New Jersey Turnpike Authority
P.O. Box 5042, Woodbridge, NJ 07095

January 9, 2024

Document Change Announcement

Standard Drawings
Electrical Qualification Criteria Updates
DCA2024SD-01

Subject: Revisions to

Drawing E-01 Lighting Standard Key Sheet
Drawing E-02 Steel Lighting Standard
Drawing E-04 Expressway Lighting Standard - 40 Foot Nominal Mounting Height
Drawing E-05 Expressway Lighting Standard - 48 Foot Nominal Mounting Height
Drawing E-09 Transformer Base And Pole Grounding Details
Drawing E-11 Lighting Standard Bases
Drawing E-13 Junction Box Type C
Drawing E-18 Roadway Lighting Installation Details - I
Drawing E-19 Roadway Lighting Installation Details - 2
Drawing E-20 Roadway Lighting Installation Details - 3
Drawing E-07 Highmast Lighting Standard Details - 2*

Description of Change:
This DCA contains miscellaneous electrical updates and is released in conjunction with DCAs for the Design Manual and Standard Supplementary Specifications. The changes to the Standard Drawings are complementary to those DCAs, updates lighting standard assembly locations due to new MASH requirements, and updates details as a result of feedback from field conditions and inspections.

Notice to New Jersey Turnpike Authority Staff and Design Consultants
Effective immediately, all contracts currently in the design phase shall incorporate the revisions herein. For advertised contracts awaiting the opening of bids this revision shall be incorporated via addendum. Contact your New Jersey Turnpike Authority Project Manager for instruction.

The revisions may be accessed on the Authority's webpage: https://www.njta.com/doing-business/professional-services

Recommended By:

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Approved By:

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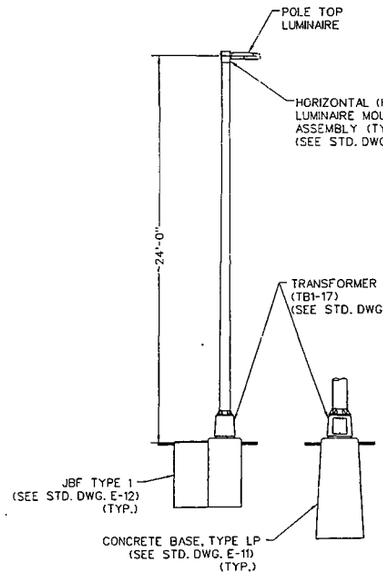
Chief Engineer

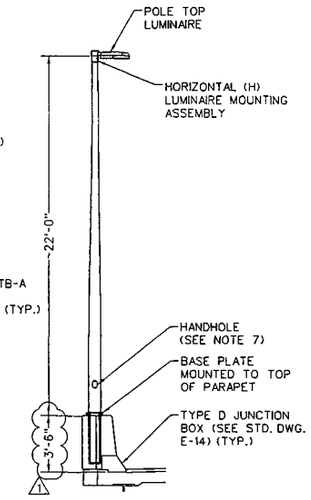
Distribution: Senior Staff Engineering, Law, Maintenance & Operations Depts., All Prequalified Consultant Firms, File

*7/9/2025: Correction added. Revision to Standard Drawing E-07 was originally included in this DCA.

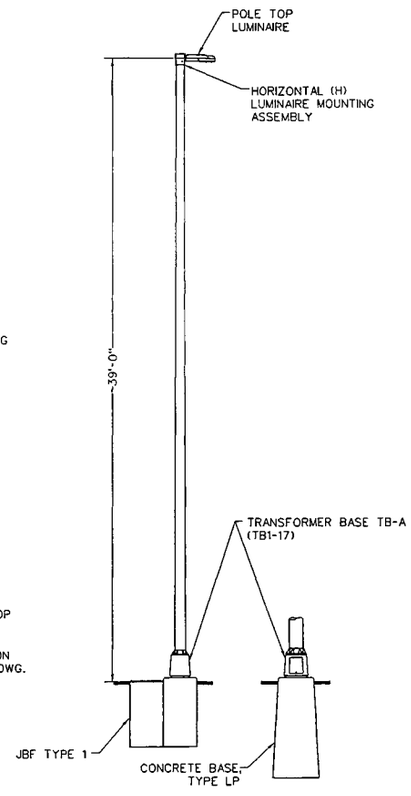


L-MG-26

(L-MG2-26 AND L-MG3-26 SIMILAR)

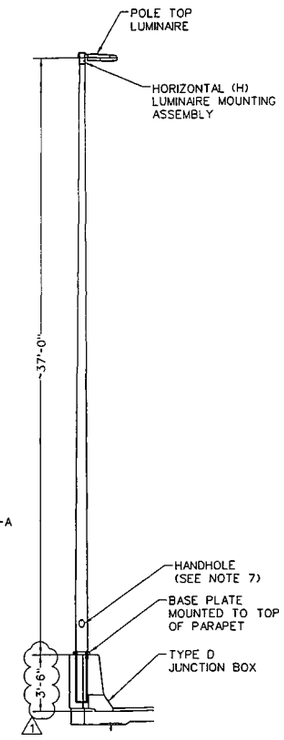


L-MG-26-SB



L-MG-40

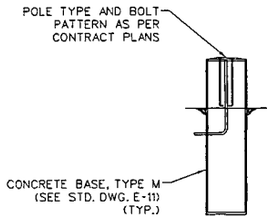
(L-MG2-40 AND L-MG3-40 SIMILAR)



L-MG-40-SB

NOTES

1. LIGHTING STANDARDS SHOWN SHALL BE USED UNLESS OTHERWISE NOTED FOR ALL NEW LIGHTING INSTALLATIONS ON THE PARKWAY AND TURNPIKE.
2. CONCRETE BASES SHALL BE USED ONLY WHERE RIGHT-OF-WAY LIMITATIONS OR OTHER FIELD CONDITIONS PREVENT USE OF JUNCTION BOX FOUNDATIONS.
3. SKETCHES SHOWN ON THIS SHEET ARE PROVIDED TO SHOW OVERALL DIMENSIONS OF LIGHTING STANDARD TYPE. FOR SPECIFIC LIGHTING STANDARD DETAILS, INCLUDING MOUNTING, LUMINAIRE, MATERIALS, ETC., SEE THE REMAINDER OF THE ELECTRICAL (E) STANDARD DRAWINGS.
4. TRANSFORMER BASE DOOR LOCATION SHOWN SCHEMATICALLY. ACTUAL DOOR LOCATION SHALL BE AS SHOWN ON THE PLANS.
5. CONFIGURATIONS SHOWN ARE FOR HORIZONTAL (H) MOUNTING ASSEMBLIES. SEE STANDARD DRAWING E-04 FOR TYPE H AND STANDARD DRAWING E-05 FOR V MOUNTING ASSEMBLY DETAILS.
6. TYPE M CONCRETE BASE IS FOR USE IN PARKING LOTS AND SERVICE AREAS ONLY, UNLESS OTHERWISE NOTED.
7. LIGHT POLE ORIENTATION SHALL BE SUCH THAT THE HANDHOLE IS AWAY FROM THE FLOW OF TRAFFIC.

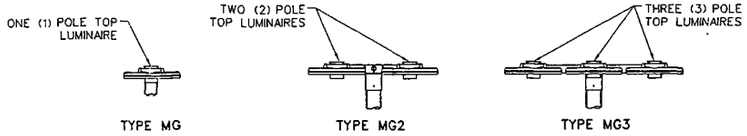


ELEVATED CONCRETE BASE

(SEE NOTE 6)

LIGHTING STANDARD TYPES

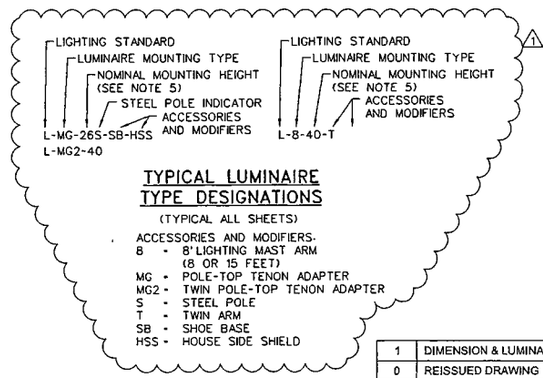
SCALE- 3/16" = 1'-0"



FRONT VIEW

POLE TOP FIXTURE CONFIGURATIONS

(SEE NOTE 5)



TYPICAL LUMINAIRE TYPE DESIGNATIONS

(TYPICAL ALL SHEETS)

ACCESSORIES AND MODIFIERS:

- 8 - 8' LIGHTING MAST ARM (8 OR 15 FEET)
- MG - POLE-TOP TENON ADAPTER
- MG2 - TWIN POLE-TOP TENON ADAPTER
- S - STEEL POLE
- T - TWIN ARM
- SB - SHOE BASE
- HSS - HOUSE SIDE SHIELD

REV.	DESCRIPTION	DATE
1	DIMENSION & LUMINAIRE TYPES	01/24
0	REISSUED DRAWING	09/21

0 1/2 1 2 3 4

ORIGINAL SIZE IN INCHES

NEW JERSEY TURNPIKE AUTHORITY

NEW JERSEY TURNPIKE
GARDEN STATE PARKWAY

STANDARD DRAWINGS

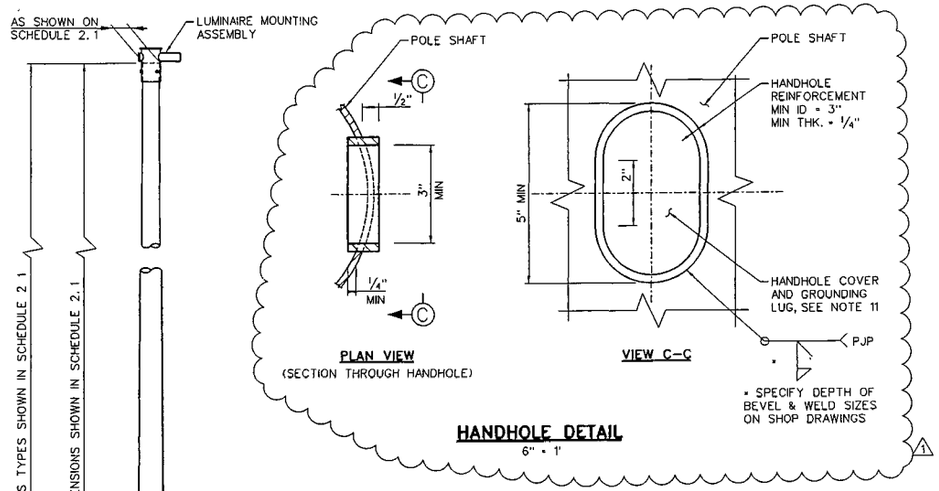
LIGHTING STANDARD KEY SHEET

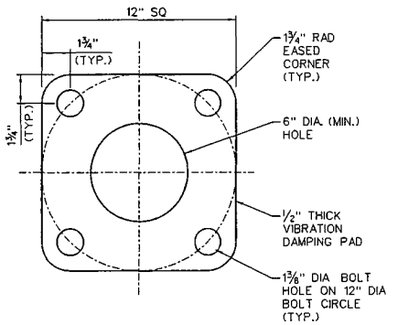
OFFICE OF THE CHIEF ENGINEER
NEW JERSEY TURNPIKE AUTHORITY
WOODBRIDGE, NEW JERSEY

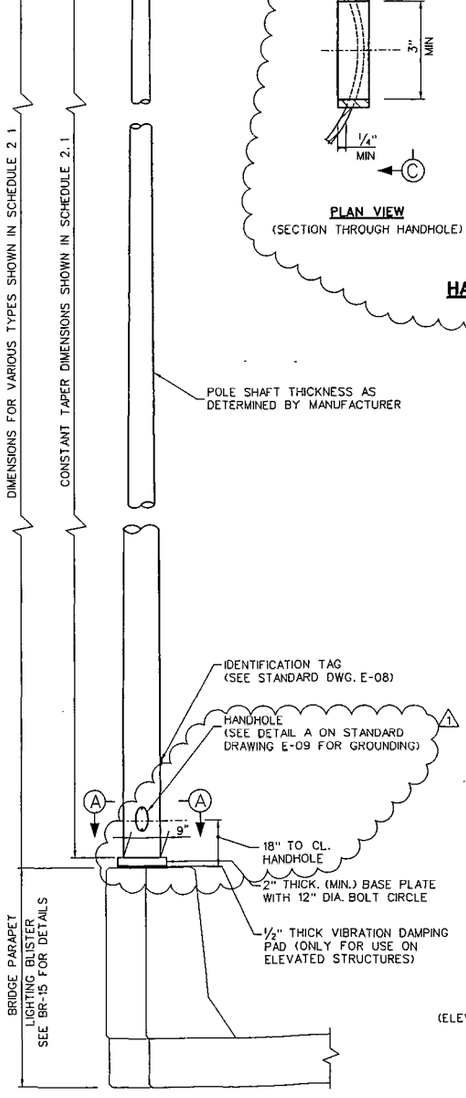
STANDARD DRAWING
E-01

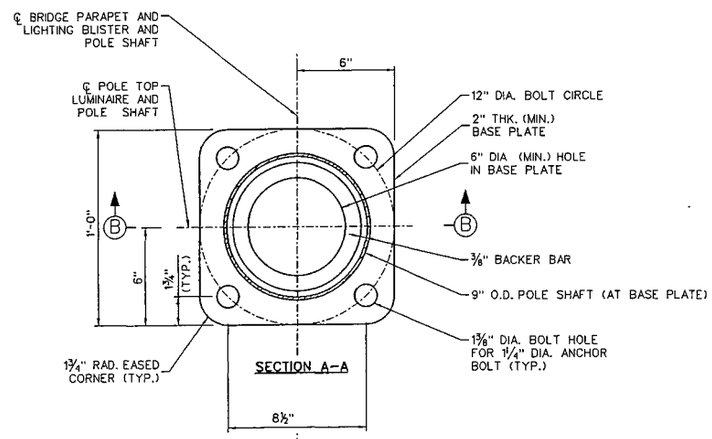
CONTRACT NO.

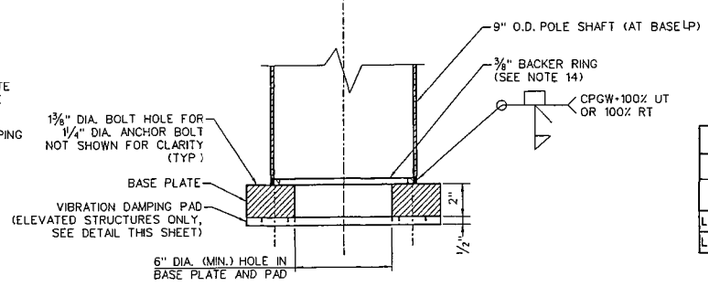
SHEET NO. OF











NOTES:

1. THE DETAILS AND PROVISIONS SHOWN ON THIS SHEET SHALL BE APPLICABLE TO ALL LIGHTING STANDARDS WITHOUT TRANSFORMER BASE.
2. THESE DETAILS AND PROVISIONS ARE EXPLICITLY PRESENTED AS MINIMUM ACCEPTABLE CRITERIA. THEY SHALL NOT BE USED FOR DESIGN WITHOUT SUPPORTING DESIGN CALCULATIONS PREPARED BY THE LIGHTING STANDARD MANUFACTURER. THE LIGHTING STANDARD MANUFACTURER SHALL BE RESPONSIBLE FOR ALL ASPECTS OF DESIGN AND FABRICATION OF LIGHTING STANDARDS
3. SHOP DRAWINGS AND DESIGN CALCULATIONS SHALL BE SUBMITTED TO THE AUTHORITY FOR REVIEW IN ACCORDANCE WITH SECTION 104.08 OF THE SPECIFICATIONS AND SHALL BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NEW JERSEY. ALL DESIGNS SHALL CONSIDER THE BRIDGE MOUNTED LIGHTING STANDARD HEIGHT ABOVE LOCAL GRADE BELOW THE BRIDGE, BUT SHALL NOT BE CONSIDERED AT LESS THAN 135' ABOVE GRADE AND AT BASIC WIND SPEEDS LESS THAN 110MPH. SHOP DRAWINGS SHALL INCLUDE ALL DETAILS AND DIMENSIONS REQUIRED TO FABRICATE THE LIGHTING STANDARD(S) AND FURNISH ALL APPURTENANT HARDWARE. DESIGN CALCULATIONS SUBMITTED AS SHOP DRAWINGS SHALL BE PREPARED IN ACCORDANCE WITH THE AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS, CURRENT EDITION. BRIDGE MOUNTED LIGHTING STANDARDS SHALL NOT BE CONSIDERED AS 'COMMON POLES' AND THEREFORE SHALL INCLUDE STRENGTH AND FATIGUE DESIGN LOAD CASES. FOR THE PURPOSES OF FATIGUE DESIGN THE FOLLOWING SHALL BE CONSIDERED
   - VORTEX SHEDDING LOAD CASE
   - NATURAL WIND GUST LOAD CASE
   - FATIGUE IMPORTANCE CATEGORY (IF) = 1.0
4. POLES AS SHOWN ON THIS SHEET SHALL BE DESIGNED TO SUPPORT A LUMINAIRE FIXTURE WEIGHING 60 LBS WITH AN EPA OF 1.5 SF.
5. LIGHTING STANDARDS TO BE PLACED ON BRIDGES SHALL BE CONSTRUCTED FROM STEEL ALLOY, AS PERMITTED BELOW
6. STEEL ALLOY SHALL CONFORM TO ASTM A572, GR. 55 OR 65 OR ASTM A595 GR. A WITH A MINIMUM YIELD STRENGTH OF 55 KSI. ALL STEEL POLE SHAFTS SHALL BE ROUND. CIRCUMFERENTIAL WELDS AND BUTT WELDS, AND TELESCOPIC SLIP FIT SPLICES WILL NOT BE PERMITTED ONLY ONE LONGITUDINAL SEAM WELD WILL BE PERMITTED LONGITUDINAL SEAM WELDS WITHIN 6 INCHES OF THE POLE TO BASE PLATE WELD SHALL BE FULL PENETRATION WELDS. PLATES SHALL CONFORM TO A572 GR. 55 OR 65.
7. LIGHTING STANDARDS SHALL BE HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM A123.
8. LIGHTING STANDARDS SHALL BE POWDER COATED USING A SYSTEM WHICH SHALL BE SUBMITTED FOR APPROVAL BY THE ENGINEER. FINAL COAT SHALL MATCH COLOR 26440 FROM THE FEDERAL COLOR STANDARD 595C
9. POLES SHALL HAVE A CONSTANT LINEAR TAPER WITHIN THE LIMITS SHOWN ON THIS SHEET.
10. BASE PLATE SHALL BE PREFERABLY CUT VIA MECHANICAL OR WATER JET METHODS. THERMAL CUTTING WILL BE PERMITTED.
11. HANDHOLE COVERS SHALL BE FABRICATED FROM THE SAME MATERIAL AS THE POLE. A NEOPRENE GASKET, COVER RETENTION TETHER CHAIN, AND ATTACHMENT HARDWARE SHALL BE PROVIDED A GROUND STUD SHALL BE INSTALLED OPPOSITE THE HANDHOLE COVER.
12. ANCHOR BOLTS SHALL BE ASTM F-1554, GR. 105. WASHERS SHALL BE CLIPPED WHERE REQUIRED TO CLEAR THE POLE SHAFT OR POLE SHAFT WELDMENT.
13. SEE STANDARD DRAWING E-10 FOR POLE ATTACHMENT HARDWARE AND FOR ANCHOR BOLTS. APPROVED ISOLATING MATERIALS SHALL BE USED WHERE POWDER COATED SURFACES COME IN CONTACT WITH HARDENED WASHERS SO AS TO PREVENT DAMAGE TO THE FINISH. FOR ANCHOR BOLTS WITH GREATER THAN 55 KSI TENSILE STRENGTH, PROVIDE ANCHOR PLATE, DOUBLE NUTS, AND DO NOT BEND J-HOOK.
14. FULL PENETRATION WELDED POLE SHAFT TO BASE PLATE CONNECTION WITH THE BACKER RING ATTACHED TO THE BASE PLATE WITH A CONTINUOUS FILLET WELD AROUND THE INTERIOR FACE OF THE RING THE THICKNESS OF THE BACKING RING SHALL NOT EXCEED ⅜".
15. PROVIDE LUMINAIRE MOUNTING ASSEMBLY AS REQUIRED TO SUPPORT LUMINAIRES AS SPECIFIED ON THE CONTRACT PLANS. SEE STANDARD DRAWINGS E-04 AND E-05 FOR LUMINAIRE MOUNTING ASSEMBLY DETAILS.
16. ALL COMPONENTS SUBMITTED FOR USE ON NJTA PROJECTS MUST BE FULLY INTERCHANGEABLE AND SIMILAR IN QUALITY, IN ALL RESPECTS WITH ARMS AND BASES SHOWN HEREIN A COMPREHENSIVE REVIEW AND FINAL DETERMINATION FOR APPROVAL OF ALL LIGHTING STANDARD EQUIPMENT WILL BE MADE BY THE AUTHORITY'S ENGINEERING DEPARTMENT PRIOR TO MANUFACTURE OR USE
17. A HANDHOLE IS REQUIRED ON ALL BRIDGE-MOUNTED LIGHTING STANDARDS AND SHALL BE LOCATED SUCH THAT THE VERTICAL CENTERLINE OF THE HANDHOLE IS 18" FROM TOP OF PARAPET. WHEN LOCATED BEHIND CHAIN LINK FENCE, THE BOTTOM OF THE HANDHOLE SHALL BE LOCATED ONE FOOT ABOVE THE FENCE. ATTACHMENT SCREWS SHALL BE COATED WITH AN APPROVED ANTI-SEIZE COMPOUND.
18. A ½" THICK VIBRATION DAMPING PAD SHALL BE INSTALLED ON ALL POLES ON BRIDGES OR OTHER ELEVATED STRUCTURES. SEE SPECIFICATIONS

0 1/2 1 2 3 4
ORIGINAL SIZE IN INCHES

SCHEDULE 2.1					
LIGHTING STANDARD TYPE				MAX. LUMINAIRE SIZE (INDIVIDUAL LUMINAIRE)	
TYPES	# OF LUMINAIRES	SHAFT DIMENSIONS		WEIGHT	PROJ. AREA SQ. FT
		TAPER	LENGTH		
L-MG-26-SB	1	9" x 5.92"	22'	60#	1.5
L-MG-40-SB	1	9" x 3.82"	37'	60#	1.5

REV.	DESCRIPTION	DATE
1	UPDATED HANDHOLE & NOTE	01/24
0	REISSUED DRAWING	09/21

NEW JERSEY TURNPIKE AUTHORITY
NEW JERSEY TURNPIKE
GARDEN STATE PARKWAY
STANDARD DRAWINGS

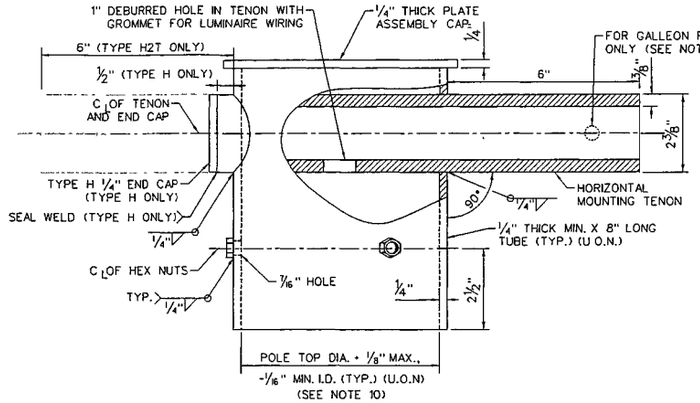
STEEL LIGHTING STANDARD

OFFICE OF THE CHIEF ENGINEER
NEW JERSEY TURNPIKE AUTHORITY
WOODBRIDGE, NEW JERSEY

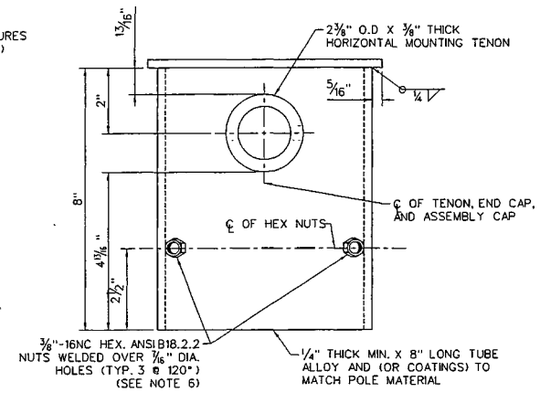
STANDARD DRAWING
E-02

CONTRACT NO.

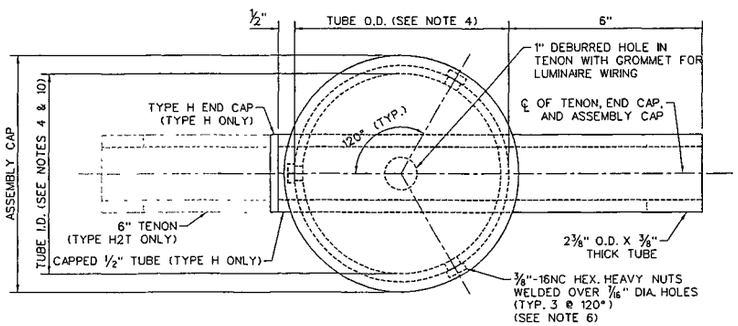
SHEET NO. OF



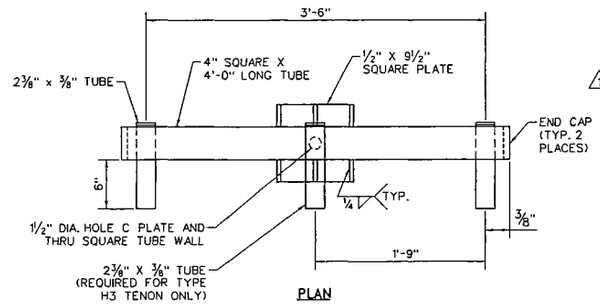
RIGHT PARTIAL SECTION



FRONT ELEVATION



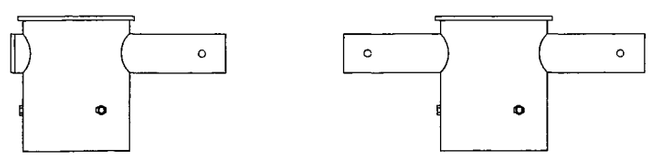
PLAN



PLAN

LUMINAIRE MOUNTING ASSEMBLY TYPE H AND H2T

(TYPE H SINGLE TENON, TYPE H2T TWIN TENON AT 180°)
SCALE: 6" = 1'-0"

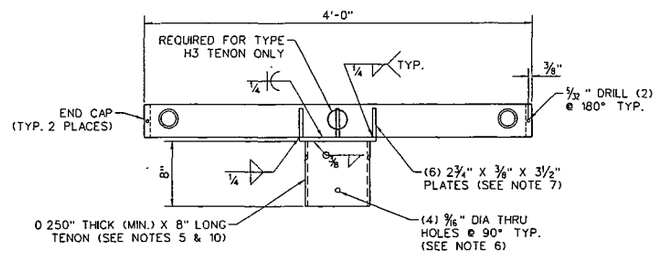


TYPE H – SINGLE TENON

TYPE H2T – TWIN TENON

TYPE H AND H2T ELEVATION VIEW

SCALE: 3" = 1'-0"



ELEVATION

LUMINAIRE MOUNTING ASSEMBLY TYPE H2 AND H3

SCALE: 1 1/2" = 1'-0"

NOTES:

1. LUMINAIRE MOUNTING ASSEMBLY DETAILS SHOWN SHALL BE USED FOR STEEL AND ALUMINUM LIGHTING STANDARDS.
2. LUMINAIRE MOUNTING ASSEMBLY FOR ALUMINUM LIGHTING STANDARD SHALL BE MADE OUT OF ALLOY 6061-T6 MATERIAL TO MATCH LIGHTING STANDARD MATERIAL.
3. LUMINAIRE MOUNTING ASSEMBLY FOR STEEL LIGHTING STANDARD SHALL BE MADE OUT OF ASTM A572, GR. 55 OR 65 MATERIAL TO MATCH LIGHTING STANDARD MATERIAL.
4. LUMINAIRE MOUNTING ASSEMBLY INNER AND OUTER DIAMETER SHALL BE SIZED BASED ON THE LIGHTING STANDARD POLE OUTER DIAMETER.
5. H2T TWIN LUMINAIRES SHALL BE 180° AWAY FROM EACH OTHER.
6. LUMINAIRE MOUNTING ASSEMBLIES SHALL BE FASTENED TO POLE SHAFT WITH HARDWARE AS SHOWN BELOW:
   TYPE H AND H2T
   - (3) 3/8" - 16NC X 1" LONG SQ. HEAD CAP POINT, SET SCREWS
   - (3) 3/8" - 16NC JAM NUTS

   TYPE H2 AND H3
   - (2) 1/2" - 13NC X 8" LONG STUDBOLT
   - (4) 1/2" - 13NC JAM NUTS
   - (4) 1/2" LOCKWASHER, FLATWASHER, AND SCREWS
7. MOUNTING ASSEMBLY SHALL BE MODIFIED FOR TYPE H3 TO HAVE ONLY FOUR (4) PLATES.
8. ALL HARDWARE SHALL BE STAINLESS STEEL GRADE 304 OR BETTER, UNLESS OTHERWISE NOTED.
9. WHEN HORIZONTAL MOUNTING ADAPTERS ARE USED TO INSTALL THE GALLEON FIXTURE, A THROUGH BOLT SHALL BE INSTALLED TO SECURE MAST ARM ADAPTER AND TENON. TENON REQUIRES A HOLE FOR A 3/8"-16 STAINLESS STEEL HEX HEAD BOLT WITH LOCK WASHER AND DOUBLE NUT. LENGTH AS REQUIRED. THE TENON ADAPTER MAY BE MANUFACTURED WITH THIS HOLE OR THE HOLE MAY BE FIELD-DRILLED.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD INSPECTION OF ALL POLES TO ENSURE EACH MOUNTING ADAPTER IS THE CORRECT TYPE AND SIZE, AND IS MOUNTED IN THE APPROPRIATE METHOD FOR EACH LIGHT POLE.

0 1/2 1 2 3 4
ORIGINAL SIZE IN INCHES

REV.	DESCRIPTION	DATE
1	ADDED NOTE	01/24
0	REISSUED DRAWING	09/21

NEW JERSEY TURNPIKE AUTHORITY
NEW JERSEY TURNPIKE
GARDEN STATE PARKWAY
STANDARD DRAWINGS

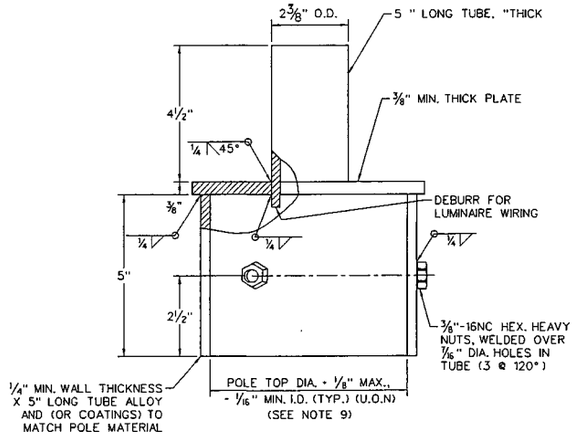
TYPE H POLE-TOP LUMINAIRE MOUNTING ASSEMBLIES

OFFICE OF THE CHIEF ENGINEER
NEW JERSEY TURNPIKE AUTHORITY
WOODBRIDGE, NEW JERSEY

STANDARD DRAWING
E-04

CONTRACT NO

SHEET NO. OF

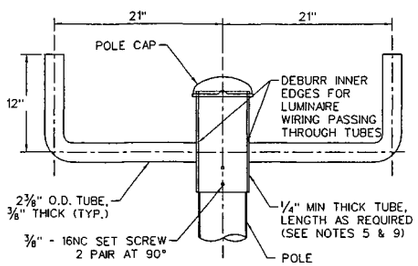


LUMINAIRE MOUNTING ASSEMBLY TYPE V

SCALE: 1½" = 1'-0"

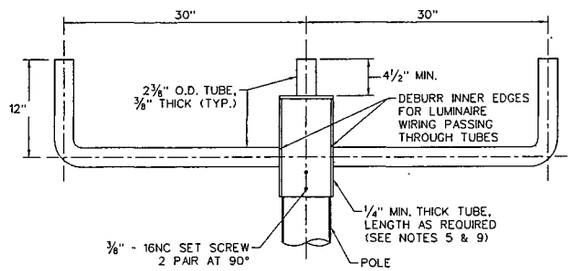
NOTES:

1. LUMINAIRE MOUNTING ASSEMBLY DETAILS SHOWN SHALL BE USED FOR STEEL AND ALUMINUM LIGHTING STANDARDS
2. LUMINAIRE MOUNTING ASSEMBLY FOR ALUMINUM LIGHTING STANDARD SHALL BE MADE OUT OF ALLOY 6061-T6 MATERIAL TO MATCH LIGHTING STANDARD MATERIAL.
3. LUMINAIRE MOUNTING ASSEMBLY FOR STEEL LIGHTING STANDARD SHALL BE MADE OUT OF ASTM A572, GR. 55 OR 65 MATERIAL TO MATCH LIGHTING STANDARD MATERIAL.
4. LUMINAIRE MOUNTING ASSEMBLY INNER AND OUTER DIAMETER SHALL BE SIZED BASED ON THE LIGHTING STANDARD POLE OUTER DIAMETER.
5. TWIN AND TRIPLE LUMINAIRES ARMS SHALL BE 180° AWAY FROM EACH OTHER.
6. LUMINAIRE MOUNTING ASSEMBLIES SHALL BE FASTENED TO POLE SHAFT WITH HARDWARE AS SHOWN BELOW:
   TYPE V
   - (3) 3/8" - 16NC X 1" LONG SQ. HEAD CAP POINT, SET SCREWS
   - (3) 3/8" - 16NC JAM NUTS
   TYPE V2 AND V3
   - (2) 1/2" - 13NC X 8 " LONG STUDBOLT
   - (4) 1/2" - 13NC JAM NUTS
   - (4) 1/2" LOCKWASHER, FLATWASHER, AND SCREWS
7. NOT ALL LUMINAIRES MAY BE MOUNTED ON VERTICAL ADAPTORS. SEE SPECIFIC MANUFACTURER MOUNTING DIRECTIONS FOR OPTIONS.
8. ALL HARDWARE SHALL BE STAINLESS STEEL GRADE 304 OR BETTER, UNLESS OTHERWISE NOTED.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD INSPECTION OF ALL POLES TO ENSURE EACH MOUNTING ADAPTER IS THE CORRECT TYPE AND SIZE, AND IS MOUNTED IN THE APPROPRIATE METHOD FOR EACH LIGHT POLE.



LUMINAIRE MOUNTING ASSEMBLY TYPE V2

SCALE: 1½" = 1'-0"



LUMINAIRE MOUNTING ASSEMBLY TYPE V3

SCALE: 1½" = 1'-0"

0 1/2 1 2 3 4

ORIGINAL SIZE IN INCHES

NEW JERSEY TURNPIKE AUTHORITY

NEW JERSEY TURNPIKE
GARDEN STATE PARKWAY

STANDARD DRAWINGS

TYPE V POLE-TOP LUMINAIRE MOUNTING ASSEMBLIES

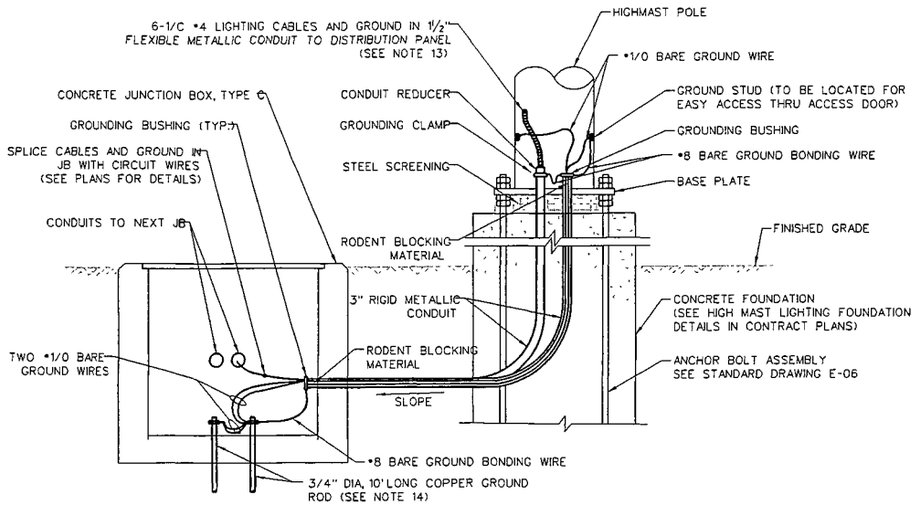
OFFICE OF THE CHIEF ENGINEER
NEW JERSEY TURNPIKE AUTHORITY
WOODBRIDGE, NEW JERSEY

STANDARD DRAWING
E-05

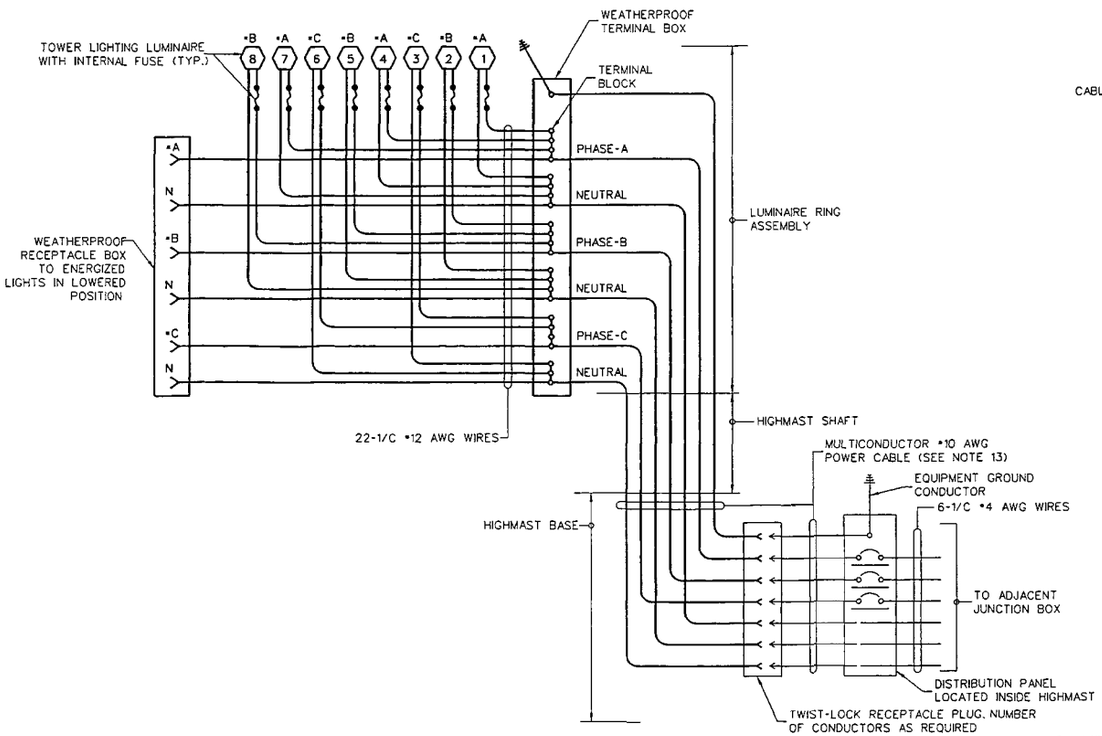
REV.	DESCRIPTION	DATE
1	ADDED NOTE	01/24
0	REISSUED DRAWING	09/21

CONTRACT NO

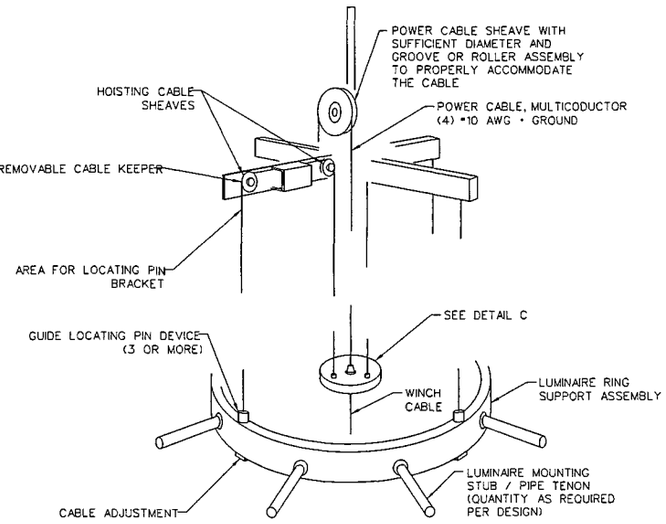
SHEET NO. OF



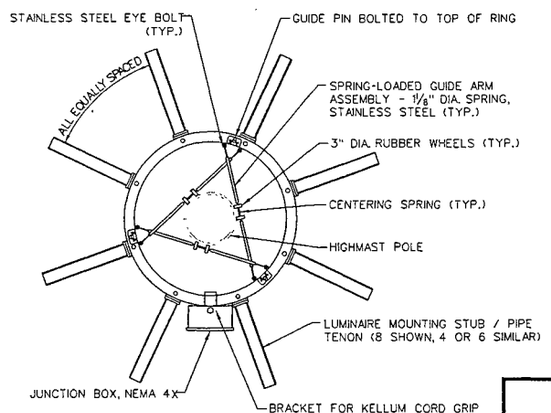
HIGHMAST INSTALLATION DETAILS
(NOT TO SCALE)



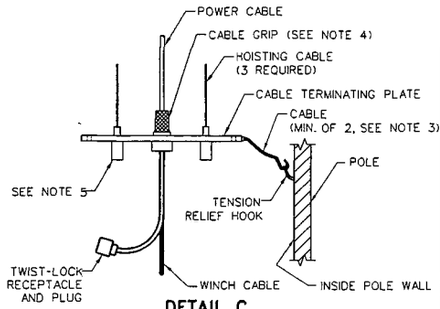
TYPICAL HIGHMAST LIGHTING WIRING DIAGRAM
(NOT TO SCALE)



LUMINAIRE HEADFRAME RING (HR) ASSEMBLY DETAIL
(NOT TO SCALE)



LUMINAIRE HEADFRAME RING (HR) ASSEMBLY PLAN
(NOT TO SCALE)



DETAIL C
(NOT TO SCALE)

NOTES

1. ALL LUMINAIRES SHALL BE INSTALLED AND ORIENTED AS PER LIGHTING ILLUMINATION DESIGN AND AS SHOWN ON THE PLANS.
2. ONE (1) PORTABLE DRIVE UNIT WITH TRANSFORMER, REMOTE CONTROL SWITCH, AND ALL ACCESSORIES SHALL BE SUPPLIED BY THE CONTRACTOR.
3. EACH HIGHMAST HEADFRAME SHALL BE BOTTOM-LATCHING TYPE. A BOTTOM LOCKING DEVICE SHALL BE FURNISHED AND INSTALLED TO REMOVE TENSION FROM THE WINCH.
4. THE POWER CABLE SHALL BE PROVIDED WITH AN APPROVED STRAIN RELIEF DEVICE.
5. EACH HOISTING CABLE SHALL BE PROVIDED WITH A SPRING LOADED SHOCK ABSORBER TO PREVENT CABLE STRETCH DUE TO MOVEMENT OF THE TOWER WHEN RING IS IN THE UPPER POSITION.
6. THERE SHALL BE SPRING-LOADED, WATER-RESISTANT, NON-SCRATCHING GUIDE ARMS (MIN. OF 3) TO GUIDE THE HEAD FRAME AND TO PREVENT ROTATION AROUND HIGHMAST.
7. THE LUMINAIRE RING ASSEMBLY AND SUPPORT ASSEMBLY SHALL BE PROVIDED WITH SUITABLE POSITIONING DEVICES. (MINIMUM OF THREE (3) LOCATING PINS.)
8. HEAD ASSEMBLY SHALL BE FURNISHED WITH A ONE-PIECE SPUN ALUMINUM ANODIZED COVER.
9. THE ONLY OPENINGS ON THE HEAD ASSEMBLY SHALL BE THE HOLES THROUGH WHICH THE LUMINAIRE RING HOISTING CABLES AND POWER CABLE PASS.
10. ALL CABLES SHALL BE ADJUSTED FROM THE ACCESS DOOR.
11. EACH HIGHMAST SHALL BE INSTALLED WITH A LIGHTNING ROD AT THE TOP.
12. LIGHTING LEVELS SHALL MEET ALL NJTA ROADWAY LIGHTING DESIGN REQUIREMENTS AND ILLUMINATION LEVELS.
13. WIRE SIZES SHOWN FOR TYPICAL 8-LUMINAIRE, 277 VOLT OPERATION. FOR OTHER VOLTAGES AND LUMINAIRE QUANTITIES, WIRE SIZE SHALL BE MODIFIED TO MAINTAIN VOLTAGE DROP BETWEEN MAIN DISTRIBUTION PANEL (SERVICE) AND LUMINAIRES AT A MAXIMUM OF 3%. EACH CIRCUIT SHALL HAVE A DEDICATED NEUTRAL CONDUCTOR. SHARED NEUTRAL CONDUCTORS STRICTLY PROHIBITED.
14. GROUND RODS SHALL BE INSTALLED IN ACCORDANCE WITH NEC RECOMMENDATIONS.
15. REFER TO STANDARD DRAWING GR-10 FOR CLEARANCE REQUIREMENTS BEHIND GUIDE RAIL WHERE PRESENT.

0 1/2 1 2 3 4
ORIGINAL SIZE IN INCHES

REV.	DESCRIPTION	DATE
1	ADDED NOTE FOR PLACEMENT	01/24
0	REISSUED DRAWING	09/21

NEW JERSEY TURNPIKE AUTHORITY
NEW JERSEY TURNPIKE
GARDEN STATE PARKWAY
STANDARD DRAWINGS

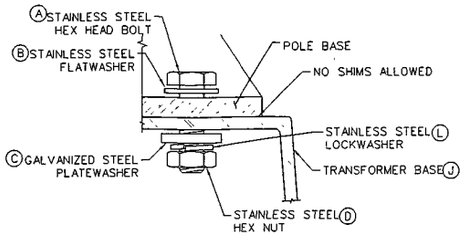
HIGHMAST LIGHTING STANDARD
DETAILS - 2

OFFICE OF THE CHIEF ENGINEER
NEW JERSEY TURNPIKE AUTHORITY
WOODBRIDGE NEW JERSEY

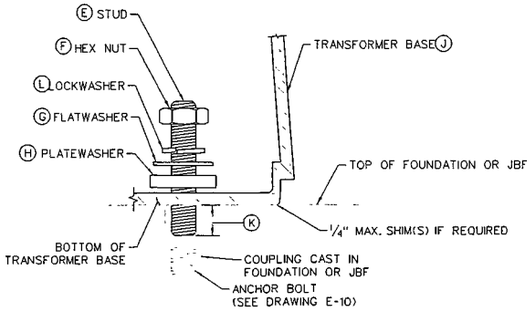
STANDARD DRAWING
E-07

CONTRACT NO

SHEET NO. OF



ALUMINUM POLE TO TRANSFORMER BASE
(SEE NOTE 7)



TRANSFORMER BASE TO FOUNDATION
(SEE NOTE 7)

TYPICAL ALUMINUM POLE BOLTING DETAILS

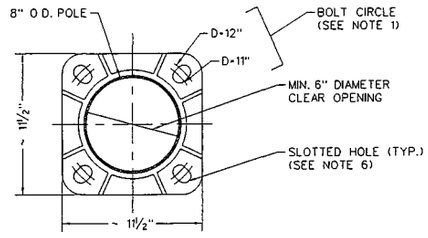
SCALE: 3/8" = 1"
(SEE SCHEDULE 9.1 FOR DIMENSIONS)

ITEM	DIMENSION WHEN USING ALUMINUM POLE WITH 11"-12" BOLT CIRCLE
A	1"-8NC x 3 3/4" LONG
B	1 1/16" I.D FOR 1" BOLT
C	2 3/4" O.D x 1/2" THK
D	1"-8NC
E	1"-8NC x 6" LONG*
F	1"-8NC
G	1 1/16" I.D. FOR 1" BOLT
H	2 3/4" O.D x 1/2" THK
J	TRANSFORMER BASE TB-A
K	1 1/4" EMBEDMENT (MIN)
L	1 1/16" I.D. X 1/4" THK.

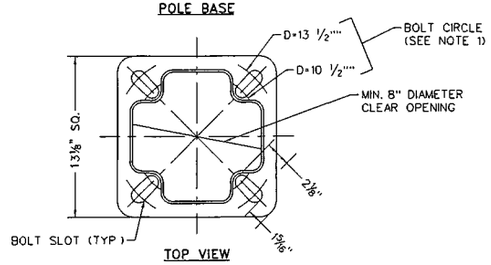
* OR SIZED AS REQUIRED TO ALLOW SUFFICIENT ROOM TO INSTALL BOLT COVERS ON POLE BASE PLATE OR OMISSION OF VIBRATION DAMPING PAD

SCHEDULE 9.1 – DIMENSIONS FOR ANCHOR BOLT ASSEMBLY

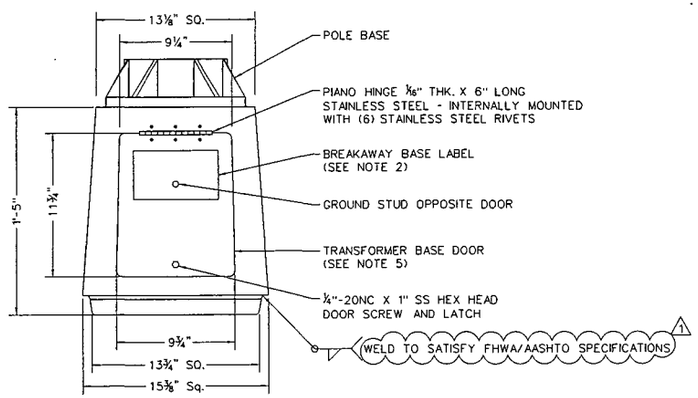
(SEE NOTE 7)



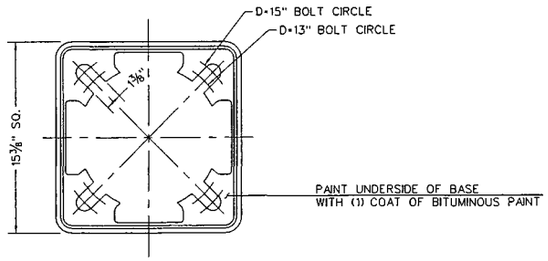
POLE BASE



TOP VIEW



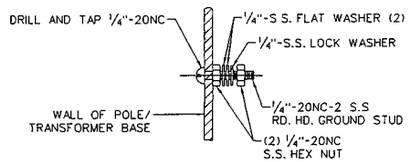
ELEVATION



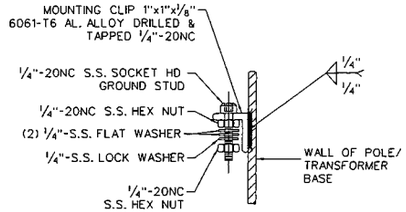
BOTTOM VIEW

TRANSFORMER BASE TB-A (TB1-17)

SCALE: 3/8" = 1'-0"



DETAIL A



ALTERNATE DETAIL B

GROUND STUD DETAIL (OPPOSITE HANDHOLE/ TRANSFORMER BASE)

NOT TO SCALE

NOTES

1. BOLTS CONNECTING POLE BASE TO TRANSFORMER BASE TB-A SHALL BE INSTALLED ON A 12" BOLT CIRCLE.
2. ALL TRANSFORMER BASES SHALL BE CERTIFIED BY F.H.W.A AS AN APPROVED BREAKAWAY ROADSIDE HARDWARE DEVICE TO THE MOST CURRENT AASHTO STANDARDS. A LABEL INDICATING THIS CERTIFICATION SHALL BE AFFIXED TO THE TRANSFORMER BASE OPPOSITE THE DOOR OPENING.
3. TRANSFORMER BASES SHALL BE CONSTRUCTED OF CAST ALUMINUM ALLOY 356-T6.
4. EQUIPMENT GROUND CONDUCTOR FOR TRANSFORMER BASE:

   CONTRACTOR SHALL PROVIDE A GROUNDING STUD IN EVERY TRANSFORMER BASE ON THE WALL OPPOSITE THE DOOR. GROUNDING STUD SHALL BE INSTALLED AS SHOWN IN DETAIL A OR DETAIL B. GROUNDING IN ALL TRANSFORMER BASES ON EACH PROJECT SHALL BE INSTALLED PER THE SAME METHOD.

   EQUIPMENT GROUND CONDUCTOR FOR POLES MOUNTED WITHOUT TRANSFORMER BASE:

   DETAIL A AND B SHALL ALSO BE USED FOR INSTALLATION OF POLE GROUNDING STUD IN POLE BASE MOUNTED POLES, WHERE NO TRANSFORMER BASE IS PROVIDED. GROUNDING SHALL BE INSTALLED OPPOSITE HANDHOLES ON THESE POLES
5. TRANSFORMER BASE DOOR SHALL BE MANUFACTURED OF ALUMINUM ALLOY 356-T6 MINIMUM THICKNESS SHALL BE 7/16".
6. SLOTTED HOLES IN POLE BASE SHALL BE SIZED TO ACCEPT 1" DIAMETER ANCHOR BOLTS FOR TRANSFORMER BASE TYPE TB-A
7. ALL STAINLESS STEEL (S.S.) HARDWARE SHALL BE TYPE 304 IN ACCORDANCE WITH ASTM A193 GRADE B8. ALL OTHER HARDWARE SHALL BE STEEL AND MEET THE FOLLOWING STANDARDS WHERE APPLICABLE:
   - GALVANIZING, HOT DIPPED PER ASTM A153
   - HEX NUTS PER ASTM A563 GRADE DH
   - WASHERS PER ASTM F436
8. SEE STANDARD DRAWING E-10 FOR ANCHOR BOLT AND BOLT COUPLING DETAILS AND DIMENSIONS

0 1/2 1 2 3 4
ORIGINAL SIZE IN INCHES

REV.	DESCRIPTION	DATE
1	REVISED TRANSFORMER BASE WELD	01/24
0	REISSUED DRAWING	09/21

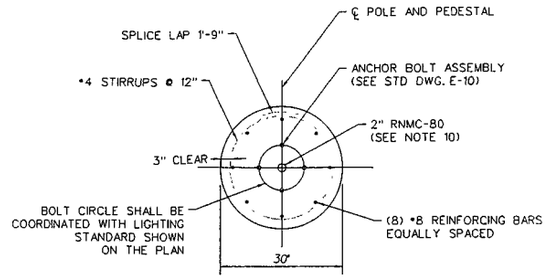
NEW JERSEY TURNPIKE AUTHORITY
NEW JERSEY TURNPIKE
GARDEN STATE PARKWAY
STANDARD DRAWINGS

TRANSFORMER BASE AND POLE GROUNDING DETAILS

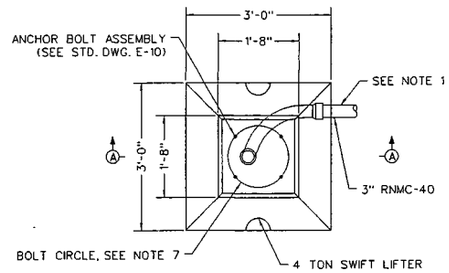
OFFICE OF THE CHIEF ENGINEER
NEW JERSEY TURNPIKE AUTHORITY
WOODBRIDGE, NEW JERSEY

STANDARD DRAWING
E-09

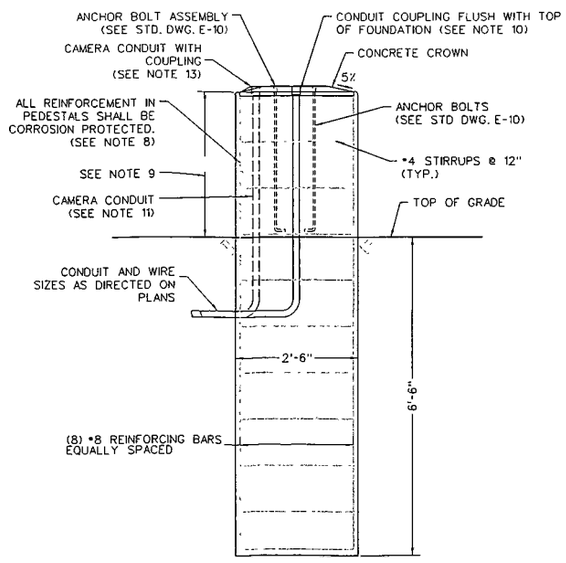
CONTRACT NO SHEET NO. OF



PLAN



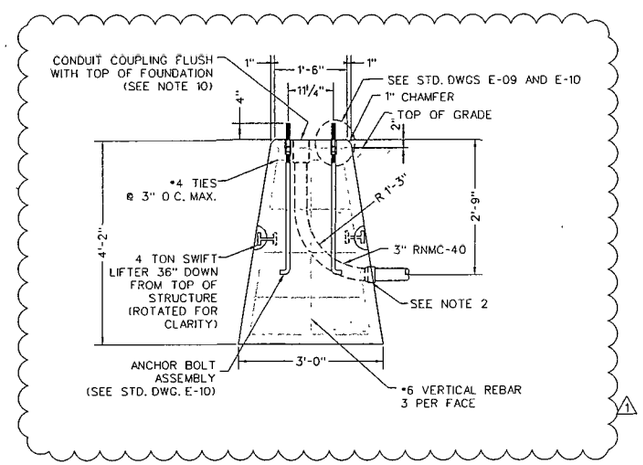
PLAN



ELEVATION

CONCRETE BASE, TYPE M

SCALE: ¾" = 1'-0"



SECTION A–A

CONCRETE BASE, TYPE LP

SCALE: ¾" = 1'-0"

NOTES

1. NUMBER OF CONDUITS AND CONDUIT ARRANGEMENTS SHALL BE AS SHOWN ON CONTRACT PLANS.
2. THE RIGID NONMETALLIC CONDUIT SHALL END WITH A FEMALE THREAD COUPLING WITH ITS BOTTOM EDGE FLUSH WITH THE FACE OF THE FOUNDATION. THE CONTRACTOR SHALL GLUE A MALE THREAD FITTING TO THE CONDUIT COUPLING TO EXTEND THE CONDUIT UNDERGROUND WHERE DIRECTED IN THE CONTRACT PLANS.
3. FOR DIMENSIONS OF LIGHTING HARDWARE NOT SHOWN ON THIS SHEET, SEE STANDARD DRAWING E-09 AND E-10.
4. JUNCTION BOX FOUNDATIONS AS SHOWN ON STANDARD DRAWING E-12 ARE PREFERRED OVER CONCRETE BASE SHOWN ON THIS SHEET. CONCRETE BASES SHALL BE USED WHERE JUNCTION BOX FOUNDATIONS WOULD OTHERWISE NOT FIT DUE TO SPACE RESTRICTIONS. CONFIRM THE USE OF CONCRETE BASE WITH THE AUTHORITY PRIOR TO INCLUDING IN DESIGN.
5. CONCRETE BASES SHALL BE CONSTRUCTED WITH CLASS C CONCRETE.
6. REFER TO STANDARD DRAWINGS E-09 AND E-10 FOR ANCHOR BOLT ASSEMBLY DETAILS AND SCHEDULES.
7. MATCH ANCHOR BOLT LOCATIONS WITH THE BASE PLATE BOLT PATTERN.
8. ALL REINFORCEMENT IN PEDESTALS SHALL BE GALVANIZED AS PER ASTM A153.
9. TYPE M CONCRETE BASE SHALL BE UTILIZED IN PARKING AREAS AND OTHER LOCATIONS FOR LIGHT OR CAMERA POLES TO MITIGATE DAMAGE FROM VEHICLES. PORTION OF CONCRETE BASE ABOVE GRADE SHALL BE 36" IN CAR PARKING AREAS AND 72" IN TRUCK PARKING AREAS
10. ALL OPEN CONDUIT TERMINATIONS SHALL HAVE RODENT BLOCKING MATERIAL. SEE DETAIL ON STANDARD DRAWING E-16
11. CAMERA CONDUIT TO BE INSTALLED WHERE DIRECTED ON THE PLAN. CONCRETE POLE BASE SHALL BE FINISHED TO ALLOW CAMERA CONDUIT COUPLING TO BE FLUSH WITH THE TOP OF THE FOUNDATION.
12. FOUNDATIONS SHALL BE SIZED BASED ON DESIGN REQUIREMENTS WHERE LIGHT POLES DIFFER FROM STANDARD SIZES. REPLACEMENT FOUNDATIONS SHALL BE SIZED IN-KIND FOR THE FOUNDATION THEY REPLACE. (1)

0 1/2 1 2 3 4

ORIGINAL SIZE IN INCHES

NEW JERSEY TURNPIKE AUTHORITY

NEW JERSEY TURNPIKE
GARDEN STATE PARKWAY

STANDARD DRAWINGS

LIGHTING STANDARD CONCRETE BASE

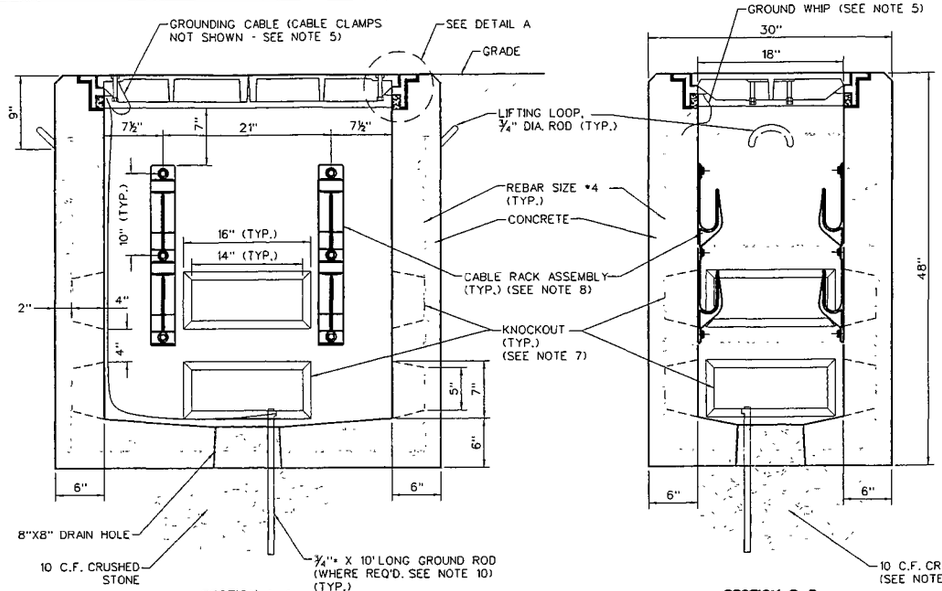
REV.	DESCRIPTION	DATE
1	UPDATED LIGHT POLE BASE LP	01/24
0	REISSUED DRAWING	09/21

OFFICE OF THE CHIEF ENGINEER
NEW JERSEY TURNPIKE AUTHORITY
WOODBRIDGE, NEW JERSEY

STANDARD DRAWING
E-11

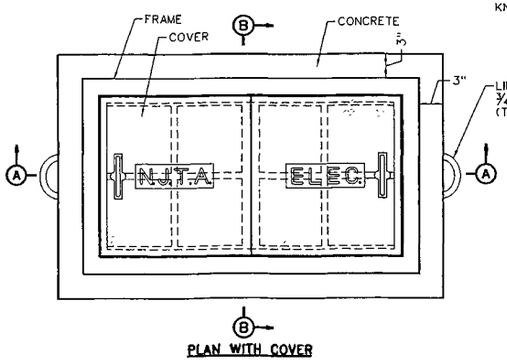
CONTRACT NO

SHEET NO OF

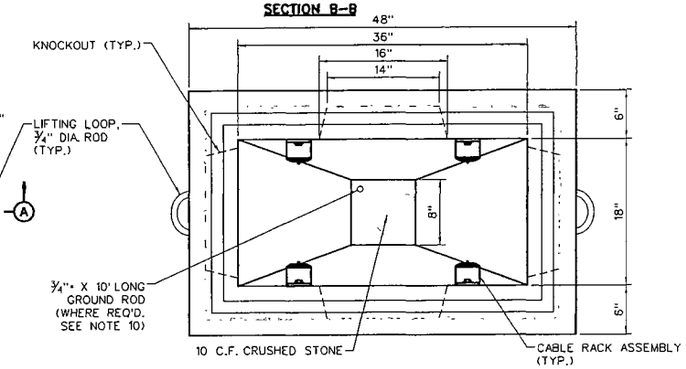


SECTION A-A

SECTION B-B

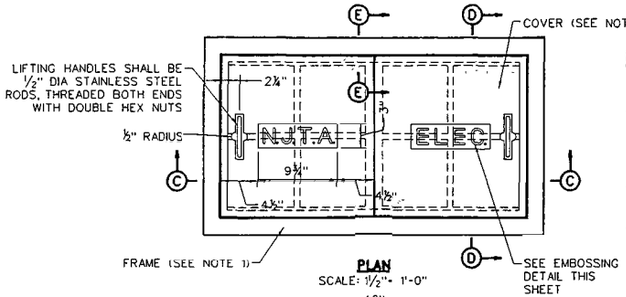


PLAN WITH COVER

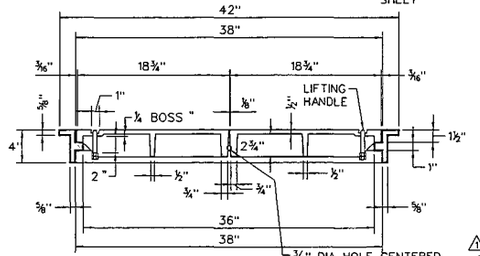


PLAN WITH COVER REMOVED

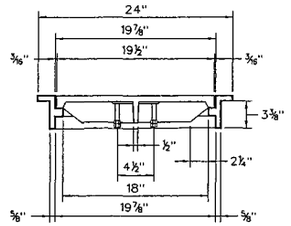
JUNCTION BOX TYPE C (18"x36") WITH FRAME AND COVER
SCALE 1½" = 1'-0"



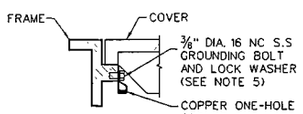
PLAN
SCALE: 1½" = 1'-0"



SECTION C-C
SCALE: 1½" = 1'-0"



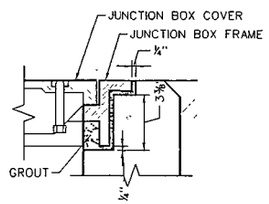
SECTION D-D
SCALE: 1½" = 1'-0"



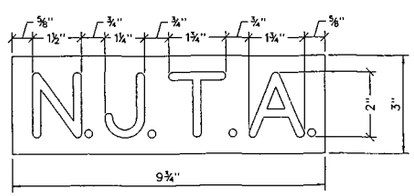
SECTION E-E
SCALE: 3" = 1'-0"

NOTES

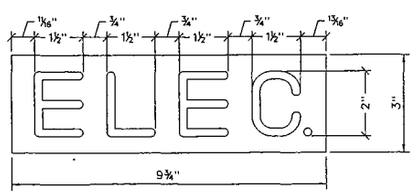
1. THE FRAME CASTING SHALL BE GRAY IRON ASTM A48, CLASS 30B.
2. THE COVER CASTING(S) SHALL BE DUCTILE IRON ASTM A536, GRADE 65-45-12.
3. BOTH THE FRAME AND COVER CASTINGS SHALL BE HOT DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153. THE FRAME AND COVER SHALL BE CAST WITHIN A TOLERANCE OF ±1/16" OF THE DIMENSIONS SHOWN ON THIS SHEET.
4. THE COVER SHALL HAVE A LOAD RATING MATCHING OR EXCEEDING THE REQUIREMENTS OF AASHTO H20-44.
5. GROUND LUG SHALL BE SECURED TO THE FRAME USING A 3/4" STAINLESS STEEL BOLT AND LOCK WASHER AS PROVIDED BY THE FRAME MANUFACTURER. JUNCTION BOX COVER SHALL BE BONDED TO THE FRAME AND GROUND ROD VIA HIGHLY FLEXIBLE GROUND CABLE. THERE SHALL BE A MINIMUM OF 5'-0" OF SLACK BETWEEN THE TOP OF THE JUNCTION BOX AND COVER. GROUND CABLE SHALL BE ATTACHED TO THE WALL OF THE JUNCTION BOX VIA CABLE CLAMPS.
6. ALL STAINLESS STEEL HARDWARE SHALL BE TYPE 304 IN ACCORDANCE WITH ASTM A193, GRADE B8.
7. THE JUNCTION BOX MAY BE CONSTRUCTED WITH EITHER KNOCKOUTS SIZED AS SHOWN ON THIS SHEET OR WITH INDIVIDUAL CONDUIT KNOCKOUTS. IF MANUFACTURED WITH INDIVIDUAL CONDUIT KNOCKOUTS, A MINIMUM OF TEN (10) KNOCKOUTS SHALL BE AVAILABLE, DIVIDED AMONG THE FOUR WALLS OF THE JUNCTION BOX. THE CONDUIT KNOCKOUTS SHALL BE SIZED TO FIT A 3" CONDUIT AT A MINIMUM.
8. A TOTAL OF FOUR (4) CABLE RACKS SHALL BE INSTALLED PER JUNCTION BOX AND JUNCTION BOX FOUNDATION. SEE STANDARD DRAWING E-12 FOR CABLE RACK INSTALLATION DETAILS.
9. CONCRETE USED FOR THE CONSTRUCTION OF THE JUNCTION BOX SHALL BE CLASS B.
10. GROUND RODS SHALL BE INSTALLED ONLY WHERE SHOWN ON THE CONTRACT PLANS. GROUND RODS SHALL BE 3/4" DIAMETER AND 10' LONG AND AS SPECIFIED IN SECTION 918 OF THE SPECIFICATIONS.
11. TEN (10) CUBIC FEET OF CRUSHED STONE SHALL BE PLACED BENEATH THE DRAIN OF THE JUNCTION BOX FOUNDATION. THE MINIMUM DEPTH OF THE STONE SHALL BE 12" FROM THE BOTTOM FACE OF THE JUNCTION BOX FOUNDATION
12. JUNCTION BOXES MAY BE CONSTRUCTED WITH 4" THICK WALLS VERSUS 6" (SHOWN) WHERE APPROVED BY THE ENGINEER.
13. JUNCTION BOXES AND JUNCTION BOX FOUNDATIONS SHALL NOT BE INSTALLED IN GRASS OR PAVED AREAS WHERE THE SLOPE EXCEEDS 4:1. THE CONTRACTOR SHALL INSTALL EROSION PROTECTION MEASURES, AS DIRECTED ON THE PLANS. IN ANY CASE WHERE A JUNCTION BOX IS TO BE INSTALLED ON A SLOPE WITHOUT EROSION PROTECTION, THE CONTRACTOR SHALL NOTIFY THE ENGINEER.
14. ALL OPEN CONDUIT TERMINATIONS SHALL HAVE RODENT BLOCKING MATERIAL INSTALLED. SEE STANDARD DRAWING E-16.



DETAIL A - FRAME GROUTING
SCALE: 1½" = 1'-0"



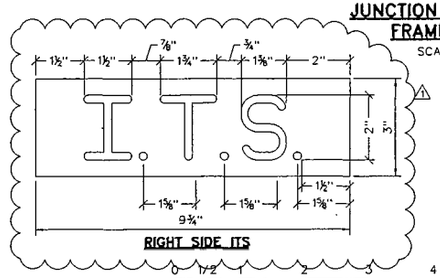
LEFT SIDE



RIGHT SIDE ELECTRICAL

JUNCTION BOX COVER EMBOSSING DETAILS
SCALE: 6"=1'-0"

JUNCTION BOX AND JUNCTION BOX FOUNDATION FRAME AND COVER
SCALE: AS SHOWN



RIGHT SIDE ITS

REV.	DESCRIPTION	DATE
1	ADDED ITS EMBOSSING, EDIT NOTE	01/24
0	REISSUED DRAWING	09/21

NEW JERSEY TURNPIKE AUTHORITY
NEW JERSEY TURNPIKE
GARDEN STATE PARKWAY
STANDARD DRAWINGS

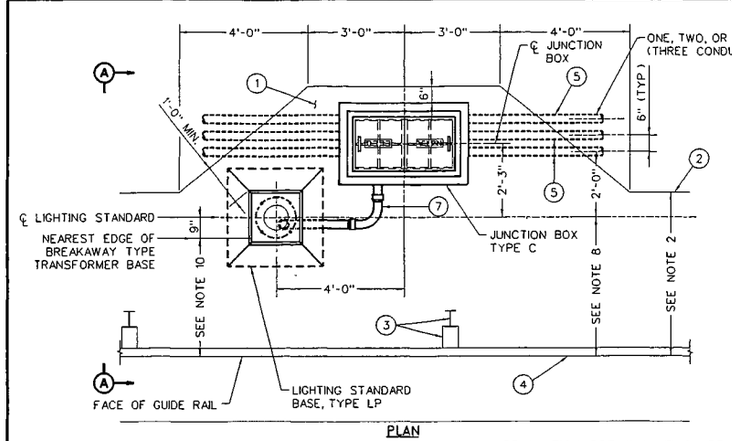
JUNCTION BOX TYPE C

OFFICE OF THE CHIEF ENGINEER
NEW JERSEY TURNPIKE AUTHORITY
WOODBRIDGE, NEW JERSEY

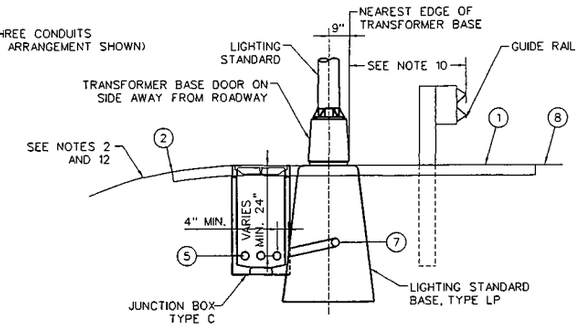
STANDARD DRAWING
E-13

CONTRACT NO.

SHEET NO. OF

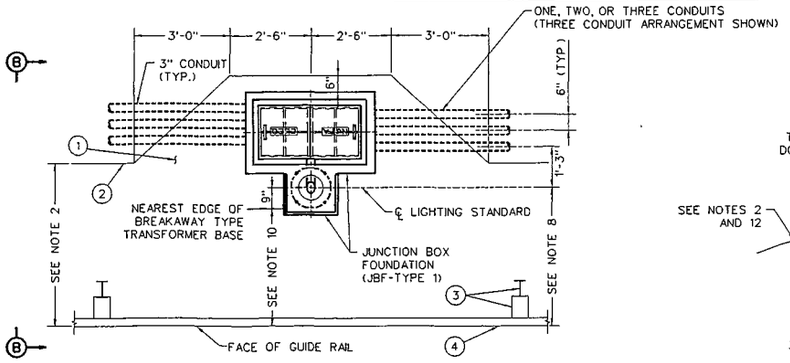


PLAN

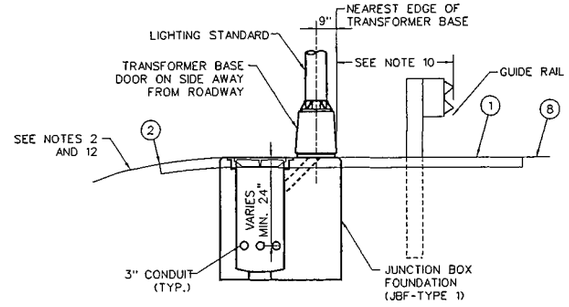


SECTION A–A

INSTALLATION FOR ONE, TWO, OR THREE CONDUIT RACEWAYS (WITH GUIDE RAIL)

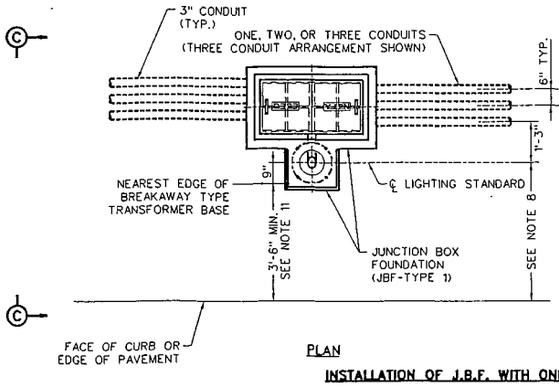


PLAN

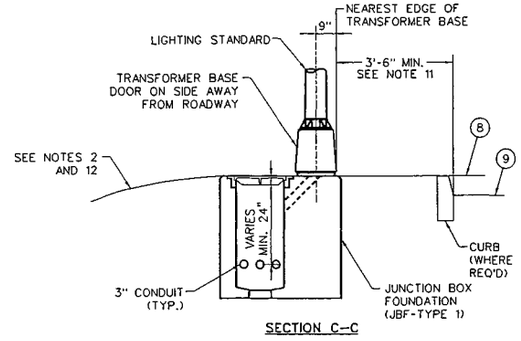


SECTION B–B

INSTALLATION OF J.B.F. WITH ONE, TWO OR THREE CONDUIT RACEWAY(S) (WITH GUIDERAIL)



PLAN



SECTION C–C

INSTALLATION OF J.B.F. WITH ONE, TWO OR THREE CONDUIT RACEWAY(S) (NO GUIDE RAIL)

TYPICAL LIGHTING STANDARD AND CONCRETE JUNCTION BOX INSTALLATION DETAILS

Scale: ½" = 1'-0"

NOTES

1. TYPICAL INSTALLATIONS SHOWN ON THIS DRAWING REFER TO AREAS WITH GUIDE RAIL AND BERM SURFACING INSTALLATIONS IN OTHER AREAS SHALL BE SIMILAR. UNLESS OTHERWISE NOTED ON THE CONTRACT PLANS AND/OR DIRECTED BY THE ENGINEER.
2. UNLESS OTHERWISE NOTED ON THE CONTRACT PLANS, ADDITIONAL BERM SURFACING SHALL BE PLACED AS SHOWN AROUND LIGHTING STANDARD BASES, JUNCTION BOXES, AND MANHOLES WHERE GUIDE RAIL IS PRESENT. MODIFIED GRADING AND EROSION CONTROL MEASURES AROUND LIGHTING INSTALLATIONS PLACED ON SLOPES GREATER THAN 4H:1V MAY BE NECESSARY TO ENSURE BELOW GRADE FEATURES ARE NOT EXPOSED.
3. PLACEMENT OF CONCRETE JUNCTION BOXES AND ROADWAY LIGHTING MANHOLES WHICH ARE NOT ADJACENT TO A LIGHTING STANDARD SHALL CONFORM TO THE APPLICABLE DETAILS SHOWN ON STANDARD DRAWING E-19.
4. LIGHTING STANDARD BASES SHALL BE PLACED AT MIDPOINT BETWEEN GUIDE RAIL POSTS, WHEREVER FEASIBLE.
5. ASPHALT LIP CURBS ARE NOT SHOWN.
6. ALL OPEN CONDUIT TERMINATIONS SHALL HAVE RODENT BLOCKING MATERIAL. SEE STANDARD DRAWING E-16.
7. WHERE GUIDE RAIL IS PRESENT, ALL SETBACK DIMENSIONS SHALL REFERENCE FROM FACE OF GUIDE RAIL. WHERE CURB IS PRESENT, ALL SETBACK DIMENSIONS SHALL REFERENCE FROM FACE OF CURB IN THE ABSENCE OF CURB OR GUIDE RAIL, ALL SETBACK DIMENSIONS SHALL REFERENCE FROM EDGE OF PAVEMENT.
8. MINIMUM SETBACK FROM CENTERLINE OF LIGHTING STANDARD SHOWN FOR ONE (1) TO THREE (3) CONDUITS WHERE MORE CONDUITS ARE REQUIRED, THE CONDUIT SETBACK NEAREST THE ROADWAY SHALL REMAIN CONSTANT. ADDITIONAL CONDUITS SHALL BE INSTALLED AWAY FROM THE ROADWAY, SPACED AS SHOWN.
9. PLACEMENT OF CONCRETE JUNCTION BOXES AND ROADWAY LIGHTING MANHOLES WHICH ARE NOT ADJACENT TO A LIGHTING STANDARD SHALL CONFORM TO THE APPLICABLE DETAILS SHOWN.
10. REFER TO THE GR STANDARD DRAWINGS FOR SETBACK REQUIREMENTS TO NEAREST EDGE OF BREAKAWAY TYPE TRANSFORMER BASE IN RELATION TO GUIDE RAIL. LIGHTING STANDARD BASES SHALL BE PLACED AT MIDPOINT BETWEEN GUIDE RAIL POSTS, WHEREVER FEASIBLE.
11. UNLESS OTHERWISE NOTED ON THE CONTRACT PLANS, BERM SURFACING IS NOT REQUIRED BEHIND THE EDGE OF PAVEMENT OR CURB IF GUIDE RAIL IS NOT PRESENT
12. UNLESS OTHERWISE NOTED ON THE PLANS, ALL JUNCTION BOX TYPE C, JUNCTION BOX FOUNDATIONS, AND MANHOLES SHALL BE INSTALLED FLUSH WITH FINAL GRADE WITH A MAXIMUM ALLOWANCE OF 2 INCHES ABOVE ADJACENT GROUND.

LEGEND

1. BERM SURFACING (SEE NOTES 1 & 2)
2. EDGE OF BERM SURFACING (SEE NOTE 2)
3. GUIDE RAIL POST AND BRACKET(S)
4. GUIDE RAIL ELEMENT(S)
5. 3" RIGID NONMETALLIC CONDUIT(S) (TYP), SIZE AND TYPE AS SHOWN ON THE PLANS
7. 3" RIGID NONMETALLIC CONDUIT BEND WITH 12" MIN RADIUS
8. TOP OF PAVEMENT ON ROADWAYS WITHOUT CURB
9. TOP OF PAVEMENT ON ROADWAYS WITH CURB

REV.	DESCRIPTION	DATE
0	REISSUED DRAWING	01/24

NEW JERSEY TURNPIKE AUTHORITY
NEW JERSEY TURNPIKE
GARDEN STATE PARKWAY
STANDARD DRAWINGS

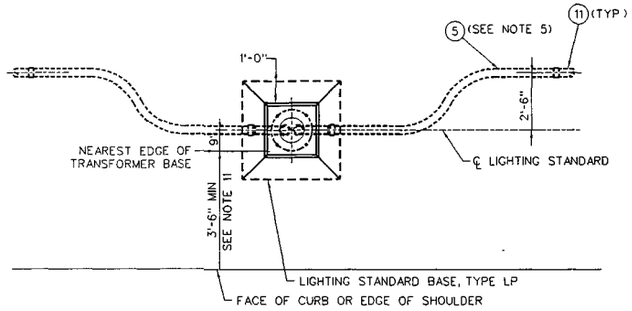
ROADWAY LIGHTING
INSTALLATION DETAILS - 1

OFFICE OF THE CHIEF ENGINEER
NEW JERSEY TURNPIKE AUTHORITY
WOODBRIDGE, NEW JERSEY

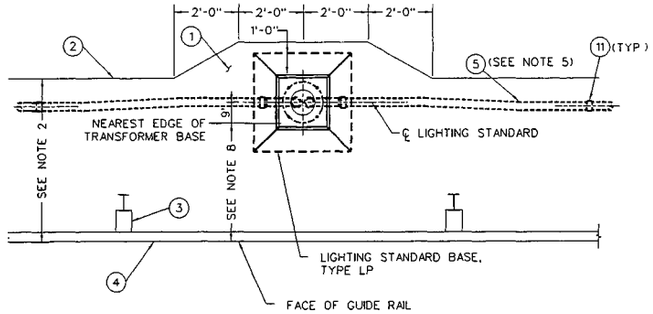
STANDARD DRAWING
E-18

CONTRACT NO

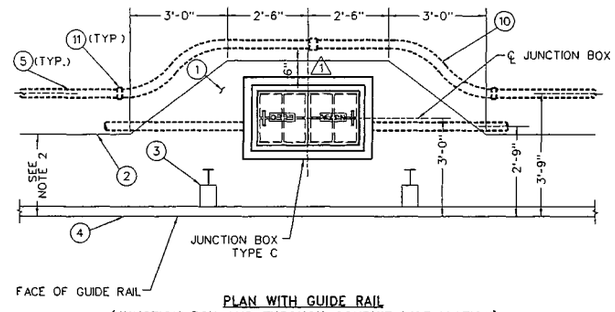
SHEET NO. OF



PLAN WITHOUT GUIDE RAIL
(THROUGH CONDUIT INSTALLATION)



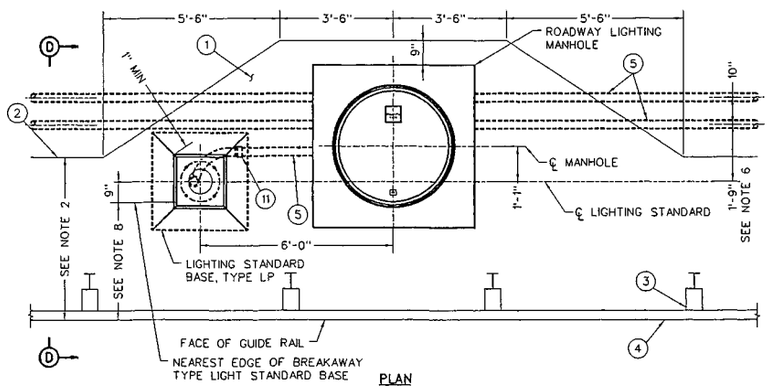
PLAN WITH GUIDE RAIL
(THROUGH CONDUIT INSTALLATION)



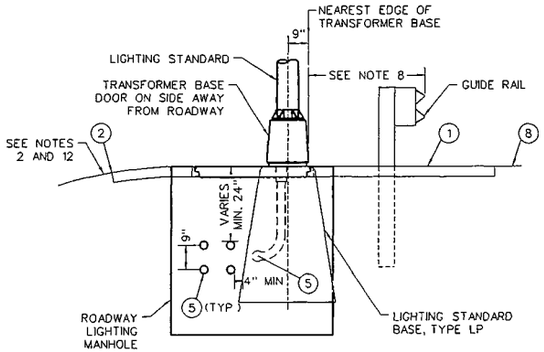
PLAN WITH GUIDE RAIL
(JUNCTION BOX AND THROUGH CONDUIT INSTALLATION)

TYPICAL PASS THROUGH CONDUIT INSTALLATION DETAILS

SCALE: ½" = 1'-0"

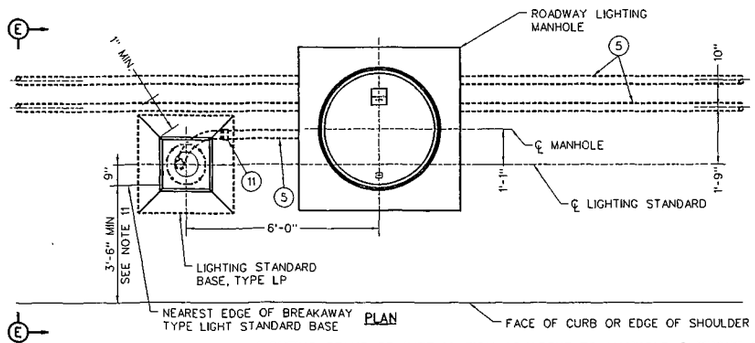


PLAN

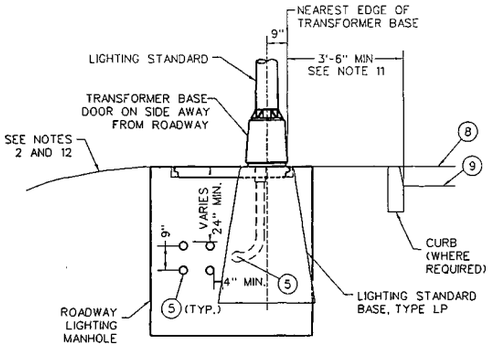


SECTION D–D

LIGHTING STANDARD INSTALLATION ADJACENT TO MANHOLE (WITH GUIDE RAIL)



PLAN



SECTION E–E

LIGHTING STANDARD INSTALLATION ADJACENT TO MANHOLE (WITHOUT GUIDE RAIL)

TYPICAL LIGHTING STANDARD AND MANHOLE INSTALLATION DETAILS

SCALE: ½" = 1'-0"

NOTES

1. TYPICAL INSTALLATIONS SHOWN ON THIS DRAWING REFER TO AREAS WITH GUIDE RAIL AND BERM SURFACING. INSTALLATIONS IN OTHER AREAS SHALL BE SIMILAR, UNLESS OTHERWISE NOTED ON THE CONTRACT PLANS AND/OR DIRECTED BY THE ENGINEER.
2. UNLESS OTHERWISE NOTED ON THE CONTRACT PLANS, ADDITIONAL BERM SURFACING SHALL BE PLACED AS SHOWN AROUND LIGHTING STANDARD BASES, JUNCTION BOXES, AND MANHOLES WHERE GUIDE RAIL IS PRESENT. MODIFIED GRADING AND EROSION CONTROL MEASURES AROUND LIGHTING INSTALLATIONS PLACED ON SLOPES GREATER THAN 4H:1V MAY BE NECESSARY TO ENSURE BELOW GRADE FEATURES ARE NOT EXPOSED.
3. WHERE GUIDE RAIL IS PRESENT, ALL SETBACK DIMENSIONS SHALL REFERENCE FROM FACE OF GUIDE RAIL WHERE CURB IS PRESENT, ALL SETBACK DIMENSIONS SHALL REFERENCE FROM FACE OF CURB. IN THE ABSENCE OF CURB OR GUIDE RAIL, ALL SETBACK DIMENSIONS SHALL REFERENCE FROM EDGE OF PAVEMENT
4. MANHOLE CENTERLINE SETBACK FROM CENTERLINE OF LIGHTING STANDARD SHOWN FOR ONE (1) TO FOUR (4) CONDUITS WHERE MORE CONDUITS ARE REQUIRED, THE MANHOLE SETBACK SHALL INCREASE IN 6" INCREMENTS AS REQUIRED TO ACCOMMODATE THE NUMBER OF CONDUITS
5. CONDUIT OFFSET BEND SHALL BE RIGID NONMETALLIC WHERE THE DISTANCE BETWEEN GUIDE RAIL POST AND LIGHTING STANDARD BASE IS LESS THAN 5'-0".
6. CONDUIT SETBACK FROM CENTERLINE OF LIGHTING STANDARD SHOWN FOR ONE (1) TO FOUR (4) CONDUITS. WHERE MORE CONDUITS ARE REQUIRED, THE CONDUIT SETBACK NEAREST THE ROADWAY SHALL REMAIN CONSTANT ADDITIONAL CONDUITS SHALL BE INSTALLED AWAY FROM THE ROADWAY, SPACED AS SHOWN
7. PLACEMENT OF CONCRETE JUNCTION BOXES AND ROADWAY LIGHTING MANHOLES WHICH ARE NOT ADJACENT TO A LIGHTING STANDARD SHALL CONFORM TO THE APPLICABLE DETAILS SHOWN.
8. REFER TO THE GR STANDARD DRAWINGS FOR SETBACK REQUIREMENTS TO NEAREST EDGE OF BREAKAWAY TYPE TRANSFORMER BASE IN RELATION TO GUIDE RAIL. LIGHTING STANDARD BASES SHALL BE PLACED AT MIDPOINT BETWEEN GUIDE RAIL POSTS, WHEREVER FEASIBLE.
9. ASPHALT LIP CURBS ARE NOT SHOWN.
10. ALL OPEN CONDUIT TERMINATIONS SHALL HAVE RODENT BLOCKING MATERIAL. SEE STANDARD DRAWING E-16.
11. UNLESS OTHERWISE NOTED ON THE CONTRACT PLANS, BERM SURFACING IS NOT REQUIRED BEHIND THE EDGE OF PAVEMENT OR CURB IF GUIDE RAIL IS NOT PRESENT.
12. UNLESS OTHERWISE NOTED ON THE PLANS, ALL JUNCTION BOX TYPE C, JUNCTION BOX FOUNDATIONS, AND MANHOLES SHALL BE INSTALLED FLUSH WITH FINAL GRADE WITH A MAXIMUM ALLOWANCE OF 2 INCHES ABOVE ADJACENT GROUND.

LEGEND

1. BERM SURFACING (SEE NOTES 1 & 2)
2. EDGE OF BERM SURFACING (SEE NOTE 2)
3. GUIDE RAIL POST AND BRACKET(S)
4. GUIDE RAIL ELEMENT(S)
5. 3" RIGID NONMETALLIC CONDUIT(S) (TYP), SIZE AND TYPE AS SHOWN ON THE PLANS
7. 3" RIGID NONMETALLIC CONDUIT BEND WITH 12" MIN. RADIUS
8. TOP OF PAVEMENT ON ROADWAYS WITHOUT CURB
9. TOP OF PAVEMENT ON ROADWAYS WITH CURB
10. CONDUIT OFFSET BEND WITH 36" RAD, 20"½" OFFSET AND 6'-6" MIN LENGTH, 3" SIZE (TYP) OR 2" SIZE (WHERE REQ'D), NONMETALLIC OR RIGID METALLIC, AS SHOWN ON THE PLANS
11. CONDUIT COUPLING

0 1/2 1 2 3 4
ORIGINAL SIZE IN INCHES

REV.	DESCRIPTION	DATE
0	REISSUED DRAWING	01/24

NEW JERSEY TURNPIKE AUTHORITY
NEW JERSEY TURNPIKE
GARDEN STATE PARKWAY
STANDARD DRAWINGS

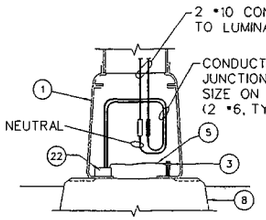
ROADWAY LIGHTING
INSTALLATION DETAILS - 2

OFFICE OF THE CHIEF ENGINEER
NEW JERSEY TURNPIKE AUTHORITY
WOODBRIDGE NEW JERSEY

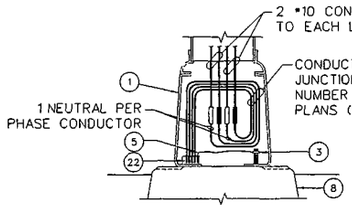
STANDARD DRAWING
E-19

CONTRACT NO

SHEET NO. OF



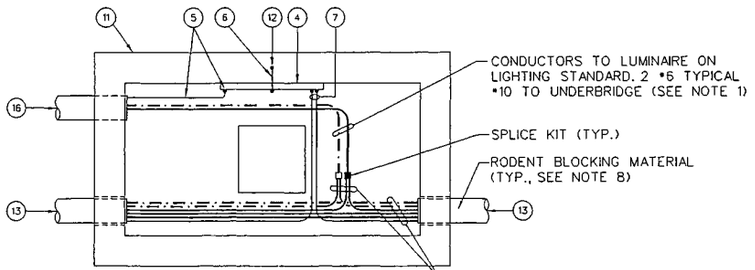
SINGLE LUMINAIRE LTG. STANDARDS



LTG. STANDARDS WITH TWO OR MORE LUMINAIRES

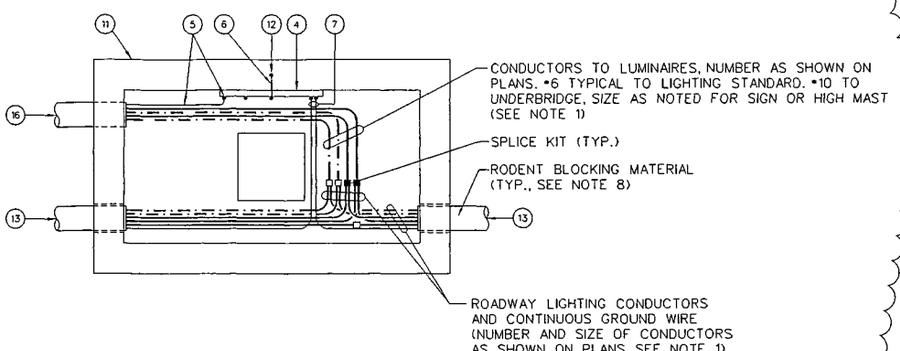
TYPICAL WIRING IN TRANSFORMER BASES

NOT TO SCALE



FOR ONE LUMINAIRE

(LIGHTING STANDARDS OR UNDERBRIDGE)

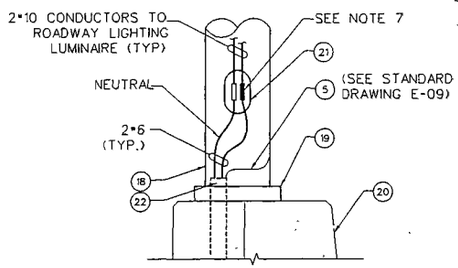


FOR TWO OR MORE LUMINAIRES

(LIGHTING STANDARDS, UNDERBRIDGE, SIGNS, OR HIGH MAST)

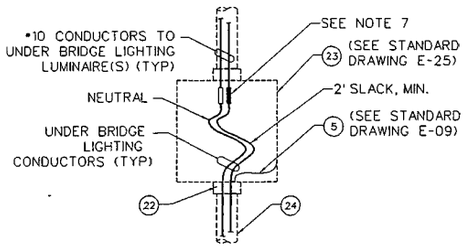
TYPICAL WIRING IN JUNCTION BOXES AND JUNCTION BOX FOUNDATIONS

NOT TO SCALE



TYPICAL WIRING IN LIGHTING STANDARD WITHOUT TRANSFORMER BASE

NOT TO SCALE



TYPICAL WIRING IN UNDER BRIDGE LIGHTING PULL BOX

NOT TO SCALE

WIRE CONNECTOR NOTES:

1. ABBREVIATIONS (F) - FUSED
   (NF) - NON-FUSED
2. ALL FUSED AND NON-FUSED IN-LINE CONNECTOR KITS SHALL BE "BREAKAWAY" TYPE
3. ALL FUSES SHALL BE 6A, UNLESS OTHERWISE NOTED.
4. CRIMP TYPE CONNECTOR KITS SHALL BE USED ONLY FOR LARGE SIZE CABLES WHERE SCREW TERMINAL TYPE CONNECTOR KITS ARE NOT AVAILABLE.

SCHEDULE OF CABLE CONNECTORS

(SEE SPECIFICATIONS FOR CONNECTOR KIT)

- IN-LINE CONNECTOR KIT (F)
- IN-LINE CONNECTOR KIT (NF)

SCHEDULE OF WIRE SPLICE KITS

(SEE SPECIFICATIONS FOR RESIN ENCAPSULATED SPLICE KIT)

- WYE KIT (PHASE CONDUCTORS)
- WYE KIT (NEUTRAL CONDUCTORS)

LEGEND:

- NEUTRAL WIRE DESIGNATION (TYP.)
- (1) LIGHTING STANDARD TRANSFORMER BASE
- (3) GROUNDING (SEE STANDARD DWG E-09)
- (4) 12"x 1"x 3/8" GROUNDING BUS BAR
- (5) NO 8 GROUND WIRE
- (6) NO 10 GROUND WIRE
- (7) COPPER GROUND WIRE (SIZE AS NOTED ON THE PLANS)
- (8) LIGHTING STANDARD BASE, TYPE LP
- (11) JUNCTION BOX/JUNCTION BOX FOUNDATION
- (12) JUNCTION BOX FRAME GROUNDING
- (13) 3" NONMETALLIC CONDUIT
- (16) 3" NONMETALLIC CONDUIT TO LIGHTING STANDARD
- (17) 3" NONMETALLIC CONDUIT TO MISCELLANEOUS FACILITIES
- (18) STAINLESS STEEL LIGHTING STANDARD
- (19) BASE PLATE
- (20) PARAPET
- (21) FLUSH HANDHOLE
- (22) RODENT BLOCKING MATERIAL (SEE NOTE 8)
- (23) 8"x8"x6" NEMA 4X S.S. PULL BOX
- (24) PVC-COATED RMC (SIZE AS NOTED ON THE PLANS)

NOTES

1. NUMBER AND SIZE OF CONDUCTORS ARE SHOWN ON PLANS. NOT ALL NEUTRAL CONDUCTORS AND SPLICE KITS SHOWN FOR CLARITY. ALL BRANCH CIRCUIT PHASE CONDUCTORS SHALL HAVE A DEDICATED NEUTRAL CONDUCTOR. ALL CONDUCTORS SHALL BE COLOR-CODED SEE STANDARD AND SUPPLEMENTAL SPECIFICATIONS FOR APPROVED METHODS. USE OF HEAT SHRINK IS NOT APPROVED FOR PASS-THROUGH CONDUCTORS.
2. ALL LIGHT POLES, JUNCTION BOXES, JUNCTION BOX FOUNDATIONS, CABINETS, AND DISCONNECTS SHALL BE CONNECTED TO THE EQUIPMENT GROUND CONDUCTOR (EGC)
3. CONDUITS SHOWN REFER TO TYPICAL INSTALLATIONS. OTHER TYPES AND SIZES SHALL BE AS NOTED ON THE PLANS
4. WIRING IN ROADWAY LIGHTING MANHOLES SHALL BE SIMILAR TO TYPICAL WIRING SHOWN FOR JUNCTION BOXES.
5. WIRING FOR LIGHTING STANDARDS INSTALLED ON JUNCTION BOX FOUNDATIONS AND BRIDGE PARAPETS SHALL BE IN ACCORDANCE WITH APPLICABLE DETAILS SHOWN ON THIS DRAWING.
6. WIRING AS SHOWN IS DIAGRAMMATIC. SUFFICIENT SLACK OF CONDUCTORS SHALL BE PROVIDED BY LOOPING THE CONDUCTORS IN EACH TRANSFORMER BASE, JUNCTION BOX AND MANHOLE
7. FUSE SHALL BE ACCESSIBLE FROM THE HANDHOLE OR TRANSFORMER BASE. CONDUCTORS SHALL HAVE A MINIMUM OF TREE (3) FEET OF SLACK FOR MAINTENANCE PURPOSE.
8. ALL OPEN CONDUIT TERMINATIONS SHALL HAVE RODENT BLOCKING MATERIAL SEE STANDARD DRAWING E-16.
9. ALL SPLICE CONNECTIONS IN UNDERGROUND JUNCTION BOXES, MANHOLES, AND JUNCTION BOX FOUNDATIONS SHALL BE RESIN ENCAPSULATED SPLICE KITS SEE SPECIFICATIONS AND QUALIFIED PRODUCTS LIST FOR DETAILS.
10. ALL MULTIPLE LIGHTING AND POWER CABLES SHALL COMPLY WITH THE SPECIFICATIONS AND QUALIFIED PRODUCTS LIST. NO EXCEPTIONS.

0 1/2 1 2 3 4

ORIGINAL SIZE IN INCHES

REV.	DESCRIPTION	DATE
1	REVISED TYPICAL WIRING DETAILS	01/24
0	REISSUED DRAWING	09/21

NEW JERSEY TURNPIKE AUTHORITY

NEW JERSEY TURNPIKE
GARDEN STATE PARKWAY

STANDARD DRAWINGS

ROADWAY LIGHTING
INSTALLATION DETAILS - 3

OFFICE OF THE CHIEF ENGINEER
NEW JERSEY TURNPIKE AUTHORITY
WOODBRIDGE, NEW JERSEY

STANDARD DRAWING
E-20

CONTRACT NO.

SHEET NO OF