Plan Preparation Guide

Chapter 12

New Right-of-Way

1. General Right-of-Way Information

Highway plans are used by right-of-way personnel in the preparation of instruments of record. They are also used as references by appraisers, planners, surveyors and property owners. The designer must keep in mind consistent application of rules and policies when establishing and depicting right-of-way and related data on the plans.

The Department may acquire an easement or fee simple title to real property by gift, purchase, or condemnation for the construction, maintenance and improvement (or safe operation) of highways in this state. The acquisition of right-of-way, whether in easement or fee simple title, is dictated by both federal and state law.

New right-of-way boundaries should represent the limits of usable area required for construction, maintenance activities following construction, space for placement of utilities and traffic control devices.

In rural areas ditch and channel cleaning, shoulder repairs, mowing, etc. are more easily accomplished within an adequate working area. Wide right-of-way contributes toward adequate clear zones, particularly, to provide sufficient sight distance at intersections and around curves. The new right-of-way limits should be adjusted for uniformity and to eliminate transition lines as much as possible and thus achieve a uniform offset from the survey centerline for extended lengths. Consideration may be given to tighter limit as significant conflicts dictate.

It is important that the total area be as generous as possible, keeping in mind the economic impacts to the overall project cost and the benefits derived. These considerations are generally not applicable in urban areas due to high property cost and the maintenance of grounds adjacent to, and often within, the right-of-way being performed by the property owners.

Occasionally, it is necessary to send prints to Right of Way before the plans are ready in order to begin preliminary right of way investigation. These prints only need to be sent when requested and should only be requested to meet funding obligations.

The Right-of-Way Section should be sent one small set of plans when the right-of-way information is limited to the property owner and total acreage. Plans that have property owners, total acreage, and obtain computed will have one small and two large sent to Right-of-Way. Do not send plans that do not have at least the property owners and total acreage shown.

Do not send cross sections with preliminary plans to Right-of Way unless requested.

The design group will obtain the copies and send the preliminary prints to Right-of-Way. Please enter the date they are sent into PPMS (Screen 40) under the design group comments section only. Do not place a date in “Plans to R/W”.

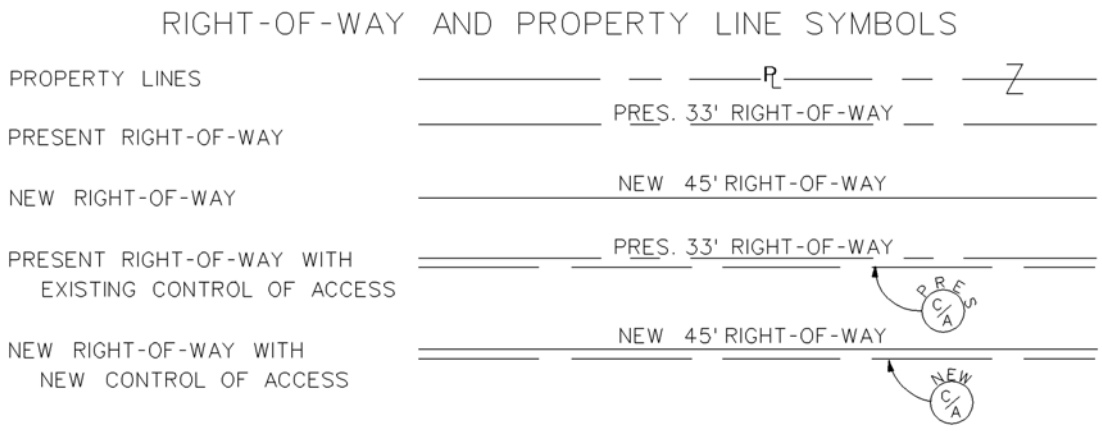
2. Setting New Right-of-Way (Secondary Projects)

When preliminary Road Design plan drawing are complete the proposed new right-of-way should be added to the plans on CADD level 33.

Right-of-Way should be set according to construction slopes on a case-by-case basis.

Any request for exception to the minimum right-of-way widths must be approved by the Program Manager.

It is desirable to establish a uniform width and apply it throughout the project. Work required outside the uniform width may be accomplished by obtaining a property owner's permission. (See Page 12-11) The flow area of roadway ditches should be within the right-of-way to avoid future maintenance problems.



3. Setting New Right-of-Way (Primary and Major Secondary)

When preliminary road design plan drawings are complete, a field review may be called for by the Group Coordinator. In these cases, the plans may only show the existing R/W.

After consulting the project planning report, completing the vertical and horizontal design on the plans, and plotting the templates on cross sections the construction limits may be shown.

Delineation of accurate construction limits on the drawings is critical to the establishment of new right-of-way boundaries. Right-of-way plans should show the construction limits in the plan view at each cross section location. Carefully review areas not covered by cross section to assure that the limits of construction represent the actual conditions expected during construction.

The construction limit points shall be measured from the cross sections and linked by connecting dashed lines. Points on the limit lines should be labeled with a distance from the centerline and "C" or "F" to denote cuts or fills. Construction limits adjacent to interchange ramps, loops, flyovers, cross roads and parallel drainage courses are to be shown. In special cases, it may be desirable to show dual construction limits for clarification purposes. (See Figure 12-A)

NPDES

Additional areas to be cleared for NPDES will be shown on the plans when outside the construction lines. A special line denoting the additional area needed to accommodate items of work to meet the NPDES requirements should be placed on the plans only when necessary to go beyond the cut/fill slope line (construction line). This special line can be found in the custom line style palette and is shown here:

--NPDES------NPDES------NPDES--

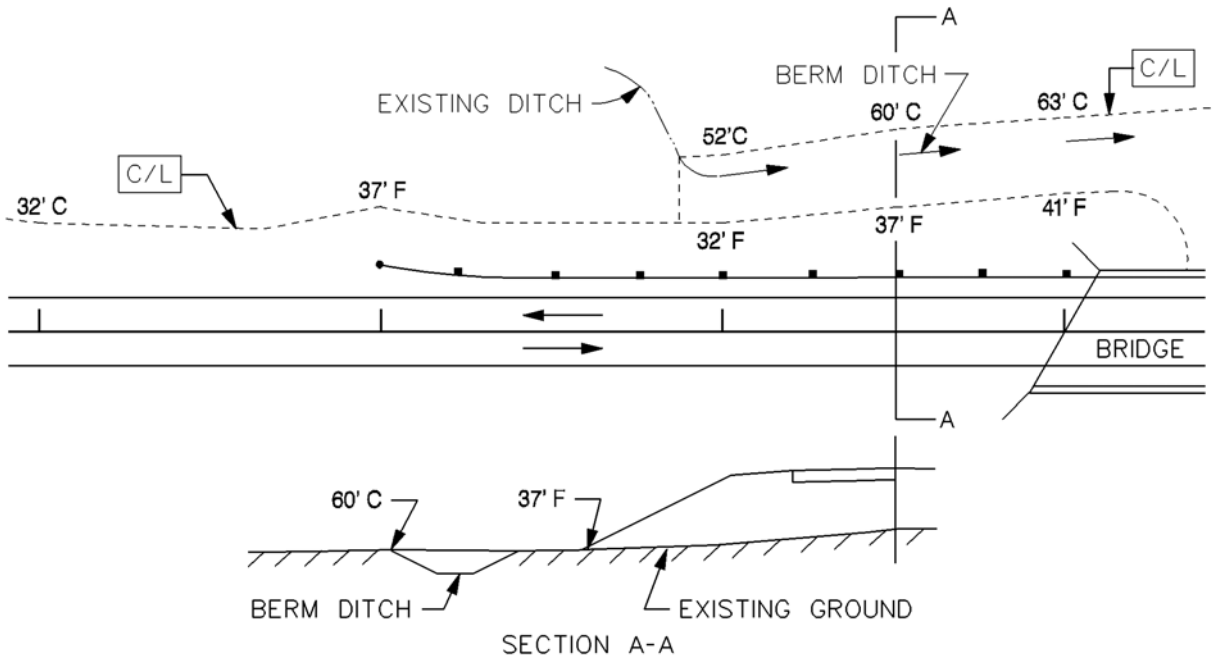
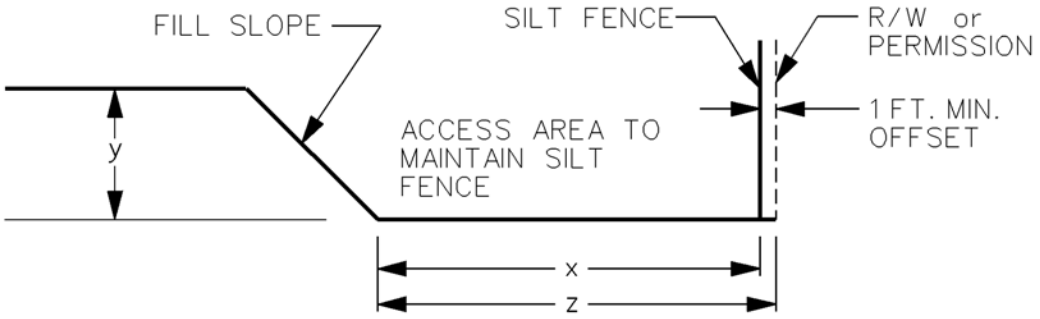


FIGURE 12-A METHOD OF SHOWING CONSTRUCTION LIMITS

NPDES Area

All fill slopes requires silt fence in order to minimize the erosion of sediment off the project site. Silt fences should be placed at or near the toe of the fill slope as prescribed in the following chart.

HEIGHT OF FILL (y) IN FEET	FILL SLOPE	MINIMUM SILT FENCE OFFSET FROM TOE OF SLOPE (x) IN FEET	MINIMUM RIGHT OF WAY OFFSET FROM TOE OF SLOPE (z) IN FEET
<6	2:1 4:1 6:1	2	3
6-10	2:1	12	13
	4:1 6:1	3	4
>10	2:1	12	13
	4:1 6:1	4	5



An area behind the silt fence is needed to properly maintain the silt fence. Large equipment and trucks will use the area behind the silt fence to remove and dispose of any sediment collected by the silt fence or a nearby silt basin. When this area behind the silt fence cannot be obtained, the maintenance of the silt fence will be handled in the best manner possible during construction. Right of way needed to meet NPDES requirements may be by permission or permanent right of way or a combination of both.

Right of way limits in cut slope areas should be determined during the Field Review where interceptor ditches or other erosion control items are deemed necessary.

The right of way line should maintain a uniform alignment for a minimum of 300 linear feet and not fluctuate in and out, when possible. Discretion by the designer should be given when establishing right of way boundaries in order to minimize areas not needed for the construction and maintenance of the project.

COORDINATION OF HYDROLOGY/NPDES STUDIES WITH RIGHT OF WAY

It is always preferable to have the complete final hydrology and NPDES shown on the plans for right of way acquisition. When the final hydraulic/NPDES designs are not available to be placed on the right of way plans, every effort should be made to include on the right of way plans all hydraulic/NPDES designs that effect right of way. However, when right of way plans have been sent to Right of Way Section prior to receiving the final hydrology and NPDES studies, revisions to the plans especially to the existing hydrology and erosion control elements can be expected. Upon receipt of the final hydrology and NPDES from the Hydrology Section, Road Design will make the necessary revisions, noting appropriately on each sheet where the following revisions are made: "Revisions made in accordance with the hydrology and/or NPDES studies dated_____ (Project Manager initials and date)".

Road Design will forward to Right of Way the revised sheets. If parcels, that have already been obtained or permission received, are affected by the hydrology/NPDES revisions, then Right of Way Section should contact Hydrology and Road Design to try to work out those differences before revisiting the property owner.

4. Right of Way Widths

Determining the width of the permanent right of way is primarily a function of the typical section and drainage requirements for a section of roadway. Although these are the prevailing criterion to set right of way, an additional criteria has emerged in the past few years which is based on the requirements of the National Pollutant Discharge Elimination System (NPDES)

Desirably, the new right of way line should be established sufficiently beyond the construction lines (10 to 15 feet) to permit maintenance equipment to work outside of and parallel to the construction limits, particularly for freeways, expressways or other major highways. In urban and suburban areas, this is usually not practical due to the high cost of property. In congested urban areas, the right of way line is set a minimum of one (1) foot from the back edge of the sidewalk and permission is obtained for slopes that extend beyond these limits. The new right of way limit should be evaluated during the Field Review.

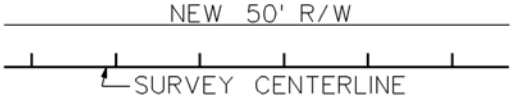
Through a discussion with Highway Projects and Right of Way, it is expected that permanent right of way will be used, in general, around both, temporary and permanent sediment control basins. It has also been determined that for areas needed for items that run longitudinally with the center line, such as silt fence; those areas will be shown with an "NPDES line" only when outside of existing construction (slope) lines. Right of Way lines will not be determined by these longitudinal NPDES items that effect adjacent properties. When the "NPDES line" runs outside of the right of way line, this area will be obtained as permission. If the property owner will not sign for this permission, the "NPDES line" should be re-evaluated prior to converting the area to permanent right of way and condemning.

Permanent right of way should be set primarily to provide the area needed for the project's permanent features that will be permanently maintained by the Department.

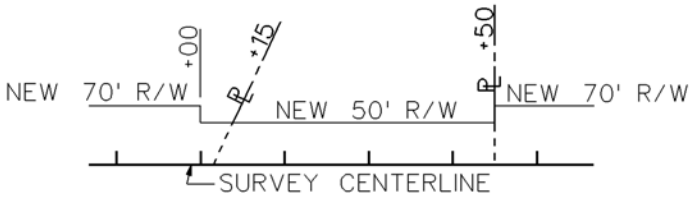
When additional right of way is more difficult to obtain due to high cost, urban areas, wetlands, and/or significant trees, all means shall be taken to circumvent such conflicts by minimizing the additional right of way and still allow implementation and maintenance of necessary erosion control facilities.

When it is necessary to have breaks in the right of way, and the location is near a property line, the designer shall not elect to utilize the property line as a break.

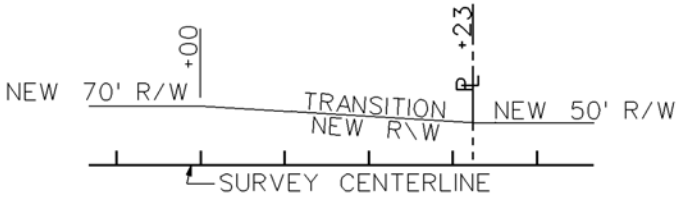
METHODS OF ESTABLISHING NEW RIGHTS-OF-WAY



METHOD 1: A UNIFORM WIDTH FOR THE ENTIRE PROJECT.
EXCESS CONSTRUCTION AREA REQUIREMENTS OBTAINED THROUGH CONSTRUCTION OR SLOPE EASEMENTS.



METHOD 2: A UNIFORM WIDTH WITH ADDITIONAL RIGHT-OF-WAY AS NECESSARY.
ACQUIRE EXTRA RIGHT-OF-WAY AS REQUIRED FOR CONSTRUCTION AT 90° ANGLES TO THE CENTERLINE.



METHOD 3: PARALLEL PROJECT CONSTRUCTION LIMITS.
USE A UNIFORM WIDTH WHERE FEASIBLE AND THEN GENERALLY PARALLEL CONSTRUCTION LIMITS WHERE WIDER OR NARROWER WIDTHS ARE REQUIRED.

FIGURE 12-B RIGHT-OF-WAY ALTERNATIVES

5. Illustrating New Right of Way on Plans

New right of way shall be clearly identified near the beginning and end of each plan sheet and at any other points where the continuity is broken.

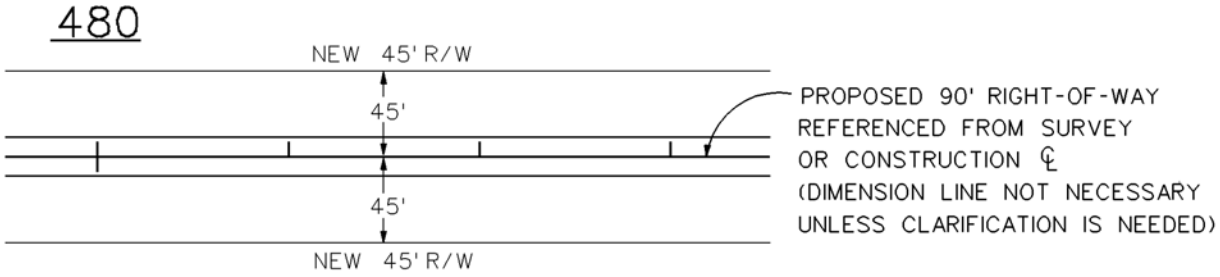


FIGURE 12-C

In cases where the new right of way does not parallel the proposed centerline, the new lines shall be denoted as **New Transition R/W.**

When referencing new right of way along a facility having grade separation interchanges, the new Right of Way shall follow and be referenced from the ramp survey line. Dual referencing is required at the point where the ramp departs from the mainline.

Example: 125' NEW R/W MAINLINE STA. 205+00=
89' NEW R/W LINE "A" STA. 205+00

The designer should provide a double station and offset when a break in new right of way occurs at a point where the reference is changing from one centerline to another.

To utilize portions of present right of way for the new right of way, if both lines are parallel to the proposed alignment, the line should be denoted as PRES. 50' R/W = NEW 70' R/W.

In cases where the present and new right of way are on common tangent alignment and **do not** parallel the proposed alignment, the line shall be denoted as PRES. R/W = TRANSITION NEW R/W. The beginning and end of transitions should be shown on plans by station and offset.

To utilize an existing portion of present right of way on a curved, alignment as the new right of way line:

- Select the portion of present right of way to be retained
- Show beginning and ending stations and offsets
- Show curve data for present curved right of way on plans
- For example see Figure 12-D

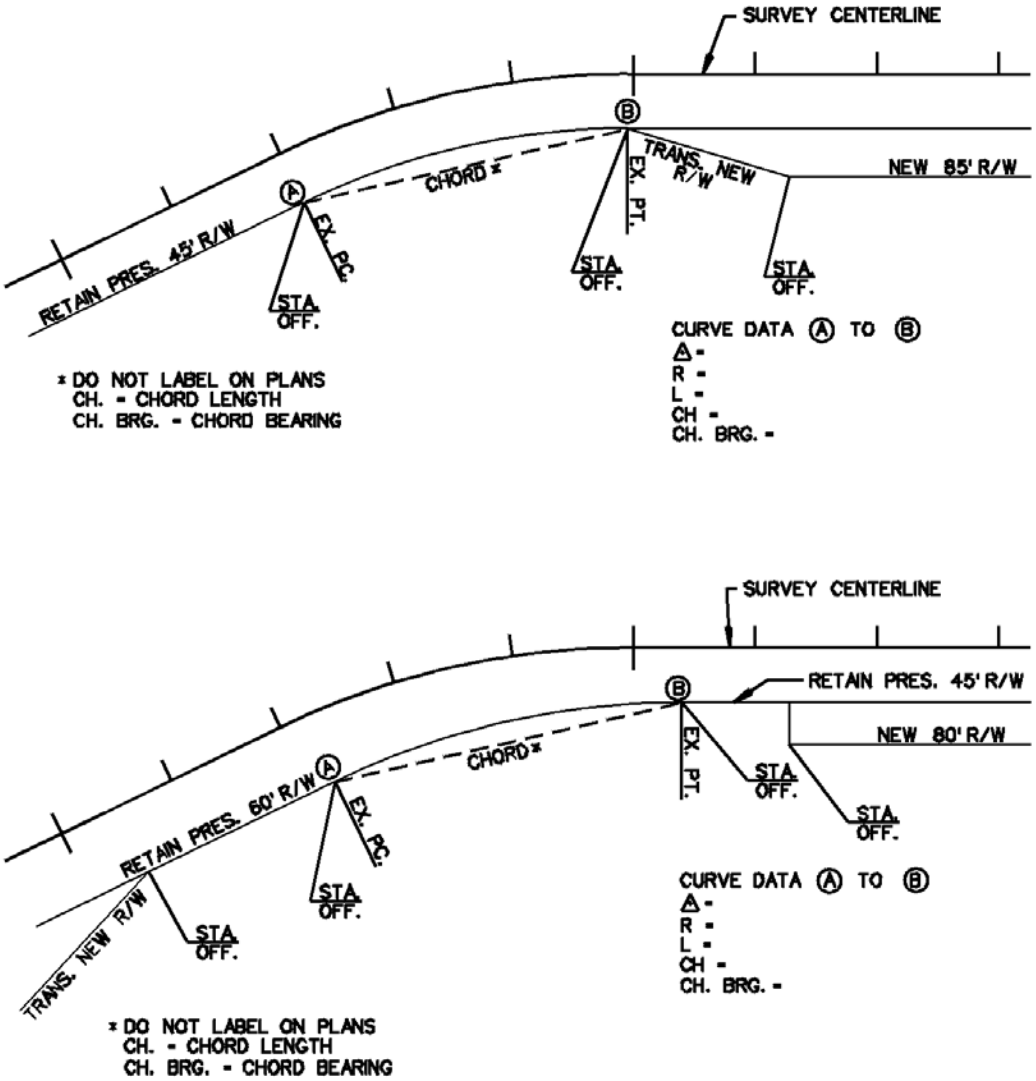


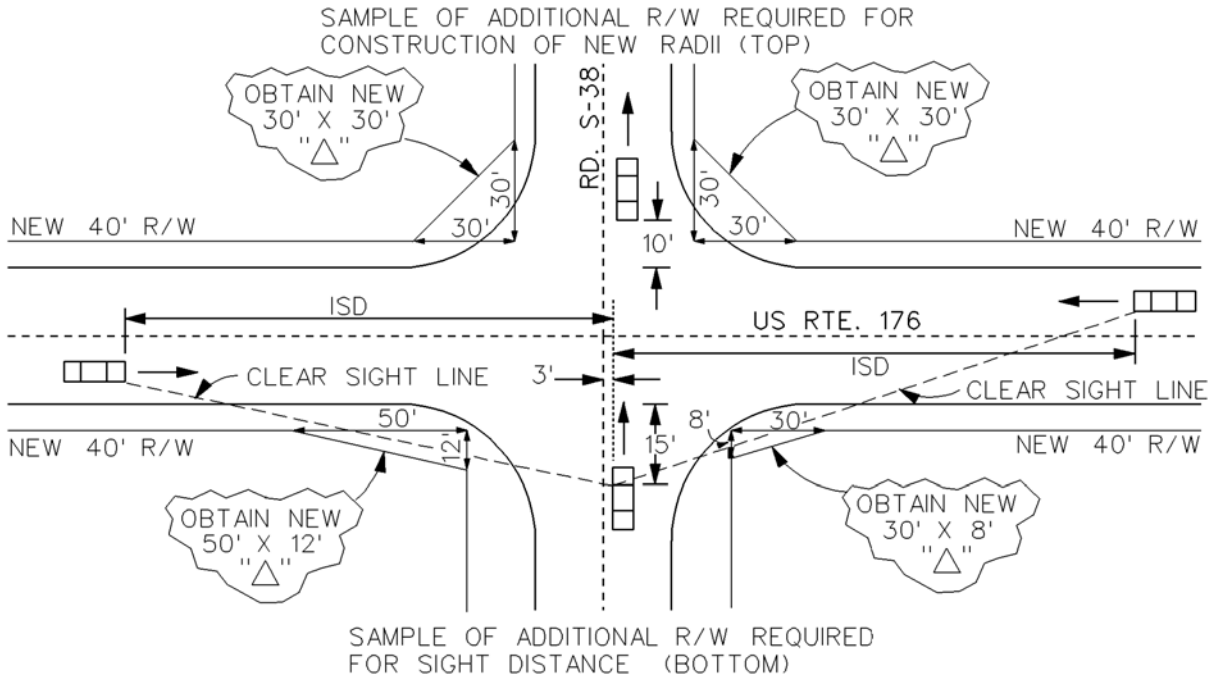
FIGURE 12-D METHOD FOR SHOWING EXISTING CURVED RIGHT-OF-WAY TO BE RETAINED

6. Triangular Areas

These areas are normal right of way acquired for construction purposes as well as sight distance control. For "At Grade Intersections" the designer needs to check all quadrants for sight distance requirements to assure sufficient line of sight area is available, and can be perpetually protected from obstructions.

Once the required triangular area is determined, it shall be clearly shown on the right of way plans and covered by a note that indicates the additional area required.

When consideration is given to triangular areas at intersections be aware of proper shoulder width, ditch construction around the radius, and placement of pipe or structures that may require extra right of way.



NOTE FOR LABELING TRIANGULAR AREAS: LIST THE MAIN ROAD DIMENSION FIRST
LIST THE SIDE ROAD DIMENSION SECOND
SURROUND THE NOTE VIA A "CLOUDED" NOTATION

FOR INTERSECTION SIGHT DISTANCE (ISD) SEE CHAPTER 6.2.4 OF THE SCDOT HIGHWAY DESIGN MANUAL

FIGURE 12-E TRIANGULAR AREAS AT INTERSECTING ROADS

7. Right of Way on Sharp Horizontal Curves

Horizontal sight restrictions may be caused by retaining walls, cut slopes, trees, buildings, etc. on the inside of curves. A height of 2 feet can be used as the midpoint of the sight line where the cut slope usually obstructs sight. If the obstruction is outside of the right of way, consideration of obtaining the additional right of way may be merited on new construction projects. For reconstruction projects, the cost of right of way acquisition to clear obstructions should be weighed against the severity of the obstruction problem.

See tables 6-6, 6-7 and 6-8 in the SCDOT Highway Design Manual.

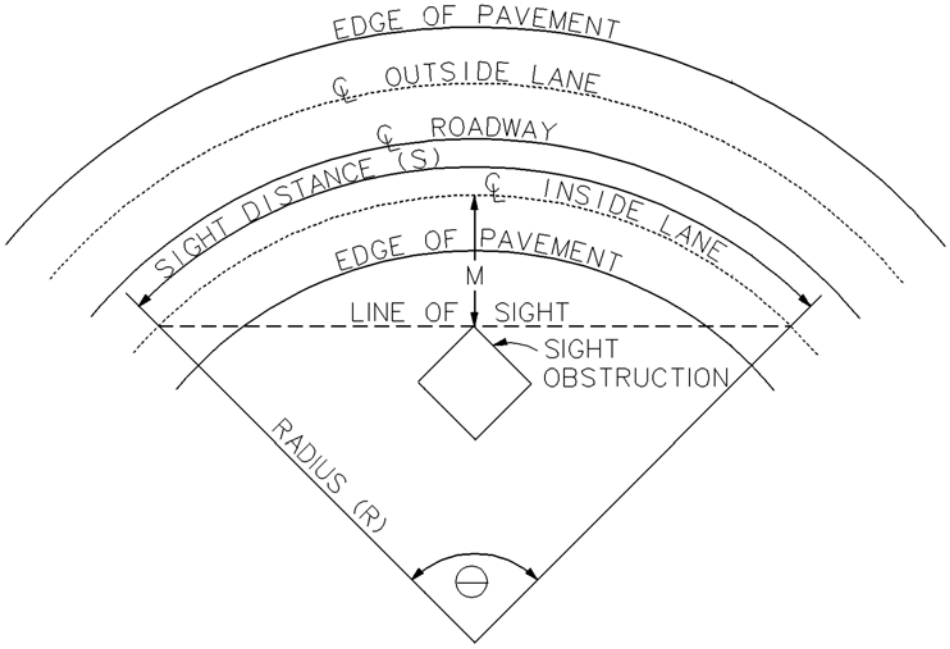


FIGURE 12-F SIGHT DISTANCE ON HORIZONTAL CURVES

8. Outfall Ditches

Outfall ditches require either right of way be acquired or permission to construct or clean be obtained from the land owner. Right of way should be acquired to construct an outfall ditch to provide positive drainage where no natural drainage exists. Right of way is generally obtained on all federal aid projects, and other projects, where ditches are determined to be necessary for the overall function of the drainage system and protection of the roadway. New right of way should be of sufficient width to provide for construction activities and future maintenance. 30 feet total width, with 10 feet on one side and 20 feet on the other, has been generally accepted unless the circumstances dictate other widths be used. When the Project Engineer request a specific length outfall be obtained, it should be measured from the mainline right of way.

9. Channel Changes

These relocations of streambeds may be parallel to or crossing the project. New right of way should cover their construction and future maintenance requirements.

10. Culvert Sites

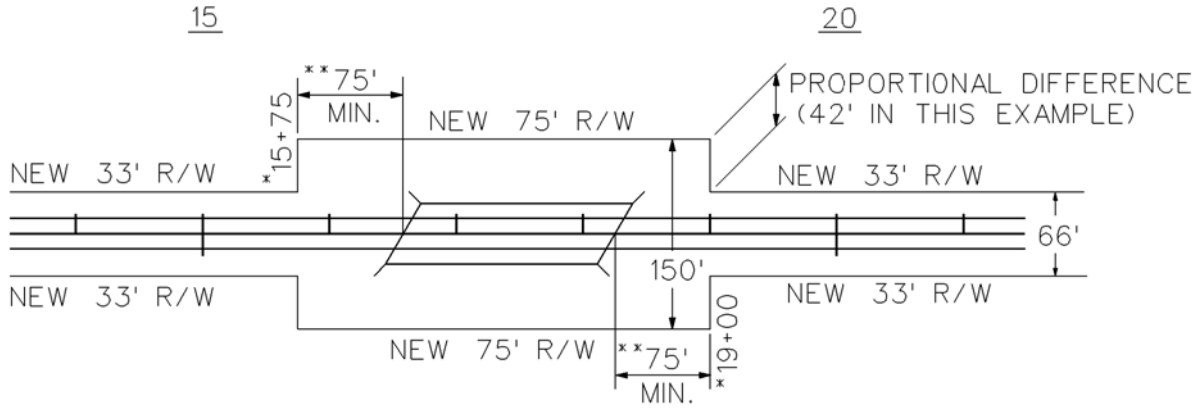
A minimum space of ten (10) feet will be provided between the wing wall ends of box culverts and the present or new right of way. Additional right of way will be provided as required at each site, to encompass permanent erosion control devices (such as energy dissipators, paved liners, scour protection devices, etc.) placed at the ends of box culverts.

11. Bridge Locations

In general, a minimum right of way of 75 feet each side of the structure centerline to a point 75 feet from each end of the bridge is required on all projects having a single two-lane bridge. Where multilane or divided highway structures are proposed, the "proportional differences" (See Figure 12-G), between the existing or proposed roadway approach right of way and the additional right of way required for bridges should be established.

Care should be taken at the point which the extra bridge right of way turns 90 degrees and intersects the approach roadway right of way. When additional embankment is placed for guardrail, the slopes can cut off access around the bridge ends for maintenance forces. A transitioned right of way may be appropriate in these situations.

If present right of way exists to adequately cover the structure and any appurtenances, no new right of way will be required. The minimum right of way shown in Figure 12-G shall be obtained if the project has no additional right of way at bridges.



*SHOULD BE TO NEAREST EVEN STATION OR 25' INTERVAL BEYOND 75'

**ADJUST THE LENGTH AS REQUIRED TO PRECLUDE CUTTING OFF ACCESS TO UNDERSIDE OF BRIDGE BY THE TOE OF FILL OR INSTALLATION OF GUARDRAIL

FIGURE 12-G RIGHT-OF-WAY AT BRIDGE SITES

12. Retaining Walls

See Chapter 10, Pages 8and 9 for a description of right of way at wall locations.

13. Temporary Right of Way

Temporary Right-of-Way is not to be used.

14. Property Closure

All projects, except secondary ('C') projects, non-surveyed projects, and bridge projects, shall have all affected properties numbered and closed. Greenville County is the exception to this rule. Secondary ('C') projects in Greenville County shall also be closed.

If and when, condemnation is required on non-surveyed and bridge projects, a survey request must be made for the affected properties. This should be requested at the earliest time possible.

Property closures may be accomplished by a property layout showing survey centerline and the new right of way. All property lines, including present right of way and distances, will be shown if provided by surveys.

When right of way plans are complete, all plats, deeds, tax maps, etc. used by Road Design in the preparation of plans, will be forwarded to the Right of Way Office by the Road Design Operations Center. These will be retained by the Right of Way departments. If a revision of property is required, the proper information must be returned by the Right of Way office.

15. Control of Access/Limited Access

The project planning report should identify the type of control proposed for each project. Full control of access for all freeways and some other major routes. Other routes may be designed using limited or partial control of access.

"Controlled Access" or "Limited Access" should be clearly denoted on the plan drawings. (See symbols on page 12-2) Any proposed breaks in the controlled access, other than access points at interchanges and sometimes at intersections, shall be clearly identified on the right of way plans in the following suggested manner:

BEGIN AND ENDING STATION FOR CONTROL OF ACCESS

EXAMPLE:
Begin C/A Sta. 11+40
End C/A Sta. 12+40

This break in access will also be recorded on the right of way instrument of record.

Projects that allow vehicular access to the main facility, via at grade intersections, are considered "Limited Access". The control of access line will turn away from the main facility and follow the side road right of way a distance of approximately 250 feet. This distance may be adjusted to accommodate property access along the side road. See Figure 12-H on the following page.

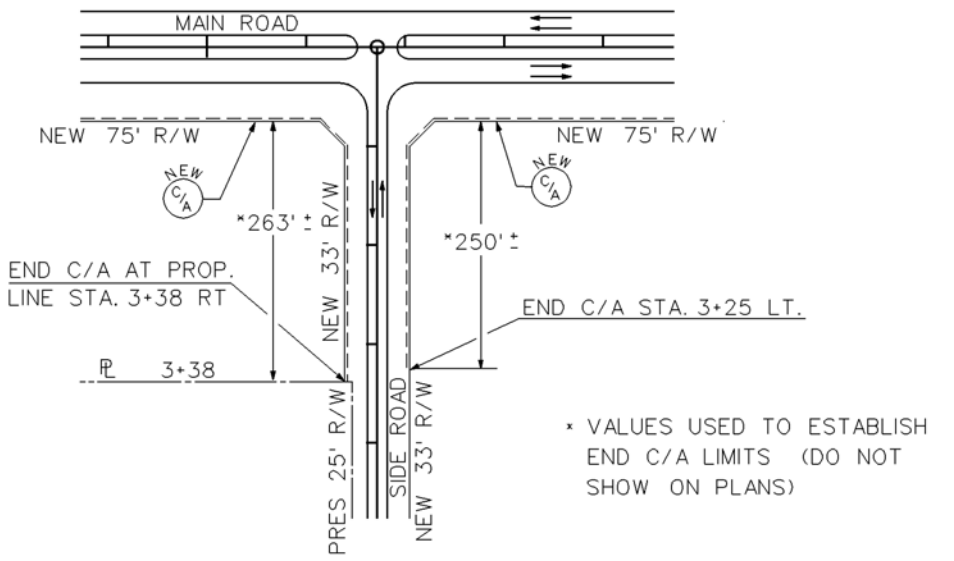


FIGURE 12-H CONTROL OF ACCESS AT INTERSECTION ROADS

16. Placement of Right-of-Way Markers

Right-of-way markers should be utilized only on facilities having control of access and other rural primary facilities. See Standard Drawing No. 809-1 for construction and installation details. Markers should be installed in accordance with the following criteria:

(a) Break points in the R/W line (s)
(b) Points on R/W opposite proposed curvature points of control, i.e. PC/PT
(c) Points along R/W which maintain forward and back line of sight
(d) Maximum distance between any two markers along a continuous R/W line should be 1400' on Tangents and 700' on Curves in Rural Areas and 500' on Tangents and Curves in Urban Areas.

Ideally, right-of-way markers should not be placed at points that are common to property lines and/or corners.

17. Property Information

Early in the plan development, parcel numbers should be assigned to the individual properties, consecutively in the direction of the stationing and listed on the Right-of-Way Data Sheet. Property ownership may change during the development of the project but the pre-assigned parcel numbers will not change. Additional properties may be affected by adding work or realignment to the project. In these cases, new whole numbers should be assigned consecutively from the last whole number used. Should a pre-numbered property be divided or sub-divided, the new parcels should be identified by using the original whole number followed by a letter suffix (i.e., 12-A; 12-B; 12-C; etc.). Should a previously numbered parcel be deleted, the notation "OMITTED" may be entered under the column of the sheet showing the property owner's name.

All projects that require new Right-of-Way, slope permission, control of access, or any type ingress or egress will be required to have each property being affected assigned a tract number.

These tract numbers are the only identification to be shown on plan sheets and property closure layouts.

Any other pertinent information, including property owner and tract number will be shown on the Right-of-Way Data Sheet.

Items to show on the Right-of-Way Data Sheet:

(a) Tract number
(b) Name, as it appears on instrument of record
(c) Tax Map reference
(d) Total area in acres or square feet as referenced on instrument of record
(e) Obtain, shown in acres and square feet
(f) Remainder in acres or square feet if less than ¼ acre
(g) Date of acquisition shown by R/W Department
(h) Type of instrument shown by R/W Department
(i) Construction permission

When a parcel of land is severed, areas remaining left and right of the mainline shall be indicated on the right-of-way plans via a summation of the total areas.

Access to remaining areas should be analyzed, and where uneconomical remnants of property remain, they should be included in the new right-of-way limits. These analyses should be included in the new right-of-way limits. These analyses should be made by the Right-of-Way Section.

18. Right-of-Way Plans Distribution

The distribution of plans to Right-of-Way and other sections or agencies is handled through the Road Design Staff Coordinator.

When right-of-way revisions are necessary during the development of the final plans, notify the Right-of-Way Section immediately. Furnish new plans and revisions in accordance with Chapter 20, Table 20-4, of SCDOT Highway Design Manual. Revisions should be noted near the upper right corner of the Plan and Profile Sheet (or in a revision box when provided), giving the date, initials or person making the change, brief description and location of revision. A revision sheet is created and kept in a file folder by the group coordinator. Make sure that any revision affecting other features of the project (such as utilities, wetlands, traffic control, etc.) is printed and distributed to the respective section.

19. Railroad R/W

It has become very difficult to verify railroad right of way (R/W) widths for the right of way/construction plans. Records of CSX Railroad R/W have been given to a consultant and are not readily available to the Department.

When any railroads are encountered and railroad R/W is present, the railroad R/W shall be shown on plans from the information that is received in the location survey. This information may be obtained from property plats, old plans, and/or tax maps.

After R/W plans have been sent to the Right of Way Section, the plans will also be provided to the Utilities Office to be sent to the involved railroad that will then review the plans and advise the Department of any discrepancies in the railroad R/W.

20. Highway Design versus Local Tree Ordinances

Occasionally, conflicts between safe highway design and the location on state highway of tree or line of trees arise. Efforts will be made to retain a tree of significant value, whether significant by age or by its history. However, if all efforts to avoid a conflict with a tree cannot be accomplished using Department standard designs and practices, then the tree or line of trees may have to be sacrificed in order to complete the highway project for the safe movement of the traveling public.