



**Gladstone Ports Corporation**  
*Growth, Prosperity, Community.*

**DECISION NOTICE – DA 2017/03**

Application:	<b>Port Application (Operational Works) for GAWB APLNG FLNE raw water supply project</b>
Applicant Name and address:	<b>Mr Jason Nichols Gladstone Area Water Board PO Box 466 GLADSTONE QLD 4680</b>
Owner:	<b>Gladstone Ports Corporation Limited</b>
Subject Land:	<b>Part of Lot 502 on SP252988 and part of Lot 1 on SP266154</b>
Location:	<b>Barge Landing Road Fisherman's Landing GLADSTONE</b>
Present Zoning	<b>Strategic Port Land</b>
Proposed Use:	<b>Permanent raw water pipeline</b>
Application Received:	<b>30 March 2017</b>

This development application was assessed on: **20 April 2017**

**1. Details Of The Approval**

**Development Permit:**

Permanent buried raw water pipeline (approx.. 315m) and above ground metering assembly to accommodate the Australia Pacific LNG (Shared Facilities) Pty Ltd (APLNG) Fisherman's Landing Northern Expansion (FLNE) site.

**2. Assessment Manager's Conditions**

In general the facilities are in compliance with the requirements of Gladstone Ports Corporation. It is to be noted that the following conditions will be complied with in the granting of this Development Application.

**GENERAL**

1. The proposed development must be carried out generally in accordance with the plans as lodged with the application except where modified by conditions of this permit.
2. Unless otherwise stated, all conditions must be completed prior to the commencement of the use.

3. Where additional "approval" is required under these conditions by the Gladstone Ports Corporation for drawings or documentation, the proponent must submit for review, amend to the satisfaction of, and obtain written acceptance from the Gladstone Ports Corporation. Only in this manner can compliance with the condition be achieved.
4. All other relevant regulatory approvals must be obtained before commencement of works or operation of the facility.
5. The proponent must inform the GPC of completion of works within 14 days of practical completion and undertake a site inspection with GPC. The proponent must also certify that the development is constructed as per design and provide RPEQ certification that the development has been constructed in accordance with the approved plans.
6. The proponent must at its cost and expense, keep and maintain the subject area, including existing services, in a state that is satisfactory to the Port.

## **ENGINEERING**

7. The proponent must supply the Port with "As Constructed" plans in both hard copy (2 of) and electronic (CAD format) which illustrates all infrastructure on Port land which is associated with the activity (e.g. detailed positions of underground services).
8. Final approval for the pipeline alignment is to be provided for the corner proposed adjacent to Barge Landing Road, the approval will be discussed with the applicant and GPC as part of onsite inspections. The corner must be kept as tight as possible to reduce potential impacts to future use of the land.
9. The proponent is required to apply for and obtain from GPC a Permit to Dig/Excavate prior to commencing works.
10. The permit holder must obtain approval for disposal of excavated material on GPC land from GPC prior to works commencing.
11. The proponent is to notify GPC of damage/wear and tear caused to any port roads and associated infrastructure during the construction and operational phases e.g. damage to signage and pavement as a result of this activity. GPC will undertake necessary repairs at the expense of the proponent.
12. The holder must provide to GPC for approval a Construction Traffic Management Plan (CTMP) prior to initiation of works which includes appropriate communication with other port users including MAC Ramp users potentially affected by the construction activities.
13. Any site lighting used during construction should not impact on the visibility of Navigational Aids utilised for the primary shipping channels nor illuminate a landward glare beyond the site boundary. Lighting will be continually reviewed during construction and operations with respect to navigation and will be revised as required in response to negative impacts as they arise.

## **ENVIRONMENT**

14. Prior to works commencing on site, a Construction Environmental Management Plan (CEMP) specific to this application and its associated works, is to be submitted to GPC for approval. Furthermore, GPC will require no less than 10 business days to initially assess the CEMP. Should further information be required to be provided for the assessment of the CEMP, GPC will require a further 5 business days to complete the information request response.

15. Prior to the initiation of works the proponent must provide evidence via a geotechnical report that Acid Sulphate Soils or Potential Acid Sulphate Soils are not present within the proposed excavation areas. Alternatively the proponent must prepare an Acid Sulphate Soil Management Plan.
16. Where there is any conflict between the conditions of this approval and the CEMP, the conditions of this approval shall prevail.
17. Any amendments to the approved Construction Environmental Management Plan must be approved by the Gladstone Ports Corporation.
18. Construction and associated works are not to be conducted in such a manner that would environmentally degrade Gladstone Ports Corporation land or infrastructure. This includes but is not limited to:
  - contamination of the land;
  - encouragement of pest and weed incursion;
  - loss of land through poor sediment and erosion controls; and
  - localised flooding from poor stormwater management practices/controls.Any such degradation in or caused by the works must be rectified in a timely manner and measures implemented to prevent further degradation.
19. Gladstone Ports Corporation Environment Hotline (07) 4976 1617 is to be notified of the occurrence of any;
  - reportable release/spill of contaminants (e.g. fuels, chemicals);
  - any environmental complaints received by the holder of this approval; and
  - non-compliance with conditions of this approval or any environmental approval obtained.
20. Any spillage of sediment, wastes, contaminants, or other materials must be cleaned immediately. Such spillage must not be cleaned up by hosing, sweeping or otherwise releasing such materials to any stormwater drainage system, roadside gutters or waters.

### 3. The Approved Plans –

The approved plans and/or documents forming part of this decision notice are listed in the following table:

Document Reference	Plan / Document Name	Date
Draw. No. 600-G-00003 Rev 0	Coversheet	13/04/2017
Draw. No. 600-G-00004 Rev 0	Compilation plan, Notes and Legend	13/04/2017
Draw. No. 600-C-00030 Rev 0	Telemetry/Solar Panel Relocation Layout	13/04/2017
Draw. No. 600-C-00031 Rev 0	Telemetry/Solar Panel Details	13/04/2017
Draw. No. 600-C-00032 Rev 0	Security Fence and Gate Details	13/04/2017
Draw. No. 600-C-00033 Rev 0	Concrete Notes	13/04/2017
Draw. No. 600-P-00170 Rev 0	Plan and Longitudinal Section	13/04/2017
Draw. No. 600-P-00171 Rev 0	Connection Details	13/04/2017
Draw. No. 600-P-00172 Rev 0	Miscellaneous Details	13/04/2017

**4. When the Development Approval Takes Effect –**

If the application is approved, or approved subject to conditions, the decision notice, or if a negotiated decision notice is given, the negotiated decision notice, is taken to be the development approval and has effect on the date that the notice is signed by an authorised delegate of the Gladstone Ports Corporation.

**5. When Approval Lapses if Development Not Started**

The relevant period stated below applies to each aspect of development in this approval, as outlined below:-

- 4 years

**6. Other Necessary Development Approvals**

Listed below are the other development permits that are necessary to allow the development to be carried out:

- Nil

**7. Appeal Rights**

No legislated appeal rights are afforded with this decision notice as the application was not made under the provisions of The Sustainable Planning Act 2009.

If you have concerns or queries regarding the conditions, please contact the undersigned on 4976 1287.

**8. Assessment Manager Certification**



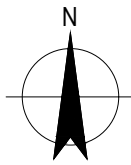
**Sarah Hunter**  
**Senior Planning Officer**  
20 April 2017



# GLADSTONE AREA WATER BOARD

## FLNE WATER MAIN EXTENSION

### IPD2017-048

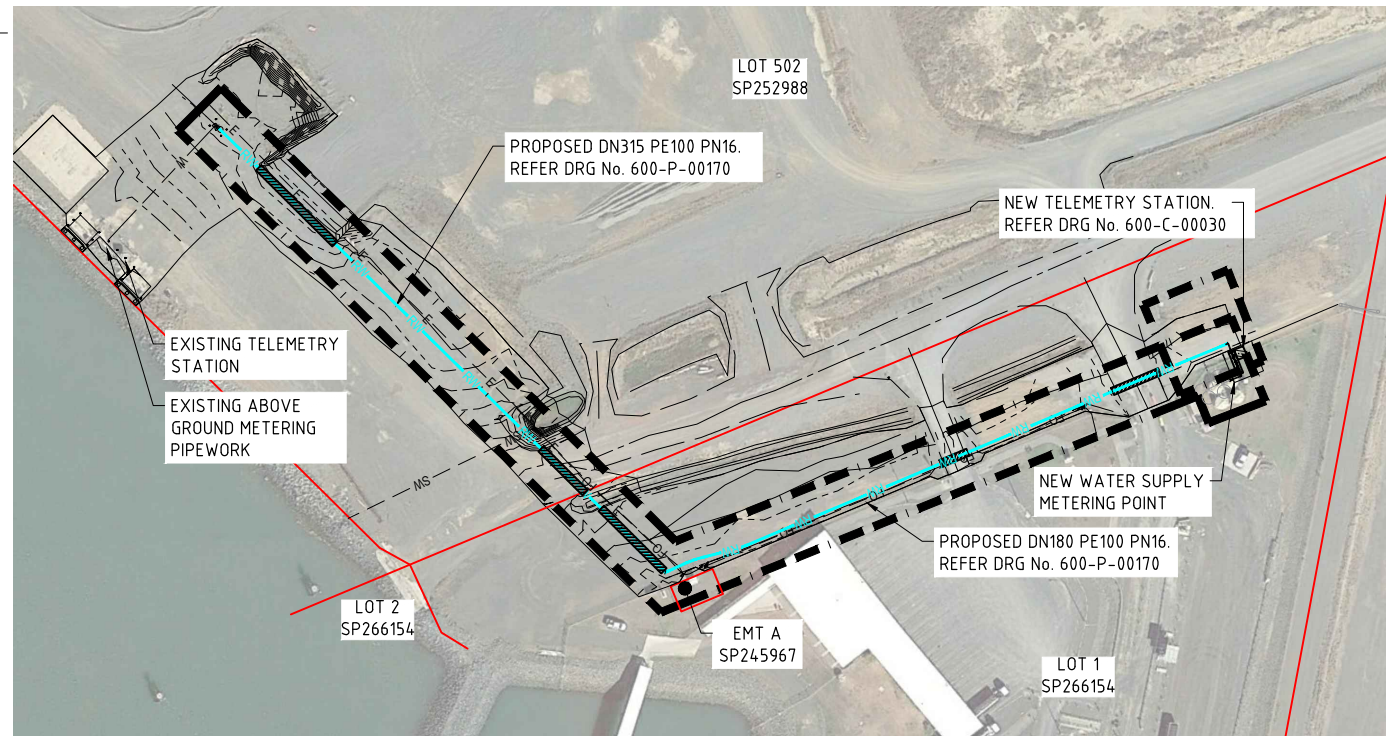
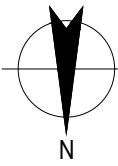


LOCALITY PLAN  
NOT TO SCALE

DRAWING LIST	
DRG No.	DRAWING TITLE
600-G-00003	COVER SHEET, LOCALITY PLAN AND DRAWING INDEX
600-G-00004	COMPILATION PLAN, NOTES AND LEGEND
600-C-00030	TELEMETRY/SOLAR PANEL LAYOUT
600-C-00031	TELEMETRY/SOLAR PANEL DETAILS
600-C-00032	SECURITY FENCE AND GATE DETAILS
600-C-00033	CONCRETE NOTES
600-P-00170	PLAN AND LONGITUDINAL SECTION
600-P-00171	CONNECTION DETAILS
600-P-00172	MISCELLANEOUS DETAILS

**APPROVED 20/04/2017**

2 / 100 Goondoon Street Gladstone QLD 4680 Australia PO Box 373 Gladstone QLD 4680 T 61 7 4973 1600 F 61 7 4972 6236 E g1tmail@ghd.com.au W www.ghd.com.au				1st Floor 147 Goondoon Street Gladstone Q 4680 PO Box 466 Gladstone Q 4680 Tel: (07) 4976 3000 Fax: (07) 4972 5632 ABN: 88 409 667 181								
DRAWN BY E. JOHNSON 23/03/17 DESIGNED BY C. CARMELITO 23/03/17 REVIEWED BY S. ORR* 12/04/17 APPROVAL BY S. ORR* 12/04/17 RPEO APPROVAL S. ORR* 12/04/17 GAWB APPROVED T. WARD* 13/04/17		GLADSTONE AREA WATER BOARD FLNE WATER MAIN EXTENSION COVER SHEET, LOCALITY PLAN AND DRAWING INDEX		PROJECT No. IPD2017-048 SIZE A1 DRAWING No. 600-G-00003 SCALE N.T.S. REV 0								
0	12/04/17	ISSUED FOR CONSTRUCTION	ZRW	SO*	SO*	TW*	GHD JOB NO. 42-19950		DO NOT SCALE		THIS DRAWING IS THE PROPERTY OF GLADSTONE AREA WATER BOARD AND IS NOT TO BE COPIED OR USED WITHOUT ITS WRITTEN PERMISSION INITIALS SHOWING [I] ASTERIS INDICATES ORIGINAL SIGNATURE HAS BEEN SIGNED OFF AS PER DATE INDICATED	
REV	DATE	REVISION DESCRIPTION	DRN	CHKD	EXT. APP.	GAWB APP.	REFERENCE DRAWINGS	NUMBER				



**COMPILATION PLAN**  
SCALE 1:1000

**LEGEND:**

- PROPOSED WATER ALIGNMENT
- EDGE OF BITUMEN
- - - - 6.4 MINOR CONTOUR (0.2m INTERVALS)
- - - - 6.0 MAJOR CONTOUR (1m INTERVALS)
- PROPERTY BOUNDARY
- SW EXISTING STORMWATER DRAIN
- E EXISTING ELECTRICAL CONDUIT
- FO EXISTING FIBRE OPTIC CONDUIT

**GENERAL NOTES**

- THE CONTRACTOR TO PROTECT ALL EXISTING SERVICES AND STRUCTURES CLOSE TO NEW SERVICES AND SUPPORT AS REQUIRED.
- DRAWINGS ARE INDICATIVE ONLY, CONTRACTOR TO COORDINATE WITH ALL SERVICES AND STRUCTURES BEFORE PURCHASING MATERIALS.
- NOMINATION OF PROPRIETARY ITEMS DOES NOT INDICATE EXCLUSIVE PREFERENCE BUT INDICATES REQUIRED PROPERTIES OF ITEM. SIMILAR ALTERNATIVES HAVING REQUIRED PROPERTIES MAY BE OFFERED FOR APPROVAL. INSTALL PROPRIETARY ITEMS IN ACCORDANCE WITH MANUFACTURERS REQUIREMENTS AND RECOMMENDATIONS.
- ALL VEGETATION THAT IMPACTS ON THE CONSTRUCTION IS TO BE REMOVED OR TRIMMED IN ACCORDANCE WITH GAWB STANDARDS.
- COORDINATE ALL PIPEWORK ON SITE
- WHERE PIPE ALIGNMENT CROSSES A WATER FLOW PATH STABILISED SAND IS TO BE USED AS TRENCH FILL
- TEST PRESSURE TO BE 1000kPa

**SURVEY NOTES**

- SURVEYOR - MPA SURVEYING
- TOWN - GLADSTONE
- LOCAL AUTHORITY - GLADSTONE REGIONAL COUNCIL
- VERTICAL DATUM - AHD
- HORIZ. AZIMUTH - MGA56
- ORIGIN - PM113955
- DESIGN PREPARED USING 12D SOFTWARE. OUTPUT AVAILABLE TO SURVEYOR FOR SETTING OUT PURPOSES. ONLY AVAILABLE FROM GHD DESIGNER.

**SERVICES NOTES**

- SOME INFORMATION ON LOCATION OF SERVICES HAS BEEN OBTAINED FROM 'DIAL BEFORE YOU DIG' AND GAWB RECORDS.
- CONTRACTOR TO VERIFY ALL SERVICE LOCATIONS, INVERT LEVELS, SURFACE LEVELS, CLEARANCES AND COVERS ARE CORRECT AND TO BE OBTAINABLE BEFORE COMMENCEMENT OF ANY WORKS. ALL UNDERGROUND SERVICES SHOWN ON THESE PLANS ARE INDICATIVE ONLY AND HAVE BEEN PLOTTED FROM THE RELEVANT AUTHORITIES' RECORDS. SERVICES NOT SHOWN ON THESE PLANS MAY EXIST. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE ON SITE THE LOCATION OF ALL UNDERGROUND SERVICES PRIOR TO CONSTRUCTION. THE CONTRACTOR IS LIABLE FOR ANY DAMAGE TO ANY UNDERGROUND SERVICE

**THRUST BLOCK NOTES:**

- ALL THRUST BLOCKS TO BE CAST CENTRALLY ABOUT PIPE.
- THRUST BLOCK BEARING AREA TO BE PROVIDED AGAINST PARENT MATERIAL
- THRUST BLOCK SIZES AND BEARING AREA BASED 50kPa ALLOWABLE HORIZONTAL BEARING PRESSURE FOR TENDERING PURPOSES. CONTRACTOR TO UNDERTAKE A GEOTECHNICAL INVESTIGATION TO DETERMINE SOIL BEARING CAPACITY PRIOR TO CONSTRUCTION TO CONFIRM THRUST BLOCK DIMENSIONS.
- THRUST BLOCK TO BE PROVIDED AT ALL BENDS AND TEES UNLESS NOTED OTHERWISE.
- ALL THRUST BLOCKS TO BE N32 CONCRETE UNLESS NOTED OTHERWISE.

**STANDARD DRAWING:**

- FOR STANDARD BEDDING AND TRENCH DETAILS REFER WSAA WAT-1201 AND WAT-1202
- FOR STANDARD THRUST BLOCK SIZE AND CONSTRUCTION METHODOLOGY REFER WSAA WAT-1205 AND WAT-1207
- FOR STANDARD VALVE BOXES ON NON-TRAFFICABLE AND TRAFFICABLE REFER WSAA WAT-1303 AND WAT-1304.
- FOR VALVE IDENTIFICATION DETAILS REFER WSAA STD DRG No. WAT-1300
- FOR WATER MARKER DETAILS REFER GAWB DWG No. 500-G-0004

**DICL PIPEWORK NOTES:**

- ALL DICL FITTINGS SHALL BE DICL CLASS PN35.
- ALL BELOW GROUND DICL PIPES TO BE INSTALLED WITH POLYETHYLENE SLEEVING TO AS3680 U.N.O.
- ALL FLANGES TO BE PN16 TO AS4087, U.N.O.
- ALL FLANGED JOINTS BELOW GROUND TO HAVE GALVANISED BOLTS, NUTS, WASHERS AND GASKETS TO AS4087, U.N.O.
- ALL FLANGED JOINTS ABOVE GROUND TO HAVE STAINLESS STEEL BOLTS, NUTS COATED IN ANTI-FREEZE, WASHERS AND GASKETS TO AS4087, U.N.O.
- ALL BURIED FLANGED JOINTS TO BE WRAPPED WITH DENSO (OR APPROVED EQUIVALENT) IN ACCORDANCE WITH "MANUFACTURERS SPECIFICATION".

**PE PIPEWORK NOTES**

- ALL PE PIPEWORK TO BE DN315 AND DN180 POLYETHYLENE SERIES 1 PE100 CLASS PN16, UNLESS NOTED OTHERWISE, AND MANUFACTURED IN ACCORDANCE WITH AS 4130 BY AN AUSTRALIAN STANDARDS QUALITY ENDORSED COMPANY.
- INSTALLATION OF POLYETHYLENE PIPE SHALL BE IN ACCORDANCE WITH AS2033.
- POLYETHYLENE PIPE AND FITTINGS FOR PRESSURE APPLICATION SHALL BE IN ACCORDANCE WITH AS/NZS 4129 AND 4130.
- THE PIPELINE SHALL BE A FULLY CONTINUOUS INSTALLATION BETWEEN PIPE RESTRAINTS.
- THE PERSON UNDERTAKING THE JOINTING/WELDING OF POLYETHYLENE PIPES SHALL BE QUALIFIED AS PER REQUIREMENTS OF WSAA01-2004-3.1 ITEM 5.2 AND GAWB PE PIPE SPECIFICATION.
- BUTTWELDED PE JOINTS SHALL BE USED FOR CONNECTING PE INSTALLED PIPELINES TO TRENCHED PIPELINES AND INSTALLED IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS AND BY QUALIFIED PERSONNEL AND TO GAWB SPECIFICATIONS.
- TESTING OF POLYETHYLENE PIPE SHALL BE IN ACCORDANCE WITH WSAA01-2004-3.1 SECTION 2.13. AND GAWB SPECIFICATION.
- DEFLECT PIPES USING BENDING RADIUS WHERE REQUIRED TO ACHIEVE HORIZONTAL AND VERTICAL ALIGNMENT.
- MINIMUM BENDING RADIUS = DN315  $15 \times \phi = 4.725m$  AND DN180  $15 \times \phi = 2.7m$ .
- ALL DICL FLANGES TO BE SUITABLE FOR CONNECTION TO PE STUB FLANGES AND STAINLESS STEEL BACKING RINGS. CONTRACTOR TO PROVIDE GASKETS AND BOLTING SYSTEM TO SUIT THIS CONNECTION IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS.



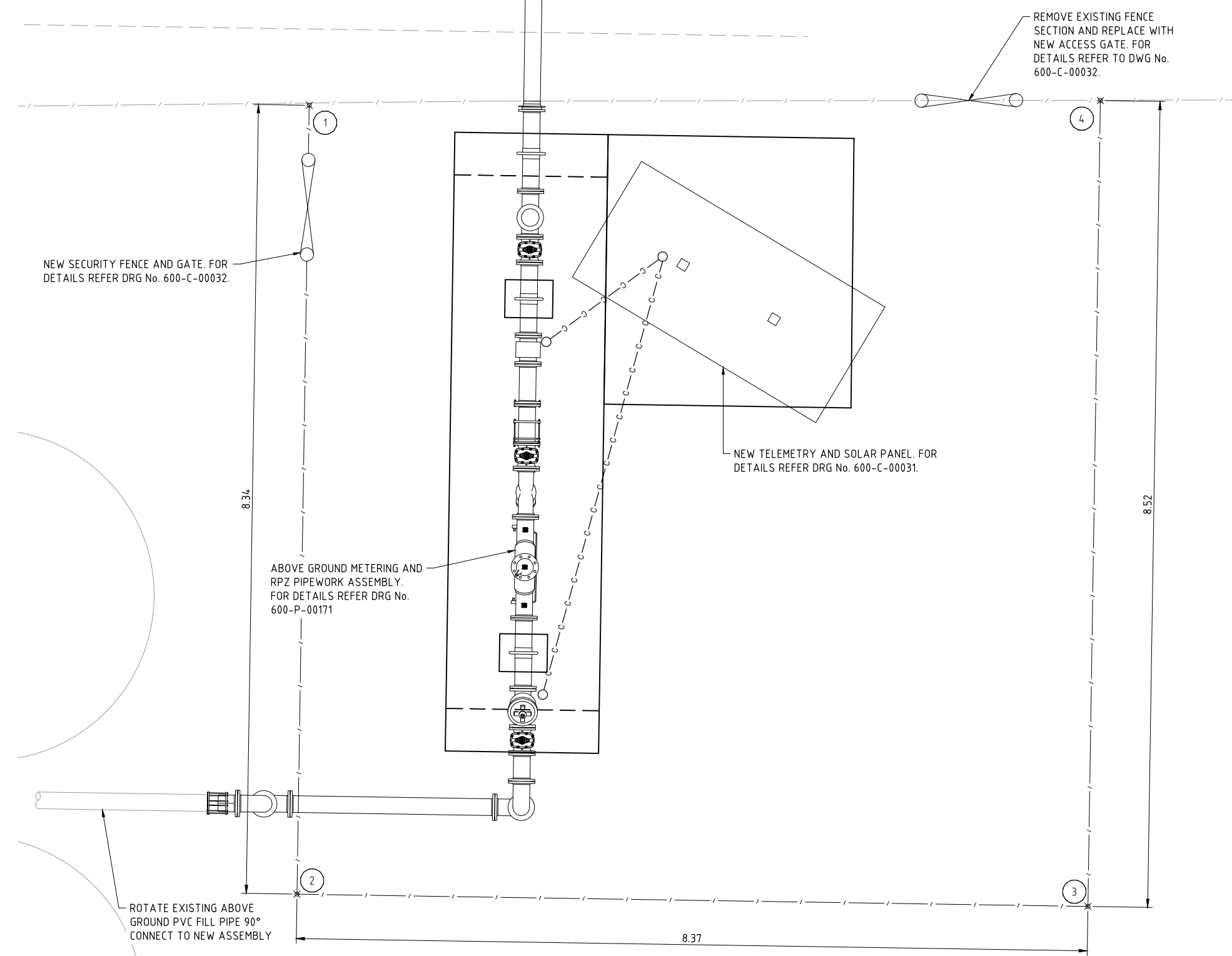
**APPROVED 20/04/2017**

<p>2 / 100 Goondoon Street Gladstone QLD 4680 Australia PO Box 373 Gladstone QLD 4680 T 61 7 4973 1600 F 61 7 4972 6236 E g1tmail@ghd.com.au W www.ghd.com.au</p>		<p>SCALE 1:1000 AT ORIGINAL SIZE</p>		<p><b>Gladstone Area Water Board</b> 1st Floor 147 Goondoon Street Gladstone Q 4680 PO Box 466 Gladstone Q 4680 Tel: (07) 4976 3000 Fax: (07) 4972 5632 ABN: 88 409 667 181</p>								
<p>TELEMETRY/SOLAR PANEL RELOCATION LAYOUT 600-C-00030</p>		<p>PLAN AND LONGITUDINAL SECTION 600-P-00170</p>		<p>GHD JOB NO. 42-19950</p>								
REV	DATE	REVISION DESCRIPTION	DRN	CHKD	EXT. APP.	GAWB APP.	REFERENCE DRAWINGS	NUMBER	<p>DO NOT SCALE</p>		<p>THIS DRAWING IS THE PROPERTY OF GLADSTONE AREA WATER BOARD AND IS NOT TO BE COPIED OR USED WITHOUT ITS WRITTEN PERMISSION</p> <p>INITIALS SHOWING (A) AS THIS INDICATES ORIGINAL SIGNATURE HAS BEEN SIGNED OFF AS PER DATE INDICATED</p>	
0	12/04/17	ISSUED FOR CONSTRUCTION	ZRW	SOx	SOx	TWx			<p>APPROVAL BY: E. JOHNSON 23/03/17</p> <p>DESIGNED BY: C. CARMELITO 23/03/17</p> <p>REVIEWED BY: S. ORRx 12/04/17</p> <p>RPEQ APPROVAL BY: S. ORRx 12/04/17</p> <p>GAWB APPROVED BY: S. ORRx 12/04/17</p> <p>GAWB APPROVED BY: T. WARDx 13/04/17</p>		<p>GLADSTONE AREA WATER BOARD FLNE WATER MAIN EXTENSION COMPILATION PLAN, NOTES AND LEGEND</p>	
		<p>PROJECT No. IPD2017-048</p>		<p>SIZE A1</p>		<p>DRAWING No. 600-G-00004</p>		<p>SCALE 1:1000</p>		<p>REV 0</p>		

**LEGEND**

— C — C — 100Ø COMMUNICATIONS CONDUIT

SETOUT POINTS		
POINT	EASTING	NORTHING
1	313284.278	7368236.582
2	313281.160	7368244.321
3	313273.400	7368241.194
4	313276.586	7368233.288



NEW SECURITY FENCE AND GATE. FOR DETAILS REFER DRG No. 600-C-00032.

REMOVE EXISTING FENCE SECTION AND REPLACE WITH NEW ACCESS GATE. FOR DETAILS REFER TO DWG No. 600-C-00032.

NEW TELEMETRY AND SOLAR PANEL. FOR DETAILS REFER DRG No. 600-C-00031.

ABOVE GROUND METERING AND RPZ PIPEWORK ASSEMBLY. FOR DETAILS REFER DRG No. 600-P-00171

ROTATE EXISTING ABOVE GROUND PVC FILL PIPE 90° CONNECT TO NEW ASSEMBLY

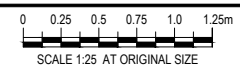
**APPROVED 20/04/2017**

**NOTE:**  
1. FOR GENERAL NOTES AND LEGEND REFER TO DRAWING No. 600-G-00004.



**NOTE:**  
CONTRACTOR TO VERIFY ALL INVERT LEVELS, SURFACE LEVELS, CLEARANCES AND COVERS ARE CORRECT AND TO BE OBTAINABLE BEFORE COMMENCEMENT OF ANY WORKS. ALL UNDERGROUND SERVICES SHOWN ON THESE PLANS ARE INDICATIVE ONLY AND HAVE BEEN PLOTTED FROM THE RELEVANT AUTHORITIES RECORDS. SERVICES NOT SHOWN ON THESE PLANS MAY EXIST. IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE ON SITE THE LOCATION OF ALL UNDERGROUND SERVICES PRIOR TO CONSTRUCTION. THE CONTRACTOR IS LIABLE FOR ANY DAMAGE TO ANY UNDERGROUND SERVICE.

**PLAN**  
SCALE 1:25

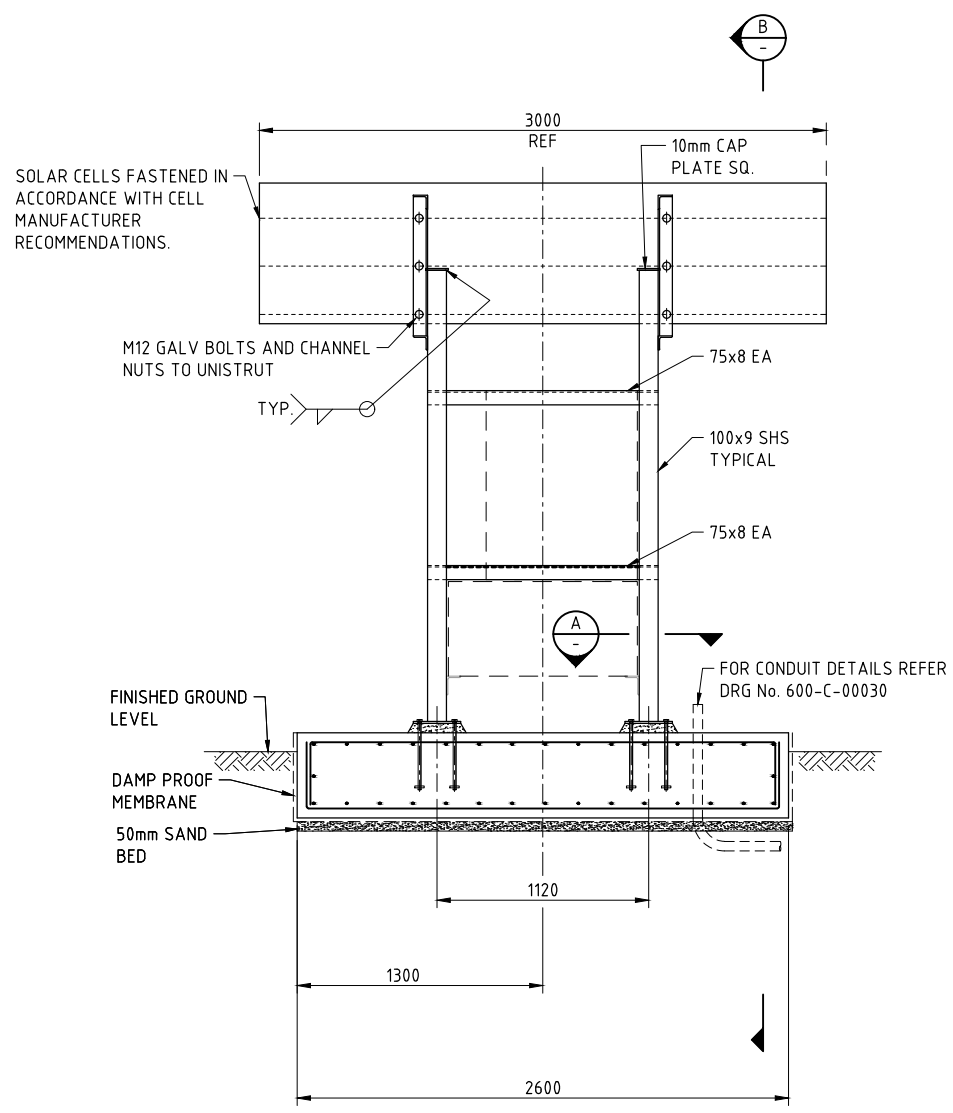


**GHD**  
2 / 100 Goondoon Street Gladstone QLD 4680 Australia  
PO Box 373 Gladstone QLD 4680  
T 61 7 4973 1600 F 61 7 4972 6236  
E gtlmail@ghd.com.au W www.ghd.com.au

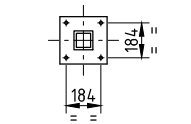


<b>Gladstone Area Water Board</b>		1st Floor 147 Goondoon Street Gladstone Q 4680	PO Box 466 Gladstone Q 4680	Tel: (07) 4976 3000 Fax: (07) 4972 5632 ABN: 88 409 667 181
DRAWN BY	E. JOHNSON	23/03/17	GLADSTONE AREA WATER BOARD FLNE WATER MAIN EXTENSION TELEMETRY/SOLAR PANEL LAYOUT	
DESIGNED BY	C. CARMELITO	23/03/17		
REVIEWED BY	S. ORR*	12/04/17		
APPROVAL BY	S. ORR*	12/04/17		
RPEQ APPROVAL	S. ORR*	12/04/17		
GAWB APPROVED	T. WARD*	13/04/17		
PROJECT No.	IPD2017-048	SIZE	A1	DRAWING No.
				600-C-00030
SCALE	1:25	REV	0	

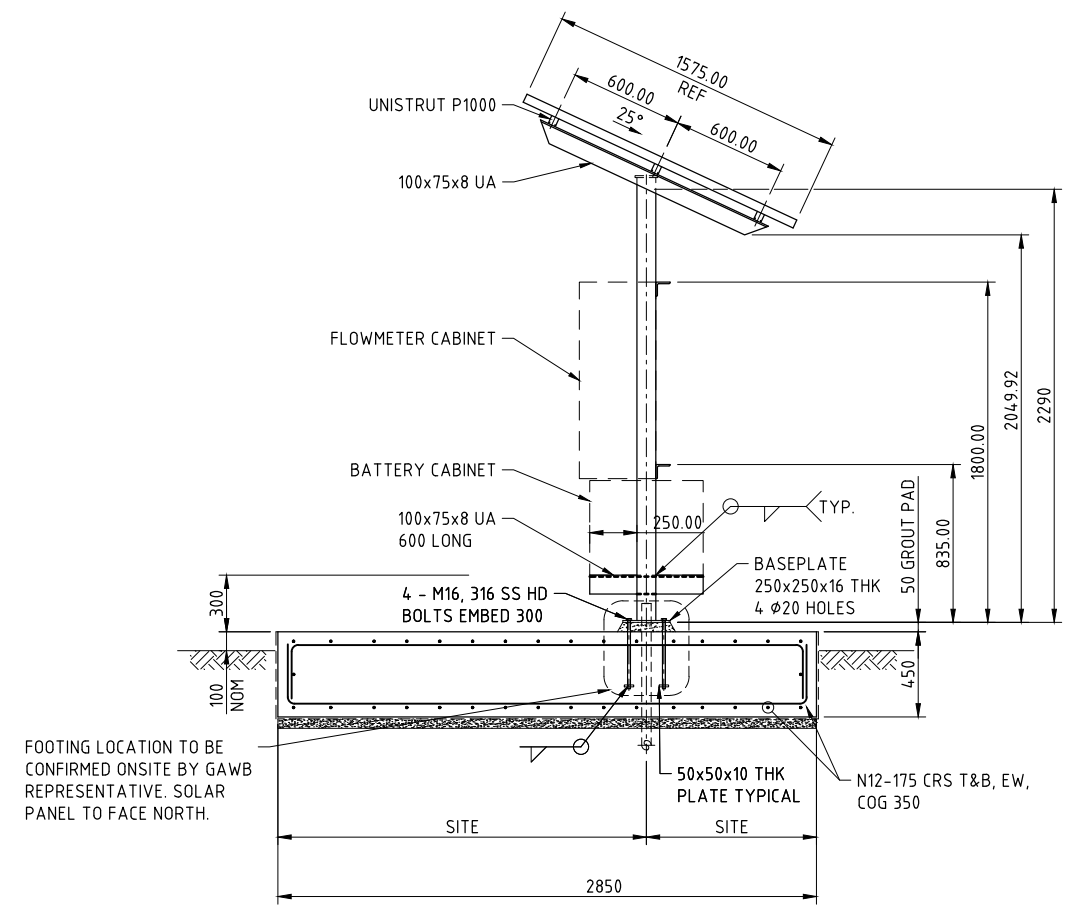
REV	DATE	REVISION DESCRIPTION	DRN	CHKD	EXT. APP.	GAWB APP.	REFERENCE DRAWINGS	NUMBER
0	12/04/17	ISSUED FOR CONSTRUCTION	ZRW	SO*	SO*	TW*	CONNECTION DETAILS SECURITY FENCE AND GATE DETAILS TELEMETRY/SOLAR PANEL DETAILS COMPILATION PLAN, NOTES AND LEGEND	600-P-00171 600-C-00032 600-C-00031 600-G-00004



**FRAME STRUCTURE AND FOOTING  
SOLAR SUPPLY AND ANTENNA**  
SCALE 1:20



**A SECTION**  
SCALE 1:20



**B SECTION**  
SCALE 1:20

- NOTE:**
- CONDUIT DIRECTION TO BE DETERMINED ON SITE. FINISH CONDUIT 100mm ABOVE SLAB. EXTEND UNDERGROUND CONDUIT TO FLOW METER CABINET VIA RHINOFLEX CONDUIT.
  - CONDUITS TO BE BURIED MIN 500mm BELOW GROUND LEVEL.
  - PROVIDE 10mm ABLEFLEX WRAP AROUND CONDUITS AT ALL CONCRETE PENETRATIONS.
  - SOLAR PANEL TO FACE NORTH.

**APPROVED 20/04/2017**

REV	DATE	REVISION DESCRIPTION	DRN	CHKD	EXT. APP.	GAWB APP.	REFERENCE DRAWINGS	NUMBER
0	12/04/17	ISSUED FOR CONSTRUCTION	ZRW	SOx	SOx	TWx	TELEMETRY/SOLAR PANEL LAYOUT	600-C-00030

**GHD** 2 / 100 Goondoon Street Gladstone QLD 4680 Australia  
 PO Box 373 Gladstone QLD 4680  
 T 61 7 4973 1600 F 61 7 4972 6236  
 E gtlmail@ghd.com.au W www.ghd.com.au

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DO NOT SCALE

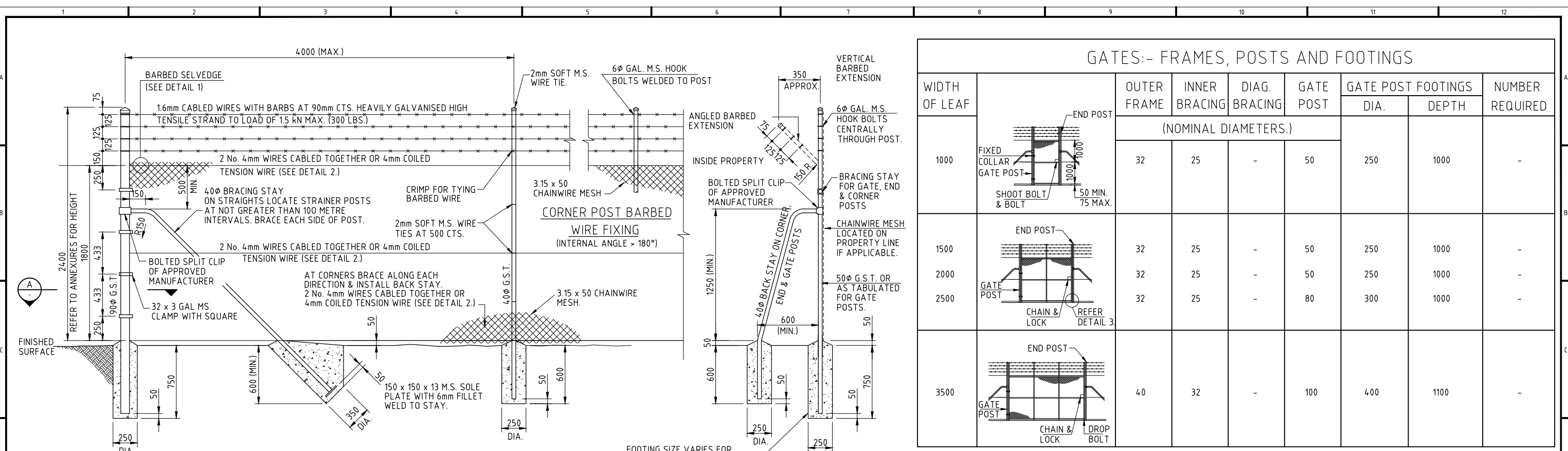
**Gladstone Area Water Board**  
 1st Floor 147 Goondoon Street Gladstone Q 4680 PO Box 466 Gladstone Q 4680 Tel: (07) 4976 3000 Fax: (07) 4972 5632 ABN: 88 409 667 181

DESIGNED BY: E. JOHNSON 23/03/17  
 REVIEWED BY: C. CARMELITO 23/03/17  
 APPROVAL BY: S. ORRx 12/04/17  
 RPEP APPROVAL BY: S. ORRx 12/04/17  
 GAWB APPROVED BY: T. WARDx 13/04/17

THIS DRAWING IS THE PROPERTY OF GLADSTONE AREA WATER BOARD AND IS NOT TO BE COPIED OR USED WITHOUT ITS WRITTEN PERMISSION. INITIALS SHOWING (A) ASTRIS INDICATES ORIGINAL SIGNATURE HAS BEEN SIGNED OFF AS PER DATE INDICATED.

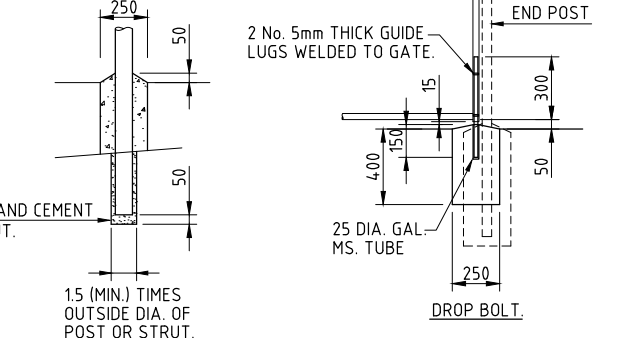
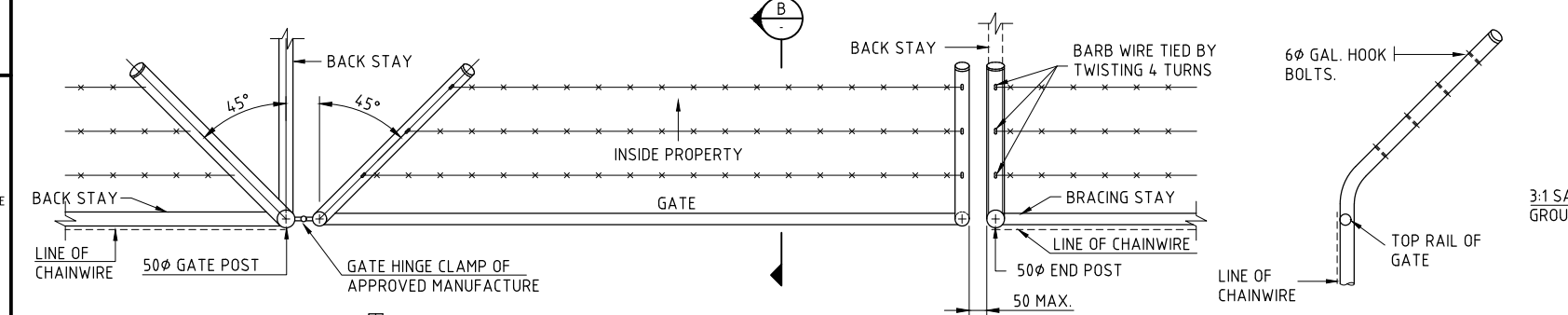
PROJECT No: IPD2017-048 SIZE: A1 DRAWING No: 600-C-00031 SCALE: 1:20 REV: 0



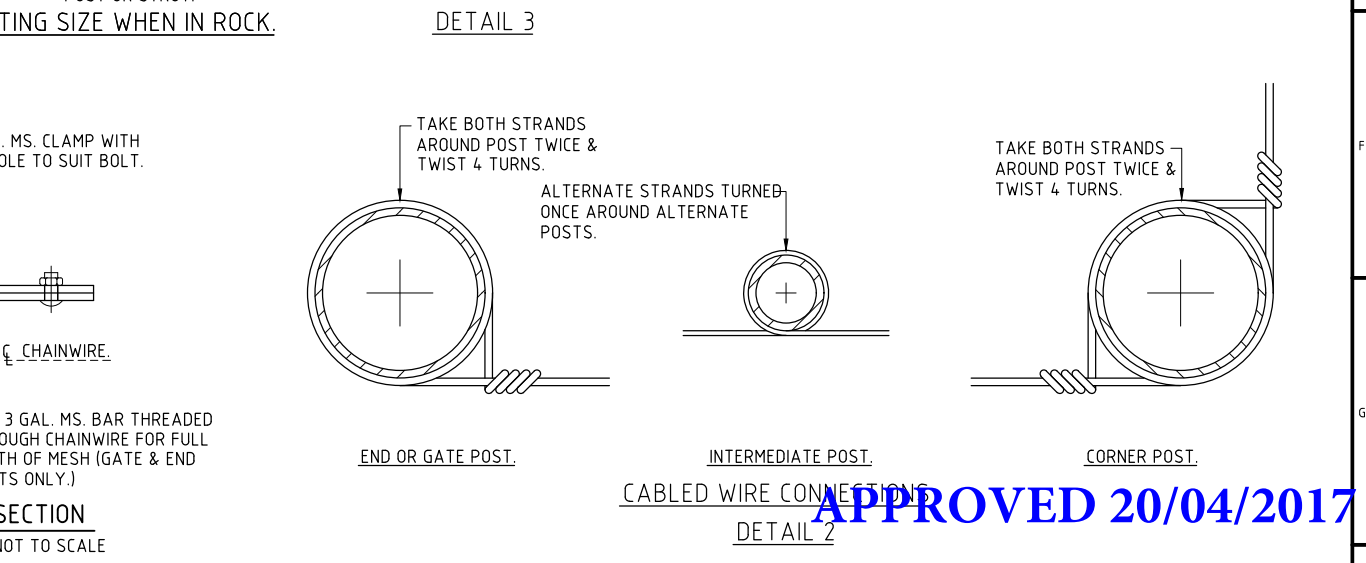
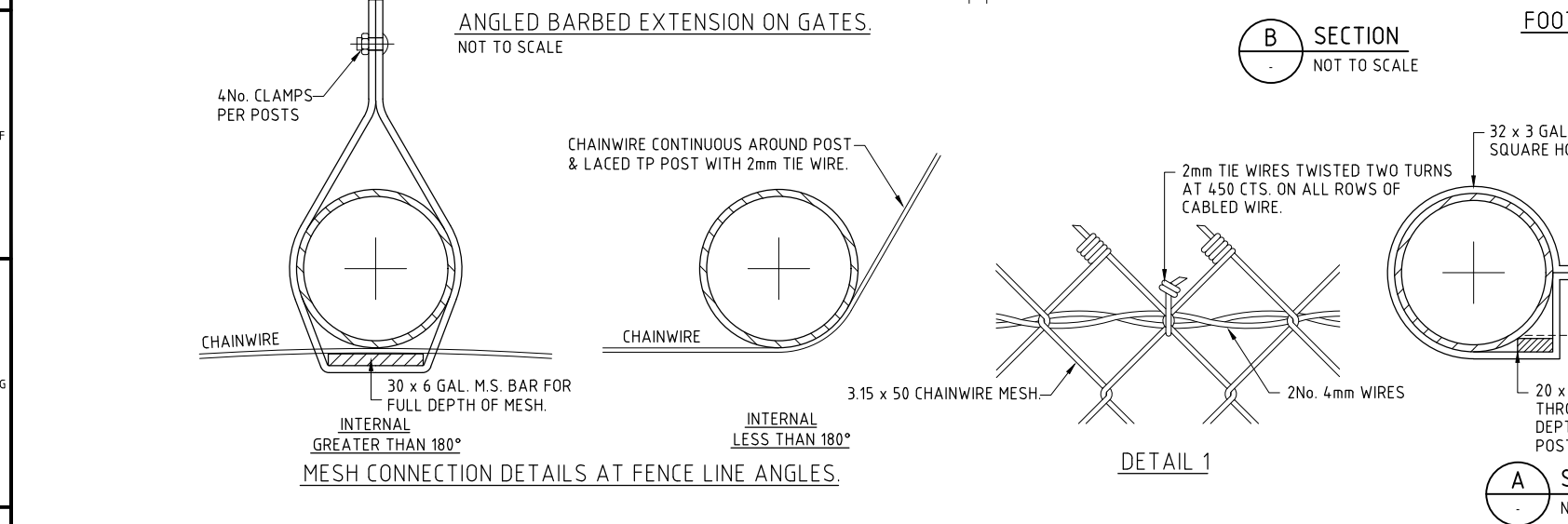


NOTE: OMIT HANDHOLES WHEN OPENING FROM ONE SIDE ONLY IS REQUIRED.

CORNER, END & STRAINER POST (USE BACK STAY FOR GATE, END & CORNER POSTS.)  
 BRACING STAY FOR GATE CORNER, END & STRAINER POSTS.  
 INTERMEDIATE POST  
 BACK STAY FOR GATE, END & CORNER POSTS.



- NOTE:**
- ALL FENCES SHALL COMPLY WITH AUSTRALIAN STANDARD 1725 - SECURITY FENCES AND GATE POSTS TO BE MEDIUM THICKNESS.
  - CHARACTERISTIC COMPRESSIVE STRENGTH OF CONCRETE SHALL BE 20MPa. AT 28 DAYS MAX. AGGREGATE SIZE 20mm
  - SHAPE GROUND ALONG FENCE LINE TO ELIMINATE GAPS GREATER THAN 50mm UNDER THE SELVEDGE, TO A WIDTH OF ONE METRE EACH SIDE.
  - PAINT ALL DAMAGED SECTIONS WITH ZINC RICH PAINT (2 COATS)
  - POST CAPS SHALL BE DRIVE ON FITTED TO ALL POSTS TO APPROVAL.
  - ALL DIMENSIONS ARE IN MILLIMETRES.
  - BRACED PANELS MAY BE USED IN ACCORDANCE WITH CLAUSE 45, AS1725
  - WHERE FENCE CROSSES OPEN DRAIN PROVIDE 40 DIA. G.M.S. POSTS AT 300 CTS. CAST IN CONCRETE TO 600 BELOW F.S.L.
  - CHAINWIRE MESH TO BE GREEN PVC COATED



<p>0 12/04/17 ISSUED FOR CONSTRUCTION</p>		ZRW	SOx	SOx	TWx																
REV	DATE	REVISION DESCRIPTION	DRN	CHKD	EXT. APP.	GAWB APP.	REFERENCE DRAWINGS	NUMBER													

2 / 100 Goondoon Street Gladstone QLD 4680 Australia  
 PO Box 373 Gladstone QLD 4680  
 T 61 7 4973 1600 F 61 7 4972 6236  
 E g1mail@ghd.com.au W www.ghd.com.au

**Gladstone Area Water Board**  
 1st Floor  
 147 Goondoon Street Gladstone Q 4680  
 PO Box 466 Gladstone Q 4680  
 Tel: (07) 4976 3000 Fax: (07) 4972 5632 ABN: 88 409 667 181

DESIGNED BY	E. JOHNSON	23/03/17	GLADSTONE AREA WATER BOARD FLNE WATER MAIN EXTENSION SECURITY FENCE AND GATE DETAILS
DESIGNED BY	C. CARMELITO	23/03/17	
REVIEWED BY	S. ORR	12/04/17	
APPROVAL BY	S. ORR	12/04/17	
RPEP APPROVAL	S. ORR	12/04/17	
GAWB APPROVED	T. WARD	13/04/17	

PROJECT No. IPD2017-048

SIZE A1

DRAWING No. 600-C-00032

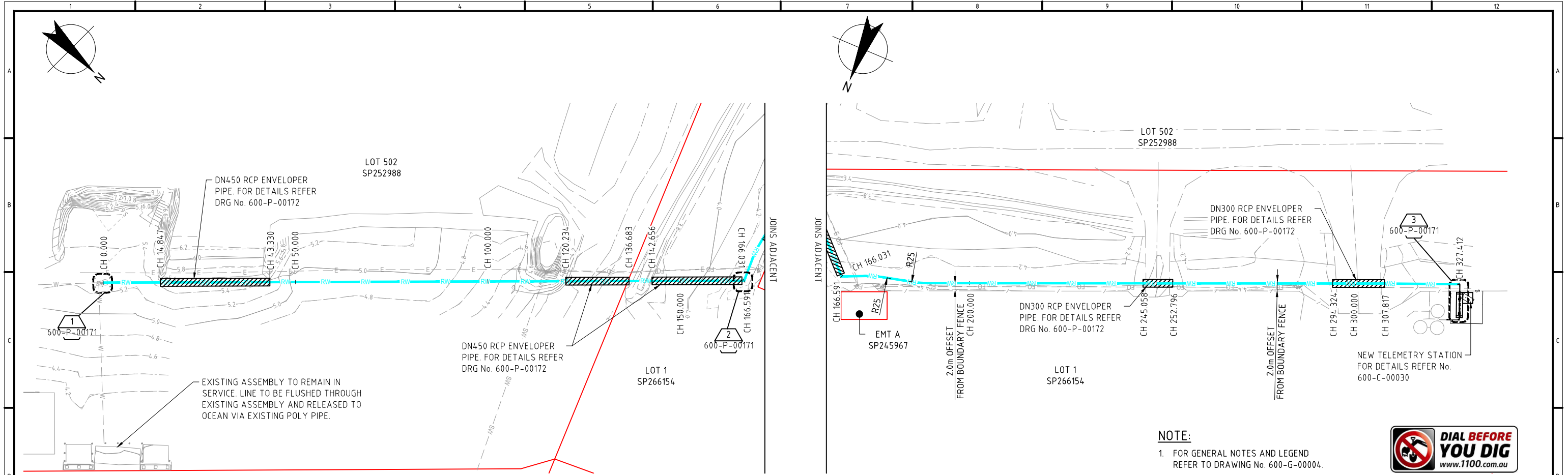
SCALE N.T.S

REV 0

DO NOT SCALE

APPROVED 20/04/2017





PLAN  
SCALE 1:500

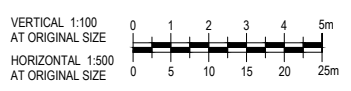
**NOTE:**  
1. FOR GENERAL NOTES AND LEGEND REFER TO DRAWING No. 600-G-00004.



**NOTE:**  
CONTRACTOR TO VERIFY ALL INVERT LEVELS, SURFACE LEVELS, CLEARANCES AND COVERS ARE CORRECT AND TO BE OBTAINABLE BEFORE COMMENCEMENT OF ANY WORKS. ALL UNDERGROUND SERVICES SHOWN ON THESE PLANS ARE INDICATIVE ONLY AND HAVE BEEN PLOTTED FROM THE RELEVANT AUTHORITIES RECORDS. SERVICES NOT SHOWN ON THESE PLANS MAY EXIST. IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE ON SITE THE LOCATION OF ALL UNDERGROUND SERVICES PRIOR TO CONSTRUCTION. THE CONTRACTOR IS LIABLE FOR ANY DAMAGE TO ANY UNDERGROUND SERVICE.

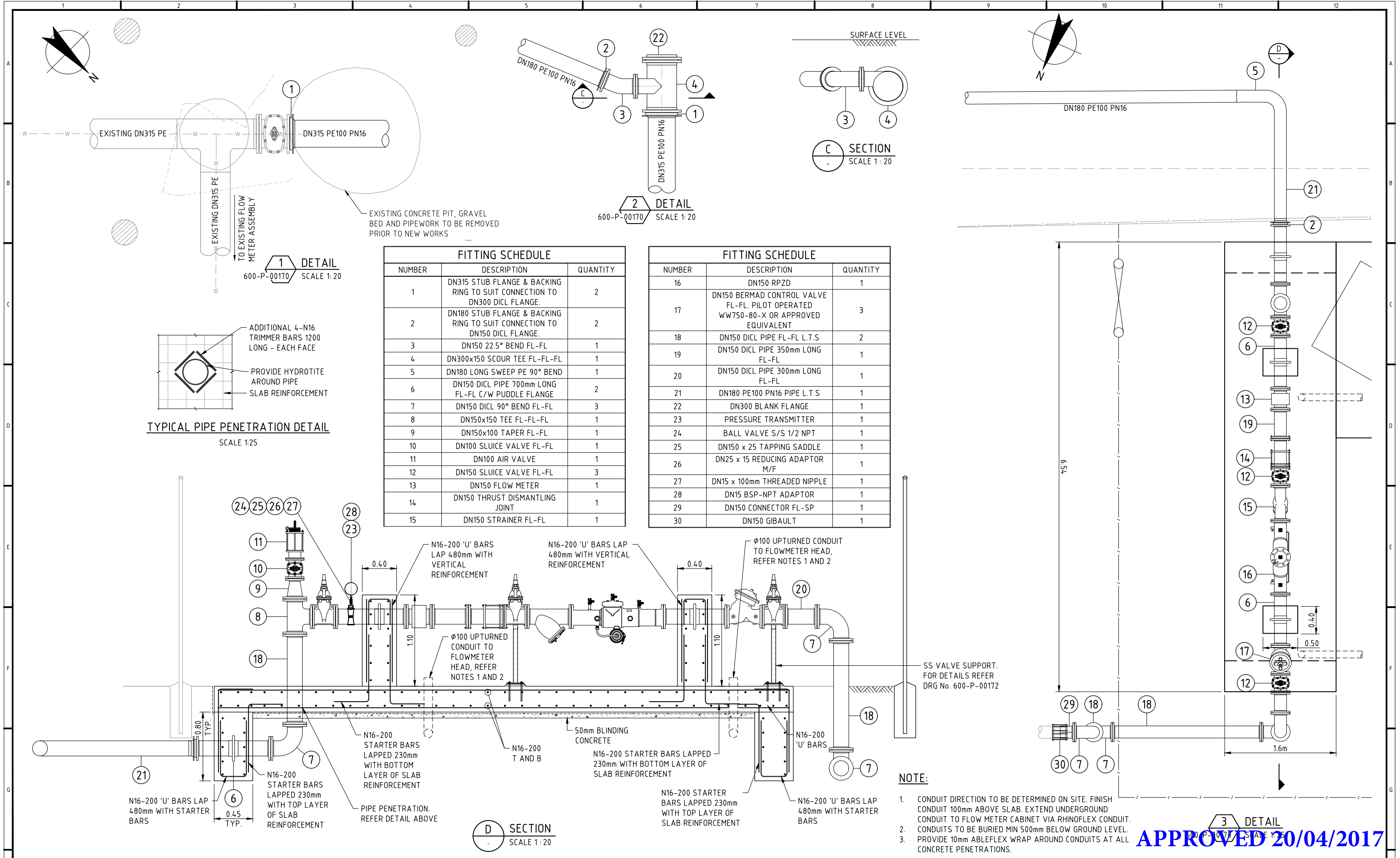
PIPE INVERT LEVEL	EXISTING SURFACE	DEPTH TO INVERT	CHAINAGE
3.960	5.276	1.316	0.000
3.937	5.450	1.513	14.847
3.893	5.351	1.459	43.330
3.882	4.929	1.047	50.000
3.828	4.957	1.129	84.940
3.246	4.521	1.274	100.000
2.465	3.800	1.335	120.234
2.225	3.472	1.247	136.683
2.202	3.669	1.467	142.656
2.327	3.934	1.607	150.000
3.283	4.296	1.012	178.795
3.314	4.296	0.982	200.000
3.380	4.513	1.133	245.058
3.387	4.597	1.210	250.000
3.391	4.531	1.139	252.796
3.452	4.621	1.170	294.324
3.460	4.678	1.218	300.000
3.471	4.585	1.113	307.817
3.500	4.327	0.827	327.412

LONGITUDINAL SECTION  
SCALE H 1:500, V 1:100



**APPROVED 20/04/2017**

<p>2 / 100 Goondoon Street Gladstone QLD 4680 Australia PO Box 373 Gladstone QLD 4680 T 61 7 4973 1600 F 61 7 4972 6236 E g1tmail@ghd.com.au W www.ghd.com.au</p>		<p><b>Gladstone Area Water Board</b> 1st Floor 147 Goondoon Street Gladstone Q 4680 PO Box 466 Gladstone Q 4680 Tel: (07) 4976 3000 Fax: (07) 4972 5632 ABN: 88 409 667 181</p>	
<p>MISCELLANEOUS DETAILS 600-P-00172 TELEMETRY/SOLAR PANEL RELOCATION LAYOUT 600-C-00030 CONNECTION DETAILS 600-P-00171 COMPILATION PLAN, NOTES AND LEGEND 600-G-00004</p>		<p>THIS DRAWING IS THE PROPERTY OF GLADSTONE AREA WATER BOARD AND IS NOT TO BE COPIED OR USED WITHOUT ITS WRITTEN PERMISSION INITIALS SHOWING (A) AS THIS INDICATES ORIGINAL SIGNATURE HAS BEEN SIGNED OFF AS PER DATE INDICATED</p>	
<p>0 12/04/17 ISSUED FOR CONSTRUCTION</p>	<p>ZRW SOx SOx TWx</p>	<p>DRN CHKD EXT. APP. GAWB APP.</p>	<p>PROJECT No. IPD2017-048 SIZE A1 DRAWING No. 600-P-00170 SCALE AS SHOWN REV 0</p>



**1 DETAIL**  
600-P-00170 SCALE 1:20

**2 DETAIL**  
600-P-00170 SCALE 1:20

**TYPICAL PIPE PENETRATION DETAIL**  
SCALE 1:25

FITTING SCHEDULE		
NUMBER	DESCRIPTION	QUANTITY
1	DN315 STUB FLANGE & BACKING RING TO SUIT CONNECTION TO DN300 DICL FLANGE.	2
2	DN180 STUB FLANGE & BACKING RING TO SUIT CONNECTION TO DN150 DICL FLANGE.	2
3	DN150 22.5° BEND FL-FL	1
4	DN300x150 SCOUR TEE FL-FL-FL	1
5	DN180 LONG SWEEP PE 90° BEND	1
6	DN150 DICL PIPE 700mm LONG FL-FL C/W PUDDLE FLANGE	2
7	DN150 DICL 90° BEND FL-FL	3
8	DN150x150 TEE FL-FL-FL	1
9	DN150x100 TAPER FL-FL	1
10	DN100 SLUICE VALVE FL-FL	1
11	DN100 AIR VALVE	1
12	DN150 SLUICE VALVE FL-FL	3
13	DN150 FLOW METER	1
14	DN150 THRUST DISMANTLING JOINT	1
15	DN150 STRAINER FL-FL	1

FITTING SCHEDULE		
NUMBER	DESCRIPTION	QUANTITY
16	DN150 RPZD	1
17	DN150 BERMAID CONTROL VALVE FL-FL. PILOT OPERATED WW750-80-X OR APPROVED EQUIVALENT	3
18	DN150 DICL PIPE FL-FL L.T.S	2
19	DN150 DICL PIPE 350mm LONG FL-FL	1
20	DN150 DICL PIPE 300mm LONG FL-FL	1
21	DN180 PE100 PN16 PIPE L.T.S	1
22	DN300 BLANK FLANGE	1
23	PRESSURE TRANSMITTER	1
24	BALL VALVE S/S 1/2 NPT	1
25	DN150 x 25 TAPPING SADDLE	1
26	DN25 x 15 REDUCING ADAPTOR M/F	1
27	DN15 x 100mm THREADED NIPPLE	1
28	DN15 BSP-NPT ADAPTOR	1
29	DN150 CONNECTOR FL-SP	1
30	DN150 GIBAULT	1

**NOTE:**

- CONDUIT DIRECTION TO BE DETERMINED ON SITE. FINISH CONDUIT 100mm ABOVE SLAB. EXTEND UNDERGROUND CONDUIT TO FLOW METER CABINET VIA RHINFLEX CONDUIT.
- CONDUITS TO BE BURIED MIN 500mm BELOW GROUND LEVEL.
- PROVIDE 10mm ABLEFLEX WRAP AROUND CONDUITS AT ALL CONCRETE PENETRATIONS.

**3 DETAIL**  
600-P-00170 SCALE 1:25  
**APPROVED 20/04/2017**

REV	DATE	REVISION DESCRIPTION	DRN	CHKD	EXT. APP.	GAWB APP.	REFERENCE DRAWINGS	NUMBER
0	12/04/17	ISSUED FOR CONSTRUCTION	ZRW	SOX	SOX	TWx	PLAN AND LONGITUDINAL SECTION	600-P-00170

**GHD** 2 / 100 Goondoon Street Gladstone QLD 4680 Australia  
PO Box 373 Gladstone QLD 4680  
T 61 7 4973 1600 F 61 7 4972 6236  
E g1tmail@ghd.com.au W www.ghd.com.au

GHD JOB No. 42-19950

0 0.2 0.4 0.6 0.8 1.0m  
SCALE 1:20 AT ORIGINAL SIZE

0 0.25 0.5 0.75 1.0 1.25m  
SCALE 1:25 AT ORIGINAL SIZE

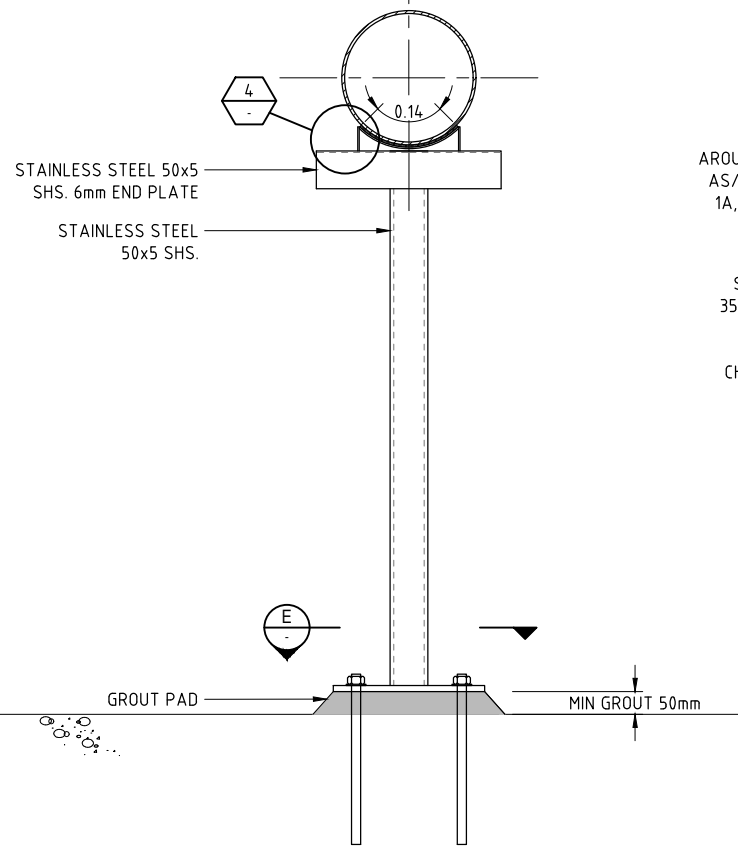
DO NOT SCALE

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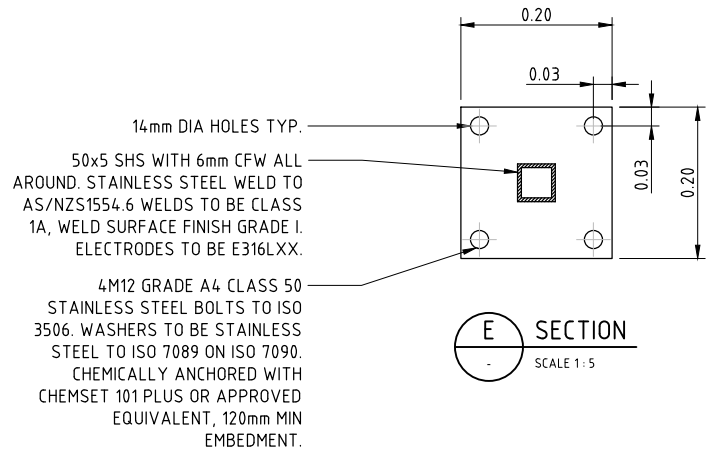
DRAWN BY	E. JOHNSON	23/03/17
DESIGNED BY	C. CARMELITO	23/03/17
REVIEWED BY	S. ORR	12/04/17
APPROVAL BY	S. ORR	12/04/17
RPEP APPROVAL	S. ORR	12/04/17
GAWB APPROVED	T. WARD	13/04/17

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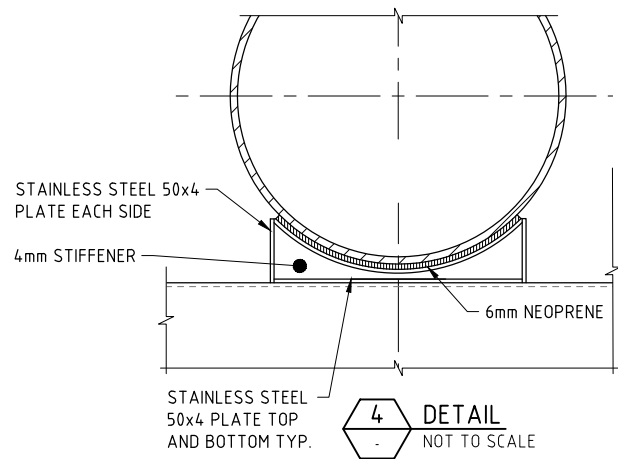
PROJECT No.	SIZE	DRAWING No.	SCALE	REV
IPD2017-048	A1	600-P-00171	AS SHOWN	0



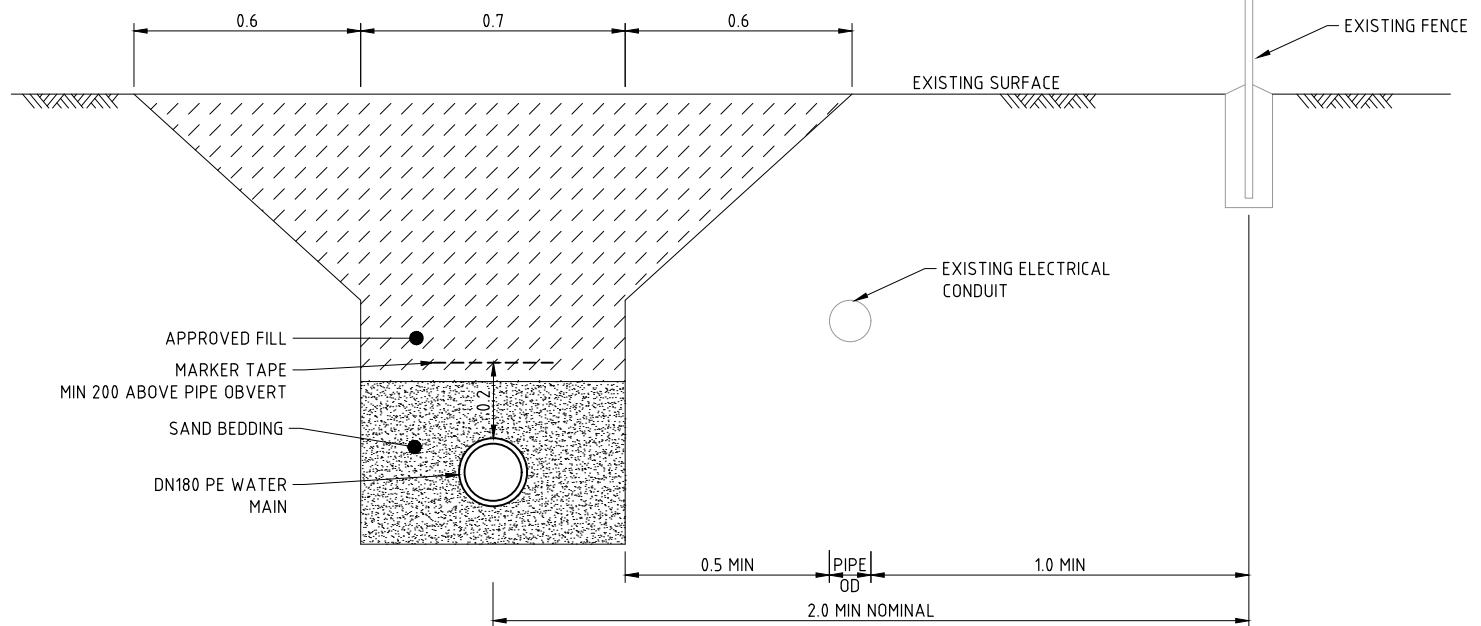
**VALVE SUPPORT DETAIL**  
SCALE 1:5



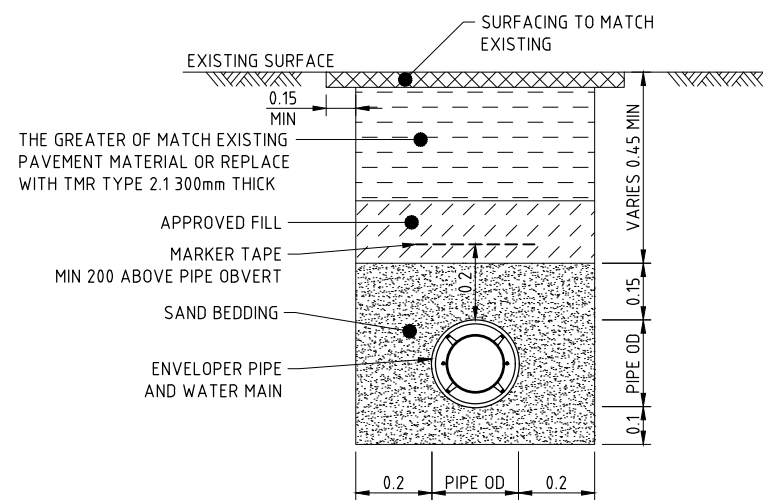
**E SECTION**  
SCALE 1:5



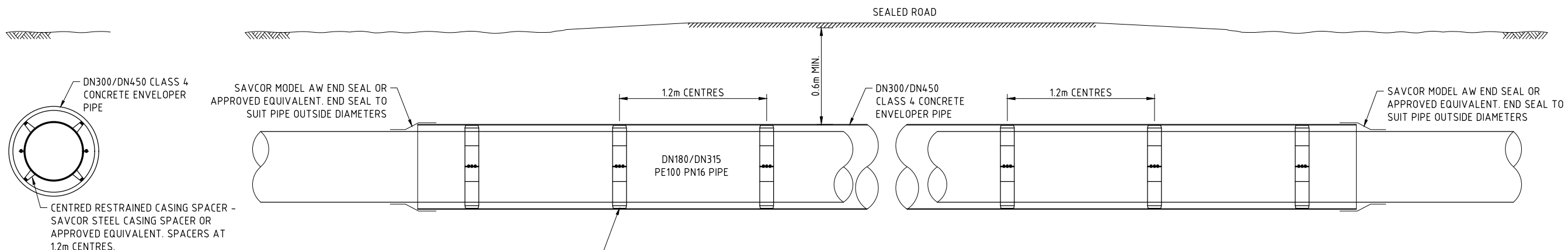
**4 DETAIL**  
NOT TO SCALE



**TYPICAL DN180 PE PIPEWORK TRENCH DETAIL**  
NOT TO SCALE



**TYPICAL ROAD REINSTATEMENT TRENCH DETAIL**  
NOT TO SCALE



**TYPICAL ROAD ENVELOPER DETAIL**  
NOT TO SCALE

NOTE: FOR FURTHER DETAIL REFER WSAA STD DRG No. WAT-1214

**TYPICAL ENVELOPER SECTION**  
NOT TO SCALE

**APPROVED 20/04/2017**

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2 / 100 Goondoon Street Gladstone QLD 4680 Australia  
PO Box 373 Gladstone QLD 4680  
T 61 7 4973 1600 F 61 7 4972 6236  
E gtlmail@ghd.com.au W www.ghd.com.au



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1st Floor 147 Goondoon Street Gladstone Q 4680 PO Box 466 Gladstone Q 4680 Tel: (07) 4976 3000 Fax: (07) 4972 5632 ABN: 88 409 667 181

DRAWN BY	E. JOHNSON	23/03/17
DESIGNED BY	C. CARMELITO	23/03/17
REVIEWED BY	S. ORRx	12/04/17
APPROVAL BY	S. ORRx	12/04/17
RPEO APPROVAL	S. ORRx	12/04/07
GAWB APPROVED	T. WARDx	13/04/17

GLADSTONE AREA WATER BOARD  
FLNE WATER MAIN EXTENSION  
MISCELLANEOUS DETAILS

PROJECT No.	SIZE	DRAWING No.	SCALE	REV
IPD2017-048	A1	600-P-00172	AS SHOWN	0