

UNITED STATES DEPARTMENT OF AGRICULTURE  
Rural Electrification Administration

**BULLETIN 1724D-103**

**SUBJECT:** System Planning Guide, System Mapping Guide

**TO:** REA Electric Borrowers and REA Electric Staff

**EFFECTIVE DATE:** Date of Approval

**EXPIRATION DATE:** Three years from effective date

**OFFICE OF PRIMARY INTEREST:** Distribution Branch, Electric Staff  
Division

**FILING INSTRUCTIONS:** This Bulletin replaces Bulletin 40-4, "Guide Mapping and Location Numbering, Electric Distribution Systems," dated July 8, 1974, which was rescinded by REA on December 18, 1991. File along with 7 CFR 1724 in the blue binders.

**PURPOSE:** The purpose of this bulletin is to provide guidance to borrowers and engineers for the preparation of various maps and system diagrams required for facilities identification and location, planning and the operations of the electric distribution systems.

James B. Huff, Sr.

07/19/93

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Administrator

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Date

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1. Introduction

2. Purpose

Exhibit: Mapping Symbols

INDEX: System Planning Guide

**1. Introduction:** A series of symbols, and their definitions, pertaining to electrical lines, equipment, facilities and appurtenances used on electric utility power systems, and geographic and political mapping symbols and their definitions has been developed. They are attached to this bulletin as "Mapping Symbols."

**1.1** It is suggested that REA electric borrowers adopt these symbols as a standard and use them on maps and system diagrams which are furnished to REA for various reasons.

**1.2** It is anticipated that the adoption and use of these standard symbols will improve clarity and expedite reviews of maps and system diagrams furnished to REA.

**2. Purpose:** The purpose of this bulletin is to provide guidance to borrowers and engineers for the preparation of various maps and system diagrams required for facilities identification and location, planning and the operations of the electric distribution systems.


POLE 

MEMBER 

IDLE SERVICE 

LIGHT 


FUSE  

SWITCH add (no) 

ABS                      ADD      ABS OR GOAB

MOTOR OP.              ADD      MO

LOAD BREAK            ADD      LB

SUB/METERING POINT      SUB NUMBER      MP 

NAME

MVA

VOLTAGE

GENERATOR                      UNIT NUMBER      

NAME

MW

TYPE

TRANSMISSION LINE                      OWNER

VOLTAGE

SECONDARY JUNCTION PEDESTAL 

SECONDARY JUNCTION PEDESTAL UG 

VOLTAGE DROP BLOCK

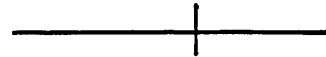
UNREG	12.7
REGULATED	4.2
MILES FROM SOURCE	27.2

PRIMARY/AUTO TRANSFORMER



ALL WIRE ACSR UNLESS OTHERWISE LABELED

SINGLE PHASE



V PHASE



THREE PHASE

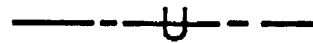


SECONDARY



PRIMARY UNDERGROUND

SINGLE PHASE



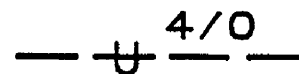
V PHASE



THREE PHASE



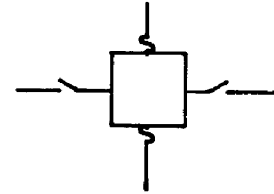
SECONDARY UNDERGROUND



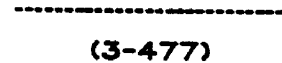
JUNCTION BOXES



SWITCH BOX



PROPOSED  
CIRCLE/BOX/CLOUD AROUND PROJECT



OPEN



CAPACITOR SHUNT



CAPACITOR SERIES



REGULATORS



STATION BREAKER



OCB



OCR  
VWVE

RECLOSERS



OR



SECTIONALIZER



1 - 35

TRANSFORMER



PAD MOUNTED TRANSFORMER



# BOUNDARIES

STATE LINE & INTERNATIONAL BOUNDARY



COUNTY LINE



TOWNSHIP LINE



SECTION LINE



LATITUDE & LONGITUDE LINES



RESERVATIONS, NATIONAL & STATE FORESTS & PARKS



PROJECT BOUNDARY



TERRITORY BOUNDARIES



CITY LIMITS



# CULTURAL FEATURES

INTERSTATE HIGHWAY



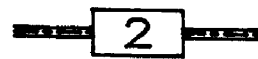
U.S. ROUTE



STATE ROAD



FARM TO MARKET ROAD



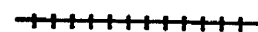
COUNTY ROAD



UNIMPROVED ROAD



RAILROAD



ELECTRIC RAILWAY



TELEPHONE



FIBER OPTIC TRUNK LINES



BRIDGE



CITIES AND TOWNS (within corporate limits)



TOWNS AND VILLAGES





STATE CAPITAL



COUNTY SEAT



HOUSES AND OTHER BUILDINGS



SCHOOL



CHURCH



HOSPITAL



FACTORY



CAMP



DOCK



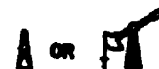
CEMETERY



WINDMILL



OIL OR GAS WELLS



MINE OR QUARRY



PIPE LINE

PPPPPP

AIRPORT



LOCATED OR LANDMARK OBJECT



TRIANGULATION STATION  
USGS BENCH MARK

ADD B.M.



