ORDINANCE No. 31721C

Roll Call

VOTING	YES	NO
KURT L CHRISTENSEN Mayor *(votes only in case of tie)*		
HOWARD CHUNTZ *Council member*		
TIM DeGRAW *Council member*		
STERLING M. REES *Council member*		
DELYS SNYDER *Council member*		
SETH SORENSON *Council member*		

I MOVE this ordinance be adopted: Delys Snyder
I SECOND the foregoing motion Howard Chuntz

AN ORDINANCE ADOPTING A SALEM CITY POWER ELECTRICAL REQUIREMENTS & STANDARDS MANUAL

WHEREAS Salem City owns and operates an electrical power system to deliver electrical power to its customers;

WHEREAS it is necessary to adopt uniform standards to remain compliant with state and federal law, become more efficient, and to keep standards in line with best construction and safety practices; and

WHEREAS a public hearing was held before the Planning and Zoning Commission on Wednesday, the ____ day of March 2021, whereat public comment was received; and

WHEREAS a public hearing was held before the Salem City Council on Wednesday, the 17th day of March, 2021, whereat additional public comment was received;

NOW THEREFORE, be it enacted and ordained by the Salem City Council as follows:

Section 1. **Adoption of Electrical Standards.** The Salem City Power Electrical Requirements & Standards Manual, attached as Exhibit A, are hereby adopted.

Section 2. **Effective Date** This ordinance shall be effective twenty days after passage and publication.

DATED: March 17, 2021.

KURT L CHRISTENSEN, Mayor

Attest:

Jeffrey D. Nielson, City Recorder

SALEM CITY CORPORATE SEAL UTAH COUNTY, UTAH

AFFIDAVIT OF POSTING

JEFFREY D. NIELSON, being first duly sworn, deposes and says that he is the duly appointed and qualified recorder of Salem City, a Municipal Corporation of the State of Utah, and that on the 18 day of March, 2021, he posted a true and correct copy of Ordinance No. 31721C as enacted by Salem City Council on March 17, 2021, said posting being made at the City Offices, at the United States Post Office, and at the Salem City Library, all being public places and located within the City Limits of Salem, Utah County, Utah.

DATED this 18 day of March, 2021.

JEFFREY D. NIELSON, City Recorder

STATE OF UTAH)
: ss
COUNTY OF UTAH)

The foregoing instrument was acknowledged before me this 18 day of March, 2021, by Jeffrey D. Nielson.

TAMMY M BECK
NOTARY PUBLIC • STATE of UTAH
COMMISSION NO. 703741
COMM. EXP. 12/19/2022

Notary Public

EXHIBIT A
SALEM CITY POWER
ELECTRICAL REQUIREMENTS
& STANDARDS MANUAL

SALEM CITY POWER
ELECTRICAL REQUIREMENTS
& STANDARDS MANUAL

SALEM CITY
POWER DEPARTMENT

STEPS FOR UNDERGROUND/OVERHEAD SERVICE INSTALLATION AND HOOK-UP

Complete the following steps in the order listed below:

1. Builder must fill out the Load Data Sheet, page 2 below, and return it to Salem City Power. We use the sheet to document inspections and size the service wire/conduit. We will not perform the required trench inspections without a Load Data Sheet. The builder and Salem City Power will meet to determine if the service will be underground or overhead.

2. Do not begin work on the service installation before receiving the service standards and design specs from Salem City Power. Any work done that does not meet the Salem City Power design is at risk of having to be re-done at the cost of the builder/customer. Typical residential service is shown in standard drawings 1.1, 1.2, 1.3 and 1.4.

3. The building site requiring service must have its address marked and clearly visible from the street.

4. For underground service--Dig a trench (36" minimum depth) between the power source and meter equipment. Locate the conduit stub-out at the power source.
   For overhead service—Skip to step 8.

5. Install the conduit specified by Salem City Power. At the power source, connect to the existing conduit stubbed from the transformer or secondary junction box. The meter riser must be rigid or IMC and strapped to the foundation. Call Salem City (24 hours in advance) at 801-423-2770 to schedule a required inspection of the trench and conduit prior to backfilling.

6. After you have passed the conduit and trench inspection, cover the conduit with 12"of sand or pea gravel (to prevent the possibility of the conduit being damaged by backfilling with local soil). Approximately 1 foot directly above conduit, place red plastic electrical warning tape--3" wide over service, 6" wide over primary-- that reads, "Caution—Buried Electric Cable Below". Leave a tail of warning tape sticking out of the ground at the meter riser and power source. Backfill the trench to final grade.

7. Salem City will stick a U.G. Service Inspection Verification label to the inside of the meter base upon completion and inspection of the trench and conduit.

8. Contact Salem City for a power to panel inspection. When you pass the power to panel inspection . . ..

9. At this point, you MUST have passed the Salem City power to panel inspection.
   For underground service—The customer will provide the wire for underground service. The customer will call Salem City (24 hours in advance) at 801-423-2770 to schedule a "Wire Pull". A Salem City Power crew will return to the building site and assist with pulling the wire in the conduit, making the connections at the meter base and source, and set the meter.
   For overhead service--The customer will provide the wire from the weatherhead to the meter. Salem City Power will provide the wire for the overhead service from the source to the weatherhead, make connections and set the meter.

LOAD DATA SHEET
SINGLE FAMILY RESIDENTIAL STRUCTURE
Underground/Overhead Electric Service Feed

Architect/Engineer/Builder/Contractor:
Please submit this form for each single-family residential structure to be served by Salem City Power by means of an underground or overhead service wire. Using the NEC code to size the service wire is acceptable. However, Salem City can potentially use the information submitted on this sheet to de-rate the wire size upon request. Also, this form is necessary for Salem City to track the required inspections. **Salem City will NOT perform any inspections without this form.** Submit the form by email: stevec@salemcity.org , or by delivery to 30 West 100 South, Salem, UT 84653. By signing this document, you are hereby acknowledging that the information provided is accurate and that you take responsibility for this information up to and including financial cost for the replacement of Salem City equipment due to any inaccuracies contained herein.

Contractor Contact Information:
Contractor/consultant name _____
Contact person _____Day phone # _____
Cell phone # _____ Fax # _____ Best contact time ☐a.m. ☐p.m.
E-mail address:_____
Customer (Owner) Contact Information *Complete this section if owner and contractor are separate individuals*
Name_____
Mailing address _____City, State Zip _____
Day phone # _____ Cell phone # _____ Best contact time ☐a.m. ☐p.m.
E-mail address:_____
Service Information *This section is required*
New service address _____ City, State Zip _____
New service address coordinates *(if applicable)*
_____
Subdivision name _____ Phase _____ Lot # _____ Block #_____
If known, nearest pole or padmount # *(pole/equipment tag, 10 or 12 digits)* _____

Service panel size: ☐ *100 Amp* ☐ *125 Amp* ☐ *150 Amp* ☐ *200 Amp* ☐ *400 Amp*

Size of building:_____ total sq. ft.

Distance between service hookup (power source) and meter equipment:_____ ft.

Special conditions and/or requests _____

Main source of heat: ☐ *gas* ☐ *propane* ☐ *electric* If electric: ☐ *heat pump (___ tons)* ☐ *furnace*
If air conditioning: ☐ *evaporative cooler* ☐ *central air (___ tons)* ☐ *heat pump (___tons)* ☐ *other*

Would you like Salem City Electrical Department to determine the size of the underground service wire?
☐ *Yes* ☐ *No*

Expected building completion date *(mm/dd/yyyy)* _____

It is important to provide the most accurate information available as it is used to design the facilities to serve your requested load. You may want to consult a licensed electrician or engineer prior to providing the information. Changes to load after submitting this information may delay design and potentially impact cost.

Please sign and date this form

_____

Applicant or representative signature Date

Please email or deliver completed form to: stevec@salemcity.org, or delivery to 30 West 100 South, Salem, UT 84653.

STEPS FOR UNDERGROUND/OVERHEAD SERVICE INSTALLATION AND HOOK-UP

Complete the following steps in the order listed below:

1. Builder must fill out the Load Data Sheet, page 2 below, and return it to Salem City Power. We use the sheet to document inspections and size the service wire/conduit. We will not perform the required trench inspections without a Load Data Sheet. The builder and Salem City Power will meet to determine if the service will be underground or overhead.

2. Do not begin work on the service installation before receiving the service standards and design specs from Salem City Power. Any work done that does not meet the Salem City Power design is at risk of having to be re-done at the cost of the builder/customer. Typical commercial service is shown in standard drawings 1.3 and 1.5.

3. The building site requiring service must have its address marked and visible from the street.

4. For underground service--Dig a trench (36" minimum depth) between the power source and meter equipment. Locate the conduit stub-out at the power source.
   For overhead service—Skip to step 8.

5. Install the conduit specified by Salem City Power (4" minimum for 3 phase service) to the power source, connect to existing conduit. The meter riser must be rigid or IMC and strapped to the foundation. Call Salem City (24 hours in advance) at 801-423-2770 to schedule a required inspection of the trench and conduit prior to backfilling.

6. After you have passed the conduit and trench inspection, cover the conduit with 12" of sand or pea gravel (to prevent the possibility of the conduit being damaged by backfilling with local soil). Approximately 1 foot directly above conduit, place red plastic electrical warning tape--3" wide over service, 6" wide over primary-- that reads, "Caution—Buried Electric Cable Below". Leave a tail of warning tape sticking out of the ground at the meter riser and power source. Backfill the trench to final grade.

7. Salem City will stick a U.G. Service Inspection Verification label to the inside of the meter base upon completion and inspection of the trench and conduit.

8. Contact Salem City for a power to panel inspection. When you pass the power to panel inspection . . ..

9. At this point, you MUST have passed the Salem City power to panel inspection.
   For underground service— The customer will provide the wire for underground service. The customer will call Salem City (24 hours in advance) at 801-423-2770 to schedule a "Wire Pull". A Salem City Power crew will return to the building site and assist with pulling the wire in the conduit, making the connections at the meter base and source, and set the meter.

   For overhead service--The builder/customer will provide the wire from the weatherhead to the meter. Salem City Power will provide the wire for the overhead service from the source to the weatherhead, make connections and set the meter.

LOAD DATA SHEET
COMMERCIAL STRUCTURE
Underground/Overhead Electric Service Feed

Architect/Engineer/Builder/Contractor:
Please submit this form for each commercial structure to be served by Salem City Power by means of an underground or overhead service wire. Using the NEC code to size the service wire is acceptable. However, Salem City can potentially use the information submitted on this sheet to de-rate the wire size upon request. Also, this form is necessary for Salem City to track the required inspections. **Salem City will NOT perform any inspections without this form.** Submit the form by email: stevec@salemcity.org , or by delivery to 30 West 100 South, Salem, UT 84653. By signing this document, you are hereby acknowledging that the information provided is accurate and that you take responsibility for this information up to and including financial cost for the replacement of Salem City equipment due to any inaccuracies contained herein.

Contractor Contact Information:
Contractor/consultant name _____
Contact person _____Day phone # _____
Cell phone # _____ Fax # _____ Best contact time ☐a.m. ☐p.m.
E-mail address:_____
Customer (Owner) Contact Information *Complete this section if owner and contractor are separate individuals*
Name_____
Mailing address _____City, State Zip _____
Day phone # _____ Cell phone # _____ Best contact time ☐a.m. ☐p.m.
E-mail address:_____
Service Information *This section is required*
New service address _____ City, State Zip _____
New service address coordinates *(if applicable)*
_____
Subdivision name _____ Phase _____ Lot # _____ Block #_____
If known, nearest pole or padmount # *(pole/equipment tag, 10 or 12 digits)* _____

Service panel size: _____ amps Size of building:_____ total sq. ft.

Load List			
Type	Description	Added Load	Units
HVAC/Refrigeration Equip.			Tons
Largest Motor (code:_____)			HP
Fans/small motors/pumps/compressors			HP
Electric Heating (space/water)			kW
Equipment with large power requirement			kW

Distance between service hookup (power source) and meter equipment:_____ ft.

Special conditions and/or requests _____

Main source of heat: ☐ *gas* ☐ *propane* ☐ *electric* If electric: ☐ *heat pump (___ tons)* ☐ *furnace*
If air conditioning: ☐ *evaporative cooler* ☐ *central air (___ tons)* ☐ *heat pump (___tons)* ☐ *other*

Would you like Salem City Electrical Department to determine the size of the underground service wire?
☐ *Yes* ☐ *No*

Expected building completion date *(mm/dd/yyyy)* _____

It is important to provide the most accurate information available as it is used to design the facilities to serve your requested load. You may want to consult a licensed electrician or engineer prior to providing the information. Changes to load after submitting this information may delay design and potentially impact cost.

Please sign and date this form

_____
Applicant or representative signature Date

Please email or deliver completed form to: stevec@salemcity.org, or delivery to 30 West 100 South, Salem, UT 84653.

Table of Contents

Section 1. GENERAL REQUIREMENTS

1.1 PURPOSE

This manual was prepared to aid developers, contractors, engineers and customers in establishing electric service for new and remodeled structures and new developments. We recognize that you may require personal assistance from our staff, and we encourage you to contact us by calling Salem City Power to discuss electric service requirements with us. It is the desire of Salem City Power, and the local electrical code enforcing authority to provide you, the customer (developers, contractors, owners, etc.) with high quality, safe electric service.

In order to avoid unnecessary repetition, the term "Power Department" as used in the following pages shall mean Salem City Power Department.

As a general rule, if the matter in question is not presented herein, then it is not allowed unless approved by the Salem City Power Department. Contact Salem City Power Department for situations not addressed by this manual that require clarification.

Any power required for private use (i.e. light, sprinkler, etc.) shall be metered.

This requirements manual is intended to be distributed and interpreted in whole. Individual sections, pages, and drawings will not contain all the information necessary for an installation.

1.2 CODES AND ORDINANCES

It is necessary that the construction of new or remodeled installations conform to applicable provisions of the National Electrical Code (NEC), National Electrical Safety Code (NESC), and State of Utah Electrical Service Regulations, as well as City and County ordinances and codes. This includes OSHA rules both during construction and maintenance.

1.3 CHANGES OR CONFLICTS IN REQUIREMENTS AND GUIDELINES

Some of the information in this manual is based on the aforementioned governmental codes and ordinances as well as Salem City Power specific requirements as stated herein. These requirements and guidelines are issued with the intent of complying with all applicable codes, ordinances, regulations, and tariffs; however, in the case of conflict, the appropriate regulation, tariff, code, or ordinance will supersede the interpretation offered in this manual. When there is conflict in requirements the more stringent standard applies. In addition, these requirements are subject to change in the event that the governing codes, ordinances, regulations, or tariffs are changed. The Power Department should be consulted in case of doubt on the applicability of any item.

The phrase "consult Power Department" as used in this manual shall mean a consultation with Salem City Power Department Superintendent is to be made for each and every installation or project.

1.4 APPLICATION FOR SERVICE

It is important that the Power Department office be provided as early as possible with accurate load information and the date when the Customer will require service, so all necessary arrangements for the service may be completed. The service request form, load data sheet, and steps for service installation are included at the front of this manual. Request for service to large residential developments normally require 60 days advance planning by the Power Department in order to serve the load. Installations requiring transformers or other equipment not in stock may require six months lead time or more.

The Power Department is available to provide advice on service requirements and related problems relative to electric energy utilization for new, existing, and reconstructed installations. The developer will be held liable for any damage to Power Department equipment.

When conditions are encountered during construction that require changes in the initial, agreed upon service arrangements, the Power Department must be consulted so mutually satisfactory alternative arrangements can be made. Adequate notice must be given to the Power Department and approval granted regarding changes or additions.

1.5 APPLICATION

For commercial, industrial, residential subdivisions, mobile home parks, and apartment complex applications, the request for service shall include a plot plan indicating equipment size. Commercial or industrial plot plans should show preferred service and meter locations and a single-line diagram of the overall electrical system. The request must show all load information. For commercial developments load information should include lighting, receptacle, water heating, cooking, electric heat, air conditioning, and motor loads, plus sufficient information on equipment operations to allow the kilowatt demand of the load to be estimated. The Power Department shall review the drawings and return the drawing set marked "Approved" or "Unapproved" with an indication of required changes.

1.6 APPROVAL FOR SERVICE

It is required that an electrical installation be approved by the electrical inspection authority having jurisdiction and by the Power Department, as stated herein, before it can be energized by the Power Department. The service will be energized by the Power Department only after all service requirements and inspections have been met.

1.7 PERMANENT SERVICE CONNECTION

Only authorized Power Department employees shall make the permanent (or temporary) connection or disconnection of the Power Department’s electric service to a building, structure or subdivision interconnections.

1.8 TYPES OF SERVICE FURNISHED

The electric service available is 60 hertz (cycles), alternating current, single or three-phase. The secondary voltages and connections available are given below. The nominal primary voltage of

Salem City's power distribution system may differ from one service area to another (+/- 5% of nominal voltage).

Under certain conditions, primary delivery will be supplied at the distribution voltage standard for the location at which it is requested.

1.8.1 UNDERGROUND SERVICE

Electric service shall be underground in new developments. The secondary voltages and connections available are:

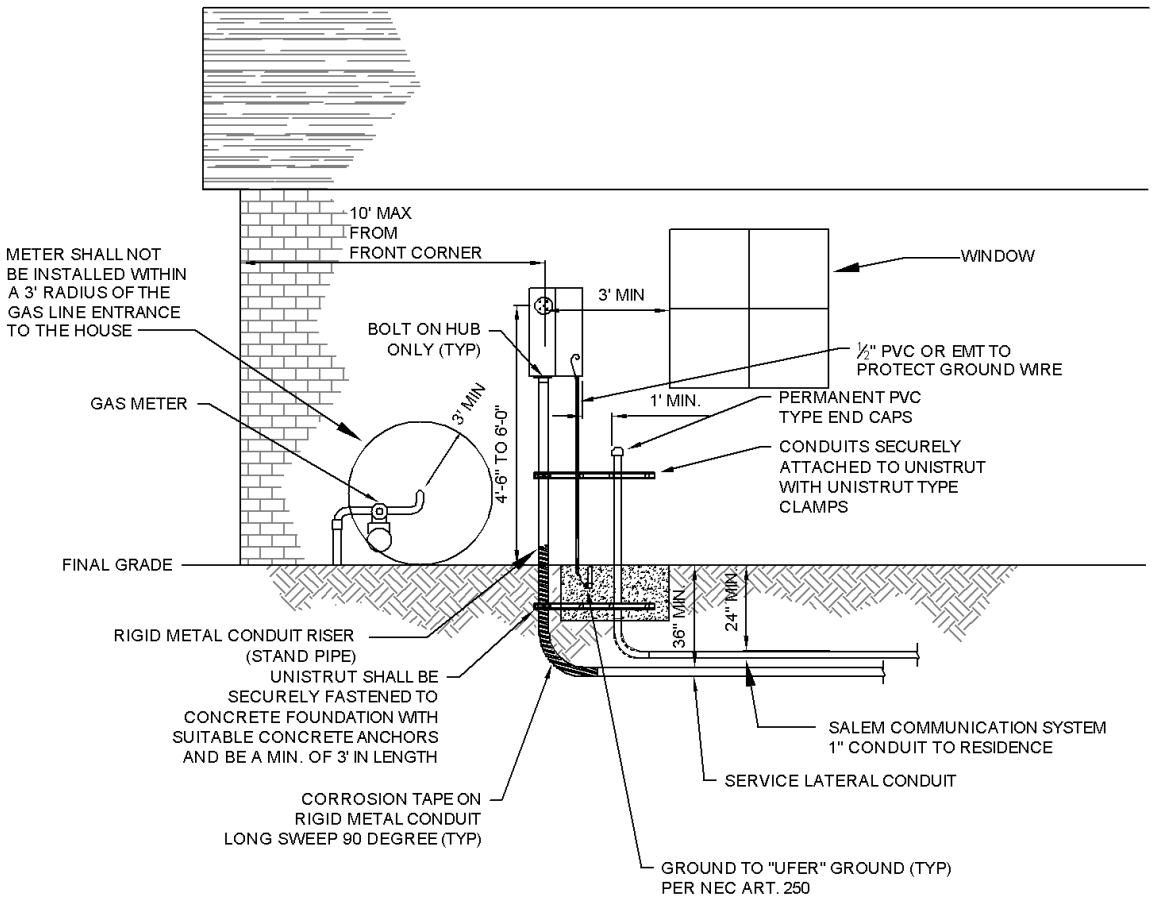
Single-phase, 120/240 volt, three-wire, grounded
Three-phase, 208Y/120 volt, four-wire, grounded, wye
Three-phase, 480Y/277 volt, four-wire, grounded, wye

Typical underground service is shown in standard drawings 1.1, 1.2, 1.3, and 1.5.

1.8.2 OVERHEAD SERVICE

In areas of the city where the electric distribution system is overhead and the customer load is 200 amps or less the Power Department may allow overhead service. If the customer service is over 200 amps, underground service is required. The secondary voltages and connections available are the same as for underground service. Typical overhead service is shown in standard drawing 1.4.

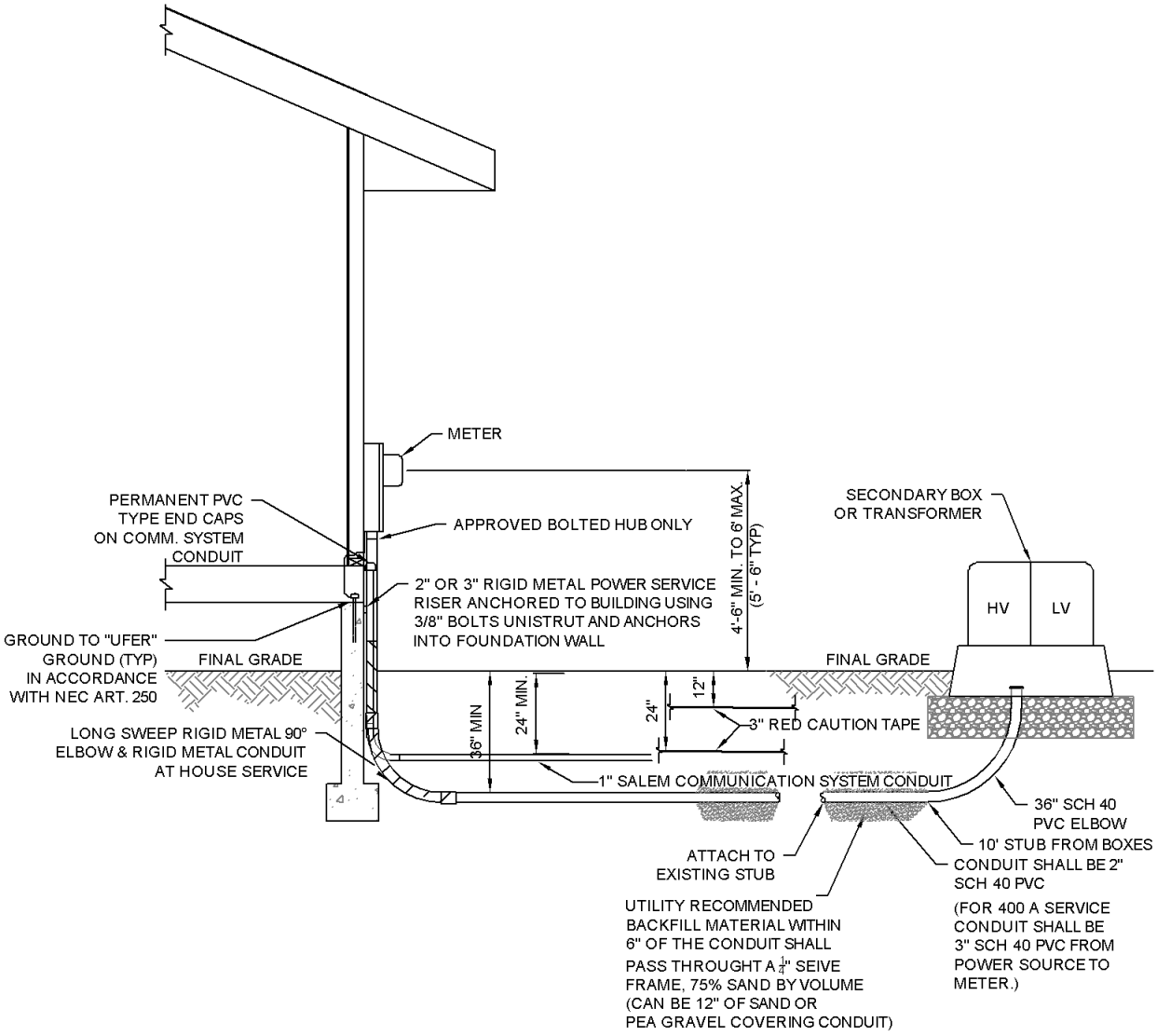
NEW CONSTRUCTION RESIDENTIAL SERVICE - FRONT VIEW



SEE SHEET 1.2 FOR SIDE VIEW

	SALEM CITY POWER ELECTRICAL REQUIREMENTS & STANDARDS MANUAL RESIDENTIAL SERVICES	ELECTRIC 1.1 RESIDENTIAL SERVICES SCALE: NONE DATE: 02-01-2021 REV: REV DATE: 02-22-2021

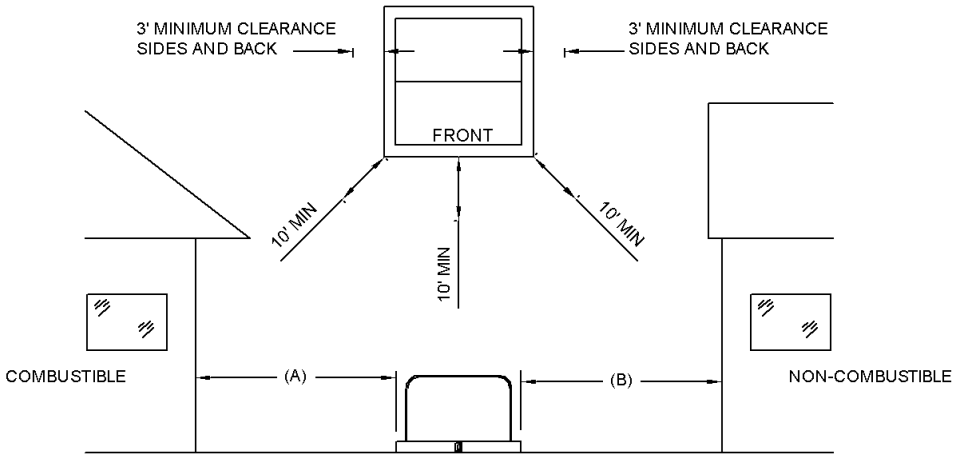
NEW CONSTRUCTION RESIDENTIAL SERVICE - SIDE VIEW



NOTES:
1. METAL CONDUIT BELOW GRADE SHALL BE SUITABLY COVERED WITH CORROSION TAPE.
2. 100-200 AMP SERVICE HAS 2" RIGID METAL CONDUIT 90° LONG SWEEP ELBOW AND 2" RIGID METAL CONDUIT STANDPIPE.
3. 400 AMP SERVICE HAS 3" RIGID METAL CONDUIT 90° LONG SWEEP ELBOW AND 3" RIGID METAL CONDUIT STANDPIPE.
3. NO CONDUIT REDUCING BUSHINGS/FITTINGS ("REDUCERS") ARE ALLOWED BETWEEN POWER SOURCE AND METER BASE.

	SALEM CITY POWER ELECTRICAL REQUIREMENTS & STANDARDS MANUAL RESIDENTIAL SERVICES	ELECTRIC 1.2
		RESIDENTIAL SERVICES
		SCALE: NONE
		DATE: 02-01-2021
		REV:
		REV DATE: 02-22-2021

SINGLE-PHASE AND THREE-PHASE PAD MOUNTED TRANSFORMER CLEARANCES



10' CLEAR AREA IN FRONT OF EQUIPMENT TO ALLOW FOR THE USE OF HOT STICKS (NOTE 2)

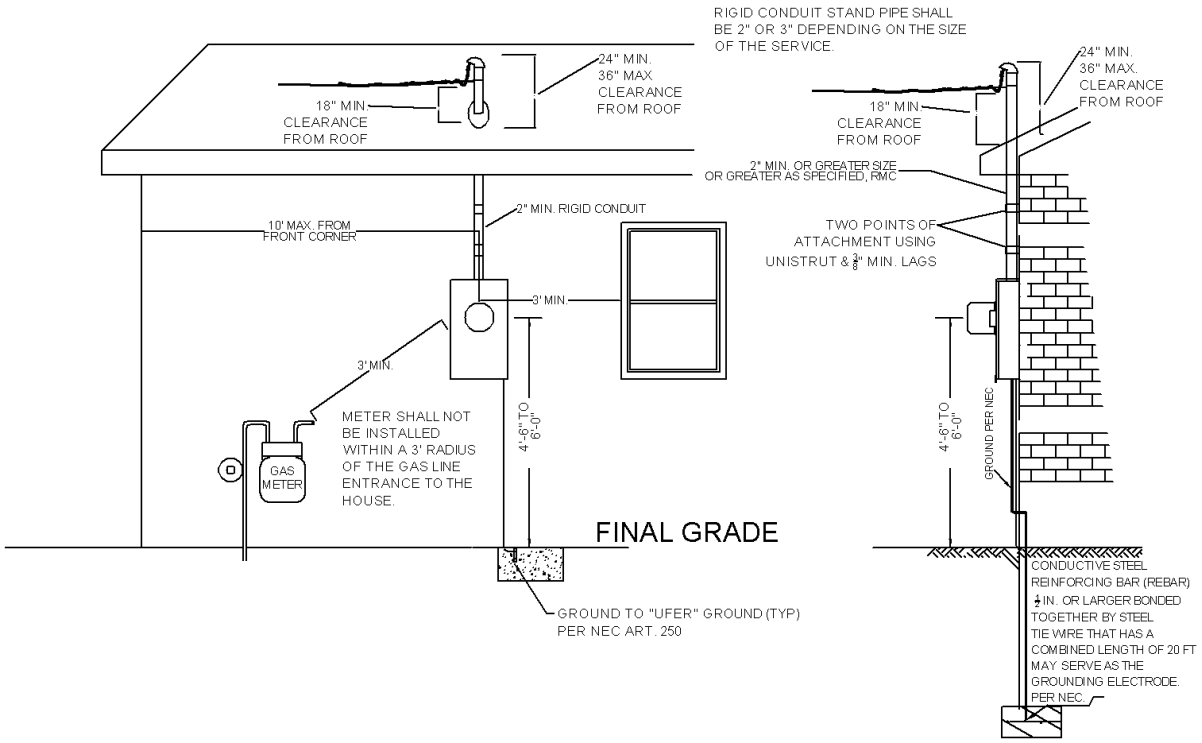
(A) 10' MINIMUM CLEARANCE FROM ANY TRANSFORMER SURFACE IF STRUCTURE IS OF COMBUSTIBLE MATERIAL

(B) 3' MINIMUM CLEARANCE TO ANY NON-COMBUSTIBLE BUILDING SURFACES THAT DO NOT HAVE ANY OPENINGS CLOSER THAN 10'

NOTES:
1. CONSULT NATIONAL ELECTRIC SAFETY CODE, NEC, STATE AND LOCAL BUILDING AND FIRE CODES FOR ADDITIONAL REQUIREMENTS.
2. THE FRONT OF PAD MOUNTED TRANSFORMERS MUST BE LOCATED AWAY FROM BUILDING WALLS OR OTHER BARRIERS TO ALLOW FOR SAFE WORKING PRACTICES.
3. CONSULT THE SALEM POWER DEPARTMENT FOR ADDITIONAL CLEARANCES THAT MAY BE REQUIRED FOR DOORS, WINDOWS, FIRE ESCAPES, AIR VENTS, ETC.
4. WHEN PAD MOUNTED TRANSFORMERS OR OTHER EQUIPMENT ARE INSTALLED WHERE THEY MAY BE STRUCK BY A MOTORIZED VEHICLE THE CUSTOMER WILL INSTALL AND MAINTAIN SALEM POWER DEPARTMENT APPROVED BARRIER POSTS TO PROTECT THE EQUIPMENT.

	SALEM CITY POWER ELECTRICAL REQUIREMENTS & STANDARDS MANUAL PAD MTD. TRANSFORMER	ELECTRIC 1.3 CLEARANCE - TRANSFORMER SCALE: NONE DATE: 02-01-2021 REV: REV DATE: 02-22-2021

NEW CONSTRUCTION
OVERHEAD RESIDENTIAL SERVICES

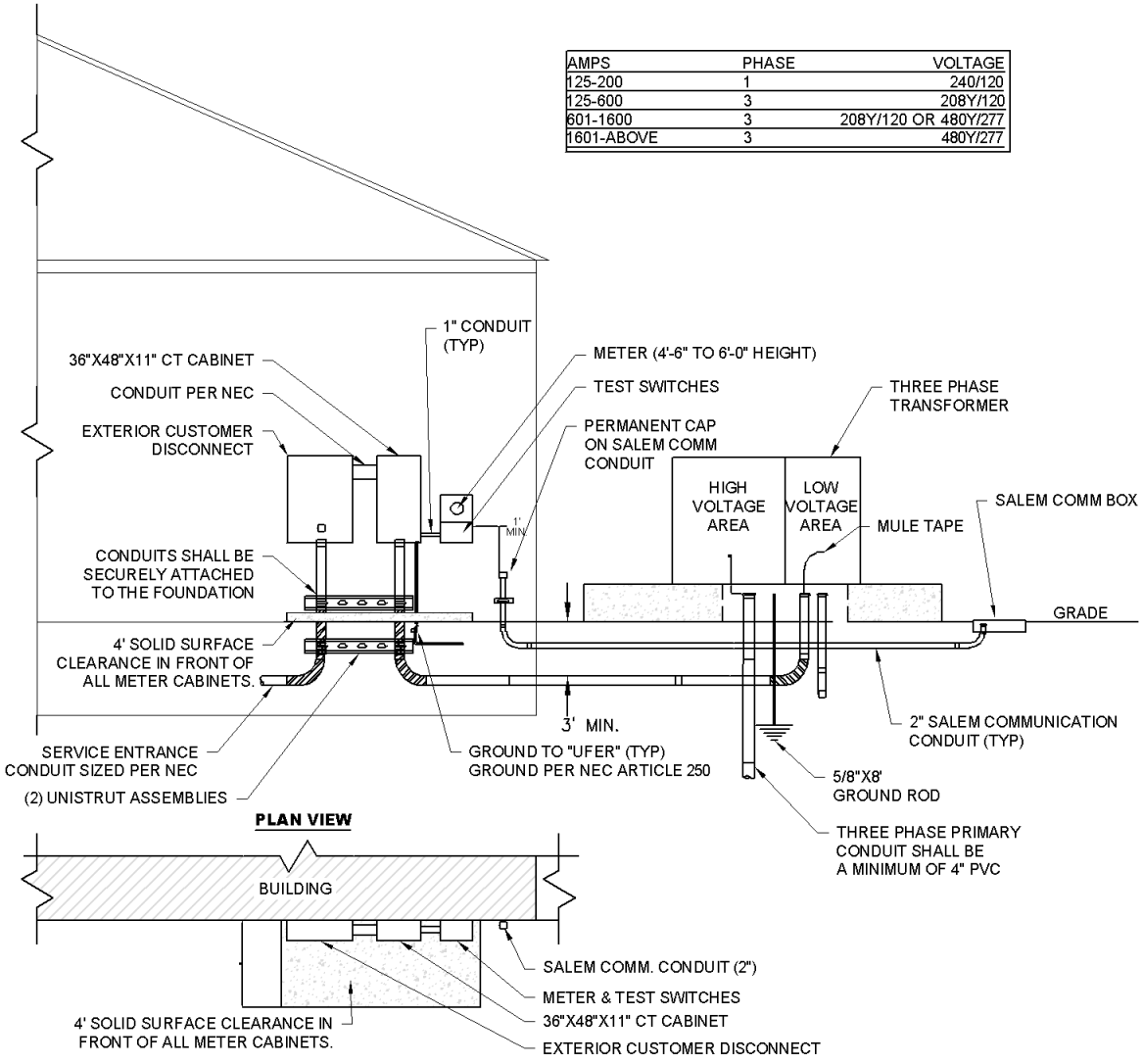


GENERAL:
ALL ELECTRICAL WORK SHALL BE IN COMPLIANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRIC CODE, INTERNATIONAL BUILDING CODE, ICC ELECTRICAL CODE AND THE NATIONAL ELECTRICAL SAFETY CODE EXCEPT WHERE THESE SPECIFICATIONS ARE MORE STRINGENT. IF THERE IS A CONFLICT BETWEEN STANDARDS THE MOST STRINGENT SHALL RULE. SALEM CITY POWER PROVIDES ALL SERVICE WIRE TO THE METER MAST ON OVERHEAD CONNECTIONS. THE CUSTOMER SHALL PROVIDE SERVICE WIRE FROM THE METER MAST WEATHER HEAD TO THE METER BASE.

INSTALLATION:
1. ADDRESS SHALL BE POSTED AT BUILDING.
2. CUSTOMER TO SUPPLY AND INSTALL CONDUCTOR FROM THE WEATHERHEAD TO THE METER BASE.
3. SALEM CITY POWER PROVIDES SERVICE WIRE TO THE WEATHERHEAD FROM THE POWER SOURCE.

	SALEM CITY POWER ELECTRICAL REQUIREMENTS & STANDARDS MANUAL RESIDENTIAL SERVICES	ELECTRIC 1.4
		RESIDENTIAL SERVICES
		SCALE: NONE
		DATE: 02-01-2021
		REV:
		REV DATE: 01-29-2021

AMPS	PHASE	VOLTAGE
125-200	1	240/120
125-600	3	208Y/120
601-1600	3	208Y/120 OR 480Y/277
1601-ABOVE	3	480Y/277



NOTES:

1. ALL SERVICE LOCATIONS, MATERIALS, EQUIPMENT SHALL BE APPROVED BY SALEM CITY POWER.
2. 36" MINIMUM CLEARANCES (SIDES AND ABOVE) FROM DOORS, WINDOWS, STAIRS, GAS METERS SHALL BE OBSERVED. ADDITIONAL CLEARANCES MAY BE REQUIRED.
3. 8' MINIMUM CLEARANCE SHALL BE REQUIRED IN FRONT OF SERVICES, METERS. ADDITIONAL CLEARANCES MAY BE REQUIRED.
4. CITY WILL FURNISH METERBASE & TEST SWITCH FOR CONTRACTOR TO INSTALL. (CONTACT POWER DEPT.)
5. GROUNDING & BONDING OF CABINETS, CONDUITS, & OTHER EQUIPMENT SHALL MEET NEC.
6. SERVICES 200 AMPS OR LESS SHALL USE A LEVER BYPASS METERBASE.
7. SERVICES SIZED 800 AMPS OR LESS MAY USE STAND ALONE TYPE CT CABINETS. FOR SERVICES LARGER THAN 800 AMPS CONTACT SALEM CITY POWER.
8. SERVICES 800 AMPS OR LESS USE CT CABINET MILBANK P/N: CT364811-HC & MOUNTING RACK P/N: K4798 OR AN APPROVED EQUIVALENT.
9. SERVICE CONDUITS SHALL BE A MINIMUM OF 3' IN DEPTH, AND MEET CITY STANDARDS.
10. ELECTRICAL CONTRACTOR SHALL PROVIDE & INSTALL SERVICE CONDUCTORS, & SHALL MAKE CONNECTIONS IN THE SECONDARY SIDE OF THE TRANSFORMER, UNLESS IT IS ENERGIZED. IF THE TRANSFORMER IS ENERGIZED CONTACT SALEM CITY POWER.
11. FOR COMMERCIAL SERVICE THE BUILDER/CUSTOMER MUST PROVIDE THE WIRE FOR UNDERGROUND SERVICE. CABLE SHALL BE TRI-PLEXED ALUMINUM "EC". INDIVIDUAL CONDUCTORS SHALL BE COVERED WITH XLP INSULATION RATED TO 600 VOLTS AND SHALL HAVE COLOR CODED JACKET.

	SALEM CITY POWER ELECTRICAL REQUIREMENTS & STANDARDS MANUAL COMMERCIAL SERVICE	ELECTRIC 1.5
		3 PH UG SERVICE 201-800 AMPS
		SCALE: NONE
		DATE: 02-01-2021
		REV: 0
		REV DATE: 03-02-2021

1.9 SEALS

The purpose of seals by the Power Department on meters and associated service equipment is to prevent injury and/or tampering.

Under normal circumstances, seals are not to be removed except by the Power Department. If an emergency should require seal removal (only by authorized electrical contractors) without prior notification, the Power Department must be notified as soon as possible, so the installation can be inspected and the seal replaced. When this occurs, the party removing the seal shall accept all liability for damage or alteration to equipment, injury to persons or property, and loss of revenue to the Power Department from the time the seal is removed until 72 hours after the Power Department has been notified that the equipment is ready to be re-sealed.

1.10 WORK ACTIVITY NEAR HIGH VOLTAGE OVERHEAD POWER LINES

As set forth in Section 54-8c-l through 54-8c-6 of the Utah Code, no person or thing may be brought within 10 feet of any high voltage overhead line unless:

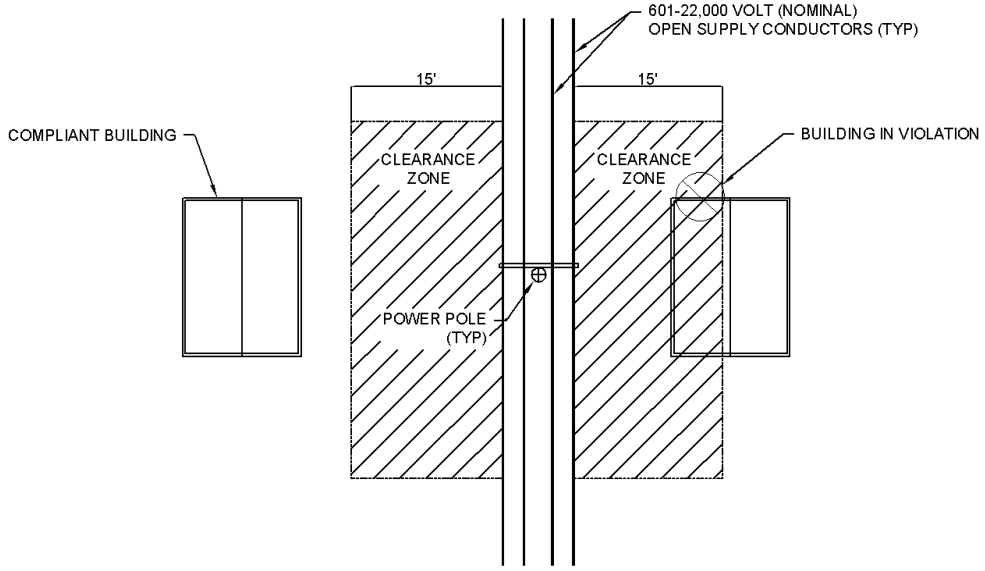
- The responsible party has notified the Power Department or Utility operating the high voltage line of the intended activity; and
- The responsible party and the Power Department or Utility have completed mutually satisfactory safety precautions for the activity; and
- The responsible party has made prior arrangements to pay the Power Department or Utility for the mutually satisfactory safety precautions (if applicable).
- The Power Department recommends a minimum of 3 business day's notice be given before any work near its lines is scheduled to begin.

NOTE: The National Electrical Safety Code requires that homes, buildings, bridges, signs, antennas, etc. have sufficient horizontal and vertical clearance to overhead power lines. Consult the Power Department for applicable distances. In addition, the U.S. Occupational Safety and Health Administration (OHSA) standard 1926.1408 has requirements that apply to work within 20 feet of high voltage overhead lines.

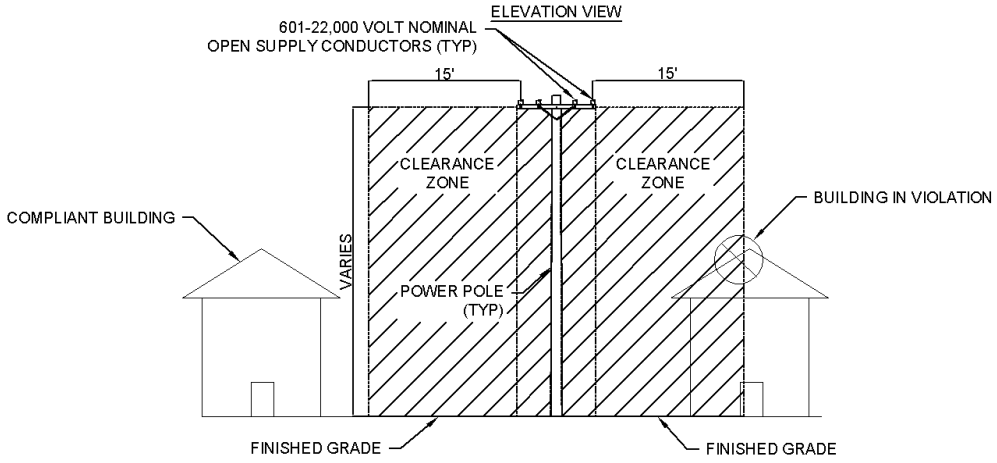
See the overhead line clearance standard drawing 1.6 for the clearance zone.

OVERHEAD LINE CLEARANCE

PLAN VIEW



ELEVATION VIEW



NOTES:

1. NO BUILDING OR STRUCTURE SHALL BE PLACED, OR CONSTRUCTED IN THE POWER LINE CLEARANCE ZONE.
2. CLEARANCES GIVEN ARE TYPICAL AND APPLY TO OPEN SUPPLY PRIMARY CIRCUITS OPERATING AT OVER 600 VOLTS UP TO 22,000 VOLTS, AND MAY NOT APPLY TO ALL CASES OR CIRCUMSTANCES.
3. CLEARANCES DO NOT APPLY TO SECONDARY INSULATED SERVICE CIRCUITS OPERATING AT 600 VOLTS OR LESS.
4. TYPICAL CLEARANCES INCLUDE THE COMPLETE VERTICAL & HORIZONTAL SPACE AROUND POWERLINES FROM THE OUTSIDE CONDUCTOR TO ANY BUILDING, SIGN, OR STRUCTURE.
5. TYPICAL CLEARANCES FOR 12KV PRIMARY OVERHEAD DISTRIBUTION CIRCUITS ARE 15' FROM THE OUTSIDE CONDUCTOR IN ANY DIRECTION FROM ANY BUILDING, SIGN, OR STRUCTURE
6. TYPICAL CLEARANCES FOR 46KV PRIMARY OVERHEAD TRANSMISSION CIRCUITS ARE 30' FROM THE OUTSIDE CONDUCTOR IN ANY DIRECTION FROM ANY BUILDING, SIGN, OR STRUCTURE.
7. SPECIAL APPLICATIONS, HIGHER VOLTAGES, RAILROAD TRACKS, SWIMMING POOLS, AND OPEN WATER MAY RESULT IN ADDITIONAL CLEARANCES AND SHALL BE APPROVED BY SALEM CITY POWER.

	SALEM CITY POWER ELECTRICAL REQUIREMENTS & STANDARDS MANUAL	ELECTRIC 1.6
		OVERHEAD LINE CLEARANCE
		SCALE: NONE
		DATE: 02-01-2021
		REV: 0
		REV DATE: 01-25-2021

1.11 UNDERGROUND PRIMARY/SECONDARY SYSTEM REQUIREMENTS OF SUBDIVISION AND COMMERCIAL AREAS

The intent of this policy is to set forth the developer's installation requirements and to outline specific installation standards. Along with requirements indicated in this section applicable requirements as indicated in other sections of this document apply to commercial and residential developments.

Where a development within the service area of the City is to be subdivided into residential or commercial lots and has been approved by the appropriate Planning and Zoning Boards, the electrical distribution system will be installed underground in accordance with the City's connection fee and line extension policy. The subdivision developer shall provide the City with the easements necessary for the most efficient installation of the required distribution system. All electrical systems installed by the developer shall be front lot construction unless otherwise approved by the Salem City Power Department.

The following subsections serve as a guide for specific requirements of commercial and residential developments; however, the developer is responsible for coordinating with the Power Department to ensure that the intents of this policy are met.

Section 2. TRENCHING AND CONDUIT

2.1 TRENCHING

The developer is to provide the trench for all required conduit systems, including for equipment bases and vaults and, following installation of the conduit by the developer, to backfill and compact to meet Power Department requirements. The Power Department, under the terms of the City's Line Extension policy, will install both primary (medium voltage 12.47 kV or 7.2 kV) and residential secondary cables (below 480 volts).

To assure the final grade has been established, the trenching will be started after the curbs and gutters have been installed unless approved by the Salem City Power Department.

2.1.1 CALL BEFORE YOU DIG

Utah Law Section 54-8A-1 through 54-8A-13 requires the Blue Stakes One Call Location Center be notified at least two working days prior to excavation. The excavation must not be started until locations have been made.

2.1.2 BURIAL DEPTH

SEE TABLES 1 AND 2 BELOW AND ON STANDARD DRAWING 2.1 FOR TRENCHING DEPTHS. The property owner/developer is responsible at their own cost to insure that proper burial depth clearance shown in this manual is maintained even after excavation of the property. Any questions on impaired burial depths (e.g. where crossing rock) should be immediately brought to the attention of the Power Department. Under certain conditions, with prior Power

Department approval, cable/conduit systems may be buried with less cover provided that mechanical protection—such as concrete or red flowable fill—is installed by the developer to the Power Departments specifications.

Table 1

Secondary		
Conduit Sizes and Depths:		
Conduit Size	Use	Depth
1”	Street Lighting System	3’-0”
2”	200-amp Residential Service	3’-0”
3”	400-amp Residential Service	3’-0”
4”	Multi-unit Housing	3’-0”

Table 2

Primary		
Conduit Sizes and Depths:		
Conduit Size	Use	Depth
2”	Single Phase Primary	4’-0”
4”	200-amp Primary, Three Phase	6’-0”
6”	600-amp Primary, Three Phase	6’-0”

Table 3

Communications		
Conduit Sizes and Depths:		
Conduit Size	Use	Depth
1”	Single Family Residential	2’-0” min.
2”	Multi-family Residential	2’-0” min.
2”	Commercial Service	2’-0” min.
2”	Parallel the Primary Power Sys.	2’-0” min.

2.1.3 TRENCH WIDTH, PARALLEL AND CROSSING UTILITIES

All trenches shall meet OSHA requirements. Primary/secondary combined trenches shall be a minimum of 18 inches wide at the bottom. Trenches 12 inches wide will be approved for a single service only. There shall be 3’ separation from parallel utilities. There shall be 12” vertical clearance between Power Department conduits and crossings of water lines or other utilities. Power conduits shall be at least 8” under gas utility where they cross.

2.1.4 BACKFILL

The developer will be responsible for backfilling trenches they provide and installing warning tape.

The developer must provide 6" of sand to be placed below the conduits (unless approved by the inspector). The developer shall backfill trenches with Power Department recommended backfill material within 6” of the conduit. The backfill material shall pass through a ¼” sieve frame and consist of 75% sand by volume—this can include 12” of sand or pea gravel to cover the conduit. The remaining part of the trench may be backfilled with the native material provided that it meets Salem City specifications for suitability and compaction and has no cobbles, construction waste, or other refuse or deleterious materials that may damage the conduit system.

Where trenches cross structural fill, typical of road crossings, the trench backfill shall consist of like kind structural fill. All primary trenches, all road crossings trenches (including secondary) and excavated areas that support electrical equipment shall be compacted to 95% compaction of the maximum dry density as determined by ASHTO T-99 (standard). Compaction shall be tested after compacting each lift of backfill.

When electrical equipment (switch gear, sectionalizers, transformers, and secondary junction boxes) is set on compacted road base then 2” of 1” crushed rock shall be added inside the equipment base or box. There is no need to add the extra crushed rock when the equipment is initially set on 12” deep 1” crushed rock as allowed in these standards.

Extra caution should be taken when refilling trenches. The cost to repair a conduit is the responsibility of the developer. The developer/contractor shall protect the conduit until the subdivision has received final acceptance by the Power Department.

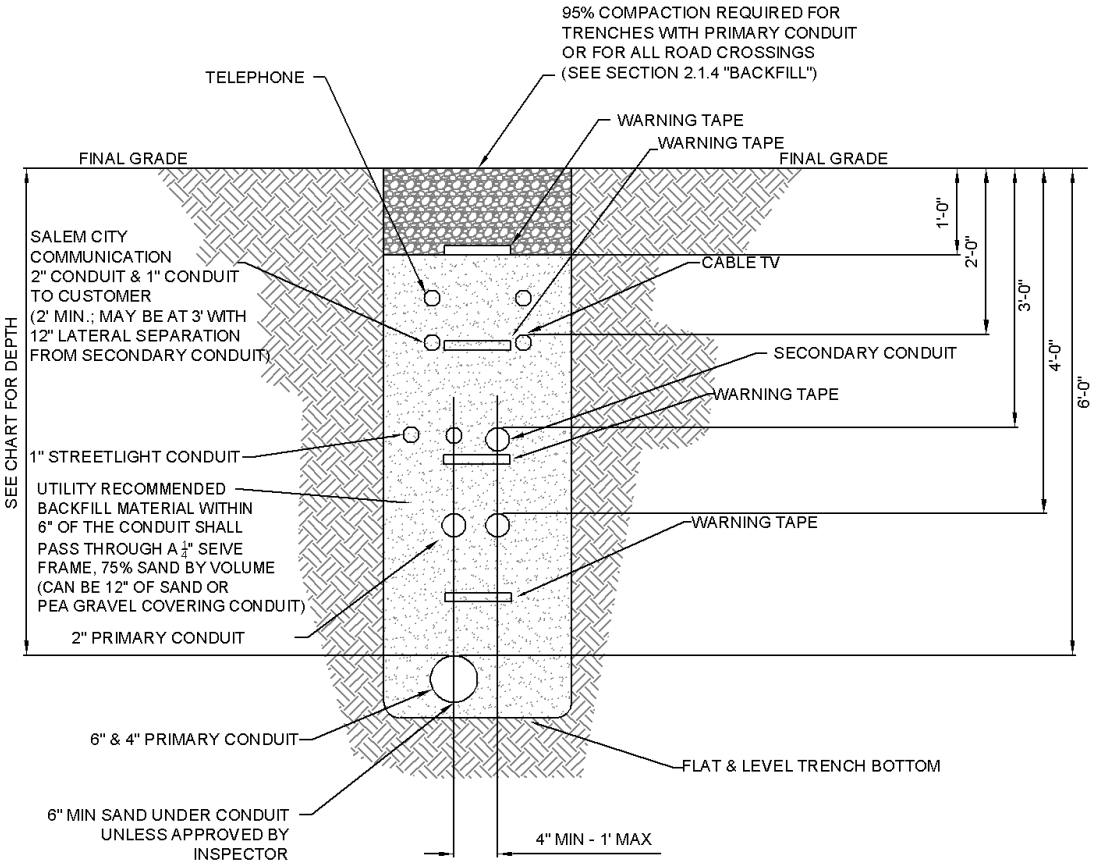
Red warning tape shall be placed 12” above primary conduit and 12” above secondary conduit. All conduit systems shall have placement of red warning tape 6"-12” below final grade. The red warning tape shall be 6” wide for over primary conduits and 3” wide over services of the type specific for the application stating “CAUTION BURIED ELECTRIC LINE BELOW” or similar statement.

2.1.5 JOINT USE

Typically, joint use with other utilities of Power Department trenches is not allowed unless approved by the Power Department. An exception is the City fiber optic communication system conduit that is allowed in the same trench as power conduit. Any joint use between telephone, TV, and other electrical communication cables must be pre-approved by the Power Department and installed in accordance with the Power Department specifications. The Power Department normally will not install electrical cables in a common trench with non-electric utilities such as water, gas, and sewer, unless unusual conditions such as adverse soil or route restrictions exist. All such installations require the prior approval of the Power Department.

Typical conduit placement in joint use trench is shown in standard drawings 2.1 and 2.2.

SYSTEM JOINT USE TRENCH

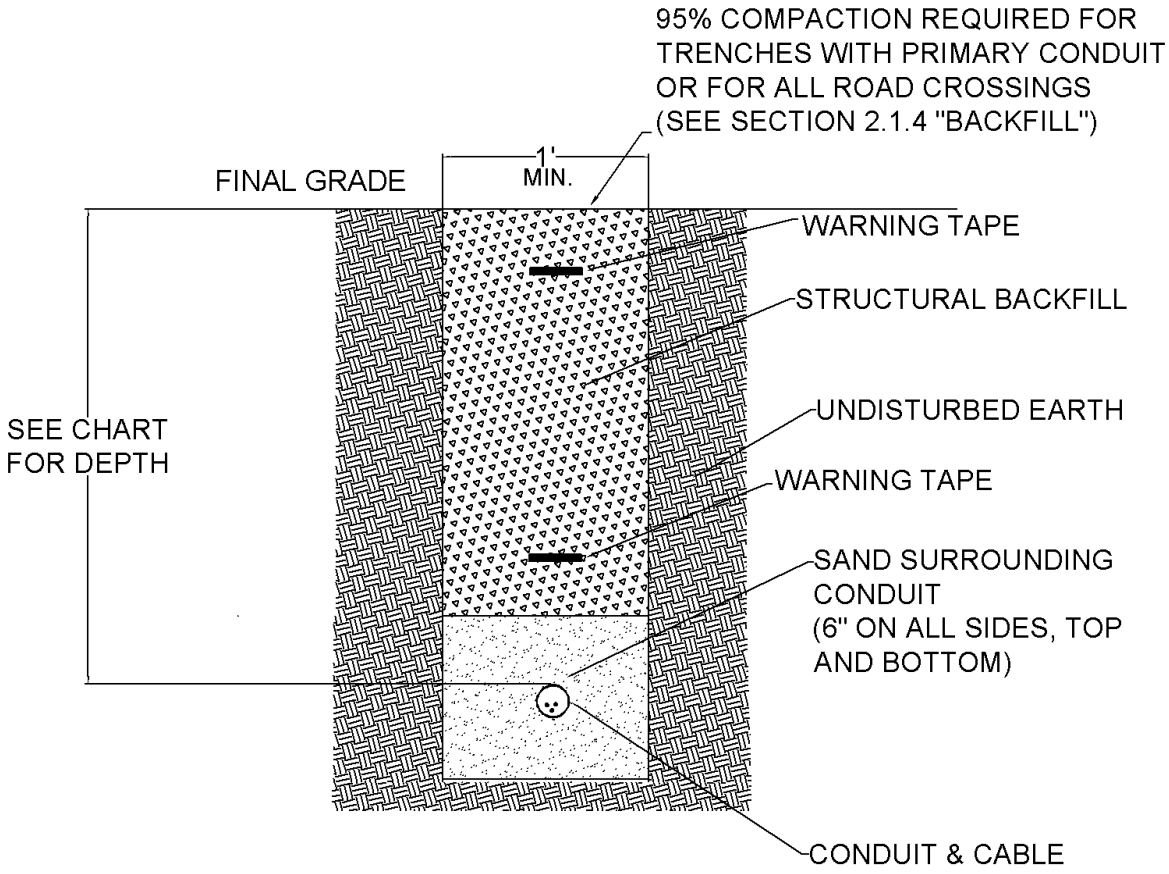


PRIMARY	
CONDUIT SIZES AND DEPTHS:	
CONDUIT SIZE	DEPTH
2"	4'-0"
4"	6'0"
6"	6'-0"

SECONDARY	
CONDUIT SIZES AND DEPTHS:	
CONDUIT SIZE	DEPTH
1" (ST. LIGHTS)	3'-0"
2"	3'-0"
3"	3'-0"
4"	3'-0"

	SALEM CITY POWER ELECTRICAL REQUIREMENTS & STANDARDS MANUAL JOINT USE TRENCH	ELECTRIC 2.1
		TRENCHING AND CONDUIT
		SCALE: NONE
		DATE: 02-01-2021
		REV: 0
		REV DATE: 01-29-2021

STREET CROSSING



PRIMARY	
CONDUIT SIZES AND DEPTHS:	
CONDUIT SIZE	DEPTH
2"	4'-0"
4"	6'0"
6"	6'-0"

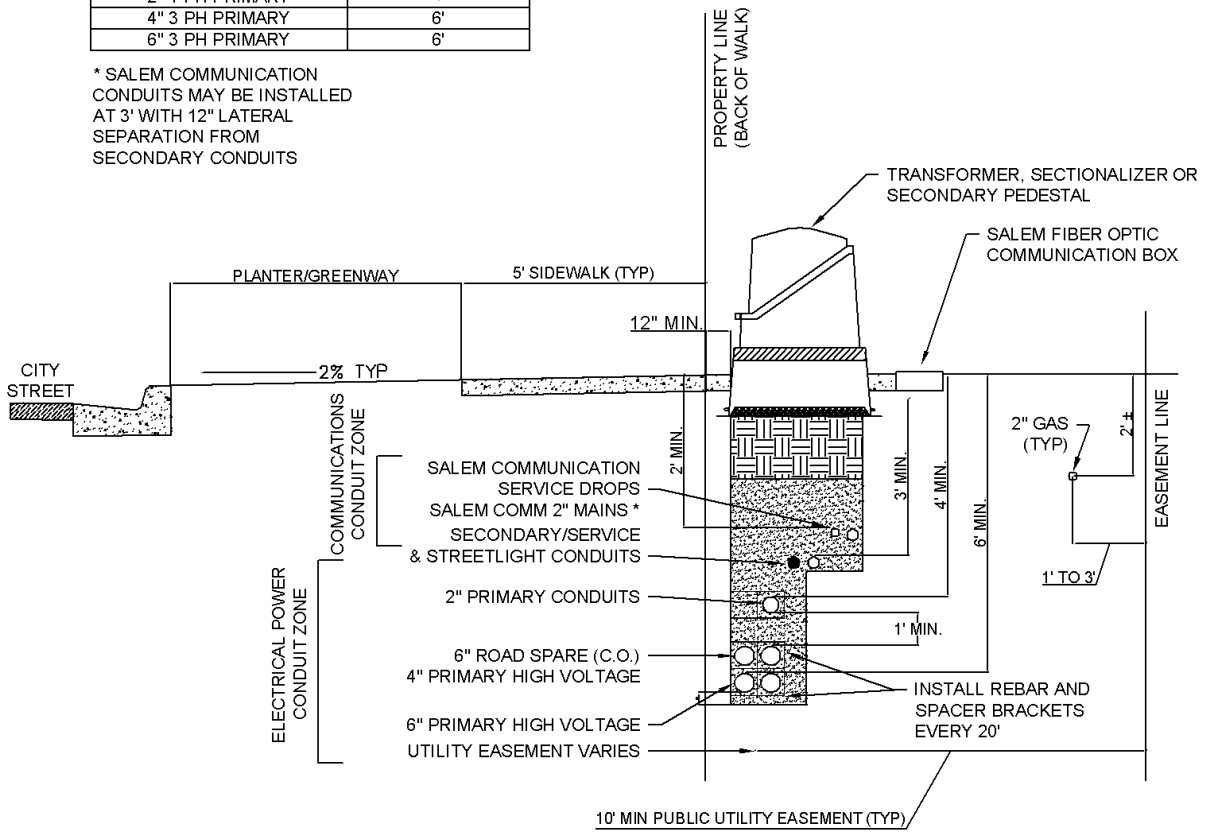
SECONDARY	
CONDUIT SIZES AND DEPTHS:	
CONDUIT SIZE	DEPTH
1" (ST. LIGHTS)	3'-0"
2"	3'-0"
3"	3'-0"
4"	3'-0"

	SALEM CITY POWER ELECTRICAL REQUIREMENTS & STANDARDS MANUAL STREET CROSSING TRENCH	ELECTRIC 2.1 B
		TRENCHING AND CONDUIT
		SCALE: NONE
		DATE: 02-01-2021
		REV: 0
		REV DATE: 02-22-2021

TYPE OF CONDUIT	(MIN.) DEPTH TO TOP OF CONDUIT
1", 2" COMMUNICATION	2' MIN. *
STREET LIGHT	3'
2", 3", 4" SERVICE	3'
2" 1 PH PRIMARY	4'
4" 3 PH PRIMARY	6'
6" 3 PH PRIMARY	6'

* SALEM COMMUNICATION CONDUITS MAY BE INSTALLED AT 3' WITH 12" LATERAL SEPARATION FROM SECONDARY CONDUITS

TYPICAL JOINT TRENCH OF HIGH VOLTAGE/PRIMARY, LOW VOLTAGE/SECONDARY, & COMMUNICATIONS CONDUITS



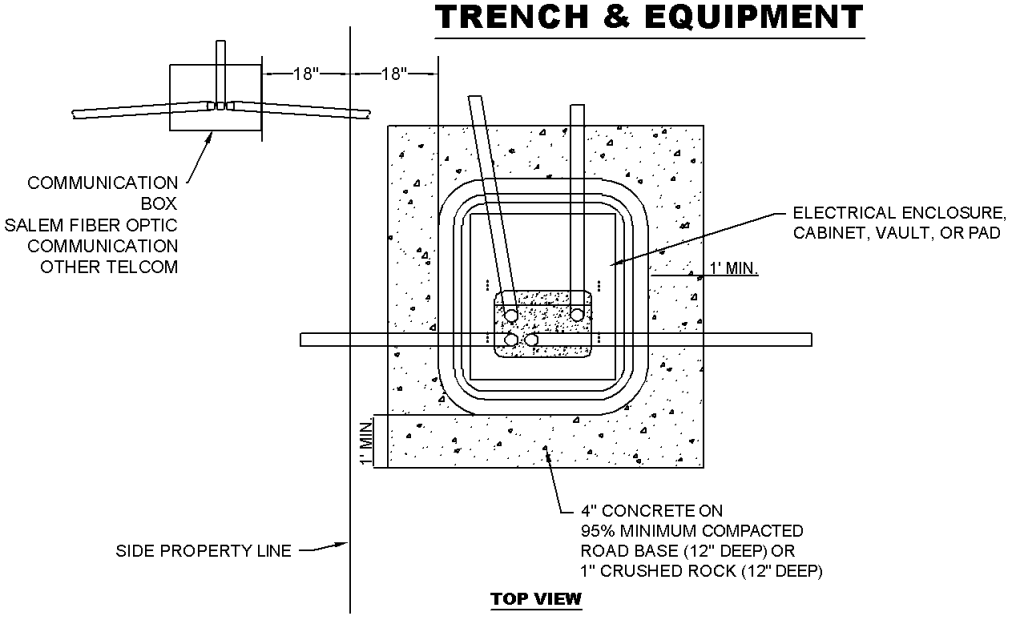
ALL PRIMARY POWER CONDUIT SHALL BE BURIED A MINIMUM OF 4' IN DEPTH TO TOP OF CONDUIT. IF PRIMARY/HIGH VOLTAGE (12KV) CONDUITS & SECONDARY/LOW VOLTAGE (600 VOLT) POWER CONDUITS ARE INSTALLED IN THE SAME TRENCH, THE HIGH VOLTAGE POWER SHALL ALWAYS BE INSTALLED BELOW LOW VOLTAGE POWER CONDUITS. IF THERE ARE MULTIPLE PRIMARY/HIGH VOLTAGE CONDUITS (2" 1PHASE, 6" 3PHASE) IN THE SAME TRENCH, ALL HIGH VOLTAGE CONDUITS MAY BE INSTALLED AT THE DEPTH OF THE LARGEST CONDUIT (6", 6' DEEP)

NOTES:

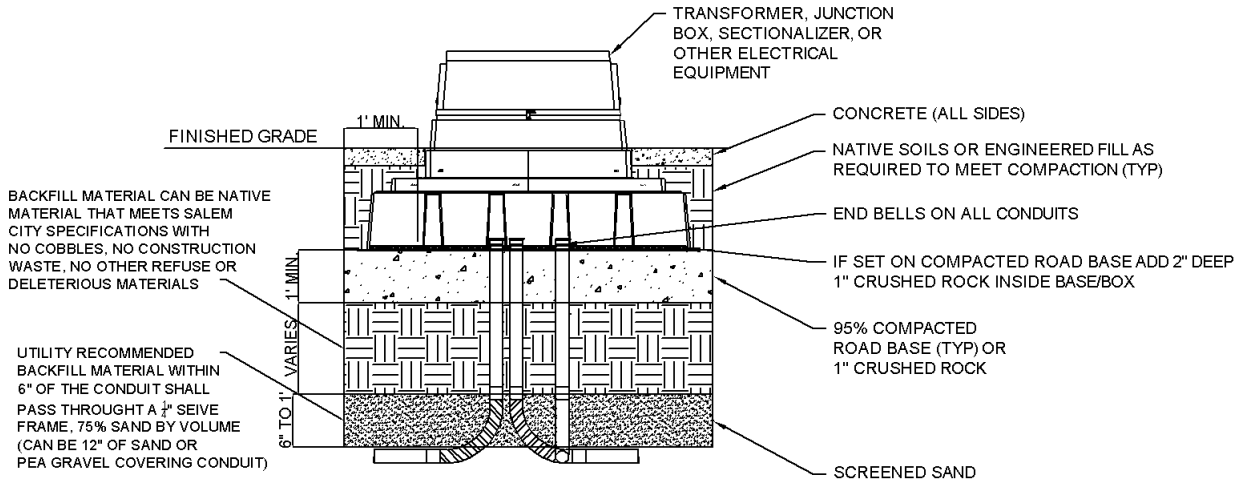
1. COMMUNICATIONS CONDUIT ROUTING SHALL BE COORDINATED THROUGH SALEM CITY POWER.
2. COMMUNICATIONS CONDUITS SHALL BE BEHIND OR TO THE SIDES OF TRANSFORMERS, SECTIONALIZERS OR JUNCTION BOX.
3. HIGH VOLTAGE PRIMARY CONDUITS SHALL ALWAYS BE BELOW SECONDARY CONDUITS.
4. REBAR SHALL BE CAPPED UNTIL BACKFILLED.
5. BACKFILL SHALL MEET THE REQUIREMENTS IN SECTION 2.1.4 OF THESE STANDARDS.
6. ALL CONDUITS SHALL BE INSPECTED AT EACH "LIFT", AT THE COMPACTION LEVEL, AND FOR A FINAL INSPECTION.
7. A WARNING TAPE SHALL BE PLACED 1' ABOVE CONDUIT, AND A WARNING TAPE SHALL BE PLACED 1' BELOW GRADE FOR BOTH POWER & CITY COMMUNICATIONS.

	SALEM CITY POWER ELECTRICAL REQUIREMENTS & STANDARDS MANUAL JOINT USE TRENCH	ELECTRIC 2.2 TRENCHING AND CONDUIT SCALE: NONE DATE: 02-01-2021 REV: 0 REV DATE: 02-22-2021

BACKFILL & COMPACTION - TRENCH & EQUIPMENT



TOP VIEW



FRONT VIEW

NOTES:

1. ALL ELECTRICAL BOXES INCLUDING, BUT NOT LIMITED TO, SECTIONALIZERS, SWITCHES, SECONDARY JUNCTION BOXES, TRANSFORMERS AND TRANSFORMER CONCRETE PADS SHALL HAVE ROAD BASE 1" OR LESS COMPACTED TO A MINIMUM OF 95% OR 1" CRUSHED ROCK UNDER ALL BOXES AND PADS. FILL SHALL BE A MINIMUM OF 1' DEEP, AND SHALL EXTEND A MINIMUM OF 1' PAST ALL SIDES AND BACK AND 1' IN FRONT OF ALL BOXES OR PADS.
2. ALL COMPACTION TESTS SHALL BE TAKEN BEFORE ELECTRICAL BOXES ARE SET INTO PLACE.
3. ALL SAND, ROADBASE AND ENGINEERED FILL SHALL MEET SALEM CITY STANDARDS.
4. AREA AROUND ELECTRICAL BOXES SHALL BE BACKFILLED & LEVELED A MINIMUM OF 3' IN ALL DIRECTIONS TO PROVIDE A SAFE WORKING AREA.

	SALEM CITY POWER ELECTRICAL REQUIREMENTS & STANDARDS MANUAL TRENCH & EQUIPMENT	ELECTRIC 2.3
		BACKFILL & COMPACTION
		SCALE: NONE
		DATE: 02-01-2021
		REV: 0
		REV DATE: 02-22-2021

2.2 CONDUIT

The Power Department requires the use of conduit for all underground primary and secondary cable installations, including lighting circuits. Rigid galvanized steel, IMC, fiberglass, and gray electrical grade PVC schedule 40 (underground only) conduit are acceptable materials for conduits installed by the developer/customer.

All 90-degree bends are to be "Long Sweep" for all conduit sizes, except sweeps for communication conduit service final runs to a customer. All primary elbows, including elbows for risers, are to be fiberglass. Secondary elbows in transformers and secondary junction boxes are to be schedule 40 PVC or fiberglass. Service riser elbows and riser pipes shall be rigid conduit or IMC. Refer to Table 4.

Table 4

Conduit Size	Use	Elbow Type	Notes
		Secondary	
1"	Street Lighting System	Schl. 40 PVC	
2"	Communication System	Schl. 40 PVC 24" min. Long Sweep 90 see Notes	Communication system risers on poles shall use rigid elbows and riser pipes
2"	Up to 200-amp Residential Service	Schl. 40 PVC in boxes; Rigid or IMC, Long Sweep 90 at service riser	Rigid or IMC for stand pipe
3"	400-amp Residential Service	Schl. 40 PVC in boxes; Rigid or IMC, 36" Long Sweep 90 at service riser	Rigid or IMC for stand pipe
3"	Transformer to Secondary Box	Schl. 40 PVC or Fiberglass 36" Long Sweep 90	Schl 40 PVC is allowed
4"	Commercial Service	Fiberglass 36" min. Long Sweep 90 in boxes; Rigid or IMC, 36" Long Sweep 90 at service riser	Rigid or IMC for stand pipe
		Primary	
2"	Single Phase Primary	Fiberglass 36" (min.) Long Sweep 90	1/0 Al underground
4"	200-amp Primary, Three Phase	Fiberglass 48" (min.) Long Sweep 90	4/0 Al underground
6"	600-amp Primary, Three Phase	Fiberglass 48" (min.) Long Sweep 90	1000 or 1100 MCM Al underground

All conduits shall be terminated at the open end with plastic bushings.

All underground metallic conduit must be tape wrapped with suitable tape for the application to help prevent corrosion.

Residential primary conduit sizes must be 2” for single phase. Secondary conduit size shall be 3” from transformers to secondary junction boxes and 2” from transformer or secondary junction box to residence. 400-amp residential service requires 3” conduit. A 36” radius rigid or IMC 90º elbow is required at residence. A 36” radius schedule 40 PVC elbow is allowed at secondary junction box or transformer.

All conduits end points shall be sealed or taped to prevent debris from plugging the conduit. All conduit end points shall be marked for future use with a Radar Engineering #600 red marker strip. All conduits must have mule tape (2500 lb. rated) installed. All conduits must be mandreled (mandrel tested). The developer shall be responsible for cleaning or replacing conduits if the Power Department is unable to install or pull the service cable.

Along with conduits extending to secondary junction boxes, each transformer pad and secondary box shall have ten (10) foot conduit stub outs for interconnection to adjacent homes.

Prior to backfilling, the developer must notify the Power Department for an inspection. Following the inspection the Power Department shall issue a notice to proceed slip, or U.G. Service Inspection Verification label, allowing the developer to begin backfilling.

2.3 TWO INCH (2") COMMUNICATION CONDUIT REQUIREMENTS

Along with conduit requirements for the installation of power cables the developer must provide a 2" conduit system for the city fiber optic communication system. The conduit system shall consist of 2” gray schedule 40 PVC conduit and shall parallel the primary power system to transformers and to the secondary junction boxes.

Salem City communication conduit shall be installed at 2’ minimum depth, but may be installed at the same depth as secondary and service conduit—3’ minimum depth—as long as there is 1’ required lateral separation between conduits.

Communication system boxes shall be installed at switches, sectionalizers, transformers, and secondary junction boxes. The communication system boxes are 14”x 19”x 12” with a lid that identifies it as “FIBER OPTIC”.

All applicable requirements pertaining to the installation of the power conduit system apply to 2" conduit system.

2.4 PRE-CONSTRUCTION MEETINGS AND ACCEPTABLE PRACTICES

Before work commences developer will meet with a Power Department representative to discuss the construction process. Work must be done according to acceptable work practices. The table below shows the items or equipment of a system and who supplies and installs each one:

Table 5

	Supplied By:		Installed By:	
Item/Equipment*	**Salem City**	**Customer**	**Salem City**	**Customer**
Transformer	X		X	
Transformer Base		X		X
Switch Base		X		X
Switch	X		X	
Secondary Junction. Box		X		X
Primary Sectionalizer		X		X
Riser Pole Material (for entire length)		X	X (above 10' height)	X (up to 10' height)
Conduits		X		X
Conduit Stub Markers (Radar Engineering #600 red marker strip)	X			X
Primary Conductors(1)	X		X	
Streetlight Box		X		X
Streetlight Base		X		X
Streetlights & Fixtures(2)	X		X	X
Streetlight Conductor(2) (#10 AWG THHN black, white, green)		X		X
Meter Base (3) (4)		X		X
Meter	X		X	
C.T. Enclosure (Can) with CT Mounting Bases (3) (5)		X		X
C.T.s	X		X	
Test Switch (4)	X			X
Service Wire (Secondary) (6)(7)		X		X
Communications Box		X		X
Communications Riser Material (for entire length)		X	X (above 10' height)	X (up to 10' height)
Power Pole	X		X	

*Call Salem City Power about items that are not listed in this table.

(1) Primary wire supplied by Power Department, paid for by customer, and installed by Power Department.

(2) Streetlight lamp fixture (head) and wire from head to the streetlight box supplied and installed by Power Department

(3) All meter bases and C.T. cans will comply with Salem City Power Department requirements

(4) For C.T. metering installations the Power Department will provide the meter base and test switch, paid for by customer

(5) C.T. enclosure (cans) will be required on all commercial services over 200 amps.

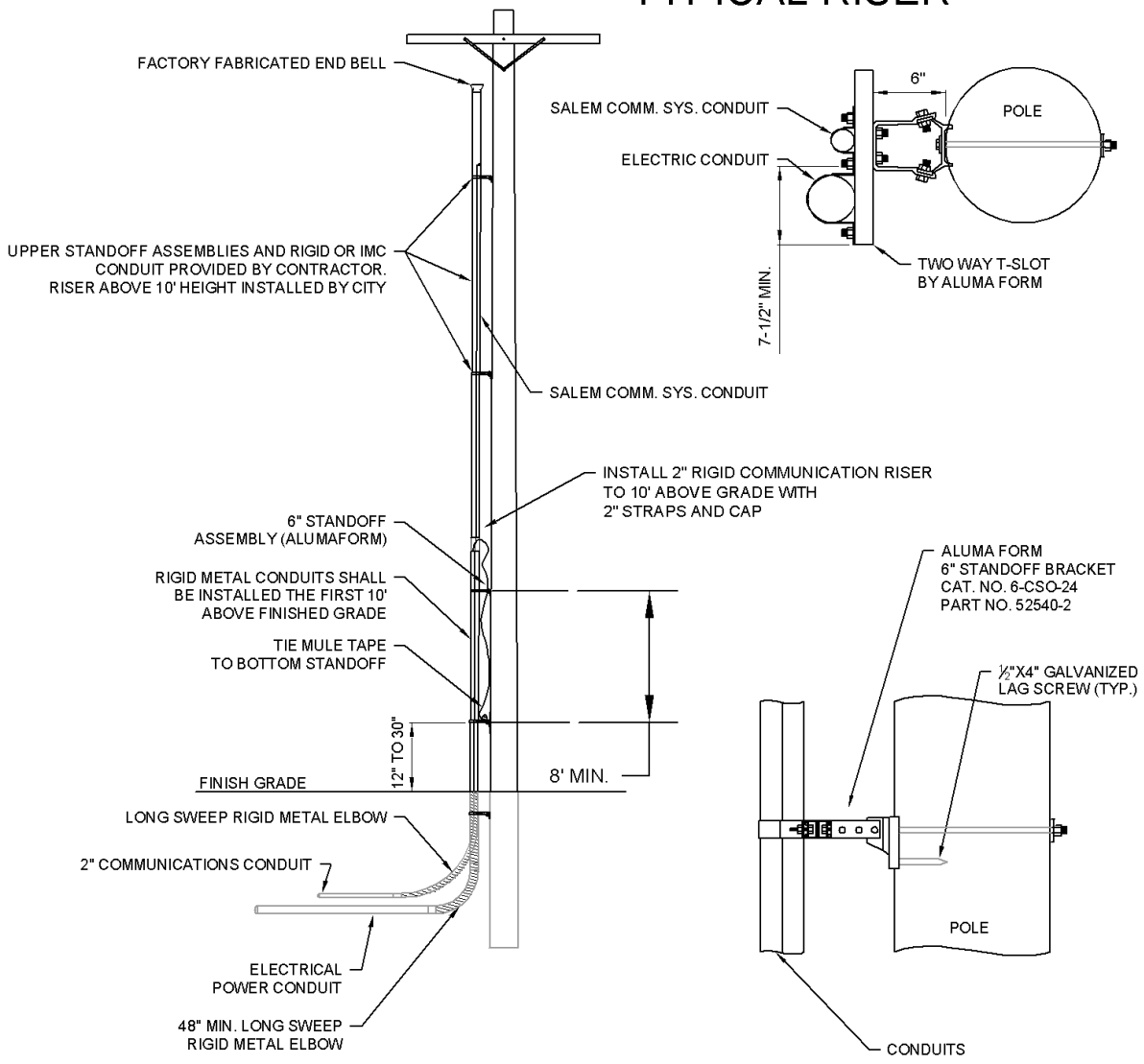
(6) Service wires from transformer, secondary junction box or riser to meter base, supplied and installed by customer. Wire type specified by Power Department from approved list.

(7) Contact Salem City Power for assistance when installing conductors in energized boxes.

2.5 UNDERGROUND AND PADMOUNT EQUIPMENT AND CONDUIT STANDARDS

Conduit and underground/padmount equipment placement and requirements are shown in the standards drawings in this section. The developer shall install primary and secondary conduit and equipment in accordance with these standards and the system design approved by Salem City Power.

TYPICAL RISER

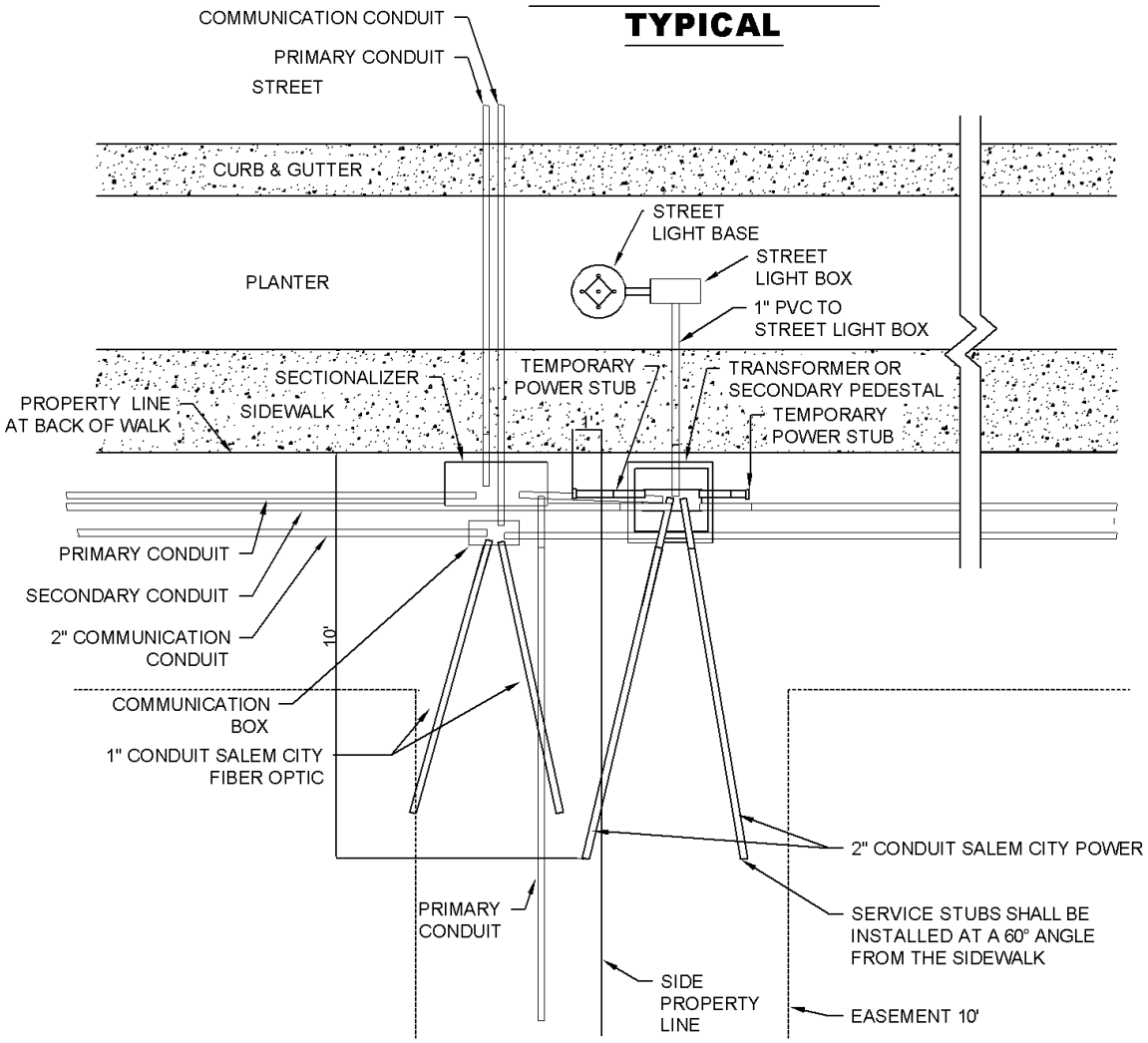


NOTES:

1. CONTRACTOR TO FURNISH ALL MATERIALS FOR THE COMPLETE RISER(S) INSTALLATION.
2. CONTRACTOR TO INSTALL THE RISER FOR THE FIRST 10 FEET & FURNISH MATERIALS FOR SALEM CITY POWER TO FINISH THE RISER, INCLUDING INSTALLING FIRST 10' FEET OF COMMUNICATION RISER--2" RIGID AND 2" STRAPS--AND CAPPING.
3. SALEM CITY POWER SHALL INSTALL THE RISER FROM 10 FEET THE REST OF THE WAY UP THE POLE.
4. ALL POWER CONDUITS TO BE RIGID METAL (RMC) OR INTERMEDIATE METAL (IMC) INCLUDING THE ELBOW TO THE TOP OF THE POLE.
5. CONTRACTOR TO INSTALL (2) TWO STAND-OFF ASSEMBLIES ABOVE FINISHEDL GRADE ON THE FIRST 10 FEET OF RISER.
6. ALL METAL CONDUITS BELOW GRADE SHALL BE COATED WITH ANTI-CORROSION TAPE. THE TAPE SHALL EXTEND UNTIL 6" IS ABOVE FINISHED GRADE
7. CONTRACTOR TO TIE MULE TAPE PULL ROPE TO THE BOTTOM STAND-OFF ASSEMBLY. PULL ROPE SHALL BE LONG ENOUGH TO EXTEND TO THE TOP OF THE POLE.

	SALEM CITY POWER ELECTRICAL REQUIREMENTS & STANDARDS MANUAL OH TO UG RISER	ELECTRIC 2.4 RISER SCALE: NONE DATE: 02-01-2021 REV: REV DATE: 01-25-2021

CONDUIT ROUTING TYPICAL

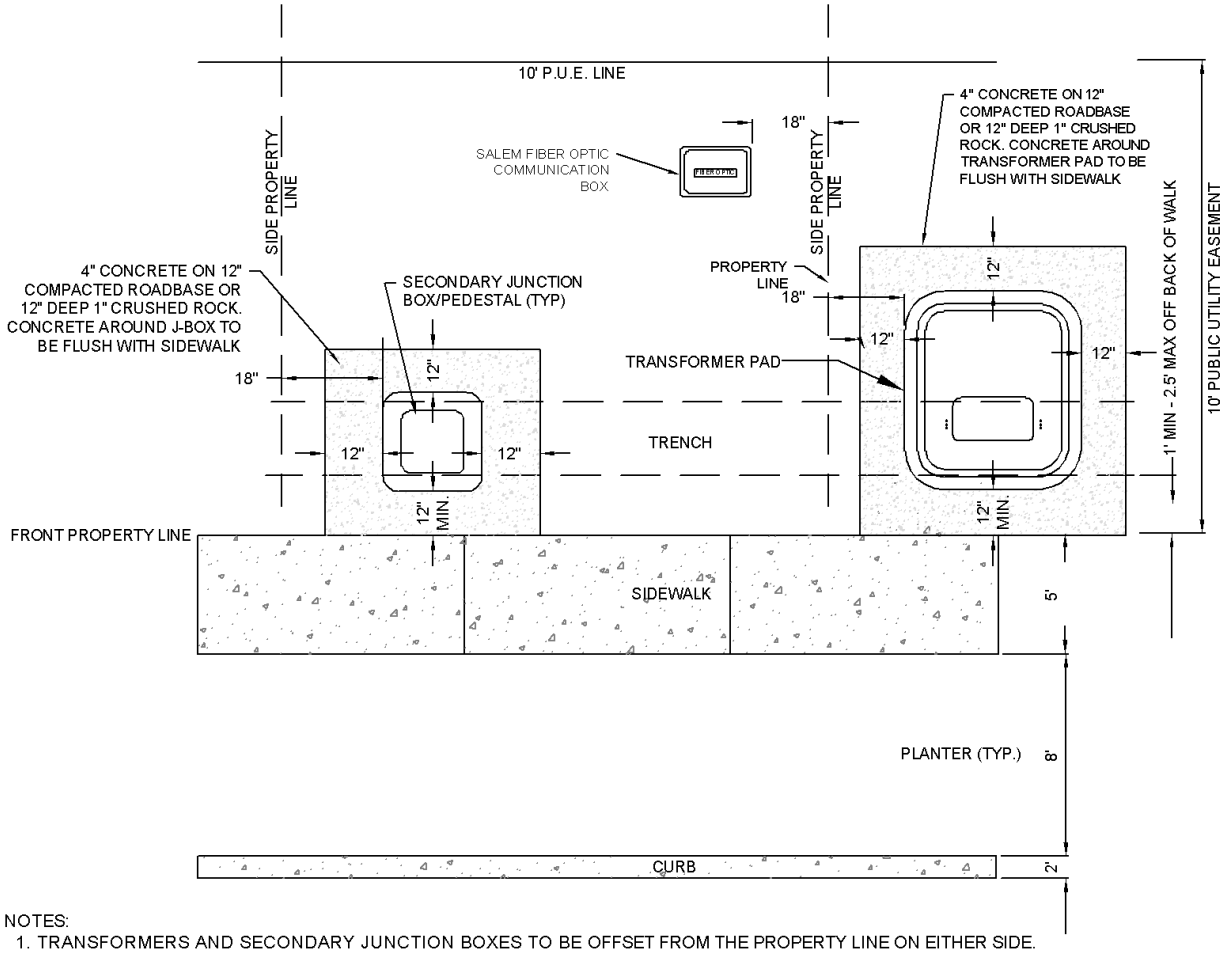


NOTES:

1. PERMANENTLY CAP ALL ENDS OF STUBS AND MARK WITH A RADAR ENGINEERS MODEL 600 RED BURIED PIPE MARKER OR APPROVED EQUIVALENT (PROVIDED BY SALEM POWER).
2. OTHER TELCOMM COMMUNICATION PEDESTALS SHALL BE INSTALLED BY THEIR COMPANIES.
3. ALL CONDUIT STUBS SHALL BE INSTALLED BY DEVELOPER.

	SALEM CITY POWER ELECTRICAL REQUIREMENTS & STANDARDS MANUAL UG SYSTEM LAYOUT	ELECTRIC 2.5 CONDUIT ROUTING SCALE: NONE DATE: 02-01-2021 REV: 0 REV DATE: 03-04-2021

SECONDARY JUNCTION BOX, SINGLE PHASE TRANSFORMER PAD,& COMMUNICATION BOX LOCATION WITH SIDEWALK AND PLANTER

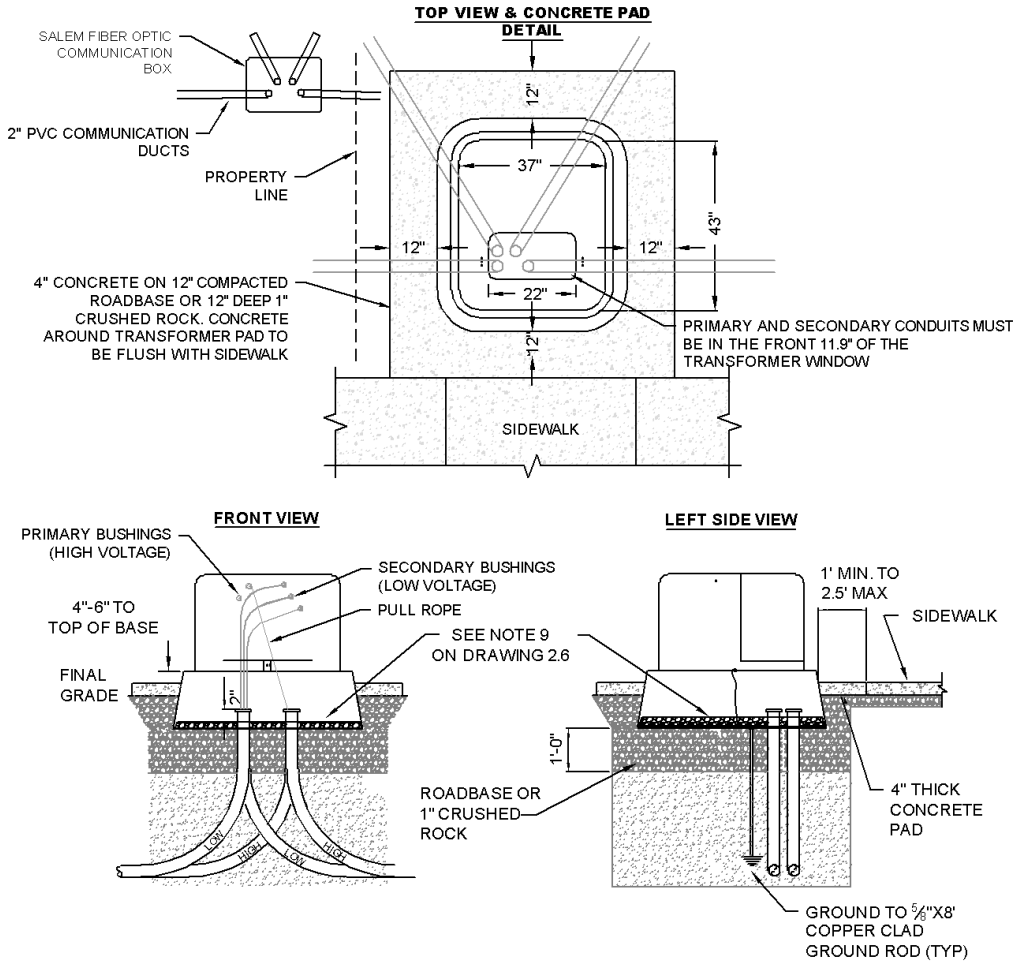


NOTES:

1. TRANSFORMERS AND SECONDARY JUNCTION BOXES TO BE OFFSET FROM THE PROPERTY LINE ON EITHER SIDE.
2. TRANSFORMERS AND SECONDARY JUNCTION BOXES TO BE LOCATED AS PER THE ELECTRICAL DESIGN APPROVED BY SALEM CITY.
3. TRANSFORMER AND OTHER EQUIPMENT MUST BE INSTALLED SO THAT THE FRONT FACES THE SIDEWALK. NO OBSTRUCTIONS ARE ALLOWED IN FRONT OF THE SALEM CITY POWER EQUIPMENT.
4. SECONDARY JUNCTION BOXES SHALL FACE TOWARDS THE STREET AND SHALL BE LEVEL.
5. DEVELOPER IS RESPONSIBLE FOR TRENCHING, AND INSTALLING TRANSFORMER BASES, SECONDARY JUNCTION BOXES, AND COMMUNICATIONS BOXES, AND BACKFILLING.
6. CLEARANCE AROUND TRANSFORMERS SHALL BE 10' IN FRONT, 3' IN BACK AND ON SIDES, AND 10' TO STRUCTURE SURFACES MADE OF COMBUSTIBLE MATERIALS --SEE STANDARD DRAWING 1.3.
7. CLEARANCE SHALL BE 3' ALL AROUND SECONDARY JUNCTION BOXES.
8. ROADBASE OR 1" CRUSHED ROCK SHALL BE USED UNDER ALL BASES/BOXES. ROADBASE SHALL BE COMPACTED TO 95% OF DRY DENSITY. COMPACTION TESTS SHALL BE TAKEN PRIOR TO ANY BASES/BOXES BEING SET INTO PLACE.
9. ADD 2" DEEP 1" CRUSHED ROCK INSIDE THE BASE/BOX IF IT IS SET ON COMPACTED ROAD BASE.
10. CONCRETE PAD 4" THICK REQUIRED TO TIE THE SIDEWALK TO THE BASE/BOX ON THE SIDE FACING SIDEWALK. CONCRETE PAD SHALL MATCH SIDEWALK GRADE AND SKIRT BOTH SIDES AND BACK OF THE BASE/BOX.

	SALEM CITY POWER ELECTRICAL REQUIREMENTS & STANDARDS MANUAL EQUIPMENT LOCATION	ELECTRIC 2.6
		EQUIPMENT LOCATION
		SCALE: NONE
		DATE: 02-01-2021
		REV:
		REV DATE: 02-26-2021

SINGLE-PHASE PAD MOUNTED TRANSFORMER

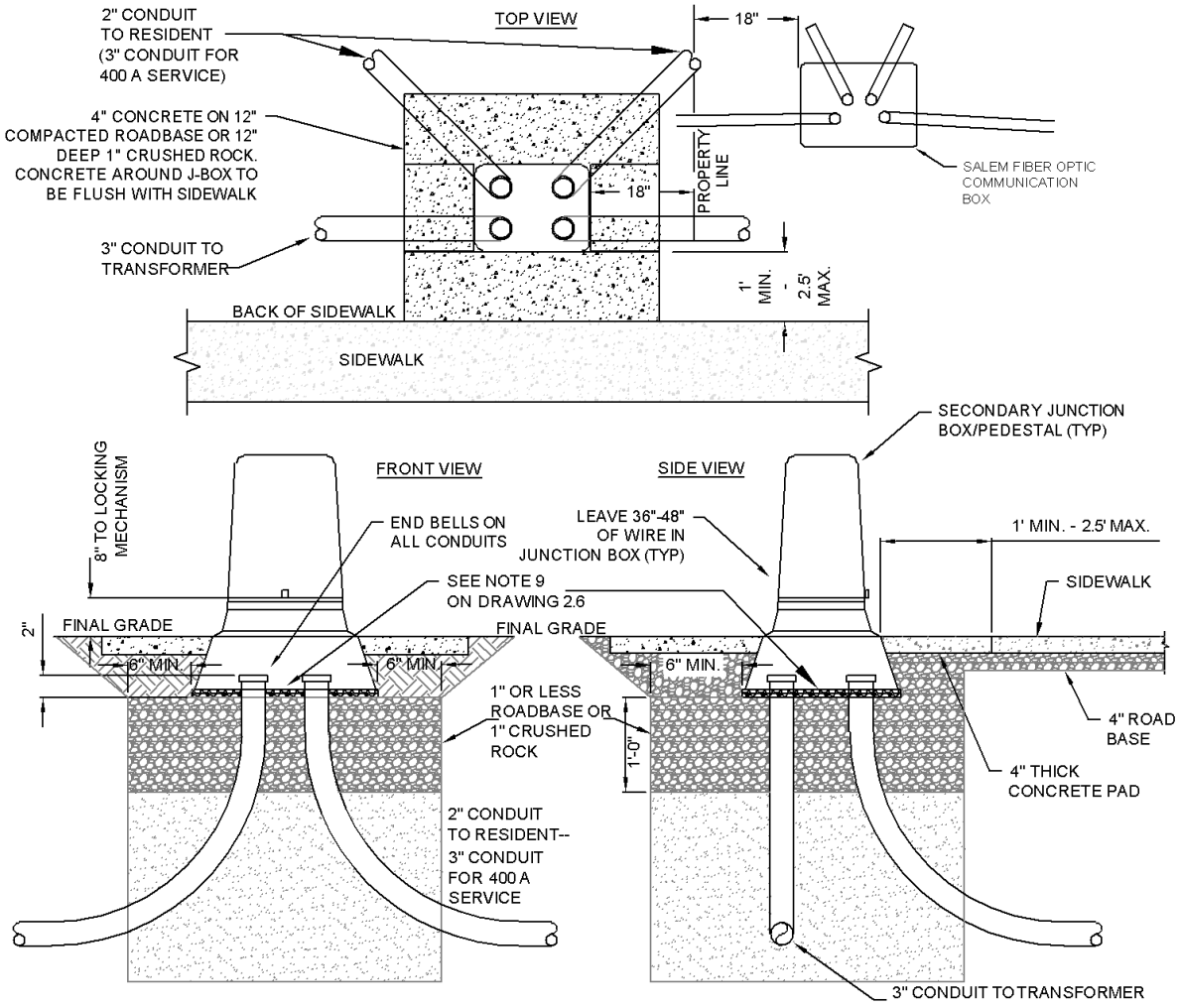


NOTES:

1. DRAWING AND NOTES IN STANDARD DRAWING 2.6 APPLY TO INSTALLATION OF TRANSFORMER BASES AND COMMUNICATION BOXES AND MUST BE MET ALONG WITH THE REQUIREMENTS OF THIS STANDARD DRAWING.
2. SALEM CITY POWER WILL SUPPLY & INSTALL TRANSFORMERS AND PRIMARY CONDUCTORS.
3. USE ONLY APPROVED TRANSFORMER BASES FOR 167.5 KVA TRANSFORMERS OR LESS: NORDIC CBP-37-43-24C-MG21X12 OR APPROVED EQUIVALENT.
4. DEVELOPER SHALL PROVIDE AND INSTALL TRANSFORMER BASES, GROUND RODS AND CONDUITS/CONDUIT STUB OUTS.
5. A $\frac{5}{8}$" X 8' GROUND ROD SHALL BE INSTALLED AND CONNECTED IN ALL TRANSFORMER BASES.
6. PULL ROPE MUST BE SECURELY TIED TO THE TRANSFORMER BASE OR CONDUIT.
7. DEVELOPER SHALL PROVIDE MINIMUM REQUIRED SPACING BETWEEN CONDUITS.
8. CONDUITS ENTERING ANY TRANSFORMER BASE SHALL HAVE END BELLS TO PROTECT WIRE FROM DAMAGE.
9. DEVELOPER SHALL SEAL ALL CONDUIT ENDS WITH PERMANENT CAPS TO PREVENT PLUGGING.
10. CONDUITS SHALL BE 2" TO 4" HIGHER THAN INSIDE GRADE OF TRANSFORMER BASE. (INSIDE GRADE IS THE BOTTOM OF THE BASE)
11. SPARE CONDUIT SHALL BE CAPPED 2" TO 4" ABOVE THE GRADE INSIDE THE EQUIPMENT BOX/BASE.
12. SECONDARY WIRE SHALL BE RATED FOR 600 VOLTS AND BE THE URD TYPE. CARE SHALL BE TAKEN IN INSTALLATION AS NOT TO DAMAGE WIRE INSULATION.
13. ALL SECONDARY WIRE SHALL EXTEND A MINIMUM OF 36" & A MAXIMUM OF 48" FROM TOP OF BASE.

	SALEM CITY POWER ELECTRICAL REQUIREMENTS & STANDARDS MANUAL PAD MTD. TRANSFORMER	ELECTRIC 2.7
		PAD MTD. TRANSFORMER
		SCALE: NONE
		DATE: 02-01-2021
		REV:
		REV DATE: 02-26-2021

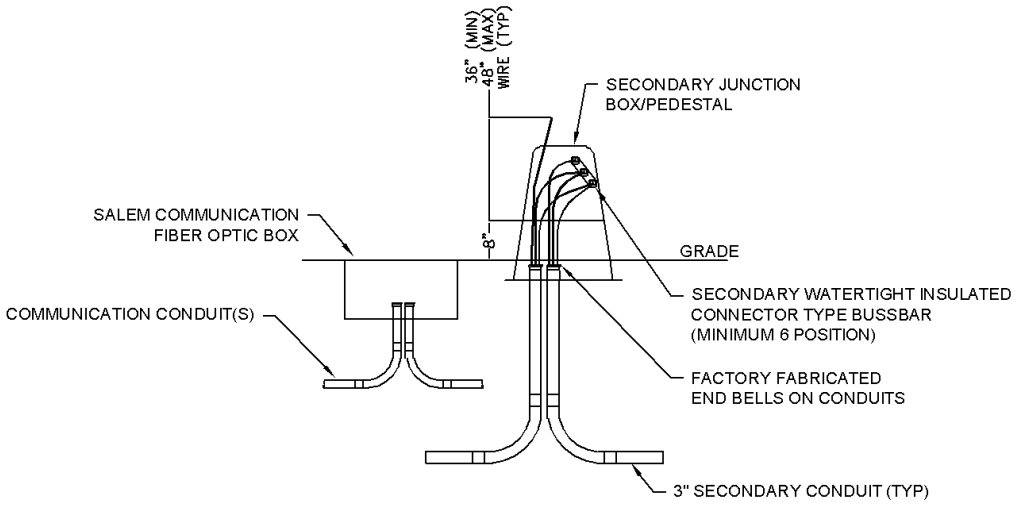
SECONDARY JUNCTION BOX--DETAIL



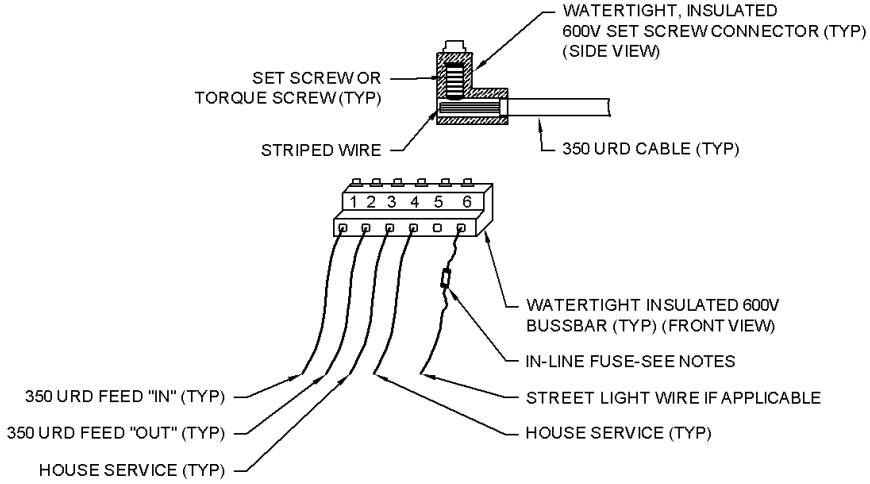
NOTES:

1. DRAWING AND NOTES IN STANDARD DRAWING 2.6 APPLY TO INSTALLATION OF SECONDARY JUNCTION BOXES AND COMMUNICATION BOXES AND MUST BE MET ALONG WITH THE REQUIREMENTS OF THIS STANDARD DRAWING.
2. USE ONLY APPROVED SECONDARY JUNCTION BOXES: NORDIC PSP-15-15-30-MG OR APPROVED EQUIVALENT.
3. DEVELOPER SHALL PROVIDE SECONDARY JUNCTION BOXES WITH 2" CONDUIT STUB OUTS TO RESIDENTIAL LOTS. PROVIDE 3" CONDUIT STUB FOR SERVICES THAT ARE KNOWN TO BE 400 A.
4. SECONDARY JUNCTION BOX LOCKING MECHANISM SHALL BE 8" FROM FINISHED GRADE.
5. DEVELOPER SHALL PROVIDE MINIMUM REQUIRED SPACING BETWEEN CONDUITS.
6. SECONDARY SERVICE LATERAL CONDUITS SHALL BE SEPARATED HORIZONTALLY IN THE TRENCH AT LEAST 12" FROM COMM. CONDUITS.
7. CONDUITS ENTERING ANY JUNCTION BOX SHALL HAVE END BELLS TO PROTECT WIRE FROM DAMAGE.
8. DEVELOPER SHALL SEAL ALL CONDUIT ENDS WITH PERMANENT CAPS TO PREVENT PLUGGING.
9. CONDUITS SHALL BE 2" TO 4" HIGHER THAN INSIDE GRADE OF JUNCTION BOX. (INSIDE GRADE IS THE BOTTOM OF THE JUNCTION BOX)
10. SPARE CONDUIT SHALL BE CAPPED 2" TO 4" ABOVE THE GRADE INSIDE THE EQUIPMENT BOX/BASE.
11. SECONDARY WIRE SHALL BE RATED FOR 600 VOLTS AND BE THE URD TYPE. CARE SHALL BE TAKEN IN INSTALLATION AS NOT TO DAMAGE WIRE INSULATION.
12. ALL SECONDARY WIRE SHALL EXTEND A MINIMUM OF 36" & A MAXIMUM OF 48" FROM TOP OF BOX (WITHOUT THE LID).

	SALEM CITY POWER ELECTRICAL REQUIREMENTS & STANDARDS MANUAL SECONDARY JUNCTION BOX	ELECTRIC 2.8
		SECONDARY JUNCT. BOX
		SCALE: NONE
		DATE: 02-01-2021
		REV:
		REV DATE: 02-26-2021



SECONDARY CONNECTIONS

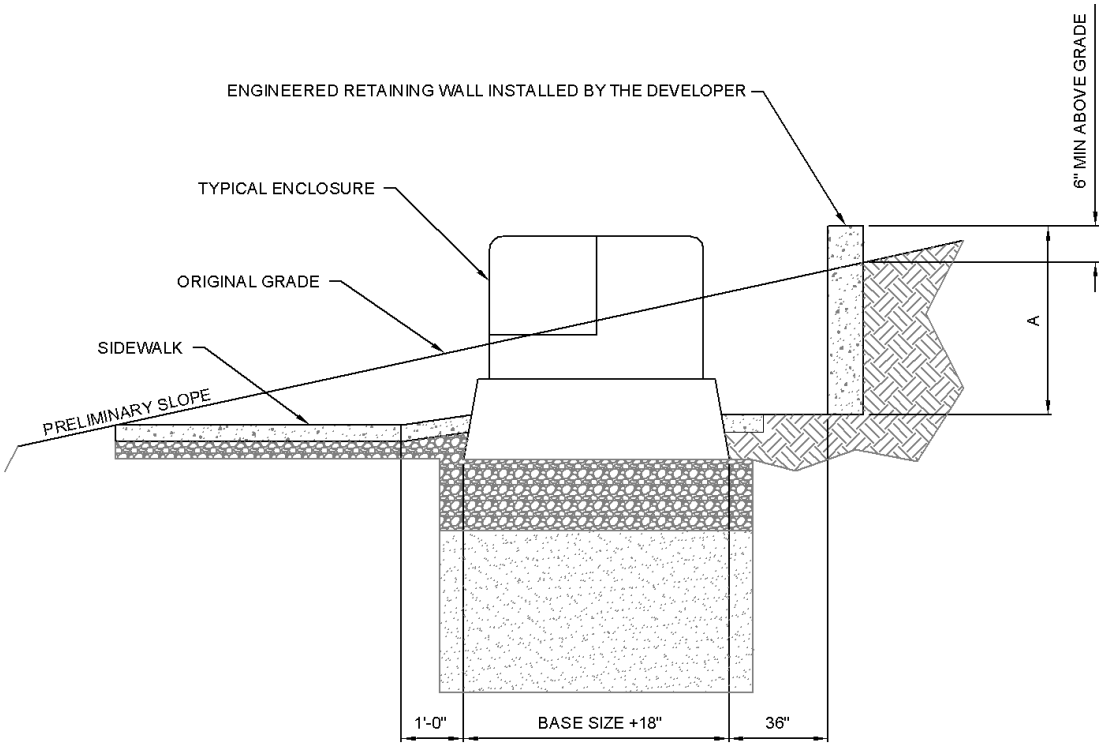


NOTES:

1. INSTALL AN IN-LINE 10 AMP FUSE & FUSE HOLDER ON THE UNGROUNDED 120/240V STREET LIGHT CONDUCTOR(S) IN JUNCTION BOX.
2. CONDUIT ENTERING INTO ANY SECONDARY PEDESTAL MUST HAVE A FABRICATED BELL END.
3. SECONDARY JUNCTION BOX/PEDESTAL SHALL BE NORDIC PSP-15-15-30-MG OR APPROVED EQUIVALENT.
4. GROUND LEVEL INSIDE THE SECONDARY JUNCTION BOX/PEDESTAL IS THE BOTTOM OF THE JUNCTION BOX.
5. ALL SECONDARY CABLE SHALL EXTEND A MINIMUM OF 36" & A MAXIMUM OF 48" FROM TOP OF SECONDARY JUNCTION BOX (WITHOUT LID) AND SHALL BE THE URD TYPE CABLE.
6. ROAD BASE OR 1" CRUSHED ROCK SHALL BE USED UNDER SECONDARY JUNCTION BOXES.
7. ALL SERVICE STUBS SHALL EXTEND 10' PAST PROPERTY LINE.
8. SECONDARY WATERTIGHT, INSULATED SET SCREW CONNECTORS (HOMAC RAB6C#12-350 OR APPROVED EQUIVALENT) SHALL ACCEPT A MINIMUM OF SIX INDIVIDUAL WIRES, UNLESS OTHERWISE APPROVED BY SALEM CITY POWER.

	SALEM CITY POWER ELECTRICAL REQUIREMENTS & STANDARDS MANUAL SECONDARY CONNECTIONS	ELECTRIC 2.9
		SECONDARY JUNCTION BOX
		SCALE: NONE
		DATE: 02-01-2021
		REV: 0
		REV DATE: 02-26-2021

EQUIPMENT EROSION PREVENTION

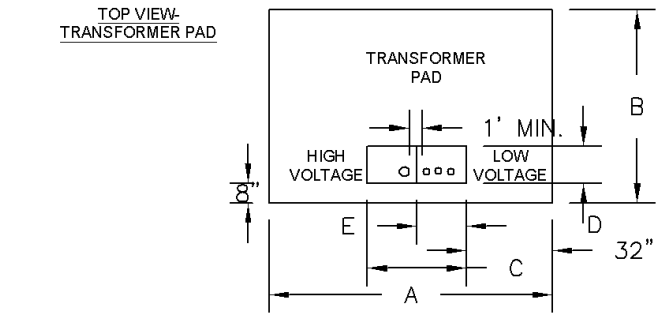


NOTES:

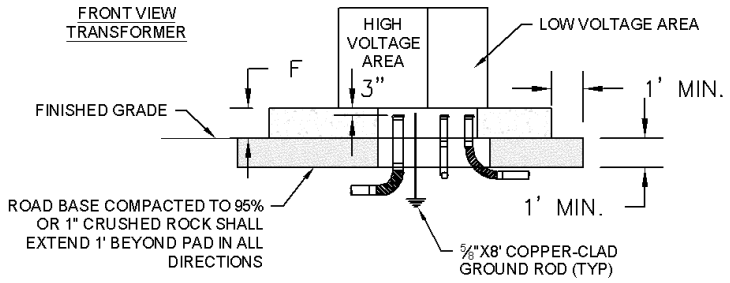
1. WHEN IT BECOMES NECESSARY TO NOTCH OUT OR FILL A SLOPE TO INSTALL AN ENCLOSURE OR TRANSFORMER, THE CLEARED AREA SHOULD BE SUFFICIENT SIZE TO ACCOMMODATE THE ENCLOSURE. THE FRONT OF THE PAD SHALL BE PLACED 2 INCHES MAXIMUM ABOVE THE SIDEWALK.
2. THE AREA UNDER AND BEHIND THE PAD MUST BE LEVEL AND COMPACTED AS PER TRENCH SPECIFICATIONS.
3. A RETAINING WALL IS REQUIRED IF DIMENSION "A" IS GREATER THAN 12 INCHES.
4. SIDE RETAINING WALLS ARE ALSO REQUIRED IF DIMENSION "A" IS GREATER THAN 18 INCHES. THE RETAINING WALL SHALL BE 6 INCHES ABOVE EXISTING GRADE AND 36 INCHES FROM EACH SIDE AND THE BACK OF THE ENCLOSURE.
5. ALL GRADING SHALL BE PERFORMED BY THE DEVELOPER.
6. CONTACT SALEM CITY POWER IF ASSISTANCE IS REQUIRED.

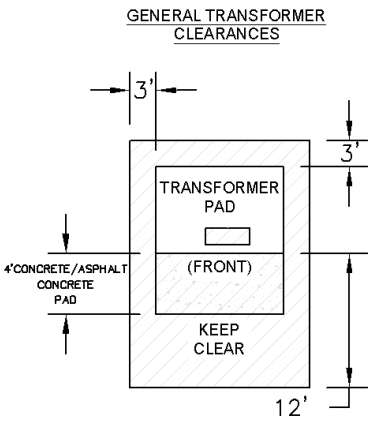
	SALEM CITY POWER ELECTRICAL REQUIREMENTS & STANDARDS MANUAL PAD MTD. TRANSFORMER	ELECTRIC 2.10 PAD MTD. TRANSFORMER SCALE: NONE DATE: 02-01-2021 REV: REV DATE: 02-26-2021

TRANSFORMER PAD DIMENSIONS AND CLEARANCES



TRANSFORMER PAD DIMENSION CHART						
TRANSFORMER KVA RATING	DIMENSIONS					
	A	B	C	D	E	F
75-500 KVA	114"	78"	36"	15"	18"	9"
750-1500 KVA	118"	105"	52"	16"	20"	11"
2000 KVA	CONTACT POWER DEPT.					



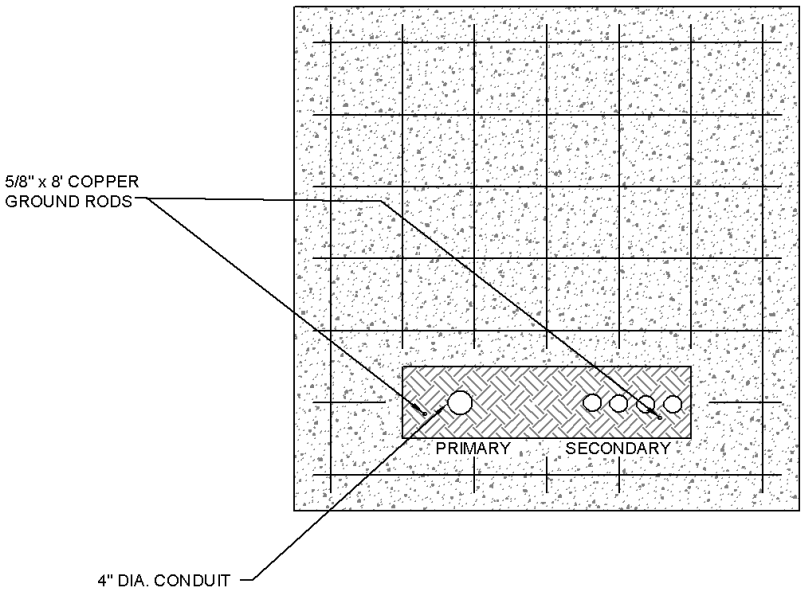


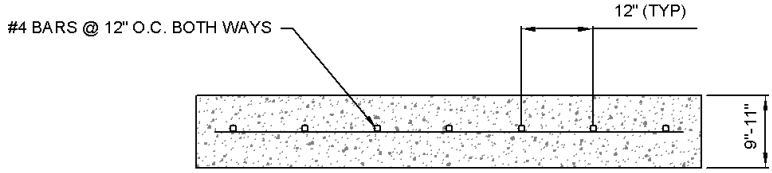
NOTES:

1. SITE PREPARATION & INSPECTIONS. AFTER EXCAVATION, ALL EXCAVATED AREA 1' PAST PAD SHALL BE BACK FILLED WITH ROAD BASE AND MUST BE COMPACTED TO 95%, OR BACKFILLED WITH 1" CRUSHED ROCK. THE GROUND MUST BE LEVEL AN ADDITIONAL 12' PAST THE EDGE OF THE PAD ON ALL SIDES AND THEN TAPER OFF. ALL PADS SHALL BE INSPECTED PRIOR TO POURING CONCRETE, AND THE GROUND SHALL HAVE A COMPACTION TEST DONE PRIOR TO THE FORM BEING CONSTRUCTED.
2. CONCRETE. CONCRETE SHALL BE IN ACCORDANCE WITH SALEM CITY STANDARDS. STEEL REINFORCEMENT SHALL BE #4 BARS PLACED AT 12" CENTERS THROUGHOUT THE PAD. THE PAD MUST BE POURED AT LEAST SEVEN FULL DAYS PRIOR TO SETTING THE TRANSFORMER. THE FINISHED SURFACE MUST BE COMPLETELY FLAT AND LEVEL. CONCRETE SHALL BE TESTED BY THE CITY OR THE CITY'S ENGINEERING FIRM PRIOR TO POURING CONCRETE. CONCRETE SHALL CONFORM TO CITY STANDARDS.
3. FABRICATION. THE PAD SHALL BE CONSTRUCTED ON THE SITE ACCORDING TO THE SPECIFICATIONS.
4. CONDUIT WINDOW LAYOUT. LOW VOLTAGE CONDUITS SHALL BE FORMED AS TIGHTLY AS POSSIBLE AGAINST THE RIGHT SIDE OF THE OPENING AND SHALL IN NO CASE EXTEND FURTHER THAN 20" FROM THE RIGHT SIDE OF THE CONDUIT WINDOW ON THE SMALL PAD OR 30" ON THE LARGE PADS. NO MORE THAN EIGHT CONDUITS WILL BE USED ON THE LOW VOLTAGE SIDE. ON 2000 KVA PADS, NO MORE THAN 12 SECONDARY CONDUITS WILL BE USED. DO NOT PUT ANY CONCRETE IN OR UNDER THE CONDUIT WINDOW. USE SOIL TO SEPARATE CONDUITS. ALL CONDUITS ENTERING THE PAD SHALL BE SCHEDULE 40 P.V.C. WITH FIBERGLASS 90° ELBOWS.
5. GROUNDING. A 5/8" X 8' GROUND ROD SHALL BE USED ON THE SMALL PADS AND A 3/4" X 10' ROD ON THE LARGE PADS. THE GROUND ROD SHALL BE INSTALLED ON THE PRIMARY SIDE OF TRANSFORMER.
6. CLEARANCES. THE FRONT OF THE PAD SHOULD ALWAYS FACE AWAY FROM ADJACENT STRUCTURES AND BE FREE OF OBSTRUCTIONS FOR 10'. AT LEAST 3' MUST SEPARATE THE EDGES OF THE PAD FROM ANY ADJACENT STRUCTURE. THE EDGES OF THE PAD MUST BE AT LEAST 10' FROM ANY COMBUSTIBLE STRUCTURE. IF AN ADJACENT STRUCTURE HAS ANY OVERHANG OR EAVE WITHIN 27 VERTICAL FEET OF THE TOP OF THE PAD, CLEARANCE MUST BE MEASURED FROM THE OUTSIDE OF THE OVERHANG. THE PAD MUST NOT BE PLACED IN AN AREA 10' IN LINE WITH OR 3' TO EITHER SIDE OF ANY WINDOW IN AN ADJACENT STRUCTURE.
7. CLEARANCE FOR A DOOR MUST BE 20' IN LINE WITH IT AND 10' ON EITHER SIDE. PADS MUST NOT BE PLACED WITHIN 15' OF ANY VALVE OR WITHIN 20' OF ANY PUMPING OR STORAGE FACILITY CONTAINING FLAMMABLE MATERIAL. NO WALLS, FENCES, OR ANY OTHER OBSTRUCTIONS WILL BE PLACED WITHIN 3' OF THE SIDES OR BACK OF THE PAD, OR WITHIN 12' OF THE FRONT OF THE PAD. THE AREA SURROUNDING THE PAD MUST HAVE 12' OF CLEAR, LEVEL WORKING AREA FOR MAINTENANCE OF THE TRANSFORMER. THE PAD MAY NOT BE PLACED IN LINE WITH AN AIR INTAKE WITHIN 32' VERTICAL FEET OF THE SURFACE OF THE PAD. ALSO, IT MUST NOT BE PLACED WITHIN 12' VERTICALLY OF A DOOR OR WINDOW.
8. BARRIERS. IF THE TRANSFORMER PAD IS TO BE LOCATED IN AREAS SUBJECT TO VEHICULAR TRAFFIC, (PARKING LOTS, DRIVEWAYS, ETC.) CONTACT SALEM CITY POWER FOR PROTECTIVE BARRIER REQUIREMENTS.
9. METERING. IN GENERAL, THE METERING SHALL BE PLACED ON BUILDINGS OR STRUCTURES.
10. CONNECTIONS. ALL SECONDARY (LOW VOLTAGE) CABLES & SECONDARY CONNECTIONS ARE THE CONTRACTOR'S RESPONSIBILITY. SALEM CITY POWER WILL INSTALL & TERMINATE PRIMARY CABLES & CONNECTIONS ONLY.
11. ANCHORING. CONTRACTOR TO ANCHOR TRANSFORMER TO PAD WITH MINIMUM OF TWO ANCHOR POINTS.

	SALEM CITY POWER ELECTRICAL REQUIREMENTS & STANDARDS MANUAL TRANS. PAD DIM & CLEAR.	ELECTRIC 2.11 3 PH TRANSFORMER & PAD SCALE: NONE DATE: 02-01-2021 REV: 0 REV DATE: 02-26-2021

THREE-PHASE TRANSFORMER CONCRETE PAD RE-BAR DETAIL WITHOUT CT RACK

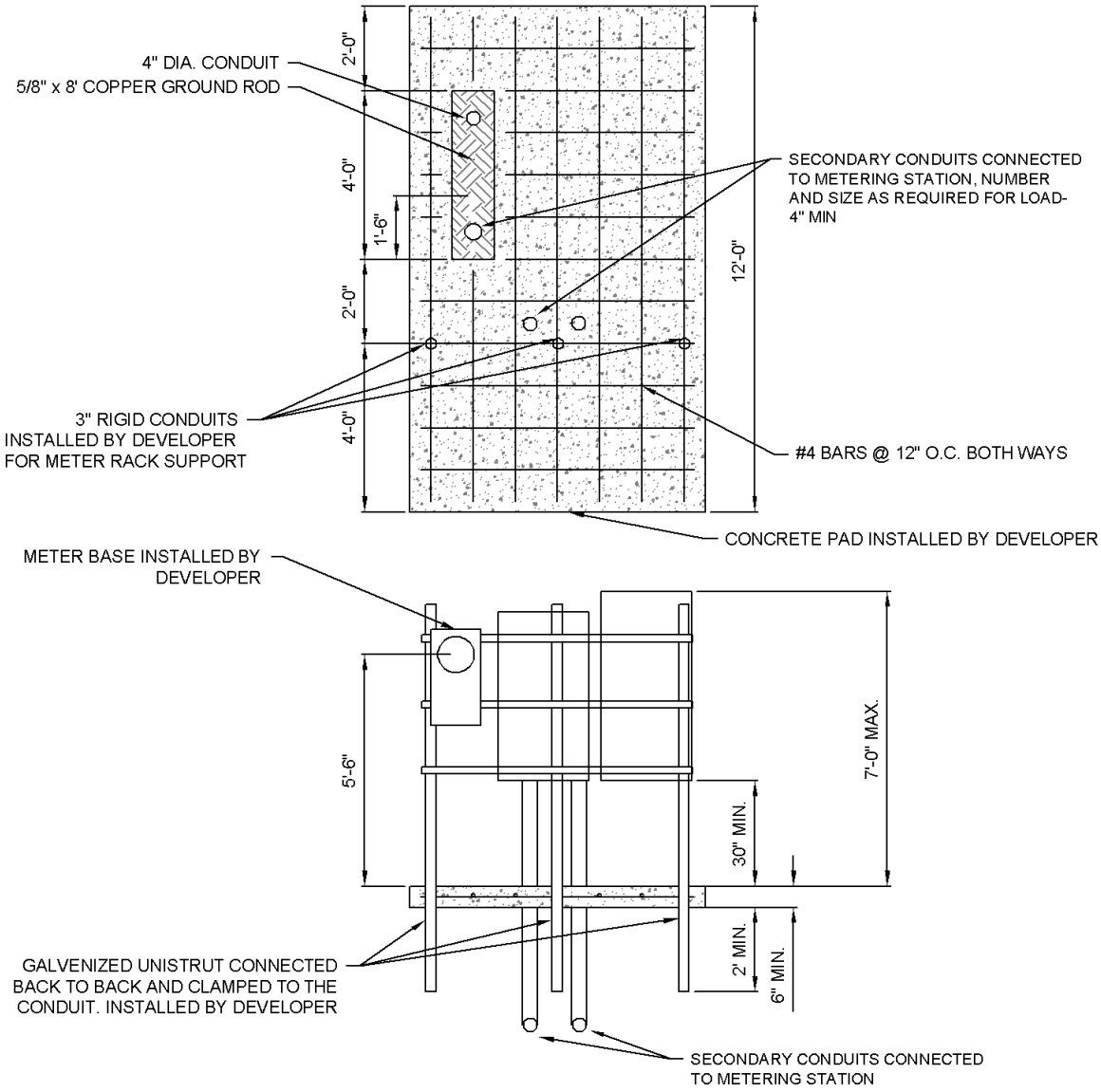




NOTES:
1. SEE STANDARD DRAWING 2.11 FOR DIMENSIONS

	SALEM CITY POWER ELECTRICAL REQUIREMENTS & STANDARDS MANUAL PAD MTD. TRANSFORMER	ELECTRIC 2.12 PAD MTD. TRANSFORMER SCALE: NONE DATE: 02-01-2021 REV: REV DATE: 02-26-2021

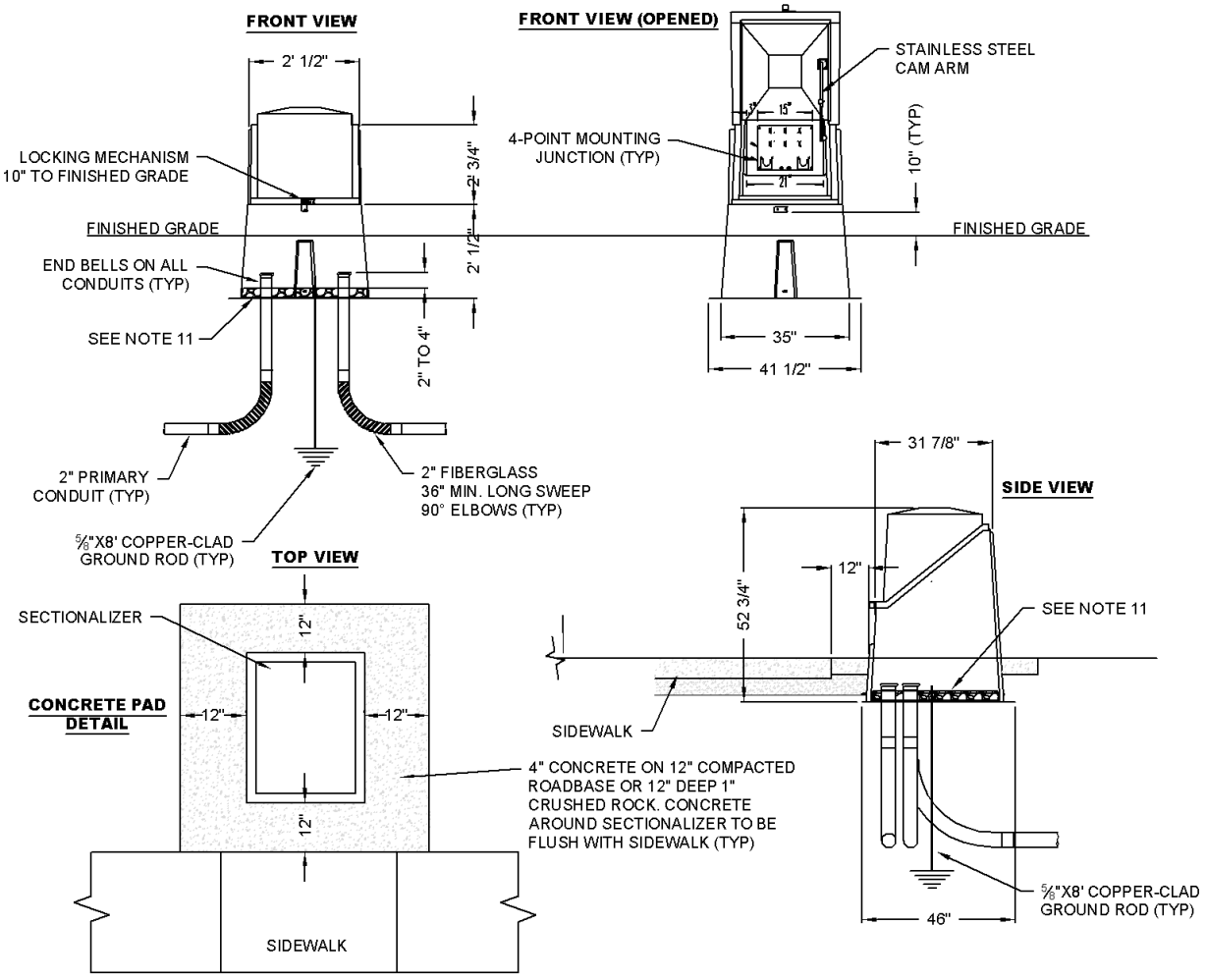
THREE-PHASE TRANSFORMER PAD WITH METERING STATION



NOTES:
1. SALEM CITY WILL NOT PULL OR TERMINATE COMMERCIAL SERVICES FROM THE SECONDARY SIDE OF THE TRANSFORMER.
2. THE DEVELOPER SHALL TERMINATE ALL CABLES FROM THE CT CANS INWARD.
3. THE CONTRACTOR SHALL TERMINATE ALL CABLES THEY RUN AND PROVIDE LUGS FOR THE TRANSFORMER SECONDARY.
4. SECONDARY CONDUIT NUMBER AND SIZE SHALL BE INSTALLED AS REQUIRED FOR LOAD.

	SALEM CITY POWER ELECTRICAL REQUIREMENTS & STANDARDS MANUAL PAD MTD. TRANSFORMER	ELECTRIC 2.13
		PAD MTD. TRANSFORMER
		SCALE: NONE
		DATE: 02-01-2021
		REV:
		REV DATE: 02-26-2021

200 AMP 1 PHASE SECTIONALIZER

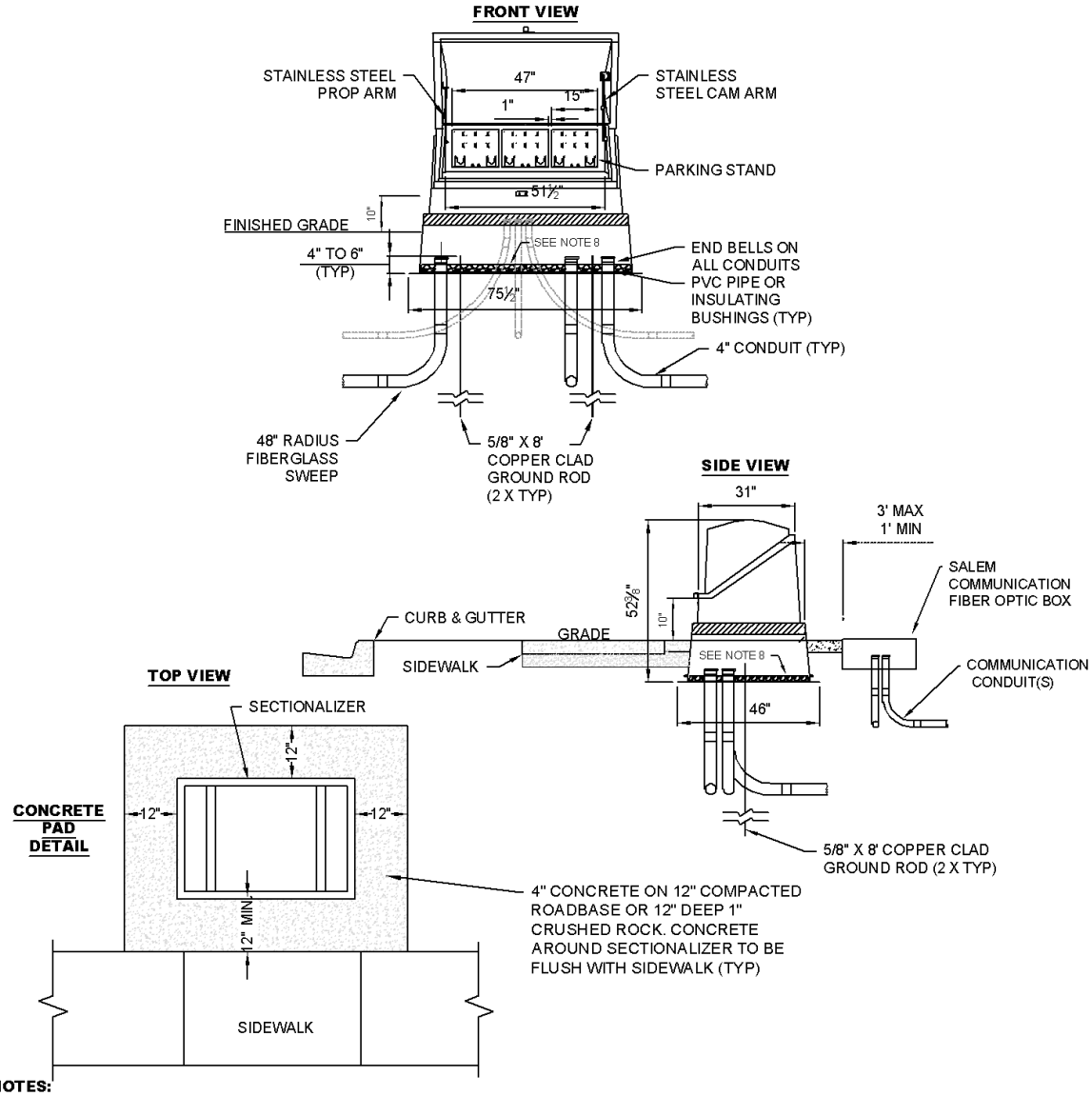


NOTES:

1. SECTIONALIZER CABINET UNITS FOR 200 AMP 1 PHASE ARE TO BE FABRICATED FROM FIBERGLASS COMPOSITE & MEET SALEM CITY POWER'S SPECIFICATIONS. CONDUIT OPENINGS MUST BE WITHIN THE GROUND SLEEVE WINDOW OF THE SECTIONALIZER.
2. BLOW IN 2500 LB. MULE TAPE IN ALL CONDUITS AND TIE SECURELY TO 4 POINT MOUNTING PLATE.
3. 200 AMP 1 PHASE SECTIONALIZER P/N: NORDIC ND-150-MG-101-X-X OR AN APPROVED EQUIVALENT.
4. CONTRACTOR TO FURNISH & INSTALL 200-AMP 4-POINT MOUNTING JUNCTION PLATE & 4 POINT JUNCTION.
5. FIBERGLASS (F.G.) SHALL BE USED FOR ALL ELBOWS, OR BENDS 45 DEGREES OR GREATER.
6. SALEM COMMUNICATIONS ELBOWS SHALL BE LONG SWEEP (36") PVC.
7. SECTIONALIZER SHALL BE SET A MINIMUM OF 12" BEHIND SIDEWALK
8. A 12" WIDE 4" DEPTH CONCRETE SKIRT SHALL BE POURED AROUND ALL SIDES OF THE SECTIONALIZER, INCLUDING BETWEEN THE SECTIONALIZER & SIDEWALK.
9. AREA AROUND SECTIONALIZER SHALL BE BACKFILLED AND LEVELED A MINIMUM OF 3' IN ALL DIRECTIONS AROUND THE SECTIONALIZER TO PROVIDE A SAFE WORKING AREA.
10. FILL MATERIAL UNDER THE SECTIONALIZER SHALL BE ROAD BASE 1" OR LESS COMPACTED TO 95%, OR 1" CRUSHED ROCK. ROAD BASE OR CRUSHED ROCK SHALL EXTEND 6" ON THE FRONT, SIDES, AND BACK AND ONE FOOT DEEP TO THE TOP OF THE TRENCH BACKFILL.
11. ADD 2" DEEP 1" CRUSHED ROCK INSIDE THE EQUIPMENT BOX/BASE IF IT IS SET ON COMPACTED ROAD BASE.

	SALEM CITY POWER ELECTRICAL REQUIREMENTS & STANDARDS MANUAL 1 PHASE SECTIONALIZER	ELECTRIC 2.14
		1 PHASE SECTIONALIZER
		SCALE: NONE
		DATE: 02-01-2021
		REV:
		REV DATE: 02-25-2021

200 AMP 3 PHASE SECTIONALIZER

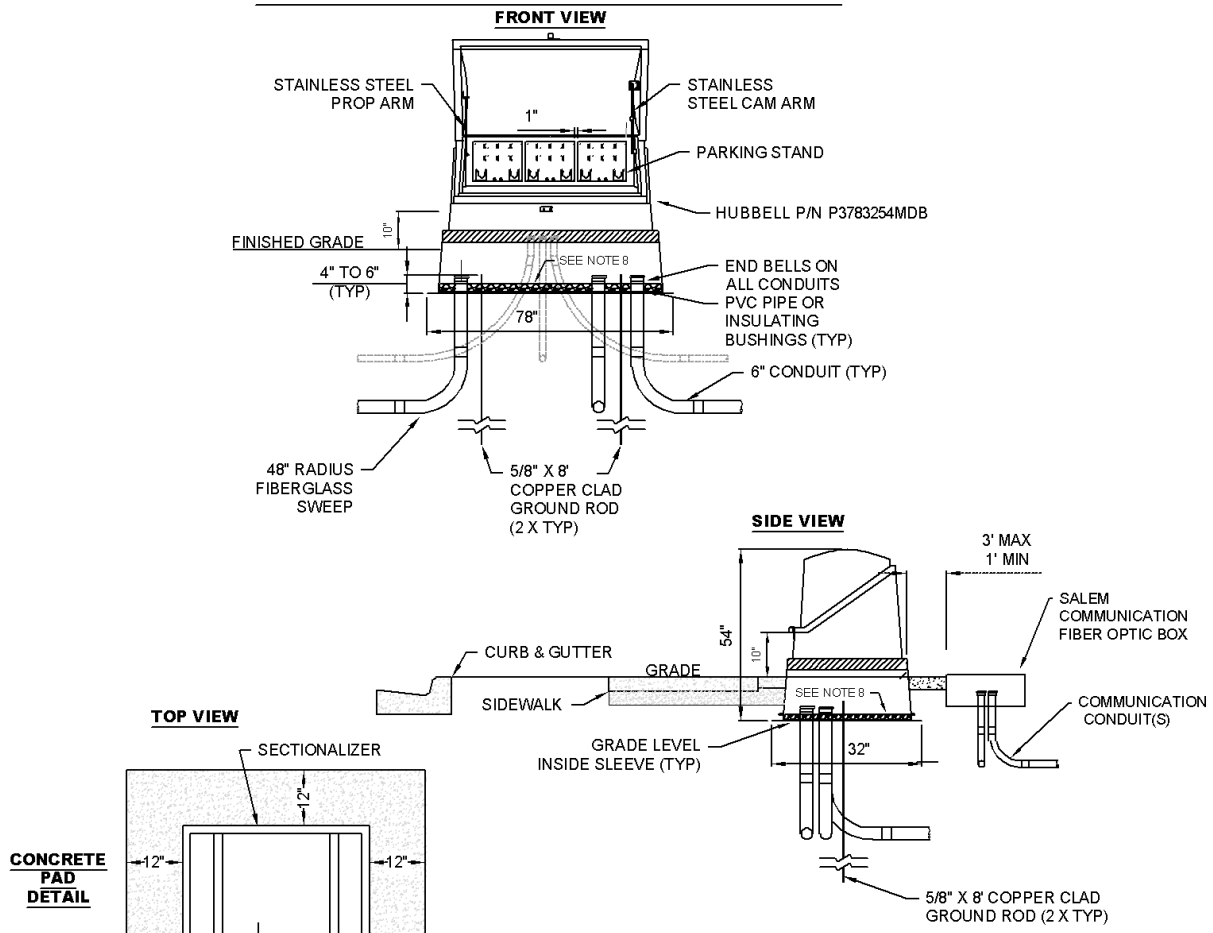


NOTES:

1. SECTIONALIZER CABINET UNITS FOR 200 AMP 3 PHASE ARE TO BE FABRICATED FROM FIBERGLASS COMPOSITE. CONDUIT OPENINGS MUST BE WITHIN THE GROUND SLEEVE WINDOW OF THE SECTIONALIZER. USE MANUFACTURER'S APPROVED GROUND SLEEVE FOR EACH SECTIONALIZER.
2. BLOW IN 2500 LB MULE TAPE IN ALL CONDUITS AND TIE SECURELY TO 4 POINT MOUNTING PLATE.
3. CONTRACTOR TO FURNISH & INSTALL 200-AMP 4-POINT MOUNTING JUNCTION AND PLATES & 4-POINT JUNCTIONS.
4. 200 AMP 3 PHASE SECTIONALIZER P/N: NORDIC ND-350-MG-101-X-X OR ELECTRIMOLD HUBBELL P/N: P3582548MDM
5. A 12" WIDE 4" DEPTH CONCRETE SKIRT SHALL BE POURED AROUND ALL SIDES OF THE SECTIIONALIZER, INCLUDING BETWEEN THE SECTIONALIZER & SIDEWALK.
6. AREA AROUND SECTIONALIZER SHALL BE BACKFILLED AND LEVELED A MINIMUM OF 3' IN ALL DIRECTIONS AROUND THE SECTIONALIZER TO PROVIDE A SAFE WORKING AREA.
7. FILL MATERIAL UNDER THE SECTIONALIZER SHALL BE ROAD BASE 1" OR LESS COMPACTED TO 95%, OR 1" CRUSHED ROCK. ROAD BASE OR CRUSHED ROCK SHALL EXTEND 6" ON THE FRONT, SIDES, AND BACK AND ONE FOOT DEEP TO THE TOP OF THE TRENCH BACKFILL.
8. ADD 2" DEEP 1" CRUSHED ROCK INSIDE THE SECTIONALIZER IF IT IS SET ON COMPACTED ROAD BASE.

	SALEM CITY POWER ELECTRICAL REQUIREMENTS & STANDARDS MANUAL 3 PHASE 200A SECTIONALIZER	ELECTRIC 2.15 3 PHASE SECTIONALIZER SCALE: NONE DATE: 02-01-2021 REV: REV DATE: 03-04-2021

600 AMP 3 PHASE SECTIONALIZER

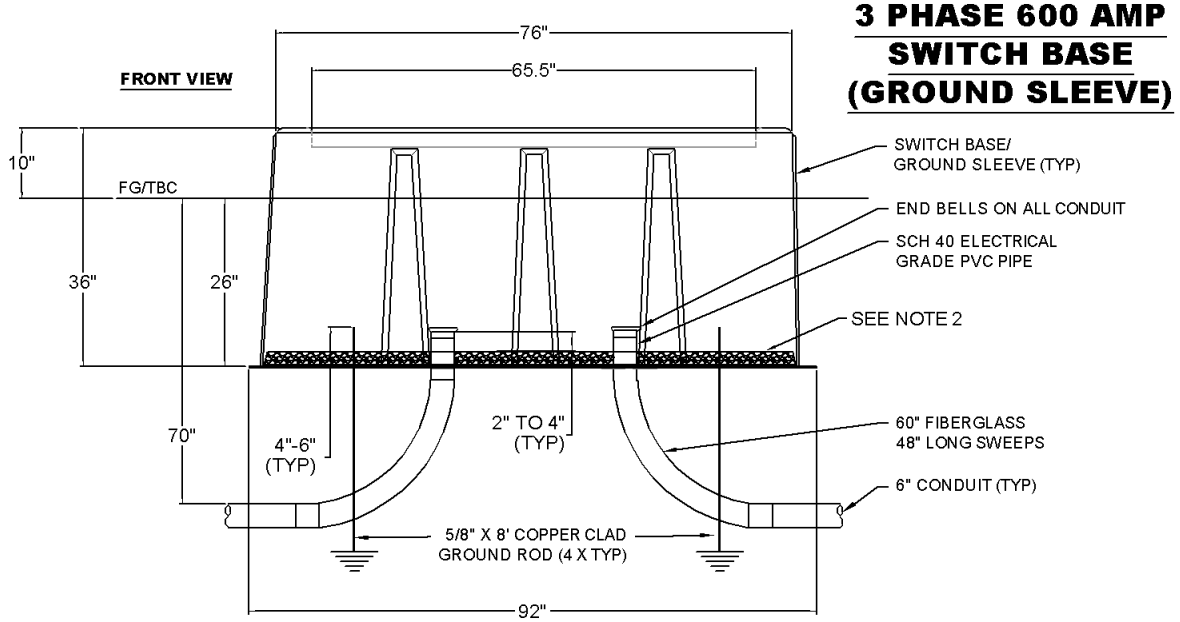


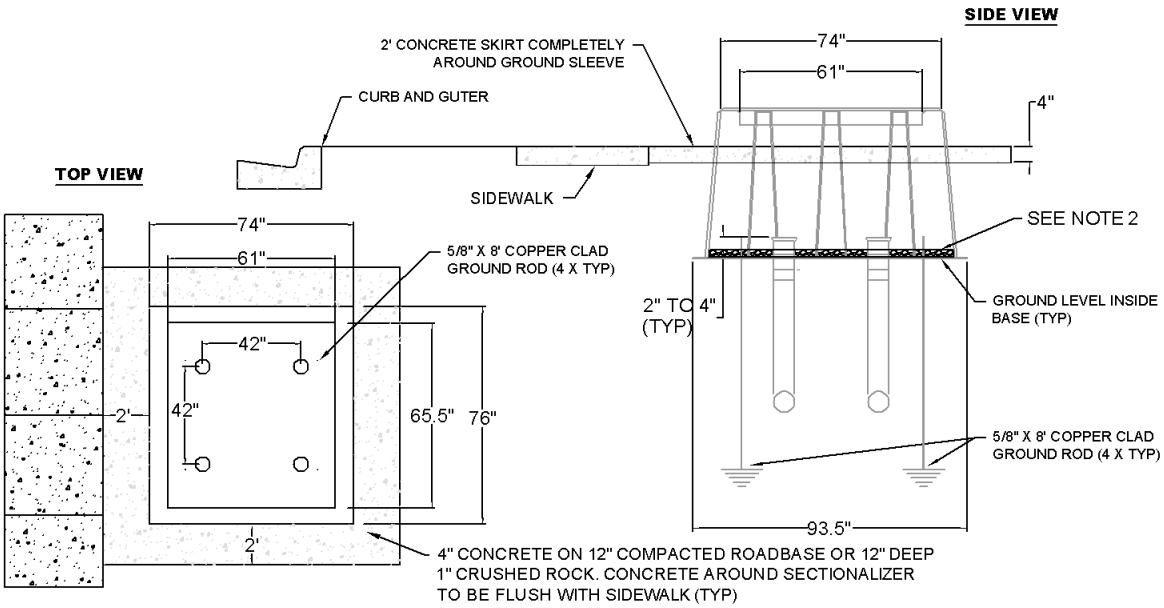
NOTES:

1. SECTIONALIZER CABINET UNITS FOR 600 AMP 3 PHASE ARE TO BE FABRICATED FROM FIBERGLASS COMPOSITE. CONDUIT OPENINGS MUST BE WITHIN THE GROUND SLEEVE WINDOW OF THE SECTIONALIZER.
2. BLOW IN 2500 LB MULE TAPE IN ALL CONDUITS AND TIE SECURELY TO 4 POINT MOUNTING PLATE.
3. CONTRACTOR TO FURNISH & INSTALL 600-AMP 4-POINT MOUNTING JUNCTION AND PLATES & 4-POINT JUNCTIONS.
4. 600 AMP 3 PHASE SECTIONALIZER SHALL BE ELECTRIMOLD HUBBELL P/N: P3783254MDB
5. A 12" WIDE 4" DEPTH CONCRETE SKIRT SHALL BE POURED AROUND ALL SIDES OF THE SECTIIONALIZER, INCLUDING BETWEEN THE SECTIONALIZER & SIDEWALK.
6. AREA AROUND SECTIONALIZER SHALL BE BACKFILLED AND LEVELED A MINIMUM OF 3' IN ALL DIRECTIONS AROUND THE SECTIONALIZER TO PROVIDE A SAFE WORKING AREA.
7. FILL MATERIAL UNDER THE SECTIONALIZER SHALL BE ROAD BASE 1" OR LESS COMPACTED TO 95%, OR 1" CRUSHED ROCK. ROAD BASE OR CRUSHED ROCK SHALL EXTEND 6" ON THE FRONT, SIDES, AND BACK AND ONE FOOT DEEP TO THE TOP OF THE TRENCH BACKFILL.
8. ADD 2" DEEP 1" CRUSHED ROCK INSIDE THE SECTIONALIZER IF IT IS SET ON COMPACTED ROAD BASE.

	SALEM CITY POWER ELECTRICAL REQUIREMENTS & STANDARDS MANUAL 3 PHASE 600A SECTIONALIZER	ELECTRIC 2.16 3 PHASE SECTIONALIZER SCALE: NONE DATE: 02-01-2021 REV: REV DATE: 03-04-2021

3 PHASE 600 AMP SWITCH BASE (GROUND SLEEVE)





NOTES:

1. SWITCH GEAR GROUND SLEEVE SHALL BE PROVIDED BY DEVELOPER/CUSTOMER--PART # CONCAST FC-74-76-36-6264, 36" DEEP FIBERCRETE SWITCHING CABINET BASE-- AND SHALL INSTALLED BY ELECTRICAL CONTRACTOR AS PER CITY SUPPLIED LAYOUT.
2. SET SWITCH GEAR GROUND SLEEVE ON 12" COMPACTED ROADBASE OR 12" DEEP 1" CRUSHED ROCK. ADD 2" DEEP 1" CRUSHED ROCK INSIDE GROUND SLEEVE IF IT IS SET ON COMPACTED ROADBASE.
3. 2500 LB MULE TAPE SHALL BE BLOWN INTO CONDUIT AND TIED SECURELY TO GROUND ROD
4. CONDUIT LAYOUT DETAIL SHALL BE GIVEN BY SALEM ELECTRIC DURING PRE CONSTRUCTION MEETING
5. AN AREA CLEAR OF OBSTRUCTIONS SHALL BE PROVIDED & MAINTAINED EXTENDING OUT 10' IN FRONT OF THE SWITCH DOORS
6. TYPICAL FOR SITE DEVELOPMENTS. TYPICAL DOORS OPEN TOWARD SIDEWALK.

	SALEM CITY POWER ELECTRICAL REQUIREMENTS & STANDARDS MANUAL 3 PHASE 600 AMP SWITCH	ELECTRIC 2.17
		600 AMP PSE/PME 9 / 11 SWGR.
		SCALE: NONE
		DATE: 02-01-2021
		REV DATE: 03-12-2021

Section 3. METER REQUIREMENTS

3.1 GENERAL

1. The customer is responsible for providing, installing, and maintaining all service equipment.
2. Meters shall be located where approved by Salem City Power.
3. Meters shall be accessible at all times for reading, maintenance, and emergencies.
4. Meters located within a gated area or enclosed space shall be approved prior to installation on a case-by-case basis.
5. Customers must contact Salem City Power before doing any work that involves the meter.
6. Meter bases shall be from Salem City Power Department's approved list.
7. The minimum size meter base is 100 amps.
8. Three-phase 200 amp meter bases shall have a lever by-pass.

3.2 METER BASE MOUNTING

1. Meter bases must be mounted to be plumb in all directions and securely mounted to a rigid surface.
2. Prior approval is required for installing meters in any type of enclosure.
3. Adequate protection for meters subject to physical damage must be provided.

3.3 METER LOCATION

The customer must provide a suitable meter location, with adequate clear working space. Metering equipment **shall not be installed** in the following locations unless prior approval is obtained from Salem City Power:

1. Any unsafe location, as determined by Salem City Power
2. Any hazardous location for electrical equipment as defined by the NEC
3. Within a 36 inches radius of the gas meter, gas valves, regulators, fittings, unions, or the gas line entrance into a building.
4. Directly over any window well, stairway, ramp or steps
5. In any entryway
6. Within 36 inches horizontally of a window that has a view of a living space or restrooms, or within 36 inches horizontally of a door.
7. In any place where moisture, fumes, or dust may interfere with the meter's operation or may damage the meter, as determined by Salem City Power
8. On any surface subject to excessive vibration, as determined by Salem City Power
9. In an area where metering is likely to be fenced in
10. Where the metering equipment is obstructed by anything including landscaping or other vegetation
11. Areas adjacent to fuel storage units

Residential meters shall be installed:

1. Outdoors within 10 feet of the front (street side) corner of the dwelling
2. On the side of the dwelling closest to the power source
3. At a location acceptable to Salem City Power, and in accordance with the standards drawings in this document.

Refer to standard drawings 1.1, 1.2, and 1.4 for residential meter location.

Where there is no suitable location on the structure, a free-standing metering installation (see standard drawing 3.3 for typical) may be used, at a location approved in advance by Salem City Power.

3.4 DIRECT METERING

Direct-connect metering is required for residential services, and for single-phase services 400 amps or less, or three-phase services 200 amps or less. There are additional requirements for direct-connect metering installations with more than one meter.

See sections 3.4.1 and 3.4.2 for requirements for non-residential direct metering installations.

3.4.1 NON-RESIDENTIAL DIRECT-CONNECT METERING, SINGLE INSTALLATIONS

The required types of direct-connect meter bases for commercial, industrial, and agricultural services are listed in Table 6. Typical direct connect meter bases and typical service connections are illustrated in the figures in this section.

Direct-connect meter bases serving continuous duty motors are limited to 60 hp or less at 120 V/ 208 Y or 120 V/240 V, three-phase, and 125 hp or less at 277 V/480 Y, three-phase.

Three-phase 200-amp meter bases shall have a lever by-pass.

Table 6. Direct-connect Meter Base Requirements

Direct-connect Service Type	Amperage	Meter Base Requirement	Figure
Single-phase	200 A max.	EUSERC 305	Figure 1
Single-phase, Overhead Only	201-400 A	EUSERC 302B	Figure 3
Single-phase, Overhead and Underground	201-400 A	n/a	Figure 3
Network	200 A max.	EUSERC 305	
Three-phase	200 A max.	Lever By-Pass	Figure 2

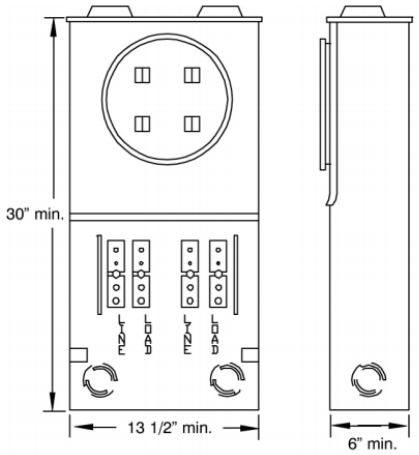


Figure 1 EUSERC 305 Single Phase

Figure 2 200-A Three-phase with Lever By-Pass

Figure 3 EUSERC 302B

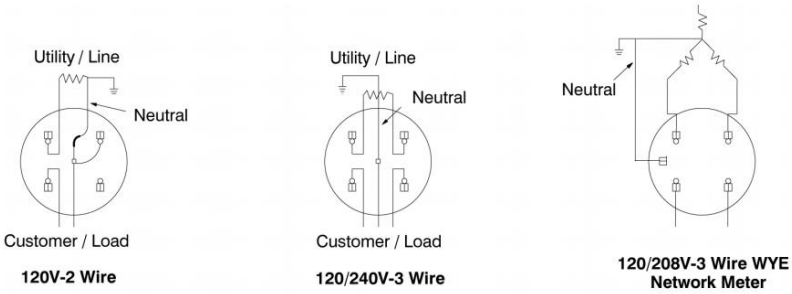


Figure 4 Typical Single-phase Service Connections (Meter Base Front View)

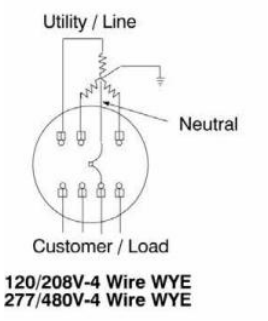


Figure 5 Typical Three-phase Service Connection (Meter Base Front View)

3.4.1.1 UNDERGROUND SERVICE METER PEDESTALS

When underground service meter bases cannot be mounted on the building a service meter pedestal meeting EUSERC 308 requirements may be used with prior approval from the Power Department for non-residential underground service installations, at a location approved in advance by Salem City Power.

3.4.1.2 FREE-STANDING SERVICE METER INSTALLATIONS

When service meter bases cannot be mounted on the building a free-standing meter installation may be used with prior approval from the Power Department for non-residential underground service or overhead service. The free-standing service meter installation shall be at a location approved in advance by Salem City Power

Underground Service for Free-Standing Meters

The installation requirements for direct connection, underground service, free-standing meters are listed below. These requirements are in addition to the general requirements in this section.

Requirements:

1. The customer shall consult Salem City Power to determine the location of the freestanding meter base.
2. The free-standing meter base shall meet all local ordinance requirements.
3. The meter base shall be protected from damage by use of barrier posts or other suitable protection approved by Salem City Power.
4. The customer shall furnish, install and maintain approved steel posts.

The typical meter installations for a free-standing installation using steel posts is shown on standard drawing 3.3

Overhead Service for Free-Standing Meters

Free-standing installations may be used for non-residential overhead service. The installation requirements for direct connection, overhead service, free-standing meters are listed below. These requirements are in addition to the general requirements in this section.

Requirements:

1. Wood poles shall be of sound timber. The pole or timber must be free of any defects that may weaken the wood, such as sucker knots and spike knots larger than 1/2 of any face. Cracks greater than 1/2 -inch wide are not permitted. No visible wood decay is allowed.
2. The pole height must provide required clearance for the Salem City Power's service drop and any other attachments. The customer shall install the meter base and service equipment on a wood pole no less than 25 feet long and 5-1/2 inches in diameter at the top, or a (nominal) 6"x 6" x 25' timber, set no less than 60 inches below ground level, with suitable backfill. The pole or timber shall be pressure- or thermally- treated with an approved preservative.
3. The pole or timber shall be easily accessible by Salem City Power power-lift aerial equipment.
4. In unstable soil, conductor lengths may be reduced; guying or bracing shall be required.
5. The conductor must be at least 24 inches (24") in length outside the weatherhead.

3.4.2 NON-RESIDENTIAL DIRECT-CONNECT METERING, MULTIPLE INSTALLATIONS

This section lists the requirements in addition to the general requirements for direct-connect, non-residential, single-phase and three-phase installations with more than one metered service.

Before being energized, the meter base shall be properly wired and grounded, and all necessary permits shall be in place. Ganged, modular, and switchboard styles of metering base equipment are approved for use.

Consult with Salem City Power regarding the design of the multiple metering services before purchasing and installing equipment.

Requirements:

1. Metering conductors shall not pass through adjacent metering compartments except in enclosed wireways.
2. A test bypass facility (TBF) with rigid insulating barriers shall be furnished, installed, and wired or bussed to the meter bases. TBF cover panels shall be sealable and fitted with a lifting handle.
3. A pull box section is required for two or more services and must meet EUSERC 343 and 343A requirements for the type and size of service. In addition:

   a. Only Salem City Power conductors are allowed inside the pull box;

   b. The pull box shall be sealable, and will be sealed by Salem City Power;

   c. Customer-owned devices shall not be installed in the pull box;

   d. No taps are allowed inside the pull box; and,

e. The customer shall not terminate their grounding electrode conductor in the pull box or use the pull box as a junction point for the grounding or to ground the electrode conductors.

4. For ganged meters, where the face of a cabinet exceeds the depth of the adjacent meter cabinet, clearances shall be in accordance with NEC.
5. For switchboard metering installations, the customer must provide a concrete pad for switchboard metering service sections and pull boxes.
6. Each service shall have a lockable and easily accessible disconnect in sight of the meter base location. If the disconnect is not in sight of the meter base, a label shall be placed at the meter base location indicating the location of the disconnect.
7. Each metered service and associated breaker shall be labeled to identify the unit address. Service will not be connected until permanent labels are attached.
8. All required labels shall be correctly installed before the service is energized. Labels shall:
   a. be permanently affixed to the equipment.
   b. be of sufficient durability to withstand the local environment. Engraved metal or hard plastic labels are required.
   c. not be attached to removeable covers.
9. It is the responsibility of the customer to ensure the meter bases are correctly labeled. These labels shall be kept current for the life of the facility.

3.5 CURRENT TRANSFORMER METERING UP TO 800 A

Current transformer (CT) metering is required for single-phase services greater than 400 amps and three-phase services greater than 200 amps. Salem City Power will provide and install: the meter, CTs, and secondary metering wiring. Salem City Power will provide for the customer to install: the meter base and test switch. The customer shall provide the CT cabinet and CT mounting base, conduit, connectors/terminations, a disconnect after the CT cabinet rated for the load, and bonding for meter and CT enclosures. The customer shall make connections of service wire in the CT cabinet.

Refer to standard drawing 1.5 for typical commercial CT metering placement.

This section lists the requirements for CT metered services rated up to 480 V and 800 A.

Table 7 identifies customer-provided material for CT metering.

The customer shall make connections of service wire in the CT cabinet.

Table 7 Customer Provided Material for CT-Metering

Customer Provides	See for More Information	Requirements/Application Notes
CT Cabinet with CT mounting base	Table 8 Section 3.5.1 & 3.5.2	Customer shall coordinate with the Power Department on the CTs the mounting base will accept
Conduit	Section 3.5.3	The conduit between the meter base enclosure and the CT cabinet, see Section 3.5.3
Connectors/Terminators		Connectors for the load-side conductors to CT mounting base, as well as overhead service.
Disconnect		Downstream of CT cabinet rated for the load
Bonding	Section 3.5.4	Bonding per Section 3.5.4 for all meter and CT enclosures.

3.5.1 CT CABINET

The CT cabinet consists of two parts: the enclosure and the mounting base for the current transformers. The cabinet is exclusively for Salem City Power metering equipment.

Requirements:

1. Only equipment associated with Salem City Power metering shall be permitted in the CT cabinet.
2. The door shall have factory-installed hinges for side opening and shall be sealable.
3. The door shall be equipped with a device to hold it in the open position at 90° or more.
4. The top of the CT mounting base shall not be more than 72 inches (72") above the finished grade.
5. The customer's service entrance conduits must exit the cabinet on the load side of the CT.
6. Customer conductors are not permitted in the Salem City Power termination space.
7. The customer shall not terminate their principal (main) grounding electrode conductor in the CT cabinet or use it as a junction point for grounding or grounding electrode conductors.
8. For multiple metered circuits, a separate termination pull box must be provided for the Salem City Power service lateral. The CT cabinet shall not be used as a load distribution center.

Table 8 CT Cabinet Requirements

Type of Service	EUSERC # for CT Cabinets	Minimum Cabinet Dimensions			EUSERC # for CT Mounting Base
		Width	Height	Depth	
Single-phase, 401-800 A	316, 317	24”	48”	11”	328A
Three-phase, 201-800 A	316, 318	36”	48”	11”	329A

Notes:

1. Where both line and load conductors enter or exit from the top or bottom of the cabinet a larger cabinet is required.

   a. The dimension of the cabinet shall be 48"W x 48"H x 14"D. (These dimensions are greater than EUSERC316and 318 minimums.)

   b. The cabinet shall have two sealable, hinged doors with handles.

2. The door shall have factory-installed hinges for side opening and shall be sealable.

Meter Base Location:

1. For single-hinged CT cabinets the meter base shall be located opposite the hinged side, and not above or below the cabinet.
2. For dual-hinged CT cabinets, the meter base can be mounted on either side of the cabinet but not above or below it.

3.5.2 CT MOUNTING BASE AND CABLE TERMINATION

CT mounting bases are provided by the customer.

Requirements:

1. The CT mounting base shall meet the ratings for the available fault current at the location installed (50,000 A minimum).
2. For existing four-wire delta services, the high (power) leg conductor must be identified by orange marking and located on the right-hand bus position. The bus shall also be marked and readily identified.
3. Customer shall coordinate with the Power Department on the CTs the mounting base will accept.
4. No alteration of the mounting base is allowed.
5. Line and load-side cable terminations on EUSERC 328A or 329A CT landing pads require two bolts per connector.
6. Cable termination can only be made on the manufacturer-supplied studs of the transformer mounting base.

3.5.3 CT METERING CONDUIT

The customer must provide conduit between the meter base and the CT cabinet. When installing conduit, the following requirements shall be met:

Requirements for a meter within 12" of a CT cabinet:

1. Conduit shall be 1" or greater EMT or IMC.
2. Proper fittings and bushings shall protect metering conductors.

Requirements for a meter greater than 12” and up to 10' from the CT cabinet:

1. The meter base must be visible from the CT cabinet.
2. Conduit runs must be less than 10 feet (10').
3. Conduit shall be 1-1/4 " or greater EMT or IMC.
4. Conduit runs may not have more than three bends totaling 270°. No single bend greater than 90° is allowed.
5. Pull lines are required in all conduits.
6. Removable conduit fittings shall have sealing provisions.
7. LB connectors are not allowed between the CT cabinet and the meter base.

3.5.4 CT CABINET BONDING

The CT cabinet must be properly bonded and grounded per the NEC. Figure 6 illustrates one acceptable solution.

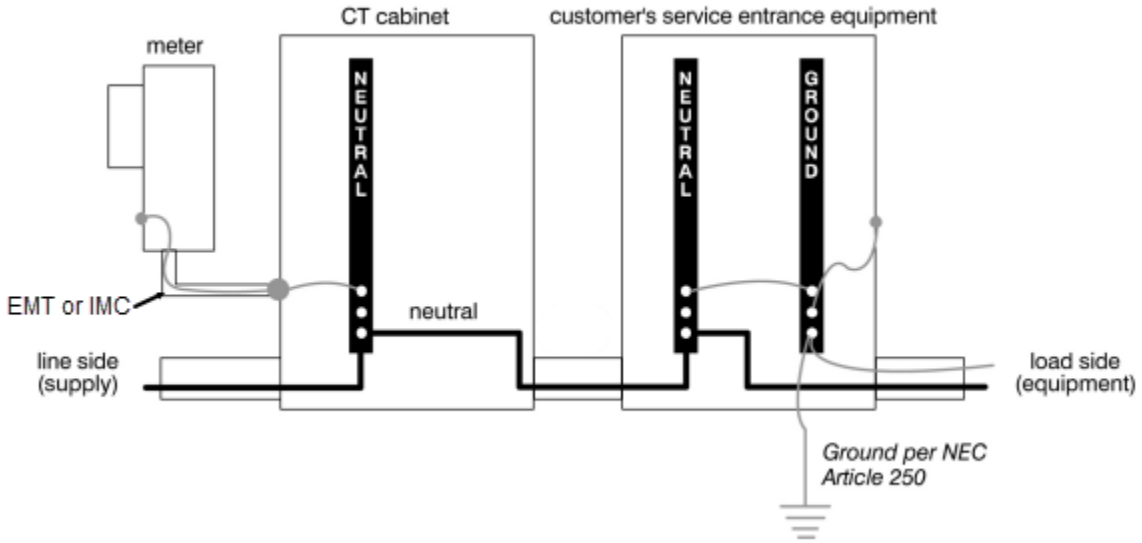


Figure 6 CT Cabinet Bonding, Example

3.5.5 CT METERING, FREE STANDING

This section lists the requirements in addition to the general requirements in this section for of free-standing CT metering installations on posts. Free-standing installations are owned by the customer. Installation requirements for service to free-standing installations are listed below.

Requirements:

1. The customer shall consult Salem City Power to determine the location of the freestanding meter installation.
2. The free-standing meter base shall meet all city ordinance requirements.
3. The meter base shall be protected from damage by use of barrier posts or other suitable protection approved prior to installation by Salem City Power.
4. The CT cabinet must be properly supported with a minimum of two three-inch (3") steel posts with installed caps. When equipment is less than 72 inches (72") apart, it shall be bonded according to the NESC.
5. The customer shall furnish, install and maintain posts, hardware, conduit, fittings, and concrete pads sufficient to support the metering.

3.5.6 Combination Direct-Connect and CT Metering

Installations requiring both direct-connect and CT metering services shall meet the requirements of both types of services as described in the previous sections. Switchboard combination units are also allowed. Refer to Section 3.6 Switchboard Metering up to 4000 A for requirements.

3.6 SWITCHBOARD METERING (Above 800 amps)

Switchboard metering is required for services greater than 800 amps. The customer shall provide a drawing of the proposed switchboard metering equipment and a mounting pad with dimensions, to Salem City Power for review and approval. Approval must be obtained prior to fabrication.

The customer shall provide and install:

a. Switchboard enclosure with CT compartment and CT mounting base

b. Meter base

c. Metering conduit (for the metering secondary conductors) –within the interior of the switchboard conduit shall be 1” or greater electrical non-metallic tubing (ENT) or flexible PVC; conduit outside the switchboard shall be 1" or greater EMT or IMC.

d. Locking equipment for the meter enclosure

e. Concrete mounting pad for the switchboard enclosure

f. A flat permanent surface (such as a concrete pad) extending a minimum of 36 inches (36") out from the switchboard in front of the CT compartment

This section lists the requirements in addition to the general requirements in this section for switchboard metered service installations. A EUSERC-approved switchboard metering section is required when the service entrance rating is greater than 800 A. Switchboard metering may also be used for three-phase services over 200 A or single-phase services over 400 A.

Consult with Salem City Power regarding the design of the switchboard metering services before purchasing and installing equipment.

Requirements:

1. The customer shall provide a drawing of the proposed service equipment, including EUSERC reference numbers and a mounting pad with dimensions, to Salem City Power for review and approval. Salem City Power approval must be obtained prior to fabrication.
2. The metering CTs shall be located in the CT compartment.
3. The CT compartment shall have a hinged door.
4. For a single service, the meter and test switch shall be mounted remotely (outside the cabinet).
5. Installing two or more metering services requires mounting on the compartments' hinged meter panels.
6. The metering conduit in the switchboard section shall terminate in the CT compartment in front of the CTs.
7. The door shall be equipped with a device to hold it in the open position at 90° or more.
8. Lugs for terminating the customer's ground wire (or other grounding conductors) shall be located outside the sealable section and shall be designed to allow the customer's neutral system to be readily accessible.
9. All pull and termination sections shall have full front access.
10. All removable cover panels shall have two lifting handles and be limited to a maximum weight of 25 pounds.
11. The customer will terminate the line side service conductors on lug landings in the pull section.
12. Bus bars are required from the pull section for service above 800 amps. Termination lugs are required and shall meet EUSERC 347.
13. Any customer-owned locking equipment for the metering enclosure must allow independent access by Salem City Power.

14. Only Salem City Power service conductors are allowed inside the pull section.

Minimum dimensions for switchboard pull boxes (termination enclosures) are shown in Figure 7 and Table 9:

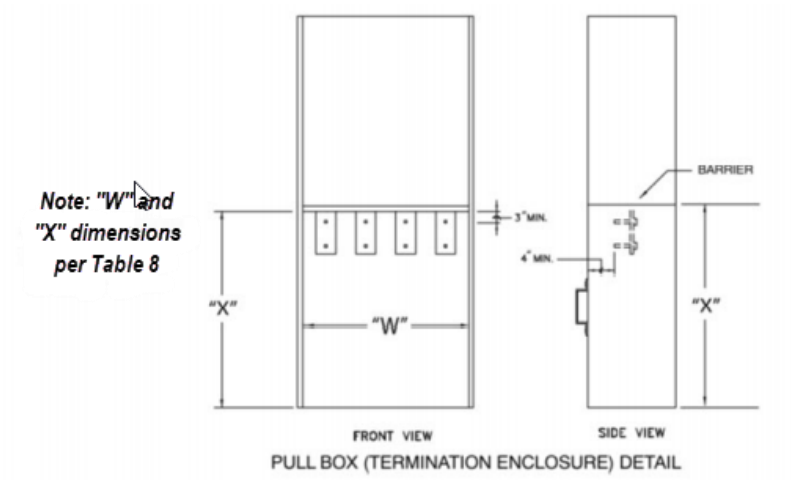


Figure 7 Switchboard Section with Termination Enclosure

Table 9 Minimum Dimensions for Switchboard Pull Box (Termination Enclosures)

Switchboard rating	**Minimum Access Opening ("W")**		**Height Dimension ("X")**	
	3-wire Service	**4-wire Service**	**Min.**	**Max.**
Below 400 A	Consult with Salem City Power			
400-800 A	24"	24"	42"	72"
801-1200 A	24"	30"		
1201-2000 A	30"	35"		
2001-3000 A	-	42"	60"	
3001-4000 A	-	44"		

Section 4. MULTI-FAMILY RESIDENTIAL BUILDINGS

4.1 GENERAL

This section describes services with separate meters for multi-family residential buildings with three or more units. Salem City Power requires grouping of service entrance conductors at a common location. Coordinate power source, service, and meter location with Salem City Power during design.

Requirements:

1. All meters shall be in a common location.
2. Meter banks shall be installed on the side of the building closest to the power source.
3. The service entrance and meter shall be installed in locations meeting the requirements of Section 3.
4. There shall be 4” conduit service stubs and conduit runs, and 2” communications conduit stubs and service runs to all townhomes and multi-family dwellings.
5. The service entrance shall be sealed.

4.2 MULTIPLE-METERS

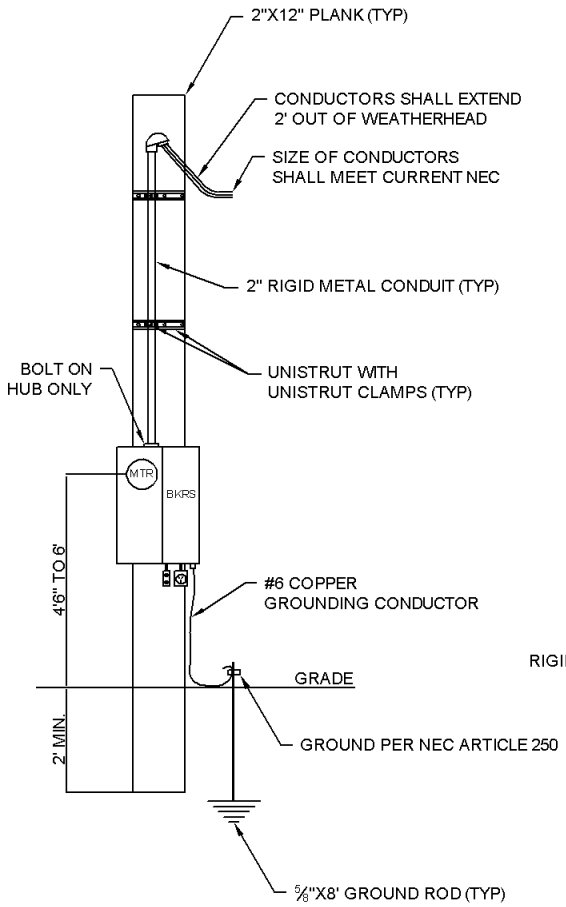
All multiple meter installations shall meet the following requirements.

Requirements:

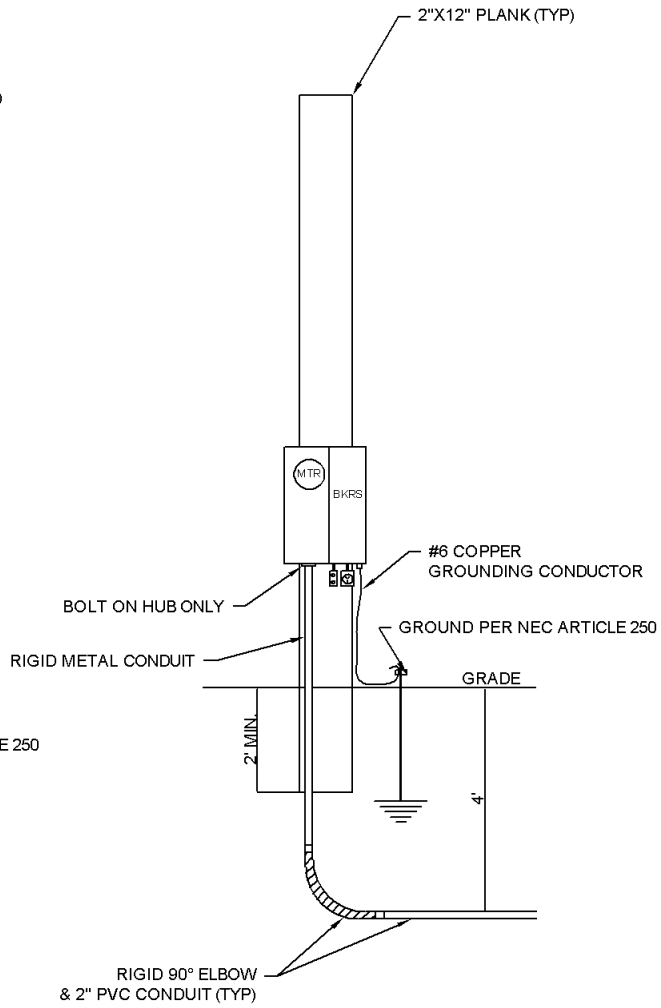
1. Meter bases shall not be used as junction boxes.
2. Meter bases shall be selected from the Salem City Power Department list of acceptable meter bases.
3. A main disconnect is required when more than six services are connected. If an existing installation expands beyond six services, a main disconnect shall be installed.
4. NEC-approved load calculations are required when the sum of distribution section ampacities exceeds the pulling section ampacities. (See NEC Article 220, Branch-Circuit, Feeder, and Service Calculations.)
5. The cable pulling section must be appropriately sized for service termination.
6. Each service shall have a lockable and easily accessible disconnect in sight of the meter base location. If the disconnect is not in sight of the meter base, a label shall be placed at the meter base location indicating the location of the disconnect.
7. All required labels shall be correctly installed before the service is energized. Labels shall:
    a. be permanently affixed to the equipment
    b. be of sufficient durability to withstand the local environment. Engraved metal or hard plastic labels are required.
    c. not be attached to removeable covers
8. Each metered service and associated breaker shall be labeled to identify the dwelling unit address. Service will not be connected until permanent labels are attached.

9. It is the responsibility of the customer to ensure the meter bases are correctly labeled. These labels shall be kept current for the life of the facility.
10. A minimum vertical clearance of at least 54″ from the center of the lowest meter to the final grade is required. However, a minimum vertical clearance of 36″ to the center of the lowest meter is acceptable if a minimum 36″ wide, flat, permanent surface (such as a concrete pad or walkway) below the meter is provided at the final grade and extends at least 18″ on either side of the meter cabinet.
11. All unused openings shall be covered and secured by the customer.
12. Meters and metering equipment shall be located outdoors.
13. Panel covers must be secured in place prior to service equipment being energized.

OVERHEAD TEMPORARY POWER



UNDERGROUND TEMPORARY POWER

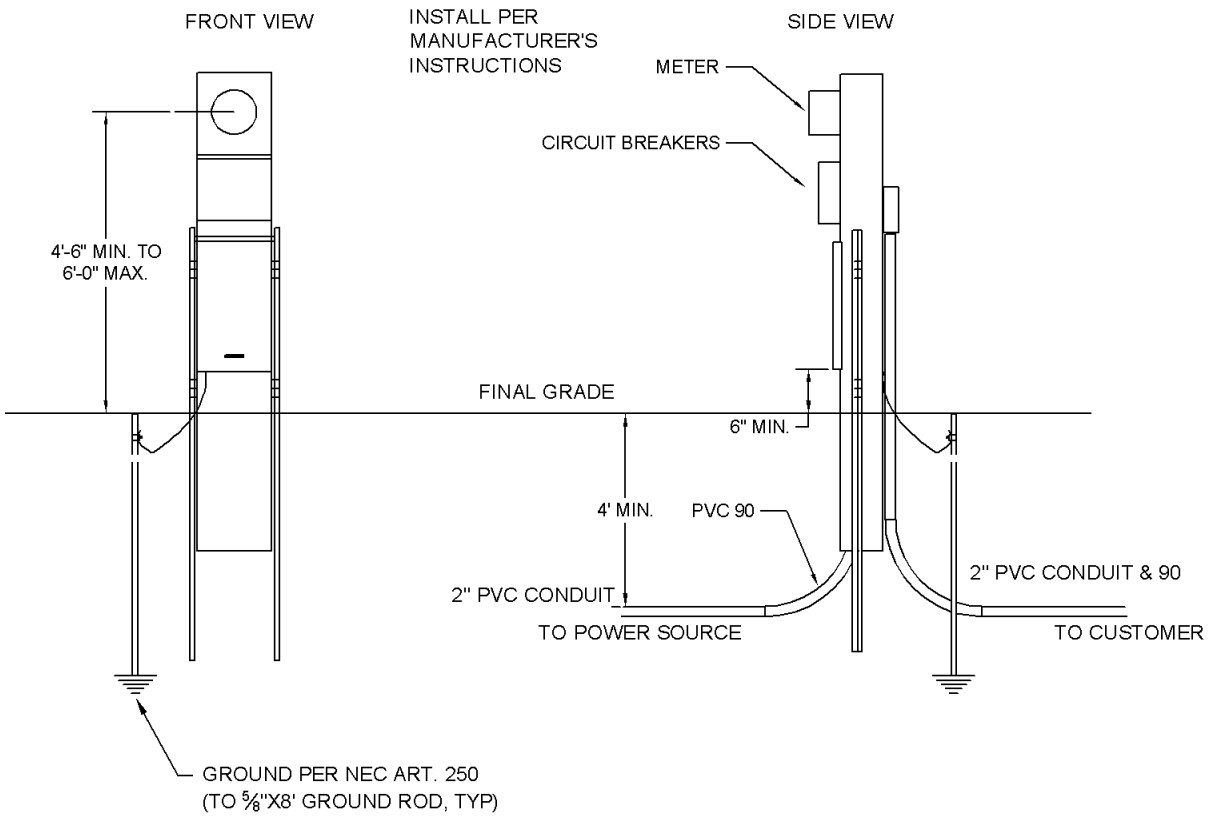


NOTES:

1. ALL MATERIALS TO BE SUPPLIED BY CUSTOMER EXCEPT METER.
2. ALL TEMPORARY EQUIPMENT SHALL COMPLY WITH CURRENT N.E.C. TEMPORARY POWER ARTICLES..
3. TEMPORARY SERVICES MAY NOT BE PLACED ON CITY POLES UNLESS OTHERWISE APPROVED.
4. TEMPORARY POWER POLES TO BE 2"X12" PLANKS OR 6"X6" POST AND BE BURIED A MINIMUM OF 2' IN DEPTH.
5. SALEM CITY POWER WILL FURNISH AND INSTALL METER AND CONNECT SERVICE LOOP.
6. SERVICE CONDUCTORS WILL BE #4 C.U. OR LARGER.
7. GROUND ROD TO BE DRIVEN A MINIMUM OF 6' IN UNDISTURBED SOIL.
8. ENOUGH SERVICE CABLE AND SUPPORTS SHALL BE PROVIDED TO COMPLETE DRIP LOOP AND CONNECTIONS AT POLE.
9. ALL TEMPORARY POWER POLES SHALL BE PLACED WITHIN 10' OF SERVICE POWER POLE. CONTACT SALEM CITY POWER WITH ANY QUESTIONS.
10. ALL LOCATIONS FOR TEMPORARIES SHALL BE FIRST APPROVED BY SALEM CITY POWER.

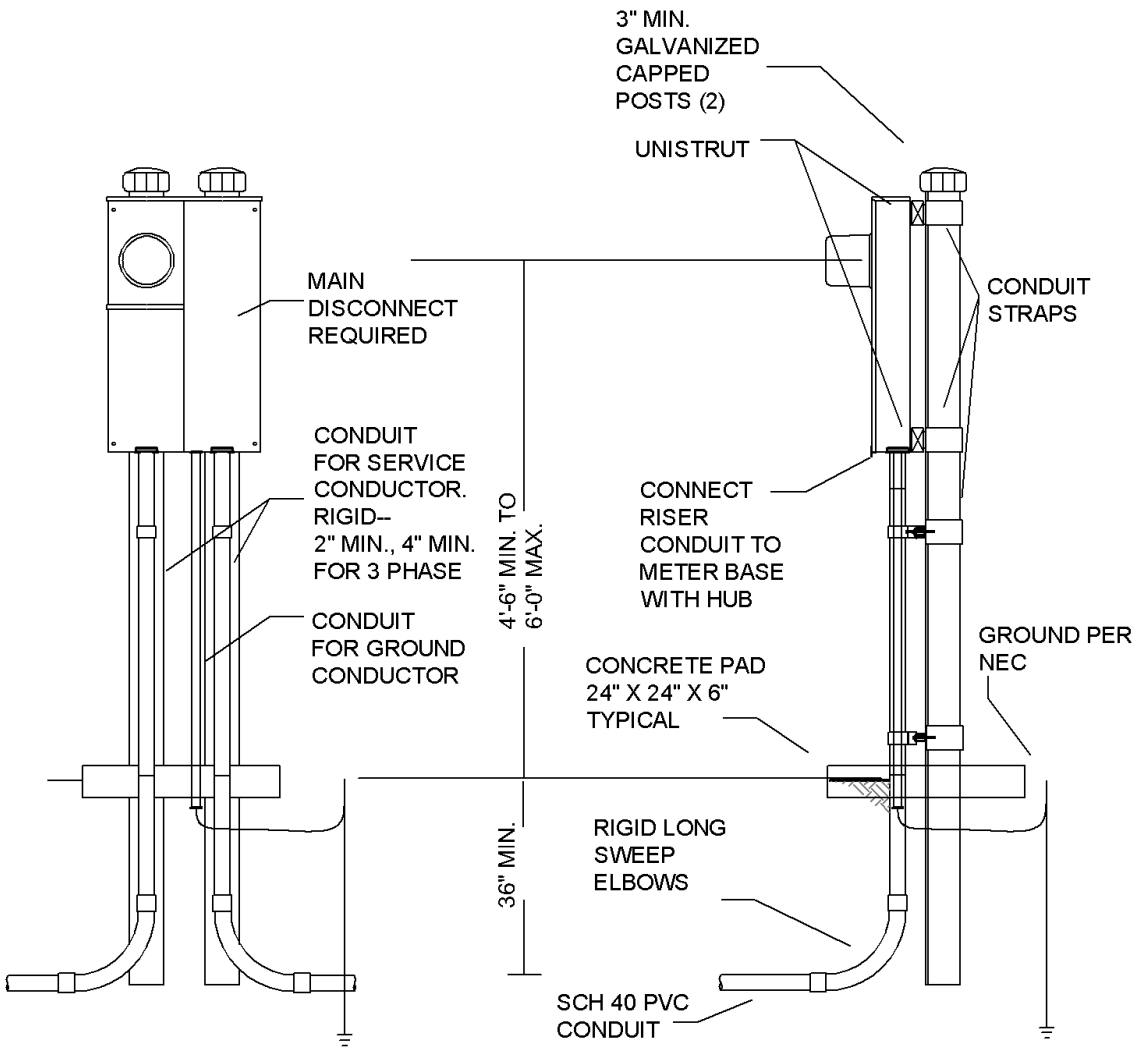
	SALEM CITY POWER ELECTRICAL REQUIREMENTS & STANDARDS MANUAL TEMPORARY SERVICE ONLY	ELECTRIC 3.1
		TEMPORARY SERVICE
		SCALE: NONE
		DATE: 02-01-2021
		REV: 0
		REV DATE: 02-25-2021

TEMPORARY METER PEDESTAL



	SALEM CITY POWER ELECTRICAL REQUIREMENTS & STANDARDS MANUAL TEMPORARY SERVICES	ELECTRIC 3.2
		TEMPORARY SERVICES
		SCALE: NONE
		DATE: 02-01-2021
		REV:
		REV DATE: 01-11-2020

FREE STANDING METER INSTALLATION
1 OR 3 PHASE



	SALEM CITY POWER ELECTRICAL REQUIREMENTS & STANDARDS MANUAL FREE STANDING METER	ELECTRIC 3.3 SERVICES-FREE STANDING SCALE: NONE DATE: 02-01-2021 REV: REV DATE: 01-21-2021

Section 5 STREET LIGHTING

5.1 GENERAL

The following general requirements shall apply to streetlights installed in new underground residential subdivisions/developments (subdivisions) located within the service area of Salem City Power (within Salem City):

1. Salem City Power will provide electric power for streetlights at no cost, except as otherwise provided below in the Street Light Layouts section.

2. Salem City Power standard (Town and Country) streetlights (poles, fixtures and wiring) shall be used except as provided in item 5, and 6 below. The standard streetlight pole and lamp will be procured and provided by Salem City Power. The standard streetlight shall be paid for and installed by the customer/developer.

3. Salem City Power standard streetlights will be installed in accordance with Salem City Power's Line Extension Policy.

4. Salem City Power standard street lighting will be owned and maintained by Salem City Power. Conduit systems for street lighting wiring shall be installed by contractors/developers in accordance with the requirements in this standard pertaining to trenching, conduit, and backfill.

5. Development specific decorative (not Salem City Power standard) street lighting (poles, fixtures and wiring) may be installed in subdivisions with homeowners associations.

6. Decorative lighting (service disconnect, poles, luminaries, lamps, conduit and wiring) installed in underground subdivisions with homeowners associations (HOA) shall be installed by contractors/developers, and owned by the homeowners associations. Power for the streetlights in new HOA subdivisions will be metered.

5.2 STREET LIGHTS LAYOUT

The following layout requirements shall apply to Salem City Power standard and decorative street lighting installations:

1. Layouts for Salem City Power standard streetlight installations will be prepared by Salem City Power.

2. Layouts for decorative streetlight installations shall be prepared by contractors/developers, utilizing the general requirements included subsequently in this section. Contractors/developers shall provide drawings of proposed layouts for decorative street lighting to Salem City Power for review and approval. Catalog information on the poles, luminaries and lamps proposed for use shall be provided by contractors/developers with the light layouts.

3. In general, streetlights shall be placed at three- and four-way intersections, and at 90 degree turns (elbows). See standard drawing 5.1 for typical street lighting layout.

4. Streetlights shall also be installed between intersections at staggered spacings of approximately 400 feet (every 200 feet). Decorative streetlights may be installed at lesser spacings, but homeowner's associations will be billed for the electric power usage of the additional lights. See standard drawing 5.1 for typical street lighting layout.

5. Decorative streetlights may be installed (300 foot non-staggered spacing) on medians (islands) in streets with islands at least 10 feet in width. Decorative streetlights may be installed at lesser spacings, but homeowner's associations will be billed for the electric power usage of the additional lights.

6. Luminaries for decorative streetlights shall be Type III, include a photocell receptacle and shall be suitable for use with a 100 watt equivalent LED lamp. Use of luminaries with higher wattage lamps or other light sources (metal halide or mercury vapor) must be approved by Salem City Power. Additional charges for excess electric power usage may be assessed to homeowner's associations. House side shields shall be provided if required. Streetlight poles shall provide a minimum mounting height for luminaries of 16 feet.

5.3 POINT(s) OF DELIVERY FOR DECORATIVE LIGHTING

The point(s) of delivery for decorative streetlights shall be at a location(s) approved by Salem City Power. Contractors/developers shall provide drawings of proposed locations for points of delivery for decorative street lighting to the Salem City Power for review and approval. These points of delivery shall typically be proximate to Salem City Power owned pad mounted transformers or secondary junction boxes. The layout of decorative lights shall be so as to minimize the number of delivery points required.

All points of delivery for decorative streetlights shall include a disconnect with over current protective device(s) [fuse(s) or breaker(s)]. The rating of the over current protection shall be compatible with the current rating of the wiring connected to the device. The disconnect shall be service entrance rated, tamper proof, equipped with provisions for locking, installed in a NEMA 3R enclosure and mounted on a building wall, or substantial wood or steel post. The disconnect and appurtenant facilities shall be installed in accordance with the applicable articles of the National Electric Code (NEC).

Facilities installed at decorative streetlight points of delivery shall be inspected by the Salem City electrical inspector prior to connection to the Salem City Power electrical system. Wiring between Salem City Power pad mounting transformers or secondary junction boxes and disconnects for decorative lighting will be installed, owned and maintained by Salem City Power and installed in conduits (source side conduit systems) provided (furnished and installed) by contractors/developers. Salem City Power will own and maintain the source side conduits after the streetlight installation is completed.

5.4 CONDUIT FOR SALEM CITY POWER STANDARD AND DECORATIVE STREET LIGHTS

Salem City Power wiring for Salem City Power standard and decorative streetlights shall be installed in conduit. The contractor/developer shall be responsible for the installation of street lighting conduit systems (1 inch diameter) extending from transformer or secondary junction

boxes to lighting fixture locations. The contractor is responsible for proper location and centering of conduit end points for lighting fixture installations. Commercial areas shall be required to place conduit to light city streets bordering their development. Lights shall be paid for and installed by the developer. Light placement shall be at each intersection and one for every 200 feet as approved by the Salem City Power. Light type and size shall be determined by the Salem City Power according to road size and area.

Conduit types and capping shall be in accordance with the conduits paragraphs of section 2.

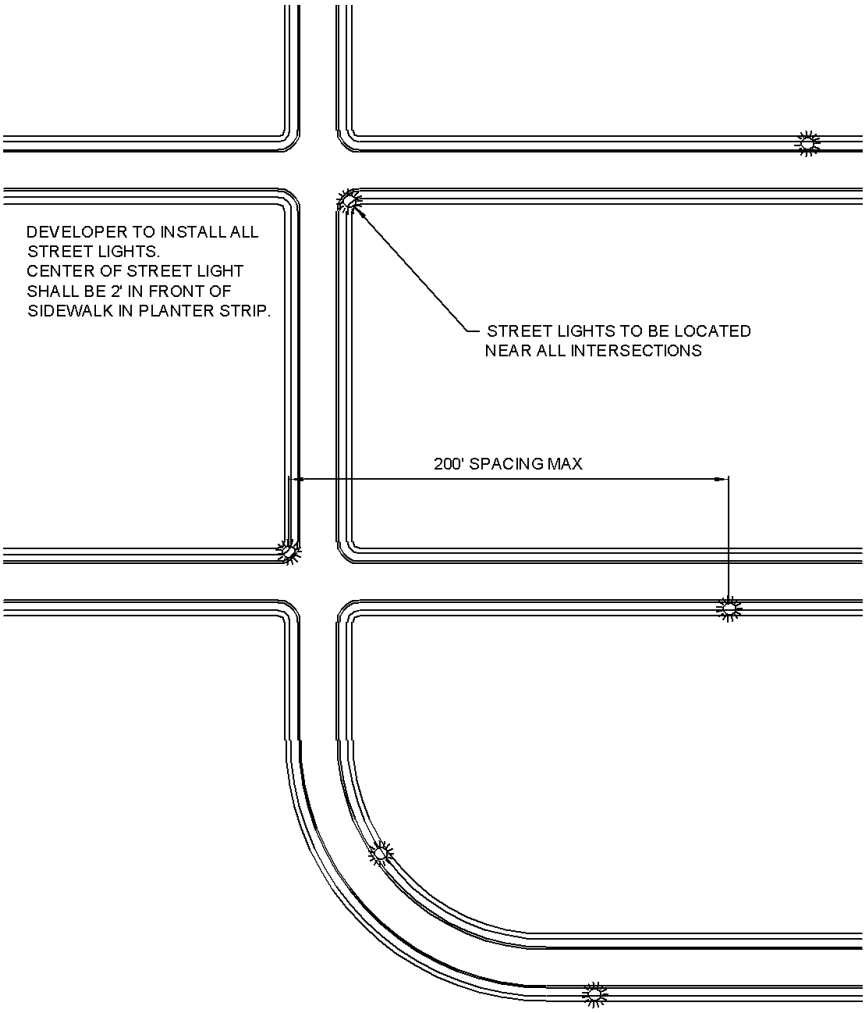
5.4.1 SALEM CITY POWER STANDARD STREETLIGHTS

Contractors/developers shall provide (purchase and install) all street lighting conduit systems (conduit, fitting, elbows, conduit cement, etc.) for Salem City Power standard streetlights. Salem City Power will own and maintain the conduit systems after the streetlight installation is completed. The conduit systems shall extend from Salem City Power pad mounted transformers or secondary junction boxes to streetlight locations. The contractor/developer shall be responsible for proper routing and placement (burial depth, excavation, bedding, backfill and compaction) of conduits, and for the location of conduit end points (stubs ups) at pad mounted transformers and/or secondary junction boxes, and streetlight locations.

5.4.2 DECORATIVE STREETLIGHTS

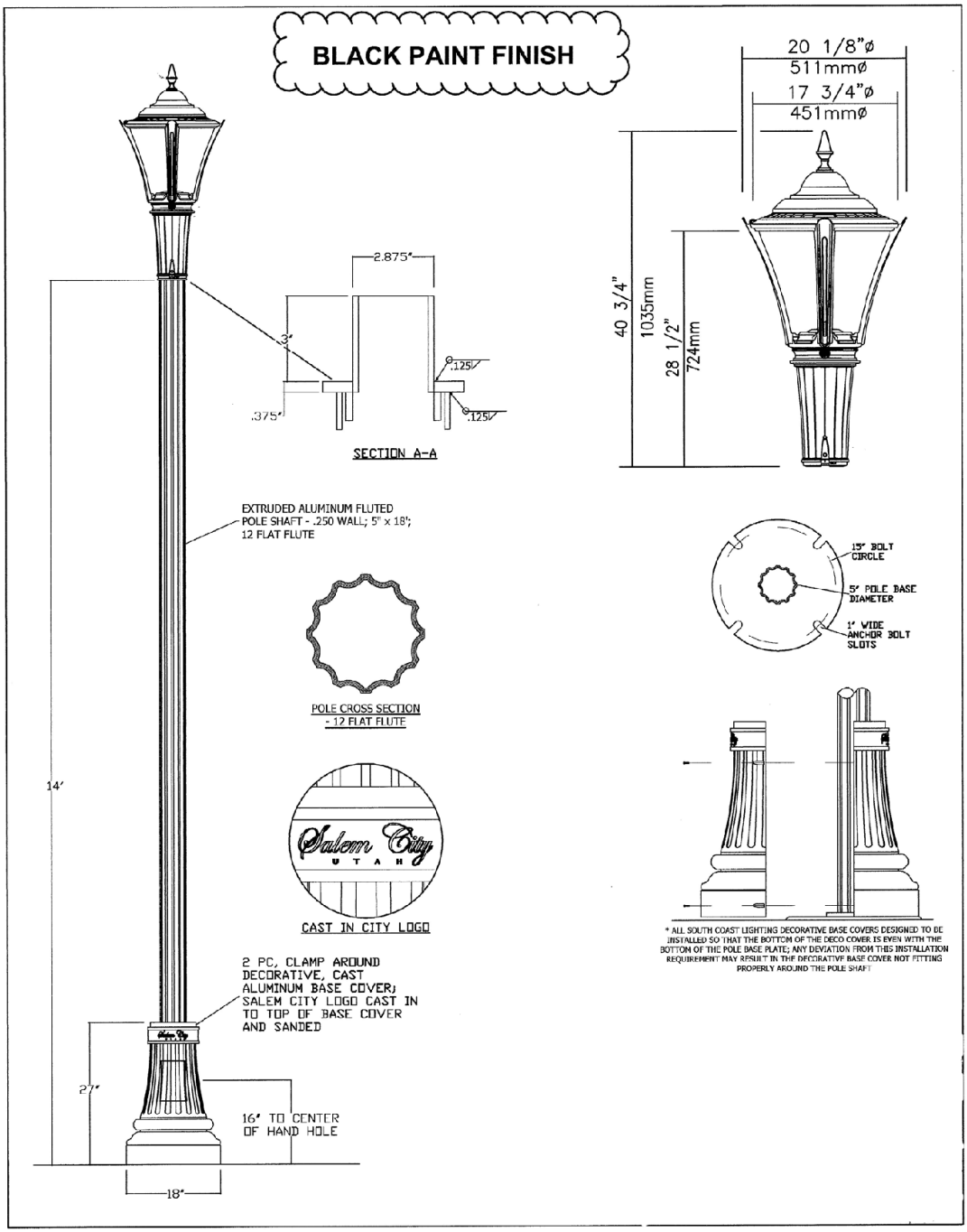
Contractors/developers shall provide (purchase and install) source side conduit systems between decorative streetlight delivery points and Salem City Power pad mounted transformers and/or secondary junction boxes. Salem City Power will own and maintain the source side conduit systems after the streetlight installation is completed. The contractor/developer shall be responsible for proper routing and placement of conduits, and for the location of conduit end points (stubs ups) at pad mounted transformer and/or secondary junction box locations. The contractors/developers shall also be responsible for terminating the conduit at the line side of the disconnecting means at delivery points. Salem City Power will install the wiring from transformer or secondary junction box to the delivery point and terminate the wiring at the source of the disconnect.

TYPICAL STREET LIGHTING LAYOUT



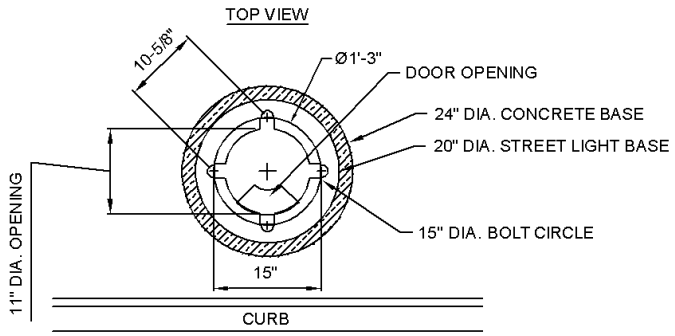
NOTES:
1. LIGHTING DESIGN AND LAYOUT SHALL BE PROVIDED BY SALEM CITY.
2. INSPECTION OF STREET LIGHTING SHALL BE SCHEDULED AT THE SAME TIME AS THE DEPTH OF SYSTEM AND COMPACTION INSPECTIONS.

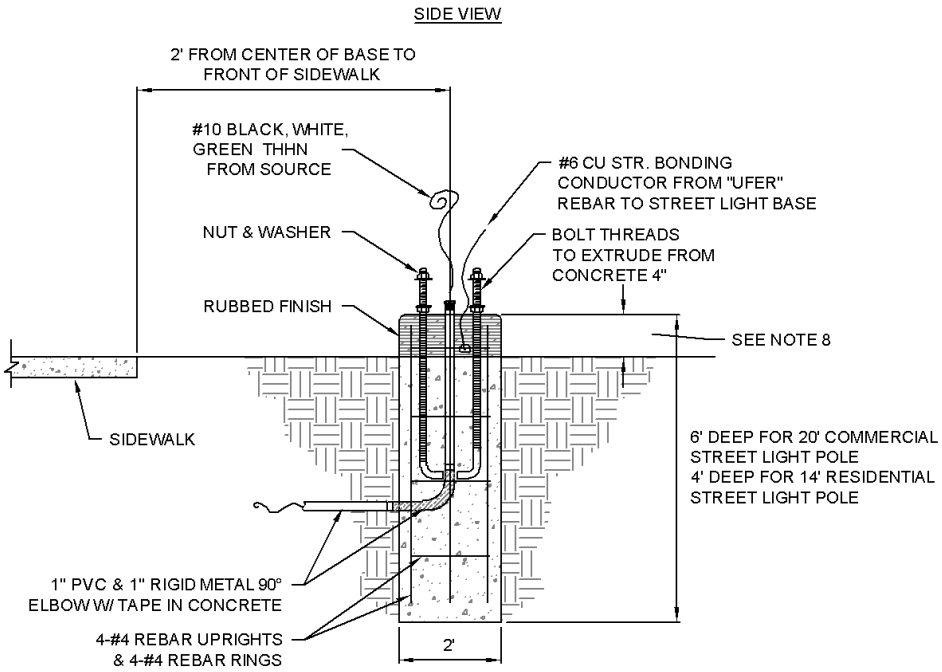
	SALEM CITY POWER ELECTRICAL REQUIREMENTS & STANDARDS MANUAL STREET LIGHTING	ELECTRIC 5.1 STREET LIGHTING LAYOUT SCALE: NONE DATE: 02-01-2021 REV: REV DATE: 01-22-2021



	SALEM CITY POWER ELECTRICAL REQUIREMENTS & STANDARDS MANUAL STREET LIGHTING	ELECTRIC 5.2 STANDARD STREET LIGHT SCALE: NONE DATE: 02-01-2021 REV: REV DATE: 01-22-2021

BASE - 20' COMMERCIAL & 14' RESIDENTIAL STREET LIGHT

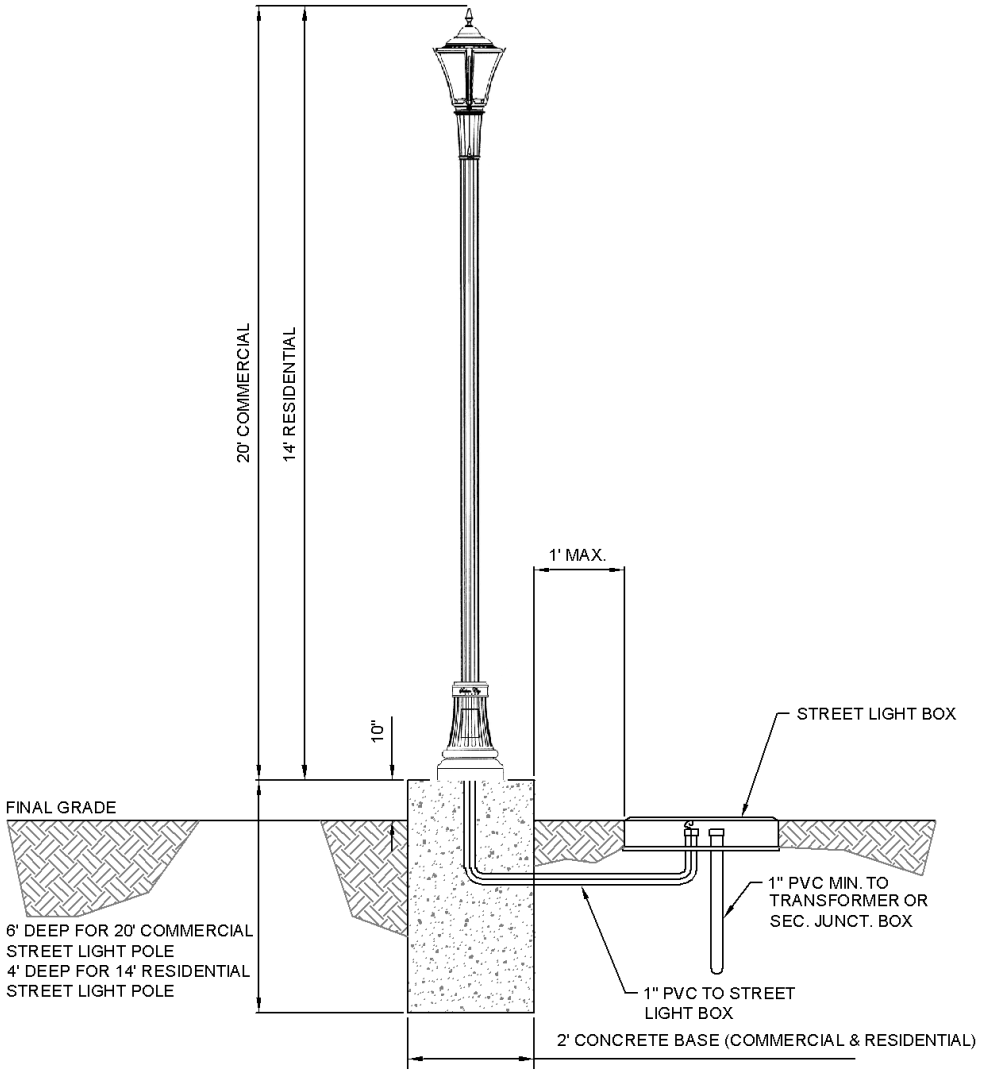




NOTES:
1. STREET LIGHT BASES SHALL BE INSPECTED PRIOR TO POURING CONCRETE.
2. STREET LIGHT BASES SHALL BE 2' IN DIAMETER AND 6' IN DEPTH FOR 20' COMMERCIAL LIGHT, 4' DEEP FOR 14' RESIDENTIAL LIGHT, WITH 10" OF BASE EXPOSED ABOVE TOP BACK OF CURB.
3. EXPOSED CONCRETE SHALL HAVE A RUBBED FINISH, WITH ALL HONEYCOMB OR CRACKS FILLED.
4. STREET LIGHT BASE SHALL BE 2' IN FRONT OF SIDEWALK OR 2' BEHIND SIDEWALK TO CENTER OF BASE IF NO PLANTER STRIP IS PRESENT.
5. SONNETUBE SHALL BE KEPT DRY AND SHALL NOT BE ALLOWED TO DEFORM IN ANY WAY.
6. CONCRETE COVER OVER REINFORCING STEEL SHALL BE 2" UNLESS OTHERWISE APPROVED.
7. USE 4-#4 REBAR UPRIGHTS & 4-#4 REBAR RINGS SPACED EVENLY AND KEPT 2" FROM SIDES, TOP AND BOTTOM OF CONCRETE.
8. ALL STREET LIGHT BASES ALONG STATE ROADS ARE TO BE FLUSH WITH THE TBC AND CONNECTED TO THE LIGHT POLE WITH A BREAKAWAY SUPPORT.

	SALEM CITY POWER ELECTRICAL REQUIREMENTS & STANDARDS MANUAL STREET LIGHTING	ELECTRIC 5.3
		STREET LIGHTING BASE
		SCALE: NONE
		DATE: 02-01-2021
		REV:
		REV DATE: 03-12-2021

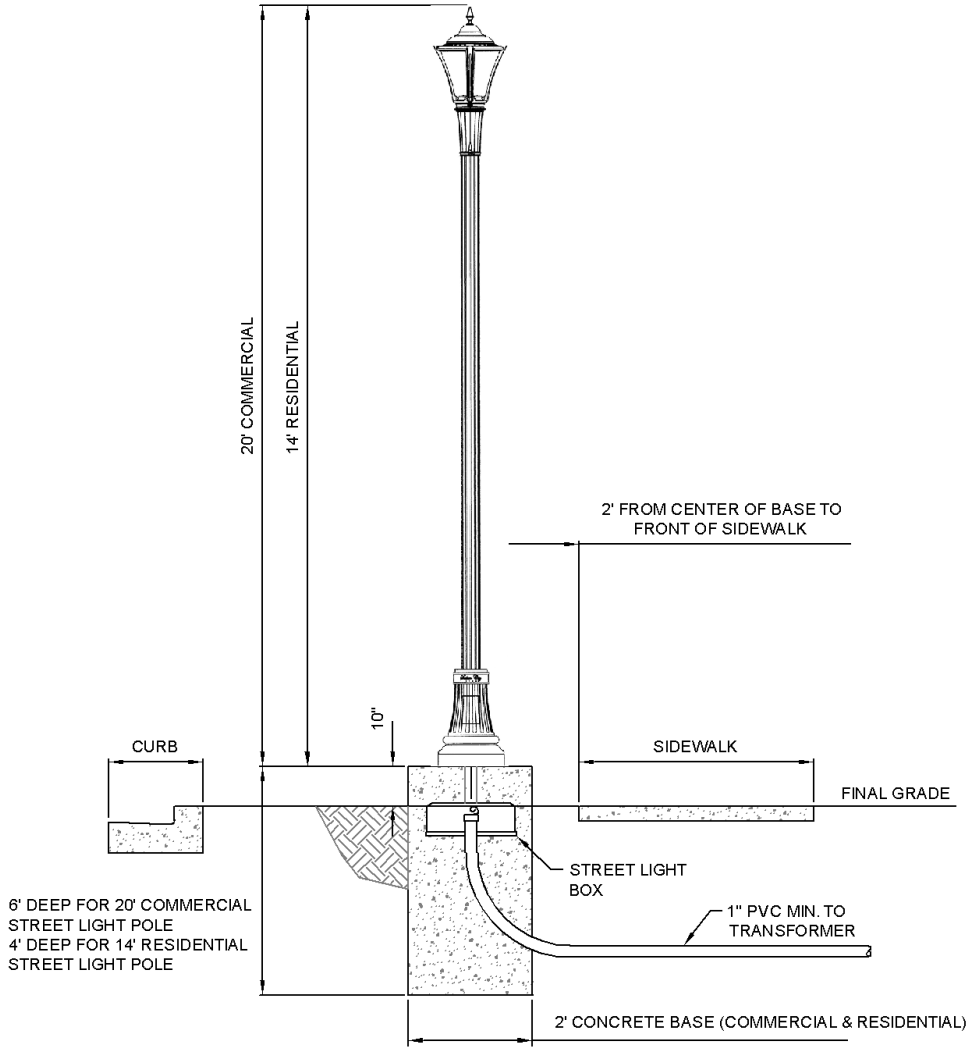
STREET LIGHT WIRING - FRONT VIEW



NOTES:
1. THE DEVELOPER WILL PROVIDE 1 INCH CONDUIT FROM THE TRANSFORMER TO THE SECONDARY JUNCTION BOX IF REQUIRED.
2. SALEM CITY POWER WILL SUPPLY AND INSTALL THE STREETLIGHT LAMP FIXTURE (HEAD) AND WIRE FROM THE HEAD TO THE STREETLIGHT BOX.
3. DEVELOPER WILL INSTALL STREET LIGHT BASE AS SALEM CITY REQUIRES.

	SALEM CITY POWER ELECTRICAL REQUIREMENTS & STANDARDS MANUAL STREET LIGHTING	ELECTRIC 5.4 STREET LIGHTING SCALE: NONE DATE: 02-01-2021 REV: REV DATE: 03-12-2021

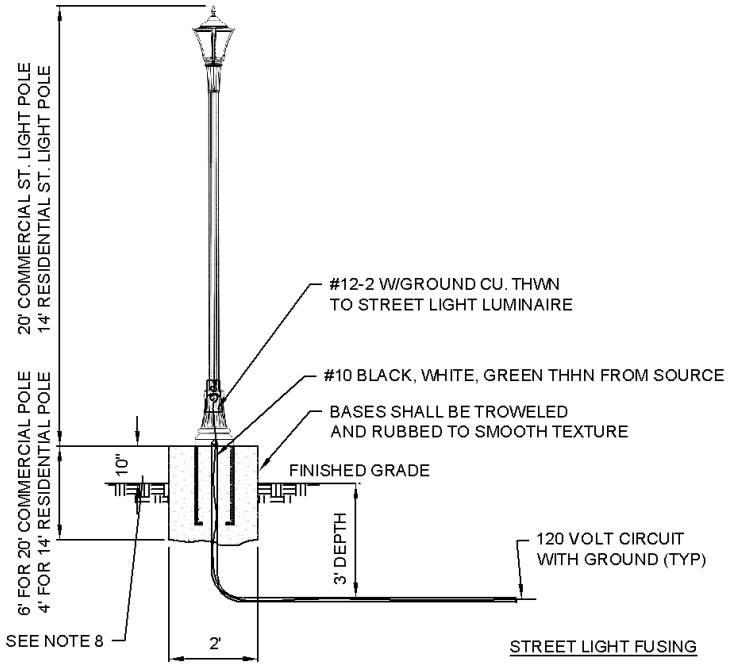
STREET LIGHT WIRING - SIDE VIEW



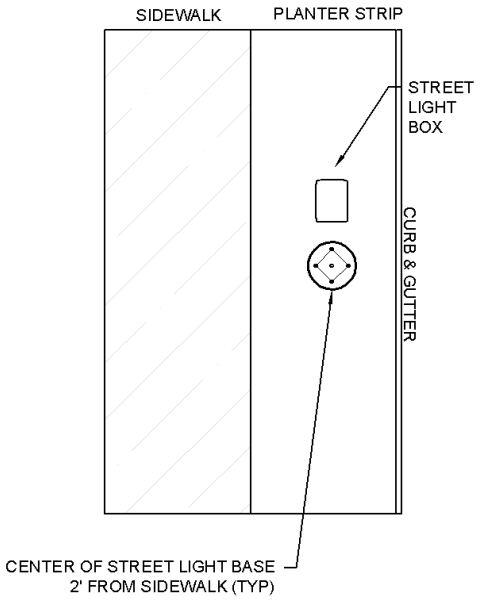
NOTES:
1. THE DEVELOPER WILL PROVIDE 1 INCH CONDUIT FROM THE TRANSFORMER TO THE SECONDARY JUNCTION BOX IF REQUIRED.
2. SALEM CITY POWER WILL SUPPLY AND INSTALL THE STREETLIGHT LAMP FIXTURE (HEAD) AND WIRE FROM THE HEAD TO THE STREETLIGHT BOX.
3. DEVELOPER WILL INSTALL STREET LIGHT BASE AS SALEM CITY REQUIRES.

	SALEM CITY POWER ELECTRICAL REQUIREMENTS & STANDARDS MANUAL STREET LIGHTING	ELECTRIC 5.5 STREET LIGHTING SCALE: NONE DATE: 02-01-2021 REV: REV DATE: 03-12-2021

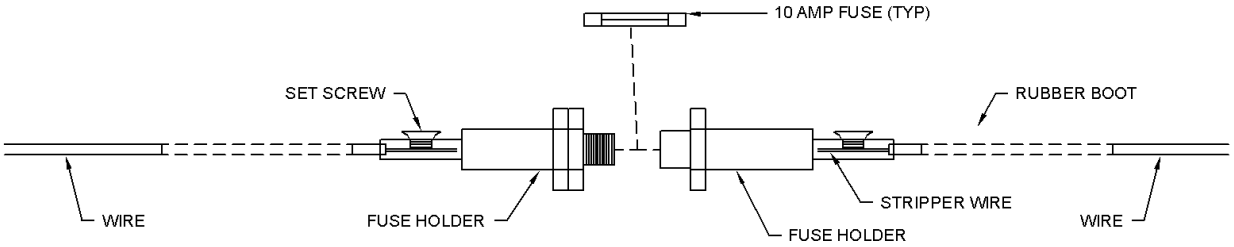
DECORATIVE STREET LIGHT POLE & LIGHT FIXTURE



POLE BASE LAYOUT PLAN VIEW



STREET LIGHT FUSING

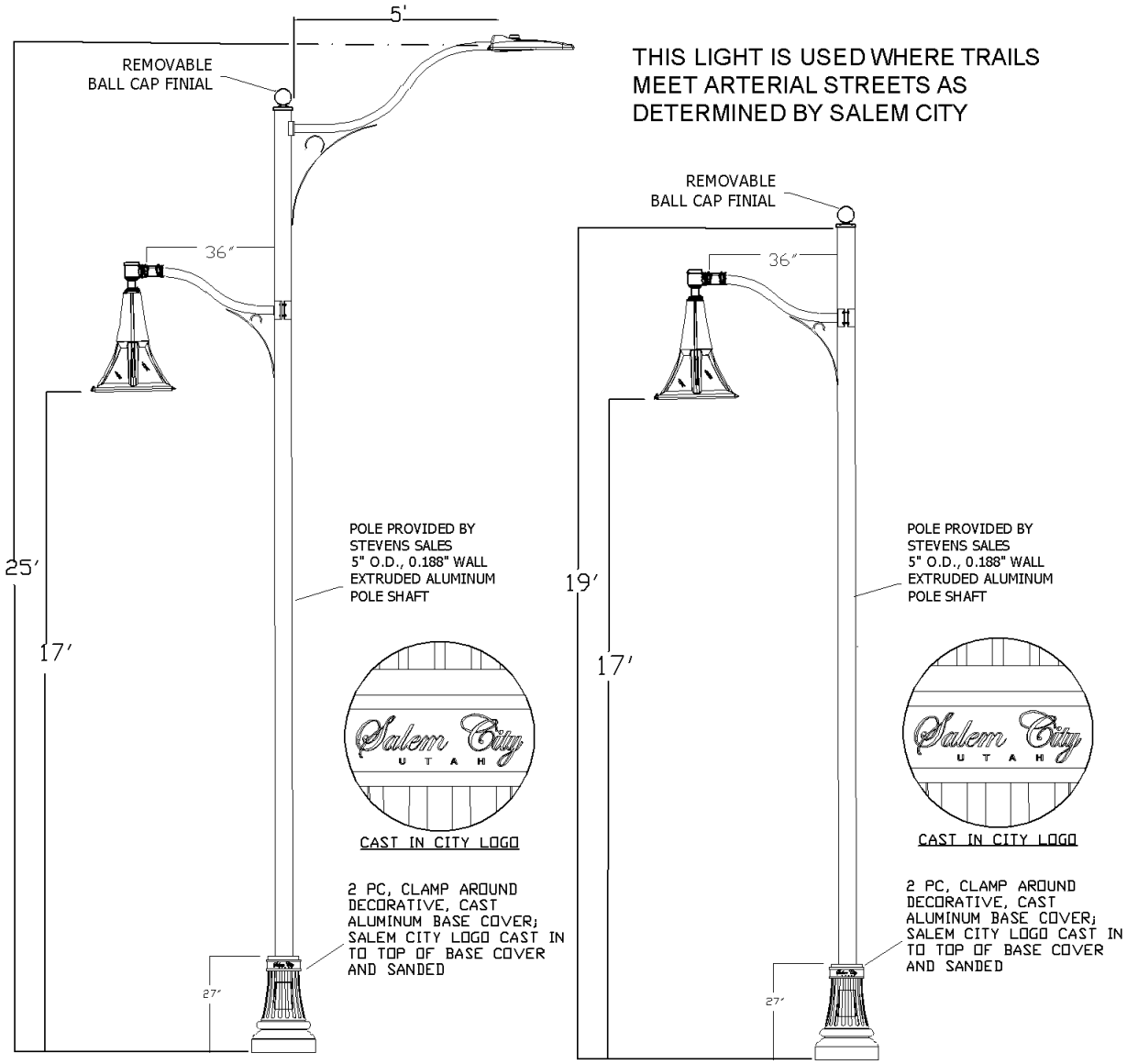


NOTES:

1. STREET LIGHT CONDUCTOR(S) SHALL HAVE AN INLINE 10 AMP FUSE & SET SCREW TYPE FUSEHOLDER INSTALLED IN STREET LIGHT BOX.
2. 1" PVC CONDUIT WITH RIGID STEEL TO RUN FROM BASE OF STREET LIGHT TO CLOSEST STREET LIGHT BOX.
3. IF PLANTER EXISTS STREET LIGHT SHALL BE PLACED IN PLANTER STRIP 2' IN FRONT OF THE SIDEWALK. IF THERE IS NO PLANTER LIGHT BASE SHALL BE 2' ON CENTER FROM TOP BACK OF CURB. BOLT PATTERN SHALL BE ON A DIAMOND TO THE CURB UNLESS OTHERWISE SPECIFIED.
4. STREET LIGHT POLE, BOLTS, NUTS, WASHERS SHALL BE PROVIDED BY THE CITY AND INSTALLED BY THE DEVELOPER.
5. BASES SHALL HAVE A RUBBED FINISH, FREE FROM HONEYCOMB & CRACKS.
6. STREET LIGHT BASE SHALL BE BONDED TO STREET LIGHT POLE BY A "UFER" TYPE #6 CU BONDING CONDUCTOR.
7. THE GROUNDING CONDUCTOR SHALL BE TERMINATED WITH THE GROUNDED (NEUTRAL) CONDUCTOR AT THE SOURCE.
8. ALL STREET LIGHT BASES ALONG STATE ROADS ARE TO BE FLUSH WITH THE TBC.

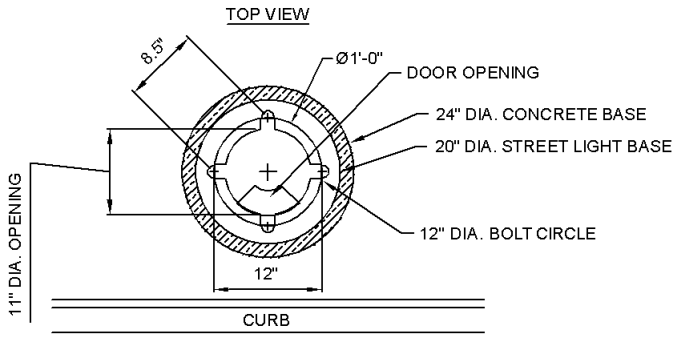
	SALEM CITY POWER ELECTRICAL REQUIREMENTS & STANDARDS MANUAL STREET LIGHTING	ELECTRIC 5.6 STREET LIGHTING SCALE: NONE DATE: 02-01-2021 REV: REV DATE: 03-12-2021

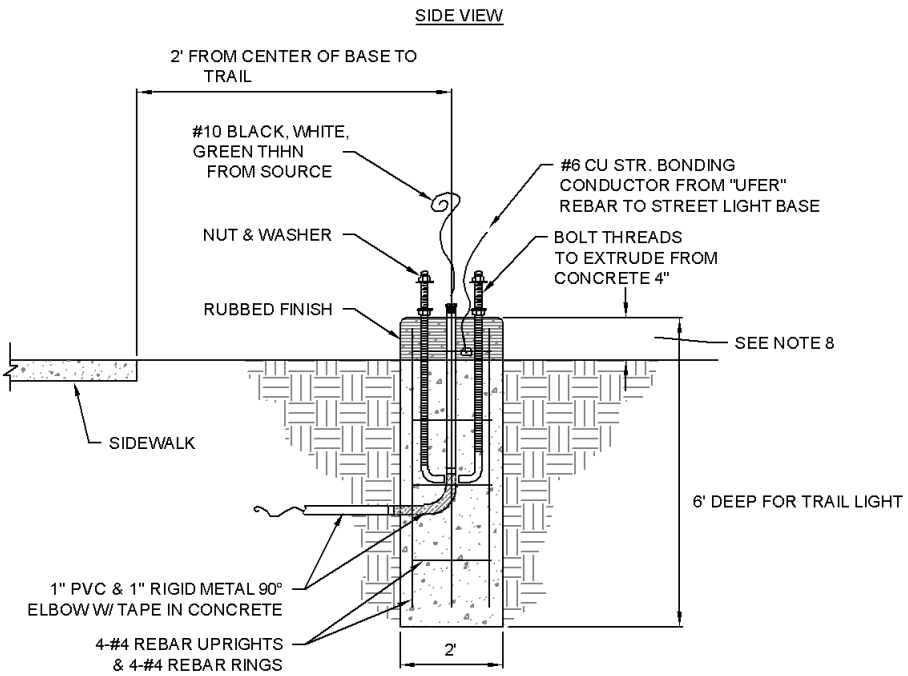
STREET/TRAIL/ARTERIAL STREET LIGHT



	SALEM CITY POWER ELECTRICAL REQUIREMENTS & STANDARDS MANUAL TRAIL LIGHTING	ELECTRIC 5.7 TRAIL/STREET LIGHTING SCALE: NONE DATE: 02-01-2021 REV: REV DATE: 03-12-2021

BASE - 19' & 25' STANDARD TRAIL LIGHTING





NOTES:
1. TRAIL LIGHT BASES SHALL BE INSPECTED PRIOR TO POURING CONCRETE.
2. TRAIL LIGHT BASES SHALL BE 2' IN DIAMETER AND 6' IN DEPTH WITH 10" OF BASE EXPOSED ABOVE TOP BACK OF CURB.
3. EXPOSED CONCRETE SHALL HAVE A RUBBED FINISH, WITH ALL HONEYCOMB OR CRACKS FILLED.
4. STREET LIGHT BASE SHALL BE 2' FROM TRAIL TO CENTER OF BASE.
5. SONNETUBE SHALL BE KEPT DRY AND SHALL NOT BE ALLOWED TO DEFORM IN ANY WAY.
6. CONCRETE COVER OVER REINFORCING STEEL SHALL BE 2" UNLESS OTHERWISE APPROVED.
7. USE 4-#4 REBAR UPRIGHTS & 4-#4 REBAR RINGS SPACED EVENLY AND KEPT 2" FROM SIDES, TOP AND BOTTOM OF CONCRETE.
8. ALL STREET LIGHT BASES ALONG STATE ROADS ARE TO BE FLUSH WITH THE TBC AND CONNECTED TO THE LIGHT POLE WITH A BREAKAWAY SUPPORT.

	SALEM CITY POWER ELECTRICAL REQUIREMENTS & STANDARDS MANUAL TRAIL LIGHTING	ELECTRIC 5.8 TRAIL LIGHTING BASE SCALE: NONE DATE: 02-01-2021 REV: REV DATE: 03-12-2021