

Indianapolis Power & Light Company

Electric Service and Meter Manual

The Electric Service & Meter Manual is not copyrighted and permission is hereby given to reproduce this document. However, the Indianapolis Power & Light Company takes no responsibility for out of date copies of the Electric Service & Meter Manual that are in use.

Written by:

W. W. Whitworth, *Chairman*

C. K. Eldridge, *Secretary*

D. E. Fitzwater

R. J. Gray

M. J. Kuehn

D. D. Lufcy

R. R. Manion

K. R. Reid

K. L. Walker

T. J. Wroblewski

ELECTRICAL INSPECTION AUTHORITIES COVERING TERRITORY SERVED BY
INDIANAPOLIS POWER & LIGHT COMPANY

Unigov Inspection Services

	Department of Code Enforcement City of Indianapolis 1200 Madison Ave. Suite 100 Indianapolis, IN 46225 http://www.indy.gov/dce	General Information Ph: 327-8700
Emily Mack (vacant position) Scott Mason John Mack (Electrical Chief) Automated Inspection Request Line	Deputy Director Administrator, Construction Services Manager, Building Inspections Supervisor, Building Inspections	Ph: 327-5559 Ph: 327- Ph: 327-5550 Ph: 327-5548 Ph: 327-5525

Beech Grove

Mike Fitzgerald	Electrical Inspector City Hall 806 Main Street Beech Grove, IN 46107	Ph: 223-4776
-----------------	---	--------------

Boone County

John Hudson Jerry Seymour	Electrical Inspector 116 W. Washington St., Rm. 101 Lebanon, IN 46052	Ph: (765) 482-3821 Fax: (765) 483-5241
	8 AM – 9 AM & 3 PM – 4 PM Mon. thru Fri.	

City of Cumberland (Hancock Co.)

Scott Stephens		Ph: 894-6202 894-6213 Fax 894-6216
----------------	--	--

Greenwood

Tony Magnabosco Lowell Weber	Electrical Inspector 225 S. Emerson Avenue Greenwood, IN 46143	Ph: 881-8698
---------------------------------	--	--------------

Hamilton County

(Carmel and Clay Townships Only)

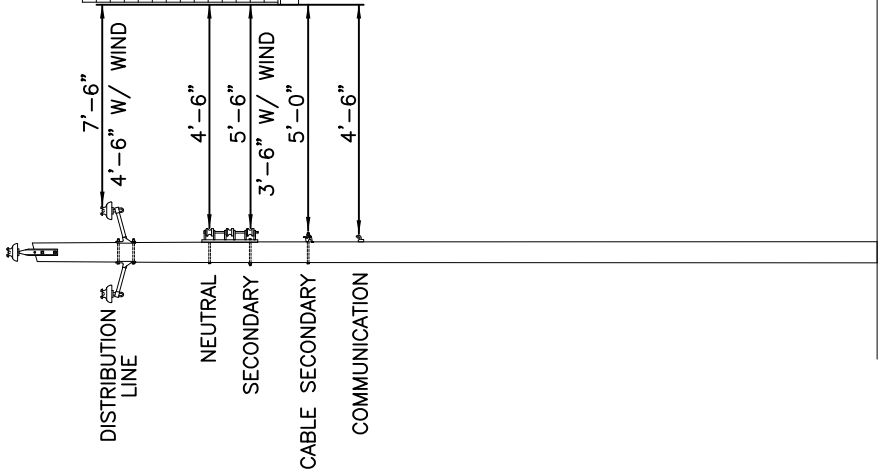
Building & Electrical Inspectors 1 Civic Square Carmel, IN 46032	Ph: 571-2444
--	--------------

If a correction is needed,
please send an e-mail with the correction to charlie.eldridge@aes.com to have it corrected

TABLE OF CONTENTS

<u>INTRODUCTORY INFORMATION</u>	DRAWING NUMBER
Important Notices	GB0-010
Underground Plant Protection Information	GB0-020
Code Clearances	GB0-025
Commercial/Industrial Information Sheet	GB0-030
Work Management	GB0-040
Customer Projects Engineering District Map	GB0-100
Central Business District, Engineering District Map	GB0-110
Account Management Executives	GB0-120
Meter Installations District Map	GB0-130
Construction and Maintenance District Map	GB0-140
Residential Service and Small Commercial (Non-CT Metered) Installations	GB0-160
Street Lighting District Map	GB0-170
Tree Trimming Work Areas	GB0-180
<u>PART 1 GENERAL</u>	SECTION
Application for Service	100
Inspection for Electric Service	102
Right to Refuse or Discontinue Service	103
Types of Service Available	105
Temporary Service	107
Rate Considerations	110
Fault Current Levels for the Selection of PPE	112
Maintaining Security of Locked Facilities	114
Termination of Service on Building	115
Converting from Residential Overhead to Underground Service	117
Relocating the Residential Service Point or Cable	118
Overhead Service	120
Height of Service Drop	125
Length of Service Drop	130
Extension of Lines	135
Easement / Rights-of-Way / Tree Trimming	140
Automatic Reclosing Equipment	145
Single Phase Protection	147
Phase Reversal Protection	148
Alterations - Changes in Size of Service	150
Number of Services	160
Master Metering	162
Maximum Size Secondary Overcurrent Device	165
Fire Pump Installations	170
Distributed Generation	175
Duplicate Facilities	176
Interconnecting Secondary Multiple Services	177
Foreign Attachments	180
Easement Encroachments	181
Customer Grounds	182
Service Demand	185
Area Separation (Fire) Walls	190
Letter In-Lieu of Electrical Inspection	Page 9

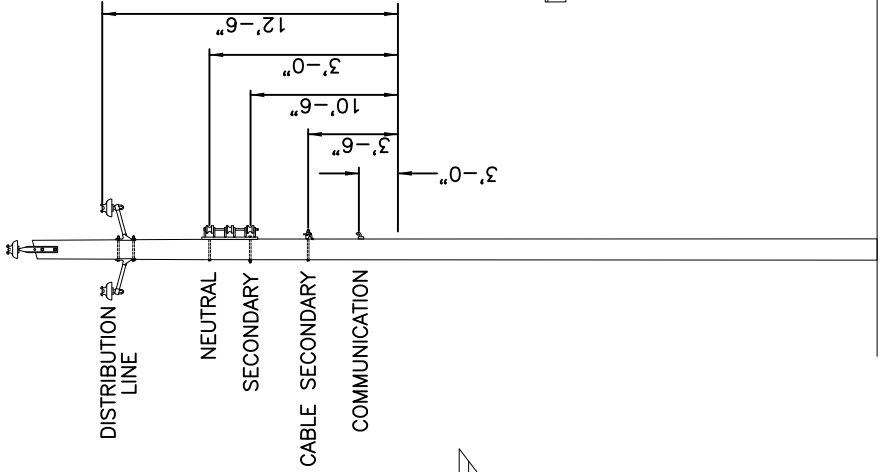
Free Standing – Underground Installation For 240/480 Volt, 1 Phase, 3 Wire 200 A Outdoor Lighting Service	GB8-050
Street Light Ducts Installed For IPL Use	GB8-070
Protective Posts For Light Columns	GB8-080
DPW Traffic Signal Combination Poles	GB8-085
Installation Of Customer Owned Conduit Into An IPL Pullbox	GB8-090
Concrete Base Installed By Contractor 40 Ft. Al. Column	GB8-100
Concrete Base Installed By Contractor Washington Column, Single Or Twin	GB8-110



NESS HORIZONTAL CLEARANCES OF WIRES, CONDUCTORS AND CABLES FROM BUILDINGS

THE INDIANAPOLIS POWER & LIGHT COMPANY IS CONCERNED ABOUT YOUR SAFETY AND THE SAFETY OF THE PUBLIC. THE DIMENSIONS SHOWN IN THE ABOVE DRAWINGS ARE MINIMUM CLEARANCES THAT SHALL BE MAINTAINED DURING AND AFTER CONSTRUCTION IN ORDER TO ENSURE SAFETY DURING AND AFTER THE CONSTRUCTION OF YOUR PROJECT. THE NESS IS THE LAW IN THE STATE OF INDIANA AND THE DIMENSIONS SHOWN SHALL BE OBSERVED.

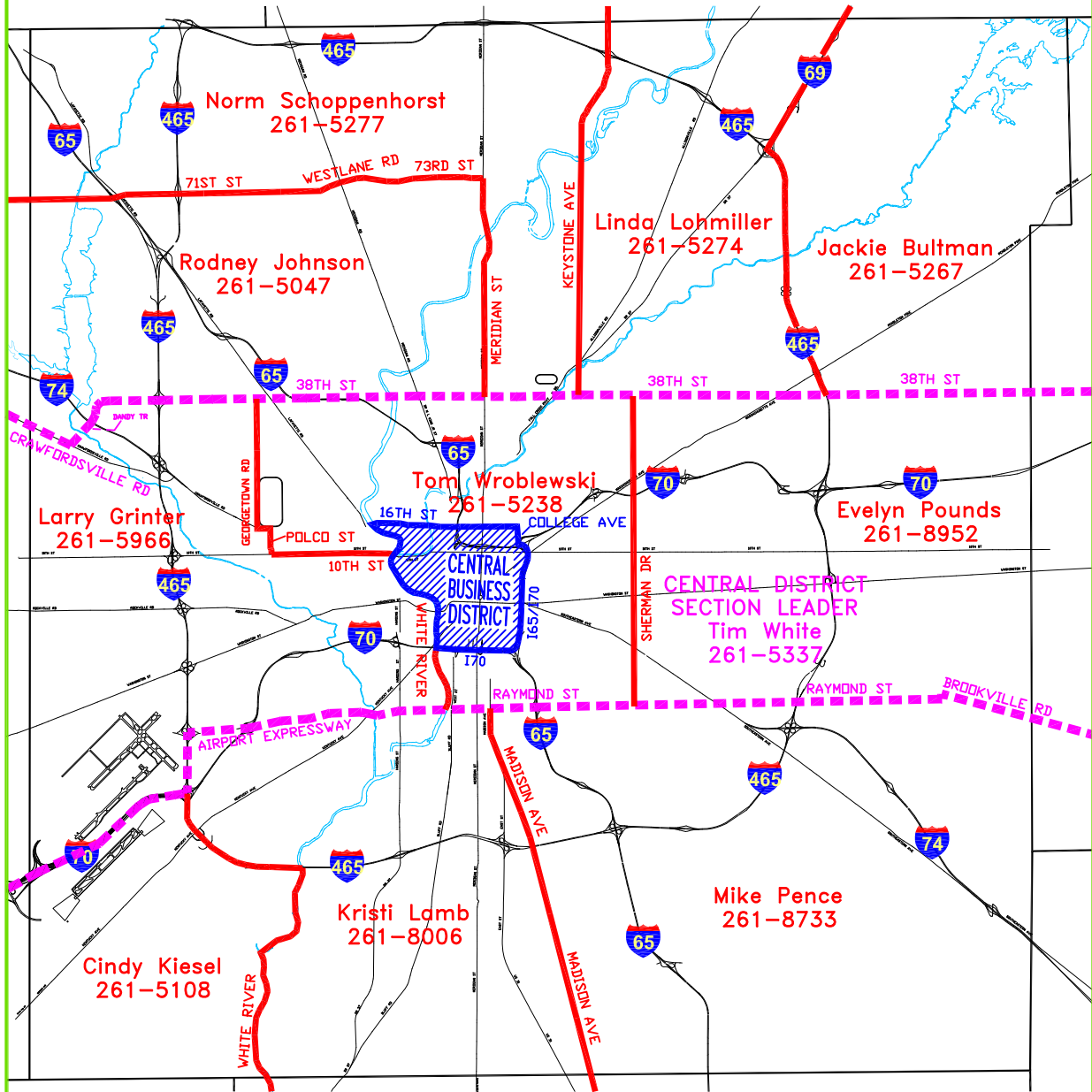
IF THE IPL OVERHEAD LINES ARE CLOSE TO YOUR STRUCTURE, PLEASE CALL (317)261-8196 IN ORDER TO ENSURE SAFETY AND COMPLIANCE WITH THE NESS.



NESS VERTICAL CLEARANCES OF WIRES, CONDUCTORS AND CABLES FROM BUILDINGS



**NORTH DISTRICT
SECTION LEADER
Dan Davenport
261-5497**



**CENTRAL DISTRICT
SECTION LEADER
Tim White
261-5337**

**SOUTH DISTRICT
SECTION LEADER
Tim White
261-5337**

**MAJOR OVERHEAD PROJECTS
SECTION LEADER
Casey Shull
261-6564**

Steve Bullock	261-6527
Jim Disman	261-6578
Jim Duvall	261-8694
Terry Short	261-8732
Bob Stephens	261-8085
Greg Wood	261-8518

MAJOR UNDERGROUND PROJECTS
**For Central Business District
please refer to drawing GB0-110.**

NOTE:
EMAIL ADDRESS FORMAT IS
firstname.lastname@aes.com

**CUSTOMER PROJECTS
ENGINEERING DISTRICT MAP**

125 HEIGHT OF SERVICE DROP

The point of attachment of the service drop shall be a minimum of 13.5 feet and a maximum of 22 feet above ground, and in all cases be of such height as to provide at least the minimum clearances at any point for the service drop as required by the National Electrical Safety Code.

The clearance of the service drop shall be maintained in all cases of grade changes and/or the installation of swimming pools, decks, room additions, outbuilding, etc. Clearance requirements for [swimming pools](#) are much greater than for normal grade and in many cases the service drop must be converted to an underground service lateral (see Section 117) in order to meet the NESC requirements.

130 LENGTH OF SERVICE DROP

The length of the service drop from pole to point of attachment on the building or other structures shall not exceed 125 feet, in many cases it may need to be considerably shorter.

135 EXTENSION OF LINES

Where there is a reasonable prospect that capital expenditure is warranted, the Company will extend its lines and service facilities in accordance with the conditions set forth in its Rules and Regulations. All applications for line extensions shall be referred to the appropriate Engineering Division. (See maps in front of book for jurisdiction.)

140 EASEMENT - RIGHTS-OF-WAY - TREE TRIMMING

Line extensions are contingent upon assistance by the applicant in securing the necessary easements, rights-of-way, and tree trimming permits. The Company shall be under no obligation to start construction until satisfactory easements, rights-of-way, and tree clearances have been obtained.

145 AUTOMATIC RECLOSING EQUIPMENT

The Company has equipment installed at its substations, which provide rapid opening and automatic reclosing of its distribution circuits to clear temporary faults that occur on the circuits. It is the responsibility of the customer to provide adequate protection for all electrical apparatus of the customer that might be adversely affected by the Company's reclosing equipment.

147 SINGLE PHASE PROTECTION

It is the customer's responsibility to provide and maintain protection for multi-phase equipment that may be adversely affected by a loss of phase condition. The Company assumes no liability for equipment damaged by a loss of phase condition.

148 PHASE REVERSAL PROTECTION

It is the customer's responsibility to provide and maintain protection for multi-phase equipment that may be adversely affected by a phase reversal condition. The Company assumes no liability for equipment damaged by a phase reversal condition.

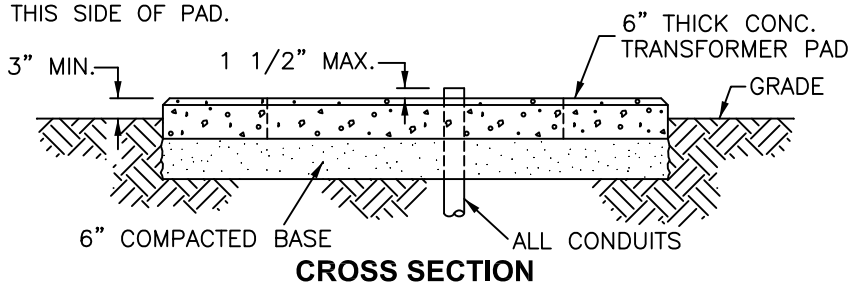
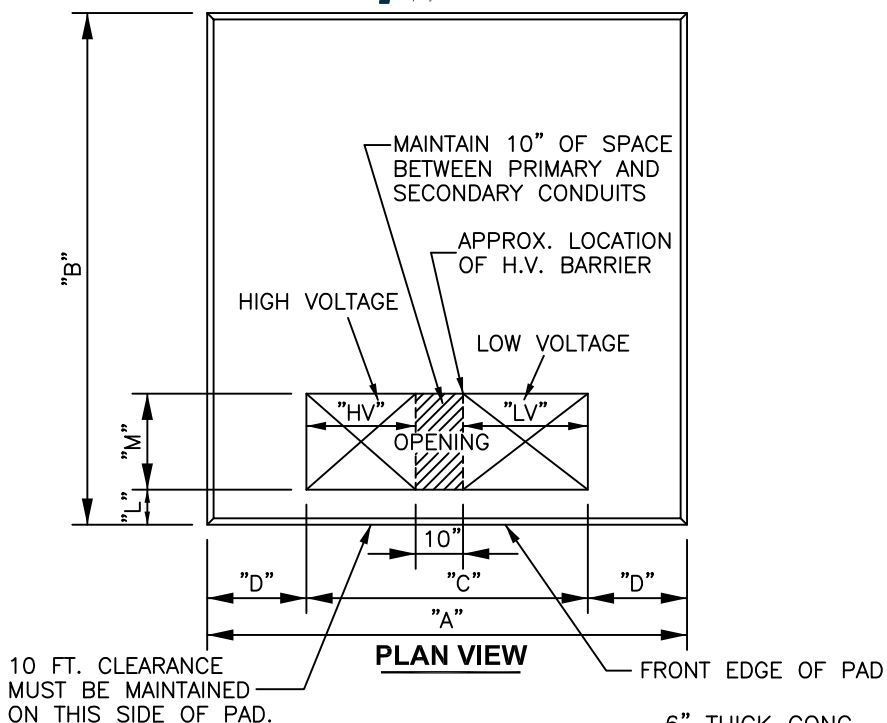
Section 220, cont.

- j. For Town Houses, Condos, Apartments and similar structures, the following may be permitted for "wrap around" single phase services:
- The company's Engineer will look at each individual service to determine if a "wrap around" service will be permitted. This shall be done before the installation of the customer's conduit since a "wrap around" service may not be permitted.
 - If a "wrap around" service is permitted, the customer shall provide and install four inch, gray, schedule 40 PVC (schedule 80 PVC where above grade) continuous from his meter location to the Company's transformer exactly as laid out by the Company's engineer. This conduit(s) with a pull string installed shall be turned up into the transformer pad and all bends shall be 36 inch or larger radius sweeps.
 - The Company's service cable will be provided, installed, and maintained by the Company.
 - The customer shall supply and install a warning ribbon 12 inches above the duct line that meets the requirements of section 300.5(D)(3) in the Indiana Electrical Code.
 - The point required to pull the cable shall be truck accessible with a set up area. See Section 220A3e for the definition of "truck accessible".

Section 560, cont.

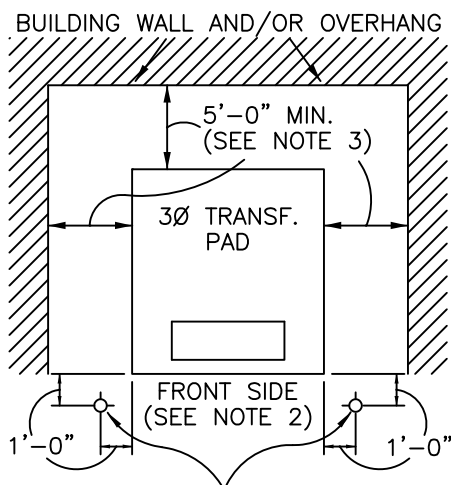
- L. Metered and unmetered conductors shall not be installed in the same conduit, raceway, junction box, or switch. (See exception on pole meters Section 570.)
- M. Single phase 100 and 200 ampere bases are available at the Morris Street Operating Center, 1101 River Avenue. All metering equipment is available at the Arlington Service Center, 3600 North Arlington Avenue.
- N. All 400A and larger meter, and junction cabinet locations, other than residential, shall be truck accessible. See Section 220A3e for the definition of truck accessible.
- O. Devices, fittings, clamps, or equipment shall not be permitted to be installed or attached to any metering cabinet or meter fitting without written permission from the Meter Department unless it is for the installation of the metering cabinet or meter fitting in accordance with the Company's standards.

Exception: Where a clamp or device is for intersystem bonding, is in compliance with the Indiana Electrical Code Section 250.94, and does not interfere with either the operation of the cover of a meter fitting or intrude into the interior of a meter fitting.
- P. Metered and unmetered power conductors shall not cross inside CT meter cabinets.
- Q. Conductors shall not enter or leave through the back of a CT cabinet.
- R. In all cases where meters and/or metering equipment will be in a locked room, fenced area, or enclosure, a means for the authorized Company personnel shall be provided for access with a Company key. This may be by means of either a separate door or gate with a Company lock or a chain with a Company lock and a customer lock. Keyless entry is not acceptable.



STOCK NO.	KVA	TRANSF. WEIGHT	A	B	C	D	L	M	LV	HV
1703-506	75-300	5800	75	80	44	15 1/2	5 1/2	15	19 1/2	14 1/2
1703-507	500-1000	10,100	84	84	44	20	5 1/2	15	19 1/2	14 1/2
1703-508	1500-2500	12,600	84	84	48	18	9	17	23 1/2	14 1/2

ALL DIMENSIONS ARE IN INCHES

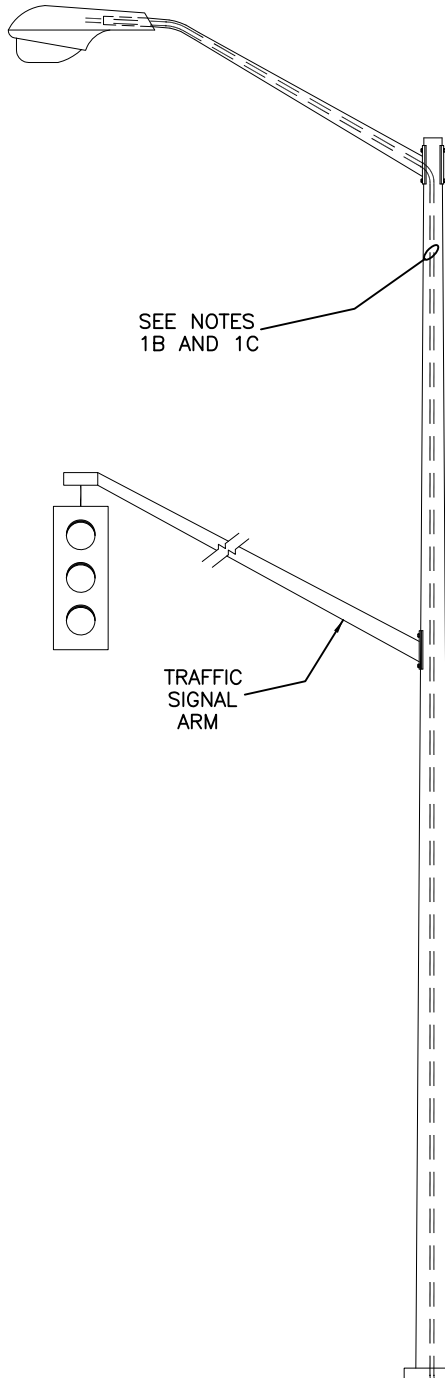


7' CONCRETE FILLED 6" STEEL POST 4'-0" ABOVE GRADE, SET IN CONCRETE. (SEE NOTE 1)

NOTES:

1. CUSTOMER SHALL FURNISH AND INSTALL POSTS TO PROTECT TRANSFORMER WHEN EXPOSED TO VEHICULAR TRAFFIC.
2. FOR OPERATION OF THE TRANSFORMER WITH A HOTSTICK, 10 FT. CLEARANCE SHALL BE MAINTAINED ON FRONT SIDE OF PAD, SEE SECTION 225.
3. IF ADJACENT TO WINDOW, DOOR, COMBUSTIBLE WALL OR OVERHANG, THE MINIMUM DISTANCE SHALL BE TEN FEET.
4. ALL BACKFILL UNDER PAD TO BE THOROUGHLY COMPACTED IN SOLID LAYERS NOT TO EXCEED 6 IN.
5. TRANSFORMER PAD SHALL NOT BE SET ON PAVEMENT.
6. METALLIC CONDUITS SHALL NOT BE INSTALLED IN PAD MOUNTED TRANSFORMERS.
7. NO CUSTOMERS GROUNDING GRIDS OR GROUNDING ELECTRODE CONDUCTORS MAY BE CONNECTED AT PAD MOUNTED TRANSFORMER LOCATIONS.
8. THE TRANSFORMER PAD SHALL BE WITHIN 12' OF PAVEMENT
9. MAXIMUM - 8 CONDUITS, ONE CIRCUIT PER CONDUIT. REFER TO SECTION 220A3c EXCEPTION
- ▶ 10. THE COMPANY WILL FURNISH AND SET THE PRECAST TRANSFORMER PAD. THE DIMENSIONS ARE FOR LOCATING THE PAD AND CONDUIT.

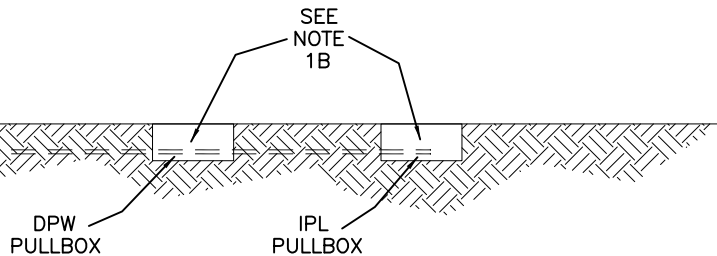
CONCRETE PAD FOR THREE PHASE TRANSFORMER 75-2500 KVA



NOTES:

1. PROVIDED BY DPW OR THEIR CONTRACTOR.....
 - A. 6' LUMINAIRE ARM ARE MOUNTED ON THE CUSTOMER OWNED ALUMINUM POLE.
 - B. 1 1/4" (MIN.) NON-METALLIC FLEXIBLE CONDUIT (ENT) RAN CONTINUOUSLY FROM THE END OF THE ARM TO IPL'S PULLBOX.
 - C. THE CONDUIT SHALL BE SECURED INSIDE THE ARM AND COLIMN, SO IT WILL NOT SLIP WHEN THE CABLE IS PULLED INTO PLACE.
 - D. PULL STRING INSTALLED IN DUCT FROM FIXTURE TO IPL SOURCE.
2. PROVIDED BY IPL.....
 - A. COBRA HEAD LUMINAIRE (OF A TYPE THAT IS A STANDARD STOCK IPL ITEM).
 - B. A PULLBOX FOR ELECTRICAL CONNECTIONS.
 - C. ALL ELECTRICAL CABLE FROM PULLBOX TO THE LUMINAIRE.
 - D. THE ELECTRICAL FEED TO THE LIGHT.
 - E. ELECTRICITY AND MAINTNANCE ON THE IPL PROVIDED AND OWNED LIGHTING EQUIPMENT.

** THE CUSTOMER PROVIDED 1 1/4" NON-METALLIC FLEXIBLE CONDUIT IS NECESSARY TO PROVIDE SEPARATION BETWEEN UTILITY OWNED ELECTRIC CABLE (NATIONAL ELECTRIC SAFETY CODE) AND CUSTOMER OWNED ELECTRICAL WIRING (NATIONAL ELECTRIC CODE), IS FOR CODE COMPLIANCE.



DPW TRAFFIC SIGNAL COMBINATION POLES