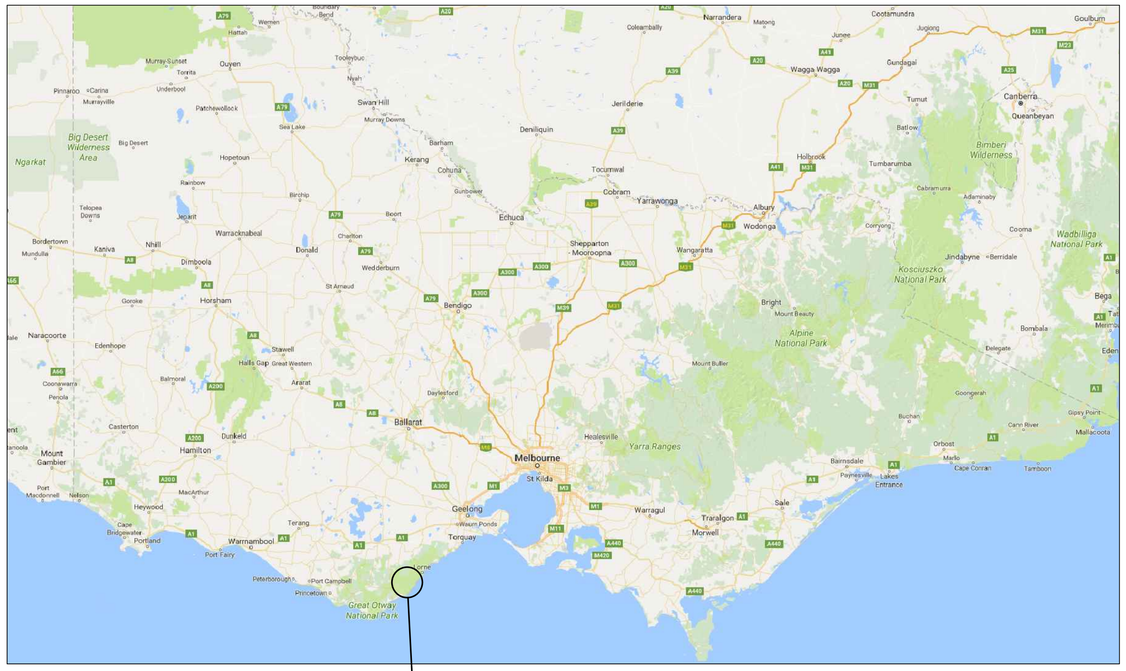
DATE PLOTTED: 25 October 2017 2:40 PM BY: JORDAN ORMEROD

WYE RIVER AND SEPARATION CREEK STORMWATER MANAGEMENT SYSTEM - PITS AND PIPES

FOR

COLAC OTWAY SHIRE


Melbourne
Geelong
Ballarat
Bendigo
Warrnambool
Hamilton
Mount Gambier
Horsham
Mildura
Swan Hill
Echuca
Shepparton
Wangaratta
Albury
Wodonga
Wagga Wagga
Canberra
Queanbeyan
Goulburn
Sale
Traralgon
Morwell
Bairnsdale
Lakes Entrance
Orbost
Mallacoota
Yarra Ranges
Great Otway National Park
Alpine National Park
Kosciuszko National Park
Wadbilliga National Park
Bimberi Wilderness
Big Desert Wilderness Area
Ngarkat
Port Campbell
Peterborough
Port Fairy
Portland
Cape Bridgewater
Port Macdonnell
Naracoorte
Coonawarra
Edenhope
Heywood
Casterton
Dunkeld
Halls Gap
Stawell
Ararat
Daylesford
Castlemaine
Kyneton
Seymour
Yea
Alexandra
Mansfield
Benalla
Wangaratta
Wodonga
Corryong
Cooma
Jindabyne
Berridale
Bega
Bombala
Eden
Delegate
Cann River
Mallacoota
Gippsland Lakes
Cape Conran
Tamboon
Buchan
Gippsland Lakes
Paynesville
Lakes Entrance
Metung
Nowa Nowa
Orbost
Marlo
Cape Conran
Tamboon
Buchan
Cann River
Gipsy Point
Mallacoota
Goongerah
Omeo
Bright
Mount Beauty
Myrtleford
Wangaratta
Benalla
Seymour
Kilmore
Wallan
Whittlesea
Healesville
Yarra Ranges
Melbourne
St Kilda
Geelong
Torquay
Lorne
Apollo Bay
Colac
Camperdown
Terang
Warrnambool
Port Fairy
Portland
Cape Bridgewater
Mount Gambier
Naracoorte
Coonawarra
Penola
Edenhope
Heywood
Casterton
Dunkeld
Hamilton
Halls Gap
Stawell
Ararat
Ballarat
Daylesford
Castlemaine
Kyneton
Seymour
Yea
Alexandra
Mansfield
Benalla
Wangaratta
Wodonga
Albury

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WYE RIVER AND SEPARATION CREEK STORMWATER MANAGEMENT SYSTEM - PITS AND PIPES

FOR

COLAC OTWAY SHIRE

1. GENERAL

ELECTRONIC PLANS — ELECTRONIC PLANS MAY BE PROVIDED TO ASSIST THE CONTRACTOR BUT DO NOT FORM PART OF THE CONTRACT. IN THE CASE OF DISCREPANCY BETWEEN THE ELECTRONIC INFORMATION AND THE HARD COPY PLANS THE HARD COPY PLANS TAKE PRECEDENT.

2. SURVEY

SURVEY DATUM — THESE PLANS ARE BASED UPON THE EXISTING CONDITIONS SURVEY PREPARED BY TGM GROUP PTY LTD. LEVELS SHOWN ARE TO A.H.D.

SET OUT — THE CONTRACTOR SHALL SET OUT THE WORKS FROM THE NOMINATED DESIGN LINES, SURVEY BENCHMARKS AND CONTROL POINTS SHOWN ON THE PLANS AND TO THE SPECIFIED DETAILS. UPON REQUEST AN ELECTRONIC BASE PLAN OF THE CIVIL DRAWING CAN BE SUPPLIED.
WHERE CARDNO'S COMPUTER MODELS ARE UTILISED FOR SET OUT IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO VERIFY THAT THE PROPOSED VERTICAL AND HORIZONTAL ALIGNMENT ARE CONSISTENT WITH THE INFORMATION SHOWN ON THE DRAWINGS. ANY DISCREPANCY SHALL BE REFERRED TO CARDNO PRIOR TO CONSTRUCTION.

DIMENSIONS — ALL DIMENSIONS ARE TO INVERT OF KERB OR OUTER EDGE OF LINEMARKING WHERE APPLICABLE

REFERENCES PROTECTION — THE CONTRACTOR SHALL MAINTAIN AND PROTECT THE PEGS AND SURVEY MARKS FOR THE DURATION OF THE WORKS.

AS-CONSTRUCTED SURVEY — UPON COMPLETION OF THE CIVIL WORKS THE CONTRACTOR SHALL PROVIDE CERTIFIED AS-CONSTRUCTED PLANS OF THE WORKS AND AN AS-CONSTRUCTED SURVEY OF ALL COLAC OTWAY SHIRE DRAINAGE WORKS IN D SPEC FORMAT OR EQUIVALENT TO COLAC OTWAY SHIRE REQUIREMENTS.

3. EARTHWORKS

GENERAL — EARTHWORKS SHALL BE CARRIED OUT TO THE FINISHED SURFACE LEVELS SHOWN ON THE PLANS AND CROSS SECTIONS. CUT BATTERS SHALL NOT EXCEED 1 IN 5 AND FILL BATTERS SHALL NOT EXCEED 1 IN 6 SLOPE UNLESS INDICATED OTHERWISE IN EROSION AND SEDIMENT CONTROL PLAN.

GEOTECHNICAL DATA — REFER TO THE GEOTECHNICAL REPORT 31/34316 PREPARED BY GHD FOR SITE RECOMMENDATIONS AND SOIL CONDITIONS.

SITE STRIP — THE CONTRACTOR SHALL STRIP ALL AREAS SUBJECT TO BULK EARTHWORKS , PAVEMENT CONSTRUCTION OR BUILDING WORKS OF ALL TOPSOIL AND OTHER DELETERIOUS MATERIAL FOR REUSE ON TOP OF TRENCH BACKFILL.

COMPACTION TO AS1289 — THE CONTRACTOR SHALL OBTAIN 98% STANDARD MINIMUM DRY DENSITY COMPACTION ON ALL FINISHED SUBGRADES AND FORMATIONS.

FILLING — PRIOR TO THE COMMENCEMENT OF FILLING THE SITE SHALL BE STRIPPED AS NOTED. FILLING IS TO BE CARRIED OUT IN STRICT ACCORDANCE WITH THE SPECIFICATIONS AND AS3798. APPROVED MATERIAL WON FROM SITE OR APPROVED IMPORTED FILL SHALL BE MOISTURE CONDITIONED IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL REPORT PRIOR TO BEING PLACED IN UNIFORM HORIZONTAL LAYERS OF 200mm MAXIMUM DEPTH AND COMPACTED AS SPECIFIED. ALL FINISHED SURFACES SHALL ACHIEVE A MINIMUM COMPACTION OF 98% STANDARD DRY DENSITY. COMPACTION TESTING OF ALL FILL SHALL BE CARRIED OUT IN ACCORDANCE WITH THE REQUIREMENTS OF AS 3798.

REINSTATEMENT — THE CONTRACTOR SHALL REGRADE, SHAPE, TOPSOIL AND GRASS ALL ADJACENT EXISTING GRASSED AREAS THAT ARE DISTURBED OR ALTERED AS A CONSEQUENCE OF THE PROPOSED WORKS.

4. LANDSCAPING

EXISTING — ALL EXISTING TREES IN THE VICINITY OF THE WORKS AREAS THAT ARE TO BE RETAINED SHALL BE PRUNED, ROOTS CUT & SEALED WHERE THEY EXTEND BENEATH NEW WORKS, BY APPROPRIATELY QUALIFIED PERSONNEL. TREES TO BE REMOVED SHALL HAVE ALL ROOTS GRUBBED OUT AND BE MADE GOOD WITH COMPACTED FILL.

5. SITE CLEARANCE

DEMOLITION — ALL EXISTING REDUNDANT CONCRETE, PAVEMENT, SOIL, RUBBISH AND CONSTRUCTION DEBRIS SHALL BE TAKEN UP AND REMOVED FROM SITE.

CLEAN UP — PRIOR TO COMPLETION, THE CONTRACTOR SHALL ENSURE THE SITE OF WORKS IS TIDIED AND OBTAIN A CLEARANCE FROM THE SUPERVISING ENGINEER OR THE PROJECT MANAGER.

6. DRAINAGE

PIPES — DRAINAGE PIPES ABOVE 225Ø TO BE MINIMUM OF CLASS 2 REINFORCED CONCRETE, FRCP OR SRCP (RUBBER RING JOINTED) UNLESS OTHERWISE SPECIFIED. DRAINAGE PIPES UP TO 225Ø TO BE SEWER QUALITY UPVC (RUBBER RING JOINTED). COMPACTED CLASS 2 FCR BACKFILL SHALL BE INSTALLED TO PIPES UNDER ROAD PAVEMENTS AND BUILDING SLABS. TRENCHES IN LANDSCAPE AREAS CAN BE BACKFILLED WITH SELECTED CLAY FILL. HDPE PIPES TO BE USED WHEREVER MAX. PIPE FLOWS VELOCITIES EXCEED 6m/s.

EXISTING PIPES — ALL EXISTING PIPES THAT WILL NOW BE BENEATH NEW ROAD PAVEMENT SHALL HAVE THE EXISTING BACKFILL REMOVED AND REPLACED WITH A CRUSHED ROCK BACKFILL COMPACTED TO 98% STANDARD.

PITS — DRAINAGE PITS TO BE CAST IN-SITU CONCRETE PITS AS DETAILED OR APPROVED PRECAST CONCRETE COMPLYING WITH THE RELEVANT AUSTRALIAN STANDARDS. ALL PITS DEEPER THAN 1.0M ARE TO BE PROVIDED WITH APPROVED STEP IRONS AT 300 MAX. CENTRES.

SET OUT — PIT LOCATIONS AND PIPE INVERT LEVELS ARE SPECIFIED ON THE PIT SCHEDULE IN DWG V170115-CI-### AND V170115-CI-###.

7. TRAFFIC MANAGEMENT

GENERAL — TRAFFIC MANAGEMENT SHALL BE ARRANGED BY THE CONTRACTOR FOR THE DURATION OF THE WORKS IN ACCORDANCE WITH AUSTRALIAN STANDARD AS1742.3-2002 FOR CONSTRUCTION TRAFFIC MANAGEMENT AND TO THE SATISFACTION OF ALL PARTIES, INCLUDING THE PROVISION OF ALL NECESSARY SIGNAGE, LIGHTING AND BARRICADING. TRAFFIC FLOWS IN ALL ABUTTING ROADWAYS AND ACCESS TO THE SITE SHALL REMAIN UNIMPEDED FOR THE DURATION OF THE CONTRACT.

8. SERVICES

EXISTING — ALL STATUTORY AUTHORITY SERVICES MUST BE MAINTAINED AND PROTECTED BY THE CONTRACTOR AT ALL TIMES UNLESS OTHERWISE SHOWN. EXISTING SERVICE LOCATIONS SHOWN HAVE BEEN OBTAINED FROM STATUTORY AUTHORITY RECORDS AND/OR SITE PLANS WHERE AVAILABLE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN AND ALL SERVICES SHOULD BE PROVEN ON SITE PRIOR TO THE COMMENCEMENT OF WORKS IN THEIR VICINITY.

CONTACTS — CIVIL CONTRACTOR TO CONTACT THE FOLLOWING AUTHORITIES FOR RELOCATION OF CABLES , U/G MAINS OR POLES WHERE REQUIRED.

UTILITY	OFFICE NO.
POWERCOR - BALLARAT	132 206
TELSTRA VICTAS	1800 653 935
COLAC OTWAY SHIRE.	03 5232 9400

ADJUSTMENTS — ALL EXISTING PITS AND SERVICE FITTINGS THAT ARE TO REMAIN WITHIN THE PAVEMENT AREAS SHALL BE REBUILT TO MATCH PROPOSED LEVELS AND WHERE APPLICABLE FITTED WITH AN APPROPRIATE HEAVY DUTY, AUTHORITY APPROVED, COVER. ELSEWHERE EXISTING SERVICES SHALL BE ADJUSTED TO SUIT NEW ADJACENT LEVELS. THE RELEVANT AUTHORITY IS TO BE NOTIFIED PRIOR TO ANY WORKS ON THEIR ASSETS AND SERVICES ARE TO BE ADJUSTED BY OR TO THE RELEVANT AUTHORITY REQUIREMENTS

7. INSPECTIONS

GENERAL — ALL WORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH THE APPROVED CONSTRUCTION PROGRAMME TO THE SATISFACTION OF THE SUPERVISING ENGINEER AND SUBJECT TO PERIODICAL INSPECTION AND WRITTEN STAGED APPROVAL. ADDITIONAL INSPECTIONS CAN BE REQUESTED AT 24 HOURS NOTICE.

EXTERNAL — ALL WORKS IN ROAD RESERVATIONS SHALL REQUIRE WRITTEN APPROVAL OF THE COUNCIL'S SUPERINTENDENT AND ARE SUBJECT TO SEPARATE INSPECTIONS. SEVEN DAYS NOTICE TO BE GIVEN OF WORK COMMENCING. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY ROAD OPENING PERMITS AND AUTHORITY APPROVALS PRIOR TO COMMENCING WORKS.

8. KERBS

PROPOSED — WHERE REQUIRED MATCH ALL NEW KERBS TO EXISTING LEVEL NEATLY, ENSURING MINIMUM 1 IN 250 GRADE, SAW CUTTING AND REINSTATING PAVEMENT IN FRONT OF KERB TO FALL TO NEW KERB LEVEL.

9. SPECIFICATIONS

COLAC OTWAY SHIRE AND INFRASTRUCTURE DESIGN MANUAL SPECIFICATIONS SHALL BE USED AS THE GENERAL SPECIFICATION FOR ALL WORKS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN A COPY OF THE CURRENT SPECIFICATIONS, ALL RELEVANT STANDARD DRAWINGS AND ALL ASSOCIATED REVISIONS AND AMENDMENTS ETC.

10. CONTRACT CONDITIONS

GENERAL — ALL WORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH AS 4000-1997 GENERAL CONDITIONS OF CONTRACT.

MAINTENANCE PERIOD — A 12 MONTHS MAINTENANCE PERIOD WILL APPLY TO THIS CONTRACT UNLESS NOTED OTHERWISE.

WORKING ON SLOPES — CONTRACTOR TO PROVIDE WORK METHOD STATEMENT FOR WORKS ON SLOPES PRIOR TO COMMENCEMENT OF WORKS.

MOVING EQUIPMENT — EXCAVATIONS AND OTHER MACHINERY THAT WILL DAMAGE THE ROAD SURFACE IS TO BE FLOATED VIA TRUCK/TRAILOR UNLESS RUBBER TRACKS ARE FITTED.NO EQUIPMENT IS TO BE TRANSPORTED PRIOR TO 7AM MONDAY-FRIDAY AND 8AM SATURDAY AND SUNDAY

OPERATING HOURS — NO WORK IS TO TAKE PLACE OUTSIDE OF THE FOLLOWING HOURS 7AM-6PM MONDAY-FRIDAY AND 7AM-1PM SATURDAY.

WORKING IN PRIVATE PROPERTY — A MINIMUM 4 DAY NOTICE IS TO BE GIVEN TO RESIDENTS IF WORKS TO BE UNDERTAKEN WITHIN PRIVATE PROPERTY.

DRIVEWAYS — RESIDENTS ARE TO BE CONTACTED TO DISCUSS DRIVEWAY COLOUR PREFERENCE, APRON LENGTH AND CONSTRUCTION TIMING.

SCHEDULE OF DRAWINGS

DRAWING No.	DESCRIPTION
V170115-CI-0001	LOCALITY PLAN
V170115-CI-0002	GENERAL NOTES AND DRAWING SCHEDULE
PITS AND PIPES	
WYE RIVER NORTH	
V170115-CI-1000	WYE RIVER NORTH OVERALL LAYOUT PLAN
V170115-CI-1010	WYE RIVER NORTH DRAINAGE LAYOUT PLAN SHEET 1 OF 4
V170115-CI-1011	WYE RIVER NORTH DRAINAGE LAYOUT PLAN SHEET 2 OF 4
V170115-CI-1012	WYE RIVER NORTH DRAINAGE LAYOUT PLAN SHEET 3 OF 4
V170115-CI-1013	WYE RIVER NORTH DRAINAGE LAYOUT PLAN SHEET 4 OF 4
V170115-CI-1050	WYE RIVER NORTH DRAINAGE INSETS
V170115-CI-1100	WYE RIVER NORTH DRAINAGE TYPICALS SHEET 1 OF 4
V170115-CI-1101	WYE RIVER NORTH DRAINAGE TYPICALS SHEET 2 OF 4
V170115-CI-1102	WYE RIVER NORTH DRAINAGE TYPICALS SHEET 3 OF 4
V170115-CI-1103	WYE RIVER NORTH DRAINAGE TYPICALS SHEET 4 OF 4
V170115-CI-1200	WYE RIVER NORTH DRAINAGE LONGSECTIONS SHEET 1 OF 6
V170115-CI-1201	WYE RIVER NORTH DRAINAGE LONGSECTIONS SHEET 2 OF 6
V170115-CI-1202	WYE RIVER NORTH DRAINAGE LONGSECTIONS SHEET 3 OF 6
V170115-CI-1203	WYE RIVER NORTH DRAINAGE LONGSECTIONS SHEET 4 OF 6
V170115-CI-1204	WYE RIVER NORTH DRAINAGE LONGSECTIONS SHEET 5 OF 6
V170115-CI-1205	WYE RIVER NORTH DRAINAGE LONGSECTIONS SHEET 6 OF 6
V170115-CI-1210	WYE RIVER NORTH DRAINAGE PIT SCHEDULE SHEET 1 OF 2
V170115-CI-1211	WYE RIVER NORTH DRAINAGE PIT SCHEDULE SHEET 2 OF 2
V170115-CI-1220	WYE RIVER NORTH DRAINAGE PIT DETAILS SHEET 1 OF 2
V170115-CI-1221	WYE RIVER NORTH DRAINAGE PIT DETAILS SHEET 2 OF 2
WYE RIVER SOUTH	
V170115-CI-2000	WYE RIVER SOUTH OVERALL LAYOUT PLAN
V170115-CI-2010	WYE RIVER SOUTH DRAINAGE LAYOUT PLAN SHEET 1 OF 2
V170115-CI-2011	WYE RIVER SOUTH DRAINAGE LAYOUT PLAN SHEET 2 OF 2
V170115-CI-2100	WYE RIVER SOUTH DRAINAGE TYPICALS SHEET 1 OF 4
V170115-CI-2101	WYE RIVER SOUTH DRAINAGE TYPICALS SHEET 2 OF 4
V170115-CI-2102	WYE RIVER SOUTH DRAINAGE TYPICALS SHEET 3 OF 4
V170115-CI-2103	WYE RIVER SOUTH DRAINAGE TYPICALS SHEET 4 OF 4
V170115-CI-2200	WYE RIVER SOUTH DRAINAGE LONGSECTIONS
V170115-CI-2210	WYE RIVER SOUTH DRAINAGE PIT SCHEDULE
V170115-CI-2220	WYE RIVER SOUTH DRAINAGE PIT DETAILS
SEPARATION CREEK	
V170115-CI-3000	SEPARATION CREEK OVERALL LAYOUT PLAN
V170115-CI-3010	SEPARATION CREEK DRAINAGE DETAILED LAYOUT PLAN SHEET 1 OF 2
V170115-CI-3011	SEPARATION CREEK DRAINAGE DETAILED LAYOUT PLAN SHEET 2 OF 2
V170115-CI-3100	SEPARATION CREEK DRAINAGE TYPICALS SHEET 1 OF 4
V170115-CI-3101	SEPARATION CREEK DRAINAGE TYPICALS SHEET 2 OF 4
V170115-CI-3102	SEPARATION CREEK DRAINAGE TYPICALS SHEET 3 OF 4
V170115-CI-3103	SEPARATION CREEK DRAINAGE TYPICALS SHEET 4 OF 4
V170115-CI-3200	SEPARATION CREEK DRAINAGE LONGSECTIONS SHEET 1 OF 2
V170115-CI-3201	SEPARATION CREEK DRAINAGE LONGSECTIONS SHEET 2 OF 2
V170115-CI-3210	SEPARATION CREEK DRAINAGE PIT SCHEDULE
V170115-CI-3220	SEPARATION CREEK DRAINAGE PIT DETAILS

WARNING

EXTERNAL APPROVAL

THIS DRAWING IS SUBJECT TO THE APPROVAL OF **COLAC OTWAY SHIRE** AND IS A PRELIMINARY ISSUE

Rev.	Date	Description	Des.	Verif.	Appd.
2	25/10/2017	FOR TENDER	E.H	E.H	
1	18/10/2017	FOR TENDER	E.H	E.H	

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		Date
Drawn	J.O	18/10/2017
Checked	E.H	18/10/2017
Designed	E.H	18/10/2017
Verified		
Approved		

Client: COLAC OTWAY SHIRE

Project: WYE RIVER AND SEPARATION CREEK STORMWATER MANAGEMENT SYSTEM
DETAILED DESIGN PITS AND PIPES

Title: GENERAL NOTES AND DRAWING SCHEDULE

Status: FOR TENDER ONLY
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Datum	Melways Ref.	Scale	Size
A.H.D	X927,C9	NTS	A1

Drawing Number: V170115-CI-0002

Revision: 2

XREFs:
CAD File: \\AUMELCFS01.cardno.com\Vicdata1\20170001_6500\V170115_WyeRiver_Stormwater\Water\Drafting\V170115-CI-0001-0002.dwg

DATE PLOTTED: 25 October 2017 2:40 PM BY: - JORDAN ORMEROD

XREF's: XR-V170115-WYE_NORTH-SURVEY-1; XR-V170115-DRAINAGE; XR-V170115-CONTOURS_5m-1IN1500; XR-V170115-CATCHMENTS

CAD File: \\AUMELCFS01.cardno.corp\VicData1\201\70001_0500\V170115_WyeRiver_Stormwater\Water\Drafting\V170115-CI-1000.dwg

RESERVE
KARINGAL DRIVE
RESERVE
KARINGAL DRIVE
REFER TO V170115-CI-1011
CASSIDY TRACK
REFER TO V170115-CI-1010
CORIYULE ROAD
KARINGAL DRIVE
DUNOON ROAD
KOONYA AVENUE
DURIMBIL AVENUE
RESERVE
RESERVE
ILUKA AVENUE
ILOWRA AVENUE
RESERVE
WALLACE AVENUE
THE BOULEVARDE
THE BOULEVARDE
THE BLUFF
WALLACE AVENUE
ILUKA AVENUE
RESERVE
PADDYS PATH
THE BOULEVARDE
McLELLAN COURT
RESERVE
RIVERSIDE DRIVE
RIVERSIDE DRIVE
RESERVE
REFER TO V170115-CI-1013
REFER TO V170115-CI-1012
GREAT OCEAN ROAD

WARNING
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Rev.	Date	Description	Des.	Verif.	Appd.
2	25/10/2017	FOR TENDER	E.H	E.H	
1	18/10/2017	FOR TENDER	J.P	E.H	

0 50m
SCALE 1:1500 @A1
NORTH

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Verified		Date
Approved		Date

Client: COLAC OTWAY SHIRE

Project: WYE RIVER AND SEPARATION CREEK STORMWATER MANAGEMENT SYSTEM
DETAILED DESIGN PITS AND PIPES

Title: WYE RIVER NORTH
OVERALL LAYOUT PLAN

Status: FOR TENDER ONLY
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Datum	Melways Ref.	Scale	Size
A.H.D	X927,C9	1:1500m	A1

Drawing Number: V170115-CI-1000
Revision: 2

FOR CONTINUATION REFER TO DRAWING V170115-CI-1011

FOR CONTINUATION REFER TO DRAWING V170115-CI-1012

PROVIDE BUNDING WITH TABLE DRAIN CONSTRUCTED WITH NON DESTRUCTIVE DIGGING UPSLOPE OF BUND

PROPOSED 2m WIDE EASEMENT

SECTION OF DRAIN EXTREMELY STEEP. REFER TO STEEP TRENCHING DETAIL FOR BACKFILLING INFORMATION. INSTALL HDPE PIPE JOINTS IN REVERSE TO FLOW DIRECTION TO PROTECT EDGE OF INNER PIPE LINER FROM HIGH FLOW VELOCITY

SEAL EXISTING PIPE END WITH CONCRETE GROUT AND ABANDON. REPLACE EXISTING PIT

REMOVE EXISTING TEMP DRAIN

PROPOSED 2.0m DRAINAGE EASEMENT

CONSTRUCT PIPES WITH VERTICAL DEFLECTION AT PIPE JOINTS TO MINIMISE REQUIRED PIT DEPTHS AND MAINTAIN MINIMUM 0.35m COVER OVER PIPE

PROVIDE 1.5m OF D50 150mmØ SCOUR PROTECTION WITHIN PROPOSED TABLE DRAIN AT OUTLET OF DRIVEABLE ENDWALL. REFER TO TYPICAL DETAIL SHEET 1101.

CUSTOM ANGLED GRILLED PIT. REFER TO PIT DETAIL FOR INFORMATION.

CONSTRUCT PIT COVER FLUSH WITH EXISTING SURFACE TO AVOID OBSTRUCTING FLOWS FROM UPSTREAM

MATCH EXISTING CHANNEL INVERT AT EDGE OF HOUSE UNDERSIDE.

MAINTAIN EXISTING TABLE DRAIN AND DRIVEWAY CULVERTS

CUSTOM ANGLED GRILLED PIT. REFER TO PIT DETAIL FOR INFORMATION.

CONNECT EXISTING DRAINAGE OUTLET TO PROPOSED PIT VIA 90° PVC ELBOW AND LENGTH OF 300Ø PVC

USIL 22.41
DSIL 22.04

CONNECTION TO EXISTING PIT SUBJECT TO INTERROGATION ON-SITE. CONTRACTOR MAY REQUIRE 225Ø HDPE ELBOW CONNECTION OUT OF PIT.

CONTRACTOR TO REMOVE EXISTING CULVERT AND REINSTATE EXISTING DRIVEWAY WITH LOCALISED CONCRETE

REPLACE EXISTING PIT

SECTION OF DRAIN EXTREMELY STEEP. REFER TO STEEP TRENCHING DETAIL FOR BACKFILLING INFORMATION. INSTALL HDPE PIPES WITH JOINTS IN REVERSE TO FLOW DIRECTION TO PROTECT EDGE OF INNER PIPE LINER FROM HIGH FLOW VELOCITY

CONSTRUCT HEADWALL AND RESHAPE SURROUNDING TO ENCOURAGE INFLOWS

REPLACE EXISTING PIT

REMOVE EXISTING TEMP DRAIN

CONNECT TO EXISTING

PROPOSED 2.0M DRAINAGE EASEMENT

PROPOSED 2.0m DRAINAGE EASEMENT

CONNECT TO EXISTING

DURIMBIL AVENUE

WALLACE AVENUE

ILUKA AVENUE

PADDY'S PATH

GREAT OCEAN ROAD

STEEP ENBANKMENT

RESERVE

DENSE VEGETATION

LEGEND

- TITLE BOUNDARIES
- LOT BOUNDARIES
- PROPOSED STORMWATER DRAIN, PIT, DIAMETER AND PROPERTY INLET
- PROPOSED EASEMENT STORMWATER DRAIN, PIT, DIAMETER AND PROPERTY INLET
- EXISTING STORMWATER DRAINAGE
- EXISTING DRAINAGE WING WALL
- PROPOSED DRAINAGE WING WALL
- SURVEY ELEMENTS
- PROPOSED EASEMENT BOUNDARY
- TABLE DRAIN TYPE C
- TABLE DRAIN TYPE F
- EXISTING TABLE DRAIN
- FLOW ARROWS
- EASEMENT BUND
- DRIVEWAY CROSSINGS TO BE UPGRADED (AS PER VEHICLE CROSSING DETAILS)

WARNING

EXTERNAL APPROVAL

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Rev.	Date	Description	Des.	Verif.	Appd.
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1	18/10/2017	FOR TENDER	J.P	E.H	

SCALE 1:500 @A1

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Client: COLAC OTWAY SHIRE

Project: WYE RIVER AND SEPARATION CREEK STORMWATER MANAGEMENT SYSTEM
DETAILED DESIGN PITS AND PIPES

Title: WYE RIVER NORTH
DRAINAGE LAYOUT PLAN
SHEET 1 OF 4

Status: FOR TENDER ONLY
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Datum	Melways Ref.	Scale	Size
A.H.D	X927,C9	1:500m	A1

Drawing Number: V170115-CI-1010

Revision: 2

XREFs: XR-V170115-WYE_NORTH-SURVEY-1; XR-V170115-CONTOURS_5m-1IN500; XR-V170115-HOUSE NUMBERS; XR-V170115-WYE_NORTH-DRAINAGE-EXIST; XR-V170115-WYE_NORTH-ROADWORKS; XR-V170115-WYE_NORTH-SURVEY-2; XR-V170115-EARLY_WORKS-DRAINAGE; XR-V170115-WYE_NORTH-DRAINAGE
DATE PLOTTED: 25 October 2017 2:41 PM BY: JORDAN ORMEROD
CAD File: \\AUMELCFS01.cardno.corp\Vicdata\120170001_0500\V170115_WyeRiver_Stormwater\Water\Drafting\V170115-CI-1010-1013.dwg

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DATE PLOTTED: 25 October 2017 2:41 PM BY: JORDAN ORMEROD
CAD File: \\AUMELCFS01.cardno.com\Vol2data1\2017\0001_0500\V170115_WyeRiver_Stormwater\Water\Drafting\V170115-CI-1010-1013.dwg

LEGEND

- TITLE BOUNDARIES
- LOT BOUNDARIES
- 300Ø — PROPOSED STORMWATER DRAIN, PIT, DIAMETER AND PROPERTY INLET
- 300Ø — PROPOSED EASEMENT STORMWATER DRAIN, PIT, DIAMETER AND PROPERTY INLET
- EXISTING STORMWATER DRAINAGE
- EXISTING DRAINAGE WING WALL
- PROPOSED DRAINAGE WING WALL
- SURVEY ELEMENTS
- PROPOSED EASEMENT BOUNDARY
- TABLE DRAIN TYPE C
- TABLE DRAIN TYPE F
- EXISTING TABLE DRAIN
- FLOW ARROWS
- EASEMENT BUND
- DRIVEWAY CROSSINGS TO BE UPGRADED (AS PER VEHICLE CROSSING DETAILS)

WARNING

EXTERNAL APPROVAL

THIS DRAWING IS SUBJECT TO THE APPROVAL OF **COLAC OTWAY SHIRE** AND IS A PRELIMINARY ISSUE

KARINGAL DRIVE

KOONYA AVENUE

DURIMBIL AVENUE

DUNOON ROAD

RESERVE

PROPOSED 2.0m DRAINAGE EASEMENT

REFER TO DRAINAGE INSET A ON SHEET 1050 FOR MORE DETAIL.

RETAIN EXISTING HEADWALL AND PIPE. CONSTRUCT PROPOSED PIT WITHIN EXISTING PIPE ALIGNMENT. PIT DEPTH TO MATCH EXISTING PIPE INVERT

PROVIDE 1.5m OF D50 150mmØ SCOUR PROTECTION WITHIN PROPOSED TABLE DRAIN AT OUTLET OF DRIVEABLE ENDWALL. REFER TO TYPICAL DETAIL SHEET 1101.

PROVIDE 1.5m OF D50 150mmØ SCOUR PROTECTION WITHIN PROPOSED TABLE DRAIN AT OUTLET OF DRIVEABLE ENDWALL. REFER TO TYPICAL DETAIL SHEET 1101.

SEAL EXISTING PIPE END WITH CONCRETE GROUT AND ABANDON. REPLACE SAG PIT

INSTALL D50 300Ø ROCK BEACHING AS PER RIP RAP DETAIL.

PROPOSED EASEMENT REALIGNMENT

REFER TYPICAL OUTLET DETAIL TYPE 3. CONTRACTOR TO CONFIRM OUTLET LOCATION WILL NOT IMPACT ON EXISTING TREES.

SECTION OF DRAIN EXTREMELY STEEP. REFER TO STEEP TRENCHING DETAIL FOR BACKFILLING INFORMATION. INSTALL HDPE PIPE JOINTS IN REVERSE TO FLOW DIRECTION TO PROTECT EDGE OF INNER PIPE LINER FROM HIGH FLOW VELOCITY

REFER TYPICAL TYPE B OUTLET DETAIL. CONTRACTOR TO CONFIRM OUTLET LOCATION WILL NOT IMPACT ON EXISTING TREES.

SECTION OF DRAIN EXTREMELY STEEP. REFER TO STEEP TRENCHING DETAIL FOR BACKFILLING INFORMATION. INSTALL HDPE PIPE JOINTS IN REVERSE TO FLOW DIRECTION TO PROTECT EDGE OF INNER PIPE LINER FROM HIGH FLOW VELOCITY

CONNECT EXISTING DRIVEWAY CULVERT TO PIT

REPLACE WITH NEW HEADWALL AND SURROUNDING BUNDING WITH ROCK BEACHING. REFER TO PIT DETAIL SHEET 1221.

PROVIDE BUNDING WITH TABLE DRAIN CONSTRUCTED WITH NON DESTRUCTIVE DIGGING UPSLOPE OF BUND

PROPOSED 2m WIDE EASEMENT

STEEP ENBANKMENT

FOR CONTINUATION REFER TO DRAWING V170115-CI-1012

FOR CONTINUATION REFER TO DRAWING V170115-CI-1010

Rev.	Date	Description	Des.	Verif.	Appd.
2	25/10/2017	FOR TENDER	E.H	E.H	
1	18/10/2017	FOR TENDER	J.P	E.H	

0 10 20m
SCALE 1:500 @A1

NORTH

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Web: www.cardno.com.au

		Date
Drawn	J.O	18/10/2017
Checked	E.H	18/10/2017
Designed	J.P	18/10/2017
Verified		Date
Approved		Date

Client: COLAC OTWAY SHIRE

Project: WYE RIVER AND SEPARATION CREEK STORMWATER MANAGEMENT SYSTEM
DETAILED DESIGN PITS AND PIPES

Title: WYE RIVER NORTH
DRAINAGE LAYOUT PLAN
SHEET 2 OF 4

Status: FOR TENDER ONLY
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Datum	Melways Ref.	Scale	Size
A.H.D	X927,C9	1:500m	A1

Drawing Number: V170115-CI-1011

Revision: 2

FOR CONTINUATION REFER TO DRAWINGS V170115-CI-1011

FOR CONTINUATION REFER TO DRAWINGS V170115-CI-1013

FOR CONTINUATION REFER TO DRAWING V170115-CI-1010

SECTION OF DRAIN EXTREMELY STEEP. REFER TO STEEP TRENCHING DETAIL FOR BACKFILLING INFORMATION. INSTALL HDPE PIPE JOINTS IN REVERSE TO FLOW DIRECTION TO PROTECT EDGE OF INNER PIPE LINER FROM HIGH FLOW VELOCITY

REFER TYPICAL TYPE B OUTLET DETAIL. CONTRACTOR TO CONFIRM OUTLET LOCATION WILL NOT IMPACT ON EXISTING TREES.

PROPOSED 2.0m DRAINAGE EASEMENT

DENSE VEGETATION

RESERVE

SECTION OF DRAIN EXTREMELY STEEP. REFER TO STEEP TRENCHING DETAIL FOR BACKFILLING INFORMATION. INSTALL HDPE PIPE JOINTS IN REVERSE TO FLOW DIRECTION TO PROTECT EDGE OF INNER PIPE LINER FROM HIGH FLOW VELOCITY

CONNECT EXISTING DRIVEWAY CULVERT TO PIT

CONSTRUCT HDPE PIPE ALIGNMENT WITH HORIZONTAL AND VERTICAL DEFLECTION MAINTAIN MINIMUM 0.6m COVER OVER PIPE AND CONSISTENT OFFSET FROM ROAD LIP.

CONTRACTOR TO REINSTATE EXISTING DRIVEWAY TO MATCH EXISTING LEVELS.

CUSTOM ANGLED GRILLED PIT. REFER TO PIT DETAIL FOR INFORMATION.

REPLACE WITH NEW HEADWALL AND SURROUNDING BUNDING WITH ROCK BEACHING. REFER TO PIT DETAIL SHEET 1221.

PROVIDE BUNDING WITH TABLE DRAIN CONSTRUCTED WITH NON DESTRUCTIVE DIGGING UPSLOPE OF BUND

REFER TYPICAL TYPE 2 OUTLET DETAIL FOR INFORMATION. CONTRACTOR TO CONFIRM OUTLET LOCATION WILL NOT IMPACT ON EXISTING TREES.

REVEGETATION AREA

REPLACE EXISTING PIT

EPHEMERAL WATERWAY MAINTAIN EXISTING NATIVE VEGETATION WHERE POSSIBLE REFER TO LANDSCAPE PLAN

HOUSE UNDERSIDE RL 20-03

MATCH EXISTING CHANNEL INVERT AT EDGE OF HOUSE UNDERSIDE.

RECTIFICATION WORKS REQUIRED FOR GUARD RAIL IF IMPACTED DURING CONSTRUCTION

JUNCTION PIT TO HAVE ASPHALT INFILL COVER

THE BOULEVARDE

THE BLUFF

WALLACE AVENUE

McLELLAN COURT

RESERVE

LEGEND

- TITLE BOUNDARIES
- LOT BOUNDARIES
- PROPOSED STORMWATER DRAIN, PIT, DIAMETER AND PROPERTY INLET
- PROPOSED EASEMENT STORMWATER DRAIN, PIT, DIAMETER AND PROPERTY INLET
- EXISTING STORMWATER DRAINAGE
- EXISTING DRAINAGE WING WALL
- PROPOSED DRAINAGE WING WALL
- SURVEY ELEMENTS
- PROPOSED EASEMENT BOUNDARY
- TABLE DRAIN TYPE C
- TABLE DRAIN TYPE F
- EXISTING TABLE DRAIN
- FLOW ARROWS
- EASEMENT BUND
- DRIVEWAY CROSSINGS TO BE UPGRADED (AS PER VEHICLE CROSSING DETAILS)

WARNING

EXTERNAL APPROVAL

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Rev.	Date	Description	Des.	Verif.	Appd.
2	25/10/2017	FOR TENDER	E.H	E.H	
1	18/10/2017	FOR TENDER	J.P	E.H	

SCALE 1:500 @A1

NORTH

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Drawn	J.O	18/10/2017
Checked	E.H	18/10/2017
Designed	J.P	18/10/2017
Verified		Date
Approved		Date

Client: COLAC OTWAY SHIRE

Project: WYE RIVER AND SEPARATION CREEK STORMWATER MANAGEMENT SYSTEM
DETAILED DESIGN PITS AND PIPES

Title: WYE RIVER NORTH
DRAINAGE LAYOUT PLAN
SHEET 3 OF 4

Status: FOR TENDER ONLY
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Datum	Melways Ref.	Scale	Size
A.H.D	X927,C9	1:500m	A1

Drawing Number: V170115-CI-1012

Revision: 2

XREFs: XR-V170115-WYE_NORTH-SURVEY-1; XR-V170115-CONTOURS_5m-1IN500; XR-V170115-HOUSE NUMBERS; XR-V170115-WYE_NORTH-DRAINAGE-EXIST; XR-V170115-LANDSCAPE; XR-V170115-WYE_NORTH-DRAINAGE; XR-V170115-WYE_NORTH-ROADWORKS; XR-V170115-WYE_NORTH-SURVEY-2; XR-V170115-EARLY_WORKS-DRAINAGE; XR-V170115-WYE_NORTH-DRAINAGE
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DATE PLOTTED: 25 October 2017 2:41 PM BY : JORDAN ORMEROD

XREFs: XR-V170115-WYE_NORTH-SURVEY-1; XR-V170115-CONTOURS_5m-1IN500; XR-V170115-HOUSE NUMBERS; XR-V170115-WYE_NORTH-DRAINAGE-EXIST; XR-V170115-LANDSCAPE; XR-V170115-WYE_NORTH-SURVEY-2; XR-V170115-EARLY_WORKS-DRAINAGE; XR-V170115-WYE_NORTH-ROADWORKS; XR-V170115-WYE_NORTH-DRAINAGE
CAD File: \\AUMELCFS01.cardno.corp\Vic2\data\120170001_0500\V170115_WyeRiver_Stormwater\Water\Drafting\V170115-CI-1010-1013.dwg
DATE PLOTTED: 25 October 2017 2:42 PM BY: - JORDAN ORMEROD

LEGEND

- TITLE BOUNDARIES
- LOT BOUNDARIES
- 300Ø — PROPOSED STORMWATER DRAIN, PIT, DIAMETER AND PROPERTY INLET
- 300Ø — PROPOSED EASEMENT STORMWATER DRAIN, PIT, DIAMETER AND PROPERTY INLET
- EXISTING STORMWATER DRAINAGE
- EXISTING DRAINAGE WING WALL
- PROPOSED DRAINAGE WING WALL
- SURVEY ELEMENTS
- PROPOSED EASEMENT BOUNDARY
- TABLE DRAIN TYPE C
- TABLE DRAIN TYPE F
- EXISTING TABLE DRAIN
- FLOW ARROWS
- EASEMENT BUND
- DRIVEWAY CROSSINGS TO BE UPGRADED (AS PER VEHICLE CROSSING DETAILS)

WARNING

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ILOWRA AVENUE

KARINGAL DRIVE

RIVERSIDE DRIVE

THE BOULEVARDE

DENSE VEGETATION

REPLACE EXISTING PIT AND PIPE WITH NEW ARRANGEMENT

PROVIDE 1.5m OF D50 150mmØ SCOUR PROTECTION WITHIN PROPOSED TABLE DRAIN AT OUTLET OF DRIVEABLE ENDWALL. REFER TO TYPICAL DETAIL SHEET 1101.

PROVIDE SCOUR PROTECTION WITHIN PROPOSED TABLE DRAIN AT OUTLET OF DRIVEABLE ENDWALL. REFER TYPICAL DETAIL

PROPOSED 2.0m DRAINAGE EASEMENT

INSTALL DRIVEABLE HEADWALL WITH 225Ø PIT PENETRATION INTO THE SIDE OF THE HEADWALL.

FOR CONTINUATION REFER TO DRAWING V170115-CI-1012

Rev.	Date	Description	Des.	Verif.	Appd.
2	25/10/2017	FOR TENDER	E.H	E.H	
1	18/10/2017	FOR TENDER	J.P	E.H	

0 10 20m
SCALE 1:500 @A1

NORTH

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Drawn	J.O	Date 18/10/2017
Checked	E.H	Date 18/10/2017
Designed	J.P	Date 18/10/2017
Verified		Date
Approved		Date

Client: COLAC OTWAY SHIRE

Project: WYE RIVER AND SEPARATION CREEK STORMWATER MANAGEMENT SYSTEM
DETAILED DESIGN PITS AND PIPES

Title: WYE RIVER NORTH
DRAINAGE LAYOUT PLAN
SHEET 4 OF 4

Status: FOR TENDER ONLY
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Datum	Melways Ref.	Scale	Size
A.H.D	X927,C9	1:500m	A1

Drawing Number: V170115-CI-1013

Revision: 2



INSET A
SCALE 1:100

LEGEND

- TITLE BOUNDARIES
- LOT BOUNDARIES
- 300Ø PROPOSED STORMWATER DRAIN, PIT, DIAMETER AND PROPERTY INLET
- 300Ø PROPOSED EASEMENT STORMWATER DRAIN, PIT, DIAMETER AND PROPERTY INLET
- EXISTING STORMWATER DRAINAGE
- EXISTING DRAINAGE WING WALL
- PROPOSED DRAINAGE WING WALL
- SURVEY ELEMENTS
- EASEMENT BOUNDARY
- TABLE DRAIN TYPE A
- TABLE DRAIN TYPE B
- TABLE DRAIN TYPE C
- TABLE DRAIN TYPE D
- TABLE DRAIN TYPE E
- TABLE DRAIN TYPE F
- TABLE DRAIN TYPE G
- TABLE DRAIN TYPE H
- TABLE DRAIN CENTRELINE
- EXISTING TABLE DRAIN
- TABLE DRAIN FLOW ARROWS
- BARRIER KERB
- EXISTING BARRIER KERB
- SPOON DRAIN
- EXISTING SPOON DRAIN
- KERB AND CHANNEL
- EASEMENT BUND
- DRIVEWAY CROSSINGS TO BE UPGRADED (AS PER VEHICLE CROSSING DETAILS)

WARNING
EXTERNAL APPROVAL
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AND IS A PRELIMINARY ISSUE

Rev.	Date	Description	Des.	Verif.	Appd.
2	25/10/2017	FOR TENDER	E.H	E.H	
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0 10 20m
SCALE 1:500 @A1
NORTH

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Verified		Date
Approved		Date

Client: COLAC OTWAY SHIRE
Project: WYE RIVER AND SEPARATION CREEK STORMWATER MANAGEMENT SYSTEM
DETAILED DESIGN PITS AND PIPES
Title: WYE RIVER NORTH
DRAINAGE INSETS

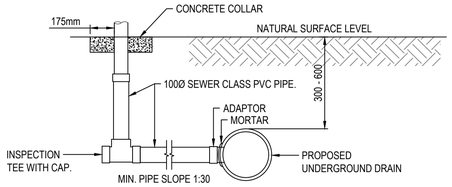
Status: FOR TENDER ONLY
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Datum	Melways Ref.	Scale	Size
A.H.D	X927,C9		A1

Drawing Number: V170115-CI-1050
Revision: 2

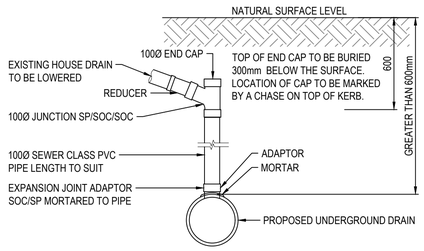
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CAD File: \\AUMELCFS01.cardno.com\Vic\Data1\2017\0001_0500\V170115_WyeRiver_Stormwater\Water\Drafting\V170115-CI-1050.dwg
DATE PLOTTED: 25 October 2017 2:42 PM BY : JORDAN ORMEROD

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NOTE: CONNECTION TO BE ABOVE SPRING LINE.

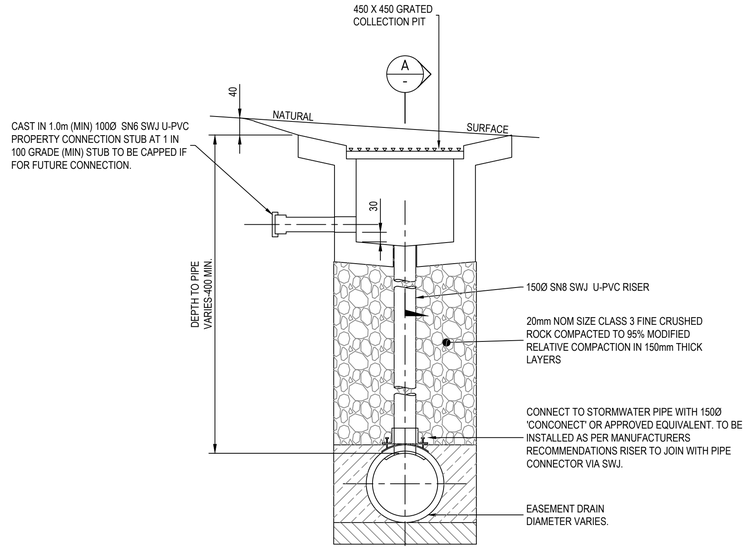
WITH COVER BETWEEN 300mm-600mm



WITH COVER GREATER THAN 600mm

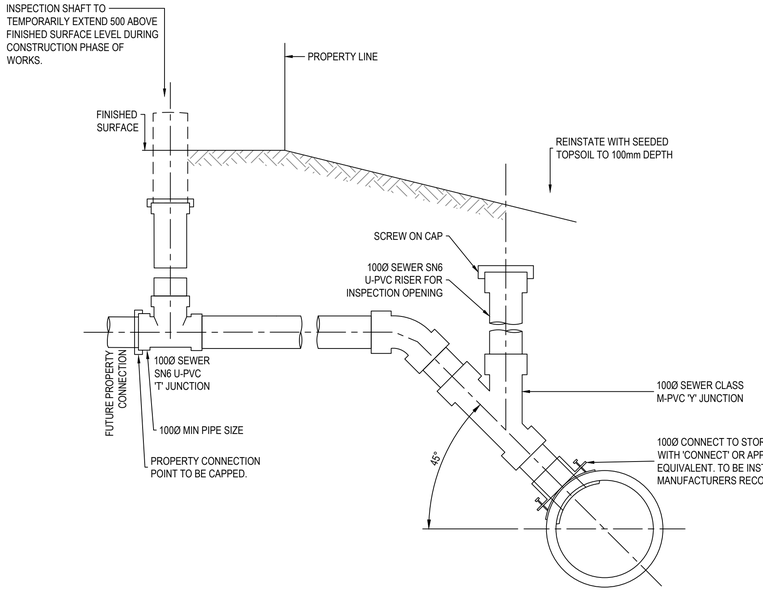
PIPE TO PIPE CONNECTION DETAIL

NOT TO SCALE



SIDE ELEVATION

NOT TO SCALE



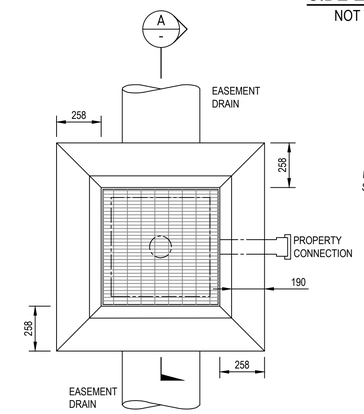
NOTES:

1. REFER TO PLUMBING CODE OF AUSTRALIA FOR ALL PIPE LAYING AND JOINTING REQUIREMENTS.

TRUNK DRAIN CONNECTION

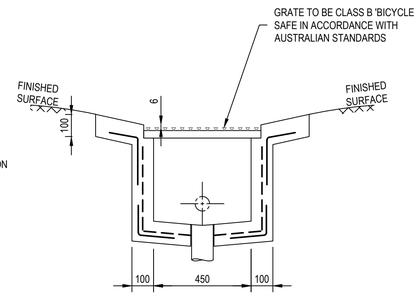
(45° TO PIPE WHERE COVER LIMITED OR STEEP GROUND)

NOT TO SCALE



COLLECTION PIT - PLAN

NOT TO SCALE



SECTION A-A

NOT TO SCALE

NOTES:

1. EDGE CONCRETE AROUND PERIMETER OF GRATE
2. TOP OF GRATE 40mm (min) BELOW FINISHED SURFACE.
3. DO NOT BOND GRATE TO CONCRETE TO ALLOW EASY ACCESS TO PIT.
4. CONCRETE TO BE SMOOTH TROWELLED FINISH.
5. GRATE FRAME TO BE OILED IF INSTALLED IN WET CONCRETE.
6. CONCRETE STRENGTH F'C = 25MPa. (MIN) AT 28 DAYS
7. SEAL UP AND MAKE GOOD PIPE CONNECTION / INSERTION TO PIT.
8. PROPERTY CONNECTION MIN 100Ø PIPE AS PER CLAUSE 16.10.2 (PIPE DIAMETERS).

EASEMENT DRAIN CONNECTION - PITS

NOT TO SCALE

WARNING

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Approved		Date

Client: COLAC OTWAY SHIRE

Project: WYE RIVER AND SEPARATION CREEK STORMWATER MANAGEMENT SYSTEM
DETAILED DESIGN PITS AND PIPES

Title: WYE RIVER NORTH
DRAINAGE TYPICALS
SHEET 1 OF 4

Status: FOR TENDER ONLY
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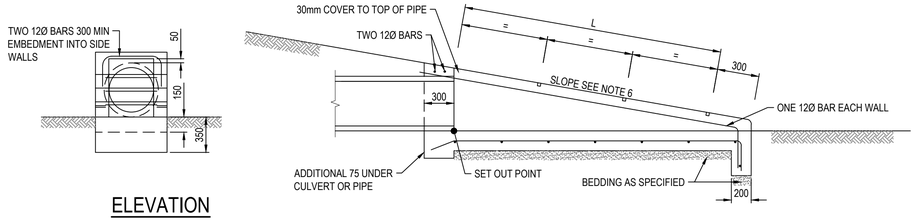
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A.H.D	X927,C9	AS SHOWN	A1

Drawing Number: V170115-CI-1100

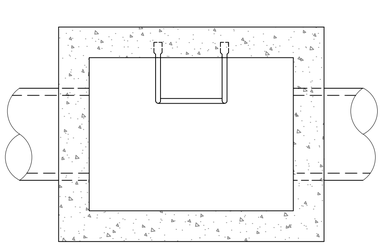
Revision: 2

XREFs: XR-V170115-DRAINAGE_TYPICALS
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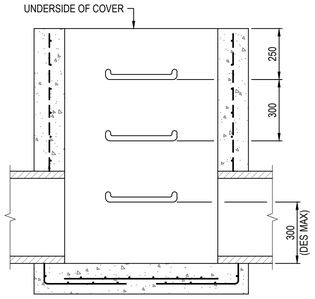
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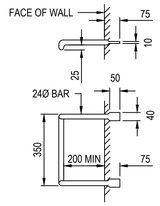


ELEVATION



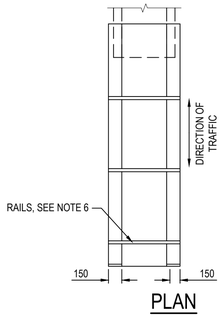
PLAN





NOTES:
1. PITS DEEPER THAN 1000mm SHALL BE FITTED WITH STEP IRONS.
2. STEP IRONS SHALL BE LOCATED:
   - DIRECTLY BELOW THE OPENING IN THE COVER
   - DESIRABLY ON A WALL WITHOUT PIPE OPENINGS
   - DESIRABLY ON ONE OF THE LONG SIDES OF THE PIT
3. MATERIAL FOR STEP IRONS SHALL BE STRUCTURAL GRADE 250 TO AS 1204.
4. STEP IRONS SHALL HAVE SHARP EDGES ROUNDED AND HOT DIP GALVANIZED AFTER FABRICATION.
5. PROPRIETY STEPS SUCH AS THE GATIC PS2-PF POLYPROPYLENE STEPS (OR APPROVED ALTERNATIVE) MAY BE USED. THESE SHALL BE INSTALLED ACCORDING TO THE MAUFACTUREERS INSTRUCTIONS.

STEP IRON DETAIL
NOT TO SCALE



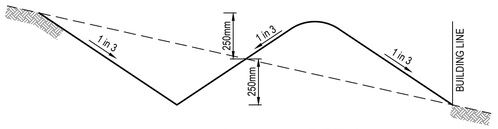
PLAN

NOTES:
1. REINFORCEMENT, SL81 UNLESS OTHERWISE SPECIFIED, SHALL BE CONTINUOUS AROUND CORNERS AND LOCATED AS SHOWN. CLEAR COVER 50 MIN. LAPS, FABRICS 300 MIN., BARS 25XBAR
2. DIAMETER MIN.
3. CONCRETE STRENGTH N32 AT 28 DAYS
4. EXPOSED EDGES SHALL HAVE 20x20 CHAMFERS
5. RAILS WITHIN SECTION "L" SHALL BE EVENLY SPACED. THE MAXIMUM SPACING SHALL NOT EXCEED 600mm.
6. RAILS ARE 60.3mm DIAMETER GALVANIZED TUBES 5.4mm THICK. THESE ARE TO BE GROUTED INTO THE SLOTS IN THE WALLS.

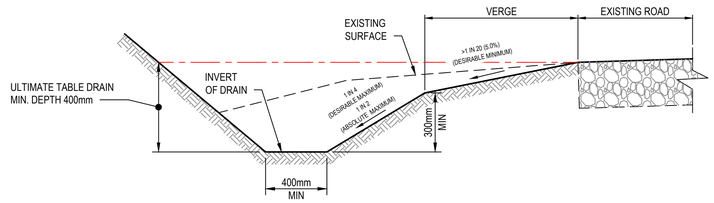
SLOPE OF ENDWALL TO MATCH BATTER SLOPE MAXIMUM SLOPE 4 TO 1.

'L' (mm)	TOTAL NUMBER OF RAILS
100-600	1
601-1200	2
1201-1800	3
1801-2400	4

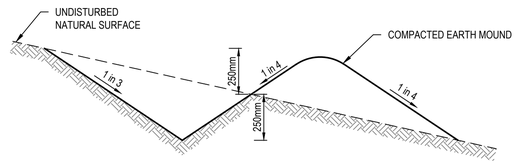
DRIVEABLE ENDWALL TYPE 1
NOT TO SCALE



OPEN CATCH DRAIN DETAIL
NOT TO SCALE
NOTE: CATCH DRAINS TO BE GRADED TO NOMINATED OUTLETS. FINISH WITH 100mm TOPSOIL



TYPICAL TABLE DRAIN (TYPE-C)
NOT TO SCALE



TYPICAL MOUNDED CATCH DRAIN(TYPE-F)
NOT TO SCALE
NOTE: DRAINS TO BE GRADED TO NOMINATED OUTLETS. FINISH WITH 100mm TOPSOIL

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Rev.	Date	Description	Des.	Verif.	Appd.
2	25/10/2017	FOR TENDER	E.H	E.H	
1	18/10/2017	FOR TENDER	J.P	E.H	

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Drawn	J.O	Date 18/10/2017
Checked	E.H	Date 18/10/2017
Designed	J.P	Date 18/10/2017
Verified		Date
Approved		Date

Client: COLAC OTWAY SHIRE
Project: WYE RIVER AND SEPARATION CREEK STORMWATER MANAGEMENT SYSTEM
DETAILED DESIGN PITS AND PIPES
Title: WYE RIVER NORTH
DRAINAGE TYPICALS
SHEET 2 OF 4

Status: FOR TENDER ONLY
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Datum	Melways Ref.	Scale	Size
A.H.D	X927,C9	AS SHOWN	A1

Drawing Number: V170115-CI-1101
Revision: 2

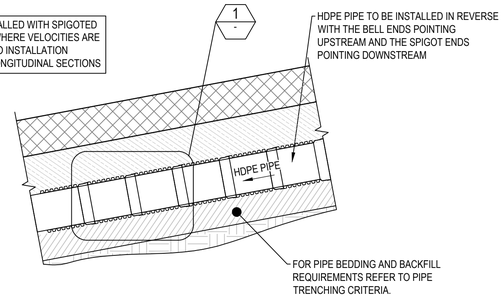
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DATE PLOTTED: 25 October 2017 2:42 PM BY : JORDAN ORMEROD

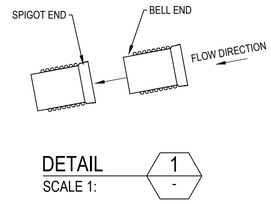
BULKHEAD NOTES:

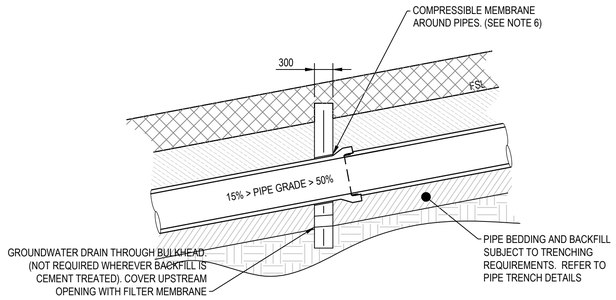
1. BULKHEADS ARE REQUIRED FOR PIPES 300mm DIAMETER OR GREATER
2. BULKHEAD TO BE LOCATED DIRECTLY BEHIND DOWNSTREAM OF COLLAR SO AS NOT TO ENCASE THE JOINT
3. LOCATE BULKHEAD AT A RETAINING WALL UNDER THE WALL.
4. KEY CONCRETE BULKHEADS INTO SIDES AND BOTTOM OF TRENCH AGAINST A BEARING SURFACE OF UNDISTURBED SOIL
5. CONCRETE TO BE CLASS N25
6. DO NOT DEFORM PIPES DURING PLACEMENT OF CONCRETE
7. PROVIDE CONTINUOUS DRAINAGE PATH THROUGH BULKHEADS
8. COMPRESSIBLE MEMBRANE AROUND PIPE TO BE 3 THICK RUBBER FOR BULKHEADS ON SLOPES
9. GROUNDWATER DRAIN THROUGH BULKHEAD IS NOT REQUIRED WHEREVER BACKFILL IS CEMENT TREATED
10. GROUNDWATER DRAINS THROUGH BULKHEADS SHALL BE FILLED WITH FIBREGLASS WOOL OR OTHER APPROVED FILTER MATERIAL
11. BULKHEADS SHALL BE CONSTRUCTED AT EVERY SECOND JOINT WHERE PIPE GRADES EXCEED 15% (1 in 6.7) AND CEMENT TREATED BACKFILL IS NOT SPECIFIED. REFER TYPICAL DETAIL

NOTE HDPE PIPES TO BE INSTALLED WITH SPIGOTED ENDS FACING DOWNSTREAM WHERE VELOCITIES ARE GREATER THAN 6m/s. REFER TO INSTALLATION SCHEDULE AS PART OF THE LONGITUDINAL SECTIONS

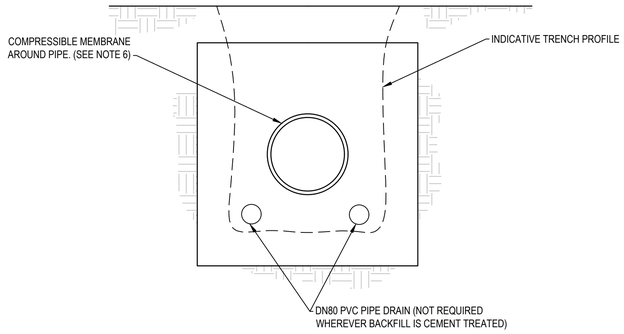


HIGH VELOCITY HDPE PIPE INSTALLATION DETAIL
NOT TO SCALE



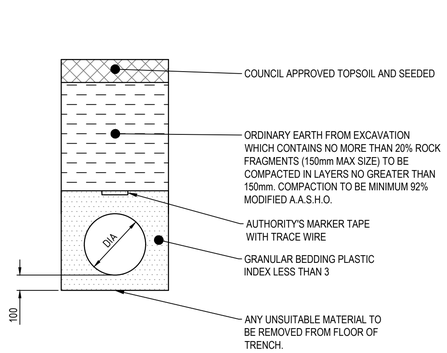


CONCRETE BULKHEAD FOR RCP DETAIL
NOT TO SCALE

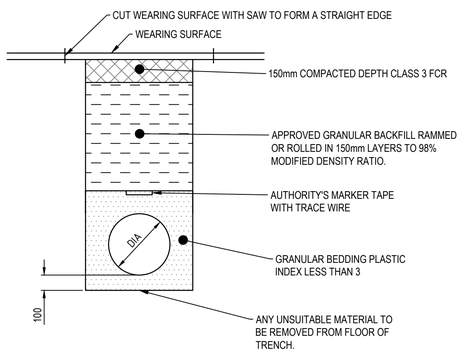


SECTION A
NOT TO SCALE

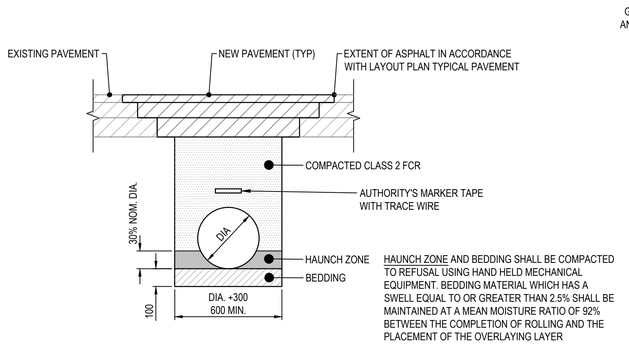
PLANT SCHEDULE FOR SLOPES STEEPER THAN 1 IN 2			
BOTANICAL NAME	COMMON NAME	PLANT DENSITY	NOTES
GOODENIA OVATA	HOP GOODENIA	1 -2 PLANTS PER 50m2	DISPERSED PLANTING AND PLANT AT TOP OF BANKS/TRANSITION BETWEEN ROAD AND PIPE TRENCH
CORREA ALBA	WHITE CORREA	1 -2 PLANTS PER 50m2	DISPERSED PLANTING AND IMMEDIATELY UPSTREAM OF PITS
POA POAFORMIS	COAST TUSSOCK-GRASS	5 PLANTS PER 5m2	PLANT IN CLUMPS OF 5
LOMANDRA LONGFOLIA	MAT RUSH	1 -2 PLANTS PER 50m2	DISPERSED PLANTING
ENCHYLAENA TOMENTOSA	RUBY SALTBUSH	1 -2 PLANTS PER 50m2	DISPERSED PLANTING
MICROLAENA STIPOIDES	WEEPING GRASS	10g/m2	BEGIN WITH A WEED FREE SEED BED. SOW SEED 10-15mm BELOW THE SOIL SURFACE



TRENCHES UNDER LANDSCAPE AREAS

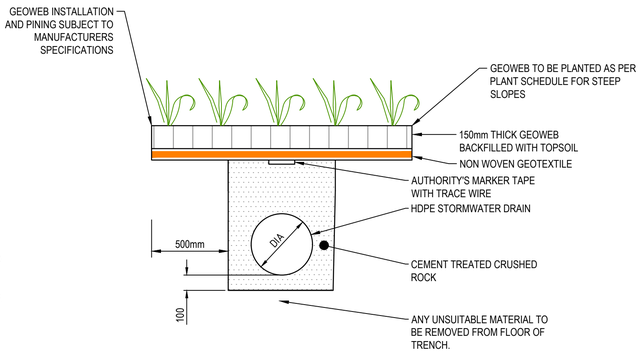


TRENCHES UNDER FOOTPATHS



TRENCHES UNDER ROADS

PIPE TRENCH DETAILS
NOT TO SCALE



TRENCHES FOR PIPE AND EMBANKMENT SLOPES STEEPER THAN 1 IN 2

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Client: COLAC OTWAY SHIRE

Project: WYE RIVER AND SEPARATION CREEK STORMWATER MANAGEMENT SYSTEM
DETAILED DESIGN PITS AND PIPES

Title: WYE RIVER NORTH
DRAINAGE TYPICALS
SHEET 3 OF 4

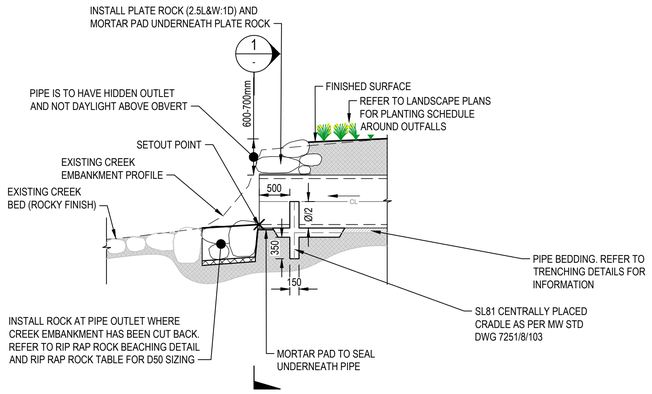
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Datum	Melways Ref.	Scale	Size
A.H.D	X927,C9	AS SHOWN	A1

Drawing Number: V170115-CI-1102
Revision: 2

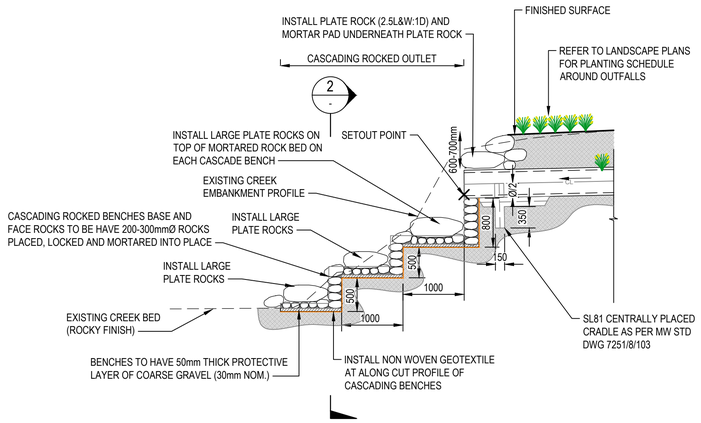
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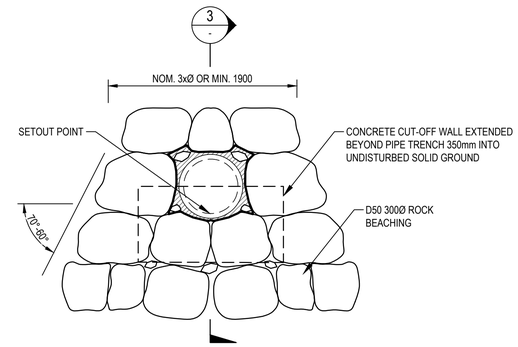
TYPICAL OUTFALL - TYPE 1: OUTFALL INTO CREEK DETAIL

SCALE 1:50



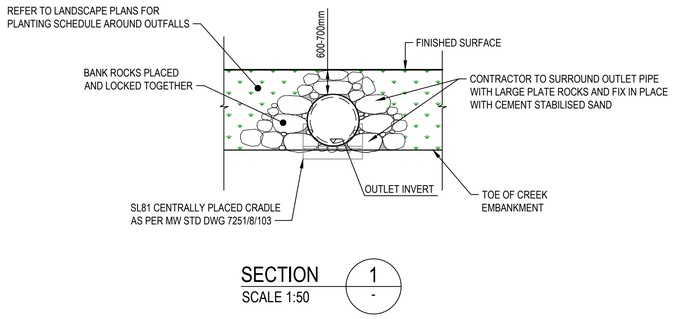
TYPICAL OUTFALL - TYPE 2: OUTFALL INTO CREEK DETAIL

SCALE 1:50



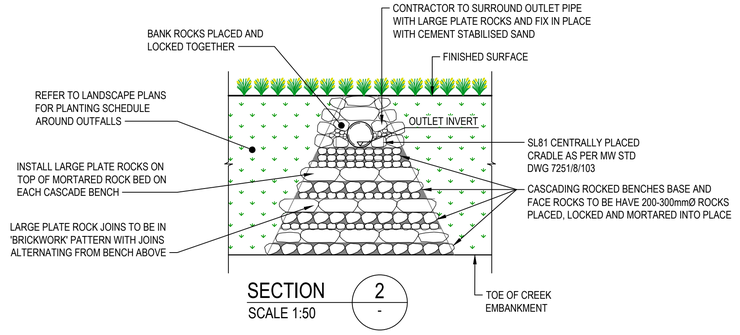
TYPICAL OUTFALL - TYPE 3: OUTFALL INTO TABLE DRAIN

SCALE 1:50



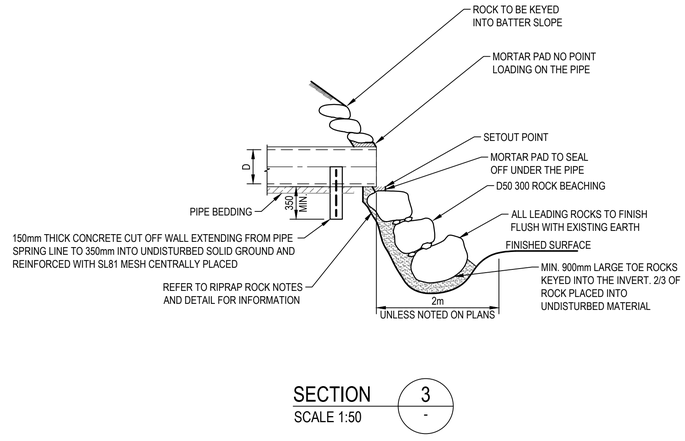
SECTION 1

SCALE 1:50



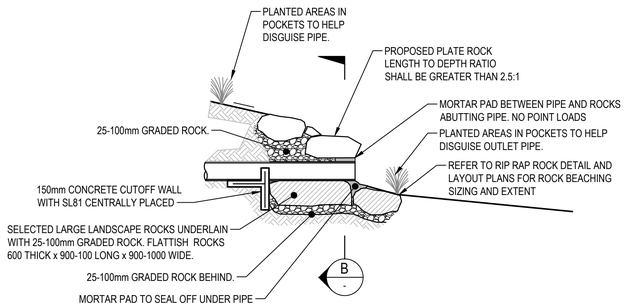
SECTION 2

SCALE 1:50



SECTION 3

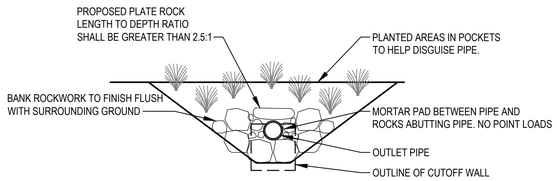
SCALE 1:50



ROCK ENDWALL DETAIL

NOT TO SCALE

REFER TO MW STANDARD DRAWING 7251/8/105



SECTION B

NOT TO SCALE

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1	18/10/2017	FOR TENDER	J.P	E.H	

0 1 2m

SCALE 1:50 @A1

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DETAILED DESIGN PITS AND PIPES

Title: WYE RIVER NORTH
DRAINAGE TYPICALS
SHEET 4 OF 4

Status: FOR TENDER ONLY
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Datum	Melways Ref.	Scale	Size
A.H.D	X927,C9	AS SHOWN	A1

Drawing Number: V170115-CI-1103

Revision: 2

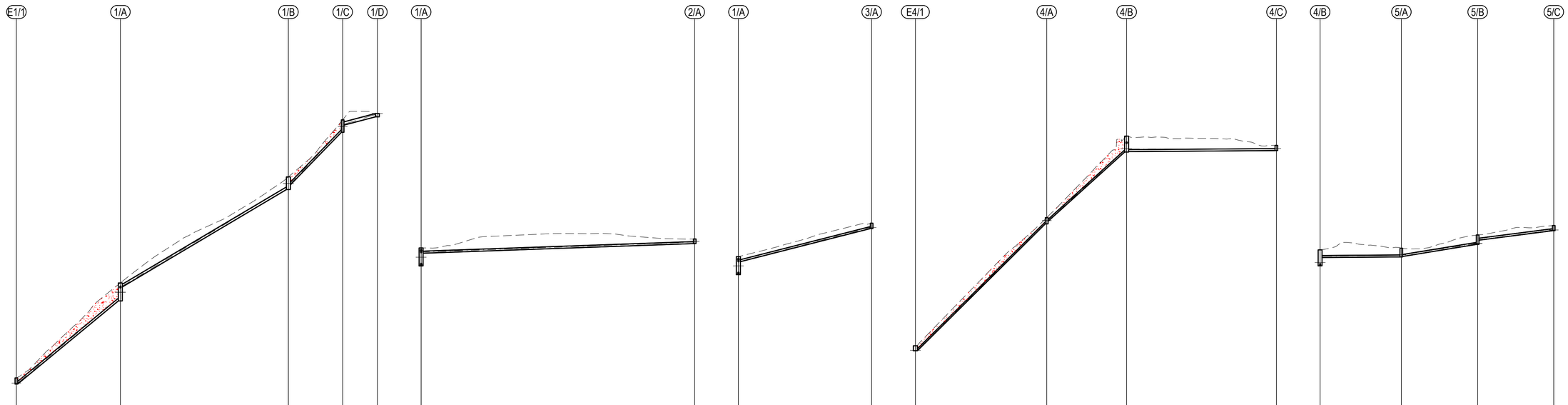
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DATE PLOTTED: 25 October 2017 2:42 PM BY : JORDAN ORMEROD

LEGEND

- EXISTING SURFACE
- DESIGN SURFACE
- DRAINAGE HYDRAULIC GRADE LINE (HGL)
- PROPOSED DRAINAGE
- EXISTING DRAINAGE
- FUTURE DRAINAGE
- (2/A) PIT NUMBER
- FINE CRUSHED ROCK BACKFILL (FCR) UNDER EX ROADS
- CEMENT TREATED BACKFILL FOR STEEP SLOPES

CONTRACTOR TO VERIFY EXISTING SERVICES CONNECTION LEVELS PRIOR TO CONSTRUCTION. ANY DISCREPANCIES MUST BE IMMEDIATELY IDENTIFIED AND THE SUPERINTENDENT NOTIFIED PRIOR TO CONSTRUCTION COMMENCING.



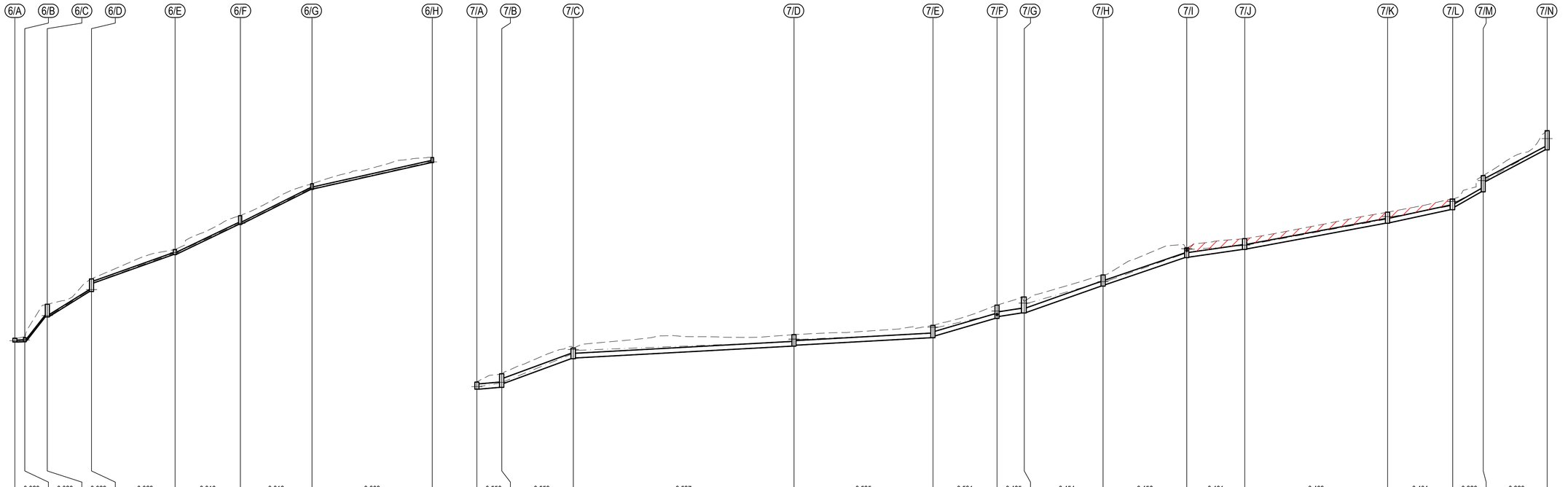
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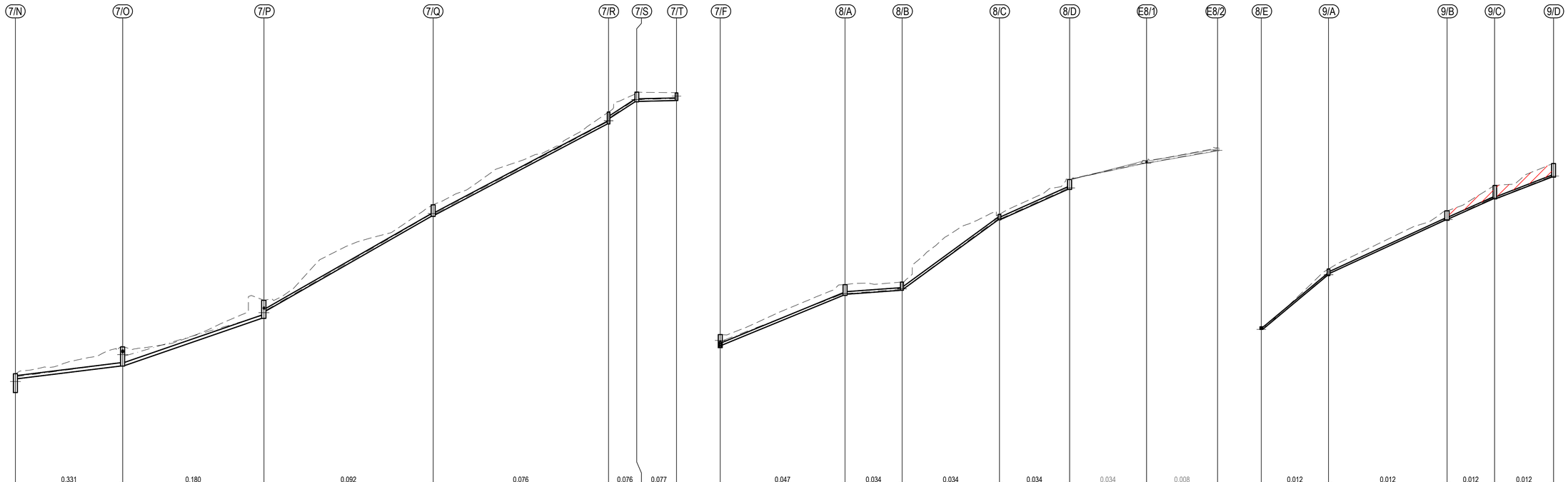
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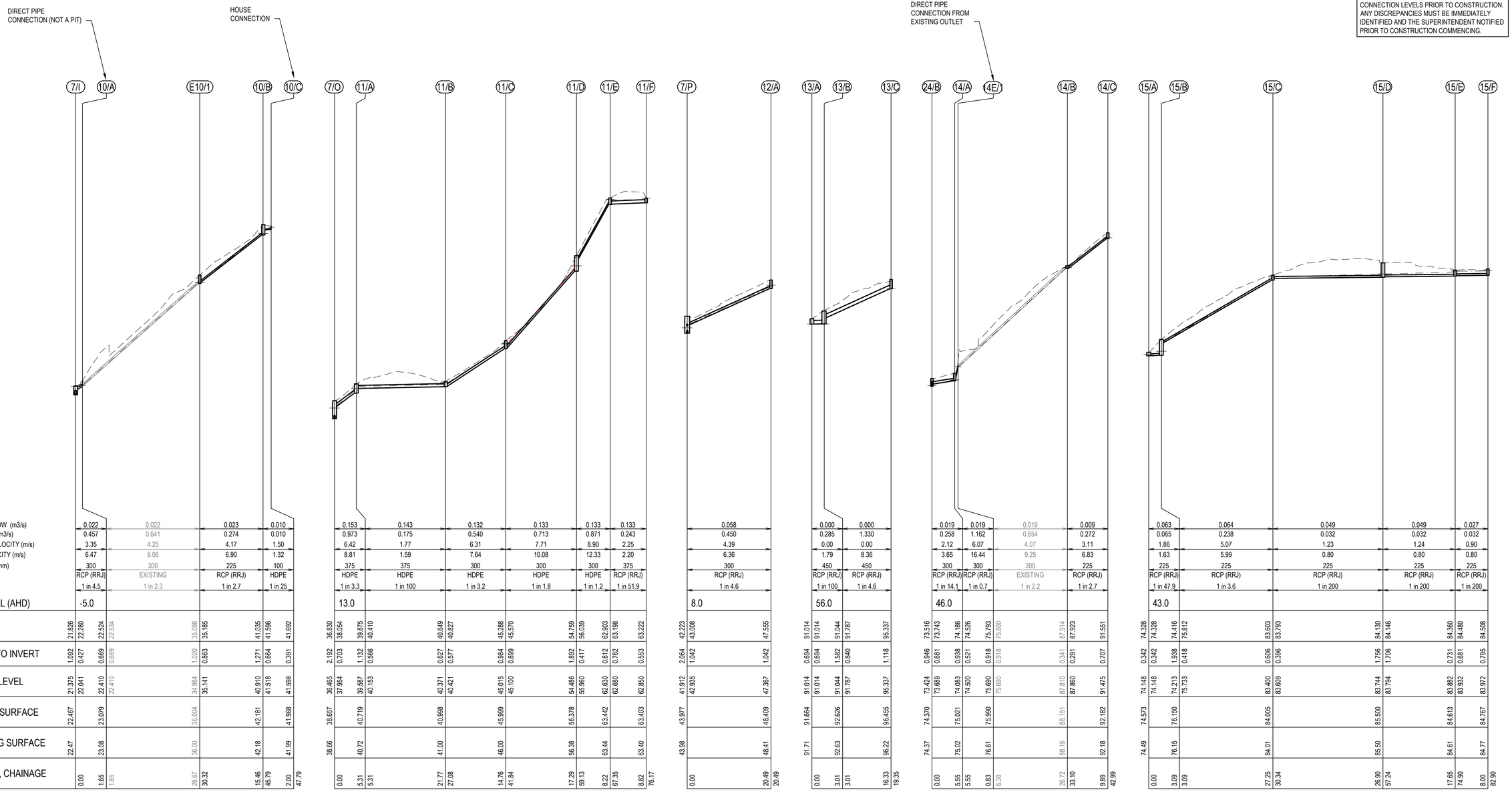
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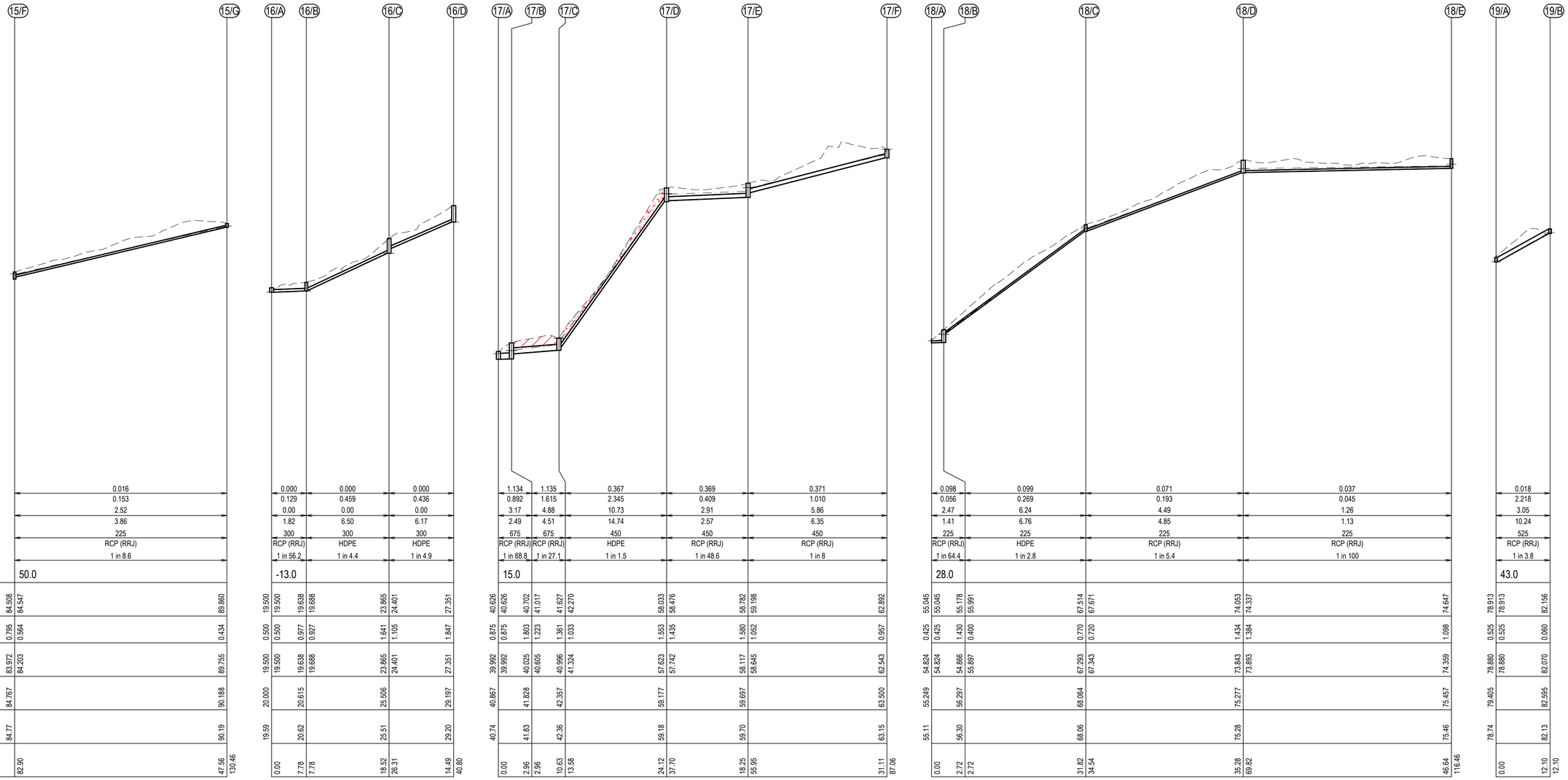
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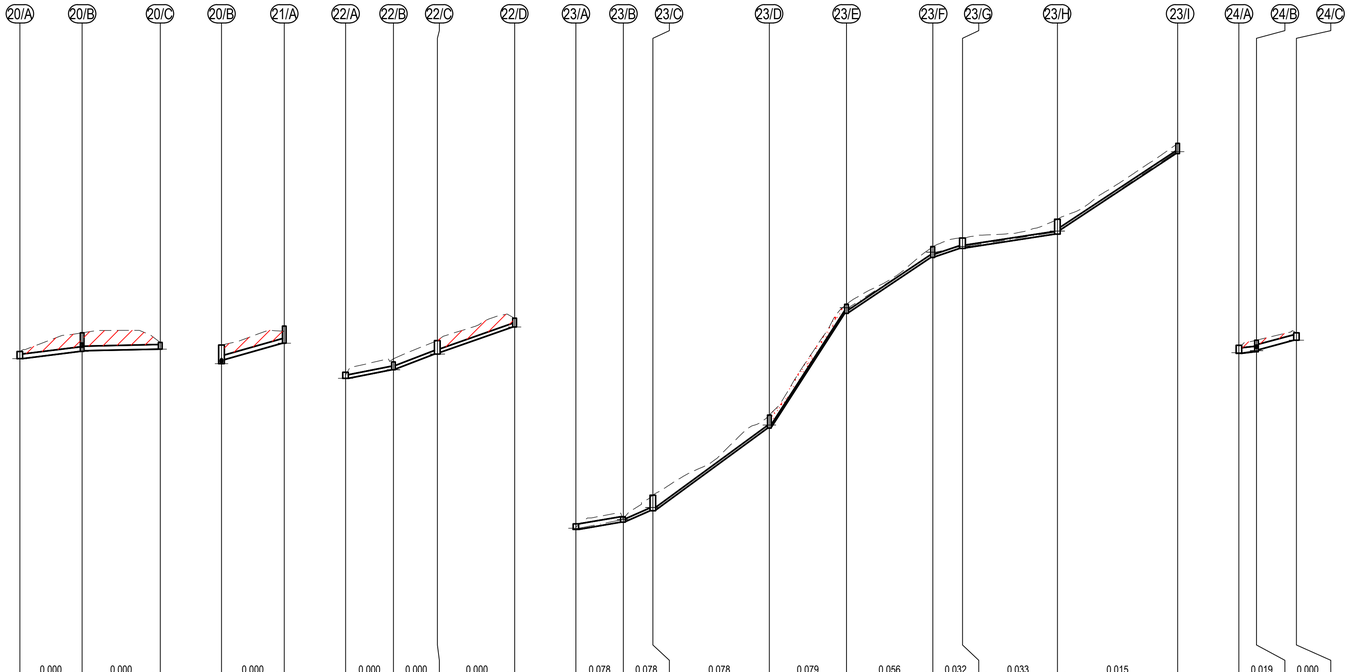
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	FINE CRUSHED ROCK BACKFILL (FCR) UNDER EX ROADS
	CEMENT TREATED BACKFILL FOR STEEP SLOPES

CONTRACTOR TO VERIFY EXISTING SERVICES CONNECTION LEVELS PRIOR TO CONSTRUCTION. ANY DISCREPANCIES MUST BE IMMEDIATELY IDENTIFIED AND THE SUPERINTENDENT NOTIFIED PRIOR TO CONSTRUCTION COMMENCING.



| | | |

DATE PLOTTED: 25 October 2017 2:42 PM BY: JORDAN ORMEROD

PIT SCHEDULE

PIT NO	LOCATION		TYPE	INTERNAL		PIT COVER LEVEL	CLASS (AS 3996)	DEPTH	INLET		OUTLET		COMMENTS
	EASTING	NORTHING		WD	LEN				DIA	INV LEV	DIA	INV LEV	
1/A	752092.678	5720080.082	JP	900	900	32.051	B	2.05	300	31.600	300	30.000	REFER IDM SD 405 WITH LOCKABLE TERRAFIRMA COVER COLOURED GREEN. 40 Mpa CONCRETE PIT
									225	31.450			
									225	31.483			
1/B	752064.820	5720106.555	JP	900	900	44.170	B	1.46	300	43.256	300	42.715	REFER IDM SD 405 WITH LOCKABLE TERRAFIRMA COVER COLOURED GREEN. 40 Mpa CONCRETE PIT
1/C	752055.976	5720115.267	JP	600	600	50.689	D	1.43	375	50.080	300	49.256	REFER IDM SD 405 WITH LOCKABLE TERRAFIRMA COVER COLOURED GREEN
1/D	752050.737	5720121.234	HW	-	-	51.555	-	0.52	-	-	Ex375	51.030	REINFORCED CONCRETE WINGWALL. REFER IDM SD 465
2/A	752132.536	5720128.319	JP	600	600	33.079	B	0.53			225	32.550	REFER IDM SD 405 WITH LOCKABLE TERRAFIRMA COVER COLOURED GREEN
3/A	752066.849	5720063.909	JP	600	600	35.875	B	0.61			225	35.263	REFER IDM SD 405 WITH LOCKABLE TERRAFIRMA COVER COLOURED GREEN
4/A	752016.855	5720012.848	JP	600	600	34.512	B	0.71	225	34.100	225	33.800	REFER IDM SD 405 WITH LOCKABLE TERRAFIRMA COVER COLOURED GREEN. 40 Mpa CONCRETE PIT
4/B	752006.219	5720027.701	JP	900	900	43.824	B	1.82	225	42.058	225	42.008	REFER IDM SD 405 WITH LOCKABLE TERRAFIRMA COVER COLOURED GREEN
									225	42.963			
4/C	752032.042	5720050.202	JP	600	600	42.768	B	0.60			225	42.173	REFER IDM SD 405 WITH LOCKABLE TERRAFIRMA COVER COLOURED GREEN
5/A	751992.091	5720015.633	JP	900	600	44.023	B	1.00	225	43.075	225	43.025	REFER IDM SD 405 WITH LOCKABLE TERRAFIRMA COVER COLOURED GREEN
5/B	751976.496	5720007.793	JP	900	600	45.534	B	1.08	225	44.939	225	44.450	REFER IDM SD 405 WITH LOCKABLE TERRAFIRMA COVER COLOURED GREEN
5/C	751960.943	5719999.974	JP	600	600	46.613	B	0.60			225	46.018	REFER IDM SD 405 WITH LOCKABLE TERRAFIRMA COVER COLOURED GREEN
6/A	751915.258	5720057.125	DEW	-	-	66.345	-	0.35	225	65.931			DRIVEABLE ENDWALL. REFER TYPICAL DETAIL
6/B	751916.853	5720055.577	GEP	600	600	66.416	D	0.47	225	66.000	225	65.950	REFER IDM SD 405 WITH GRATED CLASS D COVER
6/C	751920.699	5720058.836	JP	600	900	70.159	B	1.42	225	68.788	225	68.738	REFER IDM SD 405 WITH LOCKABLE TERRAFIRMA COVER COLOURED GREEN
6/D	751928.780	5720064.562	JP	600	900	72.989	B	1.41	225	72.533	225	71.581	REFER IDM SD 405 WITH LOCKABLE TERRAFIRMA COVER COLOURED GREEN
6/E	751942.545	5720077.268	JP	600	600	76.281	B	0.57	225	75.758	225	75.708	REFER IDM SD 405 WITH LOCKABLE TERRAFIRMA COVER COLOURED GREEN
6/F	751943.486	5720091.857	JP	600	600	80.070	B	0.98	225	79.140	225	79.090	REFER IDM SD 405 WITH LOCKABLE TERRAFIRMA COVER COLOURED GREEN
6/G	751932.519	5720103.557	JP	600	600	83.651	B	0.65	225	83.071	225	83.004	REFER IDM SD 405 WITH LOCKABLE TERRAFIRMA COVER COLOURED GREEN
6/H	751914.088	5720123.219	JP	600	600	86.583	B	0.57			225	86.014	REFER IDM SD 405 WITH LOCKABLE TERRAFIRMA COVER COLOURED GREEN
7/A	751734.595	5719960.354	EW	-	-	7.447	-	0.84	600	6.647			ROCKED OUTLET TYPE 1. REFER TO TYPICAL DETAILS
7/B	751739.970	5719961.857	JP	900	900	8.380	D	1.53	600	7.300	600	6.850	HAUNCHED PIT WITH 600 X 900 ACCESS. CLASS D ASPHALT INFILL COVER. REFER IDM SD 410
7/C	751751.335	5719973.159	GEP	900	900	11.243	D	1.18	525	10.144	600	10.064	HAUNCHED PIT WITH 600 X 900 AND DEPRESSED GRATE. REFER IDM SD 455 & SD 410
7/D	751799.939	5719964.170	JP	900	900	12.756	D	1.29	525	11.571	525	11.471	HAUNCHED PIT WITH 600 X 900 ACCESS. CLASS D COVER. REFER IDM SD 410
7/E	751829.397	5719954.064	GEP	900	900	13.794	D	1.39	525	12.608	525	12.408	HAUNCHED PIT WITH 600 X 900 ACCESS. GRATED CLASS D COVER. REFER IDM SD 410
7/F	751838.942	5719964.766	JP	900	900	16.060	D	1.49	525	14.791	525	14.568	HAUNCHED PIT WITH 600 X 900 ACCESS. GRATED CLASS D COVER. REFER IDM SD 410
									300	14.860			
7/G	751843.317	5719969.011	GEP	900	900	16.970	D	1.79	525	15.234	525	15.184	HAUNCHED PIT WITH 600 X 900 CUSTOM ANGLED GRILL. CLASS D COVER. REFER TYPICAL DETAIL
7/H	751843.400	5719986.682	JP	900	900	19.437	D	1.25	525	18.338	525	18.188	HAUNCHED PIT WITH 600 X 900 ACCESS. CLASS D COVER. REFER IDM SD 410
7/I	751843.017	5720005.423	GEP	900	900	22.467	D	1.09	525	21.425	525	21.375	HAUNCHED PIT WITH 600 X 900 ACCESS. GRATED CLASS D COVER. REFER IDM SD 410
									300	22.041			
7/J	751830.697	5720009.534	JP	900	900	23.496	D	1.20	525	22.343	525	22.293	HAUNCHED PIT WITH 600 X 900 ACCESS. CLASS D COVER. REFER IDM SD 410
7/K	751807.332	5720031.407	JP	900	900	26.463	D	1.24	525	25.273	525	25.223	HAUNCHED PIT WITH 600 X 900 ACCESS. CLASS D COVER. REFER IDM SD 410
7/L	751800.532	5720044.310	GEP	900	900	27.930	D	1.20	375	27.042	525	26.735	HAUNCHED PIT WITH 600 X 900 CUSTOM ANGLED GRILL. CLASS D COVER. REFER TYPICAL DETAIL
7/M	751803.414	5720050.516	JP	900	900	30.557	B	1.82	375	29.887	375	28.742	HAUNCHED PIT WITH 600 X 900 LOCKABLE TERRAFIRMA COVER COLOURED GREEN
7/N	751809.443	5720063.500	JP	900	900	35.582	B	2.15	375	35.009	375	33.433	HAUNCHED PIT WITH 600 X 900 LOCKABLE TERRAFIRMA COVER COLOURED GREEN
7/O	751819.770	5720085.738	JP	900	900	38.657	B	2.19	375	36.515	375	36.465	HAUNCHED PIT WITH 600 X 900 LOCKABLE TERRAFIRMA COVER COLOURED GREEN
									375	37.954			
7/P	751796.026	5720107.630	JP	900	900	43.977	B	2.06	300	42.755	375	41.912	HAUNCHED PIT WITH 600 X 900 LOCKABLE TERRAFIRMA COVER COLOURED GREEN
									300	42.935			
7/Q	751805.488	5720145.150	JP	600	900	54.886	B	1.32	300	53.743	300	53.568	REFER IDM SD 405 WITH LOCKABLE TERRAFIRMA COVER COLOURED GREEN
7/R	751815.293	5720184.032	JP	900	600	65.490	B	1.36	300	64.791	300	64.128	REFER IDM SD 405 WITH LOCKABLE TERRAFIRMA COVER COLOURED GREEN
7/S	751817.133	5720190.201	JP	600	900	67.765	D	1.11	300	66.708	300	66.658	REFER IDM SD 405 WITH CLASS D COVER
7/T	751812.556	5720198.052	JP	900	900	67.679	D	0.88			300	66.799	DEPRESSED GRATE WITH CLASS D COVER. REFER IDM SD 455
8/A	751860.207	5719945.736	JP	600	900	21.769	D	1.23	300	20.672	300	20.535	REFER IDM SD 405 WITH CLASS D COVER
8/B	751871.184	5719938.687	JP	600	600	22.063	D	0.95	300	21.269	300	21.117	REFER IDM SD 405 WITH CLASS D COVER
8/C	751892.327	5719945.647	JP	600	600	29.797	B	0.62	300	29.225	300	29.175	REFER IDM SD 405 WITH LOCKABLE TERRAFIRMA COVER COLOURED GREEN
8/D	751906.404	5719953.303	JP	600	900	33.781	B	1.14	300	33.840	300	32.643	REFER IDM SD 405 WITH LOCKABLE TERRAFIRMA COVER COLOURED GREEN
9/A	751914.741	5719975.321	JP	600	600	42.549	B	0.75	225	42.065	225	41.798	REFER IDM SD 405 WITH LOCKABLE TERRAFIRMA COVER COLOURED GREEN
9/B	751901.908	5719999.207	GEP	600	900	49.194	D	1.08	225	48.311	225	48.115	REFER IDM SD 405 WITH GRATED CLASS D COVER
9/C	751903.017	5720010.004	GEP	600	900	52.094	D	1.53	225	50.616	225	50.566	REFER IDM SD 405 WITH GRATED CLASS D COVER
9/D	751915.612	5720014.800	GEP	600	900	54.608	D	1.56			225	53.049	REFER IDM SD 405 WITH GRATED CLASS D COVER
10/B	751865.882	5720043.114	JP	600	900	42.181	B	1.27	100	41.518	225	40.910	REFER IDM SD 405 WITH LOCKABLE TERRAFIRMA COVER COLOURED GREEN
11/A	751824.415	5720088.317	JP	900	900	40.719	B	1.13	375	40.153	375	39.587	REFER IDM SD 405 WITH LOCKABLE TERRAFIRMA COVER COLOURED GREEN
11/B	751839.973	5720073.087	JP	600	900	40.998	B	0.63	300	40.421	375	40.371	REFER IDM SD 405 WITH LOCKABLE TERRAFIRMA COVER COLOURED GREEN. 40 Mpa CONCRETE PIT
11/C	751849.577	5720084.296	JP	900	600	45.999	B	0.98	300	45.100	300	45.015	REFER IDM SD 405 WITH LOCKABLE TERRAFIRMA COVER COLOURED GREEN. 40 Mpa CONCRETE PIT
11/D	751865.305	5720091.467	JP	600	900	56.378	B	1.89	300	55.960	300	54.486	REFER IDM SD 405 WITH LOCKABLE TERRAFIRMA COVER COLOURED GREEN. 40 Mpa CONCRETE PIT
11/E	751871.232	5720097.165	JP	600	600	63.442	D	0.81	375	62.680	300	62.630	JUNCTION PIT WITH CLASS D COVER. REFER IDM SD 405
11/F	751873.629	5720105.655	GEP	600	600	63.403	D	0.55			375	62.850	DEPRESSED GRATE. REFER IDM SD 455
12/A	751784.138	5720124.322	JP	600	600	48.409	B	1.04			300	47.367	DEPRESSED GRATE. REFER IDM SD 455
13/A	751824.514	5720275.427	DEW	-	-	91.664	-	0.69	450	91.014	-	-	DRIVEABLE ENDWALL. REFER TYPICAL DETAIL
13/B	751825.094	5720278.382	JP	900	900	92.626	D	1.58	450	91.787	450	91.044	HAUNCHED PIT WITH 600 X 900 ACCESS. CLASS D COVER. REFER IDM SD 410. 40MPa CONCRETE PIT
13/C	751814.004	5720290.376	JP	900	600	96.455	D	1.12			450	95.337	INLET CATCH PIT REFER IDM SD 460
14/A	751688.400	5720214.755	GEP	600	600	75.021	D	0.94	300	74.500	300	74.083	REFER IDM SD 405 WITH GRATED CLASS D COVER
14/B	751684.032	5720241.904	JP	600	600	88.151	B	0.34	225	87.860	Ex300	87.810	REFER IDM SD 405 WITH LOCKABLE TERRAFIRMA COVER COLOURED GREEN. 40MPa CONCRETE PIT
14/C	751689.390	5720250.218	JP	600	600	92.182	B	0.71			225	91.475	REFER IDM SD 405 WITH LOCKABLE TERRAFIRMA COVER COLOURED GREEN. 40MPa CONCRETE PIT
15/A	751526.357	5720202.269	HW	-	-	74.573	-	0.42	225	74.148			REINFORCED CONCRETE WINGWALL. REFER IDM SD 465
15/B	751529.303	5720203.214	JP	900	900	76.150	B	1.94	225	75.733	225	74.213	REFER IDM SD 405 WITH GRATED COVER
15/C	751556.431	5720200.662	JP	600	600	84.005	B	0.61	225	83.609	225	83.400	REFER IDM SD 405 WITH GRATED COVER
15/D	751583.329	5720200.253	JP	900	900	85.500	B	1.76	225	83.794	225	83.744	REFER IDM SD 405 WITH GRATED COVER
15/E	751600.982	5720200.335	JP	600	600	84.613	B	0.73	225	83.932	225	83.882	REFER IDM SD 405 WITH GRATED COVER
15/F	751608.089	5720204.010	JP	600	600	84.767	B	0.80	150	84.203	225	83.972	REFER IDM SD 405 WITH GRATED COVER
15/G	751650.336	5720225.853	JP	600	600	90.188	B	0.34			225	89.755	REFER IDM SD 405 WITH GRATED COVER
16/A	751728.481	5720044.007	HW	-	-	20.000	-	0.50	300	19.500			REINFORCED CONCRETE WINGWALL. REFER IDM SD 465
16/B	751723.082	5720049.611	GEP	900	600	20.615	B	0.98	300	19.688	300	19.638	REFER IDM SD 405 WITH GRATED COVER
16/C	751706.157	5720057.139	JP	600	900	25.506	B	1.64	300	24.401	300	23.865	REFER IDM SD 405 WITH LOCKABLE TERRAFIRMA COVER COLOURED GREEN
16/D	751702.283	5720071.105	GEP	900	900	29.197	D	1.85			300	27.351	REFER IDM SD 405 WITH GRATED COVER
17/A	751547.341	5720111.871	HW	-	-	40.867	-	0.87	675	39.992			REINFORCED CONCRETE WINGWALL. REFER VIC ROADS SD 1931 ISSUE C
17/B	751549.427	5720113.966	JP	900	900	41.828	D	1.80	675	40.605	675	40.025	HAUNCHED PIT WITH 600 X 900 ACCESS. CLASS D COVER. REFER IDM SD 410
17/C	751559.545	5720117.215	GEP	900	900	42.357	D	1.36	450	41.324	675	40.996	HAUNCHED PIT WITH 600 X 900 ACCESS. GRATED CLASS D COVER. 40Mpa CONCRETE PIT. REFER IDM SD 410
17/D	751577.794	5720132.985	GEP	900	900	59.177	D	1.55	450	57.742	450	57.623	HAUNCHED PIT WITH 600 X 900 ACCESS. GRATED CLASS D COVER. REFER IDM SD 410
17/E	751595.715	5720136.421	JP	900	900	59.697	D	1.58	450	58.645	450	58.117	HAUNCHED PIT WITH 600 X 900 ACCESS. CLASS D COVER. REFER IDM SD 410
17/F	751626.670	5720139.533	GEP	900	900	63.500	D	0.96			450	62.543	HAUNCHED PIT WITH 600 X 900 CUSTOM ANGLED GRILL. CLASS D COVER. REFER TYPICAL DETAIL

Rev.	Date	Description	Des.	Verif.	Appd.
2	25/10/2017	FOR TENDER	E.H	E.H	
1	18/10/2017	FOR TENDER	J.P	E.H	

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Drawn	J.O	Date 18/10/2017
Checked	E.H	Date 18/10/2017
Designed	J.P	Date 18/10/2017
Verified		Date
Approved		Date

Client: COLAC OTWAY SHIRE

Project: WYE RIVER AND SEPARATION CREEK STORMWATER MANAGEMENT SYSTEM
DETAILED DESIGN PITS AND PIPES

Title: WYE RIVER NORTH
DRAINAGE PIT SCHEDULE
SHEET 1 OF 2

Status: FOR TENDER ONLY
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Datum	Melways Ref.	Scale	Size
A.H.D	X927,C9		A1

Drawing Number: V170115-CI-1210
Revision: 2

XREF's:
CAD File: \\AUMELCFS01.cardno.corp\Vic\Data\120170000\1_05000\170115_WyeRiver_Stormwater\Water\Drafting\V170115-CI-1210-1211.dwg

DATE PLOTTED: 25 October 2017 2:42 PM BY : JORDAN ORMEROD

PIT SCHEDULE

PIT NO	LOCATION		TYPE	INTERNAL		PIT COVER LEVEL	CLASS (AS 3996)	DEPTH	INLET		OUTLET		COMMENTS
	EASTING	NORTHING		WD	LEN				DIA	INV LEV	DIA	INV LEV	
18/A	751513.105	5720149.899	HW	-	-	55.249	-	0.43	225	54.824			REINFORCED CONCRETE WINGWALL. REFER IDM SD 465
18/B	751510.529	5720149.033	GEP	600	900	56.297	B	1.43	225	55.897	225	54.866	REFER IDM SD 405 WITH GRATED COVER. 40MPa CONCRETE PIT
18/C	751480.191	5720139.424	GEP	600	600	68.064	B	0.77	225	67.343	225	67.293	REFER IDM SD 405 WITH GRATED COVER
18/D	751445.067	5720136.128	GEP	900	900	75.277	B	1.43	225	73.893	225	73.843	REFER IDM SD 405 WITH GRATED COVER
18/E	751401.264	5720120.096	GEP	600	600	75.457	B	1.10			225	74.359	REFER IDM SD 405 WITH GRATED COVER
19/A	751285.967	5720131.699	DEW	-	-	79.405	-	0.53	525	78.880			DRIVEABLE ENDWALL. REFER TYPICAL DETAIL
19/B	751280.458	5720142.472	DEW	-	-	82.595	-	0.53			525	82.070	DRIVEABLE ENDWALL. REFER TYPICAL DETAIL
20/A	751296.858	5720070.455	DEW	-	-	69.445	-	0.57	375	68.870			DRIVEABLE ENDWALL. REFER TYPICAL DETAIL
20/B	751286.693	5720070.496	JP	900	600	70.973	D	1.52	375	69.505	375	69.455	REFER IDM SD 405 WITH CLASS D ASPHALT INFILL COVER
									375	69.782			
20/C	751273.935	5720070.581	GEP	900	600	70.191	D	0.55			375	69.641	DEPRESSED GRATE. REFER IDM SD 455
21/A	751284.075	5720080.402	JP	600	600	72.519	D	1.39			375	71.128	INLET CATCH PIT REFER IDM SD 460
22/A	751130.411	5720081.091	DEW	-	-	64.754	-	0.50	300	64.254			DRIVEABLE ENDWALL. REFER TYPICAL DETAIL
22/B	751137.449	5720084.495	GEP	600	600	65.600	D	0.65	300	65.005	300	64.955	DEPRESSED GRATE. REFER IDM SD 455
22/C	751144.358	5720086.444	GEP	600	900	67.337	D	1.10	300	66.370	300	66.236	REFER IDM SD 405 WITH GRATED COVER
22/D	751151.887	5720096.554	GEP	900	600	69.168	D	0.72			300	68.451	DEPRESSED GRATE. REFER IDM SD 455
23/A	751236.984	5719953.089	DEW	-	-	33.380	-	0.45	450	32.930			DRIVEABLE ENDWALL. REFER TYPICAL DETAIL
23/B	751230.057	5719956.569	DEW	-	-	33.965	-	0.45	225	33.565	450	33.515	DRIVEABLE ENDWALL. REFER TYPICAL DETAIL
23/C	751231.303	5719961.219	JP	600	900	35.723	B	1.27	225	34.505	225	34.455	REFER IDM SD 405 WITH LOCKABLE TERRAFIRMA COVER COLOURED GREEN. 40MPa CONCRETE PIT
23/D	751240.163	5719978.038	JP	600	600	42.266	B	1.07	225	41.245	225	41.194	REFER IDM SD 405 WITH LOCKABLE TERRAFIRMA COVER COLOURED GREEN. 40MPa CONCRETE PIT
23/E	751245.973	5719989.210	JP	600	600	51.301	B	0.74	225	50.613	225	50.563	REFER IDM SD 405 WITH LOCKABLE TERRAFIRMA COVER COLOURED GREEN. 40MPa CONCRETE PIT
23/F	751252.703	5720001.593	JP	600	600	56.009	B	0.88	225	55.174	225	55.124	REFER IDM SD 405 WITH LOCKABLE TERRAFIRMA COVER COLOURED GREEN
23/G	751249.632	5720005.359	JP	600	900	56.707	B	0.85	225	55.906	225	55.856	REFER IDM SD 405 WITH LOCKABLE TERRAFIRMA COVER COLOURED GREEN
23/H	751235.511	5720011.692	JP	600	900	58.239	B	1.22	225	57.359	225	57.023	REFER IDM SD 405 WITH LOCKABLE TERRAFIRMA COVER COLOURED GREEN
23/I	751216.880	5720017.870	JP	600	600	64.430	B	0.83			225	63.598	REFER IDM SD 405 WITH LOCKABLE TERRAFIRMA COVER COLOURED GREEN
24/A	751687.982	5720208.212	DEW	-	-	73.950	-	0.65	450	73.300			DRIVEABLE ENDWALL. REFER TYPICAL DETAIL
24/B	751690.490	5720209.615	JP	600	600	74.370		0.95	300	73.689	450	73.424	REFER IDM SD 405 WITH CLASS D COVER
								0.95	450	73.589			
24/C	751696.525	5720212.068	DEW	-	-	74.968		0.60			450	74.366	DRIVEABLE ENDWALL. REFER TYPICAL DETAIL
25/A	751684.702	5720155.175	HW	-	-	51.300		0.54			150	50.760	REINFORCED CONCRETE WINGWALL. REFER IDM SD 465

NOTES:

1. ALL PITS ARE TO BE TO IDM STANDARDS UNLESS NOTED OTHERWISE.
2. PITS DEEPER THAN 1.00m SHALL BE FITTED WITH STEPIRONS, FIRST STEPIRON TO BE 300mm FROM THE BOTTOM OF THE PIT.
3. COVER LEVELS TO BE SET TO MATCH THE FINISHED SURFACE PROFILES AND ADJACENT CONSTRUCTION.
4. GP = GRATED PIT, GSEP = SIDE ENTRY PIT GRATED, DGSEP = DOUBLE SIDE ENTRY PIT GRATED, SEP = SIDE ENTRY PIT, DSEP = DOUBLE SIDE ENTRY PIT, JP = JUNCTION PIT, EP = END OF PIPE, EW = ENDWALL, DEW = DRIVEABLE ENDWALL.
5. UNLESS OTHERWISE SPECIFIED, PIT TYPES REFER TO IDM STANDARD DRAWINGS
   - FIGURE SD 405 UNHAUNCHED PITS (450Ø MAX. PIPE)
   - FIGURE SD 410 HAUNCHED PITS (MIN 525Ø PIPE)
   - FIGURE SD 420 JUNCTION PIT IN ROAD RESERVE
   - FIGURE SD 426 JUNCTION PIT WITH NON-CONCRETE COVER (NON TRAFFICABLE AREAS)
   - FIGURE SD 441 GRATED SIDE ENTRY PIT WITH LIGHTWEIGHT COVER & CONCRETE SURROUND FOR 'SM2-M'
   - FIGURE SD 455 DEPRESSED GRATED PIT
   - FIGURE SD 460 INLET CATCH PIT
   - FIGURE SD 465 REINFORCED CONCRETE WINGWALL (IN-SITU)
   - FIGURE SD 470 CONCRETE ENDWALL FOR PIPES UP TO 300mmØ (WALKWAYS, PATHS AND TRACKS)
   - FIGURE SD 480 GRATED PIT FOR SM2 MODIFIED KERB & CHANNEL
   - FIGURE SD 481 ALTERNATE GRATED PIT FOR SM2 MODIFIED KERB & CHANNEL 'SM2-M' - UPSTREAM PIT ONLY
   - FIGURE SD 496 MODIFIED EXISTING PIT TO GRATED PIT IN VEHICLE CROSSING / LAYBACK
6. FOR HAUNCHED PITS REFER TO IDM STANDARD DRAWING FIGURE SD 410. PITS TO BE HAUNCHED TO COUNCIL STANDARD OPENINGS.
7. STUBS AND PIPE ENDS TO BE BLOCKED OFF TO COUNCIL'S SATISFACTION.
8. ALL GRATED PITS TO HAVE BICYCLE SAFE LOCKDOWN GRATES.
9. ALL GRATED SIDE-ENTRY PITS TO HAVE MIN 100mm THICK CONCRETE APRON BETWEEN GRATE AND ASPHALT. REFER IDM STANDARD DRAWINGS.
10. PITS WITHIN ROAD PAVEMENT, VEHICLE CROSSINGS OR WITHIN 0.75m OF A VEHICLE CROSSING, TO HAVE CLASS D CAST IRON LOCK DOWN LIDS, LID INFILL COLOURED TO MATCH ROAD SURFACE.
11. ALL PITS WITHIN ROAD TO BE CONSTRUCTED WITH 32 MPa CONCRETE WITH SL92 MESH IN WALLS AND BASE.
12. CONTRACTOR TO VERIFY EXISTING SERVICES CONNECTION LEVELS PRIOR TO CONSTRUCTION. ANY DISCREPANCIES MUST BE IMMEDIATELY IDENTIFIED AND THE SUPERINTENDENT NOTIFIED PRIOR TO CONSTRUCTION COMMENCING.

XREF's:
CAD File: \\AUMELCFS01.cardno.com\VicData1\20170001_0500\V170115_WyeRiver_Stormwater\Water\Drafting\V170115-CI-1210-1211.dwg

Rev.	Date	Description	Des.	Verif.	Appd.
2	25/10/2017	FOR TENDER	E.H	E.H	
1	18/10/2017	FOR TENDER	J.P	E.H	

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Drawn	J.O	Date 18/10/2017
Checked	E.H	Date 18/10/2017
Designed	J.P	Date 18/10/2017
Verified		Date
Approved		Date

Client: COLAC OTWAY SHIRE

Project: WYE RIVER AND SEPARATION CREEK STORMWATER MANAGEMENT SYSTEM
DETAILED DESIGN PITS AND PIPES

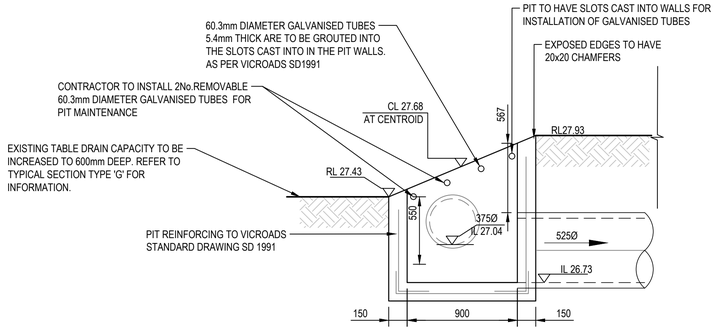
Title: WYE RIVER NORTH
DRAINAGE PIT SCHEDULE
SHEET 2 OF 2

Status: FOR TENDER ONLY
NOT TO BE USED FOR CONSTRUCTION PURPOSES

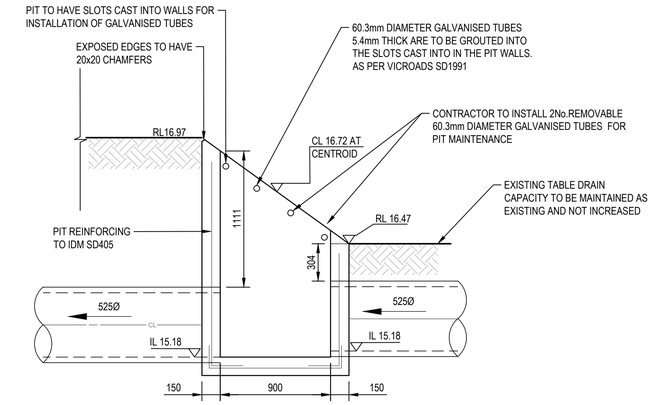
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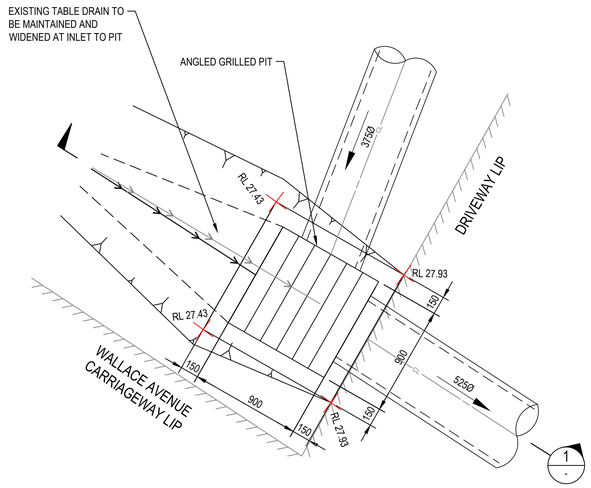
Revision: 2



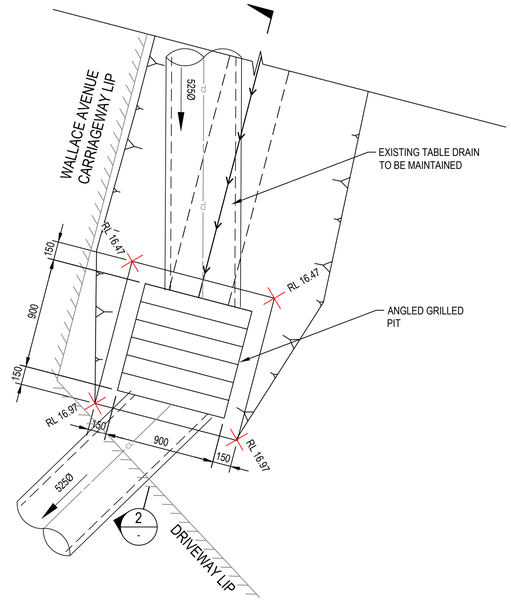
SECTION 1
NOT TO SCALE



SECTION 2
NOT TO SCALE



PIT DETAIL - 7/L
SCALE 1:25



PIT DETAIL - 7/G
SCALE 1:25

Rev.	Date	Description	Des.	Verif.	Appd.
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0 0.5 1m
SCALE 1:25 @A1

NORTH

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Verified		Date
Approved		Date

Client: COLAC OTWAY SHIRE

Project: WYE RIVER AND SEPARATION CREEK STORMWATER MANAGEMENT SYSTEM
DETAILED DESIGN PITS AND PIPES

Title: WYE RIVER NORTH
DRAINAGE PIT DETAILS
SHEET 1 OF 2

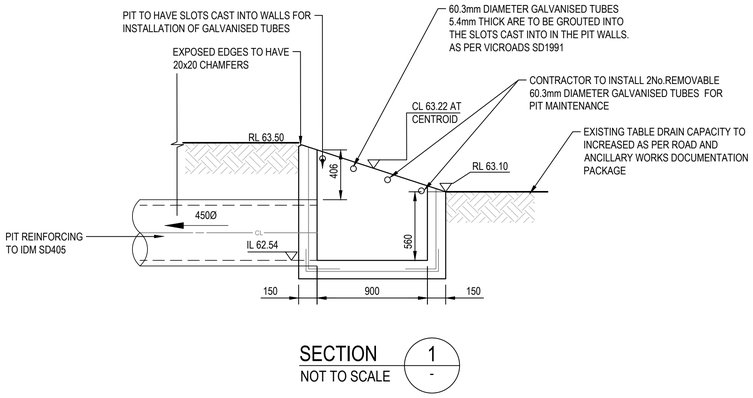
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NOT TO BE USED FOR CONSTRUCTION PURPOSES

Datum	Melways Ref.	Scale	Size
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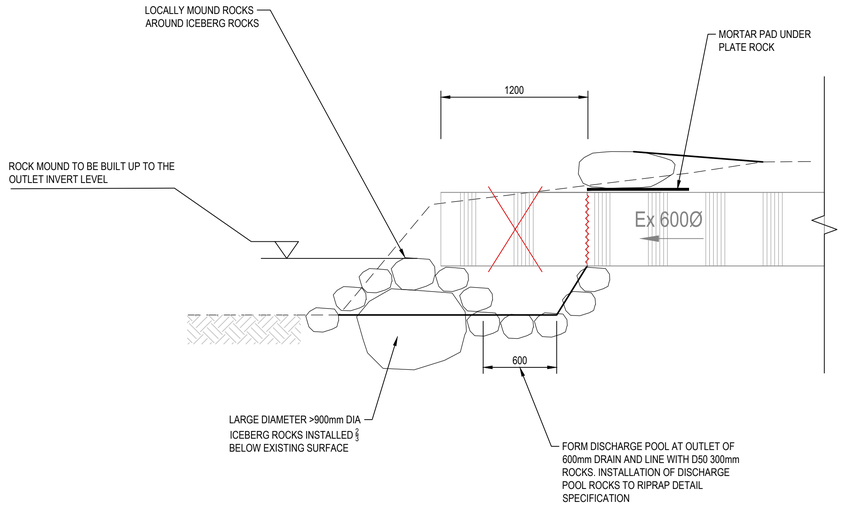
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Revision: 2

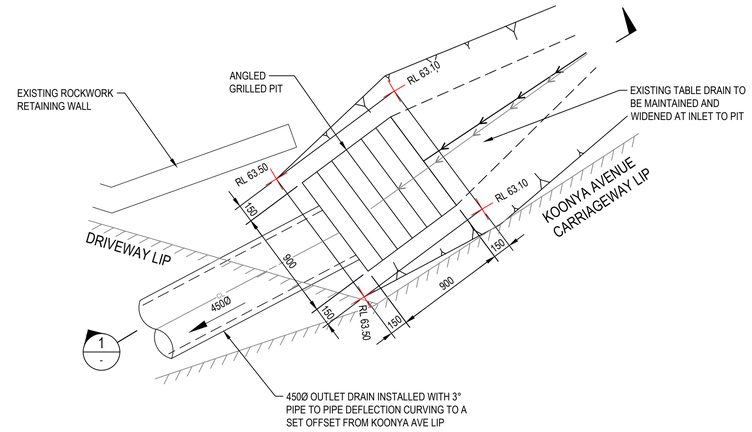
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CAD File: \\AUMELCFS01.cardno.com\Vic\Data1\2017\0001_0500\V170115_WyeRiver_Stormwater\Water\Drafting\V170115-CI-1220-1221.dwg
DATE PLOTTED: 25 October 2017 2:42 PM BY : JORDAN ORMEROD

DATE PLOTTED: 25 October 2017 2:42 PM BY : JORDAN ORMEROD

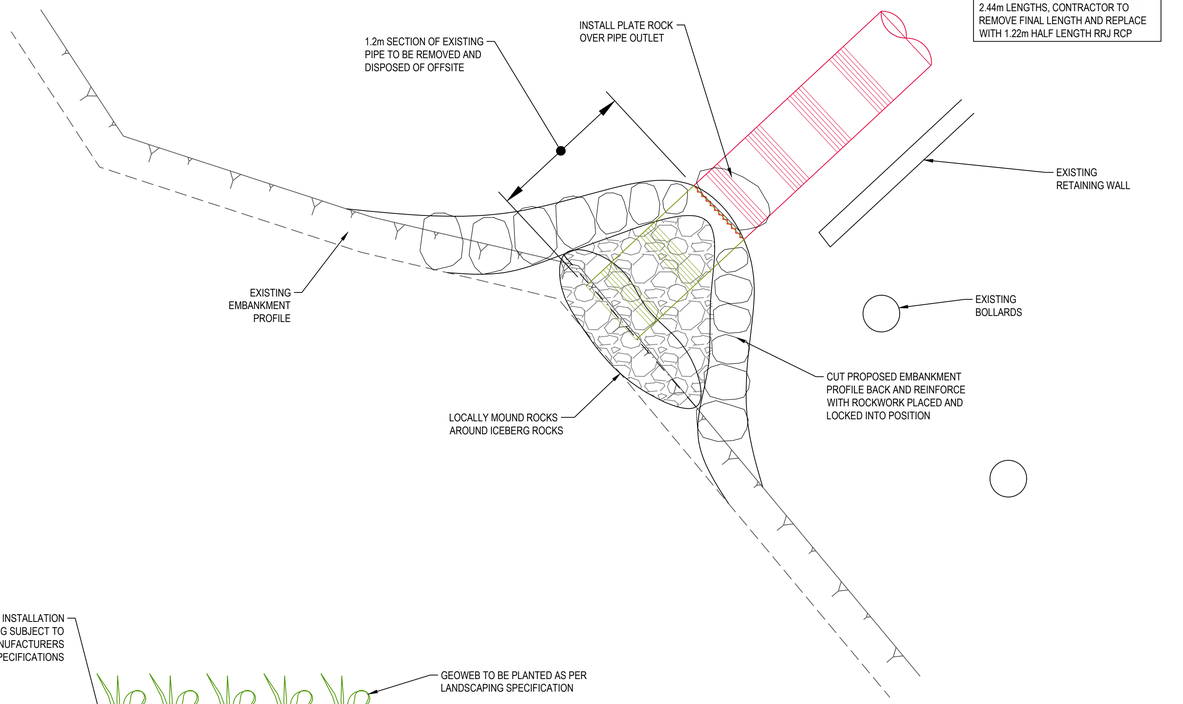


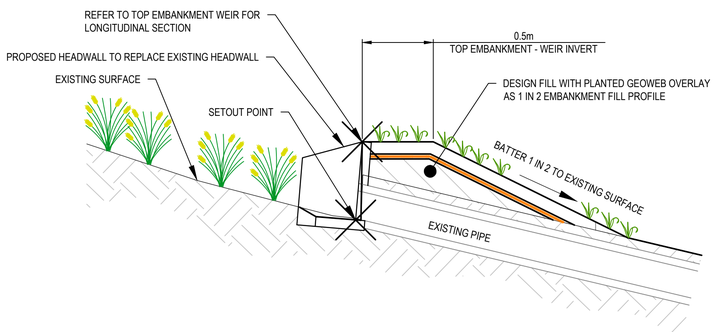
SECTION 1 / -
NOT TO SCALE



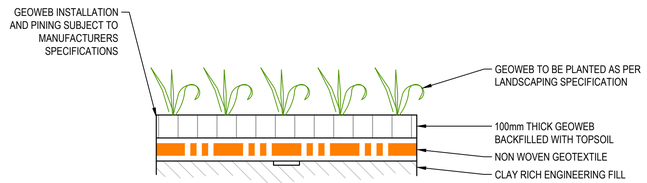


PIT DETAIL - 17/F
SCALE 1:25





PIT DETAIL - 25/A
SCALE 1:50



1 IN 2 EMBANKMENT FILL PROFILE
NOT TO SCALE

Rev.	Date	Description	Des.	Verif.	Appd.
2	25/10/2017	FOR TENDER	E.H	E.H	
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0 0.5 1m
SCALE 1:25 @A1

NORTH

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Checked	E.H	Date 18/10/2017
Designed	J.P	Date 18/10/2017
Verified		Date
Approved		Date

Client: COLAC OTWAY SHIRE

Project: WYE RIVER AND SEPARATION CREEK STORMWATER MANAGEMENT SYSTEM
DETAILED DESIGN PITS AND PIPES

Title: WYE RIVER NORTH
DRAINAGE PIT DETAILS
SHEET 2 OF 2

Status: FOR TENDER ONLY
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Datum	Melways Ref.	Scale	Size
A.H.D	X927,C9		A1

Drawing Number: V170115-CI-1221
Revision: 2

XREF's:
CAD File: \\AUMELCFS01.cardno.com\Vic\Data\120170001_05000\V170115_WyeRiver_Stormwater\Water\Drafting\V170115-CI-1220-1221.dwg

DATE PLOTTED: 25 October 2017 2:43 PM BY : JORDAN ORMEROD

Rev.	Date	Description	Des.	Verif.	Appd.
2	25/10/2017	FOR TENDER	E.H	E.H	
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REFER TO V170115-CI-2010

REFER TO V170115-CI-2011

MORLEY AVENUE

MCRAE ROAD

GREAT OCEAN ROAD

SLASHERS BYPASS

STURT COURT

WARNING
EXTERNAL APPROVAL
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NORTH

0 20 40m

SCALE 1:1000 @A1

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Designed	M.S	18/10/2017
Verified		Date
Approved		Date

Client: COLAC OTWAY SHIRE

Project: WYE RIVER AND SEPARATION CREEK STORMWATER MANAGEMENT SYSTEM
DETAILED DESIGN PITS AND PIPES

Title: WYE RIVER SOUTH
OVERALL LAYOUT PLAN

Status: FOR TENDER ONLY
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Datum	Melways Ref.	Scale	Size
A.H.D	X927,C9	1:1000m	A1

Drawing Number: V170115-CI-2000

Revision: 2

XREFs: XR-V170115-WYE_NORTH-SURVEY-1; XR-V170115-WYE_SOUTH-SURVEY-1; XR-V170115-WYE_SOUTH-CONTOURS_5m-1IN1500; XR-V170115-WYE_SOUTH-DRAINAGE
CAD File: \\AUMELCFS01.cardno.corp\VicData\120170001_0500\V170115_WyeRiver_Stormwater\WaterDrafting\V170115-CI-2000.dwg

DATE PLOTTED: 25 October 2017 2:43 PM BY : JORDAN ORMEROD

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1	18/10/2017	FOR TENDER	M.S	E.H	

LEGEND

- TITLE BOUNDARIES
- LOT BOUNDARIES
- 300Ø — PROPOSED STORMWATER DRAIN, PIT, DIAMETER AND PROPERTY INLET
- 300Ø — PROPOSED EASEMENT STORMWATER DRAIN, PIT, DIAMETER AND PROPERTY INLET
- EXISTING STORMWATER DRAINAGE
- EXISTING DRAINAGE WING WALL
- PROPOSED DRAINAGE WING WALL
- SURVEY ELEMENTS
- PROPOSED EASEMENT BOUNDARY
- EXISTING TABLE DRAIN
- FLOW ARROWS
- EASEMENT BUND
- DRIVEWAY CROSSINGS TO BE UPGRADED (AS PER VEHICLE CROSSING DETAILS)

MORLEY AVENUE

DENSE VEGETATION

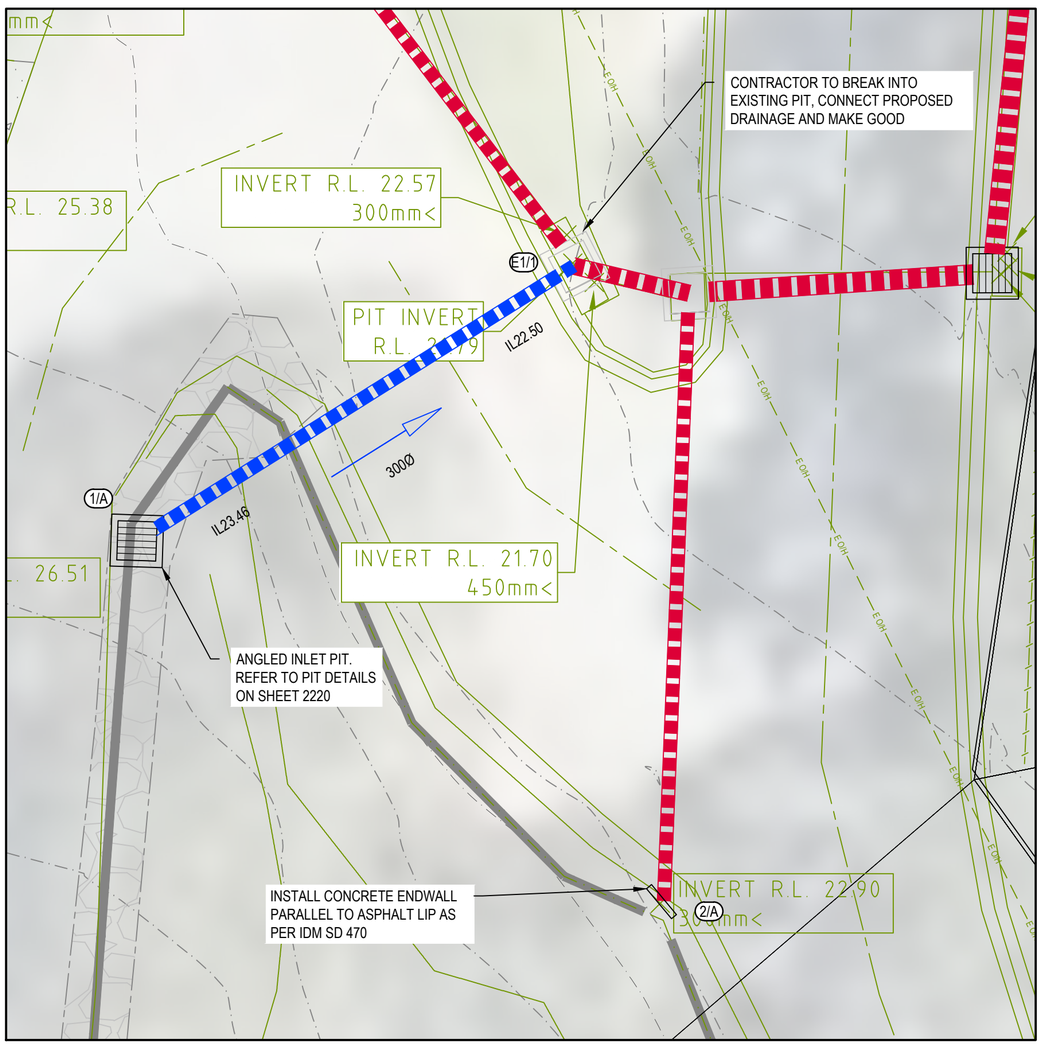
STEEP ENBANKMENT & DENSE VEGETATION

REFER TO INSET A ON THIS PLAN

E1/1 — IL22.50 — 300Ø — 1/A — IL23.46 — 2/A

INSET A

SCALE 1:100 (A1)



FOR CONTINUATION REFER TO DRAWINGS V170115-CI-2011

WARNING

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SCALE 1:500 @A1 (0 10 20m)

SCALE 1:100 @A1 (0 1 2 4m)

NORTH

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Designed	M.S	Date 18/10/2017
Verified		Date
Approved		Date

Client: COLAC OTWAY SHIRE

Project: WYE RIVER AND SEPARATION CREEK STORMWATER MANAGEMENT SYSTEM
DETAILED DESIGN PITS AND PIPES

Title: WYE RIVER SOUTH
DRAINAGE LAYOUT PLAN
SHEET 1 OF 2

Status: FOR TENDER ONLY
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Datum	Melways Ref.	Scale	Size
A.H.D	X927,C9	1:500m	A1

Drawing Number: V170115-CI-2010

Revision: 2

XREFs: XR-V170115-WYE_NORTH-SURVEY-1; XR-V170115-WYE_SOUTH-SURVEY-1; XR-V170115-WYE_SOUTH-CONTOURS_5m-1IN500; XR-V170115-WYE_SOUTH-DRAINAGE; XR-V170115-WYE_SOUTH-DRAINAGE-EXISTING; XR-V170115-HOUSE NUMBERS

CAD File: \\AUMELCFS01.cardno.corp\VicData\120170001_0500\V170115_WyeRiver_StormwaterWater\Drafting\V170115-CI-2010-2011.dwg

DATE PLOTTED: 25 October 2017 2:43 PM BY : JORDAN ORMEROD

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1	18/10/2017	FOR TENDER	M.S	E.H	

FOR CONTINUATION REFER TO DRAWING V170115-CI-2010

LEGEND

- TITLE BOUNDARIES
- LOT BOUNDARIES
- PROPOSED STORMWATER DRAIN, PIT, DIAMETER AND PROPERTY INLET (300Ø)
- PROPOSED EASEMENT STORMWATER DRAIN, PIT, DIAMETER AND PROPERTY INLET (300Ø)
- EXISTING STORMWATER DRAINAGE
- EXISTING DRAINAGE WING WALL
- PROPOSED DRAINAGE WING WALL
- SURVEY ELEMENTS
- PROPOSED EASEMENT BOUNDARY
- EXISTING TABLE DRAIN
- FLOW ARROWS
- EASEMENT BUND
- DRIVEWAY CROSSINGS TO BE UPGRADED (AS PER VEHICLE CROSSING DETAILS)

MCRAE ROAD

GREAT OCEAN ROAD

MORLEY AVENUE

SLASHERS BYPASS

STEEP EMBANKMENT & DENSE VEGETATION

DRIVEABLE HEADWALL

3/A — IL65.09 — 375Ø — 18

3/B — IL68.35 — IL68.30 — 300Ø — 15

PROPOSED 2.0m DRAINAGE EASEMENT

CONNECT PROPOSED DRAINAGE INTO EXISTING STUB AND MAKE GOOD

3/C — IL82.14

4/A — IL15.65

4/B — IL25.38 — 225Ø

ROCK BEACHING REFER TO DETAILS.

CONNECT TO EXISTING PIT AND MAKE GOOD.

5/A — IL25.90 — 225Ø — E5/1 — IL18.56

6/B — 375Ø — IL81.77

6/A — IL81.63

DRIVEABLE HEADWALL

ROCK BEACHING REFER TO DETAILS.

EASEMENT NOT ACCESSIBLE DUE TO DENSE VEGETATION

WARNING

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NORTH

0 10 20m

SCALE 1:500 @A1

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Approved		

Client: COLAC OTWAY SHIRE

Project: WYE RIVER AND SEPARATION CREEK STORMWATER MANAGEMENT SYSTEM
DETAILED DESIGN PITS AND PIPES

Title: WYE RIVER SOUTH
DRAINAGE LAYOUT PLAN
SHEET 2 OF 2

Status: FOR TENDER ONLY
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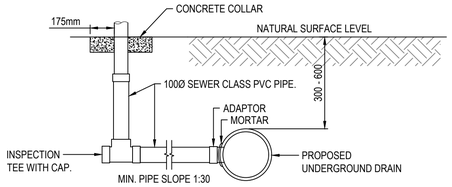
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Drawing Number: V170115-CI-2011

Revision: 2

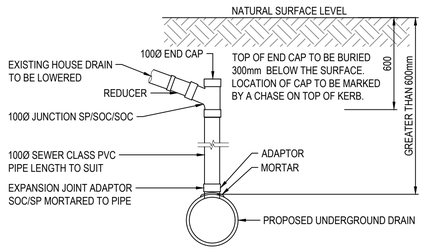
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DATE PLOTTED: 25 October 2017 2:43 PM BY: JORDAN ORMEROD



NOTE: CONNECTION TO BE ABOVE SPRING LINE.

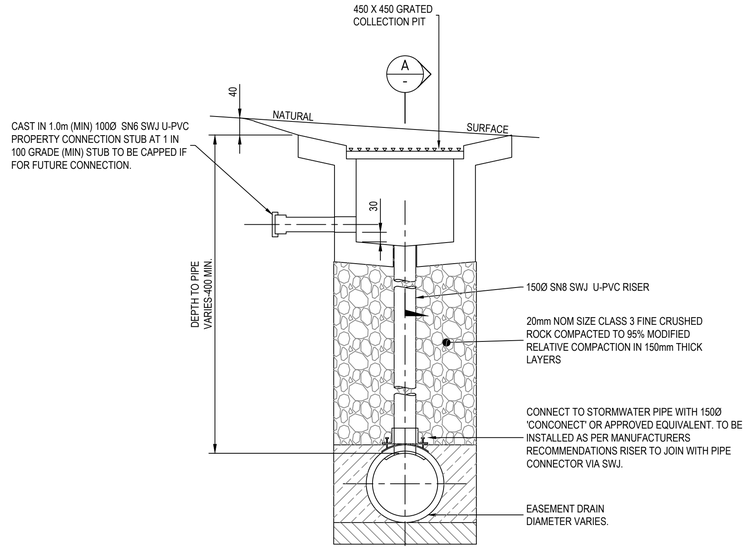
WITH COVER BETWEEN 300mm-600mm



WITH COVER GREATER THAN 600mm

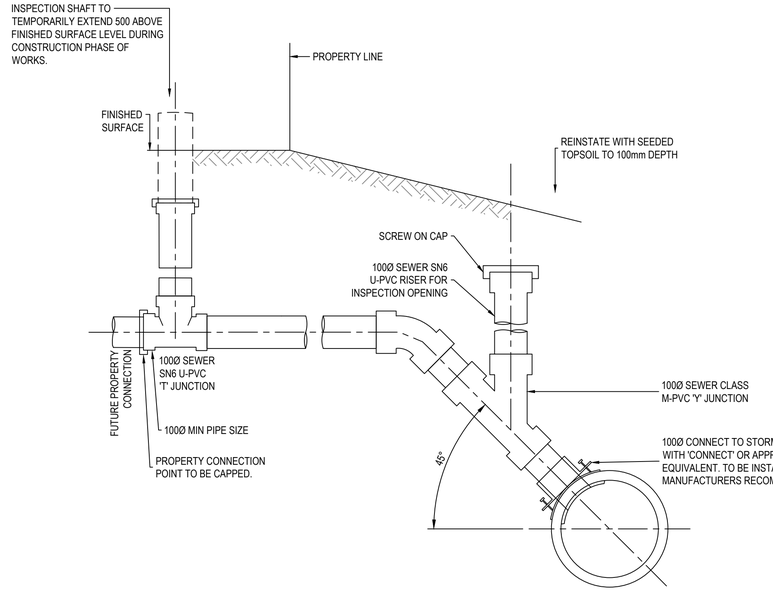
PIPE TO PIPE CONNECTION DETAIL

NOT TO SCALE



SIDE ELEVATION

NOT TO SCALE



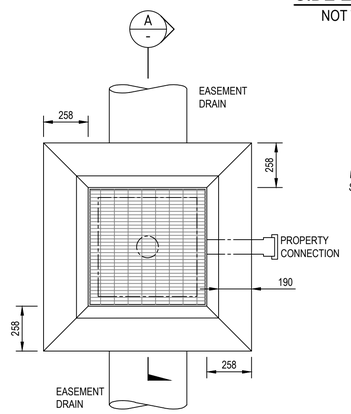
NOTES:

1. REFER TO PLUMBING CODE OF AUSTRALIA FOR ALL PIPE LAYING AND JOINTING REQUIREMENTS.

TRUNK DRAIN CONNECTION

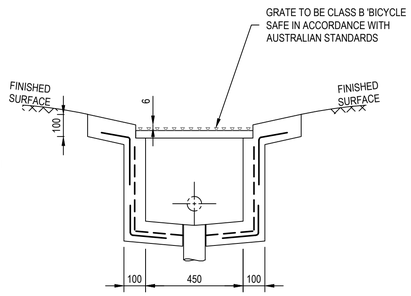
(45° TO PIPE WHERE COVER LIMITED OR STEEP GROUND)

NOT TO SCALE



COLLECTION PIT - PLAN

NOT TO SCALE



SECTION A-A

NOT TO SCALE

NOTES:

1. EDGE CONCRETE AROUND PERIMETER OF GRATE
2. TOP OF GRATE 40mm (min) BELOW FINISHED SURFACE.
3. DO NOT BOND GRATE TO CONCRETE TO ALLOW EASY ACCESS TO PIT.
4. CONCRETE TO BE SMOOTH TROWELLED FINISH.
5. GRATE FRAME TO BE OILED IF INSTALLED IN WET CONCRETE.
6. CONCRETE STRENGTH F'C = 25MPa. (MIN) AT 28 DAYS
7. SEAL UP AND MAKE GOOD PIPE CONNECTION / INSERTION TO PIT.
8. PROPERTY CONNECTION MIN 100Ø PIPE AS PER CLAUSE 16.10.2 (PIPE DIAMETERS).

EASEMENT DRAIN CONNECTION - PITS

NOT TO SCALE

WARNING

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Drawn	J.O	Date 18/10/2017
Checked	E.H	Date 18/10/2017
Designed	M.S	Date 18/10/2017
Verified		Date
Approved		Date

Client: COLAC OTWAY SHIRE

Project: WYE RIVER AND SEPARATION CREEK STORMWATER MANAGEMENT SYSTEM
DETAILED DESIGN PITS AND PIPES

Title: WYE RIVER SOUTH
DRAINAGE TYPICALS
SHEET 1 OF 4

Status: FOR TENDER ONLY
NOT TO BE USED FOR CONSTRUCTION PURPOSES

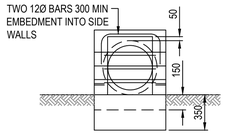
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Drawing Number: V170115-CI-2100

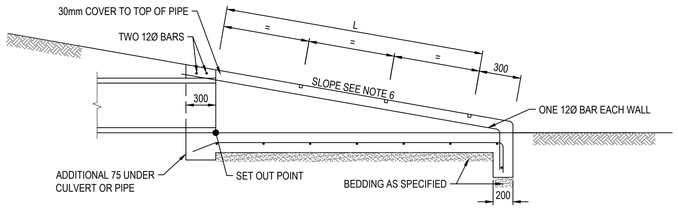
Revision: 2

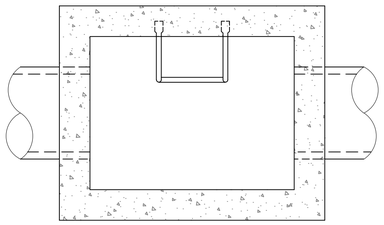
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DATE PLOTTED: 25 October 2017 2:43 PM BY : JORDAN ORMEROD

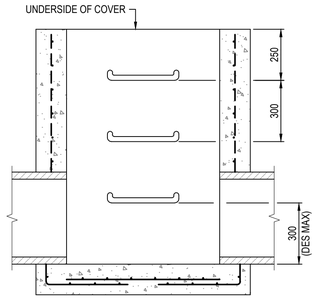


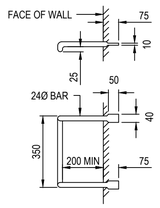
ELEVATION





PLAN

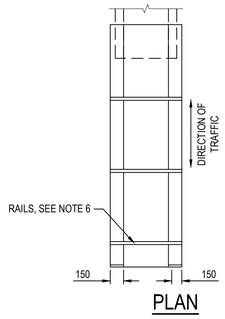




NOTES:
1. PITS DEEPER THAN 1000mm SHALL BE FITTED WITH STEP IRONS.
2. STEP IRONS SHALL BE LOCATED:
   - DIRECTLY BELOW THE OPENING IN THE COVER
   - DESIRABLY ON A WALL WITHOUT PIPE OPENINGS
   - DESIRABLY ON ONE OF THE LONG SIDES OF THE PIT
3. MATERIAL FOR STEP IRONS SHALL BE STRUCTURAL GRADE 250 TO AS 1204.
4. STEP IRONS SHALL HAVE SHARP EDGES ROUNDED AND HOT DIP GALVANIZED AFTER FABRICATION.
5. PROPRIETY STEPS SUCH AS THE GATIC PS2-PF POLYPROPYLENE STEPS (OR APPROVED ALTERNATIVE) MAY BE USED. THESE SHALL BE INSTALLED ACCORDING TO THE MAUFACTUREERS INSTRUCTIONS.

STEP IRON DETAIL

NOT TO SCALE



PLAN

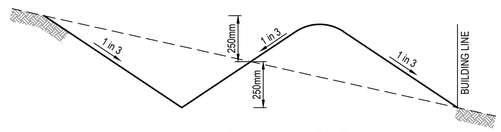
NOTES:
1. REINFORCEMENT, SL81 UNLESS OTHERWISE SPECIFIED, SHALL BE CONTINUOUS AROUND CORNERS AND LOCATED AS SHOWN. CLEAR COVER 50 MIN. LAPS, FABRICS 300 MIN., BARS 25XBAR
2. DIAMETER MIN.
3. CONCRETE STRENGTH N32 AT 28 DAYS
4. EXPOSED EDGES SHALL HAVE 20x20 CHAMFERS
5. RAILS WITHIN SECTION "L" SHALL BE EVENLY SPACED. THE MAXIMUM SPACING SHALL NOT EXCEED 600mm.
6. RAILS ARE 60.3mm DIAMETER GALVANIZED TUBES 5.4mm THICK. THESE ARE TO BE GROUTED INTO THE SLOTS IN THE WALLS.

SLOPE OF ENDWALL TO MATCH BATTER SLOPE MAXIMUM SLOPE 4 TO 1.

'L' (mm)	TOTAL NUMBER OF RAILS
100-600	1
601-1200	2
1201-1800	3
1801-2400	4

DRIVEABLE ENDWALL TYPE 1

NOT TO SCALE



OPEN CATCH DRAIN DETAIL

NOT TO SCALE

NOTE: CATCH DRAINS TO BE GRADED TO NOMINATED OUTLETS. FINISH WITH 100mm TOPSOIL

WARNING

EXTERNAL APPROVAL

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Rev.	Date	Description	Des.	Verif.	Appd.
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1	18/10/2017	FOR TENDER	M.S	E.H	

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Client: COLAC OTWAY SHIRE

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DETAILED DESIGN PITS AND PIPES

Title: WYE RIVER SOUTH
DRAINAGE TYPICALS
SHEET 2 OF 4

Status: FOR TENDER ONLY
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Datum	Melways Ref.	Scale	Size
A.H.D	X927,C9	AS SHOWN	A1

Drawing Number: V170115-CI-2101

Revision: 2

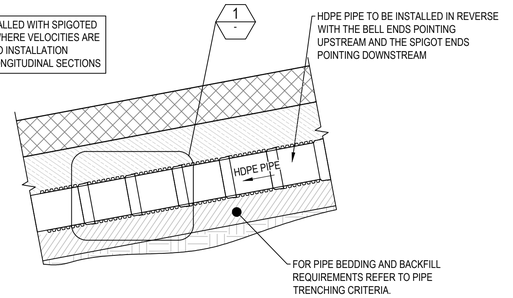
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DATE PLOTTED: 25 October 2017 2.43 PM BY : JORDAN ORMEROD

BULKHEAD NOTES:

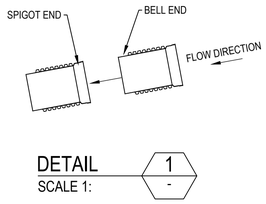
1. BULKHEADS ARE REQUIRED FOR PIPES 300mm DIAMETER OR GREATER
2. BULKHEAD TO BE LOCATED DIRECTLY BEHIND DOWNSTREAM OF COLLAR SO AS NOT TO ENCASE THE JOINT
3. LOCATE BULKHEAD AT A RETAINING WALL UNDER THE WALL.
4. KEY CONCRETE BULKHEADS INTO SIDES AND BOTTOM OF TRENCH AGAINST A BEARING SURFACE OF UNDISTURBED SOIL
5. CONCRETE TO BE CLASS N25
6. DO NOT DEFORM PIPES DURING PLACEMENT OF CONCRETE
7. PROVIDE CONTINUOUS DRAINAGE PATH THROUGH BULKHEADS
8. COMPRESSIBLE MEMBRANE AROUND PIPE TO BE 3 THICK RUBBER FOR BULKHEADS ON SLOPES
9. GROUNDWATER DRAIN THROUGH BULKHEAD IS NOT REQUIRED WHEREVER BACKFILL IS CEMENT TREATED
10. GROUNDWATER DRAINS THROUGH BULKHEADS SHALL BE FILLED WITH FIBREGLASS WOOL OR OTHER APPROVED FILTER MATERIAL
11. BULKHEADS SHALL BE CONSTRUCTED AT EVERY SECOND JOINT WHERE PIPE GRADES EXCEED 15% (1 in 6.7) AND CEMENT TREATED BACKFILL IS NOT SPECIFIED. REFER TYPICAL DETAIL

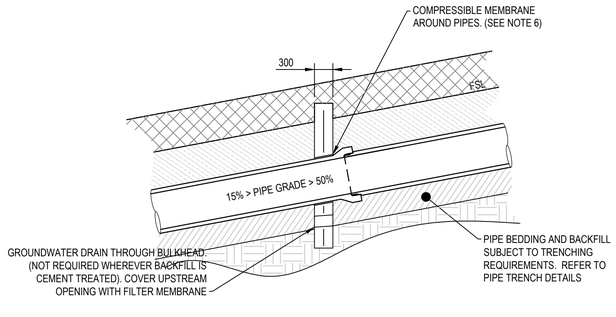
NOTE HDPE PIPES TO BE INSTALLED WITH SPIGOTED ENDS FACING DOWNSTREAM WHERE VELOCITIES ARE GREATER THAN 6m/s. REFER TO INSTALLATION SCHEDULE AS PART OF THE LONGITUDINAL SECTIONS



HIGH VELOCITY HDPE PIPE INSTALLATION DETAIL

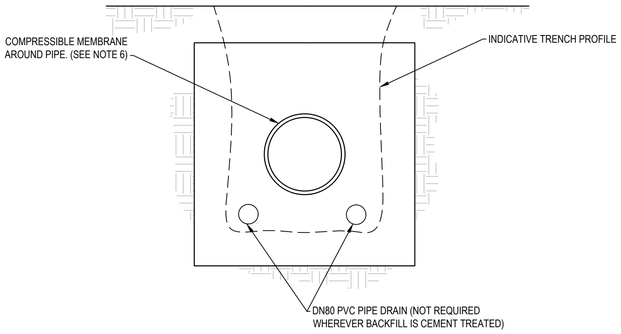
NOT TO SCALE





CONCRETE BULKHEAD FOR RCP DETAIL

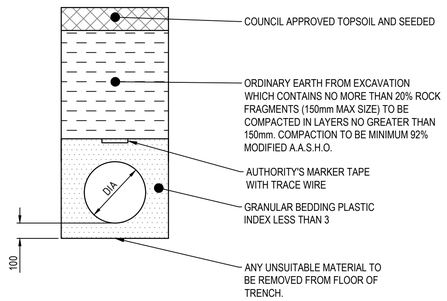
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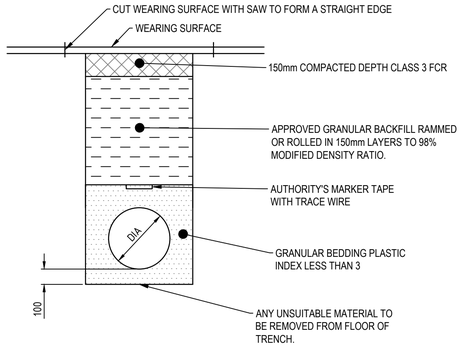
SECTION A

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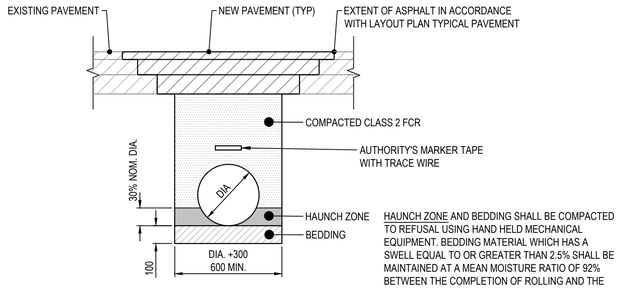
PLANT SCHEDULE FOR SLOPES STEEPER THAN 1 IN 2			
BOTANICAL NAME	COMMON NAME	PLANT DENSITY	NOTES
GOODENIA OVATA	HOP GOODENIA	1 -2 PLANTS PER 50m2	DISPERSED PLANTING AND PLANT AT TOP OF BANKS/TRANSITION BETWEEN ROAD AND PIPE TRENCH
CORREA ALBA	WHITE CORREA	1 -2 PLANTS PER 50m2	DISPERSED PLANTING AND IMMEDIATELY UPSTREAM OF PITS
POA POAFORMIS	COAST TUSSOCK-GRASS	5 PLANTS PER 5m2	PLANT IN CLUMPS OF 5
LOMANDRA LONGFOLIA	MAT RUSH	1 -2 PLANTS PER 50m2	DISPERSED PLANTING
ENCHYLAENA TOMENTOSA	RUBY SALTBUSH	1 -2 PLANTS PER 50m2	DISPERSED PLANTING
MICROLAENA STIPOIDES	WEEPING GRASS	10g/m2	BEGIN WITH A WEED FREE SEED BED. SOW SEED 10-15mm BELOW THE SOIL SURFACE



TRENCHES UNDER LANDSCAPE AREAS

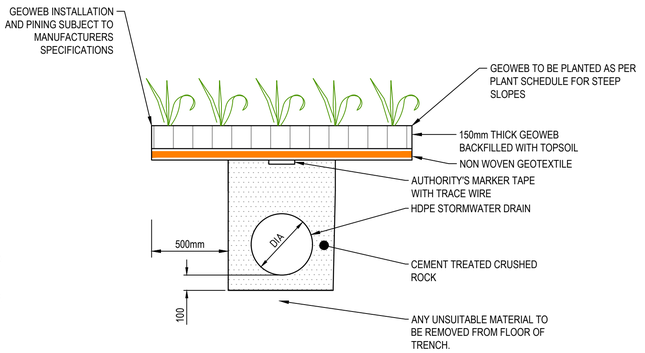


TRENCHES UNDER FOOTPATHS



HAUNCH ZONE AND BEDDING SHALL BE COMPACTED TO REFUSAL USING HAND HELD MECHANICAL EQUIPMENT. BEDDING MATERIAL WHICH HAS A SWELL EQUAL TO OR GREATER THAN 2.5% SHALL BE MAINTAINED AT A MEAN MOISTURE RATIO OF 92% BETWEEN THE COMPLETION OF ROLLING AND THE PLACEMENT OF THE OVERLAYING LAYER

TRENCHES UNDER ROADS



TRENCHES FOR PIPE AND EMBANKMENT SLOPES STEEPER THAN 1 IN 2

PIPE TRENCH DETAILS

NOT TO SCALE

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DETAILED DESIGN PITS AND PIPES

Title: WYE RIVER SOUTH
DRAINAGE TYPICALS
SHEET 3 OF 4

Status: FOR TENDER ONLY
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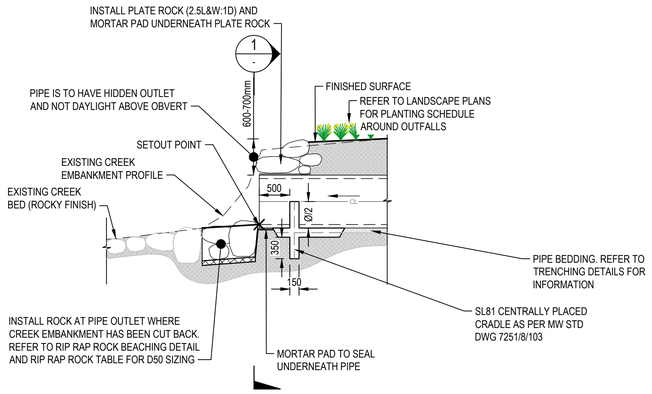
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Drawing Number: V170115-CI-2102

Revision: 2

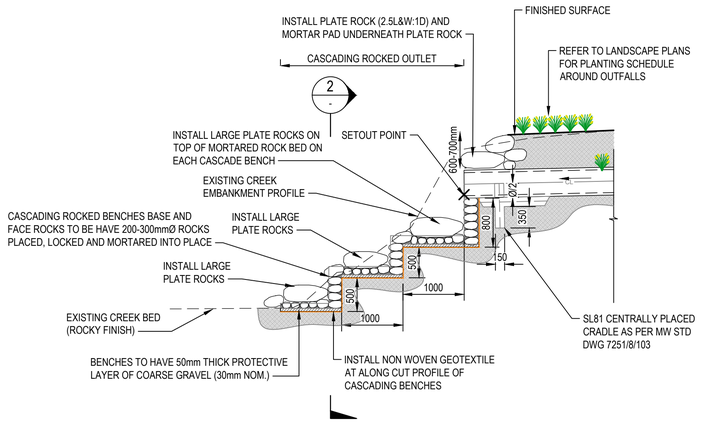
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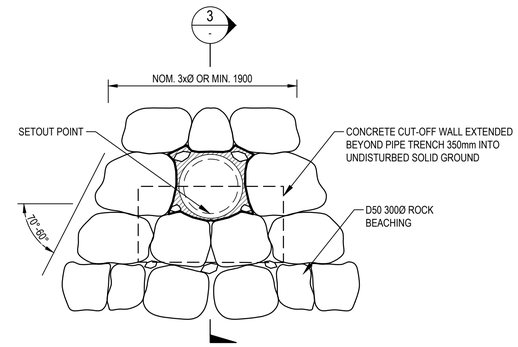
TYPICAL OUTFALL - TYPE 1: OUTFALL INTO CREEK DETAIL

SCALE 1:50



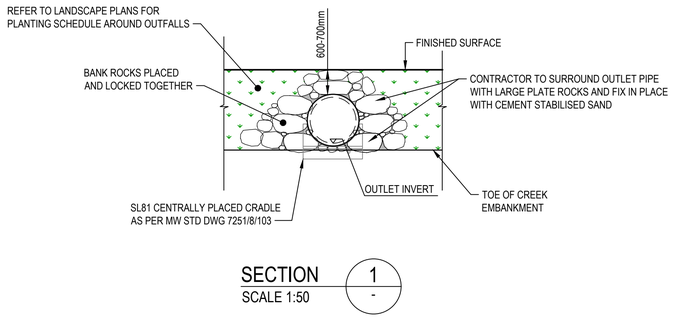
TYPICAL OUTFALL - TYPE 2: OUTFALL INTO CREEK DETAIL

SCALE 1:50



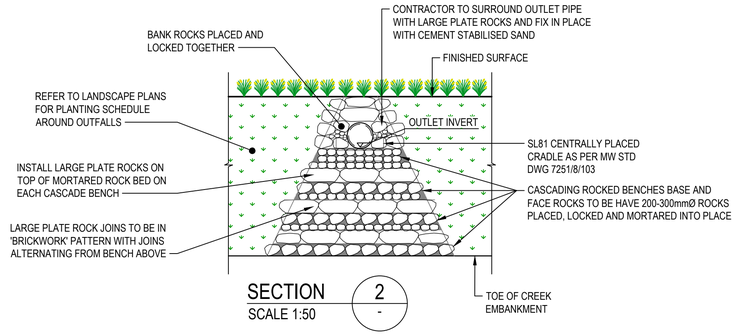
TYPICAL OUTFALL - TYPE 3: OUTFALL INTO TABLE DRAIN

SCALE 1:50



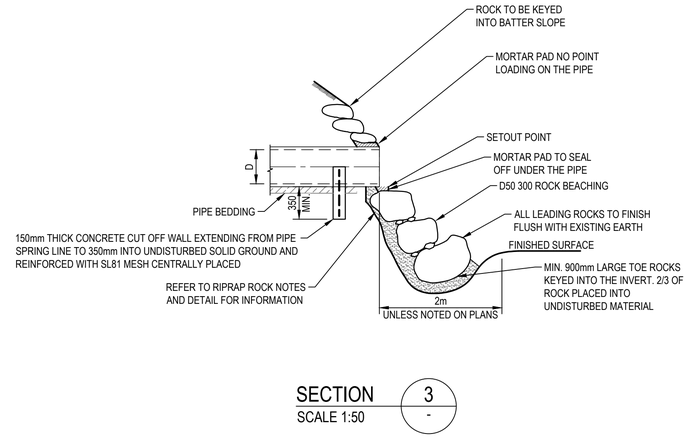
SECTION 1

SCALE 1:50



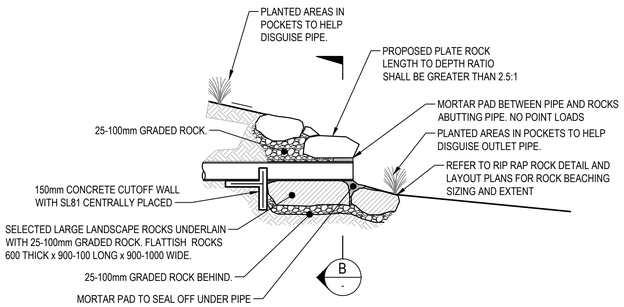
SECTION 2

SCALE 1:50



SECTION 3

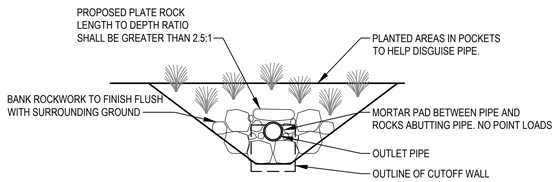
SCALE 1:50



ROCK ENDWALL DETAIL

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REFER TO MW STANDARD DRAWING 7251/8/105



SECTION B

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0 1 2m

SCALE 1:50 @A1

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DRAINAGE TYPICALS
SHEET 4 OF 4

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A.H.D	X927,C9	AS SHOWN	A1

Drawing Number: V170115-CI-2103

Revision: 2

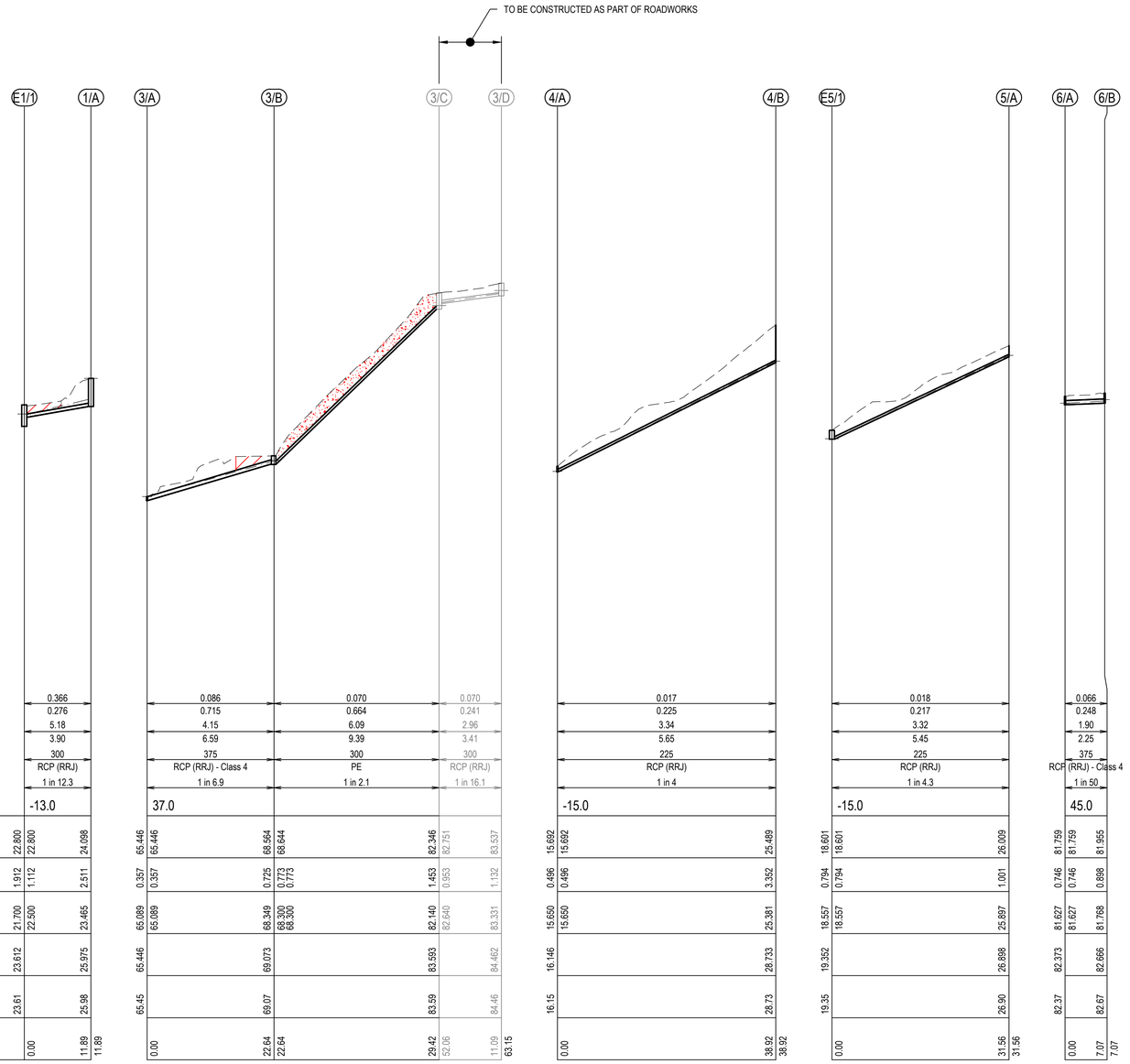
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DATE PLOTTED: 25 October 2017 2.43 PM BY : JORDAN ORMEROD

LEGEND

	EXISTING SURFACE
	DESIGN SURFACE
	DRAINAGE HYDRAULIC GRADE LINE (HGL)
	PROPOSED DRAINAGE
	EXISTING DRAINAGE
	SUPPLEMENTARY DRAINAGE
2/A	PIT NUMBER
	FINE CRUSHED ROCK BACKFILL (FCR) UNDER EX ROADS
	CEMENT TREATED BACKFILL FOR STEEP SLOPES

CONTRACTOR TO VERIFY EXISTING SERVICES CONNECTION LEVELS PRIOR TO CONSTRUCTION. ANY DISCREPANCIES MUST BE IMMEDIATELY IDENTIFIED AND THE SUPERINTENDENT NOTIFIED PRIOR TO CONSTRUCTION COMMENCING.



| | | |

DATE PLOTTED: 25 October 2017 2:43 PM BY : JORDAN ORMEROD

PIT SCHEDULE

PIT NO	LOCATION		TYPE	INTERNAL		PIT COVER LEVEL	CLASS (AS 3996)	DEPTH	INLET		OUTLET		COMMENTS
	EASTING	NORTHING		WD	LEN				DIA	INV LEV	DIA	INV LEV	
1/A	751557.936	5719583.347	GEP	900	900	25.975	-	2.51			300	23.465	900 X 900 CUSTOM ANGLED GRILL. CLASS D COVER. REFER TYPICAL DETAIL
3/A	751503.966	5719363.059	DEW	-	-	-	-	-	375	65.089			DRIVABLE ENDWALL. REFER TO DRAINAGE TYPICAL DETAILS
3/B	751485.204	5719350.395	GEP	900	600	69.073	D	0.73	300	68.300	375	68.349	REFER IDM SD 480
4/A	751673.982	5719366.532	EW	-	-	-	-	-	225	15.650			REFER IDM SD 465
4/B	751635.150	5719363.845	GEP	500	0	28.733	B	3.35			225	25.381	EASEMENT INLET GRATED PIT. REFER DRAINAGE TYPICAL DETAILS
5/A	751638.247	5719341.764	GEP	500	0	26.898	B	1.00			225	25.897	EASEMENT INLET GRATED PIT. REFER DRAINAGE TYPICAL DETAILS
6/A	751435.085	5719157.184	HW	-	-	-		-	375	81.627			REFER IDM SD 465
6/B	751438.219	5719163.519	HW	-	-	-		-			375	81.768	REFER IDM SD 465

NOTES:

1. ALL PITS ARE TO BE TO IDM STANDARDS UNLESS NOTED OTHERWISE.
2. PITS DEEPER THAN 1.00m SHALL BE FITTED WITH STEPIRONS, FIRST STEPIRON TO BE 300mm FROM THE BOTTOM OF THE PIT.
3. COVER LEVELS TO BE SET TO MATCH THE FINISHED SURFACE PROFILES AND ADJACENT CONSTRUCTION.
4. GP = GRATED PIT, GSEP = SIDE ENTRY PIT GRATED, DGSEP = DOUBLE SIDE ENTRY PIT GRATED, SEP = SIDE ENTRY PIT, DSEP = DOUBLE SIDE ENTRY PIT, JP = JUNCTION PIT, EP = END OF PIPE, EW = ENDWALL, DEW = DRIVEABLE ENDWALL.
5. UNLESS OTHERWISE SPECIFIED, PIT TYPES REFER TO IDM STANDARD DRAWINGS
   - FIGURE SD 405 UNHAUNCHED PITS (450Ø MAX. PIPE)
   - FIGURE SD 410 HAUNCHED PITS (MIN 525Ø PIPE)
   - FIGURE SD 420 JUNCTION PIT IN ROAD RESERVE
   - FIGURE SD 426 JUNCTION PIT WITH NON-CONCRETE COVER (NON TRAFFICABLE AREAS)
   - FIGURE SD 441 GRATED SIDE ENTRY PIT WITH LIGHTWEIGHT COVER & CONCRETE SURROUND FOR 'SM2-M'
   - FIGURE SD 455 DEPRESSED GRATED PIT
   - FIGURE SD 460 INLET CATCH PIT
   - FIGURE SD 465 REINFORCED CONCRETE WINGWALL (IN-SITU)
   - FIGURE SD 470 CONCRETE ENDWALL FOR PIPES UP TO 300mmØ (WALKWAYS, PATHS AND TRACKS)
   - FIGURE SD 480 GRATED PIT FOR SM2 MODIFIED KERB & CHANNEL
   - FIGURE SD 481 ALTERNATE GRATED PIT FOR SM2 MODIFIED KERB & CHANNEL 'SM2-M' - UPSTREAM PIT ONLY
   - FIGURE SD 496 MODIFIED EXISTING PIT TO GRATED PIT IN VEHICLE CROSSING / LAYBACK
6. FOR HAUNCHED PITS REFER TO IDM STANDARD DRAWING FIGURE SD 410. PITS TO BE HAUNCHED TO COUNCIL STANDARD OPENINGS.
7. STUBS AND PIPE ENDS TO BE BLOCKED OFF TO COUNCIL'S SATISFACTION.
8. ALL GRATED PITS TO HAVE BICYCLE SAFE LOCKDOWN GRATES.
9. ALL GRATED SIDE-ENTRY PITS TO HAVE MIN 100mm THICK CONCRETE APRON BETWEEN GRATE AND ASPHALT. REFER IDM STANDARD DRAWINGS.
10. PITS WITHIN ROAD PAVEMENT, VEHICLE CROSSINGS OR WITHIN 0.75m OF A VEHICLE CROSSING, TO HAVE CLASS D CAST IRON LOCK DOWN LIDS, LID INFILL COLOURED TO MATCH ROAD SURFACE.
11. ALL PITS WITHIN ROAD TO BE CONSTRUCTED WITH 32 MPa CONCRETE WITH SL92 MESH IN WALLS AND BASE.
12. CONTRACTOR TO VERIFY EXISTING SERVICES CONNECTION LEVELS PRIOR TO CONSTRUCTION. ANY DISCREPANCIES MUST BE IMMEDIATELY IDENTIFIED AND THE SUPERINTENDENT NOTIFIED PRIOR TO CONSTRUCTION COMMENCING.

Rev.	Date	Description	Des.	Verif.	Appd.
2	25/10/2017	FOR TENDER	E.H	E.H	
1	18/10/2017	FOR TENDER	M.S	E.H	

H: 0 10 20m
V: 0 5 10m
SCALE H:1:500 V:1:250 @A1

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		Date
Drawn	J.O	18/10/2017
Checked	E.H	18/10/2017
Designed	M.S	18/10/2017
Verified		Date
Approved		Date

Client: COLAC OTWAY SHIRE

Project: WYE RIVER AND SEPARATION CREEK STORMWATER MANAGEMENT SYSTEM
DETAILED DESIGN PITS AND PIPES

Title: WYE RIVER SOUTH
DRAINAGE PIT SCHEDULE

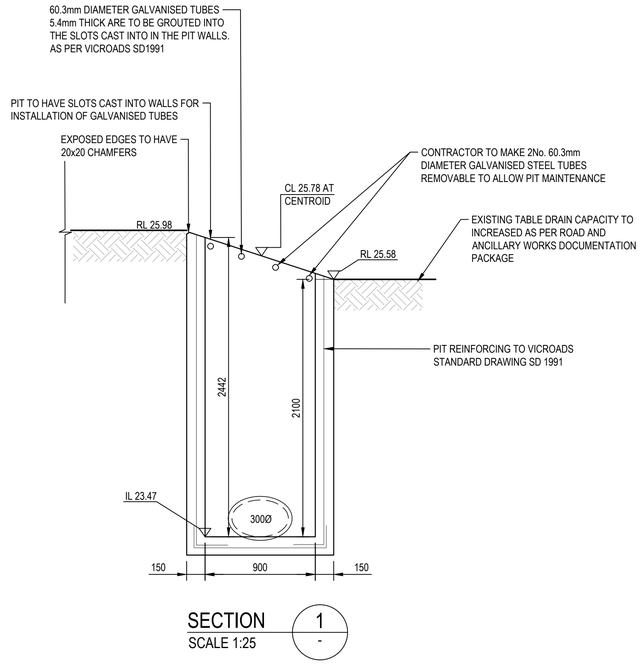
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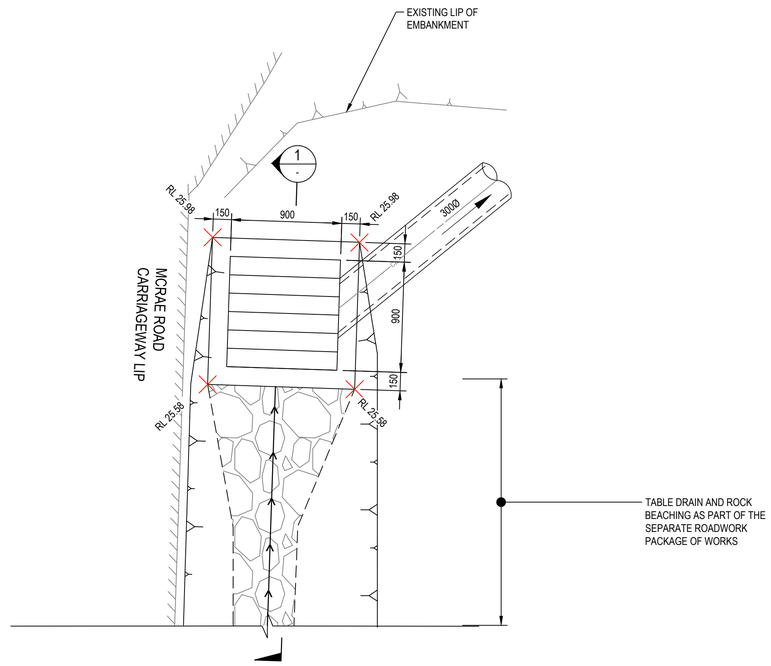
Drawing Number: V170115-CI-2210
Revision: 2

XREFs:
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DATE PLOTTED: 25 October 2017 2:43 PM BY: JORDAN ORMEROD



SECTION 1
SCALE 1:25



PIT DETAIL - 1/A
SCALE 1:25

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2	25/10/2017	FOR TENDER	E.H	E.H	
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NORTH

0 0.5 1m
SCALE 1:25 @A1

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Designed	M.S	18/10/2017
Verified		Date
Approved		Date

Client: COLAC OTWAY SHIRE

Project: WYE RIVER AND SEPARATION CREEK STORMWATER MANAGEMENT SYSTEM
DETAILED DESIGN PITS AND PIPES

Title: WYE RIVER SOUTH
DRAINAGE PIT DETAILS

Status: FOR TENDER ONLY
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Datum	Melways Ref.	Scale	Size
A.H.D	X927,C9		A1

Drawing Number: V170115-CI-2220
Revision: 2

XREF's:
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DATE PLOTTED: 25 October 2017 2:44 PM BY : JORDAN ORMEROD

Rev.	Date	Description	Des.	Verif.	Appd.
2	25/10/2017	FOR TENDER	E.H	E.H	
1	18/10/2017	FOR TENDER	J.O	E.H	

REFER TO V170115-CI-3010

REFER TO V170115-CI-3011

BASS AVENUE

MITCHELL GROVE

HARRINGTON STREET

RESERVE

OLIVE STREET

SARSFIELD STREET

RESERVE

GREAT OCEAN ROAD

SEPARATION CREEK

STANWAY DRIVE

OLD OCEAN ROAD

GREAT OCEAN ROAD

NORTH

0 20 40m

SCALE 1:1000 @A1

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Drawn	J.O	18/10/2017
Checked	E.H	18/10/2017
Designed	J.O	18/10/2017
Verified		
Approved		

Client: COLAC OTWAY SHIRE

Project: WYE RIVER AND SEPARATION CREEK STORMWATER MANAGEMENT SYSTEM
DETAILED DESIGN PITS AND PIPES

Title: SEPARATION CREEK
OVERALL LAYOUT PLAN

Status: FOR TENDER ONLY
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Datum	Melways Ref.	Scale	Size
A.H.D	X927,C9	1:1000m	A1

Drawing Number: V170115-CI-3000

Revision: 2

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XREFs: XR-V170115-WYE_NORTH-SURVEY-1; XR-V170115-SEPARATION_CREEK-SURVEY-2; XR-V170115-SEPARATION_CREEK-CONTOURS_5m-1IN1500; XR-V170115-SEPARATION_CREEK-DRAINAGE
CAD File: \\AUMELCFS01.cardno.corp\VicData1\20170001_0500\V170115_WyeRiver_StormwaterWaterDrafting\V170115-CI-3000.dwg

DATE PLOTTED: 25 October 2017 2:45 PM BY : JORDAN ORMEROD

Rev.	Date	Description	Des.	Verif.	Appd.
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1	18/10/2017	FOR TENDER	J.O	E.H	

WARNING

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LEGEND

- TITLE BOUNDARIES
- LOT BOUNDARIES
- 300Ø — PROPOSED STORMWATER DRAIN, PIT, DIAMETER AND PROPERTY INLET
- 300Ø — PROPOSED EASEMENT STORMWATER DRAIN, PIT, DIAMETER AND PROPERTY INLET
- EXISTING STORMWATER DRAINAGE
- EXISTING DRAINAGE WING WALL
- PROPOSED DRAINAGE WING WALL
- SURVEY ELEMENTS
- PROPOSED EASEMENT BOUNDARY
- TABLE DRAIN TYPE B
- EXISTING TABLE DRAIN
- FLOW ARROWS
- EASEMENT BUND
- DRIVEWAY CROSSINGS TO BE UPGRADED (AS PER VEHICLE CROSSING DETAILS)

BASS AVENUE

EXISTING PIPE END INLET TO HAVE AUGMENTED LETTER BOX PIT CAST OVER INLET. REFER TO PIT DETAILS ON SHEET 3220 FOR INFORMATION.

JUNCTION PIT (PIT INVERT NOT ACCESSIBLE, MECHANICAL LIFTING REQUIRED)

HARRINGTON STREET

SARSFIELD STREET

OLIVE STREET

OLD OCEAN ROAD

GREAT OCEAN ROAD

STANWAY DRIVE

SEPARATION CREEK

RESERVE

HOUSE

ROCKED OUTLET TO BE CONSTRUCTED AS PER OUTLET DETAIL TYPE 3

INSTALL D50 300Ø ROCK BEACHING AS PER RIP RAP DETAIL

EXISTING DRAIN INLET TO HAVE HEADWALL INSTALLED.

EXISTING SCOUR TO BE REPAIRED AND REPLACED WITH D50 300 ROCK BEACHING AS PER DETAIL

CONNECT EXISTING PIPE INTO NEW GRATED PIT AND MAKE GOOD.

CONTRACTOR TO REINSTATE DRIVEWAY TO MATCH EXISTING

PROPOSED TABLE DRAIN RESIZING AS PER TYPICAL DETAIL

GRILLED INLET PIT TO BE CONSTRUCTED AS PER PIT DETAIL. REFER TO DRAWING NO. V170115-CI-3220

EXISTING SWALES TO BE FILLED AND DEPRESSIONS FORMED OVER PROPOSED DRAIN WITH LOW POINTS ON PROPOSED GRATED PITS

INSTALL GRATED PIT AT BASE OF EXISTING SWALE. EXISTING PIPE UNDER DRIVEWAY TO BE REMOVED

EXISTING SWALE TO BE MAINTAINED AS A HIGHFLOW RELIEF FLOW PATH WHEN 750Ø CAPACITY HAS BEEN EXCEEDED

EXISTING DRIVEWAY CULVERTS TO BE REMOVED AND DISPOSED OF OFFSITE. CONTRACTOR TO REINSTATE DRIVEWAY TO MATCH EXISTING.

PROPOSED PIT TO HAVE TWIN PIPE OUTLET REFER TO PIT DETAILS.

INSTALL ROCKED OUTFALL AS PER TYPE 1 OUTLET DETAIL

EXISTING DRAINAGE OUTLET TO BE MAINTAINED

PROPOSED HEADWALL TO BE CONSTRUCTED ADJACENT TO EXISTING OUTLET. CONTRACTOR TO REMOVE AND REINSTATE ROCKS

FOR CONTINUATION REFER TO DRAWING V170115-CI-3011

NORTH

0 10 20m

SCALE 1:500 @A1

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Drawn	J.O	Date 18/10/2017
Checked	E.H	Date 18/10/2017
Designed	J.O	Date 18/10/2017
Verified		Date
Approved		Date

Client: COLAC OTWAY SHIRE

Project: WYE RIVER AND SEPARATION CREEK STORMWATER MANAGEMENT SYSTEM
DETAILED DESIGN PITS AND PIPES

Title: SEPARATION CREEK
DRAINAGE DETAILED LAYOUT PLAN
SHEET 1 OF 2

Status: FOR TENDER ONLY
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Datum	Melways Ref.	Scale	Size
A.H.D	X927,C9	1:500m	A1

Drawing Number: V170115-CI-3010

Revision: 2

XREFs: XR-V170115-WYE_NORTH-SURVEY-1; XR-V170115-SEPARATION_CREEK-DRAINAGE; XR-V170115-HOUSE NUMBERS; XR-V170115-SEPARATION_CREEK-SURVEY-1; XR-V170115-SEPARATION_CREEK-SURVEY-2; XR-V170115-SEPARATION_CREEK-CONTOURS_5m-1IN500; XR-V170115-SEPARATION_CREEK-ROADWORKS; XR-V170115-SEPARATION_CREEK-DRAINAGE-SUPP_WORKS; XR-V170115-SEPARATION_CREEK-DRAINAGE-EXIST

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Rev.	Date	Description	Des.	Verif.	Appd.
2	25/10/2017	FOR TENDER	E.H	E.H	
1	18/10/2017	FOR TENDER	J.O	E.H	

DATE PLOTTED: 25 October 2017 2:45 PM BY : JORDAN ORMEROD

LEGEND

- TITLE BOUNDARIES
- LOT BOUNDARIES
- 300Ø — PROPOSED STORMWATER DRAIN, PIT, DIAMETER AND PROPERTY INLET
- 300Ø — PROPOSED EASEMENT STORMWATER DRAIN, PIT, DIAMETER AND PROPERTY INLET
- EXISTING STORMWATER DRAINAGE
- EXISTING DRAINAGE WING WALL
- PROPOSED DRAINAGE WING WALL
- SURVEY ELEMENTS
- PROPOSED EASEMENT BOUNDARY
- TABLE DRAIN TYPE B
- EXISTING TABLE DRAIN
- FLOW ARROWS
- EASEMENT BUND
- DRIVEWAY CROSSINGS TO BE UPGRADED (AS PER VEHICLE CROSSING DETAILS)

HARRINGTON STREET
MITCHELL GROVE
MITCHELL GROVE
RESERVE
RESERVE
OLIVE STREET
OLIVE STREET
OLIVE STREET
SARSFIELD STREET
GREAT OCEAN ROAD
GREAT OCEAN ROAD
MITCHELL GROVE
HOUSE
HOUSE
HOUSE
STEEP TERRAIN

ROCKED OUTLET TO BE CONSTRUCTED AS PER OUTLET DETAIL TYPE 3

INSTALL D50 300Ø ROCK BEACHING AS PER RIP RAP DETAIL

EXISTING DRAIN INLET TO HAVE HEADWALL INSTALLED.

EXISTING SCOUR TO BE REPAIRED AND REPLACED WITH D50 300 ROCK BEACHING AS PER DETAIL

EXISTING 525Ø TABLE DRAIN OUTLET PIPE ALIGNMENT AND DISCHARGE POINT UNKNOWN. CONTRACTOR TO CONFIRM ALIGNMENT AND CONNECT INTO PROPOSED DRAINAGE PIT. CONTRACTOR TO EXPOSE 525Ø AND FORM PIT ON EXISTING PIPE AND MAKE GOOD

EXISTING SWALES TO BE FILLED AND DEPRESSIONS FORMED OVER PROPOSED DRAIN WITH LOW POINTS ON PROPOSED GRATED PITS

EXISTING DRIVEWAY CULVERTS TO BE REMOVED AND DISPOSED OF OFFSITE. CONTRACTOR TO REINSTATE DRIVEWAY TO MATCH EXISTING.

PROPOSED GRATED PIT TO BE INSTALLED WITH LOCALISED DEPRESSION FORMED OVER PIT. CONTRACTOR TO ENSURE IMMEDIATE SURROUNDS GRADE INTO PIT.

PROPOSED PIT TO HAVE TWIN PIPE OUTLET REFER TO PIT DETAILS.

EXISTING DRAINAGE OUTLET TO BE MAINTAINED

PROPOSED HEADWALL TO BE CONSTRUCTED ADJACENT TO EXISTING OUTLET. CONTRACTOR TO REMOVE AND REINSTATE ROCKS

2250 IL24.50 IL24.00 IL22.55 IL21.47 IL21.58 — 4/A 4/B 4/C

450Ø IL4.38 IL4.43 — 5/E

450Ø IL3.67 IL3.72 — 5/D

450Ø IL3.52 IL3.47 — 5/C

450Ø IL3.37 IL3.32 — 5/B

450Ø IL3.17 — 5/A

375Ø IL6.40 IL6.45 IL6.52 — 5/G 5/H

300Ø IL6.57 IL6.65 — 5/I

375Ø IL4.90 IL4.95 — 5/F

E7/1

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FOR CONTINUATION REFER TO DRAWING V170115-CI-3010

NORTH
0 10 20m
SCALE 1:500 @A1

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Drawn	J.O	Date 18/10/2017
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Designed	J.O	Date 18/10/2017
Verified		Date
Approved		Date

Client: COLAC OTWAY SHIRE

Project: WYE RIVER AND SEPARATION CREEK STORMWATER MANAGEMENT SYSTEM
DETAILED DESIGN PITS AND PIPES

Title: SEPARATION CREEK
DRAINAGE DETAILED LAYOUT PLAN
SHEET 2 OF 2

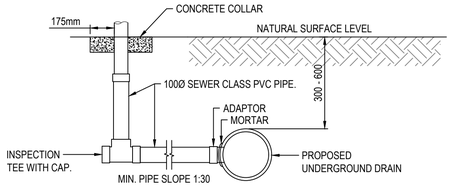
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Drawing Number: V170115-CI-3011
Revision: 2

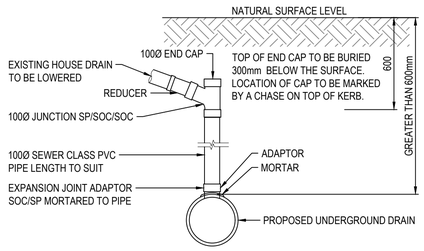
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DATE PLOTTED: 25 October 2017 2:45 PM BY: JORDAN ORMEROD



NOTE: CONNECTION TO BE ABOVE SPRING LINE.

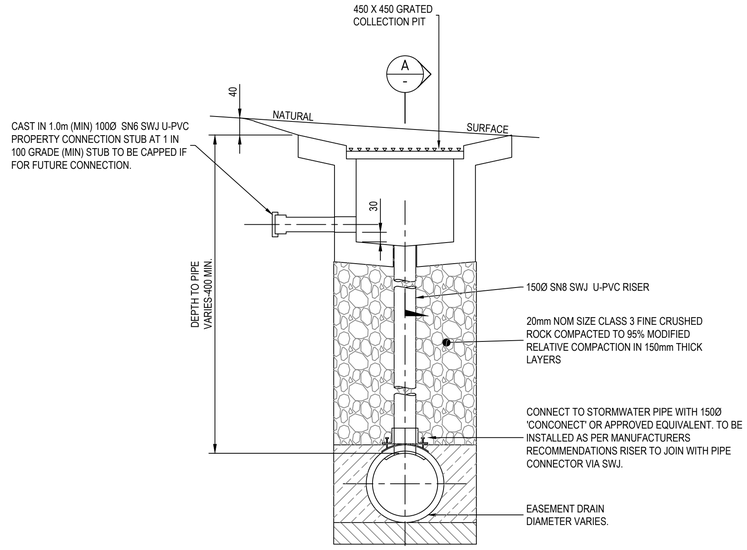
WITH COVER BETWEEN 300mm-600mm



WITH COVER GREATER THAN 600mm

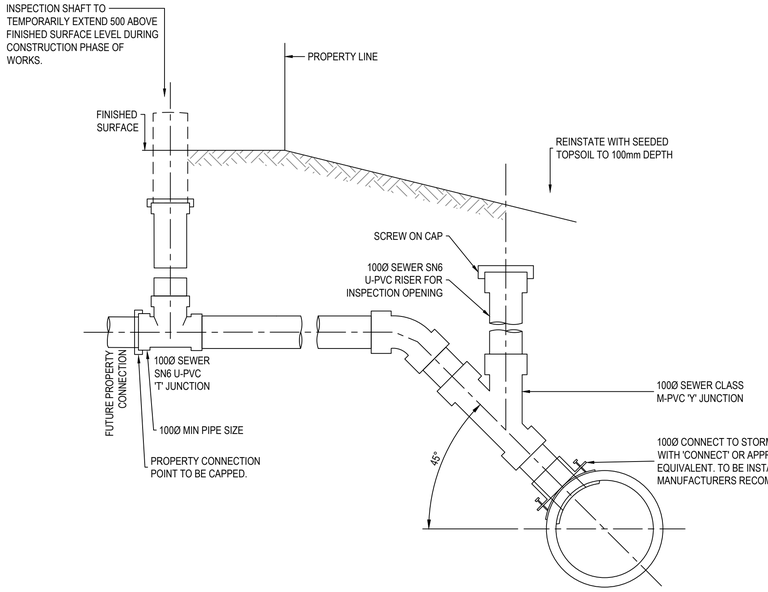
PIPE TO PIPE CONNECTION DETAIL

NOT TO SCALE



SIDE ELEVATION

NOT TO SCALE



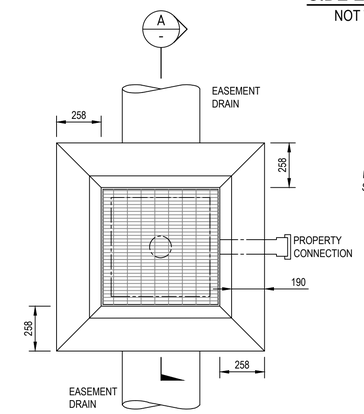
NOTES:

1. REFER TO PLUMBING CODE OF AUSTRALIA FOR ALL PIPE LAYING AND JOINTING REQUIREMENTS.

TRUNK DRAIN CONNECTION

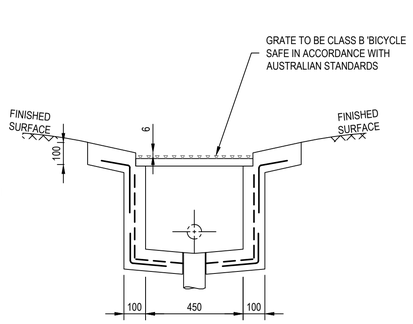
(45° TO PIPE WHERE COVER LIMITED OR STEEP GROUND)

NOT TO SCALE



COLLECTION PIT - PLAN

NOT TO SCALE



SECTION A-A

NOT TO SCALE

NOTES:

1. EDGE CONCRETE AROUND PERIMETER OF GRATE
2. TOP OF GRATE 40mm (min) BELOW FINISHED SURFACE.
3. DO NOT BOND GRATE TO CONCRETE TO ALLOW EASY ACCESS TO PIT.
4. CONCRETE TO BE SMOOTH TROWELLED FINISH.
5. GRATE FRAME TO BE OILED IF INSTALLED IN WET CONCRETE.
6. CONCRETE STRENGTH F'C = 25MPa. (MIN) AT 28 DAYS
7. SEAL UP AND MAKE GOOD PIPE CONNECTION / INSERTION TO PIT.
8. PROPERTY CONNECTION MIN 100Ø PIPE AS PER CLAUSE 16.10.2 (PIPE DIAMETERS).

EASEMENT DRAIN CONNECTION - PITS

NOT TO SCALE

WARNING

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Client: COLAC OTWAY SHIRE

Project: WYE RIVER AND SEPARATION CREEK STORMWATER MANAGEMENT SYSTEM
DETAILED DESIGN PITS AND PIPES

Title: SEPARATION CREEK
DRAINAGE TYPICALS
SHEET 1 OF 4

Status: FOR TENDER ONLY
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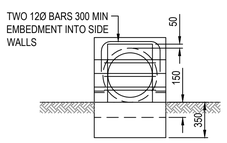
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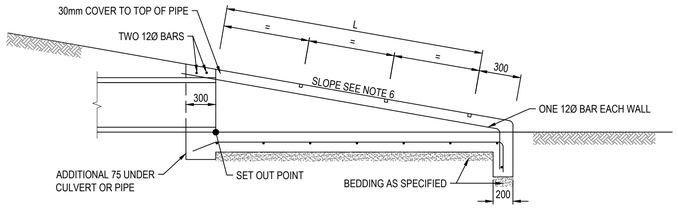
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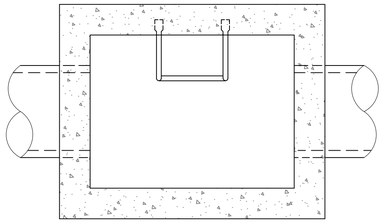
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DATE PLOTTED: 25 October 2017 2:45 PM BY: JORDAN ORMEROD

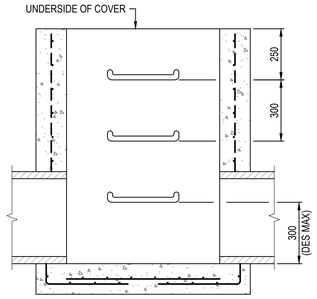


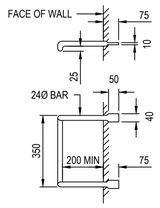
ELEVATION





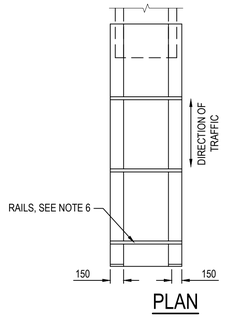
PLAN





NOTES:
1. PITS DEEPER THAN 1000mm SHALL BE FITTED WITH STEP IRONS.
2. STEP IRONS SHALL BE LOCATED:
   - DIRECTLY BELOW THE OPENING IN THE COVER
   - DESIRABLY ON A WALL WITHOUT PIPE OPENINGS
   - DESIRABLY ON ONE OF THE LONG SIDES OF THE PIT
3. MATERIAL FOR STEP IRONS SHALL BE STRUCTURAL GRADE 250 TO AS 1204.
4. STEP IRONS SHALL HAVE SHARP EDGES ROUNDED AND HOT DIP GALVANIZED AFTER FABRICATION.
5. PROPRIETY STEPS SUCH AS THE GATIC PS2-PF POLYPROPYLENE STEPS (OR APPROVED ALTERNATIVE) MAY BE USED. THESE SHALL BE INSTALLED ACCORDING TO THE MAUFACTUREERS INSTRUCTIONS.

STEP IRON DETAIL
NOT TO SCALE



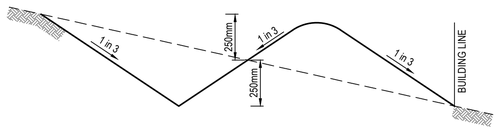
PLAN

NOTES:
1. REINFORCEMENT, SL81 UNLESS OTHERWISE SPECIFIED, SHALL BE CONTINUOUS AROUND CORNERS AND LOCATED AS SHOWN. CLEAR COVER 50 MIN. LAPS, FABRICS 300 MIN., BARS 25XBAR
2. DIAMETER MIN.
3. CONCRETE STRENGTH N32 AT 28 DAYS
4. EXPOSED EDGES SHALL HAVE 20x20 CHAMFERS
5. RAILS WITHIN SECTION "L" SHALL BE EVENLY SPACED. THE MAXIMUM SPACING SHALL NOT EXCEED 600mm.
6. RAILS ARE 60.3mm DIAMETER GALVANIZED TUBES 5.4mm THICK. THESE ARE TO BE GROUTED INTO THE SLOTS IN THE WALLS.

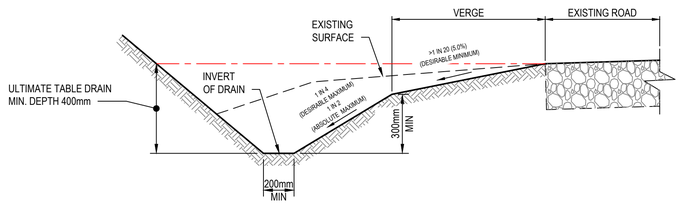
SLOPE OF ENDWALL TO MATCH BATTER SLOPE MAXIMUM SLOPE 4 TO 1.

'L' (mm)	TOTAL NUMBER OF RAILS
100-600	1
601-1200	2
1201-1800	3
1801-2400	4

DRIVEABLE ENDWALL TYPE 1
NOT TO SCALE



OPEN CATCH DRAIN DETAIL
NOT TO SCALE
NOTE: CATCH DRAINS TO BE GRADED TO NOMINATED OUTLETS. FINISH WITH 100mm TOPSOIL



TYPICAL TABLE DRAIN (TYPE-B)
NOT TO SCALE

WARNING
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Rev.	Date	Description	Des.	Verif.	Appd.
2	25/10/2017	FOR TENDER	E.H	E.H	
1	18/10/2017	FOR TENDER	J.O	E.H	

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Checked	E.H	Date 18/10/2017
Designed	J.O	Date 18/10/2017
Verified		Date
Approved		Date

Client: COLAC OTWAY SHIRE
Project: WYE RIVER AND SEPARATION CREEK STORMWATER MANAGEMENT SYSTEM
DETAILED DESIGN PITS AND PIPES
Title: SEPARATION CREEK DRAINAGE TYPICALS SHEET 2 OF 4

Status: FOR TENDER ONLY
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Datum	Melways Ref.	Scale	Size
A.H.D	X927,C9	AS SHOWN	A1

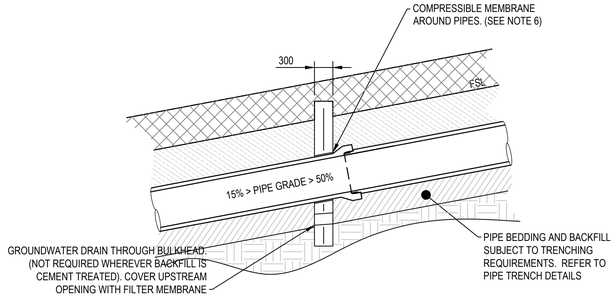
Drawing Number: V170115-CI-3101
Revision: 2

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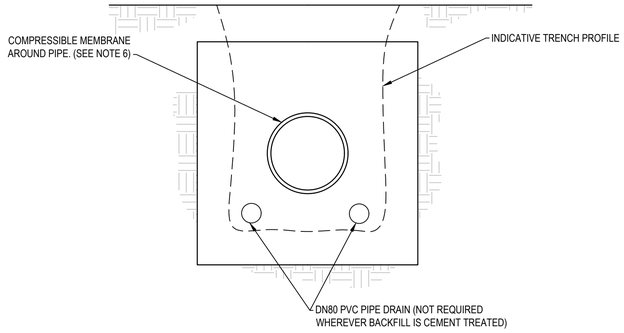
DATE PLOTTED: 25 October 2017 2:45 PM BY : JORDAN ORMEROD

BULKHEAD NOTES:

1. BULKHEADS ARE REQUIRED FOR PIPES 300mm DIAMETER OR GREATER
2. BULKHEAD TO BE LOCATED DIRECTLY BEHIND DOWNSTREAM OF COLLAR SO AS NOT TO ENCASE THE JOINT
3. LOCATE BULKHEAD AT A RETAINING WALL UNDER THE WALL.
4. KEY CONCRETE BULKHEADS INTO SIDES AND BOTTOM OF TRENCH AGAINST A BEARING SURFACE OF UNDISTURBED SOIL
5. CONCRETE TO BE CLASS N25
6. DO NOT DEFORM PIPES DURING PLACEMENT OF CONCRETE
7. PROVIDE CONTINUOUS DRAINAGE PATH THROUGH BULKHEADS
8. COMPRESSIBLE MEMBRANE AROUND PIPE TO BE 3 THICK RUBBER FOR BULKHEADS ON SLOPES
9. GROUNDWATER DRAIN THROUGH BULKHEAD IS NOT REQUIRED WHEREVER BACKFILL IS CEMENT TREATED
10. GROUNDWATER DRAINS THROUGH BULKHEADS SHALL BE FILLED WITH FIBREGLASS WOOL OR OTHER APPROVED FILTER MATERIAL
11. BULKHEADS SHALL BE CONSTRUCTED AT EVERY SECOND JOINT WHERE PIPE GRADES EXCEED 15% (1 in 6.7) AND CEMENT TREATED BACKFILL IS NOT SPECIFIED. REFER TYPICAL DETAIL

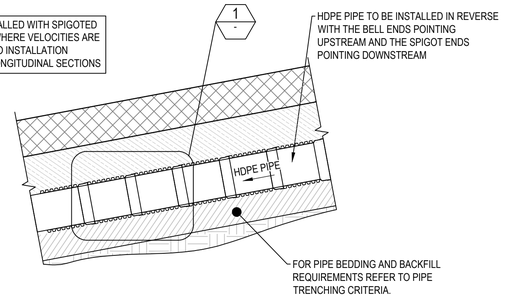


CONCRETE BULKHEAD FOR RCP DETAIL
NOT TO SCALE

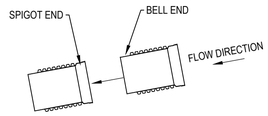


SECTION A
NOT TO SCALE

NOTE HDPE PIPES TO BE INSTALLED WITH SPIGOTED ENDS FACING DOWNSTREAM WHERE VELOCITIES ARE GREATER THAN 6m/s. REFER TO INSTALLATION SCHEDULE AS PART OF THE LONGITUDINAL SECTIONS

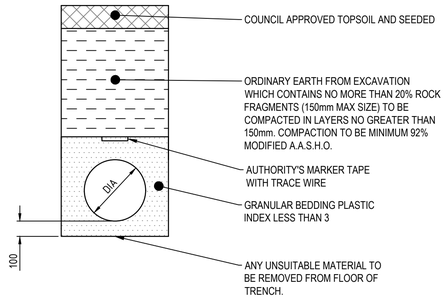


HIGH VELOCITY HDPE PIPE INSTALLATION DETAIL
NOT TO SCALE

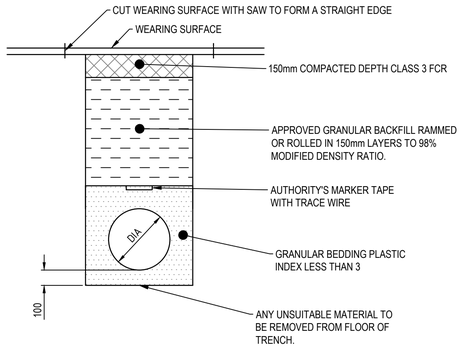


DETAIL 1 / SCALE 1: -

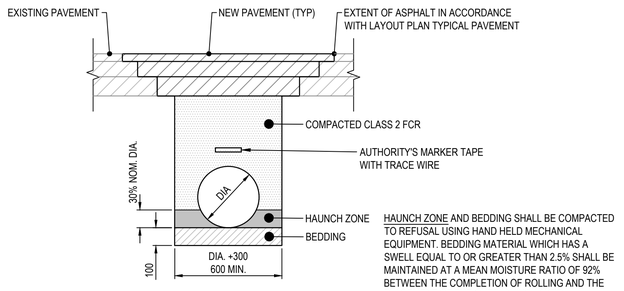
PLANT SCHEDULE FOR SLOPES STEEPER THAN 1 IN 2			
BOTANICAL NAME	COMMON NAME	PLANT DENSITY	NOTES
GOODENIA OVATA	HOP GOODENIA	1 -2 PLANTS PER 50m2	DISPERSED PLANTING AND PLANT AT TOP OF BANKS/TRANSITION BETWEEN ROAD AND PIPE TRENCH
CORREA ALBA	WHITE CORREA	1 -2 PLANTS PER 50m2	DISPERSED PLANTING AND IMMEDIATELY UPSTREAM OF PITS
POA POAFORMIS	COAST TUSSOCK-GRASS	5 PLANTS PER 5m2	PLANT IN CLUMPS OF 5
LOMANDRA LONGFOLIA	MAT RUSH	1 -2 PLANTS PER 50m2	DISPERSED PLANTING
ENCHYLAENA TOMENTOSA	RUBY SALTBUSH	1 -2 PLANTS PER 50m2	DISPERSED PLANTING
MICROLAENA STIPOIDES	WEEPING GRASS	10g/m2	BEGIN WITH A WEED FREE SEED BED. SOW SEED 10-15mm BELOW THE SOIL SURFACE



TRENCHES UNDER LANDSCAPE AREAS



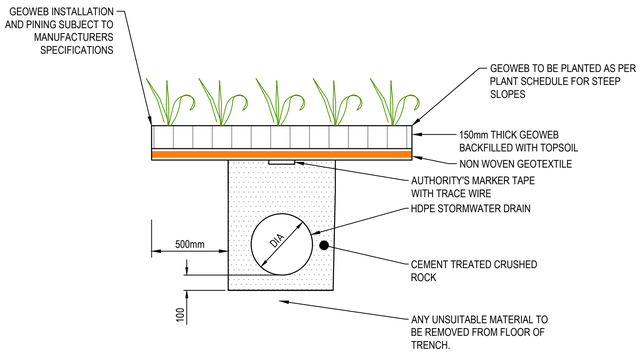
TRENCHES UNDER FOOTPATHS



HAUNCH ZONE AND BEDDING SHALL BE COMPACTED TO REFUSAL USING HAND HELD MECHANICAL EQUIPMENT. BEDDING MATERIAL WHICH HAS A SWELL EQUAL TO OR GREATER THAN 2.5% SHALL BE MAINTAINED AT A MEAN MOISTURE RATIO OF 92% BETWEEN THE COMPLETION OF ROLLING AND THE PLACEMENT OF THE OVERLAYING LAYER

TRENCHES UNDER ROADS

PIPE TRENCH DETAILS
NOT TO SCALE



TRENCHES FOR PIPE AND EMBANKMENT SLOPES STEEPER THAN 1 IN 2

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Rev.	Date	Description	Des.	Verif.	Appd.
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Checked	E.H	Date 18/10/2017
Designed	J.O	Date 18/10/2017
Verified		Date
Approved		Date

Client: COLAC OTWAY SHIRE
Project: WYE RIVER AND SEPARATION CREEK STORMWATER MANAGEMENT SYSTEM DETAILED DESIGN PITS AND PIPES
Title: SEPARATION CREEK DRAINAGE TYPICALS SHEET 3 OF 4

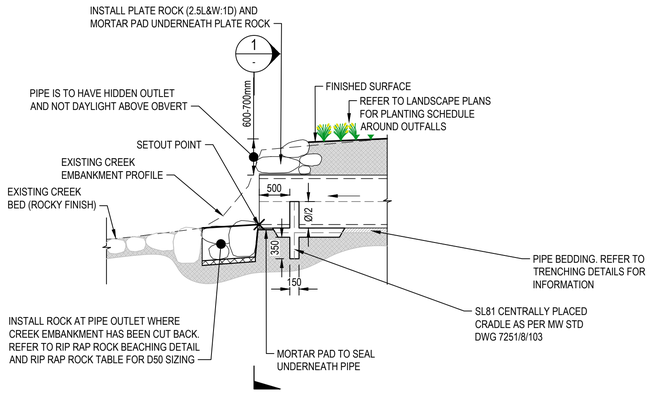
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Drawing Number: V170115-CI-3102
Revision: 2

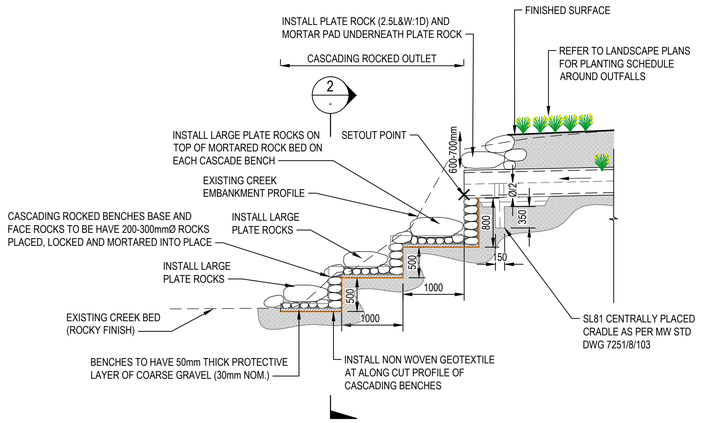
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DATE PLOTTED: 25 October 2017 2:45 PM BY: JORDAN ORMEROD



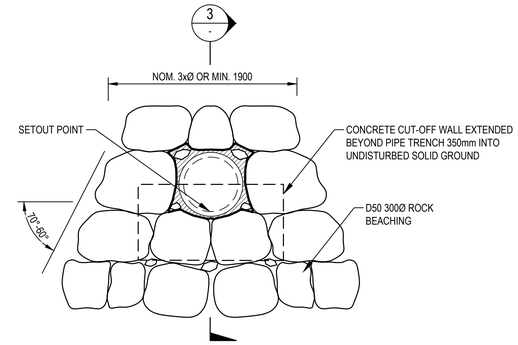
TYPICAL OUTFALL - TYPE 1: OUTFALL INTO CREEK DETAIL

SCALE 1:50



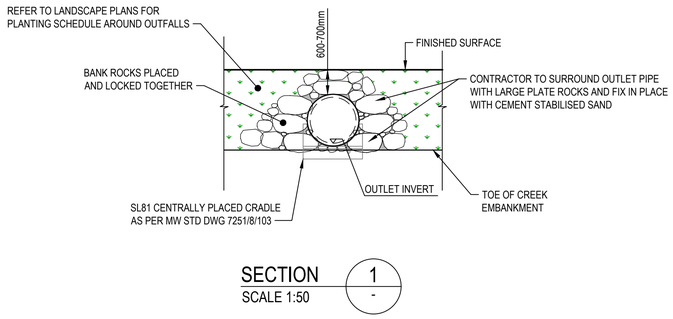
TYPICAL OUTFALL - TYPE 2: OUTFALL INTO CREEK DETAIL

SCALE 1:50



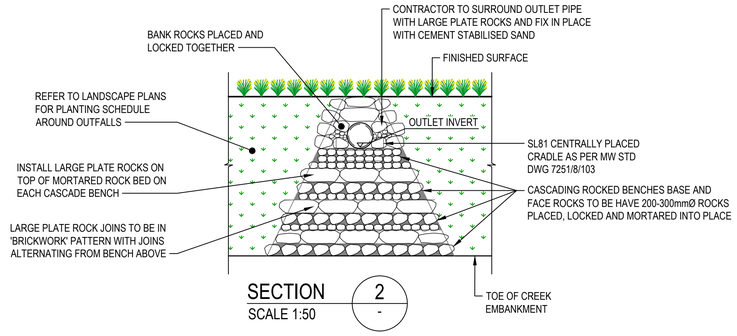
TYPICAL OUTFALL - TYPE 3: OUTFALL INTO TABLE DRAIN

SCALE 1:50



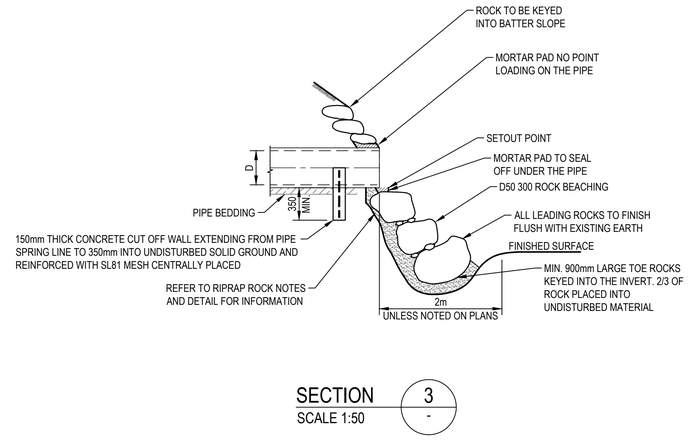
SECTION 1

SCALE 1:50



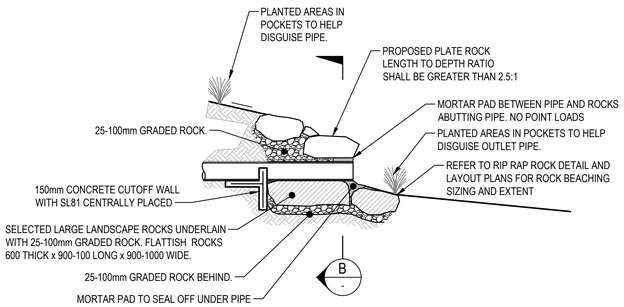
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SECTION 3

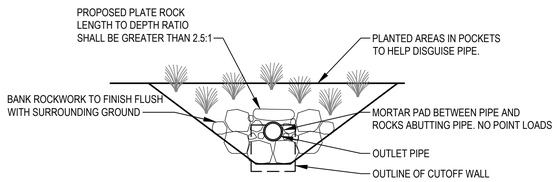
SCALE 1:50



ROCK ENDWALL DETAIL

NOT TO SCALE

REFER TO MW STANDARD DRAWING 7251/8/105



SECTION B

NOT TO SCALE

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0 1 2m

SCALE 1:50 @A1

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Checked	E.H	18/10/2017
Designed	J.P	18/10/2017
Verified		Date
Approved		Date

Client: COLAC OTWAY SHIRE

Project: WYE RIVER AND SEPARATION CREEK STORMWATER MANAGEMENT SYSTEM
DETAILED DESIGN PITS AND PIPES

Title: SEPARATION CREEK
DRAINAGE TYPICALS
SHEET 4 OF 4

Status: FOR TENDER ONLY
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Datum	Melways Ref.	Scale	Size
A.H.D	X927,C9	AS SHOWN	A1

Drawing Number: V170115-CI-3103

Revision: 2

XREFs: XR-V170115-DRAINAGE_TYPICALS
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DATE PLOTTED: 25 October 2017 2:45 PM BY : JORDAN ORMEROD

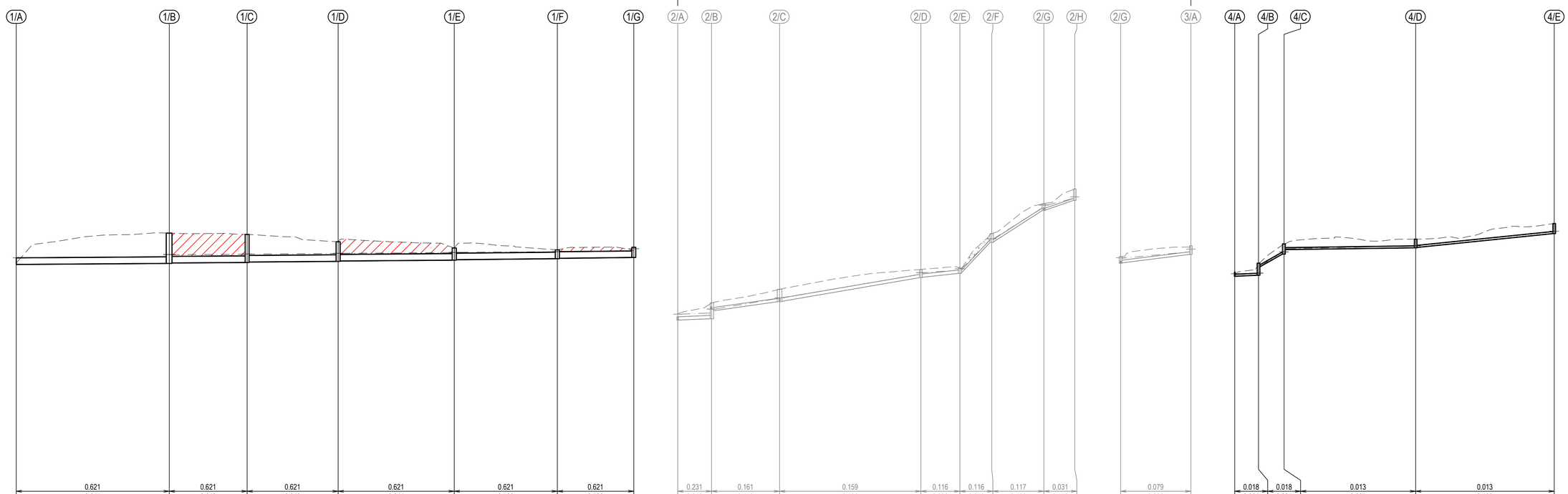
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LEGEND

	EXISTING SURFACE
	DESIGN SURFACE
	DRAINAGE HYDRAULIC GRADE LINE (HGL)
	PROPOSED DRAINAGE
	EXISTING DRAINAGE
	SUPPLEMENTARY DRAINAGE
2/A	PIT NUMBER
	FINE CRUSHED ROCK BACKFILL (FCR) UNDER EX ROADS
	CEMENT TREATED BACKFILL FOR STEEP SLOPES

CONTRACTOR TO VERIFY EXISTING SERVICES CONNECTION LEVELS PRIOR TO CONSTRUCTION. ANY DISCREPANCIES MUST BE IMMEDIATELY IDENTIFIED AND THE SUPERINTENDENT NOTIFIED PRIOR TO CONSTRUCTION COMMENCING.

TO BE CONSTRUCTED AS PART OF SUPPLEMENTARY WORKS



| | | |

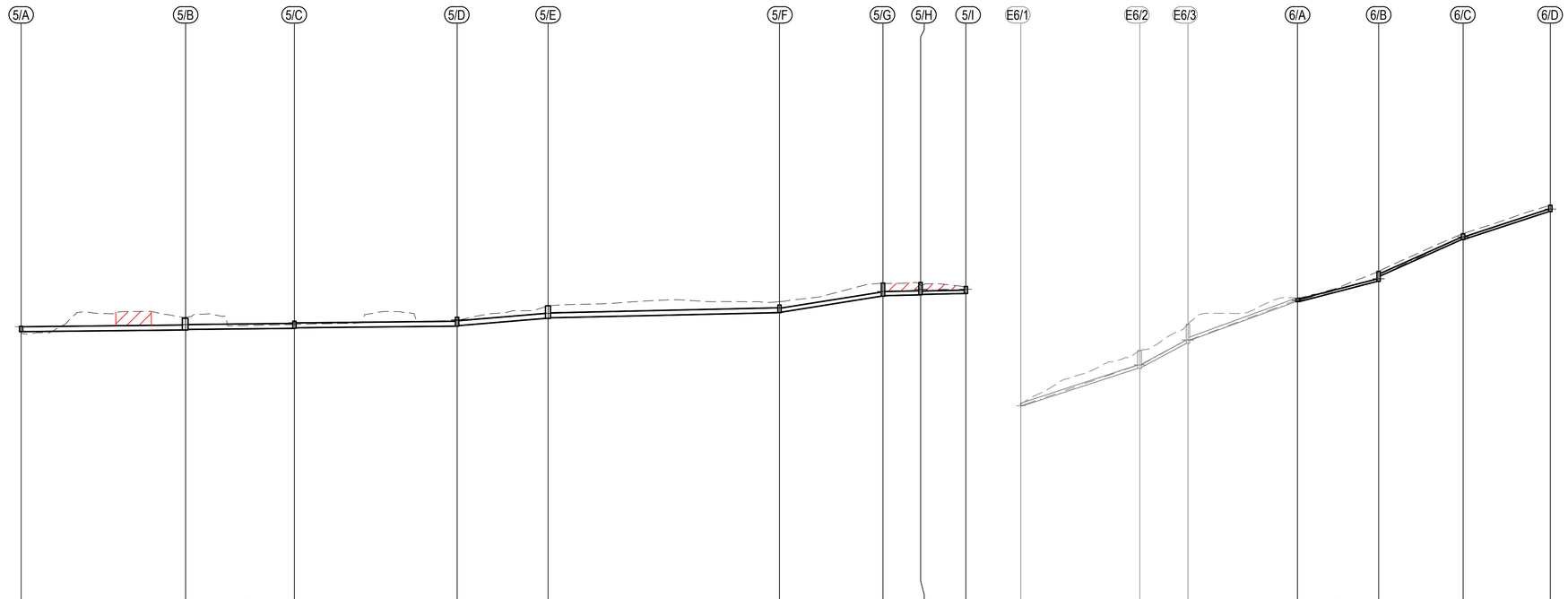
DATE PLOTTED: 25 October 2017 2:45 PM BY : JORDAN ORMEROD

LEGEND

	EXISTING SURFACE
	DESIGN SURFACE
	DRAINAGE HYDRAULIC GRADE LINE (HGL)
	PROPOSED DRAINAGE
	EXISTING DRAINAGE
	SUPPLEMENTARY DRAINAGE
(2/A)	PIT NUMBER
	FINE CRUSHED ROCK BACKFILL (FCR) UNDER EX ROADS
	CEMENT TREATED BACKFILL FOR STEEP SLOPES

CONTRACTOR TO VERIFY EXISTING SERVICES CONNECTION LEVELS PRIOR TO CONSTRUCTION. ANY DISCREPANCIES MUST BE IMMEDIATELY IDENTIFIED AND THE SUPERINTENDENT NOTIFIED PRIOR TO CONSTRUCTION COMMENCING.

TO BE CONSTRUCTED AS PART OF SUPPLEMENTARY WORKS



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PIT SCHEDULE

PIT NO	LOCATION		TYPE	INTERNAL		PIT COVER LEVEL	CLASS (AS 3996)	DEPTH	INLET		OUTLET		COMMENTS
	EASTING	NORTHING		WD	LEN				DIA	INV LEV	DIA	INV LEV	
1/A	752118.263	5720309.151	EW	0	0	4.563		0.75	750	3.813			REINFORCED CONCRETE WINGWAL. REFER TO IDM SD 465.
1/B	752127.141	5720342.898	JP	1200	1200	7.374	D	3.44	750	3.979	750	3.929	JUNCTION PIT IN ROAD RESERVE. REFER TO IDM SD 420.
1/C	752144.201	5720347.727	JP	1050	900	7.232	D	3.19	750	4.088	750	4.038	JUNCTION PIT IN ROAD RESERVE. REFER TO IDM SD 420.
1/D	752163.547	5720355.198	GEP	1050	900	6.390	D	2.23	750	4.208	750	4.158	PIT TO BE HAUNCHED WITH 600X900 ACCESS. CLASS D GRATE. REFER TO IDM SD 410
1/E	752186.705	5720368.019	GEP	1050	900	5.681	D	1.39	750	4.346	750	4.296	PIT TO BE HAUNCHED WITH 600X900 ACCESS. CLASS D GRATE. REFER TO IDM SD 410
1/F	752209.636	5720373.136	GEP	1050	900	5.478	D	1.01	750	4.513	750	4.463	PIT TO BE HAUNCHED WITH 600X900 ACCESS. CLASS D GRATE. REFER TO IDM SD 410
1/G	752226.968	5720371.463	GEP	1050	900	5.770	D	1.17			750	4.601	GRILLED INLET PIT. REFER TO PIT DETAIL 1/G.
4/A	752290.370	5720487.335	EW	500	150	21.947		0.48	225	21.471			CONCRETE ENDWALL FOR PIPES UP TO 300mmØ. REFER TO IDM SD 470.
4/B	752285.156	5720488.815	JP	600	600	22.960	D	1.38	225	22.547	225	21.579	JUNCTION PIT IN ROAD RESERVE. REFER TO IDM SD 420.
4/C	752279.455	5720489.961	JP	900	600	25.146	B	1.15	225	24.501	225	24.001	JUNCTION PIT WITH NON-CONCRETE COVER (NON-TRAFFICABLE AREA). REFER TO IDM SD 426.
4/D	752251.808	5720478.347	GEP	600	600	25.688	B	0.99	225	24.751	225	24.701	JUNCTION PIT WITH NON-CONCRETE COVER (NON-TRAFFICABLE AREA). REFER TO IDM SD 426.
4/E	752222.688	5720466.115	JP	900	600	27.471	B	1.14			225	26.330	JUNCTION PIT WITH NON-CONCRETE COVER (NON-TRAFFICABLE AREA). REFER TO IDM SD 426.
5/A	752284.185	5720284.670	EW	600	600	3.662		0.49	450	3.175			REINFORCED CONCRETE WINGWALL. REFER TO IDM SD 465.
5/B	752292.266	5720313.517	GEP	1200	900	4.391	D	1.07	450	3.375	450	3.325	DEMOLISH EXISTING PIT AND FORM HAUNCHED GRATED PIT. REFER TO PIT DETAIL 5/B.
5/C	752308.855	5720324.340	GEP	900	600	4.127	D	0.65	450	3.524	450	3.474	DEPRESSED GRATED PIT. REFER TO IDM SD 455.
5/D	752333.610	5720340.610	GEP	900	600	4.490	D	0.82	450	3.722	450	3.672	DEPRESSED GRATED PIT. REFER TO IDM SD 455.
5/E	752348.334	5720348.183	JP	900	900	5.522	D	1.14	450	4.434	450	4.384	DEPRESSED GRATED PIT. REFER TO IDM SD 455.
5/F	752385.819	5720367.462	GEP	900	600	5.600	D	0.70	375	4.946	450	4.896	DEPRESSED GRATED PIT. REFER TO IDM SD 455.
5/G	752402.202	5720376.767	GSEP	900	600	7.603	D	1.20	375	6.449	375	6.399	GRATED PIT FOR SM2 MODIFIED KERB & CHANNEL. REFER TO IDM SD 480.
5/H	752407.629	5720380.950	GEP	600	600	7.650	D	1.13	300	6.568	375	6.518	DEPRESSED GRATED PIT. REFER TO IDM SD 455.
5/I	752414.123	5720375.880	GEP	600	600	7.281	D	0.63			300	6.650	GRATED PIT. REFER TO IDM SD 405.
6/A	752173.973	5720534.995	GSEP	900	600	30.210	B	0.30	225	29.910	300	29.910	300mm TALL LETTER BOX OPENING. REFER TO PIT DETAIL 6/A.
6/B	752187.580	5720540.740	JP	600	600	32.660	B	0.92	225	32.245	225	31.745	JUNCTION PIT WITH NON-CONCRETE COVER (NON-TRAFFICABLE AREA). REFER TO IDM SD 426.
6/C	752202.428	5720544.738	JP	900	600	36.092	B	0.54	225	35.600	225	35.550	JUNCTION PIT WITH NON-CONCRETE COVER (NON-TRAFFICABLE AREA). REFER TO IDM SD 426.
6/D	752216.751	5720551.600	JP	600	600	38.678	B	0.58			225	38.101	JUNCTION PIT WITH NON-CONCRETE COVER (NON-TRAFFICABLE AREA). REFER TO IDM SD 426.

NOTES:

1. ALL PITS ARE TO BE TO IDM STANDARDS UNLESS NOTED OTHERWISE.
2. PITS DEEPER THAN 1.00m SHALL BE FITTED WITH STEPIRONS, FIRST STEPIRON TO BE 300mm FROM THE BOTTOM OF THE PIT.
3. COVER LEVELS TO BE SET TO MATCH THE FINISHED SURFACE PROFILES AND ADJACENT CONSTRUCTION.
4. GP = GRATED PIT, GSEP = SIDE ENTRY PIT GRATED, DGSEP = DOUBLE SIDE ENTRY PIT GRATED, SEP = SIDE ENTRY PIT, DSEP = DOUBLE SIDE ENTRY PIT, JP = JUNCTION PIT, EP = END OF PIPE, EW = ENDWALL, DEW = DRIVEABLE ENDWALL.
5. UNLESS OTHERWISE SPECIFIED, PIT TYPES REFER TO IDM STANDARD DRAWINGS
   - FIGURE SD 405 UNHAUNCHED PITS (450Ø MAX. PIPE)
   - FIGURE SD 410 HAUNCHED PITS (MIN 525Ø PIPE)
   - FIGURE SD 420 JUNCTION PIT IN ROAD RESERVE
   - FIGURE SD 426 JUNCTION PIT WITH NON-CONCRETE COVER (NON TRAFFICABLE AREAS)
   - FIGURE SD 441 GRATED SIDE ENTRY PIT WITH LIGHTWEIGHT COVER & CONCRETE SURROUND FOR 'SM2-M'
   - FIGURE SD 455 DEPRESSED GRATED PIT
   - FIGURE SD 460 INLET CATCH PIT
   - FIGURE SD 465 REINFORCED CONCRETE WINGWALL (IN-SITU)
   - FIGURE SD 470 CONCRETE ENDWALL FOR PIPES UP TO 300mmØ (WALKWAYS, PATHS AND TRACKS)
   - FIGURE SD 480 GRATED PIT FOR SM2 MODIFIED KERB & CHANNEL
   - FIGURE SD 481 ALTERNATE GRATED PIT FOR SM2 MODIFIED KERB & CHANNEL 'SM2-M' - UPSTREAM PIT ONLY
   - FIGURE SD 496 MODIFIED EXISTING PIT TO GRATED PIT IN VEHICLE CROSSING / LAYBACK
6. FOR HAUNCHED PITS REFER TO IDM STANDARD DRAWING FIGURE SD 410. PITS TO BE HAUNCHED TO COUNCIL STANDARD OPENINGS.
7. STUBS AND PIPE ENDS TO BE BLOCKED OFF TO COUNCIL'S SATISFACTION.
8. ALL GRATED PITS TO HAVE BICYCLE SAFE LOCKDOWN GRATES.
9. ALL GRATED SIDE-ENTRY PITS TO HAVE MIN 100mm THICK CONCRETE APRON BETWEEN GRATE AND ASPHALT. REFER IDM STANDARD DRAWINGS.
10. PITS WITHIN ROAD PAVEMENT, VEHICLE CROSSINGS OR WITHIN 0.75m OF A VEHICLE CROSSING, TO HAVE CLASS D CAST IRON LOCK DOWN LIDS, LID INFILL COLOURED TO MATCH ROAD SURFACE.
11. ALL PITS WITHIN ROAD TO BE CONSTRUCTED WITH 32 MPa CONCRETE WITH SL92 MESH IN WALLS AND BASE.
12. CONTRACTOR TO VERIFY EXISTING SERVICES CONNECTION LEVELS PRIOR TO CONSTRUCTION. ANY DISCREPANCIES MUST BE IMMEDIATELY IDENTIFIED AND THE SUPERINTENDENT NOTIFIED PRIOR TO CONSTRUCTION COMMENCING.

Rev.	Date	Description	Des.	Verif.	Appd.
2	25/10/2017	FOR TENDER	E.H	E.H	
1	18/10/2017	FOR TENDER	J.O	E.H	

H: 0 10 20m
V: 0 5 10m
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		Date
Drawn	J.O	18/10/2017
Checked	E.H	18/10/2017
Designed	J.O	18/10/2017
Verified		
Approved		

Client: COLAC OTWAY SHIRE

Project: WYE RIVER AND SEPARATION CREEK STORMWATER MANAGEMENT SYSTEM
DETAILED DESIGN PITS AND PIPES

Title: SEPARATION CREEK
DRAINAGE PIT SCHEDULE

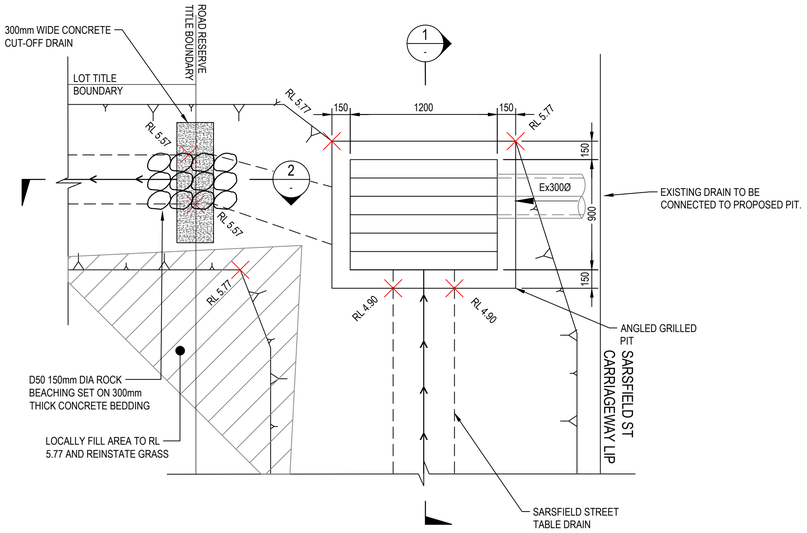
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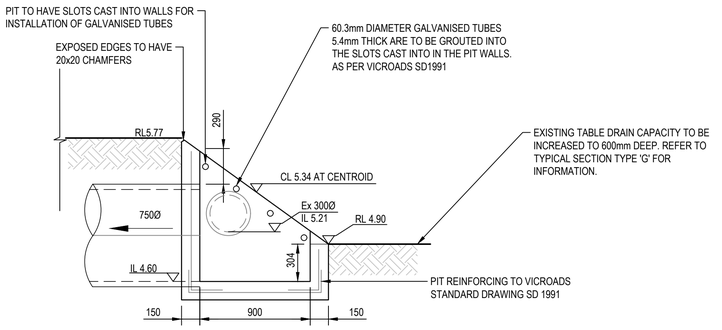
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Revision: 2

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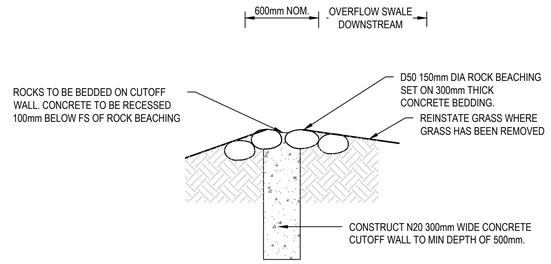
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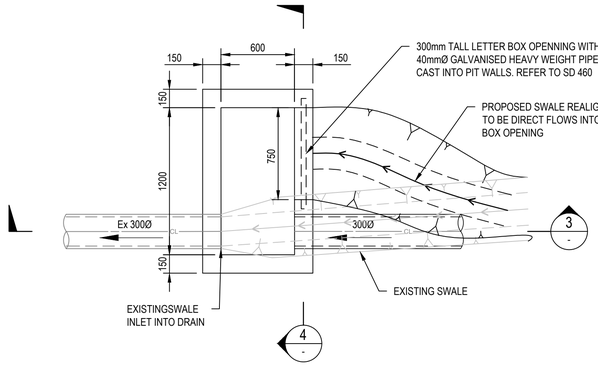
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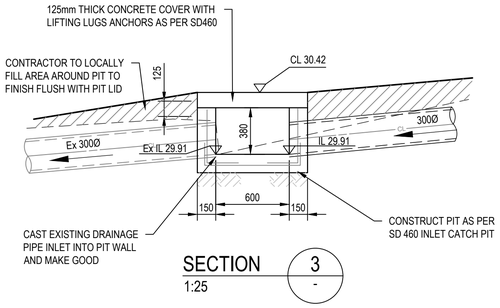
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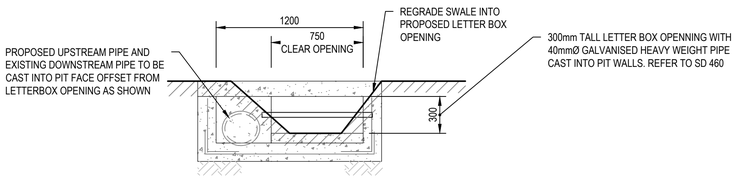
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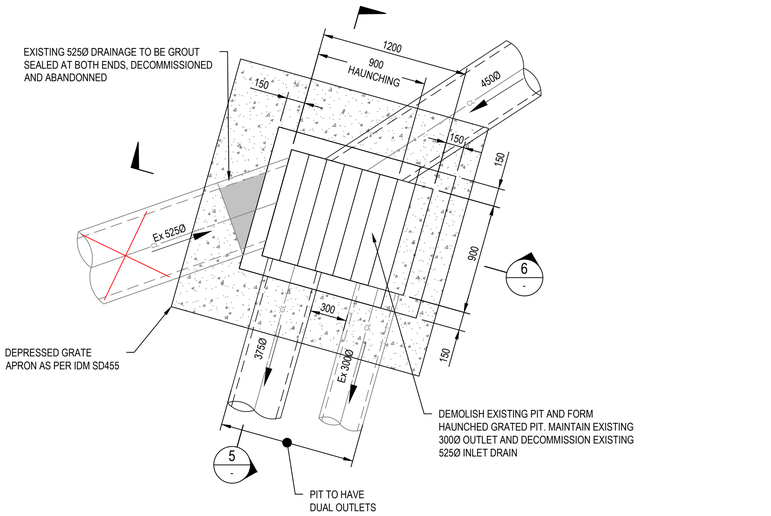
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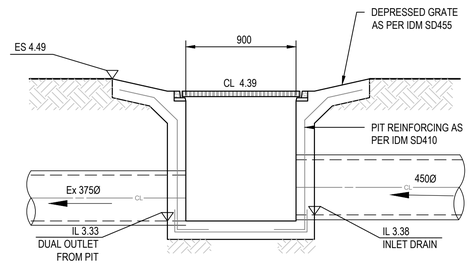
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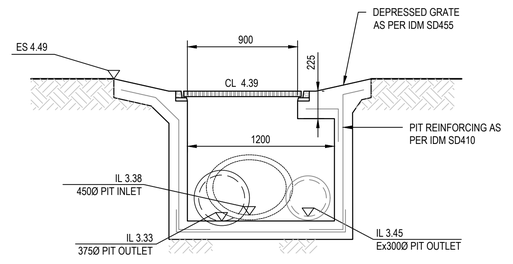
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PIT 5/B
SCALE 1:25



SECTION 5
1:25



SECTION 6
1:25

WARNING
EXTERNAL APPROVAL
THIS DRAWING IS SUBJECT TO THE APPROVAL OF **COLAC OTWAY SHIRE** AND IS A PRELIMINARY ISSUE

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Designed	J.O	18/10/2017
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Approved		Date

Client: COLAC OTWAY SHIRE
Project: WYE RIVER AND SEPARATION CREEK STORMWATER MANAGEMENT SYSTEM
DETAILED DESIGN PITS AND PIPES
Title: SEPARATION CREEK
DRAINAGE PIT DETAILS

Status: FOR TENDER ONLY
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Datum	Melways Ref.	Scale	Size
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Drawing Number: V170115-CI-3220
Revision: 2

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