



STATE OF DELAWARE
DEPARTMENT OF TRANSPORTATION
PO BOX 778
DOVER, DELAWARE 19903

JACK MARKELL
GOVERNOR

SHAILEN BHATT
SECRETARY

VIA OVERNIGHT DELIVERY

(302) 760-2030
FAX (302) 739-2254

December 11, 2012

Contract No. DOT1227 TRAFFIC SIGNALS & ITS
Federal Aid Project No. Various
TRAFFIC SIGNALS & ITS
Statewide County

Ladies and Gentlemen:

Enclosed is Addendum No. 1 for the referenced contract consisting of the following:

NOTE: The date for the receipt of bids has been moved to Tuesday, January 8, 2013.

1. One (1) page, Bid Proposal Cover, revised, to be substituted for the same page in the Proposal.
2. Nine (9) pages, Federal Davis Bacon Wage Rates, pages 33A through 33I, new, to be added to the Proposal.
3. The following Standard Items have been deleted:
743056
743057
743058
743065
743066
743067
4. One (1) page, Special Provisions, 763684 - Performance and Payment Bond, Open-End Signal Contract, page 151, revised, to be substituted for the same page in the Proposal.
5. Seventeen (17) pages, Bid Proposal Forms, pages 1 through 17, revised, to be substituted for the same pages in the Proposal and one (1) page, Bid Proposal Forms, page 18, **DELETED**, to be removed from the Proposal.
6. Sixty one (61) sheets, Construction Plans, sheets 1 through 61, new, to be added.
7. For proposal holders with the electronic bid option only, Amendment Disk No. 1.

Please note the revisions listed above and submit your bid based upon this information.

Sincerely,

A handwritten signature in black ink, appearing to read "Scott S. Gottfried". The signature is fluid and cursive, with a prominent initial "S" and a long horizontal stroke.

Scott S. Gottfried
Competitively Bid Contracts Coordinator
:ssg
Enclosures

STATE OF DELAWARE



DEPARTMENT OF TRANSPORTATION

BID PROPOSAL

for

CONTRACT DOT1227 TRAFFIC SIGNALS &
ITS

FEDERAL AID PROJECT NO. - Various

TRAFFIC SIGNALS & ITS
STATEWIDE

ADVERTISEMENT DATE: November 19, 2012

Completion Date 365 Calendar Days

SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION
DELAWARE DEPARTMENT OF TRANSPORTATION
AUGUST 2001

Bids will be received in the Bidder's Room, Transportation Administration Center, 800 Bay Road, Dover, Delaware until 2:00 P.M. local time January 8, 2013

STATE OF DELAWARE
DEPARTMENT OF LABOR
DIVISION OF INDUSTRIAL AFFAIRS
OFFICE OF LABOR LAW ENFORCEMENT
PHONE: (302) 451-3423

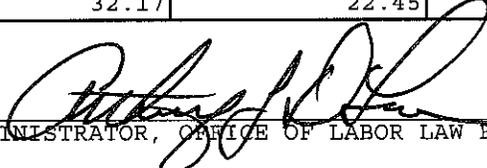
Mailing Address:
225 CORPORATE BOULEVARD
SUITE 104
NEWARK, DE 19702

Located at:
225 CORPORATE BOULEVARD
SUITE 104
NEWARK, DE 19702

PREVAILING WAGES FOR HIGHWAY CONSTRUCTION EFFECTIVE MARCH 15, 2012

CLASSIFICATION	NEW CASTLE	KENT	SUSSEX
BRICKLAYERS	45.63	45.63	14.51
CARPENTERS	49.06	49.06	39.22
CEMENT FINISHERS	30.40	26.13	23.29
ELECTRICAL LINE WORKERS	22.50	54.05	21.25
ELECTRICIANS	59.10	59.10	59.10
IRON WORKERS	42.20	22.98	25.35
LABORERS	30.23	26.66	29.03
MILLWRIGHTS	16.11	15.63	13.49
PAINTERS	56.07	56.07	56.07
PILEDRIVERS	59.23	23.75	26.95
POWER EQUIPMENT OPERATORS	41.41	27.54	26.43
SHEET METAL WORKERS	22.75	20.31	18.40
TRUCK DRIVERS	32.17	22.45	22.15

CERTIFIED: 3/20/12

BY: 
ADMINISTRATOR, OFFICE OF LABOR LAW ENFORCEMENT

NOTE: THESE RATES ARE PROMULGATED AND ENFORCED PURSUANT TO THE PREVAILING WAGE REGULATIONS ADOPTED BY THE DEPARTMENT OF LABOR ON APRIL 3, 1992.

CLASSIFICATIONS OF WORKERS ARE DETERMINED BY THE DEPARTMENT OF LABOR. FOR ASSISTANCE IN CLASSIFYING WORKERS, OR FOR A COPY OF THE REGULATIONS OR CLASSIFICATIONS, PHONE (302) 451-3423.

NON-REGISTERED APPRENTICES MUST BE PAID THE MECHANIC'S RATE.

FEDERAL DAVIS-BACON WAGE RATES 07/27/2012 DE125

Superseded General Decision Number: DE20100012

STATE: Delaware

Construction Type: Highway

COUNTY: Sussex County in Delaware

HIGHWAY CONSTRUCTION PROJECTS (excluding tunnels; building structures in rest area projects, and railroad construction; bascule, suspension and spandrel arch bridges; bridges designed for commercial navigation; bridges involving marine construction; other major bridges).

Modification Number Publication Date

0 07/27/2012

SUDE2010-003 03/15/2011

	Rates	Fringes
Bricklayer	14.51	
Carpenter	39.22	
Cement Mason/Concrete Finisher	23.29	
ELECTRICIAN		
Electrician	59.10	
Line Worker	21.25	
Ironworker	25.35	
Laborer	29.03	
Millwright	13.49	
Operator: Piledriver	26.95	
Painter	56.07	
Power Equipment Operator	26.43	
Sheet Metal Worker	18.40	
Truck Driver	22.15	

WELDERS: Receive rate prescribed for craft performing operation to which welding is incidental.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29 CFR 5.5(a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of “identifiers” that indicate whether the particular rate is union or non-union.

Union Identifiers

An identifier enclosed in dotted lines beginning with characters other than “SU” denotes that the union classification and rate have found to be prevailing for the classification. Example: PLUM0198-005 07/01/2011. The first four letters, PLUM, indicate the international union and the four-digit number, 0198, that follows indicates the local union number or district council number where applicable, i.e.,

Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2011, following these characters is the effective date of the most current negotiated rate/collective bargaining agreement which would be July 1, 2011 in the above example.

Union prevailing wage rates will be updated to reflect any changes in the collective bargaining agreements governing the rate.

Non-Union Identifiers

Classifications listed under an "SU" identifier were derived from survey data by computing average rates and are not union rates; however, the data used in computing these rates may include both union and non-union data. Example: SULA2004-007 5/13/2010. SU indicates the rates are not union rates, LA indicated the State of Louisiana; 2004 is the year of the survey; and 007 is an internal number used in producing the wage determination. A 1993 or later date, 5/13/2010, indicates the classifications and rates under that identifier were issued as a General Way Determination on the date.

Survey wage rates will remain in effect and will not change until a new survey is conducted.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N. W.
Washington, D. C. 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N. W.
Washington, D. C. 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U. S. Department of Labor
200 Constitution Avenue, N. W.
Washington, D. C. 20210

- 4.) All decisions by the Administrative Review Board are final.

END OF GENERAL DECISION

GENERAL DECISION: DE120013 7/27/2012 DE13

General Decision Number: DE20100010

State: DELAWARE

Construction Type: HIGHWAY

COUNTY: New Castle County in Delaware

HIGHWAY CONSTRUCTION PROJECTS: (excluding tunnels, building structures in rest area projects and railroad construction; bascule, suspension and spandrel arch bridges designed for commercial navigation, bridges involving marine construction; and other major bridges).

Modification Number	Publication Date
0	07/27/2012

SUDE2010-001	03/15/2012	Rates	Fringes
Bricklayer		45.63	
Carpenter		49.06	
Cement Mason/Concrete Finisher		30.40	
ELECTRICIAN			
Electrician		59.10	
Line Worker		22.50	
Ironworker		42.20	
Laborer		30.23	
Millwright		16.11	
Operator: Piledriver		59.23	
Painter		56.07	
Power Equipment Operation		41.41	
Sheet Metal Worker		22.75	
Truck Driver		32.17	

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29 CFR 5.5(a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is union or non-union.

Union Identifiers

An identifier enclosed in dotted lines beginning with characters other than "SU" denotes that the union classification and rate have found to be prevailing for the classification. Example: PLUM0198-005 07/01/2011. The first four letters, PLUM, indicate the international union and the four-digit number, 0198, that follows indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2011, following these characters is the effective date of the most current negotiated rate/collective bargaining agreement which would be July 1, 2011 in the above example.

Union prevailing wage rates will be updated to reflect any changes in the collective bargaining agreements governing the rate.

Non-Union Identifiers

Classifications listed under an "SU" identifier were derived from survey data by computing average rates and are not union rates; however, the data used in computing these rates may include both union and non-union data. Example: SULA2004-007 5/13/2010. SU indicates the rates are not union rates, LA indicated the State of Louisiana; 2004 is the year of the survey; and 007 is an internal number used in producing the wage determination. A 1993 or later date, 5/13/2010, indicates the classifications and rates under that identifier were issued as a General Way Determination on the date.

Survey wage rates will remain in effect and will not change until a new survey is conducted.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N. W.
Washington, D. C. 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N. W.
Washington, D. C. 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U. S. Department of Labor
200 Constitution Avenue, N. W.
Washington, D. C. 20210

4.) All decisions by the Administrative Review Board are final.

END OF GENERAL DECISION

Union Identifiers

An identifier enclosed in dotted lines beginning with characters other than "SU" denotes that the union classification and rate have found to be prevailing for the classification. Example: PLUM0198-005 07/01/2011. The first four letters, PLUM, indicate the international union and the four-digit number, 0198, that follows indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2011, following these characters is the effective date of the most current negotiated rate/collective bargaining agreement which would be July 1, 2011 in the above example.

Union prevailing wage rates will be updated to reflect any changes in the collective bargaining agreements governing the rate.

Non-Union Identifiers

Classifications listed under an "SU" identifier were derived from survey data by computing average rates and are not union rates; however, the data used in computing these rates may include both union and non-union data. Example: SULA2004-007 5/13/2010. SU indicates the rates are not union rates, LA indicated the State of Louisiana; 2004 is the year of the survey; and 007 is an internal number used in producing the wage determination. A 1993 or later date, 5/13/2010, indicates the classifications and rates under that identifier were issued as a General Way Determination on the date.

Survey wage rates will remain in effect and will not change until a new survey is conducted.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N. W.
Washington, D. C. 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N. W.
Washington, D. C. 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U. S. Department of Labor
200 Constitution Avenue, N. W.
Washington, D. C. 20210

4.) All decisions by the Administrative Review Board are final.

END OF GENERAL DECISION

THIS PAGE IS INTENTIONALLY LEFT BLANK.

APPLICABILITY OF DAVIS-BACON LABOR STANDARD PROVISIONS TO FLAGGERS

The U.S. Department of Labor has established that the duties of flaggers working on contracts covered by the Davis-Bacon Act, are manual and physical in nature. Accordingly, all employees performing the work of flaggers on Davis-Bacon covered contracts shall be entitled to receive applicable prevailing wage rates.

* * * * *

ALL AGENCY MEMORANDUM NO. 130
U.S. DEPARTMENT OF LABOR
EMPLOYMENT STANDARDS ADMINISTRATION
WAGE AND HOUR DIVISION
WASHINGTON, DC 20210

GUIDELINES

HIGHWAY CONSTRUCTION

Highway projects include the construction, alteration, or repair of roads, streets, highways, runways, taxiways, alleys, trails, paths, parking areas, and other similar projects not incidental to building or heavy construction.

EXAMPLES: Alleys, Base Courses, Bituminous treatments, Bridle Paths, Concrete pavement, Curbs, Excavation and embankment (for road construction), Fencing (highway), Grade crossing elimination (overpasses and underpasses), Guard rails on highway, Highway signs, Highway bridges (overpasses, underpasses, grade separation), Medians, Parking lots, Parkways, Resurfacing streets and highways, Roadbeds, Roadways, Runways, Shoulders, Stabilizing courses, Storm sewers incidental to road construction, Street paving, Surface courses, Taxiways, and Trails.

ANY QUESTIONS REGARDING THE APPLICATION OF THE GUIDELINES ABOVE TO A PARTICULAR PROJECT OR ANY DISPUTES REGARDING THE APPLICATION OF THE WAGE SCHEDULES ARE TO BE REFERRED TO THE WAGE AND HOUR DIVISION, U.S. DEPARTMENT OF LABOR FOR RESOLUTION, AND THE INSTRUCTIONS OF THE WAGE AND HOUR DIVISION ARE TO BE OBSERVED IN ALL INSTANCES.

* ALL AGENCY MEMORANDUM NO. 130
U.S. DEPARTMENT OF LABOR
EMPLOYMENT STANDARDS ADMINISTRATION
WAGE AND HOUR DIVISION
WASHINGTON, DC 20210

763684 - PERFORMANCE AND PAYMENT BOND, OPEN-END SIGNAL CONTRACT

Description:

For this contract the delete the first sentence of Standard Specification Section 103.05 and replace with the following:

“Simultaneous with the execution of the Contract, the successful bidder shall furnish a surety bond or bonds in a sum equal to One Million Dollars (\$1,000,000.00).” All other portions of Standard Specification 103.05 remain in effect.

Method of Measurement and Basis of Payment:

For bidding purposes, the unit price is fixed at \$70,000.00. Actual payment is based on the submitted invoice from the contractor's bonding agent.

12/5/12

CONTRACT ID: DOT1227 TRAFFIC SIGNALS & ITS PROJECT(S): ZDOT1227

All figures must be typewritten.

CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
SECTION 0001 TRAFFICSIG&ITS						
0010	202000 EXCAVATION AND EMBANKMENT	250.000 CY				
0020	210000 FURNISHING BORROW TYPE "C" FOR PIPE, UTILITY TRENCH, AND STRUCTURE BACKFILL	35.000 CY				
0030	302007 GRADED AGGREGATE BASE COURSE, TYPE B	75.000 CY				
0040	302008 GRADED AGGREGATE BASE COURSE, TYPE B, PATCHING	100.000 CY				
0050	401821 WMA, SUPERPAVE, TYPE C, 160 GYRATIONS, PG 64-22, PATCHING	50.000 TON				
0060	401822 WMA, SUPERPAVE, TYPE B, 160 GYRATIONS, PG 64-22, PATCHING	75.000 TON				
0070	401823 WMA, SUPERPAVE, BITUMINOUS CONCRETE BASE COURSE, 160 GYRATIONS, PG 64-22, PATCHING	125.000 TON				
0080	503001 PATCHING P.C.C. PAVEMENT, 6' TO 15', TYPE A	85.000 SY				
0090	503006 DOWEL BARS	140.000 EACH				

CONTRACT ID: DOT1227 TRAFFIC SIGNALS & ITS PROJECT(S): ZDOT1227

All figures must be typewritten.

CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0100	701010 PORTLAND CEMENT CONCRETE CURB, TYPE 1-8	340.000 LF				
0110	701011 PORTLAND CEMENT CONCRETE CURB, TYPE 2	1250.000 LF				
0120	701012 PORTLAND CEMENT CONCRETE CURB, TYPE 1-4	85.000 LF				
0130	701020 INTEGRAL PORTLAND CEMENT CONCRETE CURB & GUTTER, TYPE 1-8	85.000 LF				
0140	701021 INTEGRAL PORTLAND CEMENT CONCRETE CURB & GUTTER, TYPE 2	35.000 LF				
0150	701022 INTEGRAL PORTLAND CEMENT CONCRETE CURB & GUTTER, TYPE 3-8	85.000 LF				
0160	701023 INTEGRAL PORTLAND CEMENT CONCRETE CURB & GUTTER, TYPE 3-6	35.000 LF				
0170	705001 P.C.C. SIDEWALK, 4"	2300.000 SF				
0180	705002 P.C.C. SIDEWALK, 6"	1450.000 SF				
0190	705007 SIDEWALK SURFACE DETECTABLE WARNING SYSTEM	700.000 SF				

CONTRACT ID: DOT1227 TRAFFIC SIGNALS & ITS PROJECT(S): ZDOT1227

All figures must be typewritten.

CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0200	705008 CURB RAMP, TYPE 1	700.000				
		SF				
0210	705009 CURB RAMP, TYPE 2, 3, AND/OR 4	2500.000				
		SF				
0220	705010 CURB RAMP, TYPE 5	2000.000				
		SF				
0230	705530 TRIANGULAR CHANNELIZING ISLANDS	2500.000				
		SF				
0240	732004 TOPSOIL (TON)	100.000				
		TON				
0250	736001 SODDING	500.000				
		SY				
0260	743003 ARROWPANELS, TYPE C	200.000				
		EADY				
0270	743004 FURNISH AND MAINTAIN PORTABLE CHANGEABLE MESSAGE SIGN	280.000				
		EADY				
0280	743005 FURNISH AND MAINTAIN PORTABLE LIGHT ASSEMBLY	100.000				
		EADY				
0290	743006 PLASTIC DRUMS	6000.000				
		EADY				

CONTRACT ID: DOT1227 TRAFFIC SIGNALS & ITS PROJECT(S): ZDOT1227

All figures must be typewritten.

CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0300	743007 TRAFFIC OFFICERS	800.000 HOUR	75.00000		60000.00	
0310	743009 FURNISH AND MAINTAIN TRUCK MOUNTED ATTENUATOR, TYPE I	20.000 EADY				
0320	743010 FURNISH AND MAINTAIN TRUCK MOUNTED ATTENUATOR, TYPE II	200.000 EADY				
0330	743023 TEMPORARY BARRICADES, TYPE III	2400.000 LFDY				
0340	743024 TEMPORARY WARNING SIGNS AND PLAQUES	1600.000 EADY				
0350	743050 FLAGGER, NEW CASTLE COUNTY, STATE	500.000 HOUR	52.90000		26450.00	
0360	743051 FLAGGER, KENT COUNTY, STATE	170.000 HOUR	46.66000		7932.20	
0370	743052 FLAGGER, SUSSEX COUNTY, STATE	340.000 HOUR	50.80000		17272.00	
0410	743062 FLAGGER, NEW CASTLE COUNTY, STATE, OVERTIME	50.000 HOUR	76.71000		3835.50	
0420	743063 FLAGGER, KENT COUNTY, STATE, OVERTIME	17.000 HOUR	67.66000		1150.22	

CONTRACT ID: DOT1227 TRAFFIC SIGNALS & ITS PROJECT(S): ZDOT1227

All figures must be typewritten.

CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0430	743064 FLAGGER, SUSSEX COUNTY, STATE, OVERTIME	35.000 HOUR	73.66000		2578.10	
0470	743552 PEDESTRIAN CHANNELIZING BARRICADE	700.000 LFDY				
0480	743553 TEMPORARY PEDESTRIAN PATHWAY	200.000 SY				
0490	743555 TEMPORARY SIDEWALK - TYPE 2 (BOARDWALK)	250.000 LF				
0500	743556 RELOCATE TEMPORARY SIDEWALK - TYPE 2	500.000 LF				
0510	744500 CONDUIT JUNCTION WELL, TYPE 6, PRECAST POLYMER CONCRETE	2.000 EACH				
0520	744506 CONDUIT JUNCTION WELL, TYPE 7, PRECAST POLYMER CONCRETE	10.000 EACH				
0530	744507 CONDUIT JUNCTION WELL, TYPE 8, PRECAST POLYMER CONCRETE	2.000 EACH				
0540	744508 CONDUIT JUNCTION WELL, TYPE 9, PRECAST POLYMER CONCRETE	2.000 EACH				
0550	744509 CONDUIT JUNCTION WELL, TYPE 10, PRECAST POLYMER CONCRETE	2.000 EACH				

CONTRACT ID: DOT1227 TRAFFIC SIGNALS & ITS PROJECT(S): ZDOT1227

All figures must be typewritten.

CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0560	744520 CONDUIT JUNCTION WELL, TYPE 1, PRECAST CONCRETE	15.000 EACH				
0570	744523 CONDUIT JUNCTION WELL, TYPE 4, PRECAST CONCRETE	4.000 EACH				
0580	744524 CONDUIT JUNCTION WELL, TYPE 5, PRECAST CONCRETE	2.000 EACH				
0590	744530 CONDUIT JUNCTION WELL, TYPE 11, PRECAST CONCRETE/ POLYMER LID-FRAME	150.000 EACH				
0600	744531 CONDUIT JUNCTION WELL, TYPE 14, PRECAST CONCRETE/ POLYMER LID-FRAME	30.000 EACH				
0610	744532 CONDUIT JUNCTION WELL, TYPE 15, PRECAST CONCRETE/ POLYMET LID-FRAME	17.000 EACH				
0620	744533 FURNISH & INSTALL FRAME AND LID FOR JUNCTION WELL, TYPE 1	7.000 EACH				
0630	744534 FURNISH & INSTALL FRAME AND LID FOR JUNCTION WELL, TYPE 4	4.000 EACH				
0640	744535 FURNISH & INSTALL FRAME AND LID FOR JUNCTION WELL, TYPE 5	2.000 EACH				

CONTRACT ID: DOT1227 TRAFFIC SIGNALS & ITS PROJECT(S): ZDOT1227

All figures must be typewritten.

CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0650	744536 FURNISH & INSTALL PRECAST POLYMER COVER FOR JUNCTION WELL, TYPE 6	2.000 EACH				
0660	744537 FURNISH & INSTALL PRECAST POLYMER COVER FOR JUNCTION WELL, TYPE 7	4.000 EACH				
0670	744538 FURNISH & INSTALL PRECAST POLYMER COVER FOR JUNCTION WELL, TYPE 8	2.000 EACH				
0680	744539 FURNISH & INSTALL PRECAST POLYMER COVER FOR JUNTION WELL, TYPE 9	2.000 EACH				
0690	744540 FURNISH & INSTALL PRECAST POLYMER COVER FOR JUNCTION WELL, TYPE 10	2.000 EACH				
0700	744541 FURNISH & INSTALL FRAME AND LID FOR JUNCTION WELL, TYPE 11	7.000 EACH				
0710	744542 FURNISH & INSTALL FRAME AND LID FOR JUNCTION WELL, TYPE 14	4.000 EACH				
0720	744543 FURNISH & INSTALL FRAME AND LID FOR JUNCTION WELL, TYPE 15	2.000 EACH				
0730	744544 ADJUST OR REPAIR EXISTING CONDUIT JUNCTION WELL	40.000 EACH				

CONTRACT ID: DOT1227 TRAFFIC SIGNALS & ITS PROJECT(S): ZDOT1227

All figures must be typewritten.

CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0740	744545 BONDING & GROUNDING EXISTING JUNCTION WELL	100.000 EACH				
0750	745601 FURNISH & INSTALL UP TO 3" FLEXIBLE METALLIC-LIQUIDTIGHT CONDUIT	170.000 LF				
0760	745602 FURNISH & INSTALL UP TO 4" SCHEDULE 80 HDPE CONDUIT (BORE)	5700.000 LF				
0770	745603 FURNISH & INSTALL UP TO 4" SCHEDULE 80 PVC CONDUIT (OPEN CUT)	500.000 LF				
0780	745604 FURNISH & INSTALL UP TO 4" SCHEDULE 80 PVC CONDUIT (TRENCH)	15000.000 LF				
0790	745605 FURNISH & INSTALL UP TO 4" SCHEDULE 80 PVC CONDUIT (ON STRUCTURE)	250.000 LF				
0800	745606 FURNISH & INSTALL UP TO 4" GALVANIZED STEEL CONDUIT (TRENCH)	1000.000 LF				
0810	745607 FURNISH & INSTALL UP TO 4" GALVANIZED STEEL CONDUIT (BORE)	500.000 LF				
0820	745608 FURNISH & INSTALL UP TO 4" GALVANIZED STEEL CONDUIT (OPEN CUT)	50.000 LF				

CONTRACT ID: DOT1227 TRAFFIC SIGNALS & ITS PROJECT(S): ZDOT1227

All figures must be typewritten.

CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0830	745609 FURNISH & INSTALL UP TO 4" GALVANIZED STEEL CONDUIT (ON STRUCTURE)	35.000 LF				
0840	745610 FURNISH & INSTALL UP TO 4" NONMETALLIC POLE RISER SHIELD	300.000 LF				
0850	746501 FURNISH & INSTALL DOWN GUY AND ANCHOR	35.000 EACH				
0860	746504 FURNISH & INSTALL SPAN WIRES, 7/16"	3700.000 LF				
0870	746506 FURNISH & INSTALL SPAN WIRE, 1/4"	700.000 LF				
0880	746507 INSTALLATION OF STEEL POLE (LESS THAN 40')	25.000 EACH				
0890	746528 INSTALLATION OF STEEL POLE (EQUAL TO OR GREATER THAN 40')	4.000 EACH				
0900	746555 SHEETING FOR POLE BASE	4.000 EACH				
0910	746590 FURNISH & INSTALL GROUND ROD	4.000 EACH				
0920	746614 POLE BASE EXTENSION	70.000 CF				

CONTRACT ID: DOT1227 TRAFFIC SIGNALS & ITS PROJECT(S): ZDOT1227

All figures must be typewritten.

CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0930	746697 INSTALLATION OF WOOD POLE	2.000 EACH				
0940	746703 FURNISH & INSTALL DEAD END MESSENGER WIRE ATTACHMENT	4.000 EACH				
0950	746704 ADJUSTMENT OF SPAN OR MESSENGER WIRE	17.000 EACH				
0960	746706 TRANSFER OF EXISTING SPAN OR MESSENGER ATTACHMENT	4.000 EACH				
0970	746763 REALIGN OR SLIDE EXISTING SIGNAL HEAD	35.000 EACH				
0980	746775 FURNISH & INSTALL OPTICOM EMERGENCY PREEMPTION DETECTOR	40.000 EACH				
0990	746815 INSTALLATION OF LUMINAIRE	4.000 EACH				
1000	746831 INSTALLATION OF PEDESTAL POLE	50.000 EACH				
1010	746832 SUPPLY AND INSTALLATION OF WEATHERHEAD, 3", ON STEEL POLE	12.000 EACH				
1020	746847 POLE BASE, TYPE 3	40.000 EACH				

CONTRACT ID: DOT1227 TRAFFIC SIGNALS & ITS PROJECT(S): ZDOT1227

All figures must be typewritten.

CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
1030	746850 POLE BASE, TYPE 4	50.000 EACH				
1040	746852 POLE BASE, TYPE 6	35.000 EACH				
1050	746892 FURNISH & INSTALL SIGNAL HEAD BACKPLATE	10.000 EACH				
1060	746906 FURNISH & INSTALL 4-CONDUCTOR #18 AWG SHIELDED OPTICOM CABLE	6500.000 LF				
1070	746907 FURNISH & INSTALL 1-CONDUCTOR #2 AWG STRANDED COPPER	2500.000 LF				
1080	746908 FURNISH & INSTALL 1-CONDUCTOR #4 AWG STRANDED COPPER	1700.000 LF				
1090	746909 FURNISH & INSTALL 1-CONDUCTOR #6 AWG STRANDED COPPER	5700.000 LF				
1100	746910 FURNISH & INSTALL 1-CONDUCTOR #8 AWG STRANDED COPPER	28500.000 LF				
1110	746911 FURNISH & INSTALL 1-CONDUCTOR #10 AWG STRANDED COPPER	5000.000 LF				
1120	746912 FURNISH & INSTALL 1-CONDUCTOR #14 AWG STRANDED COPPER	1000.000 LF				

CONTRACT ID: DOT1227 TRAFFIC SIGNALS & ITS PROJECT(S): ZDOT1227

All figures must be typewritten.

CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
1130	746913 FURNISH & INSTALL 2-CONDUCTOR #14 AWG ALUMINUM SHIELDED CABLE	20000.000 LF				
1140	746914 FURNISH & INSTALL #6 BARE STRANDED COPPER GROUND	15000.000 LF				
1150	746915 FURNISH & INSTALL #8/2 WIRE UF W/GROUND	500.000 LF				
1160	746916 FURNISH & INSTALL #8/3 WIRE UF W/GROUND	50.000 LF				
1170	746918 FURNISH & INSTALL #2/0 AWG STRANDED COPPER	1000.000 LF				
1180	746919 FURNISH & INSTALL #4/0 AWG STRANDED COPPER	500.000 LF				
1190	746920 FURNISH & INSTALL 14/4 TRAFFIC CONTROL CABLE	700.000 LF				
1200	746921 FURNISH & INSTALL 14/9 TRAFFIC CONTROL CABLE	10000.000 LF				
1210	746922 FURNISH & INSTALL 14/16 TRAFFIC CONTROL CABLE	6700.000 LF				

CONTRACT ID: DOT1227 TRAFFIC SIGNALS & ITS PROJECT(S): ZDOT1227

All figures must be typewritten.

CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
1220	746923 FURNISH & INSTALL 1" FLEXIBLE NON-METALLIC LIQUIDTIGHT CONDUIT DETECTOR SLEEVE WITH LOOP WIRE	900.000 LF				
1230	746924 FURNISH & INSTALL LOOP WIRE 1-CONDUCTOR #14 AWG ENCASED IN 1/4" FLEXIBLE TUBING IN A LOOP SAWCUT	9000.000 LF				
1240	746925 FURNISH & INSTALL EMBEDDED METERED SERVICE PEDESTAL (100 AMP)	15.000 EACH				
1250	746926 FURNISH & INSTALL ELECTRICAL UTILITY SERVICE EQUIPMENT 120/240	2.000 EACH				
1260	746928 INSTALLATION OF STEEL MAST ARM POLE WITH SINGLE OR TWIN MAST ARMS UP TO 70'	17.000 EACH				
1270	746929 FURNISH & INSTALL 8" LED SIGNAL HEAD SECTION, RIGID MOUNT	7.000 EACH				
1280	746930 FURNISH & INSTALL 8" LED SIGNAL HEAD SECTION, SPAN MOUNT	10.000 EACH				
1290	746931 FURNISH & INSTALL 8" LED TRAFFIC SIGNAL HEAD INDICATION MODULE	4.000 EACH				
1300	746932 FURNISH & INSTALL 12" LED SIGNAL HEAD SECTION, RIGID MOUNT	145.000 EACH				

CONTRACT ID: DOT1227 TRAFFIC SIGNALS & ITS PROJECT(S): ZDOT1227

All figures must be typewritten.

CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
1310	746933 FURNISH & INSTALL 12" LED SIGNAL HEAD SECTION, SPAN MOUNT	220.000 EACH				
1320	746934 FURNISH & INSTALL 12" LED TRAFFIC SIGNAL HEAD INDICATION MODULE	35.000 EACH				
1330	746935 FURNISH & INSTALL 16" LED COUNTDOWN PEDESTRIAN SIGNAL	70.000 EACH				
1340	746936 FURNISH & INSTALL 16" LED PEDESTRIAN SIGNAL HEAD INDICATION MODULE	7.000 EACH				
1350	746937 FURNISH & INSTALL PEDESTRIAN PUSHBUTTON WITH SIGN	70.000 EACH				
1360	746938 INSTALL OVERHEAD SIGN	30.000 EACH				
1370	746939 TRAFFIC CONTROL DEVICE EQUIPMENT TURN ON, PICK UP, REMOVAL & MAINTENANCE, TYPE I	9.000 EACH				
1380	746940 TRAFFIC CONTROL DEVICE EQUIPMENT TURN ON, PICK UP, REMOVAL & MAINTENANCE, TYPE II	5.000 EACH				
1390	746941 TRAFFIC CONTROL DEVICE EQUIPMENT TURN ON, PICK UP, REMOVAL & MAINTENANCE, TYPE III	4.000 EACH				

CONTRACT ID: DOT1227 TRAFFIC SIGNALS & ITS PROJECT(S): ZDOT1227

All figures must be typewritten.

CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
1400	746942 INSTALLATION OF LIGHTING POLE, WITH ARM AND LUMINAIRE	35.000 EACH				
1410	747513 LIGHTING CONTROL AND DISTRIBUTION ENCLOSURE (120/240; 100 AMP)	2.000 EACH				
1420	747514 CABINET BASE, TYPE F	1.000 EACH				
1430	747515 CABINET BASE, TYPE M	4.000 EACH				
1440	747516 CABINET BASE, TYPE P	10.000 EACH				
1450	747517 CABINET BASE, TYPE R	2.000 EACH				
1460	748015 PERMANENT PAVEMENT STRIPING, SYMBOL/LEGEND ALKYD-THERMOPLAST IC	5000.000 SF				
1470	748019 TEMPORARY MARKINGS, PAINT, 4"	170.000 LF				
1480	748026 TEMPORARY MARKINGS, PAINT SYMBOL/LEGEND	840.000 SF				
1490	748027 PERMANENT PAVEMENT STRIPING, ALKYD-THERMOPLASTIC, 12"	700.000 LF				

CONTRACT ID: DOT1227 TRAFFIC SIGNALS & ITS PROJECT(S): ZDOT1227

All figures must be typewritten.

CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
1500	748033 PERMANENT PAVEMENT STRIPING, ALKYD-THERMOPLASTIC, 5"	840.000 LF				
1510	748513 RETROREFLECTIVE PREFORMED PATTERNED MARKINGS, 12"	70.000 LF				
1520	748518 BLACKOUT TAPE, 6"	35.000 LF				
1530	748525 TEMPORARY MARKINGS, TAPE, 4"	170.000 LF				
1540	748527 TEMPORARY MARKINGS, TAPE, WORDS/SYMBOLS	840.000 SF				
1550	748528 BLACKOUT TAPE, 8"	35.000 LF				
1560	748529 RETROREFLECTIVE PREFORMED PATTERNED MARKINGS, SYMBOL/LEGEND	1350.000 SF				
1570	748530 REMOVAL OF PAVEMENT STRIPING	1700.000 SF				
1580	748553 PREFORMED RETROREFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS, BIKE SYMBOL	7.000 EACH				

CONTRACT ID: DOT1227 TRAFFIC SIGNALS & ITS PROJECT(S): ZDOT1227

All figures must be typewritten.

CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
1590	748554 PREFORMED RETROREFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS, PEDESTRIAN SYMBOL	EACH 2.000				
1600	748564 RETROREFLECTIVE PREFORMED PATTERNED MARKINGS, 5"	LF 170.000				
1610	748566 RETROREFLECTIVE PREFORMED PATTERNED MARKINGS, 8"	LF 340.000				
1620	748567 RETROREFLECTIVE PREFORMED PATTERNED MARKINGS, 13"	LF 120.000				
1630	758000 REMOVAL OF EXISTING PORTLAND CEMENTCONCRETE PAVEMENT, CURB, SIDEWALK, ETC.	SY 50.000				
1640	762001 SAW CUTTING, HOT MIX	LF 2000.000				
1650	762002 SAW CUTTING, CONCRETE, FULL DEPTH	LF 340.000				
1660	763684 PERFORMANCE AND PAYMENT BOND, OPEN END SIGNAL CONTRACT	LUMP	LUMP			70000.00
	SECTION 0001 TOTAL					
	TOTAL BID					

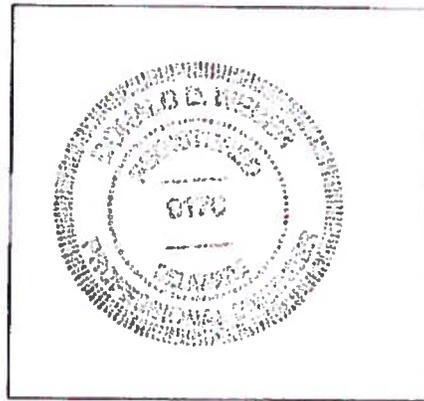
STATE OF DELAWARE
DEPARTMENT OF TRANSPORTATION



TRAFFIC SECTION

SPECIFICATIONS FOR

**DOT 1227 – TRAFFICSIG & ITS
TRAFFIC SIGNALS, LIGHTING, AND ITS**



RECOMMENDED:


Assistant Chief Traffic Engineer

APPROVED:


Chief Traffic Engineer

CONTRACT DESCRIPTION

This contract is to provide the material, equipment and labor for the installation and alteration of signalized intersections, signal coordination systems, pedestrian signals and associated curb ramps, highway lighting systems, fiber optic cable pathway and other traffic components or devices statewide. The specific work sites are not listed herein, but will be assigned as available by the Delaware Department of Transportation Traffic Section.

PROJECT NOTES

1. STANDARDS

All work will be done in accordance with the Delaware Department of Transportation Standard Specifications for Road and Bridge Construction, dated August 2001, as amended by the Supplemental Specifications; Standard Construction Details including all revisions up to the date of advertisement; Project Specific Plan Details; the Special Provisions; the most current edition of the Delaware MUTCD; and any plans included in specific work orders. If during the course of the Contract, changes to the standards are made and are to be implemented on this Contract, the Department will send the changes to the Contractor in advance of requiring their use.

2. CONTRACTOR REQUIREMENTS

A. Master Electrician Special

The Contractor shall provide a Delaware-licensed Master Electrician Special, who shall be qualified to direct work near energized primary circuits up to 34 KV and who shall be directly responsible for the workmanship as provided in Title 24, Chapter 14 of the Delaware Code. This Master Electrician - Special shall certify all of the work performed. The name, qualifications, and copy of the license shall be submitted and approved by the Engineer prior to beginning work on the contract.

B. Point of Contact

Upon award of the contract, the Contractor shall submit to the Engineer the name of a principle point of contact for the project including home and cell telephone numbers and/or pager number.

C. Deployment of Multiple Crews

Contractor crews may be required to be deployed to perform work at multiple work sites throughout the state simultaneously. The work locations and number of crews to be deployed shall be coordinated with the Engineer on a weekly basis.

D. Crew Composition

A crew shall consist of a foreman who is a Journeyman Electrician and/or has a minimum of five years experience in related work and sufficient personnel to complete the work, unless an exception is granted in writing by the Engineer. The minimum size of any crew is two people. A loop installation crew and a restoration crew do not need a Journeyman Electrician or someone with five years experience as the foreman. Crews for aerial work must have a Journeyman Electrician as the foreman. Names and qualifications of all proposed Journeyman Electricians shall be submitted for approval prior to beginning work on the contract.

E. Contractor's Equipment and Resources

The Contractor shall provide a complete list of equipment and materials that will be available to perform the tasks outlined in this contract. All self-propelled equipment and vehicles shall be identified with the Contractor's company name, location of home office (city and state), phone number, and the electrical registration number of Licensed Master Electrician Special. This shall include any leased or rented equipment or vehicle that is in use for this contract for 14 or more continuous calendar days. Said information shall be visible on 2 (two) opposing sides of the equipment or vehicle. All equipment assigned to the contract shall be equipped with safety devices meeting the requirements of the Delaware MUTCD. The Contractor must have the capability of providing as many as 4 each bucket and/or line trucks concurrently if required at large intersections, such as those involving a suspended box span.

The Department reserves the right to inspect the Contractor's facilities, equipment, materials, and resources that will be available to perform the tasks outlined in this contract. The Department shall provide the Contractor with notification a minimum of seven (7) days prior to such an inspection.

F. Applicable Standards

All work performed under this contract shall comply with all applicable National Electrical Code, National Electrical Safety Code and industry and Bellcore standards to the extent not precluded by these specifications. Construction methods and techniques used by the Contractor shall be in accordance with the recommended practices and procedures published by leading industry manufacturers and trade associations, such as Bellcore Blue Book of Construction Practices.

The Contractor shall also follow all applicable local laws and standards. The Contractor shall be aware of all standards and their application within Delaware. Ignorance or lack of knowledge shall not be an excuse for improper work to occur. Any work constructed in violation of any applicable code shall be corrected and re-installed properly at the Contractor's expense.

7. **ASSIGNMENT OF WORK**

Work will be assigned to the Contractor on a work order basis by the Department. All work order assignments will be at the discretion of the Engineer. Issuance of each work order constitutes the notice to proceed with the work described on the work order.

Work assignments per month shall not exceed \$500,000.00, unless agreed upon by both parties in writing.

The Engineer shall establish the location of the work sites, the order in which the work sites are to be pursued, and the allowable Working Days to complete the work order. The Contractor shall, prior to beginning work at a particular location, submit a written schedule for approval for that work order in bar graph format showing completion within the number of Working Days determined by the Department. Additionally, the Contractor shall submit by email to the DeIDOT Signal Construction and Inspection Section on a daily basis, a list of the locations and work items expected to be pursued that day. The Contractor shall make positive contact with the Signal Construction staff each work day, no later than 7:30am.

If the Department directs the Contractor to suspend work at a particular location and reassign crews due to emergencies or other high priority work, Working Day time charges for the suspended location will not be assessed until work resumes.

Unless specified otherwise, time shall be allocated per work assignment as follows:

- assignments estimated to cost from one dollar thru \$100,000.00 shall be substantially completed in accordance with Subsection 101.79 of the Standard Specifications within a forty(40) working day period from the date of the work assignment Notice to Proceed.
- assignments estimated to cost \$100,000.01 thru \$200,000.00 shall be substantially completed in accordance with Subsection 101.79 of the Standard Specifications within a sixty (60) working day period from the date of the work assignment Notice to Proceed.
- assignments estimated to cost from \$200,000.01 and up shall be substantially completed in accordance with Subsection 101.79 of the Standard Specifications within a ninety (90) working day period from the date of the work assignment Notice to Proceed.
- At any given time, a maximum of one expedited work assignment may be required. This assignment is to be substantially completed in accordance with Subsection 101.79 of the Standard Specifications within 25 working days from the notice to proceed on that assignment.
- support assignments shall be excluded from the above parameters, unless otherwise directed by the Engineer.

8. LIQUIDATED DAMAGES

Liquidated damages assessed under this Contract shall be in accordance with Sections 108.08 and 108.09 of the Standard Specifications. These liquidated damages will be based on working days and the dollar value of the authorized work order.

If applicable, verification of non-availability of materials from at least three (3) independent sources shall be supplied by the Contractor in writing to the Signal Construction Supervisor immediately after the receipt of a work order or at such time as they are notified that anticipated materials will not be available as scheduled. If there is a verified non-availability of materials, liquidated damages shall not be assessed until the Contractor fails to complete the revised work order on time as described in Section 108.08.

9. PROSECUTION AND PROGRESS OF WORK

Work assignments will be issued to the Contractor in the form of a letter along with all necessary sketches, engineering drawings and any additional special provisions required. At times, depending upon the nature and complexity of the work assignments, field meetings may be necessary at certain site locations.

The Contractor shall have sufficient work forces and Bid Item materials in stock to perform any assignment within the times specified.

The Contractor shall be actively working on at least one (1) and not more than six (6) active work orders at any one time until all assigned work has been completed statewide, unless otherwise approved by the Engineer. When directed by the Department, out of sequence and/or expedited work sites are not included in the maximum limit noted herein.

Failure to begin work as specified on the approved schedule constitutes “Failure to Pursue the Work” and shall result in Liquidated Damages as outlined in subsection 108.09 of the Standard Specifications. No liquidated damages will be charged when items that the Contractor needs in order to start the work are unavailable from at least three (3) independent sources. If work on a specific work order is not completed within the allotted time, Liquidated Damages based on the value of the work order will be assessed in accordance with Subsection 108.09.

10. NIGHT WORK

The Department may require Night Work to minimize traffic conflicts on some work sites. The Contractor should anticipate night time operations being required for work above, or affecting traffic lanes on multi-lane, high volume locations. All pay items which are not “furnish only” that are used for Night Work shall be allowed a 15% surcharge. Type I and Type II truck mounted attenuators, plastic drums, temporary barricades Type III, temporary warning signs, message boards, arrow panels, and portable light assemblies shall be paid under separate items in this contract for their use and shall not be subject to the 15% surcharge for night work.

Night work shall be defined as work being performed from the hours of 8:00 p.m. to 6:00 a.m.

Night work construction does not relieve the Contractor from day work scheduled for the following day. Failure to perform scheduled work will result in Liquidated Damages.

Construction work started prior to night work hours that carries over into those hours shall not be paid as night work unless authorized by the Engineer in writing before work is started.

11. INSPECTION AND PROJECT CONTROL

The Inspector shall determine and record in the contract diary the suitability of each day for work at the work site(s) and also on a Weekly Report form supplied by the Department. The foreman shall acknowledge the daily time charges by signature on the Weekly Report. In the event of a disagreement as to the suitability of any day for work, the circumstances of the disagreement shall be noted in the contract diary and the Contractor shall contact the Signal Construction Supervisor for a final determination.

At the completion of each work day, the foreman and inspector shall reconcile the work completed that day and acknowledge the work completed by signing the Inspector's Daily Log.

Prior to final acceptance of a work location, the Department will schedule a Final Inspection. Attendees shall include the Contractor, DelDOT's inspector, and other DelDOT personnel as necessary. A final punchlist will be generated listing any remaining work. A timeframe to complete the punchlist will also be determined. Failure to complete the punchlist within the established timeframe will result in the resumption of daily time charges and possible Liquidated Damage assessment. Upon completion of the punchlist by the Contractor, the location will be accepted by the Department and the acceptance date will be formally documented.

Method for Contractor's Invoice Submission – All work for this contract will be paid per assignment upon receipt of an invoice from the contractor in accordance with the following schedule:

Work assignments that are 40 Working Days or less – The contractor will submit one invoice per work assignment at the completion of the assignment.

Work assignments that are greater than 40 Working Days – The contractor will typically submit two invoices per work assignment to the Department for payment. Invoice number one will be submitted upon completion of all underground work. Invoice number two will be submitted upon completion of the assignment.

All invoices shall contain the following information. Failure to include any of the information on the invoice may result in the invoice being returned to the contractor.

- Contractor name, address and federal ID number.

compliance with the Delaware MUTCD and with NCHRP Report 350 or MASH and shall be approved by the Engineer before installation. Traffic control devices shall be maintained in good condition for the duration of use.

The Contractor shall maintain vehicular, bicycle and pedestrian traffic through the project's work zones in a manner that will reasonably provide the least practicable obstruction to all road users and provide paths for all road users, including, but not limited to, the passage through the work zone of persons with disabilities in accordance with the Americans with Disabilities Act of 1990 (ADA) Title II, paragraph 35.130.

The project manager shall be responsible for coordinating with the Traffic Section relating to any impacts to Traffic Section facilities (including but not limited to traffic loops, junction wells etc.) at least 4 weeks in advance of the start of the activity. Prior to initiating any work on this contract (or sites), the Project Manager shall be responsible for preparing and submitting for approval of the Safety Section, a Maintenance of Traffic Plan. Sufficient time shall be provided for the review and approval of the plan. The Maintenance of Traffic Plan shall include proposed time restrictions on the closure of travel lanes subject to the approval of the Safety Section.

The Project Manager is responsible for ensuring any required documents and analysis as part of the adopted Work Zone Safety and Mobility Procedures and Guidelines has been completed prior to any work starting on this contract.

13. BASIS OF PAYMENT

The Contractor may bill the Department when the work order is completed. Payment will be issued to the Contractor monthly on a mutually agreed upon date. Partial payment will be considered for long term projects on a case by case basis. Approval for partial payment on a project must be received from the Engineer prior to the submission of any invoices on that project.

Payment of said invoice shall not relieve the Contractor from obligations incurred in warranting the quality of the workmanship and materials, or for restoration at the work site. A One Year Warranty on all materials, installation, and workmanship will be in effect for each work location starting on the acceptance date of each individual location. Specific work items may carry a longer Warranty Period. In these cases, the longer of one year or the otherwise specified warranty period will govern for those particular items. The Contractor shall provide contact information for an employee responsible for arranging any warranty work during the one year period. Any repairs required during the warranty period, including Maintenance of Traffic Items, shall be provided at no additional cost to the Department. Should any emergency repairs be required during the warranty period to work that was originally performed under this contract, contact will immediately be made with the Contractor and a response to the site of the emergency must be made within 3 hours of the time of contact. Should the Contractor be unable to respond to the emergency within the 3 hour timeframe, then the Department will pursue other means to make the repairs and deduct the costs from the Contract by means of a "negative" change order. Final acceptance as evidenced in writing after the completion of the entire contract or at such time as practical determination of the quality of the workmanship and materials can be made by the Engineer, will be necessary before any bonds or parts of bonds will be released.

14. ELECTRICAL TESTING BY DELDOT

The Contractor is advised that DelDOT may, at their discretion, perform independent electrical testing of the highway lighting system, signal system, and/or related electrical work items.

The roadway lighting system and signal system is comprised of all Contract items for traffic signals and lighting, including but not limited to, conduits, junction wells, cables, load centers, transformers, cabinet pads, pole bases, poles, light standards with and without davit arms, luminaires, signal heads, pedestrian heads, service installations, and reworked/relocated existing lighting facilities.

The roadway lighting and signal system will be considered defective if any of the following conditions are discovered by visual inspection or by inspection with testing equipment within the warranty period:

1. Defective lamps, LED's, or ballasts
2. Failure to operate, in whole or in part.
3. Power wire grounding less than ten megaohms.
4. Shifts in pole and/or foundation alignment.
5. Short circuits or open circuits anywhere within the system.
6. Deterioration of finishes, plating, or paint not normal and customary in the environment in which the equipment is installed.
7. Settlement of trench backfill.
8. Defective fuses.
9. Defective or improperly installed splices.

These conditions listed shall not be considered all inclusive.

The Department reserves the right to conduct initial and periodic roadway lighting and/or signal system inspections after the Contractor has completed work. The initial inspection, to be conducted during the final construction inspection, will be to determine if initial performance requirements are met. Periodic reviews may be conducted through the warranty period to determine the sustained ability of the roadway lighting system to meet the stated performance requirements.

All defective areas identified by the Department during initial or periodic inspections shall be documented and the information will be shared with the Contractor. Necessary repairs or replacements shall be made by the Contractor at no additional cost to DelDOT. All roadway lighting and/or signal system repairs shall begin immediately following the notice to the Contractor of the defect unless weather limitations prevent the corrective work. The Department shall be given notification before the Contractor begins corrective work and shall be allowed full access to the areas being repaired.

When requirements, responsibilities, and furnishing of materials are outlined in the details and notes on the Plans and in the paragraphs preceding the "Basis of Payment" paragraph in the Standard Specifications or Special Provisions, no interpretation shall be made that such stipulations are excluded because reiteration is not made in the "Basis of Payment" paragraph.

15. GENERAL WORK ELEMENTS

- A. Backfill in trenches, around forms and junctions wells, or at any other place shall be completed thoroughly, using a power tamper, in lifts of not more than 8 inches loose measurement as it is being placed, in accordance with Standard Specification Subsection 202.05 (c). Any paving material or fill removed for trenching shall be replaced in kind.
- B. At the Contractor's expense, all holes and trenches shall be protected from accidental entry by vehicles and pedestrians with steel plates or other approved materials as required by the Engineer. Should the Contractor fail to provide adequate protection to the surroundings of a work site or should the operations be carried out in such a way as to allow or cause damage to any roadway, street, sidewalk, the property of any utility, or other private or public property, then Liquidated Damages shall be assessed based on the total value of the work location in question. Should the repair not be undertaken and should it be necessary for the Department to protect the area and/or make the repair, the cost shall be deducted from monies due the Contractor.
- C. All concrete, including pole bases and cabinet bases, shall be finished to match any adjacent concrete. If no match is required, the surface area shall be broom finished and edged.
- D. No ground rod shall be driven into earth without a proper protective cap to prevent damage to the threads. If the threaded end of the sectional ground rod is damaged, it will be replaced at the expense of the Contractor.
- E. Material substitutions must be submitted in writing to the Engineer at least 10 calendar days prior to use in order to allow time for review and approval by the Engineer. Faxes or e-mails are not acceptable methods of submission. A scanned, signed letter in "pdf format" will be acceptable.
- F. Work within waters/wetlands shall not begin on locations requiring environmental permits until all applicable permits have been obtained by the Department.
- G. It is the responsibility of the Traffic Systems Design Section to notify Team Support if any of the future locations are located within the incorporated limits of a municipality thus requiring a Town Agreement. Team Support should also be notified if any work at the yet to be named locations is anticipated to occur outside of the existing right-of-way.
- H. Traffic signal loops shall be installed within one week of receipt of work order unless otherwise directed by the Engineer.
- I. If seeding is required for restoration of a work area, the cost shall be incidental to Item 732004, Topsoil. If topsoil is not required, the cost of seeding shall be incidental to the item requiring restoration.
- J. Signal heads, pedestrian signal indications, and signs that are in place, but

not in service, shall be entirely covered with opaque burlap with costs incidental to the various maintenance of traffic items.

16. **MATERIALS**

A. Damaged

Once the Department transfers material or equipment to the Contractor, any damage to or loss of that material or equipment which occurs from handling or transport, or from any other source or way, shall be the sole responsibility of the Contractor and the value thereof shall be deducted from any monies due the Contractor.

B. Supplied By or Returned To the Department

The Department's Sign Shop, 14 Sign Shop Road, Dover, Delaware 19901, is the site where items to be supplied by the Department are available and where items to be returned are to be delivered.

C. Supplied By the Contractor

All materials supplied by the Contractor shall be new and unused and, where applicable, all materials and equipment supplied shall be UL approved. Catalog cuts and/or shop drawings shall accompany all requests for material source approval. 6 sets of such requests shall be sent to DelDOT's Traffic Sign Shop (att'n Signal Construction Manager). Following initial review by Traffic, 5 sets of the submittal will be forwarded to DelDOT's Materials and Research Section for final approval. Following their review and approval, 2 sets will be returned to the Contractor, one set will be retained by Materials and Research, and 2 sets will be returned to DelDOT's Traffic Sign Shop. If more approved copies are desired, the Contractor may elect to submit extras for review.

D. Transportation

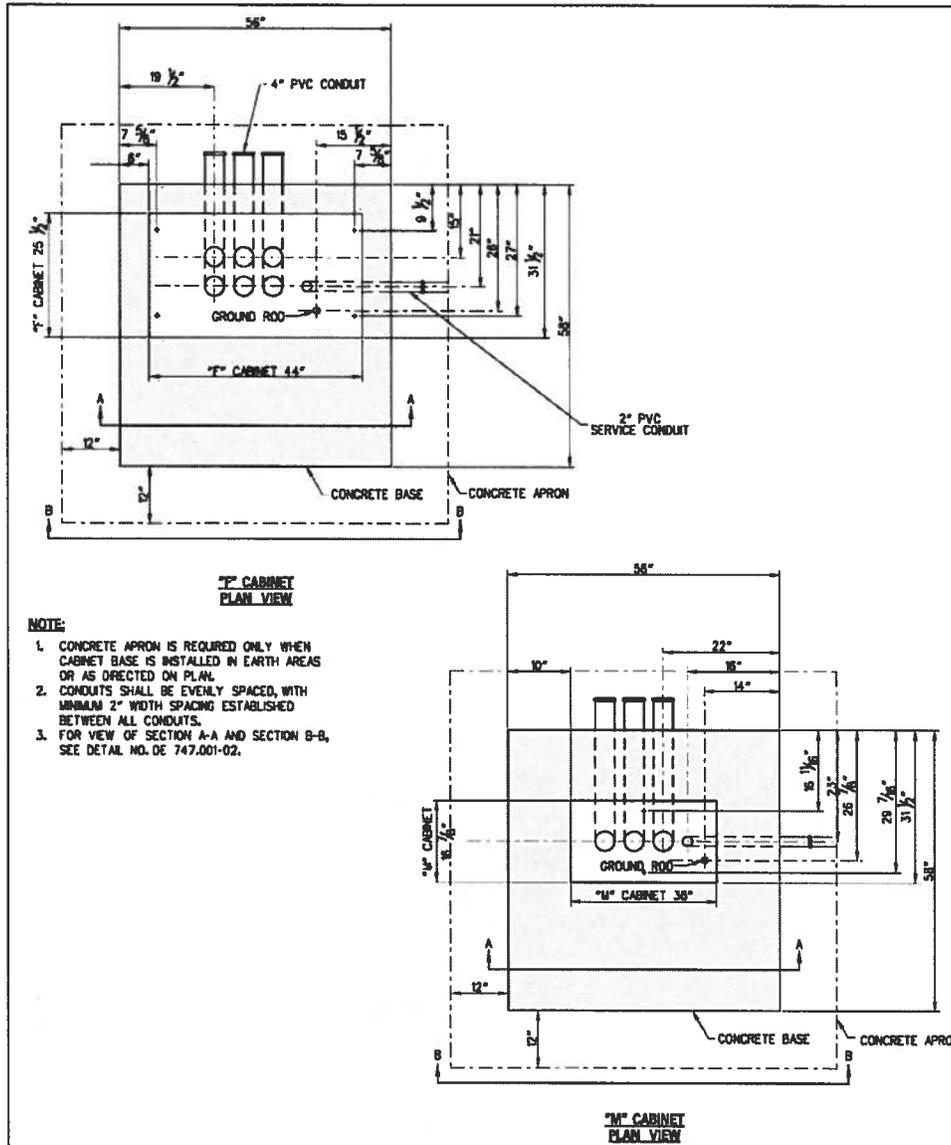
Materials and/or equipment shall be transported in a legal fashion and shall be protected from damage or loss.

17. **EROSION AND SEDIMENT CONTROL**

The provisions of Section 110 of the Standard Specifications on erosion and sediment control apply to this contract. Those areas that have been disturbed for signal work shall be restored immediately after the ground disturbing portion of the work has been completed. Restoration of long runs of conduit for fiber optic installation shall be restored at the end of each work day. Silt fences will not be required.

18. **RIGHT OF WAY**

It is anticipated that all work will occur within DelDOT's existing right of way or easement areas. Should the need occur to trespass onto private property; it will be the responsibility of the Project manager to secure such trespass needs.



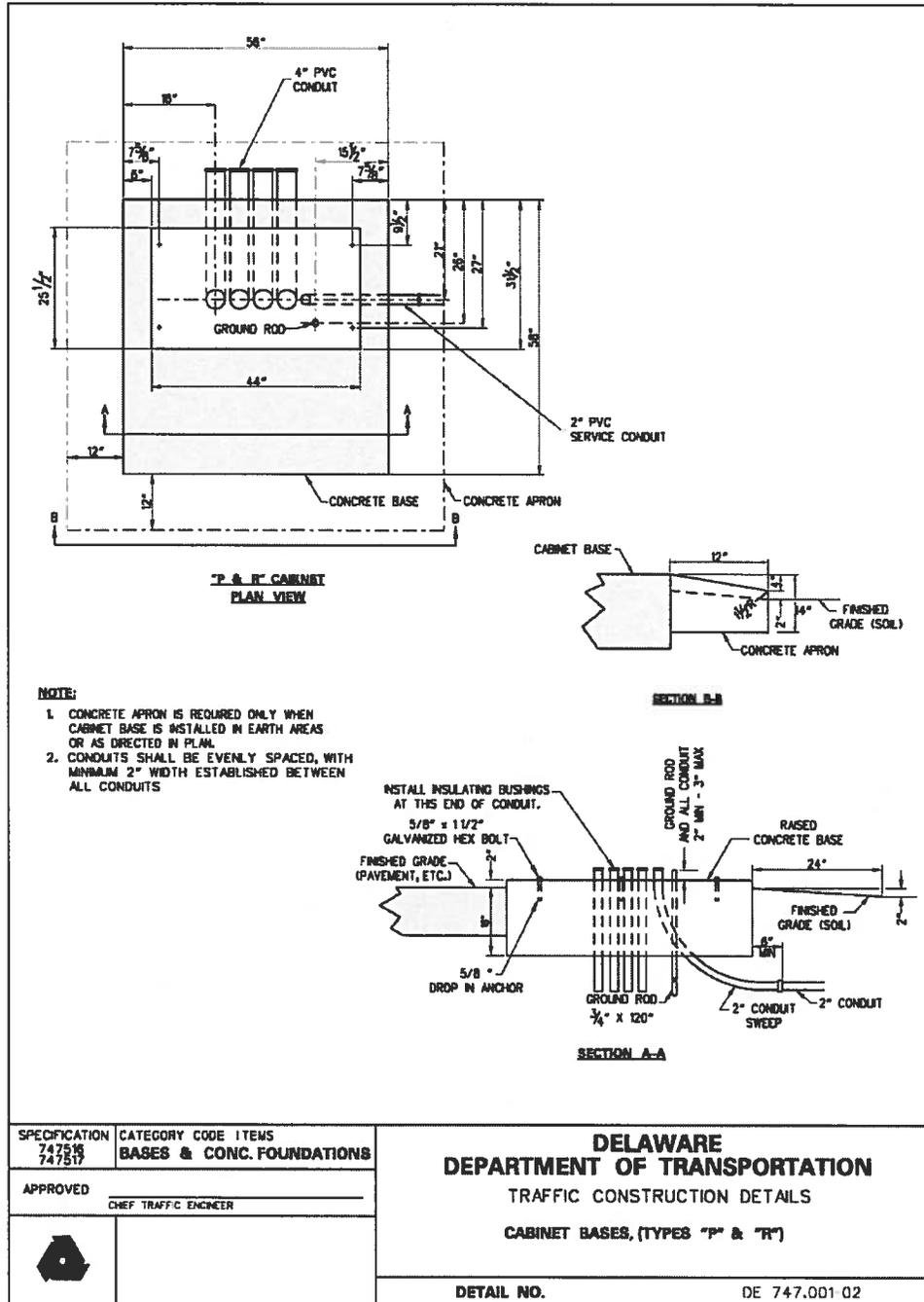
NOTE:

1. CONCRETE APRON IS REQUIRED ONLY WHEN CABINET BASE IS INSTALLED IN EARTH AREAS OR AS DIRECTED ON PLAN.
2. CONDUITS SHALL BE EVENLY SPACED, WITH MINIMUM 2" WIDTH SPACING ESTABLISHED BETWEEN ALL CONDUITS.
3. FOR VIEW OF SECTION A-A AND SECTION B-B, SEE DETAIL NO. DE 747.001-02.

SPECIFICATION 747.014 747.015	CATEGORY CODE ITEMS BASES & CONC. FOUNDATIONS
APPROVED	_____ CHIEF TRAFFIC ENGINEER

**DELAWARE
 DEPARTMENT OF TRANSPORTATION
 TRAFFIC CONSTRUCTION DETAILS
 CABINET BASES (TYPES "M" & "F")**

DETAIL NO. DE 747.001 01

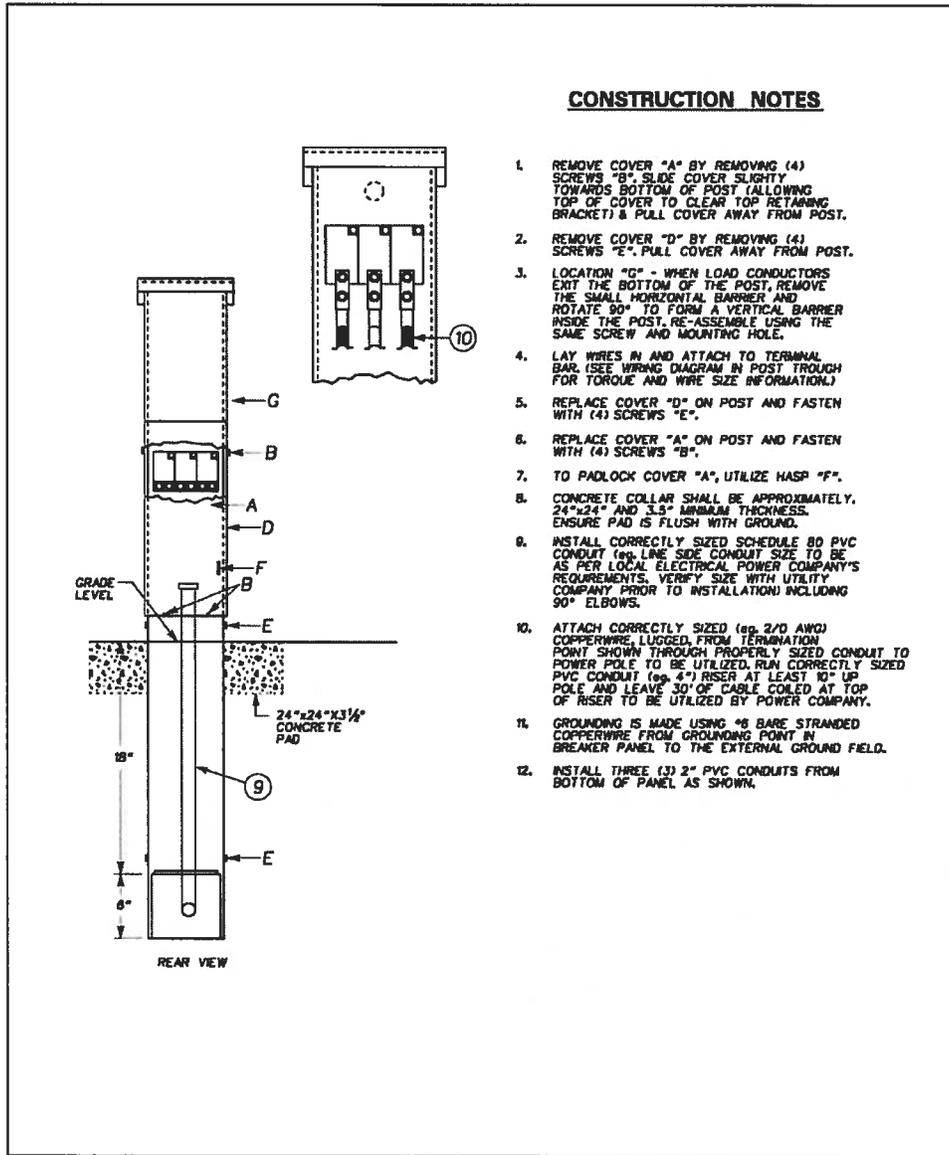


SPECIFICATION 747.001 747.002 747.003	CATEGORY CODE ITEMS BASES & CONC. FOUNDATIONS
APPROVED	CHEF TRAFFIC ENGINEER

DELAWARE DEPARTMENT OF TRANSPORTATION

Contract No. DOT1227 – TRAFFICSIG & ITS
Traffic Section

Traffic Signals, Lighting, and ITS
Page 16 of 61



CONSTRUCTION NOTES

1. REMOVE COVER "A" BY REMOVING (4) SCREWS "B". SLIDE COVER SLIGHTLY TOWARDS BOTTOM OF POST (ALLOWING TOP OF COVER TO CLEAR TOP RETAINING BRACKET) & PULL COVER AWAY FROM POST.
2. REMOVE COVER "D" BY REMOVING (4) SCREWS "E". PULL COVER AWAY FROM POST.
3. LOCATION "C" - WHEN LOAD CONDUCTORS EXIT THE BOTTOM OF THE POST, REMOVE THE SMALL HORIZONTAL BARRIER AND ROTATE 90° TO FORM A VERTICAL BARRIER INSIDE THE POST. RE-ASSEMBLE USING THE SAME SCREW AND MOUNTING HOLE.
4. LAY WIRES IN AND ATTACH TO TERMINAL BAR. (SEE WIRING DIAGRAM IN POST TROUGH FOR TORQUE AND WIRE SIZE INFORMATION.)
5. REPLACE COVER "D" ON POST AND FASTEN WITH (4) SCREWS "E".
6. REPLACE COVER "A" ON POST AND FASTEN WITH (4) SCREWS "B".
7. TO PADLOCK COVER "A", UTILIZE HASP "F".
8. CONCRETE COLLAR SHALL BE APPROXIMATELY 24" x 24" AND 3.5" MINIMUM THICKNESS. ENSURE PAD IS FLUSH WITH GROUND.
9. INSTALL CORRECTLY SIZED SCHEDULE 80 PVC CONDUIT (eg. LINE SIDE CONDUIT SIZE TO BE AS PER LOCAL ELECTRICAL POWER COMPANY'S REQUIREMENTS. VERIFY SIZE WITH UTILITY COMPANY PRIOR TO INSTALLATION) INCLUDING 90° ELBOWS.
10. ATTACH CORRECTLY SIZED (eg. 2/0 AWG) COPPERWIRE, LUGGED FROM TERMINATION POINT SHOWN THROUGH PROPERLY SIZED CONDUIT TO POWER POLE TO BE UTILIZED. RUN CORRECTLY SIZED PVC CONDUIT (eg. 4") RISER AT LEAST 10" UP POLE AND LEAVE 30' OF CABLE COILED AT TOP OF RISER TO BE UTILIZED BY POWER COMPANY.
11. GROUNDING IS MADE USING #8 BARE STRANDED COPPERWIRE FROM GROUNDING POINT IN BREAKER PANEL TO THE EXTERNAL GROUND FIELD.
12. INSTALL THREE (3) 2" PVC CONDUITS FROM BOTTOM OF PANEL AS SHOWN.

SPECIFICATION 746925	CATEGORY CODE ITEMS POWER SERVICE
APPROVED	_____ CHIEF TRAFFIC ENGINEER

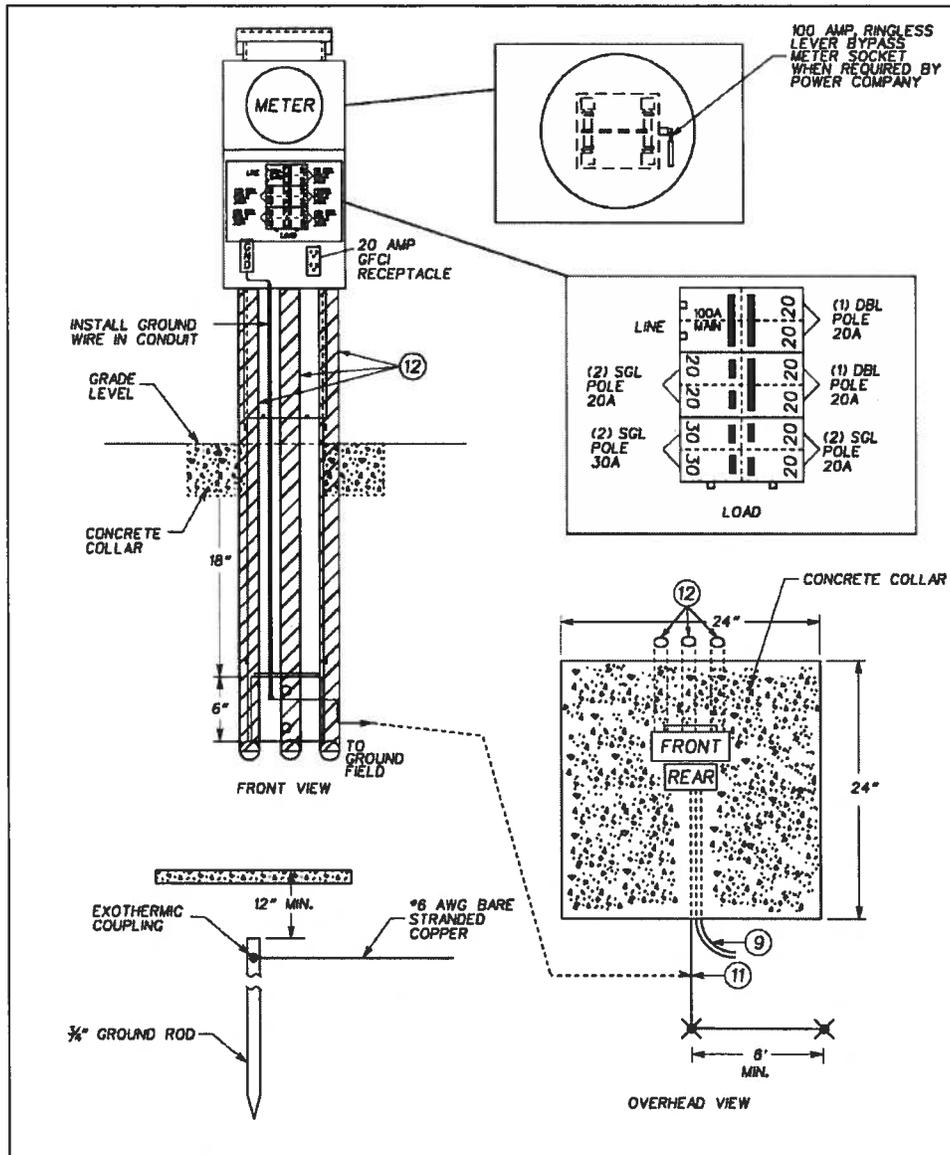
**DELAWARE
DEPARTMENT OF TRANSPORTATION**
TRAFFIC CONSTRUCTION DETAILS
**EMBEDDED SERVICE PEDESTAL
100 AMP**

DETAIL NO. DE 746.001 01

DELAWARE DEPARTMENT OF TRANSPORTATION

Contract No. DOT1227 – TRAFFICSIG & ITS
Traffic Section

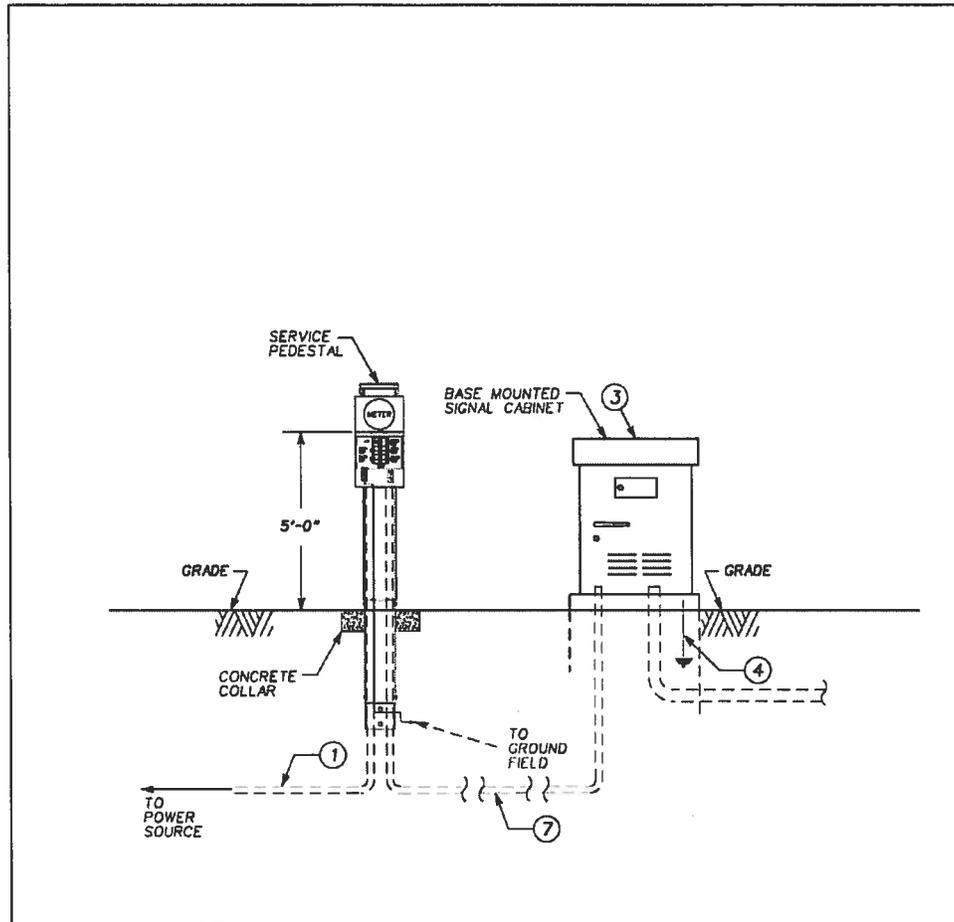
Traffic Signals, Lighting, and ITS
Page 17 of 61



SPECIFICATION 746925	CATEGORY CODE ITEMS POWER SERVICE
APPROVED	_____ CHIEF TRAFFIC ENGINEER

**DELAWARE
DEPARTMENT OF TRANSPORTATION**
TRAFFIC CONSTRUCTION DETAILS
**EMBEDDED SERVICE PEDESTAL
100 AMP**

DETAIL NO. DE 746.001 02



NOTES:

1. REFER TO APPROPRIATE UTILITY TYPICAL FOR CONSTRUCTION DETAILS AND NOTES ASSOCIATED WITH THIS SHEET.
2. INSTALLATION OF EQUIPMENT BETWEEN SERVICE PEDESTAL AND CONTROLLER CABINET SHALL BE AS PER CONTRACT DRAWINGS/DETAILS
3. SEE EMBEDDED SERVICE PEDESTAL TYPICAL FOR INSTALLATION AND GROUNDING.

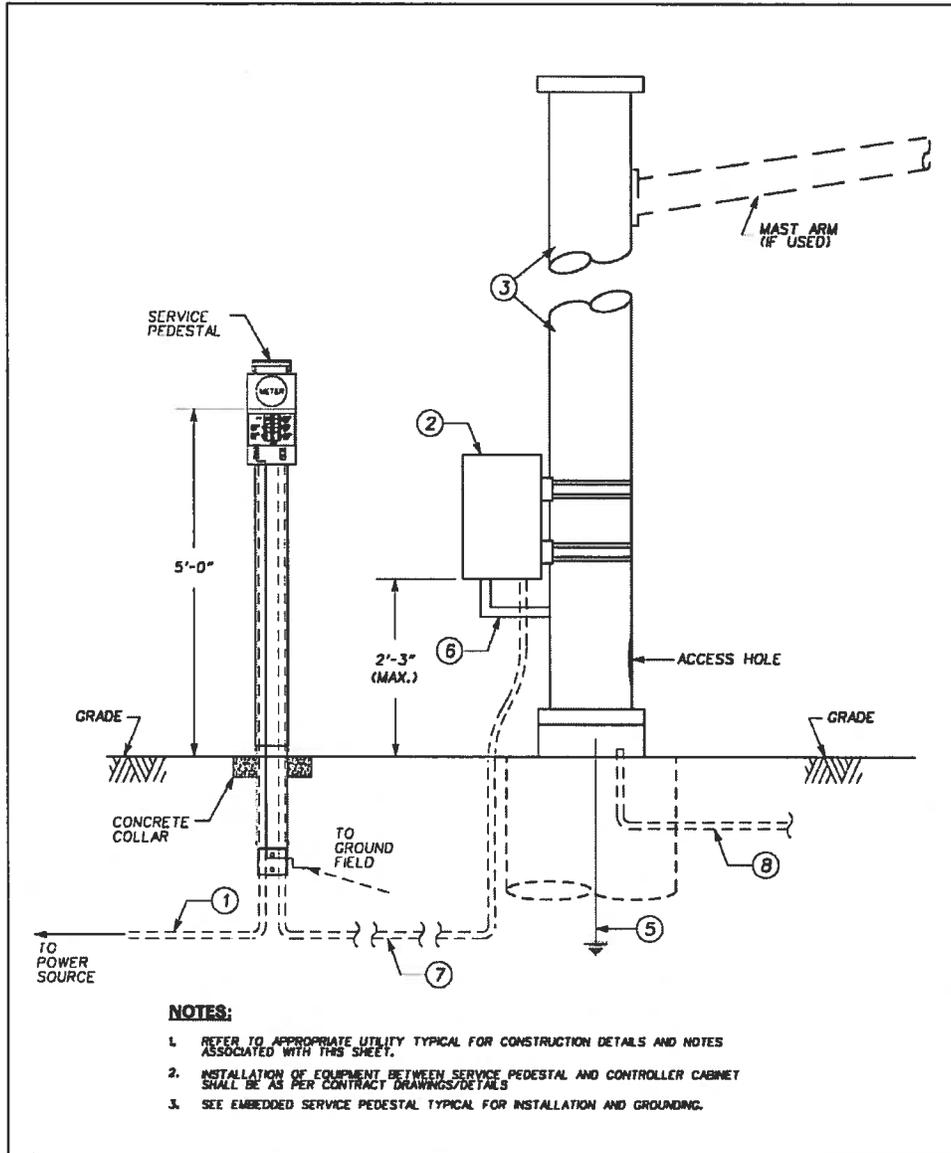
SPECIFICATION 746928	CATEGORY CODE ITEMS POWER SERVICE
APPROVED	_____ CHIEF TRAFFIC ENGINEER
	

**DELAWARE
 DEPARTMENT OF TRANSPORTATION**

TRAFFIC CONSTRUCTION DETAILS

**ELECTRICAL SERVICE EQUIPMENT
 METERED BASE-MOUNTED CABINET**

DETAIL NO. DE 746.002 01



SPECIFICATION 746925	CATEGORY CODE ITEMS POWER SERVICE	DELAWARE DEPARTMENT OF TRANSPORTATION TRAFFIC CONSTRUCTION DETAILS ELECTRICAL SERVICE EQUIPMENT METERED POLE-MOUNTED CABINET
APPROVED 	CHEF TRAFFIC ENGINEER	
		DETAIL NO. DE 746.002 02

DELAWARE DEPARTMENT OF TRANSPORTATION

**Contract No. DOT1227 – TRAFFICSIG & ITS
Traffic Section**

**Traffic Signals, Lighting, and ITS
Page 20 of 61**

CONSTRUCTION DETAILS

POWER COMPANY FURNISHES AND INSTALLS:

1. UNDERGROUND ELECTRIC SERVICE FEED. THE CONTRACTOR SHALL REFER TO THE CONTRACT DOCUMENTS FOR DETAILS RELATED TO THE ELECTRIC SERVICE FEED INSTALLATION.

CONTRACTOR FURNISHES AND/OR INSTALLS:

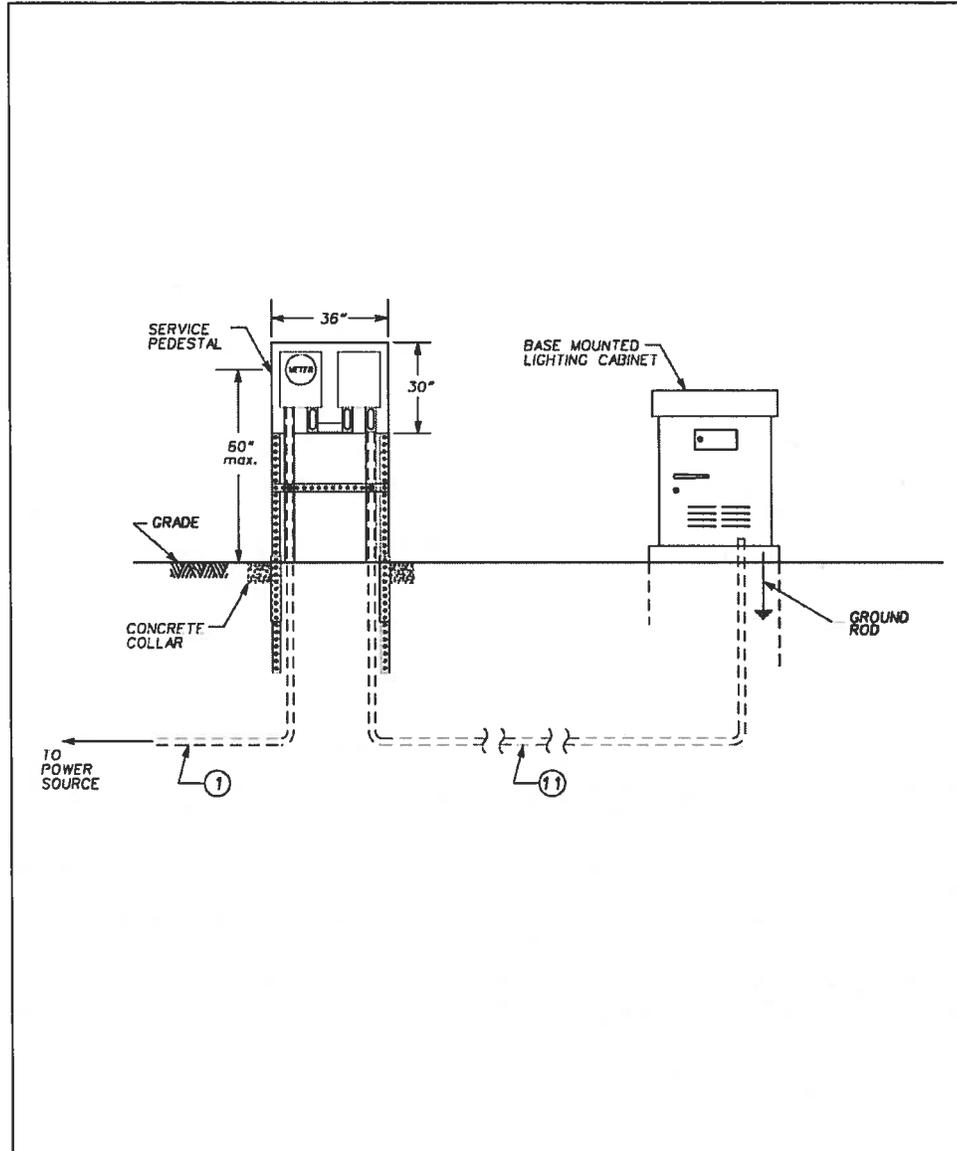
2. POLE MOUNTED, BAND TO POLE WITH TWO (2) - 3/8" WIDTH, .030" THICK STAINLESS STEEL BANDS PER FURNISHED BRACKET.
3. STEEL POLE.
4. BONDING SHALL BE BY A SINGLE CONTINUOUS #6 AWG BARE STRANDED COPPER WIRE RUN THROUGH EACH OF THE SERVICE PEDESTAL GROUND ROD CLAMPS TO THE SERVICE PEDESTAL GROUNDING LUG TO THE SERVICE PEDESTAL NEUTRAL BAR TO THE CONDUIT TO THE CONTROLLER CABINET TO THE CONTROLLER GROUNDING BAR TO THE CONTROLLER CABINET GROUNDING BAR TO THE CONDUIT TO THE NEAREST JUNCTION WELL GROUND ROD CLAMP.
5. BONDING SHALL BE BY A SINGLE CONTINUOUS #6 AWG BARE STRANDED COPPER WIRE RUN THROUGH EACH OF THE SERVICE PEDESTAL GROUND ROD CLAMPS TO THE SERVICE PEDESTAL GROUNDING ROD CLAMPS TO THE SERVICE PEDESTAL NEUTRAL BAR TO THE CONDUIT TO THE CONTROLLER CABINET TO THE 3" NIPPLE INSULATED BONDING BUSHING ON THE CONTROLLER CABINET BOTTOM TO THE STEEL POLE GROUNDING LUG TO THE GROUNDING ROD CLAMPS TO THE CONDUIT TO THE NEAREST JUNCTION WELL GROUND LUG CLAMP.
6. 3" "LB" CONDUIT BODY MOUNTED ONTO 3" COUPLING ON STEEL POLE. PLACE 3" GALVANIZED STEEL RIGID CONDUIT NIPPLES ON BOTH "LB" CONDUIT BODY ENDS. PLACE DOUBLE LOCK NUTS ON NIPPLE END ENTERING THE CONTROLLER CABINET BOTTOM FOLLOWED BY AN INSULATED BONDING BUSHING.
7. USE DIRECT CONDUIT FROM SERVICE PEDESTAL TO CONTROLLER CABINET FOR GROUNDING CONDUCTOR AND SERVICE WIRE INSTALLATION AS PER CONTRACT DOCUMENTS.
8. USE DIRECT CONDUIT FROM STEEL POLE TO JUNCTION WELL FOR GROUNDING CONDUCTOR INSTALLATION.

NOTES:

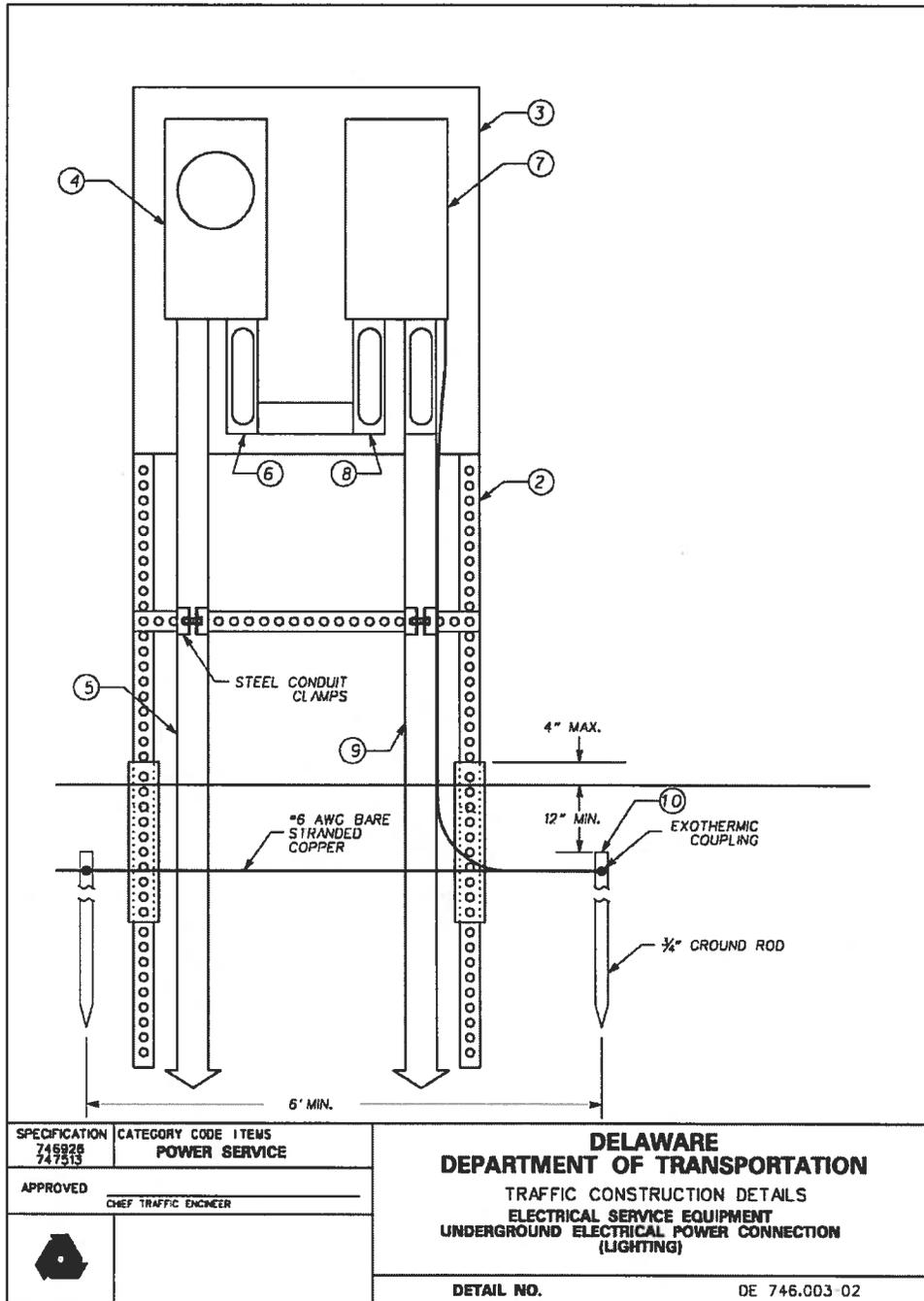
- A. ALL EXPOSED GALVANIZED STEEL RIGID CONDUIT ENDS SHALL BE WIRE BRUSHED, CLEANED OF ANY RESIDUE, AND AN INORGANIC ZINC COMPOUND APPLIED.
- B. ALL GALVANIZED STEEL RIGID CONDUIT INSULATED BONDING BUSHINGS SHALL HAVE BONDING LUGS OF "LAY-IN" TYPE DESIGN.
- C. ALL CONDUIT BODIES FOR USE WITH GALVANIZED STEEL RIGID CONDUIT SHALL BE CADMIUM PLATED MALLEABLE IRON WITH NEOPRENE GASKETS, SHEET ALUMINUM COVERS AND STAINLESS STEEL COVER BOLTS.
- D. GROUND ROD CLAMPS SHALL BE ONE PIECE CAST BRONZE APPROVED FOR DIRECT BURIAL INSTALLATION.
- E. BASED ON THE SERVICE FEED FROM THE SERVICE PEDESTAL TO THE CONTROLLER CABINET, THE WIRE COLORS WILL BE THE FOLLOWING:

FEED VOLTAGE	COLOR
SINGLE PHASE, 2 WIRE	W (NEUTRAL), B (PHASE)
SINGLE PHASE, 3 WIRE	W (NEUTRAL), B (PHASE) R (PHASE)
3 PHASE, 4 WIRE	W (NEUTRAL), B (PHASE) R (PHASE), G (PHASE)

SPECIFICATION 746926	CATEGORY CODE ITEMS POWER SERVICE	DELAWARE DEPARTMENT OF TRANSPORTATION TRAFFIC CONSTRUCTION DETAILS ELECTRICAL SERVICE EQUIPMENT METERED POLE & BASE MOUNTED CABINET (CONSTRUCTION NOTES)
APPROVED	_____ CHIEF TRAFFIC ENGINEER	
		
		DETAIL NO. DE 746.002 03



SPECIFICATION 746030 747513	CATEGORY CODE ITEMS POWER SERVICE	<p style="text-align: center;">DELAWARE DEPARTMENT OF TRANSPORTATION</p> <p style="text-align: center;">TRAFFIC CONSTRUCTION DETAILS ELECTRICAL UTILITY SERVICE EQUIPMENT UNDERGROUND ELECTRICAL POWER CONNECTION (LIGHTING)</p>
APPROVED	_____ CHIEF TRAFFIC ENGINEER	
		DETAIL NO. DE 746.003 01



DELAWARE DEPARTMENT OF TRANSPORTATION

**Contract No. DOT1227 – TRAFFICSIG & ITS
Traffic Section**

**Traffic Signals, Lighting, and ITS
Page 23 of 61**

CONSTRUCTION DETAILS

POWER COMPANY FURNISHES AND INSTALLS:

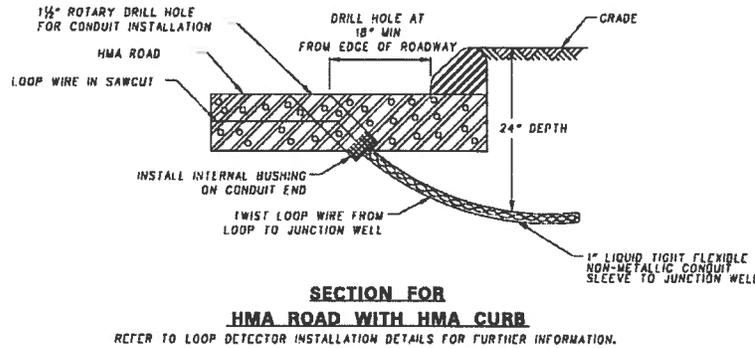
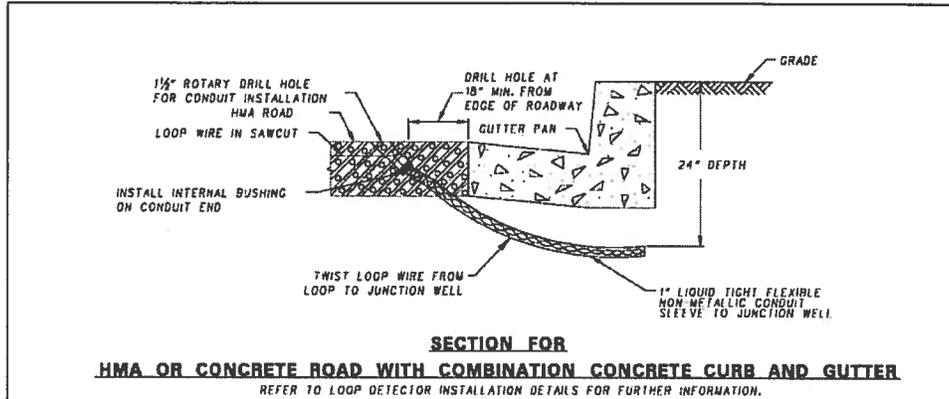
WATTHOUR METER

CONTRACTOR FURNISHES AND/OR INSTALLS:

1. UNDERGROUND ELECTRICAL SERVICE FEED. THE CONTRACTOR SHALL REFER TO THE CONTRACT DOCUMENTS FOR DETAILS RELATED TO THE ELECTRIC SERVICE FEED INSTALLATION.
2. INSTALL SQUARE TUBES TO BE FORMED FROM GALVANIZED SHEET STRUCTURAL (PHYSICAL) QUALITY, ASTM A 446, GRADE A, COATING DESIGNATION G 90 REGULAR SPANGLE, OR HOT ROLLED CARBON SHEET STEEL STRUCTURAL (PHYSICAL) QUALITY, ASTM A 570, GRADE 33.
 - A. NOMINAL OUTSIDE DIMENSION. (INCHES)

2 X 2	+/-	.008
2 1/2 X 2 1/2	+/-	.010
2 1/2 X 2 1/2	+/-	.010
 - B. ALL FOUR SIDES ARE TO HAVE EVENLY SPACED 1/8" DIAMETER HOLES ON 1" CENTERS THE ENTIRE LENGTH OF THE TUBE.
 - C. TOLERANCE ON HOLE SIZE IS +/- 1/64". TOLERANCE ON HOLE SPACING IS +/- 1/8" IN 20 FEET.
 - D. STANDARD CORNER RADIUS SHALL BE 3/32" +/- 1/64".
 - E. THE FASTENERS TO BE SUPPLIED UNDER THIS SPECIFICATION SHALL BE #4 GRADE 5 UNC CORNER BOLTS WITH CADMIUM OR ZINC PLATING.
3. INSTALL 30" X 36" ALUMINUM PANEL ON SIGN POST WITH 5/16" GRADE 5 UNC BOLTS AND NYLON LOCK NUTS. ALUMINUM PANEL SHALL BE 0.06" THICK, 5052-H38 ALLOY CONFORMING TO ASTM B-209.
4. MOUNT 200 AMPERE RATED METER SOCKET (OR AS SUPPLIED BY LOCAL UTILITY COMPANY) WITH FOUR (4) 5/16" UNC STAINLESS STEEL BOLTS WITH NYLON LOCK NUTS DRILLED THROUGH THE METER SOCKET BACK INTO THE ALUMINUM BACK PLATE. THE BOLT LOCATIONS SHALL BE INSTALLED ONE INCH ABOVE THE BOTTOM AND ONE INCH BELOW THE TOP.
5. PLACE 3" PVC CONDUIT FOR SERVICE. PLACE PVC CONDUIT ENTERING THE METER SOCKET'S LOWEST LEFT SIDE OPENING. PLACE DOUBLE LOCK NUTS ON THE THREADED END ENTERING THE METER SOCKET SIDE FOLLOWED BY AN THREADED BUSHING. ATTACH CONDUIT TO SUPPORT BRACKET WITH GALVANIZED STEEL CONDUIT CLAMPS AT 3' BELOW THE METER SOCKET. PLACE THE SPECIFIED NUMBER OF COPPER TYPE THHN WIRES FROM THE METER SOCKET LINE SIDE TERMINALS TO THE UTILITY POLE OR TRANSFORMER. (COLORED WHITE FOR AC NEUTRAL, BLACK FOR ONE SIDE OF THE AC+ AND RED FOR THE REMAINING AC+ SIDE FOR 120/240V.) (COLORED GREY FOR AC NEUTRAL, BROWN FOR AC+, ORANGE FOR AC+, YELLOW FOR AC+ FOR 277/480V.)
6. PLACE 2 1/2" PVC CONDUIT NIPPLE INTO AN THREADED BUSHING MOUNTED ONTO THE DISCONNECT SWITCH BOTTOM LEFT SIDE. THE NIPPLE SHALL ENTER THE 2 1/2" LB BODY AT THE RIGHT-MOST BOTTOM OPENING OF THE METER SOCKET. ALSO TO THE SAME LATERAL ORIENTATION TO THE DISCONNECT SWITCH. PLACE DOUBLE LOCK NUTS ON THE NIPPLE END ENTERING THE METER SOCKET BOTTOM FOLLOWED BY AN THREADED BUSHING. PLACE INDIVIDUAL COPPER TYPE THHN WIRE FROM THE METER SOCKET LOAD SIDE TERMINALS TO THE DISCONNECT SWITCH LINE SIDE TERMINALS. (COLORED WHITE FOR AC NEUTRAL; BLACK FOR ONE SIDE OF THE AC+ AND RED FOR THE REMAINING AC+ SIDE FOR 120/240V.) (GREY AC NEUTRAL, BROWN AC+, ORANGE AC+ AND YELLOW AC+ FOR 277/480V.)
7. MOUNT DISCONNECT SWITCH WITH FOUR (4) 5/16" UNC STAINLESS STEEL BOLTS WITH NYLON LOCK NUTS DRILLED THROUGH THE DISCONNECT SWITCH BACK INTO THE ALUMINUM BACK PLATE THE BOLT LOCATIONS SHALL BE AT ONE INCH BELOW THE TOP AND ONE INCH ABOVE THE BOTTOM.
8. PLACE 2 1/2" PVC CONDUIT NIPPLES ON BOTH "LB" CONDUIT BODY ENDS. LOCATE THE DISCONNECT SWITCH NIPPLE OPENING TO ALLOW THE "LB" CONDUIT BODY TO BE FLUSH TO THE CENTER IN RESPECT TO THE METER SOCKET CONDUIT BODY. PLACE DOUBLE LOCK NUTS ON THE NIPPLE END ENTERING THE DISCONNECT SWITCH BOTTOM FOLLOWED BY AN INSULATED BONDING BUSHING.
9. PLACE 3" PVC CONDUIT ON THE DISCONNECT SWITCH BOTTOM RIGHT SIDE. PLACE DOUBLE LOCK NUTS ON BOTH THREADED ENDS ENTERING THE DISCONNECT SWITCH AND FOLLOWED BY THREADED BUSHINGS. CLAMP CONDUIT TO SUPPORT BRACKET WITH A GALVANIZED STEEL CONDUIT CLAMP AT A DISTANCE MIDWAY ALONG THE VERTICAL CONDUIT FROM THE DISCONNECT SWITCH BOTTOM. PLACE INDIVIDUAL COPPER TYPE THHN WIRE FROM THE DISCONNECT SWITCH LOAD SIDE TERMINALS TO THE CABINET TERMINALS. (COLORED WHITE FOR AC NEUTRAL, BLACK FOR ONE SIDE OF THE AC+, RED FOR AC+ FOR 120/240V.) (GREY AC NEUTRAL, BROWN AC+, ORANGE AC+, YELLOW AC+ FOR 277/480V.)
10. GROUND ROD WITH ONE PIECE CAST BRONZE GROUND ROD CLAMP. BONDING SHALL BE BY A SINGLE CONTINUOUS #6 AWG BARE STRANDED COPPER WIRE RUN FROM THE GROUND ROD ALONG THE CONDUIT, (DRILL 1/4" HOLE) INTO THE DISCONNECT TO THE DISCONNECT SWITCH NEUTRAL BAR TO THE CONDUIT TO THE CABINET, TO THE CABINET GROUNDING BAR, TO THE GROUND ROD CLAMP.
11. USE DIRECT CONDUIT FROM SERVICE PEDESTAL TO CONTROLLER CABINET FOR GROUNDING CONDUCTOR AND SERVICE WIRE INSTALLATION AS PER CONTRACT DOCUMENTS.

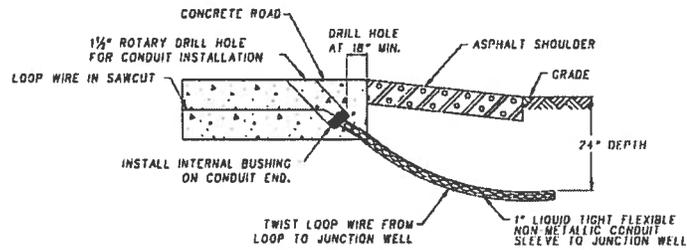
SPECIFICATION 746928 747313	CATEGORY CODE ITEMS POWER SERVICE	DELAWARE DEPARTMENT OF TRANSPORTATION TRAFFIC CONSTRUCTION DETAILS ELECTRICAL SERVICE EQUIPMENT UNDERGROUND ELECTRICAL POWER CONNECTION (LIGHTING)
APPROVED	_____ CHIEF TRAFFIC ENGINEER	
	DETAIL NO. DE 746.003 03	



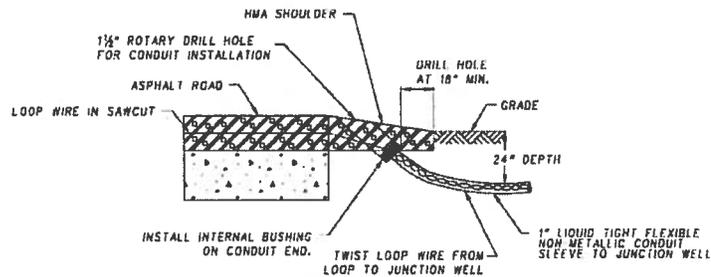
NOTES:

1. LIQUID TIGHT FLEXIBLE NON METALLIC CONDUIT SHALL BE USED WHERE THE DISTANCE BETWEEN THE DRILLED HOLE FOR CONDUIT SLEEVE AND JUNCTION WELL IS ≤ 6'. ALL OTHER CONDUIT SLEEVES SHALL BE 1" RIGID GALVANIZED STEEL UNLESS OTHERWISE SPECIFIED.
2. INSTALL DUCT SEAL IN BOTH CONDUIT SLEEVE ENDS.
3. SLEEVE AND SAWCUT SHALL NOT DAMAGE OR CONTACT CURB AND GUTTER.
4. SEPARATE 1" ELECTRICAL CONDUIT SLEEVES SHALL BE REQUIRED FOR EACH LOOP SPACED 1'-0" MINIMUM APART IN ROADWAY.
5. CONTRACTOR SHOULD AVOID WHEEL PATH IN THE ROADWAY WHILE DRILLING FOR CONDUIT INSTALLATION.

SPECIFICATION 748923 748924	CATEGORY CODE ITEMS DETECTION	DELAWARE DEPARTMENT OF TRANSPORTATION TRAFFIC CONSTRUCTION DETAILS LOOP DETECTOR LEAD-IN INSTALLATION
APPROVED 	CHIEF TRAFFIC ENGINEER	
		DETAIL NO. DE 746.004 01



**SECTION FOR
 CONCRETE ROAD WITH HMA SHOULDER**
 REFER TO LOOP DETECTOR INSTALLATION DETAILS FOR FURTHER INFORMATION.

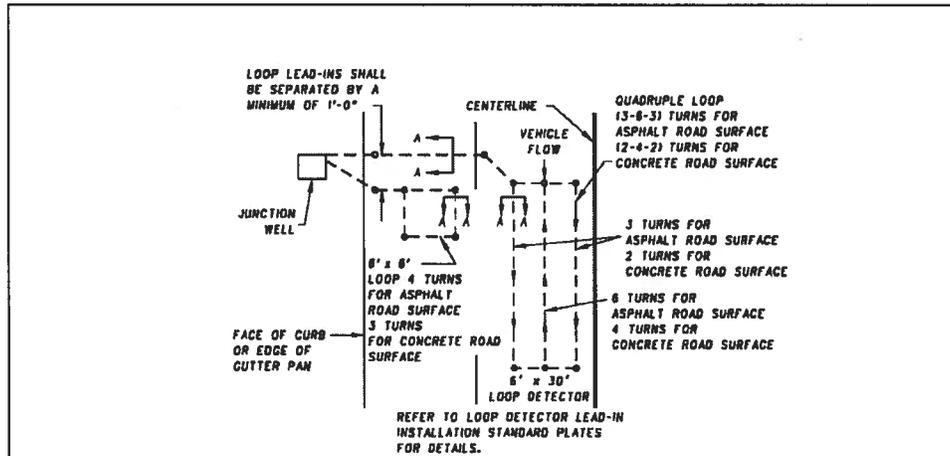


**SECTION FOR
 HMA ROAD AND SHOULDER**
 REFER TO LOOP DETECTOR INSTALLATION DETAILS FOR FURTHER INFORMATION.

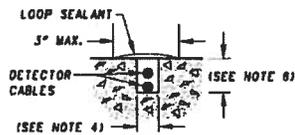
NOTES:

1. LIQUID TIGHT FLEXIBLE NON METALLIC CONDUIT SHALL BE USED WHERE THE DISTANCE BETWEEN THE DRILLED HOLE FOR CONDUIT SLEEVE AND JUNCTION WELL IS 4 0'. ALL OTHER CONDUIT SLEEVES SHALL BE 1" GALVANIZED UNLESS OTHERWISE SPECIFIED.
2. INSTALL DUCT SEAL IN BOTH CONDUIT SLEEVE ENDS.
3. SEPARATE 1" ELECTRICAL CONDUIT SLEEVES SHALL BE REQUIRED FOR EACH LOOP SPACED 1'-0" MINIMUM APART IN ROADWAY.
4. CONTRACTOR SHOULD AVOID WHEEL PATH IN THE ROADWAY WHILE DRILLING FOR CONDUIT INSTALLATION.

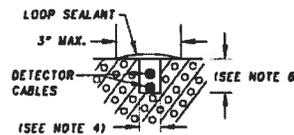
SPECIFICATION 746823 746824	CATEGORY CODE ITEMS DETECTION	DELAWARE DEPARTMENT OF TRANSPORTATION TRAFFIC CONSTRUCTION DETAILS LOOP DETECTOR LEAD-IN INSTALLATION
APPROVED _____ CHIEF TRAFFIC ENGINEER		
		DETAIL NO. DE 746.004-02



LOOP DETECTOR SAWCUT TYPICAL



**SECTION A-A
 CONCRETE SURFACE**

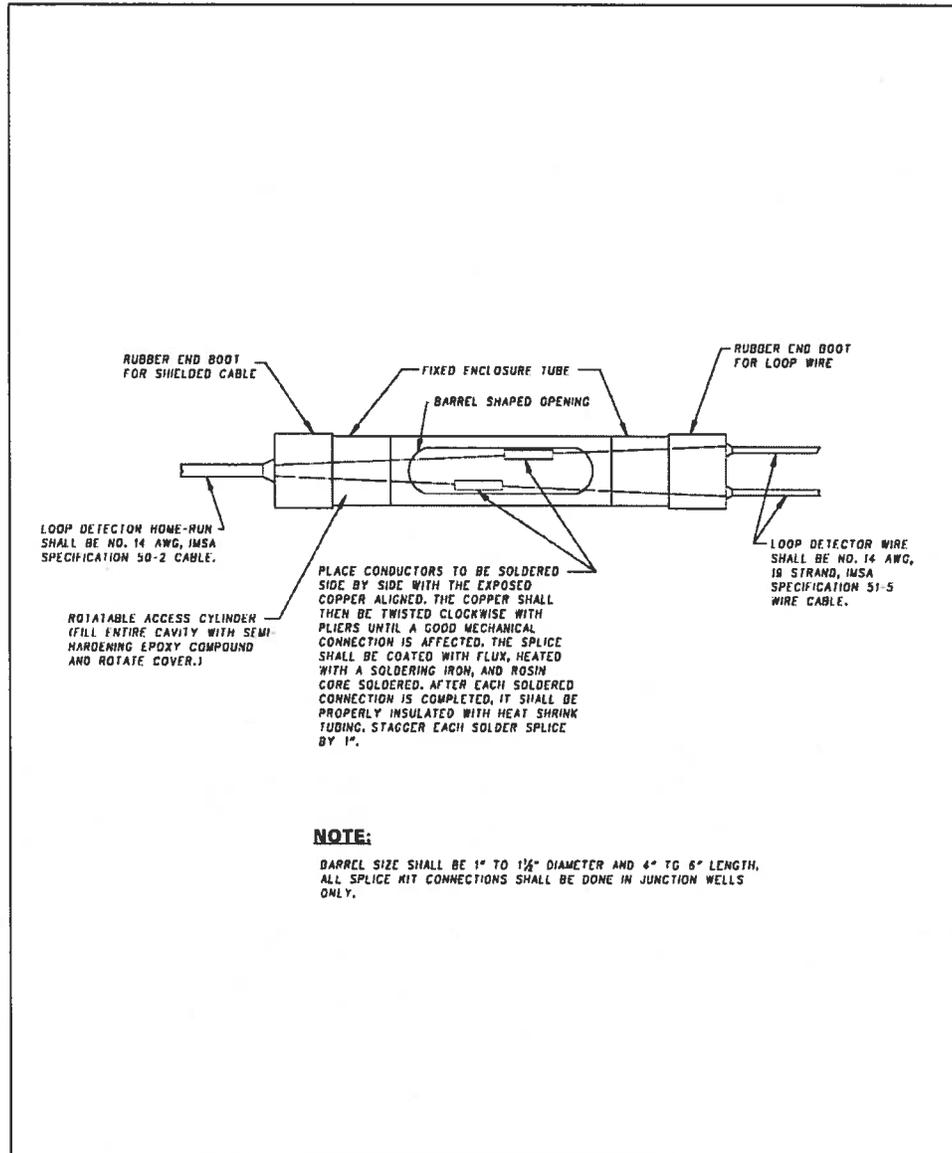


**SECTION A-A
 ASPHALT SURFACE**

NOTES:

1. WHEN A PROPOSED LOOP DETECTOR SAWCUT CROSSES A LATERAL ROADWAY JOINT OR VALVE COVER (i.e. MANHOLE, JUNCTION WELL, ETC.), LOOP DETECTOR INSTALLATION SHALL BE MODIFIED INTO TWO SEPARATE LOOP DETECTORS WHICH SHALL NOT TRAVERSE JOINTS OR VALVE COVERS.
2. THE LOOPS SHALL BE PLACED IN THE CENTER OF THE LANE UNLESS OTHERWISE NOTED ON PLANS.
3. PRESENCE LOOP DETECTORS ARE TO BE PLACED 12' BEHIND THE EXISTING OR PROPOSED STOP LINE.
4. LOOP DETECTOR AND LEAD-IN SAWCUTS SHALL BE 3/8".
5. 1 1/8" DRILL HOLES SHALL BE USED AT ALL CHANGES IN SAWCUT DIRECTIONS.
6. 2" DEPTH FOR CONCRETE ROAD SURFACE OR 4 1/2" DEPTH FOR ASPHALT ROAD SURFACE.

SPECIFICATION 746924	CATEGORY CODE ITEMS DETECTION	DELAWARE DEPARTMENT OF TRANSPORTATION TRAFFIC CONSTRUCTION DETAILS LOOP DETECTOR INSTALLATION
APPROVED	_____ CHIEF TRAFFIC ENGINEER	
		DETAIL NO. DE 746.004 03



NOTE:

BARREL SIZE SHALL BE 1" TO 1½" DIAMETER AND 4" TO 6" LENGTH. ALL SPLICE KIT CONNECTIONS SHALL BE DONE IN JUNCTION WELLS ONLY.

SPECIFICATION 746924	CATEGORY CODE ITEMS DETECTION	DELAWARE DEPARTMENT OF TRANSPORTATION TRAFFIC CONSTRUCTION DETAILS SPLICE KIT FOR LOOP DETECTOR WIRE AND LOOP DETECTOR HOME-RUN
APPROVED	_____ CHIEF TRAFFIC ENGINEER	
		DETAIL NO. DE 746.004-04

DELAWARE DEPARTMENT OF TRANSPORTATION

Contract No. DOT1227 – TRAFFICSIG & ITS
Traffic Section

Traffic Signals, Lighting, and ITS
Page 28 of 61

NOTES

THE OPTICAL PRE-EMPTION DETECTOR "HOME RUN" CABLE(S) SHALL BE IDENTIFIED WITHIN THE CONTROL CABINET BY A VIOLET BAND PLUS A COLOR BAND, AS NOTED TO DENOTE THE DIRECTION OF THE DETECTOR.

RED - NORTH BOUND
YELLOW - SOUTH BOUND
GREEN - EAST BOUND
BLUE - WEST BOUND

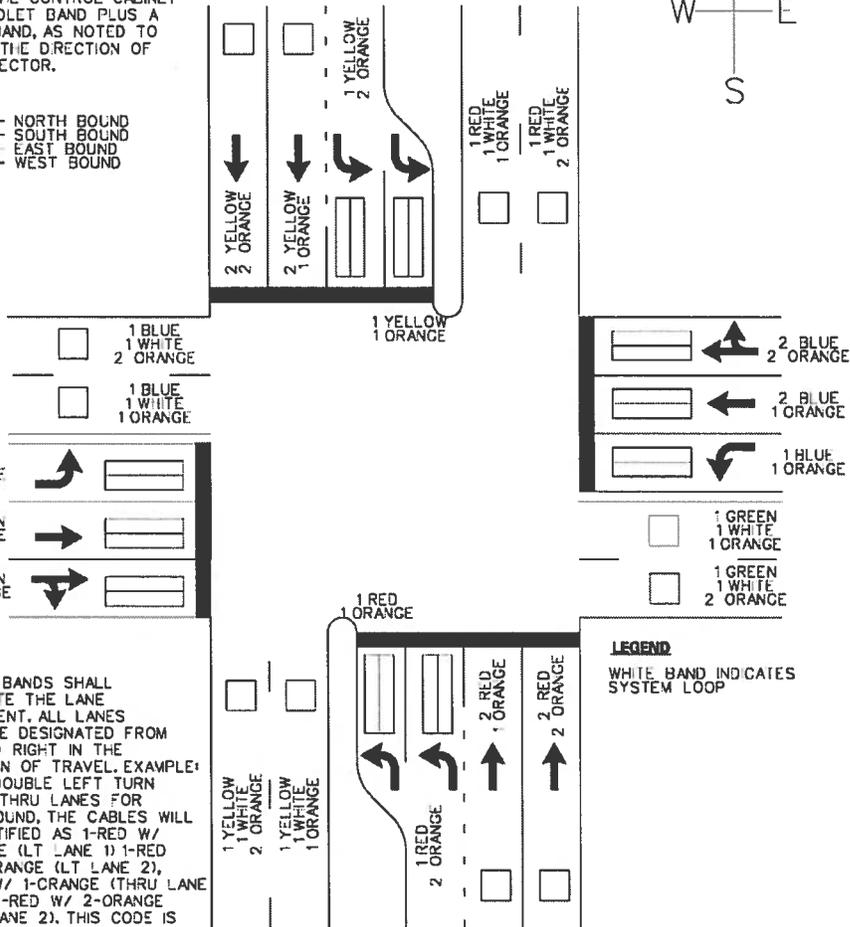
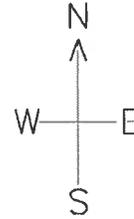
1 GREEN
1 ORANGE

2 GREEN
1 ORANGE

2 GREEN
2 ORANGE

NOTES

ORANGE BANDS SHALL DESIGNATE THE LANE ASSIGNMENT. ALL LANES SHALL BE DESIGNATED FROM LEFT TO RIGHT IN THE DIRECTION OF TRAVEL. EXAMPLE: FOR A DOUBLE LEFT TURN WITH 2 THRU LANES FOR NORTHBOUND, THE CABLES WILL BE IDENTIFIED AS 1-RED W/ 1-ORANGE (LT LANE 1) 1-RED W/ 2-ORANGE (LT LANE 2), 2-RED W/ 1-ORANGE (THRU LANE 1) AND 2-RED W/ 2-ORANGE (THRU LANE 2). THIS CODE IS THEN FOLLOWED FOR THE REMAINING APPROACHES TO THE INTERSECTION.



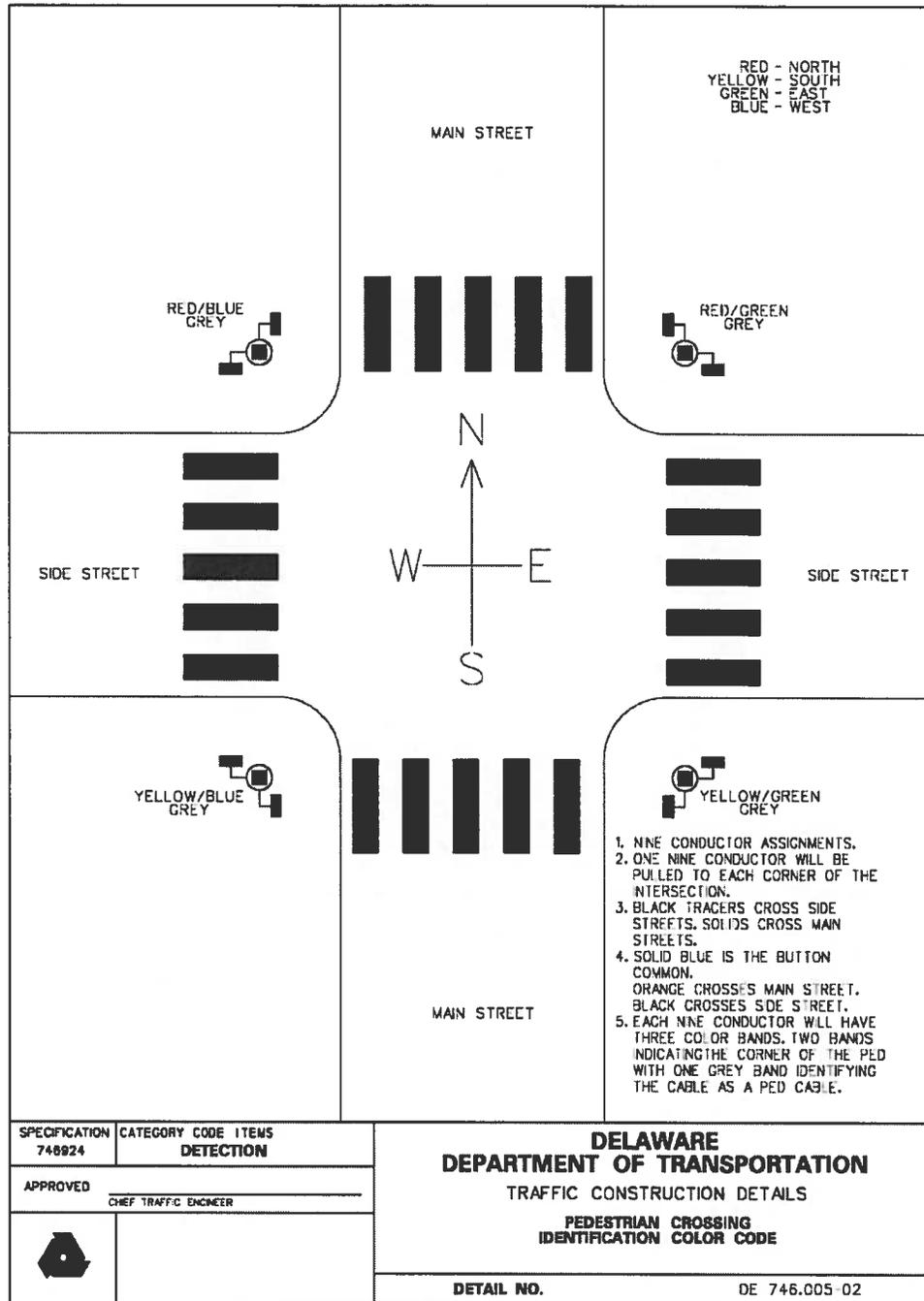
LEGEND

WHITE BAND INDICATES SYSTEM LOOP

SPECIFICATION 746924	CATEGORY CODE ITEMS DETECTION
APPROVED	CHEF TRAFFIC ENGINEER
	

DELAWARE DEPARTMENT OF TRANSPORTATION
TRAFFIC CONSTRUCTION DETAILS
LOOP DETECTOR IDENTIFICATION COLOR CODE

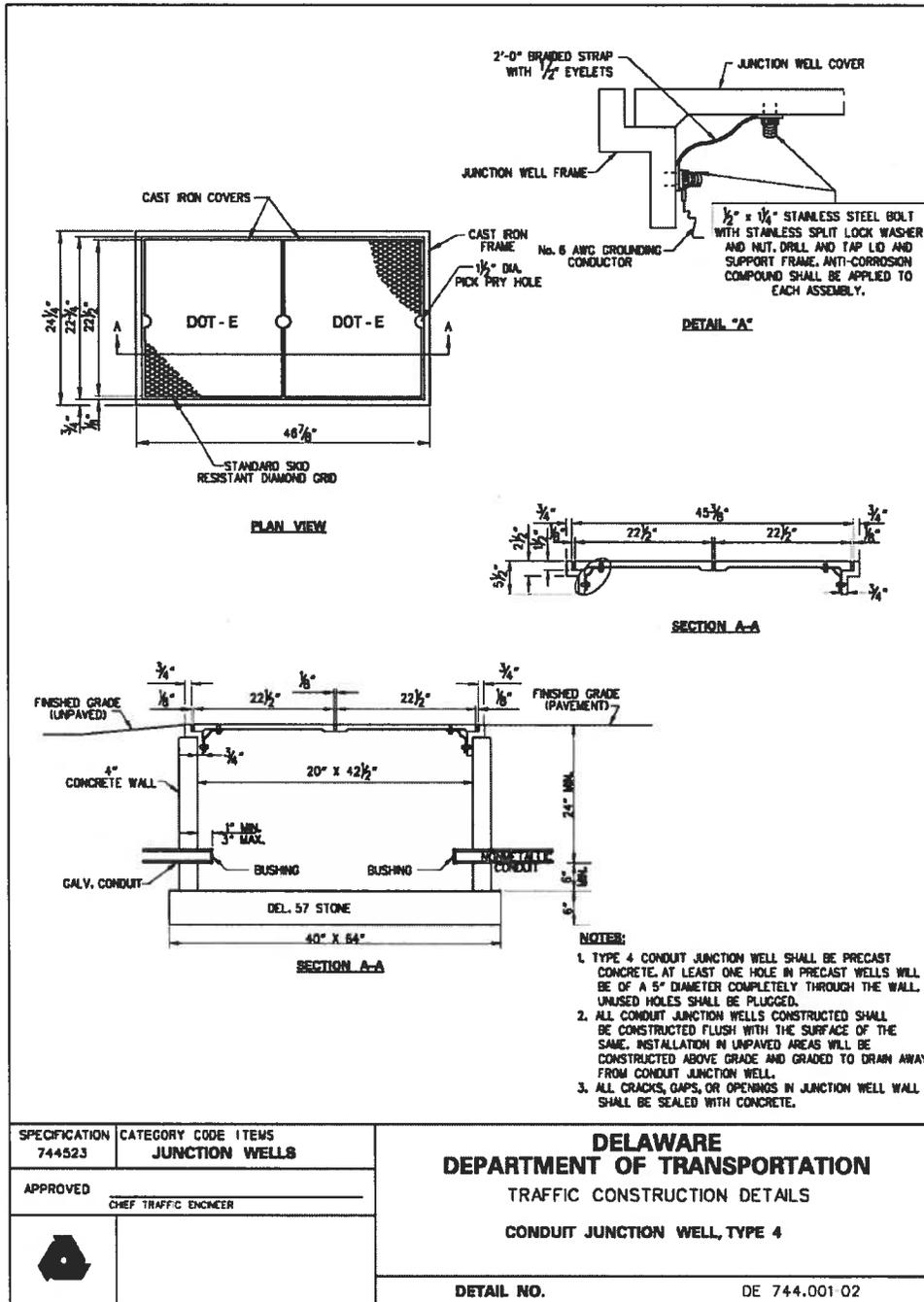
DETAIL NO. DE 746.005-01

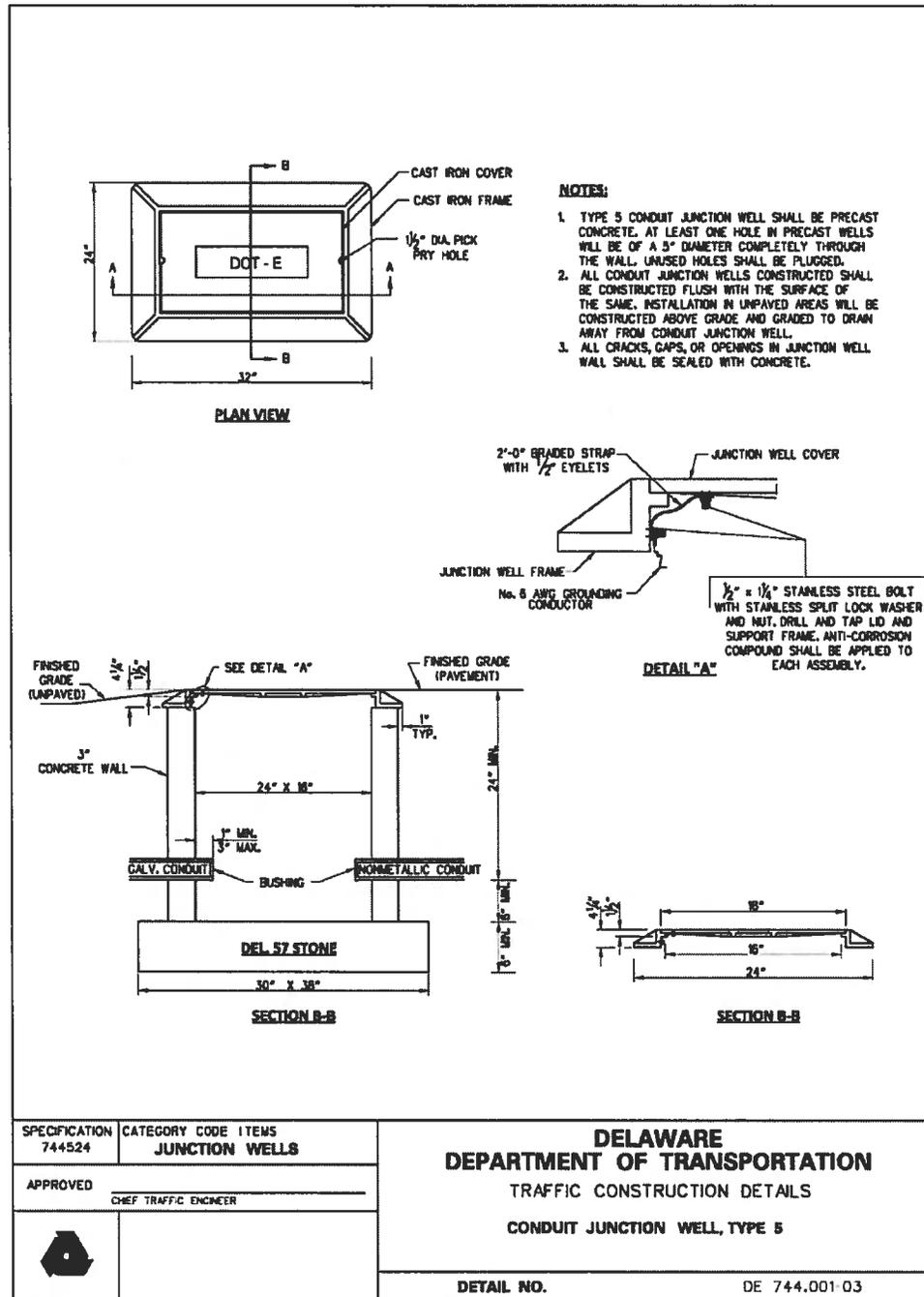


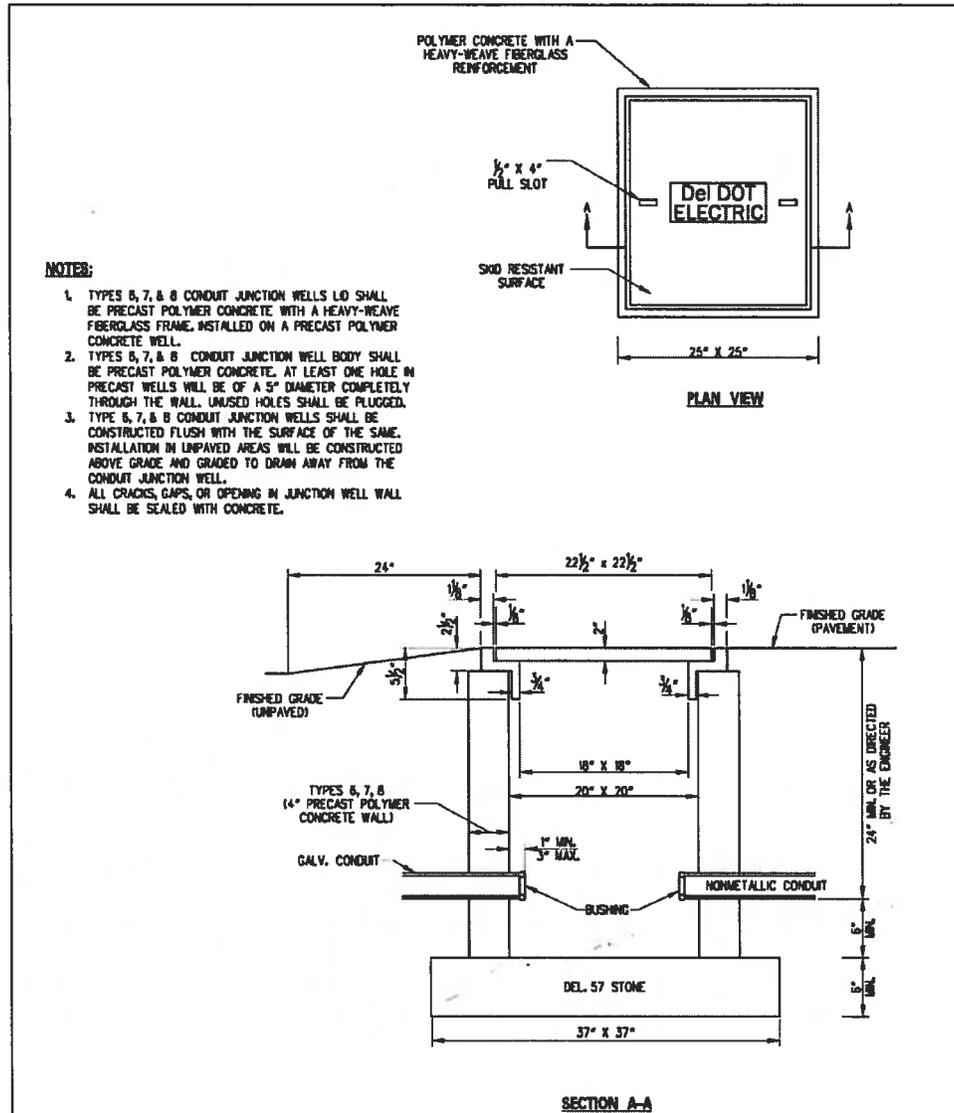
DELAWARE DEPARTMENT OF TRANSPORTATION

Contract No. DOT1227 – TRAFFICSIG & ITS
Traffic Section

Traffic Signals, Lighting, and ITS
Page 31 of 61



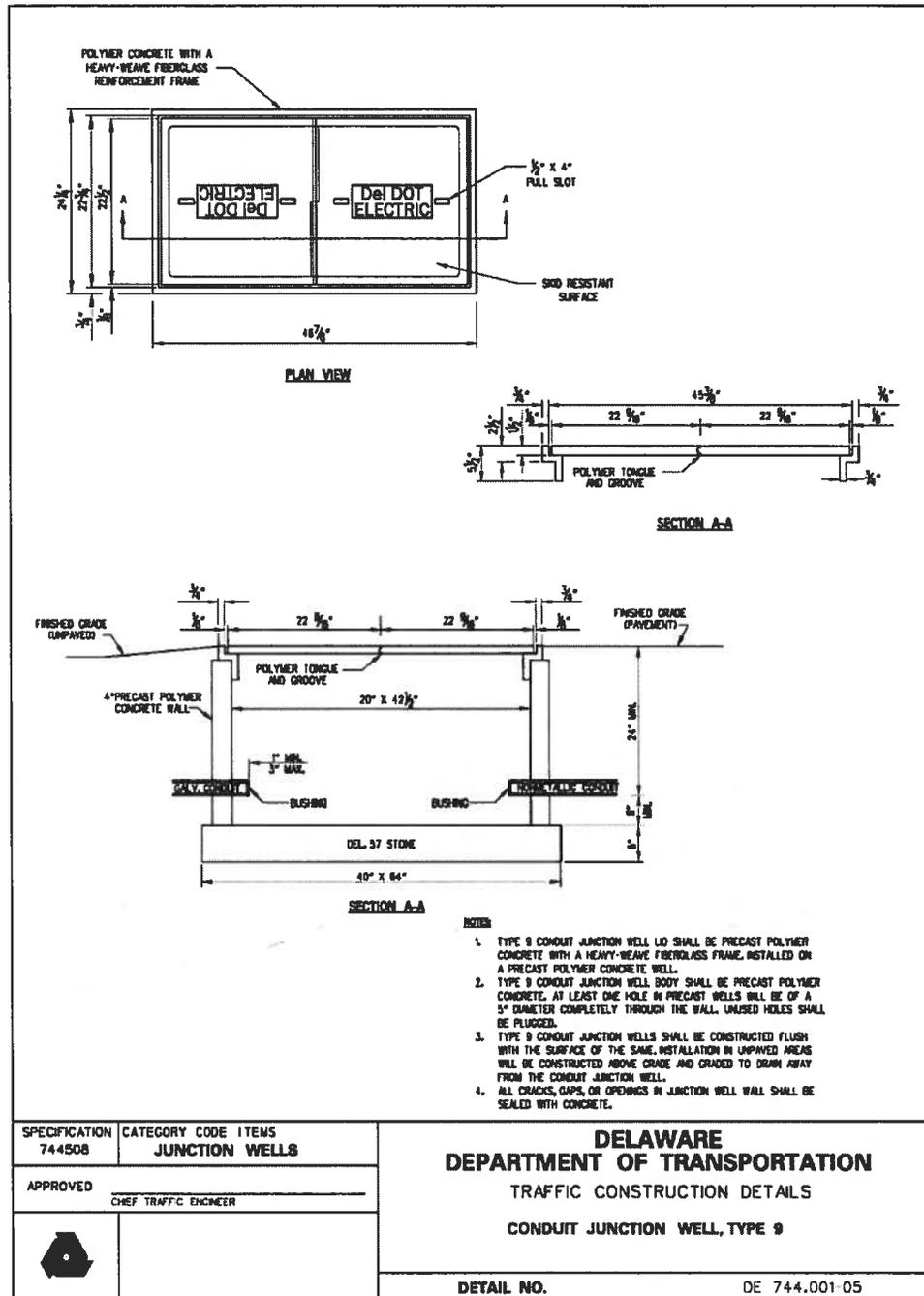


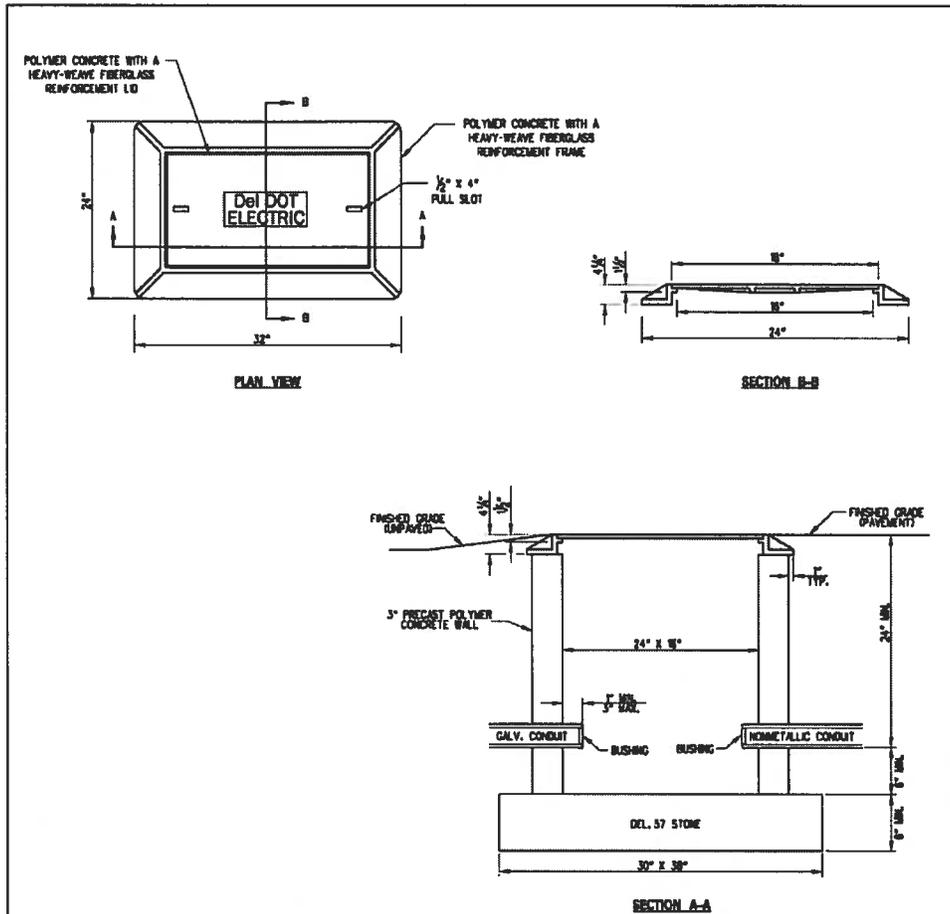


NOTES:

1. TYPES 6, 7, & 8 CONDUIT JUNCTION WELLS LID SHALL BE PRECAST POLYMER CONCRETE WITH A HEAVY-WEAVE FIBERGLASS REINFORCEMENT.
2. TYPES 6, 7, & 8 CONDUIT JUNCTION WELL BODY SHALL BE PRECAST POLYMER CONCRETE. AT LEAST ONE HOLE IN PRECAST WELLS WILL BE OF A 5" DIAMETER COMPLETELY THROUGH THE WALL. UNUSED HOLES SHALL BE PLUGGED.
3. TYPE 6, 7, & 8 CONDUIT JUNCTION WELLS SHALL BE CONSTRUCTED FLUSH WITH THE SURFACE OF THE SAME. INSTALLATION IN UNPAVED AREAS WILL BE CONSTRUCTED ABOVE GRADE AND GRADED TO DRAIN AWAY FROM THE CONDUIT JUNCTION WELL.
4. ALL CRACKS, GAPS, OR OPENING IN JUNCTION WELL WALL SHALL BE SEALED WITH CONCRETE.

SPECIFICATION 744500 744506 744507	CATEGORY CODE ITEMS JUNCTION WELLS	DELAWARE DEPARTMENT OF TRANSPORTATION TRAFFIC CONSTRUCTION DETAILS CONDUIT JUNCTION WELL, TYPES 6, 7, 8
APPROVED	_____ CHIEF TRAFFIC ENGINEER	
		DETAIL NO. DE 744.001 04





NOTES:

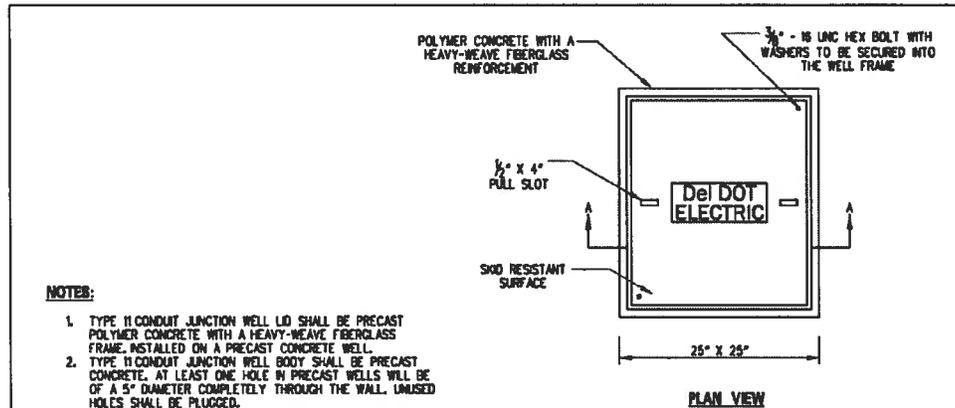
1. TYPE 10 CONDUIT JUNCTION WELL LID SHALL BE PRECAST POLYMER CONCRETE WITH A HEAVY-WEAVE FIBERGLASS FRAME, INSTALLED ON A PRECAST POLYMER CONCRETE WELL.
2. TYPE 10 CONDUIT JUNCTION WELL BODY SHALL BE PRECAST POLYMER CONCRETE. AT LEAST ONE HOLE IN PRECAST WELLS WILL BE OF A 3" DIAMETER COMPLETELY THROUGH THE WALL. UNUSED HOLES SHALL BE PLUGGED.
3. TYPE 10 CONDUIT JUNCTION WELLS SHALL BE CONSTRUCTED FLUSH WITH THE SURFACE OF THE SAME. INSTALLATION IN UNPAVED AREAS WILL BE CONSTRUCTED ABOVE GRADE AND GRADED TO DRAIN AWAY FROM THE CONDUIT JUNCTION WELL.
4. ALL CRACKS, GAPS, OR OPENINGS IN JUNCTION WELL WALL SHALL BE SEALED WITH CONCRETE.

SPECIFICATION 744509	CATEGORY CODE ITEMS JUNCTION WELLS	DELAWARE DEPARTMENT OF TRANSPORTATION TRAFFIC CONSTRUCTION DETAILS CONDUIT JUNCTION WELL, TYPE 10
APPROVED	_____ CHEF TRAFFIC ENGINEER	
		
		DETAIL NO. DE 744.001 06

DELAWARE DEPARTMENT OF TRANSPORTATION

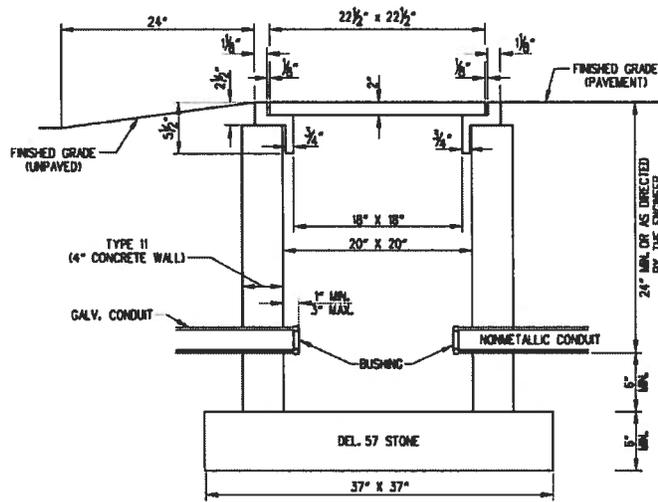
Contract No. DOT1227 – TRAFFICSIG & ITS
Traffic Section

Traffic Signals, Lighting, and ITS
Page 36 of 61



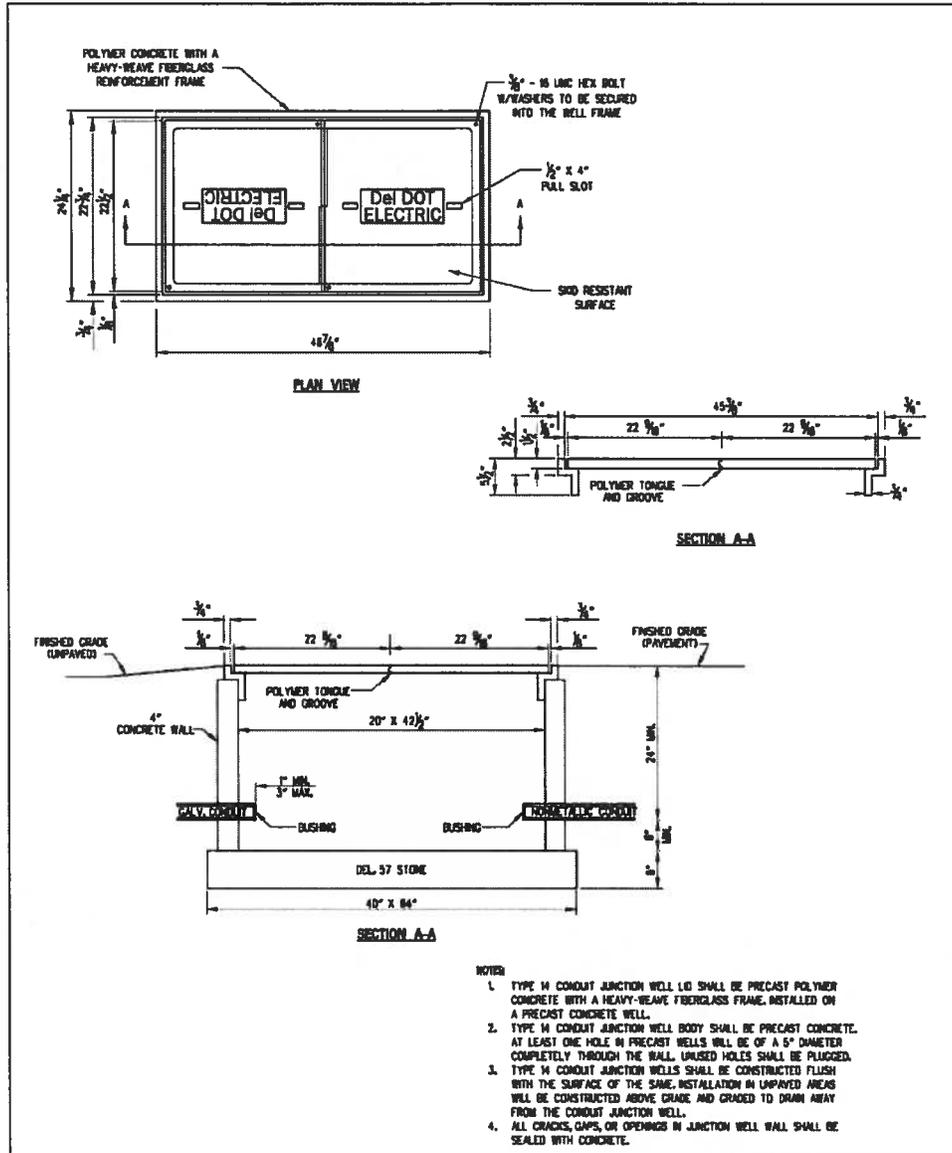
NOTES:

1. TYPE 11 CONDUIT JUNCTION WELL LID SHALL BE PRECAST POLYMER CONCRETE WITH A HEAVY-WEAVE FIBERGLASS REINFORCEMENT FRAME, INSTALLED ON A PRECAST CONCRETE WELL.
2. TYPE 11 CONDUIT JUNCTION WELL BODY SHALL BE PRECAST CONCRETE. AT LEAST ONE HOLE IN PRECAST WELLS WILL BE OF A 5" DIAMETER COMPLETELY THROUGH THE WALL. UNUSED HOLES SHALL BE PLUGGED.
3. TYPE 11 CONDUIT JUNCTION WELLS SHALL BE CONSTRUCTED FLUSH WITH THE SURFACE OF THE SAME. INSTALLATION IN UNPAVED AREAS WILL BE CONSTRUCTED ABOVE GRADE AND GRADED TO DRAIN AWAY FROM THE CONDUIT JUNCTION WELL.
4. ALL CRACKS, GAPS, OR OPENING IN JUNCTION WELL WALL SHALL BE SEALED WITH CONCRETE.



SECTION A-A

SPECIFICATION 7445.30	CATEGORY CODE ITEMS JUNCTION WELLS	DELAWARE DEPARTMENT OF TRANSPORTATION TRAFFIC CONSTRUCTION DETAILS CONDUIT JUNCTION WELL, TYPE 11
APPROVED	_____ CHIEF TRAFFIC ENGINEER	
		DETAIL NO. DE 744.001.07



SPECIFICATION 744531	CATEGORY CODE ITEMS JUNCTION WALLS
APPROVED	_____ CHIEF TRAFFIC ENGINEER
	

**DELAWARE
 DEPARTMENT OF TRANSPORTATION**

TRAFFIC CONSTRUCTION DETAILS

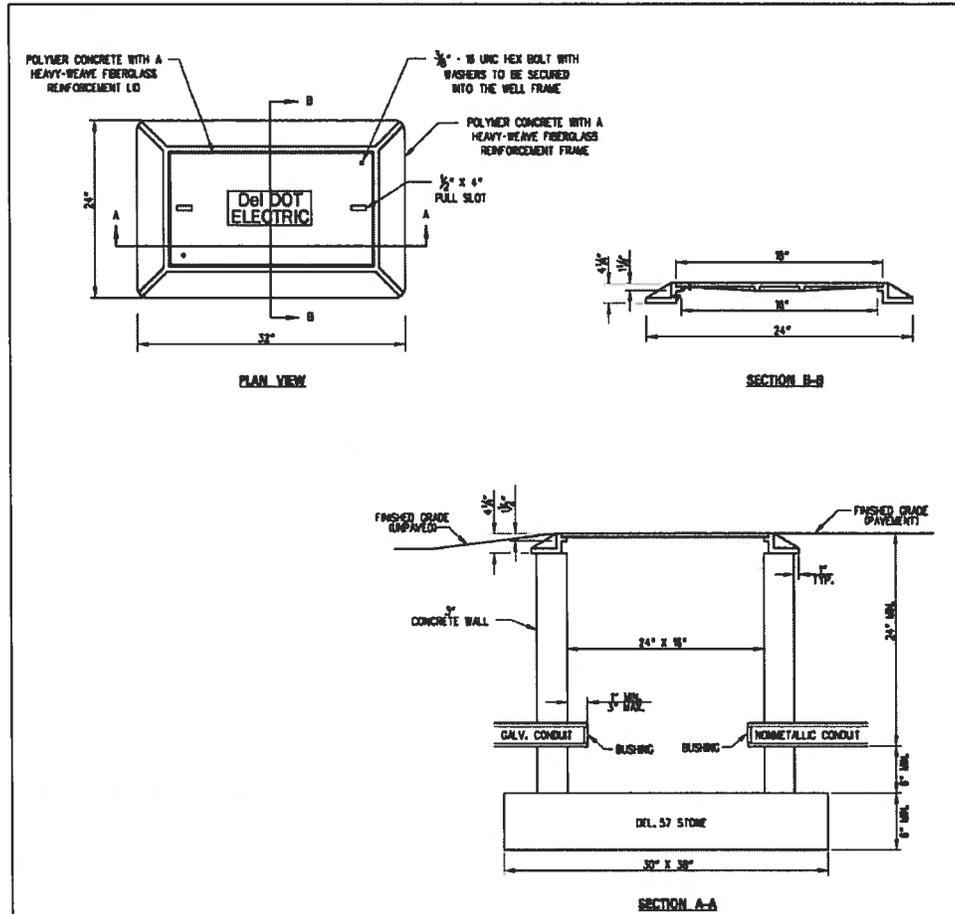
CONDUIT JUNCTION WELL, TYPE 14

DETAIL NO. DE 744.001 08

DELAWARE DEPARTMENT OF TRANSPORTATION

Contract No. DOT1227 – TRAFFICSIG & ITS
Traffic Section

Traffic Signals, Lighting, and ITS
Page 38 of 61



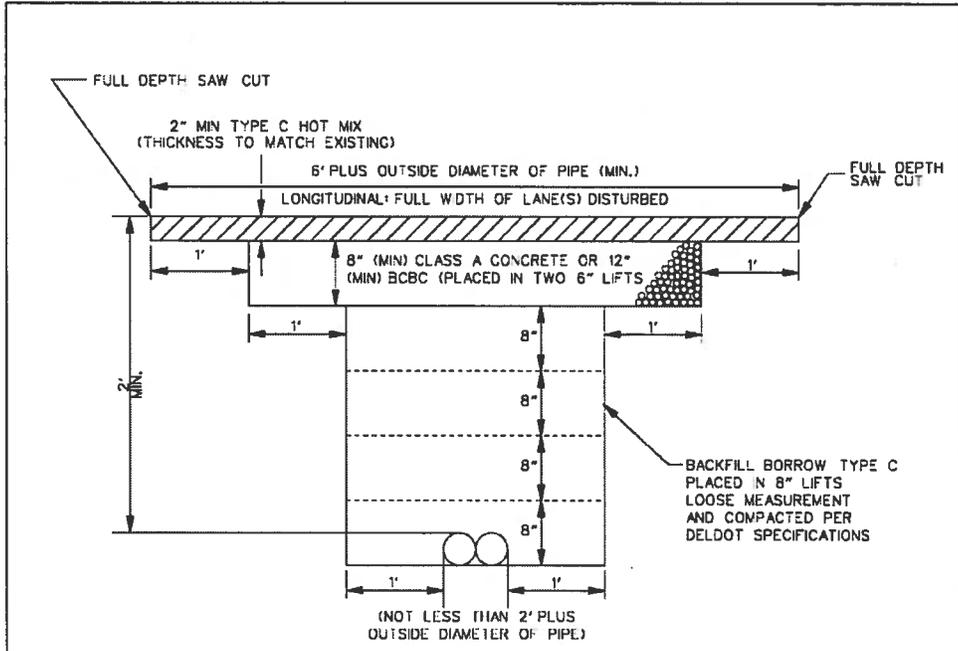
NOTES:

1. TYPE 1B CONDUIT JUNCTION WELL LI SHALL BE PRECAST POLYMER CONCRETE WITH A HEAVY-WEAVE FIBERGLASS FRAME, INSTALLED ON A PRECAST CONCRETE WELL.
2. TYPE 1B CONDUIT JUNCTION WELL BODY SHALL BE PRECAST CONCRETE. AT LEAST ONE HOLE IN PRECAST WELLS WILL BE OF A 5" DIAMETER COMPLETELY THROUGH THE WALL. UNUSED HOLES SHALL BE PLUGGED.
3. TYPE 1B CONDUIT JUNCTION WELLS SHALL BE CONSTRUCTED FLUSH WITH THE SURFACE OF THE SAME. INSTALLATION IN UNPAVED AREAS WILL BE CONSTRUCTED ABOVE GRADE AND GRADED TO DRAIN AWAY FROM THE CONDUIT JUNCTION WELL.
4. ALL CRACKS, CAPS, OR OPENINGS IN JUNCTION WELL WALL SHALL BE SEALED WITH CONCRETE.

SPECIFICATION 744532	CATEGORY CODE ITEMS JUNCTION WELLS
APPROVED	CHEF TRAFFIC ENGINEER
	

DELAWARE
DEPARTMENT OF TRANSPORTATION
TRAFFIC CONSTRUCTION DETAILS
CONDUIT JUNCTION WELL, TYPE 1B

DETAIL NO. DE 744.001 09

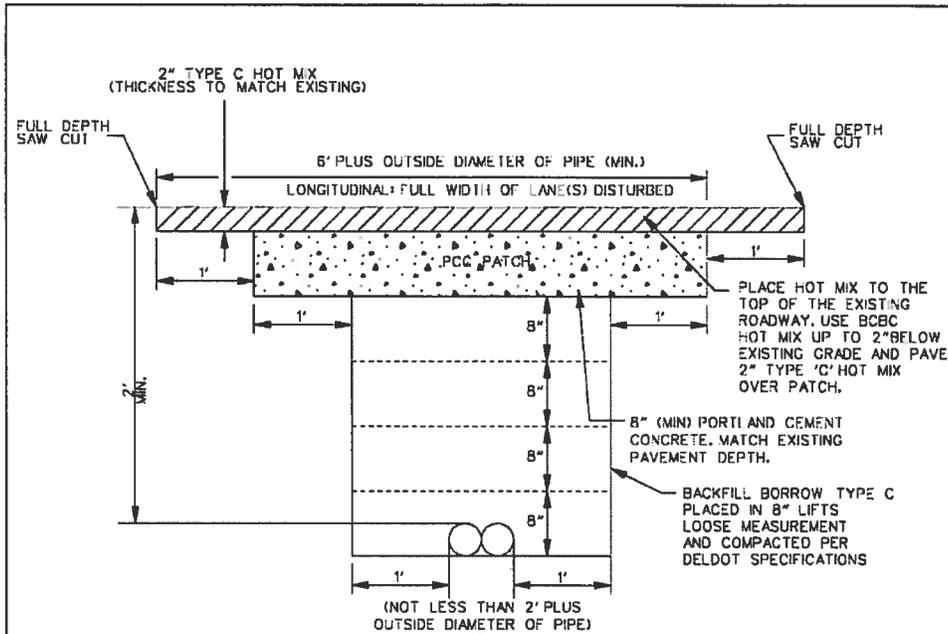


PERMANENT CROSS-ROAD OR LONGITUDINAL PATCH DETAIL
 N.T.S.

NOTES:

1. PATCHES MUST HAVE A MINIMUM WIDTH OF 6 FEET PLUS OUTSIDE DIAMETER OF THE PIPE (AS MEASURED ALONG THE ROADWAY CENTERLINE) AND THE WIDTH OF THE LANE OR LANES DISTURBED.
2. THIS IS A MINIMUM PATCH. IF THE EXISTING ROADWAY HAS A HEAVIER CROSS SECTION THAN SHOWN HERE, IT WILL BE REPLACED WITH THAT CROSS SECTION, OR AS DIRECTED BY THE ENGINEER.
3. ALL MATERIALS AND METHODS FOR CONSTRUCTION SHALL MEET THE REQUIREMENTS SET FORTH IN THE CURRENT DELAWARE DEPARTMENT OF TRANSPORTATION STANDARDS SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.

SPECIFICATION MULTIPLE ROADWAY ITEMS	CATEGORY CODE ITEMS MISC. DETAILS	DELAWARE DEPARTMENT OF TRANSPORTATION TRAFFIC CONSTRUCTION DETAILS ROAD PATCH DETAIL - HOTMIX
APPROVED	_____ CHIEF TRAFFIC ENGINEER	
		
		DETAIL NO. DE 503.001 01



PERMANENT CROSS-ROAD OR LONGITUDINAL PATCH DETAIL

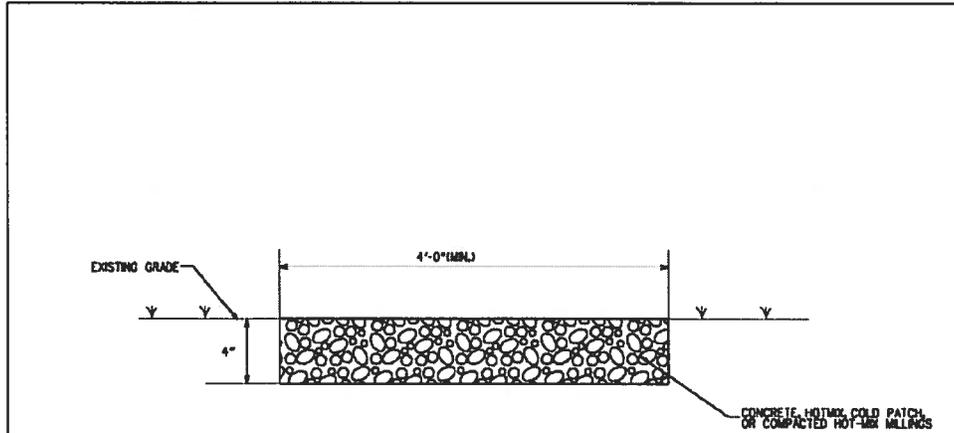
N.T.S.

*** EXISTING CONCRETE PAVEMENT OVERLAYED WITH HOTMIX LOCATIONS**

NOTES:

1. PATCHES MUST HAVE A MINIMUM WIDTH OF 6 FEET OR 4 FEET PLUS OUTSIDE DIAMETER OF THE PIPE (AS MEASURED ALONG THE ROADWAY CENTERLINE) AND THE WIDTH OF THE LANE OR LANES DISTURBED.
2. THIS IS A MINIMUM PATCH. IF THE EXISTING ROADWAY HAS A HEAVIER CROSS SECTION THAN SHOWN HERE, IT WILL BE REPLACED WITH THAT CROSS SECTION, OR AS DIRECTED BY THE ENGINEER.
3. ALL MATERIALS AND METHODS FOR CONSTRUCTION SHALL MEET THE REQUIREMENTS SET FORTH IN THE CURRENT DELAWARE DEPARTMENT OF TRANSPORTATION STANDARDS SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.

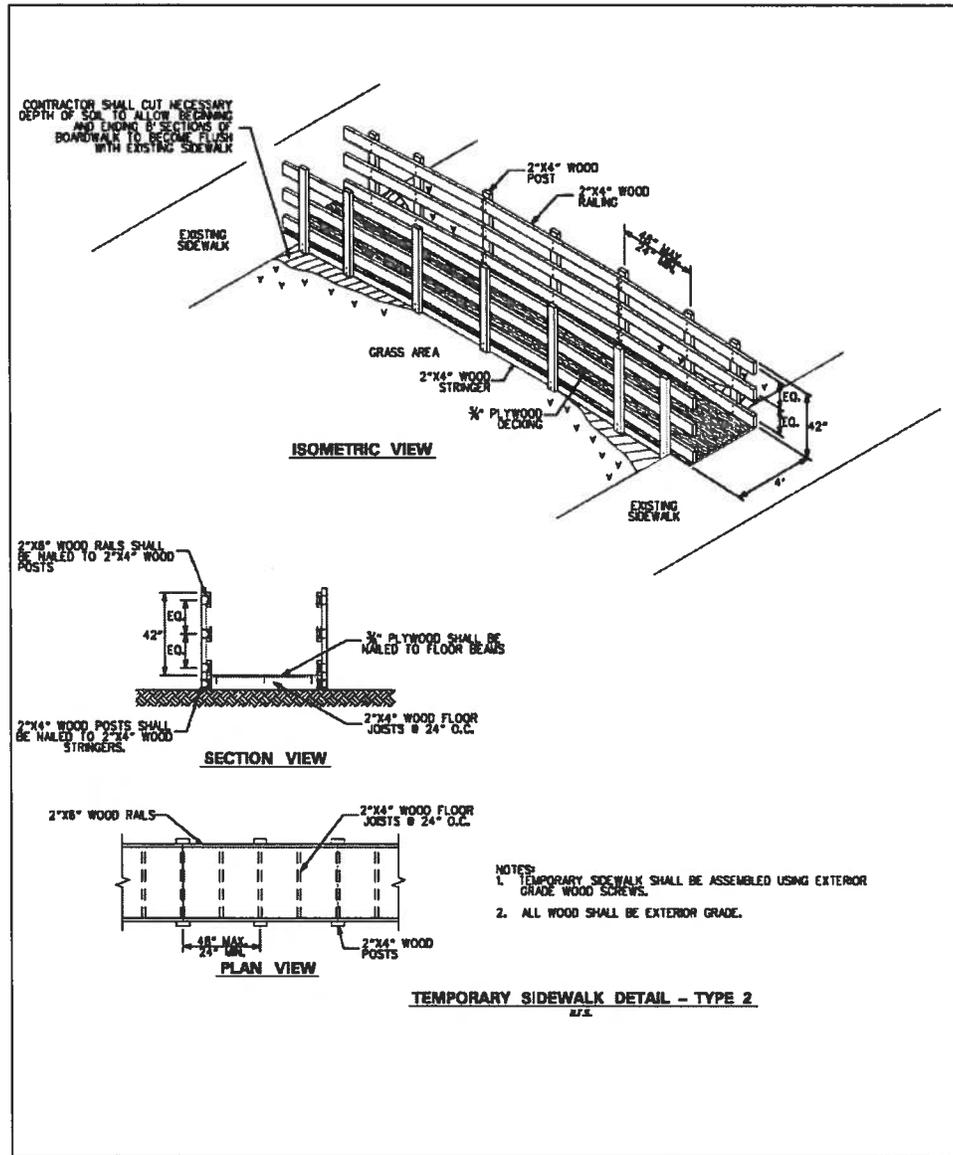
SPECIFICATION MULTIPLE ROADWAY ITEMS	CATEGORY CODE ITEMS MISC. DETAILS	DELAWARE DEPARTMENT OF TRANSPORTATION TRAFFIC CONSTRUCTION DETAILS ROAD PATCH DETAIL – CONCRETE
APPROVED	_____ CHIEF TRAFFIC ENGINEER	
		DETAIL NO. DE 503.001 02



- NOTES:**
1. PROVIDE 4'-0" WIDE TEMPORARY PATHWAY. SUPPLY CONCRETE, HOTMIX, COLD PATCH OR MILLINGS TO A MINIMUM DEPTH OF 4". FLUSH WITH EXISTING GRADE.
 2. IN THE EVENT THAT THE WALKING SURFACE OF THE TEMPORARY SIDEWALK IS LOCATED MORE THAN 30" FROM GRADE AT ANY POINT ALONG THE PROPOSED PATH, PROVIDE TYPE 2 TEMPORARY SIDEWALK.
 3. ANY REQUIRED EXCAVATION TO CONSTRUCT THE PATHWAY IS INCIDENTAL TO ITEM 743553.
 4. COST FOR SEEDING REQUIRED TO RESTORE THE AREA IS INCIDENTAL TO ITEM 732004 TOPSOIL. IF NO TOPSOIL IS REQUIRED, THEN SEEDING IS CONSIDERED INCIDENTAL TO ITEM 743553.

TEMPORARY PEDESTRIAN PATHWAY
RTS

SPECIFICATION 743553	CATEGORY CODE ITEMS MISC. DETAILS	DELAWARE DEPARTMENT OF TRANSPORTATION TRAFFIC CONSTRUCTION DETAILS TEMPORARY PEDESTRIAN PATHWAY
APPROVED	_____ CHIEF TRAFFIC ENGINEER	
		DETAIL NO. DE 743.001 01

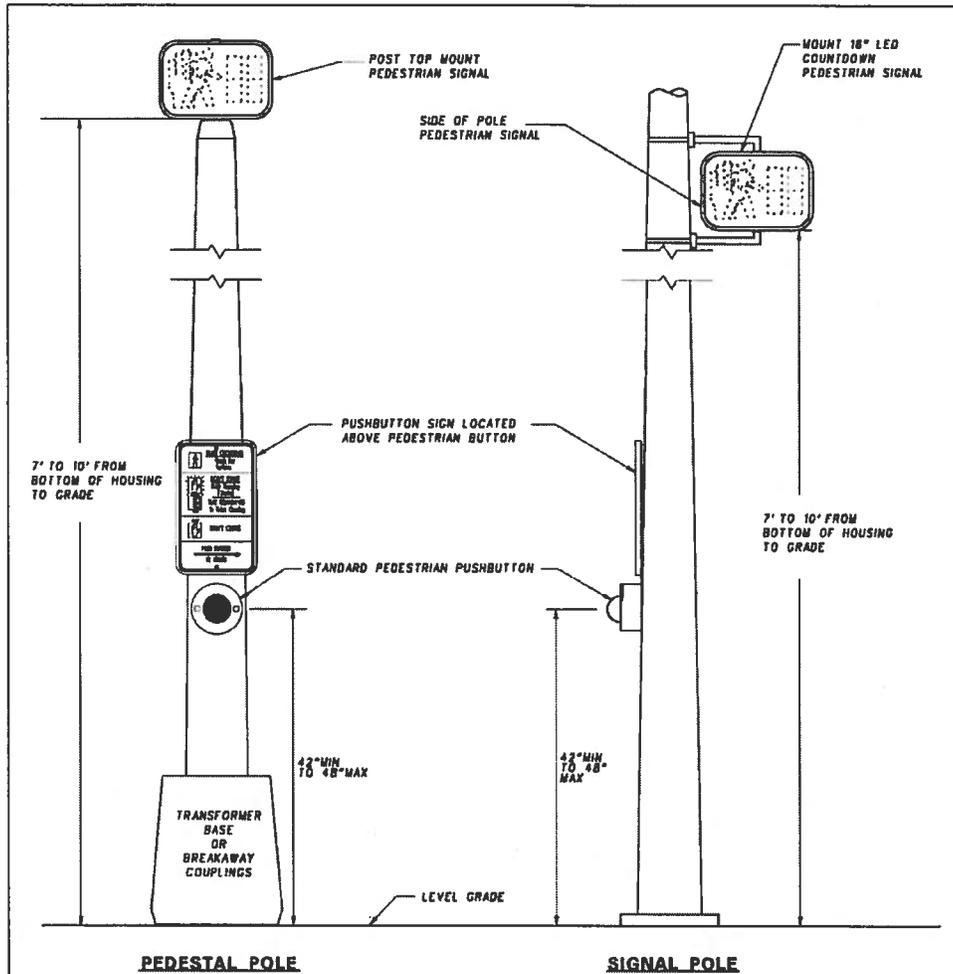


SPECIFICATION 734555	CATEGORY CODE ITEMS MISC. DETAILS	DELAWARE DEPARTMENT OF TRANSPORTATION TRAFFIC CONSTRUCTION DETAILS TEMPORARY SIDEWALK DETAIL - TYPE 2
APPROVED	CHEF TRAFFIC ENGINEER	
		DETAIL NO. DE 743.001 02

DELAWARE DEPARTMENT OF TRANSPORTATION

Contract No. DOT1227 – TRAFFICSIG & ITS
Traffic Section

Traffic Signals, Lighting, and ITS
Page 43 of 61



NOTES:

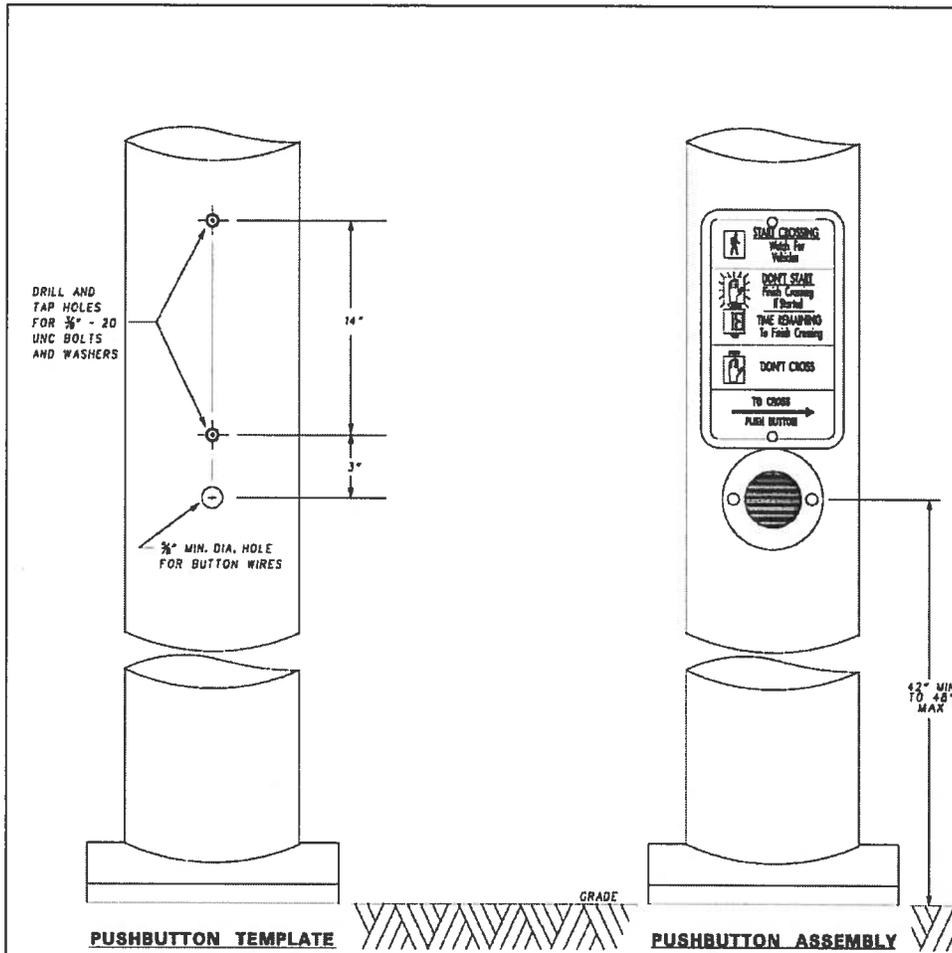
1. WHEN CUTTING IS REQUIRED, CONTRACTOR SHALL CONFIRM PROPER HEIGHT OF PEDESTAL IS MAINTAINED PRIOR TO CUTTING POLE.
2. REFER TO POLE MOUNTING FOR PEDESTRIAN SIGNAL HEADS STANDARD PLATES FOR DETAILS.

SPECIFICATION 746035 746047	CATEGORY CODE ITEMS MISC. DETAILS
APPROVED	CHIEF TRAFFIC ENGINEER
	

DELAWARE
DEPARTMENT OF TRANSPORTATION
TRAFFIC CONSTRUCTION DETAILS
STANDARD PEDESTRIAN SIGNAL
PUSHBUTTON LOCATION ON POLE

DETAIL NO.

DF 746.010-01

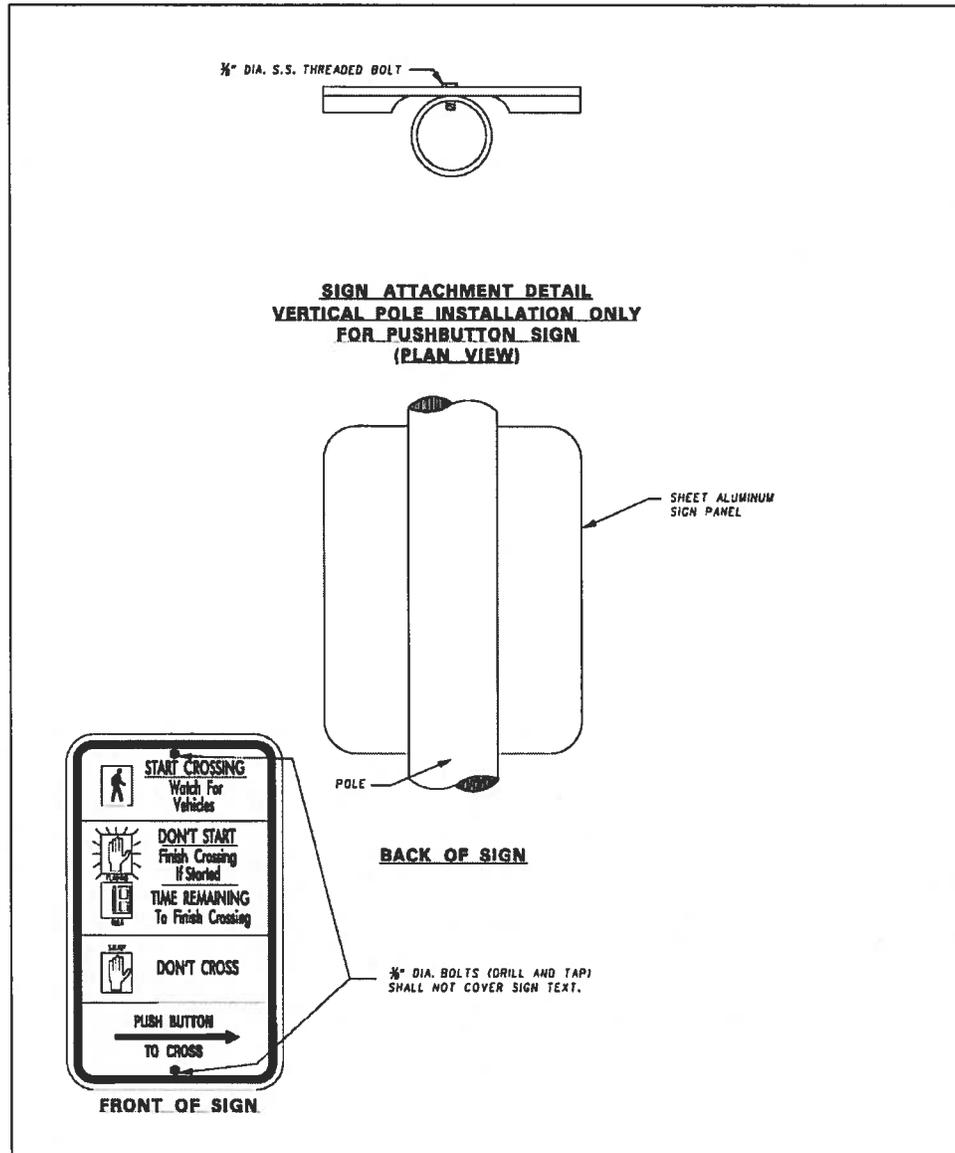


NOTES:

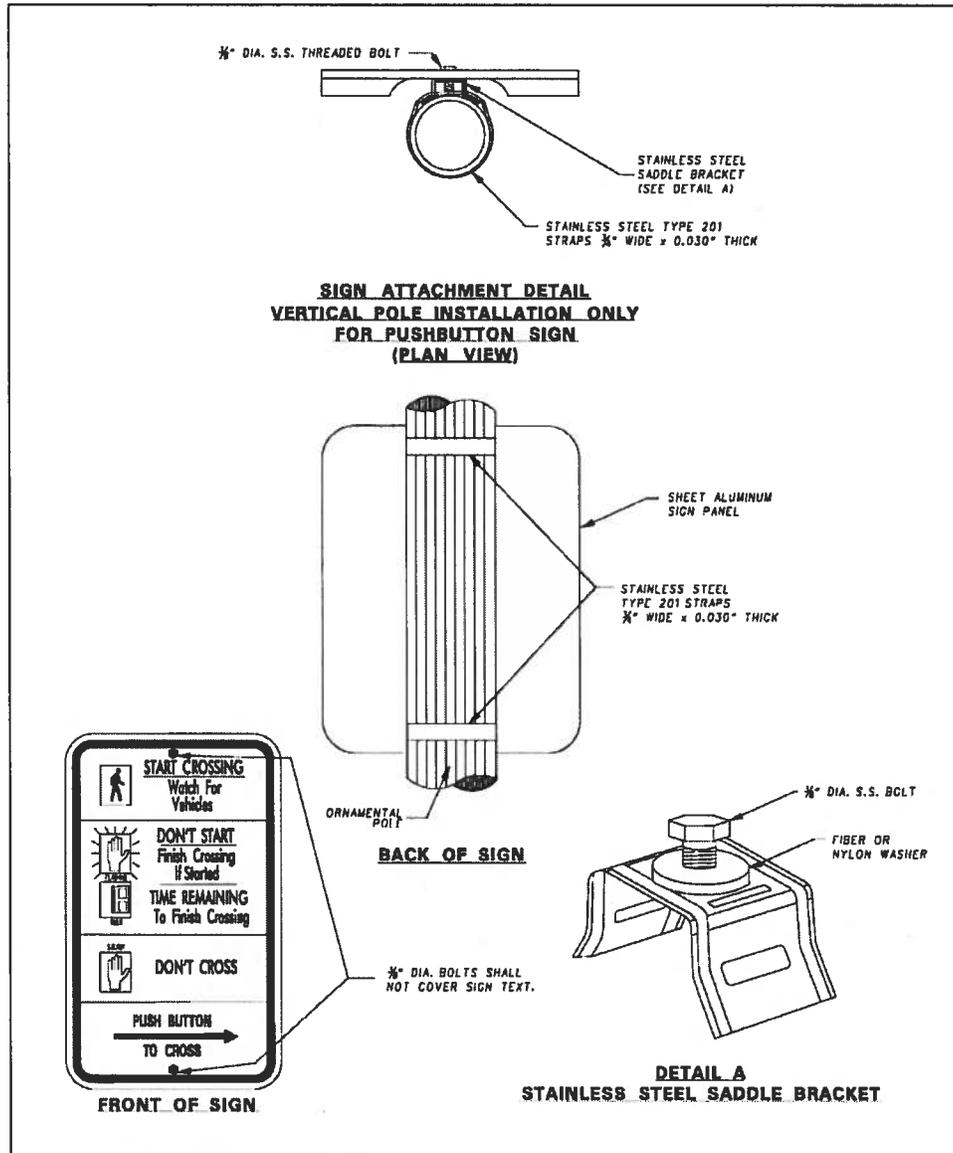
1. PUSHBUTTON ASSEMBLY SHALL BE SECURED TO WOOD POLES WITH 2 1/2" LAG BOLTS.

SPECIFICATION 746937 746948	CATEGORY CODE ITEMS MISC. DETAILS
APPROVED	_____ CHIEF TRAFFIC ENGINEER

DELAWARE DEPARTMENT OF TRANSPORTATION TRAFFIC CONSTRUCTION DETAILS PEDESTRIAN PUSHBUTTON ASSEMBLY	
DETAIL NO.	DE 746.010 02

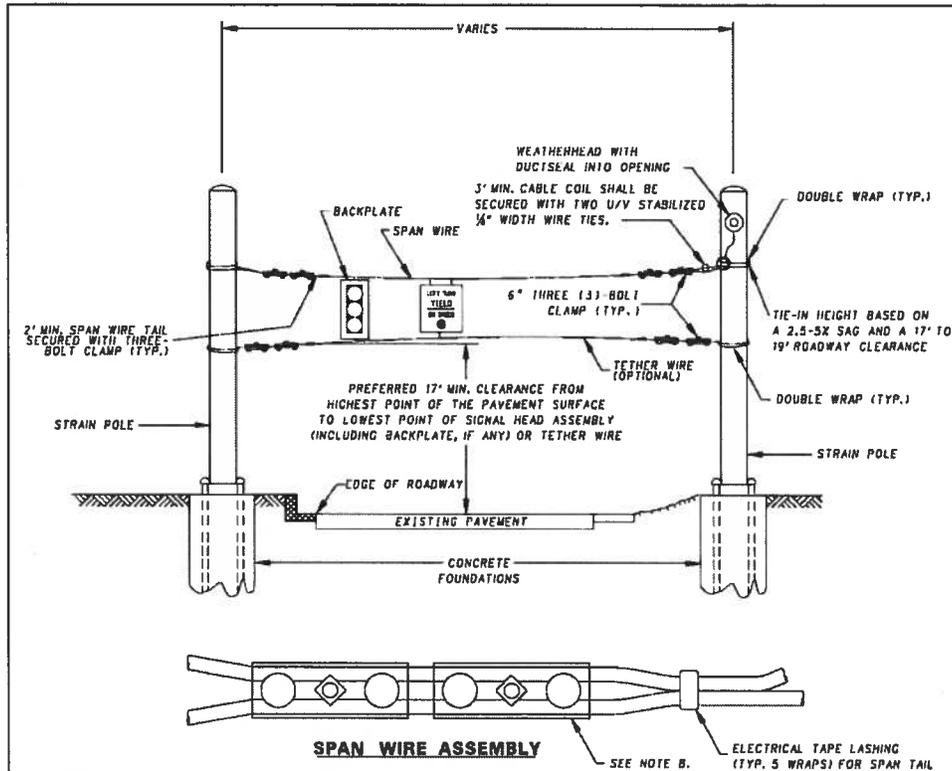


SPECIFICATION 748937	CATEGORY CODE ITEMS MISC. DETAILS	DELAWARE DEPARTMENT OF TRANSPORTATION TRAFFIC CONSTRUCTION DETAILS PUSHBUTTON SIGN DETAIL
APPROVED	CHEF TRAFFIC ENGINEER	
		
		DETAIL NO. DE 746.010 Q3



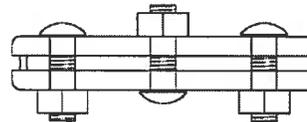
SPECIFICATION 746937	CATEGORY CODE ITEMS MISC. DETAILS
APPROVED	_____ CHIEF TRAFFIC ENGINEER
	

DELAWARE DEPARTMENT OF TRANSPORTATION	
TRAFFIC CONSTRUCTION DETAILS	
PUSHBUTTON SIGN BANDING DETAIL FOR ORNAMENTAL POLE	
DETAIL NO.	DE 746.010-04



NOTES:

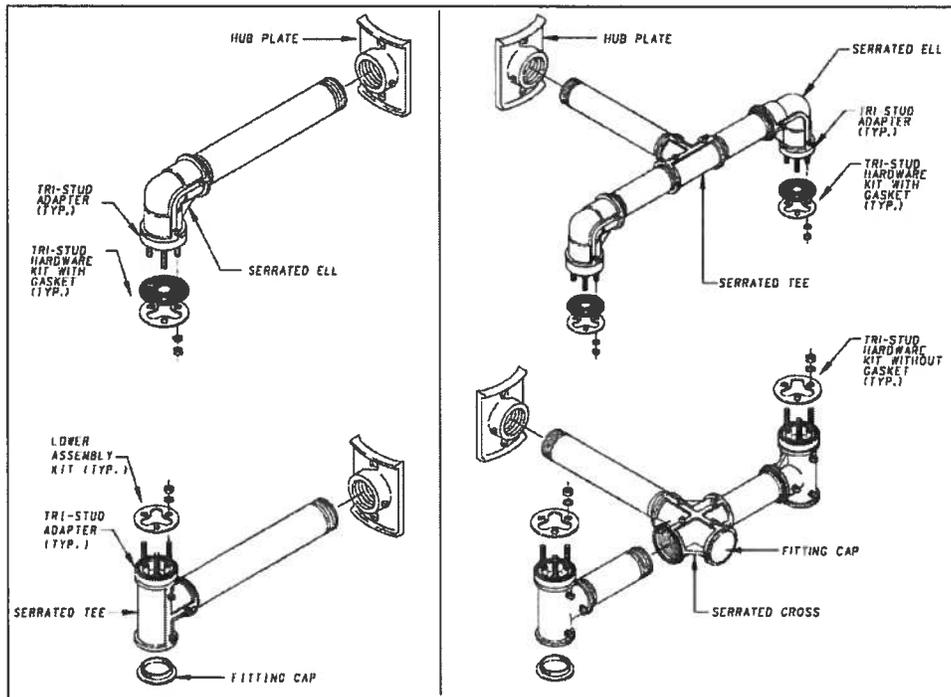
1. ALL WIRES SHALL BE LASHED WITH FIVE (5) WRAP (12" O.C.) ELECTRICAL TAPE ACROSS SPAN WIRE.
2. POLES SHALL BE RAKED AS SPECIFIED BY THE PROJECT ENGINEER.
3. POLE PLACEMENT SHOULD BE OUTSIDE OF THE CLEAR ZONE BASED ON THE GUIDELINES OF THE MOST RECENT AASHTO ROADSIDE DESIGN GUIDE.
4. SPAN WIRE SHALL BE PLACED UNDER ALL RISES.
5. SPAN WIRE SHALL BE 7/16" SEVEN (7)-WIRE GAL. STEEL STRAND. (STRENGTH SHALL BE SIEMENS-MARTIN 6,350 LBS.)
6. TETHER WIRE SHALL BE 1/4" SEVEN (7)-WIRE GAL. STEEL STRAND. (STRENGTH SHALL BE SIEMENS-MARTIN 3,150 LBS.)
7. TWO (2) THREE-BOLT CLAMPS SHALL BE USED FOR EACH END OF THE SPANS.



3-BOLT CLAMP

SPECIFICATION 746504 748506	CATEGORY CODE ITEMS OVERHEAD
APPROVED	CHEF TRAFFIC ENGINEER

DELAWARE DEPARTMENT OF TRANSPORTATION	
TRAFFIC CONSTRUCTION DETAILS	
PLACEMENT OF STRAIN POLE AND INCIDENTAL HARDWARE	
DETAIL NO.	DE 746.011 01



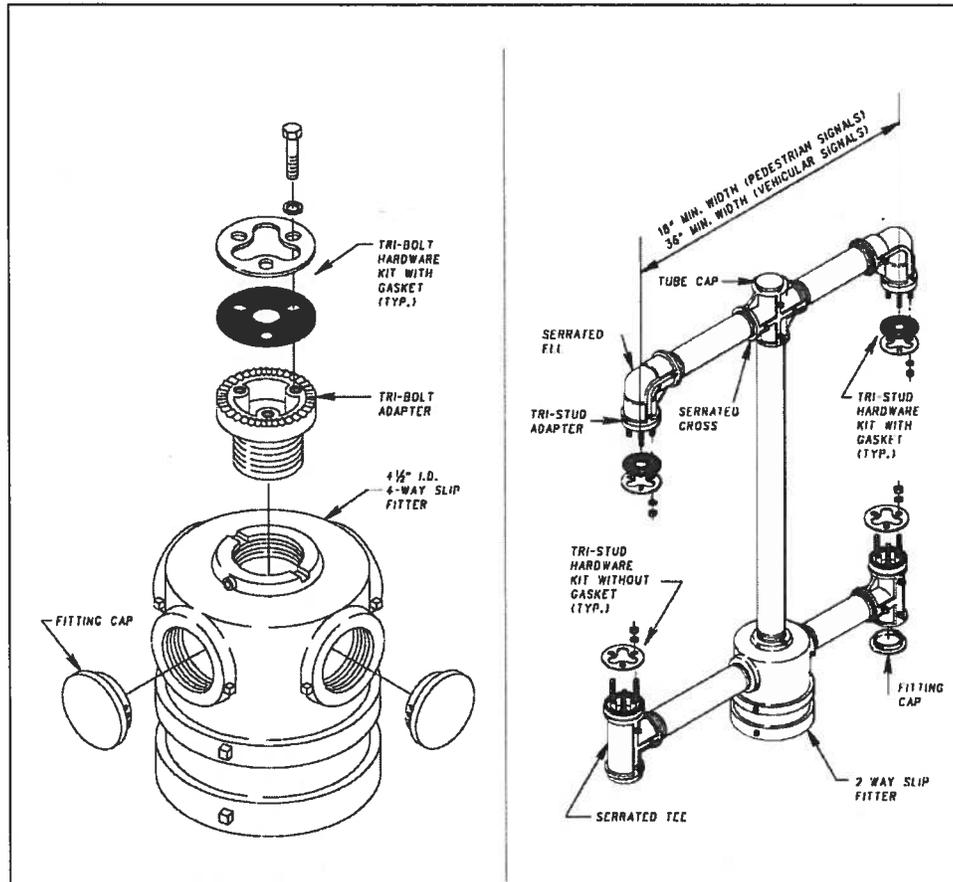
ONE-WAY SIDE POLE MOUNTING

TWO-WAY SIDE POLE MOUNTING

NOTES:

1. THE TOP HUB PLATE SHALL BE ROTATED UPWARD WHEN THE SIGNAL HEAD IS MOUNTED ON A WOOD POLE.
2. A 1" DIA. HOLE SHALL BE DRILLED IN THE METAL POLE FOR WIRING AT BOTTOM PLATE.
3. THE UPPER ARM SHALL CONSIST OF A SERRATED ELL, 12" NIPPLE, GASKET AND TRI-STUD ADAPTER.
 - THE SERRATED ELL SHALL HAVE A SERRATED 72 TOOTH BOSS ON ONE END WITH TRI-STUD MOUNTING. THE OUTSIDE DIAMETER OF THE SERRATION SHALL NOT EXCEED 2 3/8". THE NON SERRATED END OF THE ELL SHALL BE NOTCHED TO ACCEPT A SEPARATE SERRATED LOCKRING. THE ELL SHALL BE THREADED 1 1/2" NPS ON BOTH SIDES. THE ELL SHALL HAVE A MINIMUM 3/8" WIDTH BOSS THAT EXTENDS THE ENTIRE LENGTH OF BOTH SIDES. ON ONE SIDE OF THE BOSS AT EACH END OF THE ELL SHALL BE A 1/4" - 20 THREADED OPENING FOR A SETSCREW.
 - A 1 1/2" X 12" EXTRUDED NIPPLE SHALL HAVE 1 1/2" NPS THREADS ON BOTH ENDS. THE NIPPLE SHALL HAVE A "BRUSHED" FINISH.
4. THE LOWER ARM SHALL CONSIST OF A SERRATED TEE, 12" NIPPLE AND TRI-STUD ADAPTER.
 - THE SERRATED TEE SHALL BE FABRICATED LIKE THE ELL EXCEPT THE TEE IS TO HAVE SERRATIONS ON TWO (2) THREADED OPENINGS 90° APART. THE NON-SERRATED END SHALL COME STANDARD WITH A PLASTIC KNOCKOUT PIN.
 - THE 1 1/2" X 12" NIPPLE SHALL BE THE SAME AS ABOVE.
5. FOR WOOD POLE MOUNTING:
 - ATTACHMENT STRAPS FOR WOOD POLE SHALL BE 3/4" WIDTH, TYPE 201, STAINLESS STEEL.
 - ATTACHMENT BOLTS FOR WOOD POLE SHALL BE STAINLESS STEEL 3/8" DIA. x 2 1/4" LENGTH.

SPECIFICATION 746029 746033 746035	CATEGORY CODE ITEMS SIGNAL HEADS	DELAWARE DEPARTMENT OF TRANSPORTATION TRAFFIC CONSTRUCTION DETAILS SIDE POLE MOUNTING FOR VEHICULAR AND PEDESTRIAN SIGNAL HEADS
APPROVED CHIEF TRAFFIC ENGINEER	DETAIL NO.	
	DE 746.006-01	



TOP POLE MOUNTING FOR ONE, TWO, THREE & FOUR-WAY SIGNAL

TOP POLE MOUNTING FOR TWO-WAY SIGNAL

NOTES:

1. ALL CAST MOUNTING HARDWARE SHALL BE ALDINE FINISHED ALUMINUM.
2. ALL BOLTS SHALL BE STAINLESS STEEL.

SPECIFICATION 746029 746032 746035	CATEGORY CODE ITEMS SIGNAL HEADS	DELAWARE DEPARTMENT OF TRANSPORTATION TRAFFIC CONSTRUCTION DETAILS TOP POLE MOUNTING FOR VEHICULAR AND PEDESTRIAN SIGNAL HEAD
APPROVED  CHIEF TRAFFIC ENGINEER	DETAIL NO. DE 746.006 02	

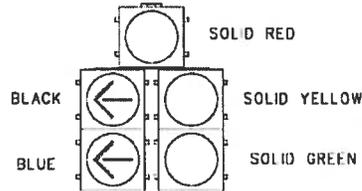
**WIRING COLOR CODE FOR #14/18
 SIGNAL CABLE FOR SIGNAL HEADS**

<u>MAIN STREET SIGNALS</u>	<u>WIRE COLORS</u>	<u>SIGNAL INDICATION</u>
	SOLID RED SOLID ORANGE SOLID GREEN SOLID WHITE	RED YELLOW GREEN GROUND

<u>SIDE STREET SIGNALS</u>	<u>WIRE COLORS</u>	<u>SIGNAL INDICATION</u>
	BLACK TRACER/RED BLACK TRACER/ORANGE BLACK TRACER/GREEN BLACK TRACER/WHITE	RED YELLOW GREEN GROUND

<u>NON-PERMISSIVE LEFT TURN SIGNALS</u>	<u>MAIN STREET WIRE COLORS</u>	<u>SIDE STREET WIRE COLORS</u>	<u>SIGNAL INDICATION</u>
	WHITE TRACER/RED WHITE TRACER/ORANGE WHITE TRACER/GREEN WHITE TRACER/BLUE	BLACK/RED TRACER SOLID BLACK SOLID BLUE BLUE/BLACK TRACER	RED YELLOW GREEN GROUND

<u>S SECTION SIGNAL ARROWS</u>	<u>MAIN STREET WIRE COLORS</u>	<u>SIDE STREET WIRE COLORS</u>	<u>SIGNAL INDICATION</u>
	SOLID BLUE SOLID BLACK	BLACK/RED TRACER BLUE/BLACK TRACER	YELLOW ARROW GREEN ARROW



SPECIFICATION 746B22	CATEGORY CODE ITEMS SIGNAL HEADS	DELAWARE DEPARTMENT OF TRANSPORTATION TRAFFIC CONSTRUCTION DETAILS SIGNAL WIRE CABLE IDENTIFICATION COLOR CODE
APPROVED	CHEF TRAFFIC ENGINEER	
		
		DETAIL NO. DE 746.007-01

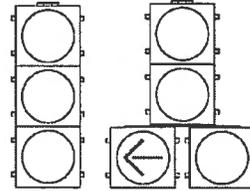
WIRING COLOR CODE FOR #14/3 TCC

MAST ARM:

MAIN STREET

WIRE COLORS
 SOLID RED
 SOLID YELLOW
 SOLID GREEN
 SOLID WHITE

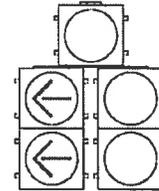
SIGNAL INDICATION
 RED
 YELLOW
 GREEN
 GROUND



MAIN STREET PERMISSIVE LEFT

WIRE COLORS
 SOLID BLACK
 SOLID BLUE
 SOLID WHITE

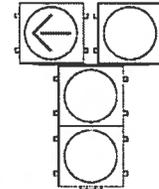
SIGNAL INDICATION
 YELLOW
 GREEN
 NEUTRAL



MAIN STREET FLASHING TOP "T"

WIRE COLORS
 BLACK/RED TRACER
 SOLID WHITE

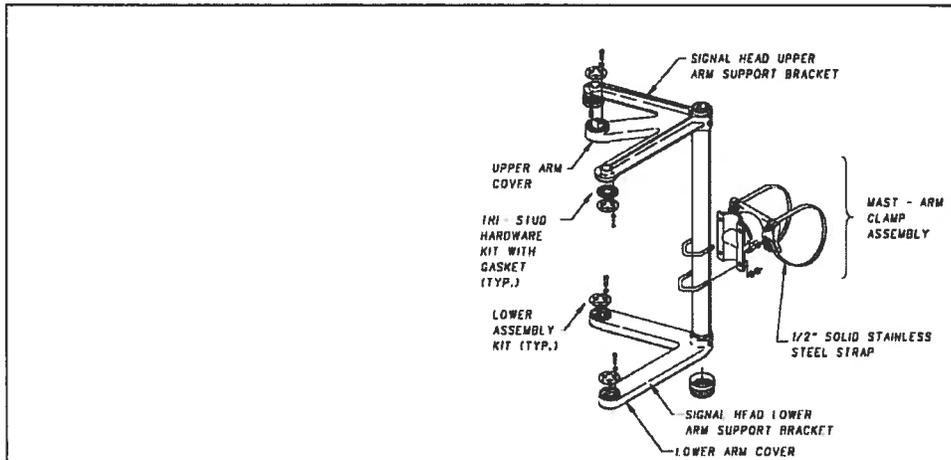
SIGNAL INDICATION
 RED
 NEUTRAL



NOTES

1. HEAD CABLE SHALL BE MARKED WITH THE COLOR DESIGNATED FOR EACH DIRECTION OF TRAVEL. RED/NORTH, YELLOW/SOUTH, GREEN/EAST, BLUE/WEST.
2. SIDE STREET SIGNAL HEADS SHALL BE SPICED INTO THE BLACK TRACER WIRES INSTEAD OF SOLID COLOR WIRES.
3. ALL SIGNAL HEADS INSTALLED ON MAST ARMS SHALL HAVE OWN SIGNAL CABLE AND SHALL BE SPICED AT THE BASE.

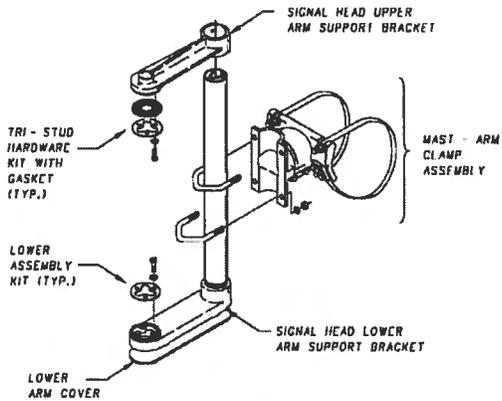
SPECIFICATION 746921	CATEGORY CODE ITEMS SIGNAL HEADS	DELAWARE DEPARTMENT OF TRANSPORTATION TRAFFIC CONSTRUCTION DETAILS SIGNAL WIRE CABLE IDENTIFICATION COLOR CODE
APPROVED	_____ CHEF TRAFFIC ENGINEER	
DETAIL NO. DE 746.007 02		



**ONE-WAY FIVE - SECTION
 12" SIGNAL HEADS**

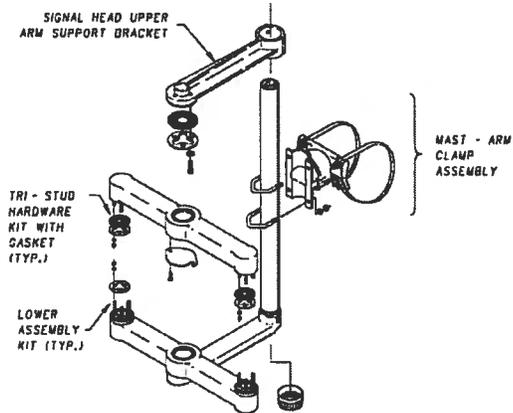
NOTES:

1. ALL CAST MOUNTING HARDWARE SHALL BE ALUMINUM WITH ANODINE FINISH.
2. ALL BOLTS SHALL BE STAINLESS STEEL.
3. BRACKET SHALL ADJUST IN FOUR DIRECTIONS.
4. UPPER AND LOWER ARMS SHALL BE CAST FROM 319 ALUMINUM ALLOY.
5. VERTICAL SUPPORT TUBE SHALL BE DOUBLE GUSSETED "C" SHAPED AND EXTRUDED FROM 6063 - T6 ALUMINUM ALLOY.
6. MAST ARM CLAMP ASSEMBLY SHALL BE CAST FROM 356 - T6 ALUMINUM ALLOY.
7. STRANDED BANDS SHALL BE A MINIMUM 1/2" STAINLESS STEEL, FABRICATED IN ONE PIECE.
8. CUT VERTICAL SUPPORT TUBE TO PROJECT 1" ABOVE SIGNAL HEAD TOP SUPPORT BRACKET.
9. WHEN ASSEMBLED, THE RECEIVING AND INDENTED PORTION OF THE CLAMP ASSEMBLY SHALL CONSIST OF TWO MIRRORRED HALVES. THE CLAMP ASSEMBLY SHALL BE INVERSELY TIGHTENED AROUND THE MAST ARM OR POLE.
10. THE PROTRUDING PORTION OF THE CLAMP ASSEMBLY, WHICH FITS IN THE RECEIVING AND INDENTED PORTION, SHALL HAVE AN INTEGRALLY CAST FLANGE TO PREVENT SEPARATION FROM THE RECEIVING AND INDENTED SECTION.



**ONE-WAY THREE OR FOUR - SECTION
 8" OR 12" SIGNAL HEADS**

SPECIFICATION 746929 746932	CATEGORY CODE ITEMS SIGNAL HEADS	DELAWARE DEPARTMENT OF TRANSPORTATION TRAFFIC CONSTRUCTION DETAILS SIGNAL HEAD MOUNTING DETAILS RIGID MOUNT
APPROVED	CHEF TRAFFIC ENGINEER	
		
		DETAIL NO. DE 746.00B 01

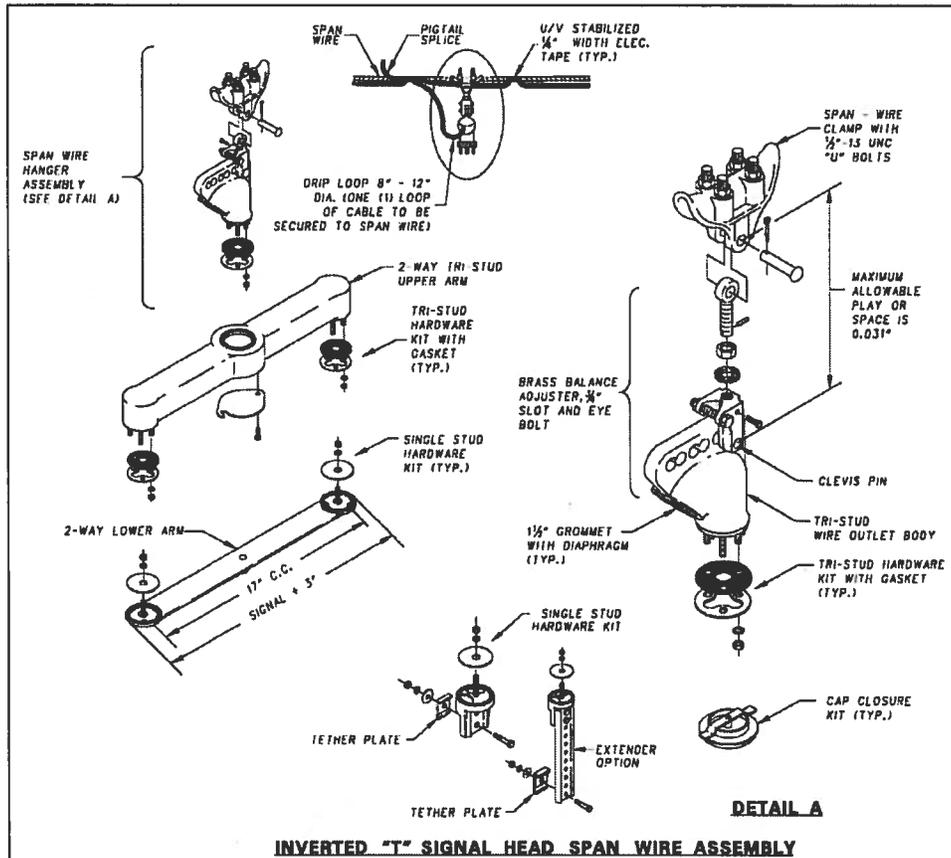


**ONE-WAY, FOUR OR FIVE - SECTION
 8" OR 12" SIGNAL HEADS**

NOTES:

1. ALL CAST MOUNTING HARDWARE SHALL BE ALUMINUM WITH ALODINE FINISH.
2. ALL BOLTS SHALL BE STAINLESS STEEL.
3. BRACKET SHALL ADJUST IN FOUR DIRECTIONS.
4. UPPER AND LOWER ARMS SHALL BE CAST FROM 319 ALUMINUM ALLOY.
5. VERTICAL SUPPORT TUBE SHALL BE DOUBLE GUSSETED "C" SHAPED AND EXTRUDED FROM 6063 - T6 ALUMINUM ALLOY.
6. MAST ARM CLAMP ASSEMBLY SHALL BE CAST FROM 358 - T6 ALUMINUM ALLOY.
7. STRANDED BANDS SHALL BE A MINIMUM 1/2" STAINLESS STEEL, FABRICATED IN ONE PIECE.
8. CUT VERTICAL SUPPORT TUBE TO PROJECT 1" ABOVE SIGNAL HEAD TOP SUPPORT BRACKET.
9. WHEN ASSEMBLED, THE RECEIVING AND INDENTED PORTION OF THE CLAMP ASSEMBLY SHALL CONSIST OF TWO MIRRORED HALVES. THE CLAMP ASSEMBLY SHALL BE INVERSELY TIGHTENED AROUND THE MAST ARM OR POLE.
10. THE PROTRUDING PORTION OF THE CLAMP ASSEMBLY, WHICH FITS IN THE RECEIVING AND INDENTED PORTION, SHALL HAVE AN INTEGRALLY CAST FLANGE TO PREVENT SEPARATION FROM THE RECEIVING AND INDENTED SECTION.

SPECIFICATION 748829 748932	CATEGORY CODE ITEMS SIGNAL HEADS	DELAWARE DEPARTMENT OF TRANSPORTATION TRAFFIC CONSTRUCTION DETAILS SIGNAL HEAD MOUNTING DETAILS RIGID MOUNT
APPROVED 	_____ CHIEF TRAFFIC ENGINEER	
		DETAIL NO. DE 746.008 02

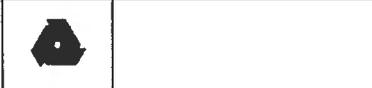


NOTES:

1. UPPER AND LOWER ARM SHALL HAVE 17" CENTER-TO-CENTER SIGNAL MOUNTING DIMENSION.
2. UPPER - ARM SHALL HAVE A MINIMUM 1 1/2" OPENING THROUGHOUT FOR EASE OF WIRING AND INSTALLATION.
3. UPPER - ARM ATTACHMENT END SHALL BE SERRATED AND HAVE THREE (3) SIGNAL CENTERING BOSSES EXTENDING 3/8" FROM SERRATIONS.
4. UPPER ARM SHALL HAVE SERRATIONS AT SIGNAL ATTACHMENT END, AND TOP CENTER OPENING SHALL HAVE 72 TOOTH DESIGN (TO WATCH SIGNAL HEAD).
5. UPPER - ARM SHALL HAVE THREE (3) STAINLESS STEEL STUDS WHICH SHALL BE CAST INTO EACH SIGNAL ATTACHMENT END. THE STUDS SHALL BE 3/8" - 18 AND EXTEND 1 1/2" BEYOND THE SERRATION (+ 3/8").
6. UPPER - ARM SHALL HAVE 3 1/2" CENTER OPENING TO ALLOW FOR WIRE ACCESS.
7. UPPER - ARM CENTER OPENING SHALL HAVE AN INSPECTION COVER THAT IS CAPABLE OF BEING OPENED WITHOUT THE REMOVAL OF ANY SCREWS. THE COVER SHALL ROTATE ABOUT THE AXIS OF ONE END AND BE SECURED AT THE OTHER END.
8. LOWER - ARM SHALL HAVE HALF CIRCLE SERRATIONS ON BOTTOM FOR TETHER HARDWARE.
9. ORIENT WIRE OUTLET BODY IN SAME DIRECTION AS SIGNAL FACES.

SPECIFICATION 746930 746933	CATEGORY CODE ITEMS SIGNAL HEADS
-----------------------------------	-------------------------------------

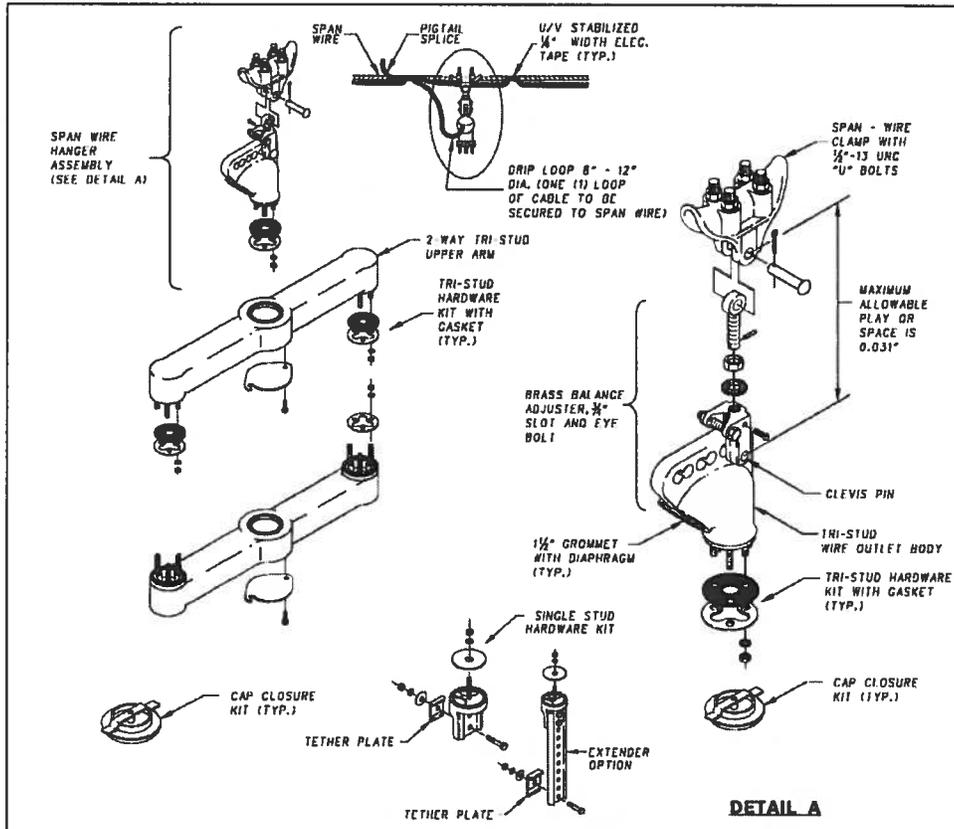
APPROVED	_____ CHIEF TRAFFIC ENGINEER
----------	---------------------------------



DELAWARE
DEPARTMENT OF TRANSPORTATION
 TRAFFIC CONSTRUCTION DETAILS
 SPAN WIRE MOUNTING FOR 3 OR 5
 SECTION VEHICULAR SIGNAL HEADS

DETAIL NO.

DE 746.008 03

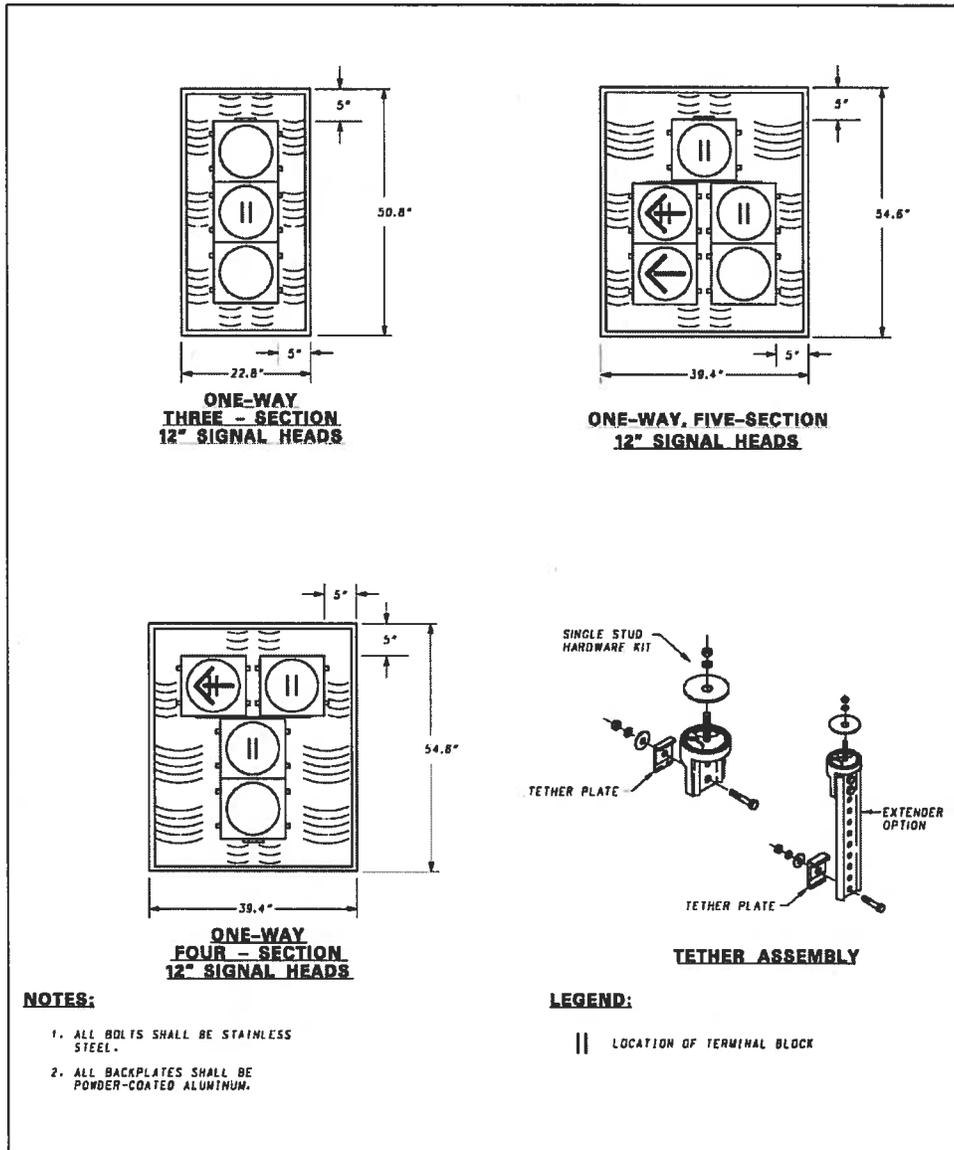


"T" SIGNAL HEAD SPAN WIRE ASSEMBLY

NOTES:

1. UPPER AND LOWER - ARM SHALL HAVE 17" CENTER-TO-CENTER SIGNAL MOUNTING DIMENSION.
2. UPPER - ARM SHALL HAVE A MINIMUM 1 1/4" OPENING THROUGHOUT FOR EASE OF WIRING AND INSTALLATION.
3. UPPER - ARM ATTACHMENT END SHALL BE SERRATED AND HAVE THREE (3) SIGNAL CENTERING BOSSES EXTENDING 3/8" FROM SERRATIONS.
4. UPPER ARM SHALL HAVE SERRATIONS AT SIGNAL ATTACHMENT END, AND TOP CENTER OPENING SHALL HAVE 72 TOOTH DESIGN (TO WATCH SIGNAL HEAD).
5. UPPER - ARM SHALL HAVE THREE (3) STAINLESS STEEL STUDS WHICH SHALL BE CAST INTO EACH SIGNAL ATTACHMENT END. THE STUDS SHALL BE 3/8" - 18 AND EXTEND 1 1/2" BEYOND THE SERRATION (1 - 3/8").
6. UPPER - ARM SHALL HAVE 3 1/2" CENTER OPENING TO ALLOW FOR WIRE ACCESS.
7. UPPER - ARM CENTER OPENING SHALL HAVE AN INSPECTION COVER THAT IS CAPABLE OF BEING OPENED WITHOUT THE REMOVAL OF ANY SCREWS. THE COVER SHALL ROTATE ABOUT THE AXIS OF ONE END AND BE SECURED AT THE OTHER END.
8. LOWER - ARM SHALL HAVE HALF CIRCLE SERRATIONS ON BOTTOM FOR TETHER HARDWARE.
9. ORIENT WIRE OUTLET BODY IN SAME DIRECTION AS SIGNAL FACES.

SPECIFICATION 746930 746933	CATEGORY CODE ITEMS SIGNAL HEADS	DELAWARE DEPARTMENT OF TRANSPORTATION TRAFFIC CONSTRUCTION DETAILS SPAN WIRE MOUNTING FOR 4 SECTION "T" VEHICULAR SIGNAL HEADS
APPROVED	_____ CHIEF TRAFFIC ENGINEER	
		
		DETAIL NO. DE 746.008 04



- NOTES:**
1. ALL BOLTS SHALL BE STAINLESS STEEL.
 2. ALL BACKPLATES SHALL BE POWDER-COATED ALUMINUM.

SPECIFICATION 748882	CATEGORY CODE ITEMS SIGNAL HEADS	DELAWARE DEPARTMENT OF TRANSPORTATION TRAFFIC CONSTRUCTION DETAILS SIGNAL HEAD BACKPLATE DETAILS
APPROVED	_____ CHEF TRAFFIC ENGINEER	
		
		DETAIL NO. DE 745.C09 01

ITEM NUMBERS BY CATEGORY

To assist locating a particular item, the item numbers included in this contract have been divided into categories, as shown in the following table.

ITEM	DESCRIPTION	UOM	QTY
	CABINETS AND CABINET BASES		
747513	Lighting Control and Distribution Enclosure (120/240)	EA	2
747514	Cabinet Base Type F	EA	1
747515	Cabinet Base Type M	EA	4
747516	Cabinet Base Type P	EA	10
747517	Cabinet Base Type R	EA	2
	CABLE AND SPLICES		
746906	Furnish & Install 4- conductor #18 AWG Shielded Opticom Cable	LF	6,500
746907	Furnish & Install 1- conductor #2 AWG Stranded Copper	LF	2,500
746908	Furnish & Install 1- conductor #4 AWG Stranded Copper	LF	1,700
746909	Furnish & Install 1- conductor #6 AWG Stranded Copper	LF	5,700
746910	Furnish & Install 1- conductor #8 AWG Stranded Copper	LF	28,500
746911	Furnish & Install 1- conductor #10 AWG Stranded Copper	LF	5,000
746912	Furnish & Install 1- conductor #14 AWG Stranded Copper	LF	1,000
746913	Furnish & Install 2-Conductor #14 AWG Aluminum Shielded Cable	LF	20,000
746914	Furnish & Install #6 Bare Stranded Copper ground	LF	15,000
746915	Furnish & Install #8/2 wire UF W/ground	LF	500
746916	Furnish & Install #8/3 wire UF W/ground	LF	50
746918	Furnish & Install #2/0 AWG Stranded Copper	LF	1,000
746919	Furnish & Install #4/0 AWG Stranded Copper	LF	500
746920	Furnish & Install 14/4 Traffic Control Cable	LF	700
746921	Furnish & Install 14/9 Traffic Control Cable	LF	10,000
746922	Furnish & Install 14/16 Traffic Control Cable	LF	6,700
746923	Furnish & Install a 1" Flexible Non-Metallic Liquidtight Conduit Detector Sleeve with Loop Wire	LF	900
746924	Furnish & Install Loop Wire 1-conductor # 14 AWG encased in 1/4" Flexible Tubing in a Loop Sawcut	LF	9,000
	CONCRETE		
202000	Excavation and Embankment	CY	250
210000	Furnishing Borrow Type "C" for Pipe, Utility Trench, and Structure Backfill	CY	35
302007	Graded Aggregate Base Course, Type B	CY	75
302008	Graded Aggregate Base Course, Type B, Patching	CY	100
302514	Milled Hotmix Base Course	N/A	N/A
401821	WMA, Superpave, Type C, 160 Gyration, PG 64-22, Patching	TON	50
401822	WMA, Superpave, Type B, 160 Gyration, PG 64-22, Patching	TON	75
401823	WMA, Superpave, Bituminous Concrete Basecourse, 160 Gyration, PG 64-22 Patching	TON	125

