Bulletin 6-9-3
Attachment of overhead service conductors
Rules 6-112, 6-116, 75-406

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Scope

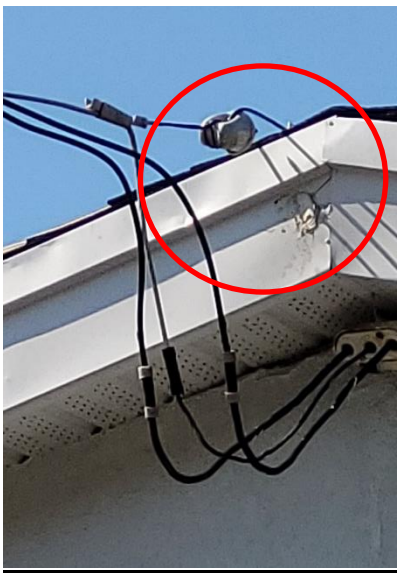
1) Attachment of overhead service conductors
    a) Examples of unacceptable practices
2) Expanding type sleeve anchors
3) Alternate method for overhead conductor support

1) Attachment of overhead service conductors

A means of attachment shall be provided for all overhead supply or consumer service conductors on the same side of the building as the consumer service head or equivalent and positioned that will permit the service conductors to be angled away from the building as per Rule 6-112 2).

Failures have occurred when the fascia board is not adequately fastened to the building structure (Photo B1) or thick enough to support the load of the supply conductors.

Photo B1- Point of attachment pulled away from the fascia



In consultation with multiple building officials, the fascia board can be defined as a wooden board or other flat piece of material that is covering the ends of the rafters and is considered part of the roof. Rule 6-112 8) does not permit a point of attachment to be anchored on the fascia board. Furthermore, Rule 6-112 2 b) requires the point of attachment for overhead supply or consumer service conductors to be solidly anchored to the structure or service mast.

Direction:

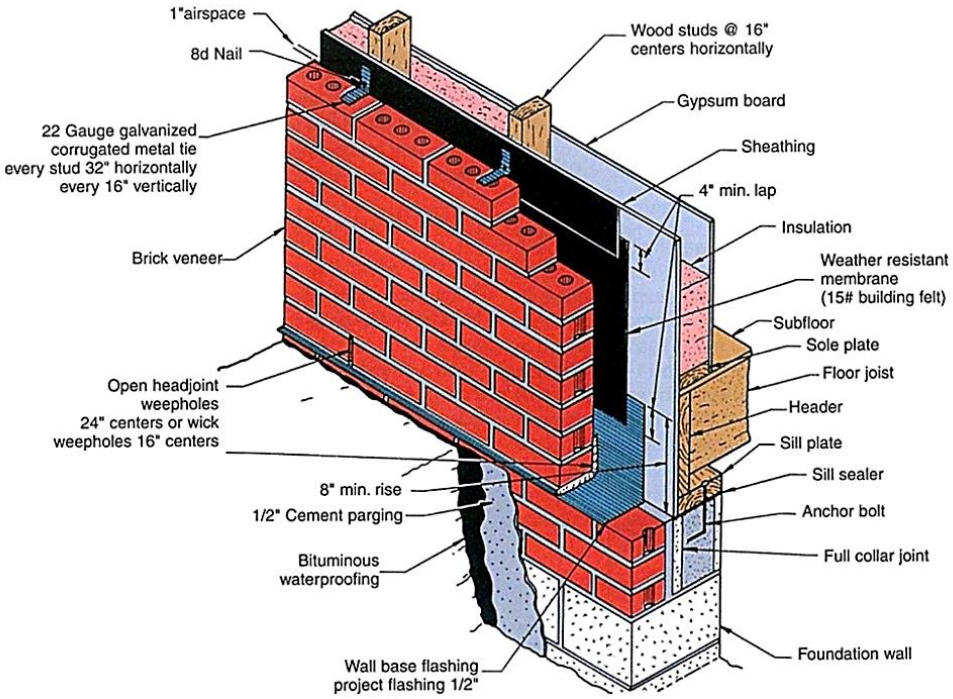
1) *For new buildings, the point of attachment is not permitted to be anchored on the fascia board.*
2) *For service upgrades and repairs on existing dwellings, notwithstanding Rules 6-112 8) and 6-116 b), the point of attachment is permitted to remain on the fascia board when all of the following conditions have been met:*
   - *the point of attachment is not pulling away from the fascia board;*
   - *the fascia board does not show any signs of deterioration and is verified by the installer to be structurally sound (Note1); and*
   - *the point of attachment is acceptable to the supply authority.*

**Note 1: For existing installations, the fascia board and point of attachment shall be supported in a manner that is equivalent to fastening to the building structure. When the support is inadequate, it shall be abandoned or reinforced to the equivalent level of building structural support.*

Appendix B Note to Rule 6-112 1) provides examples of acceptable attachment means for supply or consumer service conductors. The examples are based on Specification 35. Rule 75-406 a) also requires secondary service conductors to terminate on a rack of a type shown in Specification 35.

Appendix B Note, item b) ii), considers brick block wall to be structural and solid. Expanding anchors are required to have intimate contact for the complete surface of the anchor. For example, brick veneer (Diagram *B1*) is not to be considered a structural wall.

Diagram *B1*



a) Examples of unacceptable practices

1) Lag screws that have been hammered into the wood.
2) Lag screws without first boring the proper pilot hole. (This may crack the wood and have inadequate strength.)
3) Lag screws used on masonry walls. Lead shields or plugs do not have adequate strength for mast attachment.
4) Sleeve anchors located in mortar joints.

Note:
In wood framing where it is necessary to span the distance between two studs, a section of galvanized steel support channel with a clamp can be used to spread the load. Galvanized steel support channel may also be used on block or brick walls to ensure that the position of the two sleeve anchors is not too near the edge of the brick and both anchors are not in the same brick.

3) Expanding type sleeve anchors

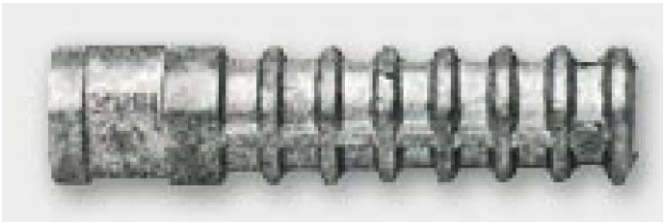
See Photo B2 for acceptable types of expanding type sleeve anchors specified in Appendix B Note to Rule 6-112 1).

Photo B2 - Examples of acceptable expanding type sleeve anchors

Concrete Double Expansion Anchor

Concrete Single Expansion Anchor

Concrete Sleeve Anchor



Concrete Lag Shield Anchor

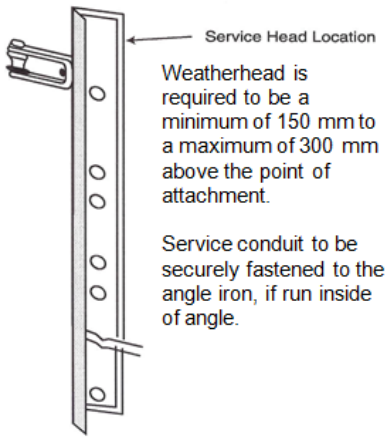
4) Alternate method for overhead conductor support

Background
Historically angle iron has been used as a method of supporting overhead conductors in Ontario.

Direction
For new installations of angle iron for overhead conductor support, *the following conditions will apply*:

1) Perforated light duty angle iron is not permitted.
2) Angle iron shall be *100 mm x 100 mm x 9.5 mm* (4" X 4" X 3/8") hot dipped galvanized (see Diagram *B2*)
    - Angle iron shall have a minimum of three through bolts securely fastened to the building structure.
    - Bolts shall be 16 mm (5/8") hot dip galvanized.
    - Bolts shall have 50 mm X 50 mm (2" X 2") flat washers.
3) The consumers service conduit is required to be securely fastened and supported where it extends through the roof line and the emergence of the conductor from the weather head is required to be a minimum of 150 mm to a maximum of 300 mm above the support for the of attachment of the overhead conductor, as required by Rule 6-116 1) b).
4) *In accordance with the supply authority's requirements for the point of attachment*.

Diagram *B2* – Acceptable angle iron design



For service upgrades or repairs, existing angle iron smaller than 100 mm x 100 mm x 9.5 mm (4" X 4" X 3/8") and is not hot dip galvanized, is permitted to remain provided the angle iron shows no signs of deterioration and is in accordance with the supply authority's requirements.

Note: For existing installations where U-channels support supply or consumer supply conductors, it will not permitted to be reused for overhead conductor support.