

AMERICAN SOCIETY OF HIGHWAY ENGINEERS

National Project of the Year Award

OFFICIAL ENTRY FORM

AWARD CATEGORY (Check One):

☑ Under \$20 Million

□ Over \$20 Million

SPONSORING REGION (Check One):

- Northeast
- □ Mid-Atlantic
- □ Southeast

Great LakesNorth CentralSouth Central

- □ Northwest
- Rocky Mountain

□ Southwest

TYPE: <20 Million

CONTACT INFORMATION FOR SUBMITTING REGION:

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 Scott R. Eshenaur
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 Judging Committee Chairperson

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 sreshenaur@modjeski.com

 ext. 10422
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PROJECT INFORMATION:

ENTERING AGENCY/COMPANY'S NAME: McCormick Taylor

PROJECT NAME: Route 44 Truck Bypass and DuPont Port Access

PROJECT LOCATION: Route 44 Truck Bypass and DuPont Port Access

 PROJECT ASHE SECTION:
 ASHE NCNJ / SNJ
 ASHE SECTION CONTACT NAME:
 Stella Karcnik

 PHONE (OFFICE):
 609 512 3475
 PHONE (MOBILE):
 609 751 6865
 E-MAIL:
 Stella.Karcnik@wsp.com

PROJECT TEAM:

OWNER

Name: Gloucester County Improvement Authority Contact Person: Mario Christina Address: 109 Budd Blvd, Woodbury, NJ 08096 Phone: 856.848.4002

DESIGNER

Name: McCormick Taylor, Inc. Contact Person: Vittorio Anepete, PE Address: 700 East Gate Dr, Suite 201, Mt Laurel, NJ, 08054 Phone: 856.206.5300

CONTRACTOR Name: R.E. Pierson Construction Contact Person: Mike Capasso Address: 426 Swedesboro Rd, Pilesgrove, NJ 08098 Phone: 856.769.8244

Entry Form Completed By: Stella Karcnik, ASHE NC NJ POY Comitee chair

Date: 2/8/2023



Project Description

Role of McCormick Taylor and Other Consultants

McCormick Taylor was responsible for the Concept Development, Preliminary Engineering, and Final Design associated with the construction of a new 0.60-mile truck bypass roadway in western Gibbstown to reduce truck traffic traveling through residential communities and increase quality of life and safety. As part of Final Design phase services, KMA Consulting Engineers, Inc. provided supplemental and right-of-way surveys, subsurface utility engineering (SUE), geotechnical engineering, and pavement design. Dresdner Robin performed a hazardous waste investigation and prepared a Materials Management Plan. RGA, Inc. performed Phase 1A and Phase 1B archaeological surveys and Amy Greene Environmental (now Davey Resource Group) performed an ecology study to support the EO215.

Complexity

During the Local Concept Development (LCD) Study, McCormick Taylor evaluated existing and future nobuild conditions within the project area, prepared a project purpose and need statement, developed and analyzed alternatives for a Route 44 truck bypass that would also provide access to the Repauno site, and selected a Preliminary Preferred Alternative (PPA). During the Preliminary Engineering and Final Design Phases, this PPA was advanced to construction.

McCormick Taylor also provided extensive utility coordination and developed schemes of accommodation for six impacted companies, including Sunoco Pipeline, South Jersey Gas, Atlantic City Electric, AT&T, Greenwich Township Public Works, and Delaware River Partners. Detailed coordination was required to identify and avoid impacts to a not-in-service hydrogen line and a well that provided water to the entire redevelopment site. The project included preparation of jurisdictional limit maps, design exception approval, and highway lighting design. Structural design included the design of steel sheet pile retaining walls to limit the lateral extent of filling, concrete barrier with moment slabs, and revised slope protection at the existing Route 44 overpass. Lightweight fill was proposed on the existing culvert over Sand Ditch to avoid increasing the dead load on the structure.

The project also included the design of a new at grade railroad crossing. McCormick Taylor coordinated with NJDOT Bureau of Railroad Engineering Services and Conrail to obtain approval of the proposed crossing and warning devices. McCormick Taylor scheduled the Railroad Diagnostic Team Meeting on site with NJDOT, the Assistant County Engineer, Local Emergency Management Officials, Conrail, and DuPont Port Owners. The Memorandum of Record and the Permissive Order were obtained from NJDOT.



New Application of Existing Technologies/Originality/Innovation

The PPA was selected through a careful balance of providing desirable design elements (e.g. design speed, cross-section, curve radii, profile, etc.) and minimizing project impacts and costs. Major constraints driving the alignment of the bypass included impacts to residential Gibbstown, environmental resources, existing utilities, and railroad infrastructure. The PPA was able to maintain all existing structures. McCormick Taylor was able to modify the slope protection of the existing Route 44 Bridge over Conrail to pass the northbound ramp under the first span of the bridge. The team was also able to utilize lightweight fill over the existing culvert over Sand Ditch to provide a widened roadway section with concrete barriers and moment slabs without impacting the culvert.

Social/Economic Considerations

The former DuPont site is being redeveloped into the Repauno Port & Rail Terminal and will play a vital role in the future economic success of South Jersey and the region. The port is located on the Delaware River and is served by Conrail with access to CSX and Norfolk Southern. The addition of the bypass provides easy access to I-295 and I-95 and safely diverts truck traffic from the surrounding residential neighborhoods improving the health, safety, and welfare of the residents.

Safety

Without a truck bypass, traffic traveling to/from the DuPont site was forced to go through a residential neighborhood along Repauno Avenue to access Route 44 or Democrat Road. Route 44 (Broad Street) is essentially Gibbstown's downtown Main Street. An analysis of future no-build conditions (without construction of a bypass) indicated that the Route 44 and Repauno Avenue intersection would operate at level of service (LOS) F with excessive delays (approximately four minutes). Traffic operations along the surrounding roadway network would also be degraded, with the unsignalized intersection at Swedesboro Road and Democrat Road (currently a flashing beacon) anticipated to operate at LOS F due to the trips generated by the proposed port redevelopment. Ten right-angle crashes were reported at this intersection during the most recent three-year period. Therefore, safety was also a concern with the increase in traffic volumes, especially with the expected heavy truck traffic. The proposed bypass permitted all port bound traffic from interstate and arterial connections to the south to be diverted to the port prior to entering downtown.



Aesthetics and Sustainable Features

The proposed alignment and profile increase utilized steel sheet piling retaining walls to limit tree clearing and contain impacts to the adjacent wetlands. The NJDEP Natural Heritage Program (NHP) identified a nest and foraging habitat for the State Endangered Bald Eagle within the immediate vicinity of the project. Sand Ditch also appeared to support populations of potential warm water forage fish species. The project maintained existing structures limiting additional disturbance, wetland, riparian, and ecological impacts around Sand Ditch and throughout the project. Much of the surrounding vegetation was maintained providing a buffer to adjacent residential areas. While much of the alignment is buffered from residential views, steel sheet piling was coated with black epoxy and capped with concrete coping to provide a clean finished appearance.

Meeting and Exceeding Owner's/Client's Needs

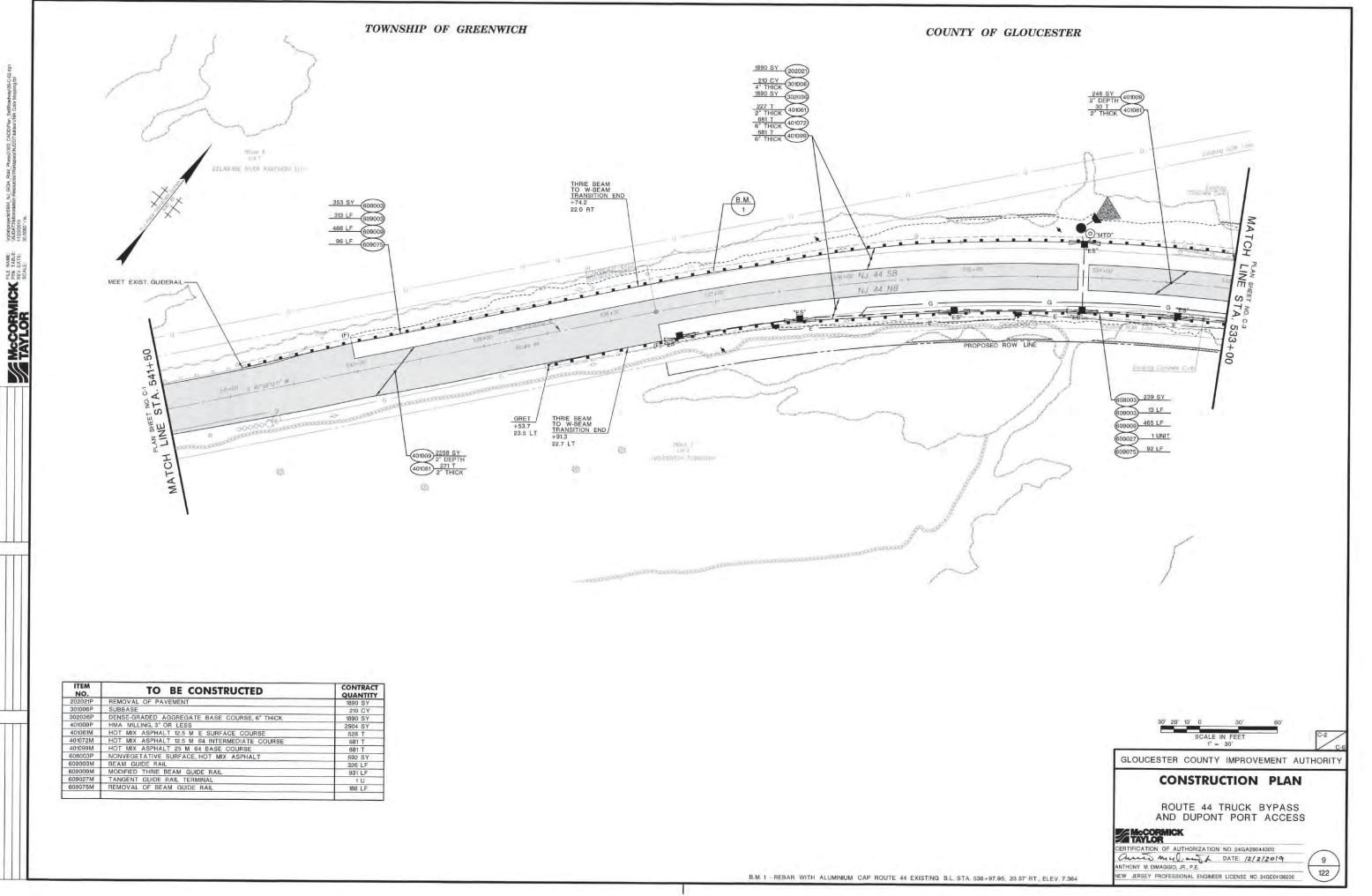
Gloucester County Improvement Authority, Gloucester County Engineering Department, and NJDOT Local Aid were engaged throughout Concept Development, with selection of the PPA, and through Preliminary Engineering and Final Design. The PPA was selected as a cost-effective solution that limited impacts to the existing structures along Route 44, while minimizing utility and environmental impacts. The project was completed on schedule and under original cost estimates from Concept Development. The Preliminary and Final Design phases were combined to accelerate the design of the project. The entire project from the beginning of Concept Development through completion of Construction was completed within four years.

Total Project Construction Budget Cost: \$9.8 Million

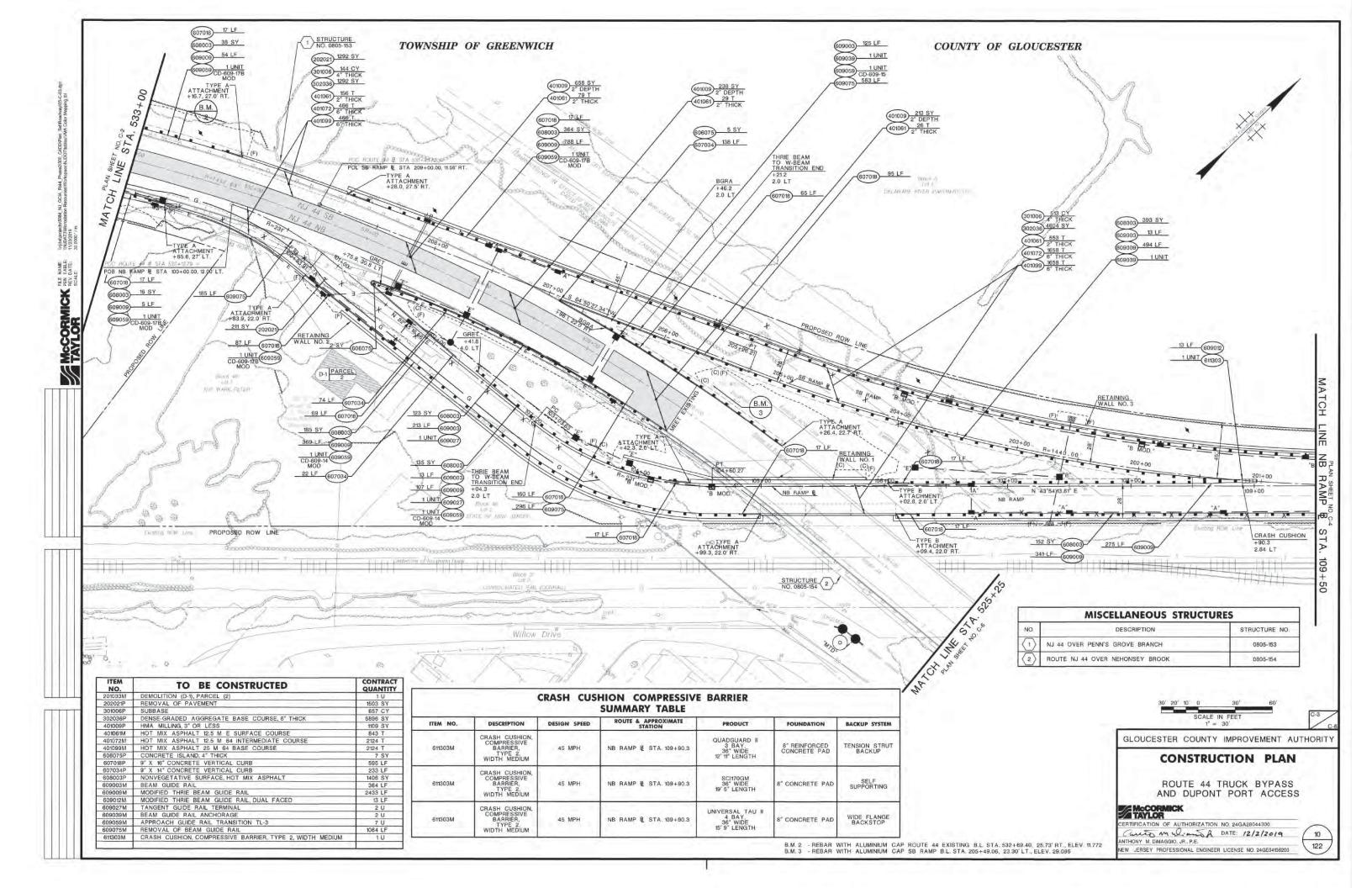
Total Project Construction Actual Cost: \$9.8 Million Entrant's Portion of Total Budget Cost: \$829,000

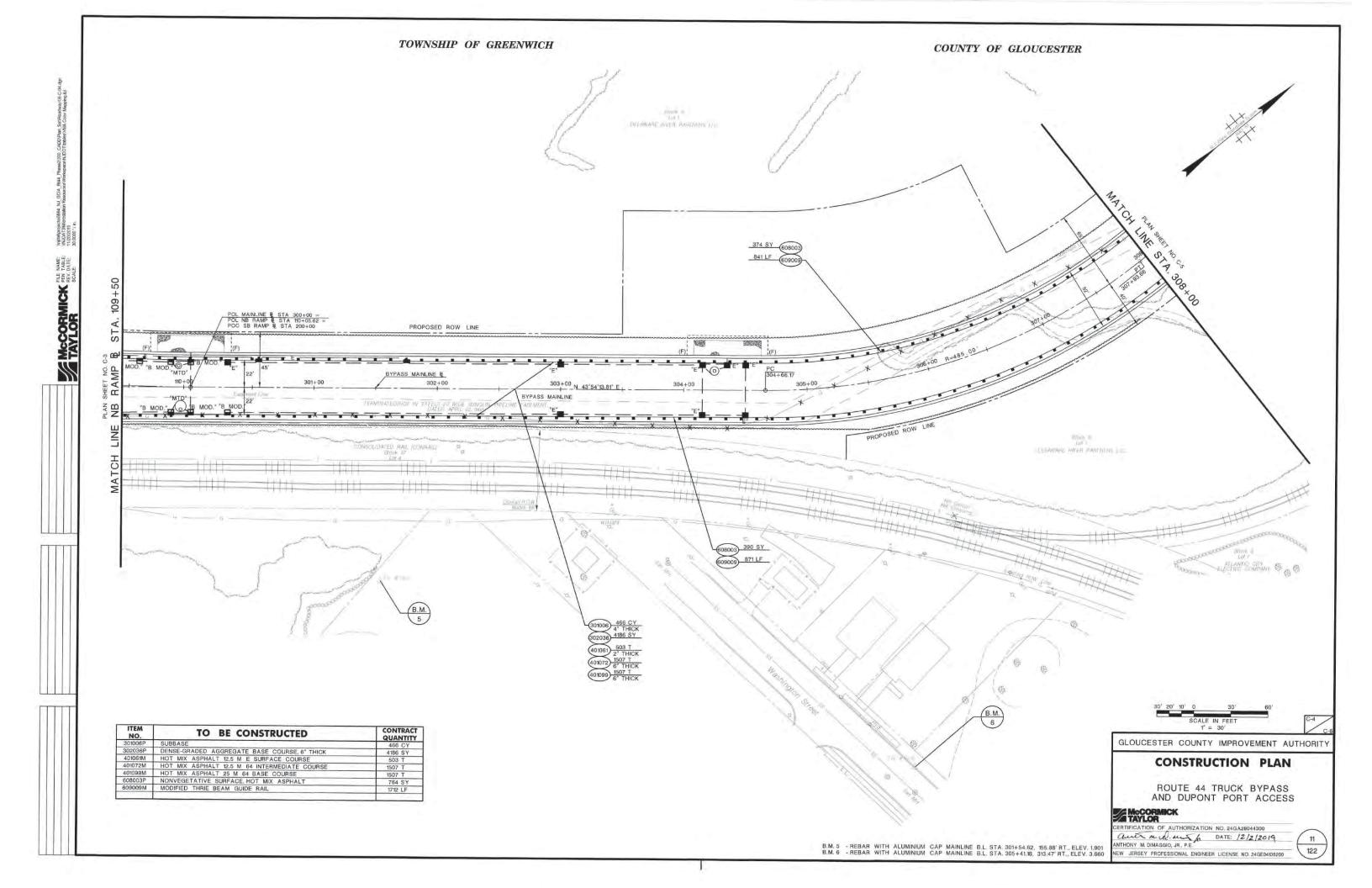
Entrant's Portion of Total Actual Cost: \$829,000 Project Scheduled Date of Completion: May 2021

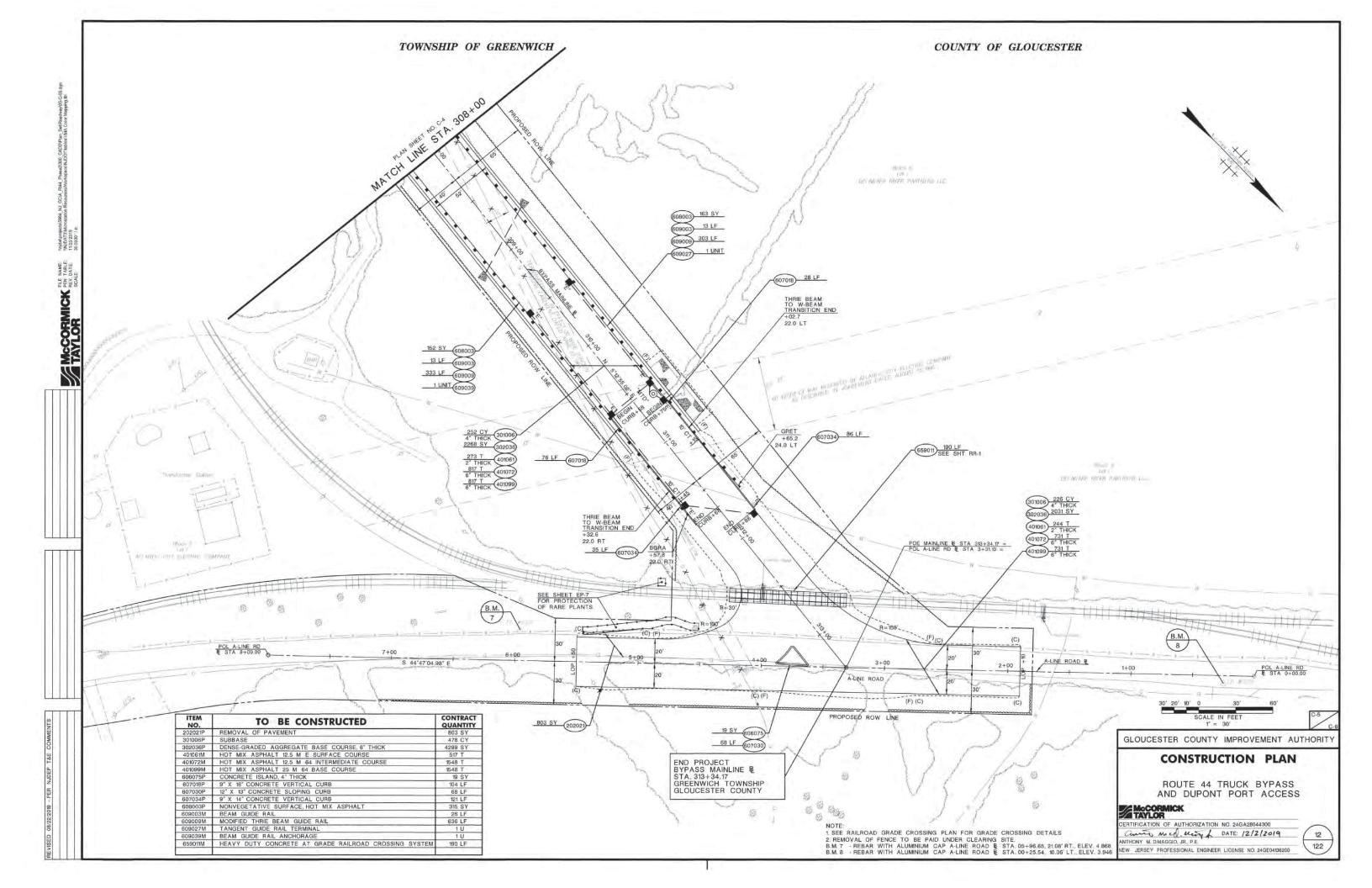
Project Actual Date of Completion: July 2021

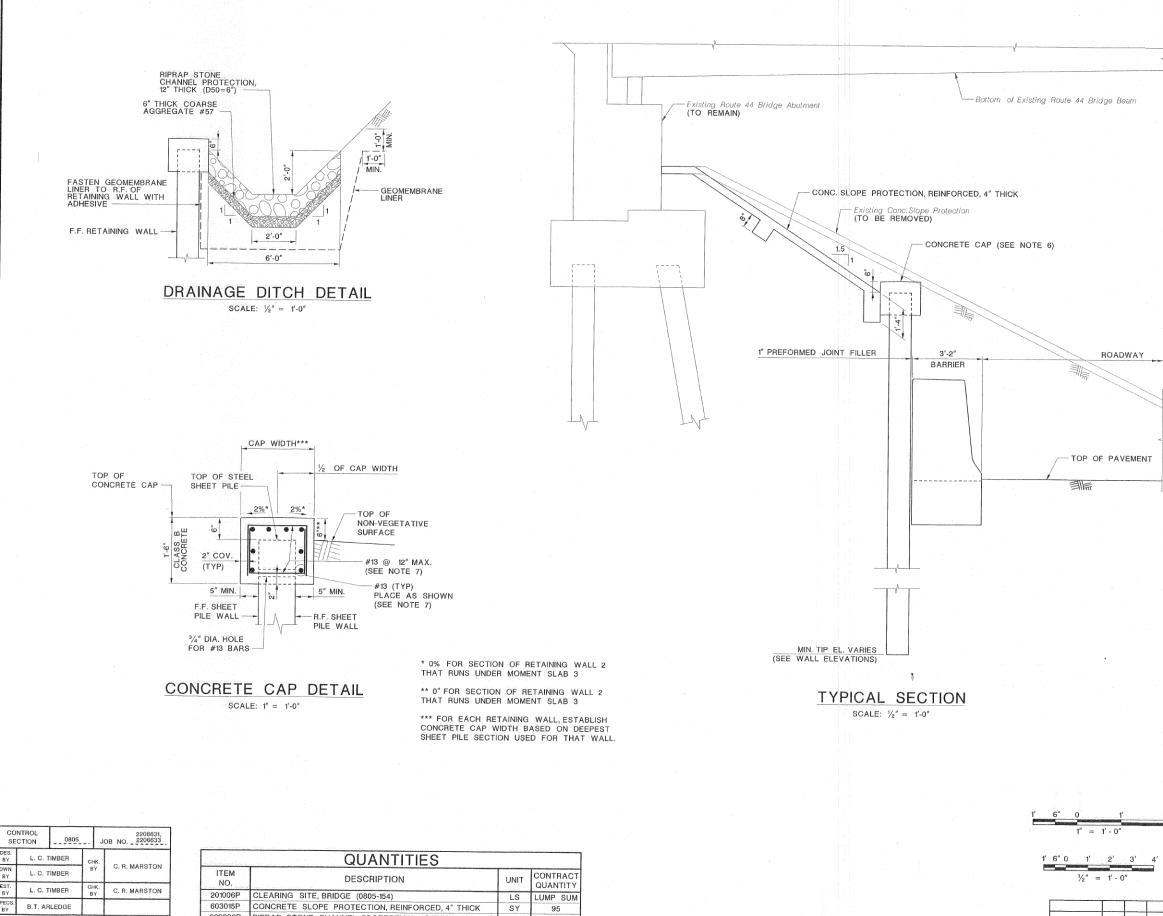


ITEM NO.	TO BE CONSTRUCTED	CONTRACT
202021P	REMOVAL OF PAVEMENT	1890 SY
301006P	SUBBASE	210 CY
302036P	DENSE-GRADED AGGREGATE BASE COURSE, 6" THICK	1890 SY
401009P	HMA MILLING, 3" OR LESS	2504 SY
401061M	HOT MIX ASPHALT 12.5 M E SURFACE COURSE	528 T
401072M	HOT MIX ASPHALT 12.5 M 64 INTERMEDIATE COURSE	681 T
401099M	HOT MIX ASPHALT 25 M 64 BASE COURSE	681 T
608003P	NONVEGETATIVE SURFACE, HOT MIX ASPHALT	592 SY
609003M	BEAM GUIDE RAIL	326 LF
609009M	MODIFIED THRIE BEAM GUIDE RAIL	931 LF
609027M	TANGENT GUIDE RAIL TERMINAL	10
609075M	REMOVAL OF BEAM GUIDE RAIL	188 LF









IN CHARGE OF CLAUP Dans

NAME: FABLE: DATE:

FILE PEN REV.

603036P RIPRAP STONE CHANNEL PROTECTION, 12" THICK (D50=6") SY 77

REVISION B

VEMENT				
	NOTES:			
	1. FOR GENERAL NOTES, SEE SHEET NO. B-3.			
	2. FOR LEGEND OF ABBREVIATIONS, SEE SHEET NO. B-3.			
	 FOR RETAINING WALL NO. 1 BARRIER DETAILS AND REINFORCEMENT, SEE SHEETS NO. B-24 AND B-25. REMOVAL OF EXISTING CONCRETE SLOPE PROTECTION IS INCLUDED UNDER PAY ITEM "CLEARING SITE, BRIDGE (0805-154)". 			
 SEE NJDOT STANDARD BRIDGE CONSTRUCTION DETAIL BCD-603-1 FOR CONCRETE SLOPE PROTECTION DETAILS. CONTRACTOR TO FIELD VERIFY TOP OF CONCRETE CAP ELEVATIONS BASED ON PROPOSED CONCRETE SLOPE PROTECTION ELEVATIONS MAKE NECESSARY ADJUSTMENTS TO TOP OF WALL ELEVATIONS IN ORDER TO PROVIDE 6" PROJECTION ABOVE FINISHED CONCRETE SLOPE PROTECTIO 				
	8. FOR DRAINAGE DITCH LOCATIONS, SEE SHEET NO. B-4 AND B-7.			
	GLOUCESTER COUNTY IMPROVEMENT AUTHORITY			
2'	RETAINING WALL NO. 1 SECTIONS			
3' 4')"	ROUTE 44 TRUCK BYPASS AND DUPONT PORT ACCESS			
C'K'D DATE	McCORMICK TAYLOR, INC. CERT. OF AUTHORIZ. NO. 24GA28044300 Chang U. Chung, Pje. N.J. LIC. NO. 24GE04311400 BRIDGE SHEET NO. B-8 OF B-36 B-36			

STATE	FEDERAL PROJECT NO.	CT NO. SHEET TOTAL SHEETS		
N. J.		94	122	



Photo 1 - Clearing site for proposed Route 44 Truck Bypass alignment. Staging of proposed Atlantic City Electric steel transmission poles.





Photo 2 - Construction of southbound ramp to Route 44. View from Route 44 overpass looking southbound.



Photo 3 - Completed Route 44 Truck Bypass looking northbound from Route 44. The southbound ramp to Route 44 is shown on the left. The northbound ramp to the port is shown on the right.



Photo 4 - Northbound ramp passing under first span of the existing Route 44 railroad overpass. Modified slope protection and steel sheeting retaining wall to the left. Conrail tracks to the right under the middle span.

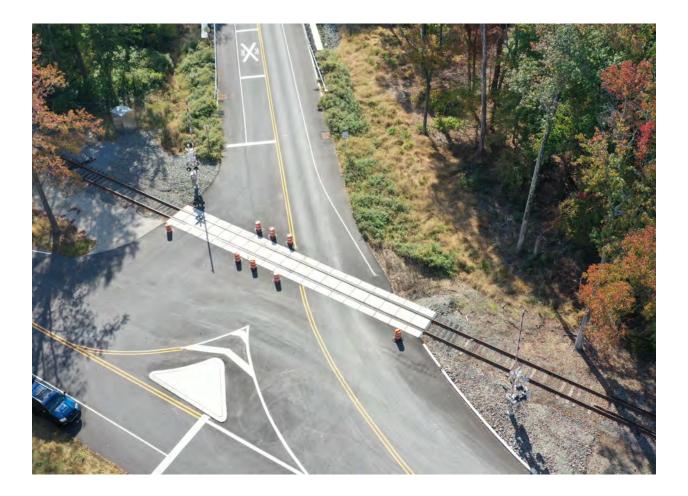


Photo 5 - Proposed railroad grade crossing at connection to existing A-Line Road.

November 9, 2021

Mr. Joseph Fiordaliso, President American Council of Engineering Companies of New Jersey 310 West State Street Trenton, NJ 08618

Dear Mr. Fiordaliso,

We hereby grant permission to enter the Route 44 Truck Bypass and DuPont Port Access project in the 2022 ACECNJ Engineering Excellence Awards Program. We are pleased with the work of McCormick Taylor, Inc. and enthusiastically support the nomination of this important project.

The project involved the construction of a new 0.60-mile truck bypass roadway that ties into existing Route 44 in western Gibbstown, NJ. Without a truck bypass, traffic traveling to/from the DuPont site was forced to go through a residential neighborhood along Repauno Avenue to access Route 44 or Democrat Road. The bypass diverts truck traffic prior to Gibbstown's downtown corridor improving safety and quality of life for residents.

The design time of the project was significantly compressed by combining phases with each phase taking only six months. The further development of the port was tied to local approvals requiring that the bypass project be completed. The project unlocked the further development of the port, which is a vital to the economic success of the local community and region. We authorize the publication of the project and we agree that the project is substantially completed and in use.

Please contact me if you have any questions.

Sincerely,

Mario Christina Project Manager Gloucester County Improvement Authority



February 9, 2023

ASHE Northeast Region

Subject: ASHE National Project of the Year Application and Commitment Statement

Hello,

We are pleased to submit the Route 44 Truck Bypass and DuPont Port Access Project for the under \$20M category of the ASHE 2023 National Project of the Year. Enclosed you will find the following:

- Project Entry Form
- Project Narrative
- Five Photos
- Five Construction Drawings
- Verification of Substantial Completion

The submittal has been formatted in accordance with the application guidelines. With this application we are committed, if chosen for this award, to attend the awards luncheon at the 2023 National Conference.

Thank you for your consideration in reviewing ASHE NC-NJ, SNJ, and the Northeast Region's nomination for the ASHE National Project of the Year. Please don't hesitate to contact us with questions.

Sincerely,

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Anthony M. DiMaggio, PE, PTOE Director, Transportation Engineering