

ROUTE 55 FREEWAY EXTENSION FEASIBILITY STUDY

Atlantic County, Cape May County and Cumberland County

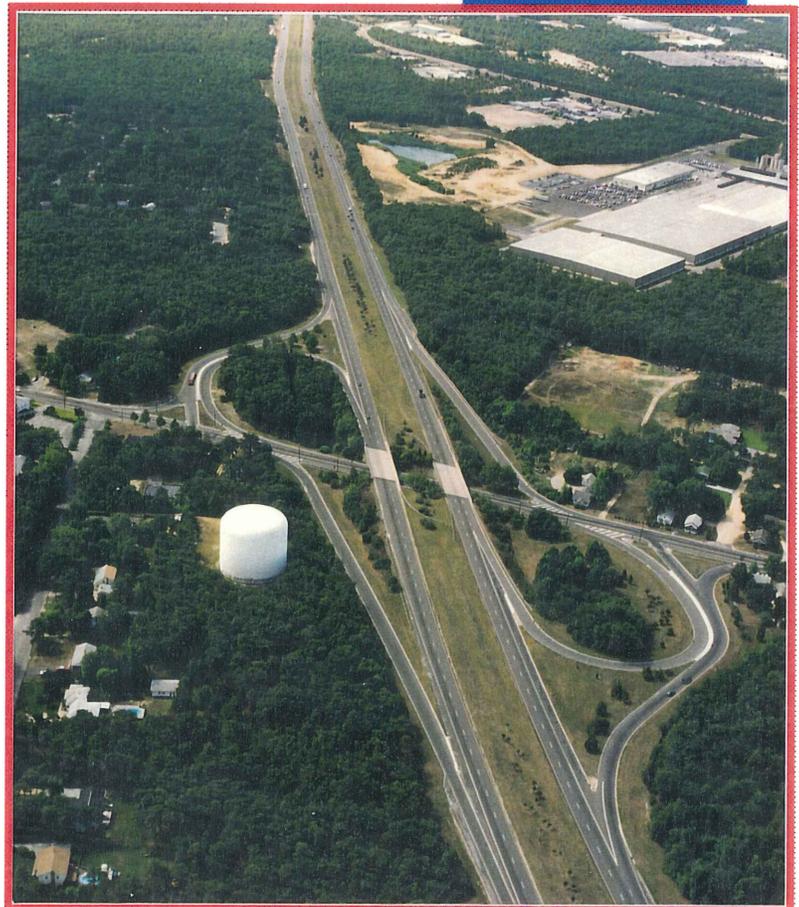
prepared by:



State of New Jersey
Department of Transportation
Bureau of Preliminary Engineering

Technical Memorandum #2

Land Service Improvements and Bypasses



in association with

Gannett Fleming, Inc.
Taylor, Wiseman & Taylor, Inc.
New Jersey Department of Transportation
Bureau of Environmental Analysis

December 1993

0203201611

**State of New Jersey
Department of Transportation**

***ROUTE 55 FREEWAY EXTENSION
FEASIBILITY STUDY***

Technical Memorandum No. 2

Land Service Improvements and Bypasses

January 25, 1994

prepared by:

NJDOT Bureau of Preliminary Engineering

in association with:

**Gannett Fleming, Inc.
Taylor, Wiseman & Taylor, Inc.
NJDOT Bureau of Environmental Analysis**

HOW TO USE THIS MANUAL

This Manual is the second in a series of four (4) Technical Memoranda, each one devoted to a particular aspect of the Route 55 Freeway Extension Feasibility Study. The titles of the four memoranda are as follows:

Technical Memorandum No. 1: Freeway Alignments

Technical Memorandum No. 2: Land Service Improvements and Bypasses

Technical Memorandum No. 3: Environmental Constraints

Technical Memorandum No. 4: Needs Assessment and Traffic Data

The information contained within each of the above mentioned memoranda has been summarized in a Final Summary Report.

Technical Memoranda No. 1 & 2 present ten (10) alternative courses of action that attempt to satisfy the Project Need. These memoranda are most useful for determining future conditions should one of the alternates be constructed. Technical Memoranda No. 3 & 4 describe the existing traffic conditions and environmental constraints in detail and define the Project Need. These are most useful for obtaining information regarding existing conditions.

There are two major categories that separate the ten alternates. The first category assumes that a 20± mile four lane extension of Route 55 is constructed along a new alignment that closely parallels the existing Route 47/670/83 corridor. Two alternates (Alternatives 1 & 2) are presented under this category and are described in Technical Memorandum No. 1: Freeway Alignments.

The second major category assumes that several existing roadways within the study limits could be upgraded in lieu of the construction of a Route 55 Extension. Due to the vast number of possibilities this category presents, the category was further broken down into three (3) separate schemes. Scheme 1 provides for the existing Route 47/670/83 corridor to remain as a two lane roadway, but both horizontal and vertical alignment deficiencies are rectified and bypasses of the towns of Port Elizabeth and Dennisville are provided. Scheme 1 is represented by alternatives 3 and 4. Scheme 2 is similar to Scheme 1 except that the existing two lane roadways would be expanded to four lanes. Scheme 2 is represented by Alternatives 5, 5A, 6, and 6A. Finally, Scheme 3 provides for a two lane upgrade along the Route 49/50 corridor and is represented by Alternatives 7 and 7A. All of these alternates are presented and described in Technical Memorandum No. 2: Land Service Improvements and Bypasses.

Both the new freeway extension and the Route 47/670/83 corridor traverse highly sensitive environmental areas and will impact both residential and commercial properties. To simplify the analysis of each alternate's impacts on these resources, the freeway extension and the Route 47/670/83 corridor were divided into four segments labelled A, B, C, and D.

In order to see what impacts each of the alternatives will have on a given area, first determine whether the area in question is nearest to the Route 47/670/83 corridor or the Route 49/50 corridor (refer to the Project Location Map, Plate I, located in Section I of Technical Memorandum No. 1 & 2). If the area in question is along the Route 49/50 corridor, refer to Section III of Technical Memorandum No. 2. If the area in question is closest to the Route 47/670/83 corridor, refer to Plate 2 in Section I of either Technical Memorandum No. 1 or 2 and determine which Segment (A, B, C, or D) the subject area is contained within. Then refer to Section II of both Technical Memoranda No. 1 and 2 to compare the impacts each of the eight applicable alternatives will have on the area in question.

Note that each alternative is summarized on two pages. The first page gives a brief description of the alternate within the limits of the segment as well as design parameters (typical section, design speed, etc.), serviceability (Levels of Service), and a description of significant intersection improvements and/or interchanges that will be required. The second page is a tabulation of environmental impacts, including impacts to cultural resources, endangered species, wetlands, contamination sites, and socioeconomic, land use, and visual constraints.

TABLE OF CONTENTS

Section I: Introduction

Environmental Impacts & Needs Assessment	1
Scheme I - 47/670/83 Corridor: Two Lane Upgrade	2
Horizontal Alignment	3
Vertical Alignment	3
Bypasses	4
Localized Geometric Improvements	5
Scheme II - 47/670/83 Corridor: Four Lane Upgrade	5
Horizontal Alignment	6
Vertical Alignment	7
Bypasses	8
Route 47 and Route 83 Intersection Improvements	9
Route 83 and Route 9 Intersection Improvements	10
Interchanges	12
Scheme III - 49/50 Corridor: Two Lane Upgrade	16
Horizontal Alignment	16
Vertical Alignment	17
Tuckahoe Bypass	17
55/49 Interchange Improvements	17
Routes 50/9 Intersection Improvements	18
Typical Intersection Improvements	18

Section II: 47/670/83 Corridor - Land Service Alternates

Study Limits for Segments A, B, C, & D	26
Study Segment A	27
Alternative 3	30
Alternative 4	32
Alternative 5	34
Alternative 5A	36
Alternative 6	38
Alternative 6A	40
Study Segment B	48
Alternative 3	51
Alternative 4	53
Alternative 5	55
Alternative 5A	57
Alternative 6	59
Alternative 6A	61

Study Segment C	69
Alternative 3	72
Alternative 4	74
Alternative 5	76
Alternative 5A	78
Alternative 6	80
Alternative 6A	82
Study Segment D	90
Alternative 3	93
Alternative 4	95
Alternative 5	97
Alternative 5A	99
Alternative 6	101
Alternative 6A	103
Route 47/670/83 Corridor: Preliminary Design Study	XXX

Section III: 49/50 Corridor - Land Service Alternates

Alternative 7	114
Alternative 7A	116
Route 49/50 Corridor: Preliminary Design Study	XXX

Section IV: Appendices

- Appendix A: Cost Estimate
- Appendix B: Environmental Constraints
- Appendix C: Letters of Public Interest

LIST OF TABLES

Table A-1: "Alternate Configurations (Segment A)"	29
Table B-1: "Alternate Configurations (Segment B)"	50
Table C-1: "Alternate Configurations (Segment C)"	71
Table D-1: "Alternate Configurations (Segment D)"	92

LIST OF MAPS

Plate 1: "Project Location Map"	21
Plate 2: "Land Service Improvements: Route 47/670/83 and Route 49/50 Corridor"	22-25

LIST OF ILLUSTRATIONS

47/670/83 Corridor: Segment A Illustrations

Plate A-1: "Study Limits for Segment A"	28
Plate A-2: "Historic Architecture (Segment A)"	42
Plate A-3: "Endangered Species (Segment A)"	43
Plate A-4: "Wetlands Emphasis (Segment A)"	44
Plate A-5: "CAFRA and Pinelands (Segment A)"	45
Plate A-6: "Parks, Forests, & Gamelands (Segment A)"	46
Plate A-7: "Composite Overlay (Segment A)"	47

47/670/83 Corridor: Segment B Illustrations

Plate B-1: "Study Limits for Segment B"	49
Plate B-2: "Historic Architecture (Segment B)"	63
Plate B-3: "Endangered Species (Segment B)"	64
Plate B-4: "Wetlands Emphasis (Segment B)"	65
Plate B-5: "CAFRA and Pinelands (Segment B)"	66
Plate B-6: "Parks, Forests, & Gamelands (Segment B)"	67
Plate B-7: "Composite Overlay (Segment B):	68

47/670/83 Corridor: Segment C Illustrations

Plate C-1: "Study Limits for Segment C"	70
Plate C-2: "Historic Architecture (Segment C)"	84
Plate C-3: "Endangered Species (Segment C)"	85
Plate C-4: "Wetlands Emphasis (Segment C)"	86
Plate C-5: "CAFRA and Pinelands (Segment C)"	87
Plate C-6: "Parks, Forests, & Gamelands (Segment C)"	88
Plate C-7: "Composite Overlay (Segment C)"	89

47/670/83 Corridor: Segment D Illustrations

Plate D-1: "Study Limits for Segment D"	91
Plate D-2: "Historic Architecture (Segment D)"	105
Plate D-3: "Endangered Species (Segment D)"	106
Plate D-4: "Wetlands Emphasis (Segment D)"	107
Plate D-5: "CAFRA and Pinelands (Segment D)"	108
Plate D-6: "Parks, Forests, & Gamelands (Segment D)"	109
Plate D-7: "Composite Overlay (Segment D):	110

49/50 Corridor: Illustrations

Plate E-1: "Study Limits for 49/50 Corridor"	112-113
Plate E-2: "Historic Architecture (49/50 Corridor)"	118-119
Plate E-3: "Endangered Species (49/50 Corridor)"	120-121
Plate E-4: "Wetlands Emphasis (49/50 Corridor)"	122-123
Plate E-5: "CAFRA and Pinelands (49/50 Corridor)"	124-125
Plate E-6: "Parks, Forests, & Gamelands (49/50 Corridor)"	126-127
Plate E-7: "Composite Overlay (49/50 Corridor)"	128-129

INTRODUCTION

Two roadways are described in the "Needs Assessment" Study as alternative parallel corridors for the possible extension of the Route 55 Freeway. The two roadways are the Route 47/670/83 corridor and the Route 49/50 corridor. Routes 47, 670, and 83 are the major arterial routes for the distribution of existing Route 55 corridor traffic through Cumberland and Cape May Counties, from the terminus of the Route 55 Freeway to the Southern New Jersey resort towns. Routes 49 and 50 are also used by travellers as an access to and from the Cape May County towns.

Consideration of improvements to the existing 47/670/83 and 49/50 corridors within the study limits is the subject of Technical Memorandum No. 2: Land Service Improvements and Bypasses. The upgrading of one of these corridors would provide a more efficient means for motorists to access the seashore resort towns of Cape May County as well as alleviate traffic congestions and hazardous driving conditions during the summer tourist months. Three possible schemes are presented in this memorandum:

Scheme 1 - 47/670/83 Corridor: Two Lane Upgrade

Scheme 2 - 47/670/83 Corridor: Four Lane Upgrade

Scheme 3 - 49/50 Corridor: Two Lane Upgrade

Two alternates (alternates 3 & 4) are presented under Scheme 1, four alternates (alternates 5, 5A, 6, & 6A) are presented under Scheme 2, and two alternates (alternates 7 & 7A) are presented under Scheme 3. The main difference between alternates within Schemes 1 & 2 are the alignments of the bypasses around Port Elizabeth. Scheme 3 alternates differ by their treatment of the Route 49/Route 50 intersection.

Another scheme examined an extension of the existing Route 55 Freeway along a new alignment that parallels the 47/670/83 corridor. Two alternates (alternates 1 & 2) were analyzed under this scheme and are presented in Technical Memorandum No. 1: Freeway Alignments.

Environmental Impacts & Needs Assessment

Key environmental factors that had to be addressed for each alternate are presented in Technical Memorandum No. 3: Environmental Constraints. These factors include:

Cultural Resources - Impacts to the cultural heritage of the region had to be considered, including the affects to historic architecture (including buildings and their settings), historic districts, potentially historic buildings and bridges, documented historic and prehistoric archaeological sites, and areas that show high potential to yield archaeological resources.

Endangered Species - Serious consideration had to be made towards each alternate's affect on endangered and threatened species and their habitats.

Socioeconomic, Land Use, and Visual Constraints - Social and economic impacts, including community and business district disruption and number of residents and businesses displaced were considered for each alternate. Also, each alternate was compared to policies that govern land use in the study area, including Pinelands and CAFRA policies, Agricultural Development Area policies, policies concerning potential secondary development, and the impacts the alternates will have on parks, forests, gamelands, and wildlife refuges. Finally, the visual impact each alternate will have on local scenic corridors was addressed.

Wetlands - A considerable percentage of the land within the study area is designated as wetlands, ranging from average to high quality. Impacts to water quality and upland forests were also a concern.

Contamination Sites - Affects to potential and hazardous waste and contamination sites were examined for each alternate studied.

Each alternate also had to satisfy the project needs as set forth in Technical Memorandum No. 4: Needs Assessment & Traffic Data. Existing Levels of Service (LOS) for both average day and tourism season conditions were compared to proposed Levels of Service.

Scheme 1 - 47/670/83 Corridor: Two Lane Upgrade (Alternates 3 & 4)

The feasibility of a two (2) lane upgrade along the Route 47/670/83 corridor was evaluated as an additional option to satisfy the distribution of existing traffic through Cumberland and Cape May Counties, specifically through the towns of Port Elizabeth and Dennisville. From a traffic viewpoint, this scheme considered the upgrading of existing horizontal and vertical alignment deficiencies necessary to maintain a posted speed limit of 50 mph throughout the entire corridor. It should be noted that the implementation of this alternative by itself, will not significantly improve the current Level of Service (LOS) experienced along the corridor during the summer peak hours.

The specific locations along the noted corridor which were studied in detail are around the towns of Port Elizabeth and Dennisville, where the existing facilities during the 30 weekend days of the summer peak hours, are operating under a LOS F/E respectively. A two (2) lane bypass around the noted locations was assumed to minimize the impacts to the existing towns (see Photos 1, 2, 4, & 5).

Two (2) two lane land service alternatives along the 47/670/83 alignment were examined based upon review of the following typical section options:

Alternate 3 - two (2) lane roadway with shoulders and an easterly bypass of Port Elizabeth and a westerly bypass of Dennisville

Alternate 4 - two (2) lane roadway with shoulders and a westerly bypass of Port Elizabeth and a westerly bypass of Dennisville

Horizontal Alignment

Currently, approximately 55 percent of the existing horizontal alignment was found to be substandard for the posted speed limit of 50 mph (design speed = 55 mph) with respect to the pavement having the proper superelevation.

The deficiencies addressed with regard to the existing horizontal geometries included the improvement of selective curve radii, adequate superelevation rates, and provisions for sufficient tangent between curves, corrections which were primarily accomplished by localized realignment of the roadways within the above noted corridor. All of the existing horizontal curve information was evaluated for conformance based on the criteria predicated by the Department's Roadway Design Manual. In general, the degree of curves were selected between 0.5 degrees to 4 degrees based on the level of improvements necessary to meet minimum standards, which also kept the right-of-way acquisition to a minimum.

Utilizing all the information generated from the analysis described above and the Environmental/Socioeconomic Constraint Maps, modifications to the horizontal alignment were developed making every attempt to minimize the effects to the various environmental concerns and R.O.W. impacts, where possible. The alignment was driven by the locations of the medium and high quality wetlands, however in order to avoid substantial residential and commercial right-of-way acquisition through the towns of Port Elizabeth and Dennisville, bypass alignments were assumed which required spanning the wetlands by viaduct structures.

Vertical Alignment

Currently, approximately 70 percent of the existing vertical alignment was found to be substandard for the posted speed limit of 50 mph (design speed = 55 mph) with respect to the minimum profile grade requirements of 0.50%. Also, there exists stretches of pavement, specifically along Routes 47 and 83, which were constructed with small changes in profile grade without vertical curves, but rather points of vertical intersections (P.V.I.'s).

In order to improve the overall corridor Level of Service to a degree with the adoption of a two (2) lane upgrade, provisions for grade separated in lieu of at grade intersections have been adopted as a desirable condition for this feasibility report. Locations for the required two (2) lane bridges are listed below:

1. Route 55 over Route 47 Ramp
2. Route 55 over High Quality Wetlands and Manumuskin River
3. Route 55 over P.R.S.L. and Muskee Creek
4. Route 55 over Route 47
6. Route 55 over P.R.S.L. (existing 83/P.R.S.L.)
7. County Route 626 over Route 55
8. Route 55 over Route 9
9. Route 55 over GSP northbound/southbound

Minimum roadway, waterway, and railroad underclearance requirements governed the profile grades along the alignment.

Bypasses

It was identified in the "Needs Assessment" that the towns of Port Elizabeth and Dennisville presently experience congestion during the summer peak hours occurring over 30 weekend days.

Due to the close proximity of commercial and residential properties complicated by the historic nature of many of these properties, a bypass of Route 47 was developed for both areas. Westerly bypasses were developed around Port Elizabeth and Dennisville in order to minimize the impact to the relatively undisturbed nature of the land surrounding these towns. Although both alternates utilize the westerly bypass of Dennisville, only alternate 4 utilizes the westerly bypass of Port Elizabeth. Alternate 3 bypasses Port Elizabeth to the east along a portion of the alignment developed for the two freeway alternatives (see Technical Memorandum No. 1: Freeway Alignments). The development of each of the bypasses is described below:

Easterly Bypass @ Port Elizabeth (orange dashed line; see Photos 1 & 2) - This easterly two (2) lane undivided bypass commences at the southerly end of the Route 55 Freeway and follows an avoidance alignment as described in Technical Memorandum No. 1: Freeway Alignments for approximately 4.5 miles. The bypass then diverts the new alignment to a horizontal bend in County Route 670 where a smooth transition back to the existing alignment occurs.

Westerly Bypass @ Port Elizabeth (yellow dashed line; see Photo 2) - This westerly two (2) lane undivided bypass commences in the vicinity of Fralinger Lane (Route 47 M.P. 34.04) and spans across the High Quality Wetlands and the Manumuskin River with a structure of 750' in length. The centerline of the bypass roadway realigns with the Route 47 centerline in the vicinity of Ferry Lane (Route 47 M.P. 33.23).

Westerly Bypass @ Dennisville (yellow dashed line; see Photos 4 & 5) - This westerly two (2) lane undivided bypass commences in the vicinity of Ludlams Pond (Route 47 M.P. 18.44) and spans across the High Quality Wetlands and Dennis Creek with a structure of 3,150' in length. This alignment extends a tangent from the 47/670 intersection east of the curve at Holly Drive and Ludlams Pond thus avoiding the potential hazardous waste site to the east of the bypass alignment. The centerline of the bypass roadway proceeds south parallel with Route 47, and realigns with the existing centerline in the vicinity of the Route 83 over the PRSL structure. (Route 47 M.P. 17.35 = Route 83 M.P. 0.15).

Localized Geometric Improvements

Listed below are locations along the corridor, besides the bypasses around Port Elizabeth and Dennisville, that are geometrically substandard and will require R.O.W. acquisition for implementation:

1. County Route 670, approx. 2,200' west of Dorchester/ Hunters Mill Road, 900' curve improvements requiring 42' of additional R.O.W.
2. County Route 670, commencing approximately 1,500' west of Belleplain Road (County Route 550) heading east, 5.0 miles of reconstruction requiring 18' to 84' of additional R.O.W. Included within this segment of roadway is the realignment of Hands Mill Road (County Route 550), which must also be addressed.
3. Route 47 from the County Route 670 intersection in Cape May County, 1.3 miles of profiling within the existing R.O.W. (see Photo 3)
4. Route 83 from the existing P.R.S.L. structure to Route 9, 3.65 miles of reconstruction which predominantly can be performed within the State's R.O.W. (see Photo 6)

Scheme 2 - 47/670/83 Corridor: Four Lane Upgrade

(Alternates 5, 5A, 6, & 6A)

This scheme considered the widening of two lanes of additional capacity along the Routes 47/670/83 corridor. Port Elizabeth and Dennisville bypasses (see Photos 1, 2, 4, & 5) and the extension of Route 83 to a full interchange with the G.S.P. were also considered.

Four (4) four lane land service alternatives along the 47/670/83 alignment were examined based upon review of the following typical section options:

Alternate 5 - four (4) lane roadway with shoulders and barrier median with west bypass of Port Elizabeth and west bypass of Dennisville

Alternate 5A - four (4) lane roadway with shoulders and barrier median with east bypass of Port Elizabeth and west bypass of Dennisville

Alternate 6 - four (4) lane roadway with shoulders and grass median with west bypass of Port Elizabeth and west bypass of Dennisville

Alternate 6A - four (4) lane roadway with shoulders and grass median with east bypass of Port Elizabeth and west bypass of Dennisville

Horizontal Alignment

All of the existing horizontal curves within the Route 47/670/83 corridor were found to be substandard for the design requirements regarding the upgrade of this facility to a design speed of 60 mph. Currently, approximately 55 percent of the existing horizontal alignment is deficient for the posted speed limit of 50 mph (design speed = 55 mph) with respect to the pavement having the proper superelevation.

The deficiencies of the existing horizontal geometries were corrected primarily by the realignment of the roadways within the above noted corridor. All of the existing horizontal curve information was evaluated for conformance based on the criteria predicated by the Department's Roadway Design Manual. In general, the degree of curves were selected between 0.5 degrees to 4 degrees based on the level of improvements necessary to meet minimum standards, which also kept the right-of-way acquisition to a minimum. Upon selection of a curve radius, the appropriate maximum rate of superelevation was computed which correspondingly determined the need for transition curves. The criteria used for all tangent distances set between consecutive horizontal curves was governed by the minimum length required to properly "roll over" the superelevated sections. Even though transition curves are not indicated on the exhibits for this study, they were considered in the development of the horizontal alignment.

Utilizing all the data generated from the analysis described above in addition to utilizing the information obtained from the Environmental and Socioeconomic Constraint Maps, an alignment was developed making every attempt to minimize the effects to the various environmental concerns and R.O.W. impacts, where possible. Since significant reconstruction was required in order to provide two (2) lanes of additional capacity to the corridor, the locations selected for all widening were based upon these considerations. Specifically, the alignment was driven by the locations of the medium and high quality

wetlands, however in order to avoid substantial residential and commercial right-of-way acquisition through the towns of Port Elizabeth and Dennisville, bypass alignments were assumed which required spanning the wetlands by viaduct structures.

In addition to addressing the geometrical features along the alignment, access onto this four (4) lane land service roadway, specifically the barrier median condition required special attention. All major crossroads along the corridor were evaluated with provisions for jug handles developed at major signalized intersections. Provisions have also been made for emergency vehicles with full loop jug handles positioned between 1/2 to 1 mile intervals along the alignment.

Vertical Alignment

All of the vertical curves within the Route 47/670/83 corridor were found to be substandard for the design requirements regarding the upgrade of this facility to a design speed of 60 mph. Currently, approximately 70 percent of the existing vertical alignment is deficient for the posted speed limit of 50 mph (design speed = 55 mph) with respect to the minimum profile grade requirements of 0.50%. Also, there exists stretches of pavement, specifically along Routes 47 and 83, which were constructed with small changes in profile grade without vertical curves, but rather points of vertical intersections (P.V.I.'s).

"Minimum" instead of "desirable" crest and sag curve design requirements were adopted in the design process for the determination of the extent of improvements. Standards for tangent alignments have been determined as:

Four Lanes w/ Barrier Median:	Min. Grade = 0.50%
	Max. Grade = 3.00%
Four Lanes w/ Grass Median:	Min. Grade = 0.50%
	Max. Grade = 3.00%

In order to improve the overall Level of Service along this widened four (4) lane alignment, provisions for grade separated in lieu of at grade intersections have been adopted as a desirable condition for final presentation. Locations of required bridges are as follows:

1. Route 55 over Route 47 Ramp
2. Route 55 over High Quality Wetlands and Manumuskin River
3. Route 55 over P.R.S.L. and Muskee Creek
4. Route 55 over Route 47
6. Route 55 over P.R.S.L. (existing 83/P.R.S.L.)
7. County Route 626 over Route 55
8. Route 55 over Route 9
9. Route 55 over GSP northbound/southbound

Minimum roadway, waterway, and railroad underclearance requirements governed the profile grades along the alignment.

Bypasses

It was identified in the "Needs Assessment" that the towns of Port Elizabeth and Dennisville presently experience congestion during the summer peak hours occurring over 30 weekend days.

Due to the close proximity of commercial and residential properties complicated by the historic nature of many of these properties, a bypass of Route 47 was developed for both areas. Westerly bypasses were developed around Port Elizabeth and Dennisville in order to minimize the impact to the relatively undisturbed nature of the land surrounding these towns. Although all four of the alternates utilize the westerly bypass of Dennisville, only alternates 5 & 6 utilize the westerly bypass of Port Elizabeth. Alternates 5A and 6A bypass Port Elizabeth to the east along a portion of the alignment developed for the two freeway alternatives (see Technical Memorandum No. 1: Freeway Alignments). The development of each of the bypasses is described below:

Easterly Bypass @ Port Elizabeth (orange dashed line; see Photos 1 & 2) - This easterly four (4) lane divided/undivided bypass commences at the southerly end of the Route 55 Freeway and follows an avoidance alignment as described in Technical Memorandum No. 1: Freeway Alignments for approximately 4.5 miles. The bypass then diverts the new alignment to a horizontal bend in County Route 670 where a smooth transition back to the existing alignment occurs.

Westerly Bypass @ Port Elizabeth (yellow dashed line; see Photo 2) - This westerly four (4) lane divided/undivided bypass commences in the vicinity of Fralinger Lane (Route 47 M.P. 34.04) and spans across the High Quality Wetlands and the Manumuskin River with a structure of 750' in length. The centerline of the bypass roadway realigns with the existing centerline of Route 47 in the vicinity of Ferry Lane (Route 47 M.P. 33.23).

Westerly Bypass @ Dennisville (yellow dashed line; see Photos 4 & 5) - This westerly four (4) lane divided/undivided bypass commences in the vicinity of Ludlams Pond (Route 47 M.P. 18.44) and spans across the High Quality Wetlands and Dennis Creek with a structure of 3,150' in length. The bypass alignment extends a tangent from the 47/670 intersection east of the curve at Holly Drive and Ludlams Pond thus avoiding the potential hazardous waste site to the east. The centerline of the bypass roadway proceeds south parallel with Route 47, and realigns with the existing centerline in the vicinity of the Route 83 over the PRSL structure. (Route 47 M.P. 17.35 = Route 83 M.P. 0.15).

Route 47 and Route 83 Intersection Improvements

Two (2) levels of intersection improvements were evaluated for the present at grade condition at Route 47/83.

The first option was to utilize the existing at grade situation at the noted intersection during the development of the four (4) lane horizontal and vertical alignments for the 60 mph land service roadway. Modifications were made to upgrade the present intersection geometry. Other provisions were also made to alleviate the heavy stacking for left turn movements from Route 47 onto Route 83 heading east.

The second option was to upgrade this condition to a grade separated intersection with a feasibility analysis performed for overpass and underpass alternates for Route 55.

The grade separated condition of Route 55 over Route 47 was chosen in lieu of the at grade improvements option and underpass scheme for the following reasons:

1. The four (4) lane Land Service Roadway upgraded for a 60 mph design speed will provide traffic with uninhibited flow in both directions while eliminating the "bottleneck" of left hand turns from existing Route 47.
2. A significant drainage pocket would be created between the end of the Route 55 viaduct structure at M.P. 6.35 and Route 47 (prop. M.P. 5.86) as an at grade condition, due to the 14' difference in elevations with a separation of 1,000' horizontally. In addition, in order to provide vertical alignment conformance by the Roadway Design Manual, the existing tangent grade of 5% between Route 47 and the Route 83 over the PRSL structure would require a grade reduction to 3% (max.), for the two (2) structures separated by 950' and 30' in elevation. The desirable vertical alignment to address this situation was to create a low point between the end of the viaduct structure and the Route 55 over Route 47 structure continue climbing at a 1% grade to satisfy the 16'-6" minimum underclearance requirements over Route 47, and meet the existing bridge deck elevation of the PRSL structure.
3. Since the existing Route 47 intersection is located in a highly sensitive wetland area, it was determined to be more feasible to span Route 55 over Route 47 constructed with an embankment condition, after evaluating the two (2) scenarios listed below:

- a. Minimizing the wetland impacts by continuing the viaduct structure over Route 47 for an additional 1,000' (resultant viaduct span length would be 4,150'); this situation would require all the ramps on the west side to be on structure creating excessive construction costs.
 - b. Construction of a Route 55 underpass condition would require more wetland acquisition, reconstruction of Route 47 to satisfy the 16'-6" underclearance requirements over Route 55, and the resultant grade differential between the Route 55 finished pavement elevation and the existing PRSL structure. (separation of 950' between structures)
4. The construction of a grade separated intersection scheme along the realignment bypassing Dennisville, does not adversely impact the local residential and business community.

Route 83 and Route 9 Intersection Improvements

Two (2) levels of intersection improvements were evaluated for the present at grade condition at Route 83/9.

The first option was to utilize the existing at grade situation at the noted intersection during the development of the four (4) lane horizontal and vertical alignments for the 60 mph limited access roadway. Modifications provided for the signalization of this intersection and the upgrading and widening of the existing horizontal alignment of Route 9 to conform with superelevation and sight distance requirements. The following traffic movements are anticipated at this intersection:

1. Deceleration lane provided for traffic heading east on Route 83 with a slip ramp onto Route 9 south; Route 9 will utilize the existing shoulder as an acceleration lane for traffic merging into the southbound lane.
2. Deceleration lane provided for traffic heading south on Route 9 with a slip ramp onto Route 83 west; Route 83 will utilize the shoulder as an acceleration lane for traffic merging into the westbound lanes.
3. Two (2) lanes of through movement each direction across the signalized intersection to and from the Garden State Parkway Northbound or Southbound.

4. Traffic heading north on Route 9 traveling towards Route 83 east must exit to a loop jug handle in the northeast quadrant of the intersection and merge with traffic from the Parkway connection towards the noted destination. This movement eliminated left hand turns from Route 9.

It should be noted that the assumed slip ramps on and off Route 9 will require the acquisition of three (3) businesses and possible impact to a fourth along Routes 83 and 9.

The second option was to upgrade this condition to a grade separated intersection with again a feasibility analysis performed for overpass and underpass alternates for Route 55.

The grade separated condition of Route 55 over Route 9 was chosen in lieu of the at grade improvements option and underpass scheme for the following reasons:

1. The four (4) lane limited access roadway upgraded for a 60 mph design speed will provide traffic with uninhibited flow in both directions from the existing Route 55 southern terminus to the Garden State Parkway.
2. In order to provide a Route 55 underpass condition at Route 9, significant excavation of the existing ground in addition to the reconstruction of Route 9 would be required to provide a 16'-6" minimum underclearance over Route 55.
3. Since the desirable condition was to span Route 55 over the Garden State Parkway (northbound and southbound lanes) maintaining the same underclearance requirements, it was more feasible on a construction cost basis to remain in an embankment condition between the structures.

This study also addressed "land locked" properties created by the Route 83 extension and Route 9 intersection improvements. The development of a 2,100' frontage road which parallels the Route 83 extension for 650' would satisfy access requirements for existing residential properties east of the Route 9 intersection. Access has been provided approximately 430' north of the grade separated intersection to a frontage road terminated by a cul-de-sac servicing two (2) existing residential properties between Route 9 and the Parkway interchange. Based on the location of these properties shown on the 200-scale and 400-scale aerial mapping, it appears that one (1) home may require acquisition by the Department, due to the close proximity of the embankment toe of slopes from the construction of the Route 83 extension.

Interchanges

The study also included the evaluation of the Route 83 extension beyond the Route 9 intersection to a full trumpet interchange with the existing Garden State Parkway (GSP) in the vicinity of GSP M.P. 15.0 (see Photo 6).

The development of this extension was based on a tangent horizontal alignment from Radcliff Lane to the G.S.P. interchange, a distance of 5,140'. The following traffic movements are anticipated between the Parkway and the Route 83 extension:

1. The four (4) lane limited access roadway heading east from Route 9 will have a lane drop for the slip ramp onto the G.S.P. heading southbound. The eastbound through lane traffic will continue across the two (2) lane southbound and northbound structures to the loop ramp onto the G.S.P. northbound.
2. Heading northbound on the Parkway from the direction of M.P. 11.0, the interchange provides an exit ramp on the outside of the double barrier curb separation of the GSP northbound on-ramp, for traffic proceeding onto Route 83 heading westbound.
3. Heading southbound on the Parkway from the direction of M.P. 17.0, a slip ramp has been provided for traffic proceeding onto Route 83 heading westbound or Route 9 northbound.
4. One (1) movement which did not appear to be feasible and has been restricted by this interchange, is traffic traveling from G.S.P. northbound exiting for Route 83 westbound and attempting for a direct connection with Route 9 heading south. This condition can be attained either by using the Land Service Roadway condition and continuing west on Route 83 to the first jug handle and reversing back to Route 9 or exiting the G.S.P. at M.P. 11.0.

It was assumed during the plan development of the horizontal and vertical alignments for the Route 83 extension beyond the Route 9 intersection to the G.S.P. interchange, that the New Jersey Department of Transportation jurisdiction limits would terminate at the existing right-of-way line of the Garden State Parkway (N.J.H.A.). However, the Preliminary Construction Cost Estimate prepared for this length of roadway includes the all the costs associated with ramp construction and the two (2) structures over the Parkway.



Photo 1:

Schooner Landing Road over Existing Route 55. The freeway alignment, shown as an orange dashed line, provides an easterly bypass of Port Elizabeth. The yellow line represents the current alignment.



Photo 2:

Southern terminus of existing Route 55 at the Route 47/55 intersection. The yellow dashed line is a bypass to the west of Port Elizabeth. The freeway alignment/east Port Elizabeth bypass is shown in the background (orange dashed line).



Photo 3:

Intersection of East Creek Pond Road (CR 670) and Delsea Drive (Rt. 47).



Photo 4:

Existing Route 47 in the vicinity of Ludlams Pond near Dennisville. The freeway alignment (orange) provides a westerly bypass around Dennisville. The yellow dashed line represents a bypass utilizing the existing alignment.

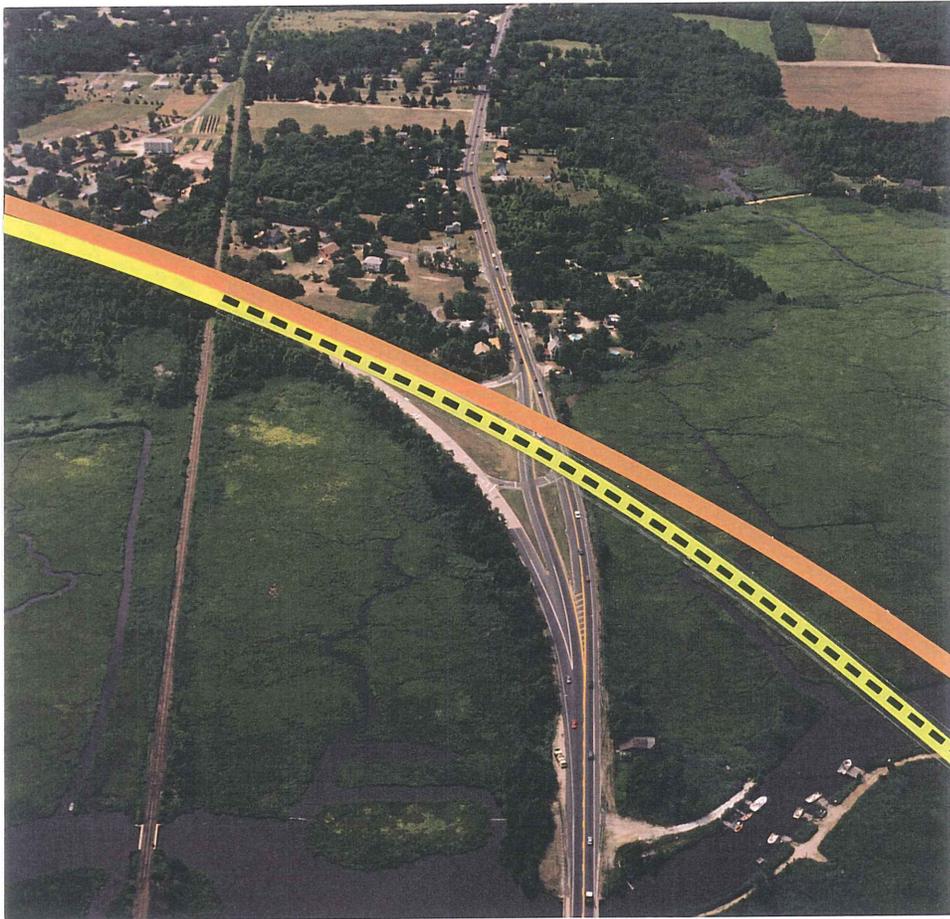


Photo 5:

Existing Routes 47/83 interchange. Both the Dennisville bypass (yellow dash) and the freeway alignment (orange) tie into and follow the exiting Route 83 alignment to provide access to Route 9 and the Garden State Parkway.



Photo 6:

Southern terminus of Route 83 at the Routes 83/9 intersection. All land service alternates and both freeway alignment alternates would extend beyond Route 9 to connect with the Garden State Parkway (foreground).

Scheme 3 - 49/50 Corridor: Two Lane Upgrade

(Alternates 7 & 7A)

This scheme considered a two (2) lane upgrade for the Route 49/Route 50 corridor as an alternate to a new freeway alignment and land service improvements to the 47/670/83 corridor. Improvements to existing horizontal and vertical alignments were necessary to facilitate a design speed of 60 mph. Specific locations were also examined for modifications, including the Route 55 interchange with Route 49 (see Photo 7), a bypass around the town of Tuckahoe, and the intersection of Route 50 with Route 9 in Seaville (see Photo 8).

Two (2) two lane land service alternatives along the 49/50 alignment were examined based upon review of the following typical sections:

Alternate 7 - two (2) lane roadway with shoulders, a bypass of Tuckahoe, and an at grade intersection at Routes 49 & 50.

Alternate 7A - two (2) lane roadway with shoulders, a bypass of Tuckahoe, and a grade separated intersection at Routes 49 & 50.

Horizontal Alignment

All of the horizontal curves within the Route 49/50 corridor are substandard in that the pavement is not properly superelevated. With few exceptions, this deficiency can be corrected by providing the appropriate superelevation without change to the alignment or acquisition of additional right-of-way. In these cases, significant reconstruction would be required to provide superelevation with necessary runoff. In several cases the existing radii are less than the minimum permitted for the maximum rate of superelevation. In these cases, improvement to meet "desirable" design criteria, including 10 ft. shoulder width, were designed for.

Where consecutive horizontal curves in opposite directions were found, the minimum tangent between the curves was held as that required to properly "roll over" the superelevation sections. In the case of "broken back" horizontal alignment, consecutive curves in the same direction, no minimum separating tangent length was required as a minimum condition. Although this is contrary to the normal "desirable" design criteria, substantial lengths of roadway traversing very environmentally sensitive areas would have been impacted if this lessor standard was not used.

Route 50 in the vicinity of Seaville could not reasonably be reconstructed for a design speed of 60 miles per hour. Substantial damage to adjacent residential and commercial properties would have been required. The only reasonable solution to provide for this increased design speed would have been the construction of a significant bypass. This was deemed impractical and therefore a reduced design speed of 50 miles per hour was used for Route 50 between Cape May County Route 616 and Route 9.

No horizontal curves along Route 49 and three (3) curves along Route 50 required acquisition of right-of-way to improve to the specified design standards. Seventeen (17) and

sixteen (16) horizontal curves along Route 49 and Route 50 respectively require reconstruction but do not need acquisition of additional right-of-way. Two (2) and five (5) of these horizontal curves within Route 49 and 50 respectively are within sections of the existing highways which would not be a part of the alternative route if the Tuckahoe Bypass were constructed. Accordingly, reconstruction costs for these curves have not been included within the cost estimation process.

Vertical Alignment

A significant number of the existing vertical curves located along the alternative route are substandard based upon the previously stated design speeds and in accordance with current design criteria. Along Route 49, 67 vertical curves are substandard, of which three (3) would fall outside the alternative route if Tuckahoe Bypass were constructed. Along Route 50, fifteen (15) vertical curves are substandard, of which nine (9) would be outside of the alternative route if the bypass were constructed. Only that reconstruction required to upgrade vertical alignment within the alternative route, assuming the Tuckahoe Bypass is constructed, is included within the cost estimation process.

Tuckahoe Bypass

Due to the close proximity of commercial and residential properties to both Route 49 and Route 50 in the vicinity of their intersection and the historic nature of many of these properties, a bypass of Tuckahoe was studied. In order to minimize impact to the relatively undisturbed nature of the land surrounding the town of Tuckahoe, the bypass was generally located parallel to the existing north-south railroad tracks west of Tuckahoe. To minimize the number of costly crossings of these existing tracks, the westerly route was also preferred.

The bypass crosses over County Route 557 and an existing rail line west of Tuckahoe. The grade separation at the Route 557 crossing is necessary because the bypass profile cannot be brought back down to existing grade due to the close proximity of the rail line. An interchange with extended Tuckahoe Road (Co. Rt. 631) is provided due to the significant turning traffic volume from Route 50 southbound to Route 631 eastbound as well as the reverse movement. At the southerly end of the bypass, Route 50 is in part redefined as a frontage road or abandoned. Relocation of the northern end of Cedar Avenue and construction of an extended frontage road adjacent to the bypass/Route 631 interchange are also assumed. At grade intersections with Cedar Lane and Tuckahoe-Mount Pleasant Road as well as reconstruction of the Route 50/Route 631 intersection will be required.

55/49 Interchange Improvements

The design objective at the existing interchange of the Route 55 Freeway and Route 49 was to provide a direct connecting ramp from Route 55 southbound to Route 49 eastbound to facilitate the use of the Route 49/50 alternative route (see Photo 7).

In order to provide the direct connection loop ramp from Route 55 southbound to Route 49 eastbound, the existing finger ramp from Route 49 eastbound to Route 55 southbound must be relocated. The existing Route 50 westbound ramp to Route 55 southbound ramp is removed due to insufficient weave distance between adjacent on and off ramps on Route 55. To reduce the number of intersection points along Route 49 in the vicinity of the new Route 55 southbound ramp terminals, the existing ramp from Route 55 southbound to Route 49 is removed. The new Route 55 southbound off ramp should adequately serve both east and westbound Route 49 traffic. The existing Route 49 westbound to Route 55 northbound ramp is improved to meet current design criteria with resultant impacts to Greissenger Avenue and Burns Road.

Routes 50/9 Intersection Improvements

Two (2) levels of intersection improvement were considered, both of which orientate Route 50 toward the Garden State Parkway and eliminate the existing "cut off" currently present at the southwest quadrant of the existing intersection (see Photo 8). To remove the existing angle point at the terminus of the Garden State Parkway Connector alignment at Route 50, a 5,200 ft. radius is provided for realigned Route 50. The radius ties into the Parkway Connector tangent alignment and compounds into the existing 1,433 ft. radius along Route 50.

The first level of improvement (alternate 7A) considered provides a grade separated interchange. To provide sufficient room for acceleration and deceleration lanes along Route 50 prior to existing ramps at the Parkway, all ramps are assumed to be on the west side of Route 9. The loop-finger ramp combination at the northwest quadrant will potentially impact an historic site. Existing access for the shopping at the northeast quadrant should be realigned opposite the terminus of these ramps along Route 9. At the southwest quadrant, the ramps will require the demolition of several dwellings and businesses. Based upon the current and proposed State Highway Access Code regulations, it appears that access to Route 50 must be denied on both sides of the highway throughout the vicinity of the acceleration and deceleration lanes. This would mean that numerous properties along Route 50 would be affected. Widening along Route 9 provides left turn slots into the Route 50 ramps. Along Route 9 southbound, an auxiliary lane for right turns to and from Route 50 ramps was anticipated.

The second level of improvement (alternate 7) studied is an at grade intersection. Two (2) lanes are provided in each direction of both Routes 50 and 9 with opposing left turns slots.

Typical Intersection Improvements

For purposes of estimating necessary construction costs, it was assumed that certain typical intersection improvements would be performed. Lacking and traffic counts on which to base these improvements, the typical improvement was assumed to consist of signalization and widening of the shoulders to fifteen (15) ft. for use as auxiliary lanes. No exclusive left hand turning lanes were assumed. Intersections of Route 49 with the Cumberland County

Routes 671, 646, and 644; Cape May County Routes 548 and 617; and Mays Landing Road were estimated to be improved. Route 50 intersections with Cape May County Routes 631, 610 and 616 were assumed to be similarly improved.



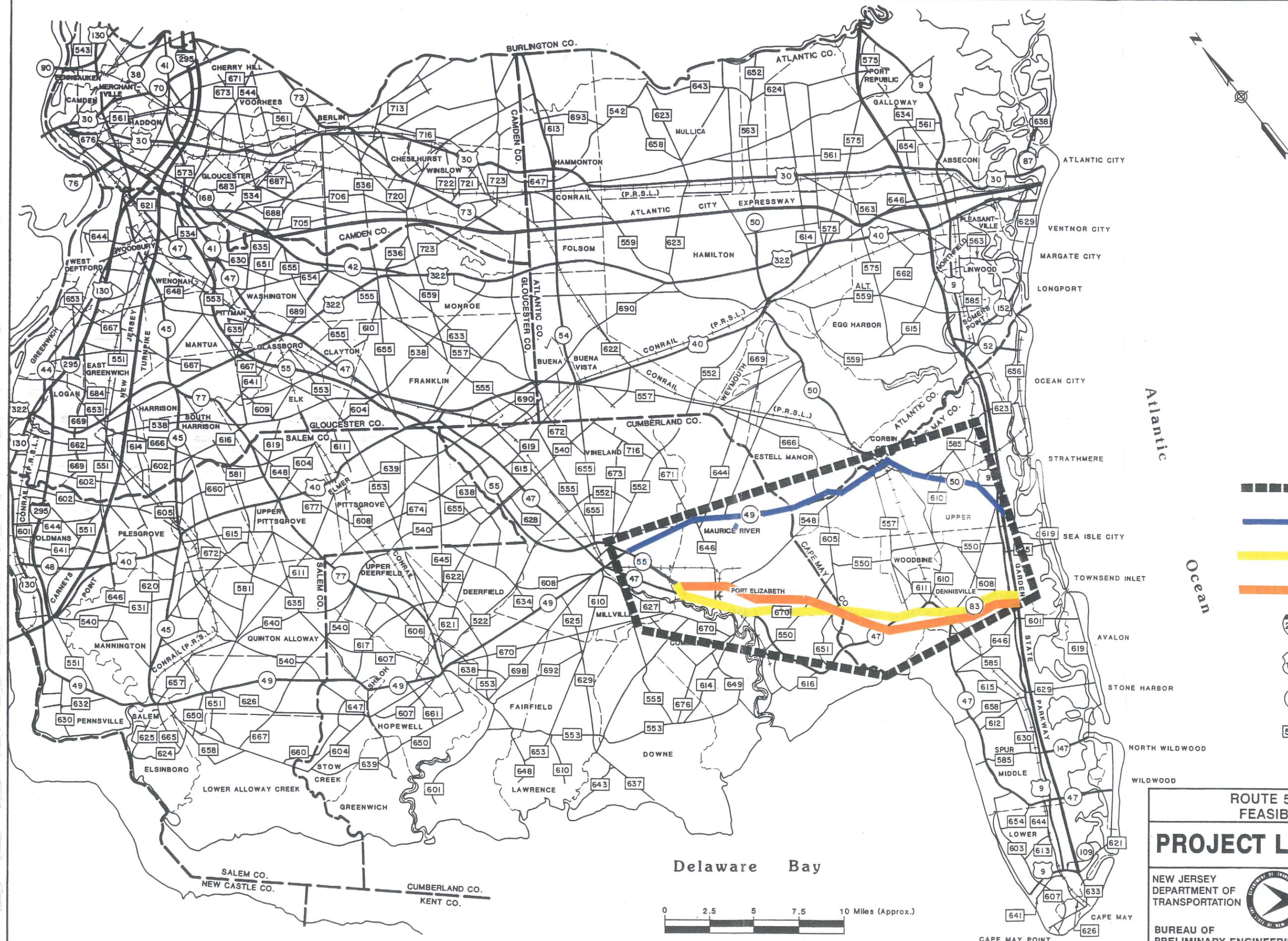
Photo 7:

Existing Route 49 under existing Route 55. The blue line represents land service improvements for the Route 49/50 corridor alternates. Ramp improvements (not shown in blue) would also be required.



Photo 8:

Route 50/Route 9 intersection (foreground) and connection to the Garden State Parkway. The Route 50/9 intersection would remain "at-grade" under alternate 7, but would be reconstructed as a "grade-separated" intersection as alternate 7A.



- PROJECT STUDY LIMITS
- EXISTING RTS. 49/50 STUDIED
- EXISTING RTS. 47/670 STUDIED
- ROUTE 55 FREEWAY EXTENSION
- INTERSTATE HIGHWAYS
- U.S. HIGHWAYS
- NEW JERSEY HIGHWAYS
- COUNTY HIGHWAYS

PLATE 1

ROUTE 55 EXTENSION
FEASIBILITY STUDY

PROJECT LOCATION MAP

NEW JERSEY
DEPARTMENT OF
TRANSPORTATION

BUREAU OF
PRELIMINARY ENGINEERING

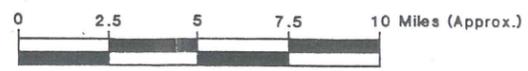
DATE



and

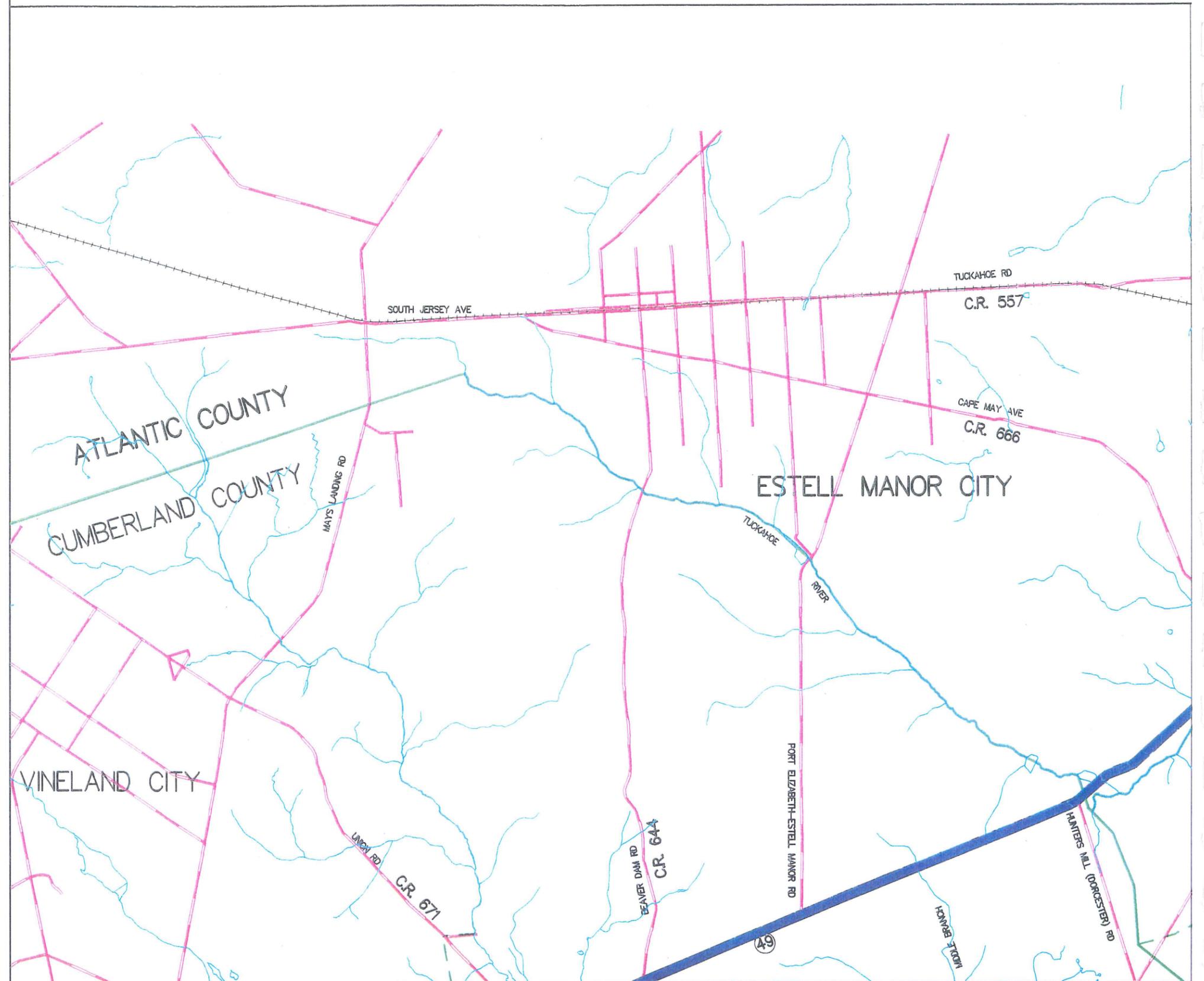
Gannett Fleming
ENGINEERS AND PLANNERS

Taylor Wiseman & Taylor



BASE MAP

-  County Boundary
-  City and/or Township Boundary
-  Primary Roads
-  Primary Roads Under Consideration for Route Alternatives
-  Streams, Lakes, Ponds
-  Railroad
-  Old Railroad Grade
-  Freeway Alignment (orange dashed line indicates bypass along Freeway Alignment)
-  Land Service Improvements: 47/670/83 Corridor (yellow dashed line indicates bypasses along 47/670/83 Corridor)
-  Land Service Improvements: 49/50 Corridor (blue dashed line indicates bypasses along 49/50 Corridor)
-  Indicates Photo Location, Direction, and Number



Study Limits for Segments A, B, C, & D

(see Plates 2, A-1, B-1, C-1 & D-1)

To ease comparison and to make the corridor manageable, the Route 47/670/83 corridor was broken down into Study Segments A, B, C, and D. The Study Segment limits, as set forth in the Route 55 Feasibility Study Scope of Work, are as follows, and indicated on Plate 2 in Section I and Plates A-1, B-1, C-1 and D-1 in Section II of this report:

Segment A - Begins on existing Route 55 at a point northeast where the existing freeway ends, continues on to Route 47, continues along Route 47 to County Route 670, continues along County Route 670 to the point indicated on Plate A-1 as the southern terminus of Segment A.

Due to the relatively large number of options available for improvements to this region, Segment A was further broken down into three sub-segments labelled A1, A2, & A3 as indicated on Plate A-1.

Segment B - Begins on County Route 670 as shown on Plate B-1, continues along County Route 670 to Route 47, continues on Route 47 to the point indicated on Plate B-1 as the southern terminus of Segment B.

Segment C - Begins on Route 47 as shown on Plate C-1 and continues along Route 47 to the interchange with Route 83, continues along Route 83 to the railroad overpass just east of the Route 47/Route 83 interchange. In addition, this segment continues along Route 47 to south of the intersection with County Route 585.

Segment D - Begins at the railroad overpass on Route 83 adjacent to the Route 47/Route 83 interchange as shown on Plate D-1, continues along Route 83 to the intersection with Route 9, then continues on a new alignment to the Garden State Parkway.

LAND SERVICE ALTERNATES

Route 47/670/83 Corridor: Study Segment A

CUMBERLAND COUNTY



Segment A

MAURICE RIVER TOWNSHIP

PORT ELIZABETH

E CITY

East Bypass of Port Elizabeth

Land Service Improvements (47/670/83 Corridor)

West Bypass of Port Elizabeth

Freeway Alignment

KEY

- County Boundary
- City and/or Township Boundary
- Primary Roads
- Primary Roads Under Consideration for Route Alternatives
- Streams, Lakes, Ponds
- Railroad
- Old Railroad Grade

Scale: 1" = 1/2 Mile

ROUTE 55 FREEWAY EXTENSION FEASIBILITY STUDY

Technical Memorandum No. 2
LAND SERVICE IMPROVEMENTS AND BYPASSES

Plate A-1
Study Limits for Segment A
47/670/83 Corridor: Segment A

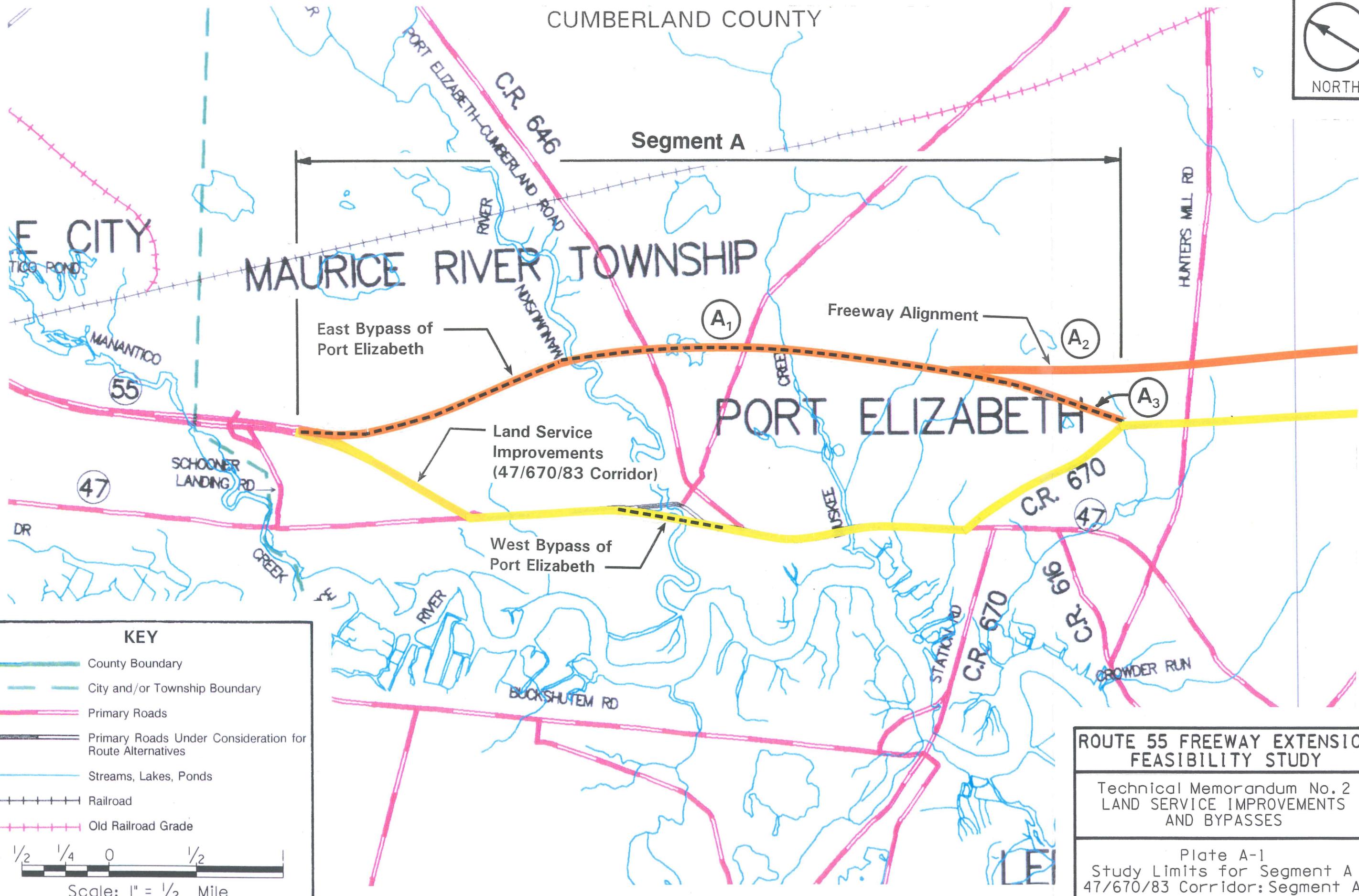


Table A-1: Alternate Configurations

	Rt. 55 Freeway Alternates*		Rt. 47 / 670 / 83 Land Service Alternates					
	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 5	Alt. 5A	Alt. 6	Alt. 6A
	Freeway Alignment (Orange & Orange Dash Lines)	4 Lanes w/ Barrier Curb & Shoulders	4 Lanes w/ Grass Median & Shoulders	NA	NA	NA	NA	NA
East Bypass of Port Elizabeth (Orange Dash Line)	NA	NA	2 Lanes w/ Shoulders	NA	NA	4 Lanes w/ Barrier Curb & Shoulders	NA	4 Lanes w/ Grass Median & Shoulders
West Bypass of Port Elizabeth (Yellow Dash Line)	NA	NA	NA	2 Lanes w/ Shoulders	4 Lanes w/ Barrier Curb & Shoulders	NA	4 Lanes w/ Grass Median & Shoulders	NA
Existing Rt. 47 (Yellow Line)	To Remain As Is	To Remain As Is	To Remain As Is	2 Lanes (Upgraded) w/ Shoulders	4 Lanes (Upgraded) w/ Barrier Curb & Shoulders	To Remain As Is	4 Lanes (Upgraded) w/ Grass Median & Shoulders	To Remain As Is
Existing Rt. 670 (Yellow Line)	To Remain As Is	To Remain As Is	To Remain As Is	2 Lanes (Upgraded) w/ Shoulders	4 Lanes (Upgraded) w/ Barrier Curb & Shoulders	To Remain As Is	4 Lanes (Upgraded) w/ Grass Median & Shoulders	To Remain As Is

*Note: Data for alternates in shaded region is detailed in Technical Memorandum No. 1: Freeway Alignments

Alternative 3 (Segment A) - Two Lane Upgrade

(Orange Dashed Line - see Plate A-1)

This alternate provides for an easterly bypass around the town of Port Elizabeth. This two (2) lane undivided bypass commences at the southerly end of the Route 55 Freeway and follows an avoidance alignment as described in Technical Memorandum No. 1: Freeway Alignments. The bypass then diverts the new alignment to a horizontal bend in County Route 670 where a smooth transition back to the existing alignment occurs. Total length of Segment: approximately 4.5 miles.

Design Parameters

Typical Section: One 12 ft. wide travel lane with 10 ft. wide outside shoulder, each direction
Design Speed: 55 mph
Superelevation: 6% (maximum)
Existing ROW: NA
Proposed ROW: 120 feet
Total Acres Req'd: 155 acres
Design Year: 2005

Serviceability

Existing/Proposed Level of Service (Average Day): /
Existing/Proposed Level of Service (Tourism Season): /

Interchanges & Intersections

No significant intersection improvements or interchanges will be necessary for this alternate within the limits of Segment A.

Alternative 3 (Segment A) - cont.

Environmental Impacts

<i>Cultural Resources</i> (Plate A-2)	0 Potentially Historic Bridges (50+ years) replaced/repaired 0 Historic Buildings (acquired) 0 Historic Buildings (disrupted setting) 0 Historic Districts Encroached by ROW 0 Known Historic Archaeological Sites Disrupted by ROW 1 Known Prehistoric Archaeological Sites Disrupted by ROW 6 Areas with High Potential for Archaeological Resources
<i>Endangered Species</i> (Plates A-3 & A-4)	This alternate will encroach upon areas of high quality wetlands which have a very high potential for containing threatened or endangered species. See appendix for species affected.
<i>Socioeconomic, Land Use, Visual</i> (Plates A-5 & A-6)	General Impact on Social Constraints: Adverse - Residences Displaced by Alternate: 17 residences - Impact to Communities Disrupted by ROW: Adverse General Impact on Economic Constraints: Minor - Businesses Displaced by Alternate: 2 businesses - Affect to Businesses Bypassed by Alternate: None General Impact on Land Use Constraints: Adverse - Consistent with Pineland Policies: No - Consistent with CAFRA Policies: NA - Potential Secondary Development: Yes - Acquired Agricultural Development Areas: 0 acres - Parks Disrupted by ROW, Acres Acquired: 0 acres - State Forests Disrupted, Acres Acquired: 0 acres - Wildlife Refuges Disrupted, Acres Acquired: 0 acres General Impact on Visual Constraints: Adverse - Number of Scenic Corridors Impacted: 1 scenic corridor
<i>Wetlands Emphasis</i> (Plate A-4)	Acres of Wetlands Acquired: 11.5 acres Mitigation at @ 2:1 Replacement Ratio: 23.0 acres Quality of Wetlands Acquired: Average to High Impacts to Buffer Areas in Segment A: Yes Impacts to Water Quality in Segment A: Adverse Impacts to Upland Forests in Segment A: Adverse
<i>Contamination Sites</i> (Plate A-6)	Hazardous Waste Sites within ROW: 0 sites Potential Hazardous Waste Sites: 0 sites

Alternative 4 (Segment A) - Two Lane Upgrade

(Yellow and Yellow Dashed Lines - see Plate A-1)

This alternate provides for a westerly bypass around the town of Port Elizabeth. This two (2) lane undivided bypass commences in the vicinity of Fralinger Lane and spans across the High Quality Wetlands and the Manumuskin River with a structure of 750' in length. The centerline of the bypass roadway realigns with the existing Route 47 centerline in the vicinity of Ferry Lane. Total length of Segment: approximately 5 miles.

Design Parameters

Typical Section: One 12 ft. wide travel lane with 10 ft. wide outside shoulder, each direction
Design Speed: 55 mph
Superelevation: 6% (maximum)
Existing ROW: NA
Proposed ROW: 120 feet
Total Acres Req'd: 46.1 acres
Design Year: 2005

Serviceability

Existing/Proposed Level of Service (Average Day): ___/___
Existing/Proposed Level of Service (Tourism Season): ___/___

Interchanges & Intersections

County Route 670, approx. 2,200' west of Dorchester Hunters Mill Road, is considered geometrically substandard. The 900' curve improvements will require the acquisition of approximately 42 feet of additional right of way. Also, a two lane bridge will be required over the Route 47 ramp.

Alternative 4 (Segment A) - cont.

Environmental Impacts

Cultural Resources
(Plate A-2)

- ___ Potentially Historic Bridges (50+ years) replaced/repaired
- ___ Historic Buildings (acquired)
- ___ Historic Buildings (disrupted setting)
- ___ Historic Districts Encroached by ROW
- ___ Known Historic Archaeological Sites Disrupted by ROW
- ___ Known Prehistoric Archaeological Sites Disrupted by ROW
- ___ Areas with High Potential for Archaeological Resources

Endangered Species
(Plates A-3 & A-4)

This alternate will encroach upon areas of high quality wetlands which have a very high potential for containing threatened or endangered species. See appendix for species affected.

*Socioeconomic,
Land Use, Visual*
(Plates A-5 & A-6)

General Impact on Social Constraints: Adverse
 - Residences Displaced by Alternate: 17 residences
 - Impact to Communities Disrupted by ROW: Adverse

General Impact on Economic Constraints: Minor
 - Businesses Displaced by Alternate: 1 business
 - Affect to Businesses Bypassed by Alternate: Minor

General Impact on Land Use Constraints: Moderate
 - Consistent with Pineland Policies: NA
 - Consistent with CAFRA Policies: No
 - Potential Secondary Development: Yes
 - Acquired Agricultural Development Areas: 0 acres
 - Parks Disrupted by ROW, Acres Acquired: 0 acres
 - State Forests Disrupted, Acres Acquired: 0 acres
 - Wildlife Refuges Disrupted, Acres Acquired: 0 acres

General Impact on Visual Constraints: Adverse
 - Number of Scenic Corridors Impacted: 1 scenic corridor

Wetlands Emphasis
(Plate A-4)

Acres of Wetlands Acquired: ___ acres
 Mitigation at @ 2:1 Replacement Ratio: ___ acres
 Quality of Wetlands Acquired: High
 Impacts to Buffer Areas in Segment A: ___
 Impacts to Water Quality in Segment A: ___
 Impacts to Upland Forests in Segment A: ___

Contamination Sites
(Plate A-6)

Hazardous Waste Sites within ROW: 0 sites
 Potential Hazardous Waste Sites: 0 sites

Alternative 5 (Segment A) - Four Lane Upgrade

(Yellow and Yellow Dashed Lines - see Plate A-1)

This alternate provides for a westerly bypass around the town of Port Elizabeth. This four (4) lane divided bypass commences in the vicinity of Fralinger Lane and spans across the High Quality Wetlands and the Manumuskin River with a structure of 750' in length. The centerline of the bypass roadway realigns with the existing Route 47 centerline in the vicinity of Ferry Lane. The roadway is divided by a concrete barrier curb. Total length of Segment: approximately 5 miles.

Design Parameters

Typical Section:	Two 12 ft. wide travel lanes with 10 ft. wide outside and 5 ft. wide inside shoulders, each direction, separated by median barrier curb
Design Speed:	60 mph
Superelevation:	6% (maximum)
Existing ROW:	66 feet
Proposed ROW:	130 feet
Total Acres Req'd:	76.8 acres
Design Year:	2005

Serviceability

Existing/Proposed Level of Service (Average Day):	D/A
Existing/Proposed Level of Service (Tourism Season):	F/D

Interchanges & Intersections

A four lane bridge will be required over the Route 47 ramp. No other significant intersection improvements or interchanges will be necessary for this alternate within the limits of Segment A.

Alternative 5 (Segment A) - cont.

Environmental Impacts

<i>Cultural Resources</i> (Plate A-2)	<ul style="list-style-type: none"> 1 Potentially Historic Bridges (50+ years) replaced/repaired 0 Historic Buildings (acquired) 1 Historic Buildings (disrupted setting) 3 Historic Districts Encroached by ROW 0 Known Historic Archaeological Sites Disrupted by ROW 2 Known Prehistoric Archaeological Sites Disrupted by ROW 8 Areas with High Potential for Archaeological Resources 	
<i>Endangered Species</i> (Plates A-3 & A-4)	This alternate will encroach upon areas of high quality wetlands which have a very high potential for containing threatened or endangered species. See appendix for species affected.	
<i>Socioeconomic, Land Use, Visual</i> (Plates A-5 & A-6)	<p>General Impact on Social Constraints:</p> <ul style="list-style-type: none"> - Residences Displaced by Alternate: 41 residences - Impact to Communities Disrupted by ROW: Adverse <p>General Impact on Economic Constraints:</p> <ul style="list-style-type: none"> - Businesses Displaced by Alternate: 5 businesses - Affect to Businesses Bypassed by Alternate: NA <p>General Impact on Land Use Constraints:</p> <ul style="list-style-type: none"> - Consistent with Pineland Policies: No - Consistent with CAFRA Policies: No - Potential Secondary Development: Yes (high) - Acquired Agricultural Development Areas: 0 acres - Parks Disrupted by ROW, Acres Acquired: 0 acres - State Forests Disrupted, Acres Acquired: 0 acres - Wildlife Refuges Disrupted, Acres Acquired: 0 acres <p>General Impact on Visual Constraints:</p> <ul style="list-style-type: none"> - Number of Scenic Corridors Impacted: 1 scenic corridor 	
<i>Wetlands Emphasis</i> (Plate A-4)	<ul style="list-style-type: none"> Acres of Wetlands Acquired: 11.4 acres Mitigation at @ 2:1 Replacement Ratio: 22.8 acres Quality of Wetlands Acquired: High Impacts to Buffer Areas in Segment A: Yes Impacts to Water Quality in Segment A: Adverse Impacts to Upland Forests in Segment A: Minor 	
<i>Contamination Sites</i> (Plate A-6)	<ul style="list-style-type: none"> Hazardous Waste Sites within ROW: 0 sites Potential Hazardous Waste Sites: 0 sites 	

Alternative 5A (Segment A) - Four Lane Upgrade

(Orange Dashed Line - see Plate A-1)

This alternate provides for an easterly bypass around the town of Port Elizabeth. This four (4) lane divided bypass commences at the southerly end of the Route 55 Freeway and follows an avoidance alignment as described in Technical Memorandum No. 1: Freeway Alignments. The bypass then diverts the new alignment to a horizontal bend in County Route 670 where a smooth transition back to the existing alignment occurs. The roadway is divided by a concrete barrier curb. Total length of Segment: approximately 4.5 miles.

Design Parameters

Typical Section:	Two 12 ft. wide travel lanes with 10 ft. wide outside and 5 ft. wide inside shoulders, each direction, separated by median barrier curb
Design Speed:	60 mph
Superelevation:	6% (maximum)
Existing ROW:	NA
Proposed ROW:	200 feet
Total Acres Req'd:	195 acres
Design Year:	2005

Serviceability

Existing/Proposed Level of Service (Average Day):	D/A
Existing/Proposed Level of Service (Tourism Season):	F/D

Interchanges & Intersections

For this alternate, an interchange to the Route 55 Freeway was assumed at Route 47 (just south of Schooner Landing Road). This interchange will continue to provide an existing direct connection to Route 55 for the local residents of Port Elizabeth. A southbound exit ramp to Route 47 and a northbound entrance ramp from Route 47 utilizing a bridge over Route 55 are provided. To provide for the ramp movements currently missing at the Schooner Landing Road interchange, a northbound exit ramp was considered with its exit prior to the northbound connector entrance ramp to avoid a substandard weave situation. On southbound Route 55 there is sufficient room to provide the 2,000 ft. minimum weave distance required between the entrance ramp and the connector exit.

Alternative 5A (Segment A) - cont.

Environmental Impacts

<i>Cultural Resources</i> (Plate A-2)	<ul style="list-style-type: none"> 0 Potentially Historic Bridges (50+ years) replaced/repaired 0 Historic Buildings (acquired) 0 Historic Buildings (disrupted setting) 0 Historic Districts Encroached by ROW 0 Known Historic Archaeological Sites Disrupted by ROW 1 Known Prehistoric Archaeological Sites Disrupted by ROW 6 Areas with High Potential for Archaeological Resources 	
<i>Endangered Species</i> (Plates A-3 & A-4)	This alternate will encroach upon areas of high quality wetlands which have a very high potential for containing threatened or endangered species. See appendix for species affected.	
<i>Socioeconomic, Land Use, Visual</i> (Plates A-5 & A-6)	<ul style="list-style-type: none"> General Impact on Social Constraints: Adverse - Residences Displaced by Alternate: 17 residences - Impact to Communities Disrupted by ROW: Adverse General Impact on Economic Constraints: Minor - Businesses Displaced by Alternate: 2 businesses - Affect to Businesses Bypassed by Alternate: None General Impact on Land Use Constraints: Adverse - Consistent with Pineland Policies: No - Consistent with CAFRA Policies: NA - Potential Secondary Development: Yes - Acquired Agricultural Development Areas: 0 acres - Parks Disrupted by ROW, Acres Acquired: 0 acres - State Forests Disrupted, Acres Acquired: 0 acres - Wildlife Refuges Disrupted, Acres Acquired: 0 acres General Impact on Visual Constraints: Adverse - Number of Scenic Corridors Impacted: 1 scenic corridor 	
<i>Wetlands Emphasis</i> (Plate A-4)	<ul style="list-style-type: none"> Acres of Wetlands Acquired: 13.5 acres Mitigation at @ 2:1 Replacement Ratio: 27.0 acres Quality of Wetlands Acquired: Medium to High Impacts to Buffer Areas in Segment A: Yes Impacts to Water Quality in Segment A: Adverse Impacts to Upland Forests in Segment A: Adverse 	
<i>Contamination Sites</i> (Plate A-6)	<ul style="list-style-type: none"> Hazardous Waste Sites within ROW: 0 sites Potential Hazardous Waste Sites: 0 sites 	

Alternative 6 (Segment A) - Four Lane Upgrade

(Yellow and Yellow Dashed Lines - see Plate A-1)

This alternate provides for a westerly bypass around the town of Port Elizabeth. This four (4) lane bypass commences in the vicinity of Fralinger Lane and spans across the High Quality Wetlands and the Manumuskin River with a structure of 750' in length. The centerline of the bypass roadway realigns with the existing centerline in the vicinity of Ferry Lane. The roadway is divided by a 10' wide grass median. Total length of Segment: approximately 5 miles.

Design Parameters

Typical Section:	Two 12 ft. wide travel lanes with 10 ft. wide outside and 5 ft. wide inside shoulders, each direction, separated by 10' wide grass median
Design Speed:	60 mph
Superelevation:	6% (maximum)
Existing ROW:	66 feet
Proposed ROW:	148 feet
Total Acres Req'd:	88.9 acres
Design Year:	2005

Serviceability

Existing/Proposed Level of Service (Average Day):	D/A
Existing/Proposed Level of Service (Tourism Season):	F/D

Interchanges & Intersections

A four lane bridge will be required over the Route 47 ramp. No other significant intersection improvements or interchanges will be necessary for this alternate within the limits of Segment A.

Alternative 6 (Segment A) - cont.

Environmental Impacts

<i>Cultural Resources</i> (Plate A-2)	1 Potentially Historic Bridges (50+ years) replaced/repaired 0 Historic Buildings (acquired) 1 Historic Buildings (disrupted setting) 3 Historic Districts Encroached by ROW 0 Known Historic Archaeological Sites Disrupted by ROW 2 Known Prehistoric Archaeological Sites Disrupted by ROW 8 Areas with High Potential for Archaeological Resources	
<i>Endangered Species</i> (Plates A-3 & A-4)	This alternate will encroach upon areas of high quality wetlands which have a very high potential for containing threatened or endangered species. See appendix for species affected.	
<i>Socioeconomic, Land Use, Visual</i> (Plates A-5 & A-6)	General Impact on Social Constraints:	Adverse
	- Residences Displaced by Alternate:	41 residences
	- Impact to Communities Disrupted by ROW:	Adverse
	General Impact on Economic Constraints:	Moderate
	- Businesses Displaced by Alternate:	5 businesses
	- Affect to Businesses Bypassed by Alternate:	NA
	General Impact on Land Use Constraints:	Adverse
	- Consistent with Pineland Policies:	No
	- Consistent with CAFRA Policies:	No
	- Potential Secondary Development:	Yes (high)
	- Acquired Agricultural Development Areas:	0 acres
	- Parks Disrupted by ROW, Acres Acquired:	0 acres
	- State Forests Disrupted, Acres Acquired:	0 acres
	- Wildlife Refuges Disrupted, Acres Acquired:	0 acres
	General Impact on Visual Constraints:	Adverse
	- Number of Scenic Corridors Impacted:	1 scenic corridor
<i>Wetlands Emphasis</i> (Plate A-4)	Acres of Wetlands Acquired:	14.4 acres
	Mitigation at @ 2:1 Replacement Ratio:	28.8 acres
	Quality of Wetlands Acquired:	High
	Impacts to Buffer Areas in Segment A:	Yes
	Impacts to Water Quality in Segment A:	Adverse
	Impacts to Upland Forests in Segment A:	Moderate
<i>Contamination Sites</i> (Plate A-6)	Hazardous Waste Sites within ROW:	0 sites
	Potential Hazardous Waste Sites:	0 sites

Alternative 6A (Segment A) - Four Lane Upgrade

(Orange Dashed Line - see Plate A-1)

This alternate provides for an easterly bypass around the town of Port Elizabeth. This four (4) lane bypass commences at the southerly end of the Route 55 Freeway and follows an avoidance alignment as described in Technical Memorandum No. 1: Freeway Alignments. The bypass then diverts the new alignment to a horizontal bend in County Route 670 where a smooth transition back to the existing alignment occurs. The roadway is divided by a 10' wide grass median. Total length of Segment: approximately 4.5 miles.

Design Parameters

Typical Section:	Two 12 ft. wide travel lanes with 10 ft. wide outside and 5 ft. wide inside shoulders, each direction, separated by 10' wide grass median
Speed:	60 mph
Superelevation:	6% (maximum)
Existing ROW:	NA
Proposed ROW:	250 feet
Total Acres Req'd:	220 acres
Design Year:	2005

Serviceability

Existing/Proposed Level of Service (Average Day):	D/A
Existing/Proposed Level of Service (Tourism Season):	F/D

Interchanges & Intersections

For this alternate, an interchange to the Route 55 Freeway was assumed at Route 47 (just south of Schooner Landing Road). This interchange will continue to provide an existing direct connection to Route 55 for the local residents of Port Elizabeth. A southbound exit ramp to Route 47 and a northbound entrance ramp from Route 47 utilizing a bridge over Route 55 are provided. To provide for the ramp movements currently missing at the Schooner Landing Road interchange, a northbound exit ramp was considered with its exit prior to the northbound connector entrance ramp to avoid a substandard weave situation. On southbound Route 55 there is sufficient room to provide the 2,000 ft. minimum weave distance required between the entrance ramp and the connector exit.

Alternative 6A (Segment A) - cont.

Environmental Impacts

<i>Cultural Resources</i> (Plate A-2)	0 Potentially Historic Bridges (50+ years) replaced/repaired 0 Historic Buildings (acquired) 0 Historic Buildings (disrupted setting) 0 Historic Districts Encroached by ROW 0 Known Historic Archaeological Sites Disrupted by ROW 1 Known Prehistoric Archaeological Sites Disrupted by ROW 6 Areas with High Potential for Archaeological Resources
<i>Endangered Species</i> (Plates A-3 & A-4)	This alternate will encroach upon areas of high quality wetlands which have a very high potential for containing threatened or endangered species. See appendix for species affected.
<i>Socioeconomic, Land Use, Visual</i> (Plates A-5 & A-6)	General Impact on Social Constraints: Adverse - Residences Displaced by Alternate: 17 residences - Impact to Communities Disrupted by ROW: Adverse General Impact on Economic Constraints: Minor - Businesses Displaced by Alternate: 2 businesses - Affect to Businesses Bypassed by Alternate: None General Impact on Land Use Constraints: Adverse - Consistent with Pineland Policies: No - Consistent with CAFRA Policies: NA - Potential Secondary Development: Yes - Acquired Agricultural Development Areas: 0 acres - Parks Disrupted by ROW, Acres Acquired: 0 acres - State Forests Disrupted, Acres Acquired: 0 acres - Wildlife Refuges Disrupted, Acres Acquired: 0 acres General Impact on Visual Constraints: Adverse - Number of Scenic Corridors Impacted: 1 scenic corridor
<i>Wetlands Emphasis</i> (Plate A-4)	Acres of Wetlands Acquired: 15 acres Mitigation at @ 2:1 Replacement Ratio: 30 acres Quality of Wetlands Acquired: Medium to High Impacts to Buffer Areas in Segment A: Yes Impacts to Water Quality in Segment A: Adverse Impacts to Upland Forests in Segment A: Adverse
<i>Contamination Sites</i> (Plate A-6)	Hazardous Waste Sites within ROW: 0 sites Potential Hazardous Waste Sites: 0 sites

CUMBERLAND COUNTY



Segment A

E CITY

MAURICE RIVER TOWNSHIP

PORT ELIZABETH

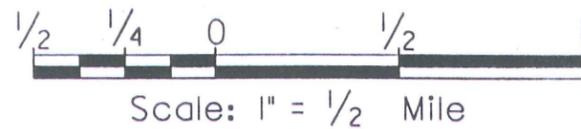
Freeway Alignment

Land Service Improvements
(47/670/83 Corridor)

West Bypass of
Port Elizabeth

KEY

-  Building or Structure of Interest Identified by NJDOT Field Survey
-  0106-L9 NJHPO Survey Designation (ie: 9th property listed)
-  NR National Register Property
-  0507-153 On-System Bridge with Structure Number
-  NR National Register Historic District
-  Built-up Area Not Surveyed on a Building-by-Building Basis



ROUTE 55 FREEWAY EXTENSION
FEASIBILITY STUDY

Technical Memorandum No. 2
LAND SERVICE IMPROVEMENTS
AND BYPASSES

Plate A-2
Historic Architecture
47/670/83 Corridor: Segment A

CUMBERLAND COUNTY



Segment A

LE CITY

MAURICE RIVER TOWNSHIP

PORT ELIZABETH

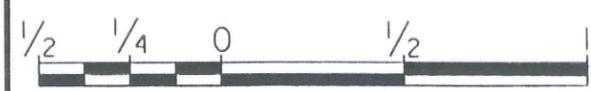
Freeway Alignment

Land Service Improvements (47/670/83 Corridor)

West Bypass of Port Elizabeth

KEY

-  Natural Heritage Priority Site for the Preservation of Biological Diversity
-  Documented Location of a Threatened or Endangered Species is Known Precisely
-  Documented Location of a Threatened or Endangered Species is Known within 1.5 Miles

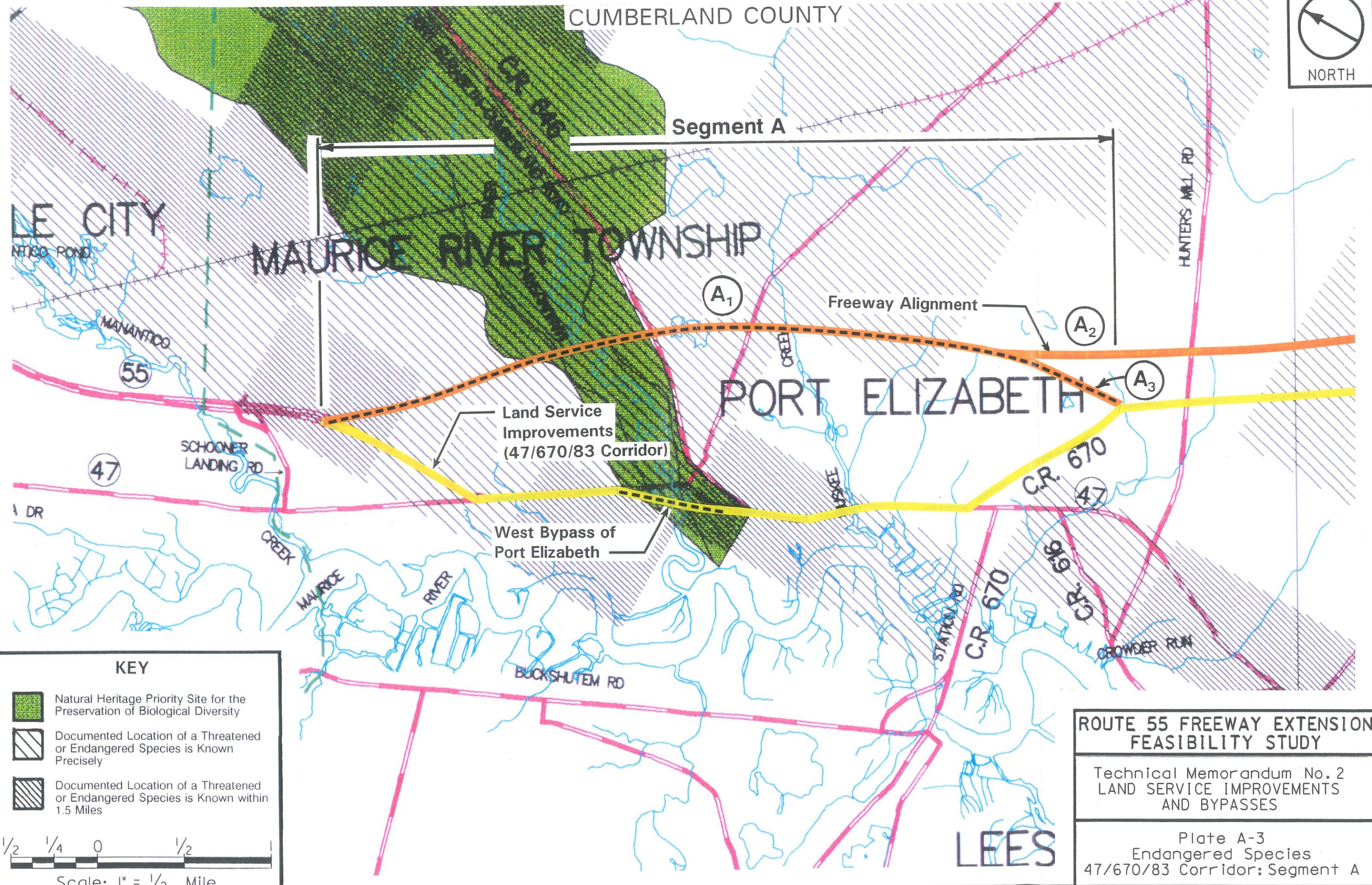


Scale: 1" = 1/2 Mile

ROUTE 55 FREEWAY EXTENSION FEASIBILITY STUDY

Technical Memorandum No. 2
LAND SERVICE IMPROVEMENTS
AND BYPASSES

Plate A-3
Endangered Species
47/670/83 Corridor: Segment A



CUMBERLAND COUNTY



Segment A

W. CITY

MAURICE RIVER TOWNSHIP

(A₁)

Freeway Alignment

(A₂)

PORT ELIZABETH

(A₃)

Land Service Improvements (47/670/83 Corridor)

West Bypass of Port Elizabeth

KEY

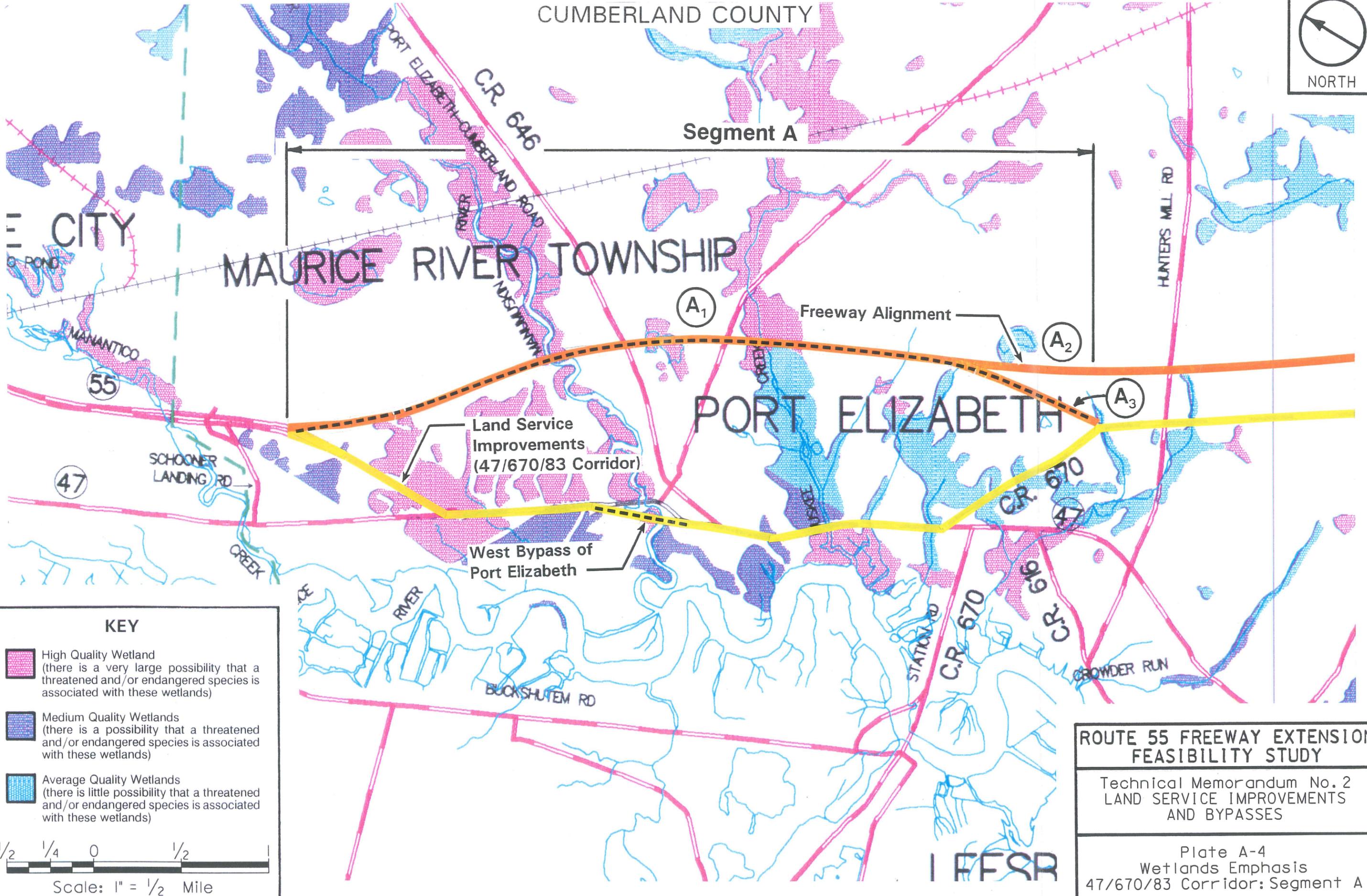
-  High Quality Wetland (there is a very large possibility that a threatened and/or endangered species is associated with these wetlands)
-  Medium Quality Wetlands (there is a possibility that a threatened and/or endangered species is associated with these wetlands)
-  Average Quality Wetlands (there is little possibility that a threatened and/or endangered species is associated with these wetlands)


Scale: 1" = 1/2 Mile

ROUTE 55 FREEWAY EXTENSION FEASIBILITY STUDY

Technical Memorandum No. 2
LAND SERVICE IMPROVEMENTS AND BYPASSES

Plate A-4
Wetlands Emphasis
47/670/83 Corridor: Segment A

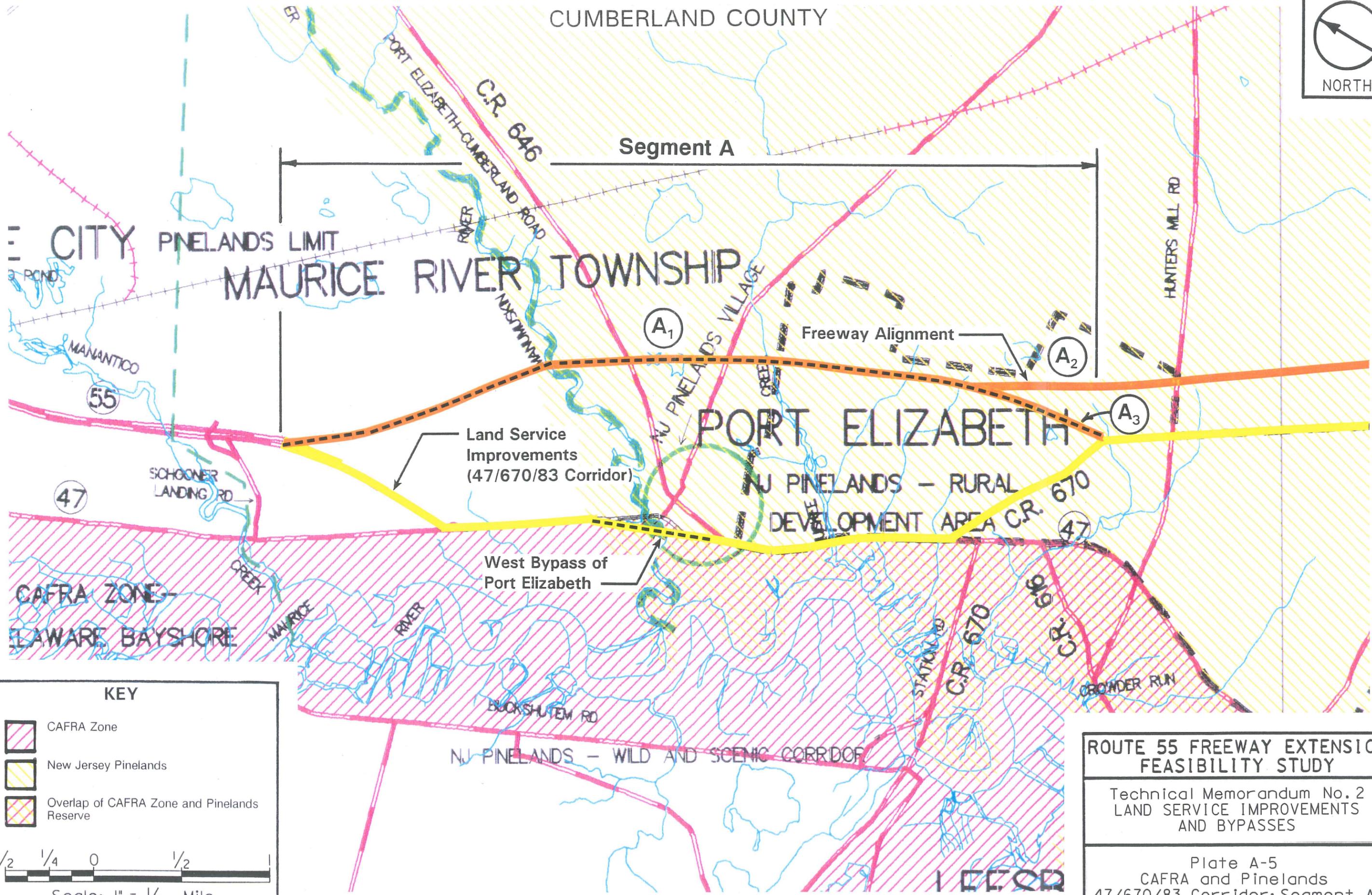


CUMBERLAND COUNTY



Segment A

CITY PINELANDS LIMIT
MAURICE RIVER TOWNSHIP



KEY

-  CAFRA Zone
-  New Jersey Pinelands
-  Overlap of CAFRA Zone and Pinelands Reserve



Scale: 1" = 1/2 Mile

**ROUTE 55 FREEWAY EXTENSION
FEASIBILITY STUDY**

Technical Memorandum No. 2
LAND SERVICE IMPROVEMENTS
AND BYPASSES

Plate A-5
CAFRA and Pinelands
47/670/83 Corridor: Segment A

CUMBERLAND COUNTY



NORTH

MANANTICO PONDS
(STATE GAME & WILDLIFE)

BELLEPLAIN STATE FOREST

Segment A

C.R. 646

MAURICE RIVER TOWNSHIP

PORT ELIZABETH CITY

MANANTICO RIVER
55

Freeway Alignment

A₁

A₂

A₃

Land Service Improvements
(47/670/83 Corridor)

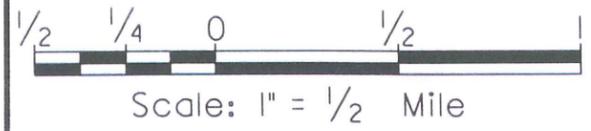
PORT ELIZABETH

C.R. 670
47

West Bypass of
Port Elizabeth

KEY

-  County Agriculture Development Areas (ADA's)
-  Parks, Forests, Gamelands
-  Proposed Development of Single Family Units
-  Farmsteads Enrolled in 8 Year Preservation Program
-  Areas Designated as High for Potential Contamination
-  Parks, Forests, Gamelands and Proposed Development of Single Family Homes
-  Parks, Forests, Gamelands and County Agriculture Development Areas



ROUTE 55 FREEWAY EXTENSION
FEASIBILITY STUDY

Technical Memorandum No. 2
LAND SERVICE IMPROVEMENTS
AND BYPASSES

Plate A-6
Parks, Forests, & Gamelands
47/670/83 Corridor: Segment A

MAURICE RIVER

RIVER

BUCKSHUTEM RD

STATION RD

C.R. 670

C.R. 646

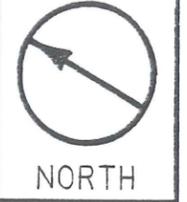
C.R. 670

CROWDER RUN

HUNTERS MILL RD

BEI

CUMBERLAND COUNTY



Segment A

E CITY

MAURICE RIVER TOWNSHIP

PORT ELIZABETH

A₁

Freeway Alignment

A₂

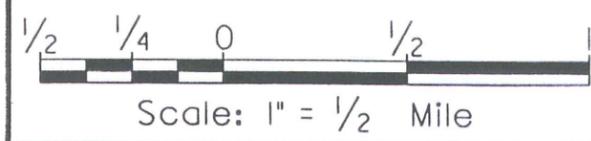
A₃

Land Service Improvements (47/670/83 Corridor)

West Bypass of Port Elizabeth

KEY

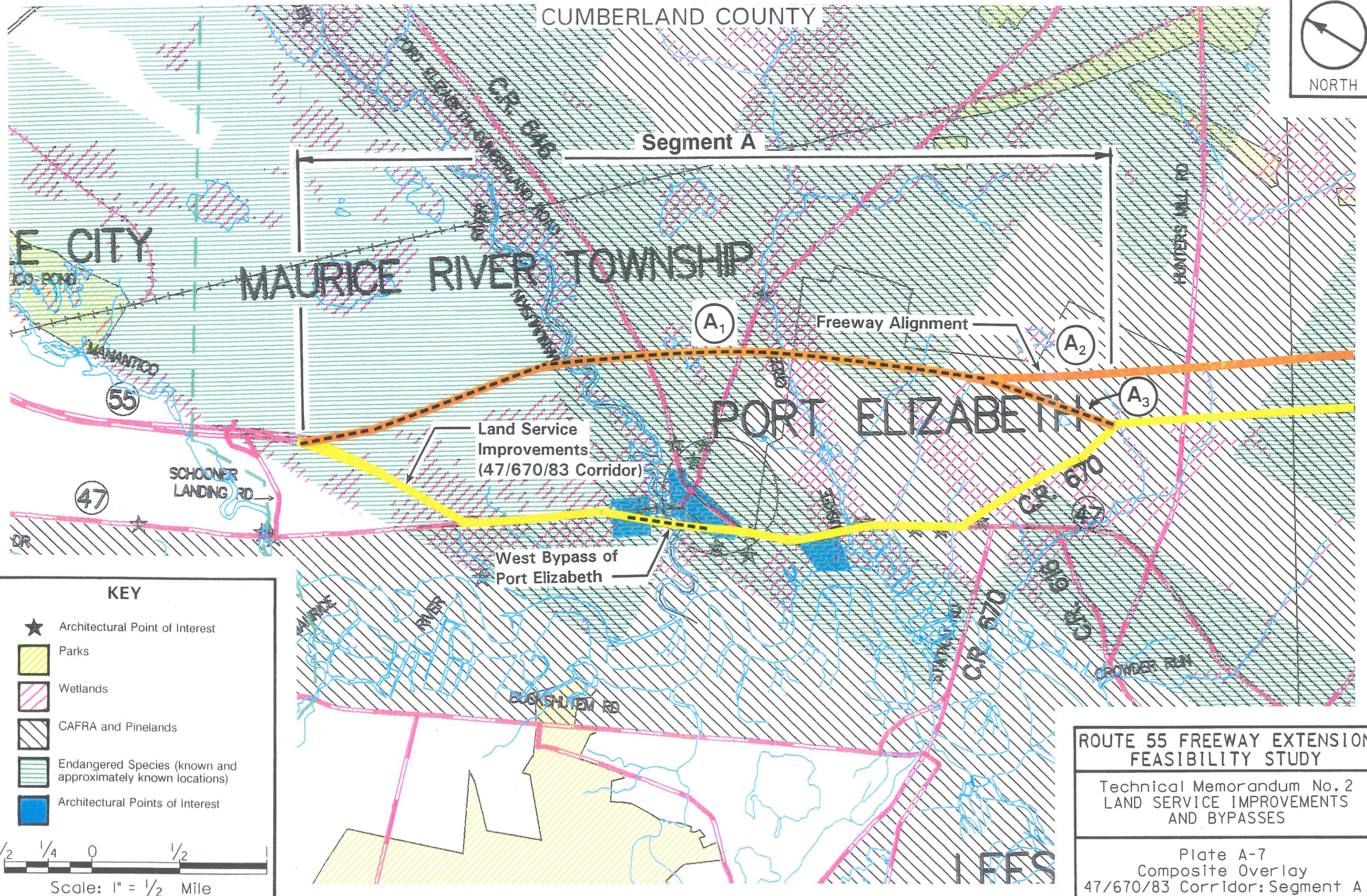
- ★ Architectural Point of Interest
- Parks
- Wetlands
- CAFRA and Pinelands
- Endangered Species (known and approximately known locations)
- Architectural Points of Interest



ROUTE 55 FREEWAY EXTENSION FEASIBILITY STUDY

Technical Memorandum No. 2
LAND SERVICE IMPROVEMENTS AND BYPASSES

Plate A-7
Composite Overlay
47/670/83 Corridor: Segment A



LAND SERVICE ALTERNATES

Route 47/670/83 Corridor: Study Segment B

Table B-1: Alternate Configurations

Table B-1: Alternate Configurations								
Rt. 55 Freeway Alternates*			Rt. 47 / 670 / 83 Land Service Alternates					
			Alt. 3	Alt. 4	Alt. 5	Alt. 5A	Alt. 6	Alt. 6A
Freeway Alignment (Orange Line)	Alt. 1	Alt. 2						
	4 Lanes w/ Barrier Curb & Shoulders	4 Lanes w/ Grass Median & Shoulders	NA	NA	NA	NA	NA	NA
Existing Rt. 670 (Yellow Line)	To Remain As Is	To Remain As Is	2 Lanes (Upgraded) w/ Shoulders	2 Lanes (Upgraded) w/ Shoulders	4 Lanes (Upgraded) w/ Barrier Curb & Shoulders	4 Lanes (Upgraded) w/ Barrier Curb & Shoulders	4 Lanes (Upgraded) w/ Grass Median & Shoulders	4 Lanes (Upgraded) w/ Grass Median & Shoulders
Existing Rt. 47 (Yellow Line)	To Remain As Is	To Remain As Is	2 Lanes (Upgraded) w/ Shoulders	2 Lanes (Upgraded) w/ Shoulders	4 Lanes (Upgraded) w/ Barrier Curb & Shoulders	4 Lanes (Upgraded) w/ Barrier Curb & Shoulders	4 Lanes (Upgraded) w/ Grass Median & Shoulders	4 Lanes (Upgraded) w/ Grass Median & Shoulders

*Note: Data for alternates in shaded region is detailed in
Technical Memorandum No. 1: Freeway Alignments

Alternative 3 (Segment B) - Two Lane Upgrade

(Yellow Line - see Plate B-1)

Through Segment B, this alternate provides for a two lane upgrade along existing Routes 670 & 47. Horizontal and vertical alignment deficiencies along the existing routes will be upgraded to maintain a posted speed of 50 mph. Total length of Segment: approximately 9 miles.

Design Parameters

Typical Section: One 12 ft. wide travel lane with 10 ft. wide outside shoulder, each direction
Design Speed: 55 mph
Superelevation: 6% (maximum)
Existing ROW: _____
Proposed ROW: _____ feet
Total Acres Req'd: _____ acres
Design Year: 2005

Serviceability

Existing/Proposed Level of Service (Average Day): ____/____
Existing/Proposed Level of Service (Tourism Season): ____/____

Interchanges & Intersections

The following locations are geometrically substandard and will require additional right-of-way acquisition for implementation:

1. County Route 670, commencing approx. 1,500' west of Belleplain Road (County Route 550) heading east, 5.0 miles of reconstruction requiring 18 to 84' of additional right-of-way. Included within this segment of roadway is the realignment of Hands Mill Road (County Route 550), which must also be addressed.
2. Route 47 from the County Route 670 intersection in Cape May County, 1.3 miles of profiling within the existing right-of-way.

Alternative 3 (Segment B) - cont.

Environmental Impacts

Cultural Resources
(Plate B-2)

- Potentially Historic Bridges (50+ years) replaced/repaired
- Historic Buildings (acquired)
- Historic Buildings (disrupted setting)
- Historic Districts Encroached by ROW
- Known Historic Archaeological Sites Disrupted by ROW
- Known Prehistoric Archaeological Sites Disrupted by ROW
- Areas with High Potential for Archaeological Resources

Endangered Species
(Plates B-3 & B-4)

This alternate will encroach upon areas of high quality wetlands which have a very high potential for containing threatened or endangered species. See appendix for species affected.

*Socioeconomic,
Land Use, Visual*
(Plates B-5 & B-6)

General Impact on Social Constraints:
 - Residences Displaced by Alternate: residences
 - Impact to Communities Disrupted by ROW:

General Impact on Economic Constraints:
 - Businesses Displaced by Alternate: businesses
 - Affect to Businesses Bypassed by Alternate:

General Impact on Land Use Constraints:
 - Consistent with Pineland Policies:
 - Consistent with CAFRA Policies:
 - Potential Secondary Development:
 - Acquired Agricultural Development Areas: acres
 - Parks Disrupted by ROW, Acres Acquired: acres
 - State Forests Disrupted, Acres Acquired: acres
 - Wildlife Refuges Disrupted, Acres Acquired: acres

General Impact on Visual Constraints:
 - Number of Scenic Corridors Impacted: scenic corridor

Wetlands Emphasis
(Plate B-4)

Acres of Wetlands Acquired: acres
 Mitigation at @ 2:1 Replacement Ratio: acres
 Quality of Wetlands Acquired:
 Impacts to Buffer Areas in Segment B:
 Impacts to Water Quality in Segment B:
 Impacts to Upland Forests in Segment B:

Contamination Sites
(Plate B-6)

Hazardous Waste Sites within ROW: sites
 Potential Hazardous Waste Sites: sites

Alternative 4 (Segment B) - Two Lane Upgrade

(Yellow Line - see Plate B-1)

Through Segment B, this alternate provides for a two lane upgrade along existing Routes 670 & 47. Horizontal and vertical alignment deficiencies along the existing routes will be upgraded to maintain a posted speed of 50 mph. Total length of Segment: approximately 9 miles.

Design Parameters

Typical Section: One 12 ft. wide travel lane with 10 ft. wide outside shoulder, each direction
Design Speed: 55 mph
Superelevation: 6% (maximum)
Existing ROW: _____ feet
Proposed ROW: _____ feet
Total Acres Req'd: _____ acres
Design Year: 2005

Serviceability

Existing/Proposed Level of Service (Average Day): _____/_____
Existing/Proposed Level of Service (Tourism Season): _____/_____

Interchanges & Intersections

The following locations are geometrically substandard and will require additional right-of-way acquisition for implementation:

1. County Route 670, commencing approx. 1,500' west of Belleplain Road (County Route 550) heading east, 5.0 miles of reconstruction requiring 18 to 84' of additional right-of-way. Included within this segment of roadway is the realignment of Hands Mill Road (County Route 550), which must also be addressed.
2. Route 47 from the County Route 670 intersection in Cape May County, 1.3 miles of profiling within the existing right-of-way.

Alternative 4 (Segment B) - cont.

Environmental Impacts

Cultural Resources
(Plate B-2)

- Potentially Historic Bridges (50+ years) replaced/repaired
- Historic Buildings (acquired)
- Historic Buildings (disrupted setting)
- Historic Districts Encroached by ROW
- Known Historic Archaeological Sites Disrupted by ROW
- Known Prehistoric Archaeological Sites Disrupted by ROW
- Areas with High Potential for Archaeological Resources

Endangered Species
(Plates B-3 & B-4)

This alternate will encroach upon areas of high quality wetlands which have a very high potential for containing threatened or endangered species. See appendix for species affected.

Socioeconomic,
Land Use, Visual
(Plates B-5 & B-6)

General Impact on Social Constraints:
- Residences Displaced by Alternate: residences
- Impact to Communities Disrupted by ROW:

General Impact on Economic Constraints:
- Businesses Displaced by Alternate: businesses
- Affect to Businesses Bypassed by Alternate:

General Impact on Land Use Constraints:
- Consistent with Pineland Policies:
- Consistent with CAFRA Policies:
- Potential Secondary Development:
- Acquired Agricultural Development Areas: acres
- Parks Disrupted by ROW, Acres Acquired: acres
- State Forests Disrupted, Acres Acquired: acres
- Wildlife Refuges Disrupted, Acres Acquired: acres

General Impact on Visual Constraints:
- Number of Scenic Corridors Impacted: scenic corridor

Wetlands Emphasis
(Plate B-4)

Acres of Wetlands Acquired: acres
Mitigation at @ 2:1 Replacement Ratio: acres
Quality of Wetlands Acquired:
Impacts to Buffer Areas in Segment B:
Impacts to Water Quality in Segment B:
Impacts to Upland Forests in Segment B:

Contamination Sites
(Plate B-6)

Hazardous Waste Sites within ROW: sites
Potential Hazardous Waste Sites: sites

Alternative 5 (Segment B) - Four Lane Upgrade

(Yellow Line - see Plate B-1)

Through Segment B, this alternate provides for a four lane upgrade along existing Routes 670 & 47. Horizontal and vertical alignment deficiencies along the existing routes will be upgraded to accommodate a design speed of 60 mph. The roadway is divided by a concrete barrier curb. Total length of Segment: approximately 9 miles.

Design Parameters

Typical Section:	Two 12 ft. wide travel lanes with 10 ft. wide outside and 5 ft. wide inside shoulders, each direction, separated by median barrier curb
Design Speed:	60 mph
Superelevation:	6% (maximum)
Existing ROW:	66 feet
Proposed ROW:	130 feet
Total Acres Req'd:	104.6 acres
Design Year:	2005

Serviceability

Existing/Proposed Level of Service (Average Day):	C/A
Existing/Proposed Level of Service (Tourism Season):	E/D

Interchanges & Intersections

No significant intersection improvements or interchanges will be necessary for this alternate within the limits of Segment B.

Alternative 5 (Segment B) - cont.

Environmental Impacts

Cultural Resources
(Plate B-2)

0 Potentially Historic Bridges (50+ years) replaced/repaired
4 Historic Buildings (acquired)
1 Historic Buildings (disrupted setting)
0 Historic Districts Encroached by ROW
3 Known Historic Archaeological Sites Disrupted by ROW
0 Known Prehistoric Archaeological Sites Disrupted by ROW
11 Areas with High Potential for Archaeological Resources

Endangered Species
(Plates B-3 & B-4)

This alternate will encroach upon areas of high quality wetlands which have a very high potential for containing threatened or endangered species. See appendix for species affected.

*Socioeconomic,
Land Use, Visual*
(Plates B-5 & B-6)

General Impact on Social Constraints: Adverse
- Residences Displaced by Alternate: 39 residences
- Impact to Communities Disrupted by ROW: Adverse

General Impact on Economic Constraints: Moderate
- Businesses Displaced by Alternate: 6 businesses
- Affect to Businesses Bypassed by Alternate: NA

General Impact on Land Use Constraints: Adverse
- Consistent with Pineland Policies: No
- Consistent with CAFRA Policies: No
- Potential Secondary Development: Yes (high)
- Acquired Agricultural Development Areas: 4.7 acres
- Parks Disrupted by ROW, Acres Acquired: 0 acres
- State Forests Disrupted, Acres Acquired: 12.2 acres
- Wildlife Refuges Disrupted, Acres Acquired: 0 acres

General Impact on Visual Constraints: Adverse
- Number of Scenic Corridors Impacted: 0 scenic corridors

Wetlands Emphasis
(Plate B-4)

Acres of Wetlands Acquired: 8.9 acres
Mitigation at @ 2:1 Replacement Ratio: 17.8 acres
Quality of Wetlands Acquired: Medium to High
Impacts to Buffer Areas in Segment B: Yes
Impacts to Water Quality in Segment B: Adverse
Impacts to Upland Forests in Segment B: Minor

Contamination Sites
(Plate B-6)

Hazardous Waste Sites within ROW: 0 sites
Potential Hazardous Waste Sites: 0 sites

Alternative 5A (Segment B) - Four Lane Upgrade

(Yellow Line - see Plate B-1)

Through Segment B, this alternate provides for a four lane upgrade along existing Routes 670 & 47. Horizontal and vertical alignment deficiencies along the existing routes will be upgraded to accommodate a design speed of 60 mph. The roadway is divided by a concrete barrier curb. Total length of Segment: approximately 9 miles.

Design Parameters

Typical Section:	Two 12 ft. wide travel lanes with 10 ft. wide outside and 5 ft. wide inside shoulders, each direction, separated by median barrier curb
Design Speed:	60 mph
Superelevation:	6% (maximum)
Existing ROW:	66 feet
Proposed ROW:	130 feet
Total Acres Req'd:	104.6 acres
Design Year:	2005

Serviceability

Existing/Proposed Level of Service (Average Day):	C/A
Existing/Proposed Level of Service (Tourism Season):	E/D

Interchanges & Intersections

No significant intersection improvements or interchanges will be necessary for this alternate within the limits of Segment B.

Alternative 5A (Segment B) - cont.

Environmental Impacts

Cultural Resources
(Plate B-2)

0 Potentially Historic Bridges (50+ years) replaced/repared
4 Historic Buildings (acquired)
1 Historic Buildings (disrupted setting)
0 Historic Districts Encroached by ROW
3 Known Historic Archaeological Sites Disrupted by ROW
0 Known Prehistoric Archaeological Sites Disrupted by ROW
11 Areas with High Potential for Archaeological Resources

Endangered Species
(Plates B-3 & B-4)

This alternate will encroach upon areas of high quality wetlands which have a very high potential for containing threatened or endangered species. See appendix for species affected.

*Socioeconomic,
Land Use, Visual*
(Plates B-5 & B-6)

General Impact on Social Constraints: Adverse
- Residences Displaced by Alternate: 39 residences
- Impact to Communities Disrupted by ROW: Adverse

General Impact on Economic Constraints: Moderate
- Businesses Displaced by Alternate: 6 businesses
- Affect to Businesses Bypassed by Alternate: NA

General Impact on Land Use Constraints: Adverse
- Consistent with Pineland Policies: No
- Consistent with CAFRA Policies: No
- Potential Secondary Development: Yes (high)
- Acquired Agricultural Development Areas: 4.7 acres
- Parks Disrupted by ROW, Acres Acquired: 0 acres
- State Forests Disrupted, Acres Acquired: 12.2 acres
- Wildlife Refuges Disrupted, Acres Acquired: 0 acres

General Impact on Visual Constraints: Adverse
- Number of Scenic Corridors Impacted: 0 scenic corridors

Acres of Wetlands Acquired: 8.9 acres
Mitigation at @ 2:1 Replacement Ratio: 17.8 acres
Quality of Wetlands Acquired: Medium to High
Impacts to Buffer Areas in Segment B: Yes
Impacts to Water Quality in Segment B: Adverse
Impacts to Upland Forests in Segment B: Minor

Wetlands Emphasis
(Plate B-4)

Contamination Sites
(Plate B-6)

Hazardous Waste Sites within ROW: 0 sites
Potential Hazardous Waste Sites: 0 sites

Alternative 6 (Segment B) - Four Lane Upgrade

(Yellow Line - see Plate B-1)

Through Segment B, this alternate provides for a four lane upgrade along existing Routes 670 & 47. Horizontal and vertical alignment deficiencies along the existing routes will be upgraded to accommodate a design speed of 60 mph. The roadway is divided by a 10' wide grass median. Total length of Segment: approximately 9 miles.

Design Parameters

Typical Section:	Two 12 ft. wide travel lanes with 10 ft. wide outside and 5 ft. wide inside shoulders, each direction, separated by 10' wide grass median
Design Speed:	60 mph
Superelevation:	6% (maximum)
Existing ROW:	66 feet
Proposed ROW:	148 feet
Total Acres Req'd:	123.9 acres
Design Year:	2005

Serviceability

Existing/Proposed Level of Service (Average Day):	C/A
Existing/Proposed Level of Service (Tourism Season):	E/D

Interchanges & Intersections

No significant intersection improvements or interchanges will be necessary for this alternate within the limits of Segment B.

Alternative 6 (Segment B) - cont.

Environmental Impacts

<i>Cultural Resources</i> (Plate B-2)	0 Potentially Historic Bridges (50+ years) replaced/repaired 4 Historic Buildings (acquired) 1 Historic Buildings (disrupted setting) 0 Historic Districts Encroached by ROW 3 Known Historic Archaeological Sites Disrupted by ROW 0 Known Prehistoric Archaeological Sites Disrupted by ROW 11 Areas with High Potential for Archaeological Resources
<i>Endangered Species</i> (Plates B-3 & B-4)	This alternate will encroach upon areas of high quality wetlands which have a very high potential for containing threatened or endangered species. See appendix for species affected.
<i>Socioeconomic, Land Use, Visual</i> (Plates B-5 & B-6)	General Impact on Social Constraints: Adverse - Residences Displaced by Alternate: 39 residences - Impact to Communities Disrupted by ROW: Adverse General Impact on Economic Constraints: Moderate - Businesses Displaced by Alternate: 6 businesses - Affect to Businesses Bypassed by Alternate: NA General Impact on Land Use Constraints: Adverse - Consistent with Pineland Policies: No - Consistent with CAFRA Policies: No - Potential Secondary Development: Yes (high) - Acquired Agricultural Development Areas: 5.6 acres - Parks Disrupted by ROW, Acres Acquired: 0 acres - State Forests Disrupted, Acres Acquired: 14.5 acres - Wildlife Refuges Disrupted, Acres Acquired: 0 acres General Impact on Visual Constraints: Adverse - Number of Scenic Corridors Impacted: 0 scenic corridors
<i>Wetlands Emphasis</i> (Plate B-4)	Acres of Wetlands Acquired: 10.7 acres Mitigation at @ 2:1 Replacement Ratio: 17.8 acres Quality of Wetlands Acquired: Medium to High Impacts to Buffer Areas in Segment B: Yes Impacts to Water Quality in Segment B: Adverse Impacts to Upland Forests in Segment B: Moderate
<i>Contamination Sites</i> (Plate B-6)	Hazardous Waste Sites within ROW: 0 sites Potential Hazardous Waste Sites: 0 sites

Alternative 6A (Segment B) - Four Lane Upgrade

(Yellow Line - see Plate B-1)

Through Segment B, this alternate provides for a four lane upgrade along existing Routes 670 & 47. Horizontal and vertical alignment deficiencies along the existing routes will be upgraded to accommodate a design speed of 60 mph. The roadway is divided by a 10' wide grass median. Total length of Segment: approximately 9 miles.

Design Parameters

Typical Section:	Two 12 ft. wide travel lanes with 10 ft. wide outside and 5 ft. wide inside shoulders, each direction, separated by 10' wide grass median
Speed:	60 mph
Superelevation:	6% (maximum)
Existing ROW:	66 feet
Proposed ROW:	148 feet
Total Acres Req'd:	123.9 acres
Design Year:	2005

Serviceability

Existing/Proposed Level of Service (Average Day):	C/A
Existing/Proposed Level of Service (Tourism Season):	E/D

Interchanges & Intersections

No significant intersection improvements or interchanges will be necessary for this alternate within the limits of Segment B.

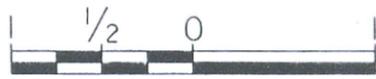
Alternative 6A (Segment B) - cont.

Environmental Impacts

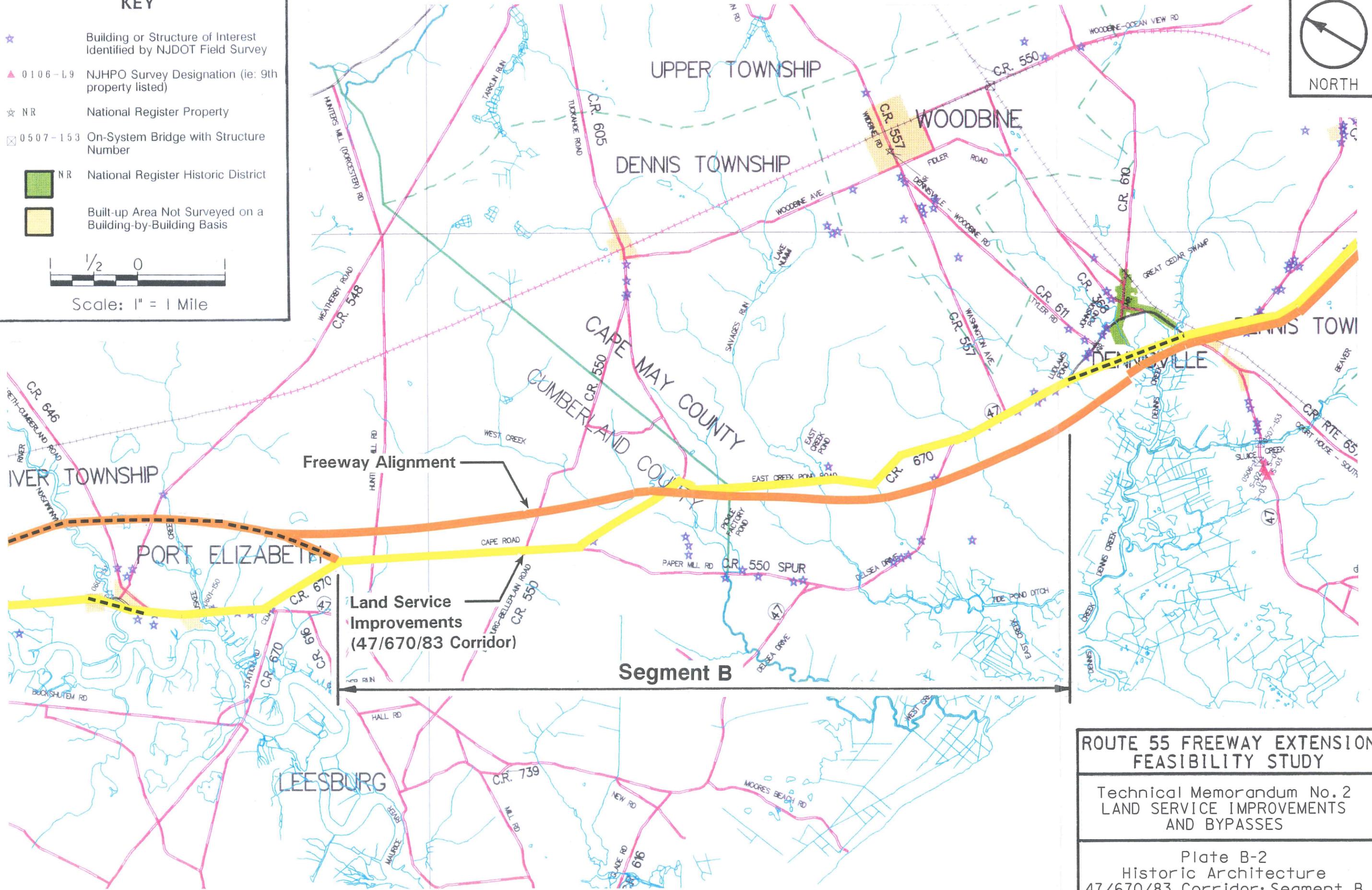
<i>Cultural Resources</i> (Plate B-2)	0 Potentially Historic Bridges (50+ years) replaced/repaired 4 Historic Buildings (acquired) 1 Historic Buildings (disrupted setting) 0 Historic Districts Encroached by ROW 3 Known Historic Archaeological Sites Disrupted by ROW 0 Known Prehistoric Archaeological Sites Disrupted by ROW 11 Areas with High Potential for Archaeological Resources
<i>Endangered Species</i> (Plates B-3 & B-4)	This alternate will encroach upon areas of high quality wetlands which have a very high potential for containing threatened or endangered species. See appendix for species affected.
<i>Socioeconomic, Land Use, Visual</i> (Plates B-5 & B-6)	General Impact on Social Constraints: Adverse - Residences Displaced by Alternate: 39 residences - Impact to Communities Disrupted by ROW: Adverse General Impact on Economic Constraints: Moderate - Businesses Displaced by Alternate: 6 businesses - Affect to Businesses Bypassed by Alternate: NA General Impact on Land Use Constraints: Adverse - Consistent with Pineland Policies: No - Consistent with CAFRA Policies: No - Potential Secondary Development: Yes (high) - Acquired Agricultural Development Areas: 5.6 acres - Parks Disrupted by ROW, Acres Acquired: 0 acres - State Forests Disrupted, Acres Acquired: 14.5 acres - Wildlife Refuges Disrupted, Acres Acquired: 0 acres General Impact on Visual Constraints: Adverse - Number of Scenic Corridors Impacted: 0 scenic corridors
<i>Wetlands Emphasis</i> (Plate B-4)	Acres of Wetlands Acquired: 10.7 acres Mitigation at @ 2:1 Replacement Ratio: 17.8 acres Quality of Wetlands Acquired: Medium to High Impacts to Buffer Areas in Segment B: Yes Impacts to Water Quality in Segment B: Adverse Impacts to Upland Forests in Segment B: Moderate
<i>Contamination Sites</i> (Plate B-6)	Hazardous Waste Sites within ROW: 0 sites Potential Hazardous Waste Sites: 0 sites

KEY

- ★ Building or Structure of Interest Identified by NJDOT Field Survey
- ▲ 0106-L9 NJHPO Survey Designation (ie: 9th property listed)
- ☆ NR National Register Property
- ☒ 0507-153 On-System Bridge with Structure Number
- NR National Register Historic District
- Built-up Area Not Surveyed on a Building-by-Building Basis



Scale: 1" = 1 Mile



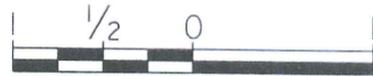
**ROUTE 55 FREEWAY EXTENSION
FEASIBILITY STUDY**

Technical Memorandum No. 2
LAND SERVICE IMPROVEMENTS
AND BYPASSES

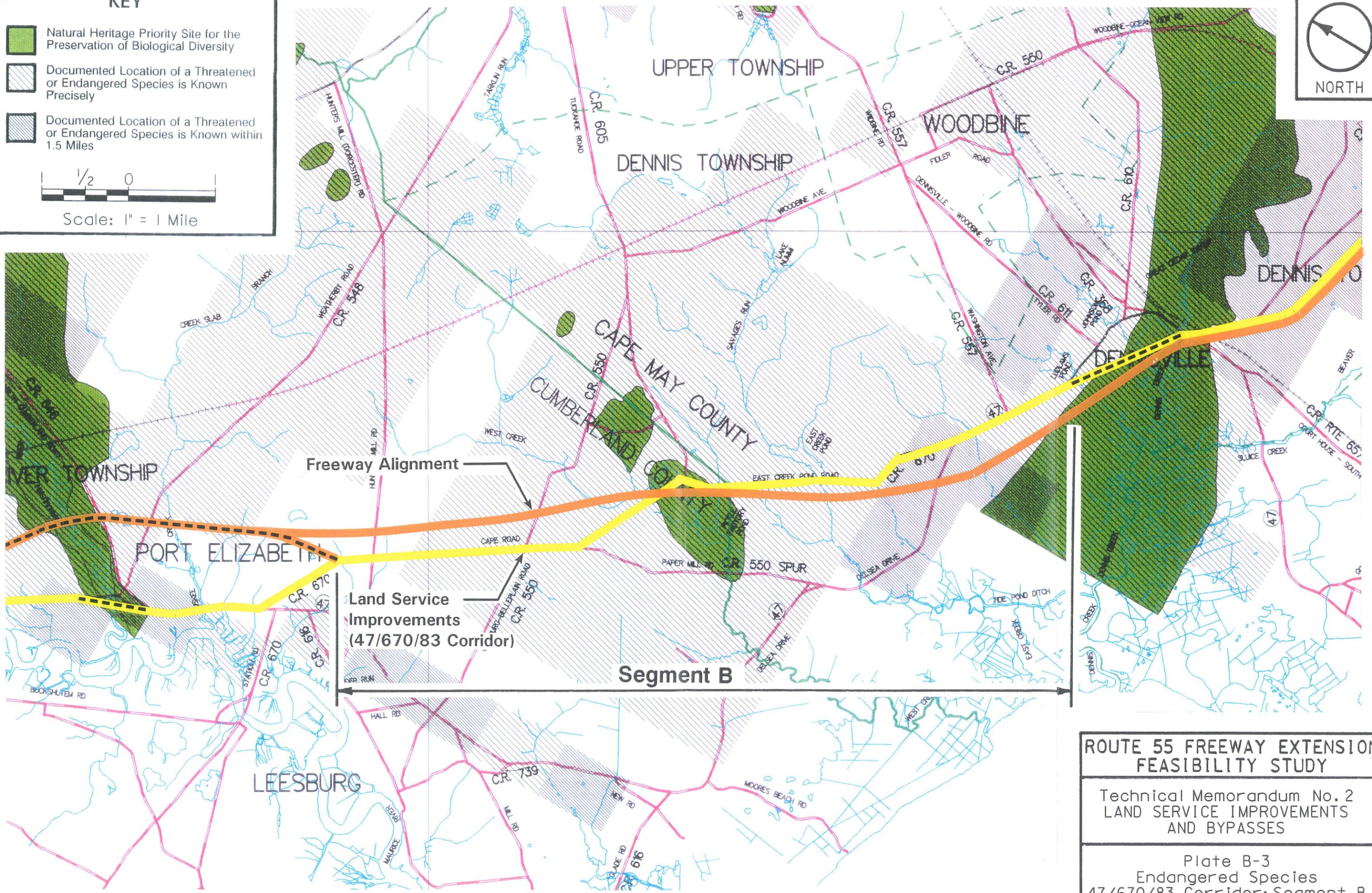
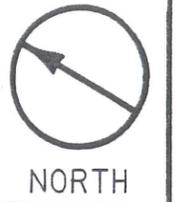
Plate B-2
Historic Architecture
47/670/83 Corridor: Segment B

KEY

-  Natural Heritage Priority Site for the Preservation of Biological Diversity
-  Documented Location of a Threatened or Endangered Species is Known Precisely
-  Documented Location of a Threatened or Endangered Species is Known within 1.5 Miles



Scale: 1" = 1 Mile



Freeway Alignment

Land Service Improvements (47/670/83 Corridor)

Segment B

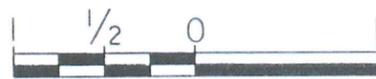
ROUTE 55 FREEWAY EXTENSION FEASIBILITY STUDY

Technical Memorandum No. 2
LAND SERVICE IMPROVEMENTS AND BYPASSES

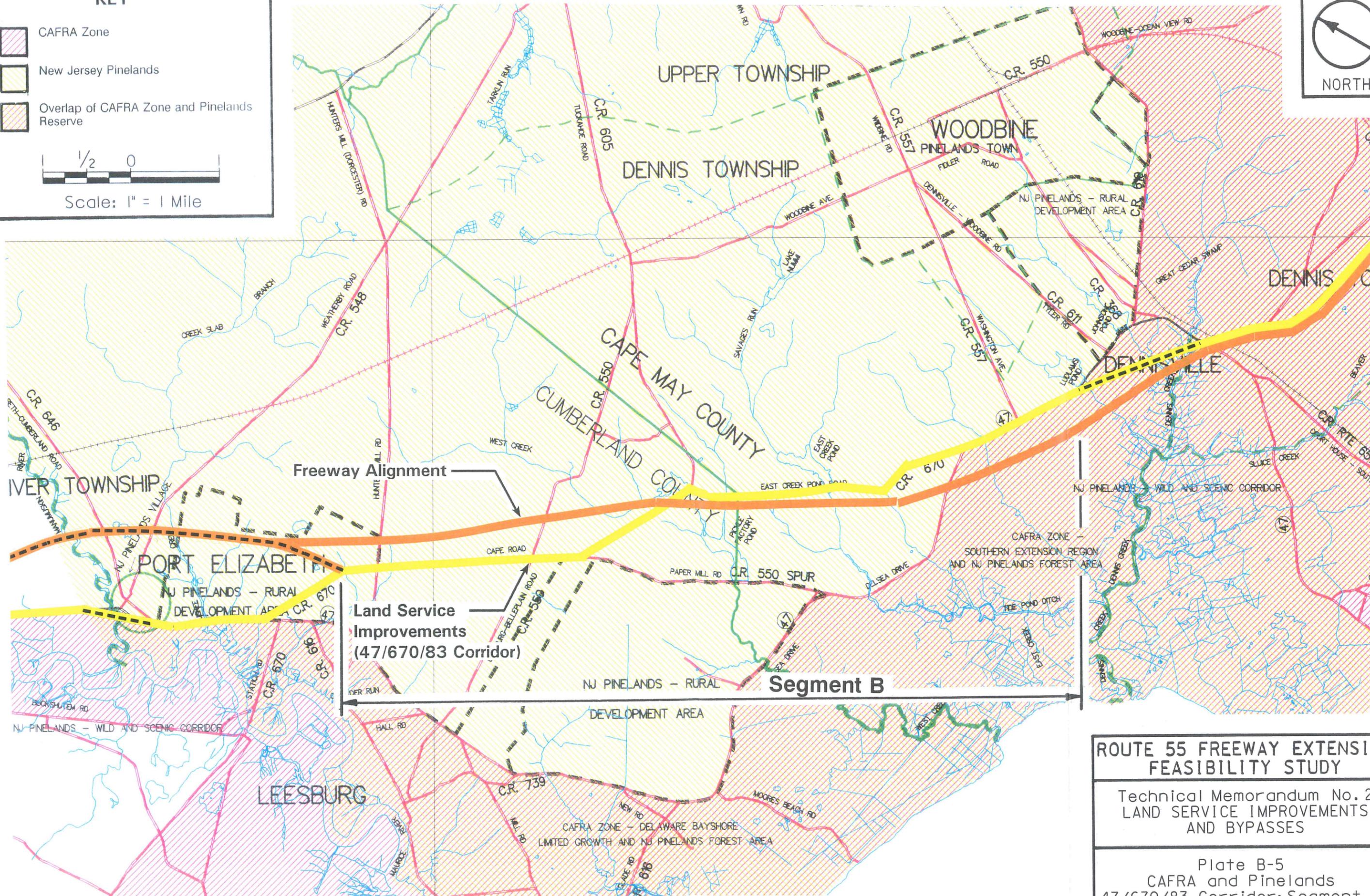
Plate B-3
Endangered Species
47/670/83 Corridor: Segment B

KEY

-  CAFRA Zone
-  New Jersey Pinelands
-  Overlap of CAFRA Zone and Pinelands Reserve



Scale: 1" = 1 Mile



**ROUTE 55 FREEWAY EXTENSION
FEASIBILITY STUDY**

Technical Memorandum No. 2
LAND SERVICE IMPROVEMENTS
AND BYPASSES

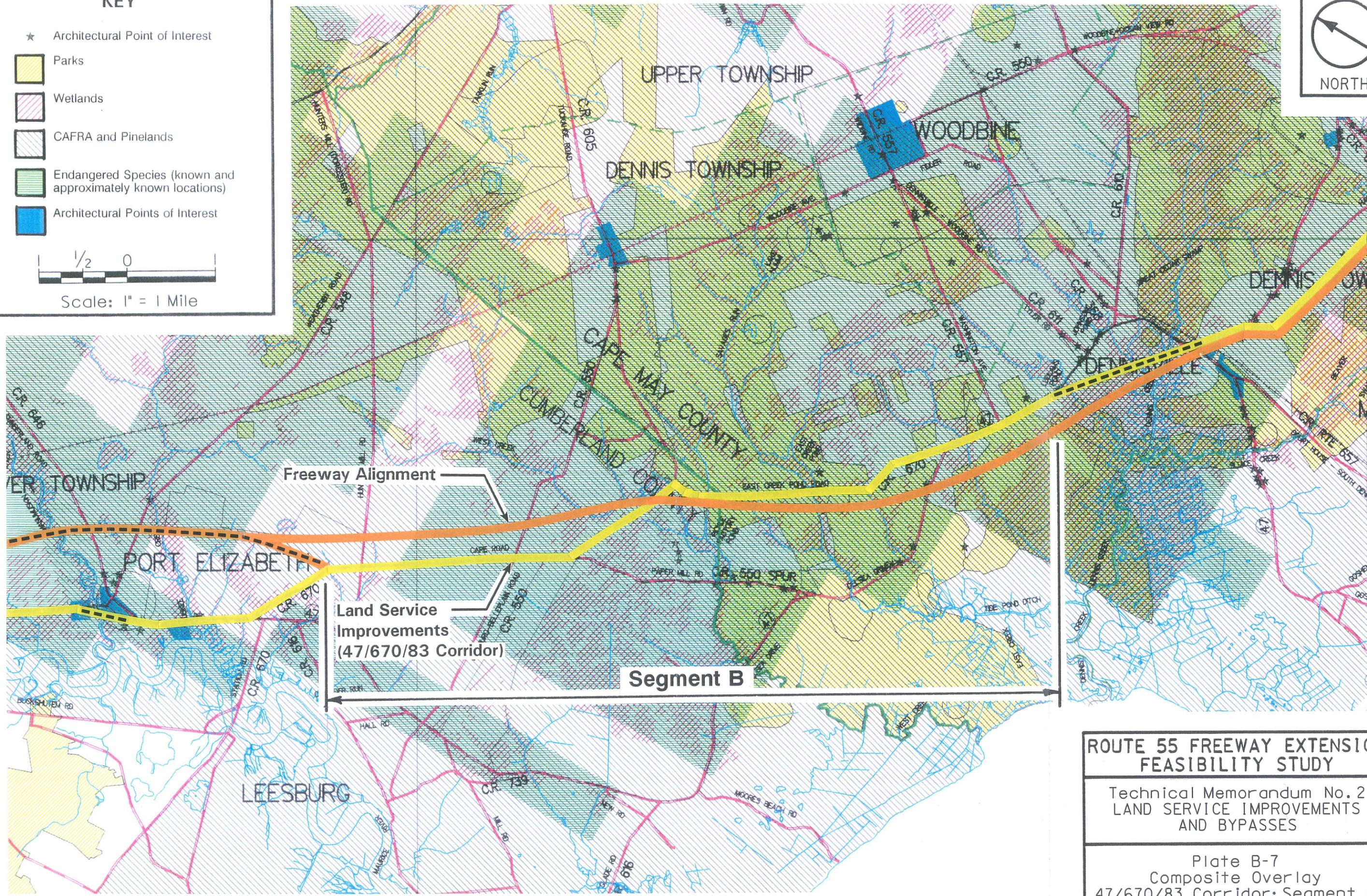
Plate B-5
CAFRA and Pinelands
47/670/83 Corridor: Segment B

KEY

- ★ Architectural Point of Interest
-  Parks
-  Wetlands
-  CAFRA and Pinelands
-  Endangered Species (known and approximately known locations)
-  Architectural Points of Interest



Scale: 1" = 1 Mile



**ROUTE 55 FREEWAY EXTENSION
FEASIBILITY STUDY**

Technical Memorandum No. 2
LAND SERVICE IMPROVEMENTS
AND BYPASSES

Plate B-7
Composite Overlay
47/670/83 Corridor: Segment B

LAND SERVICE ALTERNATES

Route 47/670/83 Corridor: Study Segment C

KEY

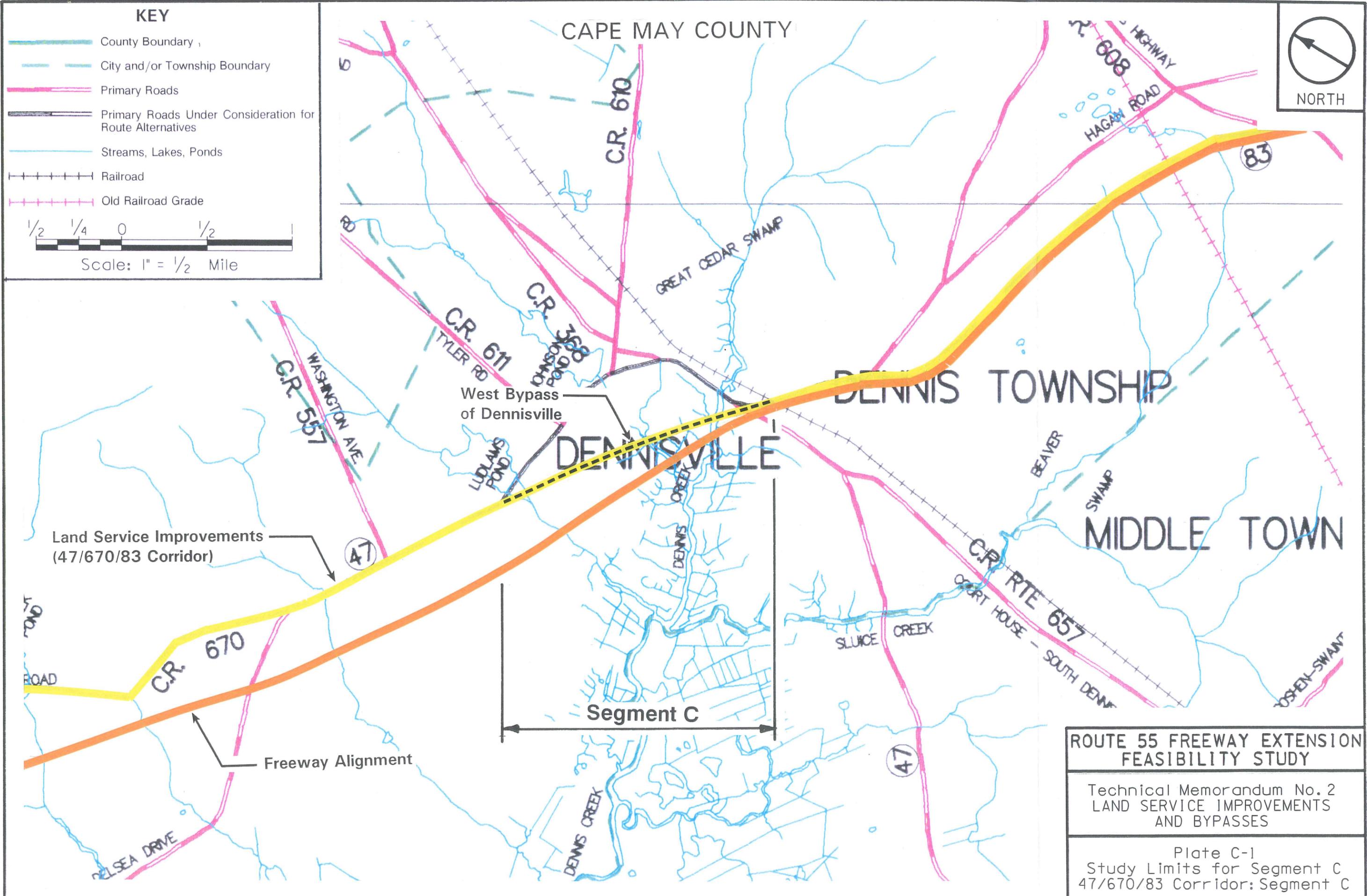
-  County Boundary
-  City and/or Township Boundary
-  Primary Roads
-  Primary Roads Under Consideration for Route Alternatives
-  Streams, Lakes, Ponds
-  Railroad
-  Old Railroad Grade



Scale: 1" = 1/2 Mile



CAPE MAY COUNTY



Land Service Improvements
(47/670/83 Corridor)

Segment C

Freeway Alignment

**ROUTE 55 FREEWAY EXTENSION
FEASIBILITY STUDY**

Technical Memorandum No. 2
LAND SERVICE IMPROVEMENTS
AND BYPASSES

Plate C-1
Study Limits for Segment C
47/670/83 Corridor: Segment C

Table C-1: Alternate Configurations

	Rt. 55 Freeway Alternates*		Rt. 47 / 670 / 83 Land Service Alternates					
	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 5	Alt. 5A	Alt. 6	Alt. 6A
	Freeway Alignment (Orange Line)	4 Lanes w/ Barrier Curb & Shoulders	4 Lanes w/ Grass Median & Shoulders	NA	NA	NA	NA	NA
West Bypass of Dennisville (Yellow Dash Line)	NA	NA	2 Lanes (Upgraded) w/ Shoulders	2 Lanes (Upgraded) w/ Shoulders	4 Lanes (Upgraded) w/ Barrier Curb & Shoulders	4 Lanes (Upgraded) w/ Barrier Curb & Shoulders	4 Lanes (Upgraded) w/ Grass Median & Shoulders	4 Lanes (Upgraded) w/ Grass Median & Shoulders
Existing Rt. 47 (Yellow Line)	To Remain As Is	To Remain As Is	To Remain As Is	To Remain As Is	To Remain As Is	To Remain As Is	To Remain As Is	To Remain As Is

***Note:** Data for alternates in shaded region is detailed in Technical Memorandum No. 1: Freeway Alignments

Alternative 3 (Segment C) - Two Lane Upgrade

(Yellow and Yellow Dashed Lines - see Plate C-1)

Through Segment C, this alternate provides for a westerly bypass around Dennisville in order to minimize impacts to the relatively undisturbed nature of the land surrounding this town. This westerly two (2) lane undivided bypass commences in the vicinity of Ludlams Pond (Route 47 M.P. 18.44) and spans across the High Quality Wetlands and Dennis Creek with a structure of 3,150' in length. The alignment extends a tangent from the 47/670 intersection east of the curve at Holly Drive and Ludlams Pond thus avoiding the potential hazardous waste site to the east. The centerline of the bypass roadway proceeds south parallel with Route 47, and realigns with the existing centerline in the vicinity of the Route 83 over the PRSL structure. Total length of Segment: approximately 2 miles.

Design Parameters

Typical Section:	One 12 ft. wide travel lane with 10 ft. wide outside shoulder, each direction
Design Speed:	55 mph
Superelevation:	6% (maximum)
Existing ROW:	NA
Proposed ROW:	120 feet
Total Acres Req'd:	22.4 acres
Design Year:	2005

Serviceability

Existing/Proposed Level of Service (Average Day):	___/___
Existing/Proposed Level of Service (Tourism Season):	___/___

Interchanges & Intersections

A 1,200' ± connector was assumed extending County Route 611 from it's present terminus at Route 47 to a point along the two lane westerly bypass of Dennisville.

Alternative 3 (Segment C) - cont.

Environmental Impacts

<i>Cultural Resources</i> (Plate C-2)	<ul style="list-style-type: none"> 1 Potentially Historic Bridges (50+ years) replaced/repared 0 Historic Buildings (acquired) 0 Historic Buildings (disrupted setting) 1 Historic Districts Encroached by ROW 0 Known Historic Archaeological Sites Disrupted by ROW 0 Known Prehistoric Archaeological Sites Disrupted by ROW 2 Areas with High Potential for Archaeological Resources 	
<i>Endangered Species</i> (Plates C-3 & C-4)	This alternate will encroach upon areas of high quality wetlands which have a very high potential for containing threatened or endangered species. See appendix for species affected.	
<i>Socioeconomic, Land Use, Visual</i> (Plates C-5 & C-6)	<ul style="list-style-type: none"> General Impact on Social Constraints: Adverse - Residences Displaced by Alternate: 6 residences - Impact to Communities Disrupted by ROW: Adverse General Impact on Economic Constraints: Minor - Businesses Displaced by Alternate: 2 businesses - Affect to Businesses Bypassed by Alternate: Minor General Impact on Land Use Constraints: Adverse - Consistent with Pineland Policies: No - Consistent with CAFRA Policies: NA - Potential Secondary Development: No - Acquired Agricultural Development Areas: 0 acres - Parks Disrupted by ROW, Acres Acquired: 0 acres - State Forests Disrupted, Acres Acquired: 0 acres - Wildlife Refuges Disrupted, Acres Acquired: 0 acres General Impact on Visual Constraints: Adverse - Number of Scenic Corridors Impacted: 1 scenic corridor 	
<i>Wetlands Emphasis</i> (Plate C-4)	<ul style="list-style-type: none"> Acres of Wetlands Acquired: 11.8 acres Mitigation at @ 2:1 Replacement Ratio: 23.6 acres Quality of Wetlands Acquired: High Impacts to Buffer Areas in Segment C: Yes Impacts to Water Quality in Segment C: Adverse Impacts to Upland Forests in Segment C: Adverse 	
<i>Contamination Sites</i> (Plate C-6)	<ul style="list-style-type: none"> Hazardous Waste Sites within ROW: 0 sites Potential Hazardous Waste Sites: 0 sites 	

Alternative 4 (Segment C) - Two Lane Upgrade
(Yellow and Yellow Dashed Lines - see Plate C-1)

Through Segment C, this alternate provides for a westerly bypass around Dennisville in order to minimize impacts to the relatively undisturbed nature of the land surrounding this town. This westerly two (2) lane undivided bypass commences in the vicinity of Ludlams Pond (Route 47 M.P. 18.44) and spans across the High Quality Wetlands and Dennis Creek with a structure of 3,150' in length. The alignment extends a tangent from the 47/670 intersection east of the curve at Holly Drive and Ludlams Pond thus avoiding the potential hazardous waste site to the east. The centerline of the bypass roadway proceeds south parallel with Route 47, and realigns with the existing centerline in the vicinity of the Route 83 over the PRSL structure. Total length of Segment: approximately 2 miles.

Design Parameters

Typical Section:	One 12 ft. wide travel lane with 10 ft. wide outside shoulder, each direction
Design Speed:	55 mph
Superelevation:	6% (maximum)
Existing ROW:	NA
Proposed ROW:	120 feet
Total Acres Req'd:	22.4 acres
Design Year:	2005

Serviceability

Existing/Proposed Level of Service (Average Day):	___/___
Existing/Proposed Level of Service (Tourism Season):	___/___

Interchanges & Intersections

A 1,200' ± connector was assumed extending County Route 611 from it's present terminus at Route 47 to a point along the two lane westerly bypass of Dennisville.

Alternative 4 (Segment C) - cont.

Environmental Impacts

<i>Cultural Resources</i> (Plate C-2)	1 Potentially Historic Bridges (50+ years) replaced/repared 0 Historic Buildings (acquired) 0 Historic Buildings (disrupted setting) 1 Historic Districts Encroached by ROW 0 Known Historic Archaeological Sites Disrupted by ROW 0 Known Prehistoric Archaeological Sites Disrupted by ROW 2 Areas with High Potential for Archaeological Resources
<i>Endangered Species</i> (Plates C-3 & C-4)	This alternate will encroach upon areas of high quality wetlands which have a very high potential for containing threatened or endangered species. See appendix for species affected.
<i>Socioeconomic, Land Use, Visual</i> (Plates C-5 & C-6)	General Impact on Social Constraints: Adverse - Residences Displaced by Alternate: 6 residences - Impact to Communities Disrupted by ROW: Adverse General Impact on Economic Constraints: Minor - Businesses Displaced by Alternate: 2 businesses - Affect to Businesses Bypassed by Alternate: Minor General Impact on Land Use Constraints: Adverse - Consistent with Pineland Policies: No - Consistent with CAFRA Policies: NA - Potential Secondary Development: No - Acquired Agricultural Development Areas: 0 acres - Parks Disrupted by ROW, Acres Acquired: 0 acres - State Forests Disrupted, Acres Acquired: 0 acres - Wildlife Refuges Disrupted, Acres Acquired: 0 acres General Impact on Visual Constraints: Adverse - Number of Scenic Corridors Impacted: 1 scenic corridor
<i>Wetlands Emphasis</i> (Plate C-4)	Acres of Wetlands Acquired: 11.8 acres Mitigation at @ 2:1 Replacement Ratio: 23.6 acres Quality of Wetlands Acquired: High Impacts to Buffer Areas in Segment C: Yes Impacts to Water Quality in Segment C: Adverse Impacts to Upland Forests in Segment C: Adverse
<i>Contamination Sites</i> (Plate C-6)	Hazardous Waste Sites within ROW: 0 sites Potential Hazardous Waste Sites: 0 sites

Alternative 5 (Segment C) - Four Lane Upgrade
(Yellow and Yellow Dashed Lines - see Plate C-1)

Through Segment C, this alternate provides for a westerly bypass around Dennisville in order to minimize impacts to the relatively undisturbed nature of the land surrounding this town. This westerly four (4) lane bypass commences in the vicinity of Ludlams Pond (Route 47 M.P. 18.44) and spans across the High Quality Wetlands and Dennis Creek with a structure of 3,150' in length. The alignment extends a tangent from the 47/670 intersection east of the curve at Holly Drive and Ludlams Pond thus avoiding the potential hazardous waste site to the east. The centerline of the bypass roadway proceeds south parallel with Route 47, and realigns with the existing centerline in the vicinity of the Route 83 over the PRSL structure. Total length of Segment: approximately 2 miles.

Design Parameters

Typical Section:	Two 12 ft. wide travel lanes with 10 ft. wide outside and 5 ft. wide inside shoulders, each direction, separated by median barrier curb
Design Speed:	60 mph
Superelevation:	6% (maximum)
Existing ROW:	NA
Proposed ROW:	130 feet
Total Acres Req'd:	35.9 acres
Design Year:	2005

Serviceability

Existing/Proposed Level of Service (Average Day):	D/A
Existing/Proposed Level of Service (Tourism Season):	E/E

Interchanges & Intersections

A 1,200' ± connector was assumed extending County Route 611 from it's present terminus at Route 47 to a point along the four lane westerly bypass of Dennisville.

This alternate also provides for a grade separated condition at the Route 47/Route 83 intersection with Route 47 passing under the Route 55 land service corridor.

Alternative 5 (Segment C) - cont.

Environmental Impacts

<i>Cultural Resources</i> (Plate C-2)	1 Potentially Historic Bridges (50+ years) replaced/repaired 0 Historic Buildings (acquired) 1 Historic Buildings (disrupted setting) 1 Historic Districts Encroached by ROW 0 Known Historic Archaeological Sites Disrupted by ROW 0 Known Prehistoric Archaeological Sites Disrupted by ROW 2 Areas with High Potential for Archaeological Resources
<i>Endangered Species</i> (Plates C-3 & C-4)	This alternate will encroach upon areas of high quality wetlands which have a very high potential for containing threatened or endangered species. See appendix for species affected.
<i>Socioeconomic, Land Use, Visual</i> (Plates C-5 & C-6)	General Impact on Social Constraints: Adverse - Residences Displaced by Alternate: 6 residences - Impact to Communities Disrupted by ROW: Adverse General Impact on Economic Constraints: Minor - Businesses Displaced by Alternate: 2 businesses - Affect to Businesses Bypassed by Alternate: Minor General Impact on Land Use Constraints: Adverse - Consistent with Pineland Policies: No - Consistent with CAFRA Policies: NA - Potential Secondary Development: No - Acquired Agricultural Development Areas: 0 acres - Parks Disrupted by ROW, Acres Acquired: 0 acres - State Forests Disrupted, Acres Acquired: 0 acres - Wildlife Refuges Disrupted, Acres Acquired: 0 acres General Impact on Visual Constraints: Adverse - Number of Scenic Corridors Impacted: 1 scenic corridor
<i>Wetlands Emphasis</i> (Plate C-4)	Acres of Wetlands Acquired: 27.8 acres Mitigation at @ 2:1 Replacement Ratio: 55.6 acres Quality of Wetlands Acquired: High Impacts to Buffer Areas in Segment C: Yes Impacts to Water Quality in Segment C: Adverse Impacts to Upland Forests in Segment C: Adverse
<i>Contamination Sites</i> (Plate C-6)	Hazardous Waste Sites within ROW: 0 sites Potential Hazardous Waste Sites: 0 sites

Alternative 5A (Segment C) - Four Lane Upgrade

(Yellow and Yellow Dashed Lines - see Plate C-1)

Through Segment C, this alternate provides for a westerly bypass around Dennisville in order to minimize impacts to the relatively undisturbed nature of the land surrounding this town. This westerly four (4) lane bypass commences in the vicinity of Ludlams Pond (Route 47 M.P. 18.44) and spans across the High Quality Wetlands and Dennis Creek with a structure of 3,150' in length. The alignment extends a tangent from the 47/670 intersection east of the curve at Holly Drive and Ludlams Pond thus avoiding the potential hazardous waste site to the east. The centerline of the bypass roadway proceeds south parallel with Route 47, and realigns with the existing centerline in the vicinity of the Route 83 over the PRSL structure. Total length of Segment: approximately 2 miles.

Design Parameters

Typical Section:	Two 12 ft. wide travel lanes with 10 ft. wide outside and 5 ft. wide inside shoulders, each direction, separated by median barrier curb
Design Speed:	60 mph
Superelevation:	6% (maximum)
Existing ROW:	NA
Proposed ROW:	130 feet
Total Acres Req'd:	35.9 acres
Design Year:	2005

Serviceability

Existing/Proposed Level of Service (Average Day):	D/A
Existing/Proposed Level of Service (Tourism Season):	E/E

Interchanges & Intersections

A 1,200' ± connector was assumed extending County Route 611 from it's present terminus at Route 47 to a point along the four lane westerly bypass of Dennisville.

This alternate also provides for a grade separated condition at the Route 47/Route 83 intersection with Route 47 passing under the Route 55 land service corridor.

Alternative 5A (Segment C) - cont.

Environmental Impacts

<i>Cultural Resources</i> (Plate C-2)	1 Potentially Historic Bridges (50+ years) replaced/repared 0 Historic Buildings (acquired) 1 Historic Buildings (disrupted setting) 1 Historic Districts Encroached by ROW 0 Known Historic Archaeological Sites Disrupted by ROW 0 Known Prehistoric Archaeological Sites Disrupted by ROW 2 Areas with High Potential for Archaeological Resources
<i>Endangered Species</i> (Plates C-3 & C-4)	This alternate will encroach upon areas of high quality wetlands which have a very high potential for containing threatened or endangered species. See appendix for species affected.
<i>Socioeconomic, Land Use, Visual</i> (Plates C-5 & C-6)	General Impact on Social Constraints: Adverse - Residences Displaced by Alternate: 6 residences - Impact to Communities Disrupted by ROW: Adverse General Impact on Economic Constraints: Minor - Businesses Displaced by Alternate: 2 businesses - Affect to Businesses Bypassed by Alternate: Minor General Impact on Land Use Constraints: Adverse - Consistent with Pineland Policies: No - Consistent with CAFRA Policies: NA - Potential Secondary Development: No - Acquired Agricultural Development Areas: 0 acres - Parks Disrupted by ROW, Acres Acquired: 0 acres - State Forests Disrupted, Acres Acquired: 0 acres - Wildlife Refuges Disrupted, Acres Acquired: 0 acres General Impact on Visual Constraints: Adverse - Number of Scenic Corridors Impacted: 1 scenic corridor
<i>Wetlands Emphasis</i> (Plate C-4)	Acres of Wetlands Acquired: 27.8 acres Mitigation at @ 2:1 Replacement Ratio: 55.6 acres Quality of Wetlands Acquired: High Impacts to Buffer Areas in Segment C: Yes Impacts to Water Quality in Segment C: Adverse Impacts to Upland Forests in Segment C: Adverse
<i>Contamination Sites</i> (Plate C-6)	Hazardous Waste Sites within ROW: 0 sites Potential Hazardous Waste Sites: 0 sites

Alternative 6 (Segment C) - Four Lane Upgrade
(Yellow and Yellow Dashed Lines - see Plate C-1)

Through Segment C, this alternate provides for a westerly bypass around Dennisville in order to minimize impacts to the relatively undisturbed nature of the land surrounding this town. This westerly four (4) lane bypass commences in the vicinity of Ludlams Pond (Route 47 M.P. 18.44) and spans across the High Quality Wetlands and Dennis Creek with a structure of 3,150' in length. The alignment extends a tangent from the 47/670 intersection east of the curve at Holly Drive and Ludlams Pond thus avoiding the potential hazardous waste site to the east. The centerline of the roadway proceeds south parallel with Route 47, and realigns with the existing centerline in the vicinity of the Route 83 over the PRSL structure. Total length of Segment: approximately 2 miles.

Design Parameters

Typical Section:	Two 12 ft. wide travel lanes with 10 ft. wide outside and 5 ft. wide inside shoulders, each direction, separated by 10' wide grass median
Design Speed:	60 mph
Superelevation:	6% (maximum)
Existing ROW:	NA
Proposed ROW:	148 feet
Total Acres Req'd:	37.4 acres
Design Year:	2005

Serviceability

Existing/Proposed Level of Service (Average Day):	D/A
Existing/Proposed Level of Service (Tourism Season):	E/E

Interchanges & Intersections

A 1,200' ± connector was assumed extending County Route 611 from it's present terminus at Route 47 to a point along the four lane westerly bypass of Dennisville.

This alternate also provides for a grade separated condition at the Route 47/Route 83 intersection with Route 47 passing under the Route 55 land service corridor.

Alternative 6 (Segment C) - cont.

Environmental Impacts

<i>Cultural Resources</i> (Plate C-2)	<ul style="list-style-type: none"> 1 Potentially Historic Bridges (50+ years) replaced/repared 0 Historic Buildings (acquired) 1 Historic Buildings (disrupted setting) 1 Historic Districts Encroached by ROW 0 Known Historic Archaeological Sites Disrupted by ROW 0 Known Prehistoric Archaeological Sites Disrupted by ROW 2 Areas with High Potential for Archaeological Resources 	
<i>Endangered Species</i> (Plates C-3 & C-4)	This alternate will encroach upon areas of high quality wetlands which have a very high potential for containing threatened or endangered species. See appendix for species affected.	
<i>Socioeconomic, Land Use, Visual</i> (Plates C-5 & C-6)	<ul style="list-style-type: none"> General Impact on Social Constraints: Adverse - Residences Displaced by Alternate: 6 residences - Impact to Communities Disrupted by ROW: Adverse General Impact on Economic Constraints: Minor - Businesses Displaced by Alternate: 2 businesses - Affect to Businesses Bypassed by Alternate: Minor General Impact on Land Use Constraints: Adverse - Consistent with Pineland Policies: No - Consistent with CAFRA Policies: NA - Potential Secondary Development: No - Acquired Agricultural Development Areas: 0 acres - Parks Disrupted by ROW, Acres Acquired: 0 acres - State Forests Disrupted, Acres Acquired: 0 acres - Wildlife Refuges Disrupted, Acres Acquired: 0 acres General Impact on Visual Constraints: Adverse - Number of Scenic Corridors Impacted: 1 scenic corridor 	
<i>Wetlands Emphasis</i> (Plate C-4)	<ul style="list-style-type: none"> Acres of Wetlands Acquired: 28.5 acres Mitigation at @ 2:1 Replacement Ratio: 57.0 acres Quality of Wetlands Acquired: High Impacts to Buffer Areas in Segment C: Yes Impacts to Water Quality in Segment C: Adverse Impacts to Upland Forests in Segment C: Adverse 	
<i>Contamination Sites</i> (Plate C-6)	<ul style="list-style-type: none"> Hazardous Waste Sites within ROW: 0 sites Potential Hazardous Waste Sites: 0 sites 	

Alternative 6A (Segment C) - Four Lane Upgrade

(Yellow and Yellow Dashed Lines - see Plate C-1)

Through Segment C, this alternate provides for a westerly bypass around Dennisville in order to minimize impacts to the relatively undisturbed nature of the land surrounding this town. This westerly four (4) lane bypass commences in the vicinity of Ludlams Pond (Route 47 M.P. 18.44) and spans across the High Quality Wetlands and Dennis Creek with a structure of 3,150' in length. The alignment extends a tangent from the 47/670 intersection east of the curve at Holly Drive and Ludlams Pond thus avoiding the potential hazardous waste site to the east. The centerline of the bypass roadway proceeds south parallel with Route 47, and realigns with the existing centerline in the vicinity of the Route 83 over the PRSL structure. Total length of Segment: approximately 2 miles.

Design Parameters

Typical Section:	Two 12 ft. wide travel lanes with 10 ft. wide outside and 5 ft. wide inside shoulders, each direction, separated by 10' wide grass median
Speed:	60 mph
Superelevation:	6% (maximum)
Existing ROW:	NA
Proposed ROW:	148 feet
Total Acres Req'd:	37.4 acres
Design Year:	2005

Serviceability

Existing/Proposed Level of Service (Average Day):	D/A
Existing/Proposed Level of Service (Tourism Season):	E/E

Interchanges & Intersections

A 1,200' ± connector was assumed extending County Route 611 from it's present terminus at Route 47 to a point along the four lane westerly bypass of Dennisville.

This alternate also provides for a grade separated condition at the Route 47/Route 83 intersection with Route 47 passing under the Route 55 land service corridor.

Alternative 6A (Segment C) - cont.

Environmental Impacts

Cultural Resources
(Plate C-2)

1 Potentially Historic Bridges (50+ years) replaced/repaired
0 Historic Buildings (acquired)
1 Historic Buildings (disrupted setting)
1 Historic Districts Encroached by ROW
0 Known Historic Archaeological Sites Disrupted by ROW
0 Known Prehistoric Archaeological Sites Disrupted by ROW
2 Areas with High Potential for Archaeological Resources

Endangered Species
(Plates C-3 & C-4)

This alternate will encroach upon areas of high quality wetlands which have a very high potential for containing threatened or endangered species. See appendix for species affected.

*Socioeconomic,
Land Use, Visual*
(Plates C-5 & C-6)

General Impact on Social Constraints: Adverse
- Residences Displaced by Alternate: 6 residences
- Impact to Communities Disrupted by ROW: Adverse

General Impact on Economic Constraints: Minor
- Businesses Displaced by Alternate: 2 businesses
- Affect to Businesses Bypassed by Alternate: Minor

General Impact on Land Use Constraints: Adverse
- Consistent with Pineland Policies: No
- Consistent with CAFRA Policies: NA
- Potential Secondary Development: No
- Acquired Agricultural Development Areas: 0 acres
- Parks Disrupted by ROW, Acres Acquired: 0 acres
- State Forests Disrupted, Acres Acquired: 0 acres
- Wildlife Refuges Disrupted, Acres Acquired: 0 acres

General Impact on Visual Constraints: Adverse
- Number of Scenic Corridors Impacted: 1 scenic corridor

Wetlands Emphasis
(Plate C-4)

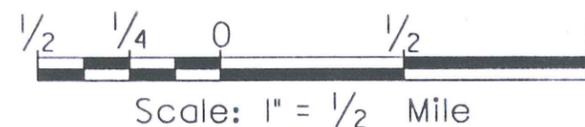
Acres of Wetlands Acquired: 28.5 acres
Mitigation at @ 2:1 Replacement Ratio: 57.0 acres
Quality of Wetlands Acquired: High
Impacts to Buffer Areas in Segment C: Yes
Impacts to Water Quality in Segment C: Adverse
Impacts to Upland Forests in Segment C: Adverse

Contamination Sites
(Plate C-6)

Hazardous Waste Sites within ROW: 0 sites
Potential Hazardous Waste Sites: 0 sites

KEY

-  Building or Structure of Interest Identified by NJDOT Field Survey
-  0106-19 NJHPO Survey Designation (ie: 9th property listed)
-  NR National Register Property
-  0507-153 On-System Bridge with Structure Number
-  NR National Register Historic District
-  Built-up Area Not Surveyed on a Building-by-Building Basis



CAPE MAY COUNTY

DENNIS TOWNSHIP

MIDDLE TOWNSHIP

DENNISVILLE

West Bypass of Dennisville

Segment C

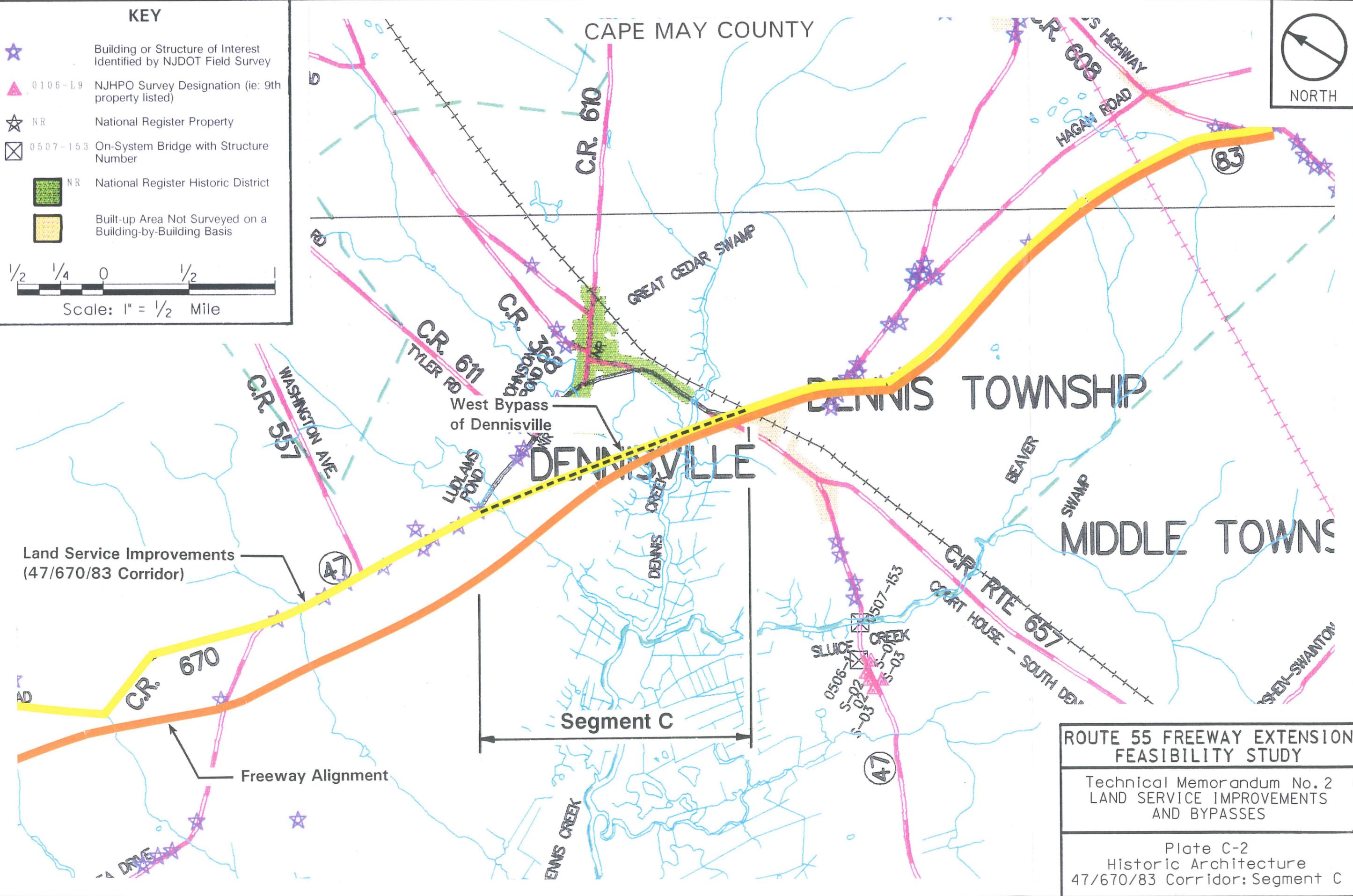
Land Service Improvements (47/670/83 Corridor)

Freeway Alignment

ROUTE 55 FREEWAY EXTENSION FEASIBILITY STUDY

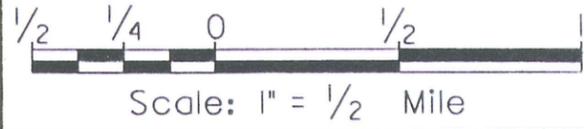
Technical Memorandum No. 2
LAND SERVICE IMPROVEMENTS AND BYPASSES

Plate C-2
Historic Architecture
47/670/83 Corridor: Segment C



KEY

-  Natural Heritage Priority Site for the Preservation of Biological Diversity
-  Documented Location of a Threatened or Endangered Species is Known Precisely
-  Documented Location of a Threatened or Endangered Species is Known within 1.5 Miles



CAPE MAY COUNTY

DENNIS TOWNSHIP

MIDDLE TOWN

DENNISVILLE

West Bypass of Dennisville

Land Service Improvements (47/670/83 Corridor)

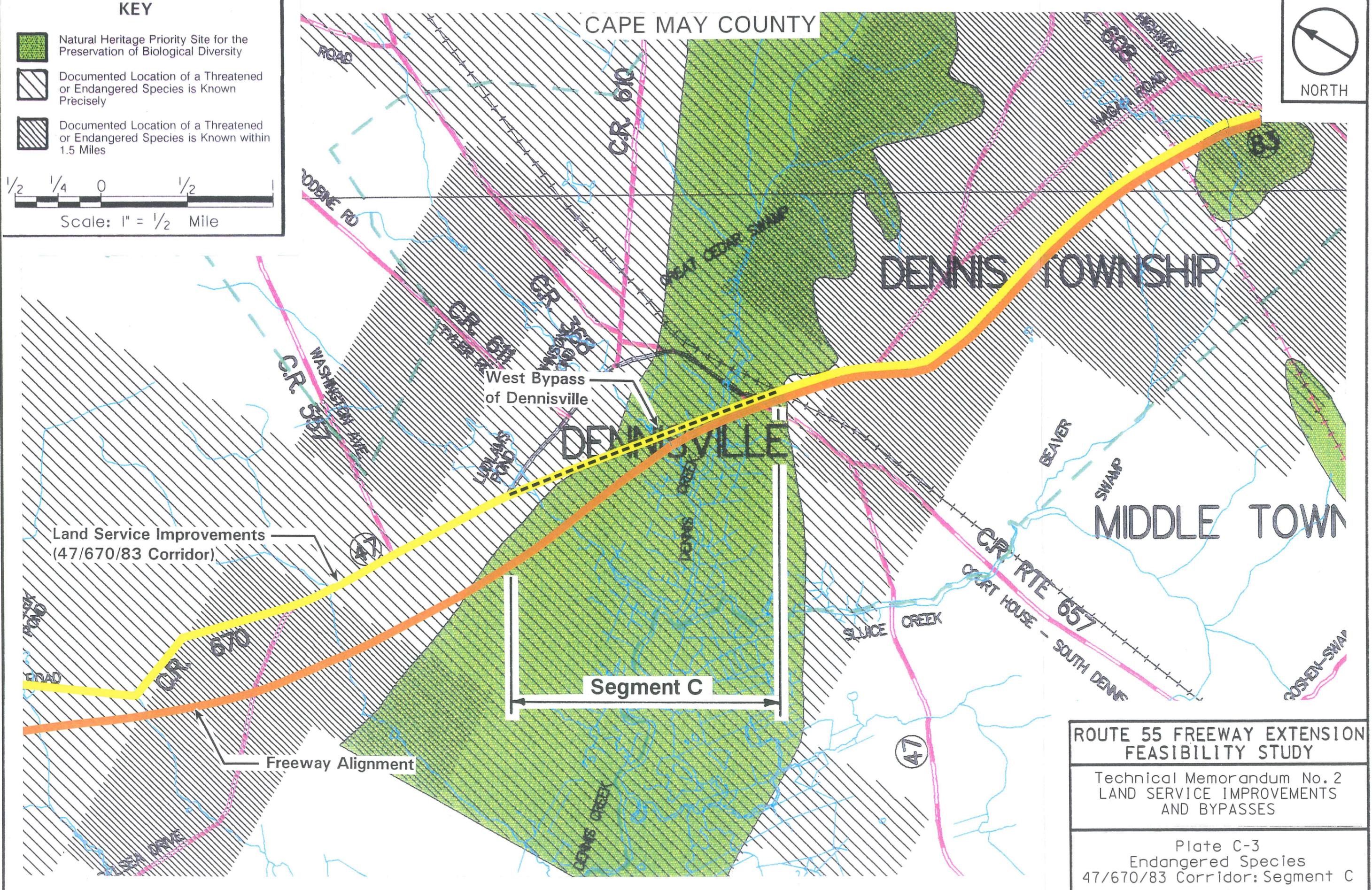
Segment C

Freeway Alignment

ROUTE 55 FREEWAY EXTENSION FEASIBILITY STUDY

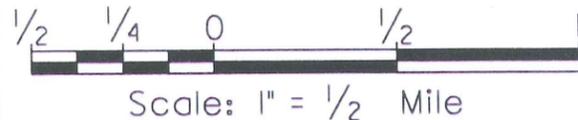
Technical Memorandum No. 2
LAND SERVICE IMPROVEMENTS AND BYPASSES

Plate C-3
Endangered Species
47/670/83 Corridor: Segment C



KEY

- High Quality Wetland
(there is a very large possibility that a threatened and/or endangered species is associated with these wetlands)
- Medium Quality Wetlands
(there is a possibility that a threatened and/or endangered species is associated with these wetlands)
- Average Quality Wetlands
(there is little possibility that a threatened and/or endangered species is associated with these wetlands)



CAPE MAY COUNTY

DENNIS TOWNSHIP

MIDDLE TOWN

DENNISVILLE

Segment C

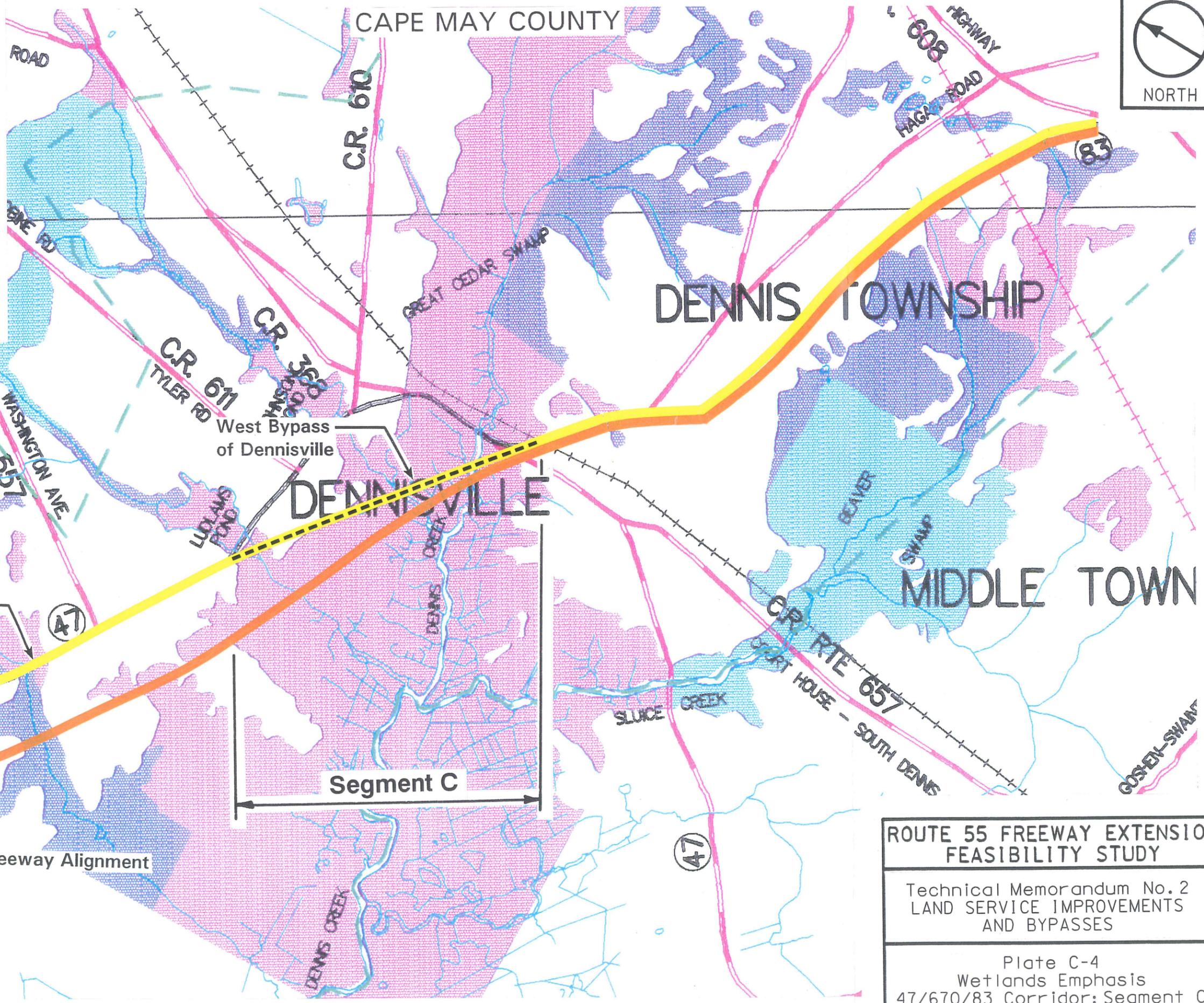
Freeway Alignment

Land Service Improvements
(47/670/83 Corridor)

**ROUTE 55 FREEWAY EXTENSION
FEASIBILITY STUDY**

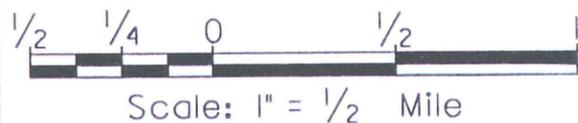
Technical Memorandum No. 2
LAND SERVICE IMPROVEMENTS
AND BYPASSES

Plate C-4
Wetlands Emphasis
47/670/83 Corridor: Segment C

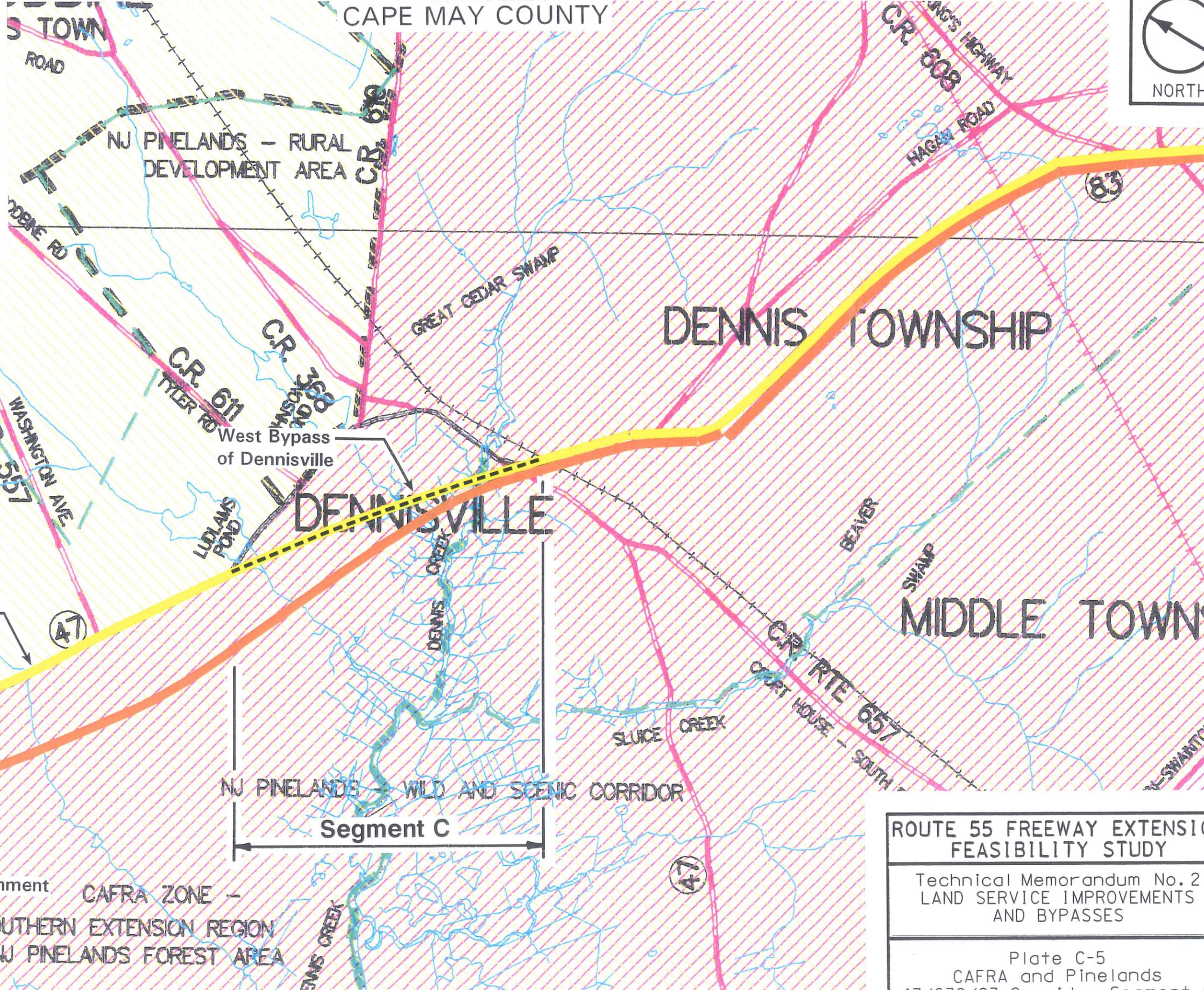


KEY

-  CAFRA Zone
-  New Jersey Pinelands
-  Overlap of CAFRA Zone and Pinelands Reserve



CAPE MAY COUNTY



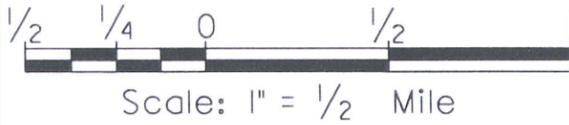
ROUTE 55 FREEWAY EXTENSION FEASIBILITY STUDY

Technical Memorandum No. 2
LAND SERVICE IMPROVEMENTS
AND BYPASSES

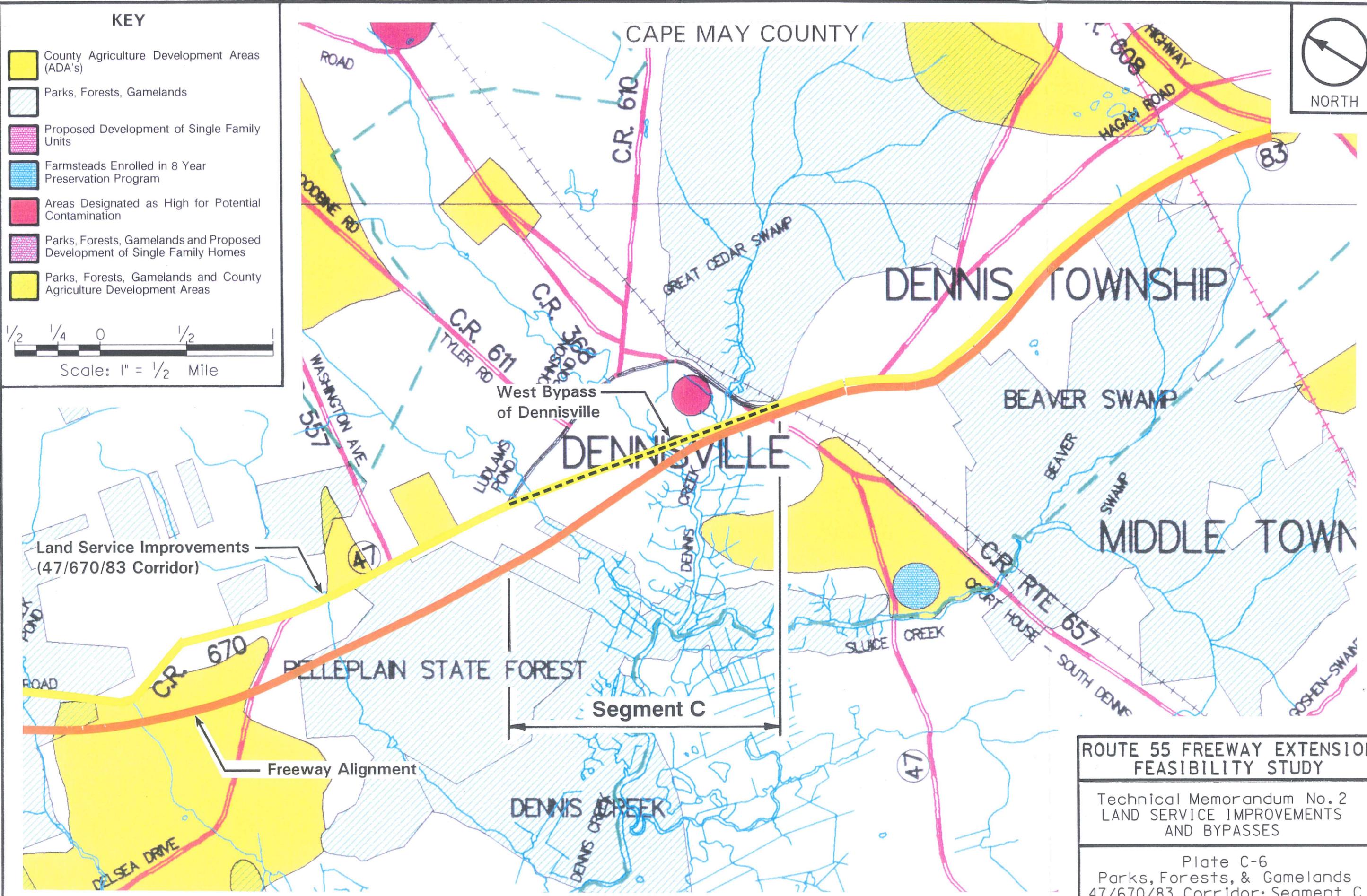
Plate C-5
CAFRA and Pinelands
47/670/83 Corridor: Segment C

KEY

-  County Agriculture Development Areas (ADA's)
-  Parks, Forests, Gamelands
-  Proposed Development of Single Family Units
-  Farmsteads Enrolled in 8 Year Preservation Program
-  Areas Designated as High for Potential Contamination
-  Parks, Forests, Gamelands and Proposed Development of Single Family Homes
-  Parks, Forests, Gamelands and County Agriculture Development Areas



CAPE MAY COUNTY



Land Service Improvements
(47/670/83 Corridor)

Freeway Alignment

Segment C

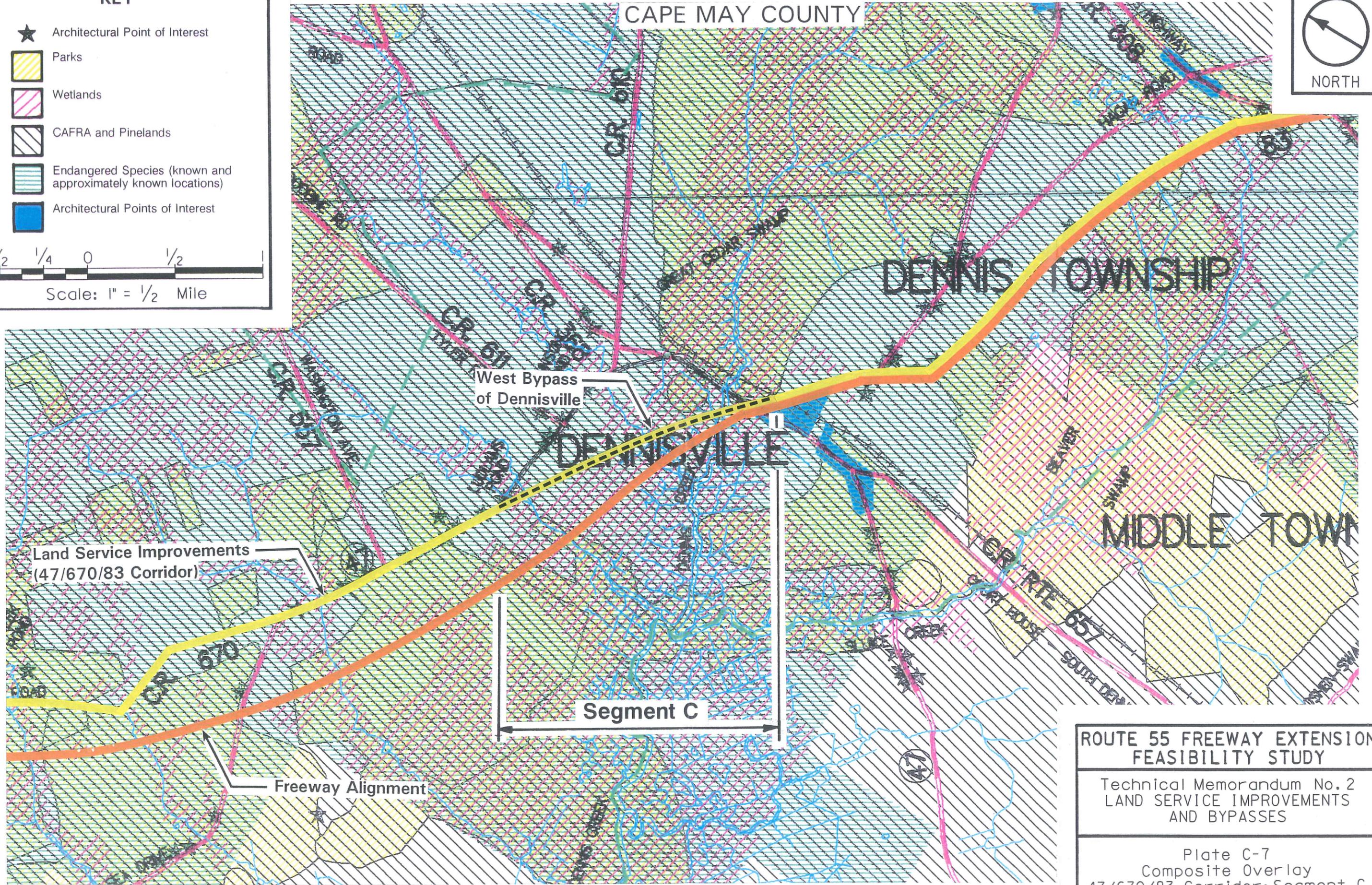
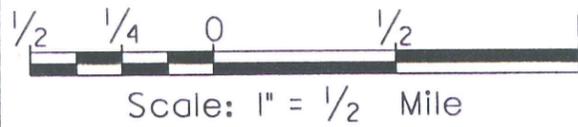
**ROUTE 55 FREEWAY EXTENSION
FEASIBILITY STUDY**

Technical Memorandum No. 2
LAND SERVICE IMPROVEMENTS
AND BYPASSES

Plate C-6
Parks, Forests, & Gamelands
47/670/83 Corridor: Segment C

KEY

- ★ Architectural Point of Interest
-  Parks
-  Wetlands
-  CAFRA and Pinelands
-  Endangered Species (known and approximately known locations)
-  Architectural Points of Interest



**ROUTE 55 FREEWAY EXTENSION
FEASIBILITY STUDY**

Technical Memorandum No. 2
LAND SERVICE IMPROVEMENTS
AND BYPASSES

Plate C-7
Composite Overlay
47/670/83 Corridor: Segment C

LAND SERVICE ALTERNATES

Route 47/670/83 Corridor: Study Segment D

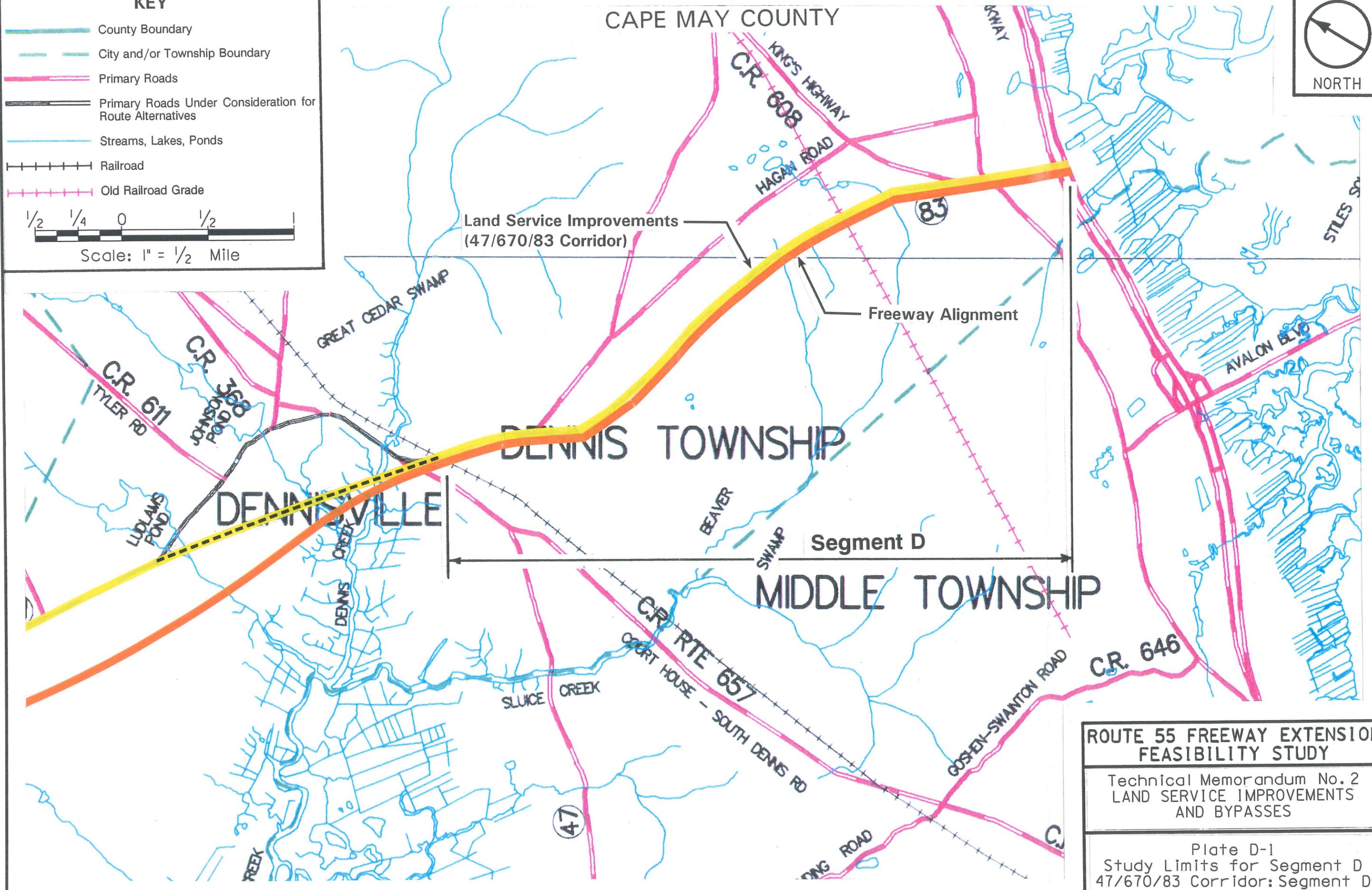
KEY

-  County Boundary
-  City and/or Township Boundary
-  Primary Roads
-  Primary Roads Under Consideration for Route Alternatives
-  Streams, Lakes, Ponds
-  Railroad
-  Old Railroad Grade



Scale: 1" = 1/2 Mile

CAPE MAY COUNTY



ROUTE 55 FREEWAY EXTENSION FEASIBILITY STUDY
Technical Memorandum No. 2 LAND SERVICE IMPROVEMENTS AND BYPASSES
Plate D-1 Study Limits for Segment D 47/670/83 Corridor: Segment D

Table D-1: Alternate Configurations

Table D-1: Alternate Configurations								
Rt. 55 Freeway Alternates*			Rt. 47 / 670 / 83 Land Service Alternates					
Alt. 1	Alt. 2		Alt. 3	Alt. 4	Alt. 5	Alt. 5A	Alt. 6	Alt. 6A
Existing Rt. 83 (Orange & Yellow Lines)	4 Lanes (Upgraded) w/ Barrier Curb & Shoulders	4 Lanes (Upgraded) w/ Grass Median & Shoulders	2 Lanes (Upgraded) w/ Shoulders	2 Lanes (Upgraded) w/ Shoulders	4 Lanes (Upgraded) w/ Barrier Curb & Shoulders	4 Lanes (Upgraded) w/ Barrier Curb & Shoulders	4 Lanes (Upgraded) w/ Grass Median & Shoulders	4 Lanes (Upgraded) w/ Grass Median & Shoulders

*Note: Data for alternates in shaded region is detailed in
Technical Memorandum No. 1: Freeway Alignments

Alternative 3 (Segment D) - Two Lane Upgrade

(Yellow Line - see Plate D-1)

Through Segment D, this alternate provides for a two lane upgrade along existing Route 83. Route 83 would be extended from it's current terminus at Route 9 to connect with the Garden State Parkway, providing a full trumpet interchange with in the vicinity of G.S.P. M.P. 15.0. Horizontal and vertical alignment deficiencies along the existing route will be upgraded to maintain a posted speed of 50 mph. Total length of Segment: approximately 4 miles.

Design Parameters

Typical Section: One 12 ft. wide travel lane with 10 ft. wide outside shoulder, each direction
Design Speed: 55 mph
Superelevation: 6% (maximum)
Existing ROW: _____
Proposed ROW: _____ feet
Total Acres Req'd: --- acres
Design Year: 2005

Serviceability

Existing/Proposed Level of Service (Average Day): ____/____
Existing/Proposed Level of Service (Tourism Season): ____/____

Interchanges & Intersections

This alternate provides for an extension of the existing Route 83 alignment to tie the new improvements into the Garden State Parkway. A full trumpet interchange would be provided near G.S.P. M.P. 15.0.

In addition, the following crossings will require the construction of a two lane bridge:

1. Route 55 over Pennsylvania/Reading Seashore Line
2. County Route 626 over Route 55
3. Route 55 over Route 9
4. Route 55 over the Garden State Parkway (northbound and southbound)

Alternative 3 (Segment D) - cont.

Environmental Impacts

Cultural Resources
(Plate D-2)

- Potentially Historic Bridges (50+ years) replaced/repared
- Historic Buildings (acquired)
- Historic Buildings (disrupted setting)
- Historic Districts Encroached by ROW
- Known Historic Archaeological Sites Disrupted by ROW
- Known Prehistoric Archaeological Sites Disrupted by ROW
- Areas with High Potential for Archaeological Resources

Endangered Species
(Plates D-3 & D-4)

The potential affects on threatened or endangered species through this segment are high since roadway passes through well-documented habitats. See appendix for species affected.

*Socioeconomic,
Land Use, Visual*
(Plates D-5 & D-6)

General Impact on Social Constraints:
 - Residences Displaced by Alternate: residences
 - Impact to Communities Disrupted by ROW:

General Impact on Economic Constraints:
 - Businesses Displaced by Alternate: businesses
 - Affect to Businesses Bypassed by Alternate:

General Impact on Land Use Constraints:
 - Consistent with Pineland Policies:
 - Consistent with CAFRA Policies:
 - Potential Secondary Development:
 - Acquired Agricultural Development Areas: acres
 - Parks Disrupted by ROW, Acres Acquired: acres
 - State Forests Disrupted, Acres Acquired: acres
 - Wildlife Refuges Disrupted, Acres Acquired: acres

General Impact on Visual Constraints:
 - Number of Scenic Corridors Impacted: scenic corridor

Wetlands Emphasis
(Plate D-4)

Acres of Wetlands Acquired: acres
 Mitigation at @ 2:1 Replacement Ratio: acres
 Quality of Wetlands Acquired: Medium
 Impacts to Buffer Areas in Segment D:
 Impacts to Water Quality in Segment D:
 Impacts to Upland Forests in Segment D:

Contamination Sites
(Plate D-6)

Hazardous Waste Sites within ROW: sites
 Potential Hazardous Waste Sites: sites

Alternative 4 (Segment D) - Two Lane Upgrade

(Yellow Line - see Plate D-1)

Through Segment D, this alternate provides for a two lane upgrade along existing Route 83. Route 83 would be extended from its current terminus at Route 9 to connect with the Garden State Parkway, providing a full trumpet interchange with in the vicinity of G.S.P. M.P. 15.0. Horizontal and vertical alignment deficiencies along the existing route will be upgraded to maintain a posted speed of 50 mph. Total length of Segment: approximately 4 miles.

Design Parameters

Typical Section: One 12 ft. wide travel lane with 10 ft. wide outside shoulder, each direction
Design Speed: 55 mph
Superelevation: 6% (maximum)
Existing ROW: _____
Proposed ROW: _____ feet
Total Acres Req'd: _____ acres
Design Year: 2005

Serviceability

Existing/Proposed Level of Service (Average Day): _____/_____
Existing/Proposed Level of Service (Tourism Season): _____/_____

Interchanges & Intersections

This alternate provides for an extension of the existing Route 83 alignment to tie the new improvements into the Garden State Parkway. A full trumpet interchange would be provided near G.S.P. M.P. 15.0.

In addition, the following crossings will require the construction of a two lane bridge:

1. Route 55 over Pennsylvania/Reading Seashore Line
2. County Route 626 over Route 55
3. Route 55 over Route 9
4. Route 55 over the Garden State Parkway (northbound and southbound)

Alternative 4 (Segment D) - cont.

Environmental Impacts

Cultural Resources
(Plate D-2)

- Potentially Historic Bridges (50+ years) replaced/repaired
- Historic Buildings (acquired)
- Historic Buildings (disrupted setting)
- Historic Districts Encroached by ROW
- Known Historic Archaeological Sites Disrupted by ROW
- Known Prehistoric Archaeological Sites Disrupted by ROW
- Areas with High Potential for Archaeological Resources

Endangered Species
(Plates D-3 & D-4)

The potential affects on threatened or endangered species through this segment are high since roadway passes through well-documented habitats. See appendix for species affected.

*Socioeconomic,
Land Use, Visual*
(Plates D-5 & D-6)

General Impact on Social Constraints:
 - Residences Displaced by Alternate: residences
 - Impact to Communities Disrupted by ROW:

General Impact on Economic Constraints:
 - Businesses Displaced by Alternate: business
 - Affect to Businesses Bypassed by Alternate:

General Impact on Land Use Constraints:
 - Consistent with Pineland Policies:
 - Consistent with CAFRA Policies:
 - Potential Secondary Development:
 - Acquired Agricultural Development Areas: acres
 - Parks Disrupted by ROW, Acres Acquired: acres
 - State Forests Disrupted, Acres Acquired: acres
 - Wildlife Refuges Disrupted, Acres Acquired: acres

General Impact on Visual Constraints:
 - Number of Scenic Corridors Impacted: scenic corridor

Wetlands Emphasis
(Plate D-4)

Acres of Wetlands Acquired: acres
 Mitigation at @ 2:1 Replacement Ratio: acres
 Quality of Wetlands Acquired: Medium
 Impacts to Buffer Areas in Segment D:
 Impacts to Water Quality in Segment D:
 Impacts to Upland Forests in Segment D:

Contamination Sites
(Plate D-6)

Hazardous Waste Sites within ROW: sites
 Potential Hazardous Waste Sites: sites

Alternative 5 (Segment D) - Four Lane Upgrade

(Yellow Line - see Plate D-1)

Through Segment D, this alternate provides for a four lane upgrade along existing Route 83. Route 83 would be extended from its current terminus at Route 9 to connect with the Garden State Parkway, providing a full trumpet interchange with in the vicinity of G.S.P. M.P. 15.0. Horizontal and vertical alignment deficiencies along the existing route will be upgraded to accommodate a design speed of 60 mph. The roadway is divided by a concrete barrier curb. Total length of Segment: approximately 4 miles.

Design Parameters

Typical Section: Two 12 ft. wide travel lanes with 10 ft. wide outside and 5 ft. wide inside shoulders, each direction, separated by median barrier curb

Design Speed: 60 mph
Superelevation: 6% (maximum)
Existing ROW: Varies
Proposed ROW: 130 feet
Total Acres Req'd: 52.1 acres
Design Year: 2005

Serviceability

Existing/Proposed Level of Service (Average Day): ___/___
Existing/Proposed Level of Service (Tourism Season): ___/___

Interchanges & Intersections

This alternate provides for an extension of the existing Route 83 alignment to tie the new improvements into the Garden State Parkway. A full trumpet interchange would be provided near G.S.P. M.P. 15.0.

In addition, the following crossings will require the construction of a four lane bridge:

1. Route 55 over Pennsylvania/Reading Seashore Line
2. County Route 626 over Route 55
3. Route 55 over Route 9
4. Route 55 over the Garden State Parkway (northbound and southbound)

Alternative 5 (Segment D) - cont.

Environmental Impacts

Cultural Resources
(Plate D-2)

0 Potentially Historic Bridges (50+ years) replaced/repaired
5 Historic Buildings (acquired)
7 Historic Buildings (disrupted setting)
0 Historic Districts Encroached by ROW
3 Known Historic Archaeological Sites Disrupted by ROW
0 Known Prehistoric Archaeological Sites Disrupted by ROW
6 Areas with High Potential for Archaeological Resources

Endangered Species
(Plates D-3 & D-4)

The potential affects on threatened or endangered species through this segment are high since roadway passes through well-documented habitats. See appendix for species affected.

*Socioeconomic,
Land Use, Visual*
(Plates D-5 & D-6)

General Impact on Social Constraints: Adverse
- Residences Displaced by Alternate: 33 residences
- Impact to Communities Disrupted by ROW: Adverse

General Impact on Economic Constraints: Minor
- Businesses Displaced by Alternate: 4 businesses
- Affect to Businesses Bypassed by Alternate: NA

General Impact on Land Use Constraints: Adverse
- Consistent with Pineland Policies: NA
- Consistent with CAFRA Policies: Possible
- Potential Secondary Development: Yes
- Acquired Agricultural Development Areas: 0 acres
- Parks Disrupted by ROW, Acres Acquired: 0 acres
- State Forests Disrupted, Acres Acquired: 0 acres
- Wildlife Refuges Disrupted, Acres Acquired: 2.3 acres

General Impact on Visual Constraints: Moderate
- Number of Scenic Corridors Impacted: 0 scenic corridors

Wetlands Emphasis
(Plate D-4)

Acres of Wetlands Acquired: 0.3 acres
Mitigation at @ 2:1 Replacement Ratio: 0.6 acres
Quality of Wetlands Acquired: Medium
Impacts to Buffer Areas in Segment D: No
Impacts to Water Quality in Segment D: Adverse
Impacts to Upland Forests in Segment D: Adverse

Contamination Sites
(Plate D-6)

Hazardous Waste Sites within ROW: 0 sites
Potential Hazardous Waste Sites: 0 sites

Alternative 5A (Segment D) - Four Lane Upgrade

(Yellow Line - see Plate D-1)

Through Segment D, this alternate provides for a four lane upgrade along existing Route 83. Route 83 would be extended from it's current terminus at Route 9 to connect with the Garden State Parkway, providing a full trumpet interchange with in the vicinity of G.S.P. M.P. 15.0. Horizontal and vertical alignment deficiencies along the existing route will be upgraded to accommodate a design speed of 60 mph. The roadway is divided by a concrete barrier curb. Total length of Segment: approximately 4 miles.

Design Parameters

Typical Section: Two 12 ft. wide travel lanes with 10 ft. wide outside and 5 ft. wide inside shoulders, each direction, separated by median barrier curb

Design Speed: 60 mph

Superelevation: 6% (maximum)

Existing ROW: Varies

Proposed ROW: 130 feet

Total Acres Req'd: 52.1 acres

Design Year: 2005

Serviceability

Existing/Proposed Level of Service (Average Day): /

Existing/Proposed Level of Service (Tourism Season): /

Interchanges & Intersections

This alternate provides for an extension of the existing Route 83 alignment to tie the new improvements into the Garden State Parkway. A full trumpet interchange would be provided near G.S.P. M.P. 15.0.

In addition, the following crossings will require the construction of a four lane bridge:

1. Route 55 over Pennsylvania/Reading Seashore Line
2. County Route 626 over Route 55
3. Route 55 over Route 9
4. Route 55 over the Garden State Parkway (northbound and southbound)

Alternative 5A (Segment D) - cont.

Environmental Impacts

Cultural Resources
(Plate D-2)

0 Potentially Historic Bridges (50+ years) replaced/repaired
5 Historic Buildings (acquired)
7 Historic Buildings (disrupted setting)
0 Historic Districts Encroached by ROW
3 Known Historic Archaeological Sites Disrupted by ROW
0 Known Prehistoric Archaeological Sites Disrupted by ROW
6 Areas with High Potential for Archaeological Resources

Endangered Species
(Plates D-3 & D-4)

The potential affects on threatened or endangered species through this segment are high since roadway passes through well-documented habitats. See appendix for species affected.

*Socioeconomic,
Land Use, Visual*
(Plates D-5 & D-6)

General Impact on Social Constraints: Adverse
- Residences Displaced by Alternate: 33 residences
- Impact to Communities Disrupted by ROW: Adverse

General Impact on Economic Constraints: Minor
- Businesses Displaced by Alternate: 4 businesses
- Affect to Businesses Bypassed by Alternate: NA

General Impact on Land Use Constraints: Adverse
- Consistent with Pineland Policies: NA
- Consistent with CAFRA Policies: Possible
- Potential Secondary Development: Yes
- Acquired Agricultural Development Areas: 0 acres
- Parks Disrupted by ROW, Acres Acquired: 0 acres
- State Forests Disrupted, Acres Acquired: 0 acres
- Wildlife Refuges Disrupted, Acres Acquired: 2.3 acres

General Impact on Visual Constraints: Moderate
- Number of Scenic Corridors Impacted: 0 scenic corridors

Wetlands Emphasis
(Plate D-4)

Acres of Wetlands Acquired: 0.3 acres
Mitigation at @ 2:1 Replacement Ratio: 0.6 acres
Quality of Wetlands Acquired: Medium
Impacts to Buffer Areas in Segment D: No
Impacts to Water Quality in Segment D: Adverse
Impacts to Upland Forests in Segment D: Adverse

Contamination Sites
(Plate D-6)

Hazardous Waste Sites within ROW: 0 sites
Potential Hazardous Waste Sites: 0 sites

Alternative 6 (Segment D) - Four Lane Upgrade

(Yellow Line - see Plate D-1)

Through Segment D, this alternate provides for a four lane upgrade along existing Route 83. Route 83 would be extended from it's current terminus at Route 9 to connect with the Garden State Parkway, providing a full trumpet interchange with in the vicinity of G.S.P. M.P. 15.0. Horizontal and vertical alignment deficiencies along the existing route will be upgraded to accommodate a design speed of 60 mph. The roadway is divided by a 10' wide grass median. Total length of Segment: approximately 4 miles.

Design Parameters

Typical Section:	Two 12 ft. wide travel lanes with 10 ft. wide outside and 5 ft. wide inside shoulders, each direction, separated by 10' wide grass median
Design Speed:	60 mph
Superelevation:	6% (maximum)
Existing ROW:	Varies
Proposed ROW:	148 feet
Total Acres Req'd:	59.5 acres
Design Year:	2005

Serviceability

Existing/Proposed Level of Service (Average Day):	___/___
Existing/Proposed Level of Service (Tourism Season):	___/___

Interchanges & Intersections

This alternate provides for an extension of the existing Route 83 alignment to tie the new improvements into the Garden State Parkway. A full trumpet interchange would be provided near G.S.P. M.P. 15.0.

In addition, the following crossings will require the construction of a four lane bridge:

1. Route 55 over Pennsylvania/Reading Seashore Line
2. County Route 626 over Route 55
3. Route 55 over Route 9
4. Route 55 over the Garden State Parkway (northbound and southbound)

Alternative 6 (Segment D) - cont.

Environmental Impacts

<i>Cultural Resources</i> (Plate D-2)	0 Potentially Historic Bridges (50+ years) replaced/repaired 5 Historic Buildings (acquired) 7 Historic Buildings (disrupted setting) 0 Historic Districts Encroached by ROW 3 Known Historic Archaeological Sites Disrupted by ROW 0 Known Prehistoric Archaeological Sites Disrupted by ROW 6 Areas with High Potential for Archaeological Resources
<i>Endangered Species</i> (Plates D-3 & D-4)	The potential affects on threatened or endangered species through this segment are high since roadway passes through well-documented habitats. See appendix for species affected.
<i>Socioeconomic, Land Use, Visual</i> (Plates D-5 & D-6)	General Impact on Social Constraints: Adverse - Residences Displaced by Alternate: 33 residences - Impact to Communities Disrupted by ROW: Adverse General Impact on Economic Constraints: Minor - Businesses Displaced by Alternate: 4 businesses - Affect to Businesses Bypassed by Alternate: NA General Impact on Land Use Constraints: Adverse - Consistent with Pineland Policies: NA - Consistent with CAFRA Policies: Possible - Potential Secondary Development: Yes - Acquired Agricultural Development Areas: 0 acres - Parks Disrupted by ROW, Acres Acquired: 0 acres - State Forests Disrupted, Acres Acquired: 0 acres - Wildlife Refuges Disrupted, Acres Acquired: 2.6 acres General Impact on Visual Constraints: Moderate - Number of Scenic Corridors Impacted: 0 scenic corridors
<i>Wetlands Emphasis</i> (Plate D-4)	Acres of Wetlands Acquired: 0.3 acres Mitigation at @ 2:1 Replacement Ratio: 0.6 acres Quality of Wetlands Acquired: Medium Impacts to Buffer Areas in Segment D: No Impacts to Water Quality in Segment D: Adverse Impacts to Upland Forests in Segment D: Adverse
<i>Contamination Sites</i> (Plate D-6)	Hazardous Waste Sites within ROW: 0 sites Potential Hazardous Waste Sites: 0 sites

Alternative 6A (Segment D) - Four Lane Upgrade

(Yellow Line - see Plate D-1)

Through Segment D, this alternate provides for a four lane upgrade along existing Route 83. Route 83 would be extended from its current terminus at Route 9 to connect with the Garden State Parkway, providing a full trumpet interchange with in the vicinity of G.S.P. M.P. 15.0. Horizontal and vertical alignment deficiencies along the existing route will be upgraded to accommodate a design speed of 60 mph. The roadway is divided by a 10' wide grass median. Total length of Segment: approximately 4 miles.

Design Parameters

Typical Section: Two 12 ft. wide travel lanes with 10 ft. wide outside and 5 ft. wide inside shoulders, each direction, separated by 10' wide grass median
Speed: 60 mph
Superelevation: 6% (maximum)
Existing ROW: Varies
Proposed ROW: 148 feet
Total Acres Req'd: 59.5 acres
Design Year: 2005

Serviceability

Existing/Proposed Level of Service (Average Day): ___/___
Existing/Proposed Level of Service (Tourism Season): ___/___

Interchanges & Intersections

This alternate provides for an extension of the existing Route 83 alignment to tie the new improvements into the Garden State Parkway. A full trumpet interchange would be provided near G.S.P. M.P. 15.0.

In addition, the following crossings will require the construction of a four lane bridge:

1. Route 55 over Pennsylvania/Reading Seashore Line
2. County Route 626 over Route 55
3. Route 55 over Route 9
4. Route 55 over the Garden State Parkway (northbound and southbound)

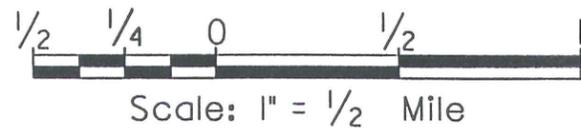
Alternative 6A (Segment D) - cont.

Environmental Impacts

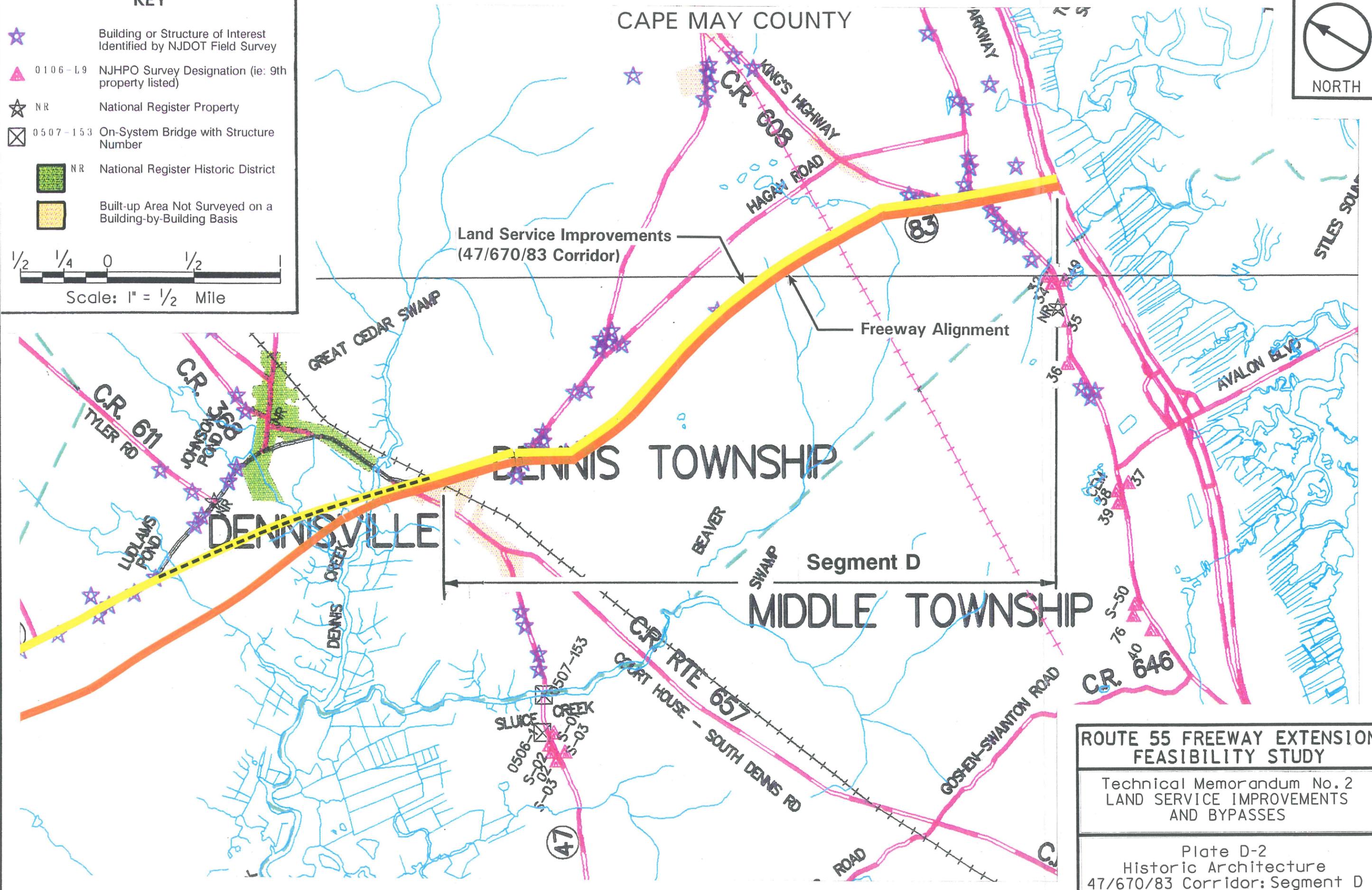
<i>Cultural Resources</i> (Plate D-2)	0 Potentially Historic Bridges (50+ years) replaced/repaired 5 Historic Buildings (acquired) 7 Historic Buildings (disrupted setting) 0 Historic Districts Encroached by ROW 3 Known Historic Archaeological Sites Disrupted by ROW 0 Known Prehistoric Archaeological Sites Disrupted by ROW 6 Areas with High Potential for Archaeological Resources
<i>Endangered Species</i> (Plates D-3 & D-4)	The potential affects on threatened or endangered species through this segment are high since roadway passes through well-documented habitats. See appendix for species affected.
<i>Socioeconomic, Land Use, Visual</i> (Plates D-5 & D-6)	General Impact on Social Constraints: Adverse - Residences Displaced by Alternate: 33 residences - Impact to Communities Disrupted by ROW: Adverse General Impact on Economic Constraints: Minor - Businesses Displaced by Alternate: 4 businesses - Affect to Businesses Bypassed by Alternate: NA General Impact on Land Use Constraints: Adverse - Consistent with Pineland Policies: NA - Consistent with CAFRA Policies: Possible - Potential Secondary Development: Yes - Acquired Agricultural Development Areas: 0 acres - Parks Disrupted by ROW, Acres Acquired: 0 acres - State Forests Disrupted, Acres Acquired: 0 acres - Wildlife Refuges Disrupted, Acres Acquired: 2.6 acres General Impact on Visual Constraints: Moderate - Number of Scenic Corridors Impacted: 0 scenic corridors
<i>Wetlands Emphasis</i> (Plate D-4)	Acres of Wetlands Acquired: 0.3 acres Mitigation at @ 2:1 Replacement Ratio: 0.6 acres Quality of Wetlands Acquired: Medium Impacts to Buffer Areas in Segment D: No Impacts to Water Quality in Segment D: Adverse Impacts to Upland Forests in Segment D: Adverse
<i>Contamination Sites</i> (Plate D-6)	Hazardous Waste Sites within ROW: 0 sites Potential Hazardous Waste Sites: 0 sites

KEY

- ★ Building or Structure of Interest Identified by NJDOT Field Survey
- ▲ 0106-1.9 NJHPO Survey Designation (ie: 9th property listed)
- ☆ NR National Register Property
- ⊠ 0507-153 On-System Bridge with Structure Number
- NR National Register Historic District
- Built-up Area Not Surveyed on a Building-by-Building Basis



CAPE MAY COUNTY



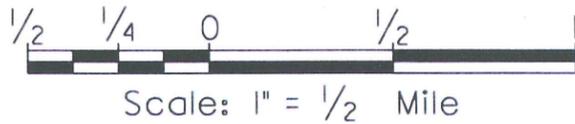
**ROUTE 55 FREEWAY EXTENSION
FEASIBILITY STUDY**

Technical Memorandum No. 2
LAND SERVICE IMPROVEMENTS
AND BYPASSES

Plate D-2
Historic Architecture
47/670/83 Corridor: Segment D

KEY

-  High Quality Wetland
(there is a very large possibility that a threatened and/or endangered species is associated with these wetlands)
-  Medium Quality Wetlands
(there is a possibility that a threatened and/or endangered species is associated with these wetlands)
-  Average Quality Wetlands
(there is little possibility that a threatened and/or endangered species is associated with these wetlands)



CAPE MAY COUNTY

DENNIS TOWNSHIP

MIDDLE TOWNSHIP

Land Service Improvements
(47/670/83 Corridor)

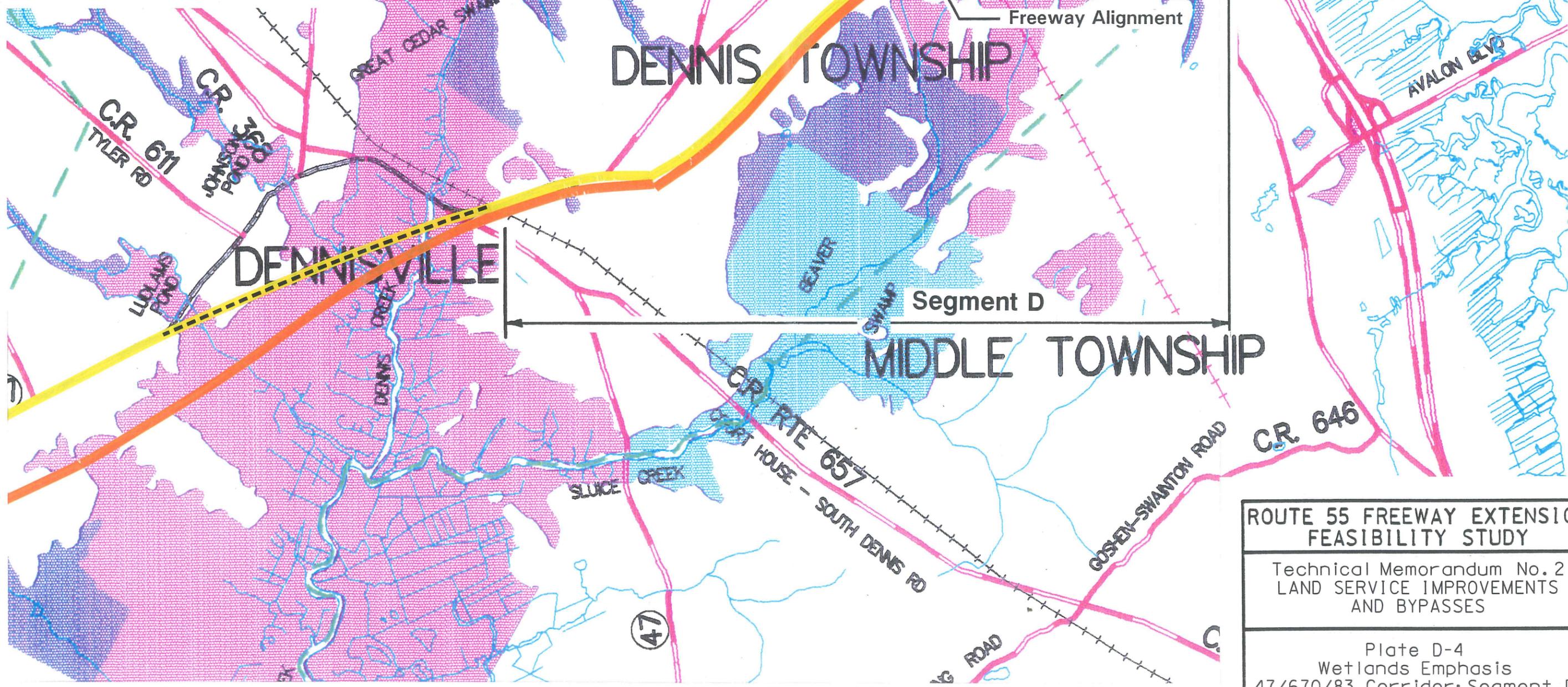
Freeway Alignment

Segment D

**ROUTE 55 FREEWAY EXTENSION
FEASIBILITY STUDY**

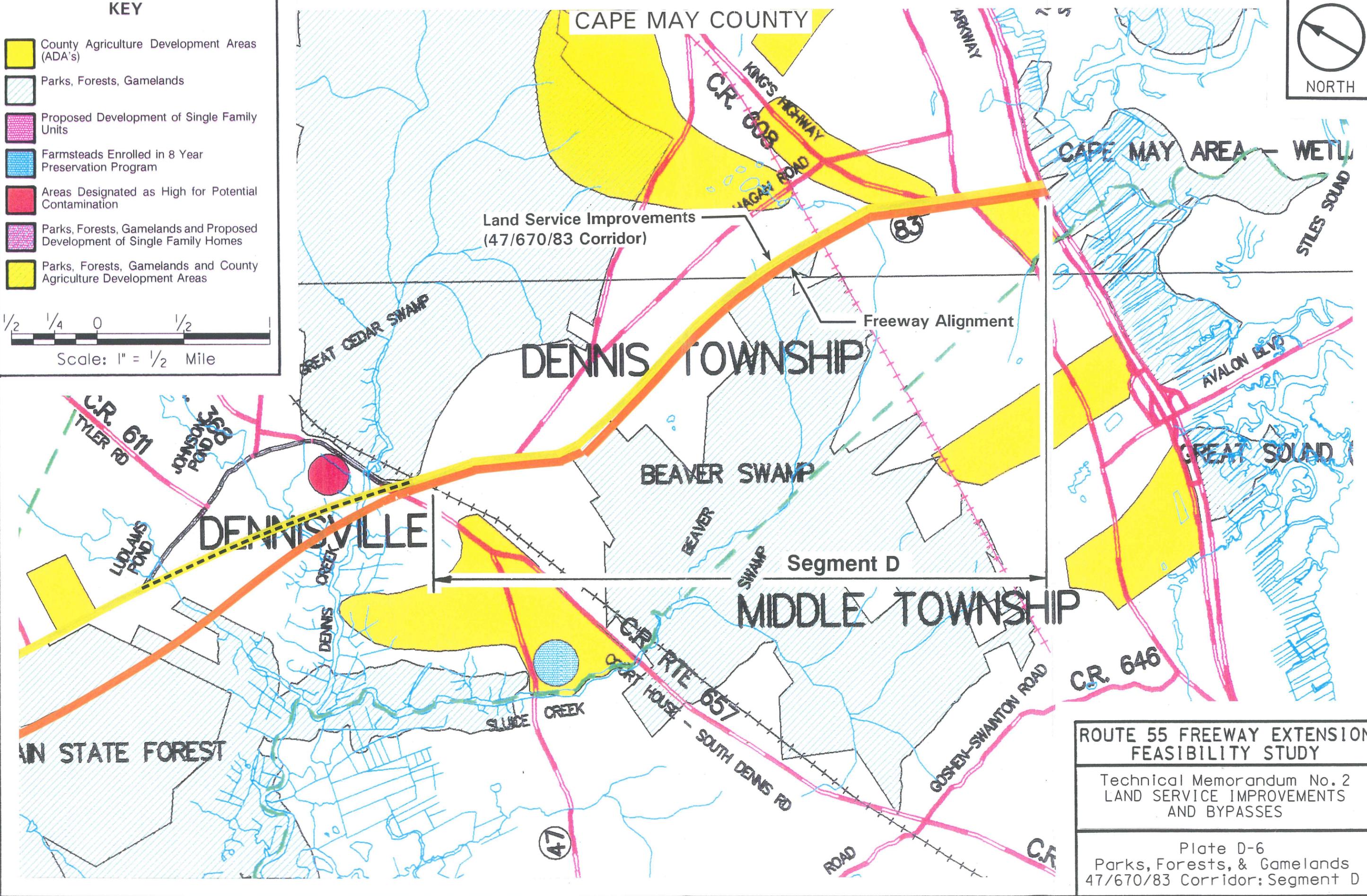
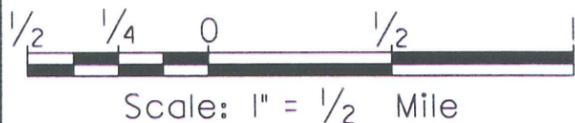
Technical Memorandum No. 2
LAND SERVICE IMPROVEMENTS
AND BYPASSES

Plate D-4
Wetlands Emphasis
47/670/83 Corridor: Segment D



KEY

-  County Agriculture Development Areas (ADA's)
-  Parks, Forests, Gamelands
-  Proposed Development of Single Family Units
-  Farmsteads Enrolled in 8 Year Preservation Program
-  Areas Designated as High for Potential Contamination
-  Parks, Forests, Gamelands and Proposed Development of Single Family Homes
-  Parks, Forests, Gamelands and County Agriculture Development Areas



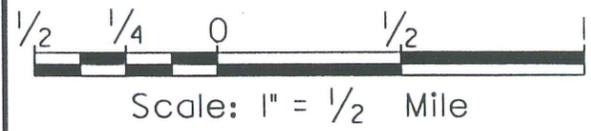
**ROUTE 55 FREEWAY EXTENSION
FEASIBILITY STUDY**

Technical Memorandum No. 2
LAND SERVICE IMPROVEMENTS
AND BYPASSES

Plate D-6
Parks, Forests, & Gamelands
47/670/83 Corridor: Segment D

KEY

- ★ Architectural Point of Interest
-  Parks
-  Wetlands
-  CAFRA and Pinelands
-  Endangered Species (known and approximately known locations)
-  Architectural Points of Interest



CAPE MAY COUNTY

Land Service Improvements
(47/670/83 Corridor)

Freeway Alignments

DENNIS TOWNSHIP

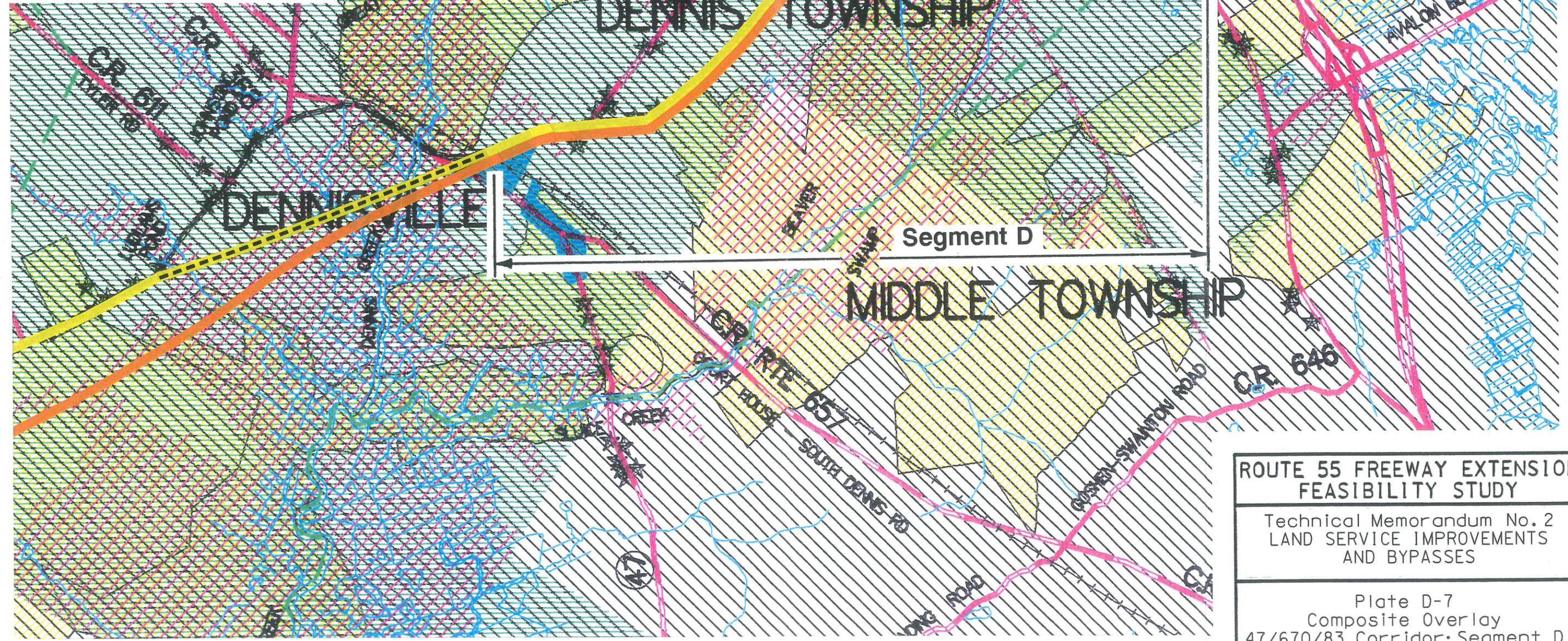
Segment D

MIDDLE TOWNSHIP

**ROUTE 55 FREEWAY EXTENSION
FEASIBILITY STUDY**

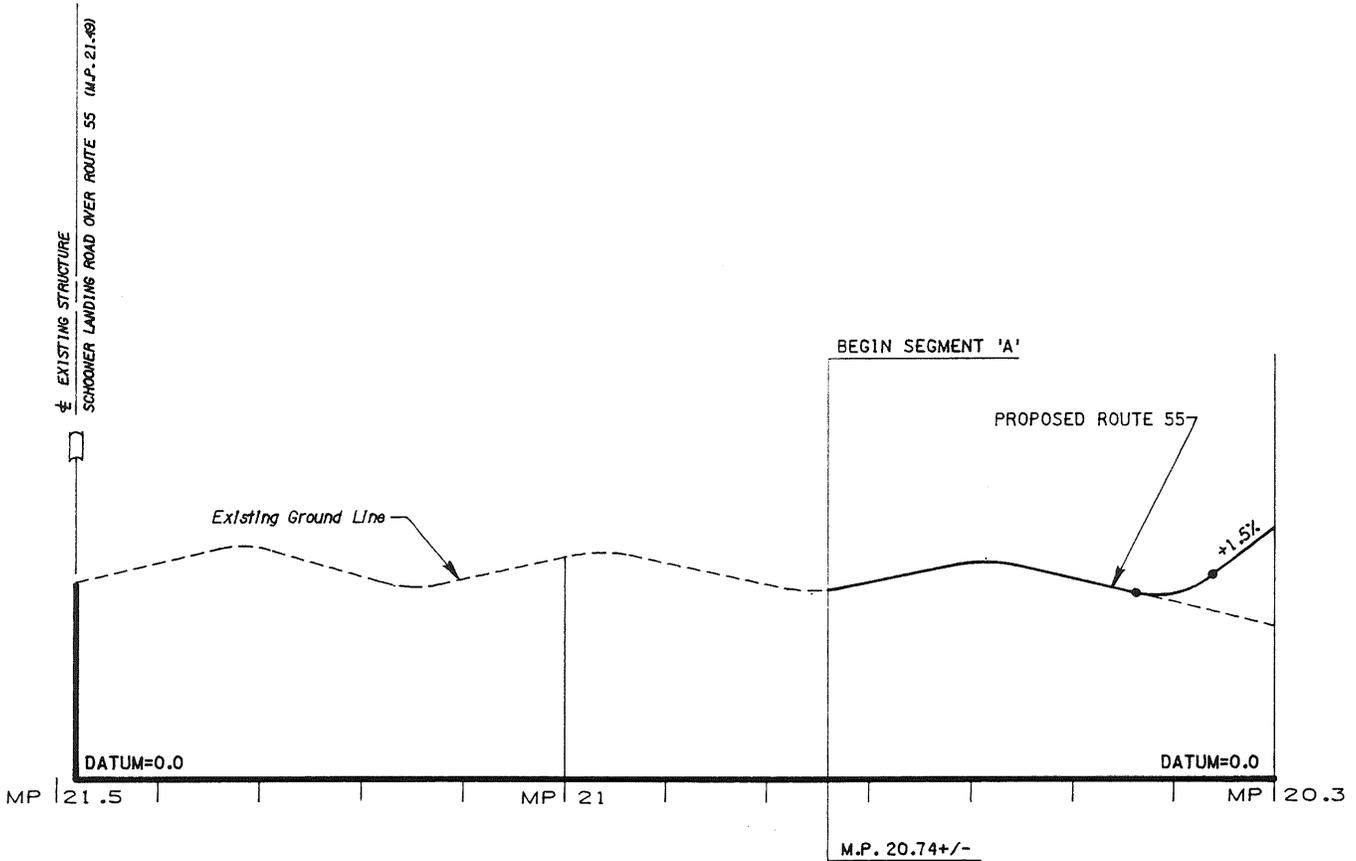
Technical Memorandum No. 2
LAND SERVICE IMPROVEMENTS
AND BYPASSES

Plate D-7
Composite Overlay
47/670/83 Corridor: Segment D



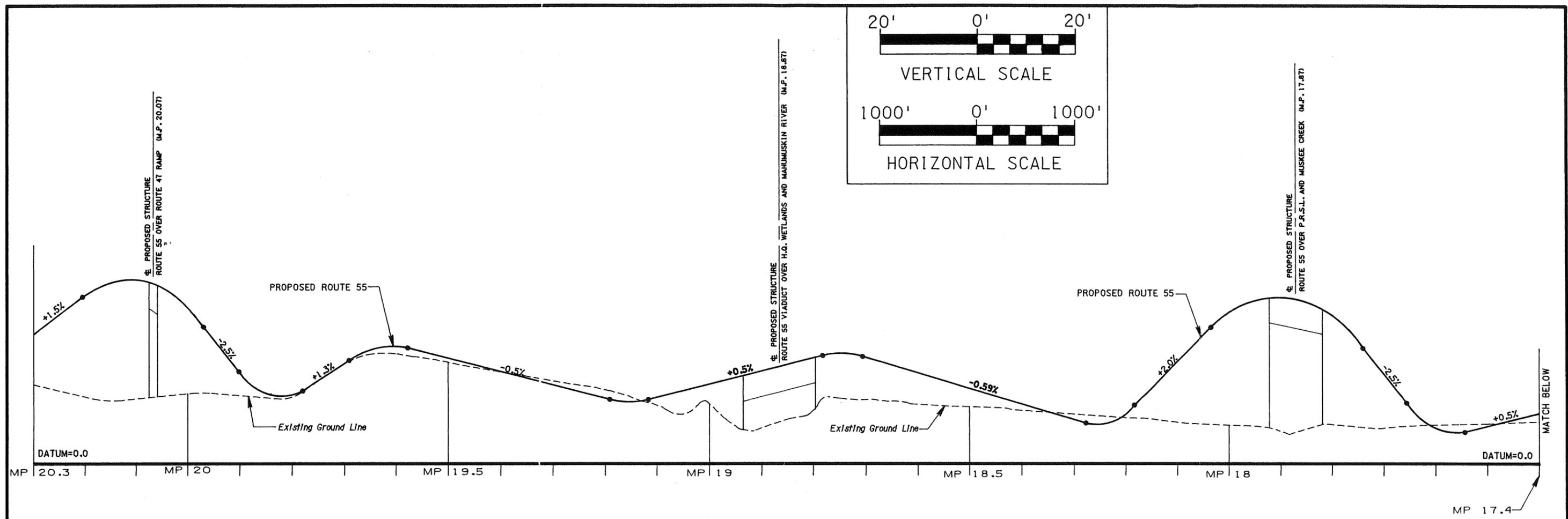
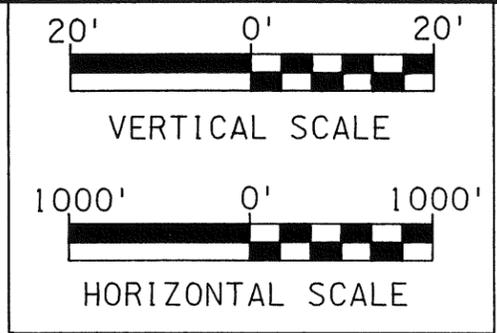
LAND SERVICE ALTERNATES

Route 47/670/83 Corridor: Preliminary Design Study

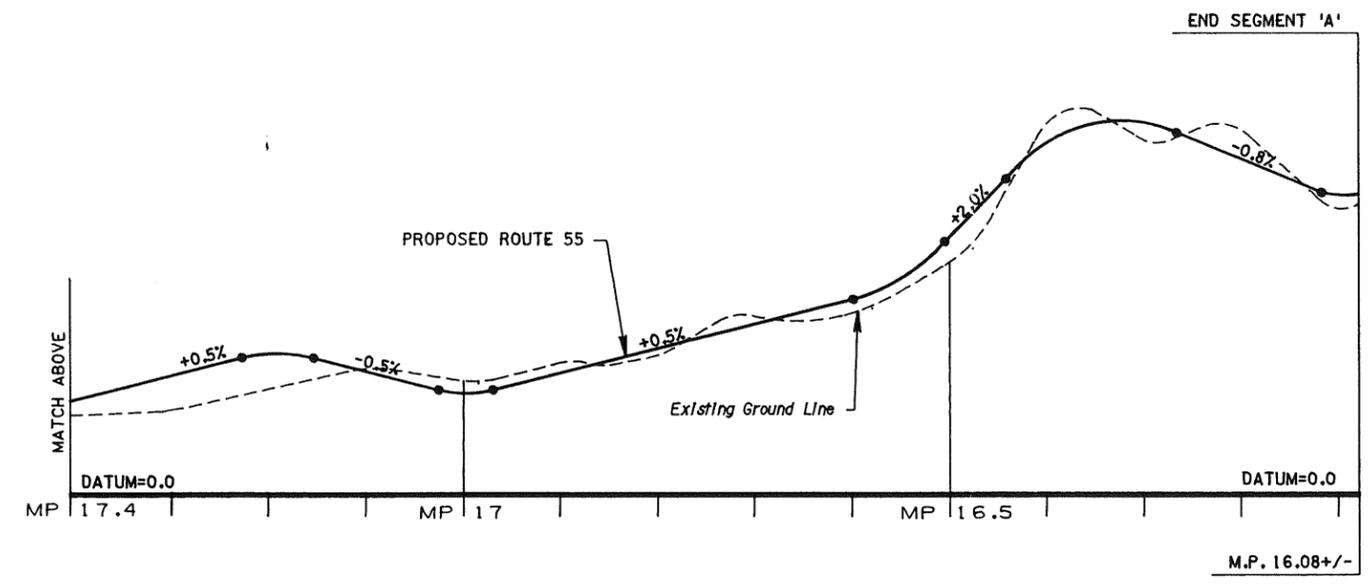


SEGMENT A

LAND SERVICE ROADWAY
 (ALTERNATES 5 & 6)
 DESIGN SPEED 60 M.P.H.



SEGMENT A



SEGMENT A

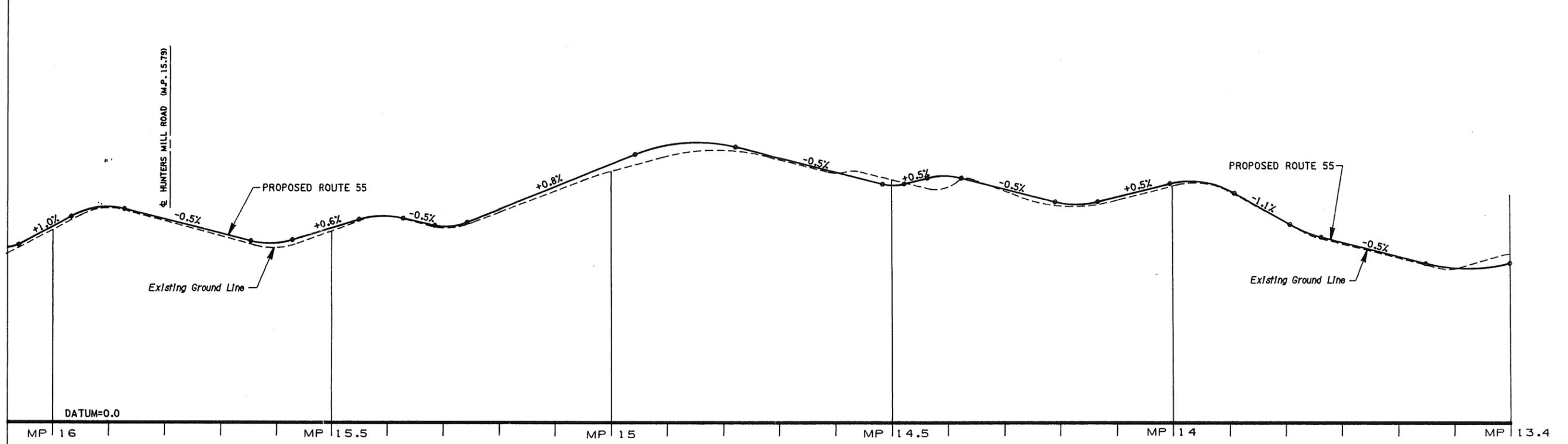
NEW JERSEY DEPARTMENT OF TRANSPORTATION

ROUTE 55 EXTENSION FEASIBILITY STUDY
N.J. ROUTE 47, COUNTY ROUTE 670
AND ROUTE 83 CORRIDOR

SEGMENT A - PROFILES

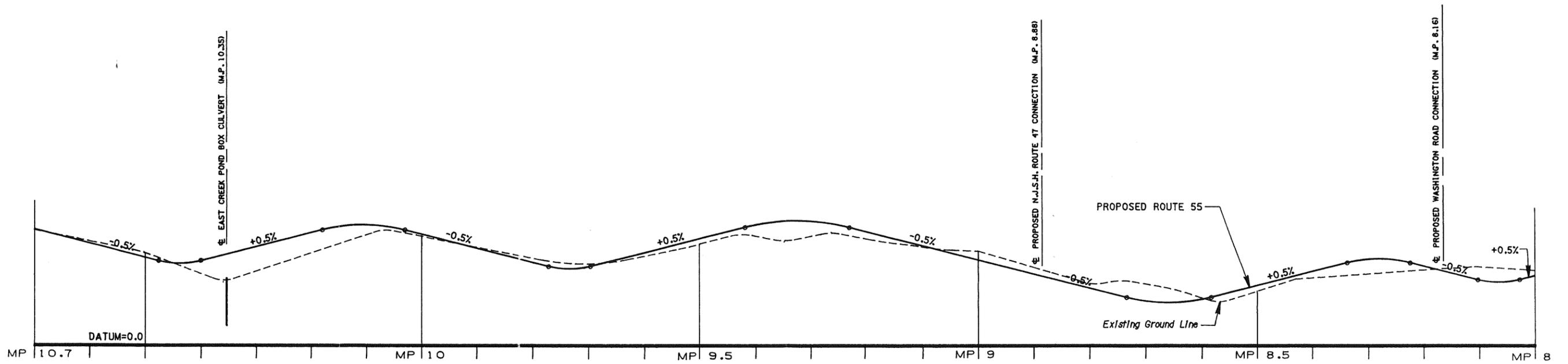
GANNETT FLEMING, INC. SCALE: AS SHOWN
CHERRY HILL, NEW JERSEY DATE:

BEGIN SEGMENT 'B'

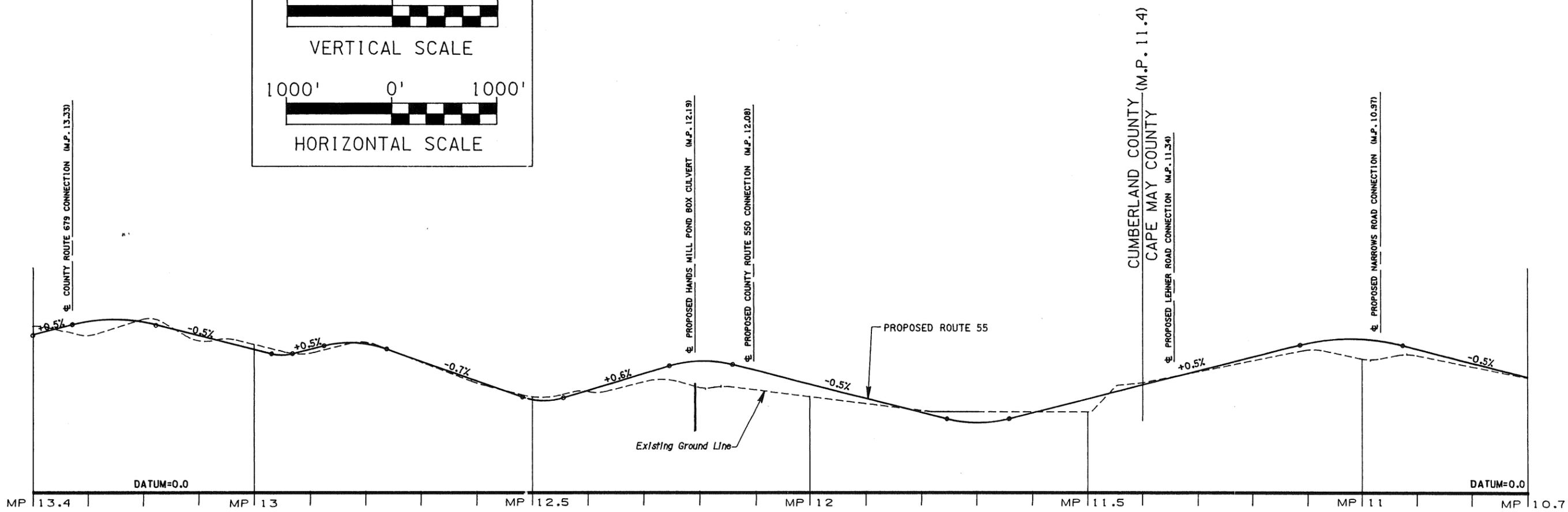
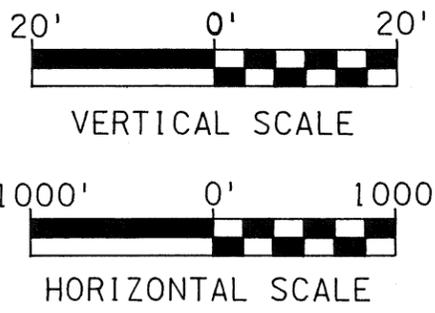


M.P. 16.08+/-

SEGMENT B



SEGMENT B



PROPOSED HANDS MILL POND BOX CULVERT (M.P. 12.19)
PROPOSED COUNTY ROUTE 550 CONNECTION (M.P. 12.08)

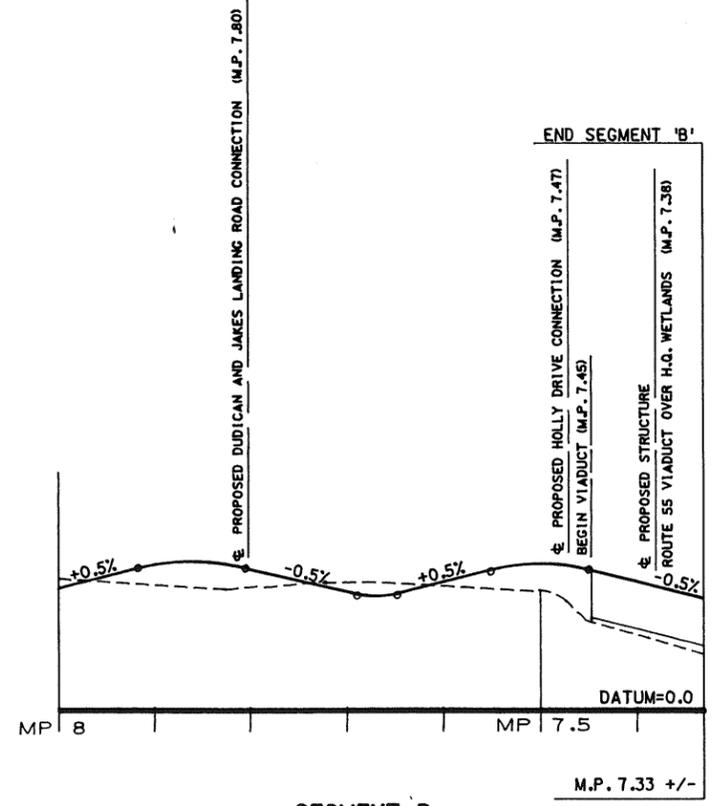
CUMBERLAND COUNTY (M.P. 11.4)
CAPE MAY COUNTY
PROPOSED LEHNER ROAD CONNECTION (M.P. 11.34)

PROPOSED NARROWS ROAD CONNECTION (M.P. 10.57)

SEGMENT B

LAND SERVICE ROADWAY
(ALTERNATES 5 & 6)

DESIGN SPEED 60 M.P.H.



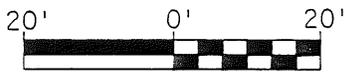
SEGMENT B

NEW JERSEY DEPARTMENT OF TRANSPORTATION

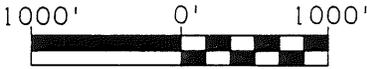
ROUTE 55 EXTENSION FEASIBILITY STUDY
N.J. ROUTE 47, COUNTY ROUTE 670
AND ROUTE 83 CORRIDOR

SEGMENT B - PROFILES

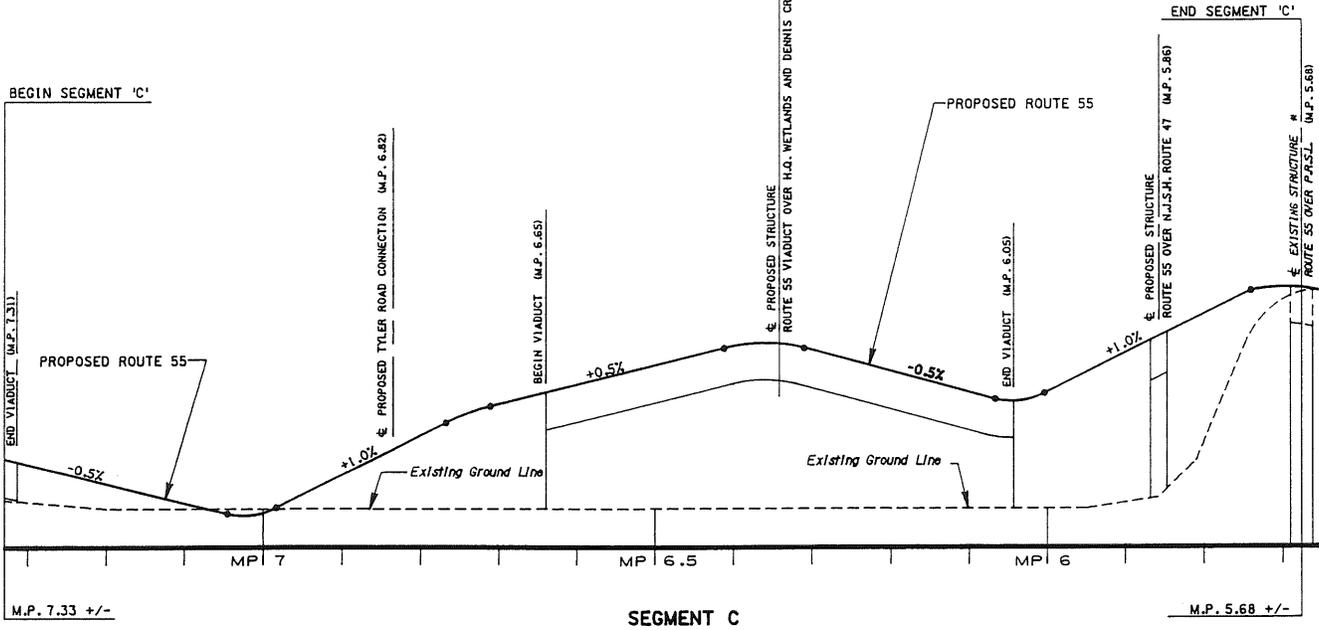
GANNETT FLEMING, INC. SCALE: AS SHOWN
CHERRY HILL, NEW JERSEY DATE:



VERTICAL SCALE



HORIZONTAL SCALE



LAND SERVICE ROADWAY
(ALTERNATES 5 & 6)
DESIGN SPEED 60 M.P.H.

* NOTE:
EXISTING STRUCTURE TO BE MODIFIED. MODIFICATIONS INCLUDE WIDENING SUBSTRUCTURE AND FULL DECK REPLACEMENT.

NEW JERSEY DEPARTMENT OF TRANSPORTATION

ROUTE 55 EXTENSION FEASIBILITY STUDY
N.J. ROUTE 47, COUNTY ROUTE 670
AND ROUTE 83 CORRIDOR

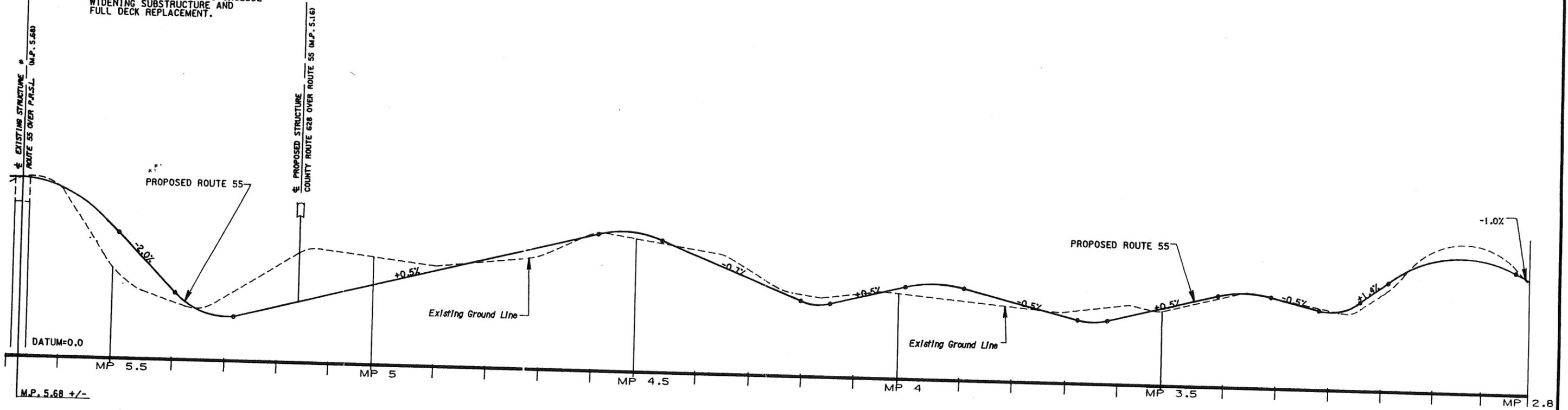
SEGMENT C - PROFILES

GANNETT FLEMING, INC. SCALE: AS SHOWN
CHERRY HILL, NEW JERSEY DATE:



BEGIN SEGMENT 'D'

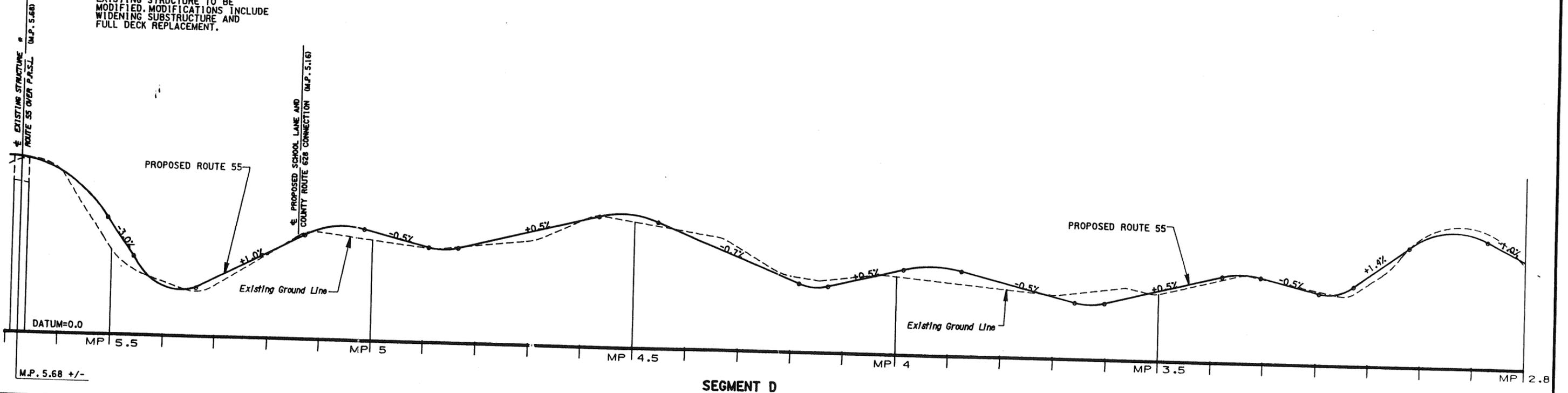
* NOTE:
EXISTING STRUCTURE TO BE
MODIFIED. MODIFICATIONS INCLUDE
WIDENING SUBSTRUCTURE AND
FULL DECK REPLACEMENT.



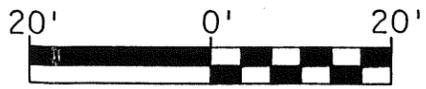
SEGMENT D

BEGIN SEGMENT 'D'

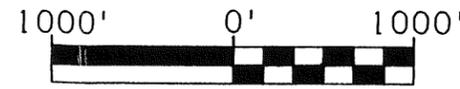
* NOTE:
EXISTING STRUCTURE TO BE
MODIFIED. MODIFICATIONS INCLUDE
WIDENING SUBSTRUCTURE AND
FULL DECK REPLACEMENT.



SEGMENT D



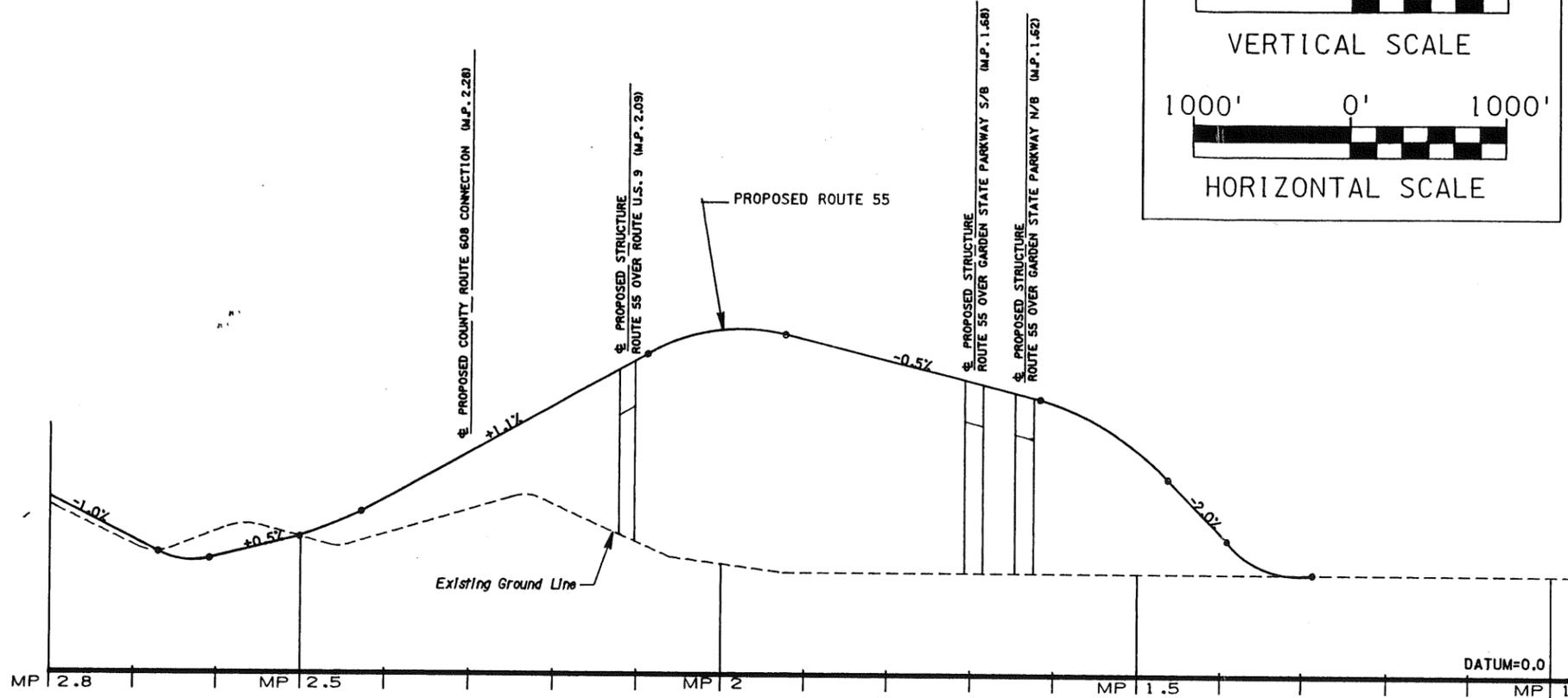
VERTICAL SCALE



HORIZONTAL SCALE

FREEWAY (ALTERNATES 1 & 2)

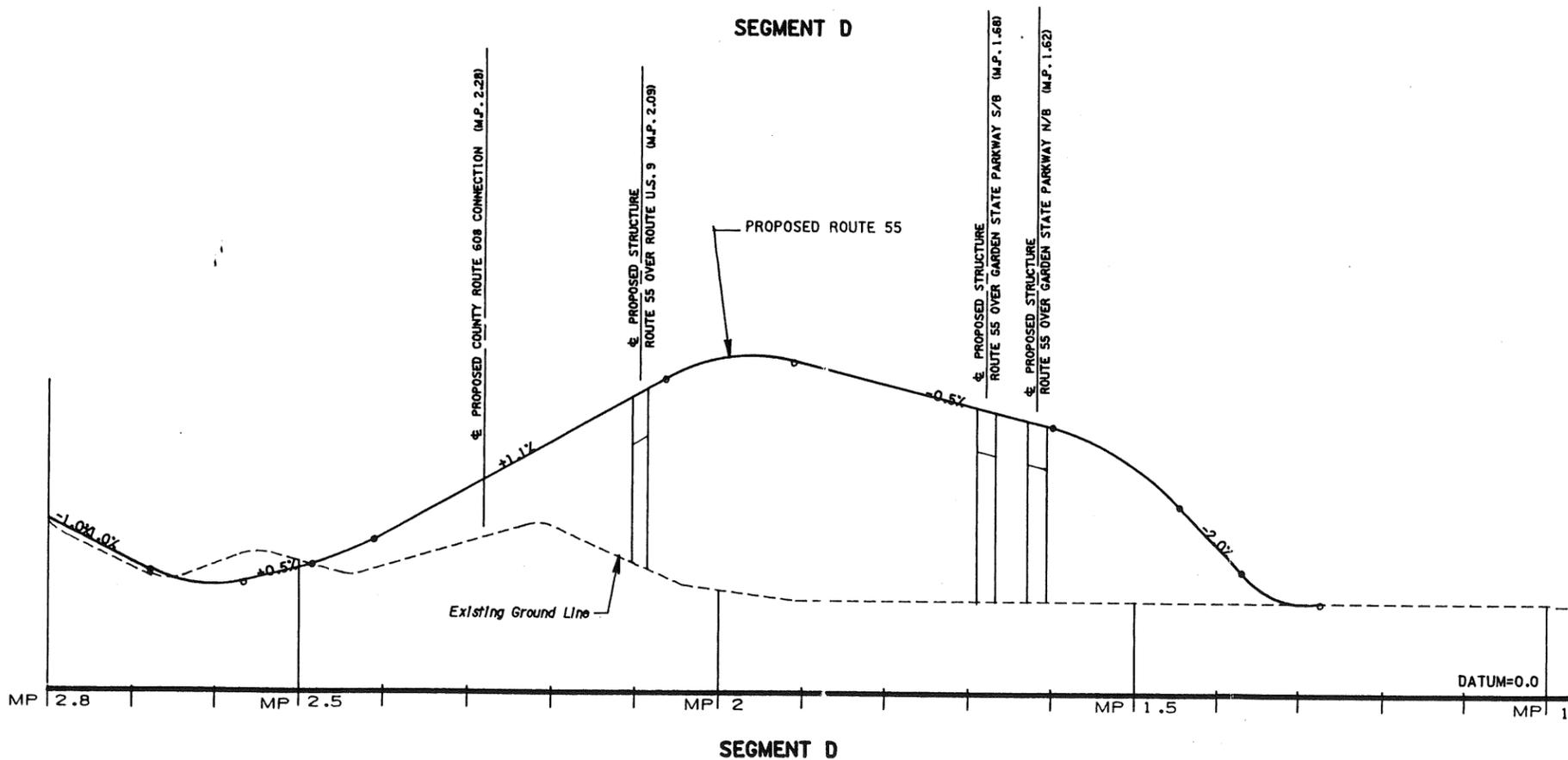
DESIGN SPEED 70 M.P.H.



SEGMENT D

LAND SERVICE ROADWAY (ALTERNATES 5 & 6)

DESIGN SPEED 60 M.P.H.



SEGMENT D

NEW JERSEY DEPARTMENT OF TRANSPORTATION

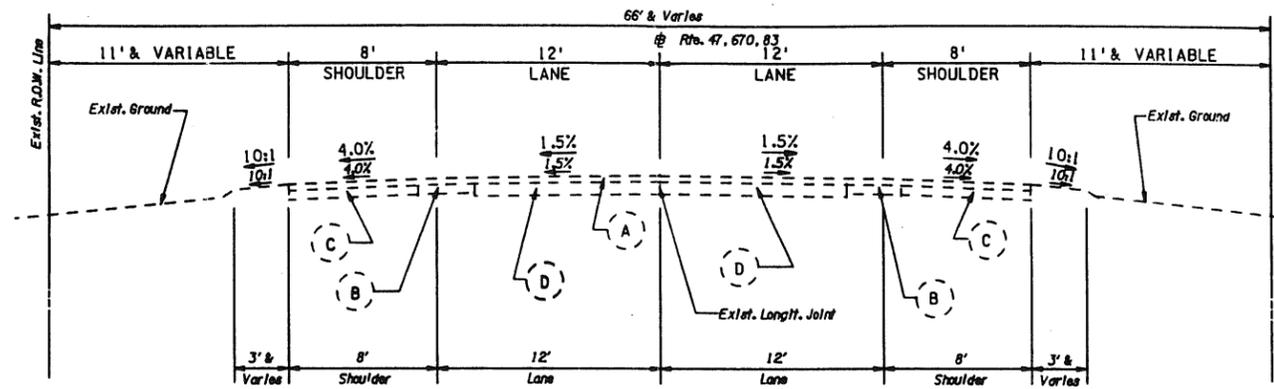
ROUTE 55 EXTENSION FEASIBILITY STUDY

N.J. ROUTE 47, COUNTY ROUTE 670
AND ROUTE 83 CORRIDOR

SEGMENT D - PROFILES

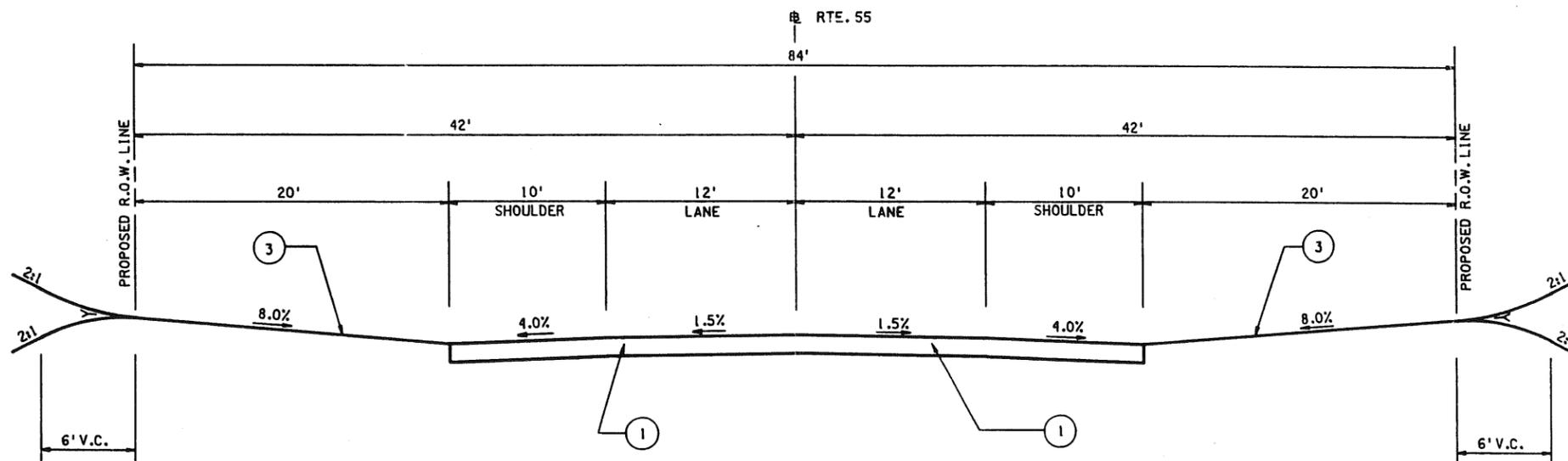
GANNETT FLEMING, INC. SCALE: AS SHOWN
CHERRY HILL, NEW JERSEY DATE:





2 LANES WITH SHOULDER (EXISTING)

N.T.S.



ALTERNATES 3 & 4: 2 LANES WITH SHOULDER

N.T.S.

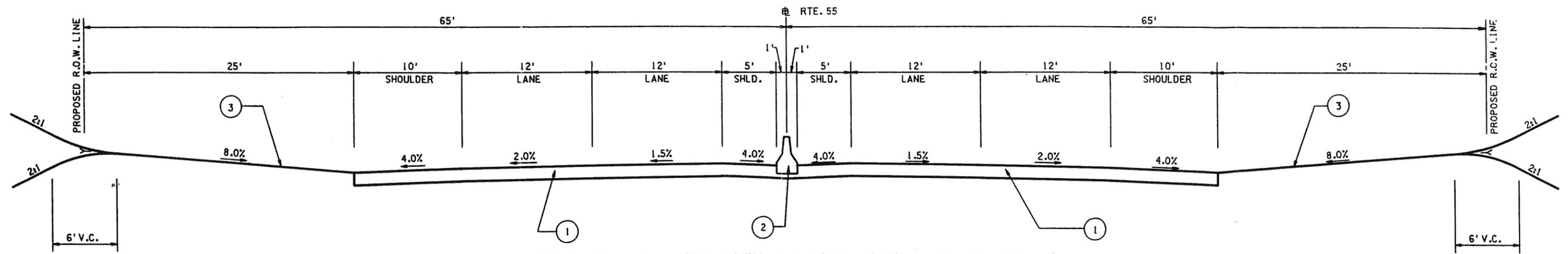
DESIGN SPEED 55 MPH

PROPOSED MATERIALS

- ① MULTI LAYER ASPHALT PAVEMENT
- ② WHITE CONCRETE BARRIER CURB
- ③ TOPSOILING, FERTILIZING, SEEDING AND MULCHING

EXISTING MATERIALS

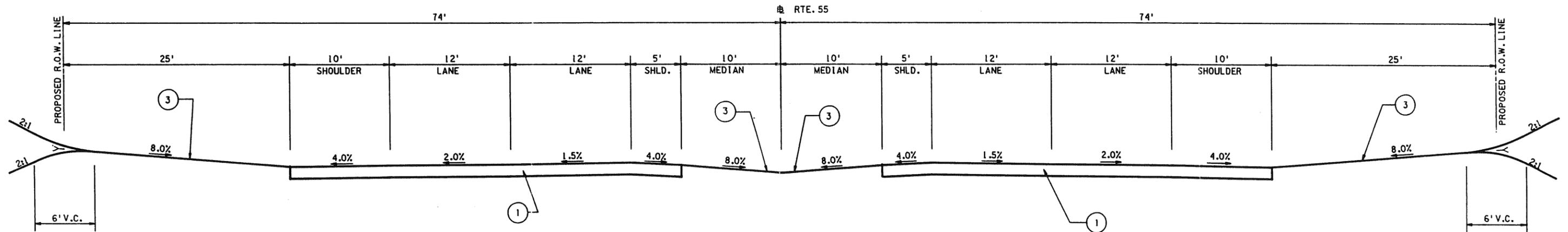
- Ⓐ Multi-Layer Asphalt Pavement
- Ⓑ Bit. Stab. Base Crse., Mix 1-2, 6" Th. & Var.
- Ⓒ Soil Aggregate Base Course
- Ⓓ Reinforced Concrete Pavement, 8" Thick



ALTERNATE 5: 4 LANES WITH SHOULDER WITH BARRIER MEDIAN

N.T.S.

DESIGN SPEED 60 MPH



ALTERNATE 6: 4 LANES WITH SHOULDER WITH GRASS MEDIAN

N.T.S.

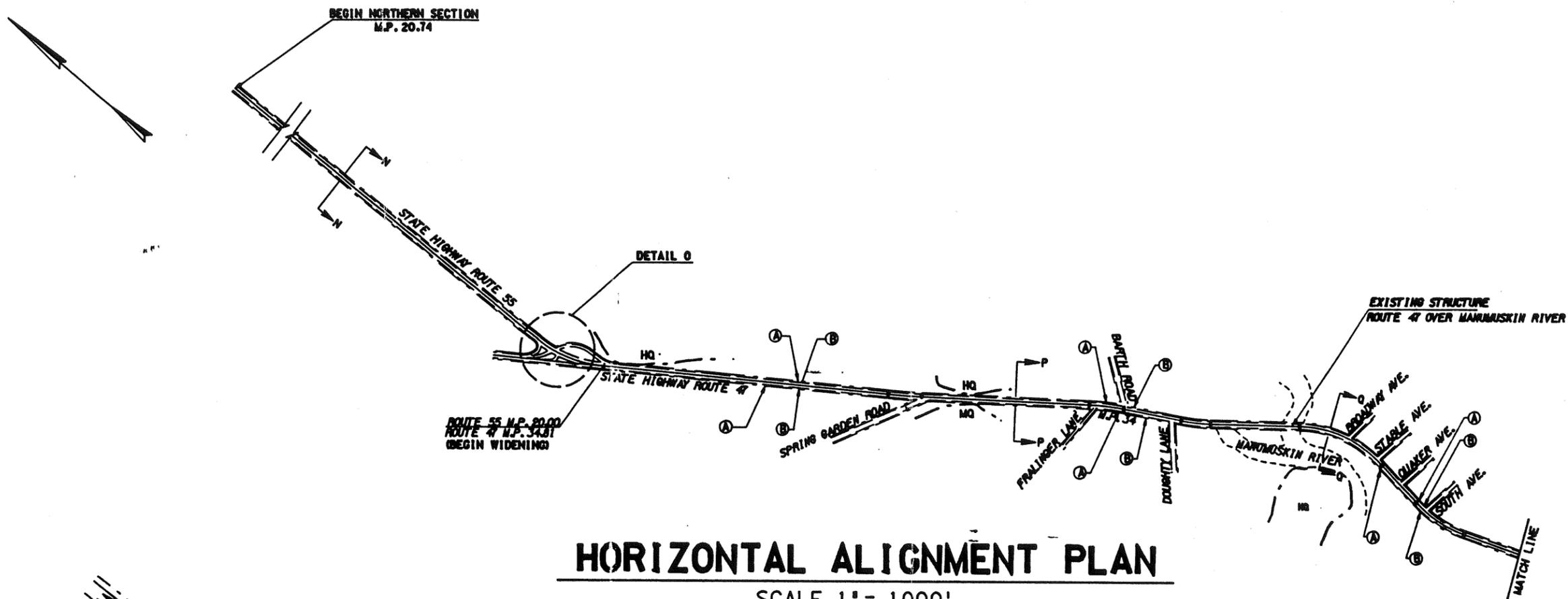
DESIGN SPEED 60 MPH

PROPOSED MATERIALS

- ① MULTI LAYER ASPHALT PAVEMENT
- ② WHITE CONCRETE BARRIER CURB
- ③ TOPSOILING, FERTILIZING, SEEDING AND MULCHING

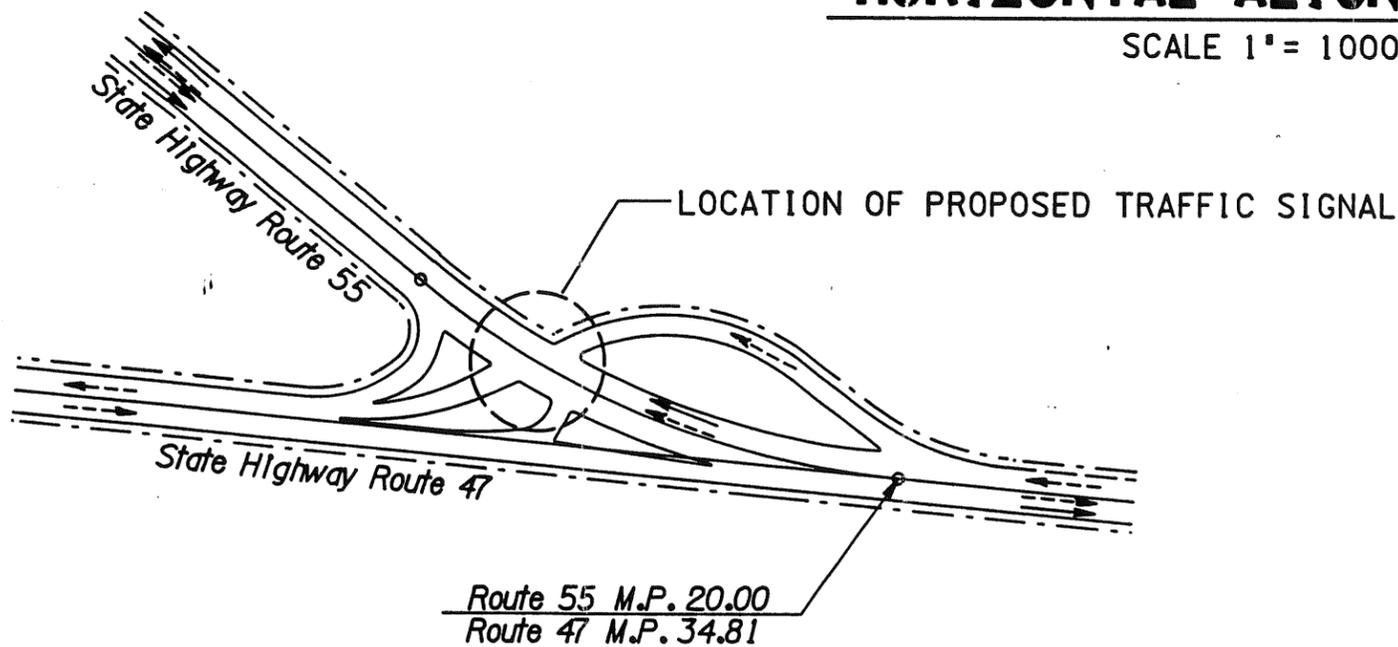
EXISTING MATERIALS

- Ⓐ Multi-Layer Asphalt Pavement
- Ⓑ Bit. Stab. Base Course, Mix 1-2, 6" Th. & Var.
- Ⓒ Soil Aggregate Base Course
- Ⓓ Reinforced Concrete Pavement, 8" Thick



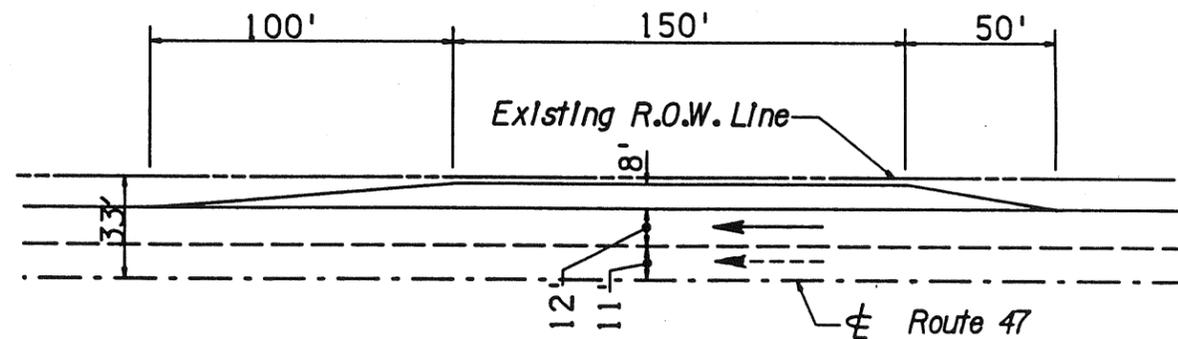
HORIZONTAL ALIGNMENT PLAN

SCALE 1" = 1000'



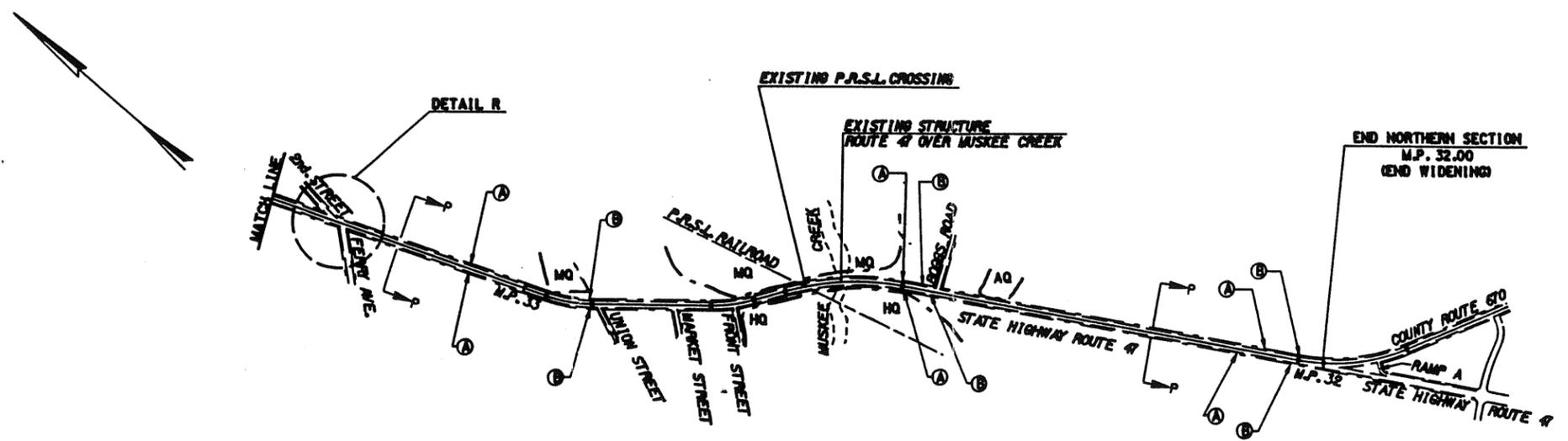
DETAIL 0 LOCALIZED INTERSECTION IMPROVEMENTS STATE ROUTE 55 AND STATE ROUTE 47

NOT TO SCALE



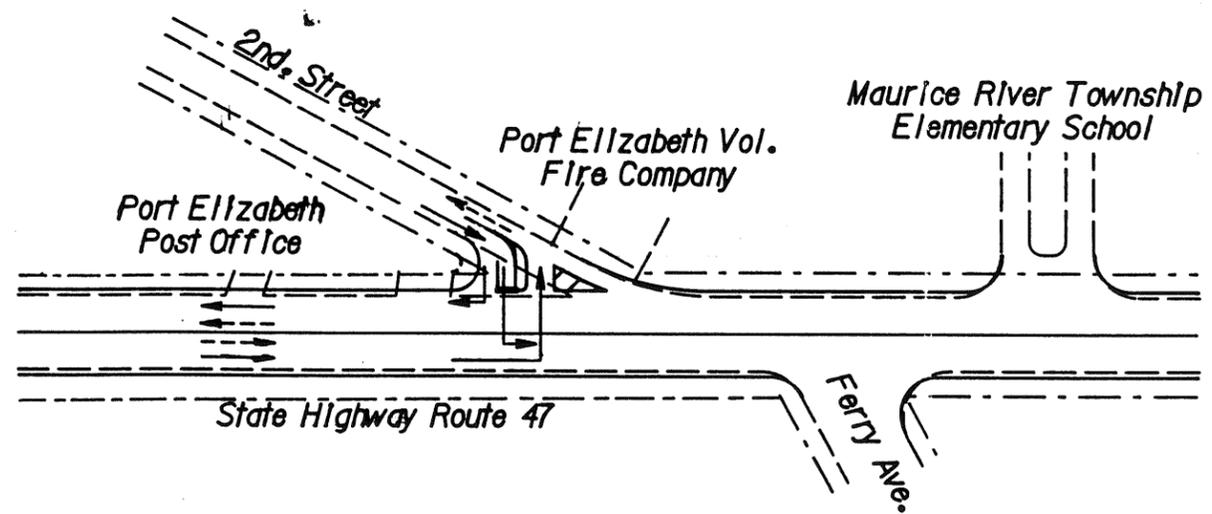
EMERGENCY BREAKDOWN AREA DETAIL

NOT TO SCALE



HORIZONTAL ALIGNMENT PLAN

SCALE 1" = 1000'



DETAIL R LOCALIZED INTERSECTION IMPROVEMENTS 2nd STREET AND STATE ROUTE 47

NOT TO SCALE

- LEGEND**
- RIGHT OF WAY LINE FOR EXISTING
 - EXISTING BASELINE
 - - - - EXISTING WETLANDS DELINIATION LINE
 - Ⓐ EMERGENCY BREAKDOWN AREA
 - Ⓑ VARIABLE MESSAGE BOARD
 - ← EXISTING TRAVEL LANES
 - USABLE SHOULDER

NEW JERSEY DEPARTMENT OF TRANSPORTATION

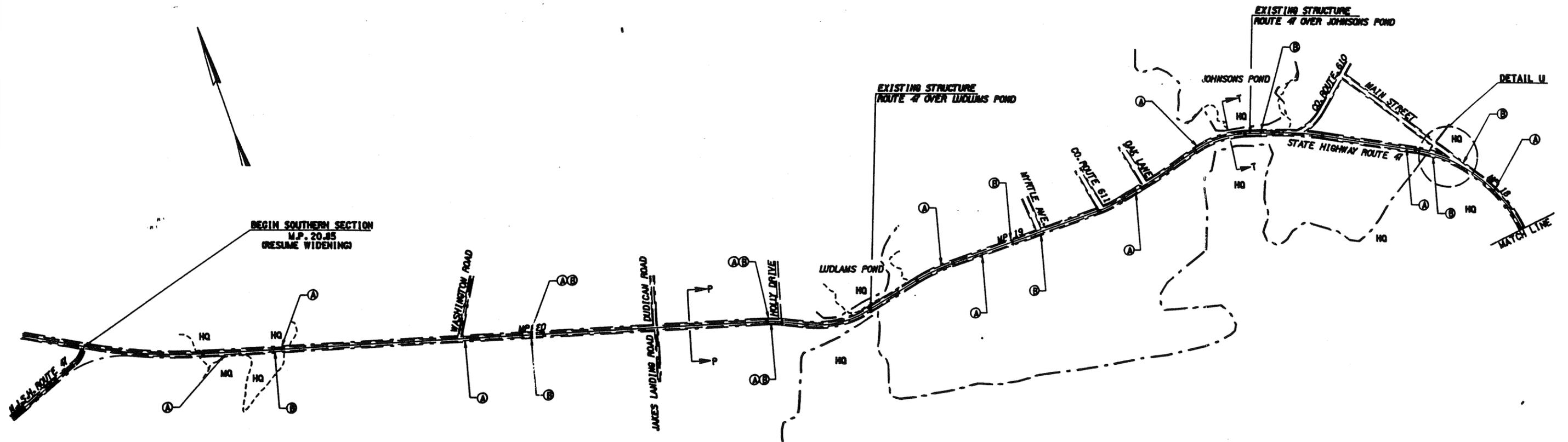
**ROUTE 55
MANAGED TRANSPORTATION CORRIDOR**

PROPOSED IMPROVEMENTS ALONG
N.J. ROUTE 47 CORRIDOR

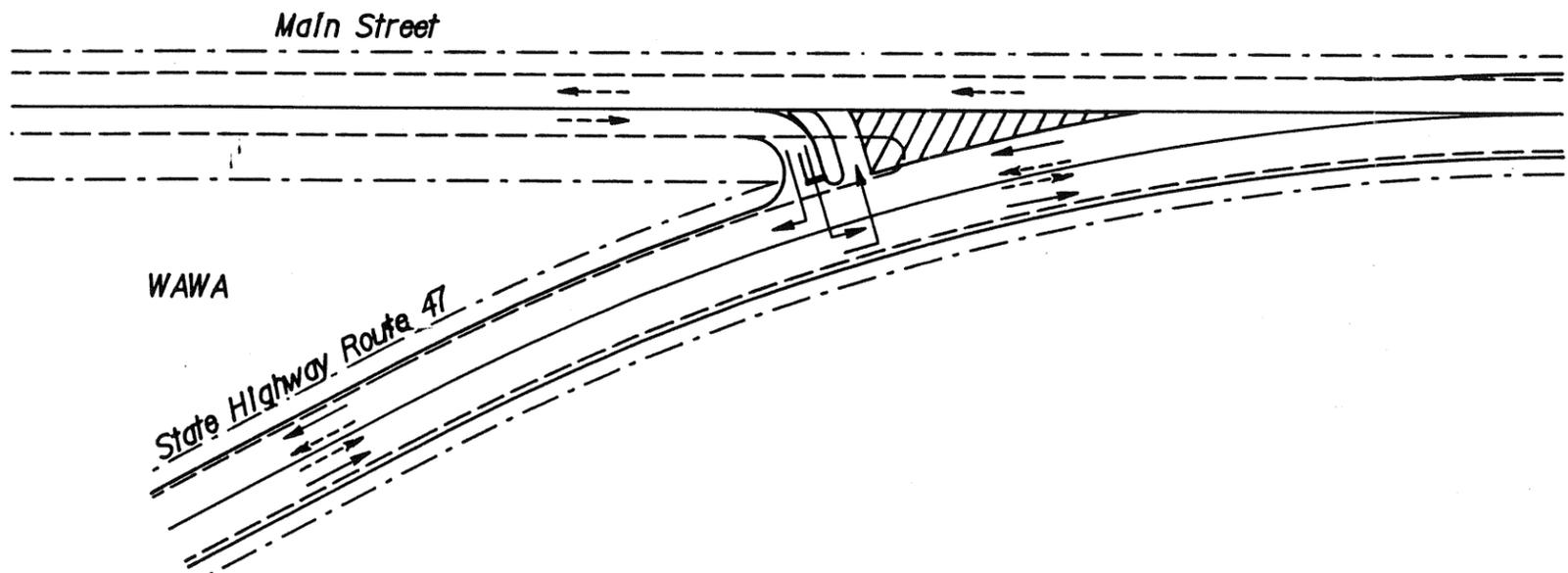
HORIZONTAL ALIGNMENT PLANS

GANNETT FLEMING, INC. SCALE: 

CHERRY HILL, NEW JERSEY DATE: MARCH 1992



HORIZONTAL ALIGNMENT PLAN
SCALE 1" = 1000'



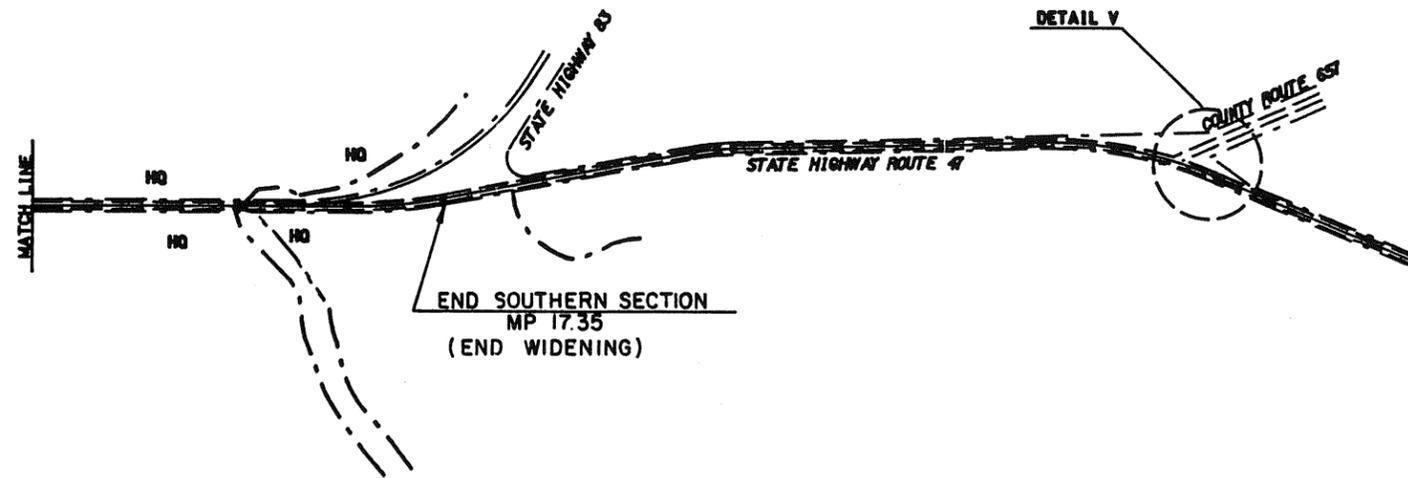
DETAIL U
LOCALIZED INTERSECTION IMPROVEMENTS
MAIN STREET AND STATE ROUTE 47
NOT TO SCALE

- LEGEND**
- RIGHT OF WAY LINE FOR EXISTING
 - EXISTING BASELINE
 - - - - EXISTING WETLANDS DELINEATION LINE
 - Ⓐ EMERGENCY BREAKDOWN AREA
 - Ⓑ VARIABLE MESSAGE BOARD
 - ← EXISTING TRAVEL LANES
 - USABLE SHOULDER

NEW JERSEY DEPARTMENT OF TRANSPORTATION

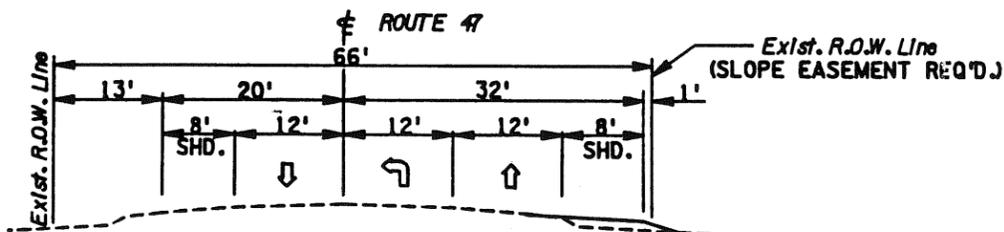
ROUTE 55
MANAGED TRANSPORTATION CORRIDOR
PROPOSED IMPROVEMENTS ALONG
N.J. ROUTE 47 CORRIDOR
HORIZONTAL ALIGNMENT PLANS

GANNETT FLEMING, INC. SCALE:
CHERRY HILL, NEW JERSEY DATE: MARCH 1992

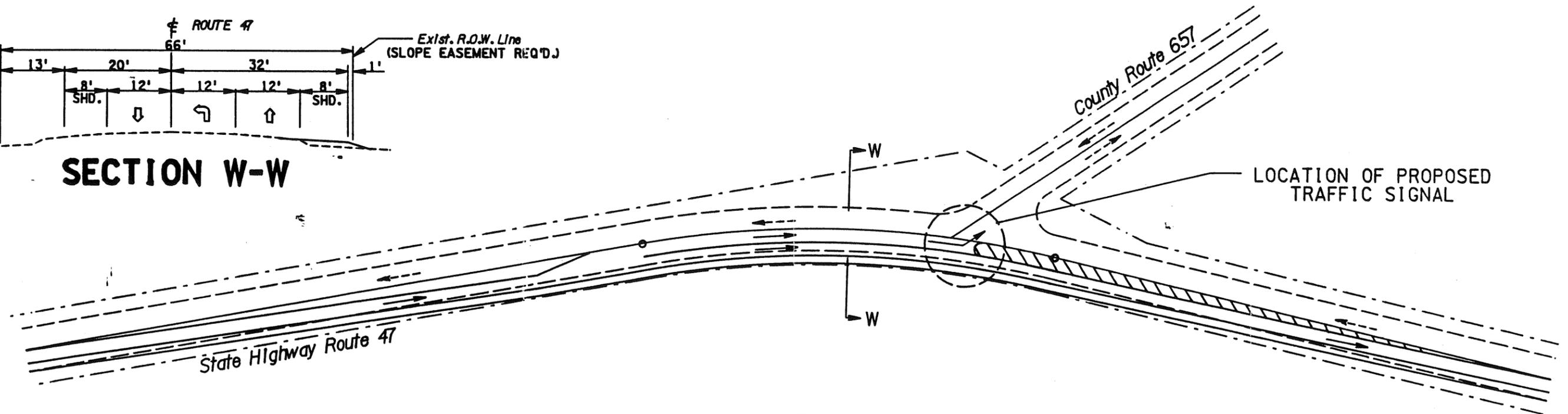


HORIZONTAL ALIGNMENT PLAN

SCALE 1" = 1000'



SECTION W-W



DETAIL V LOCALIZED INTERSECTION IMPROVEMENTS COUNTY ROUTE 657 AND STATE ROUTE 47

NOT TO SCALE

NEW JERSEY DEPARTMENT OF TRANSPORTATION

ROUTE 55
MANAGED TRANSPORTATION CORRIDOR

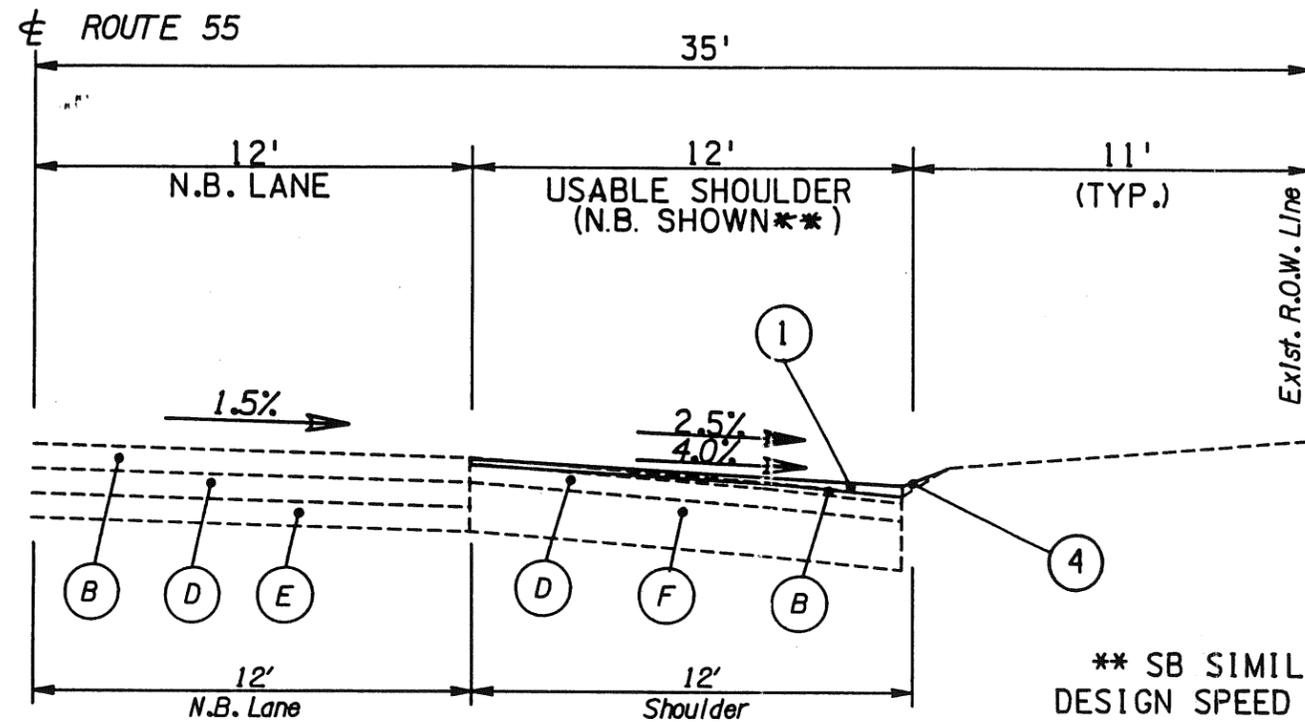
PROPOSED IMPROVEMENTS ALONG
N.J. ROUTE 47 CORRIDOR

HORIZONTAL ALIGNMENT PLANS

GANNETT FLEMING, INC.
CHERRY HILL, NEW JERSEY

SCALE: AS NOTED
DATE: MARCH 1992





**SECTION N-N
TYPICAL HALF SECTION
ROUTE 55 FREEWAY CONNECTION WITH ROUTE 47**

EXISTING

- (A) 8" ReInf. Concrete Pav't.
- (B) Bituminous Conc. Pav't., Var. Th. 2" - 7"
- (C) Bituminous Conc. Pav't., 9-1/2" Th. & Varies
- (D) Soil Aggregate Base Course, 6" Th. & Varies
- (E) Subbase, 8" Th.
- (F) Subbase, 16" Th.

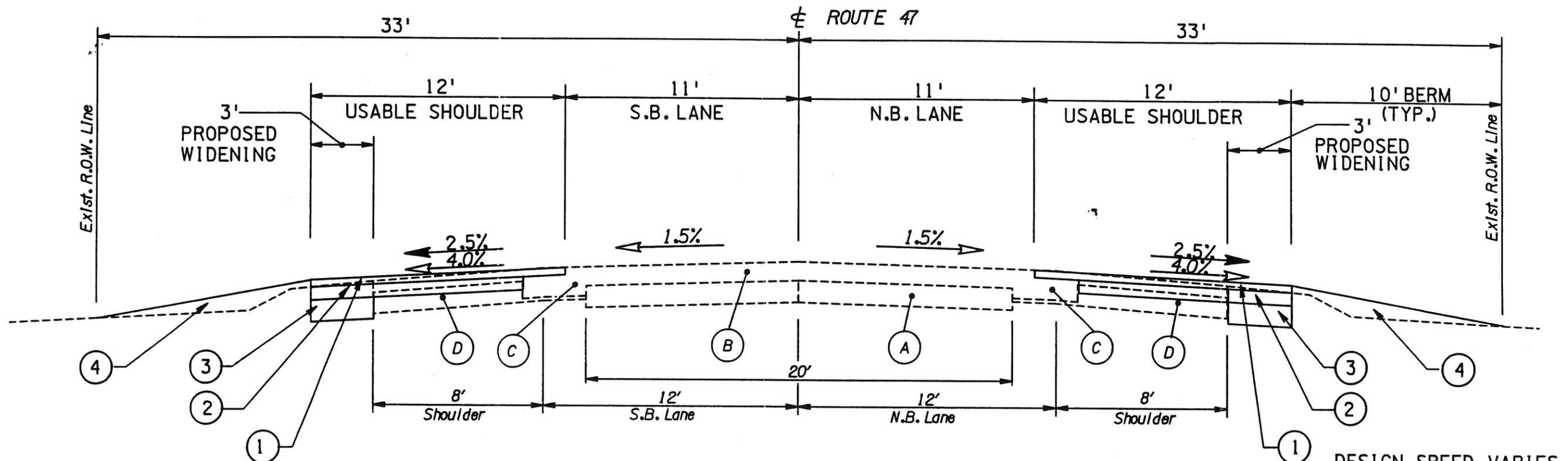
PROPOSED

- (1) BITUMINOUS CONC. SURFACE COURSE, 2" TH. & VARIES
- (2) BITUMINOUS STAB. BASE COURSE, 4" TH. & VARIES
- (3) SOIL AGGREGATE BASE COURSE, 6" TH.
- (4) TOPSOILING, FERTILIZING, & SEEDING

NOTE: LIMITS SHOWN FOR SHOULDER RECONSTRUCTION REQUIRES FURTHER INVESTIGATION.

NEW JERSEY DEPARTMENT OF TRANSPORTATION	
ROUTE 55 MANAGED TRANSPORTATION CORRIDOR	
TYPICAL SECTIONS	
GANNETT FLEMING, INC. CHERRY HILL, NEW JERSEY	SCALE: 1" = 5' DATE: MARCH 1992



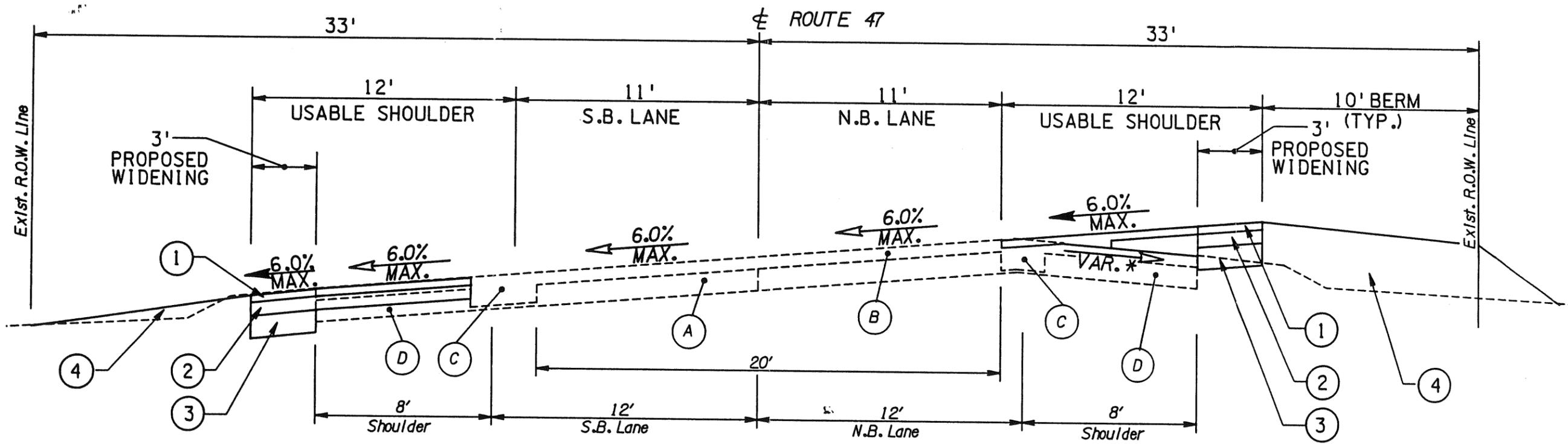


SECTION P-P
TYPICAL TANGENT SECTION (NORTHERN AND SOUTHERN CORRIDOR)

DESIGN SPEED VARIES
 45 MPH TO 50 MPH

NEW JERSEY DEPARTMENT OF TRANSPORTATION	
ROUTE 55 MANAGED TRANSPORTATION CORRIDOR	
TYPICAL SECTIONS	
GANNETT FLEMING, INC. CHERRY HILL, NEW JERSEY	SCALE: 1" = 5' DATE: MARCH 1992



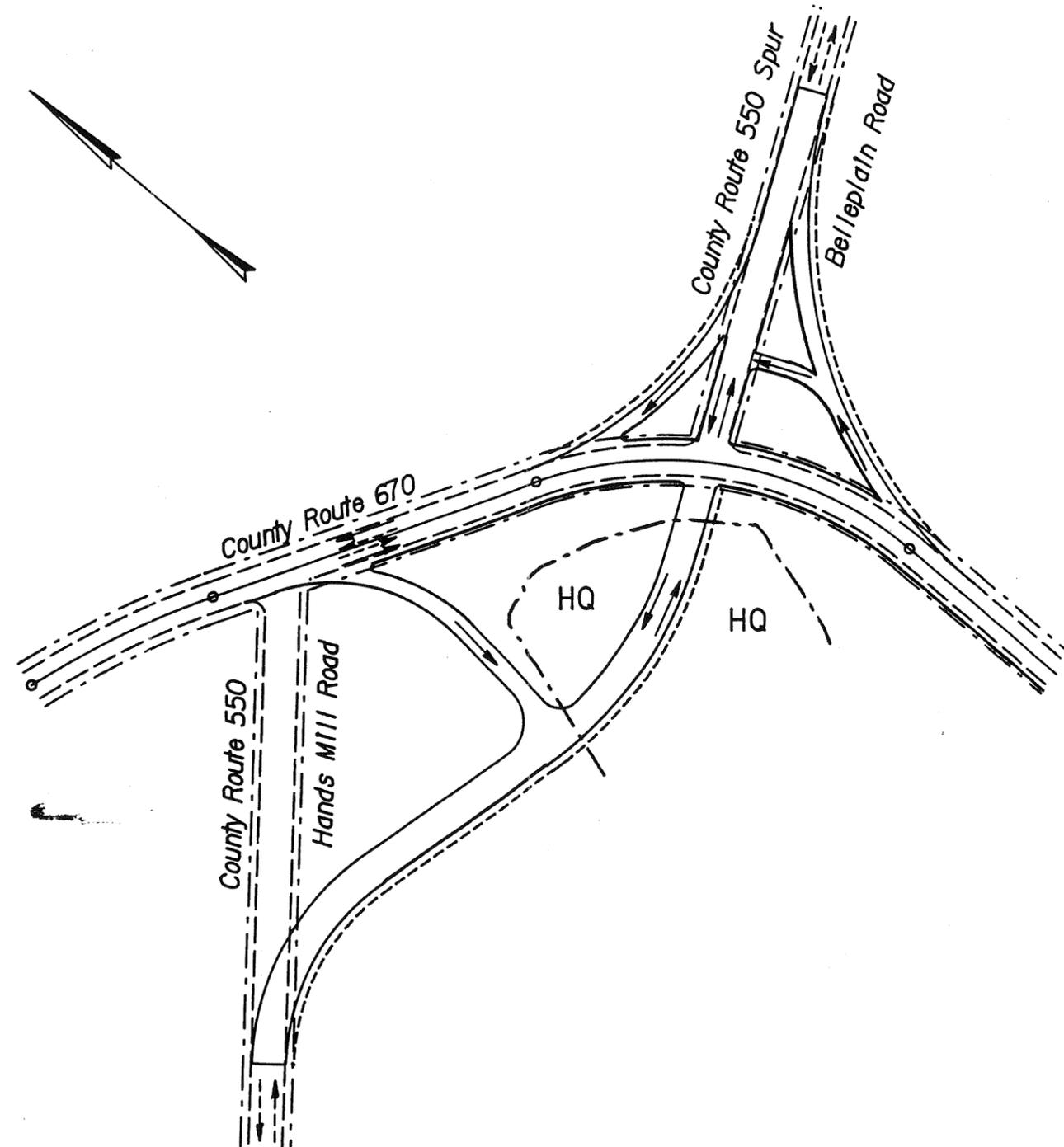


SECTION 0+0
TYPICAL SUPERELEVATION SECTION (NORTHERN CORRIDOR)

* MAX. ROLLOVER 7%
 DESIGN SPEED VARIES
 45 MPH TO 50 MPH

NEW JERSEY DEPARTMENT OF TRANSPORTATION	
ROUTE 55 MANAGED TRANSPORTATION CORRIDOR	
TYPICAL SECTIONS	
GANNETT FLEMING, INC. CHERRY HILL, NEW JERSEY	SCALE: 1" = 5' DATE: MARCH 1992



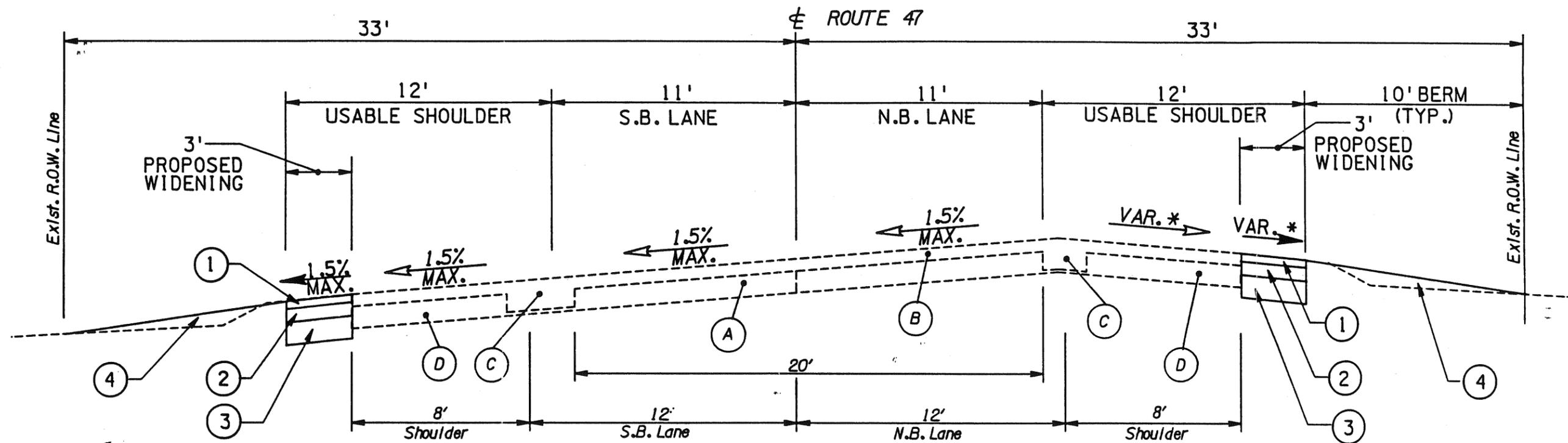


DETAIL S
LOCALIZED INTERSECTION IMPROVEMENTS
COUNTY ROUTE 550 AND COUNTY ROUTE 670

NOT TO SCALE

NEW JERSEY DEPARTMENT OF TRANSPORTATION	
<p align="center">ROUTE 55 MANAGED TRANSPORTATION CORRIDOR PROPOSED IMPROVEMENTS ALONG N.J. ROUTE 47 CORRIDOR</p>	
<p align="center">HORIZONTAL ALIGNMENT PLANS</p>	
GANNETT FLEMING, INC. CHERRY HILL, NEW JERSEY	SCALE: AS NOTED DATE: MARCH 1992





**SECTION T-T
TYPICAL SUPERELEVATION SECTION (SOUTHERN CORRIDOR)**

* MAX. ROLLOVER 7%
DESIGN SPEED 50 MPH

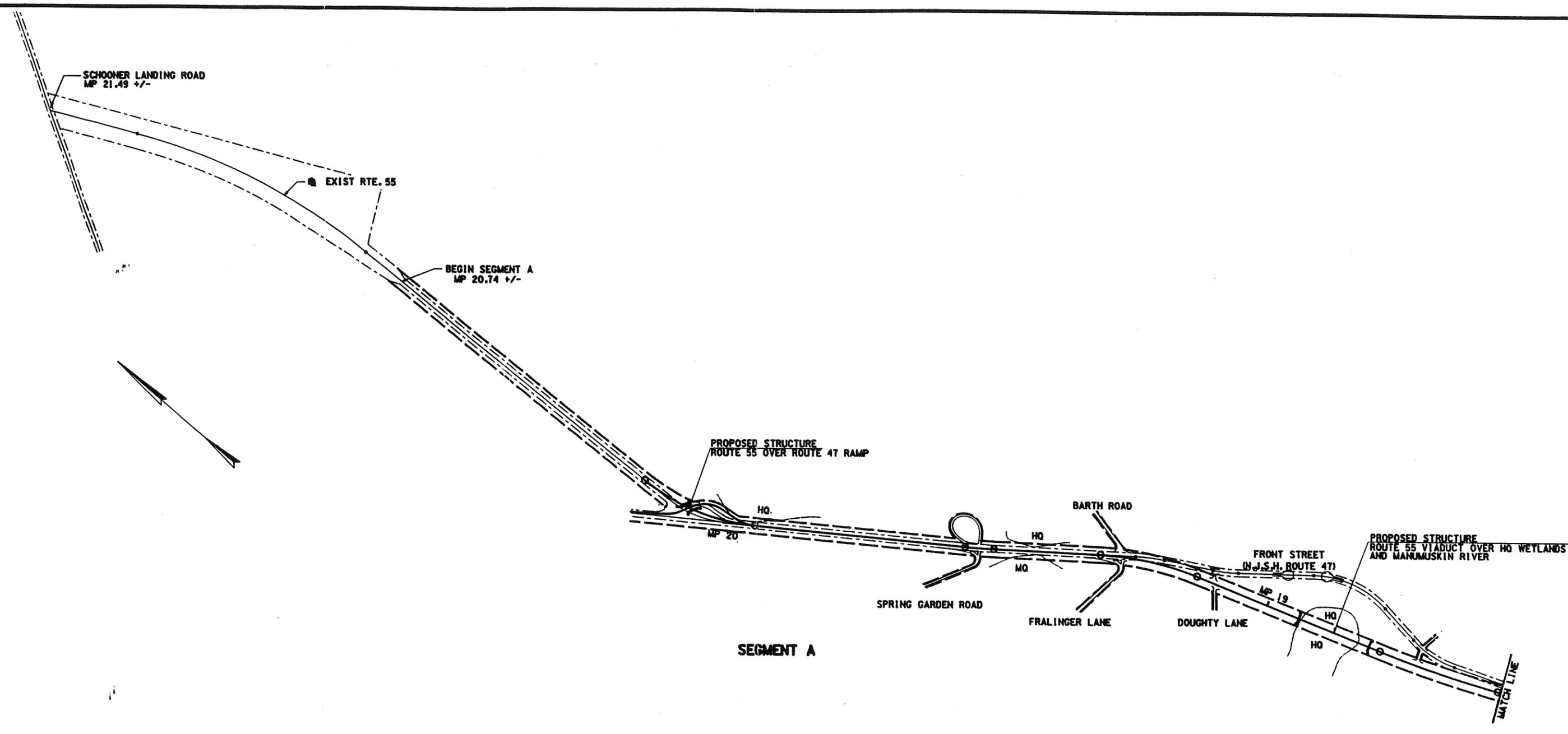
NEW JERSEY DEPARTMENT OF TRANSPORTATION

ROUTE 55
MANAGED TRANSPORTATION CORRIDOR

TYPICAL SECTIONS

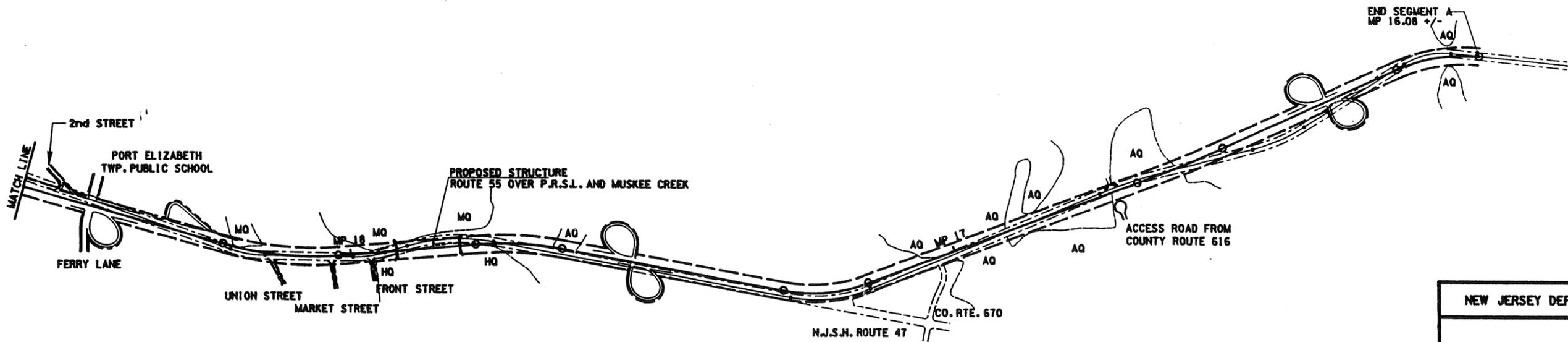
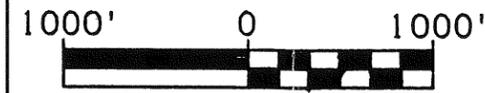
GANNETT FLEMING, INC. SCALE: 1" = 8'
CHERRY HILL, NEW JERSEY DATE: MARCH 1992





LEGEND
 - - - - - RIGHT OF WAY LINE FOR EXISTING
 - - - - - RIGHT OF WAY LINE FOR ALTERNATE 5 & 6
 - - - - - PROPOSED BASELINE FOR ALTERNATE 5 & 6
 - - - - - EXISTING BASELINE
 - - - - - EXISTING WETLANDS DELINIATION LINE

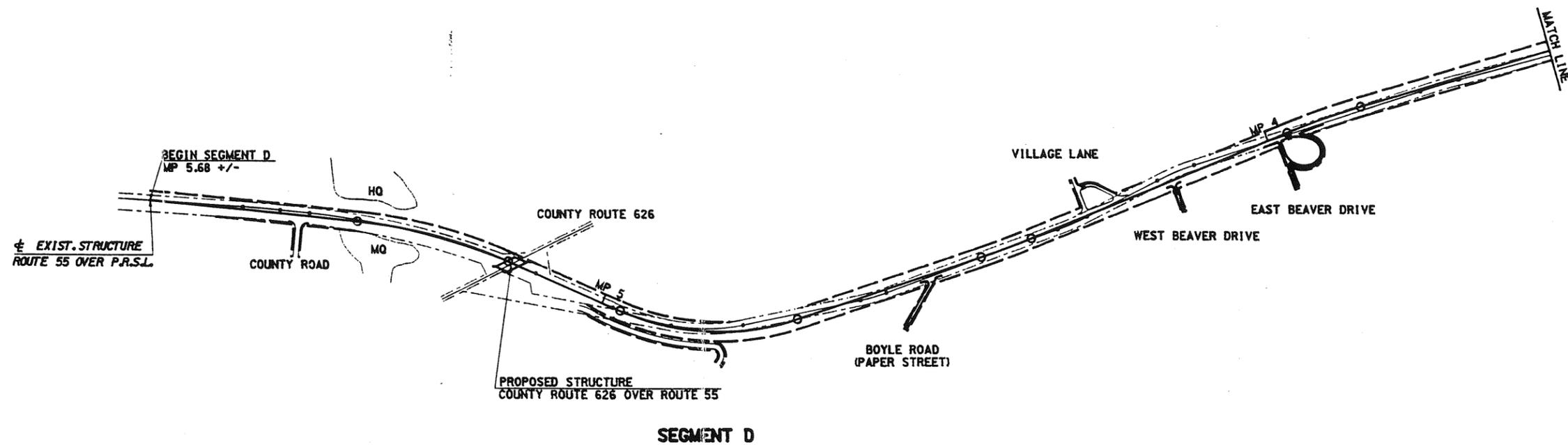
**LAND SERVICE ROADWAY
 (ALTERNATES 5 & 6)
 DESIGN SPEED 60 M.P.H.**



SEGMENT A

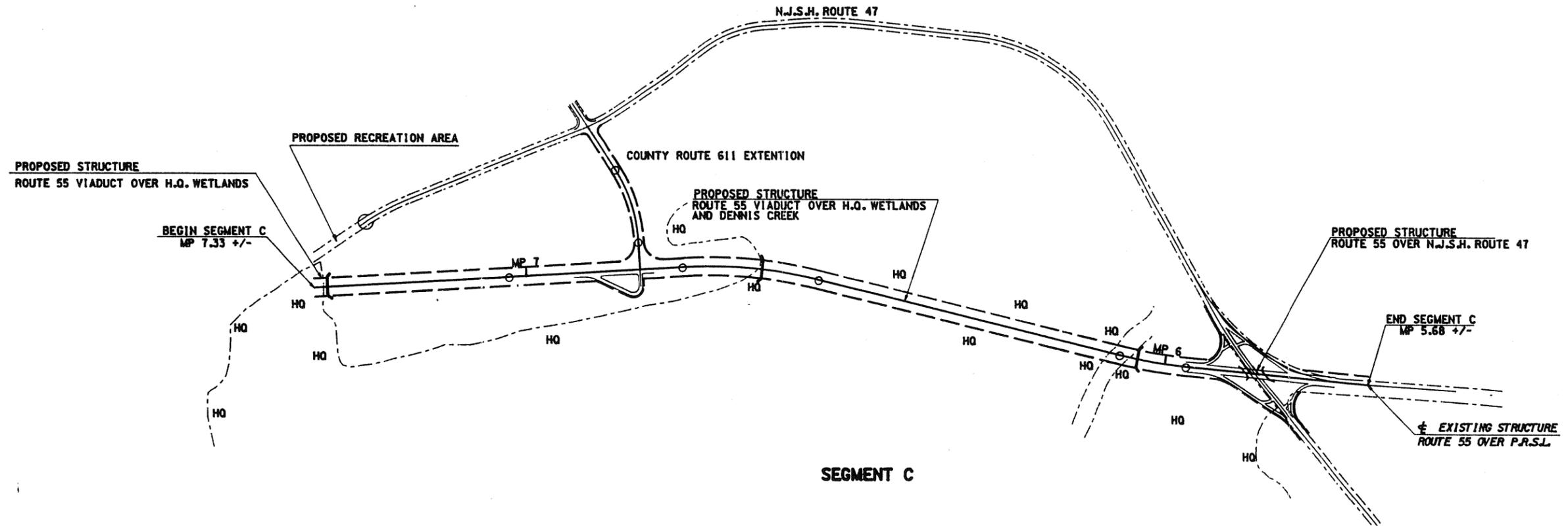
NEW JERSEY DEPARTMENT OF TRANSPORTATION	
ROUTE 55 EXTENSION FEASIBILITY STUDY	
N.J. ROUTE 47, COUNTY ROUTE 670 AND ROUTE 83 CORRIDOR	
SEGMENT A - HORIZONTAL ALIGNMENT	
GANNETT FLEMING, INC. CHERRY HILL, NEW JERSEY	SCALE: 1"=1000' DATE:





- LEGEND**
- RIGHT OF WAY LINE FOR EXISTING
 - ===== RIGHT OF WAY LINE FOR ALTERNATES 5 & 6
 - PROPOSED BASELINE FOR ALTERNATES 5 & 6
 - EXISTING BASELINE
 - EXISTING WETLANDS DELINIATION LINE

LAND SERVICE ROADWAY
(ALTERNATES 5 & 6)
DESIGN SPEED 60 M.P.H.



LAND SERVICE ROADWAY
(ALTERNATES 5 & 6)
DESIGN SPEED 60 M.P.H.

- LEGEND**
- RIGHT OF WAY LINE FOR EXISTING
 - RIGHT OF WAY LINE FOR ALTERNATE 5 & 6
 - PROPOSED BASELINE FOR ALTERNATE 5 & 6
 - EXISTING BASELINE
 - EXISTING WETLANDS DELINIATION LINE

NEW JERSEY DEPARTMENT OF TRANSPORTATION

ROUTE 55 EXTENSION FEASIBILITY STUDY

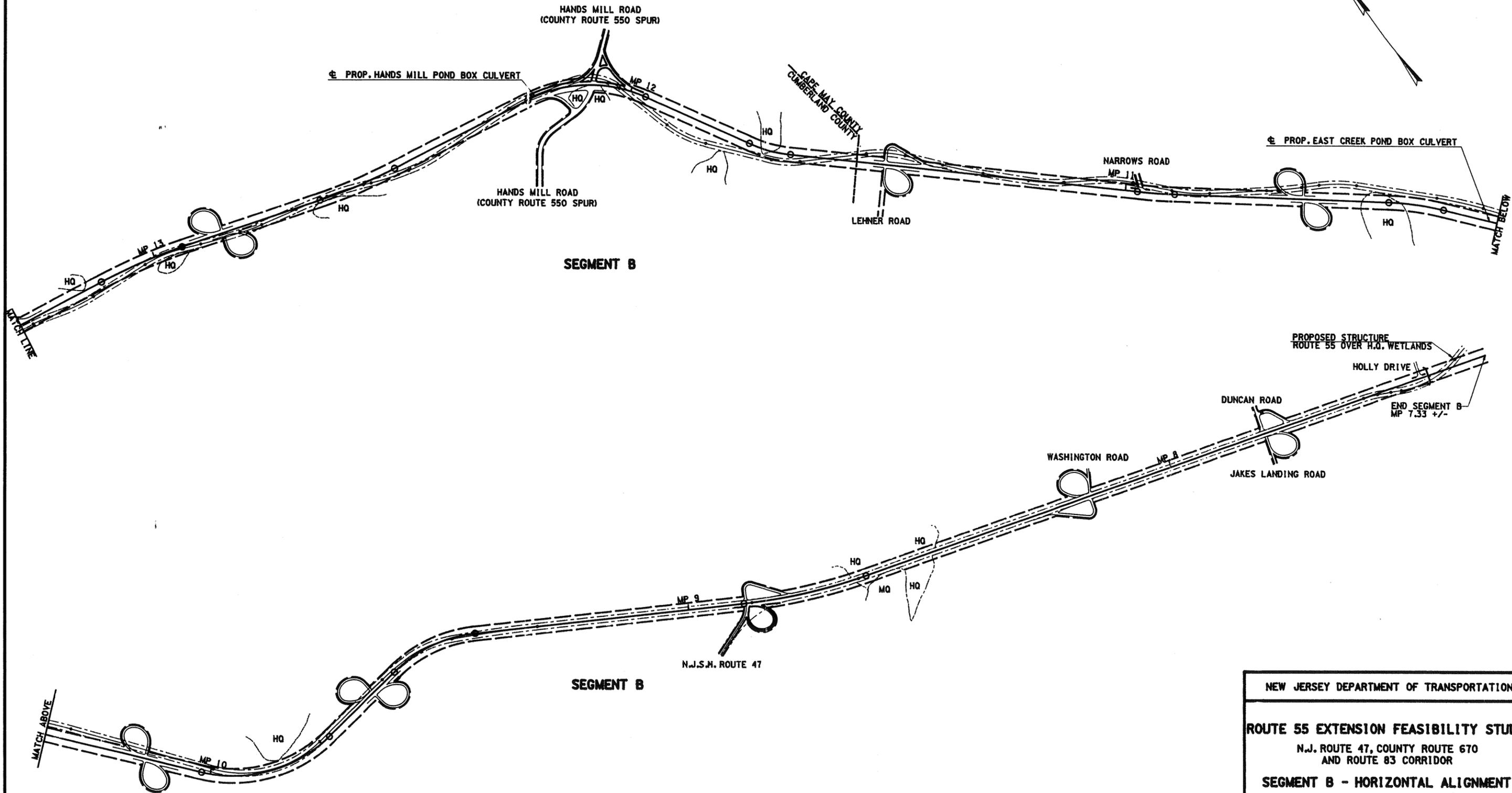
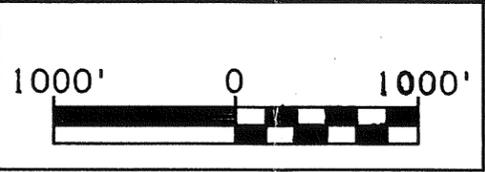
N.J. ROUTE 47, COUNTY ROUTE 670
AND ROUTE 83 CORRIDOR

SEGMENT C - HORIZONTAL ALIGNMENT

GANNETT FLEMING, INC.
CHERRY HILL, NEW JERSEY

SCALE: 1"=1000'
DATE:





SEGMENT B

SEGMENT B

NEW JERSEY DEPARTMENT OF TRANSPORTATION

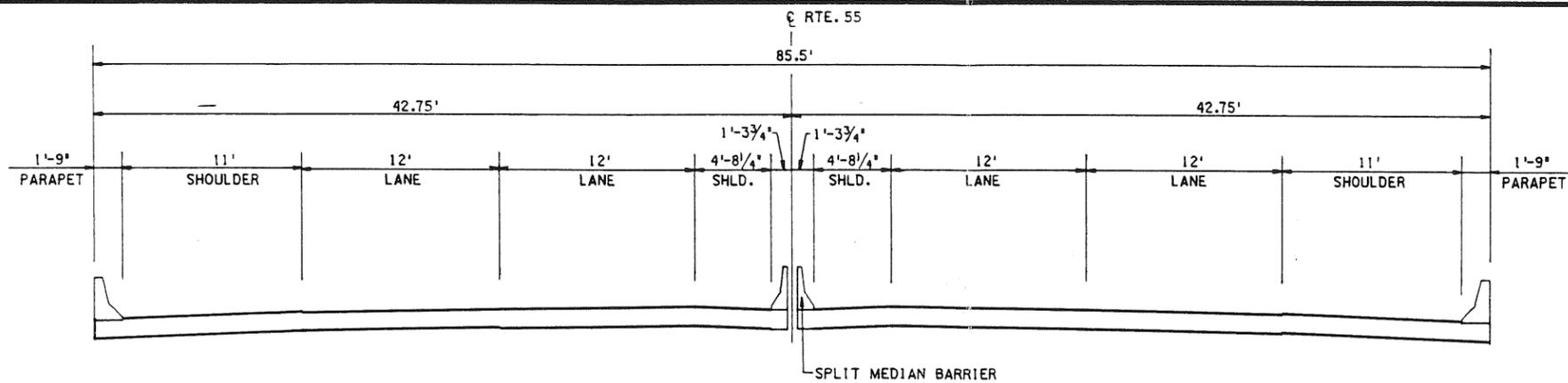
ROUTE 55 EXTENSION FEASIBILITY STUDY

N.J. ROUTE 47, COUNTY ROUTE 670
AND ROUTE 83 CORRIDOR

SEGMENT B - HORIZONTAL ALIGNMENT

GANNETT FLEMING, INC. SCALE: 1"=1000'
CHERRY HILL, NEW JERSEY DATE:

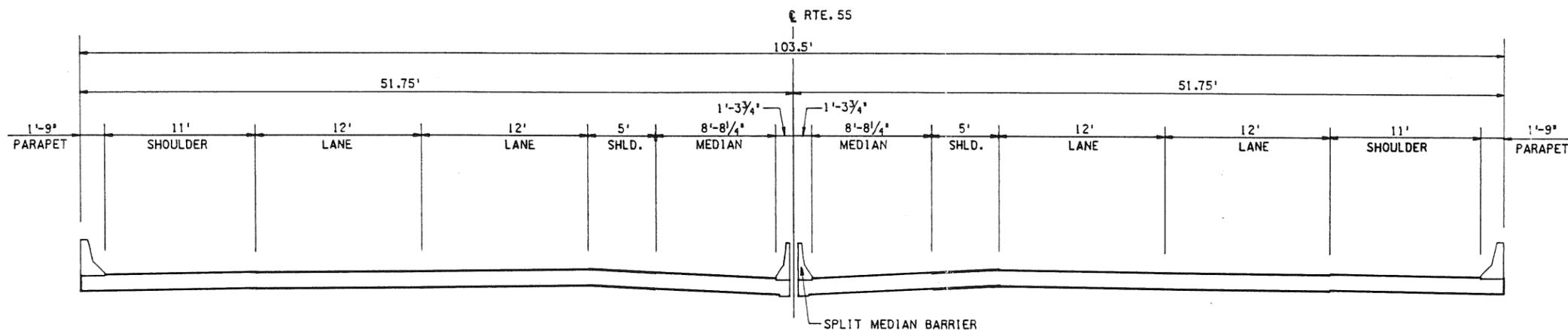




ALTERNATE 5: ROUTE 55 VIADUCT OVER HIGH QUALITY WETLANDS AND DENNIS CREEK

DESIGN SPEED 60 M.P.H.

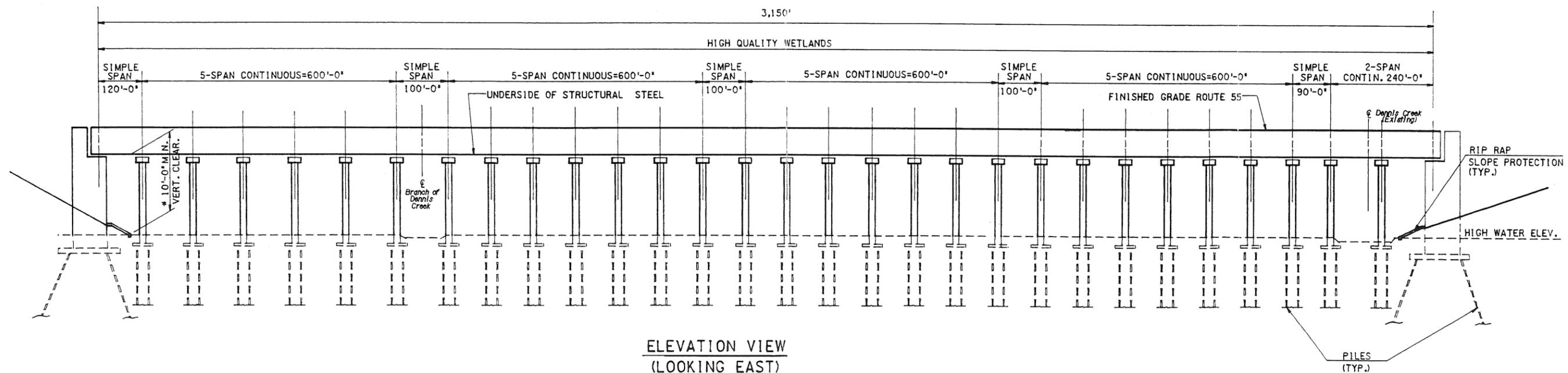
N.T.S.



ALTERNATE 6: ROUTE 55 VIADUCT OVER HIGH QUALITY WETLANDS AND DENNIS CREEK

DESIGN SPEED 60 M.P.H.

N.T.S.

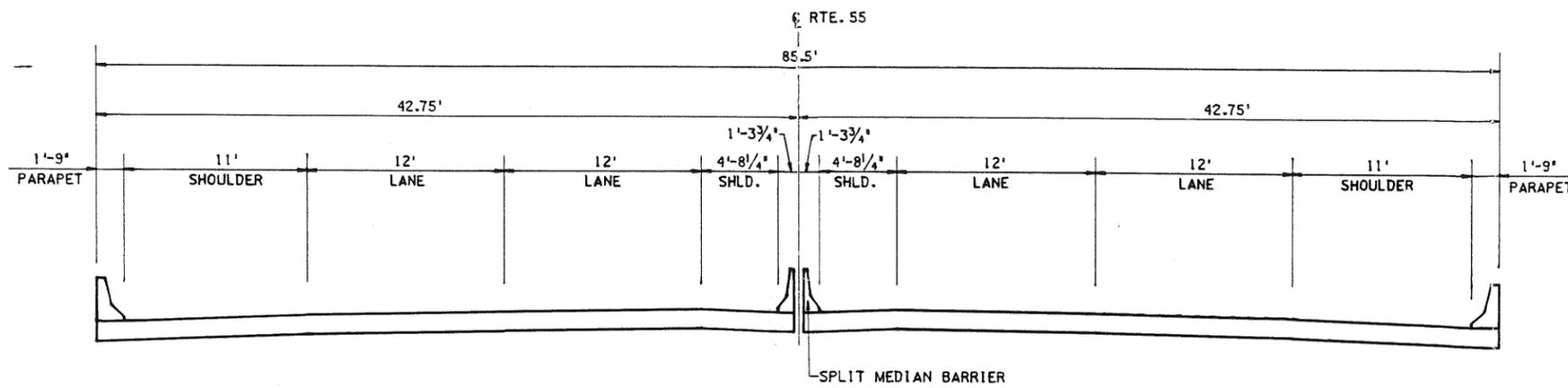


ELEVATION VIEW
(LOOKING EAST)

N.T.S.

* ASSUMPTION: NAVIGABLE CHANNEL

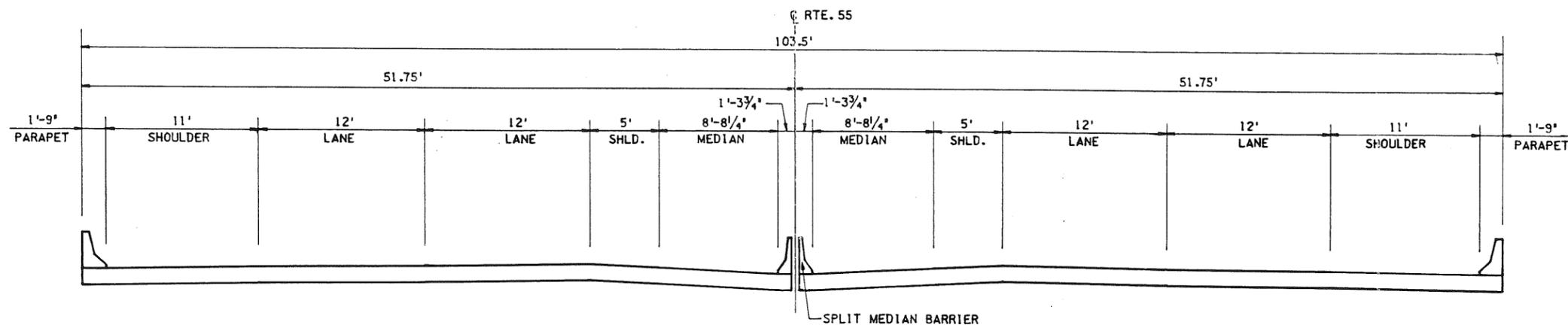
SEGMENT C M.P. 6.35



ALTERNATE 5: ROUTE 55 OVER ROUTE 47

DESIGN SPEED 60 M.P.H.

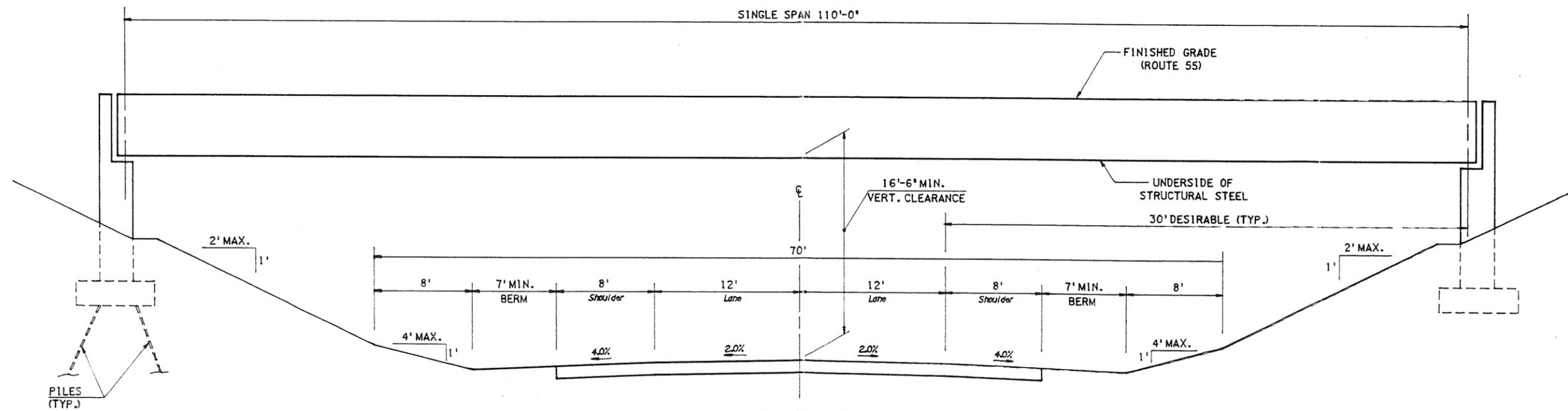
N.T.S.



ALTERNATE 6: ROUTE 55 OVER ROUTE 47

DESIGN SPEED 60 M.P.H.

N.T.S.

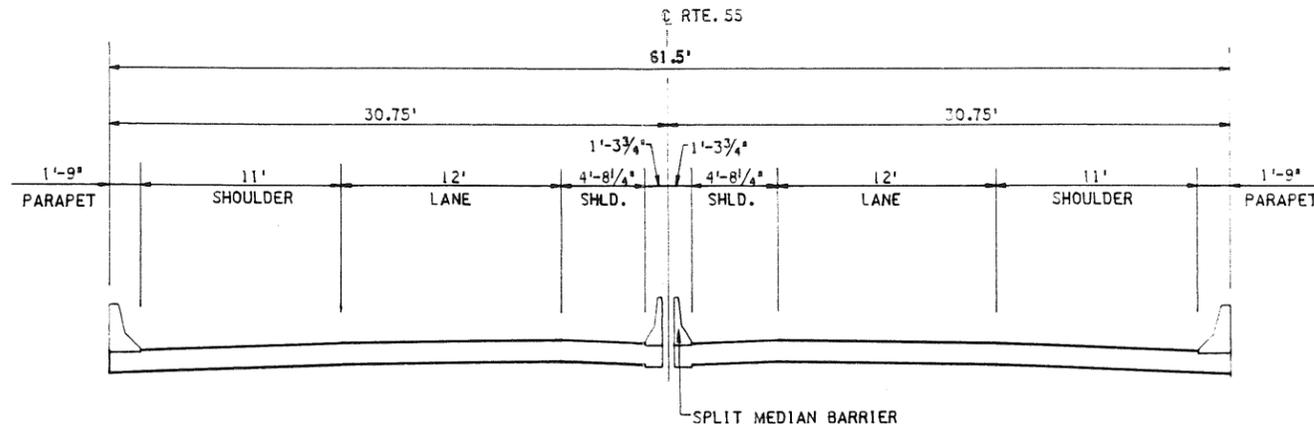


* ROUTE 47
(LOOKING NORTH)

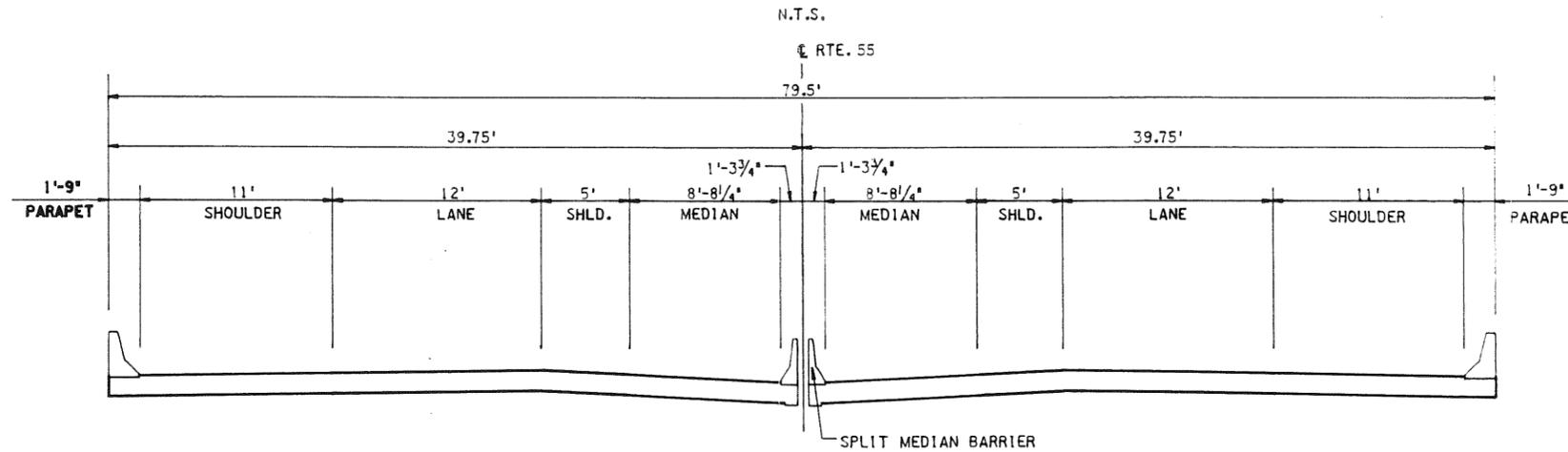
N.T.S.

* NO ROADWAY IMPROVEMENTS HAVE BEEN SHOWN.

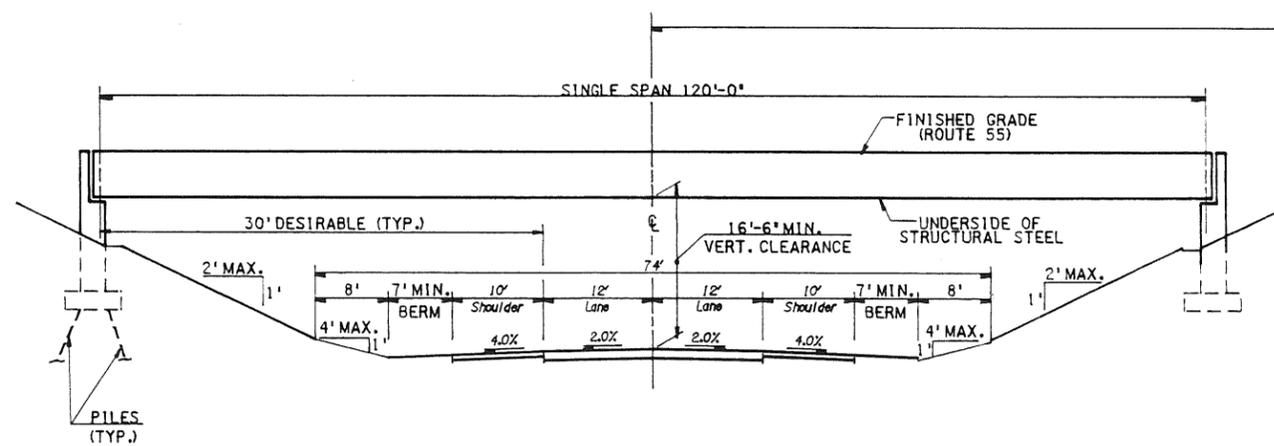
SEGMENT C M.P. 5.86



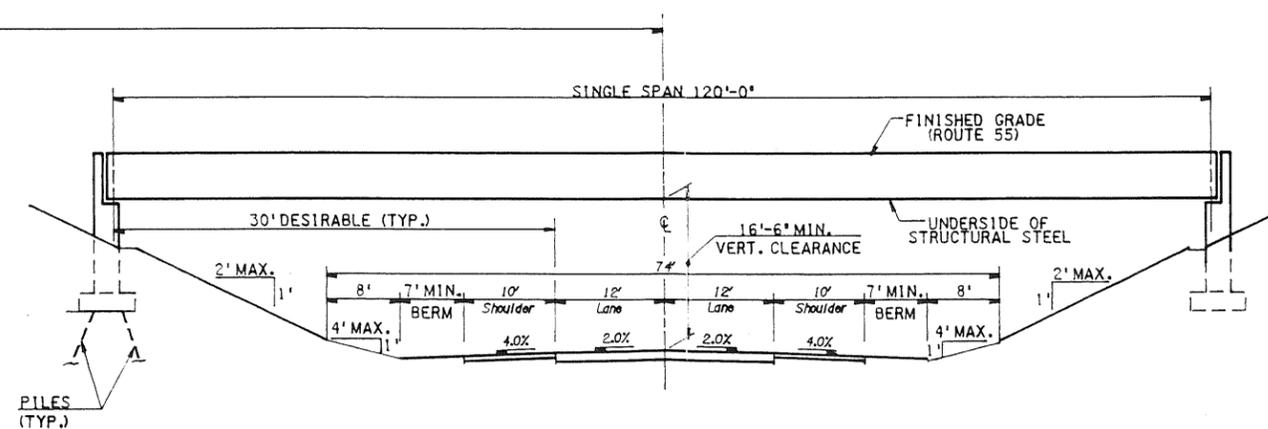
ALTERNATE 1&5: ROUTE 55 OVER GARDEN STATE PARKWAY N.B./S.B. DESIGN SPEED 70 M.P.H.



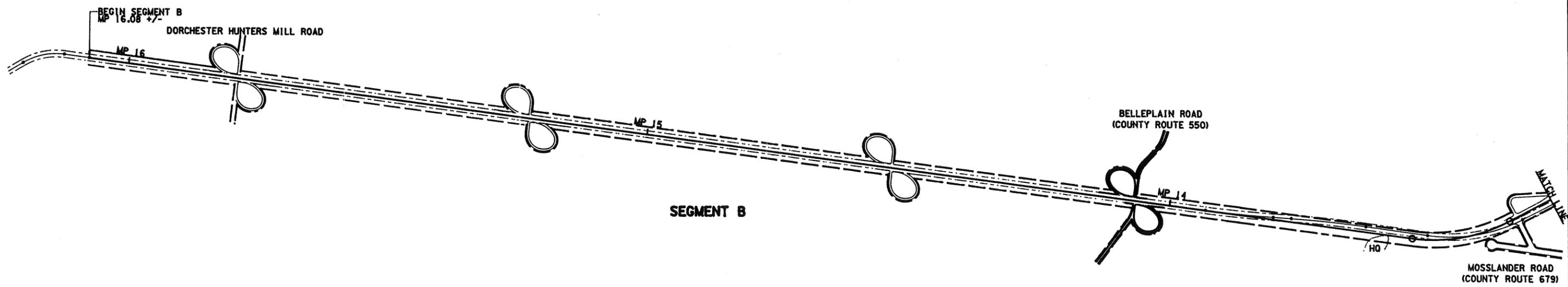
ALTERNATE 2&6: ROUTE 55 OVER GARDEN STATE PARKWAY N.B./S.B. DESIGN SPEED 70 M.P.H.



GARDEN STATE PARKWAY N.B.
(LOOKING NORTH)
N.T.S.
M.P. 1.62



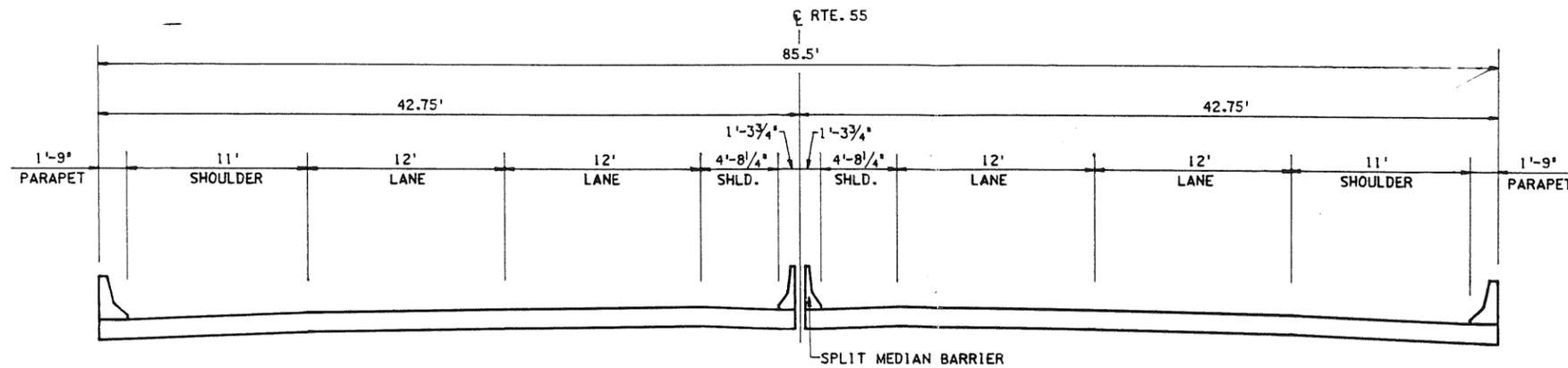
GARDEN STATE PARKWAY S.B.
(LOOKING NORTH)
N.T.S.
M.P. 1.68



SEGMENT B

- LEGEND**
- RIGHT OF WAY LINE FOR EXISTING
 - RIGHT OF WAY LINE FOR ALTERNATE 5 & 6
 - PROPOSED BASELINE FOR ALTERNATE 5 & 6
 - EXISTING BASELINE
 - EXISTING WETLANDS DELINIATION LINE

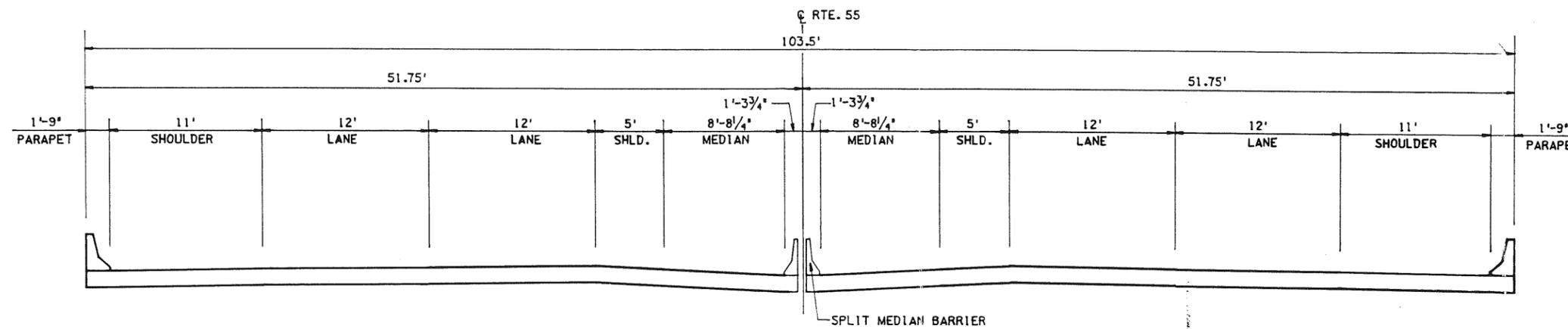
LAND SERVICE ROADWAY
(ALTERNATES 5 & 6)
DESIGN SPEED 60 M.P.H.



ALTERNATE 5: ROUTE 55 VIADUCT OVER HIGH QUALITY WETLANDS

DESIGN SPEED 60 M.P.H.

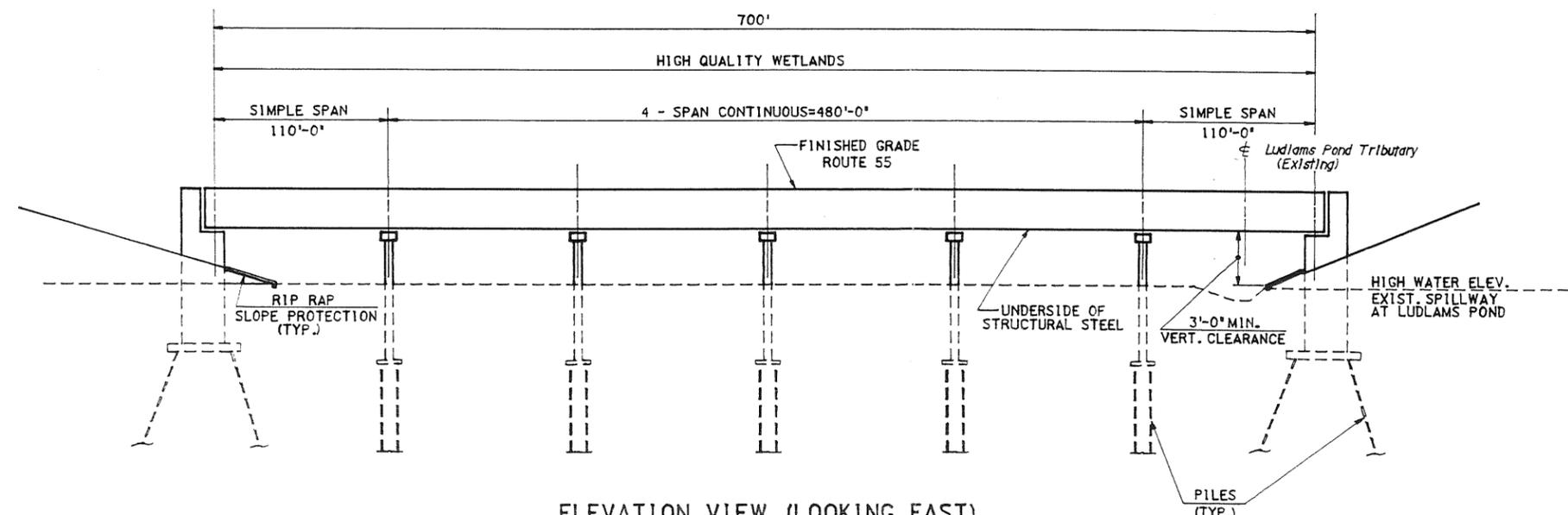
N.T.S.



ALTERNATE 6: ROUTE 55 VIADUCT OVER HIGH QUALITY WETLANDS

DESIGN SPEED 60 M.P.H.

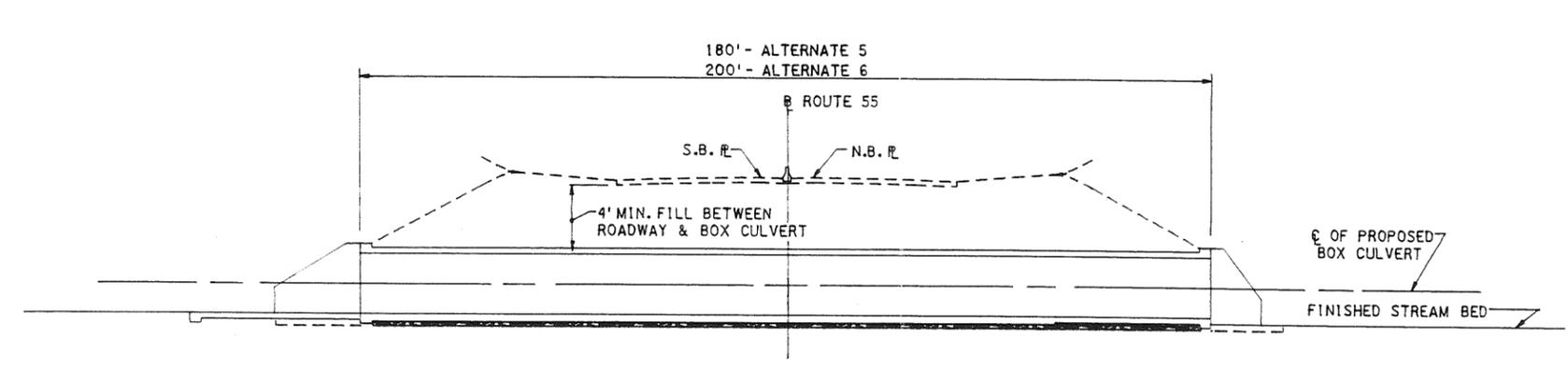
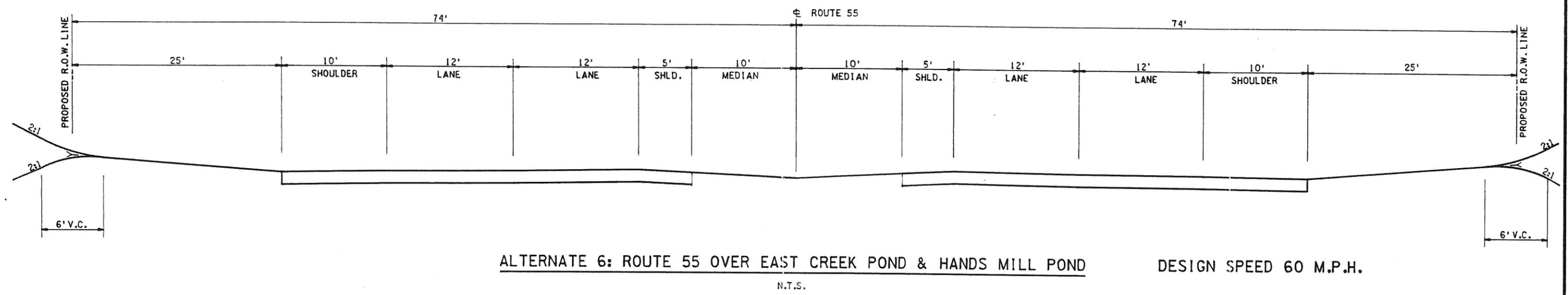
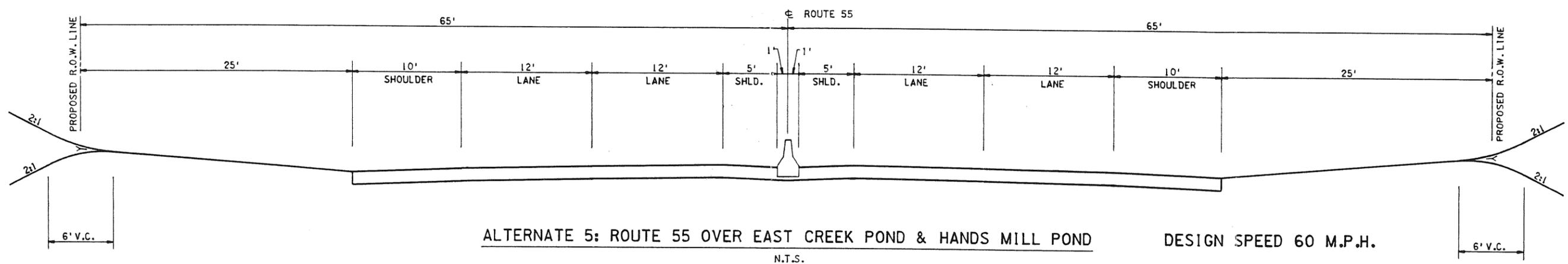
N.T.S.



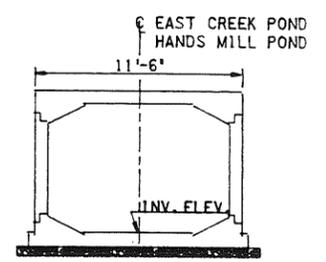
ELEVATION VIEW (LOOKING EAST)

SEGMENT B M.P. 7.38

N.T.S.

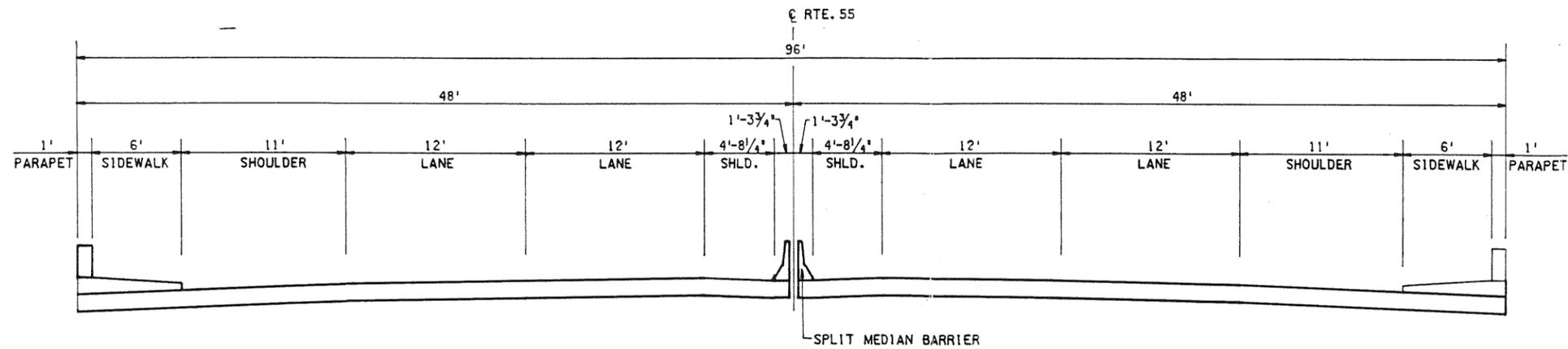


TYPICAL BOX CULVERT CROSSING
 (LOOKING EAST)
 N.T.S.



TYPICAL CULVERT SECTION
 N.T.S.

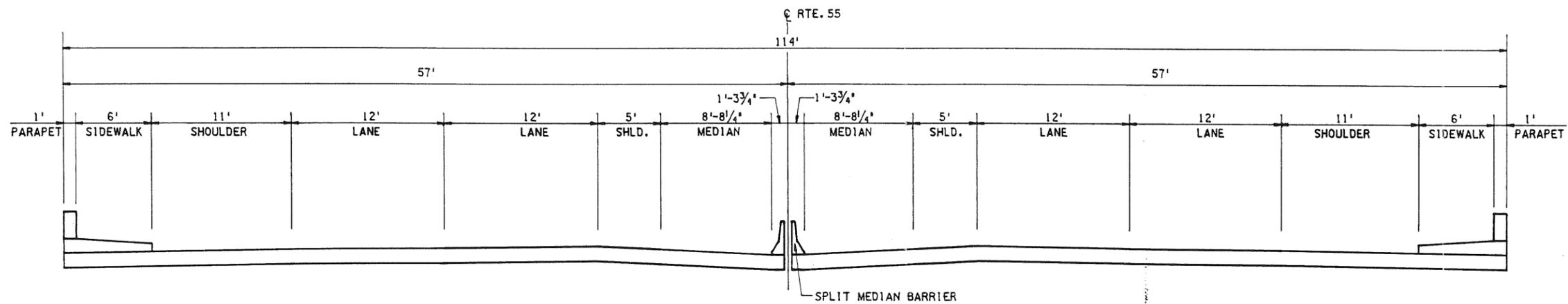
SEGMENT B
 HANDS MILL POND - M.P. 12.19
 EAST CREEK POND - M.P. 10.35



ALTERNATE 5: ROUTE 55 VIADUCT OVER HIGH QUALITY WETLANDS AND MANUMUSKIN RIVER

DESIGN SPEED 60 M.P.H.

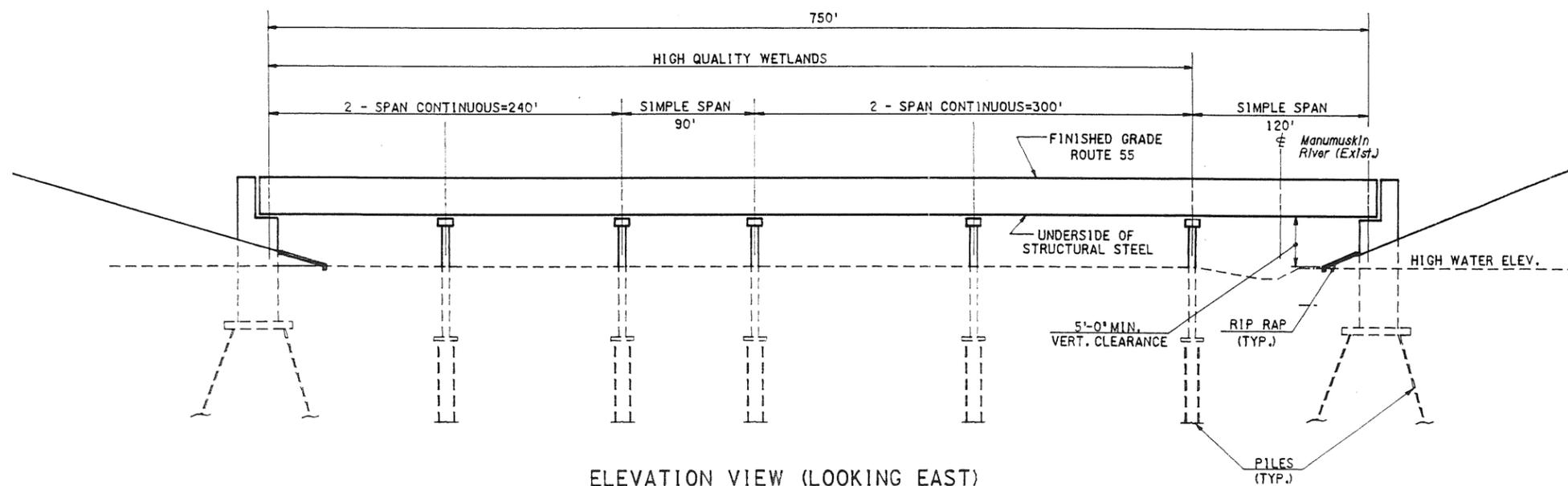
N.T.S.



ALTERNATE 6: ROUTE 55 VIADUCT OVER HIGH QUALITY WETLANDS AND MANUMUSKIN RIVER

DESIGN SPEED 60 M.P.H.

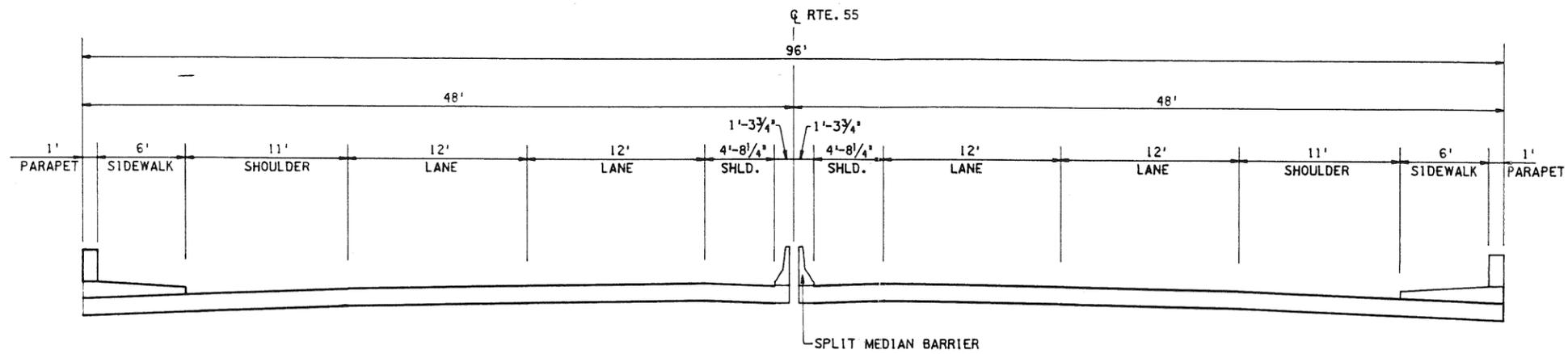
N.T.S.



ELEVATION VIEW (LOOKING EAST)

SEGMENT A M.P. 18.87

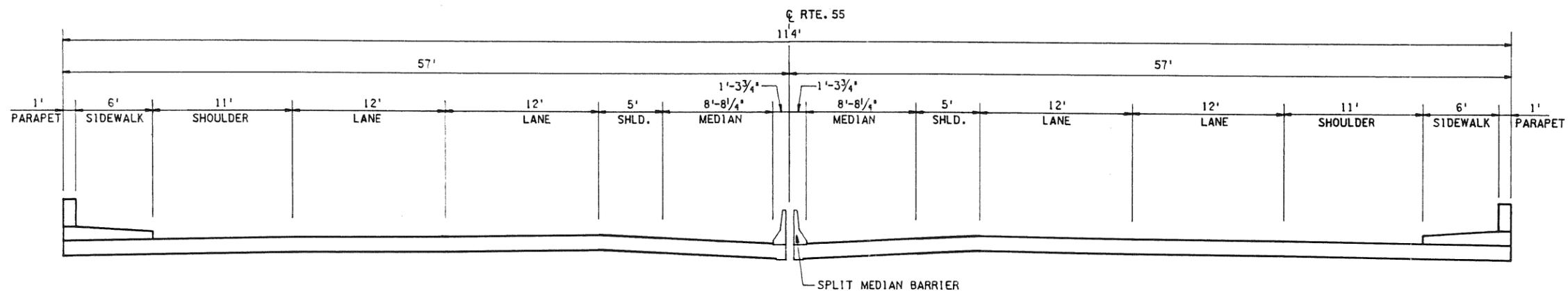
N.T.S.



ALTERNATE 5: ROUTE 55 OVER P.R.S.L. AND MUSKEE CREEK

DESIGN SPEED 60 M.P.H.

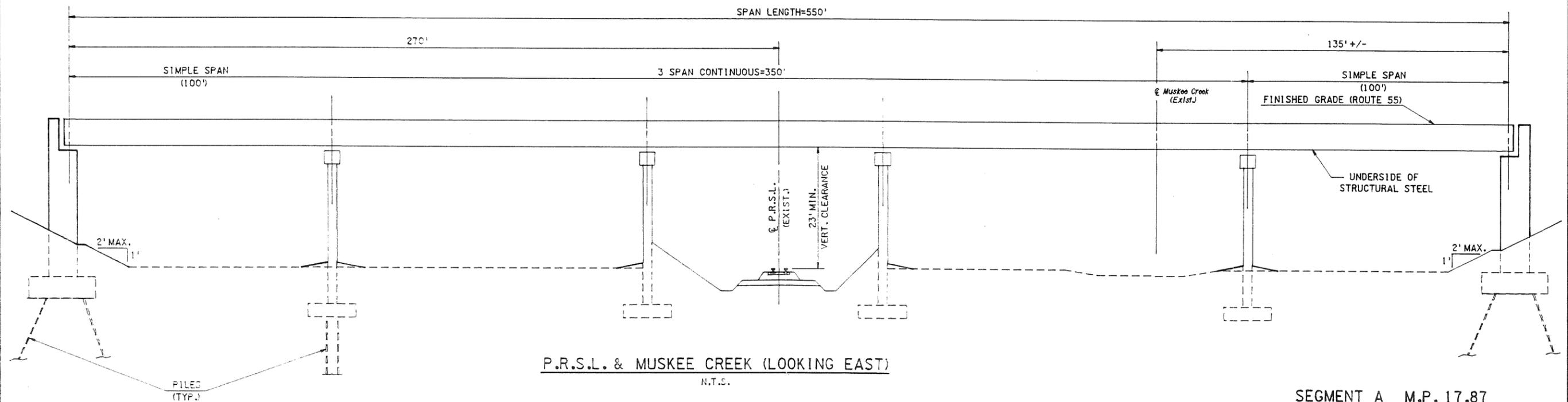
N.T.S.



ALTERNATE 6: ROUTE 55 OVER P.R.S.L. AND MUSKEE CREEK

DESIGN SPEED 60 M.P.H.

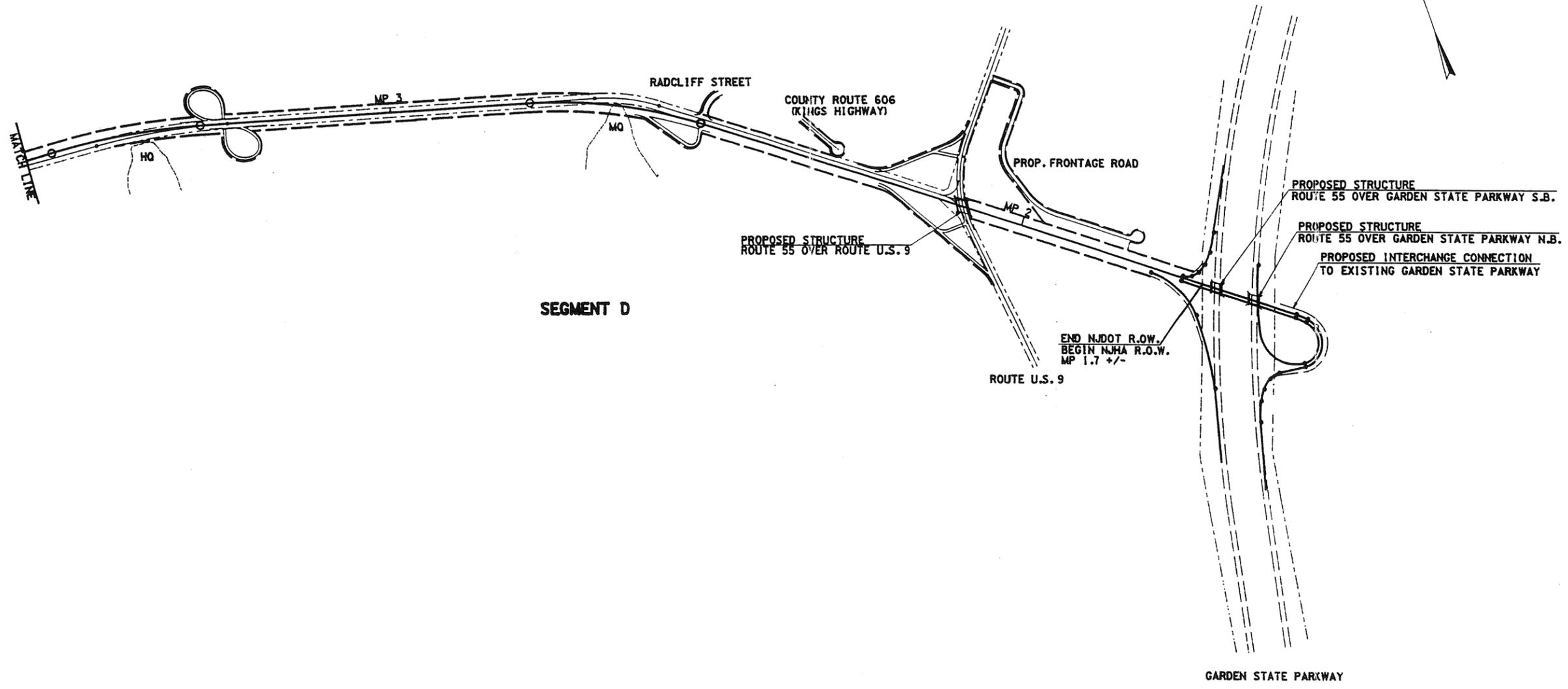
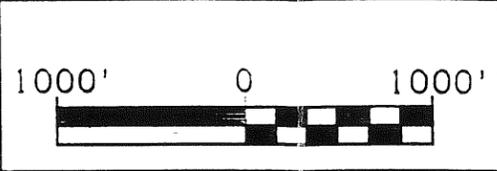
N.T.S.



P.R.S.L. & MUSKEE CREEK (LOOKING EAST)

N.T.S.

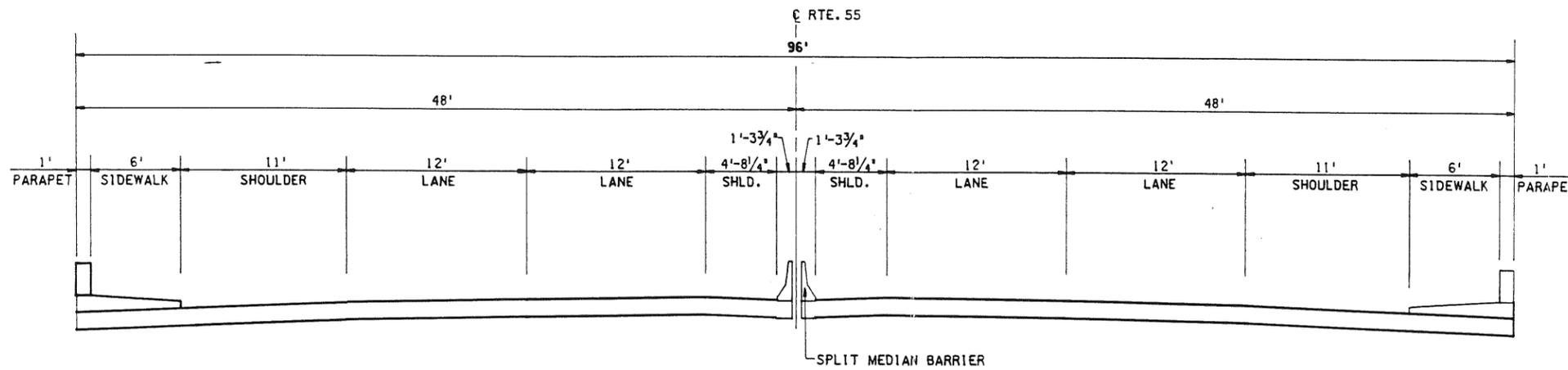
SEGMENT A M.P. 17.87



LAND SERVICE ROADWAY
 (ALTERNATES 5 & 6)
 DESIGN SPEED 60 M.P.H.

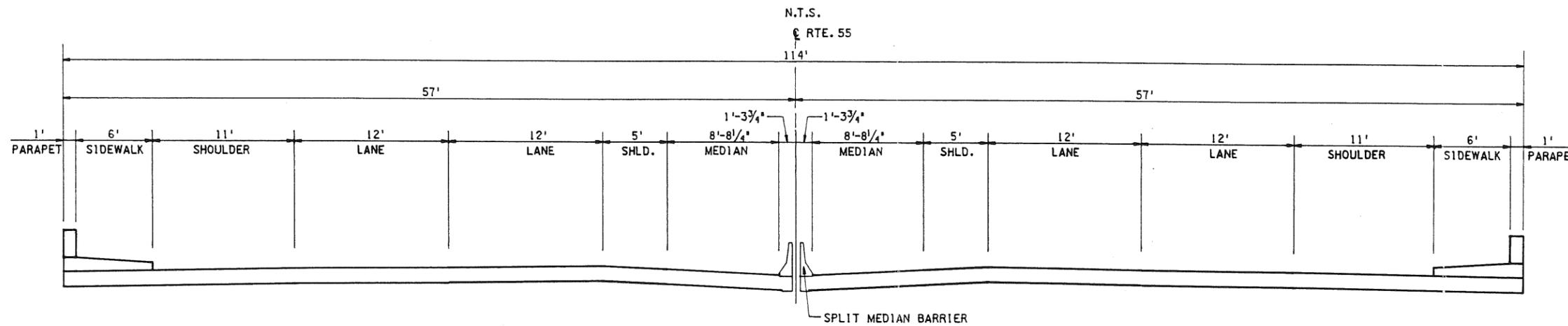
NEW JERSEY DEPARTMENT OF TRANSPORTATION	
ROUTE 55 EXTENSION FEASIBILITY STUDY	
N.J. ROUTE 47, COUNTY ROUTE 670 AND ROUTE 83 CORRIDOR	
SEGMENT D - HORIZONTAL ALIGNMENT	
GANNETT FLEMING, INC. CHERRY HILL, NEW JERSEY	SCALE: 1"=1000' DATE:





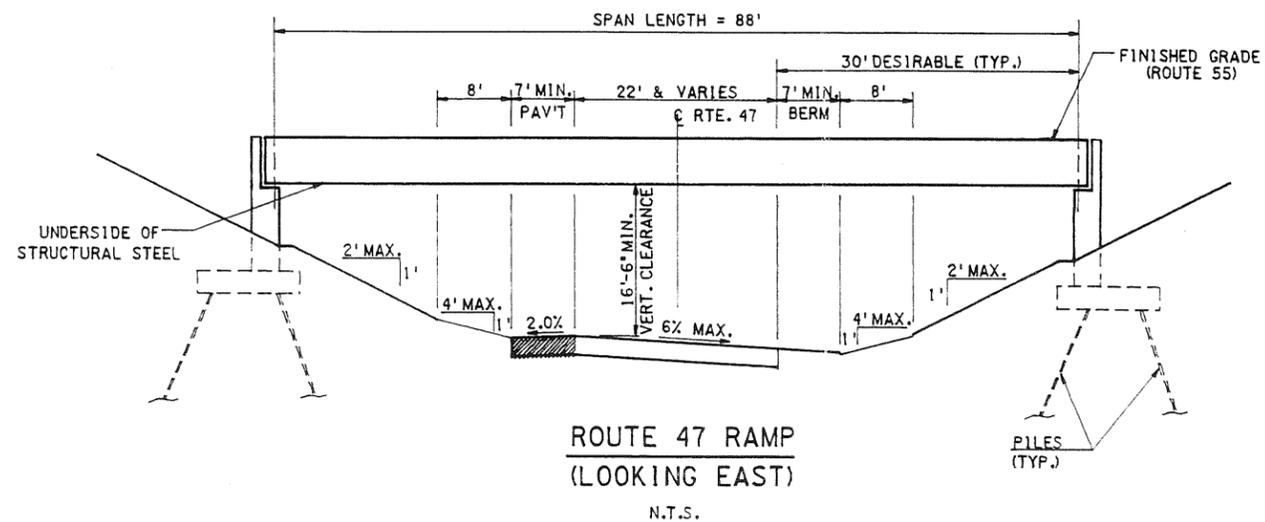
ALTERNATE 5: ROUTE 55 N.B./S.B. OVER ROUTE 47
- (LOOKING NORTH)

DESIGN SPEED 60 M.P.H.



ALTERNATE 6: ROUTE 55 N.B./S.B. OVER ROUTE 47
(LOOKING NORTH)

DESIGN SPEED 60 M.P.H.



ROUTE 47 RAMP
(LOOKING EAST)
N.T.S.

SEGMENT A M.P. 20.07

LAND SERVICE ALTERNATES

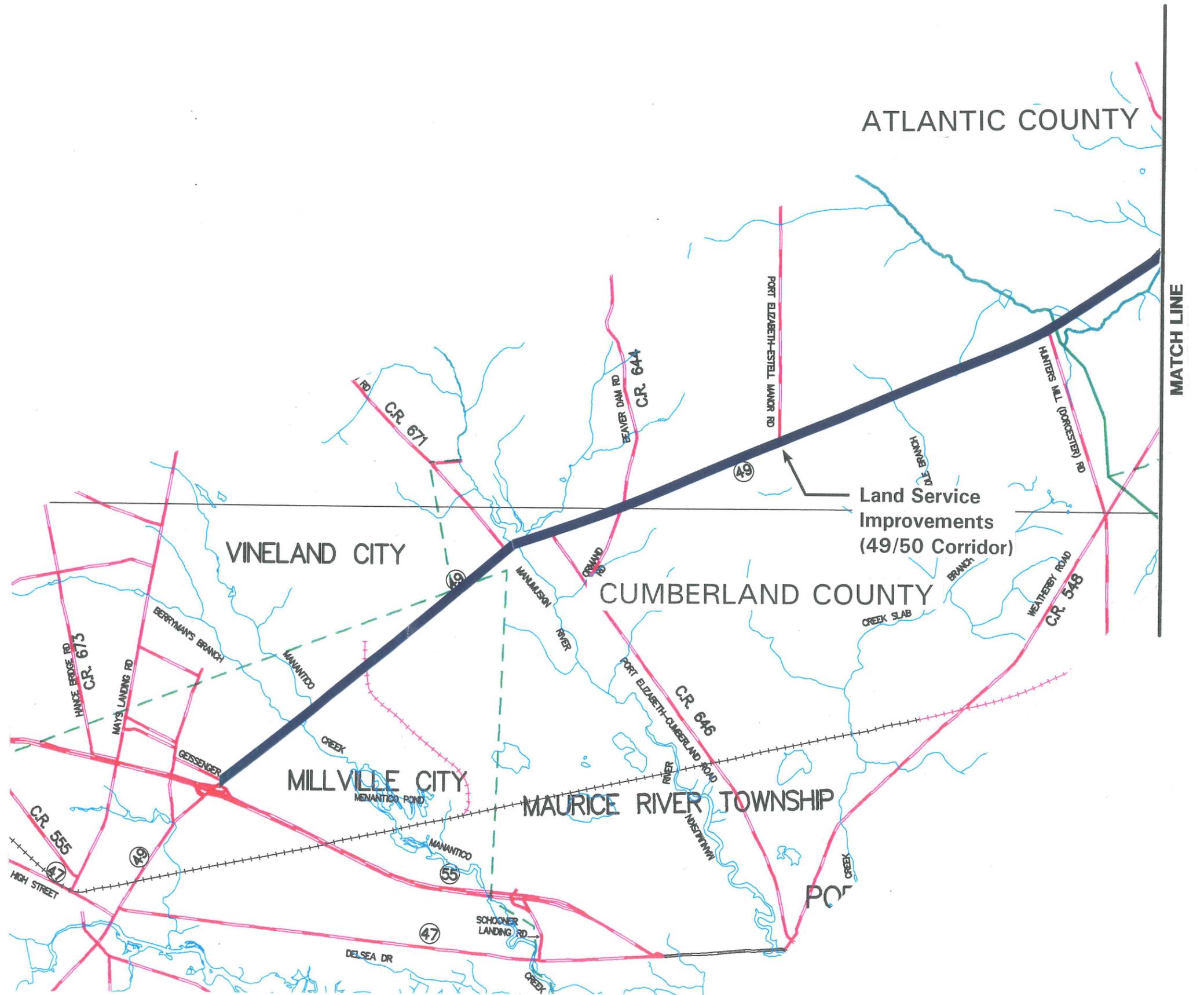
Route 49/50 Corridor

KEY

- County Boundary
- City and/or Township Boundary
- Primary Roads
- Primary Roads Under Consideration for Route Alternatives
- Streams, Lakes, Ponds
- Railroad
- Old Railroad Grade

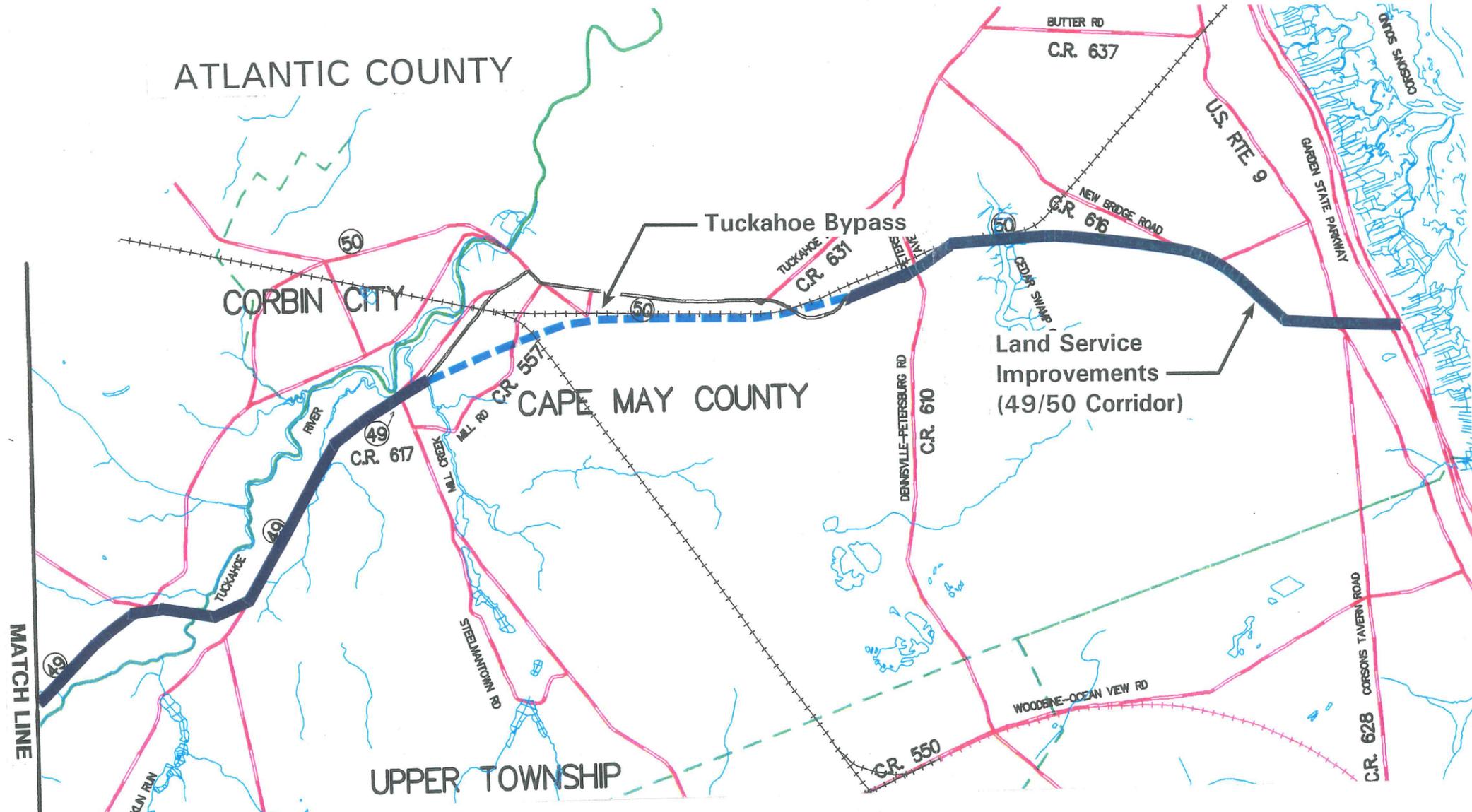


Scale: 1" = 1 Mile





NORTH



ROUTE 55 FREEWAY EXTENSION FEASIBILITY STUDY
Technical Memorandum No. 2 LAND SERVICE IMPROVEMENTS AND BYPASSES
Plate E-1 Study Limits 49/50 Corridor

Alternative 7 - 49/50 Corridor (At-grade Rt.50/Rt.9 Intersection)

(Blue and Blue Dashed Lines - see Plate E-1)

This alternate provides for a two (2) lane upgrade for the Route 49/Route 50 corridor in lieu of a new freeway alignment or land service improvements to the 47/670/83 corridor. Improvements to existing horizontal and vertical alignments were necessary to facilitate a design speed of 60 mph. Specific locations were also examined for modifications, including the Route 55 interchange with Route 49 and a bypass around the town of Tuckahoe. Additionally, an at grade intersection of Route 50 with Route 9 was examined near the town of Seaville. Total length of alternate: approximately _____ miles.

Note: An asterisks (*) following the data indicates that the impacts vary for the two main features of this alternate. Feature 1 (preceding the slash) pertains to the impacts of upgrading the existing Route 49/50 corridor; feature 2 (following the slash) pertains to the impacts of the Tuckahoe Bypass.

Design Parameters

Typical Section:	One 12 ft. wide travel lane with 10 ft. wide outside shoulder, each direction
Design Speed:	60 mph
Superelevation:	6% (maximum)
Existing ROW:	Varies/NA*
Proposed ROW:	Varies/120'*
Total Acres Req'd:	17.1/96.1 acres*
Design Year:	2005

Serviceability

Existing/Proposed Level of Service (Average Day):	C/A
Existing/Proposed Level of Service (Tourism Season):	E/C

Interchanges & Intersections

Route 55/Route 49 Interchange: The design objective at this interchange was to provide a direct connecting ramp from Route 55 southbound to Route 49 eastbound to facilitate the use of the Route 49/50 alternative route. This will require the removal and/or relocation of several existing ramps.

Route 50/Route 9 "At Grade" Intersection: This alternate provides for at grade intersection improvements which would orientate Route 50 toward the Garden State Parkway and eliminate the existing "cut off" currently present at the southwest quadrant of the existing intersection. Two (2) lanes are provided in each direction of both Routes 50 and 9 with opposing left turns slots.

Typical Intersection Improvements: Typical improvement are assumed to consist of signalization and widening of the shoulders to 15' for use as auxiliary lanes. Intersections with County Routes 671, 646, 644, 548, 617, 631, 610, 616, and Mays Landing Road would require these improvements.

Alternative 7 - cont.

Environmental Impacts

Cultural Resources
(Plate E-2)

- ___/___ * Potentially Historic Bridges (50+ years) replaced/repared
- ___/___ * Historic Buildings (acquired)
- ___/___ * Historic Buildings (disrupted setting)
- ___/___ * Historic Districts Encroached by ROW
- ___/___ * Known Historic Archaeological Sites Disrupted by ROW
- ___/___ * Known Prehistoric Arch. Sites Disrupted by ROW
- ___/___ * Areas with High Potential for Archaeological Resources

Endangered Species
(Plates E-3 & E-4)

This alternate will encroach upon areas of high quality wetlands which have a very high potential for containing threatened or endangered species. See appendix for species affected.

*Socioeconomic,
Land Use, Visual*
(Plates E-5 & E-6)

General Impact on Social Constraints: Adverse/Adverse*
 - Residences Displaced by Alternate: 25/16 residences*
 - Impact to Communities Disrupted by ROW: Adverse/Adverse*

General Impact on Economic Constraints: Minor/Moderate*
 - Businesses Displaced by Alternate: 2/1 businesses*
 - Affect to Businesses Bypassed by Alternate: Minor/Moderate*

General Impact on Land Use Constraints: None/Adverse*
 - Consistent with Pineland Policies: NA/No*
 - Consistent with CAFRA Policies: Yes/NA*
 - Potential Secondary Development: No/Yes*
 - Acquired Agricultural Development Areas: 1.6/66.5 acres*
 - Parks Disrupted by ROW, Acres Acquired: 0/3 acres*
 - State Forests Disrupted, Acres Acquired: 0/0 acres*
 - Wildlife Refuges Disrupted, Acres Acquired: 0/0 acres*

General Impact on Visual Constraints: Minor/Adverse*
 - Number of Scenic Corridors Impacted: 0 scenic corridors

Wetlands Emphasis
(Plate E-4)

Acres of Wetlands Acquired: ___/___ acres*
 Mitigation at @ 2:1 Replacement Ratio: ___/___ acres*
 Quality of Wetlands Acquired: ___/___*
 Impacts to Buffer Areas: ___/___*
 Impacts to Water Quality: ___/___*
 Impacts to Upland Forests: ___/___*

Contamination Sites
(Plate E-6)

Hazardous Waste Sites within ROW: ___/___ sites*
 Potential Hazardous Waste Sites: ___/___ sites*

Alternative 7A - 49/50 Corridor (Grade-separated Rt.50/Rt.9 Intersection)

(Blue and Blue Dashed Lines - see Plate E-1)

This alternate provides for a two (2) lane upgrade for the Route 49/Route 50 corridor in lieu of a new freeway alignment or land service improvements to the 47/670/83 corridor. Improvements to existing horizontal and vertical alignments were necessary to facilitate a design speed of 60 mph. Specific locations were also examined for modifications, including the Route 55 interchange with Route 49 and a bypass around the town of Tuckahoe. Additionally, a grade separated intersection of Route 50 with Route 9 was examined near the town of Seaville. Total length of alternate: approximately _____ miles.

Note: An asterisks (*) following the data indicates that the impacts vary for the two main features of this alternate. Feature 1 (preceding the slash) pertains to the impacts of upgrading the existing Route 49/50 corridor; feature 2 (following the slash) pertains to the impacts of the Tuckahoe Bypass.

Design Parameters

Typical Section:	One 12 ft. wide travel lane with 10 ft. wide outside shoulder, each direction
Design Speed:	60 mph
Superelevation:	6% (maximum)
Existing ROW:	Varies/NA*
Proposed ROW:	Varies/120'*
Total Acres Req'd:	29.8/96.1 acres*
Design Year:	2005

Serviceability

Existing/Proposed Level of Service (Average Day):	C/A
Existing/Proposed Level of Service (Tourism Season):	E/C

Interchanges & Intersections

Route 55/Route 49 Interchange: The design objective at this interchange was to provide a direct connecting ramp from Route 55 southbound to Route 49 eastbound to facilitate the use of the Route 49/50 alternative route. This will require the removal and/or relocation of several existing ramps.

Route 50/Route 9 "Grade Separated" Intersection: This alternate provides for grade separated intersection improvements which would orientate Route 50 toward the Garden State Parkway and eliminate the existing "cut off" currently present at the southwest quadrant of the existing intersection. All ramps are assumed to be on the west side of Route 9 to provide sufficient room for acceleration and deceleration lanes along Route 50.

Typical Intersection Improvements: Typical improvement are assumed to consist of signalization and widening of the shoulders to 15' for use as auxiliary lanes. Intersections with County Routes 671, 646, 644, 548, 617, 631, 610, 616, and Mays Landing Road would require these improvements.

Alternative 7A - cont.

Environmental Impacts

Cultural Resources
(Plate E-2)

- ___/___ * Potentially Historic Bridges (50+ years) replaced/repaired
- ___/___ * Historic Buildings (acquired)
- ___/___ * Historic Buildings (disrupted setting)
- ___/___ * Historic Districts Encroached by ROW
- ___/___ * Known Historic Archaeological Sites Disrupted by ROW
- ___/___ * Known Prehistoric Arch. Sites Disrupted by ROW
- ___/___ * Areas with High Potential for Archaeological Resources

Endangered Species
(Plates E-3 & E-4)

This alternate will encroach upon areas of high quality wetlands which have a very high potential for containing threatened or endangered species. See appendix for species affected.

*Socioeconomic,
Land Use, Visual*
(Plates E-5 & E-6)

General Impact on Social Constraints: Adverse/Adverse*
 - Residences Displaced by Alternate: 33/16 residences*
 - Impact to Communities Disrupted by ROW: Adverse/Adverse*

General Impact on Economic Constraints: Minor/Moderate*
 - Businesses Displaced by Alternate: 3/1 businesses*
 - Affect to Businesses Bypassed by Alternate: NA/Moderate*

General Impact on Land Use Constraints: Mod./Adverse*
 - Consistent with Pineland Policies: NA/No*
 - Consistent with CAFRA Policies: Yes/NA*
 - Potential Secondary Development: Yes/Yes*
 - Acquired Agricultural Development Areas: 1.6/66.5 acres*
 - Parks Disrupted by ROW, Acres Acquired: 0/3 acres*
 - State Forests Disrupted, Acres Acquired: 0/0 acres*
 - Wildlife Refuges Disrupted, Acres Acquired: 0/0 acres*

General Impact on Visual Constraints: Minor/Adverse*
 - Number of Scenic Corridors Impacted: 0 scenic corridors

Wetlands Emphasis
(Plate E-4)

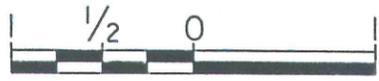
Acres of Wetlands Acquired: ___/___ acres*
 Mitigation at @ 2:1 Replacement Ratio: ___/___ acres*
 Quality of Wetlands Acquired: ___/___*
 Impacts to Buffer Areas: ___/___*
 Impacts to Water Quality: ___/___*
 Impacts to Upland Forests: ___/___*

Contamination Sites
(Plate E-6)

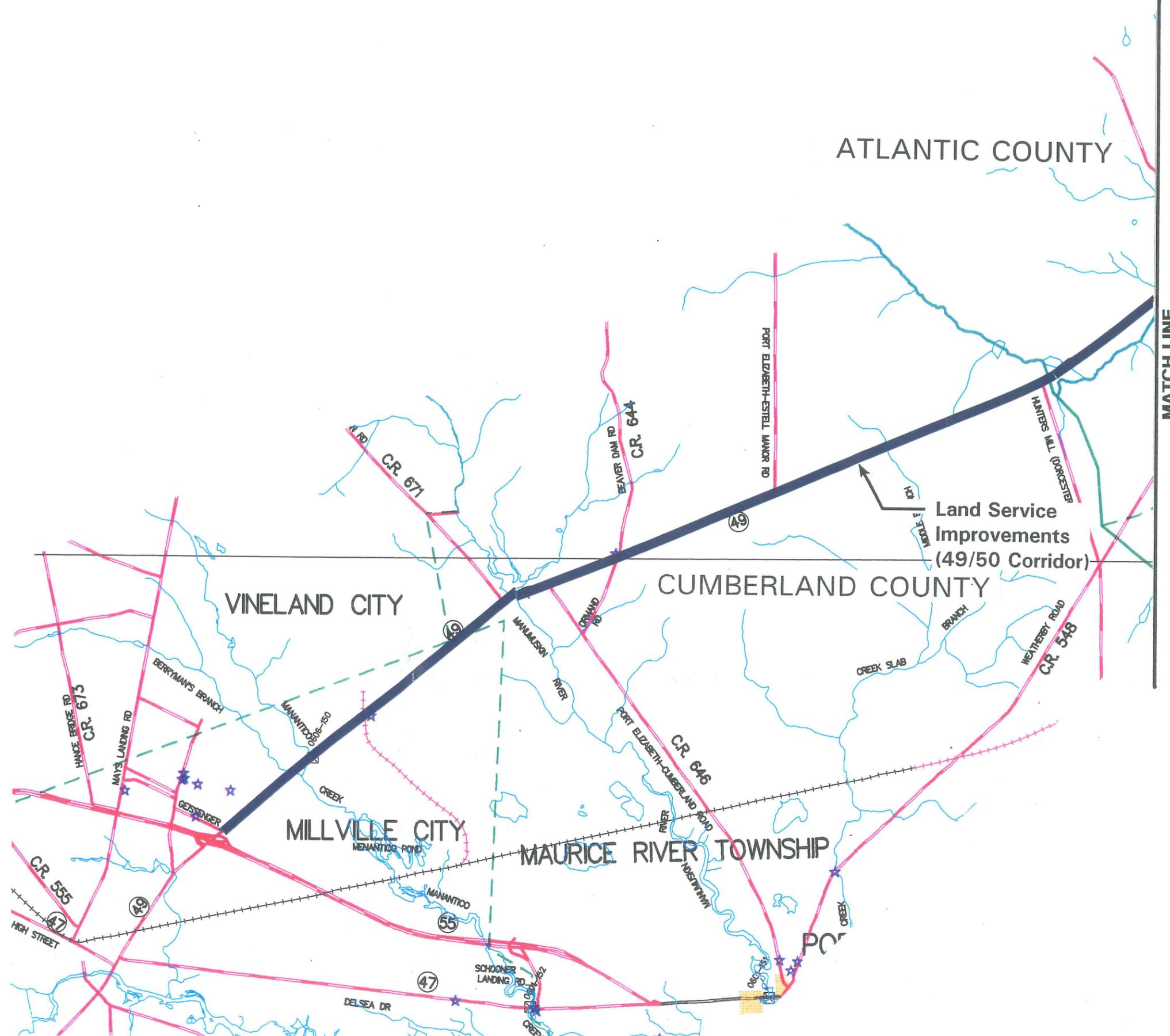
Hazardous Waste Sites within ROW: ___/___ sites*
 Potential Hazardous Waste Sites: ___/___ sites*

KEY

- ★ Building or Structure of Interest Identified by NJDOT Field Survey
- ▲ 0106-1.9 NJHPO Survey Designation (ie: 9th property listed)
- ☆ NR National Register Property
- ☒ 0507-153 On-System Bridge with Structure Number
- NR National Register Historic District
- Built-up Area Not Surveyed on a Building-by-Building Basis

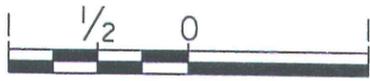


Scale: 1" = 1 Mile

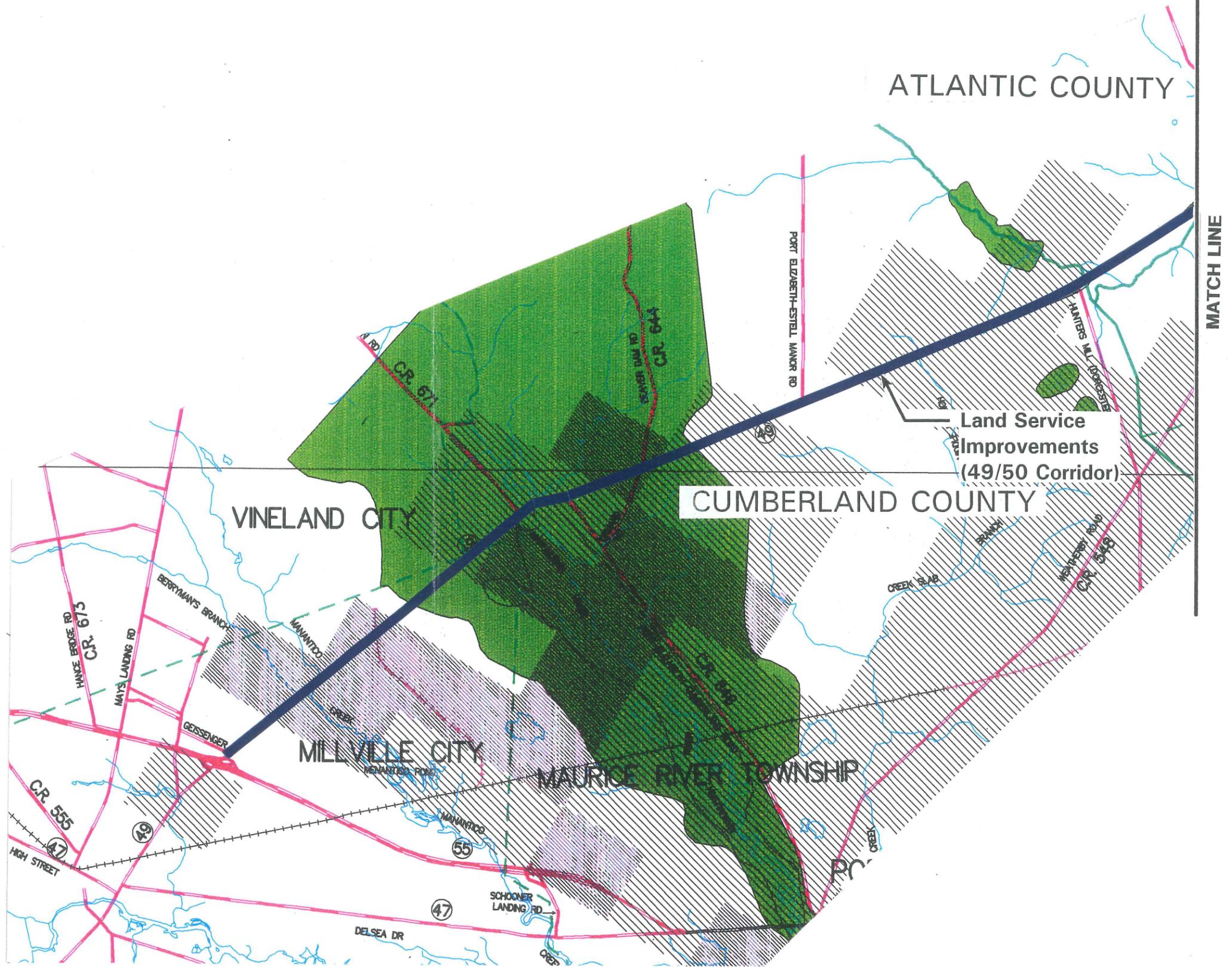


KEY

-  Natural Heritage Priority Site for the Preservation of Biological Diversity
-  Documented Location of a Threatened or Endangered Species is Known Precisely
-  Documented Location of a Threatened or Endangered Species is Known within 1.5 Miles

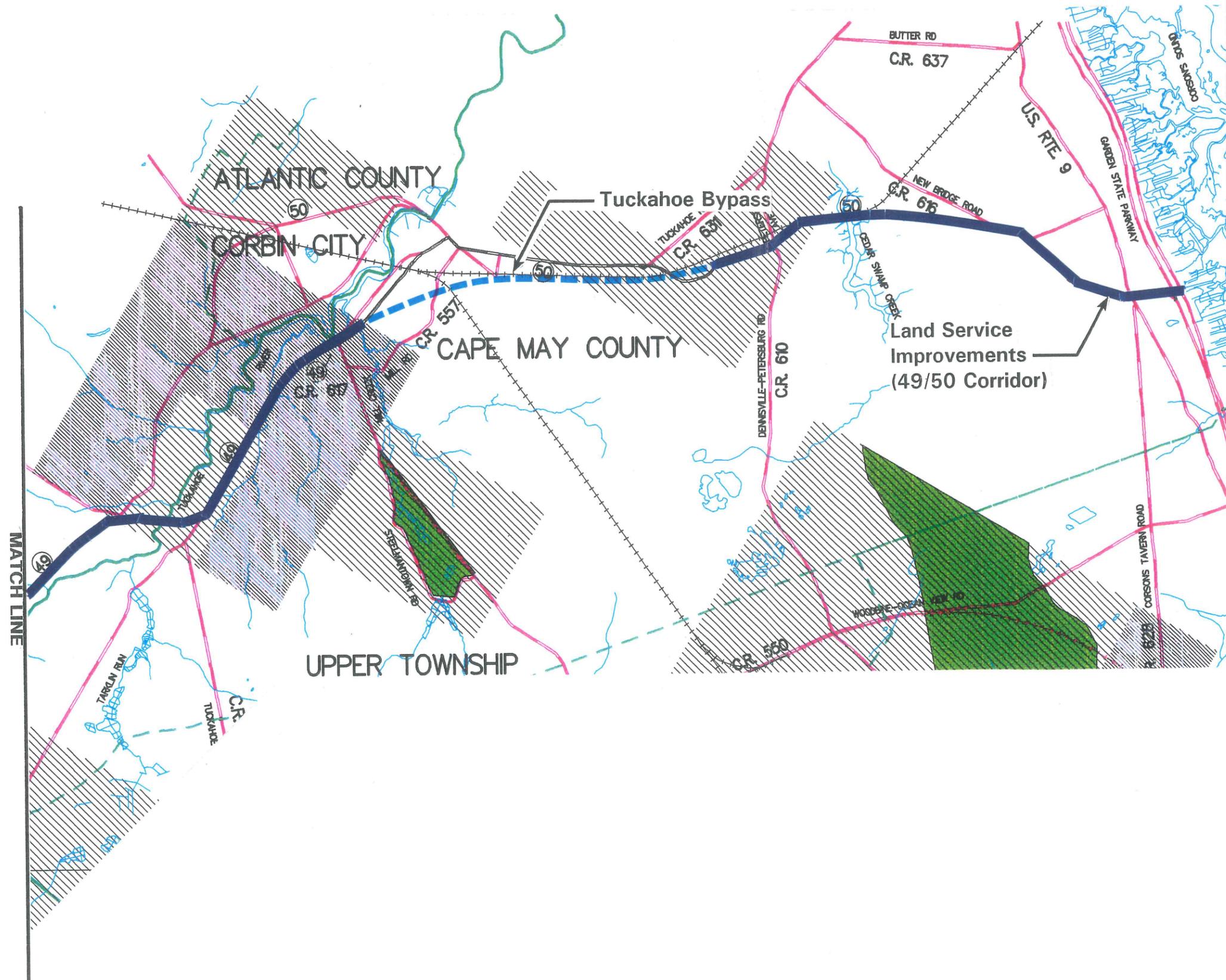


Scale: 1" = 1 Mile





NORTH



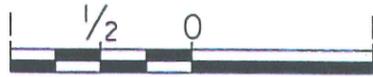
ROUTE 55 FREEWAY EXTENSION
FEASIBILITY STUDY

Technical Memorandum No. 2
LAND SERVICE IMPROVEMENTS
AND BYPASSES

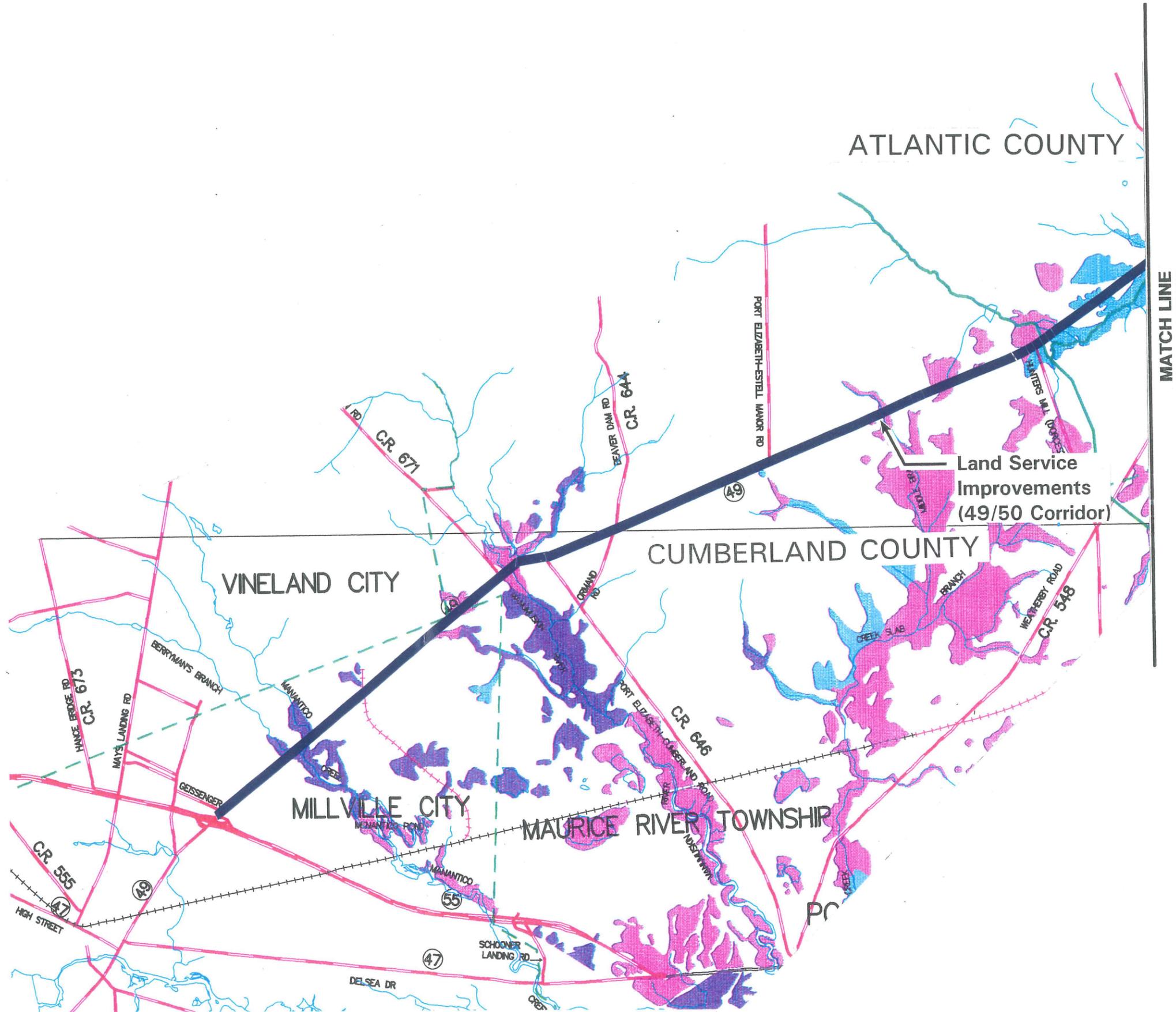
Plate E-3
Endangered Species
49/50 Corridor

KEY

-  High Quality Wetland
(there is a very large possibility that a threatened and/or endangered species is associated with these wetlands)
-  Medium Quality Wetlands
(there is a possibility that a threatened and/or endangered species is associated with these wetlands)
-  Average Quality Wetlands
(there is little possibility that a threatened and/or endangered species is associated with these wetlands)

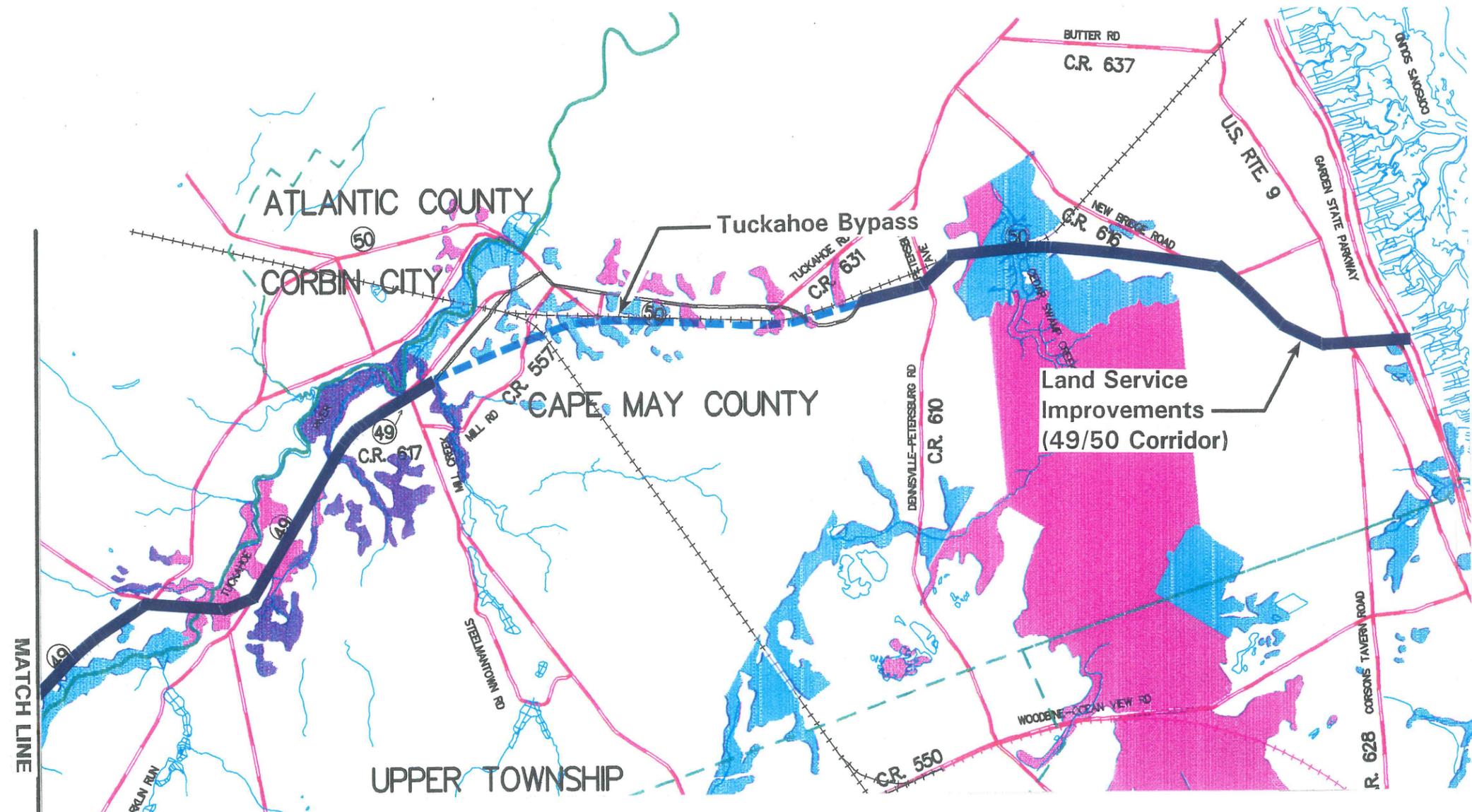


Scale: 1" = 1 Mile





NORTH



ROUTE 55 FREEWAY EXTENSION
FEASIBILITY STUDY

Technical Memorandum No. 2
LAND SERVICE IMPROVEMENTS
AND BYPASSES

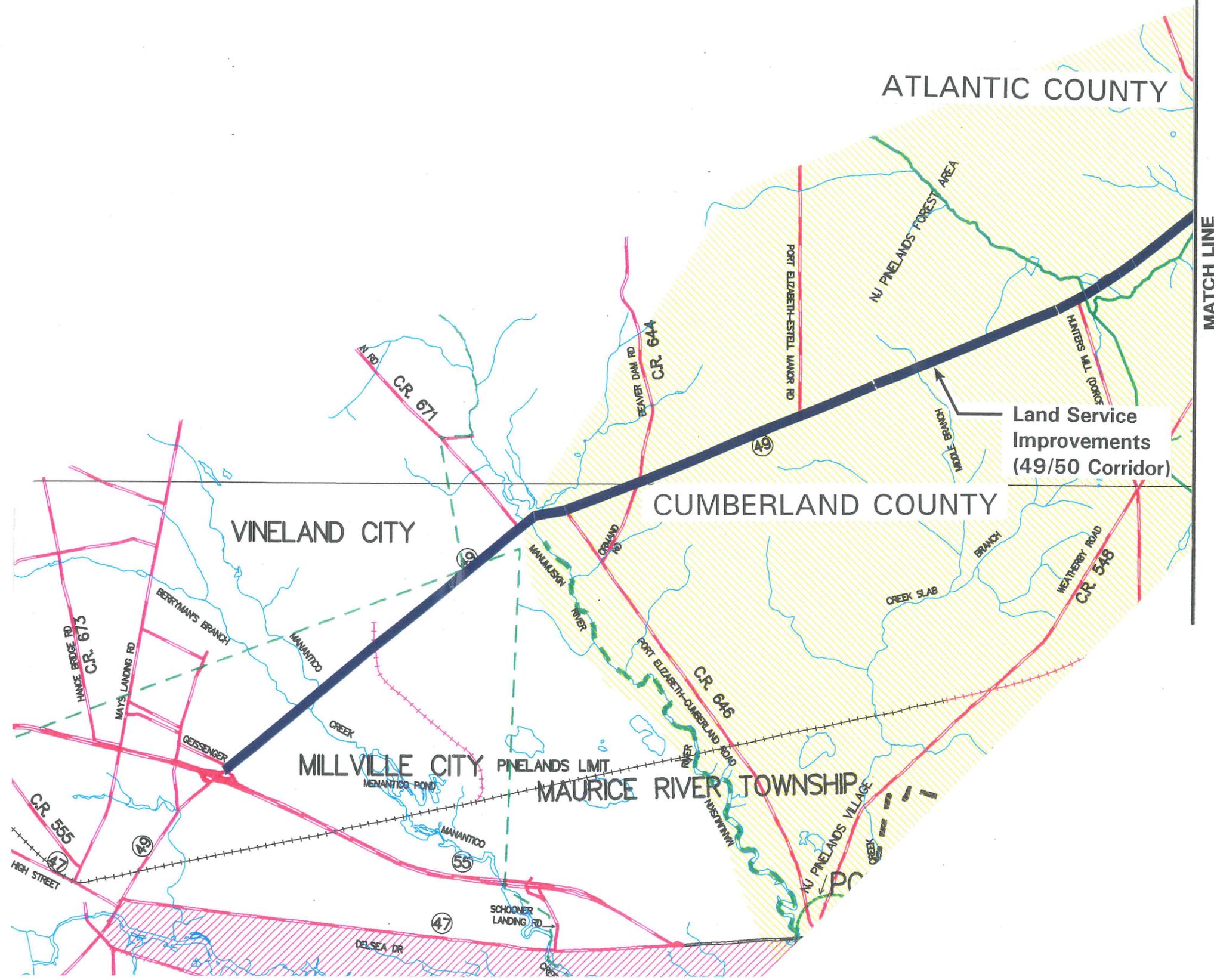
Plate E-4
Wetlands Emphasis
49/50 Corridor

KEY

-  CAFRA Zone
-  New Jersey Pinelands
-  Overlap of CAFRA Zone and Pinelands Reserve



Scale: 1" = 1 Mile

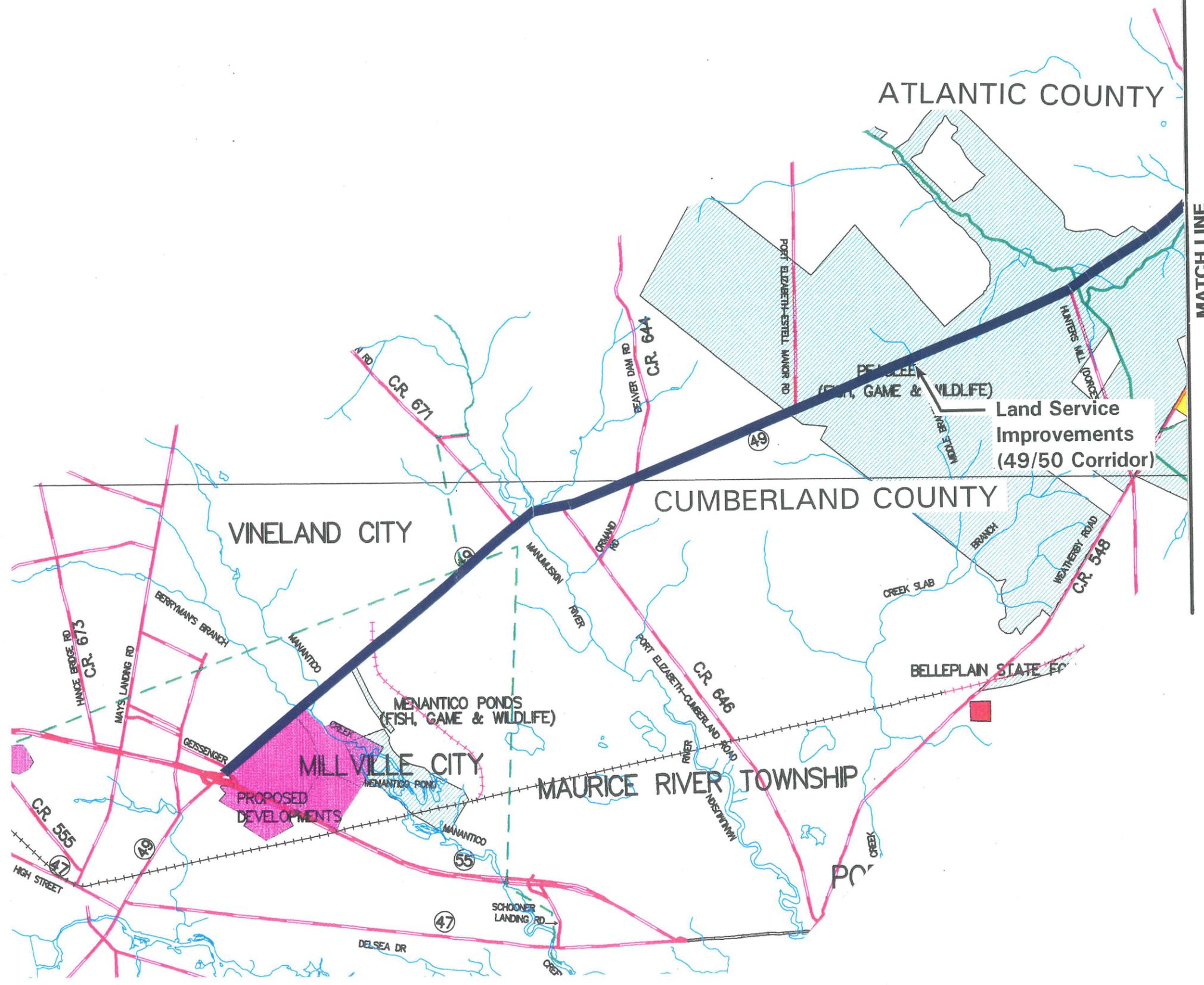


KEY

-  County Agriculture Development Areas (ADA's)
-  Parks, Forests, Gamelands
-  Proposed Development of Single Family Units
-  Farmsteads Enrolled in 8 Year Preservation Program
-  Areas Designated as High for Potential Contamination
-  Parks, Forests, Gamelands and Proposed Development of Single Family Homes
-  Parks, Forests, Gamelands and County Agriculture Development Areas



Scale: 1" = 1 Mile



ATLANTIC COUNTY

MATCH LINE

Land Service Improvements (49/50 Corridor)

VINELAND CITY

CUMBERLAND COUNTY

MILLVILLE CITY

MAURICE RIVER TOWNSHIP

MENANTICO PONDS (FISH, GAME & WILDLIFE)

BELLEPLAIN STATE PARK

HIGH STREET

DELSEA DR

SCHOONER LANDING RD

PORT ELIZABETH

CR 555

CR 673

MAYS LANDING RD

BERRYMAN'S BRANCH

GEISSENGER

CR 47

CR 55

CR 671

CR 644

CR 646

CR 548

MANANTICO RIVER

PORT ELIZABETH-CUMBERLAND ROAD

CREEK SLAB

BRANCH

HUNTERS MILL

PELLEE (FISH, GAME & WILDLIFE)

PORT ELIZABETH-ESTELL MANOR RD

MANANTICO RIVER

BELLEPLAIN STATE PARK

HUNTERS MILL

CR 600

CR 500

CR 400

CR 300

CR 200

CR 100

CR 50

CR 40

CR 30

CR 20

CR 10

CR 5

CR 4

CR 3

CR 2

CR 1

CR 0

CR -1

CR -2

CR -3

CR -4

CR -5

CR -6

CR -7

CR -8

CR -9

CR -10

CR -11

CR -12

CR -13

CR -14

CR -15

CR -16

CR -17

CR -18

CR -19

CR -20

CR -21

CR -22

CR -23

CR -24

CR -25

CR -26

CR -27

CR -28

CR -29

CR -30

CR -31

CR -32

CR -33

CR -34

CR -35

CR -36

CR -37

CR -38

CR -39

CR -40

CR -41

CR -42

CR -43

CR -44

CR -45

CR -46

CR -47

CR -48

CR -49

CR -50

CR -51

CR -52

CR -53

CR -54

CR -55

CR -56

CR -57

CR -58

CR -59

CR -60

CR -61

CR -62

CR -63

CR -64

CR -65

CR -66

CR -67

CR -68

CR -69

CR -70

CR -71

CR -72

CR -73

CR -74

CR -75

CR -76

CR -77

CR -78

CR -79

CR -80

CR -81

CR -82

CR -83

CR -84

CR -85

CR -86

CR -87

CR -88

CR -89

CR -90

CR -91

CR -92

CR -93

CR -94

CR -95

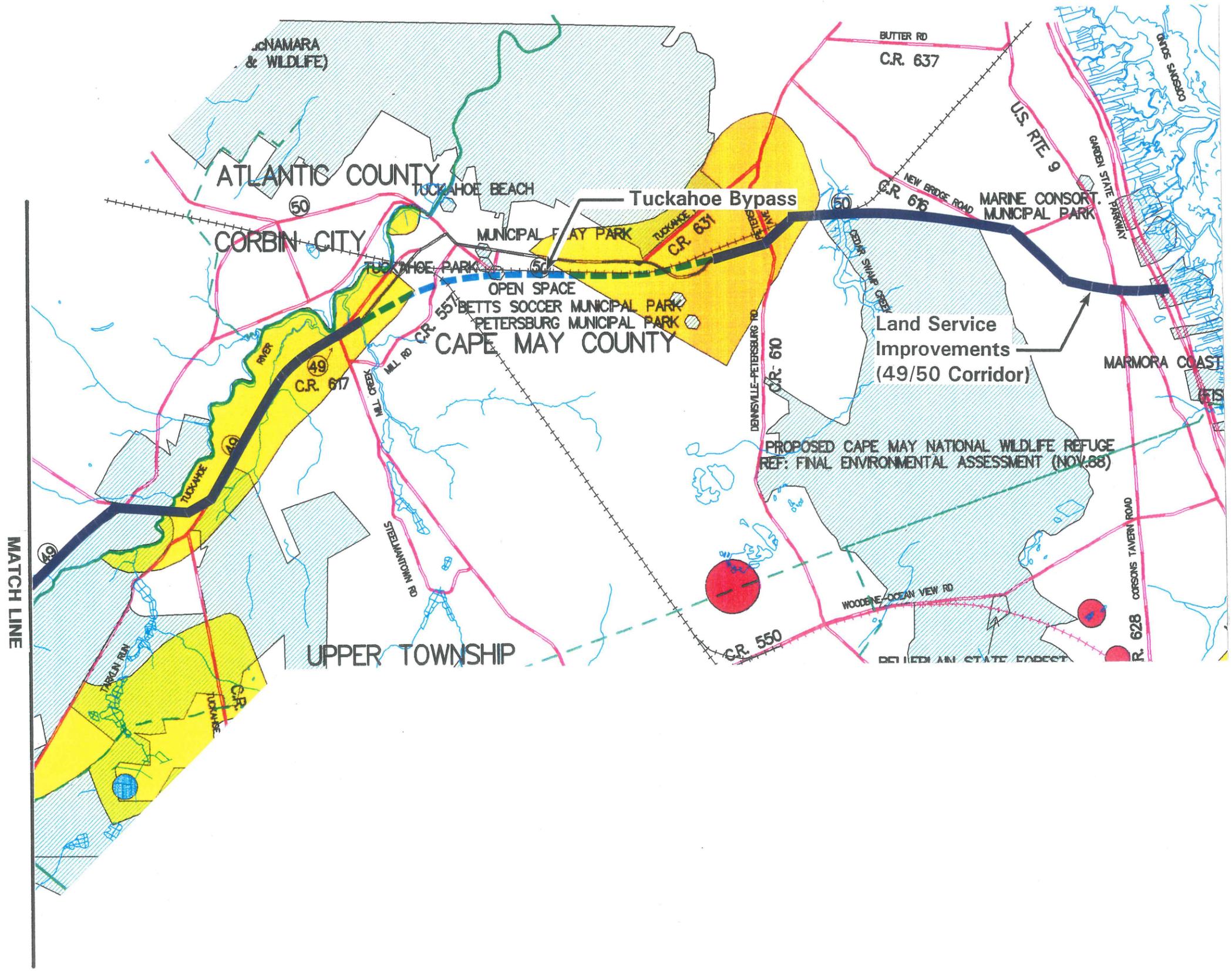
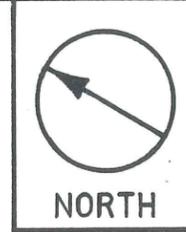
CR -96

CR -97

CR -98

CR -99

CR -100



**ROUTE 55 FREEWAY EXTENSION
FEASIBILITY STUDY**

**Technical Memorandum No. 2
LAND SERVICE IMPROVEMENTS
AND BYPASSES**

Plate E-6
Parks, Forests, & Gamelands
49/50 Corridor

KEY

★ Architectural Point of Interest



Parks



Wetlands



CAFRA and Pinelands



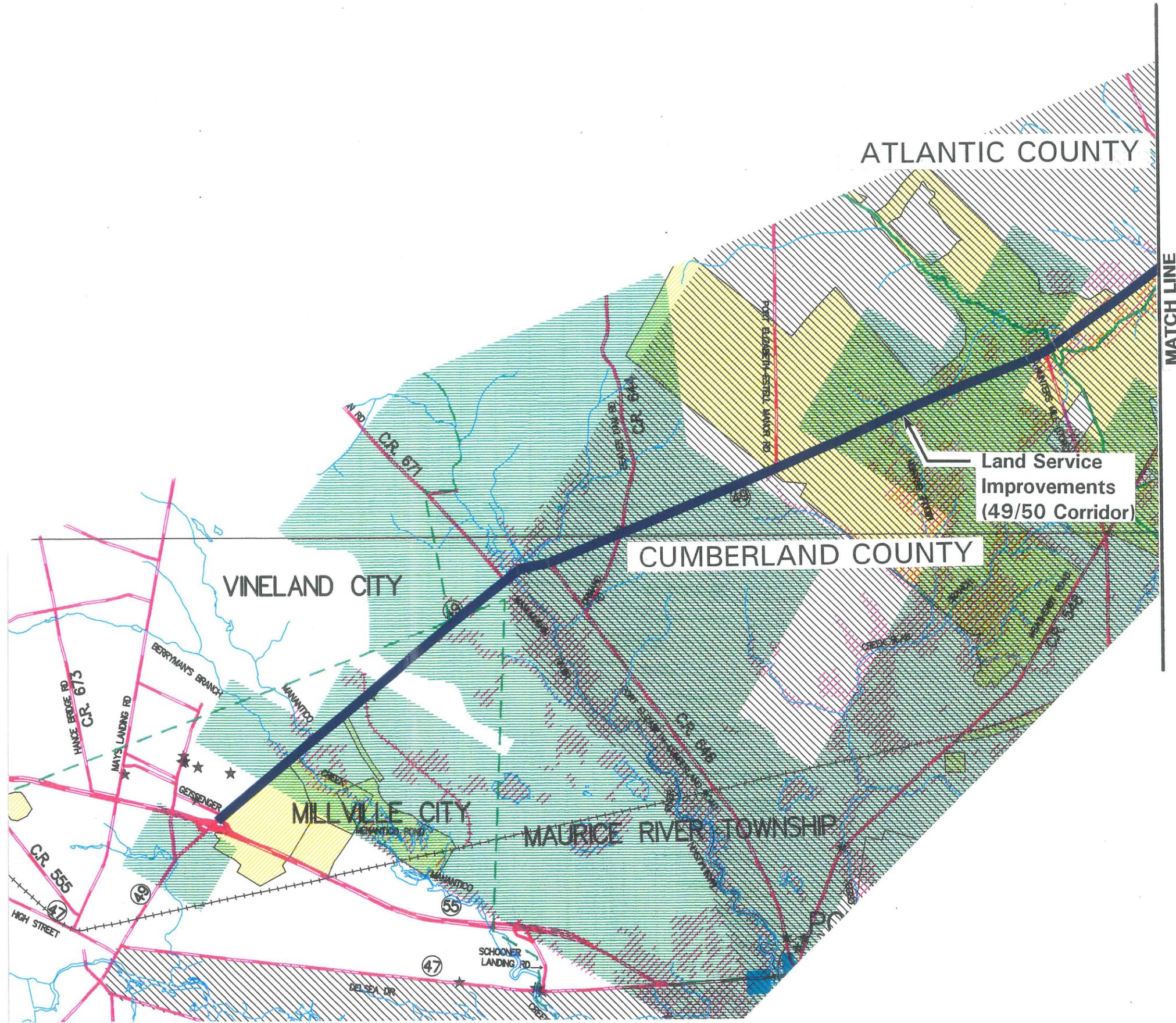
Endangered Species (known and approximately known locations)

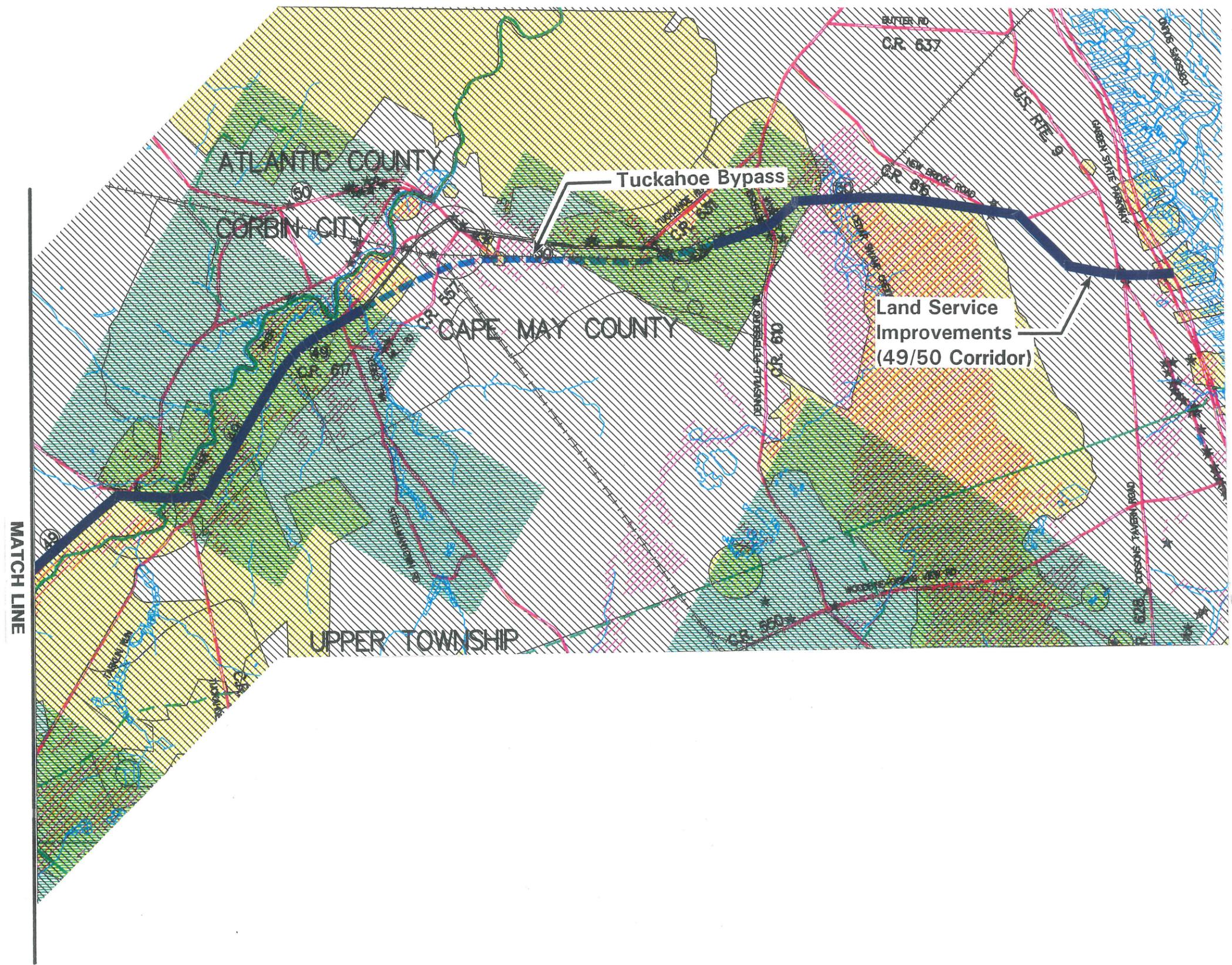


Architectural Points of Interest



Scale: 1" = 1 Mile





ROUTE 55 FREEWAY EXTENSION
FEASIBILITY STUDY

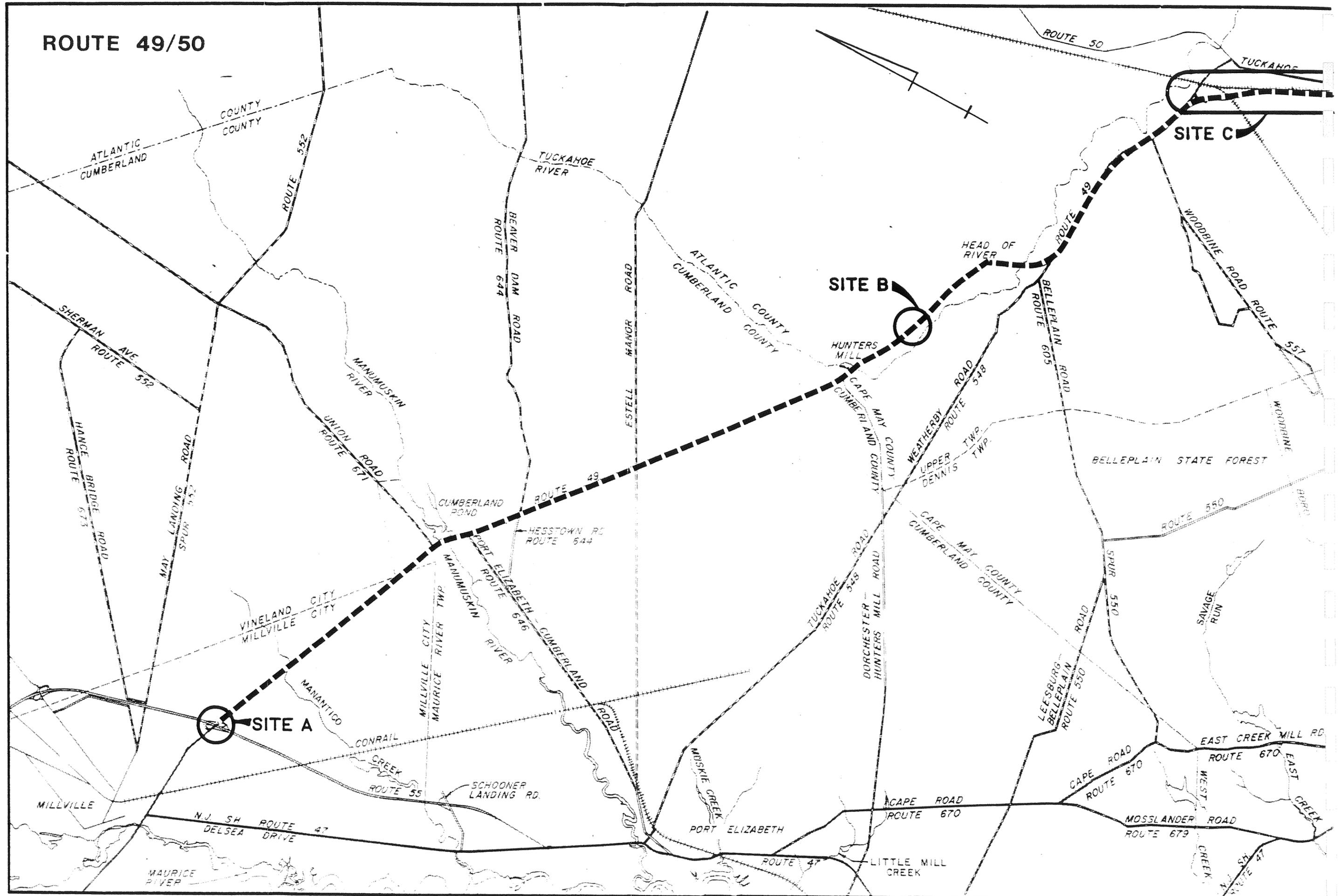
Technical Memorandum No. 2
LAND SERVICE IMPROVEMENTS
AND BYPASSES

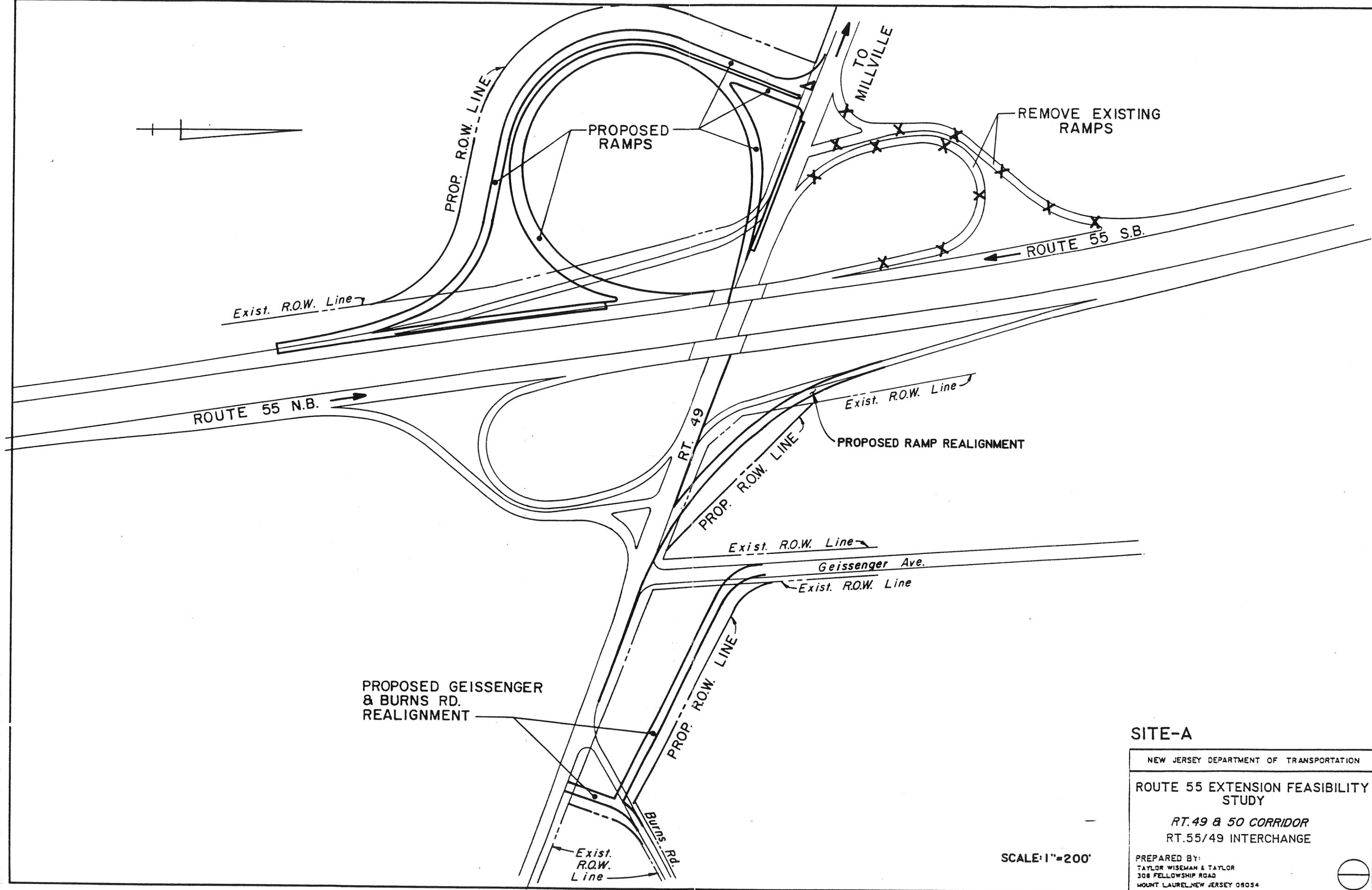
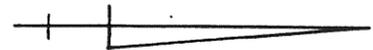
Plate E-7
Composite Overlay
49/50 Corridor

LAND SERVICE ALTERNATES

Route 49/50 Corridor: Preliminary Design Study

ROUTE 49/50





ROUTE 55 N.B.

ROUTE 55 S.B.

TO MILLVILLE

PROPOSED RAMPS

REMOVE EXISTING RAMPS

Exist. R.O.W. Line

PROP. R.O.W. LINE

Exist. R.O.W. Line

PROPOSED RAMP REALIGNMENT

RT. 49

PROP. R.O.W. LINE

Exist. R.O.W. Line

Geissenger Ave.

Exist. R.O.W. Line

PROPOSED GEISSENGER & BURNS RD. REALIGNMENT

PROP. R.O.W. LINE

Burns Rd.

Exist. R.O.W. Line

SITE-A

NEW JERSEY DEPARTMENT OF TRANSPORTATION

ROUTE 55 EXTENSION FEASIBILITY STUDY

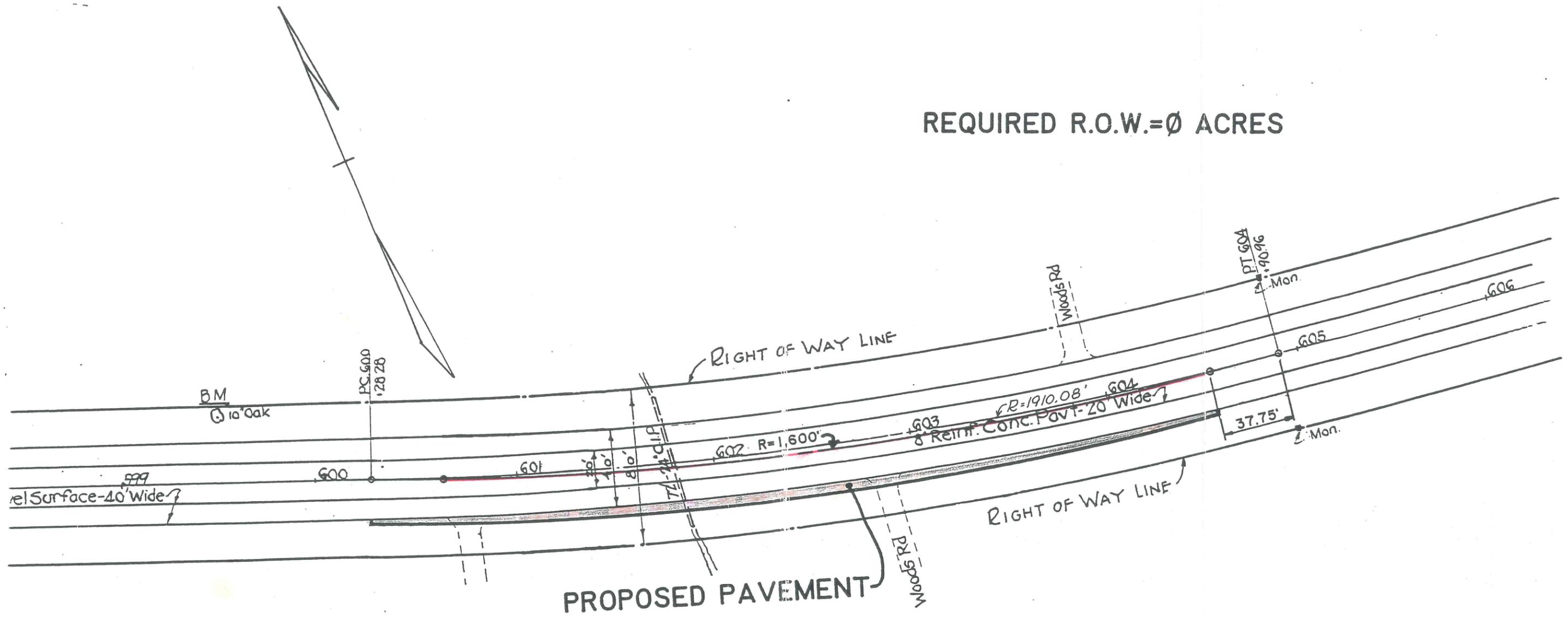
RT. 49 & 50 CORRIDOR
RT. 55/49 INTERCHANGE

SCALE: 1"=200'

PREPARED BY:
TAYLOR WISEMAN & TAYLOR
308 FELLOWSHIP ROAD
MOUNT LAUREL, NEW JERSEY 08054



REQUIRED R.O.W.=0 ACRES



NEW JERSEY DEPARTMENT OF TRANSPORTATION

SITE B

ROUTE 47

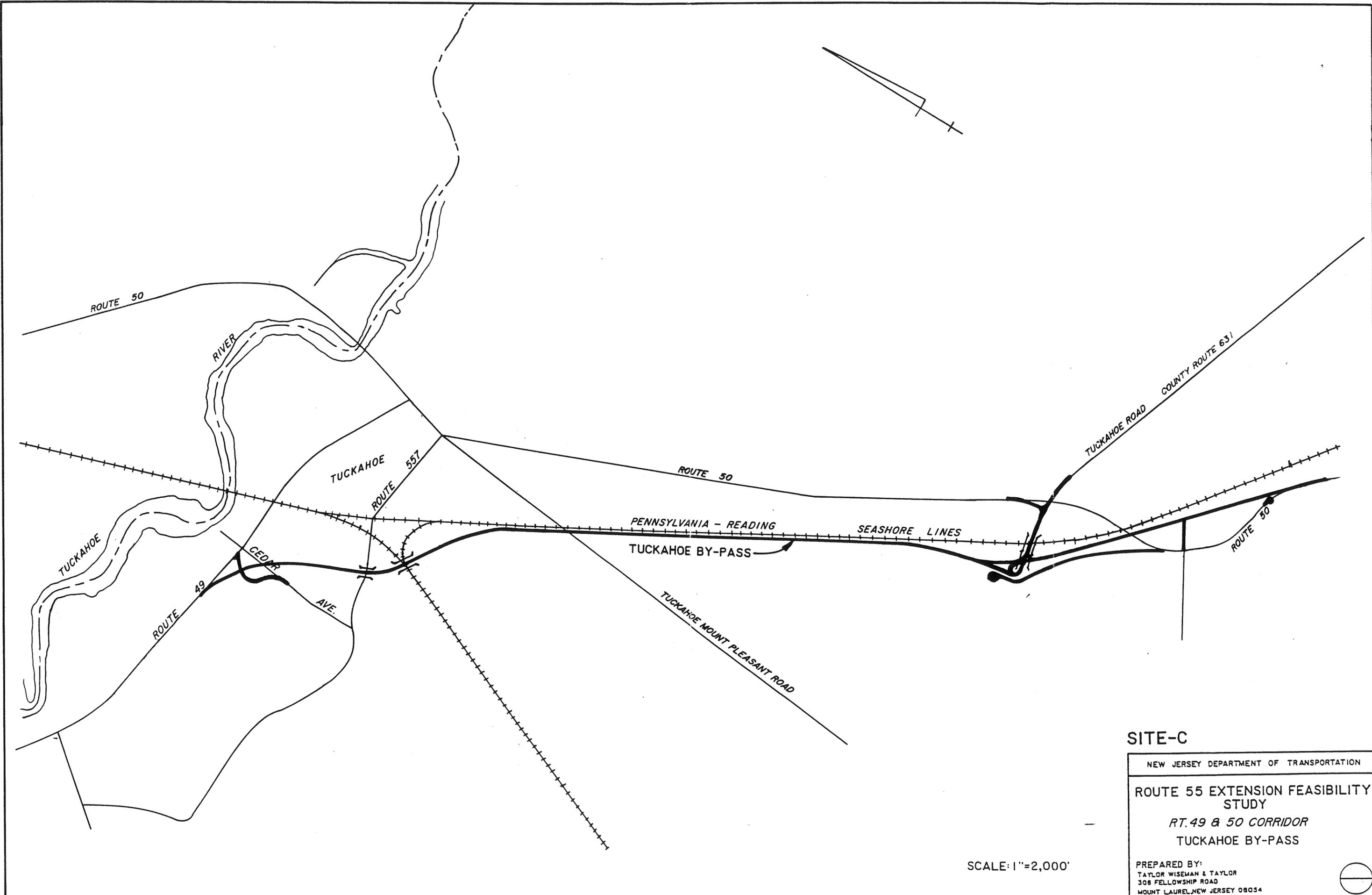
SECTION 3A

ROUTE 49 M.P. 48.2

PREPARED BY:
TAYLOR WISEMAN & TAYLOR
306 FELLOWSHIP ROAD
MOUNT LAUREL, NEW JERSEY 08054

SCALE: 1"=50'





SCALE: 1"=2,000'

SITE-C

NEW JERSEY DEPARTMENT OF TRANSPORTATION

ROUTE 55 EXTENSION FEASIBILITY STUDY

RT. 49 & 50 CORRIDOR

TUCKAHOE BY-PASS

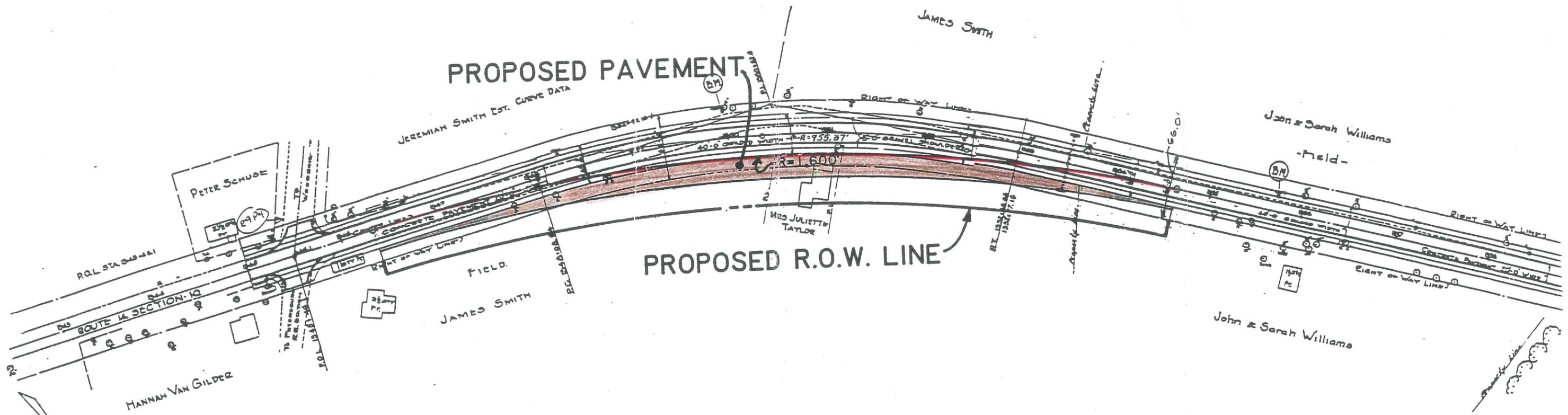
PREPARED BY:
 TAYLOR WISEMAN & TAYLOR
 308 FELLOWSHIP ROAD
 MOUNT LAUREL, NEW JERSEY 08054



REQUIRED R.O.W.=0.5 ACRES

PROPOSED PAVEMENT

JEREMIAH SMITH EST. CURVE DATA



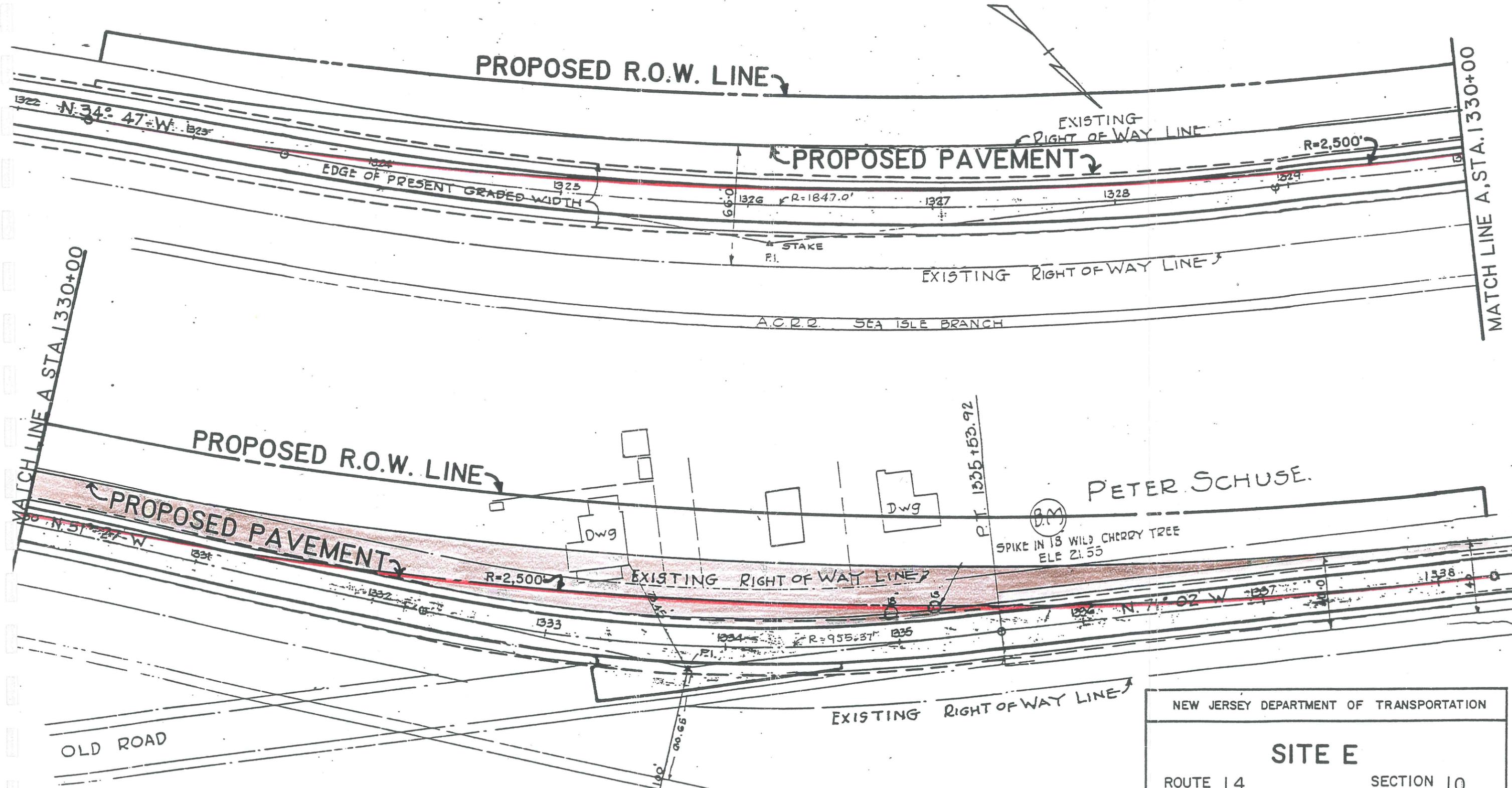
PROPOSED R.O.W. LINE

NEW JERSEY DEPARTMENT OF TRANSPORTATION	
SITE D	
ROUTE 4	SECTION
ROUTE 50 M.P.3.73	
PREPARED BY: TAYLOR WISEMAN & TAYLOR 306 FELLOWSHIP ROAD MOUNT LAUREL, NEW JERSEY 08054	



SCALE: 1"=100'

REQUIRED R.O.W.=0.80 ACRES



PETER SCHUSE.

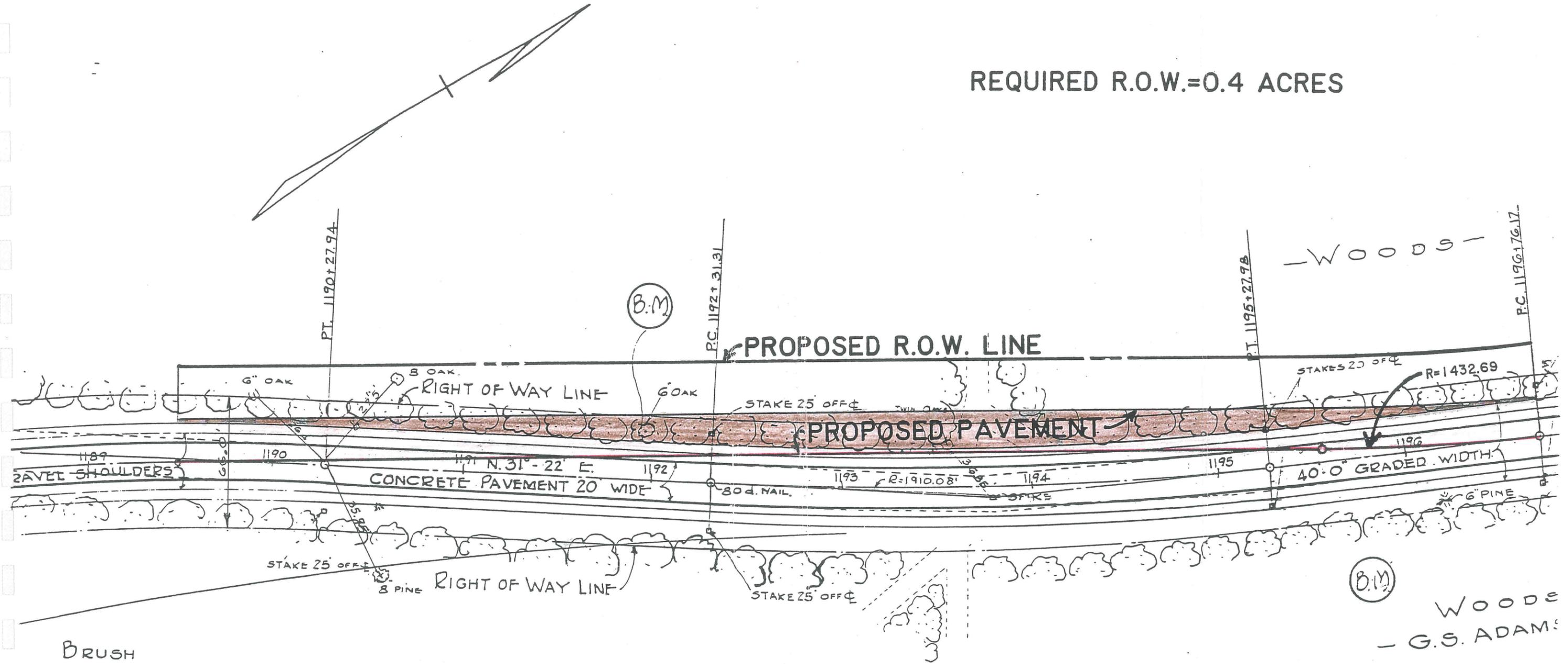
B.M. SPIKE IN 18 WILD CHERRY TREE ELE 21.55

NEW JERSEY DEPARTMENT OF TRANSPORTATION	
SITE E	
ROUTE 14	SECTION 10
ROUTE 50 M.P. 3.4	
PREPARED BY: TAYLOR WISEMAN & TAYLOR 306 FELLOWSHIP ROAD MOUNT LAUREL, NEW JERSEY 08054	

SCALE: 1"=50'



REQUIRED R.O.W.=0.4 ACRES

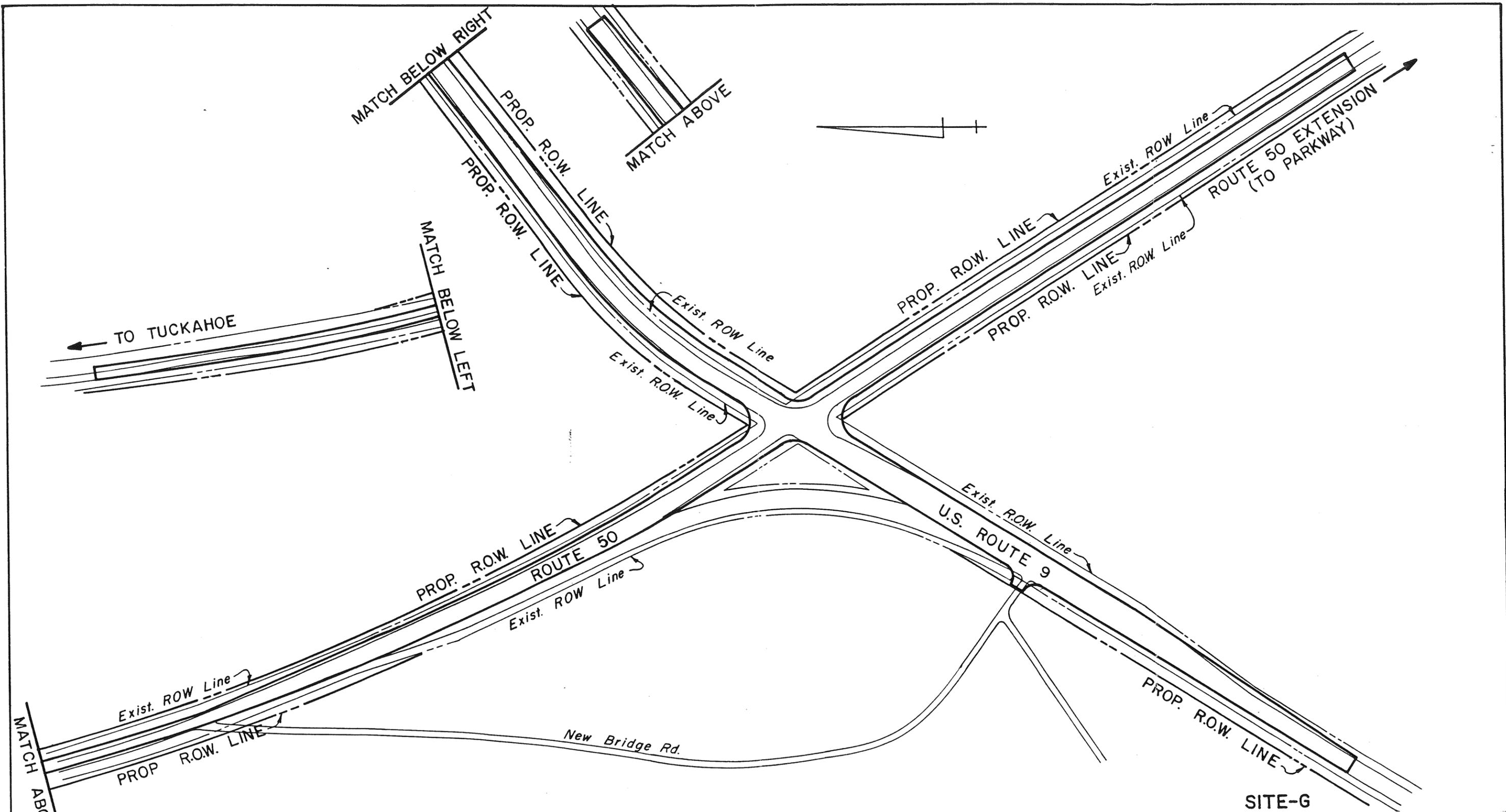


WOODS
- G.S. ADAMS

SCALE: 1"=50'

NEW JERSEY DEPARTMENT OF TRANSPORTATION	
SITE F	
ROUTE 14	SECTION 10
ROUTE 50 M.P. 0.77	
PREPARED BY: TAYLOR WISEMAN & TAYLOR 306 FELLOWSHIP ROAD MOUNT LAUREL, NEW JERSEY 08054	





SITE-G

NEW JERSEY DEPARTMENT OF TRANSPORTATION

ROUTE 55 EXTENSION FEASIBILITY STUDY

RT. 49 & 50 CORRIDOR

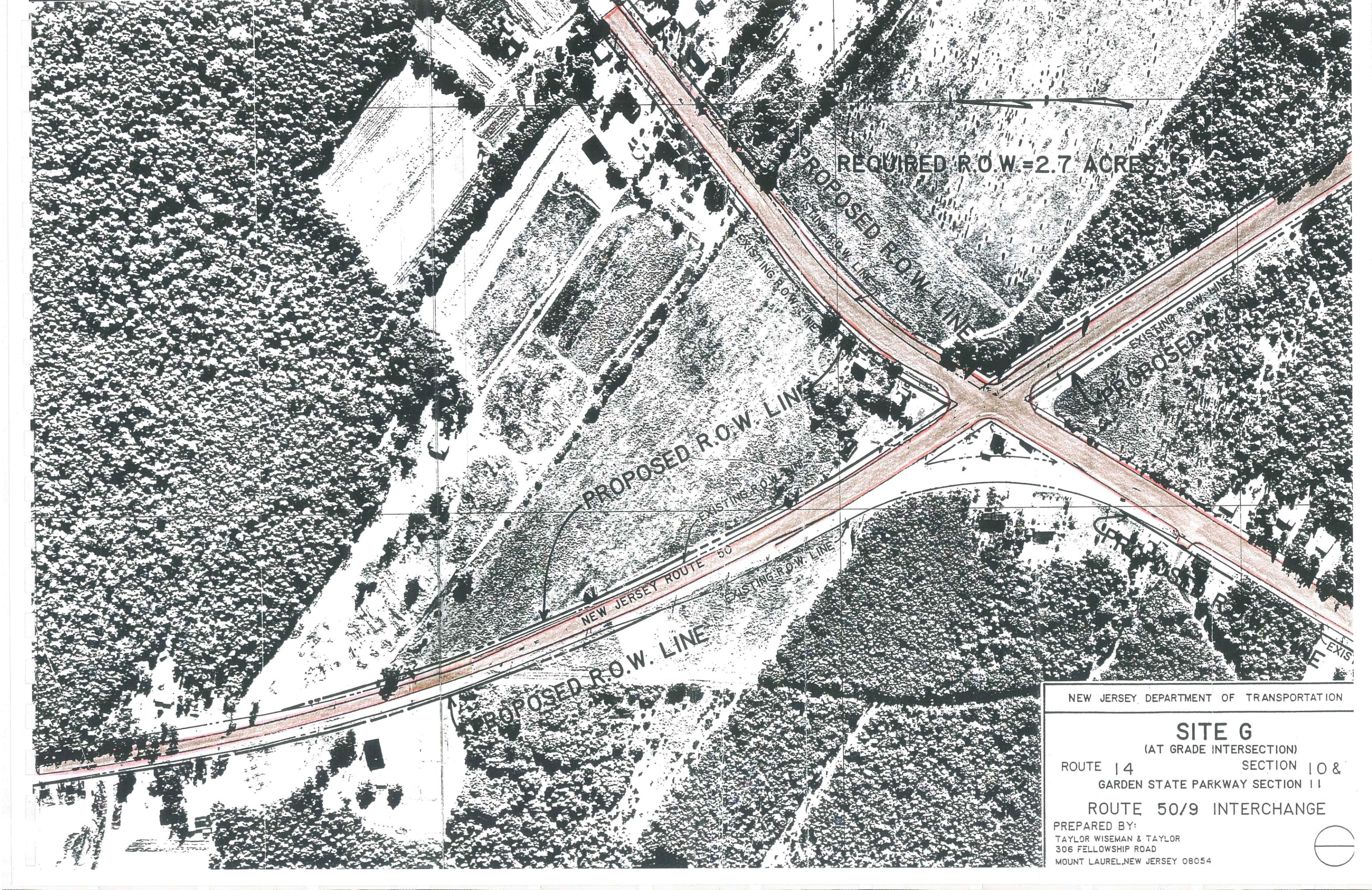
RT. 50/9 INTERCHANGE

PREPARED BY:
 TAYLOR WISEMAN & TAYLOR
 308 FELLOWSHIP ROAD
 MOUNT LAUREL, NEW JERSEY 08054

AT GRADE INTERSECTION

SCALE: 1"=200'





REQUIRED R.O.W. = 2.7 ACRES

PROPOSED R.O.W. LINE

PROPOSED R.O.W. LINE

PROPOSED R.O.W. LINE

PROPOSED R.O.W. LINE

NEW JERSEY ROUTE 50

PROPOSED R.O.W. LINE

NEW JERSEY DEPARTMENT OF TRANSPORTATION

SITE G

(AT GRADE INTERSECTION)

ROUTE 14

SECTION 10 &

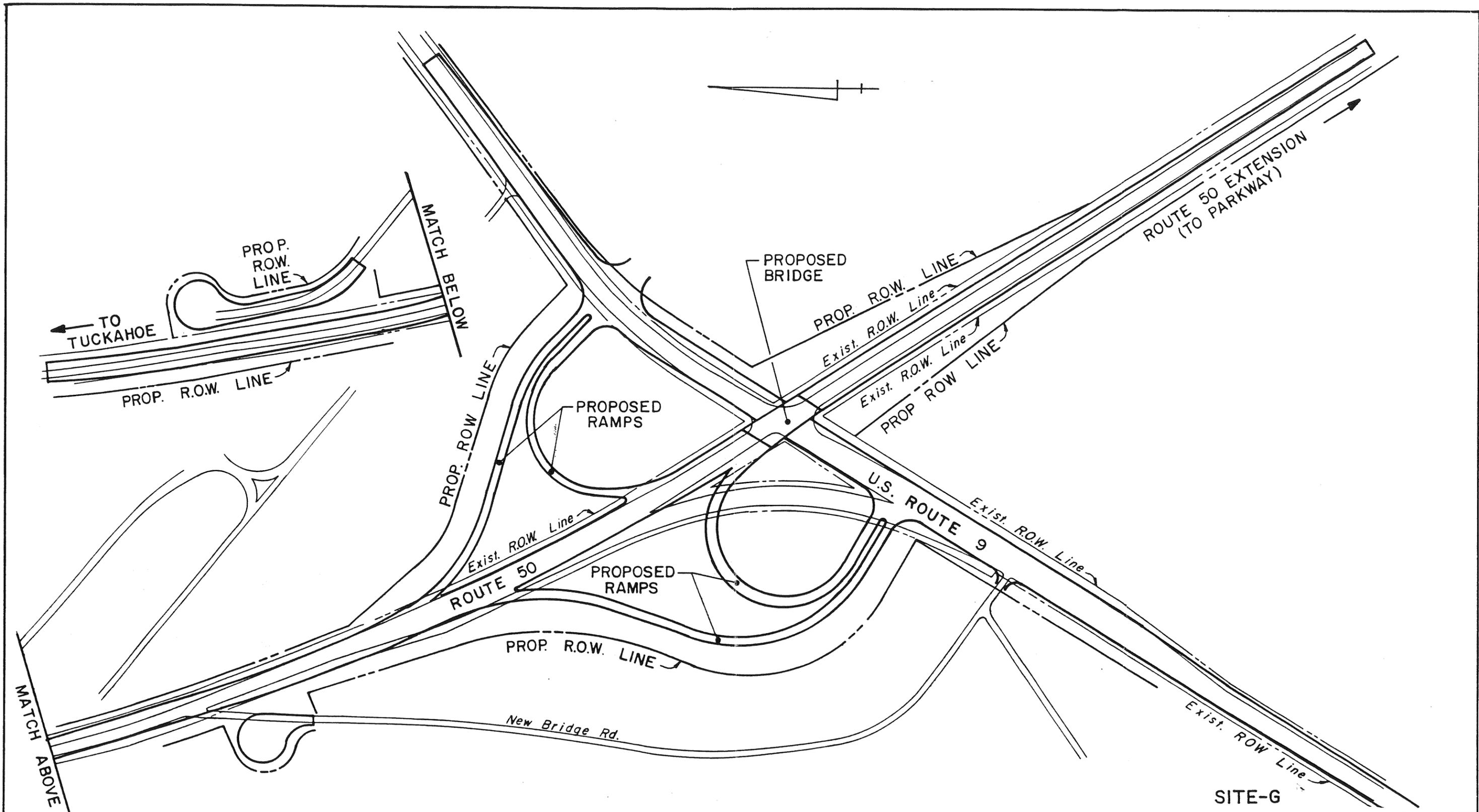
GARDEN STATE PARKWAY SECTION 11

ROUTE 50/9 INTERCHANGE

PREPARED BY:

TAYLOR WISEMAN & TAYLOR
306 FELLOWSHIP ROAD
MOUNT LAUREL, NEW JERSEY 08054





GRADE SEPERATED ALTERNATE

SCALE: 1"=200'

SITE-G

NEW JERSEY DEPARTMENT OF TRANSPORTATION

ROUTE 55 EXTENSION FEASIBILITY STUDY

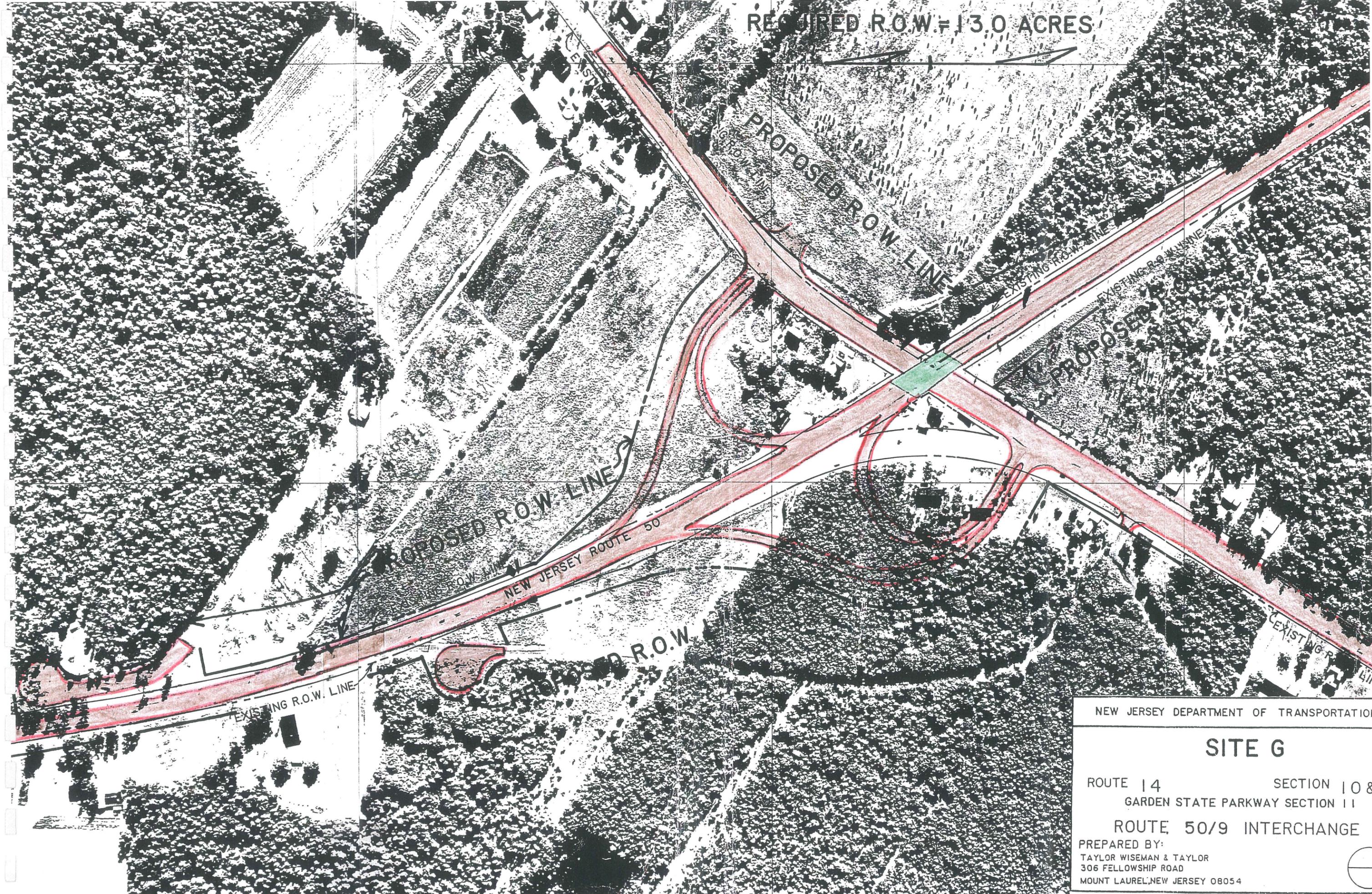
RT. 49 & 50 CORRIDOR

RT. 50/9 INTERCHANGE

PREPARED BY:
TAYLOR WISEMAN & TAYLOR
308 FELLOWSHIP ROAD
MOUNT LAUREL, NEW JERSEY 08034



REQUIRED R.O.W. = 13.0 ACRES



NEW JERSEY DEPARTMENT OF TRANSPORTATION

SITE G

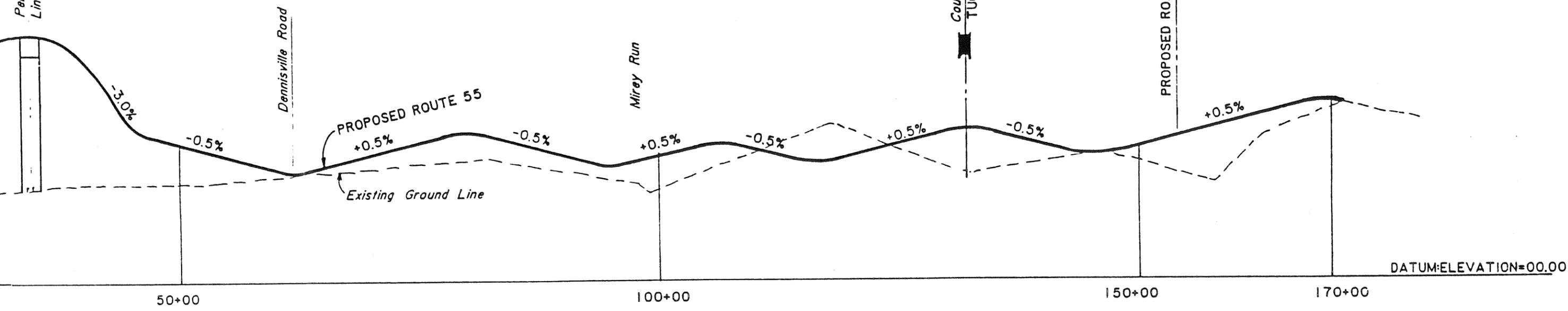
ROUTE 14 SECTION 108
GARDEN STATE PARKWAY SECTION 11

ROUTE 50/9 INTERCHANGE

PREPARED BY:
TAYLOR WISEMAN & TAYLOR
306 FELLOWSHIP ROAD
MOUNT LAUREL, NEW JERSEY 08054



Pennsylvania Reading Seashore Line



PROFILE TUCKAHOE BY-PASS

SCALES: 1"=1000' HORIZ.
1"=20' VERT.

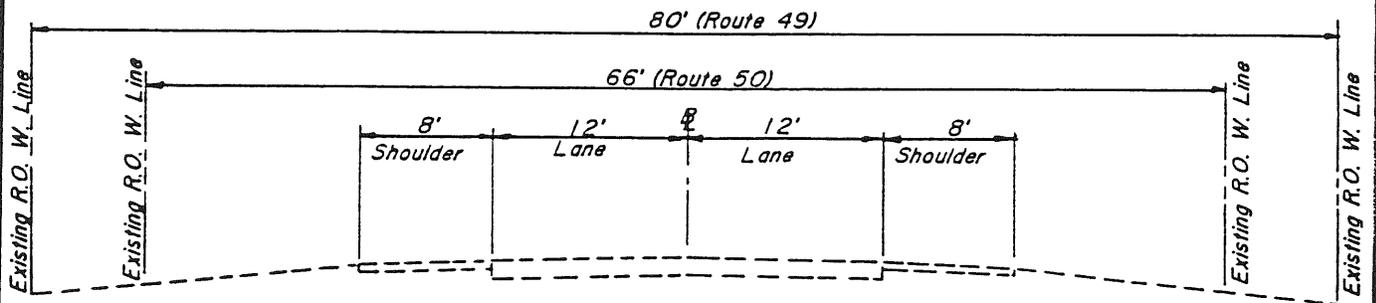
NEW JERSEY DEPARTMENT OF TRANSPORTATION

ROUTE 55 EXTENSION FEASIBILITY STUDY

TUCKAHOE BY-PASS PROFILE

PREPARED BY:
TAYLOR WISEMAN & TAYLOR
306 FELLOWSHIP ROAD
MOUNT LAUREL, NEW JERSEY 08054

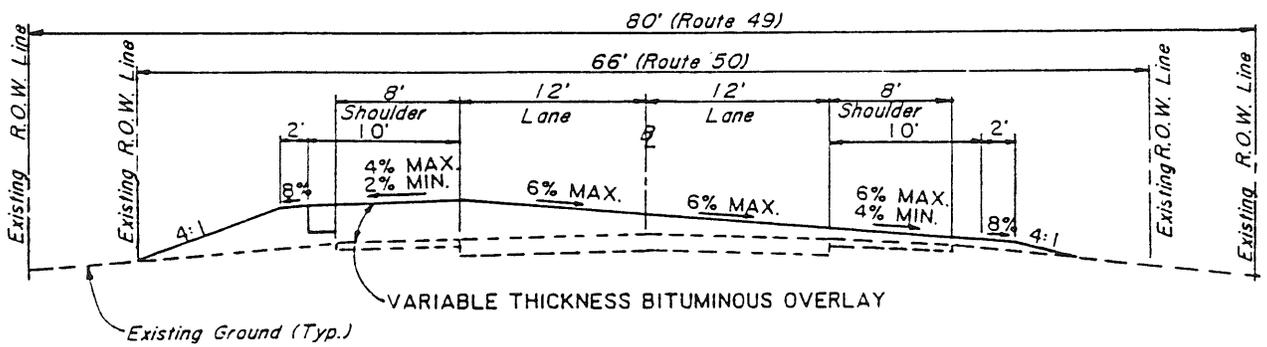




Typical Section: Routes 49 & 50

NEW JERSEY DEPARTMENT OF TRANSPORTATION
ROUTE 55 EXTENSION FEASIBILITY STUDY
<i>Routes 49 & 50</i>
PREPARED BY: TAYLOR WISEMAN & TAYLOR 366 FELLOWSHIP ROAD MOUNT LAUREL, NEW JERSEY 08054





TYPICAL SECTION: ROUTES 49 & 50
 (IN CURVED ALIGNMENTS WHERE EXISTING RADIUS IS TO BE SUPERELEVATED)

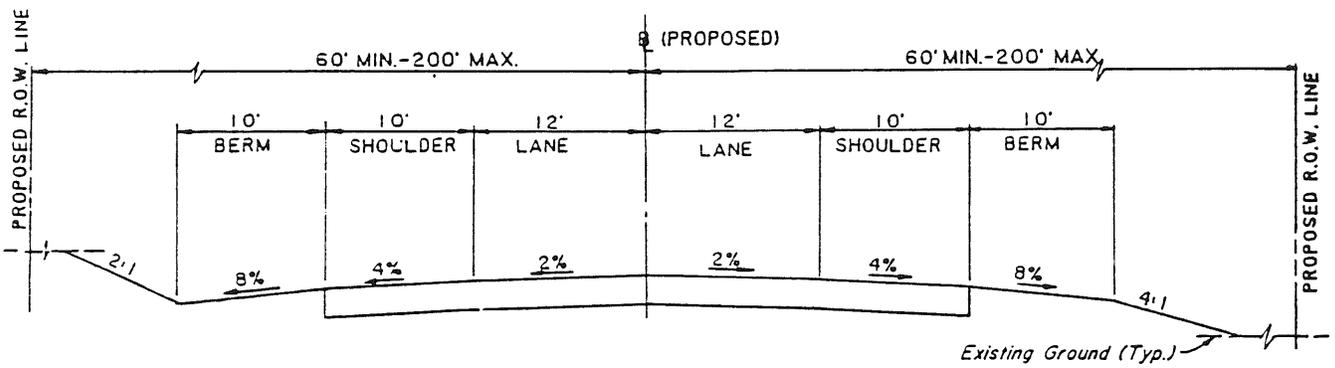
NEW JERSEY DEPARTMENT OF TRANSPORTATION

ROUTE 55 EXTENSION FEASIBILITY STUDY

ROUTES 49 & 50

PREPARED BY:
 TAYLOR WISEMAN & TAYLOR
 306 FELLOWSHIP ROAD
 MOUNT LAUREL, NEW JERSEY 08054



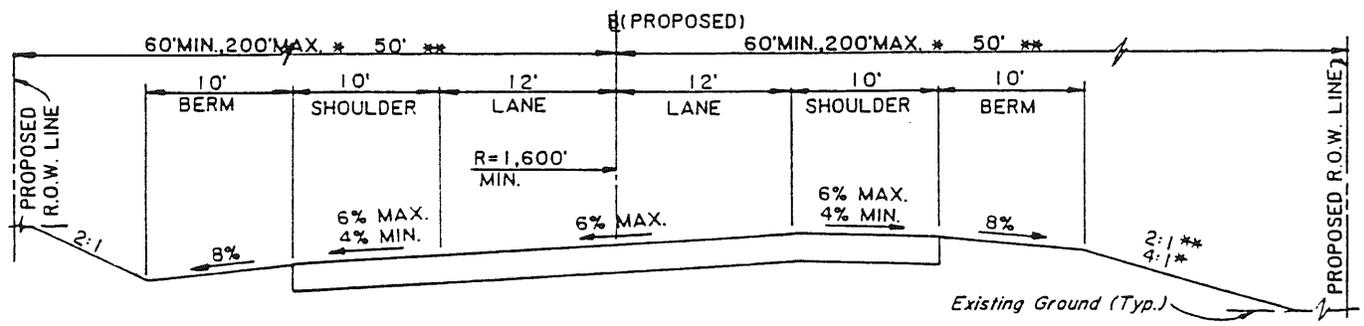


TYPICAL SECTION-TUCKAHOE BYPASS
 (TANGENT ALIGNMENT)

NEW JERSEY DEPARTMENT OF TRANSPORTATION
 ROUTE 55 EXTENSION FEASIBILITY
 STUDY
 TUCKAHOE BY-PASS

PREPARED BY:
 TAYLOR WISEMAN & TAYLOR
 308 FELLOWSHIP ROAD
 MOUNT LAUREL, NEW JERSEY 08054





TUCKAHOE BYPASS*
 (CURVED ALIGNMENTS)
 OR
TYPICAL SECTIONS: **ROUTE 49-50****
 (CURVED REALIGNMENTS)

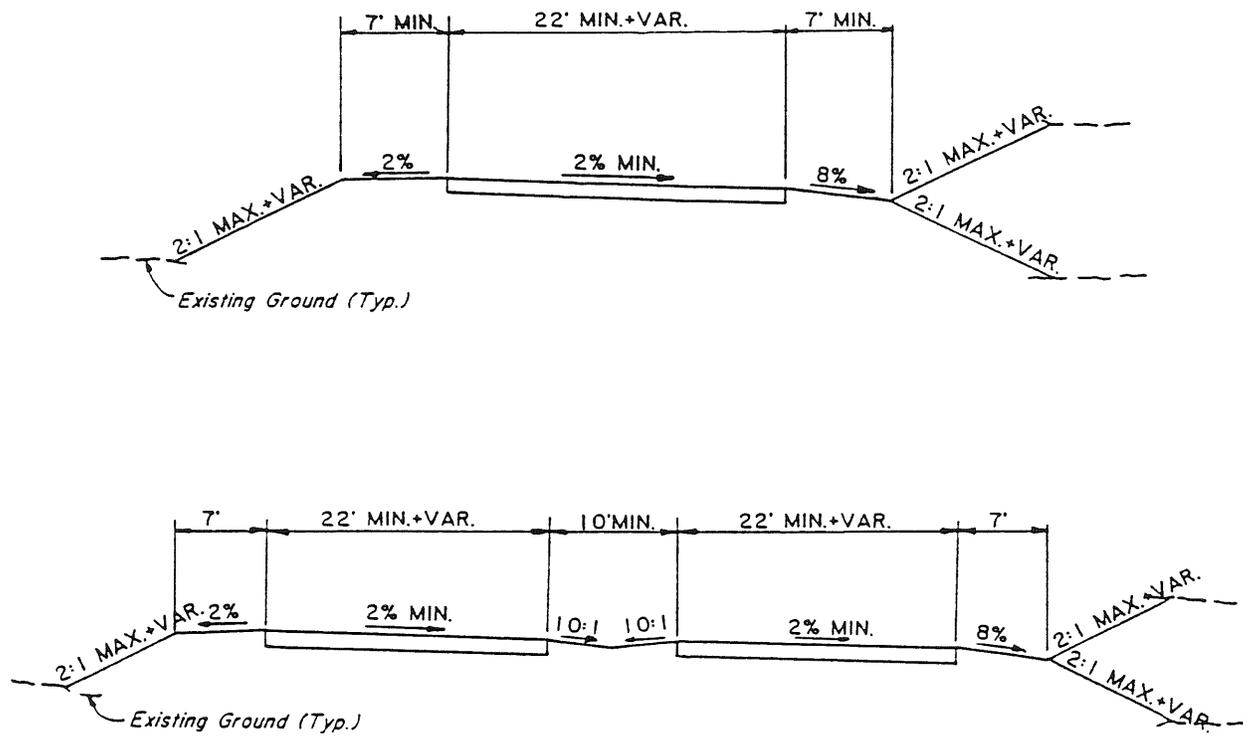
NEW JERSEY DEPARTMENT OF TRANSPORTATION

ROUTE 55 EXTENSION FEASIBILITY STUDY

TUCKAHOE BY-PASS
 OR
 ROUTES 49 & 50

PREPARED BY:
 TAYLOR, WISEMAN & TAYLOR
 300 FELLOWSHIP ROAD
 MOUNT LAUREL, NEW JERSEY 08054





TYPICAL RAMP SECTIONS

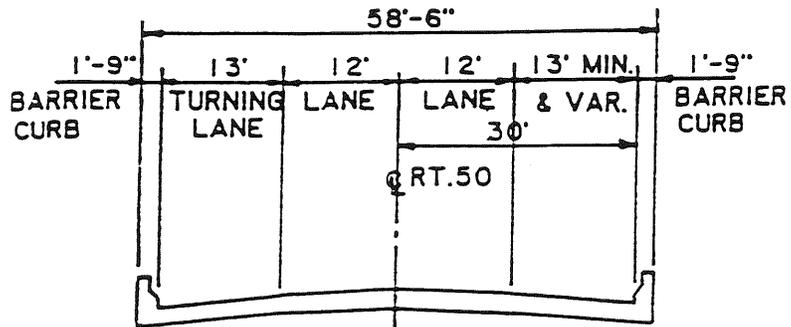
NEW JERSEY DEPARTMENT OF TRANSPORTATION

ROUTE 55 EXTENSION FEASIBILITY STUDY

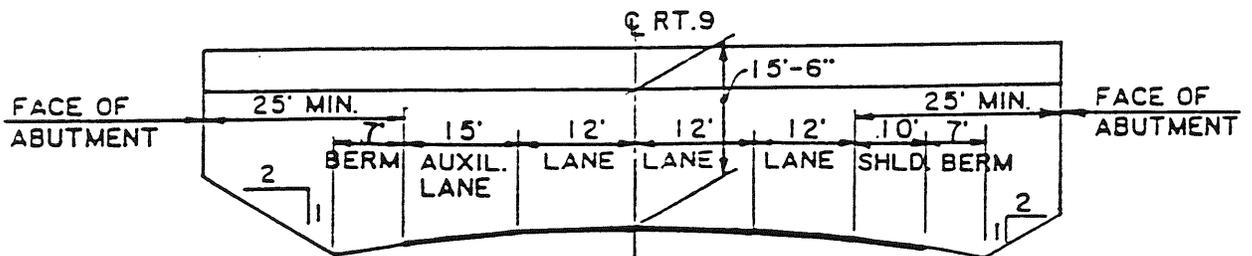
TYPICAL RAMP SECTIONS

PREPARED BY:
 TAYLOR WILKINSON & TAYLOR
 300 FELLOWSHIP ROAD
 MOUNT LAUREL, NEW JERSEY 08054





TYPICAL SECTION



ELEVATION

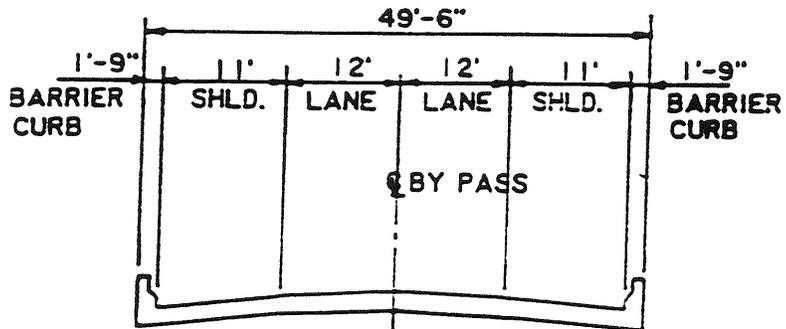
NEW JERSEY DEPARTMENT OF TRANSPORTATION

ROUTE 55 EXTENSION FEASIBILITY STUDY

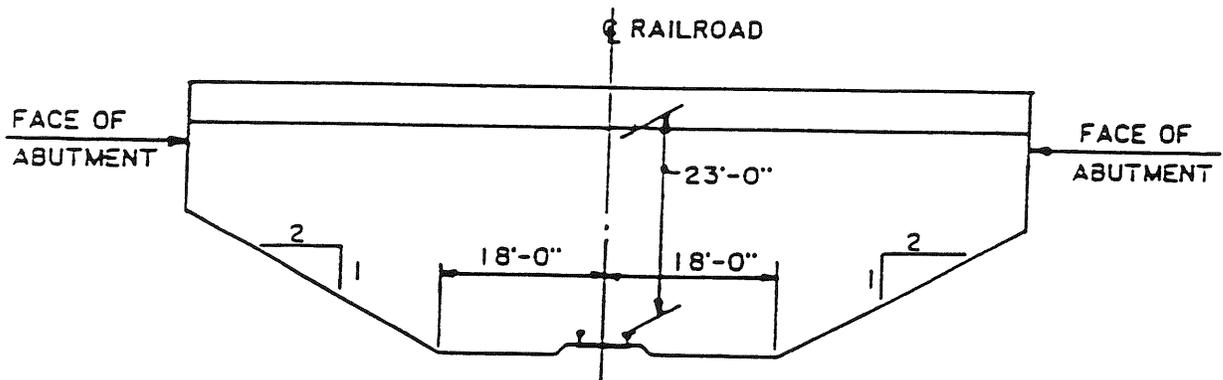
ROUTE 50 OVER ROUTE 9

PREPARED BY:
TAYLOR WADSWORTH & TAYLOR
300 FELLOWSHIP ROAD
MOUNT LAUREL, NEW JERSEY 08054





TYPICAL SECTION



ELEVATION

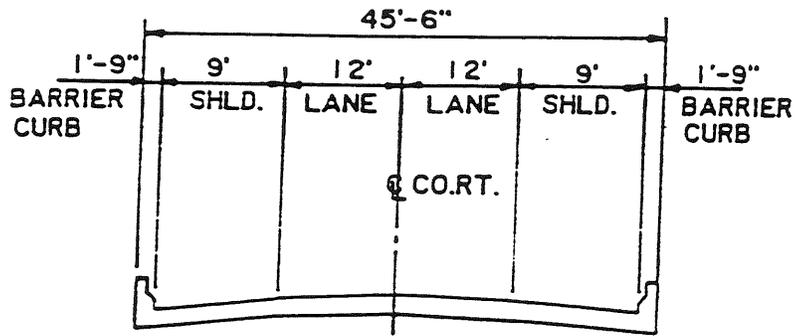
NEW JERSEY DEPARTMENT OF TRANSPORTATION

ROUTE 55 EXTENSION FEASIBILITY
STUDY

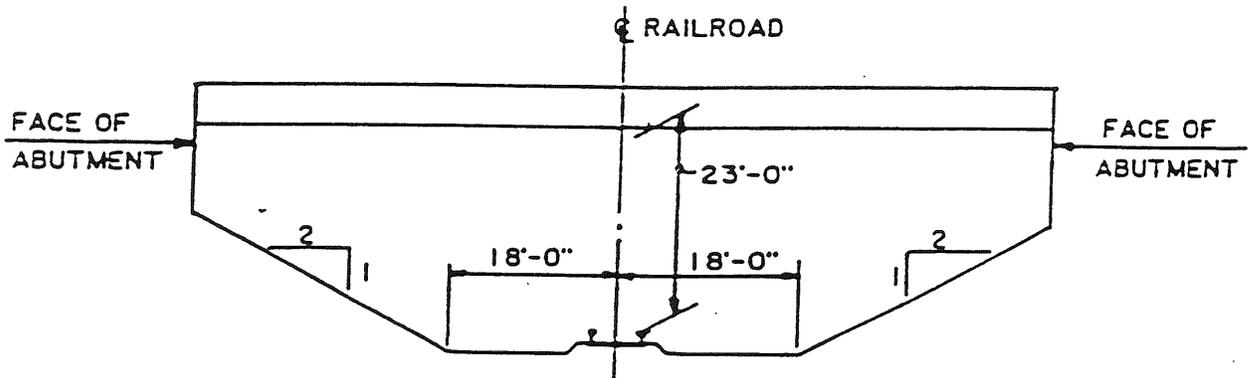
TUCKAHOE BY-PASS OVER RAILROAD
TUCKAHOE BY-PASS

PREPARED BY:
TAYLOR WISDOM & TAYLOR
300 FELLOWSHIP ROAD
MOUNT LAUREL, NEW JERSEY 08054





TYPICAL SECTION



ELEVATION

NEW JERSEY DEPARTMENT OF TRANSPORTATION

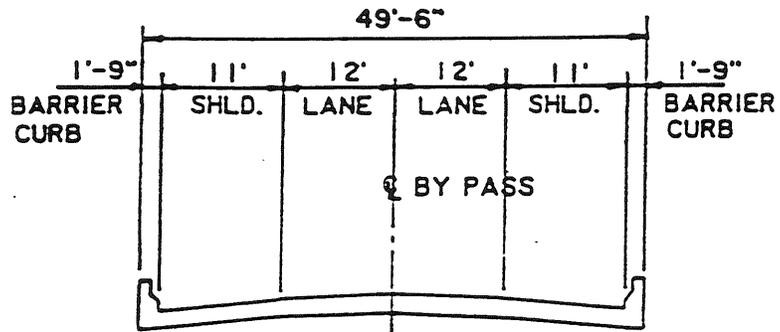
ROUTE 55 EXTENSION FEASIBILITY STUDY

COUNTY RD. OVER RAILROAD

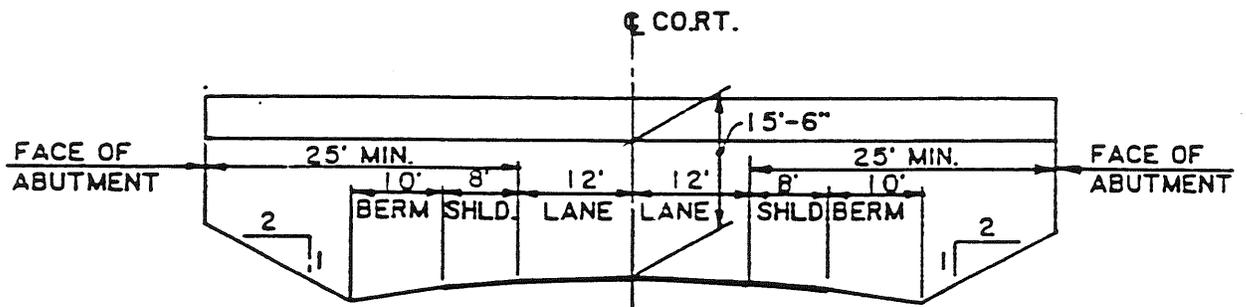
TUCKAHOE BY-PASS

PREPARED BY:
 TAYLOR WISEMAN & TAYLOR
 300 FELLOWSHIP ROAD
 MOUNT LAUREL, NEW JERSEY 08054





TYPICAL SECTION



ELEVATION

NEW JERSEY DEPARTMENT OF TRANSPORTATION

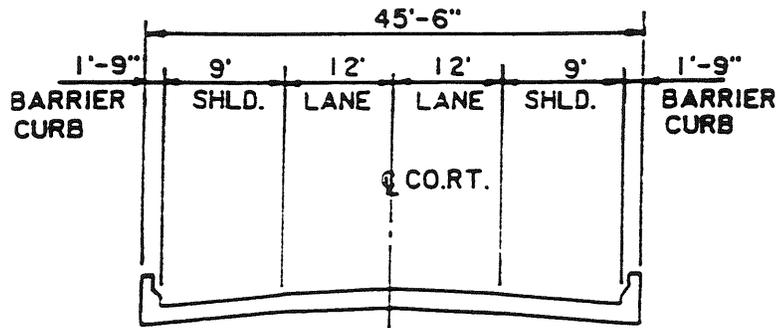
ROUTE 55 EXTENSION FEASIBILITY STUDY

TUCKAHOE BY-PASS OVER COUNTY RD.

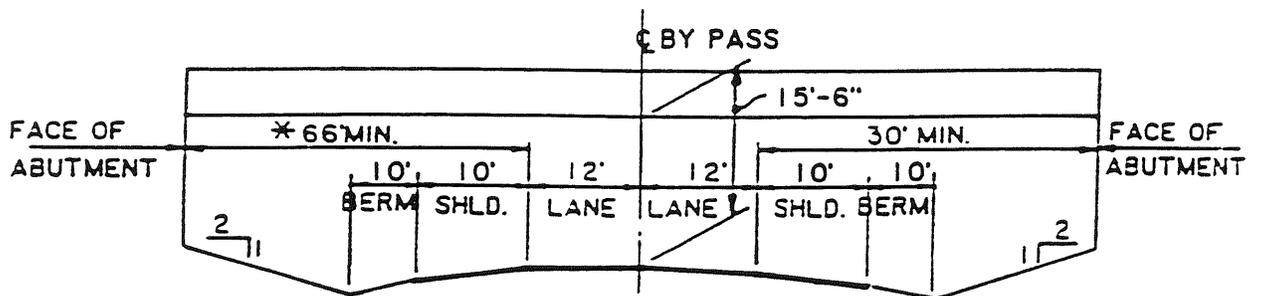
TUCKAHOE BY-PASS

PREPARED BY:
 TAYLOR WISEMAN & TAYLOR, JR.
 300 FELLOWSHIP ROAD
 MOUNT LAUREL, NEW JERSEY 08054





TYPICAL SECTION



* FOR FUTURE DUALIZATION

ELEVATION

NEW JERSEY DEPARTMENT OF TRANSPORTATION

ROUTE 55 EXTENSION FEASIBILITY STUDY

COUNTY RD. OVER TUCKAHOE BY-PASS
TUCKAHOE BY-PASS

PREPARED BY:
TAYLOR WISEMAN & TAYLOR
306 FELLOWSHIP ROAD
MOUNT LAUREL, NEW JERSEY 08054



APPENDIX A

Cost Estimate

Cost Summary

(data represent millions of 1991 dollars)

	Rt. 55 Freeway Alternates*		Rt. 47 / 670 / 83 Land Service Alternates						Rt. 49 / 50 Land Service Alternates	
	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 5	Alt. 5A	Alt. 6	Alt. 6A	Alt. 7	Alt. 7A
	Roadway Costs	184.5	196.6	88.5	73.3	126.6	144.7	124.9	145.5	_____
Structure Costs	153.2	193.6	58.5	44.2	67.1	87.5	80.8	108.1	_____	_____
Utility Costs	30.4	35.1	13.2	10.6	17.5	20.9	18.5	22.8	_____	_____
Total Construction	368.1	425.3	160.2	128.0	211.2	253.1	224.2	276.4	_____	_____
R.O.W. Costs	19.4	19.6	4.4	1.6	17.9	17.9	18.0	18.0	_____	_____
Wetland Mitigation @ 2:1 Ratio	35.9	38.4	12.1	8.5	24.2	25.3	26.0	26.4	_____	_____
Project Costs	\$423.4	\$483.3	\$176.6	\$138.1	\$253.2	\$296.2	\$268.2	\$320.8	\$_____	\$_____

*Note: Data for alternates in shaded region is detailed in Technical Memorandum No. 1: Freeway Alignments

APPENDIX B

Environmental Constraints

RT55 FREEWAY STUDY AREA

USGS QUAD SHEET INDEX

MILLVILE 1	FIVE POINTS 2		
DIVIDING CREEK 3	PORT ELIZABETH 4	TUCKAHOE 5	MARMORA 6
	HEISLERVILLE 7	WOODBINE 8	SEASLE CITY 9
		STONE HARBOR 10	

EXPLANATION OF CODES

For Tables 3 - 12

1. FEDERAL STATUS CODES (F)

U.S. Fish and Wildlife categories of endangered and threatened plants and animals.

3C = More widespread than previously thought or is not subject to threat.

C2 = Possible listing as endangered or threatened, but not enough information to support immediate preparation of rules.

LE = Listed Endangered

E(S/A) = Endangered (similarity of appearance species)

LT = Listed threatened

CI = Enough information on file to support the appropriateness of proposing to list as endangered or threatened.

2. STATE STATUS CODES (S)

E = Endangered nongame species

T = Threatened nongame species

D = Declining nongame species

3. REGIONAL STATUS CODES (RS)

LP = Pinelands

4. NATURAL HERITAGE PRIORITY ELEMENT RANKING SYSTEM

The Nature Conservancy has developed a rarity ranking system for identifying rare species. Each species is ranked according to its rarity both in the state and globally.

Global Element Ranks

G1 = Critically imperiled globally because of extreme rarity (5 or fewer occurrences) or few sites.

G2 = Imperiled globally because of rarity (6 to 20 occurrences) or few sites.

G3 = Rare and local within its range or found locally in a restricted range.

G4 = Apparently secure globally, though it may be quite rare in the parts of its range, especially at the periphery.

G5 = Demonstrably secure globally, though it may be quite rare in parts of its range, especially at the periphery.

G? = Species has not yet been ranked.

State Element Ranks

S1 = Critically imperiled. Few remaining individuals or sites.

S2 = Imperiled in state due to habitat destruction.

S3 = Rare in state or widely distributed in the state but with small populations/acreages or with restricted distribution, but locally abundant.

S4 = Apparently secure in state.

S5 = Demonstrably secure in state.

SH = Considered possibly extant.

SU = Believed to be in peril but status uncertain.

5. HABITAT CODES

PO = Pine-oak forest
OP = Oak-pine forest
PP = Pitch pine lowlands
CS = Cedar swamp
HS = Hardwood swamp
W = Water
PE = Palustrine emergent wetland
E = Estuarine
B = Borrow pit
NF = Non-forested

TABLE 4

Vascular Plants	Habitat								
	PO	OP	PP	CS	HS	W	PE	E	NF
Barratt's Sedge								*	
Beaked Sedge						*	*		
Boltonia								*	
Boykin's Lobelia						*	*		
Black-Fruited Spikerush						*	*		
Bristling Panic Grass									*
Bur-Marigold						*	*		
Butterfly Pea									*
Clustered Bluet									*
Coast Bedstraw	*	*							
Curly Grass Fern				*					
Cut-Leaved Water Milfoil						*	*		
Dragon Mouth						*	*		
Elliptical Rushfoil									*
Featherfoil						*	*		
Floating Heart						*	*		
Fragrant Ladies'-Tresses								*	
Hairy-Stemmed Wild Yam						*	*		
Heller's Everlasting	*	*							
Longbeaked Baldrush						*			
Long's Bulrush						*	*		
Minute Duckweed						*			
New Jersey Rush				*	*	*	*		
Pale Beak Rush			*		*	*	*		
Parker's Pipewort								*	
Pine Barren Boneset				*	*	*			
Pine Barren Gentain	*	*	*						
Pine Barren Reedgrass						*	*		
Pine Barren Smoke Grass			*		*	*	*		
Pineland Tick-Trefoil	*	*							
Pink Milkwort									*
Pink Tickseed					*	*	*		
Rare Flowing Beaked Rush							*		
Reversed Bladderwort						*	*		
Richards Yellow Eyed-Grass							*		
Riparian Pencil Flower	*	*							
Rough Cottongrass						*	*		
Sensitive Joint-Vetch						*		*	
Short-Beaked Baldrush						*	*		
Slender Arrow Head						*	*		
Slender Plantain									*
Small-Headed Beaked Rush			*		*	*	*		
Small-Yellow Pond Lily							*	*	
Smooth Beard Tongue					*	*	*		
Smooth Tick-Trefoil	*	*							*
Southern Arrow Head						*	*		
Southern Twayblade				*	*	*	*		
Stout Smartweed			*	*	*	*			
Swamp Pink						*	*	*	

TABLE 4 (cont'd)

Vascular Plants	Habitat								
	PO	OP	PP	CS	HS	W	PE	E	NF
Tall Bush-Clover									*
Thread-leaved Beaked Rush			*		*	*	*		
Twisted Spikerush					*	*	*		
Velvety Tick-Trefoil *		*							*
Virginia False-Gromwell*		*							
Virginia Thistle			*	*	*	*	*		
Walter's St. John's Wart					*				
Whorled Nut Rush						*	*		
Whorled Water-Milfoil						*	*		
Wright's Panic Grass						*	*		
Yellow-Fringed Orchid				*	*	*	*		
Yellow-Fringless Orchid			*	*	*	*	*		

23 JAN 1991

MILLVILLE USGS QUADRANGLE
 RARE SPECIES AND NATURAL COMMUNITIES PRESENTLY RECORDED IN
 THE NEW JERSEY NATURAL HERITAGE DATABASE

NAME	COMMON NAME	FEDERAL STATUS	STATE STATUS	REGIONAL STATUS	GRANK	SRANK	DATE OBSERVED	IDENT.
*** Vertebrates								
AMBYSTOMA TIGRINUM	TIGER SALAMANDER		E		G5	S2	1939-??-??	Y
CROTALUS HORRIDUS	TIMBER RATTLESNAKE		E		G5	S2	1967-SUMMR	Y
HYLA CHRYSOSCELIS	COPE'S GRAY TREEFROG		E		G5	S2	1975-??-??	Y
PITUOPHIS MELANOLEUCUS	PINE SNAKE		T		G5	S3	1980-07-26	Y
STRIX VARIA	BARRED OWL		T		G5	S3	1989-10-10	Y
*** Vascular plants								
ARETHUSA BULBOSA	DRAGON MOUTH				G4	S2	1988-05-29	Y
BIDENS BIDENTOIDES	BUR-MARIGOLD	3C			G3	S2	1979-10-06	Y
CAREX BARRATTII	BARRATT'S SEDGE	3C		LP	G3	S3	1938-05-01	Y
COREOPSIS ROSEA	PINK TICKSEED			LP	G3	S2	1935-08-13	Y
COREOPSIS ROSEA	PINK TICKSEED			LP	G3	S2	1960-09-25	Y
DESMODIUM STRICTUM	PINELAND TICK-TREFOIL			LP	G3G4	S2	1917-10-13	Y
ELEOCHARIS TORTILIS	TWISTED SPIKERUSH		E		G5	SH	1923-08-12	Y
ERIOCAULON PARKERI	PARKER'S PIPEWORT	C2			G3	S2	1909-10-07	Y
EUPATORIUM RESINOSUM	PINE BARREN BONESET	C2	E	LP	G2	S2	1985-09-18	Y
EUPATORIUM RESINOSUM	PINE BARREN BONESET	C2	E	LP	G2	S2	1946-08-25	Y
HELONIAS BULLATA	SWAMP-PINK	LT	E	LP	G2	S2	1870-05-??	Y
HELONIAS BULLATA	SWAMP-PINK	LT	E	LP	G2	S2	1891-04-23	Y
HELONIAS BULLATA	SWAMP-PINK	LT	E	LP	G2	S2	1988-05-29	Y
JUNCUS CAESARIENSIS	NEW JERSEY RUSH	C2	E	LP	G2	S2	1985-07-??	Y
ONOSMODIUM VIRGINIANUM	VIRGINIA FALSE-GROMWELL		E		G4	S1	1871-06-22	Y
PENSTEMON LAEVIGATUS	SMOOTH BEARD TONGUE				G5	S1	1934-06-17	Y
POLYGALA INCARNATA	PINK MILKWORT		E		G5	SH	1934-08-29	Y
RHYNCHOSPORA MICROCEPHALA	SMALL-HEADED BEAKED RUSH		E		G?	S1	1940-09-22	Y
SCHIZAEA PUSILLA	CURLY GRASS FERN	C2		LP	G3	S3	1875-??-??	Y
SCHIZAEA PUSILLA	CURLY GRASS FERN	C2		LP	G3	S3	1923-08-12	Y
STYLOSANTHES RIPARIA	RIPARIAN PENCIL FLOWER		E		G?	SH	1934-08-29	Y

26 Records Processed

23 JAN 1991

-aste 10

PORT ELIZABETH USGS QUADRANGLE
 RARE SPECIES AND NATURAL COMMUNITIES PRESENTLY RECORDED IN
 THE NEW JERSEY NATURAL HERITAGE DATABASE

NAME	COMMON NAME	FEDERAL STATUS	STATE STATUS	REGIONAL STATUS	GRANK	SRANK	DATE OBSERVED	IDENT.
*** Vertebrates								
AMBYSTOMA TIGRINUM	TIGER SALAMANDER		E		G5	S2	1975-??-??	Y
AMBYSTOMA TIGRINUM	TIGER SALAMANDER		E		G5	S2	1985-03-??	Y
ELAPHE GUTTATA	CORN SNAKE		E		G5	S1	1972-05-30	Y
ELAPHE GUTTATA	CORN SNAKE		E		G5	S1	1979-??-??	Y
HALIAEETUS LEUCOCEPHALUS	BALD EAGLE	LE	E		G3	S1	1954-??-??	Y
HALIAEETUS LEUCOCEPHALUS	BALD EAGLE	LE	E		G3	S1	1955-??-??	Y
HALIAEETUS LEUCOCEPHALUS	BALD EAGLE	LE	E		G3	S1	1954-??-??	Y
HYLA ANDERSONII	PINE BARRENS TREEFROG	3C	E		G4	S3	1975-07-25	Y
HYLA ANDERSONII	PINE BARRENS TREEFROG	3C	E		G4	S3	1982-05-06	Y
HYLA CHRYSOSCELIS	COPE'S GRAY TREEFROG		E		G5	S2	1979-08-22	Y
HYLA CHRYSOSCELIS	COPE'S GRAY TREEFROG		E		G5	S2	1981-05-28	Y
HYLA CHRYSOSCELIS	COPE'S GRAY TREEFROG		E		G5	S2	1986-06-12	Y
MELANERPES ERYTHROCEPHALUS	RED-HEADED WOODPECKER		T		G5	S3	1987-05-26	
PANDION HALIAETUS	OSPREY		T		G5	S3	1987-??-??	Y
PANDION HALIAETUS	OSPREY		T		G5	S3	1987-??-??	Y
PITUOPHIS MELANOLEUCUS	PINE SNAKE		T		G5	S3	1980-07-20	Y
PITUOPHIS MELANOLEUCUS	PINE SNAKE		T		G5	S3	1979-08-??	Y
PITUOPHIS MELANOLEUCUS	PINE SNAKE		T		G5	S3	1986-09-20	Y
PITUOPHIS MELANOLEUCUS	PINE SNAKE		T		G5	S3	1978-05-??	Y
PITUOPHIS MELANOLEUCUS	PINE SNAKE		T		G5	S3	1956-SUMMR	Y
PITUOPHIS MELANOLEUCUS	PINE SNAKE		T		G5	S3	1954-SUMMR	Y
PITUOPHIS MELANOLEUCUS	PINE SNAKE		T		G5	S3	1954-04-04	Y
PITUOPHIS MELANOLEUCUS	PINE SNAKE		T		G5	S3	1982-SUMMR	
STERNA ANTILLARUM	LEAST TERN		E		G4	S2	1986-05-30	Y
STRIX VARIA	BARRED OWL		T		G5	S3	1984-SUMMR	Y
STRIX VARIA	BARRED OWL		T		G5	S3	1987-SUMMR	Y
STRIX VARIA	BARRED OWL		T		G5	S3	1987-SUMMR	Y
STRIX VARIA	BARRED OWL		T		G5	S3	1987-SUMMR	Y
STRIX VARIA	BARRED OWL		T		G5	S3	1987-SUMMR	Y
STRIX VARIA	BARRED OWL		T		G5	S3	1984-??-??	Y

23 JAN 1991

p. 6 (cont.)

PORT ELIZABETH USGS QUADRANGLE
RARE SPECIES AND NATURAL COMMUNITIES PRESENTLY RECORDED IN
THE NEW JERSEY NATURAL HERITAGE DATABASE

NAME	COMMON NAME	FEDERAL STATUS	STATE STATUS	REGIONAL STATUS	GRANK	SRANK	DATE OBSERVED	IDENT.
*** Ecosystems								
BRACKISH TIDAL MARSH COMPLEX	BRACKISH TIDAL MARSH COMPLEX				G5	S2?	198?-??-??	?
COASTAL PLAIN INTERMITTANT POND	VERNAL POND				G3?	S2S3?	1985-08-09	Y
COASTAL PLAIN INTERMITTANT POND	VERNAL POND				G3?	S2S3?	1985-08-09	Y
COASTAL PLAIN INTERMITTANT POND	VERNAL POND				G3?	S2S3?	1985-08-09	Y
COASTAL PLAIN INTERMITTANT POND	VERNAL POND				G3?	S2S3?	1985-08-09	Y
FRESHWATER TIDAL MARSH COMPLEX	FRESHWATER TIDAL MARSH COMPLEX				G4?	S3?	1985-??-??	Y
*** Other types								
BALD EAGLE WINTERING SITE	BALD EAGLE WINTERING SITE				G?	S?	1986-01-??	Y
BALD EAGLE WINTERING SITE	BALD EAGLE WINTERING SITE				G?	S?	1982-01-??	Y
BALD EAGLE WINTERING SITE	BALD EAGLE WINTERING SITE				G?	S?	1986-01-??	Y
BALD EAGLE WINTERING SITE	BALD EAGLE WINTERING SITE				G?	S?	1987-01-??	Y
*** Vascular plants								
AESCHYNOMENE VIRGINICA	SENSITIVE JOINT-VETCH	C2	E	LP	G2	S1	1974-06-29	Y
AESCHYNOMENE VIRGINICA	SENSITIVE JOINT-VETCH	C2	E	LP	G2	S1	1984-09-09	Y
CAREX BARRATTII	BARRATT'S SEDGE	3C		LP	G3	S3	1985-05-18	Y
CAREX ROSTRATA	BEAKED SEDGE				G5	S2	1963-06-21	?
CLITORIA MARIANA	BUTTERFLY PEA		E		G5	S1	1987-08-08	Y
COREOPSIS ROSEA	PINK TICKSEED			LP	G3	S2	1934-08-15	Y
DESMODIUM STRICTUM	PINELAND TICK-TREFOIL			LP	G3G4	S2	1987-08-10	Y
DESMODIUM STRICTUM	PINELAND TICK-TREFOIL			LP	G3G4	S2	1988-10-07	Y
DESMODIUM STRICTUM	PINELAND TICK-TREFOIL			LP	G3G4	S2	1937-06-20	Y
ERIOCAULON PARKERI	PARKER'S PIPEWORT	C2			G3	S2	1937-06-20	Y
ERIOCAULON PARKERI	PARKER'S PIPEWORT	C2			G3	S2	1980-08-19	Y
ERIOCAULON PARKERI	PARKER'S PIPEWORT	C2			G3	S2	1936-11-08	Y

23 JAN 1991

PORT ELIZABETH USGS QUADRANGLE
 RARE SPECIES AND NATURAL COMMUNITIES PRESENTLY RECORDED IN
 THE NEW JERSEY NATURAL HERITAGE DATABASE

NAME	COMMON NAME	FEDERAL STATUS	STATE STATUS	REGIONAL STATUS	GRANK	SRANK	DATE OBSERVED	IDENT.
EUPATORIUM RESINOSUM	PINE BARREN BONESET	C2	E	LP	G2	S2	1932-09-18	Y
EUPATORIUM RESINOSUM	PINE BARREN BONESET	C2	E	LP	G2	S2	1934-08-15	Y
GENTIANA AUTUMNALIS	PINE BARREN GENTIAN	3C		LP	G3	S3	1924-09-11	Y
LESPEDEZA STUEVEI	TALL BUSH-CLOVER				G4?	S2	1985-??-??	Y
MUHLENBERGIA TORREYANA	PINE BARREN SMOKE GRASS	C1		LP	G3	S3	1985-08-09	Y
MUHLENBERGIA TORREYANA	PINE BARREN SMOKE GRASS	C1		LP	G3	S3	1985-08-09	Y
NUPHAR MICROPHYLLUM	SMALL YELLOW POND LILY		E		G5	SH	1932-09-18	Y
PANICUM WRIGHTIANUM	WRIGHT'S PANIC GRASS				G4	S2	1985-08-09	Y
PANICUM WRIGHTIANUM	WRIGHT'S PANIC GRASS				G4	S2	1985-08-09	Y

61 Records Processed

23 JAN 1991

HEISLERVILLE USGS QUADRANGLE
RARE SPECIES AND NATURAL COMMUNITIES PRESENTLY RECORDED IN
THE NEW JERSEY NATURAL HERITAGE DATABASE

NAME	COMMON NAME	FEDERAL STATUS	STATE STATUS	REGIONAL STATUS	GRANK	SRANK	DATE OBSERVED	IDENT.
*** Vertebrates								
AMBYSTOMA TIGRINUM	TIGER SALAMANDER		E		G5	S2	1974-??-??	Y
AMBYSTOMA TIGRINUM	TIGER SALAMANDER		E		G5	S2	1986-06-05	Y
AMBYSTOMA TIGRINUM	TIGER SALAMANDER		E		G5	S2	1970-??-??	Y
AMMODRAMUS HENSLOWII	HENSLOW'S SPARROW		E		G4	S1	1970-??-??	Y
CIRCUS CYANEUS	NORTHERN HARRIER		E		G5	S2	1986-07-??	Y
CIRCUS CYANEUS	NORTHERN HARRIER		E		G5	S2	1979-07-??	Y
FALCO PEREGRINUS	PEREGRINE FALCON	E/SA	E		G3	S1	1986-SUMMR	Y
HALIAEETUS LEUCOCEPHALUS	BALD EAGLE	LE	E		G3	S1	1990-06-07	Y
HYLA ANDERSONII	PINE BARRENS TREEFROG	3C	E		G4	S3	????-??-??	Y
HYLA ANDERSONII	PINE BARRENS TREEFROG	3C	E		G4	S3	1979-??-??	Y
HYLA CHRYSOSCELIS	COPE'S GRAY TREEFROG		E		G5	S2	????-??-??	Y
HYLA CHRYSOSCELIS	COPE'S GRAY TREEFROG		E		G5	S2	1975-??-??	Y
HYLA CHRYSOSCELIS	COPE'S GRAY TREEFROG		E		G5	S2	1979-05-03	Y
PITUOPHIS MELANOLEUCUS	PINE SNAKE		T		G5	S3	1977-06-??	
STRIX VARIA	BARRED OWL		T		G5	S3	1987-SUMMR	Y
*** Other types								
BALD EAGLE WINTERING SITE	BALD EAGLE WINTERING SITE				G?	S?	1985-01-??	Y
BALD EAGLE WINTERING SITE	BALD EAGLE WINTERING SITE				G?	S?	1985-01-??	Y
BALD EAGLE WINTERING SITE	BALD EAGLE WINTERING SITE				G?	S?	1984-01-??	Y
BALD EAGLE WINTERING SITE	BALD EAGLE WINTERING SITE				G?	S?	1984-01-??	Y
BALD EAGLE WINTERING SITE	BALD EAGLE WINTERING SITE				G?	S?	1985-01-??	Y
BALD EAGLE WINTERING SITE	BALD EAGLE WINTERING SITE				G?	S?	1980-01-??	Y
BALD EAGLE WINTERING SITE	BALD EAGLE WINTERING SITE				G?	S?	1982-01-??	Y
BALD EAGLE WINTERING SITE	BALD EAGLE WINTERING SITE				G?	S?	1980-01-??	Y
MIGRATORY SHOREBIRD	MIGRATORY SHOREBIRD				G?	S?	1988-??-??	Y
CONCENTRATION SITE	CONCENTRATION SITE							
MIGRATORY SHOREBIRD	MIGRATORY SHOREBIRD				G?	S?	1988-??-??	Y
CONCENTRATION SITE	CONCENTRATION SITE							
MIGRATORY SHOREBIRD	MIGRATORY SHOREBIRD				G?	S?	1988-??-??	Y

23 JAN 1991

Table 7

WOODBINE USGS QUADRANGLE
RARE SPECIES AND NATURAL COMMUNITIES PRESENTLY RECORDED IN
THE NEW JERSEY NATURAL HERITAGE DATABASE

NAME	COMMON NAME	FEDERAL STATUS	STATE STATUS	REGIONAL STATUS	GRANK	SRANK	DATE OBSERVED	IDENT.
*** Vertebrates								
AMBYSTOMA TIGRINUM	TIGER SALAMANDER		E		G5	S2	1990-02-22	Y
AMMODRAMUS SAVANNARUM	GRASSHOPPER SPARROW		T/D		G4	S2	1989-05-??	Y
BARTRAMIA LONGICAUDA	UPLAND SANDPIPER		E		G5	S1	1977-??-??	Y
BUTEO LINEATUS	RED-SHOULDERED HAWK		T		G5	S2	1989-06-21	
BUTEO LINEATUS	RED-SHOULDERED HAWK		T		G5	S2	1989-06-??	Y
CIRCUS CYANEUS	NORTHERN HARRIER		E		G5	S2	1986-07-??	Y
CROTALUS HORRIDUS	TIMBER RATTLESNAKE		E		G5	S2	1900-??-??	Y
HYLA ANDERSONII	PINE BARRENS TREEFROG	3C	E		G4	S3	1980-05-24	Y
HYLA ANDERSONII	PINE BARRENS TREEFROG	3C	E		G4	S3	1975-06-23	Y
HYLA ANDERSONII	PINE BARRENS TREEFROG	3C	E		G4	S3	1974-06-23	Y
HYLA ANDERSONII	PINE BARRENS TREEFROG	3C	E		G4	S3	1988-06-20	Y
HYLA ANDERSONII	PINE BARRENS TREEFROG	3C	E		G4	S3	1989-05-19	
HYLA CHRYSOSCELIS	COPE'S GRAY TREEFROG		E		G5	S2	1974-??-??	Y
HYLA CHRYSOSCELIS	COPE'S GRAY TREEFROG		E		G5	S2	1975-06-23	Y
HYLA CHRYSOSCELIS	COPE'S GRAY TREEFROG		E		G5	S2	1978-06-24	Y
HYLA CHRYSOSCELIS	COPE'S GRAY TREEFROG		E		G5	S2	1975-??-??	Y
PITUOPHIS MELANOLEUCUS	PINE SNAKE		T		G5	S3	????-??-??	Y
STRIX VARIA	BARRED OWL		T		G5	S3	1987-SUMMR	Y
STRIX VARIA	BARRED OWL		T		G5	S3	1987-SUMMR	Y
STRIX VARIA	BARRED OWL		T		G5	S3	1984-??-??	Y
STRIX VARIA	BARRED OWL		T		G5	S3	1989-02-08	Y
*** Ecosystems								
COASTAL PLAIN INTERMITTANT POND	VERNAL POND				G3?	S2S3?	1985-08-09	Y
*** Other types								
BALD EAGLE WINTERING SITE	BALD EAGLE WINTERING SITE				G?	S?	1985-01-??	Y
BALD EAGLE WINTERING SITE	BALD EAGLE WINTERING SITE				G?	S?	1980-01-??	Y
BALD EAGLE WINTERING SITE	BALD EAGLE WINTERING SITE				G?	S?	1985-01-??	Y

23 JAN 1991

Table 1

WOODBINE USGS QUADRANGLE
RARE SPECIES AND NATURAL COMMUNITIES PRESENTLY RECORDED IN
THE NEW JERSEY NATURAL HERITAGE DATABASE

NAME	COMMON NAME	FEDERAL STATUS	STATE STATUS	REGIONAL STATUS	GRANK	SRANK	DATE OBSERVED	IDENT.
BALD EAGLE WINTERING SITE	BALD EAGLE WINTERING SITE				G?	S?	1984-01-??	Y
BALD EAGLE WINTERING SITE	BALD EAGLE WINTERING SITE				G?	S?	1984-01-??	Y
BALD EAGLE WINTERING SITE	BALD EAGLE WINTERING SITE				G?	S?	1986-01-??	Y
BALD EAGLE WINTERING SITE	BALD EAGLE WINTERING SITE				G?	S?	1986-01-??	Y
*** Vascular plants								
CALAMOVILFA BREVIPILIS	PINE BARREN REEDGRASS	3C		LP	G3	S3	1936-07-22	Y
CLITORIA MARIANA	BUTTERFLY PEA		E		G5	S1	1925-08-16	Y
DESMODIUM STRICTUM	PINELAND TICK-TREFOIL			LP	G3G4	S2	1919-08-19	Y
ELEOCHARIS TORTILIS	TWISTED SPIKERUSH		E		G5	SH	19??-??-??	Y
EUPATORIUM RESINOSUM	PINE BARREN BONESET	C2	E	LP	G2	S2	1920-09-25	Y
GALIUM HISPIDULUM	COAST BEDSTRAW		E		G5	S1	1930-09-20	Y
GENTIANA AUTUMNALIS	PINE BARREN GENTIAN	3C		LP	G3	S3	1983-??-??	Y
GENTIANA AUTUMNALIS	PINE BARREN GENTIAN	3C		LP	G3	S3	1924-09-24	Y
GENTIANA AUTUMNALIS	PINE BARREN GENTIAN	3C		LP	G3	S3	1934-09-18	Y
HELONIAS BULLATA	SWAMP-PINK	LT	E	LP	G2	S2	1985-04-24	Y
HELONIAS BULLATA	SWAMP-PINK	LT	E	LP	G2	S2	1990-06-01	Y
HOTTONIA INFLATA	FEATHERFOIL		E		G3G4	S1	1945-06-05	Y
HOTTONIA INFLATA	FEATHERFOIL		E		G3G4	S1	1983-07-??	Y
LISTERA AUSTRALIS	SOUTHERN TWAYBLADE			LP	G4	S2	1950-05-15	Y
LISTERA AUSTRALIS	SOUTHERN TWAYBLADE			LP	G4	S2	1958-05-18	Y
LOBELIA BOYKINII	BOYKIN'S LOBELIA	C2	E	LP	G2	S1	1962-07-29	Y
LOBELIA BOYKINII	BOYKIN'S LOBELIA	C2	E	LP	G2	S1	1916-08-05	Y
MUHLENBERGIA TORREYANA	PINE BARREN SMOKE GRASS	C1		LP	G3	S3	1985-08-09	Y
NUPHAR MICROPHYLLUM	SMALL YELLOW POND LILY		E		G5	SH	1907-07-07	Y
PANICUM ACICULARE	BRISTLING PANIC GRASS	C2	E		G4G5	SH	1916-06-04	Y
PLANTAGO PUSILLA	SLENDER PLANTAIN		E		G5	SH	1916-06-04	Y
PLATANThERA INTEGRa	YELLOW FRINGELESS ORCHID	3C	E	LP	G3G4	S1	1932-08-20	Y
POLYGONUM DENSIFLORUM	STOUT SMARTWEED		E		G?	S1	1940-08-06	Y
RHYNCHOSPORA FILIFOLIA	THREAD-LEAVED BEAKED RUSH		E		G5	S1	1924-09-20	Y
RHYNCHOSPORA PALLIDA	PALE BEAK RUSH				G3?	S3	1934-09-22	Y
RHYNCHOSPORA PALLIDA	PALE BEAK RUSH				G3?	S3	1934-07-23	Y

23 JAN 1991

7-10-1991

WOODBINE USGS QUADRANGLE
RARE SPECIES AND NATURAL COMMUNITIES PRESENTLY RECORDED IN
THE NEW JERSEY NATURAL HERITAGE DATABASE

NAME	COMMON NAME	FEDERAL STATUS	STATE STATUS	REGIONAL STATUS	GRANK	SRANK	DATE OBSERVED	IDENT.
RHYNCHOSPORA PALLIDA	PALE BEAK RUSH				G3?	S3	1936-08-06	Y
RHYNCHOSPORA RARIFLORA	RARE-FLOWERING BEAKED RUSH		E		G5	S1	1924-08-17	Y
SAGITTARIA AUSTRALIS	SOUTHERN ARROW HEAD		E		G5	S1	1940-07-23	Y
SAGITTARIA TERES	SLENDER ARROW HEAD		E		G3	S1	1921-09-10	Y
SCIRPUS LONGII	LONG'S BULRUSH	C2	E	LP	G2	S2	1919-07-01	Y
SPIRANTHES ODORATA	FRAGRANT LADIES'-TRESSES				G5	S2	1936-09-21	Y
TRIADENUM WALTERI	WALTER'S ST. JOHN'S-WORT		E		G5	S1	1987-08-07	Y
UTRICULARIA RESUPINATA	REVERSED BLADDERWORT		E	LP	G4	S1	1925-07-03	Y
XYRIS JUPICAI	RICHARDS YELLOW EYED-GRASS				G5	SU	1940-08-24	Y

64 Records Processed

23 JAN 1991

SEA ISLE CITY USGS QUADRANGLE
 RARE SPECIES AND NATURAL COMMUNITIES PRESENTLY RECORDED IN
 THE NEW JERSEY NATURAL HERITAGE DATABASE

NAME	COMMON NAME	FEDERAL STATUS	STATE STATUS	REGIONAL GRANK STATUS	SRANK	DATE OBSERVED	IDENT.
STERNA ANTILLARUM	LEAST TERN		E	G4	S2	1986-SUMMR	Y
STERNA ANTILLARUM	LEAST TERN		E	G4	S2	1981-??-??	Y
STERNA ANTILLARUM	LEAST TERN		E	G4	S2	1986-SUMMR	Y
STERNA ANTILLARUM	LEAST TERN		E	G4	S2	1979-??-??	Y
STERNA ANTILLARUM	LEAST TERN		E	G4	S2	1979-??-??	Y
STERNA FORSTERI	FORSTER'S TERN		IN	G5	S3	1985-06-??	Y
STERNA FORSTERI	FORSTER'S TERN		IN	G5	S3	1985-06-??	Y
STERNA FORSTERI	FORSTER'S TERN		IN	G5	S3	1985-06-??	Y
STERNA FORSTERI	FORSTER'S TERN		IN	G5	S3	1985-06-??	Y
STERNA FORSTERI	FORSTER'S TERN		IN	G5	S3	1985-06-??	Y
STERNA FORSTERI	FORSTER'S TERN		IN	G5	S3	1983-06-??	Y
STERNA HIRUNDO	COMMON TERN		D	G5	S3	1985-06-??	Y
STERNA HIRUNDO	COMMON TERN		D	G5	S3	1985-06-??	Y
STERNA HIRUNDO	COMMON TERN		D	G5	S3	1985-06-??	Y
STERNA HIRUNDO	COMMON TERN		D	G5	S3	1985-06-??	Y
STERNA HIRUNDO	COMMON TERN		D	G5	S3	1983-06-??	Y
STERNA HIRUNDO	COMMON TERN		D	G5	S3	1983-06-??	Y
STERNA HIRUNDO	COMMON TERN		D	G5	S3	1985-06-??	Y
STERNA HIRUNDO	COMMON TERN		D	G5	S3	1979-??-??	Y
STERNA HIRUNDO	COMMON TERN		D	G5	S3	1979-??-??	Y
STERNA HIRUNDO	COMMON TERN		D	G5	S3	1979-??-??	Y
STRIX VARIA	BARRED OWL		T	G5	S3	1987-SUMMR	Y
*** Other types							
COASTAL HERON ROOKERY	COASTAL HERON ROOKERY			GU	S3	1985-06-??	Y
COASTAL HERON ROOKERY	COASTAL HERON ROOKERY			GU	S3	1985-06-??	Y
COASTAL HERON ROOKERY	COASTAL HERON ROOKERY			GU	S3	1983-06-??	Y
COASTAL HERON ROOKERY	COASTAL HERON ROOKERY			GU	S3	1983-06-??	Y
*** Vascular plants							
AMARANTHUS PUMILUS	SEA-BEACH PIGWEED	C2		G2	SH	1882-08-18	Y
AMARANTHUS PUMILUS	SEA-BEACH PIGWEED	C2		G2	SH	1876-08-??	Y

23 JAN 1991

SEA ISLE CITY USGS QUADRANGLE
 RARE SPECIES AND NATURAL COMMUNITIES PRESENTLY RECORDED IN
 THE NEW JERSEY NATURAL HERITAGE DATABASE

NAME	COMMON NAME	FEDERAL STATUS	STATE STATUS	REGIONAL STATUS	GRANK	SRANK	DATE OBSERVED	IDENT.
ELEOCHARIS MELANOCARPA	BLACK-FRUITED SPIKERUSH		E		G4	S1	1921-09-29	Y
HELONIAS BULLATA	SWAMP-PINK	LT	E	LP	G2	S2	1990-06-01	Y
HELONIAS BULLATA	SWAMP-PINK	LT	E	LP	G2	S2	1990-03-27	Y
LEMNA PERPUSILLA	MINUTE DUCKWEED				G5	SU	1937-09-01	Y
POLYGONUM DENSIFLORUM	STOUT SMARTWEED		E		G?	S1	1919-10-11	Y
POLYGONUM GLAUCUM	SEA-BEACH KNOTWEED		E		G3	S1	1912-07-25	Y
RHYNCHOSPORA GLOMERATA	CLUSTERED BEAKED RUSH		E		G5	SH	1915-10-25	Y
SCLERIA VERTICILLATA	WHORLED NUT RUSH		E		G4?	S1	1915-10-25	Y
SCLERIA VERTICILLATA	WHORLED NUT RUSH		E		G4?	S1	1916-10-07	Y
UTRICULARIA RESUPINATA	REVERSED BLADDERWORT		E	LP	G4	S1	1921-09-29	Y

68 Records Processed

23 JAN 1991

FIVE POINTS USGS QUADRANGLE
 RARE SPECIES AND NATURAL COMMUNITIES PRESENTLY RECORDED IN
 THE NEW JERSEY NATURAL HERITAGE DATABASE

NAME	COMMON NAME	FEDERAL STATUS	STATE STATUS	REGIONAL STATUS	GRANK	SRANK	DATE OBSERVED	IDENT.
*** Vertebrates								
AMBYSTOMA TIGRINUM	TIGER SALAMANDER		E		G5	S2	1970-??-??	Y
HYLA ANDERSONII	PINE BARRENS TREEFROG	3C	E		G4	S3	1981-06-04	Y
HYLA ANDERSONII	PINE BARRENS TREEFROG	3C	E		G4	S3	1975-??-??	Y
HYLA ANDERSONII	PINE BARRENS TREEFROG	3C	E		G4	S3	1974-??-??	Y
HYLA CHRYSOSCELIS	COPE'S GRAY TREEFROG		E		G5	S2	1975-??-??	Y
HYLA CHRYSOSCELIS	COPE'S GRAY TREEFROG		E		G5	S2	1975-??-??	Y
HYLA CHRYSOSCELIS	COPE'S GRAY TREEFROG		E		G5	S2	????-??-??	Y
PITUOPHIS MELANOLEUCUS	PINE SNAKE		T		G5	S3	1957-06-02	
PITUOPHIS MELANOLEUCUS	PINE SNAKE		T		G5	S3	1954-04-04	Y
STRIX VARIA	BARRED OWL		T		G5	S3	1987-SUMMR	Y
STRIX VARIA	BARRED OWL		T		G5	S3	1987-SUMMR	Y
*** Vascular plants								
BOLTONIA ASTEROIDES VAR GLASTIFOLIA	BOLTONIA		E		G5T?	S1	1935-09-15	?
CAREX BARRATTII	BARRATT'S SEDGE	3C		LP	G3	S3	1985-06-14	Y
CAREX BARRATTII	BARRATT'S SEDGE	3C		LP	G3	S3	1985-06-14	Y
COREOPSIS ROSEA	PINK TICKSEED			LP	G3	S2	1932-10-02	Y
COREOPSIS ROSEA	PINK TICKSEED			LP	G3	S2	1935-07-25	Y
COREOPSIS ROSEA	PINK TICKSEED			LP	G3	S2	1938-09-25	Y
COREOPSIS ROSEA	PINK TICKSEED			LP	G3	S2	1987-08-08	Y
DESMODIUM LAEVIGATUM	SMOOTH TICK-TREFOIL				G5	S2	1987-06-08	Y
DESMODIUM VIRIDIFLORUM	VELVETY TICK-TREFOIL				G5?	S2	1987-08-10	Y
ERIOPHORUM TENELLUM	ROUGH COTTONGRASS		E		G5	S1	1936-05-31	Y
EUPATORIUM RESINOSUM	PINE BARREN BONESET	C2	E	LP	G2	S2	1935-07-23	Y
EUPATORIUM RESINOSUM	PINE BARREN BONESET	C2	E	LP	G2	S2	1935-08-01	Y
EUPATORIUM RESINOSUM	PINE BARREN BONESET	C2	E	LP	G2	S2	1987-08-08	Y
MUHLENBERGIA TORREYANA	PINE BARREN SMOKE GRASS	C1		LP	G3	S3	1932-10-02	Y
MUHLENBERGIA TORREYANA	PINE BARREN SMOKE GRASS	C1		LP	G3	S3	1962-10-14	Y
MYRIOPHYLLUM VERTICILLATUM	WHORLED WATER-MILFOIL		E		G5	SH	1935-10-06	Y

23 JAN 1991

FIVE POINTS USGS QUADRANGLE
 RARE SPECIES AND NATURAL COMMUNITIES PRESENTLY RECORDED IN
 THE NEW JERSEY NATURAL HERITAGE DATABASE

NAME	COMMON NAME	FEDERAL STATUS	STATE STATUS	REGIONAL STATUS	GRANK	SRANK	DATE OBSERVED	IDENT.
PLATANThERA CILIARIS	YELLOW-FRINGED ORCHID			LP	G5	S2	1987-08-08	Y
PSILOcARYA NITENS	SHORT-BEAKED BALDRUSH				G3	S2	1962-09-30	Y
PSILOcARYA SCIRPOIDES	LONGBEAKED BALDRUSH				G4	S2	1977-09-27	Y
RHYNChOSPORA PALLIDA	PALE BEAK RUSH				G3?	S3	1935-07-23	Y
SCHIZAEa PUSILLA	CURLY GRASS FERN	C2		LP	G3	S3	1933-03-05	Y
STYLOSANTHES RIPARIA	RIPARIAN PENCIL FLOWER		E		G?	SH	1932-10-02	Y

33 Records Processed

23 JAN 1991

TUCKAHOE USGS QUADRANGLE
RARE SPECIES AND NATURAL COMMUNITIES PRESENTLY RECORDED IN
THE NEW JERSEY NATURAL HERITAGE DATABASE

NAME	COMMON NAME	FEDERAL STATUS	STATE STATUS	REGIONAL STATUS	GRANK	SRANK	DATE OBSERVED	IDENT.
*** Vertebrates								
HYLA CHRYSOSCELIS	COPE'S GRAY TREEFROG		E		G5	S2	1975-??-??	Y
MELANERPES ERYTHROCEPHALUS	RED-HEADED WOODPECKER		T		G5	S3	1980-06-14	
MELANERPES ERYTHROCEPHALUS	RED-HEADED WOODPECKER		T		G5	S3	1989-05-??	Y
PITUOPHIS MELANOLEUCUS	PINE SNAKE		T		G5	S3	1978-07-??	Y
PITUOPHIS MELANOLEUCUS	PINE SNAKE		T		G5	S3	1981-07-03	Y
PITUOPHIS MELANOLEUCUS	PINE SNAKE		T		G5	S3	19??-??-??	Y
STRIX VARIA	BARRED OWL		T		G5	S3	1987-SUMMR	Y
STRIX VARIA	BARRED OWL		T		G5	S3	1987-SUMMR	Y
SYNAPTOMYS COOPERI	SOUTHERN BOG LEMMING		U		G5	S2	1982-??-??	Y
SYNAPTOMYS COOPERI	SOUTHERN BOG LEMMING		U		G5	S2	1982-??-??	Y
SYNAPTOMYS COOPERI	SOUTHERN BOG LEMMING		U		G5	S2	1897-04-06	Y
*** Ecosystems								
COASTAL PLAIN INTERMITTANT POND	VERNAL POND				G3?	S2S3?	1985-08-09	Y
FRESHWATER TIDAL MARSH COMPLEX	FRESHWATER TIDAL MARSH COMPLEX				G4?	S3?	1972-10-04	
*** Invertebrates								
CATOCALA PRETIOSA	THE PRECIOUS UNDERWING	C2			G1G2	S1S2	1987-05-19	Y
CATOCALA PRETIOSA	THE PRECIOUS UNDERWING	C2			G1G2	S1S2	1987-05-22	Y
*** Vascular plants								
CAREX BARRATTII	BARRATT'S SEDGE	3C		LP	G3	S3	1985-05-18	Y
CIRSIIUM VIRGINIANUM	VIRGINIA THISTLE		E		G3G4	S1	1936-09-05	Y
CLITORIA MARIANA	BUTTERFLY PEA		E		G5	S1	1935-08-13	Y
CROTONOPSIS ELLIPTICA	ELLIPTICAL RUSHFOIL			LP	G5	S2	1989-07-02	Y
DESMODIUM STRICTUM	PINELAND TICK-TREFOIL			LP	G3G4	S2	1937-08-08	Y
ERIOCAULON PARKERI	PARKER'S PIPEWORT	C2			G3	S2	1972-10-04	Y
ERIOCAULON PARKERI	PARKER'S PIPEWORT	C2			G3	S2	1972-10-04	Y
ERIOCAULON PARKERI	PARKER'S PIPEWORT	C2			G3	S2	1972-10-04	Y

23 JAN 1991

TUCKAHOE USGS QUADRANGLE
 RARE SPECIES AND NATURAL COMMUNITIES PRESENTLY RECORDED IN
 THE NEW JERSEY NATURAL HERITAGE DATABASE

NAME	COMMON NAME	FEDERAL STATUS	STATE STATUS	REGIONAL STATUS	GRANK	SRANK	DATE OBSERVED	IDENT.
ERIOCAULON PARKERI	PARKER'S PIPEWORT	C2			G3	S2	1972-10-04	Y
EUPATORIUM RESINOSUM	PINE BARREN BONESET	C2	E	LP	G2	S2	1984-08-20	Y
EUPATORIUM RESINOSUM	PINE BARREN BONESET	C2	E	LP	G2	S2	1984-08-19	Y
JUNCUS CAESARIENSIS	NEW JERSEY RUSH	C2	E	LP	G2	S2	1906-07-19	Y
NYMPHOIDES CORDATA	FLOATING HEART			LP	G5	S3	1985-08-09	Y
PSILOCARYA NITENS	SHORT-BEAKED BALDRUSH				G3	S2	1985-08-09	Y
RHYNCHOSPORA FILIFOLIA	THREAD-LEAVED BEAKED RUSH		E		G5	S1	1960-09-04	Y
RHYNCHOSPORA PALLIDA	PALE BEAK RUSH				G3?	S3	1935-08-13	Y
SAGITTARIA TERES	SLENDER ARROW HEAD		E		G3	S1	1984-08-19	Y
STYLOSANTHES RIPARIA	RIPARIAN PENCIL FLOWER		E		G?	SH	1901-08-25	Y

33 Records Processed

23 JAN 1991

MARMORA USGS QUADRANGLE
 RARE SPECIES AND NATURAL COMMUNITIES PRESENTLY RECORDED IN
 THE NEW JERSEY NATURAL HERITAGE DATABASE

NAME	COMMON NAME	FEDERAL STATUS	STATE STATUS	REGIONAL STATUS	GRANK	SRANK	DATE OBSERVED	IDENT.
*** Vertebrates								
ACCIPITER COOPERII	COOPER'S HAWK		E		G4	S2	1989-06-22	Y
AMBYSTOMA TIGRINUM	TIGER SALAMANDER		E		G5	S2	1907-??-??	Y
CIRCUS CYANEUS	NORTHERN HARRIER		E		G5	S2	1986-07-15	Y
CLEMMYS MUHLENBERGII	BOG TURTLE	C2	E		G4	S2	1975-10-08	Y
CLEMMYS MUHLENBERGII	BOG TURTLE	C2	E		G4	S2	????-??-??	Y
CLEMMYS MUHLENBERGII	BOG TURTLE	C2	E		G4	S2	1985-??-??	Y
FALCO PEREGRINUS	PEREGRINE FALCON	E/SA	E		G3	S1	1986-SUMMR	Y
HALIAEETUS LEUCOCEPHALUS	BALD EAGLE	LE	E		G3	S1	1963-??-??	Y
HYLA ANDERSONII	PINE BARRENS TREEFROG	3C	E		G4	S3	1989-06-03	Y
HYLA CHRYSOSCELIS	COPE'S GRAY TREEFROG		E		G5	S2	1980-06-07	Y
PANDION HALIAETUS	OSPREY		T		G5	S3	1987-??-??	Y
PANDION HALIAETUS	OSPREY		T		G5	S3	1987-??-??	Y
PANDION HALIAETUS	OSPREY		T		G5	S3	1987-??-??	Y
PANDION HALIAETUS	OSPREY		T		G5	S3	1987-??-??	Y
PANDION HALIAETUS	OSPREY		T		G5	S3	1987-??-??	Y
PANDION HALIAETUS	OSPREY		T		G5	S3	1987-??-??	Y
PANDION HALIAETUS	OSPREY		T		G5	S3	1987-??-??	Y
PANDION HALIAETUS	OSPREY		T		G5	S3	1987-??-??	Y
PANDION HALIAETUS	OSPREY		T		G5	S3	1987-??-??	Y
PANDION HALIAETUS	OSPREY		T		G5	S3	1987-??-??	Y
PANDION HALIAETUS	OSPREY		T		G5	S3	1989-SUMMER	Y
STRIX VARIA	BARRED OWL		T		G5	S3	1987-SUMMR	Y
STRIX VARIA	BARRED OWL		T		G5	S3	1984-??-??	Y
STRIX VARIA	BARRED OWL		T		G5	S3	198?-??-??	Y
STRIX VARIA	BARRED OWL		T		G5	S3	1989-06-??	Y
*** Invertebrates								
CATOCALA PRETIOSA	THE PRECIOUS UNDERWING	C2			G1G2	S1S2	1987-05-21	Y

23 JAN 1991

MARMORA USGS QUADRANGLE
 RARE SPECIES AND NATURAL COMMUNITIES PRESENTLY RECORDED IN
 THE NEW JERSEY NATURAL HERITAGE DATABASE

NAME	COMMON NAME	FEDERAL STATUS	STATE STATUS	REGIONAL STATUS	GRANK	SRANK	DATE OBSERVED	IDENT.
*** Other types								
BALD EAGLE WINTERING SITE	BALD EAGLE WINTERING SITE				G?	S?	1986-01-??	Y
BALD EAGLE WINTERING SITE	BALD EAGLE WINTERING SITE				G?	S?	1983-01-??	Y
BALD EAGLE WINTERING SITE	BALD EAGLE WINTERING SITE				G?	S?	1985-01-??	Y
*** Vascular plants								
EUPATORIUM RESINOSUM	PINE BARREN BONESET	C2	E	LP	G2	S2	1921-10-13	Y
GNAPHALIUM HELLERI	HELLER'S EVERLASTING				G4G5	SH	1921-10-13	Y
HEDYOTIS UNIFLORA	CLUSTERED BLUET				G5	S3	1988-08-25	Y
HELONIAS BULLATA	SWAMP-PINK	LT	E	LP	G2	S2	1980-04-??	Y
LISTERA AUSTRALIS	SOUTHERN TWAYBLADE			LP	G4	S2	1985-05-04	Y
RHYNCHOSPORA MICROCEPHALA	SMALL-HEADED BEAKED RUSH		E		G?	S1	1988-08-25	Y
SCHIZAEA PUSILLA	CURLY GRASS FERN	C2		LP	G3	S3	1955-10-16	Y
SCLERIA VERTICILLATA	WHORLED NUT RUSH		E		G4?	S1	1916-10-07	
SCLERIA VERTICILLATA	WHORLED NUT RUSH		E		G4?	S1	1907-09-14	Y
SPIRANTHES ODORATA	FRAGRANT LADIES'-TRESSES				G5	S2	1889-09-??	Y

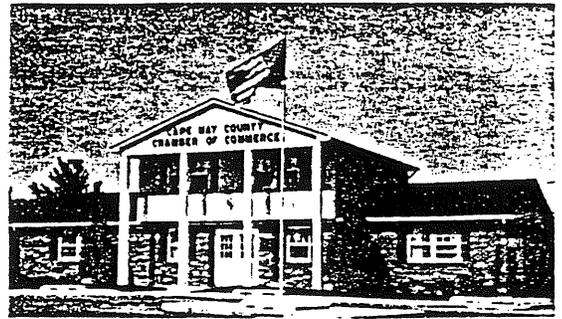
40 Records Processed

APPENDIX C

Letters of Public Opinion

CAPE MAY COUNTY
Chamber of Commerce

115



P.O. Box 74

Phone: (609) 465-7181
FAX: (609) 465-5017

Exit 11 Garden State Parkway
Cape May Court House, New Jersey 08210-0074

March 5, 1991

Mr. William Cochran
Area Coordinator
Office of Community Involvement
1035 Parkway Ave., CN600
Trenton, NJ 08625

Dear Mr. Cochran

The Cape May County Chamber of Commerce has for the past 20 years endorsed and supported the need for the completion of Route 55 into Cape May County and connecting with the Garden State Parkway.

We have testified and appeared at several meetings and public hearings over these many years supporting Route 55 completion. It is a priority project and goal of our Transportation Committee, Board of Directors and membership.

Route 55 will become the West to East artery for traffic to the Southern Shore Region. It will do for us economically what the Parkway did many years ago, open up the Southern Shore Region to motorists, visitors and vacationers with a safe, limited access, high speed roadway to reach our shores.

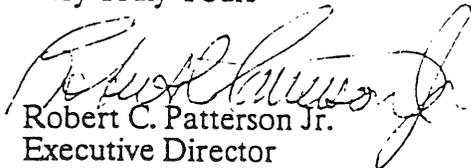
Route 55 will bring in traffic flow from Western Pennsylvania, Baltimore/Washington, D.C., West Virginia and other areas who presently do not have direct and safe access to our region.

With the changing trends in tourism and travel that have severely affected our resort economy these past several years we are in more urgent need of a new transportation artery to help our resort industry continue and return to prosperity.

We strongly urge the completion of Route 55 to the Garden State Parkway in Cape May County, New Jersey.

Thank you for your consideration.

Very Truly Yours


Robert C. Patterson Jr.
Executive Director

RCP/sg

PC: Bill August

RECEIVED

MAR 7 1991



390-7998

David A. von
Box 502
MARMOCKA, NJ
88223

Transportation Commissioner
Tom Downs,

11/7/10

Dear Sir,

Assemblyman Ed Salmon betrayed the environmental vote by announcing funds to study extending Rt. 55 thru Cape May County.

May I please have details: Who is on study group? What alternatives will they study? Mass transport? Fixing existing Rt. 47? Endangered habitats and biological diversity?

Over 6000 native US species and many living in our own backyards are now threatened or endangered. Extinction is forever.

The primary cause of extinctions today? Habitat destruction and fragmentation — development and roads.

Will funds be given so communities can hire to investigate environmental impact. "These statements can say whatever you want", as bumbling Republican Cape May County Freeholder Wm. Sturm egotistically asserts.

Why not investigate designating one lane each way of existing Rt. 55 to Buses and carpools only? Encourage mass transport! Even the auto Vehicle Manufacturers Association concedes that

Society in the coming decades will have no choice but seek alternatives to the auto.

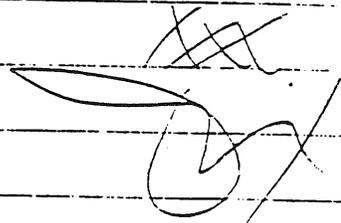
If drivers paid the true cost of driving - pollution, police and ambulance, roads - a whole range of mass transit options would become welcome. Reducing energy use and global warming at the same time.

Again, would appreciate all info - on Rt. 55.
Would encourage ALTERNATIVES

A moratorium on all road-building should be implemented immediately. All remaining wild, natural spaces should be saved now from development - particularly from roads.

Phase in \$1.50 per gallon gas/carbon tax to promote conservation/efficiency, as per Nobel laureate in economics. Peace.

Thank you.



47

26 Colonial Avenue
Cape May Court House
New Jersey 08210

NJ Department of Transportation
1035 Parkway Avenue
CN 601, Trenton, NJ 08625

000.01

Dear Thomas Downs,

Several southern New Jersey legislators and politicians have either officially proposed and/or support the extension of Route 55 into Cape May County. I, like most county residents, am completely opposed to the Route 55 extension. There are many environmental, social, and aesthetic reasons why Route 55 should not be extended. The NJ DOT should permanently abandon the proposal to extend Route 55.

Cape May County does not need Route 55. There are plenty of access routes. The only reason why a select few support extending Route 55 is tourism. Extension supporters want to make commuting to and from the county convenient for tourists. They want to reduce the driving time for tourists. Tourism does not justify the environmental damage that an extension would cause. Tourists have somehow managed to enter and exit the county safely all these years without Route 55. There is certainly no lack of access to the county. There is certainly no shortage of tourists on any sunny summer day in the county. Extending Route 55 is absolutely unnecessary. The NJ DOT should not try to fix what does not need fixing. Route 9, Route 47, and the Parkway provide more than enough easy, safe access. Route 55 would actually make the county too accessible. Route 55 would worsen existing traffic problems and lead to further overcrowding in the summer. Tourism

is fine, but it can be over done. There is such a thing as excessive tourism. The only ones who support the extension of Route 55 are those who own and/or operate a tourism related business. An extension of Route 55 would be a complete waste of money.

An extension of Route 55 would cause great, irreversible environmental and aesthetic damage. Route 55 would accelerate overdevelopment in the county. An extension would cut through the county's only national wildlife refuge. An extension would cut through the Great Cedar Swamp, a division of the refuge, and ruin the scenery and beauty of the swamp. Route 55 would disturb or destroy endangered plant and animal species in the swamp. The swamp consists of fresh and brackish wetlands, pineland, and wooded swamp. An extension would clearly violate many state and federal wetland and pineland protection laws, as well as endangered species laws. The swamp is the largest remaining unfragmented wilderness area in the county. The county's environment and habitats have taken enough abuse from rampant overdevelopment and pollution. The last thing the county needs now is some superhighway. The Route 55 extension project proposal should be abandoned forever.

Another disturbing aspect of the Route 55 extension proposal that is unacceptable is the use of of condemnation, "imminent domain". It is not right for the state to force people off their own property and relocate them elsewhere, even if they are given fair market value for their property. I thought " Big Brother" was fictional. The use of condemnation is not justified, at least

not for the extension of Route 55. I am sure private property owners will not be pleased to know that their property is being condemned so tourists can conveniently and quickly commute to shore resorts. It must be frustrating to realize the state is going to forcibly take your property so the state can complete a highway project that you do not even support. An extension of Route 55 would result in large scale condemnation of private property.

In summary, extending Route 55 into Cape May County is not necessary. Route 55 would not solve traffic problems. It would worsen existing traffic problems and create new ones as well. Route 55 would be an eyesore. Route 55 would cause great environmental damage. Route 55 would destroy large amounts of wildlife habitat. Also, Route 55 would further degrade the quality of life for county residents. The extension of Route 55 would be a mistake. Route 55 should never be extended into Cape May County. Route 55 is an example of the so called "progress" that the county can do without.

Sincerely,

Bill Doan, III

Bill Doan, III



179

CITY OF NORTH WILDWOOD
P.O. BOX 499 NORTH WILDWOOD, NEW JERSEY 08260
CAPE MAY COUNTY NEW JERSEY

OFFICE OF THE MAYOR

LEWIS G. VINCI, MAYOR

April 4, 1991

William Cochran, Area Coordinator
State of New Jersey
Department of Transportation
1035 Parkway Avenue
CN - 600
Trenton, New Jersey 08625

RECEIVED

APR 5 1991

REFER: Route 55 - Southern Extension

Dear Mr. Cochran:

I am again calling for the New Jersey Department of Transportation to consider the southern extension of Route 55 by using the abandoned railroad bed from Port Elizabeth to Ocean View in Dennis Township. This would link Route 55 with the Garden State Parkway. This is the most favorable, best environmental, and most direct route.

The completion of this portion of Route 55 has been an annual Trenton "political road show," and it is time to once and for all GET THIS "SHOW UNDERWAY!" I am sick and tired of spending MORE money for MORE studies and MORE consultants. Each year the delay causes the cost of construction to escalate.

Cape May County has been short-changed for over 20 years on this project. Let's get the extension built from Port Elizabeth to Ocean View NOW! This extension will help Cape May County's life-line and eliminate major traffic tie-ups which hinder our tourism and our economic survival. It will also give relief to residents by getting traffic off their local roads.

I urge the N.J.D.O.T. to act favorably on my opinion.

Very truly yours,

Lewis G. Vinci
Mayor

LGV/dmh



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION II

JACOB K. JAVITS FEDERAL BUILDING

NEW YORK, NEW YORK 10278

JUL 19 1991

Mr. F. Howard Zahn, Director
Division of Project Development
State of New Jersey
Department of Transportation
1035 Parkway Avenue
CN 600
Trenton, New Jersey 08625

Dear Mr. Zahn:

The Environmental Protection Agency (EPA) has reviewed the May 30, 1991 letter requesting information on environmental issues that may pertain to the proposed Route 55 Freeway extension through Cumberland and Cape May Counties, New Jersey.

We understand that the New Jersey Department of Transportation (NJDOT) is currently analyzing a corridor for the extension, but a particular alignment or alternative has not yet been developed. The primary transportation need in the corridor stems from a seasonal variation in traffic conditions in the study area resulting in sharp increases in summer peaking traffic volumes from Friday evenings through Sunday evenings, May until September.

While the letter does not provide a specific alignment for the freeway extension, the location of the study corridor indicates that the project could potentially impact southern New Jersey's coastal zone and/or Pinelands areas. Accordingly, any environmental documentation resulting from the NJDOT analysis should provide mitigation measures of the freeway extension impacts to these sensitive resources. With this in mind, we advise that the NJDOT include in their analysis the following information.

- ° A discussion of the purpose and need for the proposed project.
- ° A thorough evaluation of alternatives to the proposed project including reasonable alternatives not within the jurisdiction to the lead agency (pursuant to 40 CFR 1502.14[c]).

#627
JUL 24 1991

° A comprehensive evaluation of cumulative, indirect, and secondary impacts. The cumulative impacts analysis should consider the environmental impacts of the project as a whole, and, if any, as one of a number of the other proposed and/or approved projects in the area. The indirect and secondary impacts analysis should address the potential for unplanned growth and subsequent development in the project area.

° Descriptions of the aquatic and terrestrial environments to be impacted by each alternative. These descriptions should include appropriate water quality data, sediment quality data, the identification and the delineation of all wetlands. We recommend that the wetlands delineation be based on the "Federal Manual for Identifying and Delineating Jurisdictional Wetlands." Additionally, we request that a wetlands evaluation technique (WET) analysis be performed on all wetlands associated with the project, to assess the functional values of the wetlands which may be affected.

° An evaluation of the potential environmental impacts associated with the construction and operation of the proposed project. This should include: analyses of impacts to wetlands, ground water, air and water quality, noise, endangered species, floodplains, coastal zones, cultural resources, and other significant aspects of the man-made environment. Please be advised that the proposed freeway extension is located in the New Jersey Coastal Plain Sole Source Aquifer. Accordingly, your analysis should include the location of any municipal water supply wells, so that an appropriate ground water assessment may be performed pursuant to Section 1424 (e) of the Safe Drinking Water Act (SDWA).

If the analysis determines that adverse impacts to any significant environmental resources are unavoidable, measures to mitigate these impacts must be explored. More importantly, the analysis should be used to determine whether preparation of an environmental assessment or other documentation pursuant to the National Environmental Policy Act (NEPA), is necessary.

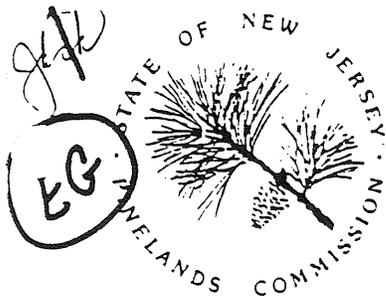
° The analysis should consider all potential permits that may be required for this project.

Thank you for the opportunity to comment. Should you have any questions concerning this letter, please contact Joe Bergstein of my staff at (212) 264-6677.

Sincerely yours,



John Filippelli, Chief
Federal Activities Section
Environmental Impacts Branch



The Pinelands Commission

P.O. Box 7, New Lisbon, N.J. 08064 (609) 894-9342

July 26, 1991

RECEIVED
TECHNICAL

AUG 8 1991

F. Howard Zahn
Division of Project Development
N.J. Department of Transportation
1035 Parkway Avenue
CN 600
Trenton, NJ 08625

ENVIRONMENTAL ANALYSIS
NJDOT

Re: Route 55 Freeway Extension, Cumberland
and Cape May Counties

Dear Mr. Zahn:

I am writing in response to your inquiry, received on June 6, 1991, concerning the study corridors of Routes 49 and 50 and Route 47. I hope that the following brief discussion of some of the relevant issues proves to be of assistance.

Land Use Policies

Both of these study corridors pass through Pinelands "Forest Areas" (see N.J.A.C. 7:50-5.23), a management area that permits only low intensity development as these areas are characteristic of the Pinelands ecosystems. Typically, Forest Areas are zoned for residential development at a density of only 1 dwelling unit per 20-30 acres and/or very limited types of commercial development at an intensity of approximately 800 square feet per acre. Sewer service is not permitted. Major highway improvements tend to induce much more intensive growth; thus, the land use standards for public service infrastructure (e.g. highways) are very limiting. Any proposal which can not clearly demonstrate that it is intended to primarily serve the needs of the Pinelands could not be approved unless the Commission was to grant a "waiver of strict compliance." N.J.A.C. 7:50-4.61 et seq. sets forth the standards under which waivers may be granted.

Acquisition of Important Lands

It should be noted that due to the environmental sensitivity of this region, approximately 18,000 acres of land is targeted for acquisition in an effort known as the Southern Forest Area Project. This project represents a joint endeavor between various state agencies, the US Dept. of the Interior, and the New Jersey Pinelands Commission to complement existing state owned

AUG 6 1991

4654

lands (including Peaslee and Belleplain) in the vicinity. The acquisition of these lands will, in combination with adjacent state lands, create an important ecological preserve for many typical Pinelands plant and animal species as well as for endangered and threatened species. As is evident from the enclosed environmental assessment, proposals which will directly or indirectly impact upon these areas must be considered with extreme caution.

Site Specific Impacts

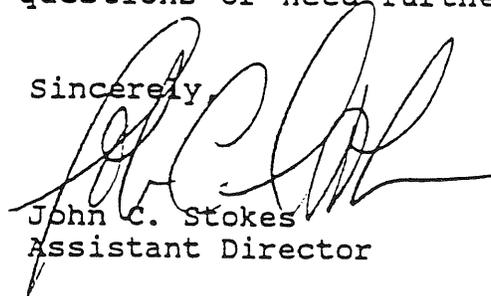
In addition to the broader land use policies, construction projects, if otherwise permitted, must also adhere to specific development standards. I refer you particularly to N.J.A.C. 7:50-4.51 et seq. and 7:50 Subchapter 6, especially the wetlands (7:50-6.1 et seq.) and fish and wildlife (7:50-6.31 et seq.) standards. The wetlands standards are particularly relevant as the routes go through substantial wetlands and must pass the public improvement standards in 7:50-6.13, which include an alternative analysis. Given the presence of substantial wetlands, endangered species, and major existing and proposed public land holdings, it will be difficult to avoid a finding of substantial impairment to the resources of the Pinelands from some or all of the possible alternatives. Such a finding would preclude development of that alternative.

Feasibility Study

The land use and environmental issues attendant to the extension of Route 55 are both multifaceted and compelling. For these reasons, we encourage the Department to initiate more extensive consultations with the Pinelands Commission so that the issues which we have briefly outlined here can be explored more fully. It may then be possible to better judge the impacts of various alternatives and to identify other alternatives which might be more compatible with the land use and environmental policies of the Pinelands Comprehensive Management Plan.

If you should have any questions or need further information, feel free to call me.

Sincerely,



John C. Stokes
Assistant Director

JCS/LL/km/SP14

Enclosure

cc: Terrence D. Moore
William F. Harrison
Larry Liggett
Susan Uibel

AF

at 18

MAILING ADDRESS:

U.S. Department
of Transportation

United States
Coast Guard



Commander (obr)
First Coast Guard District
Bldg. 135A

Governors Island
New York, NY 10004
TEL: (212)668-7994
FAX: (212)668-7967

16590

JUL 22 1991

EG

Mr. F. Howard Zahn, Director
Division of Project Development
New Jersey Department of Transportation
1035 Parkway Avenue, CN 600
Trenton, NJ 08625

Dear Mr. Zahn:

We have reviewed your study of the feasibility of extending Route 55 (from Route 47 to the vicinity of the Garden State Parkway), as presented in your letter of 6 June 1991. The Coast Guard, and this office in particular, would be very interested in the proposal since the proposed route crosses several waterways for which we exercise jurisdiction. Route 55 as we understand the proposal, would be four lanes wide throughout.

As you are aware, a present bridge permit application is being processed for replacement of the Route 47 Bridge over Bidwell Creek and it appears that width allowances may have been incorporated into its design for the Route 55 project. This was informally alluded to by others during our investigation of the Bidwell Creek project.

The Coast Guard is concerned that adequate environmental documentation be prepared to address pertinent impact of such a project (Route 55) and each affected bridge. Also we would discourage segmentation, i.e., building separate sections as if each action is unrelated to the whole.

Though you did not specify, it is assumed that the Route 55 project would be funded by the Federal Highway Administration. If so, we would desire to be including in scoping and other planning required by the National Environmental Policy Act.

Please contact me at the number above if you desire to discuss this matter or clarify my comments.

Sincerely,

GARY KASSO
Supv. Bridge Management Specialist
First Coast Guard District
in direction of the District Commander

RECEIVED

JUL 13 1991

RECEIVED
TECHNICAL

BEA

ENVIRONMENTAL ANALYSIS
NOT

JUL 26 1991



STATE OF NEW JERSEY
DEPARTMENT OF COMMERCE & ECONOMIC DEVELOPMENT
MARY G. ROEBLING BUILDING
CN 820
TRENTON, NEW JERSEY 08625-0820

309 425

GEORGE R. ZOFFINGER
COMMISSIONER
(609) 292-2444

June 11, 1991

Thomas M. Downs, Commissioner
NJ Department of Transportation
1035 Parkway Avenue, CN 600
Trenton, NJ 08625

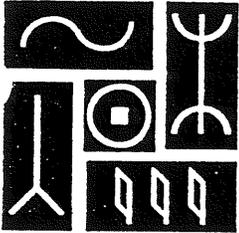
Dear Commissioner Downs: *Tom*

I appreciate your recent letter regarding the Department of Transportation's study of the feasibility of extending Route 55 from its current terminus at Route 47 to the vicinity of the Garden State Parkway in Cape May County. *4/10*

Cumberland and Cape May Counties would be most affected should such an extension occur. I have taken the liberty of providing Mr. Jonathan Savage and Mr. Stephen Scheftz, Economic Development Directors of these counties, with a copy of the material, and have asked them to provide to you directly the input you are seeking. I am certain they will do so in a timely manner to accommodate scheduling needs for this study.

Sincerely,

George R. Zoffinger
George R. Zoffinger



APR 12 1991

192

CAPE MAY COUNTY PLANNING BOARD

April 9, 1991

Mr. William Cochran
Area Coordinator
Office of Community Involvement
New Jersey DOT - CN 600
1035 Parkway Avenue
Trenton, New Jersey 08625

Dear Mr. Cochran:

The Cape May County Planning Board offers the following comments regarding Route 55.

1. A Route 55 alignment that would better serve many users whose destination is the Southern Cape.
2. Special attention must be given to Dennisville, Route 83-47 Junction, Route 9 - 83 Junction, and the Parkway Intersection.
3. Minimize environmental impacts and wetlands.

Sincerely,

Elwood R. Jarmer
Director

ERJ:nl

cc: Board of Chosen Freeholders
Planning Board



P.O. Box 181
17 Fairmount Road
Pottersville, NJ 07979-0181

New Jersey Field Office

(908) 439-3007
Fax No. (908) 439-3545

January 28, 1991

Bruce Hawkinson
Department of Transportation
2 Dixmont Ave.
Ewing, NJ 08618

Dear Bruce:

Recently, we became aware that the Department of Transportation was reviewing a proposal to extend Route 55 into Cape May County. We understand that this proposal would necessitate the crossing of the Manumuskin River as well as Belleplain State Forest and Great Cedar Swamp. I am writing to you now to alert you to the critical ecological nature of these areas and specifically to address The Nature Conservancy's interests in the Manumuskin drainage.

As you know, The Nature Conservancy is an international conservation organization devoted to the identification, protection, and management of unique or exemplary ecosystems and habitat for endangered species.

The Conservancy has protected almost 4,000,000 acres in all 50 states during its 39 year existence. This work is supported by over 550,000 members nationwide, including over 17,000 New Jerseyans.

Through studies we have sponsored by Rutgers University and the New Jersey Natural Heritage Program--an ecological database--maintained in cooperation with the N.J. Department of Environmental Protection, we have collected extensive information on the ecological significance of the Manumuskin River watershed, and neighboring watersheds, like the Menantico and Maurice Rivers. Any Extension of Route 55 would involve all three watersheds.

The Manumuskin River has the best water quality of any stream of its size in New Jersey. It drains a land area of approximately 35 square miles, only 2% of which has been developed. Less than 7% of the watershed has been cleared for agriculture. The remaining land is forested.

The Manumuskin River is one of only two streams out of 80 sampled in the one million acre Pinelands National Reserve found to have pristine water quality. The East bank of the River is in the Pinelands National Reserve. The area West of the River was the subject of special mention in the Pinelands Commission's Comprehensive Management plan as an area of special ecological concern.

The Manumuskin River contains the best example of a freshwater intertidal marsh in the state. Two hundred twenty-eight species of birds have been sighted, 86 of which nest locally. The area is also well-documented as critical habitat for nesting and wintering bald eagles. One of the state's largest wild rice wetlands occurs in the basin, and consequently, the area hosts the second largest wintering waterfowl population in the state. The unfragmented forest areas are critical for migrating and nesting songbirds and warblers.

A remarkable diversity of flora and fauna occur in the watershed area of the Manumuskin, Maurice and Menantico Rivers, including over 30 state or globally rare plants and 46 species of amphibians and reptiles. 34 species of fish inhabit the waters.

The rarest plant in the Manumuskin River is the sensitive joint vetch (*Aeschynomene virginica*). By checking herbarium specimens in museums throughout the East, we know that historically the sensitive joint vetch was reported from a total of 29 locations in 5 states in the Mid-Atlantic Region. Today, after careful field work, only 7 naturally occurring locations are known. Many of these are small and threatened.

The largest and most viable population left in the world grows on the banks of the Manumuskin River, and as of 1990 this is the only population left in the state. The Manumuskin River population represents approximately 1/3 of the total naturally occurring global population.

From the data it is clear that the sensitive joint vetch was never common. Its habitat is the fresh to brackish zone of the upper reaches of our Mid-Atlantic tidal rivers. Within that zone it is restricted to the raised levee adjacent to the river channel. It is globally imperilled today because of the destruction of freshwater tidal marsh along our Mid-Atlantic River systems.

Because of its pristine water quality, exemplary tidal marsh community and undeveloped drainage basin, The Nature Conservancy has identified the Manumuskin River as the best opportunity to protect the sensitive joint vetch in the world today. To that end the Conservancy has targeted this area as one of its highest priorities in the country and has expended considerable financial resources to date.

Through acquisition of fee simple interests, development rights and management agreements, the Conservancy currently manages over 2,000 acres as a nature preserve for the sensitive joint vetch and 11 other rare plants on the Manumuskin River. The Conservancy has also acquired 90 acres along the Menantico River as part of a plan to protect rare plants in this watershed.

The Manumuskin River is also recognized as being ecologically unique by other authorities including Dr. Wayne R. Ferren, Jr. in a report on New Jersey Endangered and Threatened Plants and Animals, and Dr. David E. Fairbrothers and Nicholas Caiazza in a report to the Pineland Commission. A portion of the Manumuskin River has been included in the State's register of Natural Areas in recognition of its special ecological qualities.

In conclusion, the Manumuskin River is our last chance to protect the sensitive joint vetch in New Jersey. There is no other site with its qualities that can be set aside or manipulated to support this globally endangered plant. Further, protection of the sensitive joint vetch habitat will result in the protection of the surprising array of other biological diversity found in this area.

Belleplain State Forest and the Great Cedar Swamp also support a number of sensitive plant and animal species. Currently, The Nature Conservancy is working closely with the US Fish and Wildlife Service to protect the critical habitats within the Cape May National Wildlife Refuge. In addition to protecting properties in the Delaware Bay Division, in the past six months, we have purchased almost 500 acres in Great Cedar Swamp.

The swamp contains large undisturbed stands of Atlantic White Cedar with considerable sized old growth oaks, blackgums and sweetgums. It is also an important area for many state and federally rare, threatened and endangered plant species, notably swamp pink (Helonias bullata), glade spurge (Euphorbia purpurea), and Boykin's lobelia (Lobelia boykinii) to name a few.

Every effort needs to be made to maintain the current condition of the these areas. Forest fragmentation, water quality, habitat quality, and air quality are all issues of great concern. Given the extreme ecological sensitivity of these sites, and especially of the Manumuskin River, we would strongly recommend careful consideration before decisions regarding the extension of Route 55 are made.

If you would like to discuss any of these areas in more detail, or require any additional information, please let me know.

Sincerely,



Elizabeth A. Johnson
Acting Director
New Jersey Field Office



IN REPLY REFER TO:

United States Department of the Interior

NATIONAL PARK SERVICE

North Atlantic Region
Office of Planning & Design

New Jersey Coastal Heritage Trail
P. O. Box 118
Mauricetown, New Jersey 08329

June 28, 1991

L76 (NEJE)

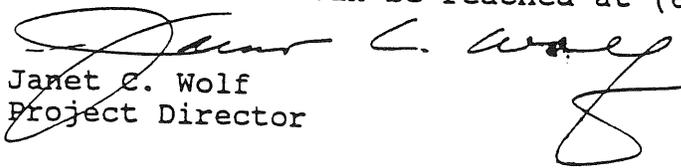
F. Howard Zahn, Director
Division of Project Development
Department of Transportation
CN 600
Trenton, NJ 08625

Dear Mr. Zahn:

A copy of your letter to the US Fish & Wildlife Service concerning the possible further extension of Route 55 Freeway through Cumberland County and into Cape May County was referred to me for comment. The NJ Coastal Heritage Trail, a vehicular trail includes the area from Cape May along the Delaware Bay Estuary into Deepwater and will include a southern anchor in the Delaware Bay area. We hope to use the many potential scenic byways in New Jersey's coastal region.

While I appreciate the traffic problems you are attempting to address, I am concerned about the potential impacts this may have on the special resources we have discovered in this unique area. During the initial resource reconnaissance surveys of this area we identified it as having potential for national significance. While still in the planning stages, we will be starting a Special Resource Study of the Delaware Bay area as the possible southern trail "anchor" to assess the extent of its vast natural and cultural resources and to determine its eligibility for further national designation. This area is important not only as the largest of 5 spring staging areas on the Atlantic Flyway but for its extensive wetlands and the cultural landscape of many small historic towns and cities which dot its shores. This is especially true in much of the area you are considering. I am enclosing copies of our initial study and preliminary inventory for your information.

I thank you for the opportunity to make our project known to you. I would be pleased to discuss this in greater depth at your convenience. I can be reached at (609) 785-0676.


Janet C. Wolf
Project Director

44-117-713

11 attachments to 1 492

#551
JUL 03 1991



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Habitat and Protected
Resources Division
Sandy Hook Laboratory
Highlands, New Jersey 07732

July 9, 1991

Mr. F. Howard Zahn, Director
Division of Project Development
State of New Jersey
Department of Transportation
1035 Parkway Avenue
CN 600
Trenton, New Jersey 08625

Dear Mr. Zahn:

The National Marine Fisheries Service (NMFS) has reviewed your letter dated May 30, 1991, concerning the proposed Route 55 Freeway Extension through Cumberland and Cape May Counties, New Jersey. Your proposal needs more information for a proper response.

Both Cumberland and Cape May Counties have considerable tidal waters that provide spawning, nursery, and feeding habitat for fish and invertebrates of concern to NMFS. Productive wetlands, also important habitat to these resources, are usually found adjacent to the waters. As a general rule, NMFS recommends that roadway planners look for alignments that will result in the least amount of habitat destruction as possible, and that they compensate for any important habitat that must be destroyed. In addition, NMFS recommends that construction work and dredging in waterways known to support fishery resources be prohibited at certain times of the year so as to avoid disruption of spawning, and to avoid annihilation of sensitive fish eggs and larvae.

Unfortunately, your letter gives little indication of the types or amount of habitat to be affected by the alignment, nor does it give a detailed map of the alignment alternatives. Should you wish any technical assistance or recommendations beyond a general caution to avoid destruction of aquatic habitats, please provide a more detailed analysis of the project proposal. You may contact me at the above address.

Sincerely yours,

Stanley W. Gorski
Assistant Program Coordinator





1-28-1/1

AMERICAN LITTORAL SOCIETY

SANDY HOOK • HIGHLANDS, NEW JERSEY 07732 • 201-291-0055

January 14, 1991

Mr. Kenneth Afferton
Assistant Commissioner
Department of Transportation
CN600
1035 Parkway Avenue
Trenton, New Jersey 08625

Dear Mr. Afferton:

Our organization is interested in any planning that DOT may be doing about the extension of Route 55 from Port Elizabeth in Cumberland County south and east through Cape May County.

A cursory look at maps indicates that such a highway extension will probably impact on fragile areas, including both tidal and freshwater wetlands, and the open space contemplated in the Cape May Refuge. At the same time, it will have secondary impacts on development in Cape May County.

We would like to be alerted to any planning now going on and be kept informed as the process continues. In particular, we would like to be allowed to participate in the public hearings and reviews as early as possible in the proceedings.

Could you please put me on your list as an interested party. Thank you.

Sincerely,

D. W. Bennett
Executive Director

RECEIVED

JAN 28 1991

#97
1/18



United States Department of the Interior

FISH AND WILDLIFE SERVICE
DIVISION OF ECOLOGICAL SERVICES
1825 VIRGINIA STREET
ANNAPOLIS, MARYLAND 21401

August 12, 1991

Mr. Bruce Hawkinson
Department of Transportation
2 Dixmont Ave.
Ewing, NJ 08618

Dear Mr. Hawkinson:

The Endangered Species Act of 1973 as amended (16 U.S.C. 1531 *et seq.*) requires the Secretary of the Interior to monitor the status of wild populations of certain flora and fauna and to identify those which appear to be in danger of extinction (endangered species) or likely to become so in the foreseeable future (threatened species). The U. S. Fish and Wildlife Service has been charged with this responsibility.

After reviewing the information on hand, we are of the opinion that a plant in the legume family known as the sensitive joint vetch (*Aeschynomene virginica*) should be determined to be a threatened species. Recently, we published in the Federal Register a proposal to take such an action. Critical habitat is not being proposed for this species. A copy of the proposal is enclosed. The proposed action, if made final, would implement the full protection provided by the Endangered Species Act of 1973, as amended, for *Aeschynomene virginica*. Proposed species are offered limited protection under Section 9(a)(3) of the Endangered Species Act, which requires Federal agencies to confer with the Service on any actions that are likely to jeopardize proposed species.

We welcome your comments on this proposal. These should be mailed to Field Supervisor, U. S. Fish and Wildlife Service, 1825 Virginia Street, Annapolis, Maryland 21401. Questions can be directed to Ms. Judy Jacobs at the same address or by telephone, at (301) 269-5448. Comment periods and types of information sought are detailed in the proposal.

Sincerely,

John P. Wolflin
Supervisor
Annapolis Field Office

Enclosure



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
PHILADELPHIA DISTRICT, CORPS OF ENGINEERS
CUSTOM HOUSE-2 D & CHESTNUT STREETS
PHILADELPHIA, PENNSYLVANIA 19106-2991

Attch
1/1/92
21 AF

JUN 28 1991

RT. 55

Environmental Resources Branch

Mr. F. Howard Zahn
Director, Division of Project Development
New Jersey Department of Transportation
1035 Parkway Avenue
CN 600
Trenton, New Jersey 08625

RECEIVED
TECHNICAL

Dear Mr. Zahn:

OCT 2 1991

This letter is in response to your letter of May 30, 1991, in which you requested information regarding the Corps position on environmental issues which may be encountered during the extension of the Route 55 Freeway. *ENVIRONMENTAL ANALYSIS*

Under current Federal regulations, a department of the Army permit is required for work or structures in navigable waters of the United States and the discharge of dredged or fill material into waters of the United States including adjacent and isolated wetlands. In this regard, we offer the following comments:

a. If it appears that any impact to wetlands or other bodies of water may occur, a Department of the Army permit will be required. It will be necessary to define the type and exact quantity of wetlands and resources which may be impacted.

b. The area of Federal jurisdiction in the project area must be determined and verified by the New Jersey Department of Environmental Protection (NJDEP), under an agreement that the Philadelphia District, Corps of Engineers has with the NJDEP. The NJDEP will issue a Letter of Interpretation (LOI) verifying the wetland line.

Other environmental factors which should be taken into consideration when developing your recommendation include the impacts which may occur to endangered species and cultural resources, as well as water quality and general living conditions which exist within the study area.

If you have any questions concerning jurisdictional or permit application procedures, please contact the Regulatory Branch at (215) 597-4722. Any other questions can be directed to Beth Brandreth of the Environmental Resources Branch at (215) 597-4833.

Sincerely,

RECEIVED

JUL 10 1991

for *John A. Bumer*
Robert L. Callegari
Chief, Planning Division

#565

BEA

10 10 1991

1



STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION

LAWRENCE SCHMIDT
Director
Office of Program Coordination

CN-402
Trenton, NJ 08625-0102
(609) 292-2662
Fax (609) 292-0988

August 13, 1991

Mr. F. Howard Zahn
Director
Division of Project Planning & Development
NJ Department of Transportation
CN 600
Trenton, NJ 08625-0600

RE: Route 55 Extension

Dear Mr. Zahn:

The Office of Program Coordination is forwarding, for your review, additional comments regarding potential impacts to the water resources of southern New Jersey should Route 55 be extended.

Groundwater Recharge Areas

Identification of geologic units affected will be necessary to evaluate the potential impacts on groundwater recharge. Addition of impervious surface may reduce infiltration, depending on the size of the project and the runoff characteristics of the underlying soils and geologic formations. Change in volume and rate of recharge can be calculated once the site conditions are identified. Net change in recharge will also be affected by the method used to manage roadway runoff. Our Department's New Jersey Geological Survey Element can assist the NJDOT addressing anticipated changes in recharge rates.

Groundwater Quality

Roadway runoff is a concern relative to groundwater quality. The potential impacts to groundwater quality will partly be a function of the stormwater management methods used. Will roadway runoff be discharged directly to surface water? This raises concerns for surface water quality. Will detention basins be designed for groundwater recharge? Will basins be designed to mitigate groundwater contaminants?

Impacts On Wells

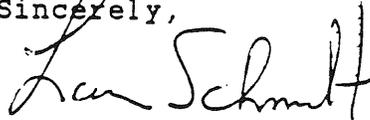
The potential impacts on wells will be a function of the route selected and the method of roadway construction. The principal concerns would relate to potential impacts on shallow wells, including contamination by road surface pollutants, and impacts on well productivity through lowering of the water table. The roadway could cause water table lowering through paving of recharge areas or by underdraining associated with roadcuts and storm sewerage. An inventory of wells and their construction along the alignment would be necessary to address these concerns.

Secondary Impacts

The issue of secondary impacts associated with increased traffic, needs to be addressed. Is the expansion of the roadway likely to lead to increased settlement of Cape May County, or increased summer visitation? The County is currently experiencing serious salt water intrusion problems (the southern Cape May County shallow aquifer have been already encroached and our Department is currently investigating various water supply alternatives). Will the project lead to increased water demand in the region? Has an increase in demand potentially associated with the roadway been considered by the Cape May County water supply advisory committee in developing alternatives to the current supply problems?

We offer these additional comments for your consideration. Please contact me if you have any questions.

Sincerely,



Lawrence Schmidt

Director

Office of Program Coordination