

GTE Responsibilities - Roadway Design

Introductory Knowledge: A basic understanding of the objective

Working Knowledge: An understanding of the information and an ability to use and apply the information

Demonstrated Competency: The proven ability to perform the objective determined by the supervisor

Objective Description		Introductory Knowledge	Working Knowledge	Demonstrated Competency
1	Discussion Topic: Performance Metrics for Roadway Design			
2	Estimate Roadway Quantities, including Pay Item Number, Description, Unit, and Quantity, consistent with the Specifications, and determine Roadway costs associated with the project .			
3	Assist with plans preparation, including cutting sheets and labeling pertinent information for assembling the Functional Design Plans.			
4	Understand and apply clear zone requirements through calculating guardrail length of need.			
5	Calculate and design superelevation transitions using cadd, including profile sheets, cross sections cut at critical superelevation stations, and plan views using a cadd design tool and design software.			
6	Calculate stopping sight distance, passing sight distance, intersection sight distance, and minimum gutter grades as part of a project's vertical geometry requirements using a cadd design tool and design software.			
7	Review typical sections for accuracy and feasibility with respect to context sensitive design.			

8	Review Work Zone Traffic Control plans to ensure traffic control is consistent with work zone standards and is constructable. Where applicable, ensure motorized and non-motorized users are accommodated, including ADA compliance.			
9	Review a Project Concept Report (i.e. Transportation Investment Report (TIR), SIA Permit Application, Resurfacing PS&E, etc) and understand the application of a Project Concept Report to the development of a project, in accordance with the Project Development Network (PDN), if feasible.			
10	Estimate stormwater runoff and on-site storage using software modeling for both rural and urban drainage.			
11	Calculate earthwork quantities using cadd tools and cross sections.			
12	Calculate hydraulic grade lines.			
13	Review plans to determine possible locations for utility conflicts, including visible above ground utility features and underground utilities, including water, sewer, gas, communications, and electrical. Note whether the conflict is Apparent, Possible, Phasing, and/or Design - Utility Deconfliction.			
14	Review construction plans to ensure adequate right-of-way is available, including any right-of-way that may be needed solely for construction of the project.			
15	Seek out and review RFIs and change orders on similar projects to ensure those same issues are addressed where applicable, moving forward, ultimately, saving on construction costs for TDOT.			
16	Ensure quality meets or exceeds standards.			

17	Manage change by maintaining complete and accurate documentation, to assist in providing project continuity.			
18	Effectively coordinate with the Roadway Design team and coordinate with other disciplines to ensure the needs of the project are met.			
19	(Anticipate coordination with other Regions) Actively participate in field reviews to identify concerns for which actual field conditions are inconsistent with survey data or for which the functional design plans may pose concerns during construction and/or maintenance, if feasible.			
20	Effectively coordinate with the Roadway Design team and coordinate with other disciplines to ensure the needs of the project are met.			
Right-of-Way (added January 2024)				
1	HQ or Region: Obtain an overview of Right of Way functions and responsibilities in support of Project Teams as part of project delivery.			
2	HQ or Region: Obtain an understanding of ROW's Roles and Responsibilities with respect to Region, Headquarters, and Consultants.			
3	HQ or Region: Obtain an overview of Right of Way's mission in delivering free and clear title to rights of way needed for the construction of transportation projects; relocating residential occupants, businesses and nonprofit organizations from acquired right of way; and clearing acquired improvements by demolition or other means.			

	Activity: In your own words, write/type a summary of ROW's function as part of TDOT projects.			
4	<p>HQ or Region: Right of Way's primary deliverable is the ROW Certification for Construction which affirms that title to all necessary rights of way has been acquired; all persons displaced by tract acquisition have been relocated; and all acquired structures have been cleared or have been included in the construction contract. On projects other than Design-Build, construction may not proceed without the ROW Certification.</p> <p>Activity: Assist in the preparation and review of a ROW Certification by completing the following:</p> <ol style="list-style-type: none"> 1. Access the applicable database and pull deeds and orders to ensure they are executed and recorded. 2. Verify uploads through coordination with the Region. 3. Obtain an understanding of the recording process. 4. Learn the components involved with each ROW discipline and write a brief explanation as to what has transpired on the project including how many tracts, how many relocations, how long did it take to finish all ROW work, and any other relevant factor. 			
	HQ or Region: To achieve the ROW Certification, appraisals of the property to be acquired must be completed in accordance with the Uniform Standards of Professional Appraisal Practice (USPAP) which are applied nationally. Each appraisal must be reviewed and a fair market value for the land acquired and any severance damages to the remainder must be established.			

5	<p>Activity: (May require coordination with other Regions/HQ)</p> <p>Participate in a field review of comparable sales used in determining fair market value.</p> <p>Assist in performing the pre-review of an appraisal to determine if a clear story of the appraisal problem has been stated and addressed. During the pre-review, check all calculations and figures for correctness.</p>			
6	<p>HQ or Region: The next step is conducting negotiations for the acquisition of the tract in good faith and without coercion or pressure on the owner to settle. Free and clear title must be acquired based on a valid title report.</p> <p>Activity: (May require coordination with other Regions)</p> <p>Assist with preparing and proofreading a first written offer package. Follow a checklist and review for completeness and accuracy. Offer opinions and insight as appropriate to the negotiator. Accompany negotiator during the first written offer. Have a debrief session with the negotiator and assist with follow-up actions.</p>			
	<p>HQ or Region: Once the tracts are owned by TDOT, relocation actions are completed including payment of monetary benefits and provision of advisory services or assistance for residential occupants, businesses, and non-profit organizations.</p> <p>Activities include: (May require coordination with other Regions)</p>			

7	<p>Assist with calculation of a Replacement Housing Payment (RHP); either rental or purchase.</p> <p>-OR-</p> <p>Attend and assist with a decent, safe, and sanitary inspection (DS&S) for a replacement dwelling.</p> <p>-AND-</p> <p>Assist with completing an inventory for a business move.</p>			
8	<p>HQ or Region: Once all relocation is complete, ROW clearance activities are conducted to remove structures from the ROW such as mobile homes, single-family residences, business locations, and similar improvements. Depending on the project schedule, some structures may be included in the construction contract so as not to delay a letting.</p> <p>Activity: (Anticipate coordination with Region 1)</p> <p>Complete an inventory of an acquired improved property.</p> <p>If possible, meet with Region 1 via Teams to obtain an understanding regarding actions necessary to accomplish a demolition.</p>			
9	<p>HQ or Region: All ROW functions and actions are governed by the Uniform Act (PL 91-646); Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, amended. This is a fundamental requirement to receive Federal funding participation on a project.</p>			

	Activity: Obtain an understanding of the Uniform Act. Complete independent research on the internet and locate at least two separate FHWA "articles" concerning the Uniform Act and how it is administered. Prepare your notes on the Uniform Act for the Unit Supervisor's review.			
10	<p>HQ or Region: Right of Way acquisition sometimes involves the use of eminent domain, which is afforded to the State of Tennessee through the U.S. Constitution and confirmed by the Tennessee Constitution. To condemn right of way, there must be a public necessity (typically the project); the property sought must be a vital component of that project; and fair market value must be paid (set by an appraisal or the court).</p> <p>Activity: (Anticipate coordination with other Regions)</p> <p>If feasible, attend a discussion or strategy session with the lead TDOT attorney after suit is filed and prior to an Order of Taking hearing. Attend an Order of Taking hearing and take notes. If at all possible, attend one or more days of an eminent domain trial and document your observances including jury selection, expert testimony, and exhibits displayed.</p>			

11	<p>HQ or Region: Right of Way is heavily involved in the project planning phase including cost estimating and alternate route studies as well as preparation of schedules. Right of Way makes recommendations for design changes which may lower the amount of severance damages to a remainder property. These recommendations might come in the form of moving a driveway, adding a driveway, adding a sidewalk, removing a wall and using a slope easement, adding a traffic light, etc. All such recommendations are reviewed by a ROW Engineer and vetted by the Project Manager and the Project Team.</p> <p>Part A Activities: (Anticipate coordination with other Regions) Go on a field trip with a ROW Cost Estimating team. Assist with data collection and evaluation of community impact. Check formulas and totals for accuracy.</p> <p>Part B Activities: (Anticipate coordination with other Regions) Review a ROW design plan change recommendation and assemble cost support/data to assess feasibility.</p>			
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12	<p>HQ or Region: Right of Way is a vital component of any transportation project TDOT contemplates beginning with planning, determining community impact, cost estimating, and scheduling. Right of Way activities between appraisal and ROW certification can take an average of 24 months to complete and up to 36 months on interstate projects.</p> <p>This time period is dependent on the complexity of the takings, the nature of the project, and changes in design during the right of way phase. Statutory entitlements and timeframes cannot be circumvented in order to expedite a project involving right of way.</p> <p>Activity: Using the ROW Procedures Manual and the Uniform Act, identify several activities with statutory timeframes or limitations.</p>			
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