

## **I-3803A Project Synopsis**

The project begins in northeastern Mecklenburg County west of the US 29-NC 49 Connector and ends in southwestern Cabarrus County east of SR 2894 (Speedway/Concord Mills Boulevard), which is in Division 10. The project is approximately **6.9 miles** in length.

Planning Studies are complete. The Categorical Exclusion was signed April 27, 2001. Copies of the Categorical Exclusion will be made available to the short-listed firms. A Public Workshop was held in June 2000.

The general scope of work consists of widening existing I-85 to eight through lanes with a 22-foot median.

This project is within the limits of the I-85 Subarea Study completed in December, 2000. For a copy of the report, contact Len Purnell of Parsons Brinckerhoff at (704) 944-3153.

A preliminary traffic noise analysis was performed for this project in order to determine the effect the project will have on noise levels in the immediate area. It is anticipated the proposed project will result in traffic noise impacts to 11 homes and three businesses in the design year. A noise barrier evaluation was conducted to determine if it was feasible to construct a barrier. Based on the evaluation conducted, no noise barriers or any other abatement measures were found to be feasible. Therefore, no further noise analysis is required for this project.

The wetlands and streams are being delineated at this time. They will be available in the electronic file prior to the final selection of a contractor.

The total estimated impact to wetlands by this project is 0.45 acres. Since the impacts are less than 1 acre, a Section 404 Nationwide Permit Number 23 will be applicable for project effects on Waters of the United States and no permit drawings will be necessary.

The Department will provide traffic projections. The D/B Team will evaluate capacity of freeway at acceleration and deceleration lanes. The latest version of HCM will be required to analyze the highway capacity.

### Public Involvement Work:

- The D/B team will need to work with the Division 10 Office and the Construction Unit during the construction of the project to keep the public informed of lane closures, construction progress, etc.

### Roadway Design Work:

- Check and complete the existing design and construct the widening of existing I-85 to eight through lanes with a 22-foot median. NCDOT has prepared the preliminary design that is approximately 20% complete. The D/B Team will be responsible for any modifications to the plans to get them to final plan stage. Every effort should be made to keep the design within the existing right of way limits.
- In addition to the proposed widening of I-85, the existing US 29-NC 49 Connector entrance ramp onto southbound I-85 will be reconfigured from a left-hand entrance ramp to a right-hand entrance ramp. The interchange will be reconfigured by shifting the southbound lanes of I-85 into the median, narrowing the median to 22 feet wide and allowing the US 29-NC 49 Connector on ramp to tie into I-85 from the right.
- All mainline designs to meet interstate standards, 70 mph design speed in rolling terrain. The design and construction should follow the 2001 AASHTO design guidelines and NCDOT January 2002 Standard Drawings and Specifications.
- The D/B Team will complete the design work in English Units using Microstation J and GEOPAK 2001 software.
- Possible coordination with contractor of DOT project R-2420B. R-2420B (City Boulevard over I-85) is currently under construction. Construction is scheduled to be completed by 3-30-02. Contact for the project: Ron Bowman, resident engineer (704) 455-2958.
- Possible coordination with contractor of Charlotte DOT project R-2420C. R-2420C (City Boulevard east of I-85) is scheduled to be let to contract in 2003. City contact – Bill Finger (704) 336-3900.
- Coordination will be required for project E-3810. E-3810 is Phase 4 of the Mallard Creek Greenway. Plans for the greenway are being prepared by NCDOT Bicycle & Pedestrian Program. The greenway will utilize the I-85 bridges over Mallard Creek to cross under I-85. Contacts for the greenway include Neil Luther, Mecklenburg County Greenways Planner, (704) 336-8466, and Tom Norman, Program Manager – Facilities, NCDOT Bicycle and Pedestrian Division, (919) 715-2342.
- Possible coordination with contractor for DOT project R-2248BA. R-2248BA (I-485 crossing I-85) is scheduled to be completed 1-04. Contact for project – Tawana Brooks, resident engineer (704) 394-8314.

- Coordination will be required for project R-2123CE. R-2123CE is the TIP number for the Charlotte Outer Loop that interchanges with I-85 between Mallard Creek Church Road and Mallard Creek Road. Care should be taken by the D/B team to design and construct this section of I-85 in such a way as not to preclude the future construction of the interchange. A copy of the plans for this area of R-2123CE will be provided to the short listed firms. R-2123CE is currently scheduled for construction in 2006.

#### Structure Design Work:

- There are currently five overhead bridge structures, three bridge structures carrying I-85 and one culvert existing within the project limits. An overhead structure is under construction carrying City Boulevard over I-85.
- The existing bridge carrying northbound I-85 over the US 29-NC 49 Connector on ramp will be replaced with a new bridge. An additional new bridge will be built to carry southbound I-85 over the US 29-NC 49 Connector on ramp. It will be the responsibility of the D/B Team to determine widths and lengths.
- The existing bridges carrying I-85 over Mallard Creek will be widened to 81.2 feet in order to accommodate the widening.
- All design work for structures and culverts will be the responsibility of the D/B Team.
- There are no retaining walls or noise walls as a part of this project.

#### Hydraulics and Permitting Work:

- Hydraulic design will be the responsibility of the D/B team. No work has been started at this time.
- No permit drawings are anticipated at this time. Should permit drawings be necessary, it will be the responsibility of the Hydraulics Unit to provide them to the Department's Natural Systems Unit for their coordination and approval by the agencies.

#### Pavement Work:

- The mainline and ramp pavement designs and shoulder drain details will be provided. The Pavement Management Unit recommends concrete pavement for the mainline with full depth asphalt for both the outside and median paved shoulders.

- Any temporary detour pavement designs will be the D/B Team's responsibility. Design criteria will be provided to the D/B Team for developing the temporary designs.

#### Geotechnical Work:

- A limited geotechnical investigation package will be provided to the short-listed teams. The package will include borings at or near all proposed bent locations and will include soil test data within the project limits.
- Any additional geotechnical work will be the responsibility of the D/B team.

#### Location-Surveys and Photogrammetry Work:

- Full electronic surveys are complete and will be available for the short-listed firms. The surveys were completed in English units.
- The existing utilities are located by x and y dimensions and are included with the survey data. Any SUE work and any utility lines not shown on the existing plans will be the responsibility of the D/B Team to locate.

#### Right of Way Responsibilities:

- The existing right of way along I-85 varies from approximately 342 feet to 370 feet. Full control of access exist along the project.
- All work to be done within the existing right of way and existing easements denoted on the plans. Any additional retaining walls, expressway gutter, special slope designs or additional easement acquisition resulting from the D/B Team's method of construction will be the responsibility of the D/B Team.

#### Utilities Work:

- Underground power and telephone lines cross under I-85 at various locations. Above ground power and telephone lines parallel and cross I-85 as well. It will be the D/B Team's responsibility to coordinate with the utility owners who will handle the utility conflicts within the project limits.
- The city of Charlotte has a 36" sewer line that crosses the project under the bridges carrying I-85 over Mallard Creek. It will be the responsibility of the D/B Team to coordinate, design and construct the sewer line connections.
- The D/B Team will be responsible for getting power to the lighted overhead signs.

#### Pedestrian and Bicycle Accommodations:

- A proposed greenway along Mallard Creek will cross under I-85 at the existing Mallard Creek bridges. The greenway is being designed by the NCDOT Bicycle and Pedestrian Division as project E-3810. The D/B Team will coordinate with the NCDOT Bicycle and Pedestrian Division to insure the widening of the Mallard Creek bridges will not interfere with the proposed greenway.

#### Intelligent Transportation Systems:

- Several ITS items will be installed along I-85 as part of this project, including cameras, fiber-optic cable, vehicle detection systems and overhead dynamic message signs. It will be the D/B Team's responsibility to install these devices and to have them connected to the Metrolina Regional Transportation Center.

#### Signing Work:

- Sign fabrication and installation will be the D/B team's responsibility. The Signing Unit will provide the sign designs, a concept map showing the proposed sign locations and a copy of the departments sign support software to the D/B Teams.

#### Traffic Control and Pavement Marking Work:

- A list of parameters such as lane closures, time restrictions, pavement markings and general TCP guidelines will be developed for the short-listed teams.
- Traffic Control Plans will be developed by the D/B team and will have Division 10 approval.

#### Traffic Signal Work:

- The D/B Team will be responsible for any signal upgrades either temporary or permanent.

#### Roadside Environmental Work:

- An erosion Control Plan prepared using NCDOT standards must be reviewed and approved by the Roadside Environmental Unit before any land disturbing activities can take place.

- The D/B Team must have a full time erosion control inspector on the project. As part of the erosion control scope of work, they are considering penalties for NOV's and lack of response in maintaining the erosion control devices and on the flip side, offering bonuses for doing a good job.

Lighting:

- The D/B Team will be responsible for the design of a lighting system for the project.

CEI Work:

- The D/B Team will be responsible for CEI work.

Foundation Design:

- The D/B Team will be responsible the preparation of a Foundation Design Recommendation Report to be used in designing structure foundations, roadway foundation, retaining walls, sound barrier foundations and temporary structures for this project.

Construction Cost:

- The latest estimated construction cost for the project is estimated at \$65,500,000.