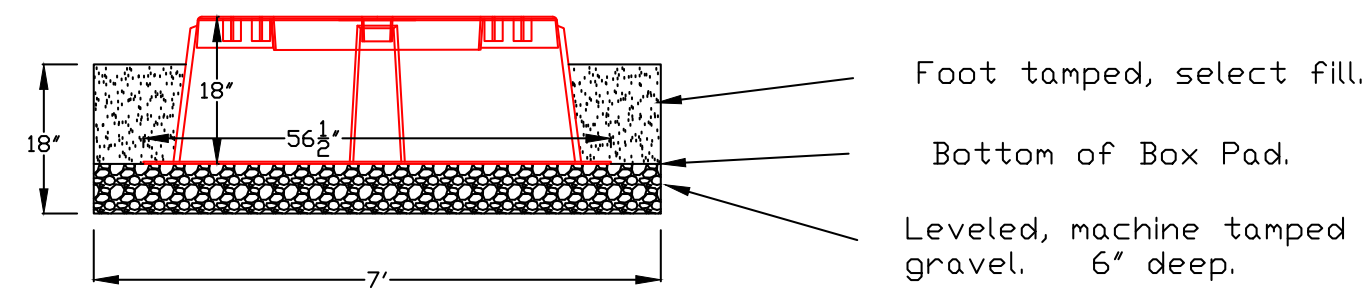
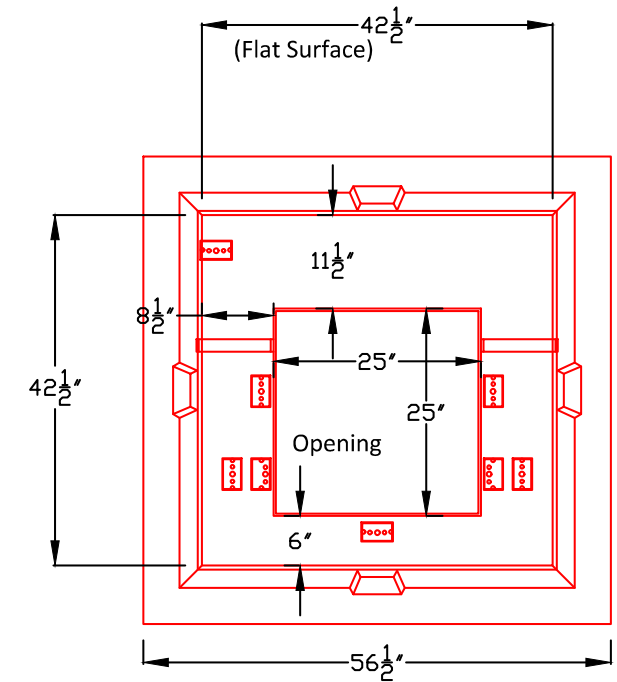


SINGLE PHASE TRANSFORMER

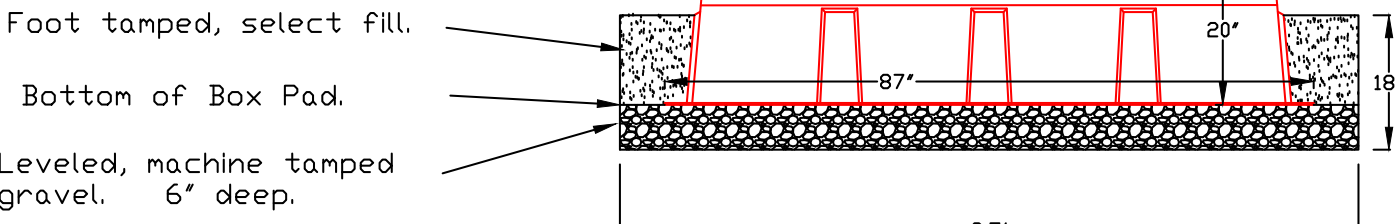
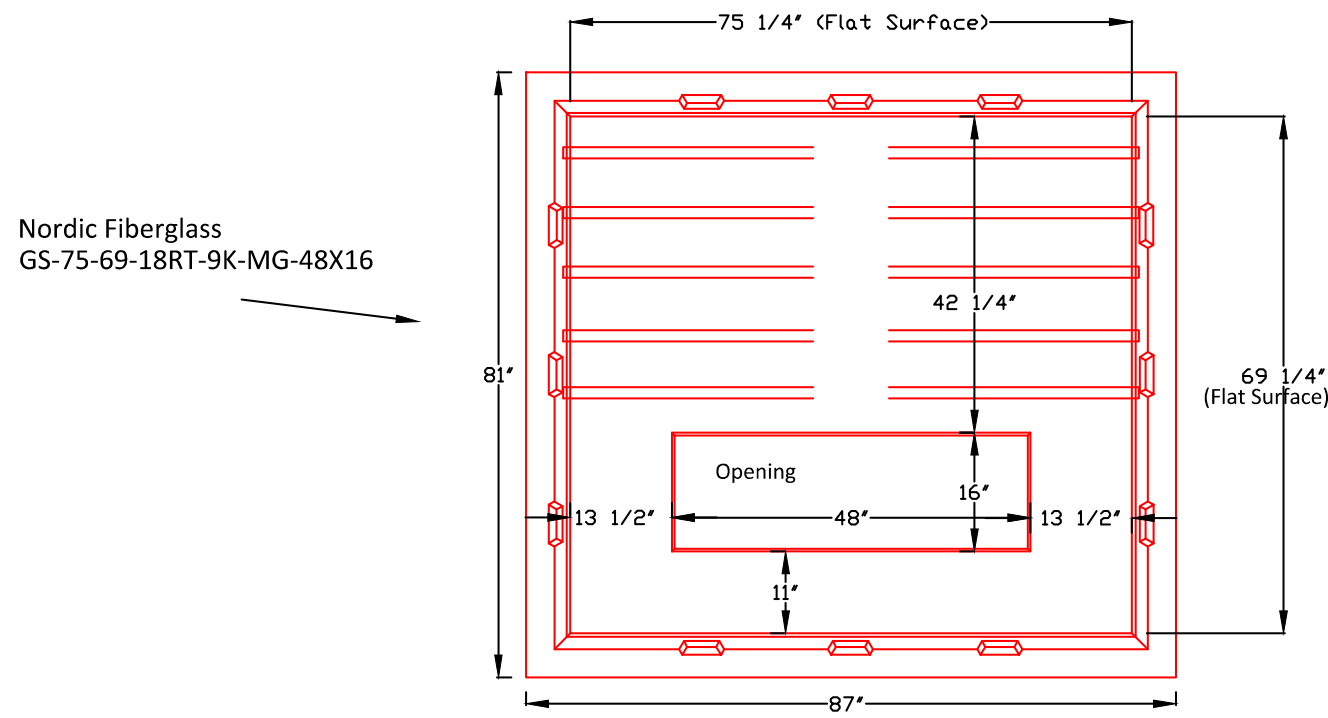


NOTE: Contractor should install primary & secondary conduits as far to left & right side of opening.

1. Contractor to dig hole 7'x7'x18' deep.
2. Contractor to supply and install 3/4' stone, Machine tamped and leveled, 6' deep.
3. City to install Box Pad.
4. Contractor to supply, backfill with select fill.
5. Top of Box Pad to be min. 6' above final grade.

		CITY OF NEWARK NEW CASTLE COUNTY, DE	
CHECKED BY: BP		SINGLE PHASE BOX PAD INSTALLATION	
DWG NO.	STD19E	SCALE: NTS	SHEET 1 of 1

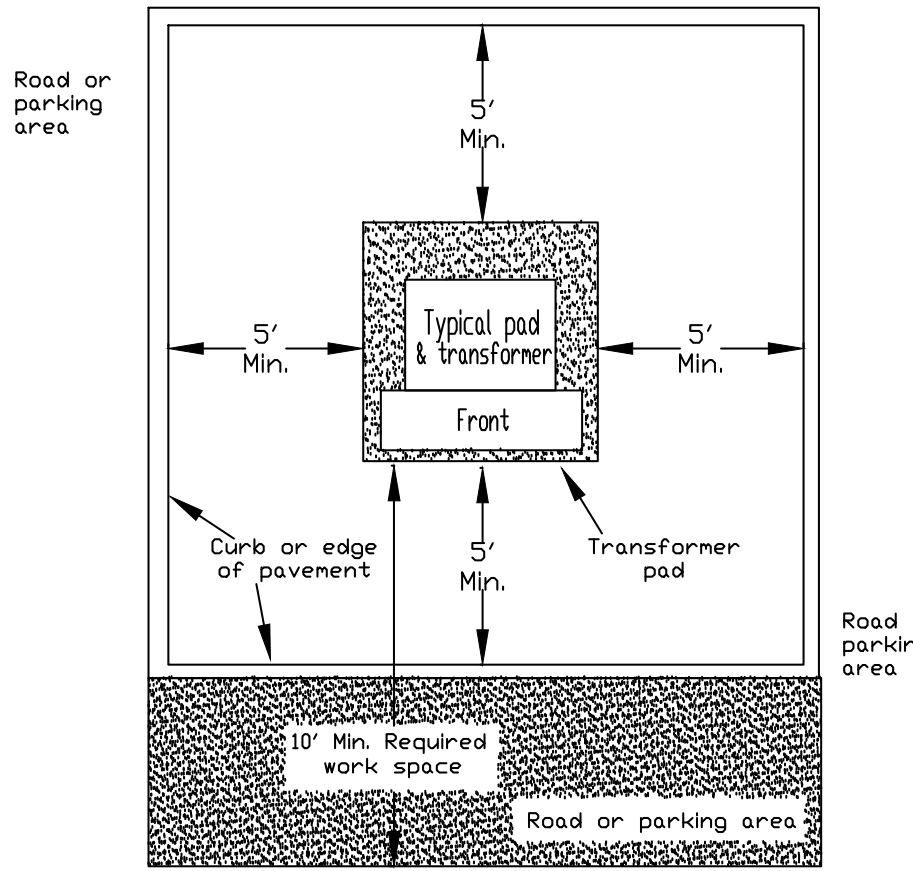
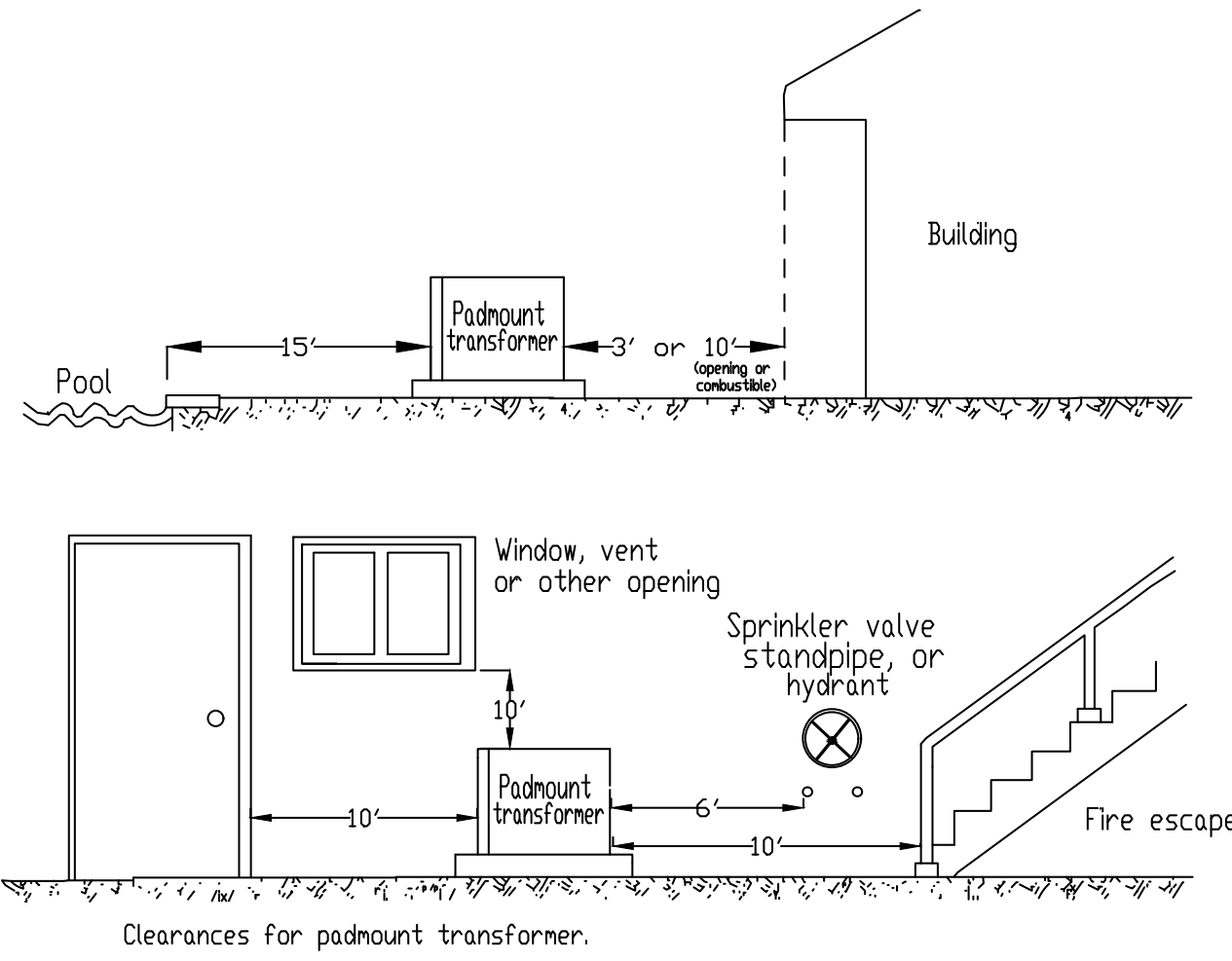
3 Ø commercial transformer
9,000 lb. limit



NOTE: Contractor should install primary & secondary conduits as far to left & right side of opening.

1. Contractor to dig hole 8.5'x8.5'x18' deep.
2. Contractor to supply and install 3/4' stone, Machine tamped and leveled, 6' deep.
3. City to install Box Pad.
4. Contractor to supply, backfill with select fill.
5. Top of Box Pad to be min. 6' above final grade.

		CITY OF NEWARK NEW CASTLE COUNTY, DE	
CHECKED BY: BP		3 PHASE BOX PAD INSTALLATION	
DWG NO.	STD19E	SCALE: NTS	SHEET 1 of 1



		CITY OF NEWARK NEW CASTLE COUNTY, DE	
CHECKED BY: BP		PAD XFMR CLEARANCES	
DWG NO.	STD19E	SCALE: NTS	SHEET 1 of 1

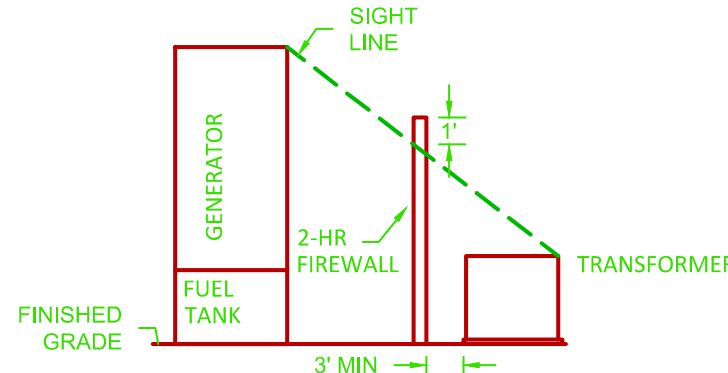


FIGURE 1 - FIRE WALL HEIGHT

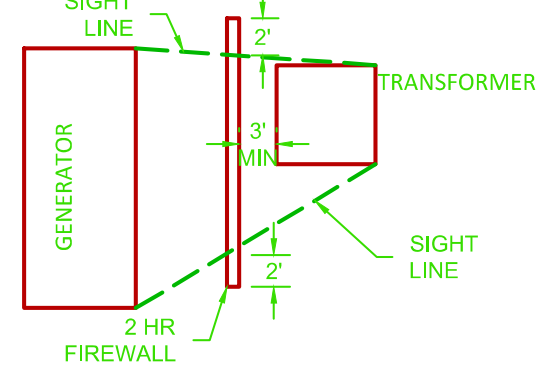


FIGURE 2 - FIRE WALL LENGTH

ENGINEERING NOTES:

- A. A MINIMUM 20-FOOT SEPARATION / CLEARANCE IS REQUIRED BETWEEN CON ELECTRICAL FACILITIES IN OUTDOOR LOCATIONS WHERE FIRE OR EXPLOSION HAZARDS MAY EXIST.

THE ABOVE SEPARATIONS ALSO APPLY BETWEEN CON PAD MOUNTED EQUIPMENT AND CUSTOMER'S INSTALLED GENERATORS UTILIZING ANY OF THE FOLLOWING FUELS:

- GASOLINE DIESEL FUEL
- COMPRESSED NATURAL GAS (CNG)
- LIQUEFIED NATURAL GAS (LNG)
- LIQUEFIED PETROLEUM GAS (LPG)
- HYDROGEN IN A GASEOUS FORM (GH2)
- HYDROGEN IN A LIQUID FORM (LH2)

IF THE MINIMUM 20-FOOT SEPARATION CANNOT BE MAINTAINED, A FIRE BARRIER / FIRE WALL SHALL BE INSTALLED BETWEEN THE EQUIPMENT AND THE GENERATOR.

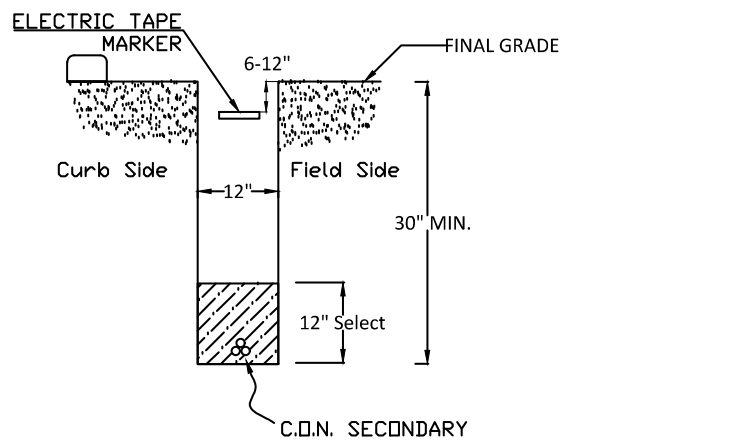
THE FIRE BARRIER / FIRE WALL SHALL HAVE A MINIMUM 2-HOUR FIRE RATING. THE FIRE WALL HEIGHT SHALL EXTEND AT LEAST 1-FOOT ABOVE THE LINE OF SIGHT BETWEEN ANY POINT ON THE TOP OF THE EQUIPMENT AND ANY POINT ON THE TOP OF THE GENERATOR. THE FIRE WALL SHALL ALSO EXTEND AT LEAST 2-FEET HORIZONTALLY BEYOND THE LINE OF SIGHT BETWEEN ANY POINT OF THE EQUIPMENT AND ANY POINT OF THE GENERATOR. A MINIMUM OF 3-FEET SEPARATION SHALL BE MAINTAINED BETWEEN THE FIRE WALL AND SIDE OF CON PAD MOUNTED EQUIPMENT EXCEPT FROM THE SIDE OF AN AUTOMATIC TRANSFER SWITCH CONTAINING THE CONTROL BOX WHERE A 6-FOOT SEPARATION SHALL BE MAINTAINED. SEE FIGURES 1 AND 2 FOR ILLUSTRATION.

- B. A MINIMUM 7-FEET 5-INCH HORIZONTAL CLEARANCE IS REQUIRED BETWEEN GENERATORS/CON PAD MOUNTED EQUIPMENT AND HIGH VOLTAGE AERIAL POWER.

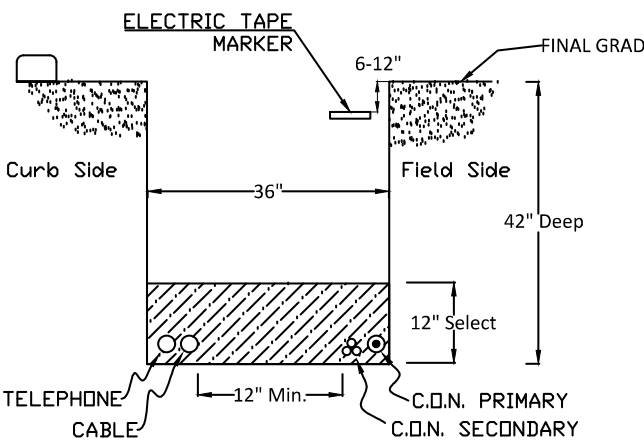
- C. A MINIMUM 13-FEET 5-INCH VERTICAL CLEARANCE IS REQUIRED BETWEEN GENERATORS/CON PAD MOUNTED EQUIPMENT AND HIGH VOLTAGE AERIAL POWER.

		CITY OF NEWARK NEW CASTLE COUNTY, DE	
CHECKED BY: BP		MIN CLEARANCES GENERATOR	
DWG NO.	STD19E	SCALE: NTS	SHEET 1 of 2

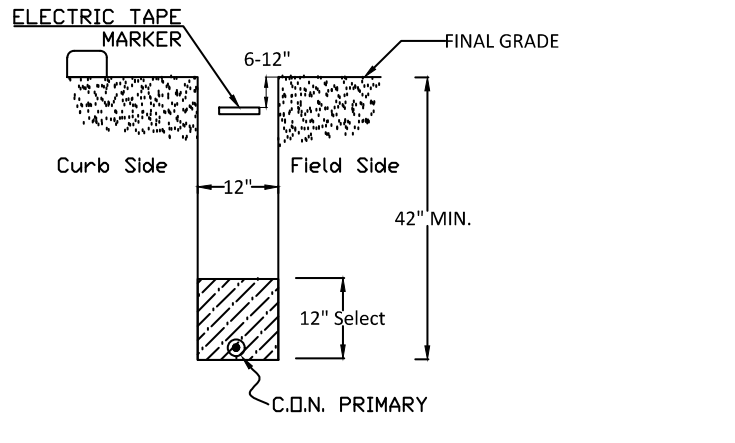
SECONDARY AND SERVICE TRENCH
30" MINIMUM COVER



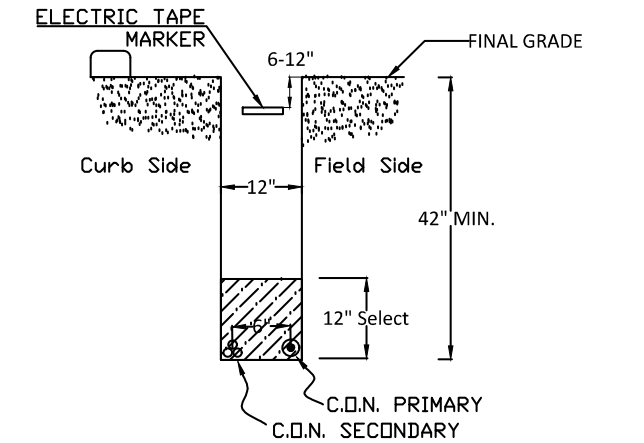
JOINT TRENCHING 12" SEPARATION
WITHOUT GAS



PRIMARY TRENCH
42" MINIMUM COVER



PRIMARY & SECONDARY TRENCH
42" MINIMUM COVER

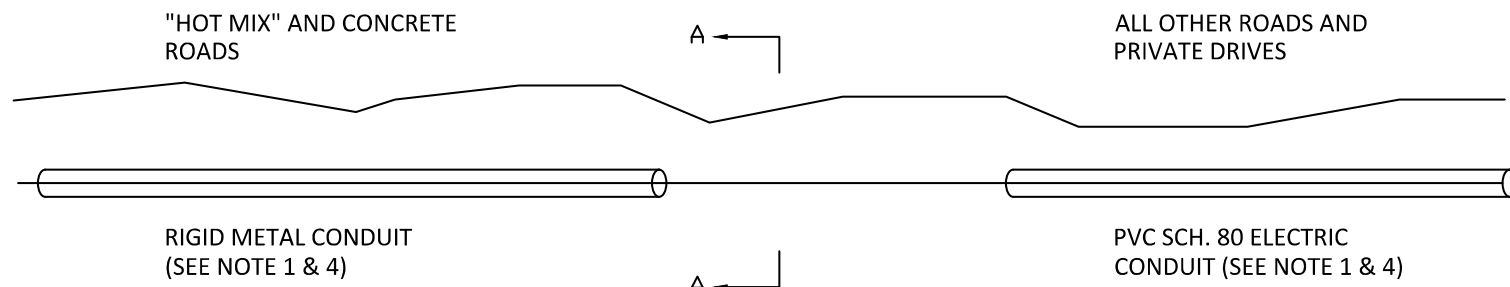


NOTES:

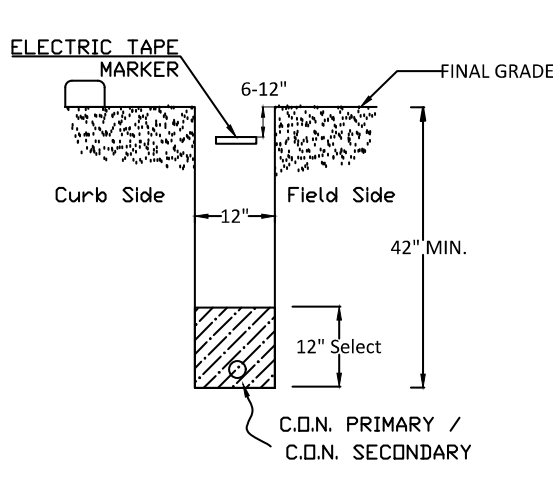
- 1) Hand dig in areas with insufficient room for equipment or a concentration of obstructions.
- 2) Normal soil exists where all excavating can be done by a plow, trencher, or backhoe without special considerations.
- 3) Main line trench shall normally be dug behind the sidewalk.
- 4) Adverse soil exists where all excavating can be done by a plow, trencher, backhoe, but requires additional time due to hard ground, tree roots, rough terrain, etc.
- 5) Trench to be backfilled with select material or sand. Fill material shall be verified and approved by City.
- 6) Crossing separation: minimum 12 inches vertical.

		CITY OF NEWARK NEW CASTLE COUNTY, DE	
CHECKED BY: BP		UNDERGROUND DISTRIBUTION TRENCHING	
DWG NO.	STD100E.DWG	SCALE: NTS	SHEET 1 of 1

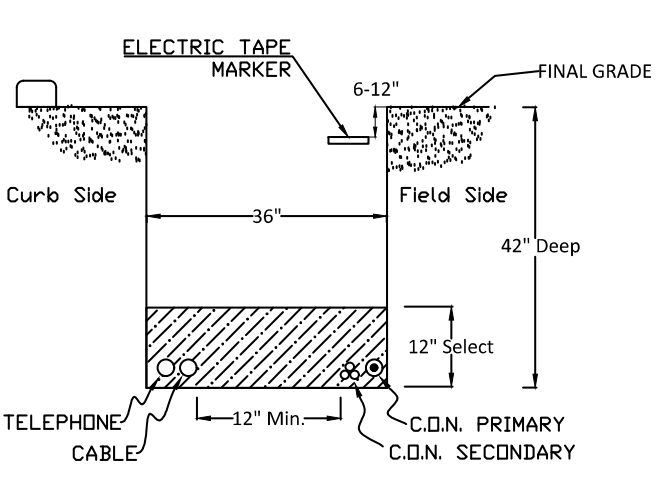
ROAD CROSSINGS



PRIMARY/SECONDARY TRENCH



JOINT TRENCHING 12" SEPARATION
WITHOUT GAS

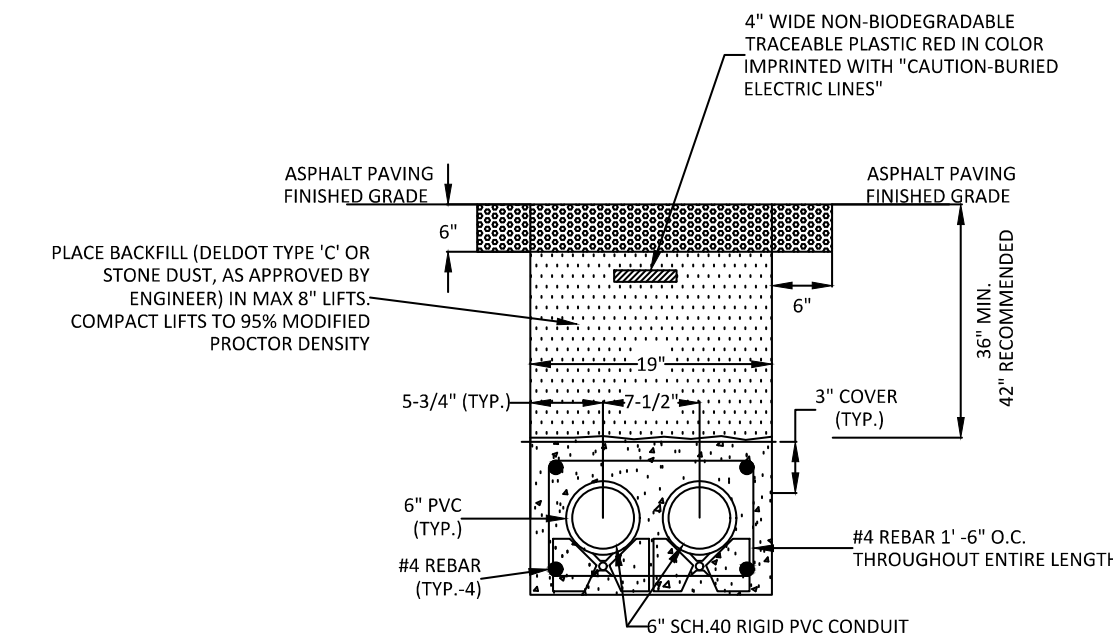


NOTES:

- 1) When required by State or City, use rigid metal conduit. Use rigid non-metallic conduit for all other cases.
- 2) Preferred depth of covering is 42" for crossings. In case of extreme hardship such as water, sewer, etc., at the same depth, a minimum cover of 36" is acceptable.
- 3) All crossing, primary and/or secondary conduits are to be buried at same depth.
- 4) When open cutting roadways, a spare primary and/or secondary conduits must be installed and ends shall be sealed with an approved cap or plug.

		CITY OF NEWARK NEW CASTLE COUNTY, DE	
CHECKED BY: BP		ROAD CROSSING TRENCHING	
DWG NO.	STD100E.DWG	SCALE: NTS	SHEET 1 of 1

2 WAY CONCRETE ENCASED DUCT BANK DETAIL



NOTE:

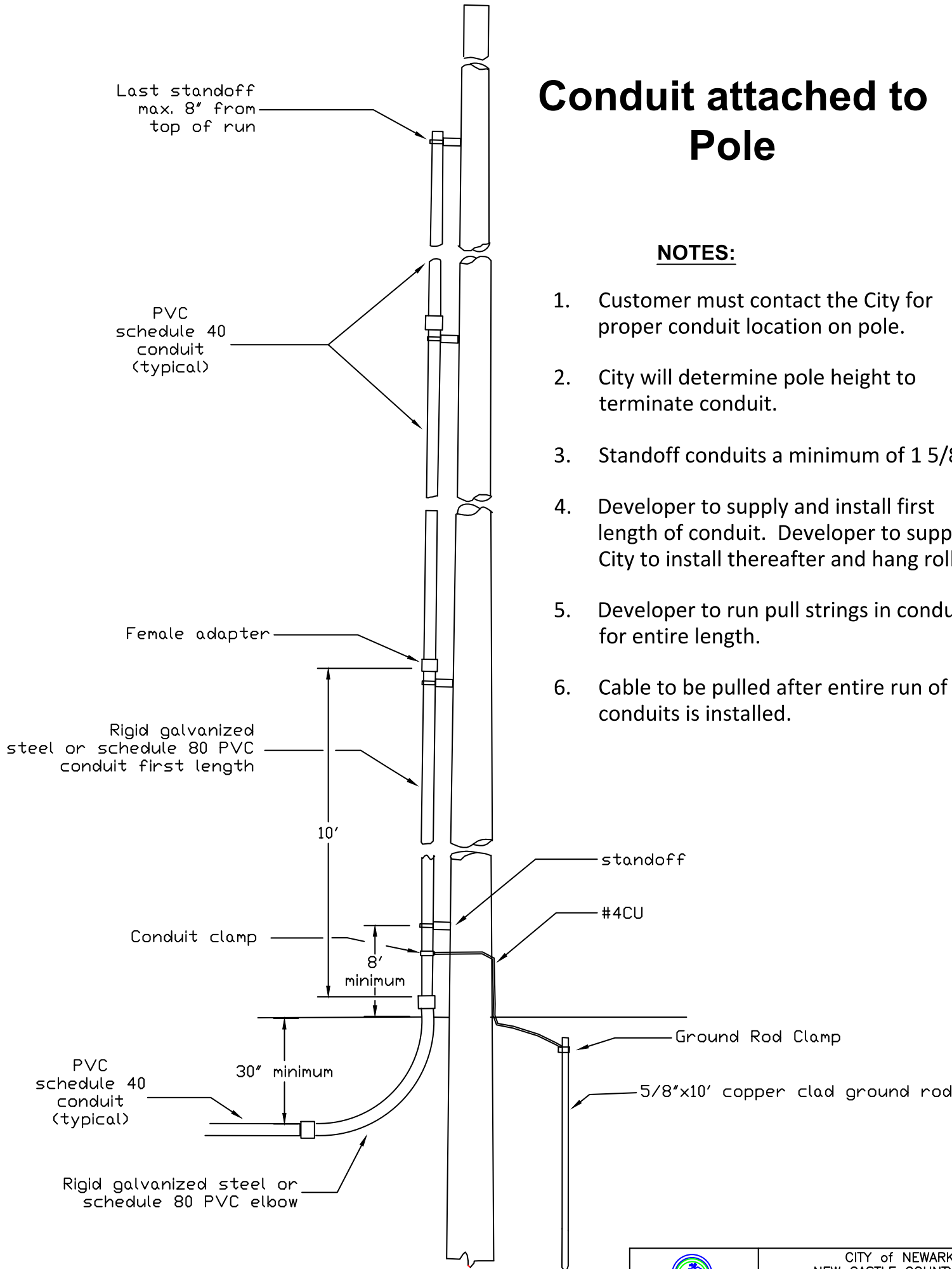
- 1) UNDERGROUND CONDUITS SHALL BE UNDERGROUND PLASTIC UTILITIES DUCT, TYPE DB-60 PVC, RNC, COMPLYING WITH NEMA TC 8 & 9 AND ASTM F512 FOR DIRECT BURIAL, WITH MATCHING FITTINGS COMPLYING WITH NEMA TC 9 BY SAME MANUFACTURER AS DUCT. EXPOSED EXTERIOR CONDUITS SHALL BE GALVANIZED RIGID STEEL.
- 2) UNDERGROUND CONDUIT SYSTEM SHALL CONSIST OF WIDE SWEEP ELBOWS AND BENDS AND SHALL BE COMPLETELY WATERTIGHT.
- 3) DUCT SPACERS: FACTORY-FABRICATED, RIGID, PVC INTERLOCKING SPACERS, SIZED FOR TYPE AND SIZE OF DUCT WITH WHICH USED, AND SELECTED TO PROVIDE MINIMUM DUCT SPACING INDICATED WHILE SUPPORTING DUCT DURING CONCRETING OR BACKFILLING.
- 4) WHEN REQUIRED BY STATE, USE RIGID METAL CONDUIT. USE RIGID NON-METALLIC CONDUIT FOR ALL OTHER CASES.
- 5) PREFERRED DEPTH OF COVER IS 42" FOR CROSSINGS. IN CASE OF EXTREME HARDSHIP SUCH AS WATER, SEWER, ETC., AT THE SAME DEPTH, A MINIMUM COVER OF 36" IS ACCEPTABLE. STATE BY REQUIRE GREATER DEPTHS.
- 6) RADIAL SEPARATION OF CONDUIT FROM GAS AND OTHER LINES THAT TRANSPORT FLAMMABLE MATERIAL SHALL BE NOT LESS THAN 12" AS MEASURED FROM THE NEAREST DUCT IN THE CONDUIT AND SHOULD BE SUFFICIENT SEPARATION FROM GAS AND OTHER LINES THAT TRANSPORT FLAMMABLE MATERIAL TO PERMIT THE USE OF PIPE MAINTENANCE EQUIPMENT.
- 7) WHERE A CONDUIT RUN CROSSES A SEWER/WATER, IT SHALL BE DESIGNED TO HAVE SUITABLE SUPPORT ON EACH SIDE OF THE SEWER/WATER TO LIMIT THE LIKELIHOOD OF TRANSFERRING ANY DIRECT LOAD ONTO THE ELECTRIC DUCT.
- 8) CONDUIT SHOULD BE INSTALLED AS FAR AS IS PRACTICAL FROM A WATER MAIN IN ORDER TO PROTECT IT FROM BEING UNDERMINED IF THE MAIN BREAKS. CONDUIT THAT CROSSES OVER A WATER MAIN SHALL BE DESIGNED TO HAVE SUITABLE SUPPORT IN EACH SIDE AS REQUIRED TO LIMIT THE LIKELIHOOD OF TRANSFERRING ANY DIRECT LOADS ONTO THE MAIN.

		CITY OF NEWARK NEW CASTLE COUNTY, DE	
CHECKED BY: BP		ENCASED DUCT BANK DETAIL	
DWG NO.	STD100E.DWG	SCALE: NTS	SHEET 1 of 1

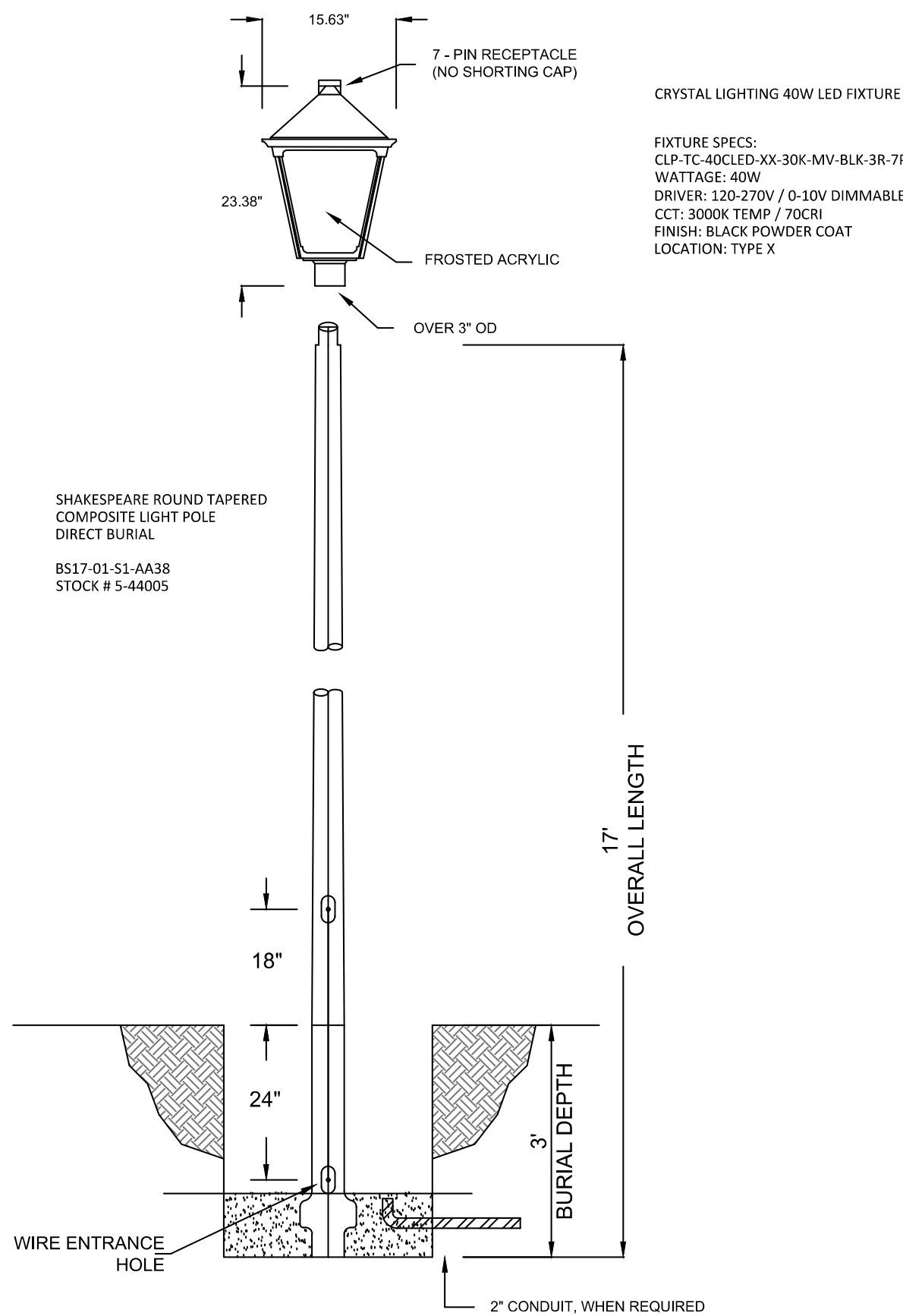
Conduit attached to Pole

NOTES:

1. Customer must contact the City for proper conduit location on pole.
2. City will determine pole height to terminate conduit.
3. Standoff conduits a minimum of 1 5/8".
4. Developer to supply and install first length of conduit. Developer to supply, City to install thereafter and hang rollers.
5. Developer to run pull strings in conduit for entire length.
6. Cable to be pulled after entire run of conduits is installed.



		CITY OF NEWARK NEW CASTLE COUNTY, DE	
CHECKED BY: BP		RISER CONDUIT INSTALLATION	
DWG NO.	STD199E	SCALE: NTS	SHEET 1 of 1



CRYSTAL LIGHTING 40W LED FIXTURE

FIXTURE SPECS:
CLP-TC-40LED-XX-30K-MV-BLK-3R-7PR
WATTAGE: 40W
DRIVER: 120-270V / 0-10V DIMMABLE
CCT: 3000K TEMP / 70CRI
FINISH: BLACK POWDER COAT
LOCATION: TYPE X

SHAKESPEARE ROUND TAPERED
COMPOSITE LIGHT POLE
DIRECT BURIAL
BS17-01-S1-AA38
STOCK # 5-44005

OVERALL LENGTH

18"

24"

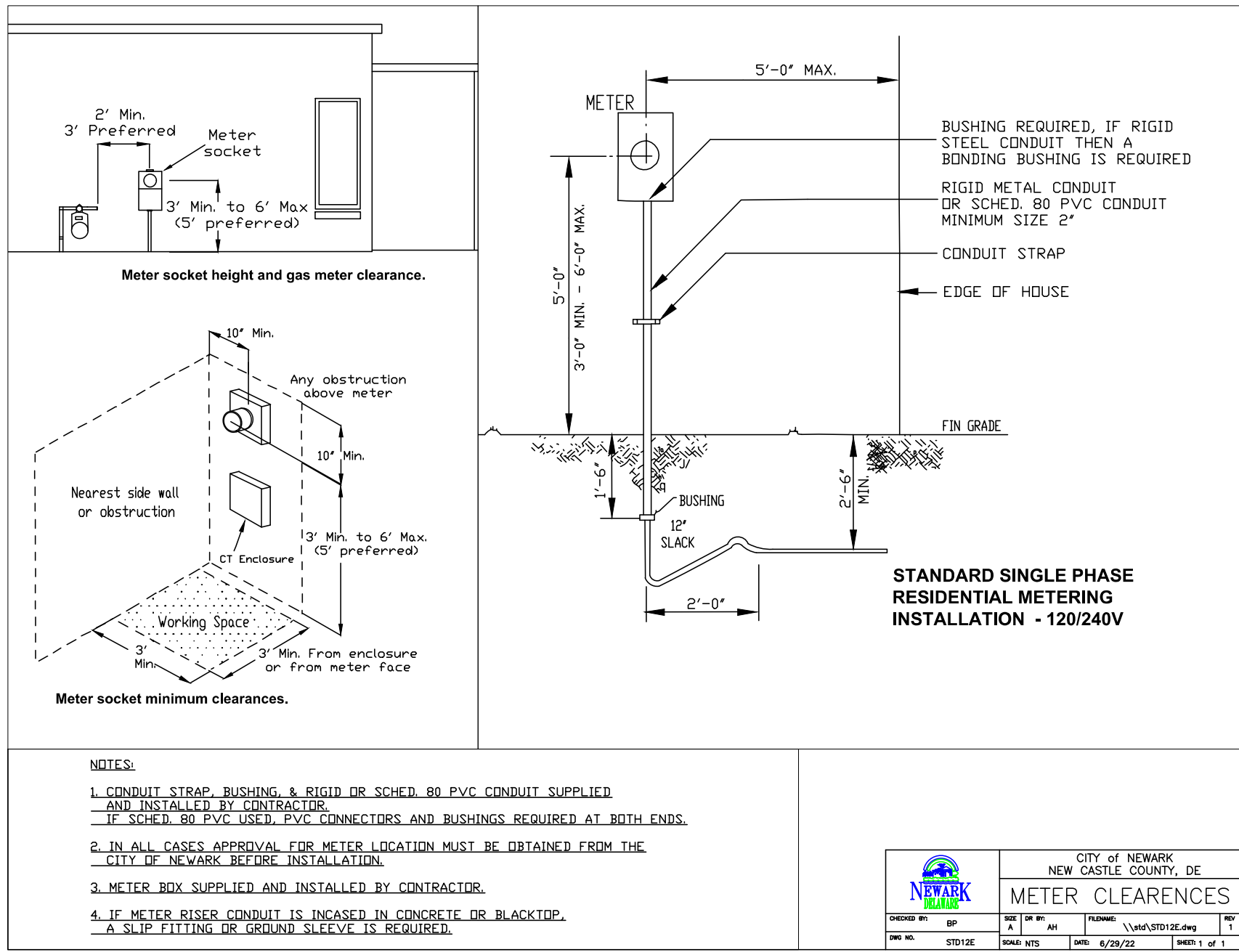
BURIAL DEPTH

3"

2" CONDUIT, WHEN REQUIRED

NOTES:
TAMP EACH 12" LAYER OF BACKFILL FIRMLY.
IF NECESSARY, DUE TO POOR SOIL CONDITIONS, USE CONCRETE MIX OR POLESET
AND TAMP GROUND AROUND POLE.
FOR LONG STREET LIGHT RUNS, USE 2" PVC CONDUIT AND STUB OUT.

		CITY OF NEWARK NEW CASTLE COUNTY, DE		POST TOP STREET LIGHT POLE	
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DWG NO. STD198E.dwg	SCALE: NTS	DATE: 6/27/22	SHEET: 1 of 1		



NOTES:

- CONDUIT, STRAP, BUSHING, & RIGID DR. SCHED. 80 PVC CONDUIT SUPPLIED AND INSTALLED BY CONTRACTOR.
- IF SCHED. 80 PVC USED, PVC CONNECTORS AND BUSHINGS REQUIRED AT BOTH ENDS.
- IN ALL CASES, APPROVAL FOR METER LOCATION MUST BE OBTAINED FROM THE CITY OF NEWARK BEFORE INSTALLATION.
- METER BOX SUPPLIED AND INSTALLED BY CONTRACTOR.
- IF METER RISER CONDUIT IS INCASSED IN CONCRETE OR BLACKTOP, A SLIP FITTING OR GRIND SLEEVE IS REQUIRED.

		CITY OF NEWARK NEW CASTLE COUNTY, DE		METER CLEARANCES	
CHECKED BY: BP	SIZE: A	DR BY: AH	FILENAME: \\std\STD200E.dwg	REV: 1	
DWG NO. STD200E	SCALE: NTS	DATE: 6/27/22	SHEET: 1 of 1		

CITY OF NEWARK COMMERCIAL CABLE SPECIFICATIONS

15 kV Primary underground cable with jacketed concentric neutral.

- Conductor to be #2 copper, seven (7) strand copper.
- Conductor shall have an extruded semi-conducting shield.
- Insulation shall be 175 mils tree retardant cross-linked polyethylene.
- The insulation shall be shielded with a semi-conducting insulation shield.
- Directly over the insulation shield, a full concentric neutral shall be applied consisting of 16 #14 or equivalent bare copper wires.
- Cable shall be identified on the insulation shield indicating manufacturer, year, size, conductor metal, insulation type and thickness, and voltage rating.
- Cable shall be suitable for continuous operation at a temperature of 90o C and 130o C for emergency overload conditions.
- Cable shall meet or exceed the latest revision of AEIC No. 5 and ICEA S-66 524.
- Conductor to have a polyethylene jacket.

TERMINATIONS

3M 7642S2-2 NO SUBSTITUTES

ELBOWS

Elastimold 165LRB5220 NO SUBSTITUTES

		CITY OF NEWARK NEW CASTLE COUNTY, DE		COMMERCIAL CABLE SPECIFICATIONS	
CHECKED BY: BP	SIZE: A	DR BY: RV	FILENAME: \\std\STD200E.dwg	REV: 1	
DWG NO. STD200E	SCALE: NTS	DATE: 10/13/2005	SHEET: 1 of 1		

CITY OF NEWARK APPROVED SECONDARY CONNECTORS

Approved Padmount Transformer Secondary Lugs for 3-phase transformers

NO EXCEPTIONS

Six conductors per phase maximum

Conductor AL/CU	Burndy Part #
1/0 Stranded	YA25A7
2/0 Stranded	YA26A3
4/0 Stranded	YA28A5
250 kcmil	YA29A3
350 kcmil	YA31A3
500 kcmil	YA34A3
600 kcmil	YA36A3
750 kcmil	YA39A5
1000 kcmil	YA44A3

- Single Phase Padmounts up to 75kVA – six 350 kcmil conductors maximum per spade
- 100kVA – six 500 kcmil conductors max, contingent on space for conduits – contact Electric Department for prior approval – connectors supplied by the City of Newark

Standard Primary Pull Box

36"X48"X36" Deep High Density Polyethylene
Pencell PEM3648X with 2 PEM3648-6 Spacers
Identification- ELECTRIC

Note: Contact City of Newark Electric Department
if pullbox will be subject to vehicular traffic

Approved Aerial Commercial Service Entrance Connector

(For use on customer owned service conductors connected to aerial City owned conductors – usually triplex or quadriplex)

Burndy (FCI) - Unitap or NSI Industries – Polaris System

Note: Contact City of Newark Electric Department to review the number of conductors City will supply.

Approved Secondary Lugs for conductors directly connected to Aerial Transformer

Bushings

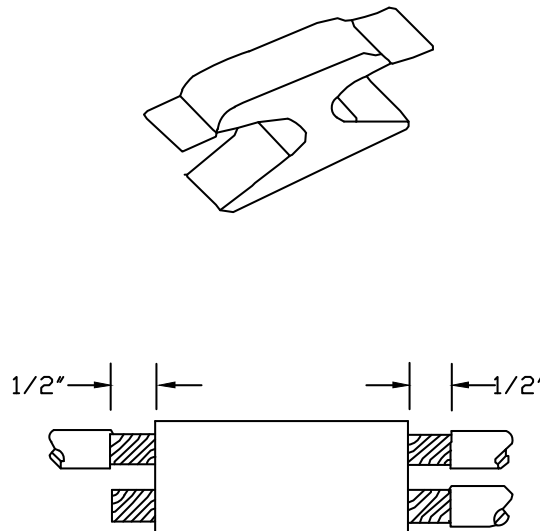
City supplies 6 position eyebolt connectors

Up to 500 kcmils
600 kcmil
750 kcmil
1000 kcmil

YA36A3
YA39A5
YA44A3

		CITY OF NEWARK NEW CASTLE COUNTY, DE		APPROVED SECONDARY CONNECTORS	
CHECKED BY: BP	SIZE: A	DR BY: RV	FILENAME: \\std\STD201E.dwg	REV: 1	
DWG NO. STD201E	SCALE: NTS	DATE: 10/13/2005	SHEET: 1 of 1		

Fig. 12



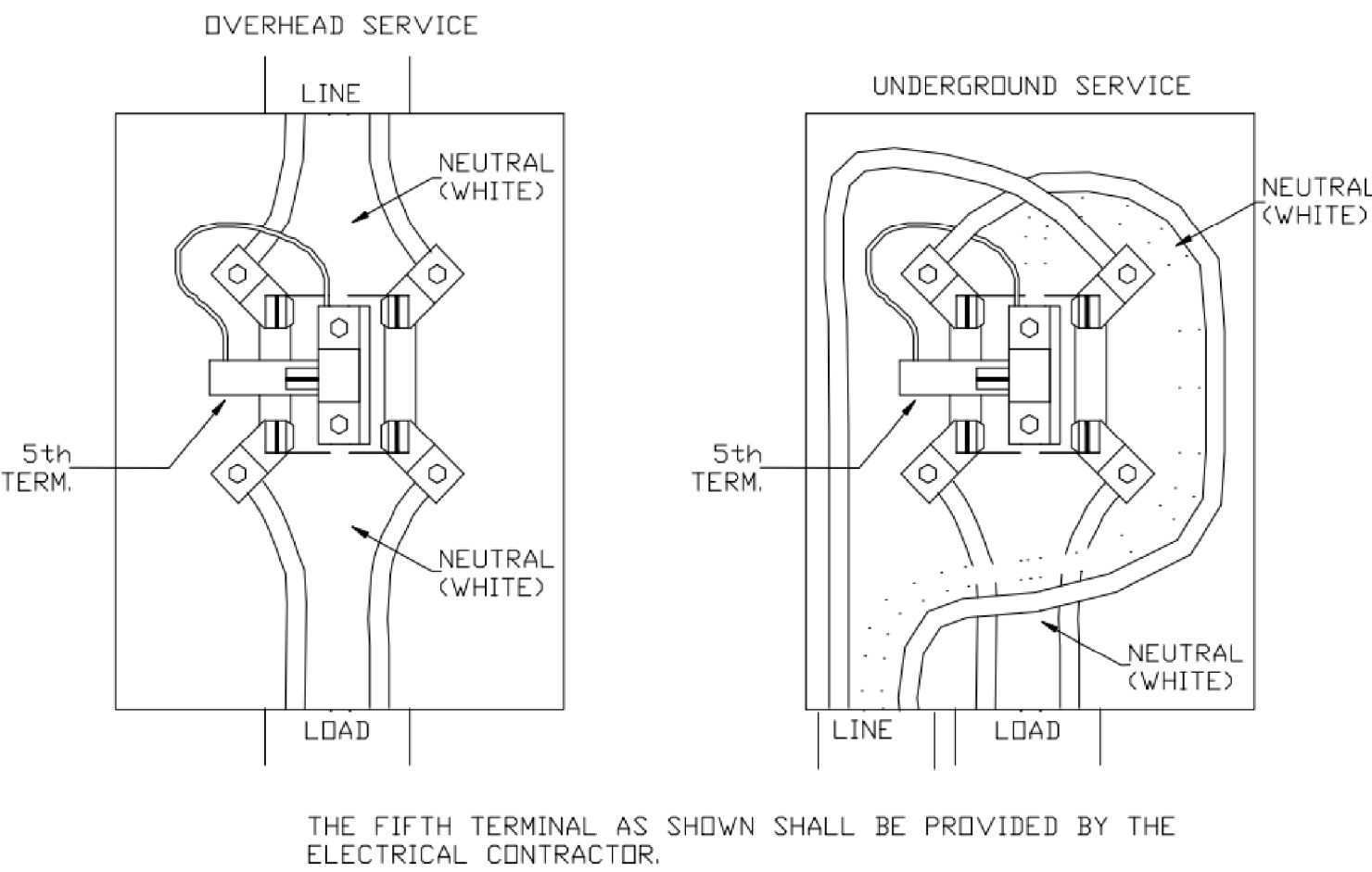
INSTRUCTIONS FOR INSTALLING COMPRESSION "H" TAP CONNECTORS

- Use these connectors for non-tension splice or tap connections of aluminum to aluminum conductors or of aluminum to copper conductors, as shown above.
- Be sure to use the correct size connectors and tooling as per manufacturers recommendations.
- Install the connectors so that the aluminum or ACSR conductors are physically above the copper conductors.
- Strip conductor as shown above, wire brush until metal is clean. Apply anti-oxidant compound and make connection **immediately**.
- CAUTION: Do not nick or cut conductors in stripping process!**
- Place stripped conductor in groove, allowing it to extend 1/2" beyond connector from end to end using full number of indents as per manufacturers recommendations.
- Tape all connections.

		CITY OF NEWARK NEW CASTLE COUNTY, DE		H TAP CONNECTIONS	
CHECKED BY: RV	SIZE: A	DR BY: AH	FILENAME: \\std\STD202E.dwg	REV: 1	
DWG NO. STD202E	SCALE: NTS	DATE: 8/19/08	SHEET: 1 of 1		

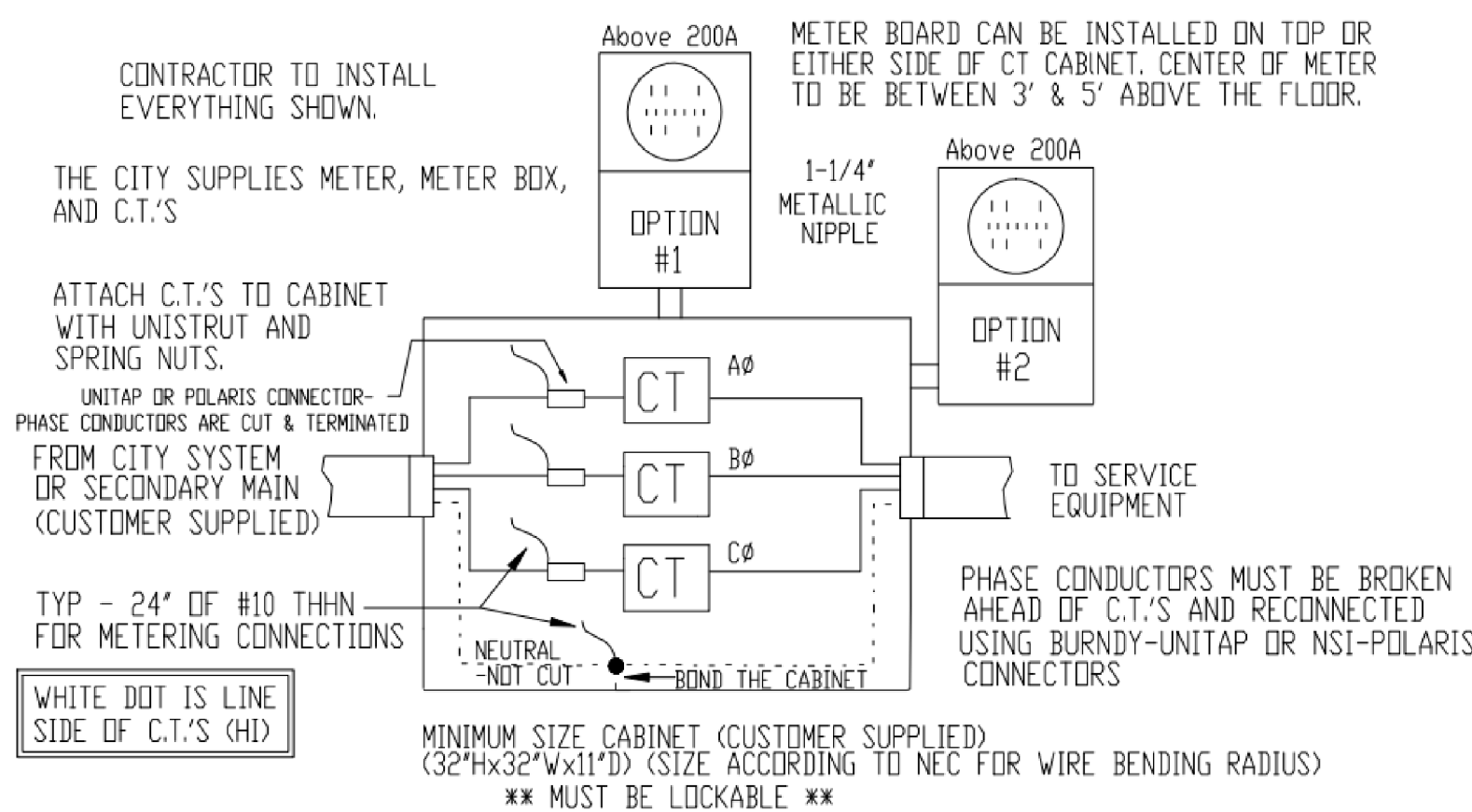
CITY OF NEWARK APPROVED NETWORK METER

Single Phase, 3 Wire, 120/208 Volt Meter Wiring Diagram 200 AMP



		CITY OF NEWARK NEW CASTLE COUNTY, DE		NETWORK METER	
CHECKED BY: BP	SIZE: A	DR BY: RV	FILENAME: \\std\STD202E.dwg	REV: 1	
DWG NO. STD202E	SCALE: NTS	DATE: 10/13/2005	SHEET: 1 of 1		

CITY OF NEWARK TYPICAL C.T CABINET INSTALLATION



		CITY OF NEWARK NEW CASTLE COUNTY, DE		C.T CABINET INSTALLATION	
CHECKED BY: BP	SIZE: A	DR BY: RV	FILENAME: \\std\STD203E.dwg	REV: 1	
DWG NO. STD203E	SCALE: NTS	DATE: 10/13/2005	SHEET: 1 of 1		