



WEC AND MEMBER SECONDARY AND SERVICE WIRE TABLE (Lines energized under 750 volts)

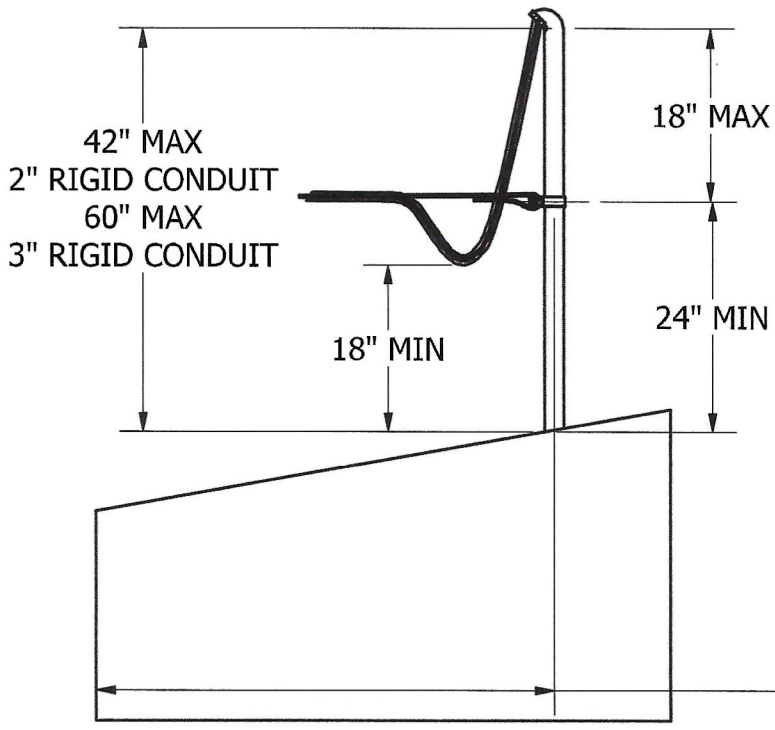
| Description | <u>Minimum</u> Clearance |
|--|---|
| Crossing Railroad (Active or Inactive) Easement | 24'-6" |
| Crossing Public Roadway or Areas Subject To Truck Traffic | 18'-0" |
| Crossing Residential Driveways, Parking Lots, and Alleys | 16'-0" |
| Crossing Commercial Driveways, Parking Lots, and Alleys | 18'-0" |
| Crossing Swimming Pool (NOT RECOMMENDED, SUBJECT TO RELOCATION FEES) | 22'-6" above water surface or diving tower base |
| Crossing Swimming Pool (NOT RECOMMENDED, SUBJECT TO RELOCATION FEES) | 14'-6" above highest point of diving tower |
| Spaces Limited To Pedestrian Traffic | 12'-6" |
| Water Less Than 20 Acres (No Boating) | 18'-0" |
| Water Less Than 20 Acres (Boating) | 23'-0" |
| Water 20 To 200 Acres (No Boating) | 26'-0" |
| Water 20 To 200 Acres (Boating) | 31'-0" |
| Water 200 To 2000 Acres | 37'-0" |
| Water Over 2000 Acres | 43'-0" |
| Crossing Limited Access Roof(s) (NOT RECOMMENDED, SUBJECT TO RELOCATION FEES) | 12'-0" above highest point |
| Crossing Open Access Roof(s) (NOT RECOMMENDED, SUBJECT TO RELOCATION FEES) | 12'-6" above highest point |
| Service Connections That Cannot Be Reached From A Ladder Placed On the Ground (Service Going Over Garage or New Addition) | WILL NOT BE CONNECTED WILL BE DISCONNECTED REFER TO FIGURE 1 |
| <u>ADDITIONAL HEIGHT (DISTANCE ADDERS) MAY BE REQUIRED DUE TO PREVAILING CONDITIONS</u> | |

WEC PRIMARY WIRE TABLE (Lines energized from 750 to 22,000 volts)

| Description | <u>Minimum</u> Clearance |
|--|--|
| Crossing Railroad (Active or Inactive) Easement | 26'-6" |
| Crossing Public Roadway or Areas Subject To Truck Traffic | 18'-6" |
| Crossing Driveways, Parking Lots, and Alleys | 18'-0" |
| Crossing Swimming Pool (NOT RECOMMENDED, SUBJECT TO RELOCATION FEES) | 25'-0" above water surface or diving tower base |
| Crossing Swimming Pool (NOT RECOMMENDED, SUBJECT TO RELOCATION FEES) | 18'-0" above highest point of diving tower |
| Spaces Limited To Pedestrian Traffic | 16'-6" |
| Water Less Than 20 Acres (No Boating) | 20'-6" |
| Water Less Than 20 Acres (Boating) | 25'-6" |
| Water 20 To 200 Acres (No Boating) | 28'-6" |
| Water 20 To 200 Acres (Boating) | 33'-6" |
| Water 200 To 2000 Acres | 39'-6" |
| Water Over 2000 Acres | 45'-6" |
| Crossing Limited Access Roof(s) (NOT RECOMMENDED, SUBJECT TO RELOCATION FEES) | 16'-6" above highest point |
| Crossing Open Access Roof(s) (NOT RECOMMENDED, SUBJECT TO RELOCATION FEES) | 18'-6" above highest point |
| <u>ADDITIONAL HEIGHT (DISTANCE ADDERS) MAY BE REQUIRED DUE TO PREVAILING CONDITIONS</u> | |

EFFECTIVE DATE

FOR ALL UPGRADES AND NEW CONSTRUCTION **AFTER JULY 15, 2013**

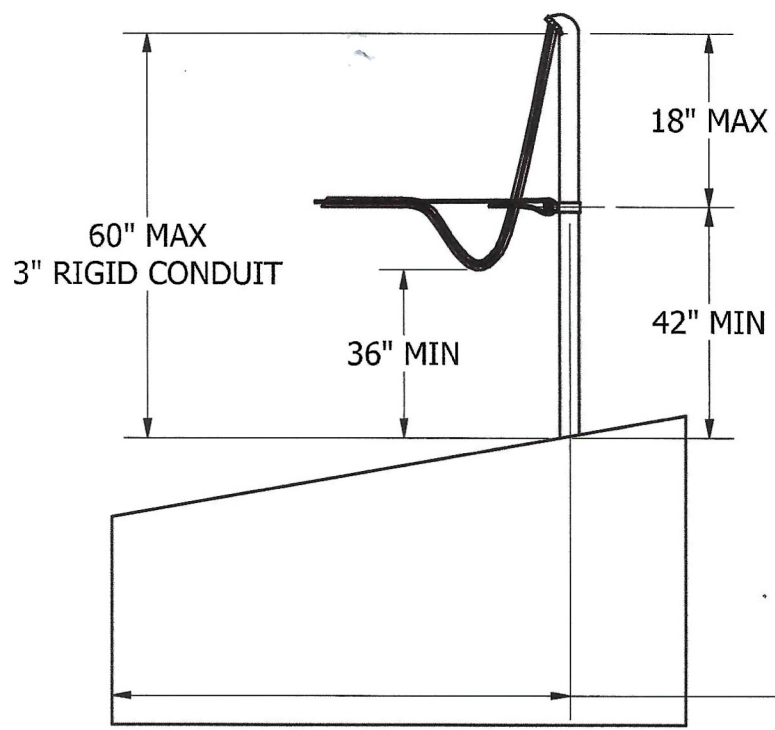


18 INCH MINIMUM CLEARANCE ABOVE ROOF INCLUDING SERVICE WIRES AND DRIP LOOP

CONDUIT SHALL BE GALVANIZED RIGID METAL CONDUIT OR EQUIVALENT PER CURRENT NEC CODE

REQUIRED IF BOTH OF THE FOLLOWING APPLY:

SERVICE MAST LESS THEN 4 FOOT FROM ROOF EDGE.
WEC SERVICE WIRES CROSS LESS THEN 6 FEET OF ROOF LINE.



36 INCH MINIMUM CLEARANCE ABOVE ROOF INCLUDING SERVICE WIRES AND DRIP LOOP


CONDUIT SHALL BE GALVANIZED RIGID METAL CONDUIT OR EQUIVALENT PER CURRENT NEC CODE

REQUIRED IF EITHER OF THE FOLLOWING APPLY:

SERVICE MAST MORE THEN 4 FOOT FROM ROOF EDGE.
WEC SERVICE WIRES CROSS MORE THEN 6 FEET OF ROOF LINE.

IF ATTACHMENT HEIGHT REQUIRES MORE THE 60 INCHES OF MAST ABOVE ROOF THEN A METER POLE SERVICE IS REQUIRED

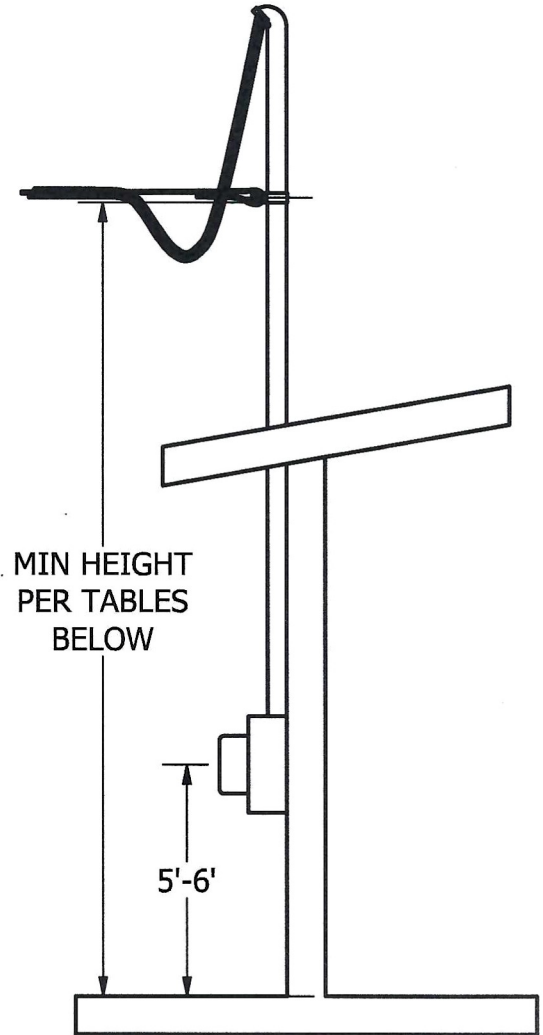
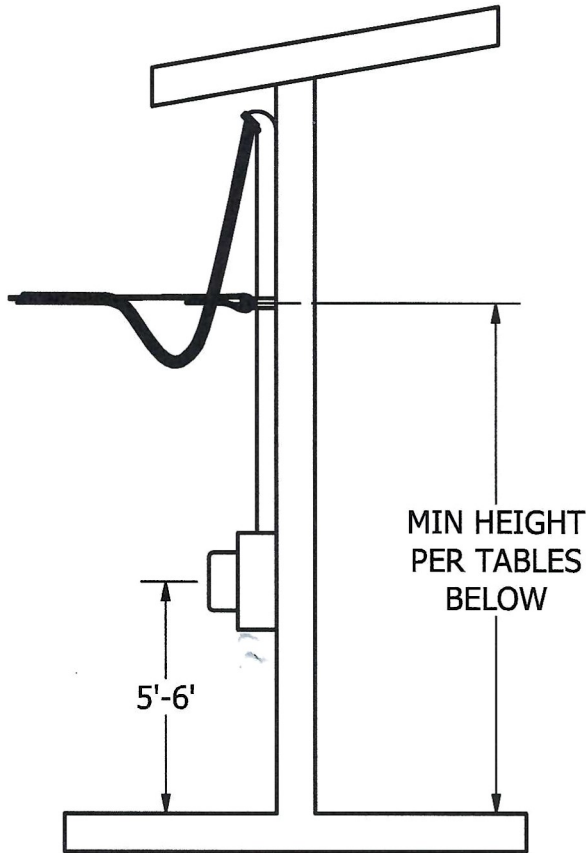
DATE EFFECTIVE:
2/3/2020



**Warren Electric
Cooperative, Inc**

320 EAST MAIN ST 814-563-7548
YOUNGSVILLE, PA 16371

| | | | |
|---|--|------------------------|--------------|
| TITLE 120/240V SINGLE PHASE SERVICE ON STRUCTURE UP TO 320 AMP ROOF TOP CLEARANCE HEIGHTS | | | |
| SIZE A | | DWG NO WEC-SVC-MAST | REV 0 |
| SCALE 0.05 : 1 | | | SHEET 1 OF 4 |




| SERVICE WIRE HEIGHT NOT CROSSING ROADS OR DRIVEWAYS | | | |
|---|--------|--------|--------|
| WIRE SIZE | #2 | 2/0 | 4/0 |
| 30-40' | 16'-0" | 16'-0" | 16'-0" |
| 41-70' | 17'-0" | 17'-3" | 17'-6" |
| 71-95' | 17'-6" | 17'-9" | 18'-0" |
| 96-115' | 18'-0" | 18'-0" | |
| 116-150' | 19'-0" | | |

| SERVICE WIRE HEIGHT CROSSING ROADS OR DRIVEWAYS | | | |
|---|--------|--------|--------|
| WIRE SIZE | #2 | 2/0 | 4/0 |
| 30-40' | 18'-0" | 18'-0" | 18'-0" |
| 41-70' | 19'-0" | 19'-3" | 19'-6" |
| 71-95' | 19'-6" | 19'-9" | 20'-0" |
| 96-115' | 20'-0" | 20'-0" | |
| 116-150' | 21'-0" | | |

HEIGHTS IN THE ABOVE TABLES ARE THE MINIMUM REQUIRED.

1 FOOT ADDITIONAL HEIGHT REQUIRED FROM TELEVISION/COMMUNICATIONS CABLES NEAR POINT OF ATTACHMENT.

DATE EFFECTIVE:
2/3/2020



**Warren Electric
Cooperative, Inc**

320 EAST MAIN ST 814-563-7548
YOUNGSVILLE, PA 16371

TITLE
120/240V SINGLE PHASE SERVICE ON STRUCTURE UP
TO 320 AMP
SERVICE ATTACHMENT HEIGHT

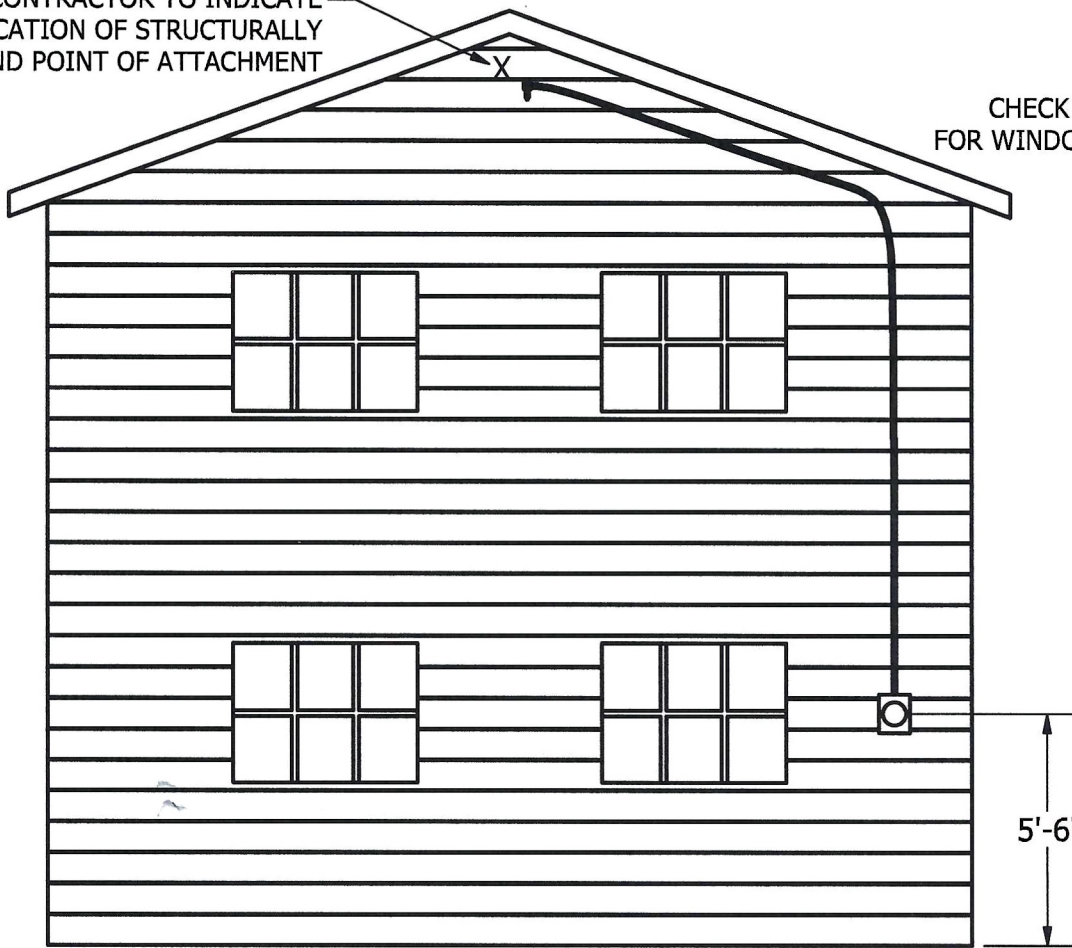
| | | |
|-----------|------------------------|----------|
| SIZE A | DWG NO WEC-SVC-MAST | REV 0 |
|-----------|------------------------|----------|

SCALE 1 / 20 SHEET 2 OF 4

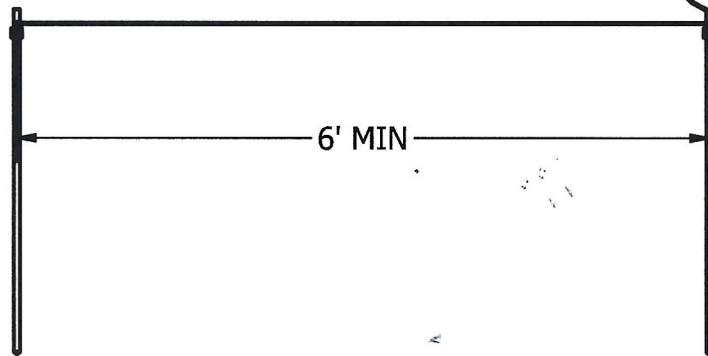
MULTI-STORY UNDER-EAVE MOUNT

MEMBER/CONTRACTOR TO INDICATE WITH AN 'X' LOCATION OF STRUCTURALLY SOUND POINT OF ATTACHMENT

CHECK CURRENT CODE FOR WINDOW CLEARANCES



GROUNDING ELECTRODE CONDUCTOR TO SERVICE PANEL/DISCONNECT



(2) 5/8" X 8' COPPER CLAD GROUND RODS

DATE EFFECTIVE:
2/3/2020



**Warren Electric
Cooperative, Inc**

320 EAST MAIN ST 814-563-7548
YOUNGSVILLE, PA 16371

TITLE

120/240V SINGLE PHASE SERVICE ON STRUCTURE UP TO 320 AMP
ATTACHMENT LOCATION AND GROUNDING

| | | |
|-----------|------------------------|----------|
| SIZE A | DWG NO WEC-SVC-MAST | REV 0 |
|-----------|------------------------|----------|

SCALE 1 / 50

SHEET 3 OF 4

LOCATION

- A WEC Staking Engineer will determine the location and any additional requirements during an on-site meeting with the member during the design process.
- Services are not permitted within the WEC easement and must be at least 30 feet away from any WEC poles, wires and anchors.
- Service may not cross over propane tanks, oil wells, swimming pools and other obstacles because of safety code requirements.
- Manufactured housing units shall refer to NEC 550 for additional requirements

SERVICE MAST

- Only WEC attachments are allowed on mast.
- Structural reinforcement and flashing (mast roof kit) at roof line is required.
- If WEC service wires must cross **more** than 6 feet of roof and/or attachment is **more** than 4 feet from edge of roof, service mast must extend a minimum of **60** inches above roof. **If more than 60 inches is needed for clearance, a meter pole service is required**
- If WEC service wires must cross **less** than 6 feet of roof and attachment is **less** than 4 feet from edge of roof, service mast must extend a minimum of **42** inches above roof. **If more than 60 inches is needed for clearance, a meter pole service is required**

WEATHER HEAD

- 3 wire rain-tight weather head properly sized and rated will be installed on top of conduit.
- Member/Contractor shall leave 2 to 3 feet of wire from weather head for WEC to make connections.

CONDUIT

- Galvanized rigid metal conduit or equivalent per current NEC code.
- When pipe riser is 10 feet or less, no coupling is permitted. When longer than 10 feet, a coupling shall be installed at joint closest to meter socket.
- Pipe straps (3 minimum) shall be installed at uniform intervals to secure conduit to structure.
- Pipe strap lag bolts shall go into wall studs and/or sound structural members.

| MINIMUM SERVICE AND GROUND CONDUCTOR REQUIREMENTS | | | | |
|---|------------------|---------------|-------------------|-------------|
| RATING (AMPS) | CONDUIT SIZE MIN | WIRE MATERIAL | LINE/NEUTRAL SIZE | GROUND SIZE |
| 320 | 3" | COPPER (CU) | 250 MCM | #2 AWG CU |
| 320 | 3" | ALUMINUM (AL) | 350 MCM | #2 AWG CU |
| 200 | 2" | COPPER (CU) | 2/0 AWG | #4 AWG CU |
| 200 | 2" | ALUMINUM (AL) | 4/0 AWG | #4 AWG CU |
| 100 | 2" | COPPER (CU) | #4 AWG | #6 AWG CU |
| 100 | 2" | ALUMINUM (AL) | #2 AWG | #6 AWG CU |

All service conductors shall have insulation suitable for the applied voltage but, in any case, not less than 600 volts and sized to rated load of meter base.

METER BASE

- Meter base shall be located between 5ft and 6ft from ground level.
- Meter base shall be a single position, four terminal, and ring-less with a horn or other approved type bypass.
- Meter bases equipped with grounding lugs shall be grounded in accordance to NEC or local inspection authority.
- WEC Recommends using an anti-oxidation grease inside the meter base if using aluminum conductors.

DISCONNECT OPTIONS AND OTHER SERVICE EQUIPMENT REQUIREMENTS (NEC 230)

- All sites served by WEC shall have a service disconnecting means (Mains in panel box). Although not required at this time, an outside disconnect switch is also recommended.
- Disconnect main (inside or outside) shall be appropriately sized (breaker or K1 fuses rated for 10,000 Amperes)
- Weather-Tight connectors and fittings shall be used between outside equipment and components.
- All equipment (meter base, disconnect, etc) shall have all knock-outs, doors, and covers in place to limit access to energized parts and shall be in good physical and working condition.

GROUNDING RODS, WIRE, AND CONNECTORS (NEC 250)

- Meter socket shall be grounded in accordance to NEC and local inspection authority requirements
- Any service connected to WEC shall have two (2) 5/8 in. x 8ft. copper clad ground rods or equivalent per current NEC code, located 6ft. apart
- Ground rod clamps shall be suitable for direct burial and/or exothermic welding.
- Ground wires shall extend unbroken or uncut from grounding lug of disconnect to each rod.
- Ground wires shall be secured to pole and/or protected from damage with 1/2 inch electrical conduit.

DATE EFFECTIVE:
2/3/2020



**Warren Electric
Cooperative, Inc**

320 EAST MAIN ST 814-563-7548
YOUNGSVILLE, PA 16371

TITLE

120/240V SINGLE PHASE SERVICE ON STRUCTURE UP
TO 320 AMP
DETAILED SPECIFICATIONS

SIZE

A

DWG NO

WEC-SVC-MAST

REV

0

SCALE

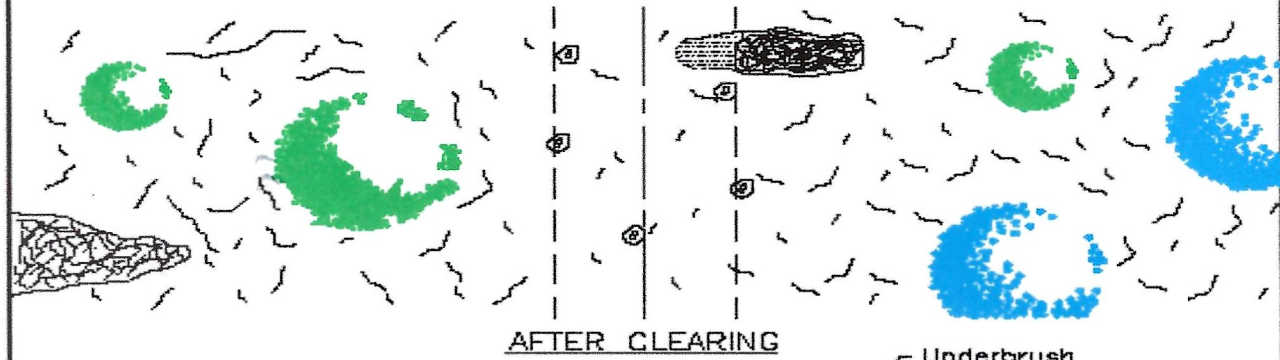
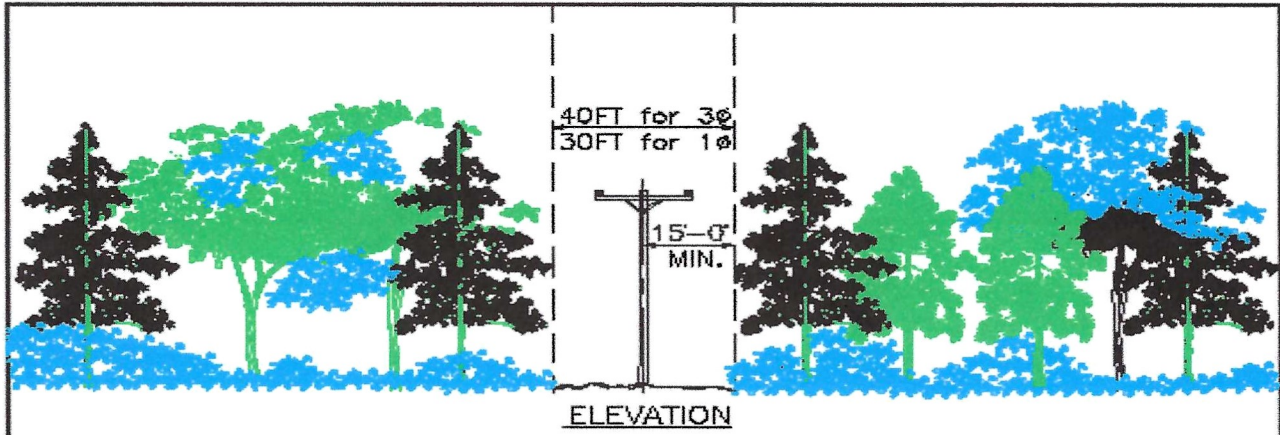
SHEET 4 OF 4



RIGHT-OF-WAY CLEARING SPECIFICATIONS

All work shall be done using current arboricultural practices

Three-Phase line sections (< 34500 volts) require a **forty (40) foot width (20' each side of pole)**
Single Phase line sections (<14400 volts) require a **thirty (30) foot width (15' each side of pole)**



NOTE:
Change suffix of drawing number to designate clearing width. (e.g. M1.40G specifies 40 foot wide clearing).

RIGHT-OF-WAY CLEARING GUIDE

DEC 1998
RUS/WEC

M1.40G

Refer to the back of this sheet for complete detailed specifications and a list of area tree service providers*.



CLEARING SPECIFICATIONS FOR NEW RIGHTS-OF-WAY

All work shall be done using current arboricultural practices

Before Construction:

Member shall obtain easements from all property owners affected by project.

Member shall have right-of-way prepared such that the right-of-way is cleared "ground to sky" to the width specified.

- Trees fronting each side of the right-of-way shall be trimmed symmetrically or removed.
- Dead trees beyond the right-of-way that may strike the line when falling shall be removed.
- Live trees beyond the right-of-way that are leaning and may strike the line when falling shall be adequately topped or removed.
- Underbrush shall be removed.
- Stumps, shoots, and stems shall be cut, mulched or ground such that no more than one (1) inch extends above ground level.
- Miscellaneous debris and obstacles shall be removed

Right-of-way work shall meet WEC specifications and inspection prior to any construction activities being scheduled. Additional charges will apply for subsequent re-inspection visits prior to construction.

AREA TREE SERVICE PROVIDERS*

| | | | |
|------------------------------|--------------|------------------------|--------------|
| A Top Notch Tree & Stump Svc | 800-322-5303 | Allegheny Tree Experts | 814-563-7175 |
| Asplundh Tree Expert | 724-524-7444 | Burke Tree Service | 814-726-1419 |
| Covey Tree Service | 716-569-5506 | Davey Tree Service | 330-673-9511 |
| Hazlett Tree Service | 814-967-4321 | K.W. Reese, Inc | 717-328-5211 |
| Southern Tier Tree Service | 716-763-6650 | Tremblay Tree Service | 814-489-3792 |
| Troyer Tree Service | 716-782-2095 | | |

***WEC provides this list only as a convenience and does not endorse, recommend, guarantee, or otherwise warranty any work performed**

After Construction:

Right-of-way shall be periodically maintained by WEC on a four (4) to six (6) year cycle or as needed. This maintenance may involve mulching, mowing and/or spray treatment of underbrush (except in maintained yard areas) in addition to trimming to the width specified.

Right-of-way must remain open and orderly for WEC construction and maintenance activities to the line.

Field personnel patrolling or working on lines do not need additional hazards in the dark or under the snow.

The following are examples of items not allowed in the corridor. Line relocation charges will apply unless corrective action is taken by the member.

- Houses, garages, sheds
- Well heads (water, gas, oil, etc)
- Propane tanks
- Septic systems
- Obstacles (wood piles, clothes lines, abandoned vehicles)

Member attachments to poles (lights, satellites, signs, etc) are strictly prohibited.