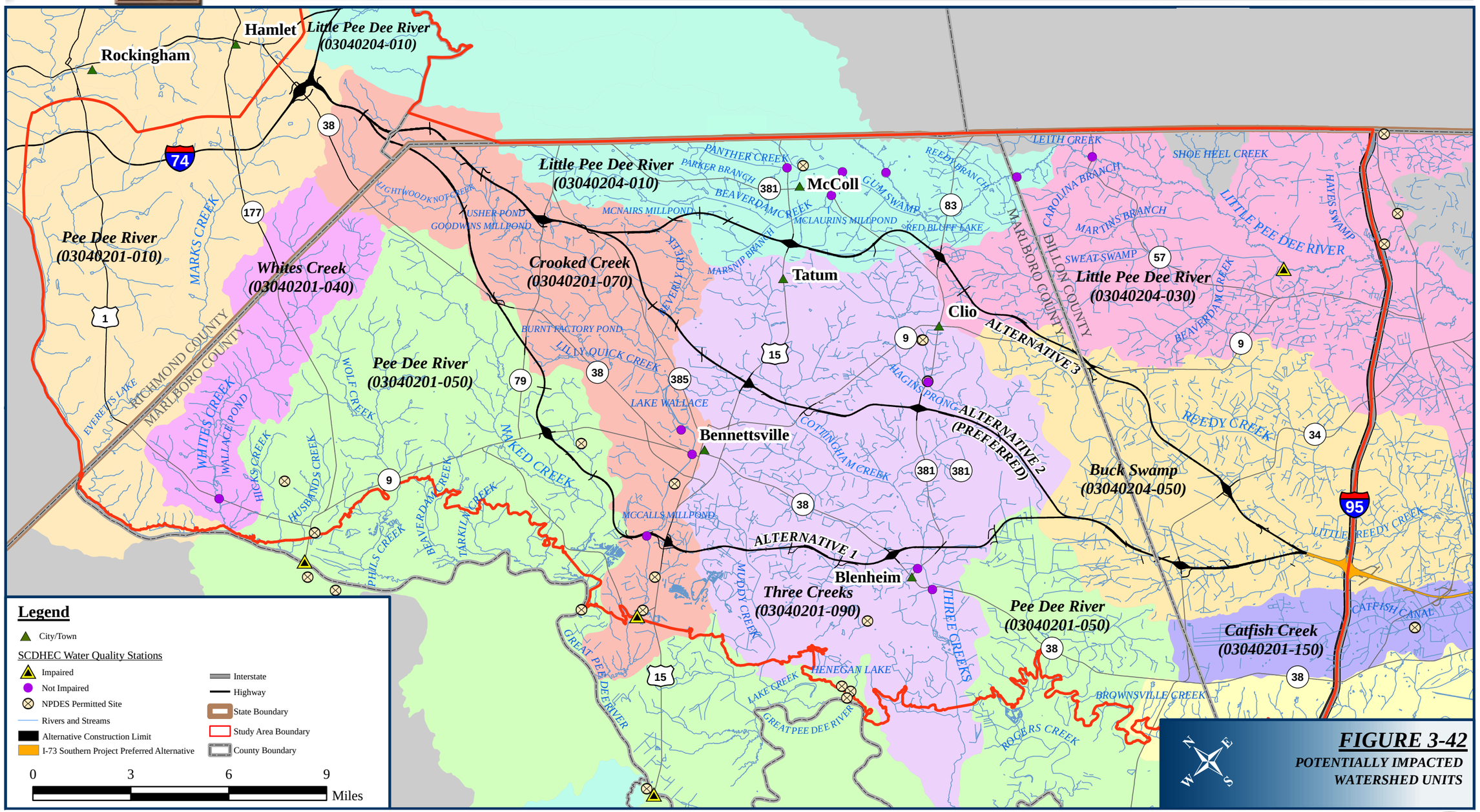


**FIGURE 3-42**
***POTENTIALLY IMPACTED WATERSHED UNITS***

sampling events. Station PD-107 was in excess of the standard criteria for zinc 25 percent of the sampled events. The aforementioned stations were either within standard criteria for other parameters or those parameters were not sampled. While Station PD-063 was included on the 2004 303(d) list as impaired for aquatic life use due to low DO, it is not listed on the 2006 list, indicating that it is no longer impaired for aquatic life use. Station PD-107 was listed on the 2002 303(d) list due to excess fecal coliform levels, but was not listed on the 2004 or 2006 lists. The remaining stations were not included on the 1998, 2000, 2002, 2004, or 2006 303(d) lists, meaning they are supporting their intended uses.

#### Three Creeks Watershed Unit 03040201-090

Three Creeks watershed unit 03040201-090 is located in Marlboro County, South Carolina and consists of Three Creeks and its tributaries, including Cottingham Creek, Hagins Prong, Muddy Creek, and a portion of the Great Pee Dee River (refer to Figure 3-42, page 3-265).

There are four SCDHEC monitoring stations located within this watershed unit. Station PD-336 is located along Hagins Prong at S.C. Route 381. Station PD-341 is located along Three Creeks at S.C. Route 381 at Blenheim and Station PD-367 is also located on Three Creeks, at S.C. Route 38 south of Blenheim. Station PD-242 is located on the Great Pee Dee River approximately 0.15 mile below Oak River Mills, and is located within the project study area; however, no alternatives directly cross within five miles of this station. Sampling data for each station from 1999 to 2006, indicates that samples at Station PD-367 were in violation of the fecal coliform (34 percent of samples), zinc (11 percent of samples), and pH (58 percent of samples) standards and had lower pH than the SCDHEC Standard Criteria. In addition, water samples from both Stations PD-341 and PD-336 had lower pH levels than those set forth by SCDHEC between 58 percent (PD-367) and 75 percent (PD-341) of sampled events. Station PD-242 was on the 2004 and 2006 303(d) lists for a fish consumption advisory due to high mercury levels while Station PD-367 was listed on the 2006 303(d) list for aquatic life impairment due to high copper concentrations in the water. No ambient data was submitted for Station PD-242. The remaining stations were not included on the 1998, 2000, 2002, 2004, or 2006 303(d) lists, which indicates that the streams at these stations are supporting their intended uses.

### 3.18.5.2 Watershed units which drain into the Little Pee Dee River

#### Little Pee Dee River Watershed Unit 03040204-010

Little Pee Dee River watershed unit 03040204-010 is located in Marlboro, Dillon, and Marion Counties, South Carolina. This reach of the Little Pee Dee River extends from its headwaters to Leith Creek and includes tributaries from Beaverdam Creek, McNairs Millpond, Parker Branch, Marsnip Branch, McLaurins Millpond, Panther Creek, Gum Swamp, Red Bluff Lake, and Reedy Branch (refer to Figure 3-42, page 3-265).

There are five SCDHEC water quality monitoring stations located within this watershed unit. Station PD-016 is located at a bridge crossing of Panther Creek at S.C. Route 27 while Station PD-306 is also located on Panther Creek at U.S. Route 15, just outside of McColl. Station PD-062 is located on S.C. Route 27 where it crosses Gum Swamp. Station PD-017A is located on McLaurins Millpond at S.C. Route 381, and Station PD-365 is found on the Little Pee Dee River at County Line Road (S-17-363). While the stations on Panther Creek and Gum Swamp (Stations PD-016, PD-306, and PD-062) are in the project study area, the Build Alternatives do not cross Panther Creek, Gum Swamp, or their tributaries within five miles of these stations. Based on data gathered at these monitoring stations between 1999 an 2006, 82 percent of samples at Station PD-016 were in violation of the pH levels set forth by SCDHEC, while 33 percent of fecal coliform samples were in violation. Station PD-017A was in violation of the pH levels during 27 percent of the sampling events. Station PD-062 was in violation of the fecal coliform criteria during 50 percent of the sampling events, while 82 percent of the samples were in violation for the pH standards. Station PD-306 was in violation of the fecal coliform standards ten percent of the time, and in violation of pH levels 91 percent of the sampled events. Station PD-365 was also in violation of fecal coliform and pH standards, with 17 percent of samples being in violation of the standard criteria for fecal coliform and 62 percent being in violation of the standard criteria for pH. Additionally, Station PD-365 was in violation for zinc during five percent of the sampling events. The Little Pee Dee River is a blackwater system with naturally low pH and dissolved oxygen concentrations, which may explain the lower pH levels found at these stations. Even though mercury was not sampled or detected at these stations, a fish consumption advisory was issued by SCDHEC due to high mercury levels that included the Little Pee Dee River within this watershed unit. None of these stations have been included on the 1998, 2000, 2002, 2004, or 2006 303(d) lists, indicating the streams are supporting their intended uses.

### Little Pee Dee River Watershed Unit 03040204-030

Little Pee Dee River watershed unit 03040204-030 is located in Marlboro and Dillon Counties, South Carolina. This reach of the Little Pee Dee River extends from Leith Creek to Buck Swamp and includes the following tributaries within the project study area: Carolina Branch, Shoe Heel Creek, Beaverdam Creek, Martins Branch, Sweat Swamp, and Hayes Swamp (refer to Figure 3-42, page 3-265).

Three stations monitored by the SCDHEC are located within this watershed unit in the project study area. Station PD-029E is located at a bridge overpass on the Little Pee Dee River at Harllees Bridge Road (S-17-23) while Station PD-069 is also found on the Little Pee Dee River at S.C. Route 57. Station PD-283 is located on the Little Pee Dee River, northwest of the City of Dillon at Mococasin's Bluff. None of the aforementioned stations are within five miles of any alternative. From 1999 to 2006, the sampling data shows that PD-069 was in violation of the pH standard 68 percent of sampling events, and was in violation of the fecal coliform

standard 24 percent of sampling events. No water quality data was submitted for Station PD-029E or PD-283. The Little Pee Dee River is a blackwater system with naturally low pH and dissolved oxygen concentrations. Although sampling data indicated that mercury was not detected within the stream, a fish consumption advisory was issued by SCDHEC for the portion of the Little Pee Dee River within the watershed unit due to high mercury levels in the water. Both stations were not included on the 1998, 2000, 2002, 2004, or 2006 303(d) lists, indicating that the streams are supporting their intended uses.

#### *Buck Swamp Watershed Unit 03040204-050*

Buck Swamp watershed unit 03040204-050 is located in Dillon, Marlboro, and Marion Counties, South Carolina and drains into the Little Pee Dee River. The portion of the watershed unit in the project study area is comprised primarily of the headwaters to Buck Swamp, including Reedy Creek and Little Reedy Creek and their tributaries (refer to Figure 3-42, page 3-265). No water quality monitoring stations exist in the portion of the watershed unit that is in the project study area; therefore, the water quality of the stream is unknown at this time.

### 3.18.6 What are the potential impacts to water quality?

For purposes of water quality, all ditches and canals that were jurisdictionally linked to Waters of the United States were included in both the stormwater runoff analysis and counted as stream crossings. Ditches and canals will be verified for linkage to jurisdictional waters during the wetland delineation of the Preferred Alternative. Most all impacts resulting from the Build Alternatives occur to intermittent streams or ditches. As previously mentioned, all waters in the project study area are classified as *freshwater* or type C (refer to Section 3.18.2, page 3-255). No *outstanding resource waters*, protected waters, *freshwaters* with specific standards, or 303(d) impaired streams would be impacted by the Build Alternatives.

#### *3.18.6.1 No-Build Alternative*

Traffic would be expected to use other roadways in the project study area and pollutant loading would occur in different portions of the watershed units, depending on the locations of the stream/ditch crossings by existing routes. Over time, the increased traffic volumes on the existing routes would result in a larger addition of pollutants at these existing crossings.

Due to limited development likely to occur in the project study area by 2030, regardless of the proposed project, predicted land use modeling anticipates only one direct stream/ditch impact with the No-build Alternative in the Little Pee Dee River watershed unit (03040204-030) (refer to Table 3.65, page 3-269).

**Table 3.65**
**Streams/Ditches Impacted by Predicted Development in the Project Study Area**

| | | | Number of Stream/Ditch Crossings | | | |
|---|---|---|---|---|---|---|
| | | | No-Build | Alternative 1 | Alternative 2 (Preferred) | Alternative 3 |
| Watershed | Pee Dee River Sub-Basin 03040201 | Pee Dee River 03040201-010 | 0 | 0 | 0 | 0 |
| | | Pee Dee River 03040201-050 | 0 | 6 | 2 | 2 |
| | | Crooked Creek 03040201-070 | 0 | 6 | 6 | 5 |
| | | Three Creeks 03040201-090 | 0 | 15 | 13 | 9 |
| | Little Pee Dee River Sub-Basin 03040204 | Little Pee Dee River 03040204-010 | 0 | 0 | 0 | 1 |
| | | Little Pee Dee River 03040204-030 | 1 | 1 | 1 | 2 |
| | | Buck Swamp 03040204-050 | 0 | 0 | 1 | 5 |
| | | **Total** | **1** | **28** | **23** | **24** |

### *3.18.6.2 Alternative 1*

Alternative 1 would cross 83 streams/ditches over six watershed units, including the Pee Dee River (03040201-010), Pee Dee River (03040201-050), Crooked Creek (03040201-070), Three Creeks (03040201-090), and Buck Swamp (03040204-050). The Buck Swamp watershed unit would have the most crossings at 30 (refer to Table 3.66).

The land use model (refer to Lane Use, Section 3.1, page 3-1), predicted induced development for Alternative 1, which was used to estimate potential indirect impacts to water quality. Impacts that would result from the induced development associated with Alternative 1 include 28 impacts to *freshwater* streams/ditches. These impacts would be spread over four watershed units; six within the Pee Dee River (03040201-050), six within Crooked Creek (03040201-070), 15 within Three Creeks (03040201-090), and one within the Little Pee Dee River (03040204-030, refer to Table 3.65).

**Table 3.66**
**Stream/Ditch Crossings by Build Alternative**

| | | | Number of Stream/Ditch Crossings | | |
|---|---|---|---|---|---|
| | | | Alternative 1 | Alternative 2 (Preferred) | Alternative 3 |
| Watershed | Pee Dee River Sub-Basin 03040201 | Pee Dee River 03040201-010 | 3 | 3 | 3 |
| | | Pee Dee River 03040201-050 | 15 | 0 | 0 |
| | | Crooked Creek 03040201-070 | 15 | 24 | 25 |
| | | Three Creeks -090 | 20 | 17 | 0 |
| | Little Pee Dee River Sub-Basin 03040204 | Little Pee Dee River -010 | 0 | 0 | 13 |
| | | Little Pee Dee River -030 | 0 | 0 | 15 |
| | | Buck Swamp -050 | 30 | 31 | 30 |
| | | **Total** | **83** | **75** | **86** |

### *3.18.6.3 Alternative 2*

Alternative 2 would cross 75 streams/ditches in five different watershed units, including Pee Dee River (03040201-010), Crooked Creek (03040201-070), Three Creeks (03040201-090), and Buck Swamp (03040204-050). The Buck Swamp watershed unit would have the most crossings at 31 (refer to Table 3.66).

Alternative 2 would have indirect impacts to 23 streams/ditches within five watershed units due to projected induced development based on the land use model (refer to Table 3.65). Two stream impacts would occur within the Pee Dee River (03040201-050), six within Crooked Creek (03040201-070), and 13 within Three Creeks (03040201-090), and one each in the Little Pee Dee River (03040204-030) and Buck Swamp (03040204-050) for a total of 23 *freshwater* indirect stream impacts.

### 3.18.6.4 Alternative 3

Alternative 3 would cross the most streams/ditches with 86 crossings in six watershed units, including Pee Dee River (03040201-010), Crooked Creek (03040201-070), Three Creeks (03040201-090), Little Pee Dee River (both units 03040204-010 and 030), and Buck Swamp (03040204-050) (refer to Table 3.66, page 3-270). Buck Swamp watershed unit would have the most crossings with 30.

Due to predicted induced development based on the land use model, Alternative 3 would indirectly impact 24 *freshwater* streams in six different watershed units (refer to Table 3.65, page 3-269). Two stream impacts are predicted within the Pee Dee River (03040201-050), five within Crooked Creek (03040201-070), nine within Three Creeks (03040201-090), three within the Little Pee Dee River (03040204, one in subunit -010 and two in subunit -030), and five within Buck Swamp (03040204-050).

## 3.18.7 How much pollutant would runoff into streams as a result of the Build Alternatives?

Water quality impacts could result due to pollutant buildup in new areas of the project study area from the increase in traffic volumes. Inorganic materials, volatile compounds (from petroleum products), dust from vehicle brakes and exhaust, and heavy metals can build-up on roadways and runoff into streams and wetlands due to rain.

In addition, water quality impacts could occur during normal operation and maintenance of the roadway from spraying of herbicides or use of paint and other materials. Best management practices (BMPs) would be used for maintenance of the road and the use of herbicides in the right-of-way. The implementation of BMPs would ensure that these maintenance activities would not have an impact to water quality in the project study area.

An analysis was done using the FHWA's "Constituents of Highway Runoff" to estimate the amount of pollutant that would enter streams after a twenty-day buildup period, assuming there were no structures such as retention basins or ditches to filter sediment.[158] The volume of traffic and the estimated length for each Build Alternative within a watershed unit was used to calculate the pollutant load for one point per watershed unit. Standard equations were used to calculate the constituents in the pollutant load, which were developed based on studies completed on a rural interstate highway in Pennsylvania. In general, more pollutant would drain into streams that are in urbanized areas rather than those located in rural areas. This is due to the amount of vegetation along the sides of

[158] FHWA, 1981. FHWA/RD-81/042: "Constituents of Highway Runoff". Washington, D.C., 1981

roadways that would filter pollutants prior to draining into streams. The results of this model and the constituent listing[159] are shown in Table 3.67. While this is a general model for constituent loading into streams without filtering or retention structures, a more detailed analysis of pollutant runoff will be done for the Preferred Alternative. The No-build Alternative was analzed using the two main travel routes from future I-74 to I-95, which are S.C. Route 38 and U.S. Route 1/S.C. Route 9. While this captures a large amount of the traffic in the 2030 No-build Alternative, it does not account for the total amount of traffic which may use other routes throughout the project study area. Therefore, the amounts of pollutants listed in Table 3.67 will underestimate the true amount of pollutants entering into streams as a result of the No-build Alternative.

Based on the calculated estimates from the model, Alternative 3 would have the highest amount of total solids discharged after a twenty-day build up period, while Alternatives 1 and 2 would have similar estimated amounts of total solids. Nutrient buildup as a result of increased Total Nitrogen

**Table 3.67**
**Pollutant Discharge in Pounds**

| | No-build Scenarios | | Build Alternatives | | |
|---|---|---|---|---|---|
| | U.S. 1/ S.C. 9 | S.C. 38 | 1 | 2 (Preferred) | 3 |
| **Total Solids** | **1349** | **704** | **3421** | **3430** | **4104** |
| Suspended Solids | 212.48 | 70.08 | 751.00 | 911.04 | 1053.12 |
| Total Organic Carbon | 53.57 | 17.47 | 171.00 | 203.45 | 237.58 |
| Chemical Oxygen Demand | 235.01 | 178.90 | 415.00 | 416.06 | 474.70 |
| Total Nitrogen | 12.24 | 11.06 | 16.00 | 16.05 | 17.28 |
| Total Kjeldahl Nitrogen | 103.73 | 101.73 | 110.00 | 110.18 | 112.27 |
| Total Phosphorus | 1.44 | 0.47 | 5.00 | 6.13 | 7.09 |
| Lead | 0.35 | 0.12 | 1.00 | 1.26 | 1.48 |
| Zinc | 0.28 | 0.10 | 1.00 | 0.86 | 1.02 |
| Iron | 9.3 | 3.07 | 33.00 | 39.86 | 46.07 |
| Copper | 1.69 | 1.64 | 2.00 | 1.84 | 1.89 |
| Cadmium | 1.32 | 1.30 | 1.00 | 1.40 | 1.43 |
| Chromium | 0.15 | 0.05 | 1.00 | 0.65 | 0.68 |
| Mercury | 2.71 | 2.71 | 3.00 | 2.70 | 2.69 |

[159] Using the model's equations, the sum of the constituents does not equal the amount of total solids for each Build Alternative.

and Total Kjeldahl Nitrogen would be similar among all Build Alternatives, while Alternative 3 would result in the highest amount of these pollutants. Total phosphorus would range between 5 and 7 pounds, with Alternative 3 resulting in the largest amount of total phosphorous being added to streams. All Build Alternatives would result in small amounts of lead, zinc, copper, cadmium, chromium and mercury being added into the streams. Iron would also be anticipated to be in pollutant runoff from the roadway, with Alternative 1 resulting in the least amount of iron being loaded into the stream and Alternative 3 being the highest amount.

Stormwater runoff from impervious surfaces may also indirectly impact water quality in the project study area. Based on the land use model, the indirect and cumulative development in the project study area was analyzed by watershed unit. The amount of impervious surface in relation to a developed tract varies and is dependent on what the tract is being used for, i.e. residential, commercial, industrial. Based on the NRCS's *Urban Hydrology for Small Watershed Basins: 1975,* the percentage of impervious surfaces would be 85 percent for commercial development, 72 percent for industrial development, 50 percent for public and institutional uses, and 25 percent for residential development.[160] Since the predicted development for the Build Alternatives was distinguished by type (i.e. residential, commercial, etc.), the amount of development was multiplied by the corresponding percentage. The results are shown in Table 3.68 and separated by watershed unit. Alternative 2 would have the greatest amount of new impervious surfaces, which corresponds to it generating the most development by the land use model (refer to Land Use, Section 3.1, page 3-1). The greatest amount of development would be added to the Three Creeks Watershed Unit 03040201-090 by Alternative 2 with over 139 acres, and then to the Crooked Creek/Crooked Creek-Lake Wallace Watershed Unit 03040201-070/03040201-0506 with 127 acres of new impervious surfaces.

Impervious surfaces would not only be added to the previously described watershed units, but are also predicted to be added in the following watershed units described below.

Whites Creek watershed unit 03040201-040 is located in Marlboro County, South Carolina and watershed unit 03040201-0502 is located in Richmond County, North Carolina (refer to Figure 3-41, page 3-265). These watershed units comprise a single hydrologically connected watershed unit that has been separated at the North Carolina/South Carolina state line. The stream consists of Whites Creek and its tributaries including Wallace Pond and Everetts Lake, which eventually drains into the Great Pee Dee River near the North Carolina/South Carolina state line. Based on the 2000 WWQA, Whites Creek is considered a blackwater system, which is naturally low in pH, but it is fully supporting SCDHEC designated uses.

[160] USDA-NRCS Soil Conservation Service Engineering Division. *Urban Hydrology for Small Watershed Basins, Technical Release no. 55.* January 1, 1975.

**Table 3.68**
**Anticipated Amount of New Impervious Surfaces by Induced Development in the Project Study Area (in acres)**

| | | | Acres of Impervious Surface | | | | Total acres per watershed unit |
|---|---|---|---|---|---|---|---|
| | | | No-Build | Alt. 1 | Alt. 2 (Preferred) | Alt. 3 | |
| Watershed | Pee Dee River Sub-Basin 03040201 | 03040201-010 | 25.72 | 37.04 | 68.82 | 69.34 | 117,993 |
| | | 03040201-040 | 0 | 0.67 | 0.67 | 0.78 | 19,834 |
| | | 03040201-050 | 0 | 113.54 | 22.90 | 19.79 | 225,816 |
| | | 03040201-070 | 0 | 91.09 | 127.09 | 105.11 | 49,569 |
| | | 03040201-090 | 0 | 94.63 | 139.53 | 52.26 | 79,667 |
| | | 03040201-120 | 2.94 | 2.99 | 8.31 | 5.31 | 84,380 |
| | | 03040201-150 | 1.03 | 1.70 | 2.06 | 2.06 | 111,416 |
| | Little Pee Dee River Sub-Basin 03040204 | 03040204-010 | 5.76 | 29.21 | 49.27 | 62.9 | 83,775 |
| | | 03040204-030 | 13.68 | 21.96 | 41.31 | 51.70 | 107,985 |
| | | 03040204-040 | 0.73 | 1.48 | 1.46 | 1.46 | 81,863 |
| | | 03040204-050 | 0.36 | 3.61 | 23.21 | 32.58 | 97,567 |
| | | **Total** | **50.22** | **397.92** | **484.63** | **403.29** | |

* Indicates watershed units that are administratively separated at the North Carolina/South Carolina state border.

Pee Dee River watershed unit 03040201-120 is located in Dillon, Marion, and Florence Counties. Portions of Brownsville Creek are located in the project study area and eventually drain into the Great Pee Dee River (refer to Figure 3-41, page3-265). The water quality of the portion of the watershed unit in the project study area is unknown at this time due to the lack of water quality monitoring stations within the portion of the watershed unit located within the project study area.

Catfish Creek Watershed Unit 03040201-150 is located in Marion and Dillon Counties and includes Catfish Creek and its tributaries, which eventually flow into the Great Pee Dee River (refer to Figure 3-41, page 3-265). A portion of the watershed unit is located within the project study area, consisting of the headwaters to Catfish Canal. No water quality monitoring stations exist in the portion of the watershed unit in the project study area; therefore, the water quality of the stream is unknown at this time.

Shoe Heel Creek Watershed Unit 03040204-040 is located in Dillon County on the border of the North Carolina state line and accepts drainage from Shoe Heel Creek and its tributaries, which eventually flow into the Little Pee Dee River. No water quality monitoring stations exist at this time in the watershed unit; therefore, the water quality of this stream is unknown at this time.

Impacts to watershed units begins to occur when ten percent or more of the watershed unit is comprised of impervious surfaces.[161] The amount of impervious surfaces from current residential, commercial, and industrial uses are estimated to be approximately 5,000 acres (refer to Land Use, Section 3.1, page 3-1). Due to the rural nature of the project area and the total acres per each watershed unit, no impacts are likely from the No-build or Build Alternatives as a result of the increase in impervious surfaces.

### 3.18.8 What best management practices and measures to minimize the amount of runoff pollution into streams could be used?

This proposed project would be located in mainly rural areas, so the roadway design would consist of grassy swales and vegetated slopes on the sides of the pavement which would help filter pollutants from the runoff. The runoff would be routed through grassy ditches, and as it moved through the ditches it would be filtered prior to entering streams. Retention ponds would be in place in some areas to allow pollutants to settle prior to entering streams. These design features, along with other BMPs found in the SCDOT, NCDOT, and FHWA guidelines, would be used during construction to minimize the amount of runoff pollution entering streams.

### 3.18.9 How would water quality impacts be minimized during construction?

Potential impacts to water quality from construction activities could be related to surface water runoff, accidental release of fuel or hydraulic fluids, sedimentation from soil erosion, and changes in stream channel grades. *The South Carolina Stormwater Management and Sediment Control Handbook for Land Disturbance Activities,*[162] provides information regarding stormwater management and sediment control during construction. Several Best Management Practices (BMPs) may be used during construction include the following:

- land grading;
- construction of temporary diversions to dispose of runoff to control erosion and sedimentation;
- construction of diversion dikes to prevent sediment-laden runoff from exiting the construction site;
- construction of temporary sediment traps which would detain sediment-laden runoff and trap the sediment to prevent impacts to surrounding water bodies;
- construction of sediment basins;
- straw bale dikes; and,

[161] Schueler, T. The Center for Watershed Protection. "Watershed Protection Techniques." (Vol. 1, No. 3, Fall 1994).

[162] SCDHEC-OCRM, A Guide to Site Development and Best Management Practices for Stormwater Management and Sediment Control.

- rock dams to retain sediment on the construction site and prevent sedimentation of off-site water bodies.

The contractor would be required to comply with Section 107.26, SCDHEC's *Environmental Protection and Water Pollution Control* from the *South Carolina Highway Department Standard Specifications for Highway Construction*.[163] In addition, the contractor would be required to comply with current federal and state laws, as well as regulations regarding water quality and stormwater management.

## 3.18.10 What are the cumulative impacts to water quality?

Numerous other roadway projects have been constructed, are currently being constructed, or are proposed within the Pee Dee Sub-basin (03040201) (refer to Figure 3-43). These projects have had an effect on pollutant loading into the Pee Dee Sub-basin. Previous projects include work associated with I-74, accounting for 14 miles of roadwork completed in Richmond County, North Carolina in 2000. A seven-mile roadway widening project is currently being conducted in Dillon County along S.C. Route 38, extending from I-95 to Marion, South Carolina.

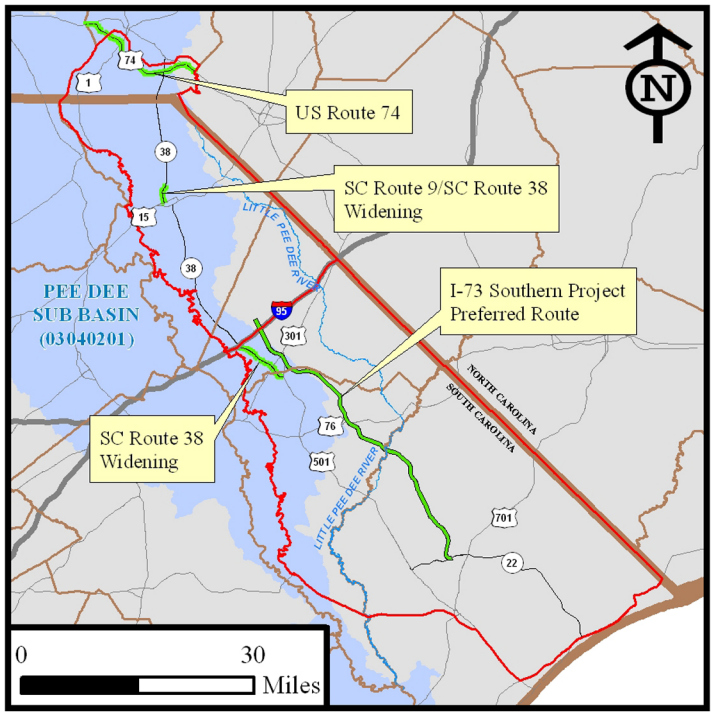


*Figure 3-43: Projects within the Pee Dee Basin*

Three additional roadway projects are proposed to occur within the Pee Dee Sub-basin. I-73 South, a 44-mile new interstate, is proposed for construction between I-95 and S.C. Route 22 in Dillon, Marion, and Horry Counties, with new ROW varying from 300 to 400 feet. S.C. Route 22 would be upgraded to interstate standards until it terminates at U.S. Route 17 in North Myrtle Beach. Funding has not been secured for constructing I-73 South, and it is uncertain when construction for the project will begin. The second project is the widening of S.C. Route 9/S.C. Route 38 from two to five lanes, including a bridge replacement over Crooked Creek. The project extends for three miles from U.S.

[163] SCDHEC-OCRM, *South Carolina Stormwater Management and Sediment Control Handbook for Land Disturbance Activities* (2003), Appendix E.

Route 15/401 to S.C. Route 9 Business in Marlboro County. A timeline for the S.C. Route 9/S.C. Route 38 project has not yet been determined. Although cumulative impacts to water quality could occur, the Section 401 water quality certification process would afford protection of the streams/ ditches and watersheds identified within the project study area.

In addition to roadway projects, a new landfill and defense training facility is proposed to occur within the project study area. Prior to any construction, the proper permits for stormwater control and runoff would need to be obtained for these projects to be constructed. These projects would require that standards be met for run-off control and treatment. The requirements are designed to minimize potential impacts to water quality and volumes during construction during construction and subsequent operation of these facilities.

All Build Alternatives cross a tributary to Little Reedy Creek just north of I-95 while Alternative 3 also crosses Reedy Creek before crossing the tributary to Little Reedy Creek at the same location as Alternatives 1 and 2. The Southern Preferred Alternative does not cross Little Reedy or Reedy Creeks or Buck Swamp, staying in the Catfish Creek drainage until approximately 10 miles south of Latta. Also, predicted development under the No-build Alternative and the Southern Preferred Alternative is located primarily at the proposed interchange with U.S. Route 501 west of Latta in the Catfish Creek watershed. Therefore, cumulative impacts to water quality of Buck Swamp from the highway crossing Reedy and Little Reedy Creek prior to their joining into Buck Swamp would not occur.