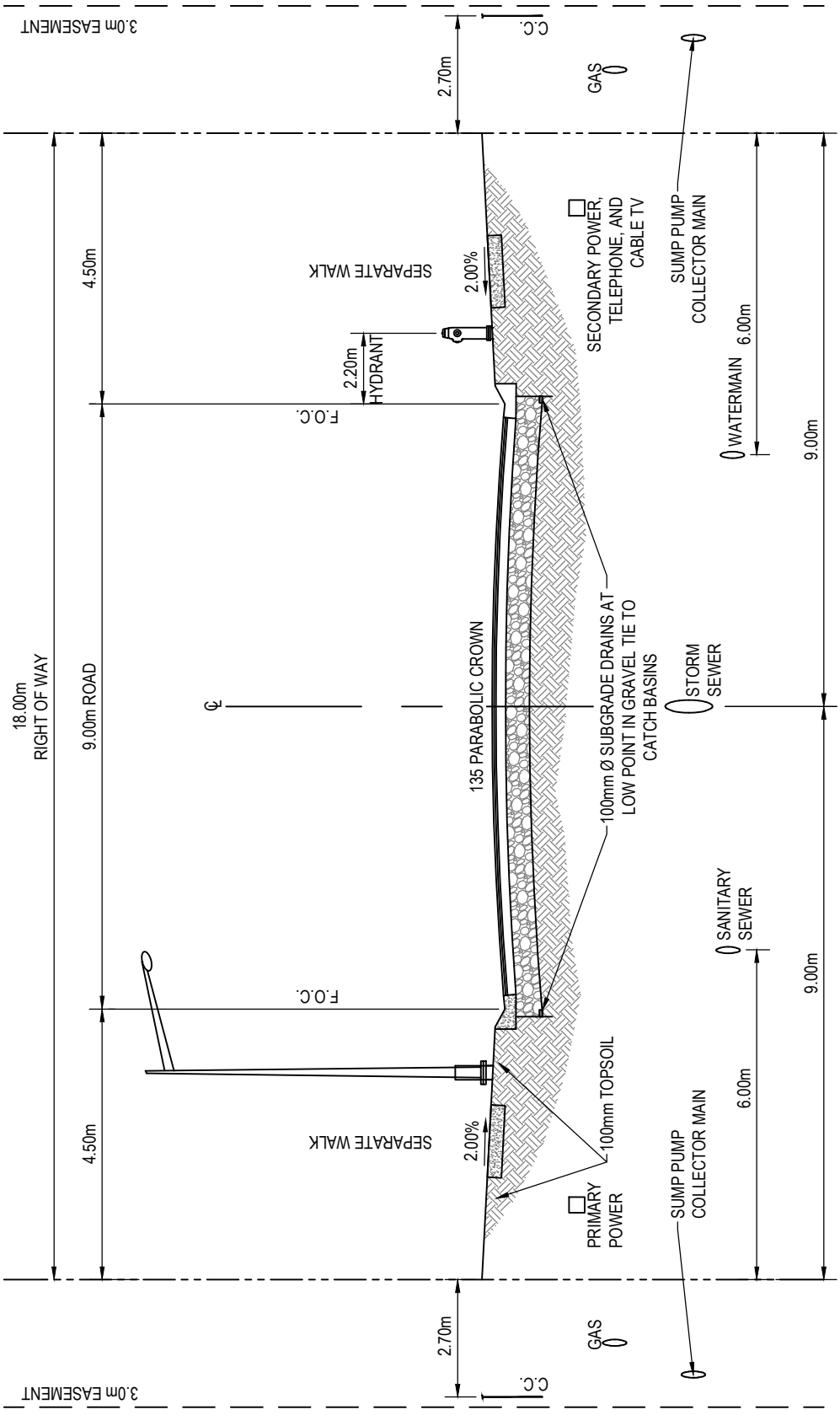
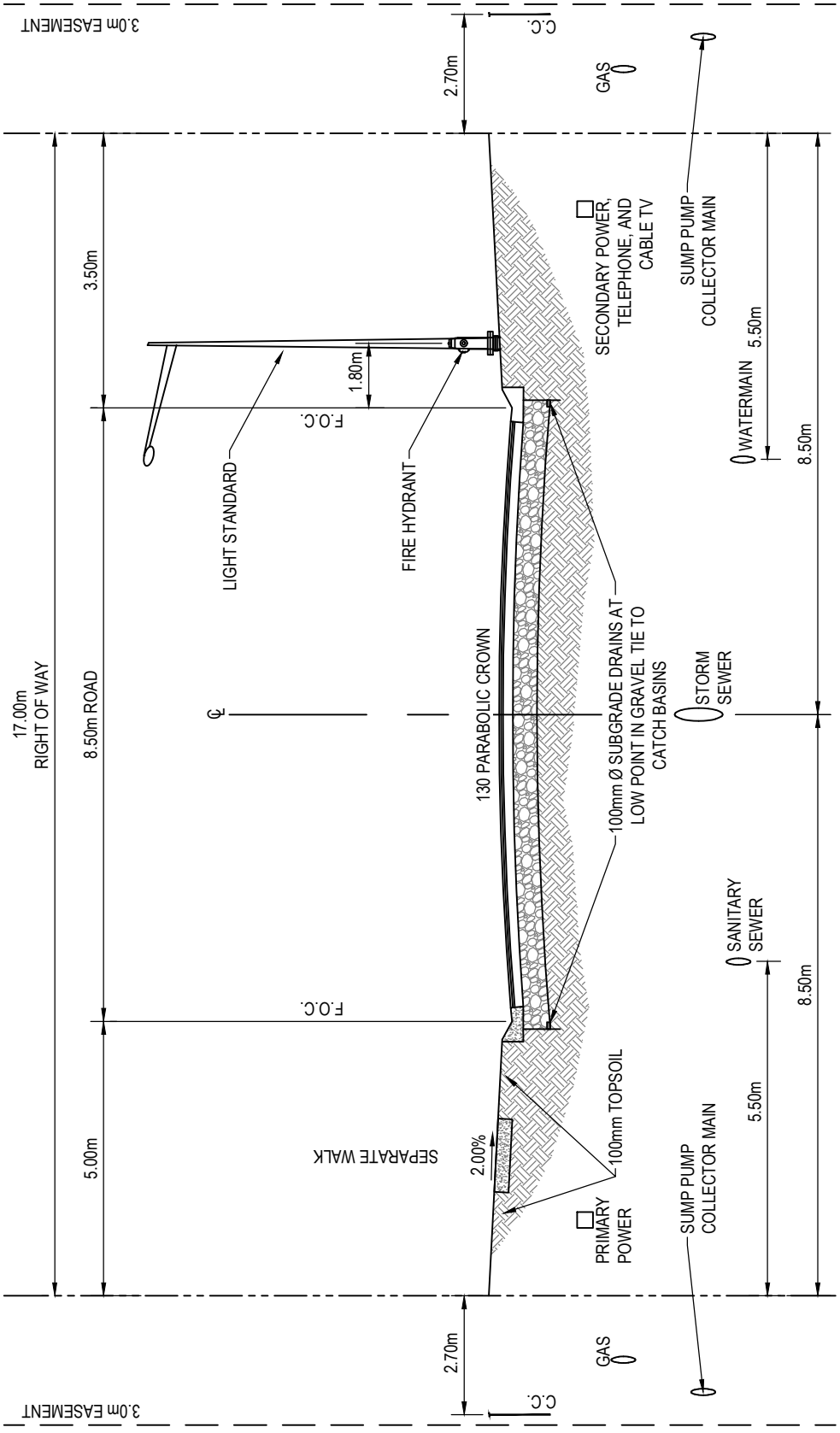


REVISIONS			TITLE			
DATE	DESCRIPTION	BY	9.0m LOCAL ROADWAY			
-	-	-				
-	-	-	APPROVED: JH			
-	-	-	CHECKED: DH			DWG NO. 4.01
-	-	-	DATE: DECEMBER 2022	SCALE: NTS	DRAWN: AL	

Morinville



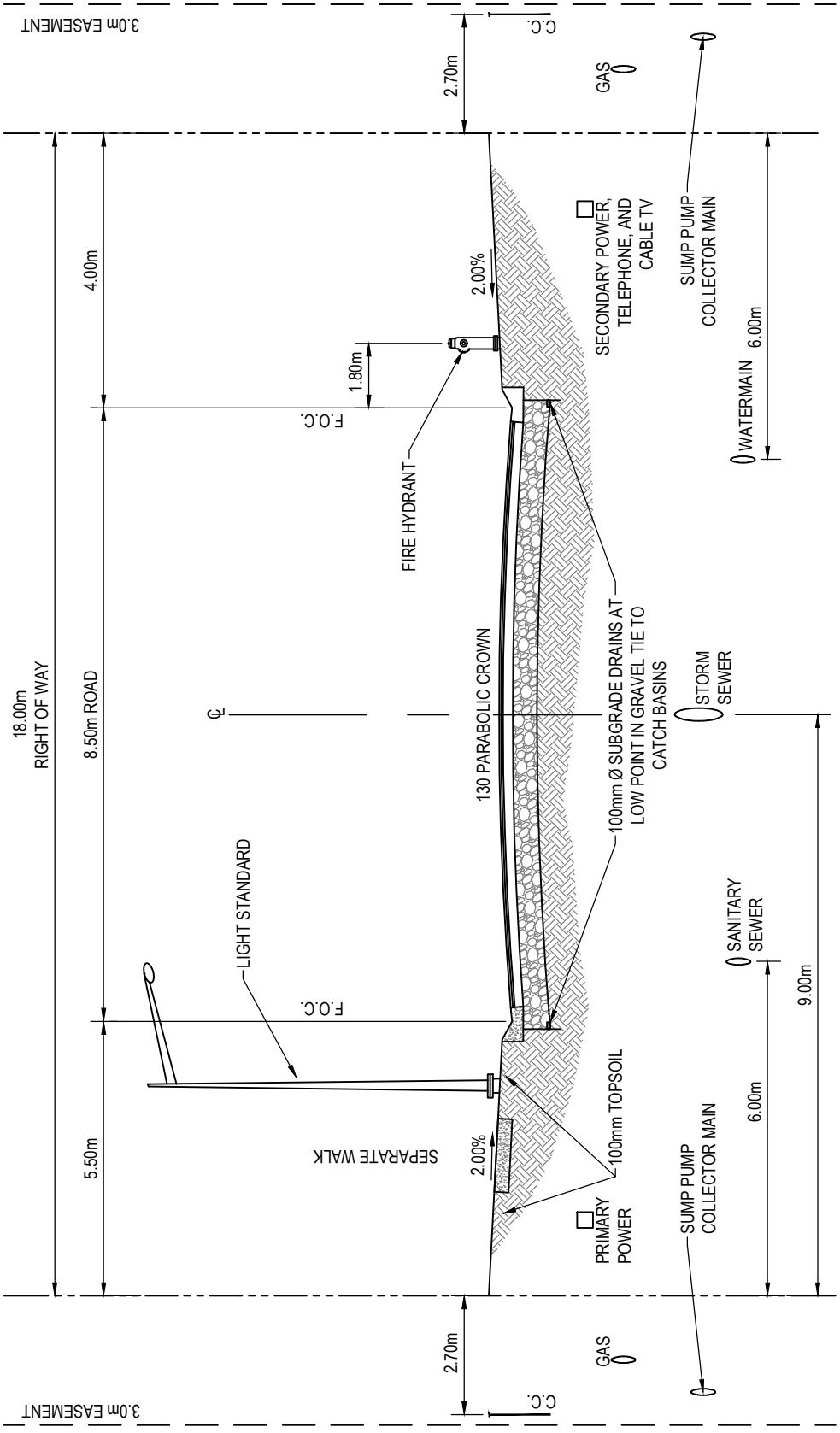
MINIMUM ROAD STRUCTURE AS PER SECTION 3.9 OF STANDARDS

- 40mm ASPHALTIC CONCRETE SURFACE COURSE
- 75mm ASPHALTIC CONCRETE BASE COURSE
- 200mm DEPTH OF 20mm MINUS CRUSHED GRAVEL
- 150mm DEPTH OF CEMENT MODIFIED SUBGRADE

NOTE:
THIS SECTION TO BE USED ON CUL-DE-SACS LESS THAN 120m IN LENGHT

REVISIONS			TITLE			
DATE	DESCRIPTION	BY	8.5m LONG CUL DE SAC ON 17m ROW			
-	-	-				
-	-	-	APPROVED: JH			
-	-	-	CHECKED: DH			DWG NO.
-	-	-	DATE: DECEMBER 2022	SCALE: NTS	DRAWN: AL	4.02

Morinville



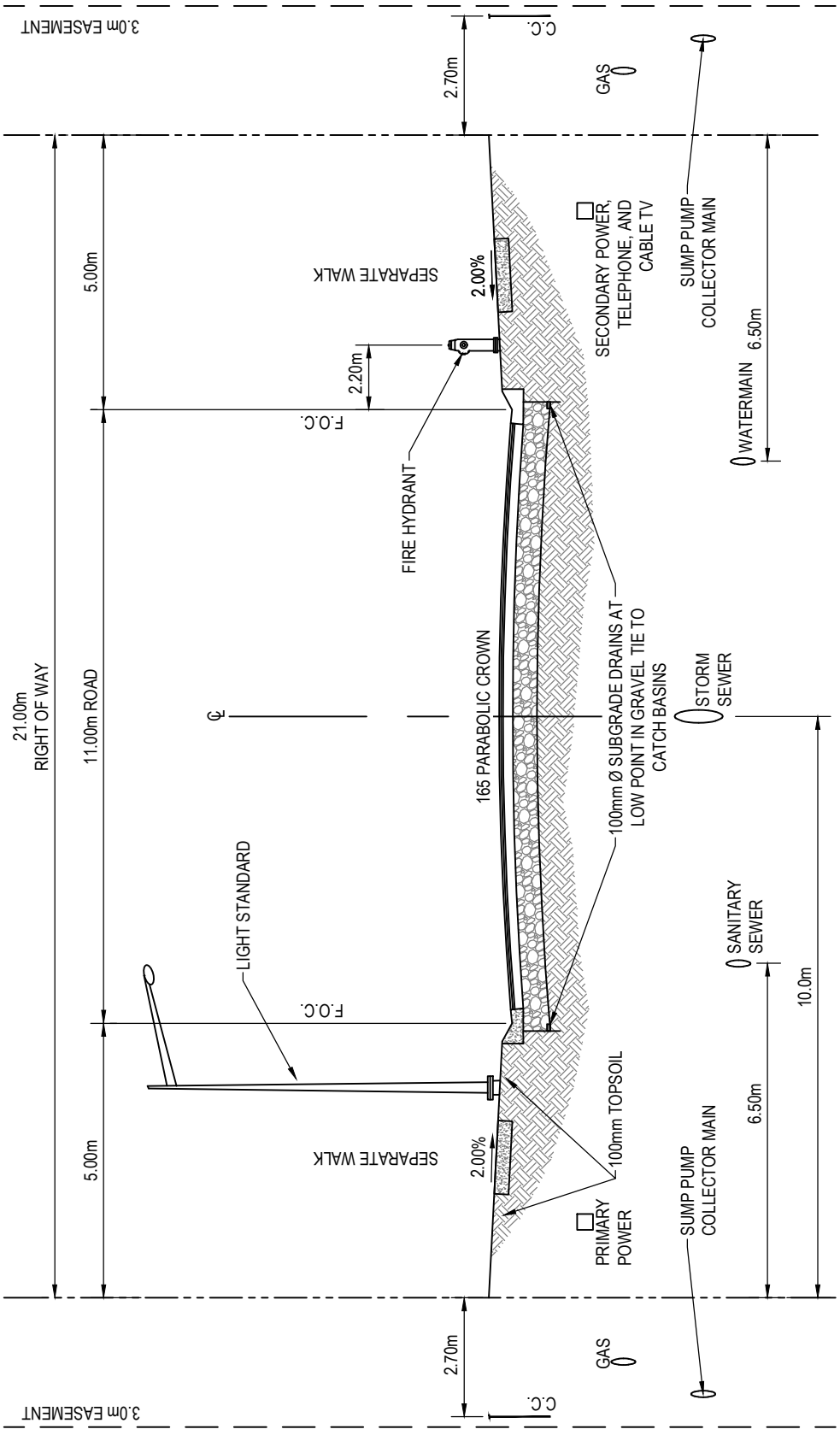
MINIMUM ROAD STRUCTURE AS PER SECTION 3.9 OF STANDARDS

- 40mm ASPHALTIC CONCRETE SURFACE COURSE
- 75mm ASPHALTIC CONCRETE BASE COURSE
- 200mm DEPTH OF 20mm MINUS CRUSHED GRAVEL
- 150mm DEPTH OF CEMENT MODIFIED SUBGRADE

NOTE:
THIS SECTION TO BE USED ON CUL-DE-SACS MORE THAN 120m IN LENGTH

REVISIONS			TITLE			
DATE	DESCRIPTION	BY	8.5m LONG CUL DE SAC ON 18m ROW			
-	-	-				
-	-	-	APPROVED: JH			
-	-	-	CHECKED: DH			DWG NO.
-	-	-	DATE: DECEMBER 2022	SCALE: NTS	DRAWN: AL	4.03

Morinville

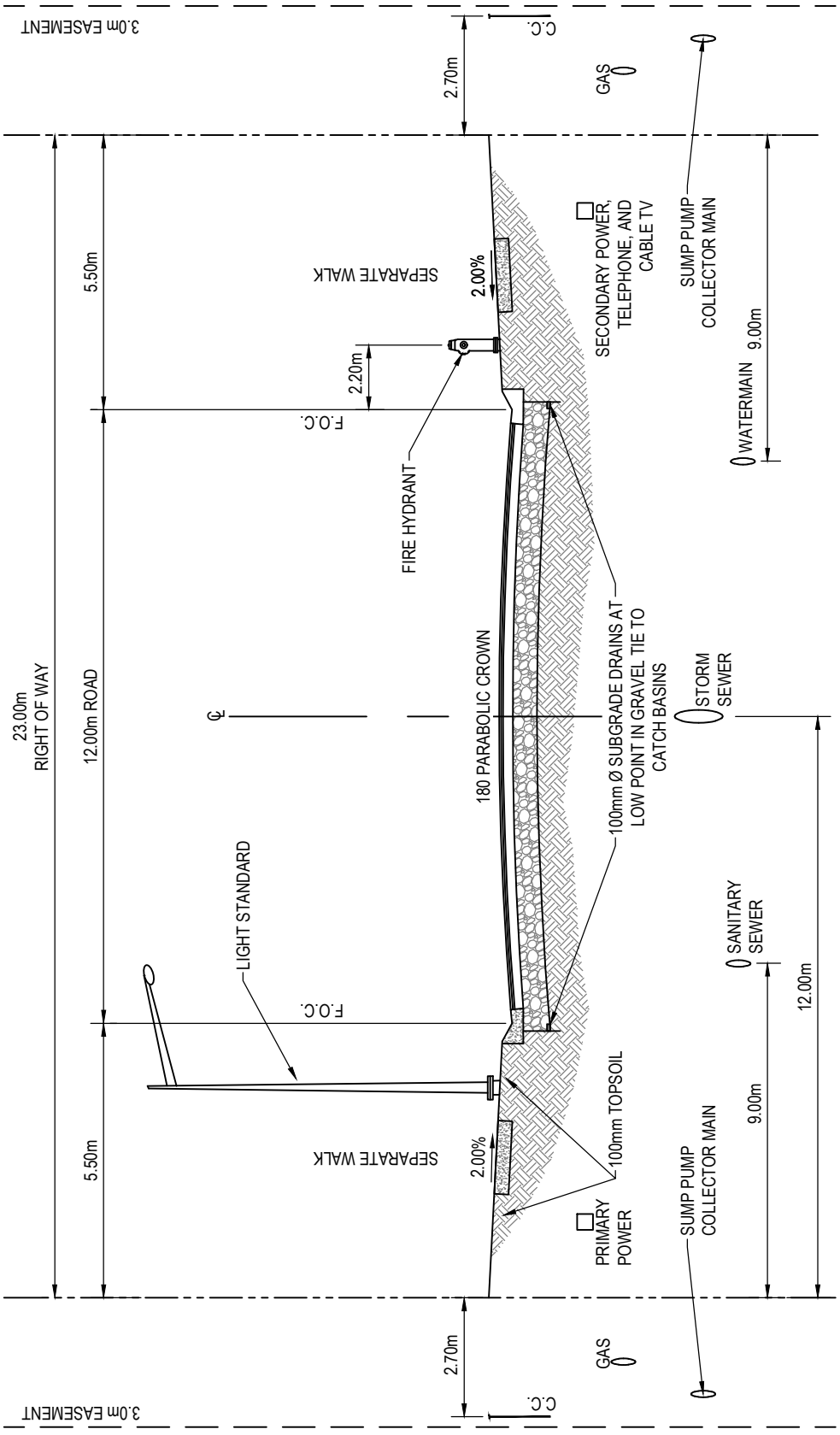


MINIMUM ROAD STRUCTURE AS PER SECTION 3.9 OF STANDARDS

- 40mm ASPHALTIC CONCRETE SURFACE COURSE
- 80mm ASPHALTIC CONCRETE BASE COURSE
- 225mm DEPTH OF 20mm MINUS CRUSHED GRAVEL
- 150mm DEPTH OF CEMENT MODIFIED SUBGRADE

REVISIONS			TITLE			
DATE	DESCRIPTION	BY	11.0m MINOR COLLECTOR			
-	-	-				
-	-	-	APPROVED: JH			
-	-	-	CHECKED: DH			DWG NO. 4.04
-	-	-	DATE: DECEMBER 2022	SCALE: NTS	DRAWN: AL	

Morinville



MINIMUM ROAD STRUCTURE AS PER SECTION 3.96 OF STANDARDS

- 40mm ASPHALTIC CONCRETE SURFACE COURSE
- 80mm ASPHALTIC CONCRETE BASE COURSE
- 225mm DEPTH OF 20mm MINUS CRUSHED GRAVEL
- 150mm DEPTH OF CEMENT MODIFIED SUBGRADE

REVISIONS		
DATE	DESCRIPTION	BY
-	-	-
-	-	-
-	-	-
-	-	-

TITLE

12.0m MAJOR COLLECTOR

Morinville

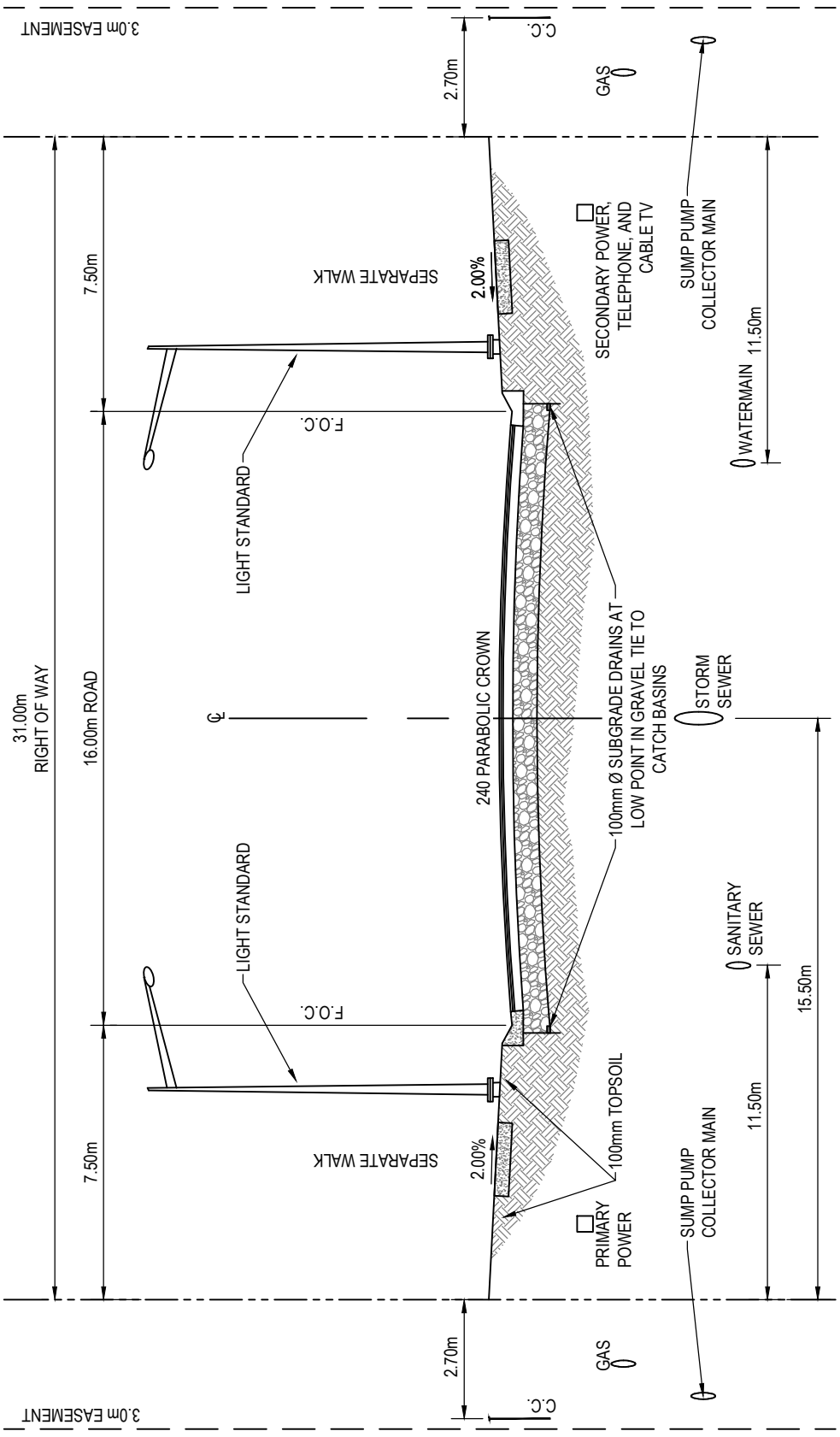
APPROVED: JH

CHECKED: DH

DATE: DECEMBER 2022 | SCALE: NTS | DRAWN: AL

DWG NO.

4.05

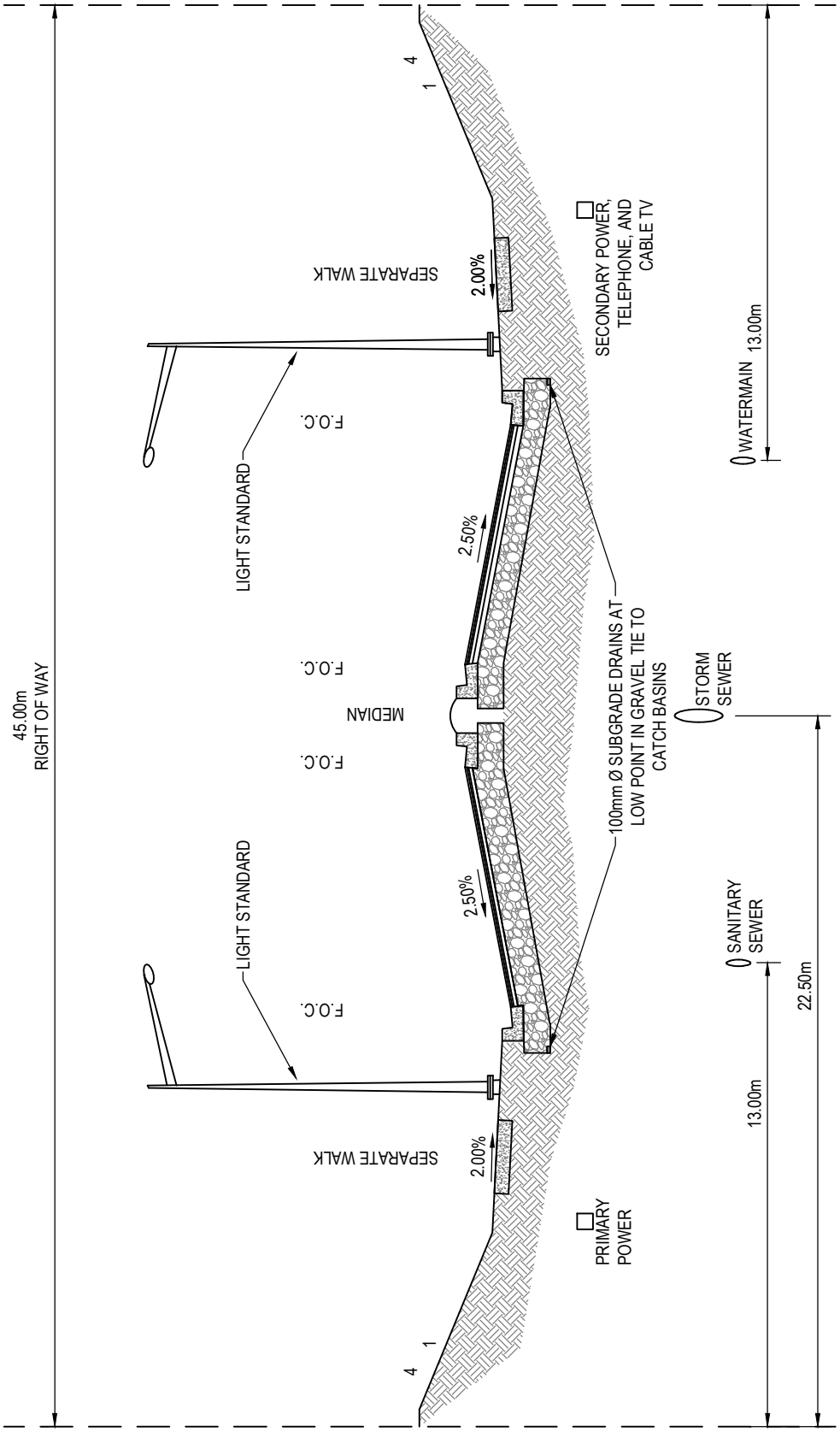


MINIMUM ROAD STRUCTURE AS PER SECTION 3.9 OF STANDARDS

- 50mm ASPHALTIC CONCRETE SURFACE COURSE
- 100mm ASPHALTIC CONCRETE BASE COURSE
- 175mm DEPTH OF 20mm MINUS CRUSHED GRAVEL
- 150mm DEPTH OF 63mm MINUS CRUSHED GRAVEL
- 150mm DEPTH OF CEMENT MODIFIED SUBGRADE

REVISIONS			TITLE			
DATE	DESCRIPTION	BY	16.0m UNDIVIDED ARTERIAL			
-	-	-				
-	-	-	APPROVED: JH			
-	-	-	CHECKED: DH			DWG NO.
-	-	-	DATE: DECEMBER 2022	SCALE: NTS	DRAWN: AL	4.06

Morinville



MINIMUM ROAD STRUCTURE AS PER SECTION 3.9 OF STANDARDS

- 50mm ASPHALTIC CONCRETE SURFACE COURSE
- 100mm ASPHALTIC CONCRETE BASE COURSE
- 175mm DEPTH OF 20mm MINUS CRUSHED GRAVEL
- 150mm DEPTH OF 63mm MINUS CRUSHED GRAVEL
- 150mm DEPTH OF CEMENT MODIFIED SUBGRADE

REVISIONS		
DATE	DESCRIPTION	BY
-	-	-
-	-	-
-	-	-
-	-	-

TITLE

20.5m DIVIDED ARTERIAL

Morinville

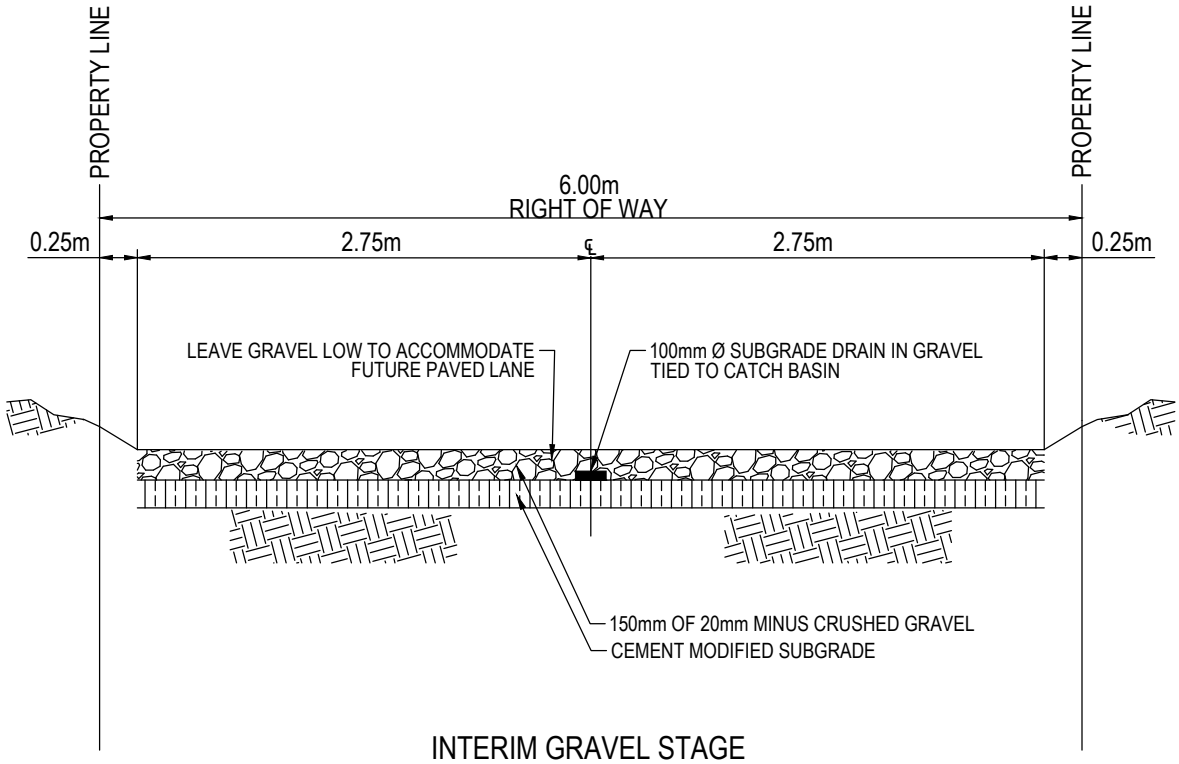
APPROVED: JH

CHECKED: DH

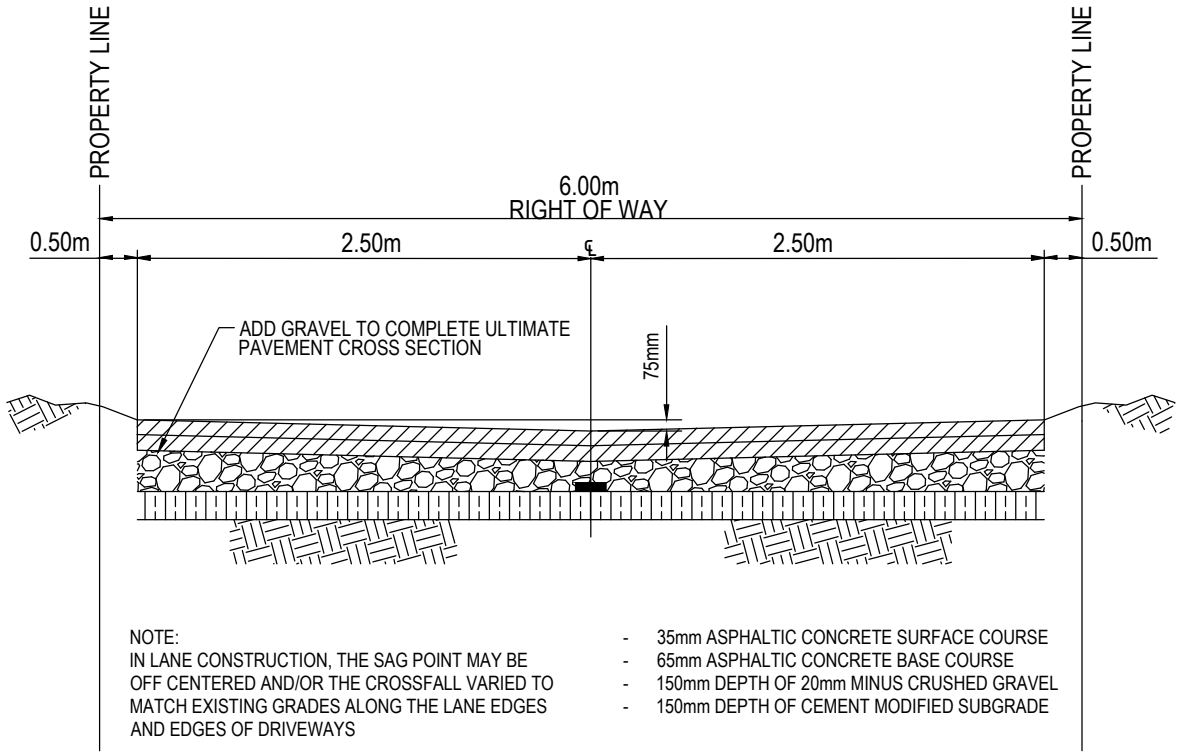
DATE: DECEMBER 2022 | SCALE: NTS | DRAWN: AL

DWG NO.

4.07



INTERIM GRAVEL STAGE



NOTE:
IN LANE CONSTRUCTION, THE SAG POINT MAY BE OFF CENTERED AND/OR THE CROSSFALL VARIED TO MATCH EXISTING GRADES ALONG THE LANE EDGES AND EDGES OF DRIVEWAYS

- 35mm ASPHALTIC CONCRETE SURFACE COURSE
- 65mm ASPHALTIC CONCRETE BASE COURSE
- 150mm DEPTH OF 20mm MINUS CRUSHED GRAVEL
- 150mm DEPTH OF CEMENT MODIFIED SUBGRADE

COMPLETED PAVEMENT

REVISIONS		
DATE	DESCRIPTION	BY
-	-	-
-	-	-
-	-	-
-	-	-

TITLE
RESIDENTIAL LANEWAY

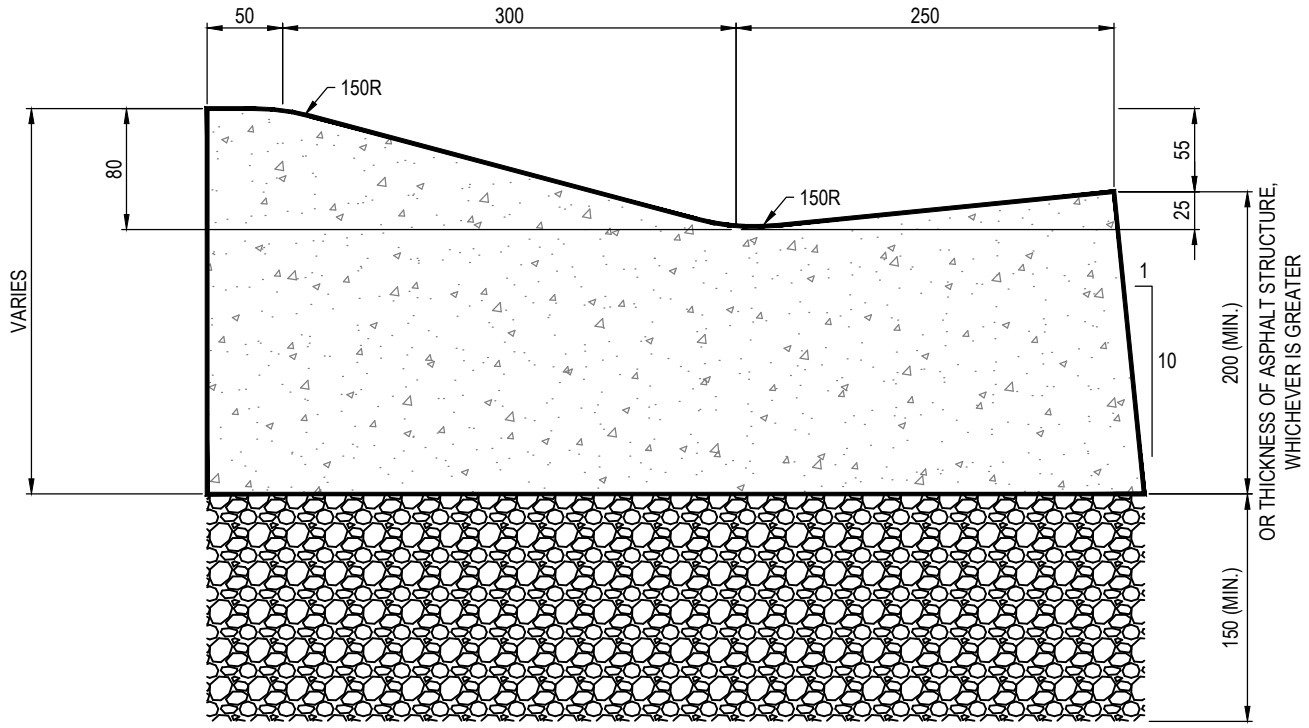
APPROVED: JH

CHECKED: DH

DATE: DECEMBER 2022 | SCALE: NTS | DRAWN: AL

Morinville

DWG NO.
4.08

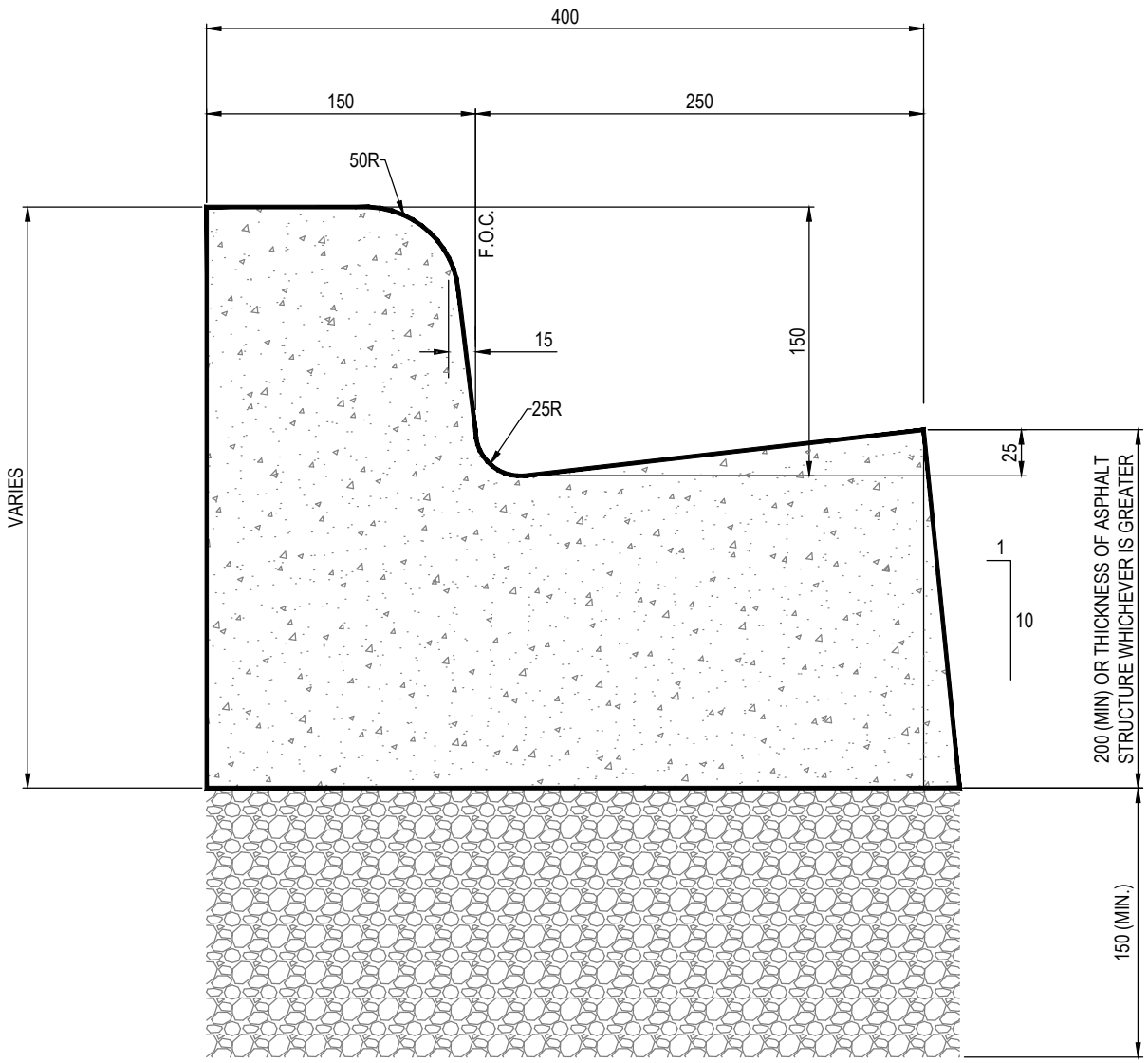


NOTES:

1. MINIMUM 150mm GRANULAR MATERIAL TO BE PLACED AND PREPARED AS PER TOWN OF MORINVILLE SPECIFICATIONS.
2. SUB-GRADE TO BE PREPARED AS PER TOWN OF MORINVILLE SPECIFICATIONS.

ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE NOTED

REVISIONS			TITLE			
DATE	DESCRIPTION	BY	ROLLED FACE CURB & 250 GUTTER			Morinville
-	-	-				
-	-	-	APPROVED: JH			
-	-	-	CHECKED: DH			DWG NO.
-	-	-	DATE: DECEMBER 2022	SCALE: NTS	DRAWN: AL	4.09

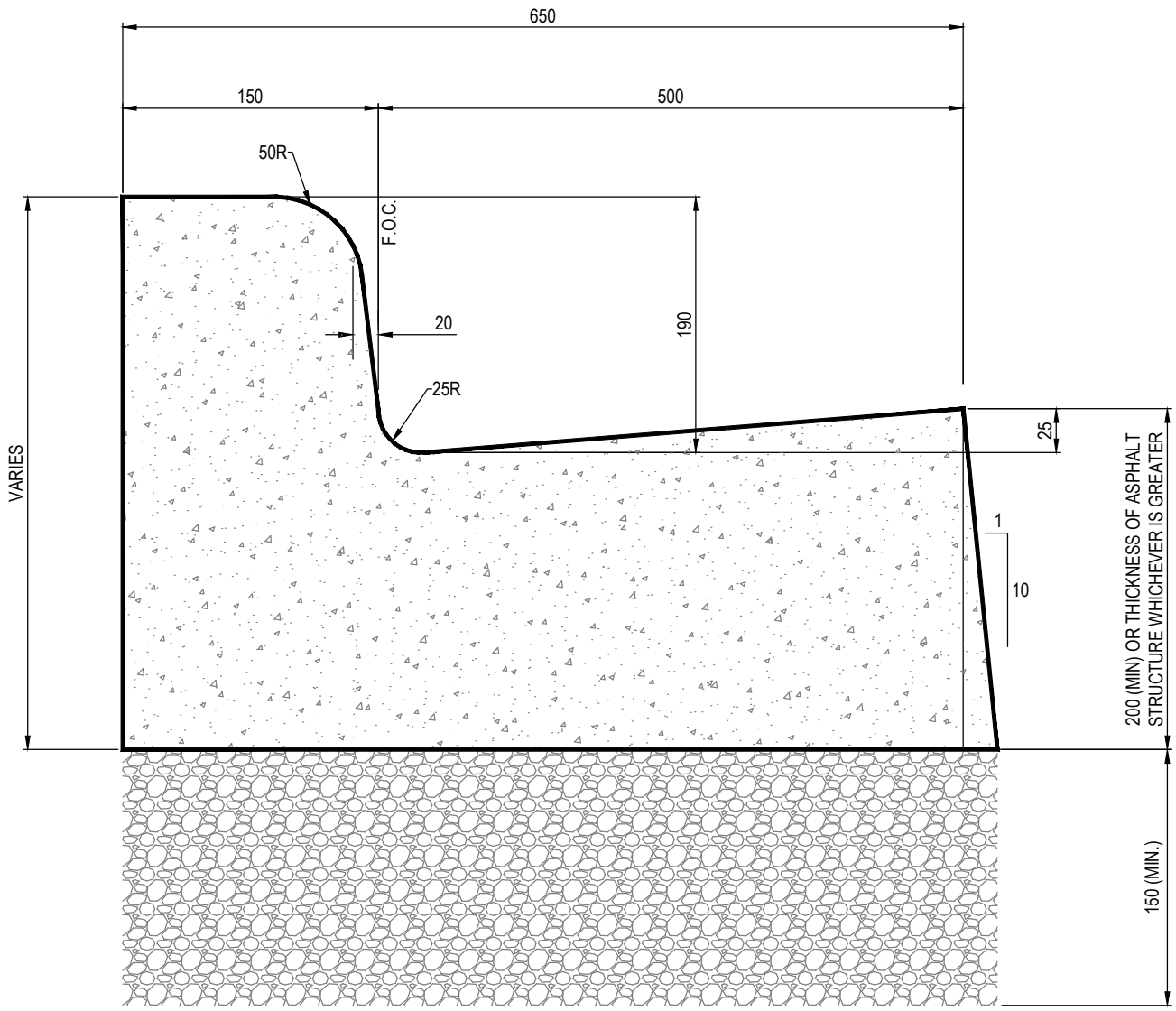


NOTES:

1. MINIMUM 150mm GRANULAR MATERIAL TO BE PLACED AND PREPARED AS PER TOWN OF MORINVILLE SPECIFICATIONS.
2. SUB-GRADE TO BE PREPARED AS PER TOWN OF MORINVILLE SPECIFICATIONS.

ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE NOTED

REVISIONS			TITLE			
DATE	DESCRIPTION	BY	STRAIGHT FACE 150mm CURB & 250mm GUTTER			
-	-	-				
-	-	-	APPROVED: JH			
-	-	-	CHECKED: DH			DWG NO. 4.10
-	-	-	DATE: DECEMBER 2022	SCALE: NTS	DRAWN: AL	

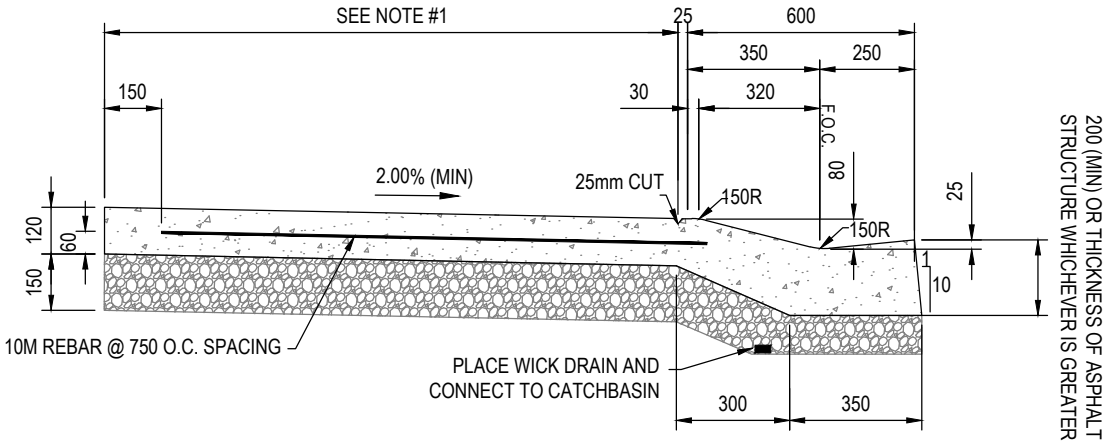


NOTES:

1. MINIMUM 150mm GRANULAR MATERIAL TO BE PLACED AND PREPARED AS PER TOWN OF MORINVILLE SPECIFICATIONS.
2. SUB-GRADE TO BE PREPARED AS PER TOWN OF MORINVILLE SPECIFICATIONS.

ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE NOTED

REVISIONS			TITLE			
DATE	DESCRIPTION	BY	STRAIGHT FACE 190mm CURB & 500mm GUTTER			
-	-	-				
-	-	-	APPROVED: JH			
-	-	-	CHECKED: DH			DWG NO. 4.10
-	-	-	DATE: DECEMBER 2022	SCALE: NTS	DRAWN: AL	



NOTES:

1. MINIMUM WIDTH OF MONOWALK
- ON URBAN LOCAL ROADWAYS TO BE 1.50m.

ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE NOTED

REVISIONS		
DATE	DESCRIPTION	BY
-	-	-
-	-	-
-	-	-
-	-	-

TITLE

ROLLED FACE MONOLITHIC WALK AND GUTTER

Morinville

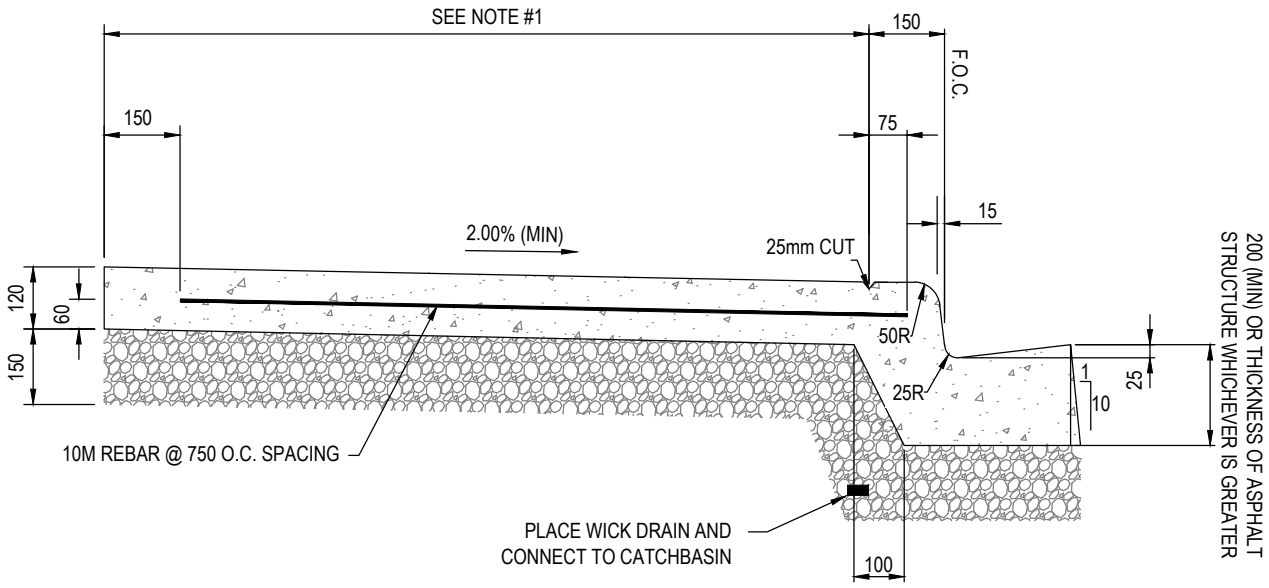
APPROVED: JH

CHECKED: DH

DATE: DECEMBER 2022 | SCALE: NTS | DRAWN: AL

DWG NO.

4.12

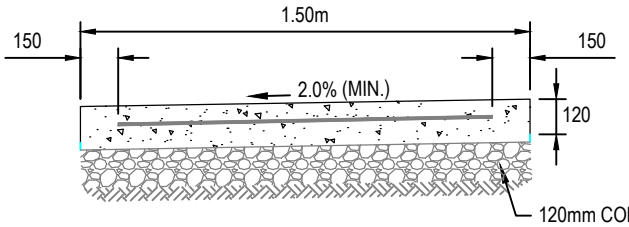


NOTES:

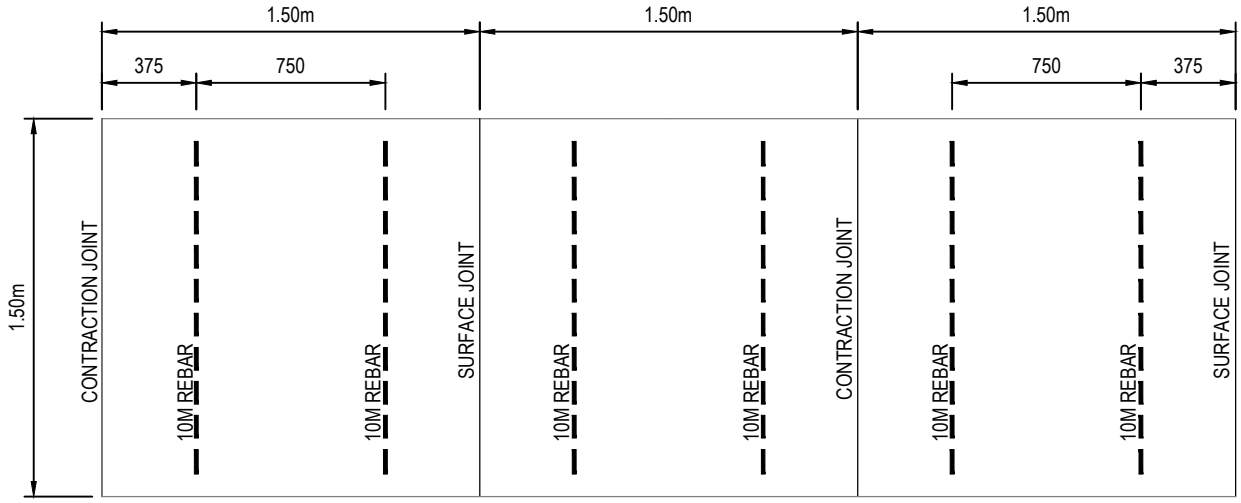
1. MINIMUM WIDTH OF MONOWALK ON URBAN LOCAL ROADWAYS TO BE 1.50m.

ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE NOTED

REVISIONS			TITLE			
DATE	DESCRIPTION	BY	MONOLITHIC WALK WITH CURB AND GUTTER			Morinville
-	-	-				
-	-	-	APPROVED: JH			
-	-	-	CHECKED: DH			DWG NO. 4.13
-	-	-	DATE: DECEMBER 2022	SCALE: NTS	DRAWN: AL	



TYPICAL SECTION



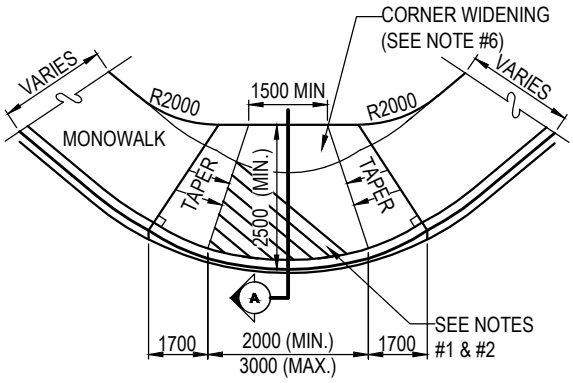
NOTE: ALTERNATE CONTRACTION JOINT AND SURFACE JOINT

TYPICAL PLAN VIEW

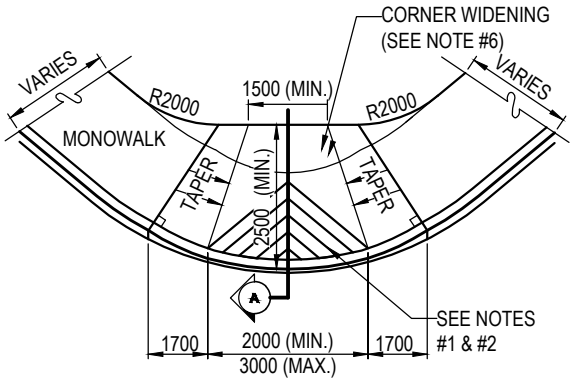
NOTES:

1. SURFACE JOINTS TO BE CENTERED BETWEEN CONTRACTION JOINTS ACROSS WALKS AND SLABS. IN MONOLITHIC CONSTRUCTION, PLACE SURFACE JOINTS ACROSS THE WALK PORTION AND CONTRACTION JOINTS ON THE CURB AND GUTTER, BOTH JOINTS BEING ON SAME LINE. WHERE REQUIRED, PLACE A LONGITUDINAL SURFACE JOINT ON WALK AND SLABS CONTINUING ON THROUGH ALLEY CROSSING AND DRIVEWAYS.

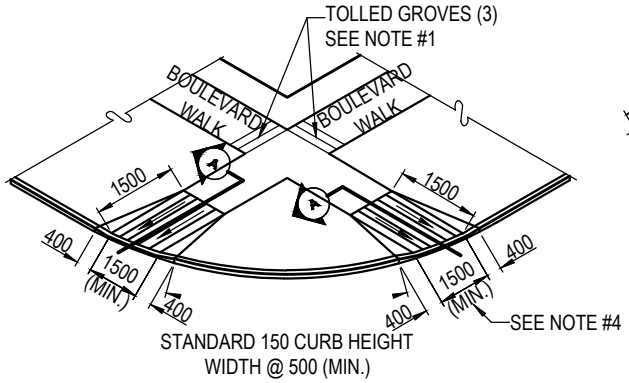
REVISIONS			TITLE			
DATE	DESCRIPTION	BY	SEPARATE WALK			Morinville
-	-	-				
-	-	-	APPROVED: JH			
-	-	-	CHECKED: DH			DWG NO. 4.14
-	-	-	DATE: DECEMBER 2022	SCALE: NTS	DRAWN: AL	



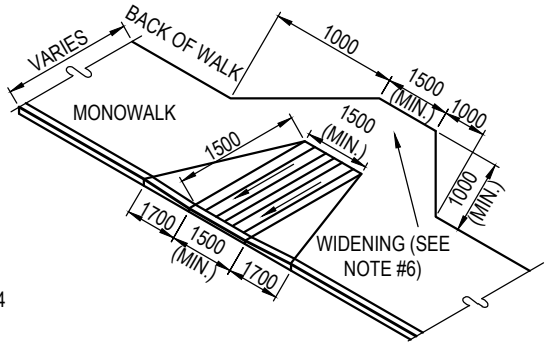
TYPE A1 (ONE DIRECTION)



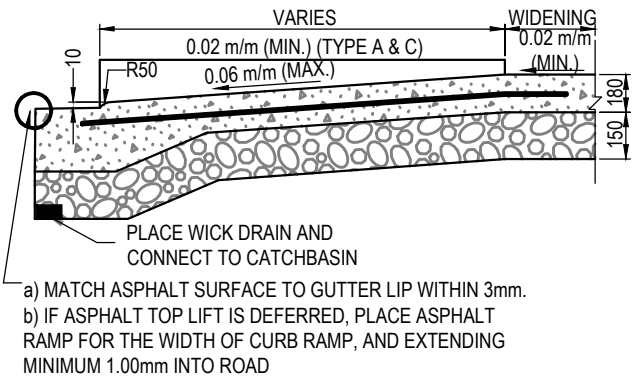
TYPE A2 (TWO DIRECTIONS)



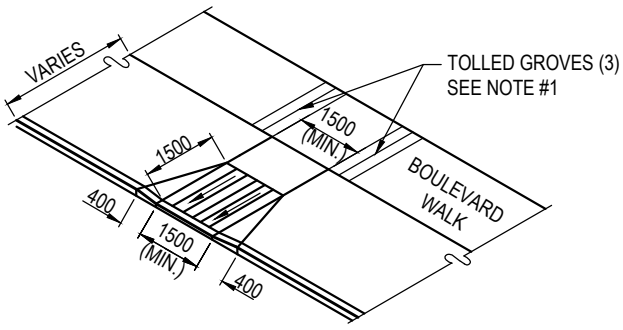
TYPE B



TYPE C



TYPICAL CROSS SECTION A-A



TYPE D

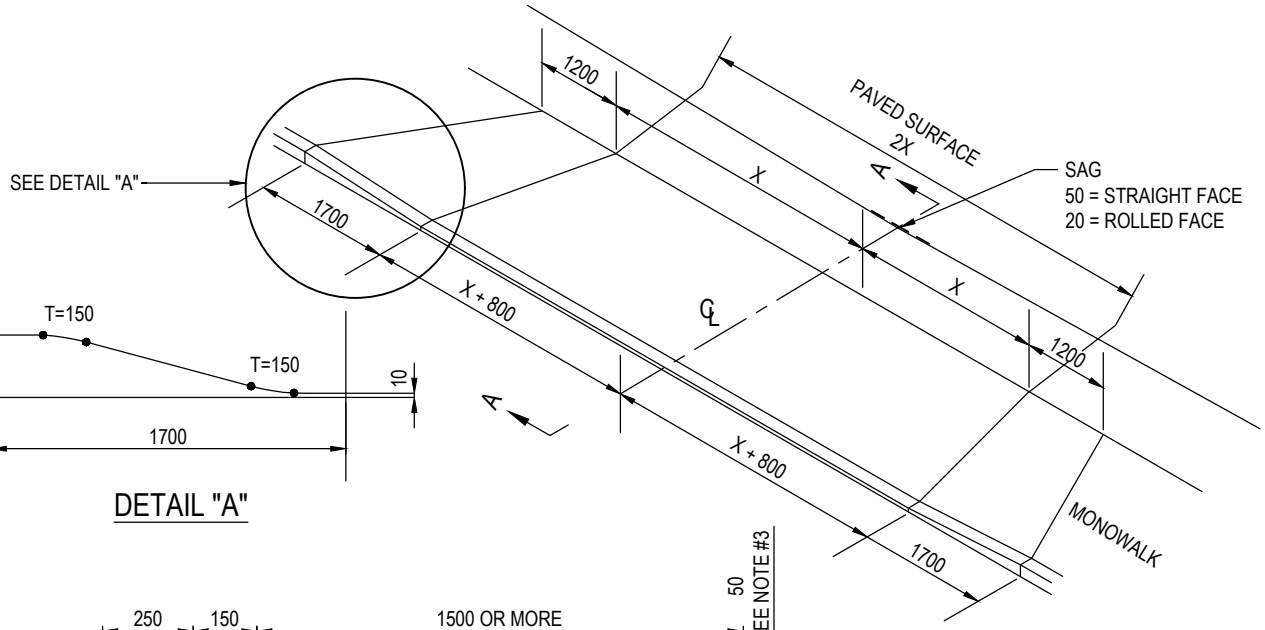
NOTES:

1. TOOLED GROOVES 5mm WIDE X 10mm DEEP, BROOM FINISH, GROOVE SPACING 150mm O.C. ADJACENT TO CURB.
2. GROOVES TO BE IN DIRECTION OF TRAVEL.
3. WHEN REQUIRED, TRANSITION FROM STRAIGHT FACE CURB TO ROLLED FACE CURB AT CURB RAMP.
4. CURBS AND RAMPS TO BE POURED MONOLITHICALLY.
5. WIDTH OF RAMP MUST EQUAL WIDTH OF WALK (MIN. 1.5m, MAX 3.0m) EXCEPT TYPE A.
6. PROVIDE 1.0m WIDENING (AT 2.0% X-FALL) FROM BACK OF CURB RAMPS (TYPES A & C) WHERE ROAD RIGHT OF WAY ALLOWS.

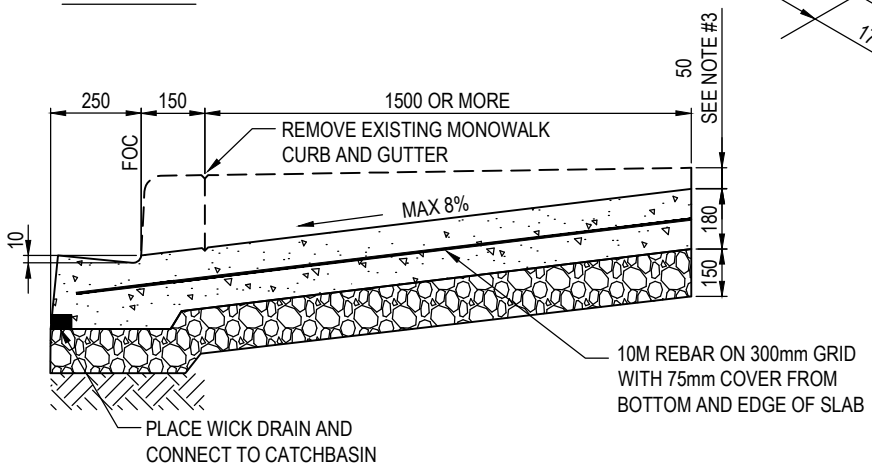
ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE NOTED

REVISIONS			TITLE			
DATE	DESCRIPTION	BY	CURB RAMP			
-	-	-				
-	-	-	APPROVED: JH			
-	-	-	CHECKED: DH			DWG NO.
-	-	-	DATE: DECEMBER 2022	SCALE: NTS	DRAWN: AL	4.15

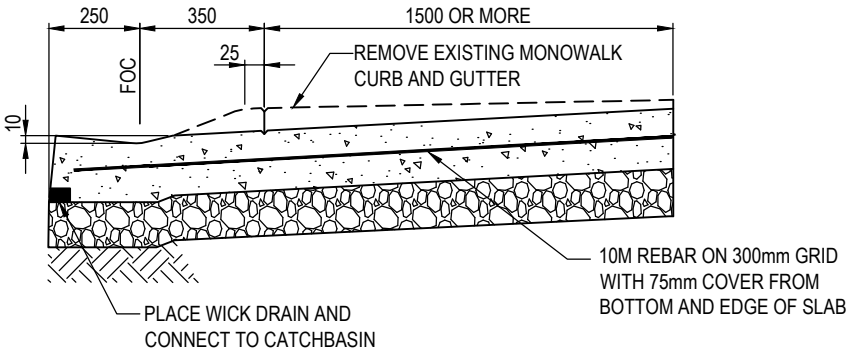
Morinville



DETAIL "A"



SECTION A-A STRAIGHT FACE



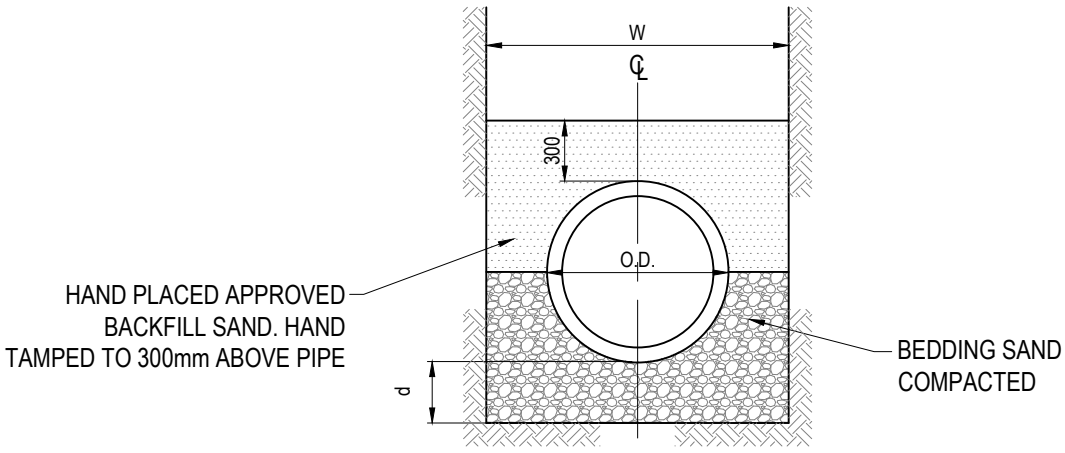
SECTION A-A ROLLED FACE

NOTES:

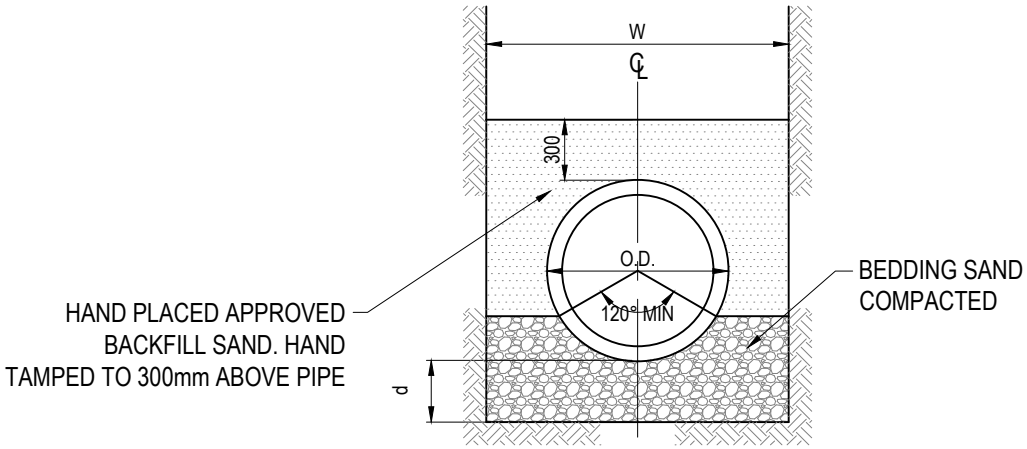
1. MAXIMUM CROSSFALL SLOPE TO BE 8.00% UNLESS OTHERWISE APPROVED BY ENGINEER.
2. CROSSING MUST BE POURED MONOLITHICALLY WITH CURB AND GUTTER.
3. BACK OF CROSSING DROP FOR EXISTING 200mm CURB FACE TO BE 50mm.

ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE NOTED

REVISIONS			TITLE			
DATE	DESCRIPTION	BY	COMMERCIAL CROSSING MONOWALK			Morinville
-	-	-				
-	-	-	APPROVED: JH			
-	-	-	CHECKED: DH			DWG NO. 4.16
-	-	-	DATE: DECEMBER 2022	SCALE: NTS	DRAWN: AL	



CLASS B BEDDING



CLASS C BEDDING

W = TRENCH WIDTH = O.D. + 450mm (MIN)
O.D. = OUTSIDE PIPE DIAMETER
I.D. = INSIDE PIPE DIAMETER

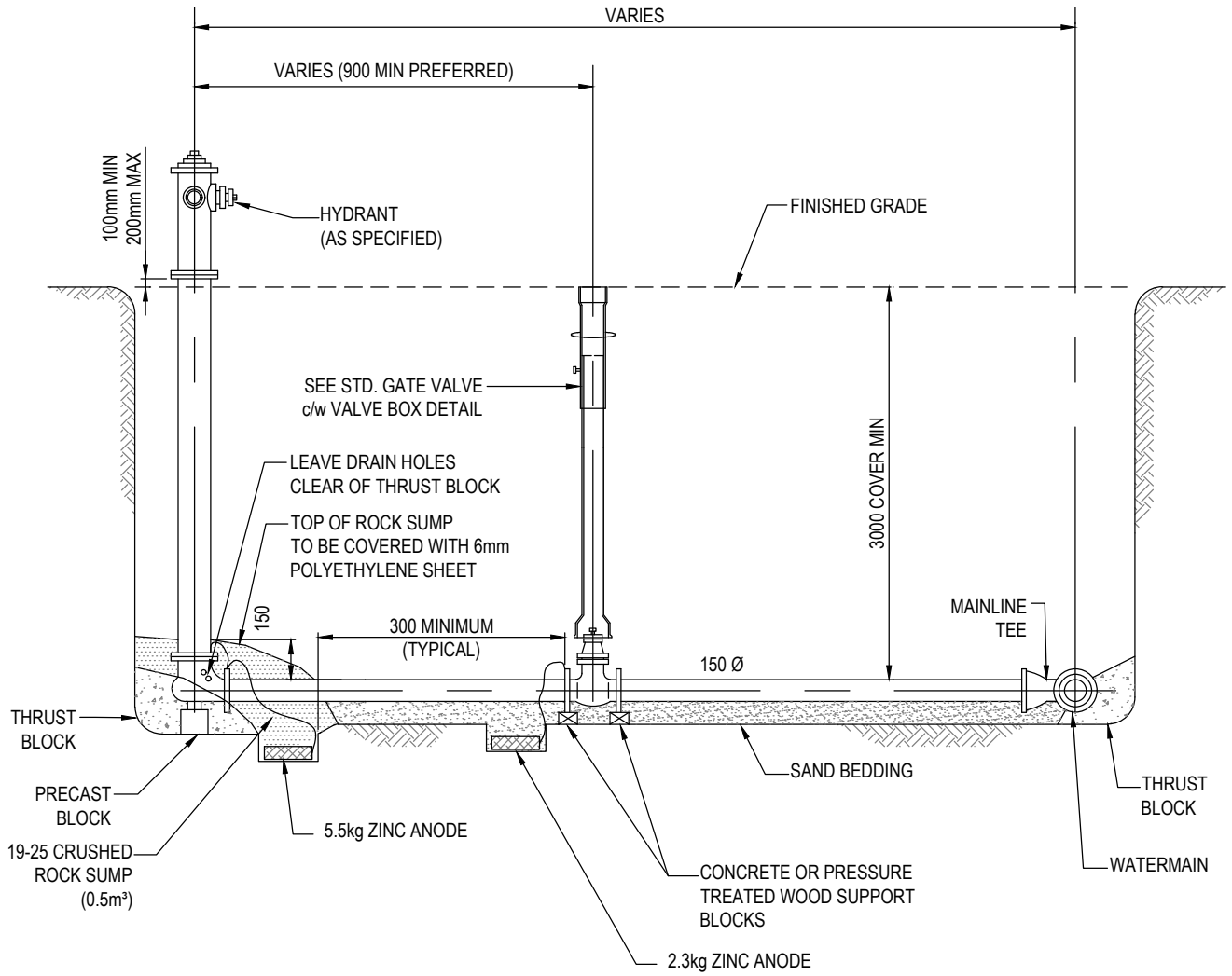
d = DEPTH OF BEDDING BELOW PIPE

I.D. </= 675m : d MINIMUM = 75mm
I.D. 750mm to 1500mm: d MINIMUM = 100mm
I.D. >/= 1650mm : d MINIMUM = 150mm

TRENCH BEDDING TYPES

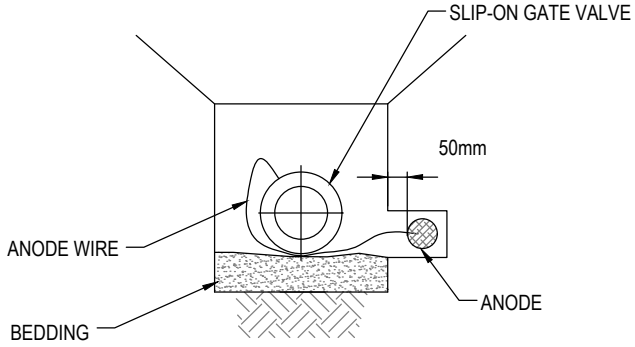
N.T.S.

REVISIONS			TITLE: TRENCH BEDDING TYPES			Morinville
DATE	DESCRIPTION	BY				
-	-	-				
-	-	-	APPROVED: JH			
-	-	-	CHECKED: DH			DWG NO. 4.17
-	-	-	DATE: DECEMBER 2022	SCALE: NTS	DRAWN: AL	



NOTES:

1. HYDRANT AND VALVE TO BE CATHODICALLY PROTECTED WITH A 11KG ZINC ANODE.
2. VALVE TO BE LOCATED IN BOULEVARD WHERE POSSIBLE.
3. HYDRANT TO BE CHROME YELLOW WITH TOPS AND CAPS COLORED IN ACCORDANCE WITH NFPA GUIDELINES.
4. ALL NUTS AND BOLTS TO BE STAINLESS STEEL.
5. HYDRANT MUST NOT RESTRICT SIDEWALK
   - MINIMUM 0.5m CLEARANCE TO FACE OF CURB.
   - MAXIMUM DISTANCE FROM CENTER LINE OF HYDRANT TO BACK OF CURB IS 3.0m.
6. OPERATOR AND CAPS TO HAVE PENTAGONAL NUTS.
7. HYDRANT SHOULD BE LOCATED SO STEAMER PORT FACES THE ROAD OR MOST ACCESSIBLE SPOT FOR A FIRE TRUCK TO CONNECT.

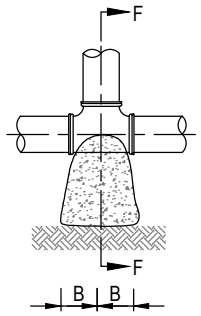


ANODE INSTALLATION AT HYDRANT

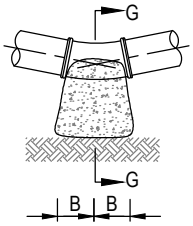
ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE NOTED

REVISIONS			TITLE			
DATE	DESCRIPTION	BY	HYDRANT CONNECTION WITH VALVE PLACEMENT			
-	-	-				
-	-	-	APPROVED: JH			
-	-	-	CHECKED: DH			DWG NO. 4.18
-	-	-	DATE: DECEMBER 2022	SCALE: NTS	DRAWN: AL	

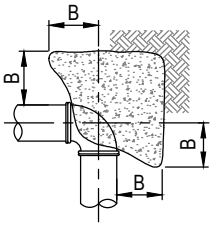
Morinville



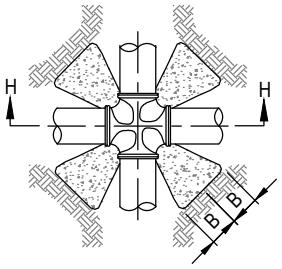
TEE & DEAD END CONNECTION



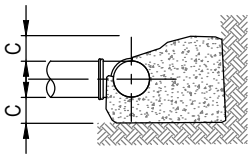
22 1/2° & 11 1/4° BENDS



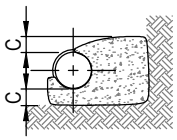
90° BEND



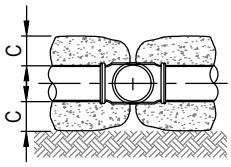
CROSS CONNECTION



SECTION F-F



SECTION G-G



SECTION H-H

NOTES:

1. CONCRETE TO BE 25 Mpa @ 28 DAYS
2. CONCRETE TO BE TYPE 50 SULFATE RESISTANT
3. CONCRETE TO BE CLEAR OF BELLS & PIPE
4. MINIMUM 75mm CONCRETE UNDER ALL FITTINGS
5. THRUST BLOCK DESIGNED ON
   - 100 Kpa ALLOWABLE SOIL BEARING PRESSURE
   - 1.5 FACTOR OF SAFETY
   - 1035 Kpa PIPE WATER PRESSURE
   - LARGER REACTION AREAS ARE REQUIRED IN POOR SOIL CONDITIONS

MINIMUM CONCRETE THRUST BLOCK DIMENSIONS

1035 KPa WATER PRESSURE & 95.76 KPa ALLOWABLE SOIL PRESSURE									
FITTINGS		11 1/4° BEND	22 1/2° BEND	45° BEND	60° BEND	67 1/2° BEND	75° BEND	90° BEND	CROSS-TEE & PLUG
RAR		0.198 A	0.390 A	0.765 A	A	1.112 A	1.218 A	1.414 A	A
RAR = 2B x (2C + DIA.) & 2B ≥ (2C + DIA.)				RAR = REACTION AREA REQUIRED A = AREA CONSTANT					
DIA. = 150 A = 0.197	RAR	0.039	0.77	0.151	0.197	0.219	0.240	0.279	0.197
	B	100	150	220	250	250	275	310	250
	C	50 (MIN.)	50 (MIN.)	100	125	150	150	150	125
DIA. = 200 A = 350	RAR	0.069	0.137	0.268	0.350	0.389	0.426	0.495	0.350
	B	125	175	275	300	325	360	360	300
	C	75	100	150	200	200	200	250	200
DIA. = 250 A = 0.547	RAR	0.108	0.213	0.418	0.547	0.608	0.666	0.773	0.547
	B	150	250	380	420	420	450	460	420
	C	75	100	150	200	250	250	300	200
DIA. = 300 A = 0.788	RAR	0.156	0.307	0.603	0.788	0.876	0.960	1.114	0.788
	B	200	310	430	440	440	440	500	440
	C	75	100	200	300	350	400	400	300
DIA. = 350 A = 1.073	RAR	0.212	0.418	0.821	1.073	1.193	1.307	1.517	1.073
	B	200	380	430	510	520	570	570	510
	C	100	100	300	350	400	400	500	350
DIA. = 400 A = 1.401	RAR	0.277	0.545	1.072	1.401	1.558	1.706	1.981	1.401
	B	230	455	540	580	600	610	710	580
	C	100	100	300	400	450	500	500	400
DIA. = 450 A = 1.773	RAR	0.351	0.692	1.356	1.773	1.972	2.160	2.507	1.773
	B	260	510	610	650	675	700	800	650
	C	100	100	400	450	500	600	600	450

ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE NOTED

REVISIONS		
DATE	DESCRIPTION	BY
-	-	-
-	-	-
-	-	-
-	-	-

TITLE: THRUST BLOCK

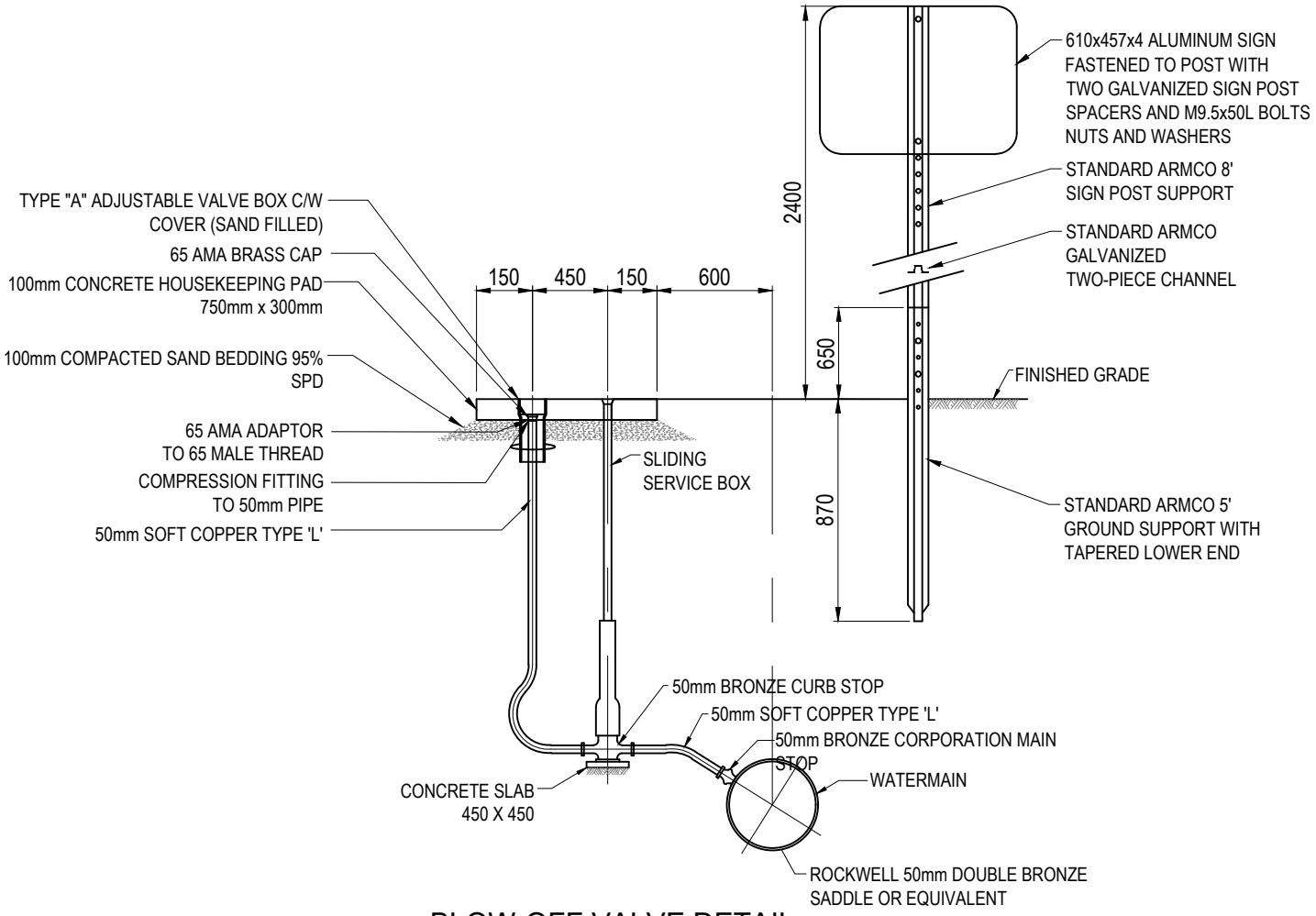
APPROVED: JH

CHECKED: DH

DATE: DECEMBER 2022 | SCALE: NTS | DRAWN: AL

Morinville

DWG NO. 4.19

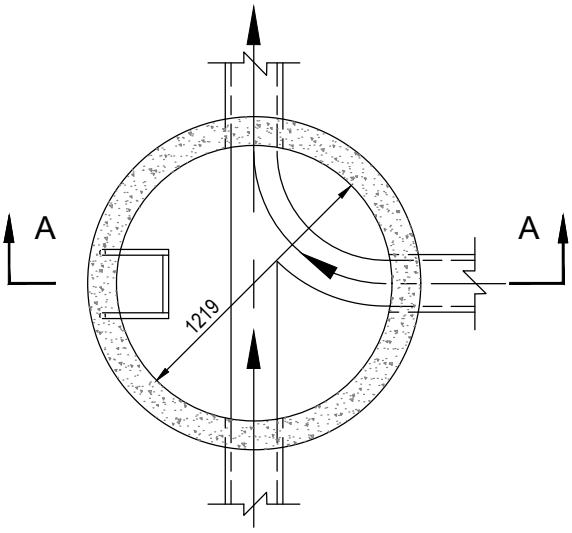


BLOW-OFF VALVE DETAIL

N.T.S.

REVISIONS			TITLE			
DATE	DESCRIPTION	BY	BLOW-OFF VALVE			
-	-	-				
-	-	-	APPROVED: JH			
-	-	-	CHECKED: DH			DWG NO.
-	-	-	DATE: DECEMBER 2022	SCALE: NTS	DRAWN: AL	4.20

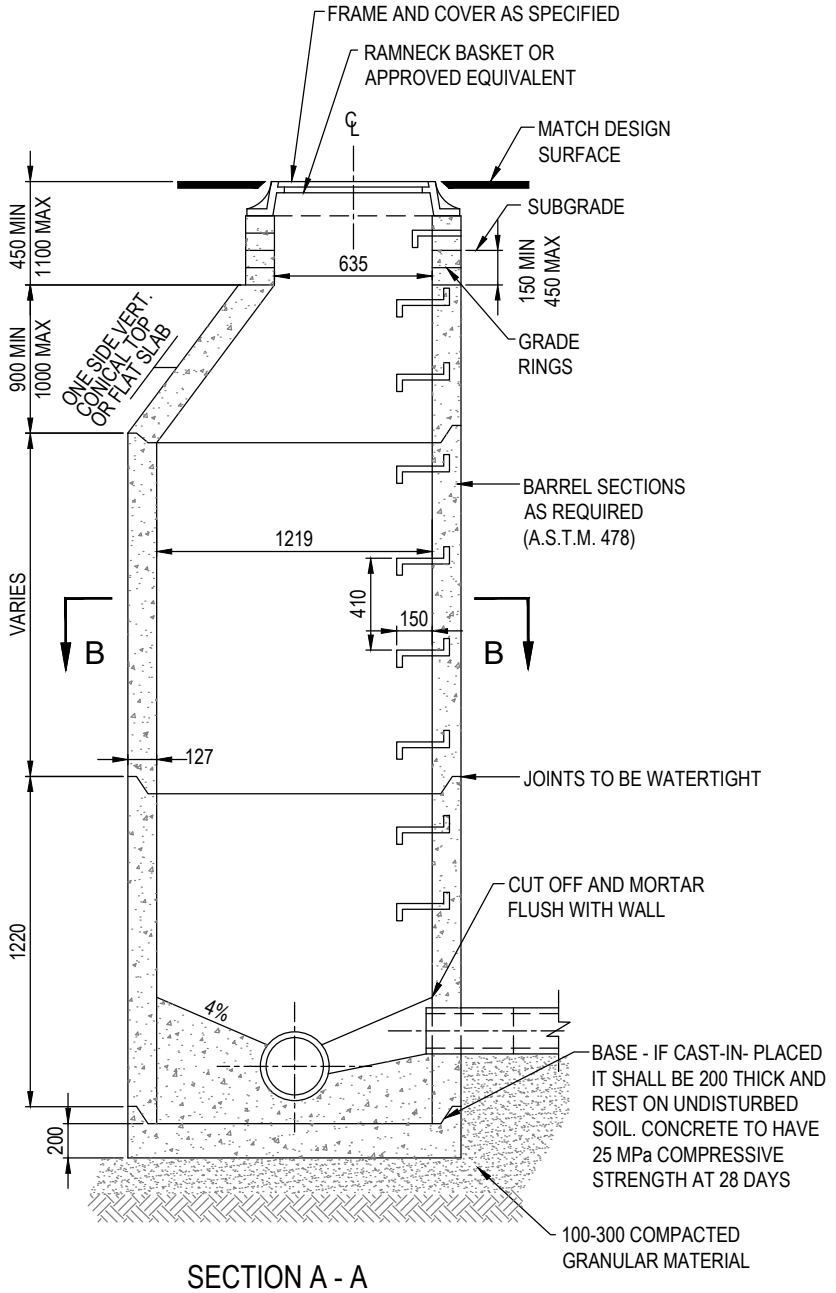
Morinville



SECTION B - B

NOTES:

1. 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. 200mm THICK AND CONSTRUCTED ON UNDISTURBED SOIL. FOR MH OVER 5.0m IN DEPTH, BASE TO BE REINFORCED WITH 10M BARS AT 250mm EACH WAY.
2. PRECAST RINGS, CONES AND BARRELS TO MEET CURRENT A.S.T.M. C478 STANDARDS.
3. JOINTS TO BE SEALED WITH CEMENT MORTAR, CONFINED O-RING GASKET, ASTM 445, OR BOTH TO MAKE JOINTS WATERTIGHT.
4. CONNECTION OF CONCRETE PIPES TO MH TO BE SEALED WITH CEMENT MORTAR.
5. INLET AND OUTLET PIPES TO BE GROUTED FLUSH WITH WALL.
6. CHANNELING AND BENCHING TO BE FINISHED TO TROWEL SMOOTHNESS.
7. 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.
8. COMPACT BACKFILL AROUND MH TO A MIN. OF 95% STANDARD PROCTOR DENSITY.
9. COMPACT TOP 1.5m OF BACKFILL AROUND MANHOLE TO A MIN. OF 98% STANDARD PROCTOR DENSITY FOR MANHOLE WITHIN ROAD RIGHT OF WAY.
10. PRECAST INLINE TEE MH's ARE ACCEPTABLE FOR SEWERS 900mmØ AND LARGER.
11. FOR PVC PIPE CONNECTIONS USE PRE-INSTALLED SEALED ALOK CONNECTIONS or APPROVED EQUIVALENT.
12. A TEMPORARY POLYETHYLENE DIRT BARRIER SHALL BE PLACED BETWEEN THE FRAME AND COVER AND THE CONCRETE SECTION WHEN MANHOLES ARE NOT IMMEDIATELY ADJUSTED TO GRADE.

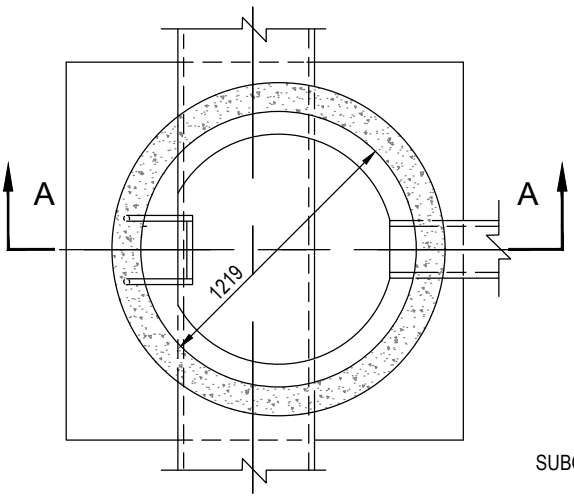


SECTION A - A

ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE NOTED

REVISIONS			TITLE			
DATE	DESCRIPTION	BY	STANDARD 1200mm MANHOLE			
-	-	-				
-	-	-	APPROVED: JH			
-	-	-	CHECKED: DH			DWG NO. 4.22
-	-	-	DATE: DECEMBER 2022	SCALE: NTS	DRAWN: AL	

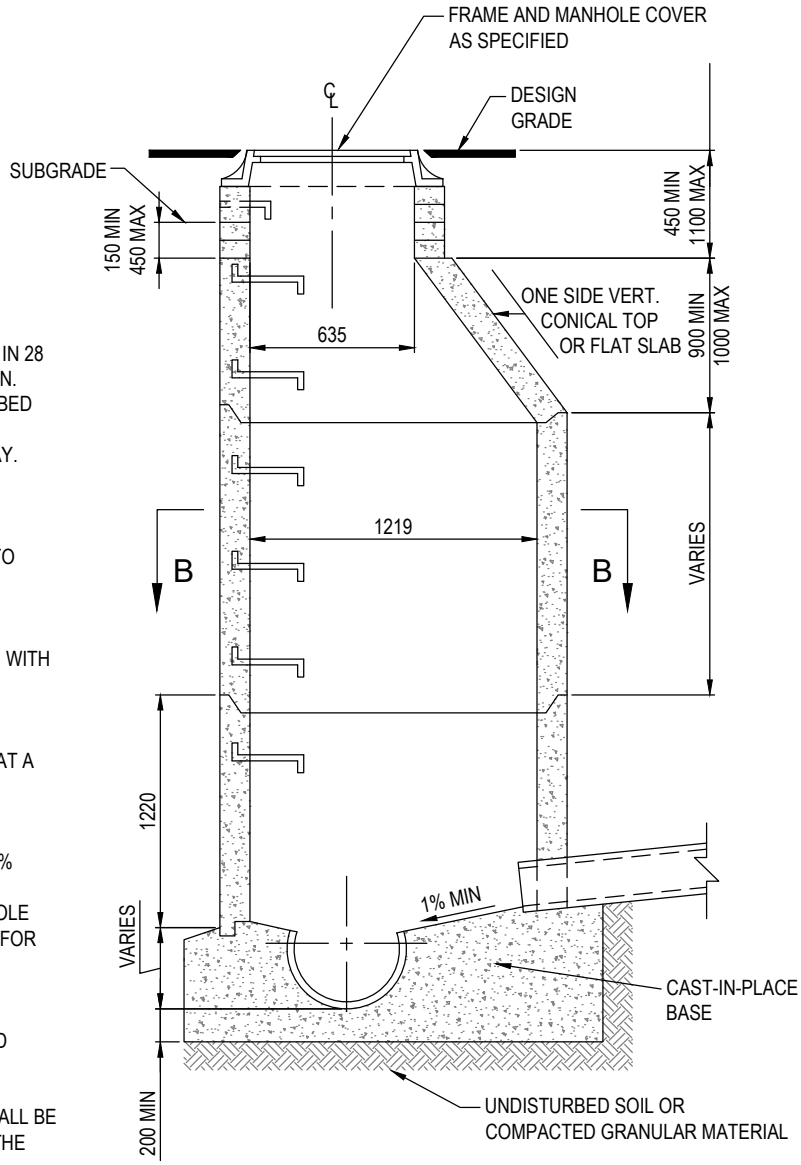
Morinville



SECTION B-B

NOTES:

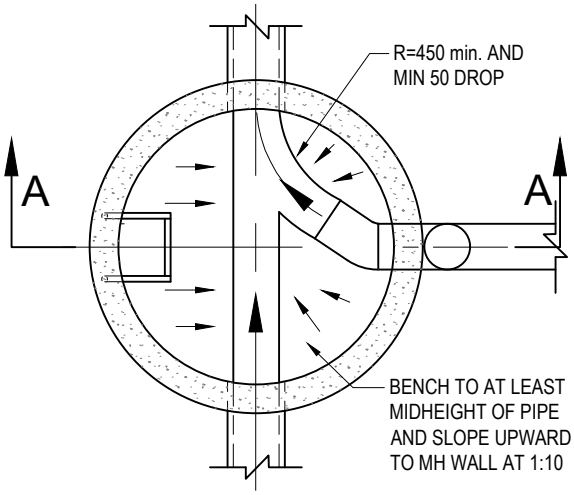
1. CAST-IN-PLACE CONCRETE BASE MAY BE USED. CAST-IN-PLACE CONCRETE TO BE TYPE 50 25MPa IN 28 DAYS. CAST-IN-PLACE CONCRETE BASE TO BE MIN. 200mm THICK AND CONSTRUCTED ON UNDISTURBED SOIL. FOR MH OVER 5.0m IN DEPTH, BASE TO BE REINFORCED WITH 10M BARS AT 250mm EACH WAY.
2. PRECAST RINGS, CONES AND BARRELS TO MEET CURRENT A.S.T.M. C478 STANDARDS.
3. JOINTS TO BE SEALED WITH CEMENT MORTAR, CONFINED O-RING GASKET, ASTM 445, OR BOTH TO MAKE JOINTS WATERTIGHT.
4. CONNECTION OF CONCRETE PIPES TO MH TO BE SEALED WITH CEMENT MORTAR.
5. INLET AND OUTLET PIPES TO BE GROUTED FLUSH WITH WALL.
6. CHANNELING AND BENCHING TO BE FINISHED TO TROWEL SMOOTHNESS.
7. 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.
8. COMPACT BACKFILL AROUND MH TO A MIN. OF 95% STANDARD PROCTOR DENSITY.
9. COMPACT TOP 1.5m OF BACKFILL AROUND MANHOLE TO A MIN. OF 98% STANDARD PROCTOR DENSITY FOR MANHOLE WITHIN ROAD RIGHT OF WAY.
10. PRECAST INLINE TEE MH's ARE ACCEPTABLE FOR SEWERS 900mmØ AND LARGER.
11. FOR PVC PIPE CONNECTIONS USE PRE-INSTALLED SEALED ALOK CONNECTIONS or APPROVED EQUIVALENT.
12. A TEMPORARY POLYETHYLENE DIRT BARRIER SHALL BE PLACED BETWEEN THE FRAME AND COVER AND THE CONCRETE SECTION WHEN MANHOLES ARE NOT IMMEDIATELY ADJUSTED TO GRADE.



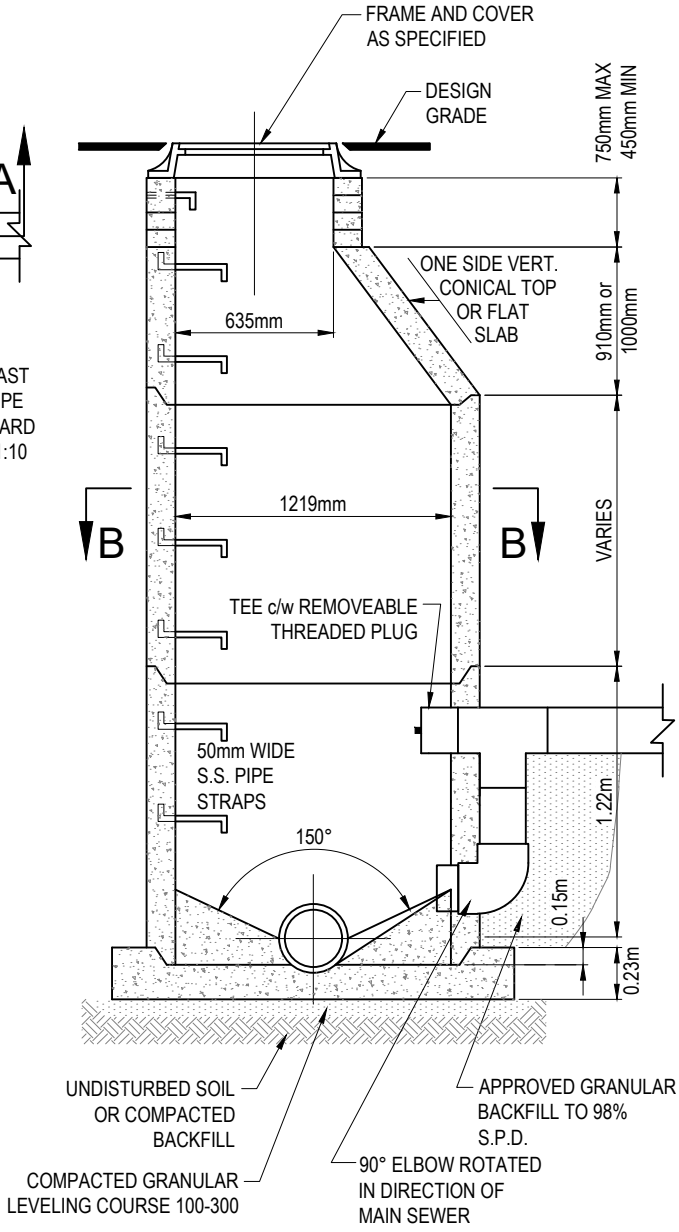
SECTION A - A

ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE NOTED

REVISIONS			TITLE			
DATE	DESCRIPTION	BY	STANDARD 1200mm PERCHED MANHOLE			Morinville
-	-	-				
-	-	-	APPROVED: JH			
-	-	-	CHECKED: DH			DWG NO. 4.23
-	-	-	DATE: DECEMBER 2022	SCALE: NTS	DRAWN: AL	



SECTION B - B



NOTES

1. 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. FOR MH OVER 5.0m IN DEPTH, BASE TO BE REINFORCED WITH 10M BARS AT 250mm EACH WAY.
2. PRECAST RINGS, CONES AND BARRELS TO MEET CURRENT ASTM C478 STANDARDS.
3. SANITARY MH JOINTS TO BE SEALED WITH A CONFINED O-RING GASKET, ASTM C445.
4. CONNECTION OF PIPES TO MH TO BE SEALED WITH CEMENT MORTAR.
5. OUTLET PIPES TO BE GROUTED FLUSH WITH WALL.
6. CHANNELING AND BENCHING TO BE FINISHED TO TROWEL SMOOTHNESS.
7. 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.
8. COMPACT BACKFILL AROUND MH TO A MIN. OF 95% STANDARD PROCTOR DENSITY.
9. PROVIDE CONCRETE SUPPORT FOR ELBOW AND BENCH MIDHEIGHT FORMING SMOOTH FLOW CHANNEL INTO MAIN SEWER.

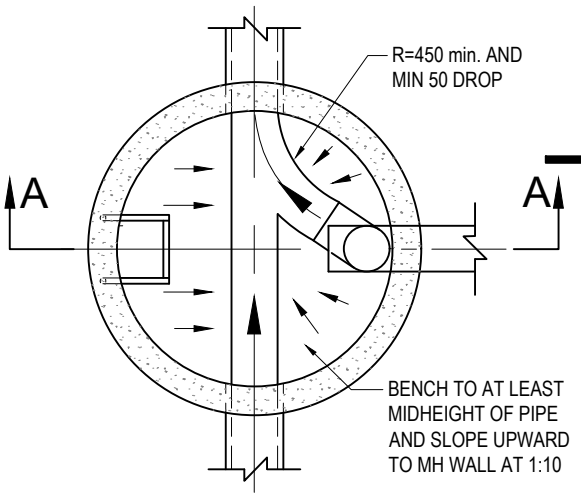
SECTION A - A

EXTERNAL DROP MANHOLE

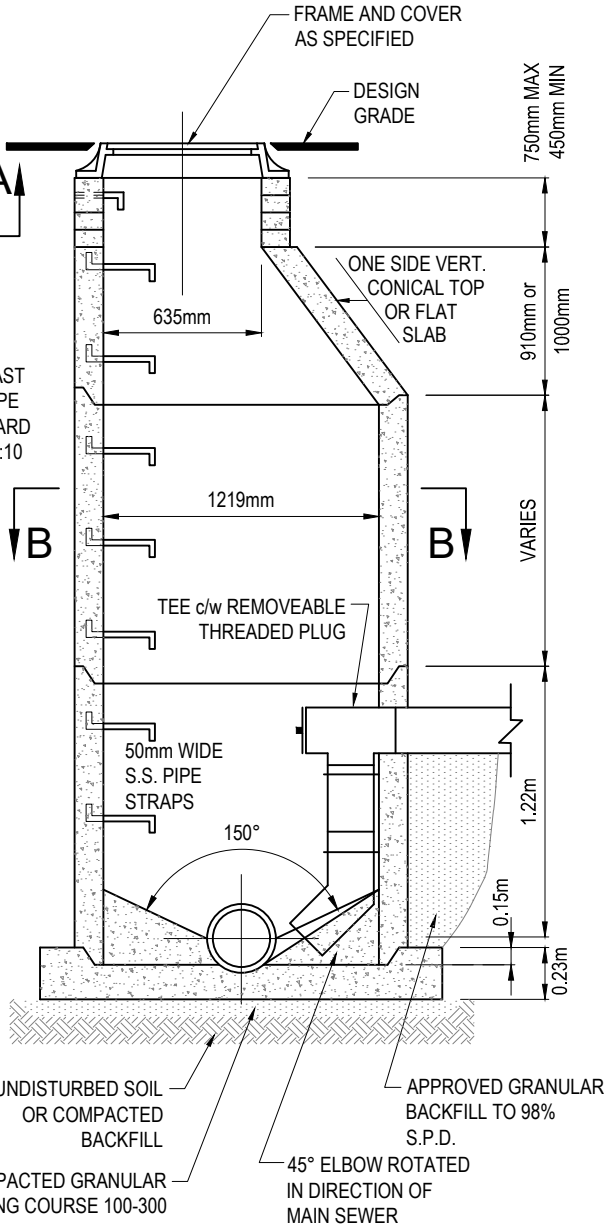
N.T.S.

REVISIONS			TITLE			
DATE	DESCRIPTION	BY	EXTERNAL DROP MANHOLE			
-	-	-				
-	-	-	APPROVED: JH			
-	-	-	CHECKED: DH			DWG NO.
-	-	-	DATE: DECEMBER 2022	SCALE: NTS	DRAWN: AL	4.25

Morinville



SECTION B - B



SECTION A - A

NOTES

1. 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. FOR MH OVER 5.0m IN DEPTH, BASE TO BE REINFORCED WITH 10M BARS AT 250mm EACH WAY.
2. PRECAST RINGS, CONES AND BARRELS TO MEET CURRENT ASTM C478 STANDARDS.
3. SANITARY MH JOINTS TO BE SEALED WITH A CONFINED O-RING GASKET, ASTM C445.
4. CONNECTION OF PIPES TO MH TO BE SEALED WITH CEMENT MORTAR.
5. OUTLET PIPES TO BE GROUTED FLUSH WITH WALL.
6. CHANNELING AND BENCHING TO BE FINISHED TO TROWEL SMOOTHNESS.
7. 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.
8. COMPACT BACKFILL AROUND MH TO A MIN. OF 95% STANDARD PROCTOR DENSITY.
9. PROVIDE CONCRETE SUPPORT FOR ELBOW AND BENCH MIDHEIGHT FORMING SMOOTH FLOW CHANNEL INTO MAIN SEWER.

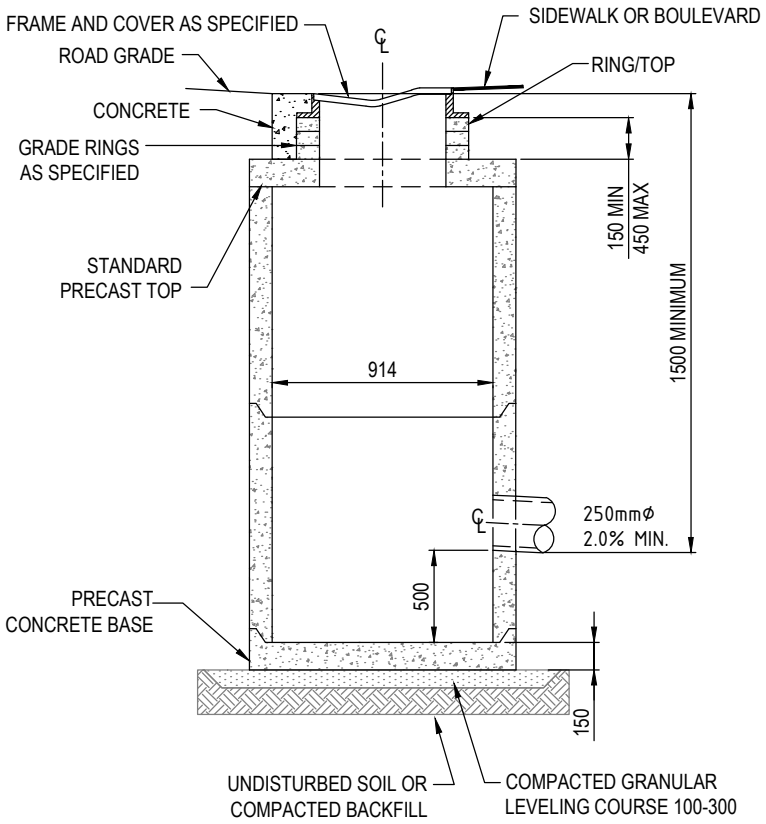
INTERNAL DROP MANHOLE

N.T.S.

REVISIONS			TITLE: INTERNAL DROP MANHOLE			Morinville
DATE	DESCRIPTION	BY				
-	-	-				
-	-	-	APPROVED: JH			
-	-	-	CHECKED: DH			DWG NO. 4.26
-	-	-	DATE: DECEMBER 2022	SCALE: NTS	DRAWN: AL	

NOTES:

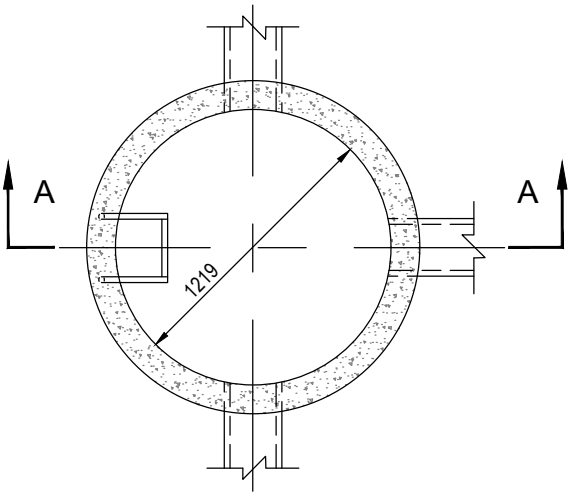
1. CAST-IN-PLACE CONCRETE BASE MAY BE USED. CAST-IN-PLACE CONCRETE TO BE TYPE 50 25MPa IN 28 DAYS. CAST-IN-PLACE CONCRETE BASE TO BE MIN. 150mm THICK AND CONSTRUCTED ON UNDISTURBED SOIL.
2. PRECAST RINGS, CONES AND BARRELS TO MEET CURRENT ASTM C478 STANDARDS.
3. JOINTS TO BE SEALED WITH CEMENT MORTAR, CONFINED O-RING GASKET ASTM C445, OR BOTH TO MAKE JOINTS WATERTIGHT.
4. CONNECTION OF CONCRETE PIPES TO CB TO BE SEALED WITH CEMENT MORTAR.
5. INLET AND OUTLET PIPES TO BE GROUTED FLUSH WITH WALL.
6. COMPACT BACKFILL AROUND CB TO A MIN. OF 95% STANDARD PROCTOR DENSITY.
7. COMPACT TOP 1.5m OF BACKFILL AROUND CB TO A MIN. OF 98% STANDARD PROCTOR DENSITY FOR CB WITHIN ROAD RIGHT OF WAY.
8. FOR PVC PIPE CONNECTIONS USE PRE-INSTALLED SEALED ALOK CONNECTIONS OR APPROVED EQUIVALENT.



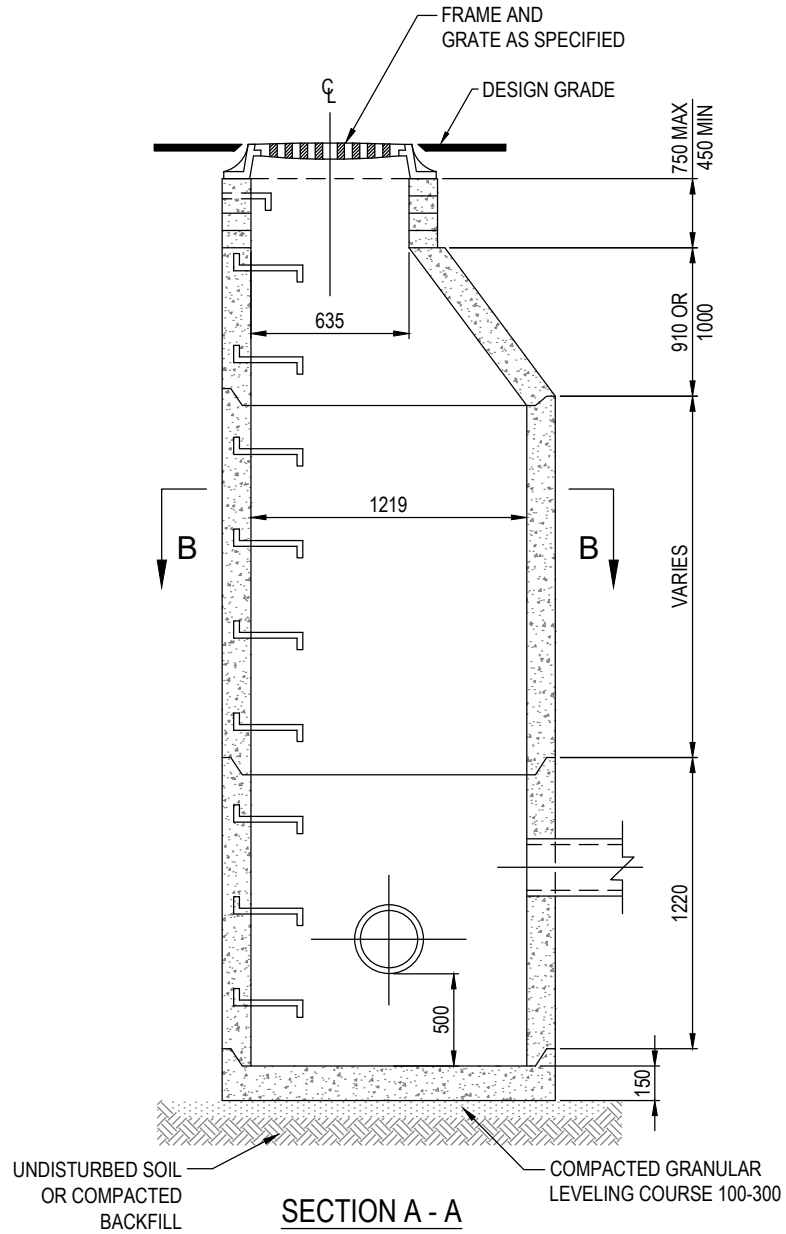
ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE NOTED

REVISIONS			TITLE			
DATE	DESCRIPTION	BY	900mm CATCH BASIN			
-	-	-				
-	-	-	APPROVED: JH			
-	-	-	CHECKED: DH			DWG NO.
-	-	-	DATE: DECEMBER 2022	SCALE: NTS	DRAWN: AL	4.28

Morinville



SECTION B-B



SECTION A - A

NOTES:

1. 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. FOR MH OVER 5.0m IN DEPTH, BASE TO BE REINFORCED WITH 10M BARS AT 250mm EACH WAY.
2. PRECAST RINGS, CONES AND BARRELS TO MEET CURRENT ASTM C478 STANDARDS.
3. STORM MH JOINTS TO BE SEALED WITH CEMENT MORTAR, OR CONFINED O-RING GASKET.
4. CONNECTION OF CONCRETE PIPES TO MH TO BE SEALED WITH CEMENT MORTAR.
5. INLET AND OUTLET PIPES TO BE GROUTED FLUSH WITH WALL.
6. 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.
7. COMPACT BACKFILL AROUND MH TO A MIN. OF 98% STANDARD PROCTOR DENSITY.
8. FOR PVC PIPE CONNECTIONS USE PRE-INSTALLED SEALED ALOK CONNECTIONS or APPROVED EQUIVALENT

ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE NOTED

REVISIONS		
DATE	DESCRIPTION	BY
-	-	-
-	-	-
-	-	-
-	-	-

TITLE

1200mm CATCH BASIN MANHOLE

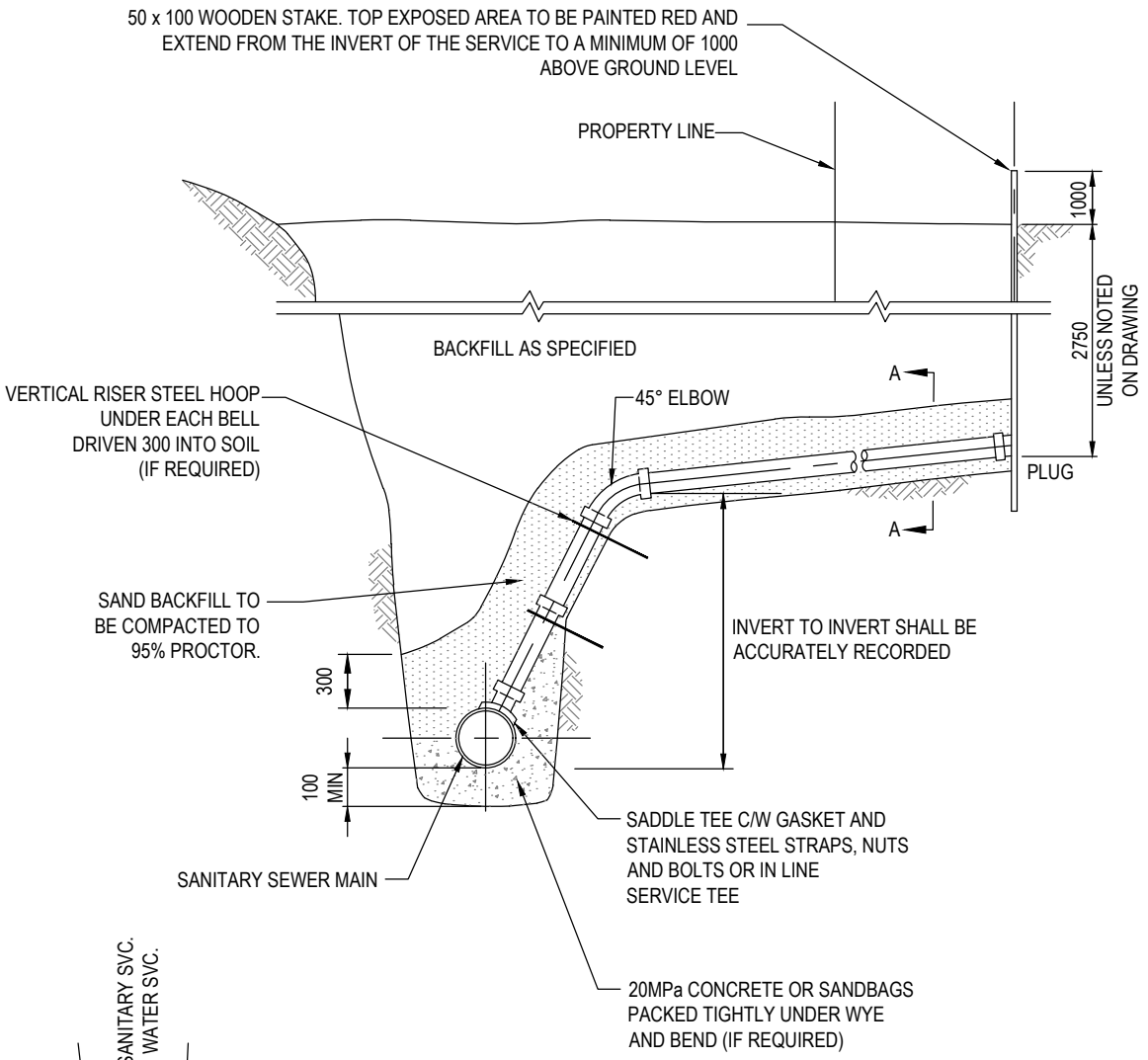
APPROVED: JH

CHECKED: DH

DATE: DECEMBER 2022 | SCALE: NTS | DRAWN: AL

Morinville

DWG NO.
4.29



SECTION A-A

NOTE:

1. MINIMUM SLOPE FOR 100mm & 150mm DIA. PIPE IS 2%
2. SERVICE CONNECTIONS SHALL BE 100mm UNLESS SPECIFICALLY SHOWN OTHERWISE ON THE DRAWINGS

ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE NOTED

REVISIONS		
DATE	DESCRIPTION	BY
-	-	-
-	-	-
-	-	-
-	-	-

TITLE

STANDARD SANITARY SERVICE CONNECTION

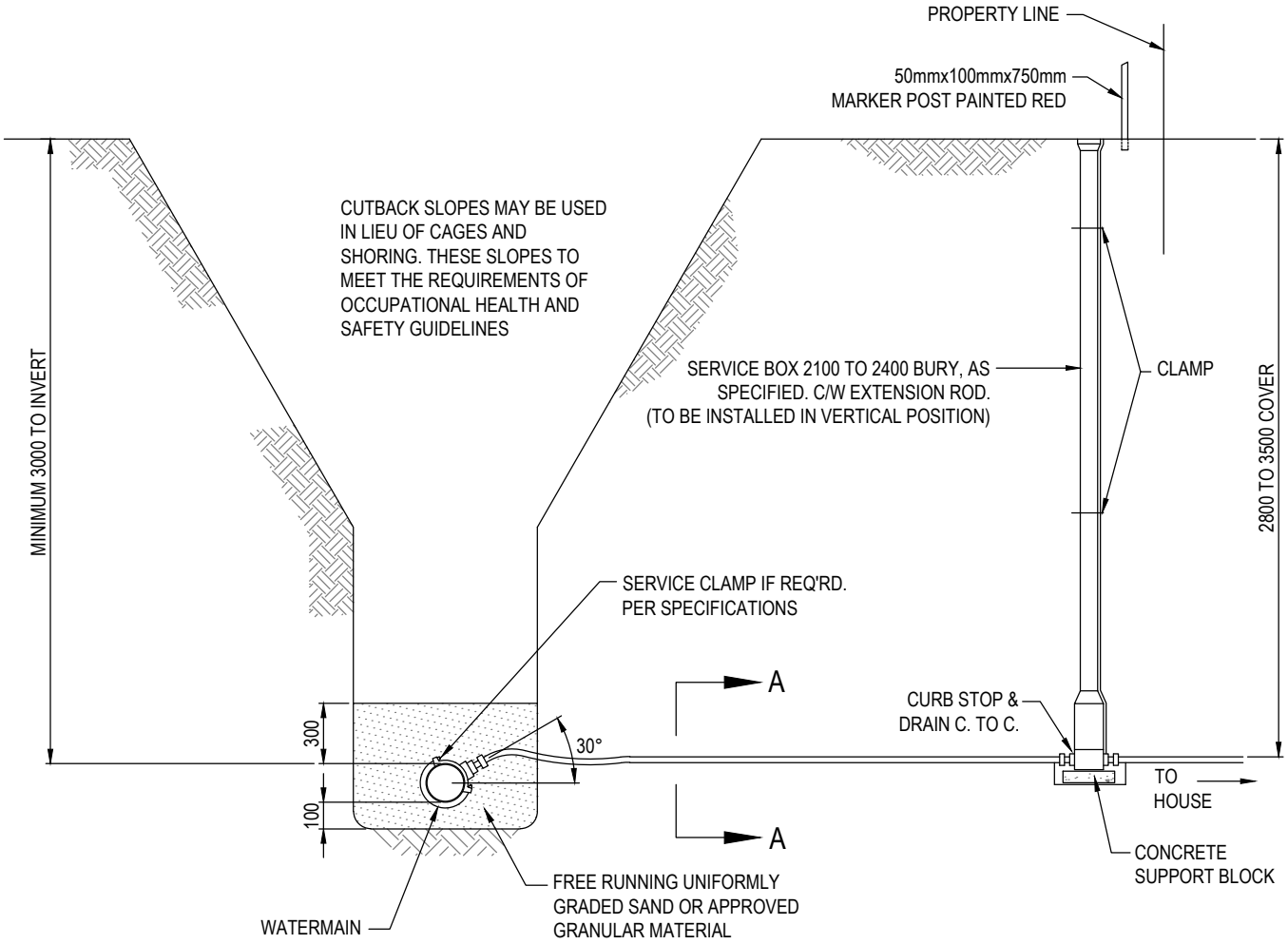
APPROVED: JH

CHECKED: DH

DATE: DECEMBER 2022 | SCALE: NTS | DRAWN: AL

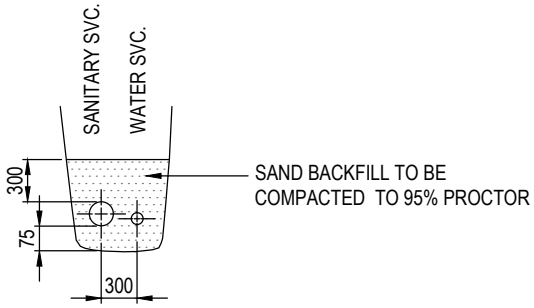
Morinville

DWG NO.
4.32



NOTE:

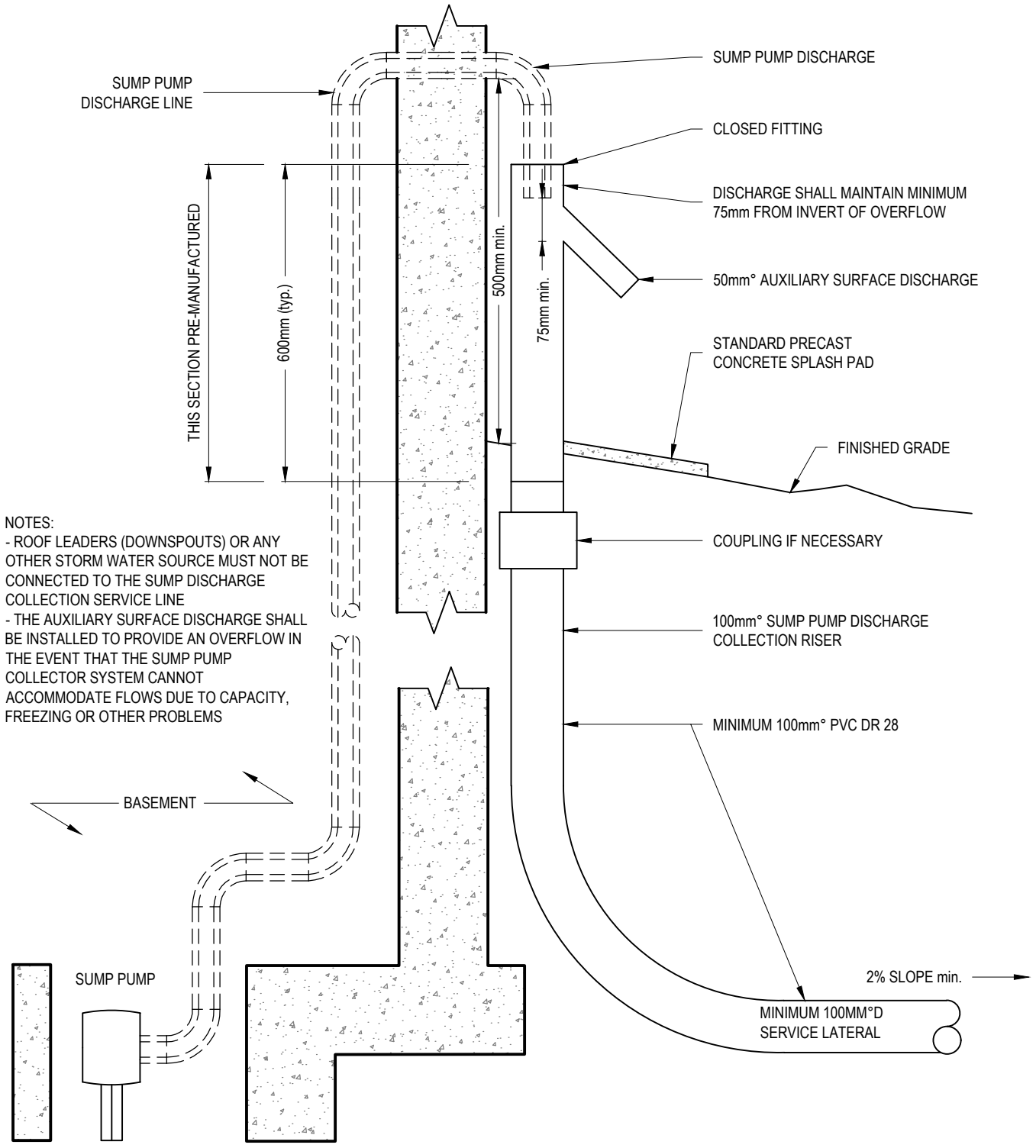
1. WATER SERVICE TO BE TAPPED AT THE 2 TO 3 O'CLOCK POSITION.
2. WATER SERVICE TO BE TYPE K COPPER.
3. WATER SERVICE TO BE SNAKED IN THE TRENCH.
4. WATER SERVICE IS NOT TO BE GOOSNECKED AT THE CORPORATION STOP.
5. CORPORATION STOP AND CURB STOP TO BE CATHODICALLY PROTECTED WITH 5KG ZINC ANODES.
6. ALL FITTINGS TO BE PACKER NUT TYPE, NOT GRIPPER NUT.



SECTION A - A

ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE NOTED

REVISIONS			TITLE			
DATE	DESCRIPTION	BY	STANDARD WATER SERVICE CONNECTION			Morinville
-	-	-				
-	-	-	APPROVED: JH			
-	-	-	CHECKED: DH			DWG NO. 4.33
-	-	-	DATE: DECEMBER 2022	SCALE: NTS	DRAWN: AL	



NOTES:
- ROOF LEADERS (DOWNSPOUTS) OR ANY OTHER STORM WATER SOURCE MUST NOT BE CONNECTED TO THE SUMP DISCHARGE COLLECTION SERVICE LINE
- THE AUXILIARY SURFACE DISCHARGE SHALL BE INSTALLED TO PROVIDE AN OVERFLOW IN THE EVENT THAT THE SUMP PUMP COLLECTOR SYSTEM CANNOT ACCOMMODATE FLOWS DUE TO CAPACITY, FREEZING OR OTHER PROBLEMS

REVISIONS		
DATE	DESCRIPTION	BY
-	-	-
-	-	-
-	-	-
-	-	-

TITLE

TYPICAL SUMP PUMP DISCHARGE CONNECTION AT HOUSE

Morinville

APPROVED: JH

CHECKED: DH

DATE: MAY 2023 | SCALE: NTS | DRAWN: ZR

DWG NO. 4.34