

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

SPECIAL PROVISION

Section 642 — Cable Barrier

Add the following:

642.1 General Description

This work includes furnishing and erecting cable barrier and appurtenances according to the Specifications. Conform to the lines, grades, and locations shown on the Plans or as directed.

Place cable barrier as shown on the Plans and in the Proposal.

Unless provided for on the plans, this work includes:

- Grading to construct 6H:1V or flatter slope approaches for cable barrier as well as concrete line post foundations according to Section 205, Section 208, and Section 209.
- Furnishing and setting line post foundations for cable barrier according to Section 500.
- Furnishing and setting line posts, wire rope, and all necessary hardware for cable barrier and end terminals as specified by the Plans, Details, or the manufacturer's specifications and as approved by the Engineer.
- Conduct installation training prior to the installation of the system and maintenance training after installation of the system.

642.1.01 Definitions

General Provisions 101 through 150.

642.1.02 Related References

A. Standard Specifications

Section 205 – Roadway Excavation

Section 208 – Embankments

Section 209 – Subgrade Construction

Section 500 – Concrete Structures

Section 645 – Repair of Galvanized Coatings

Section 700 - Grassing

B. Referenced Documents

General Provisions 101 through 150.

National Cooperative Highway Research Project Report 350 (NCHRP 350)

642.1.03 Submittals

General Provisions 101 through 150.

642.2 Materials

A. Cable Barrier System

1. Install an interwoven prestretched four-rope cable barrier system meeting NCHRP 350 TL 4. Provide all system materials and components, including but not limited to, wire rope, fittings, posts, and terminals, according to the manufacturers specifications and details. Provide the FHWA letter of approval for NCHRP 350 TL-4 compliance.

B. Concrete

Concrete for line post foundations and end terminals shall be Class "A" concrete meeting the requirements of Section 500.

C. Training Materials

Provide twenty (20) installation manuals and other materials deemed necessary to conduct training for proper installation and maintenance of the cable barrier system.

642.3 Construction Requirements

642.3.01 Personnel

General Provisions 101 through 150.

642.3.02 Equipment

General Provisions 101 through 150.

642.3.03 Preparation

General Provisions 101 through 150.

642.3.04 Fabrication

A. Line Posts, Wire Rope, Fittings

Fabricate and install line posts, wire rope, fittings and other appurtenances according to the Plans, Details, the manufacturer's specifications, or as approved by the Engineer.

642.3.05 Construction

A. Erection of Line Posts

1. Grade the slope approaching the cable barrier to 6H:1V or flatter, according to Section 205 and Section 208.
2. Excavate for paving strip under cable barrier and for line post foundations as shown on the Plans or the manufacturer's specifications and according to the requirements of Section 205.
3. Prepare the subgrade surface according to the requirements of Section 209.
4. Pour line post foundations, setting line post sleeves for each line post foundation at the positions, depth, spacing, and alignment shown on the plans or the manufacturer's specifications and according to the requirements of Section 500.
5. After curing of the line post foundations, set line posts in the line post sleeves, paying close attention to the horizontal and vertical alignment of the posts. Posts must be set to achieve the

proper wire rope height. Posts and foundations not set at the proper line and grade shall be replaced prior to installation of the wire rope.

B. Erection of End Terminals

1. Install end terminals according to the Plans, Details, the manufacturer's specifications, or as approved by the Engineer.
2. Use end terminals meeting the requirements of NCHRP 350 TL-4. Obtain copies of the manufacturer's details and installation instructions and provide copies of the same to the Engineer prior to installation of the unit. Provide the FHWA letter of approval for NCHRP 350 TL-4 compliance of the assembly to be used.

C. Install and Tension Wire Rope

1. Install wire rope at the proper height according to the Plans, Details, the manufacturer's specifications or as approved by the Engineer.
2. Tension wire rope immediately after initial installation.
 - a. Recheck and adjust tension three to five days after initial tensioning on segment lengths over 2,500 linear feet (762 m).
 - b. Maintain a tension log showing time, date, location, ambient temperature, and final tension reading, signed by the person performing the tension reading. Give the log to the Engineer after tensioning is completed, along with the manufacturer's recommended tensioning chart.

D. Damaged Spelter Coating

Repair damaged spelter coating according to the requirements of Section 645.

E. Installation Training and Certification

1. Provide installation training and certification by the manufacturer of the system prior to installation of the system.
 - a. Provide a minimum of eight (8) hours of classroom instruction on the installation of the system. This training shall be provided in a location central to the project and the local GDOT District Office. The scheduling and location of this training shall be approved by the Engineer.
 - b. Provide on site field instruction by the manufacturer of the system using a minimum 2000 foot section of the system. The amount of this training will be as necessary to provide field training on all aspects of the system installation, including grading, line post installation, wire rope installation and tensioning, and terminal or anchor installation.
 - c. Provide certification by the manufacturer of the system for the participants of the training. This certification shall require participants to pass a written examination given manufacturer of the system. The installation contractor must have certified personnel on site at all times during the installation of the system.
 - d. Provide the training and certification as required by Section 642.3.05.E.1.a,b,c for a maximum of twenty (20) participants, to include the following:
 - Contractor (Prime)
 - Installation Contractor (Sub)
 - GDOT Personnel (Construction, Maintenance, and Traffic Safety and Design)
 - FHWA representative when system installed on Federal Aid Projects

2. Provide maintenance training by the manufacturer of the system after installation of the system.
 - a. Provide a minimum of four (4) hours of classroom instruction on the maintenance and repair of the system. This training shall be provided in a location central to the project and the local GDOT District Office. The scheduling and location of this training shall be approved by the Engineer.
 - b. Provide a minimum of four (4) hours of on site field instruction on the maintenance and repair of the system.
 - c. Provide the training as required by Section 642.3.05.E.2.a,b for a maximum of ten (10) participants, to include the following:
 - GDOT Personnel (Construction, Maintenance, and Traffic Safety and Design)
 - FHWA representative when system installed on Federal Aid Projects

642.3.06 Quality Acceptance

General Provisions 101 through 150.

642.3.07 Contractor Warranty and Maintenance

General Provisions 101 through 150.

642.4 Measurement

A. Cable Barrier

Cable barrier is measured in linear feet (meters). Measurement does not include anchors or terminals.

B. End Terminals

This item is measured by the actual number of each type installed according to the specifications or details shown on the Plans.

642.4.01 Limits

General Provisions 101 through 150.

642.5 Payment

Cable barrier, complete in place including posts, foundations, and hardware will be paid for at the Contract Price per linear foot (meter).

End terminals will be paid for at the Contract Price per each assembly, complete in place.

For projects that do not include grading as a Pay Item, payment for cable barrier, anchors, and terminals includes:

- Embankment material for shoulders or excavation of material as shown on the Standard Details or Plans
- Compacting embankment material for shoulders or excavated areas according to Section 208
- Removing vegetation and obstructions before placing the embankment or excavating the material
- Grassing the disturbed area in accordance with Section 700

Payment will be made under:

Item No. 642	Cable Barrier	Per linear foot (meter)
Item No. 642	Cable Terminal (NCHRP 350 TL-3 compliant)	Per each
Item No. 642	Cable Terminal (NCHRP 350 TL-4 compliant)	Per each

642.5.01 Adjustments

General Provisions 101 through 150.