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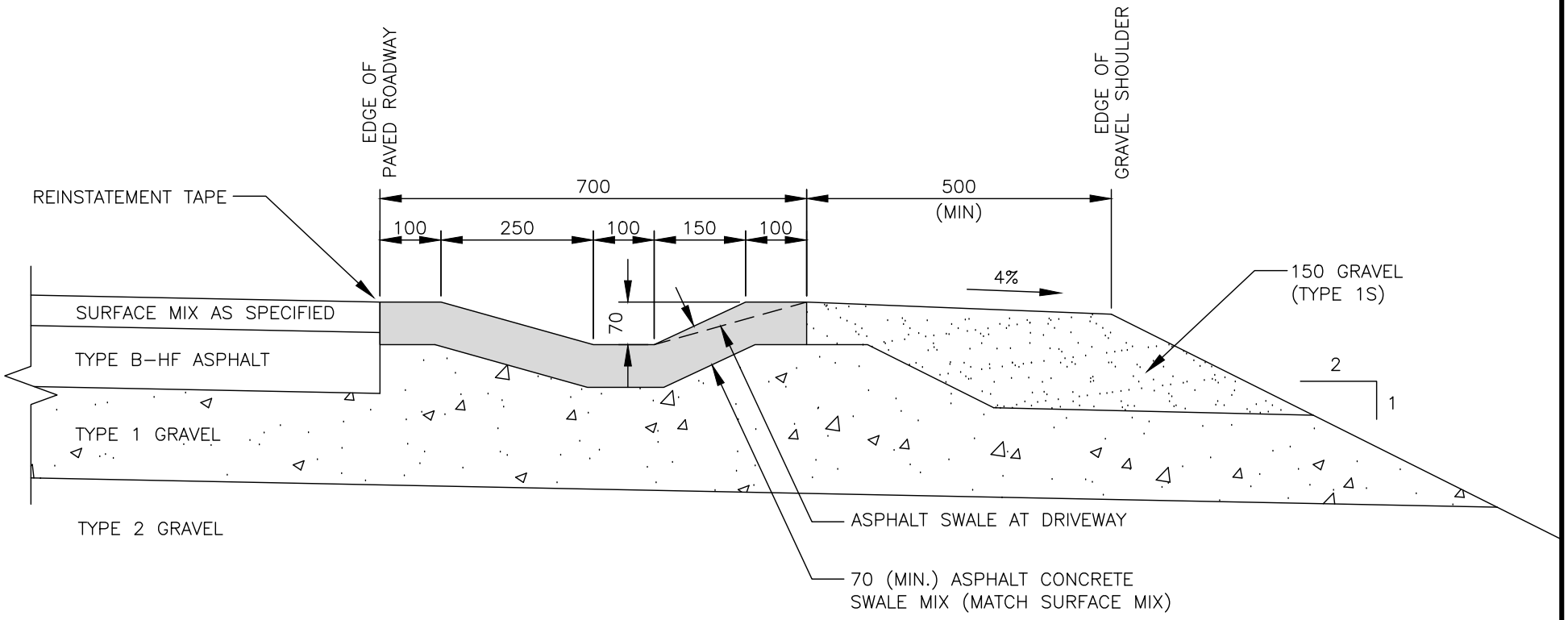


NOTE:

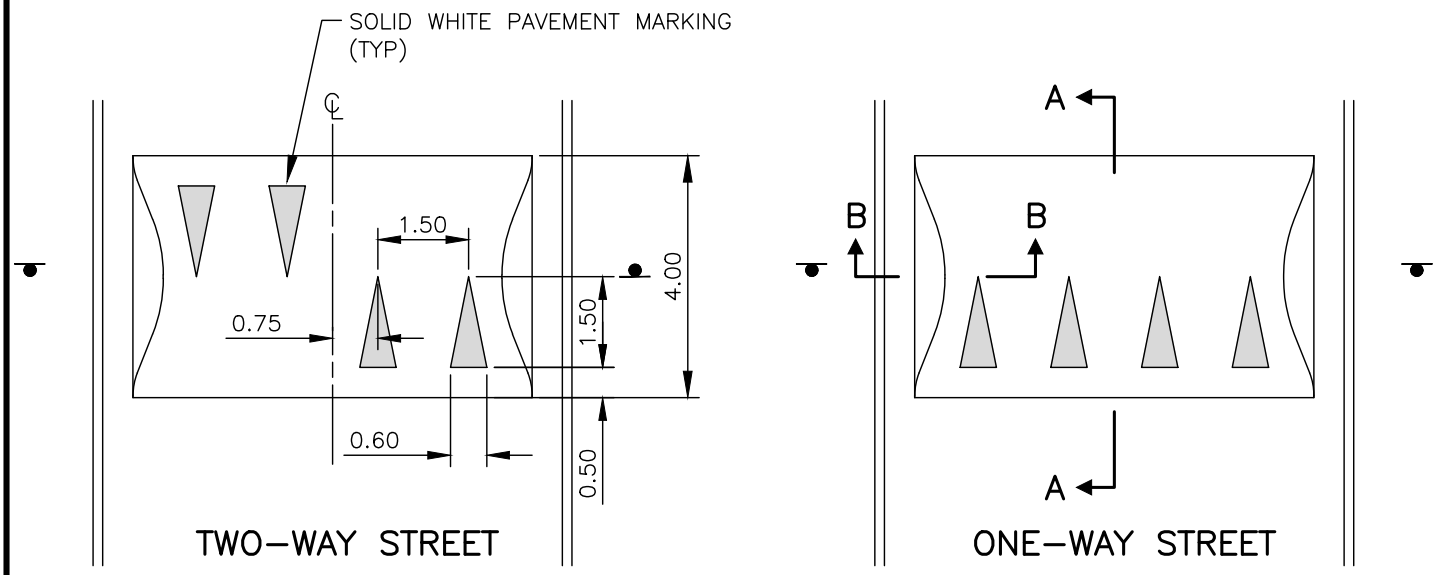
1. FOR ALL RURAL ROADS HAVING A GRADE EXCEEDING 7%, ASPHALT SWALES ARE REQUIRED ON EACH SIDE OF THE ROAD (ABUTTING THE ASPHALT TRAVELLED WAY) ASPHALT SWALE RUNOFF TO THE DITCH EVERY 30m OR UPSTREAM AT DRIVEWAYS.
2. ASPHALT SWALE SHALL EXTEND TO THE EDGE OF SHOULDER AND DOWN THE SLOPE BY 1m MINIMUM.
3. MATCH CROSSFALL OF SWALE TO EXISTING CROSSFALL OF ROAD
4. ASPHALT SWALE TO BE MACHINE PLACED.
5. 1m ASPHALT APRON REQUIRED AT GRAVEL DRIVEWAYS.

HALIFAX

STANDARD DETAIL

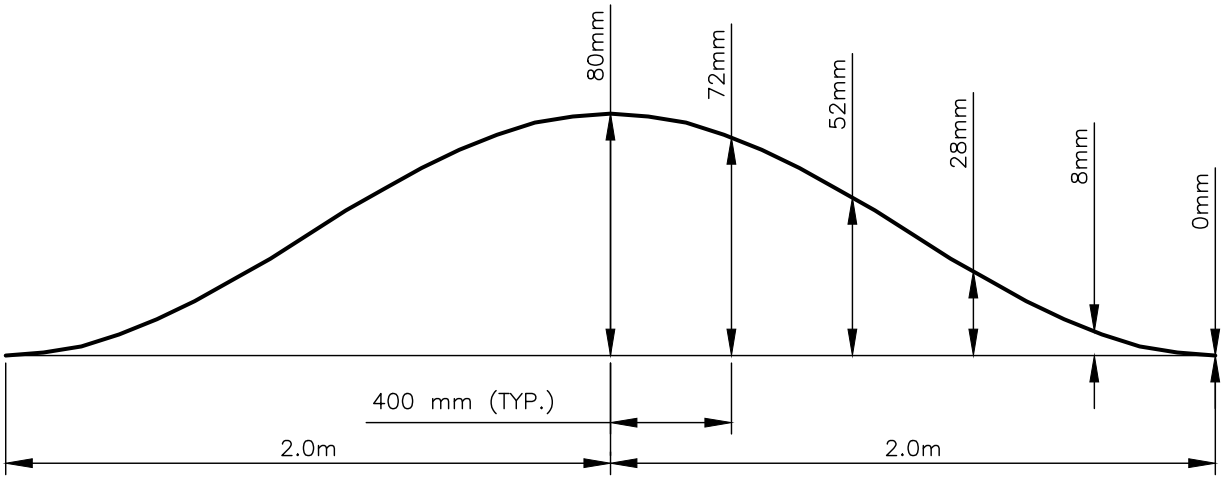
ASPHALT SWALE

DATE: 2019	REFERENCE	APPROVED
SCALE: 1:10		FIG No.: HRM 30

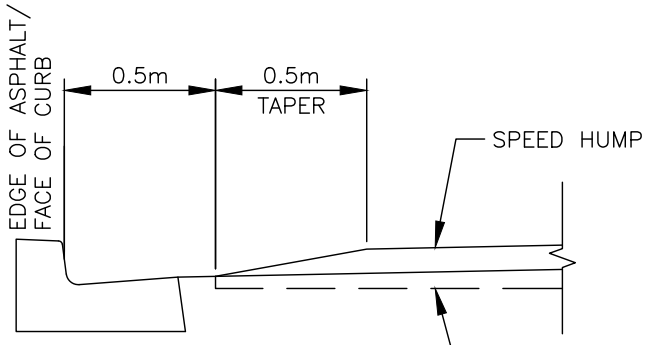


SPEED HUMPS
SCALE: 1:125

NOTES:
1. TOLERANCE FOR CONSTRUCTION IS +/– 10mm RELATIVE TO THE CURVE.
2. THE EXISTING ASPHALT SURFACE TO BE MILLED TO A DEPTH OF 40mm WHEN RETROFITTING.



SECTION A–A
SCALE: Horz. 1:25
Vert. 1:2.5



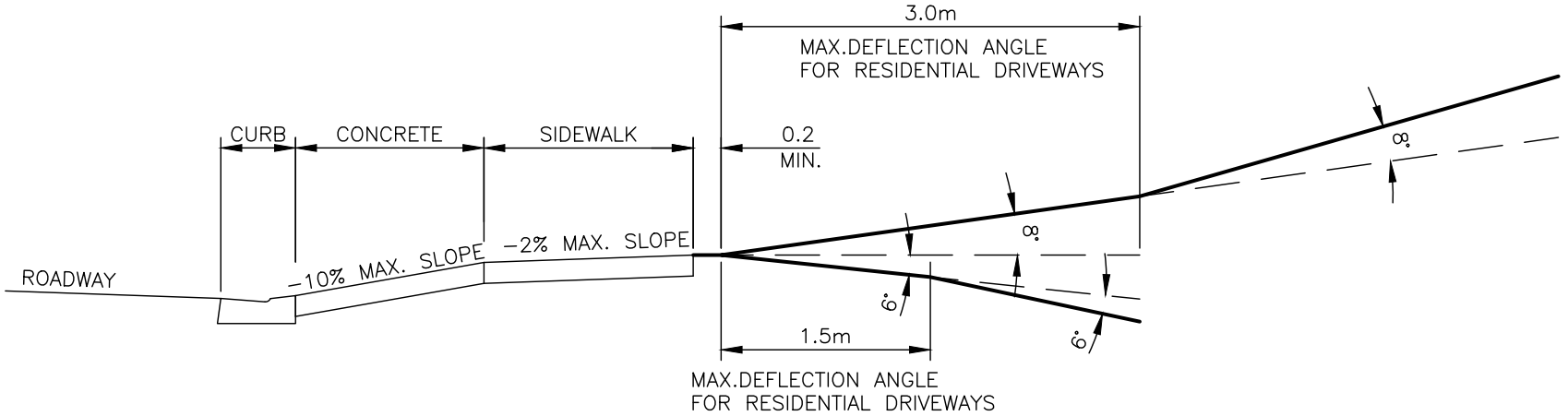
SECTION B–B
SCALE: 1:25

HALIFAX

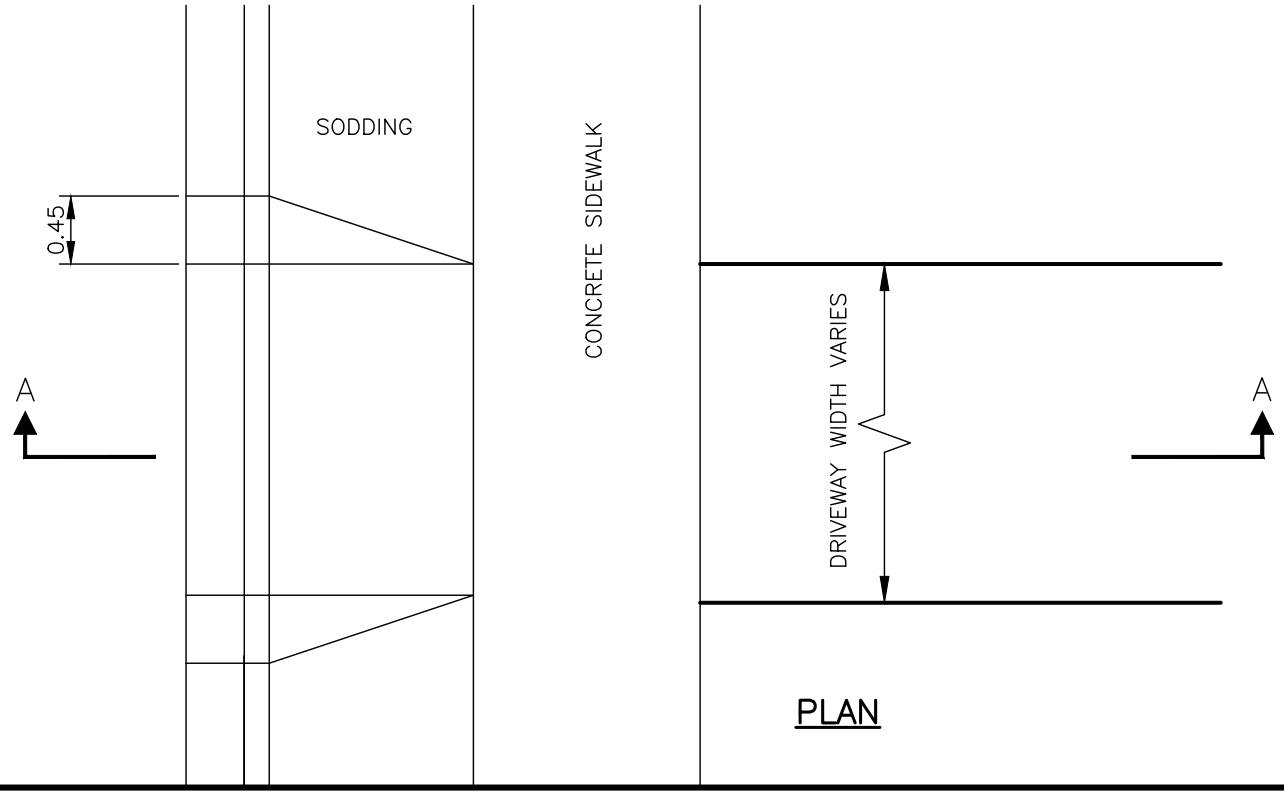
STANDARD DETAIL

SPEED HUMP

DATE: OCTOBER 2020	REFERENCE	APPROVED
SCALE: AS NOTED		FIG No.: HRM 31



SECTION A–A



PLAN

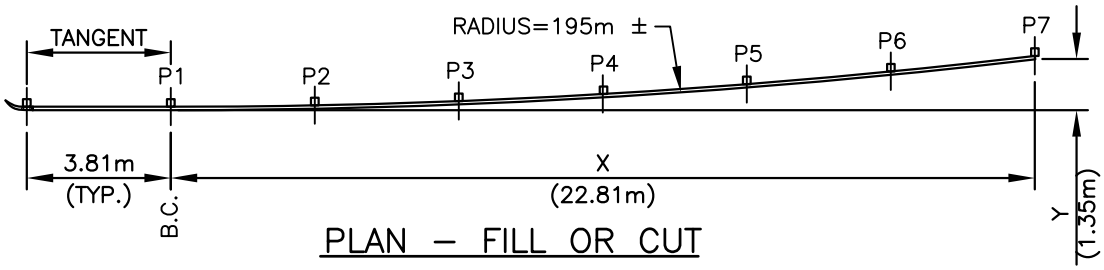
NOTE:
THIS DETAIL IS INTENDED FOR RETROFIT SITUATION, I.E. WHERE EXISTING DRIVE WAY GRADES MUST BE ADJUSTED TO MATCH NEW CONDITIONS IN THE STREET RIGHT–OF–WAY.

HALIFAX

STANDARD DETAIL

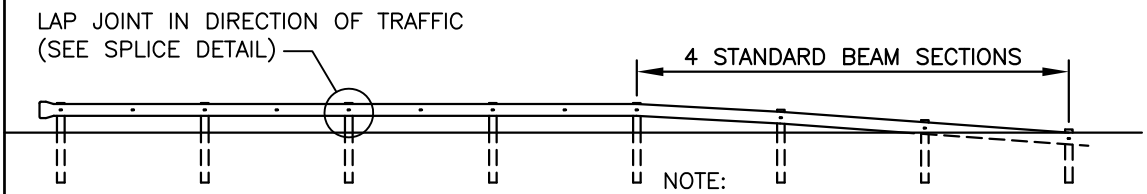
DRIVEWAY DEFLECTION ANGLES & GRADES

DATE: 2020	REFERENCE	APPROVED
SCALE: 1:50		FIG No.: HRM 32



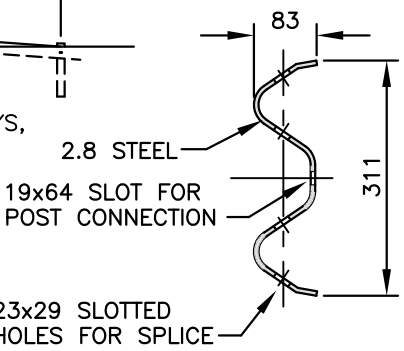
PLAN – FILL OR CUT

POST OFFSET TABLE		
POST #	X	Y
P1–P2	3.81	0.04
P1–P3	7.62	0.15
P1–P4	11.42	0.34
P1–P5	15.22	0.60
P1–P6	19.02	0.94
P1–P7	22.81	1.35

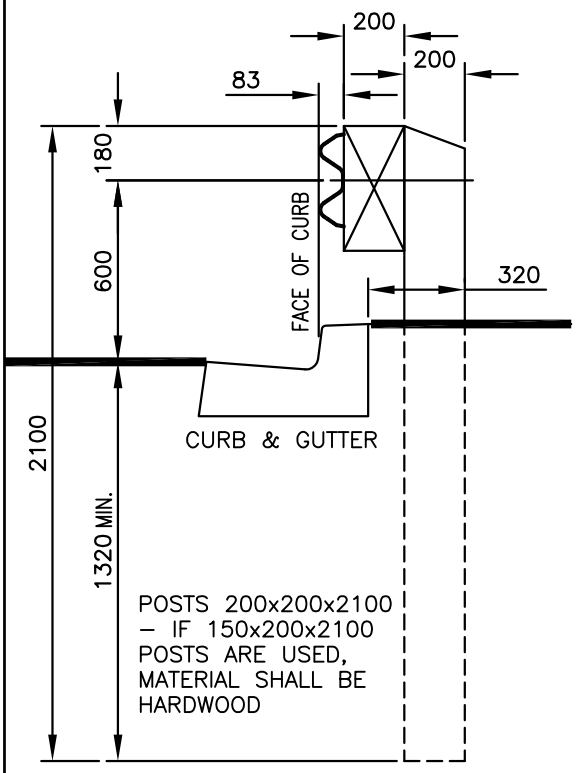


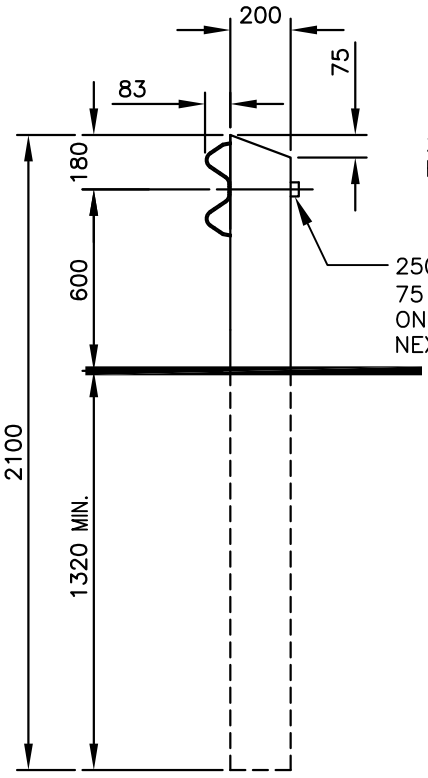
ELEVATION

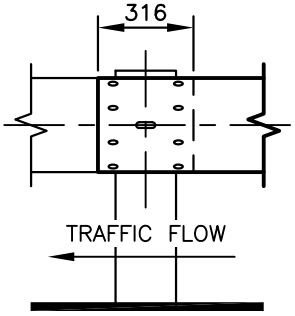
NOTE:
FOR 2 LANE/2 WAY ROADWAYS, BURRY BOTH ENDS.



BEAM SECTION (TYP.)

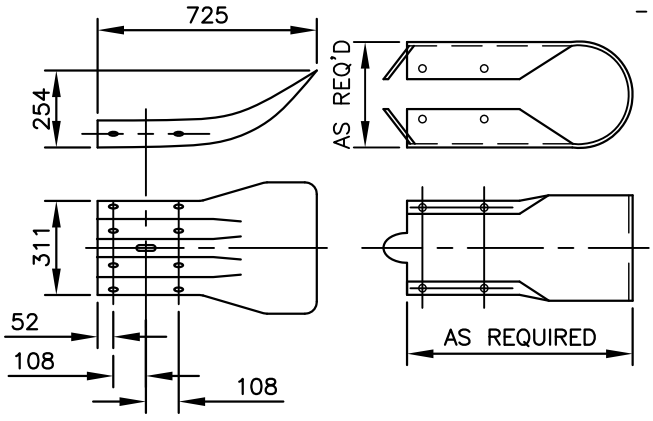






SPLICE DETAIL

NOTES:
- TWO 50x75 DELINEATORS ARE REQUIRED FOR EACH POST.
- A WHITE DELINEATOR SHALL BE PLACED ON THE SIDE OF THE POST FACING TRAFFIC.
- A YELLOW DELINEATOR SHALL BE PLACED ON THE OPPOSITE SIDE.
- THE DELINEATOR SHALL BE LOCATED AT THE EDGE OF THE POST NEAREST THE ROAD, VERTICAL, WITH THE TOP 75 BELOW THE LOWEST POINT OF THE GUARDRAIL PANEL.
- THE DELINEATOR SHALL BE ATTACHED WITH GALVANIZED NAILS.



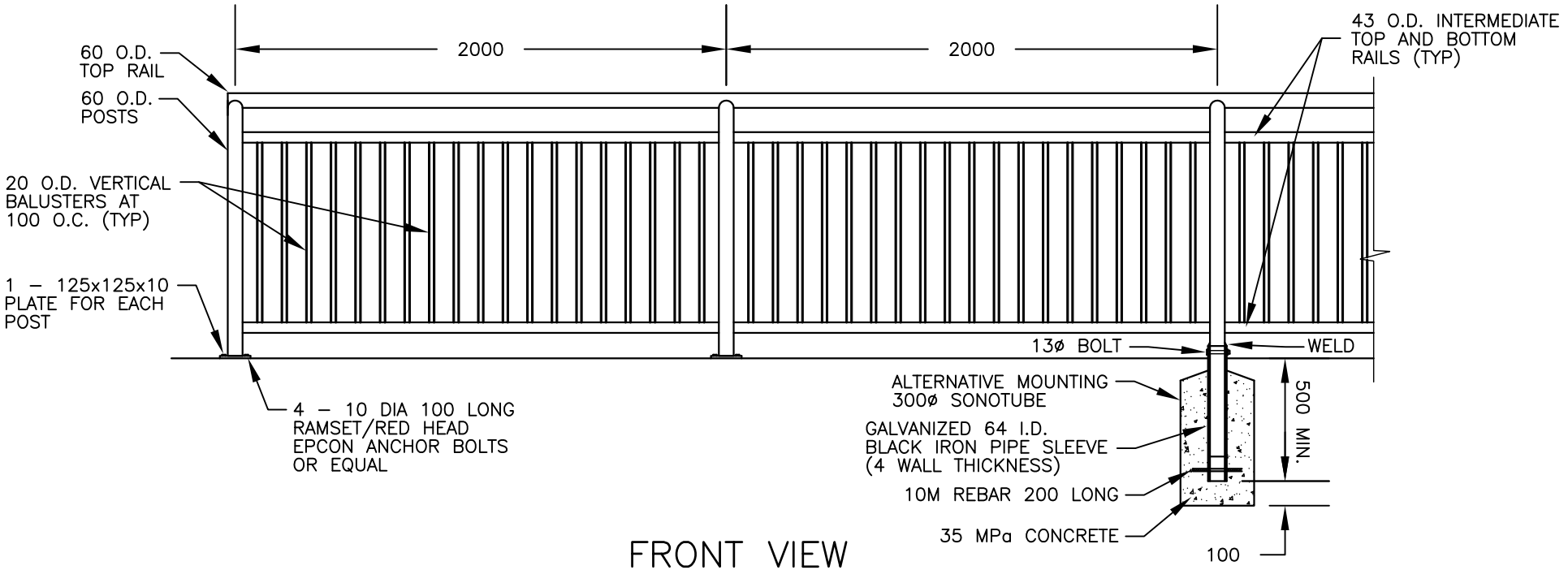
TERMINAL END BUFFER END

HALIFAX
REGIONAL MUNICIPALITY

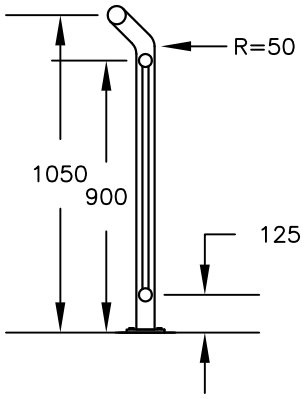
STANDARD DETAIL

GUIDE RAIL INSTALLATION

DATE: 2013	REFERENCE	APPROVED
SCALE: NTS		FIG No.: HRM 36



FRONT VIEW



SIDE VIEW

NOTE:
RAILING SYSTEM TO BE HOT DIPPED GALVANIZED AFTER FABRICATION. FIELD WELDS, IF NECESSARY SHALL BE PROTECTED WITH COLD GALVANIZING.

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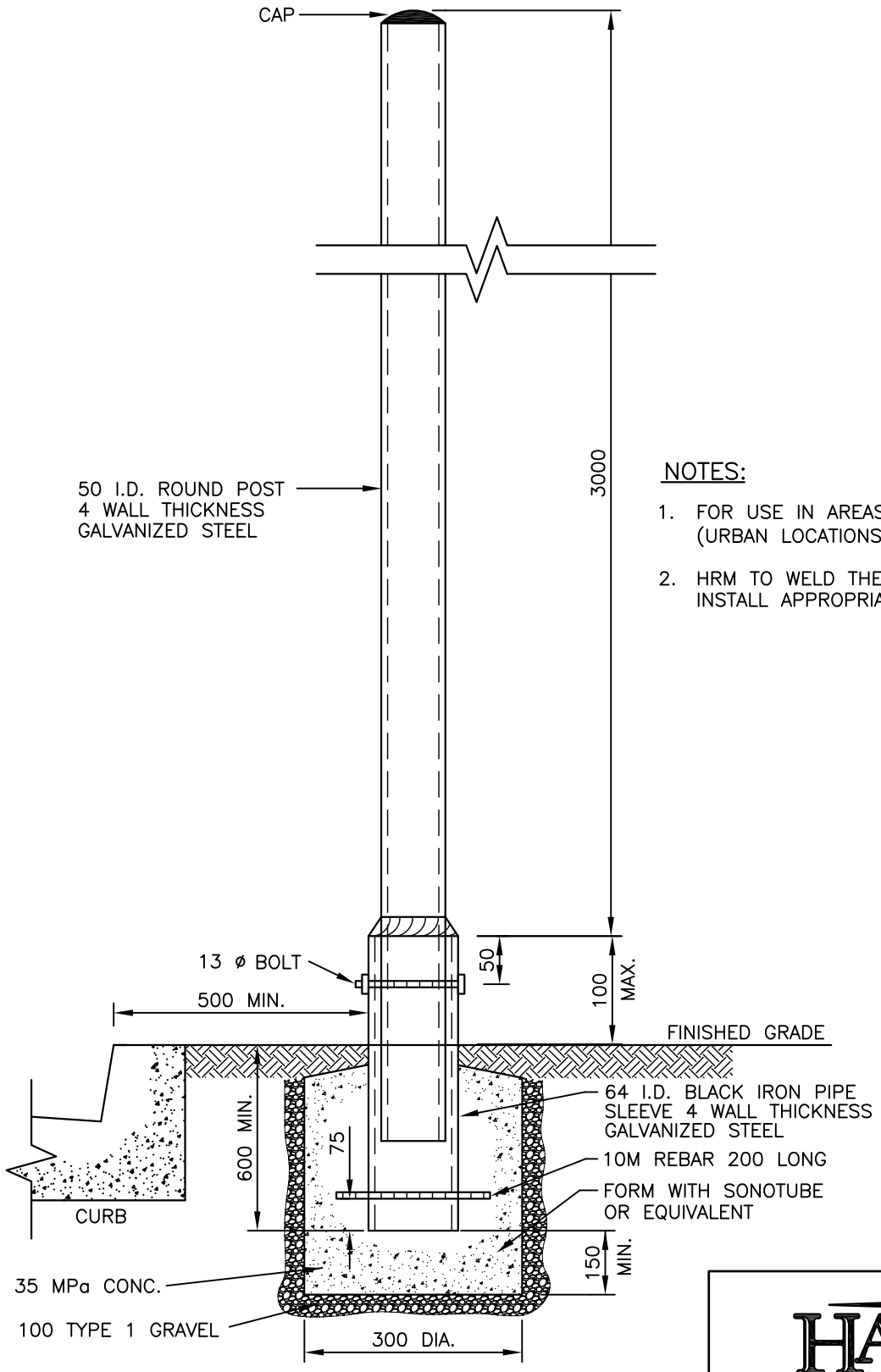
STANDARD DETAIL

RAILING

DATE: 2013	REFERENCE	APPROVED
SCALE: NTS		FIG No.: HRM 37



NOTES:

1. FOR USE IN AREAS WITH CURB AND GUTTER (URBAN LOCATIONS)
2. HRM TO WELD THE POST AND SUPPLY AND INSTALL APPROPRIATE SIGNS.

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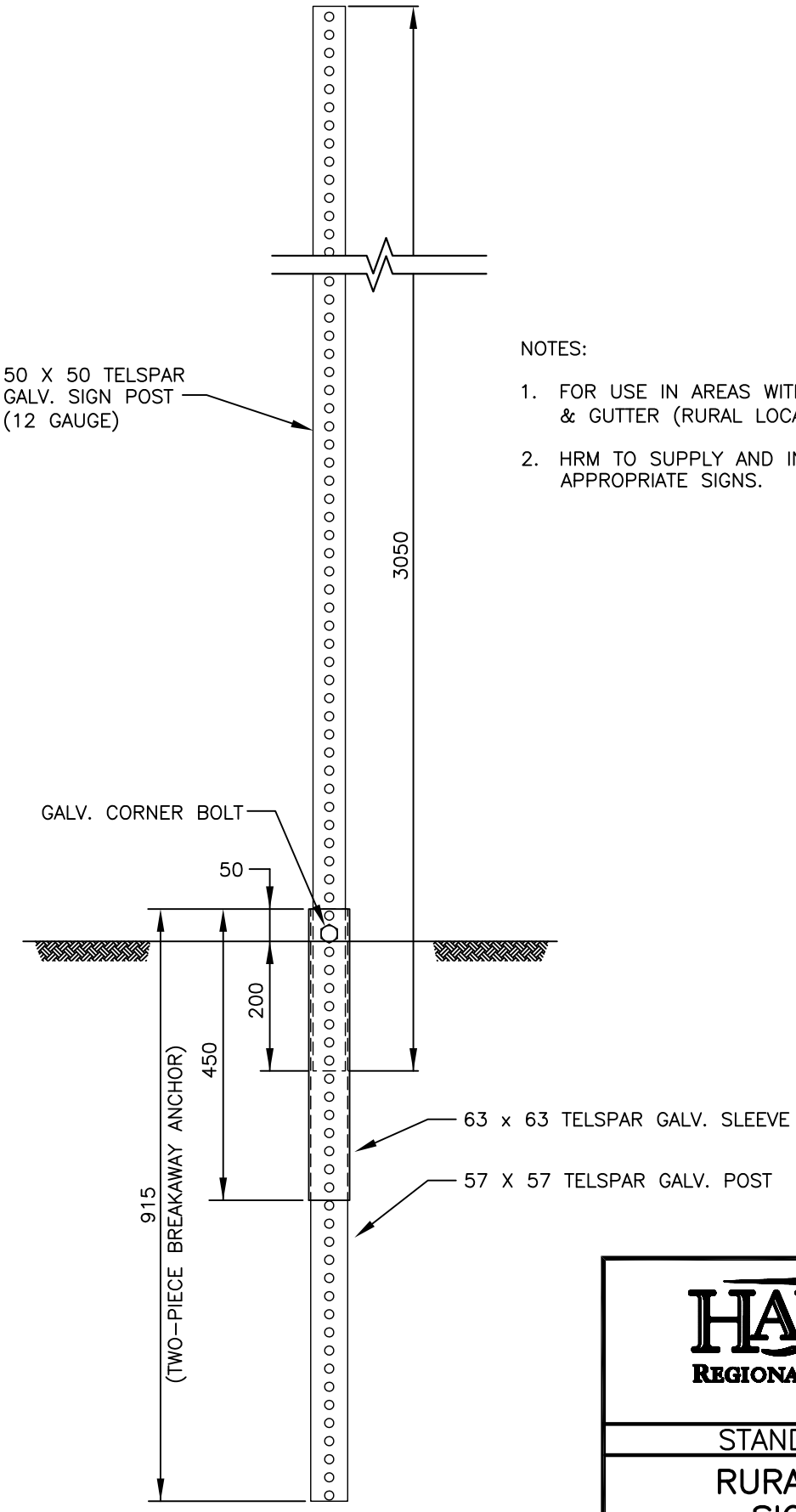
REGIONAL MUNICIPALITY

STANDARD DETAIL

URBAN TRAFFIC SIGN POST

DATE: 2013	REFERENCE	APPROVED
SCALE: NTS		FIG No.: HRM 38



NOTES:

1. FOR USE IN AREAS WITHOUT CURB & GUTTER (RURAL LOCATIONS)
2. HRM TO SUPPLY AND INSTALL APPROPRIATE SIGNS.

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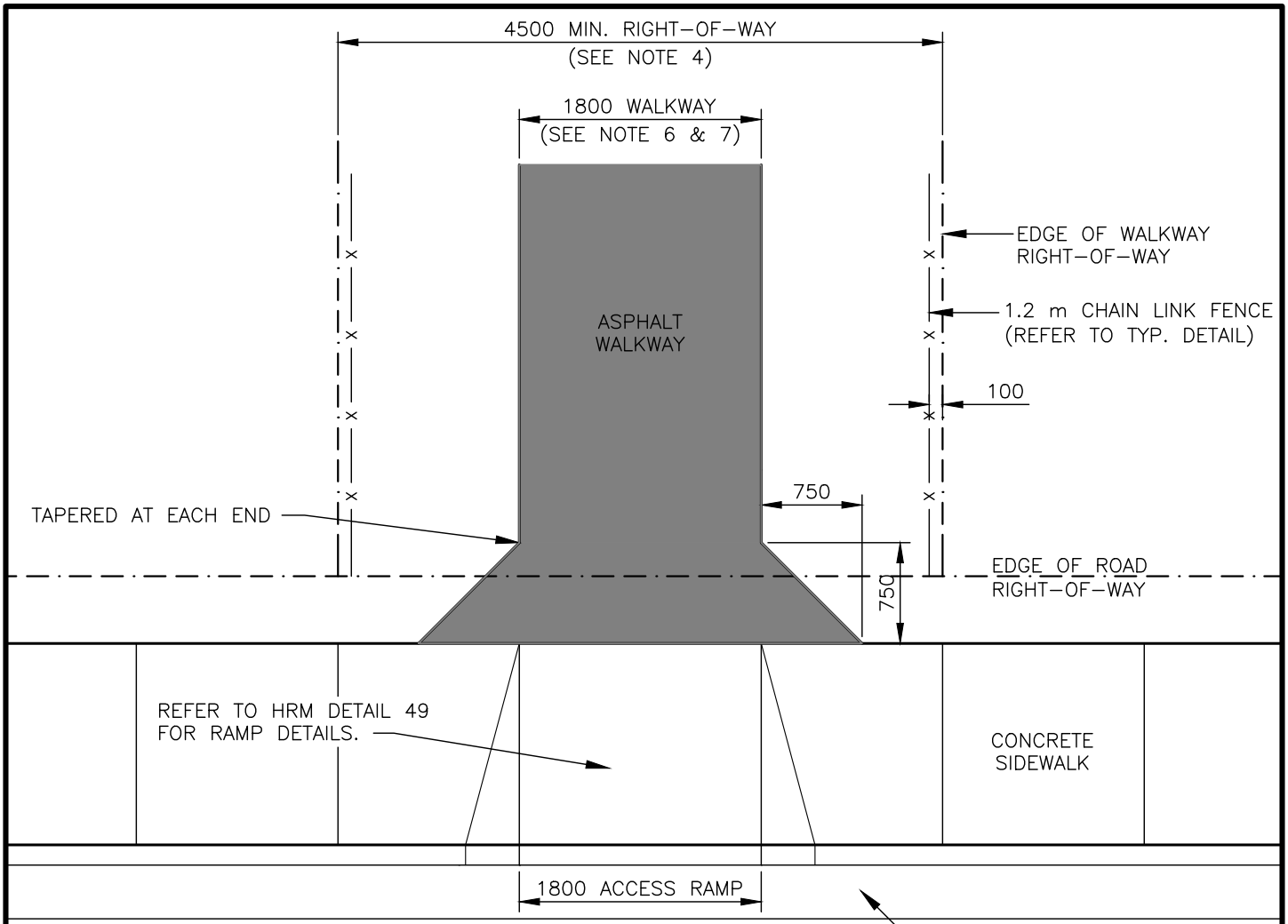
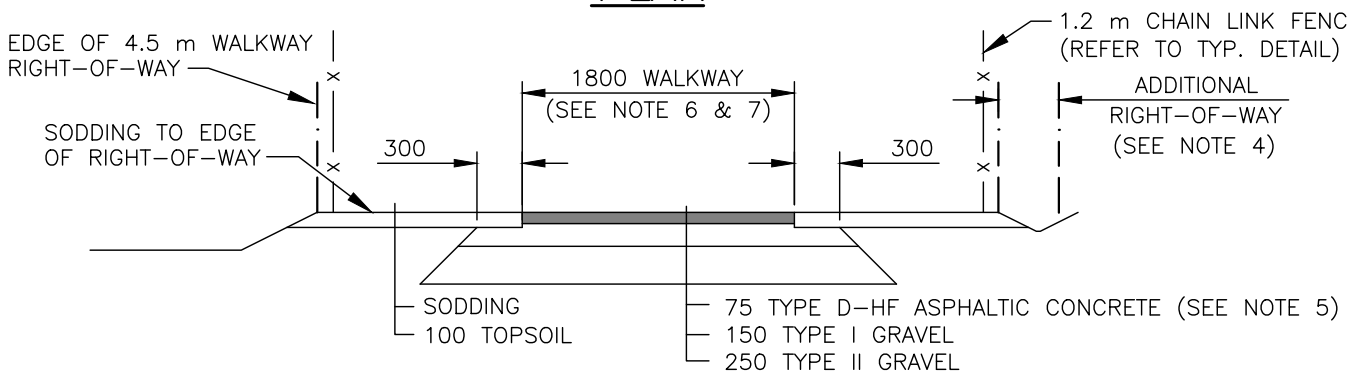
STANDARD DETAIL

RURAL TRAFFIC SIGN POST

DATE: 2013	REFERENCE	APPROVED
SCALE: NTS		FIG. NO. HRM 39



PLAN



PROFILE

NOTES:

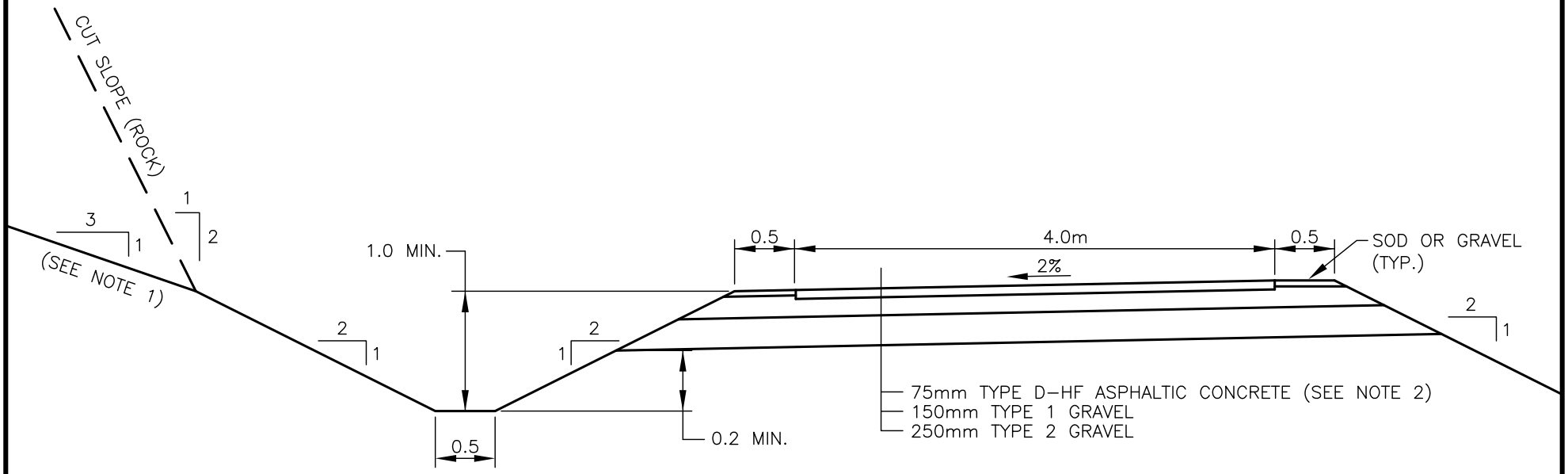
1. WALKWAY SHOULD HAVE MIN. LONGITUDINAL SLOPE OF 2.0% WHERE POSSIBLE.
2. THE ENGINEER MAY REQUIRE OR PERMIT USE OF LOW MAINTENANCE MATERIALS IN PLACE OF SODDING.
3. WHERE MUNICIPAL SERVICE SYSTEMS ARE REQUIRED THE MIN. R.O.W. IS TO BE INCREASED TO 6.0 m. THE CHAIN LINK FENCE SHALL BE LOCATED 100 FROM THE EDGE OF THE INCREASED 6.0 m R.O.W..
4. TO ACCOMMODATE SWALE OR CUT/FILL SLOPES ADDITIONAL RIGHT-OF-WAY MAY BE REQUIRED.
5. SURFACE MATERIAL TO BE ASPHALTIC CONCRETE UNLESS DIRECTED BY THE ENGINEER.
6. GRADE AS DIRECTED BY THE ENGINEER.
7. TO BE PLACED WITH SPREADER.

HALIFAX

STANDARD DETAIL

TYPICAL WALKWAY

DATE: NOVEMBER 2019	REFERENCE	APPROVED
SCALE: 1:50		FIG No.: HRM 40



NOTES:

1. ADDITIONAL SLOPE STABILIZATION AS PER GEOTECHNICAL REPORT.
2. SURFACE MATERIAL TO BE ASPHALTIC CONCRETE UNLESS DIRECTED BY THE ENGINEER.
3. RAILING REQUIRED IN FILL GREATER THAN 1.5m, OR ADJACENT TO WATER.
4. FALSE DITCH REQUIREMENTS SHALL MEET HALIFAX WATER SPECIFICATIONS.

HALIFAX
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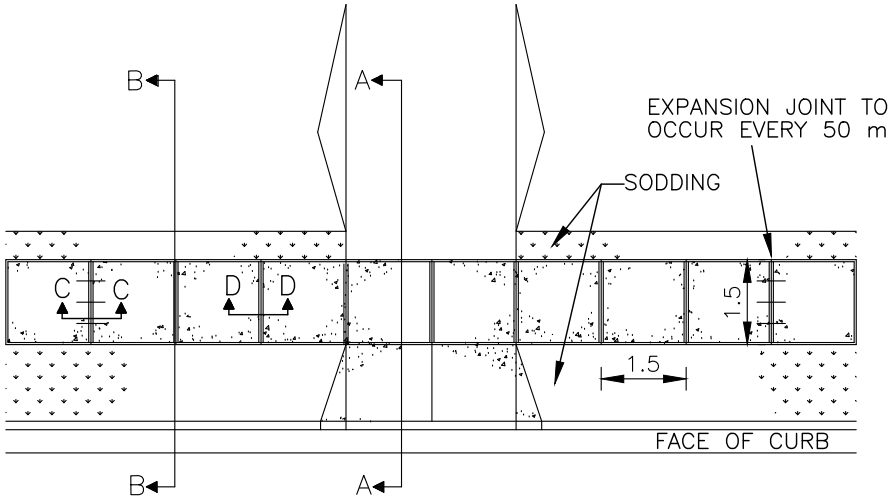
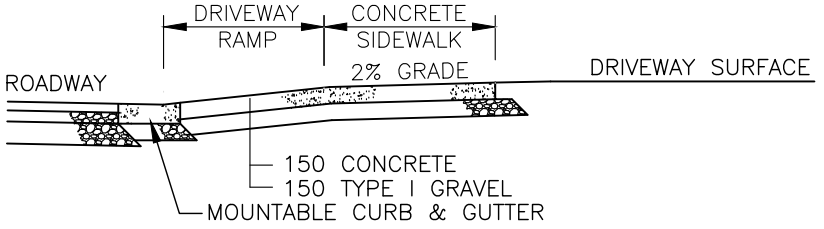
STANDARD DETAIL

ACTIVE TRANSPORTATION OFF ROAD TRAIL

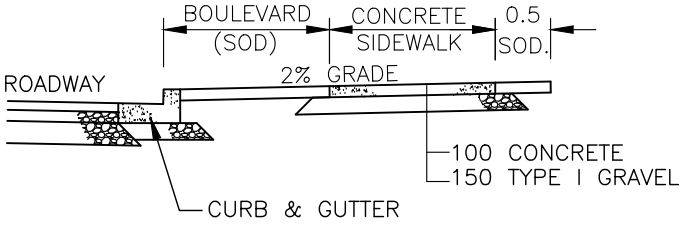
DATE: 2013	REFERENCE	APPROVED
SCALE: 1:50		FIG No.: HRM 41





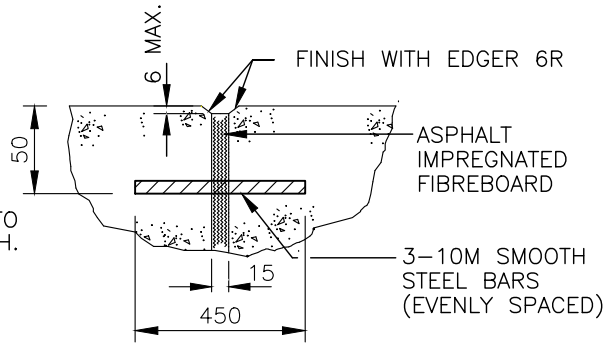
SECTION A–A

(DRIVEWAY CROSS–SECTION)



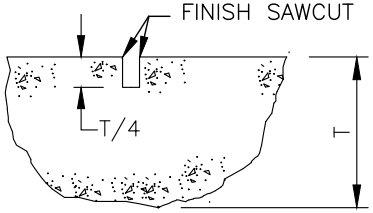
SECTION B–B

(SIDEWALK CROSS–SECTION)



SECTION C–C

(EXPANSION JOINT)



SECTION D–D

(CONTROL JOINT)

NOTES:

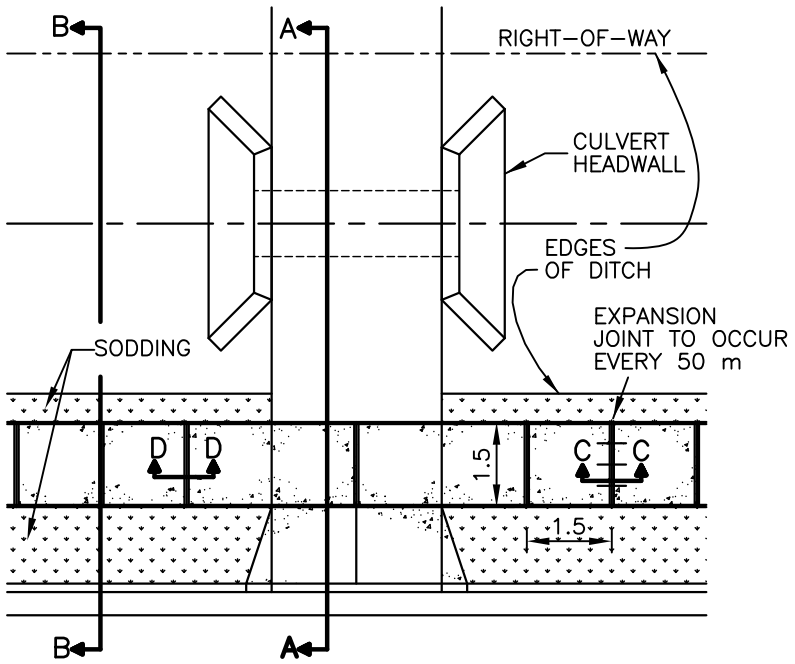
1. CONCRETE SIDEWALK AT COMMERCIAL DRIVEWAY TO BE 150 THICK WITH 150x150 WELDED WIRE MESH.
2. CRUSHED ROCK BASE TO EXTEND 150 BEYOND EDGE OF SIDEWALK STRUCTURE.
3. CONTROL JOINTS ARE TO BE SAW CUT.
4. SIDEWALK ABUTTING HIGH DENSITY AREAS SHALL SHALL HAVE FULL WIDTH (3 m) SIDEWALKS.
5. SIDEWALKS ABUTTING COMMERCIAL AREAS ARE TO BE FULL WIDTH (3 m) AND 150 mm THICKNESS.
6. EXPANSION JOINT BARS ARE TO BE GREASED ON ONE SIDE OF THE JOINT.
7. DURING CONSECUTIVE POURS, THE END OF EACH POUR IS TO OCCUR AT AN EXPANSION JOINT. WHERE THIS IS NOT FEASIBLE, AN ADDITIONAL EXPANSION JOINT IS TO BE INSTALLED.
8. INSTALL A 9 m LONG CONCRETE LANDING PAD AT ALL BUS STOP LOCATIONS. INCREASE THIS TO 14.5 m FOR ARTICULATED BUS ROUTES.
9. WHEN BOULEVARD IS LESS THAN 1.5 m OR WHEN THE SIDEWALK ABUTS THE CURB & GUTTER, REFER TO HRM 133

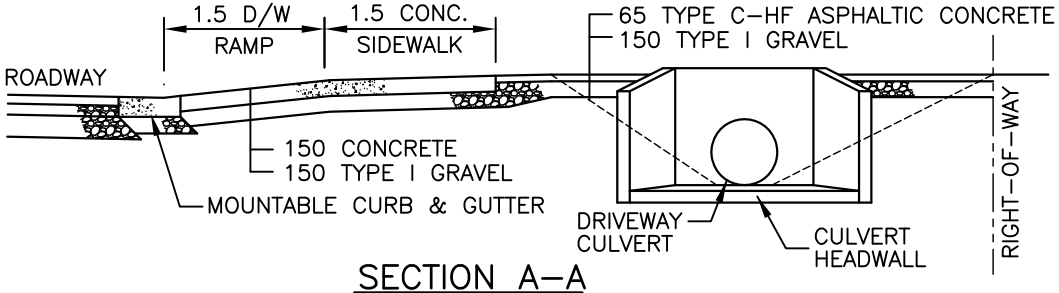
HALIFAX

STANDARD DETAIL

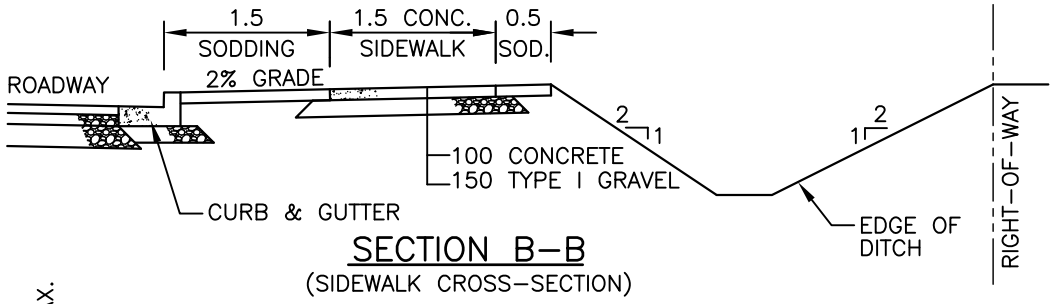
URBAN SIDEWALK

DATE: OCTOBER 2020	REFERENCE	APPROVED
SCALE: NTS		FIG No.: HRM 44

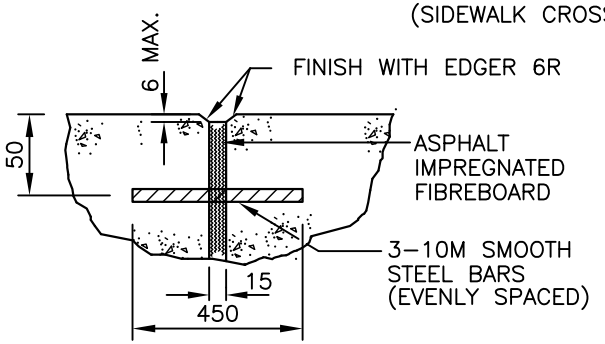




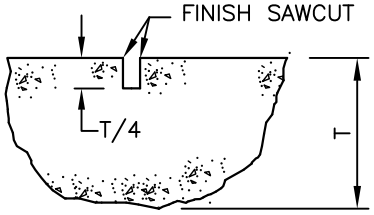
SECTION A–A
(DRIVEWAY CROSS–SECTION)



SECTION B–B
(SIDEWALK CROSS–SECTION)



SECTION C–C
(EXPANSION JOINT)



SECTION D–D
(CONTROL JOINT)

NOTES:

1. CONCRETE SIDEWALK AT COMMERCIAL DRIVEWAY TO BE 150 THICK WITH 150x150 WELDED WIRE MESH.
2. CRUSHED ROCK BASE TO EXTEND 150 BEYOND EDGE OF SIDEWALK STRUCTURE.
3. CONTROL JOINTS ARE TO BE SAW CUT.
4. SIDEWALKS ABUTTING COMMERCIAL AREAS ARE TO BE FULL WIDTH (3 m) AND 150 mm THICKNESS.
5. EXPANSION JOINT BARS ARE TO BE GREASED ON ONE SIDE OF THE JOINT.
6. DURING CONSECUTIVE POURS, THE END OF EACH POUR IS TO OCCUR AT AN EXPANSION JOINT. WHERE THIS IS NOT FEASIBLE, AN ADDITIONAL EXPANSION JOINT IS TO BE INSTALLED.
7. INSTALL A 9 m LONG CONCRETE LANDING PAD AT ALL BUS STOP LOCATIONS. INCREASE THIS TO 14.5 m FOR ARTICULATED BUS ROUTES.
8. WHEN BOULEVARD IS LESS THAN 1.5 m OR WHEN THE SIDEWALK ABUTS THE CURB & GUTTER, SLOPE SIDEWALK AND DRIVEWAY RAMP IN A STRAIGHT LINE GRADE FROM BACK OF SIDEWALK TO LIP ON CURB OPENING.

HALIFAX
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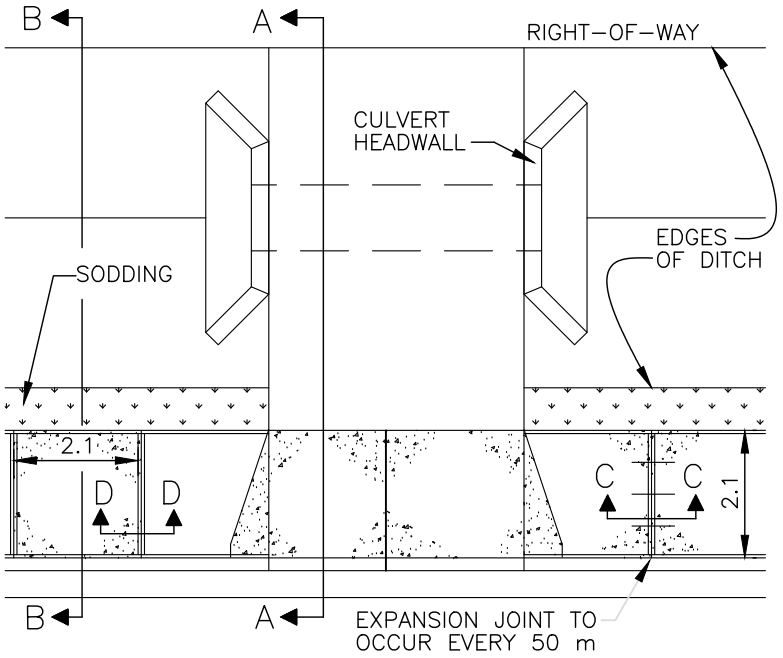
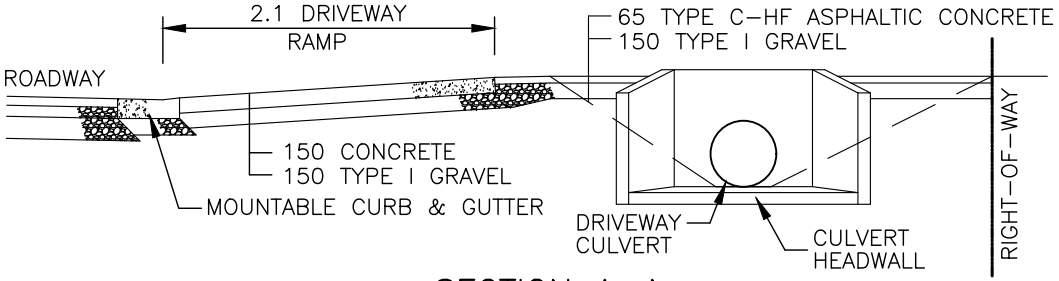
STANDARD DETAIL

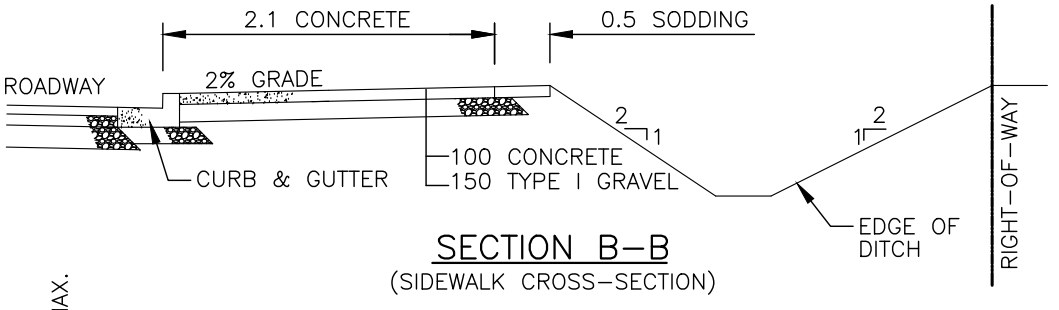
RURAL TYPE I SIDEWALK

DATE: 2013	REFERENCE	APPROVED
SCALE: NTS		FIG. NO. HRM 45

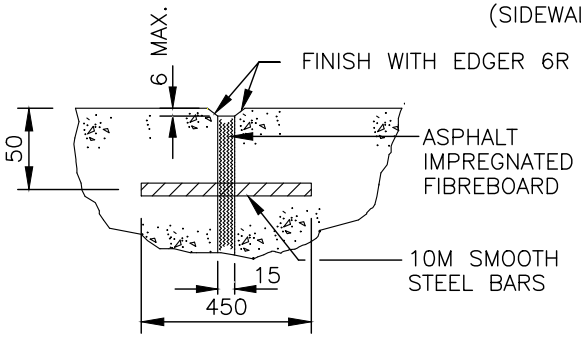




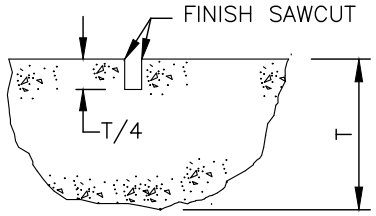
SECTION A–A
(DRIVEWAY CROSS–SECTION)



SECTION B–B
(SIDEWALK CROSS–SECTION)



SECTION C–C
(EXPANSION JOINT)



SECTION D–D
(CONTROL JOINT)

NOTES:

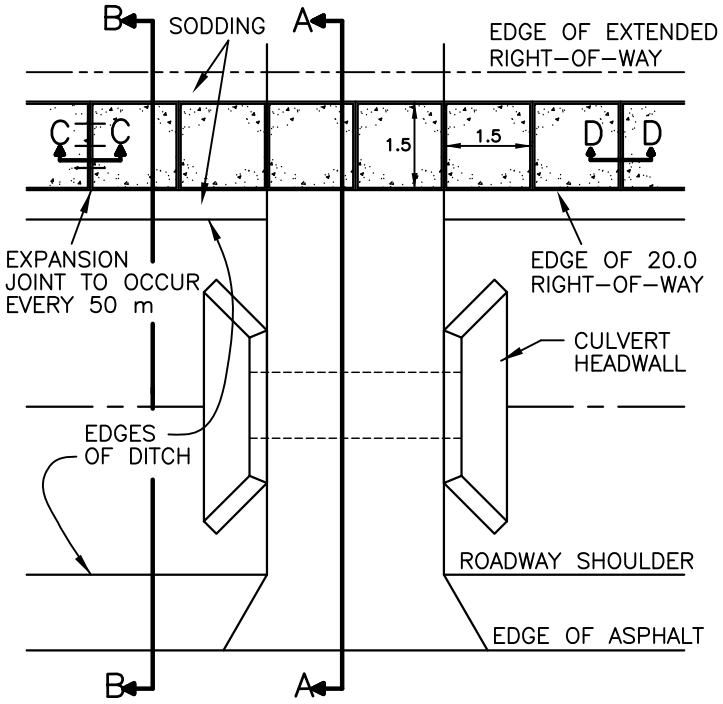
1. CONCRETE SIDEWALK AT COMMERCIAL DRIVEWAY TO BE 150 THICK WITH 150x150 WELDED WIRE MESH.
2. CRUSHED ROCK BASE TO EXTEND 150 BEYOND EDGE OF SIDEWALK STRUCTURE.
3. CONTROL JOINTS ARE TO BE SAW CUT.
4. SIDEWALKS ABUTTING COMMERCIAL AREAS ARE TO BE FULL WIDTH (3 m) AND 150 mm THICKNESS.
5. EXPANSION JOINT BARS ARE TO BE GREASED ON ONE SIDE OF THE JOINT.
6. DURING CONSECUTIVE POURS, THE END OF EACH POUR IS TO OCCUR AT AN EXPANSION JOINT. WHERE THIS IS NOT FEASIBLE, AN ADDITIONAL EXPANSION JOINT IS TO BE INSTALLED.
7. INSTALL A 9 m LONG CONCRETE LANDING PAD AT ALL BUS STOP LOCATIONS. INCREASE THIS TO 14.5 m FOR ARTICULATED BUS ROUTES.
8. WHEN BOULEVARD IS LESS THAN 1.5 m OR WHEN THE SIDEWALK ABUTS THE CURB & GUTTER, REFER TO HRM 133

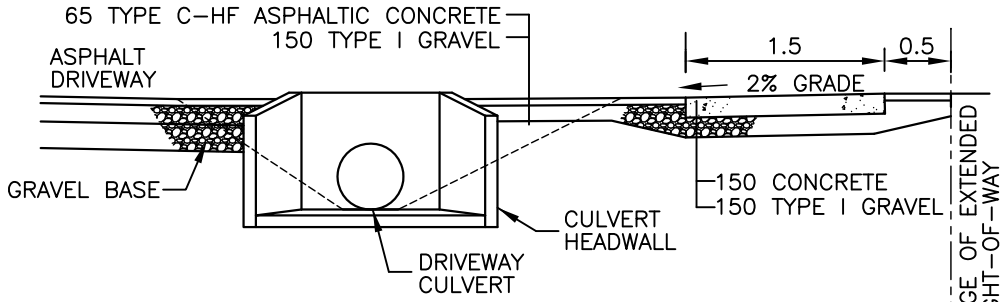
HALIFAX

STANDARD DETAIL

RURAL TYPE II SIDEWALK

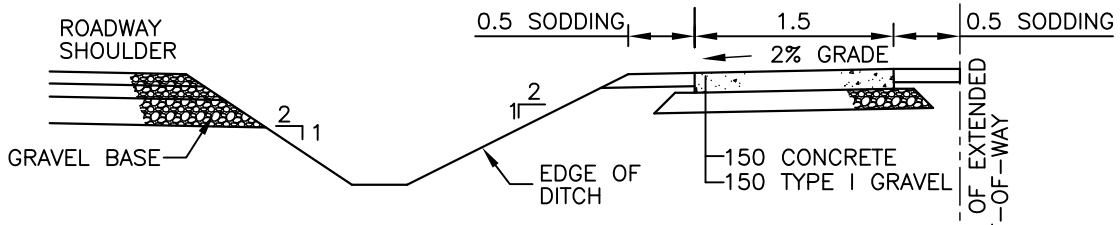
DATE: OCTOBER 2020	REFERENCE	APPROVED
SCALE: NTS		FIG No.: HRM 46





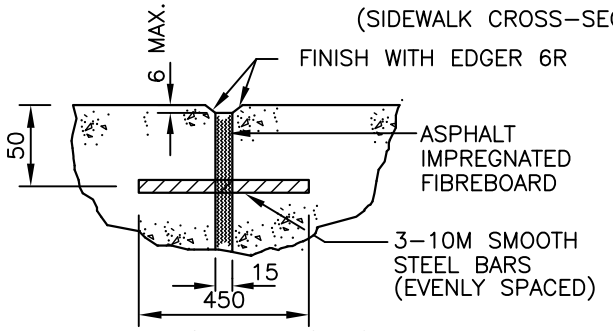
SECTION A–A

(DRIVEWAY CROSS–SECTION)



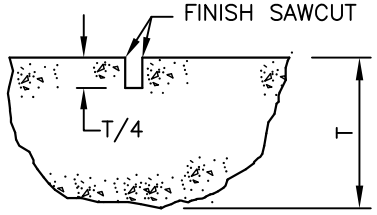
SECTION B–B

(SIDEWALK CROSS–SECTION)



SECTION C–C

(EXPANSION JOINT)



SECTION D–D

(CONTROL JOINT)

NOTES:

1. CONCRETE SIDEWALK AT COMMERCIAL DRIVEWAY TO BE 150 THICK WITH 150x150 WELDED WIRE MESH.
2. CRUSHED ROCK BASE TO EXTEND 150 BEYOND EDGE OF SIDEWALK STRUCTURE.
3. CONTROL JOINTS ARE TO BE SAW CUT.
4. SIDEWALKS ABUTTING COMMERCIAL AREAS ARE TO BE FULL WIDTH (3 m) AND 150 mm THICKNESS.
5. EXPANSION JOINT BARS ARE TO BE GREASED ON ONE SIDE OF THE JOINT.
6. DURING CONSECUTIVE POURS, THE END OF EACH POUR IS TO OCCUR AT AN EXPANSION JOINT. WHERE THIS IS NOT FEASIBLE, AN ADDITIONAL EXPANSION JOINT IS TO BE INSTALLED.
7. INSTALL A 9 m LONG CONCRETE LANDING PAD AT ALL BUS STOP LOCATIONS. INCREASE THIS TO 14.5 m FOR ARTICULATED BUS ROUTES.

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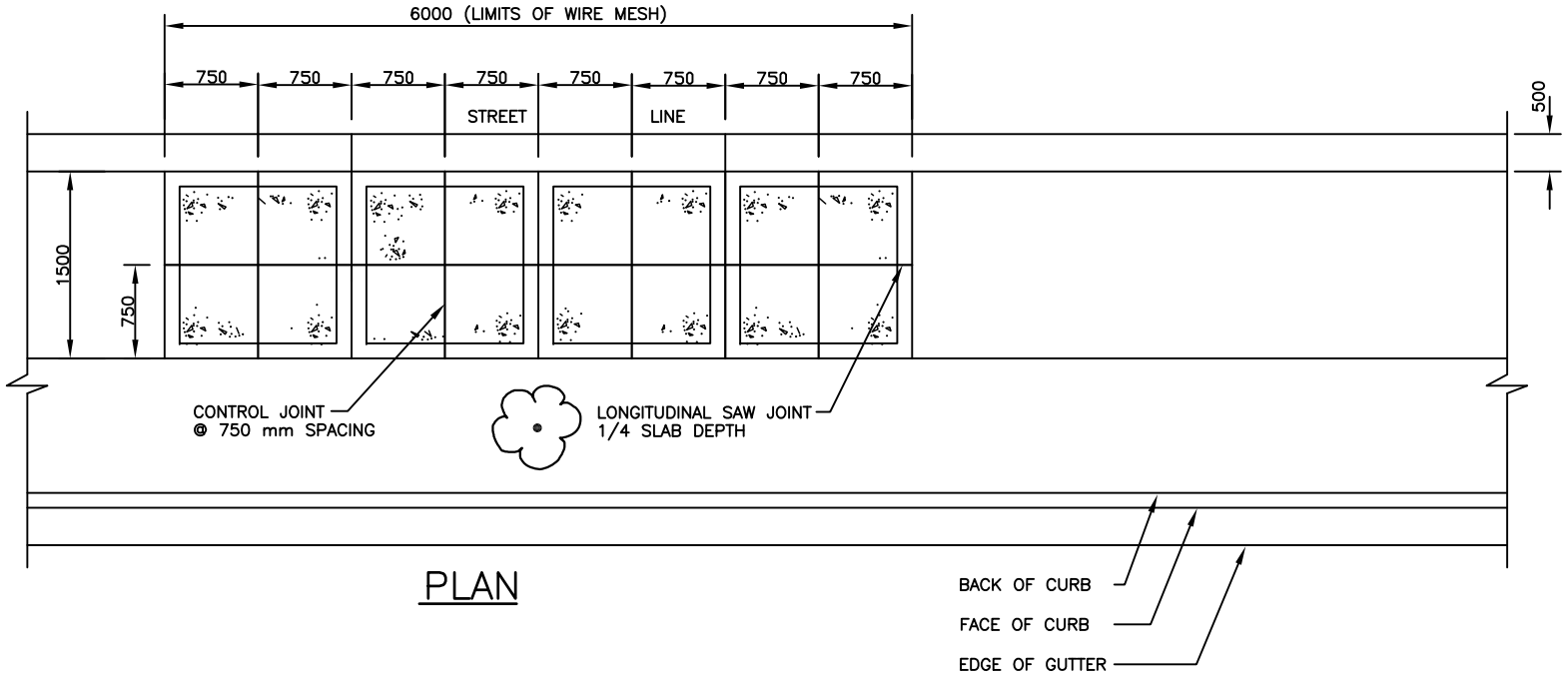
STANDARD DETAIL

RURAL TYPE III SIDEWALK

DATE: 2013	REFERENCE	APPROVED
SCALE: NTS		FIG. NO. HRM 47



PLAN

NOTES:

1. 150 X 150 – M.W. 18.7 X M.W. 18.7 (WELDED WIRE FABRIC) PLACED AT 1/2 THE SLAB DEPTH.
2. NO TREE ROOTS TO BE REMOVED WITHOUT HRM APPROVAL

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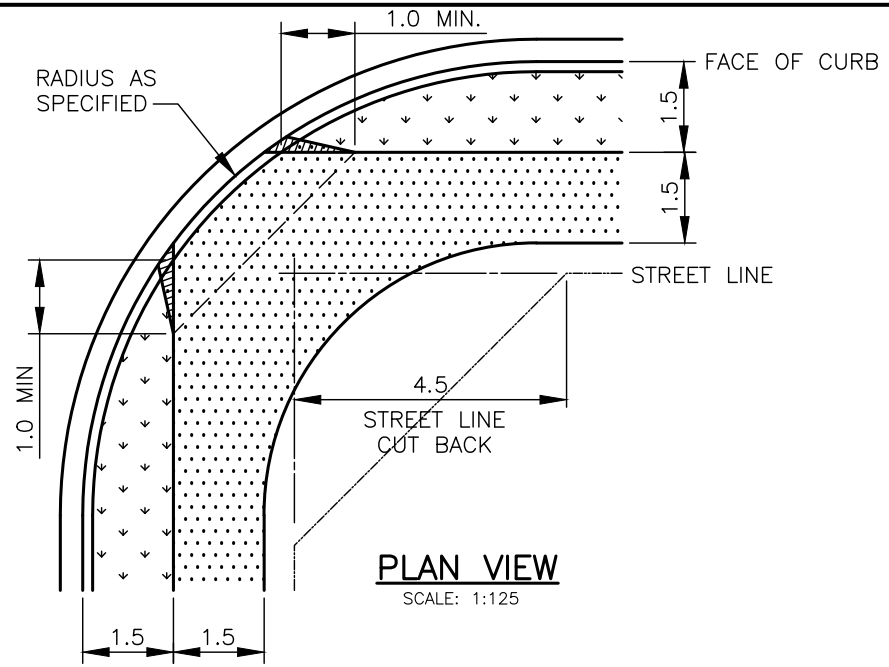
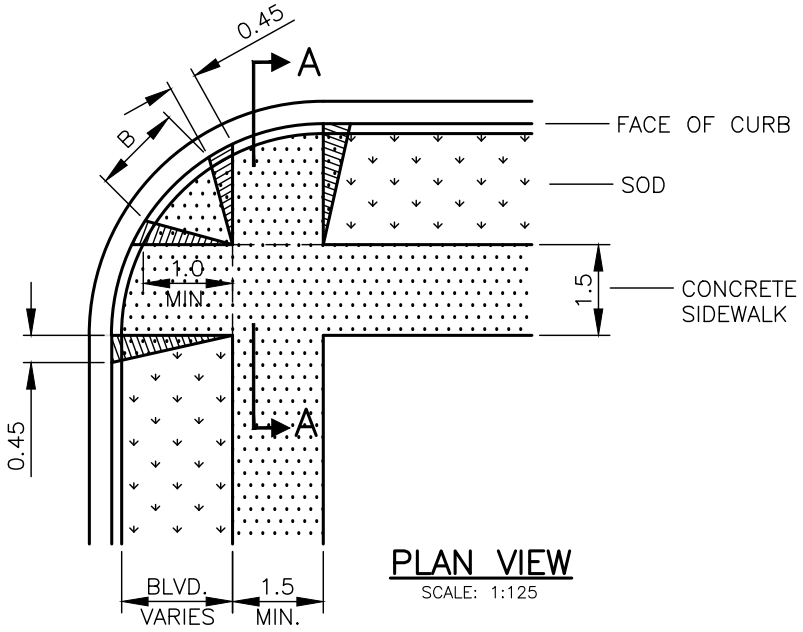
STANDARD DRAWING

CONCRETE SIDEWALK REINFORCING

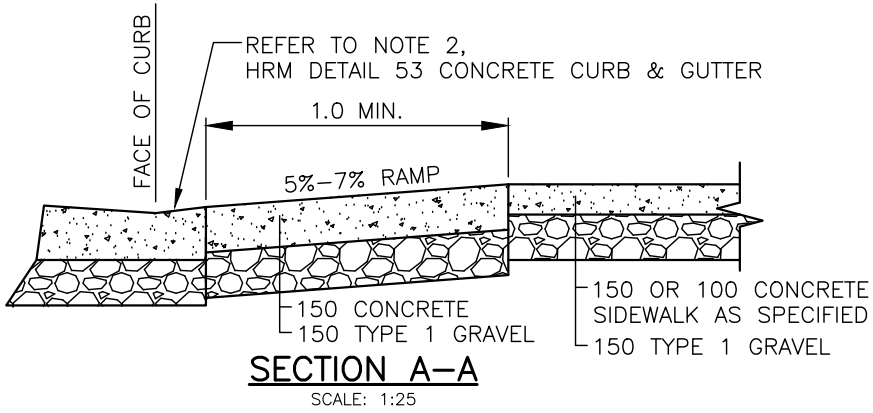
DATE: 2013	REFERENCE	APPROVED
SCALE: NTS		FIG. NO. HRM 48



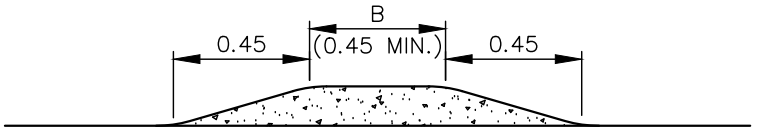
PLAN VIEW
SCALE: 1:125



PLAN VIEW
SCALE: 1:125



SECTION A–A
SCALE: 1:25



PEDESTRIAN RAMP DIVIDER VIEW
SCALE: 1:25

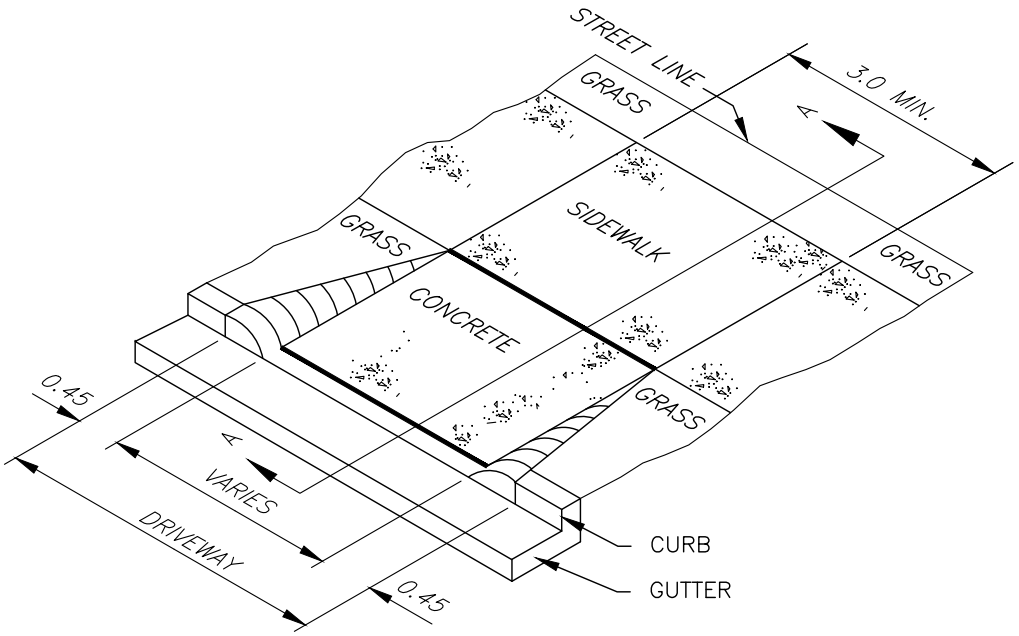
NOTES:
1. PEDESTRIAN RAMPS SHALL BE ALIGNED WITH THE SIDEWALK INSIDE EDGE.
2. INSTALL RAMP DIVIDER ONLY WHEN (B) WILL BE GREATER THAN 450mm.
3. WHERE THE SIDEWALK ABUTS THE CURB A 1.3m TRANSITION TAPER IS REQUIRED
4. IF THE DISTANCE FROM BACK OF CURB TO BACK OF SIDEWALK IS LESS THAN 2m, SLOPE AT 5% FROM BACK OF CURB TO BACK OF SIDEWALK.
5. TACTILE WALKING SURFACE INDICATOR PLATES REQUIRED AT ALL NEW RAMPS AS PER HRM DETAIL 131.
6. FOR STREETS OF LESS THAN 8%, TRANSITION CURB AND SIDEWALK TO MAXIMUM GRADE OF 8%, OR TIE IN AT 3m. FOR SIDEWALK, 1.3m FOR CURB.
7. PEDESTRIAN RAMP OPENING TO BE 1.7m MINIMUM, MEASURED FROM 100mm BEYOND THE EXTENSION OF THE SIDEWALK TO THE CURB.

HALIFAX

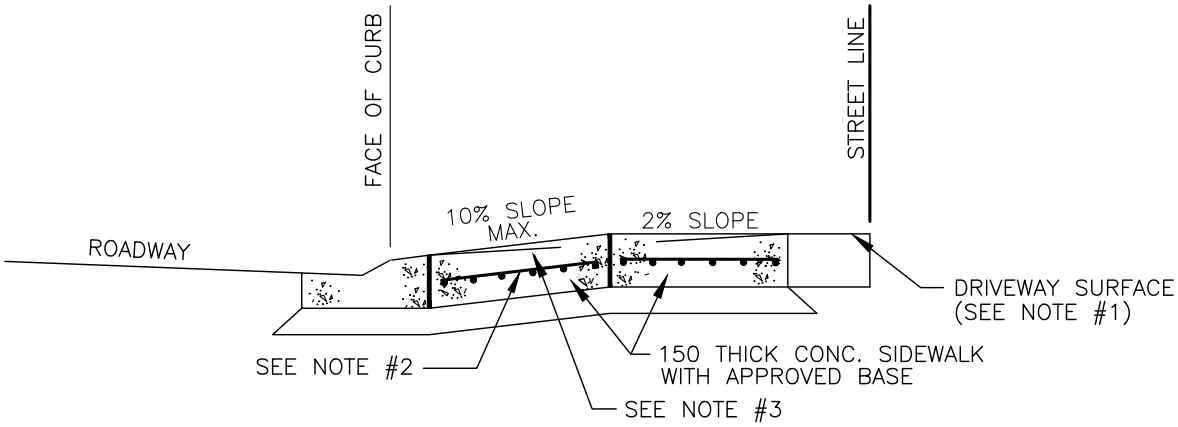
STANDARD DETAIL

PEDESTRIAN RAMP ALIGNMENT

DATE: 2021	REFERENCE	APPROVED
SCALE: AS NOTED		FIG No.: HRM 49



VIEW PLAN



SECTION A–A

NOTES:

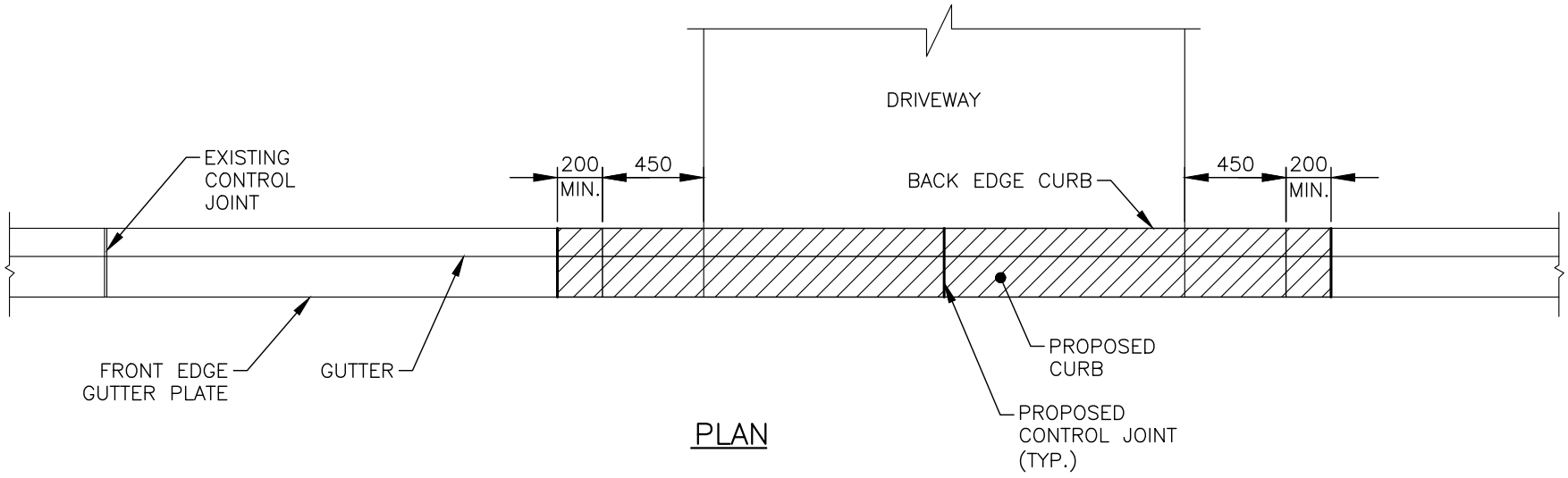
1. GRAVEL DRIVEWAYS ARE TO BE PAVED TO THE STREETLINE, IF NO SIDEWALK OR CURB EXISTS, 1m ASPHALT PAVING IS REQUIRED.
2. FOR COMMERCIAL AND INDUSTRIAL DRIVEWAYS PLACE 150 x 150 – M.W. 18.7 x M.W. 18.7 PLACED 50mm FROM BOTTOM OF CONCRETE RAMP AND SIDEWALK.
3. WHEN BOULEVARD IS LESS THAN 1.5m OR WHEN THE SIDEWALK ABUTS THE CURB & GUTTER, REFER TO HRM 133.
4. MINIMUM DISTANCE BETWEEN CONTROL JOINTS IS 1200. PROVIDE CONTROL JOINTS WITHIN 150 OF CHANGE IN CROSS SECTION OF CURB.

HALIFAX

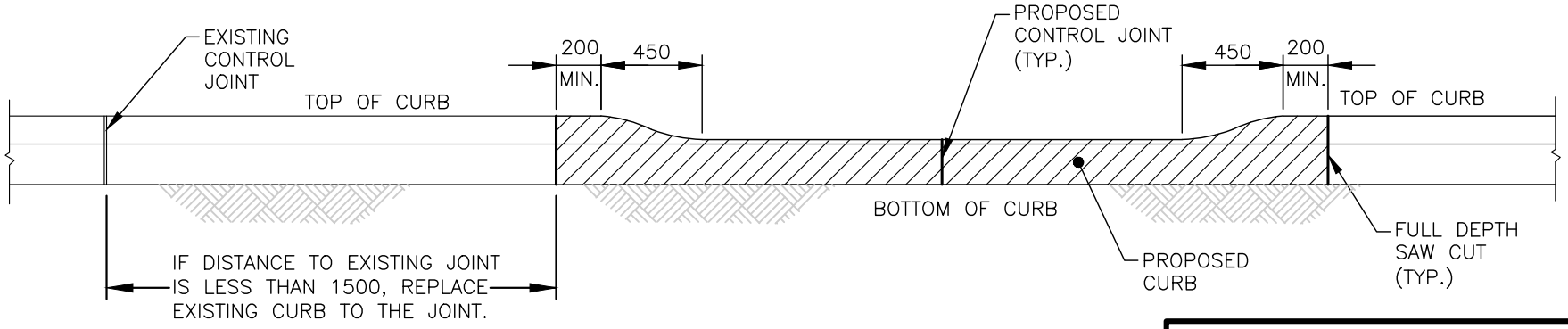
STANDARD DETAIL

DRIVEWAY RAMP

DATE: OCTOBER 2020	REFERENCE	APPROVED
SCALE: NTS		FIG No.: HRM 50



PLAN



ELEVATION

NOTE:

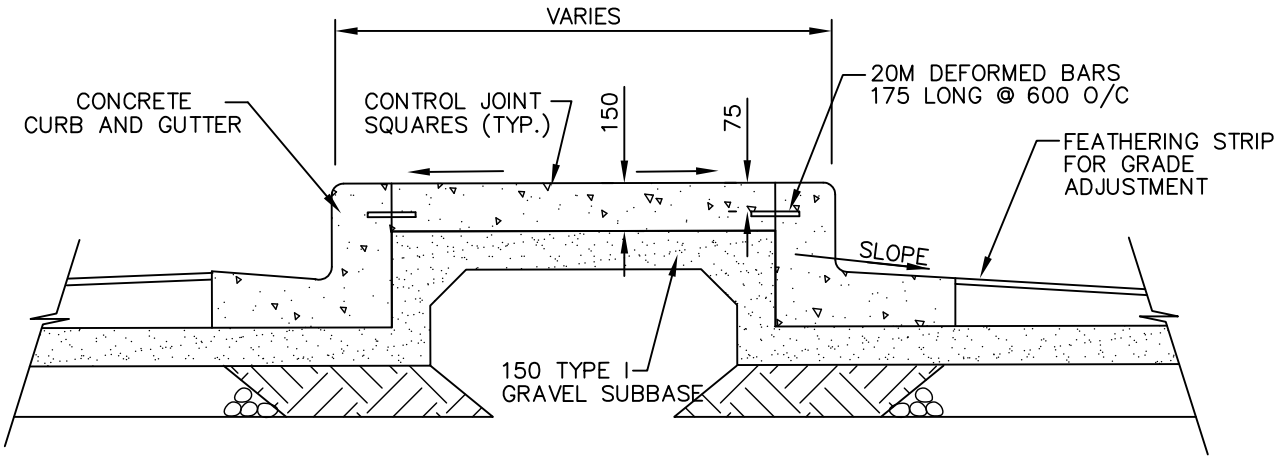
1. MINIMUM DISTANCE BETWEEN CONTROL JOINTS IS 1200.
2. PROVIDE CONTROL JOINTS WITHIN 150 OF CHANGE IN CROSS SECTION OF CURB.

HALIFAX

STANDARD DETAIL

DRIVEWAY ACCESS IN EXISTING FULL-DEPTH CURB

DATE: OCTOBER 2020	REFERENCE	APPROVED
SCALE: 1:30		FIG No.: HRM 51



TYPICAL CONCRETE ISLAND CROSS SECTION

NOTES:

1. MAXIMUM SPACING FOR CONTROL JOINTS IS TO BE 2.5 m.
2. SLOPE SLAB TO FACILITATE DRAINAGE.
3. SLOPE GUTTER TO MATCH STREET CROSS SECTION.
4. ENDS AND CORNERS OF TRAFFIC ISLANDS TO HAVE HIGH BACK CONCRETE CURB AND GUTTER.

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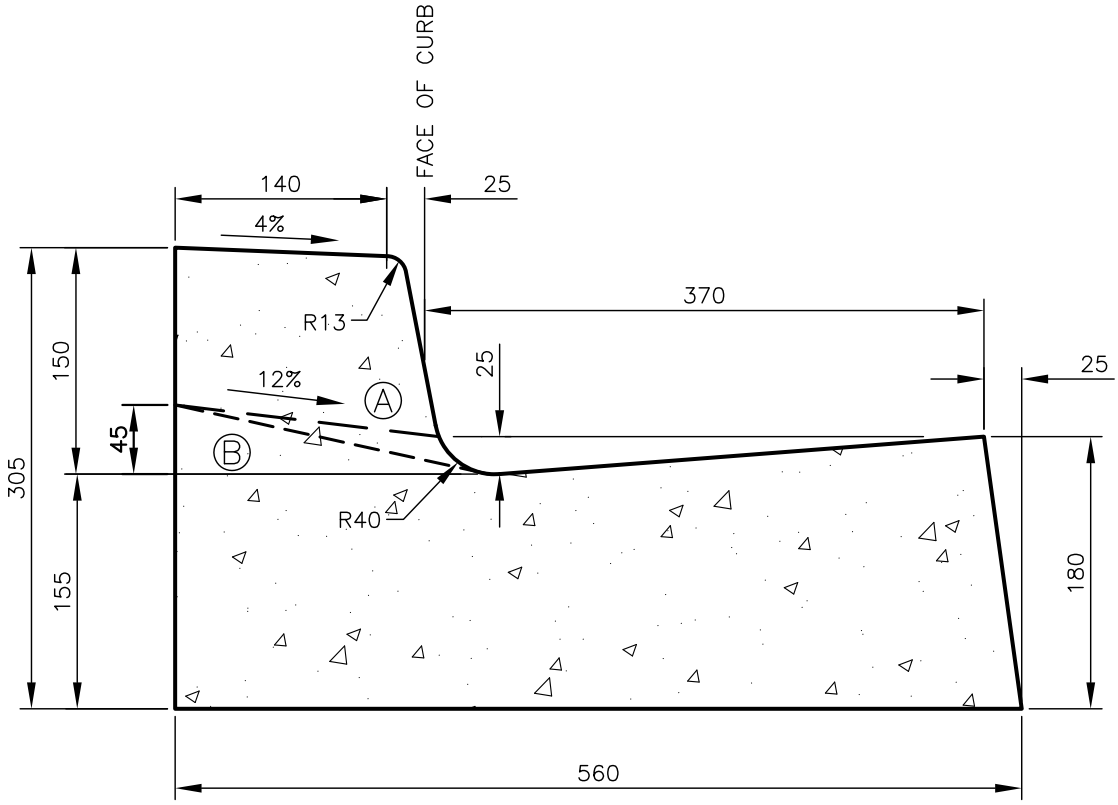
STANDARD DETAIL

CONCRETE
TRAFFIC ISLAND

DATE: 2013	REFERENCE	APPROVED
SCALE: NTS		FIG. NO. HRM 52



CURB & GUTTER SECTION

NOTES:
1. DASHED LINE "A" INDICATES CURB AT DRIVEWAYS.
2. DASHED LINE "B" INDICATES CURB AT PEDESTRIAN RAMPS.
3. TRANSITION TAPERS SHALL BE PROVIDED AT DRIVEWAYS AND PEDESTRIAN RAMPS AS PER THE "PEDESTRIAN RAMP ALIGNMENT" DETAIL AND "DRIVEWAY RAMP" DETAIL.

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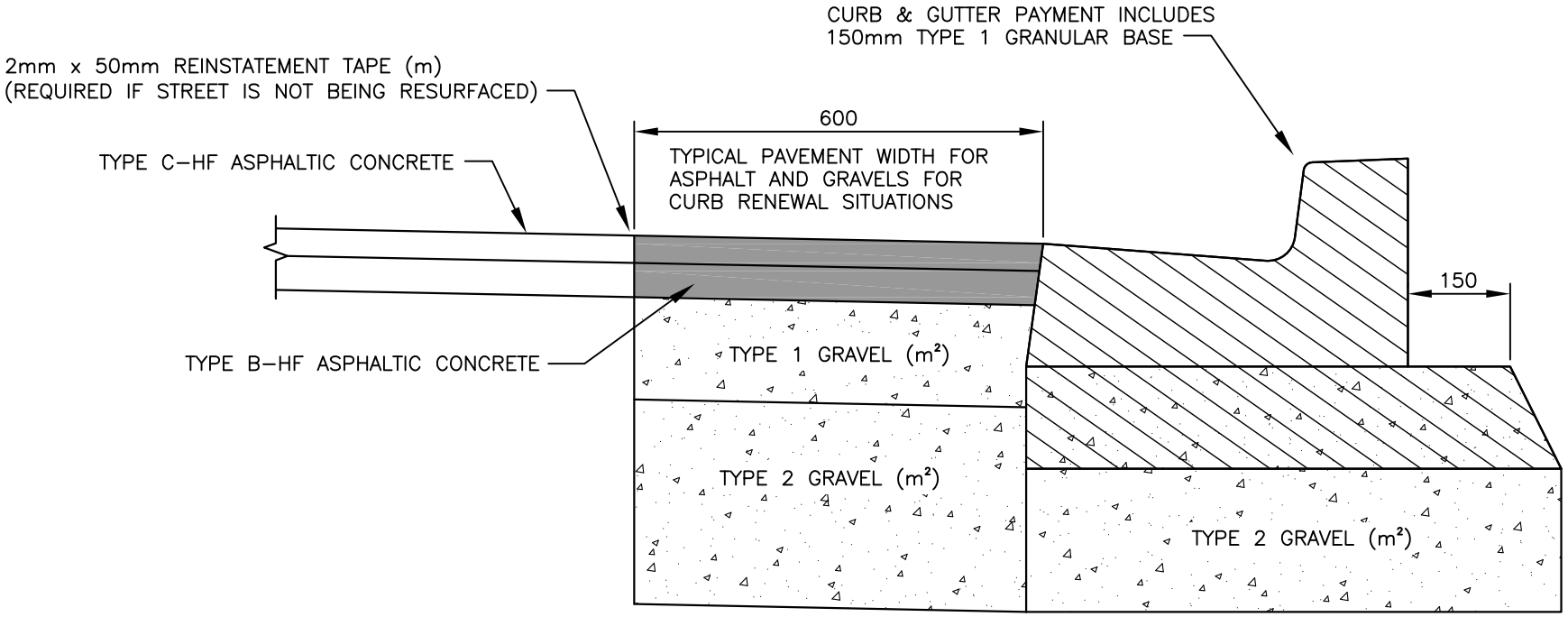
STANDARD DETAIL

CONCRETE CURB & GUTTER

DATE: 2013	REFERENCE	APPROVED
SCALE: 1:5		FIG No.: HRM 53



NOTES:

1. CURB AND GUTTER PAYMENT INCLUDES A GRANULAR BASE OF 150mm OF TYPE 1 GRAVEL, OR AS INDICATED ON DRAWINGS.
2. ASPHALT AND GRAVEL THICKNESS AS INDICATED ON DRAWING.

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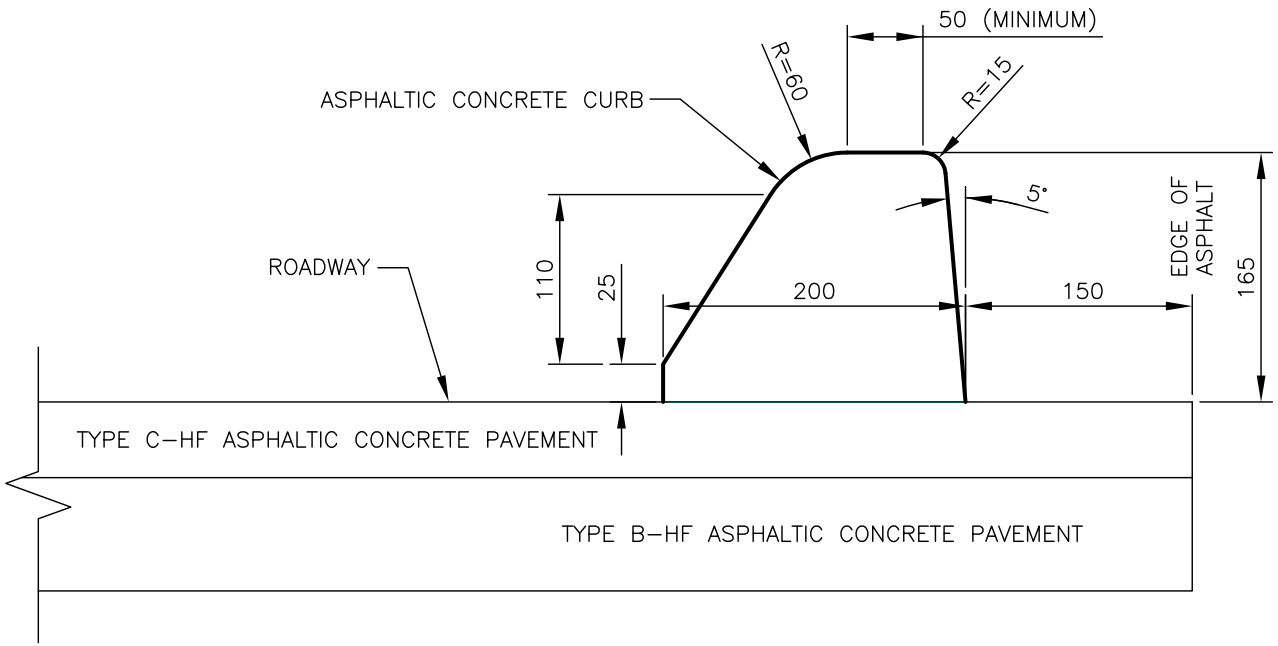
REGIONAL MUNICIPALITY

STANDARD DETAIL

CURB RENEWAL/PAYMENT

DATE: 2013	REFERENCE	APPROVED
SCALE: 1:10		FIG No.: HRM 54



HALIFAX
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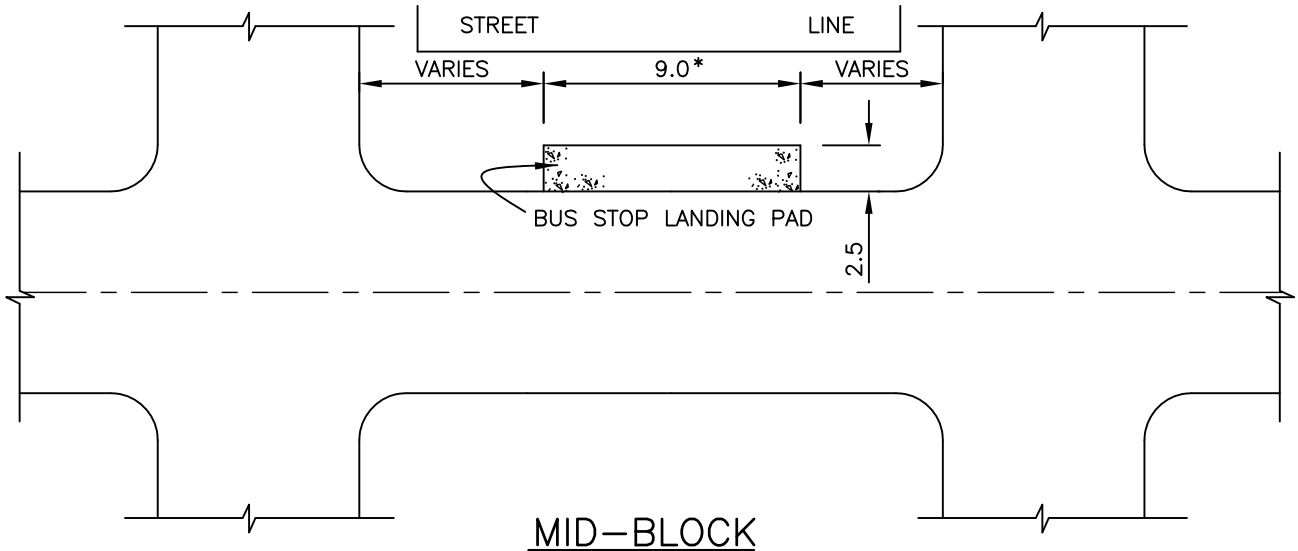
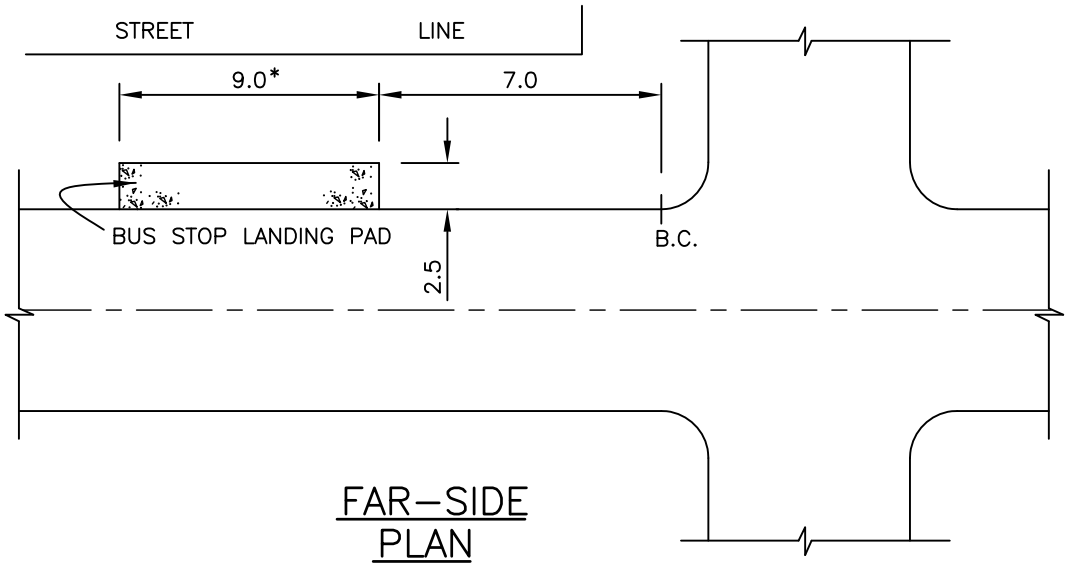
STANDARD DETAIL

ASPHALT CURB

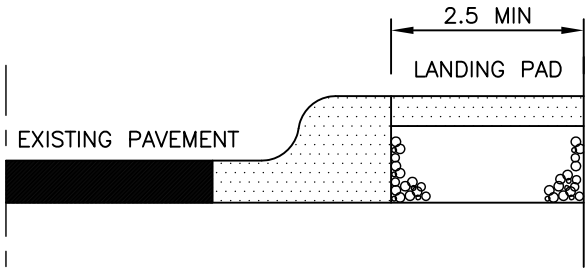
DATE: 2013	REFERENCE	APPROVED
SCALE: 1:20		FIG No.: HRM 55



MID–BLOCK
PLAN



FAR–SIDE
PLAN



CROSS–SECTION

* FOR ARTICULATED BUS ROUTES INCREASE TO 14.5m.

THE 2.5m LANDING PAD MAY INCLUDE PORTION OF SIDEWALK.

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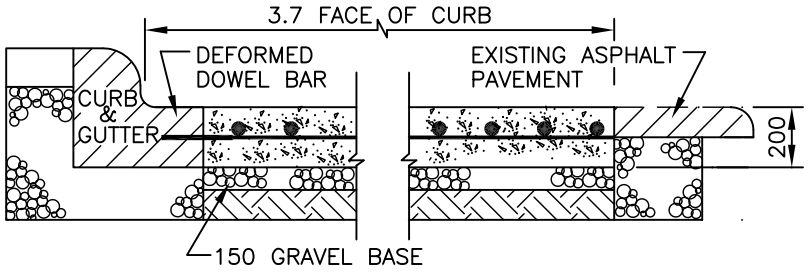
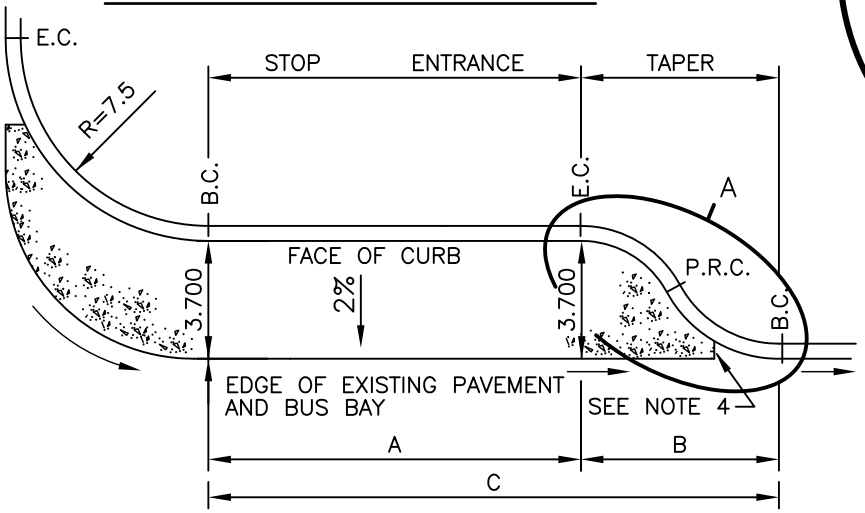
STANDARD DETAIL

CONCRETE BUS STOP LANDING PAD

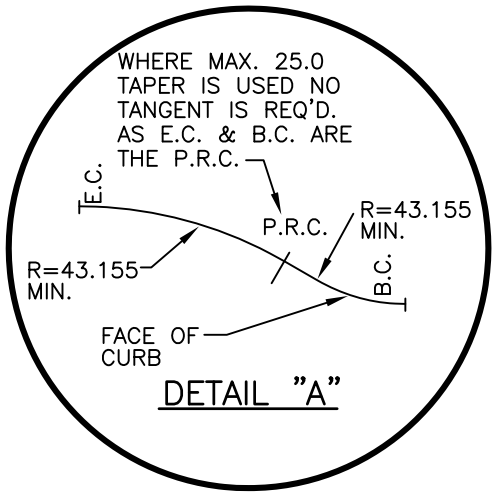
DATE: 2013	REFERENCE	APPROVED
SCALE: NTS		FIG No.: HRM 56



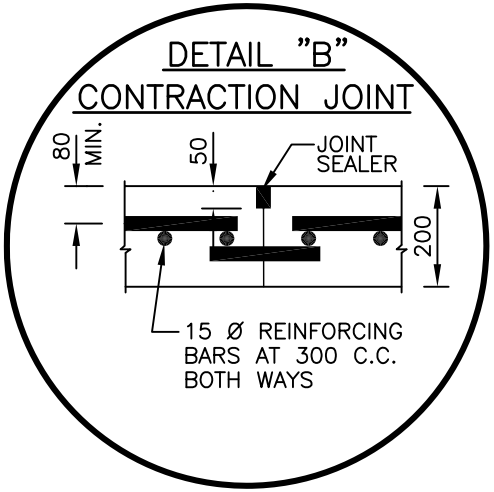
TRANSVERSE SECTION



PLAN

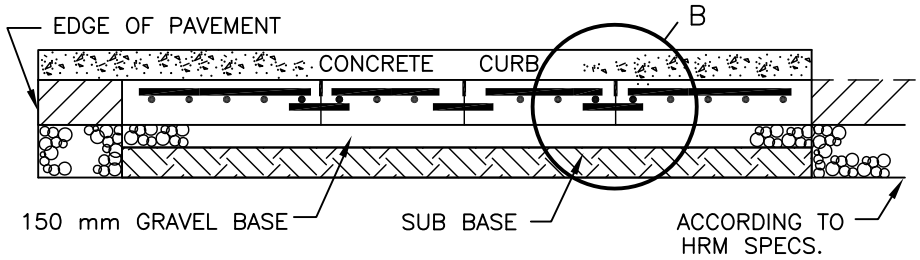


DETAIL "A"



NOTES:

1. 15M BARS AT 300 mm C.C. BOTH WAYS.
2. CONTROL JOINTS TO BE AT A DEPTH OF 1/4 OF PAD THICKNESS & SEALED ACCORDING TO HRM SPECS.
3. CONTROL JOINT EVERY 4.0 m MAXIMUM.
4. MINIMUM WIDTH OF CONCRETE BASE IS 0.6 m.



LONGITUDINAL SECTION

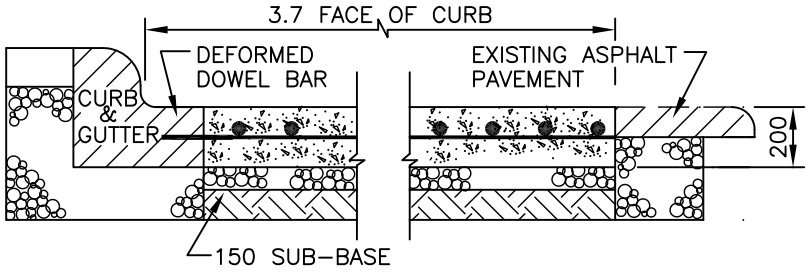
	SINGLE BUS BAY (MINIMUM DIMENSION)	DOUBLE BUS BAY (MINIMUM DIMENSION)
A	16	34
B	25	25
C	41	59

HALIFAX
REGIONAL MUNICIPALITY

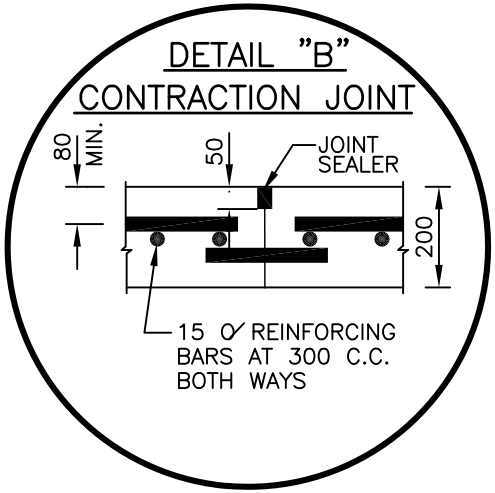
STANDARD DETAIL

CONCRETE BUS BAY PAD – END BLOCK

DATE: 2013	REFERENCE	APPROVED
SCALE: NTS		FIG. NO. HRM 57

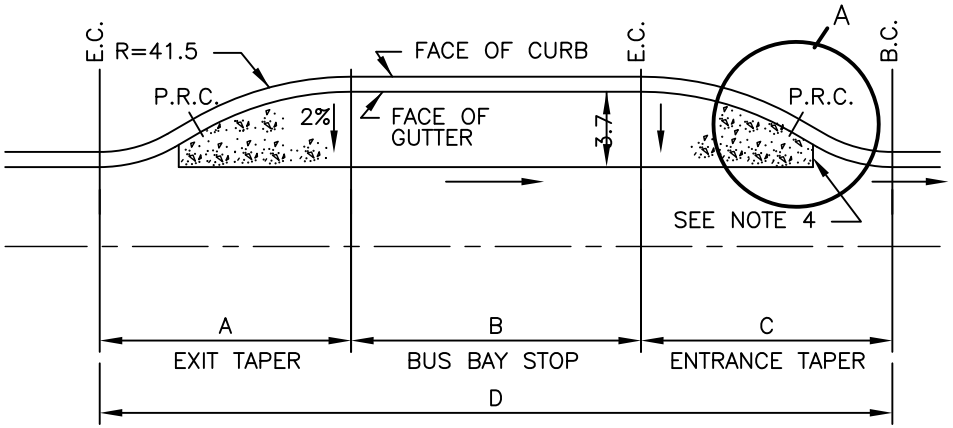


TRANSVERSE SECTION

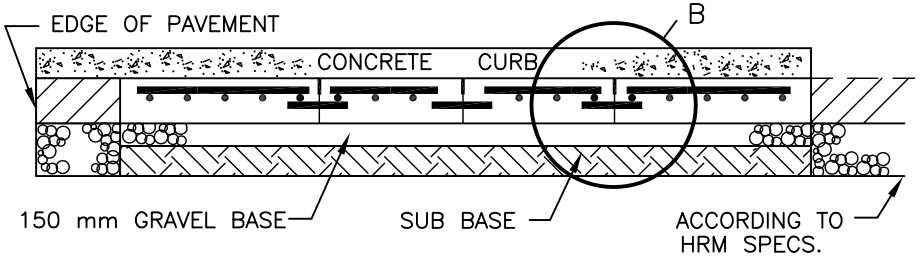


NOTES:

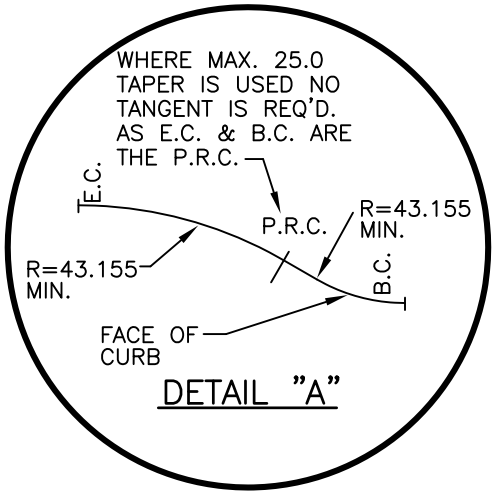
1. 15M BARS AT 300 mm C.C. BOTH WAYS.
2. CONTROL JOINTS TO BE AT A DEPTH OF 1/4 OF PAD THICKNESS & SEALED ACCORDING TO HRM SPECS.
3. CONTROL JOINT EVERY 4.0 m MAXIMUM.
4. MINIMUM WIDTH OF CONCRETE BASE IS 0.6 m.



PLAN



LONGITUDINAL SECTION



	SINGLE BUS BAY (MINIMUM DIMENSION)	DOUBLE BUS BAY (MINIMUM DIMENSION)
A	25	25
B	16	32
C	25	25
D	66	82

HALIFAX
REGIONAL MUNICIPALITY

STANDARD DETAIL

CONCRETE BUS BAY PAD – MID BLOCK

DATE: 2013	REFERENCE	APPROVED
SCALE: NTS		FIG. NO. HRM 58

TRENCH BACKFILL AND REINSTATEMENT – TESTING REQUIREMENTS

TEST REQUIRED	COMPACTION REQUIRED	MINIMUM TEST FREQUENCY	
		TRENCH LESS THAN 1.5m WIDE	TRENCH GREATER THAN 1.5m WIDE
COMPACTION OF BEDDING, HAUNCH & COVER MATERIALS (ASTM D698) *SEE NOTE 3	95% MINIMUM AT 3% ± OF OPTIMUM MOISTURE. (SEE NOTES)	1 PER 25m AT THE CENTRELINE OF THE TRENCH (AND EACH BENCH OR SECTION OF TRENCH LESS THAN 25m IN LENGTH) FOR EACH 600 VERTICAL DEPTH OF BACKFILL MATERIAL A MINIMUM OF 3 TESTS PER TRENCH SHALL BE PERFORMED.	3 PER 25m (AND EACH BENCH OR SECTION OF TRENCH LESS THAN 25m IN LENGTH) FOR EACH 600 VERTICAL DEPTH OF BACKFILL MATERIAL 1 TEST SHALL BE TAKEN AT THE CENTRELINE OF THE TRENCH (SET BACK AT LEAST 300mm FROM THE EDGE OF THE TRENCH). A MINIMUM OF 3 TESTS PER TRENCH SHALL BE PERFORMED.
COMPACTION OF STRUCTURAL FILL TO SUBGRADE ELEVATION (ASTM D698) *SEE NOTE 3	TOP 300 98% COMPACTION MINIMUM AT 3% ± OF OPTIMUM MOISTURE. (SEE NOTES)		
	BELOW 300 95% COMPACTION MINIMUM AT 3% ± OF OPTIMUM MOISTURE. (SEE NOTES)		
COMPACTION OF TYPE 1 & TYPE 2 BASE & SUB–BASE MATERIALS (ASTM D698)	100% COMPACTION MINIMUM AT 3% ± OF OPTIMUM MOISTURE (SE NOTES)	FOR EACH MATERIAL, 1 PER 25m AT THE CENTRELINE OF THE TRENCH (AND EACH BRANCH OR SECTION OF THE TRENCH LESS THAN 25m IN LENGTH) FOR EACH 300VERTICAL DEPTH OF BACKFILL MATERIAL. A MINIMUM OF 3 TESTS PER TRENCH SHALL BE PERFORMED.	FOR EACH MATERIAL, 3 PER 25m (AND EACH BRANCH OR SECTION OF TRENCH LESS THAN 25m IN LENGTH) FOR EACH 300 VERTICAL IN DEPTH OF BACKFILL MATERIAL. 1 TESTS SHALL BE TAKEN AT THE CENTRELINE OF THE TRENCH AND 1 AT EACH EDGE OF THE TRENCH (SET BACK AT LEAST 300mm FROM THE EDGE OF THE TRENCH). A MINIMUM OF 3 TESTS PER TRENCH SHALL BE PERFORMED.
COMPACTION OF HOT MIX ASPHALT PAVEMENT (ASTM D3549 & 2726)	95% OF MAXIMUM THEORETICAL DENSITY OF COMPARATIVE MARSHALL LABORATORY SAMPLE.	ONE TEST FOR EACH 75m² OF PAVEMENT SURFACE. A MINIMUM OF 1 TEST PER TRENCH.	ONE TEST FOR EACH 75m² OF PAVEMENT SURFACE. A MINIMUM OF 1 TEST PER TRENCH.

NOTES:

1. THE TRENCH WIDTH FOR DETERMINATION OF THE TEST SHALL BE THE WIDTH OF THE TRENCH AT THE LEVEL OF THE TEST BEING PERFORMED.

2. IF MINIMUM MOISTURE DENSITY REQUIREMENTS ARE NOT MET BY THESE TESTS, THE CONTRACTOR SHALL RECOMPACT THE TRENCH AS NEEDED TO ACHIEVE THE SPECIFIED COMPACTION. SUCH RECOMPACTION SHALL EXTEND ON BOTH SIDES OF THE FAILED TEST SECTION A DISTANCE EQUAL TO 1/2 THE DISTANCE FROM WHERE THE LAST TEST WAS TAKEN OR 50m, WHICHEVER IS LEAST. AN ALTERNATIVE PROCEDURE WOULD BE TO MORE CLEARLY DEFINE THE LIMITS OF THE FAILED AREA TO ADDITIONAL TESTS.

3. TESTING FOR BEDDING, HAUNCH AND STRUCTURAL FILL ARE ONLY REQUIRED WHEN THE TOTAL LENGTH OF TRENCH EXCEEDS 100 m, OR WHEN REQUESTED BY THE HRM INSPECTOR.

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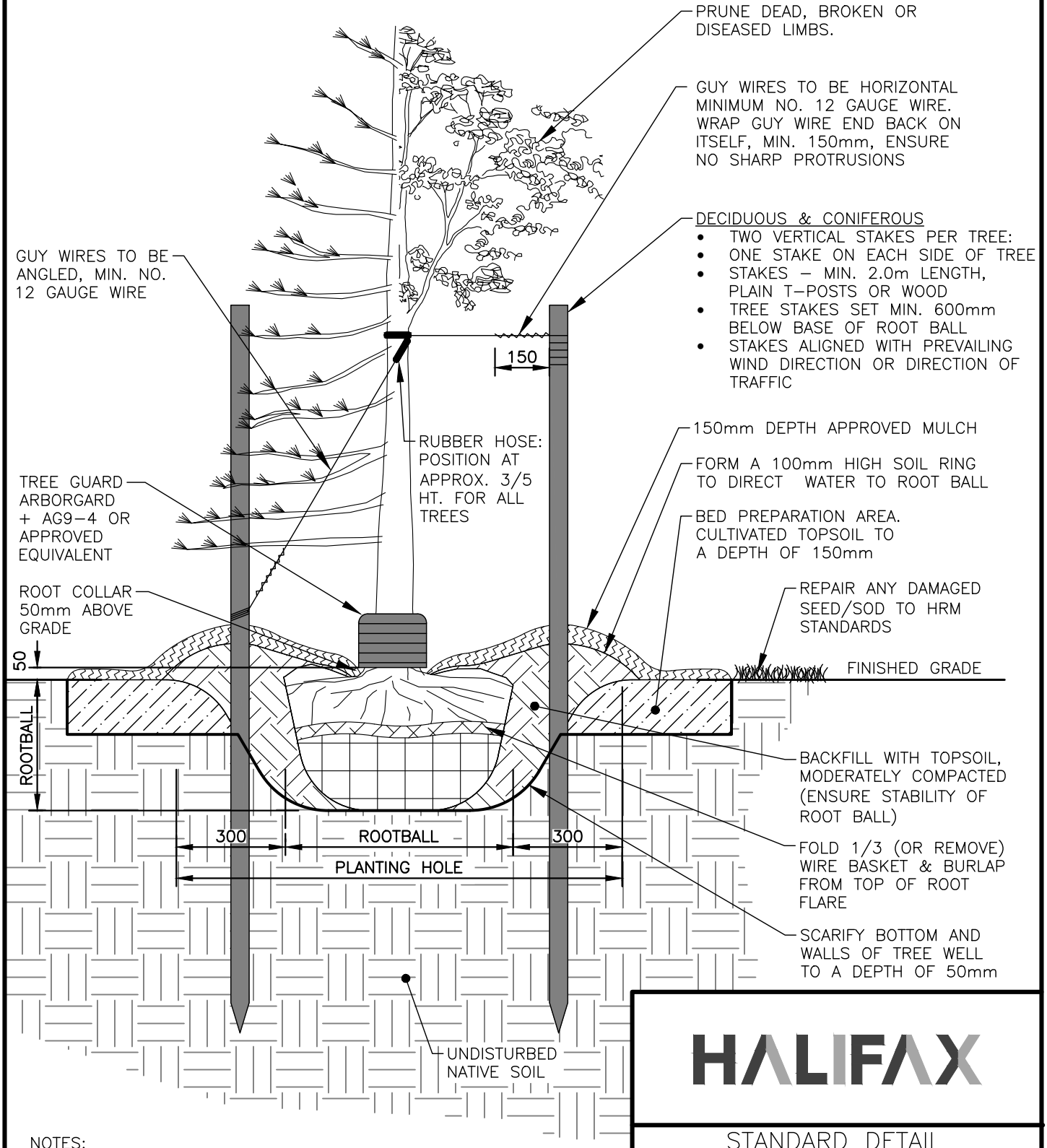
STANDARD DETAIL

TRENCH BACKFILL & REINSTATEMENT–TESTING

DATE: 2013	REFERENCE	APPROVED
SCALE: NTS		FIG No.: HRM 61

CONIFEROUS
1.8–2m HEIGHT

DECIDUOUS
60mm CALIPER



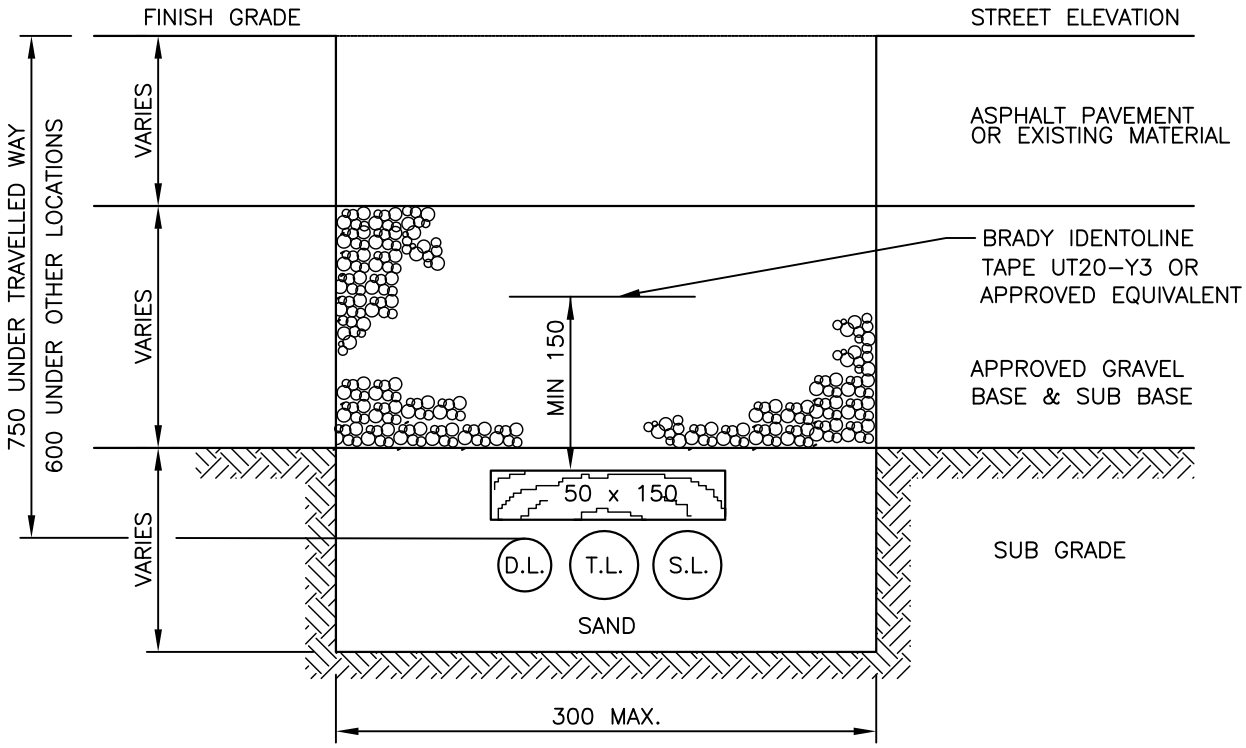
NOTES:
1. SOAK THE ROOTBALL AND BACKFILL AREA WITH 40 LITRES OF WATER AFTER PLANTING
2. CUT AND REMOVE ALL WIRE, ROPE, BURLAP AND TWINE FROM THE TOP $\frac{1}{3}$ OF THE ROOTBALL
3. PRUNE AT PLANTING TO CAREFULLY REMOVE DEAD, BROKEN AND DAMAGED BRANCHES
4. ROOT BALL MIN. SIZE AS PER CNLA STANDARDS FOR NURSERY STOCK

HALIFAX

STANDARD DETAIL

TREE PLANTING IN PARKS/OPEN SPACE

DATE: 2020	REFERENCE	APPROVED
SCALE: 1:15	REV	FIG No.: HRM 66



SIZE AND CONFIGURATION OF PVC CONDUIT INDICATED ON DRAWINGS

NOTES:

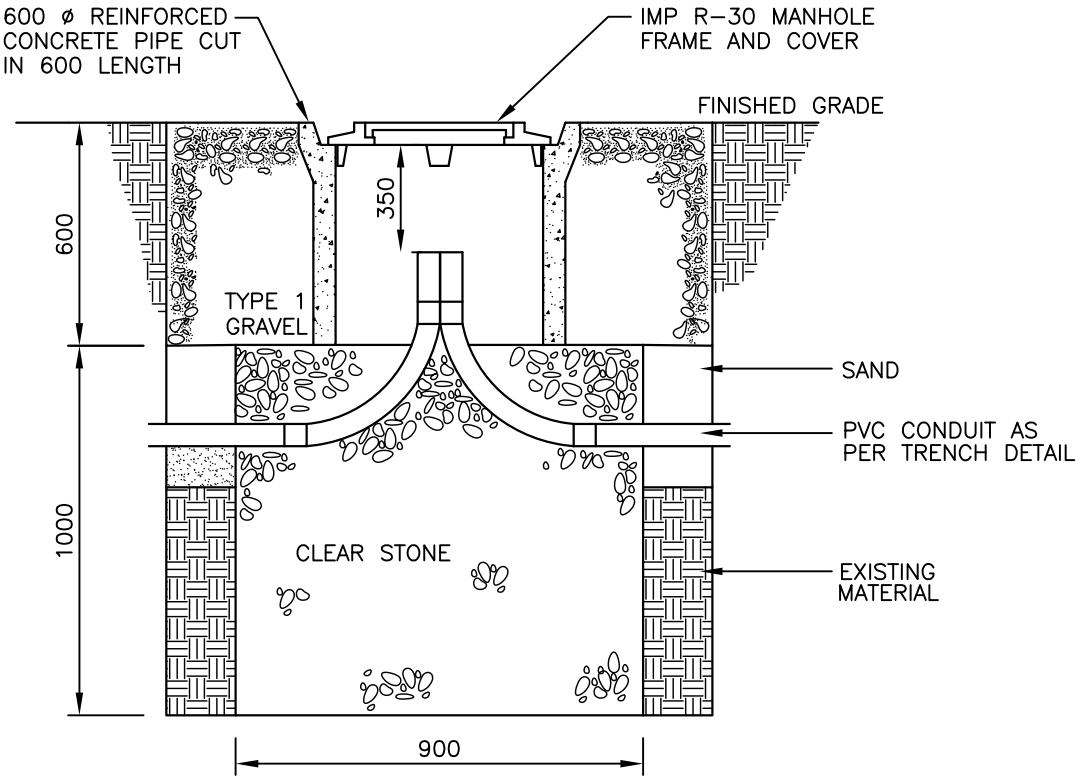
1. 50 mm X 150 mm WOOD PLANK TO BE PRESSURE TREATED WOOD.
2. "CAUTION BURIED ELECTRICAL LINE" TAPE TO BE PLACED OVER CONDUIT 150 mm TO 250 mm BELOW FINISHED GRADE.
3. SURROUND SAND WITH GEOTEXTILE SEPARATOR IN AREAS OF HIGH GROUNDWATER MOVEMENT (PERVIOUS SUB GRADE)

HALIFAX
REGIONAL MUNICIPALITY

STANDARD DETAIL

UNDERGROUND CONDUIT

DATE: 2013		APPROVED:
SCALE: NTS		FIG NO.: HRM 78

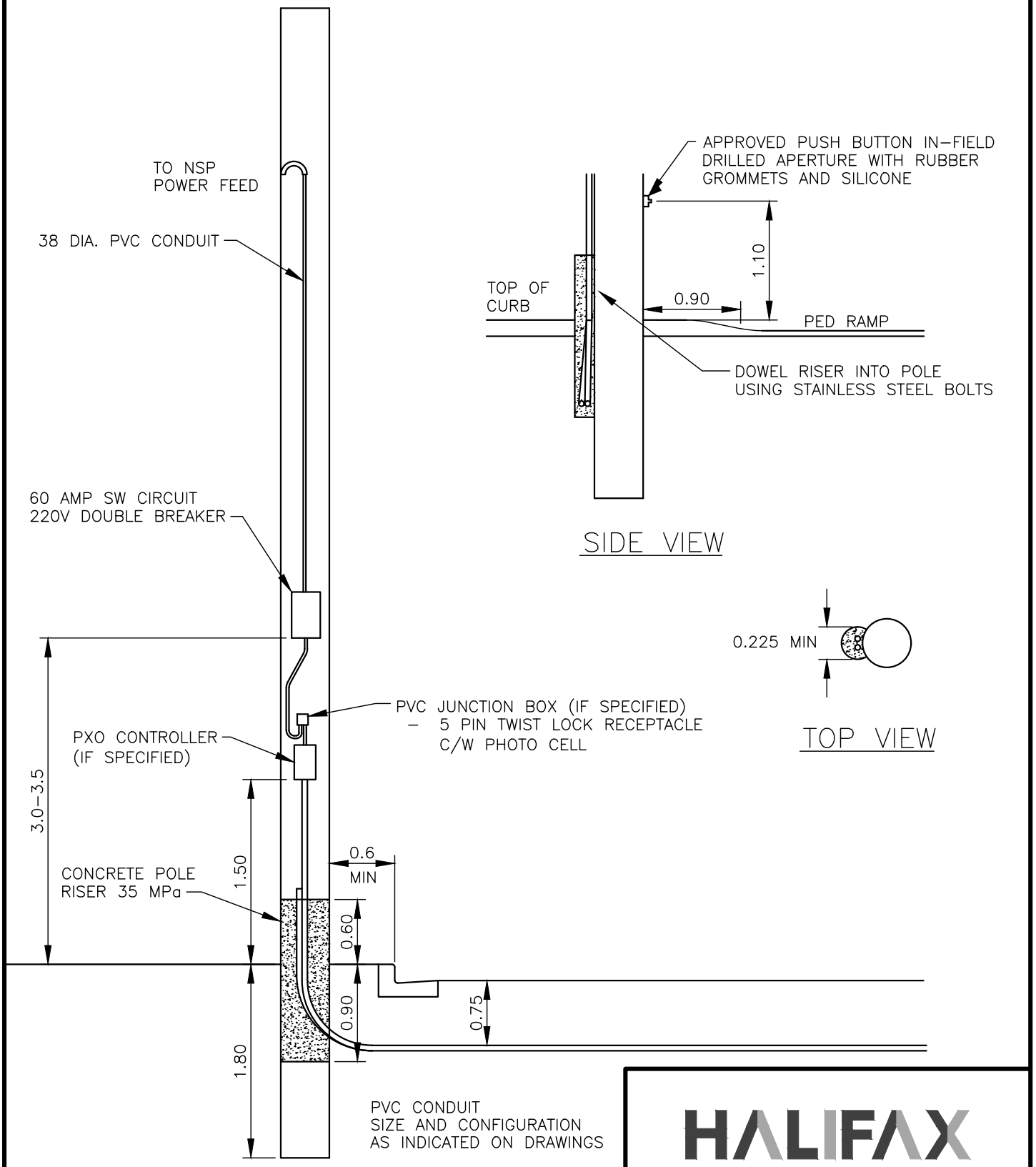


HALIFAX
REGIONAL MUNICIPALITY

STANDARD DETAIL

PULL PIT

DATE: 2013		APPROVED:
SCALE: NTS		FIG NO.: HRM 79



NOTE:

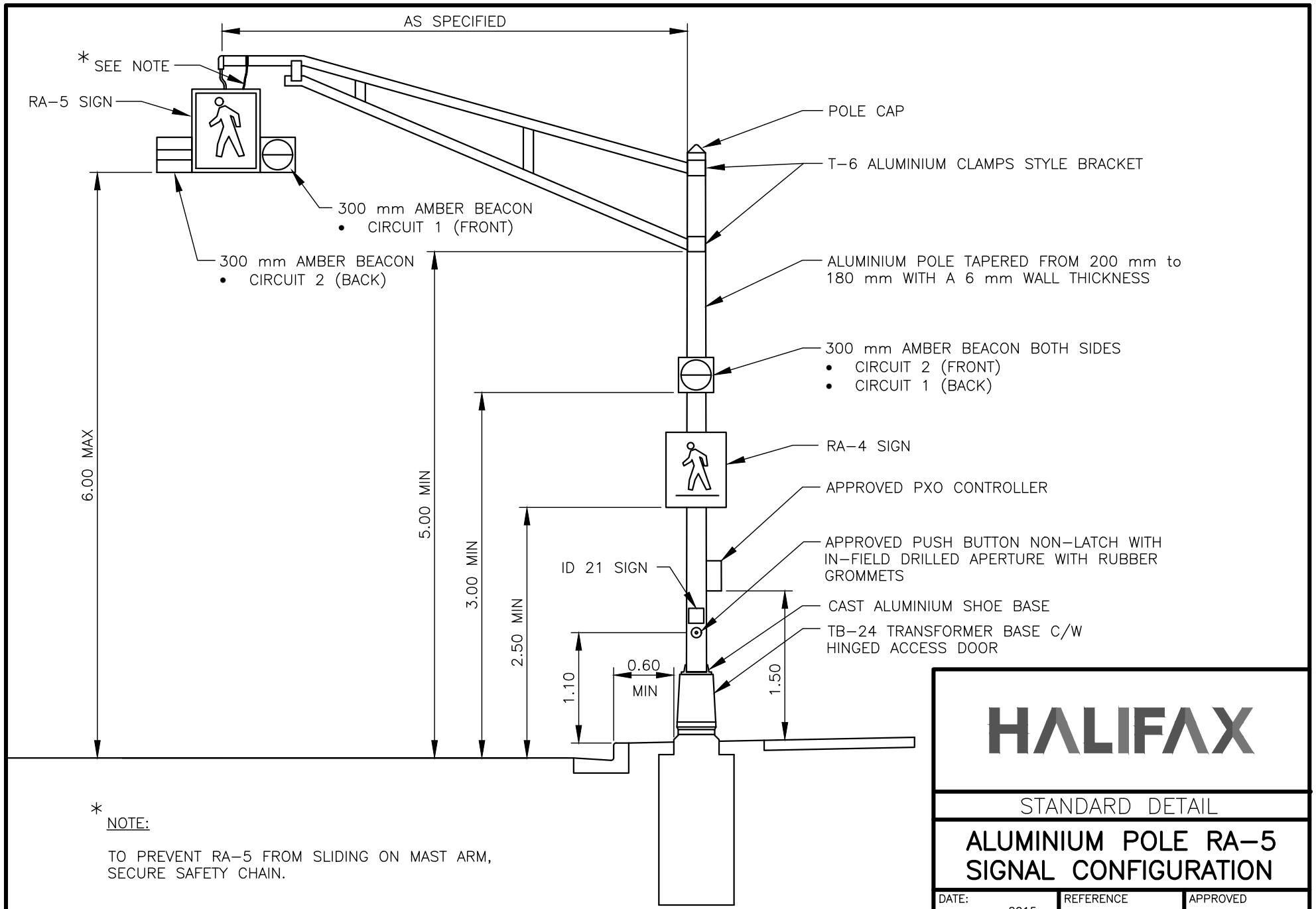
1. PLUG DUCTS NOT IN USE

HALIFAX

STANDARD DETAIL

WOODEN POLE POWER FEED (FOR TRAFFIC SIGNALS)

DATE: MARCH 2017	REFERENCE REV	APPROVED
SCALE: NTS		FIG No.: HRM 86



* NOTE:

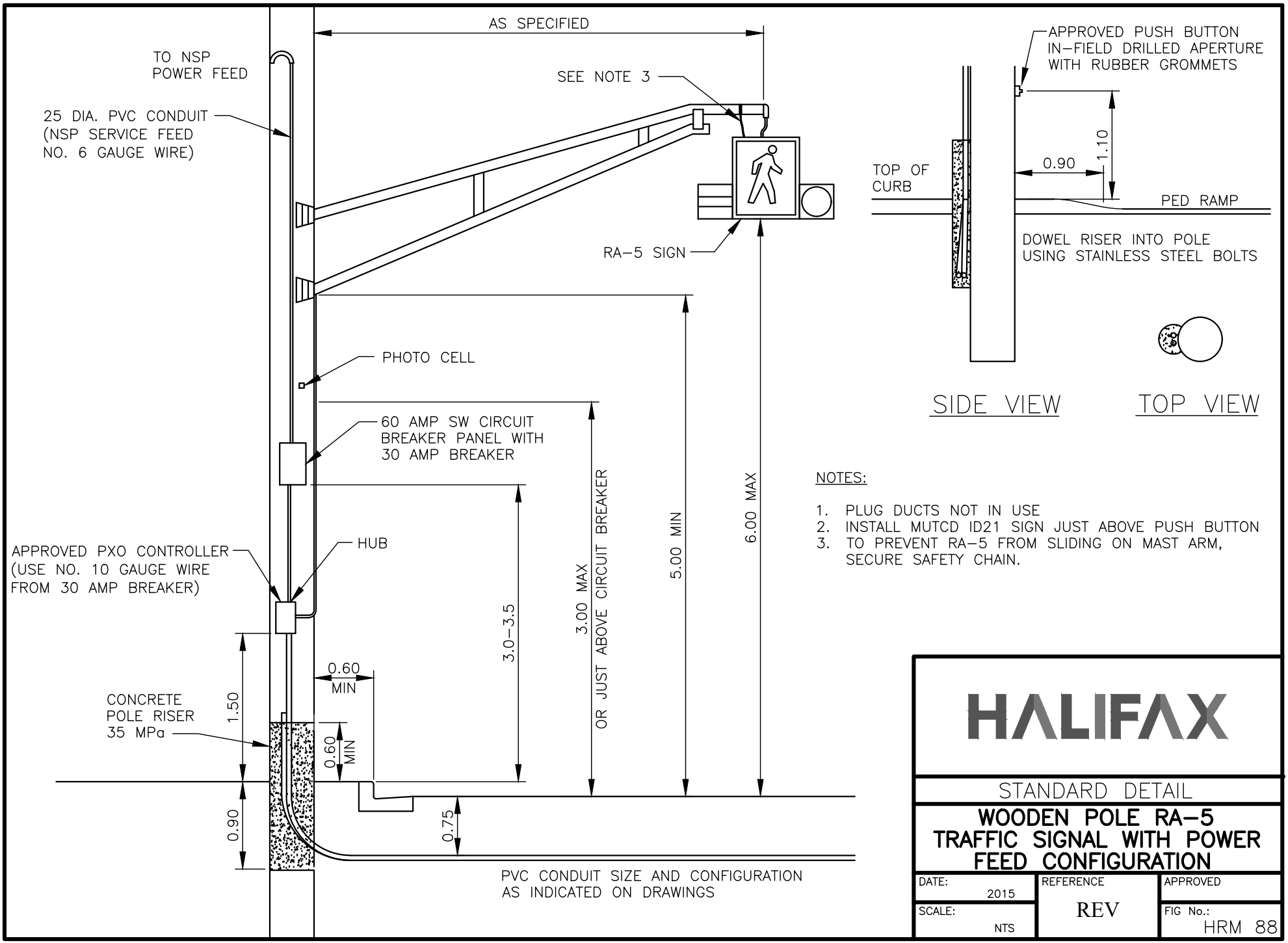
TO PREVENT RA–5 FROM SLIDING ON MAST ARM, SECURE SAFETY CHAIN.

HALIFAX

STANDARD DETAIL

ALUMINIUM POLE RA–5 SIGNAL CONFIGURATION

DATE: 2015	REFERENCE REV	APPROVED
SCALE: NTS		FIG No.: HRM 87



NOTES:

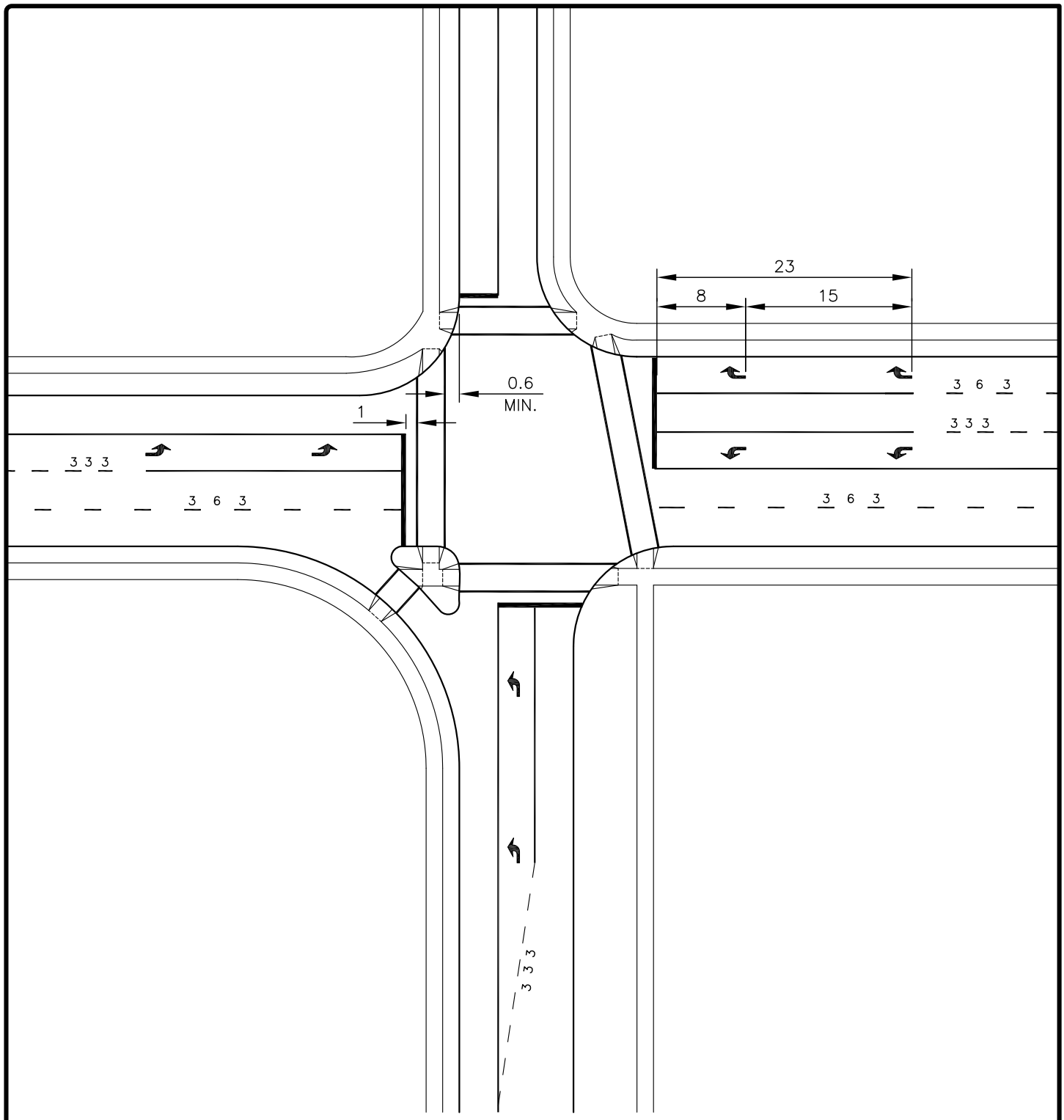
1. PLUG DUCTS NOT IN USE
2. INSTALL MUTCD ID21 SIGN JUST ABOVE PUSH BUTTON
3. TO PREVENT RA–5 FROM SLIDING ON MAST ARM, SECURE SAFETY CHAIN.

HALIFAX

STANDARD DETAIL

WOODEN POLE RA–5 TRAFFIC SIGNAL WITH POWER FEED CONFIGURATION

DATE: 2015	REFERENCE REV	APPROVED
SCALE: NTS		FIG No.: HRM 88



NOTES:

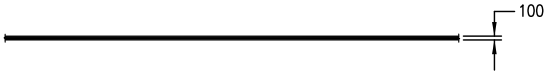
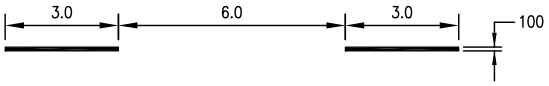
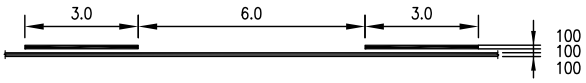
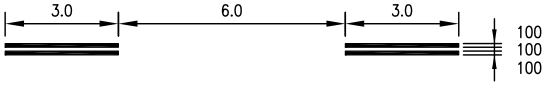
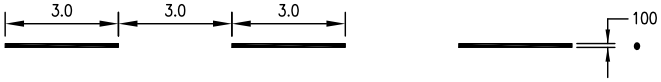
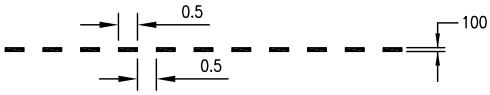
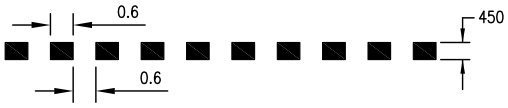
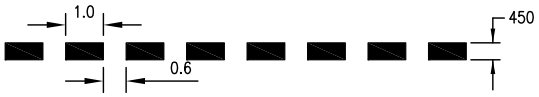
1. ALL PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH HRM STANDARD DETAILS.
2. WHEN REQUIRED, THIRD AND SUBSEQUENT ARROWS TO BE SPACED AT 15.0m INTERVALS.

HALIFAX
REGIONAL MUNICIPALITY

STANDARD DETAIL

STANDARD INTERSECTION PAVEMENT MARKING LAYOUT

DATE: 2013	REFERENCE	APPROVED
SCALE: NTS		FIG No.: HRM 89

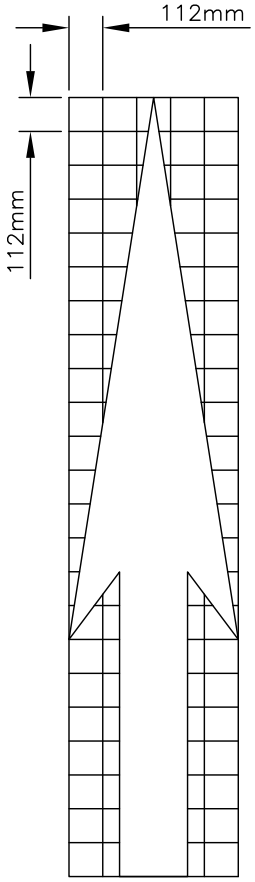
NAME OF LINE	–LENGTH DIMENSION (m) –WIDTH DIMENSIONS (mm)	USE
SOLID		• EDGE LINES (WHITE OR YELLOW) • DIRECTIONAL DIVIDING LINES (YELLOW) • LANE LINES, PROHIBITING LINES (WHITE) • BIKE LINES (WHITE)
BROKEN		• DIRECTIONAL DIVIDING LINES (YELLOW) • LANE LINES (WHITE)
SIMULTANEOUS SOLID & BROKEN		• DIRECTIONAL DIVIDING LINES (YELLOW) • TWO–WAY LEFT TURN LINES (YELLOW)
DOUBLE SOLID		• DIRECTIONAL DIVIDING LINES (YELLOW)
DOUBLE BROKEN		• REVERSIBLE LANE (YELLOW)
DASHED		• CONTINUITY LINES IN MERGING AND DIVERGING AREAS AND TAPERS FOR LEFT–TURN AND RIGHT–TURN LANES.
		• LANE LINES WITHIN MULTI–LANE ROUNDABOUT (WHITE)
		• BUS BAYS (WHITE) • BIKE LANES (WHITE)
		• GUIDING LINES (WHITE)
STOP		• INTERSECTION STOP LINES (WHITE)
CROSSWALK		• CROSSWALKS (WHITE)
YIELD		• SINGLE LANE ROUNDABOUT YIELD LINES (WHITE)
		• DOUBLE LANE ROUNDABOUT YIELD LINES (WHITE)

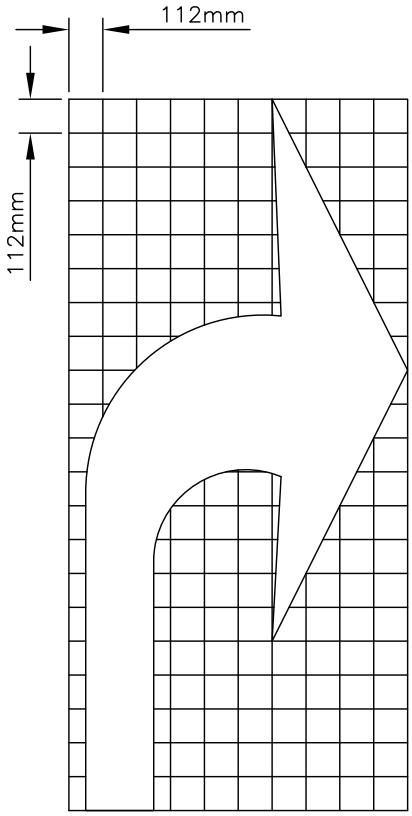
HALIFAX
REGIONAL MUNICIPALITY

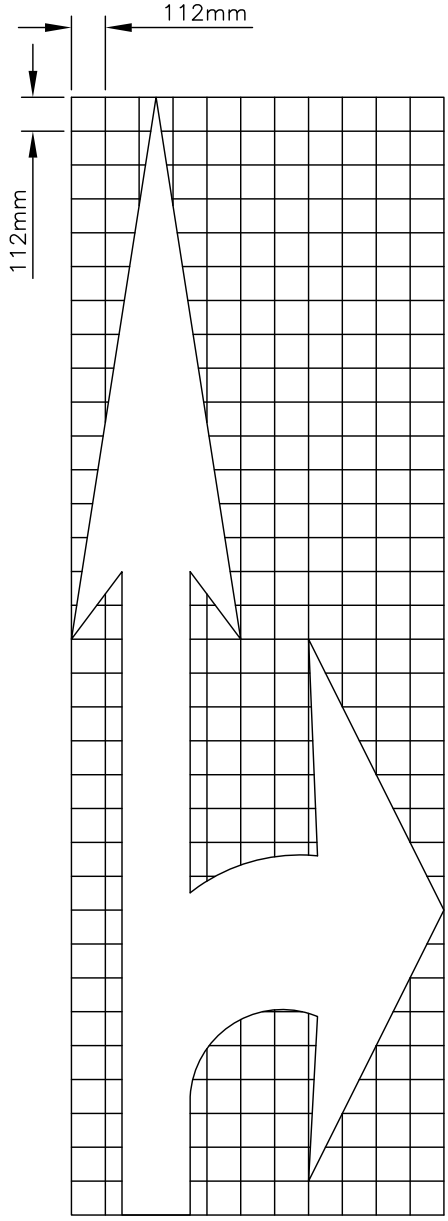
STANDARD DETAIL

LONGITUDINAL AND TRANSVERSE MARKINGS

DATE: 2013	REFERENCE	APPROVED
SCALE: 1:200		FIG No.: HRM 90





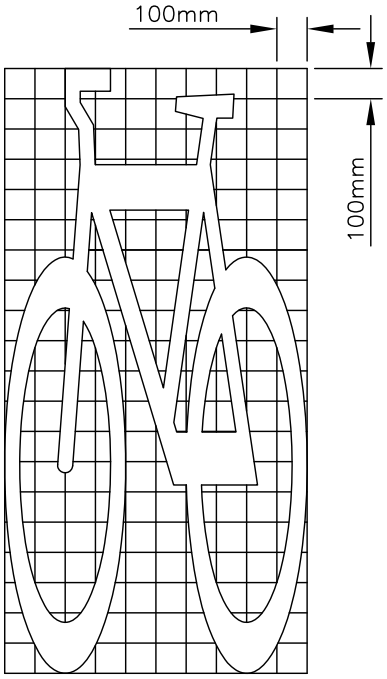


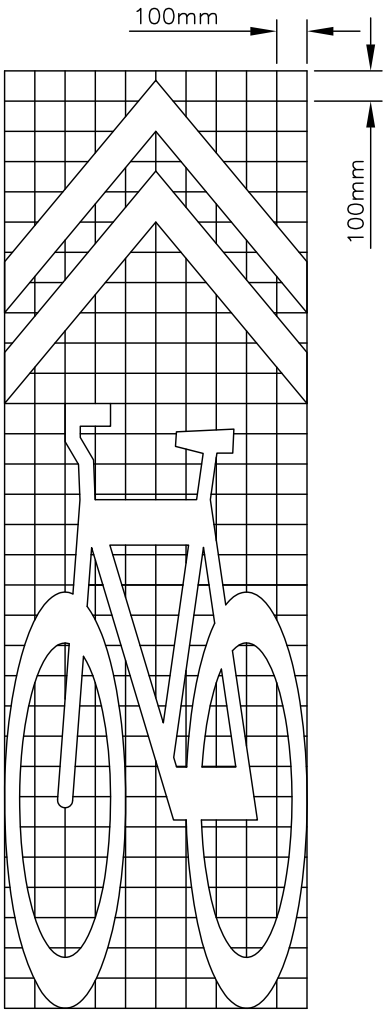
HALIFAX
REGIONAL MUNICIPALITY

STANDARD DETAIL

PAVEMENT ARROWS

DATE: 2013	REFERENCE	APPROVED
SCALE: 1:25		FIG No.: HRM 91





HALIFAX
REGIONAL MUNICIPALITY

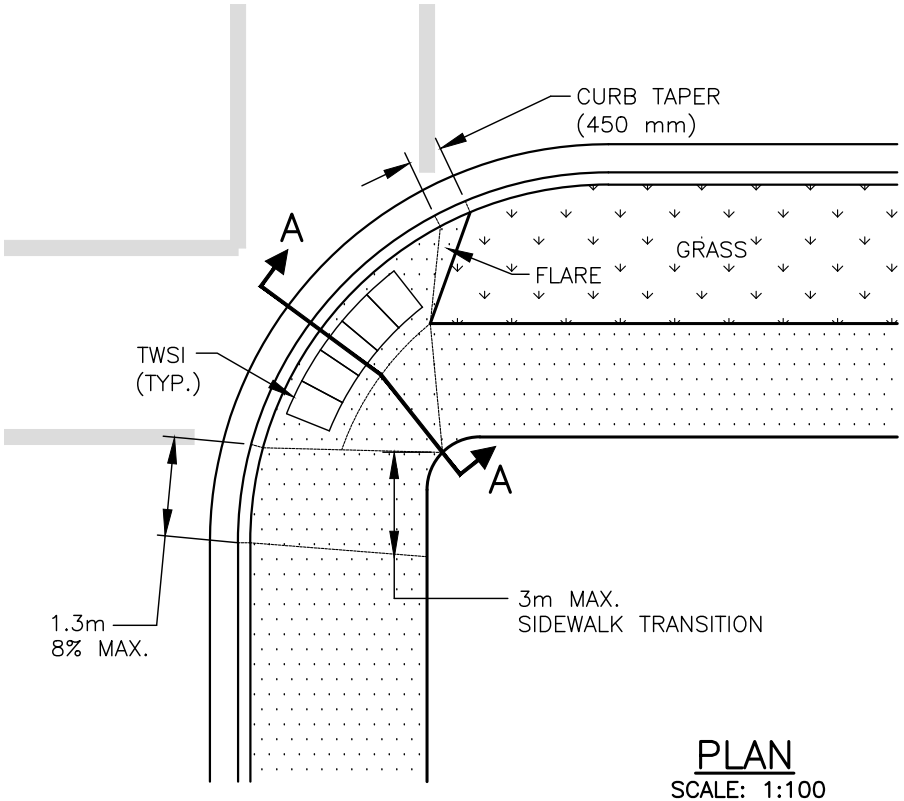
STANDARD DETAIL

BICYCLE SYMBOL & SHARED USE LANE SYMBOL

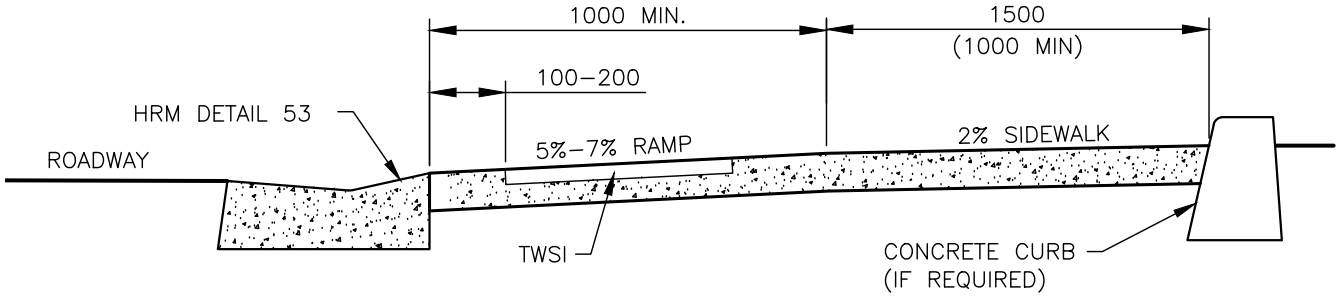
DATE: 2013	REFERENCE	APPROVED
SCALE: 1:25		FIG No.: HRM 92

NOTES:

1. NATURAL CAST IRON ATTENTION TWSI (TACTILE WALKING SURFACE INDICATOR) PLATES. TO CSA B651, AND AS INDICATED IN THE PROJECT DOCUMENTS.
2. MAXIMUM GAP BETWEEN PLATES AND START OF TAPER TO BE 100mm.
3. PLATES SHALL BE PLACED WITH THE TOP OF THE BASE PLATE (BOTTOM OF DOMES) LEVEL WITH CONCRETE SURFACE.
4. ALL PLATES TO BE 610mm LONG.
5. TO BE READ IN CONJUNCTION WITH HRM DETAIL 49 PEDESTRIAN RAMP ALIGNMENT.
6. SIZE AND SHAPE OF PLATES TO MANUFACTURER'S SPECIFICATION.



PLAN
SCALE: 1:100



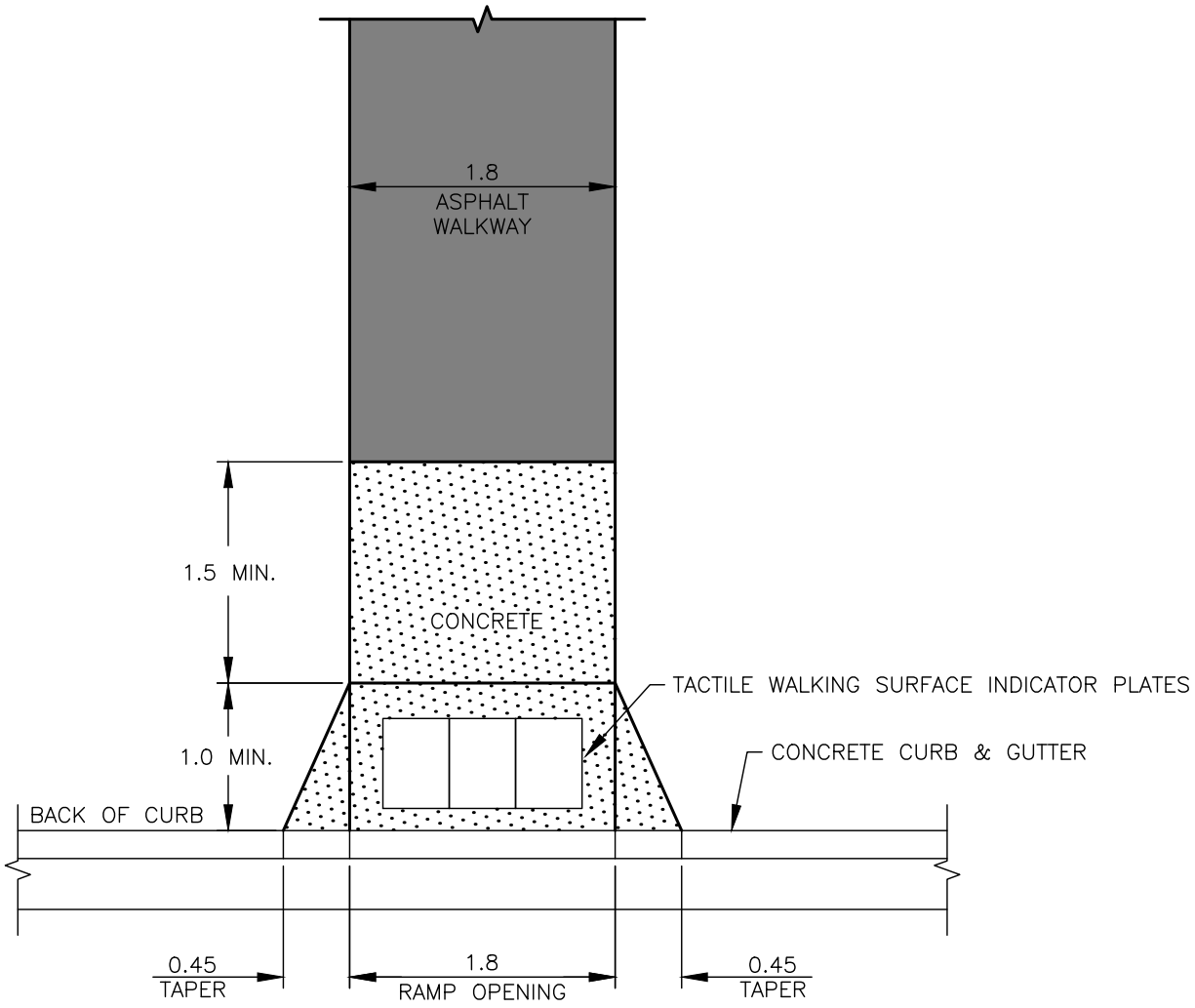
CROSS SECTION A–A
SCALE 1:20

HALIFAX

STANDARD DETAIL

TACTILE WALKING SURFACE INDICATOR RAMP PLACEMENT

DATE: NOVEMBER 2019	REFERENCE	APPROVED
SCALE: AS NOTED		FIG No.: HRM 131



NOTES:

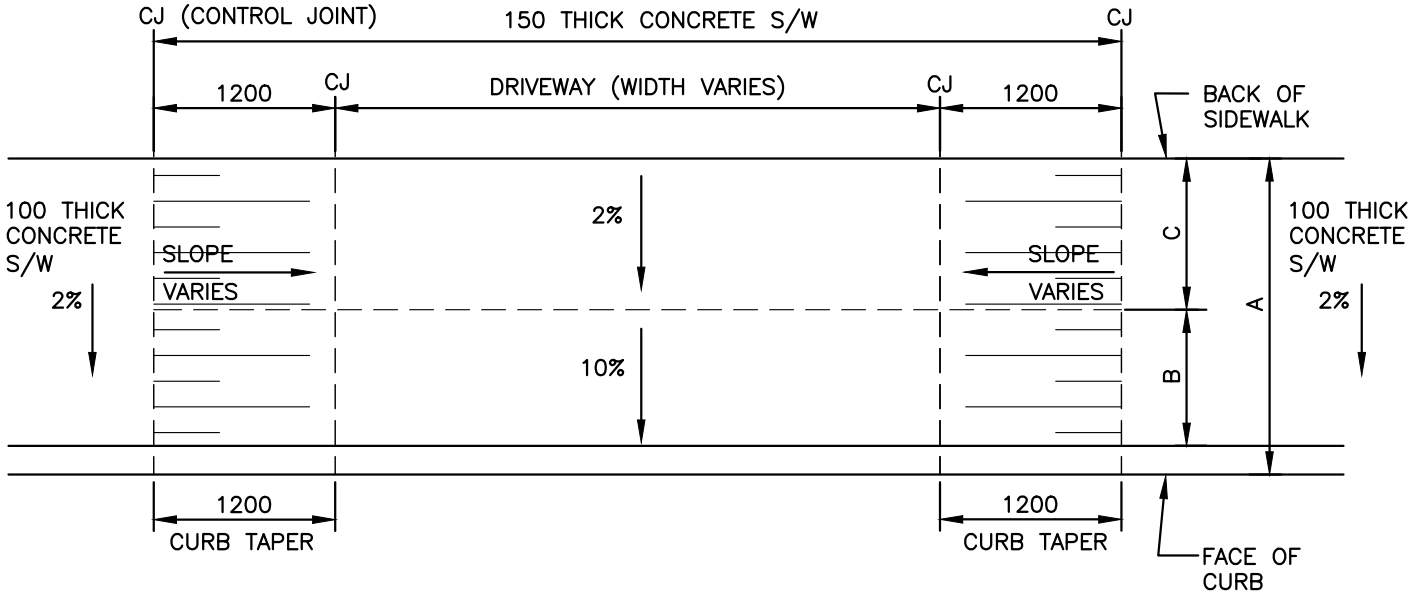
1. CONCRETE PEDESTRIAN RAMP TO HRM DETAIL 49.
2. CONCRETE CURB & GUTTER TO HRM DETAIL 53.
3. TACTILE WALKING SURFACE INDICATOR PLATES TO HRM DETAIL 131.
4. ASPHALT WALKWAY TO HRM DETAIL 40.

HALIFAX

STANDARD DETAIL

WALKWAY WITH PEDESTRIAN RAMP

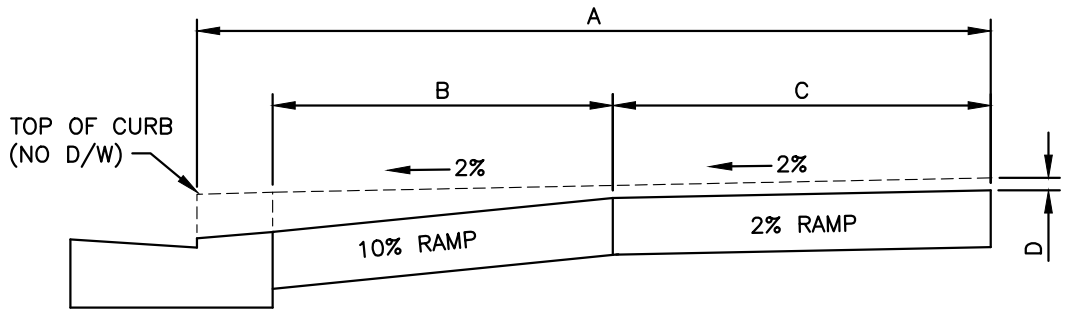
DATE: JANUARY 2019	REFERENCE	APPROVED
SCALE: 1:50		FIG No.: HRM 132



PLAN

SCALE 1:50

A	B	C	D
1800	600	1000	57
1900	700	1000	49
2000	800	1000	41
2100	900	1000	33
2200	900	1100	33
2300	900	1200	33
2400	900	1300	33
2500	900	1400	33
2600	900	1500	33
2700	1000	1500	24
2800	1100	1500	16
2900	1200	1500	8
3000	1300	1500	0



℄ DRIVEWAY CROSS SECTION

SCALE 1:20

NOTES;

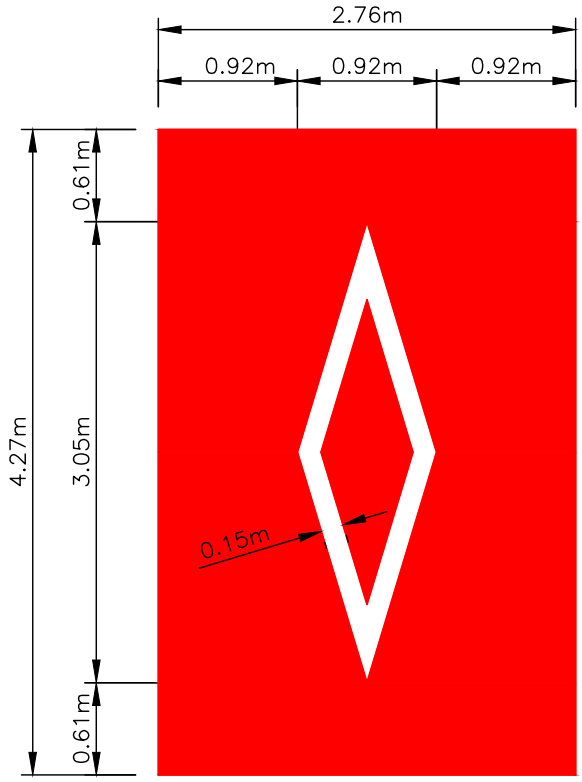
1. WHEN ADJACENT DRIVEWAYS ARE LESS THAN 2.4 METERS APART, DO NOT TAPER CURB AND SIDEWALK BETWEEN DRIVEWAYS.
2. AREA BEHIND DROPPED S/W MAY REQUIRE BUILD UP WITH PAVEMENT OR CURB TO PREVENT ENTRY OF STORM WATER DURING MAJOR STORM.

HALIFAX

STANDARD DETAIL

CONCRETE SIDEWALK ADJACENT CURB

DATE: 2014	REFERENCE NEW	APPROVED
SCALE: AS NOTED		FIG No.: HRM 133



NOTE:

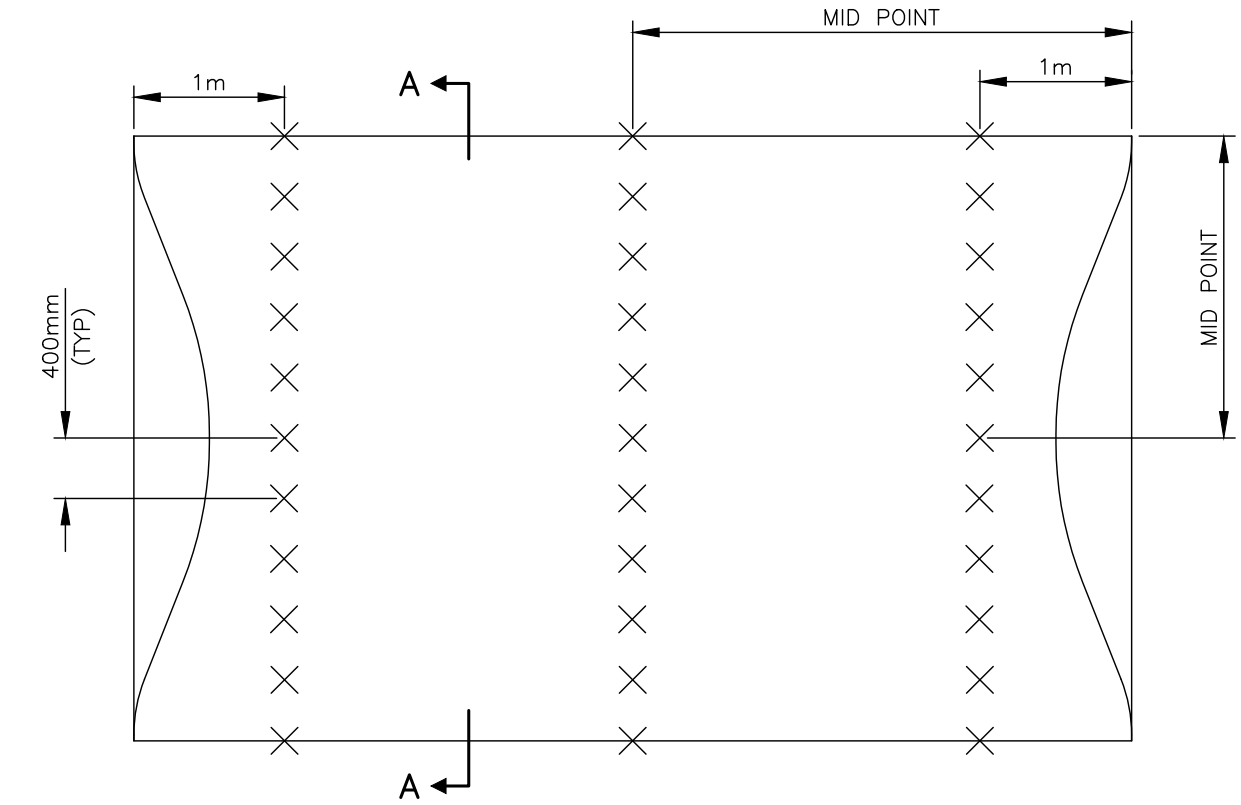
1. PERMANENT PAVEMENT MARKING FOR IN–LAY SHALL BE RED PAINT.
2. PERMANENT PAVEMENT MARKING FOR RESERVED LANE SYMBOL SHALL BE WHITE PAINT.

HALIFAX

STANDARD DETAIL

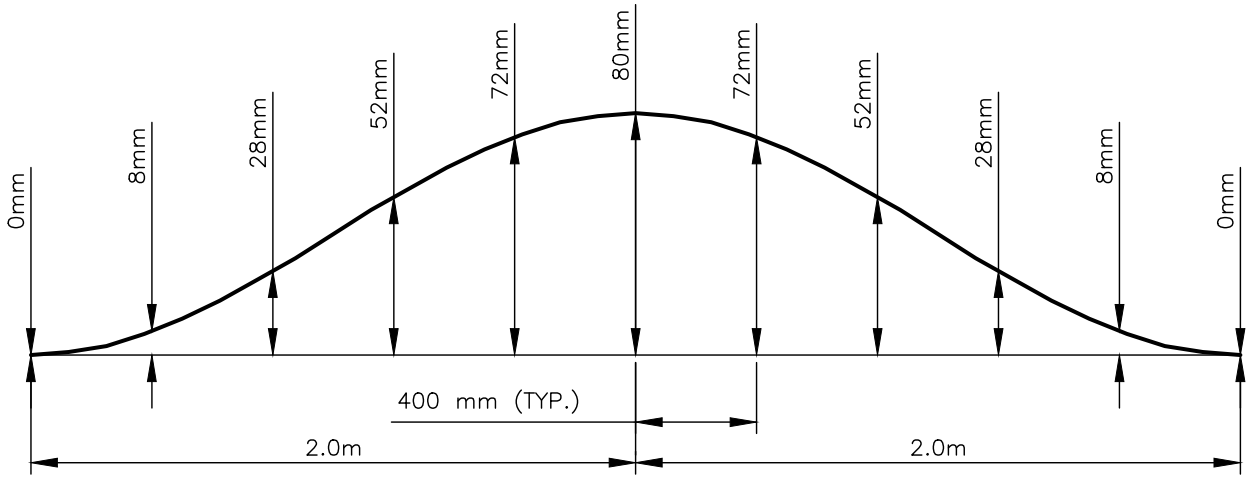
RED IN–LAY RESERVED LANE

DATE: 2019	REFERENCE NEW	APPROVED
SCALE: 1:50		FIG. NO. HRM 134



SPEED HUMP

SCALE: 1:50



SECTION A–A

SCALE: Horz. 1:25
Vert. 1:2.5

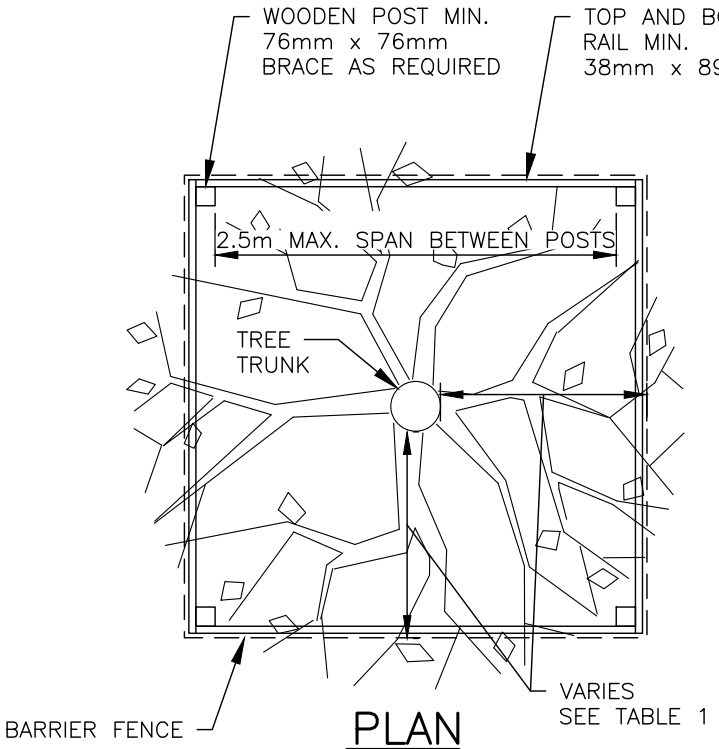
NOTES:
1. 33 SURVEY SHOTS REQUIRED

HALIFAX

STANDARD DETAIL

SPEED HUMP SURVEY VERIFICATION

DATE: OCTOBER 2020	REFERENCE NEW	APPROVED
SCALE: AS NOTED		FIG No.: HRM 136



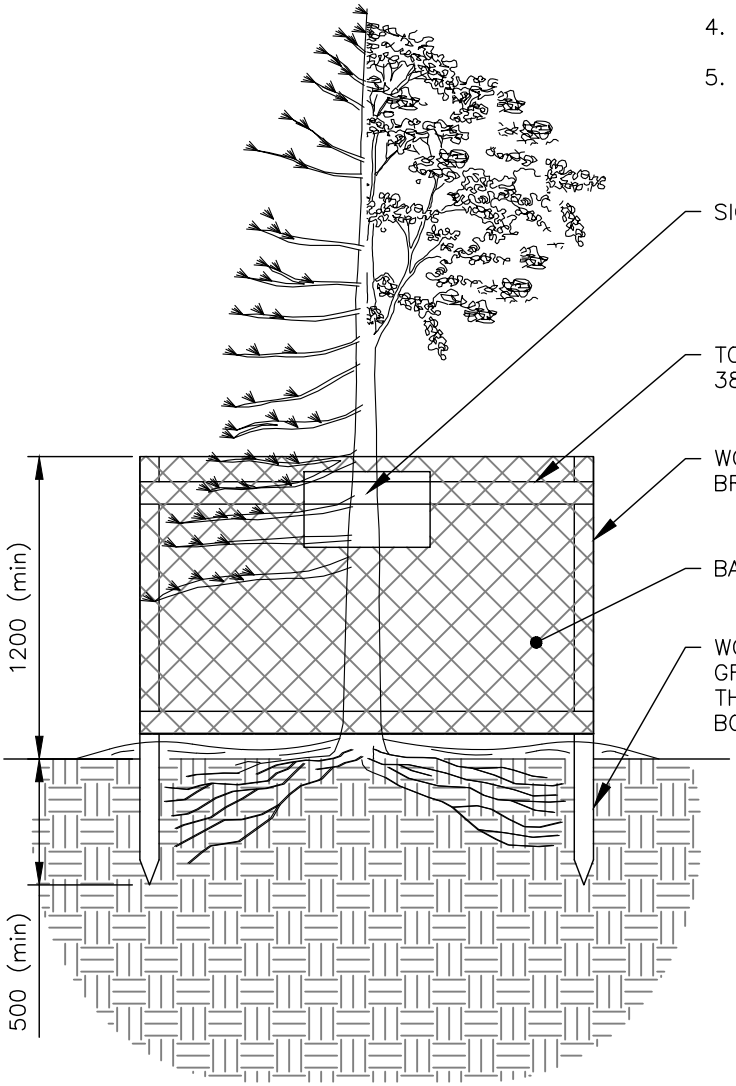
PLAN

TABLE 1

TREE PROTECTION ZONE CALCULATION TABLE	
TRUNK DIAMETER (DBH)	MINIMUM PROTECTION DISTANCE REQUIRED (MEASURE FROM THE OUTSIDE EDGE OF TREE TRUNK)
10 CM & UNDER	1.2 METERS
11 – 30 CM	2.0 METERS
31 – 40 CM	3.4 METERS
41 – 50 CM	4.6 METERS
51 – 60 CM	6.0 METERS
61 – 70 CM	7.0 METERS
71 – 80 CM	8.0 METERS
>80 CM	9.0 METERS

NOTES:

1. WOOD POST: (MIN. 76mm WIDTH) INSTALLED TO A DEPTH OF 500mm. TOP AND BOTTOM RAIL: (MIN. 38 x 89mm CONSTRUCTION, MAX. SPAN 2.5m), CROSS BRACING AS REQUIRED.
2. NO GROUND DISTURBANCE WITHIN 1.2 METER OF THE TREE TRUNK (I.E. POST INSTALLATION)
3. POSTS SET BACK FROM SIDEWALK AND CURB: MIN 300mm
4. FENCE MATERIAL: MINIMUM ORANGE BARRIER FENCE OR METAL CHAIN LINK FENCE
5. ATTACH A SIGN ON TWO SIDES OF THE TREE "PROTECTION ZONE DO NOT REMOVE FENCE DURING CONSTRUCTION"



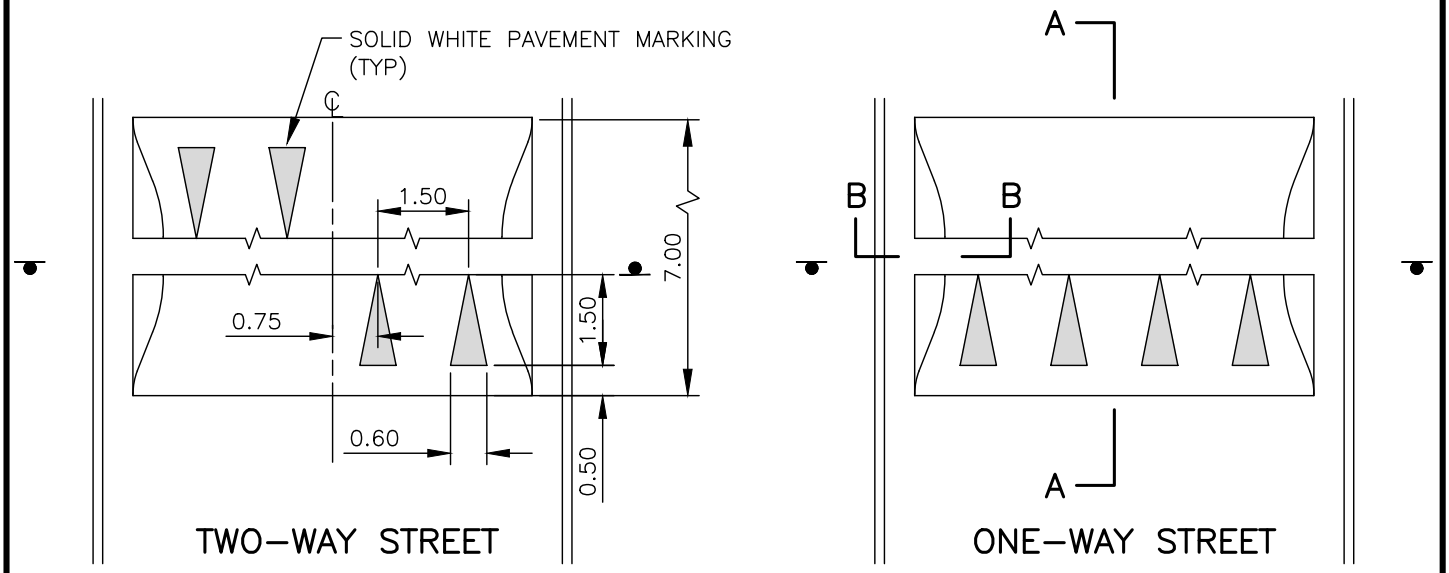
PROFILE

HALIFAX

STANDARD DETAIL

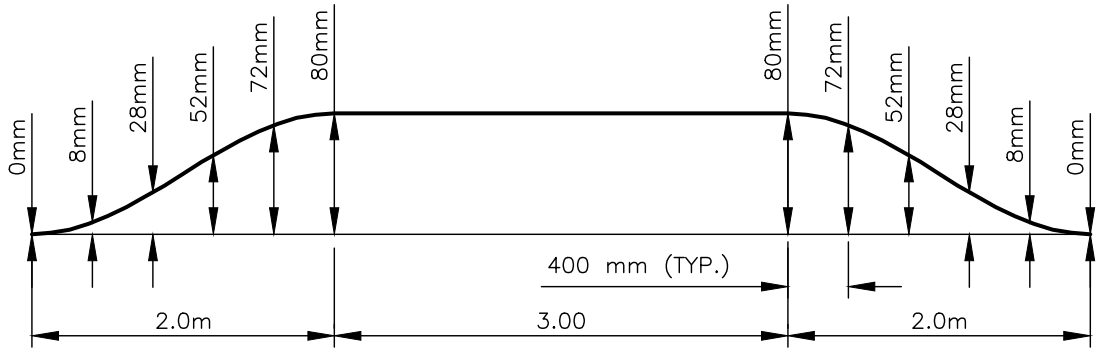
TREE PROTECTION ZONE & BARRIER

DATE: NOVEMBER 2019	REFERENCE	APPROVED
SCALE: 1:30	NEW	FIG No.: HRM 140

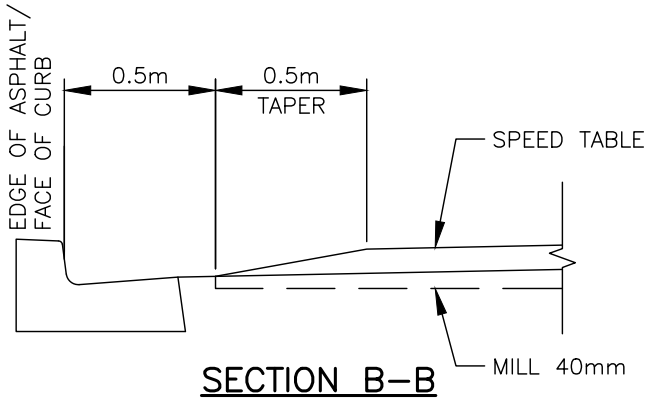


SPEED TABLE
SCALE: 1:125

NOTES:
1. TOLERANCE FOR CONSTRUCTION IS +/– 10mm RELATIVE TO THE CURVE.
2. THE EXISTING ASPHALT SURFACE TO BE MILLED TO A DEPTH OF 40mm WHEN RETROFITTING.



SECTION A–A
SCALE: Horz. 1:50
Vert. 1:5



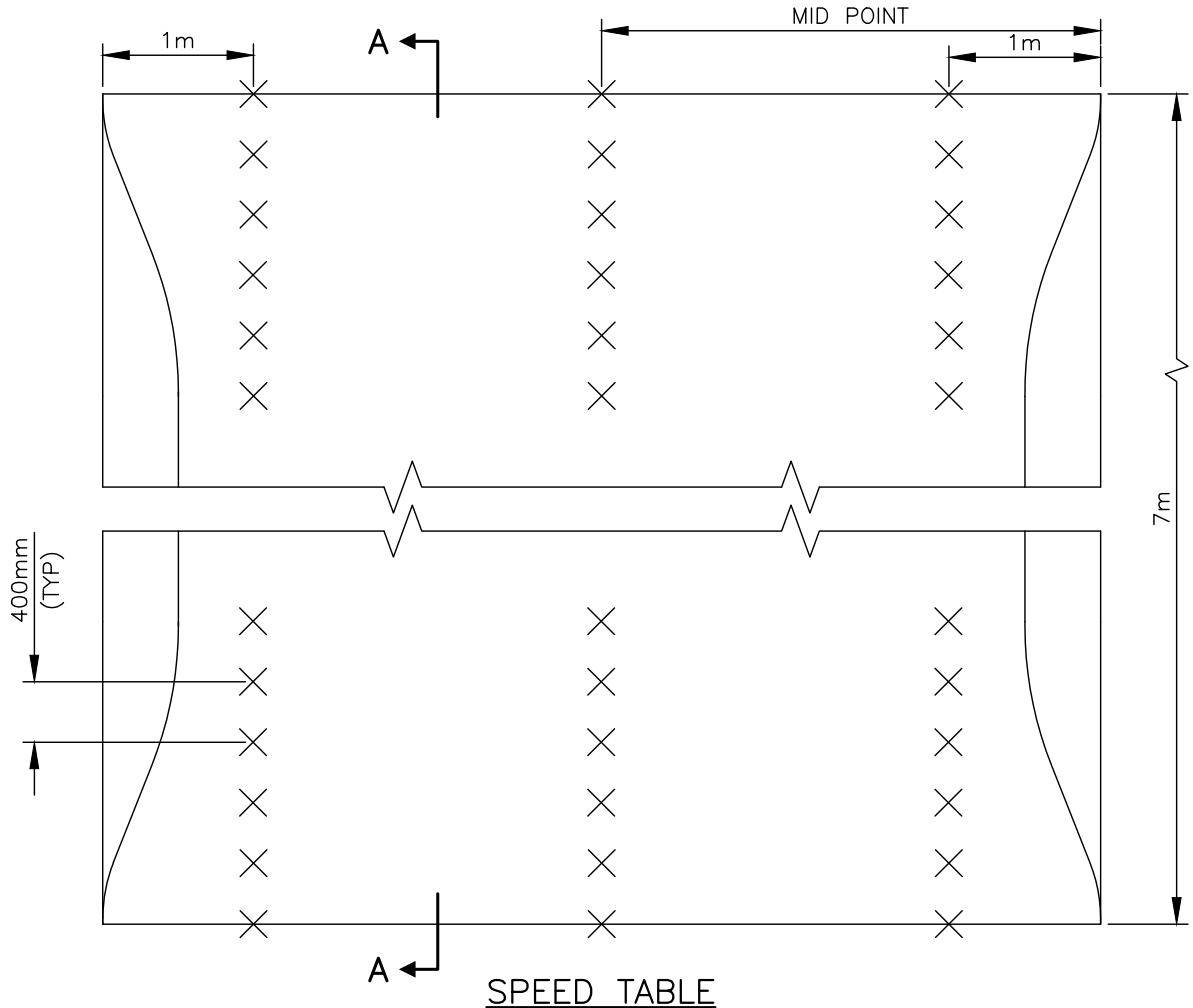
SECTION B–B
SCALE: 1:25

HALIFAX

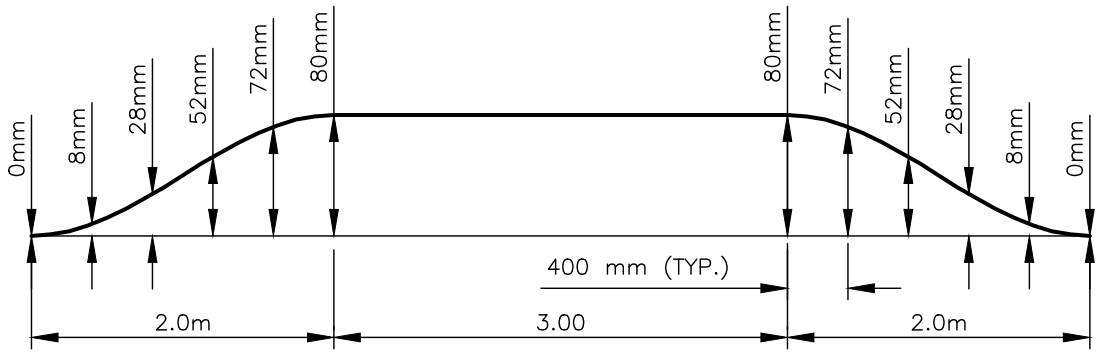
STANDARD DETAIL

SPEED TABLE DETAIL

DATE: OCTOBER 2020	REFERENCE NEW	APPROVED
SCALE: AS NOTED		FIG No.: HRM 143



SPEED TABLE
SCALE: 1:50



SECTION A–A
SCALE: Horz. 1:50
Vert. 1:5

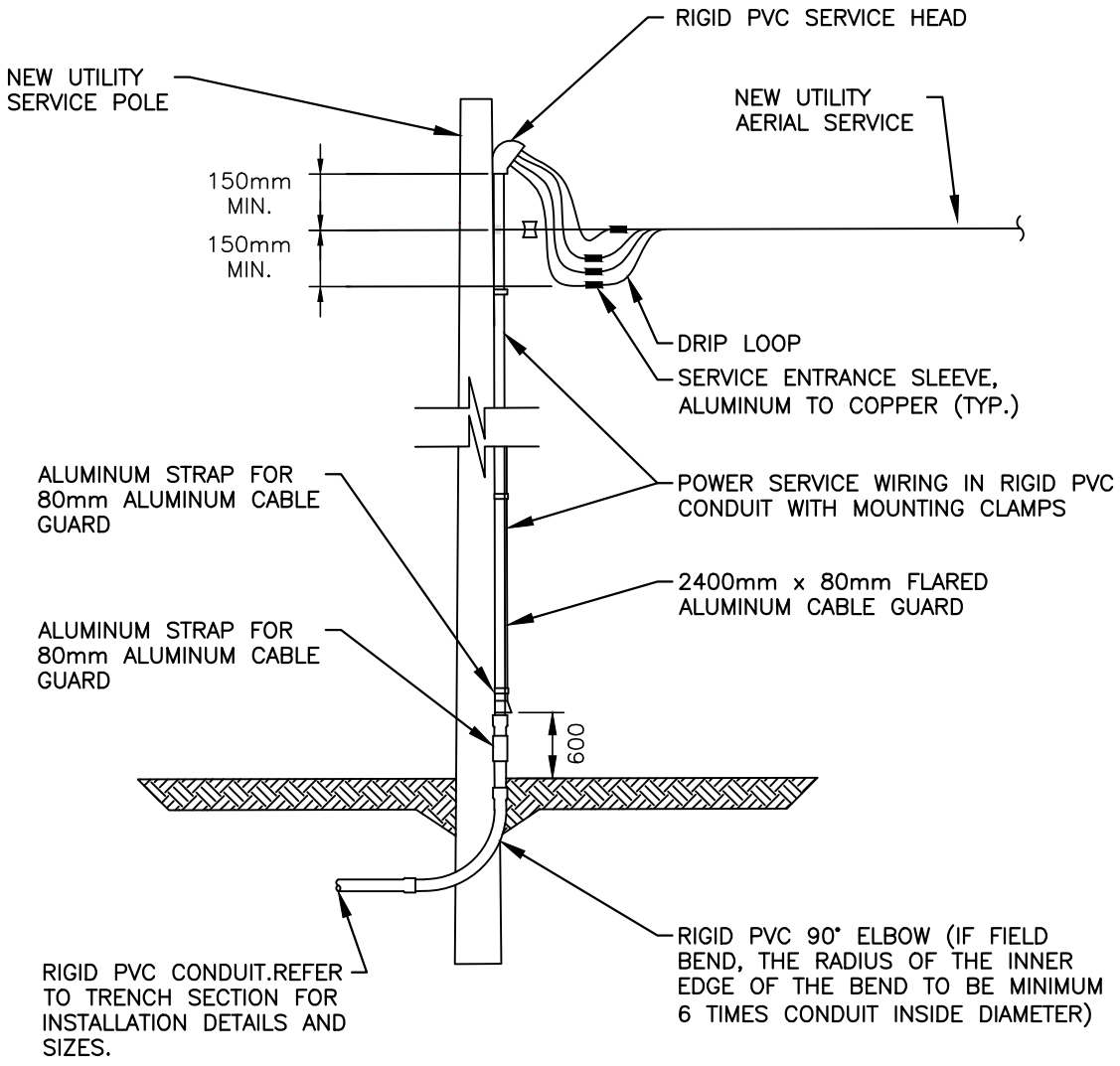
NOTES:
1. 36 SURVEY SHOTS REQUIRED

HALIFAX

STANDARD DETAIL

SPEED TABLE SURVEY VERIFICATION

DATE: OCTOBER 2020	REFERENCE NEW	APPROVED
SCALE: AS NOTED		FIG No.: HRM 144



NOTES:

1. BREAKER MUST BE A DOUBLE POLE, NO SPARE SERVICE WIRES ARE ALLOWED.
2. CIRCUITS RATED AT MORE THAN 15Amps REQUIRE A CONTACTOR.
3. ALL WORK MUST BE IN COMPLIANCE WITH THE LATEST EDITION OF THE CANADIAN ELECTRICAL CODE AND INSPECTED BY NSPI
4. UNDERGROUND SERVICE CONDUIT AND GROUND MUST BE PROTECTED BY A U-GUARD AND BONDED AS PER CEC.
5. ALL SCREWS IN THE SERVICE SWITCH ARE TO BE NEVER SEIZED, AND MOUNTING SCREWS ARE TO BE STAINLESS STEEL ONLY.

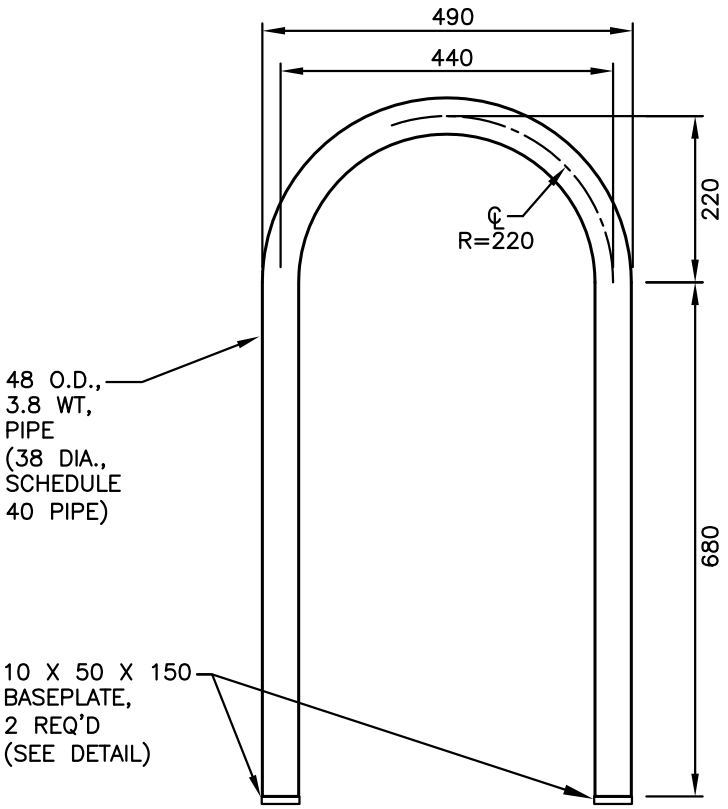
HALIFAX

STANDARD DETAIL

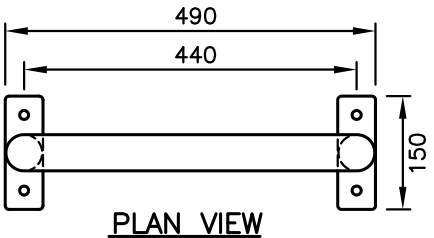
UTILITY POLE SERVICE DETAIL

DATE: APRIL 2020	REFERENCE	APPROVED
SCALE: NTS	NEW	FIG No.: HRM 160

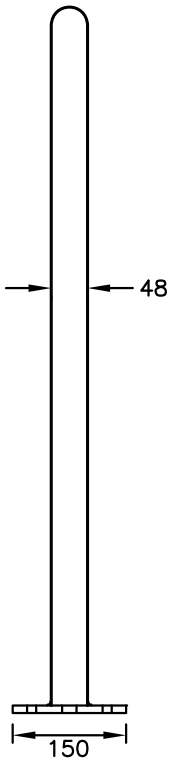
HOT–DIPPED GALVANIZED STEEL OR
HOT–DIPPED GALVANIZED STEEL WITH BLACK POWDER COAT



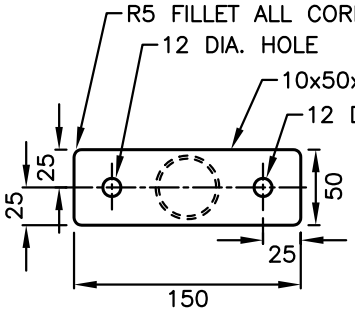
PROFILE



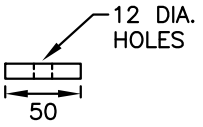
PLAN VIEW



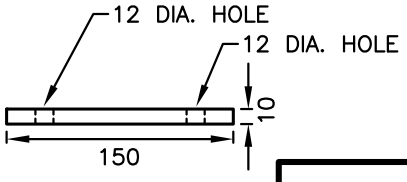
SECTION



PLAN



SECTION



PROFILE

BASEPLATE DETAIL

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. VARIATION OF THE DIMENSIONS PROVIDED ARE PERMITTED, BUT MUST BE SHOWN ON SUBMITTED DRAWINGS.
3. BIKE RACKS TO BE ANCHORED TO POURED IN PLACE CONCRETE SURFACE WITH 10mmø X 125mm EPOXY EXPANSION BOLTS (100mm EMBEDMENT).

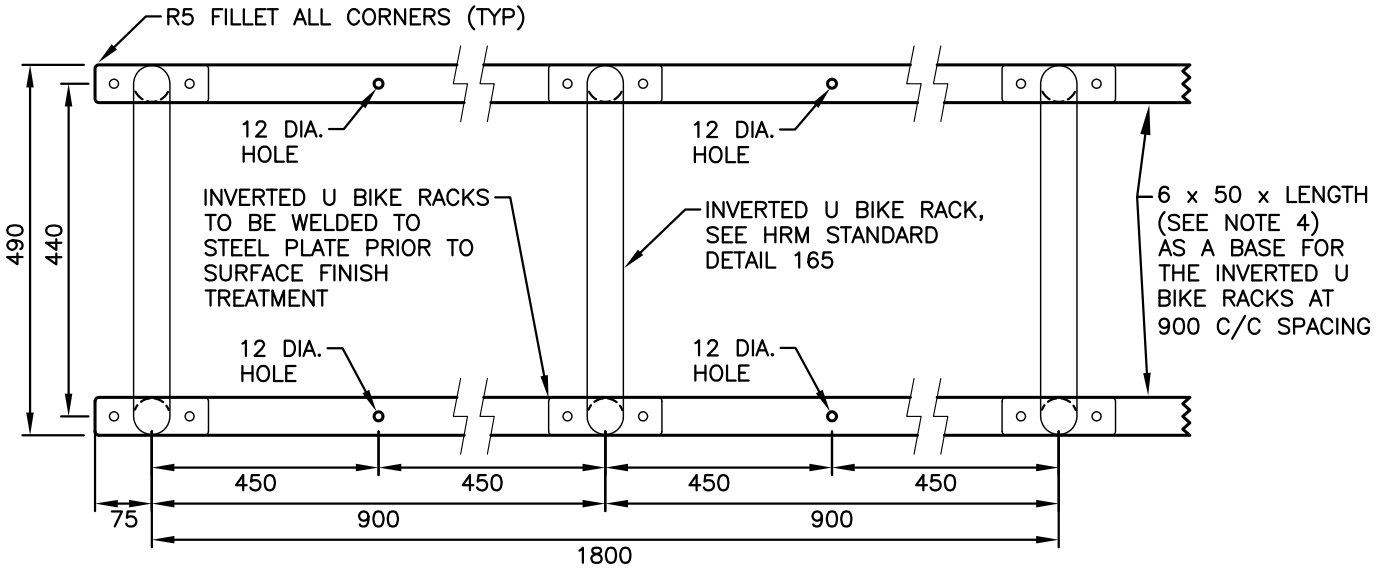
HALIFAX

STANDARD DETAIL

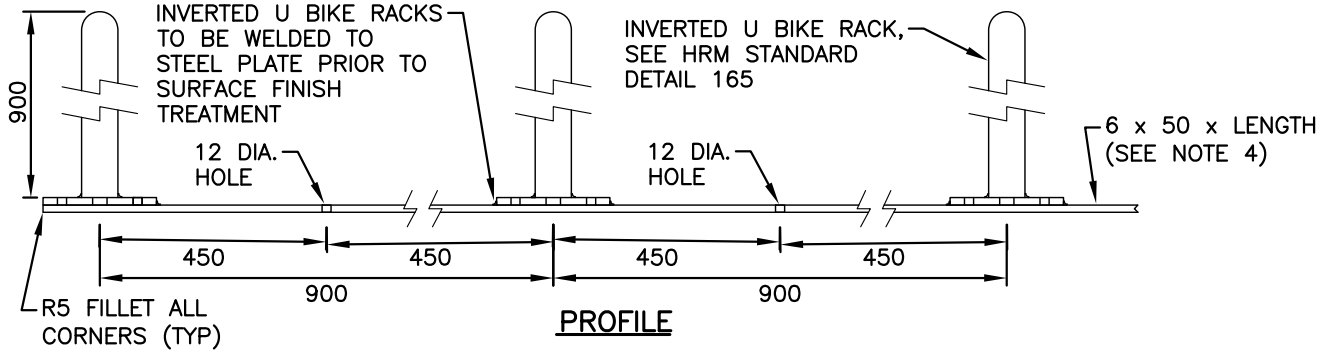
INVERTED U BIKE RACK

DATE: SEPT 2020	REFERENCE NEW	APPROVED
SCALE: N.T.S.		FIG No.: HRM 165

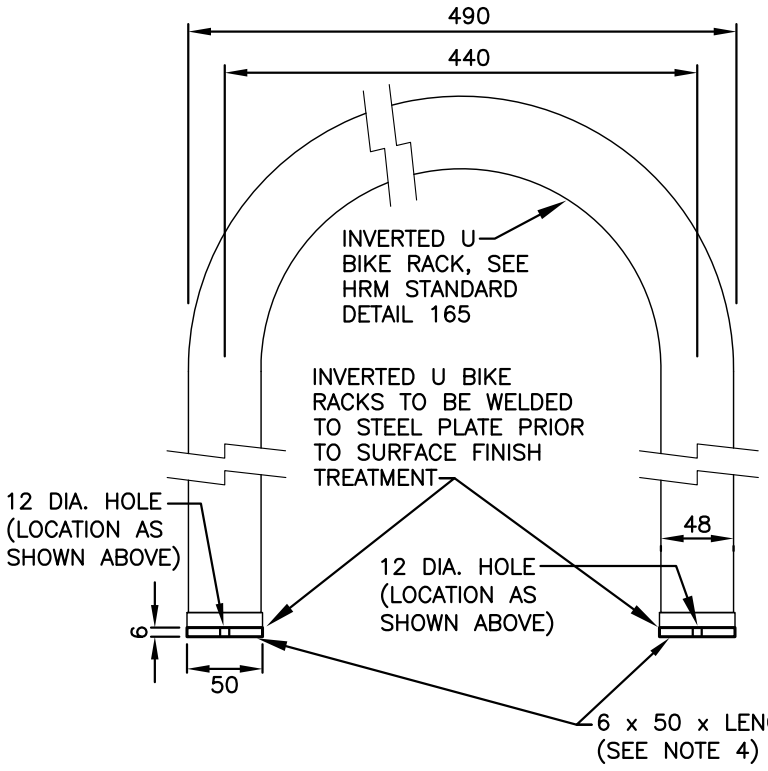
HOT–DIPPED GALVANIZED STEEL OR HOT–DIPPED GALVANIZED STEEL WITH BLACK POWDER COAT



PLAN VIEW



PROFILE



SECTION

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. VARIATION OF THE DIMENSIONS PROVIDED ARE PERMITTED, BUT MUST BE SHOWN ON SUBMITTED DRAWINGS.
3. BIKE RACKS TO BE ANCHORED TO POURED IN PLACE CONCRETE SURFACE WITH 10mmø X 125mm EPOXY EXPANSION BOLTS (100mm EMBEDMENT).
4. MULTI BIKE RACK LENGTH WILL VARY FOR SERIES OF 2 TO 5 INVERTED U BIKE RACKS (AS REQUIRED).

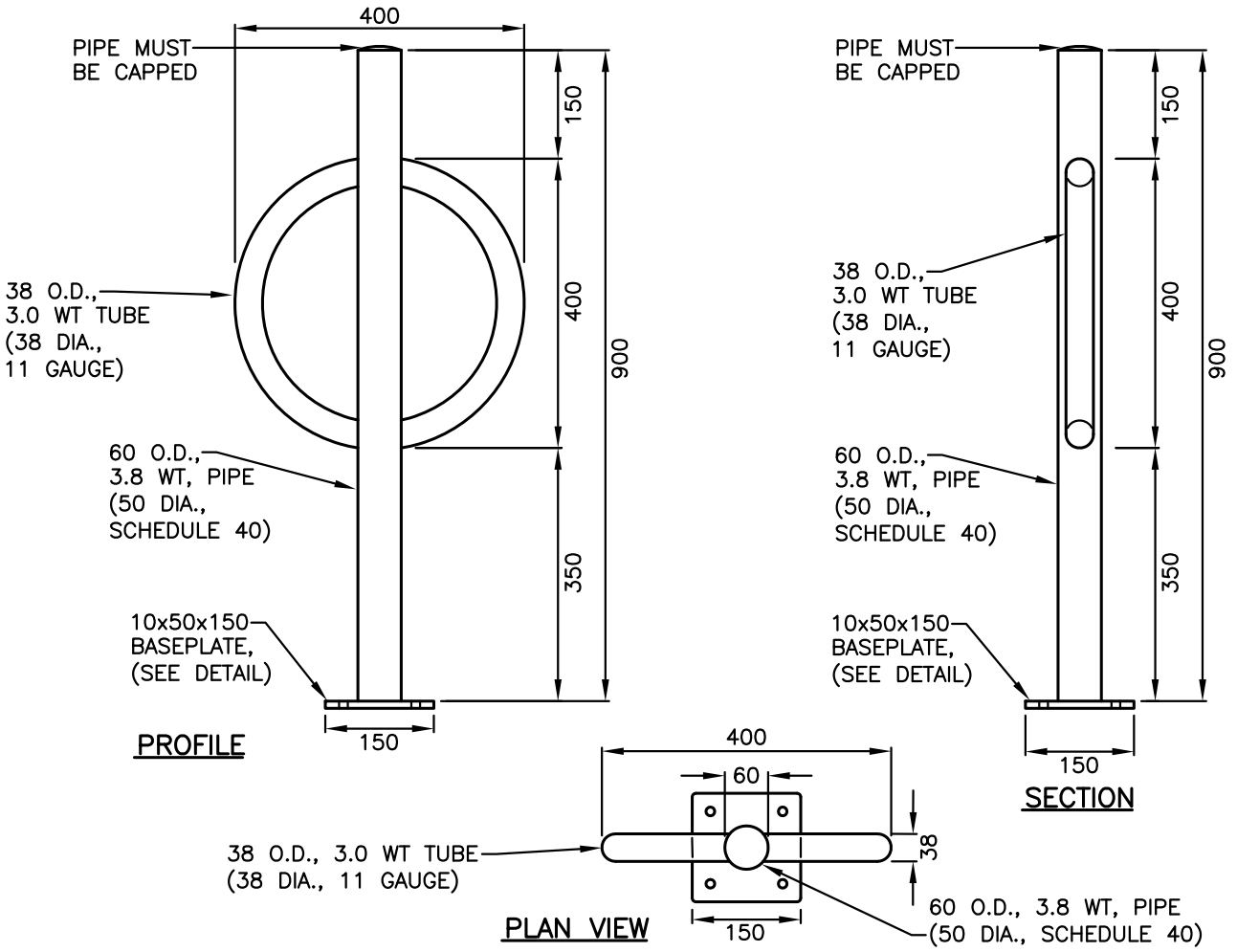
HALIFAX

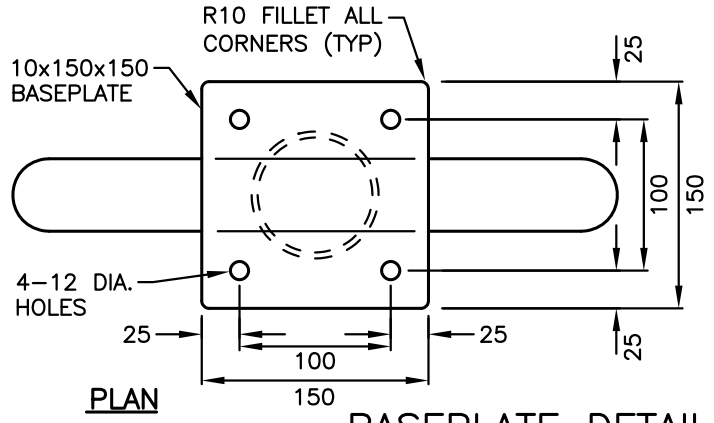
STANDARD DETAIL

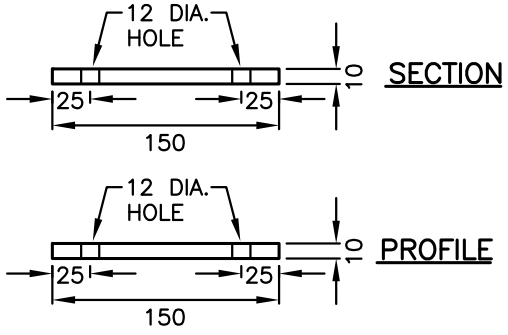
MULTI INVERTED U BIKE RACK

DATE: SEPT 2020	REFERENCE NEW	APPROVED
SCALE: N.T.S.		FIG No.: HRM 166

HOT–DIPPED GALVANIZED STEEL OR HOT–DIPPED GALVANIZED STEEL WITH BLACK POWDER COAT







BASEPLATE DETAIL

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. VARIATION OF THE DIMENSIONS PROVIDED ARE PERMITTED, BUT MUST BE SHOWN ON SUBMITTED DRAWINGS.
3. BIKE RACKS TO BE ANCHORED TO POURED IN PLACE CONCRETE SURFACE WITH 10mmø X 125mm EPOXY EXPANSION BOLTS (100mm EMBEDMENT).

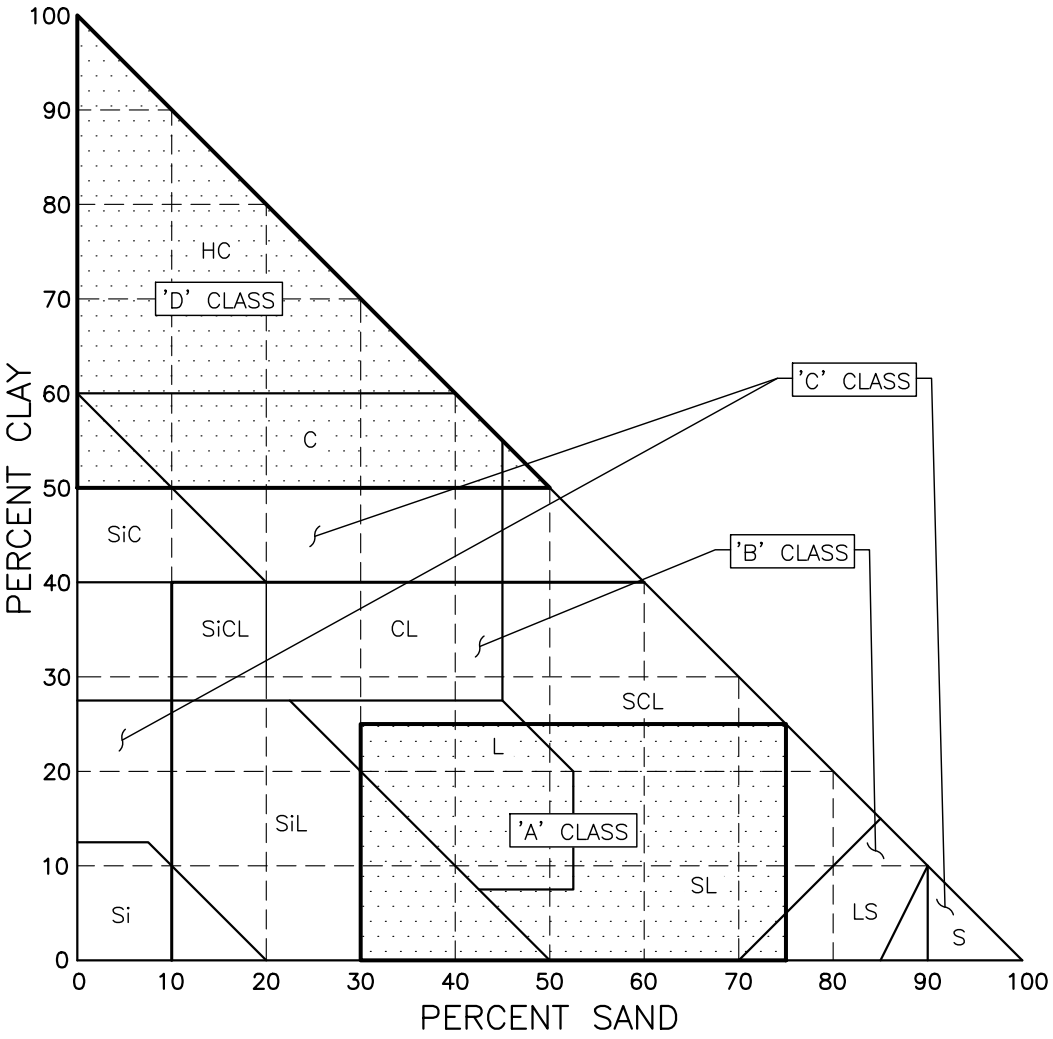
HALIFAX

STANDARD DETAIL

POST & RING BIKE RACK

DATE: SEPT 2020	REFERENCE NEW	APPROVED
SCALE: N.T.S.		FIG No.: HRM 167

PROPOSED SOIL GROUPINGS



NOTES:

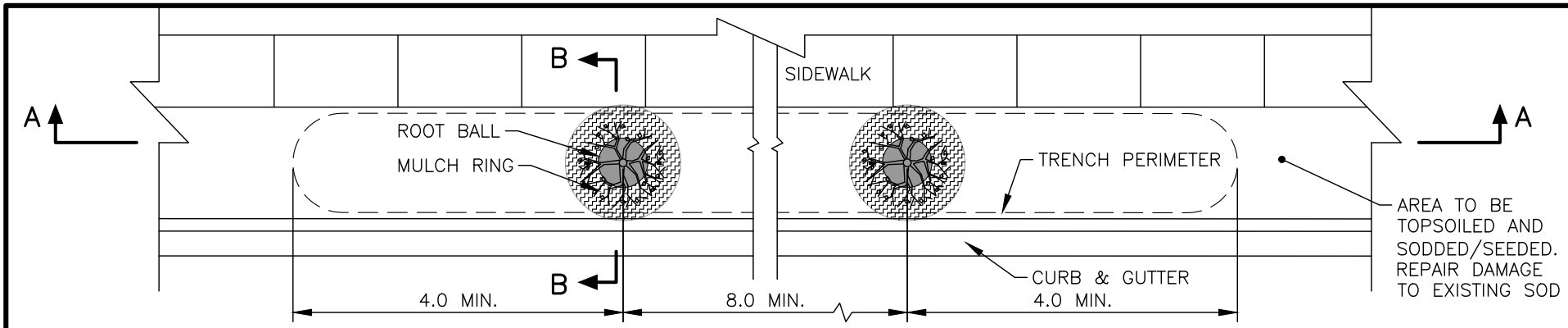
1. SOIL TEXTURE CLASSES. PERCENTAGES OF CLAY AND SAND IN THE MAIN TEXTURAL CLASSES OF SOIL; THE REMAINDER OF EACH CLASS IS SLIT.

HALIFAX

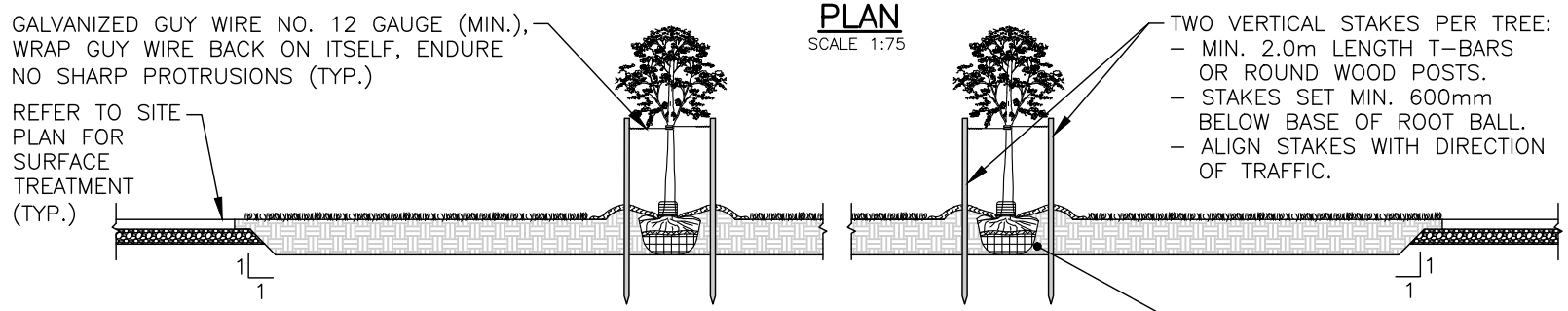
STANDARD DETAIL

SOIL TEXTURE TRIANGLE

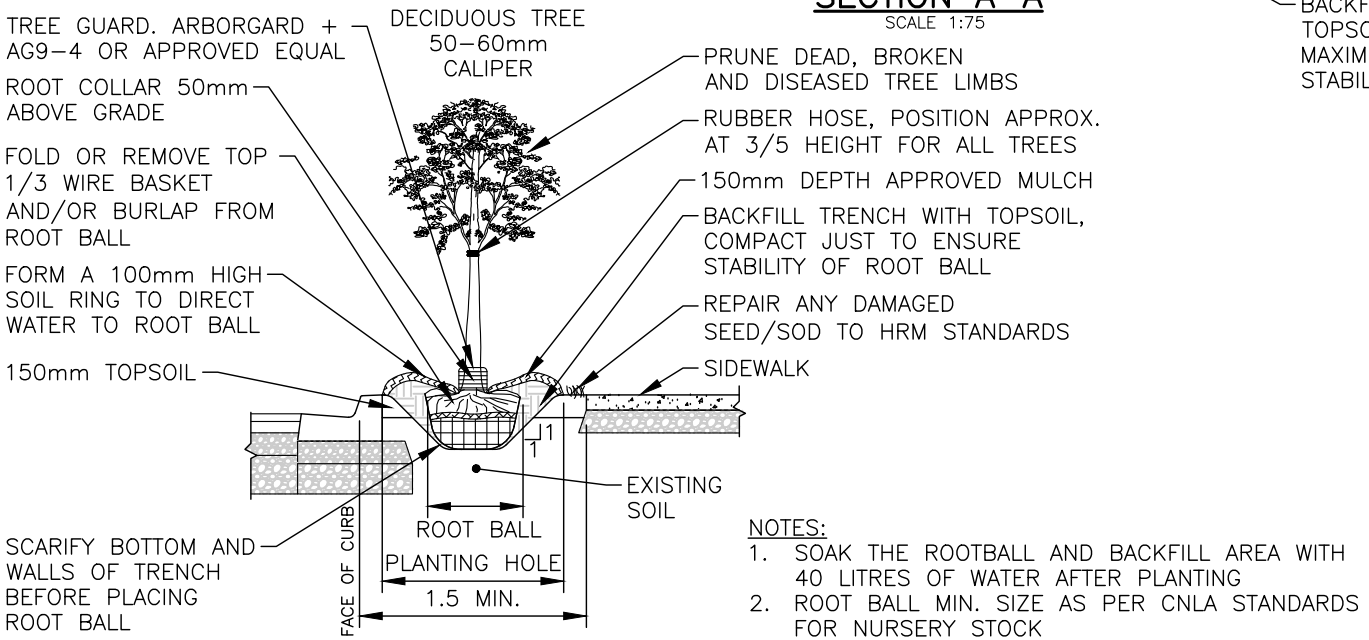
DATE: 2020	REFERENCE NEW	APPROVED
SCALE: NTS		FIG No.: HRM 181



PLAN
SCALE 1:75



SECTION A–A
SCALE 1:75



SECTION B–B
SCALE 1:50

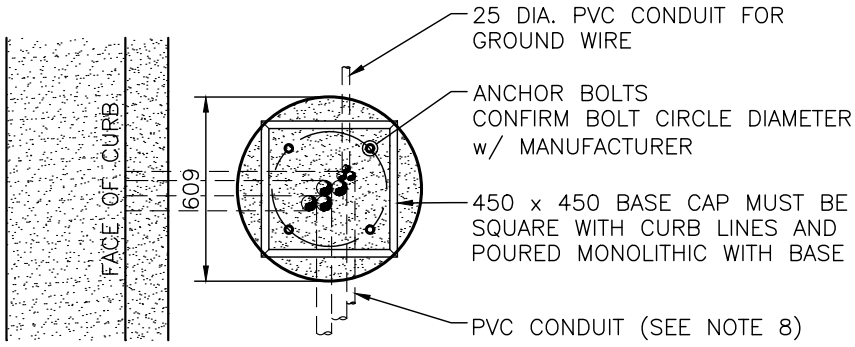
NOTES:
1. SOAK THE ROOTBALL AND BACKFILL AREA WITH 40 LITRES OF WATER AFTER PLANTING
2. ROOT BALL MIN. SIZE AS PER CNLA STANDARDS FOR NURSERY STOCK
3. MINIMUM TRENCH LENGTH: 8m PER TREE UNLESS APPROVED BY URBAN FORESTER

HALIFAX

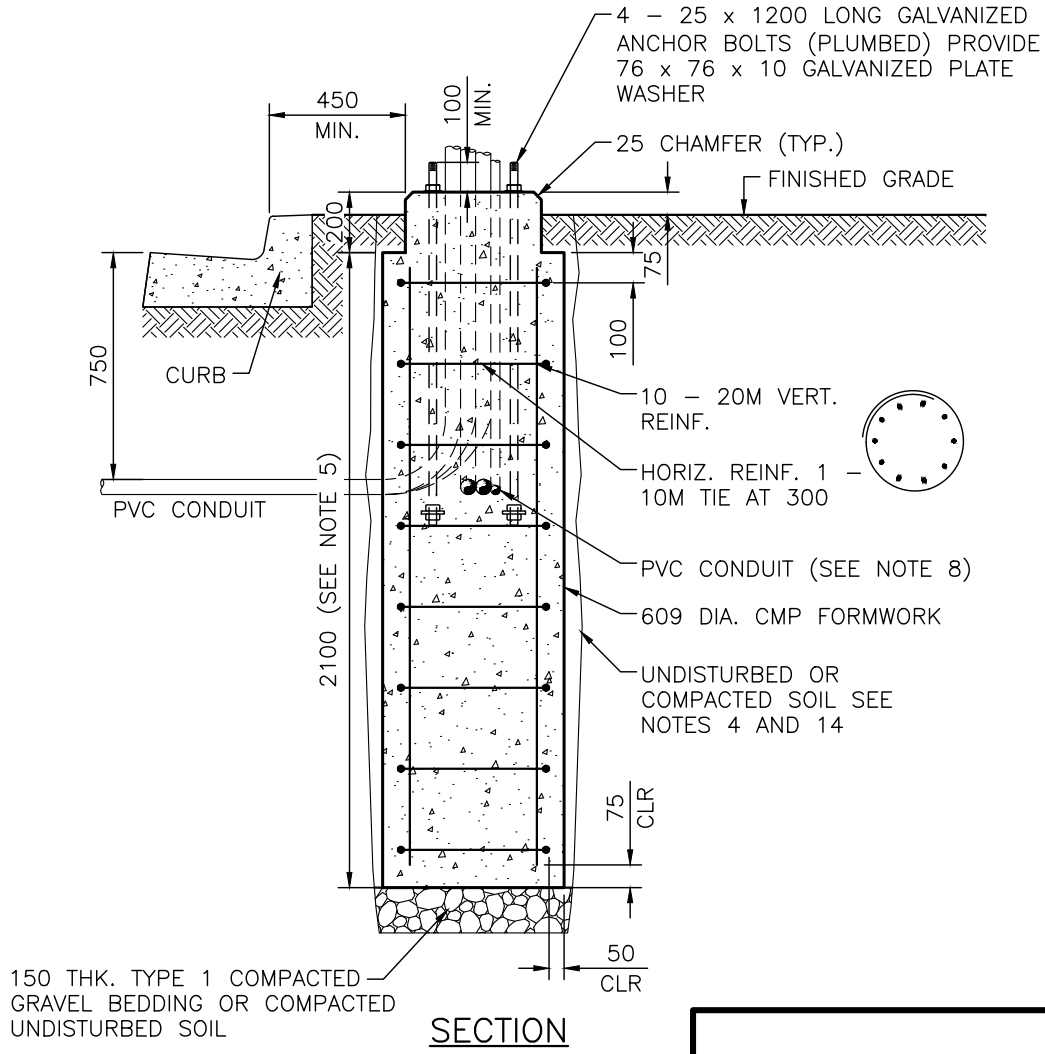
STANDARD DETAIL

TREE PLANTING IN SOD BOULEVARD

DATE: 2020	REFERENCE NEW	APPROVED
SCALE: AS NOTED		FIG No.: HRM 182



PLAN



SECTION

FOR NOTES REFER TO DWG 68N1

SEE DWG. 68N3, SELECTION GUIDE, FOR PERMITTED POLES AND TRAFFIC SIGNAL EQUIPMENT

HALIFAX

STANDARD DETAIL

TRAFFIC SIGNAL BASE FOR CONFIGURATION A

DATE: MARCH 2020	REFERENCE	APPROVED
SCALE: 1:25	REV	FIG No.: HRM 68

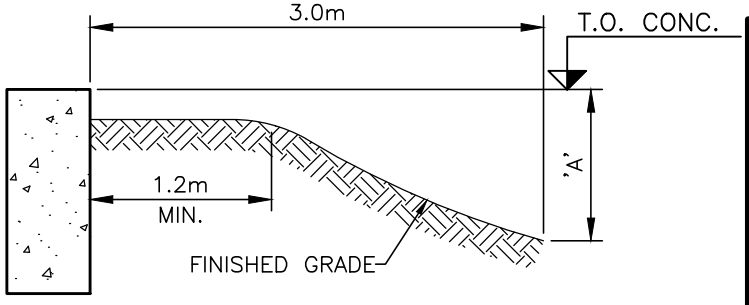
NOTES FOR SHAFT FOUNDATIONS ONLY:

1. ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE SHOWN.
2. CONCRETE 28 DAY STRENGTH TO BE 35 MPa, CLASS OF EXPOSURE 'C1', AIR CONTENT 5 – 8%.
3. ENGINEER TO CONFIRM SOIL PARAMETERS BEFORE PROCEEDING WITH WORK.
4. DESIGN IS FOR DRY SOIL CONDITIONS (NO GROUND WATER TABLE) WITH A MINIMUM γ_{SOIL} = 18 kN/m^3, Kp = 3.5, ø = 34°.
5. WHERE SOUND BEDROCK IS ENCOUNTERED, FOUNDATION CONSTRUCTION MAY BE MODIFIED TO USE ROCK ANCHORS DOWELED INTO ROCK. REFER TO DRAWING No. 74B.1 AND 74B.2.
6. ANCHORS TO BE MINIMUM GRADE A307, PLATE WASHERS MINIMUM GRADE 300W.
7. CONTRACTOR TO CONFIRM ANCHOR BOLT DIAMETER, LENGTH AND BOLT CIRCLE PRIOR TO PROCEEDING WITH WORK.
8. PROPOSED PVC CONDUIT SIZE AND CONFIGURATION INDICATED ON DRAWINGS. CONDUITS ARE ASSUMED TO BE "BUNCHED" AND IN CENTRE OF PEDESTAL. FOR PEDESTAL WITH NOMINAL DIAMETER OF D–NOM, DIAMETER OF "BUNCHED" CONDUIT AT TOP OF CONCRETE SHALL BE D–B MAXIMUM. IF "BUNCHED" DIAMETER AT TOP OF CONCRETE IS GREATER THAN D–B, USE D–ADJ DIA. PEDESTAL.

D–NOM	D–B	D–ADJ
609	150	762
762	250	914
914	300	1067

9. CONCRETE MUST BE PLACED IN A SINGLE POUR.
10. EMBEDMENT DEPTH OF THE FOUNDATION WAS DERIVED FROM THE ONTARIO MINISTRY OF TRANSPORTATION ENGINEERING STANDARDS BRANCH – GUIDELINES FOR THE DESIGN OF HIGH MAST POLE FOUNDATIONS, 4TH Ed. 2004.
11. TORSIONAL RESISTANCE OF THE FOUNDATION WAS COMPLETED BASED ON BROM'S TORSION LOADING ANALYSIS OF SHORT SINGLE SHAFT FOUNDATIONS.
12. RESIDUAL FRICTIONAL COEFFICIENT (μ) BETWEEN THE CIRCUMFERENCE OF THE FOUNDATION AND SOIL IS TO BE 0.3.
13. WHERE FINISHED GRADE IS LOWER NEAR POLE BASE, HEIGHT OF FOUNDATION TO BE INCREASED AS FOLLOWS:

- 'A' UP TO 0.3m, NO INCREASE.
- 'A' UP TO 0.6m, INCREASE HEIGHT BY 0.2m.
- 'A' UP TO 1.0m, INCREASE HEIGHT BY 0.4m.



14. ENSURE FULLY COMPACTED SOIL AROUND FOUNDATION.

HALIFAX

STANDARD DETAIL

STANDARD NOTES SHAFT FOUNDATIONS

DATE: MARCH 2020	REFERENCE	APPROVED
SCALE: NTS	NEW	FIG No.: HRM 68N1

NOTES FOR SPREAD FOUNDATIONS ONLY:

1. ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE SHOWN.
2. CONCRETE 28 DAY STRENGTH TO BE 35 MPa, CLASS OF EXPOSURE 'C1', AIR CONTENT 5 – 8%.
3. ENGINEER TO CONFIRM SOIL PARAMETERS BEFORE PROCEEDING WITH WORK.
4. DESIGN IS FOR DRY SOIL CONDITIONS (NO GROUND WATER TABLE) WITH A MINIMUM γ_{SOIL} = 18 kN/m^3, Kp = 3.5, ϕ = 34°.
5. WHERE SOUND BEDROCK IS ENCOUNTERED, FOUNDATION CONSTRUCTION MAY BE MODIFIED TO USE ROCK ANCHORS DOWELED INTO ROCK. REFER TO DRAWING No. 74B.1 AND 74B.2.
6. ANCHORS TO BE MINIMUM GRADE A307, PLATE WASHERS MINIMUM GRADE 300W.
7. CONTRACTOR TO CONFIRM ANCHOR BOLT DIAMETER, LENGTH AND BOLT CIRCLE PRIOR TO PROCEEDING WITH WORK.
8. PROPOSED PVC CONDUIT SIZE AND CONFIGURATION INDICATED ON DRAWINGS. CONDUITS ARE ASSUMED TO BE "BUNCHED" AND IN CENTRE OF PEDESTAL. FOR PEDESTAL WITH NOMINAL DIAMETER OF D–NOM, DIAMETER OF "BUNCHED" CONDUIT AT TOP OF CONCRETE SHALL BE D–B MAXIMUM. IF "BUNCHED" DIAMETER AT TOP OF CONCRETE IS GREATER THAN D–B, USE D–ADJ DIA. PEDESTAL.

D–NOM	D–B	D–ADJ
609	150	762
762	250	914
914	300	1067

9. FOOTINGS SHALL BEAR ON UNDISTURBED SOIL, STRUCTURAL FILL OR BEDROCK WITH A MINIMUM SERVICEABILITY LIMIT STATES (SLS) BEARING CAPACITY OF 150kPa AND A MINIMUM ULTIMATE LIMIT STATES (ULS) BEARING CAPACITY OF 250kPa.
10. TORSIONAL RESISTANCE ANALYSIS WAS COMPLETED CONSIDERING PASSIVE SOIL PRESSURE AT THE VERTICAL FACE OF THE FOOTINGS AND A FRICTION (μ) BETWEEN THE UNDERSIDE OF THE FOOTING AND SOIL OF 0.4.
11. FINISHED GRADE ELEVATIONS SHALL NOT VARY MORE THAN 150mm OVER A DISTANCE EQUAL TO TWICE THE EMBEDMENT DEPTH.
12. AFTER CONSTRUCTION, CUT OFF TOP OF CMP FORMWORK TO 150mm BELOW FINISHED GRADE.

HALIFAX

STANDARD DETAIL

STANDARD NOTES SPREAD FOOTINGS

DATE: MARCH 2020	REFERENCE	APPROVED
SCALE: NTS	NEW	FIG No.: HRM 68N2

TRAFFIC SIGNAL POLE BASE DESIGN SELECTION GUIDE FOR TYPE OF POLE BASE MAXIMUM DESIGN CRITERIA USED FOR DIFFERENT TYPES OF POLE BASES

CONFIGURATION	POLE TYPE			TRAFFIC SIGNAL EQUIPMENT				PEDESTRIAN HEADS	STREET LIGHTING	SIGNAGE AREA (m^2)	POLE BASE DESIGN TYPE	STANDARD HFX. DWG. NO.
				MAST ARMS			SIGNAL HEADS (PER POLE)					
	MATERIAL	BASE DIA. (mm)	TOTAL HEIGHT (m)	NO.	LENGTH (m)	ORIENTATION						
A	ALUM.	203	5.2	0	N.A.	N.A.	2	2	1@0.4	0	1	68
B	ALUM.	203	5.8	1	4.6	N.A.	2	2	NONE	0.7	2	69
C	ALUM.	203	5.8	2	4.6, TOTAL	180°	2	2	NONE	0.7	2	69
D	ALUM.	203	5.8	2	3.1 EACH	90°	2	2	NONE	0.7	2	69
E	ALUM.	254	8.2	0	N.A.	N.A.	0	0	2@1.85	0	2	69
F	ALUM.	254	6.7	1	6.1	N.A.	2	2	NONE	0.7	3	70
G	ALUM.	254	6.7	2	6.1, TOTAL	180°	2	2	NONE	0.7	3	70
H	ALUM.	254	6.7	2	3.6 EACH	90°	2	2	NONE	0.7	3	70
I	ALUM.	254	6.7	1	7.6	N.A.	2	2	NONE	0.7	4	71
J	ALUM.	254	6.7	2	7.6, TOTAL	180°	2	2	NONE	0.7	4	71
K	ALUM.	254	6.7	2	4.6 EACH	90°	2	2	NONE	0.7	4	71
L	ALUM.	254	11.3	0	N.A.	N.A.	3	2	2@1.85	0	4	71
M	ALUM.	254	9.7	1	7.6	N.A.	2	2	1@1.8	0.7	4A	71A
N	STEEL	254	6.1	1	12.2	N.A.	4	2	NONE	0.7	5	72
O	STEEL	254	6.1	2	12.2, TOTAL	180°	5	2	NONE	0.7	5	72
P	STEEL	254	6.1	2	7.6 EACH	90°	5	2	NONE	0.7	5	72
Q	STEEL	343	10.7	1	12.2	N.A.	4	2	2@3.6m	0.7	5A	72A
R	STEEL	343	10.7	2	12.2, TOTAL	180°	5	2	2@3.6m	0.7	5A	72A
S	STEEL	343	10.7	2	7.6 EACH	90°	5	2	2@3.6m	0.7	5A	72A
T	STEEL	343	6.1	1	18.3	N.A.	4	2	NONE	0.7	6	73
U	STEEL	343	6.1	2	18.3, TOTAL	180°	5	2	NONE	0.7	6	73
V	STEEL	343	6.1	2	10.7 EACH	90°	5	2	NONE	0.7	6	73
W	STEEL	343	10.7	1	18.3	N.A.	4	2	2@3.6m	0.7	6A	73A
X	STEEL	343	10.7	2	18.3, TOTAL	180°	5	2	2@3.6m	0.7	6A	73A
Y	STEEL	343	10.7	2	10.7 EACH	90°	5	2	2@3.6m	0.7	6A	73A
Z	STEEL	343	6.1	1	21.3	N.A.	4	2	NONE	0.7	7	74
AA	STEEL	343	6.1	2	21.3, TOTAL	180°	5	2	NONE	0.7	7	74
AB	STEEL	343	6.1	2	12.2 EACH	90°	5	2	NONE	0.7	7	74
AC	STEEL	343	10.7	1	21.3	N.A.	4	2	2@3.6m	0.7	7A	74A
AD	STEEL	343	10.7	2	21.3, TOTAL	180°	5	2	2@3.6m	0.7	7A	74A
AE	STEEL	343	10.7	2	12.2 EACH	90°	5	2	2@3.6m	0.7	7A	74A
AF	ALUM.	254	13.4	0	N.A.	N.A.	0	0	2@3.6m	0.7	8	74X

NOTES

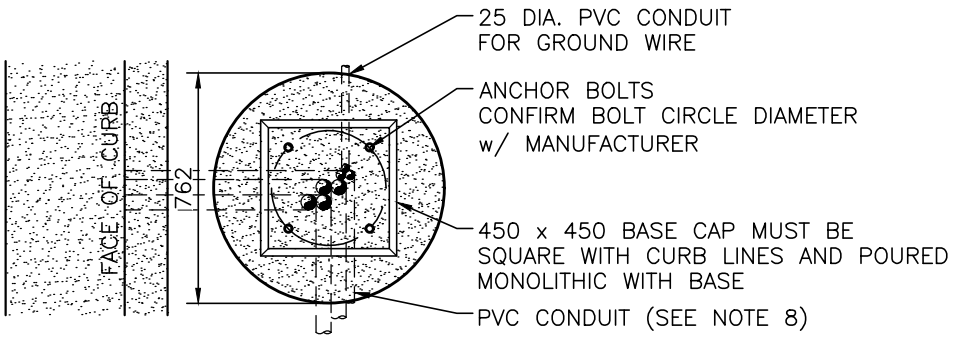
1. REFER TO HALIFAX STANDARD DRAWINGS 68 TO 74X FOR ADDITIONAL NOTES AND DESIGN CRITERIA.
2. SEE STANDARD DRAWING NO. HRM 74B FOR REVISED POLE BASE FOUNDATION DESIGN WHICH MAY BE PERMITTED IN ROCK CONDITIONS.
3. TRAFFIC SIGNAL POLE DESIGN CRITERIA MAY DIFFER FROM THAT AS SHOWN ON THIS TABLE. SHOULD THIS OCCUR, DESIGN ENGINEER SHALL BE CONSULTED FOR INTERPRETATION OF TABLE AND SELECTION OF POLE BASE TYPE, OR ADDITIONAL DESIGN IF REQUIRED.

HALIFAX

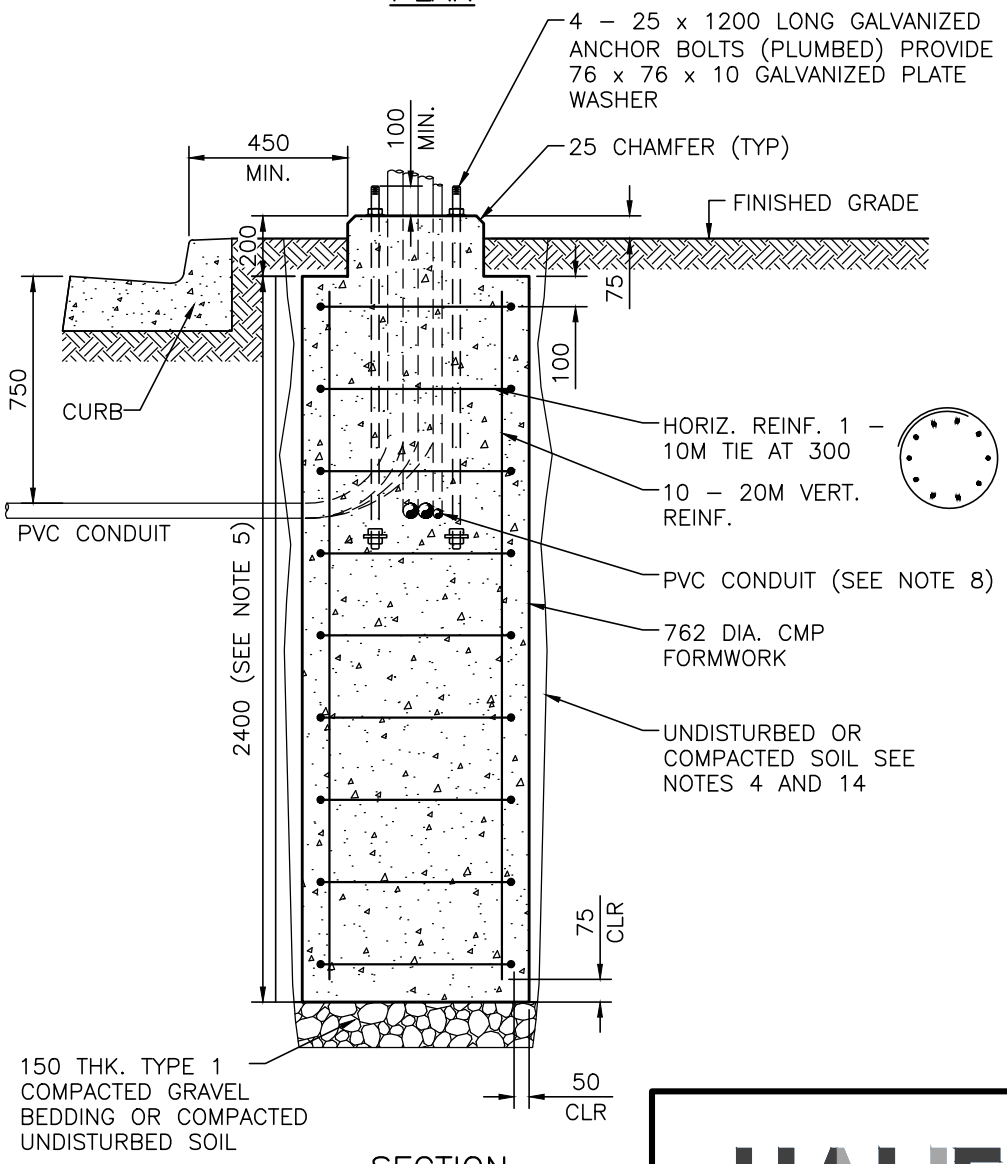
STANDARD DETAIL

POLE BASE SELECTION GUIDE

DATE: MARCH 2020	REFERENCE	APPROVED
SCALE: NTS	NEW	FIG No.: HRM 68N3



PLAN



SECTION

SEE DWG. 68N3, SELECTION GUIDE, FOR PERMITTED POLES AND TRAFFIC SIGNAL EQUIPMENT

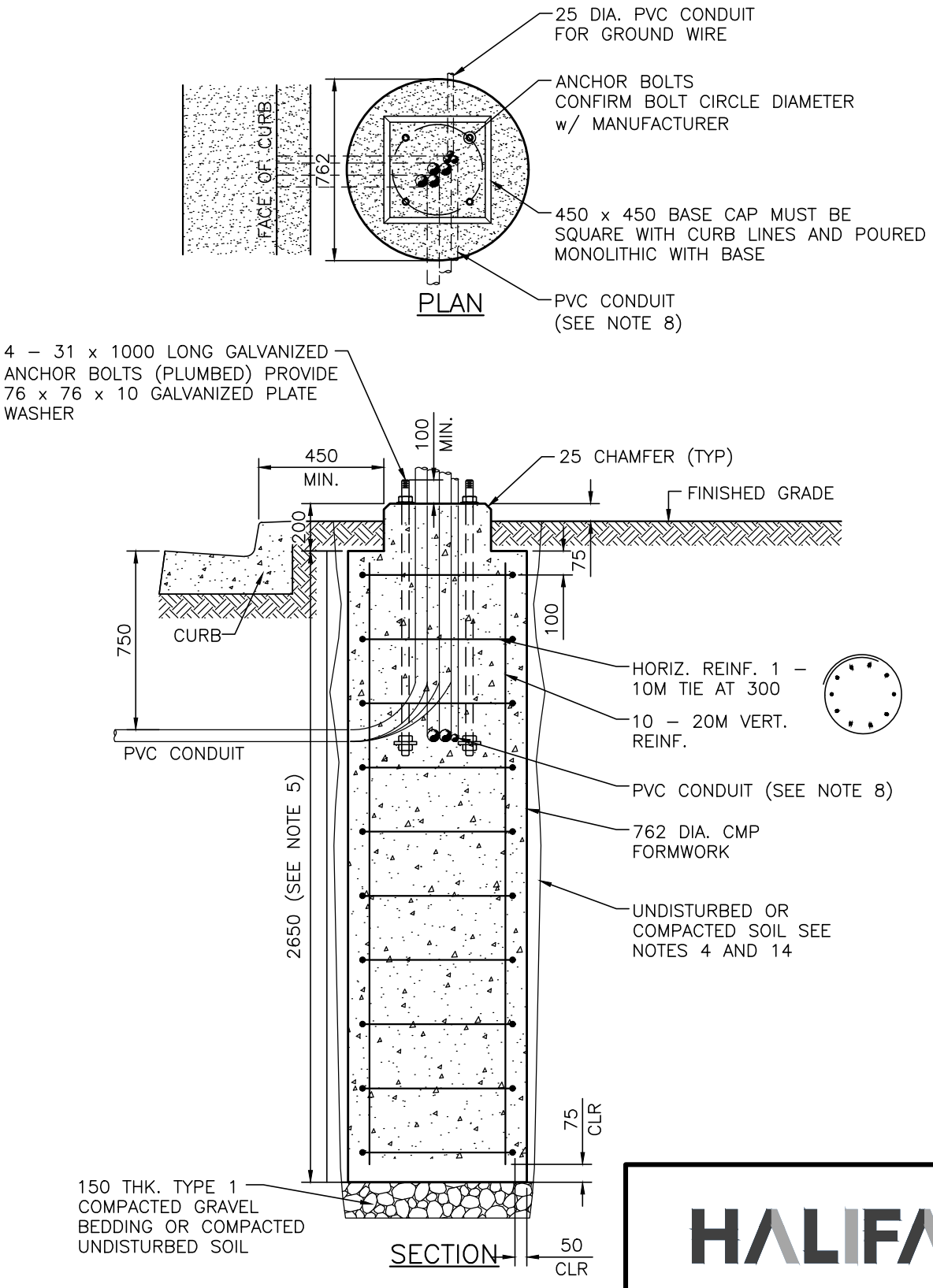
FOR NOTES REFER TO DWG 68N1

HALIFAX

STANDARD DETAIL

TRAFFIC SIGNAL BASE
FOR CONFIGURATIONS B, C, D AND E

DATE: MARCH 2020	REFERENCE	APPROVED
SCALE: 1:25	REV	FIG No.: HRM 69



HALIFAX

STANDARD DETAIL

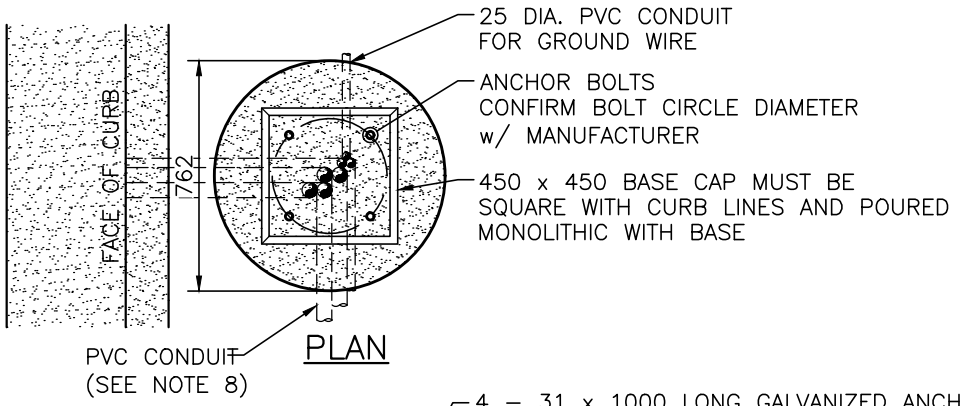
TRAFFIC SIGNAL BASE

FOR CONFIGURATIONS F, G AND H

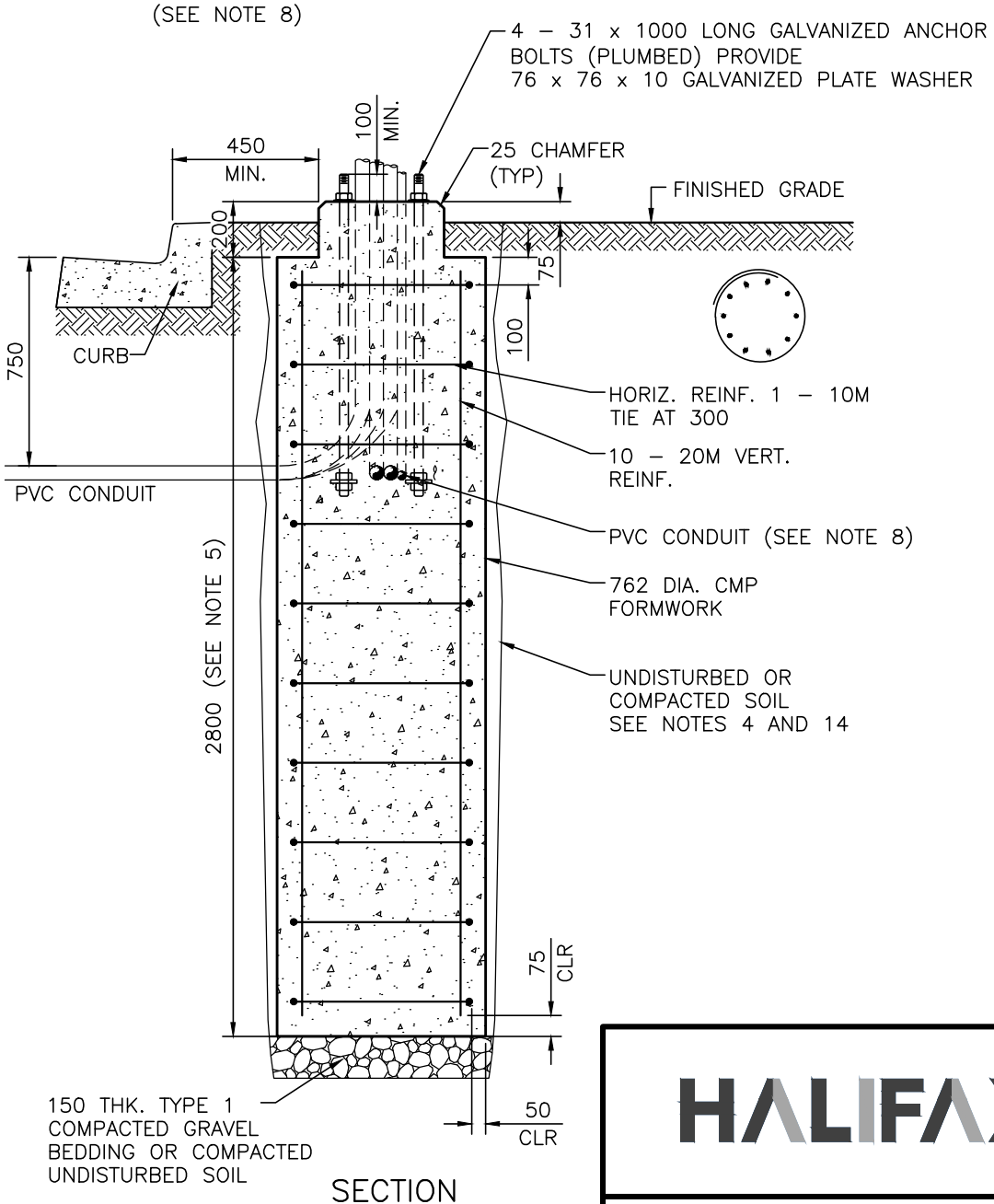
DATE: MARCH 2020	REFERENCE	APPROVED
SCALE: 1:25	REV	FIG No.: HRM 70

SEE DWG. 68N3, SELECTION GUIDE, FOR PERMITTED POLES AND TRAFFIC SIGNAL EQUIPMENT

FOR NOTES REFER TO DWG 68N1



PLAN



SECTION

SEE DWG. 68N3, SELECTION GUIDE, FOR PERMITTED POLES AND TRAFFIC SIGNAL EQUIPMENT

FOR NOTES REFER TO DWG 68N1

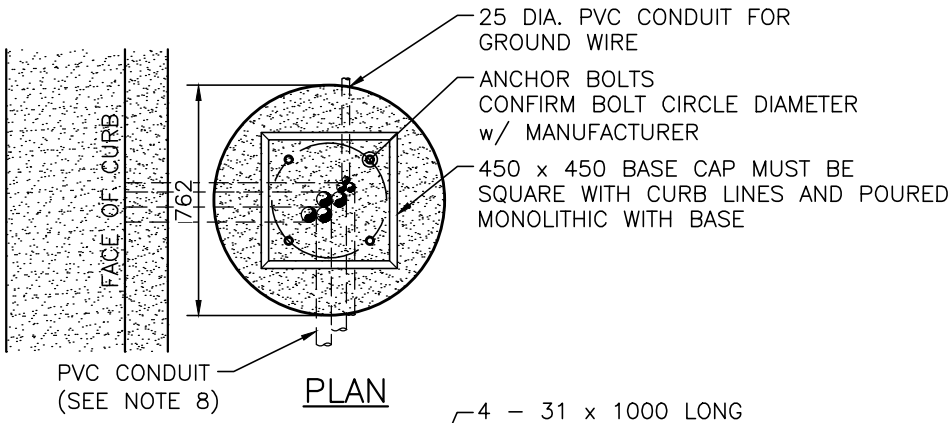
HALIFAX

STANDARD DETAIL

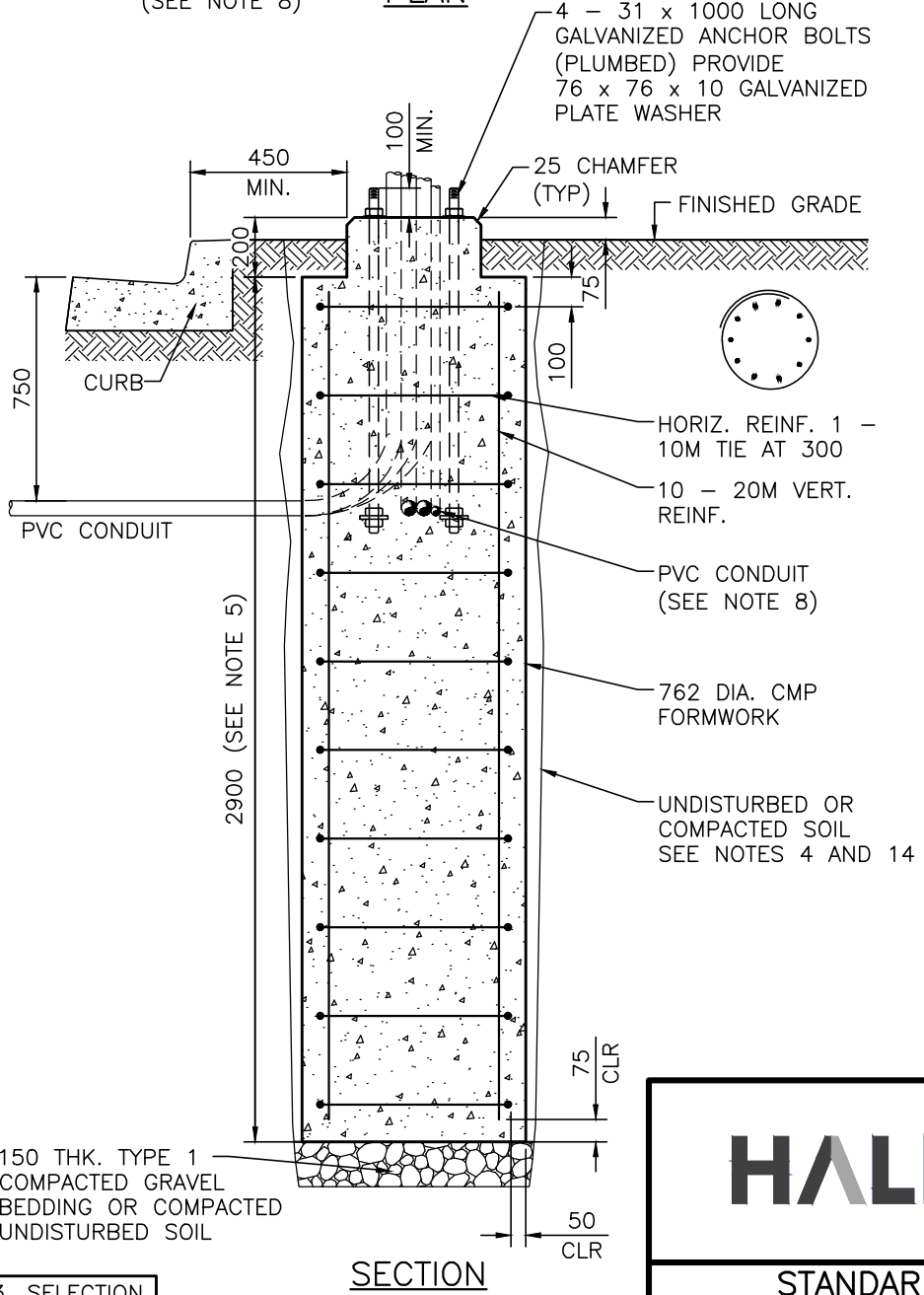
TRAFFIC SIGNAL BASE

FOR CONFIGURATION I, J. K AND L

DATE: MARCH 2020	REFERENCE	APPROVED
SCALE: 1:25	REV	FIG No.: HRM 71



PLAN



SECTION

SEE DWG. 68N3, SELECTION GUIDE, FOR PERMITTED POLES AND TRAFFIC SIGNAL EQUIPMENT

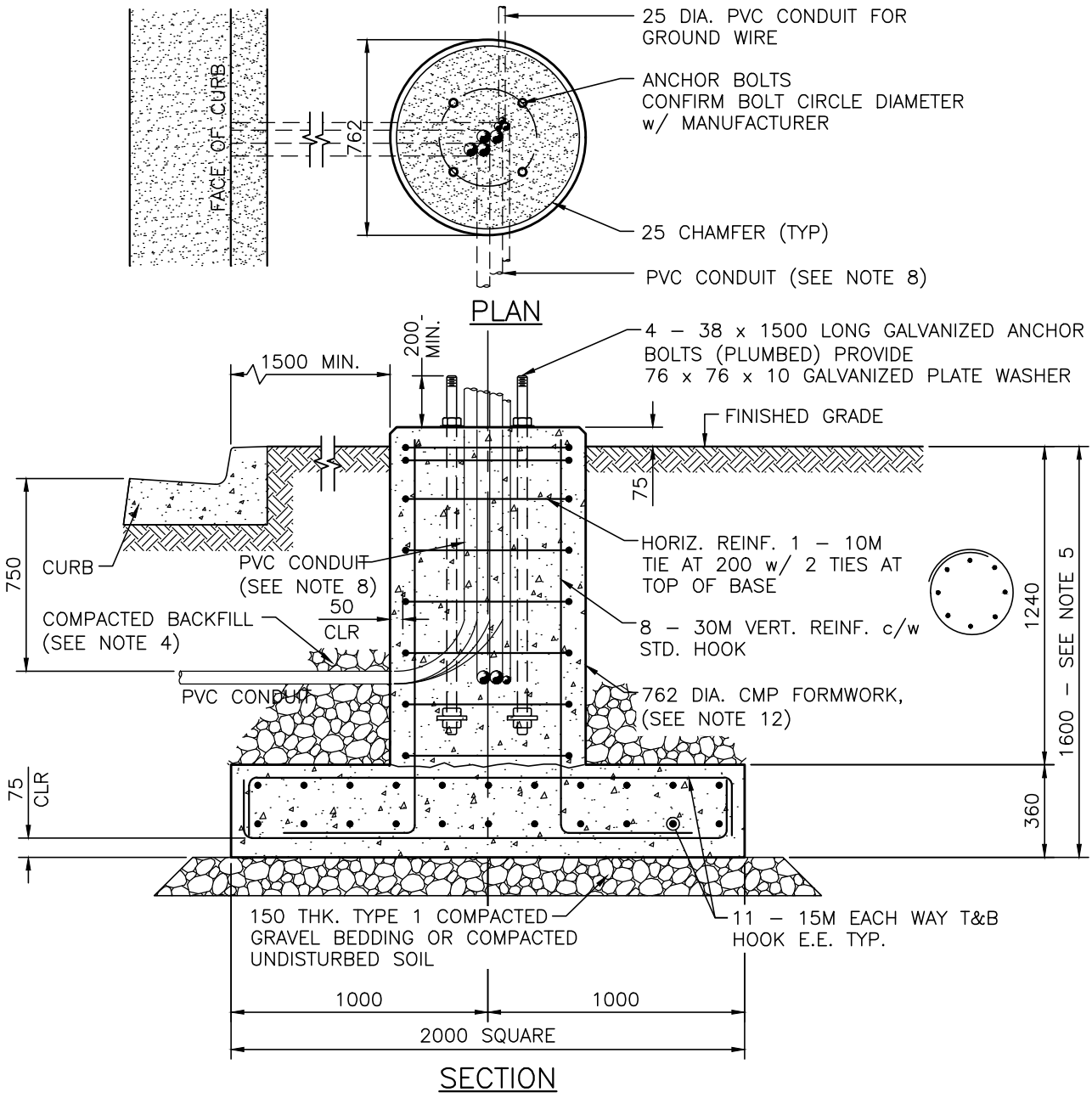
FOR NOTES REFER TO DWG 68N1

HALIFAX

STANDARD DETAIL

TRAFFIC SIGNAL BASE FOR CONFIGURATION M

DATE: MARCH 2020	REFERENCE	APPROVED
SCALE: 1:25	NEW	FIG No.: HRM 71A



SEE DWG. 68N3, SELECTION GUIDE, FOR PERMITTED POLES AND TRAFFIC SIGNAL EQUIPMENT

FOR NOTES REFER TO DWG 68N2

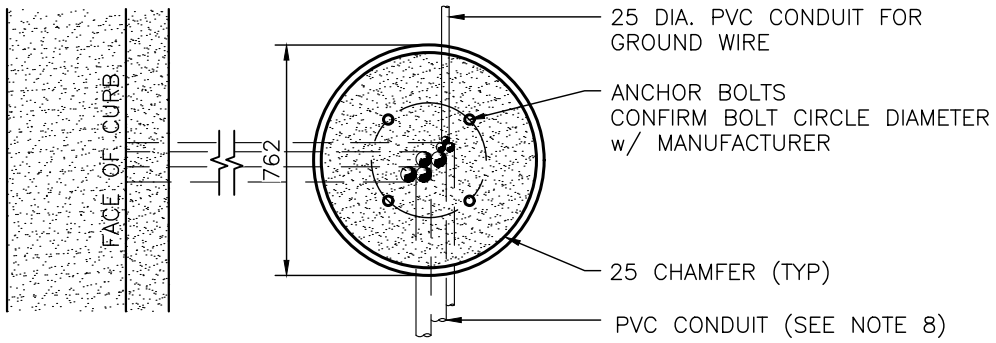
HALIFAX

STANDARD DETAIL

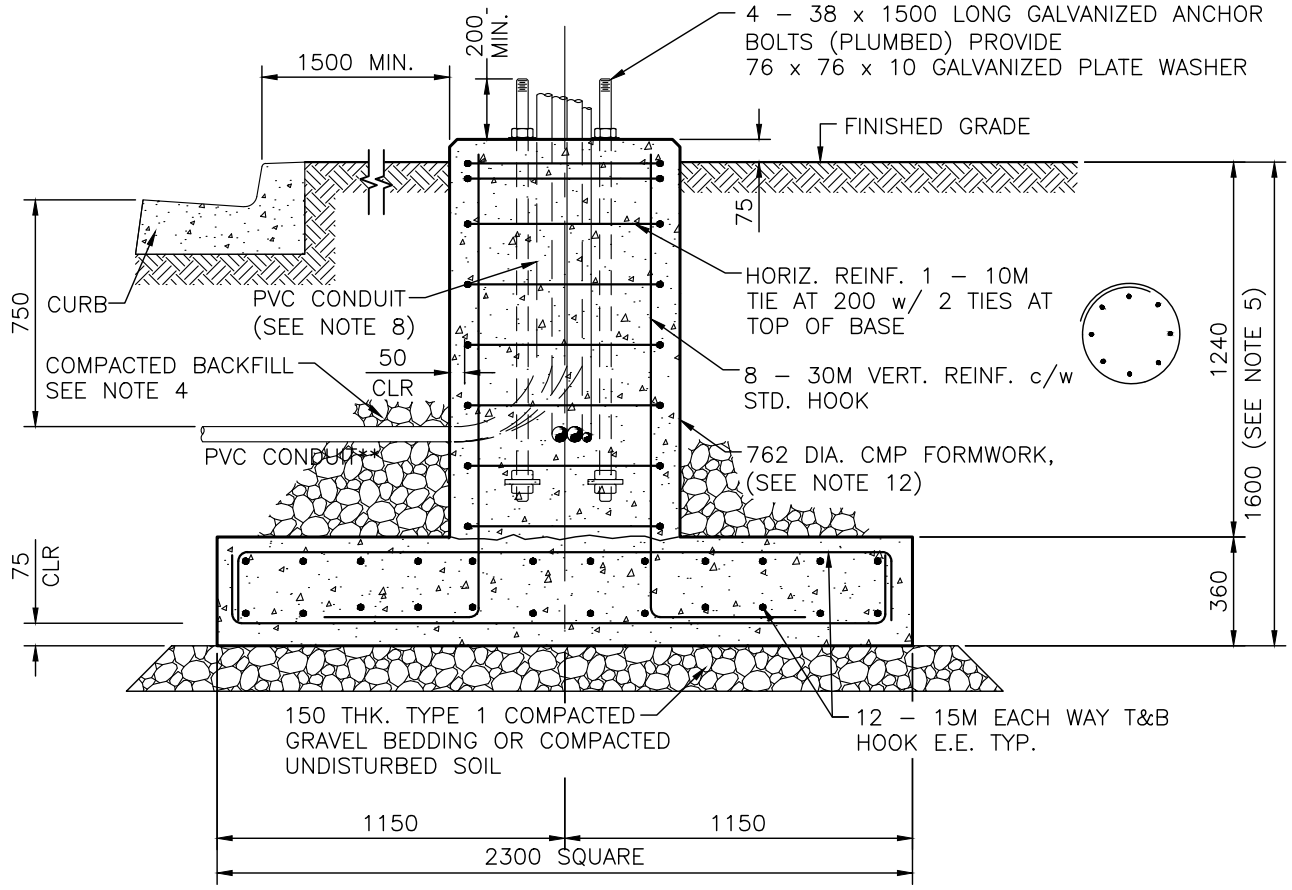
TRAFFIC SIGNAL BASE

FOR CONFIGURATION N, O AND P

DATE: MARCH 2020	REFERENCE	APPROVED
SCALE: 1:25	REV	FIG No.: HRM 72



PLAN



SECTION

SEE DWG. 68N3, SELECTION GUIDE, FOR PERMITTED POLES AND TRAFFIC SIGNAL EQUIPMENT

FOR NOTES REFER TO DWGS 68N2

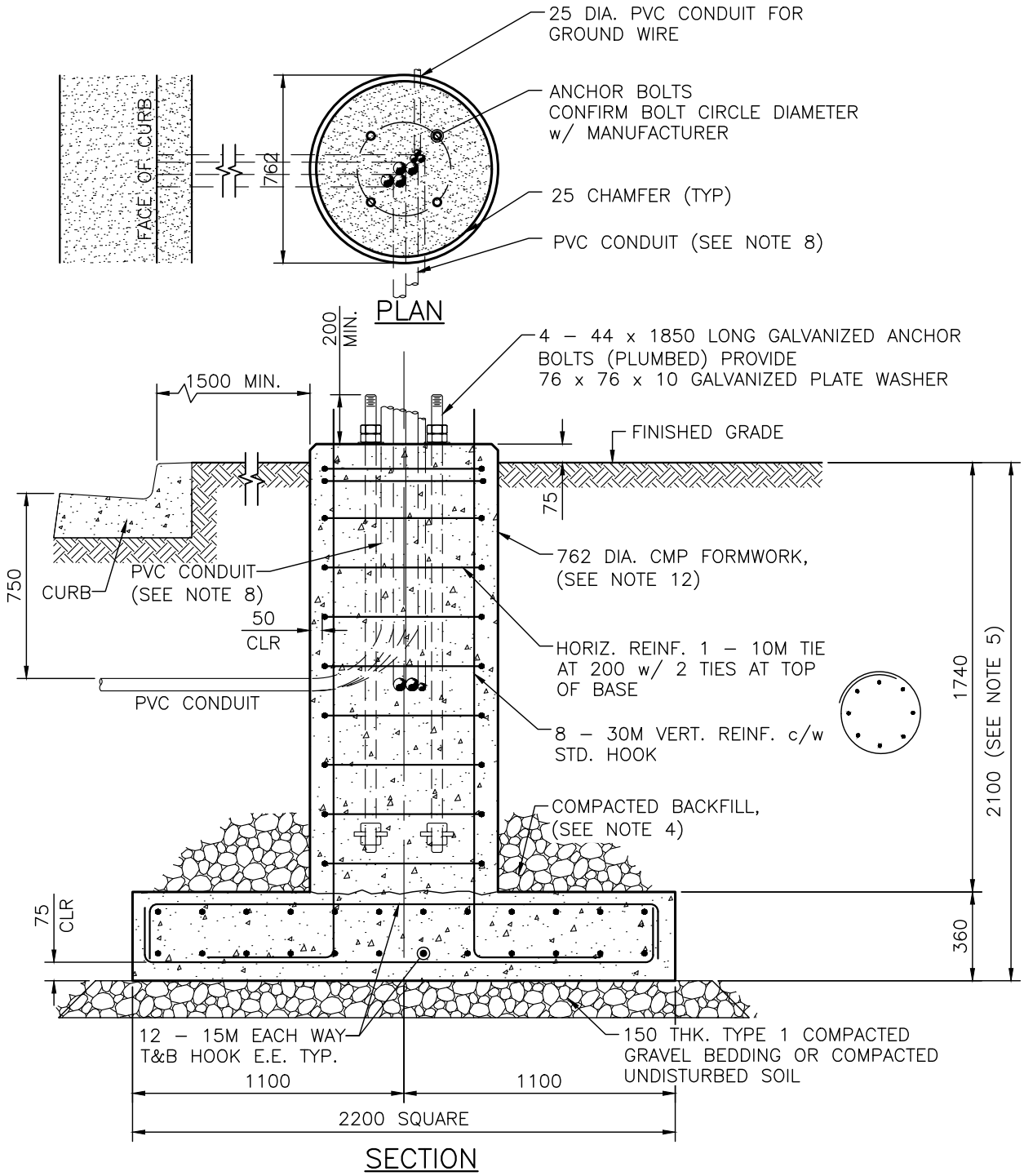
HALIFAX

STANDARD DETAIL

TRAFFIC SIGNAL BASE

FOR CONFIGURATION Q, R AND S

DATE: MARCH 2020	REFERENCE	APPROVED
SCALE: 1:25	NEW	FIG No.: HRM 72A



SEE DWG. 68N3, SELECTION GUIDE, FOR PERMITTED POLES AND TRAFFIC SIGNAL EQUIPMENT

FOR NOTES REFER TO DWGS 68N2

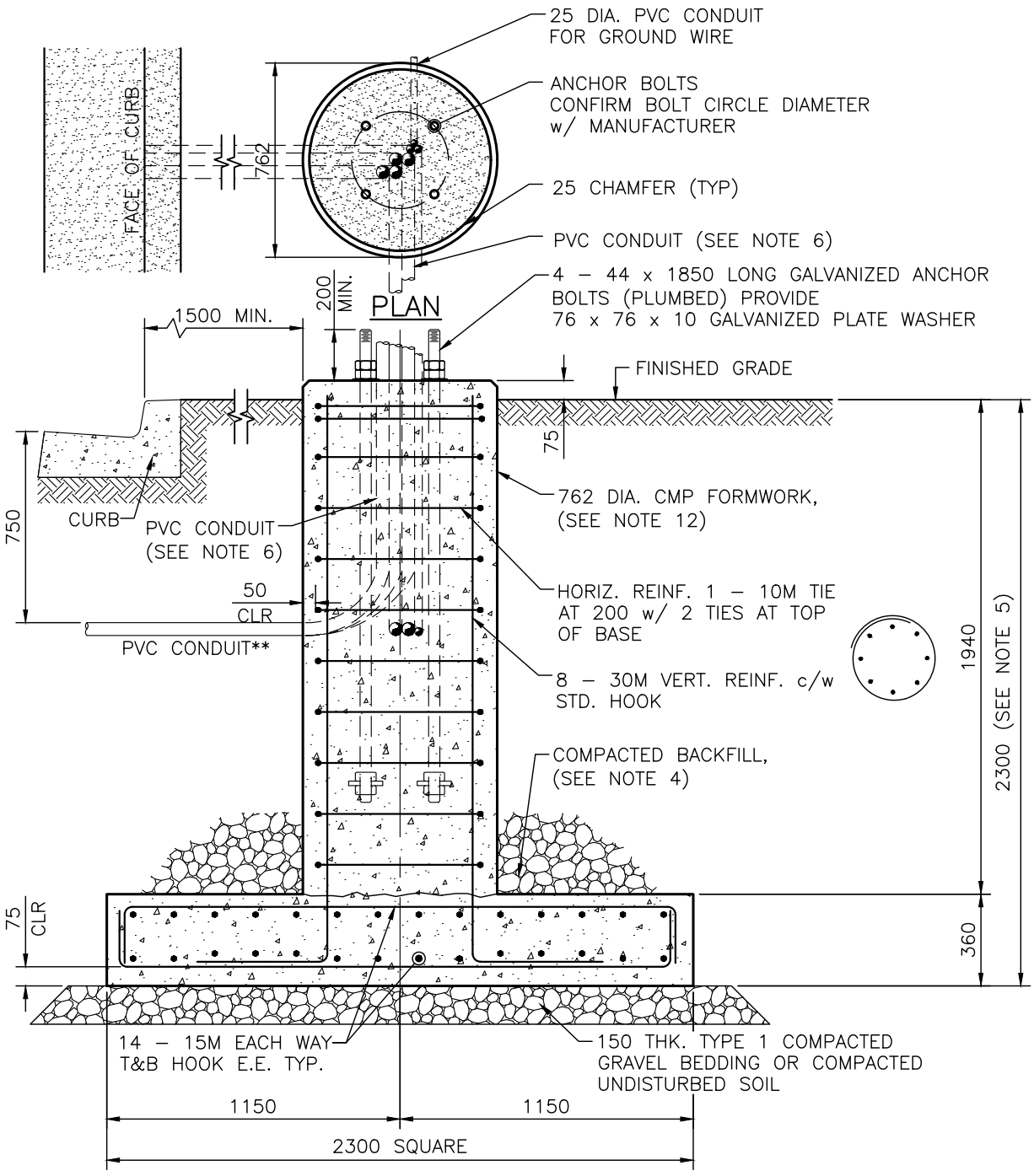
HALIFAX

STANDARD DETAIL

TRAFFIC SIGNAL BASE

FOR CONFIGURATION T, U AND V

DATE: MARCH 2020	REFERENCE	APPROVED
SCALE: 1:25	NEW	FIG No.: HRM 73



SECTION

SEE DWG. 68N3, SELECTION GUIDE, FOR PERMITTED POLES AND TRAFFIC SIGNAL EQUIPMENT

FOR NOTES REFER TO DWGS 68N2

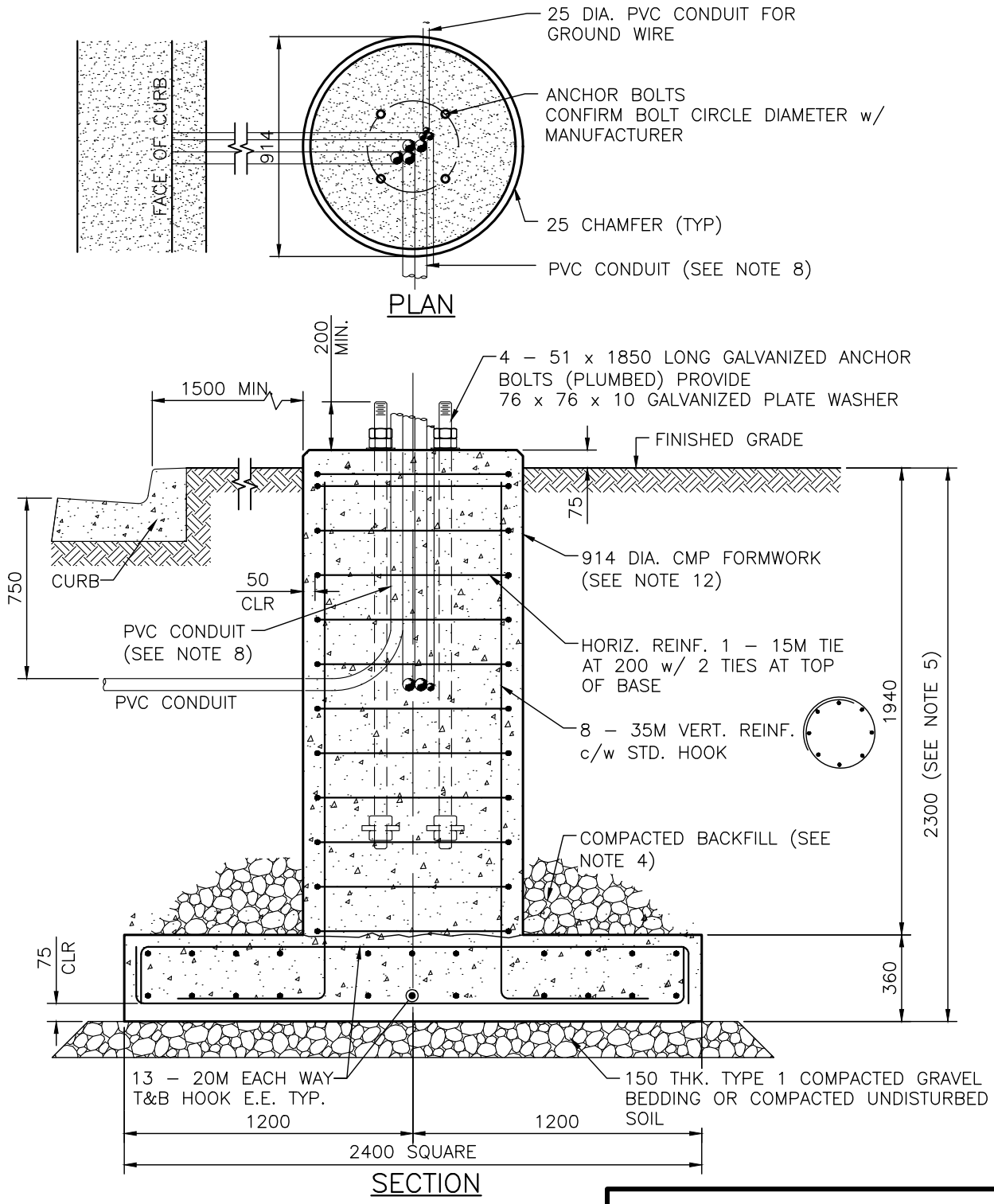
HALIFAX

STANDARD DETAIL

TRAFFIC SIGNAL BASE

FOR CONFIGURATION W, X AND Y

DATE: MARCH 2020	REFERENCE	APPROVED
SCALE: 1:25	REV	FIG No.: HRM 73A



SEE DWG. 68N3, SELECTION GUIDE, FOR PERMITTED POLES AND TRAFFIC SIGNAL EQUIPMENT

FOR NOTES REFER TO DWGS 68N2

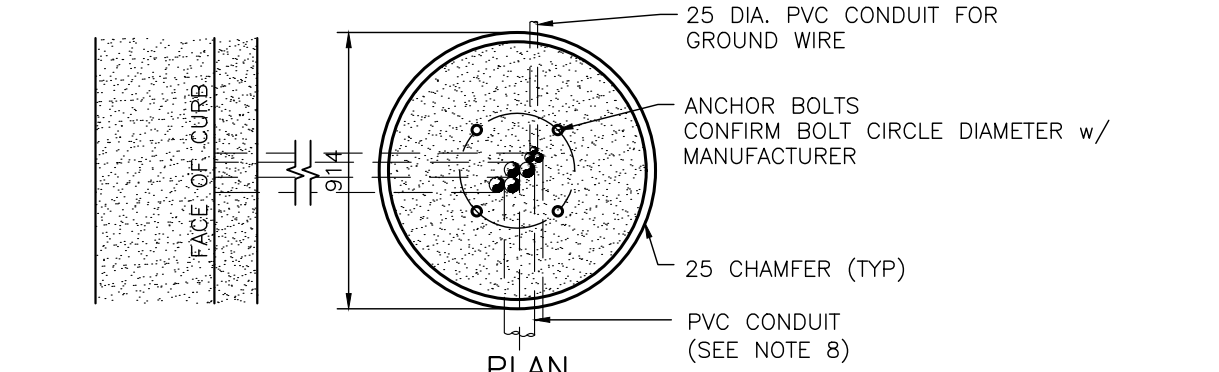
HALIFAX

STANDARD DETAIL

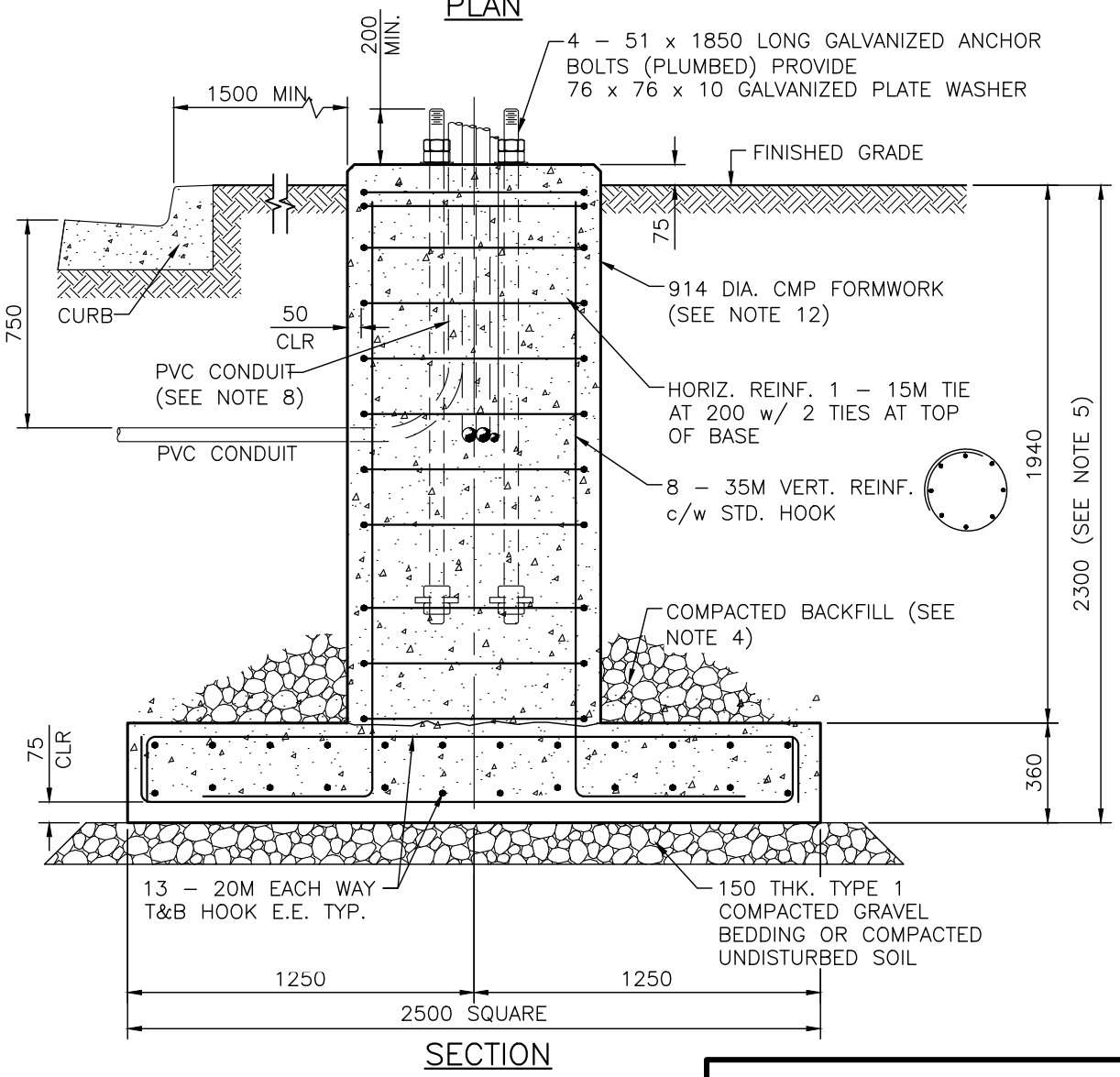
TRAFFIC SIGNAL BASE

FOR CONFIGURATION Z, AA AND AB

DATE: MARCH 2020	REFERENCE	APPROVED
SCALE: 1:25	REV	FIG No.: HRM 74



PLAN



SECTION

SEE DWG. 68N3, SELECTION GUIDE, FOR PERMITTED POLES AND TRAFFIC SIGNAL EQUIPMENT

FOR NOTES REFER TO DWGS 68N2

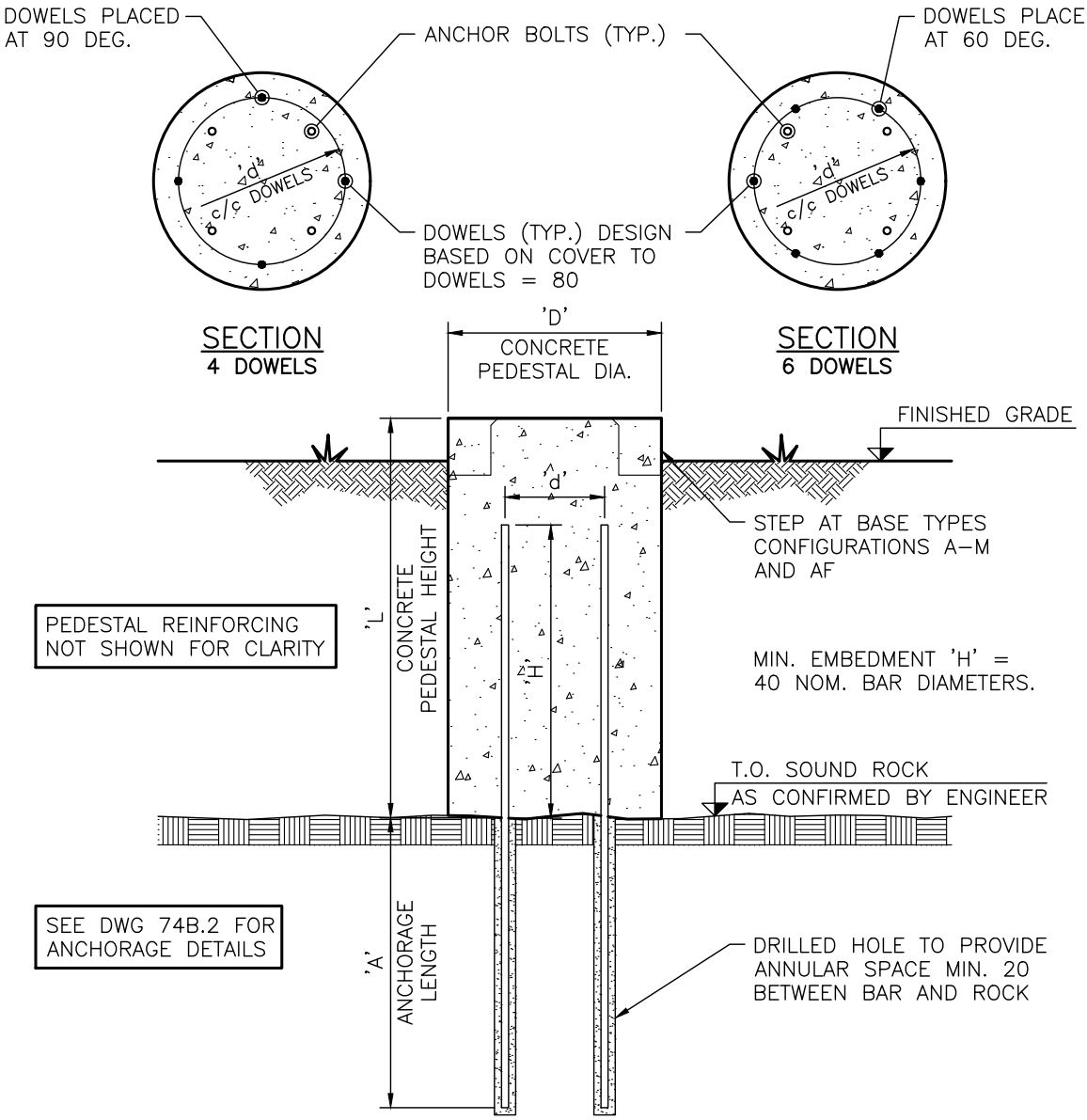
HALIFAX

STANDARD DETAIL

TRAFFIC SIGNAL BASE

FOR CONFIGURATION AC, AD AND AE

DATE: MARCH 2020	REFERENCE	APPROVED
SCALE: 1:25	REV	FIG No.: HRM 74A



1 / – DETAIL FOUNDATIONS DOWELED INTO ROCK
NTS

HALIFAX

STANDARD DETAIL

FOUNDATION REVISIONS FOR DOWELING INTO ROCK

DATE: MARCH 2020	REFERENCE NEW	APPROVED
SCALE: 1:25		FIG No.: HRM 74B.1

ANCHORAGE SCHEDULE					
REF. DWG.	'L' MIN.	'D'	'd'	'A' MIN	DOWELS
68	1200	610	425	2500	4 – 25M
69	1200	760	575	2500	4 – 25M
70, 71, 71A	1300	760	570	3000	4 – 30M
72, 72A	1500	760	565	3500	4 – 35M
73, 73A	1800	760	565	3500	6 – 35M
74, 74A	1800	910	715	4000	6 – 35M
74X	1300	760	570	3000	4 – 30M

NOTES:

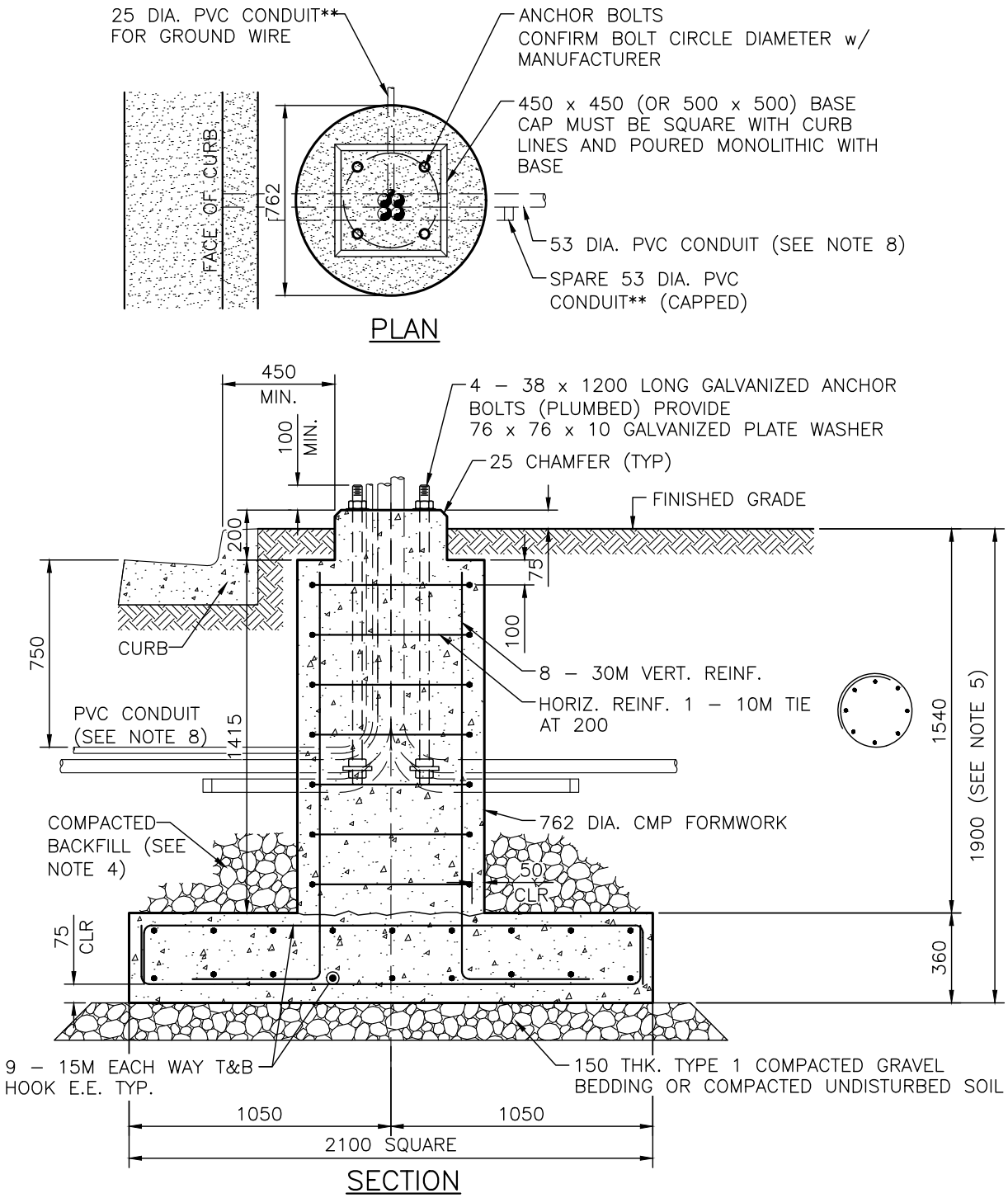
1. SOUND ROCK TO BE CONFIRMED BY ENGINEER.
2. MIN. LENGTH 'L' IS REQUIRED TO SUIT LENGTH OF ANCHOR BOLTS.
3. DRILLED HOLE IN ROCK TO BE CLEAN AND DRY BEFORE GROUTING. GROUT TO BE MASTERFLOW 816 CABLE GROUT OR APPROVED EQUAL, INSTALLED IN ACCORDANCE WITH MANUFACTURER'S DIRECTIONS.

HALIFAX

STANDARD DETAIL

FOUNDATION REVISIONS FOR DOWELING INTO ROCK

DATE: MARCH 2020	REFERENCE	APPROVED
SCALE: NTS	NEW	FIG No.: HRM 74B.2



SEE DWG. 68N3, SELECTION GUIDE, FOR PERMITTED POLES AND TRAFFIC SIGNAL EQUIPMENT

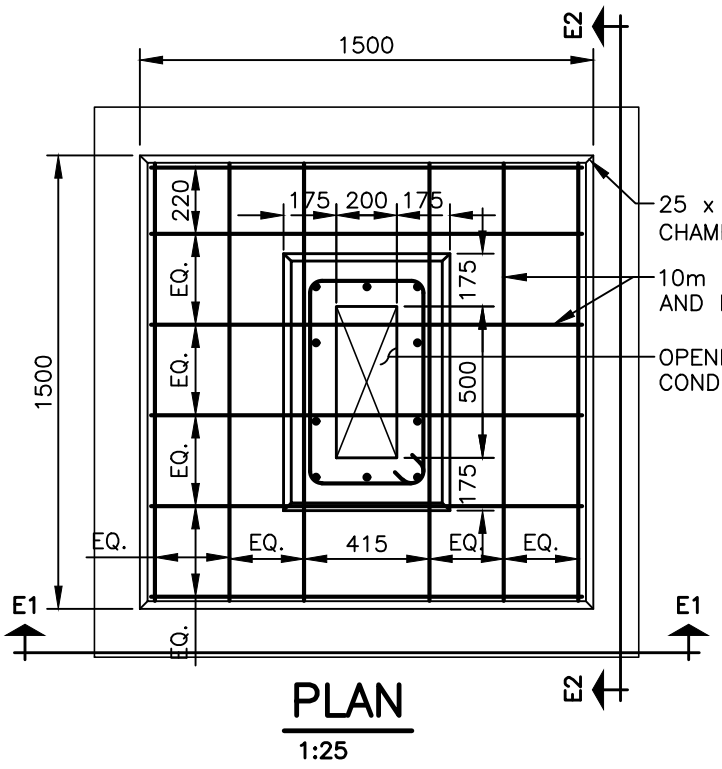
FOR NOTES REFER TO DWGS 68N2

HALIFAX

STANDARD DETAIL

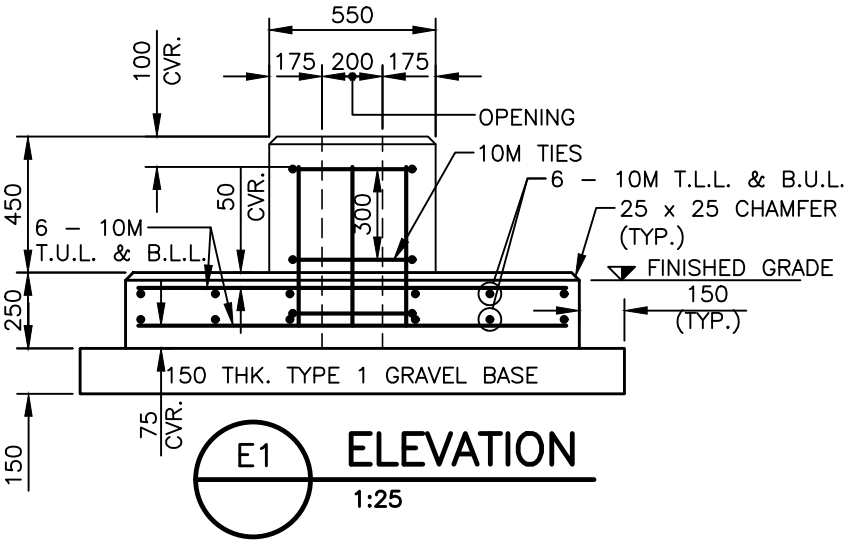
TRAFFIC SIGNAL BASE FOR CONFIGURATION AF

DATE: MARCH 2020	REFERENCE	APPROVED
SCALE: 1:25	NEW	FIG No.: HRM 74X



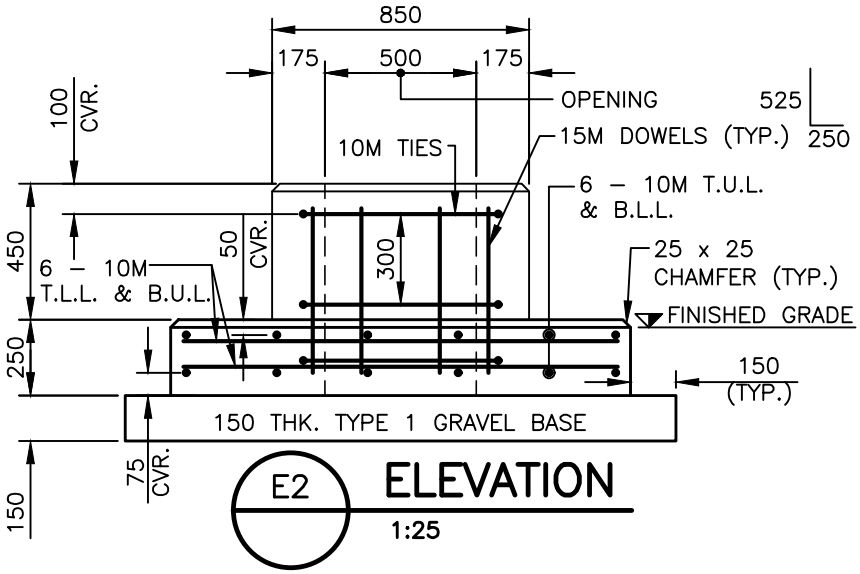
PLAN

1:25



E1 ELEVATION

1:25



E2 ELEVATION

1:25

NOTES:

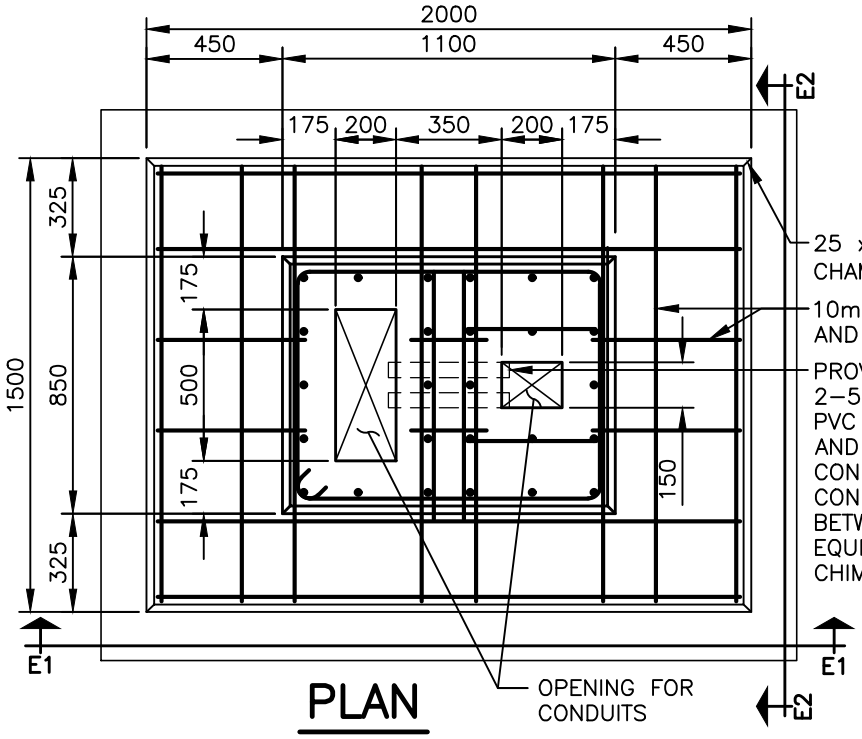
1. CONCRETE 28 DAY COMPRESSIVE STRENGTH TO BE 35 MPa.
2. PROVIDE MIN. 50 COVER FOR ALL REBAR (UNLESS NOTED OTHERWISE).
3. PROVIDE GROUNDING FOR CONTROLLER CABINET.
4. IN ADDITION TO CONDUITS SPECIFIED ON EQUIPMENT DRAWINGS/ SPECIFICATIONS, PROVIDE 2–50mm DIA. PVC CONDUIT AND STUB OUTSIDE OF BASE.
5. ALL CONDUIT FITTINGS SHALL BE TO CANADIAN ELECTRICAL CODE.
6. CONTROLLER CABINET ANCHORS ARE ASSUMED TO BE 20mm DIA. x 150mm LONG A304 STAINLESS STEEL THREADED ROD, WITH APPROVED CHEMICAL ADHESIVE, INSTALLED IN ACCORDANCE WITH ANCHOR MANUFACTURERS GUIDELINES.
7. SUITABILITY OF ANCHORS IS TO BE CONFIRMED BY EQUIPMENT MANUFACTURER PRIOR TO INSTALLATION.
8. MAXIMIZE ANCHOR EDGE DISTANCES.
9. ALL DIMENSIONS IN MILLIMETERS.
10. REBAR TO CONFORM TO CAN/CSA G30.18–09 GRADE 400W DEFORMED BARS.

HALIFAX

STANDARD DETAIL

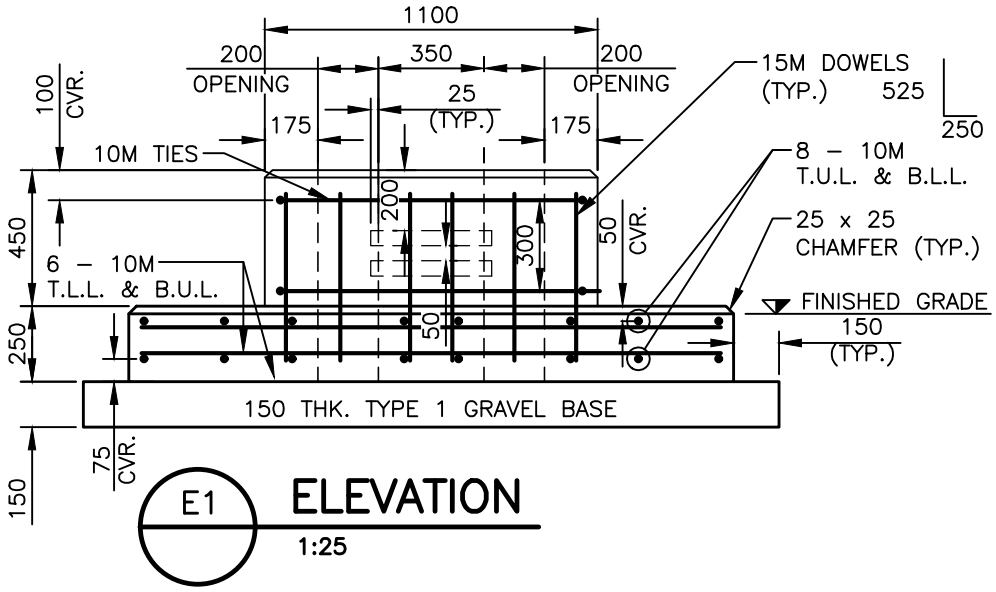
BASE MOUNTED TRAFFIC SIGNAL CONTROLLER CABINET

DATE: SEPTEMBER, 2020	REFERENCE NEW	APPROVED M.H.
SCALE: AS NOTED		FIG No.: HRM 175



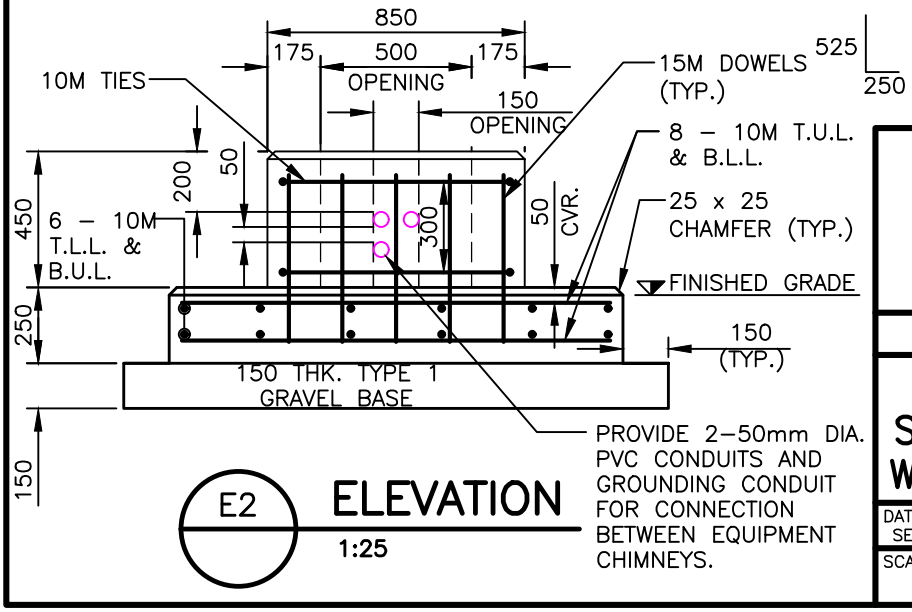
PLAN

1:25



E1 ELEVATION

1:25



E2 ELEVATION

1:25

NOTES:

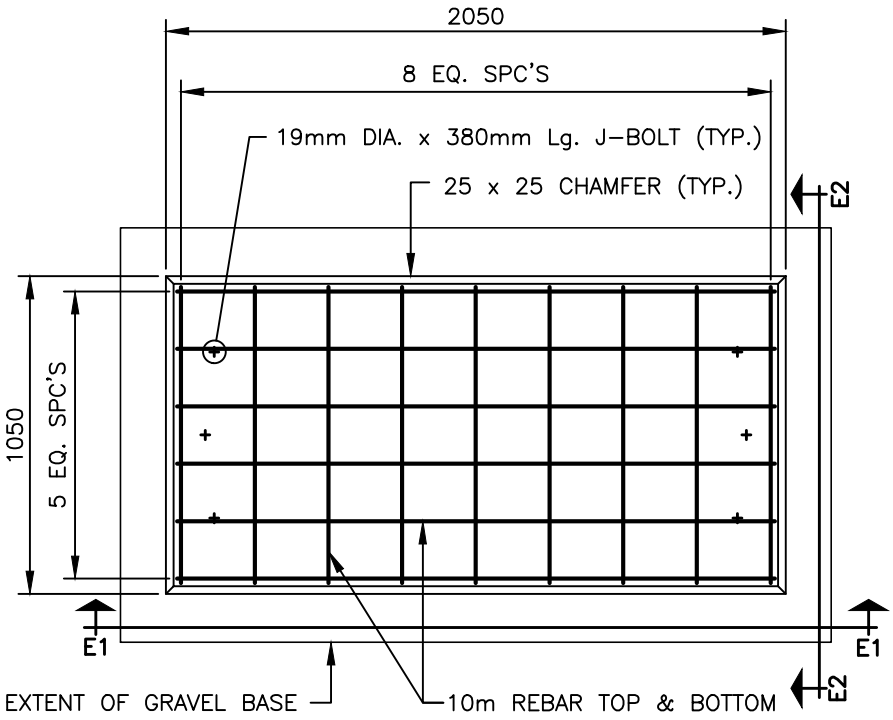
1. CONCRETE 28 DAY COMPRESSIVE STRENGTH TO BE 35 MPa.
2. PROVIDE MIN. 50 COVER FOR ALL REBAR (UNLESS NOTED OTHERWISE).
3. PROVIDE GROUNDING FOR CONTROLLER CABINET.
4. IN ADDITION TO CONDUITS SPECIFIED ON EQUIPMENT DRAWINGS/SPECIFICATIONS, PROVIDE 2–50mm DIA. PVC CONDUIT AND STUB OUTSIDE OF BASE.
5. ALL CONDUIT FITTINGS SHALL BE TO CANADIAN ELECTRICAL CODE.
6. CONTROLLER CABINET ANCHORS ARE ASSUMED TO BE 20mm DIA. x 150mm LONG A304 STAINLESS STEEL THREADED ROD, WITH APPROVED CHEMICAL ADHESIVE, INSTALLED IN ACCORDANCE WITH ANCHOR MANUFACTURERS GUIDELINES.
7. BATTERY BACK–UP UNIT ANCHORS ARE ASSUMED TO BE 22mm DIA. x 150mm LONG A304 STAINLESS STEEL THREADED ROD, WITH APPROVED CHEMICAL ADHESIVE, INSTALLED IN ACCORDANCE WITH ANCHOR MANUFACTURERS GUIDELINES.
8. SUITABILITY OF ANCHORS IS TO BE CONFIRMED BY EQUIPMENT MANUFACTURER PRIOR TO INSTALLATION.
9. MAXIMIZE ANCHOR EDGE DISTANCES.
10. ALL DIMENSIONS IN MILLIMETERS.
11. REBAR TO CONFORM TO CAN/CSA G30.18–09 GRADE 400W DEFORMED BARS.

HALIFAX

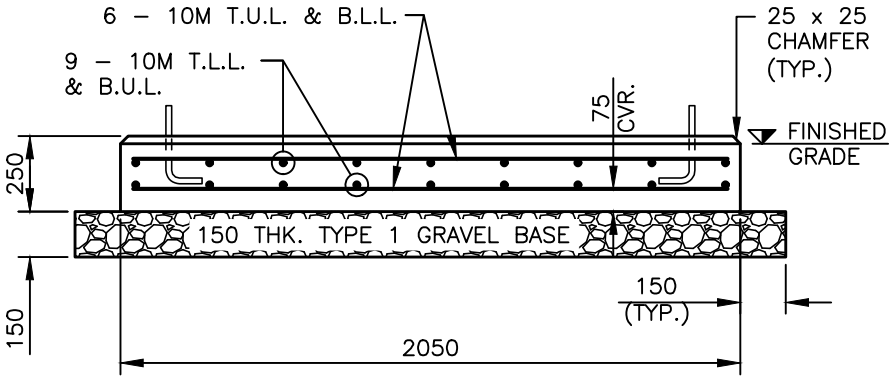
STANDARD DETAIL

BASE MOUNTED TRAFFIC SIGNAL CONTROLLER CABINET WITH BATTERY BACK–UP UNIT

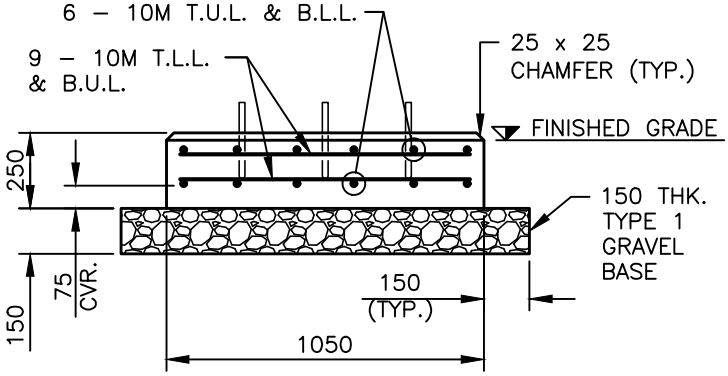
DATE:	REFERENCE	APPROVED
SEPTEMBER, 2020	NEW	M.H.
SCALE: AS NOTED		FIG No.: HRM 176



PLAN
1:25



E1 ELEVATION
1:25



E2 ELEVATION
1:25

NOTES:

1. CONCRETE 28 DAY COMPRESSIVE STRENGTH TO BE 35 MPa.
2. PROVIDE MIN. 50mm COVER FOR ALL REBAR (UNLESS NOTED OTHERWISE).
3. PROVIDE GROUNDING PLATE FOR CABINET.
4. TYPICAL STREET LIGHT POWER ENCLOSURES ARE 610mm WIDE BY 1830mm LONG BY 1830mm HIGH. THE ENCLOSURE MUST BE CENTERED ON THE CONCRETE PAD AND THE CONDUIT LAYOUT MUST ALIGN WITH THE MOUNTING BACKBOARD INSIDE THE ENCLOSURE AS PER THE TYPICAL STREET LIGHT POWER ENCLOSURE "RED BOOK" DETAILS HRM 109–HRM 111.
5. ALL CONDUIT FITTINGS AND GROUNDING SHALL BE TO CANADIAN ELECTRICAL CODE.
6. CONTROLLER CABINET ANCHORS ARE ASSUMED TO BE 6–19mm DIA. x 380mm LONG A307 GALVANIZED STEEL J–BOLTS.
7. SUITABILITY OF ANCHORS IS TO BE CONFIRMED BY EQUIPMENT MANUFACTURER PRIOR TO INSTALLATION.
8. ALL DIMENSIONS IN MILLIMETERS.
9. REBAR TO CONFORM TO CAN/CSA G30.18–09 GRADE 400W DEFORMED BARS.
10. MAXIMUM CONDUIT DIAMETER = 150mm. PROVIDE AT LEAST 25mm CLEAR SPACE BETWEEN CONDUITS.
11. MAXIMUM NUMBER OF CONDUITS PER BASE = 10 x 150mm DIA. CONDUITS OR EQUIVALENT AREA OF SMALLER CONDUITS. (LOCALLY ADJUST REBAR SPACINGS IF NECESSARY).

HALIFAX

STANDARD DETAIL

STREET LIGHTING POWER ENCLOSURE BASE

DATE: SEPTEMBER, 2020	REFERENCE	APPROVED
SCALE: AS NOTED	NEW	FIG No.: HRM 177