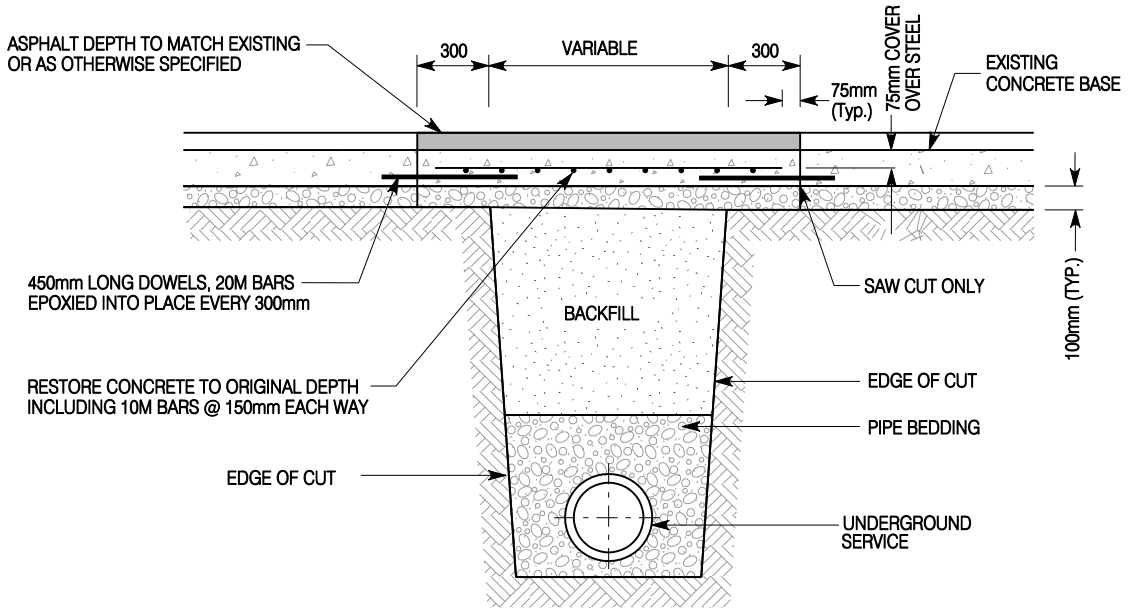
DRAWING No.	DATE	DESCRIPTION
RD-100.01	November 2005	Road Restoration Over Utility Cuts –Sheet 1of 2
RD-100.02	November 2005	Road Restoration Over Utility Cuts - Sheet 2 of 2
RD-100.03	February 2021	Utility Keyhole Excavation and Reinstatement
RD-101	November 2018	100 mm Dia. Perforated Drain Pipe Detail
RD-102.01	June 2017	Wheelchair Ramp Locations Without Inegrated Accessibility Treatment
RD-102.02	January 2020	Control Joints at Side Inlet Catch Basin Frame and Cover and Hydrants, and Utility Pole Isolation Boxout
RD-103	June 2019	Combined Concrete Walk and Curb and Independent Concrete Walk
RD-104	January 2011	Asphalt Sidewalk
RD-105	November 2005	Interlocking Paving Stone Sidewalk
RD-106	June 2019	Standard Approach
RD-107	June 2019	California Style Approach
RD-108	June 2017	Asphalt Driveway Approach
RD-109	June 2017	Concrete Apron Approach
RD-110.01	June 2017	Offset Curb & Gutter Detail at Single Catchbasin
RD-110.02	June 2017	Offset Curb & Gutter Detail at Double Catchbasin
RD-111	June 2017	Shoulder Paving for Manholes and Chambers in Shoulders
RD-112	November 2005	Concrete Alleyway
RD-113.01	November 2005	Typical Road Cross Section - Local Urban Residential (20.0 m Right–of-Way)
RD-113.02	November 2005	Typical Road Cross Section - Local Urban Residential (18.0 m Right–of-Way)
RD-113.03	November 2005	Typical Road Cross Section Local Urban Residential - Without Sidewalk For Cul De Sacs (18.0 m Right–of-Way)
RD-113.04	November 2005	Standard Road Section For Private Townhouses
RD-113.05	June 2017	Rural Cross Section
RD-114	June 2017	Unsignalized Industrial & Commercial Entrance - Urban Section
RD-115	June 2017	Hammerhead Turning Movement Diagram

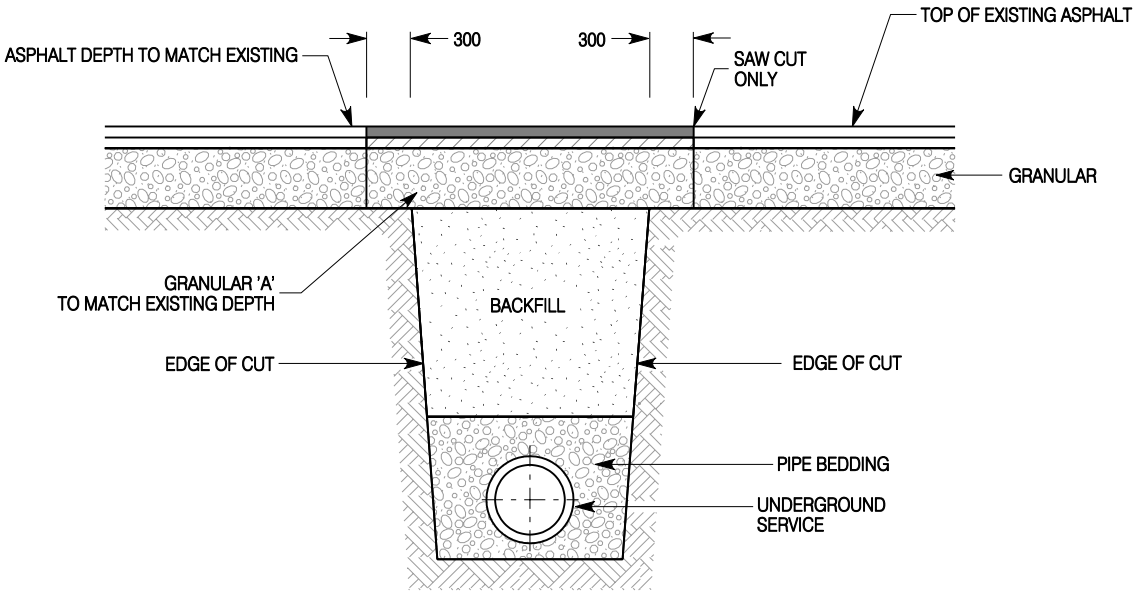
Note: 24” x 36” and 18” x 24” size drawings are not bound in this document

DRAWING No.	DATE	DESCRIPTION
RD-116.01	November 2005	Permanent Cul-De-Sac For Local Residential Streets – Symmetrical (18.0 m Right–of-Way)
RD-116.02	November 2005	Permanent Cul-De-Sac For Local Residential Streets – Offset Left (18.0 m Right–of-Way)
RD-116.03	November 2005	Cul-De-Sac For Industrial & Commercial Streets
RD-116.04	June 2017	Temporary Turning Circle (20.0 m R.O.W.)
RD-117	June 2017	Rural Residential Entrances
RD-118	June 2017	Rural Industrial & Commercial Entrances
RD-119.01	November 2005	Measurement for Payment Diagram – Road Reconstruction Only
RD-119.02	November 2005	Measurement for Payment Diagram – Road Reconstruction and Combined Walk and Curb Reconstruction
RD-119.03	January 2011	Measurement for Payment Diagram – Widening / Realignment /Narrowing
RD-119.04	November 2005	Measurement for Payment Diagram – Road and Independent Curb and Gutter Reconstruction
RD-120	February 2021	Typical Transit Shelter Pad for 1.2 m by 3.0 m Shelter
RD-121	November 2005	Rear Yard Swale Detail
RD-122	November 2005	Typical Toe of Excarpment Swale & Berm Detail
RD-123.01	June 2017	Privacy Fence
RD-123.02	June 2017	Privacy Fence Details
RD-124.01	November 2018	Integrated Accessibility – Sidewalk/Urban Braille Guidelines (Size 24” x 36”)
RD-124.02	November 2018	Integrated Accessibility – Sidewalk/Urban Braille Guidelines (Size 24” x 36”)
RD-124.03	March 2018	Integrated Accessibility – Sidewalk/Urban Braille Guidelines (Size 24” x 36”)
RD-125.01	November 2005	Heritage Poles and Details (Size 24” x 36”)
RD-125.02	June 2017	Heritage Poles and Details (Size 24” x 36”)
RD-126	November 2005	Irrigation – Typical Details (Size 24” x 36”)
RD-127	June 2017	Typical Construction of Flagstone Wall on Slope
DT:0119-01	January 2017	Standard Design for Speed Humps (Size 18” x 24”)
DT:0119-02	March 2019	Standard Drawing for Speed Cushions (Size 18” x 24”)

Note: 24” x 36” and 18” x 24” size drawings are not bound in this document



CROSS SECTION THROUGH COMPOSITE PAVEMENT

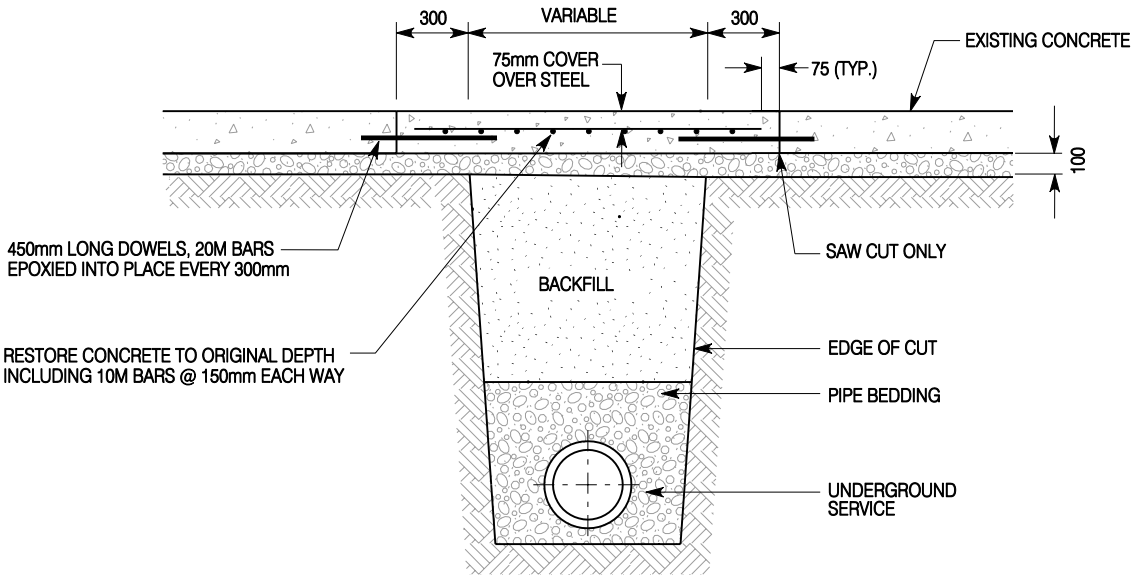


CROSS SECTION THROUGH ASPHALT ON GRANULAR BASE PAVEMENT

City of Hamilton
Public Works Department

ROAD RESTORATION OVER UTILITY CUTS - Sht 1 of 2

DIMENSIONS SHOWN ARE IN MILLIMETRES UNLESS OTHERWISE NOTED (N.T.S.)	DATE November 2005	REV No	FORMERLY: RHS-502	HAMILTON STD No RD-100.01

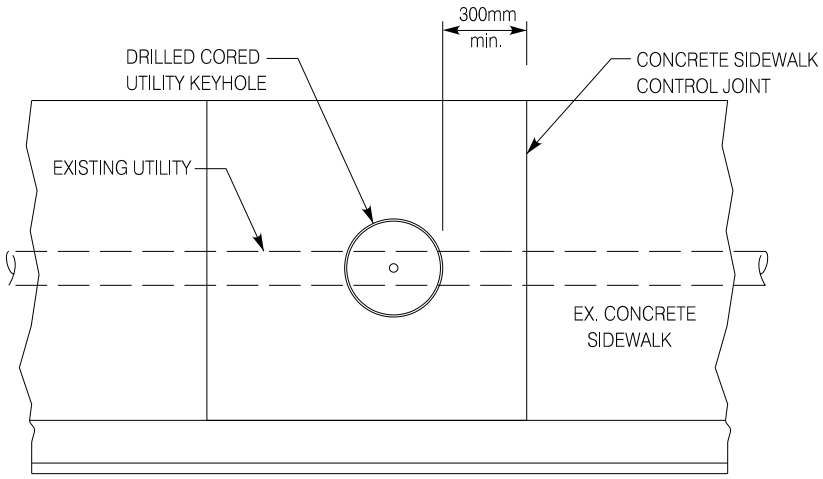


CROSS SECTION THROUGH CONCRETE

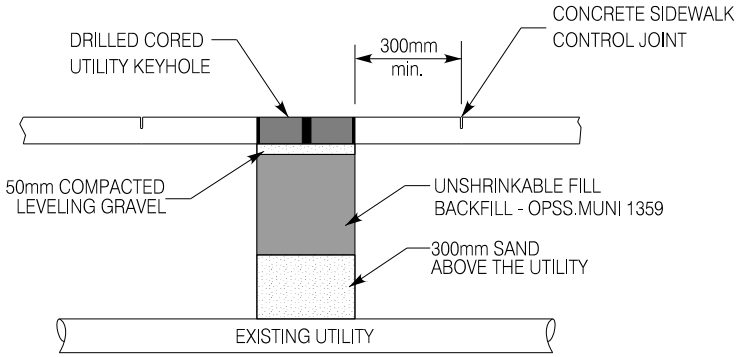
City of Hamilton
Public Works Department

ROAD RESTORATION OVER UTILITY CUTS - Sht 2 of 2

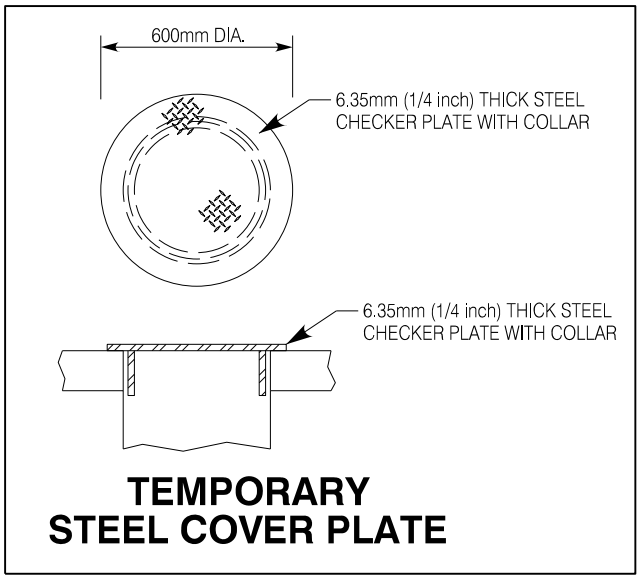
DIMENSIONS SHOWN ARE IN MILLIMETRES UNLESS OTHERWISE NOTED (N.T.S.)	DATE November 2005	REV No	FORMERLY: RHS-502	HAMILTON STD No RD-100.02



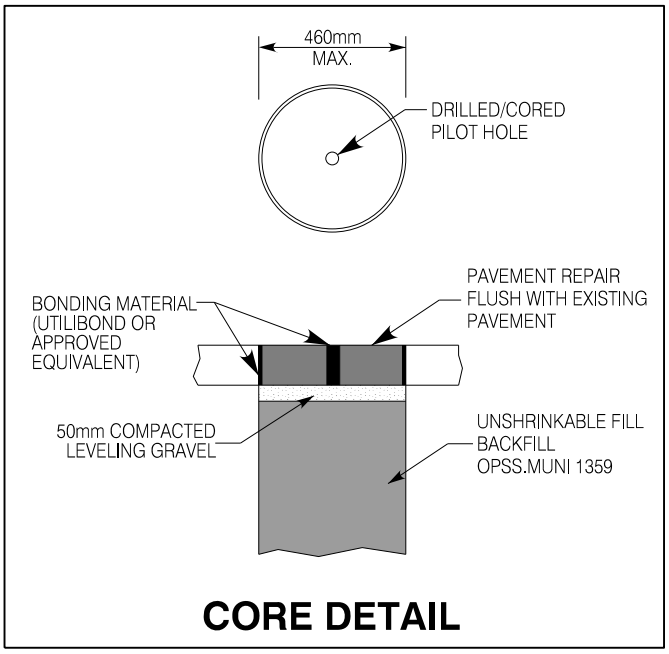
PLAN



ELEVATION



TEMPORARY STEEL COVER PLATE

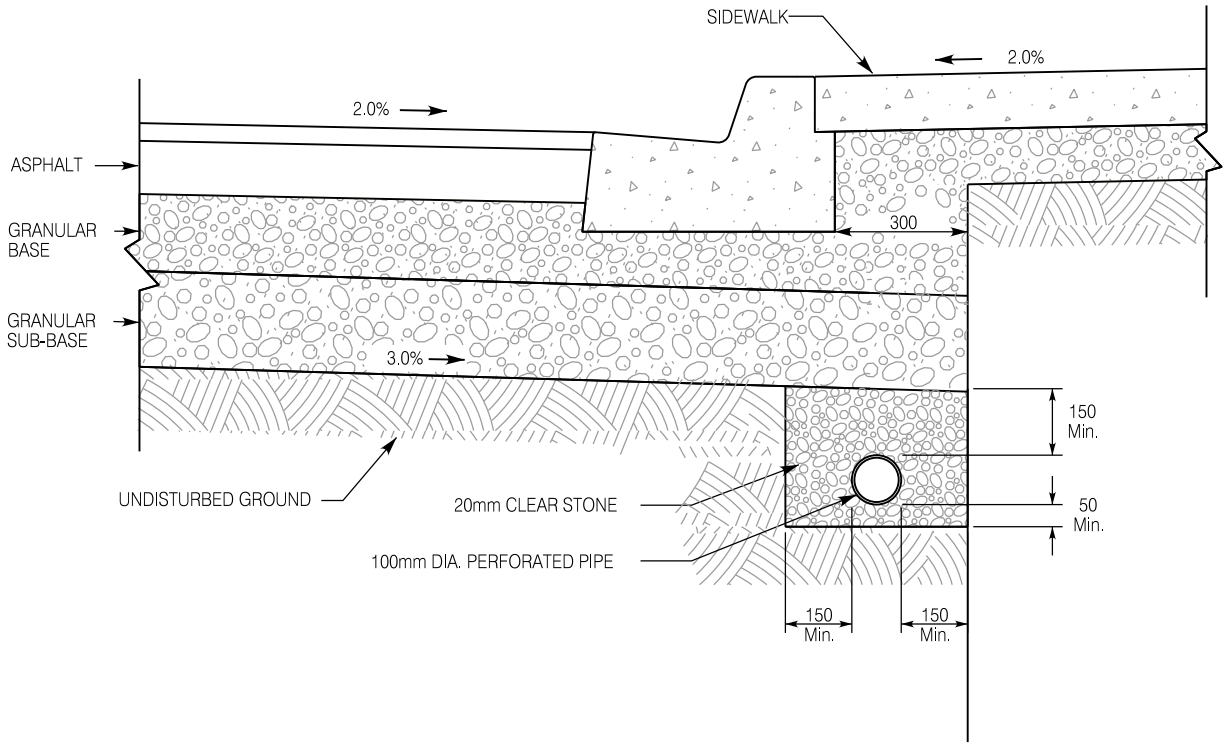


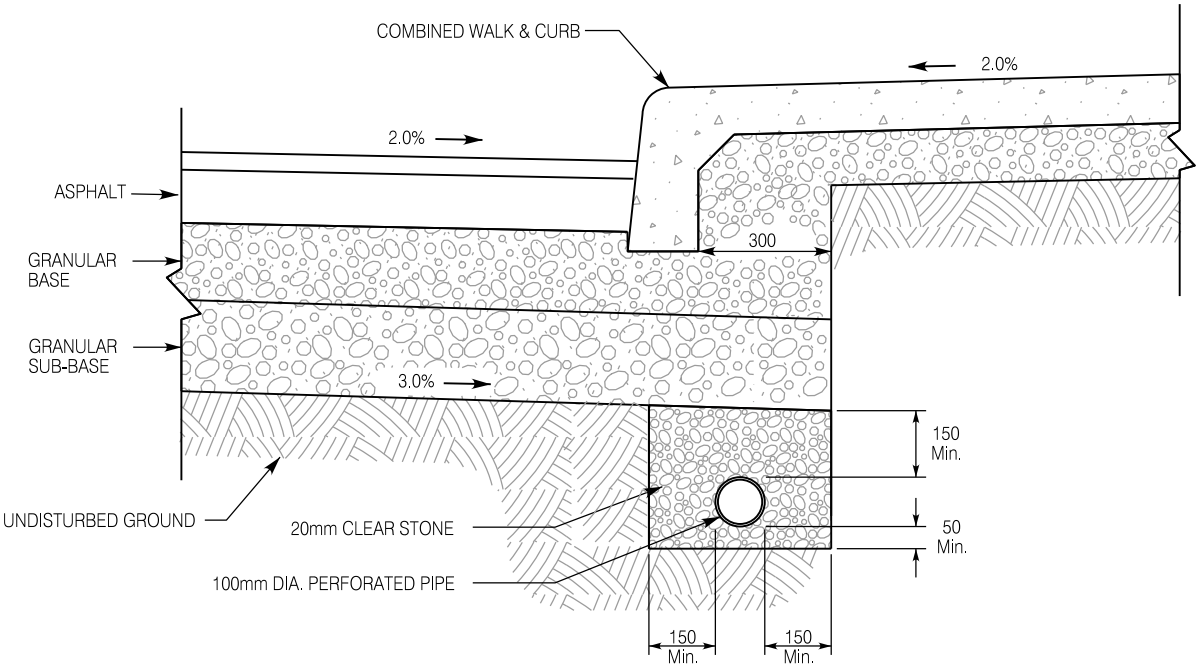
CORE DETAIL

City of Hamilton
Public Works Department

UTILITY KEYHOLE EXCAVATION AND REINSTATEMENT

DIMENSIONS SHOWN ARE IN MILLIMETRES UNLESS OTHERWISE NOTED (N.T.S.)	DATE February 2021	REV No	FORMERLY:	HAMILTON STD No RD-100.03

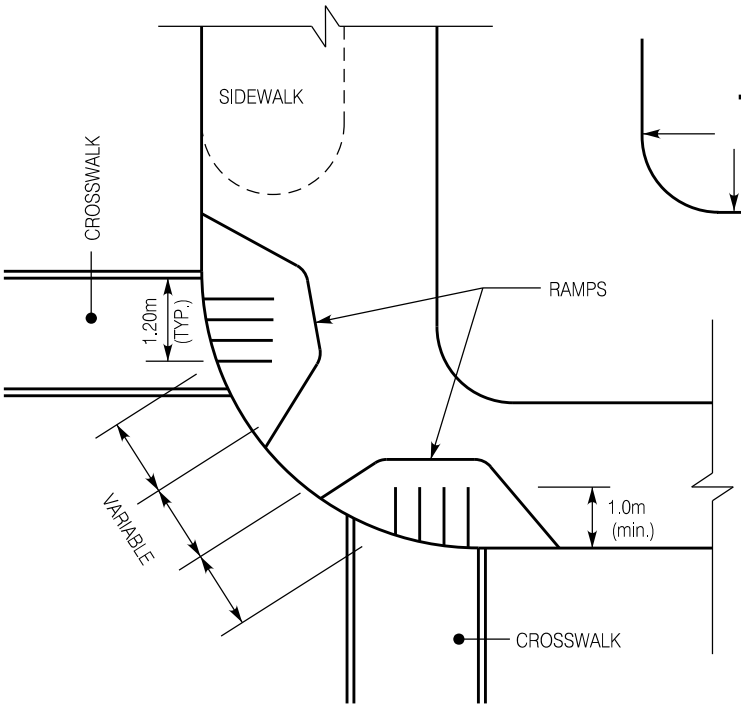




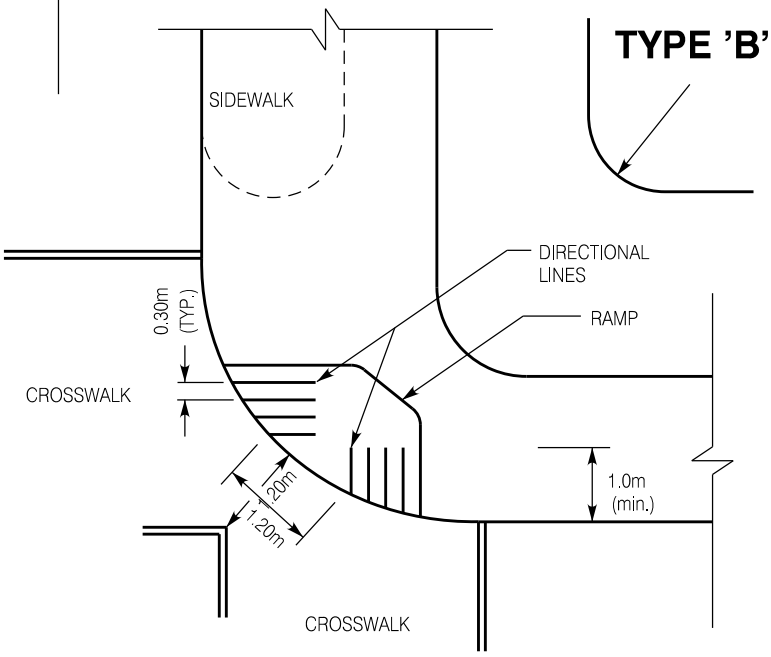
City of Hamilton
Public Works Department

PERFORATED DRAIN PIPE

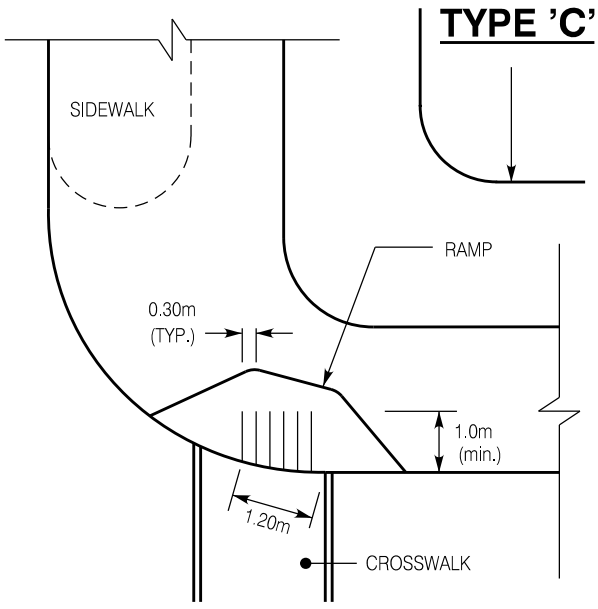
DIMENSIONS SHOWN ARE IN MILLIMETRES UNLESS OTHERWISE NOTED (N.T.S.)	DATE November 2018	REV No 1	FORMERLY:	HAMILTON STD No RD-101



TYPE 'A'



TYPE 'B'



TYPE 'C'

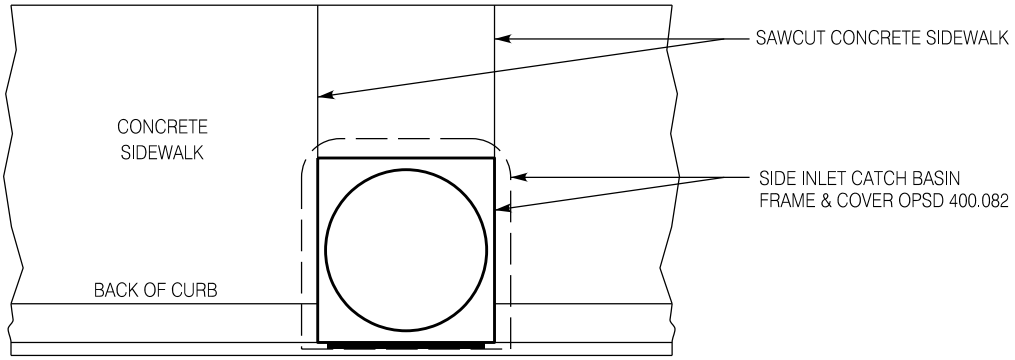
NOTES:

1. *DIRECTIONAL LINES (MADE WITH EDGING TOOL HAVING A 15mm RADIUS) TO BE PARALLEL TO CROSSWALK OR PEDESTRIAN PATH*
2. *RAMP SLOPES 1:12 MAX. TO 1:20 MIN.*
3. *LOCATIONS OF WHEELCHAIR RAMPS SHOWN ON CONTRACT DRAWINGS*

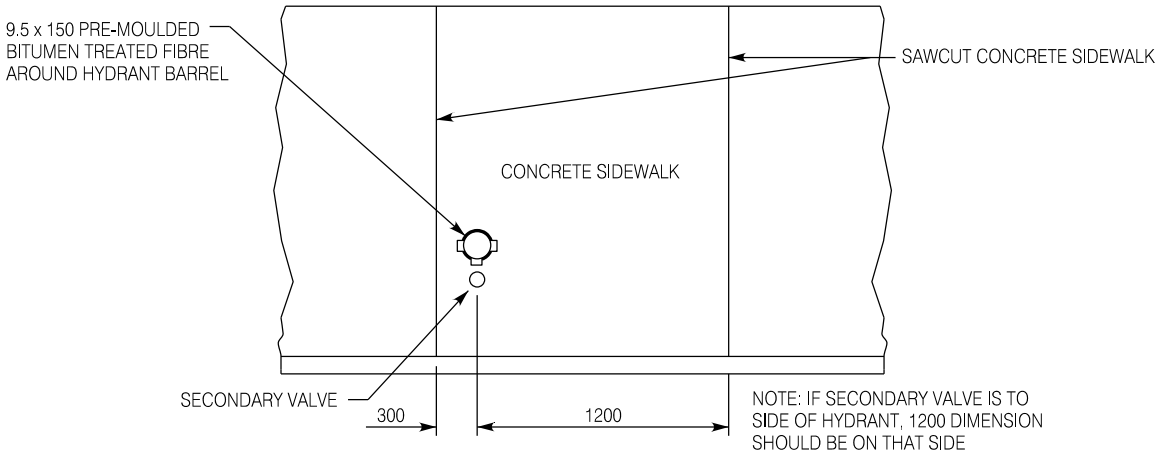
City of Hamilton
Public Works Department

WHEELCHAIR RAMP LOCATIONS WITHOUT INTEGRATED ACCESSIBILITY TREATMENT

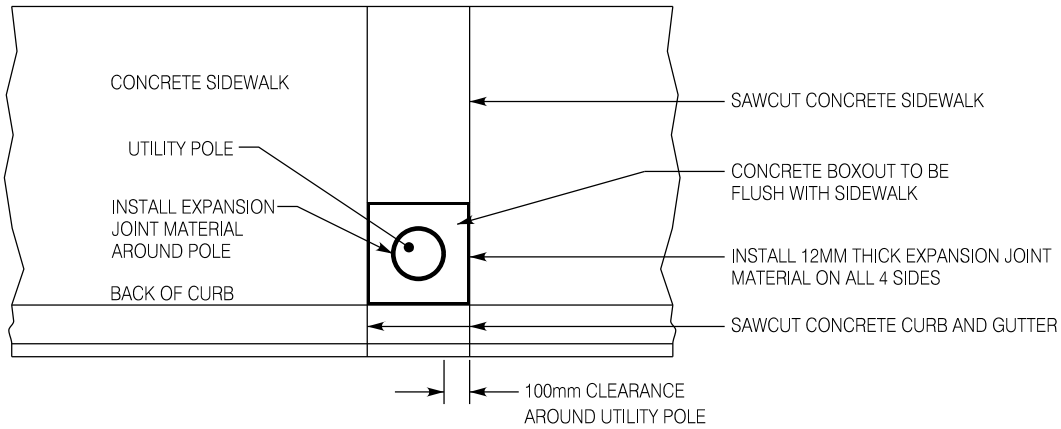
DIMENSIONS SHOWN ARE IN MILLIMETRES UNLESS OTHERWISE NOTED (N.T.S.)	DATE June 2017	REV No	FORMERLY: RHS-312, RD-102	HAMILTON STD No RD-102.01



CONTROL JOINTS AT SIDE INLET CATCH BASIN FRAME AND COVER



CONTROL JOINTS AT HYDRANTS

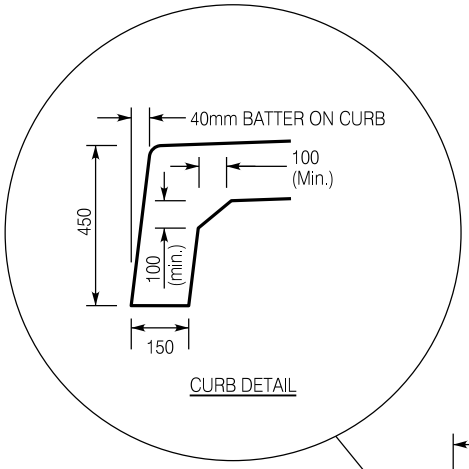


UTILITY POLE ISOLATION BOXOUT

City of Hamilton
Public Works Department

CONTROL JOINTS AT SIDE INLET CATCH BASIN FRAME AND COVER AND HYDRANTS, AND UTILITY POLE ISOLATION BOXOUT

DIMENSIONS SHOWN ARE IN MILLIMETRES UNLESS OTHERWISE NOTED (N.T.S.)	DATE January 2020	REV No 1	FORMERLY:	HAMILTON STD No RD-102.02



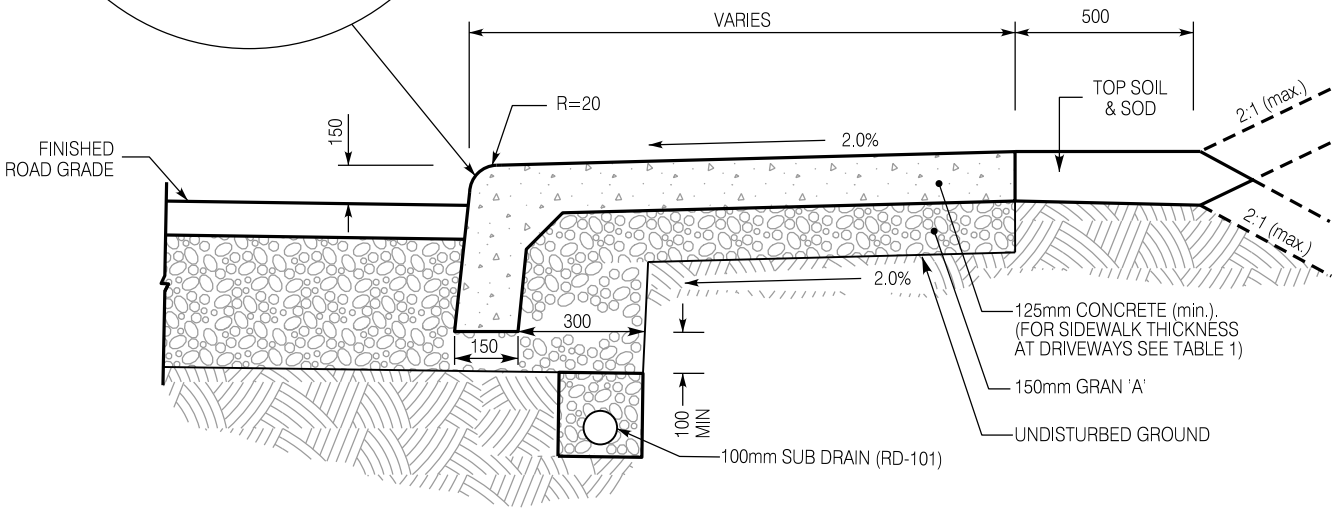
CURB DETAIL

TABLE 1: CONCRETE SIDEWALK THICKNESS AT DRIVEWAYS

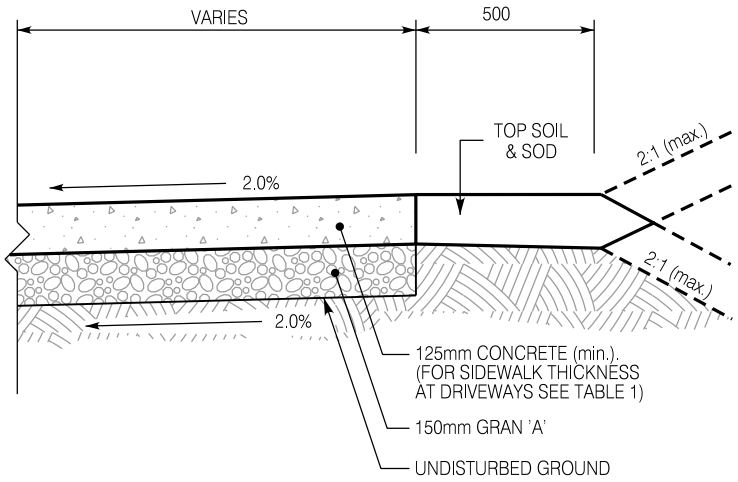
DRIVEWAY TYPE	SIDEWALK THICKNESS
RESIDENTIAL	125mm
COMMERCIAL	200mm
HEAVY COMMERCIAL	200mm WITH 10M BARS AT 150mm O.C.

NOTES:

1. *FOR DRIVEWAY STANDARD APPROACH REFER TO RD-106*
2. *FOR CALIFORNIA STYLE DRIVEWAY APPROACH REFER TO RD-107*
3. *FOR ASPHALT DRIVEWAY APRON APPROACH REFER TO RD-108*
4. *FOR CONCRETE DRIVEWAY APRON APPROACH REFER TO RD-109*



COMBINED CONCRETE WALK AND CURB



INDEPENDENT CONCRETE WALK

DENOTES UNDISTURBED GROUND.

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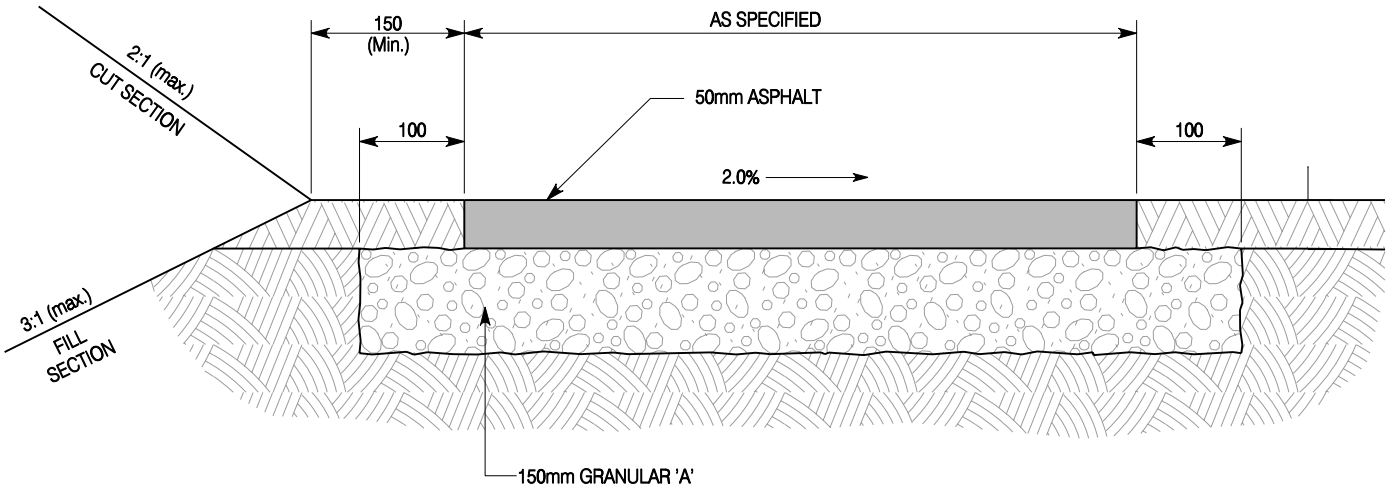
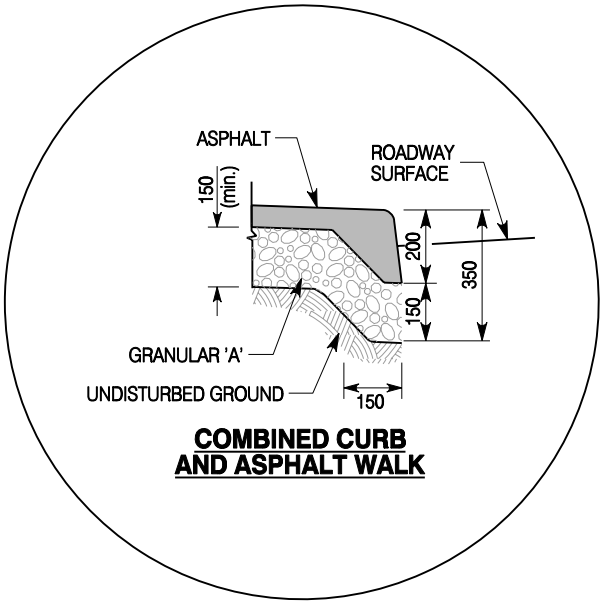
Public Works Department

COMBINED CONCRETE WALK AND CURB & INDEPENDENT CONCRETE WALK

DIMENSIONS SHOWN ARE IN MILLIMETRES UNLESS OTHERWISE NOTED (N.T.S.)	DATE	REV No		HAMILTON STD No
	June 2019	3	FORMERLY: RHS-303	RD-103





COMBINED CURB AND ASPHALT WALK

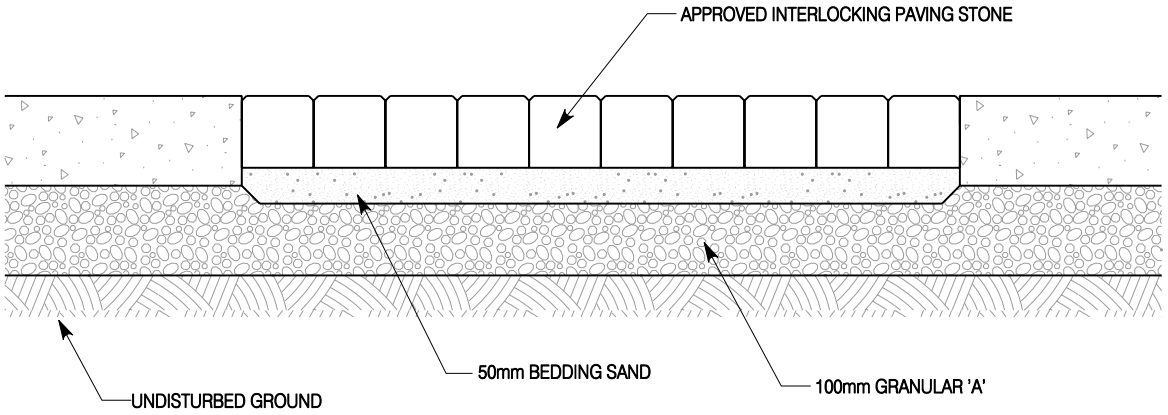
NOTES:

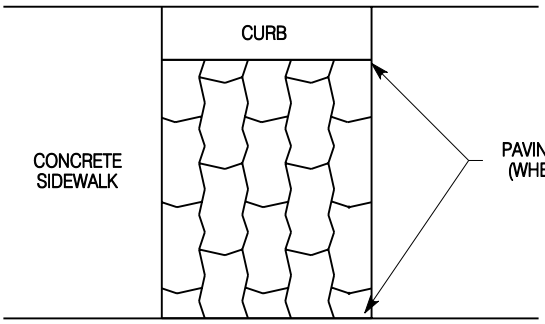
1. *RESTORATION TO BE TOPSOIL AND SOD UNLESS OTHERWISE NOTED.*
2. *ALL EDGES TO BE HAND TAMPED WHERE REQUIRED.*

City of Hamilton
Public Works Department

ASPHALT SIDEWALK

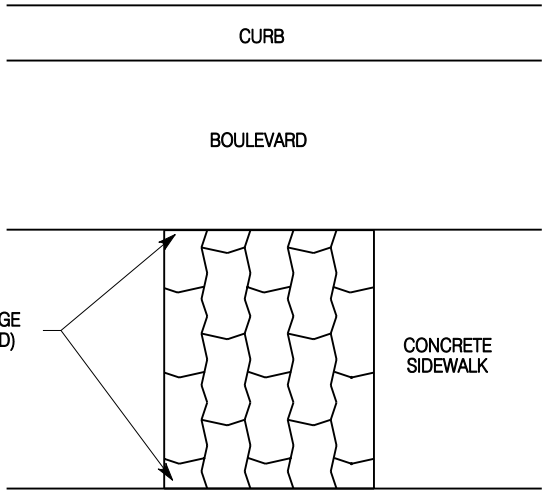
DIMENSIONS SHOWN ARE IN MILLIMETRES UNLESS OTHERWISE NOTED (N.T.S.)	DATE January 2011	REV No 1	FORMERLY: RHS-302	HAMILTON STD No RD-104





APPROVED INTERLOCKING PAVING STONE

COMBINED WALK AND CURB



APPROVED INTERLOCKING PAVING STONE

INDEPENDENT CURB AND WALK

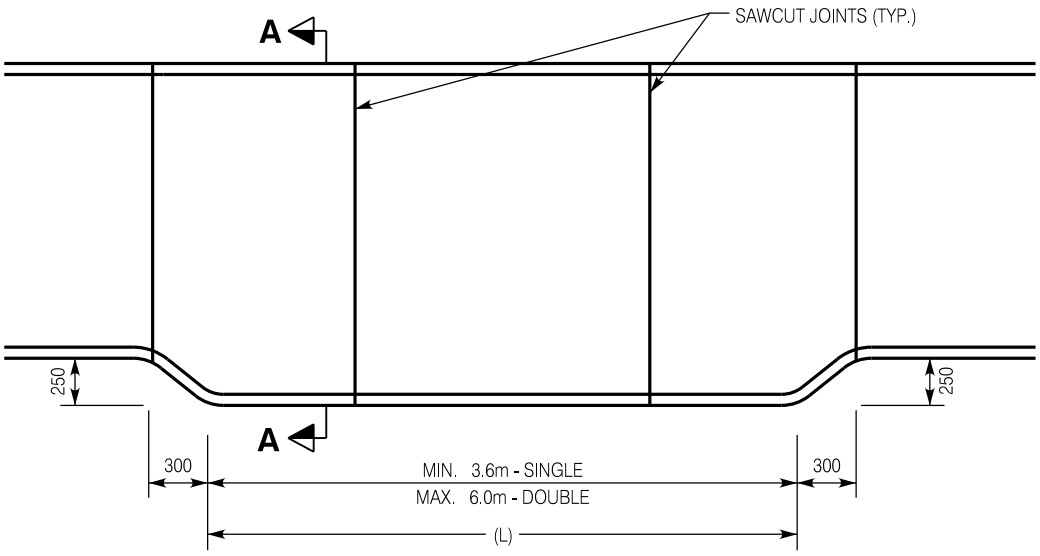
NOTES:

1. *BEDDING SAND TO BE COMPACTED TO 100% S.P.D.*
2. *GRANULAR 'A' TO BE COMPACTED TO 95% S.P.D.*
3. *PAVING STONE EDGE TO BE INSTALLED WHERE REQUIRED.*

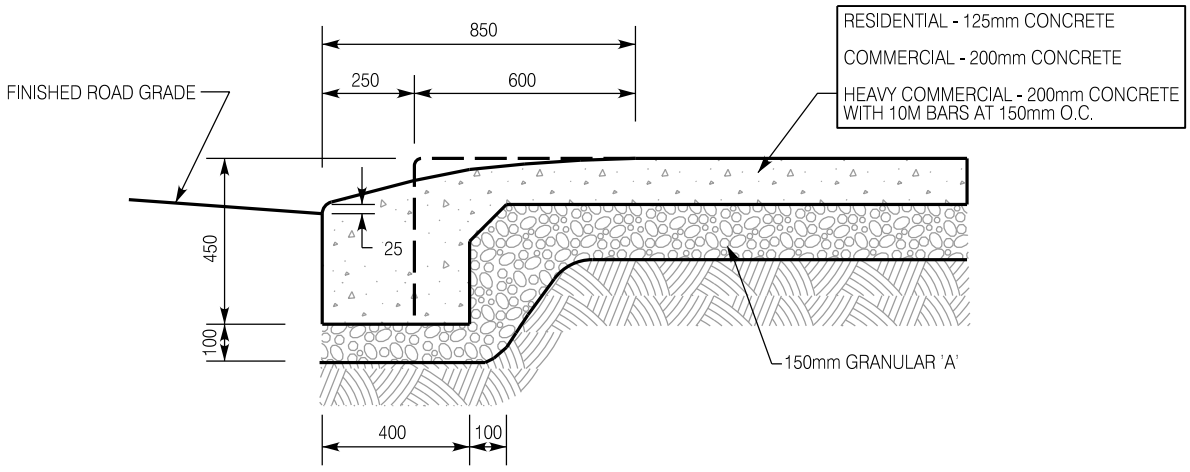
City of Hamilton
Public Works Department

INTERLOCKING PAVING STONE SIDEWALK

DIMENSIONS SHOWN ARE IN MILLIMETRES UNLESS OTHERWISE NOTED (N.T.S.)	DATE November 2005	REV No	FORMERLY: RHS-311	HAMILTON STD No RD-105



PLAN

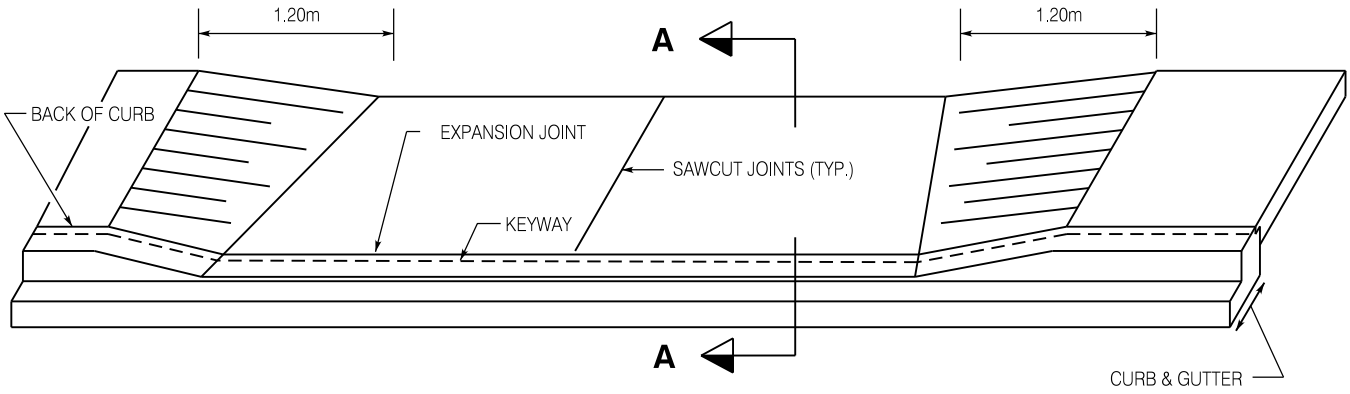


SECTION A-A

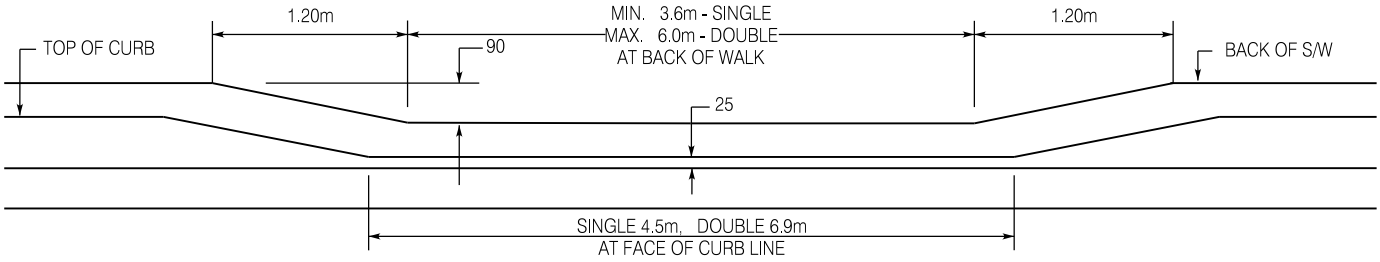
City of Hamilton
Public Works Department

STANDARD APPROACH

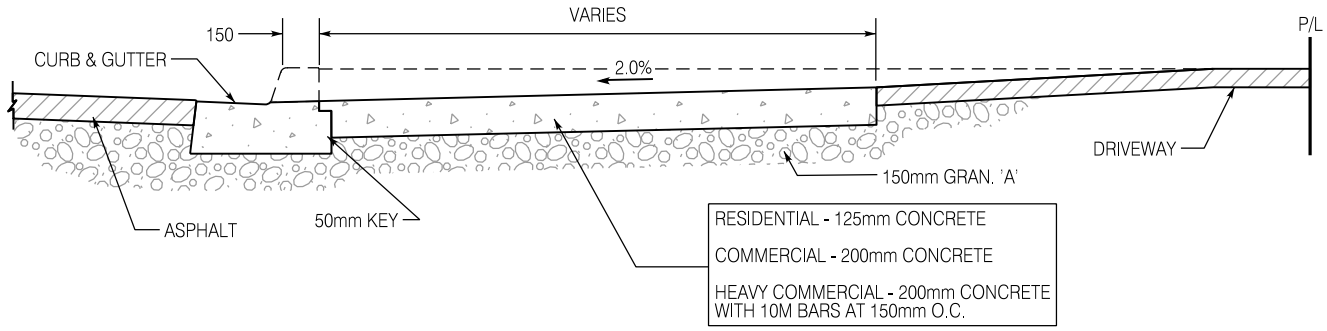
DIMENSIONS SHOWN ARE IN MILLIMETRES UNLESS OTHERWISE NOTED (N.T.S.)	DATE June 2019	REV No 3	FORMERLY: RHS-400	HAMILTON STD No RD-106



PLAN

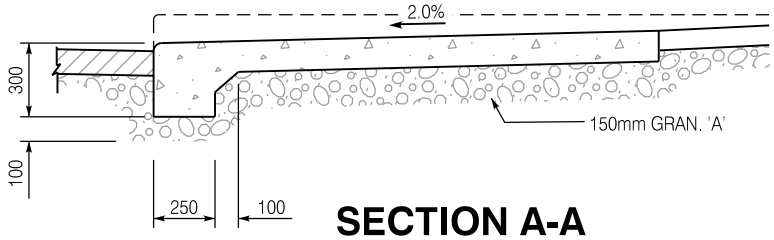


PROFILE



SECTION A-A

(INDEPENDENT WALK ADJACENT TO CURB)



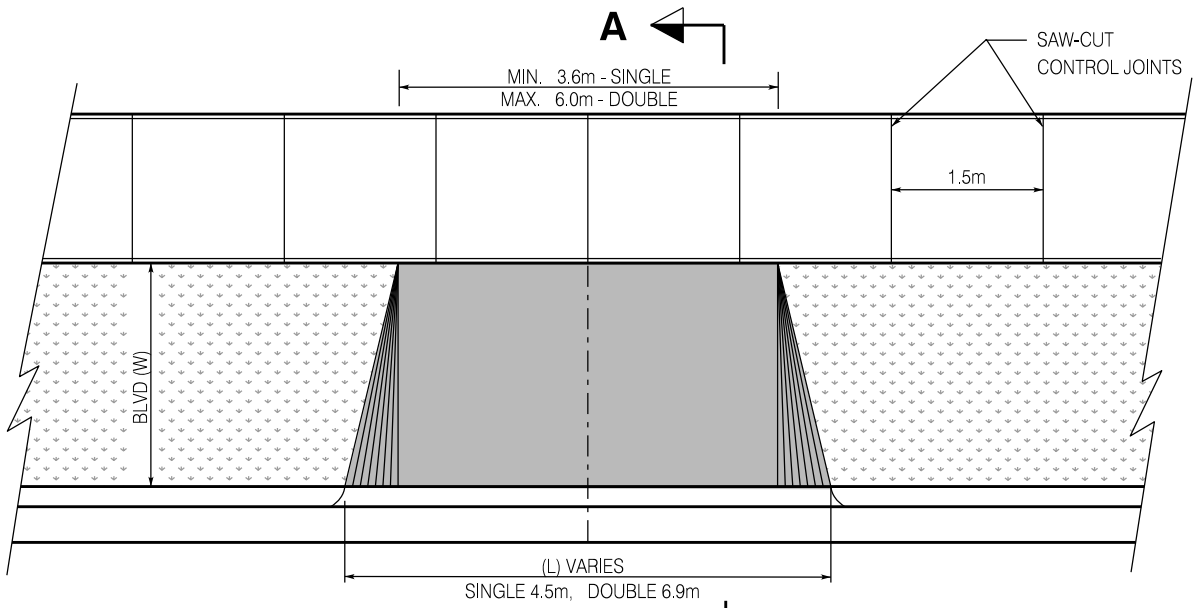
SECTION A-A

(COMBINED WALK AND CURB)

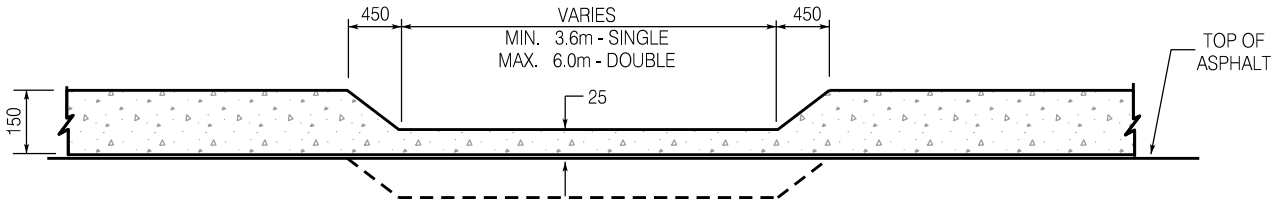
City of Hamilton
Public Works Department

CALIFORNIA STYLE APPROACH

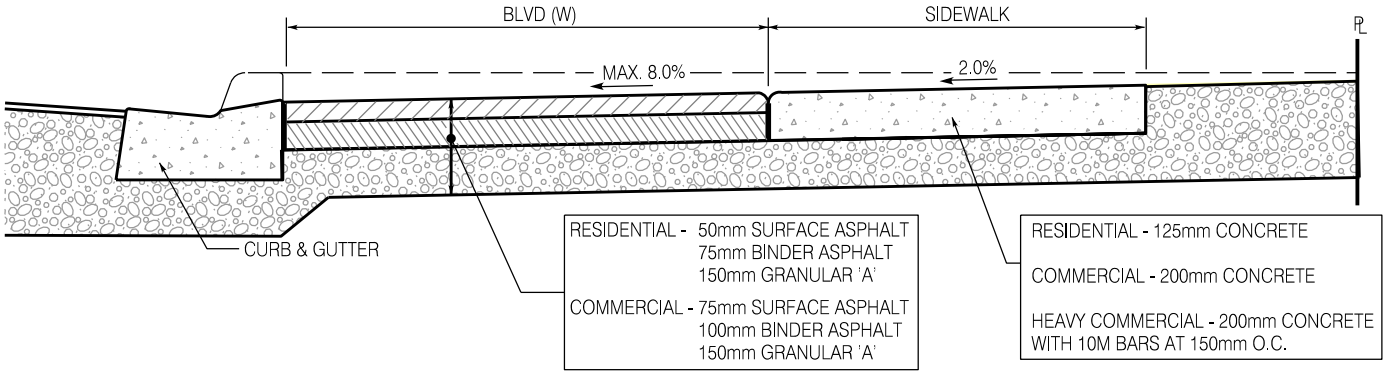
DIMENSIONS SHOWN ARE IN MILLIMETRES UNLESS OTHERWISE NOTED (N.T.S.)	DATE June 2019	REV No 2		HAMILTON STD No RD-107



PLAN



PROFILE



SECTION A-A

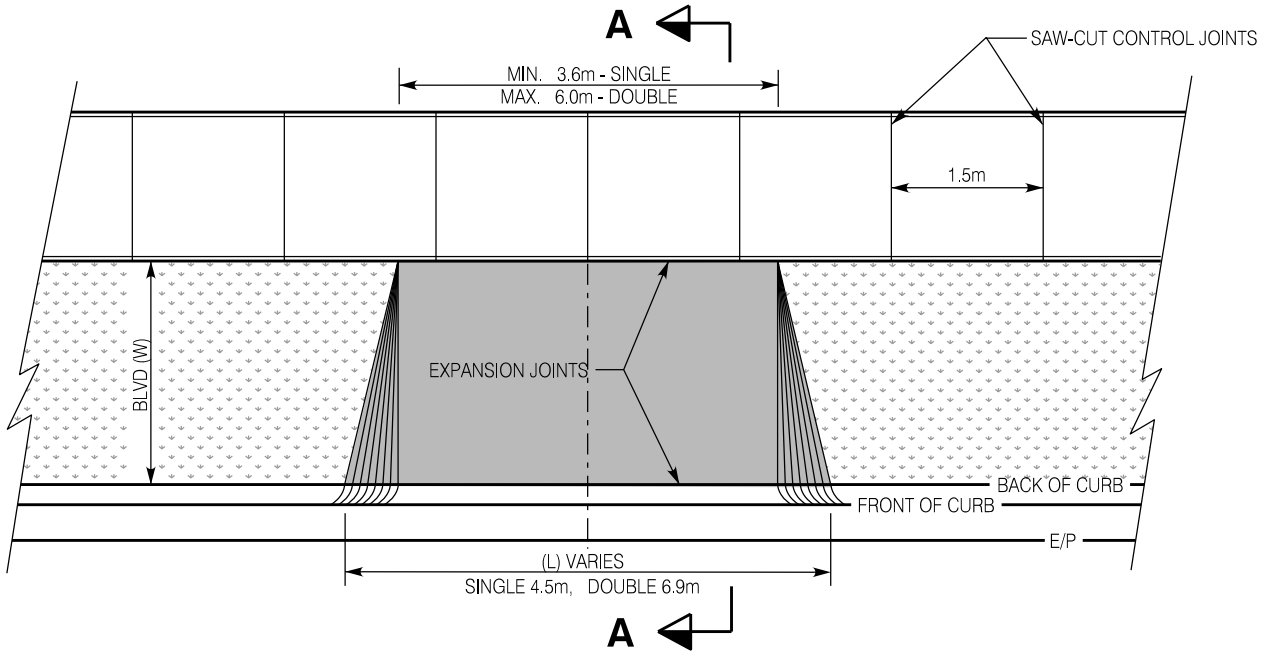
NOTES:

1. *RESIDENTIAL DRIVEWAY ENTRANCE WIDTH DETERMINED BY GARAGE ENTRANCE WIDTH PLUS 0.3m ON EACH SIDE.*
2. *METHOD OF FINAL PAYMENT MEASURED AS (A=L x W)*

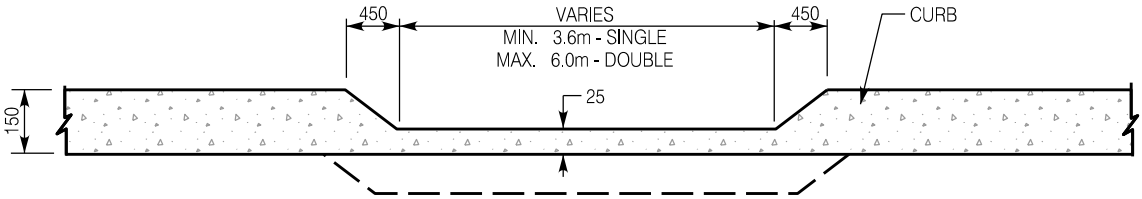
City of Hamilton
Public Works Department

ASPHALT DRIVEWAY APPROACH

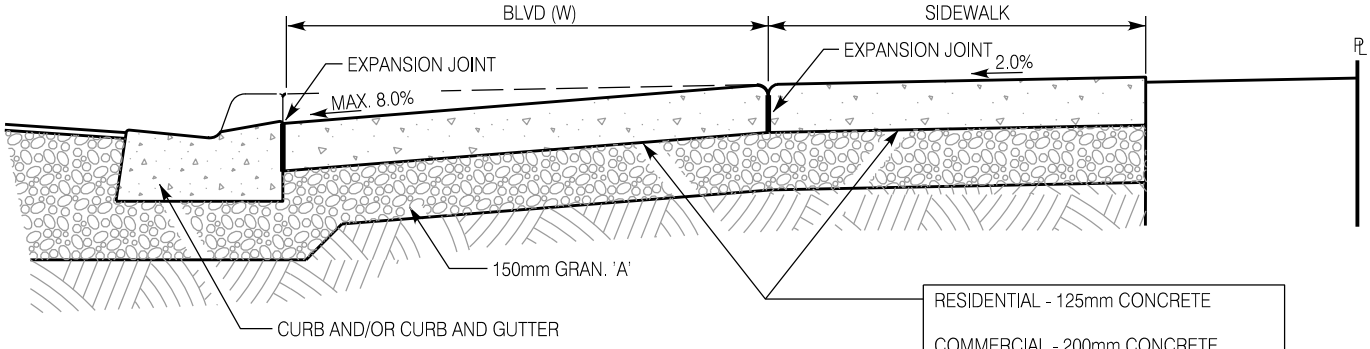
DIMENSIONS SHOWN ARE IN MILLIMETRES UNLESS OTHERWISE NOTED (N.T.S.)	DATE June 2017	REV No 1	FORMERLY: RHS-403	HAMILTON STD No RD-108



PLAN



PROFILE



SECTION A-A

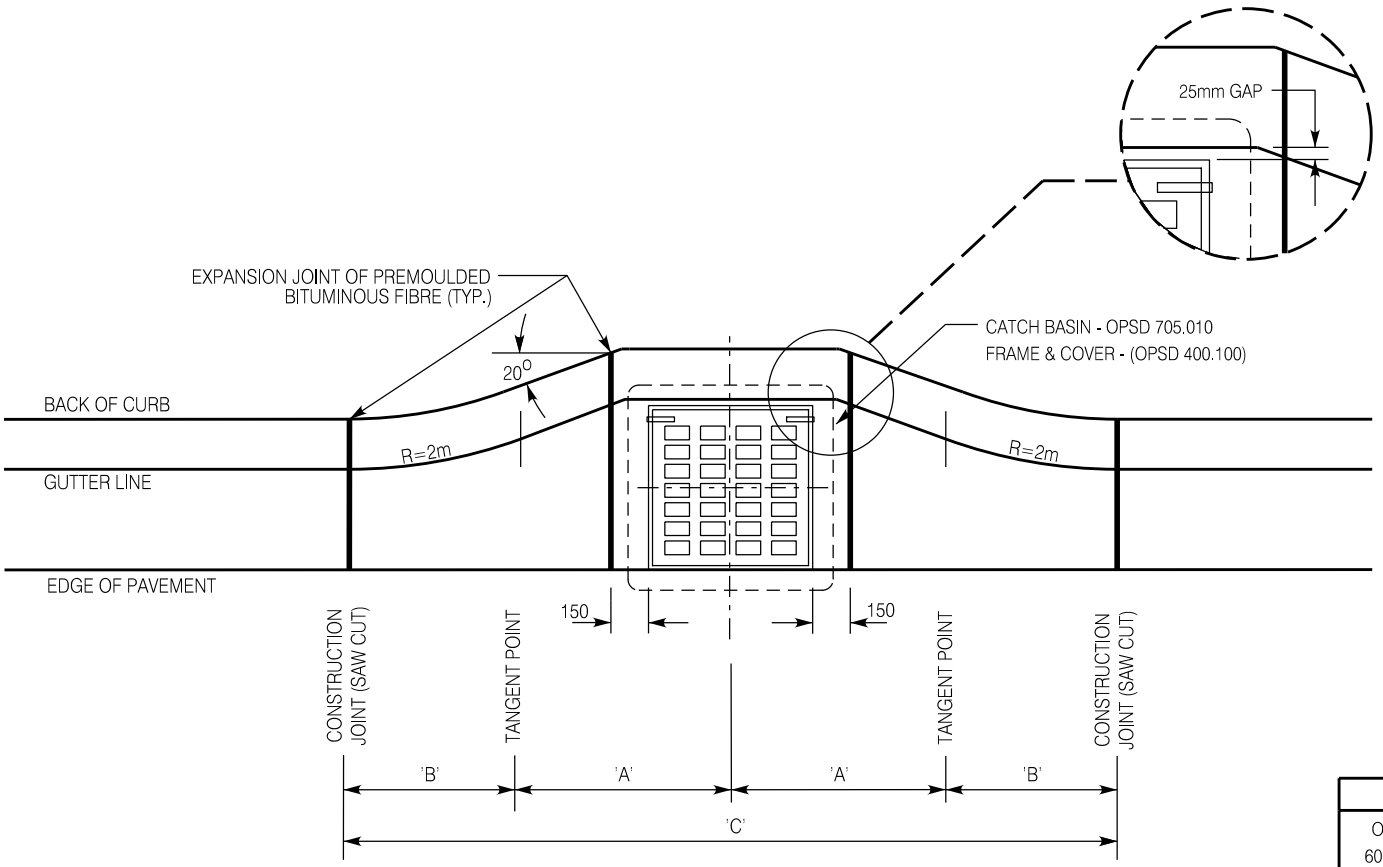
NOTES:

1. *ALL COMMERCIAL AND INDUSTRIAL APPROACHES & SIDEWALK THICKNESSES TO BE 200mm*
2. *EXPANSION JOINTS REQUIRED AT BOTH SIDES OF APPROACH.*
3. *ALL CONCRETE IS TO HAVE A 28 DAY STRENGTH OF 32 MPa.*
4. *RESIDENTIAL DRIVEWAY ENTRANCE WIDTH DETERMINED BY GARAGE ENTRANCE WIDTH PLUS 0.3m ON EACH SIDE.*
5. *METHOD OF FINAL PAYMENT MEASURED AS (A = L x W)*

City of Hamilton
Public Works Department

CONCRETE APRON APPROACH

DIMENSIONS SHOWN ARE IN MILLIMETRES UNLESS OTHERWISE NOTED (N.T.S.)	DATE	REV No		HAMILTON STD No
	June 2017	1	FORMERLY: RHS-402	RD-109

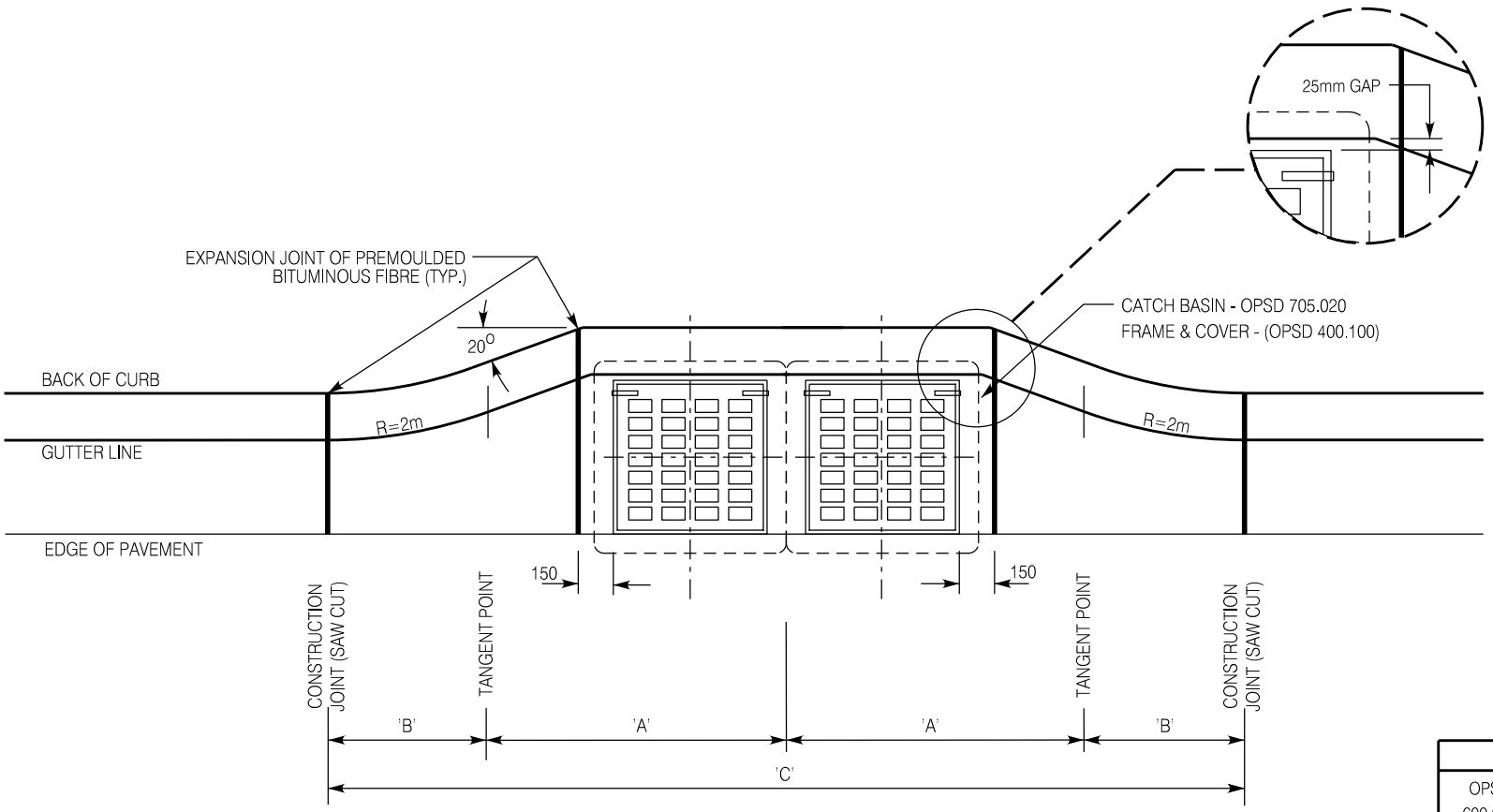


		CURB TYPE		
		OPSD 600.010	OPSD 600.040	OPSD 600.080
DIMENSION (mm)	A	850	1100	1825
	B	700	700	700
	C	3100	3600	5050

City of Hamilton
Public Works Department

OFFSET CURB & GUTTER DETAIL AT SINGLE CATCH BASIN

DIMENSIONS SHOWN ARE IN MILLIMETRES UNLESS OTHERWISE NOTED	DATE June 2017	REV No 1		HAMILTON STD No RD- 110.01

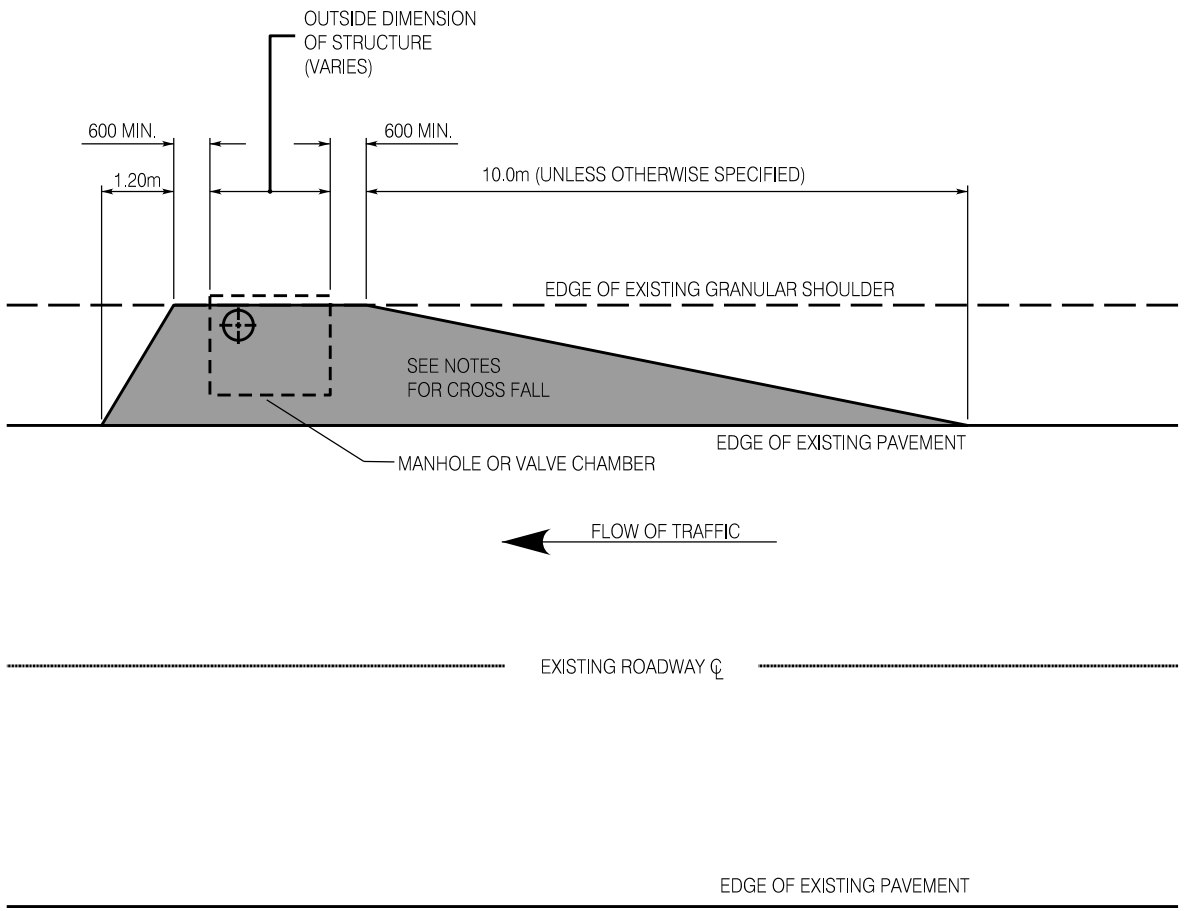


		CURB TYPE		
		OPSD 600.010	OPSD 600.040	OPSD 600.080
DIMENSION (mm)	A	1300	1550	2250
	B	700	700	700
	C	4000	4500	5900

City of Hamilton
Public Works Department

OFFSET CURB & GUTTER DETAIL AT DOUBLE CATCH BASIN

DIMENSIONS SHOWN ARE IN MILLIMETRES UNLESS OTHERWISE NOTED	DATE June 2017	REV No 1		HAMILTON STD No RD-110.02



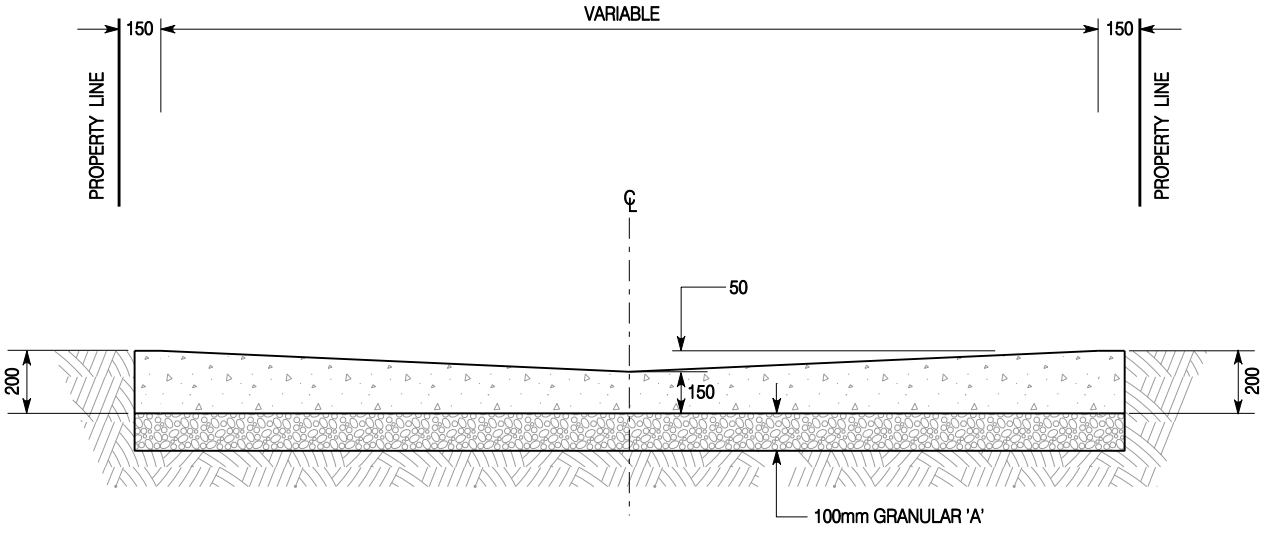
NOTES:

1. CROSSFALL OF PROPOSED SHOULDER PAVING TO SUIT EXISTING CONDITIONS
2. CHAMBER COVERS TO BE SET TO MATCH SHOULDER PAVING CROSSFALL
3. AREA TO BE PAVED MINIMUM 75mm SURFACE ASPHALT

City of Hamilton
Public Works Department

SHOULDER PAVING FOR MANHOLES AND CHAMBERS IN SHOULDER OF ROADWAY

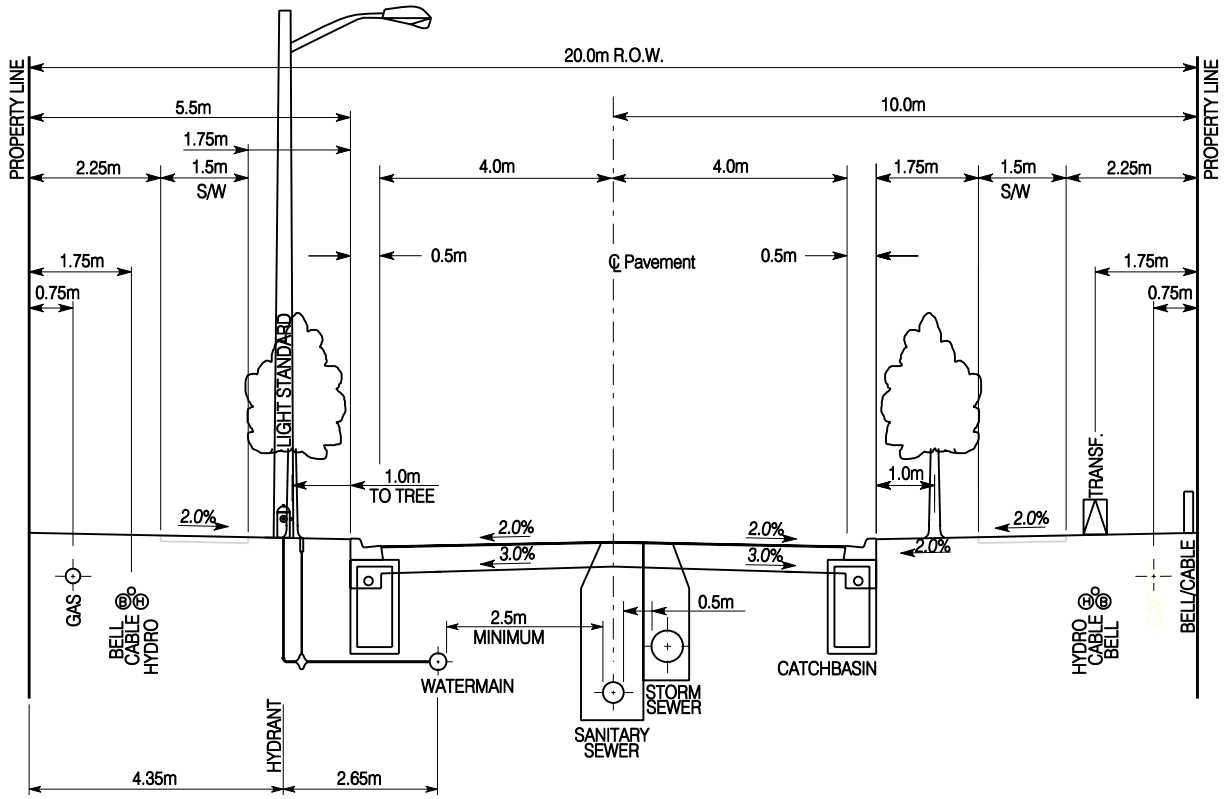
DIMENSIONS SHOWN ARE IN MILLIMETRES UNLESS OTHERWISE NOTED (NTS)	DATE	REV No		HAMILTON STD No
	June 2017	1	FORMERLY: RHS-507	RD-111



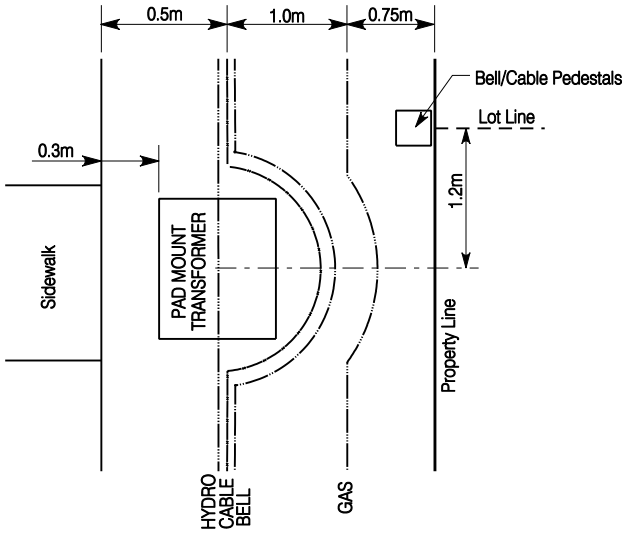
City of Hamilton
Public Works Department

CONCRETE ALLEYWAY

DIMENSIONS SHOWN ARE IN MILLIMETRES UNLESS OTHERWISE NOTED (N.T.S.)	DATE November 2005	REV No	FORMERLY: RHS-202	HAMILTON STD No RD-112



MINIMUM DEPTH OF COVER
SANITARY SEWER - 2.75m
STORM SEWER - 2.75m
WATERMAIN - 1.6m
HYDRO - 0.9m
CABLE - 0.9m
BELL - 0.9m
GAS - 0.6m

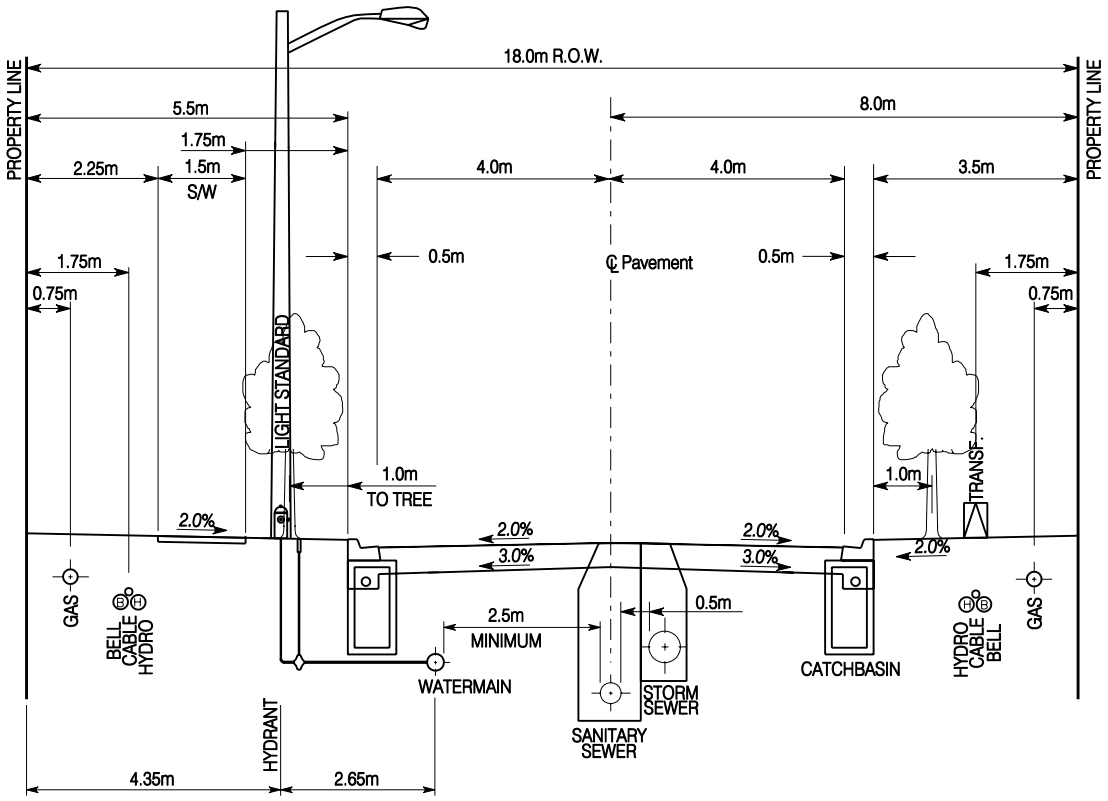


PLAN
(AT PAD MOUNT TRANSFORMER)

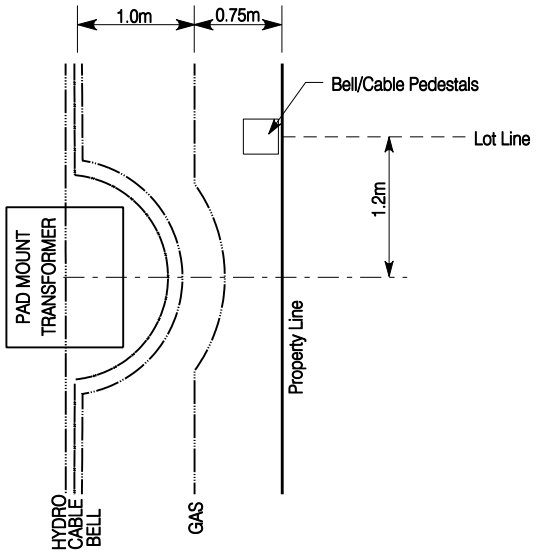
City of Hamilton
Public Works Department

LOCAL URBAN RESIDENTIAL - 20.0m R.O.W.

DIMENSIONS SHOWN ARE IN MILLIMETRES UNLESS OTHERWISE NOTED (N.T.S.)	DATE November 2005	REV No		HAMILTON STD No RD-113.01



MINIMUM DEPTH OF COVER
SANITARY SEWER - 2.75m
STORM SEWER - 2.75m
WATERMAIN - 1.6m
HYDRO - 0.9m
CABLE - 0.9m
BELL - 0.9m
GAS - 0.6m



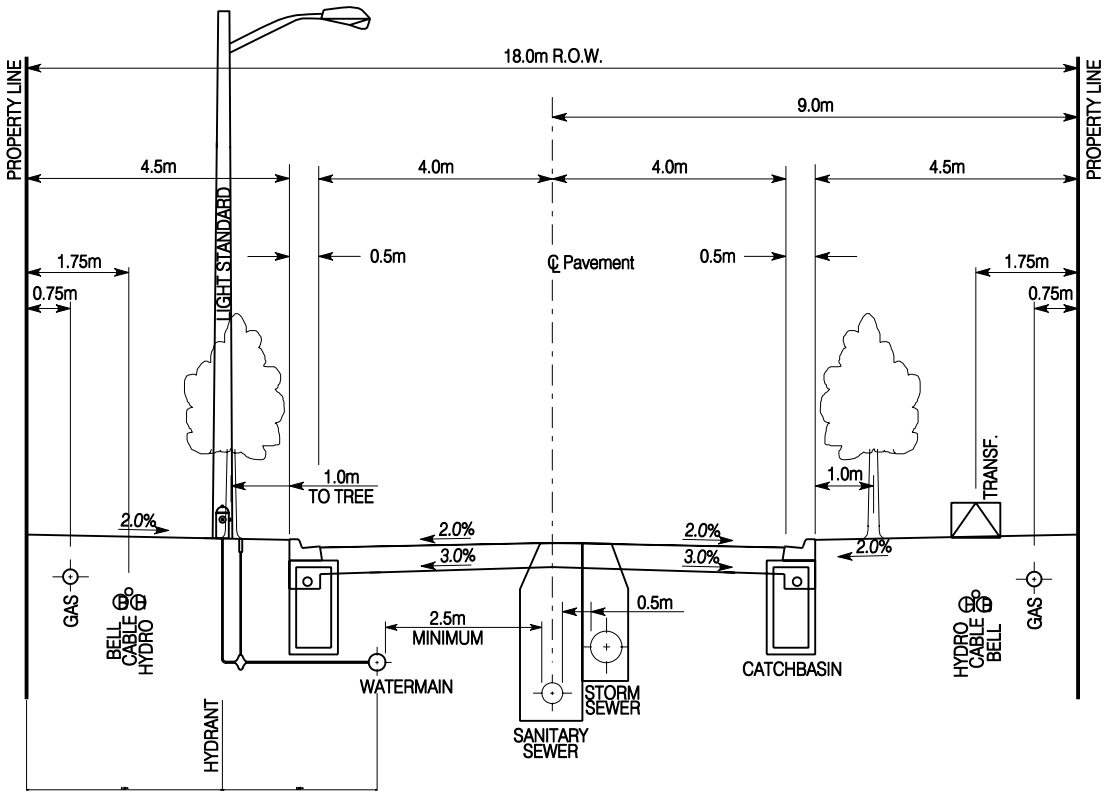
PLAN
(AT PAD MOUNT TRANSFORMER)

NOTE:
Transformers are to be located on the side opposite to the sidewalk.

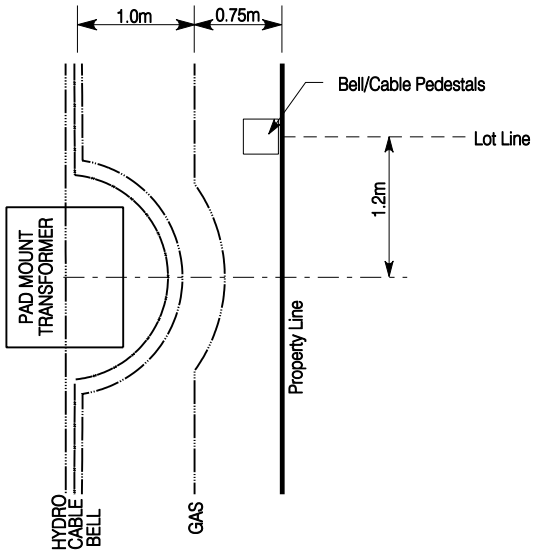
City of Hamilton
Public Works Department

LOCAL URBAN RESIDENTIAL - 18.0m R.O.W.

DIMENSIONS SHOWN ARE IN MILLIMETRES UNLESS OTHERWISE NOTED (N.T.S.)	DATE November 2005	REV No		HAMILTON STD No RD-113.02



MINIMUM DEPTH OF COVER
SANITARY SEWER - 2.75m
STORM SEWER - 2.75m
WATERMAIN - 1.6m
HYDRO - 0.9m
CABLE - 0.9m
BELL - 0.9m
GAS - 0.6m

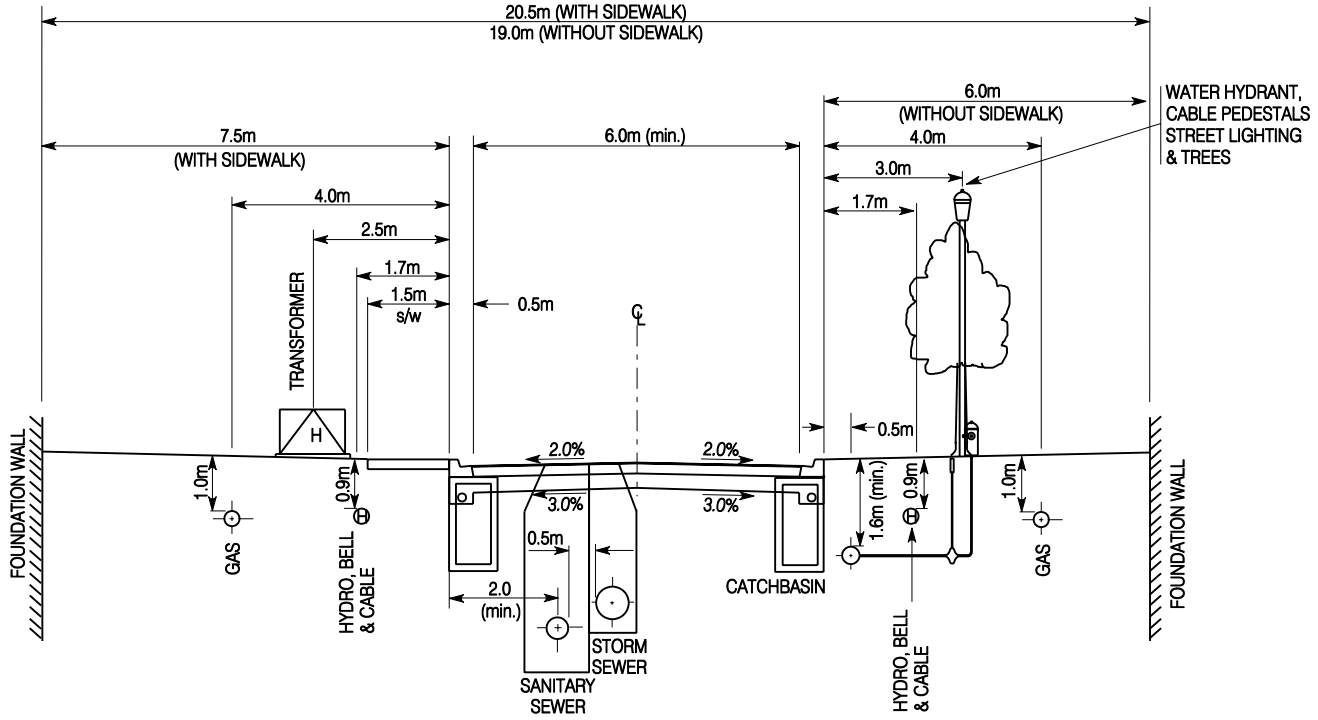


PLAN
(AT PAD MOUNT TRANSFORMER)

City of Hamilton
Public Works Department

LOCAL URBAN RESIDENTIAL - 18.0m R.O.W. WITHOUT SIDEWALK & FOR CUL-DE-SAC'S

DIMENSIONS SHOWN ARE IN MILLIMETRES UNLESS OTHERWISE NOTED (N.T.S.)	DATE November 2005	REV No		HAMILTON STD No RD-113.03



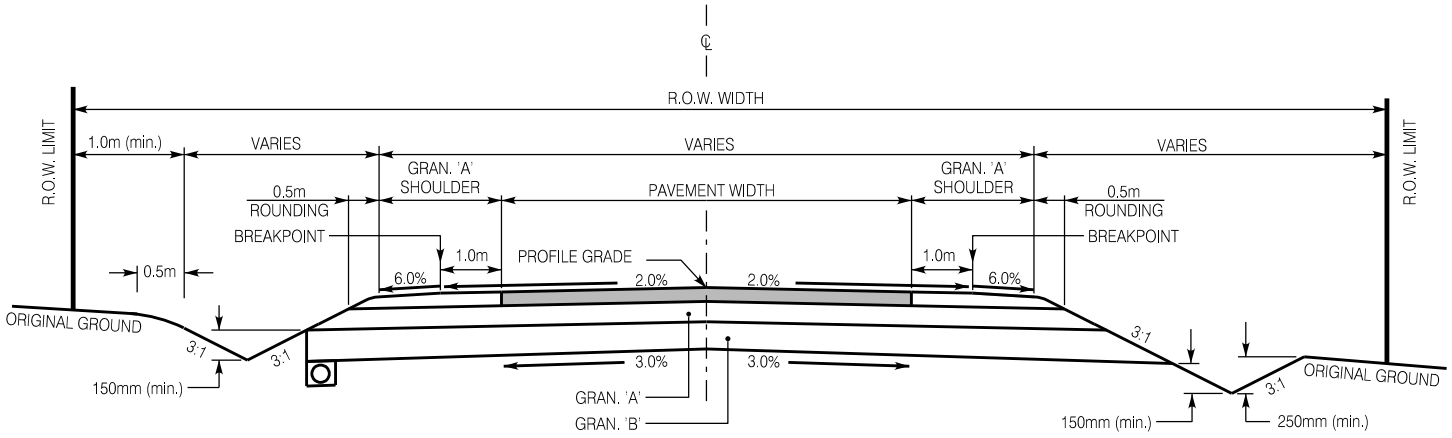
NOTE :

1. *DIMENSIONS ARE FROM BACK OF CURB.*
2. *CABLE, HYDRO BELL & STREETLIGHTING CABLES MAY BE PLACED IN A COMMON TRENCH 1.7m FROM BACK OF CURB (as required).*
3. *UNDERGROUND UTILITY CABLES ARE TO BE ROUTED AROUND HYDRANT WITH 0.3m CLEARANCE. FOR WATERMAINS 400mm DIA. OR LARGER, UTILITY CABLES ARE TO BE ROUTED AROUND HYDRANT WITH 1.0m CLEARANCE.*
4. *TRANSFORMER LOCATIONS ARE TO BE DETERMINED BY HAMILTON HYDRO AND APPROVED BY THE PROJECT MANAGER.*
5. *STREETLIGHTS TO BE A MINIMUM 5.0m FROM TRANSFORMERS.*
6. *A MINIMUM 6.0m SETBACK FROM BACK OF CURB LINE OR SIDEWALK TO BUILDING FOUNDATION (including porches, stairwells, etc.)MUST BE MAINTAINED IF THE DESIGN OF THE TOWNHOUSE BLOCK PRECLUDES THIS SETBACK, ALTERNATE ARRANGEMENTS MUST BE MADE WITH GAS COMPANY.*

City of Hamilton
Public Works Department

STANDARD ROAD SECTION FOR PRIVATE TOWNHOUSES

DIMENSIONS SHOWN ARE IN MILLIMETRES UNLESS OTHERWISE NOTED (N.T.S.)	DATE November 2005	REV No		HAMILTON STD No RD-113.04

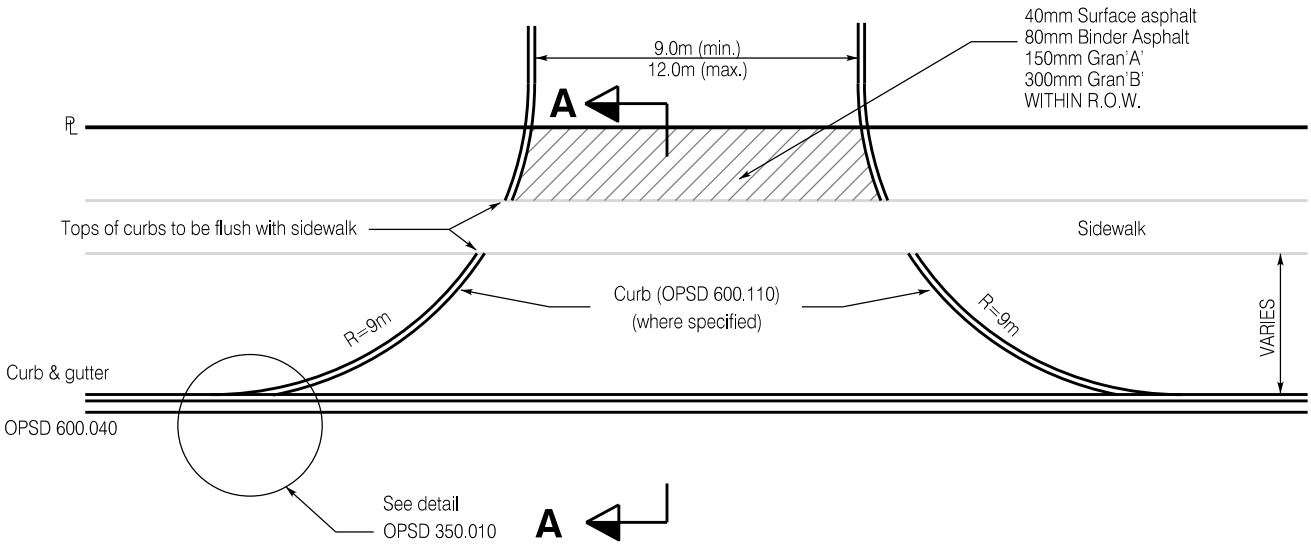


ROAD CLASSIFICATION	*ROAD ALLOWANCE*	*PAVEMENT WIDTH*	*SHOULDER WIDTH*	*GRANULAR "B"*	*GRANULAR "A"*	*ASPHALT SURFACE*
Residential	20m	6.7m	2.0m	300mm	150mm	40mm SURFACE 80mm BINDER
Industrial	26m	7.3m	2.5m	450mm	150mm	40mm SURFACE 100mm BINDER

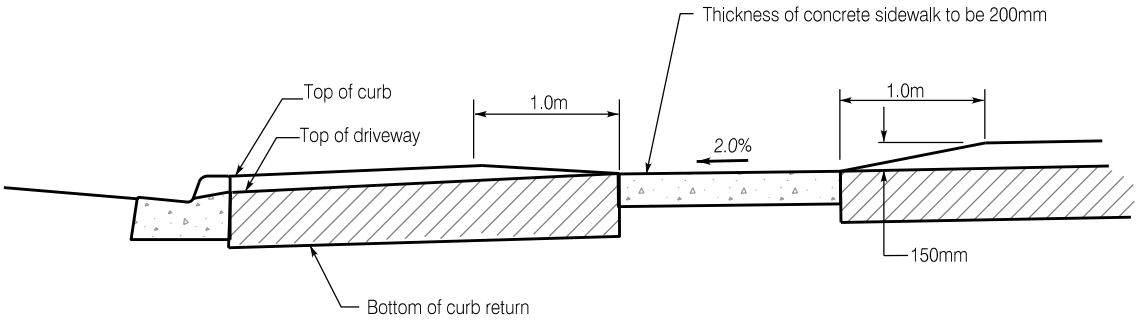
City of Hamilton
Public Works Department

RURAL CROSS SECTION

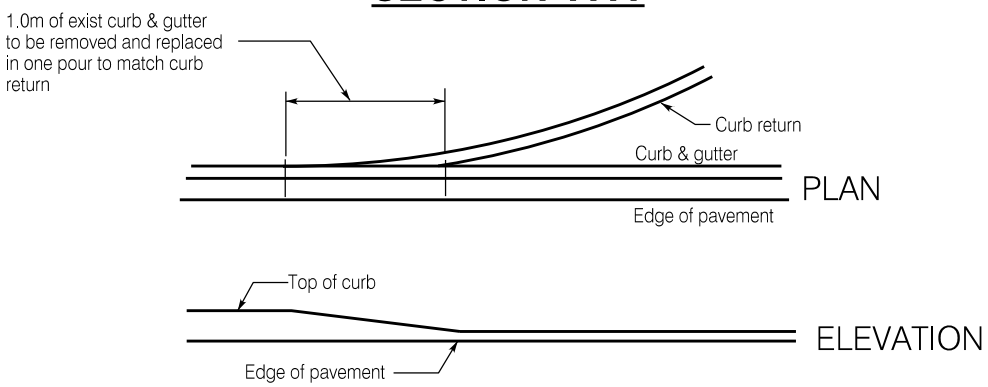
DIMENSIONS SHOWN ARE IN MILLIMETRES UNLESS OTHERWISE NOTED (N.T.S.)	DATE June 2017	REV No 1		HAMILTON STD No RD-113.05



PLAN VIEW



SECTION 'A-A'



DETAIL

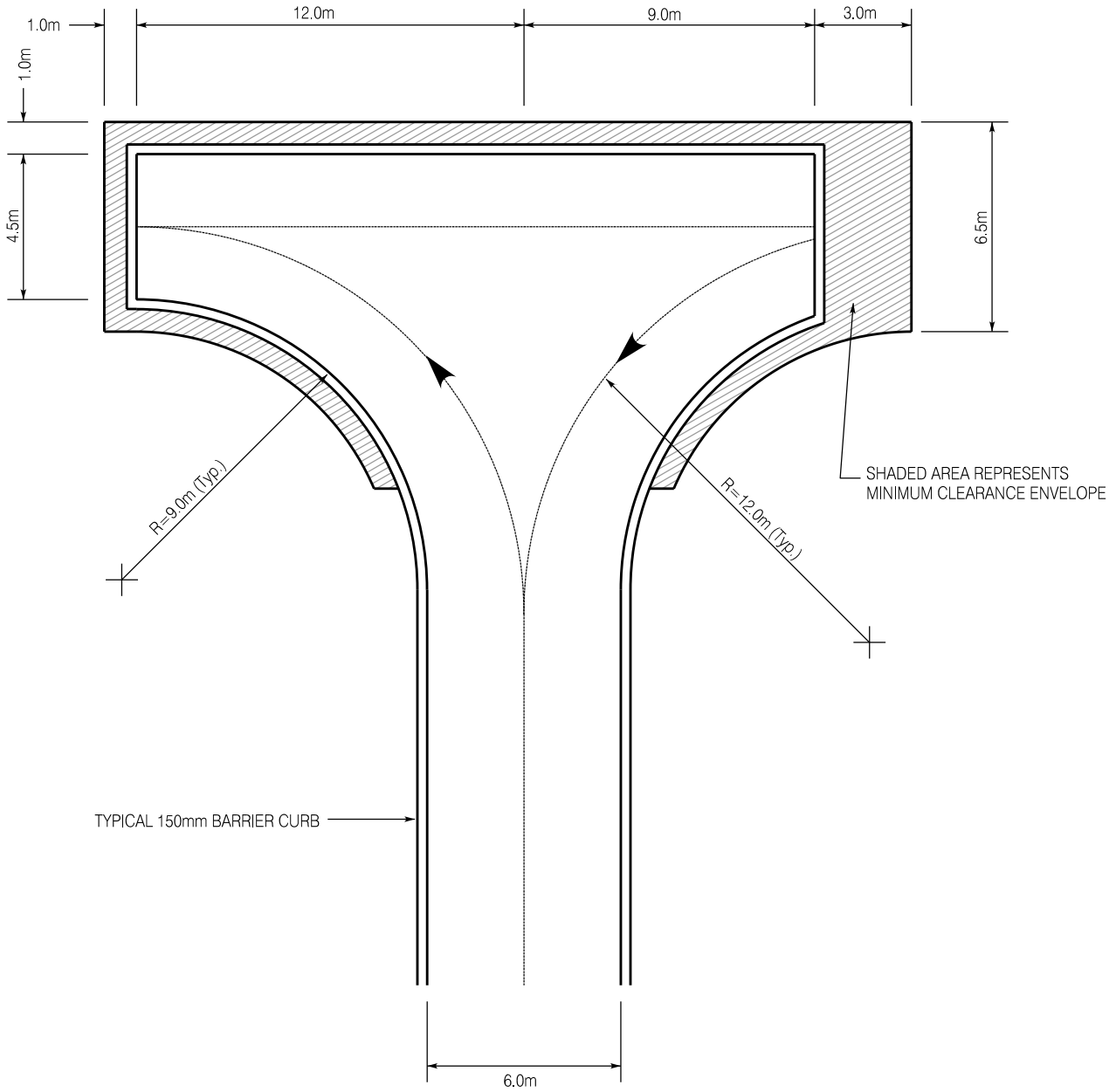
NOTES:

1. *EXISTING CURB, GUTTER AND SIDEWALK ARE TO BE EXTENDED THROUGH THE ENTRANCE.*
2. *GRADES AND ELEVATIONS WITHIN THE ENTRANCE ARE TO BE SET TO ENSURE THAT ADEQUATE DRAINAGE IS PROVIDED.*
3. *BARRIER CURB WITHIN THE ENTRANCES IS TO BE ADJUSTED TO PROVIDE A FLUSH MATCH WITH THE SIDEWALK.*

City of Hamilton
Public Works Department

UNSIGNALIZED INDUSTRIAL & COMMERCIAL ENTRANCE - URBAN SECTION

DIMENSIONS SHOWN ARE IN MILLIMETRES UNLESS OTHERWISE NOTED (N.T.S.)	DATE June 2017	REV No 1		HAMILTON STD No RD-114



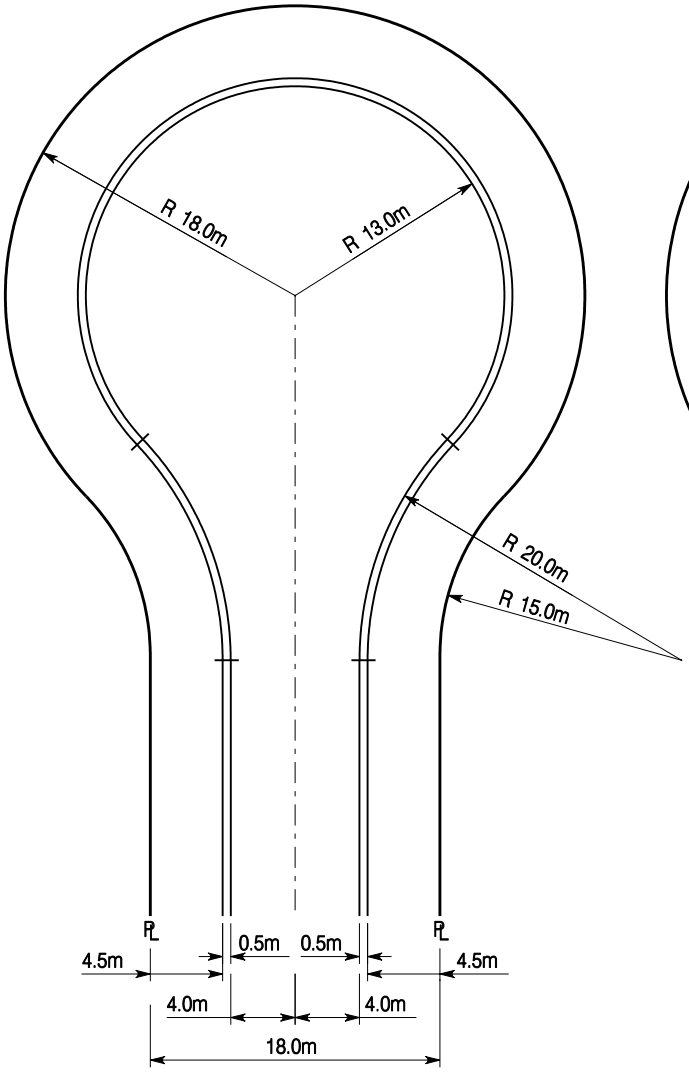
NOTES:

1. *MINIMUM TURNING MOVEMENT BASED ON RTAC; SU-9-SINGLE UNIT TRUCK, WITH THE FOLLOWING DIMENSIONS: WHEELBASE - 6.1m*
   OVERALL LENGTH - 7.9m
   (EXCLUDES OVERHANG AT REAR)
2. *ALL DIMENSIONS ARE MINIMUM*

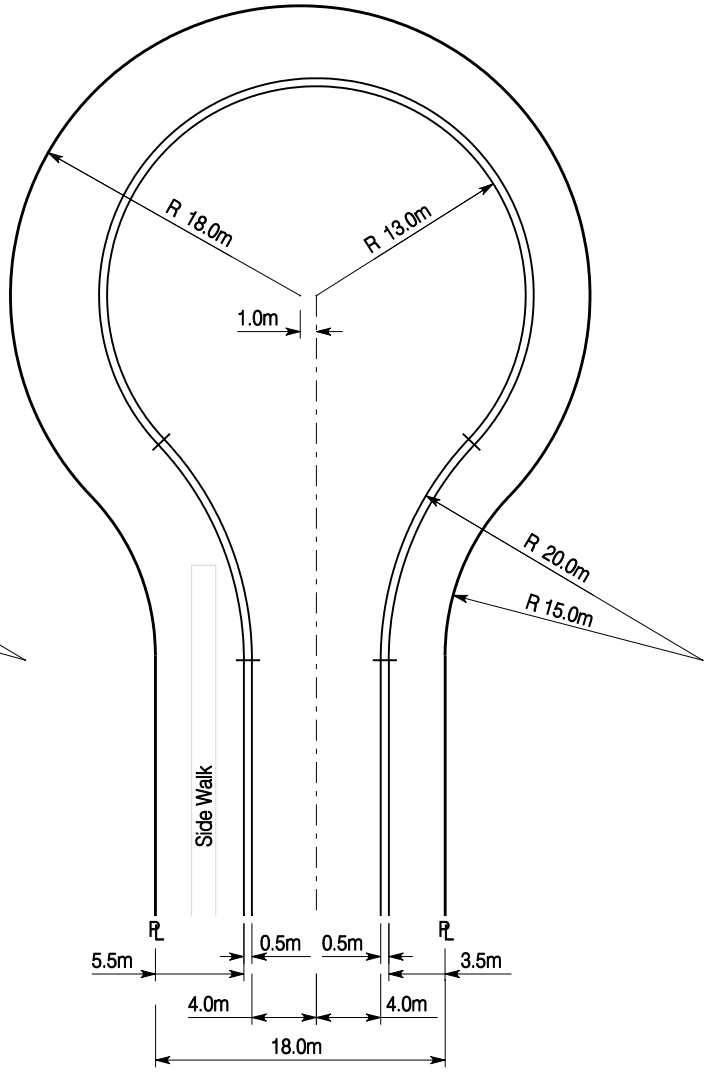
City of Hamilton
Public Works Department

TYPICAL PERMANENT HAMMERHEAD TURNING MOVEMENT DIAGRAM

DIMENSIONS SHOWN ARE IN MILLIMETRES UNLESS OTHERWISE NOTED (N.T.S.)	DATE June 2017	REV No 1		HAMILTON STD No RD-115



18.0m R.O.W.
NO SIDEWALK



18.0m R.O.W.
WITH SIDEWALK
ONE SIDE

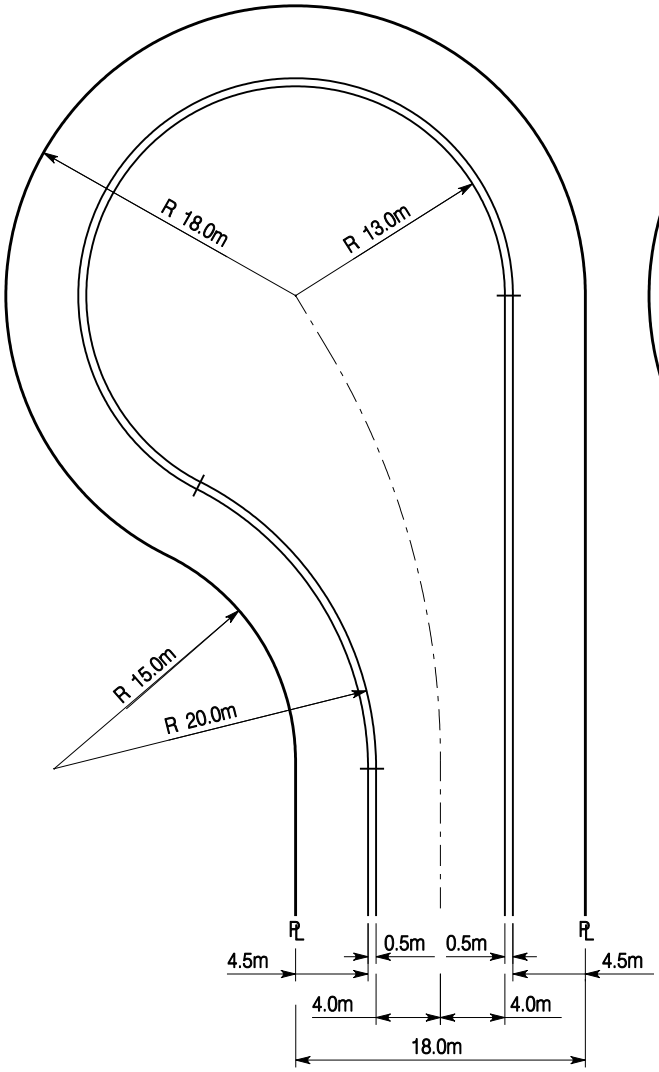
NOTES:

1. *MINIMUM GUTTER SLOPE SHALL BE 0.75%*
2. *DETAIL FOR GRADING OF BULB AREAS SHALL BE SHOWN ON PLAN & PROFILE DRAWINGS*
3. *MINIMUM 3.5m BOULEVARD IN BULB WHEN BULB IS OFFSET TO ALLOW FOR ONE SIDEWALK.*

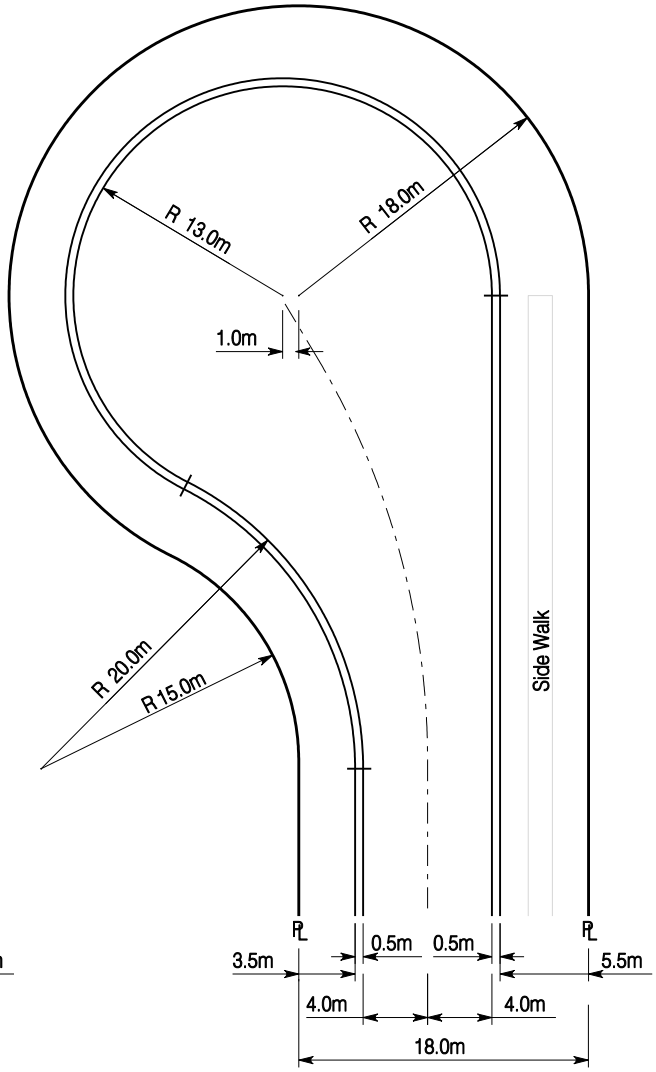
City of Hamilton
Public Works Department

PERMANENT CUL-DE-SAC FOR LOCAL RESIDENTIAL STREETS (SYMMETRICAL - 18m R.O.W.)

DIMENSIONS SHOWN ARE IN MILLIMETRES UNLESS OTHERWISE NOTED (N.T.S.)	DATE November 2005	REV No		HAMILTON STD No RD-116.01



18.0m R.O.W.
OFFSET LEFT
NO SIDEWALK



18.0m R.O.W.
OFFSET LEFT
WITH SIDEWALK
ONE SIDE

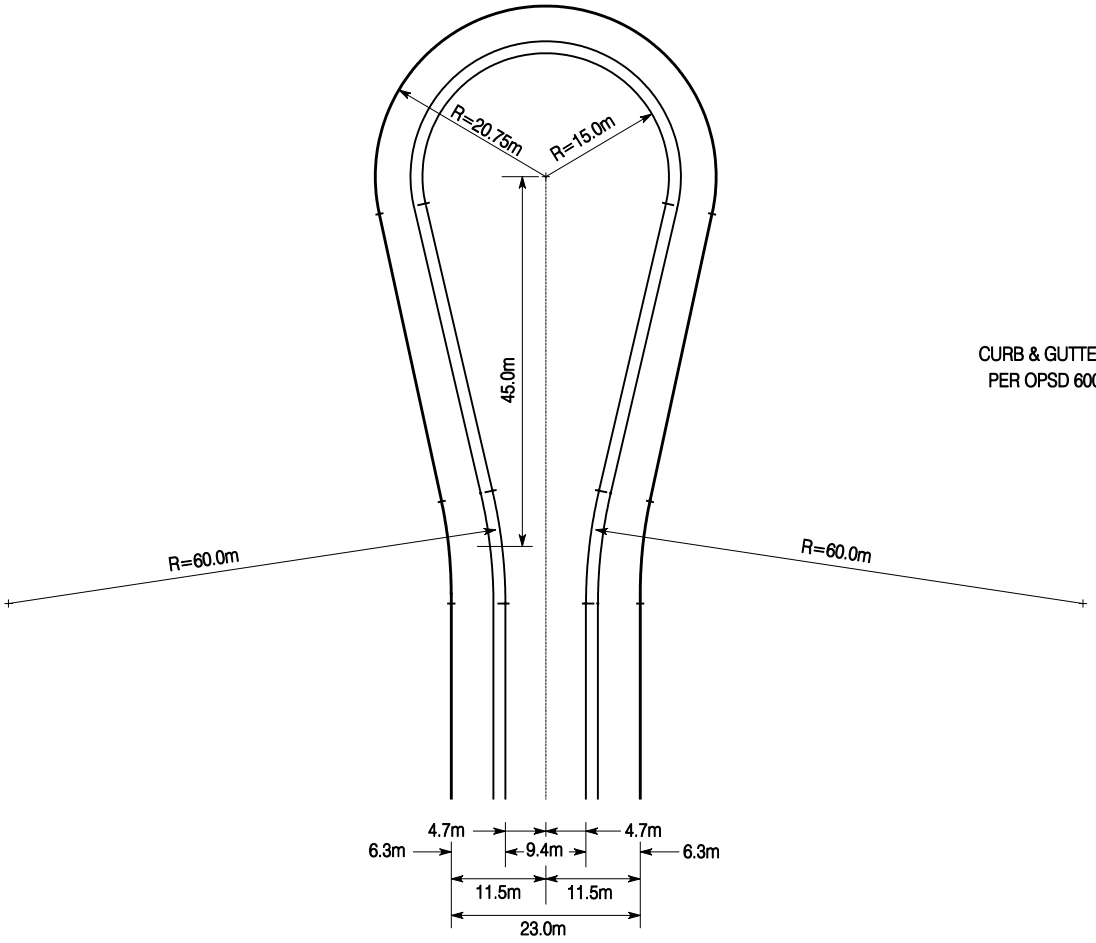
NOTES:

1. *MINIMUM GUTTER SLOPE SHALL BE 0.75%*
2. *DETAIL FOR GRADING OF BULB AREAS SHALL BE SHOWN ON PLAN & PROFILE DRAWINGS*
3. *MINIMUM 3.5m BOULEVARD IN BULB WHEN BULB IS OFFSET TO ALLOW FOR ONE SIDEWALK.*

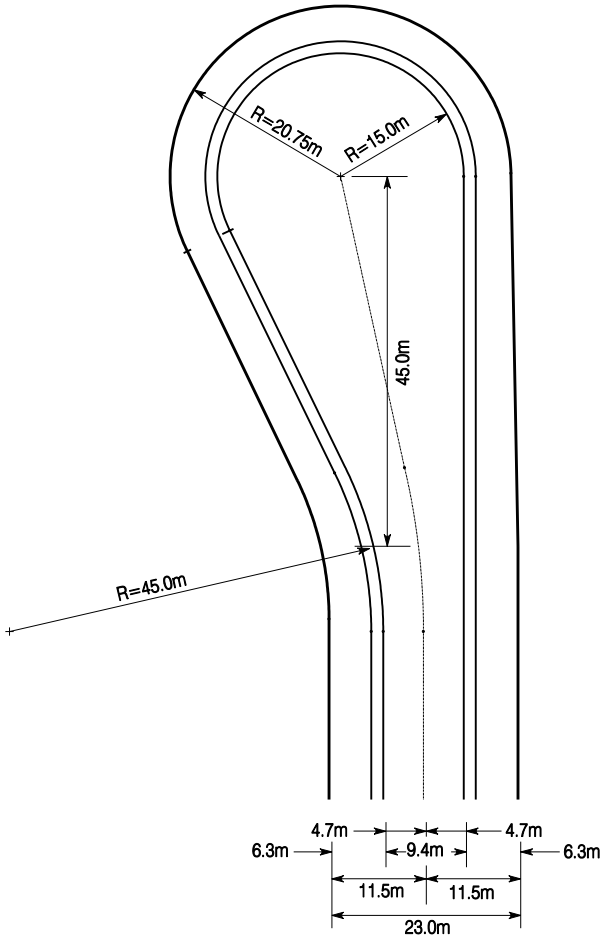
City of Hamilton
Public Works Department

PERMANENT CUL-DE-SAC FOR LOCAL RESIDENTIAL STREETS (OFFSET LEFT - 18m R.O.W.)

DIMENSIONS SHOWN ARE IN MILLIMETRES UNLESS OTHERWISE NOTED (N.T.S.)	DATE November 2005	REV No		HAMILTON STD No RD-116.02



CURB & GUTTER AS
PER OPSD 600.07



SYMETRICAL

OFFSET LEFT

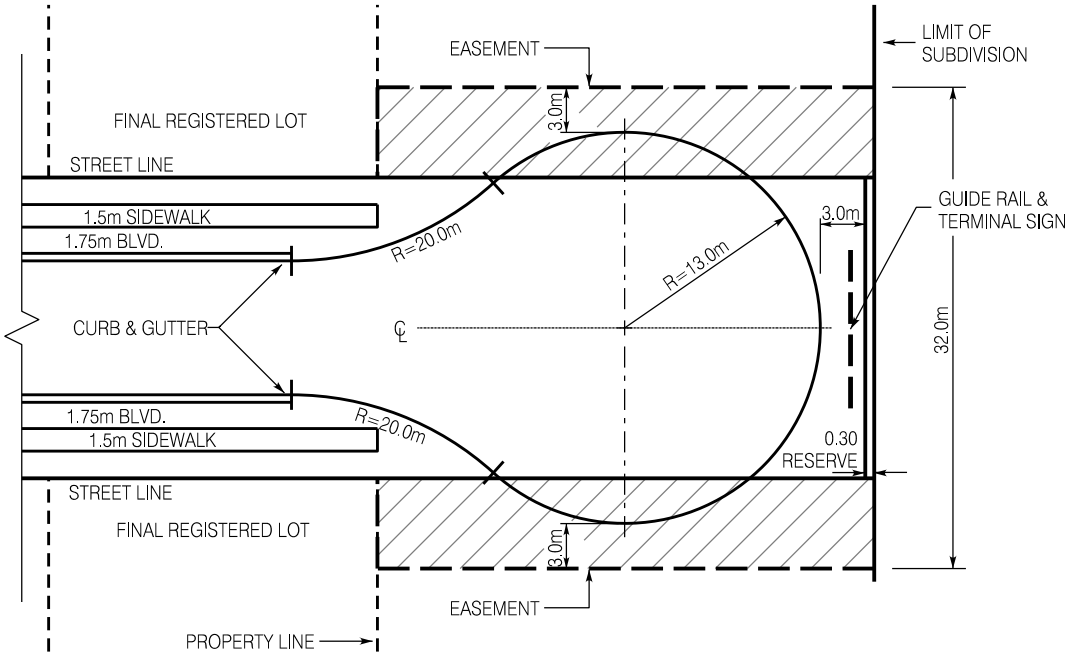
NOTES:

1. *MINIMUM GUTTER SLOPE TO BE 1.0%*
2. *DETAIL FOR GRADING OF BULB AREAS OF CUL-DE-SAC TO BE SHOWN ON PLAN & PROFILE DRAWINGS*

City of Hamilton
Public Works Department

TYPICAL CUL-DE-SAC FOR INDUSTRIAL AND COMMERCIAL STREETS

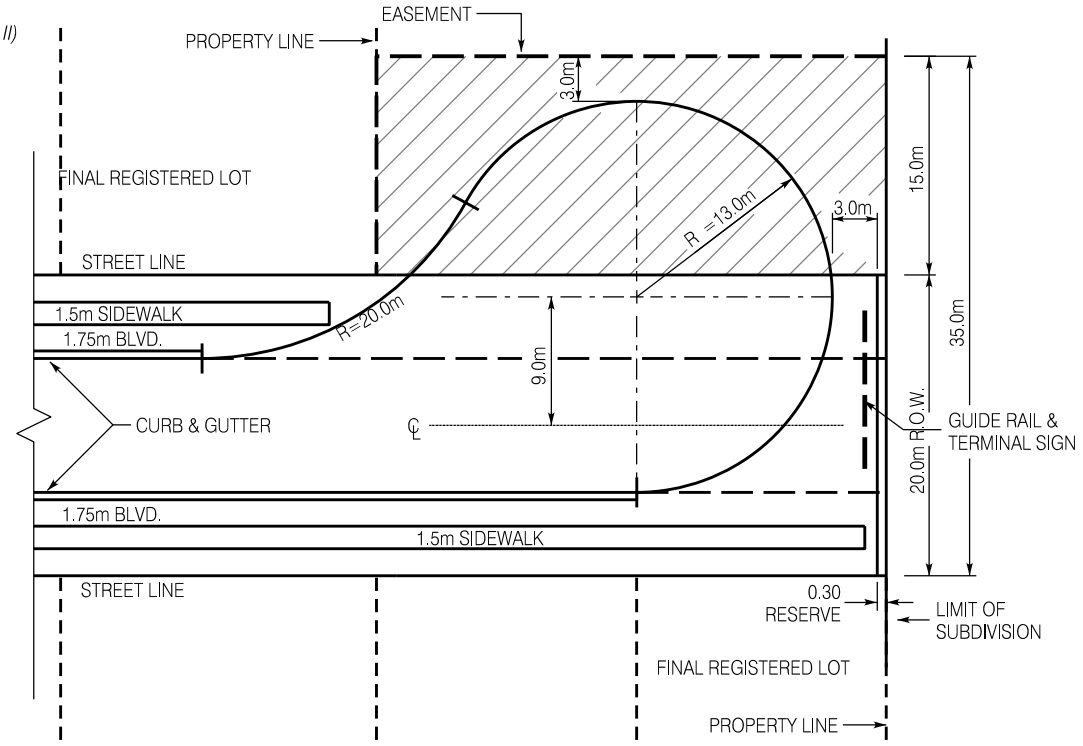
DIMENSIONS SHOWN ARE IN MILLIMETRES UNLESS OTHERWISE NOTED	DATE November 2005	REV No		HAMILTON STD No RD-116.03



TYPE 1

PAVEMENT DESIGN:

40mm SURFACE ASPHALT
80mm BINDER ASPHALT
150mm GRANULAR 'A'
300mm GRANULAR 'B' (TYPE II)

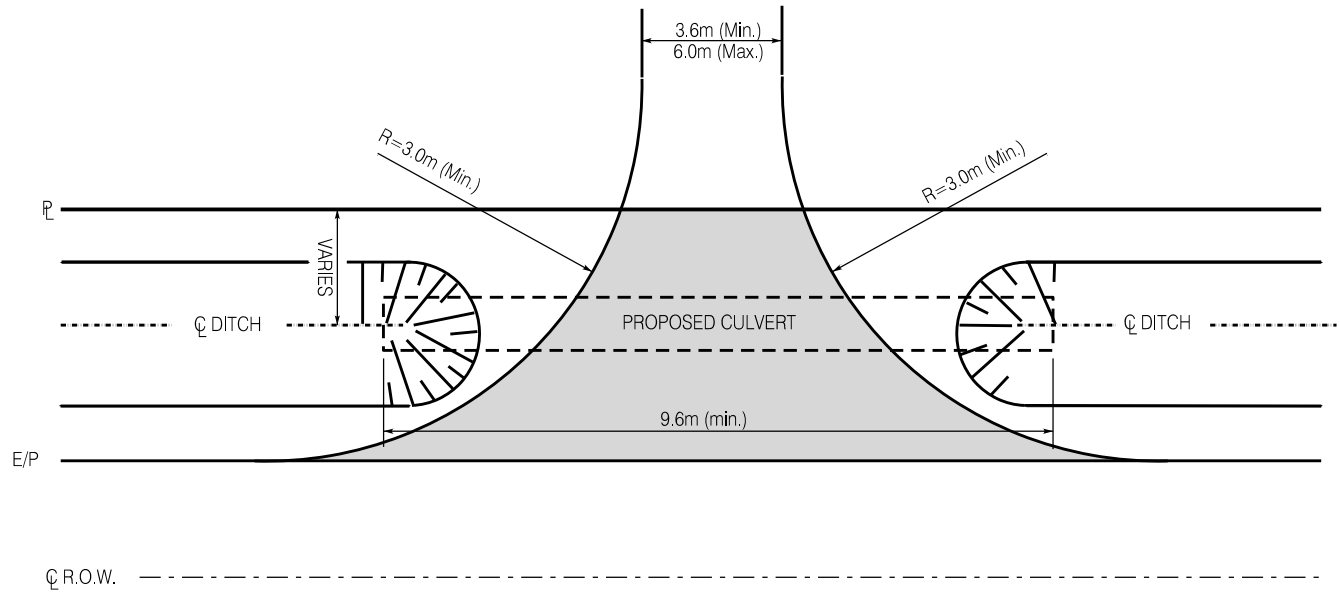


TYPE 2

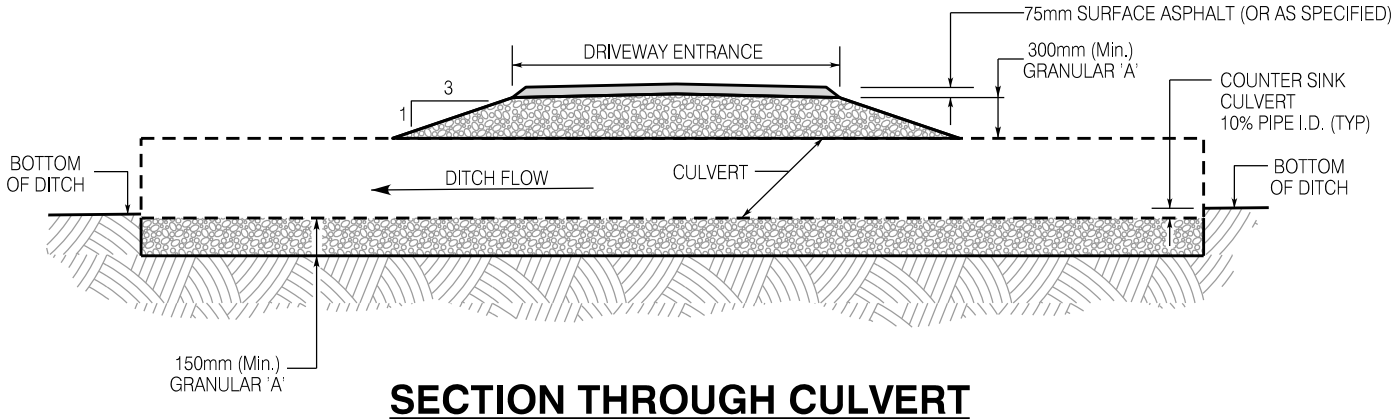
City of Hamilton
Public Works Department

TEMPORARY TURNING CIRCLE
(20m R.O.W.)

DIMENSIONS SHOWN ARE IN MILLIMETRES UNLESS OTHERWISE NOTED (NTS)	DATE June 2017	REV No 1		HAMILTON STD No RD-116.04



PLAN VIEW



SECTION THROUGH CULVERT

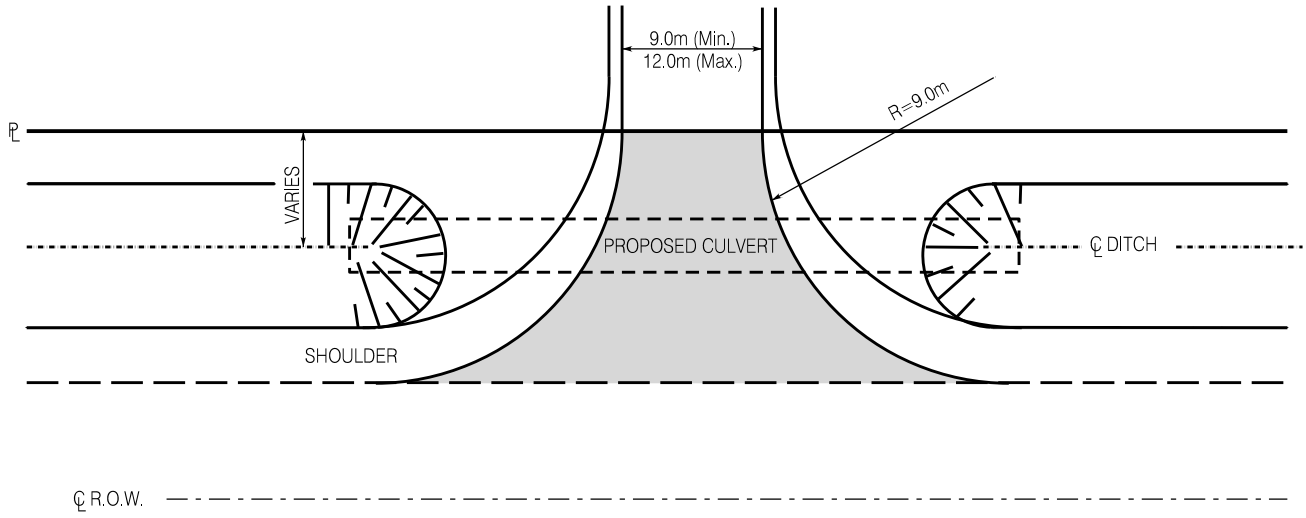
NOTES:

1. *MINIMUM COVER ON CULVERT TO BE 300mm GRANULAR 'A' WITHIN CITY PROPERTY WHERE APPLICABLE.*
2. *ALL DIMENSIONS ARE TO CONFORM TO CITY BY-LAWS AND AMENDMENTS, REGULATING THE LOCATION OF ENTRANCES.*
3. *CULVERT PIPE TO BE PLACED ON 150mm OF GRANULAR 'A'.*
4. *ASPHALT DRIVEWAY APPROACH TO CONSIST OF 300mm GRANULAR 'A' AND 75mm SURFACE ASPHALT (OR AS SPECIFIED)*
5. *AT EXISTING ENTRANCES, FINAL ENTRANCE TO MATCH EXISTING MATERIAL*

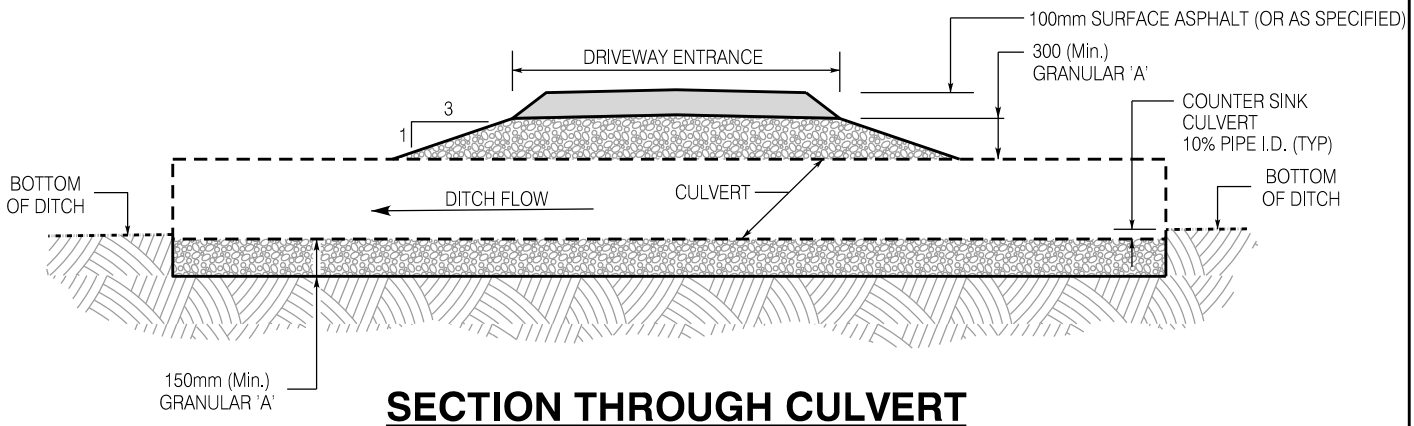
City of Hamilton
Public Works Department

RURAL RESIDENTIAL ENTRANCES

DIMENSIONS SHOWN ARE IN MILLIMETRES UNLESS OTHERWISE NOTED (N.T.S.)	DATE June 2017	REV No 1		HAMILTON STD No RD-117



PLAN VIEW



SECTION THROUGH CULVERT

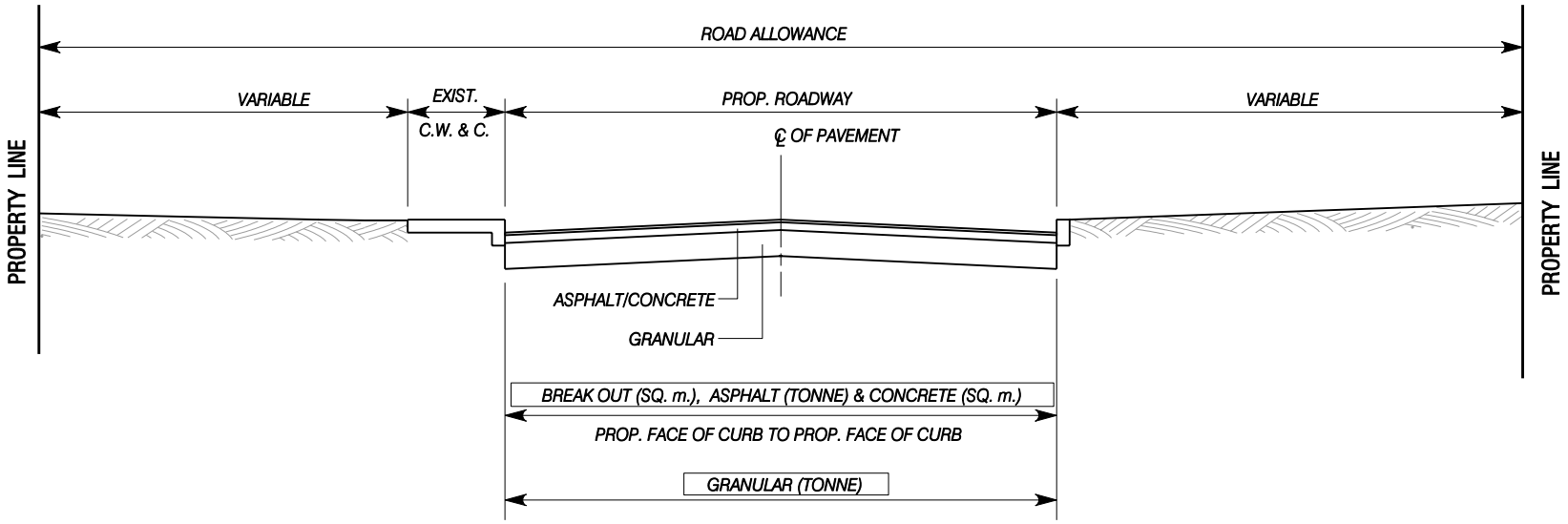
NOTES:

1. *MINIMUM COVER ON CULVERT TO BE 300mm GRANULAR 'A' WITHIN CITY PROPERTY WHERE APPLICABLE.*
2. *ALL DIMENSIONS ARE TO CONFORM TO CITY BY-LAWS AND AMENDMENTS, REGULATING THE LOCATION OF ENTRANCES.*
3. *CULVERT PIPE TO BE PLACED ON 150mm GRANULAR 'A'.*
4. *ENTRANCE TO BE 100mm SURFACE ASPHALT (OR AS SPECIFIED) AND 300mm OF GRANULAR 'A' WITHIN ROAD ALLOWANCE.*

City of Hamilton
Public Works Department

RURAL INDUSTRIAL & COMMERCIAL ENTRANCES

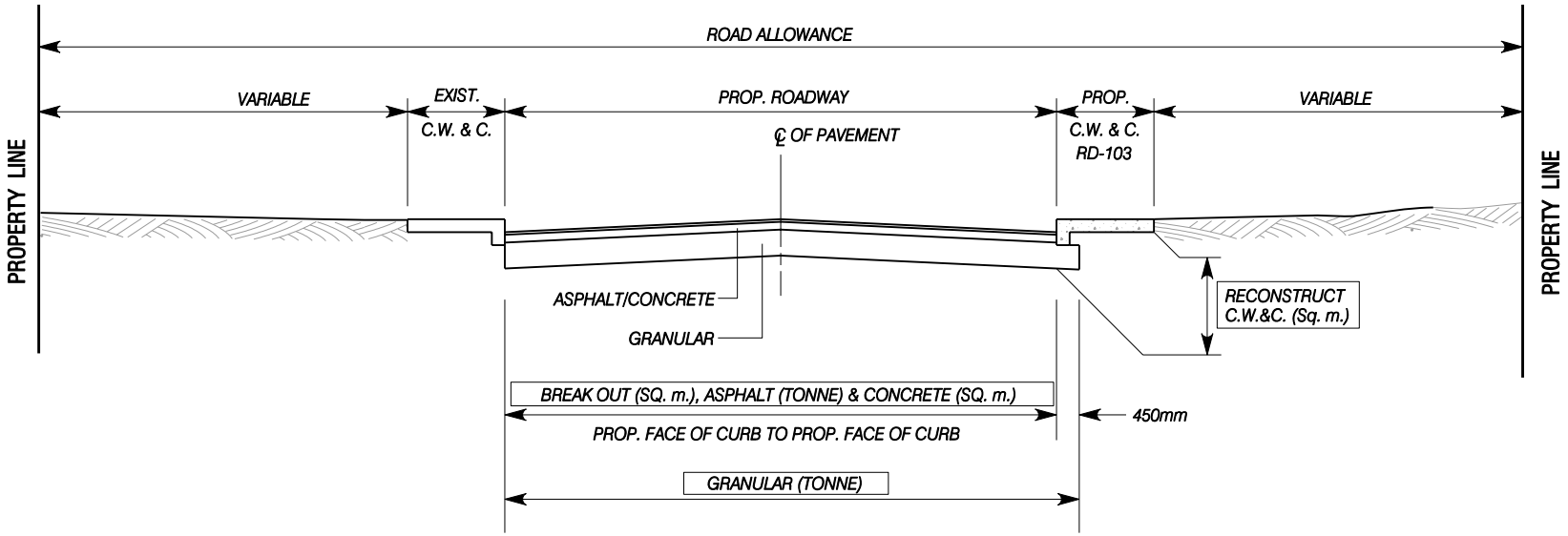
DIMENSIONS SHOWN ARE IN MILLIMETRES UNLESS OTHERWISE NOTED (N.T.S.)	DATE June 2017	REV No 1		HAMILTON STD No RD-118



City of Hamilton
Public Works Department

MEASUREMENT FOR PAYMENT DIAGRAM
ROAD RECONSTRUCTION ONLY

DIMENSIONS SHOWN ARE IN MILLIMETRES UNLESS OTHERWISE NOTED	DATE November 2005	REV No		HAMILTON STD No RD- 119.01

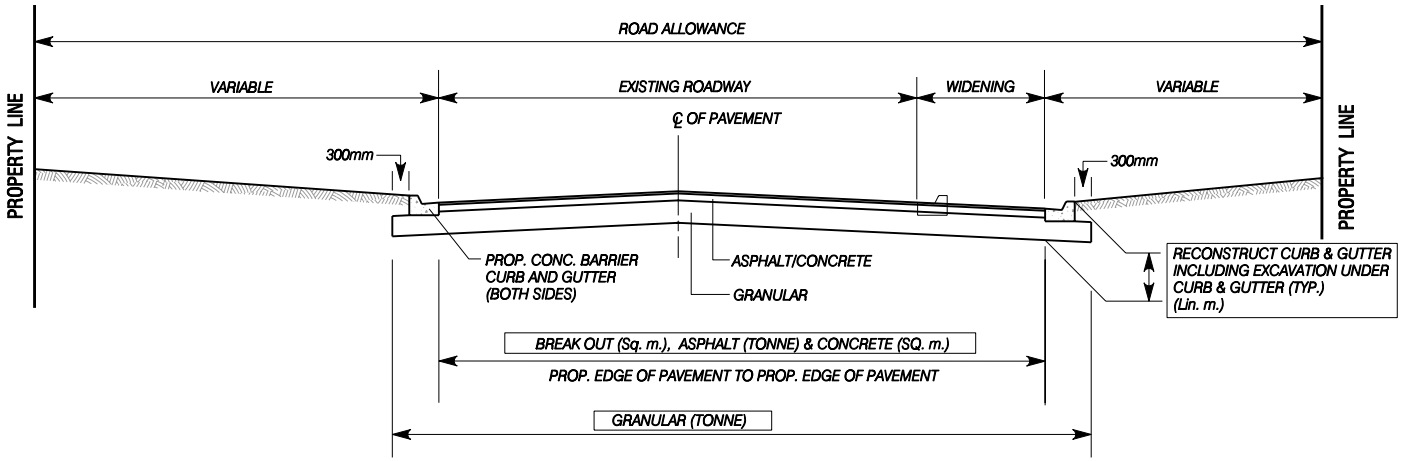


City of Hamilton
Public Works Department

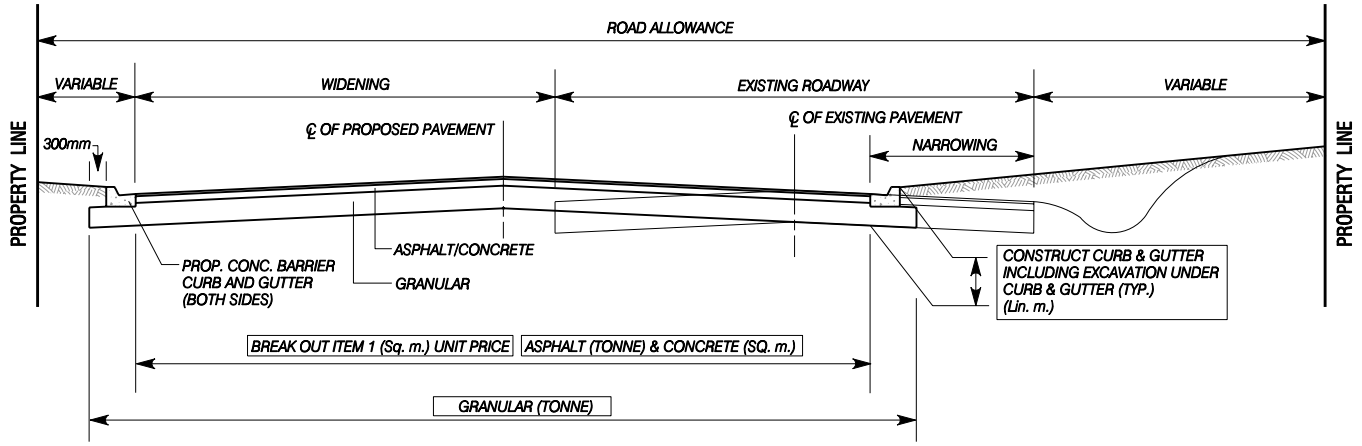
MEASUREMENT FOR PAYMENT DIAGRAM
ROAD AND COMBINED WALK & CURB CONSTRUCTION

DIMENSIONS SHOWN ARE IN MILLIMETRES UNLESS OTHERWISE NOTED	DATE November 2005	REV No		HAMILTON STD No RD- 119.02

MEASUREMENT FOR PAYMENT (WIDENING)



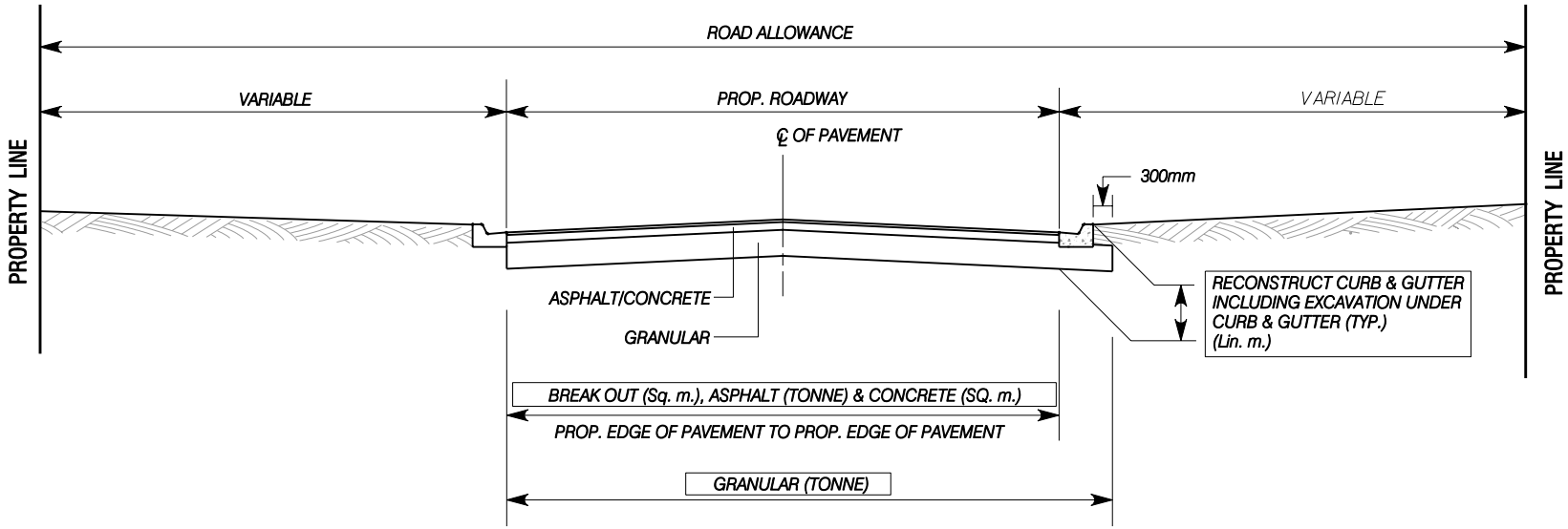
MEASUREMENT FOR PAYMENT (REALIGNMENT/WIDENING/NARROWING)



City of Hamilton
Public Works Department

MEASUREMENT FOR PAYMENT DIAGRAM REALIGNMENT/WIDENING/NARROWING

DIMENSIONS SHOWN ARE IN MILLIMETRES UNLESS OTHERWISE NOTED	DATE	REV No		HAMILTON STD No
	January 2011	1		RD- 119.03

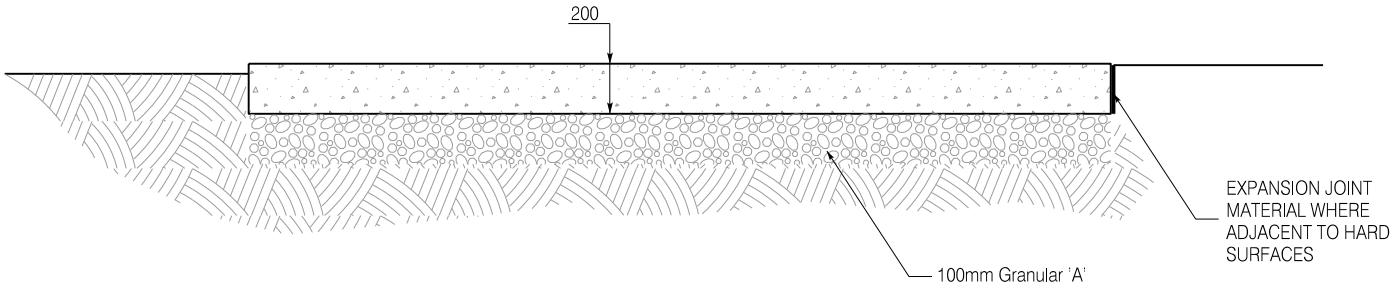


City of Hamilton
Public Works Department

MEASUREMENT FOR PAYMENT DIAGRAM
ROAD AND INDEPENDENT CURB & GUTTER CONSTRUCTION

DIMENSIONS SHOWN ARE IN MILLIMETRES UNLESS OTHERWISE NOTED	DATE November 2005	REV No		HAMILTON STD No RD- 119.04

TRANSIT SHELTER CONCRETE PAD PLAN



SECTION

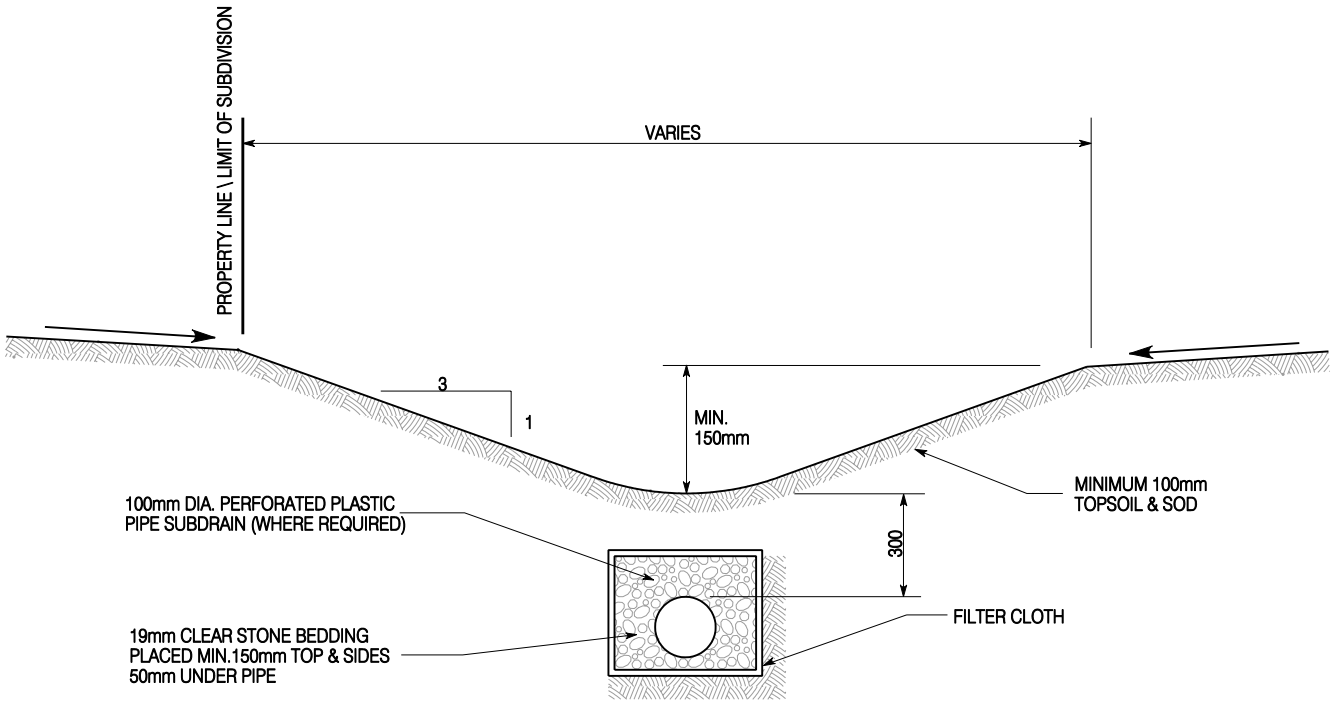
NOTE :

1. *CONCRETE PAD TO BE AS PER LOCAL CODES FOR SIDEWALK CONSTRUCTION*
2. *ALL CONCRETE PADS MUST BE LEVEL*
3. *CONCRETE SHALL HAVE A MIN. 28 DAY STRENGTH OF 32 MPa. PAD SURFACE SHALL BE BROOM FINISHED*

City of Hamilton
Public Works Department

TYPICAL TRANSIT SHELTER PAD FOR 1.2m X 3.0m SHELTER

DIMENSIONS SHOWN ARE IN MILLIMETRES UNLESS OTHERWISE NOTED	DATE	REV No		HAMILTON STD No
	February 2021	2	FORMERLY M-012 (HSR)	RD-120



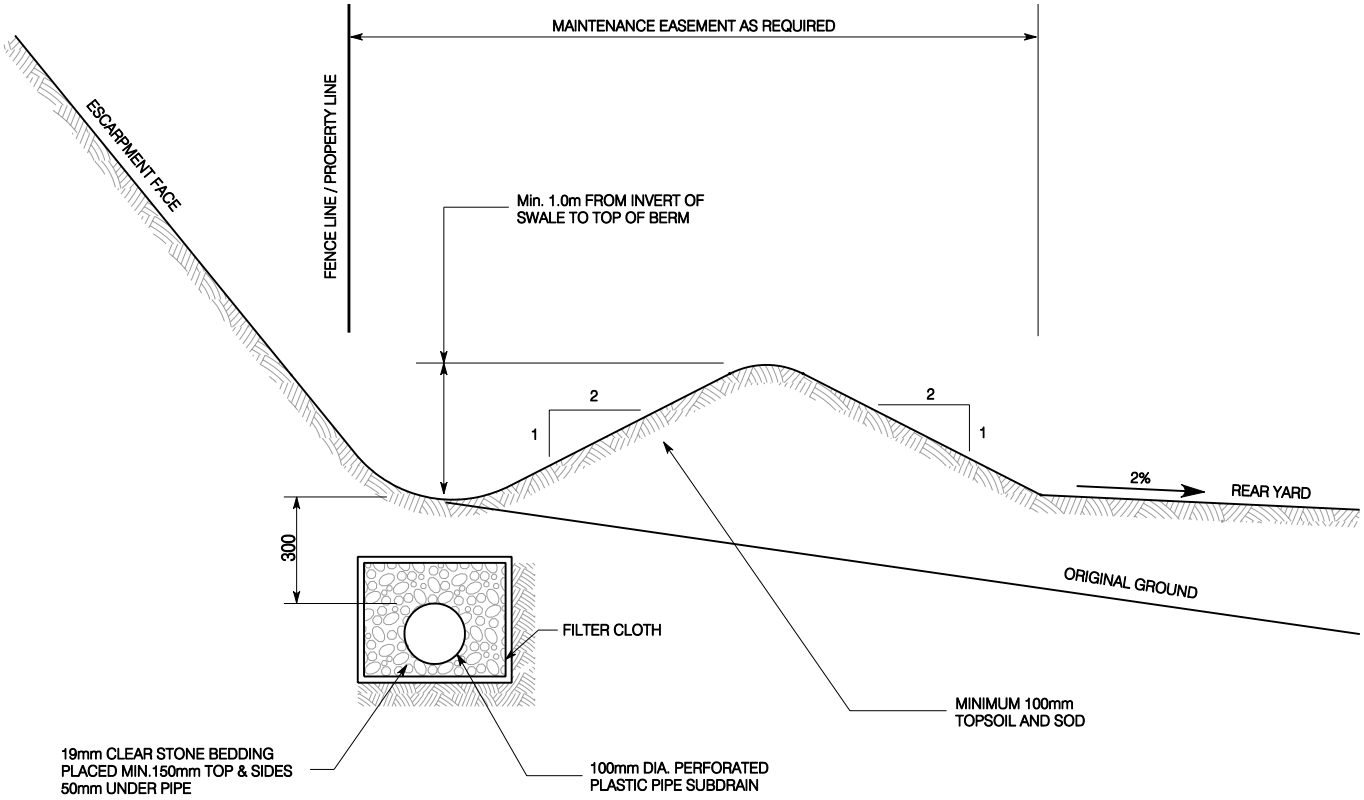
NOTES:

1. *MINIMUM SLOPE ON REAR YARD SWALES TO BE 1.0%.*
2. *REAR YARD SWALES WITH SLOPES LESS THAN 2.0% TO BE PROVIDED WITH SUB-DRAINS.*

City of Hamilton
Public Works Department

TYPICAL REAR YARD SWALE DETAIL

DIMENSIONS SHOWN ARE IN MILLIMETRES UNLESS OTHERWISE NOTED (N.T.S.)	DATE November 2005	REV No		HAMILTON STD No RD-121



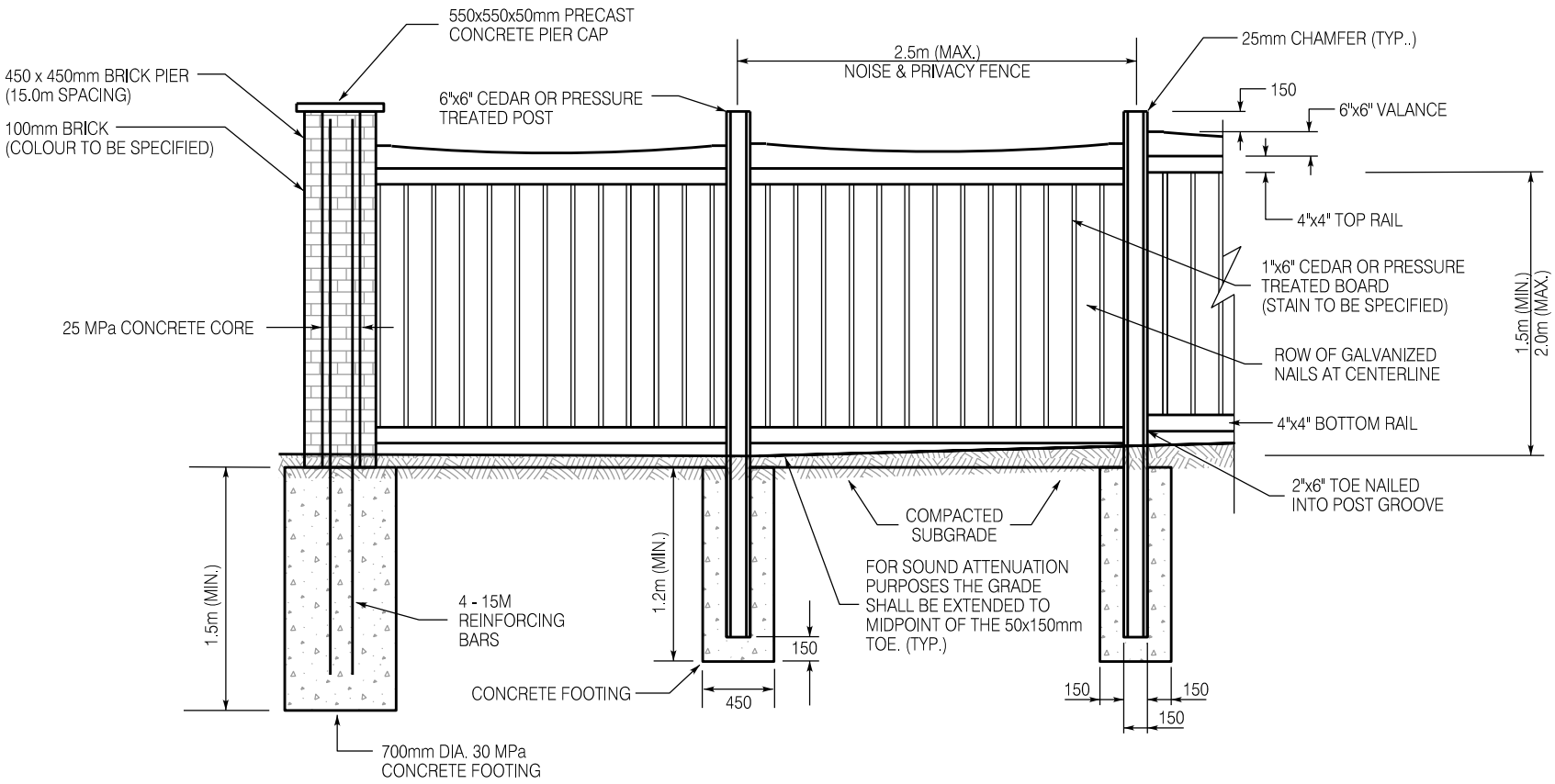
NOTES:

1. *VEGETATION COVER AND GRADES ON ESCARPMENT FACE ARE NOT TO BE DISTURBED.*
2. *BERM TO BE CONSTRUCTED FROM IMPERVIOUS, COHESIVE SOIL.*
3. *MINIMUM SLOPE ON SWALE TO BE 1.0%.*

City of Hamilton
Public Works Department

TYPICAL TOE OF ESCARPMENT SWALE & BERM DETAIL

DIMENSIONS SHOWN ARE IN MILLIMETRES UNLESS OTHERWISE NOTED (N.T.S.)	DATE November 2005	REV No		HAMILTON STD No **RD-122**



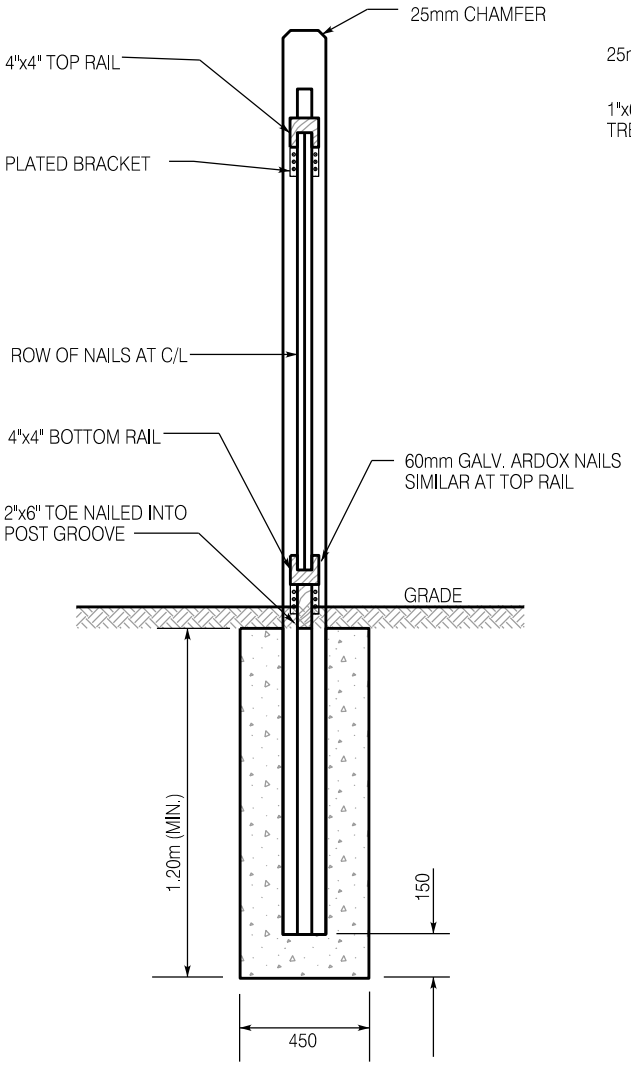
NOTES:

1. *ALL CONCRETE SHALL BE 32 MPa IN 28 DAYS MINIMUM.*
2. *ALL SUBGRADE SHALL BE COMPACTED TO 95% STANDARD PROCTOR DENSITY.*
3. *ALL WOODEN BOARDS TO BE CEDAR OR PRESSURE TREATED.*
4. *ALL LUMBER TO BE SECURED WITH GALVANIZED NAILS.*
5. *MASONRY PIERS SHALL BE CONSTRUCTED OF BRICK (100mm IN HEIGHT), COLOUR TO BE SPECIFIED.*
6. *BRICK PIERS SHALL BE CONSTRUCTED AT 15.0m INTERVALS.*
7. *ANY EXPOSED TRIM OF LUMBER SHALL BE TREATED WITH END PRESERVATIVE.*
8. *A MINIMUM DENSITY FOR WOOD OF 19.6 kg/m2 IS REQUIRED FOR SOUND ATTENUATION PURPOSES.*
9. *BRICK COLOUR AND WOOD STAIN TO BE SPECIFIED AND APPROVED BY THE PROJECT MANAGER PRIOR TO CONSTRUCTION.*
10. *SEE RD-123.02 FOR FENCE DETAILS.*

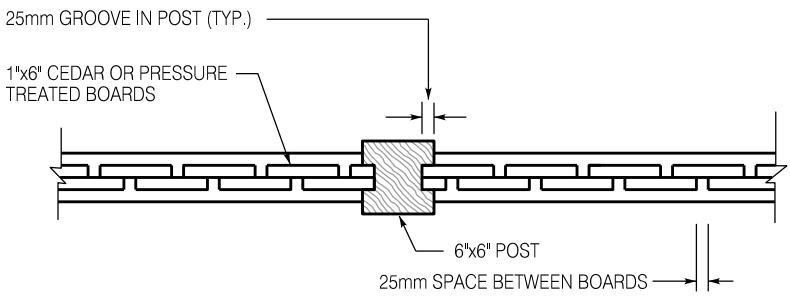
City of Hamilton
Public Works Department

PRIVACY FENCE

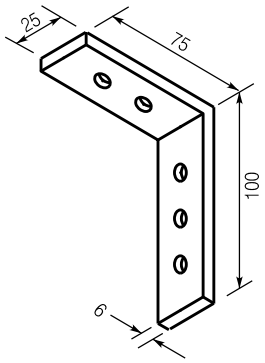
DIMENSIONS SHOWN ARE IN MILLIMETRES UNLESS OTHERWISE NOTED (N.T.S.)	DATE	REV No		HAMILTON STD No
	June 2017	1		RD-123.01



TYPICAL SECTION



PLAN



PLATED BRACKETS

NOTES:

1. *ALL CONCRETE SHALL BE 32 MPa IN 28 DAYS MINIMUM.*
2. *ALL SUBGRADE SHALL BE COMPACTED TO 95% STANDARD PROCTOR DENSITY.*
3. *ALL WOODEN BOARDS TO BE CEDAR OR PRESSURE TREATED.*
4. *ALL LUMBER TO BE SECURED WITH GALVANIZED NAILS.*
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10. *SEE RD-123.01 FOR FENCE DETAILS.*

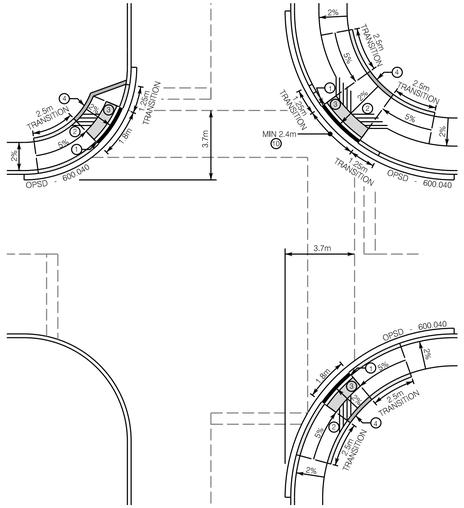
City of Hamilton
Public Works Department

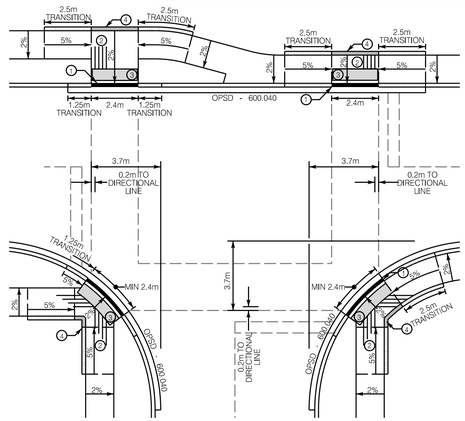
PRIVACY FENCE DETAILS

DIMENSIONS SHOWN ARE IN MILLIMETRES UNLESS OTHERWISE NOTED (N.T.S.)	DATE June 2017	REV No 1		HAMILTON STD No RD-123.02

CITY OF HAMILTON - INTEGRATED ACCESSIBILITY - SIDEWALK/URBAN BRAILLE GUIDELINES

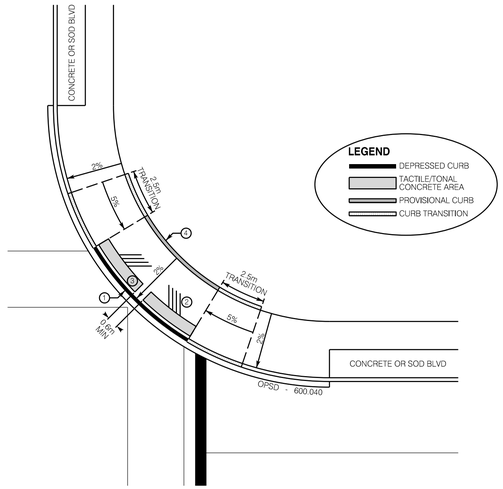
RD-124.01

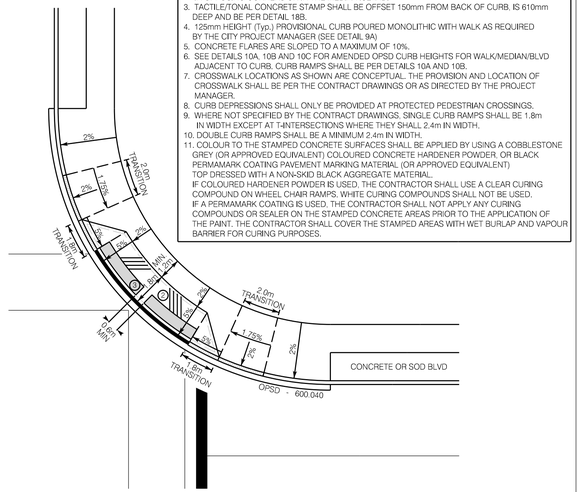




NOTES:
1. ALL CURBING AT CURB RAMPS SHALL BE PER RD-124.03 DETAIL 10B) iii).
2. DIRECTIONAL LINES TO BE PER DETAIL 18A AND SHALL BE ALIGNED WITH DIRECTIONAL LINES IN OPPOSING CORNERS OR IN THE MEDIAN ISLAND.
3. TACTILE/TONAL CONCRETE STAMP SHALL BE OFFSET 150mm FROM BACK OF CURB, IS 610mm DEEP AND BE PER DETAIL 18B.
4. 125mm HEIGHT (Typ.) PROVISIONAL CURB POURED MONOLITHIC WITH WALK AS REQUIRED BY THE CITY PROJECT MANAGER (SEE DETAIL 9A)
5. CONCRETE FLARES ARE SLOPED TO A MAXIMUM OF 10%.
6. SEE DETAILS 10A, 10B AND 10C FOR AMENDED OPSD CURB HEIGHTS FOR WALK/MEDIAN/BLVD ADJACENT TO CURB. CURB RAMPS SHALL BE PER DETAILS 10A AND 10B.
7. CROSSWALK LOCATIONS AS SHOWN ARE CONCEPTUAL. THE PROVISION AND LOCATION OF CROSSWALK SHALL BE PER THE CONTRACT DRAWINGS OR AS DIRECTED BY THE PROJECT MANAGER.
8. CURB DEPRESSIONS SHALL ONLY BE PROVIDED AT PROTECTED PEDESTRIAN CROSSINGS.
9. WHERE NOT SPECIFIED BY THE CONTRACT DRAWINGS, SINGLE CURB RAMPS SHALL BE 1.8m IN WIDTH EXCEPT AT T-INTERSECTIONS WHERE THEY SHALL 2.4m IN WIDTH.
10. DOUBLE CURB RAMPS SHALL BE A MINIMUM 2.4m IN WIDTH.
11. COLOUR TO THE STAMPED CONCRETE SURFACES SHALL BE APPLIED BY USING A COBBLESTONE GREY (OR APPROVED EQUIVALENT) COLOURED CONCRETE HARDENER POWDER, OR BLACK PERMAMARK COATING PAVEMENT MARKING MATERIAL (OR APPROVED EQUIVALENT)
TOP DRESSED WITH A NON-SKID BLACK AGGREGATE MATERIAL.
IF COLOURED HARDENER POWDER IS USED, THE CONTRACTOR SHALL USE A CLEAR CURING COMPOUND ON WHEEL CHAIR RAMPS. WHITE CURING COMPOUNDS SHALL NOT BE USED.
IF A PERMAMARK COATING IS USED, THE CONTRACTOR SHALL NOT APPLY ANY CURING COMPOUNDS OR SEALER ON THE STAMPED CONCRETE AREAS PRIOR TO THE APPLICATION OF THE PAINT. THE CONTRACTOR SHALL COVER THE STAMPED AREAS WITH WET BURLAP AND VAPOUR BARRIER FOR CURING PURPOSES.

1 LOCAL ROADS - PROTECTED CROSSINGS





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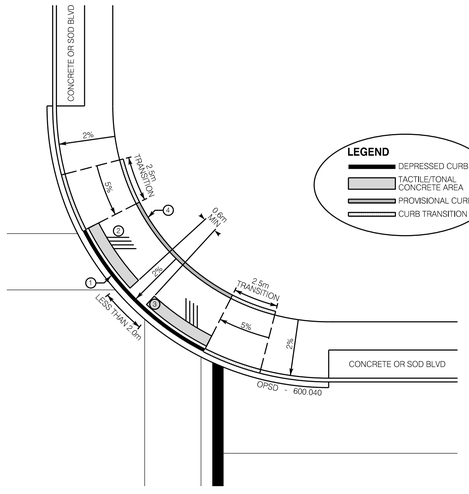
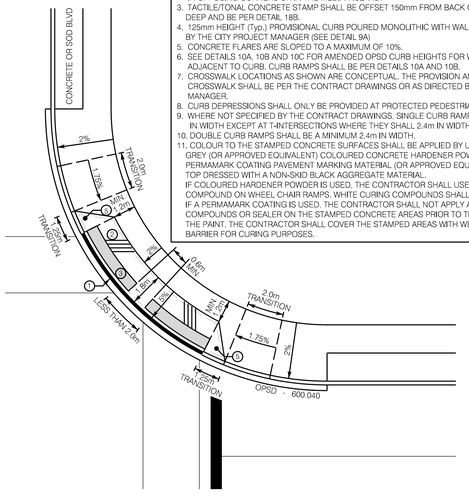
2 INTERSECTING CROSSWALKS

PREFERRED TREATMENT

2A WALK ADJACENT TO CURB (VARIABLE WIDTH)

2B WALK ADJACENT TO CURB (3.0m WIDTH OR LARGER)
BACK OF WALK ELEVATION MAINTAINED
SEPARATE CURB RAMP POUR





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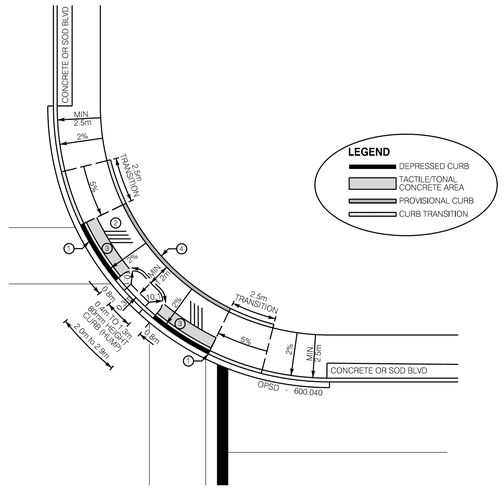
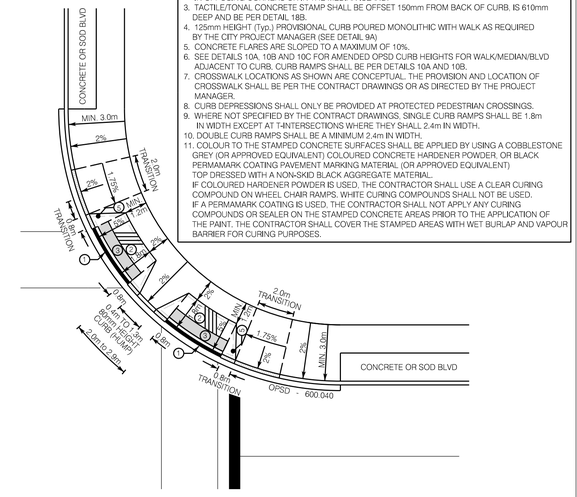
PREFERRED TREATMENT

3A WALK ADJACENT TO CURB (VARIABLE WIDTH)

3B WALK ADJACENT TO CURB (3.0m WIDTH OR GREATER)
BACK OF WALK ELEVATION MAINTAINED
SEPARATE CURB RAMP POUR

3 SEPARATED CROSSWALKS
DISTANCE LESS THAN 2.0m





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PREFERRED TREATMENT

4A WALK ADJACENT TO CURB (2.5m WIDTH OR GREATER)

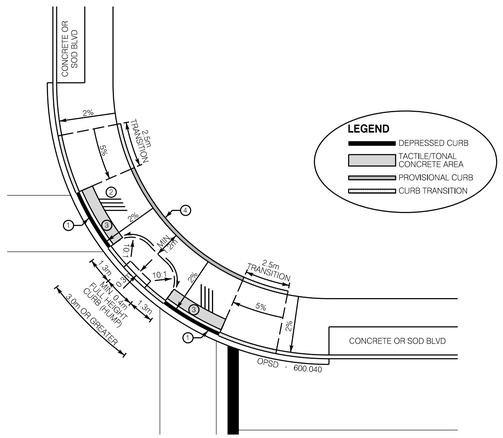
4B WALK ADJACENT TO CURB (3.0m WIDTH OR GREATER)
BACK OF WALK ELEVATION MAINTAINED
SEPARATE CURB RAMP POUR

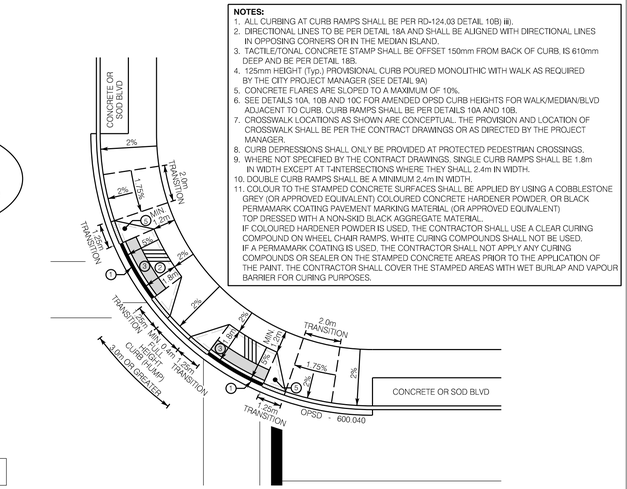
4 SEPARATED CROSSWALKS
DISTANCE 2.0m to 2.9m

City of Hamilton Public Works Department	
CITY OF HAMILTON - INTEGRATED ACCESSIBILITY - SIDEWALK/URBAN BRAILLE GUIDELINES	
DIMENSIONS SHOWN ARE IN MILLIMETRES UNLESS OTHERWISE NOTED (N.T.S.)	DATE: November 2018 / REV No.: 1 / FORMERLY: / HAMILTON STD. No.: RD-124.01

CITY OF HAMILTON - INTEGRATED ACCESSIBILITY - SIDEWALK/URBAN BRAILLE GUIDELINES

RD-124.02





P R E F E R R E D T R E A T M E N T

5A WALK ADJACENT TO CURB (VARIABLE WIDTH)

NOTES:
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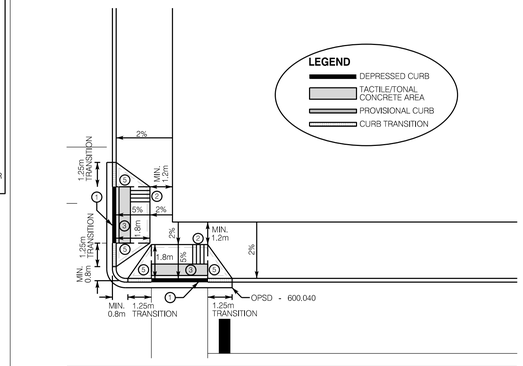
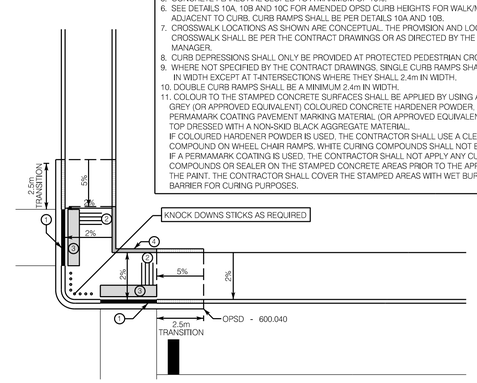
5B WALK ADJACENT TO CURB (3.0m WIDTH OR GREATER)
BACK OF WALK ELEVATION MAINTAINED
SEPARATE CURB RAMP POUR

5 SEPARATED CROSSWALKS DISTANCE GREATER OR EQUAL TO 3.0m



P R E F E R R E D T R E A T M E N T

6A WALK ADJACENT TO CURB (3.0m WIDTH OR GREATER)



NOTES:
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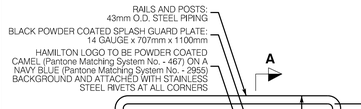
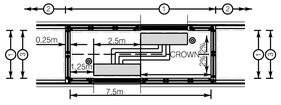
6B WALK ADJACENT TO CURB (VARIABLE WIDTH)

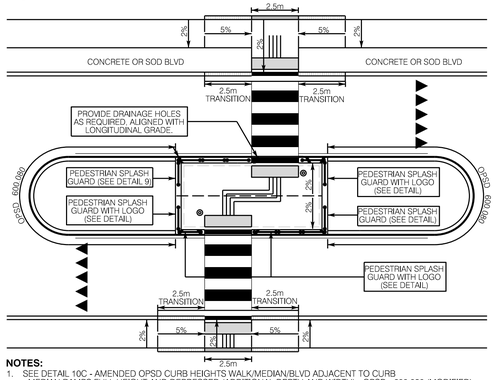
6 1m RADIUS AT BANNED TURNS



7A PEDESTRIAN CORRAL - MEDIAN LANE WIDTHS - 3.0m TO 3.4m



7B PEDESTRIAN CORRAL - MEDIAN LANE WIDTHS - 3.45m OR GREATER

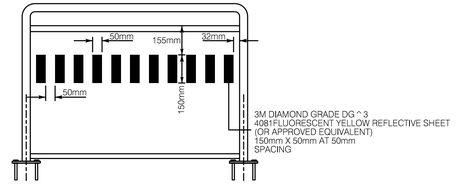


NOTES:
1. SEE DETAIL 10C - AMENDED OPSD CURB HEIGHTS WALK/MEDIAN/BLVD ADJACENT TO CURB - MEDIAN RAMPS FULL HEIGHT AND DEPRESSED (ADDITIONAL DEPTH AND WIDTH) - OPSD - 600.080 (MODIFIED)
2. CURB SHALL BE OPSD - 600.080 (UNMODIFIED).
3. SEE DETAIL 10C - AMENDED OPSD CURB HEIGHTS WALK/MEDIAN/BLVD ADJACENT TO CURB*** WITHOUT GUTTER.

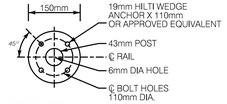
7C GENERAL

7 MEDIAN ISLANDS - PROTECTED CROSSING

8A PLAN AND SECTION (OUTER FACE)

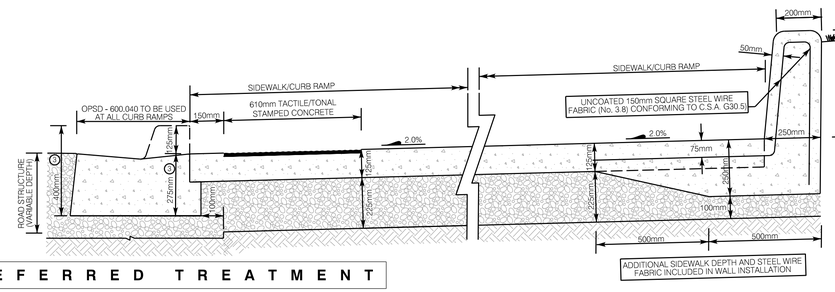


8B PLAN AND SECTION (INNER FACE)



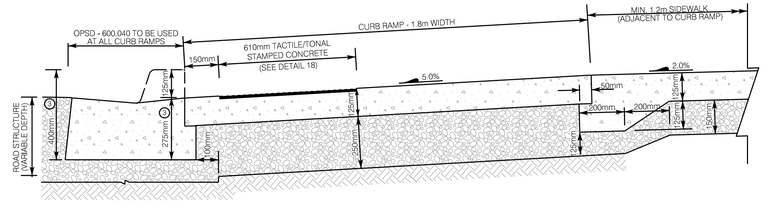
8C BASE PLATE DETAIL

8 SPLASH GUARD

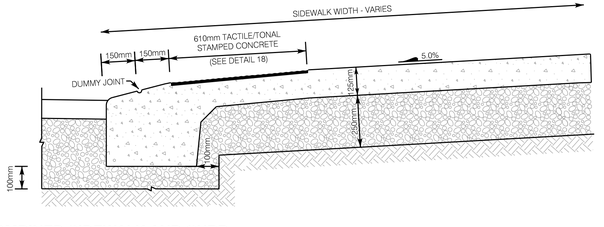


P R E F E R R E D T R E A T M E N T

9A COMBINED SIDEWALK AND CURB RAMP



9B INDEPENDENT SIDEWALK AND CURB RAMP



9C COMBINED SIDEWALK AND CURB

9 CURB RAMPS

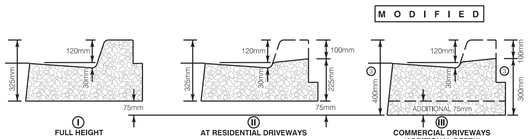
City of Hamilton
Public Works Department

CITY OF HAMILTON - INTEGRATED ACCESSIBILITY - SIDEWALK/URBAN BRAILLE GUIDELINES

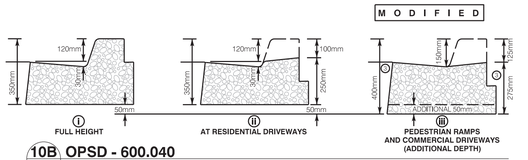
DIMENSIONS SHOWN ARE IN MILLIMETRES UNLESS OTHERWISE NOTED (N.T.S.)	DATE November 2018	REV No. 1	FORMERLY	HAMILTON STD. No. RD-124.02

CITY OF HAMILTON - INTEGRATED ACCESSIBILITY - SIDEWALK/URBAN BRAILLE GUIDELINES

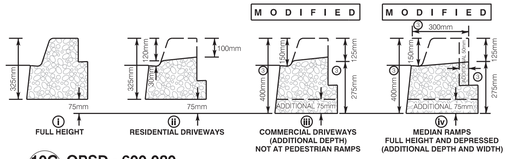
RD-124.03



10A OPSD - 600.010

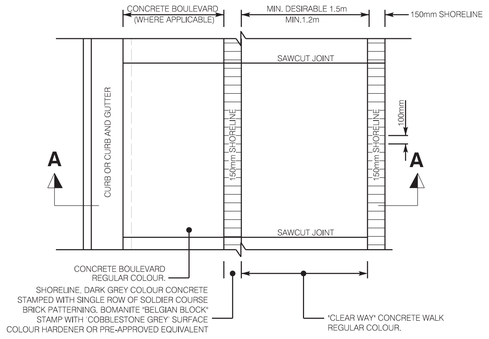


10B OPSD - 600.040



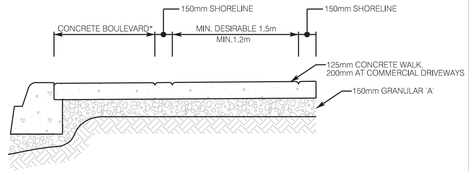
10C OPSD - 600.080

10 AMENDED OPSD CURB HEIGHTS WALK/MEDIAN/BLVD ADJACENT TO CURB



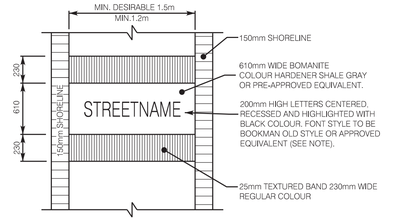
NOTES:
1. TEST POURS INDICATING FINISH, COLOUR, STAMP PATTERNS AND TECHNIQUE MUST BE APPROVED PRIOR TO INSTALLATION.
2. FINISH AND COLOUR OF URBAN BRAILLE SIDEWALK AND BOULEVARD SHALL MATCH KING STREET EAST.
3. FINISH, SURFACE COLOUR HARDENER AND STAMP PATTERN ACCORDING TO BOMANITE METHODS AND SPECIFICATIONS OR PRE-APPROVED EQUIVALENT.
4. HIGH PENETRATING ACRYLIC SEALER TO BE APPLIED AFTER APPROVAL OF FINISHED SURFACE.

11A PLAN



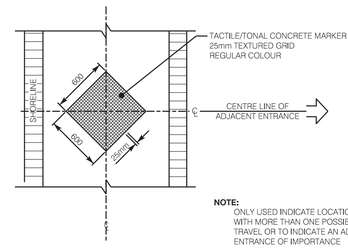
11B SECTION A-A

11 URBAN BRAILLE SIDEWALK/BOULEVARD SECTIONS AND DETAILS



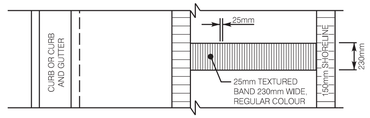
NOTE:
STREET NAME OF INTERSECTING STREET SHALL BE ORIENTED TO FACE PEDESTRIANS APPROACHING THE INTERSECTION.

12 STREET NAME TABLET

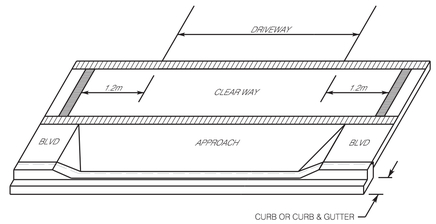


NOTE:
ONLY USED INDICATE LOCATIONS IN "CLEAR WAY" WITH MORE THAN ONE POSSIBLE ROUTE OF TRAVEL OR TO INDICATE AN ADJACENT ENTRANCE OF IMPORTANCE. (EX. BANK, LIBRARY, COMMUNITY CENTRE, BANK, MAJOR MALL ENTRANCE)

13 ENTRANCE DIAMOND AND DECISION NODE MARKER

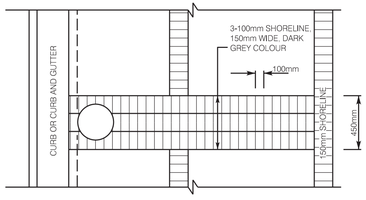


14A GENERAL

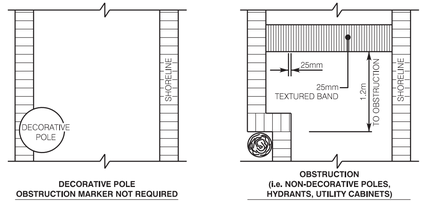


14B DRIVEWAY TREATMENT

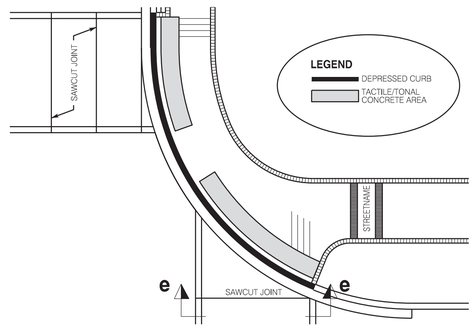
14 25mm TEXTURED BAND - DRIVEWAYS



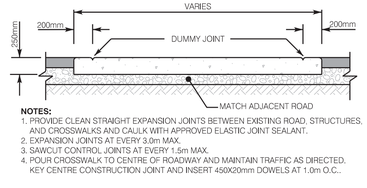
15 SHORELINES - TRANSIT STOP (450mm WIDE)



16 25mm TEXTURED BAND - OBSTRUCTIONS



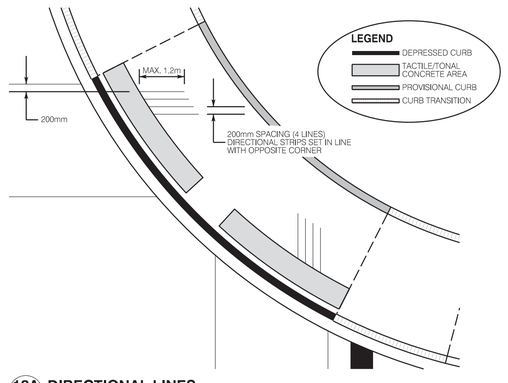
17A PLAN



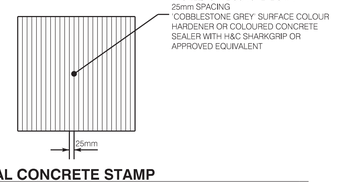
NOTES:
1. PROVIDE CLEAN STRAIGHT EXPANSION JOINTS BETWEEN EXISTING ROAD, STRUCTURES, AND CROSSWALKS AND CAULK WITH APPROVED ELASTIC JOINT SEALANT.
2. EXPANSION JOINTS AT EVERY 3.0m MAX.
3. SAWCUT CONTROL JOINTS AT EVERY 1.5m MAX.
4. POUR CROSSWALK TO CENTRE OF ROADWAY AND MAINTAIN TRAFFIC AS DIRECTED. KEY CENTRE CONSTRUCTION JOINT AND INSERT 450X20mm DOWELS AT 1.0m O.C..

17B SECTION E-E

17 CONCRETE CROSSWALK

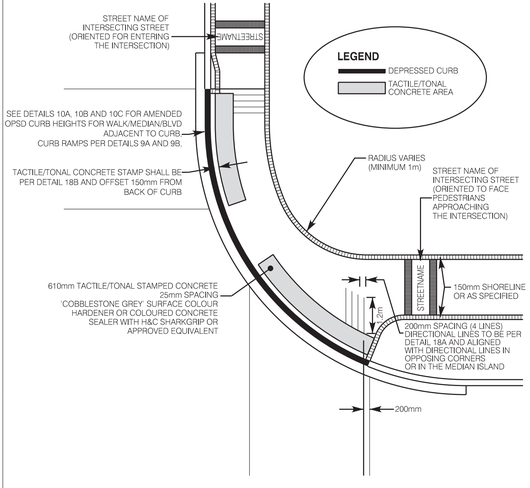


18A DIRECTIONAL LINES



18B TACTILE/TONAL CONCRETE STAMP

18 DIRECTIONAL LINES AND TACTILE/TONAL CONCRETE STAMP



19 RAMP DETAIL AND DIRECTIONAL LINES

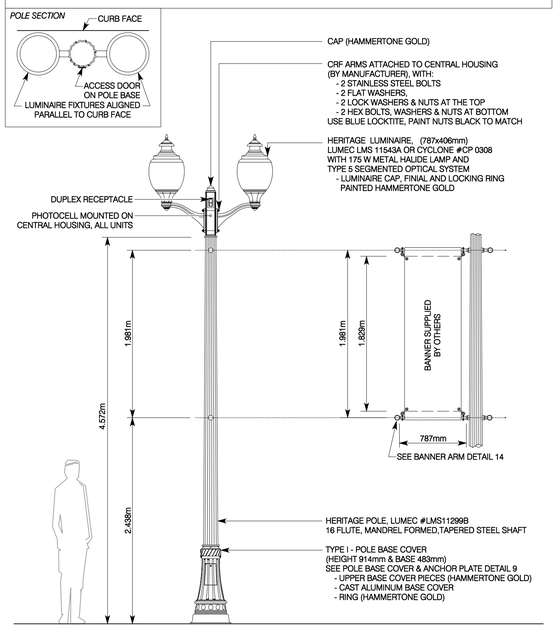
City of Hamilton
Public Works Department

CITY OF HAMILTON - INTEGRATED ACCESSIBILITY - SIDEWALK/URBAN BRAILLE GUIDELINES

DIMENSIONS SHOWN ARE IN MILLIMETRES UNLESS OTHERWISE NOTED (N.T.S.)	DATE	REV No.	FORMERLY	HAMILTON STD No.
	March 2018	2		RD-124.03

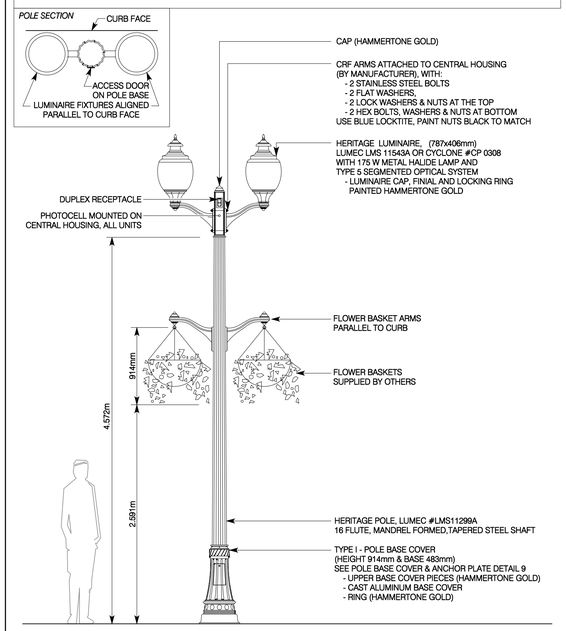
HERITAGE POLES & DETAILS

NOTES:
1. *All steel components shall be treated with a hot dip chemical etching preparation and receive a rust-inhibiting zinc bath. All metal components shall be finished with a black textured polyester powder coat paint, except where shown as hammertone gold finish.*
2. *Install poles plumb with access door perpendicular to curb and facing sidewalk, unless otherwise directed.*
3. *Provide cut-off shields on all luminaires installed adjacent to residential houses and buildings.*
4. *Where poles are installed on existing pole bases, supply and install transition plates.*



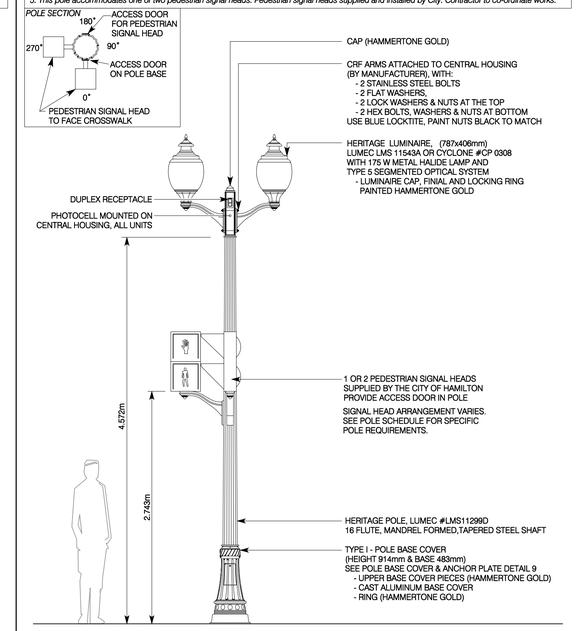
1 HERITAGE POLE - Type HLP-1 (Illumination)

NOTES:
1. *All steel components shall be treated with a hot dip chemical etching preparation and receive a rust-inhibiting zinc bath. All metal components shall be finished with a black textured polyester powder coat paint, except where shown as hammertone gold finish.*
2. *Install poles plumb with access door perpendicular to curb and facing sidewalk, unless otherwise directed.*
3. *Provide cut-off shields on all luminaires installed adjacent to residential houses and buildings.*
4. *Where poles are installed on existing pole bases, supply and install transition plates.*



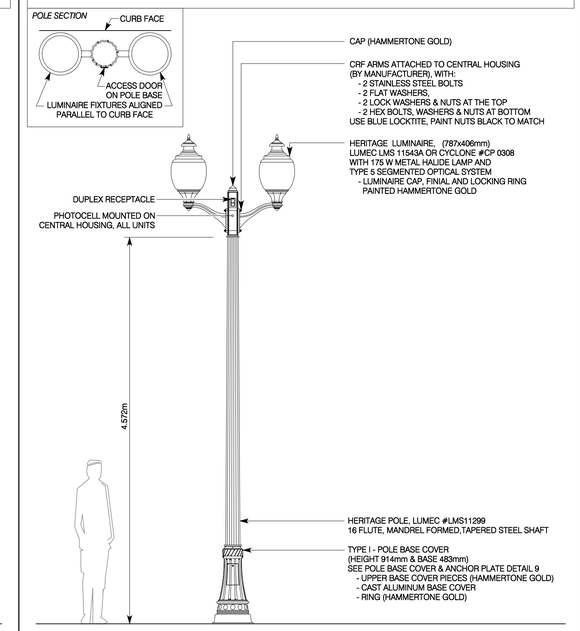
2 HERITAGE POLE - Type HLP-2 (Illumination)

NOTES:
1. *All steel components shall be treated with a hot dip chemical etching preparation and receive a rust-inhibiting zinc bath. All metal components shall be finished with a black textured polyester powder coat paint, except where shown as hammertone gold finish.*
2. *Install poles plumb with access door perpendicular to curb and facing sidewalk, unless otherwise directed.*
3. *Provide cut-off shields on all luminaires installed adjacent to residential houses and buildings.*
4. *Where poles are installed on existing pole bases, supply and install transition plates.*
5. *This pole accommodates one or two pedestrian signal heads. Pedestrian signal heads supplied and installed by City. Contractor to co-ordinate works.*



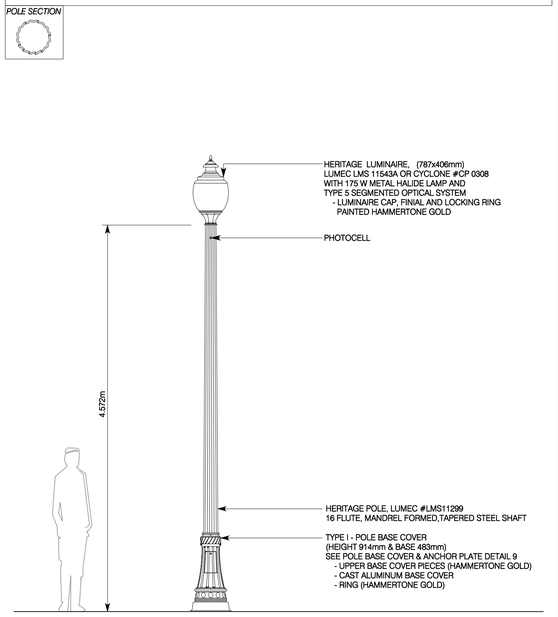
3 HERITAGE POLE - Type HLP-5 (Illumination)

NOTES:
1. *All steel components shall be treated with a hot dip chemical etching preparation and receive a rust-inhibiting zinc bath. All metal components except sign blades shall be finished with a black textured polyester powder coat paint, except where shown as hammertone gold finish.*
2. *Install poles plumb.*
3. *Components of pole are shipped separately and unassembled. Contractor shall assemble, protect, and transport each pole, and it's components. Contractor shall dispose of all packaging material and make good any damage to the components and their finish prior to acceptance by the City.*
4. *Sign blades are cast aluminum and shall be finished in black gloss, smooth polyester powder coat paint. Orient sign blades as directed in the field by the City.*



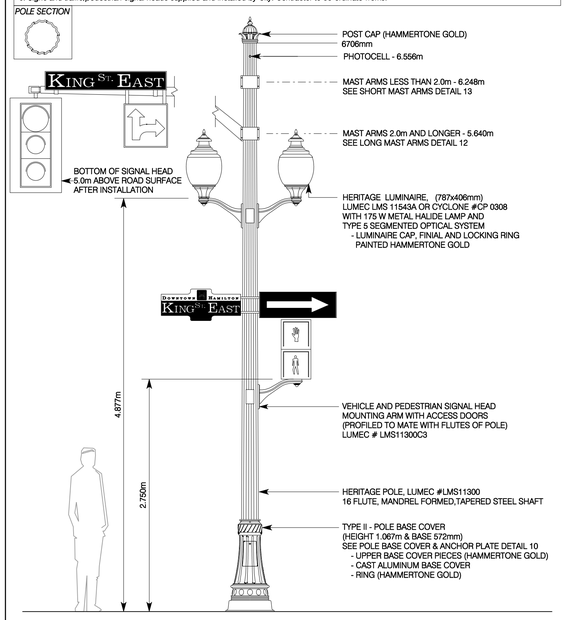
4 HERITAGE POLE - Type HLP-9 (Illumination)

NOTES:
1. *All steel components shall be treated with a hot dip chemical etching preparation and receive a rust-inhibiting zinc bath. All metal components shall be finished with a black textured polyester powder coat paint, except where shown as hammertone gold finish.*
2. *Install poles plumb with access door perpendicular to curb and facing sidewalk, unless otherwise directed.*
3. *Provide cut-off shields on all luminaires installed adjacent to residential houses and buildings.*
4. *Where poles are installed on existing pole bases, supply and install transition plates.*
5. *Refer to the pole schedule for mast arm lengths, specific pole mountings and configurations.*
6. *Signs and traffic/pedestrian signal heads supplied and installed by City. Contractor to co-ordinate works.*



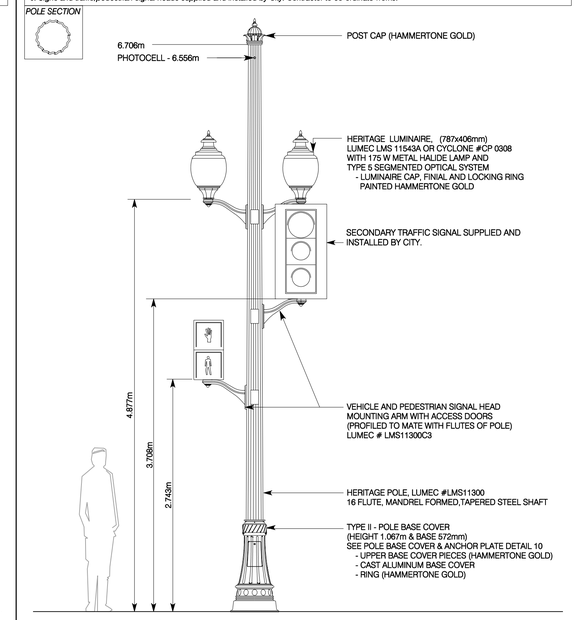
5 HERITAGE POLE - Type HLP-10 (Illumination)

NOTES:
1. *All steel components shall be treated with a hot dip chemical etching preparation and receive a rust-inhibiting zinc bath. All metal components shall be finished with a black hammertone polyester powder coat paint, except where shown as hammertone gold finish.*
2. *Install poles plumb with access door perpendicular to curb and facing sidewalk, unless otherwise directed.*
3. *Provide cut-off shields on all luminaires installed adjacent to residential houses and buildings.*
4. *Where poles are installed on existing pole bases, supply and install transition plates.*
5. *Refer to the pole schedule for mast arm lengths, specific pole mountings and configurations.*
6. *Signs and traffic/pedestrian signal heads supplied and installed by City. Contractor to co-ordinate works.*



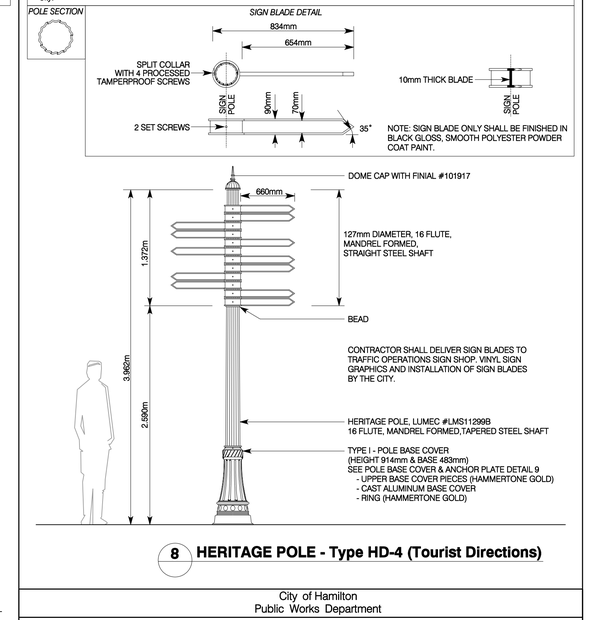
6 HERITAGE POLE - Type HTP-1 (Traffic)

NOTES:
1. *All steel components shall be treated with a hot dip chemical etching preparation and receive a rust-inhibiting zinc bath. All metal components shall be finished with a black textured polyester powder coat paint, except where shown as hammertone gold finish.*
2. *Install poles plumb with access door perpendicular to curb and facing sidewalk, unless otherwise directed.*
3. *Provide cut-off shields on all luminaires installed adjacent to residential houses and buildings.*
4. *Where poles are installed on existing pole bases, supply and install transition plates.*
5. *Refer to the pole schedule for specific pole mountings and configurations.*
6. *Signs and traffic/pedestrian signal heads supplied and installed by City. Contractor to co-ordinate works.*



7 HERITAGE POLE - Type HTP-5 (Traffic)

NOTES:
1. *All steel components except sign blades shall be finished with a black textured polyester powder coat paint, except where shown as hammertone gold finish.*
2. *Install poles plumb.*
3. *Components of pole are shipped separately and unassembled. Contractor shall assemble, protect, and transport each pole, and it's components. Contractor shall dispose of all packaging material and make good any damage to the components and their finish prior to acceptance by the City.*
4. *Sign blades are cast aluminum and shall be finished in black gloss, smooth polyester powder coat paint. Orient sign blades as directed in the field by the City.*



8 HERITAGE POLE - Type HD-4 (Tourist Directions)

City of Hamilton
Public Works Department

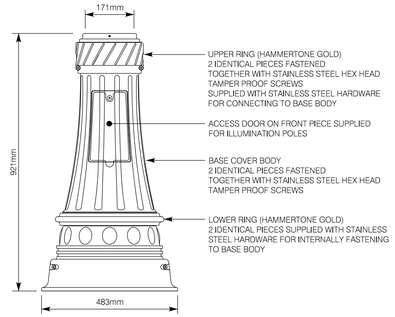
HERITAGE POLES & DETAILS

DIMENSIONS SHOWN ARE IN MILLIMETRES UNLESS OTHERWISE NOTED (N.T.S.)	DATE November 2005	REV No 0	FORMERLY	HAMILTON STD. No. RD-125.01

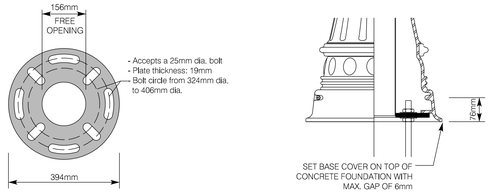
RD-125.01

HERITAGE POLES & DETAILS

NOTES:
1. Fully galvanized anchor bolt sets, supplied by the contractor: 4-25mm x 914mm with 75mm "J-Bend", 8-nuts/flat washers & 4-lock washers
2. Contractor shall cover any field cut bolts with anti-corrosion paint.



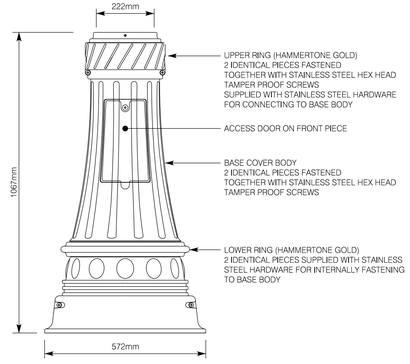
BASE COVER LUMEC # LMS 11299



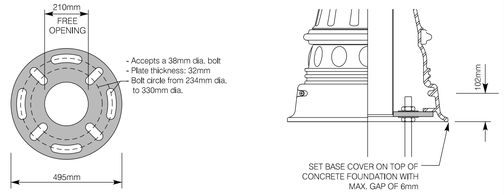
ANCHOR PLATE & BOLTS

9 BASE COVER AND ANCHOR PLATE DETAILS - TYPE I
Heritage Pole - Types HLP-1, HLP-2, HLP-5, HLP-9, HLP-10 & HD-4

NOTES:
1. Fully galvanized anchor bolt sets, supplied by the contractor: 4-38mm x 1549mm with 100mm "J-Bend", 8-nuts/flat washers & 4-lock washers
2. Contractor shall cover any field cut bolts with anti-corrosion paint.



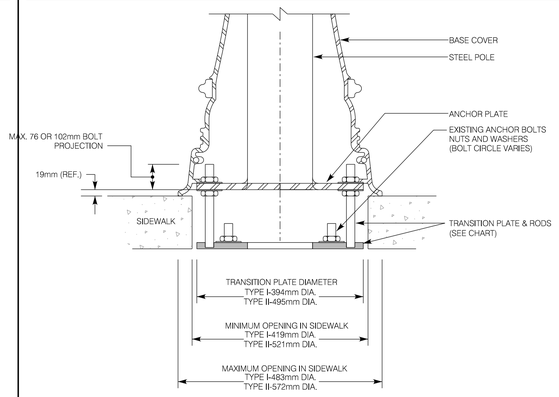
BASE COVER LUMEC # LMS 11300

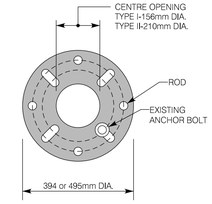


ANCHOR PLATE & BOLTS

10 BASE COVER AND ANCHOR PLATE DETAILS - TYPE II
Heritage Pole - Types HTP-1& HTP-5

NOTES:
1. All steel components shall be hot dip galvanized.
2. Plates engineered by the vendor's manufacturer to support the specified wind loads. Vendor responsible for measuring existing anchor bolts to ensure fit.



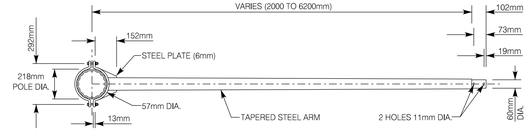


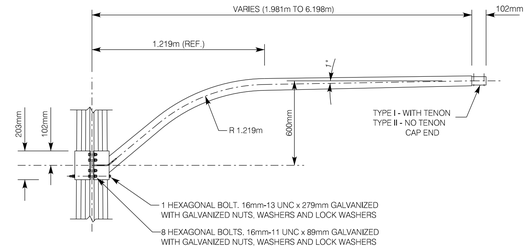
	TRANSITION PLATE (Type I)	TRANSITION PLATE (Type II)
PLATE DIAMETER	394mm	495mm
PLATE THICKNESS	19mm	32mm
ROD DIAMETER	25mm	38mm
ROD LENGTH:		
SHORT	191mm	203mm
MEDIUM	267mm	229mm
LONG	343mm	267mm
ROD BOLT CIRCLE DIAMETER	330mm	406mm

Type I transition plate accepts a bolt circle from 190mm to 330mm
Type II transition plate accepts a bolt circle from 324mm to 406mm

11 TRANSITION PLATES - TYPES I & II
Heritage Pole - Types 1, 2, 3, 4, 5, 6, 7 & 8

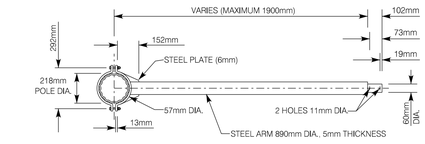
NOTES:
1. All steel components shall be treated with a hot dip chemical etching preparation and receive a rust-inhibiting zinc bath. All metal components shall be finished with a black textured hammertone polyester powder coat paint finish, as per the specifications.
2. This drawing shows the general configuration of a mast arm. Refer to the pole schedule for mast arm lengths, pole mountings and orientations.

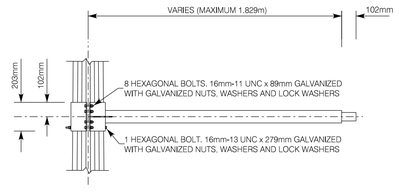




12 LONG MAST ARMS - TYPE I AND II
2.0m and longer

NOTES:
1. All steel components shall be treated with a hot dip chemical etching preparation and receive a rust-inhibiting zinc bath. All metal components shall be finished with a black textured hammertone polyester powder coat paint gold finish, as per the specifications.
2. This drawing shows the general configuration of a mast arm. Refer to the pole schedule for mast arm lengths, pole mountings and orientations.





13 SHORT MAST ARMS
Under 2.0m

Arm: Black steel pipe 32mm O.D. by 4mm thick.

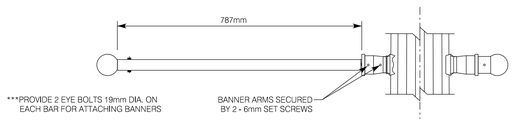
Banner Arm Fitter: Black steel pipe 33mm O.D. by 3mm thick, inserted through pole via threaded two opposite 35mm holes. Ends of pipe are threaded for mechanically assembled central tubing to easily slip-fit banner arms.

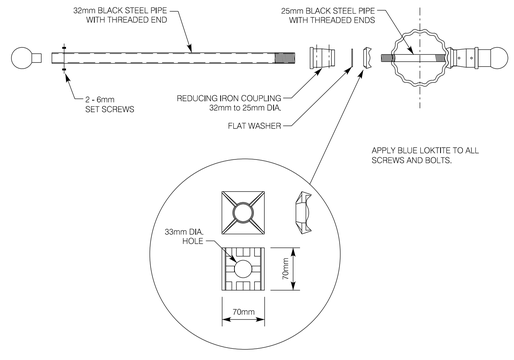
Adaptor: Cast aluminum designed to fit fluted poles.

Hardware: Stainless steel.

Finial: Decorative end of arm cast aluminum ball 63mm dia. with set screws.

Finish: Electrostatically applied thermoset polyester powder-coat with the XL4 four part corrosion inhibiting process.

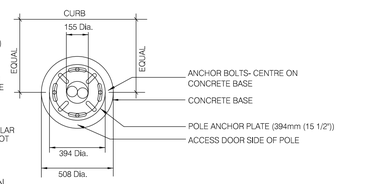




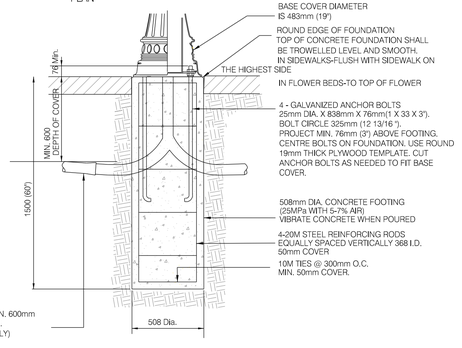
14 BANNER ARM DETAIL
Heritage Pole - Type 1

INSTALL BASE CASTING WITH CITY OF HAMILTON CREST FACING THE WALKWAY, UNLESS DIRECTED OTHERWISE.

NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETRES
2. MINIMUM OF TWO DUCTS REQUIRED FOR EACH CONC. FOUNDATION UNLESS OTHERWISE SHOWN. (LIGHT POLES ONLY)
3. CONTRACTOR TO VERIFY OPENING SIZE IN POLE BASE PLATE PRIOR TO SETTING CONDUIT SLEEVES.
4. DOWNTOWN HAMILTON LIGHT POLE AND TOURIST POLE WITH SEPARATE CAST BASE COVER (SUPPLIED BY THE CITY) INSTALL LEVELLING NUTS AND FLAT WASHERS BENEATH ANCHOR BASE PLATE. INSTALL POLE PLUMB IN ALL DIRECTIONS WITH ACCESS DOOR FACING AND PERPENDICULAR TO THE WALKWAY. TOURIST POLE DOES NOT HAVE AN ACCESS DOOR.

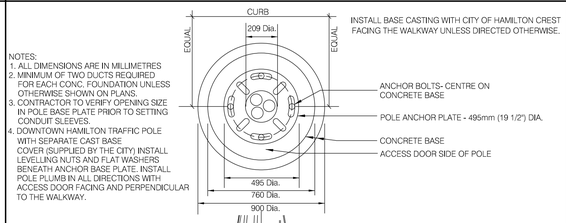


PLAN

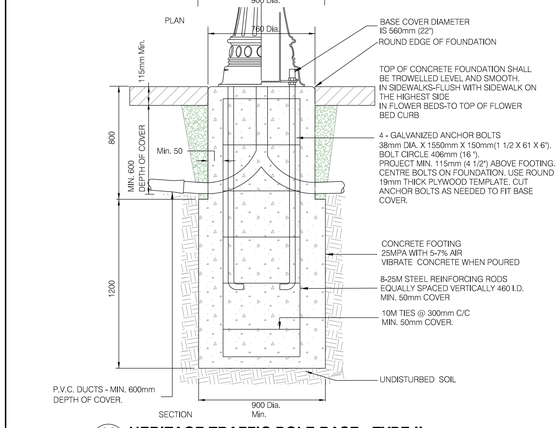


SECTION

15 HERITAGE LIGHT/TOURIST SIGN POLE BASE - TYPE I



PLAN



SECTION

16 HERITAGE TRAFFIC POLE BASE - TYPE II

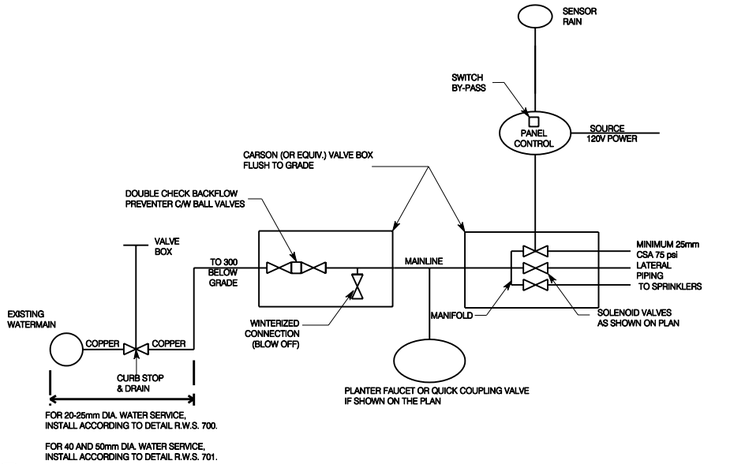
City of Hamilton
Public Works Department

HERITAGE POLES & DETAILS

DIMENSIONS SHOWN ARE IN MILLIMETRES UNLESS OTHERWISE NOTED (N.T.S.)	DATE June 2017	REV No. 1	FORMERLY	HAMILTON STD.No. RD-125.02

RD-125.02

IRRIGATION - TYPICAL DETAILS



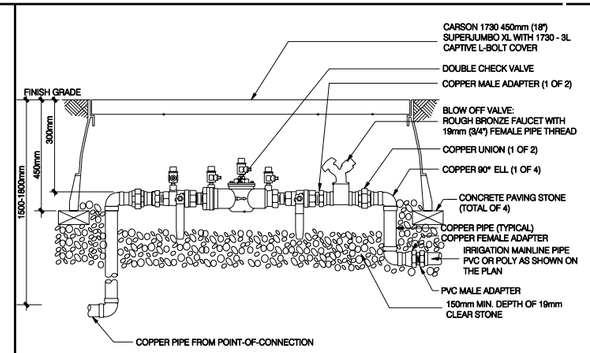
APPROVED PRODUCTS LIST
SIZE TO MATCH SUPPLY LINE. SEE PLAN.

CURB STOP AND DRAIN VALVES
- *MUELLER MARK II ORISEAL #H-15219*
- *CAMBRIDGE BRASS "SUCCESSOR S & D" 17000 SERIES*
- *FORD METER BOX CO. Z44 SERIES WITH STOP AND WASTE (SW) FEATURE.*

BACKFLOW PREVENTION DEVICES
- *WATTS REGULATOR SERIES 009*
- *HERSEY FRP II 19mm TO 50mm*

1 WATER SERVICE SCHEMATIC

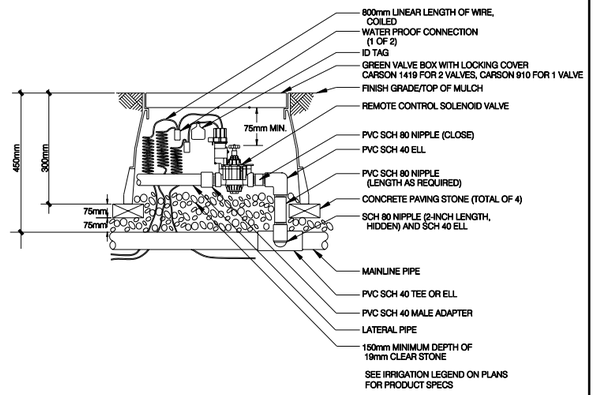
N.T.S.



NOTES:
1. *INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.*
2. *DO NOT SCALE DRAWINGS.*
3. *INSTALL BACKFLOW PREVENTER AS REQUIRED BY LOCAL CODES AND HEALTH DEPARTMENT. VERIFY LOCAL REQUIREMENTS PRIOR TO INSTALLATION.*

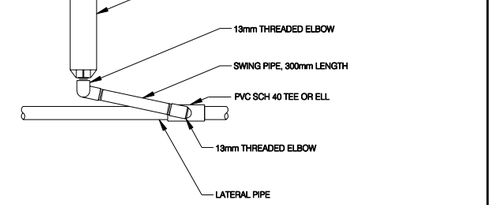
2 BACKFLOW PREVENTER

N.T.S.



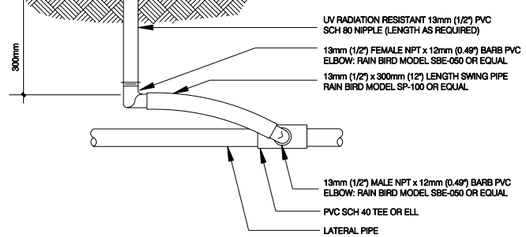
3 REMOTE CONTROL ELECTRIC SOLENOID VALVE

N.T.S.



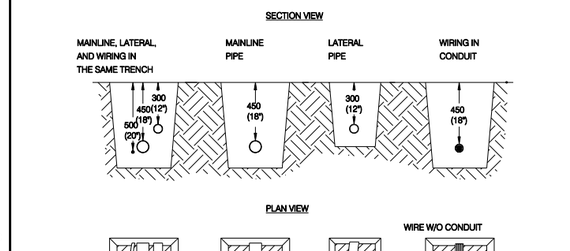
4 POP-UP SPRINKLER AND TRIPLE SWING JOINT ASSEMBLY

N.T.S.



5 TREE PIT BUBBLER ASSEMBLY

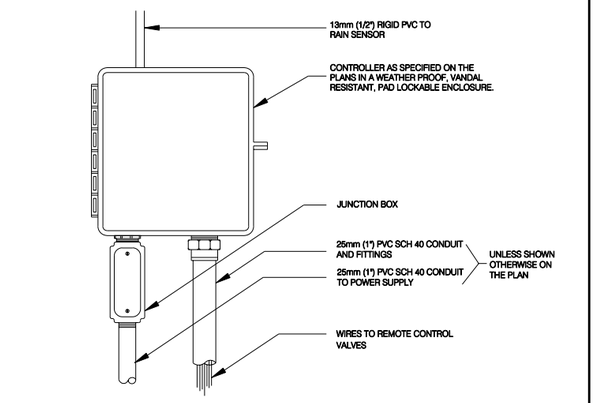
N.T.S.



NOTES:
1. *SLEEVE BELOW ALL HARDSCAPE ELEMENTS WITH CLASS 160 PVC TWICE THE DIAMETER OF THE PIPE OR WIRE BUNDLE WITHIN.*

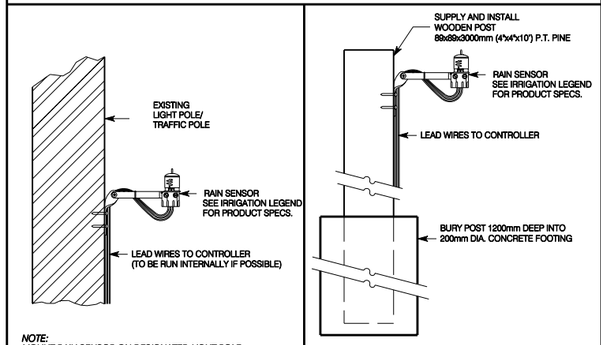
6 PIPE AND WIRE TRENCHING

N.T.S.



7 IRRIGATION CONTROLLER ON POST

N.T.S.



NOTE:
MOUNT RAIN SENSOR ON DESIGNATED LIGHT POLE WHERE IT WILL BE EXPOSED TO UNOBSTRUCTED RAINFALL, BUT NOT IN THE PATH OF SPRINKLER SPRAY.

RAIN SENSOR ON EXISTING LIGHT/TRAFFIC POLE

TYPE A

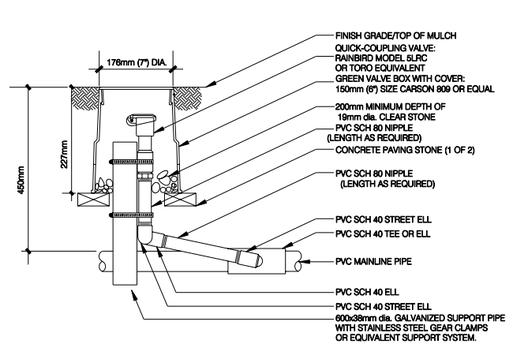
NOTE:
MOUNT RAIN SENSOR ON 4"x4"x10' P.T. POST WHERE IT WILL BE EXPOSED TO UNOBSTRUCTED RAINFALL, BUT NOT IN THE PATH OF SPRINKLER SPRAY.

RAIN SENSOR ON WOODEN POST

TYPE B

8 RAIN SENSOR

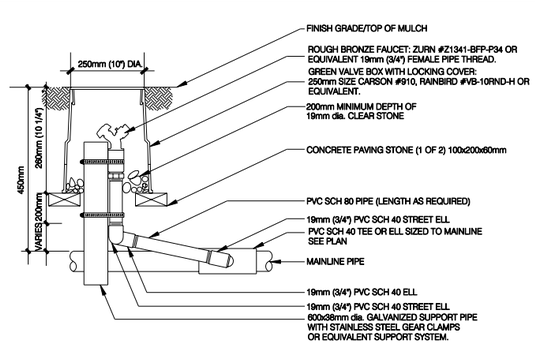
N.T.S.



NOTE:
1. *FURNISH FITTINGS AND PIPING NOMINALLY SIZED IDENTICAL TO NOMINAL QUICK COUPLING VALVE INLET SIZE.*
2. *SEE PLANS FOR LOCATION OF VALVES*
3. *PROVIDE A MATCHING QUICK COUPLING KEY FOR EACH VALVE INSTALLED*

9 QUICK COUPLING VALVE

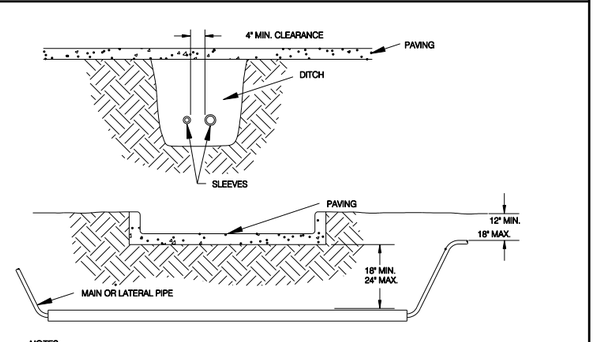
N.T.S.



NOTE:
1. *FURNISH ALL FITTINGS REQUIRED TO ATTACH FAUCET TO PVC PIPE*
2. *SEE PLANS FOR LOCATION OF PLANTER FAUCET.*
3. *PROVIDE A MATCHING KEY FOR EACH FAUCET INSTALLED.*

10 PLANTER FAUCET

N.T.S.



NOTES:
1. *ALL PVC IRRIGATION SLEEVES TO BE CLASS 160 PIPE.*
2. *ALL JOINTS TO BE SOLVENT WELDED AND WATERTIGHT.*
3. *MECHANICALLY TAMP TO 98-100% PROCTOR.*

11 SLEEVING

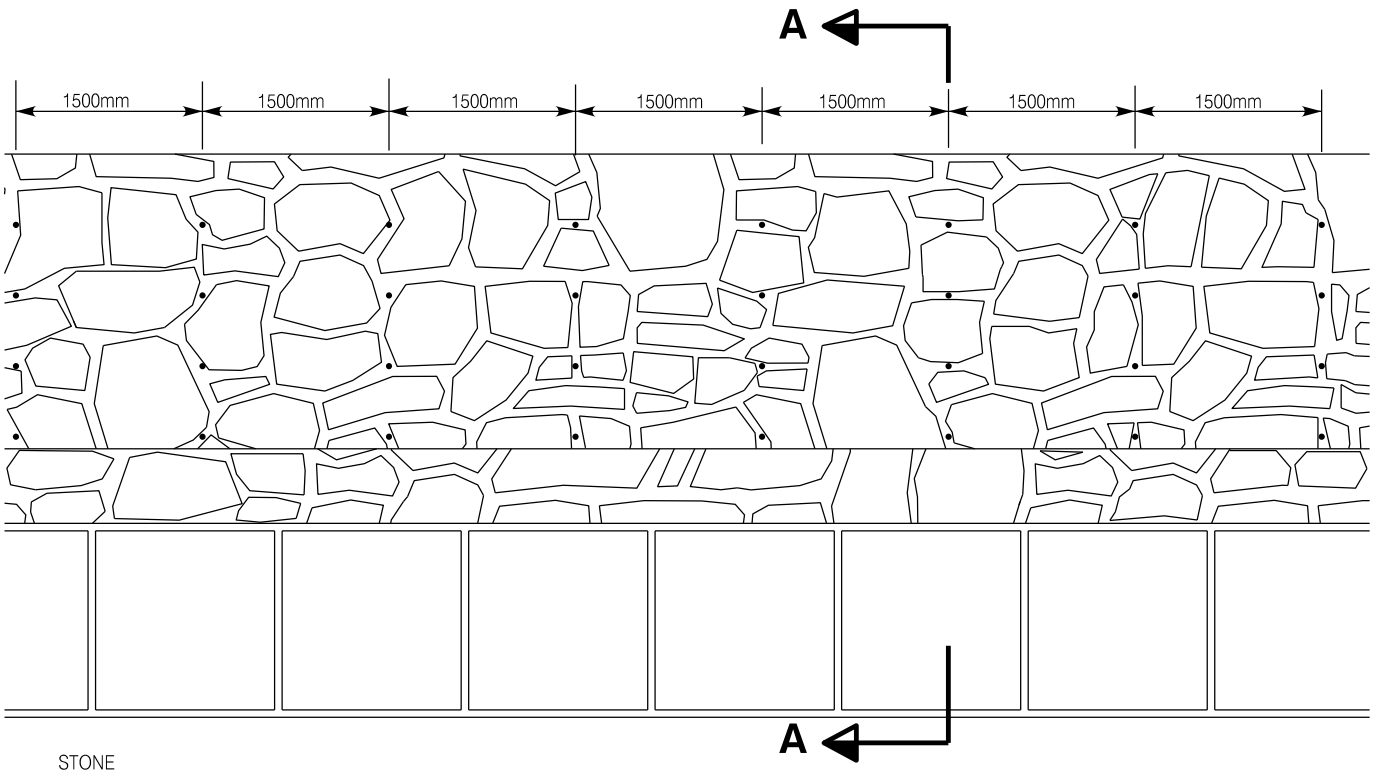
N.T.S.

City of Hamilton
Public Works Department

IRRIGATION - TYPICAL DETAILS

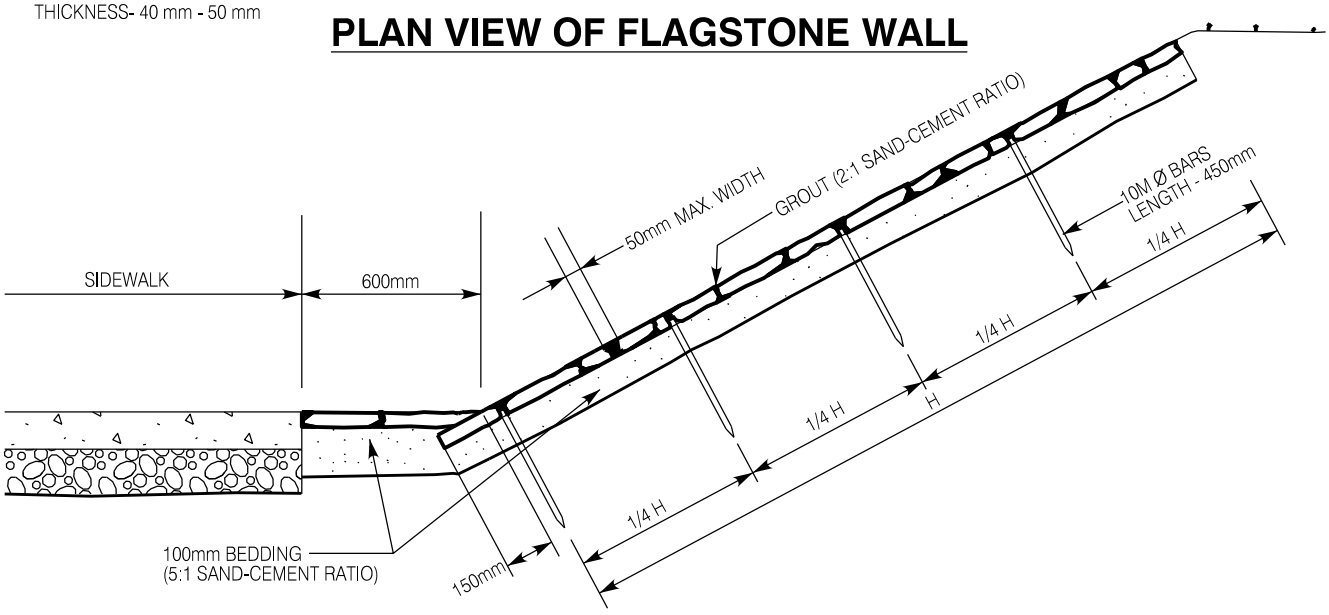
DIMENSIONS SHOWN ARE IN MILLIMETRES UNLESS OTHERWISE NOTED (N.T.S.)	DATE: November 2005	REV No: 0	FORMERLY:	HAMILTON STD. No.: RD-126

RD-126



STONE
MIN SIZE- 120 SQ. cm
THICKNESS- 40 mm - 50 mm

PLAN VIEW OF FLAGSTONE WALL



SECTION A-A

A *GROUTED RIP RAP*
BEFORE APPLYING MORTAR, THE SUFACE OF THE STONE SHALL BE AMPLY WETTED. THE SPACES BETWEEN THE STONES SHALL BE FILLED WITH CEMENT MORTAR COMPOSED OF 1 PART PORTLAND CEMENT AND 2 PARTS FINE AGGREGATE AND SHALL BE OF SUCH CONSISTENCY THAT IT CAN BE PLACED WITH A MASONS TROWEL. EXCESS MORTAR SHALL BE REMOVED WITH A STIFF BRUSH. GROUTED RIP RAP SHALL BE CURED IN ACCORDANCE WITH THE CURING REQUIREMENTS FOR CONCRETE.

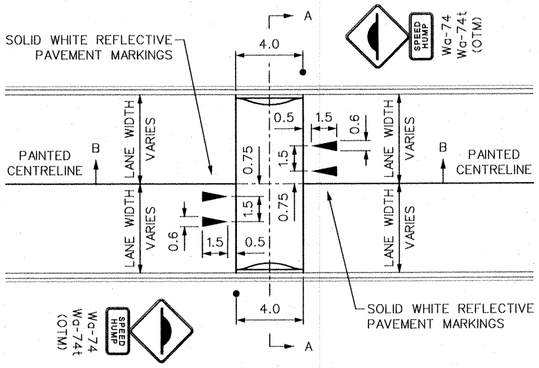
B *RATIO SAND - CEMENT FOR STONE BASE 5:1.*
RATIO SAND - CEMENT FOR GROUT 2:1.

City of Hamilton
Public Works Department

TYPICAL CONSTRUCTION OF FLAGSTONE WALL ON SLOPE

DIMENSIONS SHOWN ARE IN MILLIMETRES UNLESS OTHERWISE NOTED (N.T.S.)	DATE June 2017	REV No	FORMERLY: RHS-1500	HAMILTON STD No RD-127

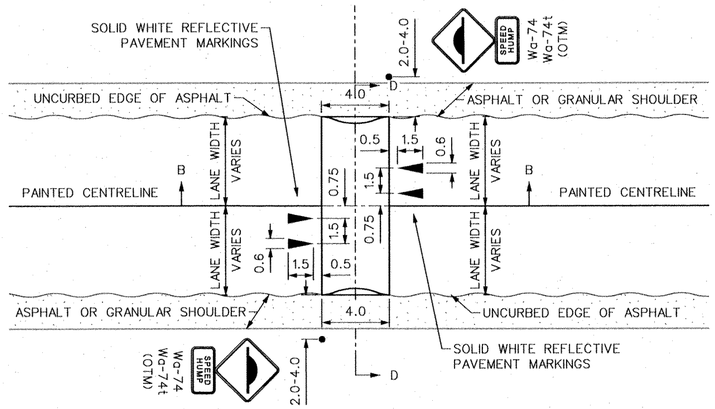
DRAWING No.: DT:0119-01



URBAN ROADWAY
PLAN VIEW
CONCRETE SPEED HUMP LAYOUT,
PAVEMENT MARKINGS AND SIGNAGE

SCALE 1:250

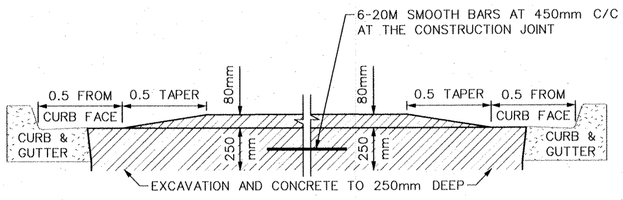
0 5 10 METRES



RURAL ROADWAY
PLAN VIEW
CONCRETE SPEED HUMP LAYOUT,
PAVEMENT MARKINGS AND SIGNAGE

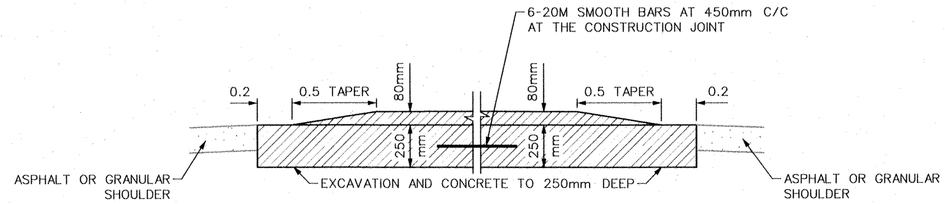
SCALE 1:250

0 5 10 METRES



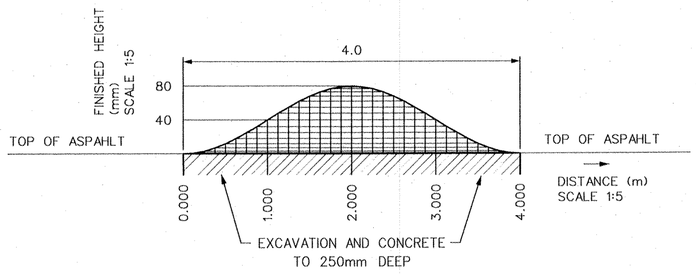
DETAIL 'A' - SECTION C-C
URBAN ROADWAY

NOT TO SCALE



DETAIL 'C' - SECTION D-D
RURAL ROADWAY

NOT TO SCALE



DETAIL 'B' - SECTION B-B
URBAN AND RURAL ROADWAY

NOT TO SCALE

STANDARD PRACTICES, UNLESS NOTED

DIMENSIONS WITH DECIMAL PLACES ARE METRES
DIMENSIONS IN WHOLE NUMBERS ARE MILLIMETRES

APPROVAL

For M.W. 01/17/17

MANAGER OF TRAFFIC OPERATIONS AND ENGINEERING MM/DD/YY

No.	DATE	DRAWN	REVISION DETAILS
0	2016.12	SAL	NEW DRAWING

SCALE: NOTED

DESIGN: SL/SC

CHECKED:

DRAWING DATE: 2017.01

Printed: January 13, 2017

DRAWING No.: DT:0119-01

CITY OF HAMILTON
INSTALLATION STANDARDS

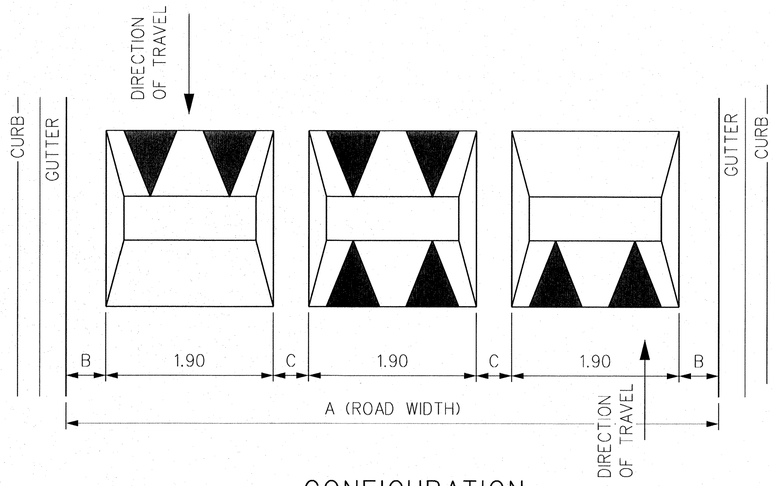
STANDARD DESIGN FOR SPEED HUMPS

PREPARED BY THE CITY OF HAMILTON, TRAFFIC OPERATIONS AND ENGINEERING
ENERGY FLEET AND TRAFFIC SECTION, CORPORATE ASSETS AND STRATEGIC PLANNING
PUBLIC WORKS DEPARTMENT

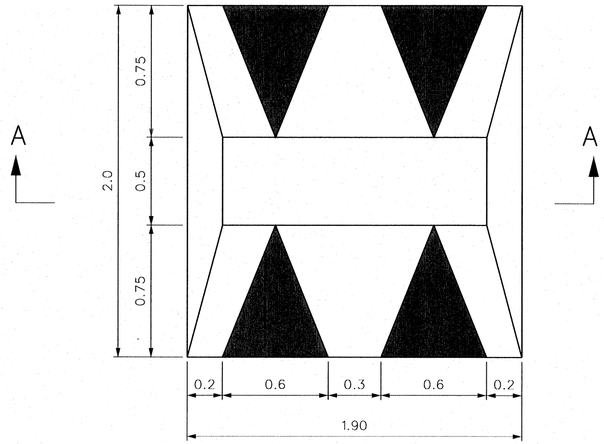
STANDARD DESIGN FOR SPEED HUMPS

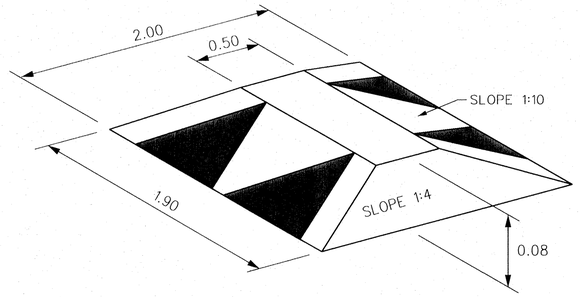
DT:0119-01 STANDARD DESIGN FOR SPEED HUMPS

DRAWING No.: DT:0119-02



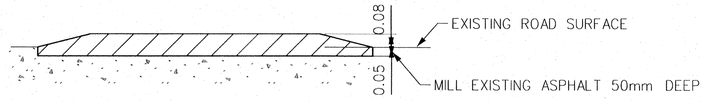
CONFIGURATION





DIMENSIONS

GENERAL LAYOUT			
ROAD WIDTH A (m)	No. OF CUSHIONS	DIMENSIONS (m)	
		B	C
8.0	3	0.75	0.40
9.0	3	1.10	0.55
10.0	4	0.60	0.40
11.0	4	1.00	0.46



SECTION A-A

NOTE: ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE NOTED

No.	DATE	DRAWN	REVISION DETAILS
0	2019.03	EZ	NEW DRAWING

DESIGN: SC

CHECKED: M.S. D.F.

SCALE: N.T.S

Printed: 3/06/19

DRAWING No.: DT:0119-02

CITY OF HAMILTON STANDARD DRAWING

SPEED CUSHIONS

PREPARED BY THE CITY OF HAMILTON,
TRAFFIC ENGINEERING, PUBLIC WORKS DEPARTMENT

APPROVAL

CERTIFIED ENGINEERING TECHNOLOGIST PROVINCE OF ONTARIO MARTIN WHITE No 16556

MANAGER OF TRANSPORTATION OPERATIONS

18 Mar 19
MM/DD/YY

STANDARD DESIGN FOR SPEED CUSHIONS
DT:0119-02