

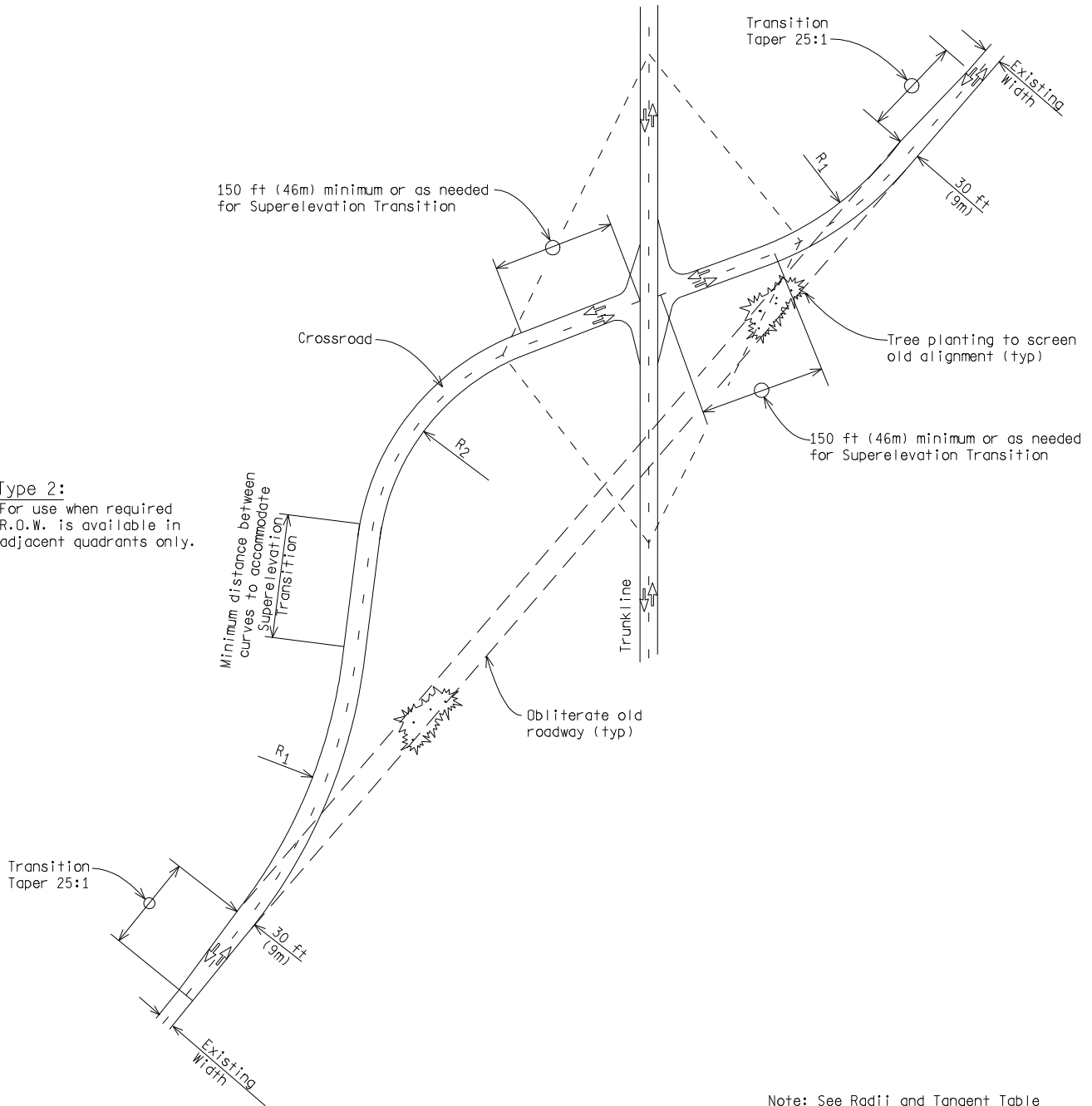
Type 1:
 For use when required
 R.O.W. is available
 in two diagonal quadrants.

Note: See Radii and Tangent Table on sheet 5.

NOT TO SCALE

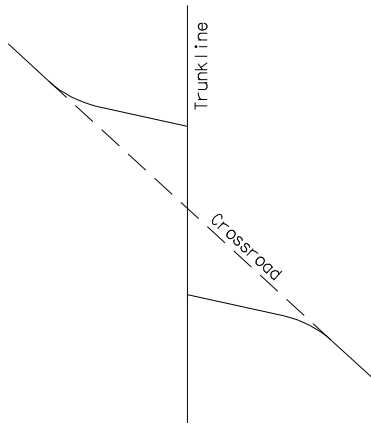
<p>TRAFFIC AND SAFETY</p>	BY: <i>John C. Friend</i> ENGINEER OF DELIVERY	GEOMETRIC DESIGN GUIDE FOR TURNED-IN ROADWAYS	
	BY: <i>John C. Friend</i> ENGINEER OF DEVELOPMENT		
DRAWN BY: DJF CHECKED BY: JRG/JAT	FILE: PW/RD/TS/Geom D/mdot GE0640B EOC.dgn	REV. 10/20/2009	GEO-640-C

Type 2:
 For use when required
 R.O.W. is available in
 adjacent quadrants only.



Note: See Radii and Tangent Table on sheet 5.

NOT TO SCALE



Type 3a:

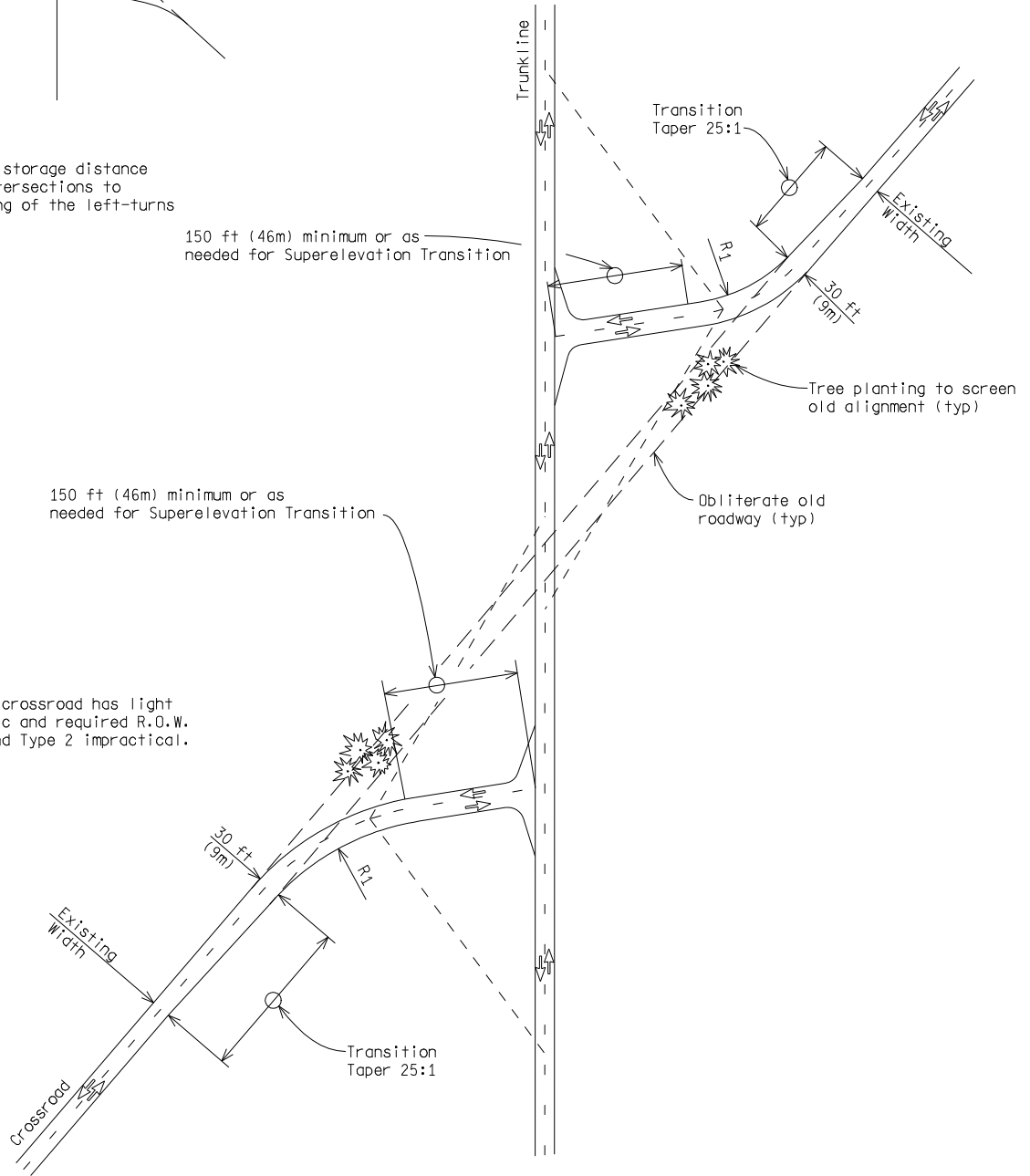
Provide sufficient storage distance between the two intersections to prevent interlocking of the left-turns on the trunkline.

150 ft (46m) minimum or as needed for Superelevation Transition

150 ft (46m) minimum or as needed for Superelevation Transition

Type 3:

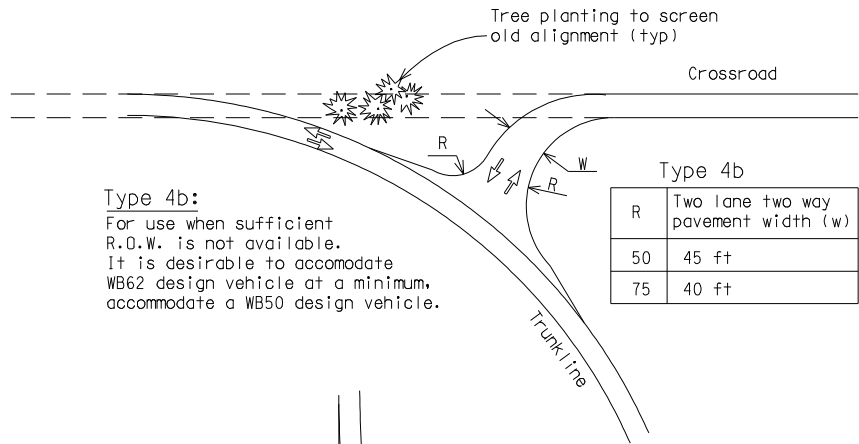
For use where crossroad has light through traffic and required R.O.W. make Type 1 and Type 2 impractical.



Note: Type 3a should be used only when Type 3 is not possible. See Radii and Tangent Table on sheet 5.

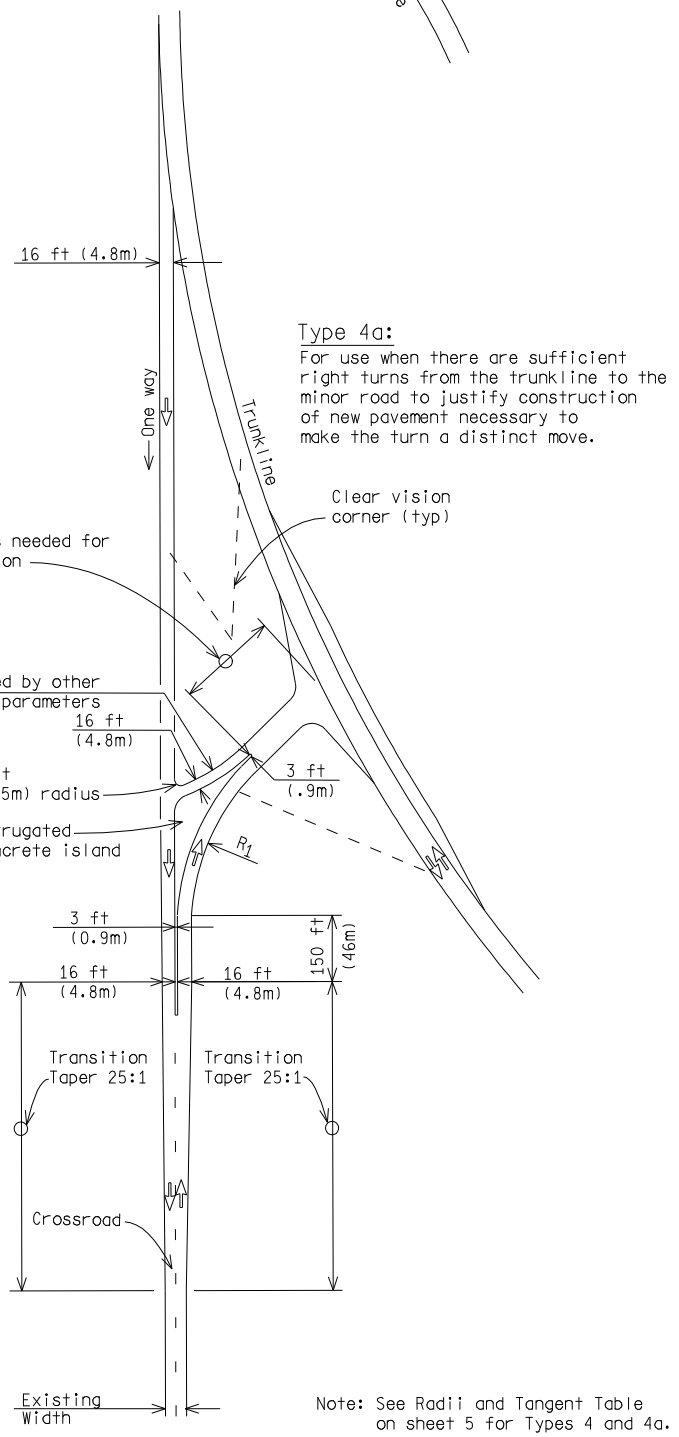
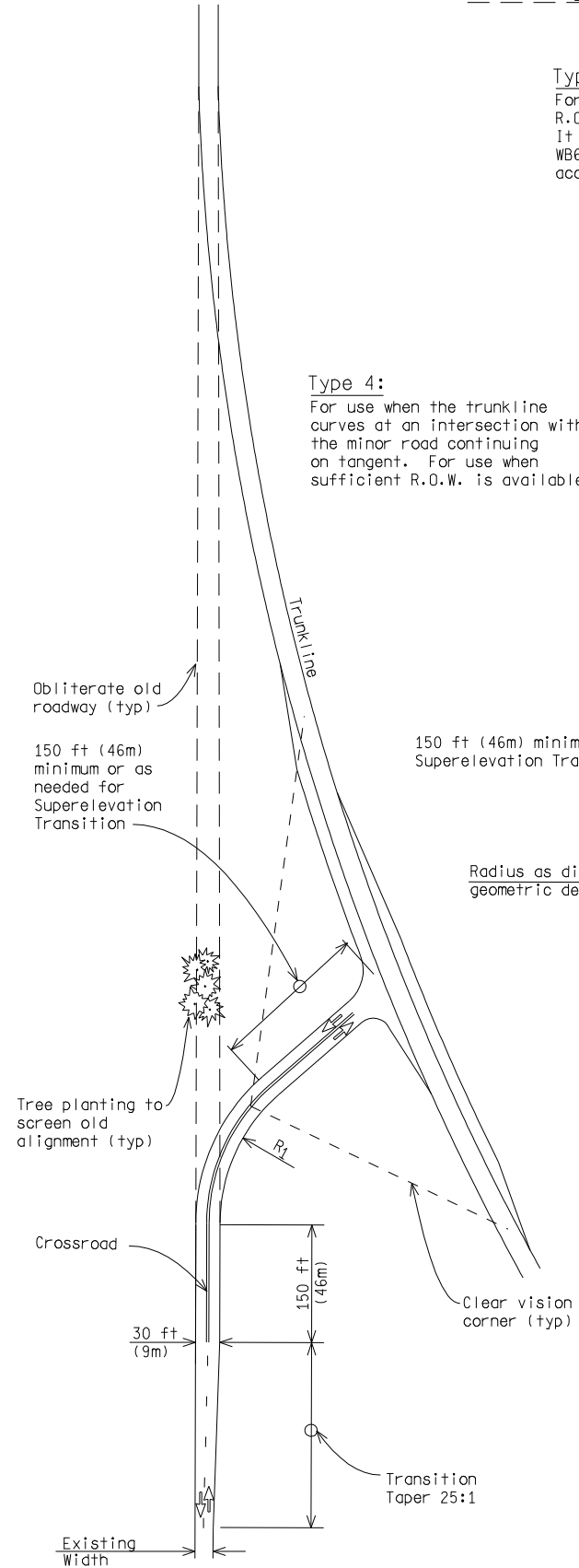
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Type 4:
 For use when the crossroad intersects a curving trunkline.



Type 4b:
 For use when sufficient R.O.W. is not available. It is desirable to accommodate WB62 design vehicle at a minimum, accommodate a WB50 design vehicle.

Type 4:
 For use when the trunkline curves at an intersection with the minor road continuing on tangent. For use when sufficient R.O.W. is available.



Type 4a:
 For use when there are sufficient right turns from the trunkline to the minor road to justify construction of new pavement necessary to make the turn a distinct move.

Note: See Radii and Tangent Table on sheet 5 for Types 4 and 4a.

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Radii and Tangent Table

Approach Speed R ₁	R ₁	Tangent Between Curves	Approach Speed R ₂	R ₂
20 mph 30 km/h	90 ft 27m	90 ft 27m	20 mph 30 km/h	90 ft 27m
30 mph 50 km/h	230 ft 70m	130 ft 40m	30 mph 50 km/h	230 ft 70m
40 mph 60 km/h	460 ft 140m	175 ft 53m	30 mph 50 km/h	230 ft 70m
50 mph 80 km/h	620 ft 189m	220 ft 67m	30 mph 50 km/h	230 ft 70m

NOTES:

1. Trees should not be planted within Clear Vision areas and Clear Zones.
2. An angle of intersection between the mainline and crossroad should be 90° However an angle of intersection between 75° and 105° is acceptable.
3. Tree planting of coniferous trees should be made in accordance with the tree planting guide to screen the old pavement alignment.
4. Clear vision areas as per Geometric Design Guide GEO-300-Series, should be provided at all intersections.
5. Approaching grades at the intersecting roadways should be as flat as practical, especially on the sections that are used for storage space. Grades between 2 and 3 percent are desirable. See Geometric Design Guide GEO-650-Series for further guidance.
6. Adequate intersection sight distance should be provided along both roadways.
7. Consult the Geometric Design Unit of Lansing Traffic and Safety where modifications are needed.
8. Intersection approach grades should be studied to provide adequate landing areas for adequate sight distance.
9. The rate of superelevation for the approaching curve should be limited to 5% maximum.

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