

Commercial Electric Policy



7/19/16

Table of Contents

General Information.....	3
Construction	3
Ownership.....	4
Multi-Unit/Multi-Service Buildings.....	4
Secondary Termination Enclosures.....	4
Meter Bases.....	5
Temporary Boards.....	6
Guidelines.....	6
Diagram.....	7
Specifications.....	8
Commercial Worksheet.....	8
Underground Primary/Secondary.....	9
Final Inspection Check List.....	10
Diagrams for Contractors.....	11
3 Phase Transformer Pad.....	11
Single Phase Transformer Ground Sleeve.....	12
Primary Vault Ground Sleeve.....	13
Pad mount Transformer Spacing.....	14
Labeling for Multi Metered Installations	15

All meter bases shall be Gallatin Dept. of Electric (GDE) approved meter bases, see GDE meter base policy. All meter base locations must be approved by GDE's Engineering Dept.

Construction

The complete use of underground (UG) electric facilities is required in all new commercial developments, for all new commercial electric services, and where any major service entrance upgrade is performed, unless specifically waived by the Gallatin Department of Electricity (GDE) Engineering Department. Overhead (OH) exceptions may be granted for major feeder lines on a case by case basis, but GDE's standard is underground. Exceptions will only be granted in letter form. All new commercial services shall be installed underground. The developer will submit a final plat, provide an electronic cad layout and request an electrical layout from GDE, pay an aid to construction cost of \$35 per linear foot of underground/overhead feeder within development and aid to construction of 75% of the transformation cost required, provide all ditching and conduit, transport and place all vaults and required ground sleeves with a gravel base, pour all pads required as per GDE specs, call GDE for inspection of all ditching and conduit, backfill one foot, place marking tape, and complete backfill (See **GDE's Specifications**, pg.8 for requirements).

Provisions shall be made by the developer to loop feed each primary line where practical. GDE will provide and install underground primary wire, transformers, primary connections and switching cabinets. The developer/owner will install, own, and maintain all conduits (secondary & primary) that are necessary to serve their facilities/development, and all service wire. GDE will own all primary wire.

When the development requires the main line to be more than 200 amps on the primary lines but less than 400 amps, as determined by the Gallatin Department of Electricity (GDE), the developer will pay an aid to construction charge of \$50 per linear foot for any additionally required feeder lines.

When the development requires the main line to be more than 400 amps on the primary lines, as determined by GDE, the developer will pay an aid to construction charge of \$65 per linear foot for any additionally required feeder lines.

Overhead exceptions may be granted for major feeder lines as determined by GDE's Engineering Department on a case by case basis, but the standard will still be underground utilities. Exceptions will only be granted in letter form.

The developer shall be responsible for the cost of any line extension required to serve a development that is not within or adjacent to the current footprint of the Gallatin City limits and/or GDE's current service territory. Extension costs shall include: any expense of acquiring easements and needed right-of-way clearing as well as all construction labor and material necessary to reach the proposed development.

Any cost associated with a development that is above and beyond the GDE standard construction shall be at the expense of the developer. Costs could be back feed or redundant service requirements by the developer or below grade switchgear, or the like. GDE will maintain ownership of all primary infrastructure such as wire and transformers and be responsible for any replacement costs.

Underground service conductors installed on GDE poles will be all aluminum and limited to 2 runs and a maximum of 750kcmils. No compressed conductors may be used. GDE will assist in installing the conductor up the pole. GDE labor cost during this time onsite will be paid by the customer/developer.

Ownership/Repairs

Meter bases/CT cabinets/Tap boxes/etc., service conduit/wire from GDE's secondary equipment, and risers are the customer's property and the customer's responsibility to repair and locate. GDE does not own, locate/mark (TN811 Call Before You Dig), maintain, or repair commercial underground service conduits or cables. GDE owns and maintains service wire and service connections on overhead services.

Multi-Unit/Multi-Service Buildings

Multi-unit buildings and buildings with multiple services shall have meter bases numbered to GDE specs (See **Labeling for Multi Metered Installations**, pg14). Multi-gang meter bases must be approved by GDE's Metering Dept. Meter troughs will not be allowed (see Secondary Termination Enclosures, pg4).

Secondary Termination Enclosures

GDE shall not connect to any new troughs. Secondary termination enclosures (provided by the Customer) will be used on all new services requiring multiple meters where ganged meter bases are not used. Existing troughs shall be replaced with secondary termination enclosures under the following circumstances: adding new load, upgrading service, adding a new service, or replacing GDE's line side conductors.

Each individual service in the termination cabinet shall be labeled by unit number, suite number, or space number on the service cable for disconnect/reconnect purposes. The labeling must be approved by GDE's Engineering Department. All conductors shall be routed behind the termination cabinet busbars.

Enclosures are the property of the Customer. There is a requirement for a GDE lock on these enclosures. A GDE employee will unlock the enclosure for the Customer when necessary and upon request.

The following are acceptable part numbers for termination enclosures. Any enclosure not listed must be approved by GDE's Engineering Department.

CMC (Connector Manufacturing Company) Wall Mounted Three Phase							
Catalog Number	Max Wire Size	# of Cond. Per Phase	Dimensions - Inches			U.L. Listed Amp Rating	
			W	D	H	Copper	Aluminum
LWTE21-500	500 kcmil	21	32	16	51	3800	3100
LWTE14-750	750 kcmil	14	32	16	51	3325	2695
LWTE14-1000	1000 kcmil	14	32	16	51	3815	3115

Milbank Multi-Position Tap Box						
Catalog Number	Max Wire Size	# of Cond. Per Phase	Dimensions - Inches			U.L. Listed Amp Rating
			W	D	H	
UAP6094-O-NES	500 kcmil	16	25 5/8	16	43	3000
UAP6095-O-NES	500 kcmil	22	32 3/8	16	43	4000
UAP6096-O-NES	1000 kcmil	14	25 15/16	16	51	3300

A disconnect is allowed in front of the termination enclosure. A disconnect is not allowed between the termination enclosure and the meter base.

Gallatin Department of Electricity Approved Meter Bases



P.O.Box 1555
Gallatin, TN. 37088
(615) 452-5152
(615) 452-6060 Fax

Self Contained

Size	Phases	Type	Milbank	Durham	Siemens	Eaton
200 Amp	Single	OH	U7021-DL-YG-BL	RS213N	UAT3 / HQU4	UTRS202BCH
200 Amp	Single	UG	U1980-0-BL	UTRS223A	UAS8/UAS9 / HQW4	UTRS223ACH
225 Amp	Single	House Module			WCL20408111RJ	
320 Amp	Single	OH	U1079-R-BL		HQST 4	UTH4300TCH
320 Amp	Single	UG	U1797-0-K3L-K2L-BL		HQDSW/SWD 4	UTH43388UCH
320 Amp	Single	OH/UG	U2448-x	H4330T		UTH4330TCH
200 Amp	Three	OH/UG	U7423-RXL	H7213T	HQND 5	
200 Amp	Three	OH/UG	U9701-RRL-BL		HQST 7 / HQW 7	
225 Amp	Three	Module			WCL20408211RJ	
225 Amp	Three	Module			WCL24428311RJ	
320 Amp	Three	OH/UG	U2120-x	UT-H7330-U	HQST 7	
320 Amp	Three	OH/UG	U2584-Y		HQDSW/SWD 7	
600 Amp	Three	OH/UG	U4867-st-9508		(K-71) 9817-9508	CH9508K7

Submit information to:

rvvcr@gde.tn.com
bhornston@gde.tn.com

Instrument Rated

Size	Terminals		Milbank	Durham	Siemens	Meter Devices
20 Amp *	8	Single Phase	UC7235-RL	R8821-8K	9804-8542	
20 Amp **	13	Three Phase	UC7461-RL-281	URST513-2ATBA-AD	9837-8512	W110U54522-5

Pedestal Service Entrance

Size	Terminals		Midwest			
200 Amp	4		R281C1P8H			

* 8 Terminal Base Requires Automatic Bypass Switch

** 13 Terminal Base Requires test switch Durham # 1058 or Milbank # TS10-0111 (10 Pole)

** 13 Terminal Base Must be prewired with test switch

Specifications and Notes

1. **NON-APPROVED METER BASES WILL NOT BE ENERGIZED BY GDE**
2. Steel Construction and UL Approved with Label
3. Location shall be approved by GDE's Engineering Dept.
4. Shall be surface mounted and on a permanent structure controlled by the Customer.
5. Shall not be in areas that are closed off by porches, decks, patios, fences, walls, screens, etc.
6. GDE shall have unobstructed access to meter base.
7. Shall have a 6" clearance from any obstruction in front of meter base.
8. Shall be mounted 5'6" from ground to center of meter base.
9. GDE/Customer service wire will enter left side of meter base, customer load wires will exit right side facing meter base
10. Shall be installed to National Electric Code (NEC) requirements.
11. Instrument Rated bases shall have shorting ability to remove meter
12. 600 Amp and above services REQUIRE advance notice to be given to GDE Meter Department. Call 615-527-7006 or 615-527-7005.

Instrument Transformers

1. All CT and PT's shall be provided by GDE.
2. Single Phase CT cabinet size shall be 36 x 36 x 12 with a 3/4 inch plywood backing for mounting of Instrument Transformers. Steel or aluminum construction.
3. Three Phase CT cabinet size shall be 48 x 48 x 12 with a 3/4 inch plywood backing for mounting of Instrument Transformers. Steel or aluminum construction.
4. CT cabinet must have provisions for a padlock.
5. Single Phase - Electrician shall provide 5 wires, (BLACK, RED, BROWN, ORANGE, WHITE)
6. Three Phase - Electrician shall provide 7 wires (BLACK, RED, BLUE, BROWN, ORANGE, YELLOW, WHITE)
7. No marking tape shall be used on wires.
8. All CT and PT wires, 100' or less, shall be #12 copper conductor. Distances over 100' require approval from GDE.

Multi Ganged, Stacked meterbases, and Module Bases are APPROVED on a case by case bases.

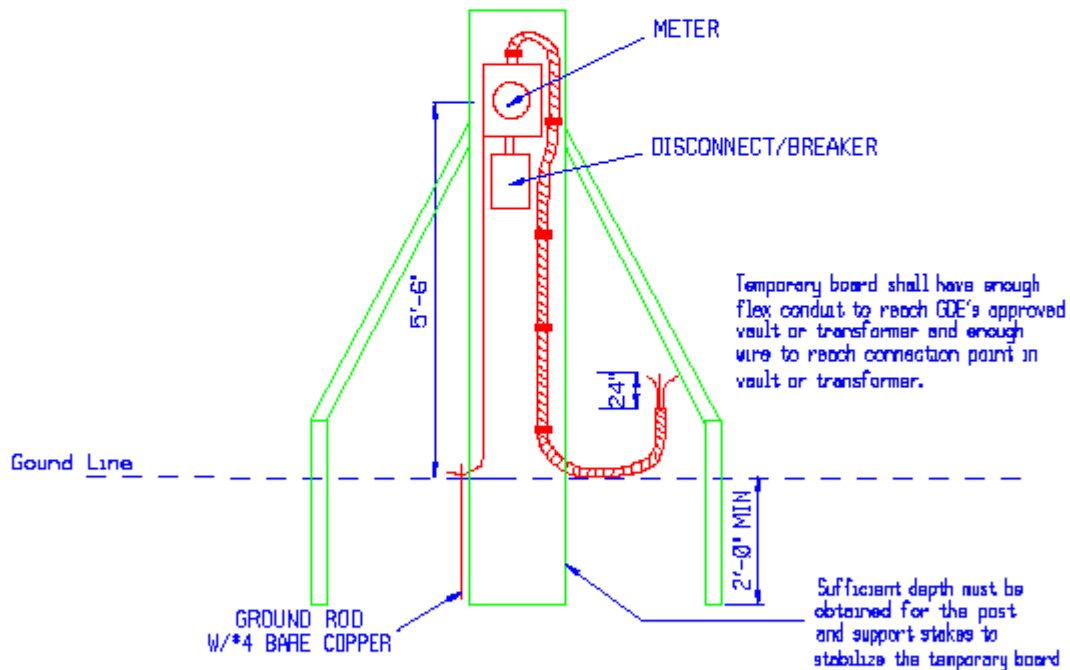
Temporary Electric Service Policy

The Gallatin Department of Electricity (GDE) will provide electricity to customer owned temporary boards according to the following guidelines.

1. Temporary boards must be labeled with the address and lot number and pass an electrical inspection by the State Electrical Inspector each time the board is installed or relocated.
2. Temporary boards must be an underground fed temporary board unless approved by GDE's Engineering Department.
3. Temporary board location must be approved by GDE's Engineering Department.
4. Temporary boards that are approved for overhead installation shall be rigidly installed in the ground (2' min for post and braces) with braces or guys to adequately support the overhead service conductors and the weight of a 250lb man on a ladder, leaned against the temporary board. There shall be an eyebolt attachment for GDE's service conductors. The attachment point and ground clearance to service wire shall meet the National Electric Code (NEC) and National Electric Safety Code (NESC). The overhead temporary board shall not be installed more than 100' from GDE's approved pole.
5. GDE will charge a \$100.00 temporary board fee. This amount covers the installation and removal of the service wire. If additional trips are made, there will be extra charges. This charge does not include the meter service charge and deposit.
6. In addition to the cost from line 5, temporary boards requiring more than 100' of overhead service wire or when temporary construction is required, the total installation and removal cost will be paid by the customer before work will begin. The cost to install a transformer to feed a temporary board will be \$400.00.
7. Customers or contractors will not remove a temporary board until the meter and service wires have been disconnected and/or removed

GENERAL CONSTRUCTION NOTES:

- 1) The GDE engineer will spot the temporary board location upon request.
- 2) The temporary board shall be installed at least 3' from and no more than 18' from GDE's approved service point.
- 3) Temporary electric service boards are not to be installed on GDE poles or trees.
- 4) Each temporary board must be labeled with address and lot number, and pass an electric inspection by the State Electrical Inspector each time the board is installed or relocated.
- 5) The temporary board clearance from other objects must meet all NEC and NESC requirements.



IMPORTANT NOTE:

CUSTOMERS OR CONTRACTORS WILL NOT REMOVE A BOARD UNTIL THE METER AND THE SERVICE WIRES HAVE BEEN REMOVED.

G D E	UNDERGROUND TEMPORARY BOARD SERVICE	DATE 2/14/14
		STANDARD NUMBER UG TB



GALLATIN DEPARTMENT OF ELECTRICITY
 PO BOX 1555 • 135 JONES STREET • GALLATIN, TN 37066
 (615)452-5152 • FAX (615)452-6060 www.gdetn.com

Commercial Worksheet

Date : _____

Address : _____

Developer : _____

Phone : _____ Email : _____

UG Utility Contractor : _____

Phone : _____ Email : _____

Aid To Construction

Feeder length :	0
Aid per ft : \$	35.00
Lot Total : \$	-
Distance from existing line :	
Additional ROW : \$	-
Additional distance aid : \$	-
TOTAL AID TO CONSTRUCTION : \$	-

Commercial Checklist

- Final Plat Submitted
- Provide electronic cad layout
- GDE to design equipment layout & developer acquires approved layout
- Pay aid to construction
- GDE to order equipment
- Provide all ditching & conduit
- Call GDE for inspection of ditching and equipment placement
- Receive GDE approval of ditching and conduit placement
- Backfill 1' of clean dirt or #67 gravel if clean dirt unavailable
- Install marking tape
- Transport all vaults/ground sleeves
- Place all vaults/groundsleeves with gravel base
- Complete backfill to final grade/install curbs/pour concrete pads
- GDE Final Conduit Inspection Checklist Complete
- Call GDE for final inspection
- GDE installs underground primary wire, connections and switch cabinets

GDE Engineering : Mike Taylor (615)527-7004
 Brandon Hesson (615)527-7008

mtaylor@gdetn.com
bhesson@gdetn.com

GDE Underground Primary/Secondary Specifications

Inspection	Requirements
Conduit	<ul style="list-style-type: none"> *Conduit will be inspected prior to backfilling ditch. *All work shall be performed to GDE's conduit drawings and details. *Primary conduit - 48" depth with minimum of 12" vertical and horizontal separation from other utilities and a 5' separation when paralleled with other utilities. *Secondary conduit - 30" depth with minimum of 12" separation (vertical and horizontal) from other utilities. *90-degree elbows - 2" galvanized 24" radius - 4" galvanized 36" radius *Backfill shall be soil free of material that may damage conduit or gravel. If clean backfill is not available, #67 gravel will be used. *Conduit damaged before wire is installed must be replaced/repaired by developer. *All conduit installed in existing GDE equipment must be coordinated with GDE.
Final	<ul style="list-style-type: none"> *GDE's Final Inspection Check List (pg10) must be completed, signed, and returned to GDE before final inspection will be scheduled.

*** All inspection requirements must be met before calling for an inspection.**



GALLATIN DEPARTMENT OF ELECTRICITY
P.O. BOX 1555 • 135 JONES STREET
GALLATIN, TENNESSEE 37066
(615) 452-5152 • FAX (615) 452-6060
www.gallatinelectric.com

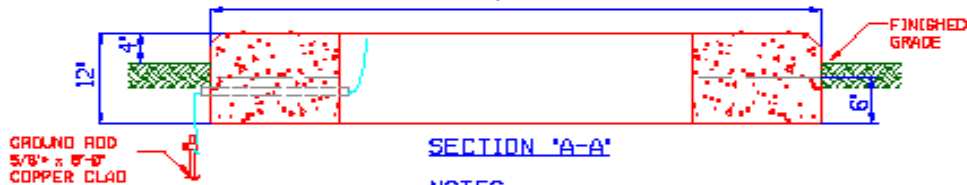
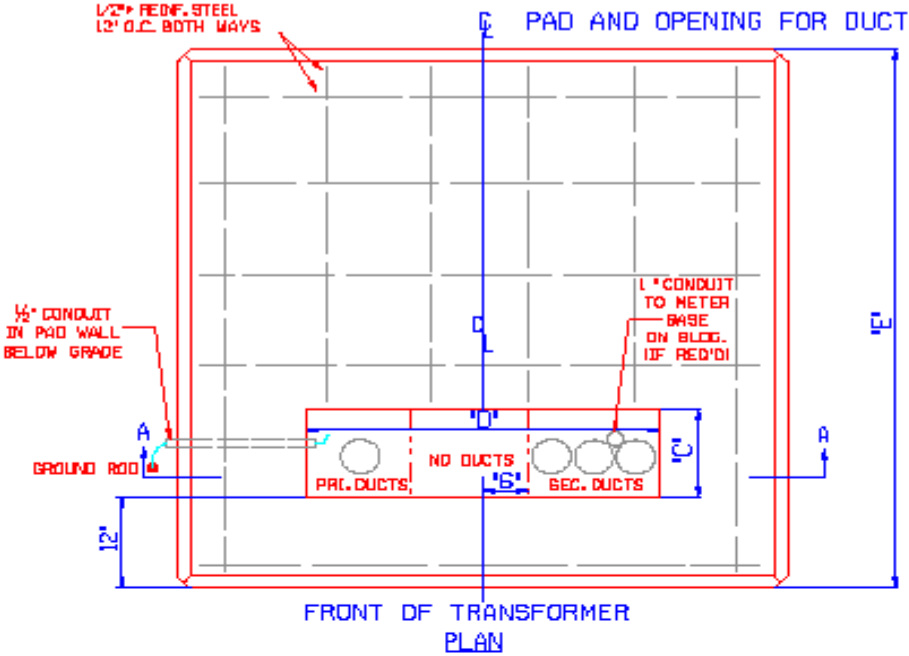
GDE Final Conduit Inspection Check List

This checklist is to assist developers with the requirements for a GDE final conduit inspection. Please insure the requirements have been met before signing, dating, and returning form to GDE for a final conduit inspection. This list is meant to be a guide and is subject to change without notice. Specifications available www.gallatinelectric.com/engineering.

- 1. Property Pins installed and labeled.
- 2. Curbs installed.
- 3. Grade within 6" of final grade from back of utility easement to curb.
- 4. All GDE conduits and ground sleeves installed in utility easement.
- 5. All secondary vaults installed per GDE Secondary Vault Detail.
- 6. Ground sleeves installed per GDE Ground Sleeve Details.
 - 6A. Ground sleeves backfield to within 6" of top of pad.
 - 6B. Ground sleeves level.
 - 6C. Conduits cut 12" below top of ground sleeve
 - 6D. Conduits arranged in ground sleeve per the GDE Ground Sleeve Details.
 - 6E. No trash inside of ground sleeve.
- 7. Conduits arranged per GDE Underground Distribution spec for underground primary construction, or GDE Underground Secondary Conduit System spec for overhead primary construction.
 - 7A. 36" minimum spacing between GDE 3" secondary conduit and communication conduits.
 - 7B. 18" minimum spacing between GDE ground sleeve and communication conduits on underground primary construction.
 - 7C. 24" minimum spacing between pole and GDE 3" secondary conduit on overhead primary construction.
- 8. 500lb minimum pull string in all conduits.
- 9. All conduits installed per GDE Conduit Layout.

Signature: _____ Date: _____

LIGHTING THE WAY FOR THE CITY OF GALLATIN



NOTES:

- 1- Concrete testing, 2,000 lbs. psi minimum.
- 2- Reinforcing steel, ASTM-A615 Grade 60, placing approximately 12' D.C. each way and securely tied together.
- 3- Conduits to stop a maximum of 1' above pad.
- 4- Conduits to be placed as shown. Allow at least 12' between pri. and seo. conduits.
- 5- Primary conduits shall be 48" deep and have rigid galvanized elbows.
- 6- GDE to be notified after forming, but before pad is poured for an inspection of the pad.
- 7- Float finish, leaving no depressions.
- 8- Conduit damaged before wire is installed must be replaced/repared by developer.

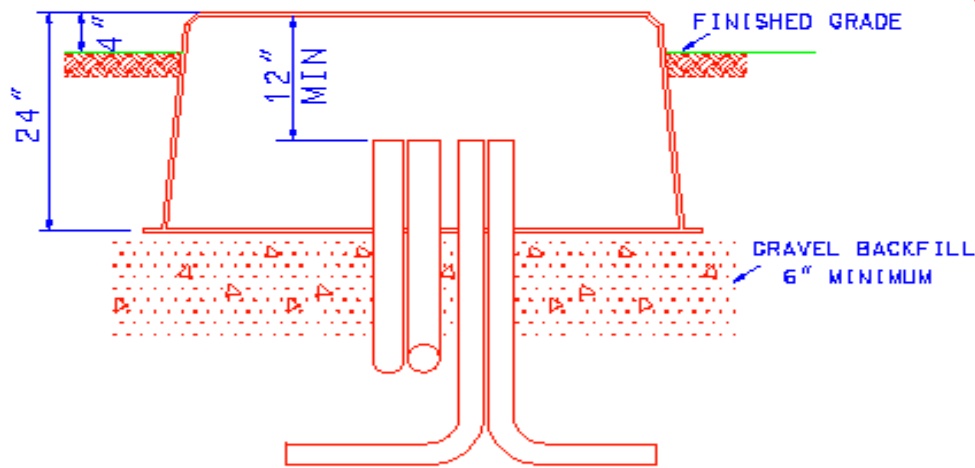
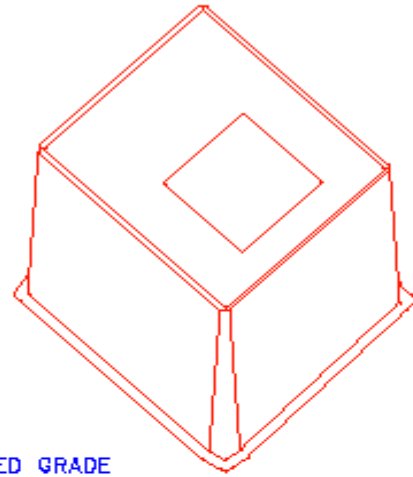
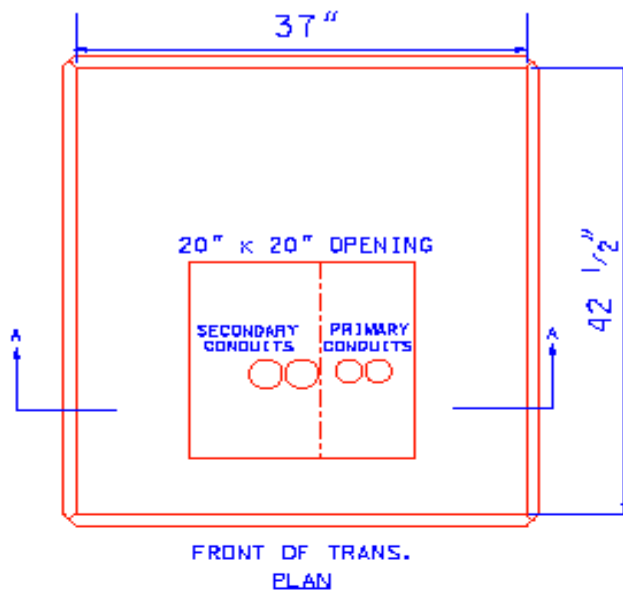
DIMENSION	C	D	E	F
75 KVA	12'	48"	84"	84"
150 KVA	12'	48"	84"	84"
225 KVA	18'	48"	84"	84"
300 KVA	18'	48"	84"	84"
500 KVA	18'	52"	84"	84"
750 KVA	18'	52"	84"	84"
1000 KVA	24'	52"	84"	84"
1500 KVA	24'	52"	84"	84"
2000 KVA	24'	60"	120"	120"
2500 KVA	24'	60"	120"	120"

GDE

CONCRETE PAD DETAIL
THREE PHASE PAD MOUNTED
TRANSFORMER

DATE 2/18/13

STANDARD
NUMBER
UM-3P



NOTE:

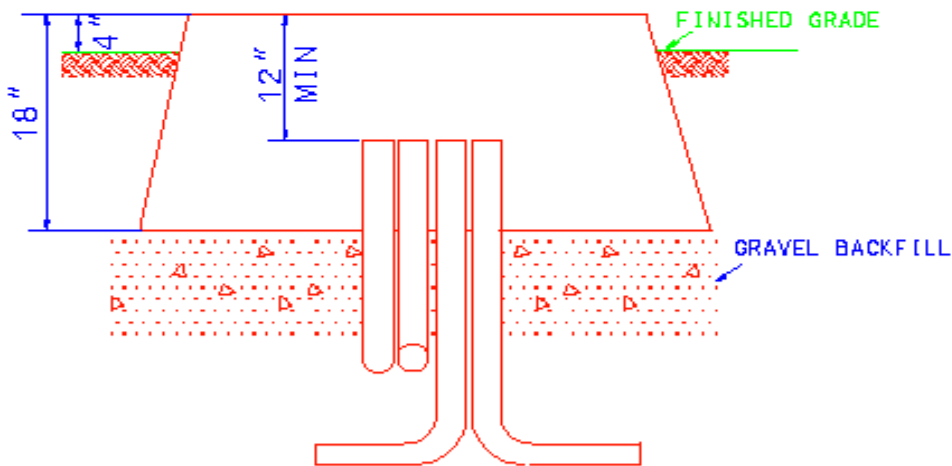
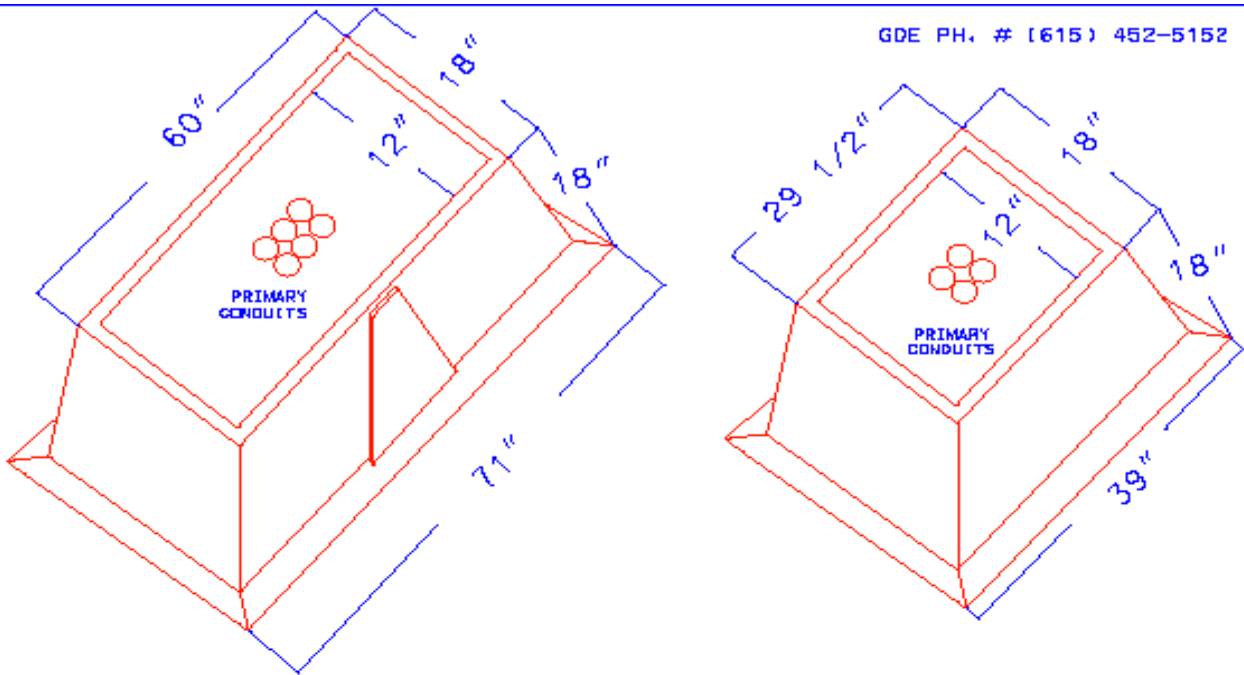
- 1 - PRIMARY & SECONDARY CONDUITS TO BE LOCATED AS SHOWN ABOVE.
- 2 - CONDUITS TO STOP AT LEAST 12" BELOW TOP OF PAD.
- 3 - PRIMARY CONDUITS TO BE 48" DEEP.
- 4 - SECONDARY CONDUITS TO BE 30" DEEP.
- 5 - SLEEVE TO SET ON GRAVEL BACKFILL FROM BOTTOM OF DITCH TO PAD BOTTOM.
- 6 - CONDUIT & SLEEVES DAMAGED BEFORE WIRE IS INSTALLED MUST BE REPLACED/REPAIRED BY DEVELOPER.

GDE

TRANSFORMER GROUND SLEEVE DETAIL
SINGLE PHASE

DATE 2/15/13

STANDARD NUMBER
UMF-1P

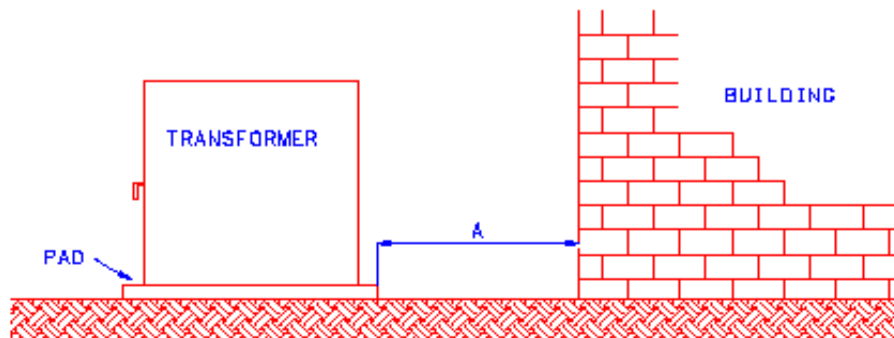


NOTE:

SECTION A-A

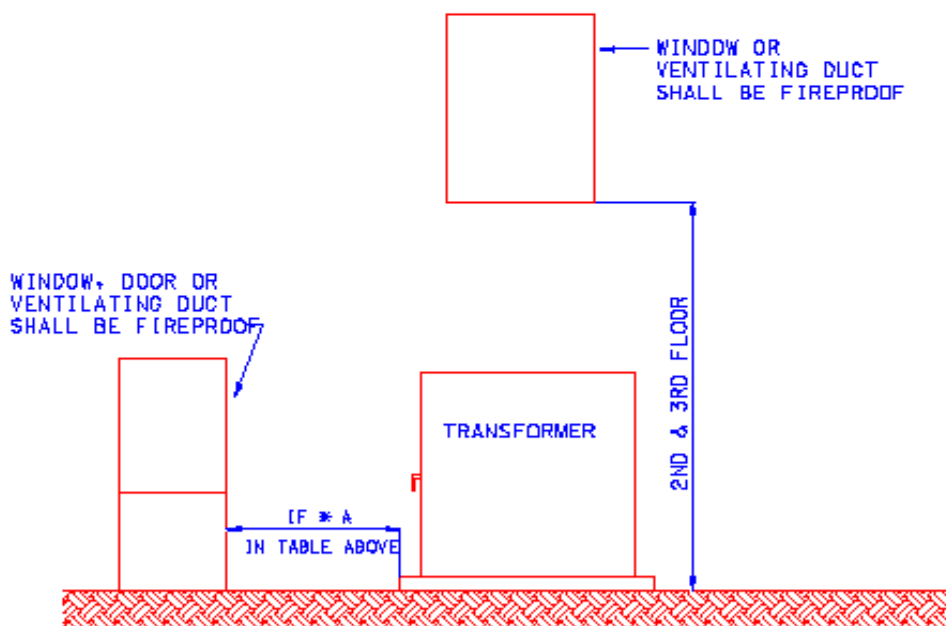
- 1 - PRIMARY CONDUITS TO BE LOCATED AS SHOWN ABOVE.
- 2 - CONDUITS TO STOP AT LEAST 12" BELOW TOP OF PAD.
- 3 - PRIMARY CONDUITS TO BE 48" DEEP.
- 5 - SLEEVES TO SET ON GRAVEL BACKFILL FROM BOTTOM OF DITCH TO PAD BOTTOM.
- 6 - CONDUIT & SLEEVES DAMAGED BEFORE WIRE IS INSTALLED MUST BE REPLACED/REPAIRED BY DEVELOPER.

G D E	PRIMARY VAULT GROUND SLEEVE DETAIL SINGLE AND THREE PHASE	DATE: 2/15/13
		STANDARD NUMBER UPV-1P UPV-3P



<u>DIMENSION A</u>	<u>TRANSFORMER KVA</u>	<u>BUILDING WALL & EAVES</u>
10'	0-75	NOT FIRE RESISTANT
20'	76-333	NOT FIRE RESISTANT
30'	334 AND LARGER	NOT FIRE RESISTANT
3'	ALL SIZES	FIRE RESISTANT (8" BRICK, ETC.)

ELEVATION VIEW



ELEVATION VIEW

GDE

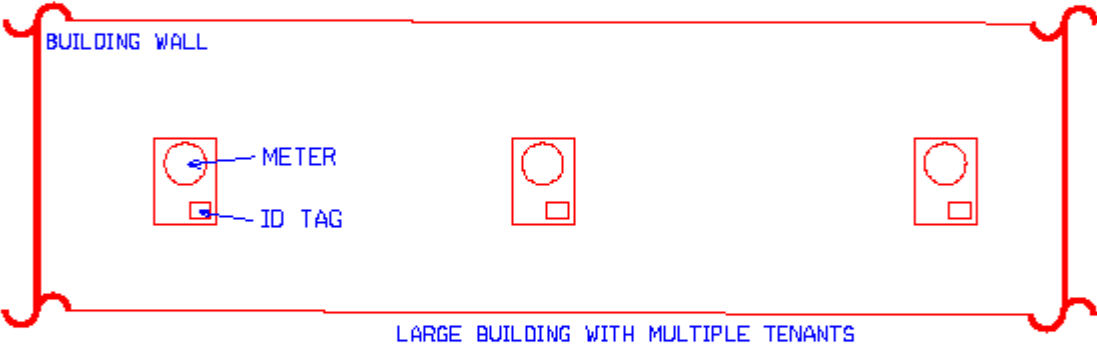
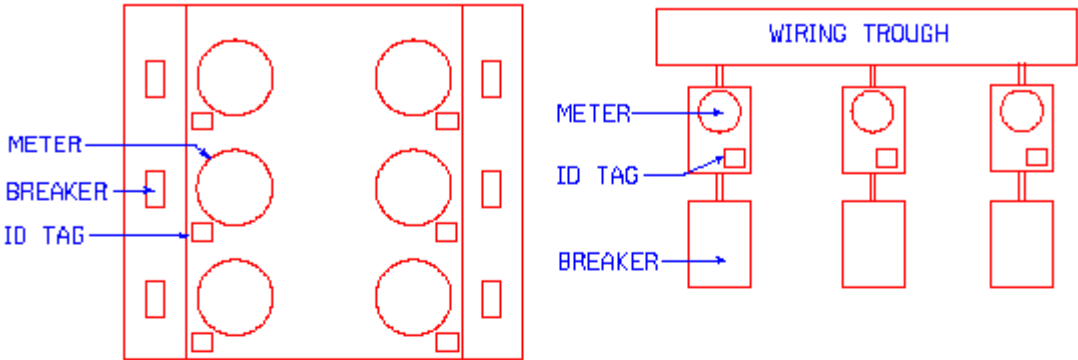
TYPICAL SITING REQUIREMENTS
FOR PAD-MOUNT TRANSFORMER

DATE: 11/30/00

STANDARD
NUMBER

UMT-1

Wiring troughs are no longer allowed, must now use secondary tap boxes.



NOTES:

- 1- Buildings such as apartment buildings, retail strip centers, duplexes, triplexes, town homes, and etc. which have more than one meter shall have all meters labeled to identify the premises they serve.
- 2- The label shall have the apartment/building number or street address.
- 3- The label shall be outdoor rated brass or stainless steel.
- 4- The labels shall be attached to the meter base with rivets or screws.
- 5- The identification numbers/letters shall be stamped or engraved.
- 6- The identification numbers/letters shall have a character size of at least 1/2" in height.

<h1>GDE</h1>	LABELING FOR MULTI-METERED INSTALLATIONS	DATE 7/28/15
		STANDARD NUMBER LAB-1