

DELDOT UTILITIES SECTION
POST-COORDINATION & CONSTRUCTION REVIEW MEETING: FINAL

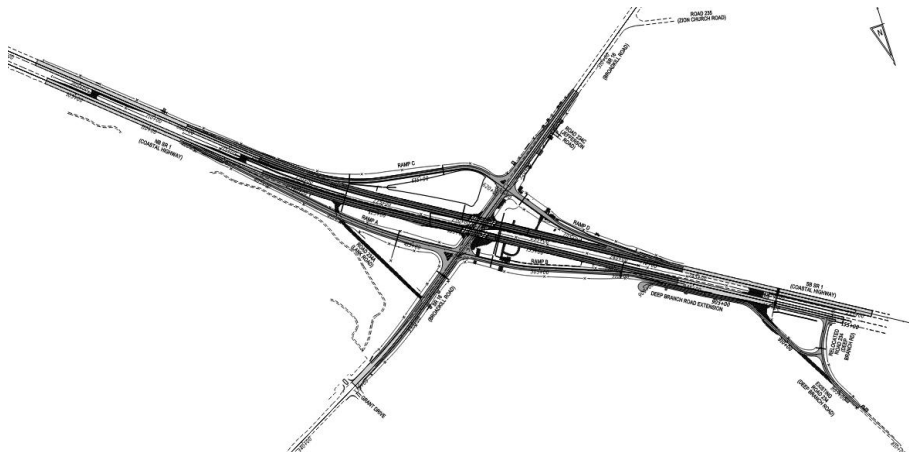
STATE CONTRACT: T201500301 SR 1 & SR 16 Grade Separated Intersection
Advance Utility Relocations

REVIEW MEETING DATE: November 04, 2022

PREPARED BY: Alan K. Marteney, P.E.
Century Engineering, LLC, a Kleinfelder Company

| INVITEE | ORGANIZATION | ATTENDED |
|--|----------------------------------|----------|
| Alan Marteney | Meeting Organizer | Y |
| Eric Cimo | DelDOT Utilities Engineer | Y |
| Chuck Ferguson | DelDOT Utilities Coordinator | Y |
| Brett Abrahamsen | WRA-Engineer of Record | Y |
| Sarah Powell | DelDOT Construction | Y |
| Dan Thompson | DelDOT Construction | Y |
| Dane Mayorga | Century-Construction Inspection | Y |
| Clay Pepper | Century-Survey & As-Built Coord. | Y |
| Charles Jones | Century-Right-of-Way Agent | Y |
| Keith Severn | AIU LLC-Comcast | Y |
| Mike Sullivan | Comcast Construction Coordinator | Y |
| Darren Coppersmith | KCI-Verizon | Y |
| Representatives of other involved utility companies were invited but did not attend. | | |

BRIEF PROJECT DESCRIPTION: The project included the construction of a Grade Separated Intersection between SR1, a dual north-south oriented highway and the main travel corridor to the Delaware beach resorts, and SR 16, a two-lane road in a west-east orientation. The GSI will be a traditional 'diamond' configuration with ramps in all four quadrants and SR 1 will bridge over SR 16. Widening of SR16 is required on both approaches to the new ramp intersections. Approximately 1,800' north of SR 16 is Deep Branch Road, a local road with a median crossover on SR1, that will be relocated approximately 400' to the north beyond the entrance ramp taper and restricted to right-in/right-out only movements-see snapshot below:

**UTILITIES INVOLVED:**

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Page 2 of 3

- Artesian-Waste Water Management (facilities present but no conflicts)
- Comcast Cable-Communication
- Delaware Electric Cooperative-Electric Distribution
- Tidewater Utilities-Water (facilities present but no conflicts)
- Verizon-Communication
- DeIDOT-ITMS

ADVANCE UTILITY RELOCATIONS: Yes.

ADVANCE UTILITY RELOCATION START DATE: Fall 2021

ADVANCE CLEARING CONTRACTS: None

ROAD CONTRACTOR: A-DEL Construction Co., Inc.

ROAD CONSTRUCTION START DATE: June 2022: 1,216 Calendar Days Contract Duration.

ROAD CONSTRUCTION END DATE: On-going as of the date of these notes; anticipated Fall 2025.

DELDOT PROJECT DEVELOPMENT SECTION/PROJECT MANAGER: PD South; Bryan Behrens

ENGINEER OF RECORD FIRM: WRA

DELDOT CONSTRUCTION REPRESENTATIVES: Sarah Powell; DanThompson.

CONSTRUCTION INSPECTION FIRM:

- Advance Utility Relocations: Century Engineering/Dane Mayorga
- Road Construction: RKK

DELDOT UTILITY COORDINATOR: Chuck Ferguson

MAJOR PROJECT CHALLENGES: Project is located within a highly developed commercial and residential area. During both Project Development and Construction, a major challenge was keeping up with changes due to new developments. These resulted in changes to the road design and subsequently the utility relocations. A challenge was also coordinating with the timing of the road improvements and utility services needed for the new developments which included a new Public Library and a new Emergency Department.

The schedule for the advance utility relocations was developed so that they would be complete by the time that the road contract started based on the anticipated phasing and durations of the utility work. Century provided survey stakeout, on-site inspection and as-built documentation for the advance utilities until the road construction project started when GPI assumed the inspection role. Several factors prevented the utility relocations from being completed in the anticipated time-frame, including:

- Need for advance clearing.
- Clearance of the needed Right-of-Way for the advance clearing and utility relocations.
- On-going changes to the road design and subsequently the utility installations and relocations due to the aforementioned new developments.

PROJECT POSITIVES:

- All stressed the importance of having a dedicated inspector for the utility relocations as this provided a single point of contact and continuity for the relocation work and any changes needed for the relocations due to the design changes and encountering unknown conditions.
- Dedicated inspector also served as primary point of contact with the Design Engineers. Quick response from the Design Engineers was noted as a positive to implement changes and resolve conflicts.
- Having relocations, proposed improvements and right-of-way staked out in advance was noted as critical as it allowed final field review and identification of conflicts as was the follow up on as-builts to confirm no conflicts or work out conflicts with proposed work by others.
- Having monthly progress meetings focused on the utility relocations was very helpful in coordinating schedules and issues.
- Communications amongst all involved was noted as being responsive which minimized delays and costs to the extent possible.
- In sum, all agreed that communication between all parties was very good and that this minimized issues in this corridor that was congested with utilities and developments.

PROJECT NEGATIVES:

- Not having the right-of-way available was noted as being a major impact to scheduling and getting the work completed.
- Some unknown underground utilities were encountered.
- The proposed water main was very close to the existing water main which resulted in some conflicts with constructability and making service tie-ins.

RECOMMENDATIONS:

- When advance underground relocations are placed thru wooded areas, subsequent clearing & grubbing (removal of tree roots) by the road contractor can affect those underground facilities. Consider including grubbing with any advance clearing work and/or having the advance underground utilities installed deeper if other design elements allow (e.g. drainage pipes).
- Need to account for maintaining electric service to the existing traffic signals and roadway lighting until the new signal/lighting is installed. This also includes any ITMS or other communications that are tied to the signals or have electric service.
- Relocations of utilities should be accomplished at one-time for the entire limits of the project to minimize temporary tie-ins and subsequent time to complete, costs and service interruptions to the public. Temporary connections for the communications utilities were noted as being especially impactful.
- Conduct an Advance Utility Relocation pre-construction meeting. Establish points of contact for the day-to-day activities/scheduling.
- Proposed new developments and their proposed new entrances/sidewalks/utilities need to be coordinated as early as possible. Issuing construction permits from the town or DelDOT district for any new work also should be coordinated in advance and restrictions imposed on those permits as needed for coordination with the advance utilities or road work.
- Account for constructability issues when designing and incorporating the utility relocations into the contract documents.