

11.0 GENERAL DRAWINGS AND STANDARDS

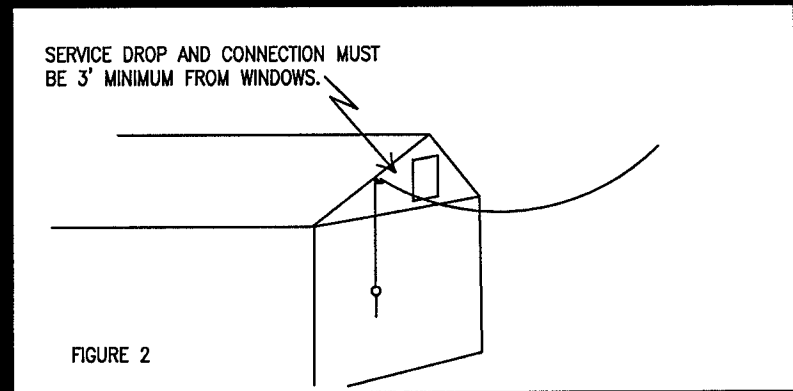
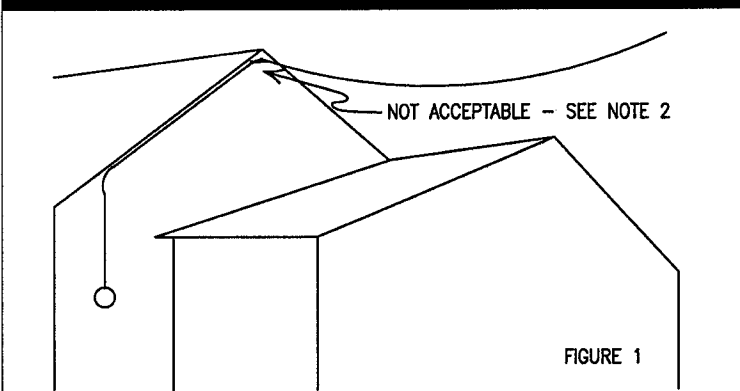
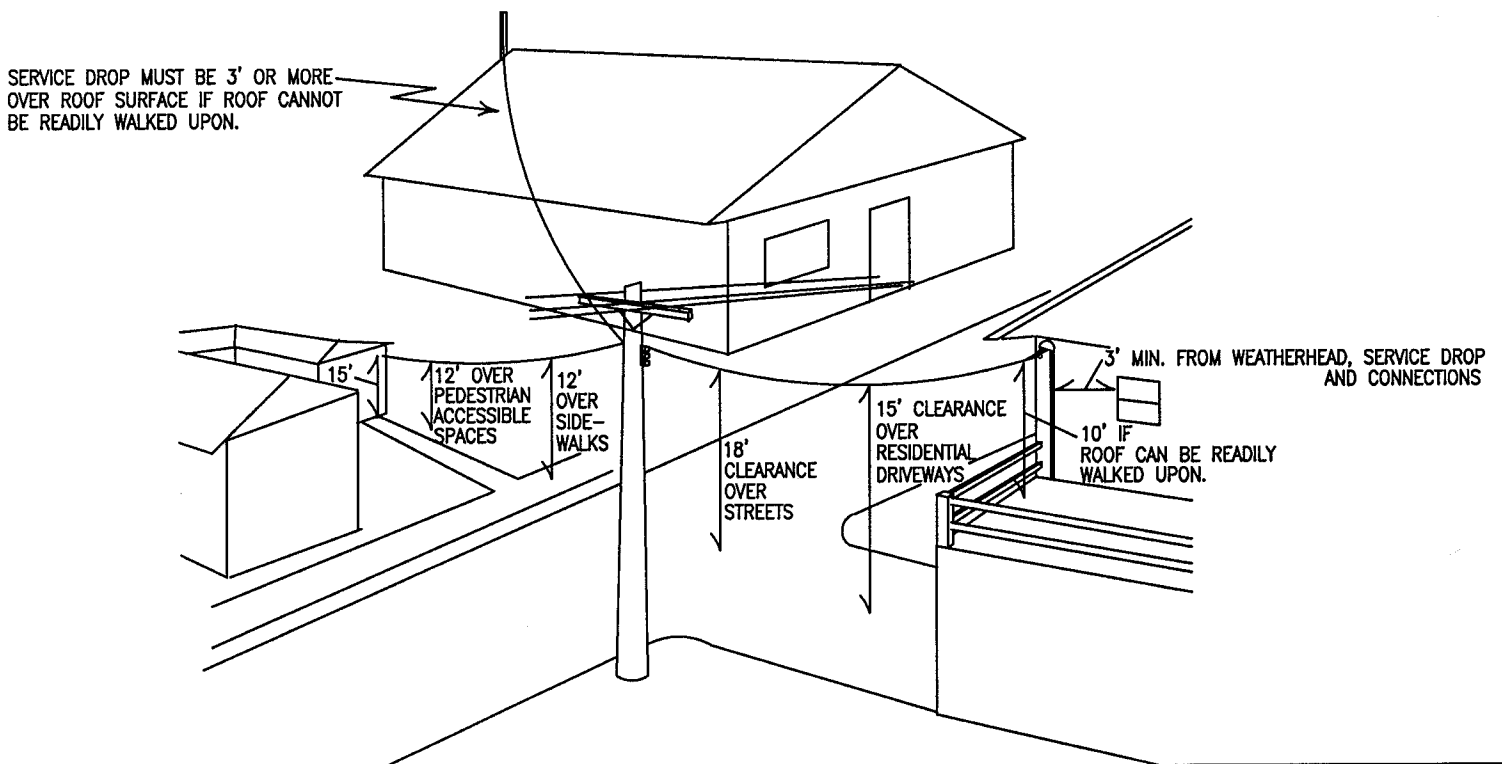
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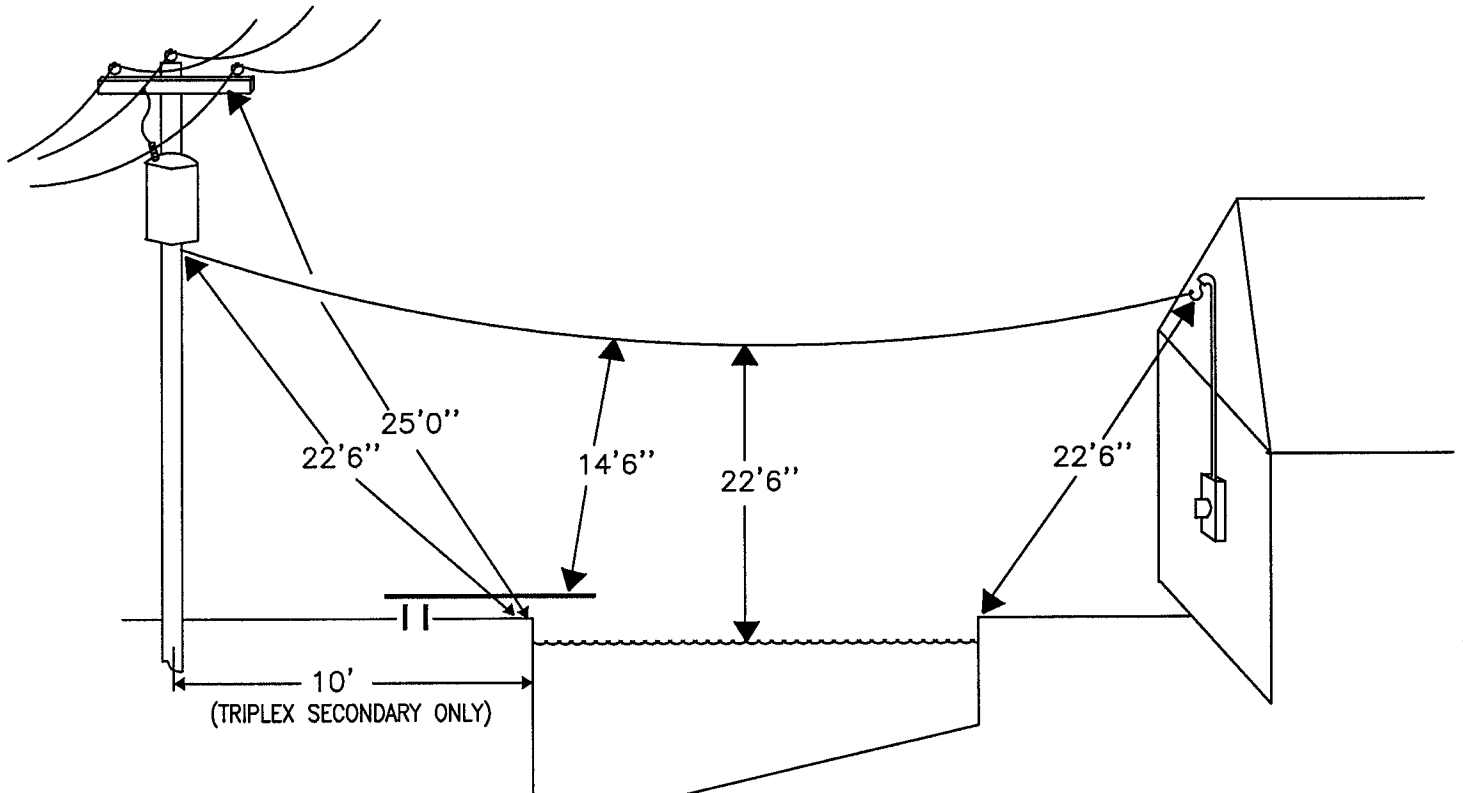
NOTES

1. POINT OF SERVICE ATTACHMENT ON BUILDING WALL SHALL NOT BE LESS THAN 15'-0" ABOVE GRADE OR GREATER THAN 21'-0" WITHOUT ELECTRIC DESIGN AND CONSTRUCTION EXPLICIT APPROVAL IN WRITING (SEE SECTION 4.2.2).
2. SERVICE CONNECTIONS LOCATED ABOVE GARAGE OR OTHER BUILDING EXTENSION AS REPRESENTED IN FIGURE 1 ARE NOT ACCEPTABLE BECAUSE THE SERVICE CONNECTION CAN NOT BE DIRECTLY REACHED FROM A LADDER PLACED ON THE GROUND.
3. CLEARANCES BETWEEN LIPA SERVICES AND VERIZON SERVICE LATERALS SHALL BE 2' MINIMUM.
4. FOR COMMERCIAL DRIVEWAYS AND ANY OTHER LOCATIONS SUBJECT TO TRUCK TRAFFIC MINIMUM CLEARANCE SHALL BE 18'-0".
5. A 3' CLEARANCE IS REQUIRED FROM THE WEATHERHEAD AND/OR SERVICE DROP CONNECTIONS TO ALL WINDOWS, DOORS, AND MOUNTINGS ON THE BUILDING WALL.
6. ADD 6" TO ALL MINIMUM CLEARANCES FOR ANY OPEN WIRE CONSTRUCTION.



MINIMUM VERTICAL CLEARANCES ABOVE GROUND AND ROOFS

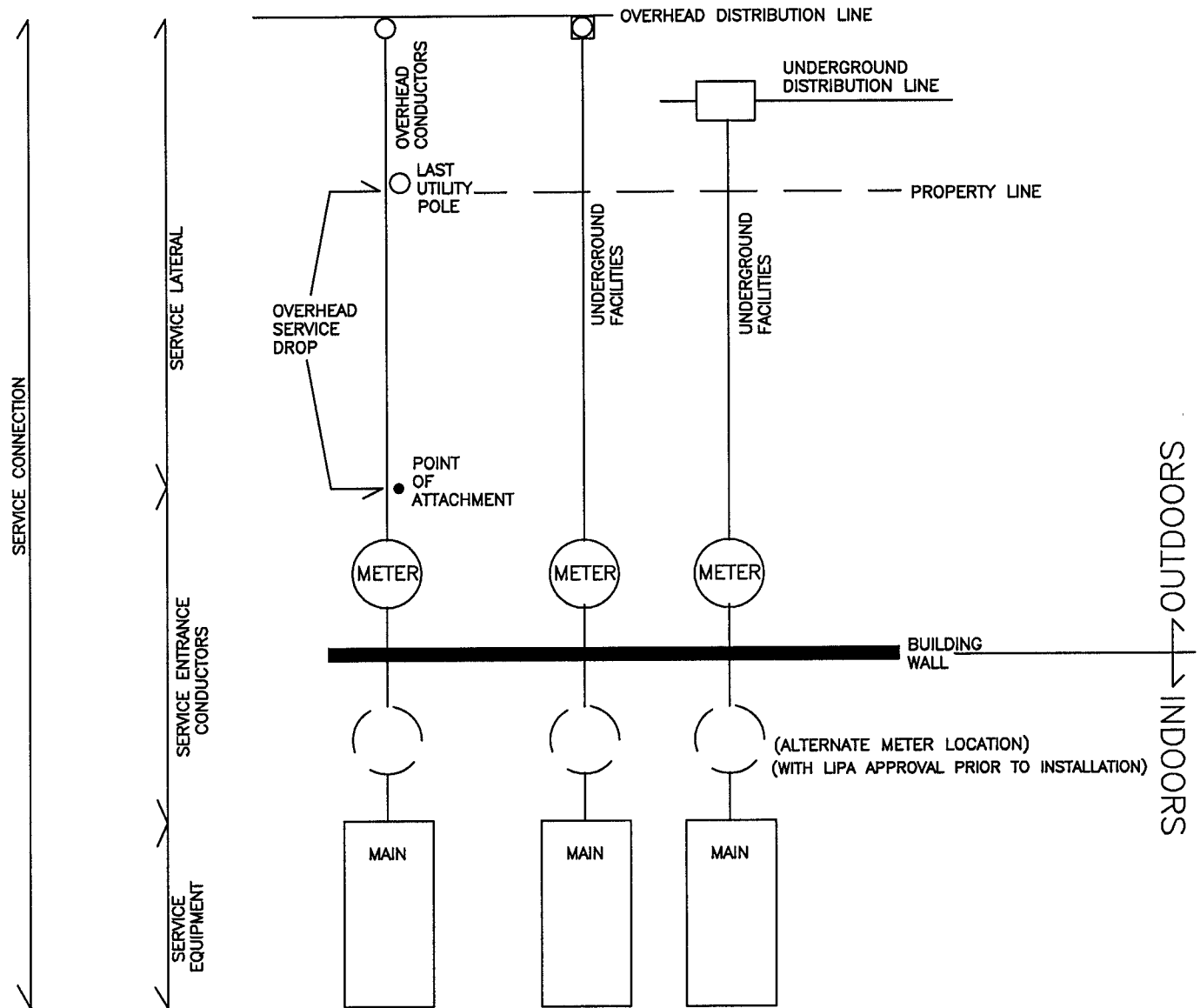
WARNING: UNDER NO CIRCUMSTANCES SHOULD ANYONE, OTHER THAN LIPA PERSONNEL, ATTEMPT TO MEASURE CLEARANCES TO LIPA'S DISTRIBUTION SYSTEM.



LIPA BASES ITS REQUIRED CLEARANCES FROM SWIMMING POOLS AND ASSOCIATED STRUCTURES UPON THE REQUIREMENTS OF THE NATIONAL ELECTRICAL SAFETY CODE (NEC). THE TYPICAL INSTALLATION MUST CONFORM TO THE MINIMUM CLEARANCES DEPICTED ABOVE AND THE REQUIRED CLEARANCES AS DESCRIBED IN THE NEC (LATEST EDITION). FOR ADDITIONAL PUBLIC POOL REQUIREMENTS SEE SECTION 3.3.4.

NOTE: LOCAL MUNICIPALITY MAY HAVE STRICTER POOL CLEARANCE REQUIREMENTS.

MINIMUM POOL CLEARANCES



1. CONSULT LIPA ELECTRIC DESIGN AND CONSTRUCTION DEPARTMENT (SEE PG. 2) FOR ALL UNDERGROUND AND OVERHEAD ELECTRIC UTILITY SUPPLY SOURCES.
2. IN GENERAL, LIPA OWNS AND MAINTAINS UNDERGROUND FACILITIES IN THE PUBLIC AREA UP TO THE PROPERTY LINE. THEREAFTER THE UNDERGROUND ELECTRIC FACILITIES ARE THE RESPONSIBILITY OF THE PROPERTY OWNER. THERE ARE EXCEPTIONS TO THIS RULE; CONTACT THE LOCAL ELECTRIC DESIGN AND CONSTRUCTION OFFICE FOR INFORMATION ON SPECIFIC LOCATIONS.
3. FOR OVERHEAD SERVICE DROP INSTALLATIONS, LIPA OWNS AND MAINTAINS TO THE FIRST POINT OF ATTACHMENT TO THE CUSTOMER'S FACILITIES AND THE WEATHERHEAD CONNECTIONS.

SERVICE CONNECTION COMPONENT DESIGN GENERAL SPECIFICATIONS

THE FOLLOWING 2 ONE-LINE SCHEMATICS OUTLINE THE CONNECTIONS LIPA WILL ALLOW FOR THE INTERCONNECTION OF STAND-BY GENERATION EQUIPMENT. THE INTENT OF THE INTERCONNECTION SCHEMES IS TO PREVENT BOTH BACKFEED INTO THE LIPA ELECTRIC DISTRIBUTION SYSTEM, AND UNINTENTIONAL PARALLEL OPERATION WITH AN ENERGIZED LIPA SYSTEM. IMPROPER PARALLEL OPERATION CAN RESULT IN SERIOUS DAMAGE TO THE GENERATOR, THE LIPA DISTRIBUTION SYSTEM, OR BOTH, AND BE A SAFETY HAZARD TO PERSONNEL. IF PARALLEL OPERATION OF A GENERATOR IS DESIRED, CONTACT LIPA'S DISTRIBUTED RESOURCE MANAGEMENT DEPARTMENT AT 516 545-6122 FOR SPECIFICATIONS.

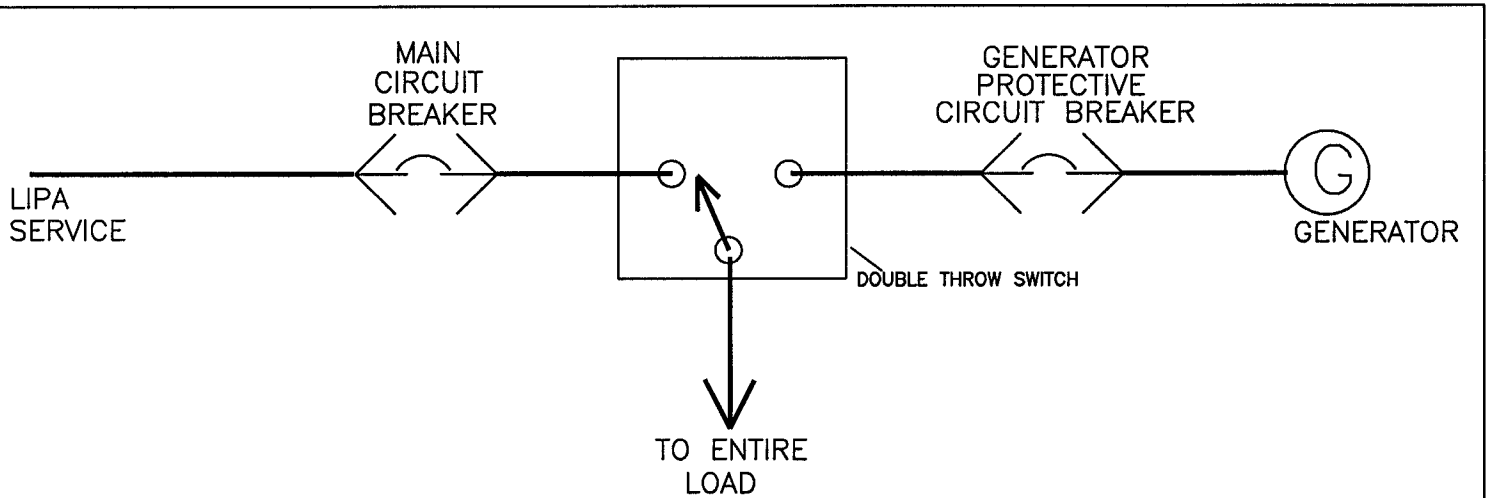


FIG. 1: STANDBY GENERATOR FOR ENTIRE LOAD.

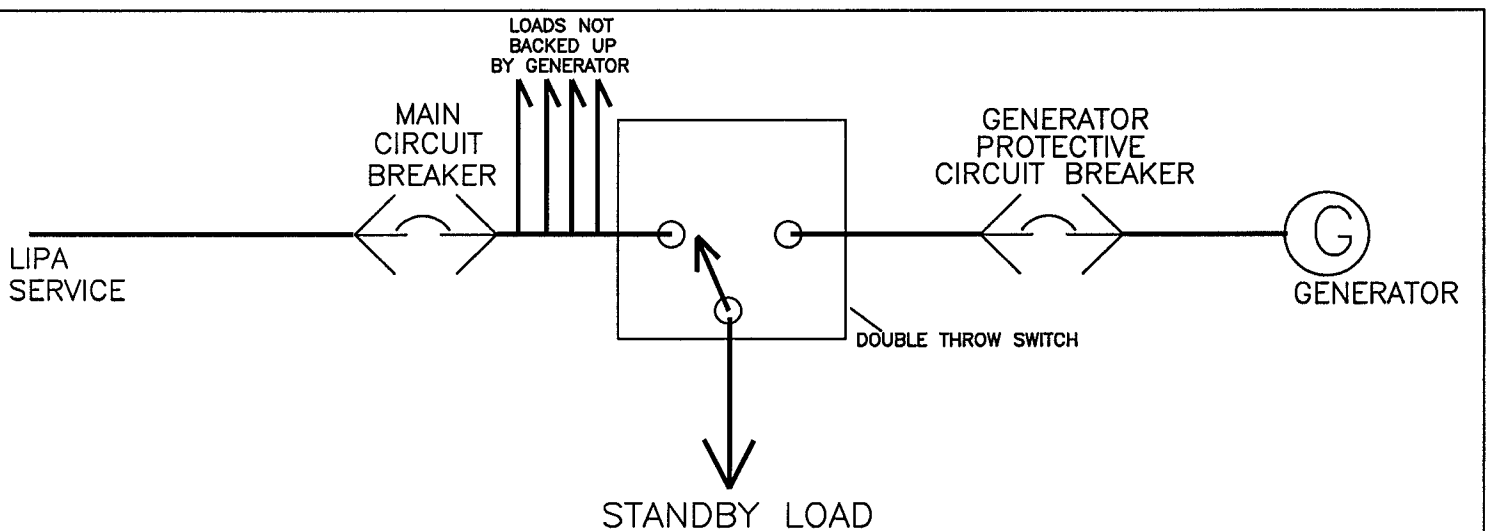
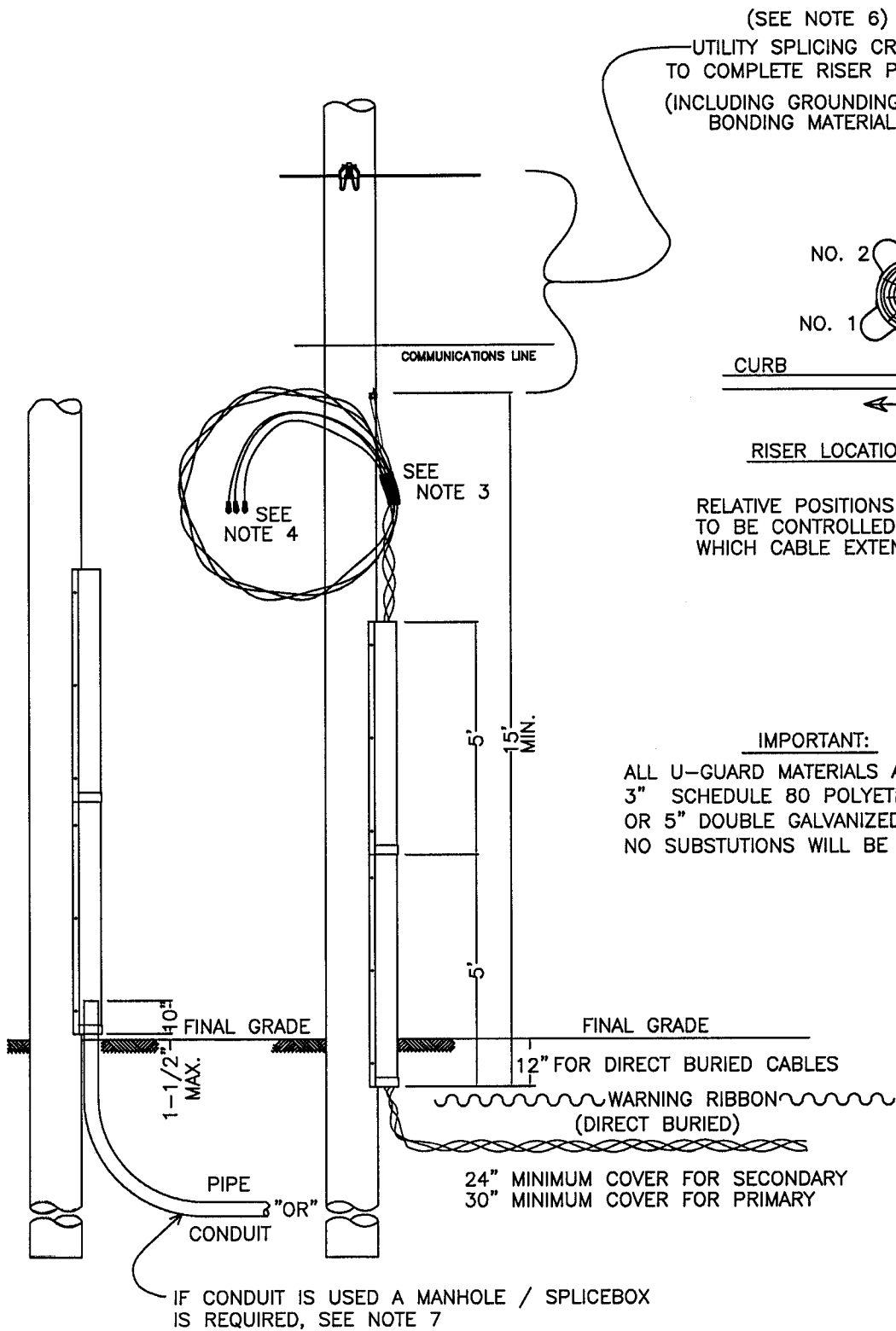
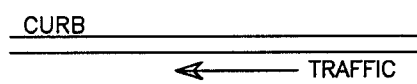
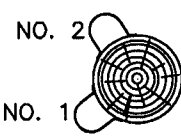


FIG. 2: STANDBY GENERATOR FOR PARTIAL LOADS

STANDBY GENERATORS



(SEE NOTE 6)
 UTILITY SPlicing CREW
 TO COMPLETE RISER POLE
 (INCLUDING GROUNDING AND
 BONDING MATERIAL)



RISER LOCATIONS ON POLE

RELATIVE POSITIONS OF RISERS #1 & #2
 TO BE CONTROLLED BY THE DIRECTION IN
 WHICH CABLE EXTENDS UNDERGROUND.

IMPORTANT:

ALL U-GUARD MATERIALS ARE TO BE EITHER
 3" SCHEDULE 80 POLYETHYLENE U-GUARD
 OR 5" DOUBLE GALVANIZED STEEL U-GUARD
 NO SUBSTITUTIONS WILL BE ACCEPTED.

IF CONDUIT IS USED A MANHOLE / SPLICEBOX
 IS REQUIRED, SEE NOTE 7

SEE SHEET D6 FOR NOTES

CUSTOMER INSTALLED
 CABLE RISER

NOTES:

1. CONTRACTORS SHALL MOUNT ONLY THE UTILITY SPECIFIED RISER MATERIAL ON THE POLE, TO A HEIGHT OF 9 TO 10 FEET ABOVE GRADE.

U-GUARD - 3" POLYETHYLENE SCHD. 80 OR 3" DBL. GALV. STEEL - 10' LONG W/ BELL ENDS

SECONDARY CABLE MAX.
4 - 1/C 350 KCM

PRIMARY CABLE MAX
3 - 2/C #1/0 AWG

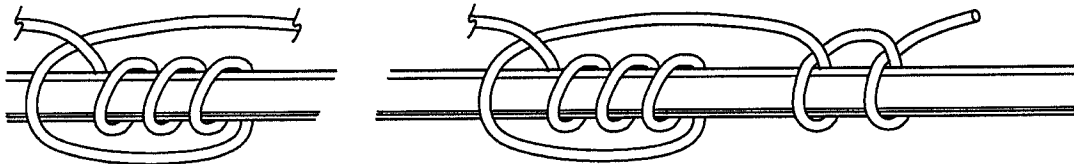
5" DOUBLE GALVANIZED STEEL U-GUARD - 5' LONG W/ BELL ENDS

SECONDARY CABLE MAX.
8 - 1/C 500 KCM

PRIMARY CABLE MAX.
3 - 2/C 750 KCM

2. A) THE LOCATION OF THE U-GUARD ON THE POLE SHALL BE IDENTIFIED FOR THE CONTRACTOR BY THE LIPA ED&C REPRESENTATIVE ASSIGNED TO THE JOB PRIOR TO INSTALLATION OF THE CABLE / RISER.
B) THE LENGTH OF THE CABLE REQUIRED FOR LIPA TO MAKE FINAL CONNECTIONS AT THE POLE SHALL BE IDENTIFIED FOR THE CONTRACTOR BY THE LIPA ED&C REPRESENTATIVE.
3. A) THE CABLE SUPPLIED BY THE CONTRACTOR FOR USE ON THE POLE SHALL BE INSTALLED AND PROPERLY SECURED TO THE POLE BY THE ELECTRICAL CONTRACTOR TO PREVENT DAMAGE AND/OR ANY ACTS OF VANDALISM FROM DAMAGING THE CABLE PRIOR TO HOOK-UP.
B) CABLE IS TO BE ATTACHED TO THE POLE WELL ABOVE THE TOP OF THE RISER WITH A KELLUMS GRIP BASKET OR LENGTH OF LINE TIED IN A "ROLLING BEND KNOT" (SEE BELOW) SO AS TO PROTECT THE CABLE FROM MECHANICAL BENDING DAMAGE (SEE DWG. D5)
4. ALL CABLE SHALL BE PROPERLY END CAPPED AT BOTH ENDS BY THE CONTRACTOR WITH APPROVED TIGHTFITTING WATERTIGHT SEALING CAPS OR IN STRICT COMPLIANCE WITH NEC 300-5 (e). **
5. 3" POLYETHYLENE U-GUARD SHALL BE FASTENED WITH 1/4" X 2 1/2" LAG SCREWS WITH CUSHION. 5" STEEL U-GUARD SHALL BE FASTENED WITH 3/8" X 2 1/2" LAG SCREWS.
6. LIPA SHALL COMPLETE THE CONSTRUCTION OF THE RISER PER THE APPROPRIATE CONSTRUCTION STANDARDS.
7. IF CONDUIT IS USED, MANHOLES ARE REQUIRED, CONTACT LIPA ED&C REPRESENTATIVE FOR DETAILS.

** THE CONCERN FOR RELIABLE ELECTRIC SERVICE REQUIRED THAT LIPA RESERVE THE RIGHT TO REFUSE TO ACCEPT OR ENERGIZE ANY CABLES THAT HAVE BEEN LEFT WITH 'ENDS' UNCAPPED. MOISTURE INTRUSION HAS BEEN DETERMINED TO BE A SUBSTANTIAL CAUSE OF PREMATURE CABLE FAILURES; UNCAPPED CABLE ENDS ARE THE LEADING CAUSE OF THIS PROBLEM.



ROLLING BEND KNOT, TO ATTACH LINE TO WIRES WHEN GRIP IS NOT AVAILABLE.

CUSTOMER INSTALLED CABLE RISER
GENERAL NOTES

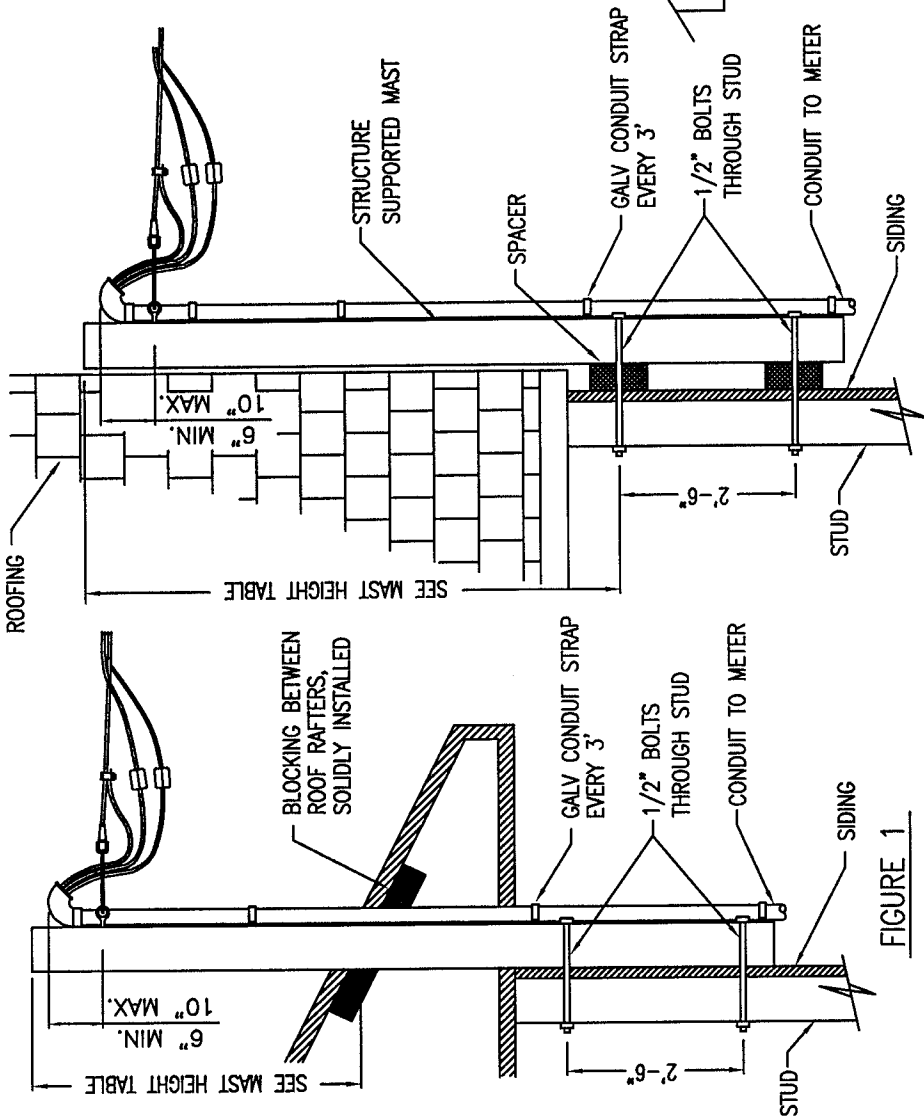
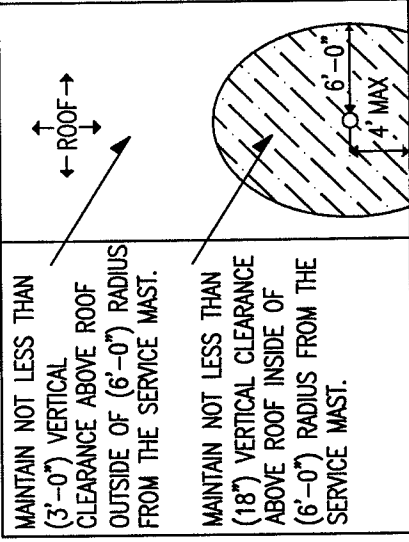


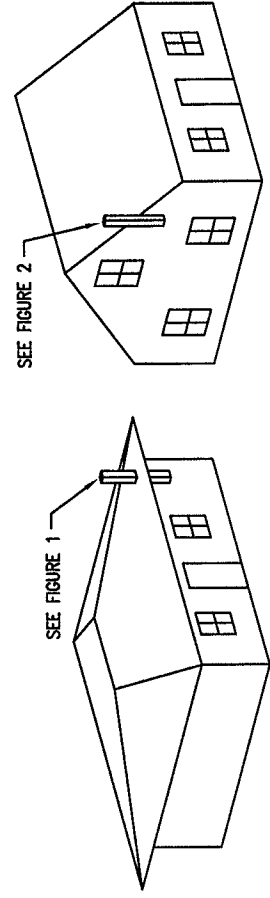
FIGURE 1

FIGURE 2



PLAN VIEW

CLEARANCES OF SERVICE DROP TERMINATING ON SUPPORT MAST
4' (MAX) FROM NEAREST EDGE.
ELEVATION



SEE ADDITIONAL NOTES ON SHEET 2 OF 2(D8)

SERVICE MAST HEIGHT TABLE	STRUCTURAL MEMBER REQUIRED
0' TO 3'-0"	1. 4"x6" TREATED STRUCTURAL LUMBER 2. 2 1/2" SCHD. 40 GALV. STEEL PIPE 3. 3"x3"x1/2" GALV. STEEL ANGLE
3'-0" TO 5'-0"	1. 6"x6" TREATED STRUCTURAL LUMBER 2. 2 1/2" SCHD. 40 GALV. STEEL PIPE 3. 4"x4"x1/2" GALV. STEEL ANGLE
5'-0" TO 7'-6"	1. 3 1/2" SCHD. 40 GALV. STEEL PIPE 2. 5"x5"x1/2" GALV. STEEL ANGLE
7'-6" TO 10'-0"	1. 4" SCHD. 40 GALV. STEEL PIPE 2. 6"x6"x1/2" GALV. STEEL ANGLE

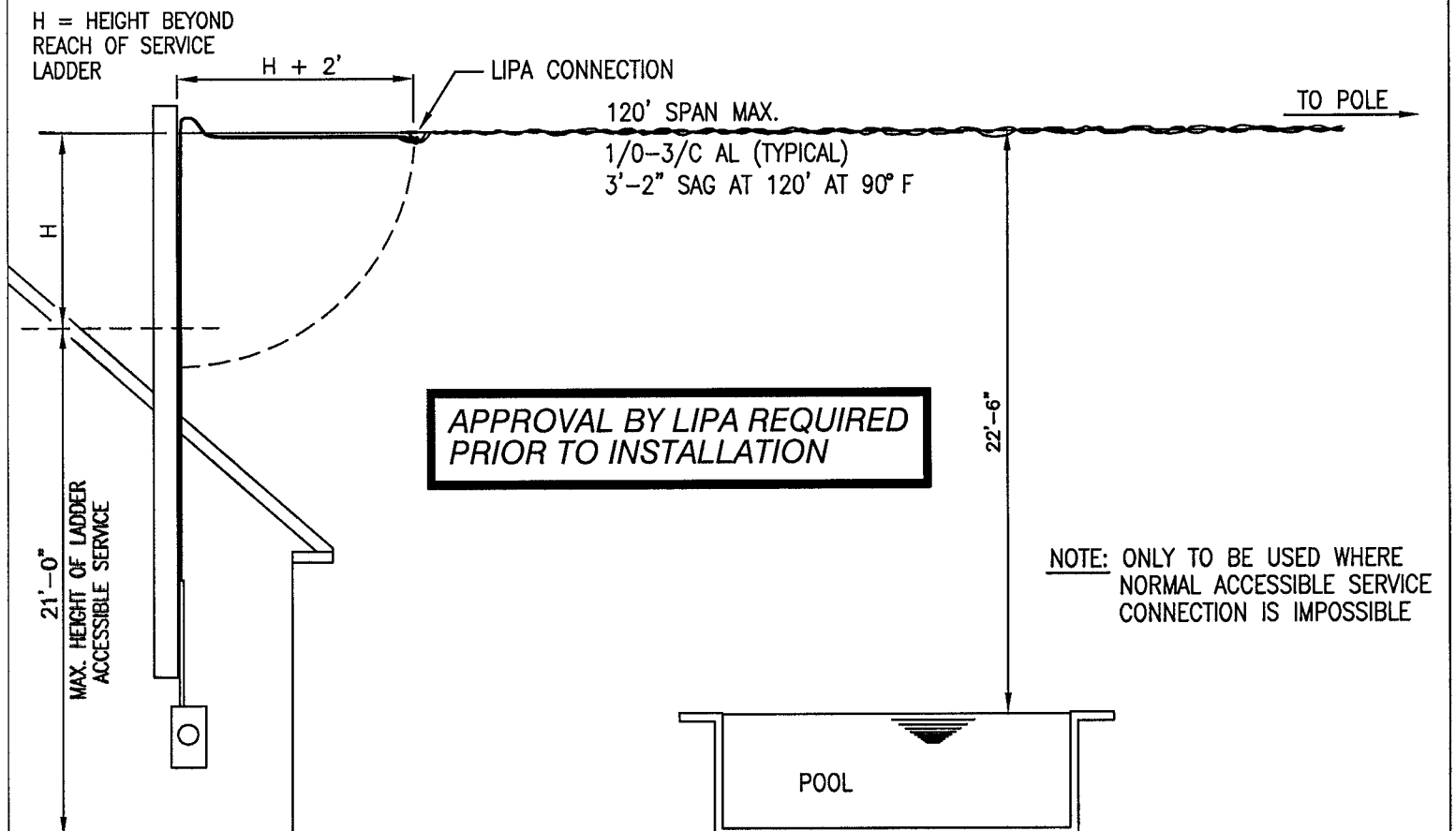
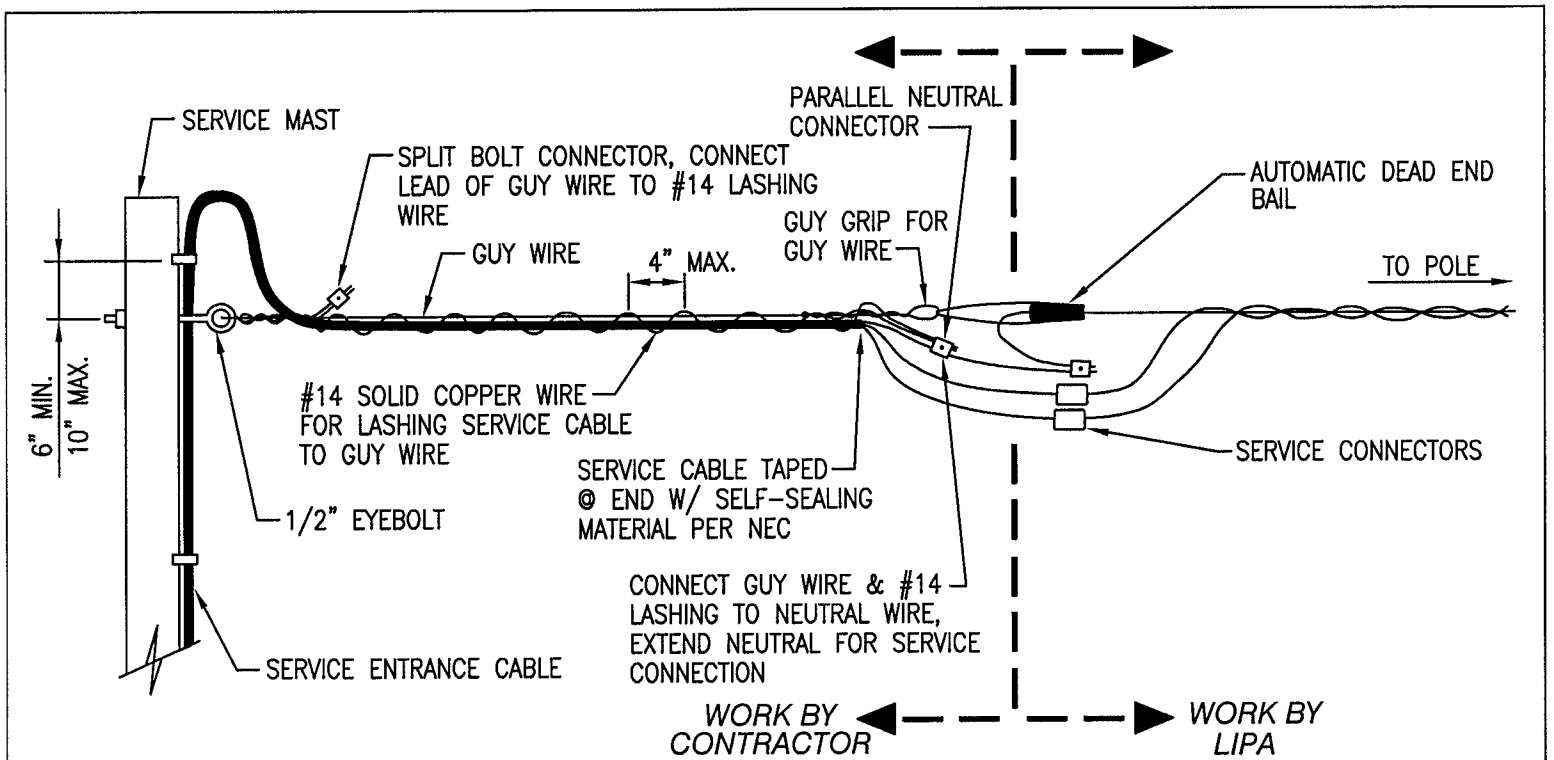
IF MINIMUM CLEARANCE CAN NOT BE MET USING ANY OF THE ABOVE CONTACT THE LIPA ELECTRIC DESIGN & CONSTRUCTION DEPT.

OVERHEAD 100 - 400 AMP SERVICE USING STRUCTURE SUPPORTED MAST (Sheet 1 of 2)

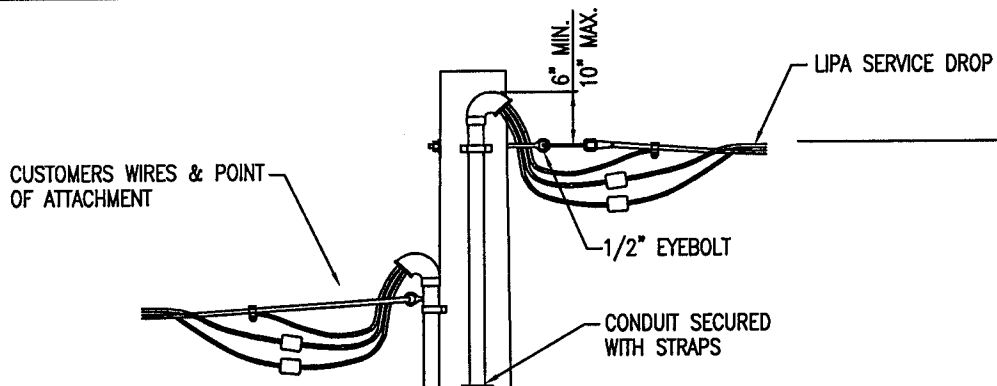
NOTES:

1. SERVICE ENTRANCE TYPE "SE" CABLE SHALL BE AS APPROVED BY LIPA AND CAN BE USED WITHOUT BEING ENCASED IN CONDUIT ON THE LINE SIDE OF THE METER ENCLOSURE, PROVIDING IT WILL NOT COME INTO CONTACT WITH ANY AWNINGS, SHUTTERS, OR ANY OTHER OBJECTS THAT MAY CAUSE MECHANICAL INJURY TO THE CABLE. WHEN INSTALLED ADJACENT TO A DRIVEWAY THE CABLE SHALL BE ENCASED IN CONDUIT. PROTECTIVE SLEEVING ON TYPE "SE" CABLE IS REQUIRED TO A HEIGHT OF 8' ABOVE FINISHED GRADE. FOR ADDITIONAL REQUIREMENTS SEE DWG. D23
2. PVC CONDUIT IS NOT PERMITTED TO BE USED AS A MAST.
3. CUSTOMER SHALL FURNISH MATERIAL AND LABOR FOR ALL WORK SHOWN, EXCEPT AS NOTED. ALL INSTALLATIONS ARE SUBJECT TO INSPECTION BY AN APPROVED INSPECTION AGENCY.
4. THROUGH BOLTS ARE REQUIRED FOR ANCHORING ALL SERVICE MASTS. IN THE EVENT THAT A THROUGH BOLT CANNOT BE USED AN ADEQUATELY SIZED LAG SCREW MAY BE APPROVED IF IT CAN BE SHOWN THE SCREW IS SUPPORTED BY A SOUND STRUCTURAL MEMBER.
5. FOR SOLID BLOCK OR BRICK CONSTRUCTION THROUGH BOLTS SHALL BE SET IN BLOCK JOINTS THOROUGHLY EMBEDDED IN MORTAR.
6. FOR SELF SUPPORTING MAST SERVICES ALL PIPE COUPLINGS MUST BE BELOW THE HIGHEST STRUCTURAL ATTACHMENT POINT.
7. MAST MUST BE OF SUFFICIENT STRENGTH TO SUPPORT A HORIZONTAL TENSION OF 1000LBS. APPLIED TO THE POINT OF ATTACHMENT. FOR UNUSUAL CIRCUMSTANCES GUYING OF THE MAST MAY BE PERMITTED. CONTACT LIPA'S ELECTRIC DESIGN & CONSTRUCTION DEPT. FOR GUYED MAST APPROVAL PRIOR TO INSTALLATION.

OVERHEAD 100 – 400 AMP SERVICE
USING STRUCTURE SUPPORTED MAST(Sheet 2 of 2)



DROP SWING SERVICE FOR INACCESSIBLE SERVICE ENTRANCE ATTACHMENT

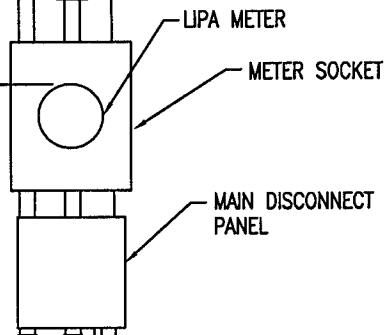


NOTE:
 SERVICE POLE MUST BE ADEQUATELY GUYED TO SUPPORT THE LOADS IMPOSED BY THE LIPA SERVICE DROP. AT A MINIMUM THE SERVICE POLE MUST BE GUYED WHEN SUPPORTING THE FOLLOWING SERVICE DROP LENGTHS:

SERVICE SIZE (SINGLE PHASE)	LIPA SERVICE DROP LENGTH (POLE GUY REQUIRED)
100A	NONE REQUIRED
150A - 320A	60' - 100' (MAX)
400A	0' - 60' (MAX)

SERVICE POLE, MINIMUM 25' - 30' CLASS 7 PRESERVATIVE TREATED AND SET TO A MINIMUM DEPTH OF 6'-0" (CUSTOMER OWNED AND INSTALLED)

15'-0" MIN.
21'-0" MAX.



GROUND WIRE TWO SEPERATE GROUNDING CONDUCTORS (SIZE PER NEC)

1/2" X 8' CU WELD OR 5/8" X 8' CU PLATED GROUND ROD

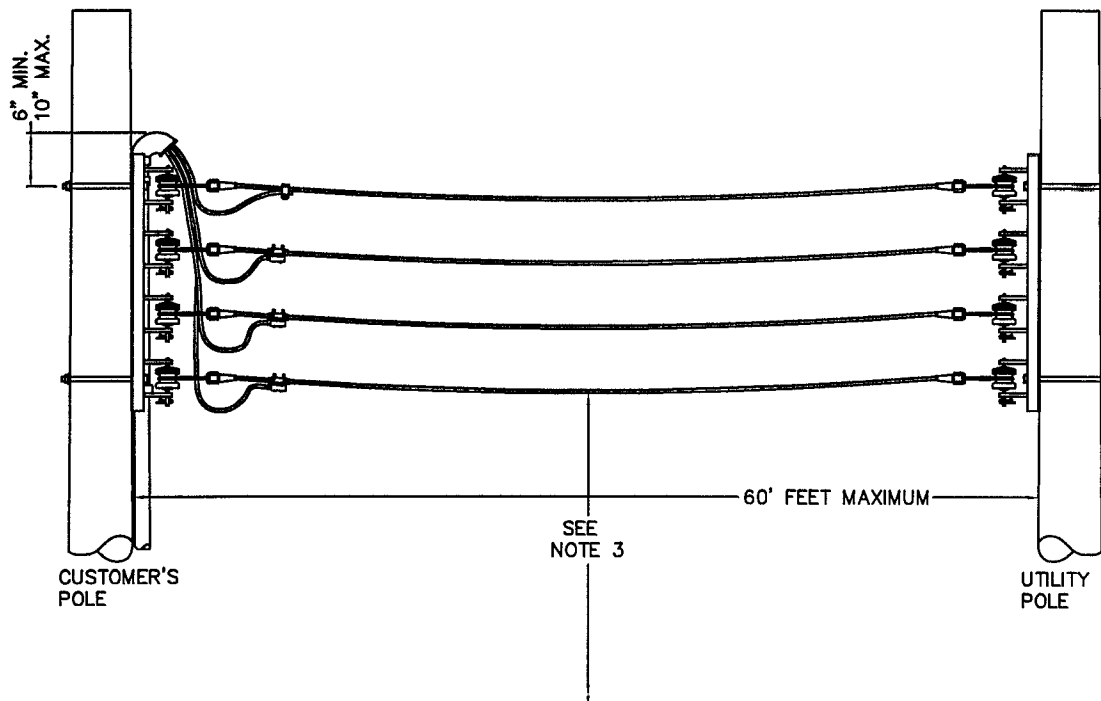
1/2" X 8' CU WELD OR 5/8" X 8' CU PLATED GROUND ROD

3'-0" MIN.
6'-0" MAX.

6'-0" MIN.

6'-0" MIN.

OVERHEAD 100 - 400 AMP POLE MOUNTED SERVICE

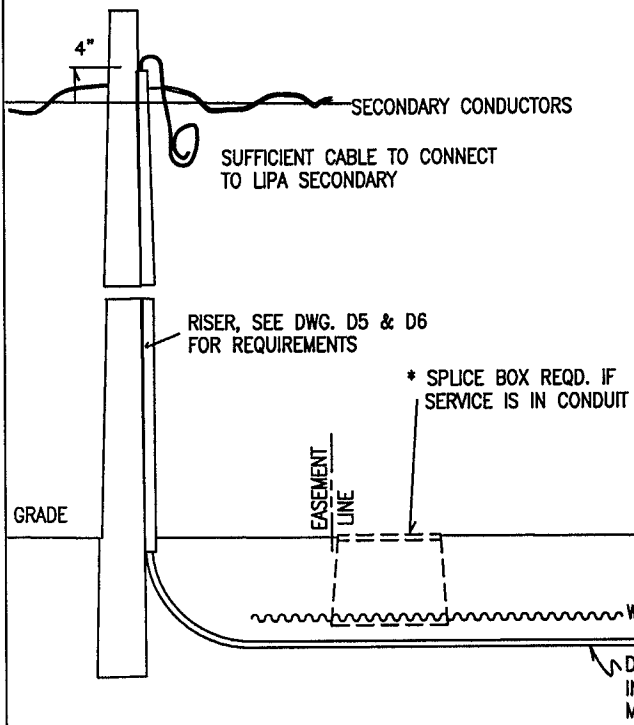


NOTES:

1. OVERHEAD SERVICES WHICH ARE 400 AMPERES BUT NOT MORE THAN 600 AMPERES SERVED BY OVERHEAD CONDUCTORS MUST USE OPEN WIRE CONSTRUCTION. IF THIS IS NOT ACCEPTABLE DUE TO HEIGHT OR APPEARANCE UNDERGROUND SERVICE SHOULD BE SELECTED.
2. THE CUSTOMER IS TO INSTALL AND SUPPLY WEATHERHEAD, CONDUIT, CONDUIT STRAPS, SECONDARY RACK AND CABLES IN THE CONDUIT. CABLES SHALL BE SUFFICIENT LENGTH TO PROVIDE 8' OF SLACK CABLE AT WEATHERHEAD TO MAKE CONNECTIONS TO OVERHEAD SYSTEM.
3. SERVICE ENTRANCE HEIGHT SHALL BE BASED ON 60'(FEET) MAXIMUM SPAN AND MAINTENANCE OF 16.5 FEET MINIMUM CLEARANCE ABOVE GROUND UNDER THE GREATEST SAG CONDITIONS AS WELL AS AN 18' MINIMUM CLEARANCE FOR AREAS SUBJECT TO VEHICULAR TRAFFIC. MAXIMUM HEIGHT FOR POINT OF ATTACHMENT IS 21' ABOVE GRADE. INCREASED HEIGHT FOR ANY INDIVIDUAL LOCATION MUST BE APPROVED BY ELECTRIC DESIGN AND CONSTRUCTION DEPARTMENT.
4. SECONDARY RACK ON SUPPORTING STRUCTURE MUST BE THRU-BOLTED; ANY OTHER TYPE FASTENERS MUST BE APPROVED BEFORE INSTALLATION.

IMPORTANT NOTE: 600 AMP OVERHEAD SERVICES ARE PERMITTED ON A CASE BY CASE BASIS ONLY. ALL SERVICES OF THIS TYPE MUST BE APPROVED BY THE LIPA ED&C REPRESENTATIVE PRIOR TO INSTALLATION.

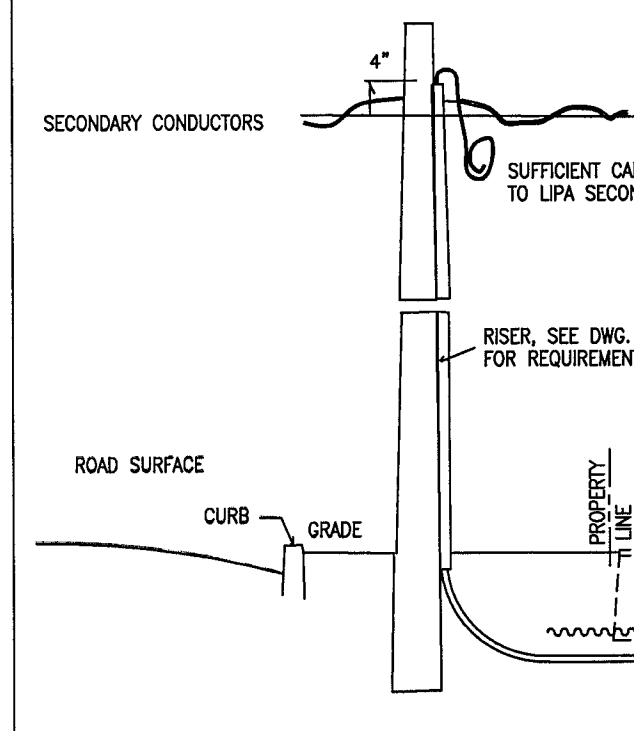
OPEN WIRE SERVICES 400 TO 600 AMP



NOTES

1. * INDICATES ITEMS PROVIDED BY CUSTOMER.
2. FIRST 10' OF U-GUARD RISER TO BE INSTALLED BY CONTRACTOR AND THE REMAINDER TO BE COMPLETED BY LIPA.
3. OWNED AND MAINTAINED BY LIPA FROM SECONDARY CONDUCTORS TO EASMENT LINE.
4. 2" MINIMUM SLEEVE, RIGID METAL SHALL BE SCHD. 40 GALV., NON-METALLIC SHALL BE SCHD. 80.
5. 400 AMP - 800 AMP WILL REQUIRE 4'-0" MIN. HEIGHT.

SERVICE CONNECTION FROM PRIVATE PROPERTY - REAR PROPERTY POLE LINE



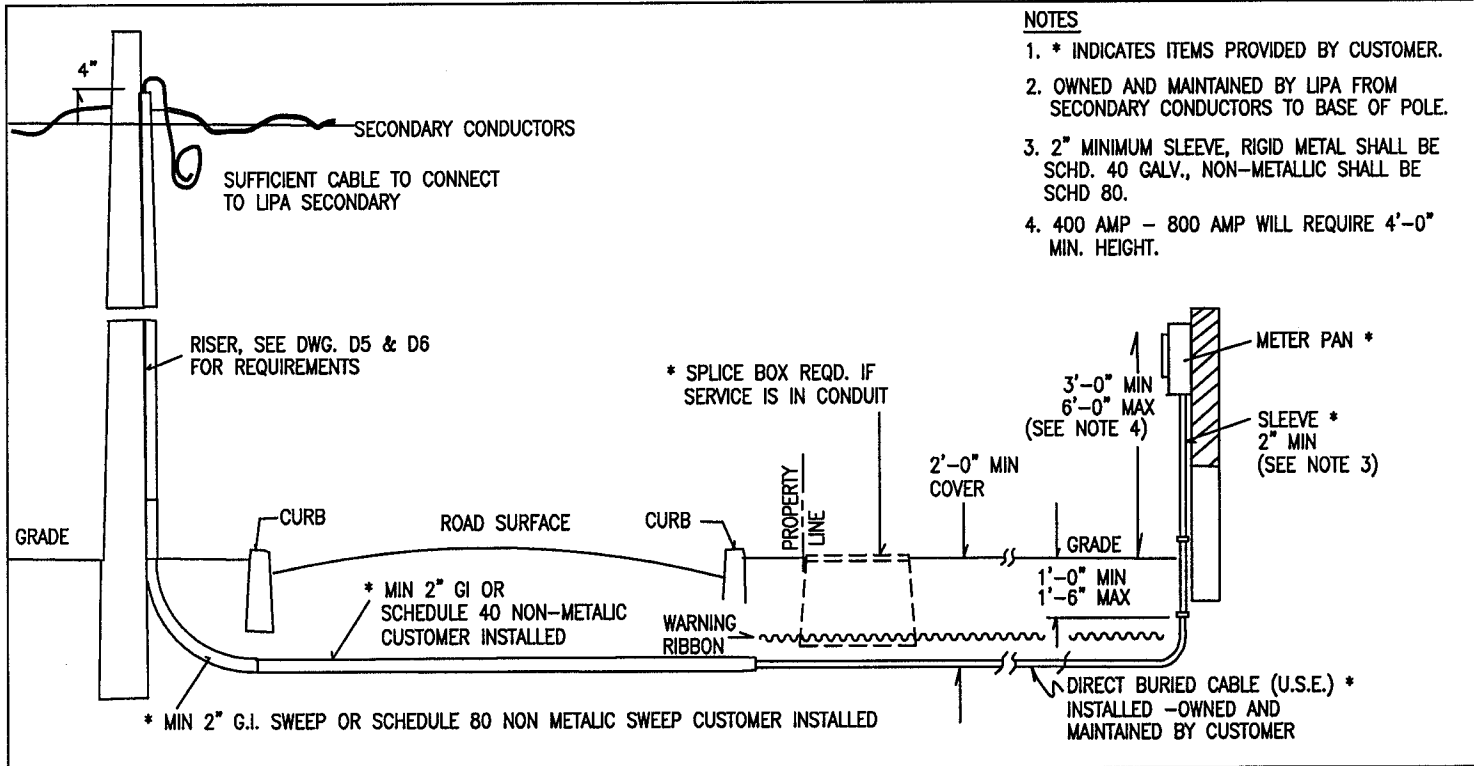
NOTES

1. * INDICATES ITEMS PROVIDED BY CUSTOMER.
2. FIRST 10' OF U-GUARD RISER TO BE INSTALLED BY CONTRACTOR AND THE REMAINDER TO BE COMPLETED BY LIPA.
3. OWNED AND MAINTAINED BY LIPA FROM SECONDARY CONDUCTORS TO CUSTOMERS PROPERTY LINE.
4. 2" MINIMUM SLEEVE, RIGID METAL SHALL BE SCHD. 40 GALV., NON-METALLIC SHALL BE SCHD. 80.
5. 400 AMP - 800 AMP WILL REQUIRE 4'-0" MIN. HEIGHT.

SERVICE CONNECTION FROM OVERHEAD DISTRIBUTION - NEAR SIDE HIGHWAY POLE LINE

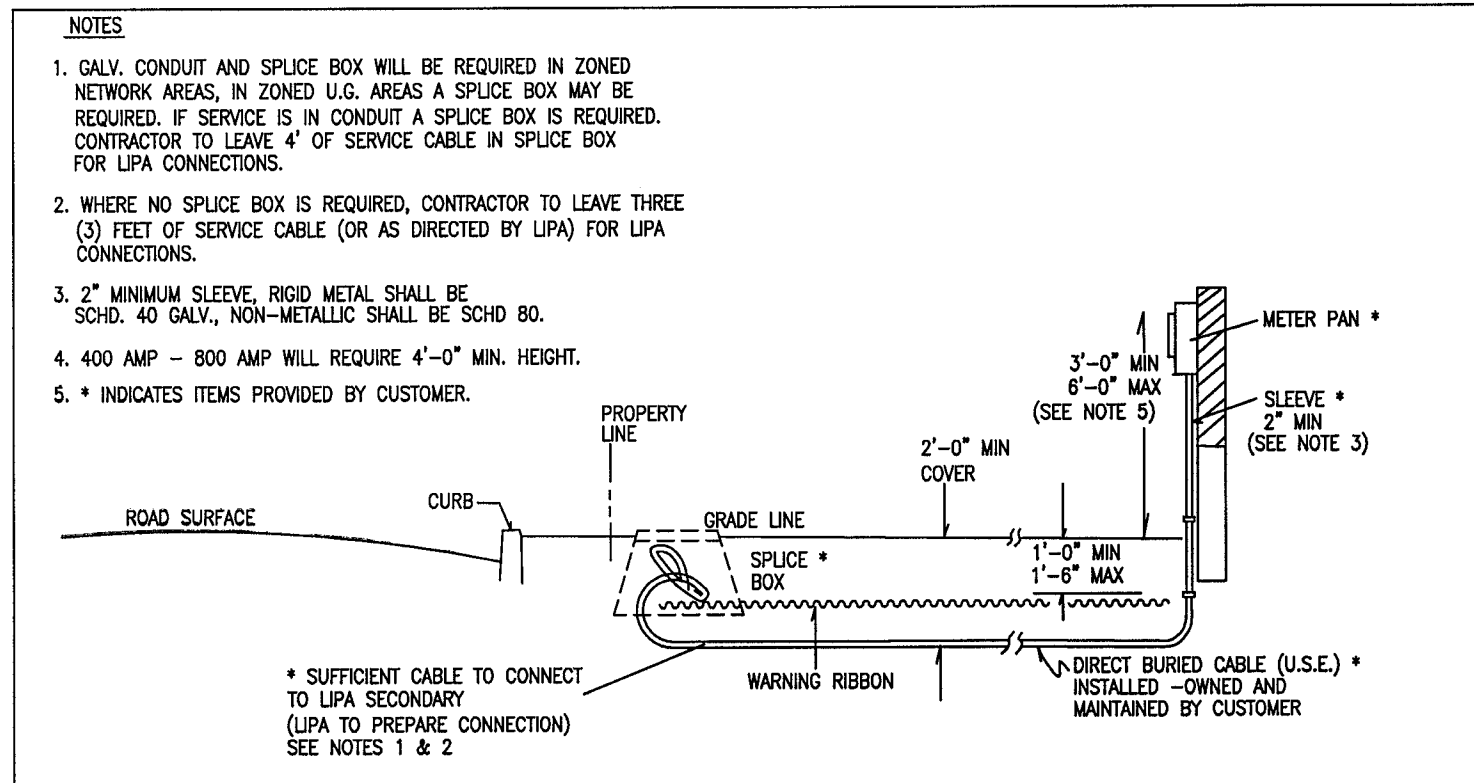
UNDERGROUND SERVICE

100 - 800 AMP SINGLE OR THREE PHASE BY BUILDER/APPLICANT



- NOTES**
1. * INDICATES ITEMS PROVIDED BY CUSTOMER.
 2. OWNED AND MAINTAINED BY LIPA FROM SECONDARY CONDUCTORS TO BASE OF POLE.
 3. 2" MINIMUM SLEEVE, RIGID METAL SHALL BE SCHD. 40 GALV., NON-METALLIC SHALL BE SCHD 80.
 4. 400 AMP - 800 AMP WILL REQUIRE 4'-0" MIN. HEIGHT.

SERVICE CONNECTION FROM FAR SIDE - HIGHWAY POLE LINE



- NOTES**
1. GALV. CONDUIT AND SPLICE BOX WILL BE REQUIRED IN ZONED NETWORK AREAS, IN ZONED U.G. AREAS A SPLICE BOX MAY BE REQUIRED. IF SERVICE IS IN CONDUIT A SPLICE BOX IS REQUIRED. CONTRACTOR TO LEAVE 4' OF SERVICE CABLE IN SPLICE BOX FOR LIPA CONNECTIONS.
 2. WHERE NO SPLICE BOX IS REQUIRED, CONTRACTOR TO LEAVE THREE (3) FEET OF SERVICE CABLE (OR AS DIRECTED BY LIPA) FOR LIPA CONNECTIONS.
 3. 2" MINIMUM SLEEVE, RIGID METAL SHALL BE SCHD. 40 GALV., NON-METALLIC SHALL BE SCHD 80.
 4. 400 AMP - 800 AMP WILL REQUIRE 4'-0" MIN. HEIGHT.
 5. * INDICATES ITEMS PROVIDED BY CUSTOMER.

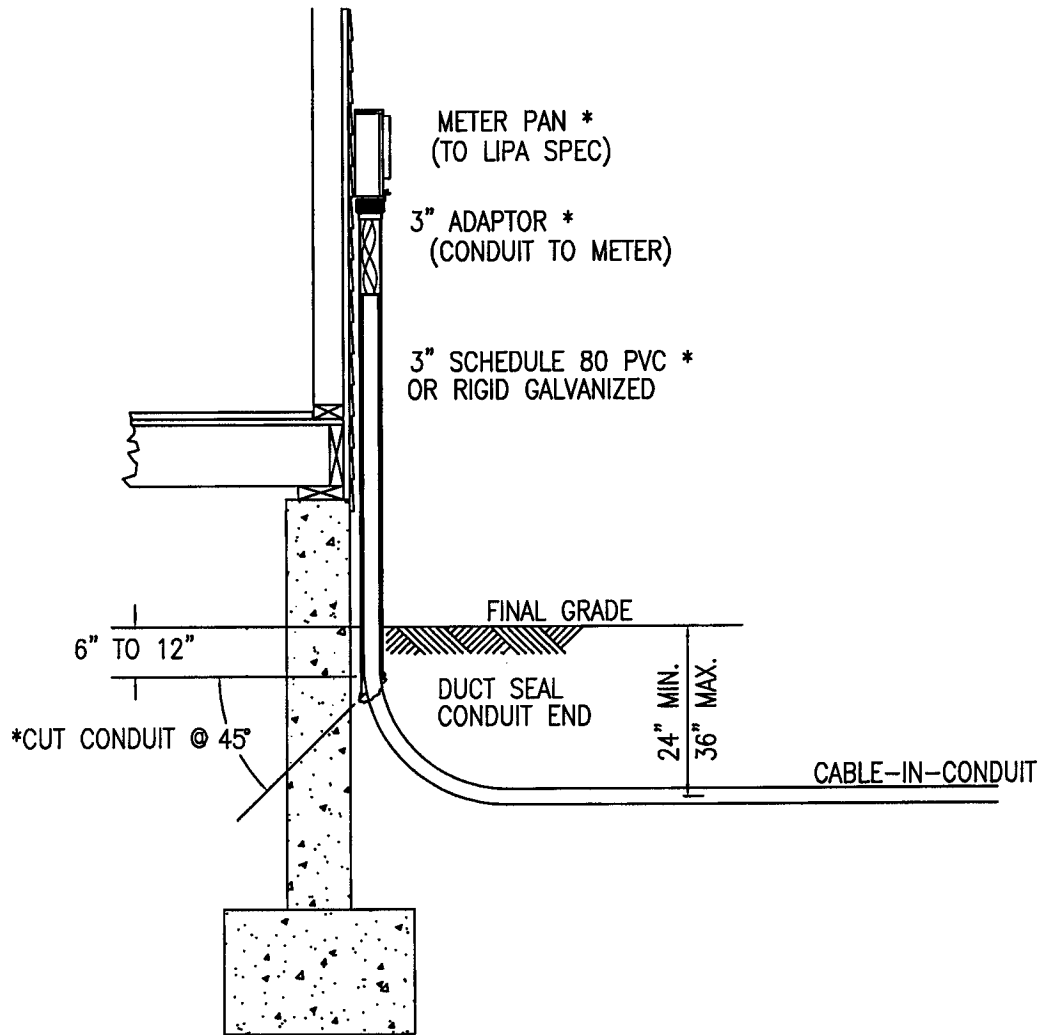
SERVICE CONNECTION FROM UNDERGROUND DISTRIBUTION - NEAR OR FAR SIDE FACILITIES

UNDERGROUND SERVICE

100 - 800 AMP SINGLE OR THREE PHASE BY BUILDER/APPLICANT

NOTES:

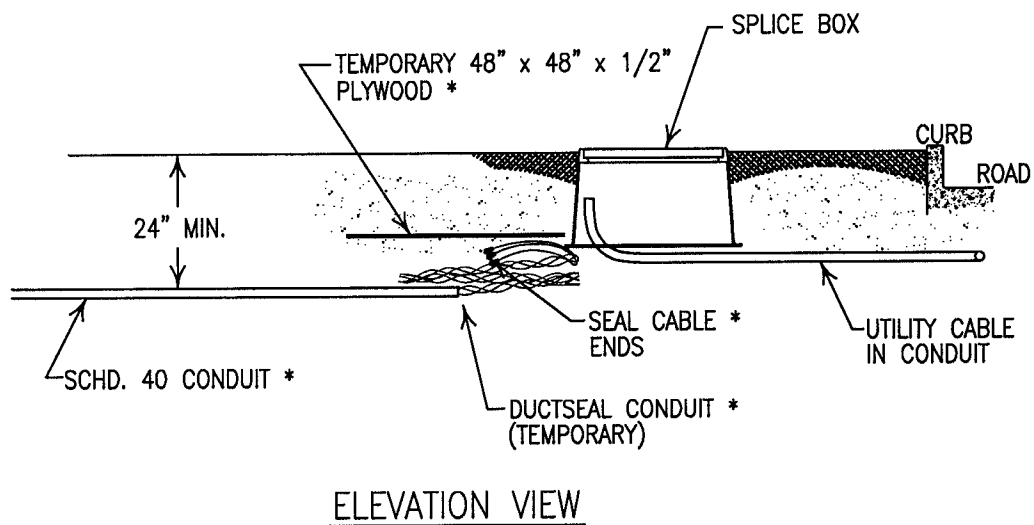
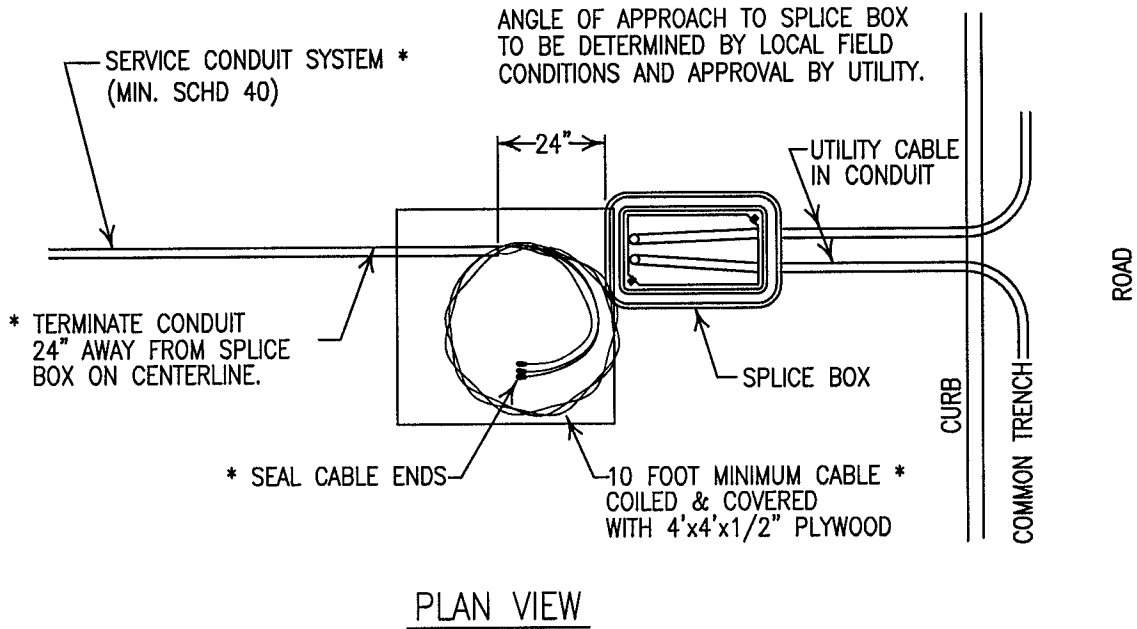
1. * INDICATES ITEMS PROVIDED BY CONTRACTOR.
2. 300 AMP AND LARGER SERVICES MAY REQUIRE PARALLEL 3" CONDUITS INTO METER PAN.



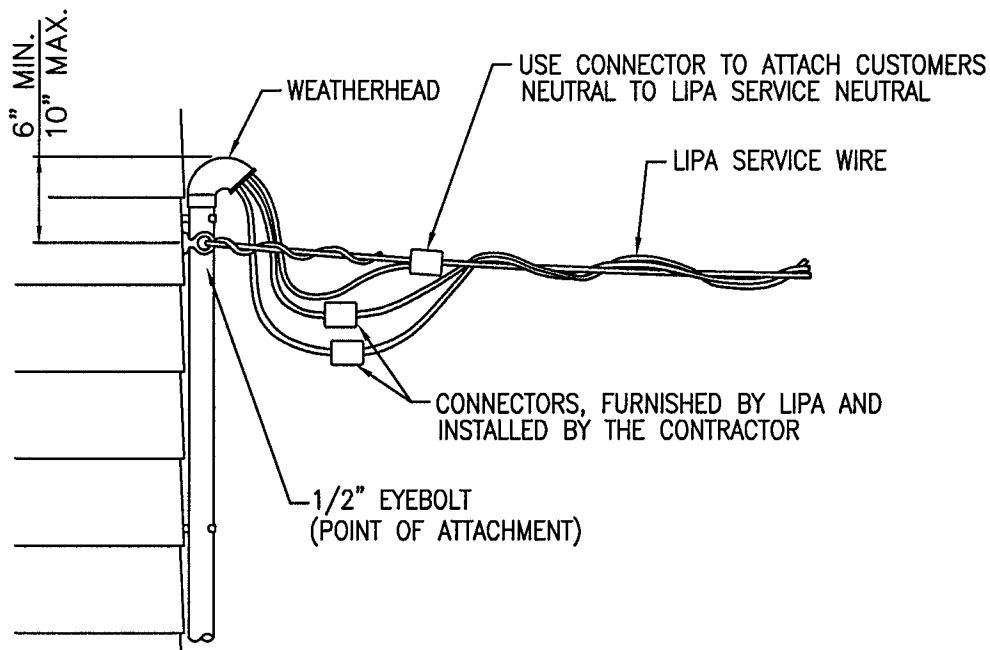
SINGLE PHASE RESIDENTIAL RUD SERVICE
LIPA INSTALLED

NOTES:

1. * DENOTES ITEMS PERFORMED BY CONTRACTOR / CUSTOMER.
2. CONNECTIONS IN SPLICE BOX ARE TO BE MADE BY THE UTILITY.
3. UTILITY TO CONNECT CUSTOMER INSTALLED CONDUIT TO UTILITY SPLICEBOX.
4. 200 AMP SERVICES SHALL BE RUN IN ONE 2" CONDUIT. 320 AMP SERVICES SHALL BE RUN IN TWO PARALLEL 2" CONDUITS. 400 AMP SERVICES SHALL BE RUN IN A SINGLE 4" CONDUIT. ALL SERVICES SHALL BE RUN FROM THE METER PAN TO A SPLICE BOX AT THE PROPERTY LINE.
5. 600 AND 800 AMP SERVICES SHALL BE RUN IN TWO PARALLEL 4" CONDUITS FROM THE TRANS S CABINET TO A SPLICE BOX AT THE PROPERTY LINE. 600 AND 800 AMP SERVICES ARE OWNED AND MAINTAINED BY THE CUSTOMER.
6. WHEN MULTIPLE SETS OF CABLE ARE RUN, NO DOWNSIZING OF THE NEUTRAL CONDUCTOR IS ALLOWED.



SINGLE PHASE RESIDENTIAL RUD SERVICE
CUSTOMER / CONTRACTOR INSTALLED



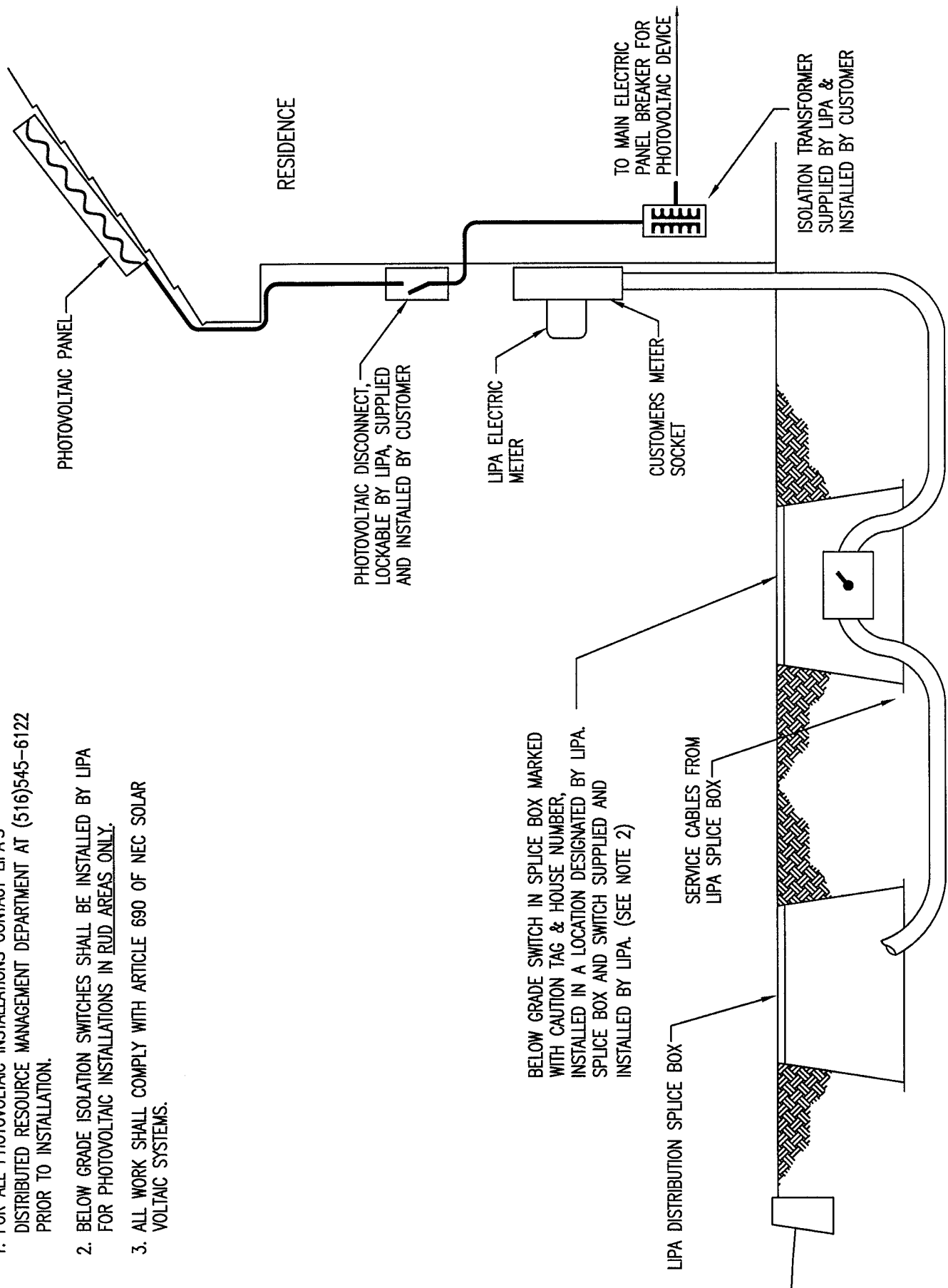
CONNECTOR INSTALLATION:

1. CLEANING – WIRE BRUSH ALL COPPER AND ALUMINUM CONDUCTORS UNTIL SURFACES ARE BRIGHT AND CLEAN. COPPER CORROSION PRODUCTS ARE POOR CONDUCTORS AND ALUMINUM OXIDE, WHICH FORMS RAPIDLY AND IS INVISIBLE, IS AN INSULATOR. WIRE BRUSHING IS A VERY IMPORTANT AND CRITICAL STEP IN MAKING A TROUBLE FREE CONNECTION AND SHOULD NEVER BE NEGLECTED EVEN IF THE CONDUCTOR APPEARS TO BE CLEAN.
2. INHIBITOR – ALL NEW CONNECTORS ARE PRE-LOADED WITH INHIBITOR. IF ANY CONNECTORS DO NOT HAVE INHIBITOR, IT MUST BE FIELD APPLIED.
3. RE-USE OF CONNECTORS – WHEN CONNECTORS ARE REMOVED AND RE-INSTALLED IN THE FIELD (EVEN FOR A SHORT TIME), THE FOLLOWING STEPS SHALL BE TAKEN:
 - 3.1 WIRE BRUSH BOTH THE CONDUCTOR AND THE JAWS OF THE CONNECTOR.
 - 3.2 FOR ALUMINUM TO ALUMINUM AND ALUMINUM TO COPPER CONNECTIONS, APPLY INHIBITOR TO CONDUCTORS AND WIRE BRUSH IN.
 - 3.3 FOR ALUMINUM TO COPPER CONNECTIONS, INSTALL THE ALUMINUM ABOVE THE COPPER CONDUCTOR.

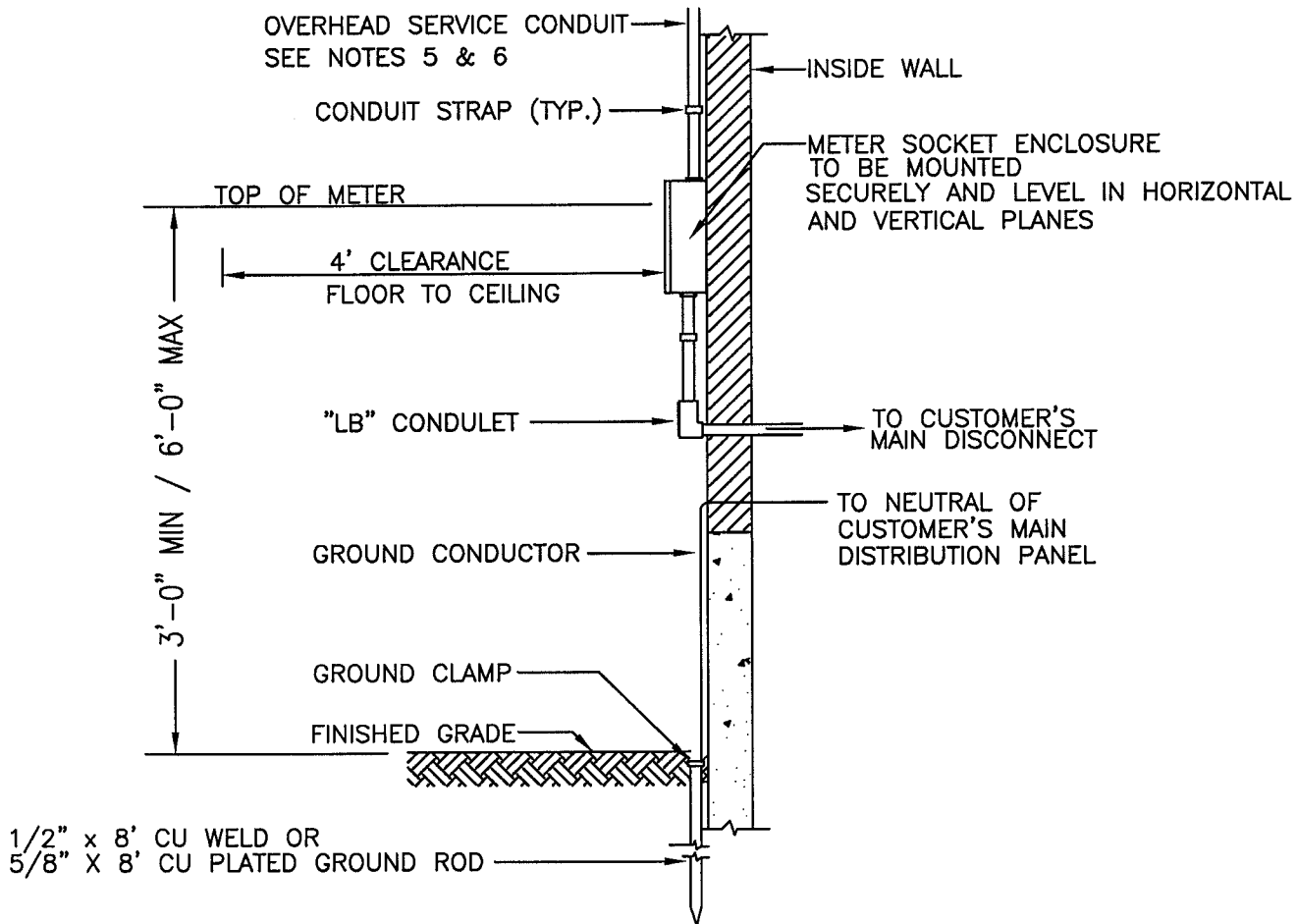
LIPA CONNECTS PROGRAM
CONNECTOR INSTALLATION

NOTES:

1. FOR ALL PHOTOVOLTAIC INSTALLATIONS CONTACT LIPA'S DISTRIBUTED RESOURCE MANAGEMENT DEPARTMENT AT (516)545-6122 PRIOR TO INSTALLATION.
2. BELOW GRADE ISOLATION SWITCHES SHALL BE INSTALLED BY LIPA FOR PHOTOVOLTAIC INSTALLATIONS IN RUD AREAS ONLY.
3. ALL WORK SHALL COMPLY WITH ARTICLE 690 OF NEC SOLAR VOLTAIC SYSTEMS.



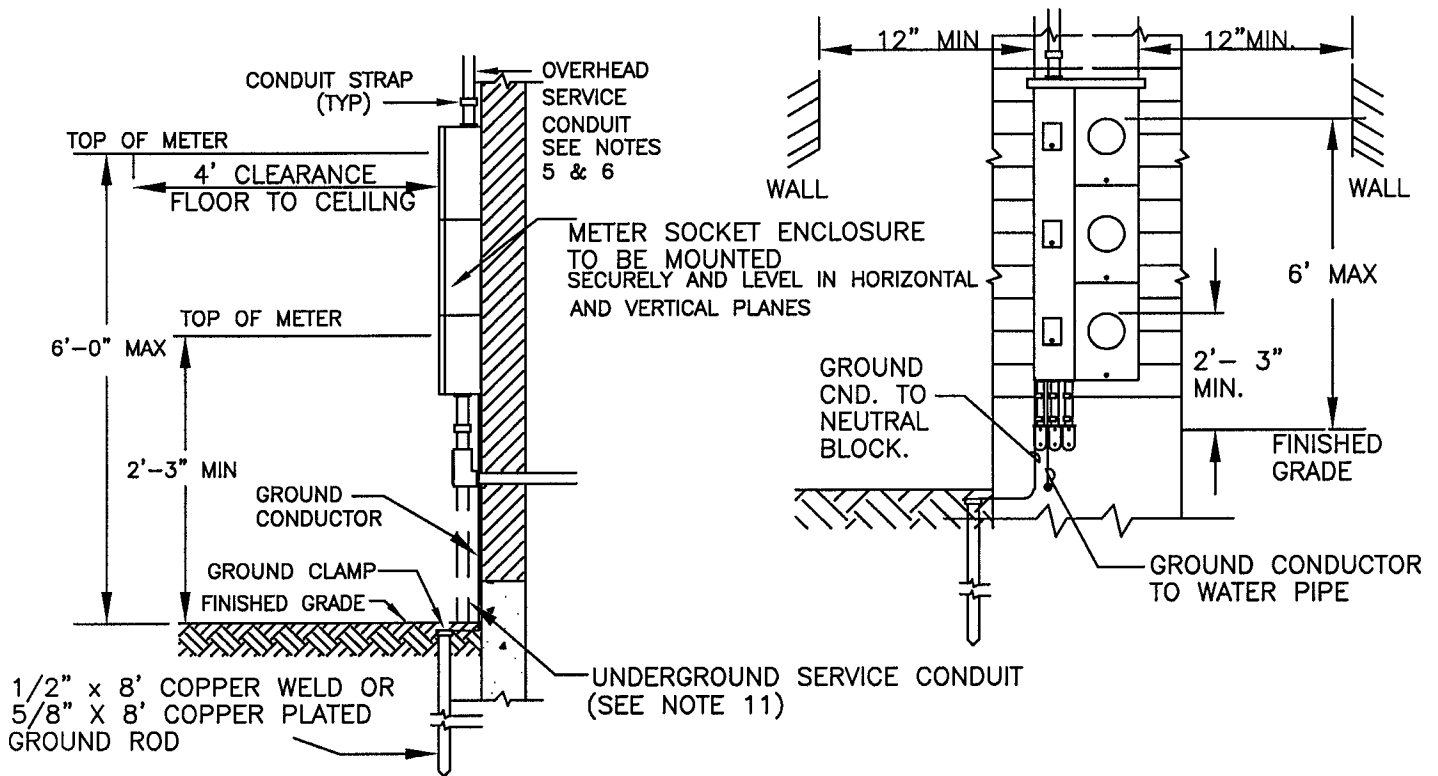
PHOTOVOLTAIC INSTALLATION WITH SERVICE ISOLATION SWITCH



NOTES:

1. ALL ITEMS SHOWN SHALL BE FURNISHED AND INSTALLED BY THE CUSTOMER UNLESS OTHERWISE STATED.
2. ALL METER PAN ASSEMBLIES SHALL BE AS APPROVED BY LIPA. METER SOCKETS SHALL BE EQUIPPED WITH A FIFTH JAW LOCATED IN THE NINE O'CLOCK POSITION.
3. GAS SERVICE PIPES SHALL NOT BE USED AS A GROUNDING ELECTRODE. WIRES INTENDED TO BE USED FOR BONDING SHALL NOT BE PLACED IN CONTACT WITH ANY GAS PIPE.
4. GROUNDING SHALL BE IN ACCORDANCE WITH THE APPLICABLE SECTIONS OF ARTICLE 250 OF THE NATIONAL ELECTRIC CODE.
5. OVERHEAD SERVICE CONDUITS AND PROTECTIVE SLEEVES SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE(NEC).
6. SERVICE ENTRANCE TYPE "SE" CABLE SHALL BE AS APPROVED BY LIPA AND CAN BE USED WITHOUT BEING ENCASED IN CONDUIT ON THE LINE SIDE OF THE METER ENCLOSURE, PROVIDING IT WILL NOT COME IN CONTACT WITH ANY AWNINGS, SHUTTERS, SIGNS, OR ANY OTHER OBJECTS THAT CAN CAUSE MECHANICAL INJURY TO THE CABLE. WHEN INSTALLED ON THE SIDE OF A BUILDING ADJACENT TO A DRIVEWAY THE CABLE SHALL BE ENCASED IN CONDUIT. PROTECTIVE SLEEVING ON TYPE "SE" CABLE IS REQUIRED TO A HEIGHT OF EIGHT FEET ABOVE FINISHED GRADE. THE SLEEVE SHALL BE SPACED A MINIMUM OF ONE INCH FROM THE TOP OF THE METER PAN. WEATHERTIGHT TYPE "SE" CONNECTORS SHALL BE USED FOR CONNECTION TO THE METER ENCLOSURE.
7. A FOUR FOOT CLEARANCE FROM FLOOR TO CEILING SHALL BE MAINTAINED IN FRONT OF THE METER INSTALLATION FOR SAFE ACCESS.
8. IN ADDITION TO LIPA'S REQUIREMENTS, INSTALLATIONS MAY BE SUBJECT TO THE APPROVAL OF THE AUTHORIZED ELECTRICAL INSPECTION AGENCY AS WELL AS LOCAL MUNICIPALITIES.
9. ONLY FACTORY PREFABRICATED KNOCKOUTS ON METER ENCLOSURE SHALL BE USED.

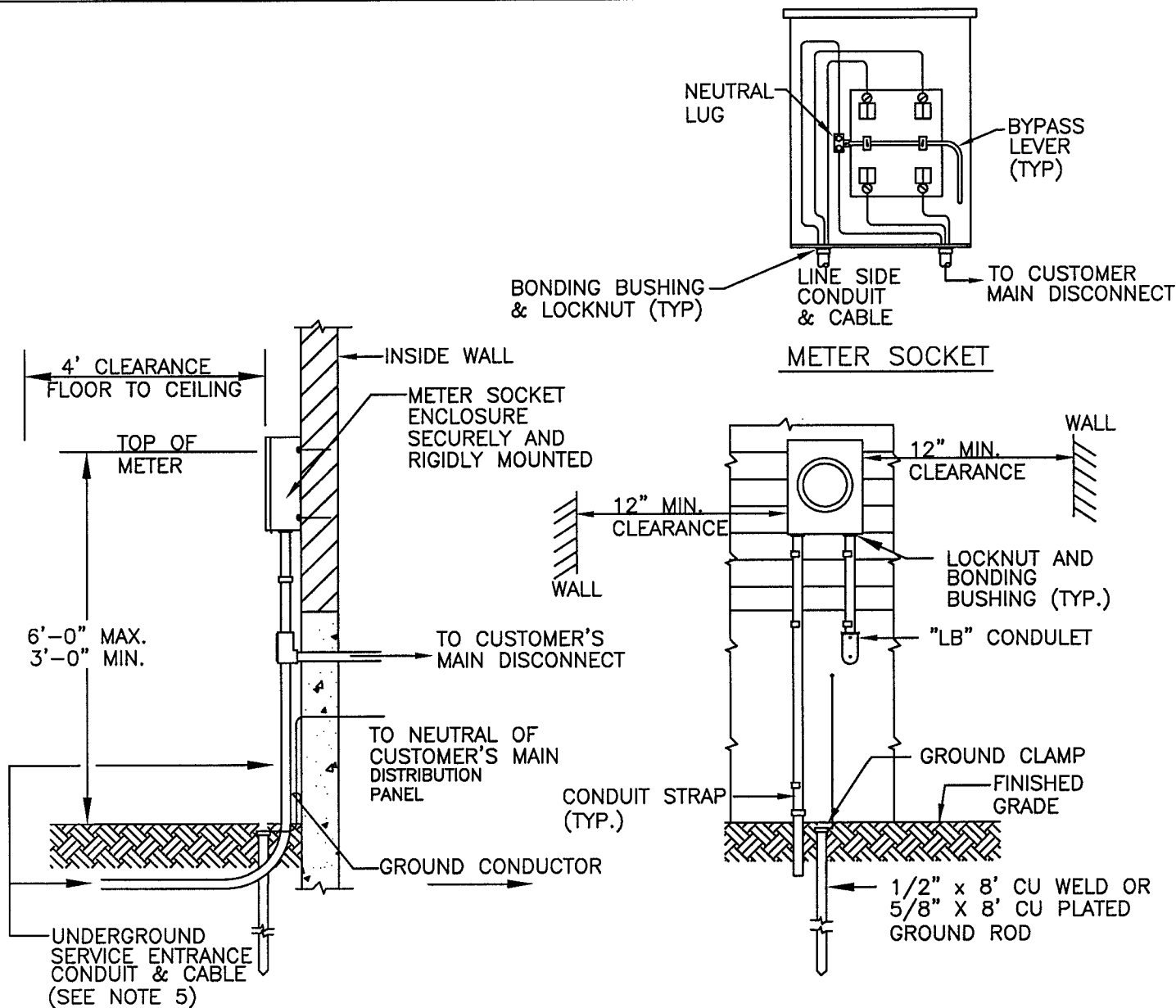
OVERHEAD SERVICE
SINGLE PHASE SELF CONTAINED METER
OUTDOOR SOCKET METER INSTALLATION



NOTES:

1. ALL ITEMS SHOWN SHALL BE FURNISHED AND INSTALLED BY THE CUSTOMER UNLESS OTHERWISE STATED.
2. ALL METER PAN ASSEMBLIES SHALL BE AS APPROVED BY LIPA. METER SOCKETS SHALL BE EQUIPPED WITH A FIFTH JAW LOCATED IN THE NINE O'CLOCK POSITION.
3. GAS SERVICE PIPES SHALL NOT BE USED AS A GROUNDING ELECTRODE. WIRES INTENDED TO BE USED FOR BONDING SHALL NOT BE PLACED IN CONTACT WITH ANY GAS PIPE.
4. GROUNDING SHALL BE IN ACCORDANCE WITH THE APPLICABLE SECTIONS OF ARTICLE 250 OF THE NATIONAL ELECTRIC CODE.
5. OVERHEAD SERVICE CONDUITS AND PROTECTIVE SLEEVES SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE(NEC).
6. SERVICE ENTRANCE TYPE "SE" CABLE SHALL BE AS APPROVED BY LIPA AND CAN BE USED WITHOUT BEING ENCASED IN CONDUIT ON THE LINE SIDE OF THE METER ENCLOSURE, PROVIDING IT WILL NOT COME IN CONTACT WITH ANY AWNINGS, SHUTTERS, SIGNS, OR ANY OTHER OBJECTS THAT CAN CAUSE MECHANICAL INJURY TO THE CABLE. WHEN INSTALLED ON THE SIDE OF A BUILDING ADJACENT TO A DRIVEWAY THE CABLE SHALL BE ENCASED IN CONDUIT. PROTECTIVE SLEEVING ON TYPE "SE" CABLE IS REQUIRED TO A HEIGHT OF EIGHT FEET ABOVE FINISHED GRADE. THE SLEEVE SHALL BE SPACED A MINIMUM OF ONE INCH FROM THE TOP OF THE METER PAN. WEATHERTIGHT TYPE "SE" CONNECTORS SHALL BE USED FOR CONNECTION TO THE METER ENCLOSURE.
7. A FOUR FOOT CLEARANCE FROM FLOOR TO CEILING SHALL BE MAINTAINED IN FRONT OF THE METER INSTALLATION FOR SAFE ACCESS.
8. IN ADDITION TO LIPA'S REQUIREMENTS, INSTALLATIONS MAY BE SUBJECT TO THE APPROVAL OF THE LOCAL ELECTRICAL INSPECTION AGENCY AS WELL AS LOCAL MUNICIPALITIES.
9. ONLY FACTORY PREFABRICATED KNOCKOUTS ON METER ENCLOSURES SHALL BE USED.
10. ALL METER PANS AND SERVICE DISCONNECT SWITCHES SHALL BE PERMANENTLY STENCILED INTERNALLY AND EXTERNALLY WITH THE BUILDING AND/OR SUITE NUMBER TO IDENTIFY THE PORTION OF THE PREMISES BEING SERVED.
11. RIGID METALLIC CONDUIT (RMC) AND RIGID NON-METALLIC CONDUIT (RNC) (SCHD. 40 OR 80 RESPECTIVELY, AS REQUIRED), ARE APPROVED FOR BELOW GRADE USE. ELECTRIC METALLIC TUBING (EMT) AND INTERMEDIATE METALLIC CONDUIT (IMC) ARE NOT APPROVED FOR BELOW GRADE INSTALLATION.

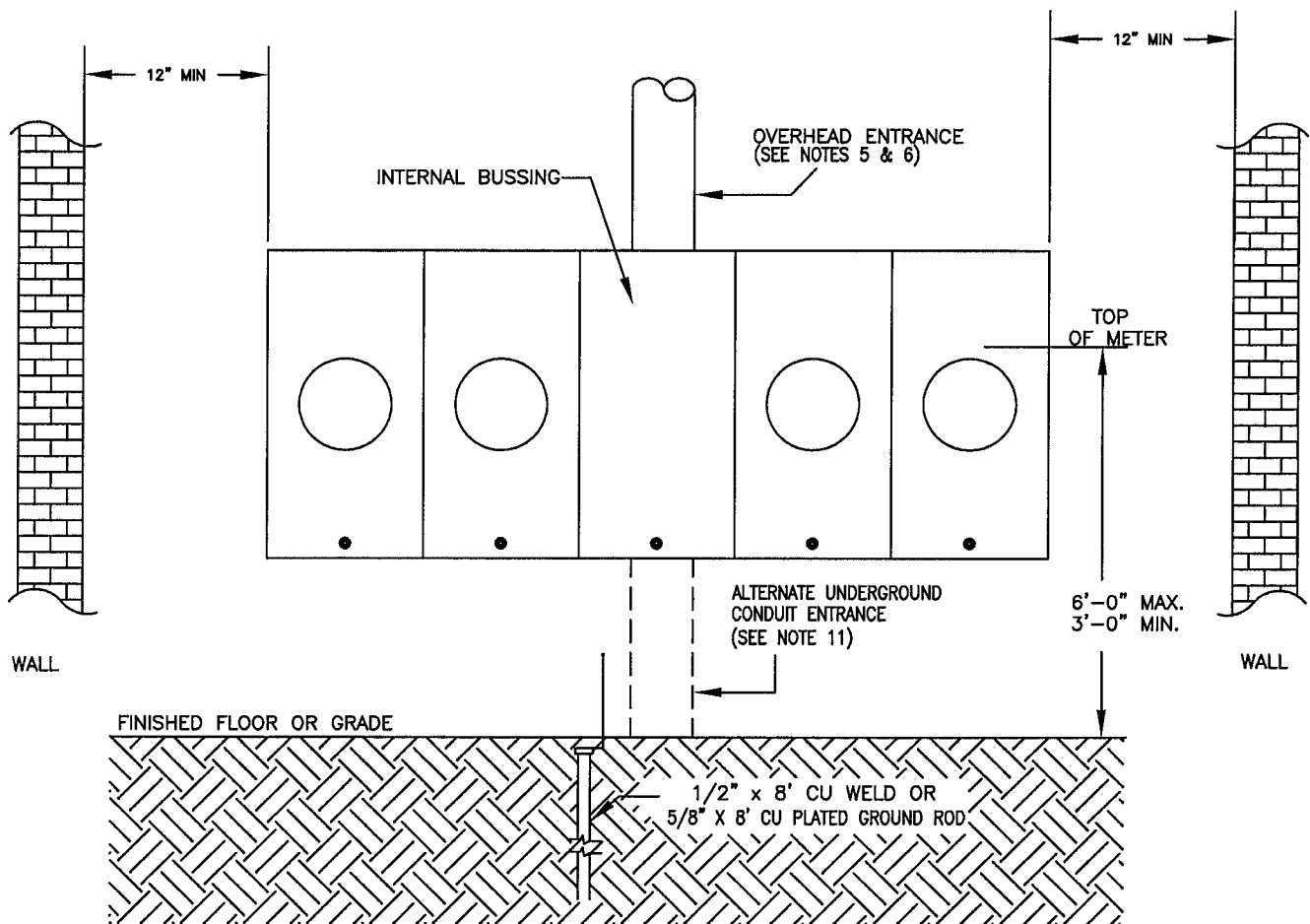
**OVERHEAD AND UNDERGROUND SERVICE
SINGLE PHASE SELF CONTAINED METER
OUTDOOR SOCKET TROUGH MULTIMETER INSTALLATION**



NOTES:

1. ALL ITEMS SHOWN SHALL BE FURNISHED AND INSTALLED BY THE CUSTOMER UNLESS OTHERWISE STATED.
2. ALL METER PAN ASSEMBLIES SHALL BE AS APPROVED BY LIPA. METER SOCKETS SHALL BE EQUIPPED WITH A FIFTH JAW LOCATED IN THE NINE O'CLOCK POSITION.
3. GAS SERVICE PIPES SHALL NOT BE USED AS A GROUNDING ELECTRODE. WIRES INTENDED TO BE USED FOR BONDING SHALL NOT BE PLACED IN CONTACT WITH ANY GAS PIPE.
4. GROUNDING SHALL BE IN ACCORDANCE WITH THE APPLICABLE SECTIONS OF ARTICLE 250 OF THE NATIONAL ELECTRIC CODE.
5. RIGID METALLIC CONDUIT (RMC) AND RIGID NON-METALLIC CONDUIT (RNC) (SCHD. 40 OR 80 RESPECTIVELY, AS REQUIRED), ARE APPROVED FOR BELOW GRADE USE. ELECTRIC METALLIC TUBING (EMT) AND INTERMEDIATE METALLIC CONDUIT (IMC) ARE NOT APPROVED FOR BELOW GRADE INSTALLATION.
6. A FOUR FOOT CLEARANCE FROM FLOOR TO CEILING SHALL BE MAINTAINED IN FRONT OF THE METER INSTALLATION FOR SAFE ACCESS.
7. IN ADDITION TO LIPA'S REQUIREMENTS, INSTALLATIONS MAY BE SUBJECT TO THE APPROVAL OF THE LOCAL ELECTRICAL INSPECTION AGENCY AS WELL AS LOCAL MUNICIPALITIES.
8. ONLY FACTORY PREFABRICATED KNOCKOUTS ON METER ENCLOSURES SHALL BE USED.

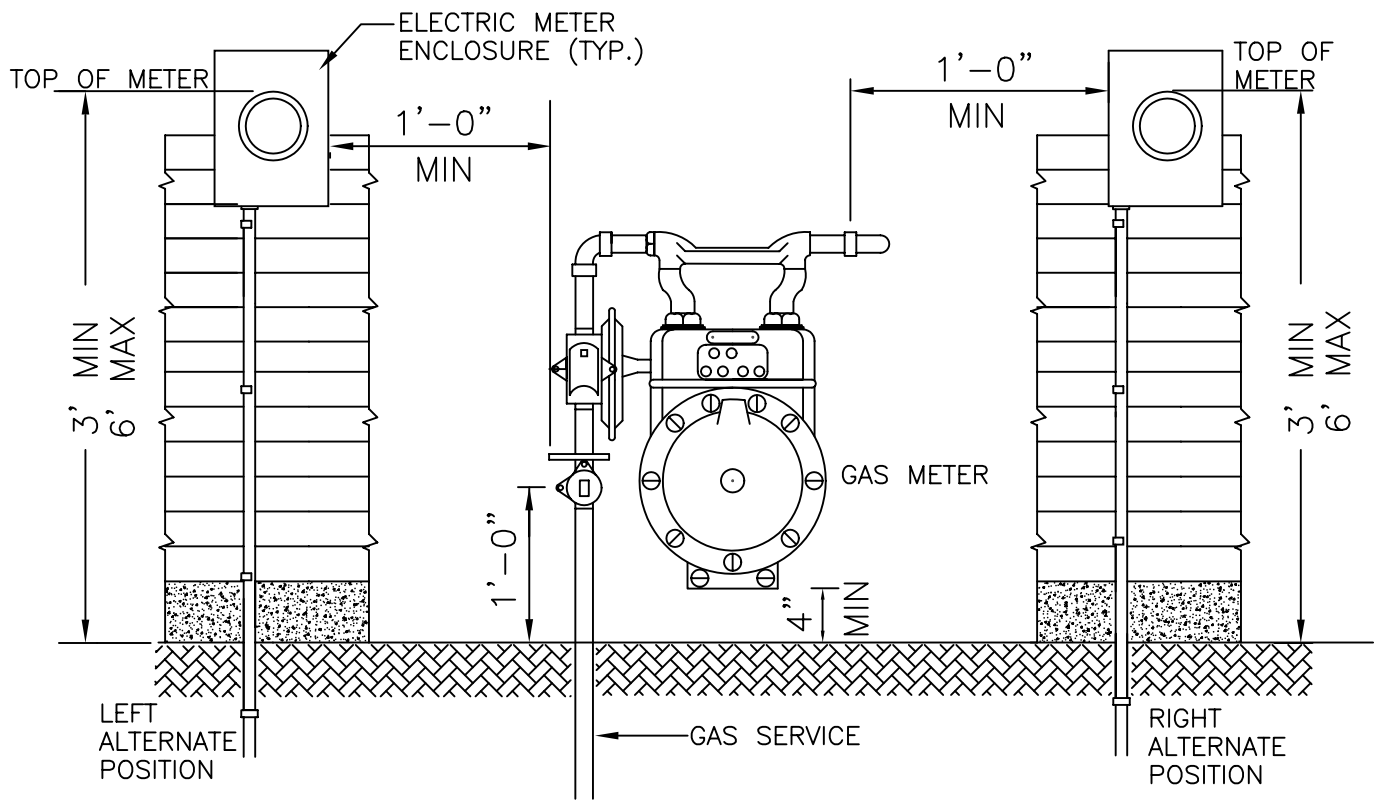
**UNDERGROUND SERVICE
SINGLE PHASE SELF CONTAINED METER
OUTDOOR SOCKET METER INSTALLATION**



NOTES:

1. ALL ITEMS SHOWN SHALL BE FURNISHED AND INSTALLED BY THE CUSTOMER UNLESS OTHERWISE STATED.
2. ALL METER PAN ASSEMBLIES SHALL BE AS APPROVED BY LIPA. METER SOCKETS SHALL BE EQUIPPED WITH A FIFTH JAW LOCATED IN THE NINE O' CLOCK POSITION.
3. GAS PIPES SHALL NOT BE USED AS A GROUNDING ELECTRODE. WIRES INTENDED TO BE USED FOR BONDING SHALL NOT BE PLACED IN CONTACT WITH ANY GAS PIPE.
4. GROUNDING SHALL BE IN ACCORDANCE WITH THE APPLICABLE SECTIONS OF ARTICAL 250 OF THE NATIONAL ELECTRICAL CODE.
5. OVERHEAD SERVICE CONDUITS AND PROTECTIVE SLEEVES SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE(NEC).
6. SERVICE ENTRANCE TYPE "SE" CABLE SHALL BE AS APPROVED BY LIPA AND CAN BE USED WITHOUT BEING ENCASED IN IN CONDUIT ON THE LINE SIDE OF THE METER ENCLOSURE, PROVIDING IT WILL NOT COME IN CONTACT WITH ANY AWNINGS, SHUTTERS, SIGNS, OR ANY OTHER OBJECTS THAT CAN CAUSE MECHANICAL INJURY TO THE CABLE. WHEN INSTALLED ON THE SIDE OF A BUILDING ADJACENT TO A DRIVEWAY THE CABLE SHALL BE ENCASED IN CONDUIT. PROTECTIVE SLEEVING ON TYPE "SE" CABLE IS REQUIRED TO A HEIGHT OF EIGHT FEET ABOVE FINISHED GRADE. THE SLEEVE SHALL BE SPACED APPROXIMATELY ONE INCH FROM THE TOP OF THE METER PAN. WEATHER TIGHT TYPE "SE" CONNECTORS SHALL BE USED FOR CONNECTION TO THE METER ENCLOSURE.
7. A FOUR FOOT CLEARANCE FROM FLOOR TO CEILING SHALL BE MAINTAINED IN FRONT OF THE METER INSTALLATION FOR SAFE ACCESS.
8. IN ADDITION TO LIPA REQUIREMENTS, INSTALLATIONS, MAY BE SUBJECT TO THE APPROVAL OF THE LOCAL ELECTRICAL INSPECTION AGENCY AS WELL AS LOCAL MUNICIPALITIES HAVING JURISDICTION.
9. ALL METER PANS AND SERVICE DISCONNECT SWITCHES SHALL BE PERMANENTLY STENCILED INTERNALLY AND EXTERNALLY WITH THE BUILDING AND/OR SUITE NUMBER TO IDENTIFY THE PORTION OF THE PREMISES BEING SERVED.
10. ONLY FACTORY PREFABRICATED KNOCKOUTS ON METER ENCLOSURES SHALL BE USED.
11. RIGID METALLIC CONDUIT (RMC) AND RIGID NON-METALLIC CONDUIT (RNC) (SCHD. 40 OR 80 RESPECTIVELY, AS REQUIRED), ARE APPROVED FOR BELOW GRADE USE. ELECTRIC METALLIC TUBING (EMT) AND INTERMEDIATE METALLIC CONDUIT (IMC) ARE NOT APPROVED FOR BELOW GRADE INSTALLATION.

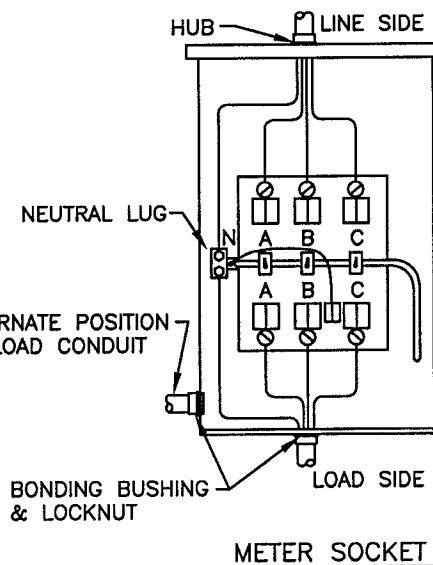
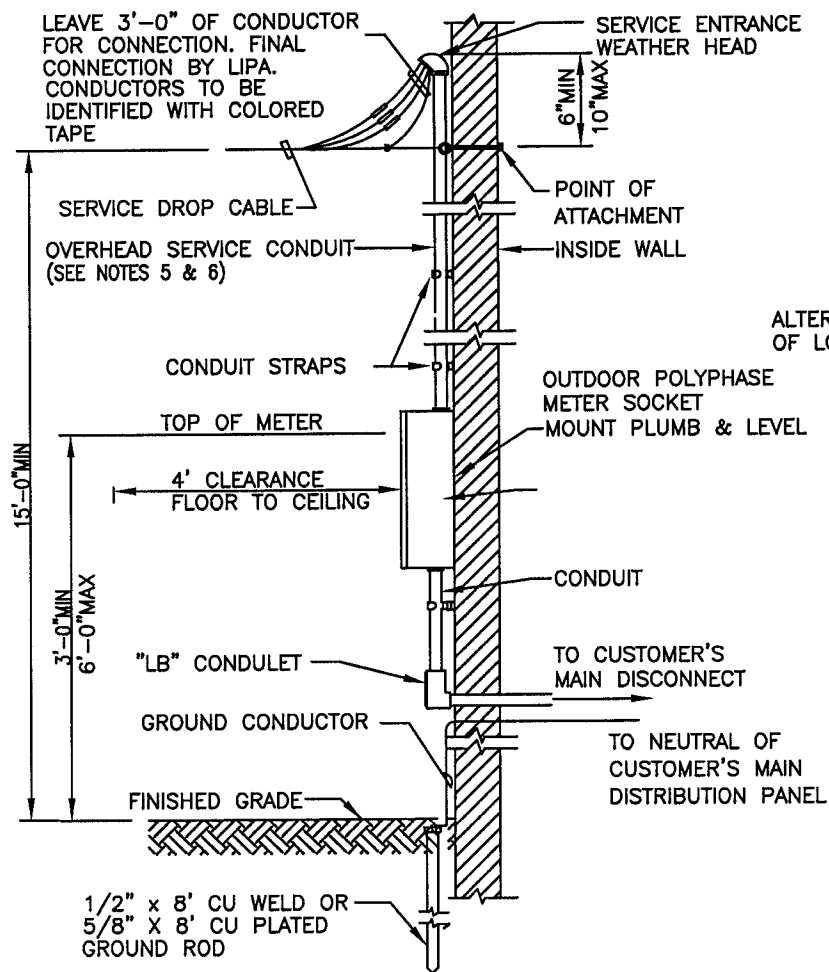
UNDERGROUND AND OVERHEAD SERVICE
SINGLE PHASE SELF CONTAINED METERS
OUTDOOR MULTI-METER SOCKET ENCLOSURE



NOTES:

1. GAS SERVICE PIPES SHALL NOT BE USED AS A GROUNDING ELECTRODE. WIRES INTENDED TO BE USED FOR BONDING SHALL NOT BE PLACED IN CONTACT WITH ANY GAS PIPE.
2. A FOUR FOOT CLEARANCE FROM FLOOR TO CEILING SHALL BE MAINTAINED IN FRONT OF THE METER INSTALLATION FOR SAFE ACCESS.
3. IN ADDITION TO LIPA'S REQUIREMENTS, INSTALLATIONS MAY BE SUBJECT TO THE APPROVAL OF THE LOCAL ELECTRICAL INSPECTION AGENCY AS WELL AS LOCAL MUNICIPALITIES.
4. A MINIMUM SEPARATION OF 1'-0" MUST BE MAINTAINED BETWEEN GAS AND ELECTRIC SERVICE FACILITIES.
5. SEPARATION OF GAS SERVICE PIPE OR TUBING AND ALL OTHER UNDERGROUND FACILITIES OR STRUCTURES SHALL BE MAINTAINED IN ACCORDANCE WITH APPROPRIATE CONSTRUCTION STANDARDS.
6. NO ELECTRIC METER ENCLOSURE SHALL BE INSTALLED ABOVE THE GAS METER.
7. NO PROTECTION BOLLARDS SHALL BE PLACED IN FRONT OF THE ELECTRIC METER.
8. VENTING OF GAS REGULATOR SHALL BE PLACED A MINIMUM OF 1'-0" FROM THE NEAREST PART OF THE ELECTRIC METER INSTALLATION.
9. A 1' SEPARATION FROM GAS LOAD PIPE TO THE DISTRIBUTION PANEL IS REQUIRED.
10. FOR INTERIOR GAS METERS, A MINIMUM OF 3' CLEARANCE IS REQUIRED BETWEEN THE GAS SERVICE PIPING AND METERS AND ANY ELECTRICAL SERVICE EQUIPMENT.

LOCATIONS AND CLEARANCES
FOR
ELECTRIC & GAS METERS



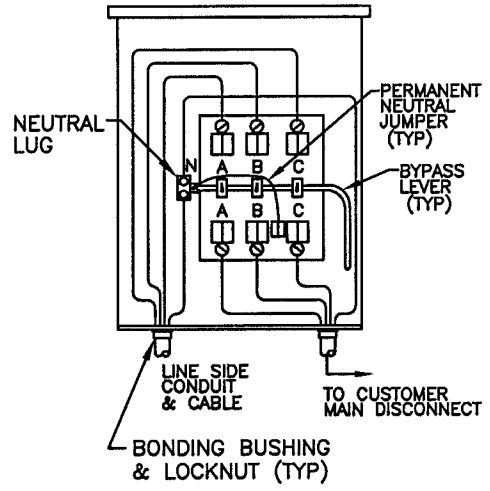
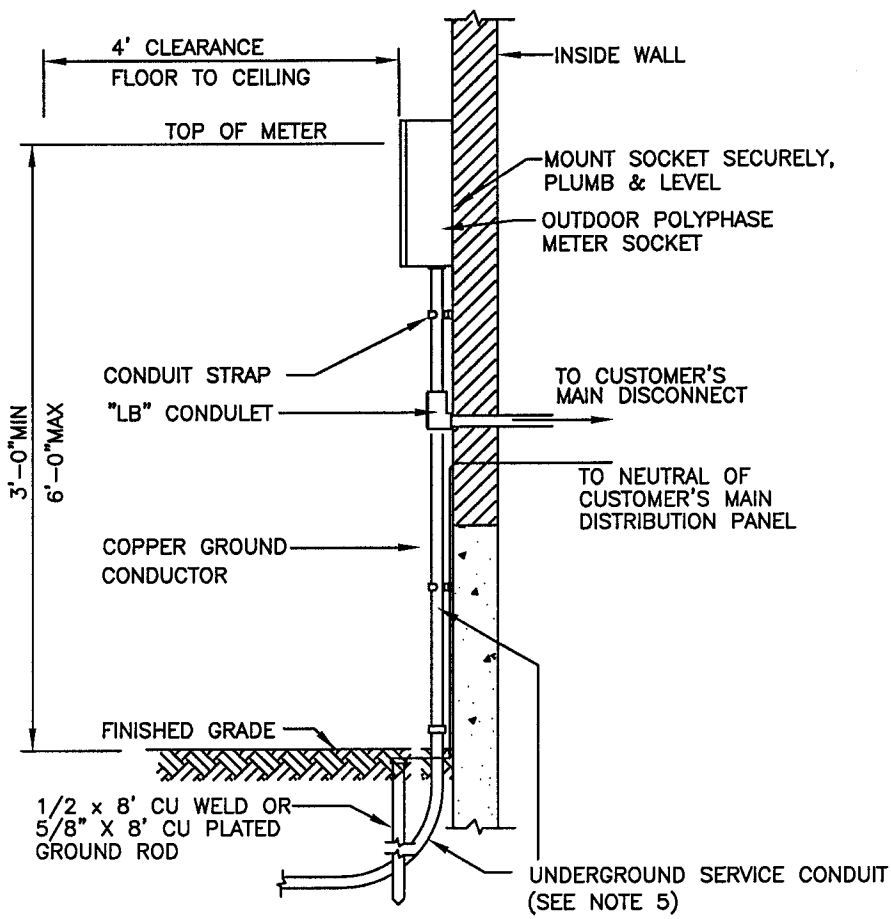
PHASE CONDUCTOR IDENTIFICATION
MIN. 2" COLORED TAPE

	DELTA 240/120	WYE 208Y/120
PHASE A	BLUE	BLUE
PHASE B	BLACK	BLACK
PHASE C	ORANGE	RED
NEUTRAL	WHITE	WHITE

NOTES:

1. ALL ITEMS SHOWN SHALL BE FURNISHED AND INSTALLED BY THE CUSTOMER UNLESS OTHERWISE STATED.
2. ALL METER PAN ASSEMBLIES SHALL BE AS APPROVED BY LIPA. METER SOCKET ASSEMBLY SHALL BE EQUIPPED WITH A LEVER OPERATED, JAW RELEASE BYPASS MECHANISM.
3. GAS SERVICE PIPES SHALL NOT BE USED AS A GROUNDING ELECTRODE. WIRES INTENDED TO BE USED FOR BONDING SHALL NOT BE PLACED IN CONTACT WITH ANY GAS PIPE.
4. GROUNDING SHALL BE IN ACCORDANCE WITH THE APPLICABLE SECTIONS OF ARTICLE 250 OF THE NATIONAL ELECTRIC CODE.
5. OVERHEAD SERVICE CONDUITS AND PROTECTIVE SLEEVES SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE.(NEC)
6. SERVICE ENTRANCE TYPE "SE" CABLE SHALL BE AS APPROVED BY LIPA AND CAN BE USED WITHOUT BEING ENCASED IN CONDUIT ON THE LINE SIDE OF THE METER ENCLOSURE, PROVIDING IT WILL NOT COME IN CONTACT WITH ANY AWNINGS, SHUTTERS, SIGNS, OR ANY OTHER OBJECTS THAT CAN CAUSE MECHANICAL INJURY TO THE CABLE. WHEN INSTALLED ON THE SIDE OF A BUILDING ADJACENT TO A DRIVEWAY THE CABLE SHALL BE ENCASED IN CONDUIT. PROTECTIVE SLEEVING ON TYPE "SE" CABLE IS REQUIRED TO A HEIGHT OF EIGHT FEET ABOVE FINISHED GRADE. THE SLEEVE SHALL BE SPACED A MINIMUM OF ONE INCH FROM THE TOP OF THE METER PAN. WEATHERTIGHT TYPE "SE" CONNECTORS SHALL BE USED FOR CONNECTION TO THE METER ENCLOSURE.
7. A FOUR FOOT CLEARANCE FROM FLOOR TO CEILING SHALL BE MAINTAINED IN FRONT OF THE METER INSTALLATION FOR SAFE ACCESS.
8. IN ADDITION TO LIPA'S REQUIREMENTS, INSTALLATIONS MAY BE SUBJECT TO THE APPROVAL OF THE LOCAL ELECTRICAL INSPECTION AGENCY AS WELL AS LOCAL MUNICIPALITIES.
9. ONLY FACTORY PREFABRICATED KNOCKOUTS ON METER ENCLOSURES SHALL BE USED.

OVERHEAD SERVICE
POLY-PHASE SELF CONTAINED METERS
200 AMPERE SOCKET METER INSTALLATION



METER SOCKET

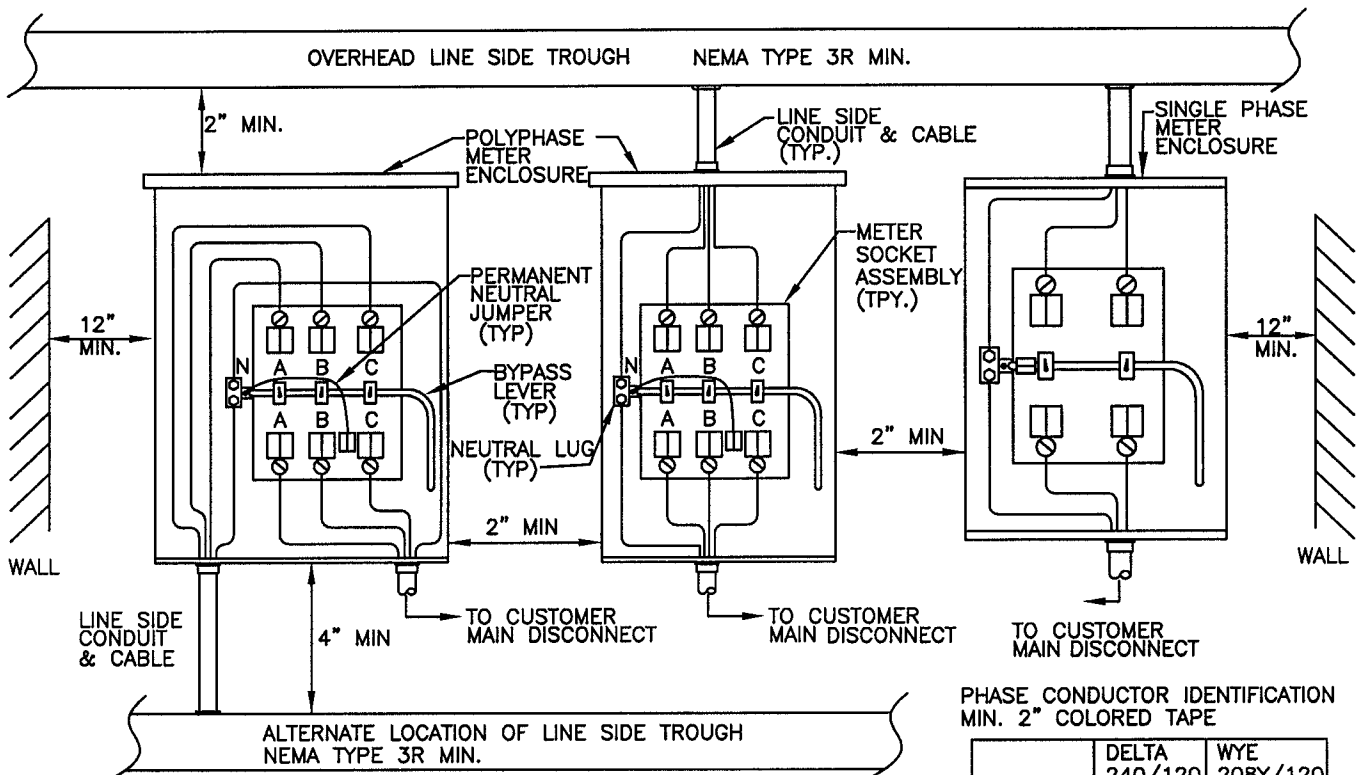
PHASE CONDUCTOR IDENTIFICATION
MIN. 2" COLORED TAPE

	DELTA 240/120	WYE 208Y/120
PHASE A	BLUE	BLUE
PHASE B	BLACK	BLACK
PHASE C	ORANGE	RED
NEUTRAL	WHITE	WHITE

NOTES:

1. ALL ITEMS SHOWN SHALL BE FURNISHED AND INSTALLED BY THE CUSTOMER UNLESS OTHERWISE STATED.
2. ALL METER PAN ASSEMBLIES SHALL BE AS APPROVED BY LIPA. METER SOCKET ASSEMBLY SHALL BE EQUIPPED WITH A LEVER OPERATED, JAW RELEASE BYPASS MECHANISM.
3. GAS SERVICE PIPES SHALL NOT BE USED AS A GROUNDING ELECTRODE. WIRES INTENDED TO BE USED FOR BONDING SHALL NOT BE PLACED IN CONTACT WITH ANY GAS PIPE.
4. GROUNDING SHALL BE IN ACCORDANCE WITH THE APPLICABLE SECTIONS OF ARTICLE 250 OF THE NATIONAL ELECTRIC CODE.
5. RIGID METALLIC CONDUIT (RMC) AND RIGID NON-METALLIC CONDUIT (RNC) (SCHEDULE 40 OR 80 RESPECTIVELY, AS REQUIRED), ARE APPROVED FOR BELOW GRADE USE. ELECTRIC METALLIC TUBING (E.M.T.) AND INTERMEDIATE METALLIC CONDUIT (I.M.C.) ARE NOT APPROVED FOR BELOW GRADE INSTALLATION.
6. A FOUR FOOT CLEARANCE FROM FLOOR TO CEILING SHALL BE MAINTAINED IN FRONT OF THE METER INSTALLATION FOR SAFE ACCESS.
7. IN ADDITION TO LIPA'S REQUIREMENTS, INSTALLATIONS MAY BE SUBJECT TO THE APPROVAL OF THE LOCAL ELECTRICAL INSPECTION AGENCY AS WELL AS LOCAL MUNICIPALITIES.
8. ONLY FACTORY PREFABRICATED KNOCKOUTS ON METER ENCLOSURES SHALL BE USED.

UNDERGROUND SERVICE
POLY-PHASE SELF CONTAINED METERS
200 AMPERE SOCKET METER INSTALLATION



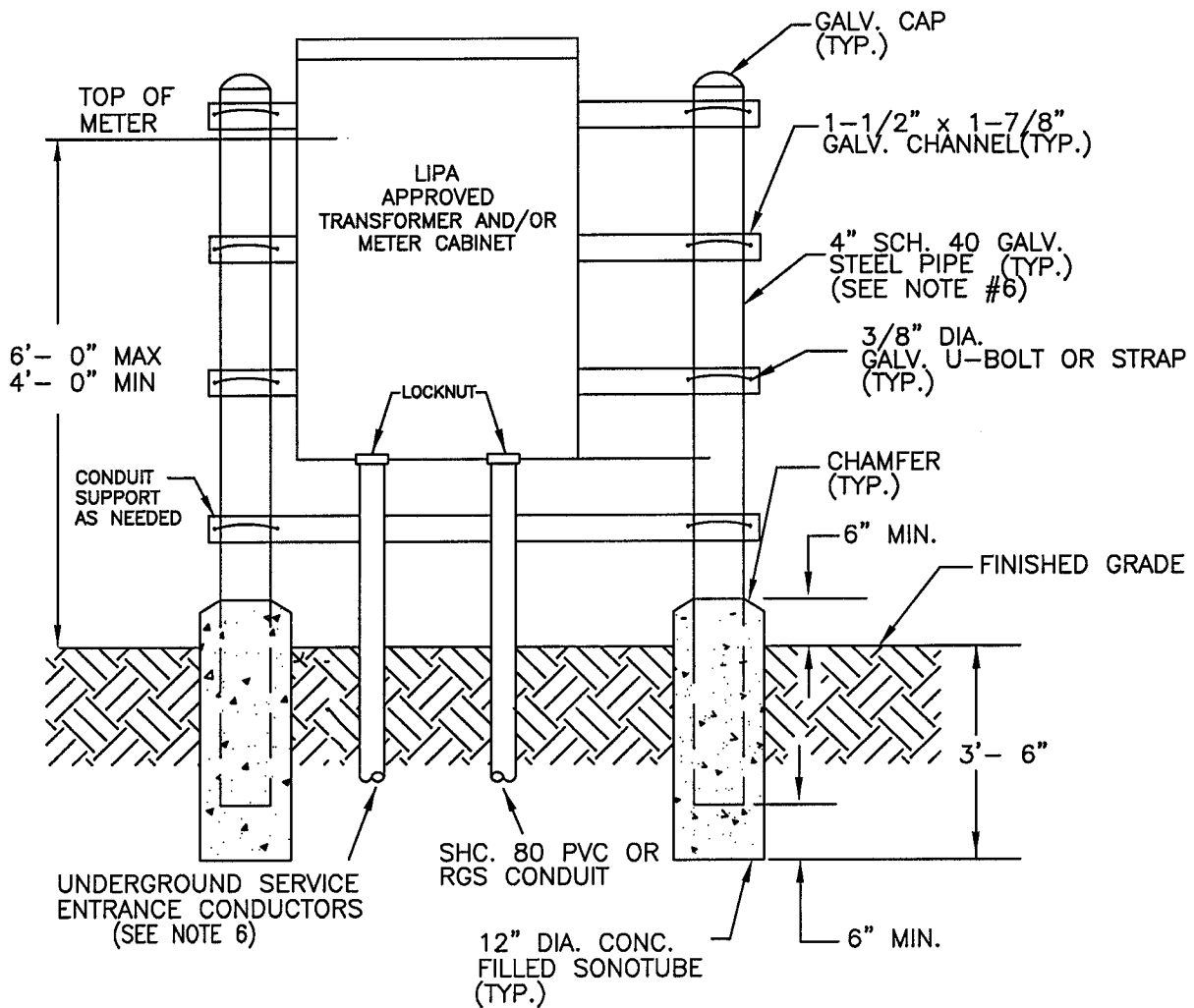
PHASE CONDUCTOR IDENTIFICATION
MIN. 2" COLORED TAPE

	DELTA 240/120	WYE 208Y/120
PHASE A	BLUE	BLUE
PHASE B	BLACK	BLACK
PHASE C	ORANGE	RED
NEUTRAL	WHITE	WHITE

NOTES:

1. ALL ITEMS SHOWN SHALL BE FURNISHED AND INSTALLED BY THE CUSTOMER UNLESS OTHERWISE STATED.
2. ALL METER PAN ASSEMBLIES SHALL BE AS APPROVED BY LIPA. METER SOCKET ASSEMBLY SHALL BE EQUIPPED WITH A LEVER OPERATED, JAW RELEASE BYPASS MECHANISM.
3. GAS SERVICE PIPES SHALL NOT BE USED AS A GROUNDING ELECTRODE. WIRES INTENDED TO BE USED FOR BONDING SHALL NOT BE PLACED IN CONTACT WITH ANY GAS PIPE.
4. GROUNDING SHALL BE IN ACCORDANCE WITH THE APPLICABLE SECTIONS OF ARTICLE 250 OF THE NATIONAL ELECTRIC CODE.
5. CONDUIT SHALL BE IN ACCORDANCE WITH THE REQUIRMENTS OF THE NEC.
6. LINE AND LOAD CONDUIT CONDUCTORS SHALL NOT CROSS WITHIN THE METER ENCLOSURE. RIGHT SIDE OF METER ENCLOSURE SHALL NOT BE USED AS A RACEWAY EXCEPT FOR ROUTING NEUTRAL CABLE AS SHOWN. NEUTRAL CABLE SHALL BE NEATLY TRAINED SO AS TO PERMIT PROPER OPERATION OF LEVER.
7. A FOUR FOOT CLEARANCE FROM FLOOR TO CEILING SHALL BE MAINTAINED IN FRONT OF THE METER INSTALLATION FOR SAFE ACCESS.
8. IN ADDITION TO LIPA'S REQUIREMENTS, INSTALLATIONS MAY BE SUBJECT TO THE APPROVAL OF THE LOCAL ELECTRICAL INSPECTION AGENCY AS WELL AS LOCAL MUNICIPALITIES.
9. ALL METER PANS AND SERVICE DISCONNECT SWITCHES SHALL BE PERMANENTLY STENCILED INTERNALLY AND EXTERNALLY WITH THE BUILDING AND/OR SUITE NUMBER TO IDENTIFY THE PORTION OF THE PREMISES BEING SERVED.
10. LINE CONDUCTORS SHALL ENTER METER ENCLOSURE ON THE TOP OR BOTTOM LEFT.
11. ONLY FACTORY PREFABRICATED KNOCKOUTS ON METER ENCLOSURES SHALL BE USED.
12. IDENTIFICATION OF PHASE CONDUCTORS SHALL BE WITH COLORED TAPE FOR A MINIMUM OF TWO INCHES.

TROUGH SUPPLY
SINGLE AND POLY-PHASE SELF CONTAINED METERS
200 AMPERE MULTI-METER SOCKET INSTALLATION

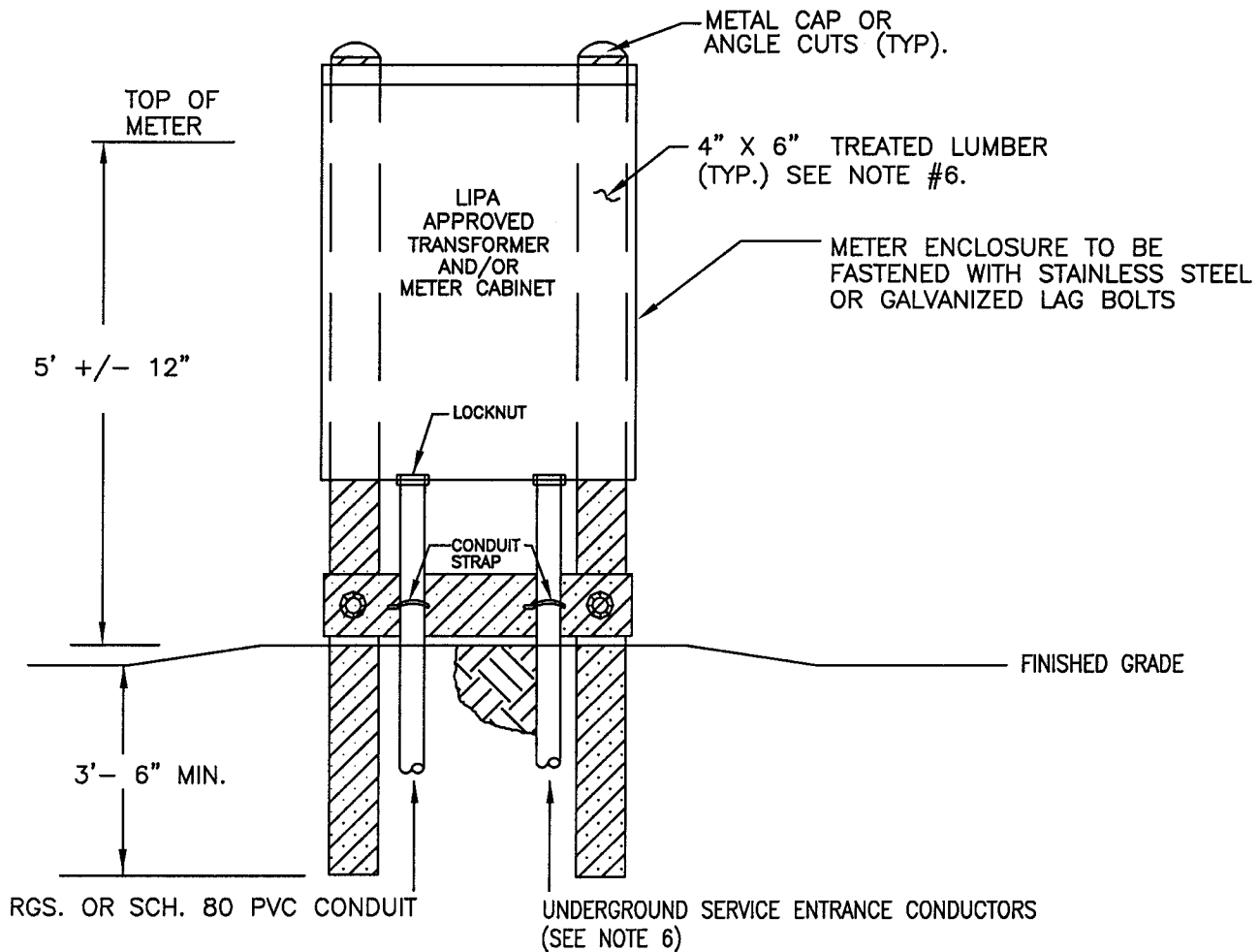


H - FRAME INSTALLATIONS ARE RESTRICTED/NOT PERMITTED BY SOME MUNICIPALITIES. CHECK LOCAL CODES PRIOR TO INSTALLATION.

NOTES:

1. CONCRETE FILLED PROTECTION BOLLARDS SHALL BE INSTALLED WHEN INSTALLATION IS IN THE VICINITY OF VEHICULAR TRAFFIC. BOLLARDS SHALL BE PLACED A MINIMUM OF 4' FROM THE CABINET AND SHALL BE PAINTED FLUORESCENT YELLOW. BOLLARDS SHALL BE CONSTRUCTED FROM A MINIMUM OF 3.5" OUTSIDE DIAMETER SCHEDULE 40 GALVANIZED PIPE, SHALL BE SPACED 24" ON CENTERS AND SHALL BE A MINIMUM OF 3' HIGH.
2. ONLY MANUFACTURER'S KNOCKOUTS SHALL BE USED ON THE TRANSFORMER AND/OR METER CABINET.
3. CONDUIT AND CABLE SIZING SHALL CONFORM TO THE NATIONAL ELECTRIC CODE.
4. NEC REQUIREMENTS FOR A WATER PIPE AND SUPPLEMENTAL GROUND ROD AT THE MAIN DISCONNECT SHALL BE ADHERED TO.
5. FOR SELF-CONTAINED METER ENCLOSURES, 2" RIGID GALVANIZED STEEL PIPE WITH APPROPRIATELY SIZED CHANNEL AND CONCRETE BASE MAY BE USED.
6. RIGID METALLIC CONDUIT (RMC) AND RIGID NON-METALLIC CONDUIT (RNC) (SCHD. 40 OR 80 RESPECTIVELY, AS REQUIRED), ARE APPROVED FOR BELOW GRADE USE. ELECTRIC METALLIC TUBING (EMT) AND INTERMEDIATE METALLIC CONDUIT (IMC) ARE NOT APPROVED FOR BELOW GRADE INSTALLATION.
7. SEE DRAWING D31 FOR CT CABINET WITH REMOTE METER SOCKET REQUIREMENTS.

**REMOTE METER FRAME CONSTRUCTION
OUTDOOR MOUNTING FOR TRANSFORMER AND/OR METER CABINET**

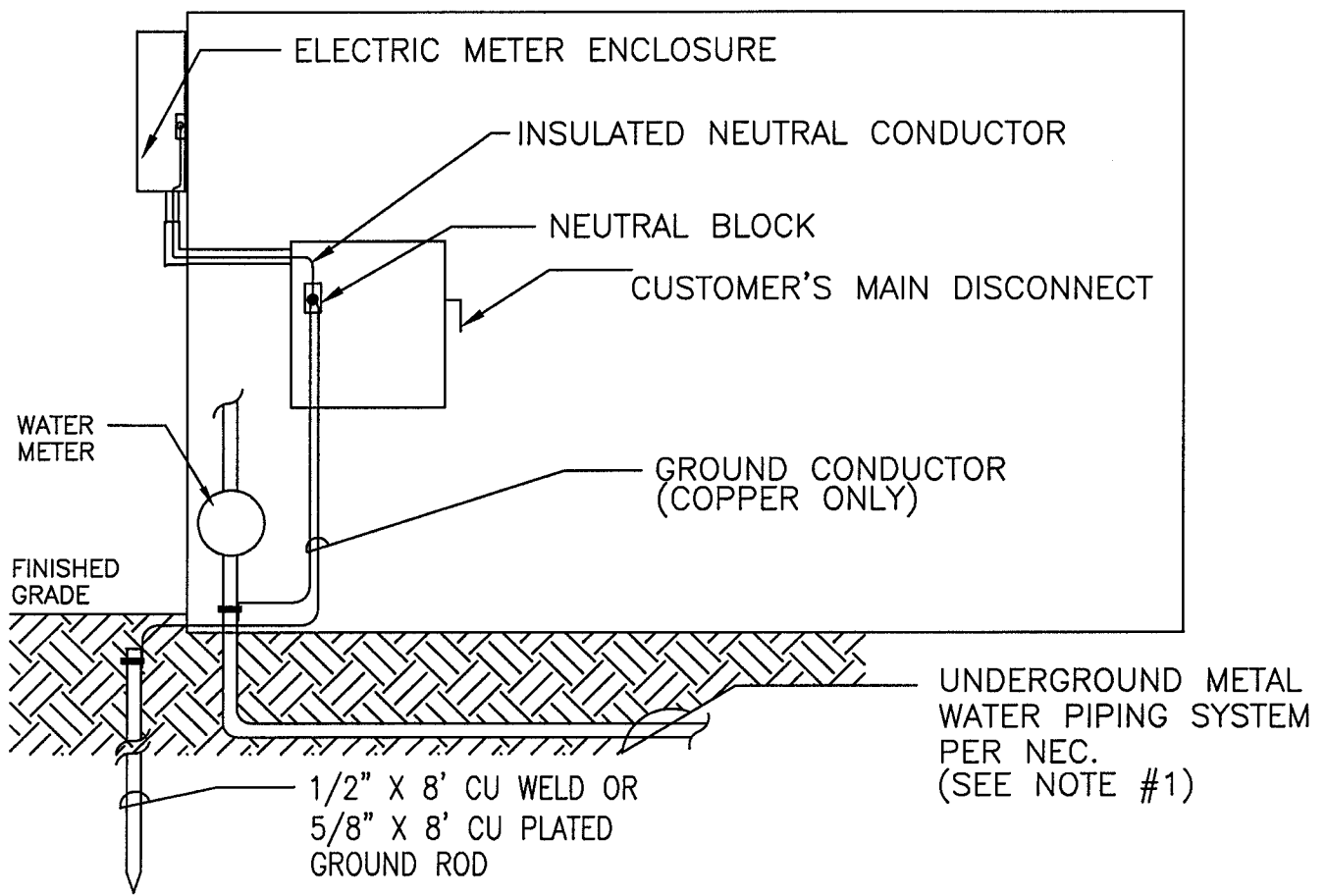


H - FRAME INSTALLATIONS ARE RESTRICTED/NOT PERMITTED BY SOME MUNICIPALITIES. CHECK LOCAL CODES PRIOR TO INSTALLATION.

NOTES:

1. CONCRETE FILLED PROTECTION BOLLARDS SHALL BE INSTALLED WHEN INSTALLATION IS IN THE VICINITY OF VEHICULAR TRAFFIC. BOLLARDS SHALL BE PLACED A MINIMUM OF FOUR FEET (4') FROM THE CABINET AND SHALL BE PAINTED FLUORESCENT YELLOW. BOLLARDS SHALL BE CONSTRUCTED FROM A MINIMUM OF 3.5" OUTSIDE DIAMETER SCHEDULE 40 GALVANIZED PIPE, SHALL BE SPACED 24" ON CENTERS AND SHALL BE A MINIMUM OF 3' HIGH.
2. ONLY MANUFACTURER'S KNOCKOUTS SHALL BE USED ON THE TRANSFORMER AND/OR METER CABINET. ONLY MANUFACTURER APPROVED LUG KITS SHALL BE USED.
3. CONDUIT AND CABLE SIZING SHALL CONFORM TO THE NATIONAL ELECTRIC CODE.
4. NEC REQUIREMENTS FOR A WATER PIPE AND SUPPLEMENTAL GROUND ROD AT THE MAIN DISCONNECT SHALL ALSO BE ADHERED TO.
5. 4" x 4" TREATED LUMBER MAY BE USED FOR SELF-CONTAINED METER ENCLOSURES.
6. RIGID METALLIC CONDUIT (RMC) AND RIGID NON-METALLIC CONDUIT (RNC) (SCHD. 40 OR 80 RESPECTIVELY, AS REQUIRED), ARE APPROVED FOR BELOW GRADE USE. ELECTRIC METALLIC TUBING (EMT) AND INTERMEDIATE METALLIC CONDUIT (IMC) ARE NOT APPROVED FOR BELOW GRADE INSTALLATION.
7. IDENTIFY LINE AND LOAD. MAXIMUM RATING FOR CABINET IS 800 AMPERES.
8. SEE DRAWING D31 FOR CT CABINET WITH REMOTE METER SOCKET REQUIREMENTS.

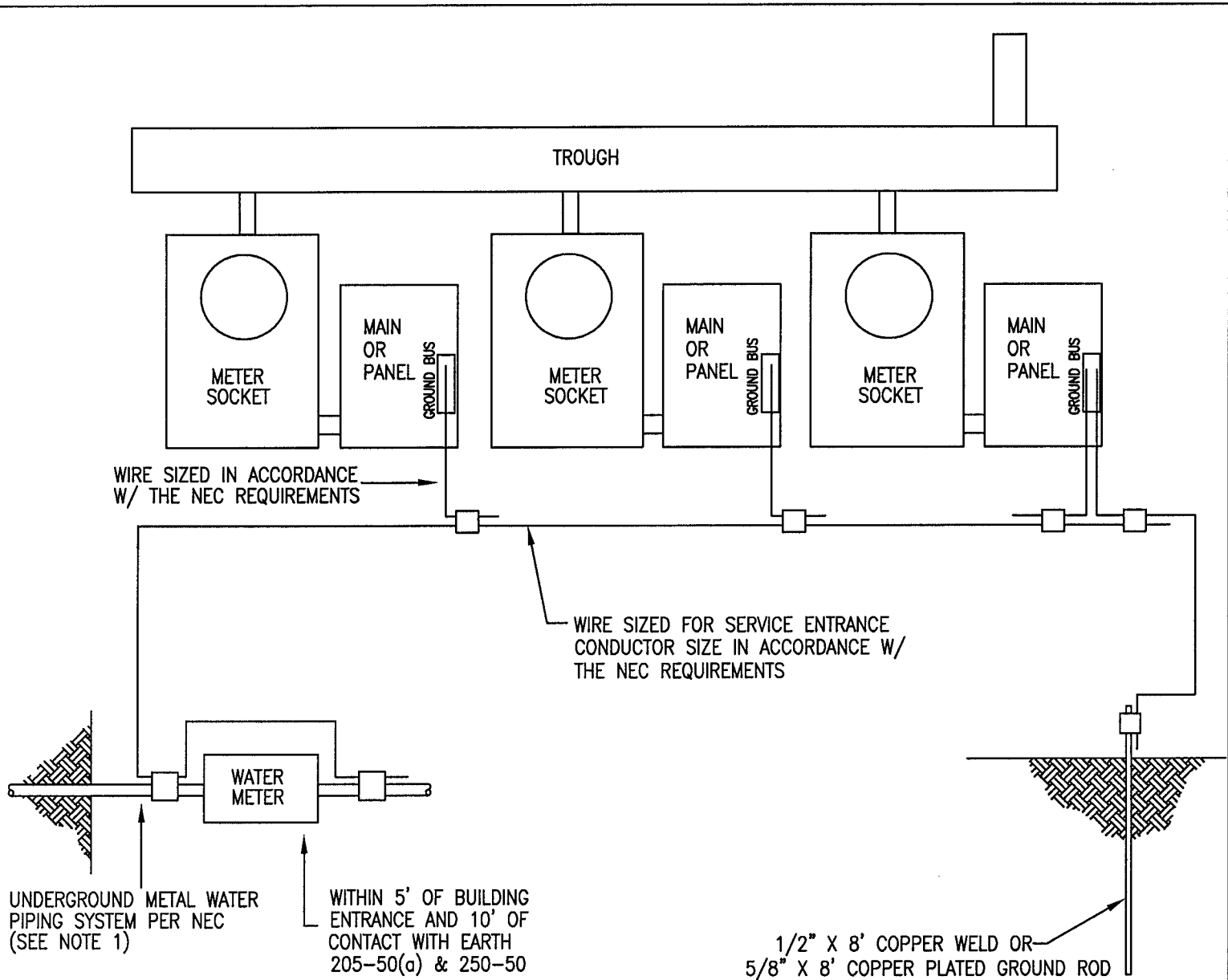
REMOTE METER FRAME CONSTRUCTION - ALTERNATE DESIGN
 OUTDOOR MOUNTING FOR TRANSFORMER AND/OR METER CABINET



NOTES:

1. WHERE WATER PIPING SYSTEM IS CONSTRUCTED FROM PLASTIC, A SECOND GROUND ROD IS REQUIRED TO BE INSTALLED AT A MINIMUM DISTANCE OF SIX FEET FROM THE FIRST. THE REQUIREMENT FOR A SECOND GROUND ROD IS APPLICABLE WHERE TEN FEET OF CONTINUOUS METAL WATER PIPE IN EARTH IS NOT AVAILABLE.
2. GROUNDING SHALL BE IN ACCORDANCE WITH ARTICLE 250 OF THE NATIONAL ELECTRICAL CODE.
3. WHERE GALVANIZED OR ELECTRICAL METAL TUBING IS USED WITH BONDING BUSHING, OR PVC SCHEDULE 80 IS USED, NO ADDITIONAL BOND WIRE IS REQUIRED BETWEEN ENCLOSURES. BUSHINGS SHALL BE BONDED TO THEIR RESPECTIVE ENCLOSURES. BOND WIRE SHALL BE A MINIMUM OF #8 AWG GREEN INSULATED COPPER.

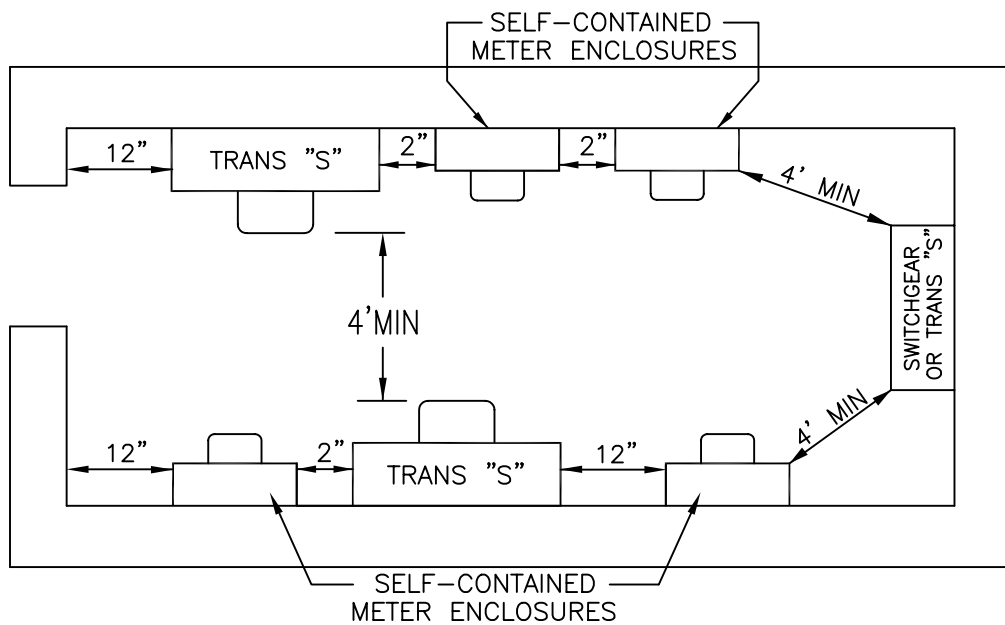
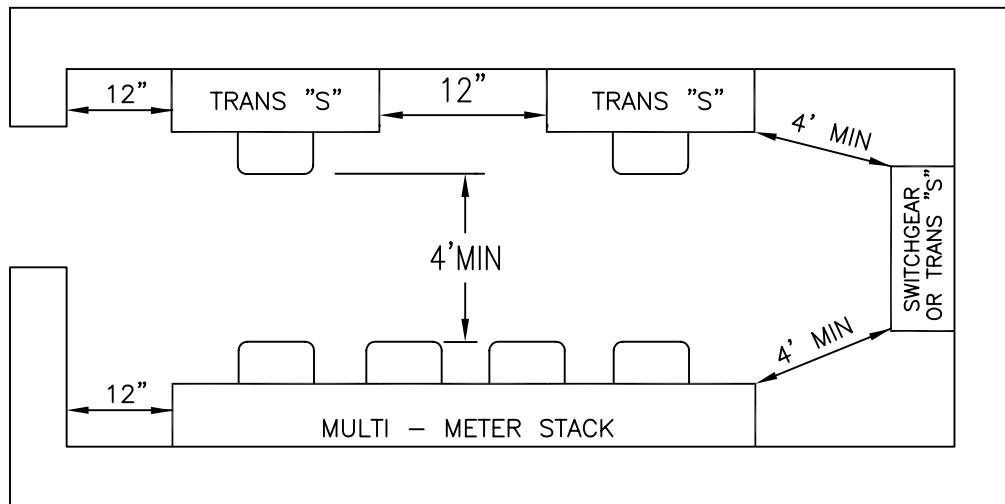
TYPICAL GROUNDING REQUIREMENTS
SINGLE METER / MAIN INSTALLATION



NOTES:

1. WHERE THE WATER PIPING SYSTEM IS CONSTRUCTED FROM PLASTIC, A SECOND GROUND ROD IS REQUIRED TO BE INSTALLED AT A MINIMUM DISTANCE OF SIX FEET FROM THE FIRST. THE REQUIREMENT FOR A SECOND GROUND ROD IS APPLICABLE WHERE TEN FEET OF CONTINUOUS METAL WATER PIPE IN EARTH IS NOT AVAILABLE.
2. GROUNDING SHALL BE IN ACCORDANCE WITH ARTICLE 250 OF THE NATIONAL ELECTRIC CODE.
3. WHERE GALV. OR ELECTRICAL METAL TUBING IS USED WITH BONDING BUSHING, OR PVC SCHD. 80 IS USED, NO ADDITIONAL BOND WIRE IS REQUIRED BETWEEN ENCLOSURES. BUSHINGS SHALL BE BONDED TO THEIR RESPECTIVE ENCLOSURES. BOND WIRE SHALL BE A MINIMUM OF #8 AWG GREEN INSULATED COPPER.

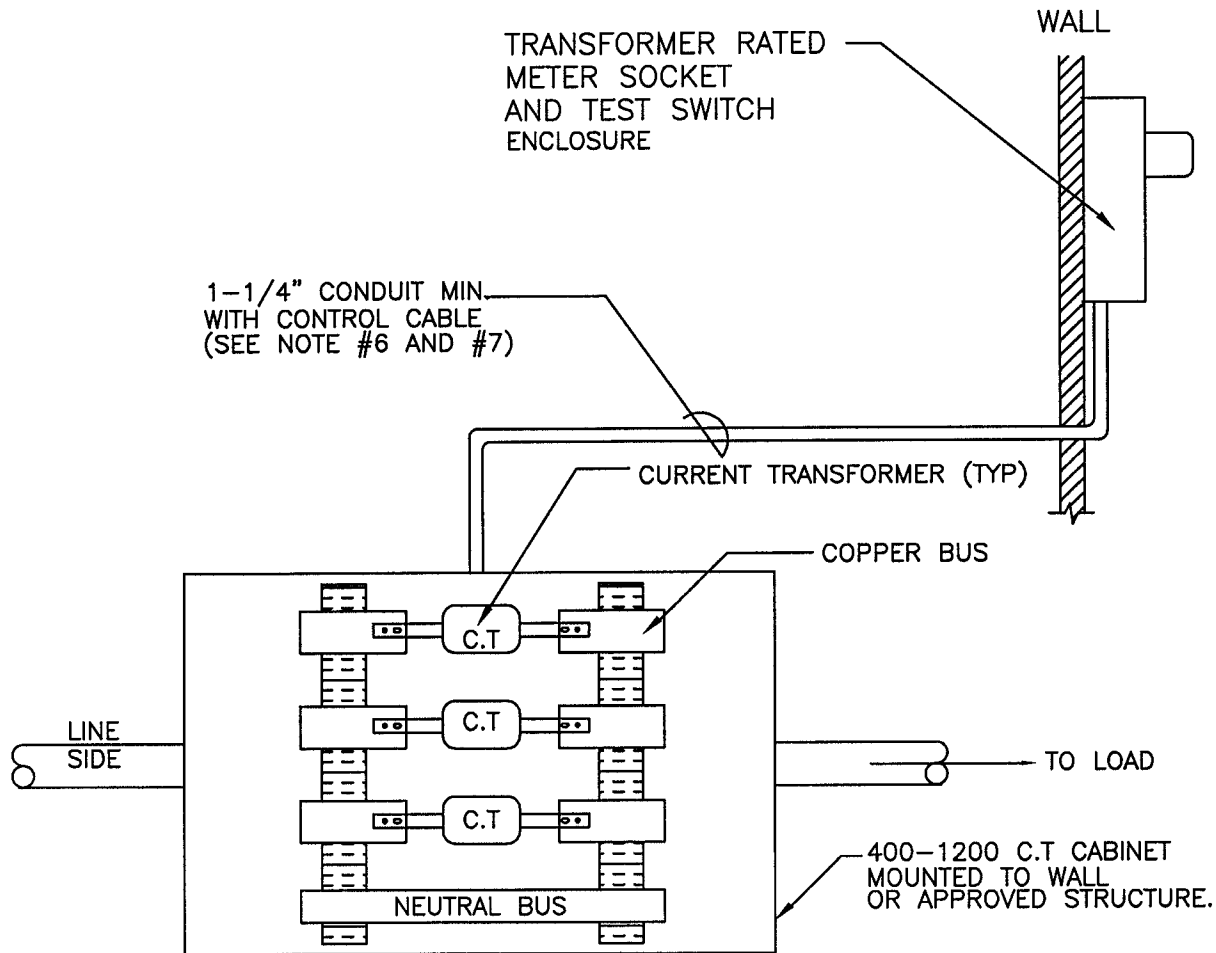
TYPICAL GROUNDING DETAILS
MULTI METER / MULTI MAIN INSTALLATION



NOTES:

1. WHEN METERS ARE ON WALLS FACING EACH OTHER, THERE MUST BE 4' OF CLEAR SPACE FROM FLOOR TO CEILING BETWEEN METERS.
2. SWITCHGEAR DOORS MUST BE ABLE TO OPEN FULLY WITHOUT BEING OBSTRUCTED BY ANY METER ENCLOSURES OR WALLS.
3. ROOMS CLASSIFIED AS CONFINED SPACE AND THOSE THAT REQUIRE LADDER ACCESS SHALL NOT BE USED AS METER ROOMS.
4. PITS AND VAULTS BELOW GRADE ARE NOT ACCEPTABLE AS METER ROOMS.
5. MINIMUM METER ROOM CEILING HEIGHT SHALL BE 6'-6". ADEQUATE LIGHTING SHALL BE PROVIDED IN METER ROOM.
6. GAS METERS ARE NOT PERMITTED IN ELECTRIC METER ROOMS.

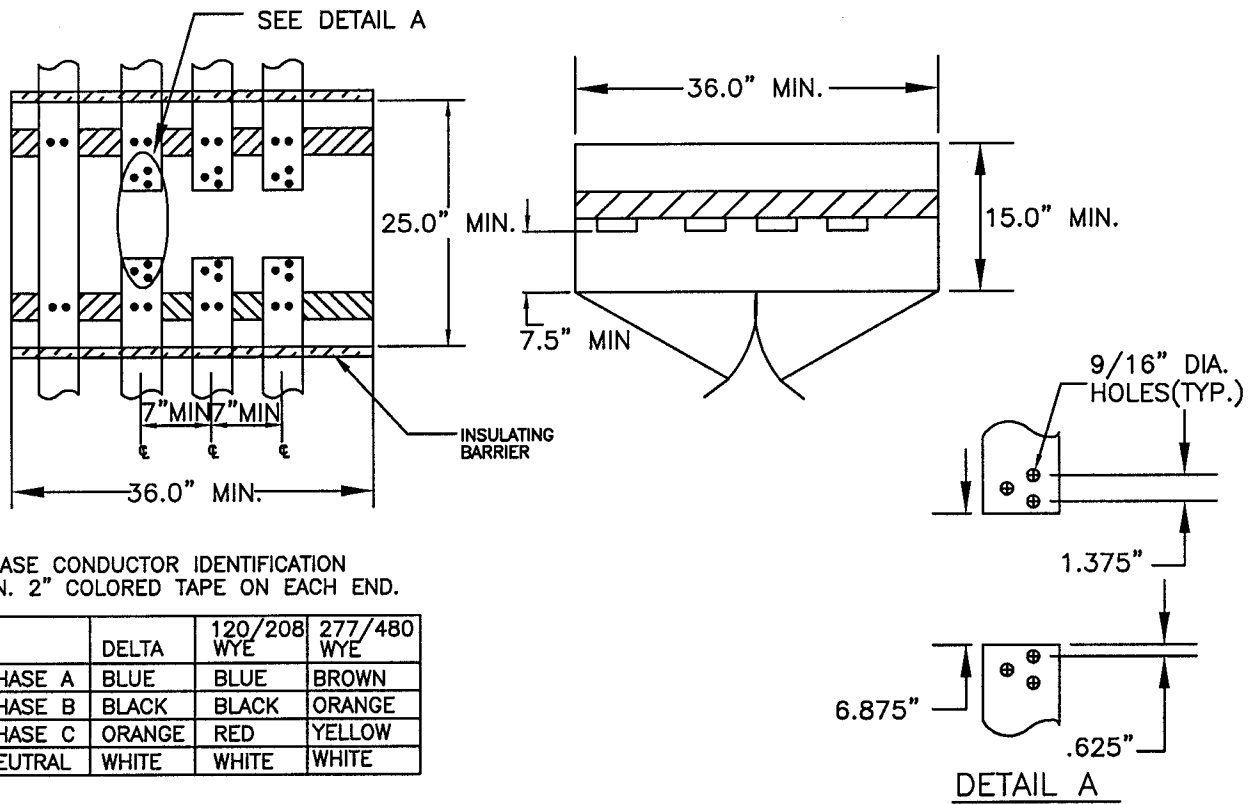
ELECTRIC METERING
EQUIPMENT CLEARANCES



NOTES:

1. CURENT TRANSFORMER CABINET SHALL NOT BE LOCATED IN ANY AREA CLASSIFIED AS CONFINED SPACE OR WHERE A LADDER ACCESS IS REQUIRED.
2. PITS AND VAULTS BELOW GRADE ARE NOT ACCEPTABLE AS METER ROOMS. METER ENCLOSURES OR CURRENT TRANSFORMER CABINETS SHALL NOT BE LOCATED IN THESE TYPES OF AREAS.
3. REFER TO NED ARTICLE 250 FOR GROUNDING AND BONDING REQUIREMENT.
4. CENTERLINE OF C.T CABINET SHALL BE A MAXIMUM OF 5'-0" OR A MINIMUM OF 3'-6" FROM FINISHED FLOOR.
5. CONTROL CABLE SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR, FINAL TERMINATION IN THE METER AND TRANSFORMER CABINET SHALL BE DONE BY LIPA
6. MAXIMUM DISTANCE OF METER SOCKET FROM C.T CABINET SHALL BE DETERMINED BY LIPA
7. WHEN PVC CONDUIT IS USED A # 8 AWG 600 VOLTS FACTORY INSULATED COPPER BOND WIRE SHALL BE INSTALLED BETWEEN THE METER SOCKET ENCLOSURE AND THE C.T CABINET THE BOND WIRE SHALL BE GREEN OR MARKED AS SUCH AND SHALL BE BONDED TO THE METER SOCKET ENCLOSURE AND TO THE CT. CABINET.
8. SEE DRAWINGS D26 & D27 FOR DETAILS ON REMOTE METER SOCKETS INSTALLED ON H-FRAMES.

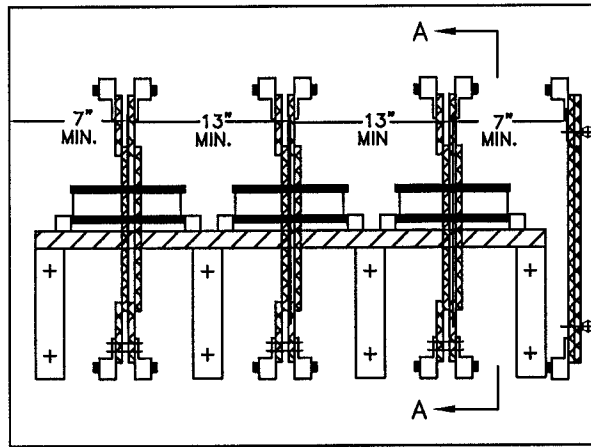
TRANSFORMER RATED METER SOCKET
AND
CURRENT TRANSFORMER CABINET INSTALLATION



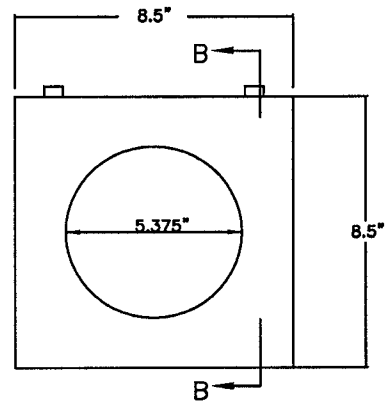
NOTES:

1. THE CURRENT TRANSFORMER COMPARTMENT SHALL BE LOCATED WITHIN THE INCOMING SWITCHGEAR CUBICLE WHICH SHALL BE CONSTRUCTED IN CONFORMANCE WITH UL 891.
2. THE CURRENT TRANSFORMER COMPARTMENT SHALL BE COMPLETELY ISOLATED FROM THE REMAINDER OF THE SWITCHGEAR CUBICLE BY MEANS OF INSULATING BARRIERS AS PER UL 891.
3. BUS BARS WITHIN THE CURRENT TRANSFORMER CUBICLE SHALL BE COPPER AND SHALL AS A MINIMUM BE TIN PLATED AT TERMINATION POINTS.
4. BUS BARS SHALL HAVE A MINIMUM THICKNESS OF 0.25 INCHES AND SHALL BE RATED AS PER NEC FOR 1000 AMPERES PER SQUARE INCH.
5. THE NEUTRAL BUS SHALL BE DRILLED WITH A 1/4 - 20 TAP FOR CURRENT TRANSFORMER CONNECTION.
6. THE FRONT OF THE CUBICLE SHALL BE FURNISHED WITH A DOUBLE SWING DOOR WHICH SHALL BE EQUIPPED WITH A THREE POINT LATCHING MECHANISM AND HAVE PROVISIONS FOR LIPA PADLOCKING.
7. DOOR SWING SHALL BE GREATER THAN 90 DEGREES AND SHALL BE EQUIPPED WITH PROVISIONS FOR HOLDING THE DOORS IN THE OPEN POSITION.
8. ALL BUS BARS LOCATED ON THE LINE SIDE OF THE CURRENT TRANSFORMER COMPARTMENT SHALL BE LOCATED WITHIN AN ENCLOSURE EQUIPPED WITH TAMPER PROOF SCREWS.
9. BUS BAR SUPPORT SHALL BE CONSTRUCTED FROM INSULATING MATERIALS CONFORMING TO UL 746.
10. GALVANIZED BOLTS, BELLEVILLE WASHERS AND NUTS SHALL BE PROVIDED FOR MOUNTING OF CURRENT TRANSFORMERS. BOLTS SHALL BE PERMANENTLY AFFIXED TO THE COPPER LANDING PADS.
11. LINE AND LOAD SIDES OF THE COMPARTMENT SHALL BE CLEARLY AND PERMANENTLY MARKED.

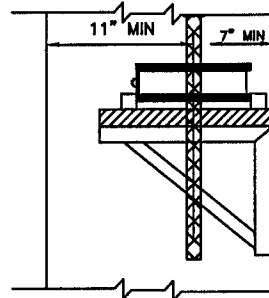
400 TO 1200 AMPERE SERVICE
CURRENT TRANSFORMER COMPARTMENT INSTALLATION



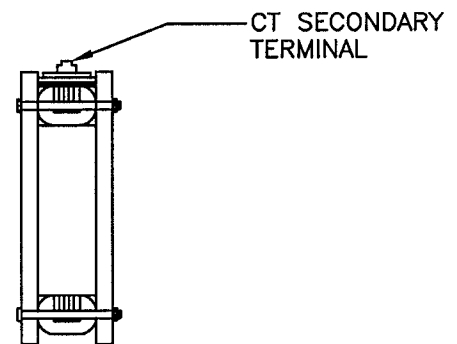
ELEVATION



CURRENT TRANSFORMER
PLAN VIEW



SECTION A-A

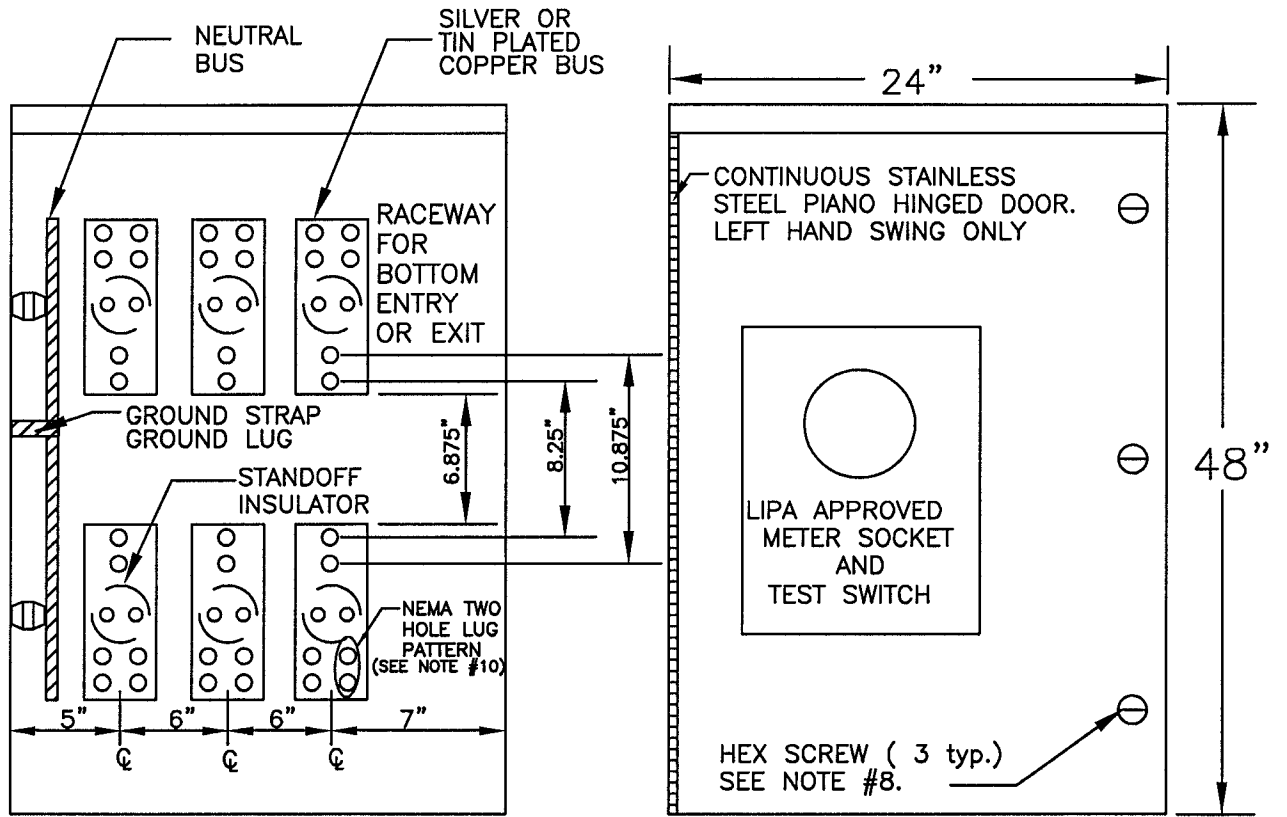


CT SECONDARY
TERMINAL

NOTES:

1. CURRENT TRANSFORMER SHALL BE INSTALLED AS SHOWN. CONDUCTOR SHALL BE COPPER BUS AND SHALL BE TIN PLATED AT TERMINATION POINTS AS A MINIMUM. BUS MUST BE CENTERED IN THE WINDOW OF THE TRANSFORMER.
2. THE BUS BAR INSTALLATION SHALL BE SO DESIGNED AS TO PERMIT A PRACTICAL AND EASY REPLACEMENT OF THE INSTRUMENT TRANSFORMERS.
3. MOUNTING OF THE TRANSFORMERS MAY BE STAGGERED VERTICALLY WHERE CLOSER CENTERS ARE REQUIRED. THE MINIMUM DISTANCES BETWEEN CENTERLINES OF TRANSFORMERS SHALL BE 10 INCHES.
4. THE TRANSFORMERS SHALL BE INSTALLED SO THAT THE PRIMARY POLARITY MARKS (H1) IS LOCATED ON THE LINE SIDE WHEREBY THE SECONDARY CONNECTIONS WILL BE READILY ACCESSIBLE.
5. ALL PHASE BUS AND THE NEUTRAL BUS SHALL BE DRILLED AND TAPPED FOR 1/4" - 20 SCREWS ON THE LINE SIDE OF THE TRANSFORMERS.
6. THE TRANSFORMER SHELF AND SUPPORTING BRACKETS SHALL BE CONSTRUCTED FROM NON-FERROUS NON-CONDUCTING, TYPE MATERIAL. MATERIAL SHALL CONFORM TO UL 746 AND UL 94.
7. THE TRANSFORMER COMPARTMENT SHALL BE COMPLETELY ISOLATED FROM THE REST OF THE ENCLOSURE WITH AN INSULATING MATERIAL CONFORMING TO UL 746 AND UL 94. THE TRANSFORMERS SHALL BE ACCESSIBLE THROUGH A LOCKABLE DOUBLE HINGED DOOR WHICH SHALL SPAN, AS A MINIMUM, THE OVERALL WIDTH AND HEIGHT OF THE TRANSFORMER COMPARTMENT.
8. THERE SHALL BE A MINIMUM OF FOUR FEET FROM FLOOR TO CEILING OF CLEAR WORKING SPACE IN FRONT OF THE TRANSFORMER CABINET.
9. WHEN NEUTRAL BUS IS RECESSED, PROVISIONS SHALL BE MADE TO EXTEND THE NEUTRAL CONNECTION TO THE FRONT OF THE CUBICLE TO ACCOMODATE THE CONNECTION OF THE INSTRUMENT TRANSFORMERS.
10. BUS BARS SHALL HAVE A MINIMUM THICKNESS OF 0.25 INCHES AND SHALL BE RATED PER THE NEC FOR 1000 AMPERES PER SQUARE INCH.
11. THE INSTRUMENT TRANSFORMER COMPARTMENT SHALL BE FURNISHED WITH A DOUBLE SWING DOOR EQUIPPED WITH A THREE POINT LATCHING MECHANISM WITH PROVISIONS FOR LIPA PADLOCKING.

1600 AMPERE SERVICE AND ABOVE
CURRENT TRANSFORMER COMPARTMENT INSTALLATION

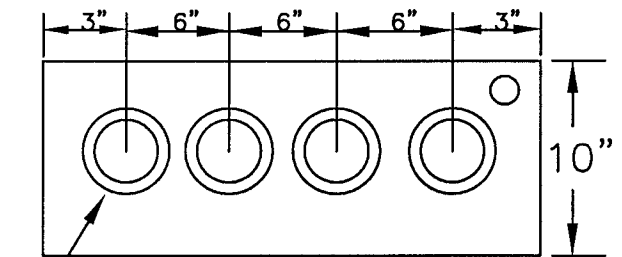
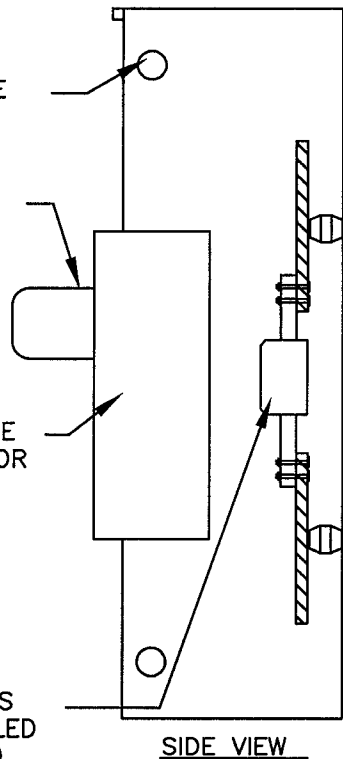


K.O TO ACCOMMODATE LIPA's LOCKING DEVICE (2 TYP.)

METER FURNISHED AND INSTALLED BY LIPA

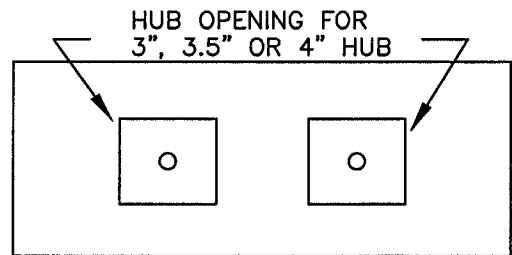
METER ENCLOSURE RECESSED IN DOOR (SEE NOTE #6)

CURRENT TRANSFORMERS FURNISHED AND INSTALLED BY LIPA (SEE NOTE #9)



BOTTOM VIEW

4", 3.5" CONCENTRIC KNOCKOUTS (4 TYP.)



TOP VIEW

FOR NOTES SEE DRAWING D34

400 TO 800 AMPERE SERVICE
TRANS "S" CABINET INSTALLATION

NOTES:

1. CABINET SHALL BE RATED NEMA 3R AND SHALL BE CONSTRUCTED FROM CODE GAUGE GALVANIZED OR GALVANEALD STEEL.
2. BUS BARS SHALL BE SILVER OR TIN PLATED COPPER AND SHALL BE SIZED PER THE NEC.
3. BUS BARS SHALL BE MOUNTED IN THE CABINET BY MEANS OF STANDOFF INSULATORS OR INSULATED MOUNTING BRACKETS. INSULATING MATERIAL SHALL CONFORM TO THE APPLICABLE SECTIONS OF UL 746 AND UL 94. CABINET SHALL BE UL APPROVED.
4. ONLY THE RIGHT HAND SIDE OF THE CABINET SHALL ALLOW FOR LINE AND LOAD CABLES TO ENTER AND EXIT THROUGH THE BOTTOM OF THE CABINET. THIS SPACE SHALL ALLOW FOR THE CABLES TO MEET THE MINIMUM BENDING RADIUS TO THE NEAREST PHASE OR NEUTRAL BUS. AS PER THE NEC.
5. THE SHORT CIRCUIT WITHSTAND CAPABILITY OF THE CABINET ASSEMBLY SHALL BE A MINIMUM OF 18,000 SYMMETRICAL AMPERES.
6. CABINET DESIGN SHALL HAVE PROVISIONS FOR A SOLID DOOR TO ALLOW FOR THE METER ENCLOSURE TO BE MOUNTED REMOTELY FROM THE CABINET.
7. CABINET MAY BE DESIGNED WITH A SINGLE OR DOUBLE DOOR AS NECESSARY TO CONFORM WITH APPLICABLE STANDARDS. OVERALL DIMENSIONS SHALL BE KEPT TO A MINIMUM.
8. HEX HEAD OR THUMB SCREWS MAY BE FURNISHED INSTEAD OF A THREE POINT LATCH.
9. MANUFACTURER SHALL FURNISH AND INSTALL 1/2-13 STUDS WITH SPLIT LOCK WASHERS AND HEX NUTS FOR C.T MOUNTING.
10. USE ONLY MANUFACTURED APPROVED LUG KITS.
11. ONLY FACTORY PREFABRICATED KNOCKOUTS ON THE ENCLOSURE SHALL BE USED.
12. THIS STANDARD SHALL NOT BE USED AS A DESIGN CRITERIA. DIMENSIONS SHOWN ARE RECOMMENDED MINIMUMS ONLY. LARGER DIMENSIONS SHALL BE USED WHERE REQUIRED BY CODE.

400 TO 800 AMPERE SERVICE
TRANS "S" CABINET INSTALLATION – NOTES