



Guidelines for Developer Installed Conduit in New Subdivisions

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Preface

This booklet is issued by Bryan Texas Utilities (“BTU”) to acquaint developers and their representatives with the general requirements for electric service supplied by BTU and to serve as a guide to architects, builders, electrical contractors, engineers, and others in the planning of electrical installations as it relates to subdivisions within BTU’s electric service territory. Although BTU Staff made every effort to simplify this guide, developers are advised that specifications contained in this booklet supplement the applicable ordinances, policies, standards, and procedures of the City of Bryan, Texas and BTU and shall be subordinate to these ordinances, policies, standards, and procedures as well as the National Electrical Safety Code in effect at the time.

It is BTU’s intent to work closely with the Developer in providing a technically sound and financially responsible design of electric infrastructure needed to serve their development. To facilitate this, as early as possible during the development’s design stage, the Developer or their agent should contact BTU Line Design at (979) 821-5770 to allow us the opportunity to start our design process.

BTU requires the Developer make adequate electrical service available to each lot within their development as part of the infrastructure construction phase of their subdivision. As lots within each development start construction BTU will extend service from a transformer to a house or business on an individual basis dealing directly with the owner/builder/etc. according to BTU policy.

The Guide will be updated on a regular basis, and its effectiveness will depend on input from the development community. Please feel free to forward any comments or suggestions that would make this guide more useful to the Scheduling Manager at:

Field Engineering and Scheduling Manager
Bryan Texas Utilities
PO Box 1000
Bryan, TX 77805

The information presented is subject to change and will be revised periodically to reflect any changes which may develop. Please refer to our website at www.btutilities.com for additional information as well as an electronic version of this document.

We look forward to working with you as your electrical provider.

I. Overview of BTU Line Extension Policy

A. AIC Calculation

The developer shall be responsible for furnishing and installing, and the expense related there to, of conduit for the installation of all on-site underground development feeder, lateral and service lines utilized to provide electric service to the subdivision. The specification for the conduit and its manner of installation shall be approved by BTU prior to installation and shall follow BTU's conduit installation specifications.

As part of providing service to the development, BTU will provide cable, transformers, connections and switches as necessary at its expense up to \$1,650 per lot. All such costs greater than \$1,650 per lot shall be paid by the developer prior to construction. For overhead construction, BTU will provide the estimate and the developer shall pay a contribution in aid of construction for all costs greater than \$1,650 per lot.

B. Execution of Subdivision Service Contract

As part of the subdivision development process, the developer shall execute BTU's Subdivision Service Contract. This document summarizes the developer's responsibilities as it relates to obtaining electrical service as defined under BTU's line extension policy.

C. Front Lot Construction

All overhead or underground distribution lines in all new subdivisions shall be installed on the front lot lines along public streets. Lines may be installed along rear lot lines if there is an accessible roadway from an alley or road dedicated to the public along the route of the proposed distribution line. The dedication shall include language that prohibits obstructions being placed in the roadway that would prevent ready access, including but not limited to, fences, storage buildings, etc. and are required to be recorded in the deed restrictions for the applicable areas.

D. Relocation of BTU underground electrical lines or equipment after installation.

- a. If the developer changes finish grade after the installation of BTU's underground electrical lines and equipment any relocation necessary to maintain proper depth shall be at the developer's expense.
- b. If, after the installation of BTU's electrical lines and equipment, the developer replats their subdivision and it becomes necessary to relocate any electrical lines or equipment to match new property lines it shall be at the developer's expense.

II. Developer's Responsibility

A. Approved Plat

In order to be served, a subdivision shall have a preliminary plat approved by the appropriate authority in which it is located. Should such subdivision be in the extraterritorial jurisdiction limits of the City of Bryan or College Station or within the City of Bryan or College Station, such plat shall have been approved by the appropriate authority of such jurisdiction. Should such subdivision be outside the extraterritorial of either city, a plat or plan must be filed with the appropriate authority. In all cases plats shall have adequate easements as determined by BTU dedicated for the construction of electrical lines to all of the plots or parcels of land laid out in the plat allowing room for anchors, guys and other appurtenances.

B. Easement Requirements

The developer shall provide, at no cost to BTU, all necessary easements to support all planned electrical lines, either by an approved platted document or separate descriptive document. If needed, the developer is responsible for obtaining easements from adjacent parcels. The owner shall also provide BTU a temporary blanket easement during construction until all plats are filed.

C. Property Lot Lines

Prior to BTU staking the proposed route and the developer installing the conduit, all lot lines shall be surveyed and readily marked. In addition the developer shall certify that all locations of any electrical lines or equipment shall have proper cover at finish grade.

D. Right of Way Clearing

The developer is responsible to clear all right of way to support overhead or underground electric lines and allow accessibility for construction.

E. Installation of Underground Conduit

The developer must ensure their contractor adheres to BTU's conduit installation specifications and coordinates with BTU's inspector to correct any problems as noted. Otherwise, acceptance of conduit system by BTU may be delayed. This, in turn, may delay installation of electrical facilities by BTU. Refer to ***BTU Specifications for Underground Conduit and Equipment Installation*** beginning on page 9 for more information.

F. Street Lights

Payment for the monthly charge for street lighting service shall be the responsibility of the appropriate entity according to city ordinance or, in the absence of a city ordinance, the responsibility of the developer or an entity designated by the developer.

a. Within the City Limits of Bryan

City of Bryan ordinance states that street lights shall be installed at all street intersections and other locations in accordance with the utility standards of BTU. It also states that all street lights shall be installed by BTU at the expense of the developer. BTU requires all street lights to be installed at all street intersections, at the end of dead-end cul-de-sacs that are at least 300' in length and one every 300' along tangent streets. If additional lights are requested by the developer, they must first be approved by the City of Bryan prior to installation. Consult with BTU Line Design on the type street lights available for residential development.

b. Within the City Limits of College Station

City of College Station ordinance states that adequate street lighting for the protection of the public and property shall be installed in all new subdivisions. It also states street lights shall normally be installed at all street intersections and access ways, in cul-de-sacs and at generally three hundred feet intervals or less along tangent streets. BTU typically installs all street lights. However the developer may, at his option, supply and install the street lights. BTU reserves the right to supply and install all street light conductors and terminations. BTU's portion of any part of the street light installation shall be at the developer's expense. Consult BTU Line Design on the types of street lights available.

c. Areas Outside the City Limits of Bryan or College Station

BTU does not require installation of street lights within subdivisions outside the city limits of Bryan or College Station. However, if the developer chooses to install street lights, it will be at the developer's expense. The developer or an entity designated by the developer shall authorize and assume the responsibility for the monthly street light fee paid to BTU. Quantity and location of street lights shall be at the developer's discretion. Consult with BTU Line Design on the type street lights available.

III. BTU's Responsibility

A. Conduit Inspection

The developer or their contractor shall allow BTU the opportunity to inspect the installation of the conduit at various stages of construction to ensure adherence to BTU's specifications. BTU shall be given, at the start of the installation process, a contact person representing the developer's contractor that will coordinate and meet with BTU's inspector as needed. BTU will require an open ditch inspection that includes, but is not limited to, areas where equipment will be set and at least one location in the middle of a run. The developer or their contractor shall provide BTU one working day notice prior to any request for inspection. Upon notification by contractor, BTU inspector will respond by the end of the next business day and report any deficiencies found. All deficiencies must be corrected prior to BTU accepting the conduit installation.

B. Work Scheduling Process

After the conduit installation has been inspected and approved by BTU, installation of the equipment and conductors will be scheduled according to BTU's normal scheduling process. The schedule date shall be understood to be a start date for construction. However, BTU has a responsibility to complete the work in a timely manner consistent with the needs of the developer.

IV. BTU Specifications for Underground Conduit and Equipment Installation

A. General Specifications for Developer Installed Conduit

- A) **Ditch Line** – BTU requires an exclusive ditch line. No other utilities, public or private, shall be allowed in BTU’s ditch line. A minimum distance of 18” horizontal separation is required for the installation of other utilities, public or private, from any BTU owned underground electrical conduit.
- B) **Conduit and Elbows** – All conduit used shall be minimum schedule 40 grey electrical PVC. All conduits shall be properly glued at all couplings and joints.

Description	600A Primary	200A Primary	Secondary to Pedestal	Service to Meter	Street Light
Conduit Size/Type	4” PVC	2” PVC	3” PVC	3” PVC (See Notes 2 & 4)	2” PVC
Elbow Type	Aluminum wrapped with Scotchrap™ 50 (See Note 3)	PVC (See Note 1)	PVC	PVC	PVC
Elbow radius	42”	36”	12”	12”	9”
Maximum Preferred Wire Pull Lengths	500’	700’	150’	200’	300

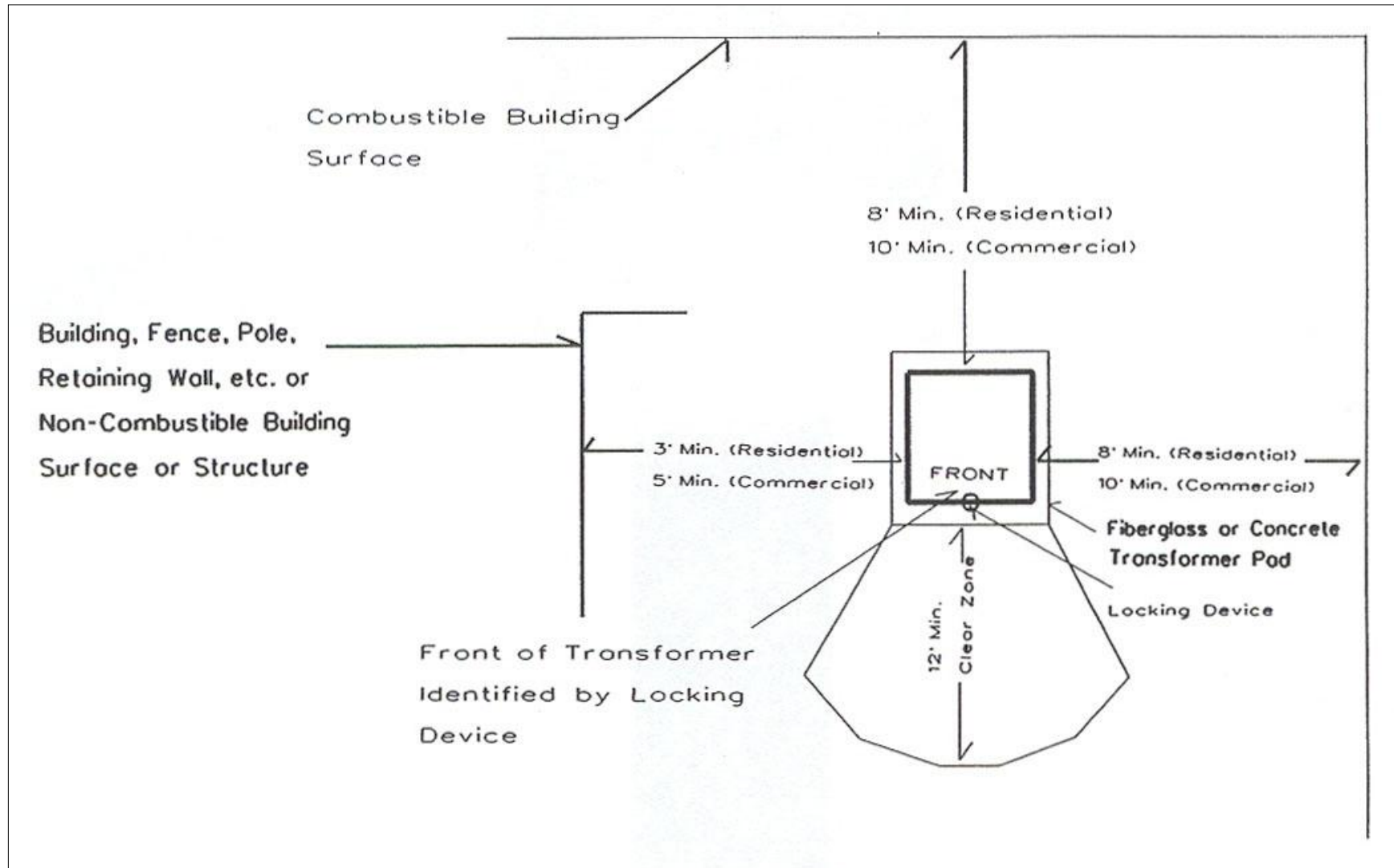
NOTE 1: All primary runs in excess of 300’ and with (3) or more 90 degree elbows OR all runs in excess of 500’ shall have aluminum elbows installed at all ditch line elbow locations and at all equipment locations.

NOTE 2: Single phase services larger than 320 amps and three phase services may require larger PVC conduit to be installed. Consult with BTU Line Design on these installations. Combined lengths of service and secondary to any meter shall not exceed 200 feet.

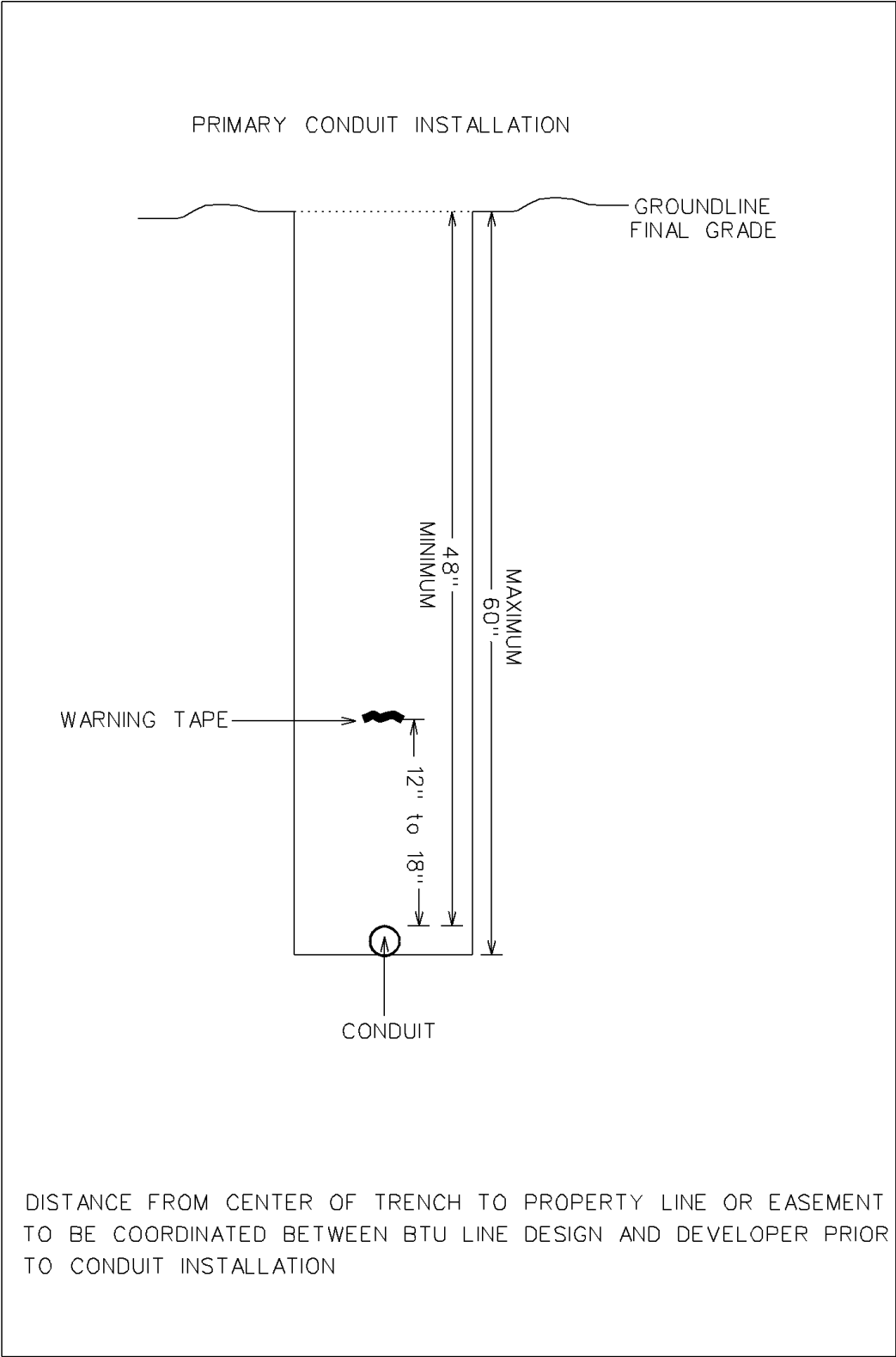
NOTE 3: Information on Scotchrap™ 50 can be found at http://multimedia.3m.com/mws/mediawebsserver?mwsId=SSSSSu7zK1fslxtUNx_UOxMSev7qe17zHvTSevTSeSSSSSS--

NOTE 4: All primary and secondary stub outs shall be extended a minimum of 10’ from transformer or pedestal. End of stub out shall be marked with scrap conduit painted red to denote electric.

B. Pad Mounted Transformer Clearances

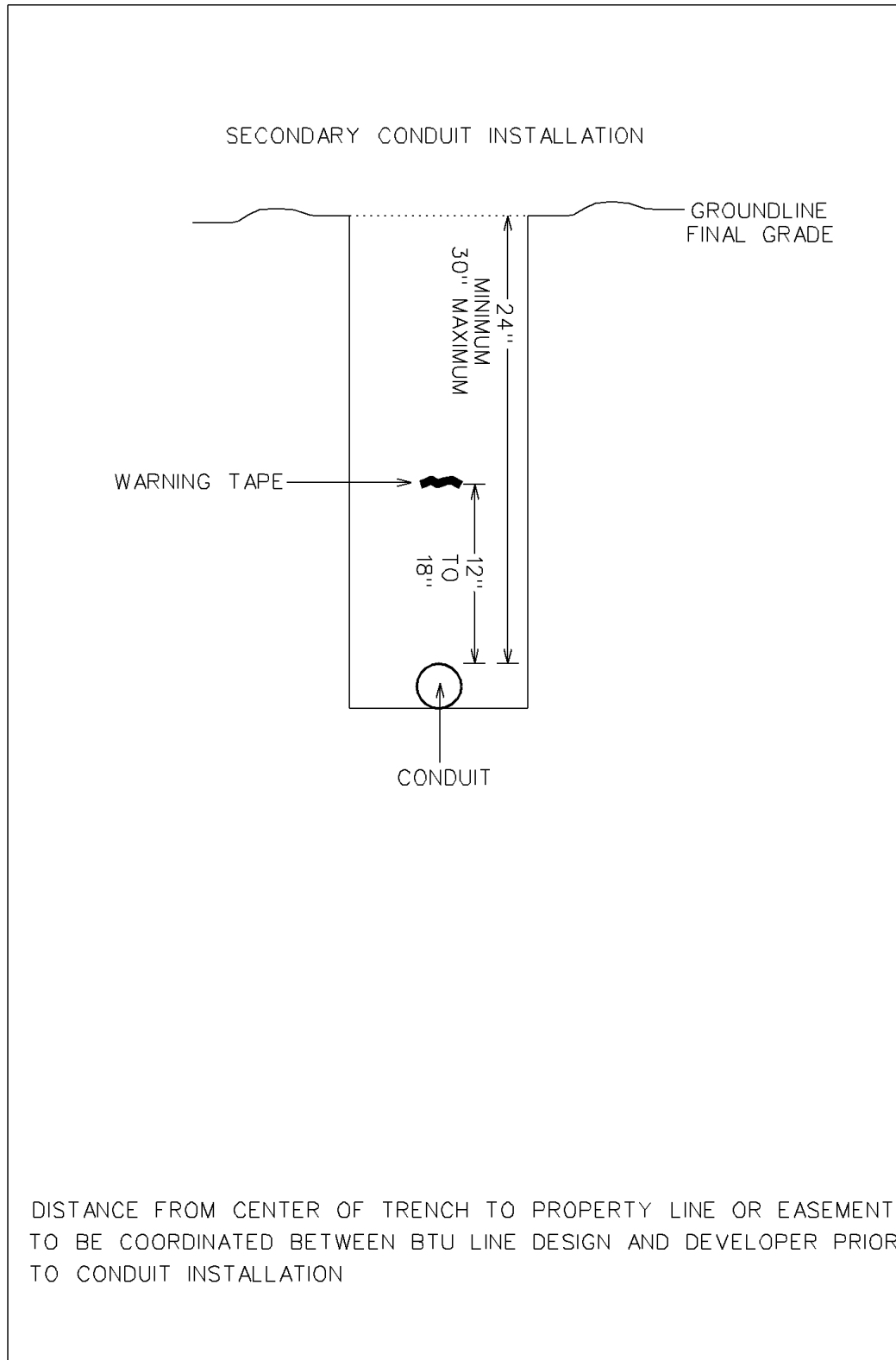


C. Primary Conduit Installation



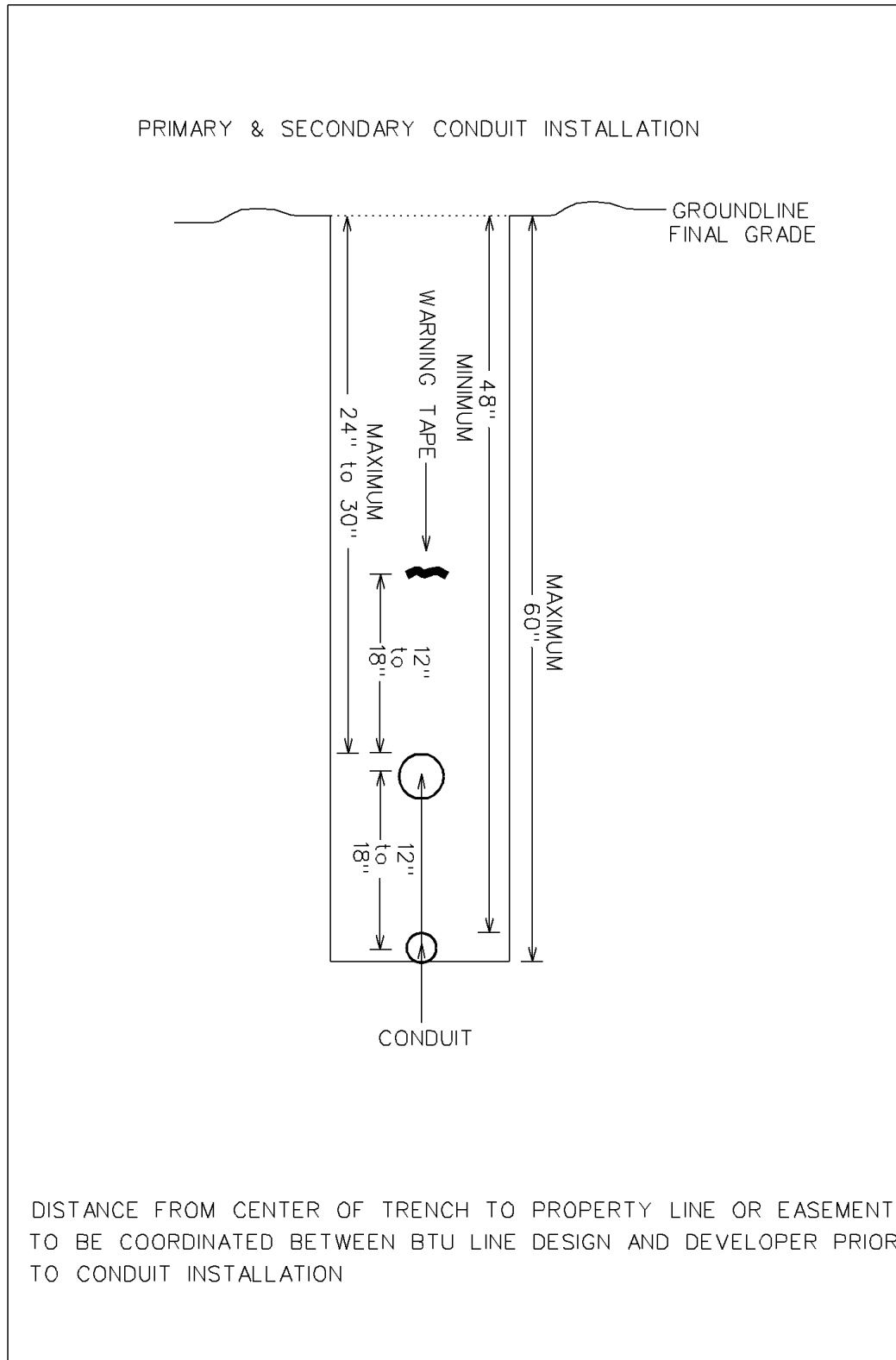
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D. Secondary Conduit Installation



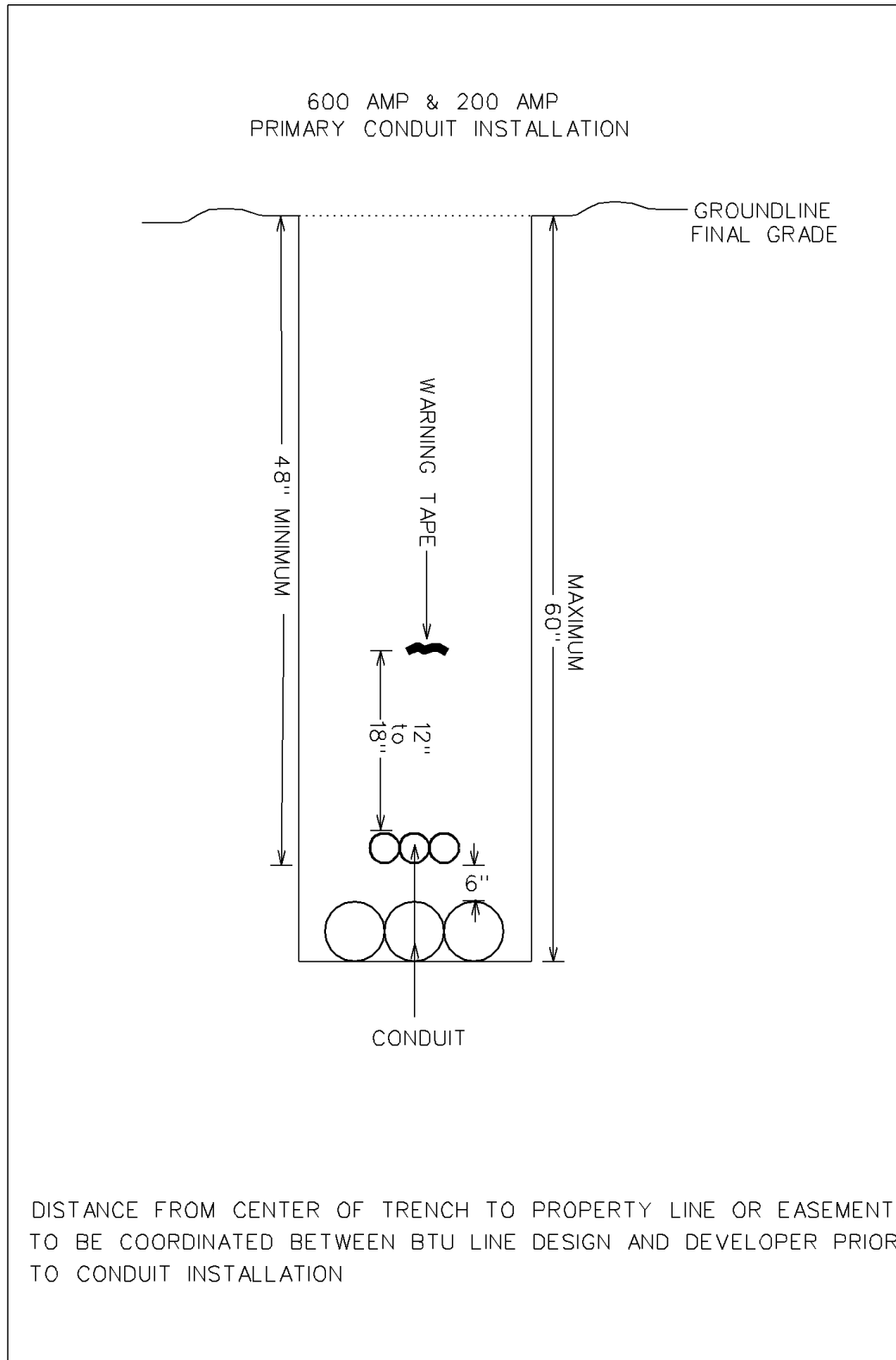
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E. Primary and Secondary Conduit Installation in the Same Ditch Line



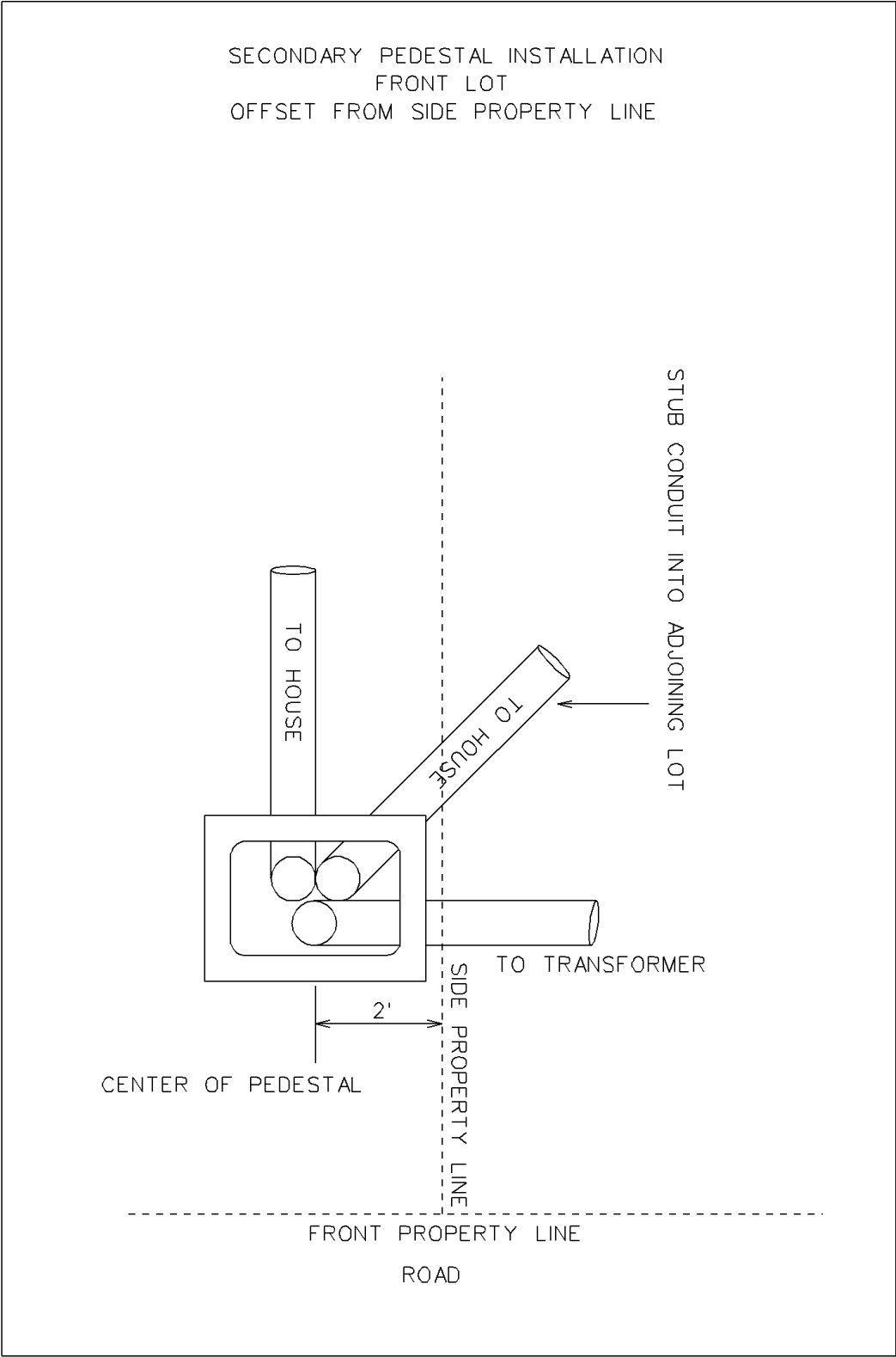
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F. 600 Amp and 200 Amp Primary Conduit Installation in the Same Ditch Line



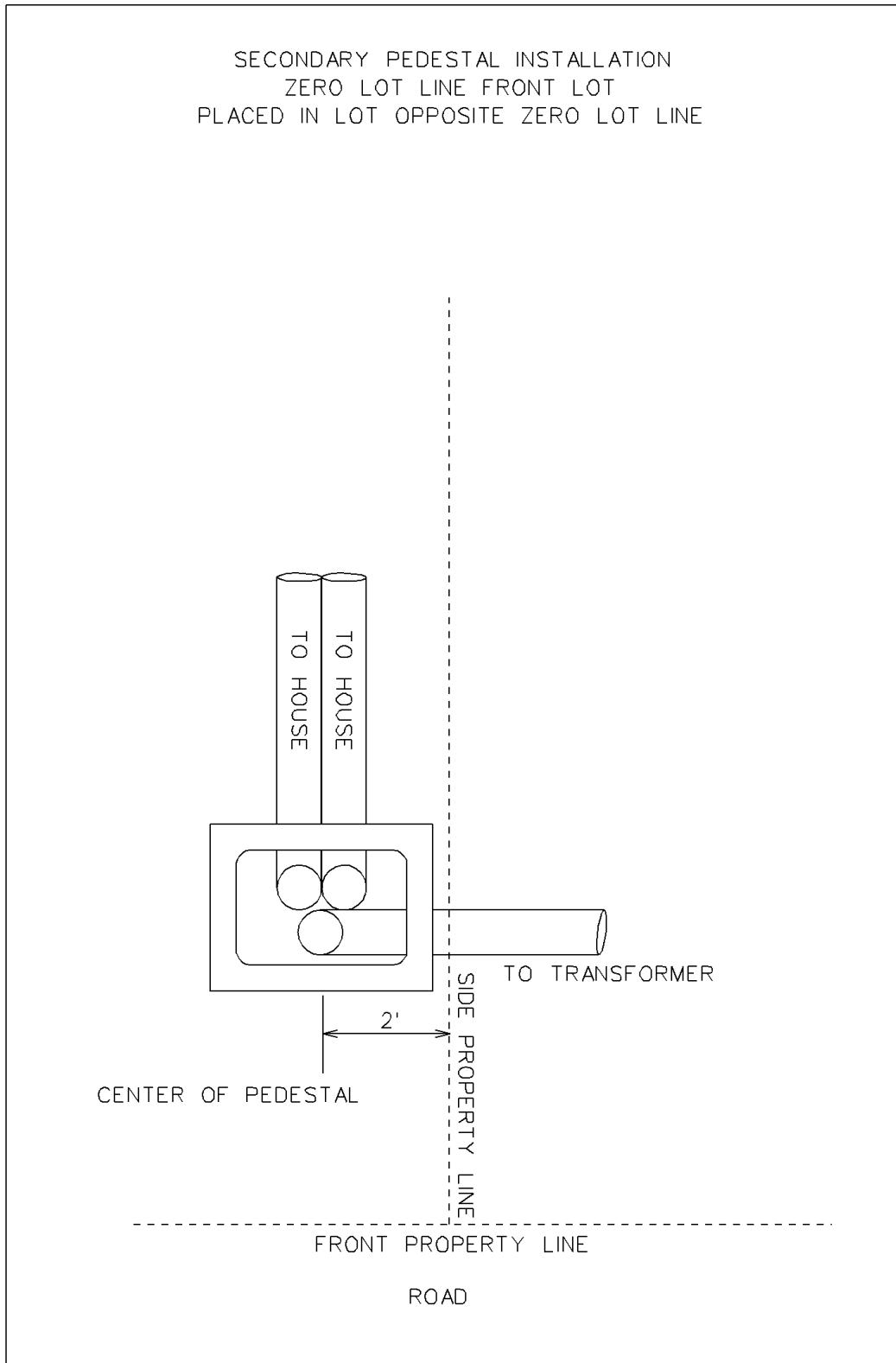
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G. Front Lot Secondary Pedestal Installation Offset from Property Line



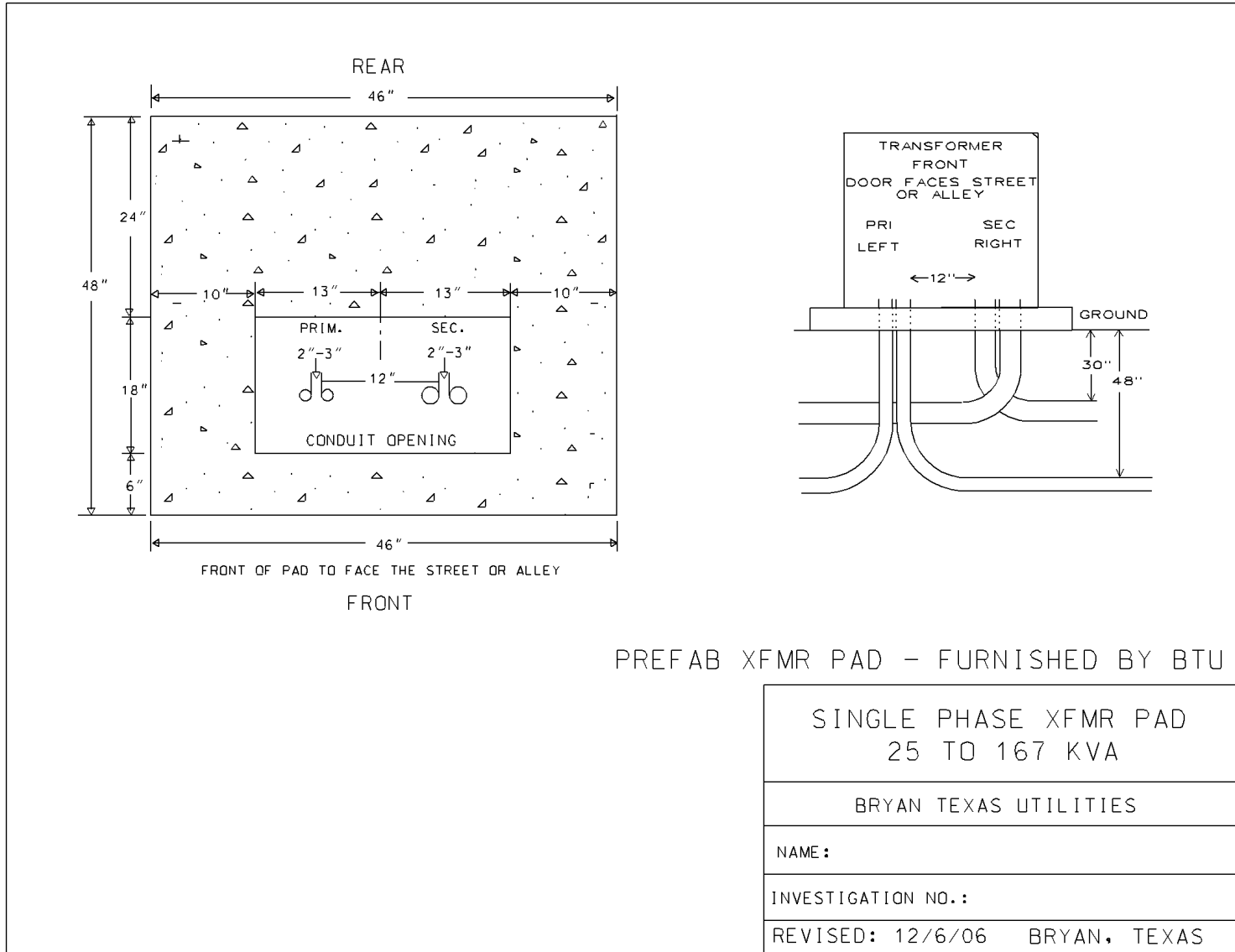
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H. Front Lot Secondary Pedestal Installation with Zero Lot Lines



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I. BTU Transformer Specification for Single Phase Transformer Pad

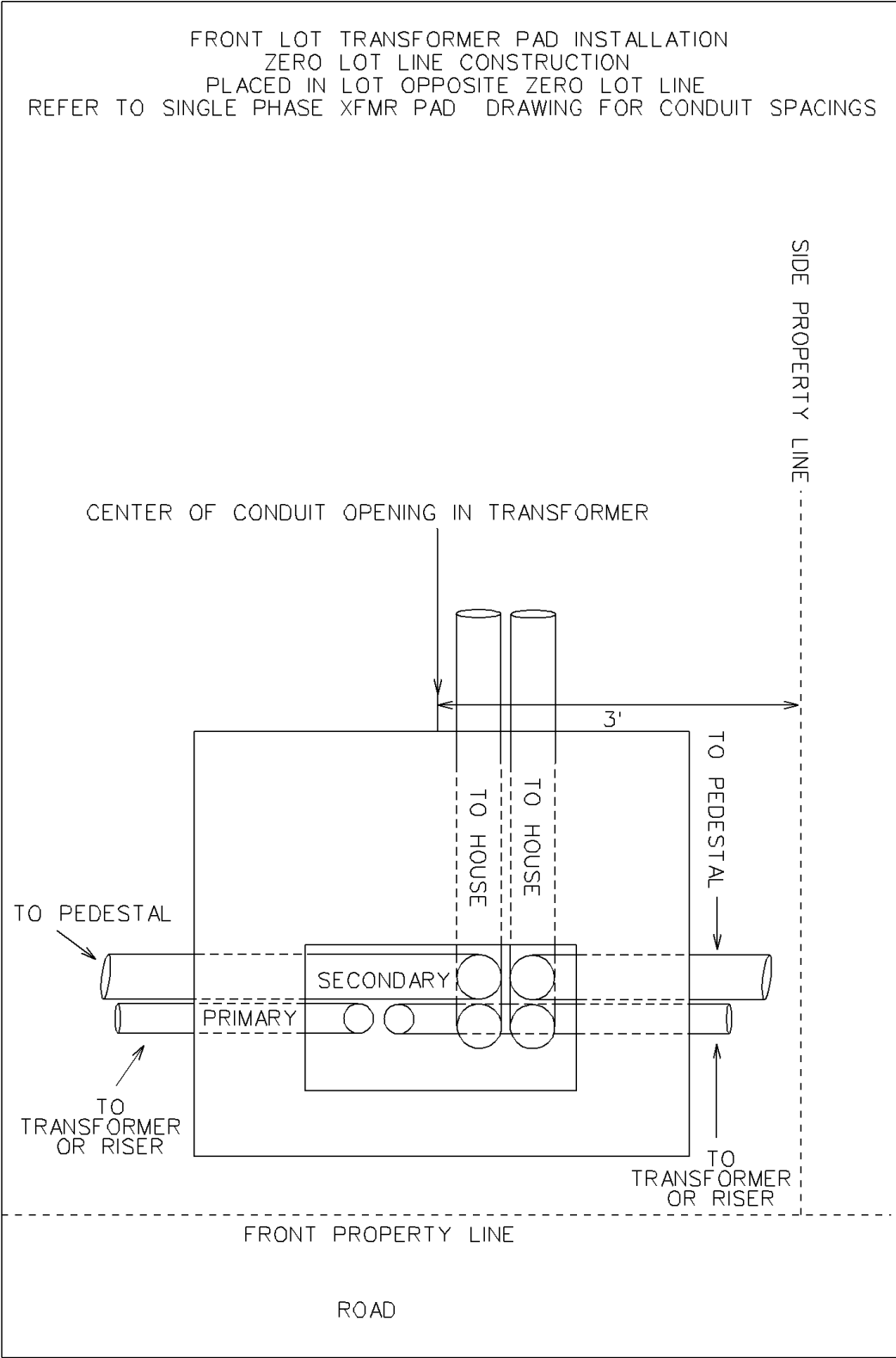


PREFAB XFMR PAD - FURNISHED BY BTU

SINGLE PHASE XFMR PAD 25 TO 167 KVA	
BRYAN TEXAS UTILITIES	
NAME :	
INVESTIGATION NO. :	
REVISED: 12/6/06	BRYAN, TEXAS

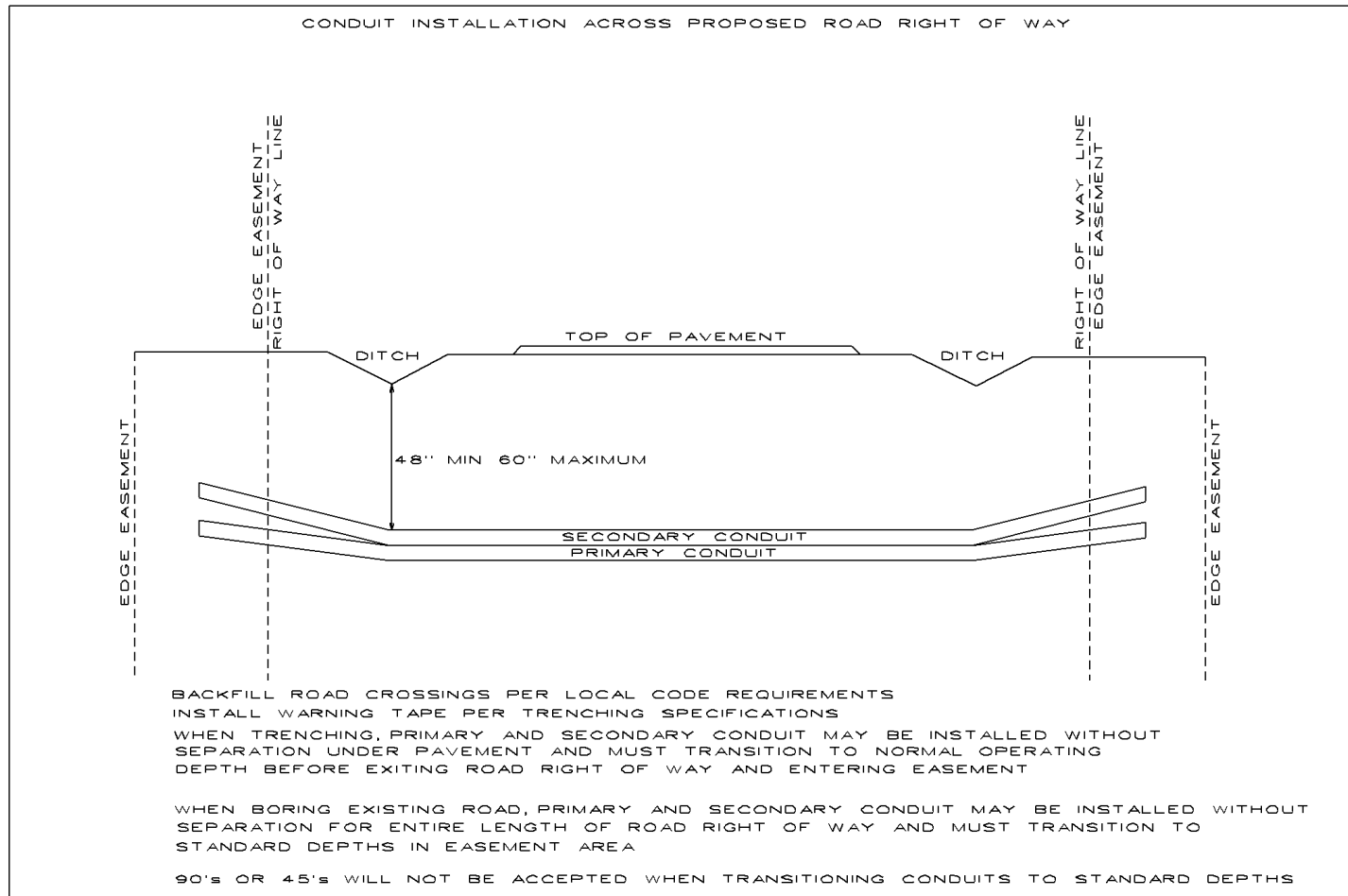
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K. Conduit Location for Single Phase Transformer Pad With Zero Lot Line



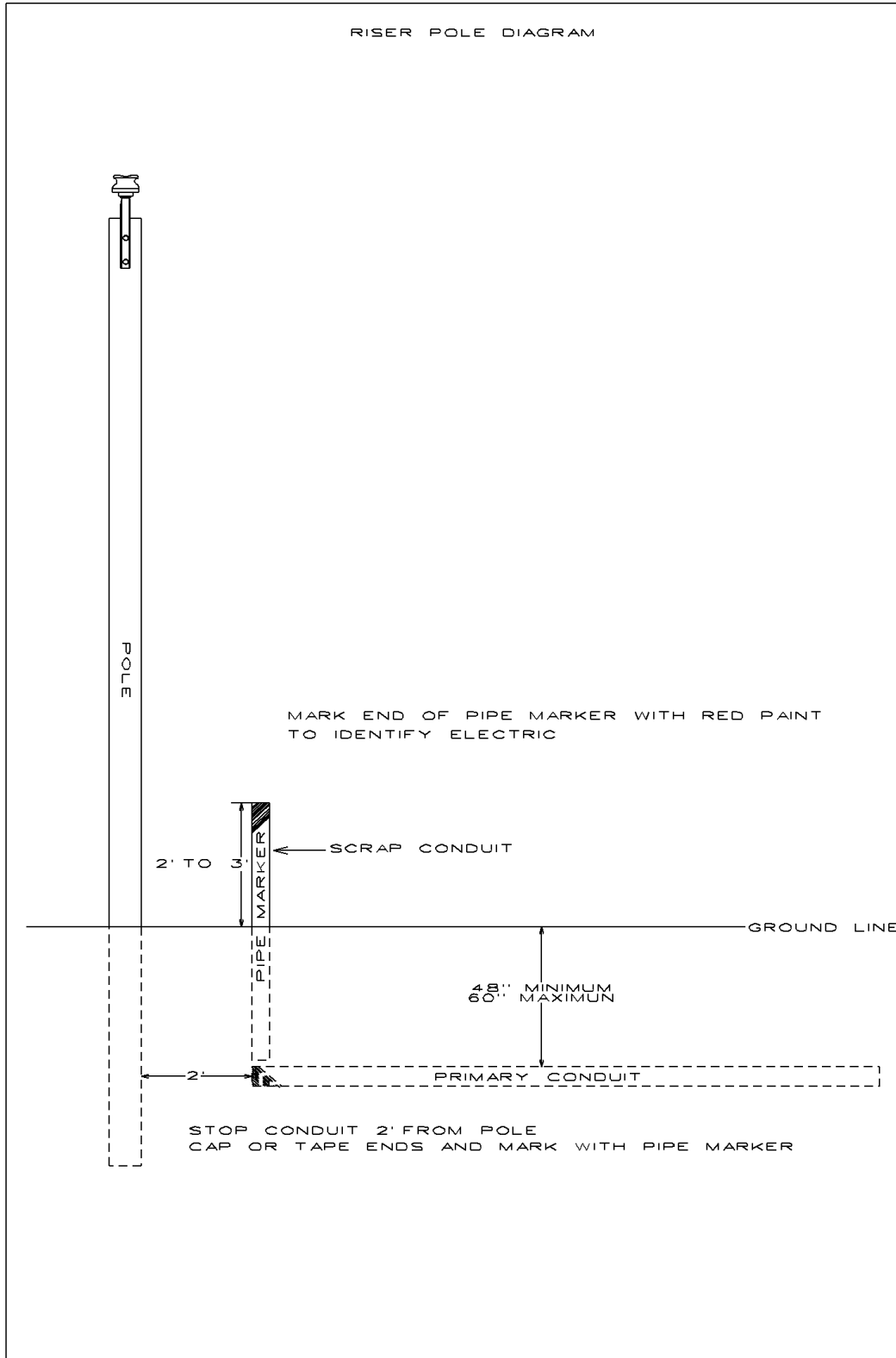
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L. Conduit Installation for Crossing a Proposed Road Right of Way



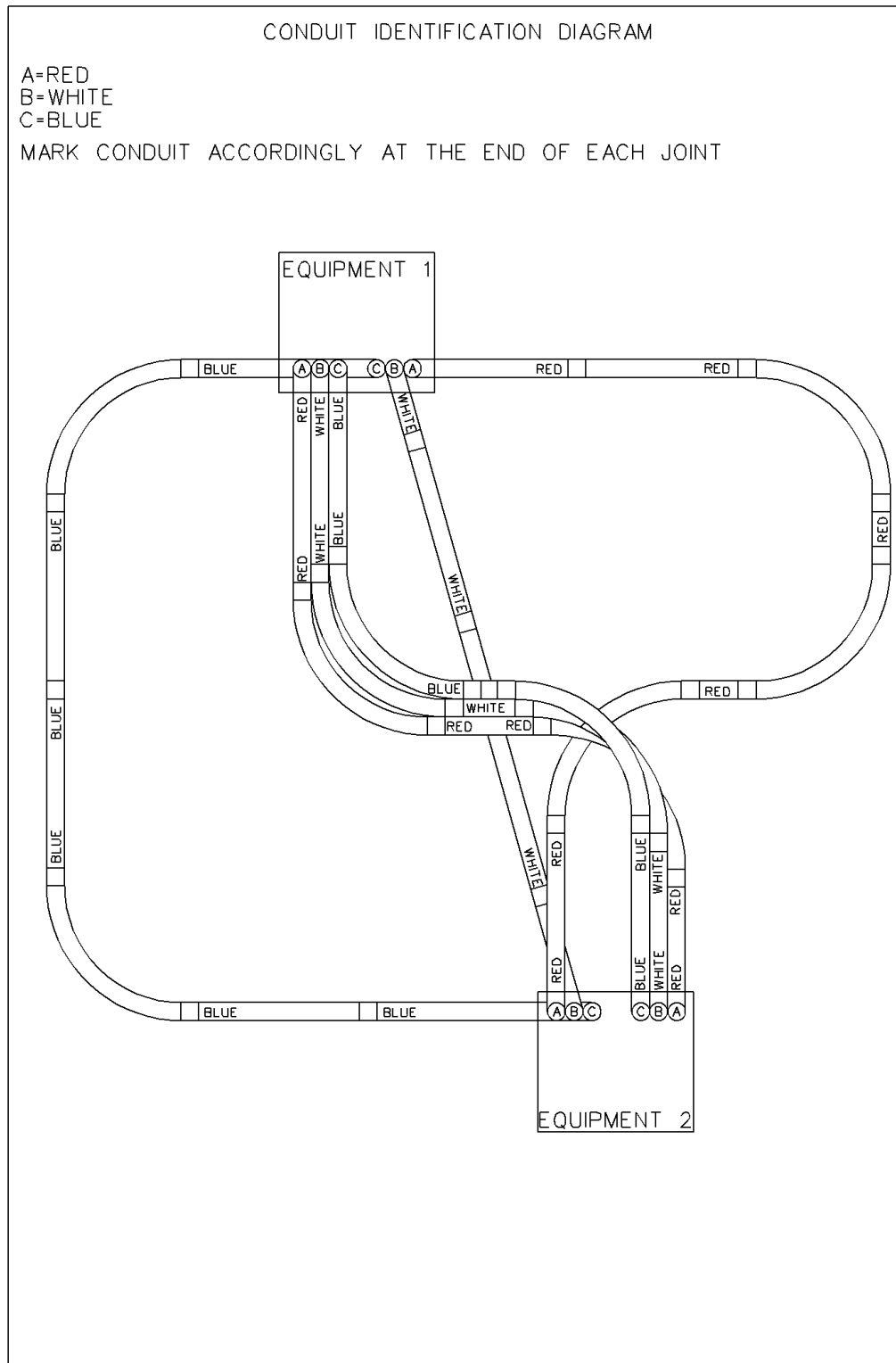
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M. Conduit Installation at a Proposed Riser Pole



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N. Conduit Identification Diagram



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V. Overview of Subdivision Design & Construction Process

I. Preliminary Design

Attendees: Developer or developer's representative, BTU personnel

- A. Obtain preliminary development information from the developer including the following:
 - i. CAD design files of development showing property lines,
 - ii. easements,
 - iii. existing BTU facilities,
 - iv. water lines,
 - v. sewer lines,
 - vi. storm sewer lines,
 - vii. phone lines,
 - viii. cable lines, and
 - ix. gas lines including pipelines
- B. Discuss design considerations and cost drivers including zero lot lines
- C. Discuss developer requirements including easement clearing and access, construction schedule and developer installed pipe, lighting requirements and BTU's requirements for underground
- D. Discuss the need for property pins and proper control to be in place prior to BTU line designer staking the job

II. BTU Preliminary Design Meeting

Attendees: BTU personnel

- A. Discuss design, right of way clearing, easement requirements and equipment locations
- B. Prepare preliminary design
- C. Notify Warehouse of major material items with special material request

III. Developer Review BTU Preliminary Design Meeting

Attendees: Developer or developer's representative, BTU personnel

- A. Discuss preliminary design with developer
- B. Discuss right of way requirements for preliminary design
- C. Discuss easement requirements for preliminary design
- D. Discuss street lighting & select a street light
- E. Discuss developer responsibilities for installing pipe and guidelines to follow for installation

IV. Detail Design Meeting

Attendees: BTU personnel

- A. Prepare detail design
- B. Schedule detail design meeting with BTU supervisors to review design prior to preparing cost estimate
- C. Prepare cost estimate and aid in construction package to including the following if applicable:
 - i. Aid in construction letter

- ii. Subdivision contract
- iii. Customer installed pipe guidelines
- iv. Application for service
- v. Lighting Agreement
- vi. Easements

D. Send detailed material notification to warehouse including all SEDC numbers

V. Mandatory Pipe Installation Preconstruction Meeting

Attendees: Developer or developer's representative, developer's contractor, BTU personnel

- A. Review final design including street lighting
- B. Discuss developer installed pipe guidelines with developer and his contractor
- C. Confirm property pins and proper control are in place
- D. Identify "hot spots"
- E. Discuss right of way clearing, proposed start date, and who to contact for inspection
- F. Discuss final grade concerns with developer
- G. Discuss conduit installation start date, inspection process, inspection check list and who to notify for inspection
- H. Obtain developer contractor information for pipe installation
- I. Discuss how all items that developer is responsible for to be complete before BTU or its contractor will perform BTU portion of construction

VI. BTU Construction Meeting with Developer

Attendees: Developer or developer's representative, developer's contractor, BTU personnel

- A. Confirm developer responsibilities are 100% complete
- B. Identify if BTU or a BTU contractor will perform the work
- C. Prepare construction schedule acceptable to all parties
- D. Notify developer of who to contact with problems questions or concerns
- E. Developer to locate developer installed facilities such as water, sewer, storm sewer, etc. prior to BTU digging

VII. Post Construction Meetings

Attendees: Developer or developer's representative, developer's contractor, BTU personnel

- A. Schedule post construction meeting with developer to address any problems, questions or concerns
- B. Schedule post construction meeting with BTU contractor to address an problems, questions or concerns

VIII. Project Review

Attendees: BTU personnel

- A. Review project and identify solutions to problems encountered in project
- B. Modify process if needed to provide better customer service

VI. Index of Frequently Called Numbers at BTU

Outage Line:.....(979) 822-3777
Line Design:.....(979) 821-5770
Line Design Fax:.....(979) 821-5796
Scheduling Manager:(979) 821-5857
Conduit Inspection (Manager – Underground Construction)(979) 821-5930
Streetlight Outage(979) 822-3777
New Service Applications:(979) 821-5781
Customer Service General Number:(979) 821-5700
Temporary Construction Pole Connections(979) 821-5770
Solar Rebates, Whole House Surge Protection:.....(979) 821-5717

NOTES

Bryan Texas Utilities

Physical Address

205 E. 28th Street
Bryan, TX 77803

Mailing Address

PO Box 1000
Bryan, TX 77805

Telephone.....(979) 821-5715

Fax.....(979) 821-5795

Line Design Telephone(979) 821-5770

Line Design Fax.....(979) 821-5796

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