

August 15, 2017

Dear Sir:

Attached is Addendum No. 4 dated August 15, 2017 to the Specifications for The Manitoba Water Services Board Contract No. M.W.S.B. 1374, Town of Stonewall Wastewater Treatment Lagoon Upgrade. Please verify receipt of this Addendum for our records by fax to (204) 726-6290.

ACKNOWLEDGEMENT OF RECEIPT OF ALL ADDENDUMS
MUST BE INCLUDED IN THE TENDER SUBMISSION.**

Failure to include acknowledgement shall cause the tender to be rejected. If Tender is submitted before Addendum is issued, the Board will accept a faxed acknowledgement prior to the tender closing.

Yours truly,

R. Lytle
Construction Manager

The Manitoba Water Services Board
Unit #1A - 2010 Currie Blvd.
Brandon, MB R7B 4E7

Dear Sir:

We have received Addendum No. 4 dated August 15, 2017 to the Specifications for The Manitoba Water Services Board Contract No. M.W.S.B. 1374, Town of Stonewall Wastewater Treatment Lagoon Upgrade.

Yours truly,

Company

Per

TOWN OF STONEWALL WASTEWATER TREATMENT LAGOON UPGRADE

MWSB #1374

734-1615360100-TS-C0005-00

ADDENDUM No.4

Please note the changes, corrections, additions, deletions, information, and/or instructions in connection with the work to be done under this Contract, and submit prices and be governed accordingly. This Addendum shall be incorporated with the specifications and shall form part of the Contract Documents.

Please acknowledge receipt of this Addendum in the Bid Form.

FAILURE TO ACKNOWLEDGE RECEIPT OF THIS ADDENDUM IN THE BID FORM MAY RENDER THE BID INFORMAL.

Date _____ Signature _____

ADDENDUM NUMBER: 4
DATE OF ISSUE: August 15, 2017
ISSUED BY: Brian McIntosh, P.Eng.
Telephone: 204.954.6876

This Addendum forms part of the Contract Documents and amends the original Specifications, dated July, 2017.

This Addendum consists of 7 pages, including the signature page.

Ensure that all parties submitting bids are aware of all items included in this Addendum.

ITEM 1 SEWAGE FORCEMAIN

Drawing C0009 R2 is to replace the existing Drawing C0009 R1.

The transition from 400 mm PVC DR41 to 450 mm HDPE DR17 has been shifted from STA 8+10.00 to STA 7+18.00. The cleanout wye is to be installed as part of the HDPE.

ITEM 2 SCHEDULE OF PRICES R3

1. The following estimated quantities have been revised:
 - a. Item 7.a. "Forcemain - 400 mm PVC DR41" - estimated quantities reduced from 1,046 lin.m. to 954 lin.m.
 - b. Item "7.b. 450 mm HDPE DR17" - estimated quantities increased from 130 lin.m to 222 lin.m.

The revised Schedule of Prices is attached to this Addendum.

ITEM 3 QUESTIONS

Q.: Is there a detail on the new pumped drain manhole or does the pipe just drain into it?

A.: The pipe just drains into the manhole. The revised drawing C0025 R1 showing the new manhole detail is attached to this Addendum.

Q.: What material is to be used for the cleanout wye?

A.: Cleanout wye will be installed in the HDPE section of forcemain.

Q.: Currently, 330514 – MANHOLES & CHAMBERS; 2.5 calls for XYPEX system and we would like to request that our CEM-KOTE CW PLUS be reviewed for alternate approval.

XYPEX CONCENTRATE = CEM-KOTE CW PLUS

XYPEX PATCH N' PLUG = MEADOW-PLUG

XYPEX MODIFIED = CEM-KOTE FLEX CR

A.: The proposed products are approved as alternate products.

END OF ADDENDUM No. 4

SCHEDULE OF PRICES R3

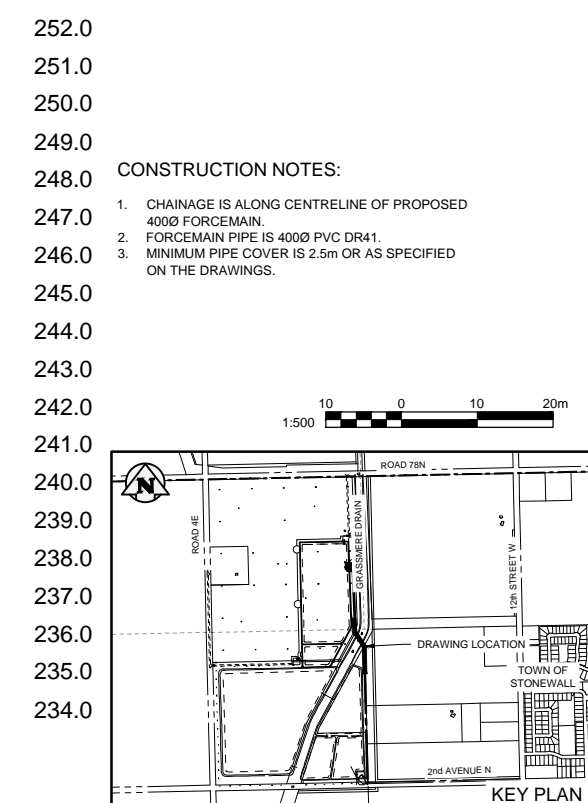
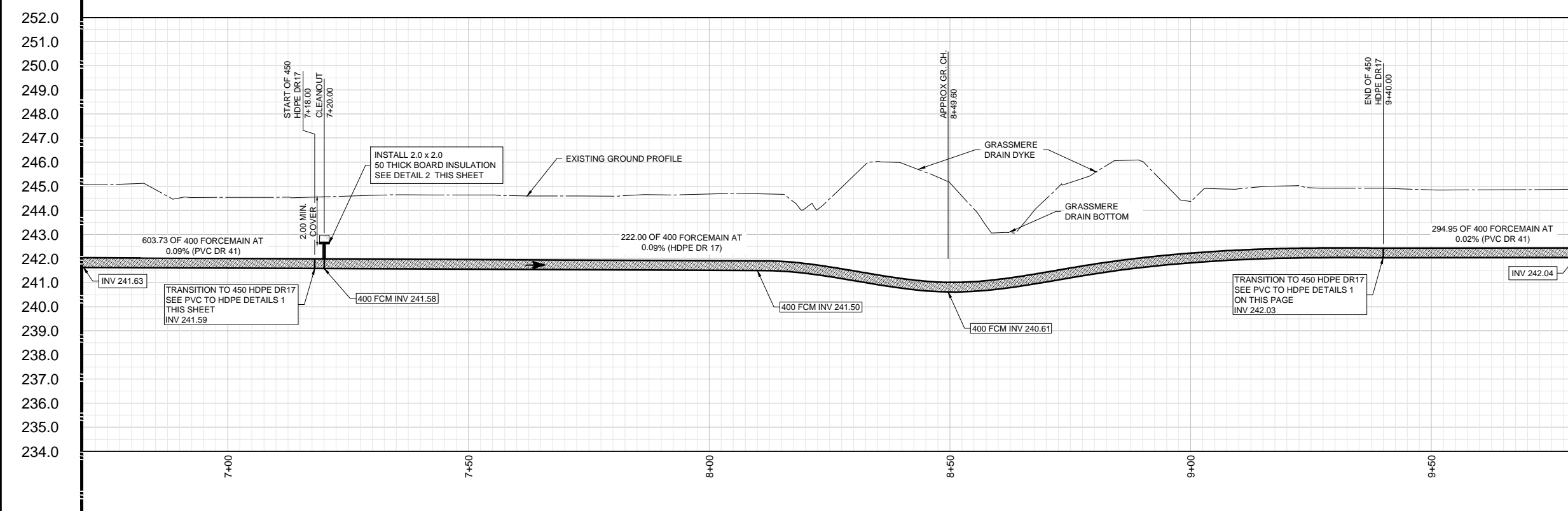
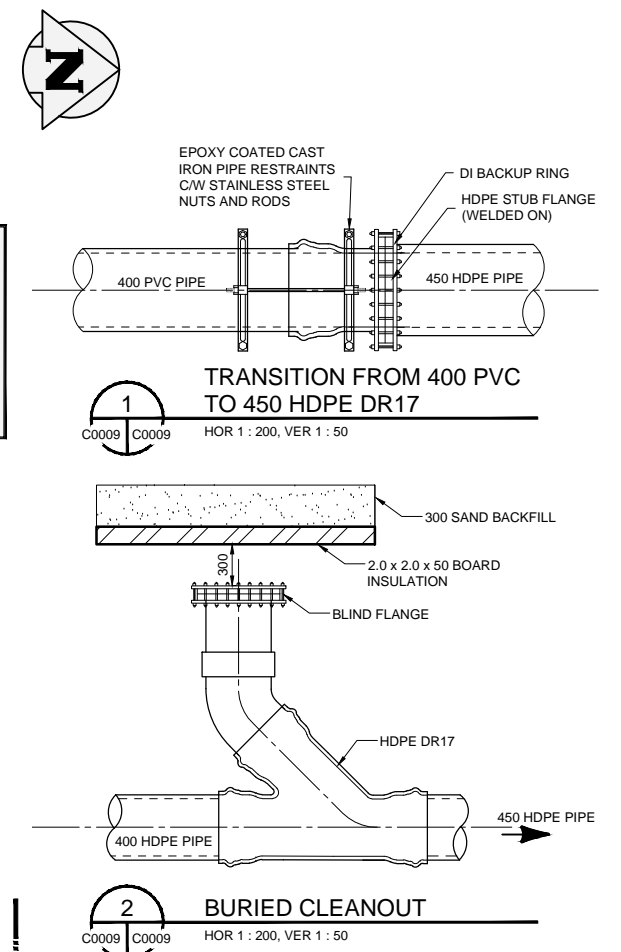
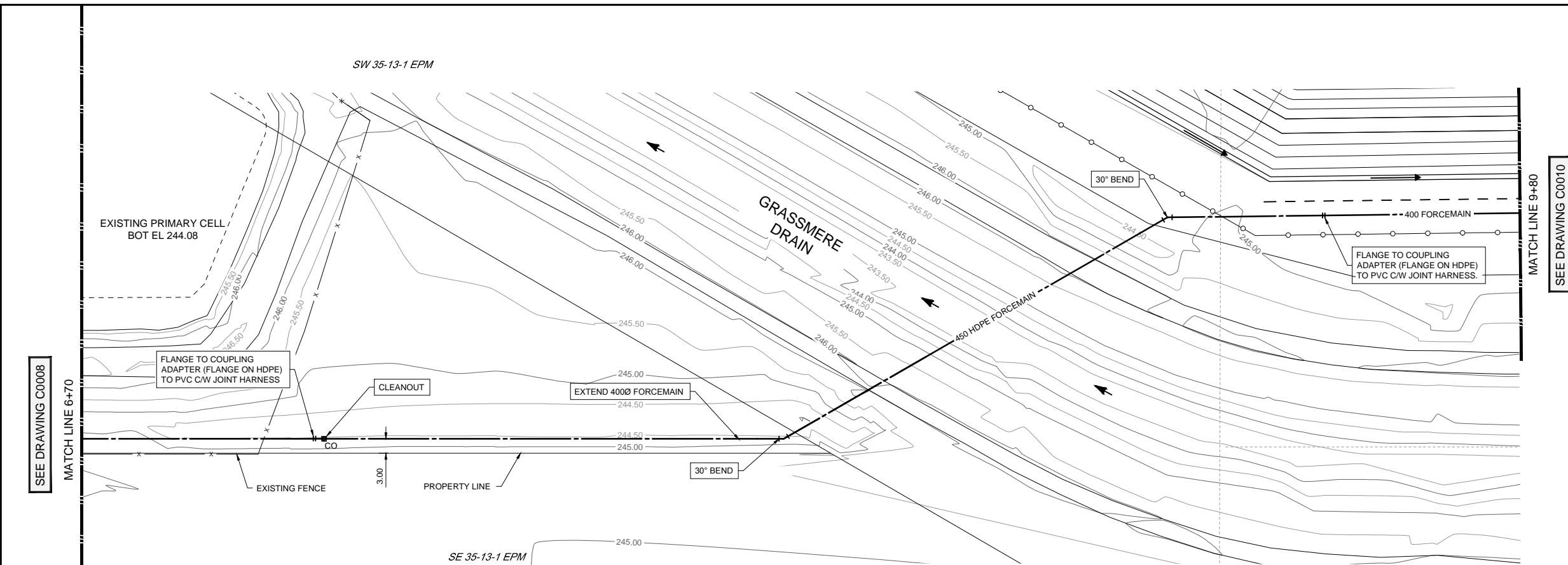
PROJECT NO. MWSB 1374

DESCRIPTION OF WORK	ESTIMATED QUANTITIES	UNIT	UNIT PRICE \$0.00	TOTAL \$0.00
1. Clearing and Grubbing	7,500	m ²		
2. Topsoil stripping and stockpiling	28,950	m ³		
3. Excavation and Embankment				
a. Common	214,000	m ³		
b. Unsuitable Material	22,000	m ³		
4. Granular Material				
a. Base Class A (200 mm thick)	1,960	m ³		
b. Subbase Class C (400 mm thick) with Geotextile	3,920	m ³		
5. Rip Rap with Geotextile	12,400	m ²		
6. Truck Dump Station and Splash Pad	1	l.s.		
7. Forcemain				
a. 400 mm PVC DR41	954	lin.m.		
b. 450 mm HDPE DR17	222	lin.m.		
c. Connection to Existing Forcemain	1	ea		
d. Cleanout	1	ea		
8. Inter-cell and Discharge Piping (300 mm):	350	lin.m.		
a. Inter-cell piping between the new settling cell and the exiting primary cell (crossing under Grassmere Drain)	119	lin.m.		
b. Other inter-cell and discharge piping	231	lin.m.		
9. Gate Valves:				
a. 300 mm	7	ea		
b. 400 mm	1	ea		
10. Manholes				
a. 1200 mm Diameter	18	vt.m.		
b. 1800 mm Diameter	5	vt.m.		
c. 2100 mm Diameter	7	vt.m.		
11. Culverts (450 mm)	26	lin.m.		
12. Perimeter Fencing inc. Alum Building Access Gate	1,680	lin.m		
13. Removal of Existing Fence	248	lin.m.		
14. Replacement of Existing Perimeter Fence	2,500	lin.m.		
15. Sliding Gate to Truck Dump Station	1	l.s.		

SCHEDULE OF PRICES R3

PROJECT NO. MWSB 1374

DESCRIPTION OF WORK	ESTIMATED QUANTITIES	UNIT	UNIT PRICE \$0.00	TOTAL \$0.00
16. Site Lighting	1	l.s.		
17. Ditching	6,020	m ³		
18. Alum Addition System inc. Building	1	l.s.		
19. Borrow Area Restoration	45,000	m ³		
20. Topsoil and Seeding	32,150	m ²		
21. Lagoon Signage	1	l.s.		
Cash Allowance – New Power Line				\$ 100,000
Extra Work Allowance				\$ 200,000
	Subtotal			\$
*PST must be included in unit prices.	Goods & Services Tax (5% of Subtotal)			\$
	TOTAL TENDER PRICE			\$



METRIC

WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

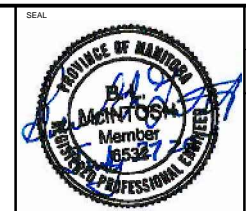
NO.	DATE (yy.mm.dd)	DESCRIPTION	DRAWN	REVIEW	DESIGN	AUTHORIZE
1	17.08.15	ISSUED FOR ADDENDUM No. 4				
0	17.07.28	ISSUED FOR TENDER				

REVISIONS/ISSUE	DRAFTING	ENGINEERING

PERMIT STAMP

ENGINEERS
GEOSCIENTISTS
MANITOBA

Certificate of Authorization
Tetra Tech Canada Inc.
No. 6499



DESIGNED BY: GWC / LVC
DRAWN BY: GMD
REVIEWED BY: BLM

AUTHORIZED BY: DK
DATE: 2017-08-15
SCALE: Hor 1:500
Ver 1:100

Manitoba Water Services Board

TETRA TECH
Complex World
Clear Solutions

TOWN OF STONEWALL
WASTEWATER TREATMENT LAGOON UPGRADE

DRAWING DESCRIPTION:
PROPOSED 400 FORCEMAIN
PLAN/PROFILE
STATION 6+70 TO STATION 9+80
(SHEET 3 OF 4)

TETRA TECH DRAWING No: 1615360100-DWG-C0009
MWSB No: 1374
SHEET No: **C0009**
REV: 1

BEND DEFLECTION
 90° 1.4A
 45° 0.7A
 22 1/2° 0.35A
 11 1/4° 0.18A

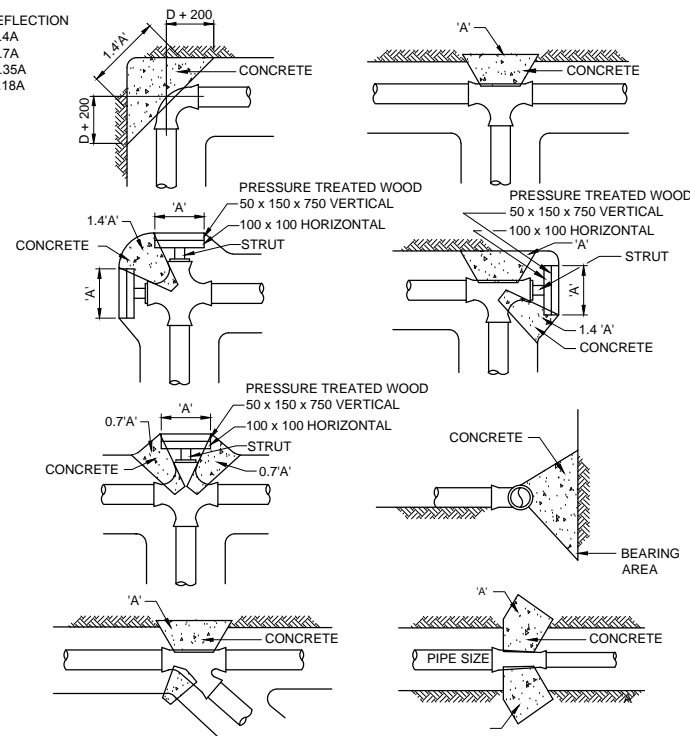


TABLE - FOR CALCULATION OF BASIC THRUST BLOCK BEARING AREA (m²)

PIPE SIZE	150	200	250	300	350	400	450	500
'A'	0.40	0.68	1.06	1.54	2.08	2.72	3.44	5.00

1 THRUST BLOCK

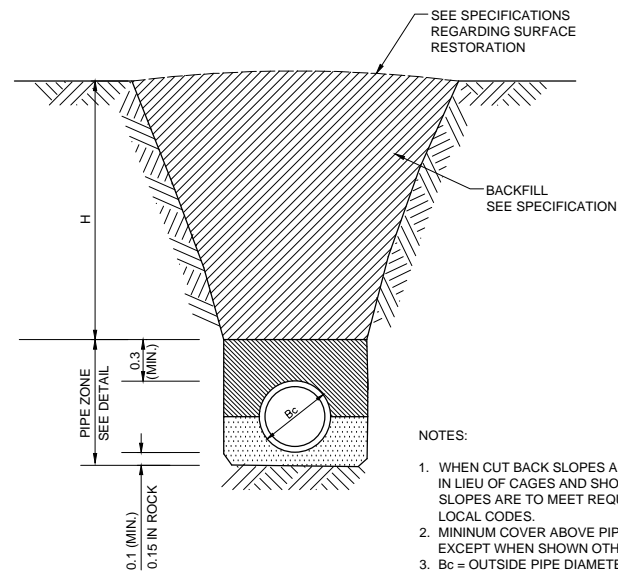
C0025 C0025

THRUST BLOCK DESIGN IS BASED ON:

- 1050kPa MAX. SYSTEM PRESSURE OR 700kPa OPERATING PRESSURE PLUS A SURGE ALLOWANCE OF 345kPa (2ps SURGE ALLOWANCE AT 25psi/ft)
- THRUST BLOCK DESIGN ASSUMES A MIN. VERTICAL SOIL BEARING OF 100kPa
- THRUST BLOCK BEARING AREA BASED ON P.V.C. PIPE (AWWA C900 AND C905 DR18)
- CONCRETE 20MPa TYPE 50 CEMENT.
- STRUT: PRESSURE TREATED WOOD, DIMENSIONS EQUAL TO PIPE DIAMETER.

PIPE SIZE (D) (millimetres)	ANGLE OF BEND	VOLUME OF VERTICAL BEND UP (m ³)	DIMENSIONS FOR CONCRETE THRUST BLOCKS FOR VERTICAL BENDS * (millimetres)				
			A	B	C	D	E
150	11 1/4°	0.21	265	750	450	750	1050
	22 1/2°	0.41	385	1000	450	750	1050
	45°	0.75	715	1000	600	750	1050
200	11 1/4°	0.36	340	1000	450	750	1050
	22 1/2°	0.70	665	1000	450	750	1050
	45°	1.29	1025	1200	600	750	1050
250	11 1/4°	0.53	510	1000	450	1000	1050
	22 1/2°	1.05	835	1200	450	1000	1050
	45°	1.94	1230	1500	600	1000	1050
300	11 1/4°	0.76	685	1050	600	1050	1050
	22 1/2°	1.48	940	1500	600	1050	1050
	45°	2.74	1450	1800	750	1050	1050
350	11 1/4°	1.02	805	1200	600	1200	1050
	22 1/2°	1.99	1055	1800	600	1200	1050
	45°	3.68	1630	2150	750	1200	1050
400	11 1/4°	1.31	835	1500	1000	1350	1050
	22 1/2°	2.58	1140	2150	1050	1350	1050
	45°	4.76	1850	2450	1200	1350	1050
450	11 1/4°	1.65	1045	1500	1050	1350	1050
	22 1/2°	3.24	1435	2150	1050	1350	1050
	45°	5.98	1965	2900	1350	1350	1050

* TEST PRESSURE 1.0 MPa, SOIL BEARING PRESSURE = 71.8 kPa
 * IF DIMENSION FOR A PARTICULAR SIDE OF THE THRUST BLOCK VARIES FROM THAT SHOWN, ADJUST REMAINING DIMENSIONS TO OBTAIN REQUIRED VOLUME



NOTES:

- WHEN CUT BACK SLOPES ARE TO BE USED IN LIEU OF CAGES AND SHORING, THESE SLOPES ARE TO MEET REQUIREMENTS OF LOCAL CODES.
- MINIMUM COVER ABOVE PIPE IS 2.5m EXCEPT WHEN SHOWN OTHERWISE.
- B_c = OUTSIDE PIPE DIAMETER.

3 COMMON TRENCH INSTALLATION

C0025 C0025

LEGEND:

- H = TRENCH DEPTH ABOVE BEDDING ZONE
 B_c = OUTSIDE PIPE DIAMETER
 d = DEPTH OF BEDDING MATERIAL BELOW PIPE (100mm MIN., 150mm IN ROCK)
 A_s = AREA OF TRANSVERSE STEEL IN THE CRADLE OR ARCH EXPRESSED AS A PERCENTAGE OF AREA OF CONCRETE AT INVERT OR CROWN.
 L_f = LOAD FACTOR

4 PIPE ZONE

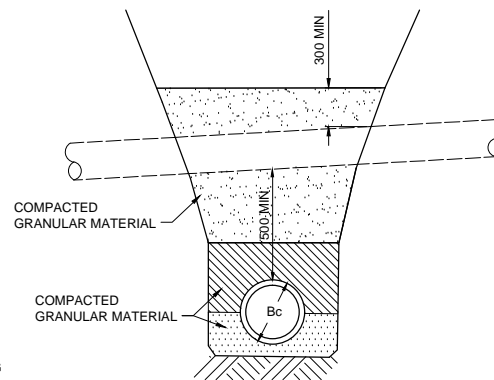
C0025 C0025

NOTE:

- SUPPORT ALL EXISTING UTILITIES
- ANY DAMAGE AS A RESULT OF CONSTRUCTION MUST BE REPAIRED AT NO EXTRA COST.

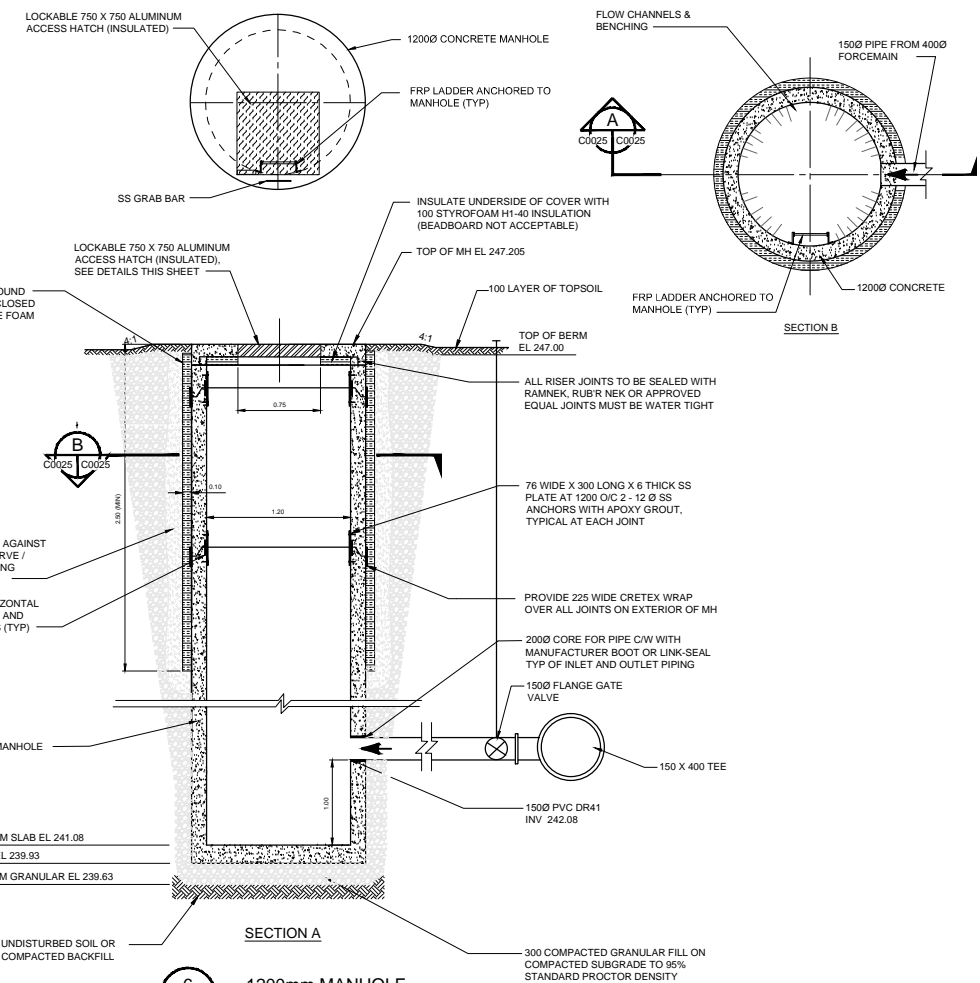
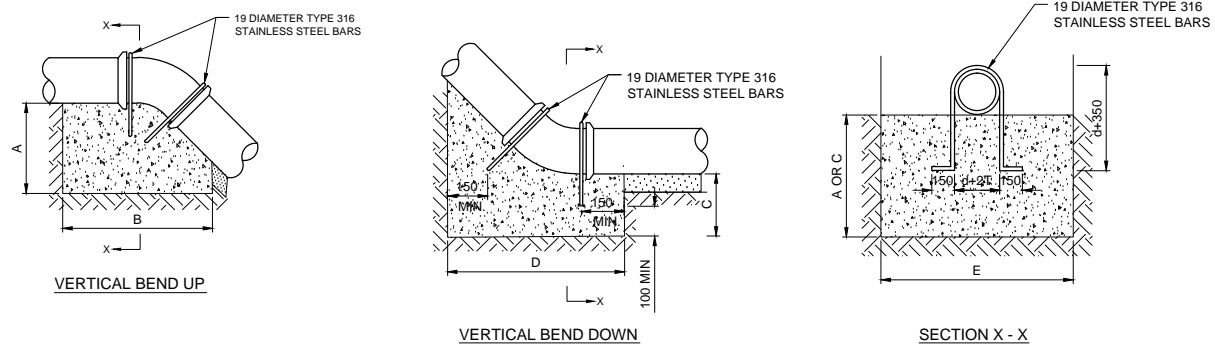
5 PIPE SUPPORT

C0025 C0025



2 VERTICAL THRUST BLOCK

C0025 C0025



NOTES:

- PRECAST RINGS, CONES AND BARRELS TO MEET CURRENT ASTM C478 STANDARDS.
- INLET AND OUTLET PIPES TO BE GROUTED FLUSH WITH WALL.
- SAFETY STEP SPACING TO BE EQUALLY SPACED AT A MAX. OF 410mm APART TO WITHIN 300mm BELOW COVER AND TO WITHIN 600mm OF THE BASE OR BENCHING.
- COMPACT BACKFILL AROUND MH TO A MIN. OF 95% STANDARD PROCTOR DENSITY.
- ACCESS HATCH SHALL BE ALUMINIUM, WITH SLIP RESISTANT CHECKERPLATE LID, GASKETED DRAIN CHANNEL, CAST IN PLACE TYPE LATCH, SLAM LOCK WITH OPERATOR AND SEALING FLUG PARTS FOR DAMKES OR INLET DIFFERED BY 200mm THIRD PARTY ACCESS. ACCESS HATCH SHALL HAVE STAINLESS STEEL BUTT HINGES, TYPE 316 STAINLESS HARDWARE THROUGHOUT. ALL FASTENERS COUNTERSINK HOLD OPEN ARM, FLUSH LIFTING HANDLE AND RECESSED PADLOCK HASP OR LOCK TAB. ACCESS HATCH SHALL BE RATED FOR LIVE LOAD OF 300 PSF. ONE SINGLE DOOR 900 X 900 C/W INSULATION AND BACKPAN SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S INSTRUCTIONS. ACCESS HATCHES SHALL BE MSU TYPE M OR APPROVED EQUAL.
- CONTRACTOR TO SUBMIT SHOP DRAWINGS FOR MANHOLE AND ACCESS HATCH.
- IF PVC PIPE IS USED, FITTINGS AND PIPE TO BE SOLVENT WELDED.
- CAST-IN-PLACE CONCRETE BASE MAY BE USED. CAST-IN-PLACE CONCRETE TO BE TYPE 50 25MPa IN 28 DAYS. CAST-IN-PLACE CONCRETE BASE TO BE MIN. 150mm THICK AND CONSTRUCTED ON UNDISTURBED SOIL.
- PRECAST RINGS, CONES AND BARRELS TO MEET CURRENT ASTM C478 STANDARDS.
- INLET PIPE TO BE GROUTED FLUSH WITH WALL.
- CHANNELLING AND BENCHING TO BE FINISHED TO TROWEL SMOOTHNESS.

6 1200mm MANHOLE

C0004 C0025 NTS

METRIC
 WHOLE NUMBERS INDICATE MILLIMETRES
 DECIMALIZED NUMBERS INDICATE METRES

NO.	DATE (yy.mm.dd)	DESCRIPTION	DRAWN	REVIEW	DESIGN	AUTHORIZE
1	17.08.15	ISSUED FOR ADDENDUM 4			GMD	BLM LVC DRK
0	17.07.28	ISSUED FOR TENDER			GMD	BLM LVC DRK
REVISIONS/ISSUE			DRAFTING ENGINEERING			

PERMIT STAMP
 ENGINEERS GEOSCIENTISTS MANITOBA
 Certificate of Authorization
 Tetra Tech Canada Inc.
 No. 6499



DESIGNED BY: LVC
 DRAWN BY: LVC
 REVIEWED BY: BLM
 AUTHORIZED BY: DK
 DATE: 2017-08-15
 SCALE: NTS



TOWN OF STONEWALL
 WASTEWATER TREATMENT LAGOON UPGRADE
 STANDARD DETAILS
 SHEET 3 OF 3
 TETRA TECH DRAWING No: 1615360100-DWG-C0025
 MWSB No: 1374
 SHEET No: C0025
 REV: 1