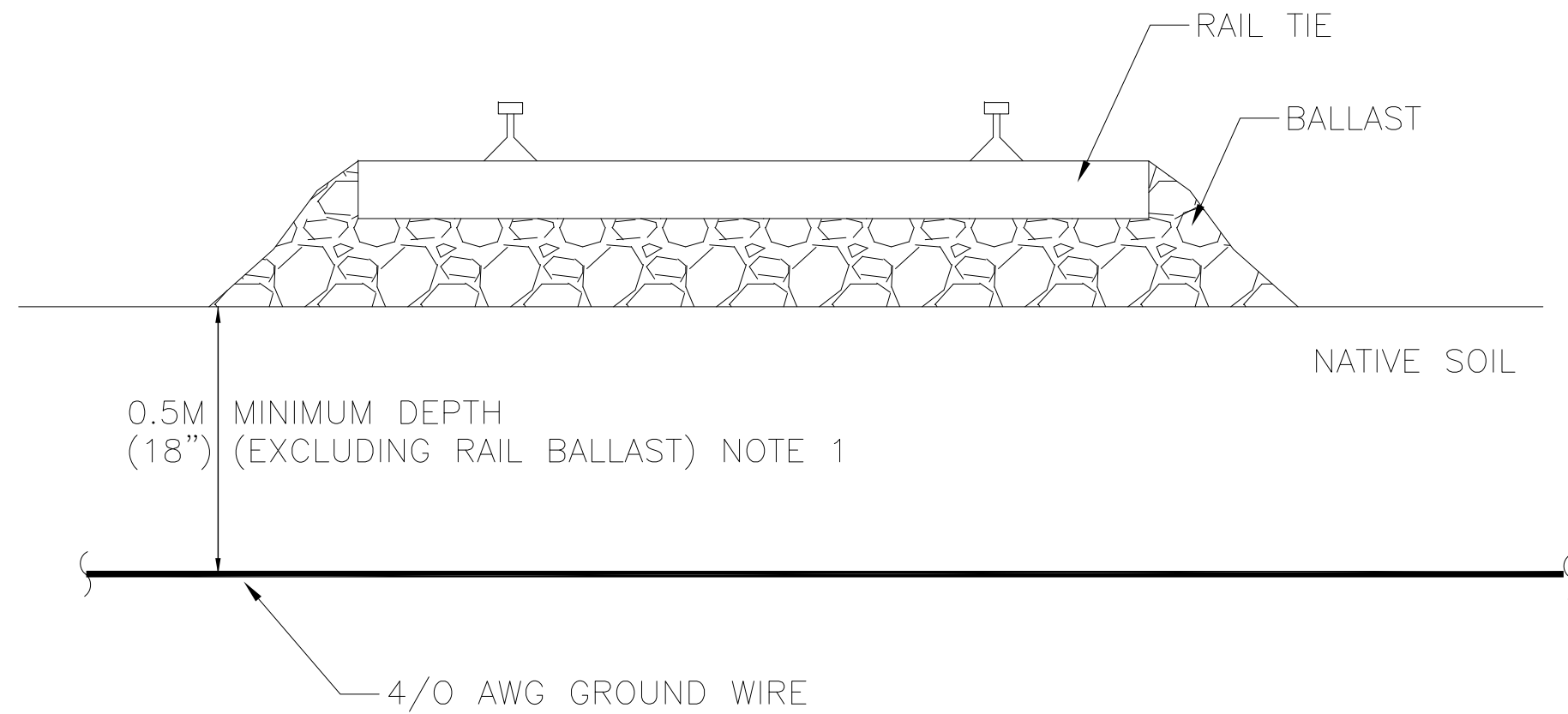


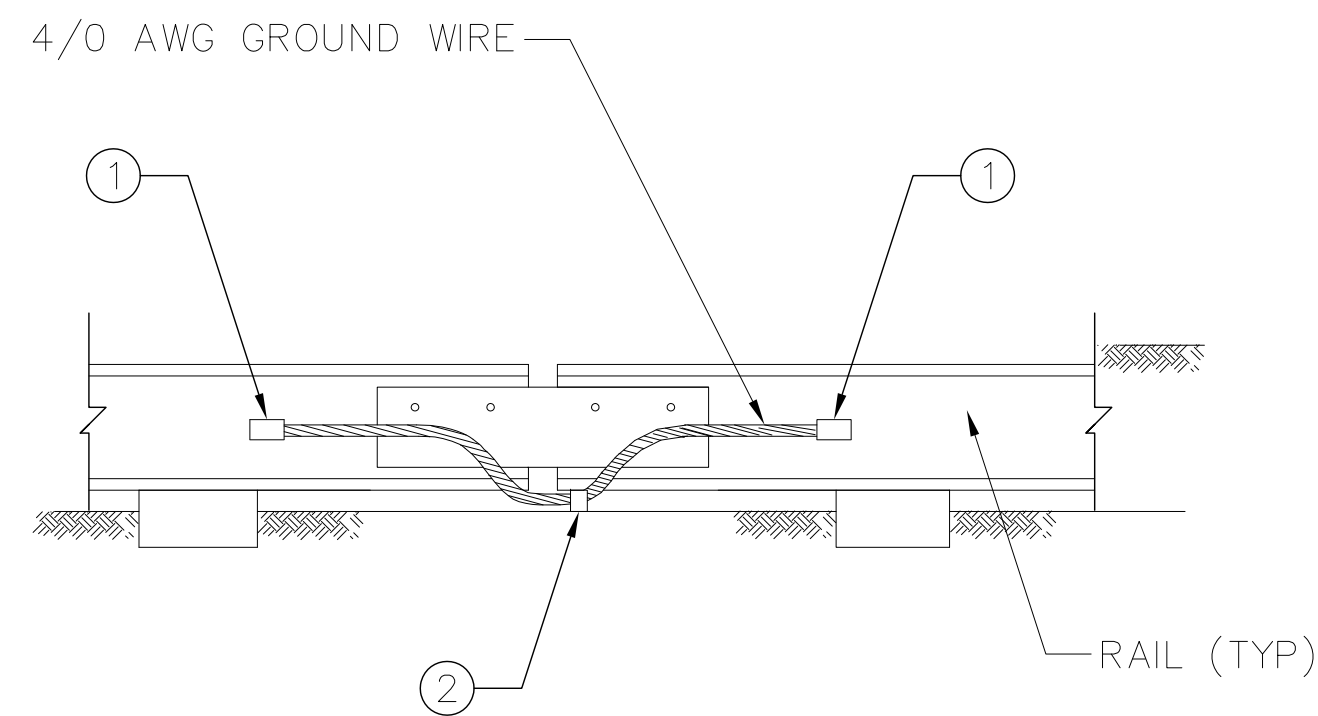
NOTES:

1. THE DEPTH OF THE GROUND GRID WILL DEPEND ON LOCAL SITE CONDITIONS AND MUST BE DETERMINED BY THE CONTRACTOR PRIOR TO INSTALLATION. 0.5M IS A TYPICAL VALUE THAT HAS BEEN PROVIDED FOR REFERENCE.



DETAIL 1 – GROUND CONDUCTOR UNDER TRACK CROSSING

NOTE: THIS DRAWING IS PROVIDED FOR INSTRUCTIONAL DESIGN PURPOSES ONLY BASED ON METROLINX GO TRANSIT DESIGN GUIDELINES AND REQUIREMENTS. THE CONSULTANT SHALL VERIFY FOR LOCAL CODE COMPLIANCE, EXISTING SITE CONDITIONS AND INTER DISCIPLINARY DRAWING COORDINATION. ALL DIMENSIONS AND SPECIFICATIONS SHOULD BE VERIFIED BY CONSULTANT AND/OR CONTRACTOR BEFORE ACTUAL CONSTRUCTION BEGINS.

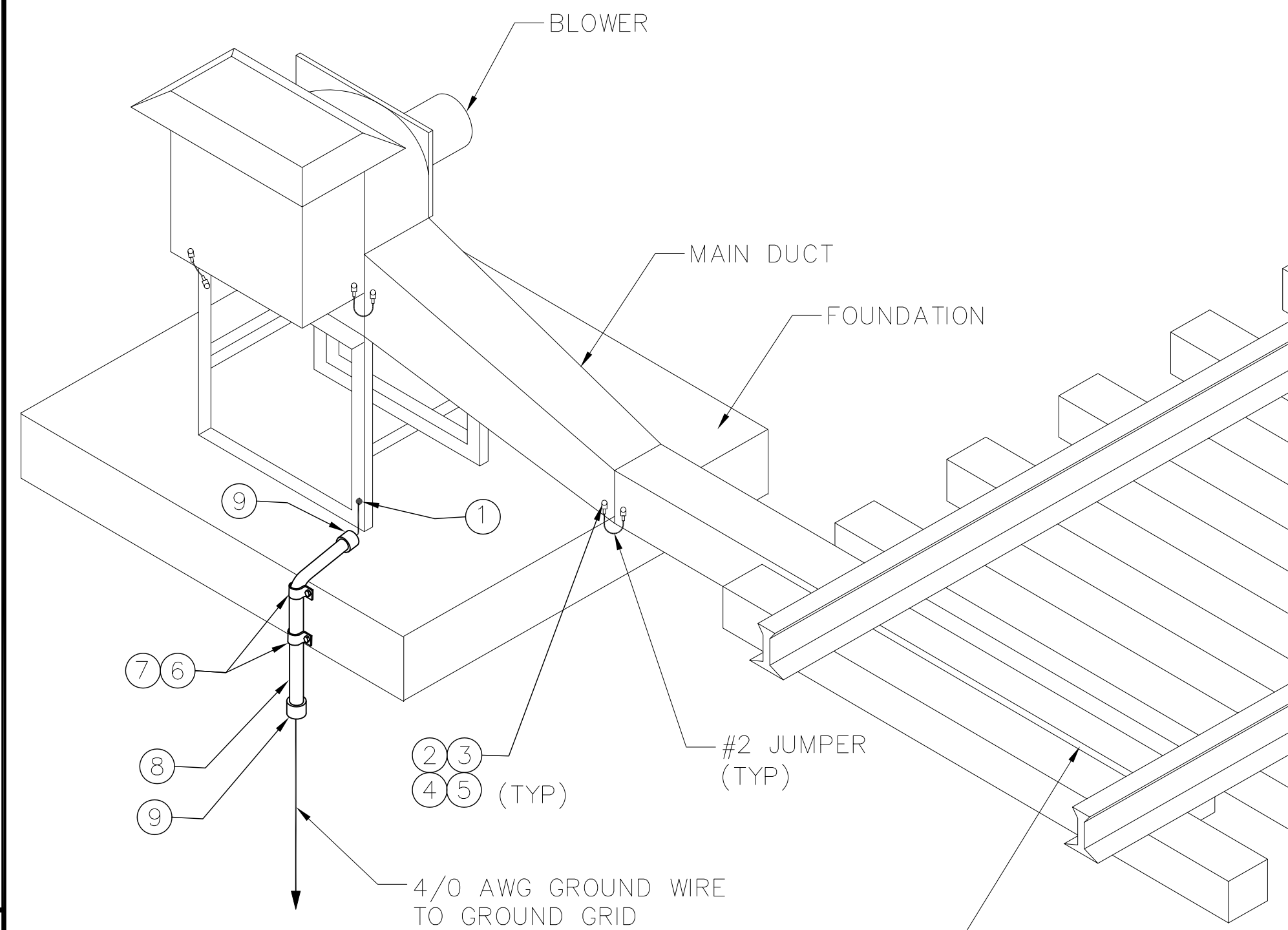


DETAIL 2 – RUNNING RAILS SPLICE BONDING

ITEM	QTY	UNIT	DESCRIPTION	MANUFACTURER & CAT. NO.
1	2	EA	WIRE TO RAIL EXOTHERMIC CONNECTION	ERICO: STR-2Q OR EQUIVALENT
2	1	EA	HAMMER ON RAIL CLIP	ERICO: SBA252S0 OR EQUIVALENT

NOTES:

1. MAIN DUCT MUST BE ISOLATED FROM RAILS.

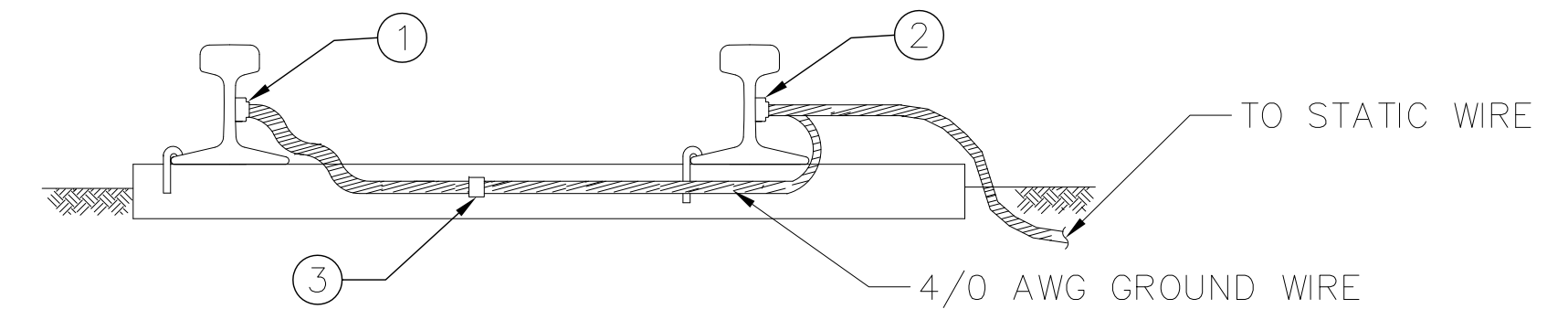


DETAIL 3 – SNOW MELTING EQUIPMENT, BLOWERS

ITEM	QTY	UNIT	MATERIAL DESCRIPTION	MANUFACTURER & CAT. NO.
1	1	EA	VERTICAL CABLE TO VERTICAL STEEL SURFACE EXOTHERMIC CONNECTION	BURNDY: B-8718 OR EQUIVALENT
2	2/JUMPER	EA	BOLT, HEX, SS, 1/2"-13 NC x 1", A304/A316	(GENERIC)
3	2/JUMPER	EA	WASHER, SPRING (LOCK), STAINLESS, 1/2", A304/A316	
4	4/JUMPER	EA	WASHER, FLAT, SS, 1/2", A304/A316	
5	2/JUMPER	EA	TERMINAL 1 HOLE FOR #2 WIRE	
6	2	EA	ANCHOR, 1 1/4", SS 304,316	HILTI: KB3 1/4" X 2-1/4" OR EQUIVALENT
7	2	EA	27mm CONDUIT CLAMP 1-HOLE	T&B: 1278 OR EQUIVALENT
8	PER DESIGN	N/A	27mm CONDUIT	(GENERIC)
9	2	EA	BUSHING	

NOTES:

1. THIS CROSS BONDING CONFIGURATION SHALL NOT BE APPLIED WHERE TRACK CIRCUITS ARE UTILIZED FOR TRAIN DETECTION PURPOSES.

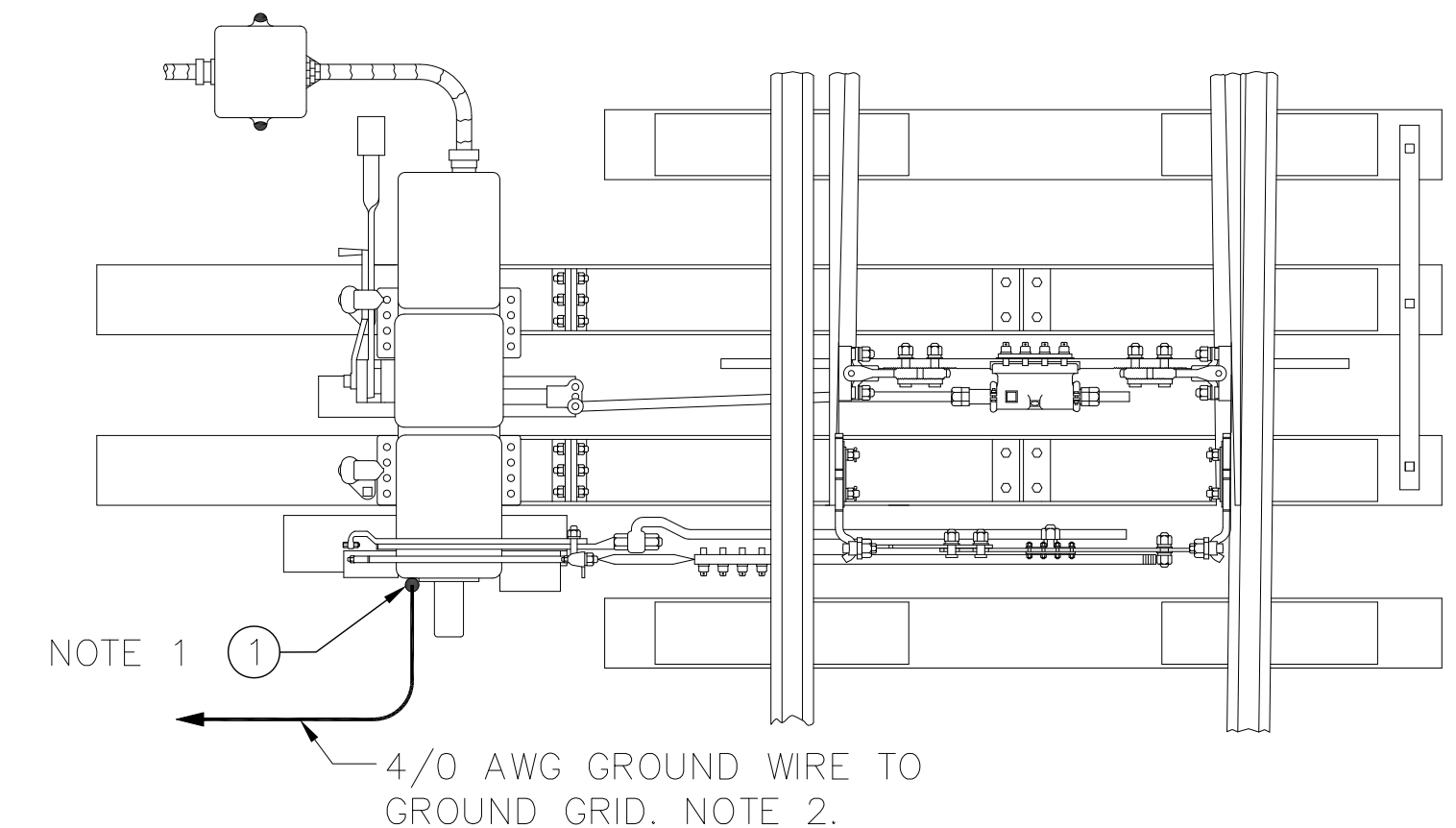


DETAIL 4 – RUNNING RAILS CROSS BONDING

ITEM	QTY	UNIT	DESCRIPTION	MANUFACTURER & CAT. NO.
1	2	EA	WIRE TO RAIL EXOTHERMIC CONNECTION	ERICO: STR-2Q OR EQUIVALENT
2	1	EA	RAIL TIE CABLE CLIP	GENERIC

NOTES:

1. 4/0 GROUND WIRE SHALL BE TERMINATED TO GROUND STUD PROVIDED BY SWITCH MACHINE MANUFACTURER. EXACT PART NUMBER FOR TERMINAL MUST BE COORDINATED WITH PROVIDED GROUND STUD. TYPICAL PART NUMBER PROVIDED FOR REFERENCE ONLY.
2. 4/0 GROUND WIRE CONNECTED TO GROUND GRID WHEN SWITCH MACHINE INSTALLED IN STATION. FOR OTHER SWITCHES GROUND WIRE MUST BE CONNECTED TO STATIC WIRE.
3. ADDITIONAL GROUND CONNECTIONS MAY BE REQUIRED. MANUFACTURERS SPECIFICATION MUST BE FOLLOWED FOR COMPLETE INSTALLATION.



DETAIL 5 – SWITCH MACHINE

ITEM	QTY	UNIT	DESCRIPTION	MANUFACTURER & CAT. NO.
1	1	EA	TERMINAL 1 HOLE FOR 4/0 WIRE	BURNDY: YA28L-BOX OR EQUIVALENT

PLOTTED BY: PAULRI PLOTTED DATE: 2015/04/02 PAPER SIZE AT FULL: ANSI D (22.00 X 34.00 INCHES) FILE: \\FILE-RGCC01\DEPT\GOIC\07 PROGRAM MANAGEMENT & STANDARDS\PMPS DESIGN STANDARDS\124 ELECTRIFICATION\GROUNDING AND BONDING STANDARD DRAWINGS\MXS-200-005.DWG

REFERENCE DRAWINGS		ISSUE		REVISIONS	
DWG NO.	TITLE	NO.	DATE	ISSUED FOR	REV. DATE
		3	15/04/06	FINAL DESIGN	
		2	15/03/06	100% DESIGN	
		1	15/02/09	90% DESIGN	
		0	15/01/16	60% DESIGN	

DRAWN BY: RCW 14/12/11	DESIGNED BY: SXF 14/12/11
CHECKED BY: CTG 15/01/16	APPROVED BY: ZBT 15/01/16
SCALE: NTS FULL SIZE ONLY	

**PARSONS  
BRINCKERHOFF**

**METROLINX**

TRACTION ELECTRIFICATION  
GROUNDING AND BONDING  
STANDARD INSTALLATION DESIGN DETAILS  
ABOVE-GRADE RAILWAY INFRASTRUCTURE

CONTRACT NO. RQ-2011-PP-032	DWG. NO. MXS-200-005	REV. 0	SHEET 13/26
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