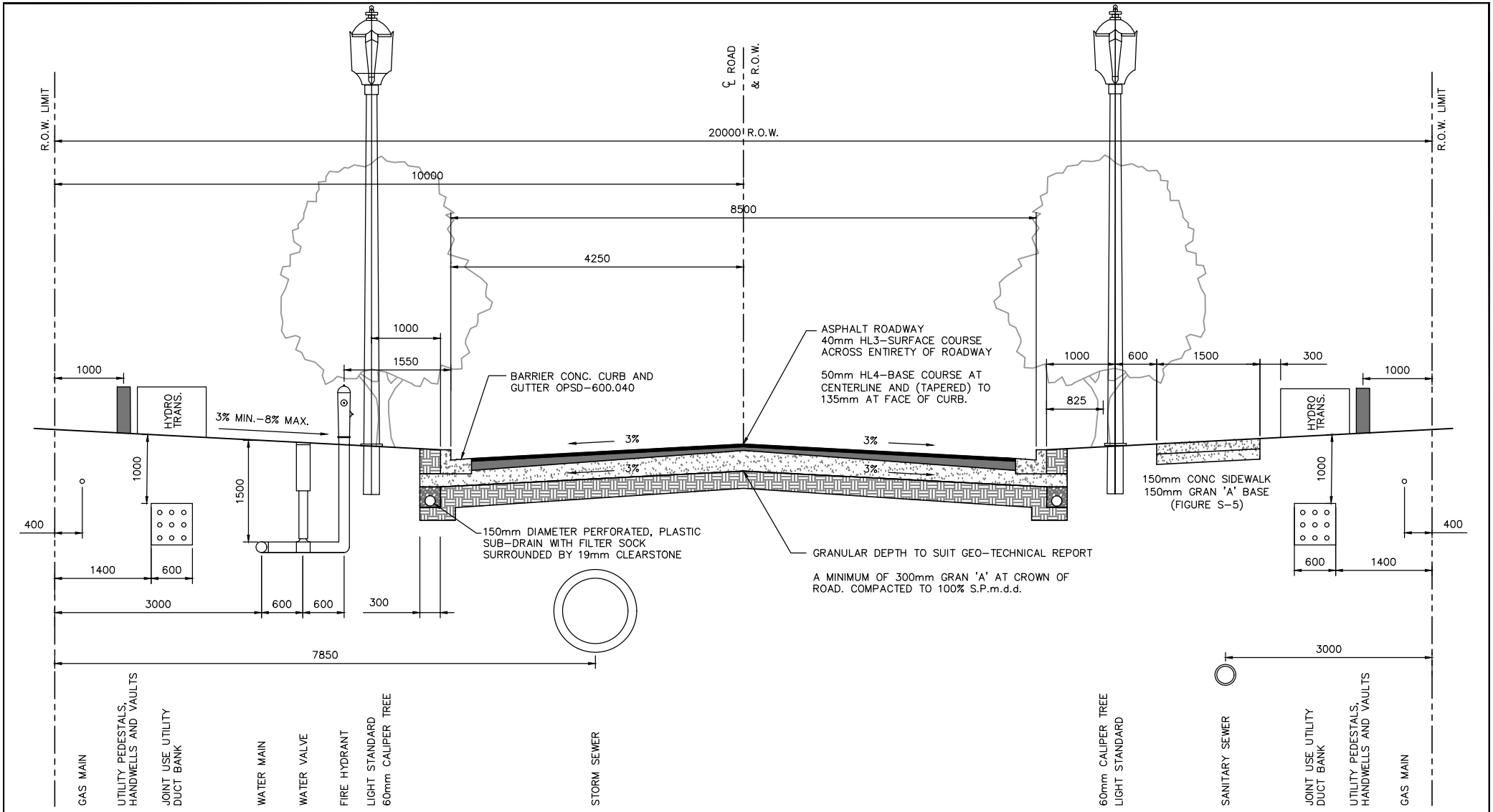
APPENDIX F – FIGURES



ADDITIONAL NOTES:

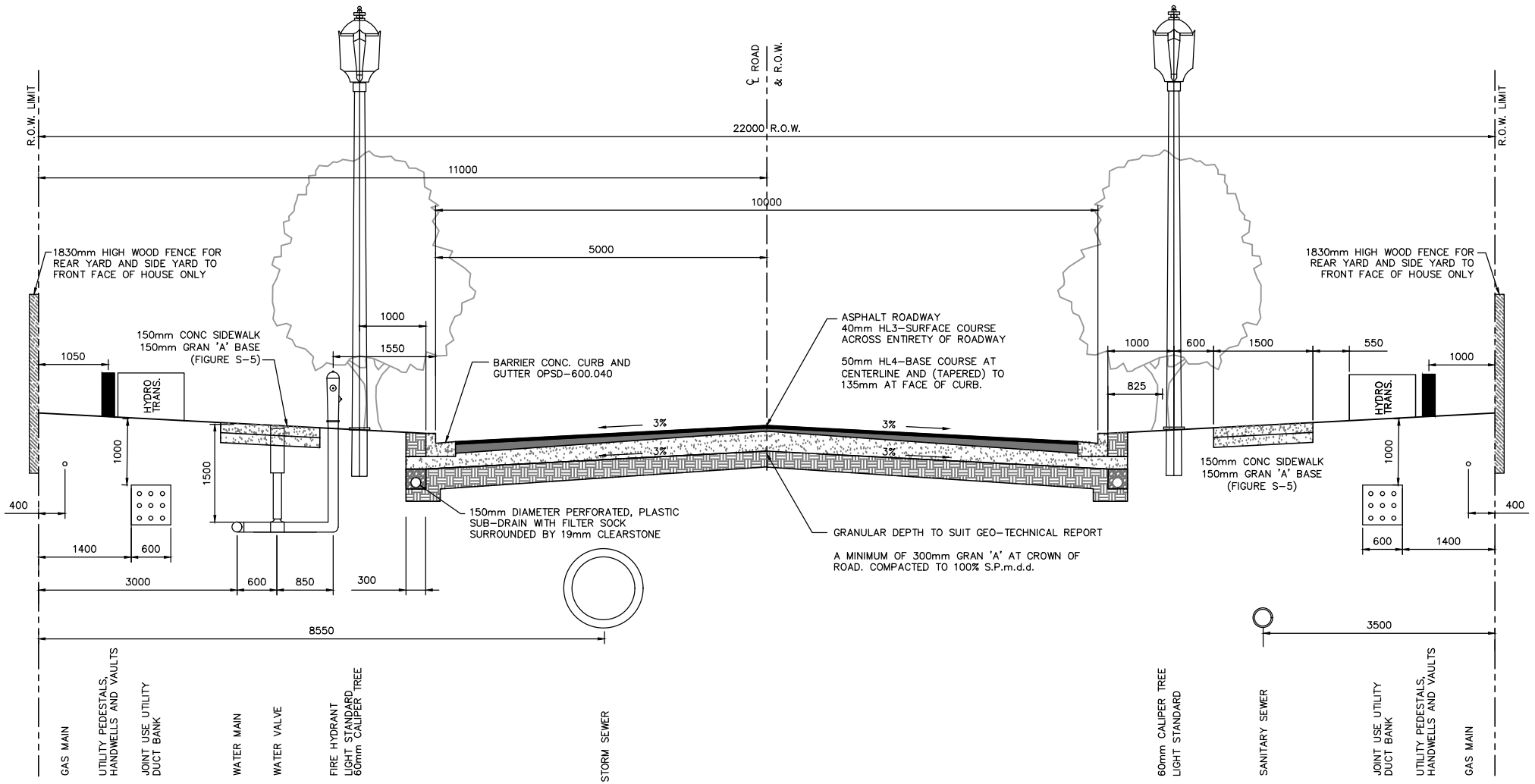
1. FINAL LOCATION OF UTILITIES MAY VARY DEPENDING ON UTILITY COMPANY AND ON SITE SPECIFIC REQUIREMENTS. FINAL POSITIONING OF UTILITY INFRASTRUCTURE SHALL BE VERIFIED BY A REPRESENTATIVE OF THE TOWN OF LAKESHORE.
2. 3.0m MULTI–USE PATHWAYS (75mm ASPHALT THICKNESS ON 250mm GRANULAR 'A') MAY BE REQUESTED IN LIEU OF CONCRETE SIDEWALK. THE BASE IS TO BE 300mm WIDER THAN THE ASPHALT ON EACH SIDE. MINIMUM HL4 BASE COURSE ASPHALT IS TO BE USED.
3. ALL SANITARY AND STORM SERVICES SHALL INCLUDE A BENTONITE PLUG, TEE AND CLEANOUT AT PROPERTY LINE. ALL CLEANOUTS SHOULD PROJECT 300mm ABOVE FINISHED GRADE FOR INSPECTION. ONCE INSPECTION IS COMPLETE THE CLEANOUT SHOULD BE CUT, CAPPED AND SET TO FINISHED GRADE.
4. WATER SERVICE VALVES TO BE SET AT PROPERTY LINE.
5. EXPOSED SUB–BASE SHALL BE PROOF–ROLLED IN THE PRESENCE OF A GEO–TECHNICAL ENGINEER TO VERIFY SUITABILITY.
6. SPARE CONDUIT SHALL BE INSTALLED WITHIN THE JOINT USE DUCT BANK AS PER TOWN OF LAKESHORE DEVELOPMENT MANUAL.
7. AT LAKESHORE'S DISCRETION, 100mm DIAMETER PERFORATED SUB–DRAIN MAY BE ACCEPTABLE IF INSTALLED WITH GRADE STAKES OR LASER LEVEL.

No.	Revison Date
9	March 3, 2019
8	July 6, 2017
7	June 13, 2016
6	April 30, 2015
5	November 11, 2014
4	December 11, 2012
3	April 14, 2009
2	January 14, 2008
1	October 16, 2006

Town of Lakeshore Development Manual

Figure CS-2

Typical Road Cross Section
20.0m R.O.W. - LOCAL ROAD



ADDITIONAL NOTES:

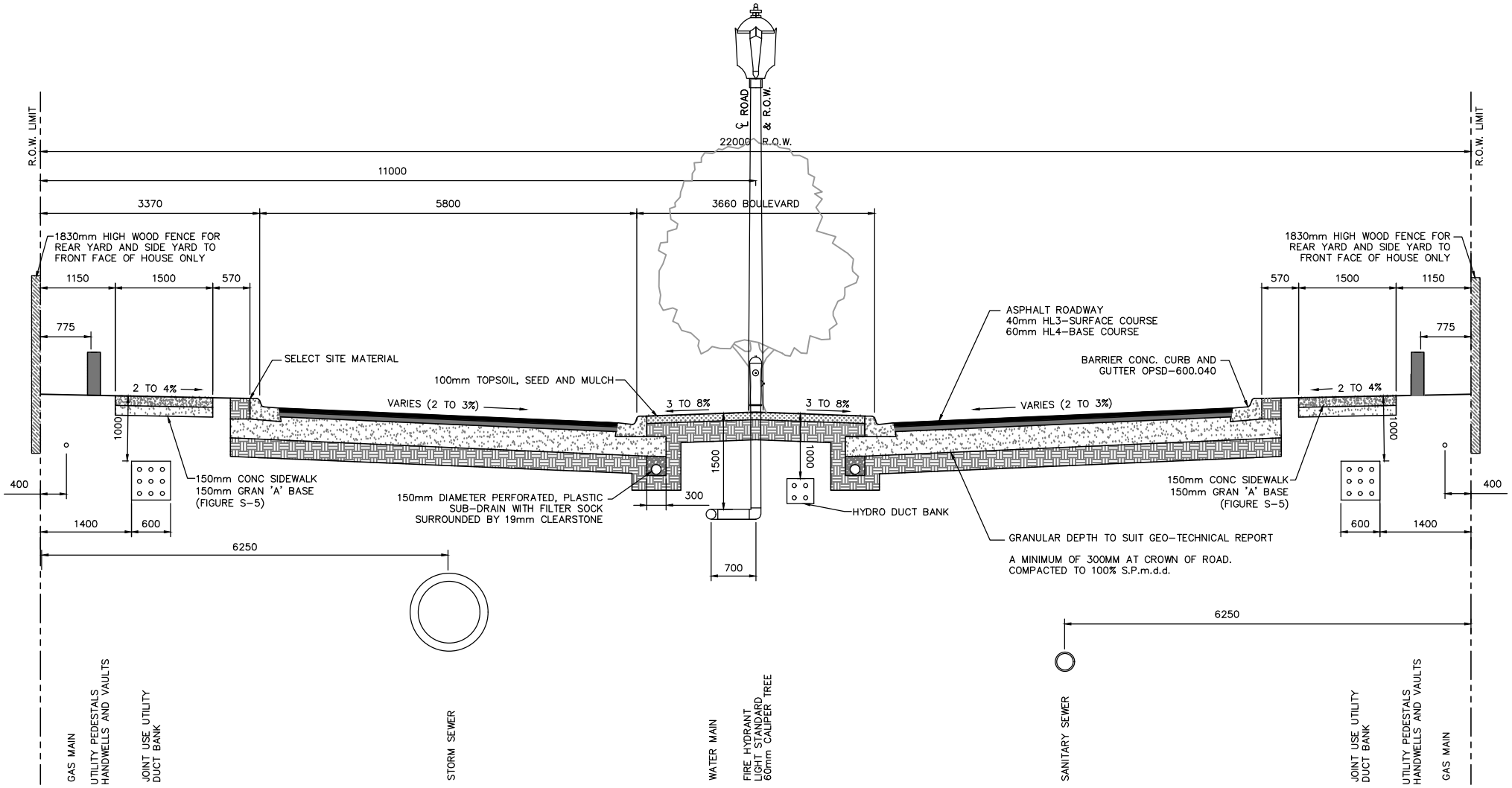
1. FINAL LOCATION OF UTILITIES MAY VARY DEPENDING ON UTILITY COMPANY AND ON SITE SPECIFIC REQUIREMENTS. FINAL POSITIONING OF UTILITY INFRASTRUCTURE SHALL BE VERIFIED BY A REPRESENTATIVE OF THE TOWN OF LAKESHORE.
2. 3.0m MULTI-USE PATHWAYS (75mm ASPHALT THICKNESS ON 250mm GRANULAR 'A') MAY BE REQUESTED IN LIEU OF CONCRETE SIDEWALK. THE BASE IS TO BE 300mm WIDER THAN THE ASPHALT ON EACH SIDE. MINIMUM HL4 BASE COURSE ASPHALT IS TO BE USED.
3. EXPOSED SUB-BASE SHALL BE PROOF-ROLLED IN THE PRESENCE OF A GEO-TECHNICAL ENGINEER TO VERIFY SUITABILITY.
4. AT LAKESHORE'S DISCRETION, 100mm DIAMETER PERFORATED SUB-DRAIN MAY BE ACCEPTABLE IF INSTALLED WITH GRADE STAKES OR LASER LEVEL.
5. SPARE CONDUIT SHALL BE INSTALLED WITHIN THE JOINT USE DUCT BANK AS PER TOWN OF LAKESHORE DEVELOPMENT MANUAL.
6. ALL SANITARY AND STORM SERVICES SHALL INCLUDE TEE AND CLEANOUT AT PROPERTY LINE. ALL CLEANOUTS SHOULD PROJECT 300mm ABOVE FINISHED GRADE FOR INSPECTION ONCE INSPECTION IS COMPLETE THE CLEANOUT SHOULD BE CUT, CAPPED AND SET TO FINISHED GRADE. BENTONITE PLUGS ON ALL SERVICES ARE TO BE COMPLETED BY BUILDER.
7. DRIVEWAYS ARE NOT PERMITTED OFF OF COLLECTOR ROADS.
8. PRIVATE SERVICES ARE NOT PERMITTED OFF SEWERS AND WATERMAIN ON COLLECTOR ROADS

No.	Revison Date
9	March 3, 2019
8	July 6, 2017
7	June 13, 2016
6	April 30, 2015
5	November 11, 2014
4	December 11, 2012
3	April 14, 2009
2	January 14, 2008
1	October 16, 2006

Town of Lakeshore Development Manual

Figure CS-3

Typical Road Cross Section
22.0m R.O.W. - COLLECTOR ROAD



ADDITIONAL NOTES:

1. FINAL LOCATION OF UTILITIES MAY VARY DEPENDING ON UTILITY COMPANY AND ON SITE SPECIFIC REQUIREMENTS. FINAL POSITIONING OF UTILITY INFRASTRUCTURE SHALL BE VERIFIED BY A REPRESENTATIVE OF THE TOWN OF LAKESHORE.
2. 3.0m MULTI–USE PATHWAYS (75mm ASPHALT THICKNESS ON 250mm GRANULAR 'A') MAY BE REQUESTED IN LIEU OF CONCRETE SIDEWALK. THE BASE IS TO BE 300mm WIDER THAN THE ASPHALT ON EACH SIDE. MINIMUM HL4 BASE COURSE ASPHALT IS TO BE USED.
3. EXPOSED SUB–BASE SHALL BE PROOF–ROLLED IN THE PRESENCE OF A GEO–TECHNICAL ENGINEER TO VERIFY SUITABILITY.
4. AT LAKESHORE'S DISCRETION, 100mm DIAMETER PERFORATED SUB–DRAIN MAY BE ACCEPTABLE IF INSTALLED WITH GRADE STAKES OR LASER LEVEL.
5. SPARE CONDUIT SHALL BE INSTALLED WITHIN THE JOINT USE DUCT BANK AS PER TOWN OF LAKESHORE DEVELOPMENT MANUAL.
6. DRIVEWAYS ARE NOT PERMITTED OFF OF COLLECTOR ROADS.
7. PRIVATE SERVICES ARE NOT PERMITTED OFF SEWERS AND WATERMAIN ON COLLECTOR ROADS

Lakeshore

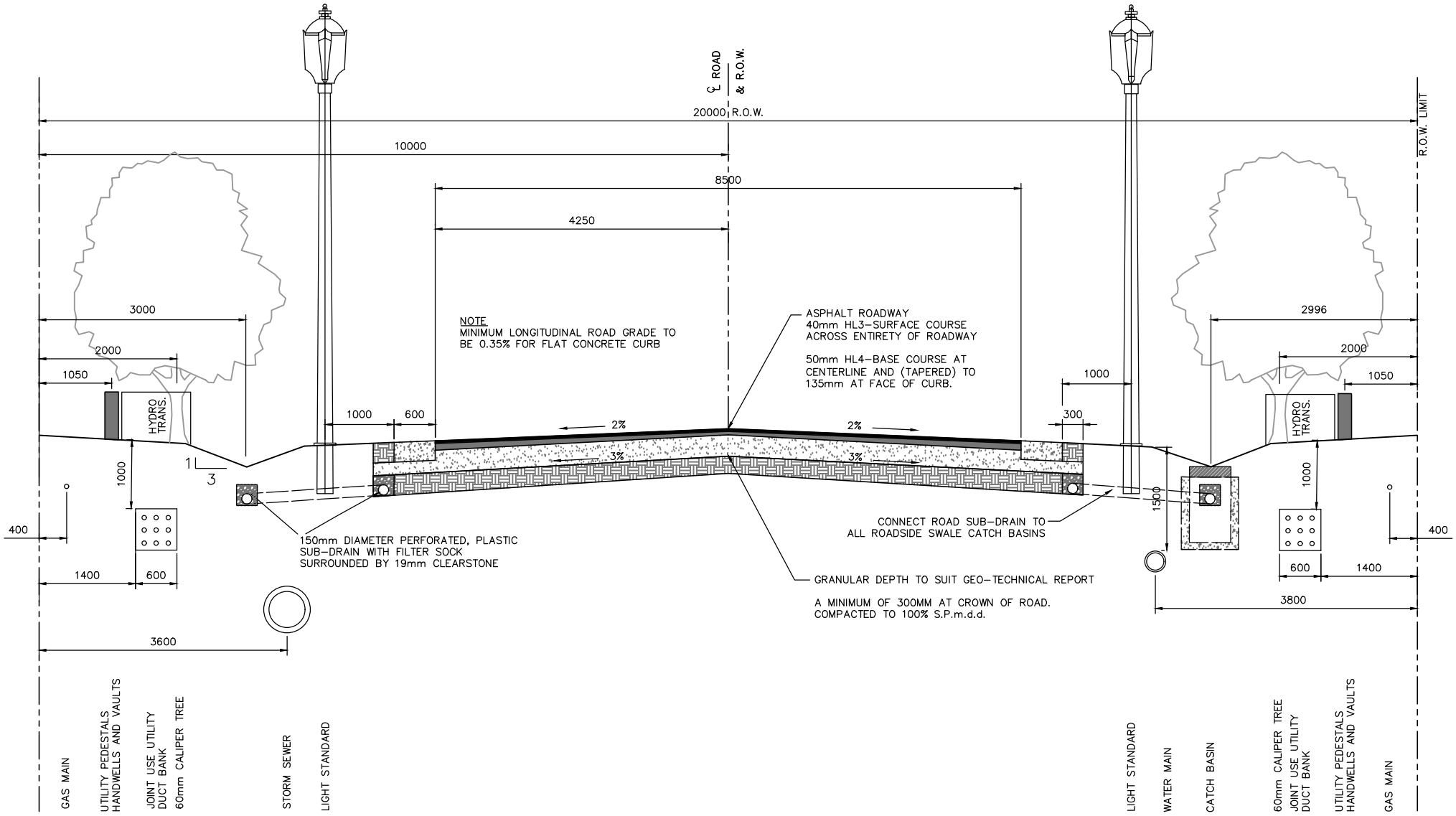
No.	Revison Date
6	March 3, 2019
5	July 6, 2017
4	April 30, 2015
3	December 11, 2012
2	January 14, 2008
1	October 16, 2006

Town of Lakeshore Development Manual

Figure CS-4

Typical Road Cross Section

22.0m R.O.W. - COLLECTOR ROAD WITH BOULEVARD



ADDITIONAL NOTES:

1. FINAL LOCATION OF UTILITIES MAY VARY DEPENDING ON UTILITY COMPANY AND ON SITE SPECIFIC REQUIREMENTS. FINAL POSITIONING OF UTILITY INFRASTRUCTURE SHALL BE VERIFIED BY A REPRESENTATIVE OF THE TOWN OF LAKESHORE.
2. 3.0m MULTI–USE PATHWAYS (75mm ASPHALT THICKNESS ON 250mm GRANULAR 'A') MAY BE REQUESTED IN LIEU OF CONCRETE SIDEWALK. THE BASE IS TO BE 300mm WIDER THAN THE ASPHALT ON EACH SIDE. MINIMUM HL4 BASE COURSE ASPHALT IS TO BE USED.
3. ALL SANITARY AND STORM SERVICES SHALL INCLUDE TEE AND CLEANOUT AT PROPERTY LINE. ALL CLEANOUTS SHOULD PROJECT 300mm ABOVE FINISHED GRADE FOR INSPECTION ONCE INSPECTION IS COMPLETE THE CLEANOUT SHOULD BE CUT, CAPPED AND SET TO FINISHED GRADE. BENTONITE PLUGS ON ALL SERVICES ARE TO BE COMPLETED BY BUILDER.
4. WATER SERVICE VALVES TO BE SET AT PROPERTY LINE AT MIDDLE OF LOT.
5. EXPOSED SUB–BASE SHALL BE PROOF–ROLLED IN THE PRESENCE OF A GEO–TECHNICAL ENGINEER TO VERIFY SUITABILITY.
6. SPARE CONDUIT SHALL BE INSTALLED WITHIN THE JOINT USE DUCT BANK AS PER TOWN OF LAKESHORE DEVELOPMENT MANUAL.
7. SUB–DRAINS IN SWALE CAN BE OVERSIZED AND USED AS A STORM SEWER.
8. NO DRIVEWAY CULVERTS ALLOWED IN RIGHT–OF–WAY.

No.	Revison Date
8	March 3, 2019
7	July 6, 2017
6	May 1, 2014
5	January 27, 2014
4	December 11, 2012
3	April 14, 2009
2	January 14, 2008
1	October 16, 2006

Town of Lakeshore Development Manual

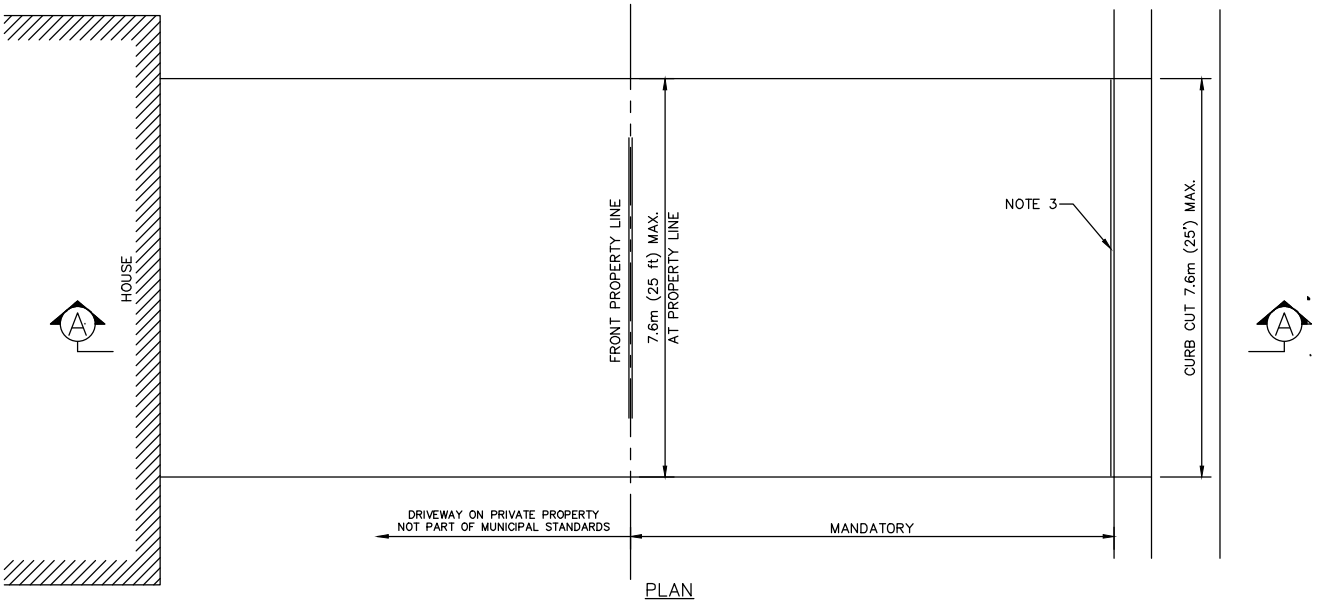
Figure CS-5

Typical Road Cross Section

20.0m R.O.W. - SEMI-URBAN DEVELOPMENT

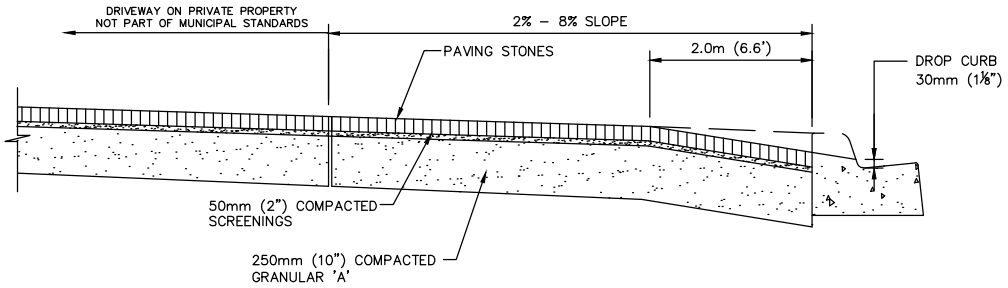
NOTES

1. RURAL AND SEMI-URBAN DRIVEWAY REQUIREMENTS ARE DETERMINED ON A CASE BY CASE SCENARIO. PLEASE CONTACT THE TOWN OF LAKESHORE PUBLIC WORKS DIVISION BEFORE PROCEEDING WITH HARD SURFACE OR CURB PLACEMENT WITHIN ROAD RIGHT-OF-WAY.
2. DRIVEWAYS ARE NOT PERMITTED OFF COLLECTOR ROADS.
3. DRIVEWAY LOCATION IS BASED OFF OF FRONTAGE AND SHOULD BE PERPENDICULAR TO PRIVATE SERVICES.
4. LIMIT OF ONE DRIVEWAY PER RESIDENCE.
5. 600mm CURB TAPER ON BOTH SIDES OF DRIVEWAY INCLUDED IN 7.6m. (25') CURB CUT.
6. FOR CONCRETE DRIVEWAYS ONLY – 12mm (½") THICK FULL DEPTH PRE MOLD JOINT FILLER AS PER OPSS 1308
7. FOR CONCRETE DRIVEWAYS ONLY – SAWCUT SLAB TO CONTROL CRACKING.

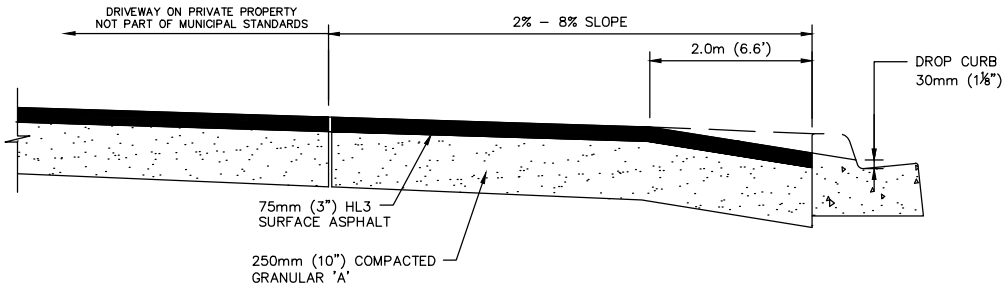


PLAN

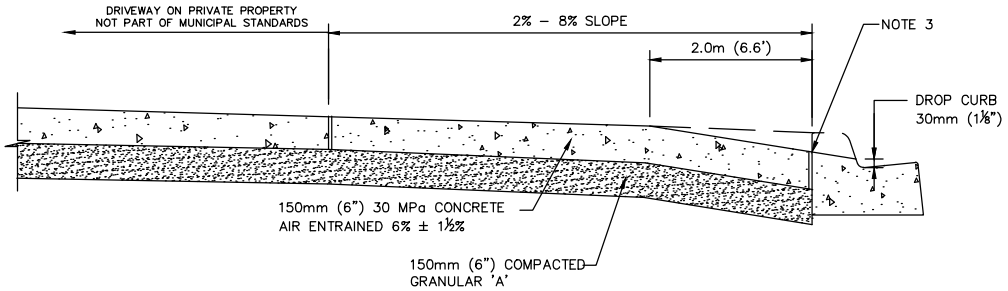
PAVING STONES
SECTION A-A



ASPHALT
SECTION A-A



CONCRETE
SECTION A-A



No.	Revison Date
7	March 3, 2019
6	July 7, 2017
5	December 18, 2012
4	December 07, 2011
3	November 18, 2008
2	January 14, 2008
1	October 16, 2006

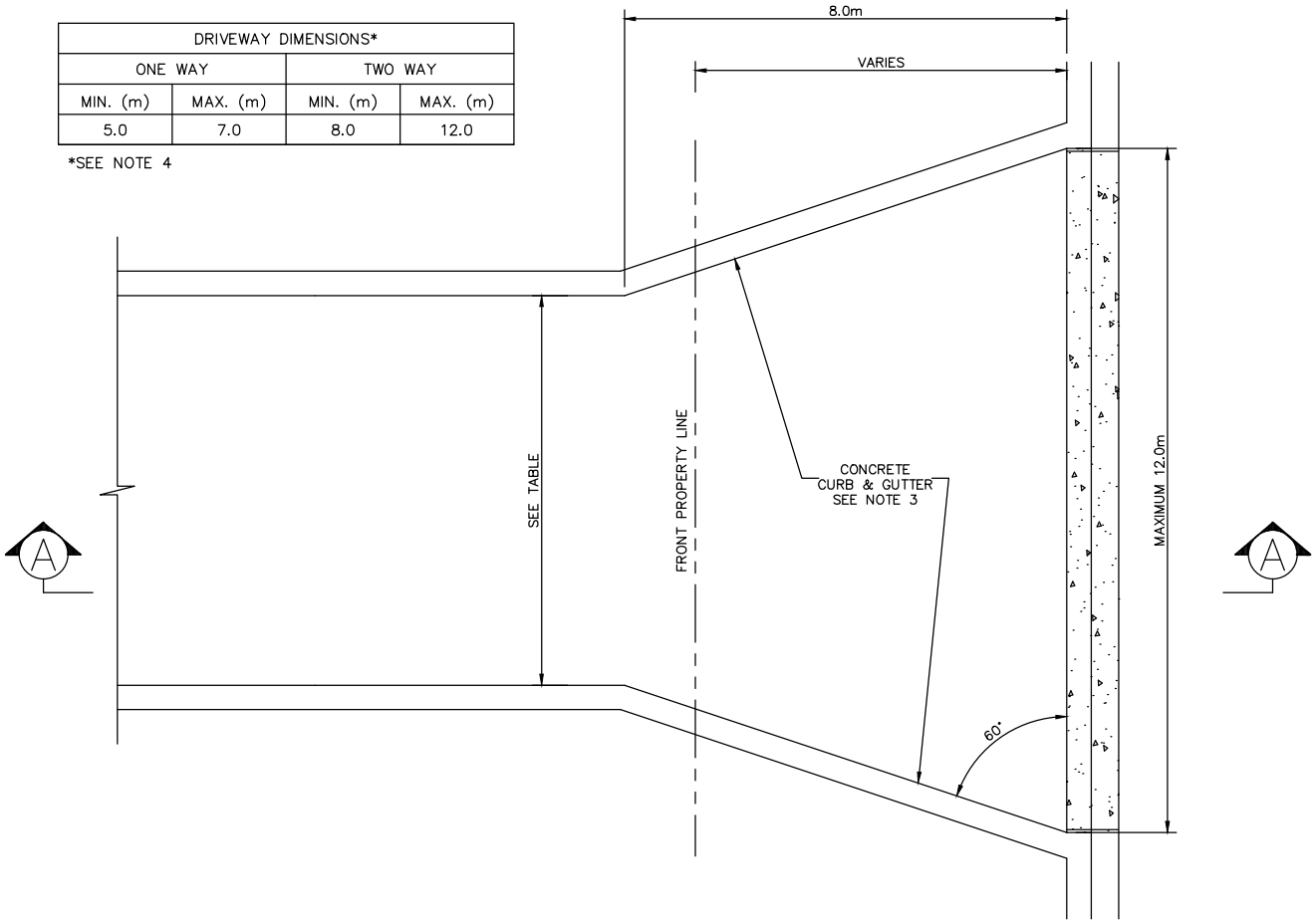
Town of Lakeshore Development Manual

Figure D-1

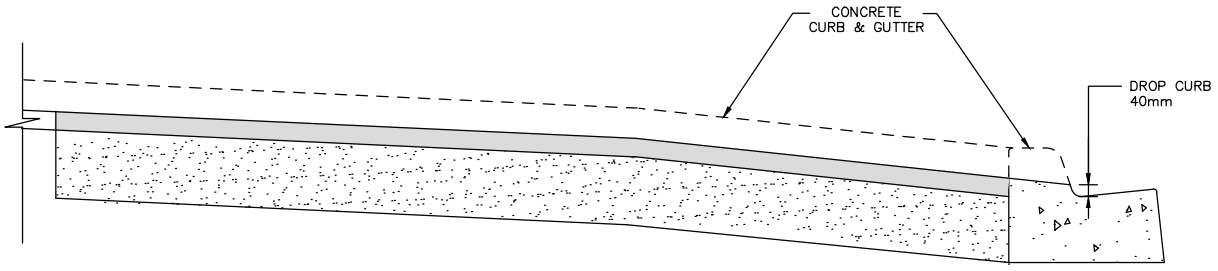
URBAN RESIDENTIAL DRIVEWAY ENTRANCE
WITHOUT SIDEWALK

DRIVEWAY DIMENSIONS*			
ONE WAY		TWO WAY	
MIN. (m)	MAX. (m)	MIN. (m)	MAX. (m)
5.0	7.0	8.0	12.0

*SEE NOTE 4



PLAN



SECTION A–A

NOTES

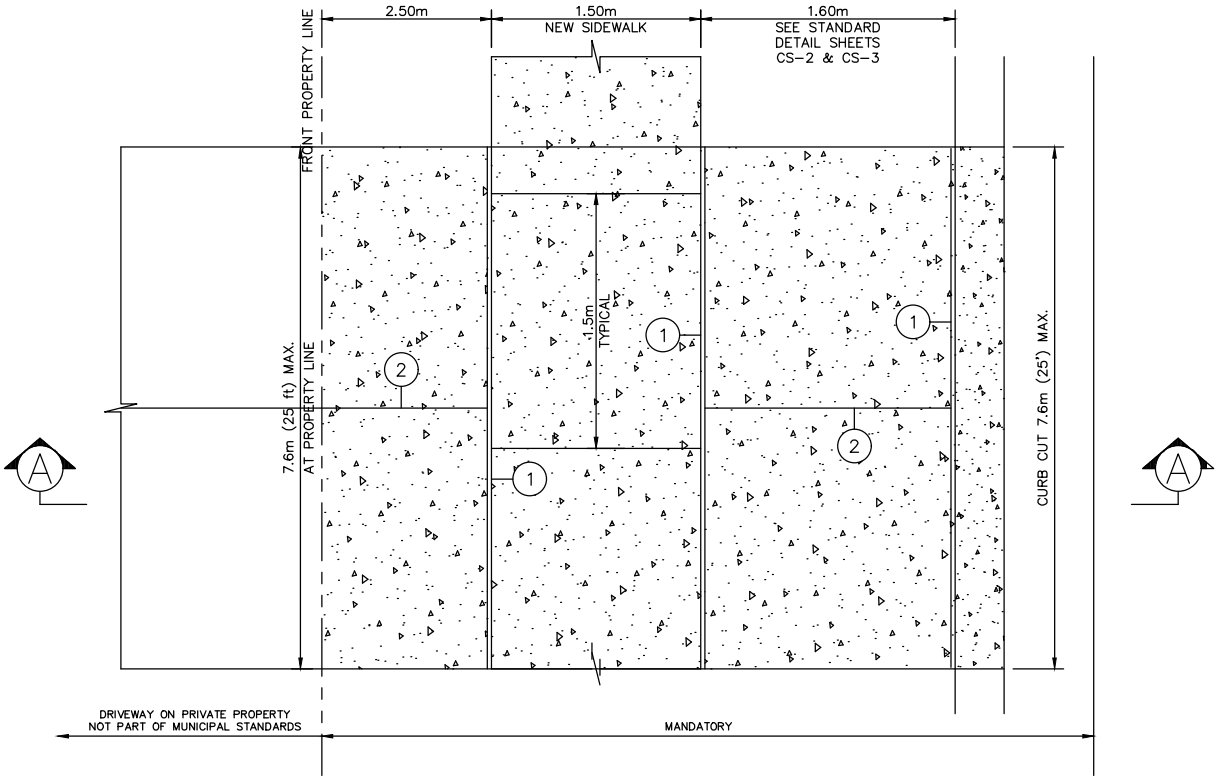
1. CURB CUT IF REQUIRED, SHALL BE MADE AS DIRECTED BY THE ENGINEER.
2. APPROACH GRADE SHALL NOT EXCEED 8%.
3. CONCRETE CURBING ON DRIVEWAY APRON IS NOT REQUIRED ON RURAL ROADS.
4. ABOVE NOTED DIMENSIONS ARE GUIDELINES. DEVELOPER TO CONFIRM THAT DRIVEWAY WIDTHS AND APRON SIZE ARE SUFFICIENT TO FACILITATE TRUCK AND EMERGENCY VEHICLE TURNING MOVEMENTS.

No.	Revison Date
4	July 7, 2017
3	January 27,2014
2	January 14,2008
1	October 16,2006

Town of Lakeshore Development Manual

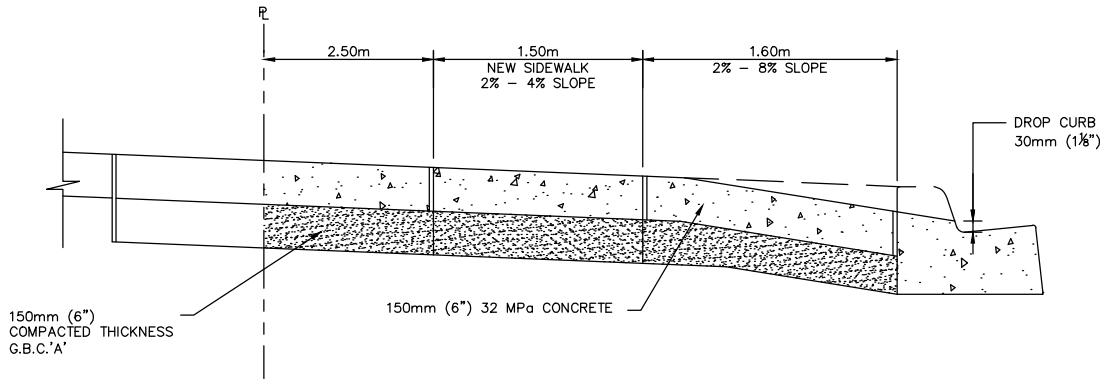
Figure D-2

INDUSTRIAL DRIVEWAY ENTRANCES



PLAN

Note: Taper included in the 7.6m (25') Curb Cut.



SECTION A–A

NOTES

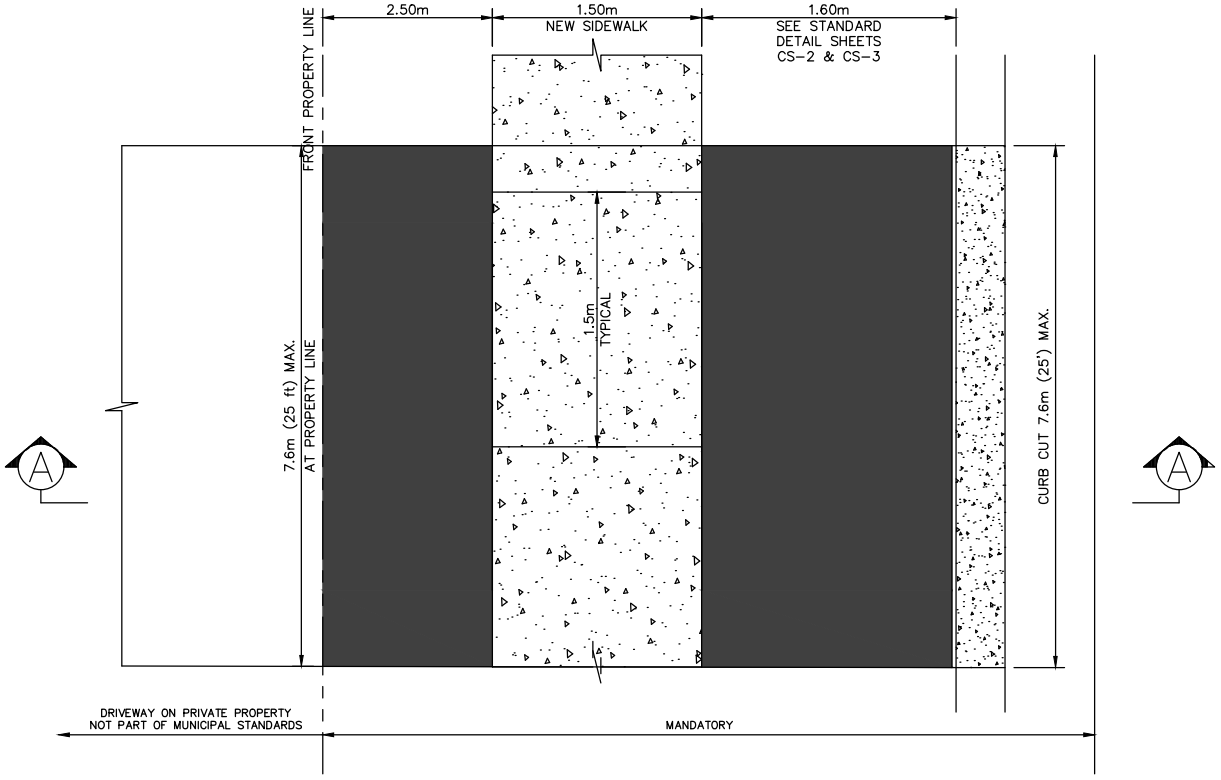
1. 15mm THICK FULL DEPTH PREMOLDED JOINT FILLER AS PER MTO FORM 1308.
2. 6mm THICK, 50mm DEEP PREMOLDED JOINT FILLER OR SAWCUT IF DRIVEWAY WIDTH EXCEEDS 3.65m.
3. CONCRETE TO BE AIR ENTRAINED 6% ± 1½%.
4. APPROVAL BY A TOWN OF LAKESHORE ENGINEERING MANAGER IS REQUIRED IF APPROACH SLAB EXCEEDS 8% SLOPE.
5. WIRE MESH IS NOT PERMITTED TO BE PLACED WITHIN THE MUNICIPAL SECTIONS OF THE DRIVEWAY, SIDEWALK OR APPROACH.
6. RURAL AND SEMI–URBAN DRIVEWAY REQUIREMENTS ARE DETERMINED ON A CASE BY CASE SCENARIO. PLEASE CONTACT THE TOWN OF LAKESHORE PUBLIC WORKS DIVISION BEFORE PROCEEDING WITH HARD SURFACE OR CURB PLACEMENT WITHIN ROAD RIGHT–OF–WAY.

No.	Revison Date
8	March 3, 2019
7	July 7, 2017
6	June 13, 2016
5	December 18, 2012
4	December 07, 2011
3	April 14, 2009
2	January 14, 2008

Town of Lakeshore Development Manual

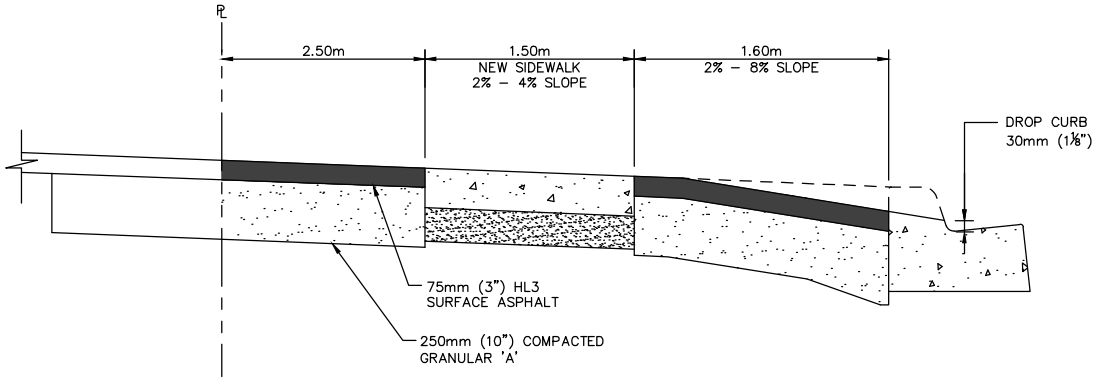
Figure D-3

URBAN RESIDENTIAL DRIVE
CONCRETE WITH SIDEWALK



PLAN

Note: Taper included in the 7.6m (25') Curb Cut.



SECTION A–A

NOTES

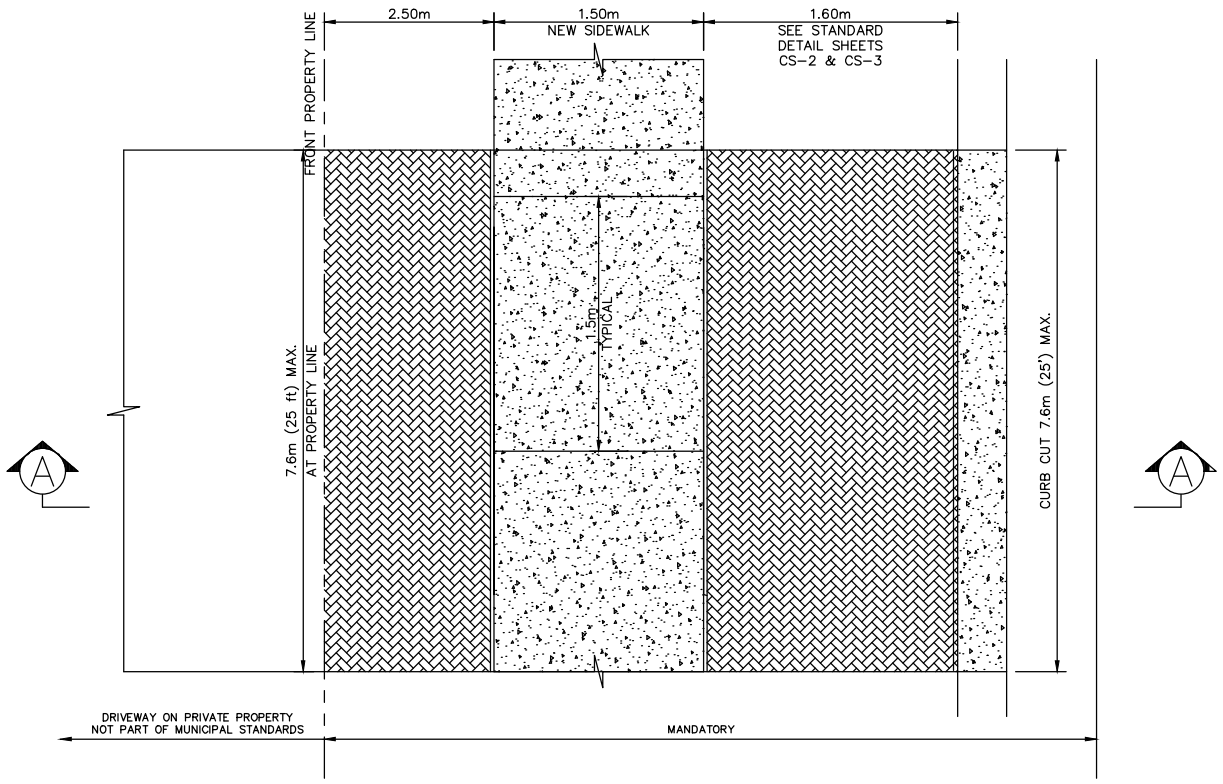
1. APPROVAL BY A TOWN OF LAKESHORE ENGINEERING MANAGER IS REQUIRED IF APPROACH SLAB EXCEEDS 8% SLOPE.
2. RURAL AND SEMI–URBAN DRIVEWAY REQUIREMENTS ARE DETERMINED ON A CASE BY CASE SCENARIO. PLEASE CONTACT THE TOWN OF LAKESHORE PUBLIC WORKS DIVISION BEFORE PROCEEDING WITH HARD SURFACE OR CURB PLACEMENT WITHIN ROAD RIGHT–OF–WAY.

No.	Revison Date
7	March 3, 2019
6	July 7, 2017
5	June 18, 2016
4	December 18, 2012
3	December 07, 2011
2	January 14, 2008
1	October 16, 2006

Town of Lakeshore Development Manual

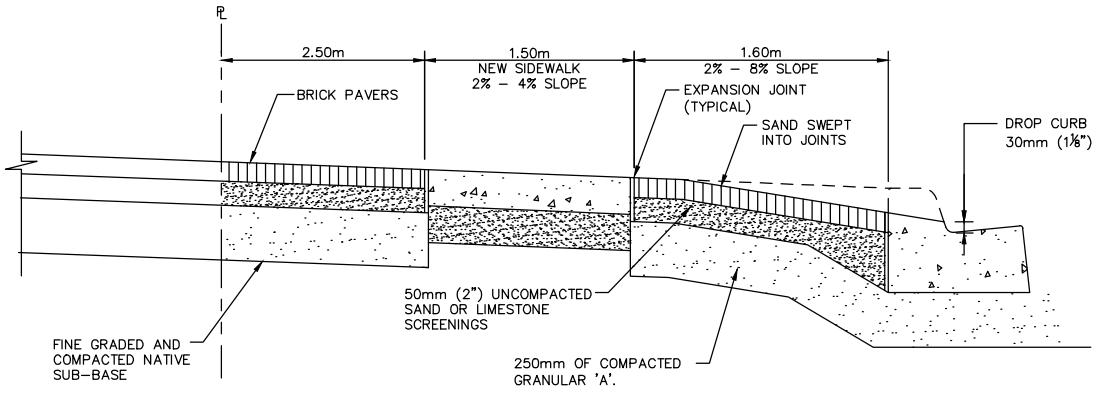
Figure D-4

URBAN RESIDENTIAL DRIVE
ASPHALT WITH SIDEWALK



PLAN

Note: Taper included in the 7.6m (25') Curb Cut.



SECTION A–A

NOTES

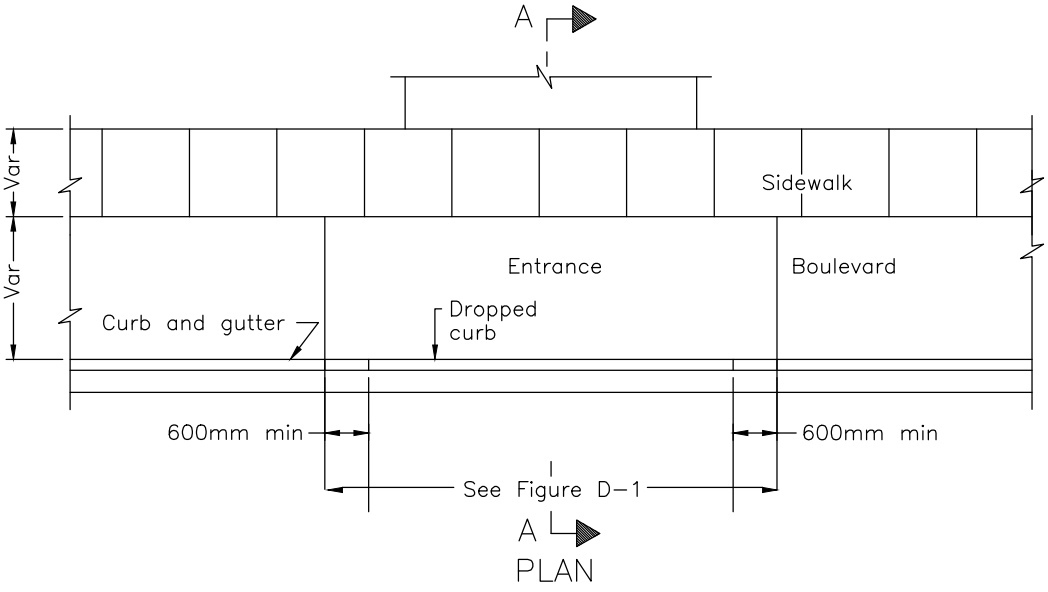
1. BRICK PAVERS SHALL BE INSTALLED AS PER INSTRUCTIONS PROVIDED BY THE BRICK PAVER SUPPLIER.
2. APPROVAL BY A TOWN OF LAKESHORE ENGINEERING MANAGER IS REQUIRED IF APPROACH SLAB EXCEEDS 8% SLOPE.
3. RURAL AND SEMI-URBAN DRIVEWAY REQUIREMENTS ARE DETERMINED ON A CASE BY CASE SCENARIO. PLEASE CONTACT THE TOWN OF LAKESHORE PUBLIC WORKS DIVISION BEFORE PROCEEDING WITH HARD SURFACE OR CURB PLACEMENT WITHIN ROAD RIGHT-OF-WAY.

No.	Revison Date
7	March 3, 2019
6	July 7, 2017
5	June 13, 2016
4	December 18, 2012
3	December 07, 2011
2	January 14, 2008
1	October 16, 2006

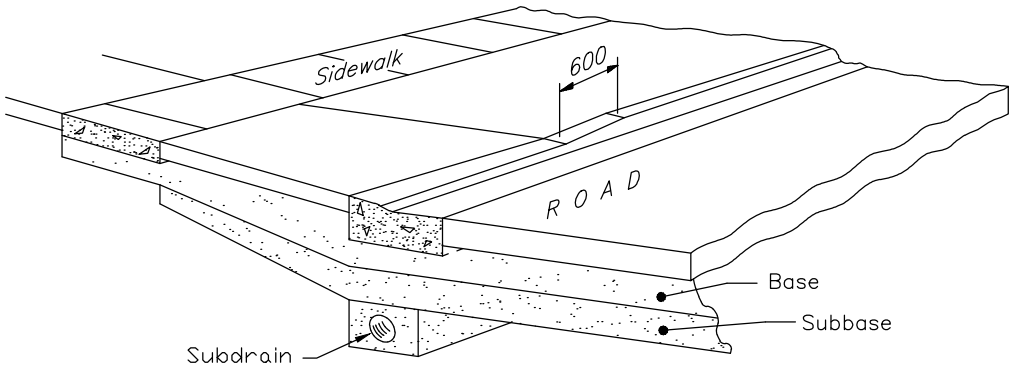
Town of Lakeshore Development Manual

Figure D-5

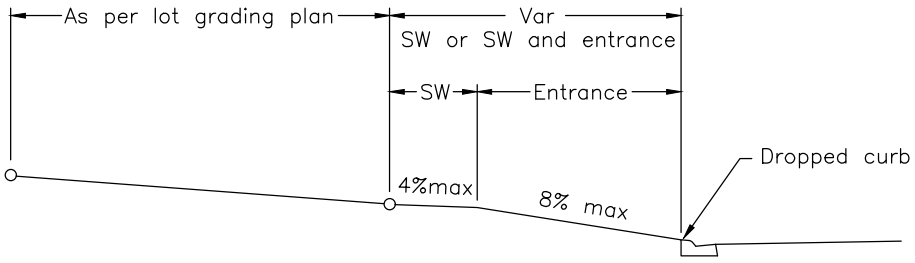
URBAN RESIDENTIAL DRIVE
BRICK PAVERS WITH SIDEWALK



PLAN



ISOMETRIC VIEW



SECTION A–A

NOTES:

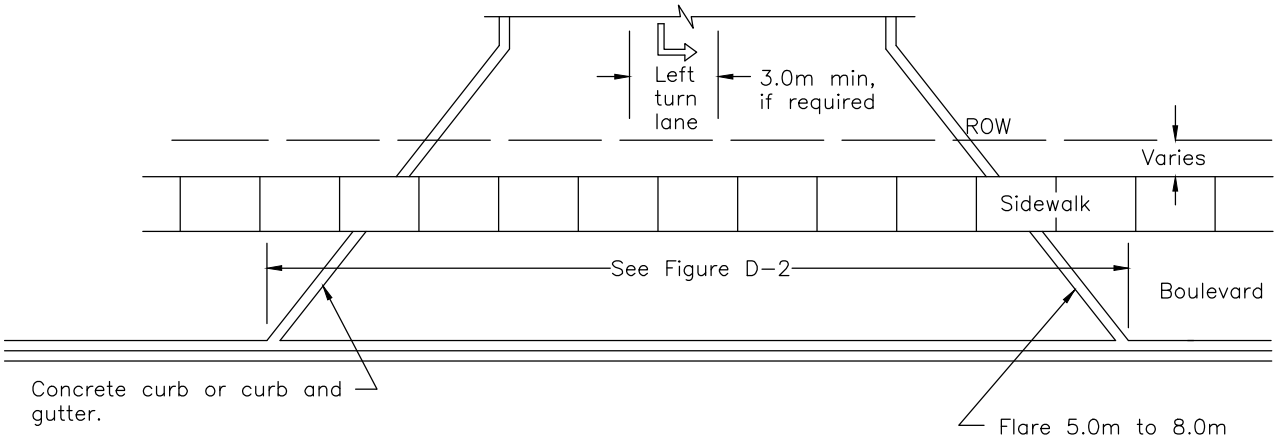
All dimensions are in millimetres unless otherwise shown.

No.	Revison Date
3	November 28, 2012
2	January 14, 2008
1	October 16, 2006

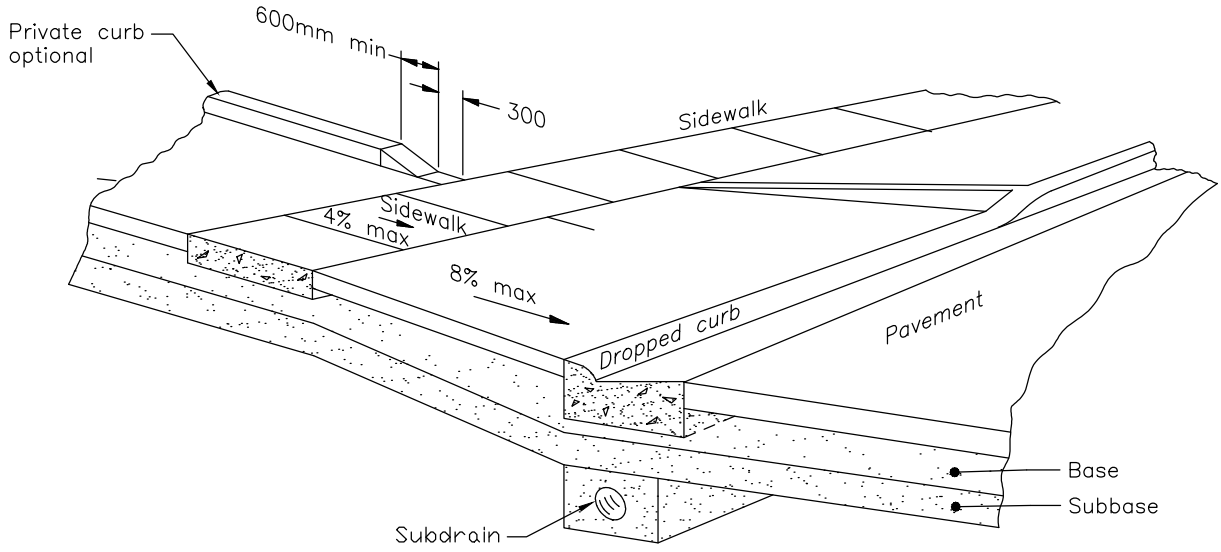
Town of Lakeshore Development Manual

Figure D-6

URBAN RESIDENTIAL ENTRANCE



PLAN



NOTES:

All dimensions are in millimetres unless otherwise shown.

No.	Revison Date
3	December 7, 2011
2	January 14, 2008
1	October 16, 2006

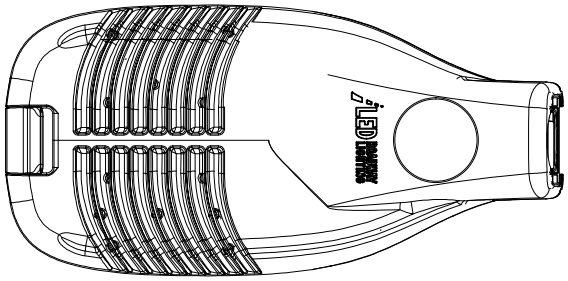
Town of Lakeshore Development Manual

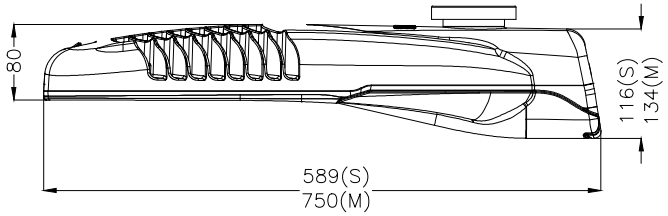
Figure D-7

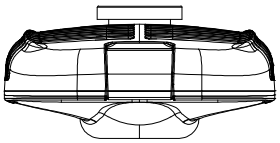
URBAN INDUSTRIAL, COMMERCIAL AND APARTMENT ENTRANCE

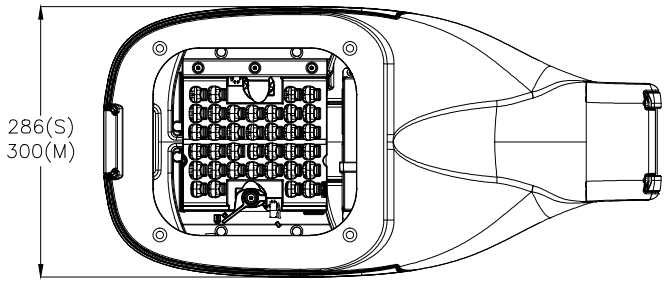
LUMINAIRE SPECIFICATIONS

CATALOGUE NO.:	NXT-xxS/M-0-7-2ES/4AH
MANUFACTURER:	LED ROADWAY
IES DESIGNATION:	TYPE II STANDARD; UNLESS OTHERWISE APPROVED
LIGHT SOURCE:	LED
LINE VOLTAGE:	120V
OPTIONS:	• NEMA PHOTOCELL RECEPTACLE • PHOTOCELL
PAINT:	BLACK (TO BE CONFIRMED)









No.	Revision Date
3	JULY 20, 2016
2	FEBRUARY 28, 2014
1	DECEMBER 5, 2013

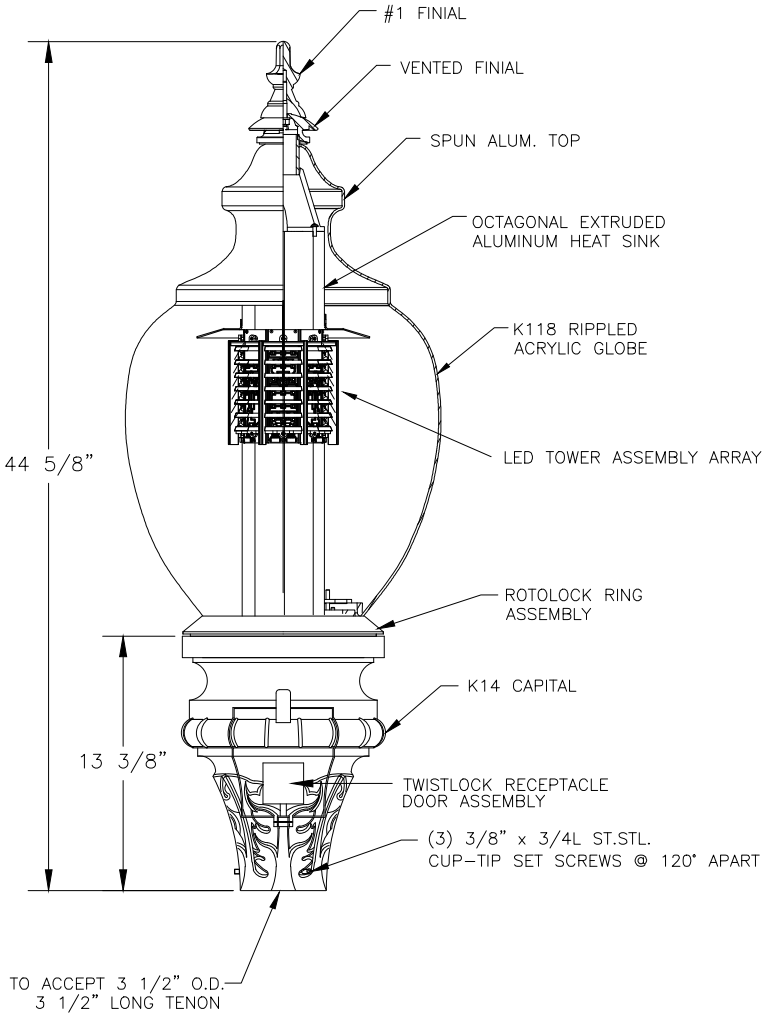
Town of Lakeshore Development Manual

FIGURE E-01

STANDARD STR□□T L□□T□N□
L□D SO□RC□

LUMINAIRE SPECIFICATIONS

CATALOGUE NO.:	K118R–xxAR–III–100(SSL)
MANUFACTURER:	KING LUMINAIRE, WASHINGTON
POLE ADAPTOR:	K14
OPTICAL SYSTEM:	REFRACTIVE ARRAY ACRYLIC RIPPLED
IES LTG. CLASS.:	TYPE III (UNLESS OTHERWISE NOTED)
INPUT WATTS:	100W (UNLESS OTHERWISE NOTED) SOLID STATE LIGHTING
SERIES:	1063
CCT:	4000K
LINE VOLTAGE:	120–277V
PAINT:	TEXTURED BLACK (TO BE CONFIRMED)
OPTIONS:	• TWISTLOCK RECEPTACLE • PHOTO CELL • SPUN ALUMINUM TOP • VENTED FINIAL



No.	Revision Date
3	JULY 20, 2016
2	FEBRUARY 28, 2014
1	DECEMBER 5, 2013

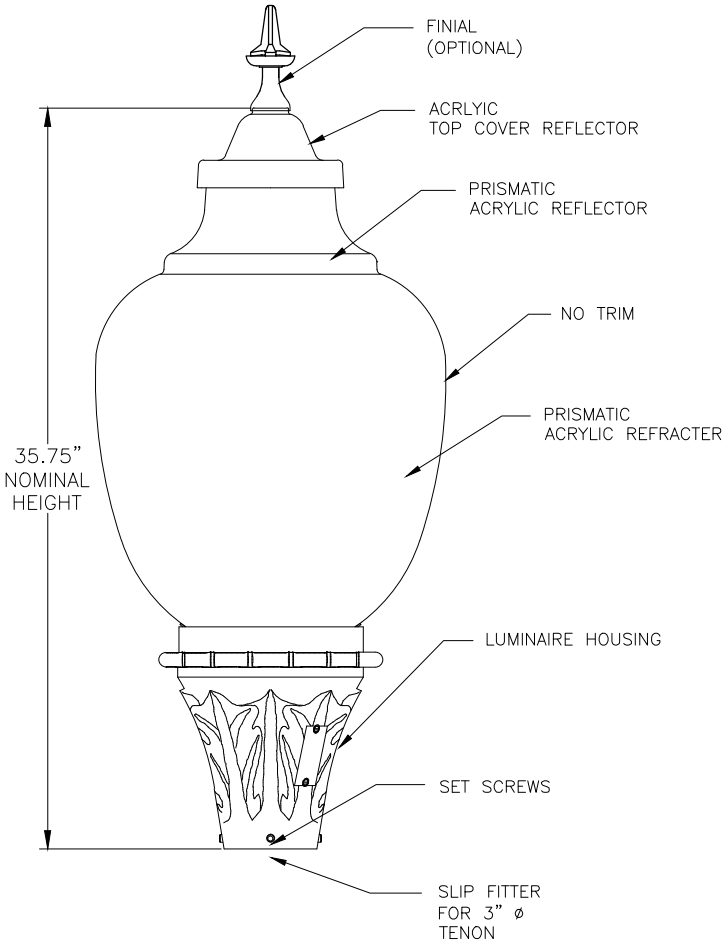
Town of Lakeshore Development Manual

FIGURE E-02

D□CORAT□□ ACR□L□C STR□□T L□□ □T□N□
L□D SO□RC□

LUMINAIRE SPECIFICATIONS

CATALOGUE NO.:	AWDE2–P50–40K
MANUFACTURER:	HOLOPHANE, WASHINGTON POSTLITE II
OPTICAL SYSTEM	CLEAR PRISMATIC ACRYLIC
IES LTG. CLASS:	TYPE III (UNLESS OTHERWISE APPROVED)
INPUT WATTS:	100W (UNLESS OTHERWISE APPROVED) SOLID STATE LIGHTING
SERIES:	P50
CCT:	4000K
LINE VOLTAGE:	AUTO SENSING 120V
PAINT:	TEXTURED BLACK (TO BE CONFIRMED)
OPTIONS:	• TWISTLOCK RECEPTACLE • DTL TWISTLOCK PHOTO CELL • TOP REFLECTOR & CAP • STANDARD FINIAL



No.	Revision Date
3	JULY 20, 2016
2	FEBRUARY 28, 2014
1	DECEMBER 5, 2013

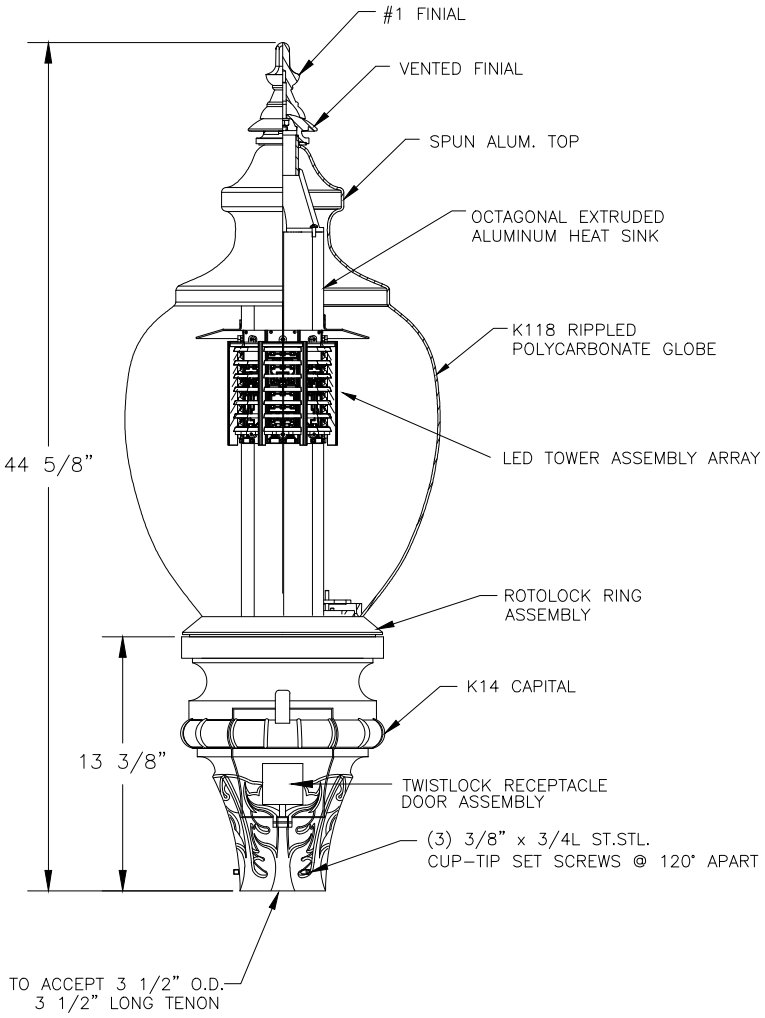
Town of Lakeshore Development Manual

FIGURE E-03

D□CORAT□□ ACR□L□C STR□□T L□□ □T□N□
L□D SO□RC□

LUMINAIRE SPECIFICATIONS

CATALOGUE NO.:	K118–xxPR–III–100(SSL)
MANUFACTURER:	KING LUMINAIRE, WASHINGTON
POLE ADAPTOR:	K14
OPTICAL SYSTEM:	REFRACTIVE ARRAY POLYCARBONATE RIPPLED
IES LTG. CLASS.:	TYPE III (UNLESS OTHERWISE APPROVED)
INPUT WATTS:	100W (UNLESS OTHERWISE NOTED) SOLID STATE LIGHTING
SERIES:	1063
CCT:	4000K
LINE VOLTAGE:	120–277V
PAINT:	TEXTURED BLACK (TO BE CONFIRMED)
OPTIONS:	• TWISTLOCK RECEPTACLE • PHOTO CELL • SPUN SPUN TOP • POLE CAPITAL



No.	Revision Date
3	JULY 20, 2016
2	FEBRUARY 28, 2014
1	DECEMBER 5, 2013

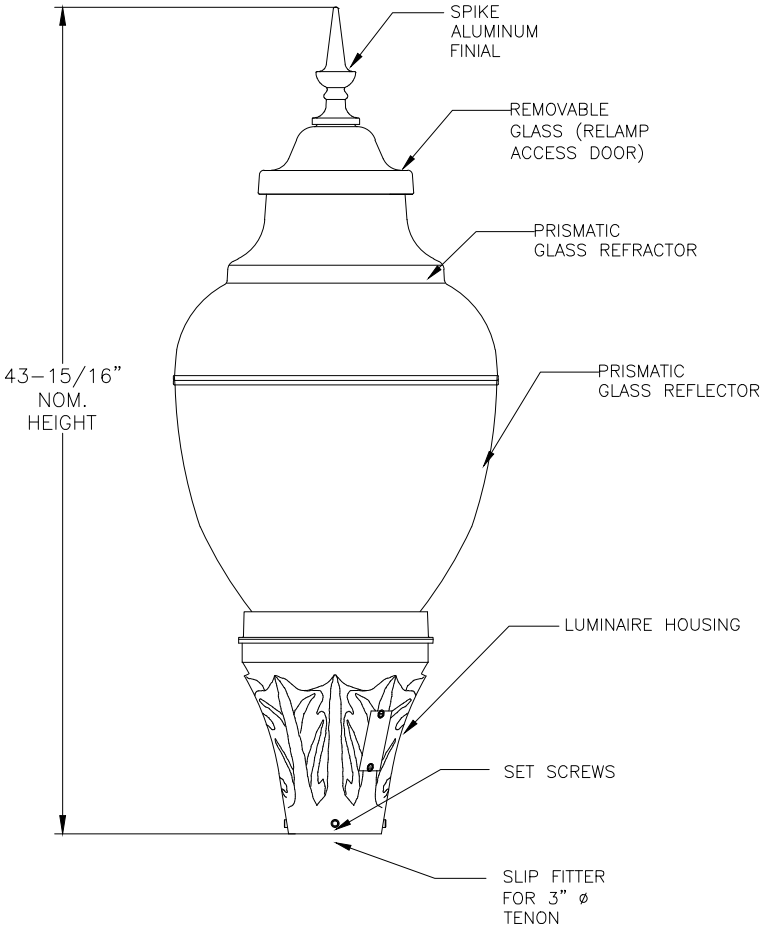
Town of Lakeshore Development Manual

FIGURE E-04

D□CORAT□□ □OL□CAR□ONAT□ STR□□T L□□ □T□N□
L□D SO□RC□

LUMINAIRE SPECIFICATIONS

CATALOGUE NO.:	WAUE2-P50-40K
MANUFACTURER:	HOLOPHANE, WASHINGTON POSTLITE
OPTICAL SYSTEM	CLEAR PRISMATIC GLASS
IES LTG. CLASS:	TYPE III (UNLESS OTHER APPROVED)
INPUT WATTS:	100W (UNLESS OTHER APPROVED) SOLID STATE LIGHTING
SERIES:	P50
CCT:	4000K
LINE VOLTAGE:	AUTO SENSING 120V
PAINT:	TEXTURED BLACK (TO BE CONFIRMED)
OPTIONS:	• TWISTLOCK RECEPTACLE • DTL TWISTLOCK PHOTO CELL • SPIKE ALUMINUM FINIAL • SHOREWOOD STYLE COVER

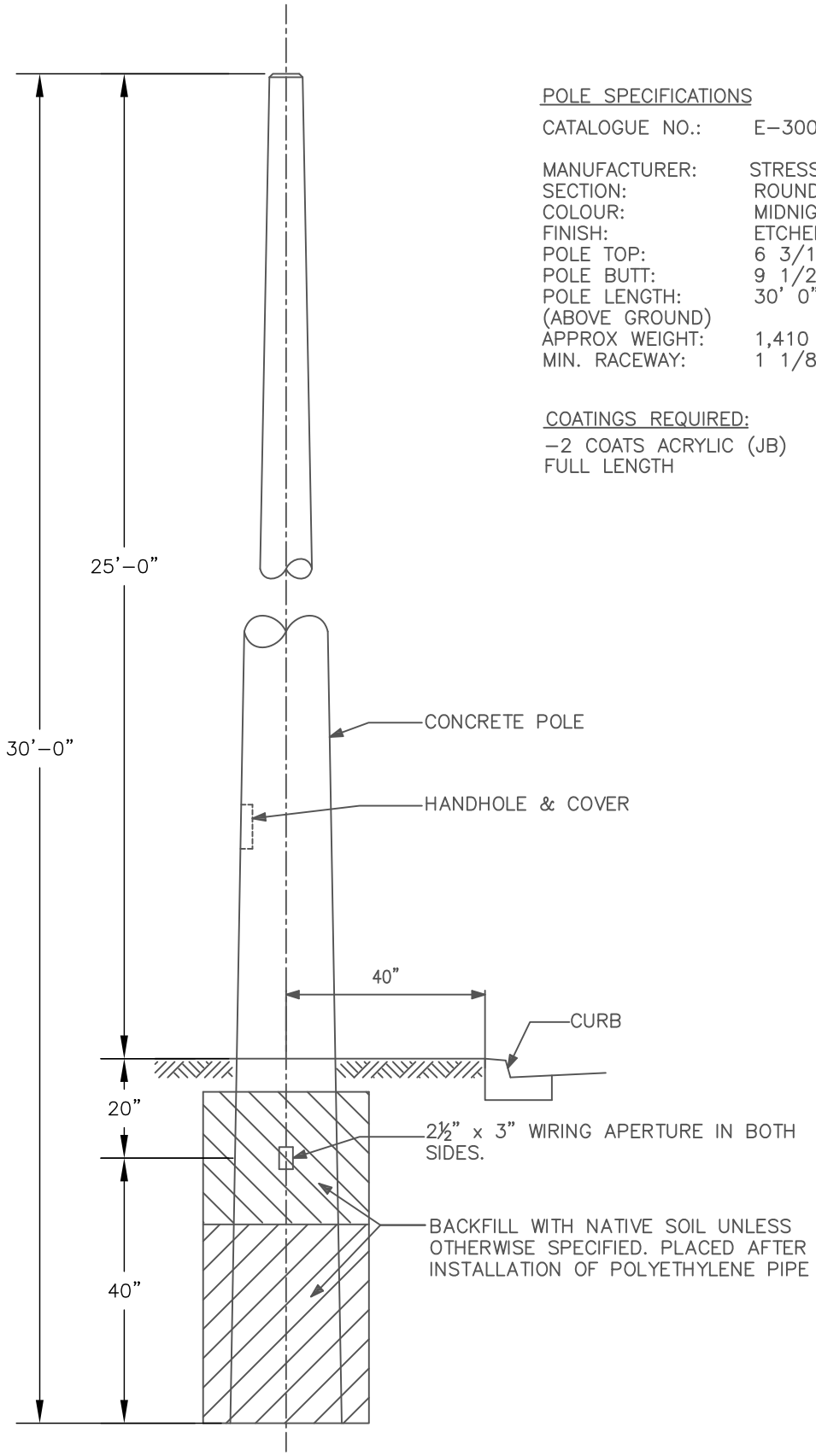


No.	Revision Date
3	JULY 20, 2016
2	FEBRUARY 28, 2014
1	DECEMBER 5, 2013

Town of Lakeshore Development Manual

FIGURE E-05

D□CORAT□□ □LASS STR□□T L□□ □T□N□ L□D SO□RC□



POLE SPECIFICATIONS

CATALOGUE NO.:	E–300–APR–G–M00
MANUFACTURER:	STRESSCRETE
SECTION:	ROUND
COLOUR:	MIDNIGHT LACE
FINISH:	ETCHED
POLE TOP:	6 3/16" FL/FL
POLE BUTT:	9 1/2" ø
POLE LENGTH: (ABOVE GROUND)	30' 0"
APPROX WEIGHT:	1,410 lbs
MIN. RACEWAY:	1 1/8" ø

COATINGS REQUIRED:

–2 COATS ACRYLIC (JB)
FULL LENGTH

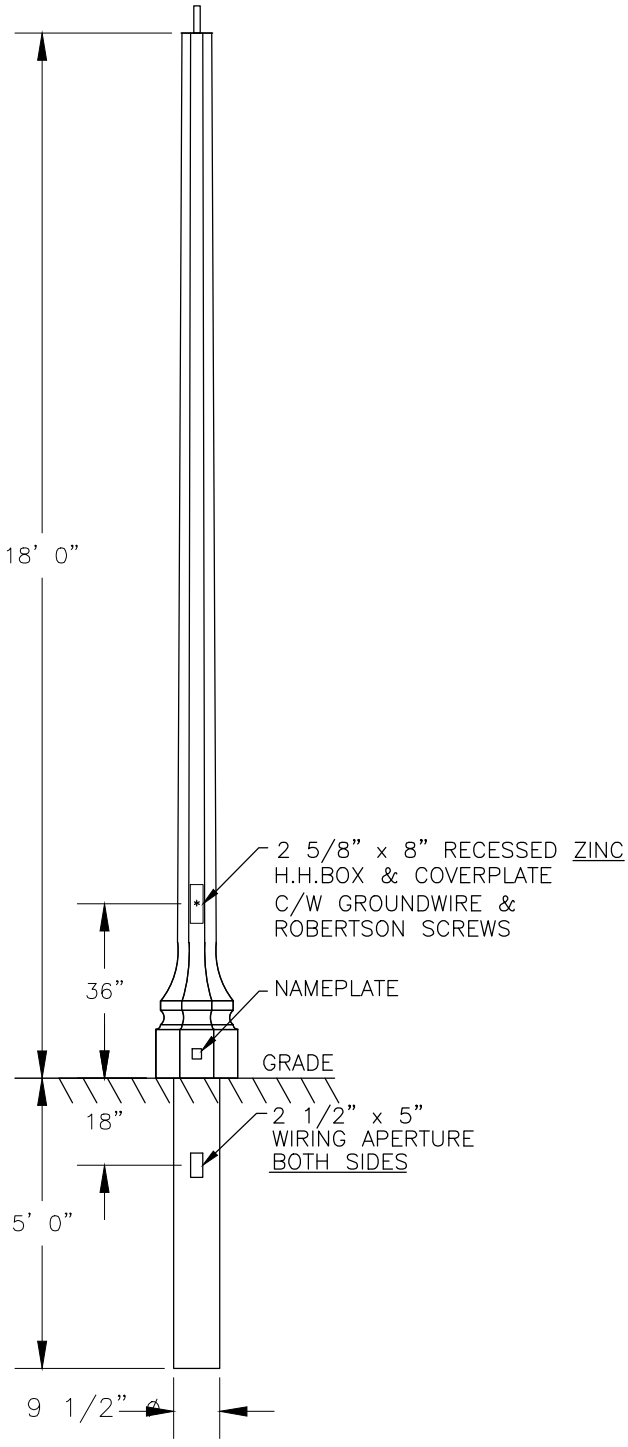
No.	Revision Date
3	FEBRUARY 13, 2019
2	FEBRUARY 28, 2014
1	DECEMBER 5, 2013

Lakeshore

Town of Lakeshore Development Manual

E-06

STREET LIGHTING
STANDARD POLE



POLE SPECIFICATIONS

CATALOGUE NO.:	KBH18–E10 DB 140–35/40
MANUFACTURER:	STRESSCRETE
SECTION:	OCTAGONAL
COLOUR:	MIDNIGHT LACE
FINISH:	ETCHED
POLE TOP:	6 3/16" FL/FL
POLE BUTT:	9 1/2" ø
POLE LENGTH: (ABOVE GROUND)	18' 0"
APPROX WEIGHT:	1,410 lbs
MIN. RACEWAY:	1 1/8" ø

COATINGS REQUIRED:

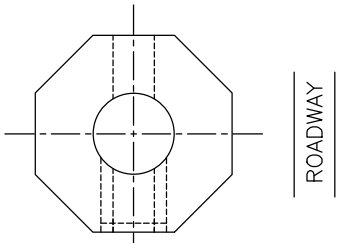
–2 COATS ACRYLIC (JB)
FULL LENGTH

POLE SPECIFICATIONS

CATALOGUE NO.:	KBH18–E11 DB 140–35/40
MANUFACTURER:	STRESSCRETE
SECTION:	OCTAGONAL
COLOUR:	ECLIPSE
FINISH:	ETCHED
POLE TOP:	6 3/16" FL/FL
POLE BUTT:	9 1/2" ø
POLE LENGTH: (ABOVE GROUND)	18' 0"
APPROX WEIGHT:	1,410 lbs
MIN. RACEWAY:	1 1/8" ø

COATINGS REQUIRED:

–2 COATS ACRYLIC (JB)
FULL LENGTH



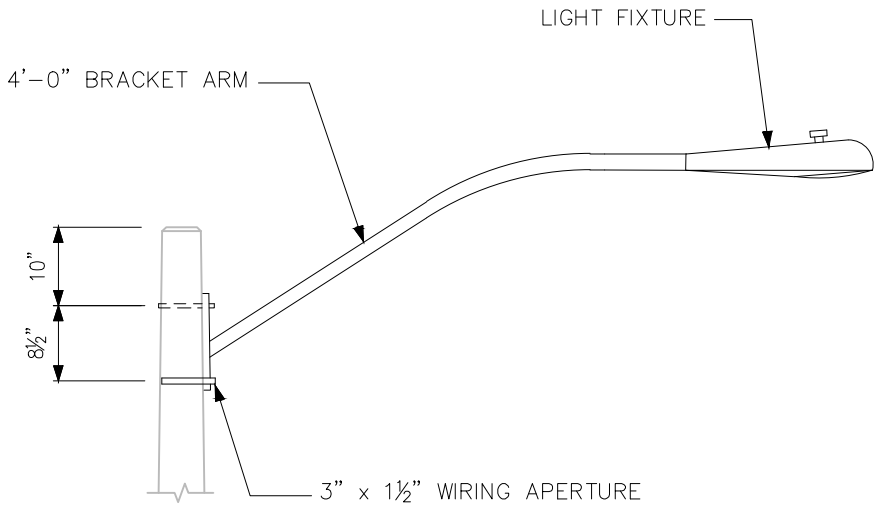
TOP VIEW

No.	Revision Date
3	JULY 20, 2016
2	FEBRUARY 28, 2014
1	DECEMBER 5, 2013

Town of Lakeshore Development Manual

FIGURE E-07

STR□□T L□□□T□N□
D□CORAT□□□ □OL□

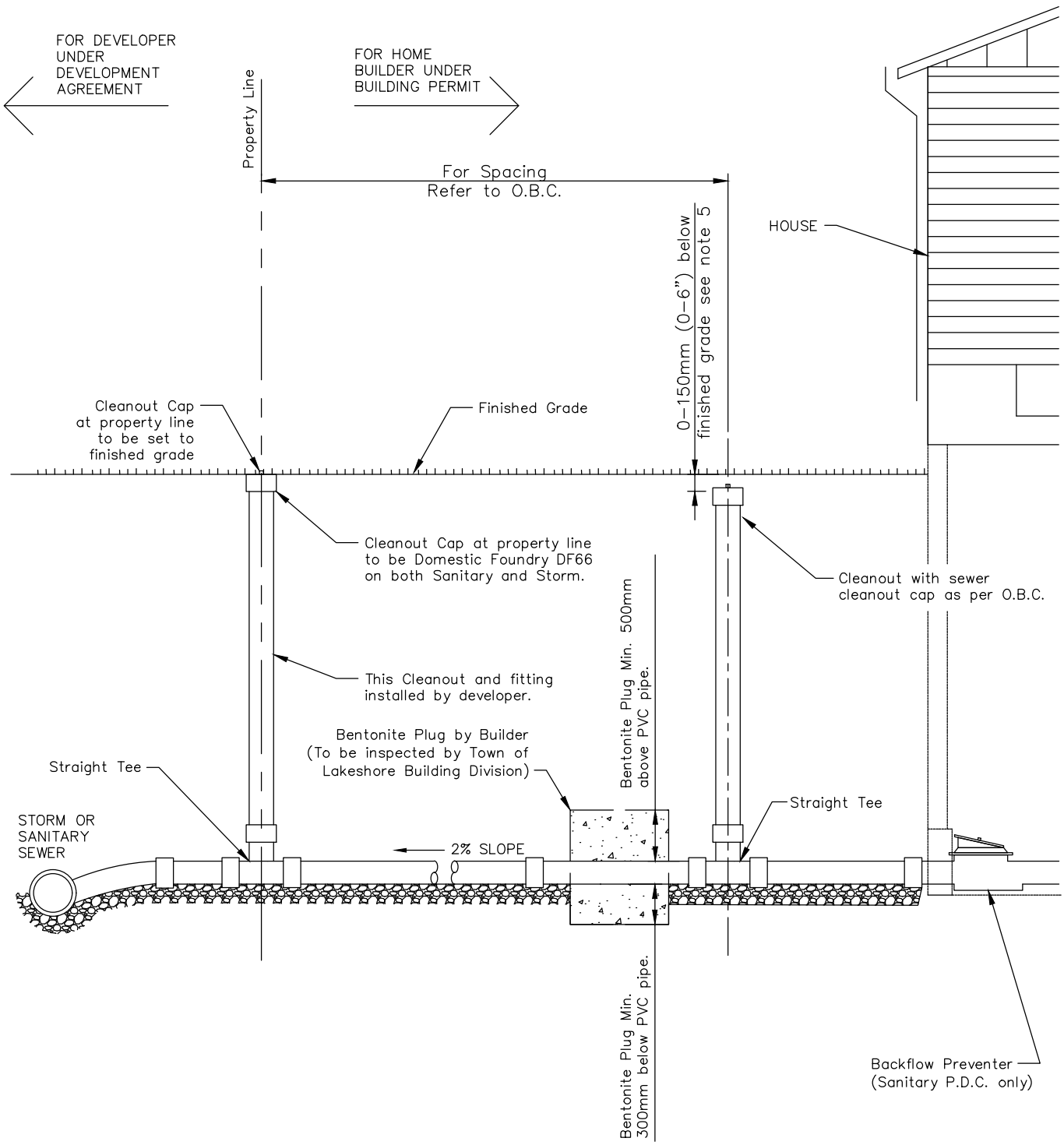


No.	Revision Date
2	FEBRUARY 28, 2014
1	DECEMBER 5, 2013

Town of Lakeshore Development Manual

FIGURE E-08

STR□□T L□□T□N□
STANDARD ARM



NOTE

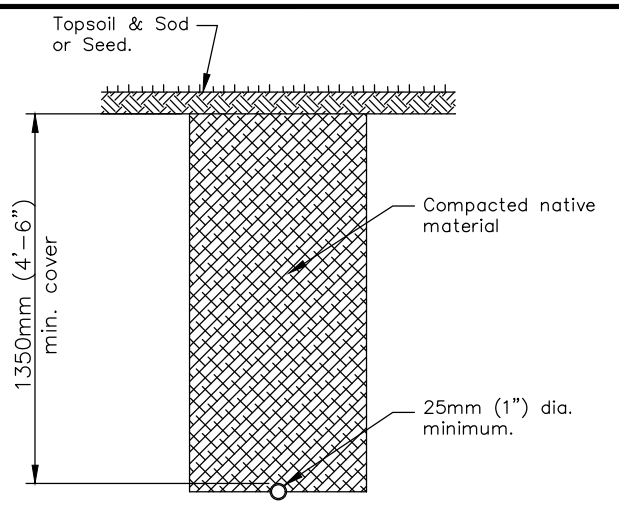
1. From main sewers, storm to be 150mm (6"). Sanitary to be 125mm (5"). Sanitary to be 150mm (6") for all long side sanitary laterals with a wye to a double cleanout. All pipe to be PVC DR–28 pipe.
2. All materials to be in compliance with O.B.C. and installed as per manufacturers recommendations.
3. Storm invert at property line to be minimum of 1.2m down from finished grade.
4. Sanitary invert at property line to be minimum of 2.4m down from finished grade.
5. All cleanouts to be visible for inspection. Do NOT bury.
6. Backflow Preventer on Sanitary P.D.C. only.

No.	Revison Date
5	March 3, 2019
4	July 7, 2017
3	January 27, 2014
2	January 14, 2008
1	October 16, 2006

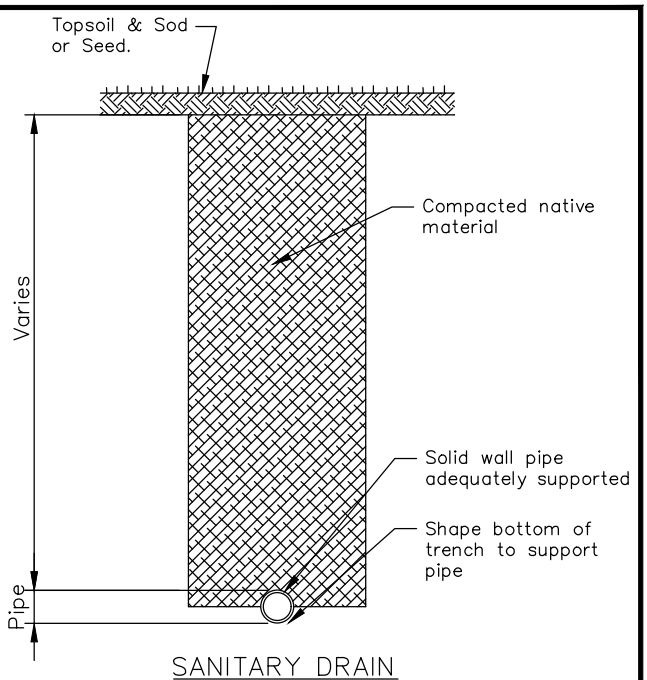
Town of Lakeshore Development Manual

Figure L-1

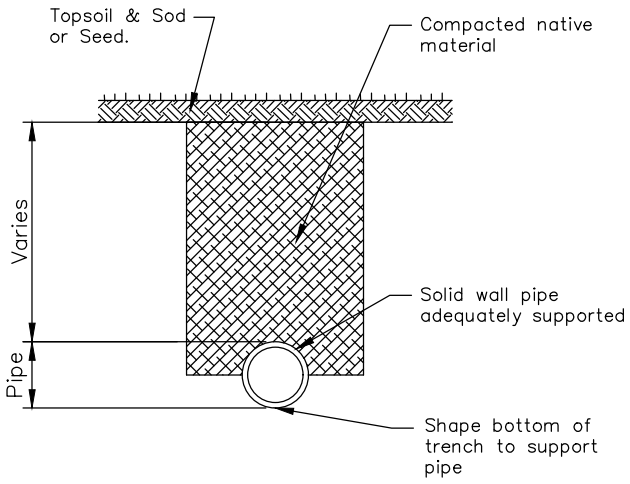
SANITARY AND STORM SEWER CLEANOUT



WATER

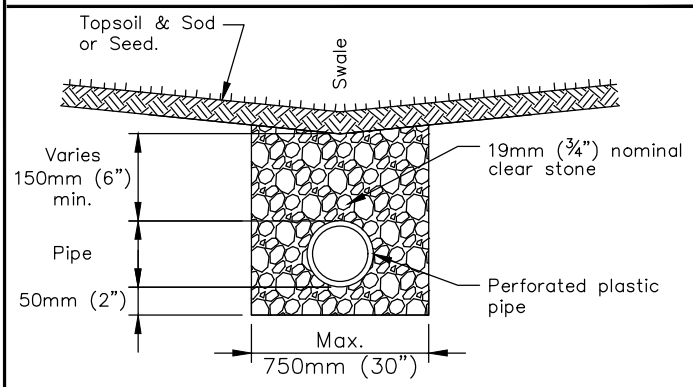


SANITARY DRAIN



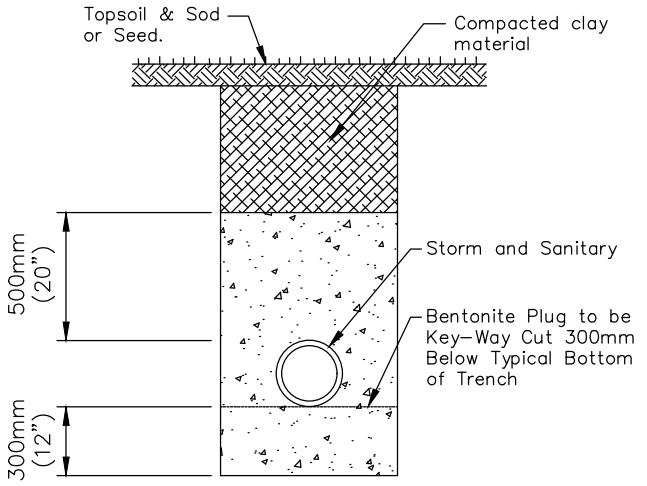
STORM DRAIN – SOLID PIPE

From 3.0m (10') back of house to front lot line.



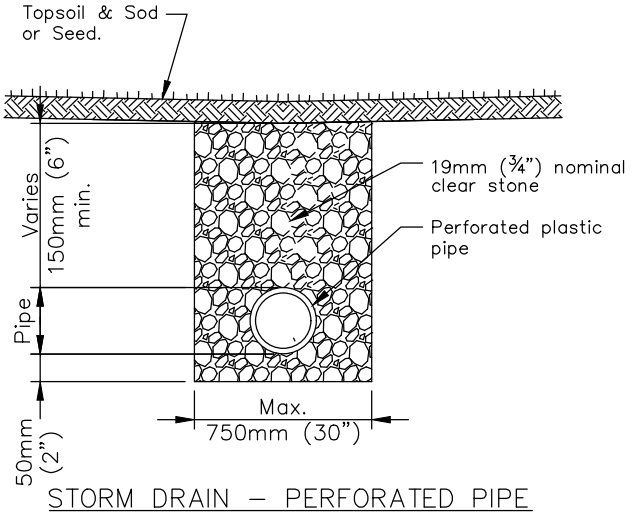
REAR YARD DRAIN

Setback 1.5m (5') from rear property line.



BENTONITE (NON-SHRINK) PLUG

To extend 1.0m (3') along trench.



STORM DRAIN – PERFORATED PIPE

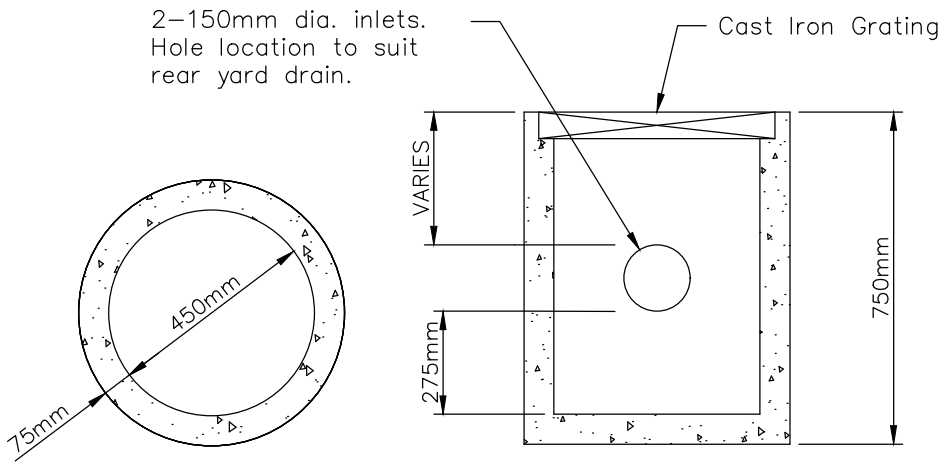
From rear yard to 3.0m (10') from back of house.

No.	Revison Date
4	March 3, 2019
3	January 27, 2014
2	January 14, 2008
1	October 16, 2006

Town of Lakeshore Development Manual

Figure L-2

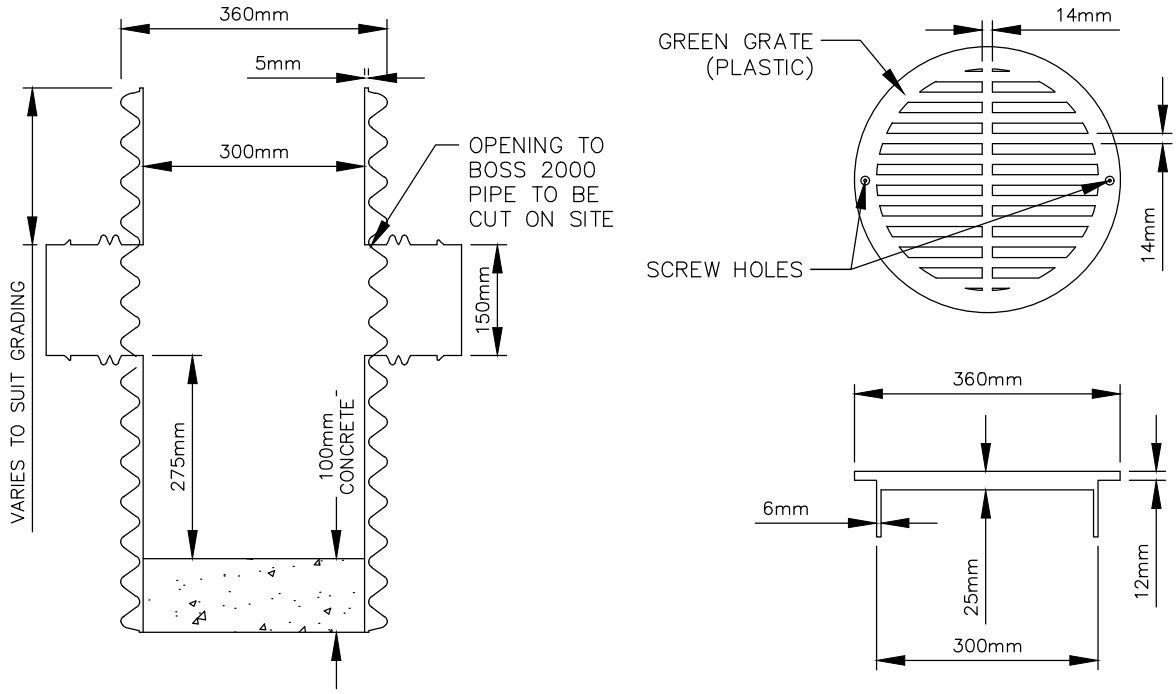
PRIVATE SERVICE CONNECTIONS
BEDDING AND BACKFILL



NOTE:

1. Concrete to be 30MPa, air entrained 6% ± 1 ½%.
2. Alternate rear yard catch basins may be acceptable. Check with Chief Building Official.

REAR YARD CATCH BASIN
(CONCRETE)



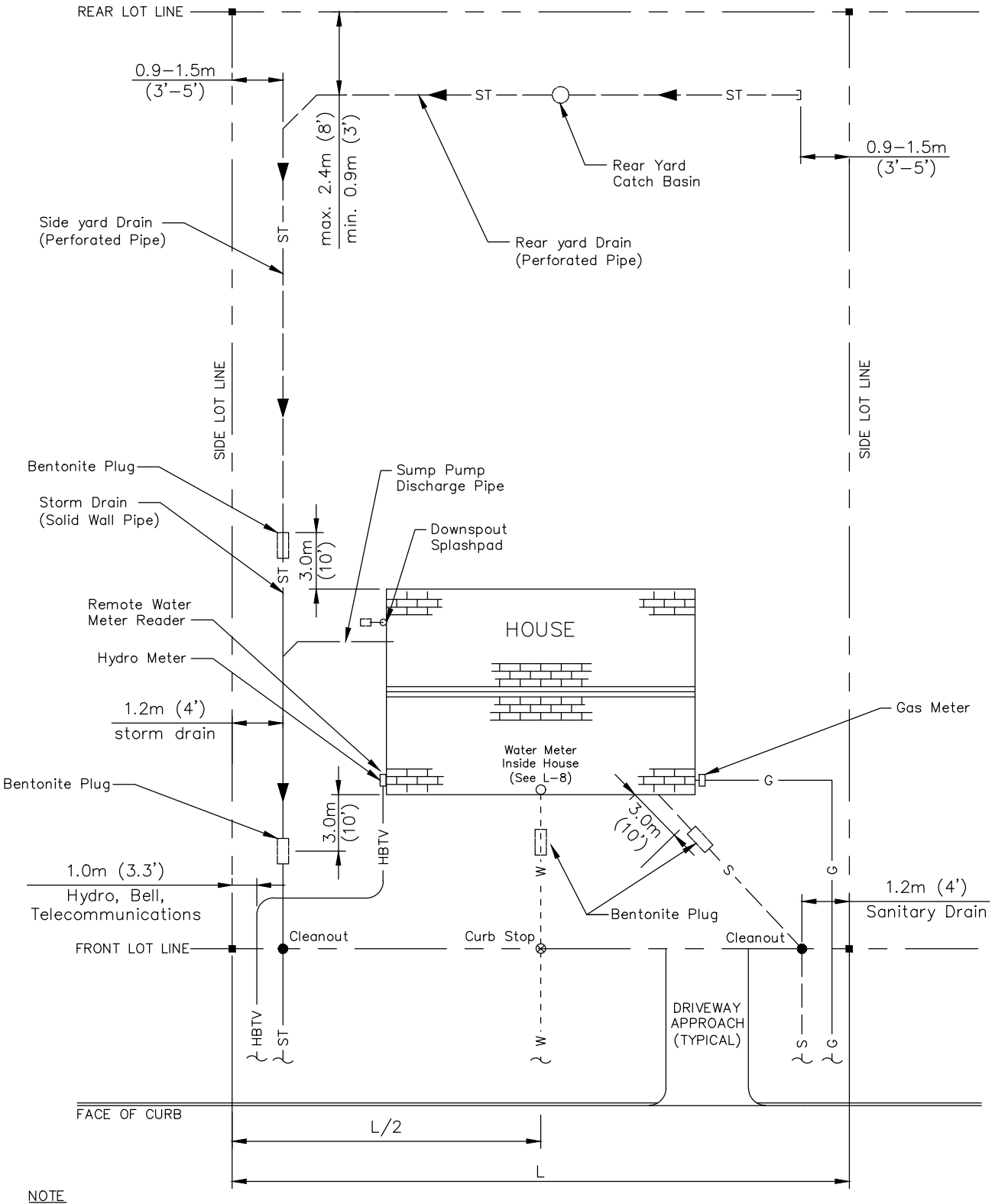
REAR YARD CATCH BASIN
(PLASTIC)

No.	Revison Date
2	January 14, 2008
1	October 16, 2006

Town of Lakeshore Development Manual

Figure L-3

REAR YARD CATCH BASIN



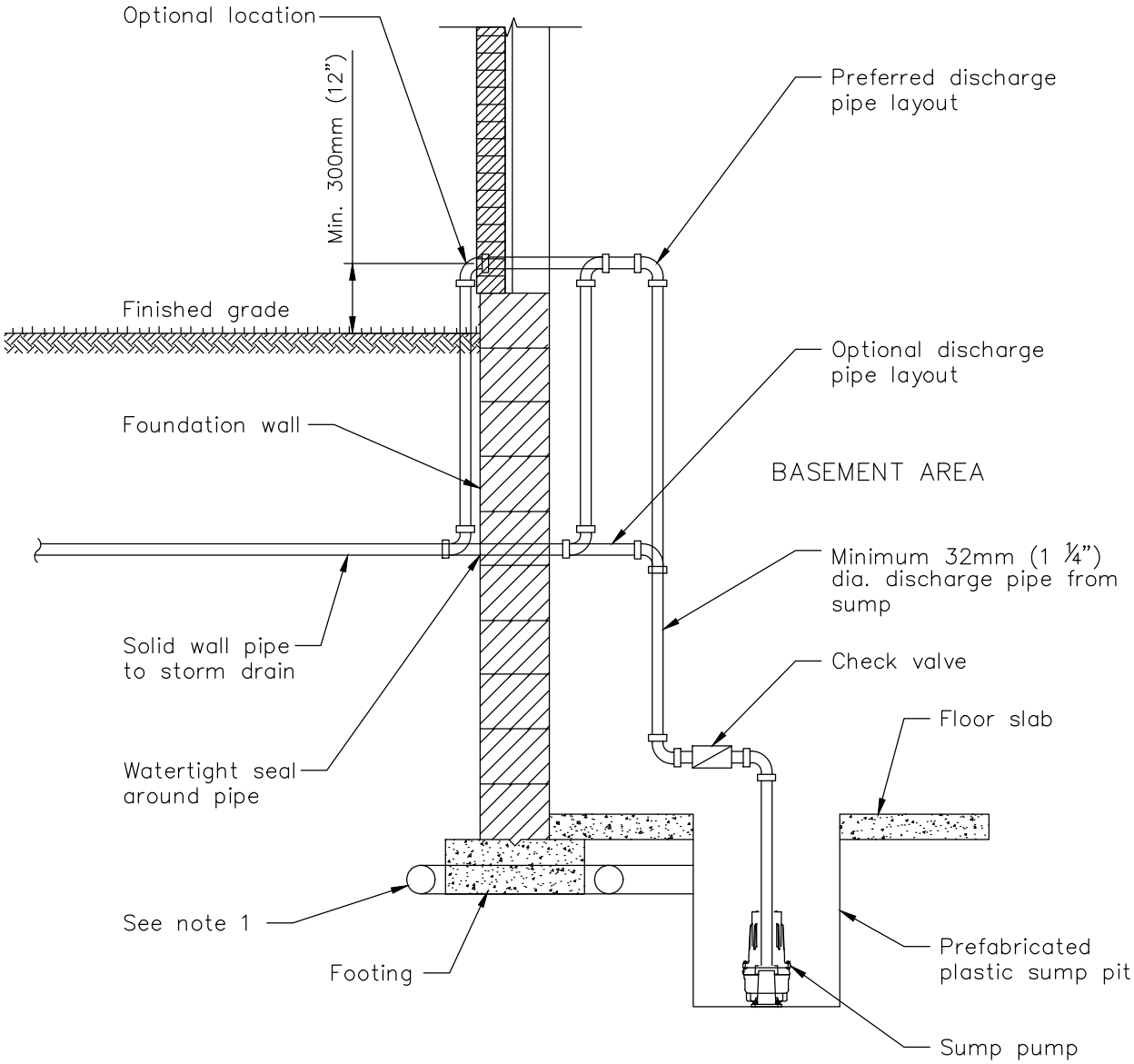
NOTE
1. Offsets shown are typical, they may vary based on servicing drawings.
2. See O.B.C. for cleanout spacing.
3. Rear yard catch basin location to be approved by Town.
4. Services to be position outside of proposed driveways if possible.

No.	Revison Date
4	April 8, 2019
3	July 7, 2017
2	January 14, 2008
1	October 16, 2006

Town of Lakeshore Development Manual

Figure L-4

LOT SERVICE LOCATIONS



NOTE:

1. Perforated footing drain with cross–overs connected to sump pit.

2. Support piping to wall.

Drawing is for illustration purpose only.

NOTE:

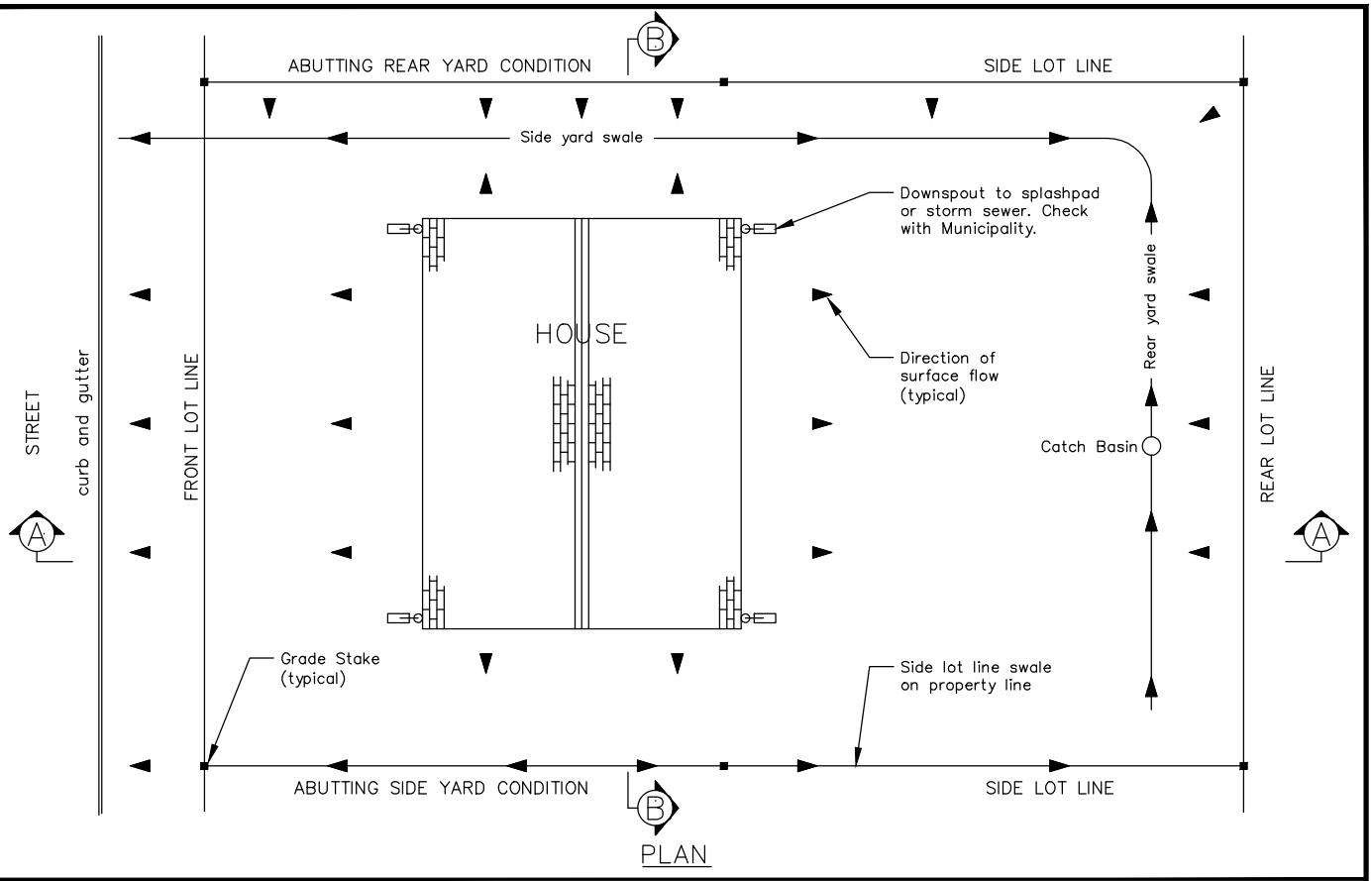
THIS DETAIL APPLIES IF GROUND WATER ELEVATION IS BELOW THE FOOTING. IF NOT, PROVIDE AN ALTERNATE DESIGN PREPARED BY A PROFESSIONAL ENGINEER

No.	Revison Date
2	January 14, 2008
1	October 16, 2006

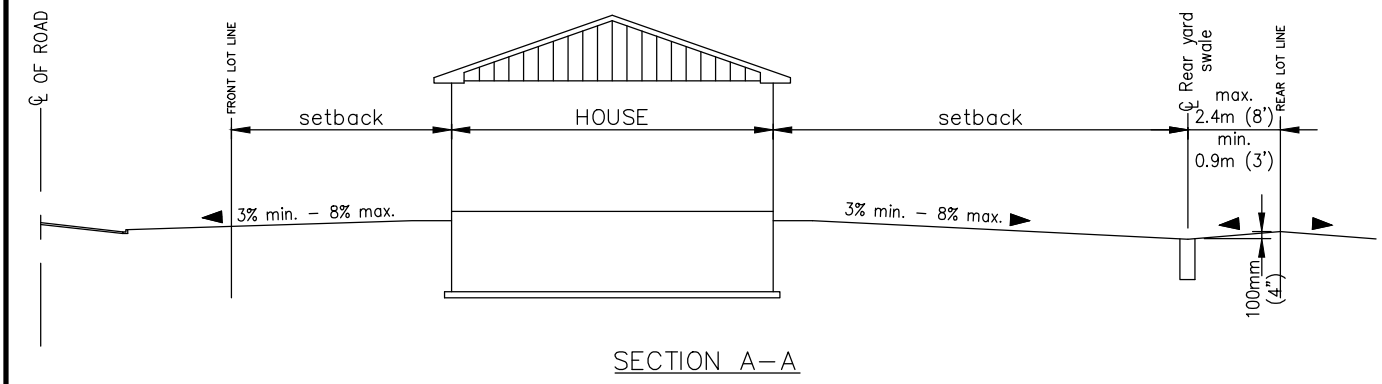
Town of Lakeshore Development Manual

Figure L-5

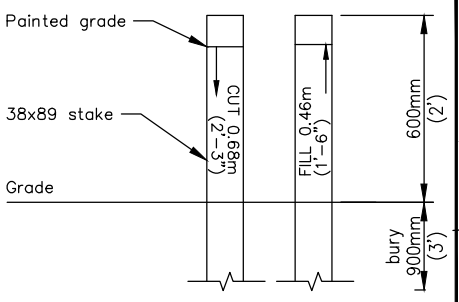
FOOTING DRAIN, SUMP PUMP AND DISCHARGE PIPE DETAILS



PLAN

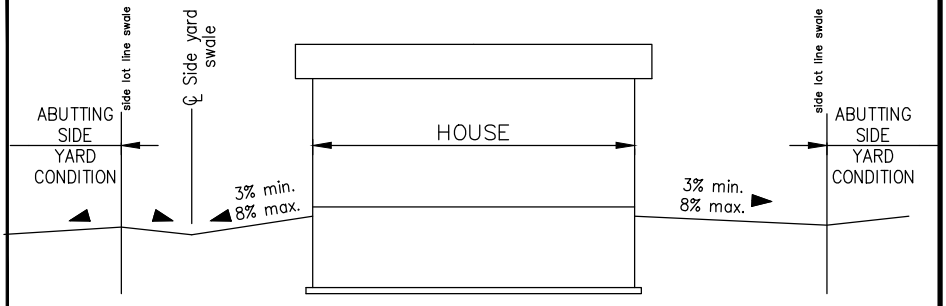


SECTION A–A



Place a 38x89x1500mm long (2"x4"x5') wood stake at each lot corner and at side yards adjacent to house. Mark the cut or fill to finished grade from top of the stake on each stake.

GRADE STAKE DETAILS



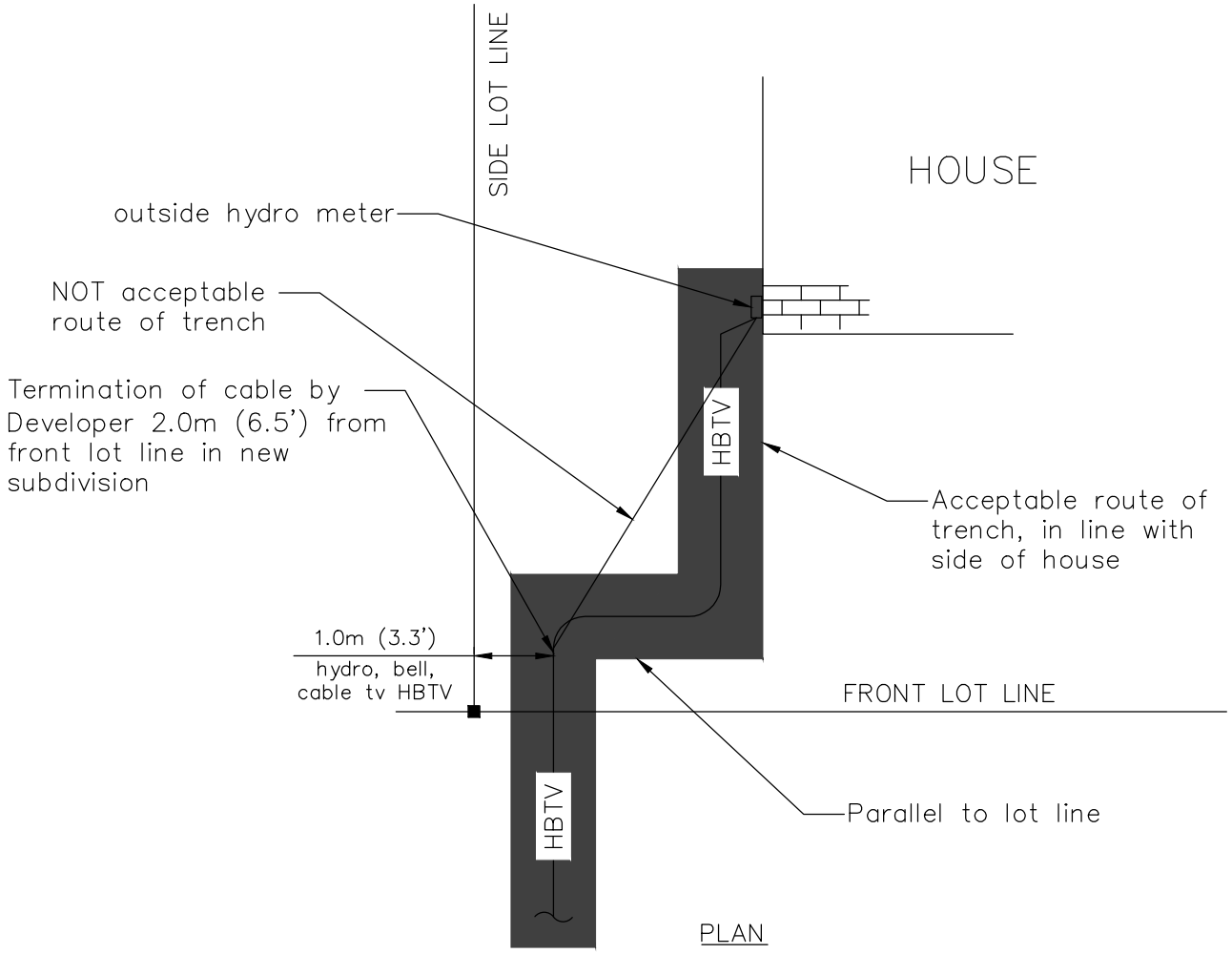
SECTION B–B

No.	Revison Date
2	January 14, 2008
1	October 16, 2006

Town of Lakeshore Development Manual

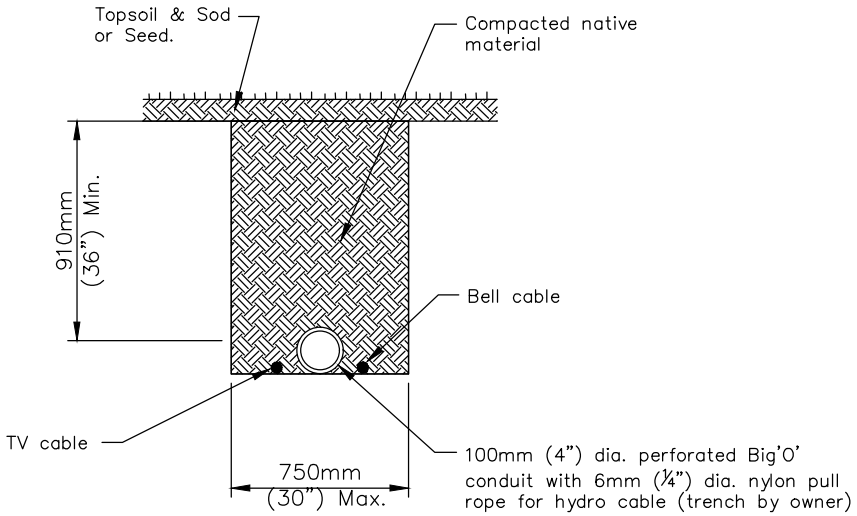
Figure L-6

LOT GRADING AND DRAINAGE



NOTE

1. Obtain approval from ELK/Hydro One office for meter location on house.
2. Do not bury Big'O' conduit until after hydro cable installation and after inspection by ELK/Hydro One.



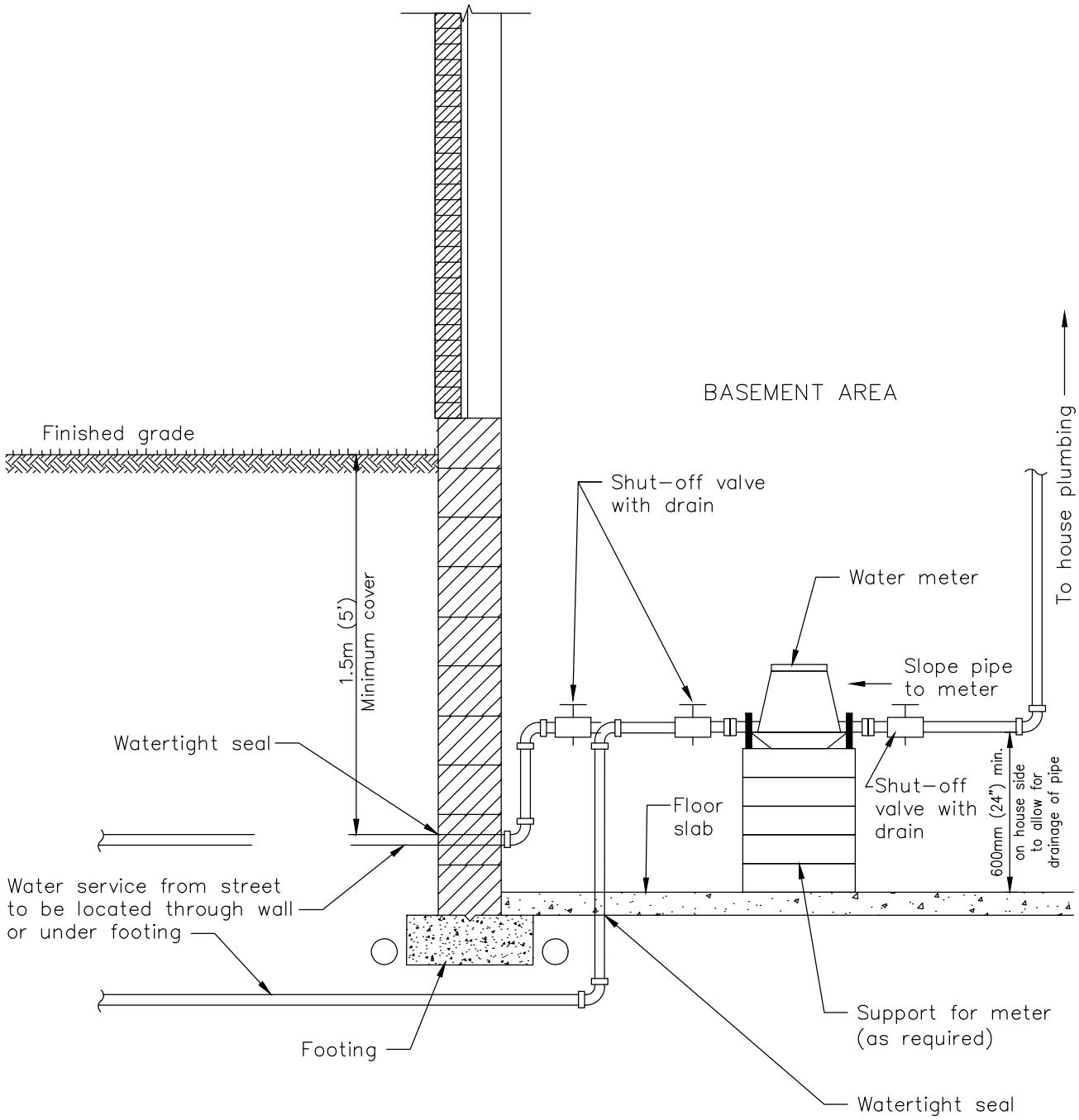
SECTION THROUGH TRENCH

No.	Revison Date
2	January 14, 2008
1	October 16, 2006

Town of Lakeshore Development Manual

Figure L-7

TRENCH FOR HYDRO, BELL, CABLE TV SERVICES



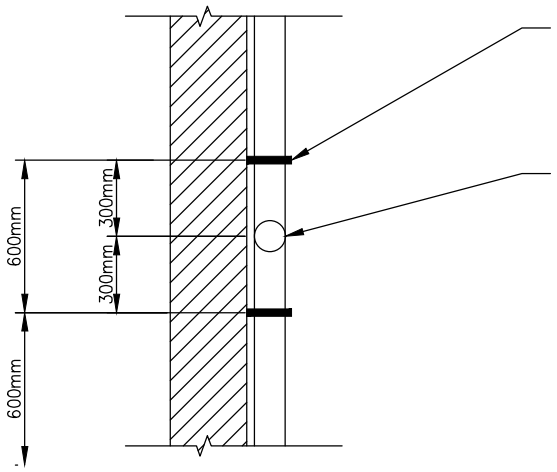
NOTE:
1. Secure meter and piping to structure.

No.	Revison Date
3	April 14, 2009
2	January 14, 2008
1	October 16, 2006

Town of Lakeshore Development Manual

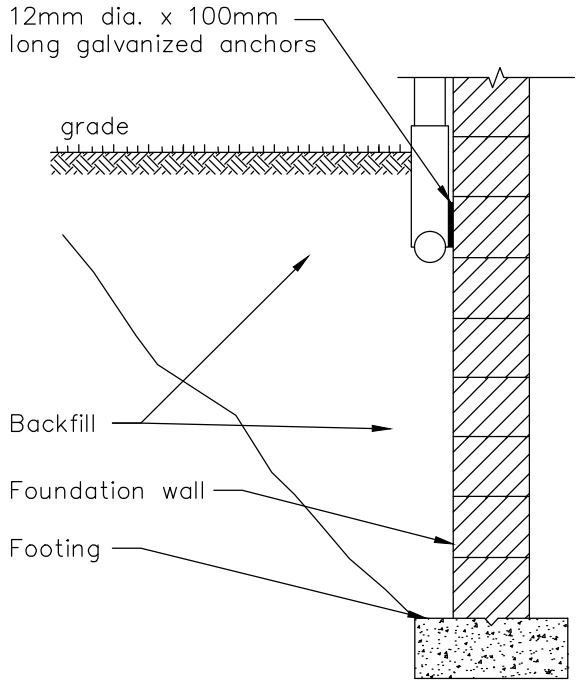
Figure L-8

INTERNAL WATER METER

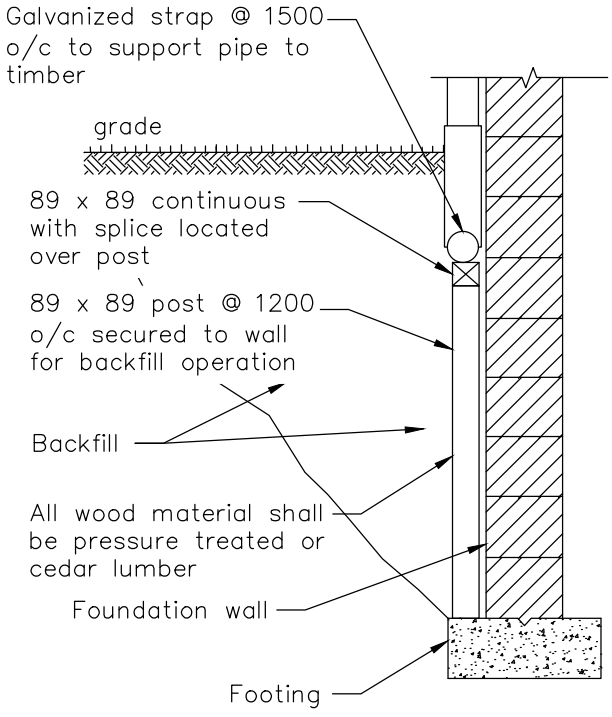


ADEQUATELY SUPPORT ALL DOWNSPOUT DISCHARGE PIPE TO SOLID GROUND TO PREVENT FUTURE SEPARATION OR DAMAGE TO PIPING.

PLAN



WALL SECTION ALTERNATIVE NO. 1



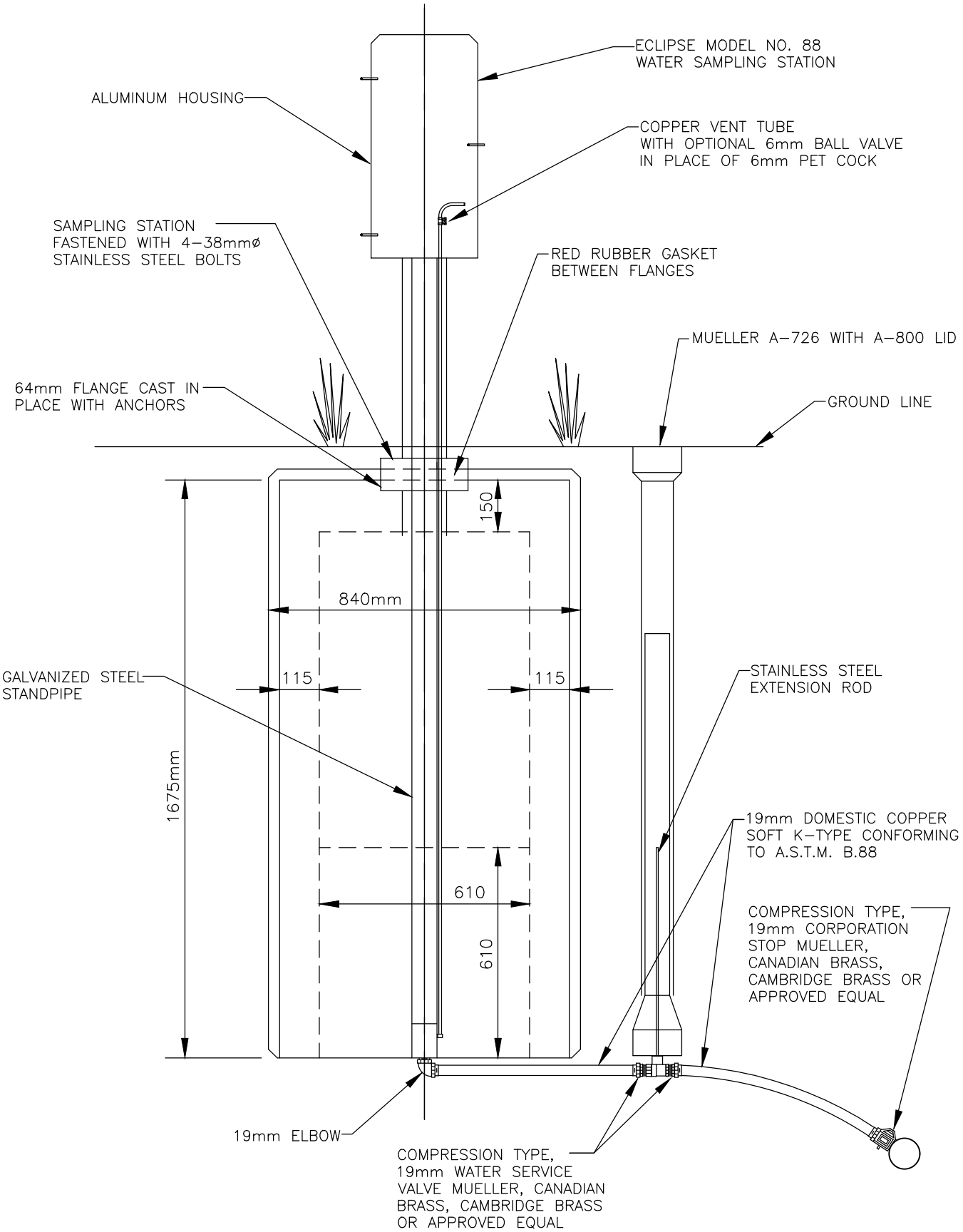
WALL SECTION ALTERNATIVE NO. 2
(PREFERRED)

No.	Revison Date
2	January 14, 2008
1	October 16, 2006

Town of Lakeshore Development Manual

Figure L-9

DOWNSPOUT DISCHARGE PIPE SUPPORT

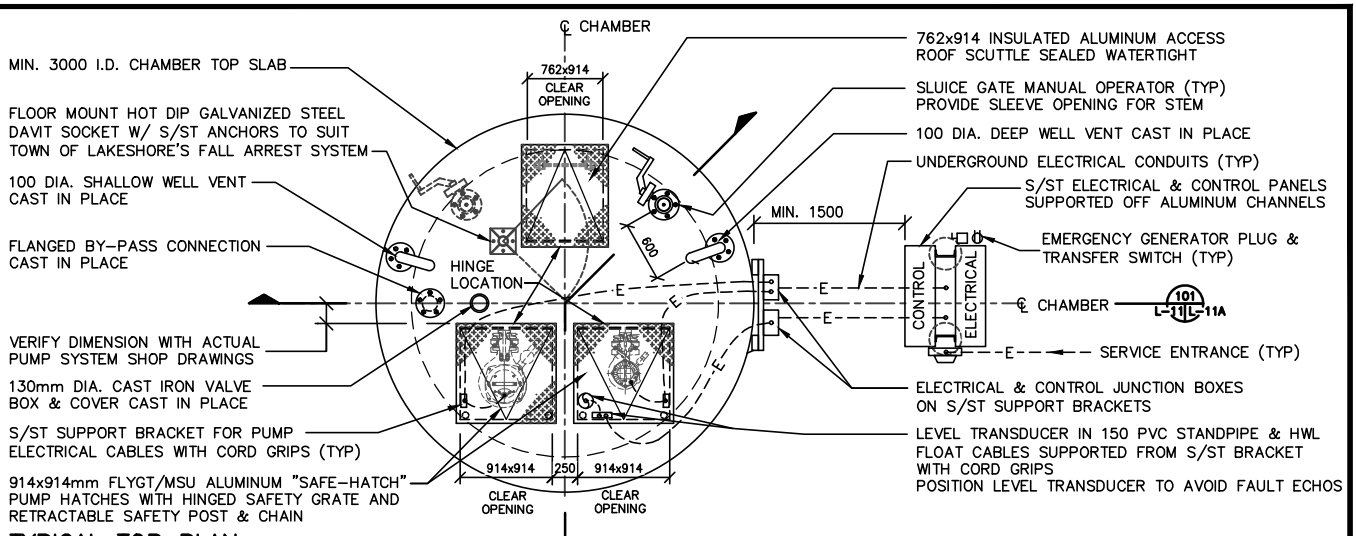


No.	Revison Date
1	October 16, 2006

Town of Lakeshore Development Manual

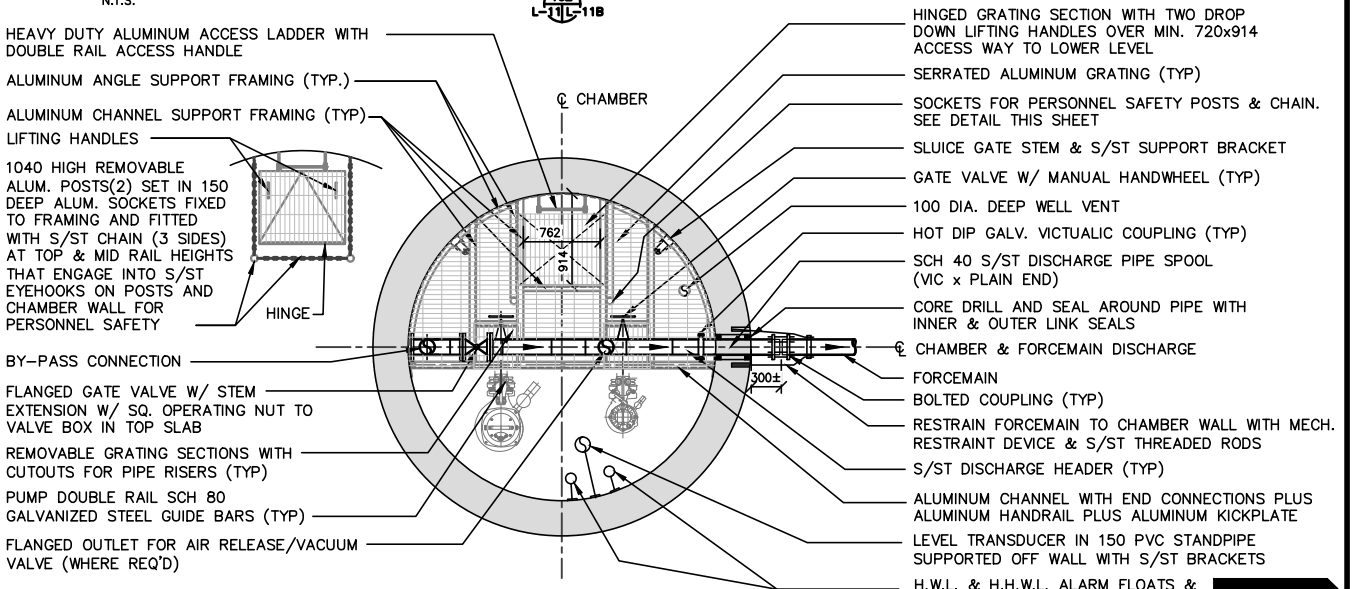
Figure L-10

WATER SAMPLING STATION



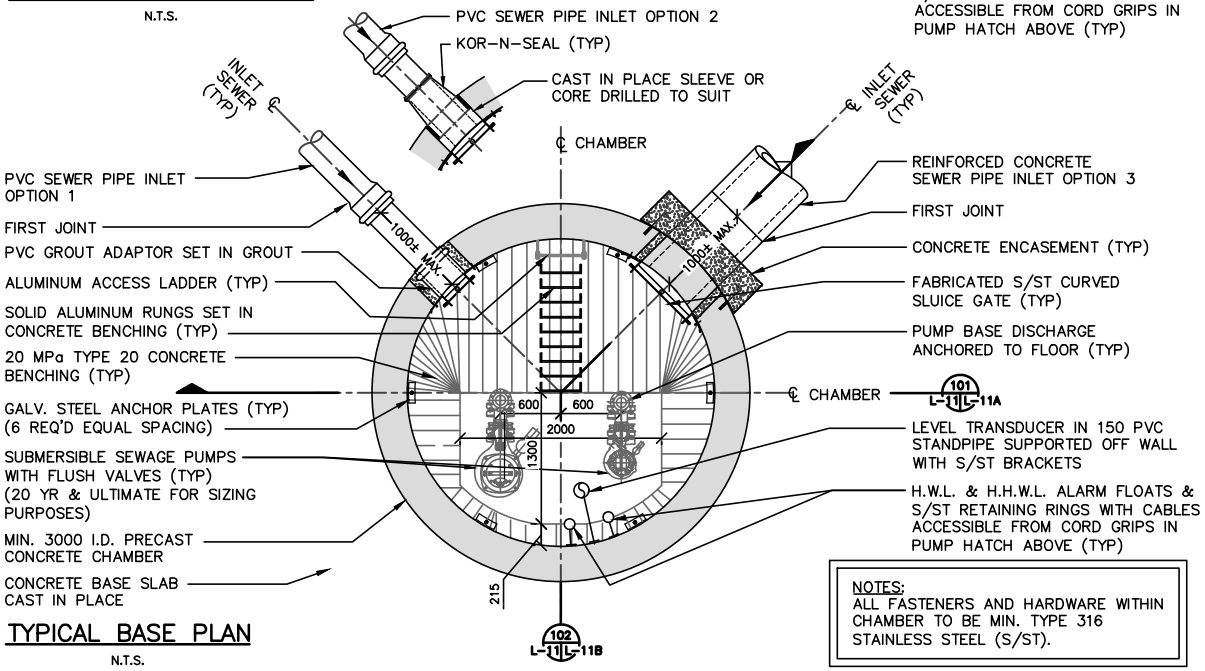
TYPICAL TOP PLAN

N.T.S.



TYPICAL PLATFORM PLAN

N.T.S.



TYPICAL BASE PLAN

N.T.S.

NOTES:
ALL FASTENERS AND HARDWARE WITHIN CHAMBER TO BE MIN. TYPE 316 STAINLESS STEEL (S/ST).

This standard drawing serves as a reference to assist the Engineer in the design and preparation of detailed construction drawings. Contemplated changes/deviations/customization of the design/arrangement/configuration depicted in this drawing to suit a specific design/situation/circumstance/location/etc. shall first be reviewed with and approved by the Town of Lakeshore on a case by case basis prior to implementation.

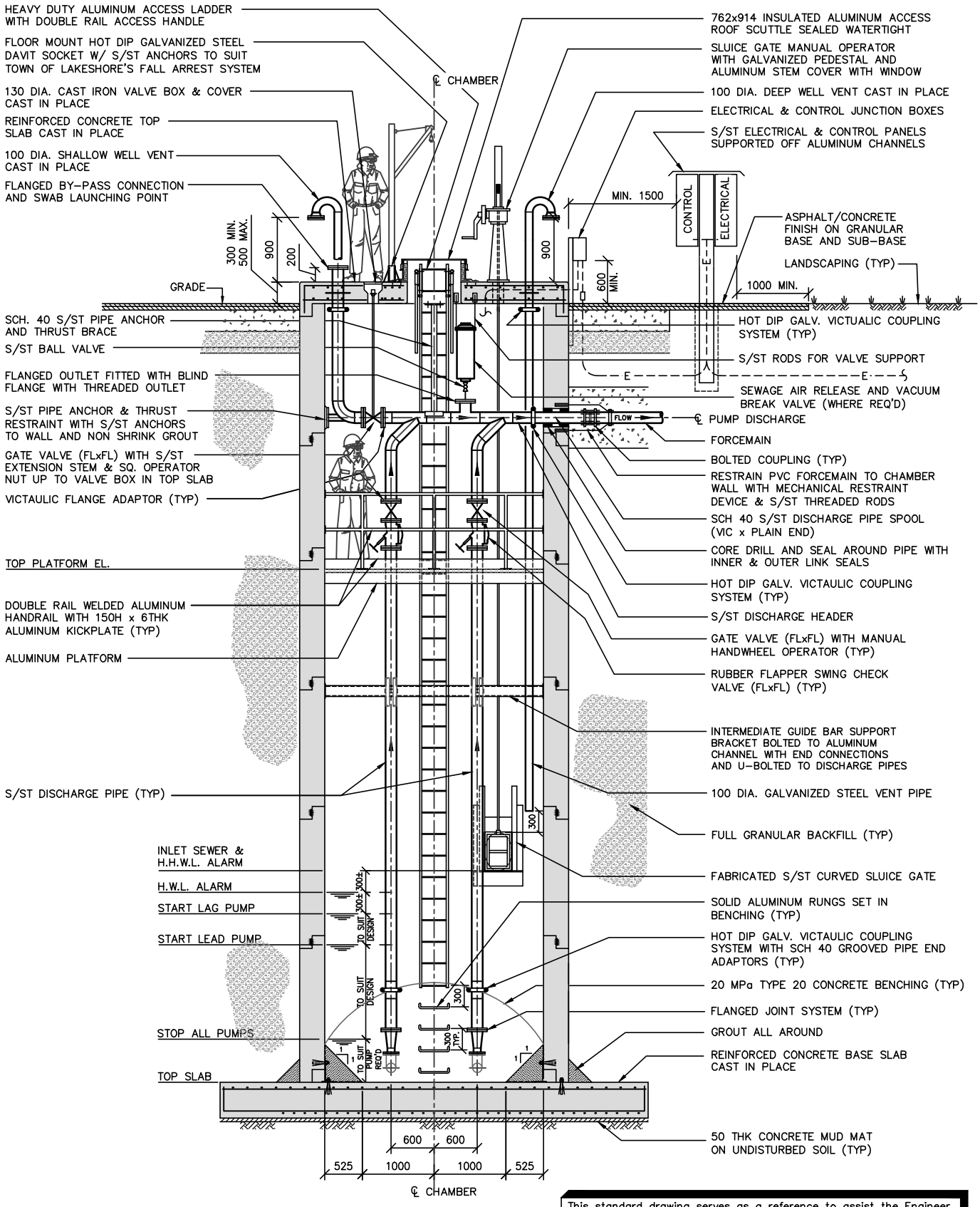
Lakeshore

No.	Revison Date
2	May 01, 2014
1	May 2009

Town of Lakeshore Development Manual

Figure L-11

Typical Sanitary Pump Station (3000 DIA.)
Plan Views



NOTES:
ALL FASTENERS AND HARDWARE WITHIN CHAMBER TO BE MIN. TYPE 316 STAINLESS STEEL (S/ST).

This standard drawing serves as a reference to assist the Engineer in the design and preparation of detailed construction drawings. Contemplated changes/deviations/customization of the design/arrangement/configuration depicted in this drawing to suit a specific design/situation/circumstance/location/etc. shall first be reviewed with and approved by the Town of Lakeshore on a case by case basis prior to implementation.

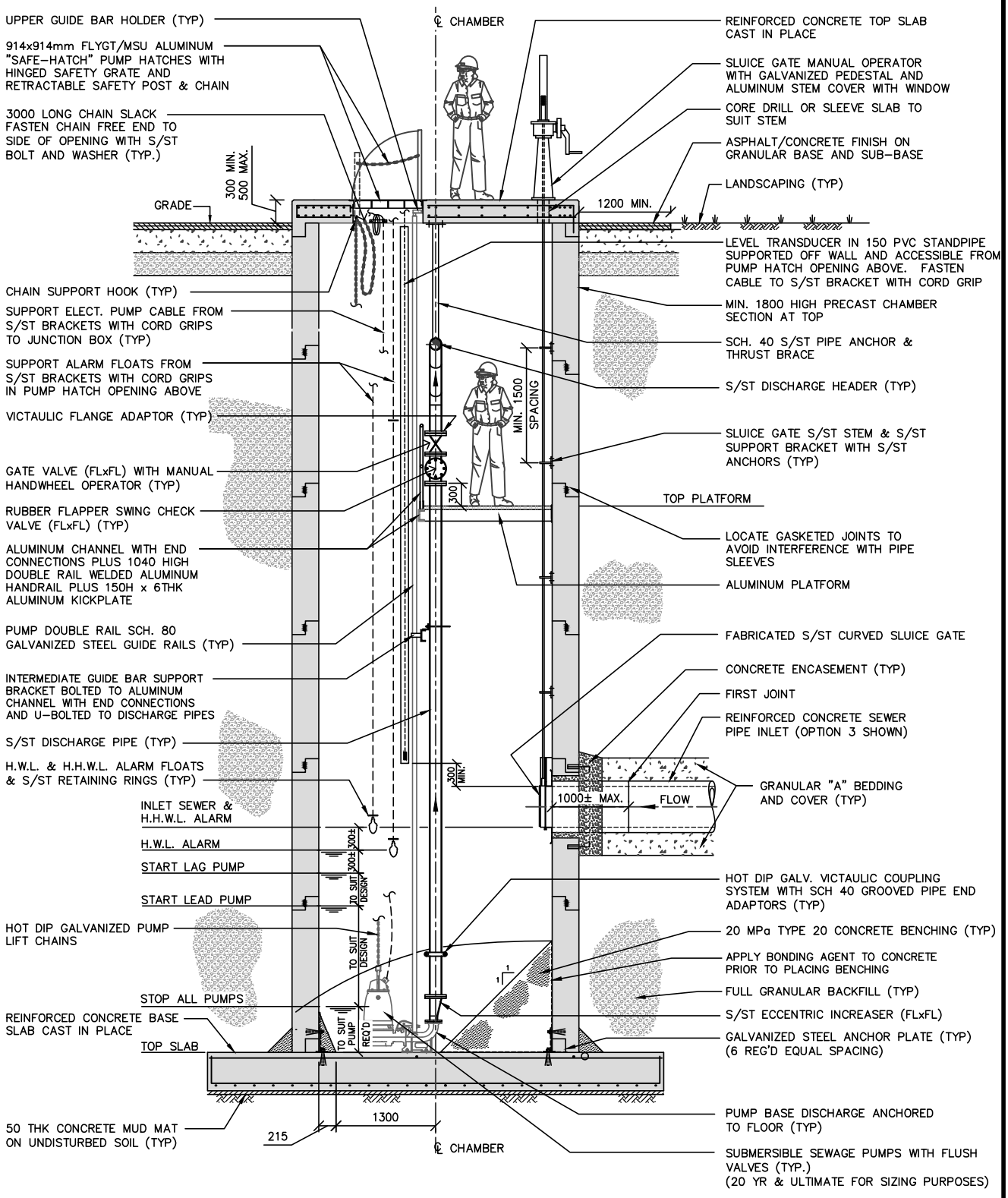
Lakeshore

No.	Revison Date
2	May 01, 2014
1	May 2009

Town of Lakeshore Development Manual

Figure L-11A

Typical Sanitary Pump Station (3000 DIA.)
Cross Section



NOTES:
ALL FASTENERS AND HARDWARE WITHIN CHAMBER TO BE MIN. TYPE 316 STAINLESS STEEL (S/ST).

This standard drawing serves as a reference to assist the Engineer in the design and preparation of detailed construction drawings. Contemplated changes/deviations/customization of the design/arrangement/configuration depicted in this drawing to suit a specific design/situation/circumstance/location/etc. shall first be reviewed with and approved by the Town of Lakeshore on a case by case basis prior to implementation.

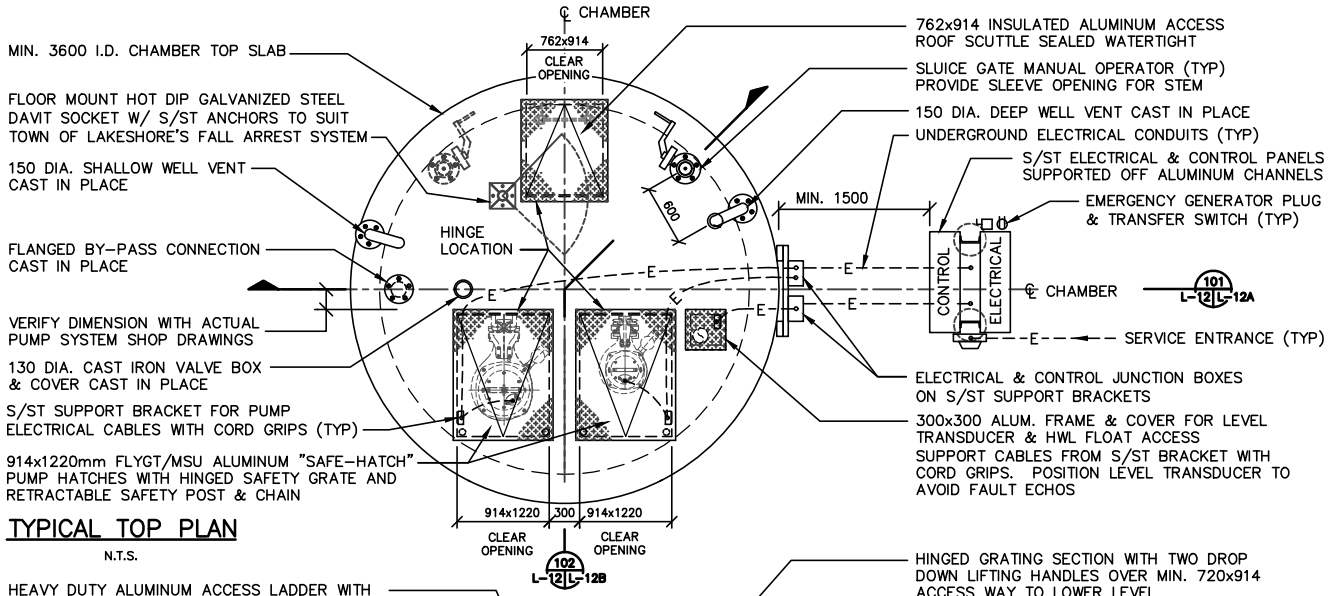
Lakeshore

No.	Revison Date
2	May 01, 2014
1	May 2009

Town of Lakeshore Development Manual

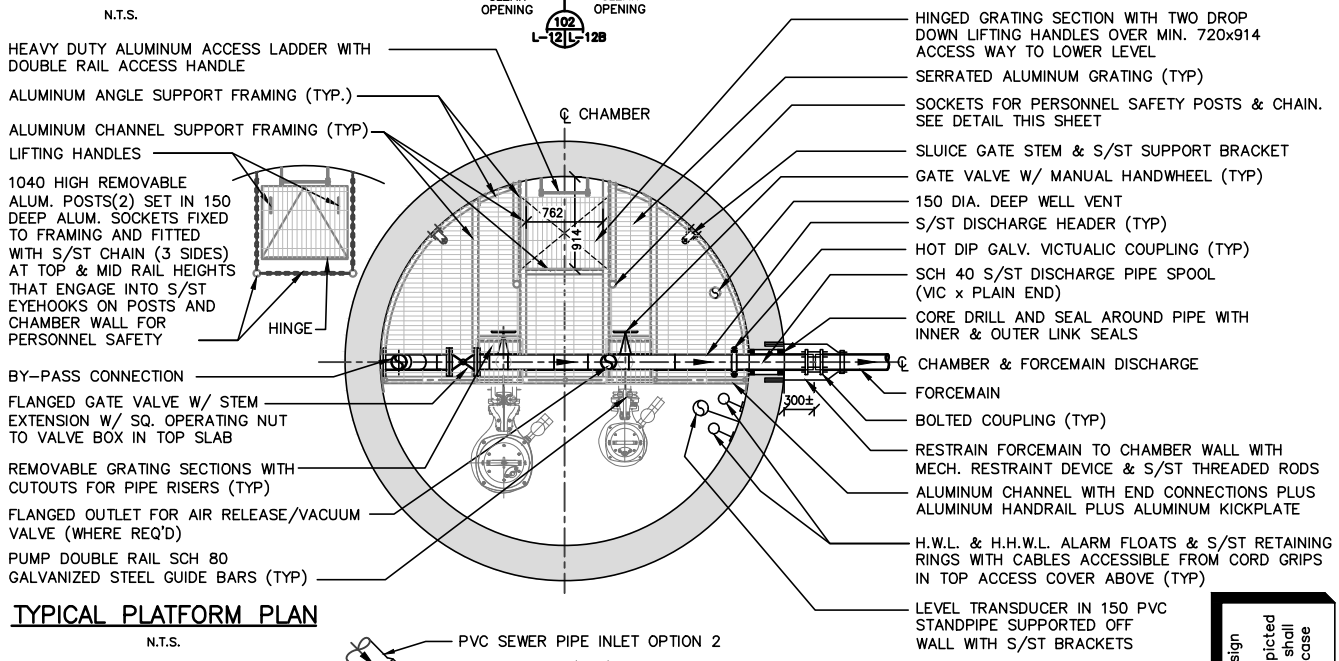
Figure L-11B

Typical Sanitary Pump Station (3000 DIA.) Cross Section



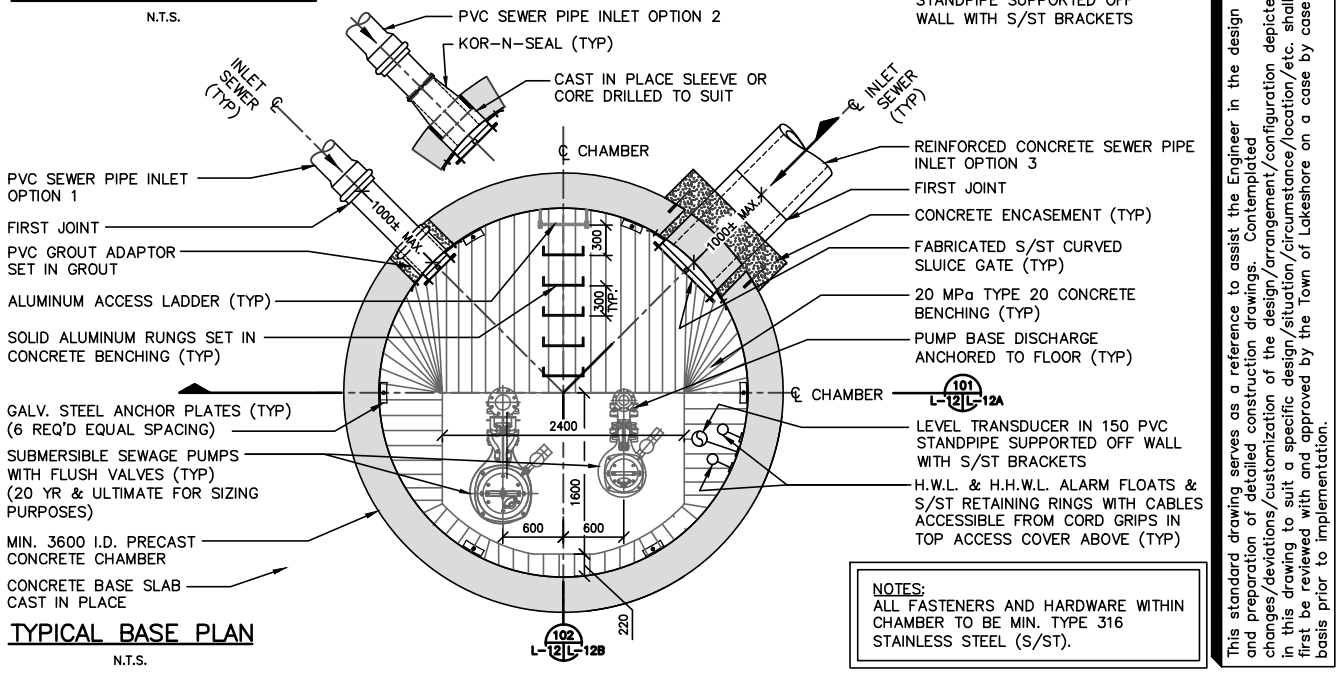
TYPICAL TOP PLAN

N.T.S.



TYPICAL PLATFORM PLAN

N.T.S.



TYPICAL BASE PLAN

N.T.S.

NOTES:
ALL FASTENERS AND HARDWARE WITHIN CHAMBER TO BE MIN. TYPE 316 STAINLESS STEEL (S/ST).

This standard drawing serves as a reference to assist the Engineer in the design and preparation of detailed construction drawings. Contemplated changes/deviations/customization of the design/arrangement/configuration depicted in this drawing to suit a specific design/situation/circumstance/location/etc. shall first be reviewed with and approved by the Town of Lakeshore on a case by case basis prior to implementation.

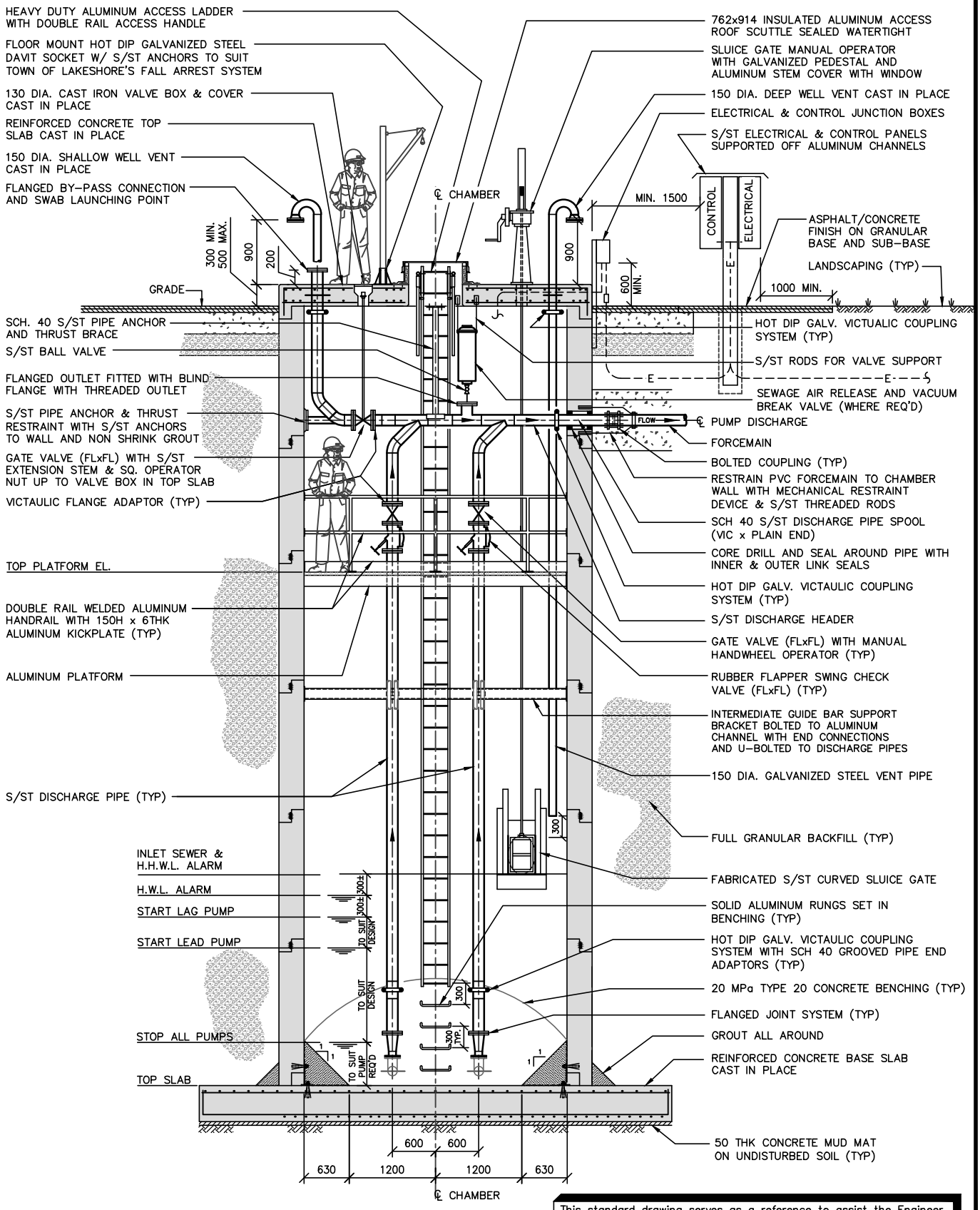
Lakeshore

No.	Revison Date
2	May 01, 2014
1	May 2009

Town of Lakeshore Development Manual

Figure L-12

Typical Sanitary Pump Station (3600 DIA.)
Plan Views



NOTES:
ALL FASTENERS AND HARDWARE WITHIN CHAMBER TO BE MIN. TYPE 316 STAINLESS STEEL (S/ST).

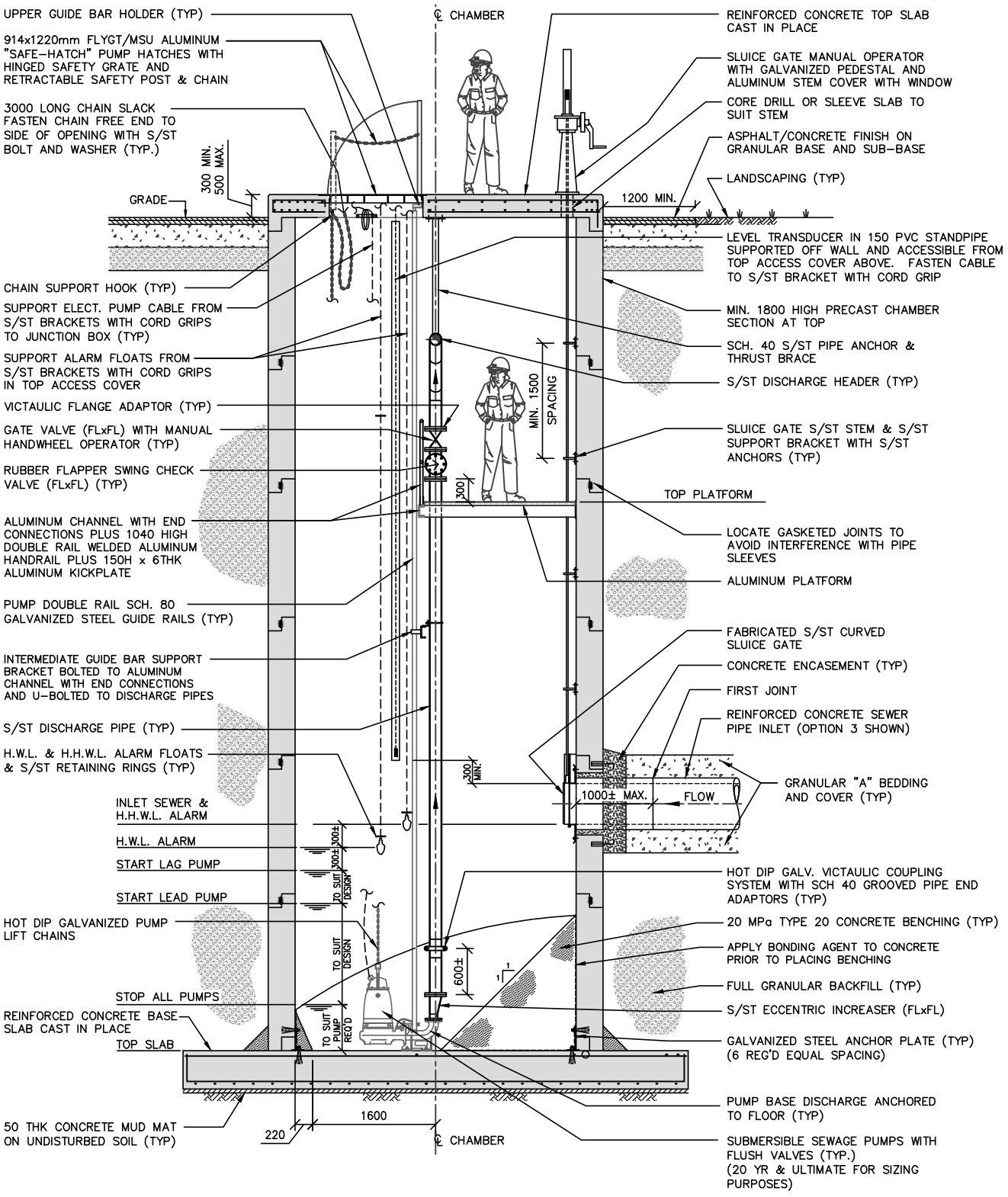
This standard drawing serves as a reference to assist the Engineer in the design and preparation of detailed construction drawings. Contemplated changes/deviations/customization of the design/arrangement/configuration depicted in this drawing to suit a specific design/situation/circumstance/location/etc. shall first be reviewed with and approved by the Town of Lakeshore on a case by case basis prior to implementation.

No.	Revison Date
2	May 01, 2014
1	May 2009

Town of Lakeshore Development Manual

Figure L-12A

Typical Sanitary Pump Station (3600 DIA.)
Cross Section



NOTES:
ALL FASTENERS AND HARDWARE WITHIN CHAMBER TO BE MIN. TYPE 316 STAINLESS STEEL (S/ST).

This standard drawing serves as a reference to assist the Engineer in the design and preparation of detailed construction drawings. Contemplated changes/deviations/customization of the design/arrangement/configuration depicted in this drawing to suit a specific design/situation/circumstance/location/etc. shall first be reviewed with and approved by the Town of Lakeshore on a case by case basis prior to implementation.

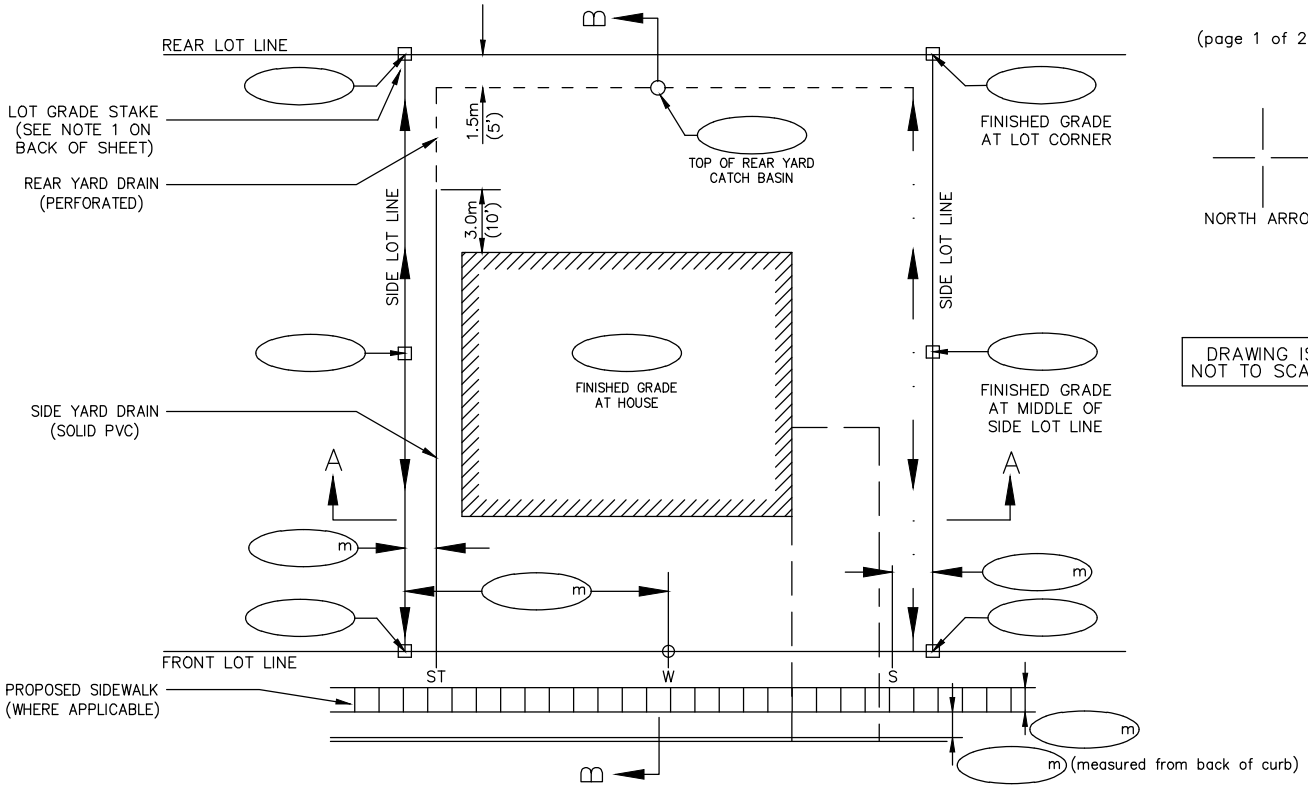
Lakeshore

No.	Revison Date
2	May 01, 2014
1	May 2009

Town of Lakeshore Development Manual

Figure L-12B

Typical Sanitary Pump Station (3600 DIA.) Cross Section

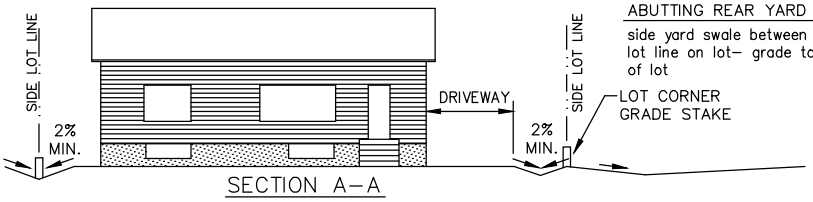


ABUTTING SIDE YARD CONDITION

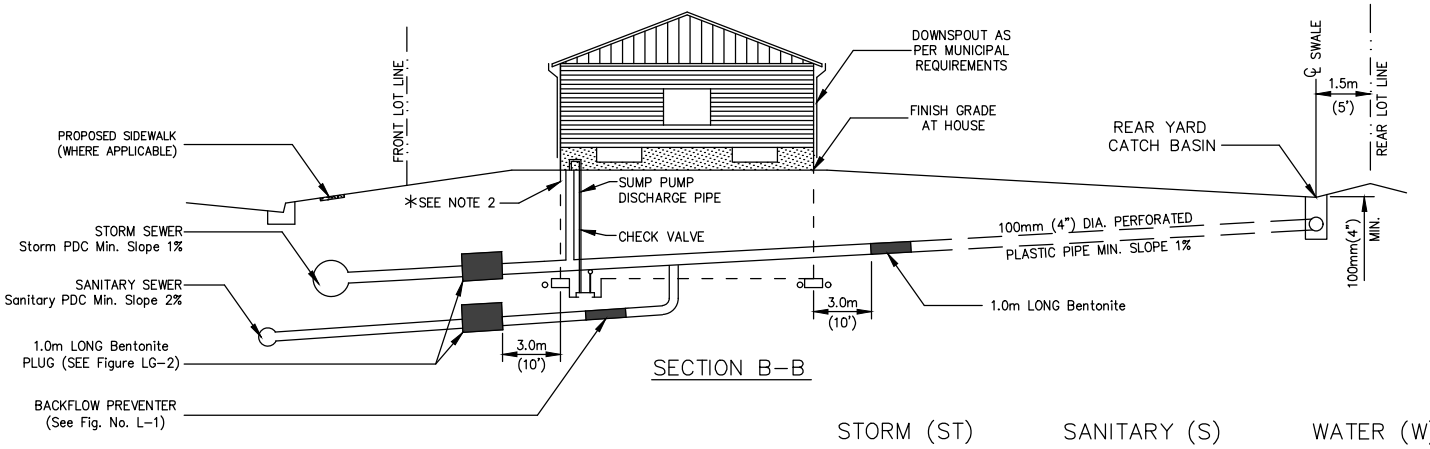
side yard swale on side lot line – grade to front and rear of lot

ABUTTING REAR YARD CONDITION

side yard swale between house and side lot line on lot– grade to front and rear of lot



SECTION A–A



SECTION B–B

	STORM (ST)	SANITARY (S)	WATER (W)
SIZE:	150mm (6") DIA.	125mm (5") DIA.	25mm (1") DIA.
MATERIAL:	PVC	PVC	PE
INVERT AT R.O.W. LIMIT:	_ _ _ _ _ _ _	_ _ _ _ _ _ _	_ _ _ _ _ _ _

CONSULTANT: _ _ _ _ _ _ _ _ _ _ _ _ _ _

INSPECTOR: _ _ _ _ _ _ _ _ _ _ _ _ _ _

I hereby certify that, to the best of my knowledge, the grades and elevations of the land within the lot, and locations and inverts of the services are accurate and in accordance with the measurements as shown above.

SIGNED: _ _ _ _ _ _ _ _ _ _ _ _ _ _

DATE: _ _ _ _ _ _ _ _ _ _ _ _ _ _

Municipal No. _

LOT _ _ _ _ _ _ _ Plan 12_ _–_ _ _ _ _ Part _ __ _

No.	Revison Date
5	April 8, 2019
4	January 27, 2014
3	December 07, 2011
2	January 14, 2008
1	October 16, 2006

Town of Lakeshore Development Manual

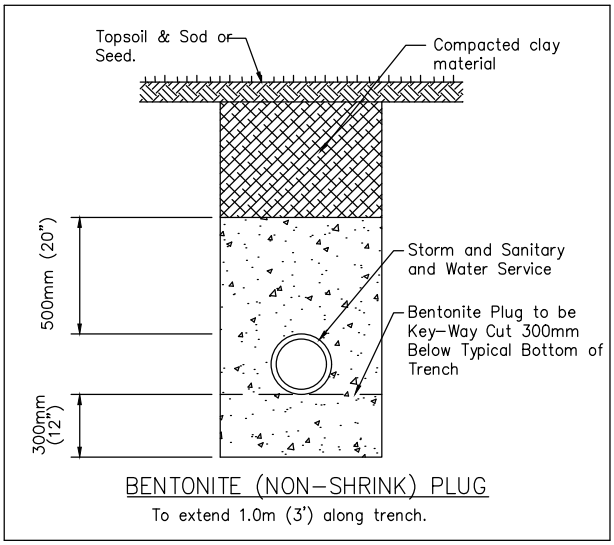
Figure LG-1

LOT GRADING AND SERVICE SHEET

NOTES:

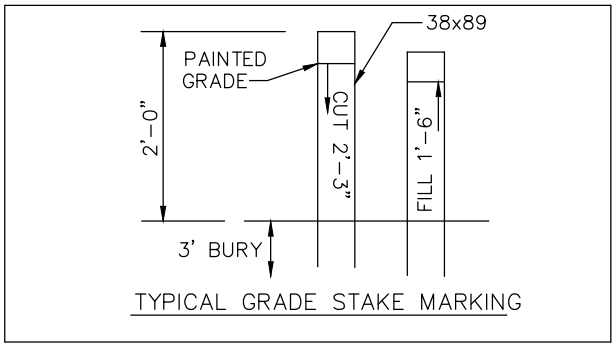
1. Place a 38x89x1500mm long (2"x4"x5') wood stake at each lot corner and at side yards adjacent to house. Mark the cut or fill to finished grade from top of stake on each stake. All stakes to remain in place until Chief Building Official approves final lot grading.

2. Sump pump discharge pipe shall be connected to the private storm service at an elevation not less than 300mm (12") above finished grade at the house.

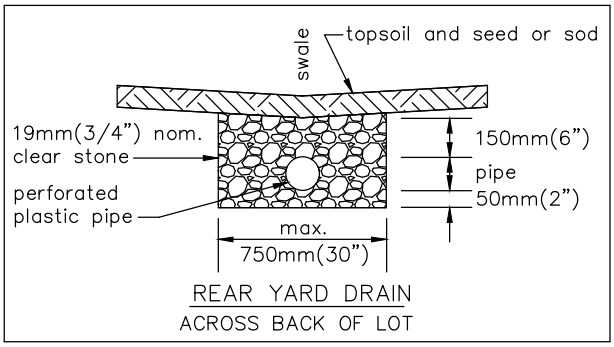


BENTONITE (NON-SHRINK) PLUG

To extend 1.0m (3') along trench.

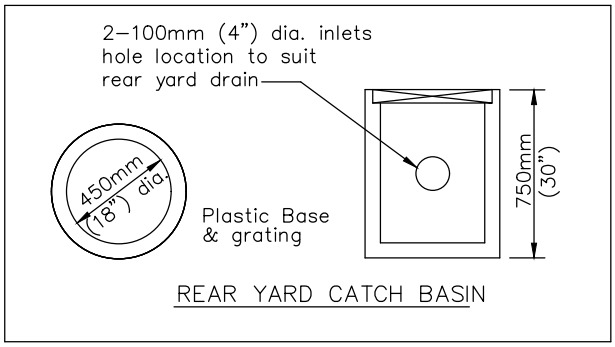


TYPICAL GRADE STAKE MARKING



REAR YARD DRAIN

ACROSS BACK OF LOT



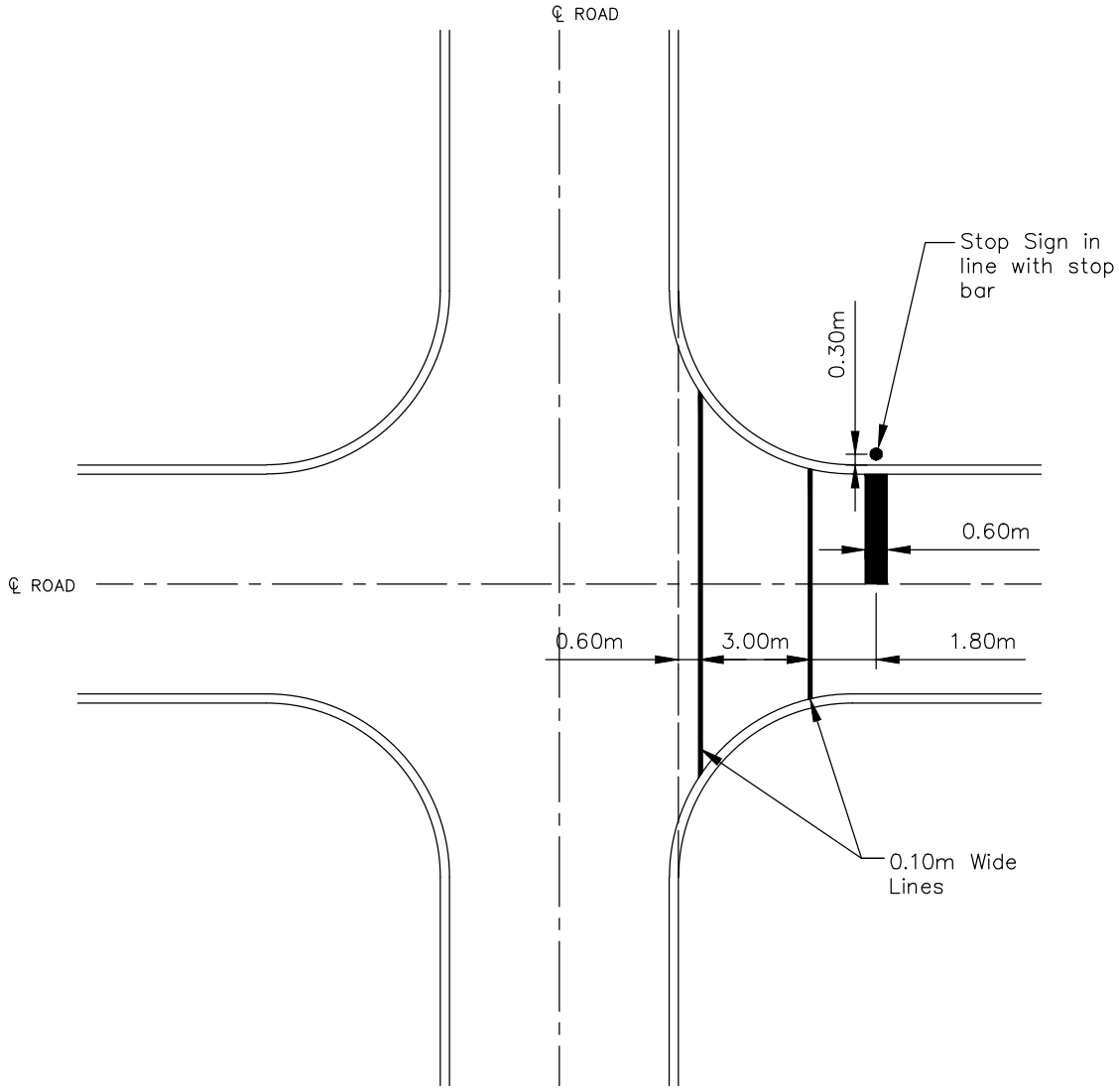
REAR YARD CATCH BASIN

No.	Revison Date
4	April 8, 2019
3	December 07, 2011
2	January 14, 2008
1	October 16, 2006

Town of Lakeshore Development Manual

Figure LG-2

LOT GRADING SHEET



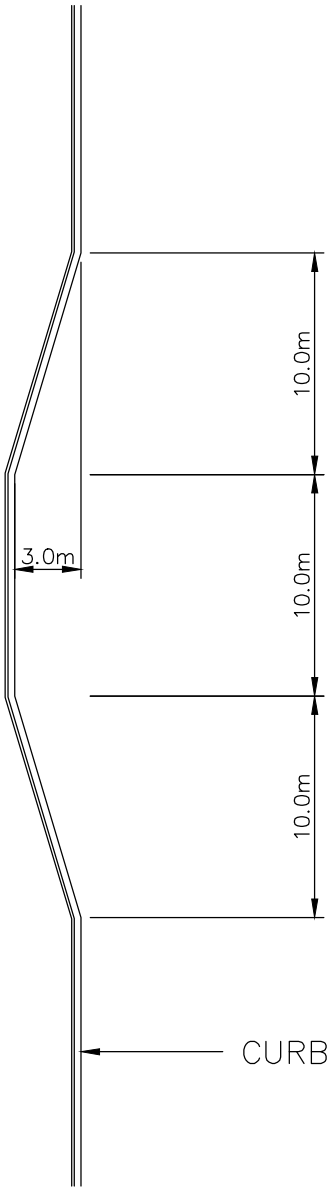
NOTE
1. All Dimensions are referenced to back of curb.

No.	Revison Date
2	January 14, 2008
1	October 16, 2006

Town of Lakeshore Development Manual

Figure R-1

TYPICAL CROSSWALK LINE PAINTING PLAN

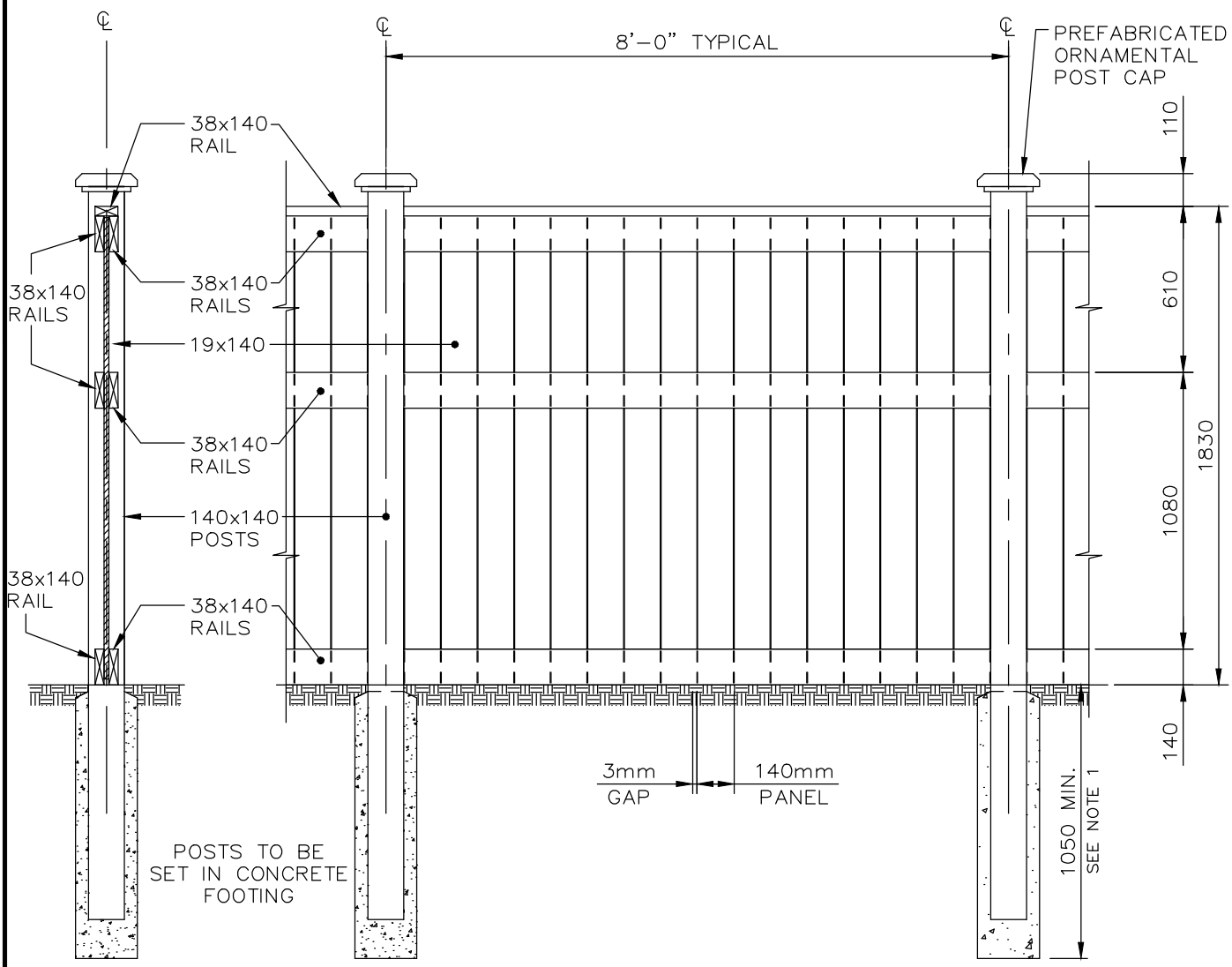


No.	Revison Date
2	January 14, 2008
1	October 16, 2006

Town of Lakeshore Development Manual

Figure R-2

TYPICAL COMMUNITY MAILBOX CAR BAY



TYPICAL WOOD SCREEN FENCE PANEL
N.T.S.

NOTES

1 DESIGN TO BE COMPLETED BY A PROFESSIONAL ENGINEER.

2 ALL LUMBER TO BE PRESSURE TREATED WOOD. AFTER ERECTING FENCE, ALL CUT ENDS TO BE TREATED.

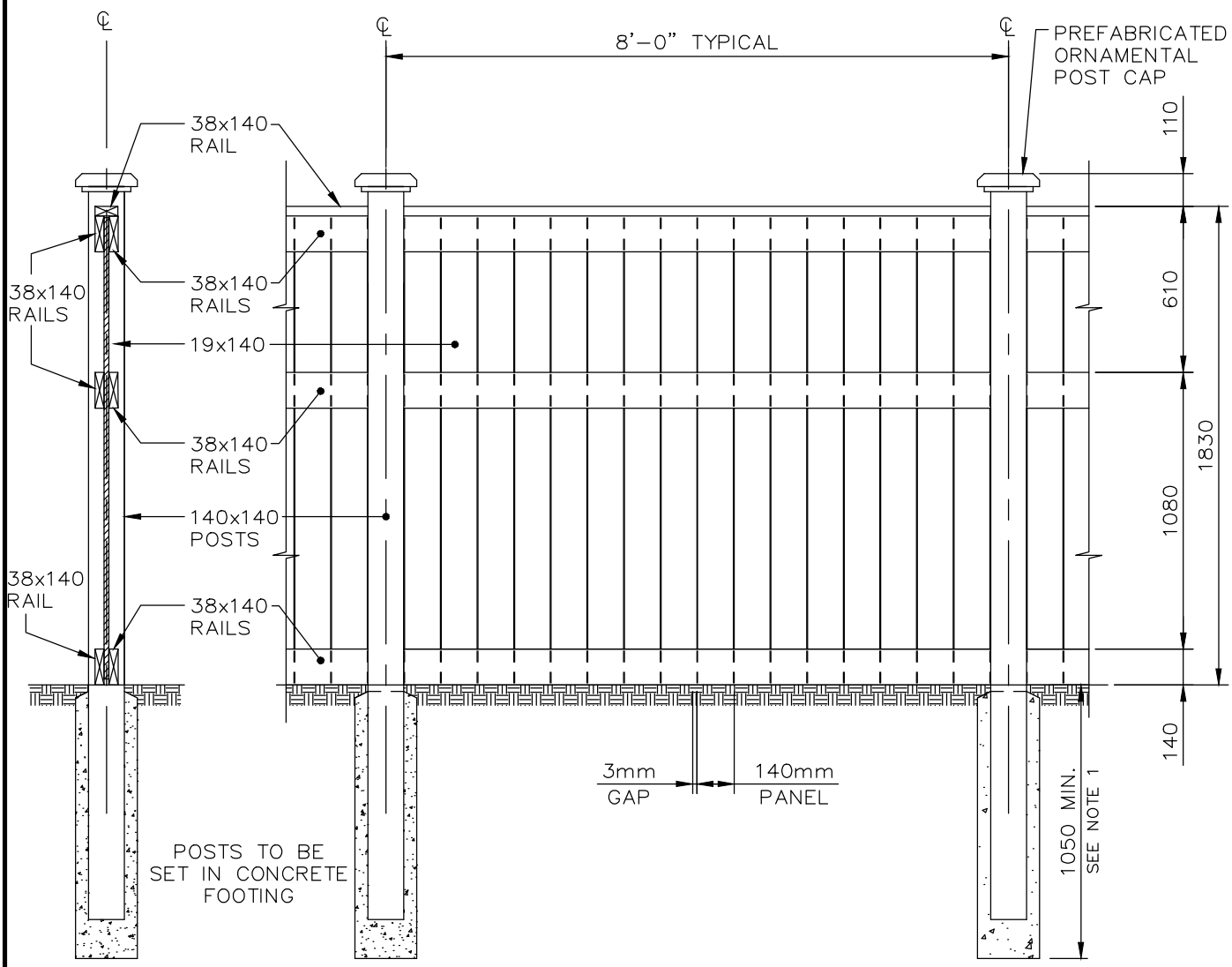
3 AS SUPPLIED BY CREATIVE HOMESCAPES OR APPROVED EQUAL.

No.	Revison Date
5	January 27, 2014
4	November 28, 2012
3	January 14, 2008
2	March 5, 2007
1	October 16, 2006

Town of Lakeshore Development Manual

Figure R-3

1830mm HIGH WOOD FENCE DETAIL



TYPICAL WOOD SCREEN FENCE PANEL
N.T.S.

NOTES

1 DESIGN TO BE COMPLETED BY A PROFESSIONAL ENGINEER.

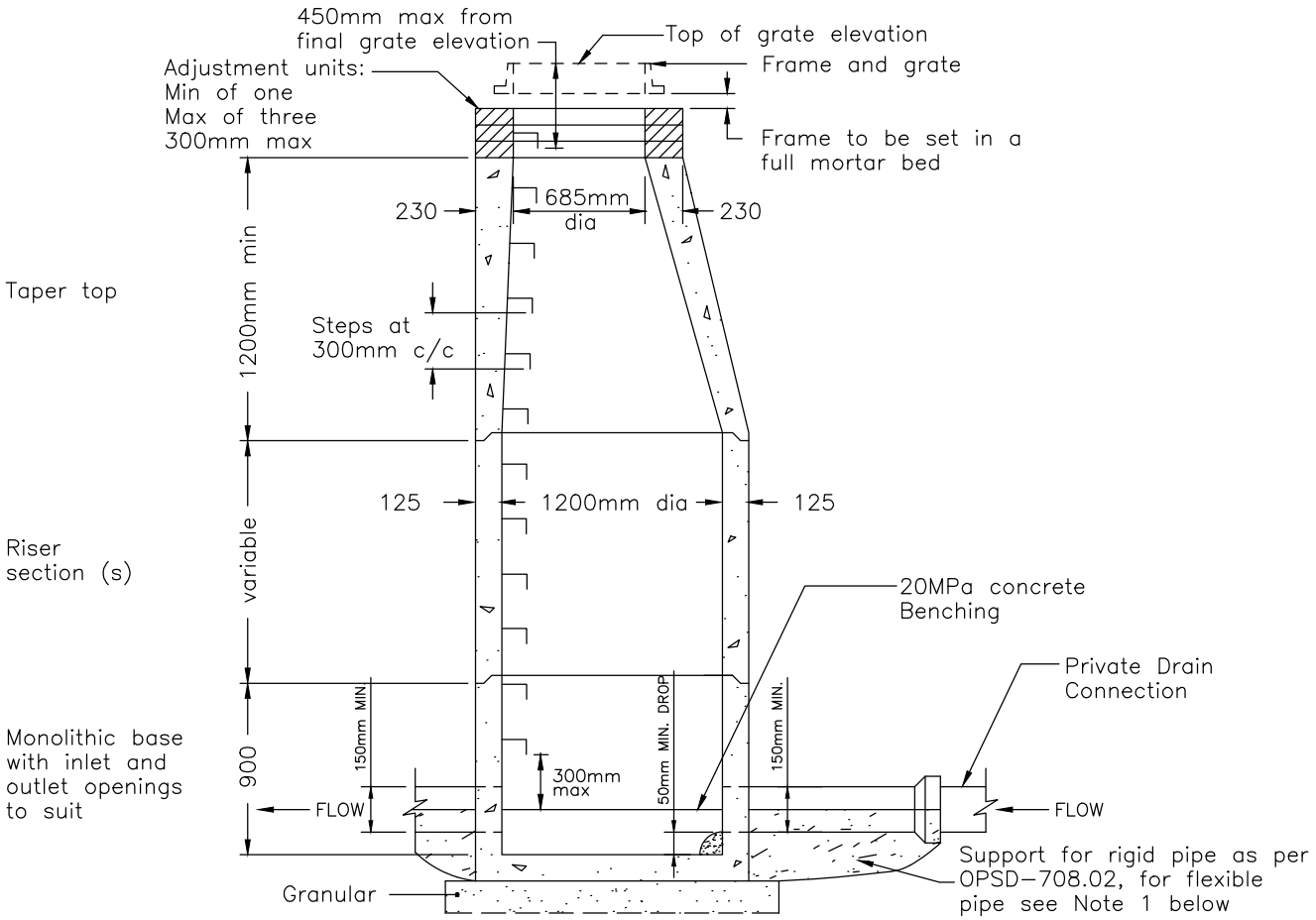
2 ALL LUMBER TO BE PRESSURE TREATED WOOD. AFTER ERECTING FENCE, ALL CUT ENDS TO BE TREATED.

3 ALL FENCING COMPLETED AS PART OF A SUBDIVISION, SITE PLAN OR SERVICING AGREEMENT MAY NOT BE MODIFIED IN ANY WAY (i.e. ADDING GATES, HARDWARE, PAINTING, CUTTING, etc.) UNLESS REVIEWED AND APPROVED BY THE TOWN OF LAKESHORE PUBLIC WORKS DIVISION

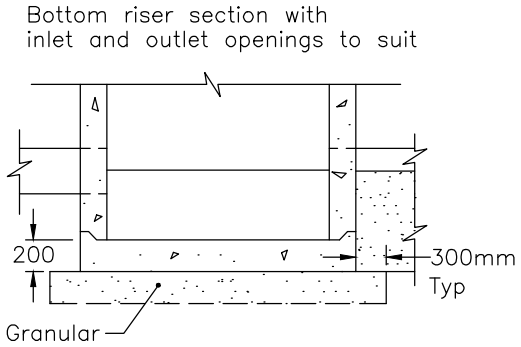
No.	Revison Date
6	March 3, 2019
5	January 27, 2014
4	November 28, 2012
3	January 14, 2008
2	March 5, 2007
1	October 16, 2006

Town of Lakeshore Development Manual

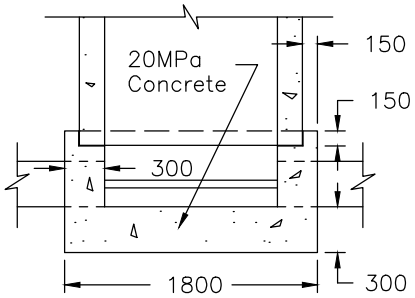
Figure R-3
1830mm HIGH WOOD FENCE DETAIL



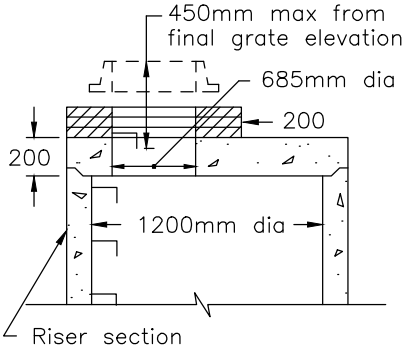
ALTERNATIVES



TYPE A
PRECAST SLAB BASE



TYPE B
CAST IN PLACE BASE



TYPE C
PRECAST FLAT TOP

Flexible joint 300mm max. from Manhole wall, in lieu of concrete cradle.

TYPE D

Approved flexible watertight pipe connector in MH opening in lieu of concrete cradle.

TYPE E

PIPE SUPPORT AT MANHOLE

NOTES:

1. For flexible pipe use types 'D' or 'E' pipe support only.
2. Granular backfill to be placed to a minimum thickness of 300mm all around.
3. Special base design required for depths greater than 10.0m.
4. Fill lifting holes and pipe connections and parge adjustment units on outside 15mm thick with 1:3 non-shrink mortar mix.
5. Precast concrete components as per OPSD-701.03.
6. Use alternative base, top, pipe support or connector, steps, frame and cover and/or benching where specified.
7. Structures exceeding 5.0m in depth to include safety grate as per OPSD-404.02.
8. All dimensions are in millimetres unless otherwise shown.

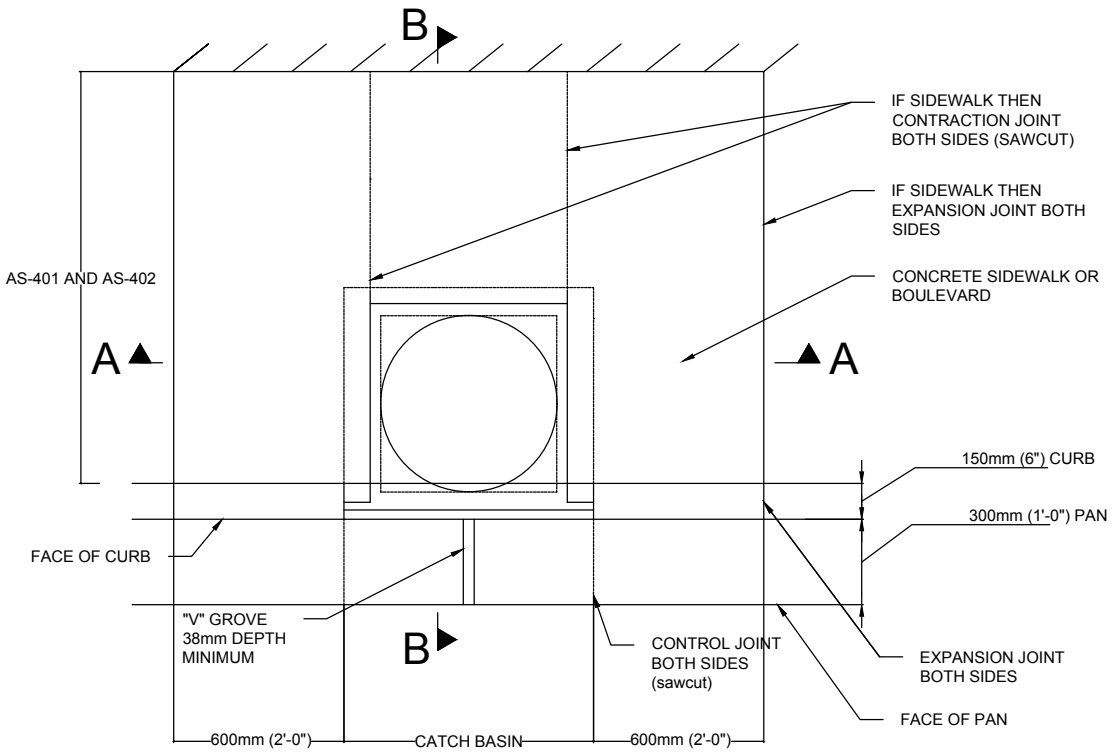
Lakeshore

No.	Revison Date
2	January 14, 2008
1	October 16, 2006

Town of Lakeshore Development Manual

Figure S-1

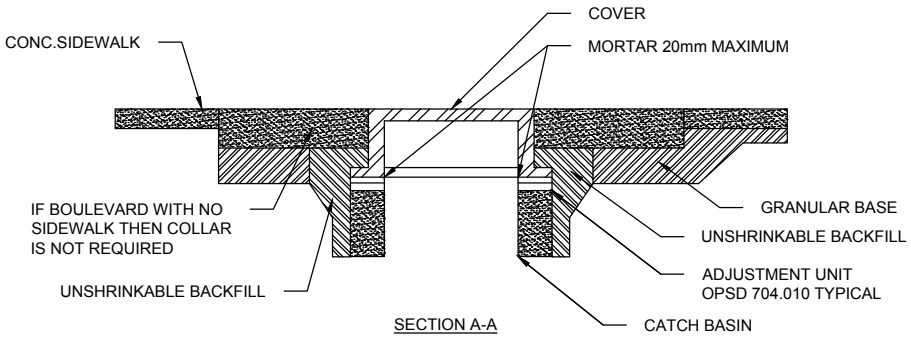
SAMPLING MANHOLE
1200mm DIAMETER



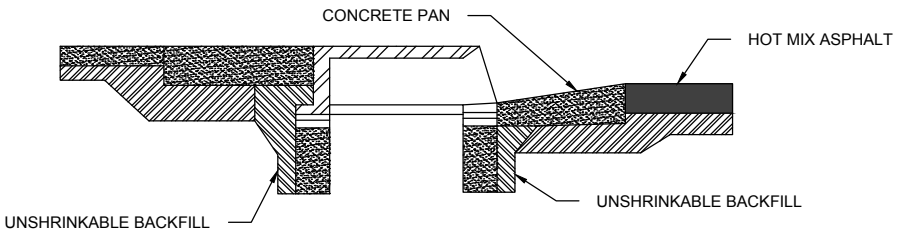
PLAN VIEW

CATCH BASIN:

1. CATCH BASIN TO BE CENTERED WITHIN THE SIDEWALK BAY IF PLACED WITH SIDEWALK.
2. CONCRETE SIDEWALK THICKNESS SHALL BE 150mm FOR SIDEWALK BAY WITH CATCH BASIN.
3. FOR EXPANSION AND CONTRACTION JOINT DETAIL SEE OPSD 310.010.
4. CAST IRON CURB INLET FRAME ACCORDING TO OPSD 400.082.
5. "V" GROVE IN PAN TO ALLOW DRAINAGE DURING MAINTENANCE PERIOD PRIOR TO SURFACE ASPHALT COURSE BEING PLACED.
6. UNSHRINKABLE BACKFILL REQUIRED IN CATCH BASIN EXCAVATION.



SECTION A-A



SECTION B-B

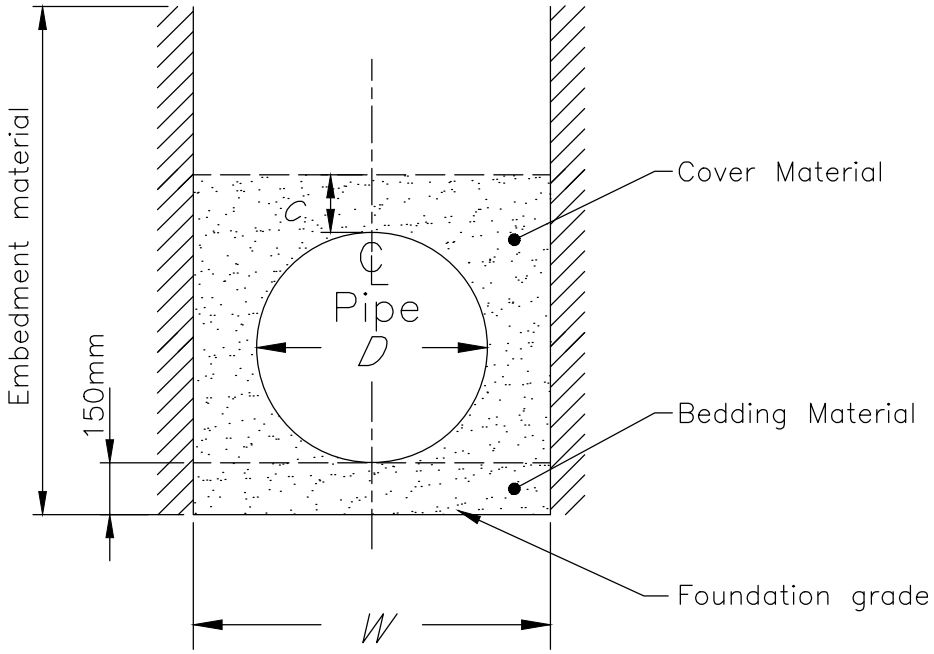
No.	Revison Date
2	July 7, 2017
1	December 2012

Town of Lakeshore Development Manual

Figure S-2

INLET CATCH BASIN BOX-OUT
for Asphalt Pavement

PIPE IN TRENCH



EARTH AND ROCK EXCAVATION

NOTES:

1 Backfill according to OPSD-803.04

2 All dimensions are in millimetres or metres unless otherwise shown.

3 Bedding material to be in accordance with the Ontario Building Code

LEGEND:

D – Inside diameter

W – Minimum width of bedding:
D + 800mm for $D \leq$ 1000mm
1.67D for 1000mm< D <1800mm
D +1200mm for $D \geq$1800mm.

c – Pipe Diameter <600mm c =300mm,
– Pipe Diameter $\geq$600mm $c = \frac{\text{Dia.}}{4} + 300$

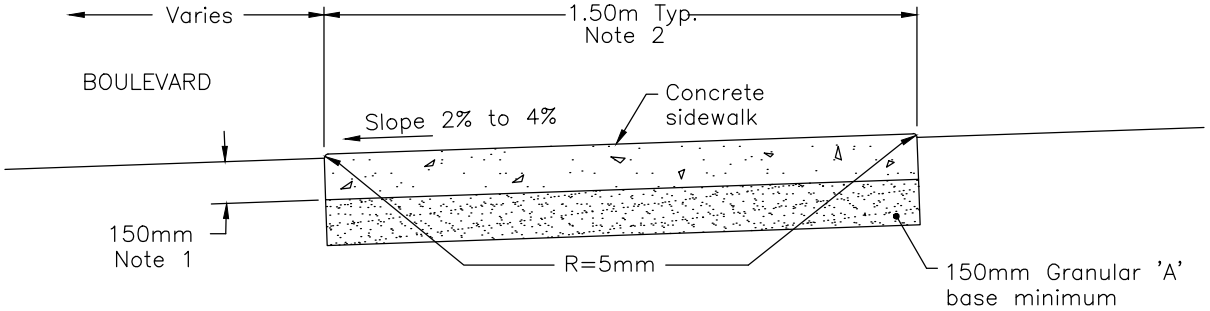
No.	Revison Date
2	January 14, 2008
1	October 16, 2006

Town of Lakeshore Development Manual

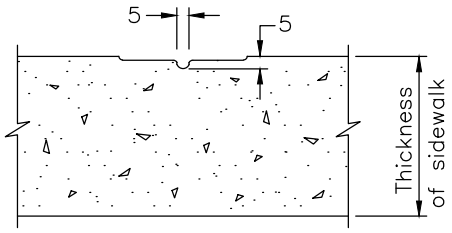
Figure S-4

BEDDING FOR SANITARY SEWERS

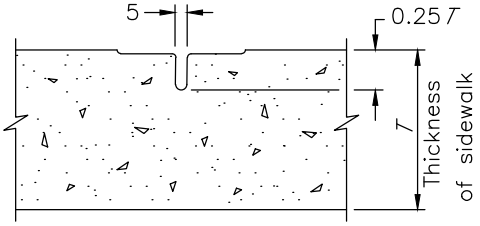
FLEXIBLE PIPE



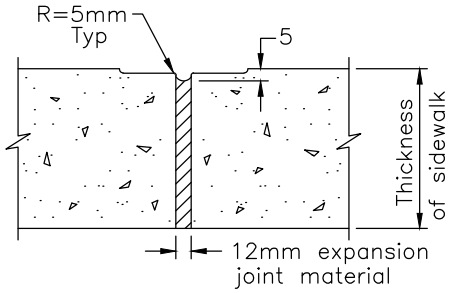
TYPICAL SECTION



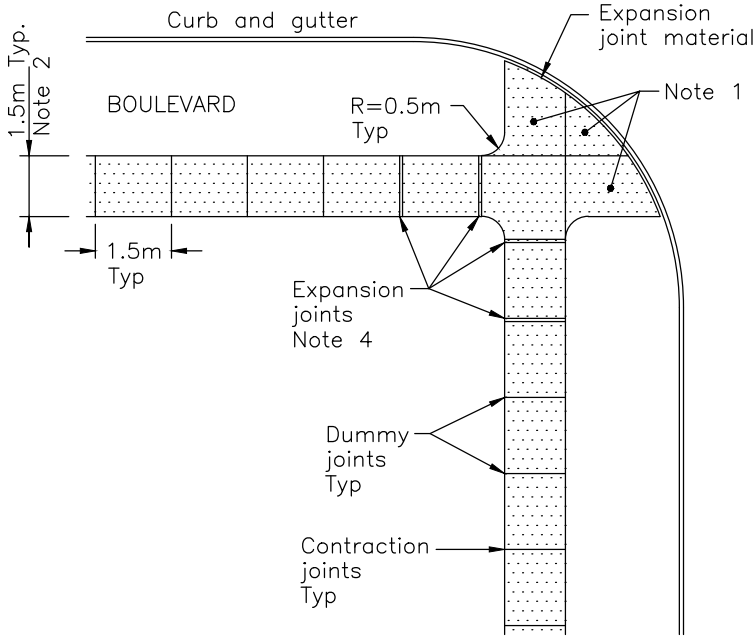
DUMMY JOINT



CONTRACTION JOINT



EXPANSION JOINT



JOINT LAYOUT

NOTES:

1 Sidewalk thickness in residential areas shall be 150mm.
At commercial and industrial driveways, the thickness shall be 200mm.

2 Sidewalk width shall be increased at school areas, bus stops and other high pedestrian areas.

3 All dimensions are in millimetres or metres unless otherwise shown.

4 Expansion joints shall be spaced no more than 15m apart.

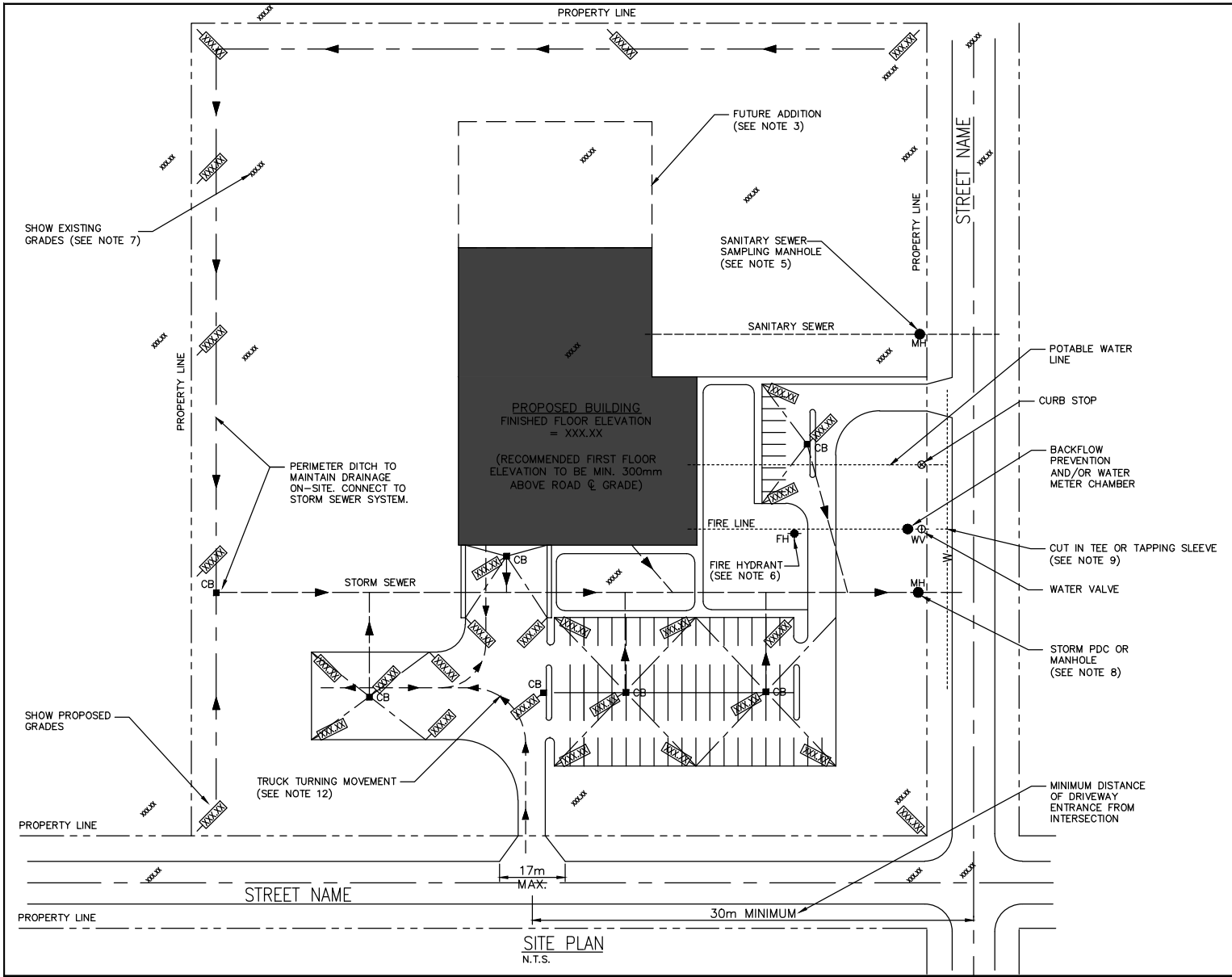
STANDARD BASED ON ONTARIO PROVINCIAL STANDARD DRAWING OPSD-310.010

No.	Revison Date
4	July 7, 2017
3	April 12, 2011
2	January 14, 2008
1	October 16, 2006

Town of Lakeshore Development Manual

Figure S-5

CONCRETE SIDEWALK



SITE PLAN
N.T.S.

GENERAL NOTES:

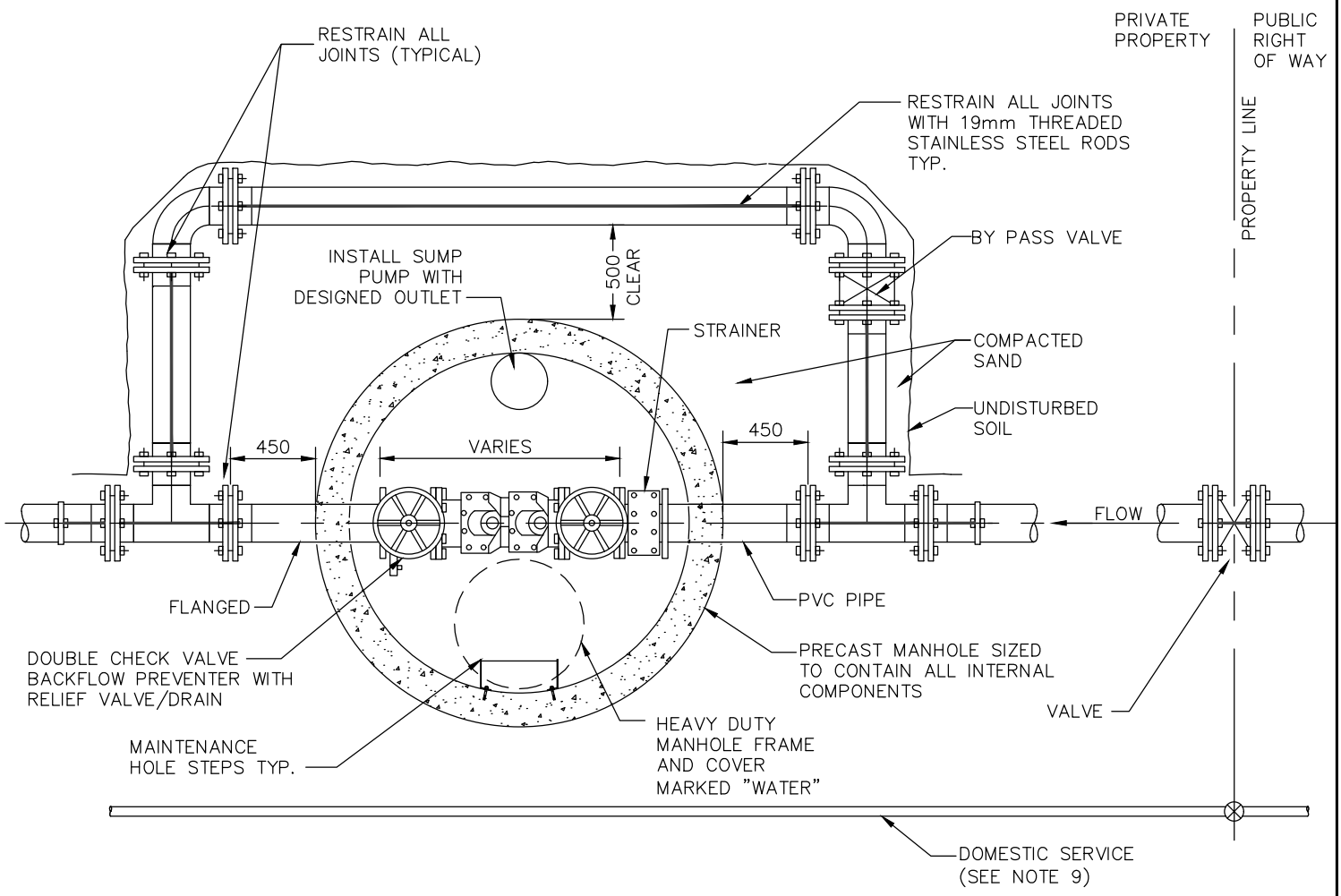
1. Site services: Type, Size, Slope, Depth and Locations to be shown.
2. Developer shall submit required studies as may be required for each development. (for list of possible studies required, see Development Manual Section 2.6).
3. Future phasing to be shown if applicable.
4. All property lines and easements shall be accurately shown and dimensioned.
5. Sanitary Sampling Manhole as per figure S-1 located at property line.
6. Existing Fire Hydrant locations to be shown and submission made to Town of Lakeshore Fire Chief for approval. Fire Hydrants to have Storz couplings.
7. Existing grades to be shown on this lot and adjacent property. Also indicate finished floor elevation of adjacent buildings.
8. Unless otherwise noted in subdivision servicing agreement, control storm water runoff rates to pre-development conditions, orifice located in manhole at property line preferred. (Submit Calculations).
9. Connections to existing watermains to be cut-in-tees or tapping sleeves and valves at the Town's discretion. Inspection of water tie in to be organized through the Town of Lakeshore's Environmental Services Division.
10. All work on public Right-of-Way requires a street opening permit, restore to existing condition with full granular backfill ('A' or 'B') compacted to 100% S.P.D.
11. Parking and driveways to be paved. (See Development Manual)
12. Truck Turning Movements for loading and deliveries to be confined within private property. (No backing in off roadway). See zoning By-Law.
13. Note use of building, (3.2.2 Ontario Building Code Classification). Occupant Load, sprinklered, combustible, non-combustible.
14. See Development Manual for applicable Town Standards.
15. As-Constructed Drawings are required. (To be submitted to the municipality).

No.	Revison Date
3	April 8, 2019
2	January 14, 2008
1	October 16, 2006

Town of Lakeshore Development Manual

Figure SP-1

TYPICAL INDUSTRIAL/COMMERCIAL
SITE PLAN REQUIREMENTS



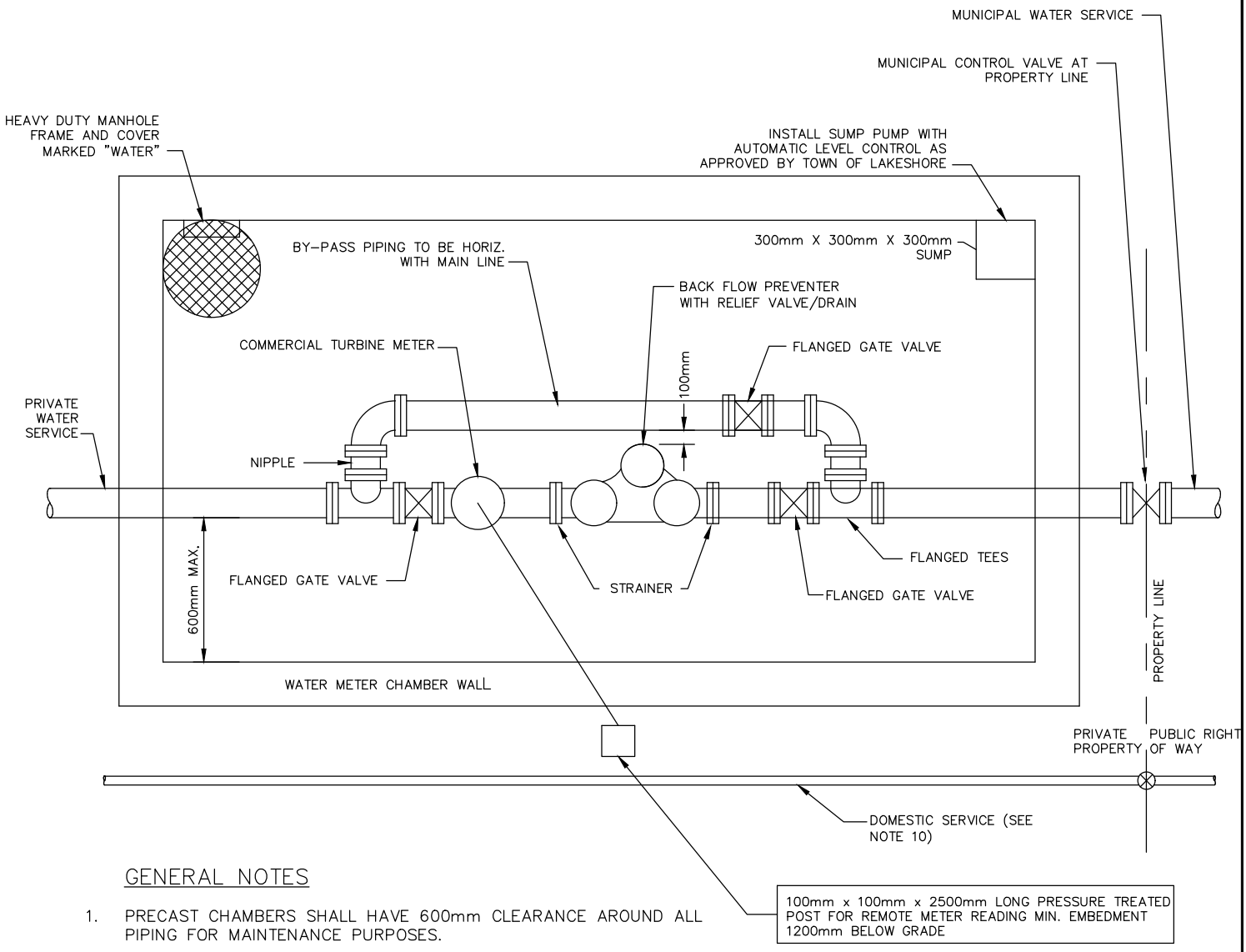
GENERAL NOTES

1. PRECAST CHAMBERS SHALL HAVE 600mm CLEARANCE AROUND ALL PIPING FOR MAINTENANCE PURPOSES.
2. BACKFLOW PREVENTERS SHALL BE AS MANUFACTURED BY WATTS OR APPROVED EQUAL.
3. STRAINER DEVICE SHALL BE AS MANUFACTURED BY NEPTUNE OR APPROVED EQUAL.
4. PROPERTY LINE VALVES SHALL BE AS MANUFACTURED BY MUELLER OR APPROVED EQUAL.
5. REMOTE READER SHALL BE APPROVED BY TOWN OF LAKESHORE
6. MANHOLES DESIGNED TO CARRY CL-625-ONT TRUCK TO CANADIAN HIGHWAY BRIDGE DESIGN CODE, CAN/CSA-S6-00
7. MANHOLE RUNGS TO BE AS PER OPSD 405-020
8. STAMPED SHOP DRAWINGS BEARING THE SEAL OF A PROFESSIONAL ENGINEER OF ONTARIO TO BE SUBMITTED
9. DOMESTIC WATER SERVICE TO BE CONNECTED SEPARATELY TO WATERMAIN ON PUBLIC RIGHT-OF-WAY.

No.	Revison Date
4	March 1, 2019
3	November 28, 2012
2	January 14, 2008
1	October 16, 2006

Town of Lakeshore Development Manual

Figure W-1
BACKFLOW PREVENTION



GENERAL NOTES

1. PRECAST CHAMBERS SHALL HAVE 600mm CLEARANCE AROUND ALL PIPING FOR MAINTENANCE PURPOSES.
2. METERS SHALL BE AS MANUFACTURED BY NEPTUNE OR APPROVED EQUAL.
3. BACKFLOW PREVENTERS SHALL BE AS MANUFACTURED BY WATTS OR APPROVED EQUAL.
4. STRAINER DEVICE SHALL BE AS MANUFACTURED BY NEPTUNE OR APPROVED EQUAL.
5. PROPERTY LINE VALVES SHALL BE AS MANUFACTURED BY MUELLER OR APPROVED EQUAL.
6. REMOTE READER SHALL BE APPROVED BY TOWN OF LAKESHORE WATER DISTRIBUTION DIVISION.
7. MANHOLES DESIGNED TO CARRY CL-625-ONT TRUCK TO CANADIAN HIGHWAY BRIDGE DESIGN CODE, CAN/CSA-S6-00
8. MANHOLE RUNGS TO BE AS PER OPSD 405-020
9. STAMPED SHOP DRAWINGS BEARING THE SEAL OF A PROFESSIONAL ENGINEER OF ONTARIO TO BE SUBMITTED
10. DOMESTIC WATER SERVICE TO BE CONNECTED SEPARATELY TO WATERMAIN ON PUBLIC RIGHT-OF-WAY.

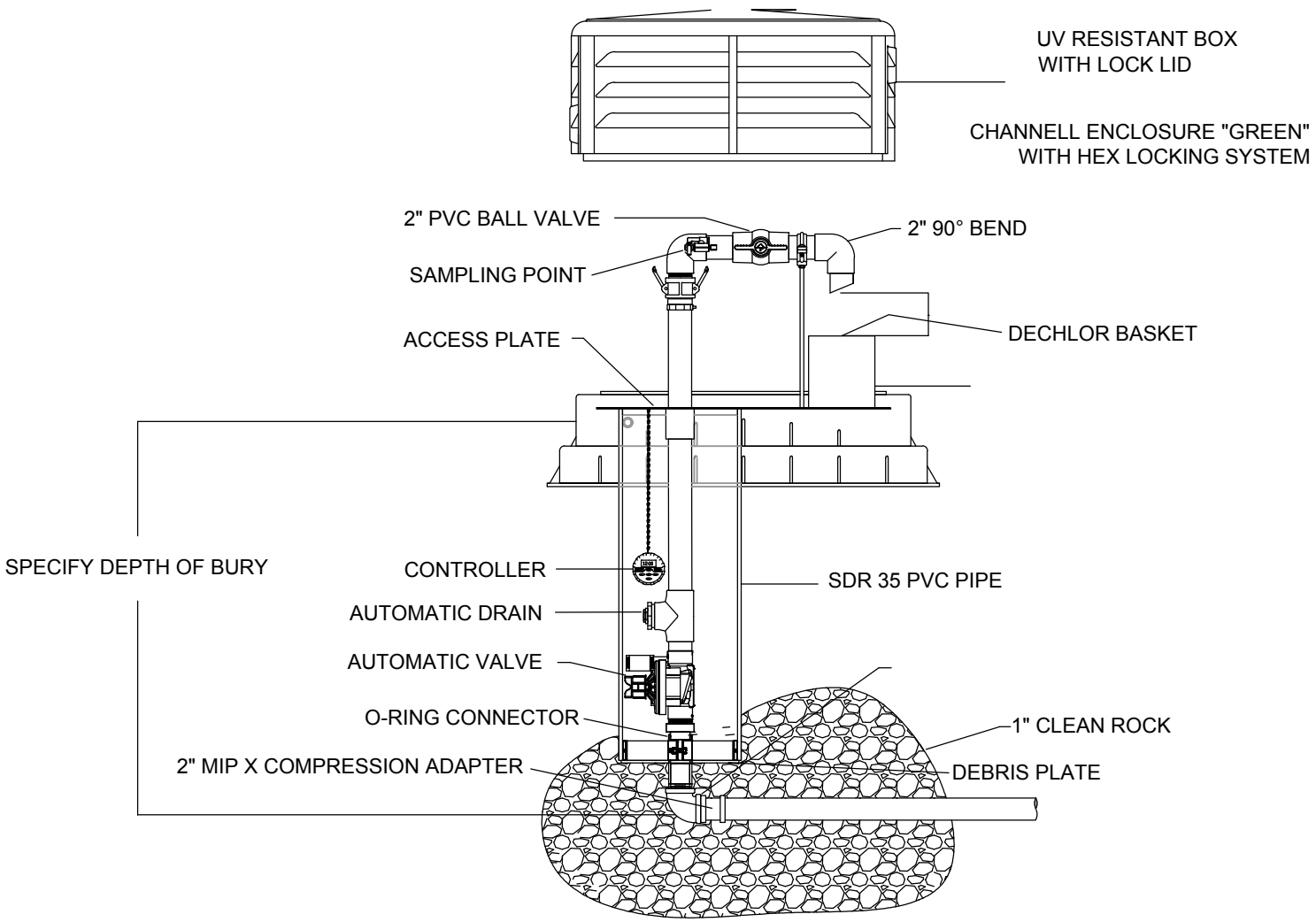
MINIMUM CHAMBER SIZES	WIDTH	LENGTH	HEIGHT
50mm DIA. WATER SERVICE	1.7m	3.0m	2.4m
100mm DIA. WATER SERVICE	2.1m	4.5m	2.4m
150mm DIA. WATER SERVICE	2.4m	5.1m	2.4m

No.	Revison Date
2	March 1, 2019
1	October 16, 2006

Town of Lakeshore Development Manual

Figure W-2

BACKFLOW PREVENTION WITH WATER METER



1. SUITABLE OUTLET FOR DISCHARGED WATER TO BE INCLUDED IN DESIGN
2. 2" BRASS FIP INLET, LEADING VERTICALLY INTO A 2" AUTOMATIC SOLENOID VALVE
3. AUTOMATIC SOLENOID VALVE SHALL HAVE A 150 PSI RATING
4. EACH UNIT SHALL BE FURNISHED WITH A STAND-ALONE VALVE CONTROLLER
5. CONTROLLER MUST HAVE MINIMUM OF 12 POSSIBLE FLUSHING CYCLES PER DAY, UP TO 6 HOURS PER FLUSH CYCLE AND SHALL BE SUBMERSIBLE TO 12 FEET, OPERATE WITH 9 VOLT BATTERY AND HAVE RESIN-SEALED ELECTRICAL COMPONENTS
6. SOLENOID SHALL HAVE NO LOOSE PARTS WHEN REMOVED FROM VALVE
7. EACH UNIT SHALL HAVE A DOUBLE-VALVE, ALL BRASS, SAMPLING POINT
8. REMOVAL OF 2" SOLENOID VALVE SHALL BE POSSIBLE VIA AN O-RING CONNECTOR LOCATED BENEATH THE VALVE AFTER DISCONNECTION OF STAINLESS STEEL ACCESS PLATE
9. VALVE ASSEMBLY SHALL BE HOUSED IN A PVC ENCLOSURE AND EACH UNIT SHALL BE SELF-DRAINING, NON-FREEZING, ALL ABOVE-GROUND COMPONENTS SHALL BE CONTAINED WITHIN A UV-RESISTANT LOCKING COVER

AS MANUFACTURED BY KUPFERLE FOUNDRY COMPANY. MODEL#9800 OR APPROVED EQUAL.

Note: Flush water lines free of debris before installation

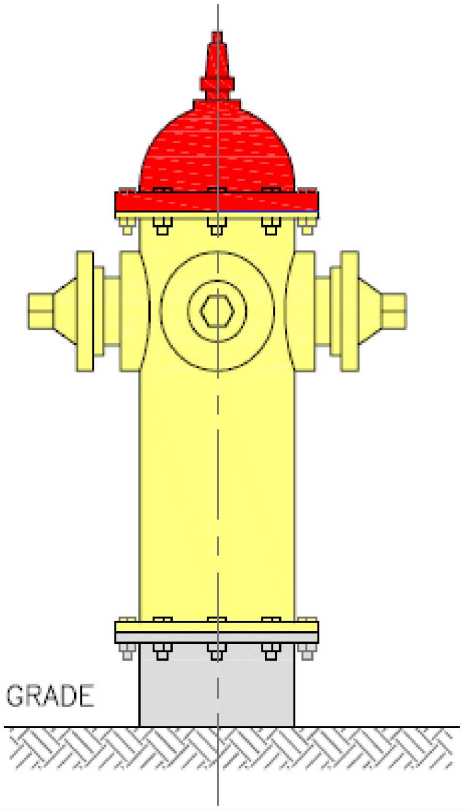
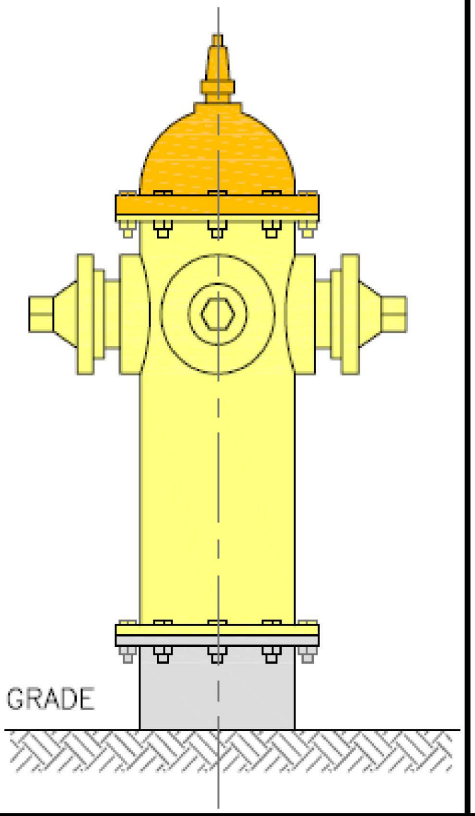
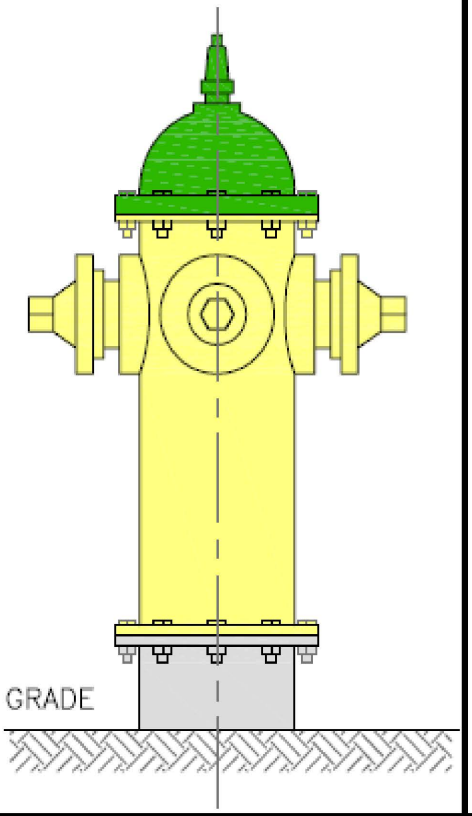
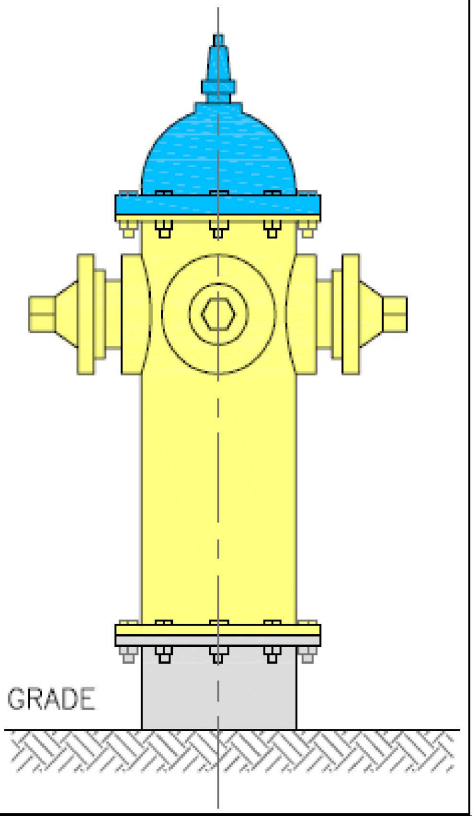
No.	Revison Date
2	March 1, 2019
1	May 29, 2016

Town of Lakeshore Development Manual

Figure W-3

#9800 AUTOMATIC FLUSHING DEVICE

HYDRANT COLOUR CODE

499 G.P.M (US) OR LESS (RED)	500–999 G.P.M.(US) (ORANGE)	1000–1499 G.P.M. (US) (GREEN)	1500 G.P.M. (US) OR GREATER (LIGHT BLUE)
			
CLASS 'C'	CLASS 'B'	CLASS 'A'	CLASS 'A–A'

* Hydrant Colour Coding is as per NFPA 291

Lakeshore

No.	Revison Date
1	July 6, 2017

Town of Lakeshore Development Manual

Figure W-4

Fire Hydrant Flow Test Colour Codes