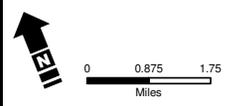


- Legend**
- Multiple Preliminary Corridor Segments
  - Major Roads
  - Minor Roads
  - Streams
  - Lakes
  - Subdivisions
  - Project Study Area
  - County Boundary



Source: Mecklenburg County and Union County GIS. Map Printed March 2009.



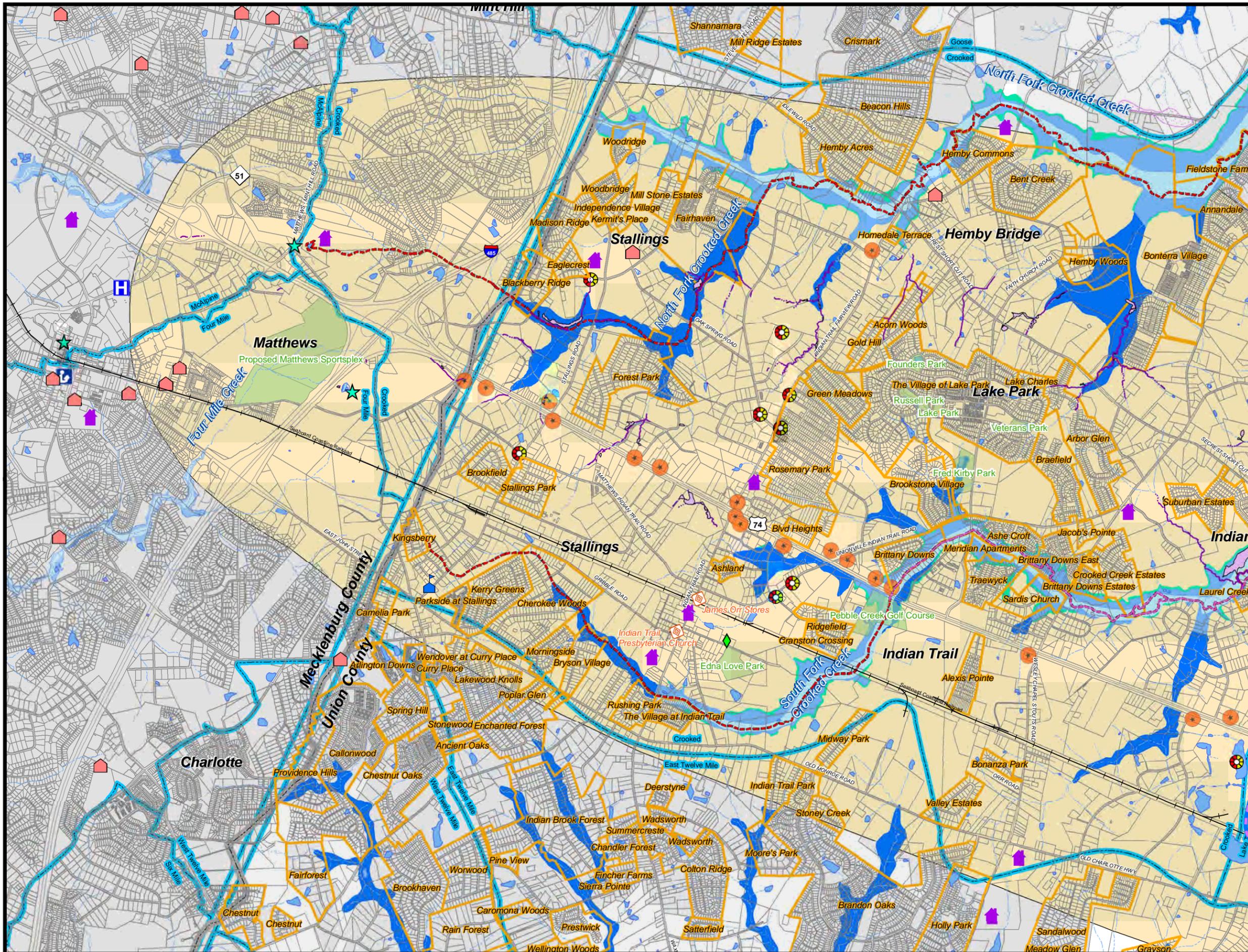
**NORTH CAROLINA Turnpike Authority**

STIP PROJECT NO. R-3329/R-2559  
Mecklenburg County and Union County

**MONROE CONNECTOR/  
BYPASS**

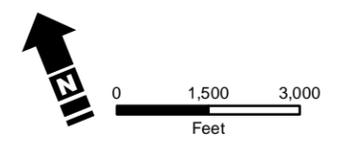
**PRELIMINARY  
CORRIDOR SEGMENTS**

Figure 2-1



- Legend**
- Project Study Area
  - Historic Sites
  - Historic Sites
  - Historic Districts
  - Parks
  - Subdivisions
  - Rail
  - Parcels
  - Basins
  - Municipal Limits
  - Lakes
  - Surveyed Wetlands
  - Surveyed Ponds
  - Surveyed Intermittent Stream
  - Surveyed Perennial Stream
  - Streams
  - 303(d) Streams
  - Significant Natural Heritage Area
  - Lake Twitty Protected Area
  - Lake Twitty Critical Area
  - FEMA
  - Floodway
  - 100 Year (AE) Floodplain
  - 100 Year (A) Floodplain
  - 500 Year Floodplain
  - Cemetery
  - Church
  - College
  - Fire Department
  - Library
  - Police Station
  - Public Facility
  - Hazmat
  - Gold Mines
  - Hospital
  - Schools

Source: Mecklenburg County and Union County GIS.  
Map Printed March 2009.

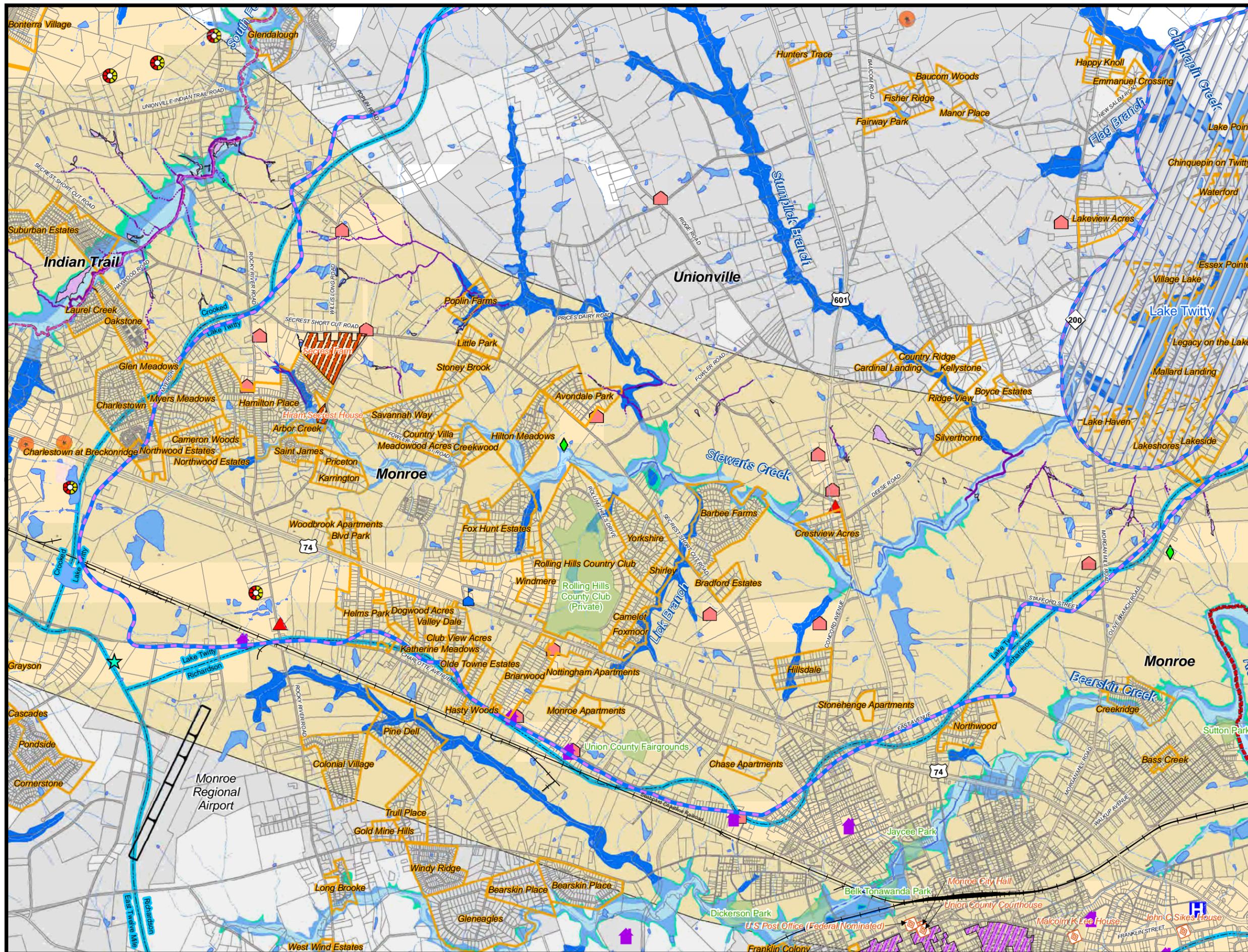


STIP PROJECT  
NO. R-3329/R-2559  
Mecklenburg County and Union County

**MONROE CONNECTOR/  
BYPASS**

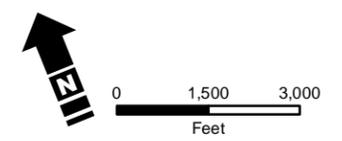
**LAND SUITABILITY  
MAPPING**

Figure 2-2a



- Legend**
- Project Study Area
  - Historic Sites
  - Historic Sites
  - Historic Districts
  - Parks
  - Subdivisions
  - Rail
  - Parcels
  - Basins
  - Municipal Limits
  - Surveyed Wetlands
  - Surveyed Ponds
  - Surveyed Intermittent Stream
  - Surveyed Perennial Stream
  - Streams
  - 303(d) Streams
  - Significant Natural Heritage Area
  - Water Supply/Watershed
  - Lake Twitty Protected Area
  - Lake Twitty Critical Area
  - FEMA
  - Floodway
  - 100 Year (AE) Floodplain
  - 100 Year (A) Floodplain
  - 500 Year Floodplain
  - Cemetery
  - Church
  - College
  - Fire Department
  - Library
  - Police Station
  - Public Facility
  - Hazmat
  - Gold Mines
  - Hospital
  - Schools

Source: Mecklenburg County and Union County GIS.  
Map Printed March 2009.

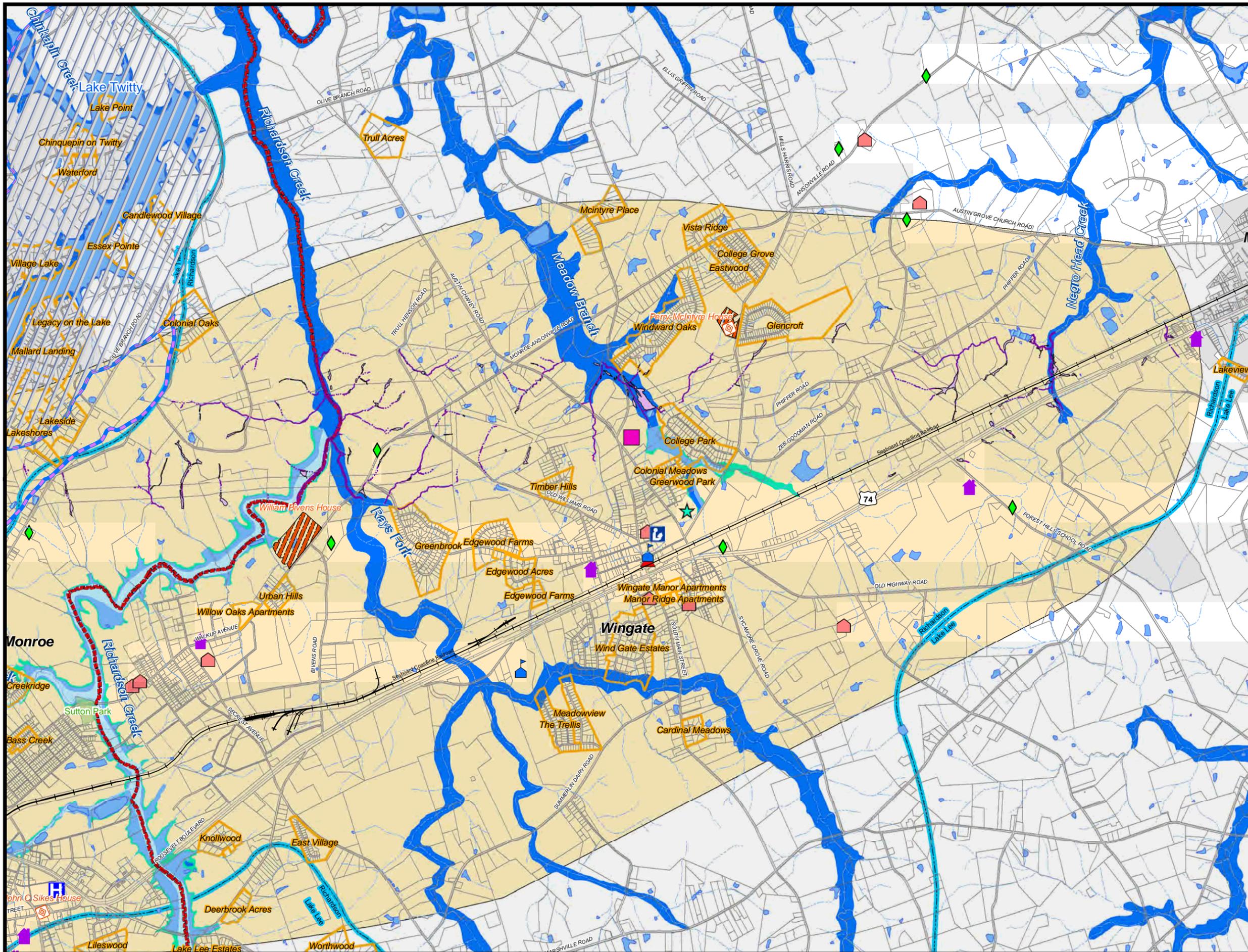


STIP PROJECT  
NO. R-3329/R-2559  
Mecklenburg County and  
Union County

**MONROE CONNECTOR/  
BYPASS**

**LAND SUITABILITY  
MAPPING**

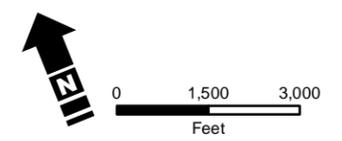
Figure 2-2b



**Legend**

Project Study Area	Cemetery
Historic Sites	Church
Historic Sites	College
Historic Districts	Fire Department
Parks	Library
Subdivisions	Police Station
Rail	Public Facility
Parcels	Hazmat
Basins	Gold Mines
Municipal Limits	Hospital
Lakes	Schools
Surveyed Wetlands	
Surveyed Ponds	
Surveyed Intermittent Stream	
Surveyed Perennial Stream	
Streams	
303(d) Streams	
Significant Natural Heritage Area	
<b>Water Supply/Watershed</b>	
Lake Twitty Protected Area	
Lake Twitty Critical Area	
<b>FEMA</b>	
Floodway	
100 Year (AE) Floodplain	
100 Year (A) Floodplain	
500 Year Floodplain	

Source: Mecklenburg County and Union County GIS.  
Map Printed March 2009.



STIP PROJECT  
NO. R-3329/R-2559  
Mecklenburg County and  
Union County

**MONROE CONNECTOR/  
BYPASS**

**LAND SUITABILITY  
MAPPING**

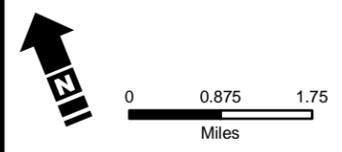
Figure 2-2c

- Legend**
- Multicolor Preliminary Corridor Segments
  - Major Roads
  - Minor Roads
  - Streams
  - Lakes
  - Subdivisions
  - Project Study Area
  - County Boundary

Note: Dashed Segment Lines depict those segments that were modified as a result of early public involvement activities.



Source: Mecklenburg County and Union County GIS.  
Map Printed March 2009.

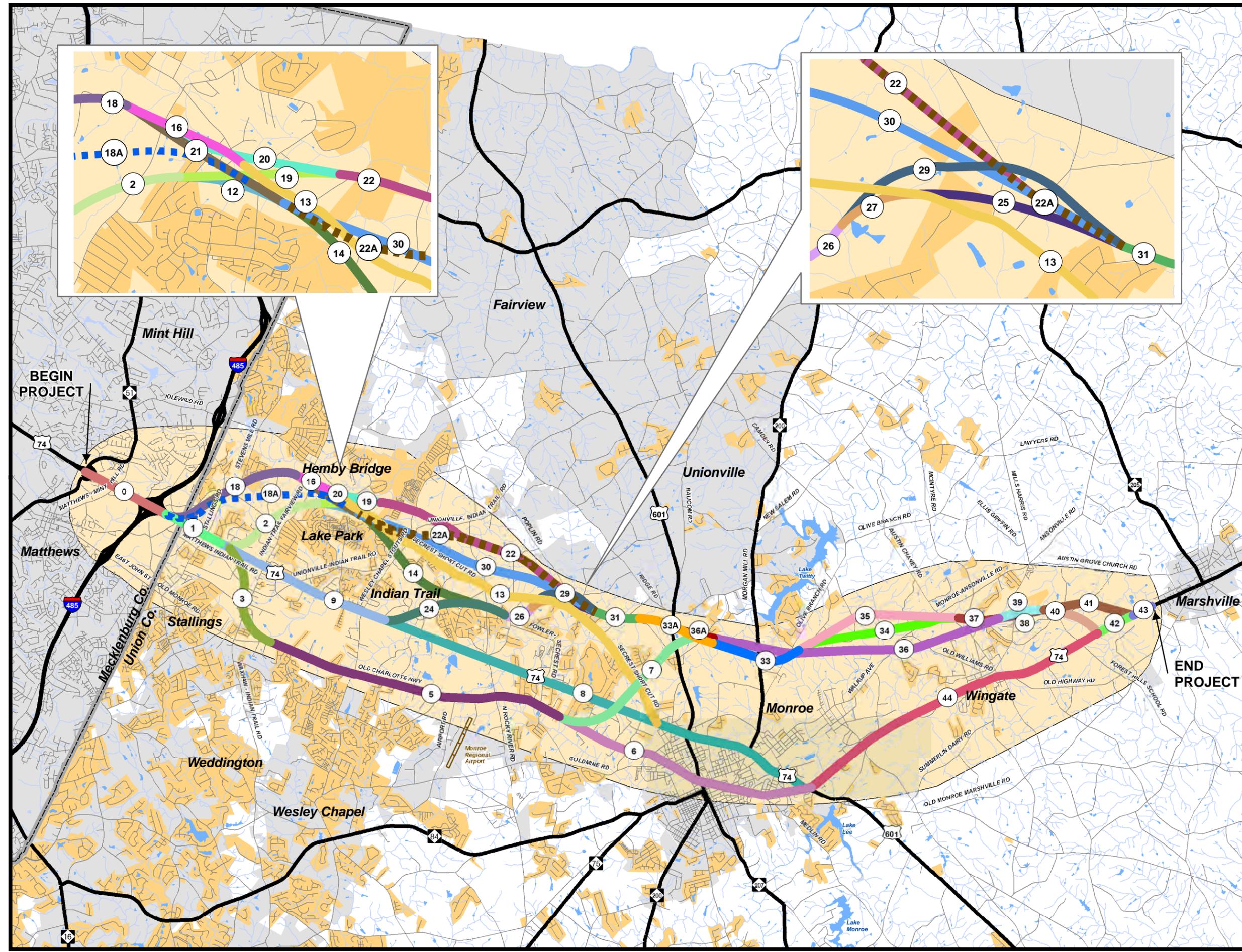


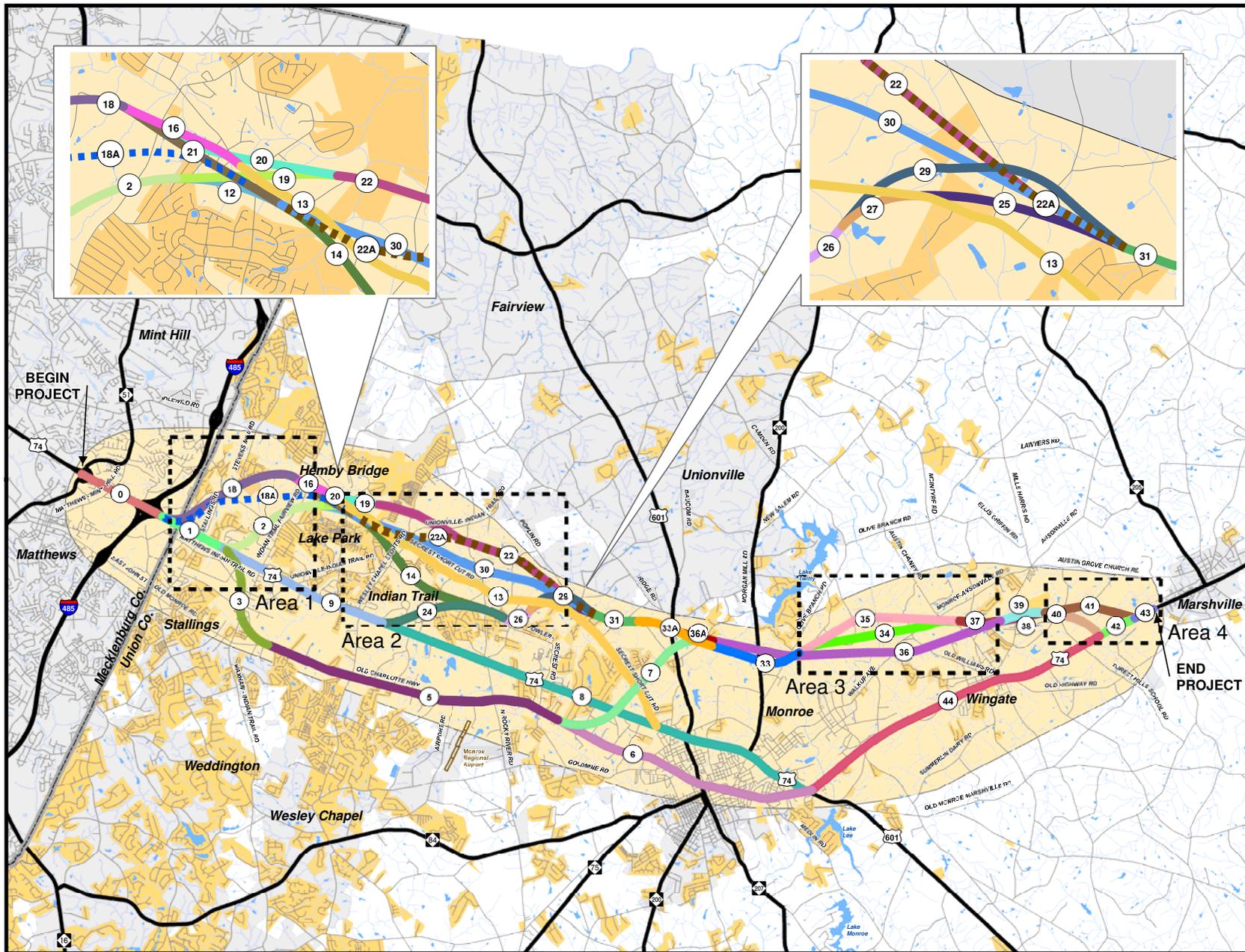
STIP PROJECT  
NO. R-3329/R-2559  
Mecklenburg County and  
Union County

**MONROE CONNECTOR/  
BYPASS**

**PRELIMINARY  
CORRIDOR SEGMENTS  
REVISED**

Figure 2-3



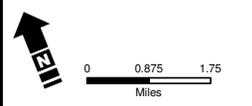


- Legend**
- Preliminary Corridor Segments
  - Relative Segment Comparison Area
  - Major Roads
  - Minor Roads
  - Streams
  - Lakes
  - Subdivisions
  - Project Study Area
  - County Boundary

Note: Dashed Segment Lines depict those segments that were modified as a result of early public involvement activities.



Source: Mecklenburg County and Union County GIS. Map Printed March 2009.



NORTH CAROLINA Turnpike Authority

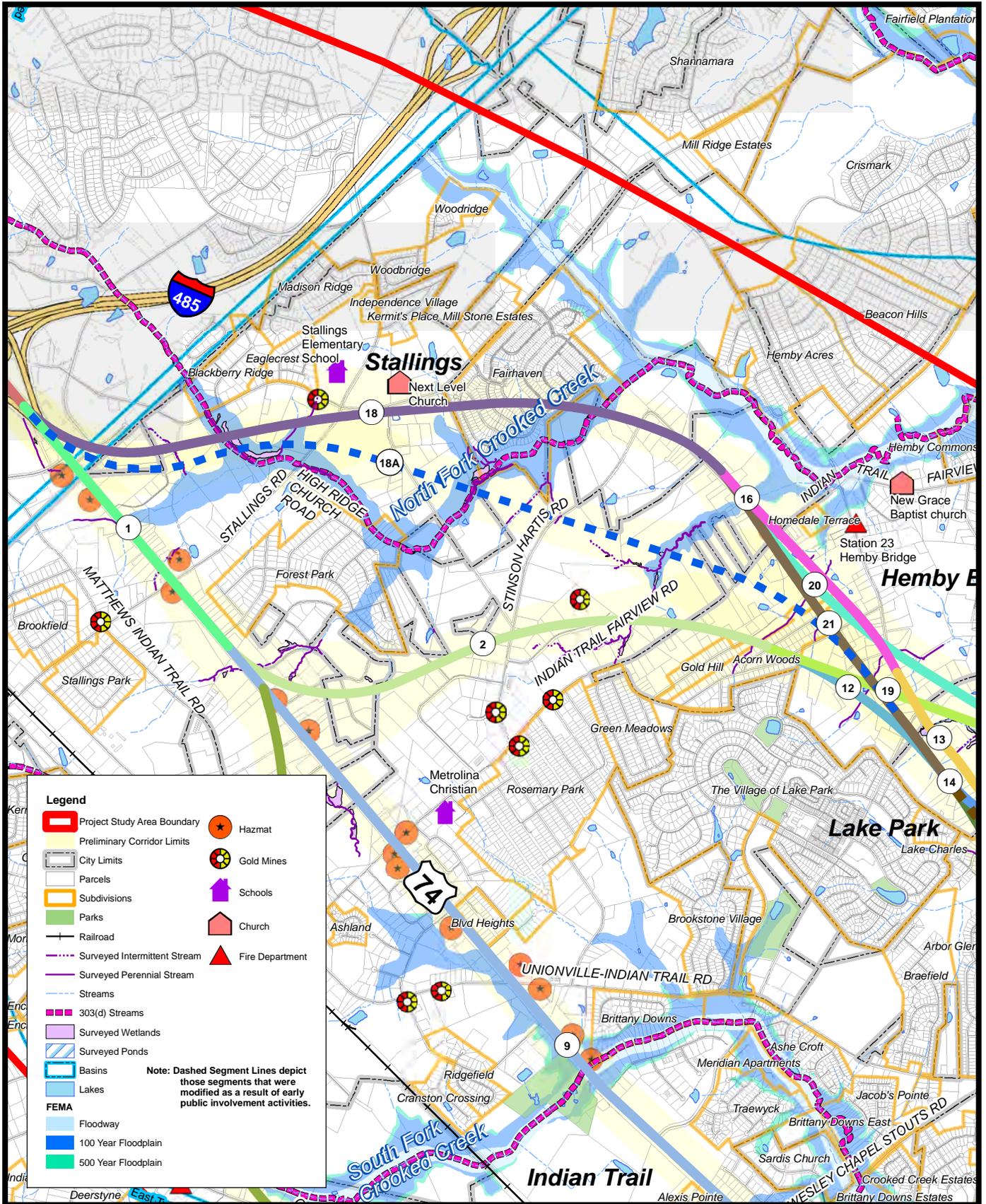
STIP PROJECT  
NO. R-3329/R-2559

Mecklenburg County and Union County

**MONROE CONNECTOR/  
BYPASS**

**PRELIMINARY  
CORRIDOR SEGMENTS  
(RELATIVE SEGMENT  
COMPARISON AREAS)**

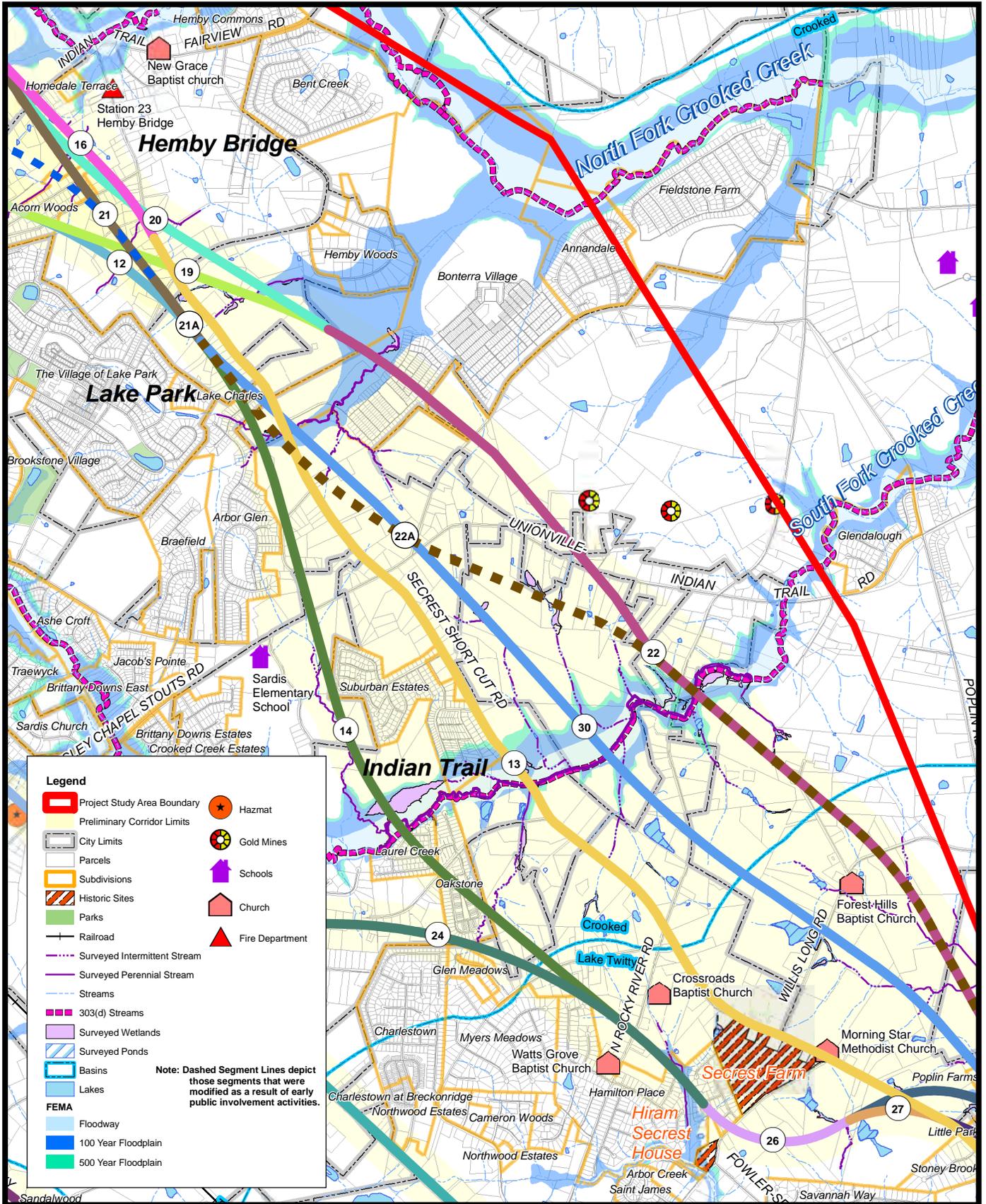
Figure 2-4a



**NORTH CAROLINA Turnpike Authority**  
**MONROE CONNECTOR / BYPASS**  
 STIP PROJECT NO. R-3329 / R-2559  
 Mecklenburg County and Union County

0 0.25 0.5  
 Miles  
 Source: Mecklenburg County and Union County GIS.  
 Map Printed March 2009.

**RELATIVE SEGMENT COMPARISON AREA 1**  
 (From I-485 to Indian Trail Fairview Road)  
 Corridor Segments 18 and 18A  
**Figure 2-4b**



**NORTH CAROLINA**  
**Turnpike Authority**

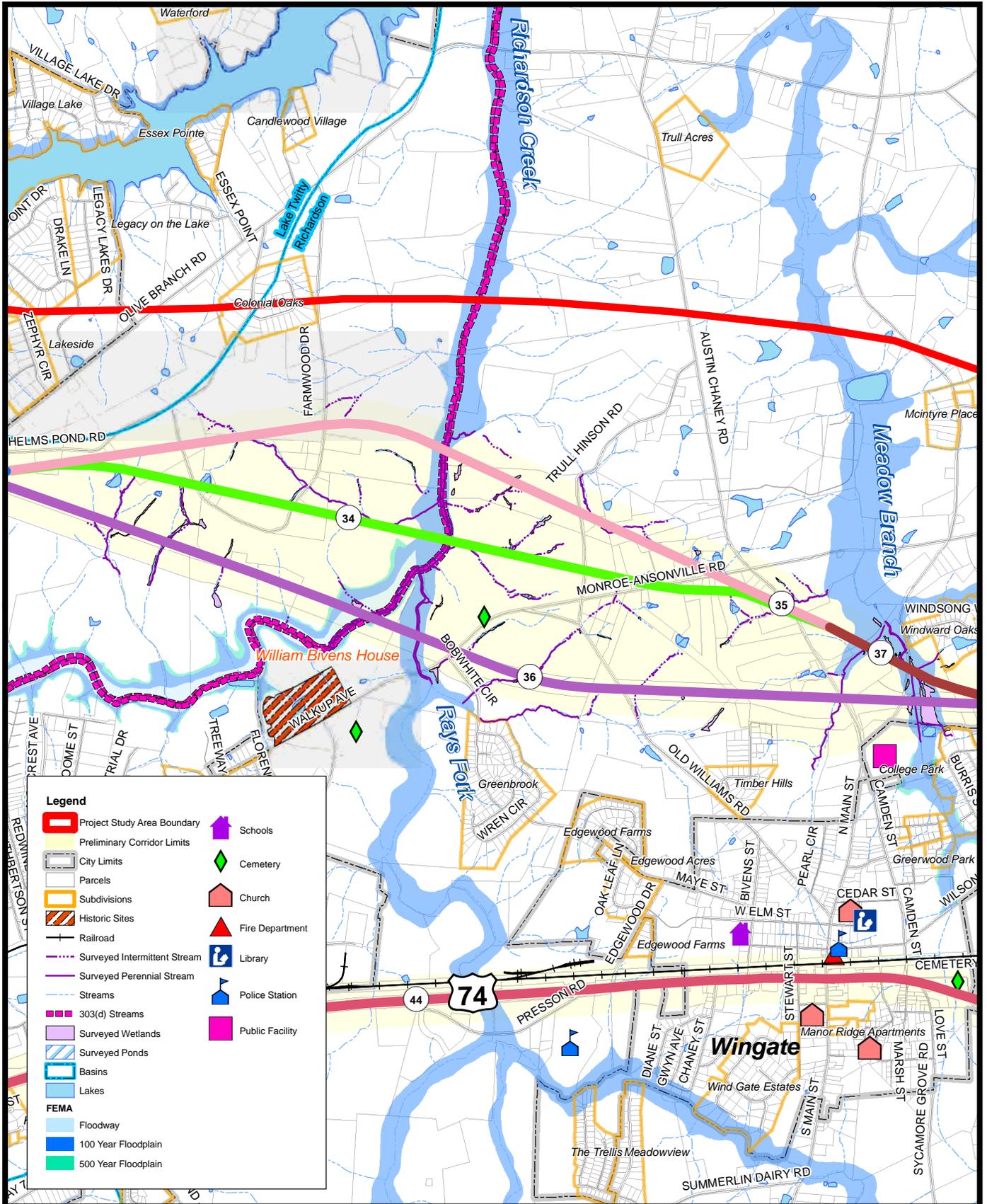
**MONROE CONNECTOR / BYPASS**  
 STIP PROJECT NO. R-3329 / R-2559  
 Mecklenburg County and Union County

0 0.25 0.5  
 Miles

Source: Mecklenburg County and Union County GIS.  
 Map Printed March 2009.

**RELATIVE SEGMENT  
 COMPARISON AREA 2**  
 (From Indian Trail Fairview Road to East of Willis Long Road)  
 Corridor Segments 22, 22A, 30, 13, 14, and 26

**Figure 2-4c**

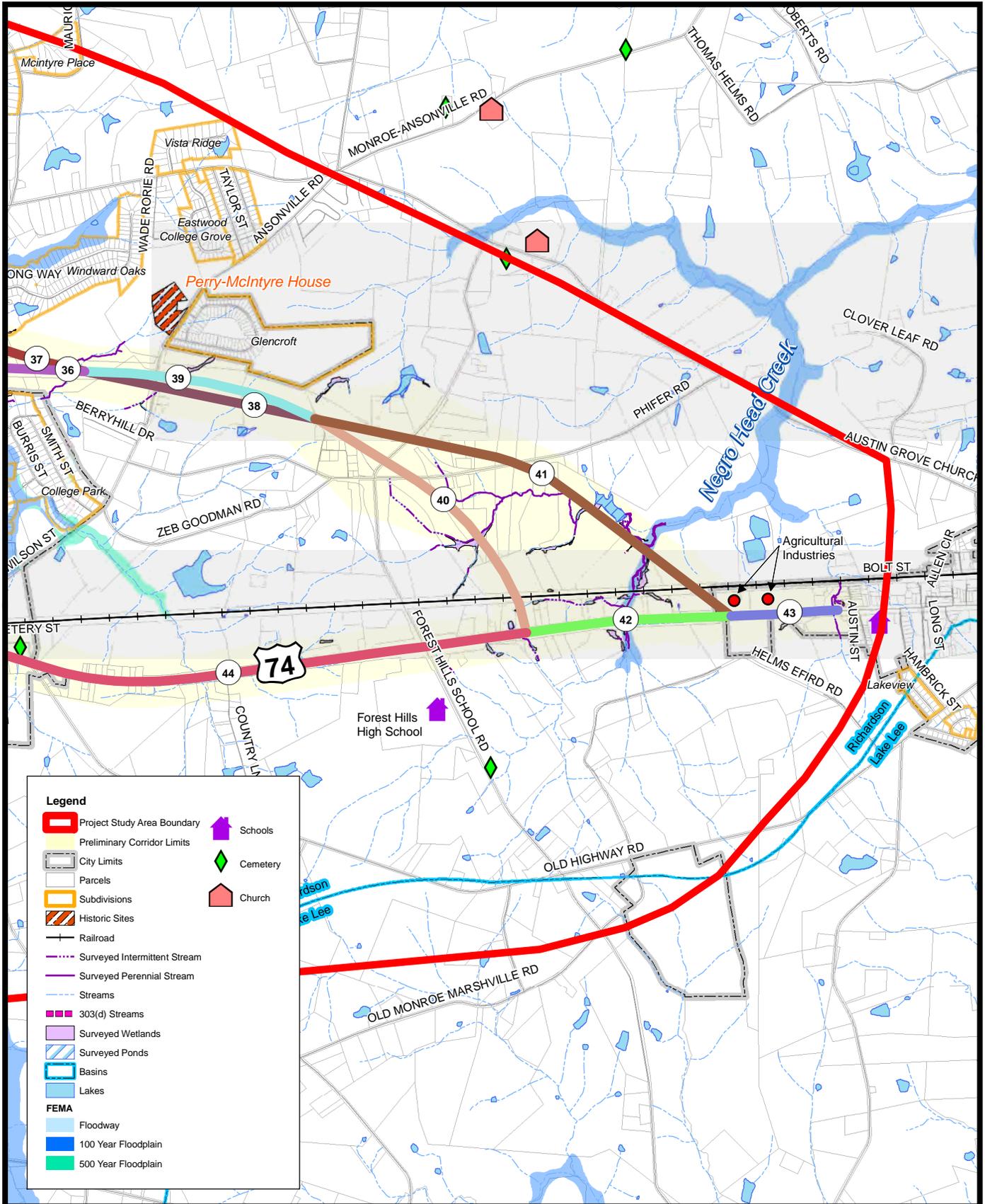


**NORTH CAROLINA**  
**Turnpike Authority**  
**MONROE CONNECTOR / BYPASS**  
 STIP PROJECT NO. R-3329 / R-2559  
 Mecklenburg County and Union County

0 0.25 0.5  
 Miles  
 Source: Mecklenburg County and Union County GIS.  
 Map Printed March 2009.

**RELATIVE SEGMENT  
 COMPARISON AREA 3**  
 (From East of Olive Branch Road to East of Austin Chaney Road)  
 Corridor Segments 35 + 37, 34 + 37 and 36

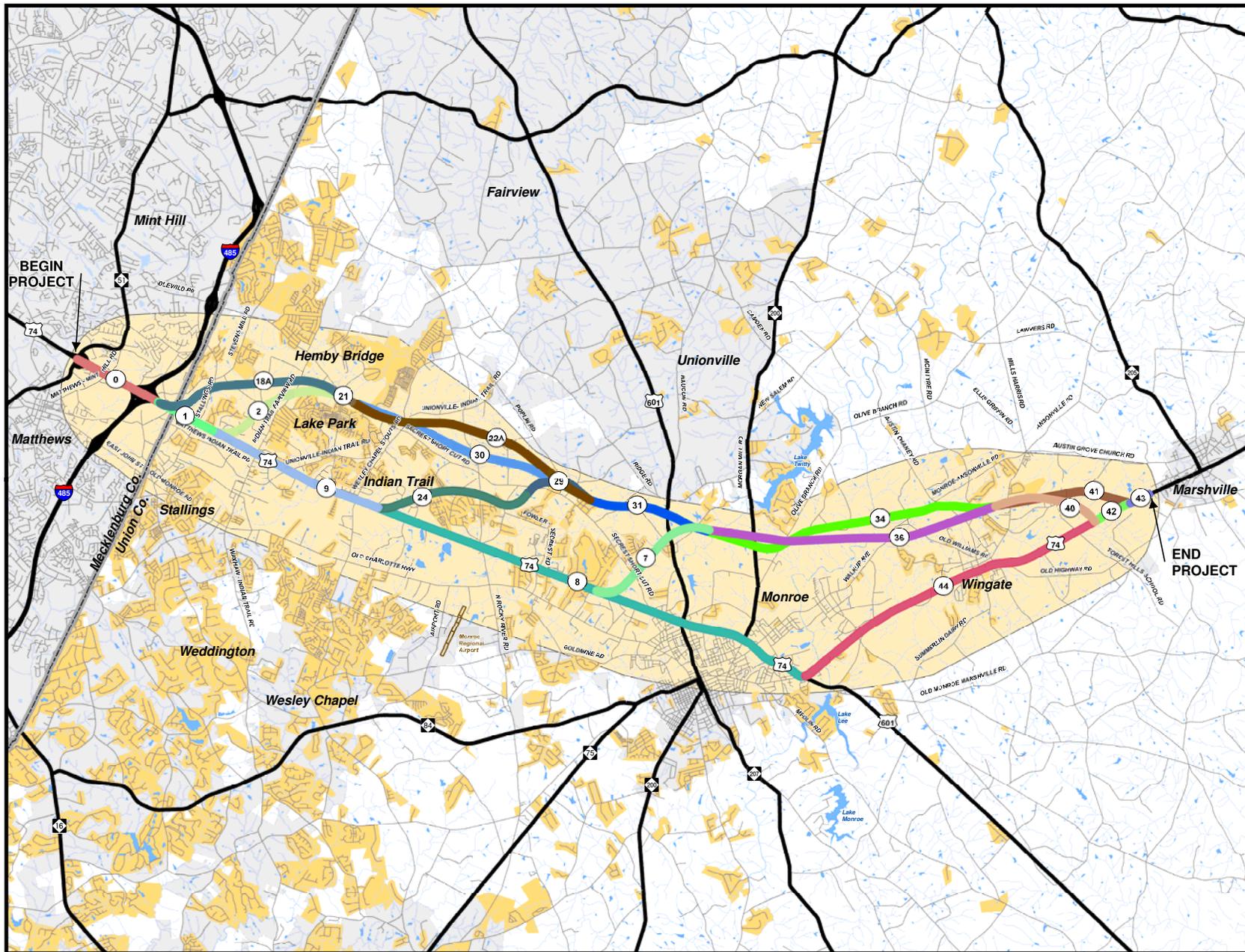
**Figure 2-4d**



**NORTH CAROLINA Turnpike Authority**  
**MONROE CONNECTOR / BYPASS**  
 STIP PROJECT NO. R-3329 / R-2559  
 Mecklenburg County and Union County

0 0.25 0.5  
 Miles  
 Source: Mecklenburg County and Union County GIS.  
 Map Printed March 2009.

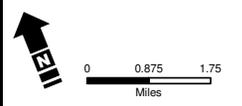
**RELATIVE SEGMENT COMPARISON AREA 4**  
 (From West of Forest Hills School Road to Existing US 74)  
 Corridor Segments 40 and 41  
**Figure 2-4e**



- Legend**
- Preliminary Corridor Segments
  - Major Roads
  - Minor Roads
  - Streams
  - Lakes
  - Subdivisions
  - Project Study Area
  - County Boundary



Source: Mecklenburg County and Union County GIS. Map Printed March 2009.



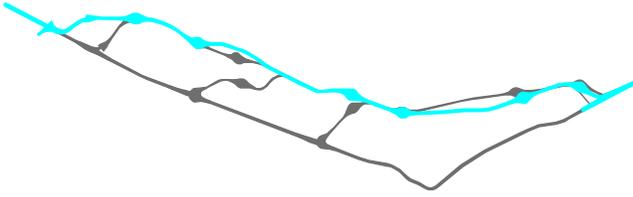
  
 STIP PROJECT  
 NO. R-3329/R-2559  
 Mecklenburg County and Union County

**MONROE CONNECTOR/  
 BYPASS  
 PRELIMINARY  
 CORRIDOR SEGMENTS  
 FOR QUANTITATIVE  
 THIRD SCREENING**

Figure 2-5

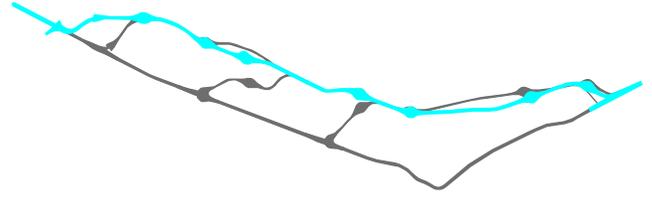
### Alternative A

( Segments 0, 18A, 21, 22A, 31, 36, 40, 42 and 43 )



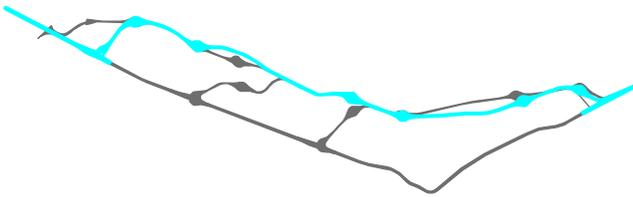
### Alternative B

( Segments 0, 18A, 21, 30, 31, 36, 40, 42 and 43 )



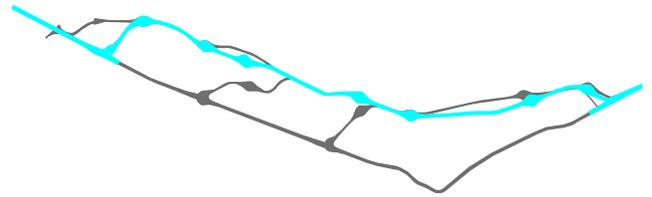
### Alternative C

( Segments 0, 1, 2, 21, 22A, 31, 36, 40, 42 and 43 )



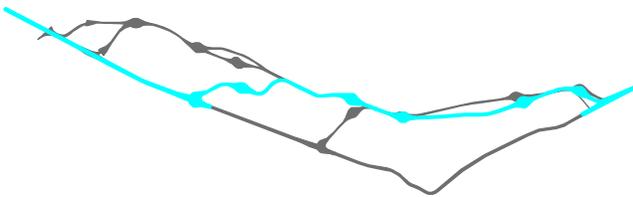
### Alternative D

( Segments 0, 1, 2, 21, 30, 31, 36, 40, 42 and 43 )



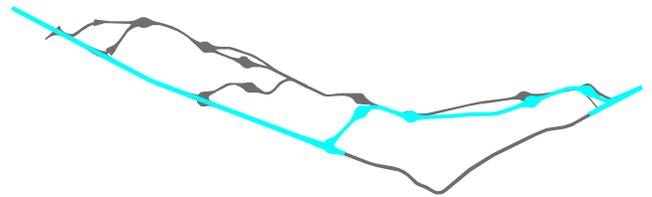
### Alternative E

( Segments 0, 1, 1A, 9, 24, 29, 31, 36, 40, 42 and 43 )



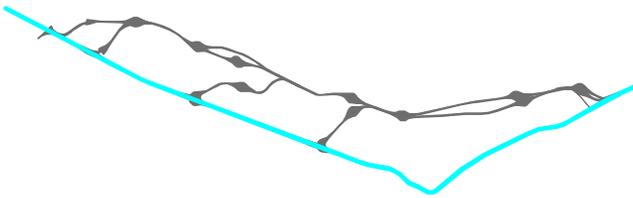
### Alternative F

( Segments 0, 1, 1A, 9, 9A, 8, 8A, 7, 36, 40, 42 and 43 )



### Alternative G

( Segments 0, 1, 1A, 9, 9A, 8, 8A, 44, 42 and 43 )



MONROE CONNECTOR / BYPASS

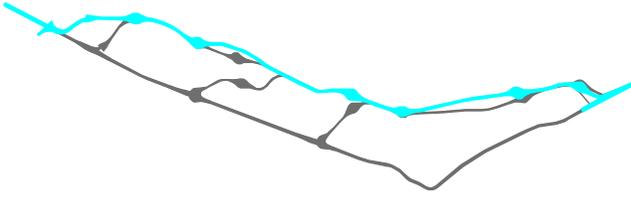
STIP PROJECT NO. R-3329 / R-2559  
Mecklenburg County and Union County

PRELIMINARY STUDY  
ALTERNATIVES

Figure 2-6a

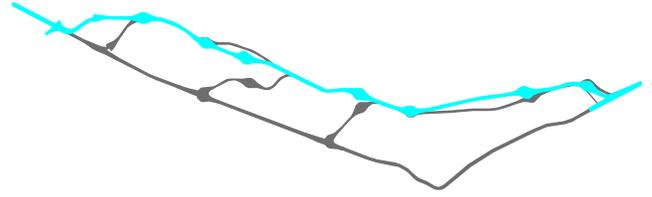
### Alternative A1

( Segments 0, 18A, 21, 22A, 31, 34, 40, 42 and 43 )



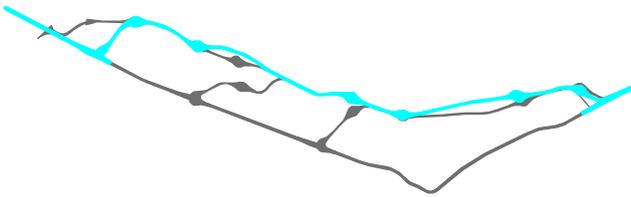
### Alternative B1

( Segments 0, 18A, 21, 30, 31, 34, 40, 42 and 43 )



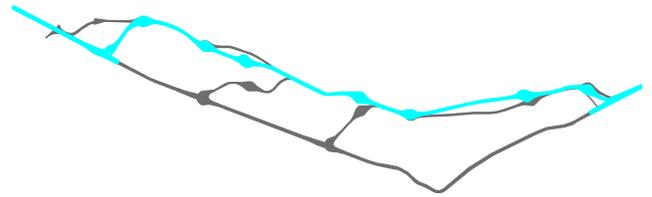
### Alternative C1

( Segments 0, 1, 2, 21, 22A, 31, 34, 40, 42 and 43 )



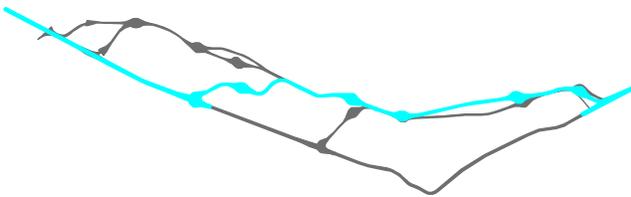
### Alternative D1

( Segments 0, 1, 2, 21, 30, 31, 34, 40, 42 and 43 )



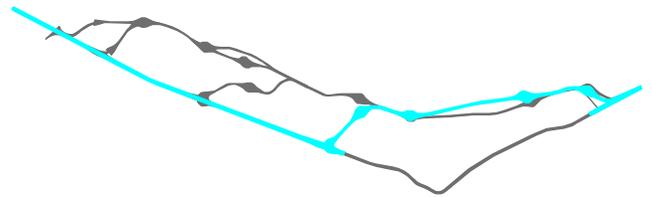
### Alternative E1

( Segments 0, 1, 1A, 9, 24, 29, 31, 34, 40, 42 and 43 )



### Alternative F1

( Segments 0, 1, 1A, 9, 9A, 8, 8A, 7, 34, 40, 42 and 43 )



MONROE CONNECTOR / BYPASS

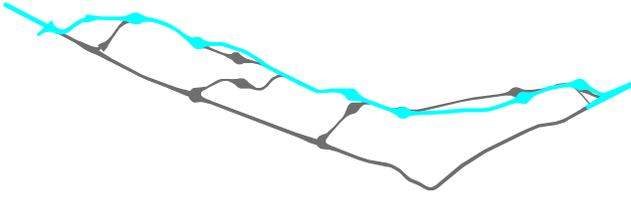
STIP PROJECT NO. R-3329 / R-2559  
Mecklenburg County and Union County

PRELIMINARY STUDY  
ALTERNATIVES

Figure 2-6b

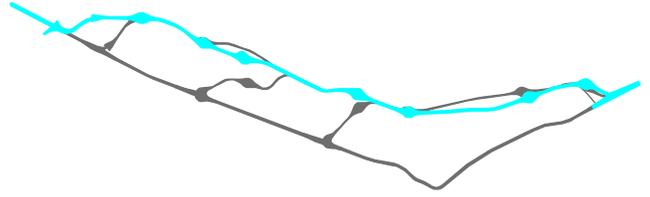
### Alternative A2

( Segments 0, 18A, 21, 22A, 31, 36, 41, and 43 )



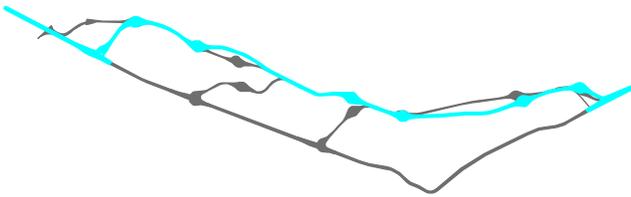
### Alternative B2

( Segments 0, 18A, 21, 30, 31, 36, 41 and 43 )



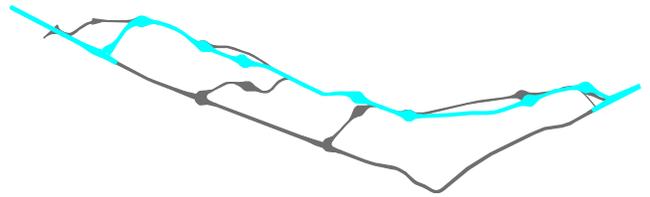
### Alternative C2

( Segments 0, 1, 2, 21, 22A, 31, 36, 41 and 43 )



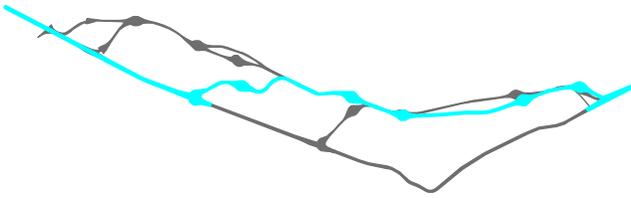
### Alternative D2

( Segments 0, 1, 2, 21, 30, 31, 36, 41 and 43 )



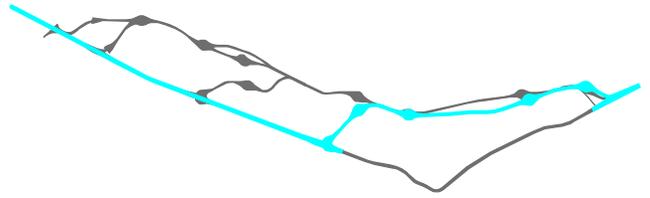
### Alternative E2

( Segments 0, 1, 1A, 9, 24, 29, 31, 36, 41 and 43 )



### Alternative F2

( Segments 0, 1, 1A, 9, 9A, 8, 8A, 7, 36, 41 and 43 )



MONROE CONNECTOR / BYPASS

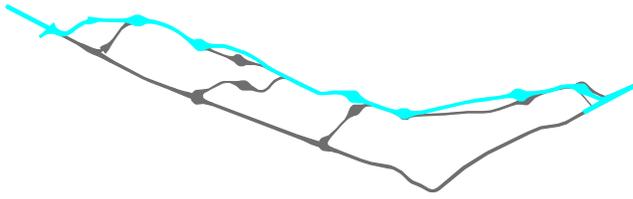
STIP PROJECT NO. R-3329 / R-2559  
Mecklenburg County and Union County

PRELIMINARY STUDY  
ALTERNATIVES

Figure 2-6c

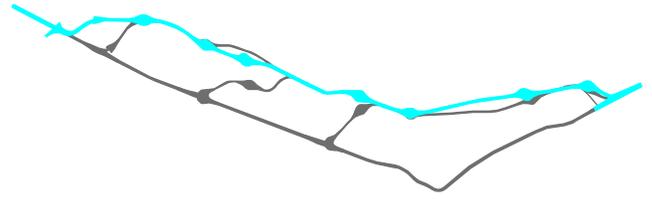
### Alternative A3

( Segments 0, 18A, 21, 22A, 31, 34, 40, 42, and 43 )



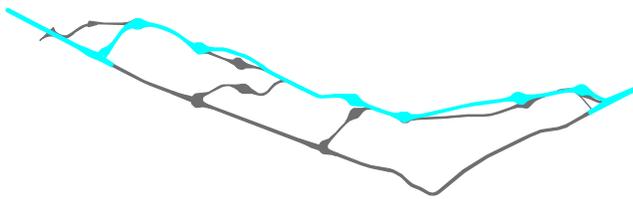
### Alternative B3

( Segments 0, 18A, 21, 30, 31, 34, 41 and 43 )



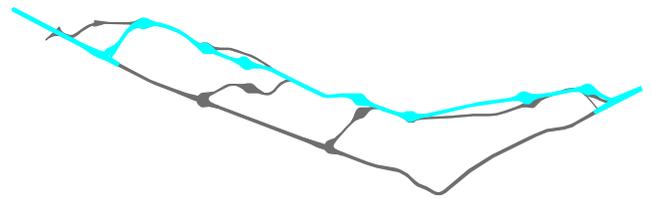
### Alternative C3

( Segments 0, 1, 2, 21, 22A, 31, 34, 41 and 43 )



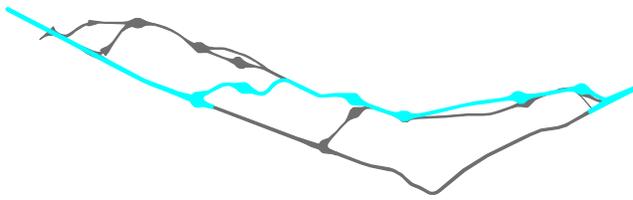
### Alternative D3

( Segments 0, 1, 2, 21, 30, 31, 34, 41 and 43 )



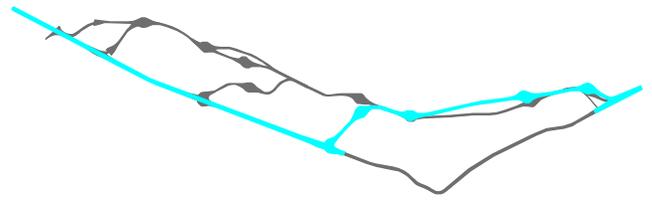
### Alternative E3

( Segments 0, 1, 1A, 9, 24, 29, 31, 34, 41 and 43 )



### Alternative F3

( Segments 0, 1, 1A, 9, 9A, 8, 8A, 7, 34, 41 and 43 )

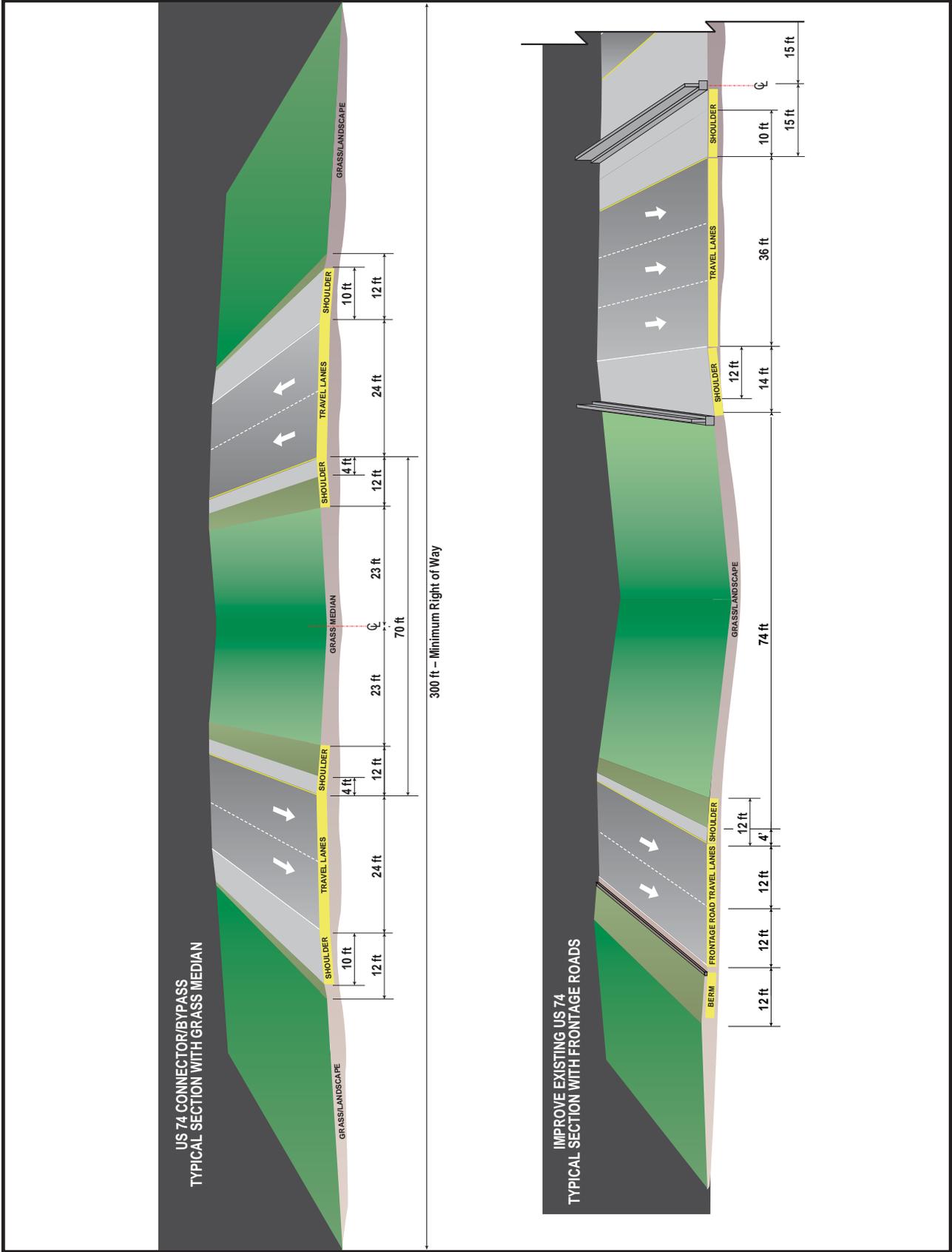


MONROE CONNECTOR / BYPASS

STIP PROJECT NO. R-3329 / R-2559  
Mecklenburg County and Union County

PRELIMINARY STUDY  
ALTERNATIVES

Figure 2-6d

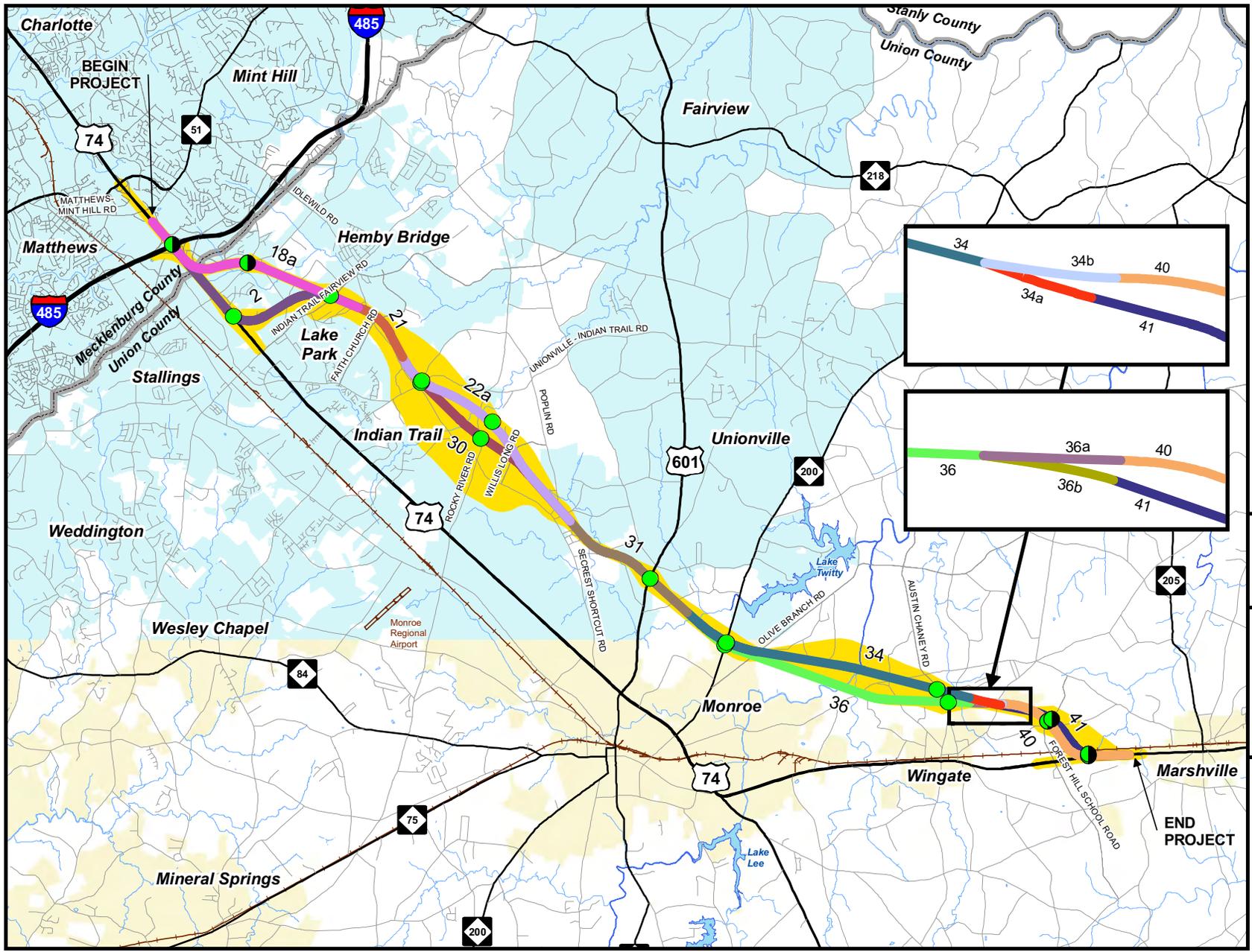


STIP PROJECT  
NO. R-3329/R-2559  
Union County and  
Mecklenburg County

MONROE BYPASS/  
CONNECTOR

PRELIMINARY STUDY  
ALTERNATIVES  
TYPICAL CROSS  
SECTIONS

Figure 2-7

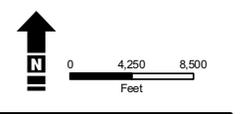


- Legend**
- Potential Interchange
  - Potential Partial Interchange
  - Interstate Highway
  - US Highway
  - NC State Highway
  - State Road
  - Railroad
  - ▭ Parcels
  - ▭ Corridor Study Area
  - River / Stream
  - Lake
  - ▭ County Boundary

- Detailed Study Alternative**
- Segment 18A
  - Segment 2
  - Segment 21
  - Segment 22A
  - Segment 30
  - Segment 31
  - Segment 34
  - Segment 34A
  - Segment 34B
  - Segment 36
  - Segment 36A
  - Segment 36B
  - Segment 40
  - Segment 41



Source: Mecklenburg County and Union County GIS.  
Map Printed March 2009.



STIP PROJECT  
NO. R-3329/R-2559  
Mecklenburg County and Union County

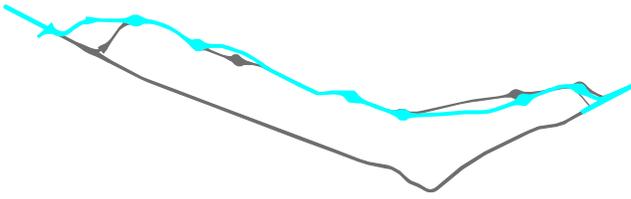
**MONROE CONNECTOR/  
BYPASS**

**DETAILED STUDY  
ALTERNATIVES**

Figure 2-8a

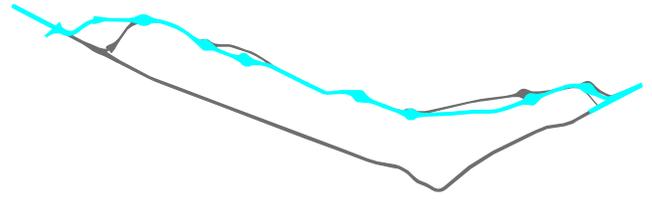
### Alternative A

( Segments 18A, 21, 22A, 31, 36, 36A, and 40 )



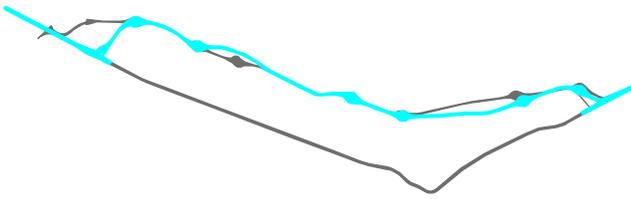
### Alternative B

( Segments 18A, 21, 30, 31, 36, 36A, and 40 )



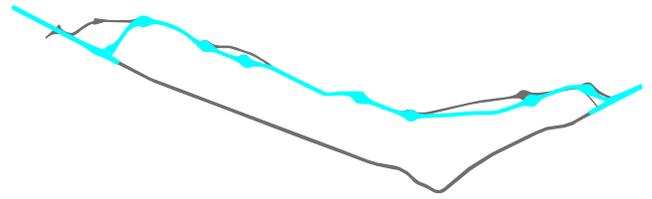
### Alternative C

( Segments 2, 21, 22A, 31, 36, 36A, and 40 )



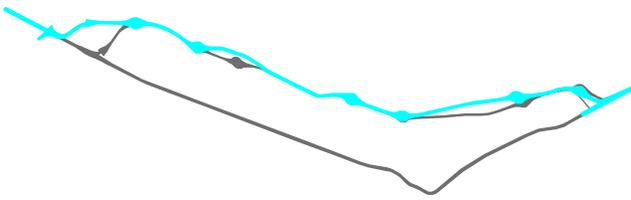
### Alternative D

( Segments 2, 21, 30, 31, 36, 36A, and 40 )



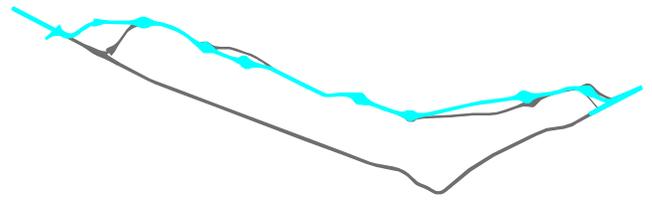
### Alternative A1

( Segments 18A, 21, 22A, 31, 34, 34B, and 40 )



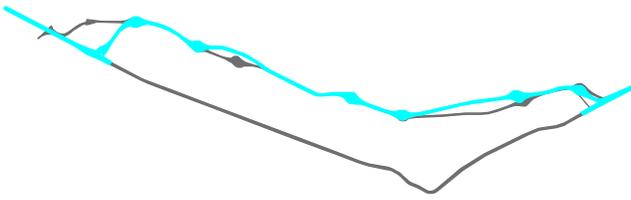
### Alternative B1

( Segments 18A, 21, 30, 31, 34, 34B, and 40 )



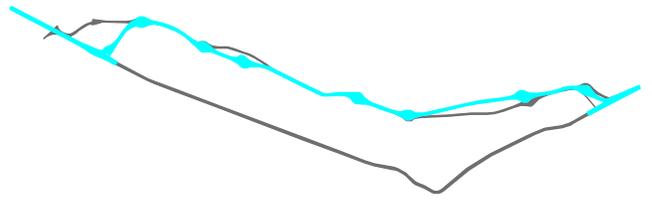
### Alternative C1

( Segments 2, 21, 22A, 31, 34, 34B, and 40 )



### Alternative D1

( Segments 2, 21, 30, 31, 34, 34B, and 40 )



MONROE CONNECTOR / BYPASS

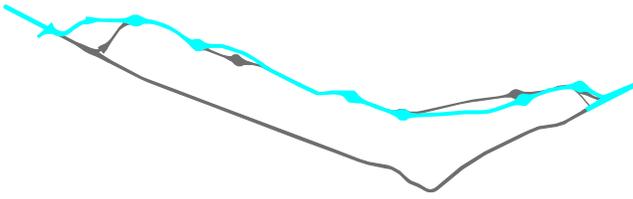
STIP PROJECT NO. R-3329 / R-2559  
Mecklenburg County and Union County

DETAILED  
STUDY ALTERNATIVES

FIGURE 2-8b

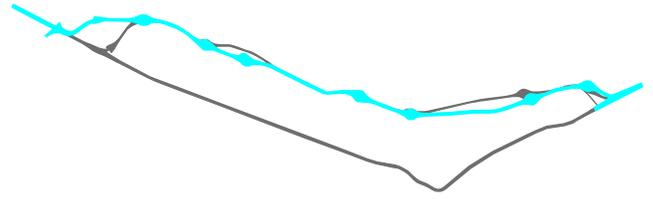
### Alternative A2

( Segments 18A, 21, 22A, 31, 36, 36B and 41 )



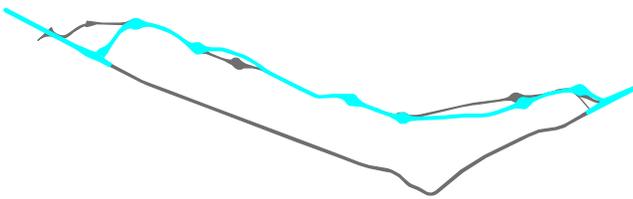
### Alternative B2

( Segments 18A, 21, 30, 31, 36, 36B and 41 )



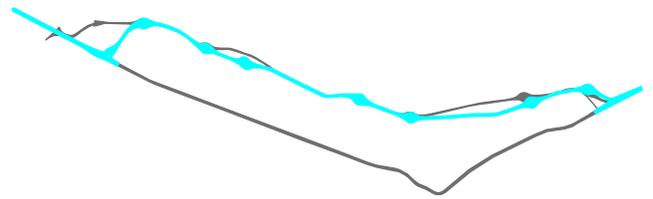
### Alternative C2

( Segments 2, 21, 22A, 31, 36, 36B, and 41 )



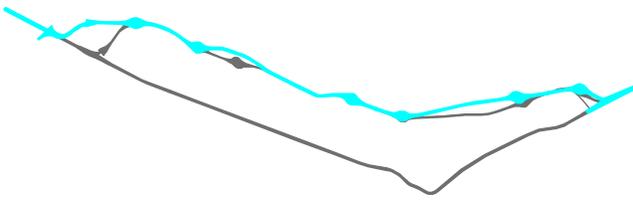
### Alternative D2

( Segments 2, 21, 30, 31, 36, 36B, and 41 )



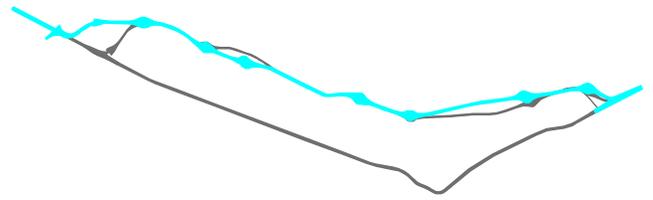
### Alternative A3

( Segments 18A, 21, 22A, 31, 34, 34A, and 41 )



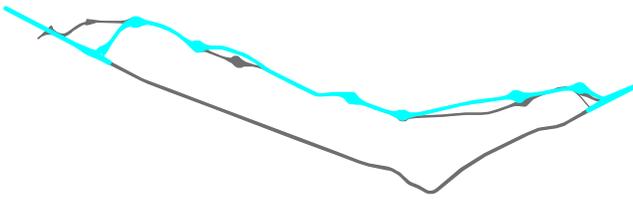
### Alternative B3

( Segments 18A, 21, 30, 31, 34, 34A, and 41 )



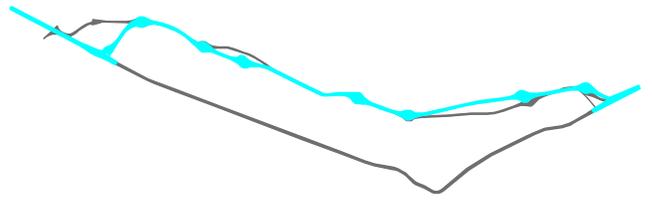
### Alternative C3

( Segments 2, 21, 22A, 31, 34, 34A, and 41 )



### Alternative D3

( Segments 2, 21, 30, 31, 34, 34A, and 41 )

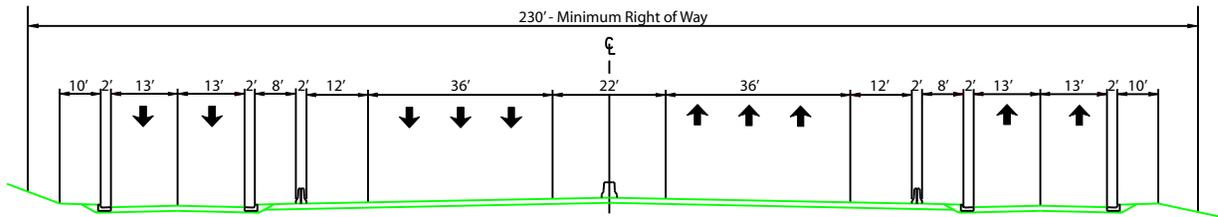


MONROE CONNECTOR / BYPASS

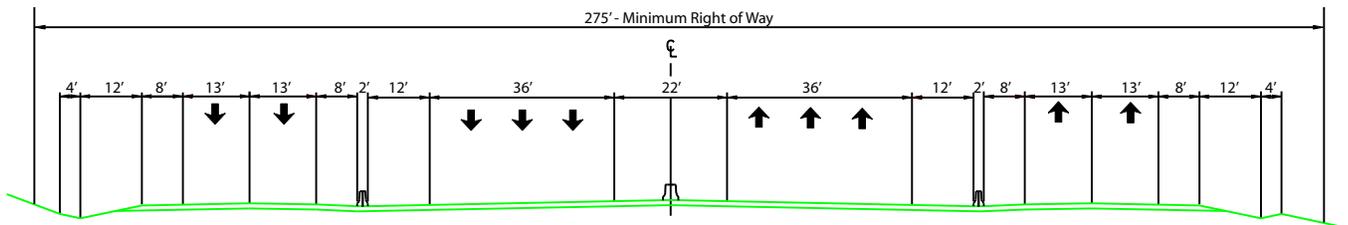
STIP PROJECT NO. R-3329 / R-2559  
Mecklenburg County and Union County

DETAILED  
STUDY ALTERNATIVES

FIGURE 2-8c



MAINLINE WITH FRONTAGE ROADS (Curb and Gutter)



MAINLINE WITH FRONTAGE ROADS (Shoulder)



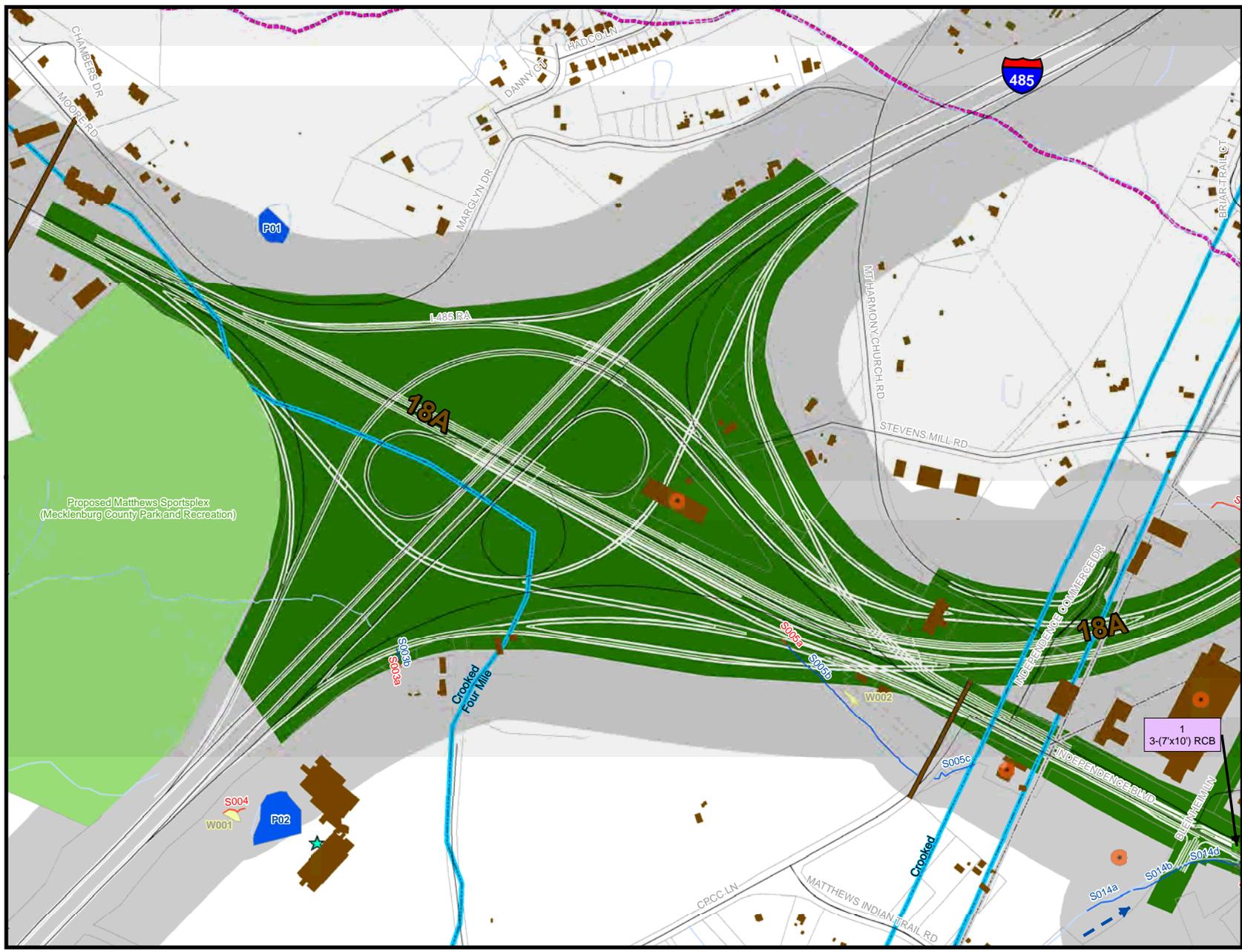
MONROE CONNECTOR / BYPASS

STIP PROJECT NO. R-3329 / R-2559  
Mecklenburg County and Union County

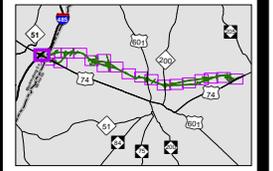
REVISED PRELIMINARY STUDY  
ALTERNATIVE G  
TYPICAL CROSS-SECTIONS

FIGURE 2-9

0455\_DSA\_Prelim\_Design\_Change2\_10a.mxd 3/16/09



- Legend**
- Functional Design
  - Right of Way
  - Segment Breakline
  - Segment Name
  - Corridor Study Area
  - Structures
  - City Limits
  - Existing Roads
  - Railroad
  - Subdivisions
  - Historic Sites
  - Parks
  - Significant Natural Heritage Area
  - 303(d) Streams
  - Surveyed Intermittent Stream (S000)
  - Surveyed Perennial Stream (S000)
  - Other Hydrology
  - Surveyed Wetlands (W000)
  - Surveyed Ponds (P00)
  - Floodway
  - 100 Yr. Floodplain
  - 500 Yr. Floodplain
  - Watersheds
  - Flow Direction
  - Cemetery
  - Church
  - College
  - Fire Department
  - Library
  - Police Station
  - Public Facility
  - Potential Hazmat
  - Gold Mines
  - Hospital
  - Schools



Source: Mecklenburg County and Union County GIS.  
Map Printed March 2009.



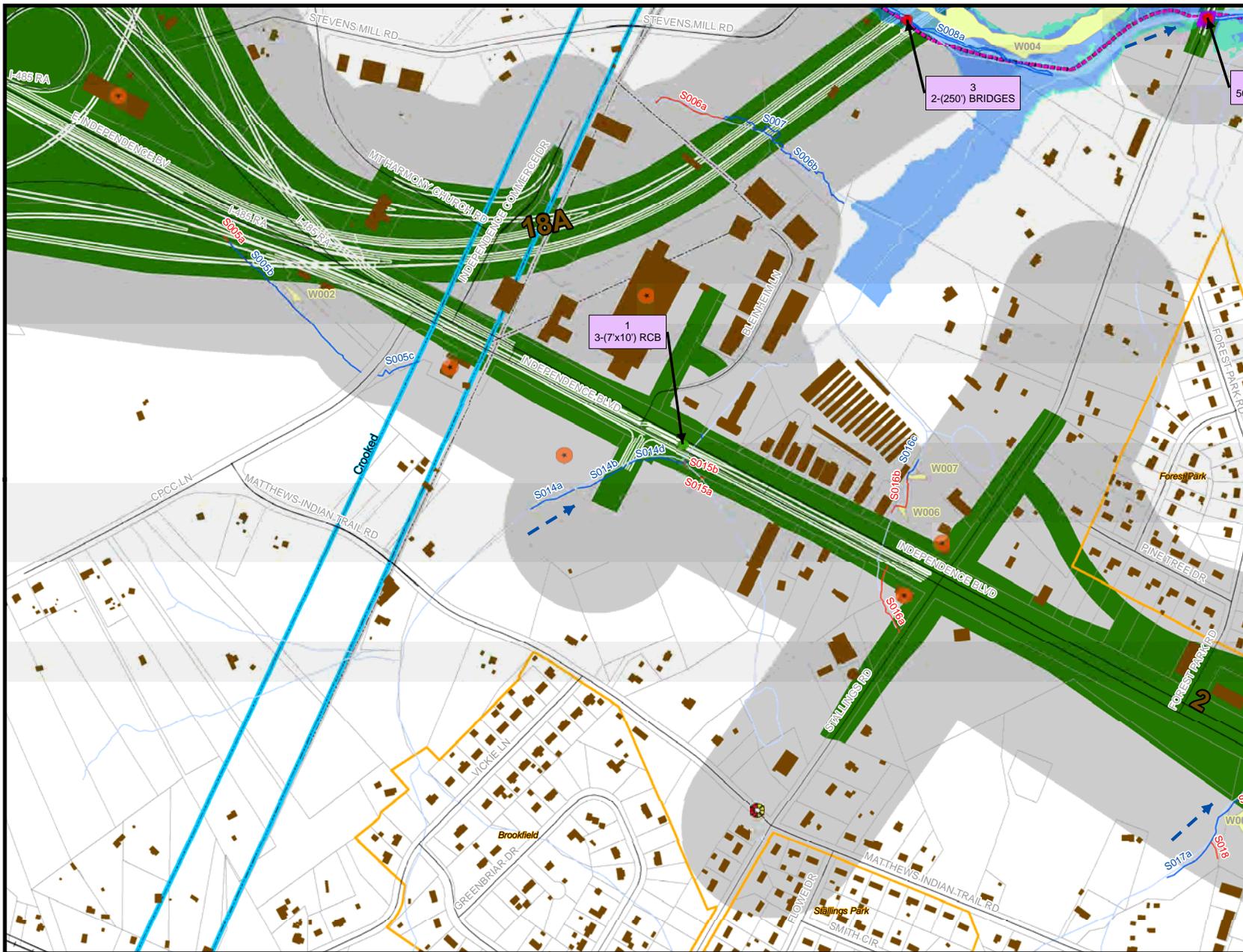
**NORTH CAROLINA Turnpike Authority**

STIP PROJECT  
NO. R-3329/R-2559

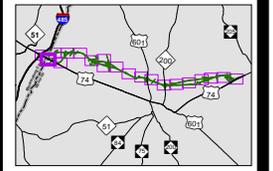
Mecklenburg County and Union County

**MONROE CONNECTOR/  
BYPASS  
DETAILED STUDY  
ALTERNATIVES  
FUNCTIONAL  
DESIGNS**

Figure 2-10a



- Legend**
- Functional Design
  - Right of Way
  - Segment Breakline
  - Segment Name
  - Corridor Study Area
  - Structures
  - Parcels
  - City Limits
  - Subdivisions
  - Historic Sites
  - Parks
  - Significant Natural Heritage Area
  - 303(d) Streams
  - Surveyed Intermittent Stream (S000)
  - Surveyed Perennial Stream (S000)
  - Other Hydrology
  - Surveyed Wetlands (W000)
  - Surveyed Ponds (P000)
  - Floodway
  - 100 Yr. Floodplain
  - 500 Yr. Floodplain
  - Watersheds
  - Flow Direction
  - Cemetery
  - Church
  - College
  - Fire Department
  - Library
  - Police Station
  - Public Facility
  - Potential Hazmat
  - Gold Mines
  - Hospital
  - Schools
- Stream Crossings**
- Culvert (72" dia. or larger)
  - Bridge



Source: Mecklenburg County and Union County GIS.  
Map Printed March 2009.



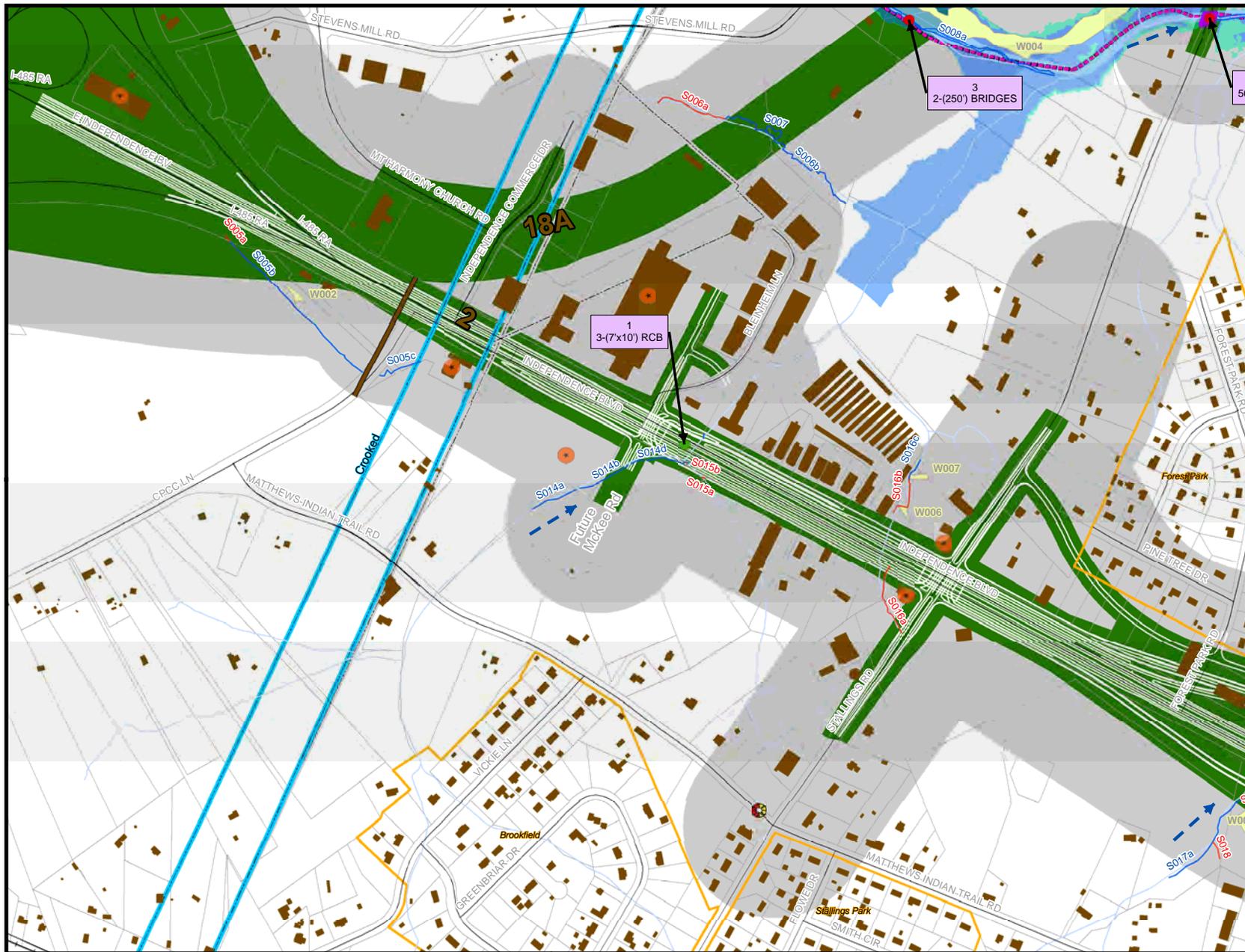
**NORTH CAROLINA Turnpike Authority**

STIP PROJECT  
NO. R-3329/R-2559

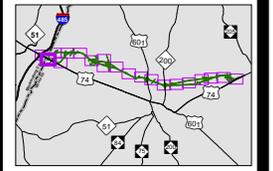
Mecklenburg County and Union County

**MONROE CONNECTOR/  
BYPASS  
DETAILED STUDY  
ALTERNATIVES  
FUNCTIONAL  
DESIGNS**

Figure 2-10b



- Legend**
- Functional Design
  - Right of Way
  - Segment Breakline
  - Segment Name
  - Corridor Study Area
  - Structures
  - Parcels
  - City Limits
  - Subdivisions
  - Historic Sites
  - Parks
  - Significant Natural Heritage Area
  - 303(d) Streams
  - Surveyed Intermittent Stream (S000)
  - Surveyed Perennial Stream (S000)
  - Other Hydrology
  - Surveyed Wetlands (W000)
  - Surveyed Ponds (P00)
  - Floodway
  - 100 Yr. Floodplain
  - 500 Yr. Floodplain
  - Watersheds
  - Flow Direction
  - Cemetery
  - Church
  - College
  - Fire Department
  - Library
  - Police Station
  - Public Facility
  - Potential Hazmat
  - Gold Mines
  - Hospital
  - Schools



Source: Mecklenburg County and Union County GIS.  
Map Printed March 2009.



**NORTH CAROLINA Turnpike Authority**

STIP PROJECT  
NO. R-3329/R-2559

Mecklenburg County and Union County

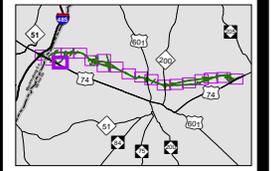
**MONROE CONNECTOR/  
BYPASS  
DETAILED STUDY  
ALTERNATIVES  
FUNCTIONAL  
DESIGNS**

Figure 2-10c

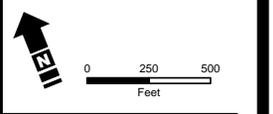
GIS\_CSA\_Prelim\_Design\_Challenge.mxd 3/16/09



- Legend**
- Functional Design
  - Right of Way
  - Segment Breakline
  - Segment Name
  - Corridor Study Area
  - Structures
  - Parcels
  - City Limits
  - Bridges
  - Existing Roads
  - Railroad
  - Subdivisions
  - Historic Sites
  - Parks
  - Significant Natural Heritage Area
  - 303(d) Streams
  - Surveyed Intermittent Stream (S000)
  - Surveyed Perennial Stream (S000)
  - Other Hydrology
  - Surveyed Wetlands (W000)
  - Surveyed Ponds (P00)
  - Floodway
  - 100 Yr. Floodplain
  - 500 Yr. Floodplain
  - Watersheds
  - Flow Direction
  - Cemetery
  - Church
  - College
  - Fire Department
  - Library
  - Police Station
  - Public Facility
  - Potential Hazmat
  - Gold Mines
  - Hospital
  - Schools



Source: Mecklenburg County and Union County GIS.  
Map Printed March 2009.



**NORTH CAROLINA**  
**Turnpike Authority**

STIP PROJECT  
NO. R-3329/R-2559

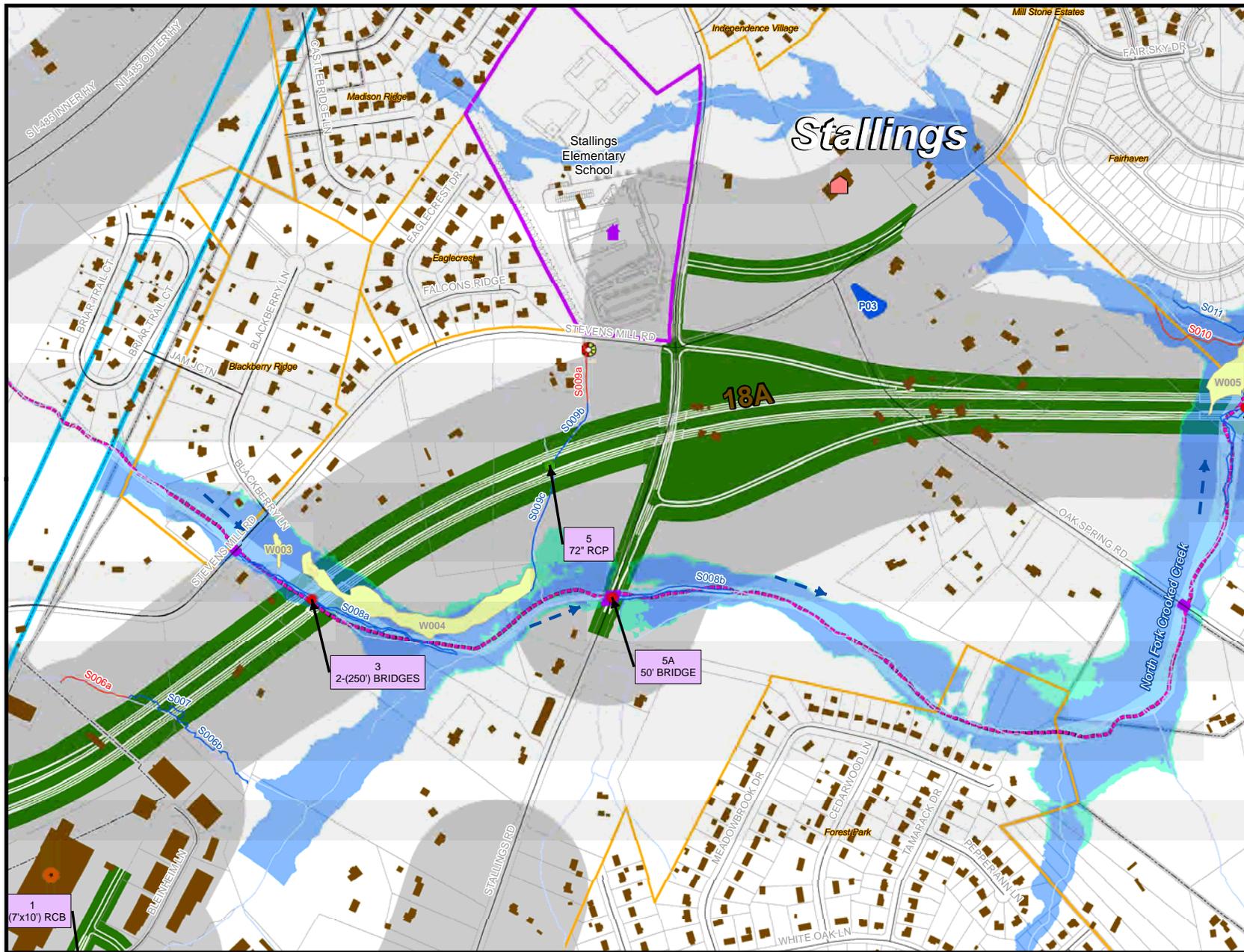
Mecklenburg County and Union County

**MONROE CONNECTOR/  
BYPASS**

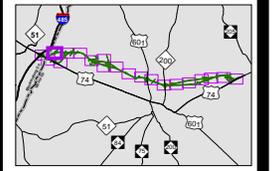
**DETAILED STUDY  
ALTERNATIVES  
FUNCTIONAL  
DESIGNS**

Figure 2-10d





- Legend**
- Functional Design
  - Right of Way
  - Segment Breakline
  - Segment Name
  - Corridor Study Area
  - Structures
  - Parcels
  - City Limits
  - Bridges
  - Existing Roads
  - Railroad
  - Subdivisions
  - Historic Sites
  - Parks
  - Significant Natural Heritage Area
  - 303(d) Streams
  - Surveyed Intermittent Stream (S000)
  - Surveyed Perennial Stream (S000)
  - Other Hydrology
  - Surveyed Wetlands (W000)
  - Surveyed Ponds (P00)
  - Floodway
  - 100 Yr. Floodplain
  - 500 Yr. Floodplain
  - Watersheds
  - Stream Crossings
  - Culvert (72" dia. or larger)
  - Bridge
  - Flow Direction
  - Cemetery
  - Church
  - College
  - Fire Department
  - Library
  - Police Station
  - Public Facility
  - Potential Hazmat
  - Gold Mines
  - Hospital
  - Schools



Source: Mecklenburg County and Union County GIS.  
Map Printed March 2009.



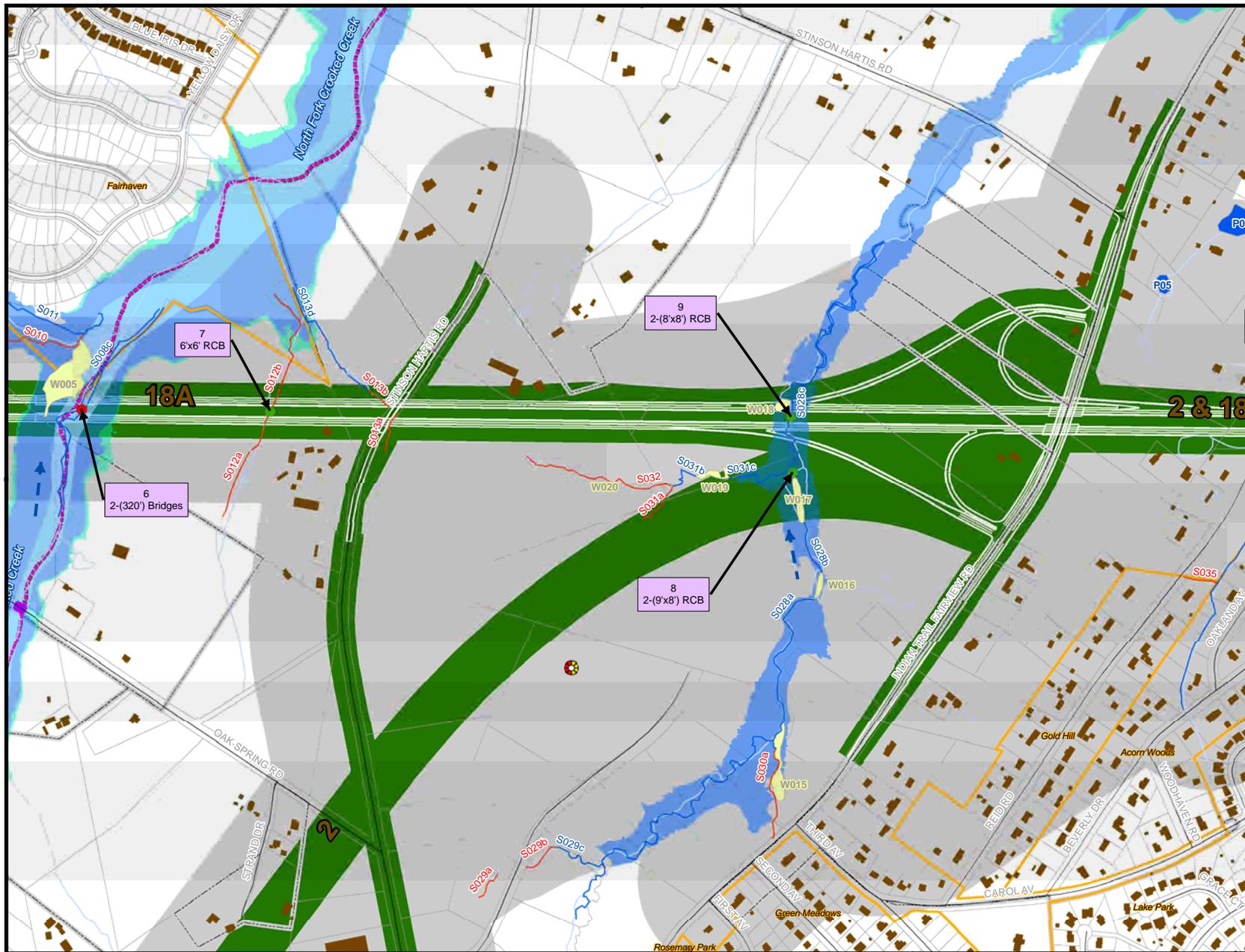
**NORTH CAROLINA Turnpike Authority**

STIP PROJECT  
NO. R-3329/R-2559

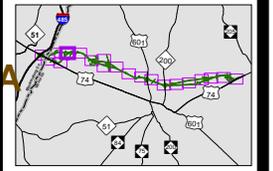
Mecklenburg County and Union County

**MONROE CONNECTOR/  
BYPASS  
DETAILED STUDY  
ALTERNATIVES  
FUNCTIONAL  
DESIGNS**

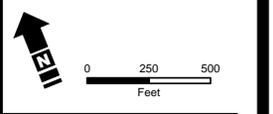
Figure 2-10e



- Legend**
- Functional Design
  - Right of Way
  - Segment Breakline
  - Segment Name
  - Corridor Study Area
  - Structures
  - Parcels
  - City Limits
  - Subdivisions
  - Historic Sites
  - Parks
  - Significant Natural Heritage Area
  - 303(d) Streams
  - Surveyed Intermittent Stream (S000)
  - Surveyed Perennial Stream (S000)
  - Other Hydrology
  - Surveyed Wetlands (W000)
  - Surveyed Ponds (P00)
  - Floodway
  - 100 Yr. Floodplain
  - 500 Yr. Floodplain
  - Watersheds
  - Stream Crossings
  - Culvert (72" dia. or larger)
  - Bridge
  - Flow Direction
  - Cemetery
  - Church
  - College
  - Fire Department
  - Library
  - Police Station
  - Public Facility
  - Potential Hazmat
  - Gold Mines
  - Hospital
  - Schools



Source: Mecklenburg County and Union County GIS.  
Map Printed March 2009.



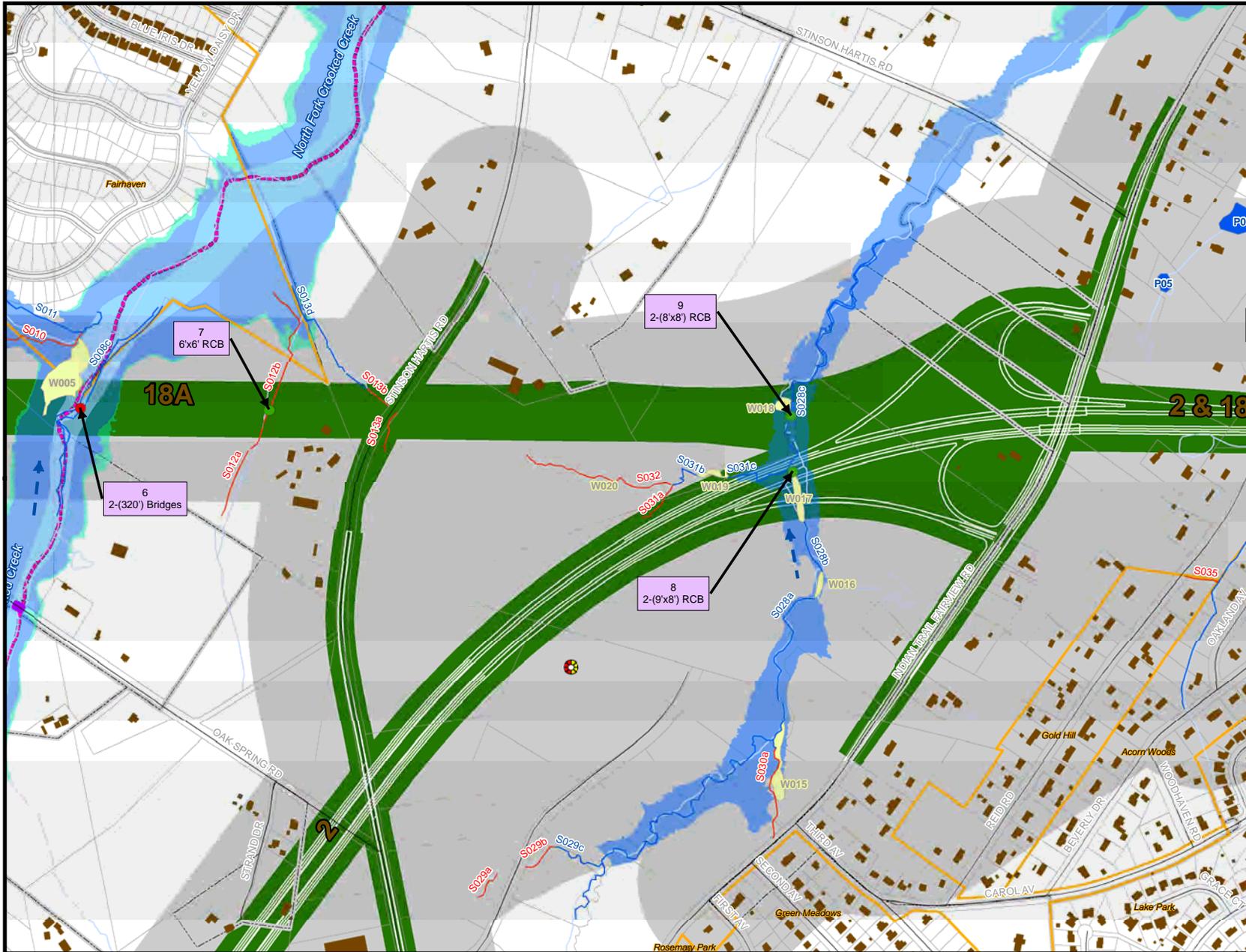
**NORTH CAROLINA Turnpike Authority**

STIP PROJECT  
NO. R-3329/R-2559

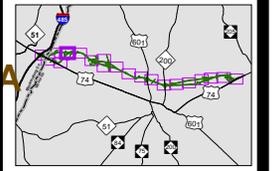
Mecklenburg County and Union County

**MONROE CONNECTOR/  
BYPASS  
DETAILED STUDY  
ALTERNATIVES  
FUNCTIONAL  
DESIGNS**

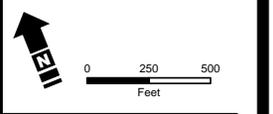
Figure 2-10f



- Legend**
- Functional Design
  - Right of Way
  - Segment Breakline
  - Segment Name
  - Corridor Study Area
  - Structures
  - Parcels
  - City Limits
  - Subdivisions
  - Historic Sites
  - Parks
  - Significant Natural Heritage Area
  - 303(d) Streams
  - Surveyed Intermittent Stream (S000)
  - Surveyed Perennial Stream (S000)
  - Other Hydrology
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  - Surveyed Ponds (P00)
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  - 500 Yr. Floodplain
  - Watersheds
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  - Culvert (72" dia. or larger)
  - Bridge
  - Flow Direction
  - Cemetery
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  - Fire Department
  - Library
  - Police Station
  - Public Facility
  - Potential Hazmat
  - Gold Mines
  - Hospital
  - Schools



Source: Mecklenburg County and Union County GIS.  
Map Printed March 2009.



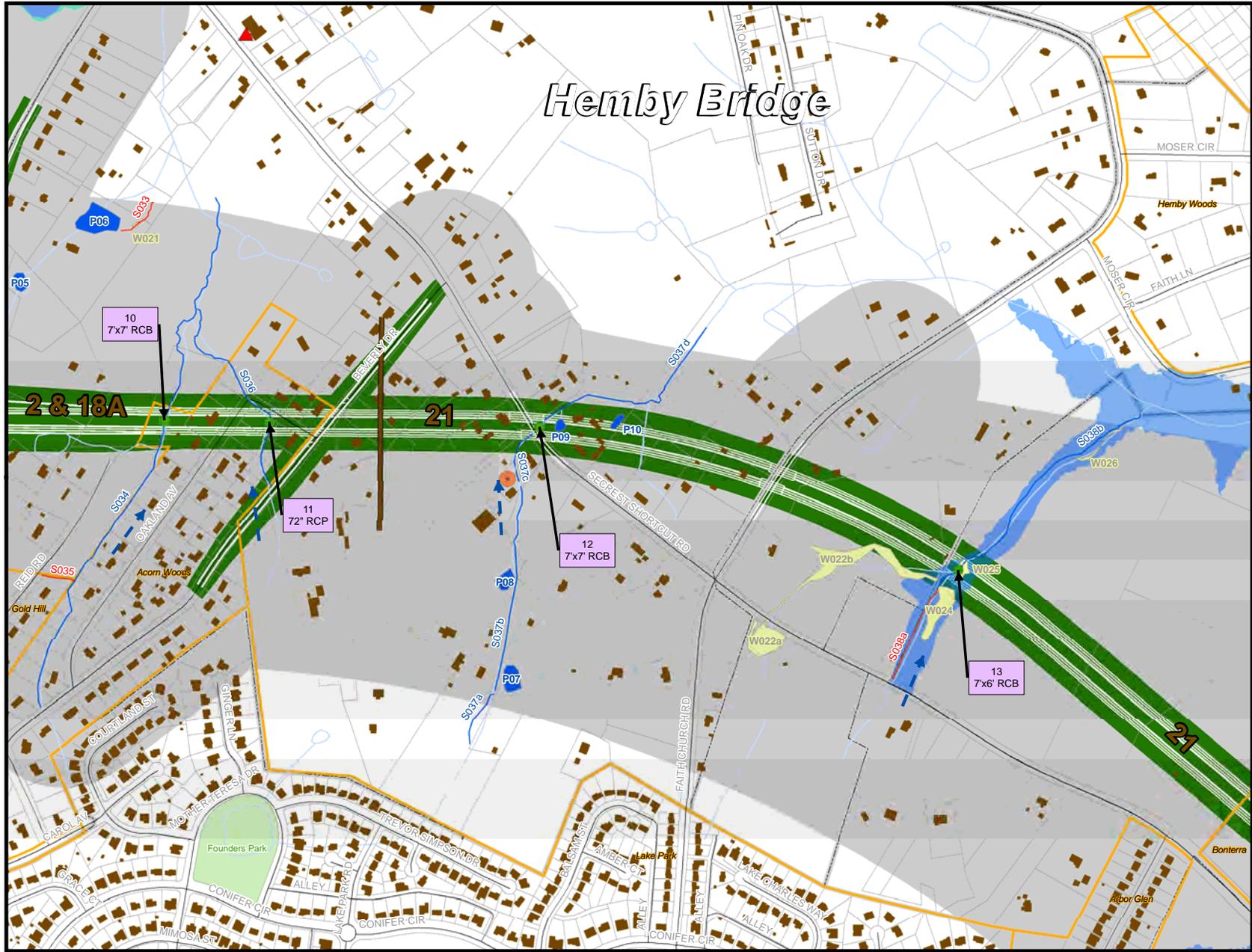
**NORTH CAROLINA Turnpike Authority**

STIP PROJECT  
NO. R-3329/R-2559

Mecklenburg County and Union County

**MONROE CONNECTOR/  
BYPASS  
DETAILED STUDY  
ALTERNATIVES  
FUNCTIONAL  
DESIGNS**

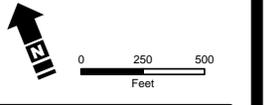
Figure 2-10g



- Legend**
- Functional Design
  - Right of Way
  - Segment Breakline
  - Segment Name
  - Corridor Study Area
  - Structures
  - Parcels
  - City Limits
  - Bridges
  - Existing Roads
  - Railroad
  - Subdivisions
  - Historic Sites
  - Parks
  - Significant Natural Heritage Area
  - 303(d) Streams
  - Surveyed Intermittent Stream (S000)
  - Surveyed Perennial Stream (S000)
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  - Surveyed Wetlands
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  - 500 Yr. Floodplain
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  - Cemetery
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  - Police Station
  - Public Facility
  - Potential Hazmat
  - Gold Mines
  - Hospital
  - Schools



Source: Mecklenburg County and Union County GIS.  
Map Printed March 2009.



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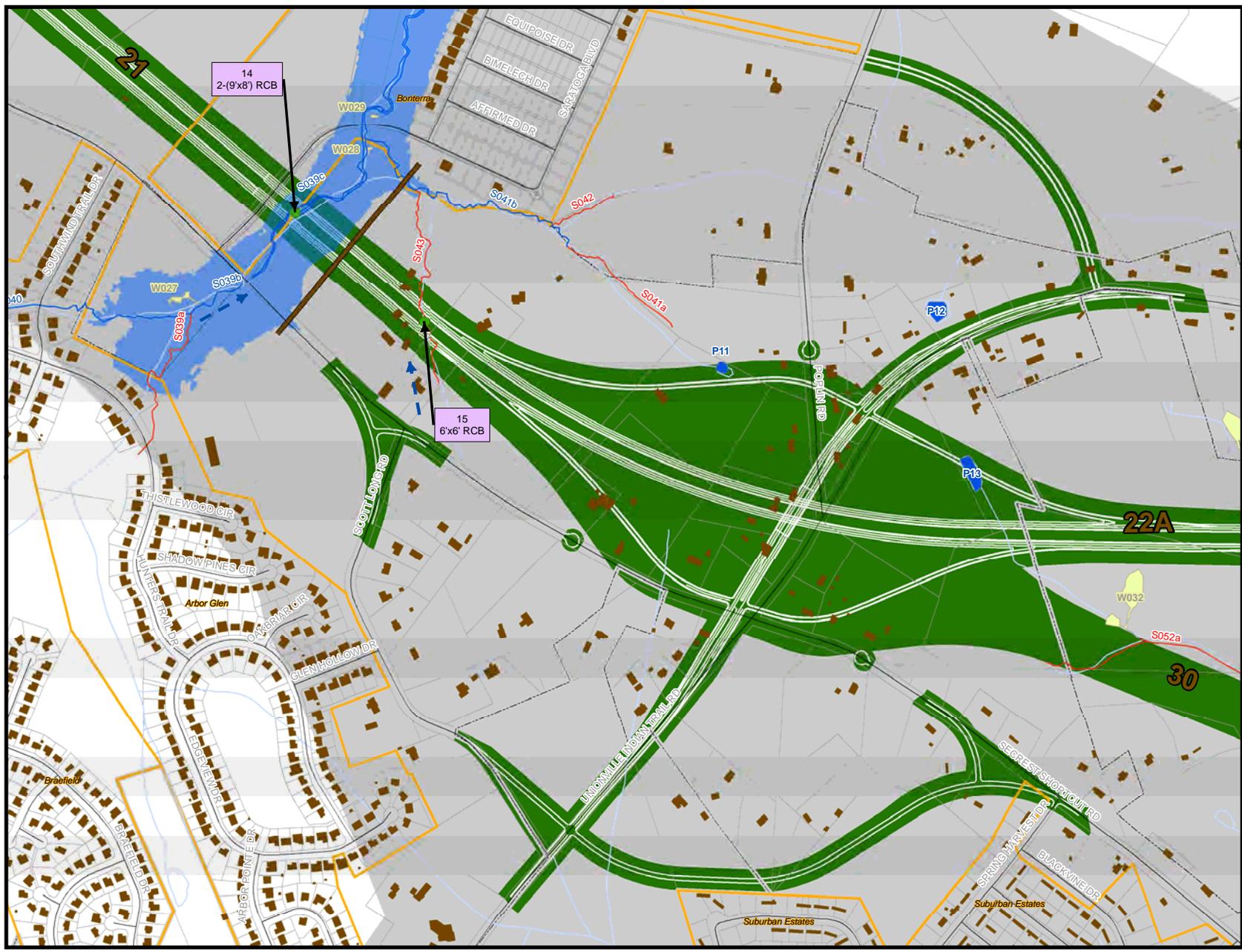
STIP PROJECT  
NO. R-3329/R-2559

Mecklenburg County and Union County

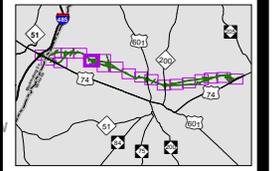
**MONROE CONNECTOR/  
BYPASS  
DETAILED STUDY  
ALTERNATIVES  
FUNCTIONAL  
DESIGNS**

Figure 2-10h

GIS\_CSA\_Prelim\_Design\_Challenge.mxd 3/16/09



- Legend**
- Functional Design
  - Right of Way
  - Segment Breakline
  - Segment Name
  - Corridor Study Area
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  - Parcels
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  - Railroad
  - Subdivisions
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  - Parks
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  - 500 Yr. Floodplain
  - Watersheds
  - Flow Direction
  - Cemetery
  - Church
  - College
  - Fire Department
  - Library
  - Police Station
  - Public Facility
  - Potential Hazmat
  - Gold Mines
  - Hospital
  - Schools
- Stream Crossings**
- Culvert (72" dia. or larger)
  - Bridge



Source: Mecklenburg County and Union County GIS.  
Map Printed March 2009.



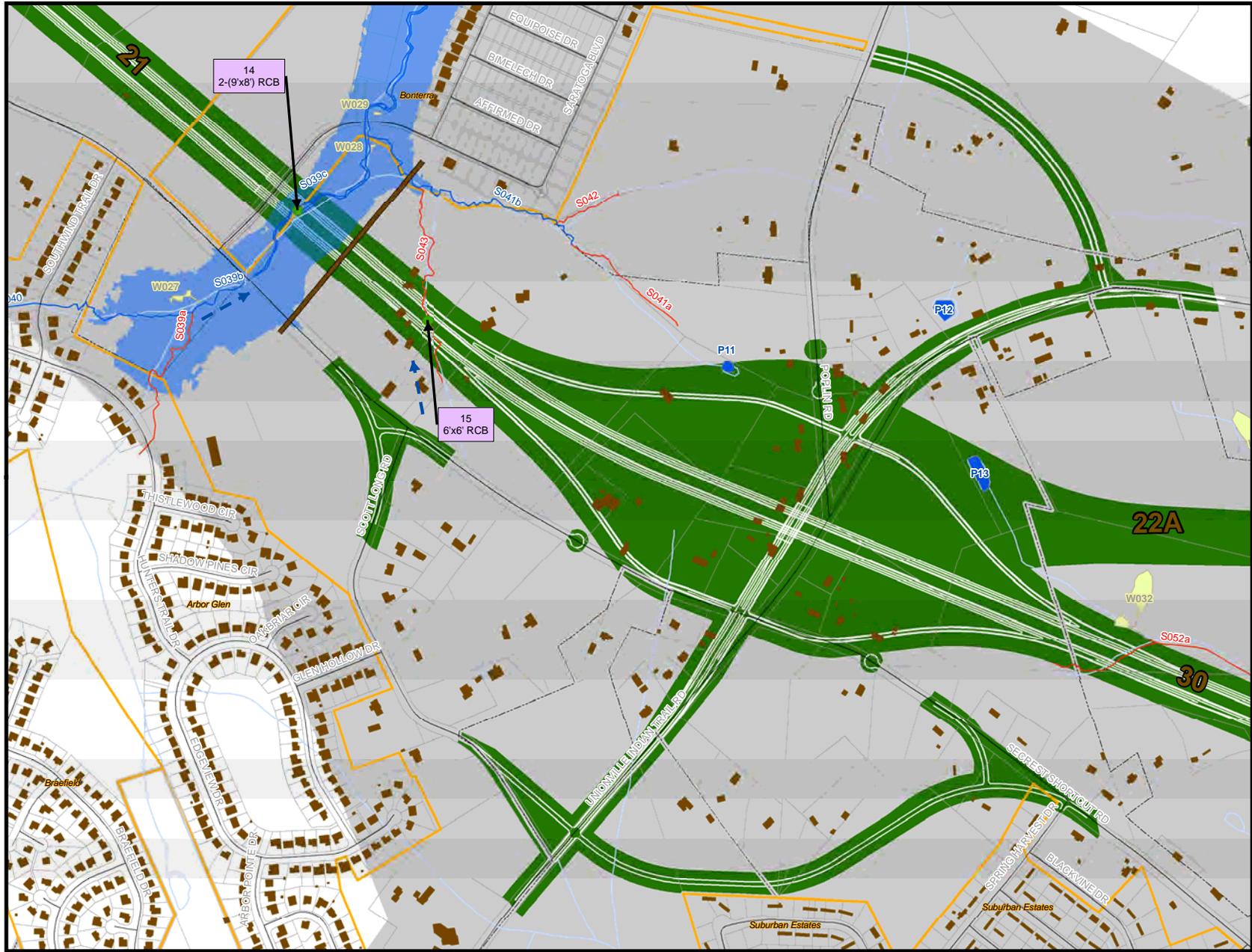
**NORTH CAROLINA Turnpike Authority**

STIP PROJECT  
NO. R-3329/R-2559

Mecklenburg County and Union County

**MONROE CONNECTOR/  
BYPASS  
DETAILED STUDY  
ALTERNATIVES  
FUNCTIONAL  
DESIGNS**

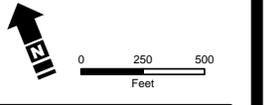
Figure 2-10i



- Legend**
- Functional Design
  - Right of Way
  - Segment Breakline
  - Segment Name
  - Corridor Study Area
  - Structures
  - Parcels
  - City Limits
  - Bridges
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  - Gold Mines
  - Hospital
  - Schools
- Stream Crossings**
- Culvert (72" dia. or larger)
  - Bridge
- Flow Direction



Source: Mecklenburg County and Union County GIS.  
Map Printed March 2009.



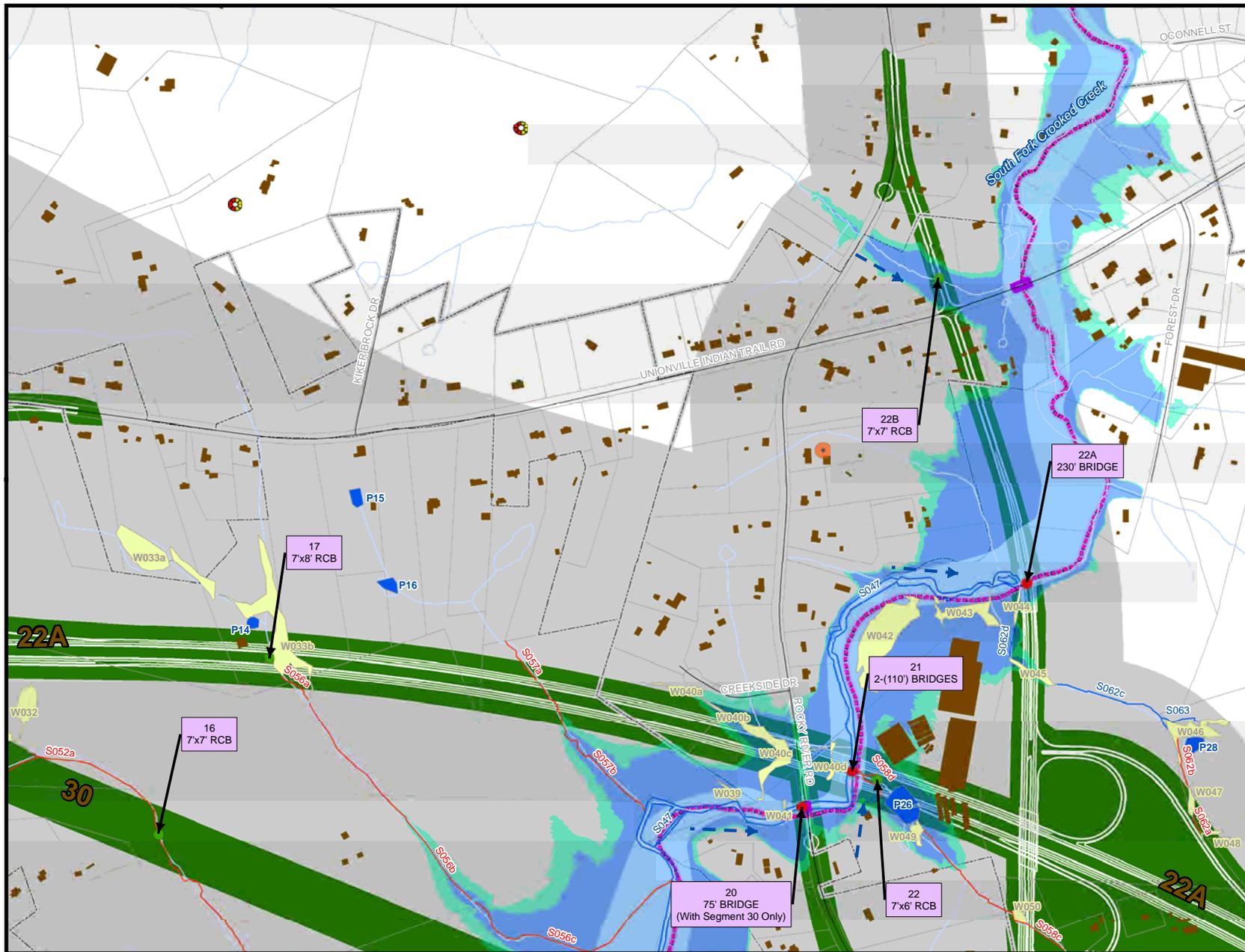
**NORTH CAROLINA Turnpike Authority**

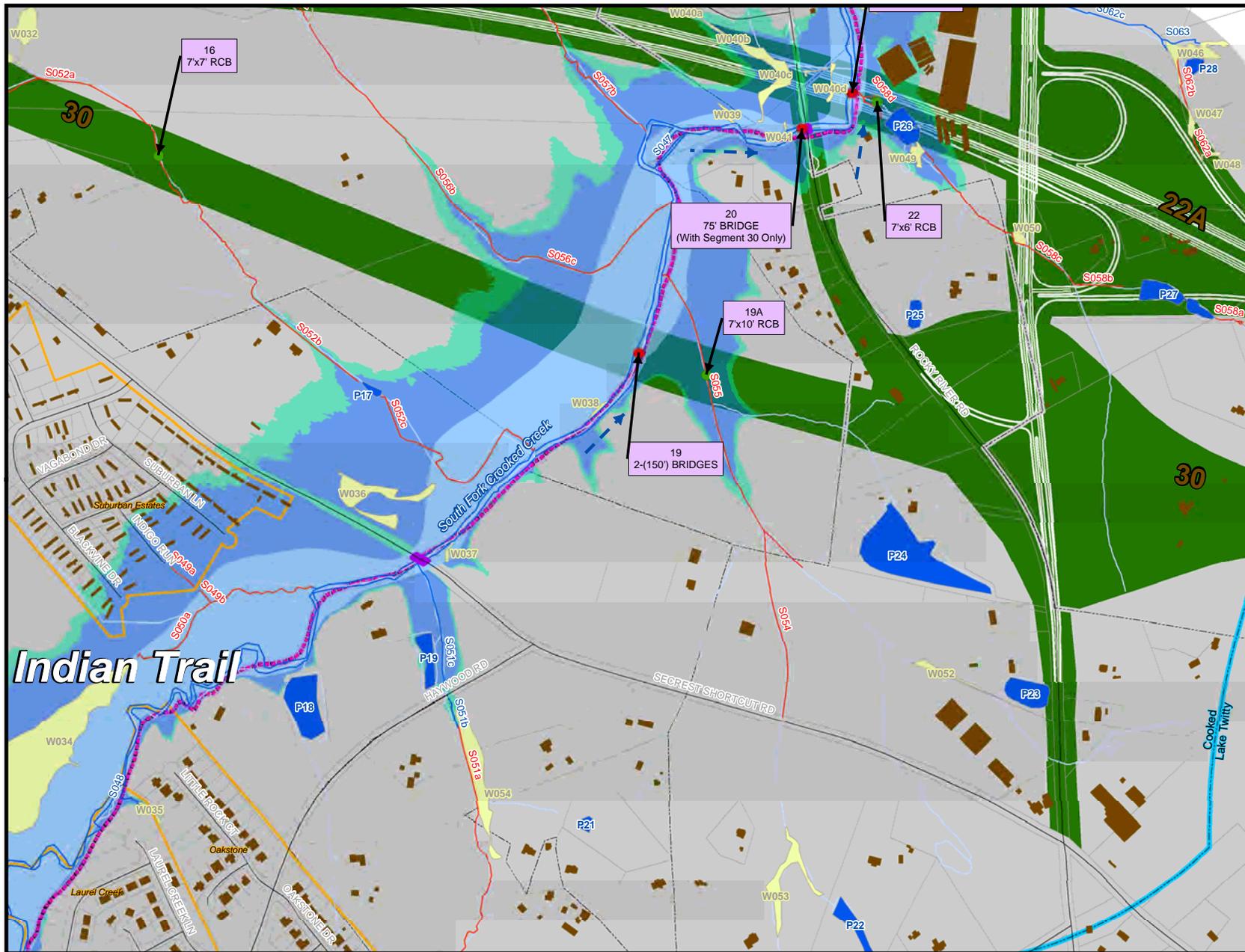
STIP PROJECT  
NO. R-3329/R-2559

Mecklenburg County and Union County

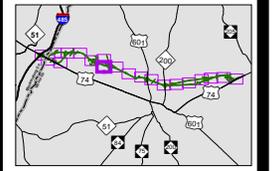
**MONROE CONNECTOR/  
BYPASS  
DETAILED STUDY  
ALTERNATIVES  
FUNCTIONAL  
DESIGNS**

Figure 2-10j

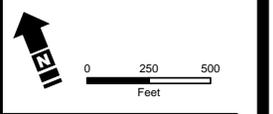




- Legend**
- Functional Design
  - Right of Way
  - Segment Breakline
  - Segment Name
  - Corridor Study Area
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  - Parcels
  - City Limits
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  - Gold Mines
  - Hospital
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Source: Mecklenburg County and Union County GIS.  
Map Printed March 2009.



**NORTH CAROLINA Turnpike Authority**

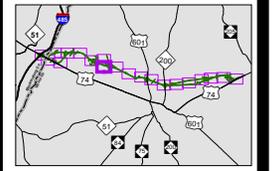
STIP PROJECT  
NO. R-3329/R-2559  
Mecklenburg County and Union County

**MONROE CONNECTOR/  
BYPASS  
DETAILED STUDY  
ALTERNATIVES  
FUNCTIONAL  
DESIGNS**

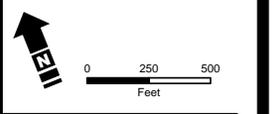
Figure 2-101



- Legend**
- Functional Design
  - Right of Way
  - Segment Breakline
  - Segment Name
  - Corridor Study Area
  - Structures
  - Parcels
  - City Limits
  - Existing Roads
  - Railroad
  - Subdivisions
  - Historic Sites
  - Parks
  - Significant Natural Heritage Area
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  - Surveyed Perennial Stream (S000)
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  - Surveyed Ponds (P00)
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  - 100 Yr. Floodplain
  - 500 Yr. Floodplain
  - Watersheds
  - Flow Direction
  - Cemetery
  - Church
  - College
  - Fire Department
  - Library
  - Police Station
  - Public Facility
  - Potential Hazmat
  - Gold Mines
  - Hospital
  - Schools
- Stream Crossings**
- Culvert (72" dia. or larger)
  - Bridge



Source: Mecklenburg County and Union County GIS.  
Map Printed March 2009.

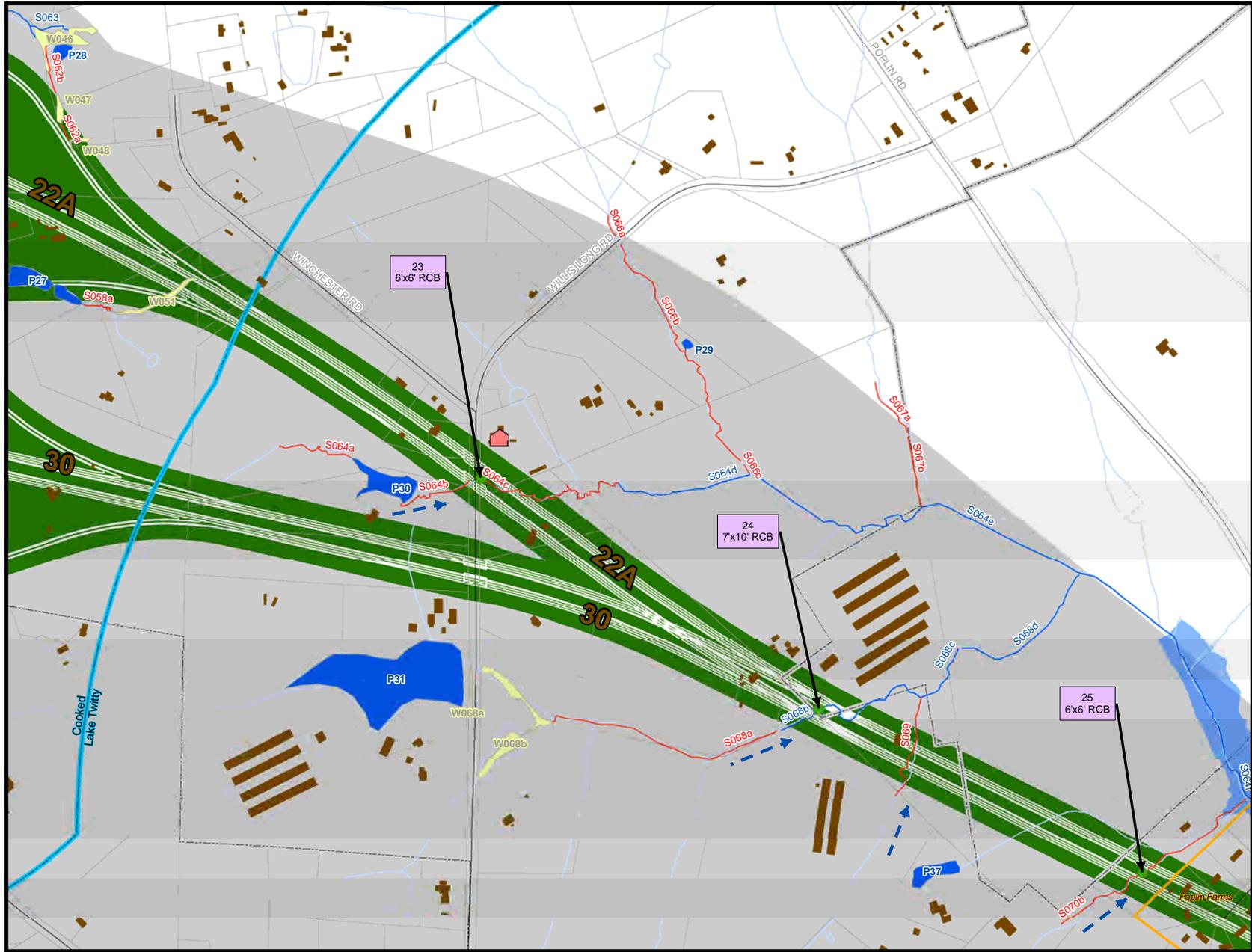


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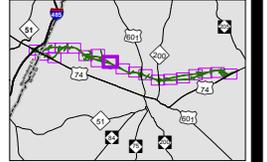
STIP PROJECT  
NO. R-3329/R-2559  
Mecklenburg County and Union County

**MONROE CONNECTOR/  
BYPASS  
DETAILED STUDY  
ALTERNATIVES  
FUNCTIONAL  
DESIGNS**

Figure 2-10m



- Legend**
- Functional Design
  - Right of Way
  - Segment Breakline
  - Segment Name
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  - Schools
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Source: Mecklenburg County and Union County GIS.  
Map Printed March 2009.

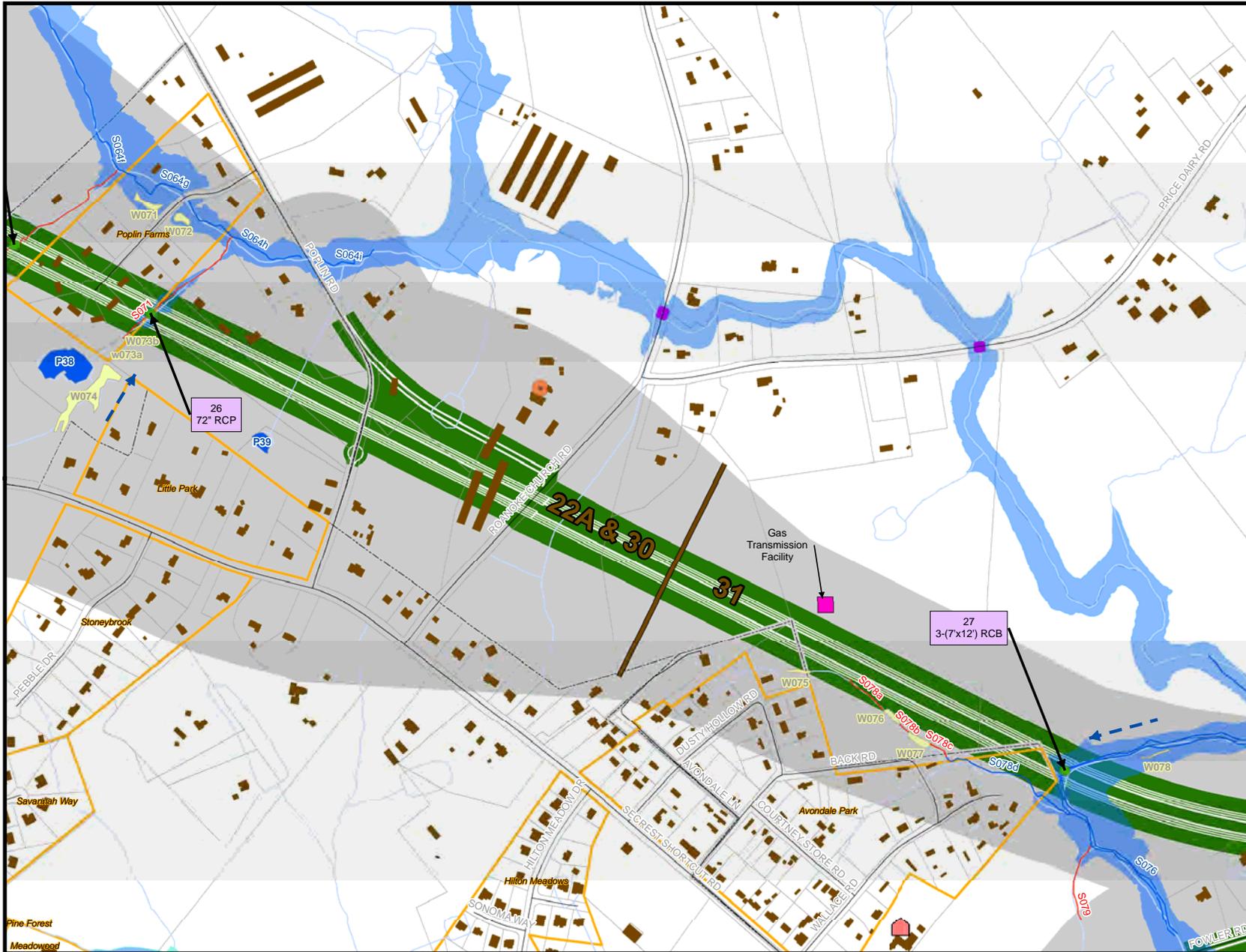


**NORTH CAROLINA Turnpike Authority**

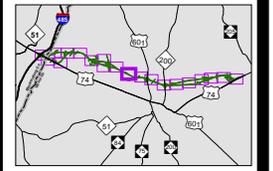
STIP PROJECT  
NO. R-3329/R-2559  
Mecklenburg County and Union County

**MONROE CONNECTOR/  
BYPASS  
DETAILED STUDY  
ALTERNATIVES  
FUNCTIONAL  
DESIGNS**

Figure 2-10n



- Legend**
- Functional Design
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  - Segment Breakline
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  - Schools



Source: Mecklenburg County and Union County GIS.  
Map Printed March 2009.



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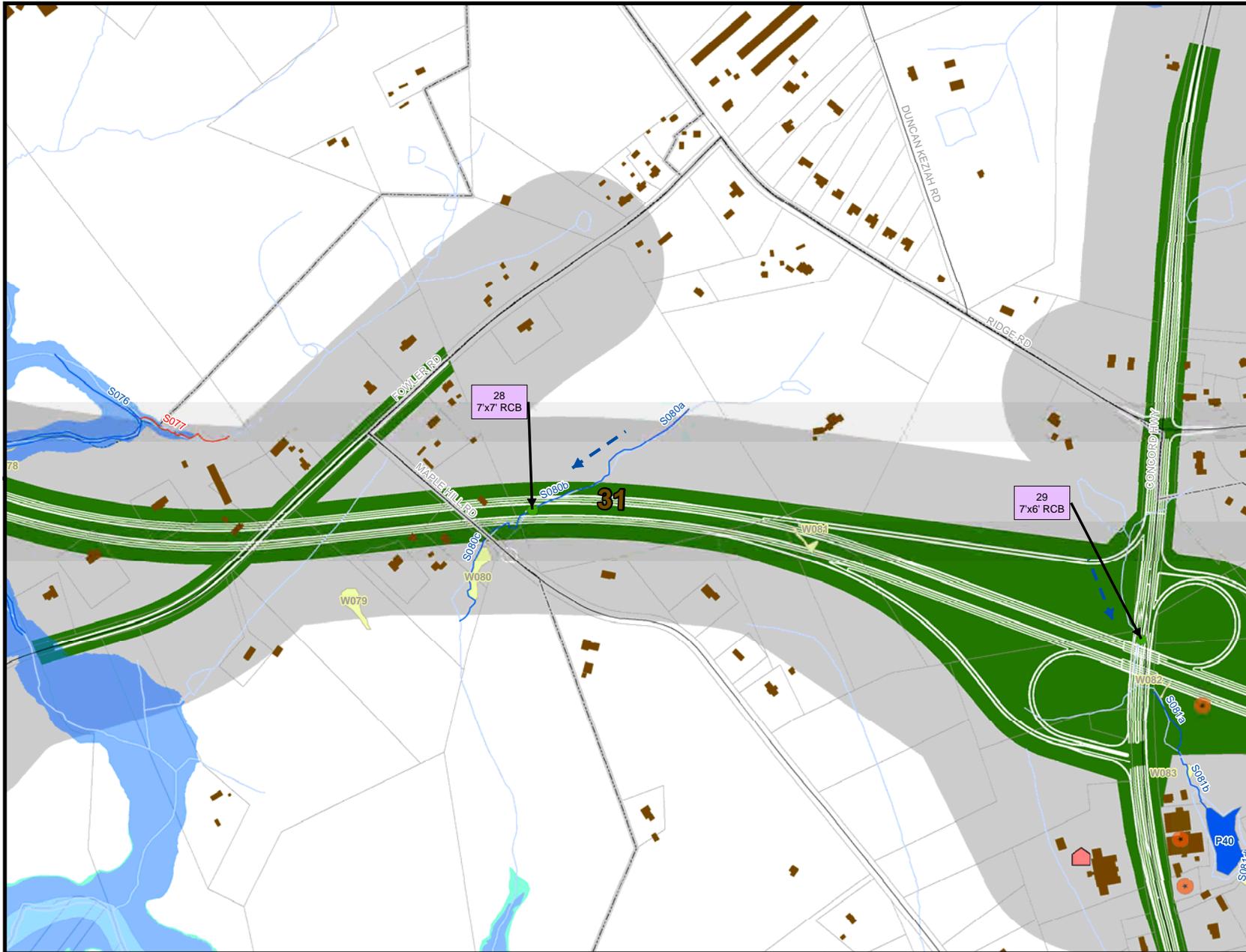
STIP PROJECT  
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Mecklenburg County and Union County

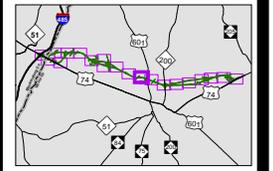
**MONROE CONNECTOR/  
BYPASS  
DETAILED STUDY  
ALTERNATIVES  
FUNCTIONAL  
DESIGNS**

Figure 2-10o

035\_CSA\_Prelim\_Design\_Change.mxd 3/16/09



- Legend**
- Functional Design
  - Right of Way
  - Segment Breakline
  - Segment Name
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  - Gold Mines
  - Hospital
  - Schools
- Stream Crossings**
- Culvert (72" dia. or larger)
  - Bridge
  - Flow Direction



Source: Mecklenburg County and Union County GIS.  
Map Printed March 2009.



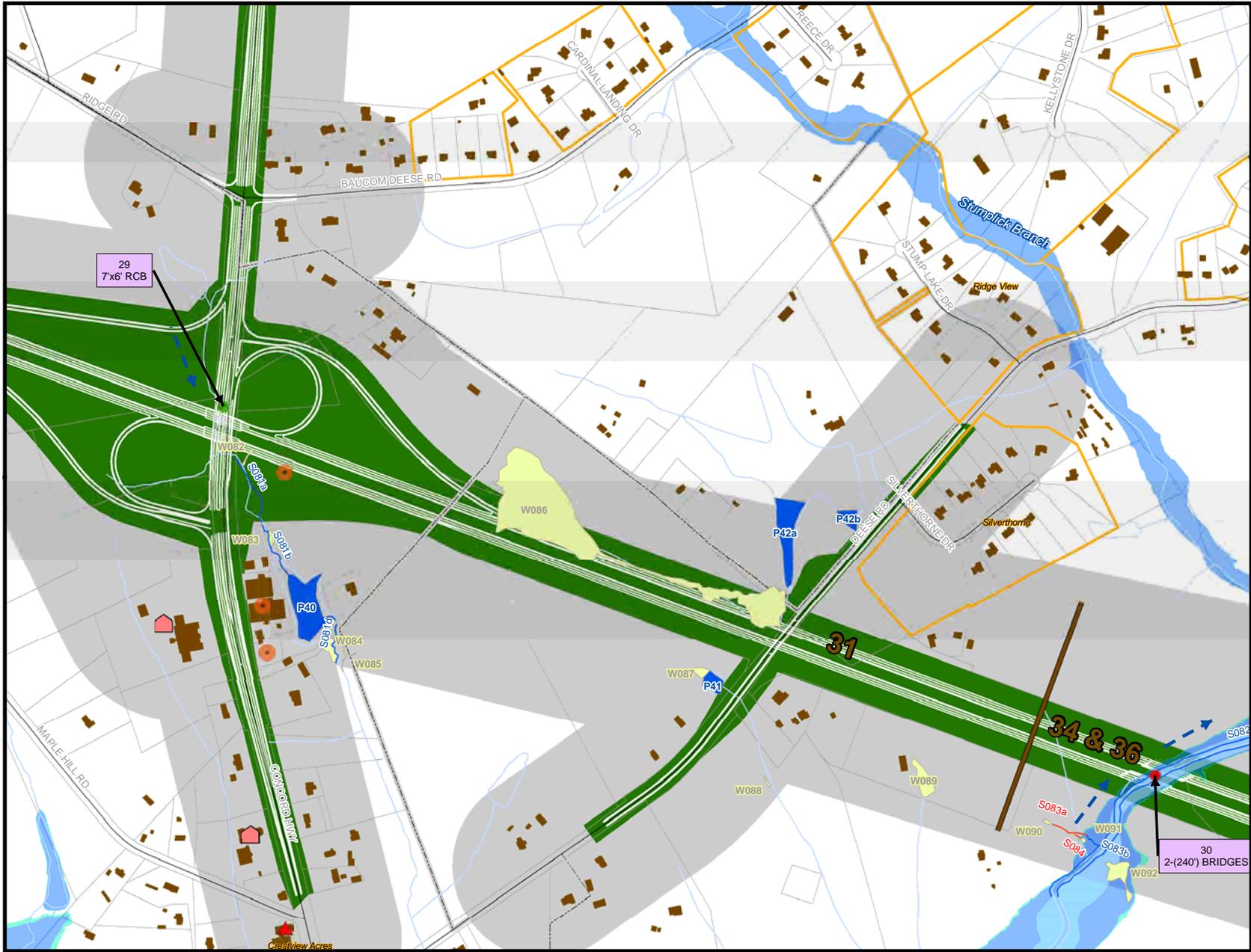
**NORTH CAROLINA Turnpike Authority**

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NO. R-3329/R-2559

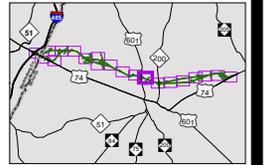
Mecklenburg County and Union County

**MONROE CONNECTOR/  
BYPASS  
DETAILED STUDY  
ALTERNATIVES  
FUNCTIONAL  
DESIGNS**

Figure 2-10p



- Legend**
- Functional Design
  - Right of Way
  - Segment Breakline
  - Segment Name
  - Corridor Study Area
  - Structures
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  - Bridges
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  - Library
  - Police Station
  - Public Facility
  - Potential Hazmat
  - Gold Mines
  - Hospital
  - Schools



Source: Mecklenburg County and Union County GIS.  
Map Printed March 2009.



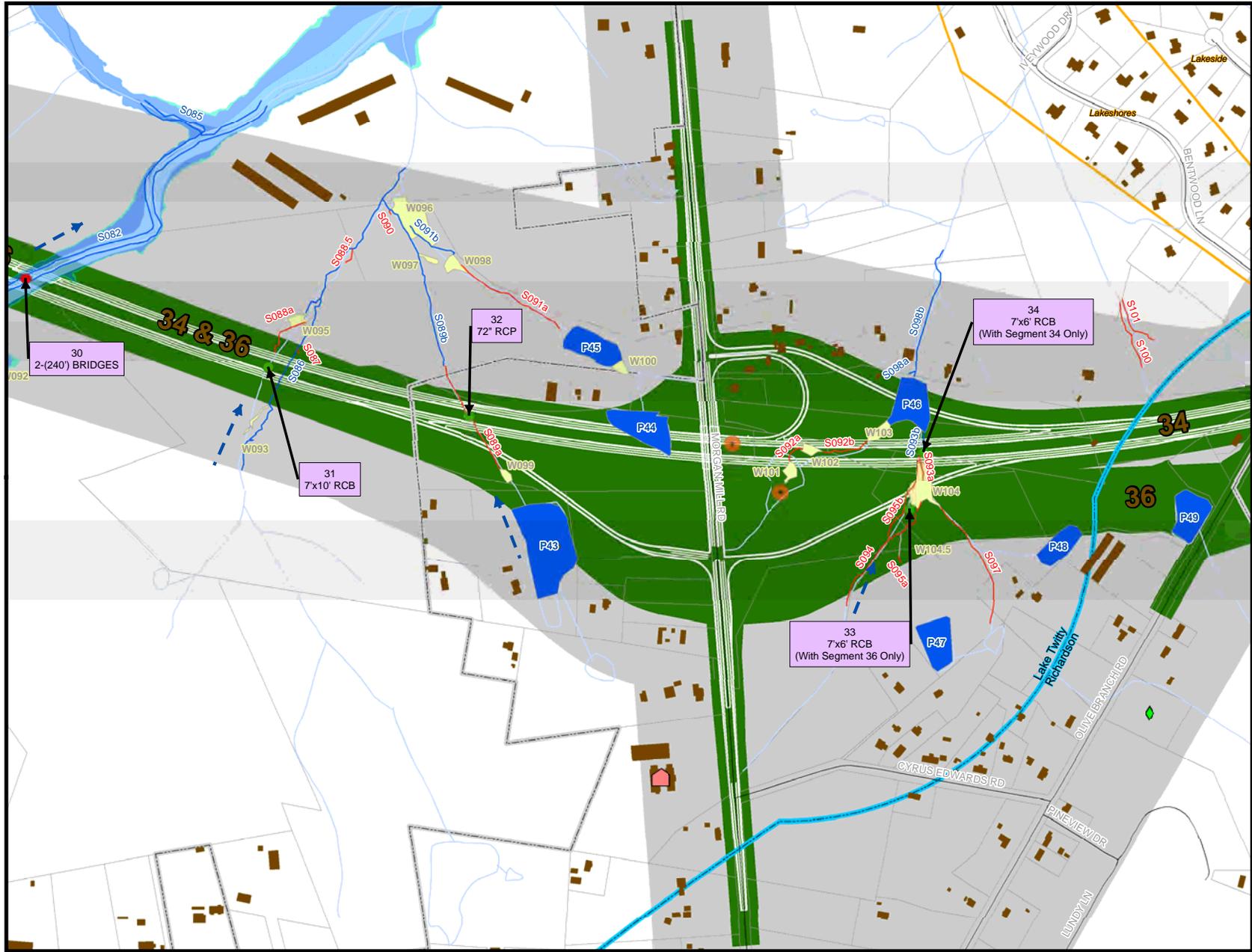
**NORTH CAROLINA Turnpike Authority**

STIP PROJECT  
NO. R-3329/R-2559

Mecklenburg County and Union County

**MONROE CONNECTOR/  
BYPASS  
DETAILED STUDY  
ALTERNATIVES  
FUNCTIONAL  
DESIGNS**

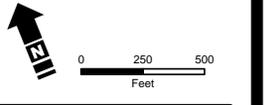
Figure 2-10q



- Legend**
- Functional Design
  - Right of Way
  - Segment Breakline
  - Segment Name
  - Corridor Study Area
  - Structures
  - Parcels
  - City Limits
  - Bridges
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  - Public Facility
  - Potential Hazmat
  - Gold Mines
  - Hospital
  - Schools



Source: Mecklenburg County and Union County GIS.  
Map Printed March 2009.



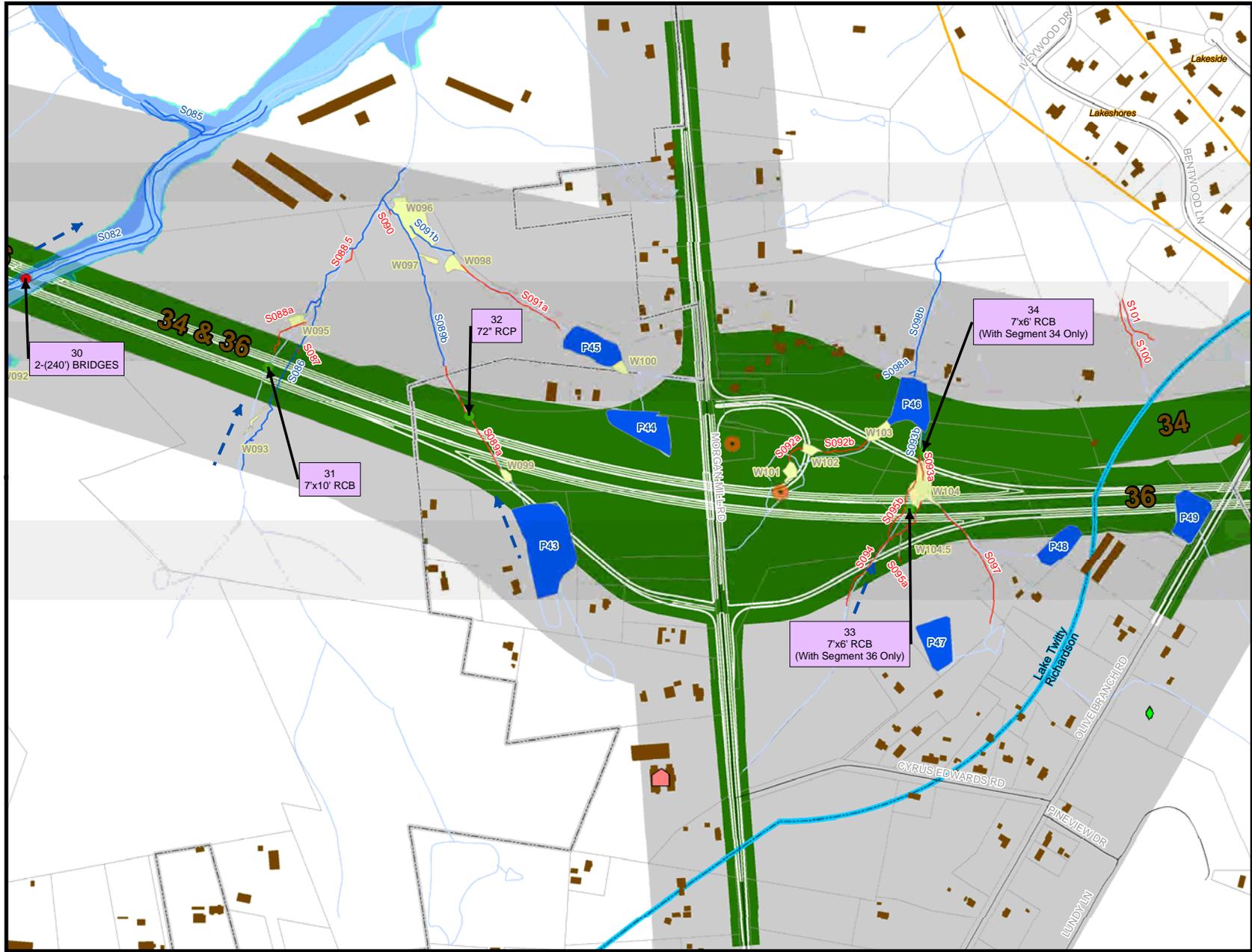
**NORTH CAROLINA Turnpike Authority**

STIP PROJECT  
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Mecklenburg County and Union County

**MONROE CONNECTOR/  
BYPASS  
DETAILED STUDY  
ALTERNATIVES  
FUNCTIONAL  
DESIGNS**

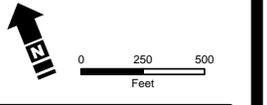
Figure 2-10r



- Legend**
- Functional Design
  - Right of Way
  - Segment Breakline
  - Segment Name
  - Corridor Study Area
  - Structures
  - Parcels
  - City Limits
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  - Gold Mines
  - Hospital
  - Schools



Source: Mecklenburg County and Union County GIS.  
Map Printed March 2009.



**NORTH CAROLINA**  
**Turnpike Authority**

STIP PROJECT  
NO. R-3329/R-2559

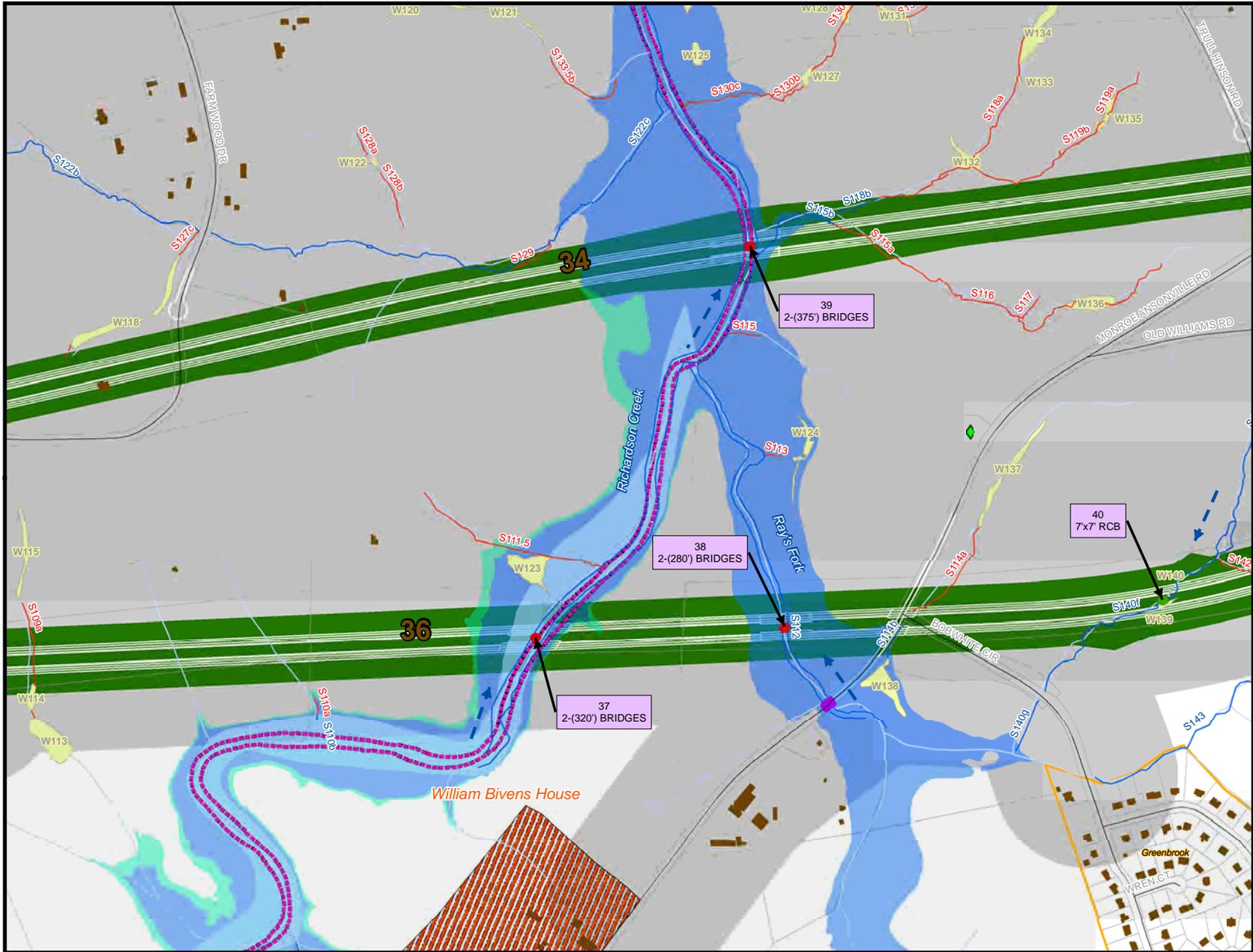
Mecklenburg County and Union County

**MONROE CONNECTOR/  
BYPASS**

**DETAILED STUDY  
ALTERNATIVES  
FUNCTIONAL  
DESIGNS**

Figure 2-10s





- Legend**
- Functional Design
  - Right of Way
  - Segment Breakline
  - Segment Name
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  - Gold Mines
  - Hospital
  - Schools
- Stream Crossings**
- Culvert (72" dia. or larger)
  - Bridge



Source: Mecklenburg County and Union County GIS.  
Map Printed March 2009.



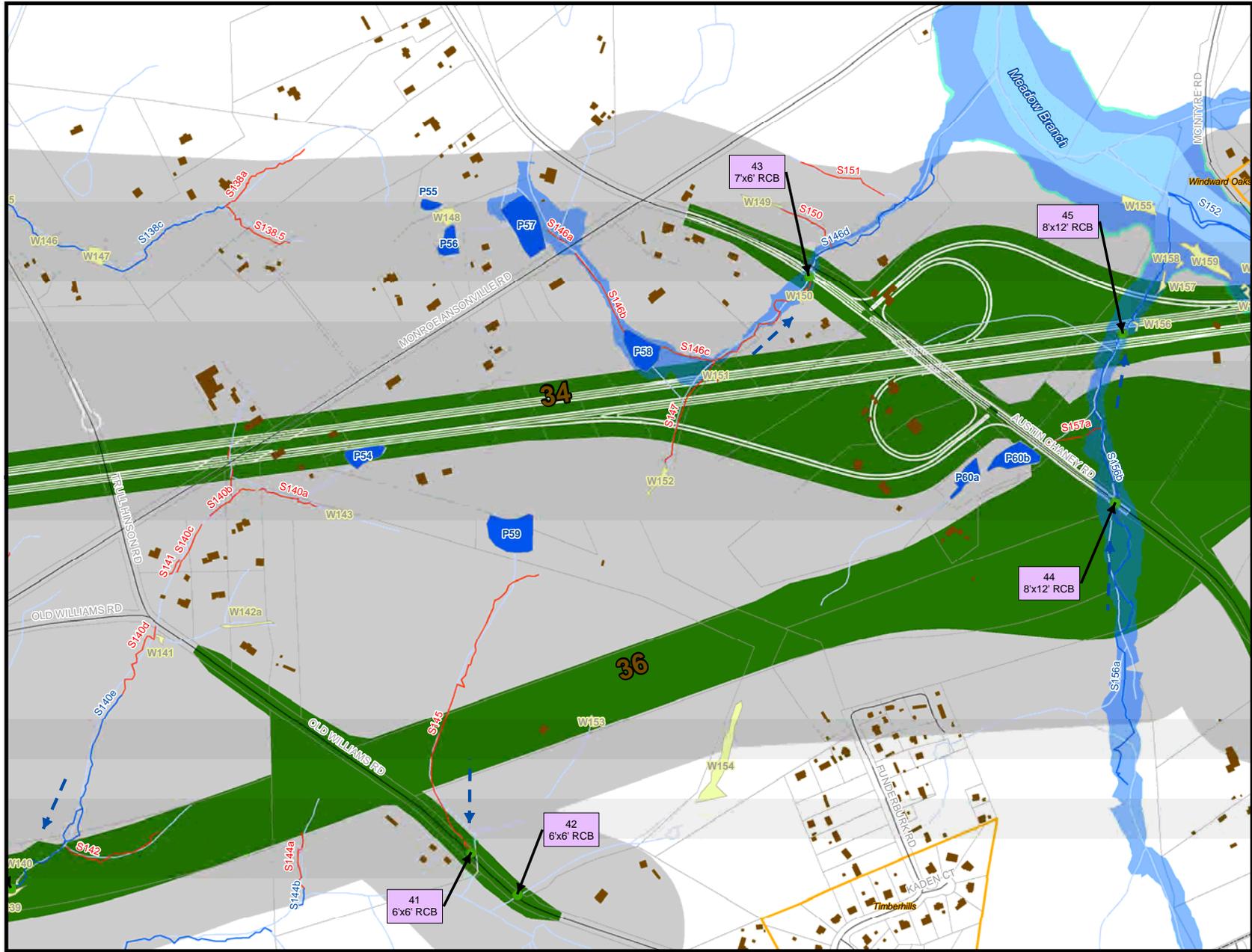
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Mecklenburg County and Union County

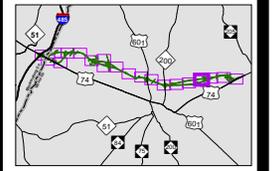
**MONROE CONNECTOR/  
BYPASS  
DETAILED STUDY  
ALTERNATIVES  
FUNCTIONAL  
DESIGNS**

Figure 2-10u

DESIGN: Prelim\_Design\_Challenge.mxd 3/16/09



- Legend**
- Functional Design
  - Right of Way
  - Segment Breakline
  - Segment Name
  - Corridor Study Area
  - Structures
  - Parcels
  - City Limits
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  - Railroad
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  - Parks
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  - Gold Mines
  - Hospital
  - Schools
- Stream Crossings**
- Culvert (72" dia. or larger)
  - Bridge
  - Flow Direction



Source: Mecklenburg County and Union County GIS.  
Map Printed March 2009.



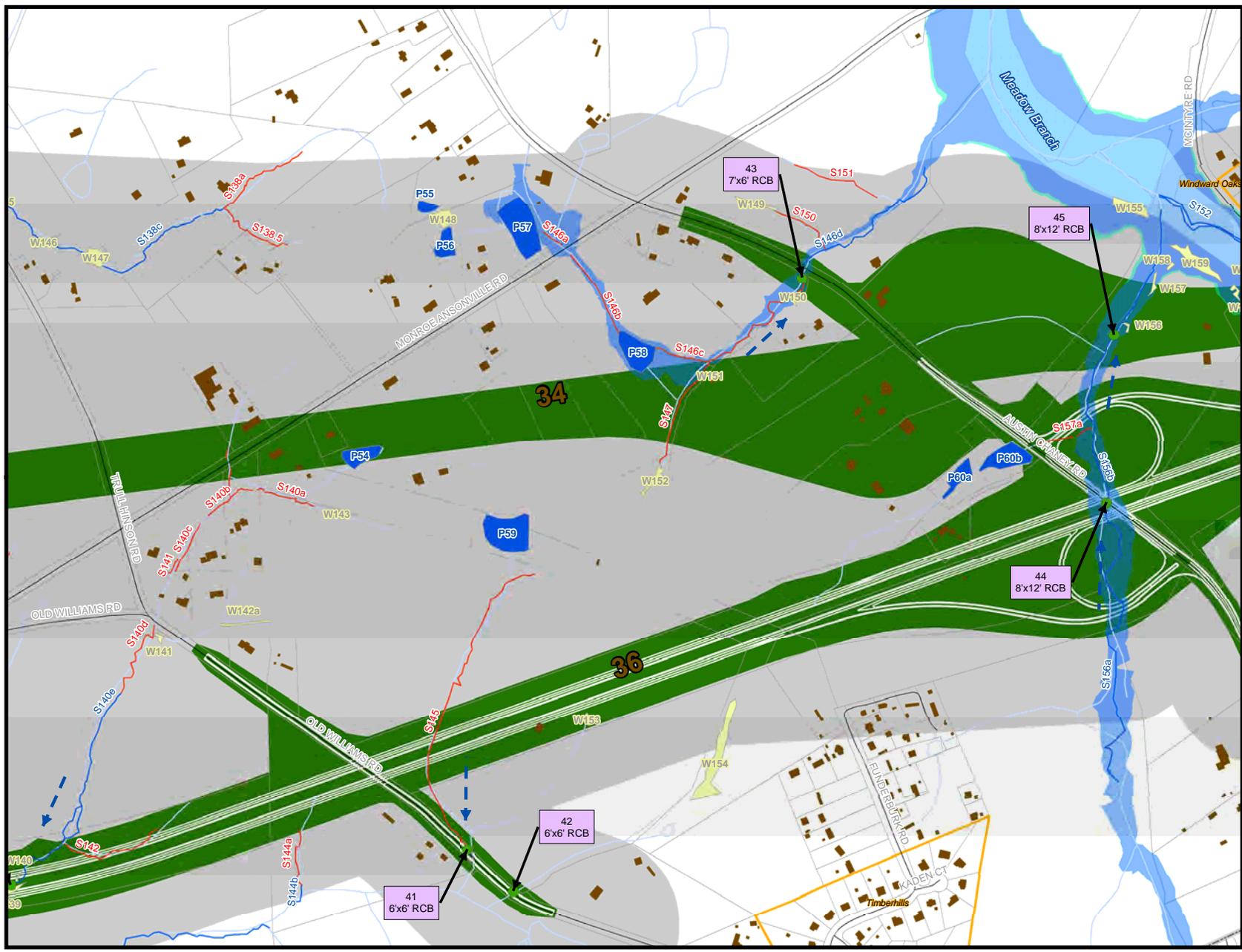
**NORTH CAROLINA Turnpike Authority**

STIP PROJECT  
NO. R-3329/R-2559  
Mecklenburg County and Union County

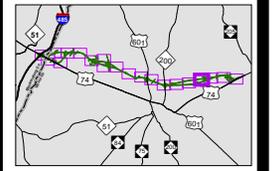
**MONROE CONNECTOR/  
BYPASS  
DETAILED STUDY  
ALTERNATIVES  
FUNCTIONAL  
DESIGNS**

Figure 2-10v

DESIGN: Prelim\_Design\_Challenge.mxd 3/16/09



- Legend**
- Functional Design
  - Right of Way
  - Segment Breakline
  - Segment Name
  - Corridor Study Area
  - Structures
  - Parcels
  - City Limits
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  - Railroad
  - Subdivisions
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  - Parks
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  - Public Facility
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  - Hospital
  - Schools
- Stream Crossings**
- Culvert (72" dia. or larger)
  - Bridge
- Flow Direction



Source: Mecklenburg County and Union County GIS.  
Map Printed March 2009.



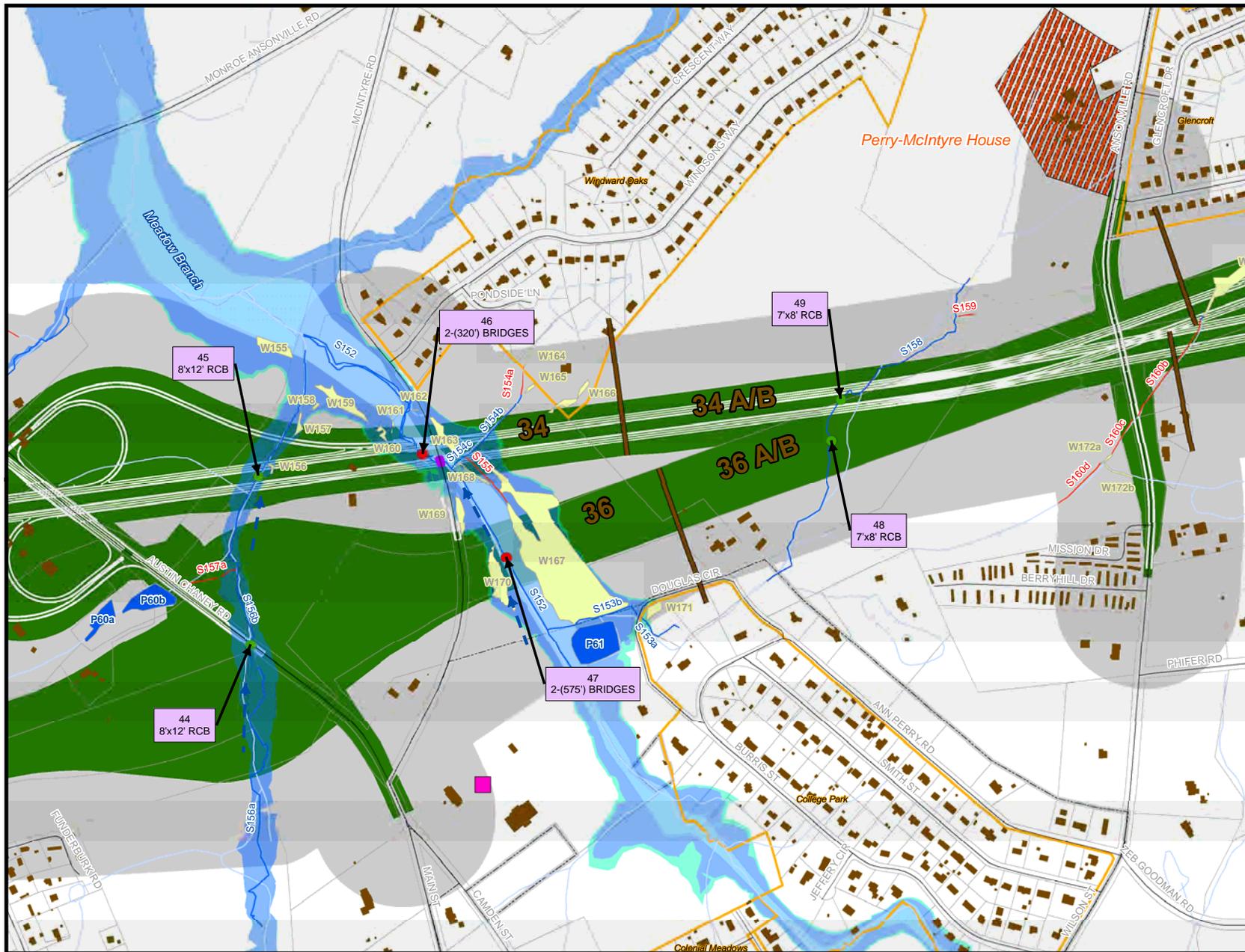
**NORTH CAROLINA Turnpike Authority**

STIP PROJECT  
NO. R-3329/R-2559

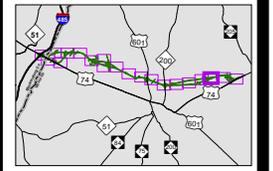
Mecklenburg County and Union County

**MONROE CONNECTOR/  
BYPASS  
DETAILED STUDY  
ALTERNATIVES  
FUNCTIONAL  
DESIGNS**

Figure 2-10w



- Legend**
- Functional Design
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  - Segment Breakline
  - Segment Name
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  - Railroad
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  - Gold Mines
  - Hospital
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Source: Mecklenburg County and Union County GIS.  
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**Turnpike Authority**

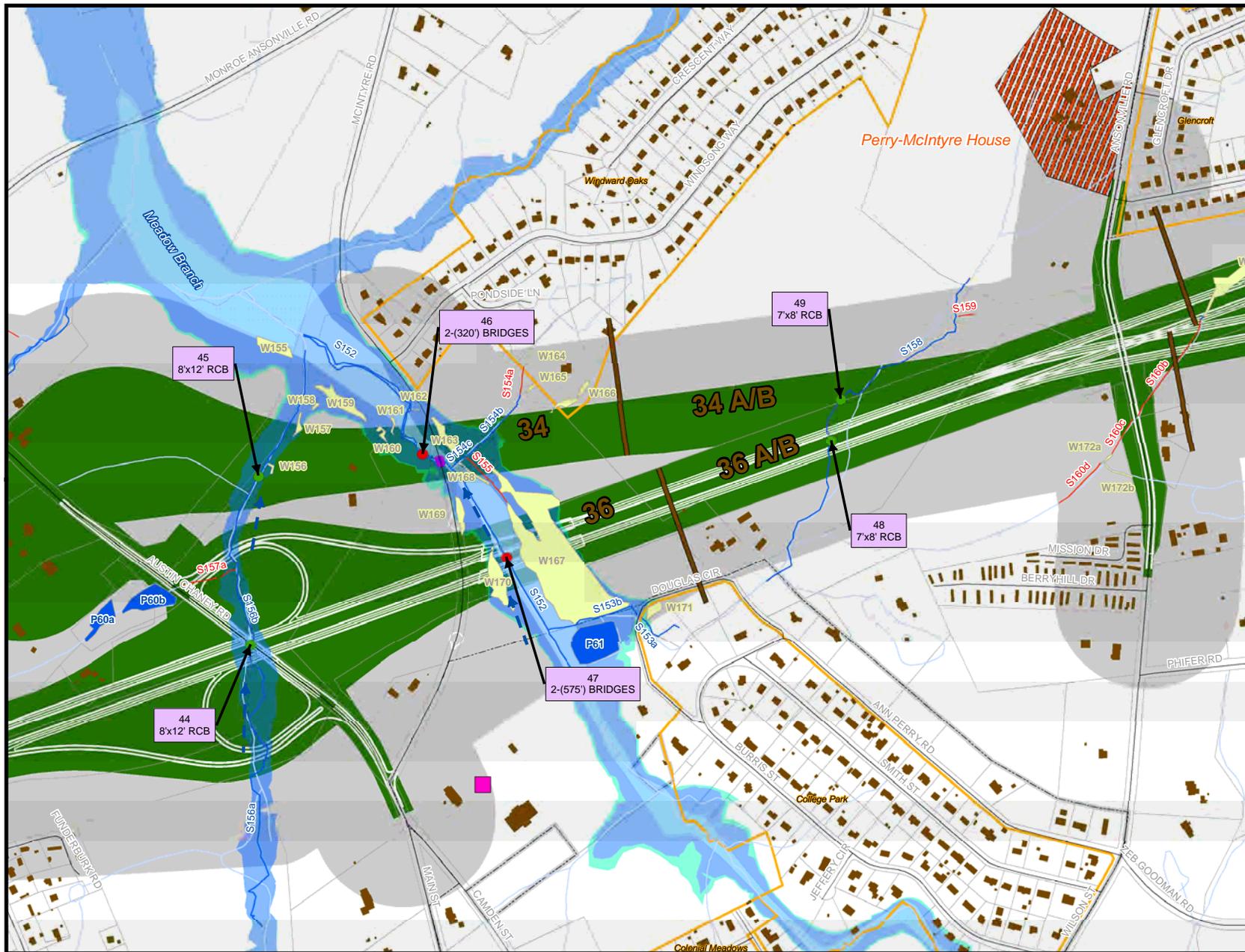
STIP PROJECT  
NO. R-3329/R-2559

Mecklenburg County and  
Union County

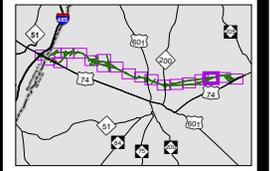
**MONROE CONNECTOR/  
BYPASS**

**DETAILED STUDY  
ALTERNATIVES  
FUNCTIONAL  
DESIGNS**

Figure 2-10x



- Legend**
- Functional Design
  - Right of Way
  - Segment Breakline
  - Segment Name
  - Corridor Study Area
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Source: Mecklenburg County and Union County GIS.  
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**NORTH CAROLINA**  
**Turnpike Authority**

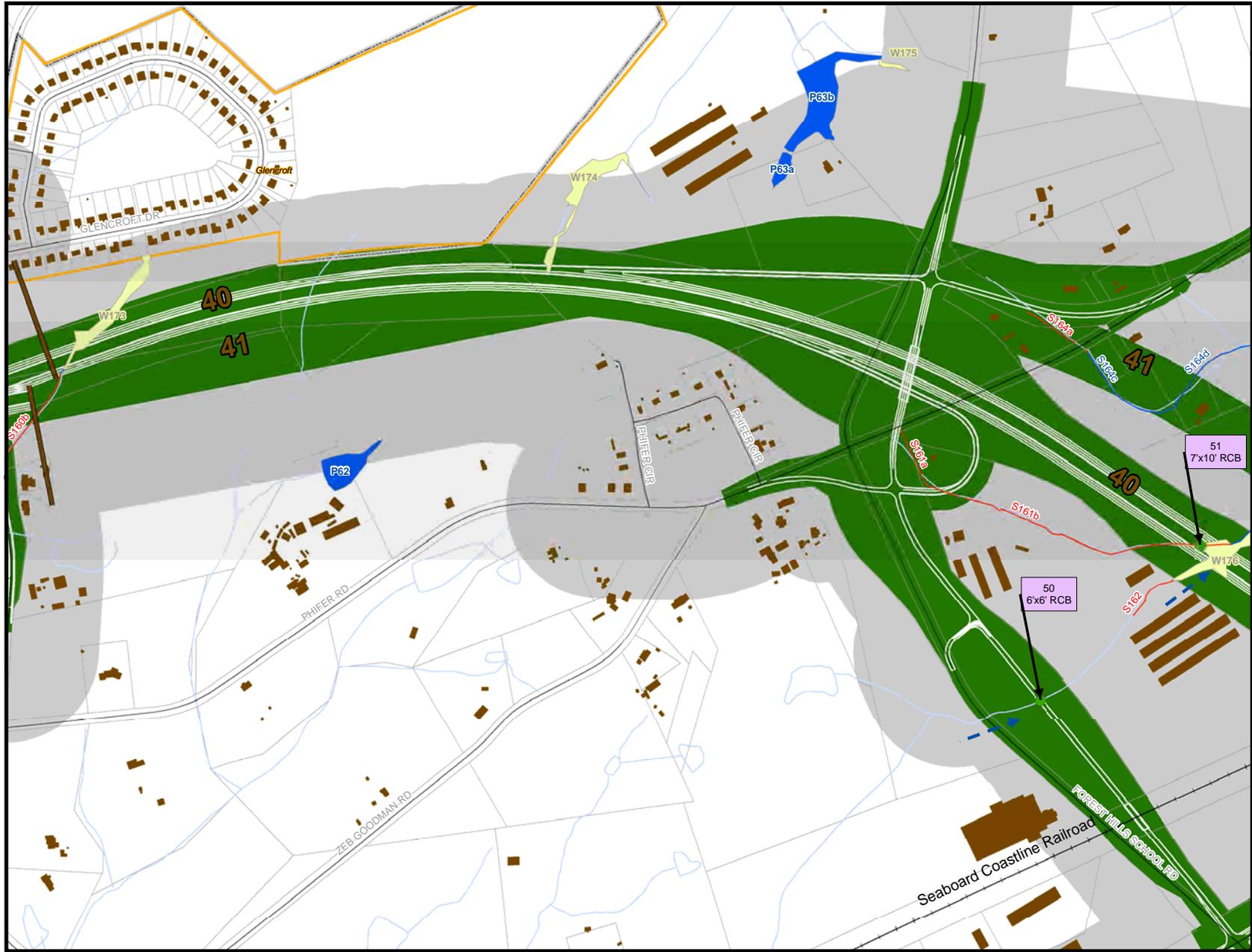
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NO. R-3329/R-2559

Mecklenburg County and  
Union County

**MONROE CONNECTOR/  
BYPASS**

**DETAILED STUDY  
ALTERNATIVES  
FUNCTIONAL  
DESIGNS**

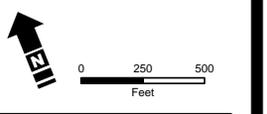
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- Legend**
- Functional Design
  - Right of Way
  - Segment Breakline
  - Segment Name
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  - Hospital
  - Schools
- Stream Crossings**
- Culvert (72" dia. or larger)
  - Bridge
  - Flow Direction



Source: Mecklenburg County and Union County GIS.  
Map Printed March 2009.



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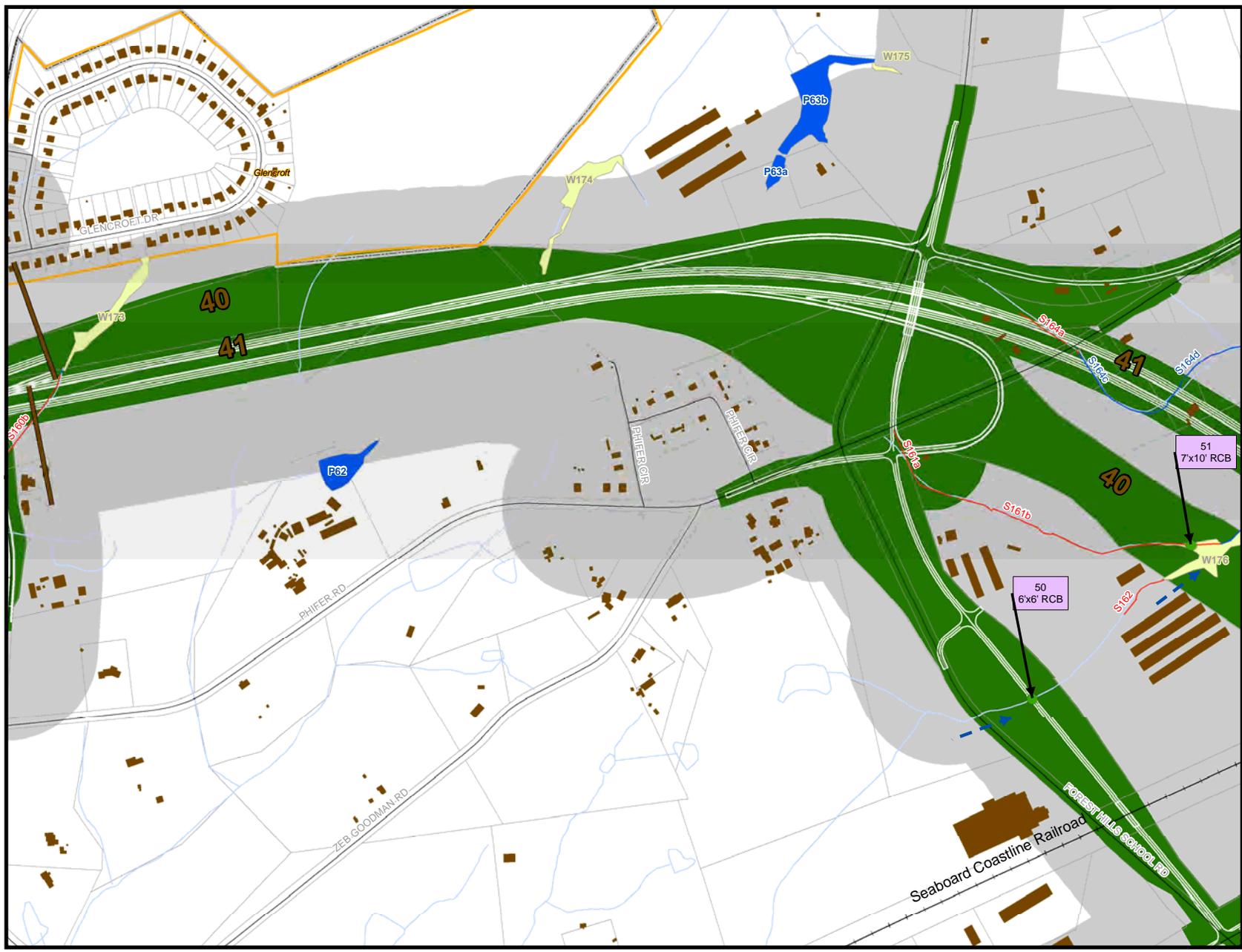
STIP PROJECT  
NO. R-3329/R-2559

Mecklenburg County and Union County

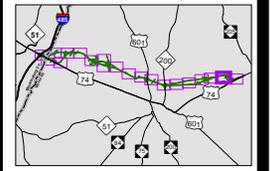
**MONROE CONNECTOR/  
BYPASS  
DETAILED STUDY  
ALTERNATIVES  
FUNCTIONAL  
DESIGNS**

Figure 2-10z

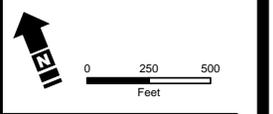
DES\_CSA\_Prelim\_Design\_Challenge.mxd 3/16/09



- Legend**
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  - Segment Breakline
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- Stream Crossings**
- Culvert (72" dia. or larger)
  - Bridge
  - Flow Direction



Source: Mecklenburg County and Union County GIS.  
Map Printed March 2009.



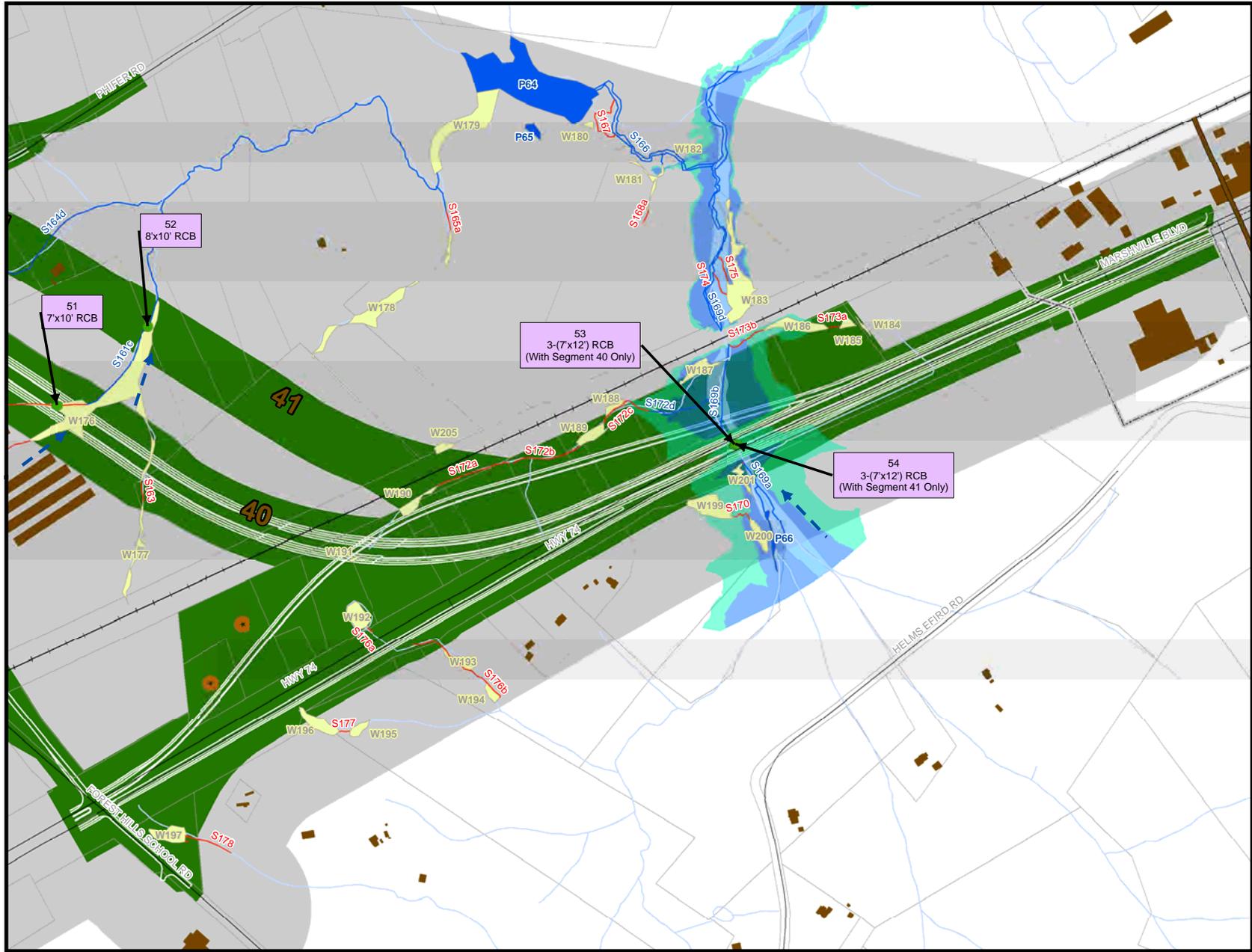
**NORTH CAROLINA Turnpike Authority**

STIP PROJECT  
NO. R-3329/R-2559

Mecklenburg County and Union County

**MONROE CONNECTOR/  
BYPASS  
DETAILED STUDY  
ALTERNATIVES  
FUNCTIONAL  
DESIGNS**

Figure 2-10aa



- Legend**
- Functional Design
  - Right of Way
  - Segment Breakline
  - Segment Name
  - Corridor Study Area
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  - Parcels
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  - Cemetery
  - Church
  - College
  - Fire Department
  - Library
  - Police Station
  - Public Facility
  - Potential Hazmat
  - Gold Mines
  - Hospital
  - Schools
  - Stream Crossings
  - Culvert (72" dia. or larger)
  - Bridge
  - Flow Direction



Source: Mecklenburg County and Union County GIS.  
Map Printed March 2009.



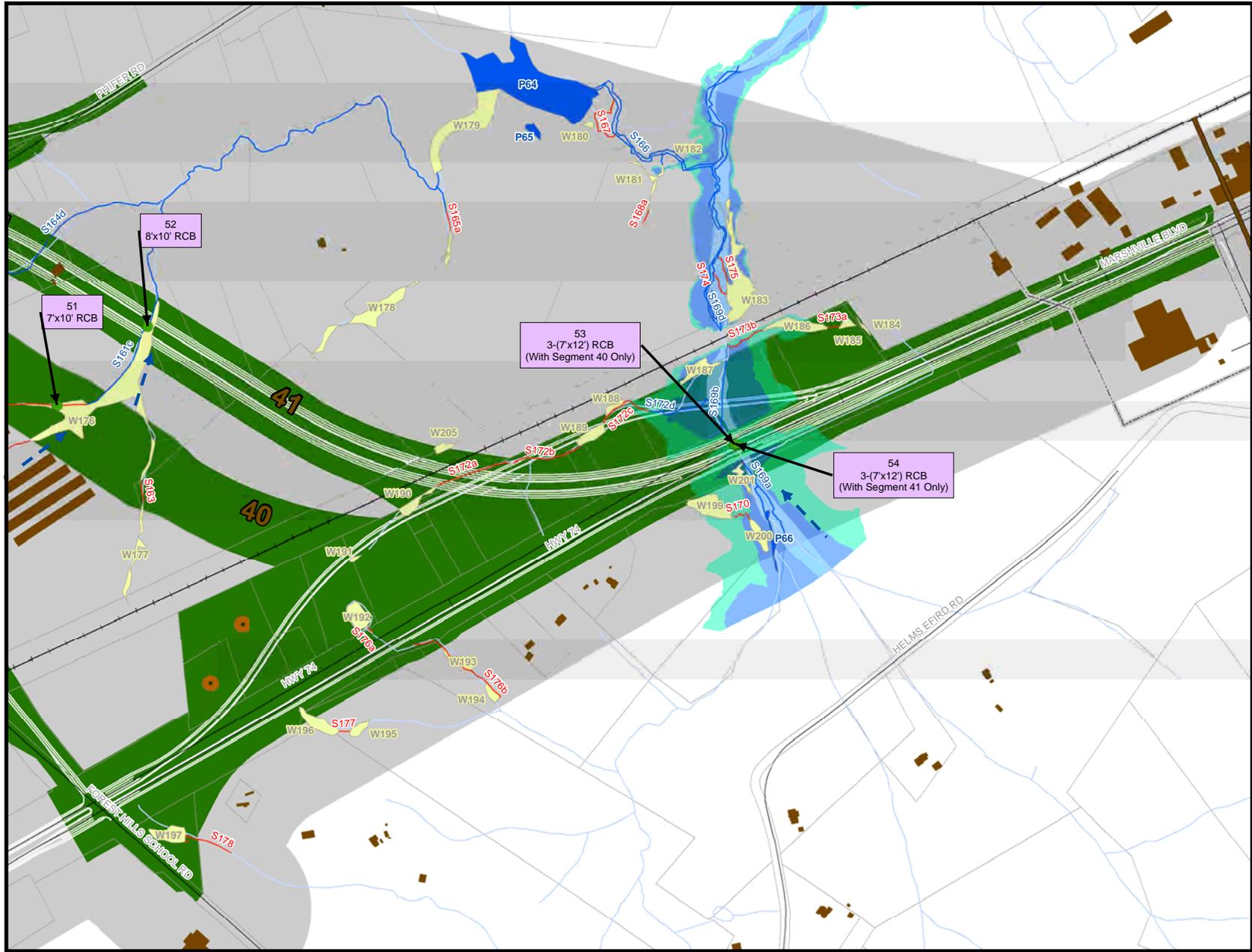
**NORTH CAROLINA Turnpike Authority**

STIP PROJECT  
NO. R-3329/R-2559

Mecklenburg County and Union County

**MONROE CONNECTOR/  
BYPASS  
DETAILED STUDY  
ALTERNATIVES  
FUNCTIONAL  
DESIGNS**

Figure 2-10bb



- Legend**
- Functional Design
  - Right of Way
  - Segment Breakline
  - Segment Name
  - Corridor Study Area
  - Structures
  - Parcels
  - City Limits
  - Bridges
  - Existing Roads
  - Railroad
  - Subdivisions
  - Historic Sites
  - Parks
  - Significant Natural Heritage Area
  - 303(d) Streams
  - Surveyed Intermittent Stream (S000)
  - Surveyed Perennial Stream (S000)
  - Other Hydrology
  - Surveyed Wetlands
  - Surveyed Ponds (P00)
  - Floodway
  - 100 Yr. Floodplain
  - 500 Yr. Floodplain
  - Watersheds
  - Stream Crossings
  - Culvert (72" dia. or larger)
  - Bridge
  - Flow Direction
  - Cemetery
  - Church
  - College
  - Fire Department
  - Library
  - Police Station
  - Public Facility
  - Potential Hazmat
  - Gold Mines
  - Hospital
  - Schools



Source: Mecklenburg County and Union County GIS.  
Map Printed March 2009.



**NORTH CAROLINA Turnpike Authority**

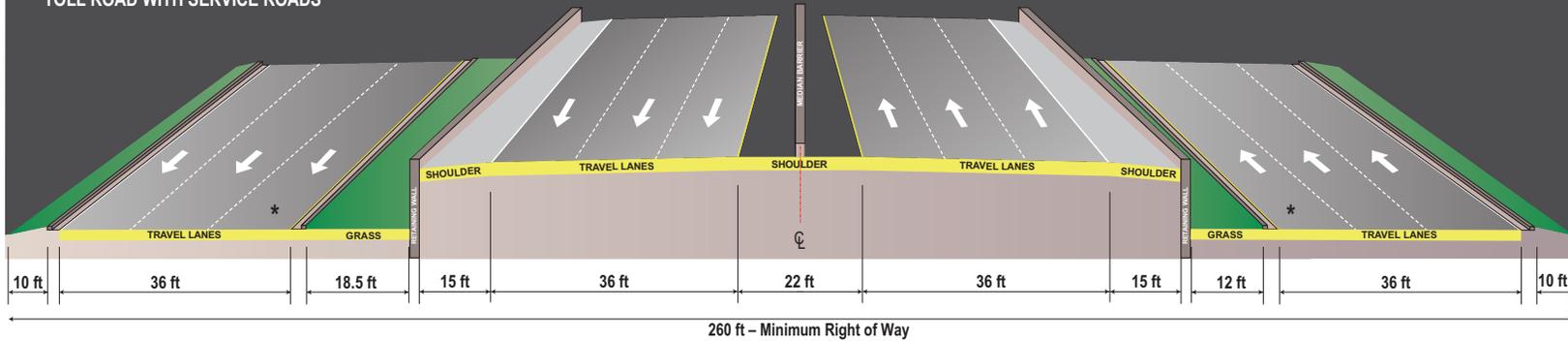
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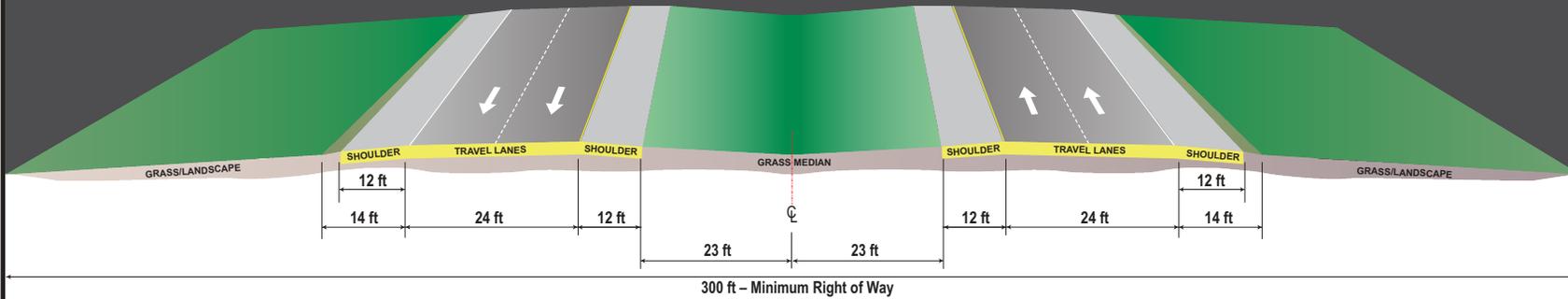
Figure 2-10cc

**CROSS SECTION TYPICAL No. 1  
TOLL ROAD WITH SERVICE ROADS**



\* Areas with turn lanes or near access points will require three lanes on the service roads. Other areas will only have two lanes.

**CROSS SECTION TYPICAL No. 2  
TOLL ROAD**



 NOT TO SCALE



STIP PROJECT  
NO. R-3329/R-2559

Union County and  
Mecklenburg County

MONROE BYPASS /  
CONNECTOR

**NEW LOCATION  
ALTERNATIVE  
TYPICAL CROSS  
SECTION**

Figure 2-11