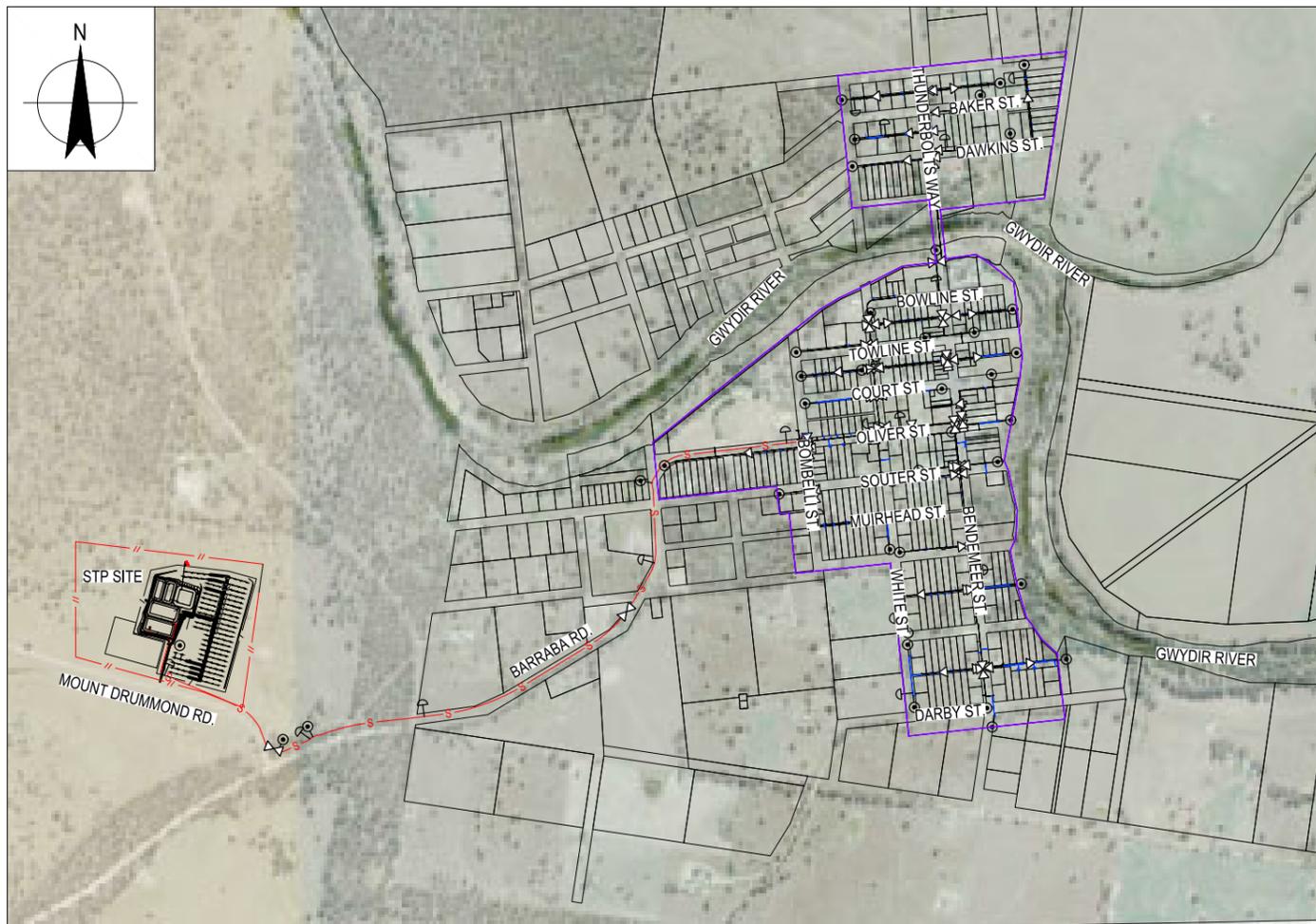


# URALLA SHIRE COUNCIL

## BUNDARRA SEWERAGE SCHEME



REFER 22-19174-G002 FOR LEGEND.

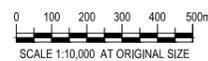
**LOCALITY PLAN**  
SCALE 1:10000

DRAWING LIST	
DRAWING NUMBER	DRAWING TITLE
CIVIL	
22-19174-G001	COVER SHEET, LOCALITY PLAN AND DRAWING LIST
22-19174-G002	PLAN LAYOUT / GENERAL ARRANGEMENT AND LEGEND
22-19174-G003	GENERAL NOTES
22-19174-W001	RETICULATION LAYOUT 1 OF 6
22-19174-W002	RETICULATION LAYOUT 2 OF 6
22-19174-W003	RETICULATION LAYOUT 3 OF 6
22-19174-W004	RETICULATION LAYOUT 4 OF 6
22-19174-W005	RETICULATION LAYOUT 5 OF 6
22-19174-W006	RETICULATION LAYOUT 6 OF 6
22-19174-W010	RETICULATION LINE 1 PLAN AND LONGITUDINAL SECTION 1 OF 3
22-19174-W011	RETICULATION LINE 1 PLAN AND LONGITUDINAL SECTION 2 OF 3
22-19174-W012	RETICULATION LINE 1 PLAN AND LONGITUDINAL SECTION 3 OF 3
22-19174-W020	BENEMEER ST. BRIDGE CROSSING PLAN AND SECTIONS
22-19174-W021	BENEMEER ST. BRIDGE CROSSING DETAILS
22-19174-W050	RISING MAIN PLAN AND LONGITUDINAL SECTION 1 OF 5
22-19174-W051	RISING MAIN PLAN AND LONGITUDINAL SECTION 2 OF 5
22-19174-W052	RISING MAIN PLAN AND LONGITUDINAL SECTION 3 OF 5
22-19174-W053	RISING MAIN PLAN AND LONGITUDINAL SECTION 4 OF 5
22-19174-W054	RISING MAIN PLAN AND LONGITUDINAL SECTION 5 OF 5
22-19174-W055	INLET WORKS
22-19174-W100	STP SITE LAYOUT
22-19174-W101	STP SET-OUT PLAN AND PIPEWORK LAYOUT
22-19174-W102	HYDRAULIC PROFILE
22-19174-W103	SECTION AND PIT DETAILS
22-19174-W104	STP EMBANKMENT TYPICAL SECTIONS
22-19174-W105	TYPICAL INLET AND OUTLET DETAILS
22-19174-W106	EARTHWORKS
22-19174-W107	IRRIGATION SITE LAYOUT
22-19174-W108	IRRIGATION SITE DETAILS
22-19174-W109	ACCESS TRACK CROSS SECTIONS AND SUBSURFACE DRAIN DISCHARGE POINT DETAILS
22-19174-W110	WINTER STORAGE POND PUMP STATION PIPEWORK ARRANGEMENT PLAN
22-19174-W111	WINTER STORAGE POND PUMP STATION SECTIONS
22-19174-W112	WINTER STORAGE POND PUMP STATION DETAILS
22-19174-W113	WINTER STORAGE POND INLET WORKS
22-19174-W200	BUNDARRA PUMP STATION SITE LAYOUT PLAN

22-19174-W201	BUNDARRA PUMP STATION PIPEWORK ARRANGEMENT PLAN
22-19174-W202	BUNDARRA PUMP STATION SECTION
22-19174-W203	BUNDARRA PUMP STATION BAROMETRIC LOOP, VENT STACK AND GROUND MOUNT ODOUR FILTER DETAIL
22-19174-W204	BUNDARRA PUMP STATION SWITCHBOARD CONTROL PLATFORM DETAIL
22-19174-W250	PRESSURE SEWER MAINS TYPICAL DETAILS SCOUR CONNECTION AND FLUSHING POINT
22-19174-W251	ODOUR FILTER WITH ABOVE GROUND AIR VALVE TYPICAL DETAILS
ELECTRICAL	
22-19174-E011	INCOMING POWER SUPPLY SINGLE LINE DIAGRAM
22-19174-E012	24V DC POWER SUPPLY UNIT WIRING DIAGRAM
22-19174-E013	SITE RTU DIGITAL INPUTS SCHEMATIC DIAGRAM
22-19174-E014	SITE ACCESS ALARM SCHEMATIC DIAGRAM
22-19174-E016	RTU INTERCONNECTION WIRING DIAGRAM
22-19174-E031	PHOTOVOLTAIC BATTERY PANEL WIRING DIAGRAM
22-19174-E032	PHOTOVOLTAIC AND BATTERY SYSTEM COMMUNICATIONS WIRING DIAGRAM
22-19174-E033	PHOTOVOLTAIC SYSTEM PANEL GENERAL ARRANGEMENT
22-19174-E041	STP SINGLE LINE DIAGRAM
22-19174-E042	STP 24V DC POWER SUPPLY UNIT WIRING DIAGRAM
22-19174-E043	STP RTU IO SCHEMATIC DIAGRAM
22-19174-E044	STP SITE ACCESS ALARM SCHEMATIC DIAGRAM
22-19174-E046	STP RTU INTERCONNECTION WIRING DIAGRAM
STRUCTURAL	
22-19174-S001	BUNDARRA PUMP STATION STRUCTURAL STANDARD GENERAL NOTES SHEET 1 OF 3
22-19174-S002	BUNDARRA PUMP STATION STRUCTURAL STANDARD GENERAL NOTES SHEET 2 OF 3
22-19174-S003	BUNDARRA PUMP STATION STRUCTURAL STANDARD GENERAL NOTES SHEET 3 OF 3
22-19174-S101	BUNDARRA PUMP STATION BAROMETRIC LOOP TALL FOUNDATION PLAN AND PIPE SUPPORT FRAMING
22-19174-S102	BUNDARRA PUMP STATION BAROMETRIC LOOP TALL SECTIONS AND DETAILS
22-19174-S103	BUNDARRA PUMP STATION BAROMETRIC LOOP TALL REINFORCEMENT PLAN AND SECTION DETAILS
22-19174-S104	BUNDARRA SEWAGE TREATMENT PLANT BAROMETRIC LOOP SHORT FOUNDATION PLAN AND PIPE SUPPORT FRAMING
22-19174-S105	BUNDARRA SEWAGE TREATMENT PLANT BAROMETRIC LOOP SHORT SECTIONS AND DETAILS
22-19174-S106	BUNDARRA SEWAGE TREATMENT PLANT BAROMETRIC LOOP SHORT REINFORCEMENT PLAN AND SECTION DETAILS

**FOR CONSTRUCTION**

No	Revision	Note: * indicates signatures on original issue of drawing or last revision of drawing	Drawn	Job Manager	Project Director	Date
2	ISSUED FOR CONSTRUCTION		JZL	AMS	LMS	02.10.20
1	ISSUED FOR TENDER		JAR	AMS	LMS	01.10.19
0	FINAL DETAILED DESIGN		LAC	AMS	LMS	20.06.19



GHD Tower, Level 3  
24 Honeysuckle Drive, Newcastle NSW 2300 Australia  
PO Box 5403 Hunter Rgn Mail Cent, NSW 2310  
T 61 2 4979 9999 F 61 2 4979 9988  
E ntlmail@ghd.com W www.ghd.com

**DO NOT SCALE**

Conditions of Use.  
This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.

Drawn	M. PERIDO	Designer	B. REYNOLDS
Drafting Check	M. BUMOTAD	Design Check	A. MUNOZ
Approved (Project Director)	L. SYLVA	Date	17.06.19
Scale	1:10000	This Drawing must not be used for construction unless signed as Approved	

Client	URALLA SHIRE COUNCIL		
Project	BUNDARRA SEWERAGE SCHEME		
Title	COVER SHEET, LOCALITY PLAN AND DRAWING LIST		
Original Size	A1	Drawing No:	22-19174-G001
Rev:	2		

**LEGEND:**

- PROPOSED DNXX PRESSURE SEWER
- PROPOSED PROPERTY CONNECTION AND BOUNDARY KIT
- VACANT LOTS DNXX PRESSURE SEWER
- VACANT LOTS PROPERTY CONNECTION AND BOUNDARY KIT
- PROPOSED SEWER RISING MAIN
- PROPOSED WATER SERVICE LINE
- ON-PROPERTY SERVICE LINE
- PROPOSED POD
- DOUBLE ACTING AIR VALVE WITH FILTER (OFFSET FROM ROAD)
- SCOUR VALVE / FLUSHING PIT
- ISOLATION VALVE
- REDUCER
- SERVICE AREA
- EXISTING PROPERTY BOUNDARY
- EXISTING CONTOUR (INTERVAL EVERY 200mm)
- EXISTING WATER SERVICE
- EXISTING TELSTRA
- EXISTING SEPTIC TANK
- EXISTING GREY WATER TANK
- EXISTING POWER POLE
- EXISTING TELSTRA PIT
- EXISTING TELSTRA ACCESS CHAMBER

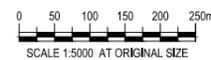
ITEM	UNIT	TOTAL
PROPOSED DN40 PE100 PN16 MAIN	LINEAR METRE	3475
PROPOSED DN50 PE100 PN16 MAIN	LINEAR METRE	3034
PROPOSED DN63 PE100 PN16 MAIN	LINEAR METRE	1852
PROPOSED DN75 PE100 PN16 MAIN	LINEAR METRE	467
PROPOSED DN90 PE100 PN16 MAIN	LINEAR METRE	286
PROPOSED PROPERTY CONNECTION AND BOUNDARY KIT	EACH	173
PROPOSED VACANT LOTS DN40 PE100 PN16 MAIN	LINEAR METRE	2092
PROPOSED VACANT LOTS DN50 PE100 PN16 MAIN	LINEAR METRE	95
VACANT LOTS PROPERTY CONNECTION AND BOUNDARY KIT	EACH	168
AIR VALVE	EACH	16
FLUSHING PIT	EACH	37
SCOUR PUMP-OUT PIT	EACH	4
ISOLATION VALVE	EACH	42
PROPOSED DN125 PE100 PN16 SEWER RISING MAIN	LINEAR METRE	2611
PROPOSED DN150 DICL PN16 DISCHARGE PIPE	LINEAR METRE	20
PROPOSED ON-PROPERTY SERVICE LINE DN40 PE100 PN16 MAIN	LINEAR METRE	4795



PLAN  
SCALE 1:5000

**FOR CONSTRUCTION**

No	Revision	Note: * indicates signatures on original issue of drawing or last revision of drawing	Drawn	Job Manager	Project Director	Date
2	ISSUED FOR CONSTRUCTION		JZL	AMS	LMS	02.10.20
1	ISSUED FOR TENDER		JAR	AMS	LMS	01.10.19
0	FINAL DETAILED DESIGN		LAC	AMS	LMS	20.06.19



**GHD**  
 GHD Tower, Level 3  
 24 Honeysuckle Drive, Newcastle NSW 2300 Australia  
 PO Box 5403 Hunter Rgn Mail Cent, NSW 2310  
 T 61 2 4979 9999 F 61 2 4979 9988  
 E ntlma@ghd.com W www.ghd.com

**DO NOT SCALE**

Conditions of Use.  
 This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.

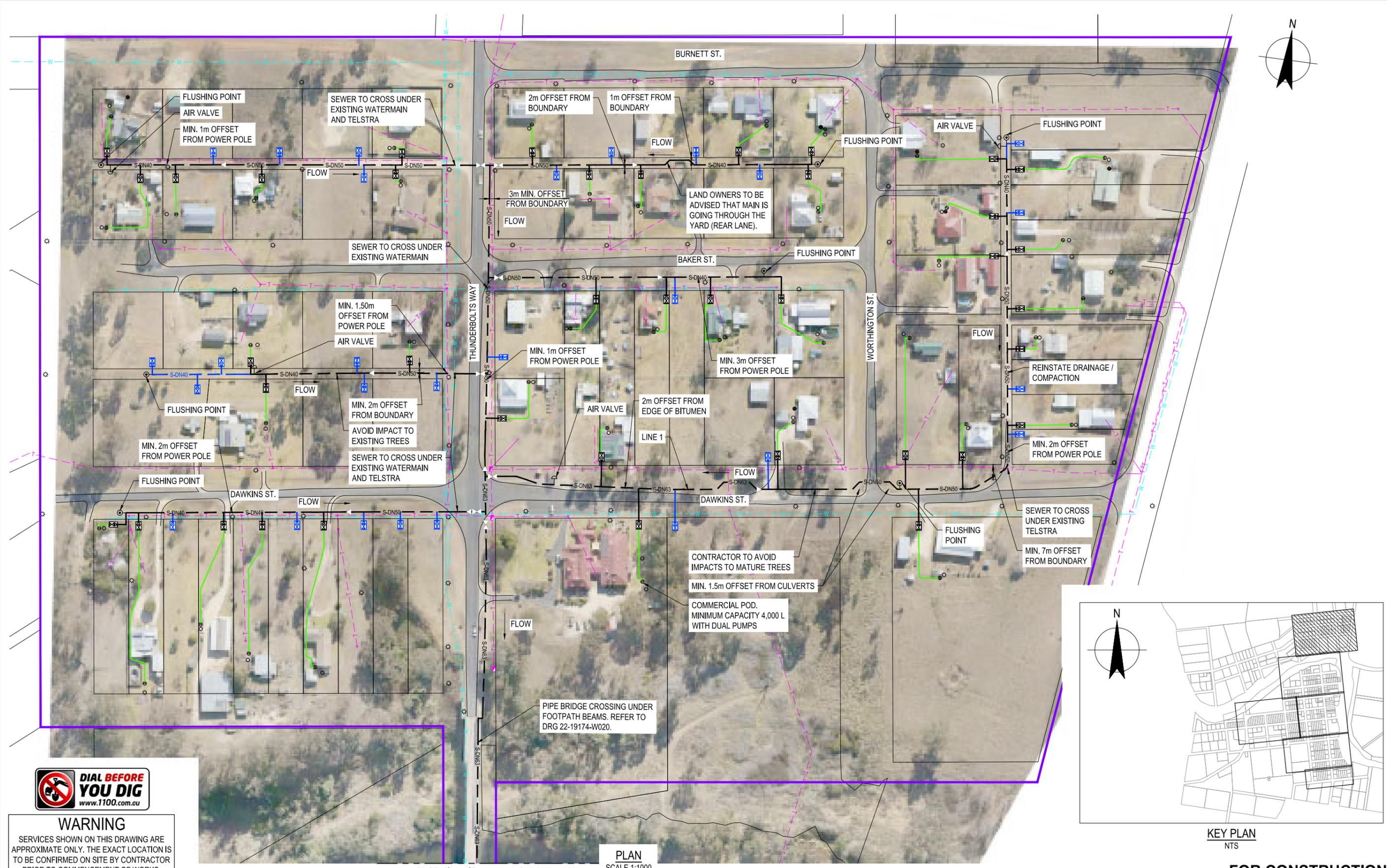
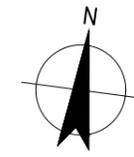
Drawn	M. PERIDO	Designer	B. REYNOLDS
Drafting Check	M. BUMOTAD	Design Check	A. MUNOZ
Approved (Project Director)	L. SYLVA	Date	17.06.19
Scale	1:5000	This Drawing must not be used for Construction unless signed as Approved	

Client **URALLA SHIRE COUNCIL**  
 Project **BUNDARRA SEWERAGE SCHEME**  
 Title **PLAN LAYOUT / GENERAL ARRANGEMENT AND LEGEND**

Original Size **A1** Drawing No: **22-19174-G002**

Rev: **2**



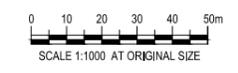


**WARNING**  
 SERVICES SHOWN ON THIS DRAWING ARE APPROXIMATE ONLY. THE EXACT LOCATION IS TO BE CONFIRMED ON SITE BY CONTRACTOR PRIOR TO COMMENCEMENT OF WORKS.

FOR CONTINUATION REFER DRG 22-19174-W002

**PLAN**  
 SCALE 1:1000

No	Revision	Note: * Indicates signatures on original issue of drawing or last revision of drawing	Drawn	Job Manager	Project Director	Date
2	ISSUED FOR CONSTRUCTION		JZL	AMS	LMS	02.10.20
1	ISSUED FOR TENDER		JAR	AMS	LMS	01.10.19
0	FINAL DETAILED DESIGN		LAC	AMS	LMS	20.06.19



**GHD**  
 GHD Tower, Level 3  
 24 Honeysuckle Drive, Newcastle NSW 2300 Australia  
 PO Box 5403 Hunter Rgn Mail Cent, NSW 2310  
 T 61 2 4979 9999 F 61 2 4979 9988  
 E ntlmail@ghd.com W www.ghd.com

**DO NOT SCALE**

Conditions of Use:  
 This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.

Drawn	L. CEDILLA	Designer	B. REYNOLDS
Drafting Check	M. BUMOTAD	Design Check	A. MUNOZ
Approved (Project Director)	L. SYLVA	Date	17.06.19
Scale	AS SHOWN	This Drawing must not be used for Construction unless signed as Approved	



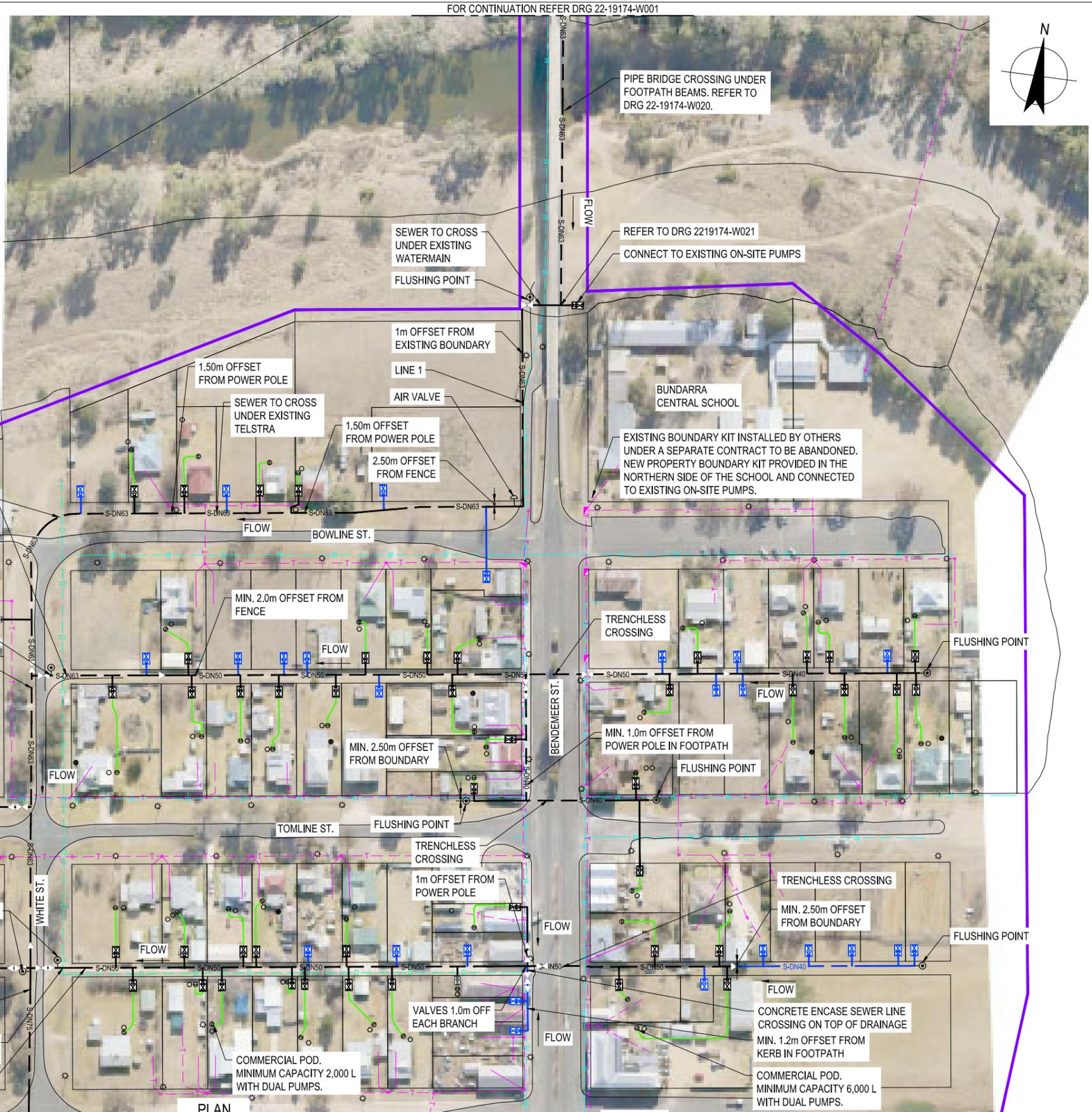
KEY PLAN  
 NTS

**FOR CONSTRUCTION**

Client	<b>URALLA SHIRE COUNCIL</b>	Original Size	A1
Project	<b>BUNDARRA SEWERAGE SCHEME</b>	Drawing No:	<b>22-19174-W001</b>
Title	<b>RETICULATION LAYOUT 1 OF 6</b>	Rev:	<b>2</b>



**KEY PLAN**  
NTS



**PLAN**  
SCALE 1:1000



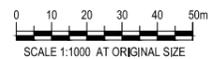
**WARNING**

SERVICES SHOWN ON THIS DRAWING ARE APPROXIMATE ONLY. THE EXACT LOCATION IS TO BE CONFIRMED ON SITE BY CONTRACTOR PRIOR TO COMMENCEMENT OF WORKS.

FOR CONTINUATION REFER DRG 22-19174-W003

FOR CONTINUATION REFER DRG 22-19174-W004

**FOR CONSTRUCTION**



GHD Tower, Level 3  
24 Honeysuckle Drive, Newcastle NSW 2300 Australia  
PO Box 5403 Hunter Rgn Mail Cent, NSW 2310  
T 61 2 4979 9999 F 61 2 4979 9988  
E ntlmail@ghd.com W www.ghd.com

**DO NOT SCALE**

Conditions of Use.  
This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.

Drawn	L. CEDILLA	Designer	B. REYNOLDS
Drafting Check	M. BUMOTAD	Design Check	A. MUNOZ
Approved (Project Director)	L. SYLVA	Date	17.06.19
Scale	AS SHOWN	This Drawing must not be used for construction unless signed as Approved	

Client **URALLA SHIRE COUNCIL**  
Project **BUNDARRA SEWERAGE SCHEME**  
Title **RETICULATION LAYOUT 2 OF 6**

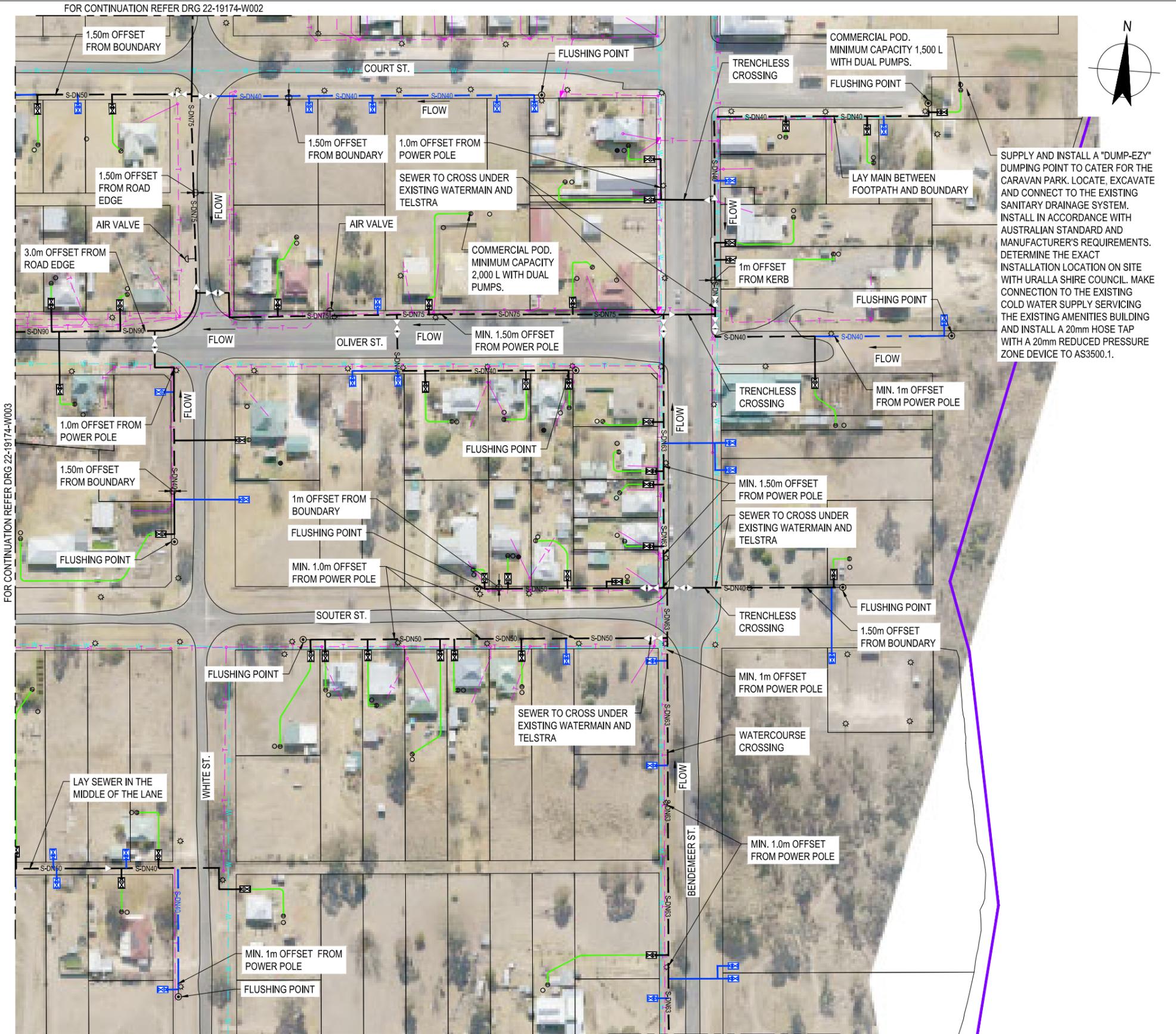
Original Size **A1** Drawing No: **22-19174-W002**

Rev: **3**





KEY PLAN  
NTS



FOR CONTINUATION REFER DRG 22-19174-W003

FOR CONTINUATION REFER DRG 22-19174-W002

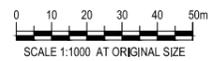
PLAN FOR CONTINUATION REFER DRG 22-19174-W005  
SCALE 1:1000

FOR CONSTRUCTION



**WARNING**

SERVICES SHOWN ON THIS DRAWING ARE APPROXIMATE ONLY. THE EXACT LOCATION IS TO BE CONFIRMED ON SITE BY CONTRACTOR PRIOR TO COMMENCEMENT OF WORKS.



**GHD**  
GHD Tower, Level 3  
24 Honeyesuckle Drive, Newcastle NSW 2300 Australia  
PO Box 5403 Hunter Rgn Cent. NSW 2310  
T 61 2 4979 9999 F 61 2 4979 9988  
E ntimail@ghd.com W www.ghd.com

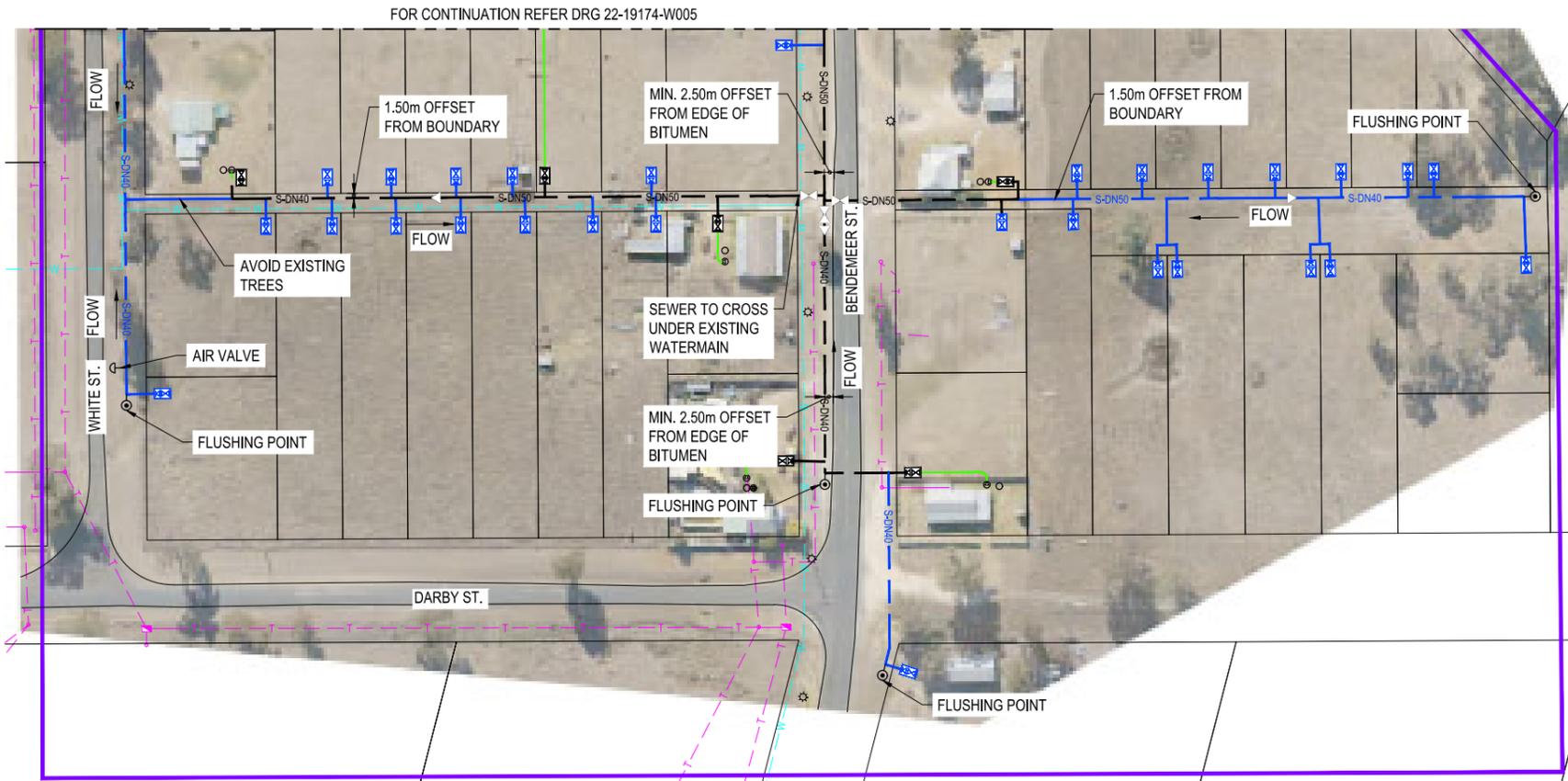
<b>DO NOT SCALE</b> <small>Conditions of Use. This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.</small>	Drawn L. CEDILLA	Designer B. REYNOLDS
	Drafting Check M. BUMOTAD	Design Check A. MUNOZ
	Approved (Project Director) L. SYLVA	Date 17.06.19
	Scale AS SHOWN	<small>This Drawing must not be used for Construction unless signed as Approved</small>

Client	<b>URALLA SHIRE COUNCIL</b>
Project	<b>BUNDARRA SEWERAGE SCHEME</b>
Title	<b>RETICULATION LAYOUT 4 OF 6</b>
Original Size	A1
Drawing No:	<b>22-19174-W004</b>
Rev:	<b>2</b>





KEY PLAN  
NTS



PLAN  
SCALE 1:1000

FOR CONTINUATION REFER DRG 22-19174-W005

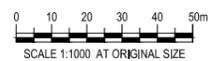


**WARNING**

SERVICES SHOWN ON THIS DRAWING ARE APPROXIMATE ONLY. THE EXACT LOCATION IS TO BE CONFIRMED ON SITE BY CONTRACTOR PRIOR TO COMMENCEMENT OF WORKS.

**FOR CONSTRUCTION**

No	Revision	Note: * Indicates signatures on original issue of drawing or last revision of drawing	Drawn	Job Manager	Project Director	Date
2	ISSUED FOR CONSTRUCTION		JZL	AMS	LMS	02.10.20
1	ISSUED FOR TENDER		JAR	AMS	LMS	01.10.19
0	FINAL DETAILED DESIGN		LAC	AMS	LMS	20.06.19



GHD Tower, Level 3  
24 Honeysuckle Drive, Newcastle NSW 2300 Australia  
PO Box 5403 Hunter Rgn Mail Cent, NSW 2310  
T 61 2 4979 9999 F 61 2 4979 9988  
E ntlmail@ghd.com W www.ghd.com

**DO NOT SCALE**

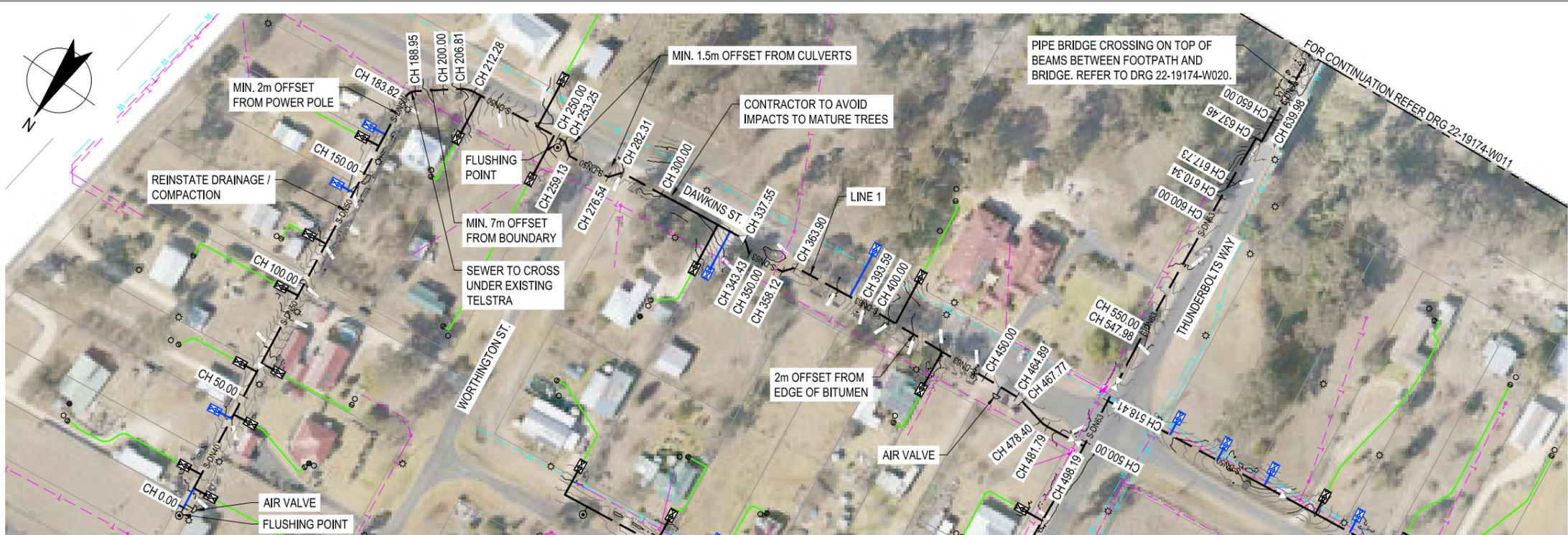
Conditions of Use.  
This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.

Drawn	L. CEDILLA	Designer	B. REYNOLDS
Drafting Check	M. BUMOTAD	Design Check	A. MUNOZ
Approved (Project Director)	L. SYLVA	Date	17.06.19
Scale	AS SHOWN	This Drawing must not be used for Construction unless signed as Approved	

Client	<b>URALLA SHIRE COUNCIL</b>		
Project	<b>BUNDARRA SEWERAGE SCHEME</b>		
Title	<b>RETICULATION LAYOUT 6 OF 6</b>		
Original Size	<b>A1</b>	Drawing No:	<b>22-19174-W006</b>
Rev:	<b>2</b>		



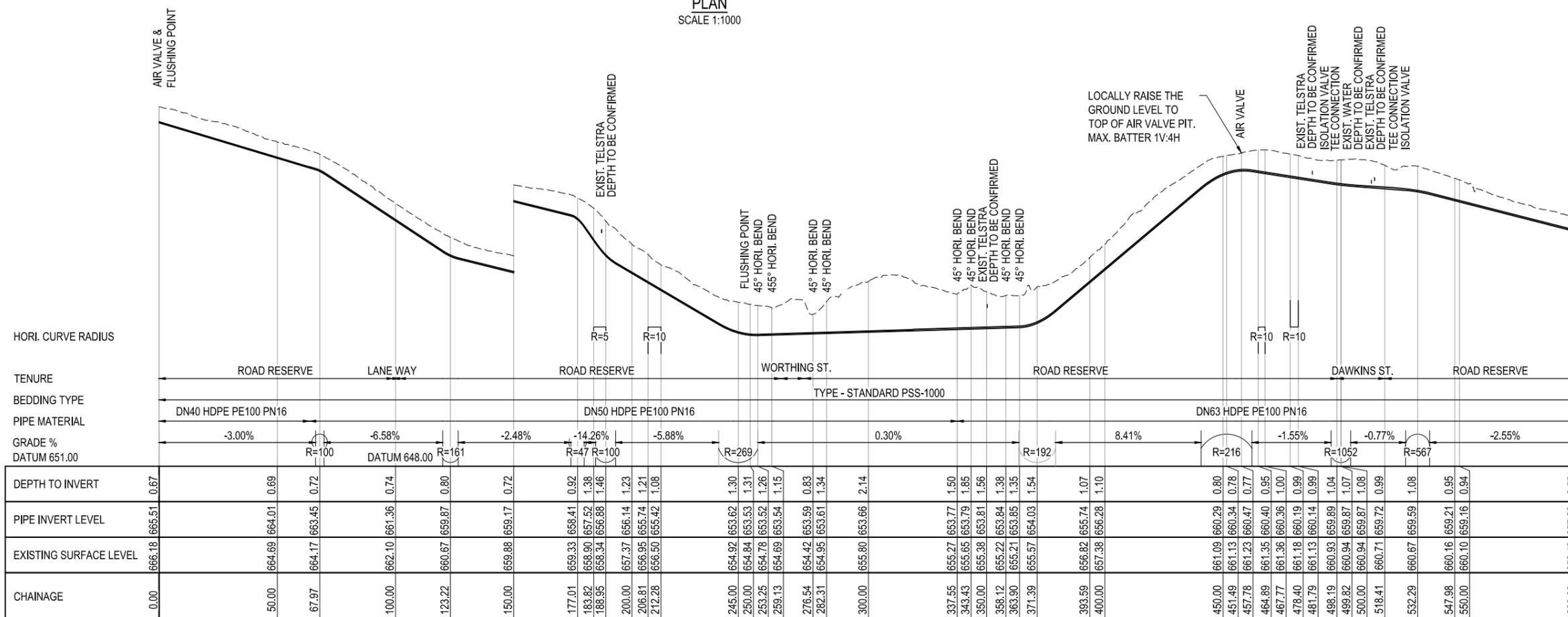
**KEY PLAN**  
NTS



**NOTE:**

1. TRENCHSTOPS TO BE INSTALLED ON PIPES WITH GRADES GREATER THAN 5% IN ACCORDANCE WITH WAT-1209.

**PLAN**  
SCALE 1:1000



**LONGITUDINAL SECTION - LINE 1**  
SCALE HOR 1:1000 VER 1:100



**WARNING**

SERVICES SHOWN ON THIS DRAWING ARE APPROXIMATE ONLY. THE EXACT LOCATION IS TO BE CONFIRMED ON SITE BY CONTRACTOR PRIOR TO COMMENCEMENT OF WORKS.

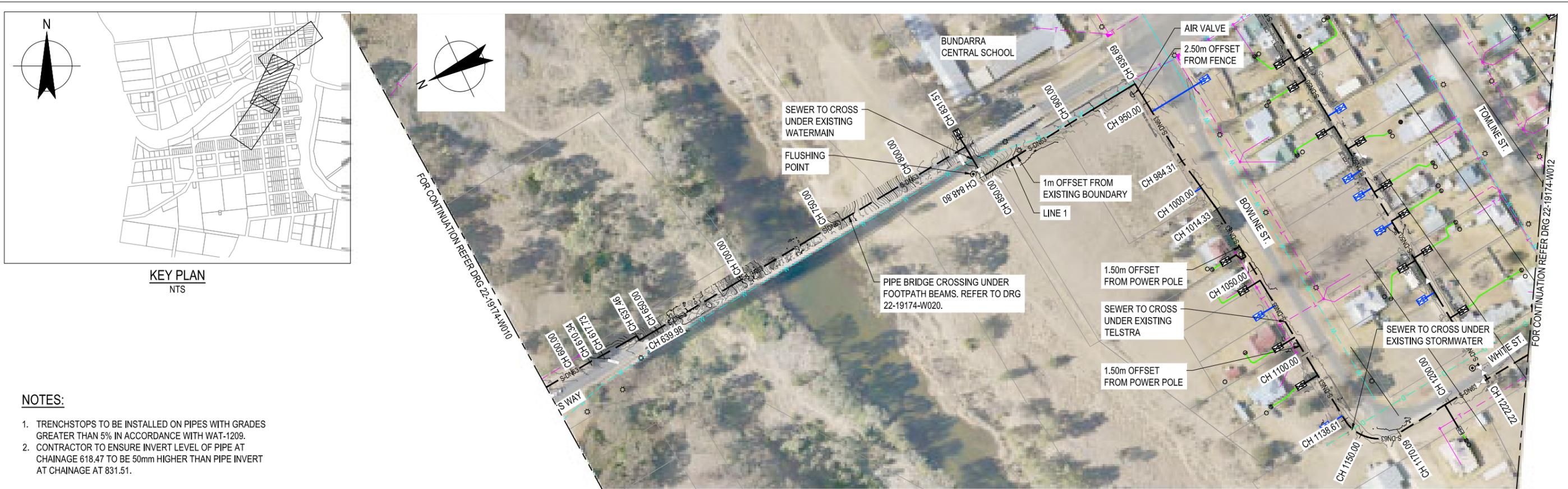
**FOR CONSTRUCTION**

No	Revision	Note	Drawn	Job Manager	Project Director	Date
2	ISSUED FOR CONSTRUCTION		JZL	AMS	LMS	02.10.20
1	ISSUED FOR TENDER		JAR	AMS	LMS	01.10.19
0	FINAL DETAILED DESIGN		LAC	AMS	LMS	20.06.19



**GHD**  
GHD Tower, Level 3  
24 Honeyjuskie Drive, Newcastle NSW 2300 Australia  
PO Box 5403 Hunter Rgn Mail Cent, NSW 2310  
T 61 2 4979 9999 F 61 2 4979 9988  
E ntmial@ghd.com W www.ghd.com

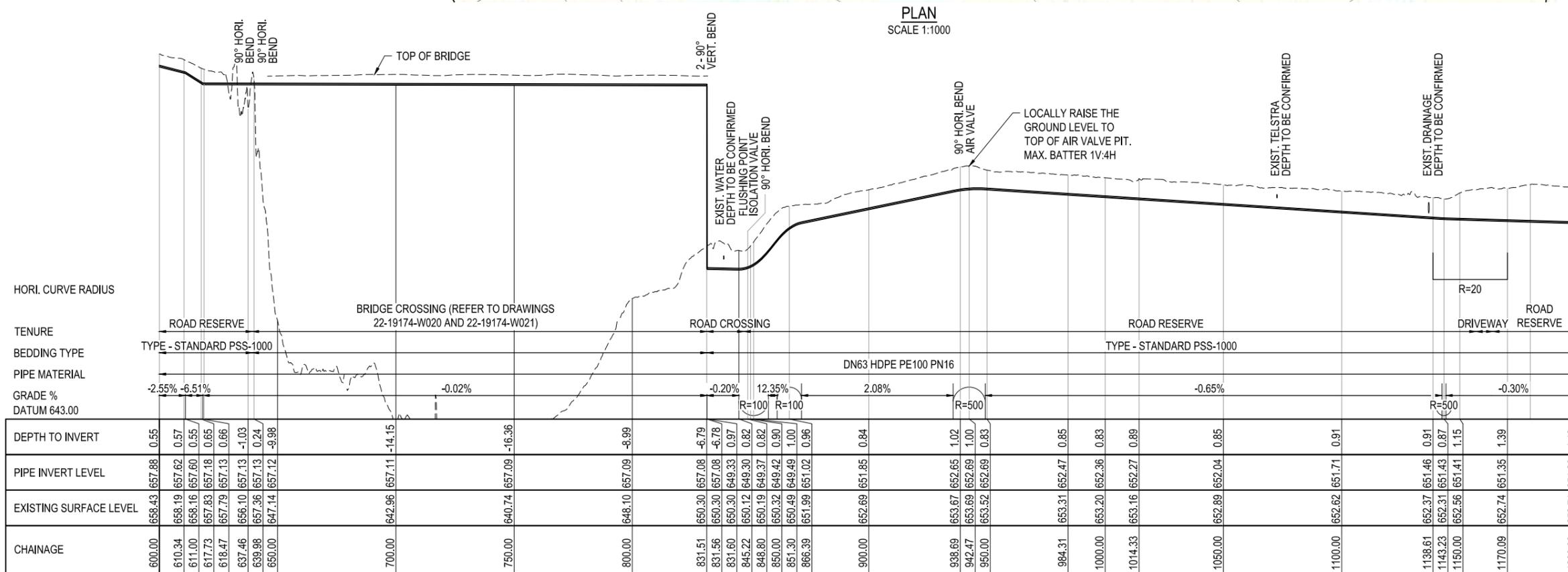
DO NOT SCALE		Drawn	Designer	Client
Conditions of Use. This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.		L.CEDILLA	B. REYNOLDS	URALLA SHIRE COUNCIL
Approved (Project Director)		M. BUMOTAD	A. MUNOZ	BUNDARRA SEWERAGE SCHEME
Date		L. SYLVA		RETICULATION LINE 1
Date		17.06.19		PLAN AND LONGITUDINAL SECTION 1 OF 3
Date		AS SHOWN		Original Size
Date				A1 Drawing No: 22-19174-W010
Date				Rev: 2



**KEY PLAN**  
NTS

**NOTES:**

- TRENCHSTOPS TO BE INSTALLED ON PIPES WITH GRADES GREATER THAN 5% IN ACCORDANCE WITH WAT-1209.
- CONTRACTOR TO ENSURE INVERT LEVEL OF PIPE AT CHAINAGE 618.47 TO BE 50mm HIGHER THAN PIPE INVERT AT CHAINAGE AT 831.51.



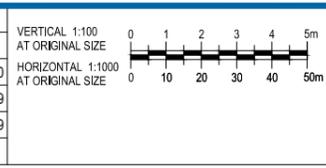
**LONGITUDINAL SECTION - LINE 1**  
SCALE HOR 1:1000 VER 1:100

**FOR CONSTRUCTION**



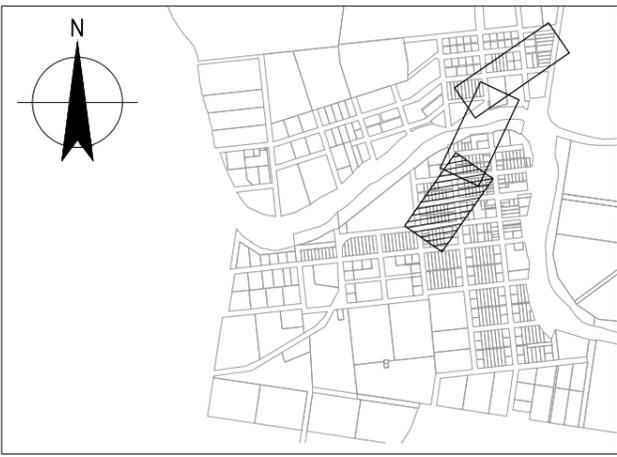
**WARNING**  
SERVICES SHOWN ON THIS DRAWING ARE APPROXIMATE ONLY. THE EXACT LOCATION IS TO BE CONFIRMED ON SITE BY CONTRACTOR PRIOR TO COMMENCEMENT OF WORKS.

2	ISSUED FOR CONSTRUCTION	JZL	AMS	LMS	02.10.20	
1	ISSUED FOR TENDER	JAR	AMS	LMS	01.10.19	
0	FINAL DETAILED DESIGN	LAC	AMS	LMS	20.06.19	
No	Revision	Note: * Indicates signatures on original issue of drawing or last revision of drawing	Drawn	Job Manager	Project Director	Date

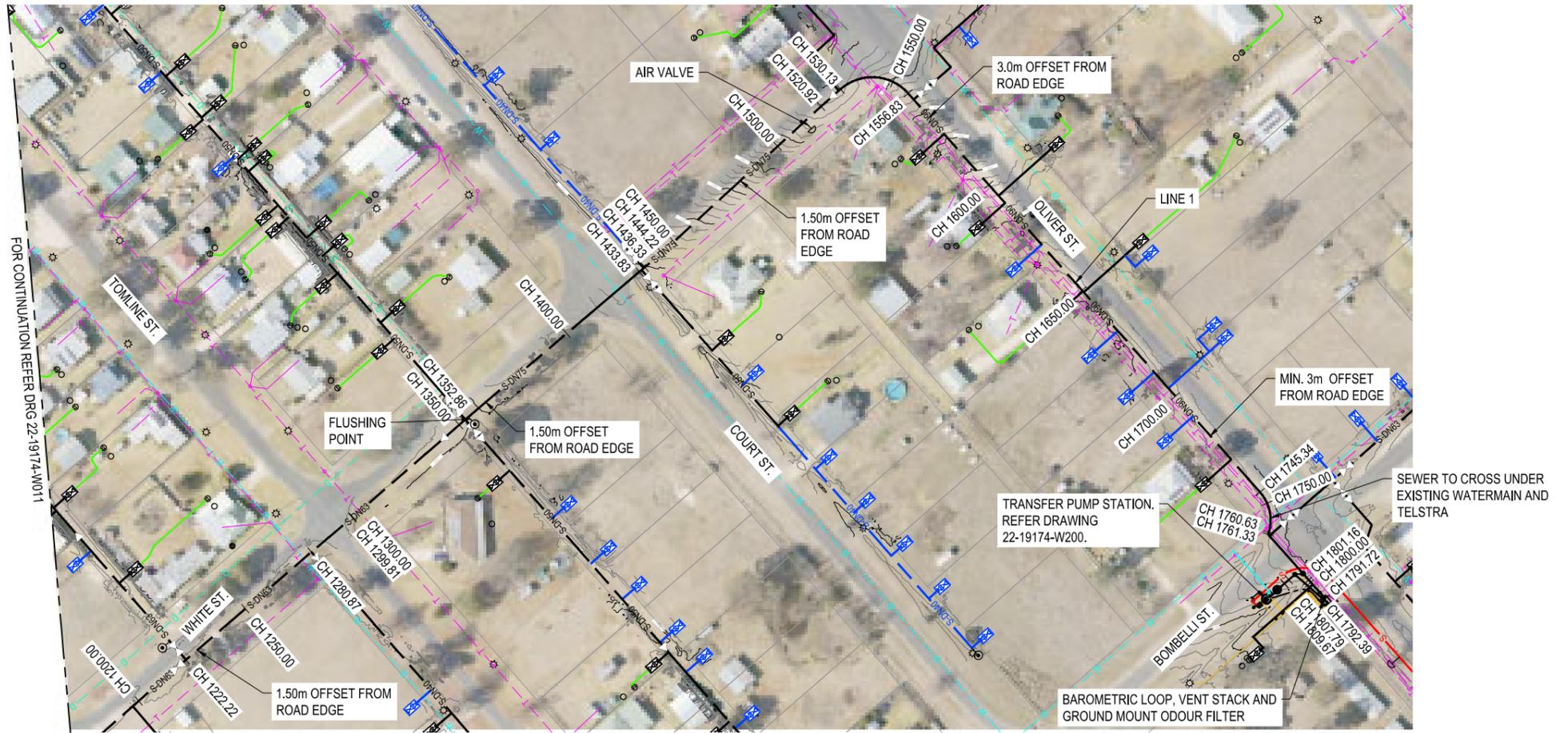


<b>DO NOT SCALE</b>	Drawn L.CEDILLA	Designer B. REYNOLDS
Conditions of Use: This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.	Drafting Check M. BUMOTAD	Design Check A. MUNOZ
	Approved (Project Director) L. SYLVA	Date 17.06.19
	Scale AS SHOWN	This Drawing must not be used for construction unless signed as Approved

Client	<b>URALLA SHIRE COUNCIL</b>
Project	<b>BUNDARRA SEWERAGE SCHEME</b>
Title	<b>RETICULATION LINE 1 PLAN AND LONGITUDINAL SECTION 2 OF 3</b>
Original Size	<b>A1</b>
Drawing No:	<b>22-19174-W011</b>
Rev:	<b>2</b>

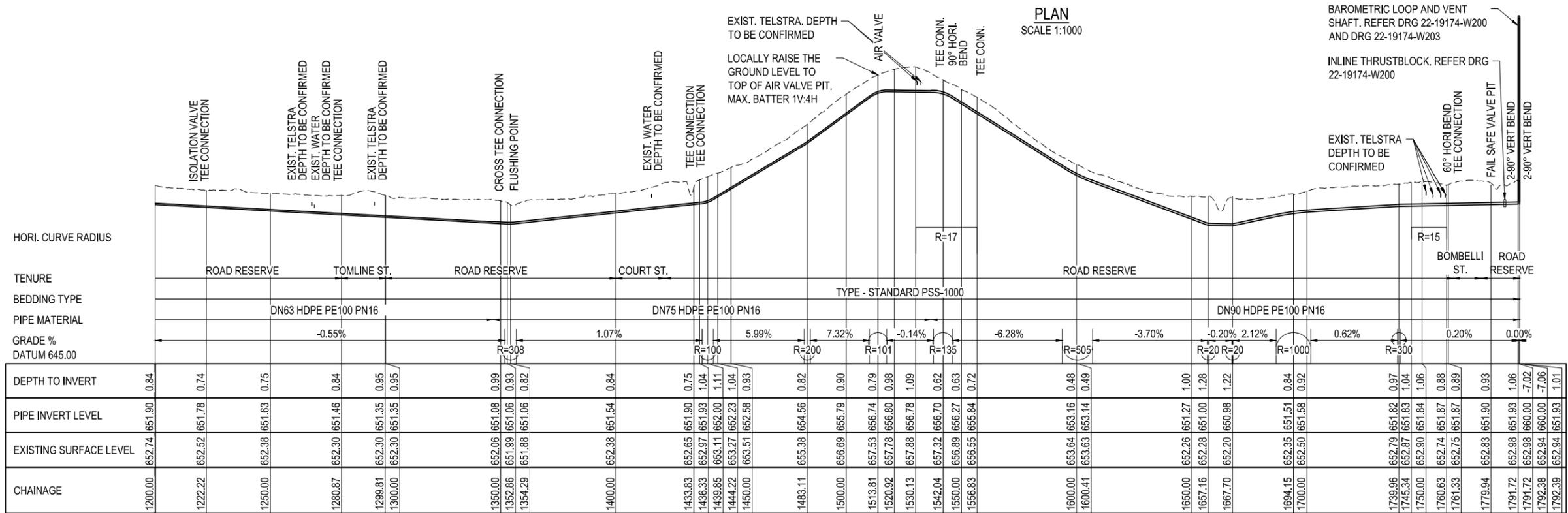


**KEY PLAN**  
NTS



**NOTE:**

- TRENCHSTOPS TO BE INSTALLED ON PIPES WITH GRADES GREATER THAN 5% IN ACCORDANCE WITH WAT-1209.



**LONGITUDINAL SECTION - LINE 1**  
SCALE HOR 1:1000 VER 1:100

**FOR CONSTRUCTION**



**WARNING**

SERVICES SHOWN ON THIS DRAWING ARE APPROXIMATE ONLY. THE EXACT LOCATION IS TO BE CONFIRMED ON SITE BY CONTRACTOR PRIOR TO COMMENCEMENT OF WORKS.

No	Revision	Note: * indicates signatures on original issue of drawing or last revision of drawing	Drawn	Job Manager	Project Director	Date
2	ISSUED FOR CONSTRUCTION		JZL	AMS	LMS	02.10.20
1	ISSUED FOR TENDER		JAR	AMS	LMS	01.10.19
0	FINAL DETAILED DESIGN		LAC	AMS	LMS	20.06.19



**GHD**  
GHD Tower, Level 3  
24 Honeysuckle Drive, Newcastle NSW 2300 Australia  
PO Box 5403 Hunter Rgn Mail Cent, NSW 2310  
T 61 2 4979 9999 F 61 2 4979 9988  
E ntlmail@ghd.com W www.ghd.com

**DO NOT SCALE**

Conditions of Use.  
This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.

Drawn	L.CEDILLA	Designer	B. REYNOLDS
Drafting Check	M. BUMOTAD	Design Check	A. MUNOZ
Approved (Project Director)	L. SYLVA	Date	17.06.19
Scale	AS SHOWN	This Drawing must not be used for Construction unless signed as Approved	

Client **URALLA SHIRE COUNCIL**  
Project **BUNDARRA SEWERAGE SCHEME**  
Title **RETICULATION LINE 1**  
**PLAN AND LONGITUDINAL SECTION 3 OF 3**

Original Size **A1** Drawing No: **22-19174-W012** Rev: **2**



PLAN  
SCALE 1:500

NOTES:

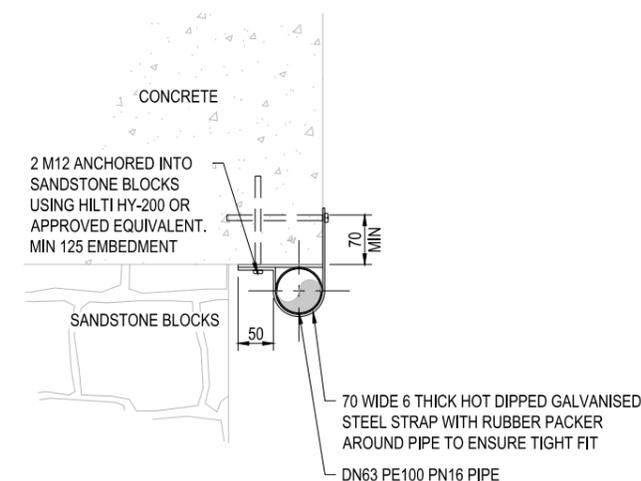
1. SADDLE CLAMPS ARE TO BE INSTALLED ON THE FOOTPATH BEAMS. PROVIDE PTFE STRIP ATTACHED TO ALL FOOTPATH BEAMS.
2. PIPES INSTALLED ABOVE GROUND ARE TO BE BLACK PE, NOT STRIPED OR COLOURED PE PIPE.
3. MAXIMUM DESIGN PRESSURE 1000 kPa.
4. WEIGHT OF FULL PE DN63 PIPE IS 8.0 kg/m.
5. ABOVE GROUND PIPES TO BE INSTALLED WITH AN AMBIENT TEMPERATURE BETWEEN 20°C AND 25°C AND WITH AN ADDITIONAL 1% LENGTH, USING A SNAKED ALIGNMENT, TO ALLOW FOR EXPANSION AND CONTRACTION.
6. CONTRACTOR TO PROVIDE FIRE RATED LAGGING FOR THE FULL EXTENT OF THE ABOVE GROUND PIPE IN BETWEEN BRACKETS.



1 DETAIL  
SCALE 1:50



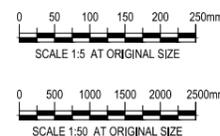
PERSPECTIVE VIEW  
SCALE NTS



A SECTION  
SCALE 1:5

FOR CONSTRUCTION

3	ISSUED FOR CONSTRUCTION	JZL	AMS	LMS	02.10.20	
2	REISSUED FOR TENDER	JAR	AMS	LMS	10.12.19	
1	ISSUED FOR TENDER	JAR	AMS	LMS	01.10.19	
0	FINAL DETAILED DESIGN	LAC	AMS	LMS	20.06.19	
No	Revision	Note: * Indicates signatures on original issue of drawing or last revision of drawing	Drawn	Job Manager	Project Director	Date

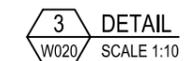
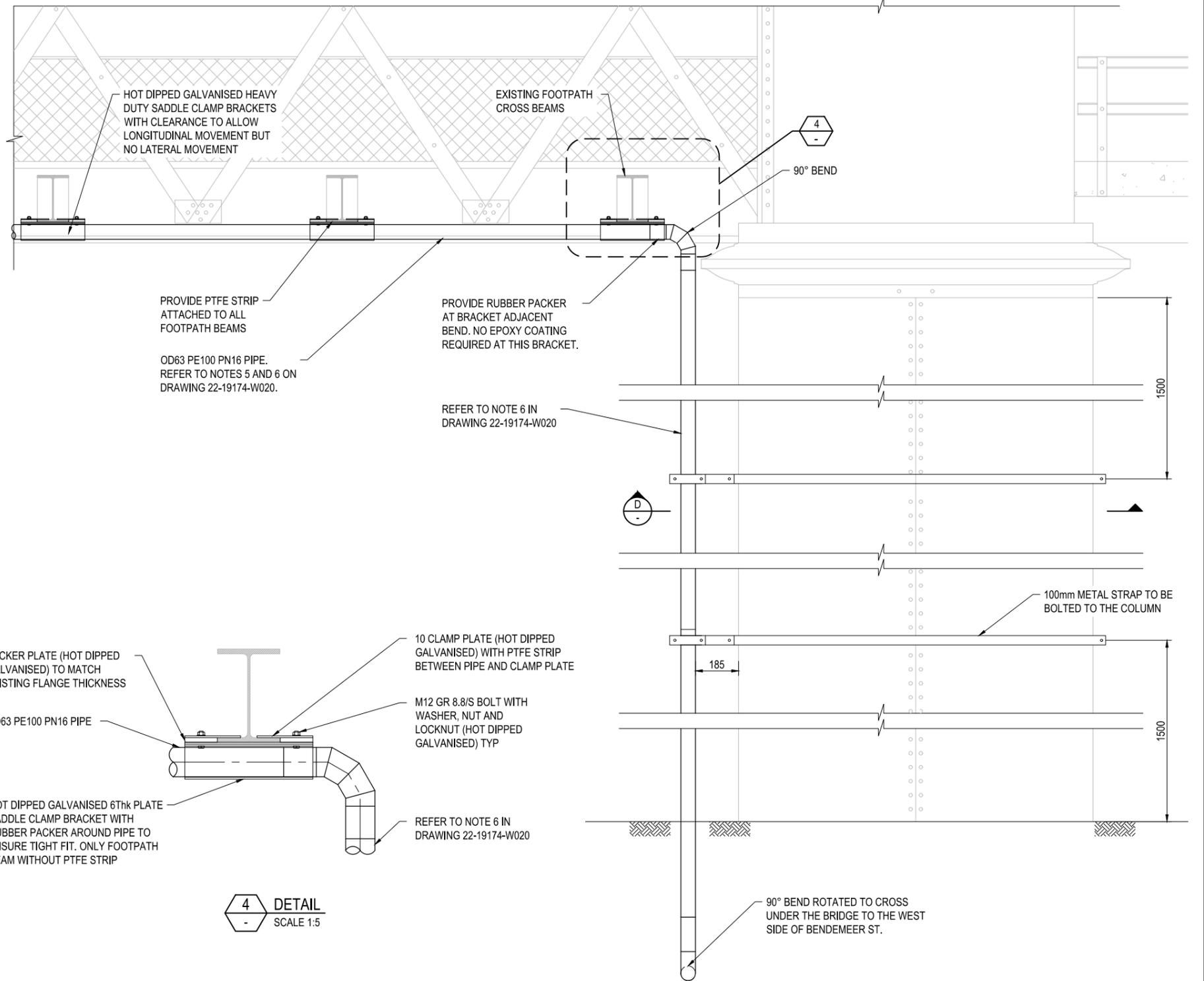
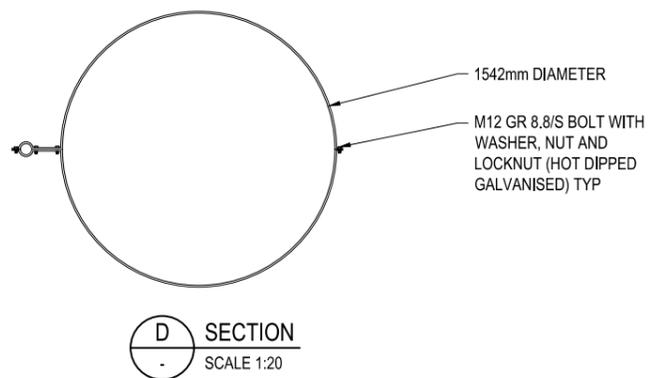
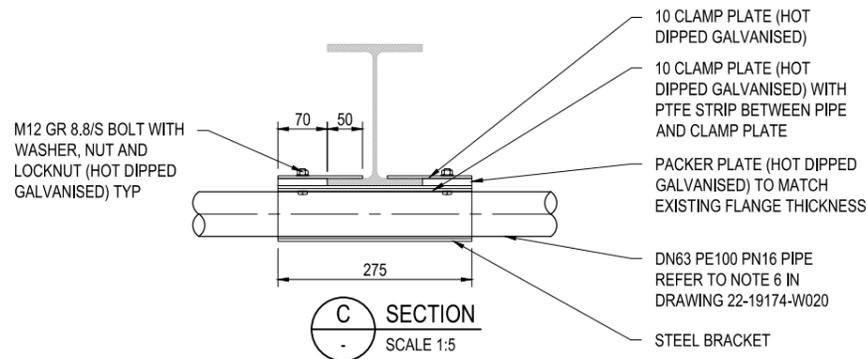
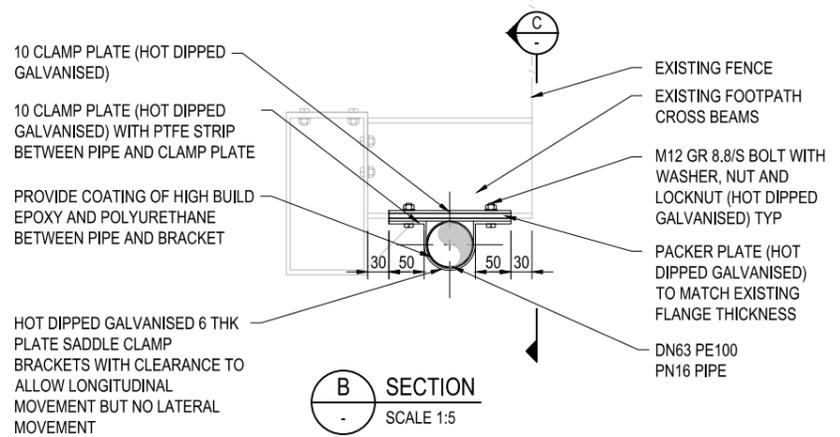
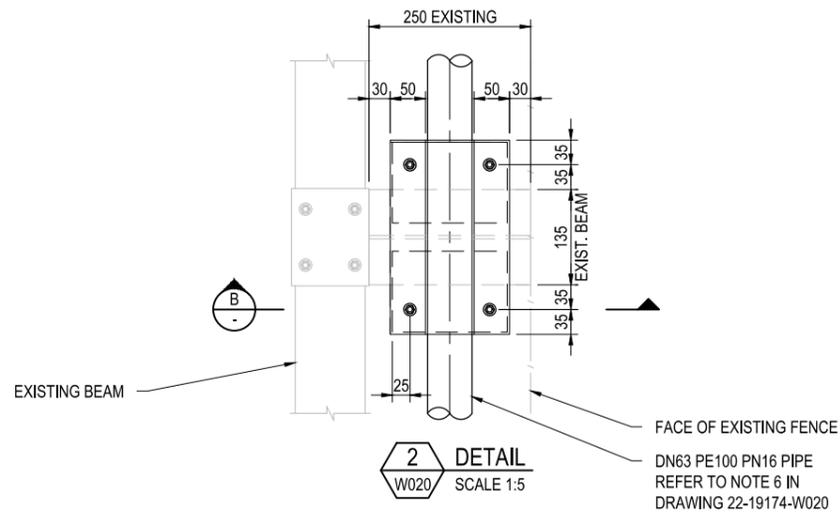


**GHD**  
 GHD Tower, Level 3  
 24 Honeysuckle Drive, Newcastle NSW 2300 Australia  
 PO Box 5403 Hunter Rgn Mail Cent, NSW 2310  
 T 61 2 4979 9999 F 61 2 4979 9988  
 E ntlmail@ghd.com W www.ghd.com

**DO NOT SCALE**  
 Conditions of Use:  
 This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.

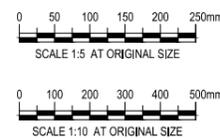
Drawn	J.CONTRERAS	Designer	M. BLANDFORD
Drafting Check	M. BUMOTAD	Design Check	A. MUNOZ
Approved (Project Director)	L. SYLVA	Date	17.06.19
Scale	AS SHOWN	This Drawing must not be used for Construction unless signed as Approved	

Client	<b>URALLA SHIRE COUNCIL</b>
Project	<b>BUNDARRA SEWERAGE SCHEME</b>
Title	<b>BENDEMEER ST. BRIDGE CROSSING PLAN AND SECTIONS</b>
Original Size	A1
Drawing No:	<b>22-19174-W020</b>
Rev:	<b>3</b>



**FOR CONSTRUCTION**

3	ISSUED FOR CONSTRUCTION	JZL	AMS	LMS	02.10.20	
2	REISSUED FOR TENDER	JAR	AMS	LMS	10.12.19	
1	ISSUED FOR TENDER	JAR	AMS	LMS	01.10.19	
0	FINAL DETAILED DESIGN	LAC	AMS	LMS	20.06.19	
No	Revision	Note: * indicates signatures on original issue of drawing or last revision of drawing	Drawn	Job Manager	Project Director	Date



GHD Tower, Level 3  
24 Honeysuckle Drive, Newcastle NSW 2300 Australia  
PO Box 5403 Hunter Rgn Mail Cent, NSW 2310  
T 61 2 4979 9999 F 61 2 4979 9988  
E ntlmail@ghd.com W www.ghd.com

**DO NOT SCALE**

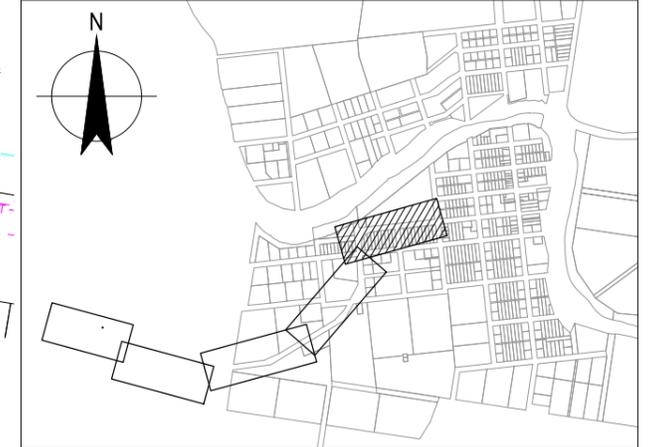
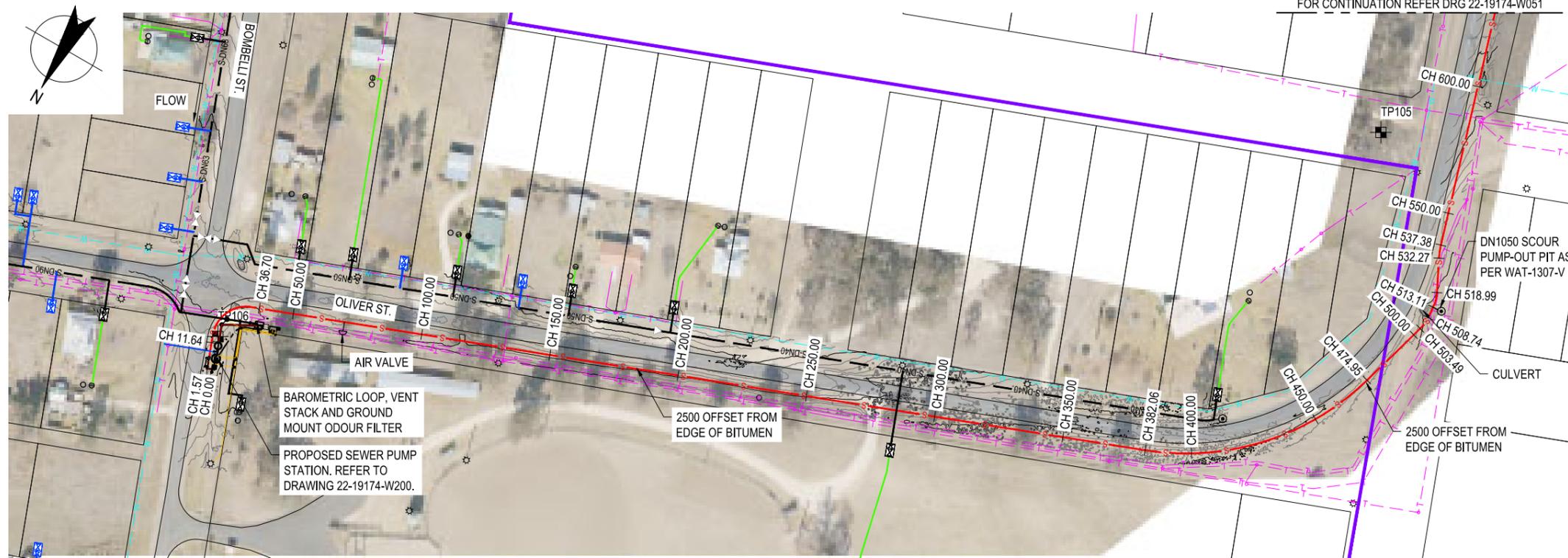
Conditions of Use.  
This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.

Drawn	J.CONTRERAS	Designer	S. TODKILL
Drafting Check	M. BUMOTAD	Design Check	A. MUNOZ
Approved (Project Director)	L. SYLVA	Date	17.06.19
Scale	AS SHOWN	This Drawing must not be used for Construction unless signed as Approved	

Client **URALLA SHIRE COUNCIL**  
Project **BUNDARRA SEWERAGE SCHEME**  
Title **BENDEMEER ST. BRIDGE CROSSING DETAILS**

Original Size **A1** Drawing No: **22-19174-W021**

Rev: **3**

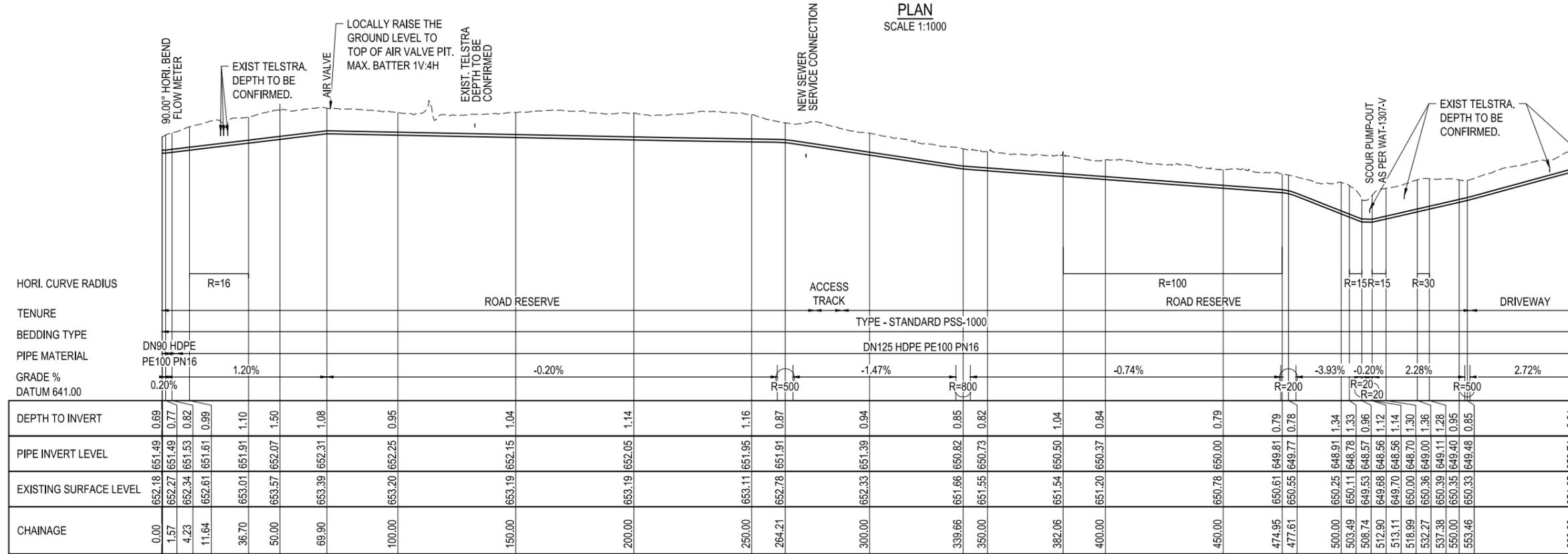


KEY PLAN  
NTS

PLAN  
SCALE 1:1000

NOTE:

- REFER DRG 22-19174-G002 FOR LEGEND.



LONGITUDINAL SECTION  
SCALE HOR 1:1000 VER 1:100



**WARNING**  
SERVICES SHOWN ON THIS DRAWING ARE APPROXIMATE ONLY. THE EXACT LOCATION IS TO BE CONFIRMED ON SITE BY CONTRACTOR PRIOR TO COMMENCEMENT OF WORKS.

**FOR CONSTRUCTION**

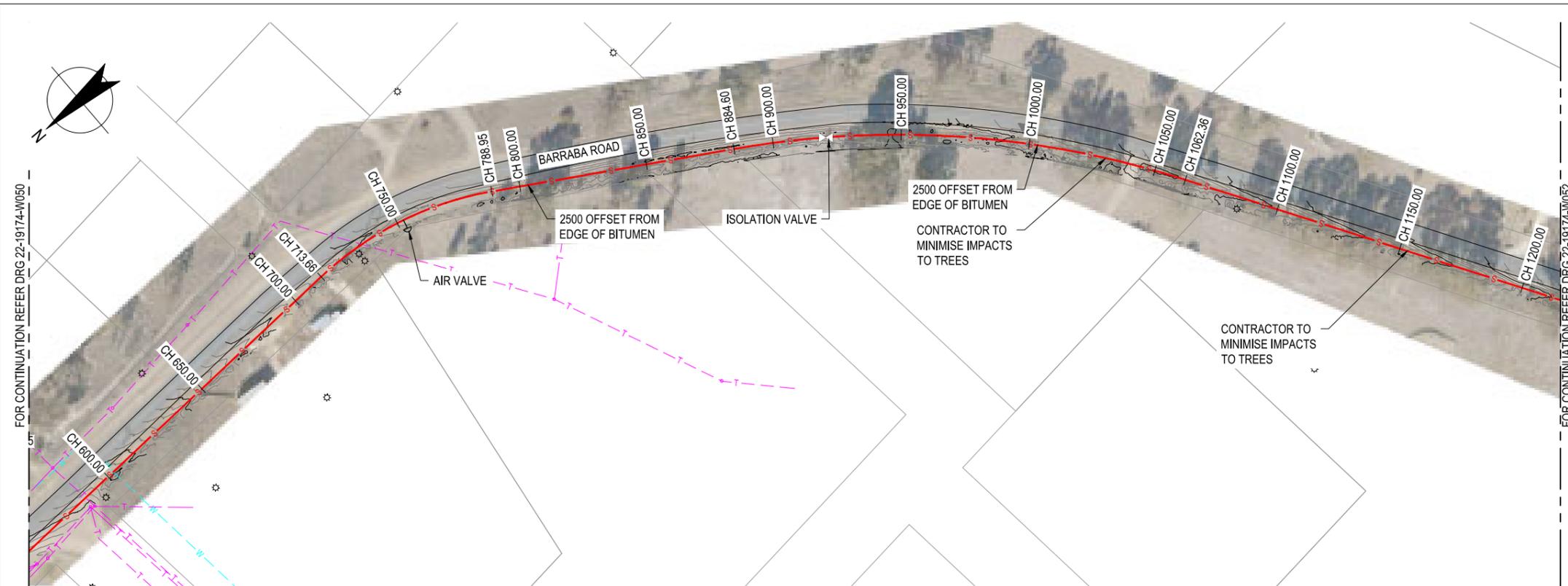
No	Revision	Note: * indicates signatures on original issue of drawing or last revision of drawing	Drawn	Job Manager	Project Director	Date
2	ISSUED FOR CONSTRUCTION		JZL	AMS	LMS	02.10.20
1	ISSUED FOR TENDER		JAR	AMS	LMS	01.10.19
0	FINAL DETAILED DESIGN		LAC	AMS	LMS	20.06.19



**GHD**  
GHD Tower, Level 3  
24 Honeyjuskie Drive, Newcastle NSW 2300 Australia  
PO Box 5403 Hunter Rgn Mail Cent, NSW 2310  
T 61 2 4979 9999 F 61 2 4979 9988  
E ntlmail@ghd.com W www.ghd.com

DO NOT SCALE	
Conditions of Use. This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.	Drawn L. CEDILLA Designer M. BLANDFORD Drafting Check M. BUMOTAD Design Check A. MUNOZ Approved (Project Director) L. SYLVA Date 17.06.19 Scale AS SHOWN

Client	<b>URALLA SHIRE COUNCIL</b>
Project	<b>BUNDARRA SEWERAGE SCHEME</b>
Title	<b>RISEING MAIN PLAN AND LONGITUDINAL SECTION 1 OF 5</b>
Original Size	A1
Drawing No:	<b>22-19174-W050</b>
Rev:	<b>2</b>

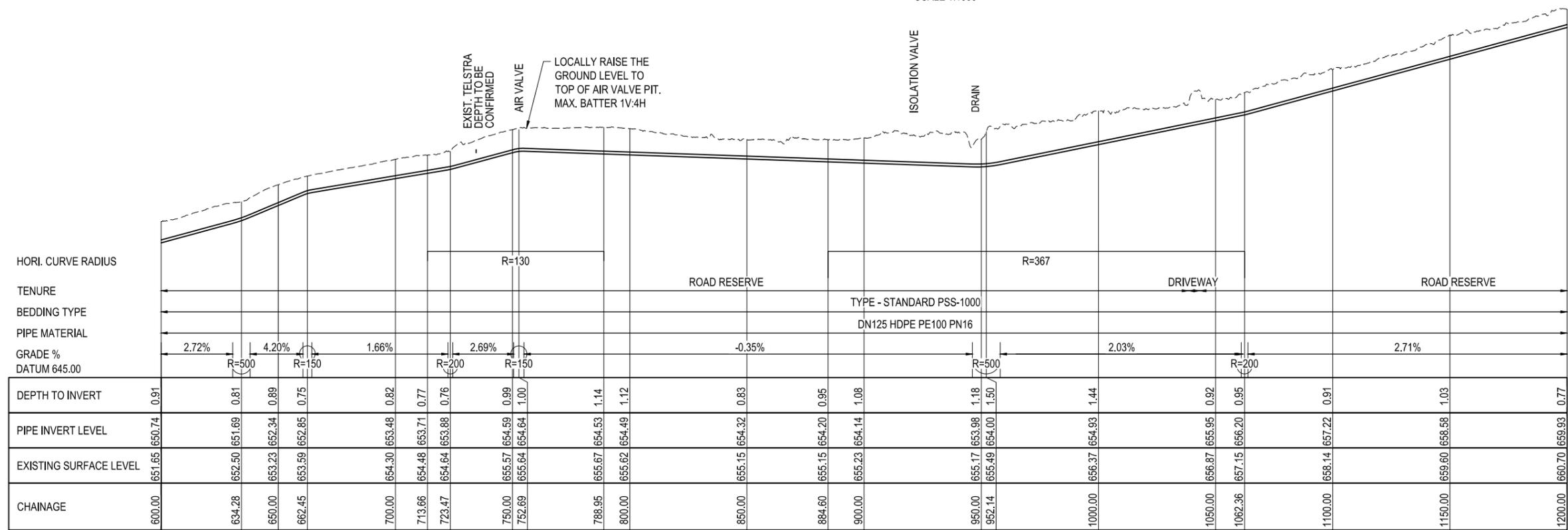


KEY PLAN  
NTS

PLAN  
SCALE 1:1000

NOTE:

- REFER DRG 22-19174-G002 FOR LEGEND.



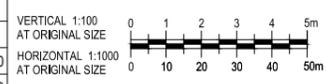
LONGITUDINAL SECTION  
SCALE HOR 1:1000 VER 1:100



**WARNING**  
SERVICES SHOWN ON THIS DRAWING ARE APPROXIMATE ONLY. THE EXACT LOCATION IS TO BE CONFIRMED ON SITE BY CONTRACTOR PRIOR TO COMMENCEMENT OF WORKS.

FOR CONSTRUCTION

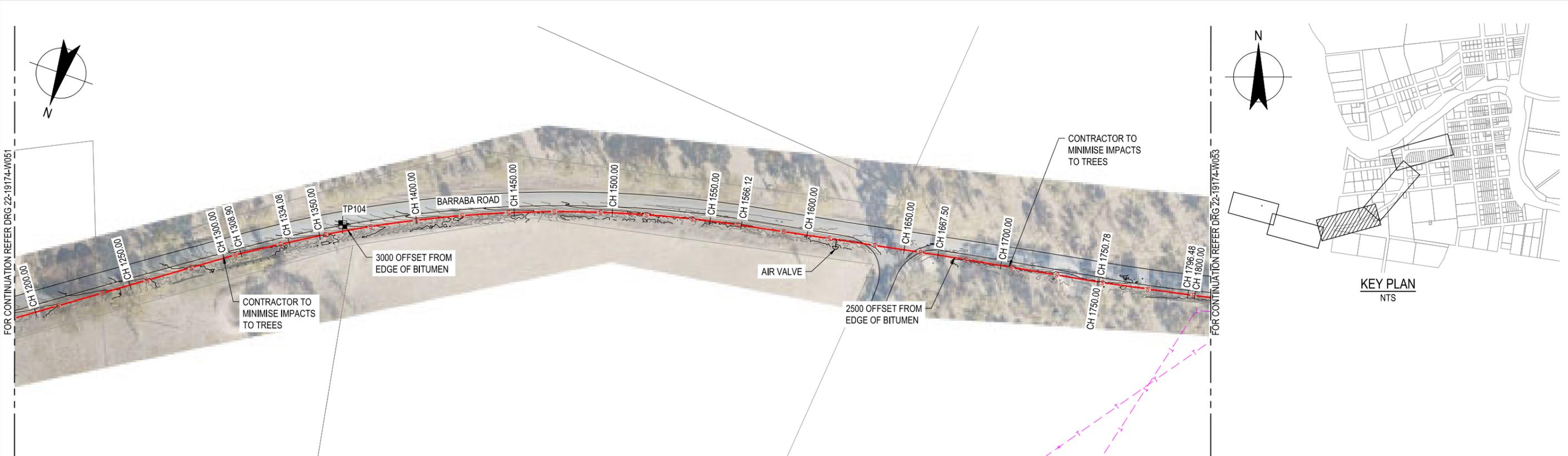
No	Revision	Note	Drawn	Job Manager	Project Director	Date
2	ISSUED FOR CONSTRUCTION		JZL	AMS	LMS	02.10.20
1	ISSUED FOR TENDER		JAR	AMS	LMS	01.10.19
0	FINAL DETAILED DESIGN		LAC	AMS	LMS	20.06.19



**GHD**  
GHD Tower, Level 3  
24 Honeysuckle Drive, Newcastle NSW 2300 Australia  
PO Box 5403 Hunter Rgn Mail Cent, NSW 2310  
T 61 2 4979 9999 F 61 2 4979 9988  
E ntlmail@ghd.com W www.ghd.com

DO NOT SCALE	
Drawn L. CEDILLA	Designer M. BLANDFORD
Drafting Check M. BUMOTAD	Design Check A. MUNOZ
Approved (Project Director) L. SYLVA	Date 17.06.19
Scale AS SHOWN	This Drawing must not be used for Construction unless signed as Approved

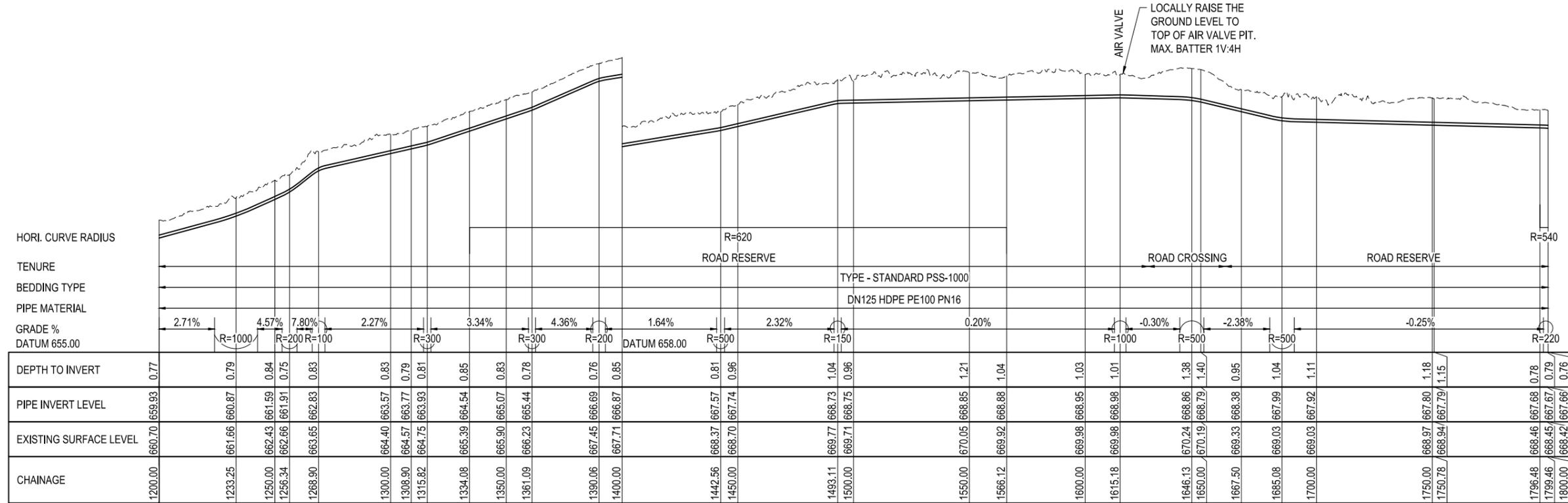
Client	URALLA SHIRE COUNCIL
Project	BUNDARRA SEWERAGE SCHEME
Title	RISEING MAIN PLAN AND LONGITUDINAL SECTION 2 OF 5
Original Size	A1
Drawing No:	22-19174-W051
Rev:	2



PLAN  
SCALE 1:1000

NOTES:

1. REFER DRG 22-19174-G002 FOR LEGEND.
2. TRENCHSTOPS TO BE INSTALLED ON PIPES WITH GRADES GREATER THAN 5% IN ACCORDANCE WITH WAT-1209.



LONGITUDINAL SECTION  
SCALE HOR 1:1000 VER 1:100



**WARNING**  
SERVICES SHOWN ON THIS DRAWING ARE APPROXIMATE ONLY. THE EXACT LOCATION IS TO BE CONFIRMED ON SITE BY CONTRACTOR PRIOR TO COMMENCEMENT OF WORKS.

FOR CONSTRUCTION

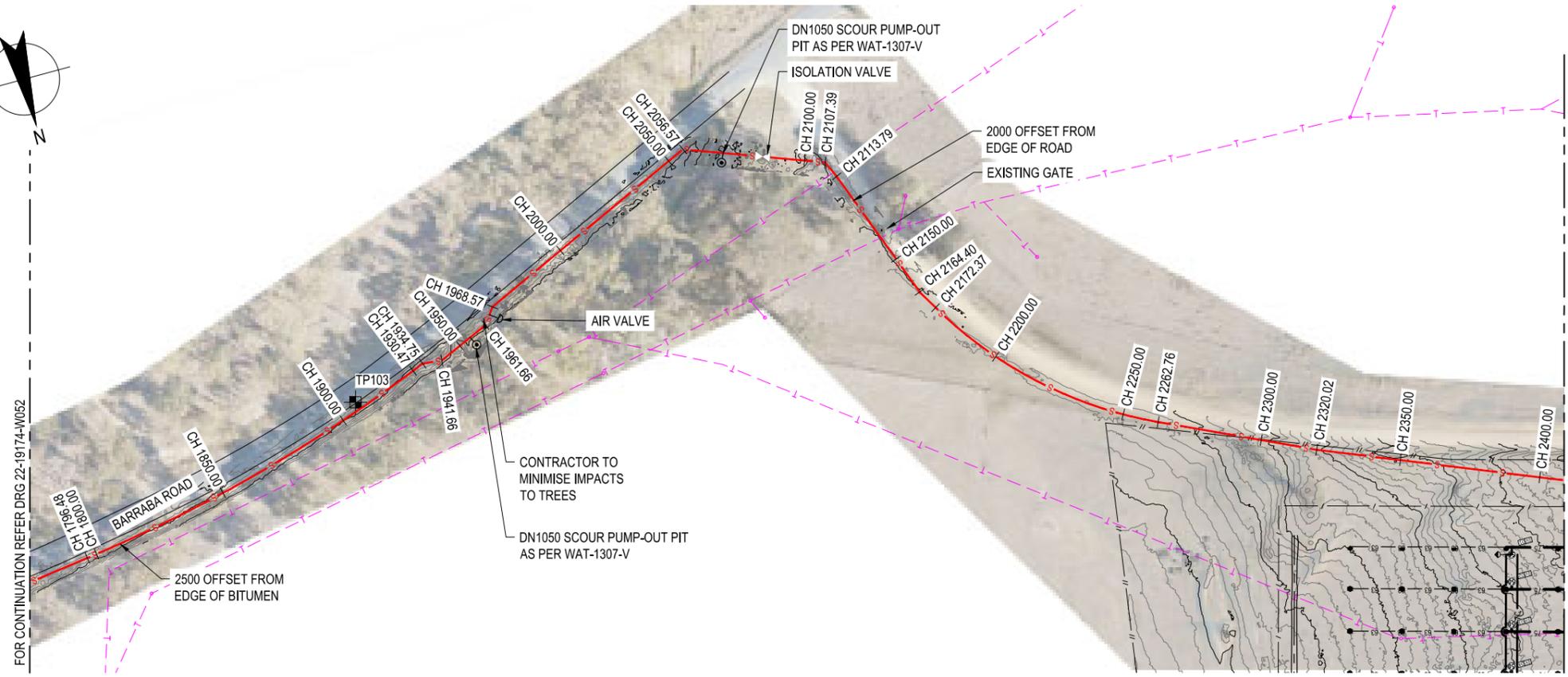
No	Revision	Note: * indicates signatures on original issue of drawing or last revision of drawing	Drawn	Job Manager	Project Director	Date
2	ISSUED FOR CONSTRUCTION		JZL	AMS	LMS	02.10.20
1	ISSUED FOR TENDER		JAR	AMS	LMS	01.10.19
0	FINAL DETAILED DESIGN		LAC	AMS	LMS	20.06.19



**GHD**  
GHD Tower, Level 3  
24 Honeyuckie Drive, Newcastle NSW 2300 Australia  
PO Box 5403 Hunter Rgn Mail Cent, NSW 2310  
T 61 2 4979 9999 F 61 2 4979 9988  
E ntlmail@ghd.com W www.ghd.com

DO NOT SCALE	
Conditions of Use. This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.	Drawn L. CEDILLA Designer M. BLANDFORD Drafting Check M. BUMOTAD Design Check A. MUNOZ Approved (Project Director) L. SYLVA Date 17.06.19 Scale AS SHOWN

Client	URALLA SHIRE COUNCIL
Project	BUNDARRA SEWERAGE SCHEME
Title	RISEING MAIN PLAN AND LONGITUDINAL SECTION 3 OF 5
Original Size	A1
Drawing No:	22-19174-W052
Rev:	2

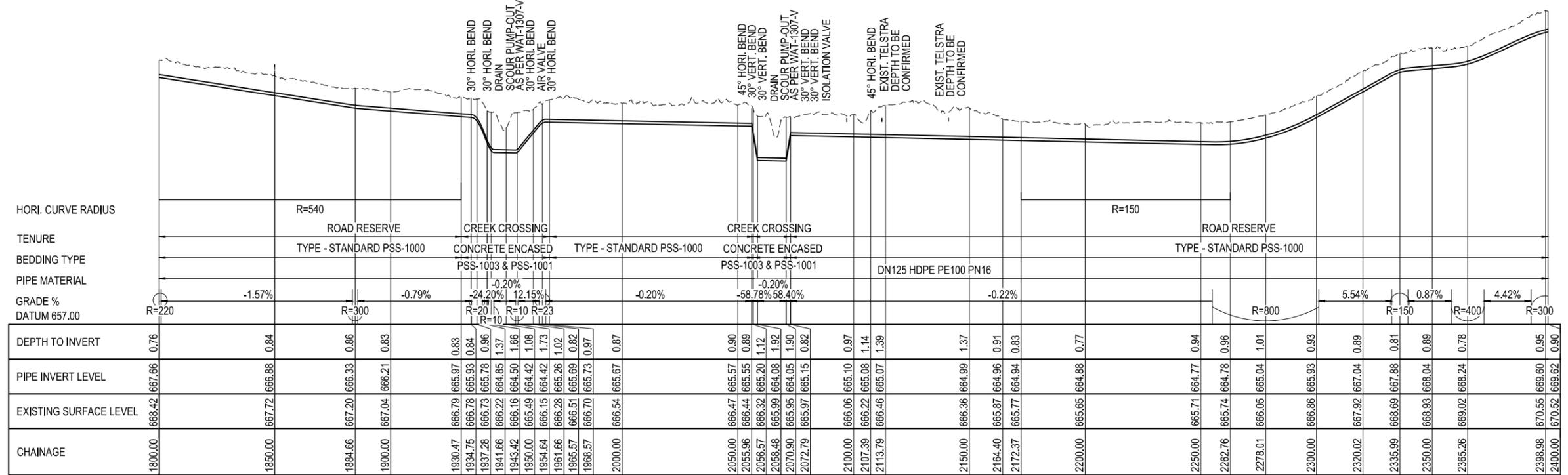


KEY PLAN  
NTS

PLAN  
SCALE 1:1000

NOTES:

- REFER DRG 22-19174-G002 FOR LEGEND.
- TRENCHSTOPS TO BE INSTALLED ON PIPES WITH GRADES GREATER THAN 5% IN ACCORDANCE WITH WAT-1209.



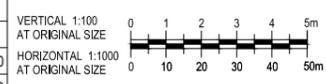
LONGITUDINAL SECTION  
SCALE HOR 1:1000 VER 1:100



**WARNING**  
SERVICES SHOWN ON THIS DRAWING ARE APPROXIMATE ONLY. THE EXACT LOCATION IS TO BE CONFIRMED ON SITE BY CONTRACTOR PRIOR TO COMMENCEMENT OF WORKS.

FOR CONSTRUCTION

No	Revision	Note	Drawn	Job Manager	Project Director	Date
2	ISSUED FOR CONSTRUCTION		JZL	AMS	LMS	02.10.20
1	ISSUED FOR TENDER		JAR	AMS	LMS	01.10.19
0	FINAL DETAILED DESIGN		LAC	AMS	LMS	20.06.19



**GHD**  
GHD Tower, Level 3  
24 Honeyysuckle Drive, Newcastle NSW 2300 Australia  
PO Box 5403 Hunter Rgn Mail Cent, NSW 2310  
T 61 2 4979 9999 F 61 2 4979 9988  
E ntlmail@ghd.com W www.ghd.com

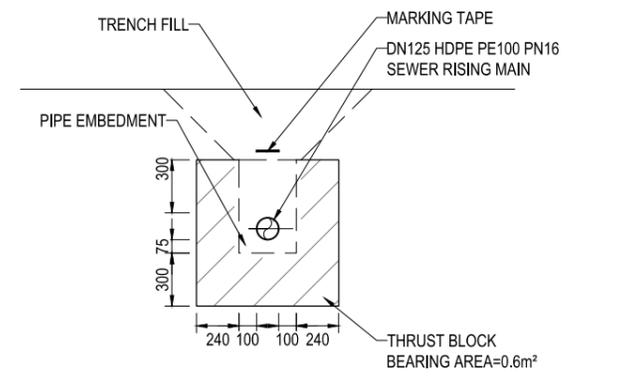
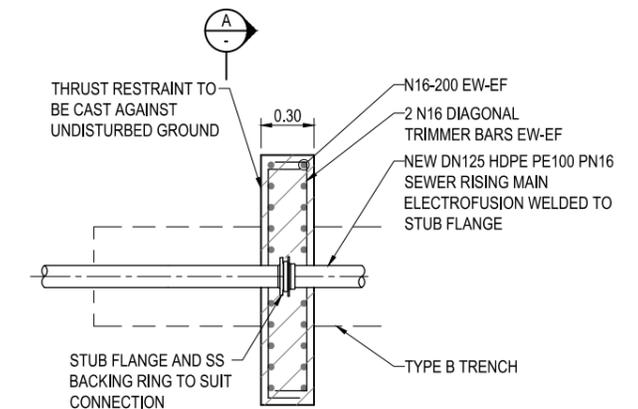
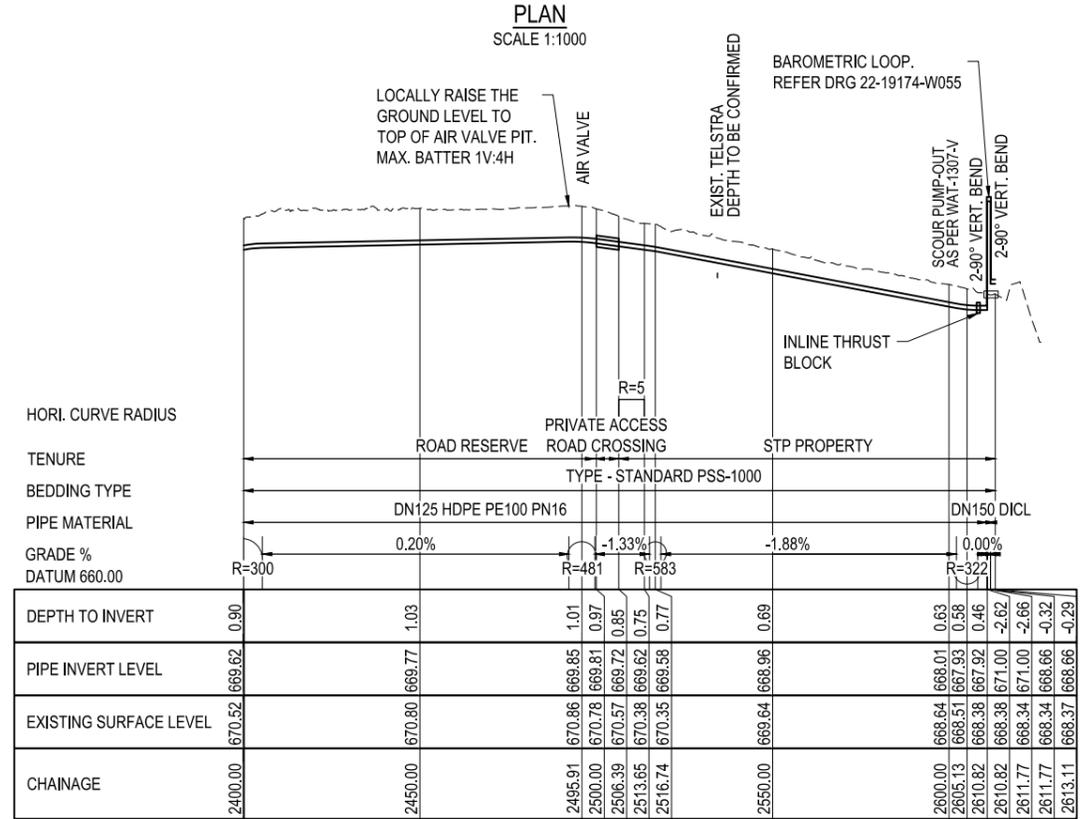
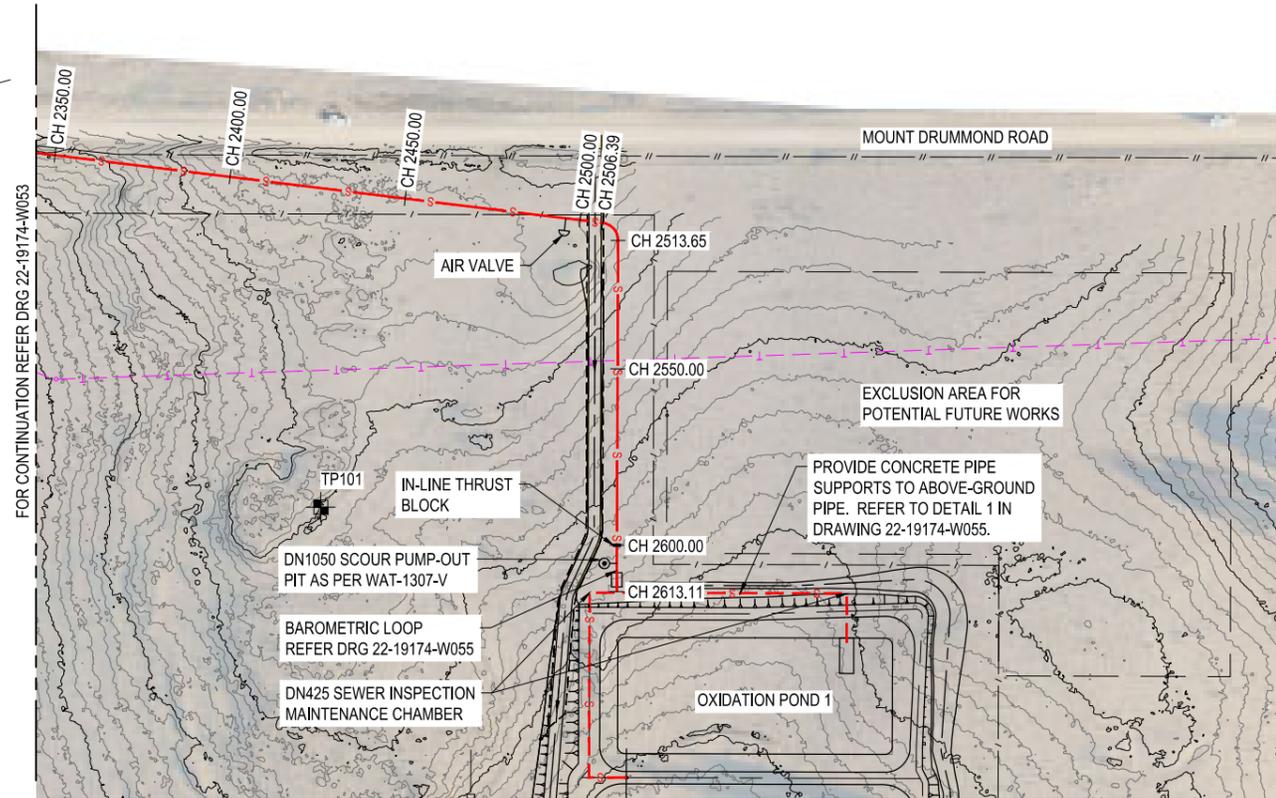
DO NOT SCALE	
Conditions of Use. This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.	Drawn L. CEDILLA Drafting Check M. BUMOTAD Approved (Project Director) L. SYLVA Date 17.06.19 Scale AS SHOWN

Designer M. BLANDFORD Design Check A. MUNOZ	Client <b>URALLA SHIRE COUNCIL</b> Project <b>BUNDARRA SEWERAGE SCHEME</b> Title <b>RISE MAIN PLAN AND LONGITUDINAL SECTION 4 OF 5</b>
This Drawing must not be used for Construction unless signed as Approved	Original Size <b>A1</b> Drawing No: <b>22-19174-W053</b> Rev: <b>2</b>

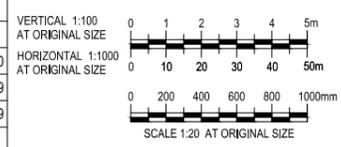
**NOTE:**

- 1. REFER DRG 22-19174-G002 FOR LEGEND.

SEWER RISING MAIN SETOUT TABLE			
CHAINAGE	EASTING	NORTHING	REMARK
0.00	314256.499	6660592.207	START OF ALIGNMENT
1.57	314258.062	6660592.378	90° HORI. BEND
11.64	314259.153	6660582.369	BEG. OF HORI. CURVE
36.70	314245.057	6660564.738	END OF HORI. CURVE
69.90	314212.073	6660560.984	AIR VALVE
382.06	313901.910	6660525.685	BEG. OF HORI. CURVE
474.95	313826.864	6660476.755	END OF HORI. CURVE
503.49	313812.470	6660452.107	BEG. OF HORI. CURVE
508.74	313810.663	6660447.216	END OF HORI. CURVE
513.11	313809.884	6660442.912	BEG. OF HORI. CURVE / SCOUR VALVE
518.99	313809.983	6660437.070	END OF HORI. CURVE
532.27	313812.790	6660424.086	BEG. OF HORI. CURVE
537.38	313813.440	6660419.028	END OF HORI. CURVE
713.66	313820.975	6660242.911	BEG. OF HORI. CURVE
752.69	313816.815	6660204.248	AIR VALVE
788.95	313802.834	6660170.915	END OF HORI. CURVE
884.60	313753.949	6660088.699	BEG. OF HORI. CURVE
920.58	313734.014	6660058.773	ISOLATION VALVE
1062.36	313630.364	6659963.353	END OF HORI. CURVE
1334.08	313398.114	6659822.364	BEG. OF HORI. CURVE
1566.12	313178.400	6659752.069	END OF HORI. CURVE
1615.18	313129.705	6659746.073	AIR VALVE
1796.48	312949.665	6659724.897	BEG. OF HORI. CURVE
1930.47	312820.385	6659691.003	END OF HORI. CURVE
1934.75	312816.412	6659689.414	30° HORI. BEND
1941.66	312809.537	6659690.142	30° HORI. BEND
1954.61	312797.676	6659684.874	SCOUR VALVE
1961.66	312791.260	6659682.023	30° HORI. BEND
1965.57	312788.957	6659678.860	AIR VALVE
1968.58	312787.191	6659676.434	30° HORI. BEND
2056.57	312707.045	6659640.103	45° HORI. BEND
2070.90	312693.624	6659645.122	SCOUR VALVE
2085.14	312680.362	6659650.054	ISOLATION VALVE
2107.39	312659.447	6659657.902	30° HORI. BEND
2172.38	312635.023	6659718.008	BEG. OF HORI. CURVE
2262.76	312569.254	6659778.000	END OF HORI. CURVE
2495.91	312354.574	6659868.802	AIR VALVE
2506.39	312344.864	6659872.768	BEG. OF HORI. CURVE
2513.65	312341.935	6659878.725	END OF HORI. CURVE
2605.13	312366.244	6659966.914	SCOUR VALVE
2613.11	312368.365	6659974.608	BAROMETRIC LOOP - END OF ALIGNMENT



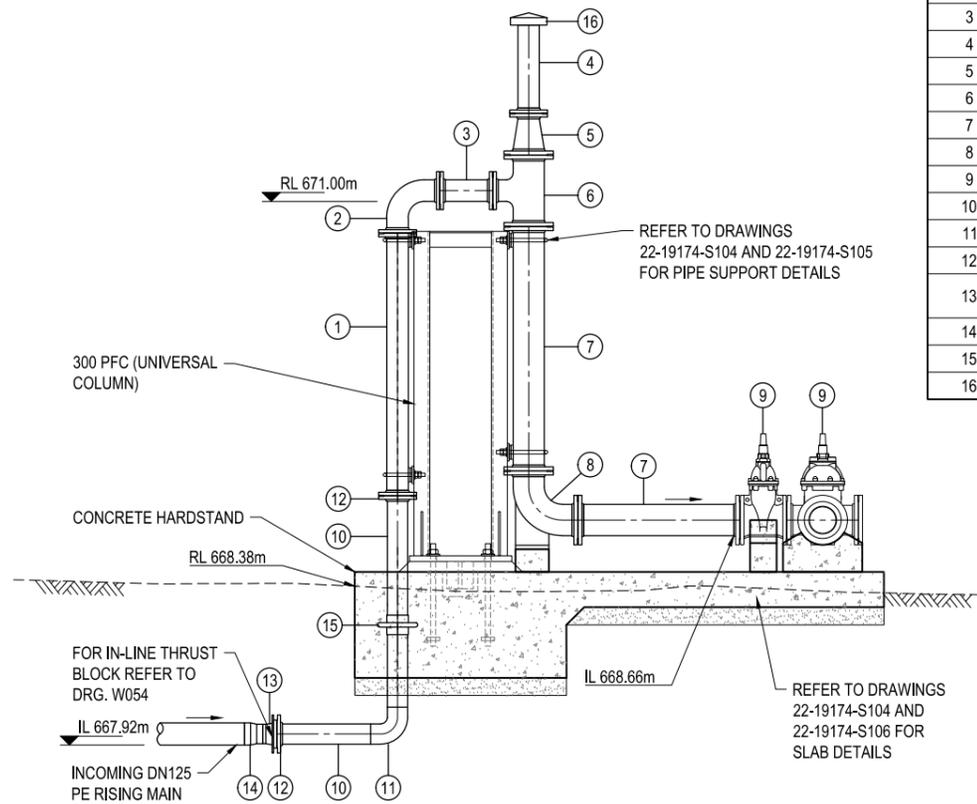
**WARNING**  
SERVICES SHOWN ON THIS DRAWING ARE APPROXIMATE ONLY. THE EXACT LOCATION IS TO BE CONFIRMED ON SITE BY CONTRACTOR PRIOR TO COMMENCEMENT OF WORKS.



<b>DO NOT SCALE</b> Conditions of Use. This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.	Drawn L. CEDILLA	Designer J. CAUSE
	Drafting Check M. BUMOTAD	Design Check A. MUNOZ
	Approved (Project Director) L. SYLVA	Date 17.06.19
	Date AS SHOWN	This Drawing must not be used for Construction unless signed as Approved

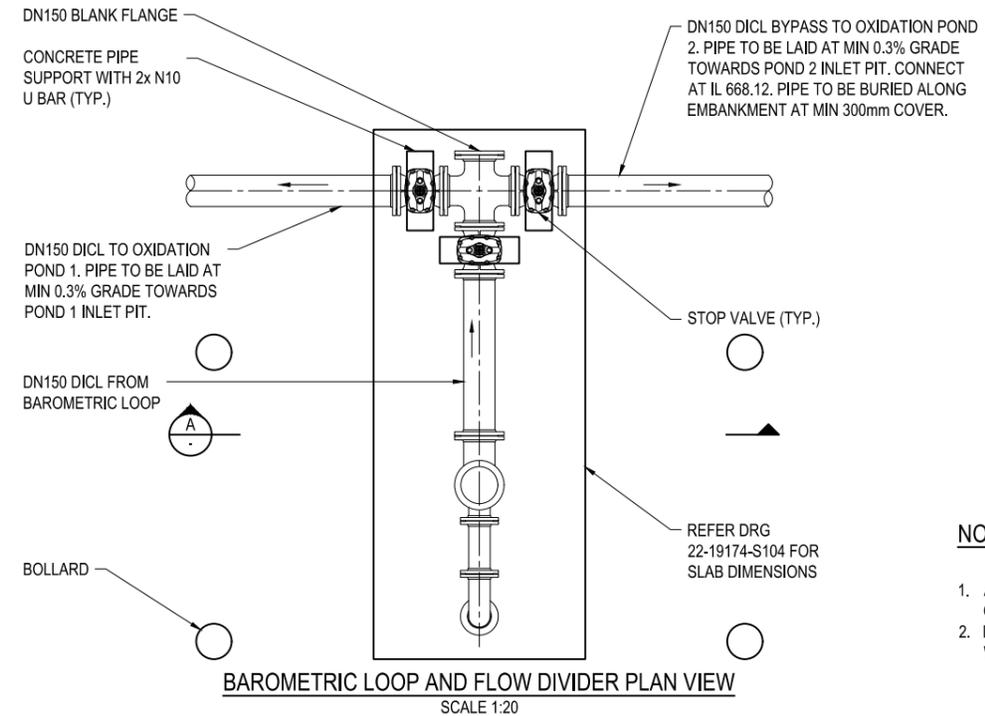
Client	<b>URALLA SHIRE COUNCIL</b>
Project	<b>BUNDARRA SEWERAGE SCHEME</b>
Title	<b>RISING MAIN PLAN AND LONGITUDINAL SECTION 5 OF 5</b>
Original Size	A1
Drawing No:	<b>22-19174-W054</b>
Rev:	<b>2</b>

**FOR CONSTRUCTION**

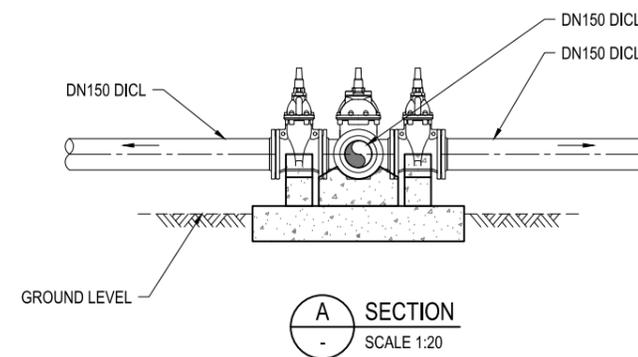


**BAROMETRIC LOOP DETAIL**  
SCALE 1:20

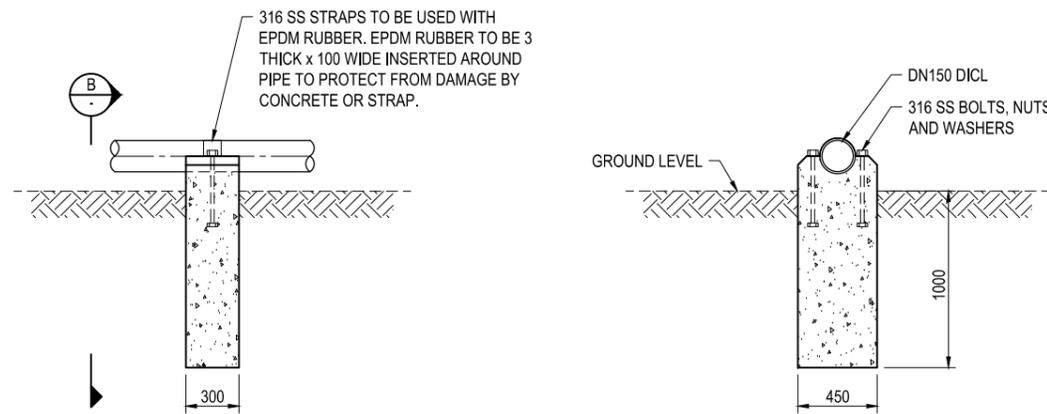
SCHEDULE OF PIPES AND FITTINGS	
ITEM NO.	DESCRIPTION
1	DN100 FL-FL DICL PN16 PIPE (LTS)
2	DN100 FL-FL DICL 90° BEND
3	DN100 FL-FL DICL PN16 PIPE (0.30m)
4	DN100 FL-SP DICL PN16 PIPE (0.50m)
5	DN150 x DN100 FL-FL DICL TAPER
6	DN150 x DN150 x DN100 FL-FL DICL TEE
7	DN150 FL-FL DICL PN16 PIPE (LTS)
8	DN150 FL-FL DICL 90° DUCKFOOT BEND
9	DN150 STOP VALVE
10	DN100 SS316 PIPE (LTS)
11	DN100 SS316 90° BEND WITH WELDED JOINTS
12	DN100 SS316 FLANGE TO TABLE D AS2129
13	DN110 STUB FLANGE WITH BACKING RING WITH PCD 178mm
14	DN125 x DN110 PE TAPER
15	DN100 PUDDLE FLANGE
16	DN100 VENT COWL



**BAROMETRIC LOOP AND FLOW DIVIDER PLAN VIEW**  
SCALE 1:20



**A SECTION**  
SCALE 1:20



**1 DETAIL**  
W054 SCALE 1:20

**B SECTION**  
SCALE 1:20

**PIPE SUPPORT DETAIL**

**NOTES:**

1. ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE SHOWN.
2. PIPE SUPPORT IN ACCORDANCE WITH WAT-1310.

**FOR CONSTRUCTION**

No	Revision	Note: * indicates signatures on original issue of drawing or last revision of drawing	Drawn	Job Manager	Project Director	Date
3	ISSUED FOR CONSTRUCTION		JZL	AMS	LMS	02.10.20
2	REISSUED FOR TENDER		JAR	AMS	LMS	10.12.19
1	ISSUED FOR TENDER		JAR	AMS	LMS	01.10.19
0	FINAL DETAILED DESIGN		LAC	AMS	LMS	20.06.19



GHD Tower, Level 3  
24 Honeysuckle Drive, Newcastle NSW 2300 Australia  
PO Box 5403 Hunter Rgn Mail Cent. NSW 2310  
T 61 2 4979 9999 F 61 2 4979 9988  
E ntlmail@ghd.com W www.ghd.com

**DO NOT SCALE**

Conditions of Use.  
This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.

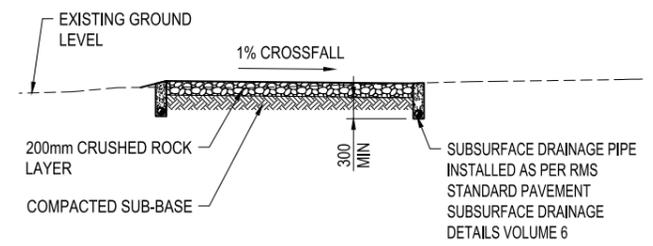
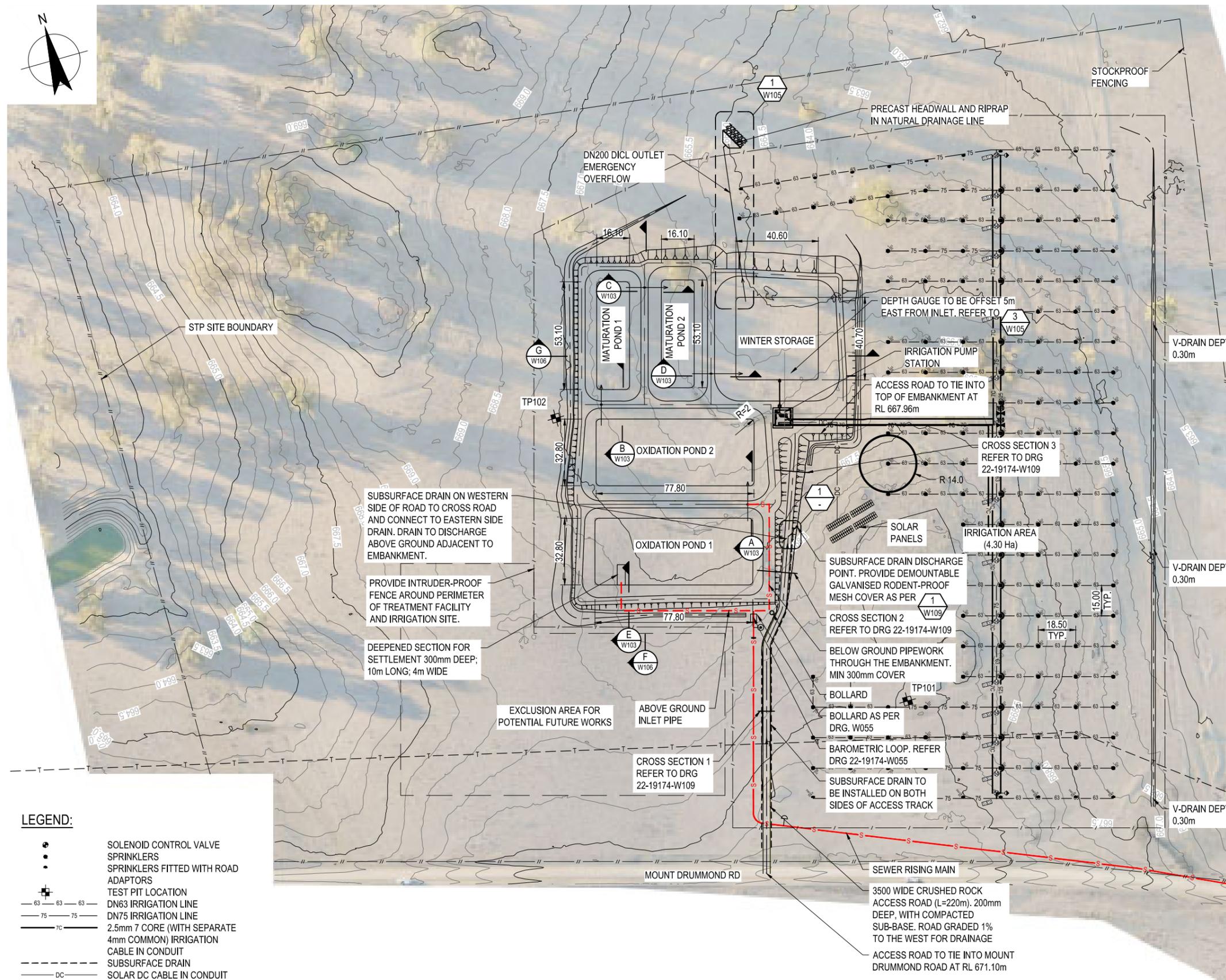
Drawn J. CONTRERAS  
Drafting Check M. BUMOTAD  
Approved (Project Director) L. SYLVA  
Date 17.06.19  
Scale 1:20

Designer J. CAUSE  
Design Check A. MUNOZ  
This Drawing must not be used for Construction unless signed as Approved

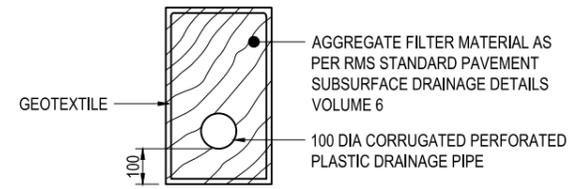
Client **URALLA SHIRE COUNCIL**  
Project **BUNDARRA SEWERAGE SCHEME**  
Title **INLET WORKS**

Original Size **A1** Drawing No: **22-19174-W055**

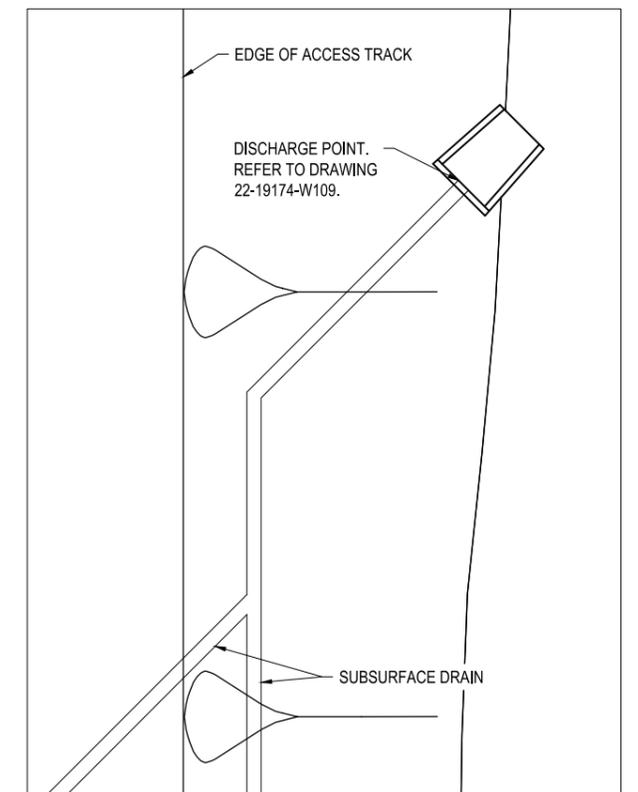
Rev: **3**



**ACCESS ROAD TYPICAL ROAD SECTION**  
SCALE 1:50



**SUBSURFACE DRAIN DETAIL**  
SCALE 1:10

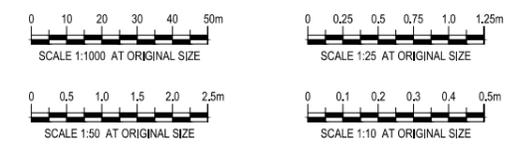


**1 DETAIL**  
SCALE 1:25

- LEGEND:**
- SOLENOID CONTROL VALVE
  - SPRINKLERS
  - SPRINKLERS FITTED WITH ROAD ADAPTORS
  - ⊕ TEST PIT LOCATION
  - 63 — 63 — 63 — DN63 IRRIGATION LINE
  - 75 — 75 — 75 — DN75 IRRIGATION LINE
  - 70 — 2.5mm 7 CORE (WITH SEPARATE 4mm COMMON) IRRIGATION CABLE IN CONDUIT
  - — — SUBSURFACE DRAIN
  - DC — SOLAR DC CABLE IN CONDUIT

**PLAN**  
SCALE 1:1000

4	ISSUED FOR CONSTRUCTION	RMG	AMS	LMS	02.10.20	
3	REISSUED FOR TENDER	JAR	AMS	LMS	10.12.19	
2	REISSUED FOR TENDER	JZL	AMS	LMS	29.11.19	
1	ISSUED FOR TENDER	JAR	AMS	LMS	01.10.19	
0	FINAL DETAILED DESIGN	LAC	AMS	LMS	20.06.19	
No	Revision	Note: * Indicates signatures on original issue of drawing or last revision of drawing	Drawn	Job Manager	Project Director	Date



**GHD**  
GHD Tower, Level 3  
24 Honeysuckle Drive, Newcastle NSW 2300 Australia  
PO Box 5403 Hunter Rgn Mail Cent, NSW 2310  
T 61 2 4979 9999 F 61 2 4979 9988  
E ntmial@ghd.com W www.ghd.com

**DO NOT SCALE**

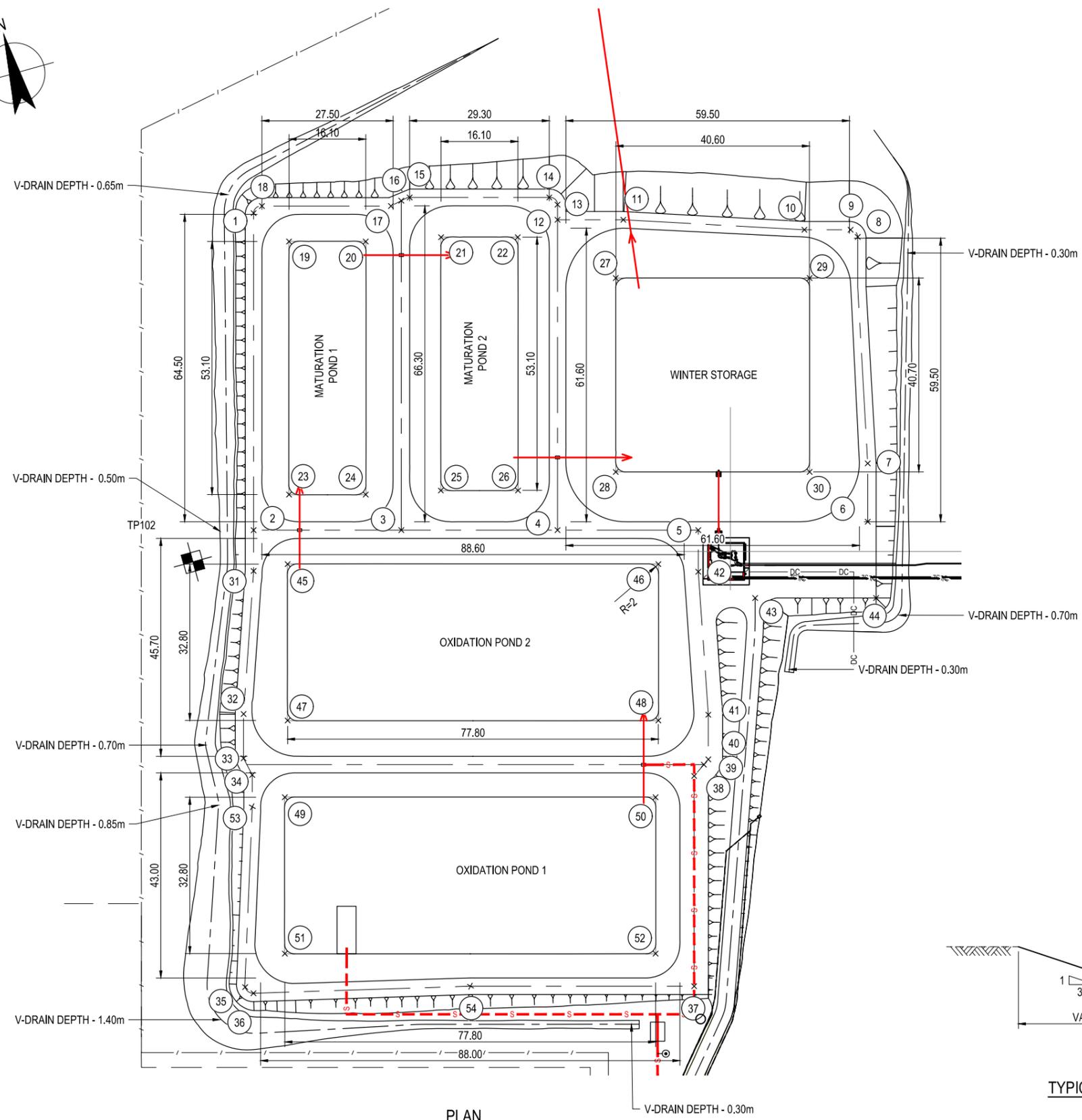
Conditions of Use:  
This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.

Drawn	L. CEDILLA	Designer	K. NGUYEN
Drafting Check	M. BUMOTAD	Design Check	A. MUNOZ
Approved (Project Director)	L. SYLVA	Date	17.06.19
Scale	AS SHOWN	This Drawing must not be used for construction unless signed as Approved	

**FOR CONSTRUCTION**

Client **URALLA SHIRE COUNCIL**  
Project **BUNDARRA SEWERAGE SCHEME**  
Title **STP SITE LAYOUT**

Original Size **A1** Drawing No: **22-19174-W100** Rev: **4**



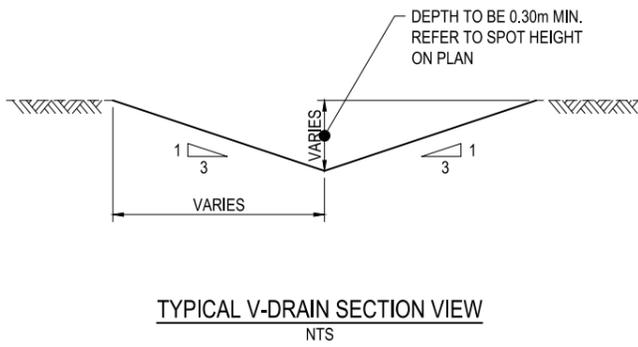
PLAN  
SCALE 1:500

LAGOON SETOUT POINTS			
POINT	EASTING	NORTHING	ELEVATION
1	312331.194	6660159.429	667.885
2	312313.581	6660095.303	667.930
3	312343.476	6660087.094	667.990
4	312375.105	6660078.407	667.990
5	312403.600	6660070.582	667.940
6	312438.344	6660062.854	667.935
7	312441.588	6660074.667	667.870
8	312452.143	6660121.027	667.185
9	312451.094	6660122.871	667.185
10	312441.738	6660125.440	667.220
11	312405.651	6660137.529	667.900
12	312392.350	6660141.183	667.889
13	312393.195	6660144.270	667.885
14	312391.903	6660146.179	667.885
15	312363.649	6660153.938	667.885
16	312361.780	6660153.744	667.885
17	312359.388	6660153.242	667.904
18	312333.279	6660160.412	667.885
19	312336.802	6660151.719	666.020
20	312352.327	6660147.455	666.020
21	312367.802	6660144.138	665.720
22	312383.327	6660139.875	665.720
23	312322.740	6660100.515	666.020
24	312338.265	6660096.251	666.020
25	312353.679	6660092.900	665.720
26	312369.299	6660088.610	665.720
27	312400.875	6660126.170	664.420

LAGOON SETOUT POINTS			
POINT	EASTING	NORTHING	ELEVATION
28	312390.101	6660086.941	664.420
29	312440.120	6660115.392	664.420
30	312429.349	6660076.172	664.420
31	312311.308	6660087.021	667.985
32	312301.338	6660058.649	668.670
33	312298.878	6660049.692	668.680
34	312299.701	6660045.837	668.710
35	312286.477	6660003.305	669.090
36	312287.819	6660001.595	669.090
37	312377.401	6659978.533	668.685
38	312389.082	6660021.063	668.660
39	312391.686	6660022.832	668.675
40	312392.888	6660023.648	668.648
41	312395.364	6660032.664	668.630
42	312401.284	6660062.149	667.980
43	312411.309	6660053.687	667.960
44	312435.794	6660046.962	668.960
45	312318.584	6660086.515	666.220
46	312393.606	6660065.911	666.220
47	312309.897	6660054.886	666.220
48	312384.919	6660034.283	666.220
49	312305.069	6660039.516	667.020
50	312380.091	6660018.912	667.020
51	312296.383	6660007.887	667.020
52	312371.405	6659987.283	667.020
53	312297.935	6660039.399	668.71
54	312332.135	6659990.966	668.71

**NOTE:**

- INSTALL V-DRAIN TO LANDCOM'S SOIL AND CONSTRUCTION MANUAL 2004 (BLUE BOOK). DEPTH OF V-DRAIN IS VARIABLE. REFER TO SPOT HEIGHTS ON PLAN. CONTRACTOR TO LINEARLY GRADE V-DRAIN DEPTHS BETWEEN SPOT HEIGHT LOCATIONS. REFER TO TYPICAL V-DRAIN SECTION VIEW FOR DETAILS.



TYPICAL V-DRAIN SECTION VIEW  
NTS

**FOR CONSTRUCTION**

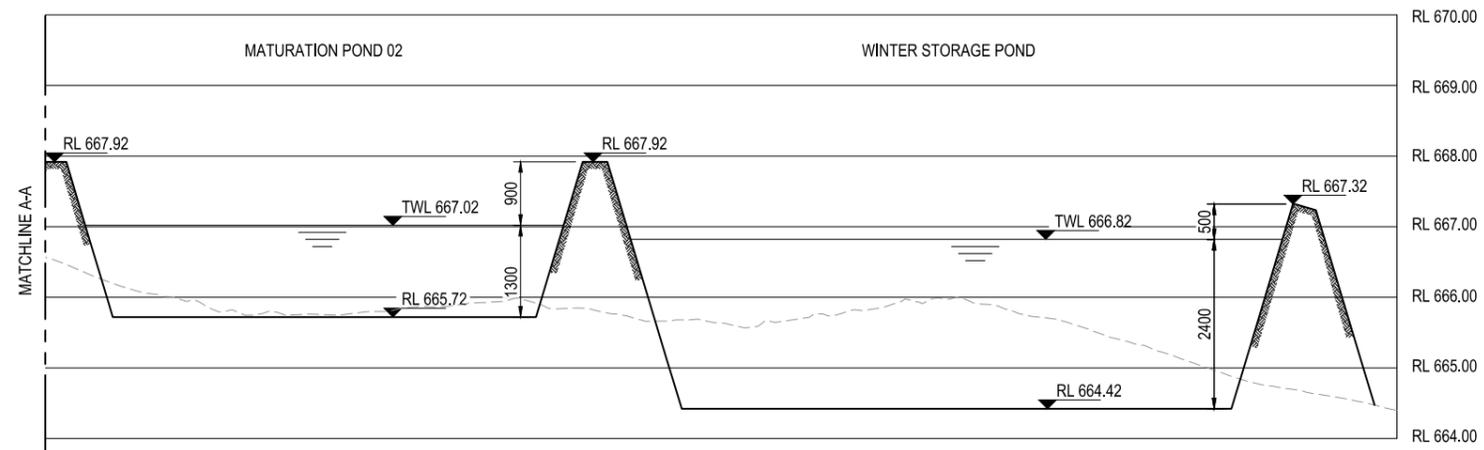
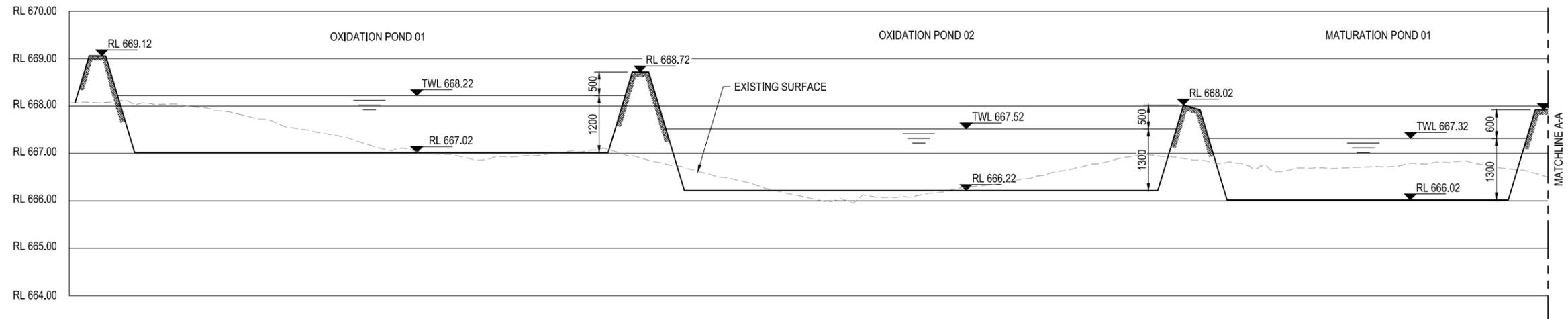
No	Revision	Note	Drawn	Job Manager	Project Director	Date
2	ISSUED FOR CONSTRUCTION		RMG	AMS	LMS	02.10.20
1	ISSUED FOR TENDER		JAR	AMS	LMS	01.10.19
0	FINAL DETAILED DESIGN		LAC	AMS	LMS	20.06.19



**GHD**  
 GHD Tower, Level 3  
 24 Honeysuckle Drive, Newcastle NSW 2300 Australia  
 PO Box 5403 Hunter Rgn Mail Cent, NSW 2310  
 T 61 2 4979 9999 F 61 2 4979 9988  
 E ntlmail@ghd.com W www.ghd.com

DO NOT SCALE	
Conditions of Use. This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.	Drawn L. CEDILLA Designer K. NGUYEN Drafting Check M. BUMOTAD Design Check A. MUNOZ Approved (Project Director) L. SYLVA Date 17.06.19 Scale AS SHOWN

Client	<b>URALLA SHIRE COUNCIL</b>
Project	<b>BUNDARRA SEWERAGE SCHEME</b>
Title	<b>STP SET-OUT PLAN AND PIPEWORK LAYOUT</b>
Original Size	A1
Drawing No:	<b>22-19174-W101</b>
Rev:	<b>2</b>



**HYDRAULIC PROFILE**  
 NOT TO SCALE

**FOR CONSTRUCTION**

No	Revision	Note: * indicates signatures on original issue of drawing or last revision of drawing	Drawn	Job Manager	Project Director	Date
2	ISSUED FOR CONSTRUCTION		RMG	AMS	LMS	02.10.20
1	ISSUED FOR TENDER		JAR	AMS	LMS	01.10.19
0	FINAL DETAILED DESIGN		LAC	AMS	LMS	20.06.19



GHD Tower, Level 3  
 24 Honeysuckle Drive, Newcastle NSW 2300 Australia  
 PO Box 5403 Hunter Rgn Mail Cent, NSW 2310  
 T 61 2 4979 9999 F 61 2 4979 9988  
 E ntlmail@ghd.com W www.ghd.com

**DO NOT SCALE**

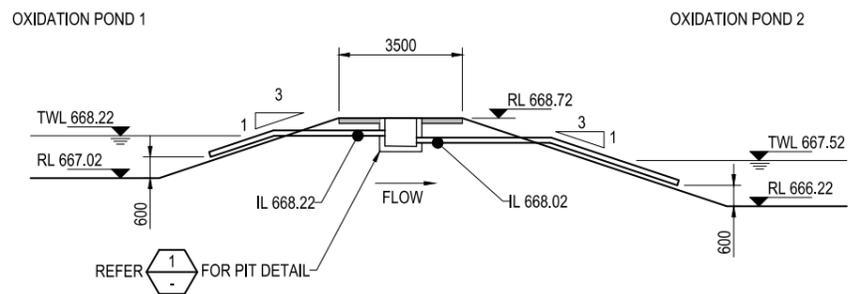
Conditions of Use.  
 This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.

Drawn	L. CEDILLA	Designer	K. NGUYEN
Drafting Check	M. BUMOTAD	Design Check	A. MUNOZ
Approved (Project Director)	L. SYLVA		
Date	17.06.19		
Scale	NTS		

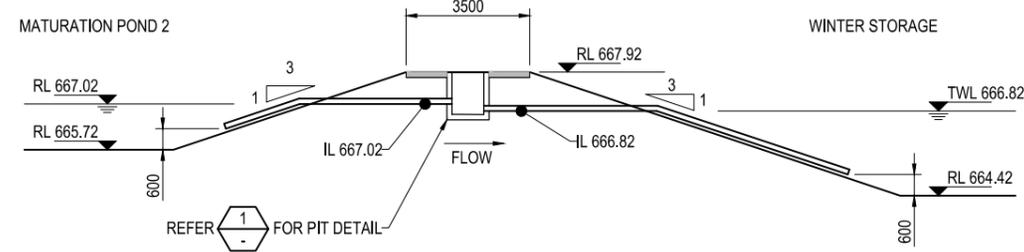
Client **URALLA SHIRE COUNCIL**  
 Project **BUNDARRA SEWERAGE SCHEME**  
 Title **HYDRAULIC PROFILE**

Original Size **A1** Drawing No: **22-19174-W102**

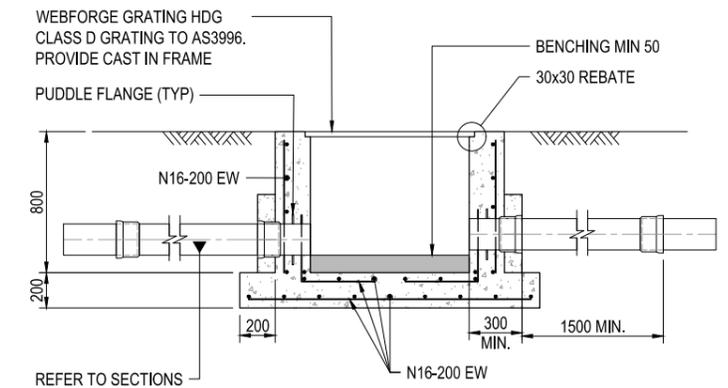
Rev: **2**



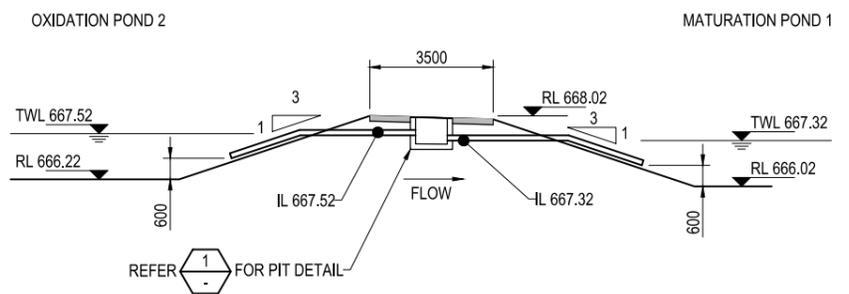
**A SECTION**  
W100 SCALE 1 : 100



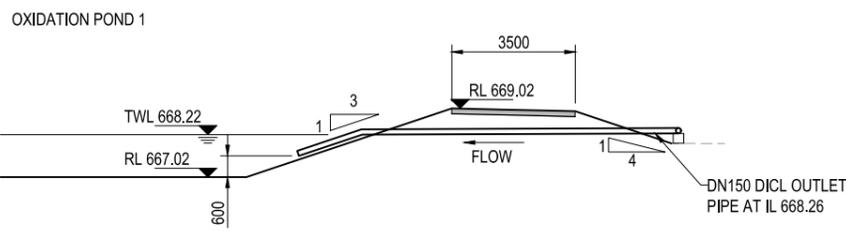
**D SECTION**  
W100 SCALE 1 : 100



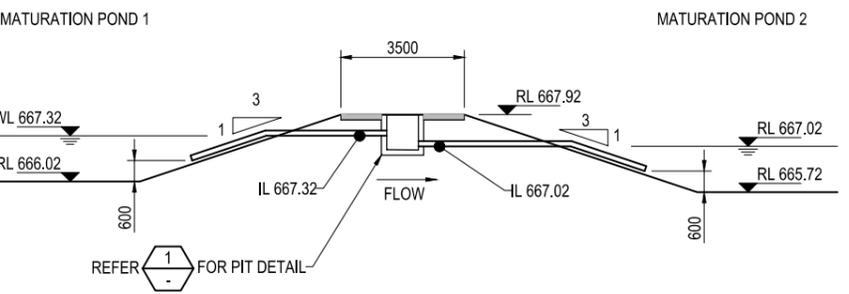
**H SECTION**  
SCALE 1 : 20



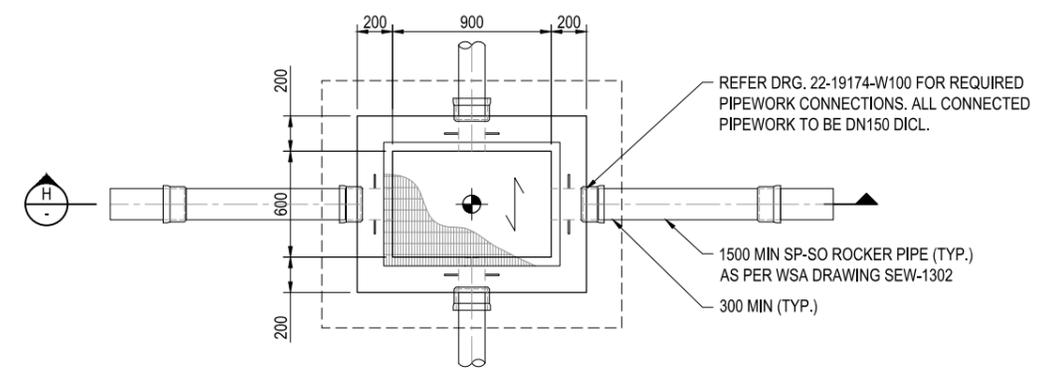
**B SECTION**  
W100 SCALE 1 : 100



**E SECTION**  
W100 SCALE 1 : 100



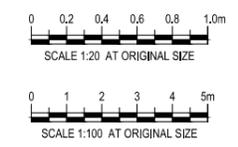
**C SECTION**  
W100 SCALE 1 : 100



**1 DETAIL**  
SCALE 1 : 20

**FOR CONSTRUCTION**

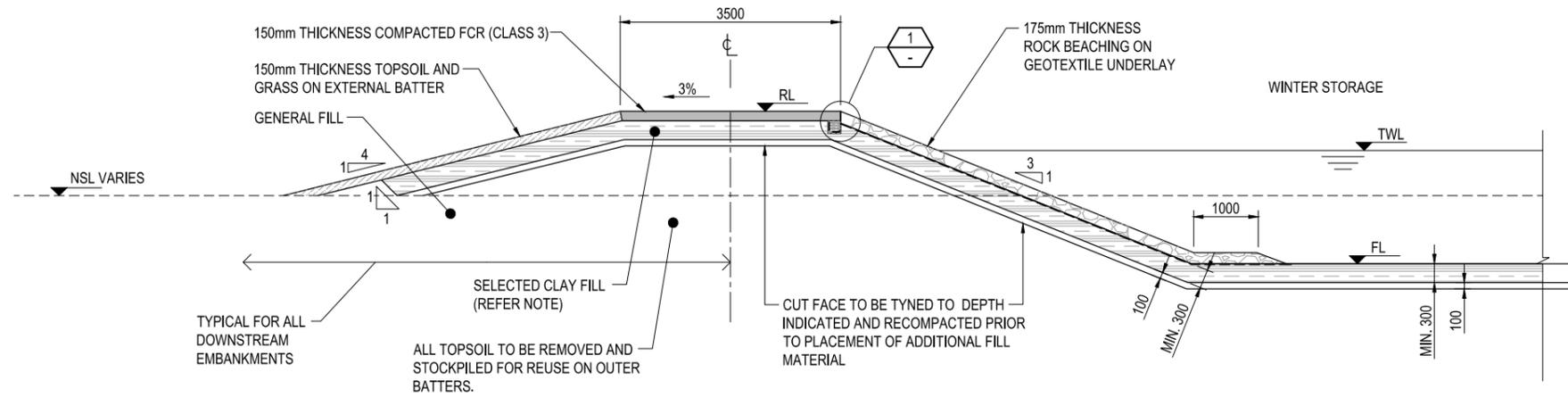
No	Revision	Note: * indicates signatures on original issue of drawing or last revision of drawing	Drawn	Job Manager	Project Director	Date
3	ISSUED FOR CONSTRUCTION		RMG	AMS	LMS	02.10.20
2	REISSUED FOR TENDER		JZL	AMS	LMS	29.11.19
1	ISSUED FOR TENDER		JAR	AMS	LMS	01.10.19
0	FINAL DETAILED DESIGN		LAC	AMS	LMS	20.06.19



**GHD**  
 GHD Tower, Level 3  
 24 Honeysuckle Drive, Newcastle NSW 2300 Australia  
 PO Box 5403 Hunter Rgn Mail Cent, NSW 2310  
 T 61 2 4979 9999 F 61 2 4979 9988  
 E ntlmail@ghd.com W www.ghd.com

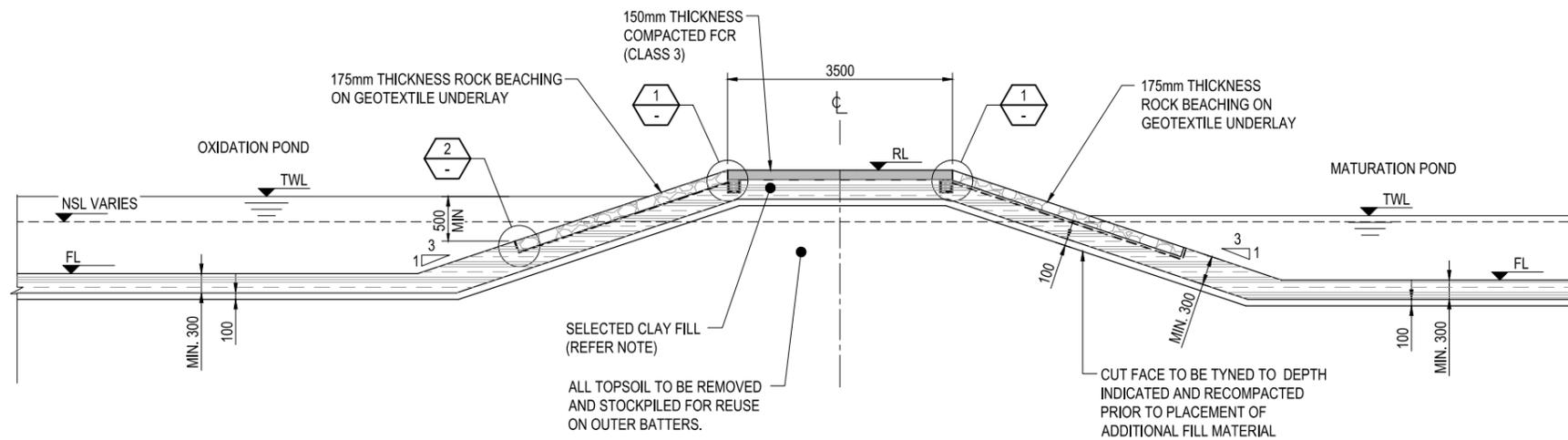
DO NOT SCALE	
Conditions of Use: This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.	Drawn L. CEDILLA Designer K. NGUYEN Drafting Check M. BUMOTAD Design Check A. MUNOZ Approved (Project Director) L. SYLVA Date 17.06.19 Scale AS SHOWN

Client	<b>URALLA SHIRE COUNCIL</b>
Project	<b>BUNDARRA SEWERAGE SCHEME</b>
Title	<b>SECTION AND PIT DETAILS</b>
Original Size	A1
Drawing No:	<b>22-19174-W103</b>
Rev:	<b>3</b>



**WINTER STORAGE TYPICAL EMBANKMENT**

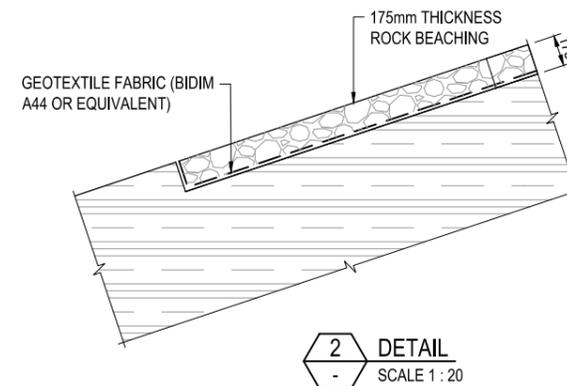
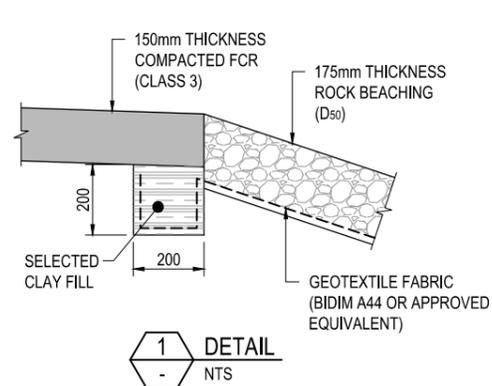
SCALE 1:50



**LAGOON TYPICAL EMBANKMENT**

SCALE 1:50

ROCK BEACHING (MIN. 500 BELOW TWL)	
POND	TOP WATER LEVEL (TWL)
OXIDATION POND 1	668.22
OXIDATION POND 2	667.52
MATURATION POND 1	667.32
MATURATION POND 2	667.02

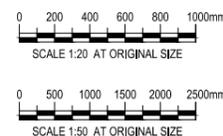


**NOTE:**

1. OUTERMOST 300 OF CLAY LINER TO FLOORS AND INTERNAL EMBANKMENTS TO BE STABILISED WITH 3% LIME.

**FOR CONSTRUCTION**

No	Revision	Note: * indicates signatures on original issue of drawing or last revision of drawing	Drawn	Job Manager	Project Director	Date
2	ISSUED FOR CONSTRUCTION		RMG	AMS	LMS	02.10.20
1	ISSUED FOR TENDER		JAR	AMS	LMS	01.10.19
0	FINAL DETAILED DESIGN		LAC	AMS	LMS	20.06.19

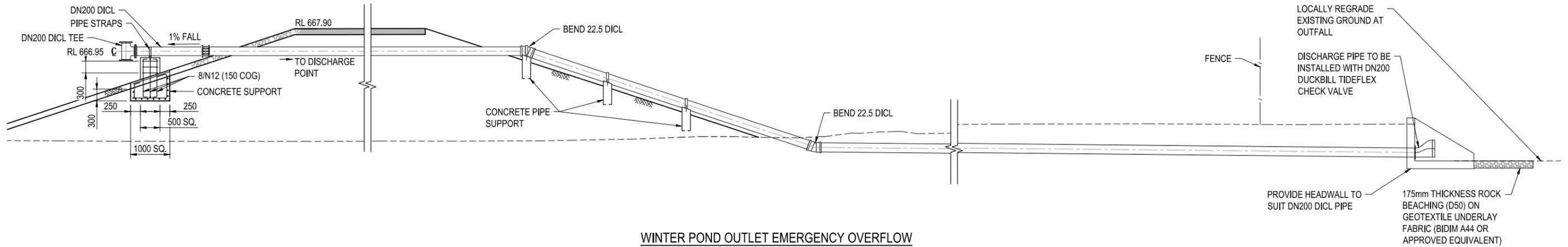


**GHD**  
 GHD Tower, Level 3  
 24 Honeysuckle Drive, Newcastle NSW 2300 Australia  
 PO Box 5403 Hunter Rgn Mail Cent, NSW 2310  
 T 61 2 4979 9999 F 61 2 4979 9988  
 E ntlmail@ghd.com W www.ghd.com

**DO NOT SCALE**  
 Conditions of Use:  
 This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.

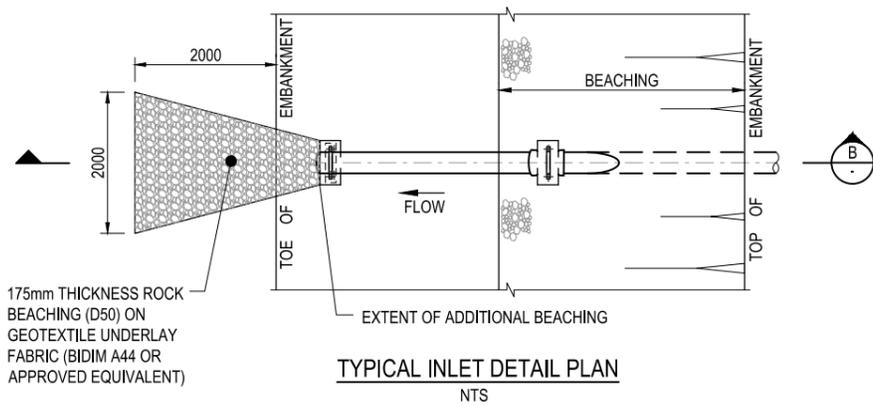
Drawn	L. CEDILLA	Designer	J. CAUSE
Drafting Check	M. BUMOTAD	Design Check	A. MUNOZ
Approved (Project Director)	L. SYLVA	Date	17.06.19
Scale	AS SHOWN	This Drawing must not be used for Construction unless signed as Approved	

Client	<b>URALLA SHIRE COUNCIL</b>		
Project	<b>BUNDARRA SEWERAGE SCHEME</b>		
Title	<b>STP EMBANKMENT TYPICAL SECTIONS</b>		
Original Size	A1	Drawing No:	<b>22-19174-W104</b>
Rev:	2		

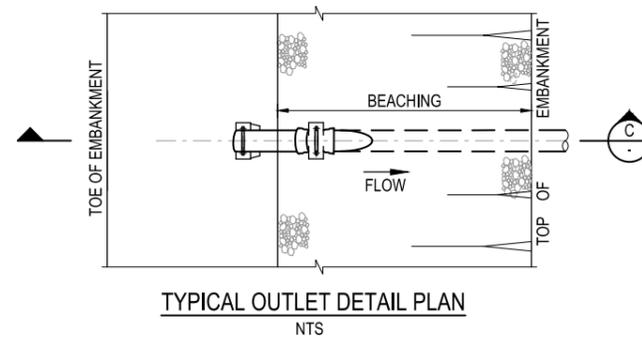


**WINTER POND OUTLET EMERGENCY OVERFLOW**

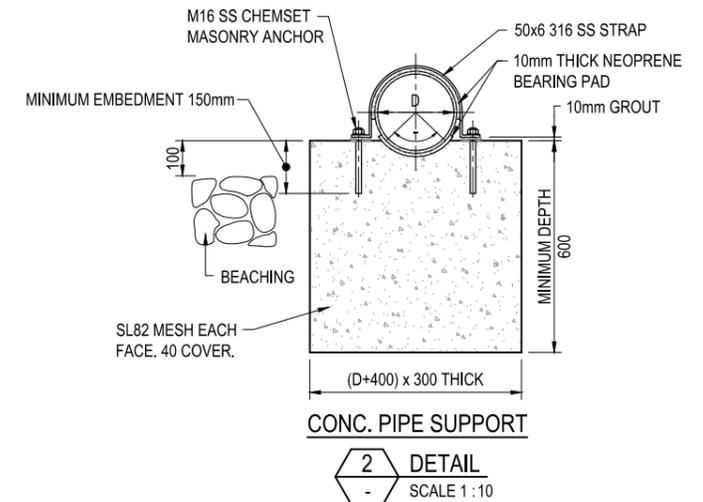
**1** DETAIL  
W100 SCALE 1:50



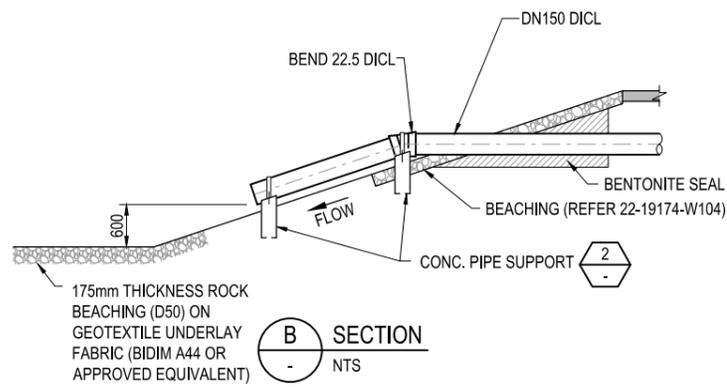
**TYPICAL INLET DETAIL PLAN**  
NTS



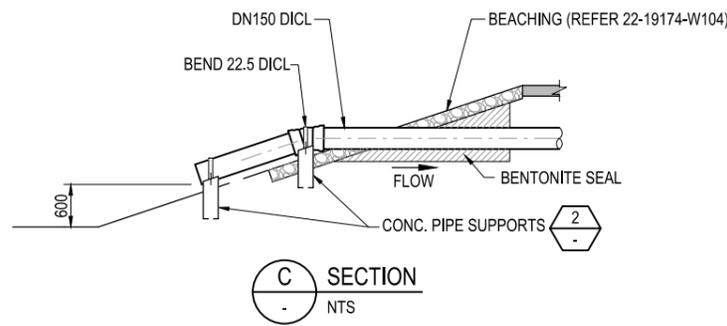
**TYPICAL OUTLET DETAIL PLAN**  
NTS



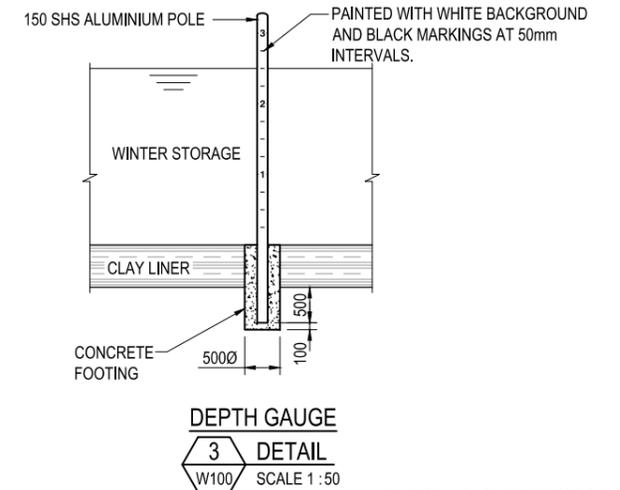
**2** DETAIL  
SCALE 1:10



**B** SECTION  
NTS



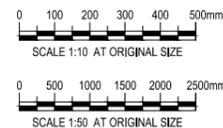
**C** SECTION  
NTS



**3** DETAIL  
W100 SCALE 1:50

**FOR CONSTRUCTION**

No	Revision	Note: * indicates signatures on original issue of drawing or last revision of drawing	Drawn	Job Manager	Project Director	Date
2	ISSUED FOR CONSTRUCTION		RMG	AMS	LMS	02.10.20
1	ISSUED FOR TENDER		JAR	AMS	LMS	01.10.19
0	FINAL DETAILED DESIGN		LAC	AMS	LMS	20.06.19



**DO NOT SCALE**  
Conditions of Use. This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.

Drawn	L. CEDILLA	Designer	J. CAUSE
Drafting Check	M. BUMOTAD	Design Check	A. MUNOZ
Approved (Project Director)	L. SYLVA	Date	17.06.19
Scale	AS SHOWN	This Drawing must not be used for Construction unless signed as Approved	

Client	<b>URALLA SHIRE COUNCIL</b>
Project	<b>BUNDARRA SEWERAGE SCHEME</b>
Title	<b>TYPICAL INLET AND OUTLET DETAILS</b>
Original Size	A1
Drawing No:	<b>22-19174-W105</b>

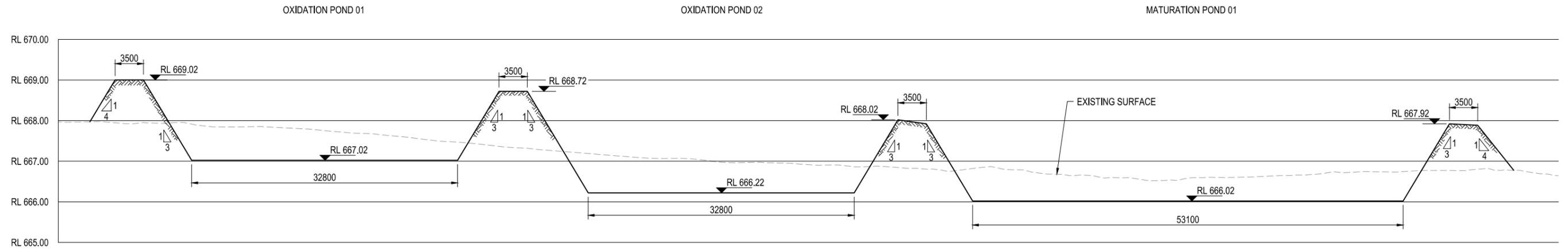
Rev: 2

DESIGN TO EXISTING SURFACE VOLUMES	
TOPSOIL STRIPPED FROM SITE (150mm)	3162 m <sup>3</sup>
TOTAL CUT WON	15247 m <sup>3</sup>
TOTAL CLAY WON FROM SITE	12088 m <sup>3</sup>
TOTAL CLAY REQUIRED	4615 m <sup>3</sup>
BALANCE CLAY REMAINING IN STOCKPILE	7473 m <sup>3</sup>
FILL MATERIAL EXCAVATED TO STOCKPILE	3159 m <sup>3</sup>
TOTAL FILL AVAILABLE IN STOCKPILE	10658 m <sup>3</sup>
TOTAL FILL REQUIRED	11488 m <sup>3</sup>
BALANCE FILL TO BE IMPORTED FROM THE STP SITE	830 m <sup>3</sup>

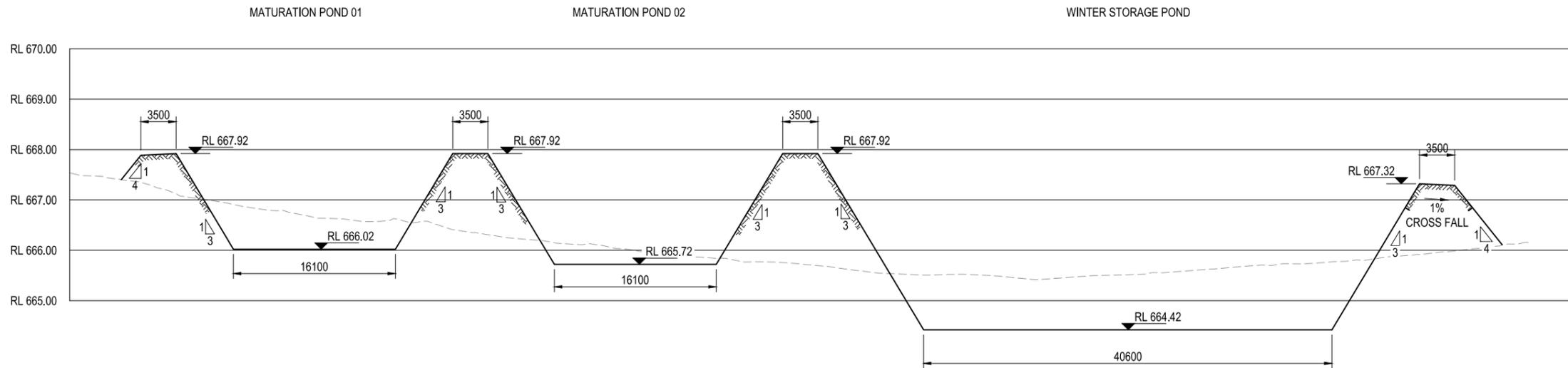
ROCK BEACHING REQUIRED	
OXIDATION POND 01	727 m <sup>2</sup>
OXIDATION POND 02	757 m <sup>2</sup>
MATURATION POND 01	529 m <sup>2</sup>
MATURATION POND 02	686 m <sup>2</sup>
WINTER STORAGE POND	2134 m <sup>2</sup>
TOTAL	4833 m <sup>2</sup>

**NOTE:**

- OUTERMOST 300 OF CLAY LINER TO FLOORS AND INTERNAL EMBANKMENTS TO BE STABILISED WITH 3% LIME.



**F SECTION**  
W100 SCALE HOR 1:250 VER 1:50



**G SECTION**  
W100 SCALE HOR 1:250 VER 1:50

**FOR CONSTRUCTION**

No	Revision	Note	Drawn	Job Manager	Project Director	Date
3	ISSUED FOR CONSTRUCTION		RMG	AMS	LMS	02.10.20
2	REISSUED FOR TENDER		JZL	AMS	LMS	29.11.19
1	ISSUED FOR TENDER		JAR	AMS	LMS	01.10.19
0	FINAL DETAILED DESIGN		LAC	AMS	LMS	20.06.19



GHD Tower, Level 3  
24 Honeysuckle Drive, Newcastle NSW 2300 Australia  
PO Box 5403 Hunter Rgn Mail Cent. NSW 2310  
T 61 2 4979 9999 F 61 2 4979 9988  
E ntlmail@ghd.com W www.ghd.com

**DO NOT SCALE**

Conditions of Use.  
This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.

Drawn	L. CEDILLA	Designer	K. NGUYEN
Drafting Check	M. BUMOTAD	Design Check	A. MUNOZ
Approved (Project Director)	L. SYLVA		
Date	17.06.19		
Scale	AS SHOWN		

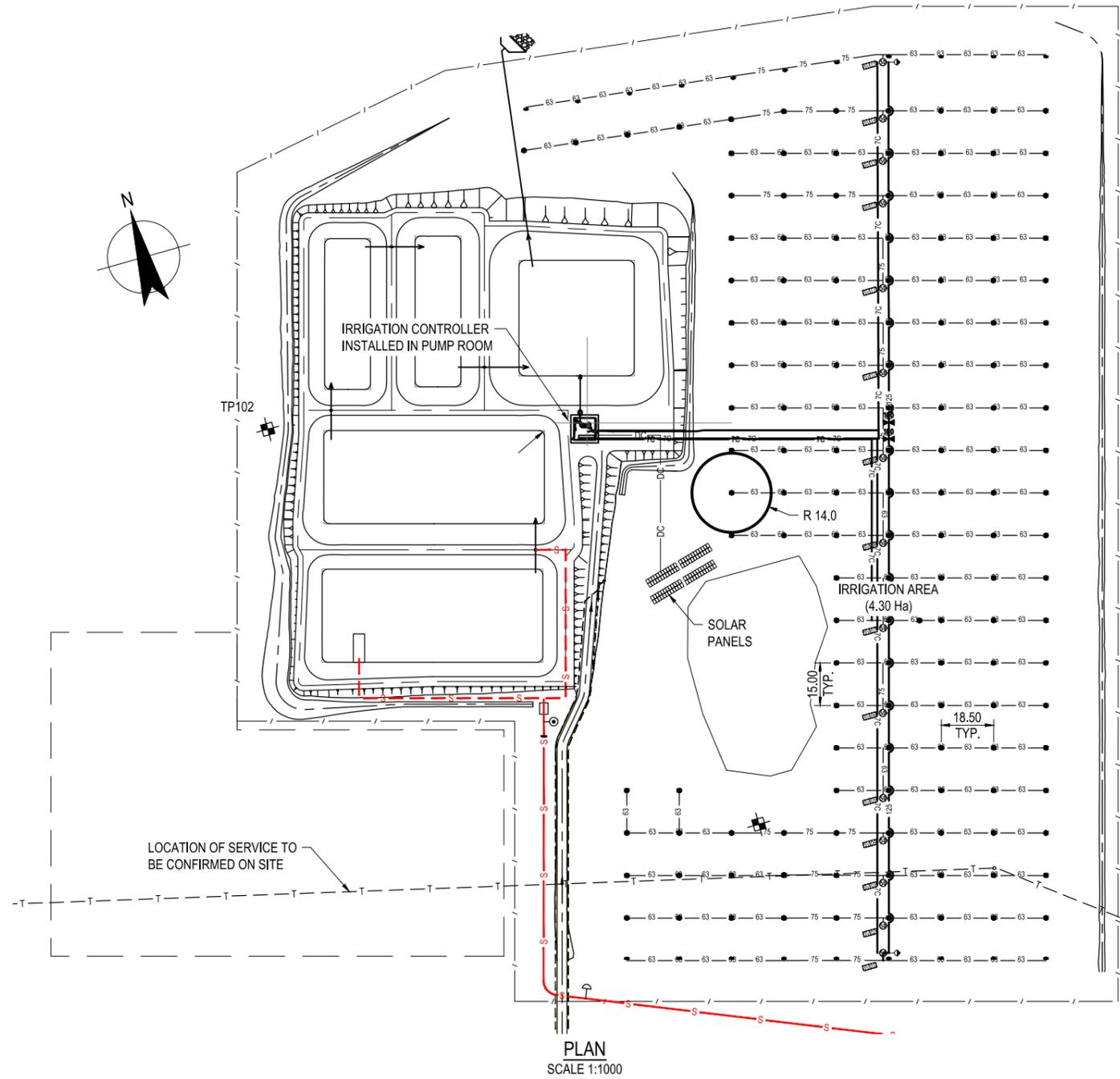
Client **URALLA SHIRE COUNCIL**  
Project **BUNDARRA SEWERAGE SCHEME**  
Title **EARTHWORKS**

Original Size **A1** Drawing No: **22-19174-W106**

Rev: 3

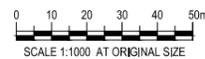
LEGEND:	
	NELSON R33LP #26 SPRINKLER ASSEMBLY (FULL CIRCLE)
	NELSON R33LP #26 SPRINKLER ASSEMBLY (WITH ROAD GUARD)
	RAINBIRD 200-PESB-R 50 DN SOLENOID VALVE ASSEMBLY
	RESILIENT SEATED GATE VALVE ASSEMBLY
	WATERMARK WENM SOIL MOISTURE SENSOR ASSEMBLY
	50 TORO KINETIC AIR VALVE ASSEMBLY
	RAINBIRD ESP-LXM 16 STATION IRRIGATION CONTROLLER
	PN12.5 PE100 MDPE PIPE WITH PURPLE STRIPE AND TRACEABLE MARKER TAPE ( SIZE AS SHOWN)
	PN12.5 PE100 MDPE PIPE WITH PURPLE STRIPE AND TRACEABLE MARKER TAPE ( SIZE AS SHOWN)
	PN12.5 PE100 MDPE PIPE WITH PURPLE STRIPE AND TRACEABLE MARKER TAPE ( SIZE AS SHOWN)
	MOISTURE SENSOR CABLE IN 40 DN HD CONDUIT
	2.5 mm 7 CORE (WITH SEPARATE 4 MM COMMON) IRRIGATION CABLE IN CONDUIT
	SOLAR DC CABLE IN CONDUIT

ITEM	QTY	UNITS
DN125 PN12.5 PE100 MDPE	490	l/m
DN75 PN12.5 PE100 MDPE	460	l/m
DN63 PN12.5 PE100 MDPE	2260	l/m
2.5mm <sup>2</sup> 7-CORE CABLE	682	l/m
4mm <sup>2</sup> 7-CORE CABLE	625	l/m
32mm CONDUIT	500	l/m
DN50 SOLENOID VALVE ASSEMBLY	15	EACH
DN20 ROTOR SPRINKLER ASSEMBLY	142	EACH
DN20 ROTOR SPRINKLER ASSEMBLY WITH ROAD GUARD	20	EACH
50mm CONDUIT	4	EACH



**FOR CONSTRUCTION**

3	ISSUED FOR CONSTRUCTION	RMG	AMS	LMS	02.10.20	
2	REISSUED FOR TENDER	JZL	AMS	LMS	29.11.19	
1	ISSUED FOR TENDER	JAR	AMS	LMS	01.10.19	
0	FINAL DETAILED DESIGN	LAC	AMS	LMS	20.06.19	
No	Revision	Note: * Indicates signatures on original issue of drawing or last revision of drawing	Drawn	Job Manager	Project Director	Date



GHD Tower, Level 3  
24 Honeysuckle Drive, Newcastle NSW 2300 Australia  
PO Box 5403 Hunter Rgn Mail Cent, NSW 2310  
T 61 2 4979 9999 F 61 2 4979 9988  
E ntlmail@ghd.com W www.ghd.com

**DO NOT SCALE**

Conditions of Use.  
This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.

Drawn	L. CEDILLA	Designer	P. BRUECK
Drafting Check	M. BUMOTAD	Design Check	A. MUNOZ
Approved (Project Director)	L. SYLVA	Date	17.06.19
Scale	1:1000	This Drawing must not be used for Construction unless signed as Approved	

Client **URALLA SHIRE COUNCIL**  
Project **BUNDARRA SEWERAGE SCHEME**  
Title **IRRIGATION SITE LAYOUT**

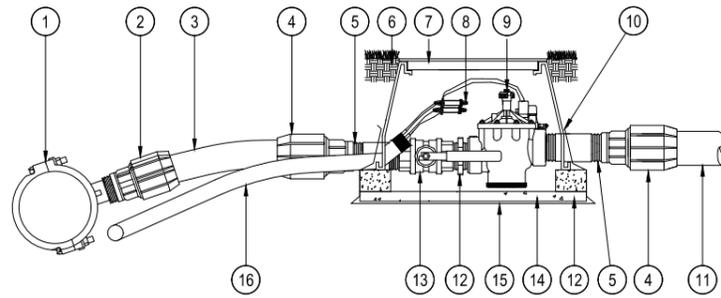
Original Size **A1** Drawing No: **22-19174-W107**

Rev: **3**

**NOTES:**

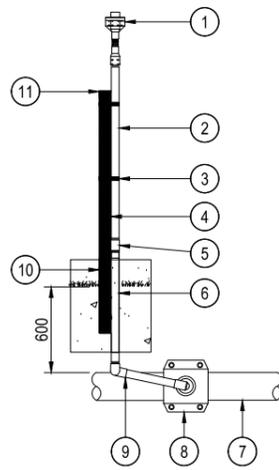
1. THREADS TO BE SEALED WITH PINK THREAD TAPE OR NON SETTING JOINT COMPOUND.
2. COMPACT TRENCHES IN 150mm LAYERS.
3. VALVE BOXES TO BE SURROUNDED WITH 0.5m<sup>2</sup> OF SALVAGED TURF.
4. LID OF VALVE BOX SET FLUSH WITH FINISHED GROUND LEVEL (ACCEPTABLE TOLERANCE 0 TO 25mm).
5. VALVE TO BE SET TO ENSURE EASY OPERATION.
6. VALVE BOXES TO BE CLEANED OUT PRIOR TO PRACTICAL COMPLETION INSPECTION.

VALVE TABLE		
SIZE	INLET PIPE	RISER
20	32	20
25	40	25
32	40	32
40	63	40
50	75	50
80	90	80



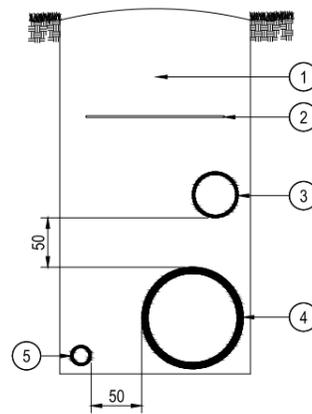
**SOLENOID VALVE DETAIL**  
NTS

KEY	DESCRIPTION
1	MAIN LINE TAPPING FITTING
2	MALE ADAPTER
3	1m PIPE PIECE OF SAME CLASS AS MAINLINE (SEE TABLE FOR SIZE)
4	MECHANICAL FITTING FEMALE ADAPTER
5	SCHEDULE 80 RISER (MINIMUM LENGTH 250mm) SEE TABLE FOR SIZE
6	RECYCLED ROAD BASE BACKFILL MATERIAL
7	JUMBO RECTANGULAR VALVE BOX WITH LOCKING BOLT
8	DBY/R JOINER
9	SOLENOID VALVE WITH PRESSURE REGULATOR
10	DUCT TAPE TO HOLD GEOTECHNICAL FABRIC
11	LATERAL PIPE
12	SCHEDULE 80 NIPPLE
13	STAINLESS STEEL BALL VALVE
14	100mm LAYER OF COMPACTED ROAD BASE
15	GEOTECHNICAL FABRIC
16	CABLE IN CONDUIT (MDPE)



**SPRINKLER ASSEMBLY**  
NTS

KEY	DESCRIPTION
1	NELSON R33LP WITH #26 NOZZLE
2	20 x 1800 GALVANISED STEEL RISER PIPE
3	STAINLESS STEEL WORK DRIVE CLAMP
4	50 x 50 x 1500 GALVANISED STEEL POST
5	20 GALVANISED STEEP COUPLING
6	20 x 800 GALVANISED STEEL RISER PIPE
7	MDPE LATERAL PIPE
8	TAPPING SADDLE
9	20 x 350 SCHEDULE 40 ARTICULATED RISER
10	DENSO WRAP
11	PUSH-ON GALVANISED STEEL SUPPORT



**TRENCH DETAIL**  
NTS

KEY	DESCRIPTION
1	CLEAN TRENCH SPOIL
2	TRACEABLE MARKER TAPE
3	LATERAL (IF IN COMMON TRENCH)
4	MAINLINE
5	CABLE IN CONDUIT (MDPE)

DESCRIPTION	DEPTH TO INVERT		TRACEABLE WARNING TAPE
	MINIMUM	MAXIMUM	
MAINLINES	600mm	1200mm	REQUIRED
LATERALS	600mm	800mm	REQUIRED
POTABLE MAINLINES	500mm	700mm	REQUIRED
EXTRA LOW VOLTAGE CABLE	500mm	700mm	REQUIRED
LOW VOLTAGE CABLE	600mm	800mm	REQUIRED

**FOR CONSTRUCTION**

No	Revision	Note: * Indicates signatures on original issue of drawing or last revision of drawing	Drawn	Job Manager	Project Director	Date
2	ISSUED FOR CONSTRUCTION		RMG	AMS	LMS	02.10.20
1	ISSUED FOR TENDER		JAR	AMS	LMS	01.10.19
0	FINAL DETAILED DESIGN		LAC	AMS	LMS	20.06.19



GHD Tower, Level 3  
24 Honeysuckle Drive, Newcastle NSW 2300 Australia  
PO Box 5403 Hunter Rgn Mail Cent, NSW 2310  
T 61 2 4979 9999 F 61 2 4979 9988  
E ntlmail@ghd.com W www.ghd.com

**DO NOT SCALE**

Conditions of Use.  
This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.

Drawn	L. CEDILLA	Designer	P. BRUECK
Drafting Check	M. BUMOTAD	Design Check	A. MUNOZ
Approved (Project Director)	L. SYLVA	Date	17.06.19
Scale	NTS	This Drawing must not be used for Construction unless signed as Approved	

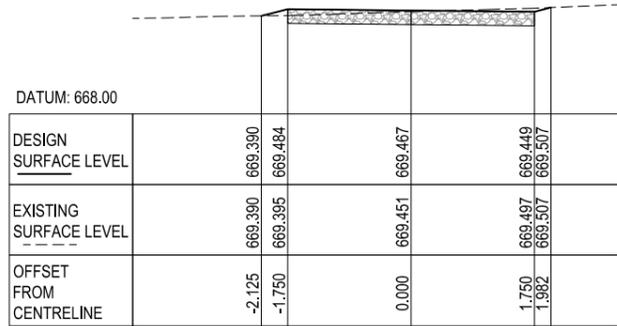
Client **URALLA SHIRE COUNCIL**  
Project **BUNDARRA SEWERAGE SCHEME**  
Title **IRRIGATION SITE DETAILS**

Original Size **A1** Drawing No: **22-19174-W108**

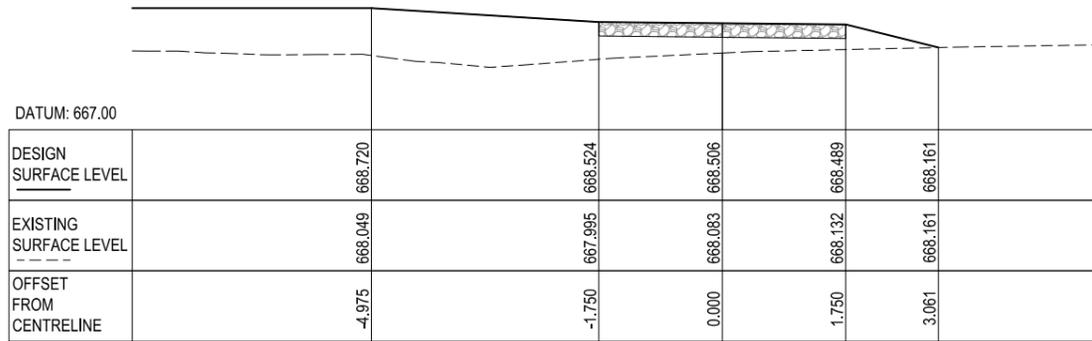
Rev: 2

**NOTE:**

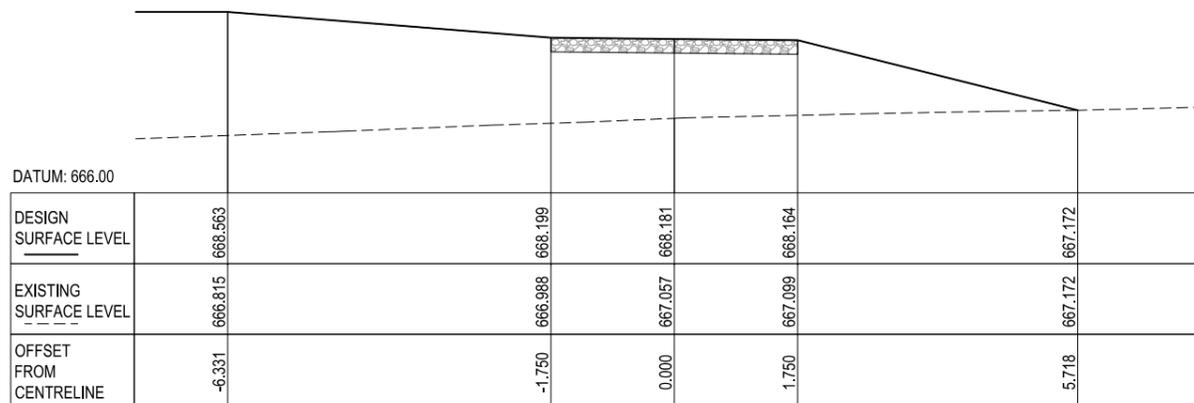
- REFER TO DRAWING 22-19174-W100 FOR ROAD DETAILS.



**1 CROSS SECTION**  
W100 SCALE HOR 1:50 VER 1:50

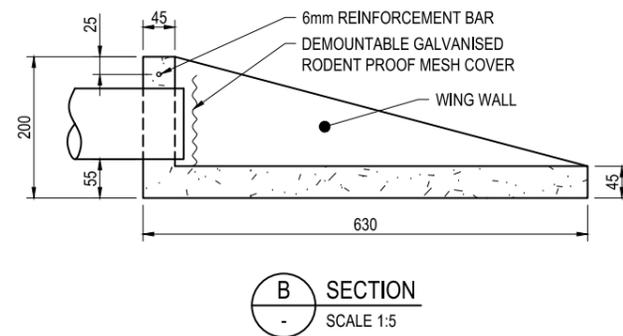
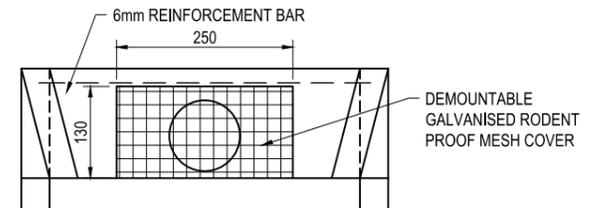
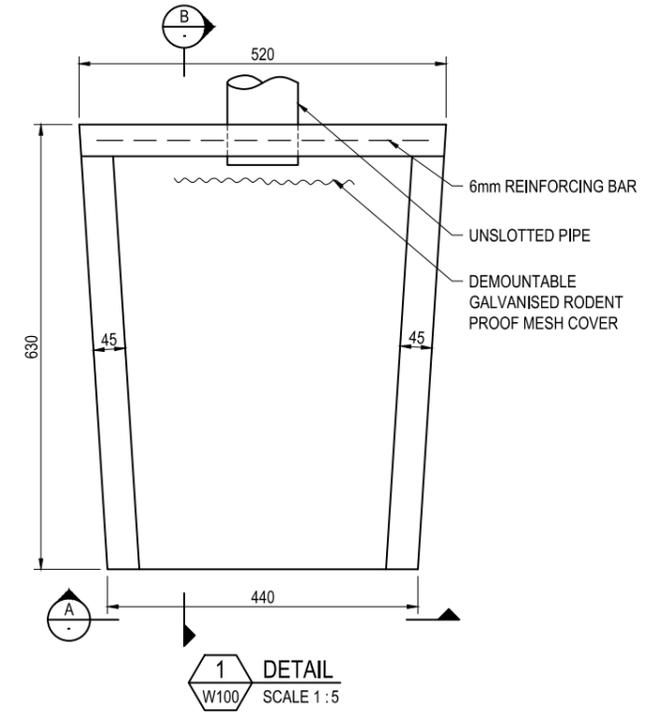


**2 CROSS SECTION**  
W100 SCALE HOR 1:50 VER 1:50



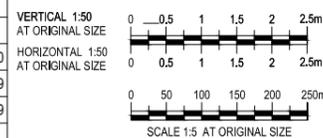
**3 CROSS SECTION**  
W100 SCALE HOR 1:50 VER 1:50

**ACCESS TRACK CROSS SECTIONS**



**FOR CONSTRUCTION**

No	Revision	Note: * indicates signatures on original issue of drawing or last revision of drawing	Drawn	Job Manager	Project Director	Date
2	ISSUED FOR CONSTRUCTION		RMG	AMS	LMS	02.10.20
1	ISSUED FOR TENDER		JAR	AMS	LMS	01.10.19
0	FINAL DETAILED DESIGN		LAC	AMS	LMS	20.06.19



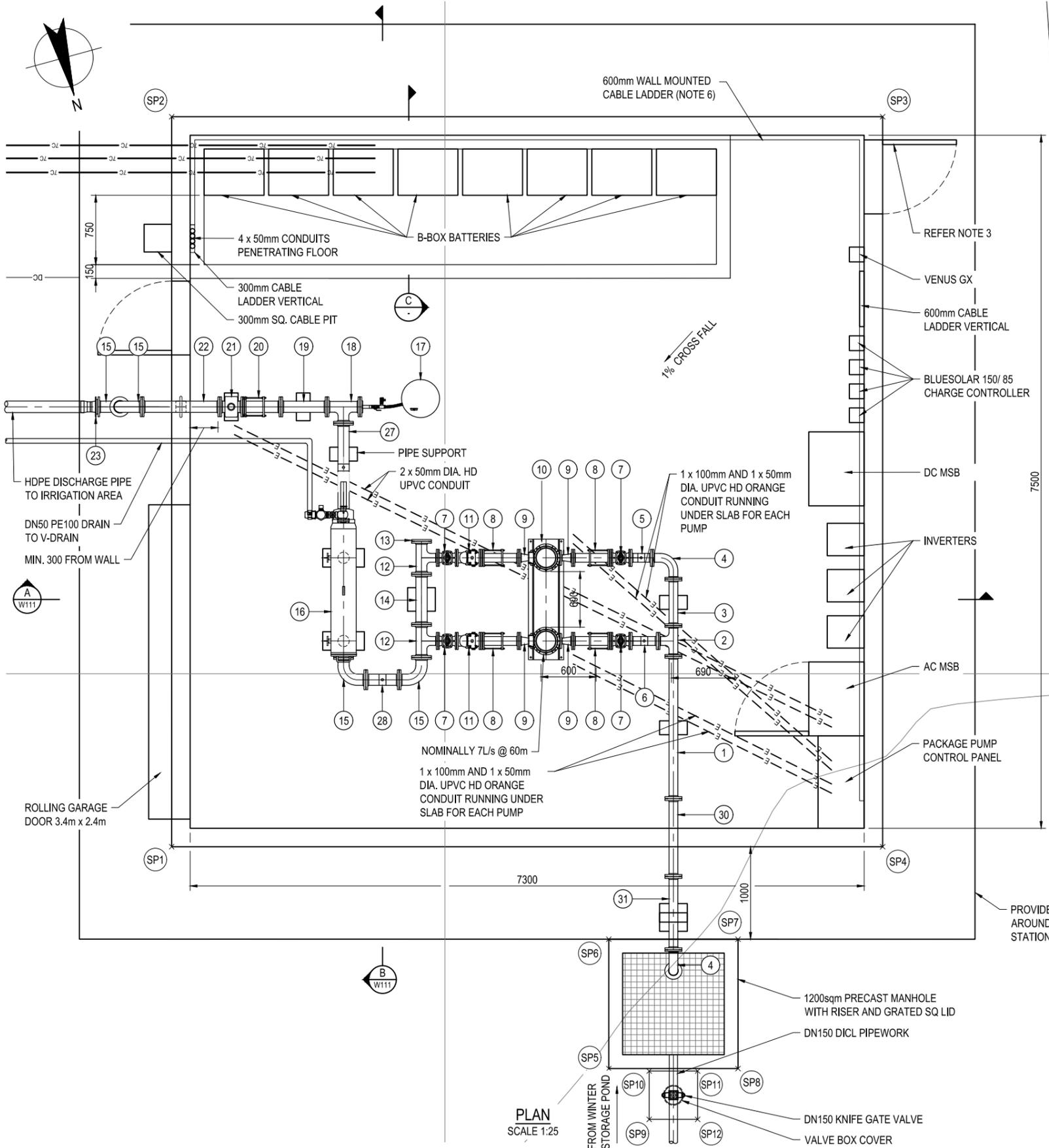
GHD Tower, Level 3  
24 Honeyuckie Drive, Newcastle NSW 2300 Australia  
PO Box 5403 Hunter Rgn Mail Cent, NSW 2310  
T 61 2 4979 9999 F 61 2 4979 9988  
E ntlmail@ghd.com W www.ghd.com

**DO NOT SCALE**

Conditions of Use.  
This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.

Drawn	L. CEDILLA	Designer	L. CEDILLA
Drafting Check	M. BUMOTAD	Design Check	A. MUNOZ
Approved (Project Director)	L. SYLVA	Date	17.06.19
Scale	AS SHOWN	This Drawing must not be used for Construction unless signed as Approved	

Client	<b>URALLA SHIRE COUNCIL</b>		
Project	<b>BUNDARRA SEWERAGE SCHEME</b>		
Title	<b>ACCESS TRACK CROSS SECTIONS AND SUBSURFACE DRAIN DISCHARGE POINT DETAILS</b>		
Original Size	A1	Drawing No:	<b>22-19174-W109</b>
Rev:	<b>2</b>		



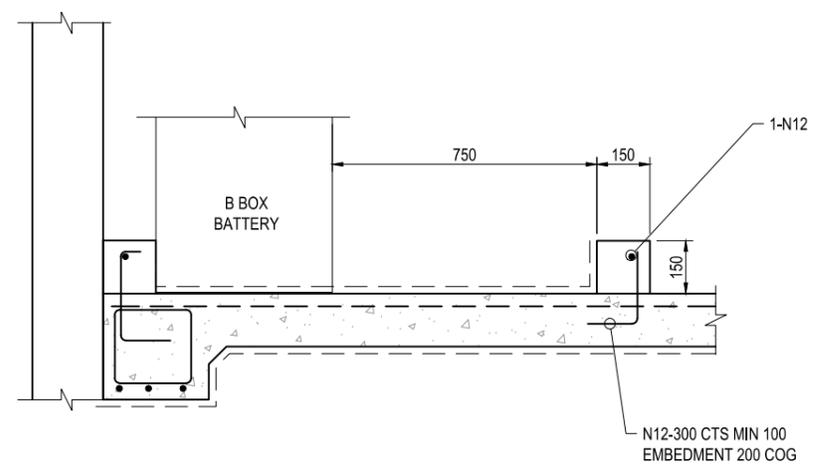
- NOTES:**
- SLAB TO ALLOW FOR PUMP PLINTHS AND VALVE SUPPORTS.
  - SHED, GUTTERS FASCIA COLOUR TO BE IN ACCORDANCE WITH PRINCIPALS REQUIREMENTS.
  - MEDIUM DUTY STEEL FRAME DOOR WITH COLOUR BOND FINISH TO MATCH EXTERIOR COLOUR. DOOR HARDWARE TO BE KEYED TO SITES MASTER KEY SYSTEM.
  - SHED ROOF TO DRAIN TO SOUTHERN SIDE AWAY FROM DOORWAYS.
  - COORDINATE LOCATION OF CONDUITS TO SUIT FINAL PUMP PACKAGE ARRANGEMENT.
  - PROVIDE 600mm WIDE CABLE LADDER MOUNTED TO WALL AT HIGH LEVEL TO FACILITATE CABLING BETWEEN PANELS.

**SETOUT TABLE**

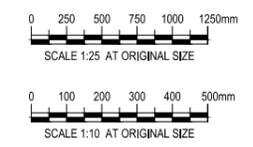
POINT	EASTING	NORTHING
SP1	312412.253	6660065.508
SP2	312410.160	6660057.891
SP3	312402.735	6660059.930
SP4	312404.827	6660067.548
SP5	312408.323	6660069.077
SP6	312407.952	6660067.727
SP7	312406.602	6660068.098
SP8	312406.973	6660069.448
SP9	312408.046	6660069.723
SP10	312407.908	6660069.218
SP11	312407.403	6660069.357
SP12	312407.541	6660069.862

**SCHEDULE OF PIPES AND FITTINGS**

ITEM NO.	DESCRIPTION
1	DN80 FL-FL DICL PIPE WITH PUDDLE FLANGE (L=1541)
2	DN80xDN80xDN80 FL-FL DICL TEE
3	DN80 FL-FL DICL PIPE (L=507)
4	DN80 FL-FL DICL 90° BEND
5	DN80 FL-FL DICL PIPE (L=240) WITH 25mm BSP THREADED TAPPING POINT
6	DN80 FL-FL DICL PIPE (L=305) WITH 25mm BSP THREADED TAPPING POINT
7	DN80 FL-FL STOP VALVE
8	DN80 THRUST TYPE DISMANTLING JOINT
9	DN80-DN50 FL-FL ECCENTRIC TAPER
10	LOWARA VSD IRRIGATION PUMP (MODEL 22SV7F075T) OR EQUIVALENT
11	DN80 FL-FL NON-RETURN VALVE
12	DN100xDN100xDN80 FL-FL DICL TEE
13	DN100 DICL BLIND FLANGE
14	DN100 FL-FL DICL PIPE (L=544)
15	DN100 FL-FL DICL 90° BEND
16	SELF CLEANING STRAINER
17	HYDROPNEUMATIC ACCUMULATOR CHARLATTE HYDROCHOC OR EQUIVALENT (MINIMUM VOLUME 150L)
18	DN100xDN100xDN100 FL-FL DICL TEE
19	DN100 FL-FL DICL PIPE (L=500)
20	DN100 THRUST TYPE DISMANTLING JOINT
21	DN100 FLOWMETER
22	DN100 FL-FL DICL PIPE WITH PUDDLE FLANGE (L=840)
23	DN100 STUB FLANGE WITH BACKING RING
24	DN100 BUTTERFLY VALVE
25	DN100 FL-FL DICL PIPE (L=438)
26	DN100 FL-FL DICL PIPE (L=247)
27	DN100 FL-FL DICL PIPE (L=1279) WITH 25mm BSP THREADED TAPPING POINT
28	DN100 FL-FL DICL PIPE (L=362) WITH 25mm BSP THREADED TAPPING POINT
29	DN80 FL-FL DICL PIPE (L=1000)
30	DN80 FL-FL DICL PIPE (L=842)
31	DN80 FL-FL DICL PIPE (L=792)



No	Revision	Note	Drawn	Job Manager	Project Director	Date
2	ISSUED FOR CONSTRUCTION		RMG	AMS	LMS	02.10.20
1	ISSUED FOR TENDER		JAR	AMS	LMS	01.10.19
0	FINAL DETAILED DESIGN		LAC	AMS	LMS	20.06.19



**GHD**  
 GHD Tower, Level 3  
 24 Honeysuckle Drive, Newcastle NSW 2300 Australia  
 PO Box 5403 Hunter Rgn Mail Cent, NSW 2310  
 T 61 2 4979 9999 F 61 2 4979 9988  
 E ntlmail@ghd.com W www.ghd.com

**DO NOT SCALE**

Conditions of Use:  
 This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.

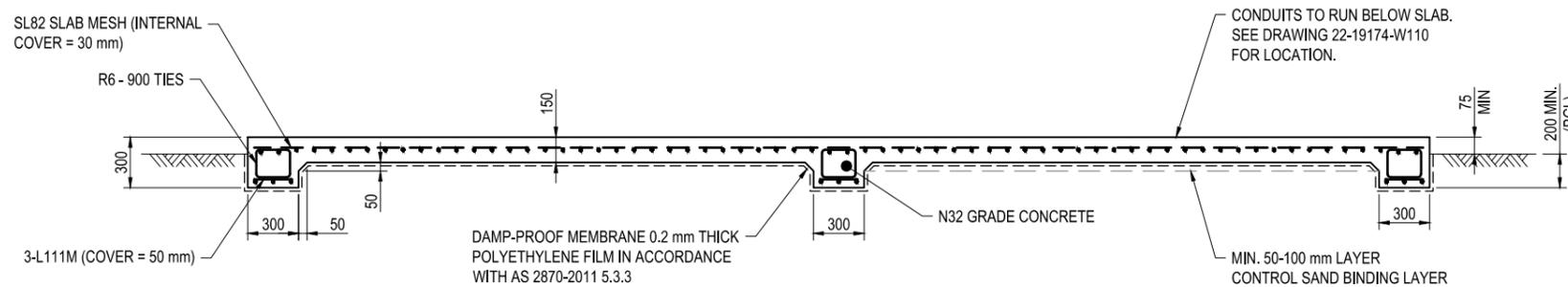
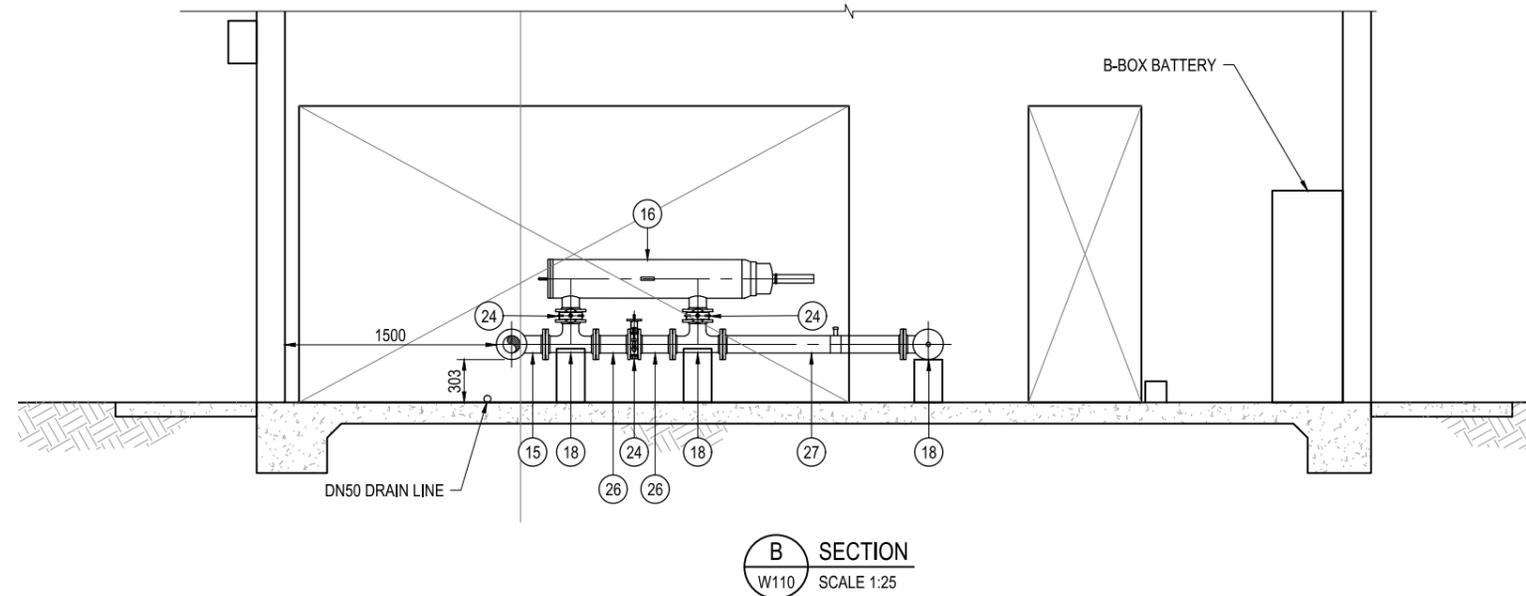
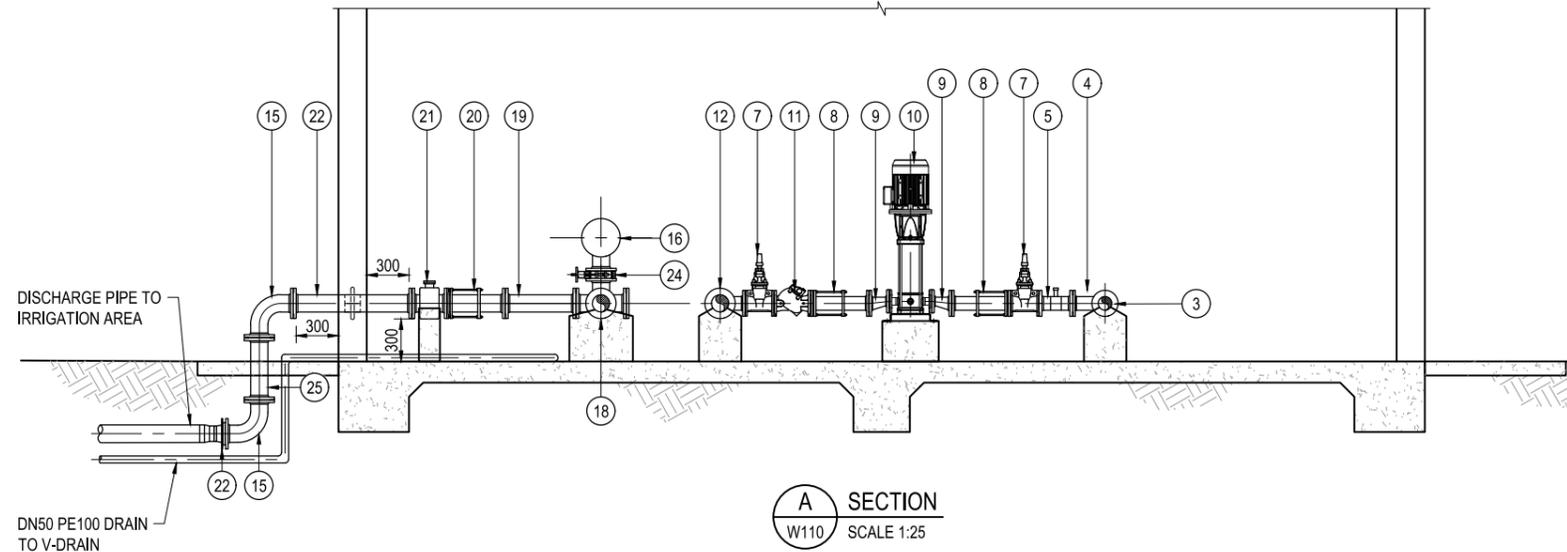
Drawn J. CONTRERAS Designer J. CAUSE  
 Drafting Check M. BUMOTAD Design Check A. MUNOZ  
 Approved (Project Director) L. SYLVA Date 17.06.19  
 Scale AS SHOWN

**FOR CONSTRUCTION**

Client **URALLA SHIRE COUNCIL**  
 Project **BUNDARRA SEWERAGE SCHEME**  
 Title **WINTER STORAGE POND PUMP STATION PIPEWORK ARRANGEMENT PLAN**

Original Size **A1** Drawing No: **22-19174-W110** Rev: **2**

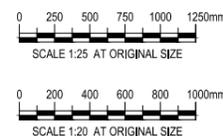
This Drawing must not be used for Construction unless signed as Approved



SCHEDULE OF PIPES AND FITTINGS	
ITEM NO.	DESCRIPTION
1	DN80 FL-FL DICL PIPE WITH PUDDLE FLANGE (L=1541)
2	DN80xDN80xDN80 FL-FL DICL TEE
3	DN80 FL-FL DICL PIPE (L=507)
4	DN80 FL-FL DICL 90° BEND
5	DN80 FL-FL DICL PIPE (L=240) WITH 25mm BSP THREADED TAPPING POINT
6	DN80 FL-FL DICL PIPE (L=305) WITH 25mm BSP THREADED TAPPING POINT
7	DN80 FL-FL STOP VALVE
8	DN80 THRUST TYPE DISMANTLING JOINT
9	DN80-DN50 FL-FL ECCENTRIC TAPER
10	LOWARA VSD IRRIGATION PUMP (MODEL 22SV7F075T) OR EQUIVALENT
11	DN80 FL-FL NON-RETURN VALVE
12	DN100xDN100xDN80 FL-FL DICL TEE
13	DN100 DICL BLIND FLANGE
14	DN100 FL-FL DICL PIPE (L=544)
15	DN100 FL-FL DICL 90° BEND
16	SELF CLEANING STRAINER
17	HYDROPNEUMATIC ACCUMULATOR CHARLATTE HYDROCHOC OR EQUIVALENT (MINIMUM VOLUME 150L)
18	DN100xDN100xDN100 FL-FL DICL TEE
19	DN100 FL-FL DICL PIPE (L=500)
20	DN100 THRUST TYPE DISMANTLING JOINT
21	DN100 FLOWMETER
22	DN100 FL-FL DICL PIPE WITH PUDDLE FLANGE (L=840)
23	DN100 STUB FLANGE WITH BACKING RING
24	DN100 BUTTERFLY VALVE
25	DN100 FL-FL DICL PIPE (L=438)
26	DN100 FL-FL DICL PIPE (L=247)
27	DN100 FL-FL DICL PIPE (L=1279) WITH 25mm BSP THREADED TAPPING POINT

**FOR CONSTRUCTION**

No	Revision	Note: * indicates signatures on original issue of drawing or last revision of drawing	Drawn	Job Manager	Project Director	Date
2	ISSUED FOR CONSTRUCTION		RMG	AMS	LMS	02.10.20
1	ISSUED FOR TENDER		JAR	AMS	LMS	01.10.19
0	FINAL DETAILED DESIGN		LAC	AMS	LMS	20.06.19



**DO NOT SCALE**

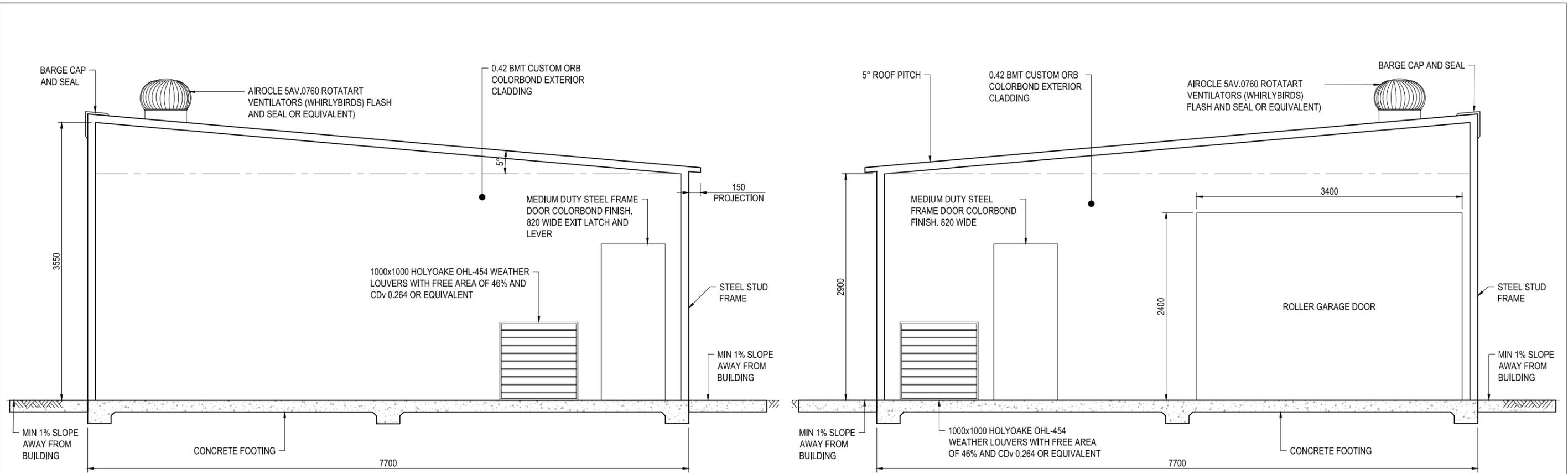
Conditions of Use.  
This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.

Drawn	J. CONTRERAS	Designer	J. CAUSE
Drafting Check	M. BUMOTAD	Design Check	A. MUNOZ
Approved (Project Director)	L. SYLVA	Date	17.06.19
Scale	AS SHOWN	This Drawing must not be used for Construction unless signed as Approved	

Client **URALLA SHIRE COUNCIL**  
Project **BUNDARRA SEWERAGE SCHEME**  
Title **WINTER STORAGE POND PUMP STATION SECTIONS**

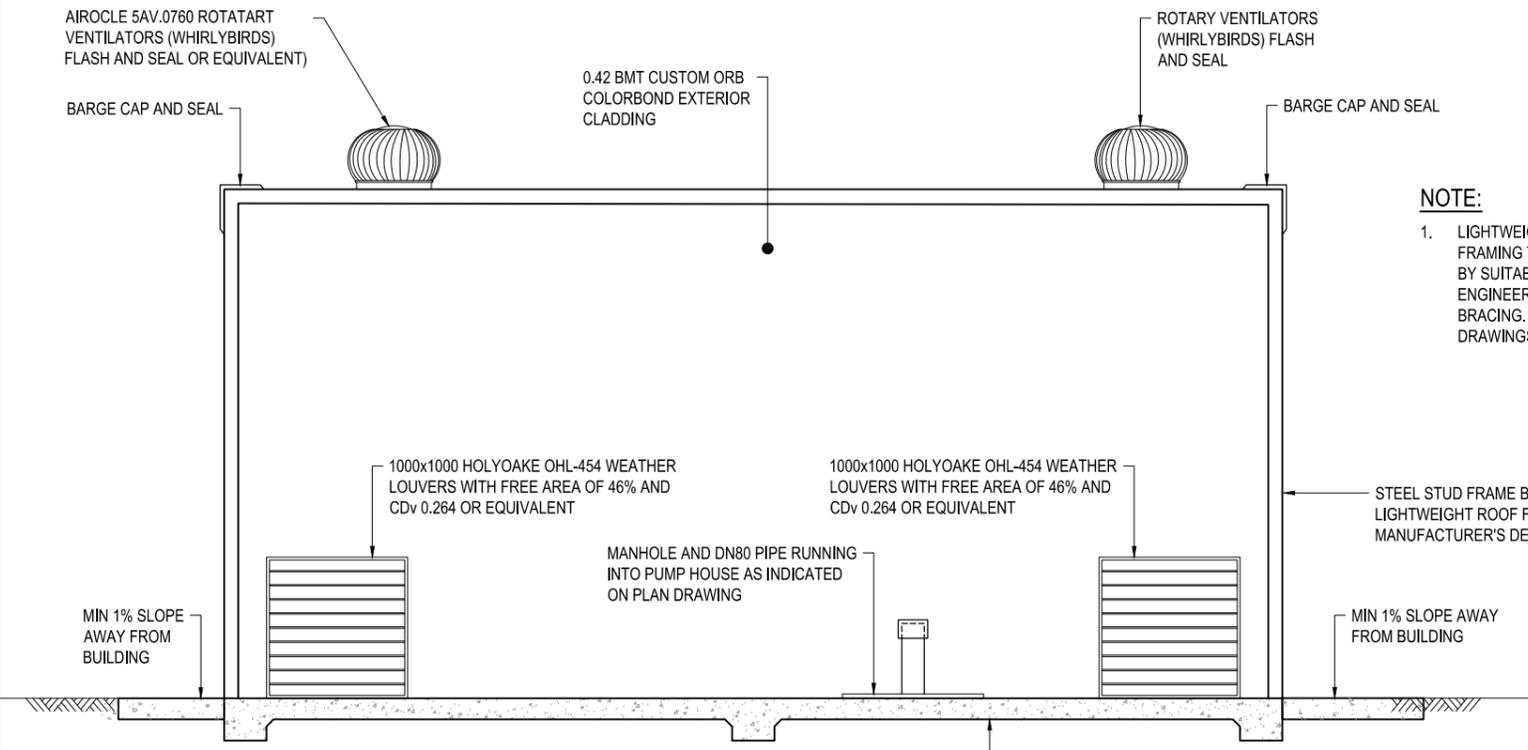
Original Size **A1** Drawing No: **22-19174-W111**

Rev: 2

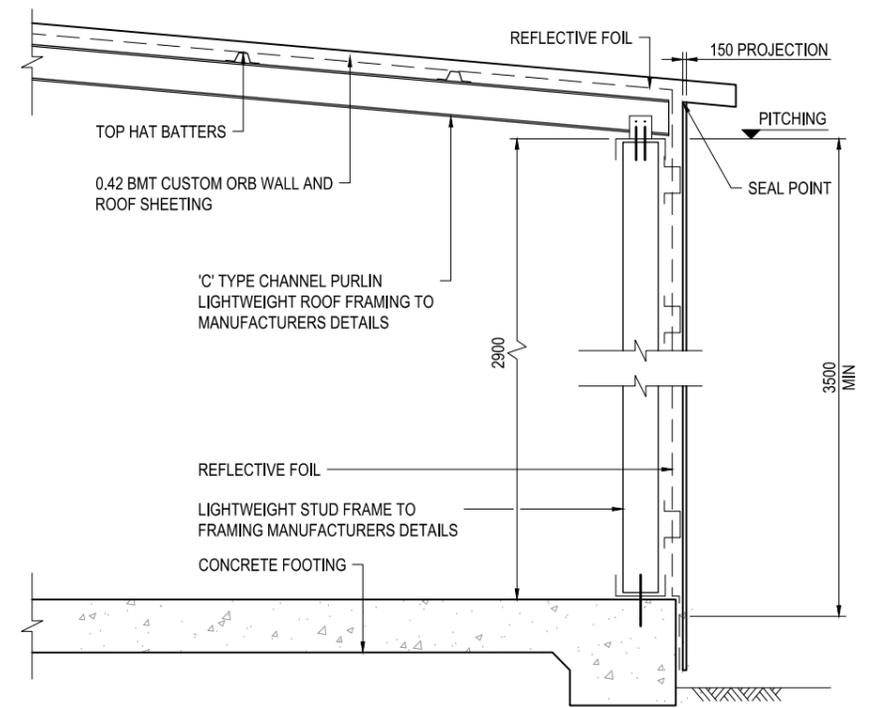


**WESTERN SIDE ELEVATION**  
SCALE 1:25

**EASTERN SIDE ELEVATION**  
SCALE 1:25



**NORTHERN SIDE ELEVATION**  
SCALE 1:25



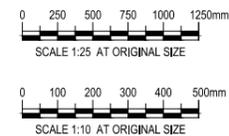
**SECTION**  
SCALE 1:15

**NOTE:**

1. LIGHTWEIGHT STEEL WALL AND ROOF FRAMING TO BE DESIGN TO AS/NZS4600 BY SUITABLY QUALIFIED CHARTERED ENGINEER. THIS INCLUDES TIE DOWN AND BRACING. PROVIDE WORKSHOP DRAWINGS AND DESIGN CERTIFICATION.

**FOR CONSTRUCTION**

No	Revision	Note: * indicates signatures on original issue of drawing or last revision of drawing	Drawn	Job Manager	Project Director	Date
2	ISSUED FOR CONSTRUCTION		RMG	AMS	LMS	02.10.20
1	ISSUED FOR TENDER		JAR	AMS	LMS	01.10.19
0	FINAL DETAILED DESIGN		LAC	AMS	LMS	20.06.19



GHD Tower, Level 3  
24 Honeysuckle Drive, Newcastle NSW 2300 Australia  
PO Box 5403 Hunter Rgn Mail Cent, NSW 2310  
T 61 2 4979 9999 F 61 2 4979 9988  
E ntlmail@ghd.com W www.ghd.com

**DO NOT SCALE**

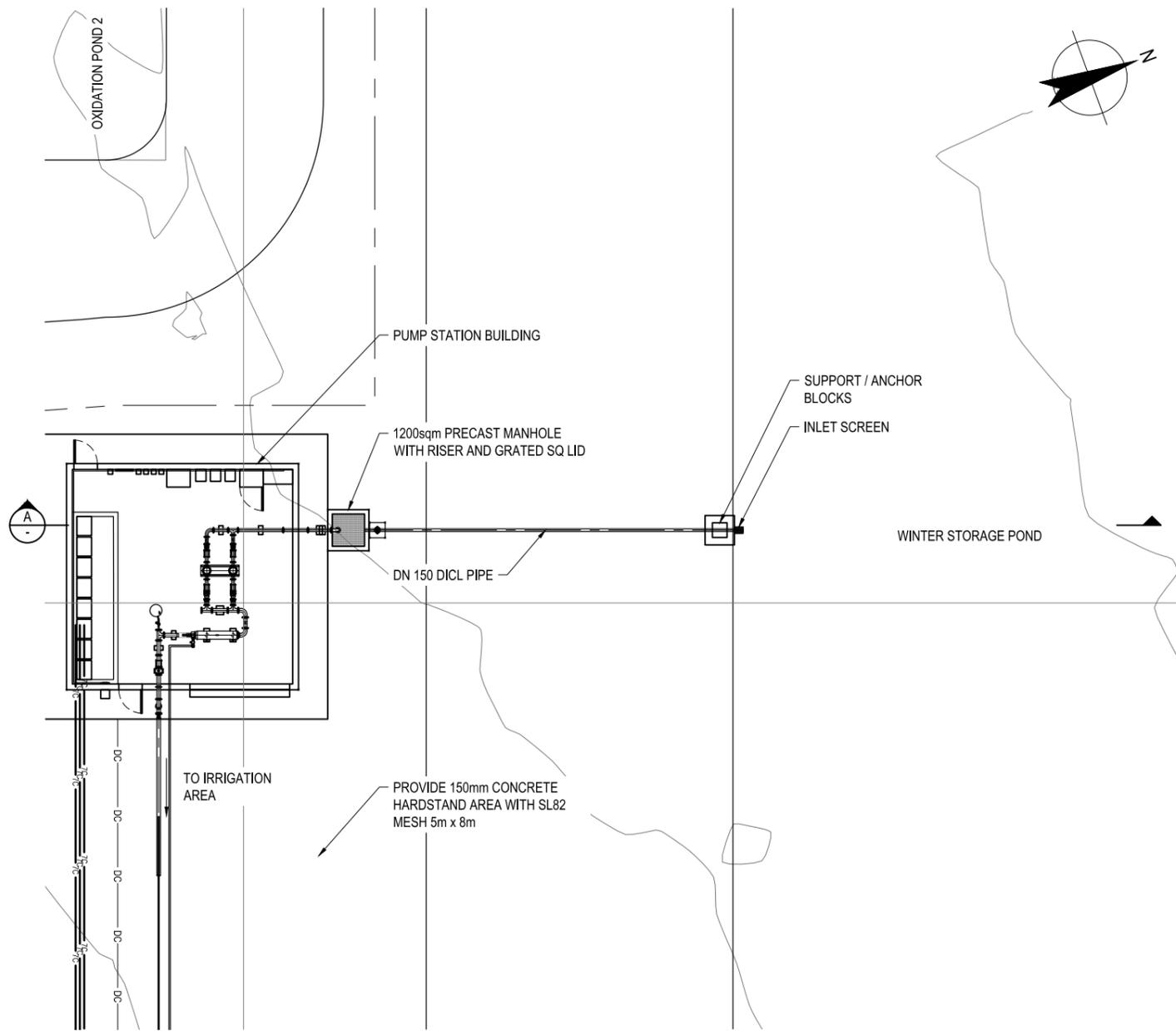
Conditions of Use.  
This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.

Drawn	J. CONTRERAS	Designer	J. CAUSE
Drafting Check	M. BUMOTAD	Design Check	A. MUNOZ
Approved (Project Director)	L. SYLVA	Date	17.06.19
Scale	AS SHOWN	This Drawing must not be used for Construction unless signed as Approved	

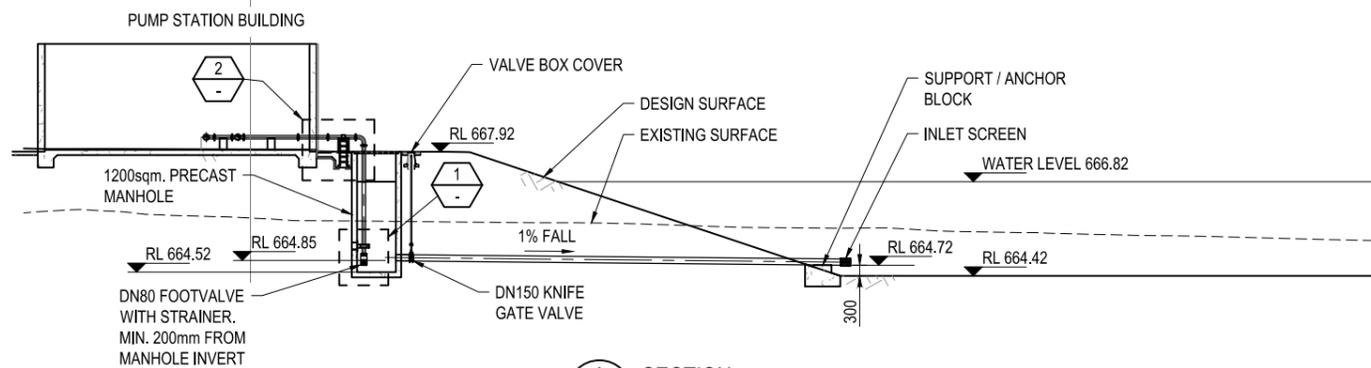
Client **URALLA SHIRE COUNCIL**  
Project **BUNDARRA SEWERAGE SCHEME**  
Title **WINTER STORAGE POND PUMP STATION DETAILS**

Original Size **A1** Drawing No: **22-19174-W112**

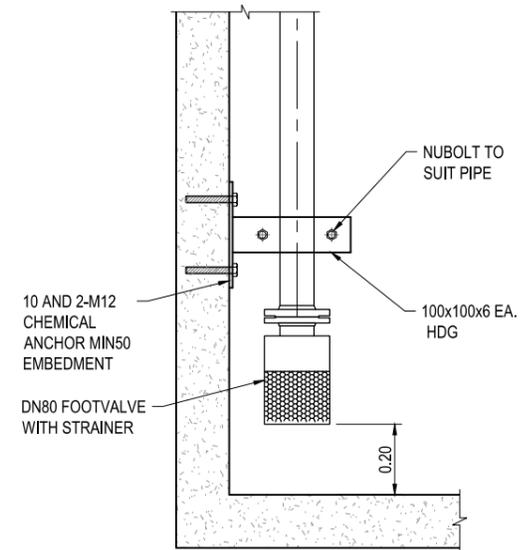
Rev: 2



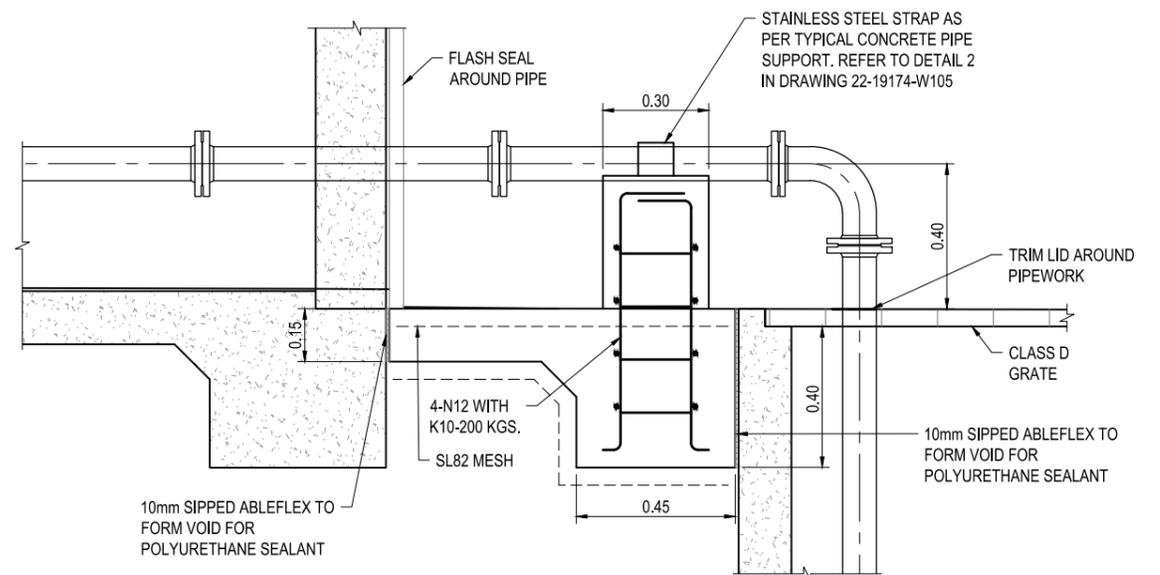
PLAN  
SCALE 1:100



A SECTION  
SCALE 1:100



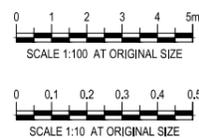
DETAIL 1  
SCALE 1:10



DETAIL 2  
SCALE 1:10

**FOR CONSTRUCTION**

No	Revision	Note: * indicates signatures on original issue of drawing or last revision of drawing	Drawn	Job Manager	Project Director	Date
2	ISSUED FOR CONSTRUCTION		RMG	AMS	LMS	02.10.20
1	ISSUED FOR TENDER		JAR	AMS	LMS	01.10.19
0	FINAL DETAILED DESIGN		LAC	AMS	LMS	20.06.19



GHD Tower, Level 3  
24 Honeyeater Drive, Newcastle NSW 2300 Australia  
PO Box 5403 Hunter Rgn Mail Cent, NSW 2310  
T 61 2 4979 9999 F 61 2 4979 9988  
E ntlmail@ghd.com W www.ghd.com

**DO NOT SCALE**

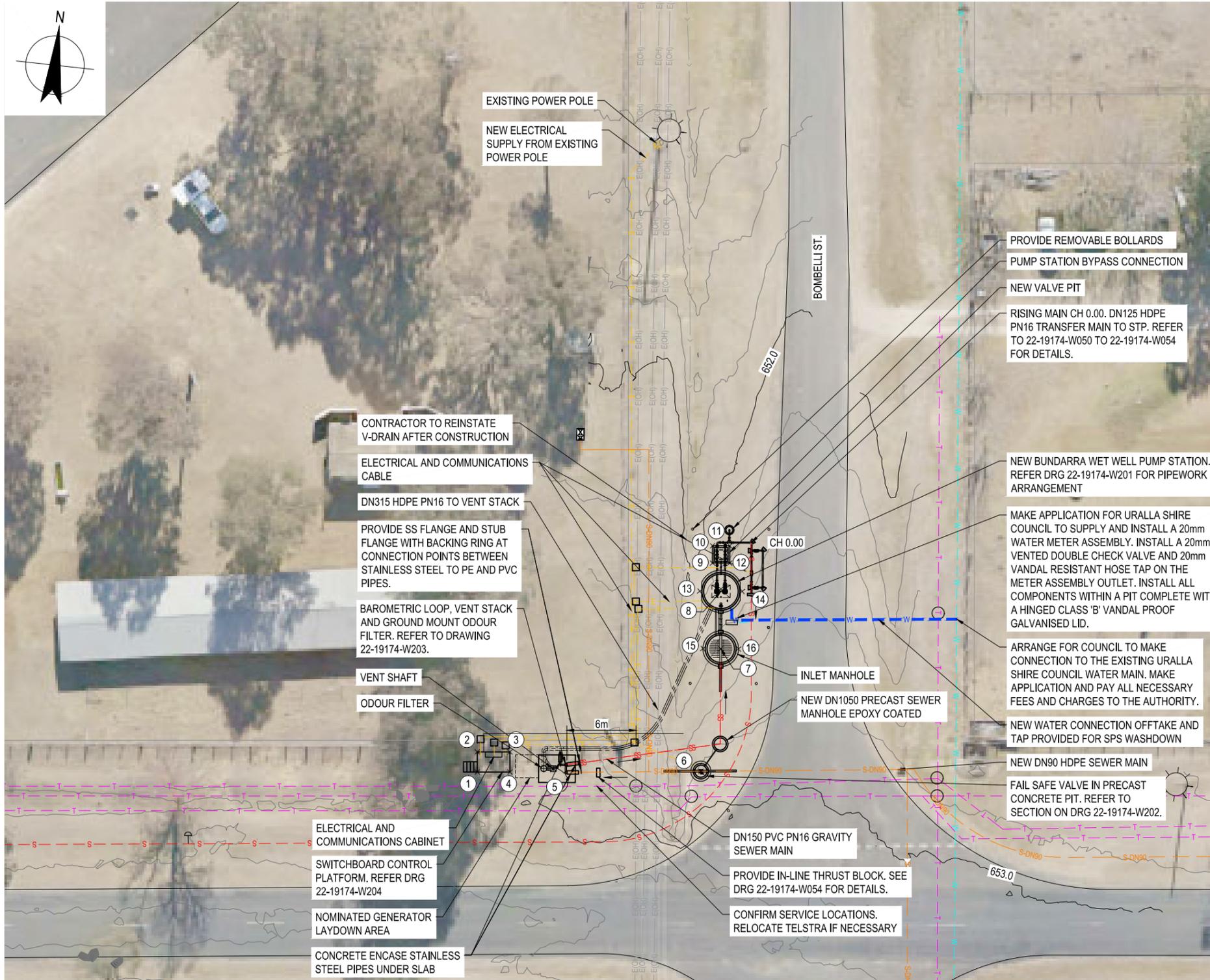
Conditions of Use.  
This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.

Drawn	J. CONTRERAS	Designer	J. KENNEDY
Drafting Check	M. BUMOTAD	Design Check	A. MUNOZ
Approved (Project Director)	L. SYLVA	Date	17.06.19
Scale	AS SHOWN	This Drawing must not be used for Construction unless signed as Approved	

Client **URALLA SHIRE COUNCIL**  
Project **BUNDARRA SEWERAGE SCHEME**  
Title **WINTER STORAGE POND INLET WORKS**

Original Size **A1** Drawing No: **22-19174-W113**

Rev: 2



PLAN  
SCALE 1:200

LEGEND:

- DN115- NEW SEWER MAIN
- S- NEW TRANSFER MAIN
- E- NEW UG ELECTRICAL
- W- NEW WATER CONNECTION
- T- EXISTING TELSTRA LINE
- W- EXISTING WATER MAIN
- E(OH)- EXISTING OH POWER LINES
- >- EXISTING V-DRAIN
- CADASTRE
- ROAD EDGE
- ⊙ EXISTING POWER POLE
- EXISTING TELSTRA PIT
- BOLLARD

SETOUT TABLE

POINT	EASTING	NORTHING	NATURAL SURFACE LEVEL	CONSTRUCTION SURFACE LEVEL	DESCRIPTION
1	314236.464	6660569.909	-	-	CORNER OF SWITCHBOARD PLATFORM
2	314236.275	6660571.649	-	-	CORNER OF SWITCHBOARD PLATFORM
3	314239.108	6660571.958	-	-	CORNER OF SWITCHBOARD PLATFORM
4	314239.298	6660570.218	-	-	CORNER OF SWITCHBOARD PLATFORM
5	314243.021	6660570.922	653.015	653.15	CENTRE OF VENT SHAFT
6	314255.847	6660572.089	652.528	652.63	CENTRE OF CONCRETE PIT
7	314256.409	6660582.888	652.429	652.63	CENTRE OF INLET MANHOLE
8	314255.867	6660588.060	652.280	652.63	CENTRE OF WET WELL
9	314254.885	6660590.234	652.168	652.63	CORNER OR VALVE PIT
10	314254.729	6660591.726	652.103	652.63	CORNER OR VALVE PIT
11	314256.221	6660591.882	652.172	652.63	CORNER OR VALVE PIT
12	314256.377	6660590.391	652.218	652.63	CORNER OR VALVE PIT
13	314254.048	6660587.668	652.133	652.63	EDGE OF WET WELL
14	314257.727	6660588.061	652.349	652.63	EDGE OF WET WELL
15	314254.866	6660582.730	652.351	652.63	EDGE OF INLET MANHOLE
16	314257.950	6660583.049	652.536	652.63	EDGE OF INLET MANHOLE

ELECTRICAL CONDUIT SCHEDULE

FROM	TO	TYPE
EXISTING ESSENTIAL ENERGY POLE	MAIN SWITCHBOARD	1 x 100 mm DIA HD uPVC (POWER)
MAIN SWITCHBOARD	PROPRIETARY PACKAGE CONTROLLER	1 x 80 mm DIA HD uPVC (POWER)
MAIN SWITCHBOARD	PROPRIETARY PACKAGE CONTROLLER	1 x 50 mm DIA HD uPVC (CONTROL)
MAIN SWITCHBOARD	FLOWMETER	1 x 50 mm DIA HD uPVC (CONTROL)
PROPRIETARY PACKAGE CONTROLLER	PACKAGE PUMP STATION PUMP 1	1 x 80 mm DIA HD uPVC (POWER)
PROPRIETARY PACKAGE CONTROLLER	PACKAGE PUMP STATION PUMP 2	1 x 80 mm DIA HD uPVC (POWER)
PROPRIETARY PACKAGE CONTROLLER	PACKAGE PUMP STATION SPARE	1 x 80 mm DIA HD uPVC (POWER)
PROPRIETARY PACKAGE CONTROLLER	PACKAGE PUMP STATION PUMP 1 AND 2 PROTECTION	1 x 50 mm DIA HD uPVC (CONTROL)
PROPRIETARY PACKAGE CONTROLLER	PACKAGE PUMP STATION INSTRUMENTS	1 x 50 mm DIA HD uPVC (CONTROL)

FOR CONSTRUCTION



THE LOCATION OF UTILITIES HAS NOT NECESSARILY BEEN ESTABLISHED BY SURVEY BUT IS BASED ON INFORMATION AVAILABLE.

No	Revision	Note: * indicates signatures on original issue of drawing or last revision of drawing	Drawn	Job Manager	Project Director	Date
3	ISSUED FOR CONSTRUCTION		RMG	AMS	LMS	02.10.20
2	REISSUED FOR TENDER		JZL	AMS	LMS	29.11.19
1	ISSUED FOR TENDER		JAR	AMS	LMS	01.10.19
0	FINAL DETAILED DESIGN		LAC	AMS	LMS	20.06.19

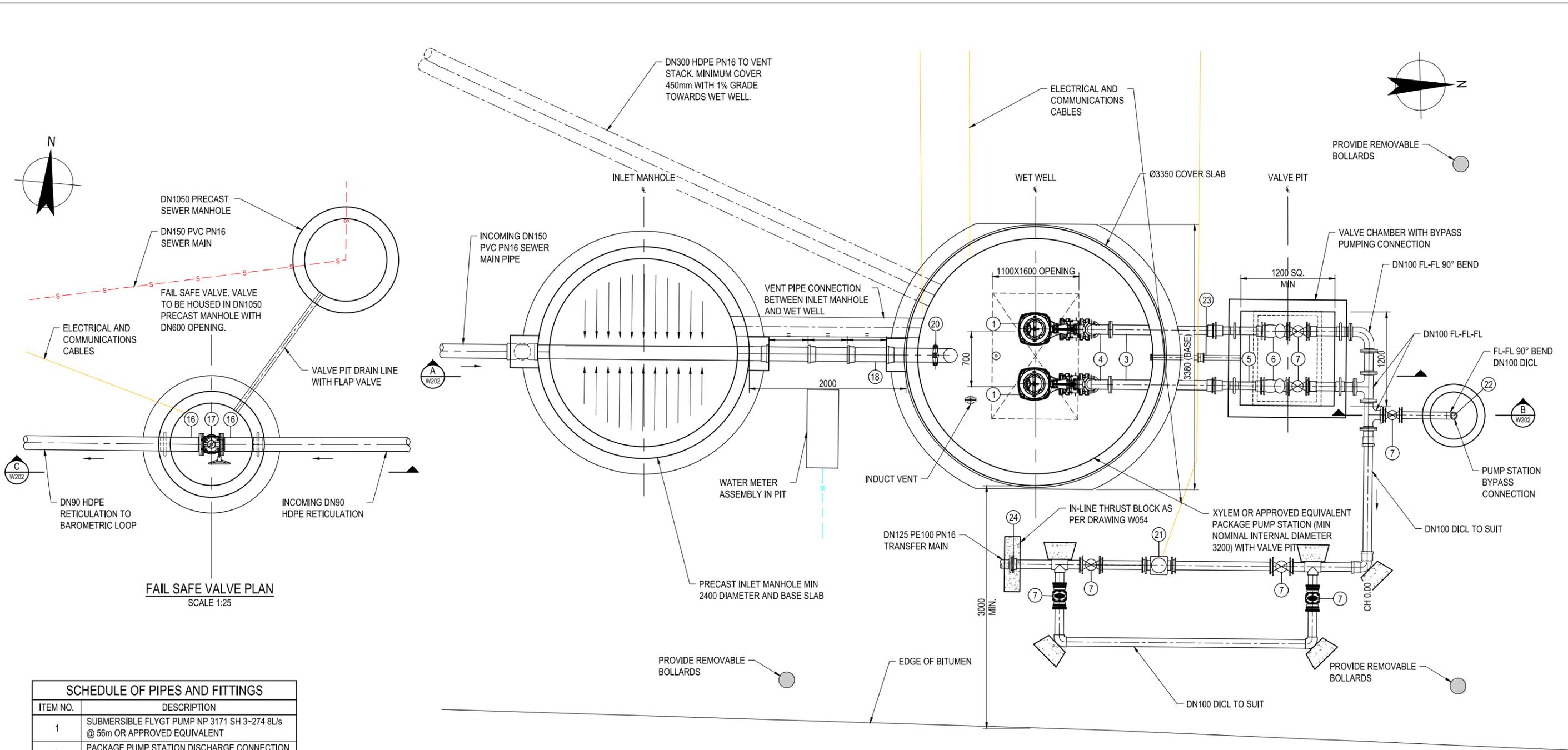


**GHD**  
 GHD Tower, Level 3  
 24 Honeysuckle Drive, Newcastle NSW 2300 Australia  
 PO Box 5403 Hunter Rgn Mail Cent, NSW 2310  
 T 61 2 4979 9999 F 61 2 4979 9988  
 E ntlmail@ghd.com W www.ghd.com

**DO NOT SCALE**  
 Conditions of Use.  
 This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.

Drawn	J. CONTRERAS	Designer	J. CAUSE
Drafting Check	M. BUMOTAD	Design Check	A. MUNOZ
Approved (Project Director)	L. SYLVA		
Date	17.06.19		
Scale	1:200		

Client **URALLA SHIRE COUNCIL**  
 Project **BUNDARRA SEWERAGE SCHEME**  
 Title **BUNDARRA PUMP STATION SITE LAYOUT PLAN**  
 Original Size **A1** Drawing No: **22-19174-W200** Rev: **3**



**FAIL SAFE VALVE PLAN**  
SCALE 1:25

**PUMP STATION PLAN**  
SCALE 1:25

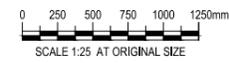
ITEM NO.	DESCRIPTION
1	SUBMERSIBLE FLYGT PUMP NP 3171 SH 3~274 8L/s @ 56m OR APPROVED EQUIVALENT
3	PACKAGE PUMP STATION DISCHARGE CONNECTION DN100 DICL
4	DN100 90° DICL BEND
5	DN100 DICL PIPE WITH PUDDLE FLANGE AND FLANGES WITH METAL BACKING RING
6	DN100 CHECK VALVE
7	DN100 RESILIENT SEATED GATE VALVE
16	DN100 FL-SP DICL PIPE WITH PUDDLE FLANGE L.T.S.
17	DN100 ACTUATED PLUG VALVE WITH FAIL SAFE ATA FQ18 SWITCH OR EQUIVALENT
18	DN100 DICL PIPE L.T.S.
19	DN125 HDPE PN16
20	DN150 KNIFE GATE VALVE AND SURFACE BOX
21	DN100 FLOWMETER
22	4" PE CAMLOCK MALE COUPLING
23	DN50 PVC DRAIN LINE WITH FLAP VALVE
24	DN110 STUB FLANGE WITH BACKING RING

**NOTES:**

1. INLET MANHOLE AND WET WELL TO BE EPOXY COATED, INCLUDING UNDERSIDE OF ROOF / LID.
2. ALL PIPEWORK MIN. PN16.
3. ELECTRICAL DESIGN BY PUMP MANUFACTURERS. CONDUIT LOCATIONS INDICATIVE ONLY.
4. CONTRACTOR TO BE AWARE OF V-DRAIN DURING CONSTRUCTION.
5. BENCHING TO BE APPLIED AS PER WSAW SEW-1300 SERIES DRAWINGS.
6. MECHANICAL COMPACTION OF ALL BACKFILL FOR STRUCTURES REQUIRED TO BE A MINIMUM OF 98%.
7. WET WELL STRUCTURE LIKELY TO BE ELLIPTICAL SHAPE FROM PACKAGE PUMP SUPPLIER FOR EASE OF TRANSPORT.
8. PLACE GRAVELLED HARDSTAND AROUND THE WET WELL AND VALVE PIT. MIN 3m AROUND STRUCTURES.

**FOR CONSTRUCTION**

No	Revision	Note	Drawn	Job Manager	Project Director	Date
4	ISSUED FOR CONSTRUCTION		RMG	AMS	LMS	02.10.20
3	REISSUED FOR TENDER		JAR	AMS	LMS	10.12.19
2	REISSUED FOR TENDER		JZL	AMS	LMS	29.11.19
1	ISSUED FOR TENDER		JAR	AMS	LMS	01.10.19
0	FINAL DETAILED DESIGN		LAC	AMS	LMS	20.06.19



**GHD**  
GHD Tower, Level 3  
24 Honeysuckle Drive, Newcastle NSW 2300 Australia  
PO Box 5403 Hunter Rgn Mail Cent, NSW 2310  
T 61 2 4979 9999 F 61 2 4979 9988  
E ntlmail@ghd.com W www.ghd.com

DO NOT SCALE	Drawn	Designer
Conditions of Use. This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.	J.CONTRERAS	J. CAUSE
	M. BUMOTAD	A. MUNOZ
	L. SYLVA	
	17.06.19	

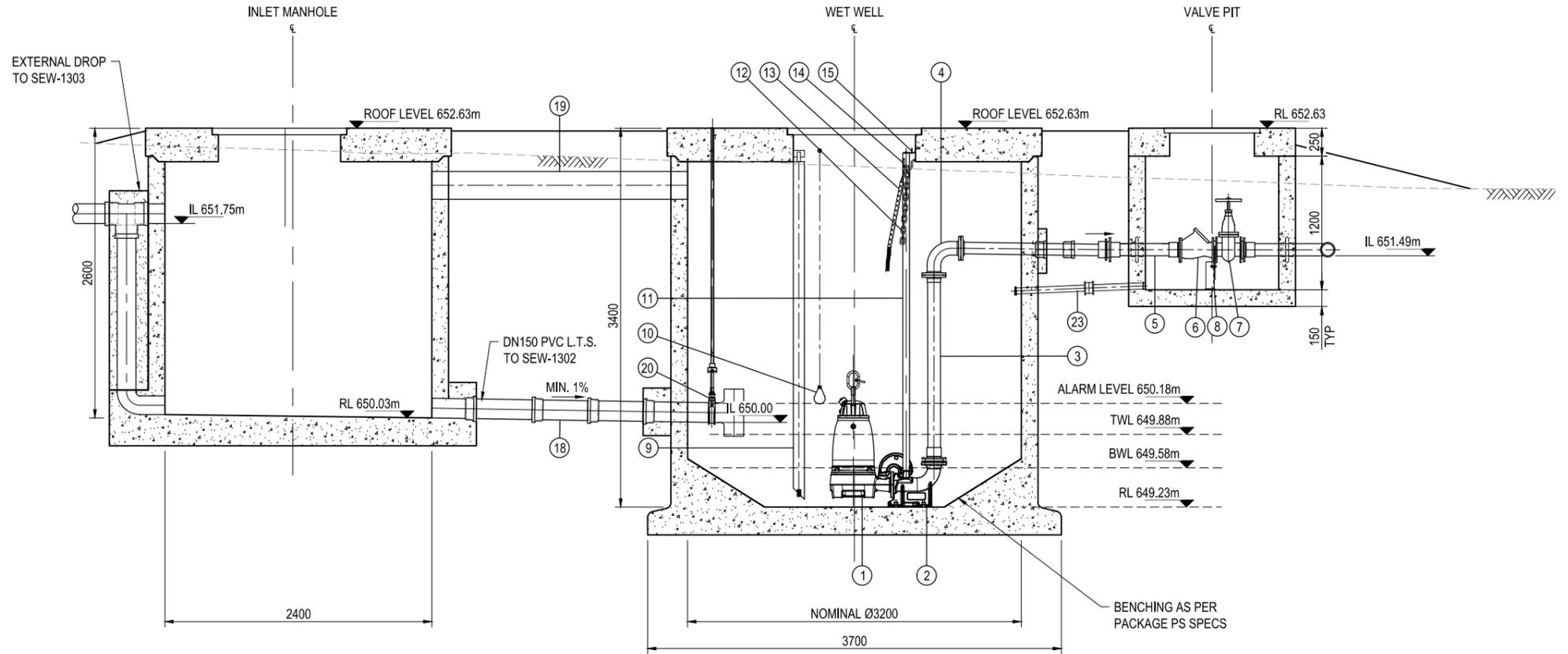
Client	Project	Title	Original Size	Drawing No:	Rev:
URALLA SHIRE COUNCIL	BUNDARRA SEWERAGE SCHEME	BUNDARRA PUMP STATION PIPEWORK ARRANGEMENT PLAN	A1	22-19174-W201	4

BAROMETRIC LOOP.  
REFER DRG 22-19174-W203

TENURE  
BEDDING TYPE  
PIPE MATERIAL  
GRADE %  
DATUM 645.00

	1	2	3	4	5	6	7
DEPTH TO INVERT	1.06	-7.02	-7.06	0.80	0.94	1.02	0.74
PIPE INVERT LEVEL	651.93	660.00	660.00	651.89	651.86	651.78	651.75
EXISTING SURFACE LEVEL	652.98	652.98	652.94	652.69	652.80	652.80	652.49
CHAINAGE	1791.72	1791.72	1792.38	1800.00	1805.97	1805.98	1812.55

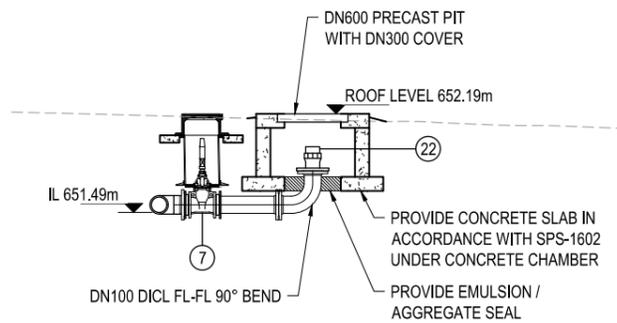
**GRAVITY SEWER LONGITUDINAL SECTION  
FROM BAROMETRIC LOOP TO INLET MANHOLE**  
SCALE 1:1000 H 1:100 V



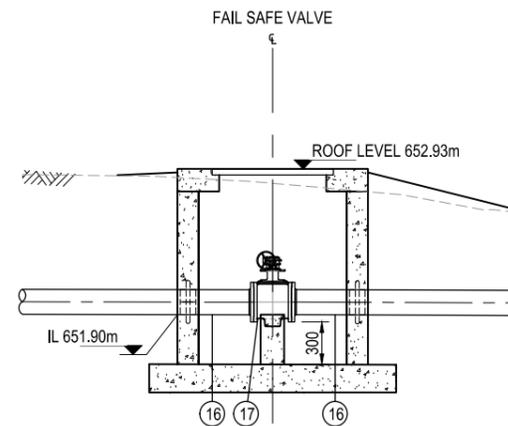
**A SECTION**  
W201 SCALE 1:25

**NOTES:**

- OVERFLOW LEVEL 652.63m RL.
- WET WELL, VALVE PIT AND FAIL SAFE VALVE TO HAVE LOCKABLE COVERS.
- ANY PENETRATIONS TO WET WELL TO BE FILLED WITH FILL AUTHORISED BY PUMP WELL MANUFACTURER.
- FOR DETAILS OF PIPE CONNECTION TO MH SEE SEW-1302-V.
- ASSUME FLOOD LEVEL TO BE SURFACE LEVEL FOR USE BY PACKAGE PUMP STATION SUPPLIER FOR ANTI-FLOTATION CALCULATION FOR INLET MANHOLE AND WET WELL.
- WET WELL AND INLET MANHOLE TO BE PRECAST WITH FACTORY APPLIED POLIBRID COATING 705 OR HYCHEM TL5 APPLIED TO WALLS AND UNDERSIDE OF ROOF.
- PROVIDE VALVES OUTSIDE OF VALVE CHAMBER WITH SHROUD AND SURFACE BOX.



**B SECTION**  
W201 SCALE 1:25

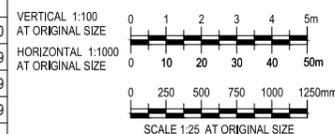


**C SECTION**  
W201 SCALE 1:25

SCHEDULE OF PIPES AND FITTINGS	
ITEM NO.	DESCRIPTION
1	SUBMERSIBLE PUMP NP 3171 SH 3-274 8L/s @ 56m OR EQUIVALENT
2	SS316 ANCHOR FIXING
3	PACKAGE PUMP STATION DISCHARGE CONNECTION
4	DN100 DICL 90° BEND
5	DN100 DICL PIPE WITH PUDDLE FLANGE AND FLANGES WITH METAL BACKING RING
6	DN100 CHECK VALVE
7	DN100 RESILIENT SEATED GATE VALVE
8	PIPE SUPPORT BRACKET
9	LEVEL TRANSDUCERS AND FITTINGS
10	HIGH ALARM LEVEL ENM10
11	GUIDE BAR
12	LIFTING CHAIN
13	CABLE STOCKING
14	CHAIN AND CABLE HOOKS
15	UPPER GUIDE BAR BRACKET
16	DN150 FL-SP DICL PIPE WITH PUDDLE FLANGE L.T.S.
17	DN150 ACTUATED PLUG VALVE WITH FAIL SAFE
18	DN150 PVC PIPE L.T.S.
19	DN125 HDPE PN16
20	DN150 KNIFE GATE VALVE AND SURFACE BOX
22	4" PE CAMLOCK MALE COUPLING
23	DN50 PVC DRAIN LINE WITH FLAP VALVE

**FOR CONSTRUCTION**

No	Revision	Note	Drawn	Job Manager	Project Director	Date
3	ISSUED FOR CONSTRUCTION		RMG	AMS	LMS	02.10.20
2	REISSUED FOR TENDER		JZL	AMS	LMS	29.11.19
1	ISSUED FOR TENDER		JAR	AMS	LMS	01.10.19
0	FINAL DETAILED DESIGN		LAC	AMS	LMS	20.06.19



GHD Tower, Level 3  
24 Honeysuckle Drive, Newcastle NSW 2300 Australia  
PO Box 5403 Hunter Rgn Mail Cent, NSW 2310  
T 61 2 4979 9999 F 61 2 4979 9988  
E ntlmail@ghd.com W www.ghd.com

**DO NOT SCALE**

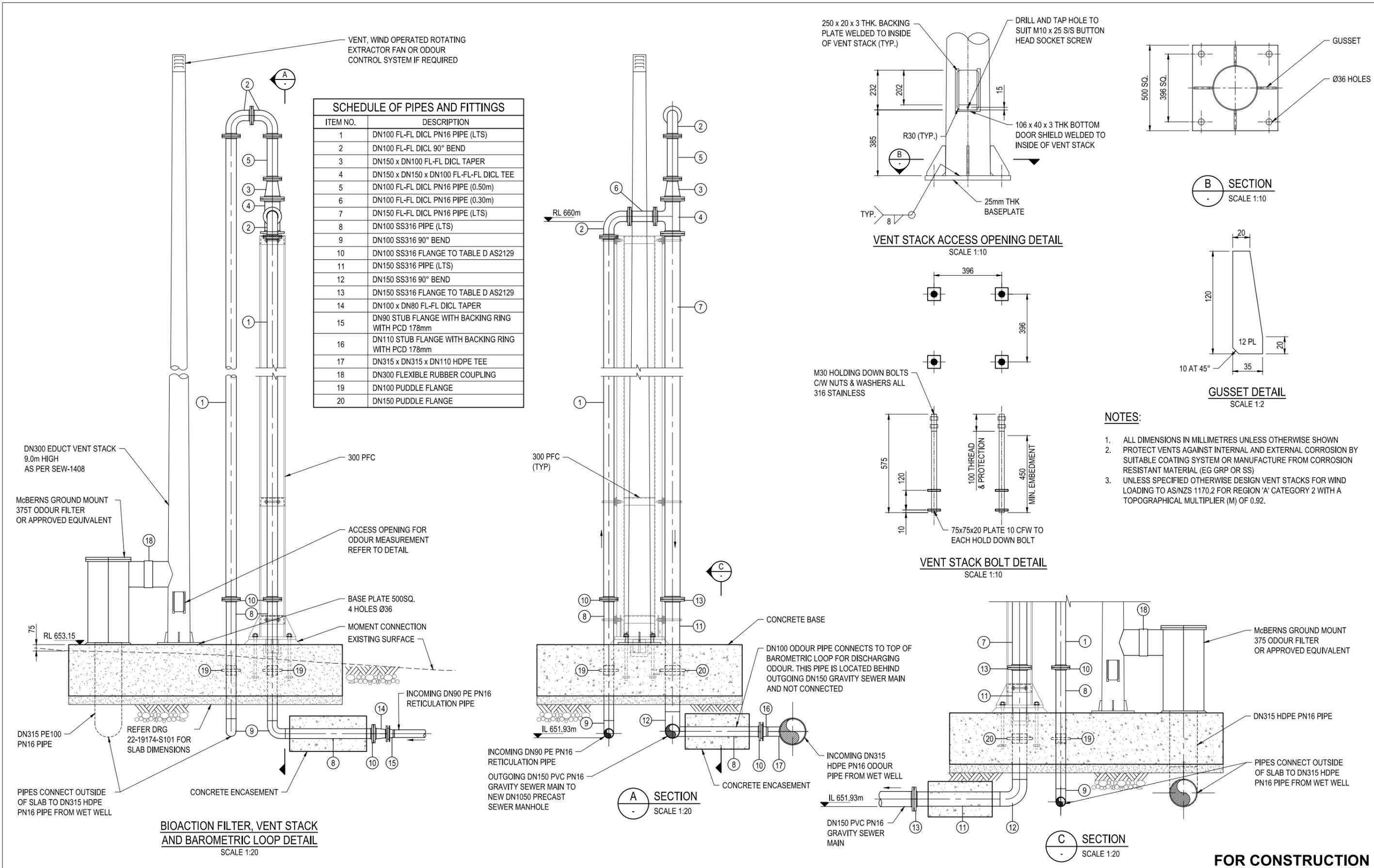
Conditions of Use.  
This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.

Drawn	J.CONTRERAS	Designer	J. CAUSE
Drafting Check	M. BUMOTAD	Design Check	A. MUNOZ
Approved (Project Director)	L. SYLVA	Date	17.06.19
Scale	AS SHOWN	This Drawing must not be used for Construction unless signed as Approved	

Client **URALLA SHIRE COUNCIL**  
Project **BUNDARRA SEWERAGE SCHEME**  
Title **BUNDARRA PUMP STATION SECTION**

Original Size **A1** Drawing No: **22-19174-W202**

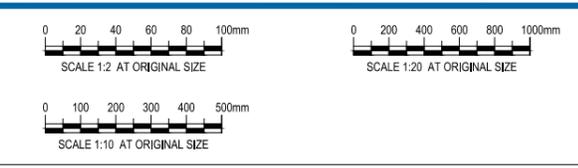
Rev: 3



**BIOACTION FILTER, VENT STACK AND BAROMETRIC LOOP DETAIL**  
SCALE 1:20

**FOR CONSTRUCTION**

No	Revision	Note: * indicates signatures on original issue of drawing or last revision of drawing	Drawn	Job Manager	Project Director	Date
2	ISSUED FOR CONSTRUCTION		JAR	AMS	LMS	02.10.20
1	ISSUED FOR TENDER		RMG	AMS	LMS	01.10.19
0	FINAL DETAILED DESIGN		LAC	AMS	LMS	20.06.19



**GHD**

GHD Tower, Level 3  
24 Honeysuckle Drive, Newcastle NSW 2300 Australia  
PO Box 5403 Hunter Rgn Mail Cent, NSW 2310  
T 61 2 4979 9999 F 61 2 4979 9988  
E ntlmail@ghd.com W www.ghd.com

**DO NOT SCALE**

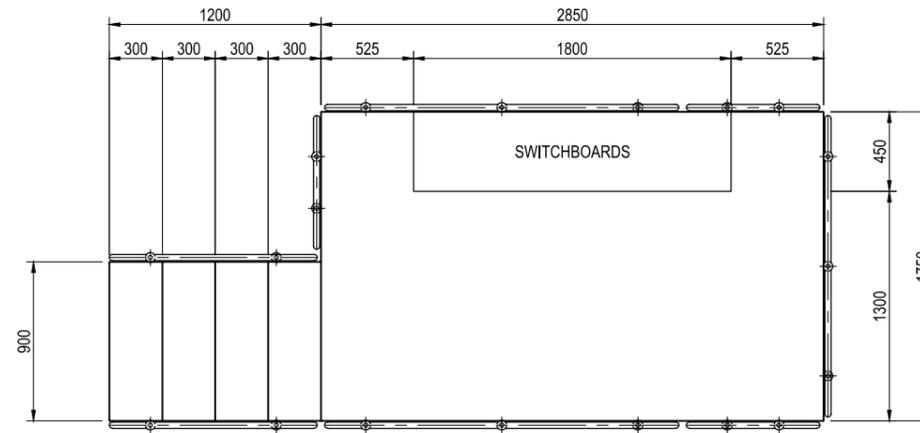
Conditions of Use:  
This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.

Drawn	J.CONTRERAS	Designer	J. CAUSE
Drafting Check	M. BUMOTAD	Design Check	A. MUNOZ
Approved (Project Director)	L. SYLVA	Date	17.06.19
Scale	AS SHOWN	This Drawing must not be used for construction unless signed as Approved	

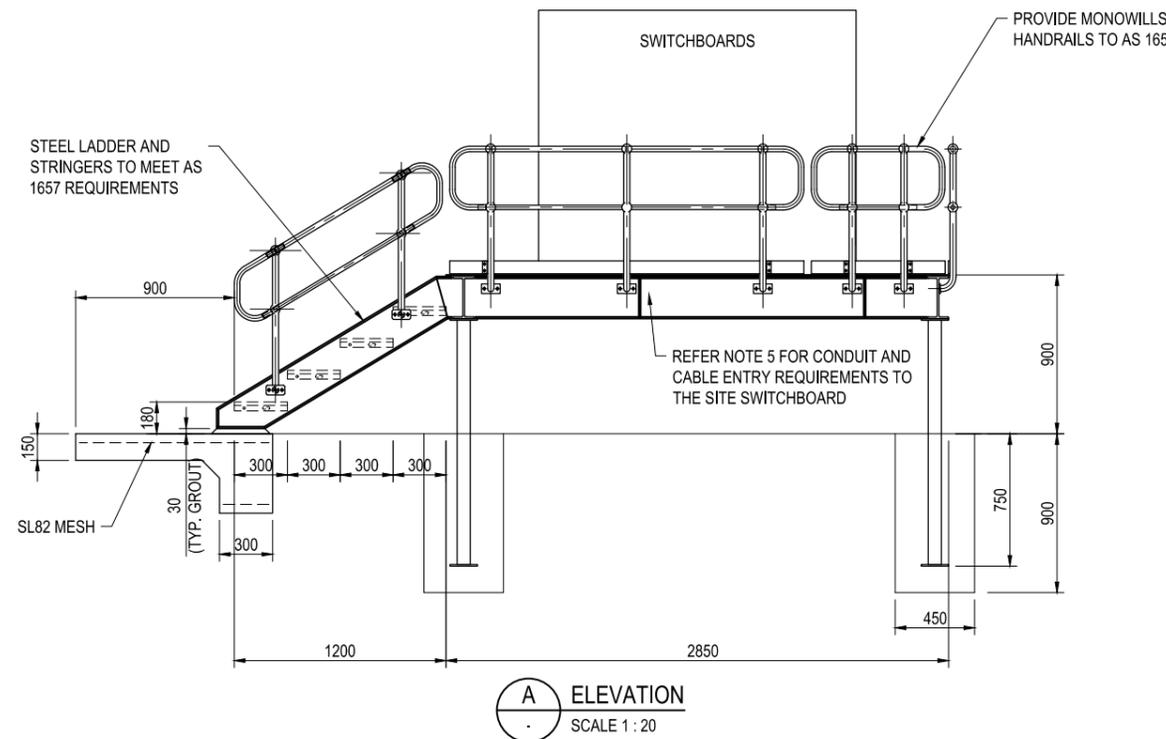
Client	<b>URALLA SHIRE COUNCIL</b>
Project	<b>BUNDARRA SEWERAGE SCHEME</b>
Title	<b>BUNDARRA PUMP STATION BAROMETRIC LOOP, VENT STACK AND GROUND MOUNT ODOUR FILTER DETAIL</b>
Original Size	A1
Drawing No:	<b>22-19174-W203</b>
Rev:	<b>2</b>

**NOTES:**

1. STAIRS AND PLATFORM TO AS1657.
2. SWITCHBOARD DIMENSIONS TYPICAL TO BE CONFIRMED BY PUMP SUPPLIER.
3. STEELWORK AND FOOTINGS TO BE DESIGN BY CONTRACTOR. STEELWORK SHALL BE DESIGN IN ACCORDANCE WITH AS4100 BY A SUITABLY QUALIFIED CHARTERED ENGINEER.
4. PLATFORM SHALL COMPLY WITH AS1170 ENSURING IT CAN WITHSTAND MIN. 2.50 kPa LOAD.
5. ALL CABLES WILL ENTER / EXIT THE SWITCHBOARD FROM THE BOTTOM VIA UNDERGROUND CONDUITS. CONDUITS ENTERING / EXITING THE SWITCHBOARD WILL TURN UP AND RUN VERTICALLY TO THE UNDERSIDE OF THE PLATFORM. FIXED STEEL COVER TO PROTECT CONDUITS.



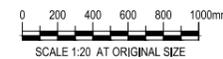
**PROPOSED PLATFORM PLAN**  
SCALE 1:20



**A ELEVATION**  
SCALE 1:20

**FOR CONSTRUCTION**

No	Revision	Note: * indicates signatures on original issue of drawing or last revision of drawing	Drawn	Job Manager	Project Director	Date
2	ISSUED FOR CONSTRUCTION		RMG	AMS	LMS	02.10.20
1	ISSUED FOR TENDER		JAR	AMS	LMS	01.10.19
0	FINAL DETAILED DESIGN		LAC	AMS	LMS	20.06.19



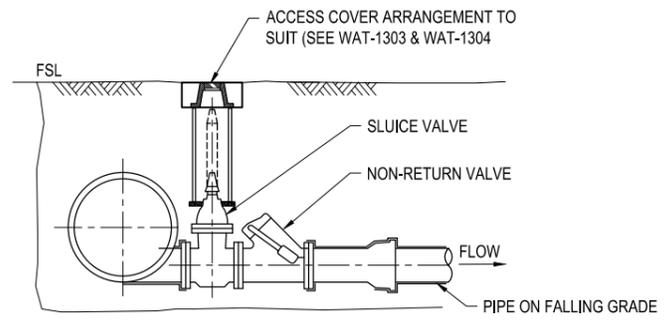
GHD Tower, Level 3  
24 Honeysuckle Drive, Newcastle NSW 2300 Australia  
PO Box 5403 Hunter Rgn Mail Cent. NSW 2310  
T 61 2 4979 9999 F 61 2 4979 9988  
E ntlmail@ghd.com W www.ghd.com

**DO NOT SCALE**

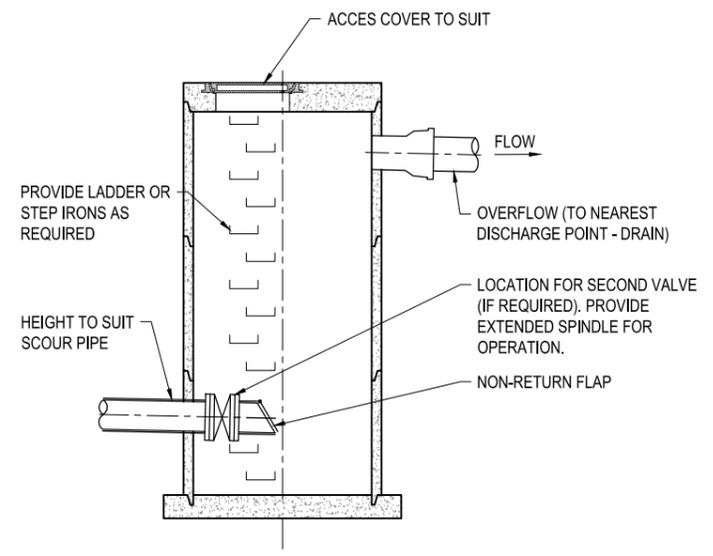
Conditions of Use.  
This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.

Drawn	R. ONDILLO	Designer	M. BLANDFORD
Drafting Check	M. BUMOTAD	Design Check	A. MUNOZ
Approved (Project Director)	L. SYLVA	Date	17.06.19
Scale	1:20	This Drawing must not be used for Construction unless signed as Approved	

Client	<b>URALLA SHIRE COUNCIL</b>
Project	<b>BUNDARRA SEWERAGE SCHEME</b>
Title	<b>BUNDARRA PUMP STATION SWITCHBOARD CONTROL PLATFORM DETAIL</b>
Original Size	<b>A1</b>
Drawing No:	<b>22-19174-W204</b>
Rev:	<b>2</b>

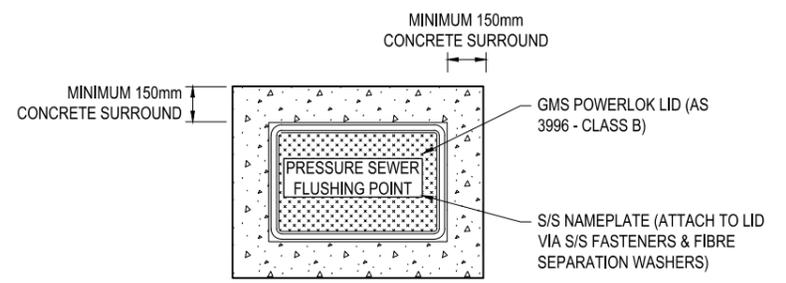


**SCOUR CONNECTION DETAIL**  
SCALE: NTS

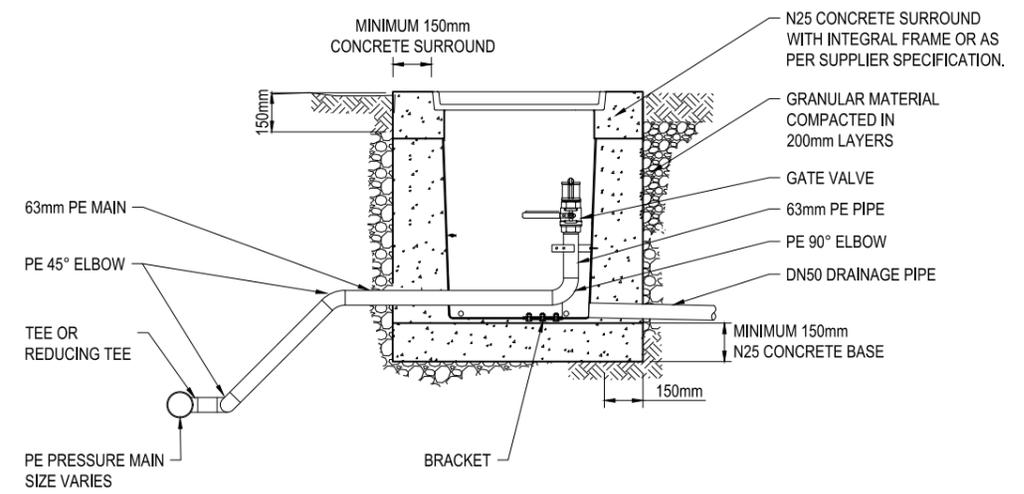


**SCOUR DISCHARGE COLLECTION / PUMP OUT SUMP**  
SCALE: NTS

**SCOUR CONNECTION FOR SEWER RISING MAIN**



**PLAN**  
NTS



**SECTION**  
SCALE: NTS

**FLUSHING POINT - TO SUIT TRAFFICABLE LIGHT DUTY AS 3996 CLASS B**

**NOTES:**

1. ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE NOTED.
2. USE ONLY APPROVED COMPONENTS.
3. ENSURE COVER IS MARKED AS SHOWN. WHERE THE WARNING / NAME PLATE IS NOT CAST OR MOULDED INTO THE COVER, AFFIX AN ENGRAVED SS NAME PLATE USING SS FASTENERS.
4. PREPARE BEDDING UNDER PIT TO PROVIDE FIRM STABLE FOUNDATION.
5. INSTALL THE CLASS OF COVER AND FRAME AS SPECIFIED IN THE DESIGN DRAWINGS.
6. TEST ASSEMBLY AND CONNECTING PRESSURE SEWERS HYDROSTATICALLY AFTER INSTALLATION IN ACCORDANCE WITH CODE.
7. ALL PRESSURE PIPEWORK ITEMS TO BE PN16.
8. SCOUR CONNECTIONS TO BE INSTALLED AS PER WAT-1307.
9. FLUSHING POINTS TO BE INSTALLED AS PER PSS-1007.

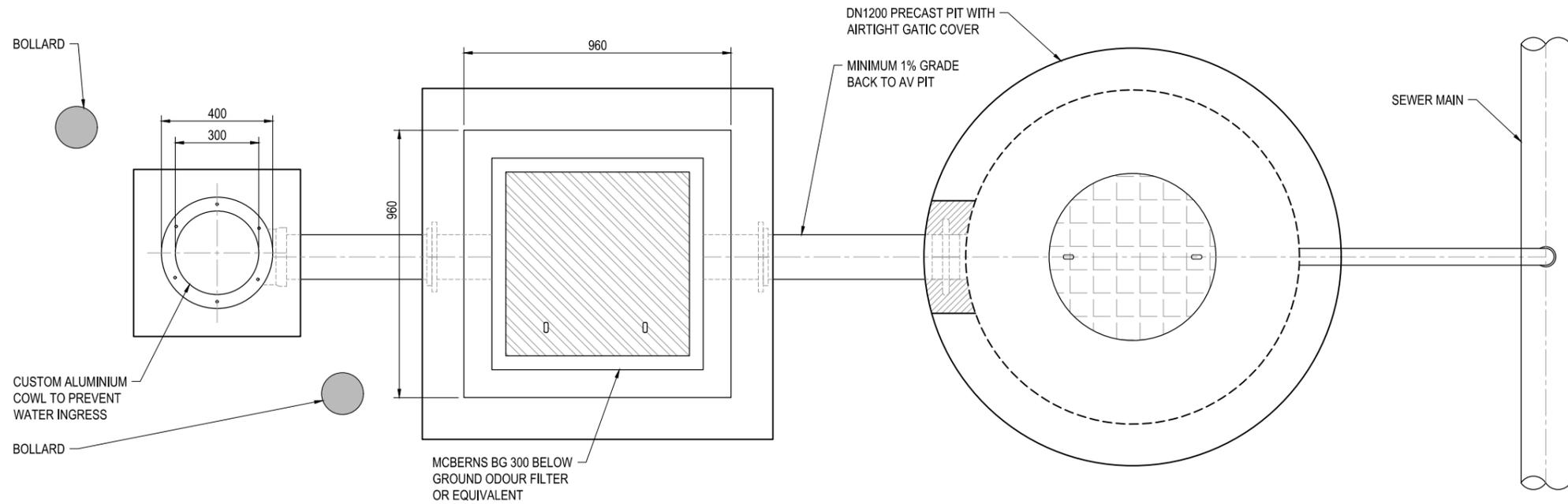
**FOR CONSTRUCTION**

No	Revision	Note: * indicates signatures on original issue of drawing or last revision of drawing	Drawn	Job Manager	Project Director	Date
2	ISSUED FOR CONSTRUCTION		JZL	AMS	LMS	02.10.20
1	ISSUED FOR TENDER		JAR	AMS	LMS	01.10.19
0	FINAL DETAILED DESIGN		LAC	AMS	LMS	20.06.19

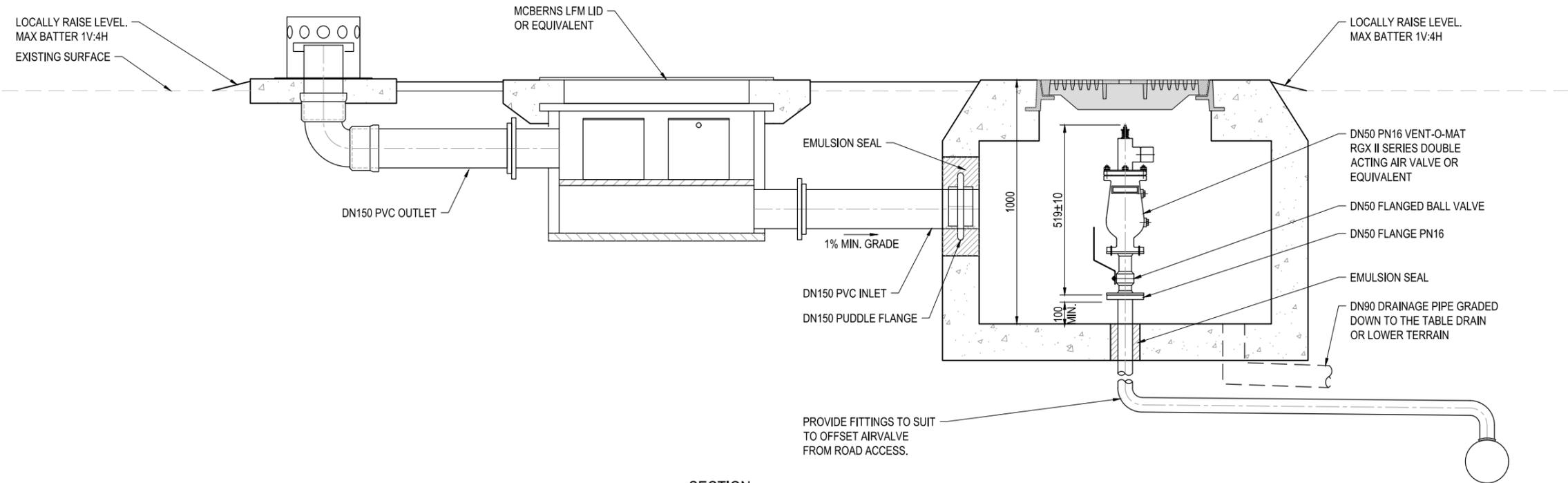
**GHD**  
 GHD Tower, Level 3  
 24 Honeysuckle Drive, Newcastle NSW 2300 Australia  
 PO Box 5403 Hunter Rgn Mail Cent, NSW 2310  
 T 61 2 4979 9999 F 61 2 4979 9988  
 E ntlmail@ghd.com W www.ghd.com

<b>DO NOT SCALE</b>	Drawn R. GERONIMO	Designer J. CAUSE
	Drafting Check M. BUMOTAD	Design Check A. MUNOZ
	Approved (Project Director) L. SYLVA	Date 17.06.19
	Scale NTS	This Drawing must not be used for Construction unless signed as Approved

Client	<b>URALLA SHIRE COUNCIL</b>
Project	<b>BUNDARRA SEWERAGE SCHEME</b>
Title	<b>PRESSURE SEWER MAINS TYPICAL DETAILS SCOUR CONNECTION AND FLUSHING POINT</b>
Original Size	<b>A1</b>
Drawing No:	<b>22-19174-W250</b>
Rev:	<b>2</b>



PLAN  
SCALE 1:10



SECTION  
SCALE 1:10

ODOUR FILTER WITH BELOW GROUND AIR VALVE  
TYPICAL DETAILS

FOR CONSTRUCTION

3	ISSUED FOR CONSTRUCTION	JZL	AMS	LMS	02.10.20	
2	REISSUED FOR TENDER	JZL	AMS	LMS	29.11.19	
1	ISSUED FOR TENDER	JAR	AMS	LMS	01.10.19	
0	FINAL DETAILED DESIGN	LAC	AMS	LMS	20.06.19	
No	Revision	Note: * indicates signatures on original issue of drawing or last revision of drawing	Drawn	Job Manager	Project Director	Date



GHD Tower, Level 3  
24 Honeysuckle Drive, Newcastle NSW 2300 Australia  
PO Box 5403 Hunter Rgn Mail Cent, NSW 2310  
T 61 2 4979 9999 F 61 2 4979 9988  
E ntlmail@ghd.com W www.ghd.com

DO NOT SCALE

Conditions of Use.  
This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.

Drawn	J. CONTRERAS	Designer	J. CAUSE
Drafting Check	M. BUMOTAD	Design Check	A. MUNOZ
Approved (Project Director)	L. SYLVA	Date	17.06.19
Scale	1:10	This Drawing must not be used for Construction unless signed as Approved	

Client	URALLA SHIRE COUNCIL
Project	BUNDARRA SEWERAGE SCHEME
Title	ODOUR FILTER WITH BELOW GROUND AIR VALVE TYPICAL DETAILS
Original Size	A1
Drawing No:	22-19174-W251
Rev:	3