

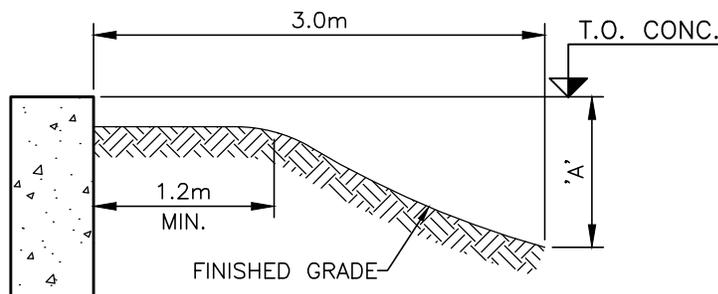
NOTES FOR SHAFT FOUNDATIONS ONLY:

1. ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE SHOWN.
2. CONCRETE 28 DAY STRENGTH TO BE 35 MP_a, 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 $\gamma_{\text{SOIL}} = 18 \text{ kN/m}^3$, $K_p = 3.5$, $\phi = 34^\circ$.
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 $\gamma_{\text{soil}} = 18 \text{ kN/m}^3$, $K_p = 3.5$, $\phi = 34^\circ$.
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.
	MATERIAL	BASE DIA. (mm)	TOTAL HEIGHT (m)	MAST ARMS			SIGNAL HEADS (PER POLE)					
				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

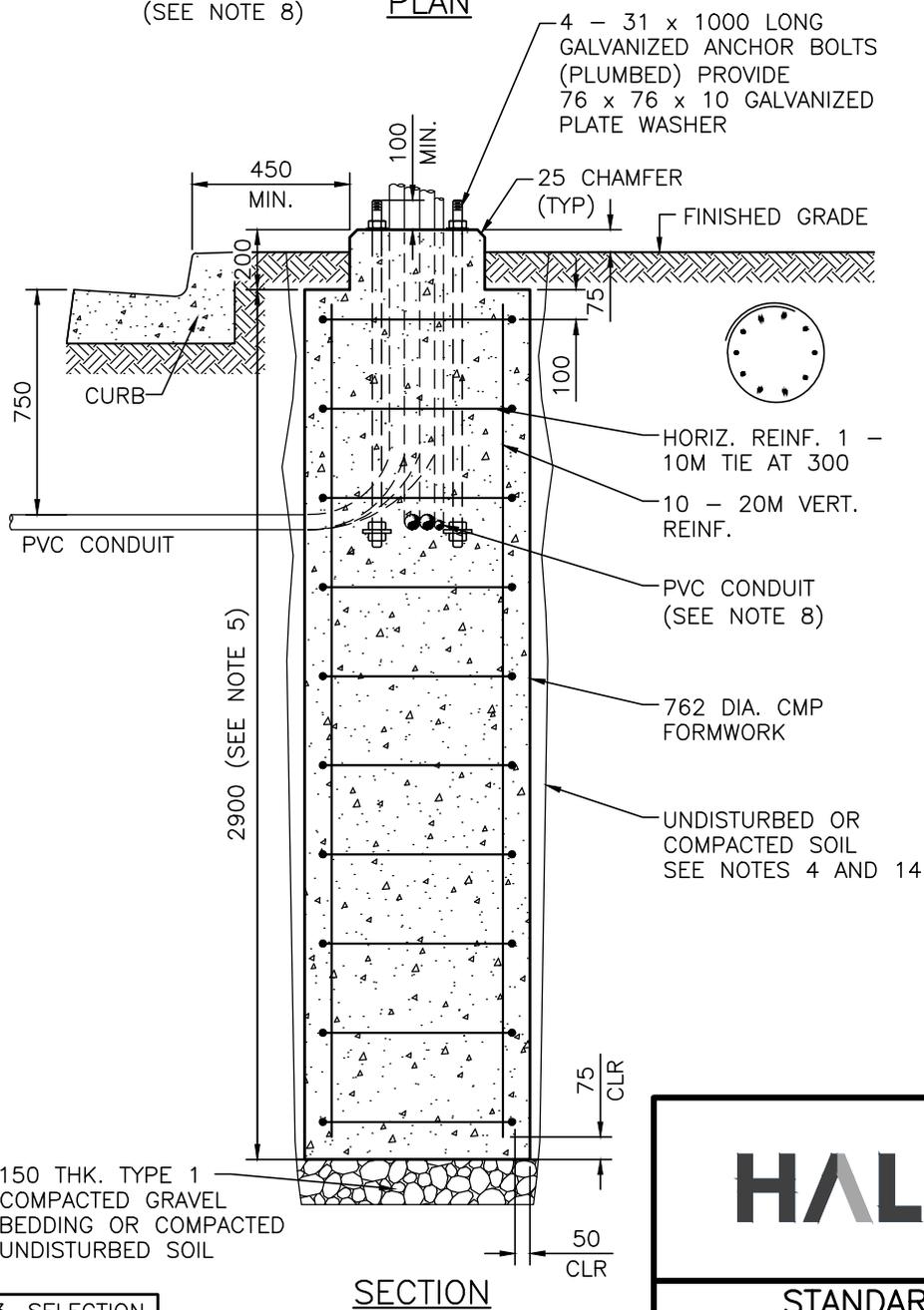
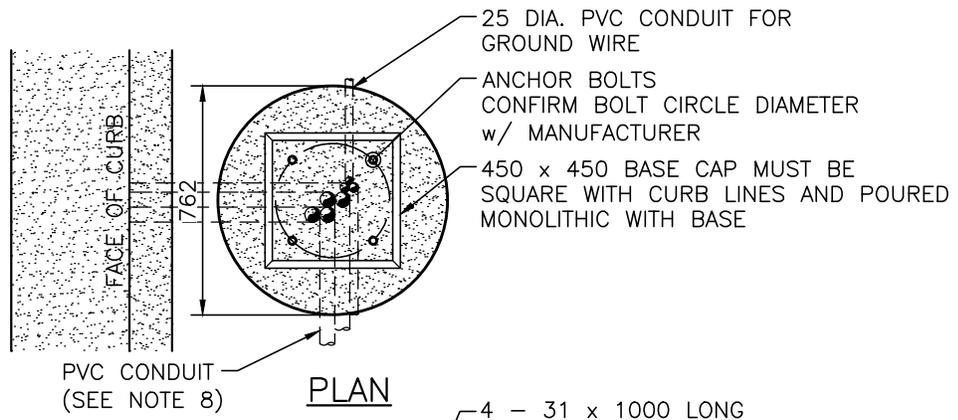
REFERENCE

APPROVED

SCALE:
NTS

NEW

FIG No.:
HRM 68N3



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

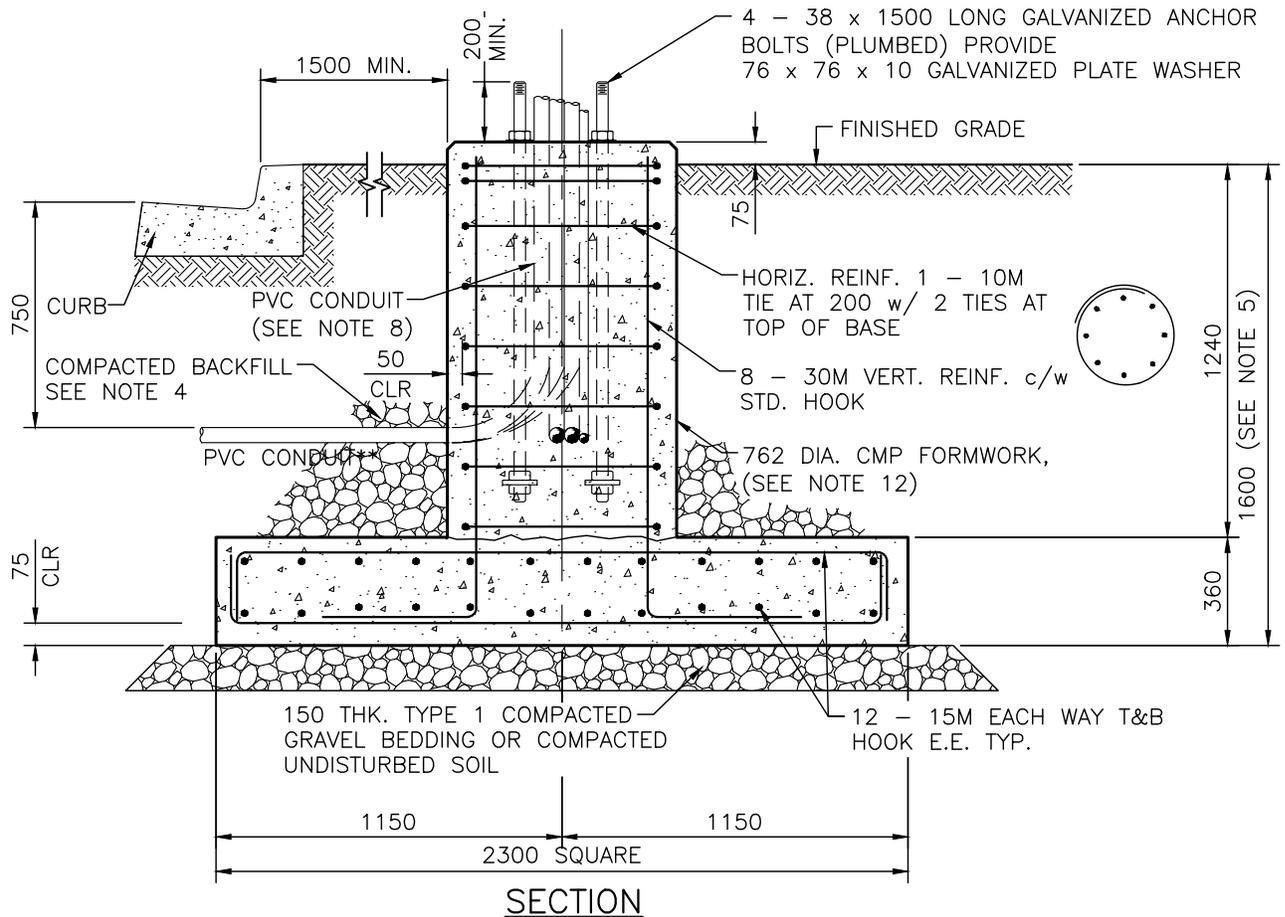
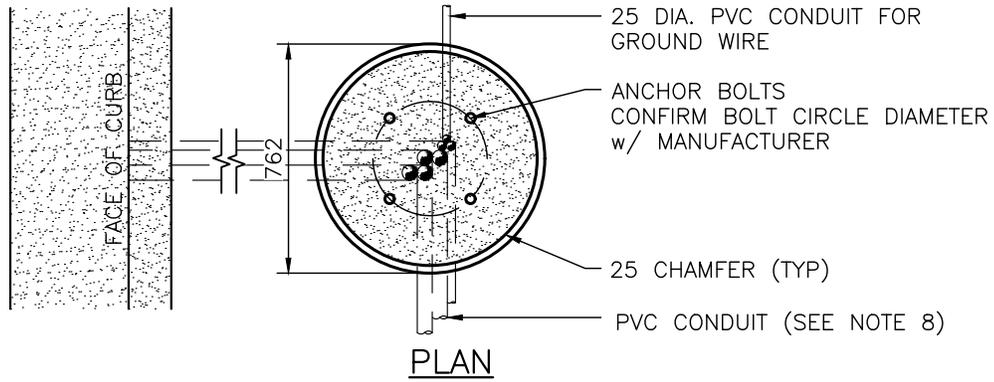
FOR NOTES REFER TO DWG 68N1

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
DWGS 68N2

HALIFAX

STANDARD DETAIL

TRAFFIC SIGNAL BASE
FOR CONFIGURATION Q, R AND S

DATE:
MARCH 2020

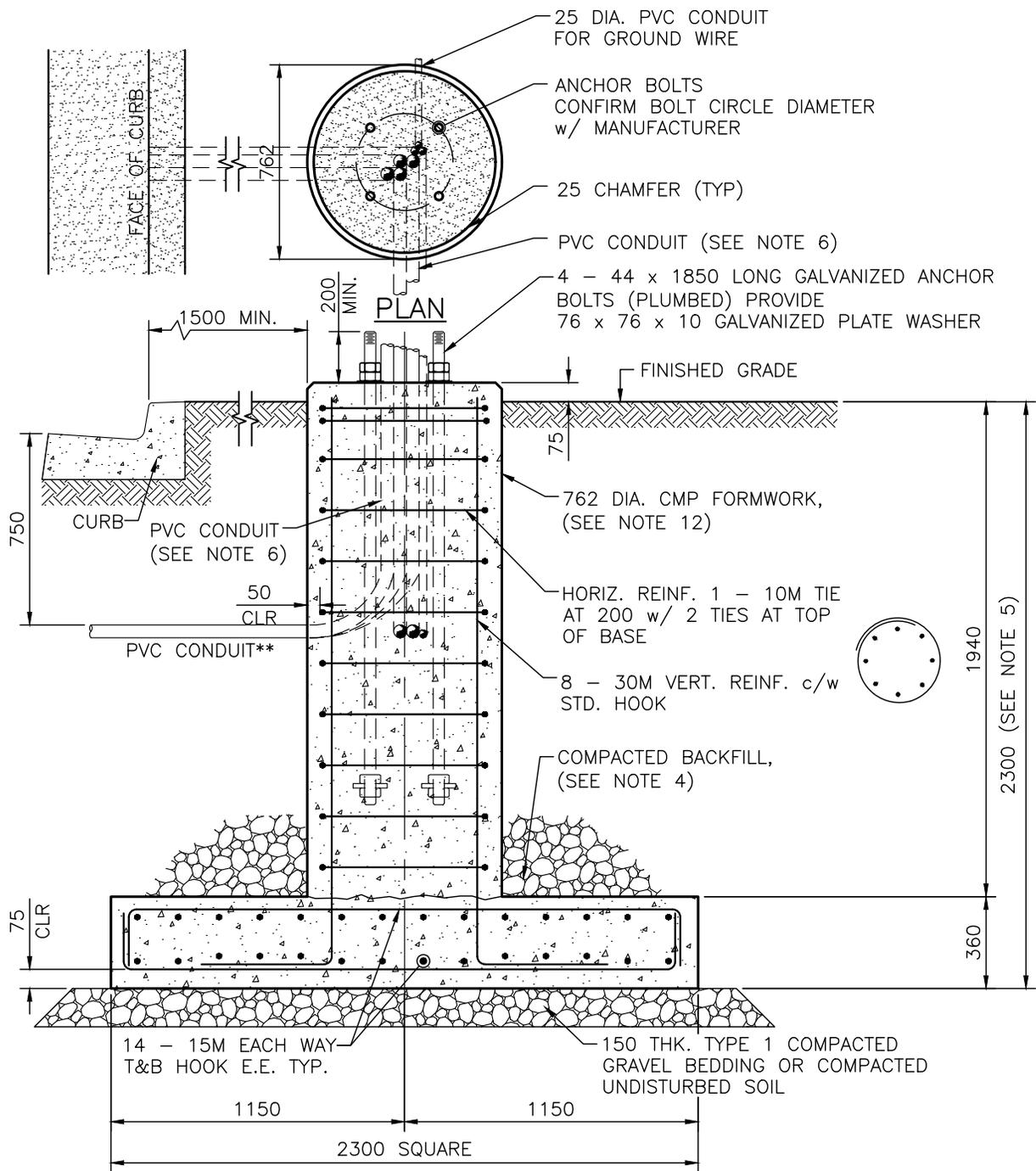
REFERENCE

APPROVED

SCALE:
1:25

NEW

FIG No.:
HRM 72A



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

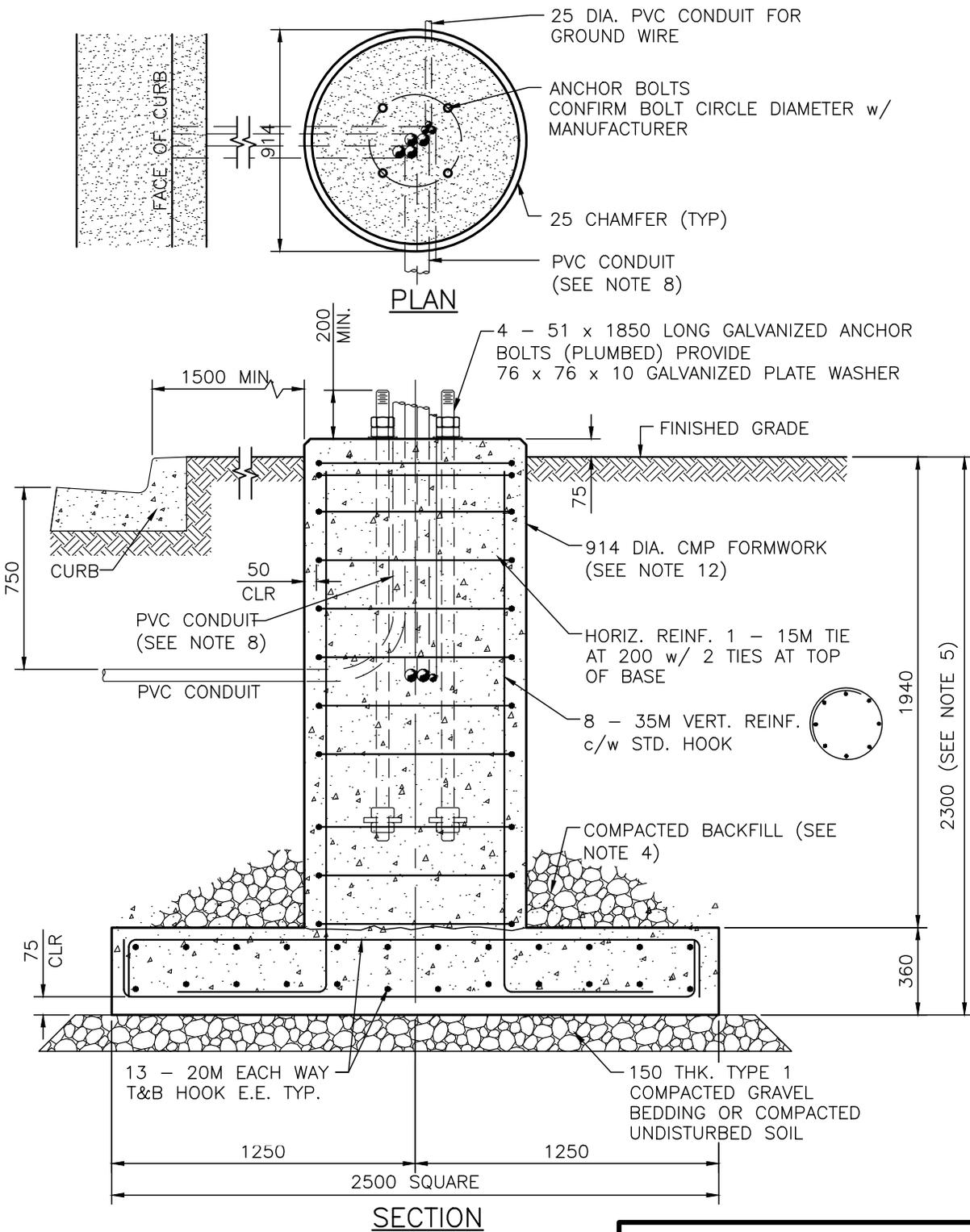
REFERENCE

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

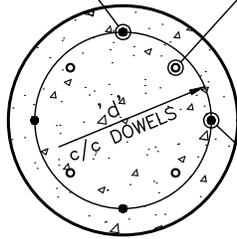
TRAFFIC SIGNAL BASE
FOR CONFIGURATION AC, AD AND AE

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

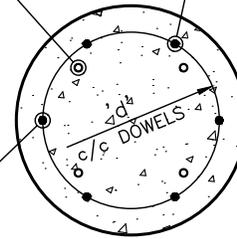
DOWELS PLACED AT 90 DEG.

ANCHOR BOLTS (TYP.)

DOWELS PLACED AT 60 DEG.

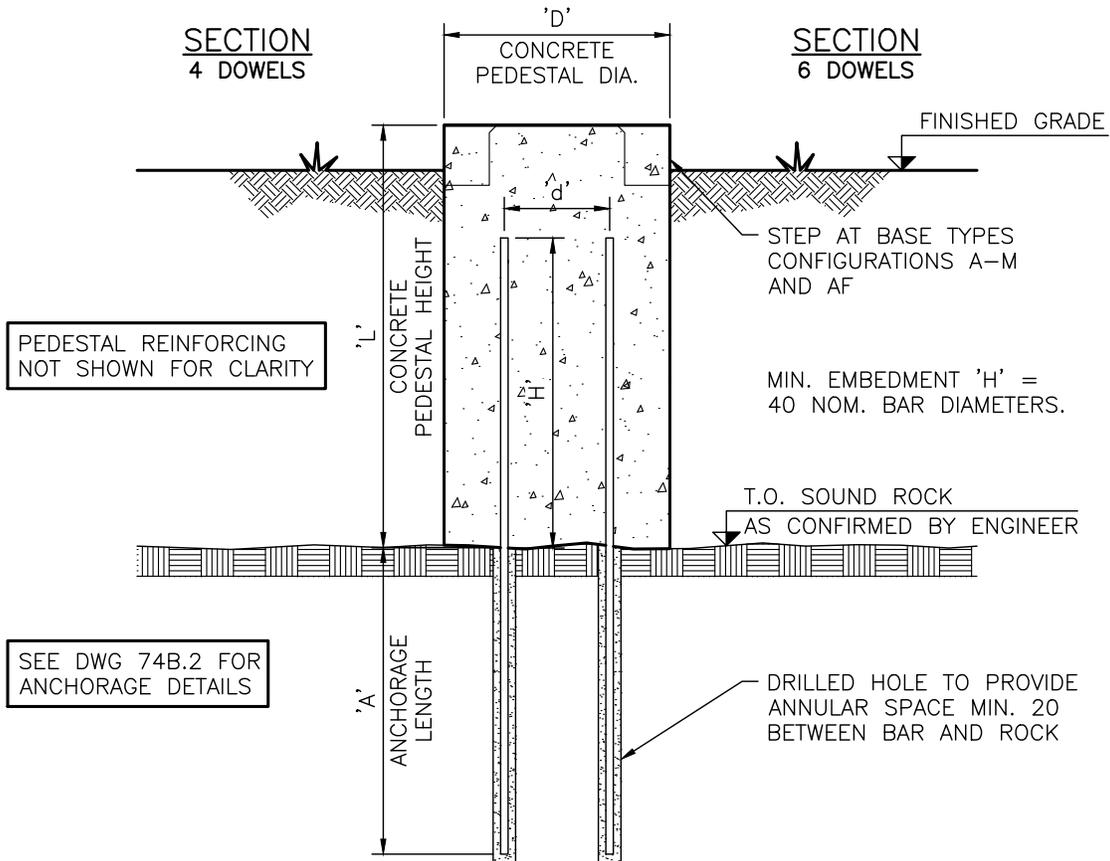


DOWELS (TYP.) DESIGN BASED ON COVER TO DOWELS = 80



SECTION
4 DOWELS

SECTION
6 DOWELS



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

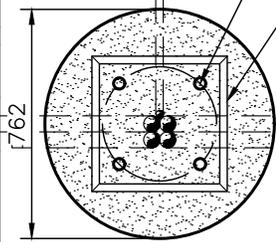
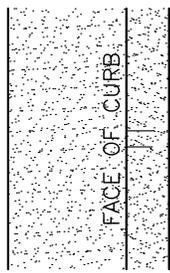
SCALE:
NTS

NEW

FIG No.:
HRM 74B.2

25 DIA. PVC CONDUIT**
FOR GROUND WIRE

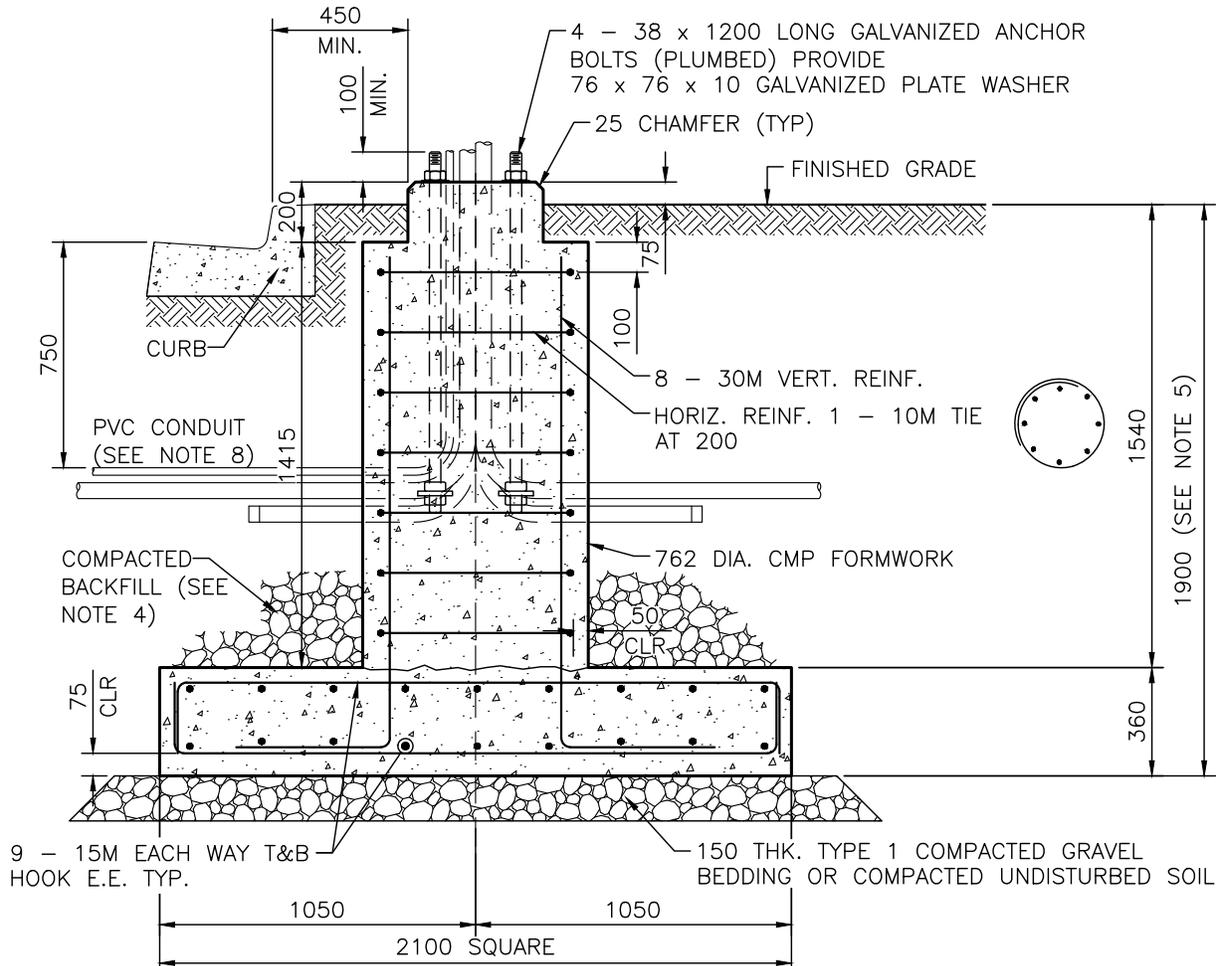
ANCHOR BOLTS
CONFIRM BOLT CIRCLE DIAMETER w/
MANUFACTURER



450 x 450 (OR 500 x 500) BASE
CAP MUST BE SQUARE WITH CURB
LINES AND POURED MONOLITHIC WITH
BASE

53 DIA. PVC CONDUIT (SEE NOTE 8)
SPARE 53 DIA. PVC
CONDUIT** (CAPPED)

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 AF

DATE:
MARCH 2020

REFERENCE

APPROVED

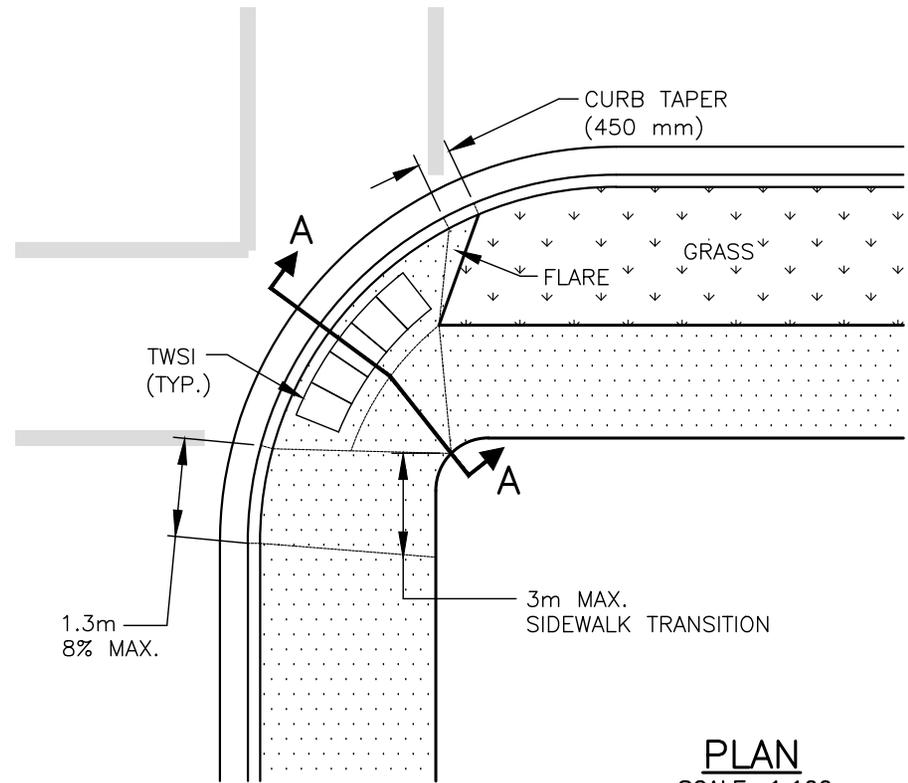
SCALE:
1:25

NEW

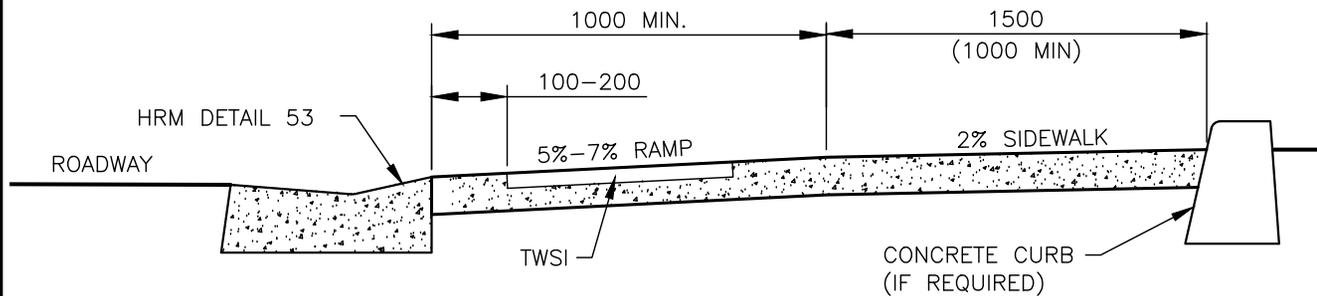
FIG No.:
HRM 74X

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.

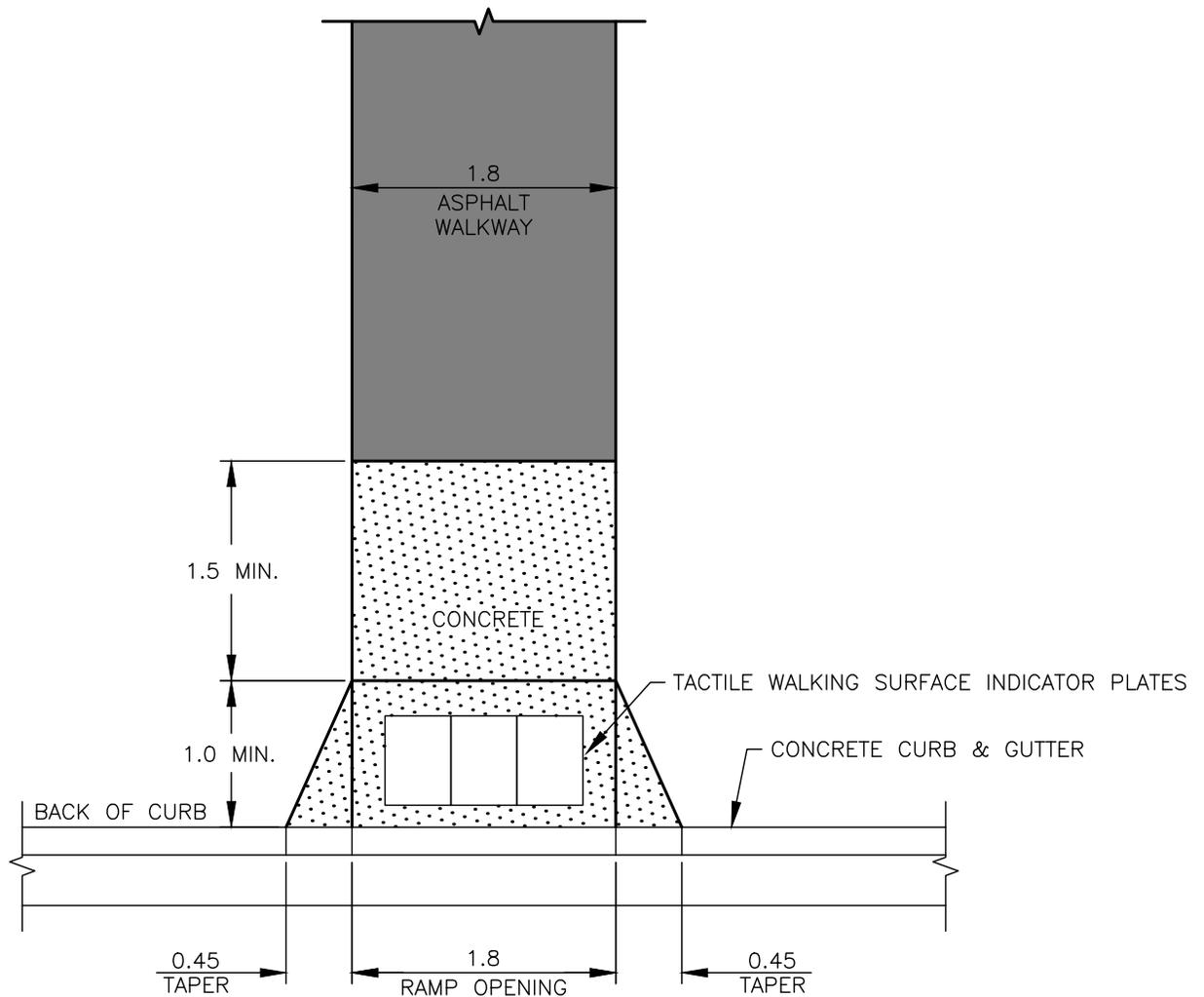


PLAN
SCALE: 1:100



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**

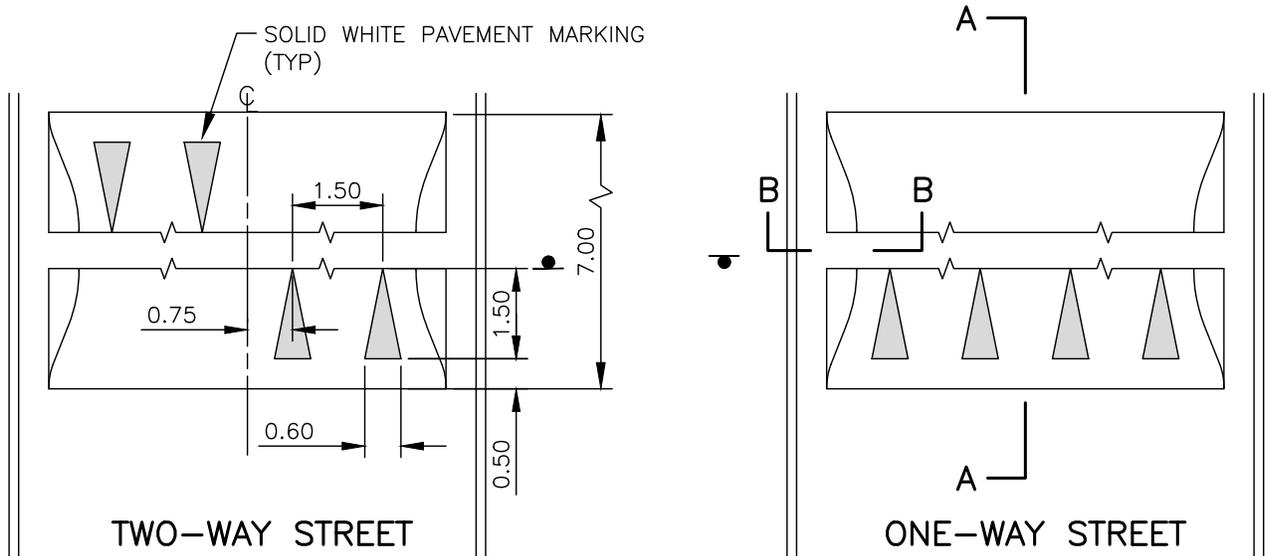
DATE:
JANUARY 2019

REFERENCE

APPROVED

SCALE:
1:50

FIG No.:
HRM 132



TWO-WAY STREET

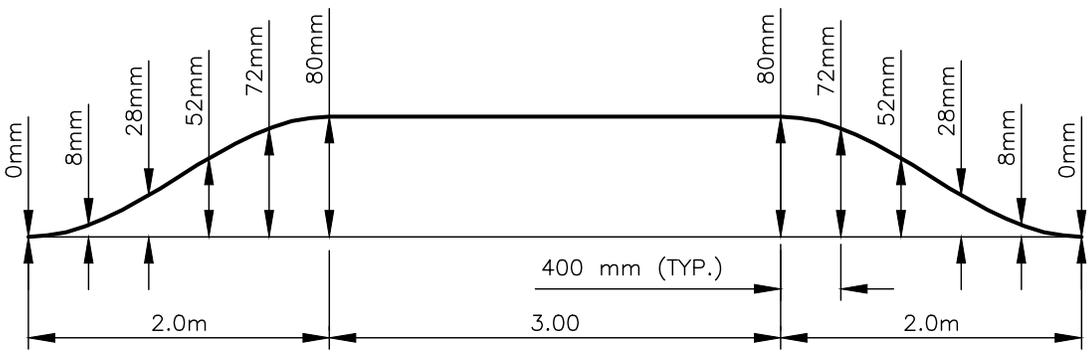
ONE-WAY STREET

SPEED TABLE

SCALE: 1:125

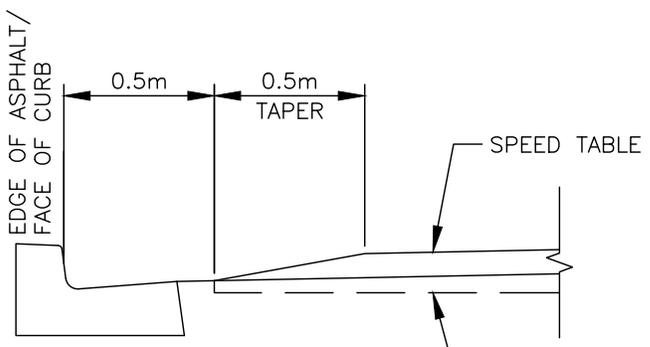
NOTES:

1. TOLERANCE FOR CONSTRUCTION 80mm MIN AT TOP, MAX 90mm, REMAINDER OF PROFILE ±10 mm 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

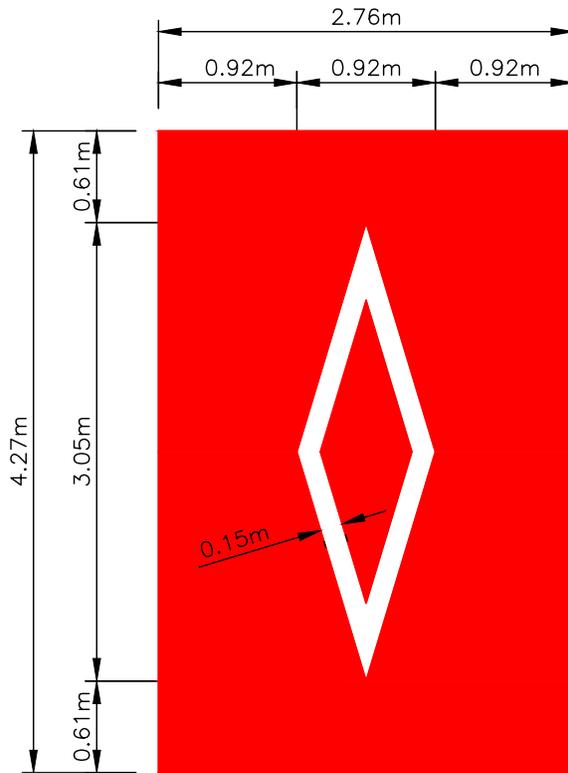
REFERENCE

APPROVED

SCALE: AS NOTED

NEW

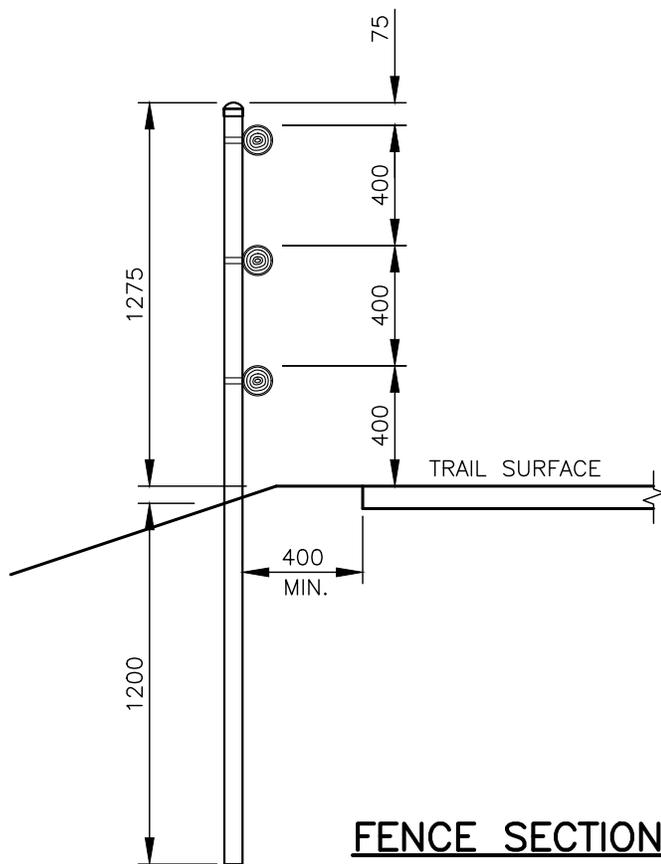
FIG No.: HRM 143



NOTE:

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

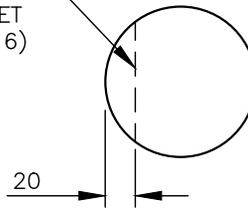
HALIFAX		
STANDARD DETAIL		
RED IN-LAY RESERVED LANE		
DATE:	2019	REFERENCE
SCALE:	1:50	NEW
		APPROVED
		FIG. NO. HRM 134



FENCE SECTION

SCALE 1:25

FLAT SURFACE FOR BRACKET (SEE NOTE 6)



WOODEN RAIL SECTION AT POST

SCALE 1:5

NOTES:

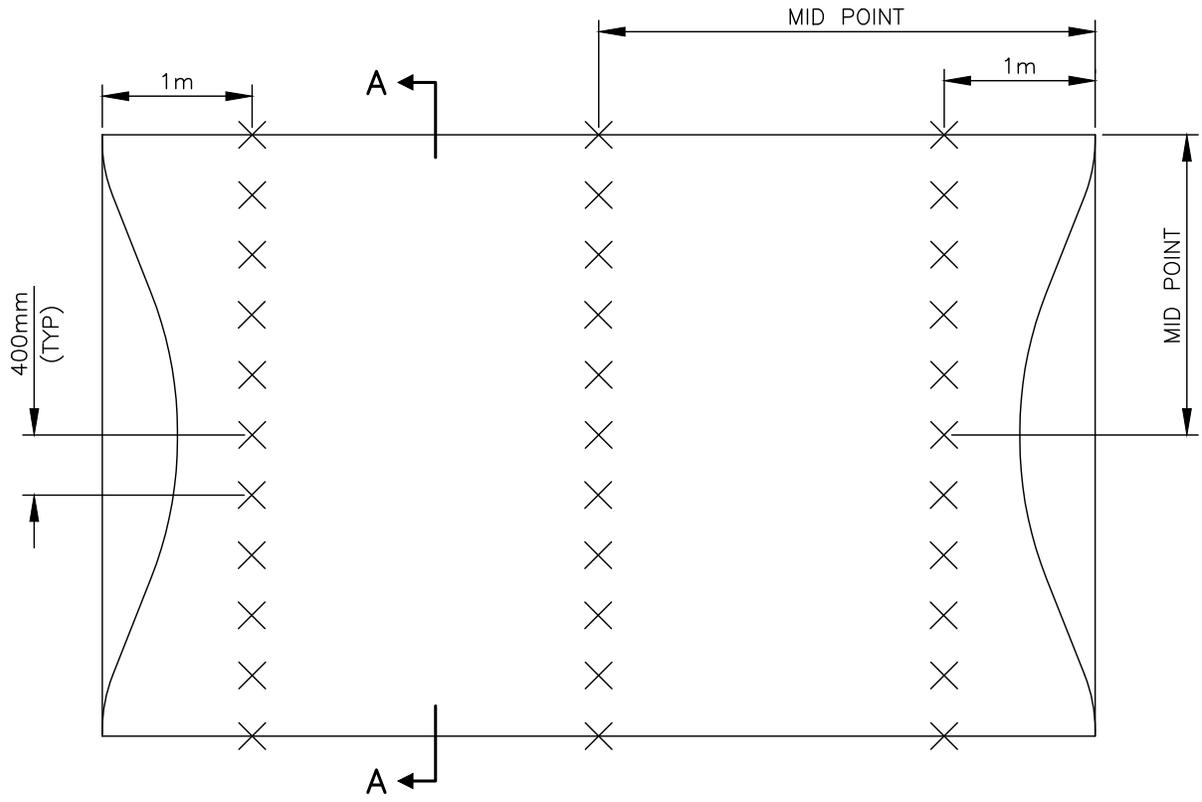
1. POSTS 60 mm O.D. HOT DIPPED GALVANIZED COLD ROLLED STEEL (ASTM A53 GRADE A, SCHEDULE 40), ZINC-COATED AT MINIMUM 550 G/SM.
2. UNLESS OTHERWISE APPROVED BY ENGINEER, DRILL POST HOLES WITH 125 mm MAXIMUM DIAMETER BIT. STABILIZE GROUND AROUND POSTS WITH CEMENT GROUT AND MECHANICAL COMPACTOR.
3. THERE SHALL BE NO EXPOSED (NON-GALVANIZED) STEEL, EXCEPT THE TOP OF THE POSTS (PRIOR TO PLACEMENT OF CAPS).
4. POST SPACING OF 2.4 m EXCEPT LESS ON TIGHT TURNS TO MAINTAIN TRAIL WIDTH.
5. GALVANIZED STEEL CAPS TO BE SET SECURELY OVER TOP OF POSTS (WELDING NOT PERMITTED).
6. RAILS 95-115 mm DIAMETER SMOOTH UNTREATED HEMLOCK WOOD (NO CHECKS, SPLITS OR WIND SHAKES). OUTSIDE EDGES OF ABUTTING ENDS OF RAILS SHALL BE FLUSH (WITHIN 5 mm). PROVIDE FLAT SURFACE FOR FASTENERS 20 mm FROM BACK OF RAILS WHICH CAN BE THE FULL LENGTH OF THE RAILS.
7. ENDS OF RAILS SHALL LINE UP WITH CENTRE OF POSTS EXCEPT AT END POSTS WHERE THE RAILS SHALL EXTEND 100 mm PAST THE CENTRE OF POSTS.
8. PRE-DRILL WOODEN RAILS FOR OZCO JAWS 60 mm GALVANIZED STEEL BRACKETS (OZCO ITEM #51824, 24 PACK)
9. BEND FLANGES OF BRACKETS TO ANGLE REQUIRED WHEN FENCE IN ON A HORIZONTAL CURVE.
10. MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST REVISIONS OF THE NOVA SCOTIA BUILDING CODE REGULATIONS AND THE NATIONAL BUILDING CODE OF CANADA.

HALIFAX

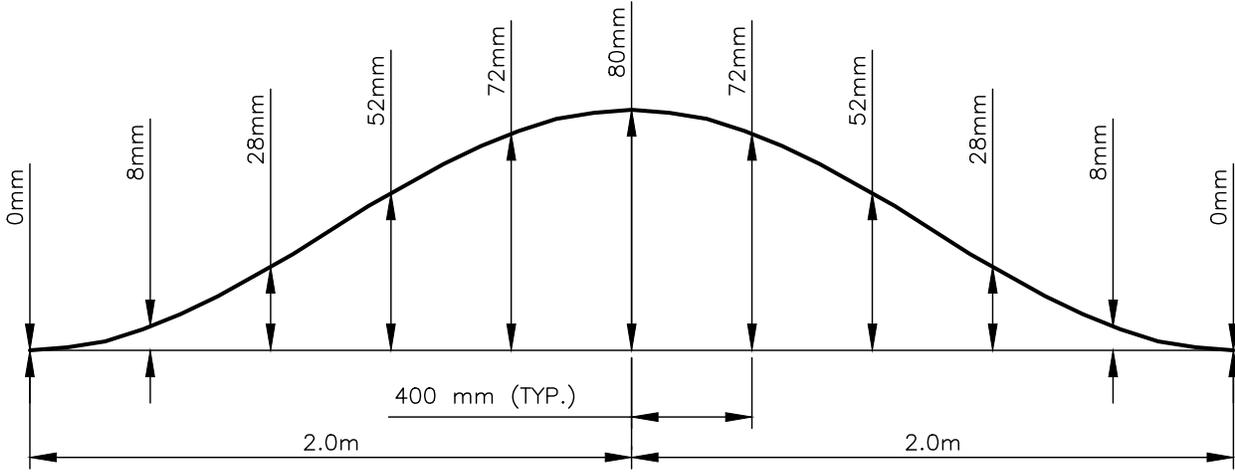
STANDARD DETAIL

**FENCE DETAIL
(ROUND WOODEN RAILS & STEEL POSTS)**

DATE:	2019	REFERENCE	APPROVED
SCALE:	AS NOTED	NEW	FIG. NO. HRM 135



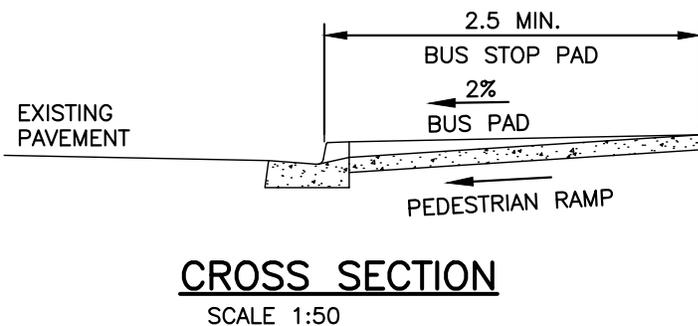
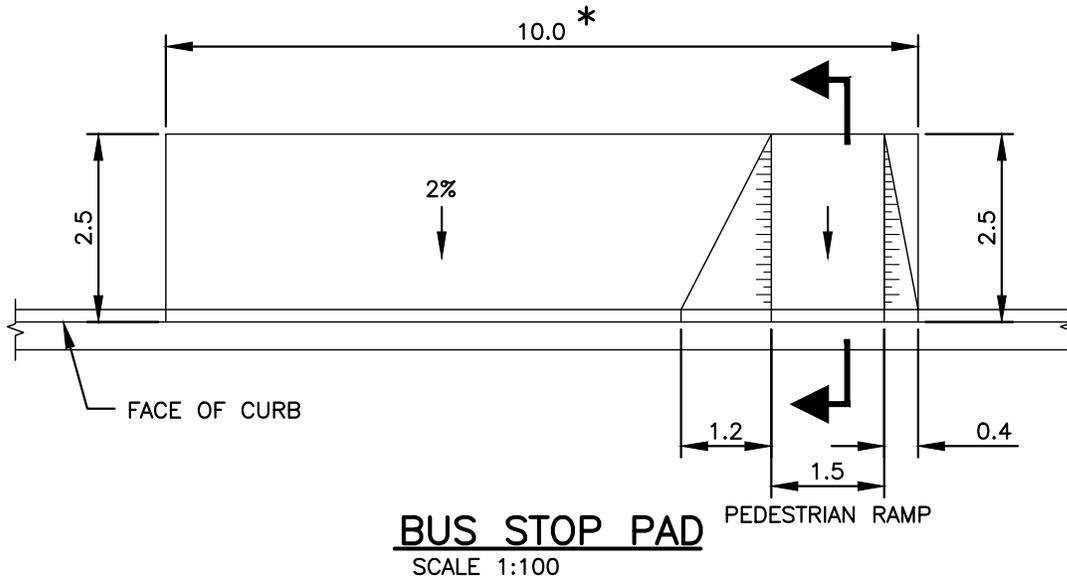
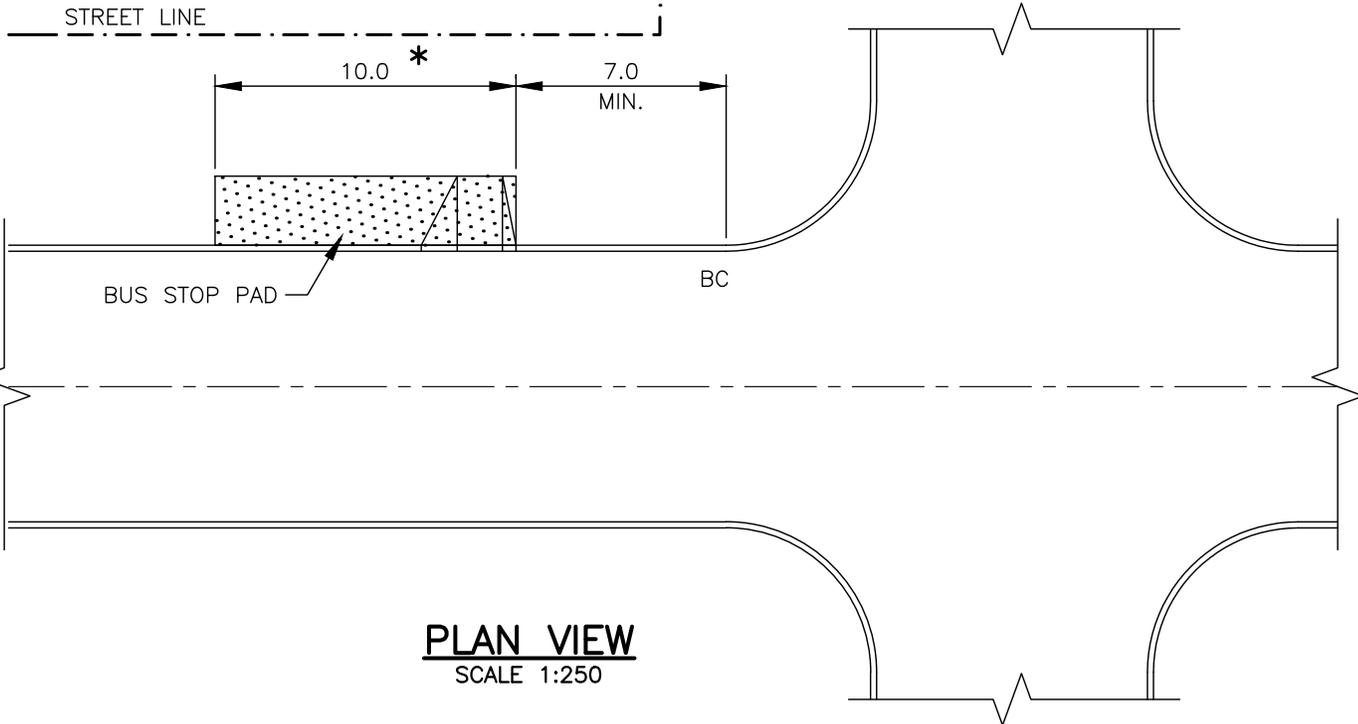
SPEED HUMP
SCALE: 1:50



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



NOTES:

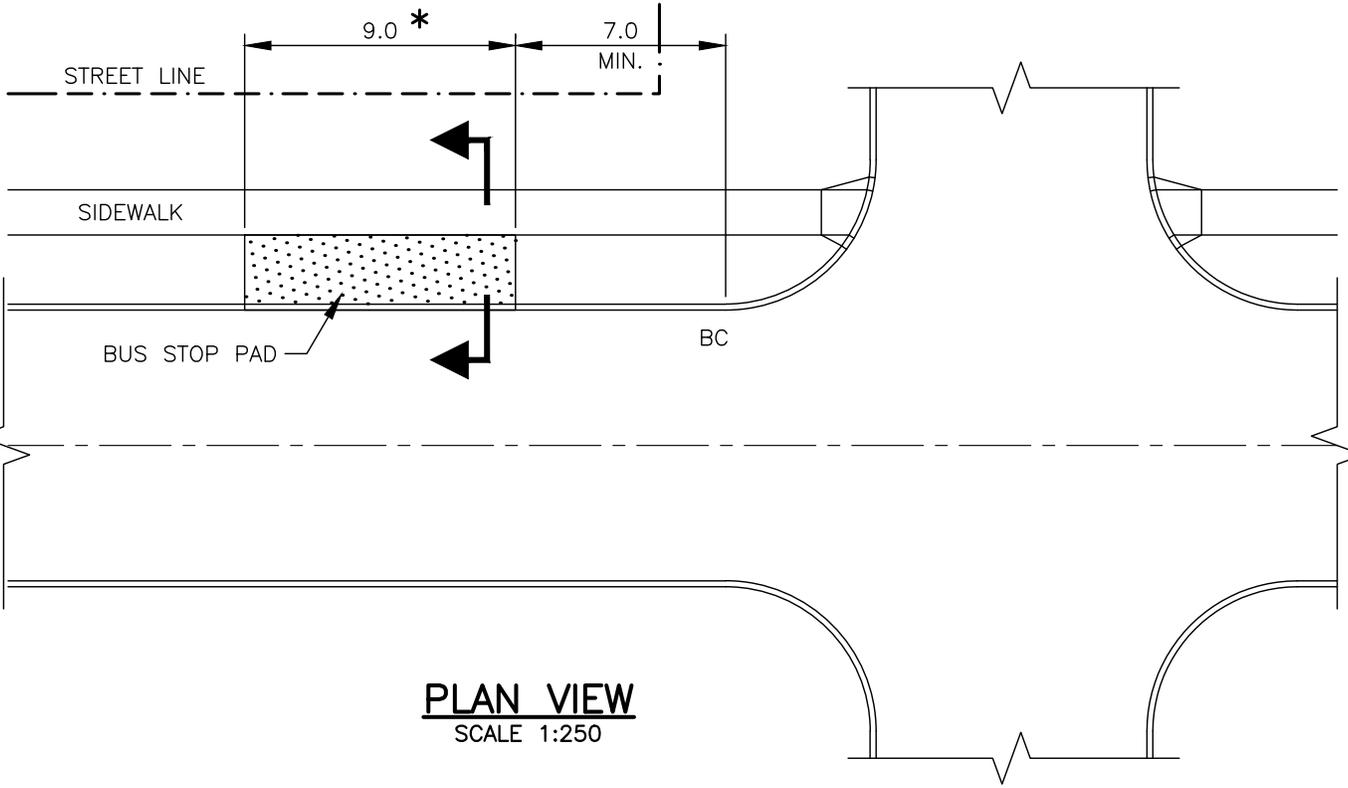
- * 1. FOR LOW VOLUME BUS ROUTES
-DECREASE PAD LENGTH TO 5.0m.
- * 2. FOR ARTICULATED BUS ROUTES
-INCREASE PAD LENGTH TO 15.5m.
- 3. SHELTER PAD SHALL BE 4.0m LONG BY 2.0m WIDE. (IF REQUIRED)

HALIFAX

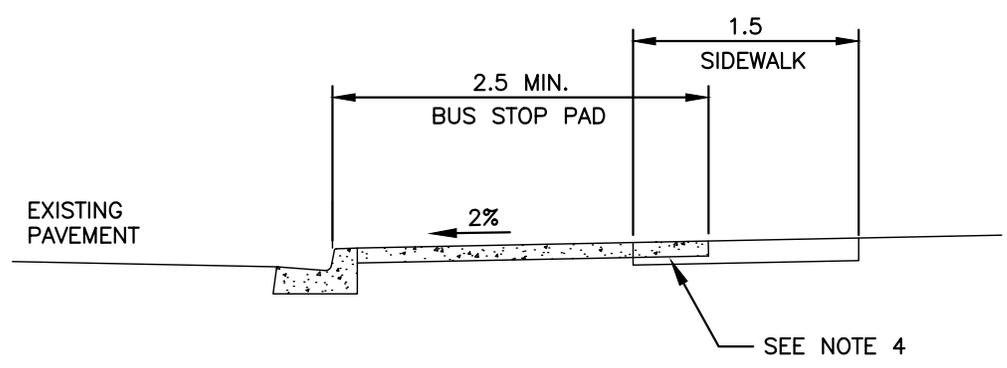
STANDARD DETAIL

CONCRETE BUS STOP LANDING PAD (WITHOUT SIDEWALK)

DATE: 2015	REFERENCE NEW	APPROVED
SCALE: AS NOTED		FIG No.: HRM 137



PLAN VIEW
SCALE 1:250



CROSS SECTION
SCALE 1:50

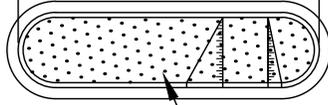
NOTES:

- * 1. FOR LOW VOLUME BUS ROUTES
-DECREASE PAD LENGTH TO 4.0m.
- * 2. FOR ARTICULATED BUS ROUTES
-INCREASE PAD LENGTH TO 14.5m.
- 3. SHELTER PAD SHALL BE 4.0m LONG BY 2.0m WIDE. (IF REQUIRED)
- 4. THE 2.5m WIDE BUS STOP LANDING PAD MAY INCLUDE A PORTION OF THE SIDEWALK.

HALIFAX		
STANDARD DETAIL		
CONCRETE BUS STOP LANDING PAD (WITH SIDEWALK)		
DATE:	REFERENCE	APPROVED
2015	NEW	FIG No.: HRM 138
SCALE:		

STREET LINE

10.00 * NOTE 1
7.0 MIN.



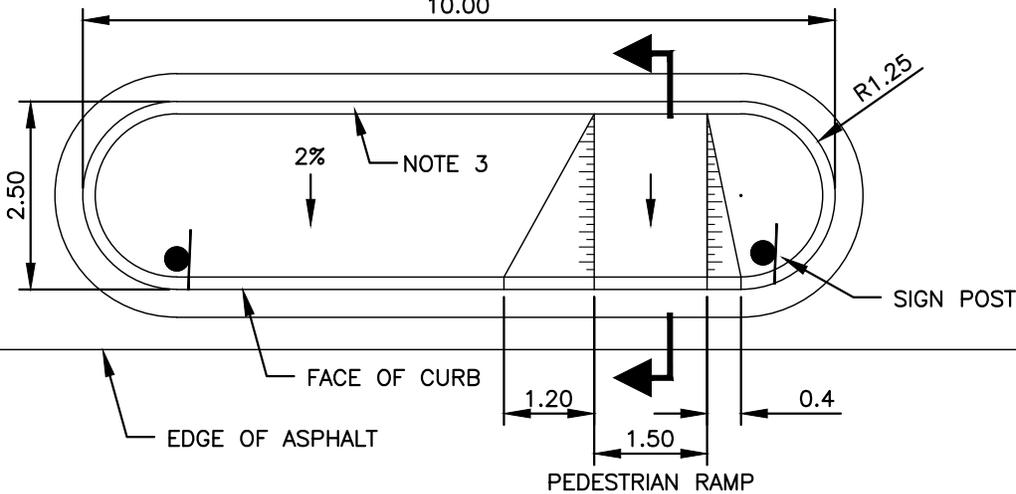
EDGE OF ASPHALT
BUS STOP PAD

BC

PLAN VIEW

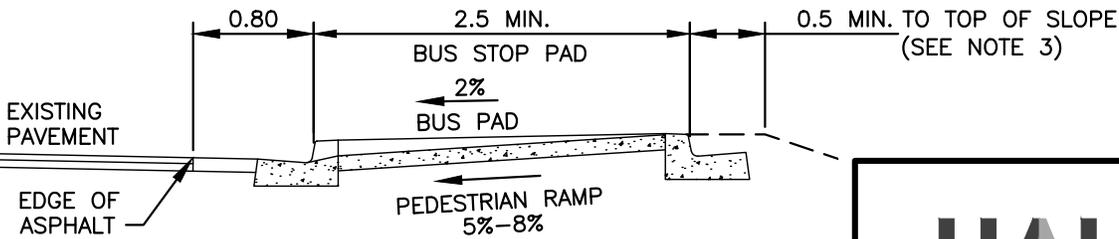
SCALE 1:250

10.00 * NOTE 1



BUS STOP PAD

SCALE 1:100



CROSS SECTION

SCALE 1:50

NOTES:

- * 1. FOR LOW VOLUME BUS ROUTES
-DECREASE PAD LENGTH TO 7.0m.
- 2. SHELTER PAD SHALL BE 4.0m LONG BY 2.0m WIDE. (IF REQUIRED)
- 3. BACK SIDE CURB MAY BE REMOVED IN AREAS WITH DITCHES.

HALIFAX

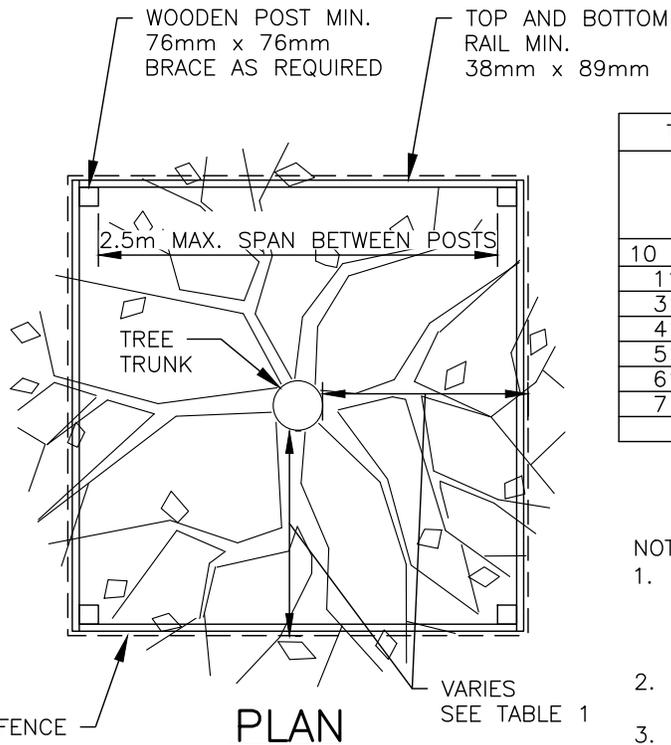
STANDARD DETAIL

CONCRETE BUS STOP LANDING PAD (WITHOUT CURB)

DATE: 2015
SCALE: AS NOTED

REFERENCE
NEW

APPROVED
FIG No.: HRM 139



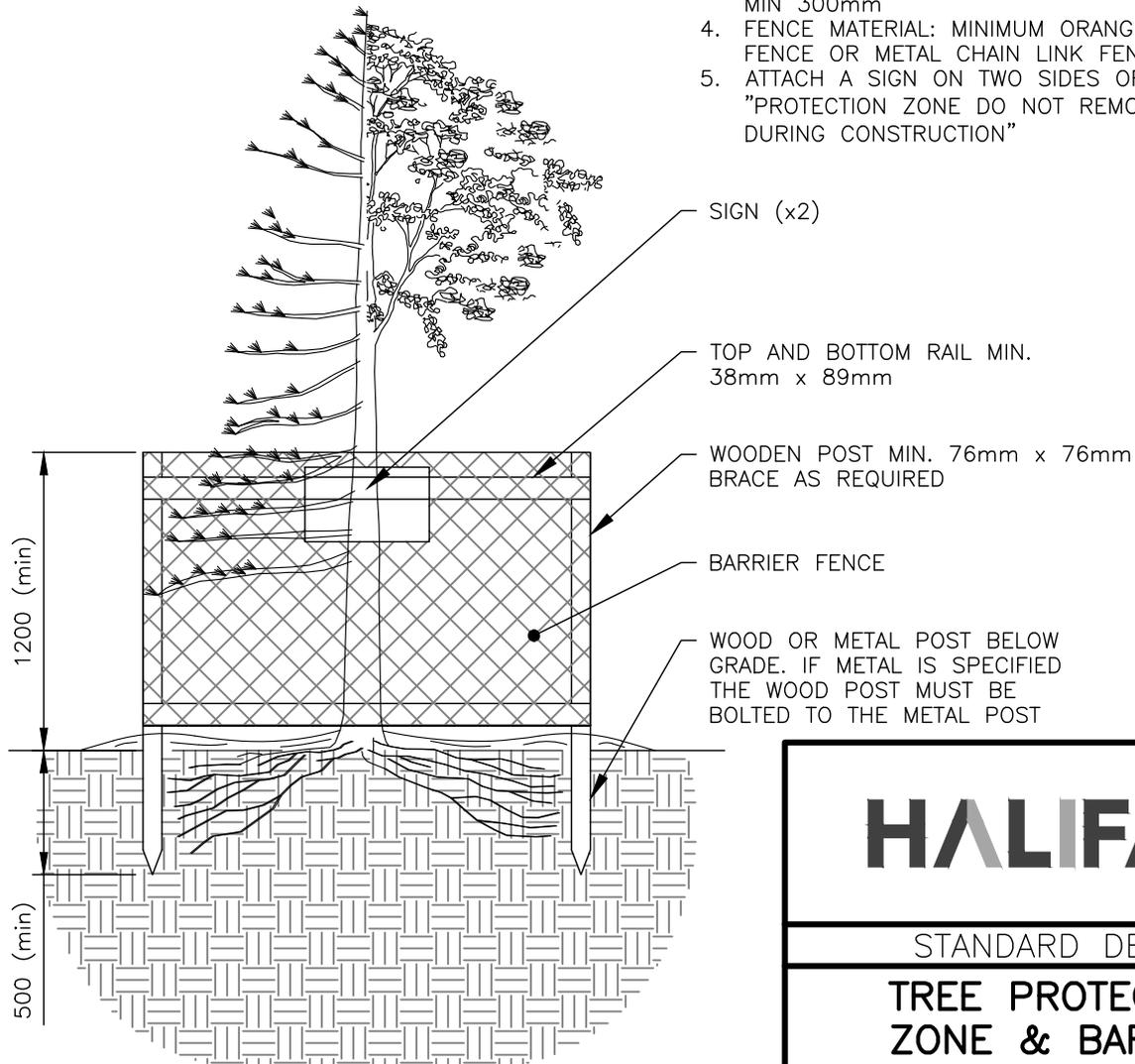
PLAN

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

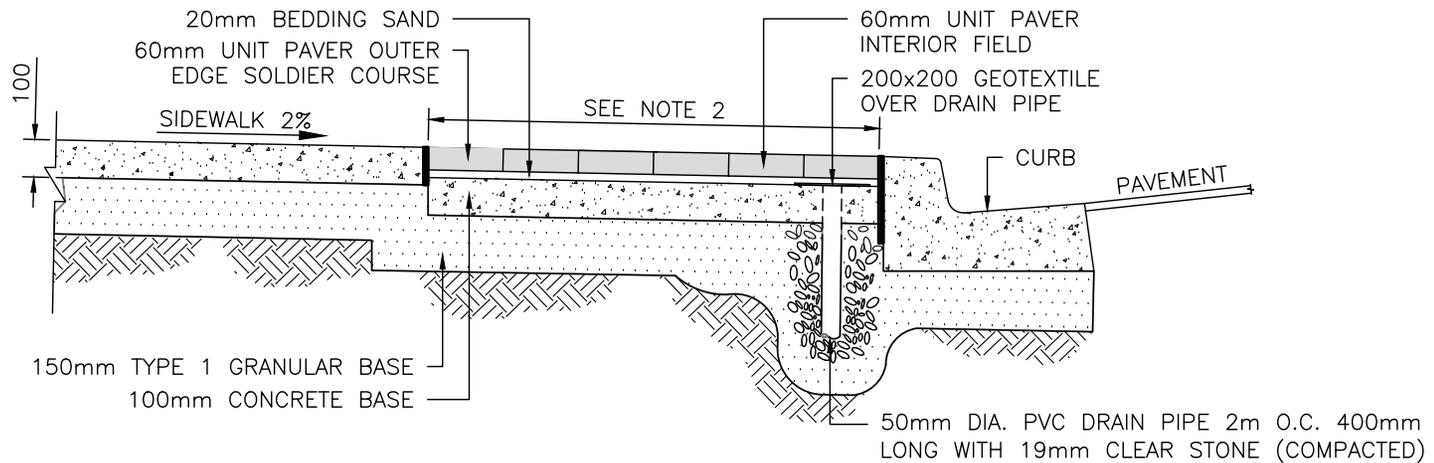
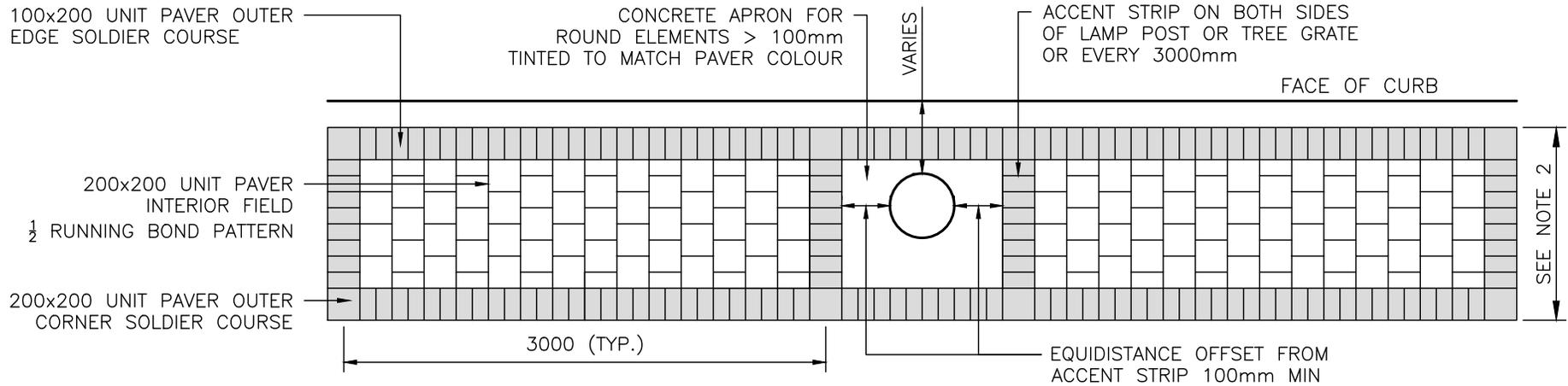
SCALE:

1:30

NEW

FIG No.:

HRM 140



NOTES:

1. INSTALL DECORATIVE PAVING EDGE IN LIEU OF GRASS BOULEVARD WHERE SHOWN ON MAP 301, OR AS DIRECTED BY ENGINEER
2. PAVER EDGE SHALL NOT REDUCE THE CLEAR SIDEWALK WIDTH TO LESS THAN 2.1m AND SHALL CONSIST OF AN EVEN MULTIPLE OF UNIT PAVERS TO A MAXIMUM OF 1.2m WIDE.
3. OMIT PAVER EDGE IF SIDEWALK IS LESS THAN 2.8m WIDE, UNLESS OTHERWISE DIRECTED BY ENGINEER
4. PAVER COLOUR DEFINED ON MAP 301 OR AS DIRECTED BY ENGINEER.
5. TERMINATE UNIT PAVER EDGE TREATMENT AT START OF CORNER RADIUS AND BEFORE DRIVEWAY RAMP
6. ALL PAVERS TO BE PRECAST CONCRETE 60mm THICK.
7. SET PAVERS 2-3mm ABOVE SURROUNDING

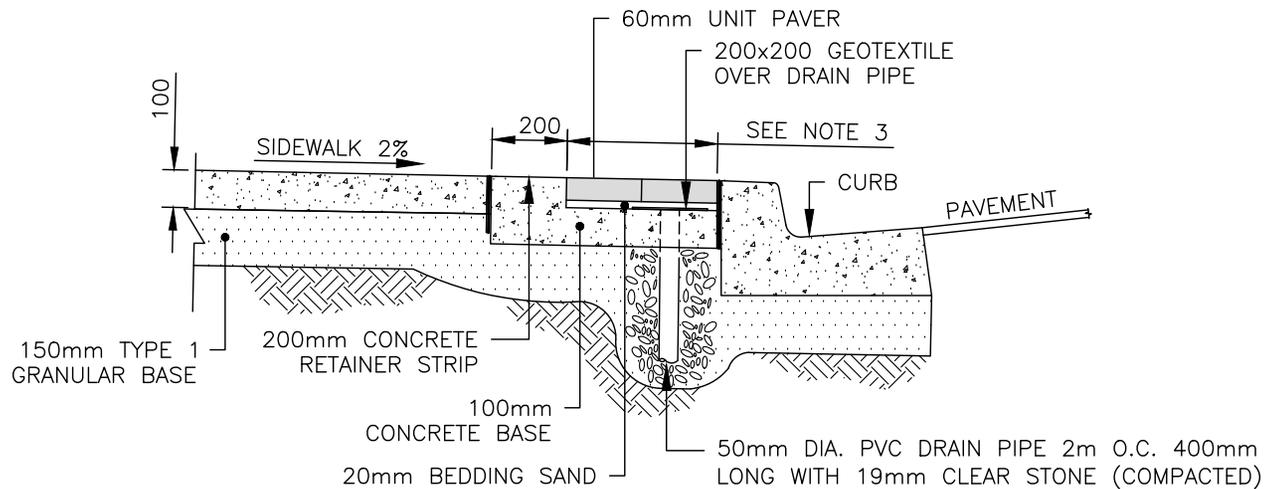
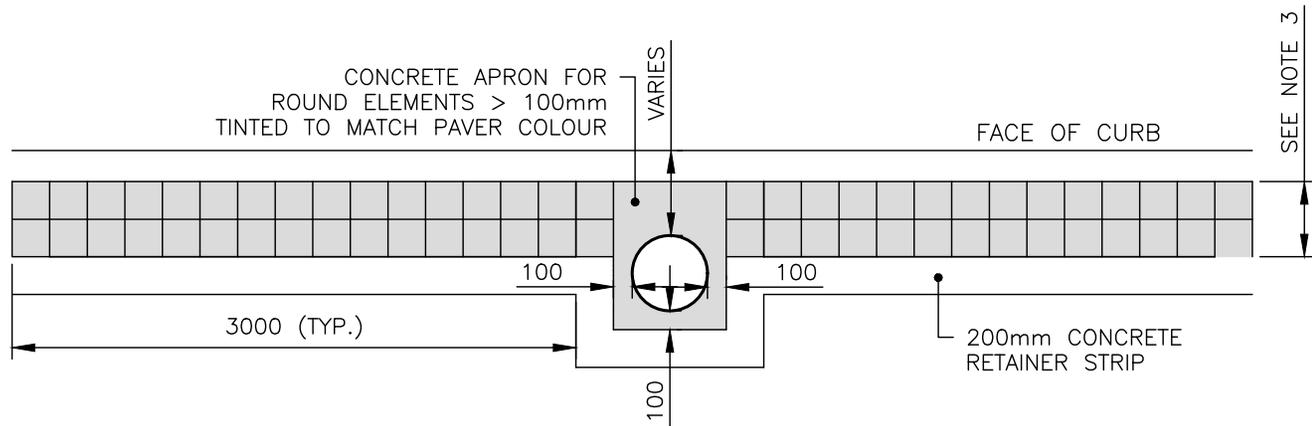
8. STREET FURNITURE LOCATIONS MUST BE APPROVED BY ENGINEER (E.G. BICYCLE RACKS, BENCHES, WASTE RECEPTACLES, ETC.), AND BOLTED TO CONCRETE BELOW PAVERS.
9. FILL VOID BETWEEN PAVERS WITH POLYMERIC SAND.
10. CONCRETE APRON REQUIRED FOR ROUND ELEMENTS >100mm DIAMETER (E.G. UTILITY POLES, LIGHT POLES, MANHOLE COVERS, VALVE COVERS, ETC) TINTED TO MATCH INTERIOR FIELD PAVER COLOUR
11. FOR ROUND ELEMENTS < 100MM DIAMETER OMIT CONCRETE APRON.

HALIFAX

STANDARD DETAIL

DECORATIVE PAVING EDGE

DATE: MAY 2020	REFERENCE	APPROVED
SCALE: NTS	NEW	FIG No.: HRM 141



NOTES:

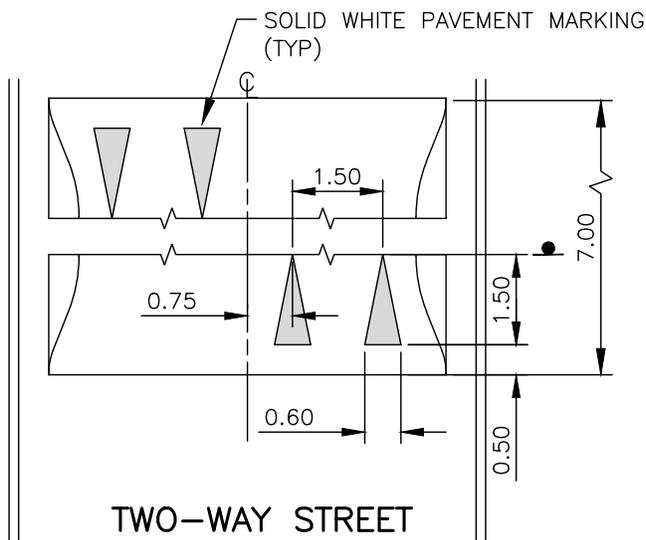
1. INSTALL DECORATIVE PAVING EDGE IN LIEU OF GRASS BOULEVARD WHERE SHOWN ON MAP 301, OR WHEN DIRECTED BY ENGINEER
2. OMIT PAVER EDGE IF CLEAR WIDTH OF REMAINING SIDEWALK IS LESS THAN 2.1m, UNLESS OTHERWISE DIRECTED BY ENGINEER
3. PAVER EDGE SHALL CONSIST OF 2 COMPLETE ROWS OF BRICKS IN A STACK BOND PATTERN. NO CUT PAVERS.
4. PAVER COLOUR DEFINED ON MAP 301 OR AS DIRECTED BY ENGINEER
5. TERMINATE UNIT PAVER EDGE TREATMENT AT START OF CORNER RADIUS AND BEFORE DRIVEWAY RAMP
6. ALL PAVERS TO BE PRECAST CONCRETE 60mm THICK
7. SET PAVERS 2-3mm ABOVE SURROUNDING CONCRETE SURFACES TO ACCOMMODATE FUTURE SETTLEMENT
8. STREET FURNITURE LOCATIONS MUST BE APPROVED BY ENGINEER (E.G. BICYCLE RACKS, BENCHES, WASTE RECEPTACLES, ETC.), AND BOLTED TO CONCRETE RETAINER STRIP OR TO CONCRETE BELOW PAVERS
9. FILL VOID BETWEEN PAVERS WITH POLYMERIC SAND
10. CONCRETE APRON REQUIRED FOR ROUND ELEMENTS >100mm DIAMETER (E.G. UTILITY POLES, LIGHT POLES, MANHOLE COVERS, VALVE COVERS, ETC) TINTED TO MATCH INTERIOR FIELD PAVER COLOUR
11. OFFSET CONCRETE APRON MINIMUM 100mm
12. FOR ROUND ELEMENTS < 100MM DIAMETER OMIT CONCRETE APRON

HALIFAX

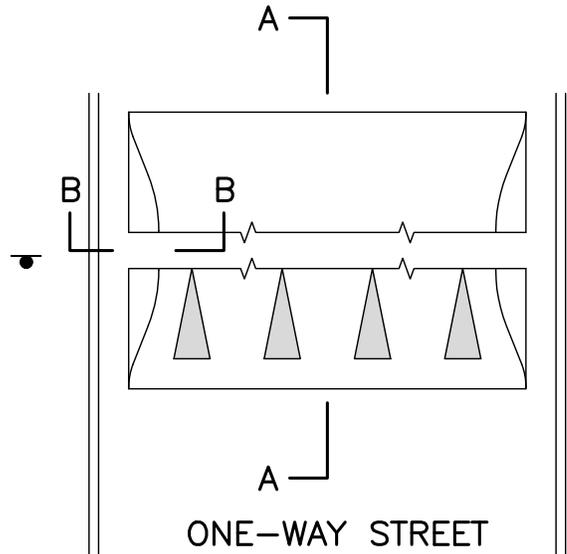
STANDARD DETAIL

NARROW DECORATIVE
PAVING EDGE

DATE: MAY 2020	REFERENCE	APPROVED
SCALE: NTS	NEW	FIG No.: HRM 142



TWO-WAY STREET



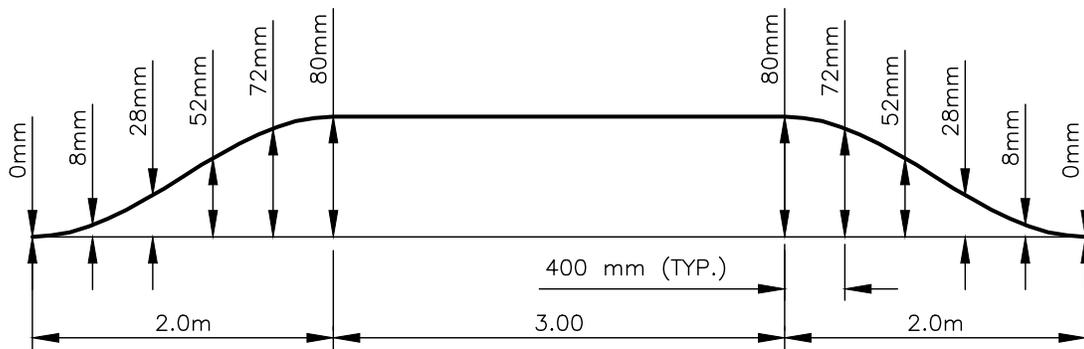
ONE-WAY STREET

SPEED TABLE

SCALE: 1:125

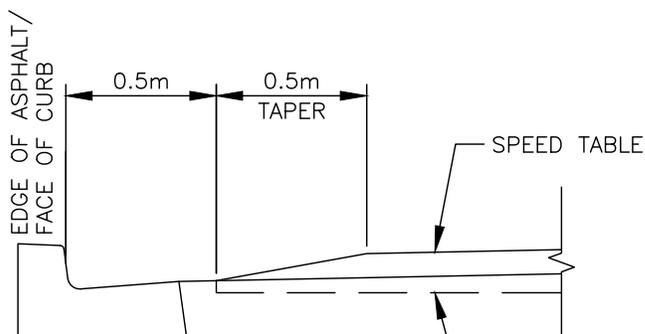
NOTES:

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

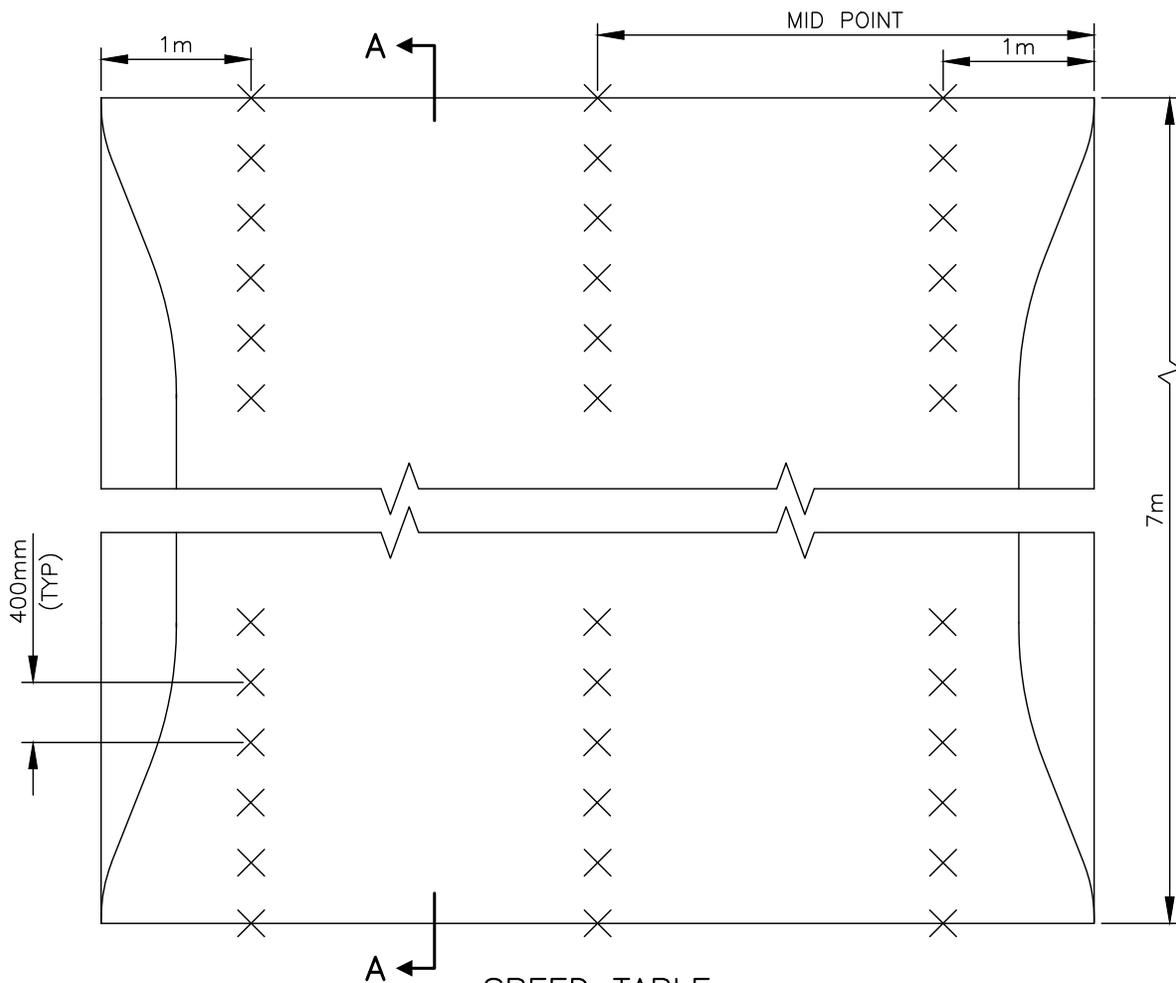
REFERENCE

APPROVED

SCALE: AS NOTED

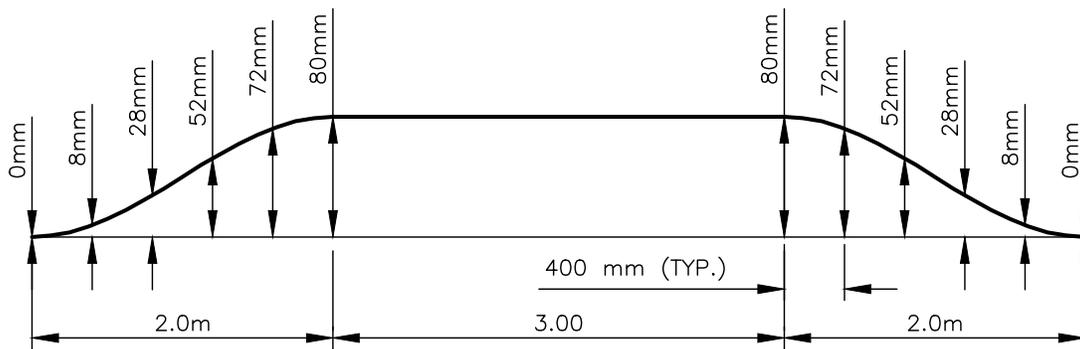
NEW

FIG No.: HRM 143



SPEED TABLE

SCALE: 1:50



SECTION A-A

SCALE: Horz. 1:50
Vert. 1:5

NOTES:

- 36 SURVEY SHOTS REQUIRED

HALIFAX

STANDARD DETAIL

**SPEED TABLE
SURVEY VERIFICATION**

DATE: OCTOBER 2020

REFERENCE

APPROVED

SCALE: AS NOTED

NEW

FIG No.:

HRM 144

SQUARE D ENCLOSED BREAKER AND ACCESSORIES OR EQUIVALENT HDL26040 2 POLE BREAKER C/W NEMA STYLE OPERATING MECHANISM 9421LS8 SHAFT AND 9421LJ7 MECHANISM

40A 240V
SN100FA
FA 100 RB
B125
PKOGTA2

100A NEUTRAL KIT
EEMAC 3R ENCLOSURE
32mm HUB
GROUND LUGS

BULLET HUB THOMAS AND BETTS 373

HOLE TO BE ALIGNED WITH HOLE IN DISCONNECT

ENCLOSED BREAKER

GROUND LUG

15Amp BREAKER (BUS SHELTER)

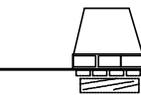
#12 TERMINALS
TERMINAL BLOCKS
-8WA10111DH
END STOPS
-8WA1808

END STOPS

SPACER

PHOTO CELL
LB 201

32 mm TERMINAL
ADAPTER PVC



CONTACTOR

FURNAS 42CF25AF (LITECO)
CONTACTOR-2 POLE 40A

RELAY ENCLOSURE NEMA 4X RATED- SHALL BE PART No.SM141007 C/W POLICE TYPE LOCK, AS SUPPLIED BY APX ENCLOSURES, OR EQUIVALENT.

MOUNTING RAIL

6Amp BREAKER USED FOR PHOTO CELL BYPASS BREAKER-5SY61088 (LITECO)

ONCE BUILT, RELAYS CAN BE APPROVED BY CALLING QPS FIELD EVALUATION SERVICES

(902) 860-1619

(902) 452-5942

OR

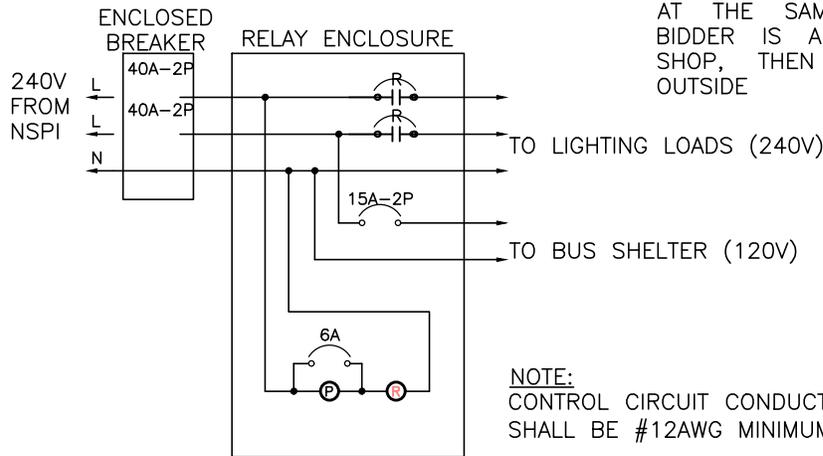
CSA INTERNATIONAL

(506) 388-3600

(506) 856-0058

ALL RELAYS SHOULD BE TESTED AT THE SAME TIME. IF LOW BIDDER IS A CERTIFIED PANEL SHOP, THEN APPROVAL FROM OUTSIDE

DETAIL-A



NOTE:
CONTROL CIRCUIT CONDUCTORS
SHALL BE #12AWG MINIMUM

SERVICE SCHEMATIC

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

SERVICE CONTACTOR AND SCHEMATIC

DATE:
APRIL 2020

REFERENCE

APPROVED

SCALE:

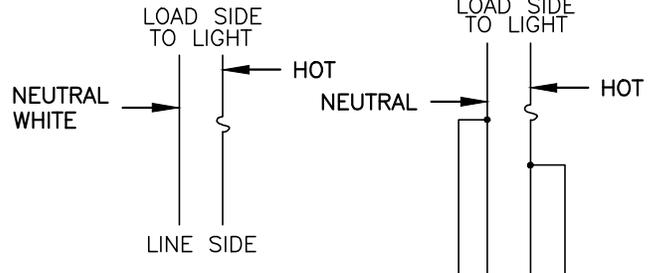
NTS

NEW

FIG No.:

HRM 146

WIRE #12/2 NMWU
AWG 600mm IN
LENGTH PAST END OF
POLE, TAPED TO TOP
OF POLE SO AS NOT
TO COME LOOSE AND
FALL BACK DOWN.



THIS DIAGRAM TO BE USED
IF CIRCUIT CONTINUES TO
ANOTHER POLE

T&B AMERACE CAT#65U BREAK-AWAY FUSE
KIT USE 5Amp TIME DELAY BUSS FUSE

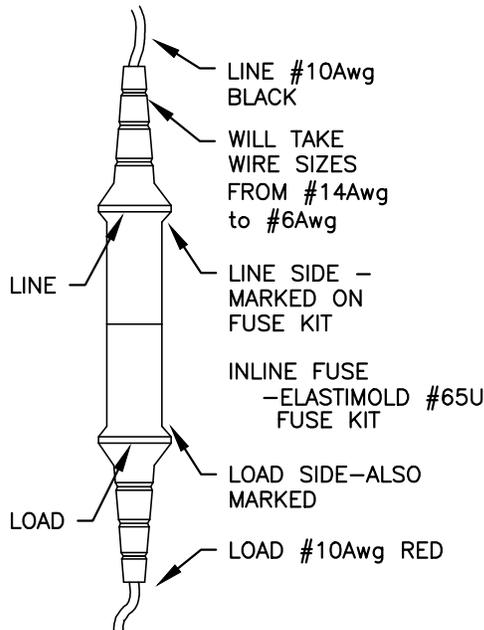
FUSE KIT ON LINE SIDE
PIGTAIL TO FUSE IF CIRCUIT
CONTINUES

NEUTRALS SHALL BE
JOINED USING MARRETTS
OR ILSCO PBTS4-4 AND
COVER WITH VINYL TAPE

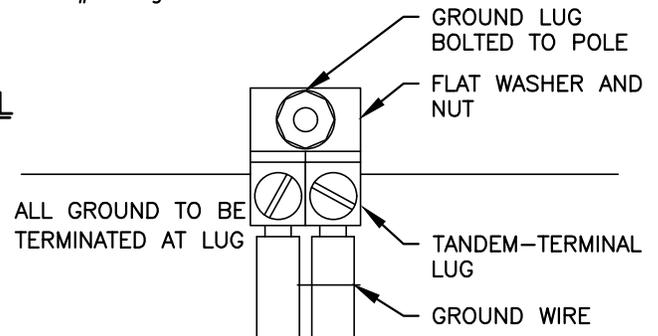
GROUND WIRE SHALL BE
TIGHTENED IN TERMINAL
LUG WHICH IN TURN IS
FASTENED TO GROUND BAR
IN POLE. SEE GROUND
CONNECTION DETAIL ON
THIS DRAWING

WIRES COMING DOWN POLE
AND UP FROM CONDUIT
SHOULD BE 1m IN LENGTH
WHEN PULLED THROUGH
ACCESS HOLE

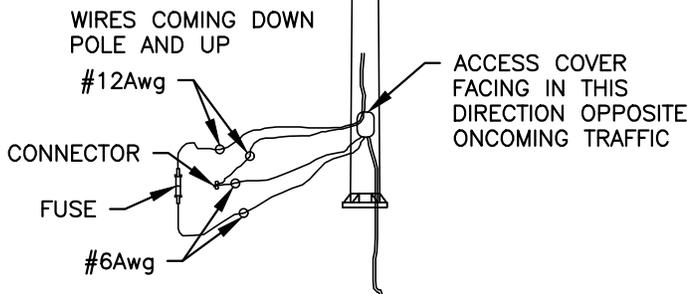
PIGTAILS SHALL BE MADE WITH
SPLIT BOLTS, COVERED WITH
RUBBER COMPOUND TAPE (3m
130C) & VINYL TAPE (3m 88)
OR EQUIVALENT



FUSE DETAIL



GROUND CONNECTION DETAIL



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

**POLE ELECTRICAL
DETAILS**

DATE:
APRIL 2020

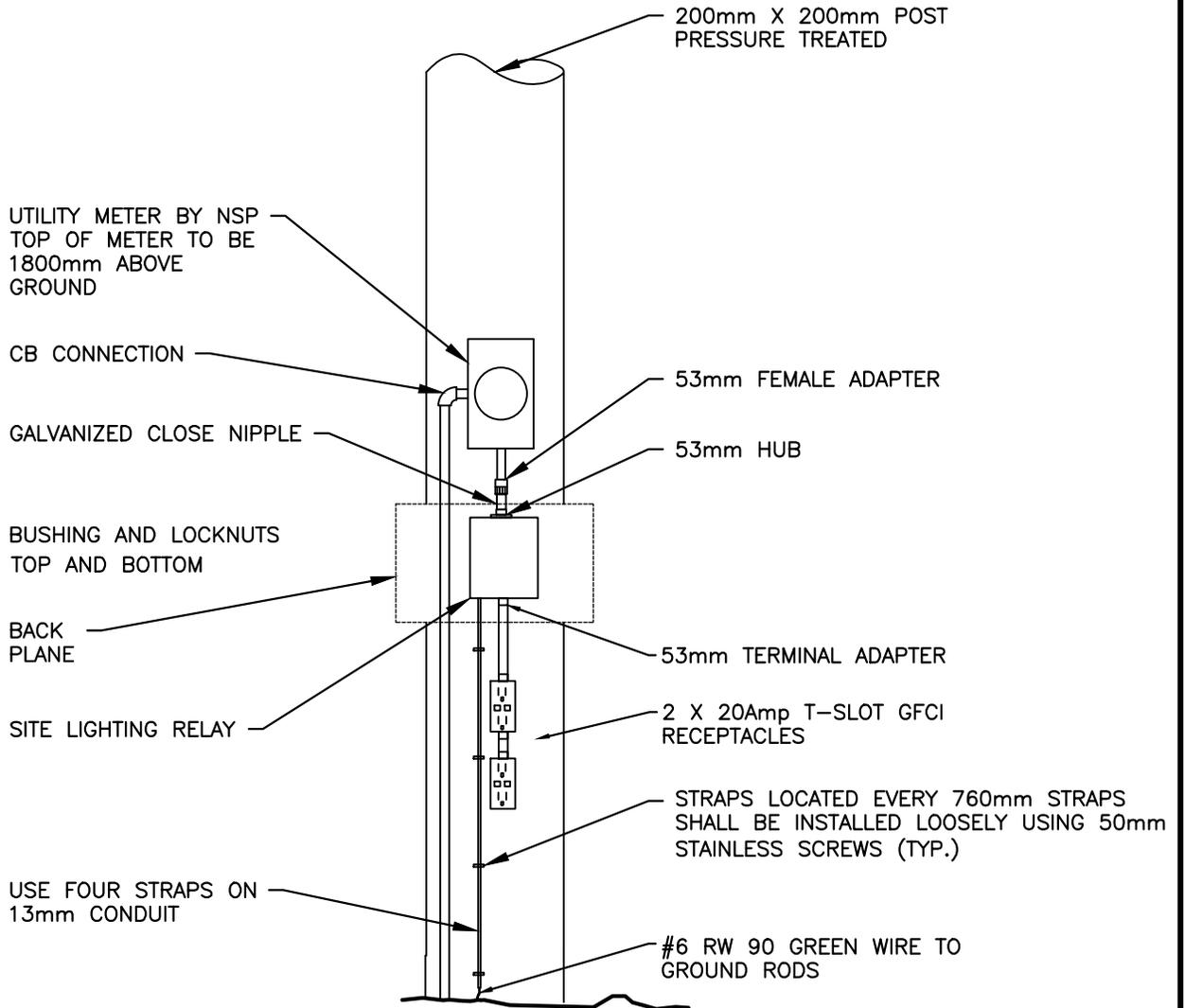
REFERENCE

APPROVED

SCALE:
NTS

NEW

FIG No.:
HRM 147



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

**120 240 VOLT STUB POLE
SERVICE WITH GFCI's**

DATE:
APRIL 2020

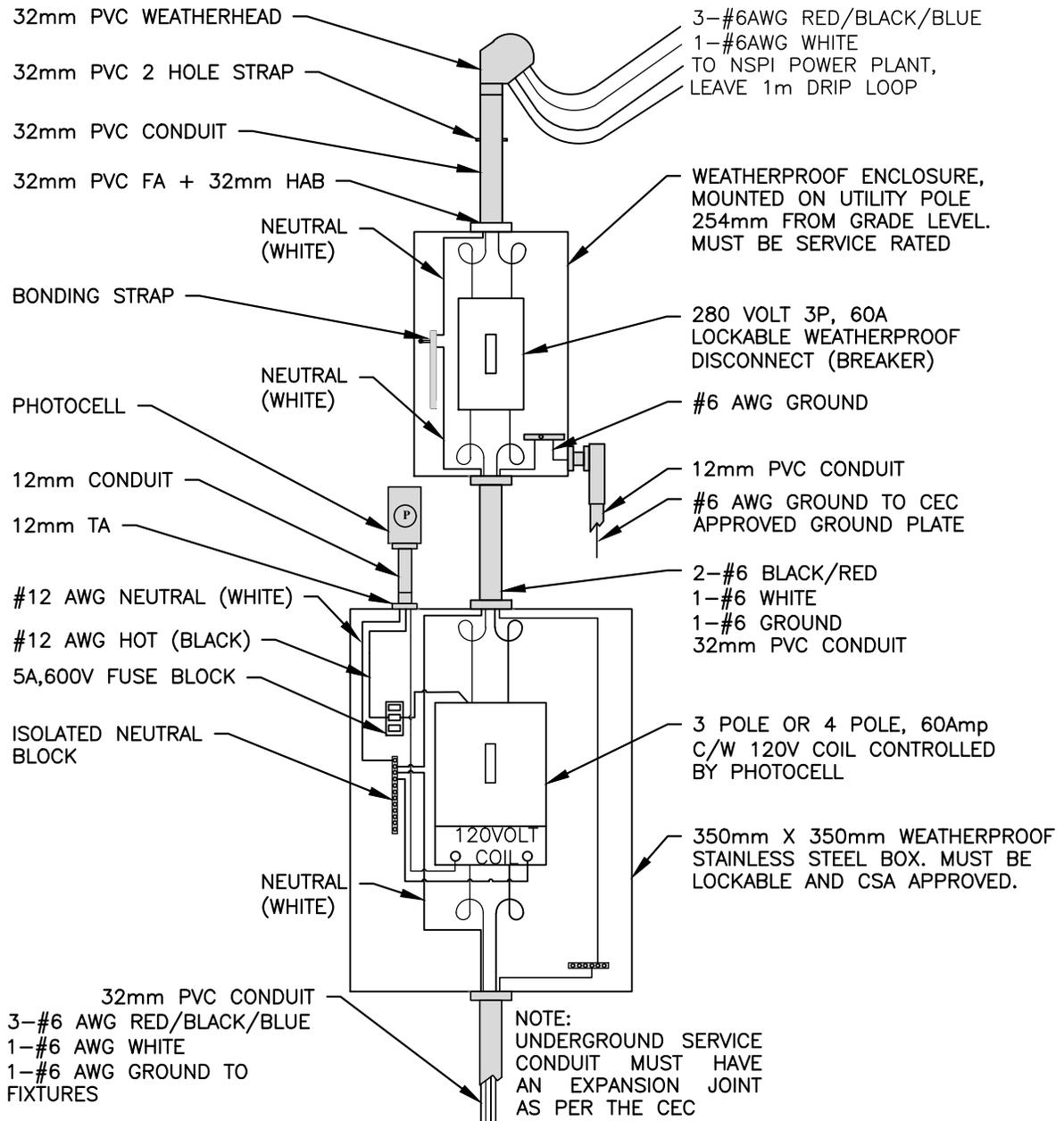
REFERENCE

APPROVED

SCALE:
NTS

NEW

FIG No.:
HRM 148



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.
6. ALL POLES FED OFF THIS SERVICE MUST HAVE A SHORTING CAP INSTALLED OR MUST BE CONNECTED DIRECTLY.

HALIFAX

STANDARD DETAIL

**208 VOLT 3 PHASE U/G
SERVICE OVER 15Amps**

DATE:
APRIL 2020

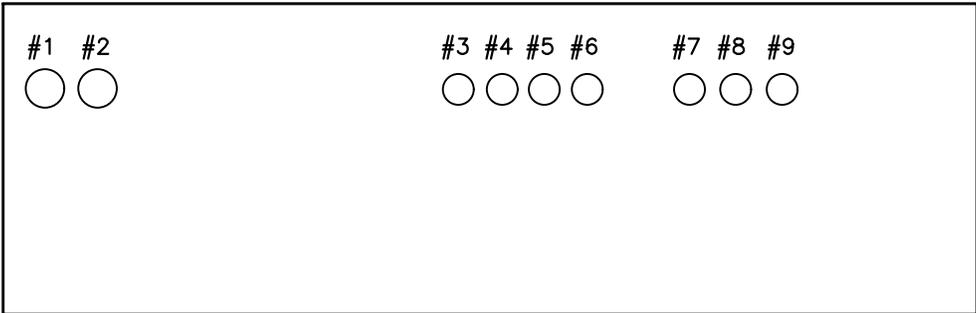
REFERENCE

APPROVED

SCALE:
NTS

REV

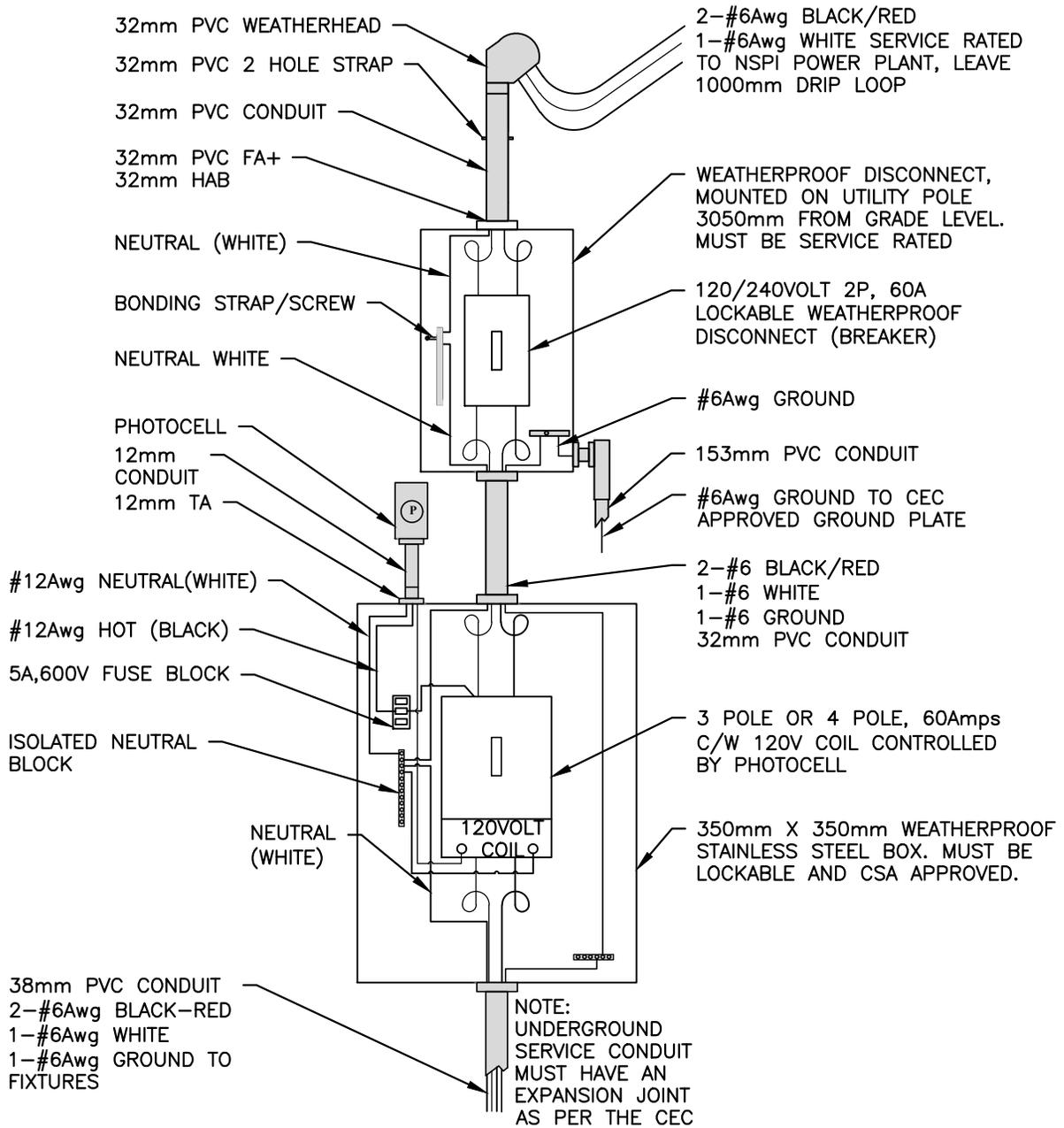
FIG No.:
HRM 149



CONDUIT LAYOUT DESCRIPTION:

- #1 - NSP SERVICE (50mm PVC)
- #2 - SPARE STUBBED UNDERGROUND (50mm PVC)
- #3 - BASE #1 (32mm PVC)
- #4 - BASE #2 (32mm PVC)
- #5 - TRAFFIC CONTROLLER (32mm PVC)
- #6 - PARK LIGHTING POLE #4 (32mm PVC)
- #7 - SPARE STUBBED UNDERGROUND (32mm PVC)
- #8 - SPARE STUBBED UNDERGROUND (32mm PVC)
- #9 - SPARE STUBBED UNDERGROUND (32mm PVC)

HALIFAX		
STANDARD DETAIL		
POWER ENCLOSURE CONCRETE PAD TOP VIEW		
DATE: APRIL 2020	REFERENCE	APPROVED
SCALE: NTS	NEW	FIG No.: HRM 150



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.
6. ALL POLES FED OFF THIS SERVICE MUST HAVE A SHORTING CAP INSTALLED OR MUST BE CONNECTED DIRECTLY.
7. SERVICE MUST BE MOUNTED AT MINIMUM OF THREE METERS.

HALIFAX

STANDARD DETAIL

**120-240 VOLT SINGLE PHASE
U/G SERVICE OVER 15Amps**

DATE:
APRIL 2020

REFERENCE

APPROVED

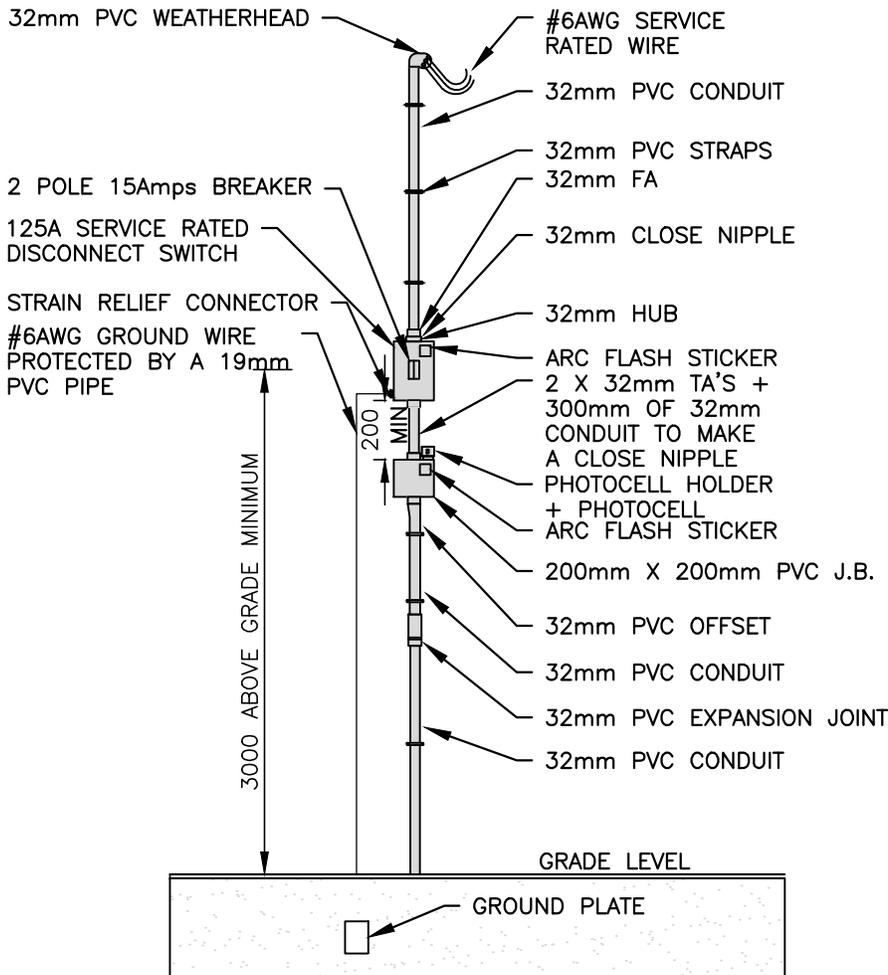
SCALE:

NTS

NEW

FIG No.:

HRM 151



MATERIAL TAKE OFF FOR SPECIFIC SERVICE

- 32mm PVC WEATHERHEAD.
- 3 X 9m RUNS OF #6AWG SERVICE RATED WIRE.
- 9m OF 32mm CONDUIT.
- 32mm FA.
- 32mm CLOSE NIPPLE.
- 32mm METAL HUB.
- 125Amps SERVICE RATED DISCONNECT SWITCH.
- DOUBLE POLE MAIN BREAKER.
- STRAIN RELIEF CONNECTOR.
- #6AWG GROUND WIRE.
- 2 X 32mm TA's.
- 200mm X 200mm PVC JB.
- PHOTOCCELL AND HOLDER.
- GROUND PLATE.
- 32mm PVC OFFSET.
- 32mm PVC EXPANSION JOINT.
- U-GUARD.
- 32mm, 19mm, 12mm PVC STRAPS.
- 3m OF 19mm PVC CONDUIT.
- ARC FLASH STICKERS.

NOTES:

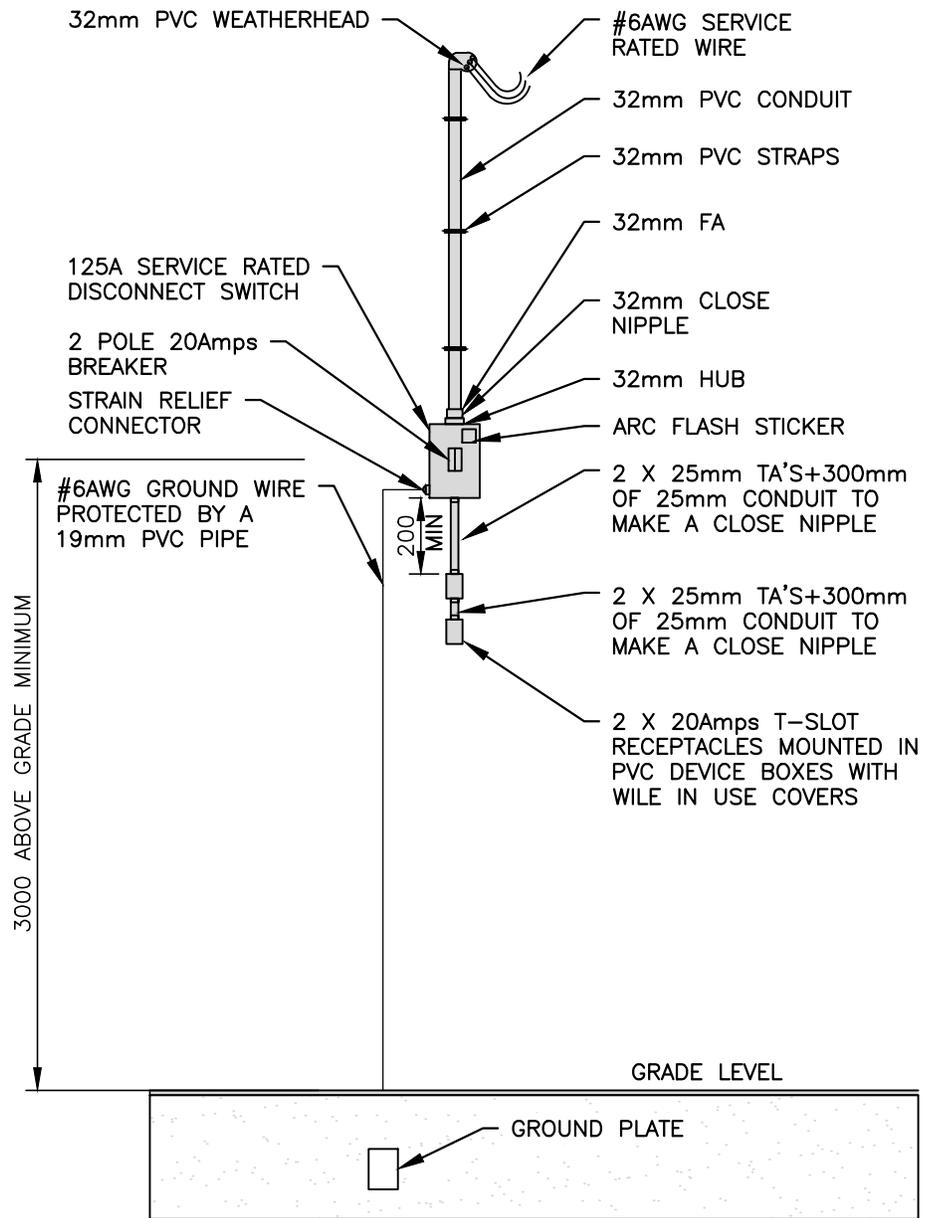
1. BREAKER MUST BE A DOUBLE POLE, NO SPARE SERVICE WIRES ARE ALLOWED.
2. DO NOT INSTALL PHOTOEYES IN POLES FED OFF OF THIS SERVICE.
3. ALL WORK MUST BE IN COMPLIANCE WITH THE LATEST EDITION OF THE CANADIAN ELECTRICAL CODE AND INSPECTED BY NSPI.
4. UNDERGROUND SERVICE CONDUIT AND GROUND MUST BE PROTECTED 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.
6. IF THERE IS MORE THAN ONE CIRCUIT OR IF THE CIRCUIT DRAWS MORE THAN 15Amps A CONTACTOR IS REQUIRED. REFER TO UNDERGROUND STANDARDS.
7. SERVICE MUST ALWAYS BE CONNECTED TO THE SECONDARIES NEVER THE CONTROL LINE.
8. MINIMUM WIRE SIZE IS #8AWG.

HALIFAX

STANDARD DETAIL

**120 VOLT UNDER 15Amps
UNDERGROUND SERVICE**

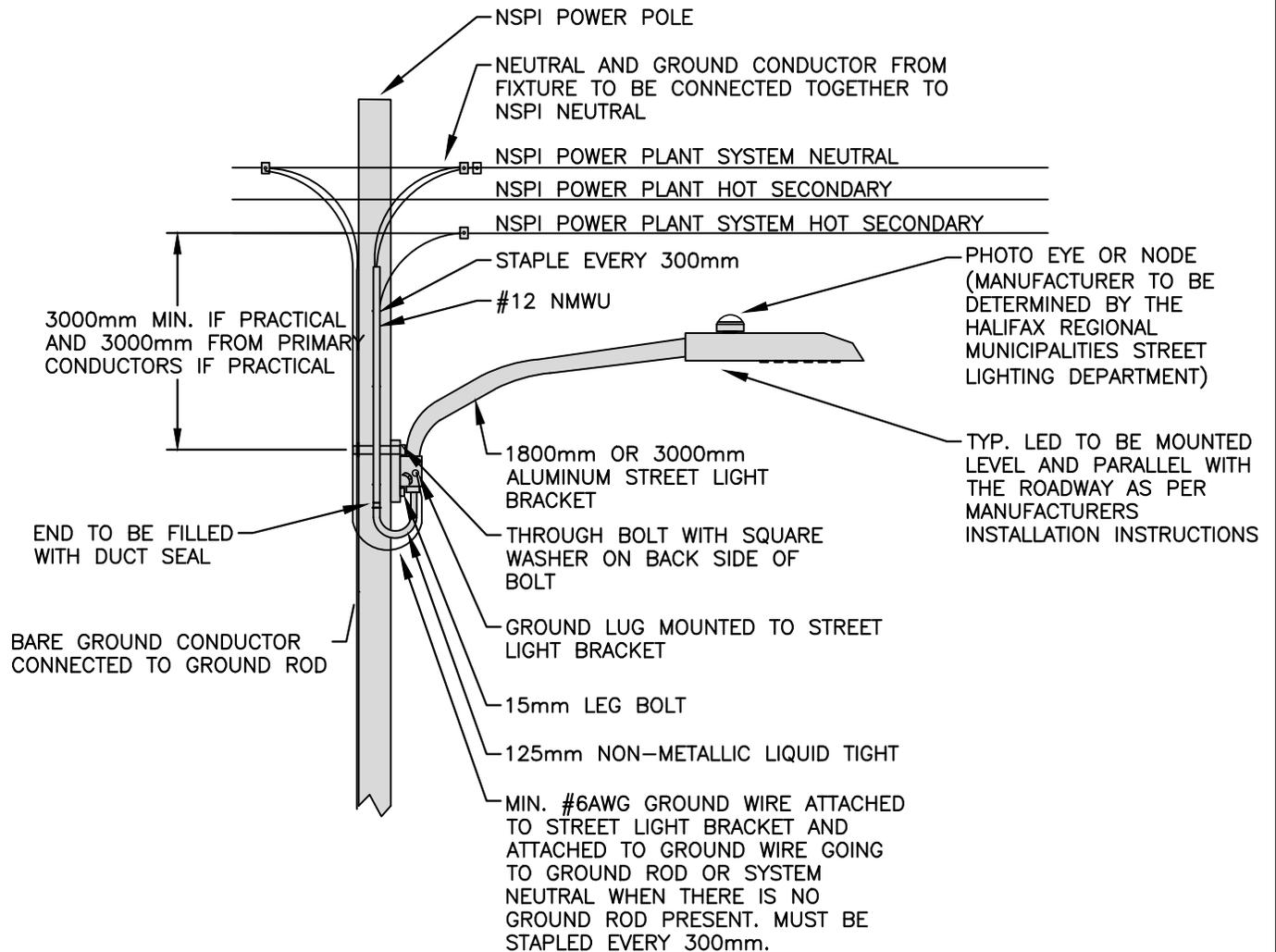
DATE: APRIL 2020	REFERENCE	APPROVED
SCALE: NTS	NEW	FIG No.: HRM 153



NOTES:

1. BREAKER MUST BE A DOUBLE POLE, NO SPARE SERVICE WIRES ARE ALLOWED.
2. DO NOT INSTALL PHOTOEYES IN POLES FED OFF OF THIS SERVICE.
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.
6. IF THERE IS MORE THAN ONE CIRCUIT OR IF THE CIRCUIT DRAWS MORE THAN 15Amps A CONTACTOR IS REQUIRED. REFER TO UNDERGROUND STANDARDS.
7. SERVICE MUST ALWAYS BE CONNECTED TO THE SECONDARIES NEVER THE CONTROL LINE.
8. MINIMUM WIRE SIZE IS #6AWG.

HALIFAX		
STANDARD DETAIL		
240 VOLT UNDER 20Amps SERVICE WITH GFCI		
DATE: APRIL 2020	REFERENCE	APPROVED
SCALE: NTS	NEW	FIG No.: HRM 155



NOTES:

1. ALL WORK MUST BE IN COMPLIANCE WITH THE LATEST EDITION OF THE CANADIAN ELECTRICAL CODE.
2. ANY WORK DONE IN OR AROUND PRIMARY CONDUCTORS MUST BE PERFORMED BY A QUALIFIED PERSON AS PER HRM AND NSPI.
3. ANY FIXTURE BEING REPAIRED OR REPLACED MUST BE CONNECTED TO THE LINE IT IS TAKEN FROM.
4. ALL CONNECTIONS TO POWER NSPI POWER PLANT ARE TO BE MADE WITH TYCO KZ EP 4/0 PIERCING CONNECTORS.

HALIFAX

STANDARD DETAIL

**TYPICAL COBRAHEAD-LED
ON A DAVIT ARM**

DATE:
APRIL 2020

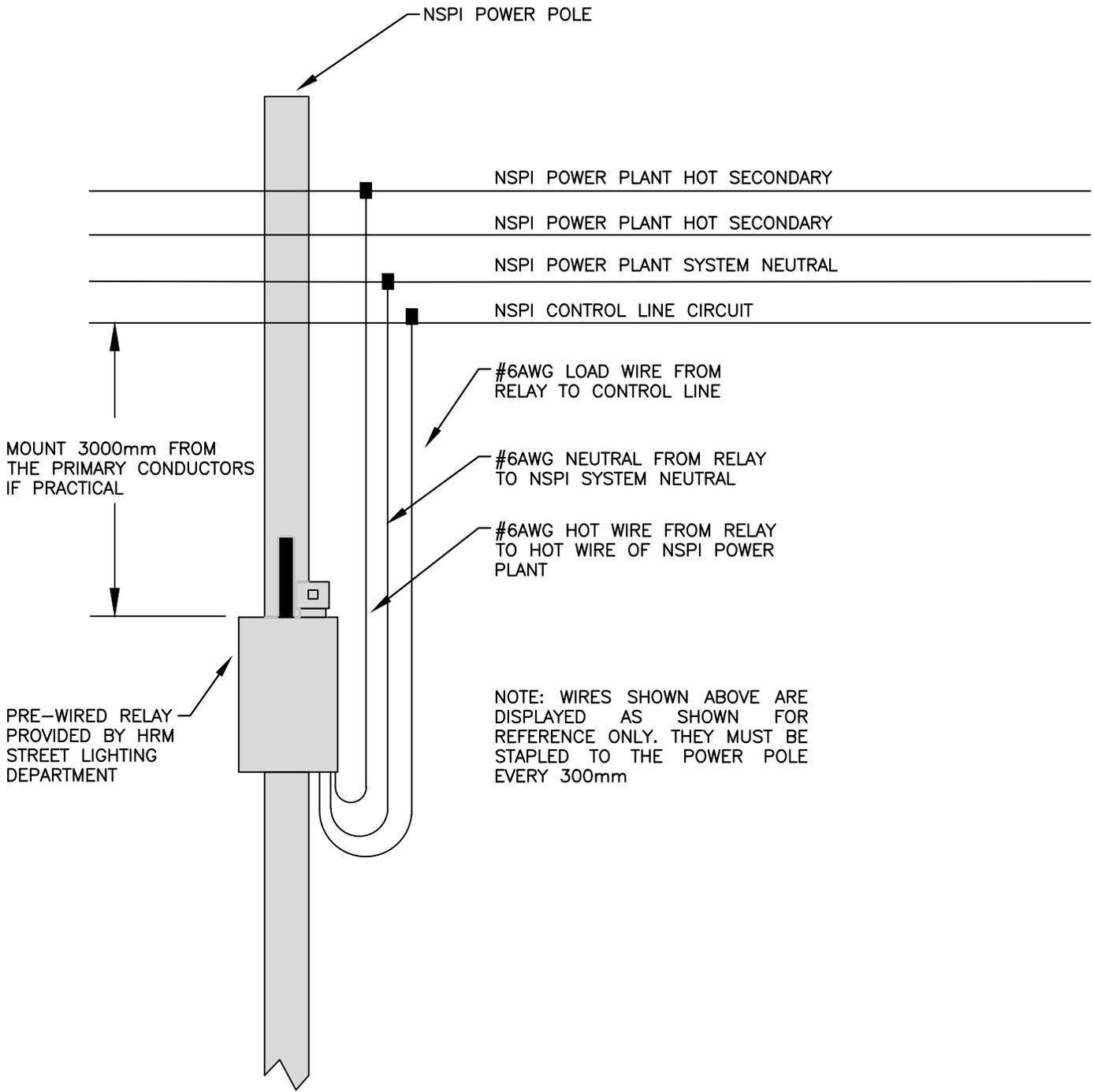
REFERENCE

APPROVED

SCALE:
NTS

NEW

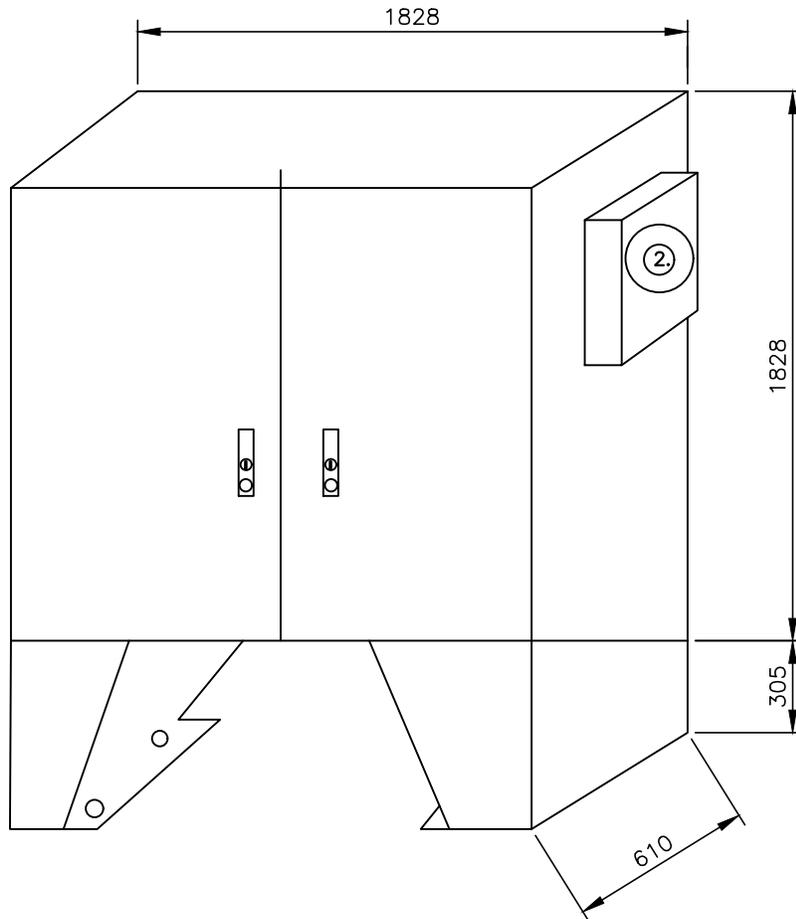
FIG No.:
HRM 157



NOTES:

1. ALL WORK MUST BE IN COMPLIANCE WITH THE LATEST EDITION OF THE CANADIAN ELECTRICAL CODE.
2. ANY WORK DONE IN OR AROUND PRIMARY CONDUCTORS MUST BE PERFORMED BY A QUALIFIED PERSON AS PER HRM AND NSPI.
3. WHEN MOUNTING THE RELAY POSITION THE PHOTOEYE AWAY FROM THE NEAREST LIGHT FIXTURE.
4. ALL CONNECTIONS TO POWER NSPI POWER PLANT ARE TO BE MADE WITH TYCO KZ EP 4/0 PIERCING CONNECTORS.

HALIFAX		
STANDARD DETAIL		
TYPICAL RELAY INSTALLATION		
DATE: APRIL 2020	REFERENCE	APPROVED
SCALE: NTS	NEW	FIG No.: HRM 158



NOTES:

1. REFER TO HRM 171 FOR DESCRIPTIONS AND RULINGS.

HALIFAX

STANDARD DETAIL

**STREET LIGHT POWER
ENCLOSURE CABINET DETAIL**

DATE:
APRIL 2020

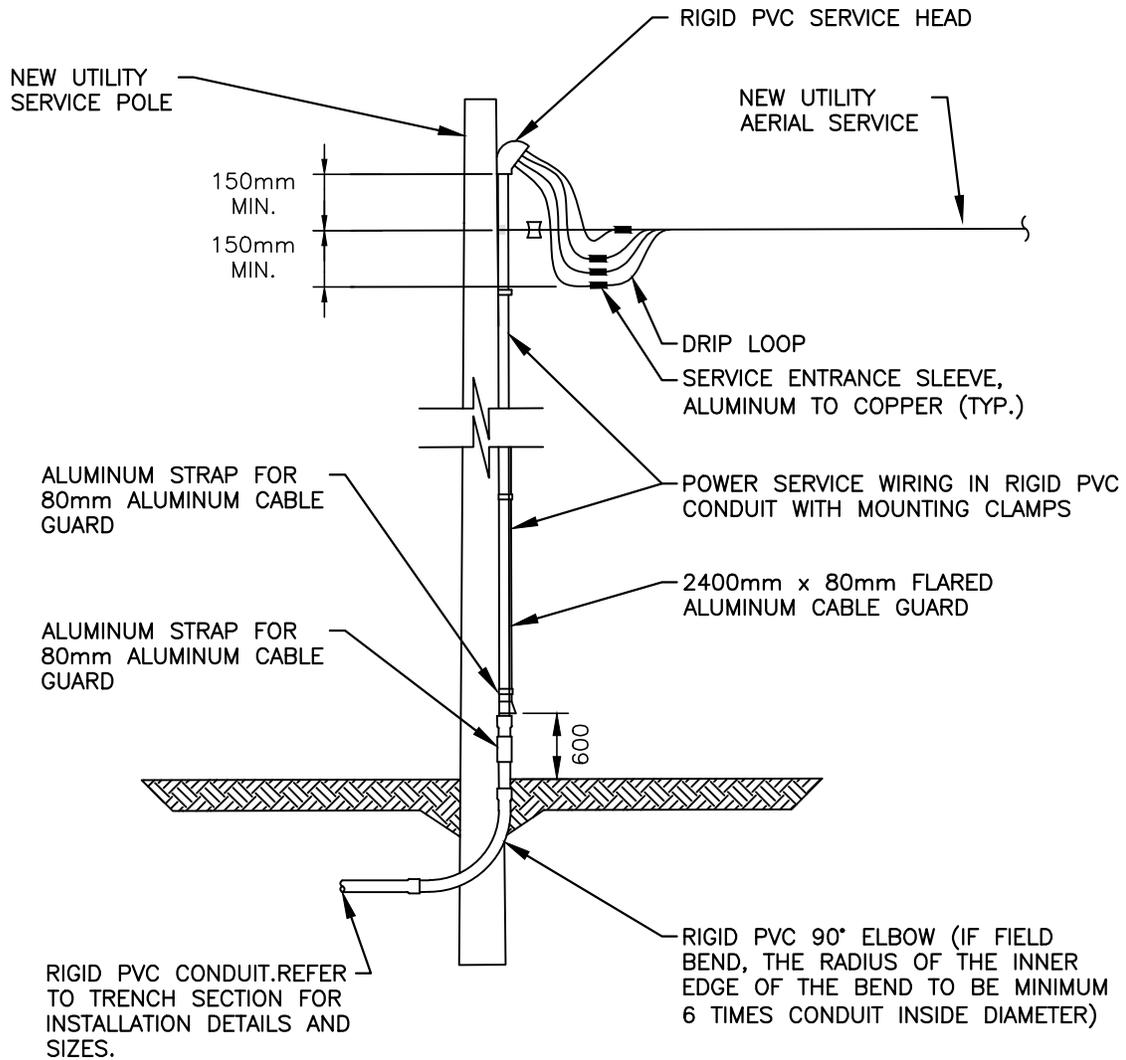
REFERENCE

APPROVED

SCALE:
NTS

NEW

FIG No.:
HRM 159



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

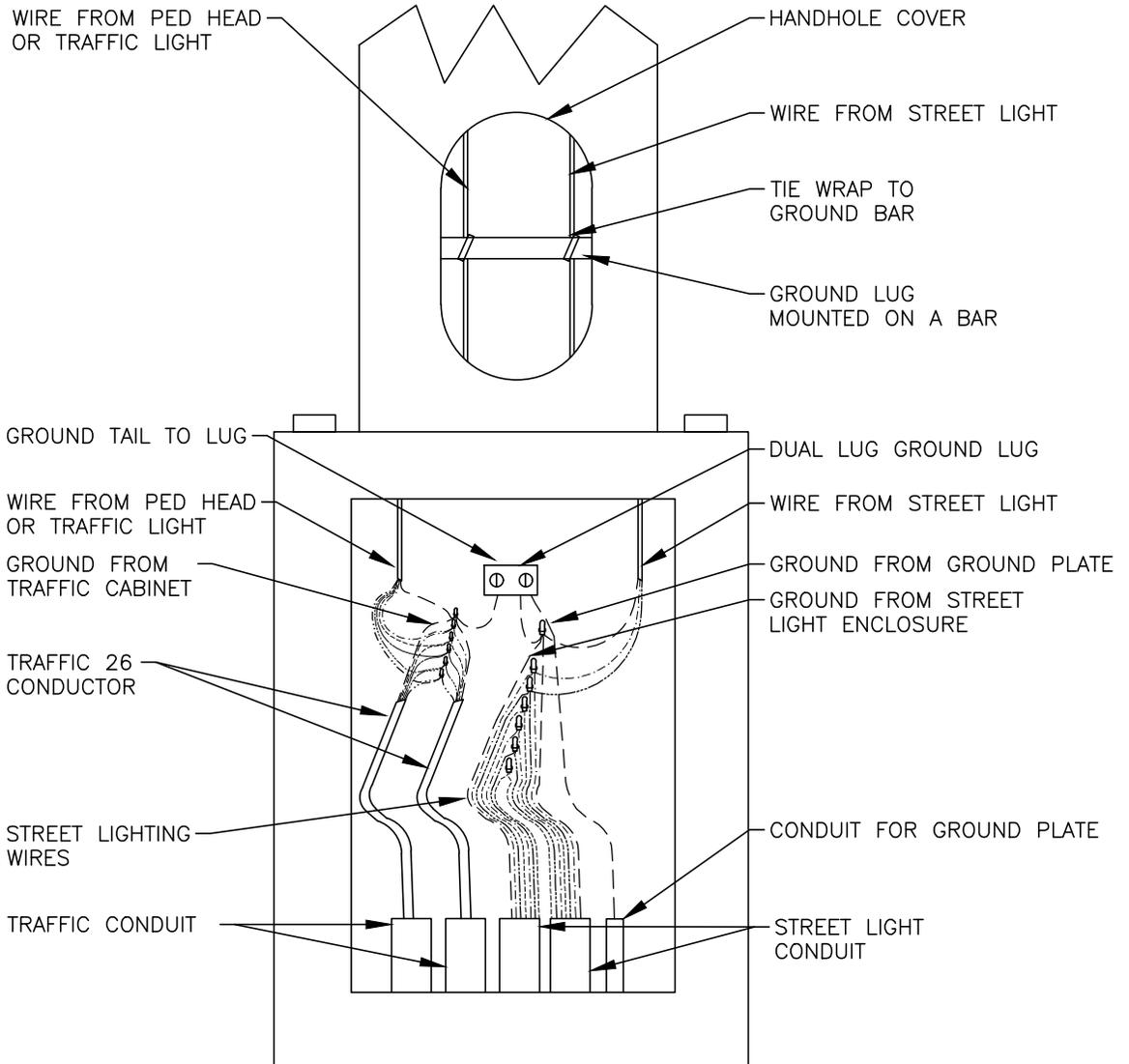
SCALE:
NTS

NEW

FIG No.:
HRM 160

LEGEND

- GREEN
- RED
- BLACK
- BLUE
- YELLOW
- ORANGE
- PINK



HALIFAX

STANDARD DETAIL

**TRANSFORMER BASE
GROUNDING—MODEL**

DATE: MAY 2020

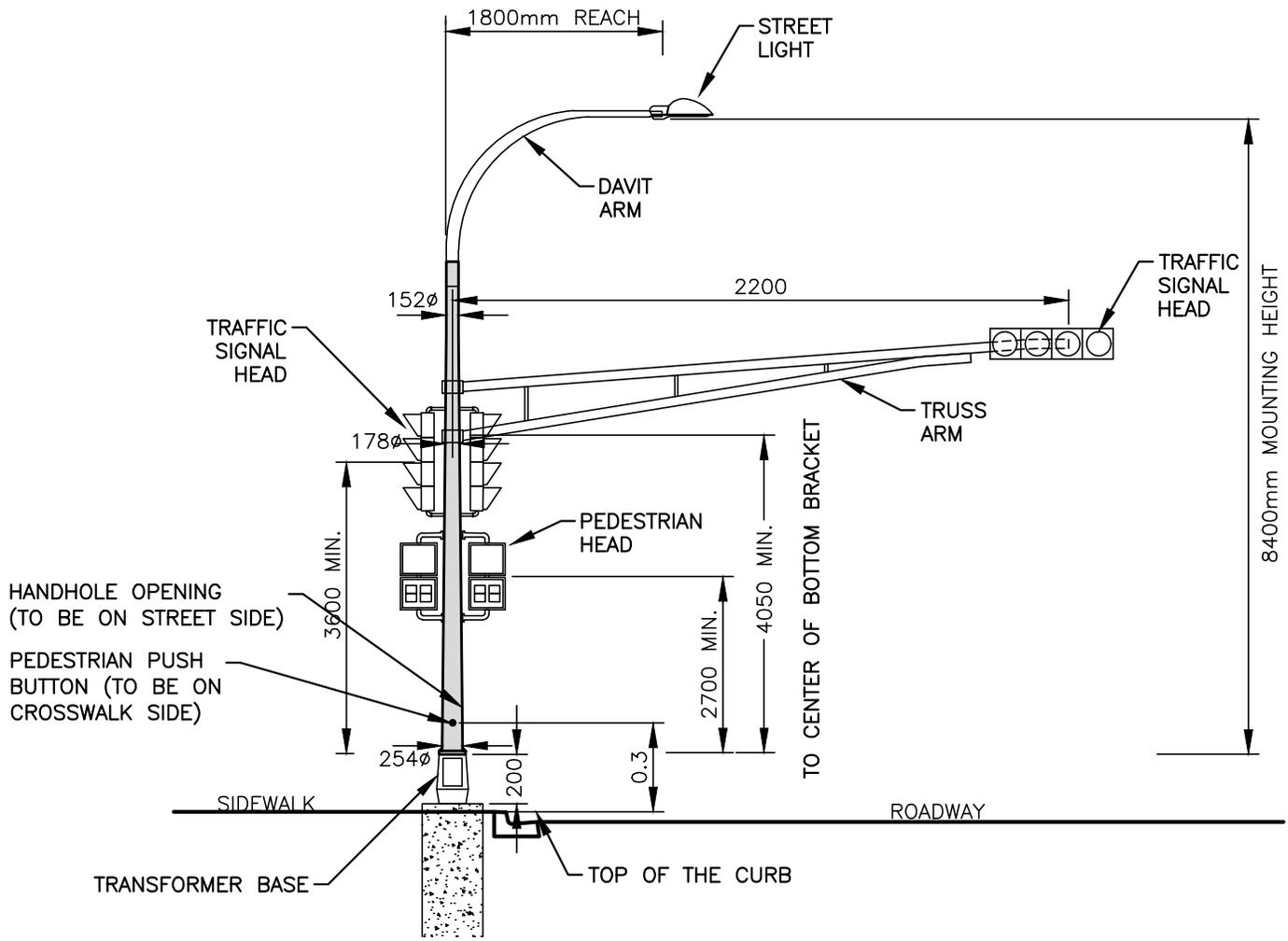
REFERENCE

APPROVED

SCALE: NTS

NEW

FIG No.: HRM 161



HALIFAX

STANDARD DETAIL

TRAFFIC SIGNAL STREETLIGHT COMBINATION POLE

DATE:
APRIL 2020

REFERENCE

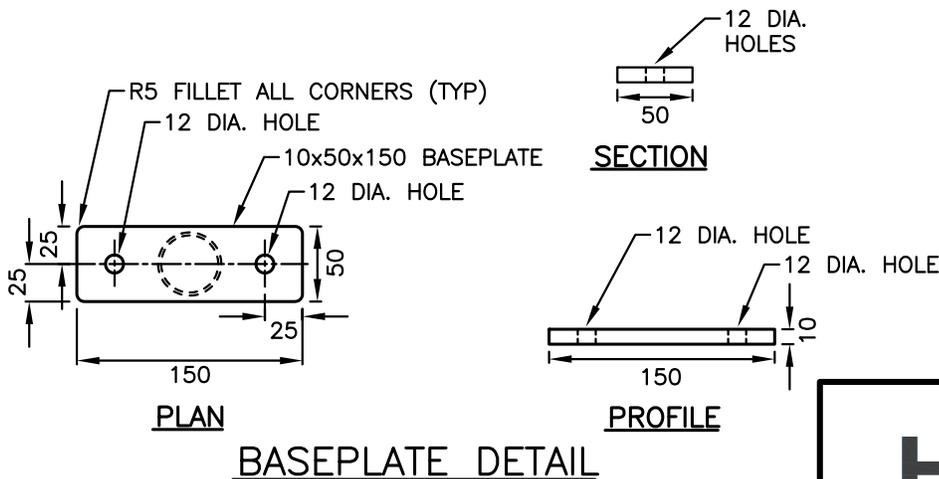
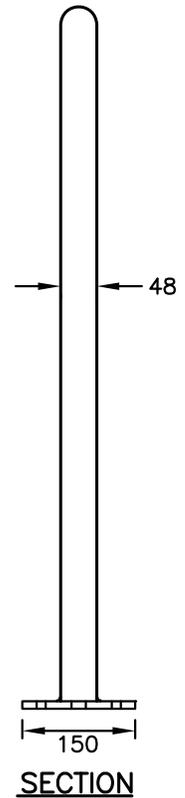
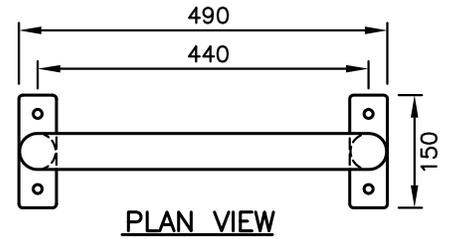
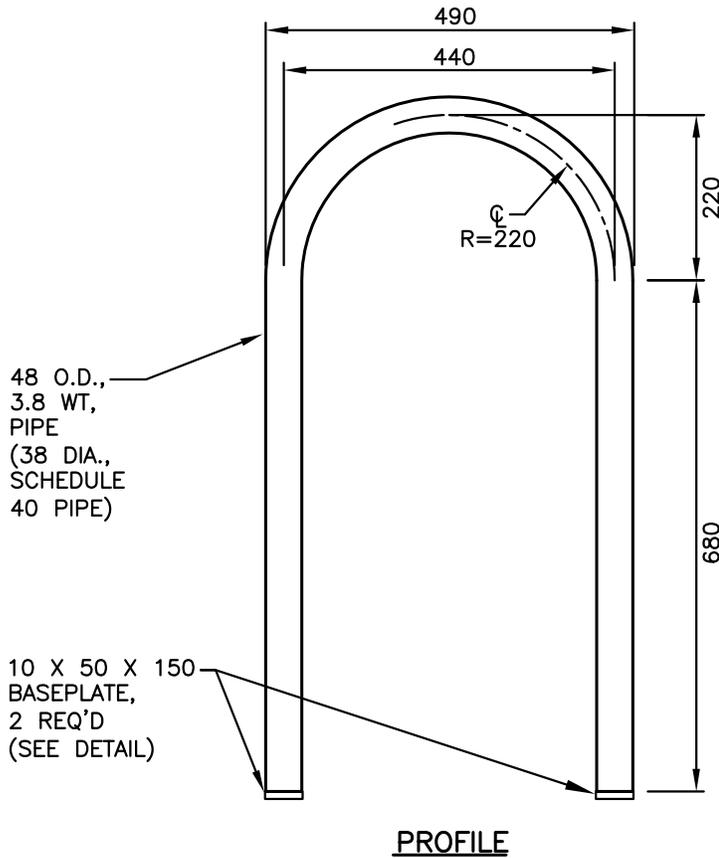
APPROVED

SCALE:
NTS

NEW

FIG No.:
HRM 162

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



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 10mm ϕ X 125mm EPOXY EXPANSION BOLTS (100mm EMBEDMENT).

HALIFAX

STANDARD DETAIL

INVERTED U BIKE RACK

DATE:
SEPT 2020

REFERENCE

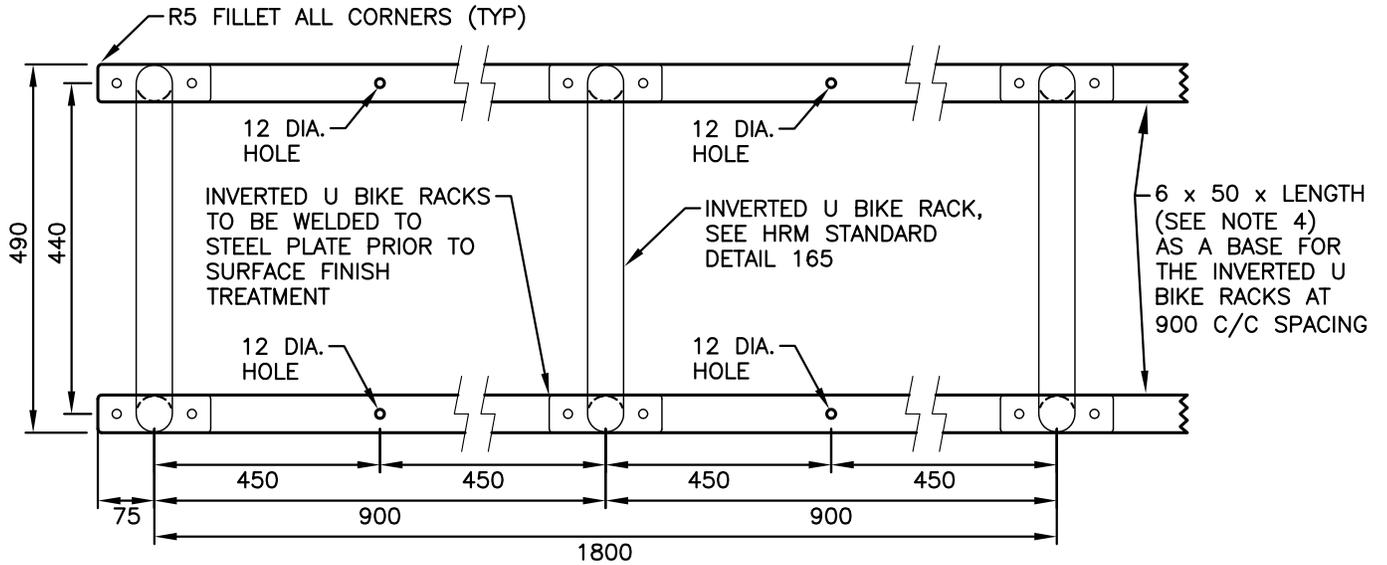
APPROVED

SCALE:
N.T.S.

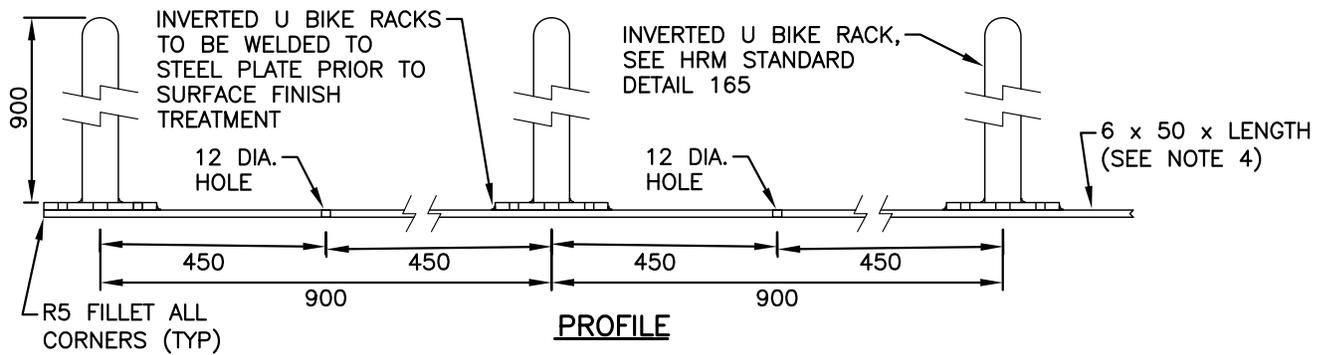
NEW

FIG No.:
HRM 165

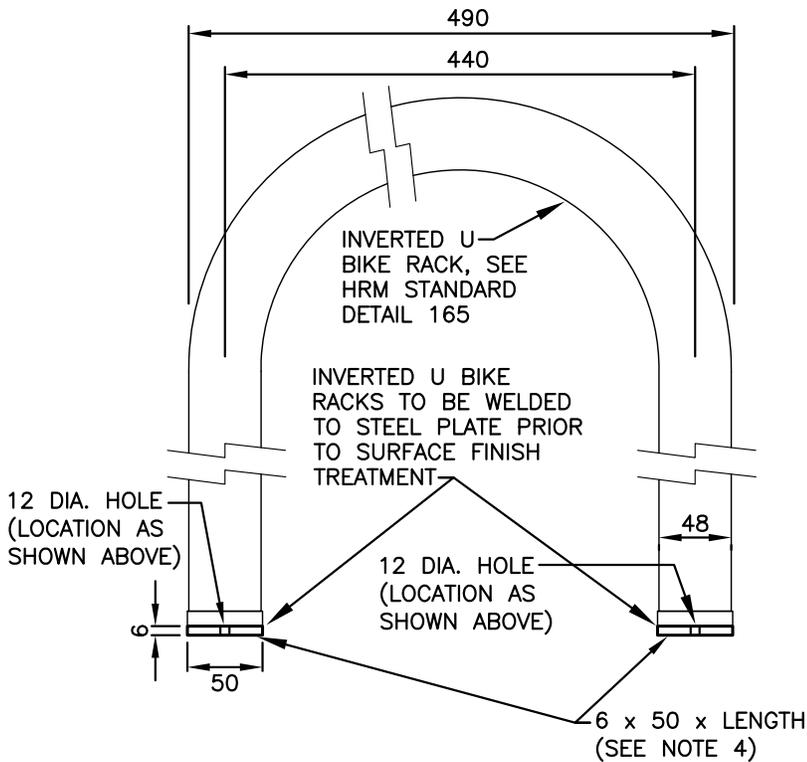
**HOT-DIPPED GALVANIZED STEEL OR
HOT-DIPPED GALVANIZED STEEL WITH BLACK POWDER COAT**



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 10mm ϕ 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

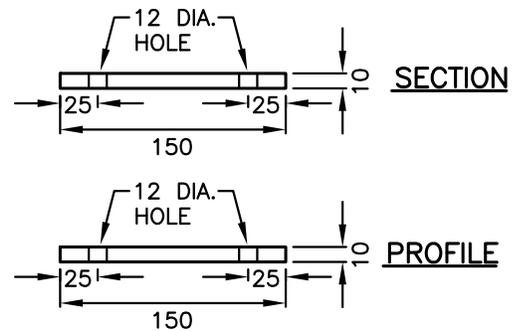
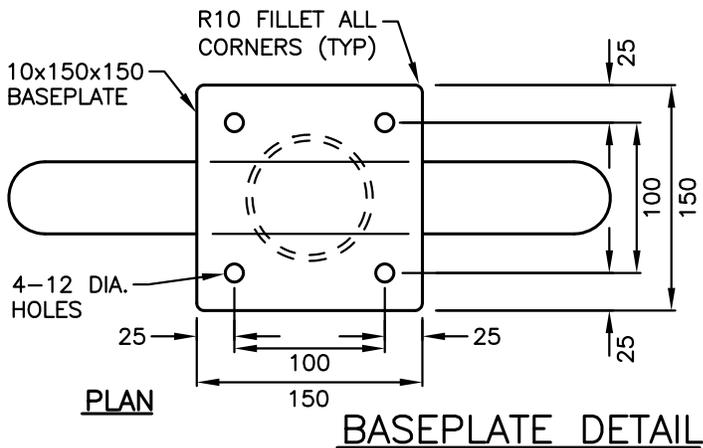
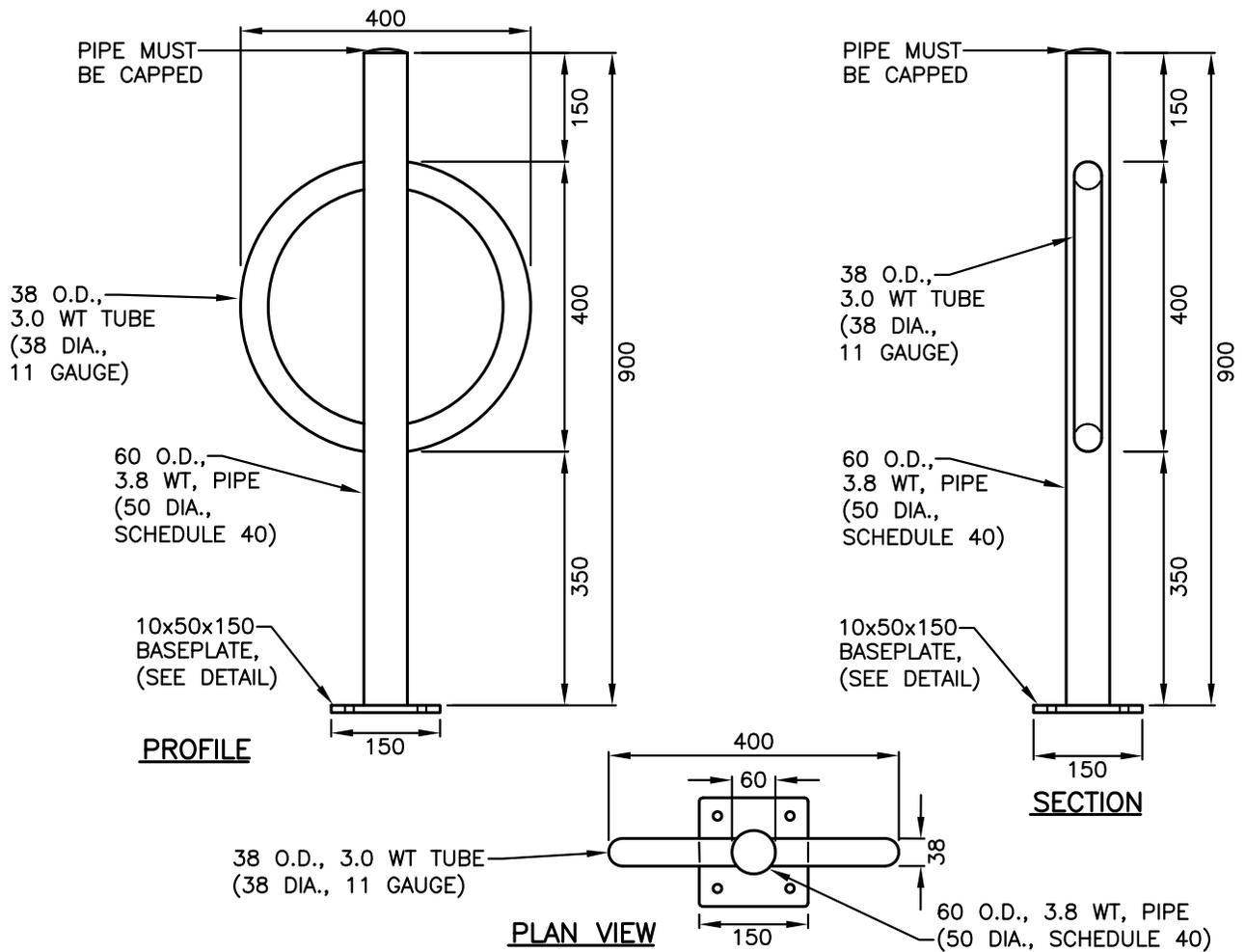
APPROVED

SCALE: N.T.S.

NEW

FIG No.: HRM 166

**HOT-DIPPED GALVANIZED STEEL OR
HOT-DIPPED GALVANIZED STEEL WITH BLACK POWDER COAT**



NOTES:

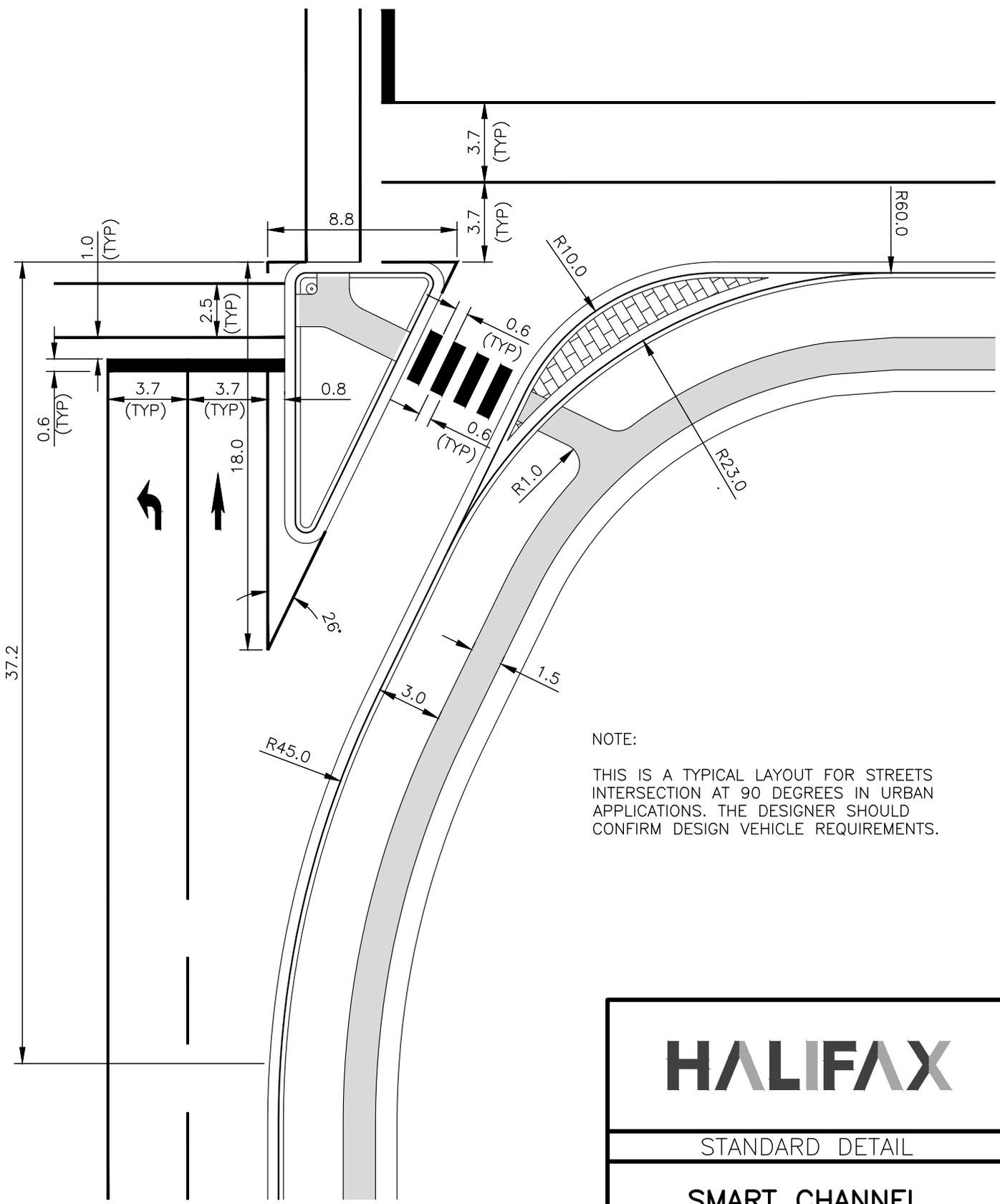
1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. VARIATION OF THE DIMENSIONS PROVIDED ARE PERMITTED, BUT MUST BE SHOWN ON SUBMITTED DRAWINGS.
3. BIKE RACKS TO BE ANCHORED TO POURED IN PLACE CONCRETE SURFACE WITH 10mm ϕ X 125mm EPOXY EXPANSION BOLTS (100mm EMBEDMENT).

HALIFAX

STANDARD DETAIL

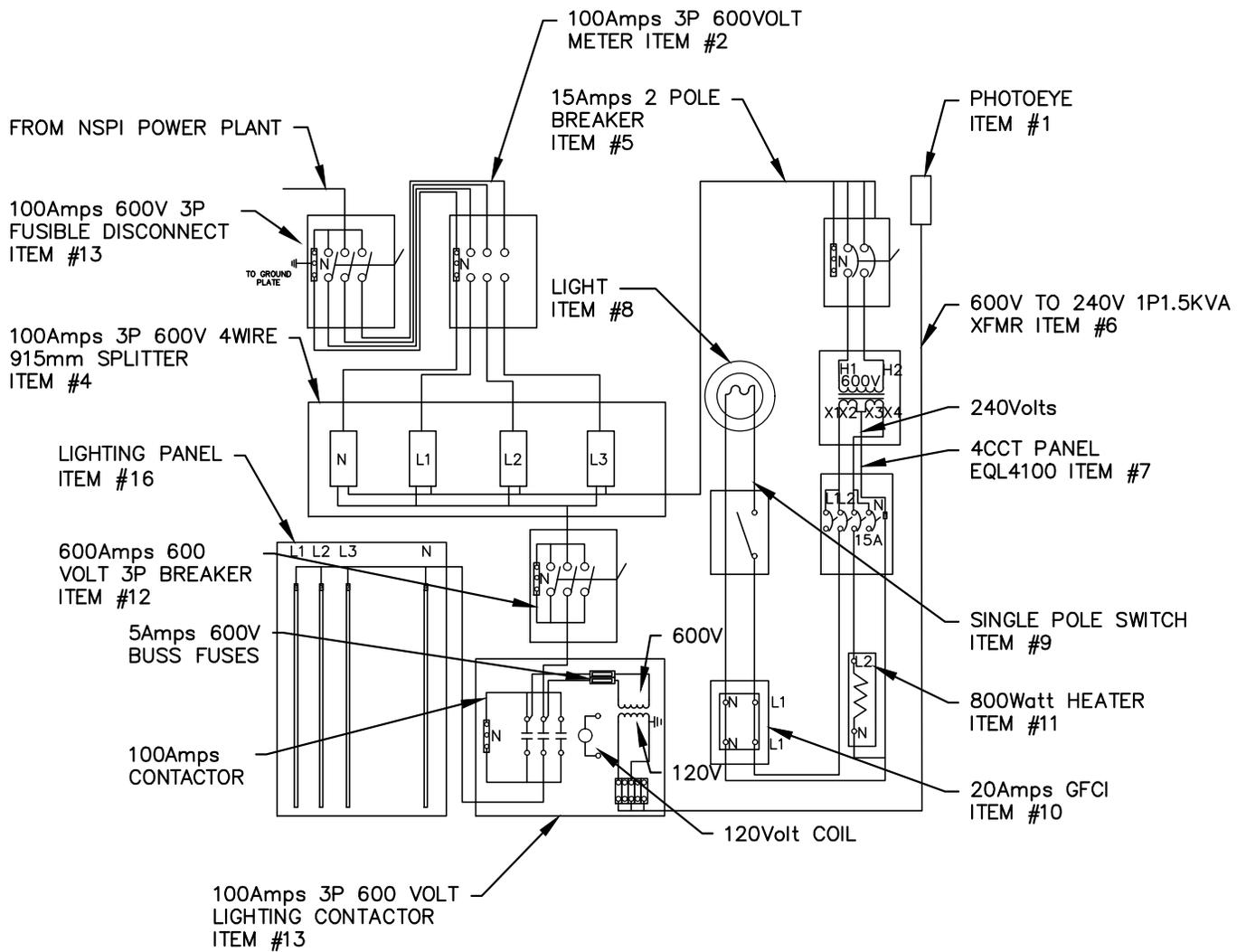
POST & RING BIKE RACK

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



NOTE:
 THIS IS A TYPICAL LAYOUT FOR STREETS INTERSECTION AT 90 DEGREES IN URBAN APPLICATIONS. THE DESIGNER SHOULD CONFIRM DESIGN VEHICLE REQUIREMENTS.

HALIFAX		
STANDARD DETAIL		
SMART CHANNEL		
DATE: AUGUST 2020	REFERENCE NEW	APPROVED
SCALE: 1:250		FIG No.: HRM 168 N



NOTES:

1. REFER TO HRM 171 FOR DESCRIPTIONS AND RULINGS.

HALIFAX

STANDARD DETAIL

**STREET LIGHT POWER ENCLOSURE
SINGLE LINE DIAGRAM**

DATE:
APRIL 2020

REFERENCE

APPROVED

SCALE:
NTS

NEW

FIG No.:
HRM 170

DESCRIPTIONS AND RULINGS

PART NUMBERING AND DESCRIPTIONS:

1. BEL PART NUMBER #HDM727224FSS-M 72x72 C/W 4m AND INSTALLED BACK PLATE.
2. STREET LIGHTING POWER METER BASE 100Amps 600VOLT 3 Phase PART#PL17-TCV-IN.
3. 100Amps 3P 600VOLT FUSIBLE SIEMENS ID363NF C/W 100Amps 600VOLT FUSES.
4. BEL 200Amps 3P 600VOLT SPLITTER PART#T3204.
5. 15Amps 2P 600VOLT BREAKER SIEMENS PART#ED63B015L C/W E2NIS ENCLOSURE.
6. 1.5KVA XFMR HAMMOND PART#Q1C5PEKF.
7. 4 X 15Amps 1P BREAKER SIEMENS PART#Q115 C/W EQL4100 ENCLOSURE.
8. RAB DEMVCS100CG LIGHT C/W DEMGD100CGS CAGE C/W CFL LIGHTBULB.
9. RAB DEVICE BOX IBCS100CN C/W WEATHERPROOF PVC COVER AND COMMERCIAL GRADE SINGLE POLE SWITCH LEVCS1152W.
10. RAB DEVICE BOX IBCS100CN C/W WEATHERPROOF PVC COVER AND 20AMP T SLOT GFCI LEV7899W.
11. 800WATT HEATER CALORITECH PART#PH80011.
12. 100Amps 3P 600VOLT BREAKER SIEMENS PART#ED63B100L C/W E2NIS ENCLOSURE.
13. 100Amps LEN CONTACTOR C/W HOA IN 410mmx410mmx205mm ENCLOSURE.
14. RAB DEVICE BOX IBCS100CN C/W BLANK PVC WEATHERPROOF COVER SCEBRC1510
15. INTERMATIC PHOTOCELL PART#K4221C.
16. SIEMENS DISTRIBUTION PANEL PART#P1L42ML125CBS 3P 4WIRE 600VOLT 42 CRT.
17. PVC JUNCTION BOX CAPABLE OF HOLDING EXTRA FUSES AND AN EXTRA COIL.

CONDUIT AND WIRE SIZING:

- A. 53mm CONDUIT C/W 4 x #3 RWU90 & 1 x #8 GRN CONDUCTORS
- B. 41mm CONDUIT C/W 4 x #3 RWU90 & 1 x #8 GRN CONDUCTORS
- C. 25mm CONDUIT C/W 1 x #6 GRN 1 1
- D. NMFC OR PVC C/W 2 x #12 RWU90 & #12 GRN 2 2
- E. 25mm CONDUIT C/W 2 x #10 RWU90 & #8 GRN

RULES AND REGULATIONS:

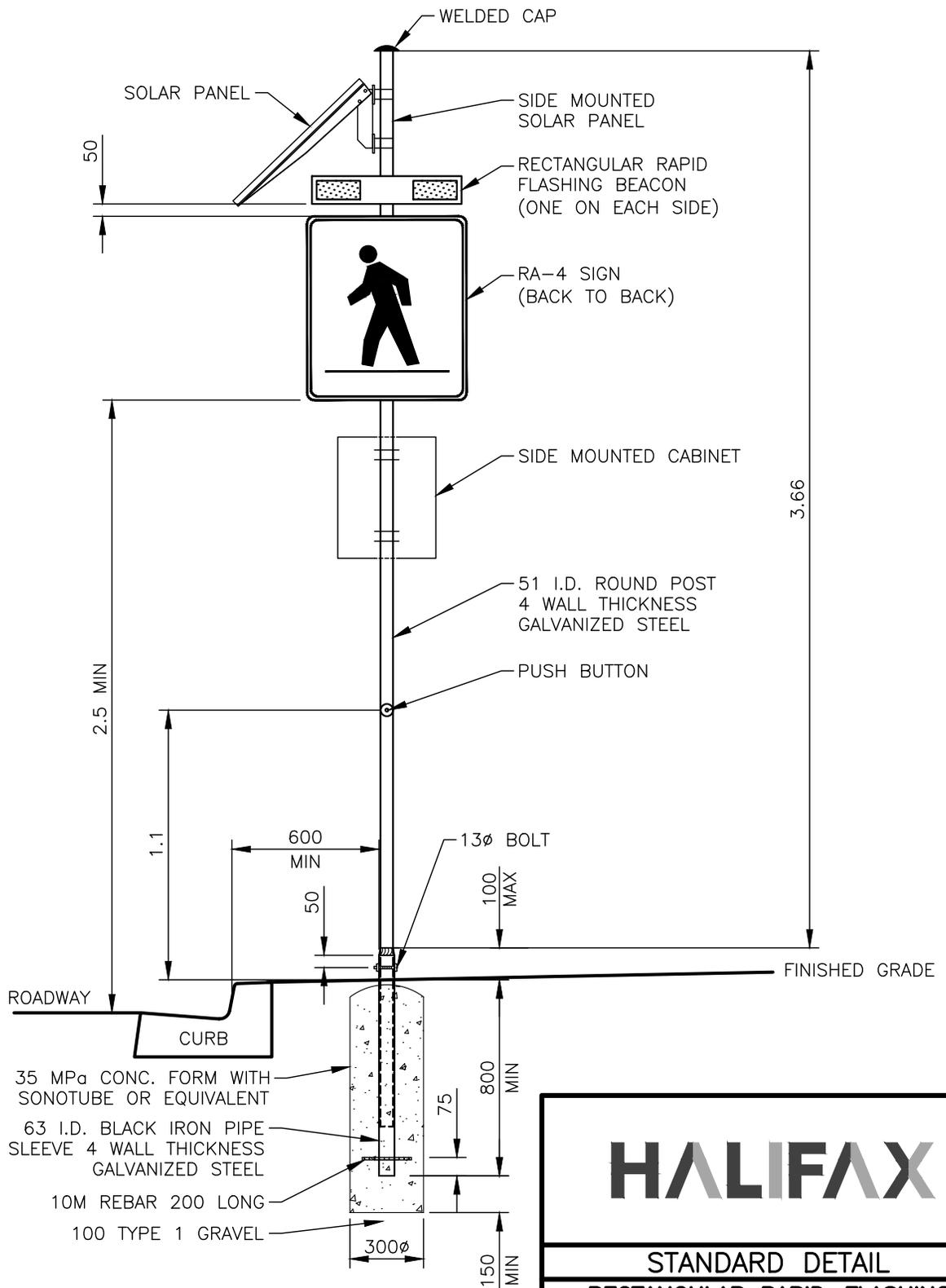
1. ALL WIRING MUST BE DONE IN ACCORDANCE WITH THE LATEST EDITION OF THE CANADIAN ELECTRICAL CODE.
2. CABINET MUST BE CSA APPROVED.
3. CABINET DOORS MUST HAVE BARS TO HOLD DOORS OPEN.
4. CABINET DOORS MUST BE LOCKABLE AND BE ABLE TO ACCEPT A PADLOCK.
5. CABINET MUST HAVE A REMOVEABLE CENTER POST FOR THE DOORS.
6. CABINET DOORS MUST HAVE A GASKET TO PREVENT MOISTURE FROM ENTERING THE CABINET.
7. ALL MOUNTING SCREWS MUST BE STAINLESS.
8. CABINET MUST HAVE A DRAWING HOLDER AND ALL WIRING SCHEMATICS WITH IT.
9. MANUFACTURER MUST PROVIDE REPLACEMENT FUSES, LIGHTBULB, AND A SPARE COIL. TO BE MOUNTED IN A PVC JUNCTION BOX IN A CONVIEN T LOCATION.
10. ALL COMPONENTS MUST BE LABELED WITH LAMACOIDS IE; VOLTAGE, CURRENT, AND CIRCUIT.
11. ITEM #7 MUST BE LABELED WITH LAMACOIDS TO INDICATE WHAT THE CIRCUIT IS FEEDING.

HALIFAX

STANDARD DETAIL

**STREET LIGHT POWER
ENCLOSURE PARTS LIST**

DATE: APRIL 2020	REFERENCE NEW	APPROVED
SCALE: NTS		FIG No.: HRM 171



HALIFAX

STANDARD DETAIL

RECTANGULAR RAPID-FLASHING
BEACON SIGNAL CONFIGURATION
(SOLAR PANEL)

DATE: 2020

REFERENCE

APPROVED

SCALE: 1:25

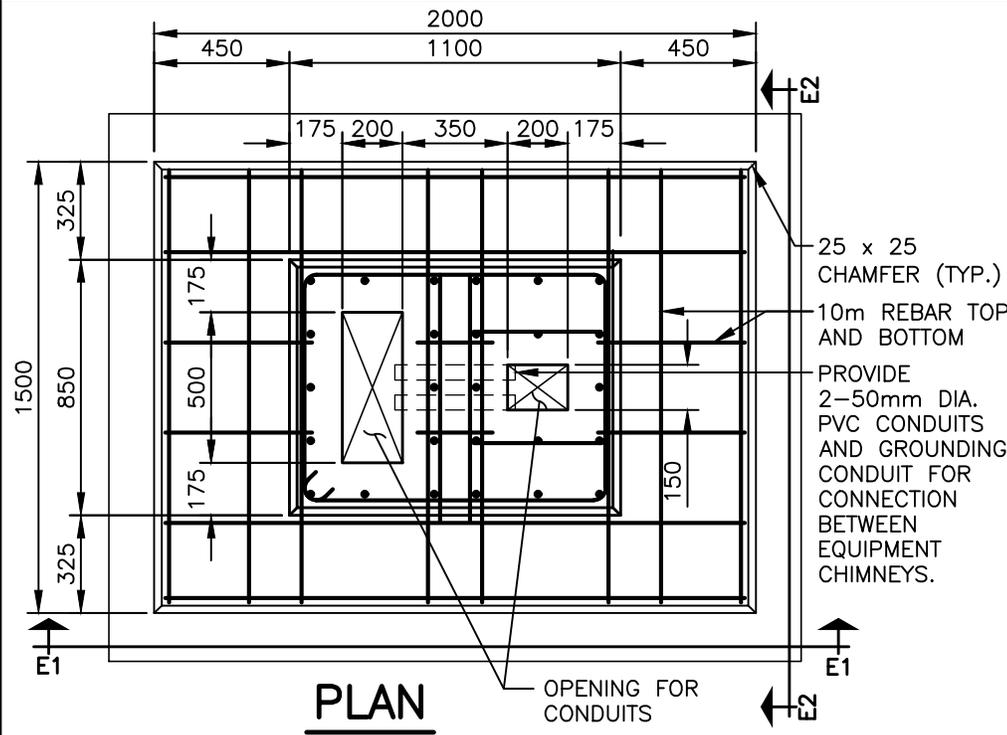
NEW

FIG No.:

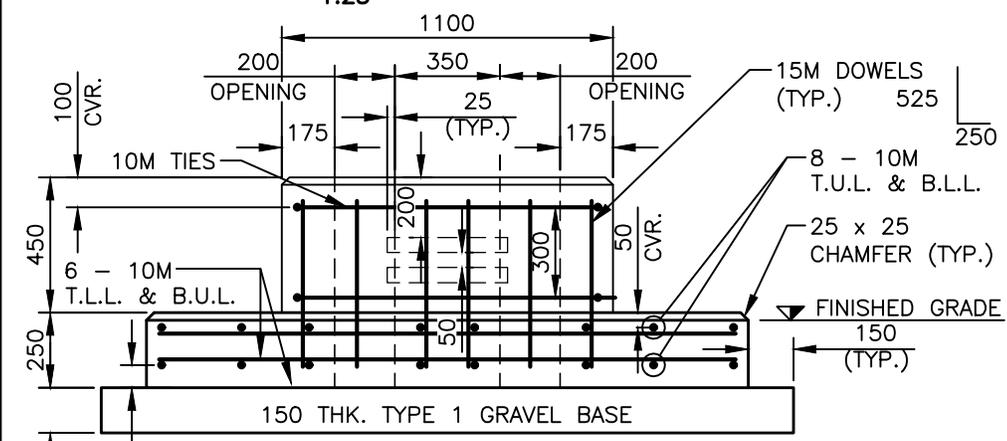
HRM 172

NOTES:

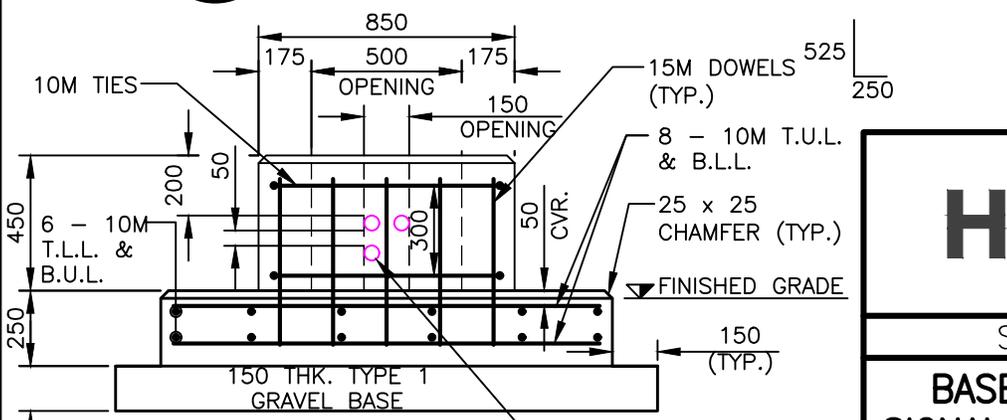
1. CONCRETE 28 DAY COMPRESSIVE STRENGTH TO BE 35 MPa.
2. PROVIDE MIN. 50 COVER FOR ALL REBAR (UNLESS NOTED OTHERWISE).
3. PROVIDE GROUNDING FOR CONTROLLER CABINET.
4. IN ADDITION TO CONDUITS SPECIFIED ON EQUIPMENT DRAWINGS/SPECIFICATIONS, PROVIDE 2-50mm DIA. PVC CONDUIT AND GROUNDING CONDUIT FOR CONNECTION BETWEEN EQUIPMENT CHIMNEYS.
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.



PLAN
1:25



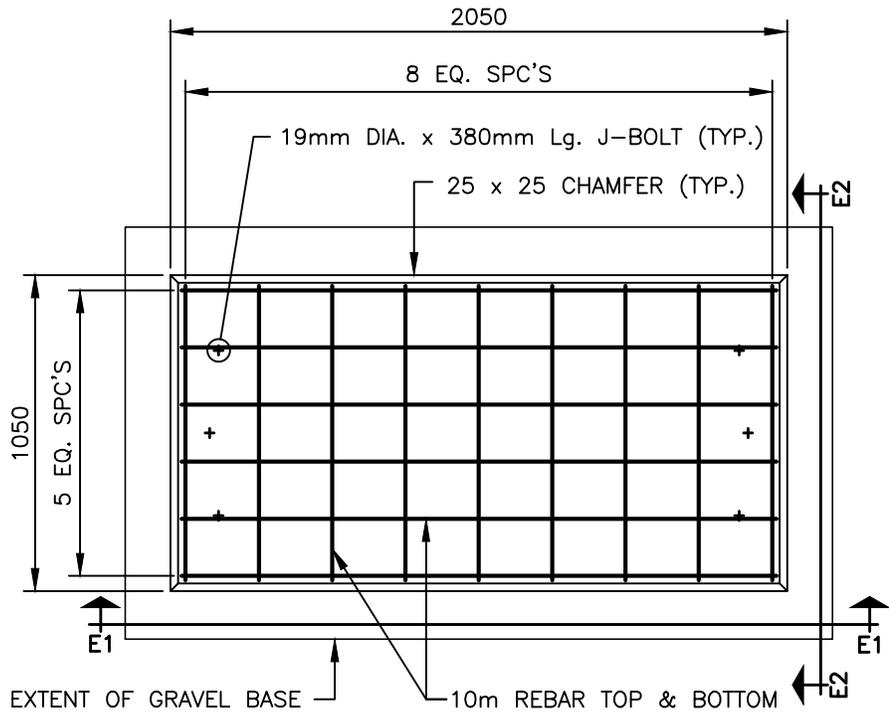
E1 ELEVATION
1:25



E2 ELEVATION
1:25

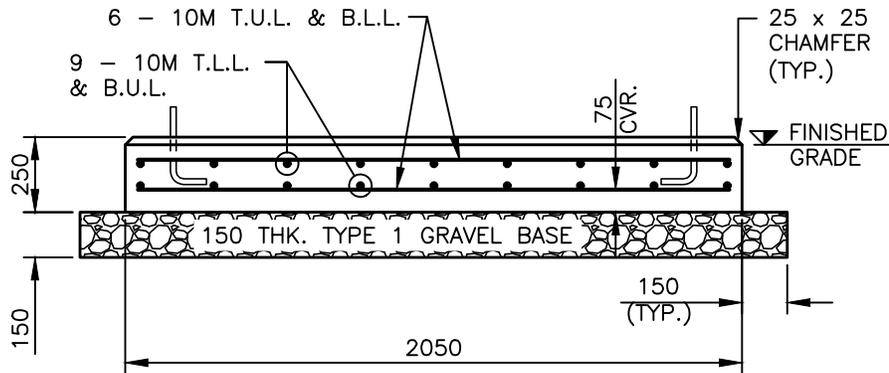
PROVIDE 2-50mm DIA. PVC CONDUITS AND GROUNDING CONDUIT FOR CONNECTION BETWEEN EQUIPMENT CHIMNEYS.

HALIFAX		
STANDARD DETAIL		
BASE MOUNTED TRAFFIC SIGNAL CONTROLLER CABINET WITH BATTERY BACK-UP UNIT		
DATE: SEPTEMBER, 2020	REFERENCE NEW	APPROVED M.H.
SCALE: AS NOTED		FIG No.: HRM 176



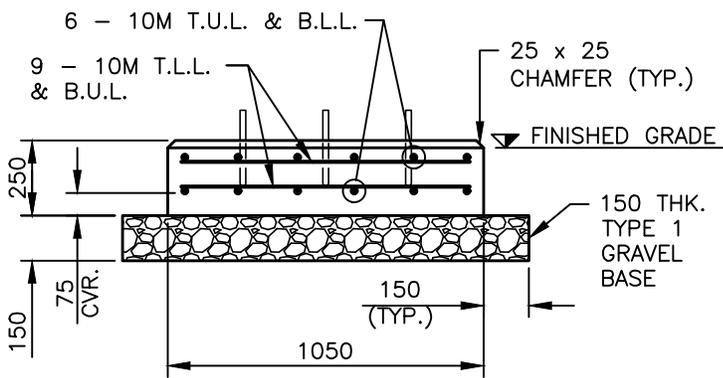
PLAN

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

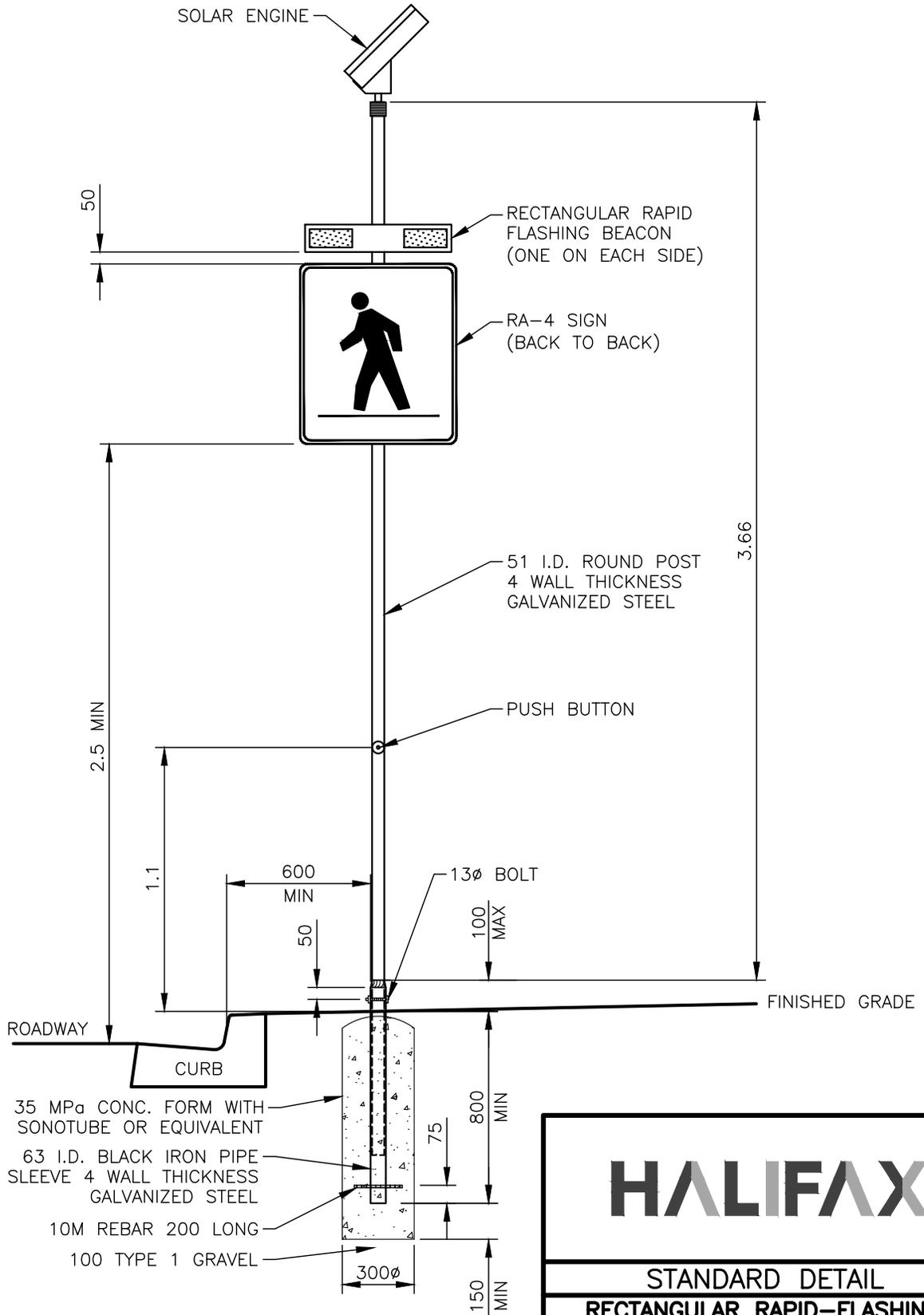
REFERENCE

APPROVED

SCALE: AS NOTED

NEW

FIG No.: HRM 177



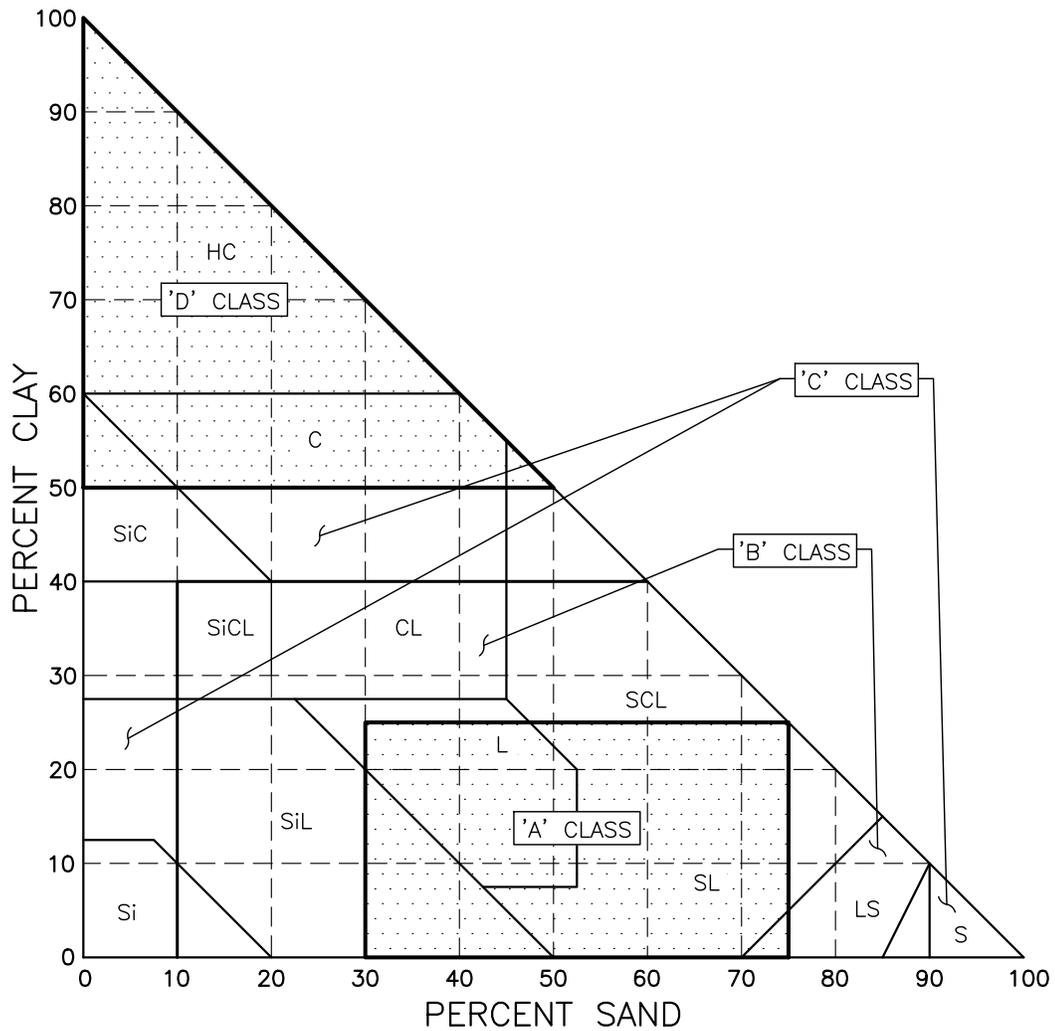
HALIFAX

STANDARD DETAIL

RECTANGULAR RAPID-FLASHING BEACON SIGNAL CONFIGURATION (SOLAR ENGINE)

DATE: 2020	REFERENCE	APPROVED
SCALE: 1:25	NEW	FIG No.: HRM 180

PROPOSED SOIL GROUPINGS



NOTES:

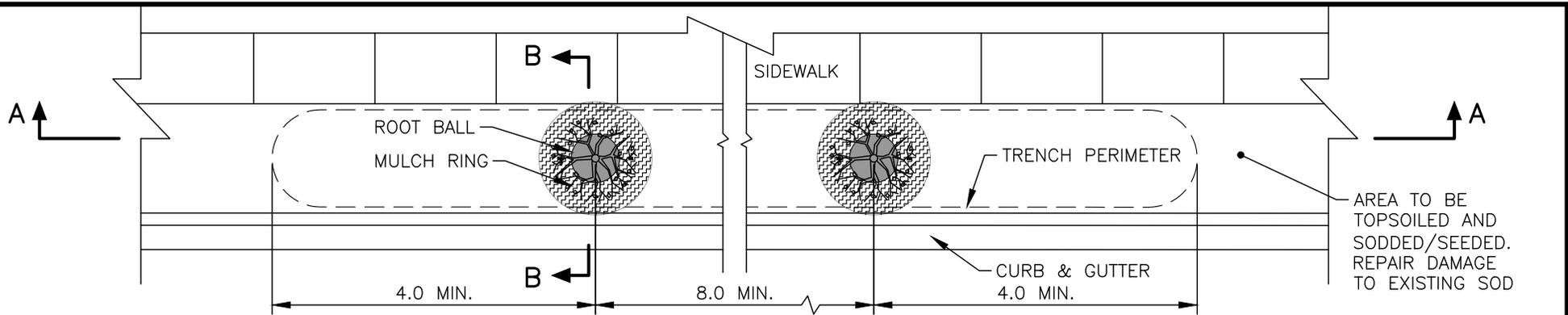
1. SOIL TEXTURE CLASSES. PERCENTAGES OF CLAY AND SAND IN THE MAIN TEXTURAL CLASSES OF SOIL; THE REMAINDER OF EACH CLASS IS SLIT.

HALIFAX

STANDARD DETAIL

SOIL TEXTURE TRIANGLE

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

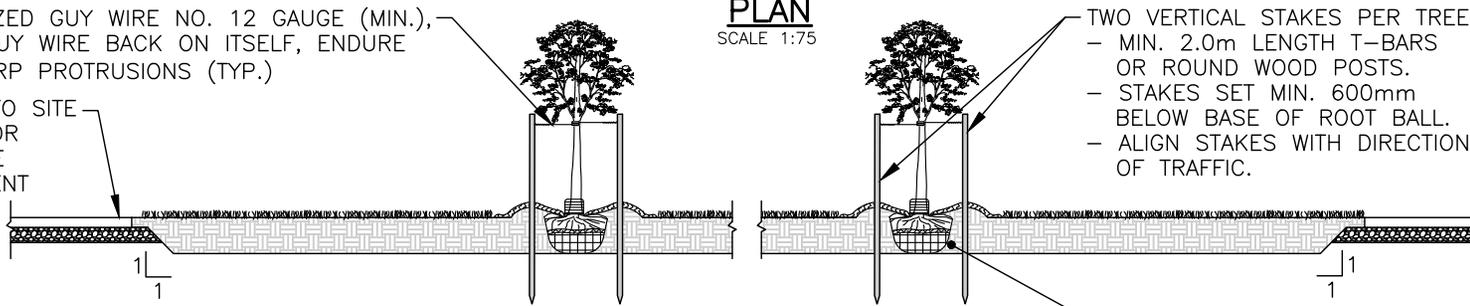


GALVANIZED GUY WIRE NO. 12 GAUGE (MIN.), WRAP GUY WIRE BACK ON ITSELF, ENDURE NO SHARP PROTRUSIONS (TYP.)

REFER TO SITE PLAN FOR SURFACE TREATMENT (TYP.)

PLAN
SCALE 1:75

TWO VERTICAL STAKES PER TREE:
 - MIN. 2.0m LENGTH T-BARS OR ROUND WOOD POSTS.
 - STAKES SET MIN. 600mm BELOW BASE OF ROOT BALL.
 - ALIGN STAKES WITH DIRECTION OF TRAFFIC.



SECTION A-A
SCALE 1:75

BACKFILL TRENCH WITH TOPSOIL, COMPACT TO MAXIMUM 85% SPD, ENSURE STABILITY OF ROOTBALL.

TREE GUARD. ARBORGARD + AG9-4 OR APPROVED EQUAL
 ROOT COLLAR 50mm ABOVE GRADE

FOLD OR REMOVE TOP 1/3 WIRE BASKET AND/OR BURLAP FROM ROOT BALL

FORM A 100mm HIGH SOIL RING TO DIRECT WATER TO ROOT BALL

150mm TOPSOIL

DECIDUOUS TREE
 50-60mm CALIPER

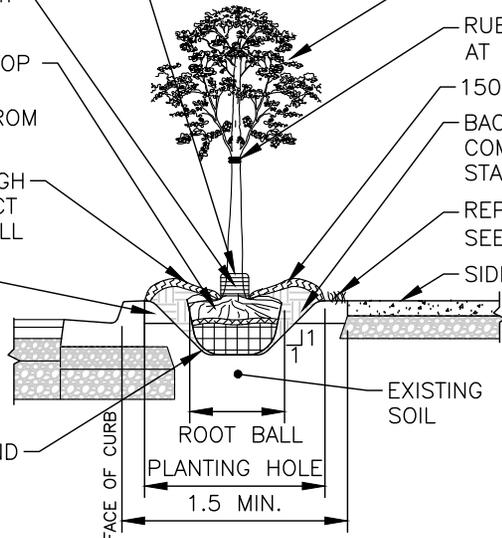
PRUNE DEAD, BROKEN AND DISEASED TREE LIMBS
 RUBBER HOSE, POSITION APPROX. AT 3/5 HEIGHT FOR ALL TREES
 150mm DEPTH APPROVED MULCH

BACKFILL TRENCH WITH TOPSOIL, COMPACT JUST TO ENSURE STABILITY OF ROOT BALL

REPAIR ANY DAMAGED SEED/SOD TO HRM STANDARDS

SIDEWALK

SCARIFY BOTTOM AND WALLS OF TRENCH BEFORE PLACING ROOT BALL



SECTION B-B
SCALE 1:50

NOTES:

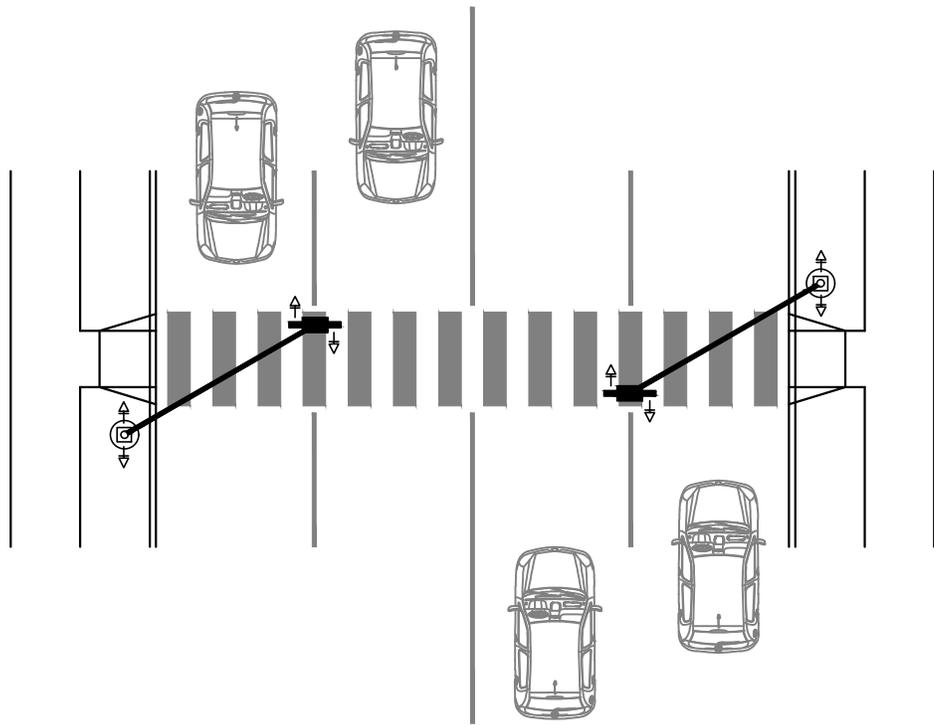
1. SOAK THE ROOTBALL AND BACKFILL AREA WITH 40 LITRES OF WATER AFTER PLANTING
2. ROOT BALL MIN. SIZE AS PER CNLA STANDARDS FOR NURSERY STOCK
3. MINIMUM TRENCH LENGTH: 8m PER TREE UNLESS APPROVED BY URBAN FORESTER

HALIFAX

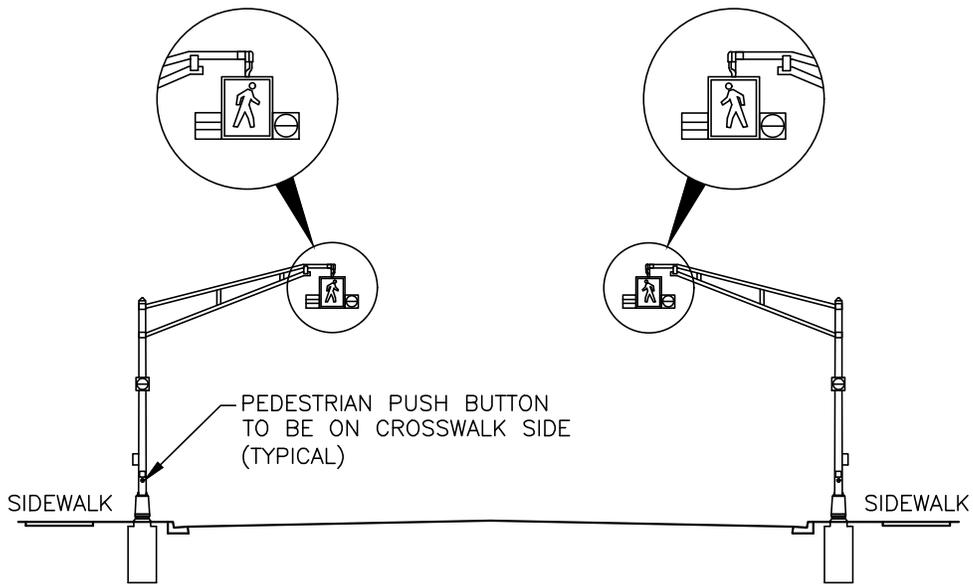
STANDARD DETAIL

**TREE PLANTING
 IN SOD BOULEVARD**

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



PLAN VIEW



ELEVATION VIEW

NOTE:

SEE RED BOOK STANDARD DETAIL
"ALUMINUM POLE RA-5 SIGNAL
CONFIGURATION"

HALIFAX

STANDARD DETAIL

RA-5 CROSSING

DATE:
2021

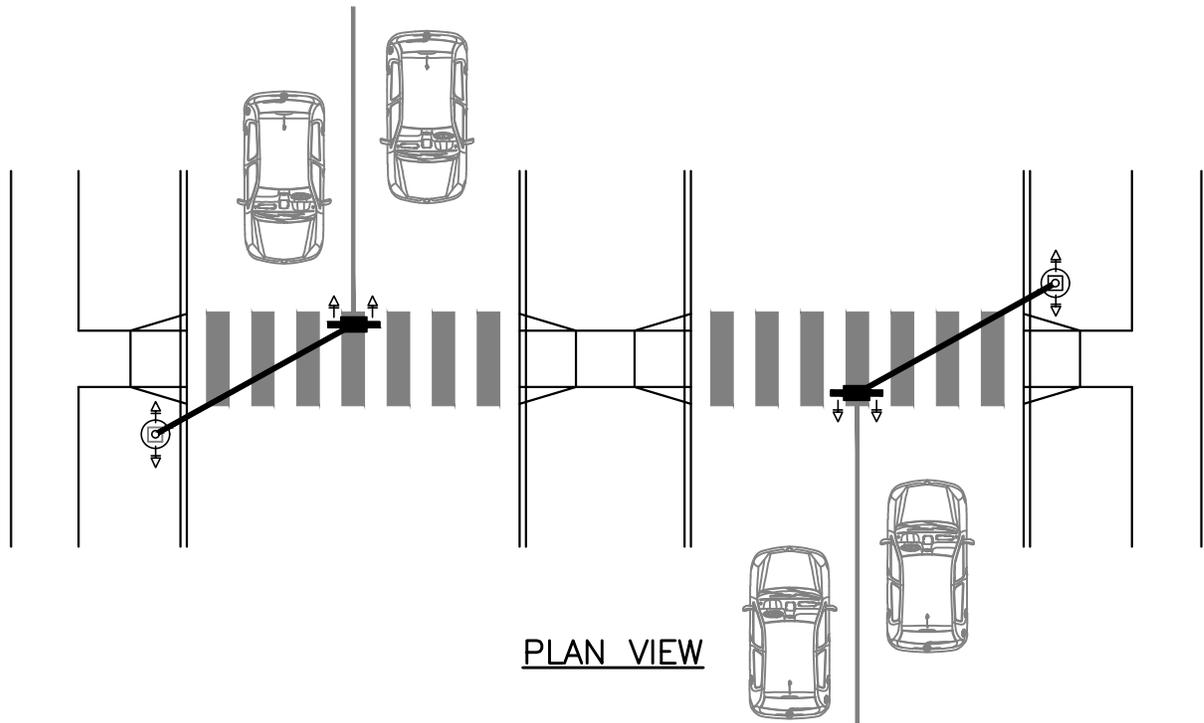
REFERENCE

APPROVED

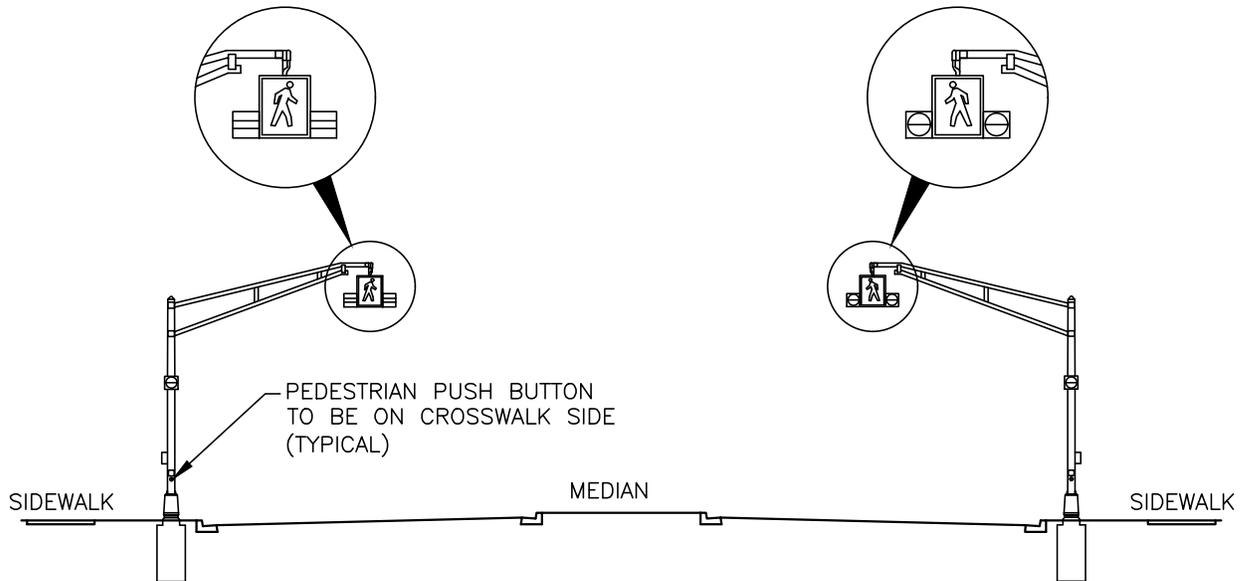
SCALE:
NTS

NEW

FIG No.:
HRM 183N



PLAN VIEW



ELEVATION VIEW

NOTE:

SEE RED BOOK STANDARD DETAIL
 "ALUMINUM POLE RA-5 SIGNAL
 CONFIGURATION"

HALIFAX

STANDARD DETAIL

**RA-5 CROSSING
 (WITH CENTRE MEDIAN)**

DATE: 2021	REFERENCE NEW	APPROVED
SCALE: NTS		FIG No.: HRM 184N