**Purpose of the Site Review Activity # 534**

* Ensure that all TDOT divisions attend Site Review and have input in project plans before it goes to ROW
* Identify possible constructability problems early on
* Have all possible questions filled out by project delivery/design manager prior to the site review and dispersed to those who will attend. Then, additional responses, changes or questions can be addressed.
* After the site review, send out completed document to all of those who are present
* Completed document will become part of the InfoOnly.pdf plan set that is turned in with project.
* Completed Document will be posted on the construction website for letting submittal. This should help eliminate some of the questions that are asked by contractors during the limited weeks between turn in and letting.

**Check List for SITE Review Activity # 534**

**County: PIN: Date:**

**Project Number**

**Description:**

**Projected ROW Field Review Date: ROW Submittal Date:**

**The following Activities must be completed PRIOR to this Review:**

**Activities Completion Date:**

|  |  |
| --- | --- |
| # 260 - NEPA Hearing |  |
| # 300 Obtain FHWA Approval of Final Environmental Document for EIS, EA, and FONSI.  |  |
| # 385 Obtain FHWA Approval of Final Environmental Document For Categorical Exclusion |  |
| #370 Provide Boundaries for Avoidance |  |
| #400 Hold Design Hearing (If Applicable) |  |
| #465 Complete and Submit Soils and Geology Report for Roadway |  |
| #470 Prepare Preliminary Signal and/or Lighting Design (If Applicable) |  |
| #445 Prepare Retaining Wall Detail Sheets (If Applicable) |  |
| #520 Complete Foundation Report for Structures |  |
| #525 Design Preliminary Structures  |  |

**Attendees:**

**Note: If you are attending as a representative for the division but will not be the primary contact, please add the primary contact’s name below yours and initial as PC.**

**Project Delivery And/Or HQ Consultant Management (Design)**

**Name Email Phone**

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**Project Delivery (ROW and Utilities)**

**Name Email Phone**

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**Project Delivery and HQ (Environmental, Historical, NEPA, Permitting)**

**Name Email Phone**

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**Region Operations**

**Name Email Phone**

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**Geotech**

**Name Email Phone**

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**Structures**

**Name Email Phone**

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**Consultant Designers (If Applicable)**

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**Headquarters Construction (As Needed)**

**Name Email Phone**

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**Signals, Lighting and ITS and/or Regional Traffic (If Applicable)**

**Name Email Phone**

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**Value Engineering Team (If Requested)**

**Name Email Phone**

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**Other Divisions or Representatives (Land Usage for Staging/Construction)**

**Name Email Phone**

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**GENERAL**

1. Are there any features missing from survey? (new developments, driveways, signs, utilities. Look for Markers indicating the existence of underground utilities, such as gas lines and fiber optic lines, and ensure utility valves and manhole covers are shown).
2. Is TDOT aware of any future developments in this area that was not noted during the planning phase? If so, are sufficient turn lanes needed to accommodate future growth?
3. Are there any obligations to or agreements with the city or county on project completion time?
4. Are there any obligations to or agreements with the industry for completion time?
5. Any schools nearby to be considered that might affect the phasing of the project?
6. Any existing drainage issues at RR that may need to be addressed?
7. Any obvious eroded areas?
8. Any vegetation that could be causing sight distance problems that should be noted for removal in the plans?
9. Any Annual Festivals or activities that need to be addressed nearby that might affect the project that needs to be addressed in SP108B?

**GEOTECH**

 Several Geotechnical concerns have been addressed within other areas.

1. Do rock cuts have adequate rock catchment ditch per RD-01-S-11B?
2. Are any proposed soil slopes steeper than 2:1?

**UTILITIES/ROW**

1. Are utilities prior move or move in contract? Are utility relocations Chapter 86 eligible?
2. Any obvious utility issues or conflicts?
3. Will the existing utilities have any effects on traffic phasing?
4. Are there encroachments onto properties that could be eliminated if the slopes were pulled in?
5. Are there signs of septic systems if not on sewer system? Are the septic lines covered by slope lines?
6. Will any driveway entrances need to be relocated or closed? Are there any that are not going to be moved that could be moved to help with sight distance problems?
7. Do the plans address all existing property entrances? (Any left off survey?)
8. On business drives, how will the proposed drive affect the property, particularly if curb and gutter are being added by the project?  Should options be looked at to move it from its original location?
9. Are power poles attachments labeled correctly? Is it Power, TV Cable, Fiber Optic, or possibly multiple FOC lines attached to the pole?
10. If there is a TVA tower, have you done everything possible to avoid moving it?
11. If the project borders another county, it is possible we may have 2 utilities serving the same project area. Check with Utilities.
12. Are there any existing utilities attached to the structures?
13. Can we avoid major Gas Transmission Lines? (due to extreme relocation cost)
14. Can we avoid major Telecommunication Cabinets and underground Vaults? (due to extreme relocation cost)
15. Did the designer receive a list of utilities serving the project area from utility headquarters? (This list is created as a result of “Notify Letters”
16. Designer should contact Region utility to correct utility owners list prior to mailing or emailing the utility companies.
17. If utility poles are to be relocated to areas of new fill or cuts, can the stage construction of the project include grading these areas early so that utilities can be moved? (e.g., utility poles would have to be extra-long to account for fill placed after the pole is placed so wires have enough vertical clearance.)
18. If utilities are being relocated by prior move, is there clearing and grubbing needed to be done prior to the contract letting?
19. Are there gas lines which will have to be relocated which have seasonal constraints as to when the gas lines can be relocated, which could impact construction staging?
20. For control of access projects, are there any existing control of access fences that need to be replaced where no ROW is to be acquired?
21. Are there any improvements in temporary construction easements that can be left in place during construction? (i.e. private light poles, signs, etc.) If so, a note will need to be added to the plans telling the contractor not to disturb.
22. Will utility relocations occur in areas which may require environmental permits? (e.g. streams, wetlands, etc.?)
23. Are there any existing private structures (other than mailboxes) that are currently encroaching or located on existing ROW? (E.g. signs, displays, fences, entrance features, etc.)
24. Are there any security fences that will need to be temporarily reset prior to a permanent fence? Is the proposed area within a free trade zone?

**ENVIRONMENTAL CONCERNS**

 **NEPA**

1. Are there Environmental Commitments? Have these commitments been added to PPRM and activated by the POA?
2. Are streams or wetlands impacted by this project? If yes, is mitigation required?
3. Are retaining walls proposed to reduce or eliminate impacts to streams or wetlands?
4. Are protected species present on this project?  What constraints are involved if so?
5. Is a species survey or sweep required prior to start of construction?
6. If tree clearing is required for the proposed improvements, are there seasonal tree clearing restrictions? Has the bat survey been coordinated? If so, when does our USFWS clearance letter expire?
7. Are there historic properties identified on this project?
8. Are any retaining walls needed because of historic properties?
9. Have any archaeological artifacts been found in the area or on a nearby project? If there are artifacts, does the proposed design ensure that the proposed alignment and all construction activities do not impact the archaeological areas?
10. Do the plans identify the historic property boundary?
11. Are right-of-way and/or easements prohibited from the historic property?
12. Are there restrictions to using the historic property as a construction staging site?
13. Will blasting take place near the historic property?  If so, the contractor will take the historic property into consideration and will take all necessary measures to avoid impacts to the historic property.
14. Are there specific design features being used as mitigation for the historic property (ie. aesthetic treatments, landscaping, etc.)?
15. Are asbestos or other hazardous materials present on site?
16. Are there any remaining hazardous material sites that require additional investigation or remedial action?
17. Are there any structures that will be removed or replaced?
18. Are there any structures (building or bridge) requiring asbestos containing materials investigation or abatement?
19. Who is the historian to contact regarding this project?
20. Is there any ROW to be acquired that would require a 4(f) or 6(f) property (e.g., public parks and recreational lands for this project?
21. Is there any APR (Acid Producing Rock) expected on the project site? If so, has a plan for handling and removal been developed such as placing it in proposed embankment or taking it to a waste area (land fill or encapsulation cell?
22. Are there any stream relocations required? If so, is there sufficient proposed ROW?
23. Is the construction of noise walls required?
24. Is the project over 50 acres? If so, the contractor will have to limit his disturbance to 50 acres or less regarding his grading quantities and phasing coordination which could affect traffic phasing.
25. Are there any underground storage tanks within the proposed right of way?

**PERMITS**

1. Will blasting in or near a watercourse be required? If yes, review Soils and Geological report for approximate rock line information.
2. Is there a natural channel stream design included in the project?  Who is responsible for design, construction, and oversight if so?
3. Is water quality monitoring required pre-construction, during, or post-construction?
4. Is there enough ROW for outfall protection, sediment basin (or equivalent measures), sediment filter bags, or any other specialized EPSC measures?
5. Is outlet protection needed at any structure or outfall location?
6. Are any sinkholes present? If yes, refer to Soils and Geology report for Karst Activity on site.
7. Have all culverts that are over 250’ been identified for permitting requirements?
8. Do any proposed culverts or culvert extensions alter the alignment of the streams at the inlet or outlet? Will any of the streams have to be relocated?
9. Are there any issues/concerns that have been brought up by permitting agencies during pre-coordination?  If so, have they been addressed? Who is the contact person for these issues?
10. Will there be any fill associated with the project that would affect any power storage loss for a Corps of Engineers or TVA reservoir?

**STRUCTURES**

Several Structural constructability concerns have been addressed within other areas.

1. Does the USACE need to be contacted to discuss high water/ low water elevations prior to construction of the bridge?
2. Where existing bridge is being widened or replaced, are plans and/or as-builts available?
3. Does the existing bridge have substandard horizontal or vertical clearance?
4. Will the removal of any structure, including superstructure and substructure, require either blasting or the potential to drop construction debris into Waters of the State?

**TRAFFIC CONTROL AND CONSTRUCTION PHASING**

 **Option 1: Closed Road with Detour**

1. Has the Work Zone Significance Determination sheet been completed?
2. Will the Traffic Management plan require additional strategies such as shown in Smart Work Zone Implementation Plan?
3. Is there sufficient capacity on detoured route?
4. Are there any special events (ball games, concerts, etc.) or project commitments that would be affected with the detour that might require special signing or other traffic control considerations?
5. How will a road closure or detoured route affect the proposed traffic report?
6. Would the detoured route require signalization?
7. Are there overhead structures along the detour route that have deficient vertical or horizontal clearances?

**Option 2: Maintain Existing Traffic while Building New Alignment or Widening**

**General**

1. Has the Work Zone Significance Determination sheet been completed?
2. Are there any special events (ball games, concerts, etc.) or project commitments that would be affected with the detour that might require special signing or other traffic control considerations?
3. Does the existing horizontal alignment and proposed horizontal alignment cross at any location? If yes, how will this be handled during construction? Is it within one or two foot on elevation difference?
4. Do grading quantities justify which side of the road should be built first to ensure that there is no “borrow” and existing cut can be used? If cut material is supposed to be used for fill material, ensure that it is not under existing traffic and cannot be excavated in initial phase.
5. Is there a haul road needed? Is additional construction easement needed?
6. Are there any locations on or near the project site to stage construct? Does additional construction easement need to be acquired for this area?
7. Will the existing shoulders be used for a traffic lane? If yes, ensure sufficient pavement depth is added for traffic.
8. Do any temporary detours conflict with existing or proposed utilities?
9. How will traffic to businesses be maintained?
10. Any possible queues to a railroad crossing or blocking of intersections or emergency vehicle exits possible with traffic control measures?

**Structures**

1. If the bridge is to be closed during construction, is it possible to move the horizontal alignment sufficient distance and leave the existing structure open without major right of way cost or impact to homes, etc.?
2. Are the vertical grade differences too much to maintain existing traffic? Will sheet piling be necessary at bridge approaches where the bridge grade is being raised significantly?
3. Is there sufficient horizontal clearance between the existing and proposed centerlines to keep the existing bridge open while building the new bridge?
4. Is there sufficient vertical clearance between proposed structures to maintain existing traffic?
5. If one lane bridge is used are there sight distance issues on the approaches that would require additional signage for upcoming signal?
6. Is there a traffic control parameter that would override the phasing of the bridge?
7. Is it feasible to partially remove the existing bridge substructures?
8. Is there a need to accommodate farm traffic while phasing?
9. Will any of the existing water ways need to be closed between piers, if yes is it in a USACE water way which will require a permit and signing at boat ramps?
10. Is the crossing over a commercially navigable waterway which would require coordination and permitting with the U.S. Coast Guard?
11. Are there any locations where proposed pipes or box culverts cross the existing pipes or culverts? If so can they be phase constructed to maintain proper drainage and still maintain traffic?

**ITS/SIGNALS/LIGHTING**

1. How many existing signals, flashing beacons, and/or school flashers are in the project? Where are they located?
2. Is there existing lighting in the project limits that will need to be upgraded or replaced?
3. Have there been any commitments to the city regarding the use of mast arms?
4. Will any existing ITS facilities be impacted by the project?
5. If lighting is proposed, is the correct type of luminaries chosen to go with local lighting system, i.e. high pressure sodium, mercury vapor, LED, Etc.
6. Is there sufficient ROW for proposed signal & lighting equipment in all four corners of the intersection, if needed?
7. Is there sufficient proposed ROW for proposed curb ramps at the intersection? If there is proposed ROW, is construction easement needed to build the ramps?
8. What is the type of existing signals? Span wire or mast arm.
9. Are there existing pedestrian and/or signal features that will need to be upgraded at the intersection if existing signals are not being directly affected by new construction?
10. Does the project limits extend through the intersection? (The survey limits should cover approximately 500’ to 600’ beyond the center of the intersection on all approaches)?

1. Are there any signals upstream or downstream from the proposed limits that will possibly need to be interconnected? If so, are the existing traffic controllers compatible with being interconnected?
2. Are any temporary signals needed? If so, are there possibly utility conflicts with the temporary signal pole locations that could conflict during construction and/or ones that need coordinating with other utilities on the project?
3. Does the survey show all components pertaining to the existing signals? Such as cabinet, poles, signal heads and etc.?

1. Are there any schools, fire/EMS stations or railroad crossings near the proposed intersections?
2. Is there any type of pre-emption presently shown at the intersections?
3. Are there any overhead utilities that may affect the installation of the proposed signal?
4. What type of detection is presently being used? Does the county or municipality have a particular standard or preference for detection devices? (e.g. radar, video, loop, etc.?)

**RETAINING WALLS**

Retaining Wall Number \_\_\_ Road Name/Sta. Range: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Note: One Call shall be notified by Utilities to Locate Utilities prior to Site Visit.

1. Circle all of the following that may apply:
	1. The footprint of the wall is within 10’ of ROW
	2. Existing and/or Proposed Utilities (Signal Poles, TVA towers) are near the footprint of the Wall
	3. Existing and /or Proposed Drainage Structures are near the footprint of the Wall
	4. Foundation Improvement for the Wall could affect traffic phasing
	5. This is a Top Down Constructed Wall (Soldier Pile\Lagging, Soil Nail)
	6. This wall is needed to mitigate pyritic material
	7. This wall will be greater than 10 feet in height
	8. There are 2 or more traffic phases (affect when the wall is built)
	9. ITS Infrastructure is within 10 feet of the footprint of the Wall
	10. There is a RR adjacent to the wall (RR usually does not want MSE wall)
	11. The wall is within the clear zone
	12. The proposed slope in front of the wall is not flat
	13. There are environmental limitations (wet lands near or needs stream relocation, etc.)
	14. Does the proposed retaining wall affect the access or a driveway into an adjacent property?

When 3 or more are circled, then the wall will be considered to be susceptible to constructability issues. Structures will work with Design and Construction to determine if the wall is to be designed by the Retaining Wall Unit in Structures or by Structures Consultant. Once decided, immediate action will be taken to design the wall and submit with ROW plans.

**General Questions:**

1. Is retaining wall constructed on the project critical path schedule or needed to start the project?
2. If undercutting of existing ground is required for retaining wall(s), can this be done as part of phase construction?
3. Can retaining walls be constructed to help reduce damages to a property or to potentially save a relocation?
4. What Wall types are allowable?
5. Are there any types of walls that are restricted and why?
6. Are there commitments pertaining to the finish of the wall? Had the commitment been entered into to PPRM and activated by the POA?
7. Are there commitments to the performance of the wall?
8. Will undercutting be required? If so, how deep?
9. Will the wall cause a sight distance problem at any intersection?
10. Has drainage been designed for both sides of the wall and will it coincide with the proposed wall type? (catch basins, ditches, etc.) Hos is Drainage handled on slope approaching wall
11. Is there sufficient room for signs, signals and/or lighting at the wall? (pole foundation is 15’)
12. Are sinkholes or other geological features an issue for proposed wall type?
13. Are noise walls attached to retaining walls?
14. What is the typical section adjacent to wall? Is there a multi-use path?
15. Are railings or fences required above the retaining wall? If so, additional overturning action must be considered by Structures Division.
16. If pile foundations are required, are there any constraints to the pile driving (e.g., overhead clearance, noise, sensitive buildings nearby such as hospitals)? Should drilled shafts be specified?
17. If acid producing rock is on site, is there an opportunity to reduce the volume if a top down retaining wall is proposed? Will a retaining wall be required to face acid producing rock cut?

**Cast In Place Wall**

1. If a CIP wall is proposed, is there sufficient ROW or construction easement for undercutting for foundation improvement?
2. For cast in place walls, can the back cut on 1:1 slope from bottom of footing or bottom of undercut to existing ground surface.
3. If cast in place walls are considered, can piling be driven in a phase construction type of project?

**MSE Wall**

1. If MSE wall is proposed, can manufactures provide cantilever wall cap for barrier attachment, a detail will be need and approved for crash testing?
2. If MSE walls are considered, can they be constructed as part of the traffic control phasing of the project? That is, can straps and reinforcement hold the panels/blocks be completely installed in a traffic phased project?
3. If MSE walls (block or panel) are considered, one needs to consider strap, geogrid reinforcement requirements behind wall would require ROW. How do utilities get worked into the grid reinforcement of the MSE back fill?
4. If MSE wall (block or panel) is considered, cost of Moment slab at the top of the wall shall be included in wall cost.

**General Comments:**

1. Compare cost of retraining wall (various types) to fill spilling onto adjacent ground. Consider steeper slopes, max 2:1, with guardrail at shoulder compared to retraining wall cost. When comparing cost, include cost of back cut and back fill along with wall.
2. If rock is near the proposed cut area, consider natural rock cut for the wall.