US 41 (SR 45/Nebraska Avenue)

From Kennedy Boulevard to Hillsborough Avenue

Resurfacing, Restoration, And Rehabilitation (RRR)
FPID: 255853-1-52-01

Presented By: Claudia P. Coll, E.I.
Date: August 1, 2006

Overview

- Project History
- Existing Conditions
- Scope of Work
- Proposed Typical
- Pavement Design
- Drainage Design
- Signalization, Signing and Markings
- Utility Conflicts
- Construction Funding
- Production Efforts
- Schedule
- Project Contacts
- Questions

Project History

Nebraska Avenue @ Emily Street

Nebraska Avenue

Brick Road with Asphalt Pavement Overlays

- 1937 Brick widening (no asphalt used)
- 1978 Asphalt overlay (3”)
- 1980 Columbus Drive intersection improvement
- 2005 Asphalt overlay to 6’ outer travel lanes
- Multiple asphalt overlays and maintenance/repairs

Existing Conditions

Nebraska Avenue

Nebraska Avenue

- Parabolic Section
  - Granite Curbs
  - Concrete Sidewalks
- 4-lane, Undivided Roadway
- Narrow Travel Lanes (9’-12’ width)
- Obsolete Drainage System
- Obsolete Utility Corridor

Scope of Work

Nebraska Avenue @ Twiggs Street

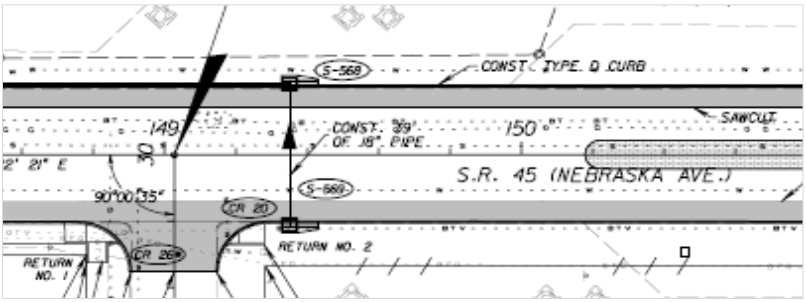
Nebraska Avenue @ 7th Avenue

Project Focus

- Pavement Rehabilitation
- ADA Improvements
- Drainage Improvements
- Signalization
- Signing and Pavement Markings
- Streetscape and Landscaping

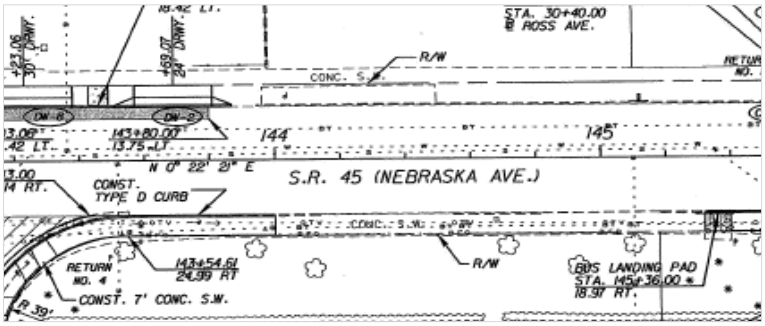
Original Roadway Scope

- Reconstruct 6' of outside lanes for entire project
- Mill mainline 2.75" - 3.25" average depth (inside lanes)
- Construct new curb and sidewalk for entire project



Revised Roadway Scope

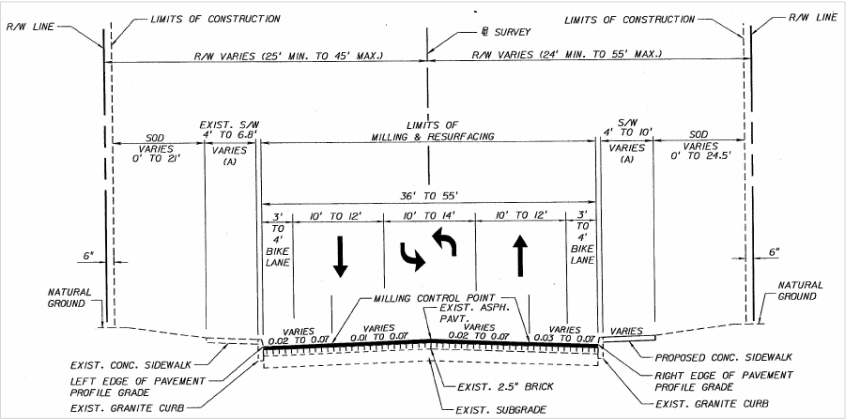
- Reconstruct 4’-10’ of outer lane in areas of major drainage concern
- Mill mainline 2.5” average depth (all lanes)
- Construct curb and sidewalk where broken or non-ADA compliant



Proposed Typical Section

3-Lane Typical Section

- 10’ to 14’ Center Opposing Left-Turn Lane
- 10’ to 12’ Travel Lanes
- 4’ Bicycle Lanes



Pavement Investigation - 2006

Core taken from outside lane
(4.5” to top of Brick)

Reflective Cracking

Pavement failure exposing
brick base and signal loops

Pavement Design

Two Bid Options:

- **Conventional Milling and Resurfacing**
  - Mill 2.5”
  - Resurface with:
    - Type SP Structural Course (Traffic level C) (1.0”)
    - Friction Course FC-12.5 (1.5”) (Rubber)

- **Reworked Asphalt Concrete**
  - Mill 1.5” (Conventional Method)
  - Construct Reworked Asphalt 1.0” and Friction Course FC-12.5 (1.5”) (Rubber)

Nebraska Avenue – Existing Conditions

Reworked Asphalt Concrete

Hot-in-place Recycling (HIPR) Machine

(Enviro-Paver R1015 model 2004)

- Operates at 22’ per minute
- Paves at a width of 14’
- Working length of 60’5”

ADA Improvements

Non-ADA compliant sidewalk

Non-ADA compliant curb ramps

Obsolete Drainage

Existing Drainage Inlet:

- Originally built 9” opening
- Reduced to 2” opening

Nebraska Rain Event Presentation

Existing Drainage Inlet:

- Originally built 9” opening
- No opening

Drainage Design

Design Update

- Critical drainage areas
- Design modification challenges
- Utility conflict issues

Signalization Improvements

New Mast Arms

- Three Intersections
  - Lake Avenue
  - Osborne Avenue
  - Scott Street

New Pedestrian Signals

- Nine Intersections
  - Cass Street
  - Henderson Avenue
  - 7th Avenue
  - Palm Avenue
  - Columbus Drive
  - Floribraska Avenue
  - Dr. Martin Luther King, Jr. Boulevard
  - Chelsea Avenue
  - Twiggs Street

Nebraska Avenue @ 7th Avenue

Signing & Pavement Markings

Intersection Improvements

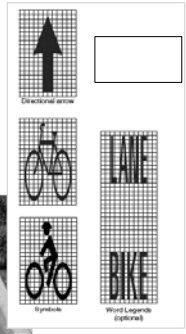
•Enhanced pedestrian features
•Crosswalk striping
•Crosswalk signs

Project Safety Improvements

• Marked bicycle lanes

Transit Enhancements

• 53 Bus stop locations
• 32 Designated bus bays



Marked Bicycle Lanes

Streetscaping & Landscaping

Aesthetic Enhancements

- Streetscape features
  - Raised grass medians
  - Stamped-brick patterned crosswalks
- Future landscape and irrigation

Decomark

Nebraska Avenue N. of Twiggs Street

Utility Conflicts

CONFLICT	SOLUTION
Utility pole locations	Bicycle lanes provide 4’ buffer
Underground utilities	New drainage design minimizes relocations
ADA compliance	Relocate utility poles
Construction schedule	Advanced relocation on-going

Construction Funding

Original Estimate: $ 12.6 M

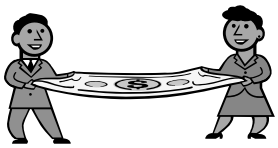
Contractor's Bid Amount: $ 34.5 M

Re-Design Objective:

- Target bid amount $11.02 M

Cost Control Strategy:

- Implement optional bid Items
- Reduce significant roadway and drainage items
- Reduce construction duration
- Reduce existing utility conflicts
- Reduce utility JPA's from four to two



Production Efforts

Design Completion Effort:

- 1648 Man-hours
- 432 Plan Sheets

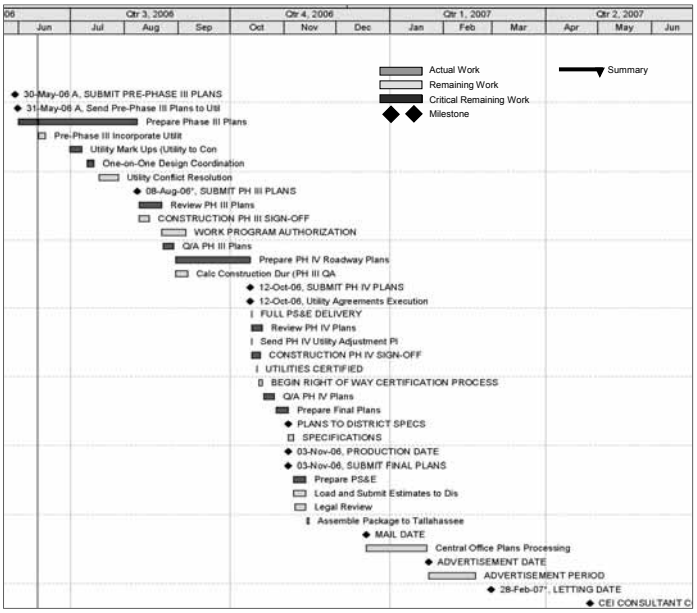
Department Actions:

- Dedicated In-House Design Team
- GEC Support
  - Traffic control plans
  - Roadway computation booklet
- Concurrent Utility Coordination

Plans Production Schedule

- Pre-Phase III Submittal — May 31, 2006
- Phase III Submittal (90%) — Aug. 8, 2006
- Phase IV Submittal (100%) — Oct. 12, 2006
- 1st Mail (Specs./Legal Review) — Nov. 3, 2006
- 2nd Mail (Plans to Tallahassee) — Dec. 18, 2006
- Revised Letting Date — Feb. 28, 2007

Schedule



Construction Schedule

	Original Design *Estimated*	**Revised Design** *Estimated*
Duration	1050 Days	580 Days
Begin Construction	December 2005	May 2007
End Construction	July 2008	December 2008

Project Contacts

Scott W. Collister, P.E.
Director of Transportation Development
Direct: (813) 975-6133
Email: scott.collister@dot.state.fl.us

John Escobio
Project Manager
Direct: (813) 975-6418
Email: john.escobio@dot.state.fl.us

Florida Department of Transportation
11201 N. McKinley Drive
Tampa, Florida 33612-6456
Main: (813) 975-6000
Toll Free: (800) 226-7220