

Chapter 34

PROTECTION OF EXISTING STRUCTURES

34.1 General

Protection of Existing Structures includes inspection, monitoring for vibration, settlement and changes in groundwater level as described in **Section 108** of the **FDOT Specifications**.

34.2 Existing Structures

Existing structures to be protected include buildings, bridges, overhead sign and signal assemblies and retaining walls.

Existing structures also include sensitive sites, such as; Eye Surgery Clinics, Medical Centers, Hospitals, Geriatric Centers, Sound Recording Studios, TV/Radio Stations, Residences, Technical Laboratories, Antiques Shops, Museums, Historic Buildings and facilities with special equipment. Refer to sensitive sites noted in the Commitments section of the environmental clearance document if a PD&E Study has been conducted for the project.

34.3 Inspection and Settlement Monitoring

34.3.1 Proposed Miscellaneous Structures

Evaluate the need for inspection and settlement monitoring of existing structures located within 25 feet of the limits of foundation construction for mast arm signal poles, strain poles, cantilever signs, overhead truss signs and high mast light poles.

A registered Geotechnical Engineer and Structural Engineer may be required for this evaluation when considering the type, use, condition and age of the existing structure and the geotechnical conditions.

34.3.2 Proposed Structures other than Miscellaneous.

Evaluate the need for inspection and settlement monitoring of existing structures located within 250 feet of the limits of construction for proposed retaining walls, sheet pile and foundations for bridges and structures other than miscellaneous structures.

A registered Geotechnical Engineer and Structural Engineer may be required for this evaluation when considering the type, use, condition and age of the existing structure and the geotechnical conditions.

34.3.3 Proposed Vibration Operations

Identify in the plans existing structures that are within, or adjacent to the project right of way that require inspection and settlement monitoring as a result of vibration operations such as pile driving, sheet pile and casing installation, embankment and asphalt compaction, or other vibratory compaction operations.

A registered Geotechnical Engineer and Structural Engineer may be required for this evaluation when considering the type, use, condition and age of the existing structure and the geotechnical conditions.

Sensitive sites may require further direction to the contractor through the use of a Project Note that:

- Imposes a more stringent vibration limit than the allowable 0.5 inches per second
- Restricts hours of construction operations
- Restricts the type of construction equipment to be used.

34.4 Groundwater Monitoring

Determine if piezometers are necessary to monitor groundwater when the project requires dewatering operations. Perform a dewatering analysis to evaluate the zone of influence of the groundwater drawdown. A registered Geotechnical Engineer may be required to assist with this evaluation.

34.5 Required Information in Contract Plans Set

Identify on the Plan Sheets all existing structures that are recommended for inspection and settlement monitoring and provide information in the format shown in Table 34.5-1, and any sensitive site notes, on the Project Notes Sheet. Provide information for recommended piezometer installation necessary for groundwater monitoring in the format shown in Table 34.5-2 on the Project Notes Sheet.

Table 34.5-1 Recommendation for Protection of Existing Structures

Site No.	Address	Plan Sheet	Structure Type	Structure Usage	Recommendation
1	230 Walnut Street	46	Block	Storage Units	Perform vibration and settlement monitoring during the pile driving operations
2	N/A	46	Concrete	Bridge Culvert	Perform vibration and settlement monitoring during sheet pile installation
3	624 Oak Drive	47	Wood	Antique Shop	Perform vibration and settlement monitoring during milling and pavement operations

Table 34.5-2 Recommendation for Piezometer Installation

Site No.	Station	Offset	Depth	Note
P1	125+50	45' Rt	30'	Associated with Existing Structure No, 2

