Benton County

US 218/US 30 Interchange

S3 SUMMARY (October 2017)

NHSX-030-6(231) -- 3H-06

# Project Extent

The (231) grade and pave project will construct a new interchange where US 218 meets US 30 including:

* Approach embankments for a new bridge over US 30;
* Loops A and B;
* Ramps C and D;
* A mechanically stabilized earth (MSE) retaining wall which will support the approach embankments at the south bridge abutment;
* Youngville Café Access;
* A replacement reinforced concrete box (RCB) culvert under US 30 at Station 1400+94;
* Portions of 23rd Avenue north and south of US 30 (Stations 231416+75 to 231427+00);
* Portions of US 218 north of US 30 and 24th Avenue south of US 30 (Stations 241450+05 to 241503+00); and
* Portions of US 30 both east and west of the US 218 interchange (Stations 1389+00 to 1516+70 Westbound and Stations 1380+00 to 1516+70 Eastbound).

# Index of Sheets, Tabs and Documents

## Q.1– Q.31---Soil Legend, Mainline, Sideroads, MSE Wall Core-out Details, Ramps, Loops.

CS.1 – CS.4 --- Tab sheets

104-5C --- List of Subdrain Work

103-5 --- Settlement Plates

103-6 --- Embankment with Moisture Control

103-10 --- Topsoil Stripping and Placement

103-7 --- Shrinkage Data w/Boulder Est.

107-31 --- Plowing and Shaping

Sliver Fill Note

104-9 --- Longitudinal Subdrain Shoulder

MSE Retaining Wall Construction Notes

SPS.1 --- Reinforced Concrete Box Culvert Phase 1

Supplemental Report of Structure Soundings --- Reinforced Concrete Box Culvert Phase 1

S3 Report

VanDike Report

PDF’s of the Q Sheets, SPS Sheet and CS.xlsm files are located at: PW:\Projects\0603003092\ Soils\S3 Submittal\(231)/Final

A link to this directory is provided: [Final](pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\0603003092\Soils\S3%20Submittal\(231)\Final\)

# Cross-Sections

Soil layer lines and normal Soils Design items are complete. They can be found at the following link: [Final](pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\0603003092\Soils\S3%20Submittal\(231)\Final\)

**Shrinkage**

Entire Project 30%; Topsoil 40%; and Boulder Estimate 100 Cu. Yds.

**Moisture Control**

100% Moisture Control is required on all Class 10 fill (except topsoil). See Tab 103-6.

**Settlement Plates**

There are 7 settlement plates, see Tab 103-5 and Sheet CS.1 and Q sheets for details.

# Longitudinal Subdrain Tab

A Longitudinal Subdrain Tab is included with this Grade and Pave project. See the CS sheets, and Tab 104-9 for details. Special attention should be paid to all detail notes on the tab.

# Subgrade Treatment

Subgrade treatment per Section 200B-3 of the roadway design manual. Select soil is not available from on-site excavations.

**Plowing and Shaping**

See Tab 107-31, Standard EW-101, Plowing and Shaping is included in the cross sections.

**Topsoil Removal**

Topsoil Replacement Policy applies. See Tab 103-10 for details.

**Working Blankets**

Working blankets are budgeted at 5 locations. Actual extent of blankets to be determined during construction. See Tab 104-5C (Granular Material for Blanket and Subdrain) for details.

**Sliver Fill**

Sliver fills will be encountered and should be addressed by benching into existing roadway embankments where applicable. See note on CS.1 for details.

**Coreout**

Coreout of Class 10 soil is shown on Q.22. Refill with Special Backfill and then Class 10 Fill as shown on Q.22.

**Bridge**

A separate S4 submittal (230) has been made to OBS for the bridge over US 30.

**List of Bid Items and Quantities**

Bid Item Bid Item Number Quantity

Boulder Estimate 2102-2712015 100 Cu. Yds.

4” Longitudinal Subdrain Pipe (Shoulder, perforated) 2502-8212034 40,277 ft.

Longitudinal Subdrain Outlets, DR-306 2502-8221306 167 (Note: Sheet C.2 shows DR-304 2502-8221304, not DR-306 as shown on Tab 104-9 on CS.2 through CS.4))

Moisture Control 2107-0875100 Designer to calculate quantity. See Tab 103-6.

Granular Material for Blanket and Subdrain 2107-3825025 1060 cubic yards (Note: Sheet C.1 does not show this item, but the quantity is shown on Tab 104-5C on CS.1).

Excavation, Class 10, Roadway and Borrow 2102-2710070 Designer to calculate quantity. See Q.22.

Special Backfill 2102-0425070 4895 tons (Note: Sheet C.1 does not show this item, only Special Backfill quantity in cubic yards for shoulders and median crossovers. The quantity is shown on Q.22.)

Other (Please note:)

Plowing and Shaping (EW-101) Designer to calculate quantity. See Tab 107-31.

Shrinkage Data Designer to apply shrink factors listed above.

Topsoil Stripping and Replacement Designer to calculate quantity. See Tab 103-10.