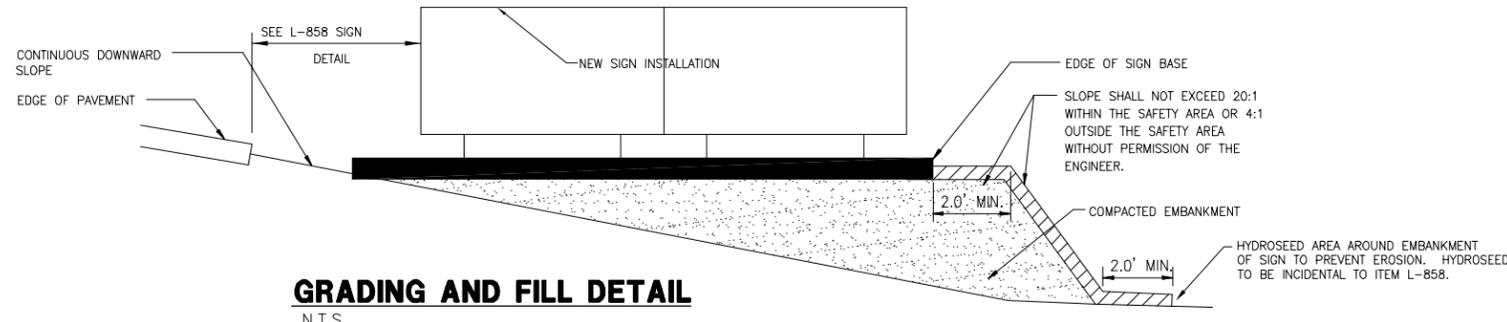
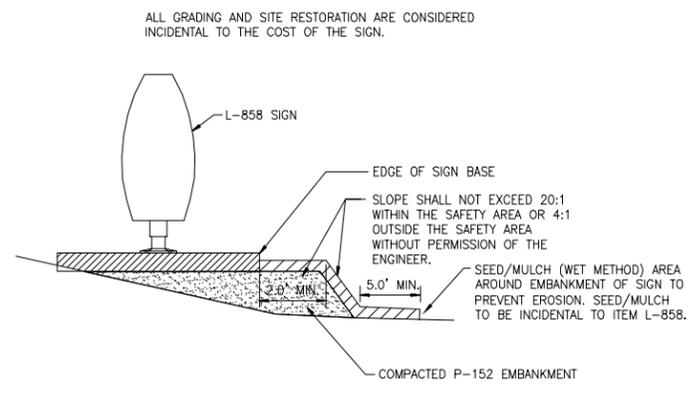


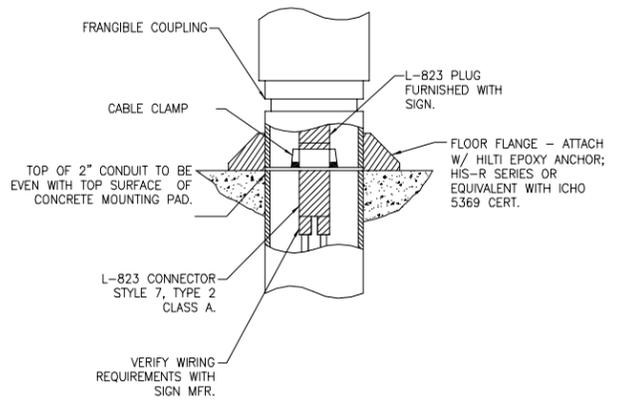
L-858 GUIDANCE AND RDR SIGN
N.T.S.



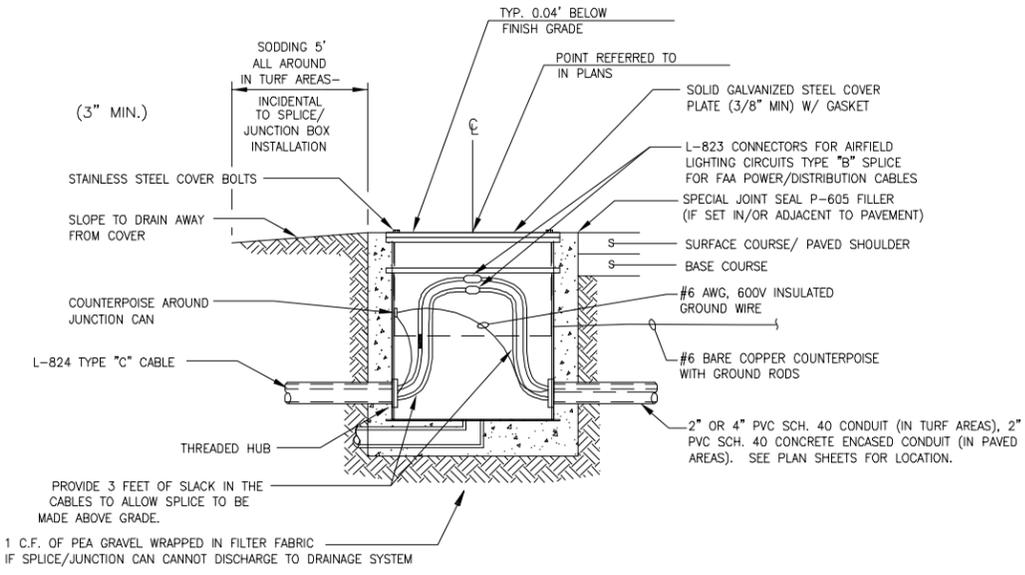
GRADING AND FILL DETAIL
N.T.S.



SECTION A-A
N.T.S.



ELECTRICAL CONNECTION
N.T.S.



CONCRETE-ENCASED JUNCTION BOX
NTS L867-D, TYPE B

NOTE: CONTRACTOR TO DETERMINE THE NUMBER AND ORIENTATION OF OPENINGS FOR CONDUITS FOR EACH SPLICE/JUNCTION BOX AS SHOWN ON THE PLAN SHEETS.

GENERAL SIGNAGE NOTES:

1. THE CONTRACTOR SHALL FIELD STAKE ALL SIGNS PRIOR TO INSTALLATION. ANY DISCREPANCIES IN ALIGNMENT OR LOCATIONS SHOULD BE RESOLVED PRIOR TO INSTALLATION.
2. THE CONTRACTOR SHALL PROVIDE ALL MATERIALS AND LABOR TO INSTALL, RELOCATE OR MODIFY, AND INSTALL THE AIRFIELD GUIDANCE SIGNAGE AS INDICATED ON THE DRAWINGS. ITEMS NOT SHOWN BUT OBVIOUSLY NECESSARY FOR COMPLETION OF THE WORK SHALL BE INCLUDED.
3. THE ACTUAL SIGN DIMENSIONS WILL VARY PER MANUFACTURER. THE BASE SIZE AS SHOWN SHALL BE ADJUSTED TO MATCH THE SIGN SUBMITTED. THE SUBMITTAL SHALL INCLUDE NEW BASE DIMENSIONS, LAYOUT, ETC.
4. THE CONCRETE SHALL COMPLY WITH P-610 SPECIFICATION.
5. THE ORIENTATION, INSTALLATION, AND DEPTH OF THE 2" CONDUIT SHALL BE COORDINATED WITH THE PLANS. EXISTING SLEEVES MAY BE USED FOR ENTRY TO MANHOLES.
6. THE DETAILS SHOWN IN THE PLANS PROVIDE THE MINIMUM REQUIREMENTS FOR SIGN INSTALLATIONS. THE CONTRACTOR SHALL USE STANDARDS APPLICABLE FOR THE PARTICULAR SIGN MANUFACTURER. THE BOLT PATTERN, METHOD OF ANCHORING, ETC., SHALL BE PER SIGN MANUFACTURER'S RECOMMENDATIONS AND APPROVED BY THE ENGINEER.
7. ALL SIGNS SHALL BE FURNISHED WITH TETHERS ON EACH LEG. TETHERS SHALL BE 1/8" STAINLESS STEEL AIRCRAFT CABLE WITH A FORMED EYE ON BOTH ENDS. THE TETHER SHALL BE OF SUFFICIENT LENGTH TO HAVE A MINIMUM OF 2" OF SLACK WHEN ATTACHED BETWEEN THE SIGN AND THE FIXTURE PLATE. THE TETHERS AND BONDING CONDUCTORS SHALL BE OF SUFFICIENT LENGTH TO ALLOW THE FRANGIBLE COUPLINGS TO OPERATE WITHOUT RESTRICTIONS AND TO ALLOW POWER CABLE TO DISCONNECT IF THE SIGN FALLS OVER.
8. THE SIGN TETHER AND BONDING CONDUCTOR SHALL NOT BE ATTACHED AT THE SAME ANCHOR BOLT. AN APPROVED MECHANICAL OR COMPRESSION LUG SHALL BE USED TO CONNECT THE BONDING CONDUCTOR TO THE SIGN FLANGE AND SIGN.
9. ALL AREAS FOR THE LEG FLANGE SHALL BE IN THE SAME PLANE.
10. THE ANCHOR BOLTS SHALL BE A-36 STEEL. HOT DIPPED GALVANIZED STEEL WHEN CAST INTEGRALLY WITH THE CONCRETE PAD OR STAINLESS STEEL EXTENSION ANCHORS WHEN USED ON EXISTING OR DRILLED INTO NEW CONCRETE PADS. THE SIZE AND LENGTH SHALL BE SPECIFIED BY THE SIGN MANUFACTURER.
11. EACH NEW SIGN SHALL BE FURNISHED WITH AN ON-OFF TOGGLE SWITCH WITH WATERPROOF COVER. THE SWITCH SHALL BE USED BY MAINTENANCE PERSONNEL TO DE-ENERGIZE THE SIGN SO MAINTENANCE WORK CAN BE PERFORMED. THE SWITCH SHALL DISCONNECT POWER IMMEDIATELY ADJACENT TO THE SECONDARY CONNECTOR IN THE FRANGIBLE COUPLING. THE WEATHERPROOF COVER SHALL PROVIDE PROTECTION FROM DRIVING RAIN, SNOW AND ICE, AND SHALL HAVE A SPRING OPERATED CLOSING DEVICE. THE WEATHERPROOF COVER SHALL ALSO PROVIDE PHYSICAL PROTECTION FOR THE SWITCH HANDLE.
12. ALL SIGNS SHALL BE ORIENTED SUCH THAT THE LONGITUDINAL CENTERLINE OF THE SIGN IS PERPENDICULAR TO THE RESPECTIVE TAXIWAY/RUNWAY CENTERLINE.
13. FOR SIGNS INSTALLED IN PAVED SHOULDER AREAS, ADJUSTABLE BASE CANS SHALL BE INSTALLED PRIOR TO PAVING. UPON COMPLETION OF PAVING THE BITUMINOUS SHALL BE NEATLY SAWCUT AND REMOVED TO ALLOW FOR ADJUSTMENT TO THE CAN TO FINISH GRADE AND PLACING THE REINFORCED CONCRETE SIGN PAD.
14. PROVIDE BRASS IDENTIFICATION LABEL FOR SIGN. LABEL SHALL BE STAMPED WITH TYPICAL MANUFACTURER DATA AND ATTACHED ON NEAR SIDE TO RUNWAY OR TAXIWAY.

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NORTH BUSINESS DEVELOPMENT AREA

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Signature *Darren K. Christopher*
Typed Name DARREN K. CHRISTOPHER
Date 08/18/2009 Reg. No. 45052

REVISIONS

NO.	DESCRIPTION	DATE

DATE ISSUED: 08-18-2009
REVIEWED BY: MLS
DRAWN BY: JKE
DESIGNED BY: DKC
AEP PROJECT NUMBER
214-1882-077
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SHEET TITLE
ELECTRICAL DETAILS

SHEET NUMBER
E302
BID DOCUMENTS