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Contract Number: DTPH56-08-T-000017

Prepared for: DOT, Max Kieba

Project Title: GPS-Based Excavation Encroachment Notification Project

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During the first quarter the steering committee was formed and developed specifications for the GPS-Based Excavation Monitor and Software and the mechanism that will identify when excavation activity is occurring.

The steering committee members include representatives from utility companies, one-call centers, contract locators, CGA, excavators and equipment manufacturers. Two conference calls and one meeting were conducted.

The requirements for the Excavation Monitor and Software were developed and include accuracy, cost, functionality and trigger mechanism. A process flow for the system was developed.

Commercially available GPS antennas were reviewed to determine if any could meet the system requirements developed by the steering committee. One system was identified that meets the majority of the requirements although minor software modifications will be required.

The steering committee identified that a trigger mechanism would be required to ensure that the system only sends violation notifications when excavation activity is occurring. Four potential trigger mechanisms were identified.

The requirements for the software and data portal were developed and a proposal from a developer was received. The software and data portal will collect data from the One-Call Center, excavator and utility locator. The GPS coordinates of valid One-Call Tickets from the One-Call Center, the GPS coordinates of the excavation activity from the excavation monitoring system and the GPS coordinates of the underground facility from the utility locator will be compared and violations will be identified. The system will be developed to identify two violations – excavators digging outside of a valid One-Call Ticket and excavators digging too close to underground facilities.

The following activities are planned for the next quarter:

- Finalize contract for software and data portal development.
- Select and begin development of the trigger mechanism for the GPS-Based Excavation Encroachment Monitor.
- Select pilot project participants.