construction

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



DESIGN FLOW (m ³ /s)	CAPACITY (m ³ /s)	AT GRADE VELOCITY (m/s)	PIPE SIZE (mm)	GRADE DATUM
0.085	0.110	2.76	225Ø	31.0
0.171	0.224	3.17	300Ø	30.0
0.119	0.233	3.3	300Ø	34.0
0.113	0.137	1.94	300Ø	31.0
0.054	0.250	3.54	300Ø	34.0
0.055	0.081	2.04	225Ø	31.0
0.044	0.098	2.47	225Ø	31.0
0.054	0.214	3.02	300Ø	34.0
0.044	0.201	2.84	300Ø	34.0
0.044	0.212	3	300Ø	34.0
0.044	0.212	3	300Ø	34.0

DEPTH TO INVERT	HYDRAULIC GRADE LINE	INVERT LEVEL	FINISHED SURFACE LEVELS	EXISTING SURFACE LEVEL	CHAINAGE (Reach Length)
0.965	35.160	34.860	35.825	35.825	-7.791
0.965	40.349	39.964	40.541	40.541	74.209
1.217	34.745	34.333	35.550	36.045	-34.841
1.217	36.500	34.333	37.433	37.741	0.000
1.595	38.840	4.195	39.507	39.988	39.507
1.545	38.907	38.590	40.195	40.126	48.017
1.366	39.060	38.760	40.126	40.505	48.017
1.316	39.189	38.810	40.505	44.093	88.886
1.337	41.842	41.542	42.878	44.093	88.886
1.337	41.934	41.542	42.878	44.093	88.886
1.233	36.500	36.200	37.433	37.741	0.000
1.063	36.401	36.370	37.433	38.628	34.477
1.137	37.716	37.491	38.628	38.625	34.477
1.087	37.834	37.544	38.625	41.022	70.393
0.702	38.830	38.605	39.307	39.307	56.779
0.702	38.905	38.605	39.307	42.109	31.970
1.366	39.060	38.760	40.126	42.109	31.970
1.316	39.189	38.810	40.505	42.780	44.001
1.229	39.599	39.349	40.528	42.780	44.001
1.179	39.633	39.349	40.528	42.780	44.001
1.227	40.095	39.795	41.022	42.780	44.001
1.177	40.100	39.845	41.022	42.780	44.001
1.224	40.701	40.401	41.625	42.780	44.001
1.174	40.705	40.451	41.625	42.780	44.001
1.224	41.228	41.028	42.253	42.780	44.001
1.224	41.350	41.028	42.253	42.780	44.001

REVISION	DATE	DES/DFT	APPD
C	09.01.12	CB/CB	JG
B	05.11.11	CB/CB	JG
A	24.08.11	CB/CB	JG

estuary
LEOPOLD PT

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

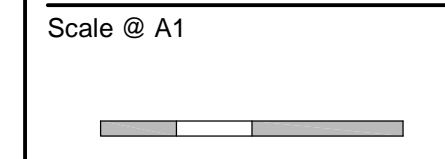
Designed
C. Barker

Drawn
C. Barker

Checked
C. Birkett

Authorised
J. Golden

Date
August 2011



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Estuary
Stage 13B
City Of Greater Geelong
Roadworks and Drainage
Drainage Longitudinal Sections - 2

Drawing No. **0250EHL-13B-16** Rev C
Sheet No. 16 of 19

Approved for Construction

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

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)				
2	EXISTING PIT			300	34.264	375	34.214	35.744	1.530		CONNECT TO EXISTING PIT
3	SIDE ENTRY PIT	900	900	300	34.289	300	36.131	37.538	1.407	SD 440	
				300	36.181						
				300	36.181						
4	SIDE ENTRY PIT	900	900	300	38.006	300	37.956	39.334	1.379	SD 440	
5	SIDE ENTRY PIT	900	900	300	40.165	300	40.115	41.618	1.503	SD 440	
				300	40.285						
6	JUNCTION PIT	600	900	225	35.761	300	35.686	36.884	1.199	SD 425	
7	JUNCTION PIT	600	900	225	36.488	225	36.438	37.149	0.711	SD 425	
8	JUNCTION PIT	600	900	225		225	36.573	37.258	0.685	SD 425	
9	SIDE ENTRY PIT	900	900			300	36.423	37.809	1.386	SD 440	
10	SIDE ENTRY PIT	900	900	300	36.974	300	36.924	38.664	1.741	SD 440	
11	SIDE ENTRY PIT	900	900	300	37.161	300	37.111	38.757	1.646	SD 440	
12	SIDE ENTRY PIT	900	900	300	37.647	300	37.597	39.101	1.503	SD 440	
13	SIDE ENTRY PIT	900	900			300	37.732	39.101	1.368	SD 440	
14	SIDE ENTRY PIT	900	900			300	40.250	41.620	1.370	SD 440	
15	EXISTING PIT			225	34.860			35.825	0.965		
16	JUNCTION PIT	600	900	300	39.789	225	39.739	40.541	0.802	SD 425	
18	EXISTING PIT			300	36.250	300	36.200	37.433	1.233		CONNECT TO EXISTING PIT
				225	36.370						
19	SIDE ENTRY PIT	900	900	300	38.590	300	38.540	40.135	1.595	SD 440	
20	SIDE ENTRY PIT	900	900	300	38.810	300	38.760	40.126	1.366	SD 440	
				300	38.810						
21	JUNCTION PIT	900	900	225	42.202	300	41.542	42.878	1.337	SD 420	
22	JUNCTION PIT	600	900	225	37.541	225	37.491	38.628	1.137	SD 425	
23	JUNCTION PIT	600	900	225	38.655	225	38.605	39.307	0.702	SD 425	
24	JUNCTION PIT	900	900	300	39.349	300	39.299	40.528	1.229	SD 420	
25	JUNCTION PIT	900	900	300	39.845	300	39.795	41.022	1.227	SD 420	
26	JUNCTION PIT	900	900	300	40.451	300	40.401	41.625	1.224	SD 420	
27	JUNCTION PIT	900	900	300	41.078	300	41.028	42.253	1.224	SD 420	

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REVISION	DATE	DES/DFT	APPD
C	09.01.12	CB/CB	JG
B	05.11.11	CB/CB	JG
A	24.08.11	CB/CB	JG



Principal
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Level 1, 6 Riverside Quay
Southbank, Victoria 3006

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

Scale @ A1



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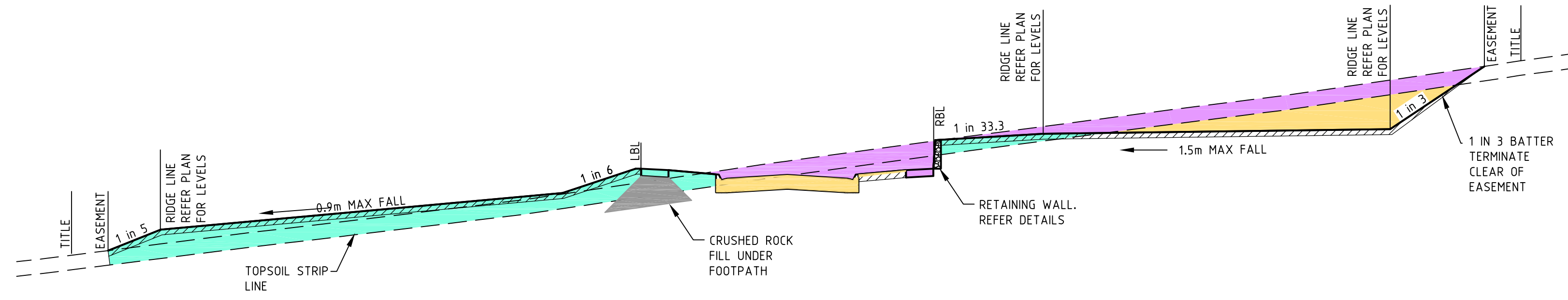
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Estuary
Stage 13B
City Of Greater Geelong
Roadworks and Drainage
Drainage Pit Schedule

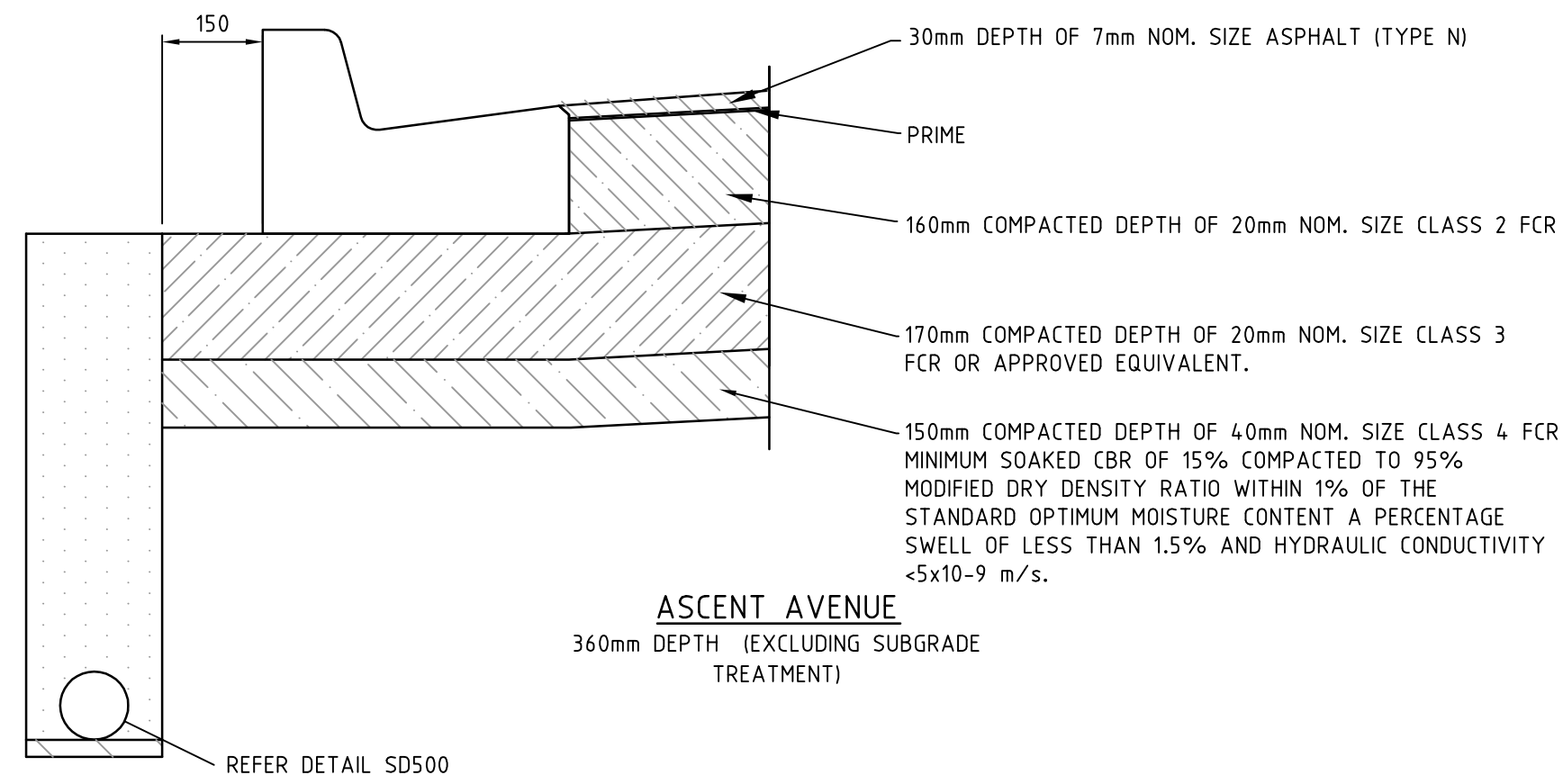
Drawing No. 0250EHL-13B-17 **Rev C**
Sheet No. 17 of 19

Approved for Construction

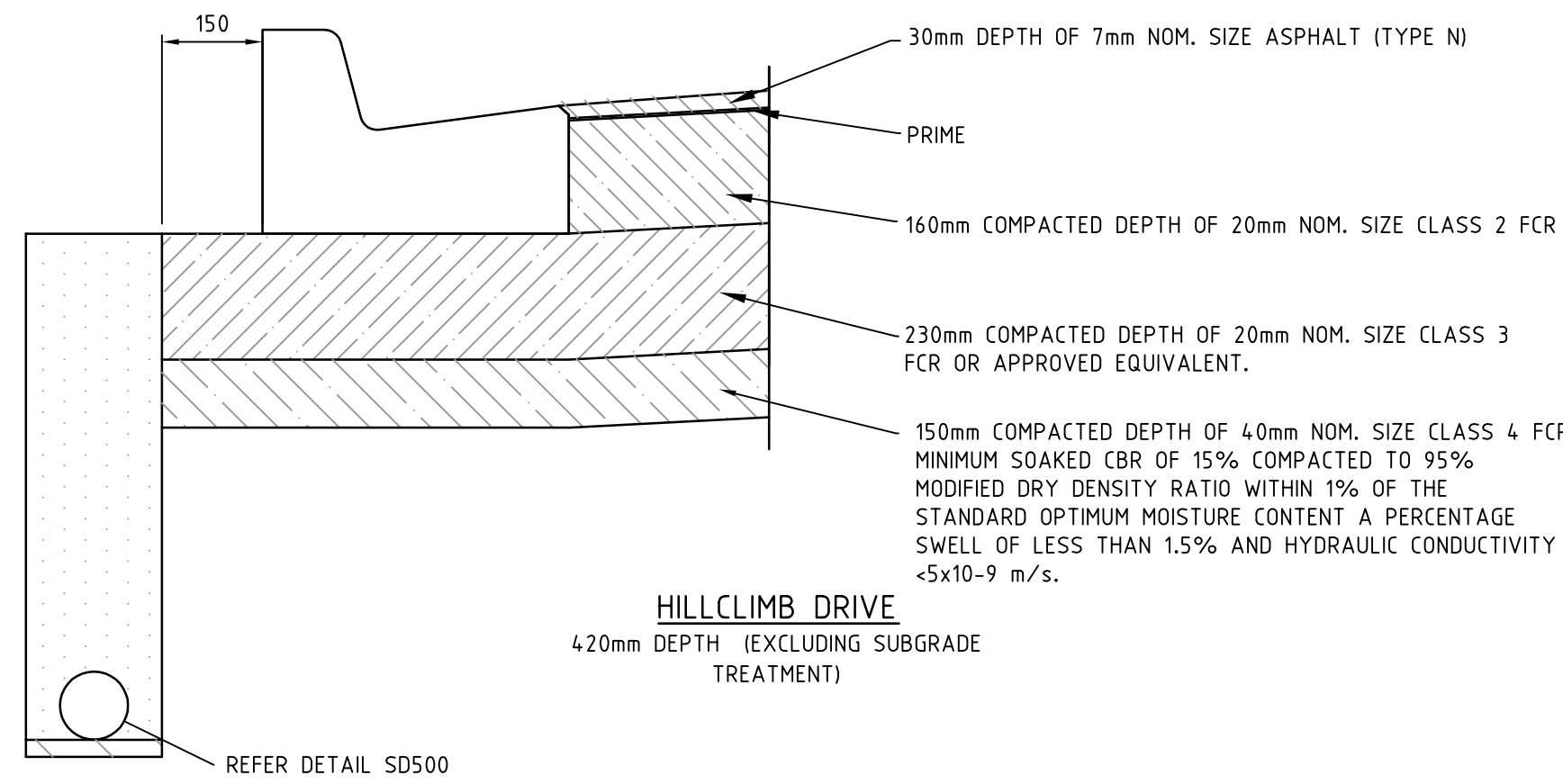


TYPICAL RETAINING WALL SECTION ASCENT AVENUE
NOT TO SCALE

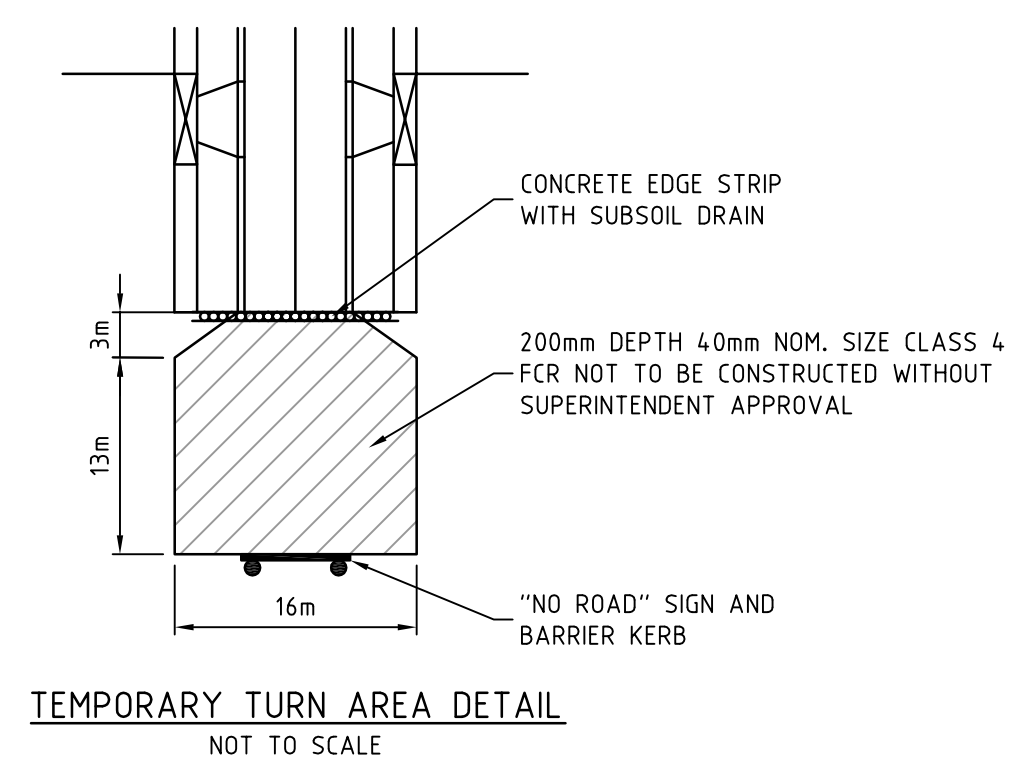
- CUT AREAS
- FILLS AREAS
- TOPSOIL STRIP
- CUT AREA AND RESPREAD TOPSOIL TO A 150mm DEPTH



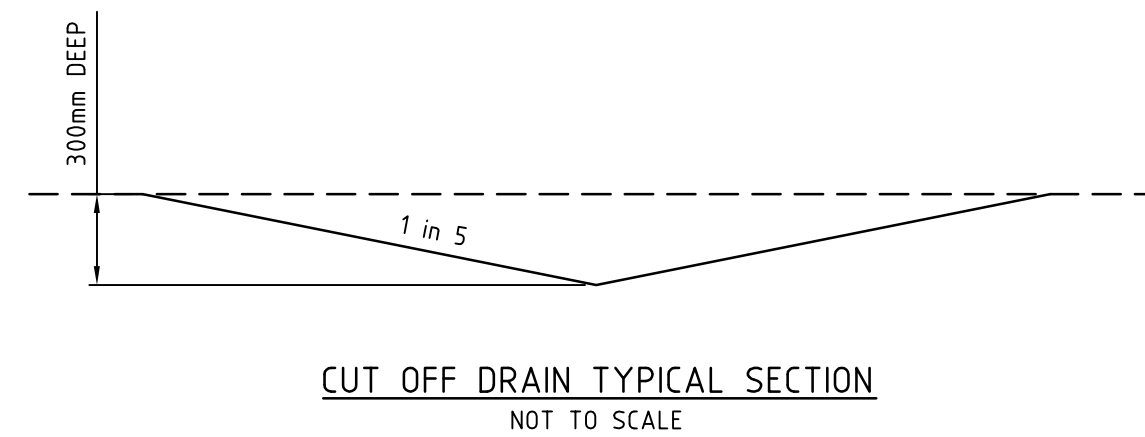
ASCENT AVENUE
360mm DEPTH (EXCLUDING SUBGRADE TREATMENT)



HILLCLIMB DRIVE
420mm DEPTH (EXCLUDING SUBGRADE TREATMENT)



TEMPORARY TURN AREA DETAIL
NOT TO SCALE



CUT OFF DRAIN TYPICAL SECTION
NOT TO SCALE

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REVISION	DATE	DES/DFT	APPD
D	31.01.12	CB/CB	JG
C	09.01.12	CB/CB	JG
B	05.11.11	CB/CB	JG
A	24.08.11	CB/CB	JG

Principal
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Southbank, Victoria 3006

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

Scale @ A1
AS SHOWN

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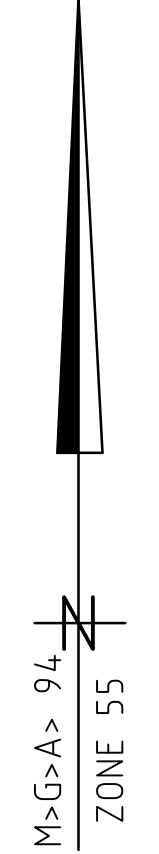
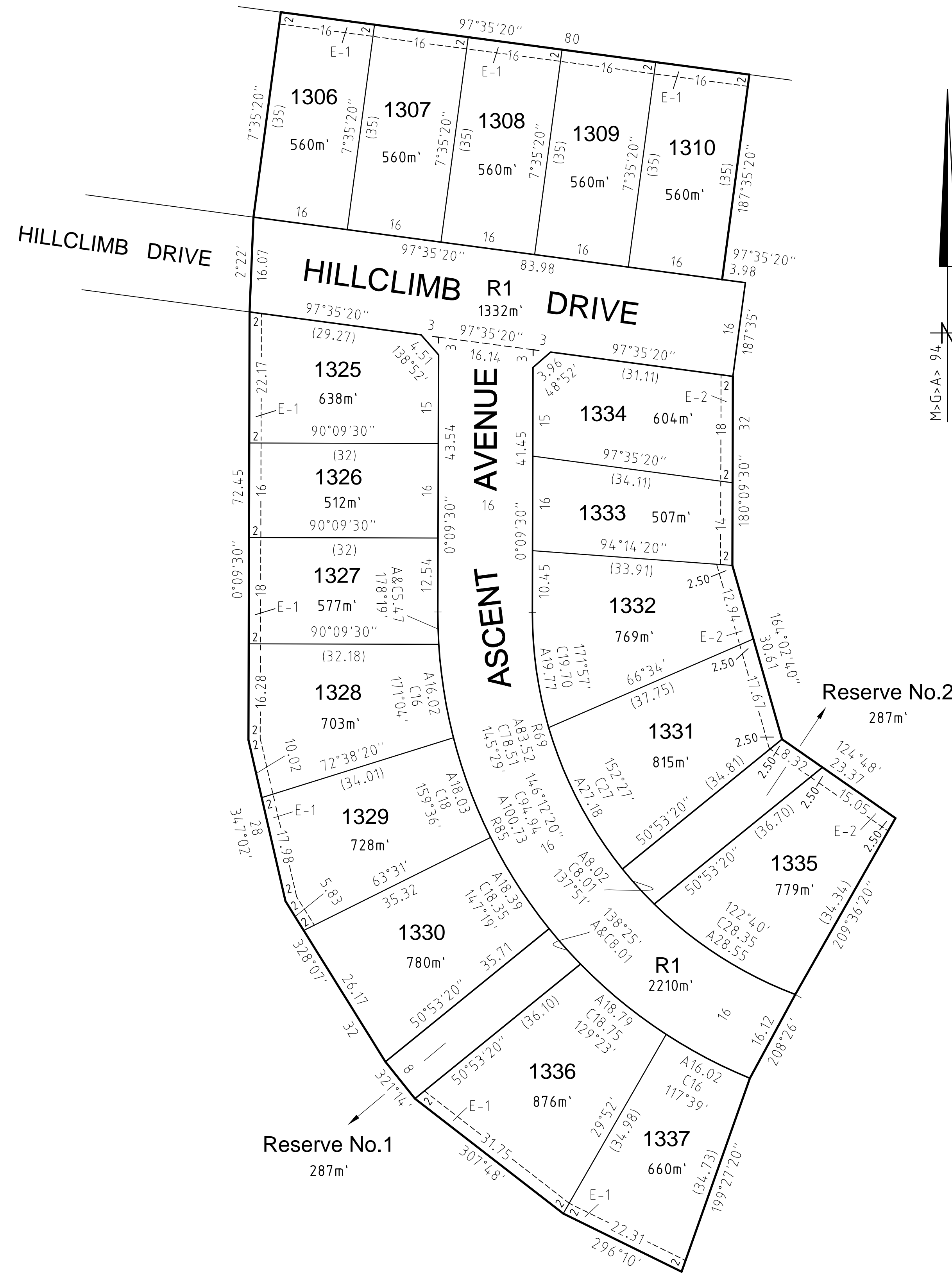
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Estuary
Stage 13B
City Of Greater Geelong
Roadworks and Drainage
Details

Drawing No. 0250EHL-13B-18 **Rev D**

Sheet No. 18 of 19

Approved for Construction

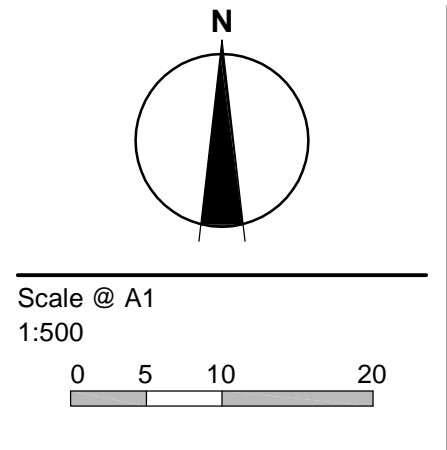


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REVISION	DATE	DES/DFT	APPD
C	09.01.12	CB/CB	JG
B	05.11.11	CB/CB	JG
A	24.08.11	CB/CB	JG

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



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Estuary
Stage 13B
City Of Greater Geelong
Roadworks and Drainage
Subdivision Setout Plan

Drawing No. 0250EHL-13B-19 Rev C
Sheet No. 19 of 19

Approved for Construction

LEGEND - SEWER PLAN

- STORMWATER DRAIN & PIT
- SEWER & MAINTENANCE STRUCTURES
- S— TYPE "A" JUMP UP
- S— TYPE "B" JUMP UP
- S— TYPE "C" SLIDE LINE
- S— OBLIQUE JUNCTION
- S— TYPE "A" SPECIAL
- S— TYPE "TM" SPECIAL
- S— TYPE "B" SPECIAL
- 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
- 141.34 EXISTING SURFACE LEVEL
- FS140.35 FINISHED BUILDING LINE LEVEL
- FR157.40 FINISHED RIDGE LINE LEVEL
- ▲ PERMANENT SURVEY MARK
- △ TEMPORARY BENCH MARK

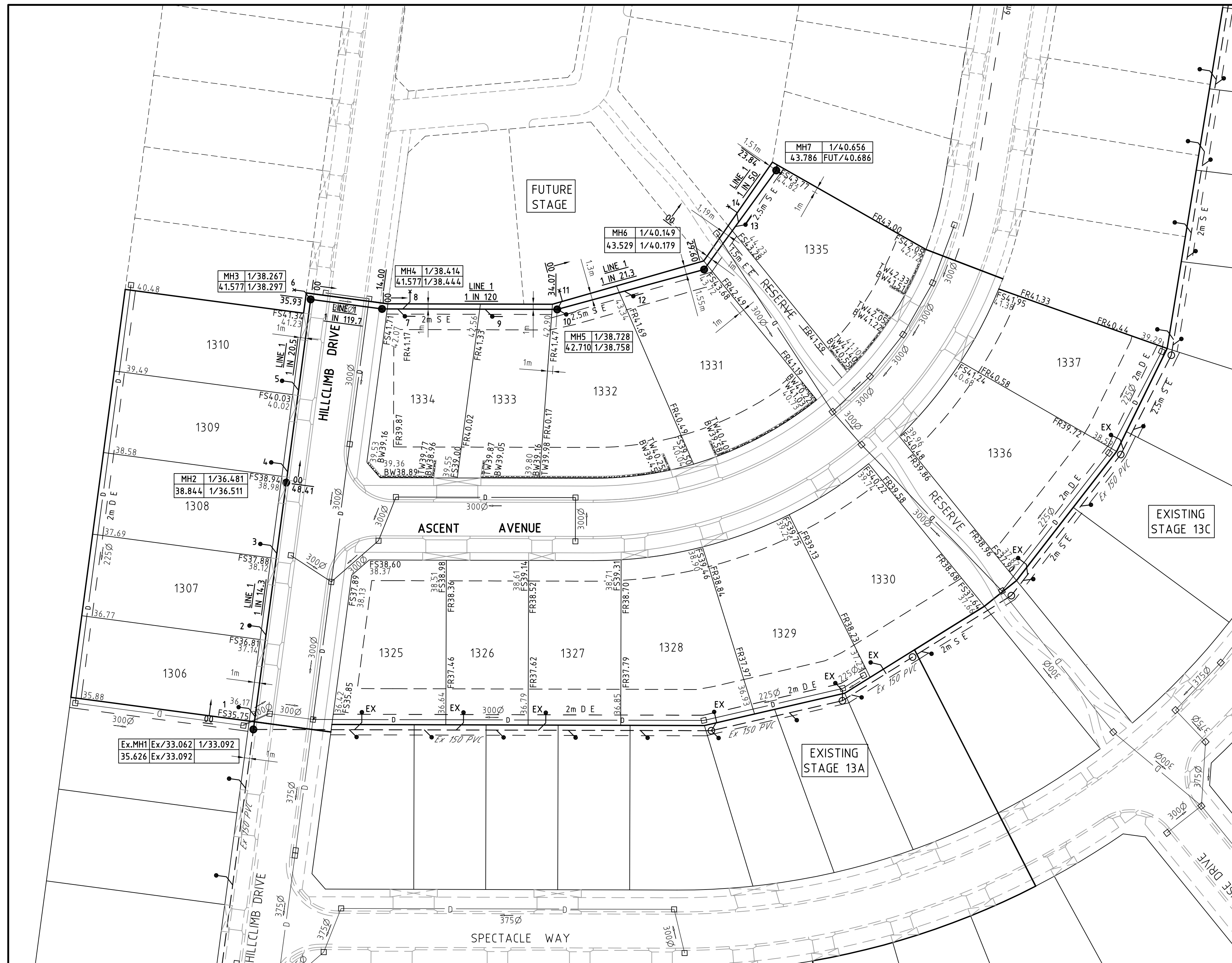
PIPE TYPES

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

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

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

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



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

- SEWER**
- THE CONTRACTOR SHALL CORE CUT ALL HOLES INTO EXISTING PRECAST SEWER MAINTENANCE HOLES.
 - ALL FSL'S SHOWN IN MAINTENANCE HOLES INFORMATION BOX ARE TOP OF MANHOLE LEVELS.
 - ALL END OF LINES NOMINATED AS TMS ARE TO HAVE A TERMINAL MAINTENANCE SHAFT AS PER BARWON WATER STANDARD DRAWING 70095.
 - WHERE FUTURE SEWER MAINS ARE INDICATED A 150mm ACCESS COUPLING AND CAP ARE TO BE PLACED OUT OF THE MANHOLE.
 - WARNING: ENTRY INTO ANY MAINTENANCE HOLE IS CONTROLLED BY CONFINED SPACE REGULATIONS BEING "OCCUPATIONAL HEALTH & SAFETY (CONFINED SPACES) REGULATIONS 1996, STATUTORY RULE NO 148/1996 AND A.S. 2865 - 1995 SAFE WORKING IN CONFINED SPACES". PERSONS REQUIRING ACCESS TO ANY BARWON WATER MANHOLE AS PART OF THE DEVELOPER WORKS PROCESS MUST CONTACT THE SENIOR QUALITY AUDITOR PH (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
MOQLAP PM69	1000.00	50000.00	-	BRASS PLAQUE
MOQLAP PM321	9897.742000	48994.921	9.436	BRASS PLAQUE
MOQLAP PM302	10212.03	48959.504	22.180	BRASS PLAQUE

SURVEY CONTROL

TBM	EASTING	NORTHING	RL	DESCRIPTION
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ROD502	277448.31	5768946.60	28.62	ROD
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MOQLAP PM321	27704.0	5769480	9.436	BRASS PLAQUE
MOQLAP PM302	277310	5769280	22.180	BRASS PLAQUE

NEW SEWER MAINS

SIZE	TYPE	LENGTH
150	PVC SN8	187m

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)
HILLCLIMB DRIVE	SOUTH	2.10	SOUTH	2.70	NORTH	2.30	NORTH	1.70
ASCENT AVENUE	EAST	2.10	EAST	2.70	WEST	2.30	WEST	1.70

WORKS SHALL NOT COMMENCE UNTIL PLANS ARE SIGNED BY BARWON WATER

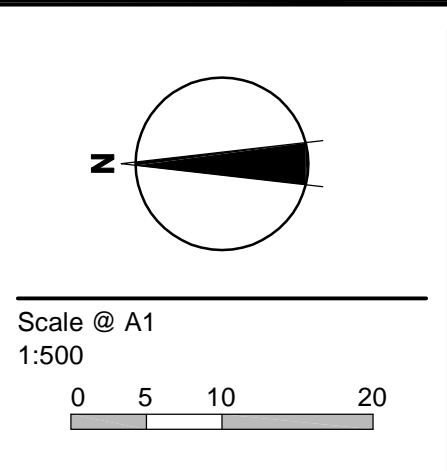
ACCEPTED BY BARWON WATER
 DEVELOPMENT SERVICES
 CO-ORDINATOR
 DEVELOPMENT & CONSERVATION

REVISION	DATE	DES/DFT	APPD
C	LOT 1335 REAR LOT LEVEL AMENDED	28.02.13	CB/CB JG
B	BARWON WATER AMENDMENTS	02.02.12	CB/CB JG
A	ISSUED TO BARWON WATER FOR APPROVAL	10.11.11	CB/CB JG

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

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

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



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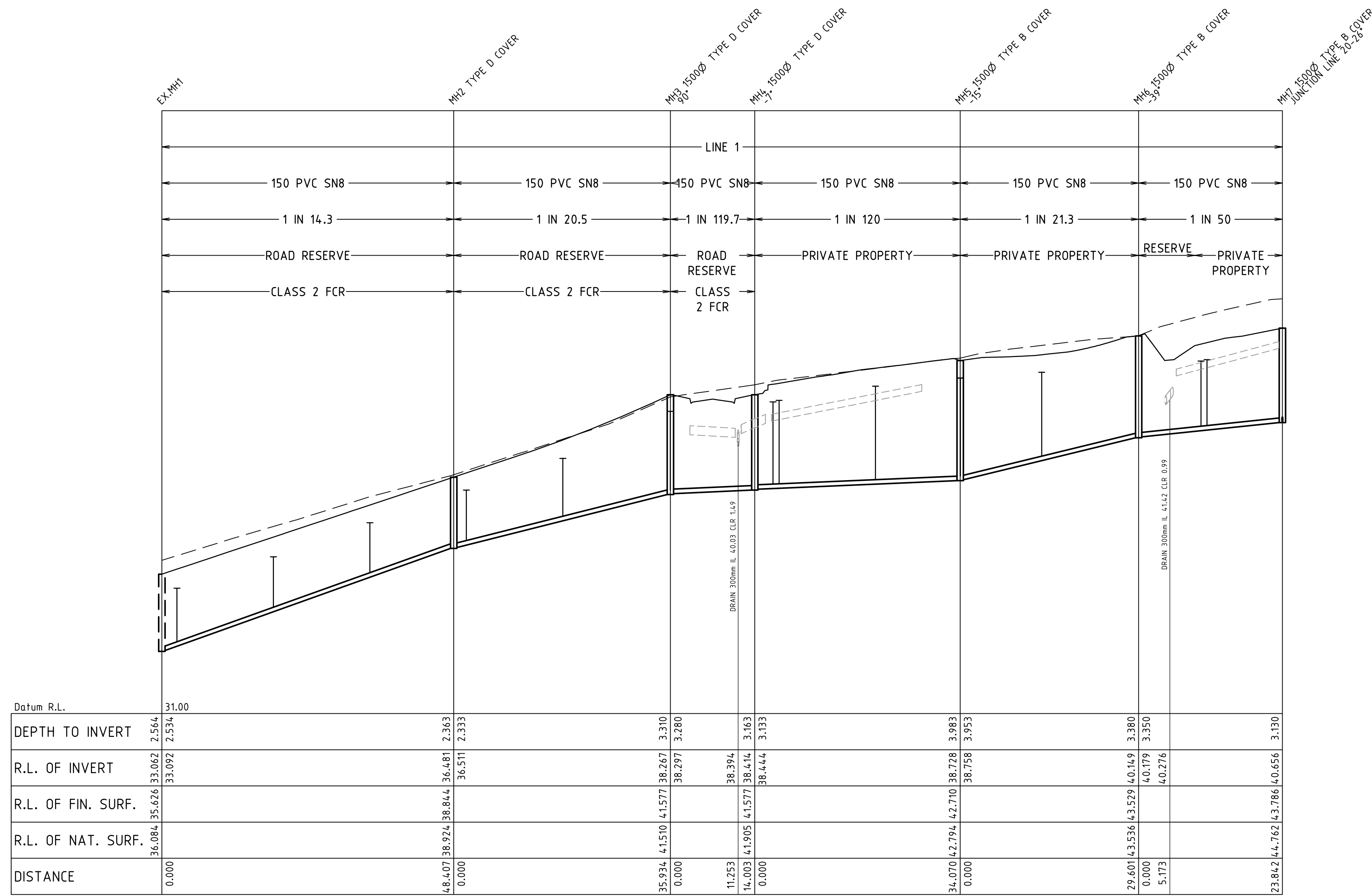
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 Brisbane +61 7 3831 8988 Melbourne +61 3 9869 0800
 Canberra +61 2 6126 1900 Traralgon +61 3 5173 0100

Barwon Region Water Authority
 Barwon Water No. L007453
 Estuary
 Stage 13B
 Sewer Detail Plan

Drawing No. 0250EHL-13B-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	EX.MH1	1	LOT 1306	A SPECIAL	2.50	33.23	35.16	1.93
1	EX.MH1	2	LOT 1307	A SPECIAL	18.50	34.38	36.20	1.82
1	EX.MH1	3	LOT 1308	A SPECIAL	34.50	35.52	37.33	1.81
1	MH2	4	LOT 1309	A SPECIAL	2.10	36.59	38.42	1.83
1	MH2	5	LOT 1310	A SPECIAL	18.10	37.40	39.47	2.07
1	MH3	6	LOT 1415	TM SPECIAL	0.00	38.27	41.03	2.76
1	MH4	7	LOT 1334	B SPECIAL	3.03	38.47	41.34	2.87
1	MH4	8	LOT 1414	TM SPECIAL	4.03	38.47	41.39	2.92
1	MH4	9	LOT 1333	B SPECIAL	20.03	38.61	41.86	3.25
1	MH5	11	LOT 1413	TM SPECIAL	0.00	38.73	42.13	3.41
1	MH5	10	LOT 1332	B SPECIAL	0.00	38.73	42.13	3.41
1	MH5	12	LOT 1331	B SPECIAL	13.52	39.39	42.32	2.93
1	MH6	13	LOT 1335	B SPECIAL	10.35	40.38	42.69	2.31
1	MH6	14	LOT 1412	TM SPECIAL	11.35	40.41	42.74	2.33

WORKS SHALL NOT COMMENCE UNTIL PLANS ARE SIGNED BY BARWON WATER

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

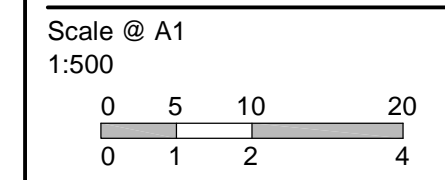
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REVISION	DATE	DES/DFT	APPD
B BARWON WATER AMENDMENTS	02.02.12	CB/CB	JG
A ISSUED TO BARWON WATER FOR APPROVAL	10.11.11	CB/CB	JG

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

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Designed
C. Barker
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Checked
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Authorised
J. Golden
Date
August 2011



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Barwon Region Water Authority
Barwon Water No. L007453
Estuary
Stage 13B
Sewer Detail Plan

Drawing No. **0250EHL-13B-52** Rev **B**
Sheet No. 2 of 2

Approved for Construction

DESIGN HEAD HIGH LEVEL=100m AHD
TEST PRESSURE=1600kPa

NOTES GENERAL

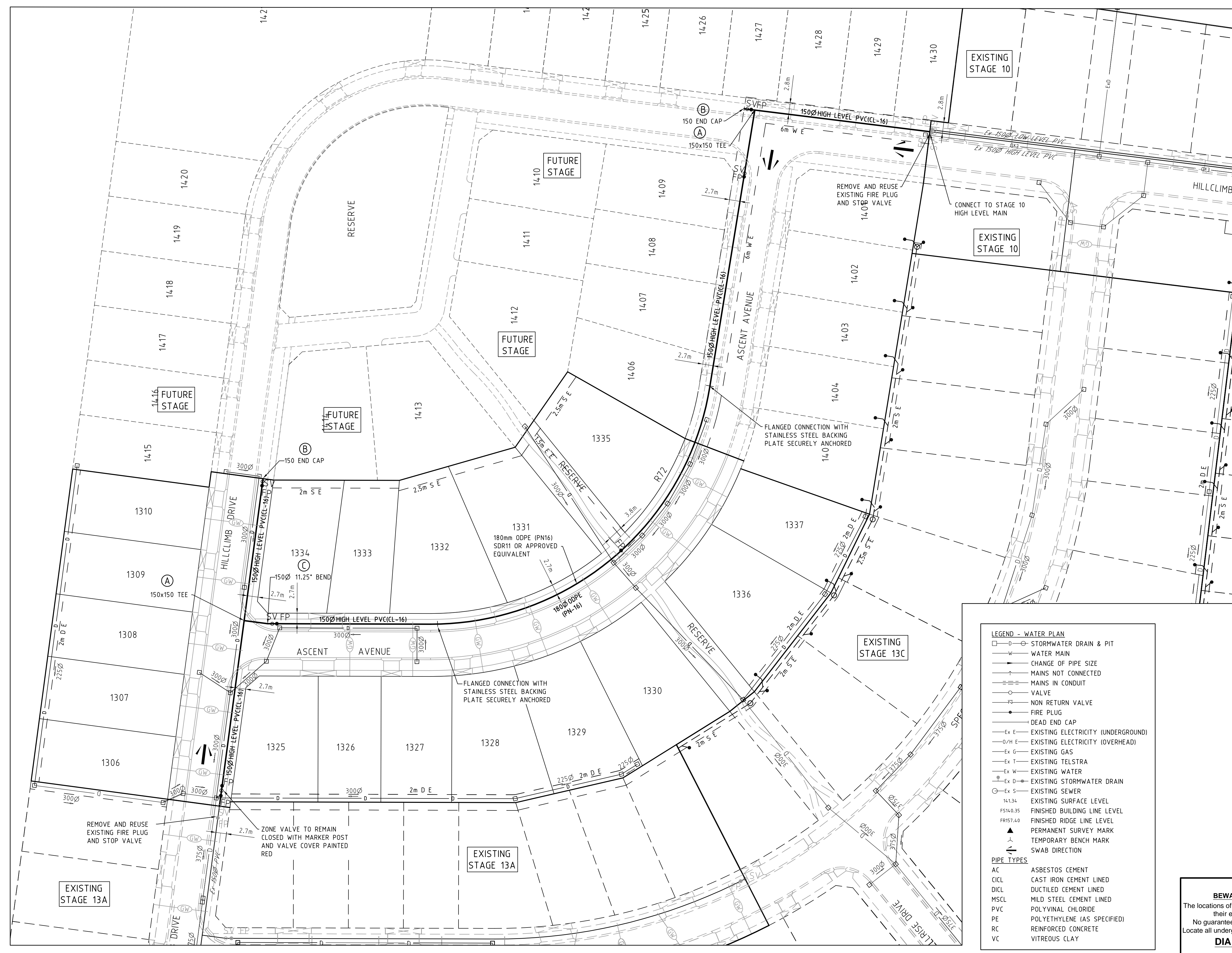
1. WATERMANS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE WATER SERVICES ASSOCIATION OF AUSTRALIA STANDARD CODES (WSA 02-2002 - WSA 03-2002) IN CONJUNCTION WITH BARWON WATERS SUPPLEMENTS TO THE CODES.
2. BARWON WATER AND THE PROJECT MANAGER TO BE NOTIFIED 7 CLEAR WORKING DAYS NOTICE PRIOR TO COMMENCEMENT OF WORKS.
3. THE CONTRACTOR SHALL
 - 3.A. COMPLY WITH SAFETY REQUIREMENTS OF THE MINES ACT, GENERAL REGULATIONS AND STATUTORY RULES, AND THE MINES (TRENCHES) REGULATIONS 1982.
 - 3.B. NOTIFY THE DEPARTMENT OF LABOUR OF HIS INTENTION TO COMMENCE TRENCHING OPERATIONS WHERE TRENCHES ARE 1.5 METRES OR DEEPER. INSURE THAT THE MINE MANAGER OR HIS DEPUTY AS REQUIRED BY THE REGULATIONS IS IN ATTENDANCE WHEN TRENCHING OPERATIONS ARE IN PROGRESS.
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4. SERVICES ARE APPROXIMATE ONLY. ALL RELEVANT SERVICE AUTHORITY'S ARE TO BE CONTACTED PRIOR TO THE COMMENCEMENT OF EXCAVATION TO ESTABLISH THEIR EXACT LOCATION.
5. CONTACT PRIOR TO COMMENCEMENT OF WORKS:
CITY OF GREATER GEELONG
POWERCOR
TELSTRA
TRU
VICTORIAN WORKCOVER AUTHORITY
6. ALL SERVICES ARE TO BE LOCATED ON SITE PRIOR TO ANY EXCAVATION.
7. INVERT LEVELS OF EXISTING SEWERS AND WATERMANS TO BE CHECKED PRIOR TO THE COMMENCEMENT OF WORKS.
8. CLASS 2 BACKFILL TO BE USED UNDER DRIVEWAYS FOR WATER RETICULATION.
9. PROPERTY OWNERS ARE TO BE NOTIFIED IN WRITING BY THE CONSULTANT 14 CLEAR DAYS PRIOR TO COMMENCEMENT OF WORKS.
10. COPY OF CADASTRAL MAP GRID (MGA) CONNECTION & COPY OF AUSTRALIAN HEIGHT DATUM (AHD) CONNECTION IS TO BE PROVIDED BY CONTRACTOR
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WATER

1. ENSURE WATERMANS ARE GRADED TO SUFFICIENT DEPTH UNDER ROADWAYS TO OBTAIN REQUIRED CLEARANCE UNDER STORM WATER DRAINS AND PAVEMENT LEVELS.
2. MARKER POSTS TO BE PLACED AT FIRE PLUGS. FIRE PLUG INDICATORS ARE TO BE IN ACCORDANCE WITH CFA & WSAA REQUIREMENTS.
3. ALL ALLOTMENTS ARE TO BE PROVIDED WITH A WATER SERVICE AS PART OF WATER RETICULATION WORKS. THE WATER MAIN IS TO BE TAPPED USING A TAPPING SADDLE AND PRESSURE FERRULE (FERRULE TO BE LEFT OPEN). A MINIMUM SIZE SERVICE (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.
4. PE PIPE TO BE LAID IN ACCORDANCE WITH WSA-01 WITH LONG RADIUS BENDS OR DEFLECTION ONLY. NO COMPRESSION BENDS TO BE USED.
5. ALL 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 MANS IS TO BE DONE IN ACCORDANCE WITH SECTION 6.7 AND SECTION 18 OF WSAA WATER SUPPLY CODE OF AUSTRALIA WSA 03-2002 MRWA EDITION 1
 - ALL WATER MANS MUST BE HYDROSTATIC PRESSURE TESTED IN ACCORDANCE WITH SECTION 19.4 OF WSAA WATER SUPPLY CODE OF AUSTRALIA WSA 03-2002 MRWA EDITION 1.0. THE CONTRACTOR MUST GIVE BARWON WATER THREE WORKING DAYS NOTICE IN WRITING OF THE DATE AND TIME OF THE PROPOSED HYDROSTATIC PRESSURE TESTING TO ENSURE THAT BARWON WATER HAS THE OPPORTUNITY TO WITNESS THESE TESTS.

SPECIAL

1. TRENCH COMPACTION RESULTS TO BE SUBMITTED BY CONSULTANT WITH 'AS CONSTRUCTED' NOTES.
2. TAPPING TO BE PROVIDED TO FUTURE LOTS NUMBER 1401 TO 1409 AND 1427 TO 1430



LEGEND - WATER PLAN

- STORMWATER DRAIN & PIT
- WATER MAIN
- CHANGE OF PIPE SIZE
- MAINS NOT CONNECTED
- MAINS IN CONDUIT
- VALVE
- NON RETURN VALVE
- FIRE PLUG
- DEAD END CAP
- Ex E EXISTING ELECTRICITY (UNDERGROUND)
- D/H E EXISTING ELECTRICITY (OVERHEAD)
- Ex G EXISTING GAS
- Ex T EXISTING TELSTRA
- Ex W EXISTING WATER
- Ex S EXISTING STORMWATER DRAIN
- Ex S EXISTING SEWER
- 141.34 EXISTING SURFACE LEVEL
- FS140.35 FINISHED BUILDING LINE LEVEL
- FR157.40 FINISHED RIDGE LINE LEVEL
- ▲ PERMANENT SURVEY MARK
- ▲ TEMPORARY BENCH MARK
- SWAB DIRECTION

PIPE TYPES

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

WARNING
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	DES/DFT	APPD
B BARWON WATER AMENDMENTS	02.02.12	CB/CB	JG
A ISSUED TO BARWON WATER FOR APPROVAL	21.11.11	AH/NS	JG

estuary
LEOPOLD™

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

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 4. All sewer pipes are 150mm unless otherwise shown.

Designed
C. Barker

Drawn
C. Barker

Checked
C. Birkett

Authorised
J. Golden

Date
November 11

Scale @ A1
1:500

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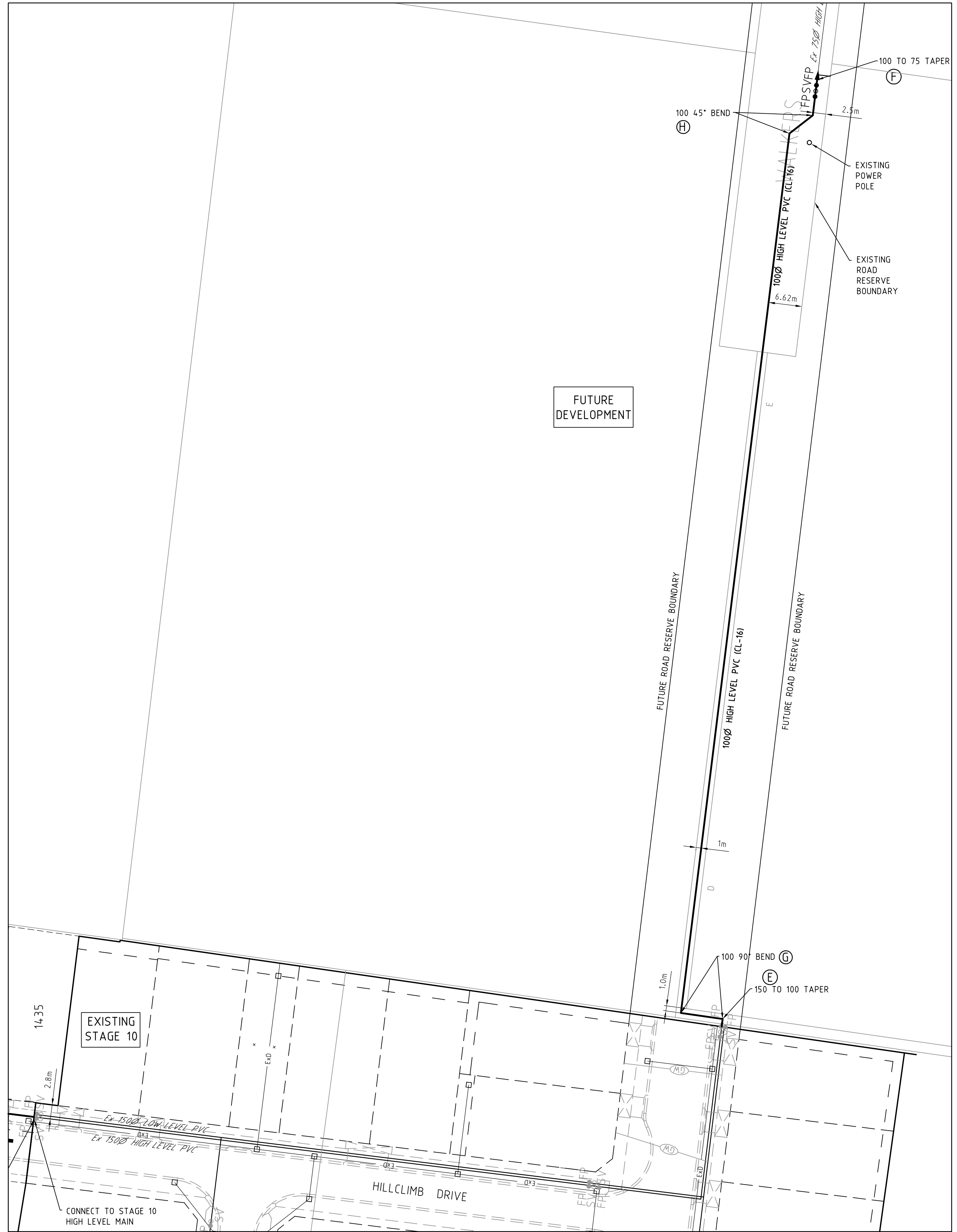
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Barwon Region Water Authority
Barwon Water No. L007453
Estuary
Stage 13B
Water Detail Plan

Drawing No. 0250EHL-13B-61 Rev B
Sheet No. 1 of 2

Approved for Construction

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NEW WATER MAINS		
SIZE	TYPE	LENGTH
180Ø	ODPE (PN16) SDR11 - BLUE	101.2
150Ø	PVC (CL-16)-BLUE	250.4
100Ø	PVC (CL-16)-BLUE	201.4

THRUST RESTRAINT SCHEDULE			
LOCATION	TYPE	AREA (m²)	NUMBER
A ASCENT/HILLCLIMB	CONCRETE	0.63	2
B HILLCLIMB	CONCRETE	0.63	2
C ASCENT	CONCRETE	0.13	1
E FUTURE ROAD	CONCRETE	0.32	1
F FUTURE ROAD	CONCRETE	0.32	1
G FUTURE ROAD	CONCRETE	0.42	2
H FUTURE ROAD	CONCRETE	0.23	2

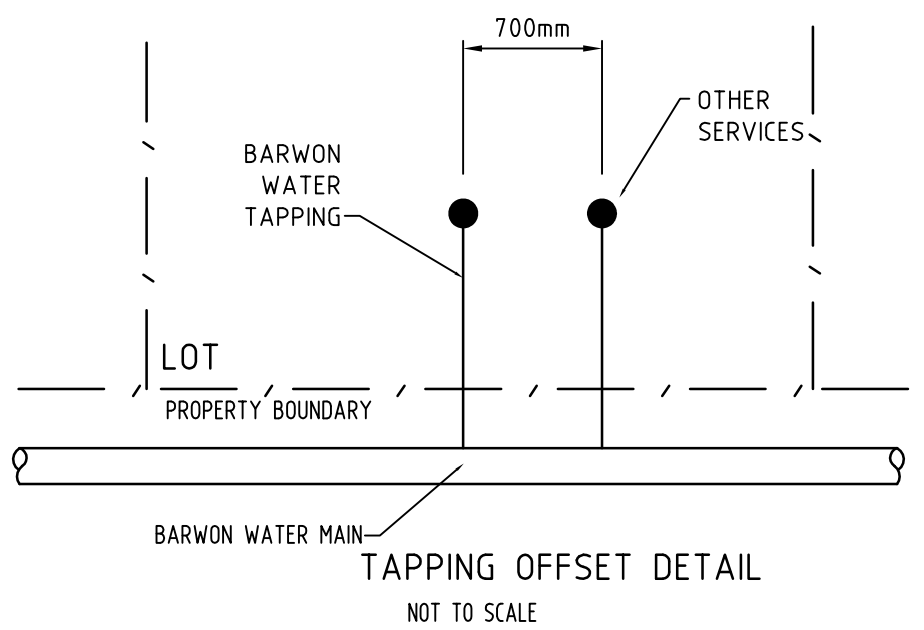
ROAD NAME	GAS		WATER		ELECTRICITY		TELSTRA	
	SIDE	OFFSET (m)	SIDE	OFFSET (m)	SIDE	OFFSET (m)	SIDE	OFFSET (m)
HILLCLIMB DRIVE E/W								
ASCENT AVENUE	EAST	2.10	EAST	2.70	WEST	2.30	WEST	1.70
HILLCLIMB DRIVE N/S	EAST	1.70	EAST	2.80	WEST	2.30	WEST	1.70

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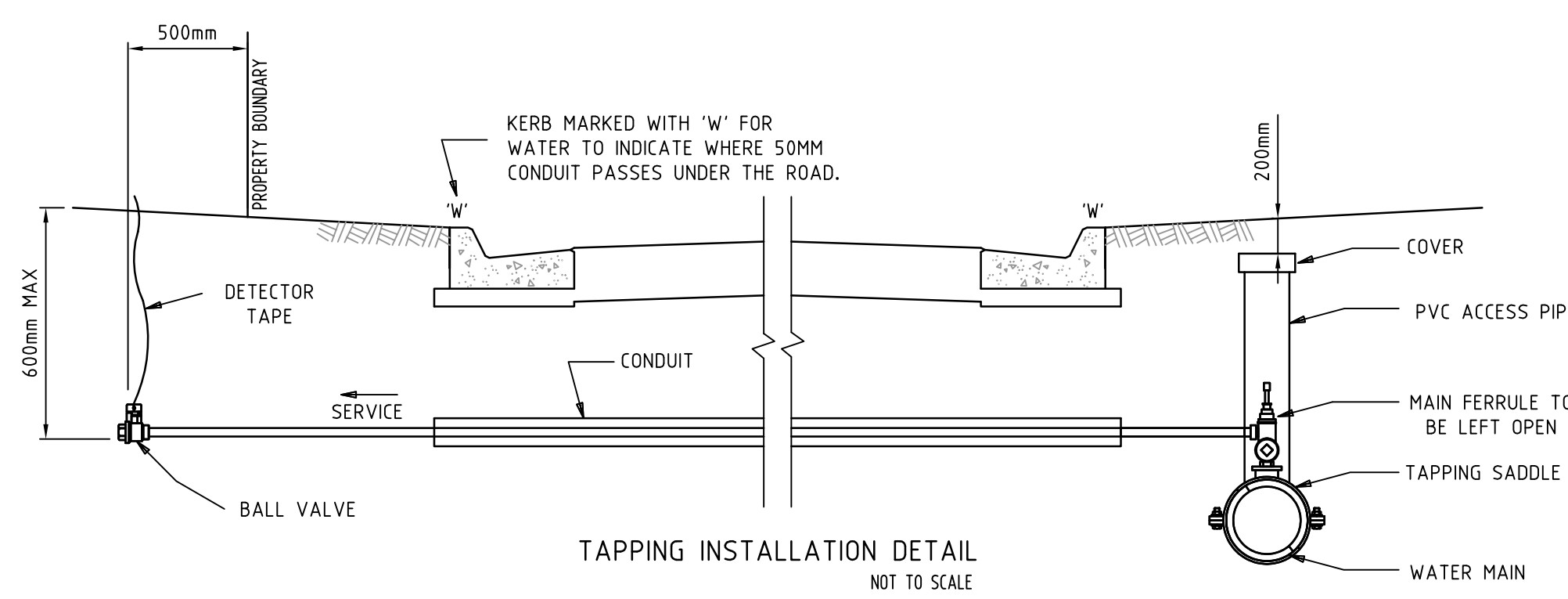
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TEST PRESSURE=1600kPa

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 - POWERCOR
 - TELSTRA
 - TRU
 - VICTORIAN WORKCOVER AUTHORITY
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 - 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.



- 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.



- WATER**
- ENSURE WATERMANS ARE GRADED TO SUFFICIENT DEPTH UNDER ROADWAYS TO OBTAIN REQUIRED CLEARANCE UNDER STORM WATER DRAINS AND PAVEMENT LEVELS.
 - MARKER POSTS TO BE PLACED AT FIRE PLUGS. FIRE PLUG INDICATORS ARE TO BE IN ACCORDANCE WITH CFA & WSAA REQUIREMENTS.
 - ALL ALLOTMENTS ARE TO BE PROVIDED WITH A WATER SERVICE AS PART OF WATER RETICULATION WORKS. THE WATER MAIN IS TO BE TAPPED USING A TAPPING SADDLE AND PRESSURE FERRULE TO BE LEFT OPEN. A MINIMUM SIZE SERVICE (i.e. 20mm COPPER, 25mm PE) IS THEN TO BE EXTENDED TO A POINT 500mm WITHIN THE PROPERTY. THE SERVICE IS TO BE A CONTINUOUS LENGTH WITH NO JOINTS. IN THE CASE OF PE OR ANY OTHER NON-METALLIC SERVICE BEING INSTALLED, A COPPER TRACE WIRE IS TO BE INCORPORATED. A BURIED BALL VALVE IS TO BE PLACED AT THE END OF THE SERVICE AND BACKFILLED WITH SAND TO DESIGN SURFACE LEVEL. DETECTOR TAPE FROM BALL VALVE TO BE RUN TO SURFACE LEVEL.
 - PE PIPE TO BE LAID IN ACCORDANCE WITH WSA-01 WITH LONG RADIUS BENDS OR DEFLECTION ONLY. NO COMPRESSION BENDS TO BE USED.
 - AC PIPE NOTE**
ANY WORK INVOLVING THE REMOVAL (CUTTING AND HANDLING), STORAGE, TRANSPORTATION AND DISPOSAL OF WASTE ASBESTOS CEMENT (AC) PIPES MUST BE CARRIED OUT IN ACCORDANCE WITH THE OCCUPATIONAL, HEALTH AND SAFETY (ASBESTOS) REGULATIONS 1992 AND RELEVANT CODES OF PRACTICE (REMOVAL). THE ENVIRONMENT PROTECTION (PRESCRIBED WASTE) REGULATIONS 1998 (STORAGE, TRANSPORTATION AND DISPOSAL), AND BARWON WATER'S SAFETY MANAGEMENT SYSTEM "SAFEAS".
 - FITZROY BOXES ARE TO BE PLACED OVER MONT TAP (MT) OR ANY TAPPING LOCATED WITHIN THE ROAD PAVEMENT.
 - THRUST BLOCKS ARE TO BE CONSTRUCTED AS PER BARWON WATER STANDARD DRAWING No's 70104, 70105 AND 70106
 - SWABBING OF WATER MAINS IS TO BE DONE IN ACCORDANCE WITH SECTION 6.7 AND SECTION 18 OF WSAA WATER SUPPLY CODE OF AUSTRALIA WSA 03-2002 MRWA EDITION 1
 - ALL WATER MAINS MUST BE HYDROSTATIC PRESSURE TESTED IN ACCORDANCE WITH SECTION 19.4 OF WSAA WATER SUPPLY CODE OF AUSTRALIA WSA 03-2002 MRWA EDITION 1.0. THE CONTRACTOR MUST GIVE BARWON WATER THREE WORKING DAYS NOTICE IN WRITING OF THE DATE AND TIME OF THE PROPOSED HYDROSTATIC PRESSURE TESTING TO ENSURE THAT BARWON WATER HAS THE OPPORTUNITY TO WITNESS THESE TESTS.
- SPECIAL**
- TRENCH COMPACTION RESULTS TO BE SUBMITTED BY CONSULTANT WITH 'AS CONSTRUCTED' NOTES.
 - TAPPING TO BE PROVIDED TO FUTURE LOTS NUMBER 1401 TO 1409 AND 1427 TO 1430

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
C EXTERNAL WATER MAIN INCLUDED	01.02.13	CB/CB	JG
B BARWON WATER AMENDMENTS	02.02.12	CB/CB	JG
A ISSUED TO BARWON WATER FOR APPROVAL	21.11.11	AH/NS	JG

estuary
LEOPOLD

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

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

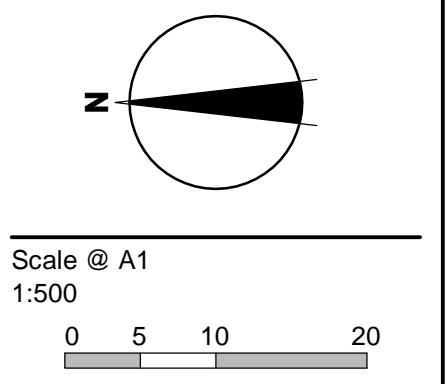
Designed
C. Barker

Drawn
C. Barker

Checked
C. Birckett

Authorised
J. Golden

Date
November 11



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Barwon Region Water Authority
Barwon Water No. L007453
Estuary
Stage 13B
Water Detail Plan

Drawing No. 0250EHL-13B-62 Rev C
Sheet No. 2 of 2

Approved for Construction