

Plan Preparation Guide

Chapter 4

Special Drawings – Construction Notes Miscellaneous Notes

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1. Special Drawings

A special drawing is a drawing that cannot be considered standard to all projects, but is tailored to a particular situation on a project. Some commonly used special drawings that are stored in standard manager files are shown below:

Survey Codes Legend (Special Drawing 100-A)
Sound Barrier Wall (Special Drawing 709-A)
Standard for Replacing Pavement on Backfill
Over Pipe in Existing Roadways (Special Drawing 714-A)
Guardrail Application At Bridge With Sidewalk (Special Drawing 805-9B)

See figures [4-A](#), [4-B](#), [4-C](#), and [4-D](#) for examples of the above sheets.

Some other special drawings for specific situations that need detailing are retaining walls, box culverts, large drainage boxes, etc. Special drawings should be included in the plans and may have special provisions written for them.

Special drawings should have the bid items necessary for construction, where applicable, shown on the drawing.

2. General Construction Notes

The General Construction Note shown on the plans on the “General Construction Note” sheet has been revised. Replace with the new note in all plans beginning with the July 2003 Highway Letting. The new note is located in the cell library. The cell names are “CNOTE1” for an all uppercase version and “CNOTE2” for a mixed case version. Please see [figure 4-E](#) for an example of the “General Construction Note” sheet with the new cell.

General construction notes are notes to the Engineer and Contractor that denote quantities or work not otherwise shown in detail on the plans or Standard Drawings.

Construction Notes. The construction note is usually shown on an individual sheet. It communicates instructions and quantities not detailed on the plans. For quantities listed in the inclusions and shown on the General Construction Note Sheet, a brief description of how each item is to be used, should be given. Below is the wording for the three instructional paragraphs. Omit the second paragraph when there is no superelevation on the project.

GENERAL CONSTRUCTION NOTE

The State Highway Engineer must specifically authorize changes involving increased cost of project or changes in alignment. The District Engineering Administrator is permitted under the direction of the State Highway Engineer to authorize minor alterations not in conflict with the standard practices of the Department. Forward information on any proposed changes in alignment to the Columbia Office as soon as possible.

See individual curves on Reference Data Sheet or Plan Sheets for superelevation rate and design speed, as applicable.

The following quantities are not shown in detail on the plans but are included in the Summary of Estimated Quantities and may be adjusted during construction as directed by the Engineer.

End of Note

To avoid errors and/or misunderstandings in construction plans, all items (inclusions) listed on the General Construction Note Sheet will be listed exactly as shown in the Pay Item list. Do not show the bid item number on the General Construction Note Sheet.

Some items listed are self-explanatory but others should be itemized in more detail as shown in the example below:

Asphalt Concrete Binder Course	150 Tons for Build-up 50 Tons for Detours
Maintenance Stone	50 Tons for Drives 50 Tons for Roadway 20 Tons for Pavement Patching

The Scroll will no longer be placed on the General Construction Note Sheet. In its place, there will be a box to list the Project Manager's name and telephone number and the Group Coordinator's name and telephone.

A special note will be inserted to the general construction note sheet:
"Pipe lengths that are shown on the plans are actual lengths calculated along the pipe slope from center of box to center of box. Field adjustments of the actual pipe length may be necessary.

3. Miscellaneous Notes

There are many miscellaneous notes which should be used throughout the plans such as the beginning and ending of such features as curb & gutter, sidewalks, control of access, fences, retaining wall, etc.

Occasionally excavation becomes necessary to construct bridges. This area should be cross-hatched on the profile and a note supplied to estimate the necessary excavation.

Cross Reference Notes. Cross references are useful to direct someone to a supplemental sheet or to a continuation of a survey that runs off the plan sheet. (Example: Candy St. continued on page 7).

Utility Notes. The first plan sheet should contain all necessary information relating to all utilities on the project. The utility notes should be placed in the upper left corner of the first plan sheet. (Example: All power poles and lines owned by SCE&G Co.)

Alternate Pipe Notes. Alternate pipe notes are used on the "General Construction Note" Sheet when alternate pipe is specified on federal aid projects.

Typical Section Notes. Notes showing beginning and ending stations are shown on Typical Section Sheet only. (Example – Use this section on S. C. Route 502 from Sta. 83+47 to Sta. 105+19)

Mucking Notes. Mucking information should be clearly stated on the profile and quantities shown in the inclusions if not calculated from the cross sections. When mucking is shown on the final cross sections, removal line should be depicted as shown on Standard Drawing No. 203-1.

Driveway Notes. When the pavement structure for driveways is different from the structure shown on the typical section, a note stating the driveway structure shall be placed on the General Construction Note Sheet. See figure 4-E for an example.

4. Reclaiming Existing Roadway Notes

Existing Pavement. "Removal and Disposal of Existing Pavement" will be measured and paid for by the square yard in accordance with Section 202 of the Standard Specifications. When the area to be removed goes beyond the construction limits, the area should be identified on the plans. Quantities should be shown in the inclusions on the "General Construction Note" Sheet.

Existing Asphalt Pavement. "Removal and Disposal of Existing Asphalt Pavement" will be measured and paid for by the square yard. All existing asphalt pavement to be removed, less than 2" will be paid for as Unclassified Excavation.

On the plan sheet identify all asphalt pavement to be removed with an arrow and the following note:

"Remove and Dispose Existing Asphalt Pavement"

Show asphalt pavement to be removed outside of construction limits with hatching. Place quantity in inclusions on "General Construction Note" Sheet with the following note:

"All removal and disposal of existing asphalt pavement will be measured and paid for as described in the special provisions."

Bituminous Surfacing. Areas, where the existing bituminous surfacing (not on a stone base) is to be scarified and shaped to drain, will not be measured and paid for separately, but will be included in other items of work. When it is necessary to remove existing bituminous surfacing which is on a stone base, removal of the bituminous surfacing and base will be measured and paid for as "Unclassified Excavation". Quantities should be placed on the "General Construction Note" Sheet with a note referring to the special provisions for the method of measurement and payment. The plan sheet should identify the area of bituminous surfacing to be scarified and shaped, or removed. This will be done by an arrow and note, such as:

- Scarify and shape existing bituminous surfacing.
_____ *No separate pay for this
work
- or
- Remove and Dispose existing bituminous surfacing and stone base.
_____ *Pay Item Number: 203100

Existing Earth Roadway. When it is necessary to reclaim the existing earth roadway, the area outside the construction limits to be scarified, graded to drain and seeded is to be shown by crosshatching. Identify the crosshatched area on the plan sheet with an arrow and the following note:

"Reclaiming Existing Earth Roadway"

5. Document Fees

Road Design is required by statute and the Highway Commission to establish an appropriate fee schedule for copies of records, plans, and any other public documents. All requests for copies of plan sheets made through our Plans Storage Room will require payment in advance by check or cash. All requests for copies of plan sheets brought to the Engineering Reproduction Service by Department personnel for Department use will be provided to the Department employee at no charge. Between the Long Ad and the Highway Letting, request from outside the Department for plans must be handled by the appropriate Program Manager.

The book, "Standard Drawings for Road Construction", must be purchased through the Plan Storage Office. Requests for copies of anything other than plan sheets, standard Drawings and other bound reference books must be made through the Department's Freedom of Information Officers and an appropriated fee determined in order to recover all costs involved in providing the requested documents.

A Schedule of Fees for items associated with Road Design is available from SCDOT. All transactions shall be payment in advance and not on credit in any case. Copies of plan sheets requested by any government entity shall be provided at no charge. Additional copies of plan sheets to a government entity should be paid for in accordance with the 'Schedule of Fees'. Fees for special requests, large orders and other documents for government agencies will be determined on a case-by-case basis.

6. Alternate Pipe Notes

The alternate pipe notes used on the "General Construction Notes" Sheet on Federal Aid Projects are:

Alternate Pipe Selection Notes:

When Corrugated Aluminum Alloy Pipe is selected for use, the diameters will be one standard pipe size larger than Reinforced Concrete Pipe.

Alternate Pipe for sidelines must have each end beveled to match the adjacent slopes. No separate payment will be made for providing these beveled ends.

Corrugated Aluminum Alloy Pipe & Corrugated High Density Polyethylene Pipe for sidelines must have cast in place concrete pads to match the adjacent slopes as shown in Standard Drawing No. 802-1. No separate payment will be made for providing these cast in place concrete pads.

7. Plan Revisions and Construction Changes

A form called “Plan Revision Authorization” will be used to communicate and document all design and project information changes made to the plans after the plans have been sent to Right-of-way. This form will be maintained in the design group’s project file. The revisions will be completed by the design group as authorized by the program manager. The revisions will be noted on the respective plan sheets with the date and printed initials of the authorizing program manager applied by the design group. No signatures or hand written initials will be placed on the plan sheets. All revisions authorized by a program manager must be made on a properly executed “Plan Revision Authorization” form.

Changes to plans made available to the Bidders prior to the Highway Letting will be reviewed by the responsible Design Group who will verify that all changes have been made in the CADD files. Revised plan sheets that are to be made available to the Bidders prior to Letting will be provided to the Engineering Reproduction Manager who will incorporate the revised sheets into the plans after the Letting date. Revised plan sheets that are not made available to the Bidders prior to the Letting will not be added to the Bid Plans at any time. These revised sheets will be handled by the Construction Office and will be added to the “As-Built” plans when construction is completed. This procedure is for all revisions made after the Letting or when the revisions cannot be made available to the prospective Bidders prior to Letting. Any additional or revised plan sheets provided after the Highway Letting will be labeled by the Design Group with a cell named “CHANGE” placed under the box on the upper right-corner. The cell states the following: **Construction Change-Sheet provided after Letting.** If no room is available under the box, then any location near the box will be adequate. These sheets will not be added to the Bid plans, but will be substituted in the working plans.

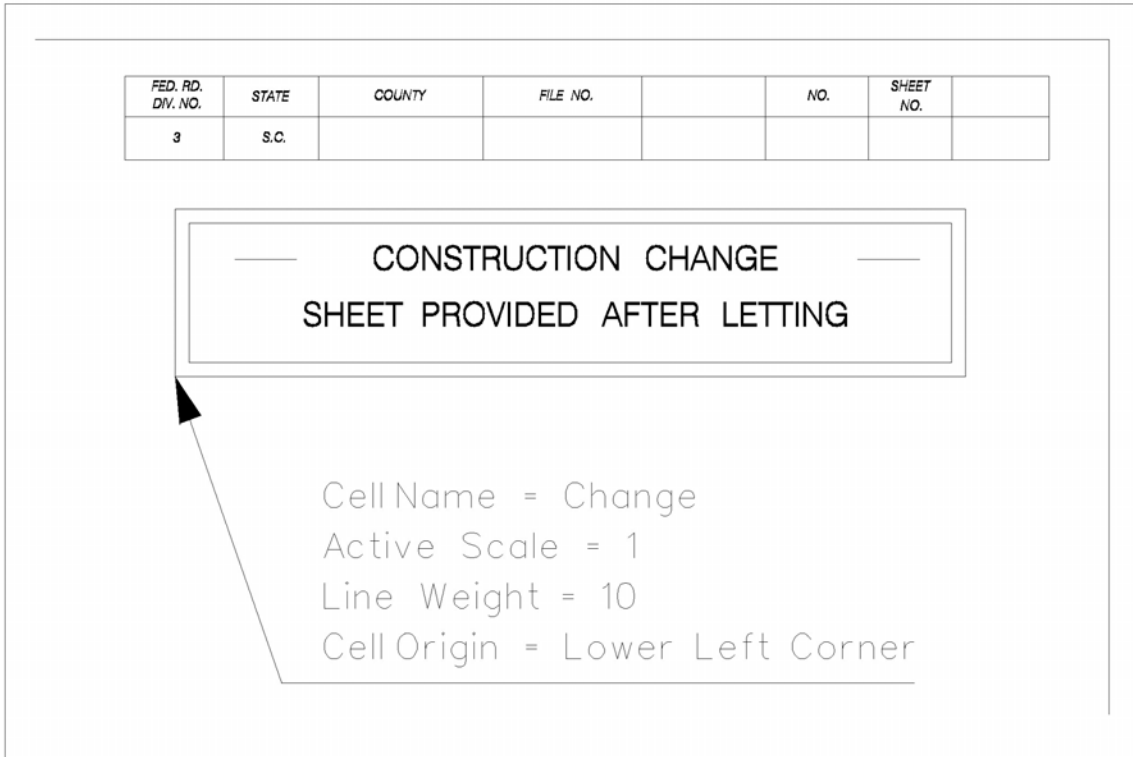
“Working plans” requested by District personnel will include all revised sheets in the proper order with old sheets removed. The Plans Storage Manager will maintain a complete copy of the “working plans” and will provide copies to Department employees when specifically requested. The Engineering Reproduction Manager will mark the “Working Plans” with those words with the date of printing so that the plans are plainly marked so as not to mistake these plans for the Bid plans or Final “as-built” plans.

If the construction change involves changing, adding, or deleting quantities or pay items, a revised “Summary of Estimated Quantities” sheet must be provided along with the changed plan sheet(s). Attached is an example of the note to be placed below the original quantities. The original quantities shall not be changed. The note should include the date of the revision and the sheet numbers of the revised sheets. The changes should be listed in the order shown in the example as applicable. The quantities shown should include a (+) for additional or a (-) for subtracted.

Future revisions should be listed beneath the previous revision. Additional “Summary of Estimated Quantities” sheets may be added if necessary.

SUMMARY OF ESTIMATED QUANTITIES

ITEM NO.	PAY ITEM	QUANTITY	PAY UNIT
1031000	MOBILIZATION	1	LS
1050800	CONST. STAKES, LINES, & GRADES	1	EA
1071000	TRAFFIC CONTROL	1	LS
1090200	AS-BUILT CONSTRUCTION PLANS	1	LS
2012000	CLEAR. & GRUB. WITHIN RDWY.	1	LS
2013050	CLEARING & GRUBBING DITCHES	0.5	ACRE
2031000	UNCLASSIFIED EXCAVATION	4165	CY
2033000	BORROW EXCAVATION	7797	CY
2034000	MUCK EXCAVATION	3717	CY
3050108	GRADED AGGR. BASE COURSE-8" UNIF	10215	SY
3069900	MAINTENANCE STONE	50	TON
3103000	H/M ASPH. AGG. BASE CR.-TYPE 2	2746	TON
4010005	PRIME COAT	2759	GAL
4011004	LIQUID ASPHALT BINDER PG64-22	232	TON
4013990	MILL. EXIST. ASPH. PVMT.-VARIABLE	2320	SY
4023000	H/M ASPH. CON. BINDER CR.-TYPE 2	991	TON
	Revised Pay Items – MM/DD/YY -		
	Affected Sheets 4,6,7		
	Pay Items Revised	Adjustments to Quantities	
2034000	MUCK EXCAVATION	-500	CY
3069900	MAINTENANCE STONE	+25	TON
	Pay Items Deleted		
4013990	MILL. EXIST. ASPH. PVMT. –VARIABLE	-2820	SY
	Pay Items Added		
4031100	H/M ASPH. CONC. SURF. CR. TYPE 1	+1013	TON



8. Revisions to Right-of-Way and Construction Plans

Right-of-Way Phase:

Plans are prepared for the SCDOT to acquire right-of-way. The Road Design Operations Center (Operations) receives these right-of-way plans. Copies of these plans are then submitted to the SCDOT Right-of-Way Office (ROW) to begin the acquisition of right-of-way. The original plans are returned to the Design Groups to be updated during the right-of-way acquisition phase and completed for the Construction Phase.

The following table shows the copies and distribution for the initial distribution of Right-of-Way Plans:

PRIMARY PROJECTS WITHIN A CITY OR TOWN
2 large sets with cross sections to SCDOT ROW
5 large sets without cross sections to SCDOT ROW
1 small set with cross sections to SCDOT ROW
4 small sets without cross sections to SCDOT ROW
1 large set with cross sections to SCDOT Utilities Office
1 large set without cross sections to SCDOT District Office
1 large set with cross sections to SCDOT Railroad (if applicable)

PRIMARY PROJECTS NOT WITHIN A CITY OR TOWN
2 large sets with cross sections to SCDOT ROW
4 large sets without cross sections to SCDOT ROW
1 small set with cross sections to SCDOT ROW
4 small sets without cross sections to SCDOT ROW
1 large set with cross sections to SCDOT Utilities Office
1 large set without cross sections to SCDOT District Office
1 large set with cross sections to SCDOT Railroad Coordinator (if applicable)

At this point the acquisition of right-of-way begins. The Road Design Groups continue to complete the plans for construction. In developing the plans for the construction phase, it is the responsibility of the Design Group Coordinator to track all changes or revisions to the plans after the initial submittal which will affect the right-of-way acquisition. For example, while the drainage plans are being reviewed, perhaps an additional outfall location is required. This will initiate a right-of-way revision. It will be necessary to send out copies of the revised sheets so that all current plan holders are aware of the changes, especially those who are acquiring right-of-way or obtaining permissions for the construction. Changes to the plans that will not affect the right-of-way process are not sent out.

These revised sheets, which are prepared in accordance with the SCDOT Road Design Plan Preparation Guide 2000, are then delivered to ROW by Operations. The following table shows the number of copies delivered for distribution:

PRIMARY PROJECTS WITHIN A CITY OR TOWN
9 large and 8 small copies of the revised sheets to SCDOT ROW
PRIMARY PROJECTS NOT WITHIN A CITY OR TOWN
8 large and 7 small copies of the revised sheets to SCDOT ROW

It is important that every revised sheet contain a note in the revision box (or upper right hand corner of sheet if no revision box) which includes the date, initials of the person making the change, and a brief description and location of the change, so that anyone who receives a copy of the revised sheet can easily see what has changed from the original sheet. This process continues until the plans are completed for construction. The completed plans are now called bid plans or final construction plans. The bid plans are received and processed by Operations for a highway letting.

Construction Phase:

After the letting, the bid plans are filed in the SCDOT Road Design Plans Storage office. A copy of the original bid plans is stored electronically by the SCDOT Road Design Engineering Reproduction Services department.

After the award of the project, it may be necessary to make changes or revisions to the bid plans. Once a change is made, the bid plans are now called working plans. Changes to the working plans are made by the responsible Design Group. Revised sheets are provided to Operations by the appropriate Design Group. Operations makes the following copies for the SCDOT Construction Office for distribution:

ALL PROJECTS
6 large and 3 small copies of the revised sheets to SCDOT Construction Office

If the change will effect right-of-way or a property owner, then the revised sheets are also sent to ROW for distribution as follows:

PRIMARY PROJECTS WITHIN A CITY OR TOWN
9 large and 8 small copies of the revised sheets to SCDOT ROW
PRIMARY PROJECTS NOT WITHIN A CITY OR TOWN
8 large and 7 small copies of the revised sheets to SCDOT ROW

It is important that every revised sheet contain a note in the revision box (or upper right hand corner of sheet if no revision box is provided) which includes the date, initials of the person making the change, and a brief description and location of the change, so that anyone who receives a copy of the revised sheet can easily see what has changed from the original sheet. Also, a note stating “CONSTRUCTION CHANGE – SHEET PROVIDED AFTER LETTING” should be placed on each revised sheet in accordance with the SCDOT Road Design Plan Preparation Guide 2004.

The revised sheets are scanned by Engineering Reproduction Services. It is important to maintain an up to date scanned copy of the working plans. Requests for copies of plans are submitted to the Plans Storage office by numerous personnel from within and outside the agency. It is vital that the copies they receive are current and match all other copies of the working plans. As revisions are made, the ERS Manager adds a note to the title sheet of the working plans (“Working Plans as of DD/MM/YY”) to record the revisions contained in the working copy.

The original hard copies of the revised sheets are then returned by Operations to the Road Design Groups to be inserted into the hard copy of the working plans which are then returned to Plans Storage.

This process continues until the project is complete. The working plans then become the final set of “as designed” plans. These plans incorporate the original bid plans with all of the revisions made and approved by the designer. This set is filed in the SCDOT Road Design Plans Storage office.

The set that is stored in Plan Storage is not an “as-built” set. The “as-built” plans are completed by SCDOT District personnel or the Contractor and submitted to the Final Plans Section of the SCDOT Director of Construction Office where they are filed and stored. It is important to note that the designer cannot be responsible for all changes or revisions to plans. During the construction of the project, the resident engineer assumes responsibility for changes that arise to meet field conditions. It is the responsibility of the resident engineer to track and record these changes on the “as-built” plans. Changes by the field offices are not sent to Operations for copying, distribution, scanning, etc.

SPEC100A

SURVEY CODES LEGEND

<p>CODE TYPE FEATURE DESCRIPTION</p> <p>AGT S AIR CONDITIONER UNIT</p> <p>ADL S ABOVE GROUND TANK</p> <p>BDL S BERM DITCH LEFT</p> <p>BDR S BERM DITCH RIGHT</p> <p>BMC S BENCH MARK</p> <p>BRW S BRIDGE-CONCRETE</p> <p>BRW S BRIDGE-WOOD</p> <p>CCBN S CATCH BASIN</p> <p>CCF S FACE OF CURB LEFT</p> <p>CCFR S FACE OF CURB RIGHT</p> <p>CCP S PROFILE (WILL HAVE X-SECTION)</p> <p>CCG S GROSS X-SECTION</p> <p>CCM S CONCRETE MONUMENT</p> <p>CCB S BANK LEFT</p> <p>CCBR S BANK RIGHT</p> <p>CCV S EDGE OF DIRT DRIVEWAY</p> <p>CCF S EDGE OF CONCRETE DRIVEWAY</p> <p>CCF S UNDERGROUND DRAIN FIELDS</p> <p>CCP S EDGE OF PAVED (ASPHALT) DRIVEWAY</p> <p>CCD S DITCH LEFT</p> <p>CCDR S DITCH RIGHT</p> <p>CCG S 1 PAVEMENT LINE 1</p> <p>CCG S 2 PAVEMENT LINE 2</p> <p>CCG S 3 PAVEMENT LINE 3</p> <p>CCG S 4 PAVEMENT LINE 4</p> <p>CCG S CURB LEFT</p> <p>CCG S CURB RIGHT</p> <p>CCG S DIRT ROAD RIGHT</p> <p>CCG S LOWER BED</p> <p>CCG S HYDRANT</p> <p>CCG S FENCE RIGHT</p>	<p>CODE TYPE FEATURE DESCRIPTION</p> <p>CGT S GAS LINE TEST POINT</p> <p>CGM S GAS METER</p> <p>CGI S GRAVE ISLAND</p> <p>CGV S GRAVE CEMETERY</p> <p>CGW S GAS VALVE</p> <p>CGW S HEAD ROW</p> <p>CGW S INTERSECTING ROAD CENTERLINE</p> <p>CGW S IRON PIPE FOUND</p> <p>CGW S CLOTHES LINE</p> <p>CGW S WALK CURB LEFT OF C/L: A</p> <p>CGW S WALK CURB RIGHT OF C/L: A</p> <p>CGW S MIDDLE CONCRETE</p> <p>CGW S MAN HOLE DRAINAGE SEWER</p> <p>CGW S MAN HOLE SANITARY SEWER</p> <p>CGW S MISCELLANEOUS LINE 3</p> <p>CGW S MISCELLANEOUS LINE 2</p> <p>CGW S MISCELLANEOUS LINE 1</p> <p>CGW S MISCELLANEOUS POINT</p>	<p>CODE TYPE FEATURE DESCRIPTION</p> <p>ODL S OUTFALL DRAINAGE LINE</p> <p>OT S OUTFALL FLOW LINE PROFILE</p> <p>OTR S ORCHARD TREE (APPLE, PECAN, ETC.)</p> <p>OTR S ORCHARD TREE LINE RIGHT</p> <p>OTR S PIPE</p> <p>OTR S POINT OF CURVE</p> <p>OTR S POINT OF INTERSECTION</p> <p>OTR S PARKING METER</p> <p>OTR S PROPERTY LINE (SHOT ON LINE)</p> <p>OTR S PROPERTY LINE CORNER (COMPUTED)</p>	<p>CODE TYPE FEATURE DESCRIPTION</p> <p>OST S POINT ON CURVE SUB TANGENT</p> <p>OST S POINT ON TANGENT</p> <p>OST S POWER POLE</p> <p>OST S POINT OF REVERSE CURVE</p> <p>OST S POINT OF TANGENCY CURVE</p> <p>OST S RADIUS POINT OF CURVE</p> <p>OST S RAILROAD TRACK POST</p> <p>OST S RAILROAD VIADUCT</p> <p>OST S RAILROAD CROSSING ARM</p> <p>OST S RIGHT OF WAY LINE EXISTING</p> <p>OST S RIGHT OF WAY MONUMENT</p> <p>OST S WALK</p> <p>OST S LITE DISH</p> <p>OST S ROW OF SHRUBS</p> <p>OST S SIGN POST</p> <p>OST S SANITARY SEWER</p> <p>OST S FIELD C TANK</p> <p>OST S DE WALK TO THE ROAD</p> <p>OST S DE WALK LEFT OF C/L</p> <p>OST S DE WALK RIGHT OF C/L</p> <p>OST S LOWER (RADIO TV)</p> <p>OST S TELEGRAPH POLE</p> <p>OST S TELEPHONE POLE WOODS LINE LEFT</p> <p>OST S TELEPHONE POLE</p> <p>OST S TELEPHONE DEDESTAL</p> <p>OST S TREE LINE OR WOODS LINE RIGHT</p> <p>OST S CABLE TV TRANSFER</p> <p>OST S POWER LINE TRANSFER MICROWAVE TOWER</p> <p>OST S UNDERGROUND CABLE</p> <p>OST S UNDERGROUND TANK</p> <p>OST S VALLEY CUTTER-LEFT</p> <p>OST S VALLEY CUTTER-RIGHT</p> <p>OST S EDGE OF WATER</p> <p>OST S WELL</p>
<p>CODE TY FEATURE DESCRIPTION</p> <p>CGT S GAS LINE TEST POINT</p> <p>CGM S GAS METER</p> <p>CGI S GRAVE ISLAND</p> <p>CGV S GRAVE CEMETERY</p> <p>CGW S GAS VALVE</p> <p>CGW S HEAD ROW</p> <p>CGW S INTERSECTING ROAD CENTERLINE</p> <p>CGW S IRON PIPE FOUND</p> <p>CGW S CLOTHES LINE</p> <p>CGW S WALK CURB LEFT OF C/L: A</p> <p>CGW S WALK CURB RIGHT OF C/L: A</p> <p>CGW S MIDDLE CONCRETE</p> <p>CGW S MAN HOLE DRAINAGE SEWER</p> <p>CGW S MAN HOLE SANITARY SEWER</p> <p>CGW S MISCELLANEOUS LINE 3</p> <p>CGW S MISCELLANEOUS LINE 2</p> <p>CGW S MISCELLANEOUS LINE 1</p> <p>CGW S MISCELLANEOUS POINT</p>	<p>CODE TY FEATURE DESCRIPTION</p> <p>WH S HIGH WATER LINE OR MARK</p> <p>WM S WATER METER</p> <p>WV S WATER VALVE</p> <p>WW S WINGWALL SECTION SHOT</p> <p>XL S CROSS SECTION SHOT</p> <p>XP S END OF X-SECTION LEFT</p> <p>XP S END OF X-SECTION RIGHT</p> <p>XP S CROSS SECTION EDGE OF PAVEMENT</p>		

REVISIONS		
DATE	REV. BY	DESCRIPTION
8-19-91	MEA	STANDARD ADDED


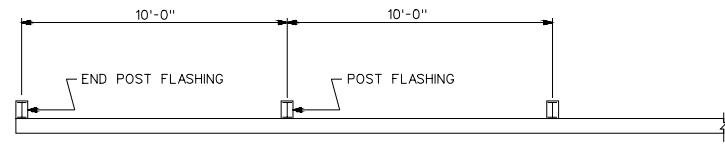
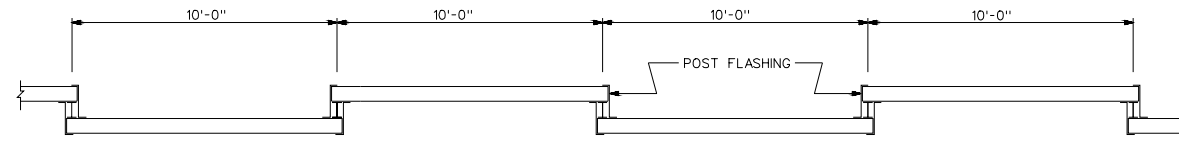
 South Carolina Department of Transportation STANDARD DRAWING SPECIAL DR.100-A
SURVEY CODES LEGEND
EFFECTIVE LETTING DATE

FIGURE 4-A

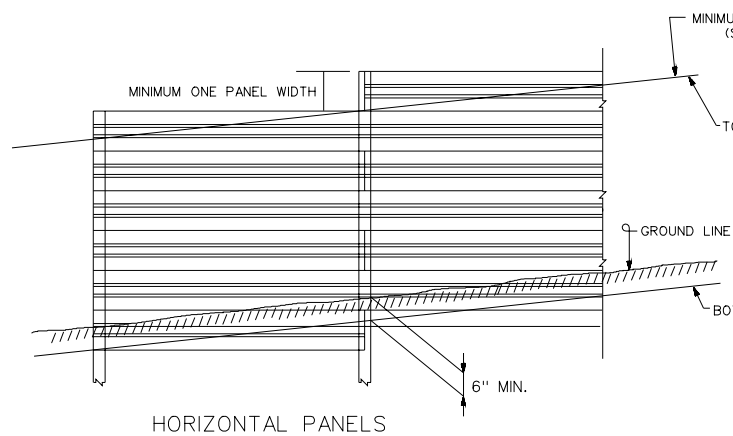
SPEC 709A



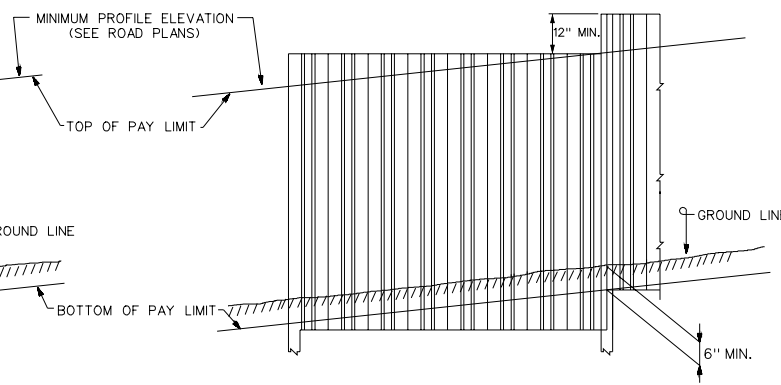
LINEAR PLAN VIEW



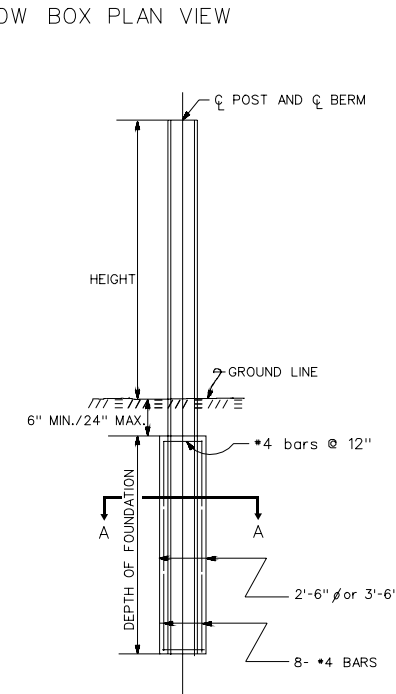
SHADOW BOX PLAN VIEW



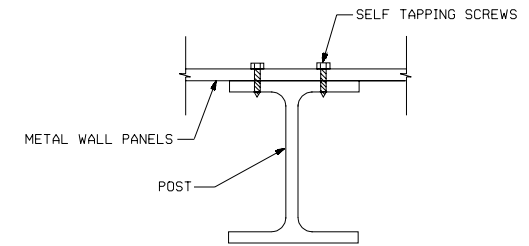
HORIZONTAL PANELS



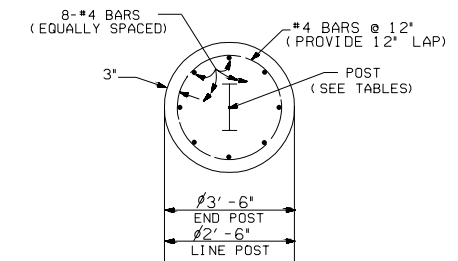
VERTICAL PANELS



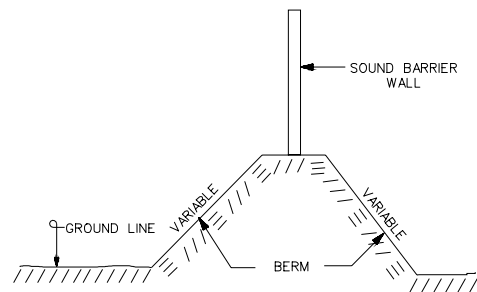
POST DETAIL



PANEL ATTACHMENT DETAIL



SECTION A-A



DETAIL OF BERM
(SEE CROSS SECTIONS AND TYPICAL SECTION)

NOTES:

1. ALL POSTS SHALL BE ENCLOSED WITH FLASHING.
2. THE TOP CAP OF THE WALL SHALL ALSO COVER THE AREA ENCLOSED BY THE POST FLASHING.
3. ADDITIONAL GIRTS, FASTENERS, ETC. SHALL BE SHOWN WHERE NECESSARY IN THE SHOP DRAWINGS, AND SHALL BE INCLUDED IN THE UNIT PRICE BID FOR SOUND BARRIER WALL.
4. SEE SPECIAL PROVISIONS FOR ADDITIONAL CONDITIONS.
5. THE PANELS, FLASHING AND ALL EXPOSED SURFACES SHALL HAVE THE COLOR AS SPECIFIED IN THE SPECIAL PROVISIONS.
6. WHERE PANELS BUTT UP AGAINST OTHER PANELS, FLASHING SHALL BE INSTALLED TO ENSURE "AIR TIGHT", NO GAP CONSTRUCTION.
7. SHOP DRAWINGS SHALL BE SUBMITTED FOR REVIEW AND APPROVAL BY THE ENGINEER. SEE SECTION 709 OF THE SOUTH CAROLINA HIGHWAY DEPARTMENT STANDARD SPECIFICATIONS. THE SHOP DRAWINGS SHALL BEAR THE SEAL OF A REGISTERED PROFESSIONAL ENGINEER, REGISTERED IN THE STATE OF SOUTH CAROLINA.
8. ALL EQUIPMENT, LABOR, POST, PANELS AND MATERIALS NECESSARY FOR THE CONSTRUCTION OF THE SOUND BARRIER WALL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE SOUND BARRIER WALL.
9. REINFORCING STEEL CAGE FOR POST BASE SHALL BE SECURELY TIED PRIOR TO PLACING INTO THE GROUND.
10. THE CLASS OF CONCRETE SHALL BE CLASS "A". SEE SECTION 701 OF THE SOUTH CAROLINA HIGHWAY DEPARTMENT STANDARD SPECIFICATIONS.
11. GRADE 60 REINFORCING STEEL CONFORMING TO AASHTO M 31 WILL BE USED ON THIS PROJECT.
12. POSTS SHALL COMPLY WITH THE LATEST AASHTO SPECIFICATIONS FOR M270, GRADE 36 STEEL.
13. SELF-TAPPING SCREWS SHALL BE IN ACCORDANCE WITH THE SPECIAL PROVISIONS.
14. BID ITEM: SOUND BARRIER WALL (STEEL) ----- SQ.FT.

POST AND FOUNDATION TABLE		
EXPOSED HEIGHT ABOVE GROUND (FT)	MINIMUM POST SIZE	MINIMUM FOUNDATION DEPTH
6'-0" TO 6'-6"	W8X13	10'-6"
6'-6" TO 7'-0"	W8X13	11'-0"
7'-0" TO 7'-6"	W8X13	11'-6"
7'-6" TO 8'-0"	W8X13	11'-9"
8'-0" TO 8'-6"	W8X15	12'-0"
8'-6" TO 9'-0"	W8X15	12'-6"
9'-0" TO 9'-6"	W8X18	12'-9"
9'-6" TO 10'-0"	W8X18	13'-3"
10'-0" TO 10'-6"	W8X18	13'-6"
10'-6" TO 11'-0"	W8X21	13'-9"
11'-0" TO 11'-6"	W8X21	14'-3"
11'-6" TO 12'-0"	W8X21	14'-6"
12'-0" TO 12'-6"	W8X24	14'-9"
12'-6" TO 13'-0"	W8X24	15'-0"
13'-0" TO 13'-6"	W8X28	15'-6"
13'-6" TO 14'-0"	W8X28	15'-9"
14'-0" TO 14'-6"	W10X30	16'-0"
14'-6" TO 15'-0"	W10X30	16'-3"
15'-0" TO 15'-6"	W10X30	16'-6"
15'-6" TO 16'-0"	W10X30	16'-9"
16'-0" TO 16'-6"	W10X30	17'-3"
16'-6" TO 17'-0"	W12X30	17'-6"
17'-0" TO 17'-6"	W12X30	17'-9"
17'-6" TO 18'-0"	W12X30	18'-0"

DESIGN DATA:
GUIDE SPECIFICATIONS FOR STRUCTURAL DESIGN OF SOUND BARRIERS - 1989
WIND LOAD:
42 PSF (90 MPH)
DESIGN ASSUMPTIONS FOR SOIL:
UNIT WT. = 125 PCF
 $\beta = 32^\circ$
 $C = 0$
EMBANKMENT SLOPE = 2:1
UNIT STRESSES FOR POST (SERVICE LOAD DESIGN):
 $f_b = (1.33)(20.0) = 26.6$ KSI

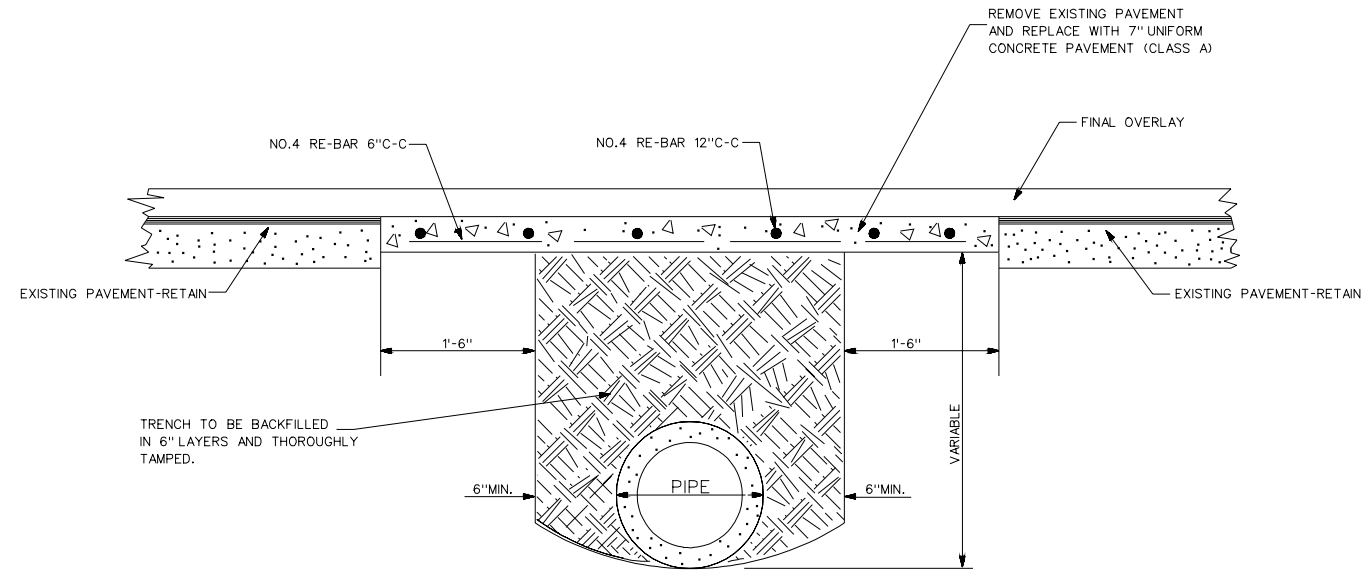
QUANTITIES FOR POST ONLY
END POST
CLASS "A" CONCRETE = 0.356 CY/FT
REINFORCING STEEL = 12.3 LBS/FT
LINE POST
CLASS "A" CONCRETE = 0.182 CY/FT
REINFORCING STEEL = 10.2 LBS/FT

REVISIONS		
DATE	REV. BY	DESCRIPTION
10-91	WRC	REDRAWN

SCDOT
South Carolina Department of Transportation
STANDARD DRAWING
SPECIAL DRAWING 709-A
SOUND BARRIER WALL
EFFECTIVE LETTING DATE

FIGURE 4-B
4-11

SPEC714A



NOTE:

1. THE CONCRETE SHALL CONSIST OF A HIGH EARLY STRENGTH ADMIXTURE IN ACCORDANCE WITH SUB-SECTION 701.6 OF THE STANDARD SPECIFICATIONS.
2. THE CONCRETE SHALL BE CURED IN ACCORDANCE WITH SUB-SECTION 702.04 AND 702.20 OF THE STANDARD SPECIFICATIONS.
3. NO TRAFFIC SHALL BE PLACED DIRECTLY ON THE CONCRETE FOR 24 HOURS. WHERE TRAFFIC CANNOT BE DETOURED FOR THIS PERIOD OF TIME, A STRUCTURAL PLATE MATERIAL MAY BE PLACED OVER THE CONCRETE TO CARRY THE TRAFFIC LOAD.
4. WHERE WIDENING IS TO BE PERFORMED ADJACENT TO THE EXISTING PAVEMENT, THE GRADE SHALL BE BROUGHT UP AT LEAST THROUGH THE BASE COURSE BEFORE DETOURING TRAFFIC FOR THE 24 HOUR PERIOD TO PLACE THE CONCRETE SLAB.
5. WHERE THERE IS AN EARTH MEDIAN, THE NEW LANE SHALL BE CONSTRUCTED WITH THE COMPLETE PAVEMENT STRUCTURE PRIOR TO CUTTING THE EXISTING PAVEMENT FOR DRAINAGE WORK. THE NEW LANE SHALL BE USED TO DETOUR TRAFFIC WHILE CONSTRUCTION IS BEING PERFORMED IN THE EXISTING LANE.
6. REINFORCING BARS SHALL BE DEFORMED, GRADE 60, AND SHALL CONFORM TO AASHTO M-31.
7. THE BID ITEM SHALL BE:
 CONCRETE FOR STRUCTURES-CLASS A (ROADWAY) ___FEET³.
 REINFORCING STEEL FOR STRUCTURES (ROADWAY) ___LBS.

REVISIONS		
DATE	REV. BY	DESCRIPTION
1/15/89	J.W.B.	REDRAWN AND NOTE REVISED
6/12/91	S.C.M.	NOTES REVISED


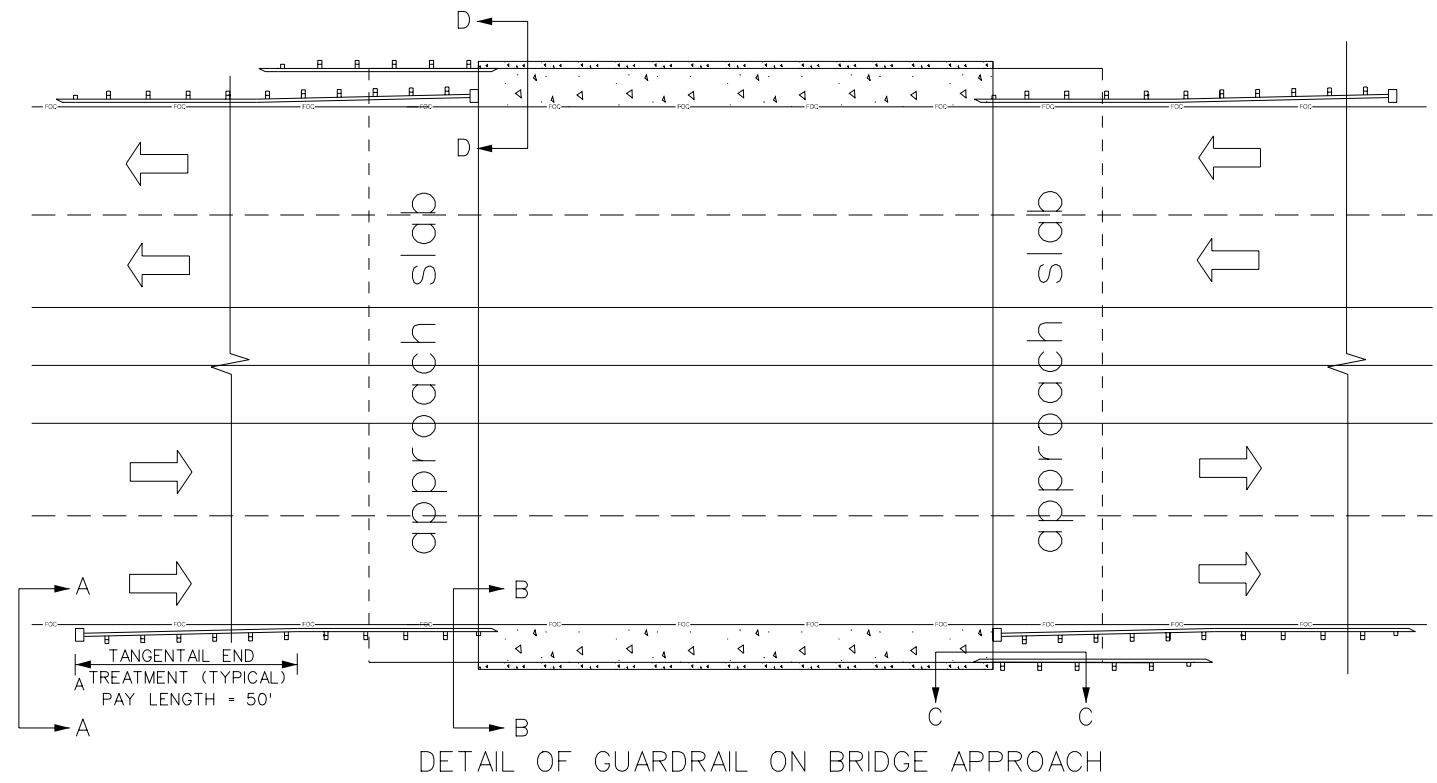
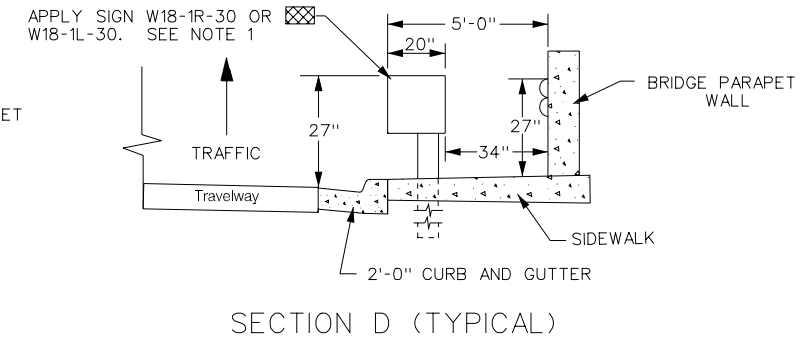
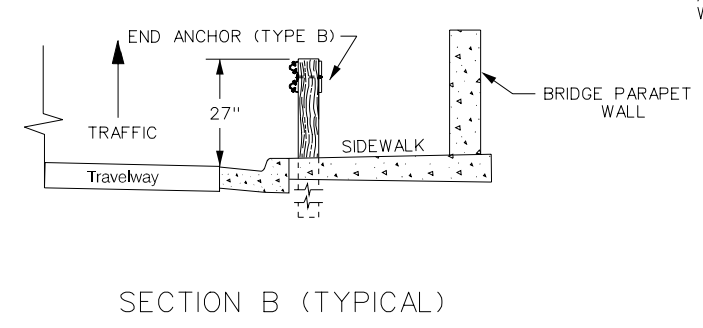
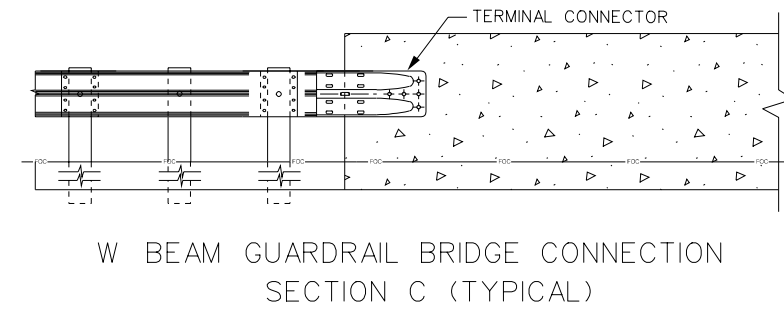
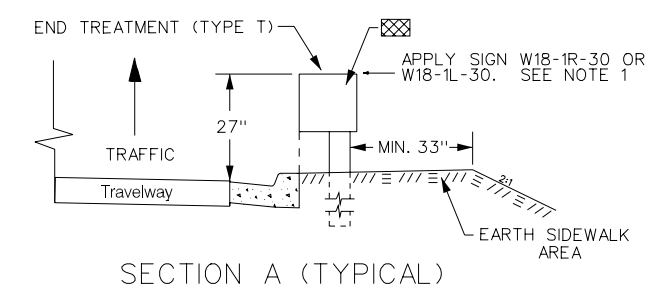

 South Carolina Department of Transportation
STANDARD DRAWING
 SPECIAL DRAWING NO. 714-A
 STANDARD FOR REPLACING
 PAVEMENT ON BACKFILL OVER
 PIPE IN EXISTING ROADWAYS
 EFFECTIVE LETTING DATE

FIGURE 4 - C
4-12

spec805icr



- NOTES :
1. SIGN W18-1R-30 OR W18-1L TO BE INSTALLED ON END ANCHOR. THE SIGN SHOULD BE FABRICATED FROM TYPE III SHEETING WITH A HIGH TACK ADHESIVE WITHOUT AN ALUMINUM BLANK. THE METAL SHOULD BE CLEANED THOROUGHLY BEFORE INSTALLATION. THE COST OF SIGN AND INSTALLATION SHALL BE INCLUDED IN THE PRICE BID FOR THE END ANCHOR. LAYOUT FOR THIS SIGN IS AVAILABLE FROM THE DIRECTOR OF TRAFFIC ENGINEERING.
 2. IMPACT HEAD OF TANGENTIAL END TREATMENT OFFSET TO FIT BACK OF CURB.
 3. THE W-BEAM TERMINAL CONNECTOR WILL BE MEASURED AND PAID FOR AS STEEL BEAM GUARDRAIL.
 4. SEE APPROPRIATE STANDARDS FOR END ANCHORS AND CONNECTIONS.



REVISIONS		
DATE	REV. BY	DESCRIPTION
10-23-98	D.H.A.	DRAWN
11-17-98	C.I.F.S.	REV. SPELLING AND LINE WEIGHT

SCDOT
 South Carolina Department of Transportation
STANDARD DRAWING
 SPECIAL DRAWING NO. 805-9B
 GUARDRAIL APPLICATION AT
 BRIDGE WITH SIDEWALK
 EFFECTIVE LETTING DATE

FIGURE 4-D
 4-13



SOUTH CAROLINA
DEPARTMENT OF TRANSPORTATION

FED. ROAD DIST. NO.	STATE	COUNTY	FILE NO.	ROUTE NO.	SHEET NO.
3	S.C.				

GENERAL CONSTRUCTION NOTE:

The State Highway Engineer must specifically authorize changes involving increased cost of project or changes in alignment. The District Engineering Administrator is permitted under the direction of the State Highway Engineer to authorize minor alterations not in conflict with the standard practices of the Department. Forward information on any proposed changes in alignment to the Columbia Office as soon as possible.

See individual curves on Reference Data Sheet for superelevation rate and design speed, as applicable.

The following quantities are not shown in detail on the plans but are included in the Summary of Estimated Quantities and may be adjusted during construction as directed by the Engineer.

Project Contacts	
	Telephone
Program / Project Manager :	_____
Design Group Coordinator:	_____

CLEARING AND GRUBBING DITCHES	0.52	ACRE	FOR OUTFALL DITCHES
SAND CLAY BASE COURSE (6" UNIFORM)	2900	S.Y.	FOR DRIVES
MAINTENANCE STONE	500	TON	FOR MAINTENANCE FOR DRIVES
PRIME COAT	783	GAL.	FOR DRIVES
LIQUID ASPHALT BINDER PG64-22	14	TON	FOR DRIVES
HOT LAID ASPHALT CONCRETE SURFACE COURSE	229	TON	FOR DRIVES
PERMANENT CONSTRUCTION SIGNS	78	S.F.	AS SHOWN ON STD.DRAWING 605-1
15 " ALTERNATE PIPE	120	L.F.	FOR ADDITIONAL DRAINAGE
18 " ALTERNATE PIPE	200	L.F.	FOR ADDITIONAL DRAINAGE
24 " ALTERNATE PIPE	100	L.F.	FOR ADDITIONAL DRAINAGE
AGGREGATE UNDERDRAIN	65	C.Y.	FOR ADDITIONAL UNDERDRAIN TRENCH BACKFILL
6" PERFORATED PIPE UNDERDRAIN	500	L.F.	FOR SUBSURFACE DRAINAGE
HAND PLACED RIPRAP	100	TON	FOR DITCH LINING AND EMB.ADJACENT TO PIPE
GEOTEX./EROSION CONT.-(CLASS 2) TYPE A	200	S.Y.	FOR EMB.PROTECTION UNDER RIPRAP
RESET FENCE	4979	L.F.	FOR RESETTING EXISTING FENCE
RESET CHAIN LINK FENCE	457	L.F.	FOR RESETTING CHAINLINK FENCE

EROSION CONTROL ITEMS

PERMANENT VEGETATION	52.12	M.S.Y.	FOR ALL DISTURBED AREAS
TEMPORARY VEGETATION	20.85	M.S.Y.	FOR ALL DISTURBED AREAS
MOWING	72.97	M.S.Y.	FOR ALL DISTURBED AREAS
SILT FENCE	.10000	L.F.	FOR EROSION CONTROL