

107.13 Correcting Low Shoulder Conditions

107.13.1 Amending Shoulder Conditions Resultant of Roadway Resurfacing Work and Similar Types of Roadway Surface Work on Primary and Secondary Roadways

1 These specifications address the maintenance requirements for earth shoulders adjacent to the edge of pavement on Primary and Secondary roadways relative to typical roadway resurfacing work, various roadway work operations that result in a new roadway surface, work that may alter the grade elevation of the edge of pavement or any similar type work that may disturb the earth shoulder immediately adjacent to the edge of pavement. The earth shoulder immediately adjacent to the edge of pavement is the location where the edge of pavement and the earth shoulder come into contact. The edge of pavement may occur at the edge of a travel lane or a paved shoulder area.

2 Inspect and evaluate the conditions of the earth shoulders prior to, during and upon completion of all types of roadway surface work previously specified. Utilize these evaluations to determine the necessity and type of corrective actions that may be required and implemented.

3 Ensure the presence of acceptable conditions between the surface of the edge of pavement and the surface of the earth shoulder immediately adjacent to the edge of pavement immediately prior to beginning and upon completion of the roadway surface work on each road. Also, during the daily execution of the roadway surface work, ensure the presence of acceptable temporary conditions between the surface of the edge of pavement and the surface of the earth shoulder immediately adjacent to the edge of pavement prior to the end of each workday or work shift. Maintain an acceptable temporary condition, as defined in **Section 107.13.5**, during performance of the roadway surface work. Provide an acceptable final cross-section profile of the earth shoulder, as defined in **Section 107.13.6**, upon completion of the roadway surface work on each road.

107.13.2 Identifying Pre-Existing Low Shoulders Before the Commencement of the Roadway Surface Work

1 An acceptable grade elevation of the earth shoulder immediately adjacent to the edge of pavement prior to beginning the roadway surface work will not generate a grade elevation difference greater than an acceptable temporary condition of 3 inches as defined in **Section 107.13.5** during performance of the roadway surface work. An earth shoulder / edge of pavement profile that will generate a temporary grade elevation difference greater than 3 inches between the surface of the edge of pavement and the surface of the earth shoulder immediately adjacent to the edge of pavement during performance of the roadway surface work is considered low and in need of corrective action. When this condition exists prior to beginning the roadway surface work, these areas will be referred to as pre-existing low shoulders.

2 Before beginning the roadway surface work, together with the RCE, inspect the roads within the project to identify pre-existing low shoulders. On each roadway, complete the corrective shoulder work to eliminate the pre-existing low shoulder prior to beginning the roadway surface work that will alter the grade elevation of the edge of pavement of the road.

107.13.3 Correction of Pre-Existing Low Shoulders Before the Commencement of the Roadway Surface Work

1 Correct pre-existing low shoulders by bringing in and spreading borrow material where placement of borrow material is considered an acceptable corrective action unless an alternative corrective action is deemed necessary and agreed upon by the Contractor and the RCE. For each roadway, complete all work to correct pre-existing low shoulders prior to starting the roadway surface work on that roadway. Payment for the corrective actions implemented by utilization of borrow material will be at the contract unit bid price for Borrow Excavation in accordance with the requirements of **Section 203**. Alternative corrective actions and/or any corrective actions without a unit bid price item included in the contract should be implemented and payment made for through issuance of a Change Order in accordance with **Section 101.3.10**.

2 The RCE will inspect the correction of pre-existing low shoulders. If additional corrective action is determined necessary, the RCE will direct and notify, in writing, the need for additional corrective actions. The Contractor shall complete these additional corrective actions within 72 hours of receipt of this written notification from the RCE.

107.13.4 Installation and Maintenance of “Low Shoulder” Signs

1 Prior to beginning any roadway surface work that will alter the grade elevation of the edge of pavement of the road, install “Low Shoulder” signs (W8-9) on roadways where the temporary grade elevation difference between the surface of the edge of pavement and the surface of the earth shoulder immediately adjacent to the edge of pavement is anticipated to exceed 2 inches but remain less than or equal to 3 inches. These signs may be mounted on ground mounted or portable sign supports. When installing “Low Shoulder” signs, install the “Low Shoulder” signs in each direction, throughout the length of the road intended for the roadway surface work at intervals not to exceed 1 mile with the initial sign encountered by motorists installed at a location no further than 150 feet beyond the beginning of the project limits of the road subject to the roadway surface work.. Install “Low Shoulder” signs, in each direction, no further than 150 feet beyond intersections with side roads.

2 Maintain all “Low Shoulder” signs within the termini of the project until the shoulder conditions have been dressed and contoured to an acceptable final cross-slope profile as defined in **Section 107.13.6** and to the satisfaction of the RCE upon completion of all work on each road.

3 Payment for the “Low Shoulder” signs will be at the contract unit bid price for Permanent Construction Signs in accordance with the requirements of **Section 605.5**. Measure the quantity of “Low Shoulder” signs installed and mounted on ground mounted or portable sign supports by the square foot (SF) using the outside dimensions of the sign, complete and accepted. No deduction is made for the corner radii of the sign.

4 When installing these signs prior to beginning the roadway surface work, cover the signs with opaque materials and maintain the sign coverings until immediately prior to the Contractor’s mobilization onto the road to begin the roadway surface work activities. Maintain the sign coverings, including repair and/or replacement of the sign coverings, as directed by the RCE, until beginning mobilization of personnel and equipment onto the road to

commence the roadway surface work activities.

107.13.5 Maintenance of Temporary Shoulder Conditions During the Implementation of the Roadway Surface Work

¹ During implementation of the roadway surface work, a grade elevation difference of 3 inches or less between the surface of the edge of pavement and the surface of the earth shoulder immediately adjacent to the edge of pavement is considered an acceptable temporary condition. The temporary grade elevation difference of 3 inches between the surface of the edge of pavement and the surface of the earth shoulder immediately adjacent to the edge of pavement may not exceed 3 inches. The acceptable temporary grade elevation difference of 3 inches or less may remain in place until the final corrective shoulder work is implemented as defined in **Section 107.13.6**. The presence of a grade elevation difference greater than 3 inches shall require corrective action by the Contractor. Upon discovery of a grade elevation difference greater than 3 inches, the RCE shall provide notification to the Contractor within 24 hours of the discovery. The notification shall include identification of the location(s) in need of corrective actions. The Contractor should install "Shoulder Drop Off" signs (W8-17-48) in advance of these locations and maintain these temporary sign installations in place until the condition is corrected. These signs may be mounted ground mounted or portable sign supports. The Contractor shall complete the corrective action of the identified location(s) within 72 hours of receipt of notification of discovery of the condition from the RCE.

² Payment for the "Shoulder Drop Off" signs will be at the contract unit bid price for Permanent Construction Signs in accordance with the requirements of **Section 605.5**. Measure the quantity of "Shoulder Drop Off" signs installed and mounted on ground mounted or portable sign supports by the square foot (SF) using the outside dimensions of the sign, complete and accepted. No deduction is made for the corner radii of the sign.

107.13.6 Installation of the Final Shoulder Profile Upon Completion of the Roadway Surface Work on Each Road

¹ Within 3 days of completion of the application of the final riding surface to a road during typical roadway resurfacing work, various roadway work operations that result in a new roadway surface, work that may alter the grade elevation of the edge of pavement or any similar type work that may disturb the earth shoulder, begin the corrective action to eliminate the temporary shoulder conditions created by the performance of the roadway surface work to that road. Make reasonable efforts, weather permitting, to continue the corrective shoulder work until the temporary shoulder conditions are eliminated to the satisfaction of the RCE. The corrective action for elimination of the temporary shoulder conditions shall include, but not be limited to, placing borrow material against the edge of pavement as directed by the RCE to achieve a "flush" or "near flush" condition. The final grade elevation of the earth shoulder immediately adjacent to the edge of pavement shall be "flush" or "near flush" with any grade elevation difference no greater than 1 inch between the surface of the edge of pavement and the surface of the earth shoulder immediately adjacent to the edge of pavement. The surface of the earth shoulder immediately adjacent to the edge of pavement shall not exceed the grade elevation of the surface of the edge of pavement.

- 2 Where the earth shoulders are 6 feet wide or wider, as measured from the edge of pavement to the beginning of the front slope of an adjacent ditch or fill slope, ensure the final cross-section profile of the earth shoulder adjacent to the edge of pavement exhibits a slope no steeper than 12 : 1 in accordance with the *SCDOT Highway Design Manual*, latest edition. In those areas where the earth shoulders are less than 6 feet wide, as measured from the edge of pavement to the beginning of the front slope of an adjacent ditch or fill slope, dress the final cross-section profile of the earth shoulder from the edge of pavement to the beginning of the front slope of the adjacent ditch or fill slope.
- 3 Situations may arise that require cutting of the shoulder to attain an acceptable final cross-section profile of the earth shoulder adjacent to the edge of pavement as required by these specifications. When the required cutting of the shoulder is sufficient to also require hauling of the cut material from the site, pay for this work in accordance with those requirements specified in **Subsection 203.2.1.2 Unclassified Excavation**.
- 4 Notify the RCE within 3 days of completing the corrective action for elimination of the temporary shoulder conditions for each road. The RCE will inspect the prescribed shoulder work within 3 working days of receipt of such notification. If additional corrective action is determined necessary, the RCE will direct, in writing, additional corrective actions.
- 5 Remove “Shoulder Drop Off” and “Low Shoulder” signs within 7 days of completion of corrective work to eliminate these conditions.