

ITEM 463

SAFETY END TREATMENT

463.1 Description. This Item shall govern for the materials to be furnished and for the construction of Safety End Treatment (S.E.T.) for drainage structures at the designated locations, in accordance with this Item and as shown on the construction drawings.

463.2 Materials. Unless otherwise shown on the drawings, materials shall conform to the following:

Item 420 "Concrete Structures"
Item 421 "Structural Concrete"
Item 440 "Reinforcing Steel"
Item 460 "Reinforced Concrete Pipe"
Item 461 "Corrugated Metal Pipe"
Item 480 "Precast Reinforced Concrete Box Sewers"

Pipe Runners - ASTM A53, Grade B or equivalent strength pipe

Plates and Angles - ASTM A36

Bolts and Nuts - ASTM A307

Unless otherwise shown on the drawings, all metal pipe, plates, angles, nuts and bolts shall be galvanized in accordance with ASTM A123 or A153, whichever is pertinent.

463.3 Types of Safety End Treatment

A. Parallel Drainage Safety Pipe Runners (PD-SPR) PD-SPR Type I S.E.T. shall be used on single or multiple reinforced concrete box culvert (RCB), either precast or cast-in-place, or Type II S.E.T. shall be used on reinforced concrete pipe (RCP) or corrugated metal pipe (CMP) with the ends tapered to the proper slope as shown in the Latest Edition of the Texas Department of Transportation (TxDOT) standard drawing, unless shown otherwise in the contract documents.

B. Cross Drainage Safety Pipe Runners (CD-SPR) CD-SPR Type I S.E.T. shall be used on single or multiple reinforced concrete box culvert (RCB), either precast or cast-in-place, or Type II S.E.T. shall be used on reinforced concrete pipe (RCP) or corrugated metal pipe (CMP) with the ends tapered to the proper slope as shown in the Latest Edition of the Texas Department of Transportation (TxDOT) standard drawing, unless shown otherwise in the contract documents.

Unless otherwise shown on the drawings, when CMP or RCP is specified for the pipe structure, the Contractor shall have the option of providing prefabricated metal end sections or precast S.E.T. units in lieu of mitered CMP or RCP.

- 463.4 Construction. Construction shall be in accordance with the details shown on the drawings and in accordance with the construction and installation methods of Standard Specification Items 420, 430, 433, 461, and 480, whichever apply.

Damaged galvanizing shall be repaired by the Contractor in accordance with Item 461 "Corrugated Metal Pipe".

When required riprap, slope paving headwall or collars are to be installed. They shall be in accordance with Item 491 "Reinforced Concrete Slope Paving".

Any required structural excavation shall be in accordance with Item 400 "Structural Excavation and Backfill". Removal of portions of in-place structures when required, shall be in accordance with Item 495 "Removing Old Structures". The extension of concrete structures, when required, will be in accordance with Item 424 "Extending Concrete Structures".

- 463.5 Measurement. S.E.T. will be measured by each unit of size specified with or without PD-SPR or CD-SPR.

Structural excavation and any slope paving headwalls or collars required by the drawing will not be measured but will be considered subsidiary to this Item.

- 463.6 Payment. Payment for S.E.T. will be paid for at the unit price bid for each for the particular size as measured herein. The following shall be specified for each S.E.T.:

S.E.T. (Type I)(Height)(Slope) or
S.E.T. (Type I)(Height)(Slope) (Pipe Runner Orientation);
S.E.T. (Type II)(Pipe Size)(Pipe Material)(Slope) or
S.E.T. (Type II)(Pipe Size)(Pipe Material)(Slope)(Pipe Runner Orientation)

This payment shall be full compensation for the breaking and removing of all concrete, when required, removing a portion of in-place structures and extending concrete structures, when required, for all concrete, reinforcing steel, CMP, RCP, RCB slope paving, toe wall, concrete aprons, pipe runners, collars, nuts, riprap, bolts, plates and angles as may be required, for all structural excavation, galvanizing, for all labor, tools, equipment, for construction or furnishing and installing S.E.T. units and incidentals necessary to complete the work. If the S.E.T. is specifically to be precast, it shall be noted as such.

There are line code(s), description(s), and unit(s) for this Item.

NOTE: This Item requires drawings (TxDOT Standards) that shall be incorporated into the contract documents.

NOTE: This Item requires other Standard Specifications

Item 400 "Structural Excavation and Backfill"

Item 420 "Concrete Structures"

Item 421 "Structural Concrete"

Item 424 "Extending Concrete Structures"

Item 430 "Construction of Underground Utilities "

Item 433 "Cement Stabilized Sand Bedding and Backfill Material"

Item 440 "Reinforcing Steel"

Item 460 "Reinforced Concrete Pipe"

Item 461 "Corrugated Metal Pipe"

Item 480 "Precast Reinforced Concrete Box Sewers"

Item 491 "Reinforced Concrete Slope Paving"

Item 495 "Removing Old Structures"

END OF ITEM 463