

APPENDIX M

Appendix/Attachment Title

Coding Guide for NBI Items 06 and 07

Appendix/Attachment Revision and Year:

Version 1.0, 2020

Appendix/Attachment Introduction and Discussion

SCDOT has a specific convention for the coding of NBI Items 06 and 07. This convention is more prescriptive than the corresponding requirements in the *Coding Guide*.

Appendix/Attachment Description

In the event that an inspector discovers an error in the way NBI Items 06 and 07 are coded, Attachment 5.1 of the BIGD shall be used to correct data since the values in NBI Items 06 and 07 are controlled by RDS.

NBI ITEM 6 – FEATURE(S) INTERSECTED

This item is a 25 character alphanumeric field that is used to identify the feature(s) under the structure being inventoried. The 25th character is left blank. SCDOT has a specific convention for coding the data in the first 24 characters of this item. For coding purposes for Item 6, each of the 24 characters is referred to as follows, with **A** denoting the first character:

ABCDEFGHIJKLMN OPQRSTUVWXYZ

NBI ITEM 7 – FACILITY CARRIED BY THE STRUCTURE

This item is an 18 character alphanumeric field that is used to identify the transportation facility being carried by the structure. SCDOT has a specific convention for coding the data in the 18 characters of this item. For coding purposes for Item 7, each of the 18 characters is referred to as follows, with **A** denoting the first character:

ABCDEFGHIJKLMN OPQR

TOOL TO DETERMINE ROADWAY NAMES

The coder shall use SCDOT Street Finder (see link in Chapter 1 of the BIGD) to determine road names and ownership. If the coder is unsure of which roadway name to use, the coder shall use Attachment 5.1 (Bridge Data Form for SCDOT Road Data Services) to request clarification.

TOOL TO DETERMINE WATERWAY NAMES

The coder shall use the topographic quadrangle maps available from the South Carolina Department of Natural Resources (DNR) or the SCDOT Geographic Information Systems (GIS) County Maps to determine official waterway names (see link in Chapter 1). The maps are organized by county.

ABBREVIATIONS

Every effort shall be made to keep abbreviations meaningful. It is understood that there may be situations where the feature/facility description conventions cannot be followed exactly (because of too many features/facilities and the limitation on the number of characters that can be entered). In these situations, the coder will attempt to provide as meaningful description as possible while attempting to adhere to the spirit of these conventions.

Also, when using STREET, ROAD, AVENUE, etc., as part of the feature name, the coder shall use the appropriate abbreviation: ST, RD, AVE or AV. However, when using RIVER, BROOK, STREAM, CREEK, MARSH, SWAMP, FLOODPLAIN, etc., as part of the feature name, **spell it out, except where space limitations do not allow this**. Then use the appropriate abbreviation such as “RIV” or “R” for RIVER. The proper coding of water features is important to management of the bridge asset list.

Acceptable abbreviations are included in Table 1 at the end of this Appendix.

When a compass designation is used as part of the street name, such as North Main Street, use only the first letter of the direction, for example: N MAIN ST. The exception would be when a compass direction is the official name of the facility: WEST ST.

For divided highways, specify the orientation of the barrel using the following abbreviation convention: northbound is abbreviated “NB”, “SB”, “EB” or “WB”. Do not use “NBL” for the abbreviation of “North Bound Lanes”; use only “NB”.

PUNCTUATION

Omit punctuation marks such as periods in the feature/facility description. For example, do not write “N.B.”; use only “NB”.

MULTIPLE FEATURES/FACILITIES

A forward slash (/) is used to distinguish between features/facilities which share a common right of way, and an ampersand (&) is used to distinguish between features/facilities which are on separate and parallel rights of way. See Figure 1 for an example of features/facilities sharing a common right of way. See Figure 2 for an example of features/facilities on separate and parallel rights of way. These figures are on the following pages. If the route has a local street name, it may be entered following the route number. This coding is not required and is only recommended if the local street name is commonly used in place of the route number. Lastly, if the route has an orientation (i.e. NB) as well as a local street name, enter the orientation abbreviation first, then the local street name, separating the two by a slash (/) but no spaces.

Examples of multiple street names including the route numbers and local names:

US 17 NB/SAV HWY

US 21/BLOSSOM ST

Generally, the following hierarchy list of precedence will be used when entering information for multiple features/facilities (also applies to later sections of this appendix):

- 1) Bodies of Water (rivers, streams, marshes, floodplains, etc.)
- 2) Interstates
- 3) US Routes
- 4) State Routes
- 5) County Routes
- 6) Local Routes
- 7) Railroads
- 8) Other (non-highway facilities or other information regarding a non-existent bridge)

Examples of combined features/facilities include the following:

I-185 / US 29 (NBI 07) over US 25 (NBI 06)

SC 81 (NBI 07) over SALUDA RIVER & S-4-143 (NBI 06)

Spaces between content (for combined features) may be removed as necessary based on the limitation to the number of characters allowed. Spaces shall not be removed between feature/facility names.

For example: SALUDA RIVER & S-4-143 could become SALUDA RIVER&S-4-143 but not SALUDARIVER & S-4-143.

Sometimes, it may be useful to add a description which is not an official street name. This description shall be added in parentheses. The example below includes a structure which leads to the Shaw Air Force Base in Sumter County.

For example: S-43-1488 (SHAW)

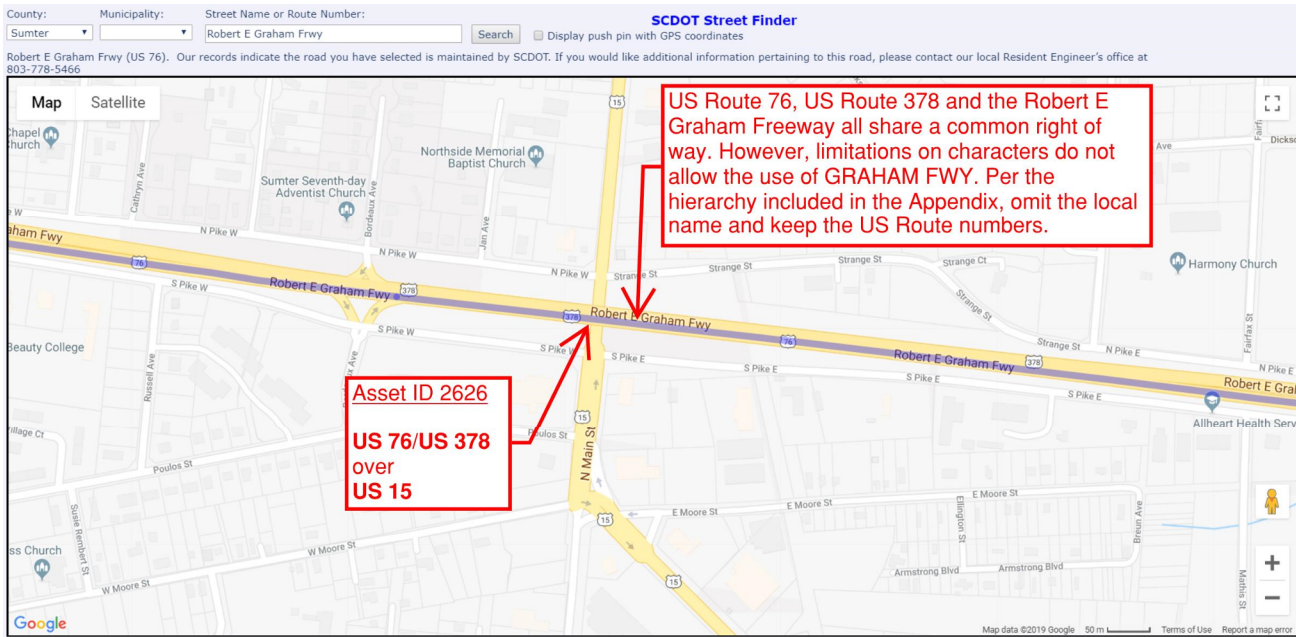


Figure 1: Example of facilities on a common right of way (Asset ID Number 2626)

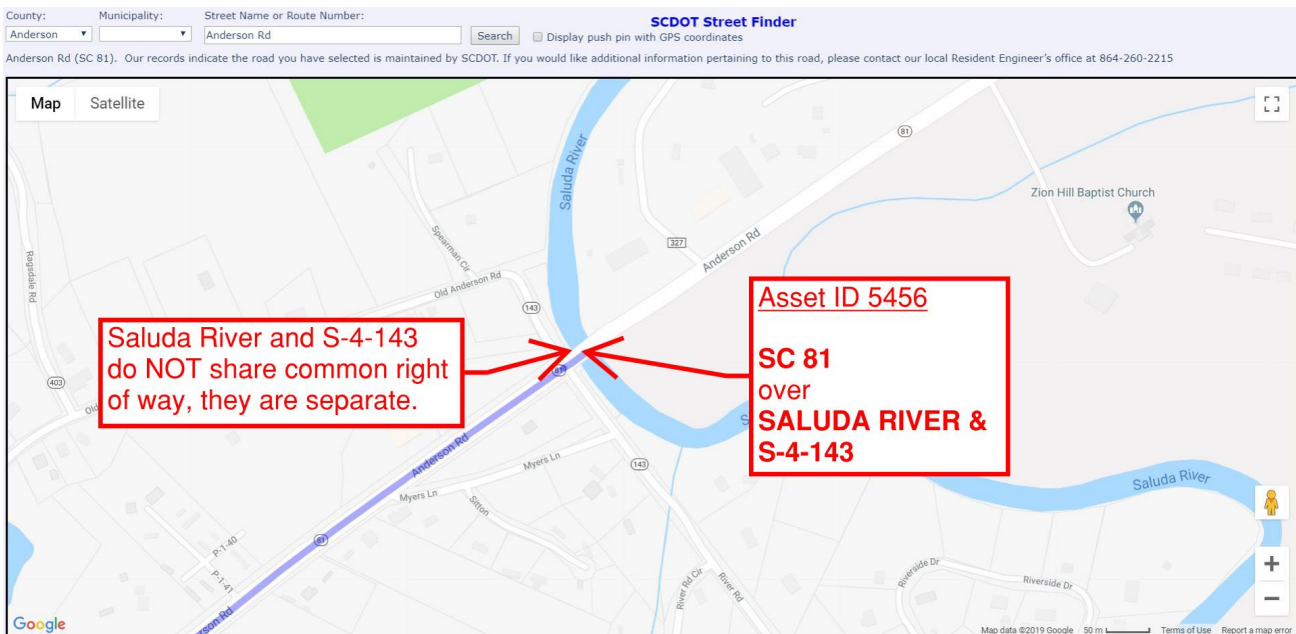


Figure 2: Example of facilities on separate and parallel rights of way (Asset ID Number 5456)

INTERSTATE ROUTES

The feature/facility code **AB** will be coded **"I-"**, and the number of the interstate will be entered in subsequent spaces. Specify the orientation of the barrel, if only a single barrel is involved. If both barrels of an interstate are involved, omit all references to orientation.

For example: Interstate 185 Southbound: I-185 SB

For example: Interstate 185: I-185

The numbering of interstate routes follows a set convention. One and two digit numbered routes are the main interstate routes that stretch from state to state. Interstate numbers increase from west to east and from south to north.

Even two digit interstate numbers indicate west to east routes. Odd one/two digit interstate numbers indicate south to north routes. Two digit interstate numbers ending in 0 or 5 are used for routes that extend long distances, typically from coast to coast or border to border.

Three digit interstate numbers are used in urban areas and denote branches that originate on the main interstate routes. The first digit represents the type of branch and the second and third digits indicate the main interstate route from which the branch originates. If the first digit is even, then the route is a beltway or loop. If the first digit is odd, then the route is a spur that extends from a main route to a city or other location.

Since three digit interstates are primarily local branches, these numbers may be repeated from state to state. For example, there is an I-185 in South Carolina near Greenville and an I-185 in western Georgia

ON AND OFF RAMPS

The feature/facility code **ABCDE** will be coded "**RAMP**" for all on and off ramps in the system. The feature/facility code **FGH** will be coded "**ON**" for on ramps meaning the ramp carries traffic on to a feature/facility and **FGHI** will be coded "**OFF**" for off ramps meaning the ramp carries traffic off of a feature/facility.

For on and off ramps from a feature/facility higher on the hierarchy list to a feature/facility lower on the hierarchy list, the ramp name shall always include the feature/facility higher on the hierarchy list which the ramps connects to, regardless if the ramp is an on or off ramp.

For example: Asset ID Number 7908 carries an on ramp to Interstate 26 Eastbound which is also an off ramp from US Route 321 Southbound. Since the interstate is higher on the hierarchy list, Item 07 shall be coded: **RAMP ON I-26 EB**.

For on and off ramps and features/facilities at the same level on the hierarchy list, the feature/facility code shall match the feature/facility identified as having the lower number.

For example: Asset ID Number 8327 carries an on ramp to Interstate 526 Westbound which is also an off ramp from Interstate 26 Westbound. Since both interstates are on the same level on the hierarchy list, Item 07 shall be coded to match the route designated with a lower number. Item 07 shall be coded to match the lower number roadway, using I-26, **RAMP OFF I-26 WB**.

US ROUTES AND STATE ROUTES

The feature/facility code **ABC** will be coded "**US**" and the number of the US route will be entered in subsequent spaces. Likewise for state routes, the feature/facility code **ABC** will be coded "**SC**" and the number of the state route will be entered in subsequent spaces. Specify the orientation of the barrel, if only a single barrel is involved. If both barrels of a US Route or State Route are involved, omit all references to orientation.

For example: US Route 29: US 29

For example: US Route 521 Northbound: US 521 NB

For example: State Route South Carolina 385: SC 385

For example: State Route South Carolina 31 Southbound: SC 31 SB

SECONDARY, COUNTY AND LOCAL ROUTES

The feature/facility code up to **ABCDEFGHI** will be coded as noted below. Due to variations in the route number, all nine characters noted above may not be used. Regardless, see the requirements listed below:

- For secondary routes the feature/facility code **AB** will be coded "**S-**",
- For county routes the feature/facility code **AB** will be coded "**C-**" and
- For local routes the feature/facility code **AB** will be coded "**L-**".

Then, the South Carolina county number shall be used. For counties 1-9, the feature/facility code **C** will be coded as county numbers followed by a hyphen "-". For counties, 10-46, the feature/facility code **CD** will be coded as county numbers followed by a hyphen "-". See Appendix B of the BIGD.

If space is restricted, the South Carolina county number may be removed in these unique situations.

Then, the remainder of spaces carries the number of the county followed by a unique number for the particular road. As with the US Route and State Route, the use of the slash (/) is permitted for the use of the local name of some routes, and suffixes are permitted for use as needed.

For example: Secondary Route on Road Number 381 in Williamsburg County: S-45-381

For example: County Route on Road Number 1525 in Beaufort County: C-7-1526

For example: Local Route on Road Number 2129 in Orangeburg County: L-38-2129

For bridges connecting two counties, the coder shall determine which county is responsible for maintenance, and the bridge shall be coded accordingly. If both counties share responsibilities, both road names shall be used and combined with an equal sign "=". The two roads shall be ordered alphanumerically.

For example: S-13-67=S-29-37(NBI 07) over Lynches River (NBI 06)

ROUTE SUFFIXES

If a Route has a suffix letter(s), such as a "ALT", "SPUR", "CON", "BUS", "BYP" or "A", the suffix shall be after the route number

For example: SC 9 BUS

RAILROADS

See Appendix I of the BIGD regarding guidance on railroads in South Carolina. The guidance and maps in Appendix I can be used to accurately label railroads.

For highway bridges over railroads, the feature/facility code **ABC** in Item 06 will be coded "**RR** " and then the railroad company shall be entered. For railroad bridges over state-owned highways (which are only included in the inventory to confirm vertical clearances), the feature/facility code **ABCD** in Item 07 will be coded "**RRO** " and then the railroad company shall be entered.

When entering railroad company names, use the following abbreviations instead of the full name:

- Aiken Railway Company, LLC (AIKR)
- Carolina Coastal Railway (CLNA)
- Carolina Piedmont Railroad (CPDR)
- CSX Transportation (CSXT)
- Greenville & Western Railway Company (GRLW)
- Lancaster & Chester Railway Company (LC)
- Norfolk Southern Railway (NS)
- Palmetto Railways (PR), previously South Carolina Public Railways

- Pee Dee River Railway Corporation (PDRR)
- Pickens Railway Company (PICK)
- R.J. Corman Railroad (RJCS)
- South Carolina Museum (SCMZ)
- South Carolina Central Railroad Company (SCRF)

Enter the railroad company which provides the flagging services for inspection and is responsible for reviewing bridge plans affecting the railroad. This may or may not be the owner of the railroad right of way.

If a second railroad shares the tracks and is also granted the right to review bridge plans by the owner, this company will be entered second in the feature/facility description, separated from the first by a slash (/).

In addition to these active railroad companies, there have been others that have operated in South Carolina in the past. If a rail line was abandoned and not replaced by another facility, then Item 06 for the bridge over it (or Item 07 if the bridge is an abandoned railroad over a state-owned highway) should still reference the old railroad company that existed at the time of abandonment followed by ("**ABANDONED**") or ("**ABAND**") if space is limited.

REMOVED BRIDGES

For bridges that have been permanently removed without replacement, the Feature/Facility Description shall be the following:

- Item 06: Name of original facility/feature intersected
- Item 07: The facility/feature code will be stated as "**REMOVED**". This may be modified to provide additional information about historical circumstances regarding the removal of this bridge, if this information is available, such as:
 - WASHED OUT 1955
 - FILLED IN 1984

For bridges that have been functionally replaced by a structure with another Asset ID, the feature/facility shall be coded according to the following:

- Item 06: The facility/feature code will be stated as "**REPLACED BY**" followed by the Asset ID Number of the new structure which replaced the old structure. Since the structure is no longer in use, Item 06 is coded to direct attention to the new structure. Item 06 is not used to indicate the feature intersected in this instance.
- Item 07: The facility/feature code will be stated as "**REMOVED**". This may be modified to provide additional information about historical circumstances regarding the removal of this bridge, if this information is available, such as:
 - WASHED OUT 1955
 - FILLED IN 1984

OTHER BRIDGES

This is intended to cover any feature/facility that is neither a highway facility open to the public nor one of the other categories listed above. For bikeway facilities which are part of a named bike path, provide the official name following "**BKY**". For pedestrian bridges which are part of a pedestrian system, the name of the path should be included following the term "**PED**".

For example: PED USC AIKEN (pedestrian bridge which is part of pedestrian system at University of South Carolina at Aiken)

For bikeway and pedestrian bridges which are not part of named paths, specify "**BKY**" or "**PED**" followed by an "@" (at) sign and the closest parallel street.

For example: BKY @ BREAM RD (bikeway bridge with closest parallel street)

For example: PED @ SOUTH DR (pedestrian bridge with closest parallel street)

Table 1: ACCEPTABLE ABBREVIATIONS

Full Name	Option 1	Option 2	Unacceptable
ABANDONED	ABAND		
ALTERNATE	ALT		
AVENUE	AVE	AV	A
BIKEWAY	BKY		
BRANCH	BR		
BROOK	BRK	BK	
BUSINESS	BUS		
BYPASS	BYP		
CONNECTOR	CON		
COURT	CT		
CREEK	CRK	CR	
DRIVE	DR		
EASTBOUND	EB	E	E.B., EBL
FLOODPLAIN	FP		
FREEWAY	FWY	FY	
HIGHWAY	HWY	HY	
INTERSTATE	I-		I_, I (space)
MARSH	MSH		M
NORTHBOUND	NB	N	N.B., NBL
OVERFLOW	OVF		
PARKWAY	PKY		
PEDESTRIAN BR.	PED		
PLACE	PL		
RAILROAD	RR		R.R.
RIVER	RIV	R	
ROAD	RD		R
SC ROUTE*	SC		SC-, SC_
SOUTHBOUND	SB	S	S.B., SBL
STREAM	STR	SR	S
STREET	ST		S
SWAMP	SWP		
TRIBUTARY	TRIB	TR	
US ROUTE*	US		US-, US_
WESTBOUND	WB	W	W.B., WBL

* Note that US and SC Routes include a “ ” (space) before the route number; see Page M-5.