

**Dennisville - Petersburg Road (CR 610) Transportation Study
Dennis Township, Cape May County**

PROJECT REPORT

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A. PROJECT BACKGROUND

Project Location

The Dennisville-Petersburg Road (CR 610) Transportation Study project is located in the village of Dennisville, an unincorporated community in the central portion of Dennis Township, Cape May County, New Jersey. The project location is shown in **Figure 1**. Most of the village is located within the boundary of the Dennisville Historic District, which is listed on both the National and New Jersey Registers of Historic Places. The project limits include:

- CR 610 between NJ Route 47 (Delsea Drive) and the Cape May Seashore Rail Line, and
- Main Street between NJ Route 47 and CR 610

CR 610 is a two-lane highway linking NJ Route 47 at its southern terminus and Tuckahoe Road (CR 631) to the north, while Main Street is a local road contained entirely within Dennisville. This project was initiated by Cape May County to address several issues experienced by the local community that are associated with existing roadway conditions.

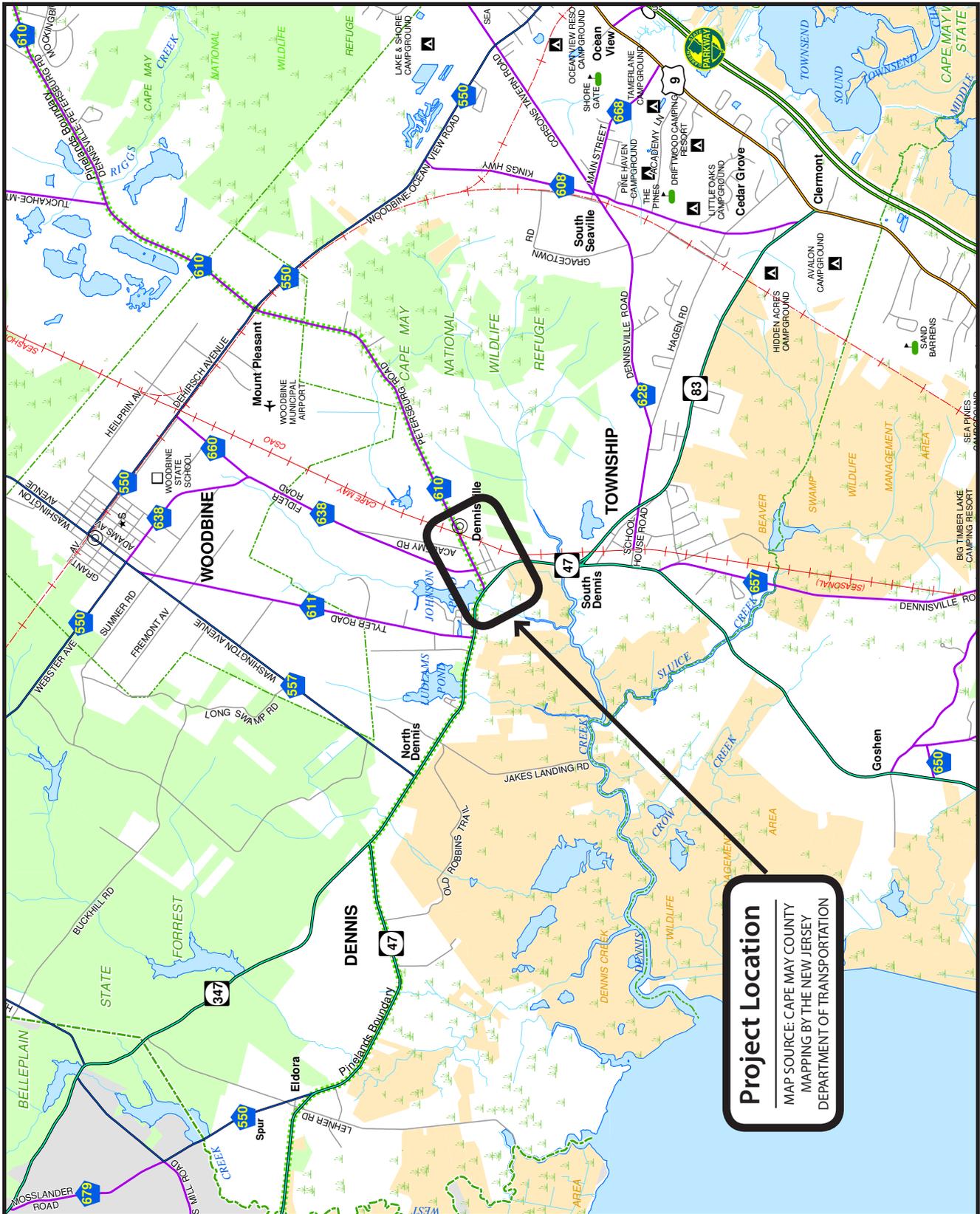
Purpose & Need

Cape May County initiated this project to address roadway design and operational concerns, inadequate roadway drainage in select areas, pedestrian mobility associated with discontinuous sidewalks, lack of bicycling provisions, and excessive vehicle speeds through the village. This project seeks to address the following identified needs:

- *Traffic Calming* – High vehicular travel speeds on Main Street and CR 610 are at odds with the village character and need to be managed
- *Bicycle Compatibility* - The shoulders along CR 610 are not adequate for bicycle travel because they are narrow and uneven
- *Pedestrian Mobility* – The sidewalk network along CR 610 and Main Street is discontinuous with only a few short segments of existing sidewalk, which presents an impediment to walking within the village
- *Drainage* – Ponding water occurs at several locations along CR 610 and can present a hazard to motorists
- *Guiderail* – Assess the need for guiderail in four existing locations

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FIGURE 1 – PROJECT LOCATION MAP



B. EXISTING INVENTORY

Land Use/Historical Context

The village of Dennisville is part of Dennis Township, Cape May County, New Jersey. Most of the study area falls within the boundary of the Dennisville Historic District, which is listed on both the National and New Jersey Registers of Historic Places. As shown in **Figure 2**, the District extends along Dennisville-Petersburg Road (CR 610) from its intersection with Delsea Drive (NJ Route 47) to the vicinity of the Cape May Seashore rail crossing, and includes portions of the intersection of Main Street and Hall Avenue, Church Avenue, and a short segment of NJ 47.

CR 610 is a two-lane, tree-shaded roadway lined with early nineteenth century houses. The northwest side of CR 610 at its west end features wood-framed Victorian dwellings, while a vernacular Victorian residence, the Lodge House, is located at the southeast corner of the intersection with NJ 47. East of this dwelling is one of the non-contributing properties in the District, the Dennisville Fire Department. Additional side-gabled, eighteenth and nineteenth century wood-framed houses line the north side of CR 610 near the Main Street intersection.

Further east on CR 610, two recently constructed houses adjoin the southeast side of the road. The eastern part of the District is somewhat more open than the western part due to fewer and generally younger street trees. The intensity of development also decreases in the eastern portion of the district. Its eastern termination is marked by the right-of-way of the Cape May Seashore Rail Line. Dennis Township Elementary School, which is located to the north of CR 610 on Academy Road, is about a ¼-mile walk from the village.

The second major thoroughfare in the study area is Main Street, which extends south from CR 610. The district extends south on Main Street to the Gatzmer Avenue intersection. Main Street features wood-framed nineteenth century houses set relatively close to the street. A pivotal Main Street building is the United Methodist Church, located at the northeast corner of Main Street and Church Avenue. Other nearby pedestrian generators include the US Post Office on Hall Avenue and the Wawa at the corner of Main Street and NJ 47.

The Dennisville Historic Home Owners Association (DHHOA) is a non-profit corporation organized to encourage preservation of the historic homes in the village and Township. The DHHOA meets quarterly throughout the year and was actively involved with this project, as described in **Section E**.

FIGURE 2 – DENNISVILLE HISTORIC DISTRICT



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Data Collection

During the data collection phase, specific data sources for information on existing conditions within the project area were obtained (see **Table 1**). Urban conducted a topographic field survey in September of 2002, which was supplemented in 2007 by a roadway centerline survey of CR 610 and Main Street performed by Cape May County. Urban also performed traffic counts at key locations in 2002. The data sources were used to develop project base mapping, evaluate existing conditions, identify existing deficiencies, and develop conceptual improvements to address the deficiencies.

Table 1: Data Sources

DATA	SOURCE	YEAR
Traffic Count Data	Urban Engineers, Inc.	2002
Crash Data	NJDOT	2002-2005
Aerial Photography	NJGIN Orthophotography	2002
Topographic Survey	Urban Engineers, Inc. Cape May County	2002 2007
Tax Parcel Data for Dennis Township	Cape May County GIS	1998

Roadway Characteristics

Dennisville-Petersburg Road (CR 610) is a 7.77-mile, two-lane highway thru Dennis, Woodbine and Upper Townships that links NJ Route 47 (Delsea Drive) at its southern terminus with Tuckahoe Road (CR 631) to its north. Within the project area, the 0.55-mile segment of CR 610 has 10-12' wide lanes with uneven (2-3' wide) shoulders in both directions and no curbs. Main Street is a two-lane highway with 11' lanes and 8' shoulders. While most of Main Street does not have curbs, there is a short stretch on the east side where curbing is present.

In 2007, NJDOT completed an intersection improvement project at the CR 610 / NJ 47 intersection. The project added a left turn slot along southbound NJ 47, powder coating of the traffic signal equipment, and milling, surfacing, and re-striping the intersection.

Table 2 lists the roadway classification of the major roads within the study area along with the posted speed limit, while **Table 3** describes roadway cross-section data. The NJDOT Straight Line Diagrams for the State and County routes are included in **Appendix A**.

Table 2: Roadway Characteristics

Roadway	Jurisdiction	Roadway Classification	Posted Speed
Dennisville-Petersburg Road (CR 610)	Cape May County	Rural Major Collector	25 mph
NJ Route 47 (Delsea Drive)	NJDOT	Rural Principal Arterial	45 mph
Main Street	Cape May County	Rural Major Collector	25 mph

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Table 3: Roadway Cross-Sections

Roadway	Travel Lanes	Lane Width (FT)	Shoulder Width (FT)	Pavement Width (FT)	Right of Way (FT)	Cross Slope (%)
CR 610 from NJ 47 to Main St.	2	12 ±	3 ±	30 ±	40	1.5
CR 610 from Main St. to Academy Road	2	10-11 ±	2-3 ±	25 to 28±	33	1.5
CR 610 from Academy Rd. to Railroad	2	11 ±	2-3 ±	26 to 28±	33	1.5
NJ 47	2	12	8	40±	66	1.5/2.0
Main Street	2	11	8	38±	66	≥1.5

Guiderail is currently located at the intersections of CR 610 with Main Street, Fidler Road, and Academy Road. Urban conducted an analysis of the existing guiderail installation (attached as **Appendix C**). The distance between the guiderail and the shoulder line of CR 610 varies from 2-6 feet. Discussions with the County indicate there are no records as to the warrant or date of installation. The guiderail and end treatments do not meet current standards.

Traffic Data Collection & Analysis

Urban performed manual turning movement counts in September 2002 for both the AM and PM peak periods at three intersections with CR 610: NJ 47, Fidler Road, and Academy Road. Urban also collected Automated Traffic Recorder (ATR) data in September 2002 at the following four locations:

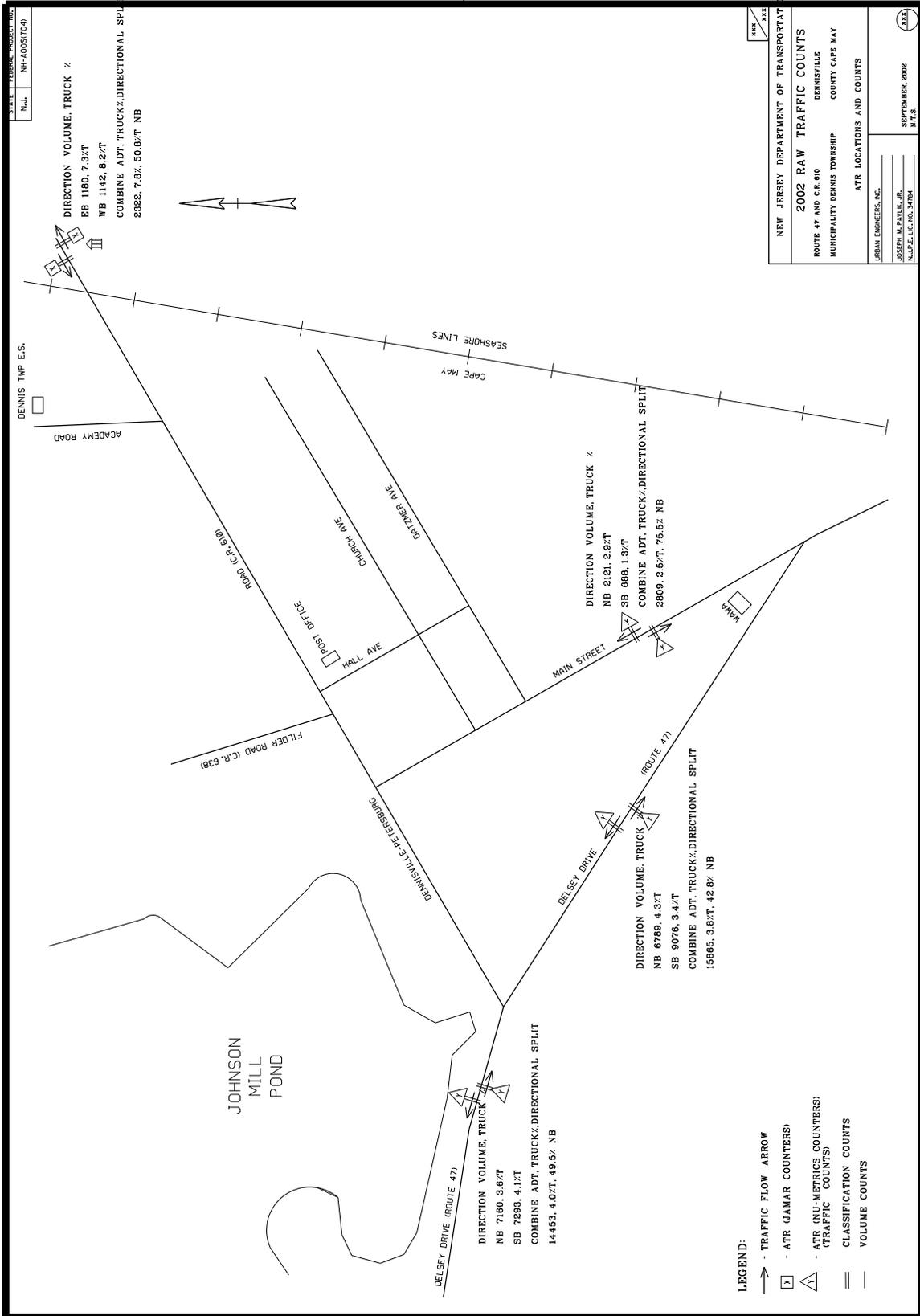
- NJ 47 just north of CR 610
- NJ 47 between CR 610 & Main Street
- Main Street between CR 610 & NJ 47
- CR 610 just east of the Cape May Seashore Lines

September is the ‘off season’ for peak recreational travel to the New Jersey shore communities and therefore not representative of the seasonal peak volume conditions. **Figure 3** shows the ATR locations and summarizes traffic conditions for the study area, including ADTs and truck percentages. CR 610 has an ADT of 2322 vehicles, while Main Street has an ADT of 2809. The segment of CR 610 within the study area is not part of Cape May County Municipal Utility Authority’s (CMCMUA) primary or secondary designated truck routes for solid waste truck transport. The ATR and manual turning movement counts are included in **Appendix B**.

Urban performed a Level of Service (LOS) analysis for current year (2002) traffic volumes (output included in **Appendix B**). This analysis pre-dated the NJDOT-sponsored project at the CR 610 / NJ 47 intersection. Both **Table 4** and **Figure 4** show results from the analysis, which indicates that roadways within the study area generally operate without congestion, except for the WB approach of the CR 610/ NJ 47 intersection. As stated above, the analysis does not account for seasonal traffic patterns.

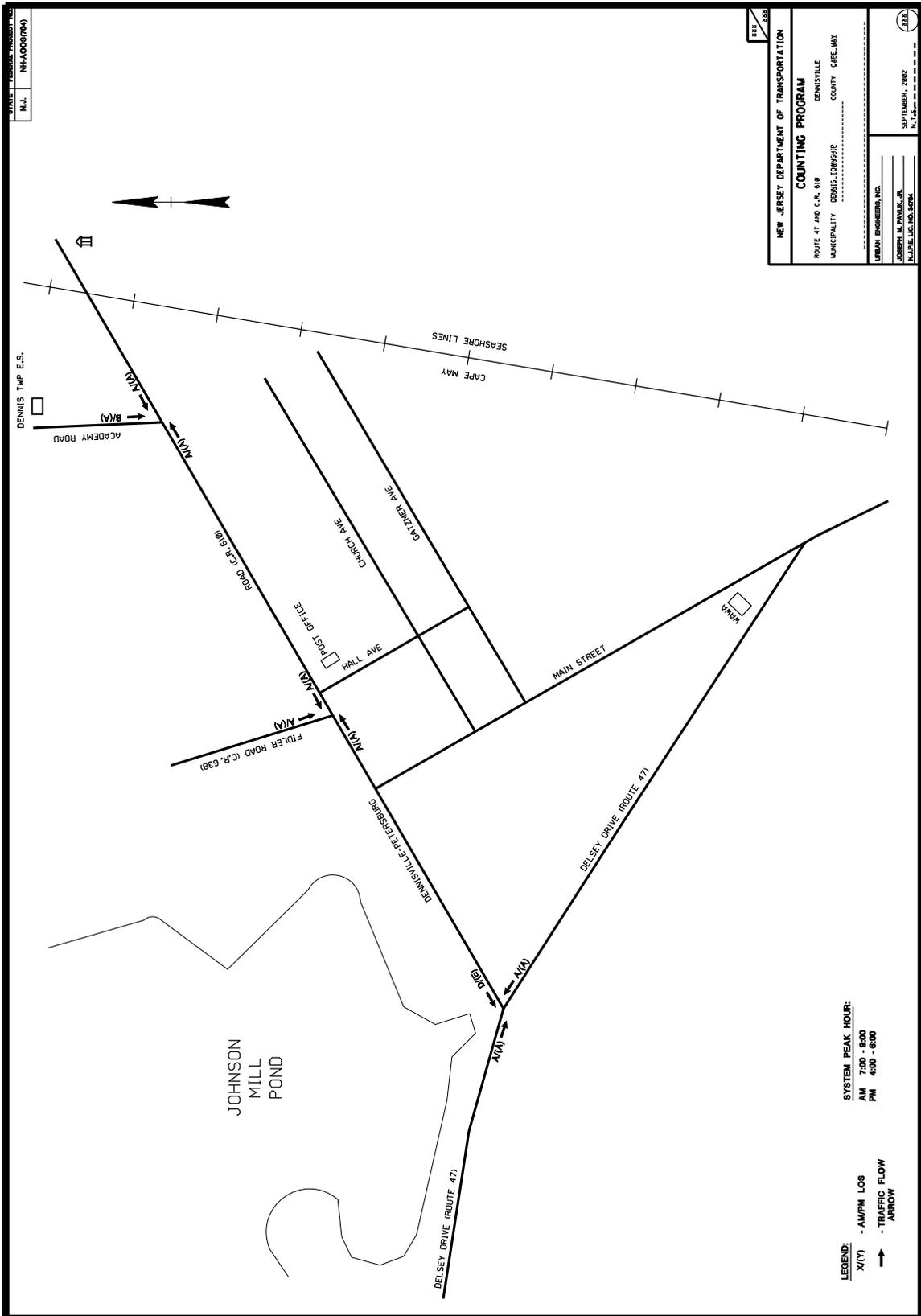
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FIGURE 3 – ATR LOCATIONS



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FIGURE 4 – LEVEL OF SERVICE RESULTS



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Table 4: Level of Service Analysis

Intersection	Level of Service (AM/PM) – Existing Conditions			
	NB	SB	EB	WB
CR 610 / NJ 47 (signalized)	A/A	A/A	-	D/E
CR 610 / CR 638 (Fidler Road) (stop controlled)	-	A/A	A/A	A/A
CR 610 / Academy Road (stop controlled)	-	B/A	A/A	A/A

Pedestrian & Bicycle Accommodations

Approximately 200 feet of 3.5-foot wide sidewalk exists on the north side of CR 610 between Fidler Road and Academy Road. This section of concrete sidewalk is in fair condition. The remainder of CR 610 does not have sidewalks on either side. There is also 550 feet of discontinuous concrete sidewalk along the east and west side of Main Street, with widths varying from 3.5 to 5 feet. The sidewalk is mostly in good condition, but begins to degrade approaching CR 610.

NJDOT installed crosswalks, pedestrian signal heads, and push buttons at the NJ 47/CR 610 intersection in 2007 as part of the CR 610 / NJ 47 intersection improvement project; however, sidewalks and curb ramps were not included in that project. Pedestrian accommodations including crosswalks, curb ramps, push buttons, and pedestrian signal heads are not present at any of the other intersections within the study area.

The shoulders along CR 610 are not adequate for bicycle travel because they are narrow and uneven, while the shoulders along Main Street are bicycle-compatible. The designated “High Point to Cape May” bike route (shown in **Figure 5**) traverses the study area using used NJ 47, CR 610, and Fidler Road.

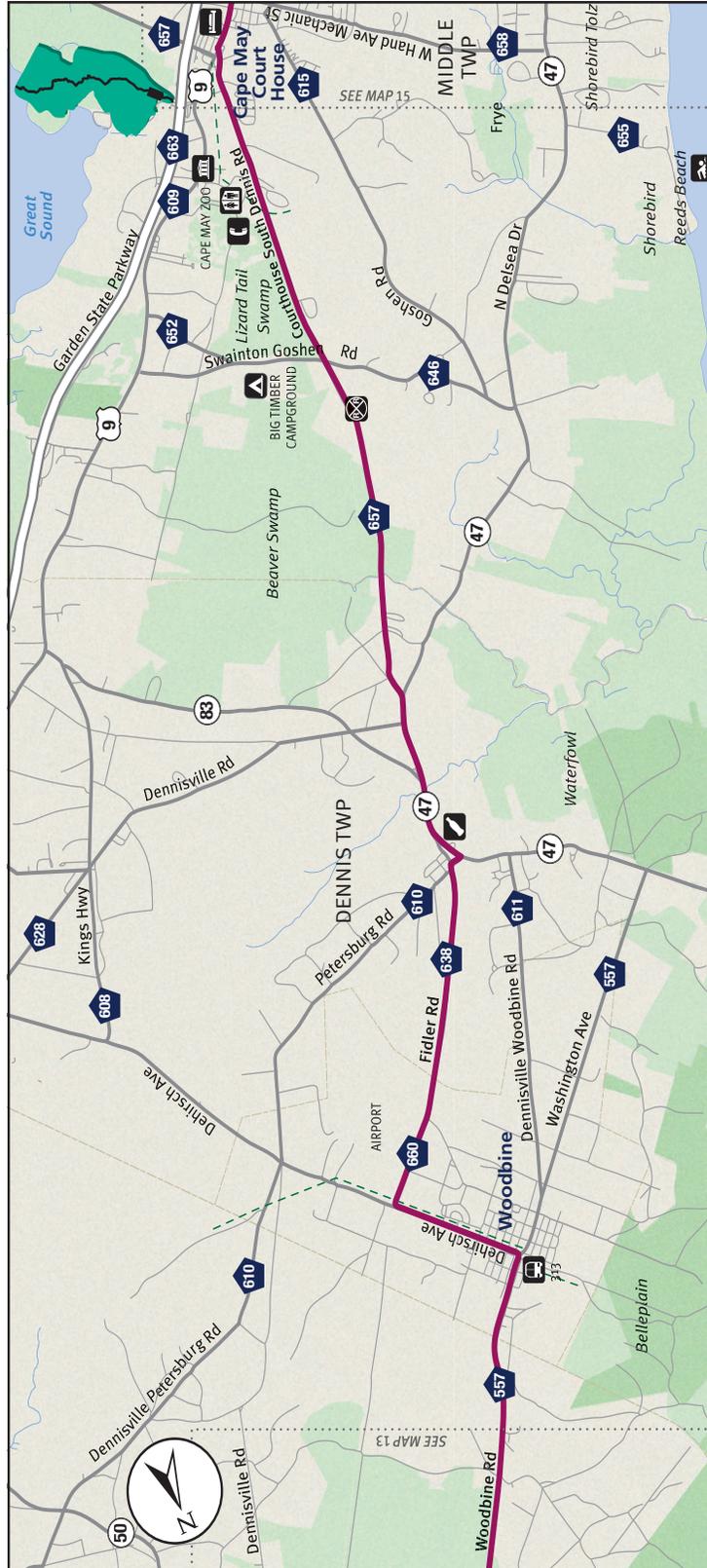
Crash Analysis

Urban performed a crash analysis for the intersections of Main, Fidler, and Academy Streets with CR 610. Based on NJDOT crash data, six crashes occurred during a four-year period between 2002 and 2005, with one injury and no fatalities. Three of the six crashes occurred at or around Fidler Avenue. A crash diagram summarizing the data and showing crash locations was developed (**Figure 6**).

Urban also analyzed crashes at the intersection of NJ 47 with CR 610 for a six-year period between 2006 and 2011. Based on NJDOT crash data, there were 25 crashes during this period with 20 injuries and one fatality. A table summarizing the data is included in **Appendix B**. The overriding crash type was “same direction – rear-end” with 18 total crashes along both directions of Route 47. This crash type typically occurs at approaches to signals and is potentially related to sight distances, vehicle following distances, and/or excessive travel speed.

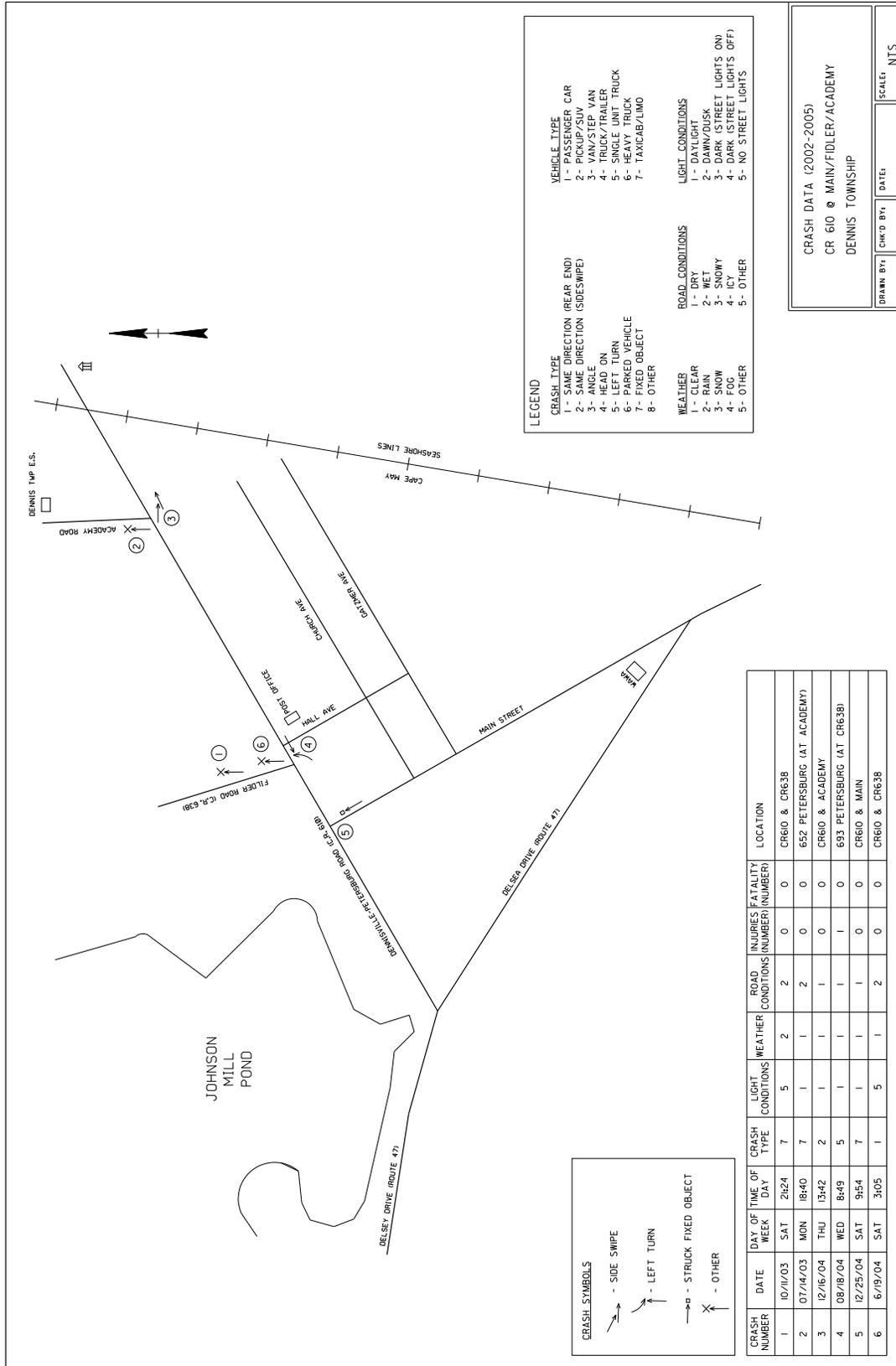
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FIGURE 5 – CAPE MAY TO HIGH POINT BICYCLE ROUTE



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FIGURE 6 – CRASH DIAGRAM



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Hydraulics & Drainage

CR 610 has a crowned roadway section with no curbs; accordingly, water drains into the roadside area in both directions. Most of CR 610 does not have inlets, although the eastern portion near Academy Road has a localized drainage system consisting of six inlets directly adjacent to the roadway shoulder (three in each direction). The drainage system outlets to a gravel pit on the south side of CR 610 near Academy Road. Roadside ponding can be an issue following major rain events, particularly on the south side of CR 610 between Fidler and Academy Roads.

Main Street also has a crowned roadway section that drains to the roadside area. While most of Main Street does not have curbs, there are a few small sections where curbs are present. Drainage inlets are not present along Main Street. An approximately six-inch diameter pipe is set in the roadway to handle runoff along Main Street at the Church Road intersection.

Utilities & Right-of-Way

Topographic survey for this project identified above-ground utility information including utility poles, manholes, and drainage inlets. Utility poles are regularly spaced along both directions of CR 610 between NJ 47 to Fidler Road and are located within a few feet of the roadway shoulder. North of Fidler Road, utility poles are only located on the south side of CR 610. A number of the utility poles carry roadway lighting for CR 610. Main Street also has utility poles in both directions, which are located within a few feet of the roadway shoulder.

Environmental Inventory

This project included an initial exploration of environmental impacts under the National Environmental Policy Act (NEPA). The environmental inventory consisted of online research and documentation of ecological resources. Findings are documented below by category:

Ecological Constraints

- *US Fish & Wildlife Service (Federal)* – The USFWS Municipal Listings identify three (3) federally listed species within Dennis Township. Two (2) of these species have potential to have suitable habitat within the project study area: 1) Knieskern’s Beaked Rush (Potential; Threatened), and 2) Swamp Pink (Extant; Threatened). Field studies have not been performed to confirm presence/absence of suitable habitat for these species within the project area.
- *NJDEP (State)* – The NJDEP Landscape Project mapping, as depicted on NJ GeoWeb, shows a variety of land use cover types within 500 feet of the project limits. These cover types are as follows (listed with the corresponding NJDEP species of concern per the Landscape Project database):
 - Mixed Forest-State Threatened insect species, and four State Special Concern bird species
 - Residential /Deciduous Forest-State Threatened insect species and State Endangered bird species (Bald Eagle, foraging)
 - Deciduous Forest-State Threatened insect, State Special Concern insect species, and State Threatened bird species

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- Mixed Scrub/Shrub Wetlands/Atlantic White Cedar Swamp/Deciduous Forest-State Threatened insect and State Endangered bird (Bald Eagle, foraging)
- Mixed Scrub/Shrub Wetlands-State Special Concern bird species, State Threatened bird and insect species, and State Endangered bird species(Bald Eagle, foraging)
- Mixed Forested Wetlands-four State special concern bird species and a State Threatened bird species (Bald Eagle, foraging)

Field studies have not been performed to confirm presence/absence of suitable habitat for these species in the project area.

- *Vernal Pools* – Per NJ GeoWeb mapping, one potential vernal pool habitat (VPH ID # 80) occurs in the northeast portion of the project area. Field studies to confirm presence/absence of this potential habitat have not been performed.
- *Floodplains* – Per FEMA Flood Insurance Rate Maps, the entire project area is mapped as Zone C – Area of Minimal Flooding.
- *Wetlands* – Per NJ GeoWeb mapping, the following freshwater wetland classes are within 500 feet of the project limits:
 - Mixed Scrub/Shrub Wetlands
 - Atlantic White Cedar Swamp
 - Mixed Forested Wetlands
- *Surfacewaters/Water Quality Classifications* – Per NJ GeoWeb mapping, the following surfacewaters, with corresponding NJDEP Water Quality Classifications, are located within 500 feet of the project study area:
 - Unnamed Tributary to Dennis Creek – outfall from Johnson’s Pond (aka Dennisville Lake); FW2-NT/SEI
 - Unnamed Tributary to Dennis Creek, under Route 47, near junction of Route 47 and Main Street; 1) Upstream of Route 47: FW2-NT/SEI; 2) Downstream of Route 47: FW2-NTC1/SEI
 - Johnson’s Pond (aka Dennisville Lake); Pinelands Water (PL)
- *Sole Source Aquifers* – The entire project area is underlain by the New Jersey Coastal Plain Aquifer System, which is the sole or principal source of drinking water for the majority of southern NJ.
- *Acid Producing Soils* – Per NJ Geo Web mapping, the bedrock geology of the project site is the Cohansey Formation. Per the NJDEP Flood Hazard Area Technical Manual, the Cohansey Formation is not a formation that contains substantial acid producing deposits.

Socioeconomic/Land Use

- *Green Acres Encumbered Parkland* – Per the NJDEP Green Acres Open Space Database (3/14/12), the following parcels (all owned by Dennis Township) are in close proximity (i.e. within 500 feet) of the project study area:
 - B1 70, L 19
 - B1 71, L 10
 - B1 75, L 17
 - B1 120, L 103
 - B1 120, L 105

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- *Pinelands/CAFRA Boundaries* – Per NJ GeoWeb mapping, the boundary line between the Pinelands and CAFRA zones are defined by Route 47 and CR 610. The Pinelands area lies north and west of Route 47 and CR 610, while the CAFRA zone lies south and east of Route 47 and CR 610.

Hazardous Materials

Research was performed on potential hazardous waste areas of concern (AOCs). The research included online reviews of various State and Federal databases. No file reviews, agency coordination (specific data requests to agencies), or site reconnaissance work was performed for the hazardous waste screening. Findings are described below:

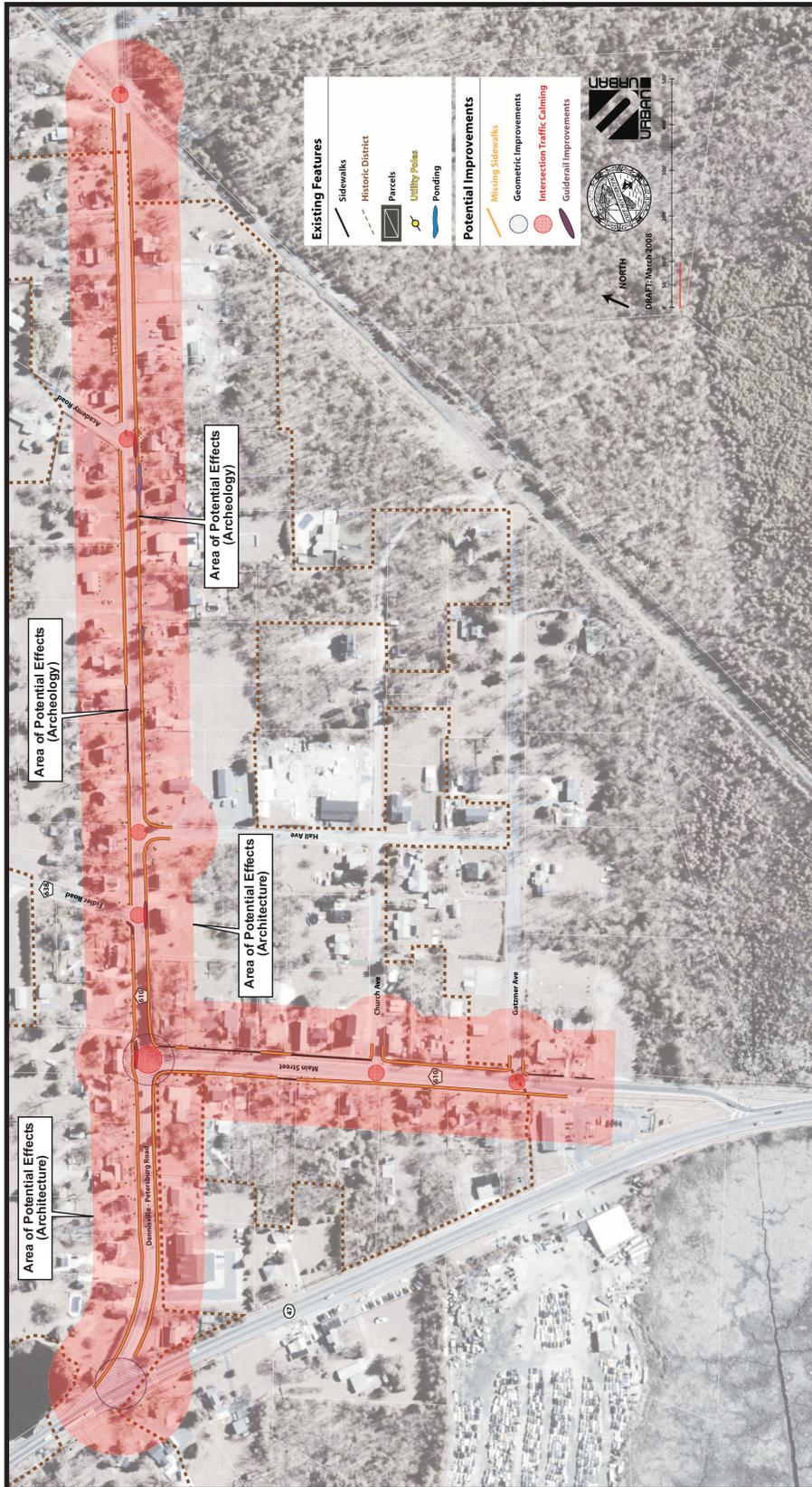
- *EPA National Priority List (NPL) & Superfund Databases* – none in the project area
- *EPA RCRA Cleanup Facilities Database* – none in the project area
- *NJDEP Known Contaminated Sites List (KCSL)* – one (1) Active site, the Dennis Township Elementary School, is located approximately 1300 feet north of the project area
- *Regulated Underground Storage Tanks (USTs)* – three (3) regulated USTs in the project vicinity: 1) Tommy’s Service Center (5 tanks-all removed, 500 feet from project limits); 2) Dennis Township Elementary School (3 tanks-two removed and one 1 in place, 1370 feet from the project limits); and 3) Dennis Township Board of Education (one tank-removed, 1370 feet from the project limits).
- *UST Active Remediations* – none in the project area
- *Chromate Sites* – none in the project area
- *Deed Notice Areas* – none in the project area
- *NJ Environmental Management System (NJEMS) Sites* – eight NJEMS sites are within or near the project area
- *Historical Aerial Land Use review* – completed, but no conclusions were made
- *NJ Pollution Discharge Elimination System (NJPDES) Regulated Facilities* – three (3) facilities are located in the project area
- *NJPDES Discharge Points* – none are located in the project area

Section 106 Coordination

This project also included a preliminary analysis to determine what effects the project may have on historic properties under Section 106 of the National Historic Preservation Act (NHPA). An Area of Potential Effects (APE) was defined to take into consideration possible direct and indirect effects on historic properties (shown in **Figure 7**). Preliminary research indicates that only one previously identified historic property, the Dennisville Historic District (HPO ID# 990, listed on NR 11/24/87; listed on SR 4/14/87), is located within the APE. Initial correspondence with the State Historic Preservation Office (SHPO) is included in **Appendix C**.

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FIGURE 7 – AREA OF POTENTIAL EFFECTS



C. CONCEPT DEVELOPMENT

Context Sensitive Design Objectives

Most of the village of Dennisville falls within the boundary of the Dennisville Historic District, which is listed on both the National and New Jersey Registers of Historic Places. To address the Purpose and Need within this unique local context, this project sought to achieve the following design objectives:

- Develop a design that provides mobility and safety for users and is sensitive to the historical, social, and environmental context of the village of Dennisville;
- Minimize negative impacts on natural, historic, and scenic resources or other community values, while also providing for reasonable roadway design elements;
- Positively contribute to the local and regional context, and
- Complement and enhance the historic and visual character of the village of Dennisville

Design Criteria

Improvement concepts were developed for CR 610 and Main Street to address the identified needs and problem areas within the study area. *The Smart Transportation Guidebook* (March 2008) was used to guide design values for concept development. The guidebook recommends that both the desired operating speed and the design speed equal the posted speed of 25 mph. Using land use context, ADT, desired operating speed, and other criteria set forth in Chapters 4 and 5 of the guidebook, CR 610 was classified as a Town/Village Neighborhood / Community Collector. Based on this classification, the following minimum design values (page 38 of the guidebook) were applied to cross-sectional elements of CR 610:

- Travel Lane Width – 11'
- Shoulder Width – 4' (bicycle compatible shoulder with no parking or curb)
- Clear Sidewalk Width – 5'
- Buffer Width – 4'

For Main Street, only the sidewalk criteria were applied, as changes to the roadway cross-section are not being proposed. While the guidebook specifies a minimum clear sidewalk width of 5 feet, the Dennisville Historic Home Owners Association (DHHOA) prefers a narrower sidewalk width (3.5 to 4') and buffer width (2' min.) to match existing conditions within the Dennisville Historic District, and minimize right-of-way and other roadside impacts. Sidewalk concepts were developed to reflect this local preference.

Transportation Improvement Concepts

The conceptual improvements developed for this project fall into the following categories:

Shoulder Treatment

The existing shoulders along CR 610 are narrow (2-3' wide), uneven, and are not bicycle-compatible, as AASHTO specifies a minimum width of 4' in uncurbed sections. Widening the shoulders to 4' in both directions to create consistent, bicycle-compatible shoulders along CR 610 was evaluated. To limit the extent of the shoulder widening, the width of the travel lanes would need to be reduced from 12' to 11' in both directions (see **Figure 8**). Shoulder widening is not necessary along Main Street, as the existing 8' wide shoulders are adequate for bicycle travel.

CR 610 - Sidewalks

Alternative sidewalk layouts were developed for CR 610 to provide for pedestrian circulation between NJ 47 and the east end of the corridor. Three of the four alternatives incorporate the proposed shoulder widening improvements (11' travel lanes with 4' shoulders). **Figure 8** shows the recommended roadside cross-section for CR 610, which features a 3.5' wide sidewalk separated from the edge of shoulder by a 2' wide grass buffer. Where short lengths of sidewalk already exist, new sidewalk should tie into the existing sidewalk rather than replace it. In a few areas, the sidewalk alignment was moved further away from the road by several feet to avoid impacts to trees and utility poles, thus increasing the buffer width. The following section describes the various alternatives.

Main Street - Sidewalks

Alternative sidewalk layouts were also developed for Main Street to provide for pedestrian circulation between CR 610 and the Wawa near NJ 47. The layouts were based on Main Street's existing roadway cross-section. **Figure 9** shows the recommended roadside cross-section for Main Street, which features a 4' wide sidewalk separated from the edge of shoulder by a 4-6' wide grass buffer. Where short lengths of sidewalk already exist, new sidewalk should tie into the existing sidewalk rather than replace it.

CR 610 / Main Street – Traffic Calming

Roadway concepts were developed to help slow traffic along both CR 610 and Main Street to speeds that are more consistent with Dennisville's village character. Reduced vehicular speeds will also make walking and biking within the village more comfortable. Recommended traffic calming measures (shown in **Figure 10**) include:

- Stripe high-visibility crosswalks along CR 610 and Main Street at intersecting streets;
- Install "Stop for Pedestrian" signs on the CR 610 centerline at each crosswalk location;
- Install new curb at each corner of the CR 610/Main Street and CR 610/Hall Avenue intersections with a 20' radius to help slow down turning vehicles; and
- Consider creating a "raised" or textured intersection at the following six intersections: CR 610 with Main, Fidler, Hall, Academy; Main Street with Church and Gatzmer

FIGURE 8 – CR 610 CROSS-SECTION

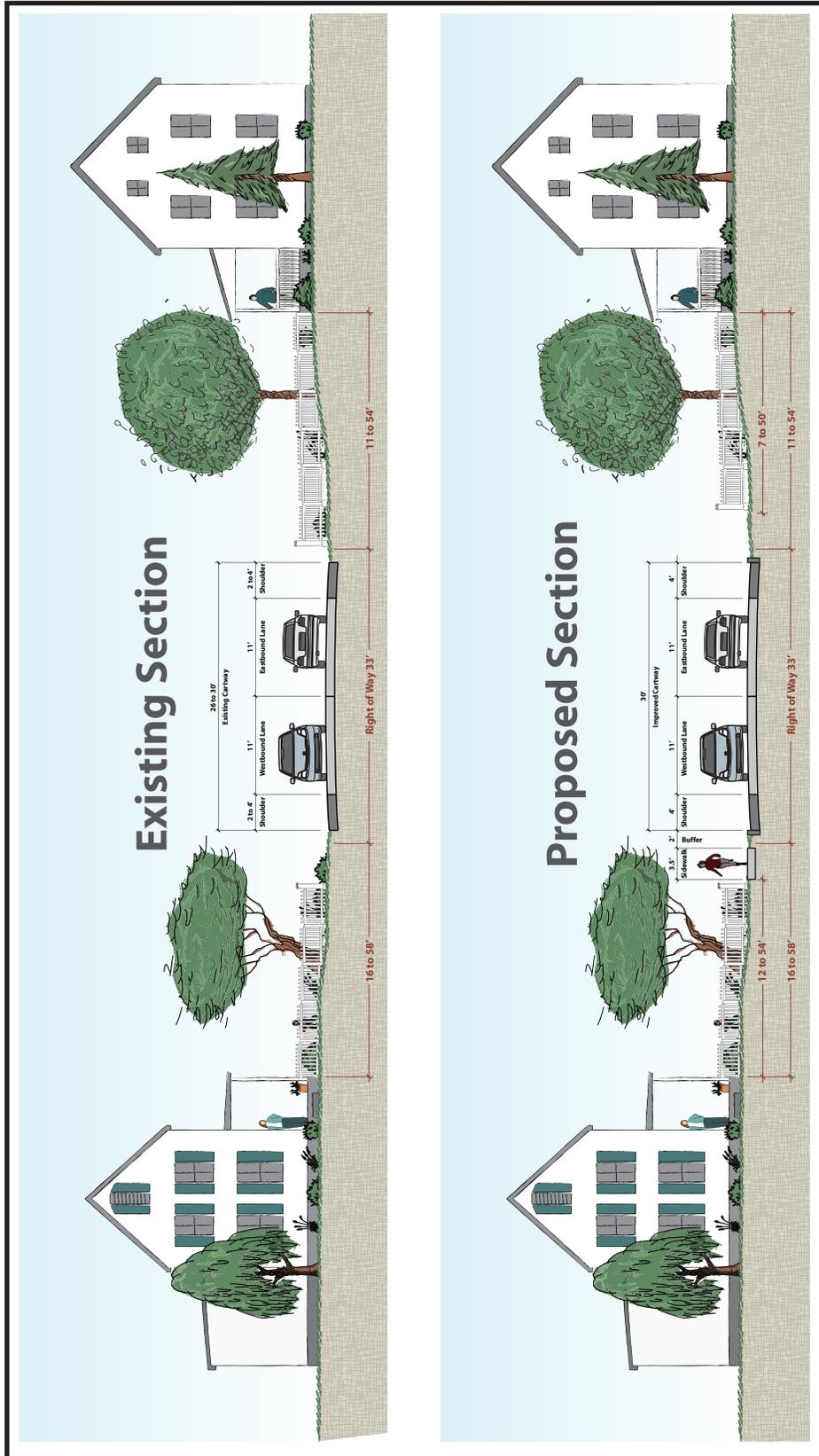
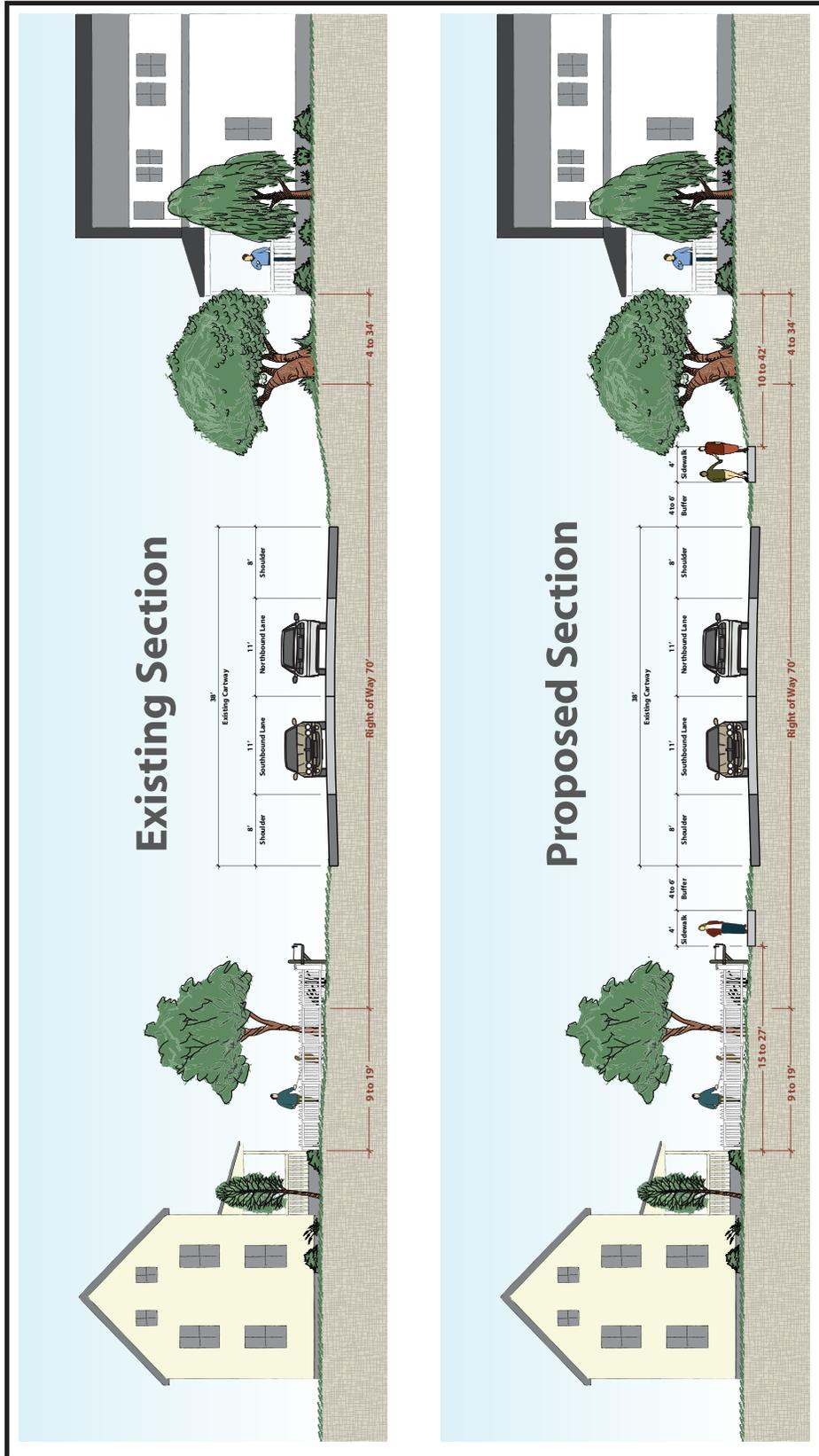
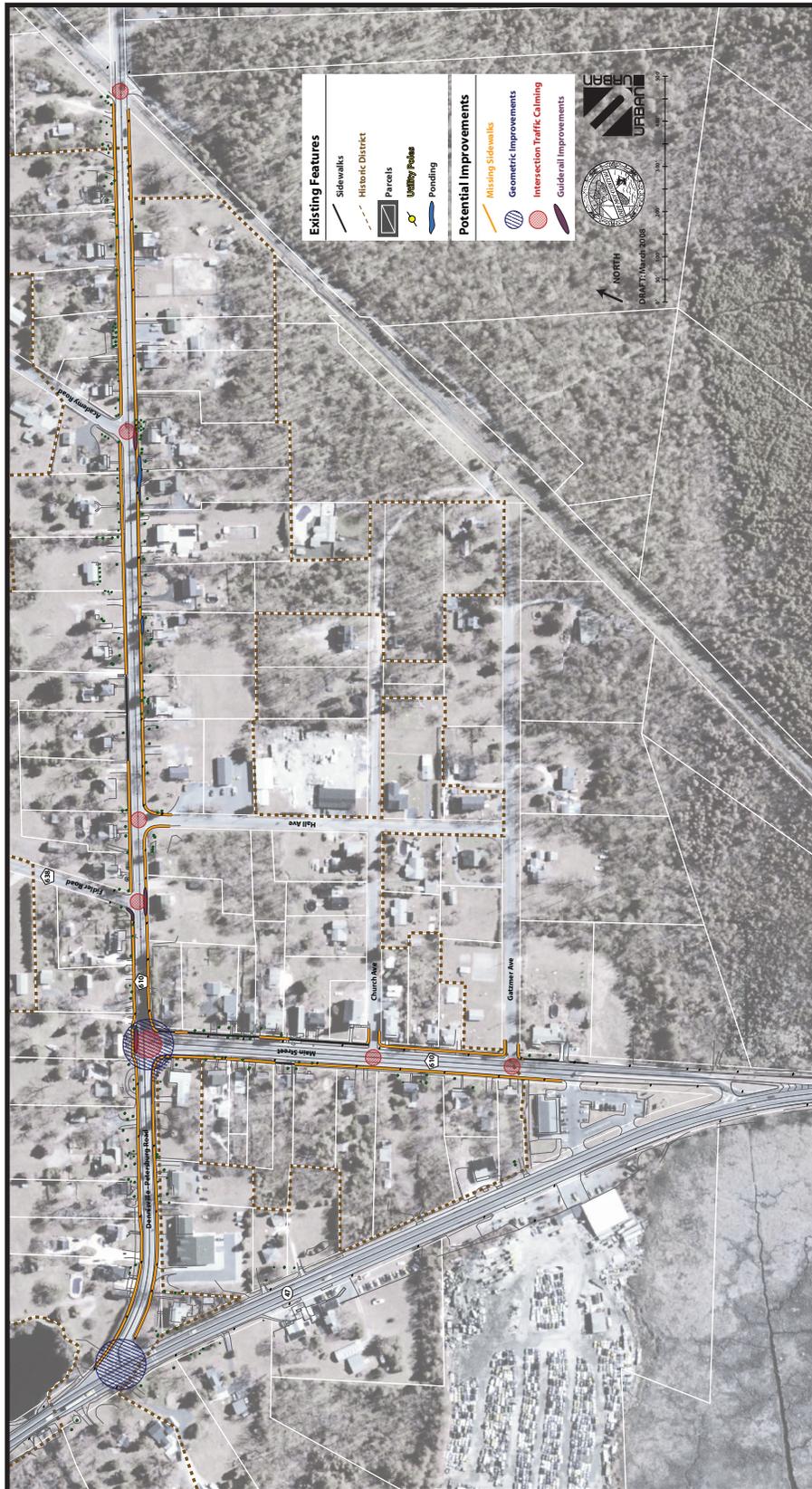


FIGURE 9 – MAIN STREET CROSS-SECTION



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FIGURE 10 – TRAFFIC CALMING RECOMMENDATIONS



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NJ 47/CR 610 Intersection

Early in this project, two intersection modification concepts (included in **Appendix E**) were developed to improve vehicular operations, provide traffic calming, and enhance pedestrian mobility at the intersection of NJ 47/CR 610. Following development of these concepts, NJDOT implemented an intersection improvement project in 2007 that adequately addressed issues related to congestion and safety. Therefore, these concepts were not included in the preferred alternative.

The signal indication for vehicles traveling southbound on CR 610 can be seen through most of the study area. This encourages vehicles to speed to gain access to the green cycle. Programmable signal heads are recommended for the CR 610 intersection approach to eliminate this effect.

Guiderail

An analysis to determine if guiderail is warranted is included in **Appendix D**. The report concluded that the guiderail is not warranted and can be removed. The report also recommended using traffic calming techniques and speed management strategies to reduce approach speeds and inform the motorist of entry into an urban village environment.

Drainage Assessment

The impervious area added and area disturbed were calculated for each of the improvement concepts. A project is considered a Major Development per the NJDEP Stormwater Management (SWM) Rules if the proposed project, including all elements such as shoulder widening and sidewalk, adds more than ¼ acre of impervious area or disturbs more than one acre of land. If the proposed project is classified as a Major Development, compliance with the stormwater management design and performance standards will be required, and the SWM standards for groundwater recharge and runoff quantity (volume and rate) will apply. The study area also falls within the jurisdiction of the Pinelands Commission and would need to be reviewed by the Commission to determine SWM compliance.

A preliminary drainage feasibility assessment was performed to evaluate feasible stormwater management facilities for alternatives that would need to comply with the SWM Rules. The assessment shows that a shallow detention/infiltration basin that will meet the SWM standards can be constructed on a County-owned parcel (Block 71, Lot 16) that is approximately 400' south of Academy Road and outside of the Dennisville Historic District. This alternative would need to further evaluation in the design phase, including in-situ testing.

D. ALTERNATIVES ANALYSIS - SIDEWALKS

To balance the need for pedestrian facilities with a local desire to minimize potential impacts from sidewalk installation, four sidewalk alternatives were evaluated. An initial sidewalk layout (Concept 1) was developed based on the existing shoulder condition along CR 610; however, this concept did not advance because shoulder improvements were viewed as a priority by the County. The remaining alternatives (Concepts 2, 3, & 4) were developed assuming the shoulders along CR 610 would be widened to 4' in both directions and the paved cross-section would have 11' wide lanes in each direction. These alternatives include a full sidewalk layout and two partial sidewalk layouts.

To evaluate sidewalk impacts in specific areas, CR 610 was divided into eight segments (DP-1 through DP-8) and Main Street was divided into two segments (M-1 & M-2), as shown in **Figure 11**. Potential impacts to right-of-way, utility poles, trees, fences/hedgerows, and drainage inlets were determined for each segment. Summary tables for Concepts 2 through 4 are included in **Appendix E**.

Concept 1 – Initial Sidewalk Layout (without Shoulder Widening)

This concept would provide continuous sidewalk along both sides of CR 610 and Main Street within the study area. Sidewalk would be located approximately 2' from the existing edge of shoulder. Concept 1 would have potential impacts to one utility pole, approximately 815' of fence/hedgerow, and would add an estimated 0.48 acres of impervious area. Impact summary tables and concept plans were not developed for Concept 1.

Concept 2 – Full Sidewalk Layout

This concept would provide continuous sidewalk along both sides of CR 610 and Main Street within the study area. Concept 2 would have potential impacts to 15 utility poles, 12 trees, six inlets, and approximately 930' of fence/hedgerow. Most of these impacts would occur along the south side of CR 610 between Main Street and the rail tracks (DP-2, DP-3, & DP-4).

Concept 2 would add an estimated 0.59 acres of impervious area and disturb approximately 1.34 acres of land, which results in a project that would be classified as a Major Development.

Concept 3 – Partial Sidewalk Layout #1

This concept was developed to investigate if potential impacts could be reduced while still achieving the project purpose and need. Based on the impacts identified for Concept 2, segments DP-2, DP-3, and DP-4 were eliminated. This partial layout would provide a continuous pedestrian path along the north side of CR 610 between NJ 47 and the east end of the study area, while the sidewalk layout along Main Street would remain unchanged. Concept 3 would have potential impacts to three utility poles, nine trees, three inlets, and approximately 430' of fence/hedgerow.

Concept 3 would add an estimated 0.45 acres of impervious area and disturb approximately 1.20 acres of land. This concept would also be classified as a Major Development.

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Concept 4 – Partial Sidewalk Layout #2

Concept 4 eliminates additional segments (DP-1, DP-8, M-1, and M-2) in an effort to further reduce potential impacts along with impervious and disturbed areas. This alternative would have potential impacts to two utility poles, no trees, one inlet, and approximately 310' of fence/hedgerow.

Concept 4 would add an estimated 0.24 acres of impervious area and disturb approximately 0.37 acres of land, and thus would not be classified as a Major Development. While this alternative does not fully provide for pedestrian circulation through the study area, it could be considered as an early-action project to establish a pedestrian linkage between NJ 47, Main Street, Fidler Road, and Academy Road.

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FIGURE 11 – SIDEWALK KEYMAP



D. INITIALLY PREFERRED ALTERNATIVE

An initially preferred alternative (IPA) was identified for this project based on technical analysis and public involvement; it is referred to as “initial” because the NEPA/Section 106 coordination has not been completed. The recommended IPA is to modify the Dennisville-Petersburg Road (CR 610) cross-section to include 4' wide shoulders with a 2' buffer area and 3.5' wide sidewalks between NJ 47 and the railroad tracks based on the Concept 3 layout. Sidewalks would be added to Main Street based on the Concept 3 layout. The IPA also includes traffic calming and guiderail improvements, as described below. Concept plans and summary sheets for the IPA are included in **Appendix F**.

Sidewalk Layout

Sidewalks are proposed along the entire north side of CR 610 between NJ 47 and the rail tracks and along the south side of CR 610 between NJ 47 and Main Street. Along Main Street, the existing cartway cross-section would remain but 4' wide sidewalks would be added where missing.

Utility Impacts

The IPA would potentially require relocation of three utility poles.

Hydraulics/Drainage Improvements

The IPA adds an estimated 0.45 acres of impervious area and disturbs approximately 1.20 acres of land. This would be classified as a Major Development and stormwater mitigation would be necessary. A potential drainage detention/infiltration basin complying with NJDEP's SWM Rules was identified through this study; this basin would need to be developed further during engineering design. The IPA would also potentially require relocation of three drainage inlets.

Traffic Calming Improvements

The IPA includes the following traffic calming measures:

- Striping high-visibility crosswalks along CR 610 and Main Street at intersecting streets;
- Installing “Stop for Pedestrian” signs on the CR 610 centerline at each crosswalk location;
- Installing new curb at each corner of the CR 610/Main Street and CR 610/Hall Avenue intersections with a 20' radius to help slow down turning vehicles;
- Creating a “raised ” or textured intersection at the following six intersections: CR 610 with Main, Fidler, Hall, Academy; Main Street with Church and Gatzmer; and
- Installing programmable signal heads at the CR 610 approach to the intersection with NJ 47 to eliminate the speeding effect associated with the existing signal heads.

Guiderail

The IPA includes removing guiderail from the four existing locations along CR 610.

*Dennisville - Petersburg Road (CR 610) Transportation Study
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E. PUBLIC INVOLVEMENT

The Study Team for this project consisted of the Cape May County Engineer and Urban Engineers. Given its location in the Dennisville Historic District, the project involved extensive coordination with the Dennisville Historic Homeowners Association (DHHOA). Outreach consisted of stakeholder meetings with the DHHOA along with a Public Information Meeting that was open to the public. Survey questionnaires were used to gather feedback on existing issues and comments on proposed improvements. A chronological listing of key project meetings is provided below:

Kickoff Meeting (August 1, 2002)

The Study Team held a project kickoff meeting to discuss administrative requirements, transportation issues with the study area, and public participation. Attendees also included a representative from NJDOT Local Aid.

Coordination Meeting with DHHOA (October 7, 2002)

At the first meeting with DHHOA, the Cape May County Engineer provided an overview of the project's scope. Presentation boards illustrating the project limits, aerial photograph of the project area, tax map parcels, roadway right of way limits, and property owners were displayed. A survey questionnaire was provided as a handout to the approximate 30 residents in attendance. Residents were encouraged to complete the survey and comment on existing problems and preferred project elements to enhance the community. Of the 25 total survey respondents, almost 70% were in favor of adding sidewalks in Dennisville. Meeting minutes are included in **Appendix G**.

Public Information Meeting (March 13, 2008)

A public information meeting was held on Thursday, March 13, 2008 from 6:00-8:00 pm at the Dennis Township Administrative Offices. The meeting was attended by 35 individuals, most of who lived on either Dennisville-Petersburg Road or Main Street. The Project Team presented an overview of existing conditions, including identified problems and needs, along with proposed concepts to address these needs. The presentation was followed by an opportunity for questions and comments. An advertisement for the meeting is included in **Appendix G**.

Sidewalk Questionnaire for DHHOA (March 11, 2011)

In March 2011, a second questionnaire was developed by the DHHOA and distributed to its members in good standing. The questionnaire focused on obtaining members preferences regarding sidewalks, but also solicited input on drainage, safety, and operational issues. Of the 57 total survey respondents, nearly 90% were in favor of adding sidewalks in Dennisville. Both the questionnaire and a summary of the survey responses are included in **Appendix G**.

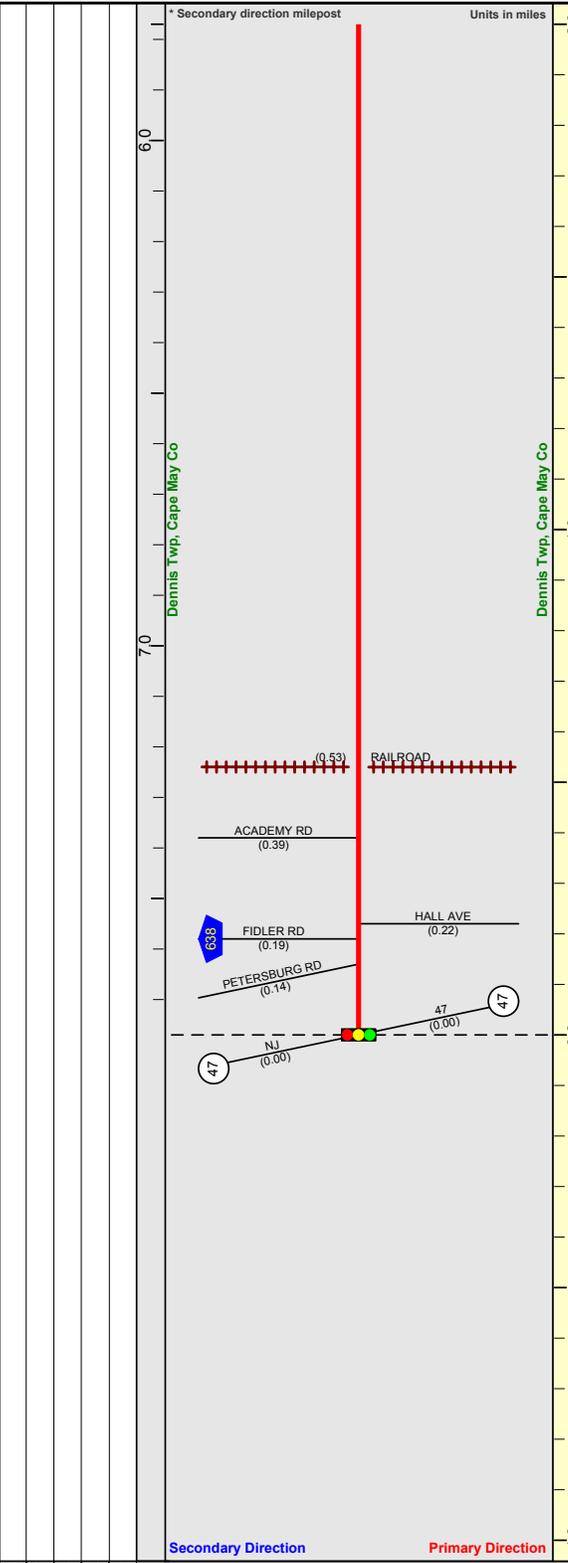
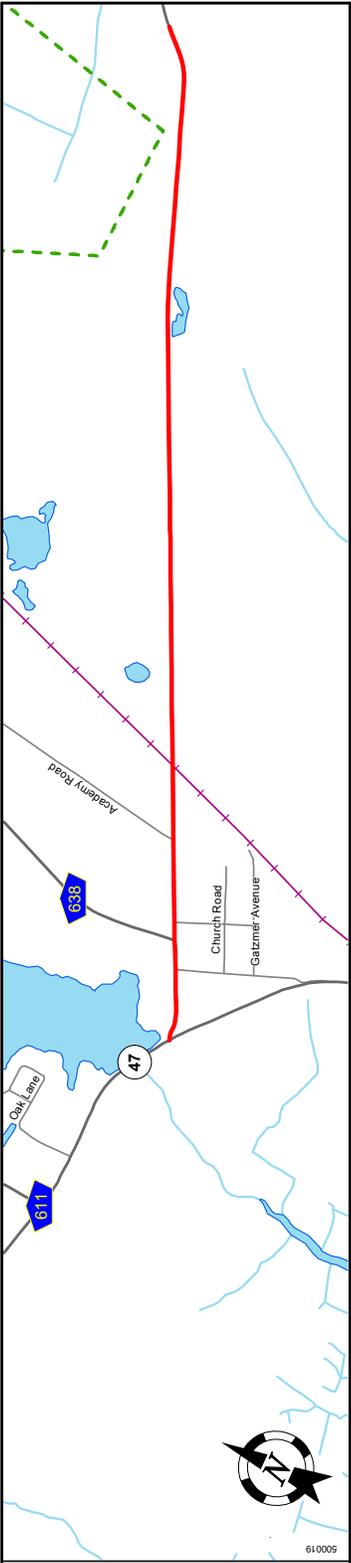
Coordination Meeting with DHHOA (March 29, 2012)

A final coordination meeting with the DHHOA was held to discuss the questionnaire results and decide on the project's Initially Preferred Alternative (IPA). Based on strong support for sidewalk improvements combined with a desire to limit potential impacts, the group selected Concept 3 as the preferred option for sidewalks.

Appendix A

Mile Posts: 0.000 - 2.000

CAPE MAY COUNTY 610 (South to North)



Street Name	Petersburg Road	
Jurisdiction	Petersburg Road County	
Functional Class	Urban Collector	Rural Major Collector
Federal Aid Sys	STP	
Control Section		
Speed Limit	25	50
Number of Lanes	2	3
Med. Type	None	
Med. Width	0	
Pavement	24	22
Shoulder	2	4
Traffic Volume	1	4
Traffic Sta. ID	36	22
Structure No.	1	4
Enlarged Views		

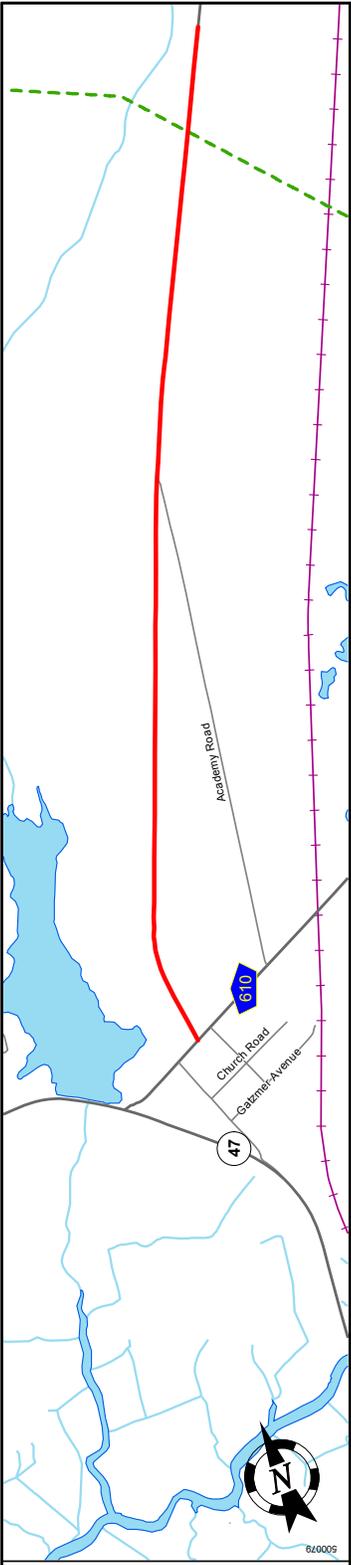
Begin Cape May County 610 MP=0

SRI = 05000610

Date last inventoried: August 1999

Mile Posts: 0.000 - 2.000

CAPE MAY COUNTY 638 (South to North)



Pavement	
Shoulder	
Number of Lanes	
Speed Limit	
Street Name	
Interstate Route 287	US Route 22
NJ Route 21	County Road 689
Interchange Number 2	Grade 2
Separated Interchange	Traffic Signal
Traffic Monitoring Sites AVC	VOL
Road Underpass	Road Overpass
Secondary Direction	
Primary Direction	
Units in miles	
Secondary direction milepost	
Woodbury e. C.M. Co.	
Dennis Twp. Cape May Co	
ACADEMY RD (1.11)	
Dennis Twp. Cape May Co	
Fidler Road	
County	
Urban Local	
Rural Local	
Non-Federal Aid	
Speed Limit	
Number of Lanes	
Med. Type	
Med. Width	
Pavement	
Shoulder	
Traffic Volume	
Traffic Sta. ID	
Structure No.	
Enlarged Views	

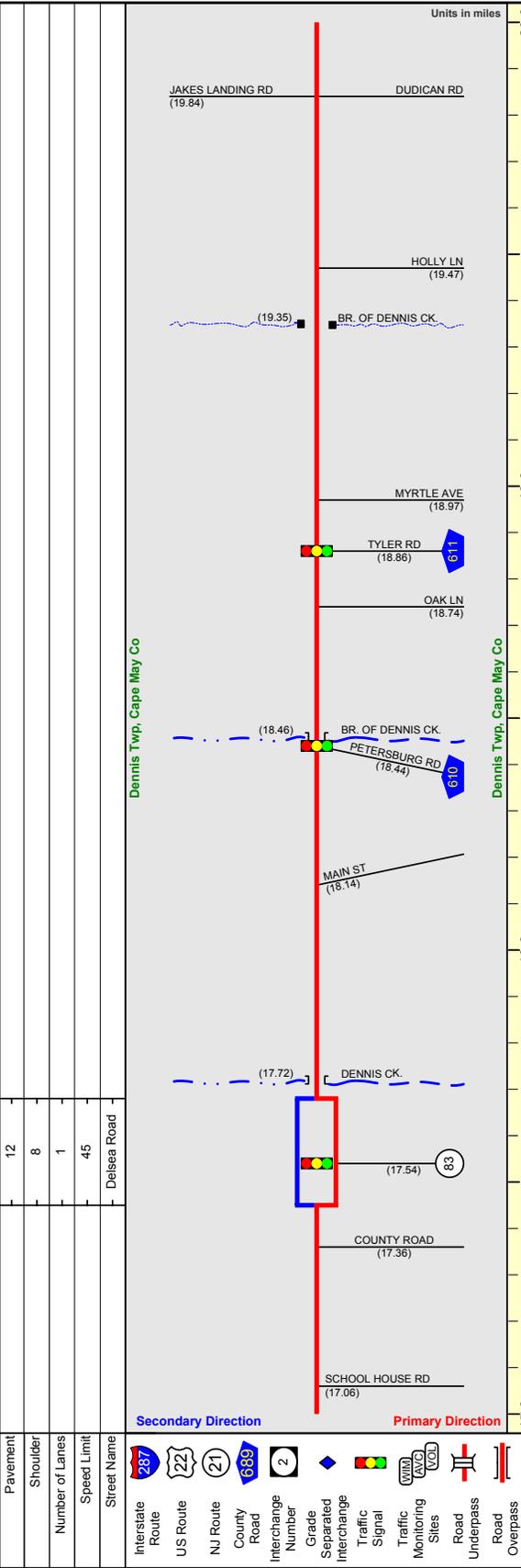
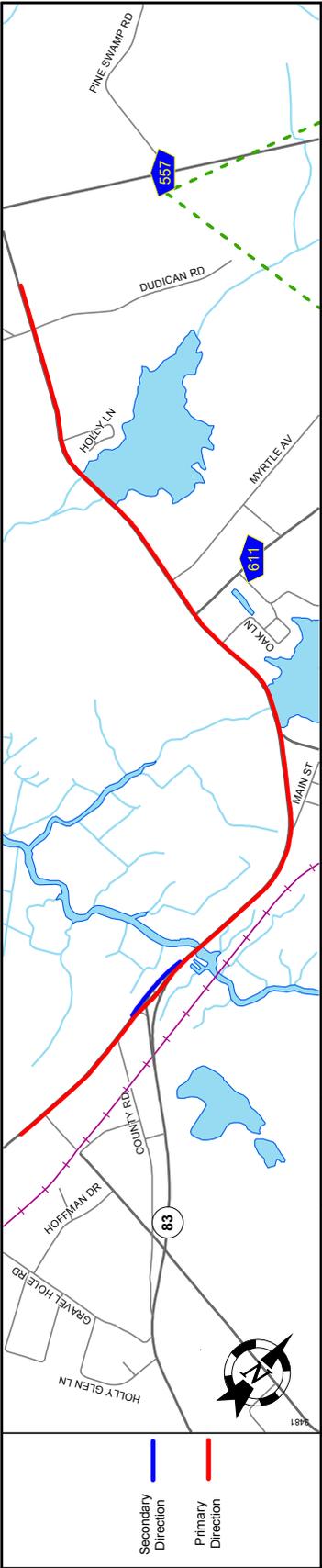
Street Name	Begin Cape May County 638 MP=0.00
Jurisdiction	County
Functional Class	Urban Local
Federal Aid Sys	Non-Federal Aid
Control Section	
Speed Limit	40
Number of Lanes	2
Med. Type	None
Med. Width	0
Pavement	21
Shoulder	1
Traffic Volume	2
Traffic Sta. ID	3
Structure No.	
Enlarged Views	

SRI = 05000638

Date last inventoried: August 1999

Mile Posts: 17.000 - 20.000

NJ 47 (South to North)



Pavement	12
Shoulder	8
Number of Lanes	1
Speed Limit	45
Street Name	Delsea Drive
Interstate Route	287
US Route	22
NJ Route	21
County Road	689
Interchange Number	2
Grade	2
Separated Interchange	2
Traffic Signal	2
Traffic Monitoring Sites	2
Road	2
Underpass	2
Overpass	2
Street Name	Delsea Drive
Jurisdiction	N.J.D.O.T.
Functional Class	Urban Principal Arterial
Federal Aid - NHS Sy	STP
Control Section	0507
Speed Limit	45
Number of Lanes	2
Med. Type	None
Med. Width	0
Pavement	24
Shoulder	8
Traffic Volume	11,206 (2009)
Traffic Sta. ID	8-4330
Structure No.	0508150
Enlarged Views	0508151
	0508152

Date last inventoried: March 2008

SRI = 00000047

Appendix B

Automated Traffic Recorder (ATR) Data

Project Name: Dennisville Counting Program
 Project Number: 0244-00
 Street/Road: Petersburg Rd (C.R. 610)
 Location: North of Railroad
 Direction 1: Eastbound
 Direction 2: Westbound

Roadway Type: Two Lane Undivided
 Date Placed: 9/10/2002
 Time Placed: 12:00 PM
 Date Retrieved: 9/13/2002
 Time Retrieved: 12:00 PM
 Adjustment Factor: N/A

Date Prepared: 10/17/2001
 By: C XU

Interval Begins	Monday						Tuesday						Wednesday																							
	Eastbound			Westbound			Eastbound			Westbound			Eastbound			Westbound																				
	CAR	BUS	TRUCK	EB Total	CAR	BUS	TRUCK	WB Total	CAR	BUS	TRUCK	WB Total	CAR	BUS	TRUCK	WB Total	CAR	BUS	TRUCK	WB Total																
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																
01:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																
02:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																
03:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																
04:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																
05:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																
06:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																
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11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																
12:00 PM	40	0	6	65	62	1	6	69	124	62	1	6	69	58	1	11	70	55	0	12																
01:00 PM	64	1	11	76	56	1	6	64	140	56	1	6	64	57	1	14	72	77	2	5																
02:00 PM	80	2	4	86	66	2	10	77	163	66	2	10	77	70	4	13	87	83	1	10																
03:00 PM	91	0	8	99	111	1	8	120	219	111	1	8	120	88	0	5	93	85	2	15																
04:00 PM	76	0	4	80	94	1	4	99	179	94	1	4	99	77	1	5	83	91	1	6																
05:00 PM	60	0	4	64	82	0	4	83	147	82	0	4	83	73	0	2	75	90	0	3																
06:00 PM	59	0	2	61	51	0	1	52	113	51	0	1	52	64	0	1	65	58	0	1																
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10:00 PM	17	0	0	17	19	0	0	19	36	19	0	0	19	31	0	0	31	25	0	0																
11:00 PM	5	0	0	5	11	0	0	11	16	11	0	0	11	8	0	0	8	10	0	0																
Directional Volume	584						627						685						8						39						732					
Daily Traffic Volume	43.0%						46.1%						50.4%						0.6%						2.9%						53.8%					
Bus %	0.2%						0.2%						0.6%						0.6%						2.9%						4.0%					
Truck %	43.0%						46.1%						50.4%						0.6%						2.9%						53.8%					

Interval Begins	Thursday						Friday						Saturday																							
	Eastbound			Westbound			Eastbound			Westbound			Eastbound			Westbound																				
	CAR	BUS	TRUCK	EB Total	CAR	BUS	TRUCK	WB Total	CAR	BUS	TRUCK	WB Total	CAR	BUS	TRUCK	WB Total	CAR	BUS	TRUCK	WB Total																
12:00 AM	1	0	0	1	6	0	6	7	0	0	0	0	0	0	0	0	0	0	0	0																
01:00 AM	0	0	0	0	2	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0																
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07:00 AM	92	1	6	101	67	1	11	79	180	67	1	11	79	58	2	5	63	65	3	6																
08:00 AM	82	2	7	91	62	2	9	73	164	62	2	9	73	76	2	5	83	65	3	6																
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12:00 PM	70	0	4	74	63	0	12	75	149	63	0	12	75	45	0	4	49	49	0	6																
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07:00 PM	37	0	0	37	30	0	0	30	67	30	0	0	30	23	0	0	23	23	0	0																
08:00 PM	23	0	0	23	20	0	0	20	41	20	0	0	20	11	0	0	11	11	0	0																
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11:00 PM	6	0	0	6	6	0	0	6	11	6	0	0	6	5	0	0	5	5	0	0																
Directional Volume	1135						84						1230						1066						14						93					
Daily Traffic Volume	47.2%						0.5%						3.5%						44.4%						0.6%						48.8%					
Bus %	0.5%						0.5%						3.5%						44.4%						0.6%						48.8%					
Truck %	0.5%						0.5%						3.5%						44.4%						0.6%						48.8%					

Project Name: Dennisville Counting Program
 Project Number: 0244-00
 Street/Road: Petersburg Rd (C.R. 610)
 Location: North of Railroad
 Direction 1: Eastbound
 Direction 2: Westbound

Roadway Type: Two Lane Undivided
 Date Placed: 9/10/2002
 Time Placed: 12:00 PM
 Date Retrieved: 9/13/2002
 Time Retrieved: 12:00 PM
 Adjustment Factor: N/A

Tuesday
 Friday

Date Prepared: 10/17/2001
 By: C XU

Interval Begins	Average										Weekday Average										Weekend Average									
	Eastbound					Westbound					Eastbound					Westbound					Eastbound					Westbound				
	CAR	BUS	TRUCK	EB Total	TOTAL	CAR	BUS	TRUCK	WB Total	TOTAL	CAR	BUS	TRUCK	EB Total	TOTAL	CAR	BUS	TRUCK	WB Total	TOTAL	CAR	BUS	TRUCK	EB Total	TOTAL	CAR	BUS	TRUCK	WB Total	TOTAL
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12:00 PM	59	0	7	66	138	66	0	10	66	138	66	0	10	66	138	66	0	10	66	138	66	0	10	66	138	66	0	10	66	138
01:00 PM	58	1	11	70	140	70	63	2	70	140	70	63	2	70	140	70	63	2	70	140	70	63	2	70	140	70	63	2	70	140
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05:00 PM	67	0	2	69	158	69	87	0	69	158	69	87	0	69	158	69	87	0	69	158	69	87	0	69	158	69	87	0	69	158
06:00 PM	64	0	2	66	119	66	52	0	66	119	66	52	0	66	119	66	52	0	66	119	66	52	0	66	119	66	52	0	66	119
07:00 PM	44	0	1	45	92	45	47	0	45	92	45	47	0	45	92	45	47	0	45	92	45	47	0	45	92	45	47	0	45	92
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10:00 PM	20	0	0	20	45	20	25	0	20	45	20	25	0	20	45	20	25	0	20	45	20	25	0	20	45	20	25	0	20	45
11:00 PM	6	0	0	6	10	6	10	0	6	10	6	10	0	6	10	6	10	0	6	10	6	10	0	6	10	6	10	0	6	10
Directional Volume	1084	10	86	1180	2322	1180	1035	13	94	2322	1180	1035	13	94	2322	1180	1035	13	94	2322	1180	1035	13	94	2322	1180	1035	13	94	2322
Directional Split				50.8%					49.2%				50.8%						49.2%					49.2%						49.2%
Adjusted Traffic Volumes																														
Directional Volume																														
AADT																														
Adjustment Factor																														

Directional Volume	Average										Weekday Average										Weekend Average									
	CAR	BUS	TRUCK	EB Total	TOTAL	CAR	BUS	TRUCK	WB Total	TOTAL	CAR	BUS	TRUCK	EB Total	TOTAL	CAR	BUS	TRUCK	WB Total	TOTAL	CAR	BUS	TRUCK	EB Total	TOTAL	CAR	BUS	TRUCK	WB Total	TOTAL
Percentage Distribution	91.9%	0.8%	7.3%			91.9%	0.8%	7.3%			91.9%	0.8%	7.3%			91.9%	0.8%	7.3%			91.9%	0.8%	7.3%			91.9%	0.8%	7.3%		
Percentage Distribution	91.3%	1.0%	7.8%			91.3%	1.0%	7.8%			91.3%	1.0%	7.8%			91.3%	1.0%	7.8%			91.3%	1.0%	7.8%			91.3%	1.0%	7.8%		
Percentage Distribution	91.3%	1.0%	7.8%			91.3%	1.0%	7.8%			91.3%	1.0%	7.8%			91.3%	1.0%	7.8%			91.3%	1.0%	7.8%			91.3%	1.0%	7.8%		
Percentage Distribution	91.3%	1.0%	7.8%			91.3%	1.0%	7.8%			91.3%	1.0%	7.8%			91.3%	1.0%	7.8%			91.3%	1.0%	7.8%			91.3%	1.0%	7.8%		

Directional Volume	Average										Weekday Average										Weekend Average									
	CAR	BUS	TRUCK	EB Total	TOTAL	CAR	BUS	TRUCK	WB Total	TOTAL	CAR	BUS	TRUCK	EB Total	TOTAL	CAR	BUS	TRUCK	WB Total	TOTAL	CAR	BUS	TRUCK	EB Total	TOTAL	CAR	BUS	TRUCK	WB Total	TOTAL
Percentage Distribution	91.9%	0.8%	7.3%			91.9%	0.8%	7.3%			91.9%	0.8%	7.3%			91.9%	0.8%	7.3%			91.9%	0.8%	7.3%			91.9%	0.8%	7.3%		
Percentage Distribution	91.3%	1.0%	7.8%			91.3%	1.0%	7.8%			91.3%	1.0%	7.8%			91.3%	1.0%	7.8%			91.3%	1.0%	7.8%			91.3%	1.0%	7.8%		
Percentage Distribution	91.3%	1.0%	7.8%			91.3%	1.0%	7.8%			91.3%	1.0%	7.8%			91.3%	1.0%	7.8%			91.3%	1.0%	7.8%			91.3%	1.0%	7.8%		
Percentage Distribution	91.3%	1.0%	7.8%			91.3%	1.0%	7.8%			91.3%	1.0%	7.8%			91.3%	1.0%	7.8%			91.3%	1.0%	7.8%			91.3%	1.0%	7.8%		

9/18/2002
C XU

Date Prepared:
By:

Two Lane Undivided Tuesday
11:00 AM
9/13/2002 Friday
12:00 PM
N/A

Roadway Type:
Date Placed:
Time Placed:
Date Retrieved:
Time Retrieved:
Adjustment Factor:

Dennisville Counting Program
Project Number: 0244-00
Main St
North of Rt.47, South of Petersburg RD
Location:
Northbound
Southbound

Interval Begins	Monday						Tuesday						Wednesday								
	Northbound			Southbound			Northbound			Southbound			Northbound			Southbound					
	CAR	BUS	TRUCK	NB Total	CAR	BUS	TRUCK	SB Total	TOTAL	CAR	BUS	TRUCK	SB Total	TOTAL	CAR	BUS	TRUCK	SB Total	TOTAL		
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
01:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
02:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
03:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
04:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
05:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
06:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
09:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
12:00 PM	99	0	2	101	24	0	1	25	128	89	0	5	94	35	0	1	36	130			
01:00 PM	07	0	3	100	35	1	0	36	138	111	0	2	114	26	0	1	27	141			
02:00 PM	106	1	5	111	26	0	0	27	138	139	0	6	145	35	1	37	182				
03:00 PM	152	1	6	164	28	0	2	30	194	143	0	8	151	29	0	1	30	181			
04:00 PM	126	1	6	133	49	0	0	49	182	134	1	4	139	37	0	0	37	176			
05:00 PM	129	0	1	130	37	0	0	37	167	136	0	3	139	36	0	1	37	176			
06:00 PM	134	1	1	136	36	0	0	36	172	105	0	1	106	47	2	0	49	155			
07:00 PM	93	0	2	95	28	0	0	28	123	91	0	0	91	28	0	0	28	119			
08:00 PM	71	0	1	72	35	0	0	35	107	81	0	0	81	31	0	0	31	112			
09:00 PM	61	0	0	61	28	0	0	28	89	47	0	0	47	41	0	0	41	88			
10:00 PM	32	0	0	32	17	0	0	17	49	48	0	0	48	22	0	0	22	68			
11:00 PM	37	0	0	37	46	0	0	46	83	41	0	0	41	39	0	0	39	80			
Directional Volume	1294	5	31	1330	418	1	4	423	1753	2022	10	61	2093	660	5	6	671	2744			
Daily Traffic Volume	73.8%			75.9%			23.8%			24.1%			75.0%			24.1%			75.0%		
Bus %	0.3%			1.8%			0.1%			0.2%			0.4%			2.2%			0.2%		
Truck %	0.3%			1.8%			0.1%			0.2%			0.4%			2.2%			0.2%		

Interval Begins	Thursday						Friday						Saturday								
	Northbound			Southbound			Northbound			Southbound			Northbound			Southbound					
	CAR	BUS	TRUCK	NB Total	CAR	BUS	TRUCK	SB Total	TOTAL	CAR	BUS	TRUCK	SB Total	TOTAL	CAR	BUS	TRUCK	SB Total	TOTAL		
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
01:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
02:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
03:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
04:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
05:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
06:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
09:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
12:00 PM	124	1	3	128	35	0	2	37	165	16	0	0	16	28	0	0	0	0	28		
01:00 PM	95	0	5	100	24	0	0	24	124	7	0	0	7	14	0	0	0	0	14		
02:00 PM	159	0	5	164	37	0	1	38	202	5	0	0	5	8	0	0	0	0	8		
03:00 PM	159	1	8	168	45	0	2	47	215	4	0	0	4	9	0	0	0	0	9		
04:00 PM	140	2	5	147	35	0	1	36	176	12	0	0	12	18	0	0	0	0	18		
05:00 PM	137	0	7	144	35	0	4	39	179	138	1	1	140	141	0	0	0	0	141		
06:00 PM	200	2	6	208	60	0	1	61	269	201	3	6	210	45	0	0	0	0	210		
07:00 AM	180	1	10	191	40	0	1	41	232	135	1	8	144	39	0	1	40	184			
08:00 AM	108	1	8	117	36	0	1	37	154	92	2	3	97	122	0	0	0	0	122		
09:00 AM	96	0	6	102	32	0	0	32	134	86	0	5	91	34	1	2	37	128			
10:00 AM	103	0	3	106	29	0	0	29	135	105	1	3	109	34	0	1	35	144			
11:00 AM	124	1	3	128	35	0	2	37	165	0	0	0	0	0	0	0	0	0	0		
01:00 PM	95	0	5	100	24	0	0	24	124	0	0	0	0	0	0	0	0	0	0		
02:00 PM	159	0	5	164	37	0	1	38	202	0	0	0	0	0	0	0	0	0	0		
03:00 PM	159	1	8	168	45	0	2	47	215	0	0	0	0	0	0	0	0	0	0		
04:00 PM	140	2	5	147	35	0	1	36	176	0	0	0	0	0	0	0	0	0	0		
05:00 PM	137	0	7	144	35	0	4	39	179	0	0	0	0	0	0	0	0	0	0		
06:00 PM	200	2	6	208	60	0	1	61	269	0	0	0	0	0	0	0	0	0	0		
07:00 PM	180	1	10	191	40	0	1	41	232	0	0	0	0	0	0	0	0	0	0		
08:00 PM	108	1	8	117	36	0	1	37	154	0	0	0	0	0	0	0	0	0	0		
09:00 PM	96	0	6	102	32	0	0	32	134	0	0	0	0	0	0	0	0	0	0		
10:00 PM	103	0	3	106	29	0	0	29	135	0	0	0	0	0	0	0	0	0	0		
11:00 PM	124	1	3	128	35	0	2	37	165	0	0	0	0	0	0	0	0	0	0		
Directional Volume	2142	10	68	2220	707	0	10	717	2937	827	8	29	864	279	1	7	287	1151			
Daily Traffic Volume	72.9%			75.6%			24.1%			24.4%			75.1%			24.9%			75.1%		
Bus %	0.3%			0.0%			0.0%			0.1%			0.1%			0.8%			0.1%		
Truck %	2.3%			0.3%			0.0%			2.3%			0.1%			0.8%			0.1%		

Project Name: Dennisville Counting Program
 Project Number: 0244-00
 Street/Road: Dossy Dr. (Rt.47)
 Direction 1: Northbound
 Direction 2: Southbound
 Date Placed: 9/10/2002
 Time Posted: 12:00 PM
 Date Collected: 9/10/2002
 Time Retrieved: 12:00 PM
 Adjustment Factor: N/A
 Roadway Type: Two Lane Undivided
 Date Placed: 9/10/2002
 Time Posted: 12:00 PM
 Date Collected: 9/10/2002
 Time Retrieved: 12:00 PM
 Adjustment Factor: N/A
 Date Prepared: 9/18/2002
 By: CXU

Interval Begins	Monday						Tuesday						Wednesday											
	Northbound		Southbound		NB Total	SB Total	Northbound		Southbound		NB Total	SB Total	Northbound		Southbound		NB Total	SB Total						
	CAR	BUS	TRUCK	CAR			BUS	TRUCK	CAR	BUS			TRUCK	CAR	BUS	TRUCK			CAR	BUS	TRUCK			
12:00 AM																								
12:00 PM																								
01:00 AM																								
01:00 PM																								
02:00 AM																								
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09:00 AM																								
09:00 PM																								
10:00 AM																								
10:00 PM																								
11:00 AM																								
11:00 PM																								
Directional Volume	4814						5026						3934						6020					
Directional Split	52.8%						55.1%						43.1%						49.8%					
Daily Traffic Volume	177						177						184						184					
Bus %	0.5%						0.5%						0.3%						0.4%					
Truck %	1.8%						1.8%						1.4%						2.0%					
TOTAL	919						919						919						13302					

Interval Begins	Thursday						Friday						Saturday						
	Northbound		Southbound		NB Total	SB Total	Northbound		Southbound		NB Total	SB Total	Northbound		Southbound		NB Total	SB Total	
	CAR	BUS	TRUCK	CAR			BUS	TRUCK	CAR	BUS			TRUCK	CAR	BUS	TRUCK			CAR
12:00 AM																			
12:00 PM																			
01:00 AM																			
01:00 PM																			
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09:00 PM																			
10:00 AM																			
10:00 PM																			
11:00 AM																			
11:00 PM																			
Directional Volume	425						487						625						
Directional Split	46.6%						42.7%						57.3%						
Daily Traffic Volume	15627						15627						6298						
Bus %	0.4%						0.6%						0.6%						
Truck %	1.9%						2.1%						2.7%						
TOTAL	194						194						194						

Interval Begins	Monday						Tuesday						Wednesday						
	Northbound		Southbound		NB Total	SB Total	Northbound		Southbound		NB Total	SB Total	Northbound		Southbound		NB Total	SB Total	
	CAR	BUS	TRUCK	CAR			BUS	TRUCK	CAR	BUS			TRUCK	CAR	BUS	TRUCK			CAR
12:00 AM																			
12:00 PM																			
01:00 AM																			
01:00 PM																			
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09:00 PM																			
10:00 AM																			
10:00 PM																			
11:00 AM																			
11:00 PM																			
Directional Volume	6520						7279						6943						
Directional Split	46.6%						46.6%						52.2%						
Daily Traffic Volume	15627						15627						15627						
Bus %	0.4%						0.4%						0.4%						
Truck %	1.9%						2.1%						2.2%						
TOTAL	194						194						194						

Project Name: Dennisville Counting Program
 Project Number: 0244-00
 Street/Road: Desev Dr. (RI-47)
 Location: North of Petersburg RD
 Direction 1: Southbound
 Direction 2: Southbound

Roadway Type: Two Lane Undivided
 Date Placed: 9/10/2002
 Time Placed: 11:00 AM
 Date Retrieved: 9/10/2002
 Retrieved By: J. P. Hill
 Adjustment Factor: N/A

Date Prepared: 9/18/2002
 By: C XU

Interval Begins	Average										Weekday Average										Weekend Average																			
	Northbound					Southbound					NE Total					CAR					BUS					TRUCK					SB Total					TOTAL				
	CAR	BUS	TRUCK	NE Total	TOTAL	CAR	BUS	TRUCK	SE Total	TOTAL	CAR	BUS	TRUCK	NE Total	TOTAL	CAR	BUS	TRUCK	SE Total	TOTAL	CAR	BUS	TRUCK	NE Total	TOTAL	CAR	BUS	TRUCK	SE Total	TOTAL	CAR	BUS	TRUCK	SE Total	TOTAL					
12:00 AM	32	0	1	33	96	0	0	2	35	60	32	0	2	35	96	32	0	2	35	96	32	0	2	35	96	32	0	2	35	96	32	0	2	35	96					
01:00 AM	23	0	2	25	60	0	0	3	35	60	23	0	3	35	60	23	0	3	35	60	23	0	3	35	60	23	0	3	35	60	23	0	3	35	60					
02:00 AM	22	1	2	25	54	0	0	4	29	54	22	1	4	29	54	22	1	4	29	54	22	1	4	29	54	22	1	4	29	54	22	1	4	29	54					
03:00 AM	30	3	2	35	61	0	0	4	26	61	30	3	4	26	61	30	3	4	26	61	30	3	4	26	61	30	3	4	26	61	30	3	4	26	61					
04:00 AM	16	0	3	19	46	0	0	10	113	46	16	0	10	113	46	16	0	10	113	46	16	0	10	113	46	16	0	10	113	46	16	0	10	113	46					
05:00 AM	15	0	3	18	43	0	0	16	113	43	15	0	16	113	43	15	0	16	113	43	15	0	16	113	43	15	0	16	113	43	15	0	16	113	43					
06:00 AM	248	2	11	261	548	248	4	15	267	548	248	2	15	267	548	248	2	15	267	548	248	2	15	267	548	248	2	15	267	548	248	2	15	267	548					
07:00 AM	351	3	17	371	845	351	6	25	474	845	351	3	17	371	845	351	3	17	371	845	351	3	17	371	845	351	3	17	371	845	351	3	17	371	845					
08:00 AM	367	3	17	407	897	367	7	29	480	897	367	3	17	407	897	367	3	17	407	897	367	3	17	407	897	367	3	17	407	897	367	3	17	407	897					
09:00 AM	402	4	18	424	926	402	4	18	424	926	402	4	18	424	926	402	4	18	424	926	402	4	18	424	926	402	4	18	424	926	402	4	18	424	926					
10:00 AM	439	5	27	471	979	439	5	27	471	979	439	5	27	471	979	439	5	27	471	979	439	5	27	471	979	439	5	27	471	979	439	5	27	471	979					
11:00 AM	431	7	24	462	982	431	7	24	462	982	431	7	24	462	982	431	7	24	462	982	431	7	24	462	982	431	7	24	462	982	431	7	24	462	982					
12:00 PM	426	4	22	452	903	426	5	22	451	903	426	4	22	452	903	426	4	22	451	903	426	4	22	452	903	426	4	22	451	903	426	4	22	452	903					
01:00 PM	488	4	23	515	969	488	4	21	454	969	488	4	23	515	969	488	4	21	454	969	488	4	23	515	969	488	4	21	454	969	488	4	23	515	969					
02:00 PM	493	6	27	526	1015	493	6	20	489	1015	493	6	27	526	1015	493	6	20	489	1015	493	6	27	526	1015	493	6	20	489	1015	493	6	27	526	1015					
03:00 PM	587	7	23	617	1103	587	7	23	486	1103	587	7	23	617	1103	587	7	23	486	1103	587	7	23	617	1103	587	7	23	486	1103	587	7	23	486	1103					
04:00 PM	562	5	15	582	1065	562	5	15	483	1065	562	5	15	582	1065	562	5	15	483	1065	562	5	15	582	1065	562	5	15	483	1065	562	5	15	483	1065					
05:00 PM	563	2	10	575	1028	563	2	7	424	1028	563	2	10	575	1028	563	2	7	424	1028	563	2	10	575	1028	563	2	7	424	1028	563	2	10	575	1028					
06:00 PM	316	3	8	327	588	316	3	5	316	588	316	3	8	327	588	316	3	5	316	588	316	3	8	327	588	316	3	5	316	588	316	3	8	327	588					
07:00 PM	262	2	8	272	500	262	2	8	272	500	262	2	8	272	500	262	2	8	272	500	262	2	8	272	500	262	2	8	272	500	262	2	8	272	500					
08:00 PM	224	0	4	228	429	224	1	5	293	429	224	0	4	228	429	224	1	5	293	429	224	0	4	228	429	224	1	5	293	429	224	0	4	228	429					
09:00 PM	178	0	3	181	316	178	0	3	248	316	178	0	3	181	316	178	0	3	248	316	178	0	3	181	316	178	0	3	248	316	178	0	3	248	316					
10:00 PM	102	1	4	107	189	102	1	4	209	189	102	1	4	107	189	102	1	4	209	189	102	1	4	107	189	102	1	4	209	189	102	1	4	209	189					
11:00 PM	64	0	2	66	119	64	0	2	103	119	64	0	2	66	119	64	0	2	103	119	64	0	2	66	119	64	0	2	103	119	64	0	2	103	119					
Directional Volume AADT	6821	62	277	7160	14463	6821	65	298	7160	14463	6821	62	277	7160	14463	6821	65	298	7160	14463	6821	62	277	7160	14463	6821	65	298	7160	14463	6821	62	277	7160	14463					
Directional Volume AADT											49.5%										50.5%																			
Adjustment Factor	N/A										N/A										N/A																			
Adjusted Traffic Volumes											Adjusted Traffic Volumes										Adjusted Traffic Volumes																			
Percentage Distribution	Northbound					Southbound					Northbound					Southbound					Northbound					Southbound														
CAR	85.3%					85.0%					85.3%					85.0%					85.1%					85.1%														
BUS	0.9%					0.9%					0.9%					0.9%					0.9%					0.9%														
TRUCK	3.9%					3.9%					3.9%					4.1%					4.0%					4.0%														

Project Name: Dennisville Counting Program
 Project Number: 0244-00
 Street/Road: Delsey Dr. (RI-47)
 Location: South of Petersburg RD
 Direction 1: Northbound
 Direction 2: Southbound

Roadway Type: Two Lane Undivided
 Date Placed: 9/10/2002
 Time Placed: 11:00 AM
 Date Retrieved: 9/13/2002
 Time Retrieved: 12:00 PM
 Adjustment Factor: N/A

Date Prepared: 9/18/2002
 By: C XU

Interval Begins	Monday						Tuesday						Wednesday					
	Northbound			Southbound			Northbound			Southbound			Northbound			Southbound		
	CAR	BUS	TRUCK															
12:00 AM																		
01:00 AM																		
02:00 AM																		
03:00 AM																		
04:00 AM																		
05:00 AM																		
06:00 AM																		
07:00 AM																		
08:00 AM																		
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03:00 PM																		
04:00 PM																		
05:00 PM																		
06:00 PM																		
07:00 PM																		
08:00 PM																		
09:00 PM																		
10:00 PM																		
11:00 PM																		
Directional Volume	4355						4835						6192					
Directional Split	38						193						297					
PC %	44.3%						51.7%						42.3%					
Bus %	0.4%						0.2%						0.4%					
Truck %	1.9%						1.4%						2.0%					

Interval Begins	Thursday						Friday						Saturday					
	Northbound			Southbound			Northbound			Southbound			Northbound			Southbound		
	CAR	BUS	TRUCK															
12:00 AM																		
01:00 AM																		
02:00 AM																		
03:00 AM																		
04:00 AM																		
05:00 AM																		
06:00 AM																		
07:00 AM																		
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11:00 AM																		
12:00 PM																		
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04:00 PM																		
05:00 PM																		
06:00 PM																		
07:00 PM																		
08:00 PM																		
09:00 PM																		
10:00 PM																		
11:00 PM																		
Directional Volume	6559						4355						6192					
Directional Split	70						33						80					
PC %	39.4%						36.0%						42.3%					
Bus %	0.4%						0.5%						0.4%					
Truck %	1.7%						1.9%						2.0%					

Interval Begins	Monday						Tuesday						Wednesday					
	Northbound			Southbound			Northbound			Southbound			Northbound			Southbound		
	CAR	BUS	TRUCK															
12:00 AM																		
01:00 AM																		
02:00 AM																		
03:00 AM																		
04:00 AM																		
05:00 AM																		
06:00 AM																		
07:00 AM																		
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05:00 PM																		
06:00 PM																		
07:00 PM																		
08:00 PM																		
09:00 PM																		
10:00 PM																		
11:00 PM																		
Directional Volume	6559						4355						6192					
Directional Split	70						33						80					
PC %	39.4%						36.0%						42.3%					
Bus %	0.4%						0.5%						0.4%					
Truck %	1.7%						1.9%						2.0%					

Interval Begins	Thursday						Friday						Saturday					
	Northbound			Southbound			Northbound			Southbound			Northbound			Southbound		
	CAR	BUS	TRUCK															
12:00 AM																		
01:00 AM																		
02:00 AM																		
03:00 AM																		
04:00 AM																		
05:00 AM																		
06:00 AM																		
07:00 AM																		
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05:00 PM																		
06:00 PM																		
07:00 PM																		
08:00 PM																		
09:00 PM																		
10:00 PM																		
11:00 PM																		
Directional Volume	6559						4355						6192					
Directional Split	70						33						80					
PC %	39.4%						36.0%						42.3%					
Bus %	0.4%						0.5%						0.4%					
Truck %	1.7%						1.9%						2.0%					

Manual Turning Movement Count Data

Urban Engineers, Inc.

530 Walnut Street, 7th Floor
 Philadelphia, PA 19106
 p(215) 922-8080 f(215) 922-8082

File Name : Delsey Rte 47 and Petersburg Rd
 Site Code : 00000001
 Start Date : 9/10/2002
 Page No : 1

Groups Printed- Cars - Trucks - Buses

Start Time	Delsey Dr Rte 47 From North						Petersburg C.R 610 From East						Delsey Dr Rte 47 From South						From West					
	Left	Thru	Right	Peds	App. Total	Factor	Left	Thru	Right	Peds	App. Total	Factor	Left	Thru	Right	Peds	App. Total	Factor	Left	Thru	Right	Peds	App. Total	Factor
	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
07:00 AM	2	83	0	0	85		22	0	5	0	27		0	83	1	0	84		0	0	0	0	0	196
07:15 AM	13	113	0	0	126		33	0	3	0	36		0	98	1	0	99		0	0	0	0	0	261
07:30 AM	13	137	0	0	150		24	0	4	0	28		0	107	1	0	108		0	0	0	0	0	286
07:45 AM	11	104	0	0	115		20	0	4	0	24		0	102	2	0	104		0	0	0	0	0	243
Total	39	437	0	0	476		99	0	16	0	115		0	390	5	0	395		0	0	0	0	0	986
08:00 AM	10	112	0	0	122		23	0	8	0	31		0	105	1	0	106		0	0	0	0	0	259
08:15 AM	9	108	0	0	117		30	0	4	0	34		0	107	0	0	107		0	0	0	0	0	258
08:30 AM	7	117	0	0	124		33	0	8	0	41		0	111	2	0	113		0	0	0	0	0	278
08:45 AM	7	106	0	0	113		33	0	2	0	35		0	98	1	0	99		0	0	0	0	0	247
Total	33	443	0	0	476		119	0	22	0	141		0	421	4	0	425		0	0	0	0	0	1042
04:00 PM	10	131	0	0	141		41	0	7	0	48		0	159	4	0	163		0	0	0	0	0	352
04:15 PM	7	109	0	0	116		41	0	9	0	50		0	124	2	0	126		0	0	0	0	0	292
04:30 PM	6	109	0	0	115		39	0	5	0	44		0	154	1	0	155		0	0	0	0	0	314
04:45 PM	4	122	0	0	126		32	0	5	0	37		0	144	0	0	144		0	0	0	0	0	307
Total	27	471	0	0	498		153	0	26	0	179		0	581	7	0	588		0	0	0	0	0	1265
05:00 PM	7	124	0	0	131		35	0	10	0	45		0	114	1	0	115		0	0	0	0	0	291
05:15 PM	3	100	0	0	103		23	0	5	0	28		0	130	2	0	132		0	0	0	0	0	263
05:30 PM	8	107	0	0	115		22	0	7	0	29		0	117	0	0	117		0	0	0	0	0	261
05:45 PM	4	101	0	0	105		18	0	5	0	23		0	125	0	0	125		0	0	0	0	0	253
Total	22	432	0	0	454		98	0	27	0	125		0	486	3	0	489		0	0	0	0	0	1068
Grand Total	121	1783	0	0	1904		469	0	91	0	560		0	1878	19	0	1897		0	0	0	0	0	4361
Approch %	6.4	93.6	0	0			83.8	0	16.2	0			0	99	1	0			0	0	0	0	0	
Total %	2.8	40.9	0	0	43.7		10.8	0	2.1	0	12.8		0	43.1	0.4	0	43.5		0	0	0	0	0	
% Cars	110	1639	0	0	1749		435	0	81	0	516		0	1754	19	0	1773		0	0	0	0	0	4038
% Trucks	6	122	0	0	128		22	0	4	0	26		0	108	0	0	108		0	0	0	0	0	262
% Buses	5	6.8	0	0	6.7		4.7	0	4.4	0	4.6		0	5.8	0	0	5.7		0	0	0	0	0	6
% Buses	4.1	1.2	0	0	1.4		2.6	0	6.6	0	3.2		0	0.9	0	0	0.8		0	0	0	0	0	1.4

Urban Engineers, Inc.

530 Walnut Street, 7th Floor
 Philadelphia, PA 19106
 p(215)922-8080 f(215)922-8082

File Name : Delsey Rte 47 and Petersburg Rd
 Site Code : 00000001
 Start Date : 9/10/2002
 Page No : 2

Start Time	Delsey Dr Rte 47 From North				Petersburg C.R.610 From East				Delsey Dr Rte 47 From South				From West				
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total	
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	13	113	0	0	126	33	0	3	0	36	0	98	1	0	99	0	261
07:30 AM	13	137	0	0	150	24	0	4	0	28	0	107	1	0	108	0	286
07:45 AM	11	104	0	0	115	20	0	4	0	24	0	102	2	0	104	0	243
08:00 AM	10	112	0	0	122	23	0	8	0	31	0	105	1	0	106	0	259
Total Volume	47	466	0	0	513	100	0	19	0	119	0	412	5	0	417	0	1049
% App. Total	9.2	90.8	0.0	0.0	85.5	19.3	0.0	3.7	0.0	23.1	0.0	79.8	1.2	0.0	96.5	0.0	91.7
PHF	.904	.850	.000	.000	.855	.798	.000	.594	.000	.826	.000	.963	.625	.000	.965	.000	.944
Cars	41	415	0	0	456	89	0	15	0	104	0	379	5	0	384	0	944
% Cars	87.2	89.1	0.0	0.0	88.9	89.0	0.0	78.9	0.0	87.4	0.0	92.0	100	0.0	92.1	0.0	90.0
Trucks	3	49	0	0	52	6	0	2	0	8	0	27	0	0	27	0	87
% Trucks	6.4	10.5	0.0	0.0	10.1	6.0	0.0	10.5	0.0	6.7	0.0	6.6	0	0	6.5	0.0	8.3
Buses	3	2	0	0	5	5	0	2	0	7	0	6	0	0	6	0	18
% Buses	6.4	0.4	0.0	0.0	1.0	5.0	0.0	10.5	0.0	5.9	0.0	1.5	0	0	1.4	0.0	1.7
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	10	131	0	0	141	41	0	7	0	48	0	159	4	0	163	0	352
04:15 PM	7	109	0	0	116	41	0	9	0	50	0	124	2	0	126	0	292
04:30 PM	6	109	0	0	115	39	0	5	0	44	0	154	1	0	155	0	314
04:45 PM	4	122	0	0	126	32	0	5	0	37	0	144	0	0	144	0	307
Total Volume	27	471	0	0	498	153	0	26	0	179	0	581	7	0	588	0	1265
% App. Total	5.4	94.6	0.0	0.0	88.3	38.5	0.0	5.3	0.0	35.9	0.0	98.8	1.2	0.0	99.2	0.0	100.0
PHF	.675	.899	.000	.000	.883	.933	.000	.722	.000	.895	.000	.914	.438	.000	.902	.000	.898
Cars	24	458	0	0	482	148	0	24	0	172	0	540	7	0	547	0	1201
% Cars	88.9	97.2	0.0	0.0	96.8	96.7	0.0	92.3	0.0	96.1	0.0	92.9	100	0.0	93.0	0.0	94.9
Trucks	2	10	0	0	12	3	0	1	0	4	0	39	0	0	39	0	55
% Trucks	7.4	2.1	0.0	0.0	2.4	2.0	0.0	3.8	0.0	2.2	0.0	6.7	0	0	6.6	0.0	4.3
Buses	1	3	0	0	4	2	0	1	0	3	0	2	0	0	2	0	9
% Buses	3.7	0.6	0.0	0.0	0.8	1.3	0.0	3.8	0.0	1.7	0.0	0.3	0	0	0.3	0.0	0.7

Urban Engineers, Inc.

530 Walnut Street, 7th Floor
 Philadelphia, PA 19106
 p(215) 922-8080 f(215) 922-8082

File Name : Petersburg and Academy Rd
 Site Code : 00000003
 Start Date : 9/10/2002
 Page No : 1

Groups Printed- Cars - Truck - Buses

Start Time	Academy Rd From North						Petersburg Rd From East						Petersburg Rd From South						Petersburg Rd From West								
	Left	Thru	Right	Peds	App. Total	Factor	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
07:00 AM	3	0	5	0	8		0	17	5	0	22	0	0	0	0	1	14	19	0	0	33	1	14	19	0	0	33
07:15 AM	3	0	11	0	14		0	14	10	0	24	0	0	0	0	0	22	22	0	0	44	0	22	22	0	0	44
07:30 AM	4	0	15	0	19		0	10	4	0	14	0	0	0	0	0	29	32	0	0	61	0	29	32	0	0	61
07:45 AM	6	0	10	0	16		0	7	9	0	16	0	0	0	0	0	12	21	0	0	33	0	12	21	0	0	33
Total	16	0	41	0	57		0	48	28	0	76	0	0	0	1	1	77	94	0	0	171	1	77	94	0	0	171
08:00 AM	2	0	9	0	11		0	16	3	0	19	0	0	0	0	0	10	18	0	0	28	0	10	18	0	0	28
08:15 AM	1	0	7	0	8		0	21	12	0	33	0	0	0	0	0	27	19	0	0	46	0	27	19	0	0	46
08:30 AM	4	0	11	0	15		0	14	5	0	19	0	0	0	0	0	18	21	0	0	39	0	18	21	0	0	39
08:45 AM	4	0	10	0	14		0	19	2	0	21	0	0	0	0	0	7	17	0	0	24	0	7	17	0	0	24
Total	11	0	37	0	48		0	70	22	0	92	0	0	0	0	0	62	75	0	0	137	0	62	75	0	0	137
04:00 PM	6	0	10	0	16		0	23	1	0	24	0	0	0	0	0	5	18	0	0	23	0	5	18	0	0	23
04:15 PM	6	0	7	0	13		0	27	4	0	31	0	0	0	0	0	6	15	0	0	21	0	6	15	0	0	21
04:30 PM	0	0	3	0	3		0	19	1	0	20	0	0	0	0	0	3	14	0	0	17	0	3	14	0	0	17
04:45 PM	2	0	2	0	4		0	25	3	0	28	0	0	0	0	0	4	22	0	0	26	0	4	22	0	0	26
Total	14	0	22	0	36		0	94	9	0	103	0	0	0	0	0	18	69	0	0	87	0	18	69	0	0	87
05:00 PM	0	0	6	0	6		0	25	2	0	27	0	0	0	0	0	1	12	0	0	13	0	1	12	0	0	13
05:15 PM	0	0	2	0	2		0	12	1	0	13	0	0	0	0	0	3	24	0	0	27	0	3	24	0	0	27
05:30 PM	1	0	3	0	4		0	26	1	0	27	0	0	0	0	0	5	13	0	0	18	0	5	13	0	0	18
05:45 PM	0	0	4	0	4		0	12	1	0	13	0	0	0	0	0	2	15	0	0	17	0	2	15	0	0	17
Total	1	0	15	0	16		0	75	5	0	80	0	0	0	0	0	11	64	0	0	75	0	11	64	0	0	75
Grand Total	42	0	115	0	157		0	287	64	0	351	0	0	0	1	1	168	302	0	0	470	0	168	302	0	0	470
Approach %	26.8	0	73.2	0	100		0	81.8	18.2	0	100	0	0	0	100	0	35.7	64.3	0	0	48	0	35.7	64.3	0	0	48
Total %	4.3	0	11.7	0	16		0	29.3	6.5	0	35.9	0	0	0	0.1	0.1	17.2	30.8	0	0	48	0	17.2	30.8	0	0	48
% Cars	39	0	101	0	140		0	298	61	0	319	0	0	0	1	1	144	282	0	0	426	0	144	282	0	0	426
% Cars	92.9	0	87.8	0	89.2		0	89.9	95.3	0	90.9	0	0	0	100	100	85.7	93.4	0	0	90.6	0	85.7	93.4	0	0	90.6
Truck	0	0	1	0	1		0	25	1	0	26	0	0	0	0	0	2	19	0	0	21	0	2	19	0	0	21
% Truck	0	0	0.9	0	0.6		0	8.7	1.6	0	7.4	0	0	0	0	0	1.2	6.3	0	0	4.5	0	1.2	6.3	0	0	4.5
Buses	3	0	13	0	16		0	4	2	0	6	0	0	0	0	0	22	1	0	0	23	0	22	1	0	0	23
% Buses	7.1	0	11.3	0	10.2		0	1.4	3.1	0	1.7	0	0	0	0	0	13.1	0.3	0	0	4.9	0	13.1	0.3	0	0	4.9

Urban Engineers, Inc.

530 Walnut Street, 7th Floor
 Philadelphia, PA 19106
 p(215)922-8080 f(215)922-8082

File Name : Petersburg and Academy Rd
 Site Code : 00000003
 Start Date : 9/10/2002
 Page No : 2

Start Time	Academy Rd From North						Petersburg Rd From East						Petersburg Rd From West										
	Left	Thru	Right	Peds	App. Total		Left	Thru	Right	Peds	App. Total		Left	Thru	Right	Peds	App. Total	Int. Total					
	From 07:00 AM to 11:45 AM - Peak 1 of 1						From 07:00 AM to 11:45 AM - Peak 1 of 1						From 07:00 AM to 11:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM																							
07:00 AM	3	0	5	0	8		0	17	5	0	22		0	0	0	1	1	14	19	0	0	33	64
07:15 AM	3	0	11	0	14		0	14	10	0	24		0	0	0	0	0	22	22	0	0	44	82
07:30 AM	4	0	15	0	19		0	10	4	0	14		0	0	0	0	0	29	32	0	0	61	94
07:45 AM	6	0	10	0	16		0	7	9	0	16		0	0	0	0	0	12	21	0	0	33	65
Total Volume	16	0	41	0	57		0	48	28	0	76		0	0	0	1	1	77	94	0	0	171	305
% App. Total	28.1	0	71.9	0			63.2	36.8	0		.792		.000	.000	.000	.250	.250	.664	.734	.000	.000	.701	.811
PHF	.667	.000	.683	.000	.750		.706	.700	.000	.792		.000	.000	.000	.250	.250	.664	.734	.000	.000	.701	.811	
Cars	15	0	34	0	49		0	38	28	0	66		0	0	0	1	1	68	88	0	0	156	272
% Cars	93.8	0	82.9	0	86.0		79.2	100	0	86.8		0	0	0	100	100	88.3	93.6	0	0	91.2	89.2	
Truck	0	0	1	0	1		0	9	0	9		0	0	0	0	0	1	6	0	0	7	17	
% Truck	0	0	2.4	0	1.8		18.8	0	0	11.8		0	0	0	0	0	1.3	6.4	0	0	4.1	5.6	
Buses	1	0	6	0	7		0	1	0	1		0	0	0	0	0	8	0	0	0	8	16	
% Buses	6.3	0	14.6	0	12.3		2.1	0	0	1.3		0	0	0	0	0	10.4	0	0	0	4.7	5.2	
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																							
Peak Hour for Entire Intersection Begins at 04:00 PM																							
04:00 PM	6	0	10	0	16		0	23	1	0	24		0	0	0	0	0	5	18	0	0	23	63
04:15 PM	6	0	7	0	13		0	27	4	0	31		0	0	0	0	0	6	15	0	0	21	65
04:30 PM	0	0	3	0	3		0	19	1	0	20		0	0	0	0	0	3	14	0	0	17	40
04:45 PM	2	0	2	0	4		0	25	3	0	28		0	0	0	0	0	4	22	0	0	26	58
Total Volume	14	0	22	0	36		0	94	9	0	103		0	0	0	0	0	18	69	0	0	87	226
% App. Total	38.9	0	61.1	0			91.3	8.7	0		.831		.000	.000	.000	.000	.000	.750	.784	.000	.000	.837	.869
PHF	.583	.000	.550	.000	.563		.870	.563	.000	.831		.000	.000	.000	.000	.000	.750	.784	.000	.000	.837	.869	
Cars	14	0	21	0	35		0	89	8	0	97		0	0	0	0	0	11	66	0	0	77	209
% Cars	100	0	95.5	0	97.2		94.7	88.9	0	94.2		0	0	0	0	0	61.1	95.7	0	0	88.5	92.5	
Truck	0	0	0	0	0		0	3	1	4		0	0	0	0	0	1	3	0	0	4	8	
% Truck	0	0	0	0	0		3.2	11.1	0	3.9		0	0	0	0	0	5.6	4.3	0	0	4.6	3.5	
Buses	0	0	1	0	1		0	2	0	2		0	0	0	0	0	6	0	0	0	6	9	
% Buses	0	0	4.5	0	2.8		2.1	0	0	1.9		0	0	0	0	0	33.3	0	0	0	6.9	4.0	

Urban Engineers, Inc.

530 Walnut Street, 7th Floor
 Philadelphia, PA 19106
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File Name : Petersburg and Filder Rd
 Site Code : 00000002
 Start Date : 9/10/2002
 Page No : 1

Groups Printed- Cars - Trucks - Buses

Start Time	Fidler Rd (C.R 638)						Petersburg Rd (C.R 610)						Petersburg Rd (C.R 610)								
	From North			From East			From South			From West			From South			From West					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
07:00 AM	1	0	8	0	9	0	25	0	0	25	0	0	0	0	0	14	30	0	0	44	
07:15 AM	1	0	24	0	25	0	25	1	0	26	0	0	0	0	0	14	44	0	0	58	
07:30 AM	4	0	13	0	17	0	28	2	0	30	0	0	0	0	0	20	53	0	0	73	
07:45 AM	1	0	9	0	10	0	15	1	0	16	0	0	0	0	0	43	34	0	0	77	
Total	7	0	54	0	61	0	93	4	0	97	0	0	0	0	0	91	161	0	0	252	410
08:00 AM	1	0	14	0	15	0	24	1	0	25	0	0	0	0	0	23	27	0	0	50	90
08:15 AM	4	0	9	0	13	0	30	0	0	30	0	0	0	0	0	15	44	0	0	59	102
08:30 AM	1	0	13	0	14	0	31	0	0	31	0	0	0	0	0	12	35	0	0	47	92
08:45 AM	1	0	11	0	12	0	32	0	0	32	0	0	0	0	0	20	24	0	0	44	88
Total	7	0	47	0	54	0	117	1	0	118	0	0	0	0	0	70	130	0	0	200	372
04:00 PM	1	0	20	0	21	0	31	3	0	34	0	0	0	0	0	9	27	0	0	36	91
04:15 PM	1	0	20	0	21	0	32	3	0	35	0	0	0	0	0	12	19	0	0	31	87
04:30 PM	0	0	28	0	28	0	22	2	0	24	0	0	0	0	0	19	17	0	0	36	88
04:45 PM	1	0	19	0	20	0	28	1	0	29	0	0	0	0	0	17	25	0	0	42	91
Total	3	0	87	0	90	0	113	9	0	122	0	0	0	0	0	57	88	0	0	145	357
05:00 PM	0	0	22	0	22	0	29	1	0	30	0	0	0	0	0	20	14	0	0	34	86
05:15 PM	2	0	15	0	17	0	16	0	0	16	0	0	0	0	0	20	24	0	0	44	77
05:30 PM	0	0	14	0	14	0	25	0	0	25	0	0	0	0	0	18	18	0	0	36	75
05:45 PM	2	0	11	0	13	0	16	0	0	16	0	0	0	0	0	9	17	0	0	26	55
Total	4	0	62	0	66	0	86	1	0	87	0	0	0	0	0	67	73	0	0	140	293
Grand Total	21	0	250	0	271	0	409	15	0	424	0	0	0	0	0	285	452	0	0	737	1432
Approch %	7.7	0	92.3	0	18.9	0	96.5	3.5	0	29.6	0	0	0	0	0	38.7	61.3	0	0	51.5	
Total %	1.5	0	17.5	0	18.9	0	28.6	1	0	29.6	0	0	0	0	0	19.9	31.6	0	0	51.5	
% Cars	19	0	245	0	264	0	367	14	0	381	0	0	0	0	0	273	406	0	0	679	1324
% Trucks	2	0	2	0	4	0	24	1	0	25	0	0	0	0	0	5	23	0	0	28	57
% Buses	9.5	0	0.8	0	1.5	0	5.9	6.7	0	5.9	0	0	0	0	0	1.8	5.1	0	0	3.8	4
% Buses	0	0	3	0	3	0	18	0	0	18	0	0	0	0	0	7	23	0	0	30	51
% Buses	0	0	1.2	0	1.1	0	4.4	0	0	4.2	0	0	0	0	0	2.5	5.1	0	0	4.1	3.6

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File Name : Petersburg and Filder Rd
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 Start Date : 9/10/2002
 Page No : 2

Start Time	Fidler Rd (C.R 638) From North					Petersburg Rd (C.R 610) From East					Petersburg Rd (C.R 610) From South					Petersburg Rd (C.R 610) From West					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
	Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																				
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	1	0	24	0	25	0	25	1	0	26	0	0	0	0	0	14	44	0	0	58	109
07:30 AM	4	0	13	0	17	0	28	2	0	30	0	0	0	0	0	20	53	0	0	73	120
07:45 AM	1	0	9	0	10	0	15	1	0	16	0	0	0	0	0	43	34	0	0	77	103
08:00 AM	1	0	14	0	15	0	24	1	0	25	0	0	0	0	0	23	27	0	0	50	90
Total Volume	7	0	60	0	67	0	92	5	0	97	0	0	0	0	0	100	158	0	0	258	422
% App. Total	10.4	0	89.6	0	.670	.000	.821	.625	.000	.808	.000	.000	.000	.000	.000	.388	.612	.000	.000	.838	.879
PHF	.438	.000	.625	.000	.670	.000	.821	.625	.000	.808	.000	.000	.000	.000	.000	.581	.745	.000	.000	.838	.879
Cars	6	0	60	0	66	0	75	5	0	80	0	0	0	0	0	93	142	0	0	235	381
% Cars	85.7	0	100	0	98.5	0	81.5	100	0	82.5	0	0	0	0	0	93.0	89.9	0	0	91.1	90.3
Truks	1	0	0	0	1	0	7	0	0	7	0	0	0	0	0	2	8	0	0	10	18
% Truks	14.3	0	0	0	1.5	0	7.6	0	0	7.2	0	0	0	0	0	2.0	5.1	0	0	3.9	4.3
Buses	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	5	8	0	0	13	23
% Buses	0	0	0	0	0	0	10.9	0	0	10.3	0	0	0	0	0	5.0	5.1	0	0	5.0	5.5
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	1	0	20	0	21	0	31	3	0	34	0	0	0	0	0	9	27	0	0	36	91
04:15 PM	1	0	20	0	21	0	32	3	0	35	0	0	0	0	0	12	19	0	0	31	87
04:30 PM	0	0	28	0	28	0	22	2	0	24	0	0	0	0	0	19	17	0	0	36	88
04:45 PM	1	0	19	0	20	0	28	1	0	29	0	0	0	0	0	17	25	0	0	42	91
Total Volume	3	0	87	0	90	0	113	9	0	122	0	0	0	0	0	57	88	0	0	145	357
% App. Total	3.3	0	96.7	0	.804	.000	.883	.750	.000	.871	.000	.000	.000	.000	.000	.393	.607	.000	.000	.863	.981
PHF	.750	.000	.777	.000	.804	.000	.883	.750	.000	.871	.000	.000	.000	.000	.000	.750	.815	.000	.000	.863	.981
Cars	3	0	87	0	90	0	107	8	0	115	0	0	0	0	0	54	74	0	0	128	333
% Cars	100	0	100	0	100	0	94.7	88.9	0	94.3	0	0	0	0	0	94.7	84.1	0	0	88.3	93.3
Truks	0	0	0	0	0	0	3	1	0	4	0	0	0	0	0	3	7	0	0	10	14
% Truks	0	0	0	0	0	0	2.7	11.1	0	3.3	0	0	0	0	0	5.3	8.0	0	0	6.9	3.9
Buses	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	7	0	0	7	10
% Buses	0	0	0	0	0	0	2.7	0	0	2.5	0	0	0	0	0	0	8.0	0	0	4.8	2.8

Level of Service (LOS) Analysis Output

SHORT REPORT												
General Information						Site Information						
Analyst <i>JC</i> Agency or Co. <i>URBAN ENGINEERS, INC</i> Date Performed <i>9/12/02</i> Time Period <i>AM Peak</i>						Intersection <i>Delsey Dr and Petersburg Rd</i> Area Type <i>All other areas</i> Jurisdiction <i>NJDOT</i> Analysis Year <i>2002 Existing</i>						
Volume and Timing Input												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes				0		0		1	0	0	1	
Lane Group					LR			TR			LT	
Volume (vph)				100		19		412	5	47	466	
% Heavy Vehicles				13		13		7	7	14	14	
PHF				0.83		0.83		0.97	0.97	0.86	0.86	
Pretimed/Actuated (P/A)				A		A		A	A	A	A	
Startup Lost Time					2.0			2.0			2.0	
Extension of Effective Green					2.0			2.0			2.0	
Arrival Type					3			3			3	
Unit Extension					3.0			3.0			3.0	
Ped/Bike/RTOR Volume	0	0		0	0	0	0	0	0	0	0	
Lane Width					12.0			12.0			12.0	
Parking/Grade/Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking/Hour												
Bus Stops/Hour					0			0			0	
Minimum Pedestrian Time		3.2			3.2			3.2			3.2	
Phasing	WB Only	02	03	04	NS Perm	06	07	08				
Timing	G = 11.0	G =	G =	G =	G = 62.0	G =	G =	G =				
	Y = 6	Y =	Y =	Y =	Y = 6	Y =	Y =	Y =				
Duration of Analysis (hrs) = 0.25						Cycle Length C = 85.0						
Lane Group Capacity, Control Delay, and LOS Determination												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate				143			430			597		
Lane Group Capacity				204			1293			1131		
v/c Ratio				0.70			0.33			0.53		
Green Ratio				0.13			0.73			0.73		
Uniform Delay d ₁				35.5			4.1			5.1		
Delay Factor k				0.27			0.11			0.13		
Incremental Delay d ₂				10.3			0.2			0.5		
PF Factor				1.000			1.000			1.000		
Control Delay				46.4			4.3			5.6		
Lane Group LOS				D			A			A		
Approach Delay				46.4			4.3			5.6		
Approach LOS				D			A			A		
Intersection Delay	10.1			Intersection LOS						B		

SHORT REPORT												
General Information						Site Information						
Analyst <i>JC</i> Agency or Co. <i>URBAN ENGINEERS, INC</i> Date Performed <i>9/12/02</i> Time Period <i>PM Peak</i>						Intersection <i>Delsey Dr and Petersburg Rd</i> Area Type <i>All other areas</i> Jurisdiction <i>NJDOT</i> Analysis Year <i>2002 Existing</i>						
Volume and Timing Input												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes				0		0		1	0	0	1	
Lane Group					LR			TR			LT	
Volume (vph)				153		26		581	7	27	471	
% Heavy Vehicles				4		4		6	6	3	3	
PHF				0.90		0.90		0.90	0.90	0.88	0.88	
Pretimed/Actuated (P/A)				A		A		A	A	A	A	
Startup Lost Time					2.0			2.0			2.0	
Extension of Effective Green					2.0			2.0			2.0	
Arrival Type					3			3			3	
Unit Extension					3.0			3.0			3.0	
Ped/Bike/RTOR Volume	0	0		0	0	0	0	0	0	0	0	
Lane Width					12.0			12.0			12.0	
Parking/Grade/Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking/Hour												
Bus Stops/Hour					0			0			0	
Minimum Pedestrian Time		3.2			3.2			3.2			3.2	
Phasing	WB Only		02	03	04	NS Perm	06	07	08			
Timing	G = 11.0		G =	G =	G =	G = 62.0	G =	G =	G =			
	Y = 6		Y =	Y =	Y =	Y = 6	Y =	Y =	Y =			
Duration of Analysis (hrs) = 0.25							Cycle Length C = 85.0					
Lane Group Capacity, Control Delay, and LOS Determination												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate					199			654			566	
Lane Group Capacity					222			1305			1277	
v/c Ratio					0.90			0.50			0.44	
Green Ratio					0.13			0.73			0.73	
Uniform Delay d ₁					36.5			4.9			4.6	
Delay Factor k					0.42			0.11			0.11	
Incremental Delay d ₂					34.0			0.3			0.2	
PF Factor					1.000			1.000			1.000	
Control Delay					72.0			5.3			4.9	
Lane Group LOS					E			A			A	
Approach Delay				72.0			5.3			4.9		
Approach LOS				E			A			A		
Intersection Delay	14.5			Intersection LOS						B		

TWO-WAY STOP CONTROL SUMMARY						
General Information			Site Information			
Analyst	JC		Intersection		Petersburg Rd and Filder Rd	
Agency/Co.	URBAN ENGINEERS, INC		Jurisdiction		NJDOT	
Date Performed	9/12/02		Analysis Year		2002 Existing	
Analysis Time Period	AM PEAK					
Project Description 024400 Dennisville						
East/West Street: Petersburg Rd Rte (610)			North/South Street: Filder Rd			
Intersection Orientation: East-West			Study Period (hrs): 0.25			
Vehicle Volumes and Adjustments						
Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	100	158			92	5
Peak-Hour Factor, PHF	0.84	0.84	1.00	1.00	0.80	0.80
Hourly Flow Rate, HFR (veh/h)	119	188	0	0	114	6
Percent Heavy Vehicles	9	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LT					TR
Upstream Signal		0			1	
Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				7		60
Peak-Hour Factor, PHF	1.00	1.00	1.00	0.67	1.00	0.67
Hourly Flow Rate, HFR (veh/h)	0	0	0	10	0	89
Percent Heavy						

Vehicles	0	0	0	5	0	5
Percent Grade (%)	0			0		
Flared Approach Storage		N			N	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration					LR	

Delay, Queue Length, and Level of Service								
Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LT						LR	
v (veh/h)	119						99	
C (m) (veh/h)	1425						839	
v/c	0.08						0.12	
95% queue length	0.27						0.40	
Control Delay (s/veh)	7.8						9.9	
LOS	A						A	
Approach Delay (s/veh)	--	--				9.9		
Approach LOS	--	--				A		

TWO-WAY STOP CONTROL SUMMARY						
General Information			Site Information			
Analyst	JC		Intersection		Petersburg Rd and Filter Rd	
Agency/Co.	URBAN ENGINEERS, INC		Jurisdiction		NJDOT	
Date Performed	9/12/02		Analysis Year		2002 Existing	
Analysis Time Period	PM PEAK					
Project Description 024400 Dennisville						
East/West Street: Petersburg Rd Rte (610)			North/South Street: Filter Rd			
Intersection Orientation: East-West			Study Period (hrs): 0.25			
Vehicle Volumes and Adjustments						
Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	57	88			113	9
Peak-Hour Factor, PHF	0.86	0.86	1.00	1.00	0.87	0.87
Hourly Flow Rate, HFR (veh/h)	66	102	0	0	129	10
Percent Heavy Vehicles	1	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LT					TR
Upstream Signal		0			1	
Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				3		87
Peak-Hour Factor, PHF	1.00	1.00	1.00	0.80	1.00	0.80
Hourly Flow Rate, HFR (veh/h)	0	0	0	3	0	108
Percent Heavy						

Vehicles	0	0	0	6	0	6
Percent Grade (%)	0			0		
Flared Approach Storage		N			N	
RT Channelized			0			0
Lanes Configuration	0	0	0	0	0	0
					LR	

Delay, Queue Length, and Level of Service								
Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LT						LR	
v (veh/h)	66						111	
C (m) (veh/h)	1455						902	
v/c	0.05						0.12	
95% queue length	0.14						0.42	
Control Delay (s/veh)	7.6						9.6	
LOS	A						A	
Approach Delay (s/veh)	--	--				9.6		
Approach LOS	--	--				A		

TWO-WAY STOP CONTROL SUMMARY						
General Information			Site Information			
Analyst			Intersection		<i>Petersburg Rd and Academy Rd</i>	
Agency/Co.	<i>URBAN ENGINEERS, INC</i>		Jurisdiction		<i>NJDOT</i>	
Date Performed	<i>9/12/02</i>		Analysis Year		<i>2002 Existing</i>	
Analysis Time Period	<i>AM PEAK</i>					
Project Description <i>024400 Dennisville</i>						
East/West Street: <i>Petersburg Rd Rte (610)</i>			North/South Street: <i>Academy Rd</i>			
Intersection Orientation: <i>East-West</i>			Study Period (hrs): <i>0.25</i>			
Vehicle Volumes and Adjustments						
Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	<i>73</i>	<i>93</i>			<i>47</i>	<i>26</i>
Peak-Hour Factor, PHF	<i>0.70</i>	<i>0.70</i>	<i>1.00</i>	<i>1.00</i>	<i>0.79</i>	<i>0.79</i>
Hourly Flow Rate, HFR (veh/h)	<i>104</i>	<i>132</i>	<i>0</i>	<i>0</i>	<i>59</i>	<i>32</i>
Percent Heavy Vehicles	<i>10</i>	--	--	<i>0</i>	--	--
Median Type	<i>Undivided</i>					
RT Channelized			<i>0</i>			<i>0</i>
Lanes	<i>0</i>	<i>1</i>	<i>0</i>	<i>0</i>	<i>1</i>	<i>0</i>
Configuration	<i>LT</i>					<i>TR</i>
Upstream Signal		<i>0</i>			<i>0</i>	
Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				<i>15</i>		<i>45</i>
Peak-Hour Factor, PHF	<i>1.00</i>	<i>1.00</i>	<i>1.00</i>	<i>0.75</i>	<i>1.00</i>	<i>0.75</i>
Hourly Flow Rate, HFR (veh/h)	<i>0</i>	<i>0</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>60</i>
Percent Heavy						

Vehicles	0	0	0	15	0	15
Percent Grade (%)	0			0		
Flared Approach Storage		N			N	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration					LR	

Delay, Queue Length, and Level of Service								
Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LT						LR	
v (veh/h)	104						80	
C (m) (veh/h)	1455						793	
v/c	0.07						0.10	
95% queue length	0.23						0.34	
Control Delay (s/veh)	7.7						10.0	
LOS	A						B	
Approach Delay (s/veh)	--	--				10.0		
Approach LOS	--	--				B		

TWO-WAY STOP CONTROL SUMMARY						
General Information			Site Information			
Analyst	JC		Intersection	Petersburg Rd and Academy Rd		
Agency/Co.	URBAN ENGINEERS, INC		Jurisdiction	NJDOT		
Date Performed	9/12/02		Analysis Year	2002 Existing		
Analysis Time Period	PM Peak					
Project Description 024400 Dennisville						
East/West Street: Petersburg Rd Rte (610)			North/South Street: Academy Rd			
Intersection Orientation: East-West			Study Period (hrs): 0.25			
Vehicle Volumes and Adjustments						
Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	9	94			77	94
Peak-Hour Factor, PHF	0.83	0.83	1.00	1.00	0.83	0.83
Hourly Flow Rate, HFR (veh/h)	10	113	0	0	92	113
Percent Heavy Vehicles	7	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LT					TR
Upstream Signal		0			0	
Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				14		22
Peak-Hour Factor, PHF	1.00	1.00	1.00	0.56	1.00	0.56
Hourly Flow Rate, HFR (veh/h)	0	0	0	24	0	39
Percent Heavy						

Vehicles	0	0	0	2	0	2
Percent Grade (%)	0			0		
Flared Approach Storage		N			N	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration					LR	

Delay, Queue Length, and Level of Service								
Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LT						LR	
v (veh/h)	10						63	
C (m) (veh/h)	1337						813	
v/c	0.01						0.08	
95% queue length	0.02						0.25	
Control Delay (s/veh)	7.7						9.8	
LOS	A						A	
Approach Delay (s/veh)	--	--				9.8		
Approach LOS	--	--				A		

Appendix C

Review of Existing Guide Rail Installation



Dennisville - Petersburg Road (CR 610)
Transportation Study

Dennis Township, Cape May County



Prepared for:

Cape May County Department of Public Works
4 Moore Road
Cape May Courthouse, NJ 08210



Prepared by:

Urban Engineers, Inc.
2500 McClellan Ave.
Pennsauken, NJ 08109

November, 2007

Background

NJDOT defines Guiderail as: “a longitudinal barrier whose primary functions are to prevent penetration and to safely redirect an errant vehicle away from a roadside or median obstruction.” To determine if guiderail is warranted to protect vehicles from an obstruction, a “clear zone” is determined. The Clear Zone is defined as: “the area, starting at the edge of the traveled way, which is available for safe use by errant vehicles.”

Dennisville-Petersburg Road (CR610) has a posted speed of 25 MPH and has an ADT of 2322 vehicles per day. Using Figure 8A from the NJDOT Roadway Design Manual, the suggested clear zone for the existing speed and volume condition is 10 feet to 14 feet from the traveled way. This means that if there are obstructions and/or a non-traversable roadside within 10 to 14 feet of the traveled way, guide rail may be warranted. The NJDOT defines Warranting Obstruction as: “a non-traversable roadside or a fixed object located within the clear zone and whose physical characteristics are such that injuries resulting from an impact with the obstruction would probably be more severe than injuries resulting from an impact with guide rail.”

Examples of fixed objects are: “overhead sign supports, traffic signals and luminaries supports of non-breakaway design, concrete pedestals extending more than 4 inches above the ground, bridge piers, abutments and ends of parapets and railings, wood poles or posts with a cross sectional area greater than 50 square inches and drainage structures.” Trees (greater than 6 inches in diameter) are also considered fixed objects but “are not considered a warranting obstruction for guide rail since guiderail is not installed solely for shielding trees.” Guiderail is not used extensively on local streets except where there is a significant risk to motorist and pedestrians, such as long sections with steep foreslopes and at approaches to overcrossing structures.

Analysis

Guiderail is installed at four locations as shown on **Figure 1**. Installation varies from 2 to 6 feet from the shoulder line. Visual inspection of the guiderail indicates that it has been there for quite some time. Discussions with the County indicate that there are no records as to the warrant or date of installation. An interview with a local resident revealed that the guiderail has been there at least 22 years (when the resident moved in). A possible explanation for the guiderail may have been to stop errant vehicles that fail to stop at the stop sign (Main Street, Fidler Road and Academy Road) and/or stop vehicles from riding up into the grass while passing a vehicle making a left turn (Fidler Road). The guiderail installed at the corner of Fidler Road appears to be installed only to protect the corner property from cars cutting the corner too close. The guiderail was possibly installed at the urging of the residents/local civic group to protect the historic buildings from errant vehicles.

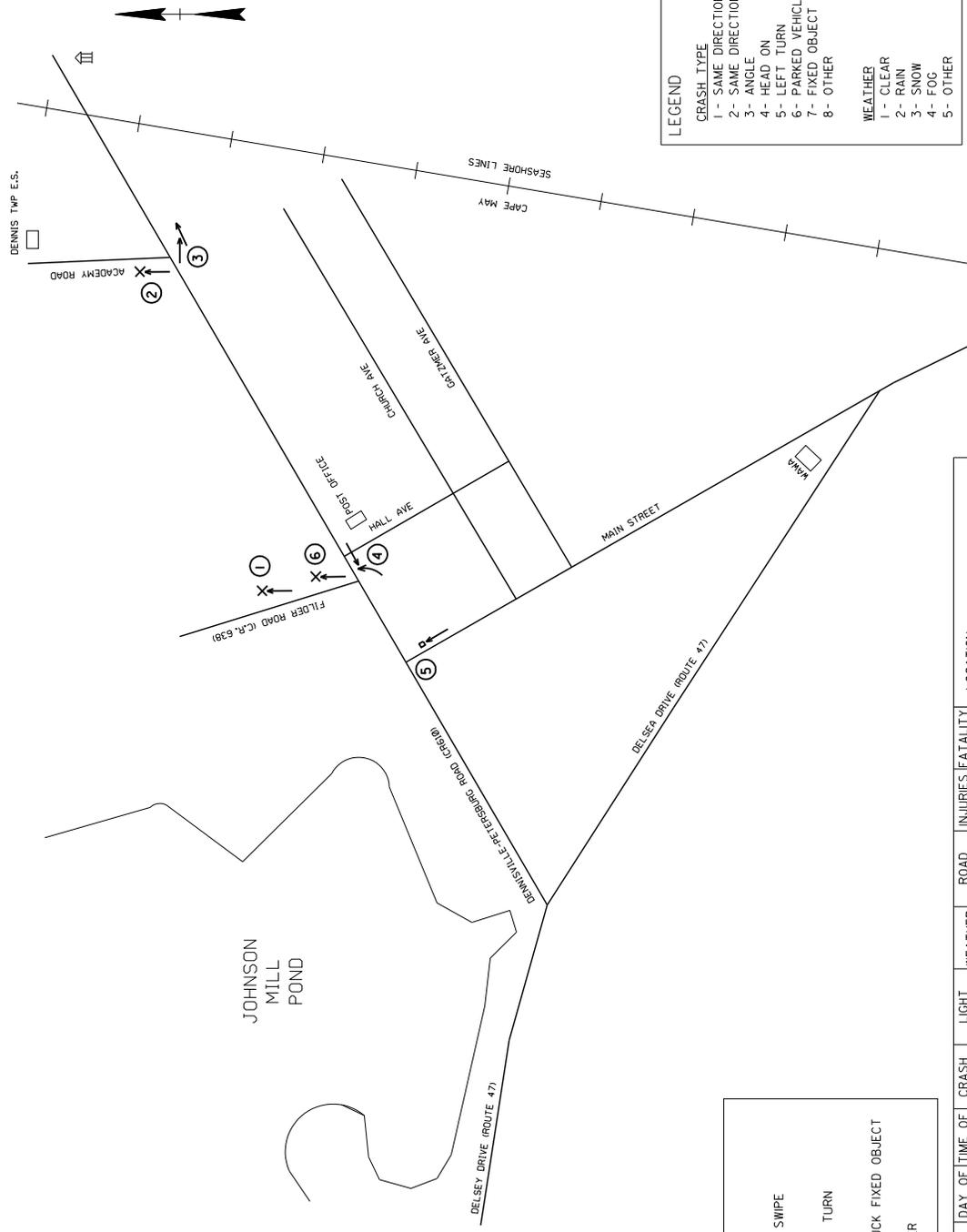
A field inspection of the project area found trees, large flower pots/planters, fences, utility poles, and signs in the clear zone. None of these objects constitutes an obstruction. Buildings in the protected portions of the four guiderail installations vary in distance from a minimum of 19.4 feet to a maximum of 34.5 feet off the edge of the active lane.

Investigation of the crash data (**Figure 2**) from 2002 through 2005 reveals six crashes in this area. Three of the crashes were with fixed objects (none of which was associated with the guide rail). Vehicle crashes included one left turn accident, one same direction (rear end), and one same direction (sideswipe). The same direction (sideswipe) accident occurred on Dennisville-Petersburg Road near Academy Road.

Recommendation

None of the sections of guiderail has safety end treatments that meet current standards and therefore the guide rail is a hazard in itself to errant vehicles. The guiderail is not warranted by the NJDOT or AASHTO design manual requirements. If the guiderail is to remain to maintain the protection of the houses, then it should be upgraded to current standards, including end treatments. If the guiderail is removed and some other form of protective device is installed to protect the houses from an errant vehicle, it should be installed outside the clear zone.

A practical and recommended alternative to the replacement of the guiderail installations in Dennisville is to employ traffic calming techniques and speed management strategies to reduce approach speeds and inform motorists of entry into an urban village environment.



LEGEND

CRASH TYPE	VEHICLE TYPE	ROAD CONDITIONS	LIGHT CONDITIONS
1 - SAME DIRECTION (REAR END)	1 - PASSENGER CAR	1 - DRY	1 - DAYLIGHT
2 - SAME DIRECTION (SIDESWIPE)	2 - PICKUP/SUV	2 - WET	2 - DAWN/DUSK
3 - ANGLE	3 - VAN/STEP VAN	3 - SNOWY	3 - DARK (STREET LIGHTS ON)
4 - HEAD ON	4 - TRUCK/TRAILER	4 - ICF	4 - DARK (STREET LIGHTS OFF)
5 - LEFT TURN	5 - SINGLE UNIT TRUCK	5 - OTHER	5 - NO STREET LIGHTS
6 - PARKED VEHICLE	6 - HEAVY TRUCK		
7 - FIXED OBJECT	7 - TAXICAB/LIMO		
8 - OTHER			

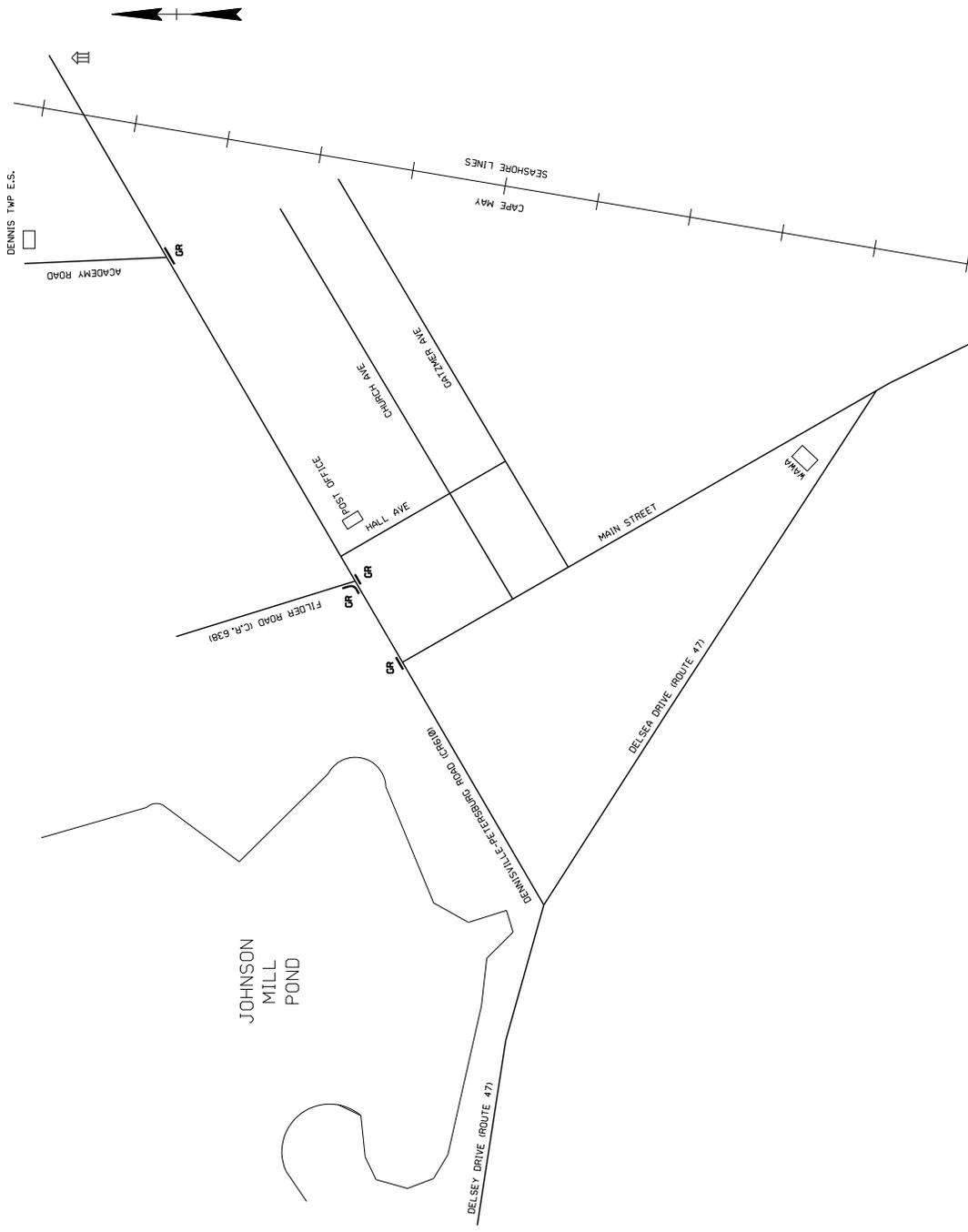
CRASH SYMBOLS

- SIDE SWIPE
- LEFT TURN
- STRUCK FIXED OBJECT
- OTHER

CRASH NUMBER	DATE	DAY OF WEEK	TIME OF DAY	CRASH TYPE	LIGHT CONDITIONS	WEATHER	ROAD CONDITIONS	INJURIES (NUMBER)	FATALITY (NUMBER)	LOCATION
1	10/11/03	SAT	2:24	7	5	2	2	0	0	CR610 & CR638
2	07/14/03	MON	18:40	7	1	1	2	0	0	652 PETERSBURG (AT ACADEMY)
3	12/16/04	THU	13:42	2	1	1	1	0	0	CR610 & ACADEMY
4	08/18/04	WED	8:49	5	1	1	1	1	0	693 PETERSBURG (AT CR638)
5	12/25/04	SAT	9:54	7	1	1	1	0	0	CR610 & MAIN
6	6/19/04	SAT	3:05	1	5	1	2	0	0	CR610 & CR638

FIGURE 1
CRASH DATA (2002-2005)
CR 610 @ MAIN/FIDLER/ACADEMY

DRAWN BY: _____ DATE: _____
 CHK'D BY: _____ DATE: _____
 SCALE: _____ NTS



LEGEND
 GR - GUIDERRAIL LOCATION

FIGURE 2
 GUIDE RAIL LOCATIONS
 CR 610 @ MAIN/FIDLER/ACADEMY
 DRAWN BY: _____
 CHK'D BY: _____
 DATE: _____
 SCALE: NTS

Appendix D



JOHN MILNER ASSOCIATES, INC.

Restoration & Rehabilitation • Preservation Planning • Archeological & Historical Research • Cultural Landscapes • Materials Conservation

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May 30, 2012

Mail Code 501-04B
N.J. Department of Environmental Protection
Historic Preservation Office
P.O. Box 420
Trenton, NJ 08625-0420

Attn: Daniel Saunders
Administrator and Deputy State Historic Preservation Officer

Re: Dennisville-Petersburg Road, County Route 610 and Main Street
Dennis Township, Cape May County

Dear Mr. Saunders:

Cape May County, with the cooperation and assistance of the Federal Highway Administration and New Jersey Department of Transportation, has begun planning for transportation improvements in the community of Dennisville, New Jersey (Figure 1). The project study area encompasses portions of County Route (CR) 610 (aka Dennisville-Petersburg Road) and Main Street in Dennisville, Dennis Township. This letter has been prepared on behalf of the County to initiate Section 106 consultation for the referenced project. It introduces the proposed undertaking, defines the project's Area of Potential Effects (APE) in Figure 2, identifies known historic properties in the APE, outlines a public participation plan, and identifies possible consulting and interested parties.

The County has initiated the project to address roadway design and operational concerns, inadequate roadway drainage, pedestrian mobility associated with discontinuous sidewalks, and excessive vehicular speeds. The proposed work would include minor modifications at two intersections (CR 610/Main Street and CR 610/Hall Avenue), the introduction of new sidewalks and replacement of existing sidewalks along CR 610 and Main Street, minor shoulder widening along CR 610, and the introduction of pipes/inlets and minor grading to improve drainage. In addition, traffic-calming measures, including visible crosswalks and/or raised intersections, are being considered at the following locations: railroad crossing, CR 610/Main Street, CR 610/CR 638 (Fidler Road), CR 610/Academy Road, CR 610/Hall Avenue, Main Street/Church Avenue, and Main Street/Gatzmer Avenue).

All proposed improvements to Main Street would occur within the existing 65-foot-wide right-of-way. Proposed roadway and traffic-calming measures for CR 610 would occur within existing right-of-way; however, because the existing right-of-way along CR 610 is only 33 feet wide, new sidewalks, crosswalks, crosswalk landings, and drainage systems could be placed outside existing right-of-way. Segments of existing sidewalk along the north side of CR 610

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Mr. Daniel Saunders
May 30, 2012
Page 2 of 2

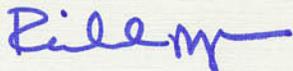
are located on private property. The preliminary proposed improvement concepts are illustrated in the enclosed aerial-based plans (Figure 3) and section drawings (Figure 4).

The County is beginning to explore the possible environmental impacts of this project under the National Environmental Policy Act (NEPA) and to determine what effects it may have on historic properties under Section 106 of the National Historic Preservation Act (NHPA). As shown in Figure 2, we have defined an APE to take into consideration possible direct and indirect effects on historic properties. Preliminary research indicates that only one previously identified historic property, Dennisville Historic District (HPO ID# 990, listed on NR 11/24/87; listed on SR 4/14/87), is located within the APE. The district boundary is shown on Figure 2. Photos 1-5 are sample views of the district. Nine additional properties (Photos 6-14) are located within the APE and outside the historic district. Two are clearly less than 50 years of age (Photos 10 and 13); the remaining seven may require some level of survey and evaluation. We welcome your comments regarding the further identification of historic properties and the assessment of possible effects.

The County is committed to involving the public in project planning, and community involvement will be coordinated with the requirements of the National Environmental Policy Act (NEPA). To date the County has sponsored a project kick-off meeting (August 1, 2002), two public coordination meetings (October 10, 2002 and March 13, 2008), and a neighborhood coordination meeting with members of the Dennisville Historic Home Owners Association (DHHOA) (March 29, 2012). Consulting parties will include the County, the Federal Highway Administration (FHWA), the New Jersey Department of Transportation (NJDOT), the Historic Preservation Office (HPO), and the New Jersey Pinelands Commission. The County also plans to invite the DHHOA, the Cape May County Historical and Genealogical Society, and Preservation New Jersey to participate, soliciting input on the identification of historic properties and the assessment of effects. Such parties would be copied on all Section 106 documentation.

Should you wish to discuss the project or arrange for a meeting, please do not hesitate to contact me. Thank you for your cooperation and assistance. We look forward to working with you.

Sincerely yours,

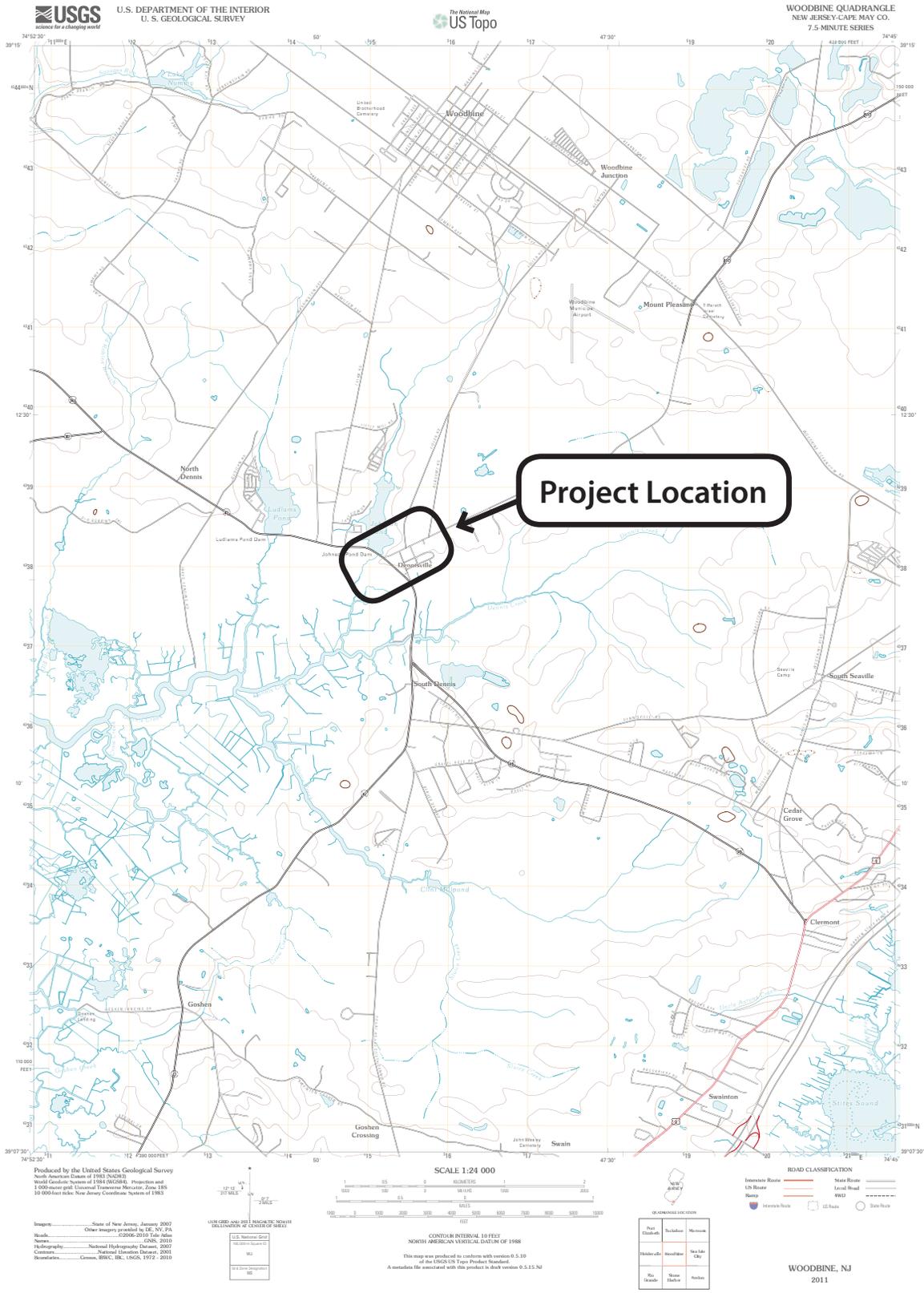


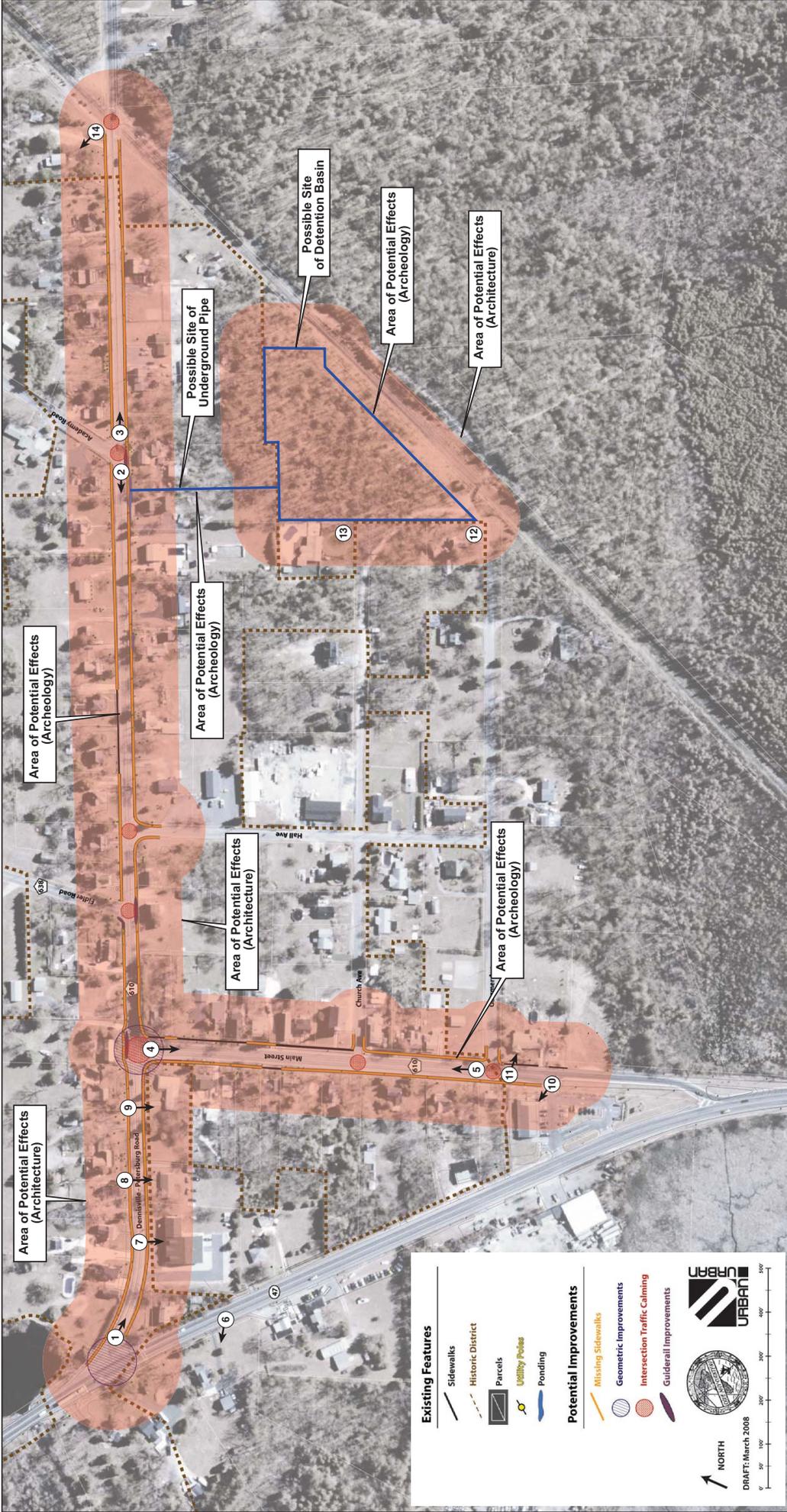
Richard Meyer
Senior Associate
rmeyer@johnmilnerassociates.com
(610) 436-9000

Encs.

Cc: Dale Foster, PE, Cape May County Engineer
Dave Cox, PE and Dennis Burgeson, Urban Engineers, Inc.

Figure 1: Project Location





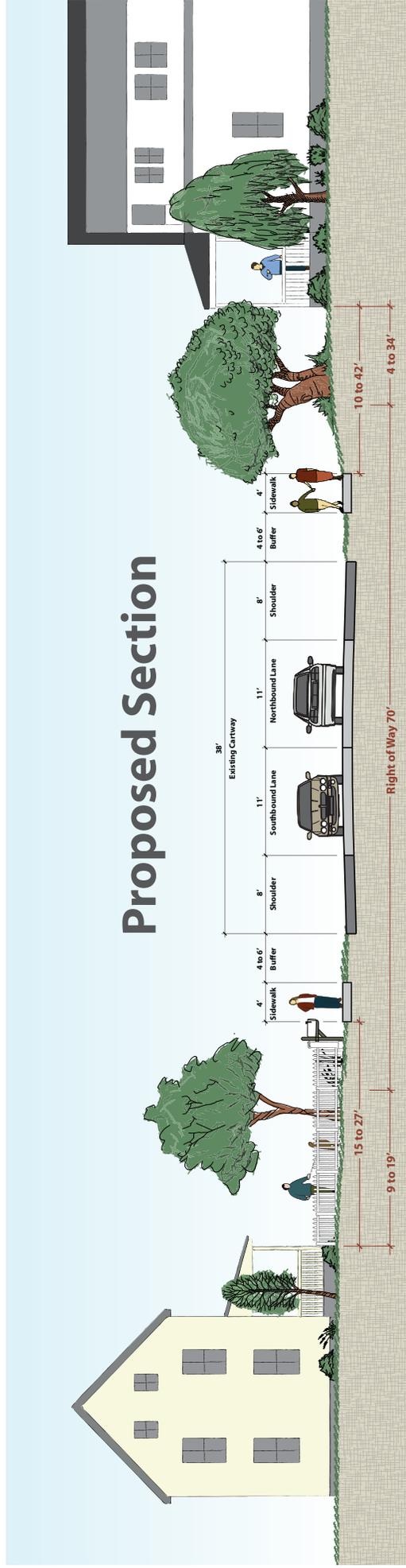
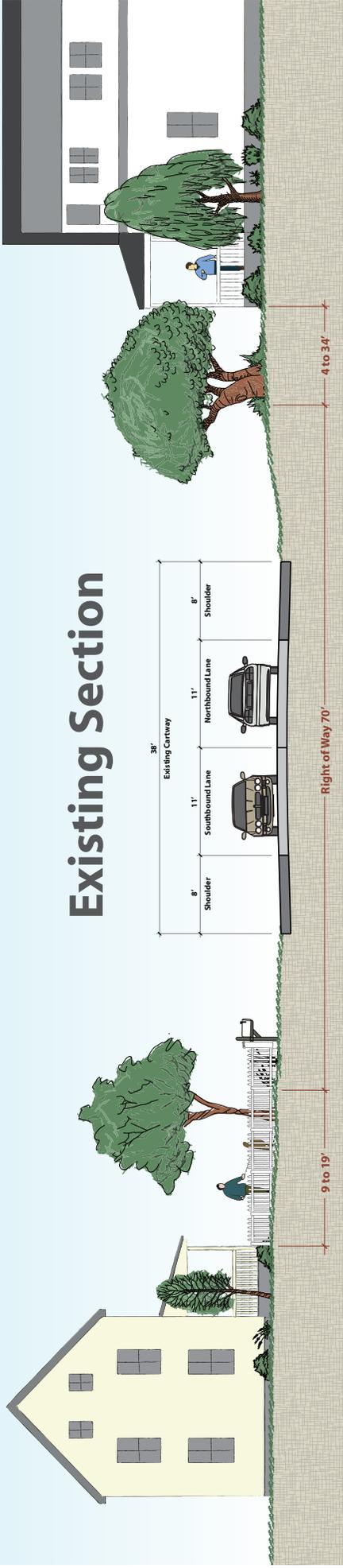
① direction of photographic view

Source of aerial:
New Jersey Information Warehouse,
2002 High Resolution Orthophotography
Source of historic district boundary:
<http://www.nj.gov/dep/gis/states/np.html>

Figure 2: Area of Potential Effects



Figure 3: Proposed Improvement Concepts



Main Street

Concept 3

Draft: 2/14/12

Figure 4: Typical Sections

Figure 5: Site Photos



Photo 1. Petersburg Road, view toward east from Delsea Avenue.



Photo 2. Petersburg Road, view toward west from Academy Road.



Photo 3. Petersburg Road, view toward east from Academy Road.



Photo 4. Main Street, view toward south from Petersburg Road.



Photo 5. Main Street, view toward north from Gatzmer Avenue.

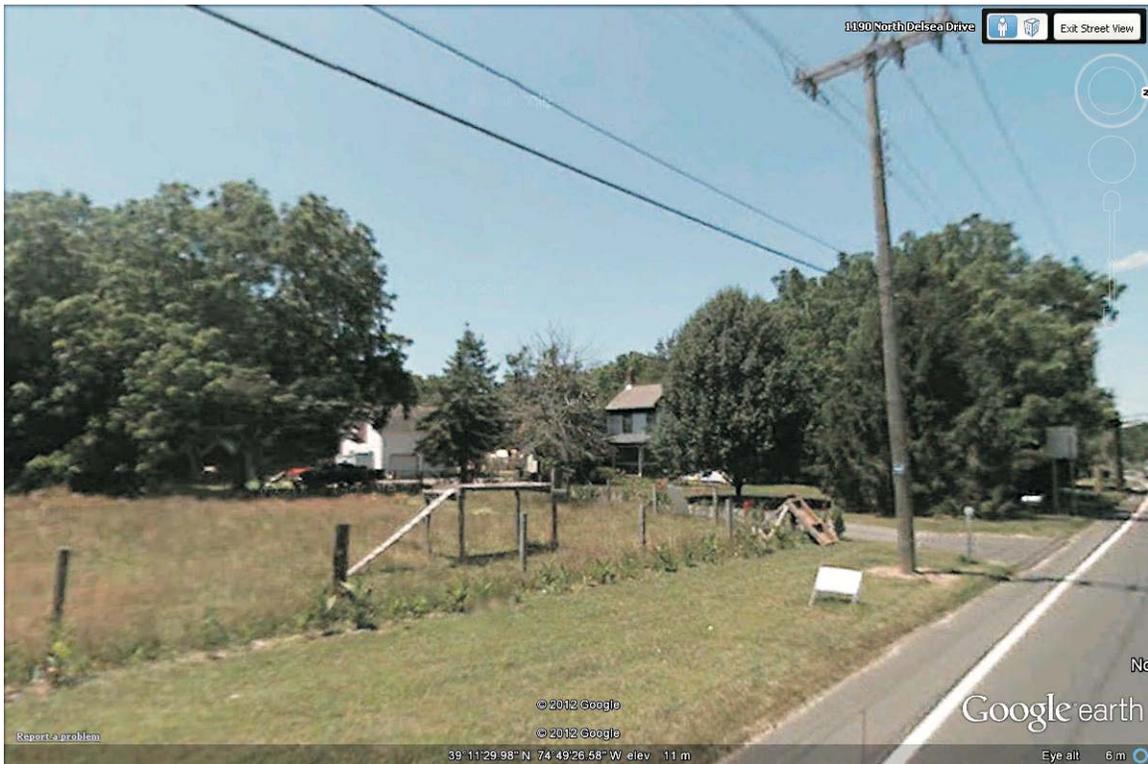


Photo 6. 1113 North Delsea Drive, view toward west.



Photo 7. 719 Petersburg Road, view toward southeast.



Photo 8. 715 Petersburg Road, view toward southeast.



Photo 9. 151 Main Street, view toward southeast.



Photo 10. Wawa, North Delsea Drive and Main Street, view toward northwest.



Photo 11. Southeast corner of Main Street and Gatzmer Avenue, view toward east.

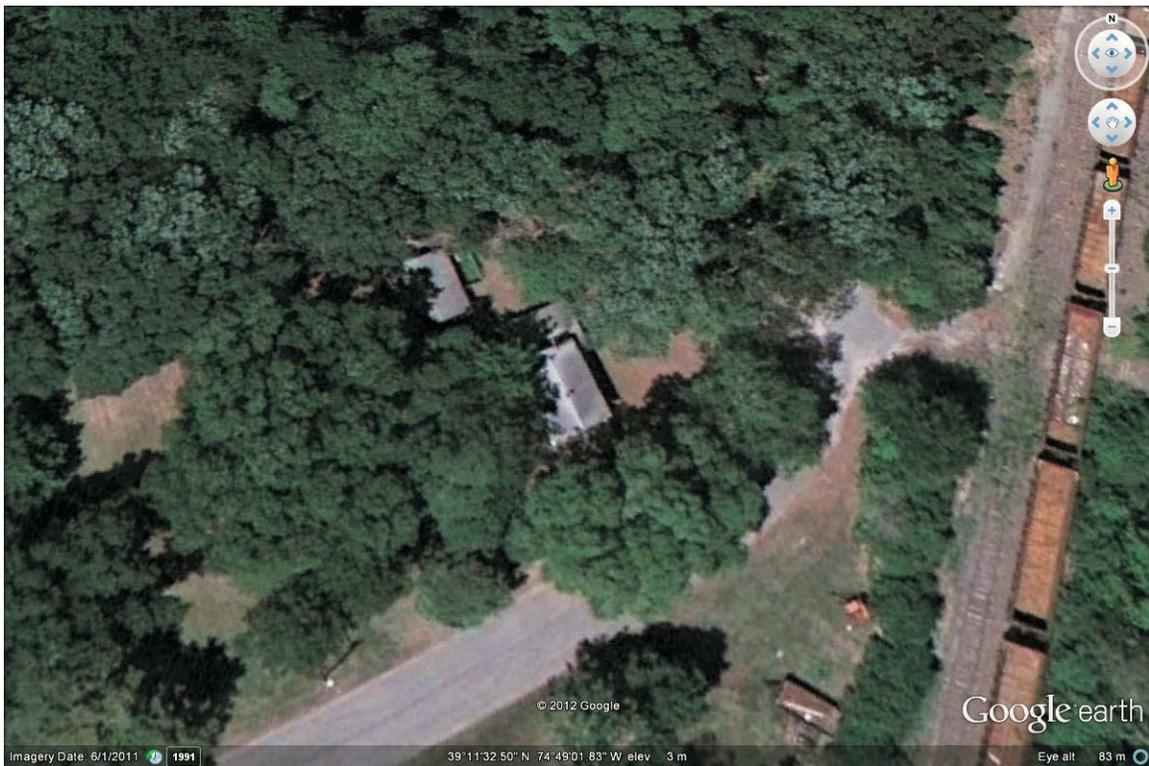


Photo 12. Aerial view of 4 Gatzmer Avenue.



Photo 13. Aerial view of 2 Church Road.



Photo 14. 622 Petersburg Road, view toward northwest.

Appendix E

Concept #2 - 11' Lanes / 4' Shoulders / 3.5' Sidewalk

Summary of Potential Impacts

Dennisville, Cape May County, New Jersey

Impacts	Unit	DP-1	DP-2	DP-3	DP-4	DP-5	DP-6	DP-7	DP-8	M-1	M-2	Project Totals
Sidewalk Quantities												
New Sidewalk (3.5' width)	LF	620	450	780	800	610	330	875	790	0	0	5,255
New Sidewalk (4' width)	LF	0	0	0	0	0	0	0	0	870	420	1,290
New Sidewalk (Total)	LF	620	450	780	800	610	330	875	790	870	420	6,545
Impacts												
Utility Poles	#	0	5	6	1	1	1	0	0	1	0	15
Tree Relocation	#	0	0	3	0	0	0	0	9	0	0	12
Fence/Hedge Relocation	LF	0	0	120	400	110	150	30	120	0	0	930
Inlet Relocation	#	0	0	1	2	0	0	1	2	0	0	6

Concept #2 - 11' Lanes / 4' Shoulders / 3.5' Sidewalk

Summary of Impervious & Disturbance Areas
Dennisville, Cape May County, New Jersey

Impervious Area					Disturbance Area				
Description	Length (LF)	Width (feet)	Existing (SF)	Added (SF)	Net (SF)	Quantity (Acres)	Description	Quantity (SF)	Quantity (Acres)
Sidewalks			492	2170	1678	0.04	Sidewalks	1678	0.04
DP-1	620	3.5	42	1575	1533	0.04	DP-1	1533	0.04
DP-2	780	3.5	348	2730	2382	0.05	DP-2	2382	0.05
DP-3	800	3.5	54	2800	2746	0.06	DP-3	2746	0.06
DP-4	610	3.5	351	2135	1784	0.04	DP-4	1784	0.04
DP-5	330	3.5	165	1155	990	0.02	DP-5	990	0.02
DP-6	875	3.5	466	3063	2597	0.06	DP-6	2597	0.06
DP-7	790	3.5	322	2765	2443	0.06	DP-7	2443	0.06
DP-8	420	4	314	1680	1366	0.03	DP-8	1366	0.03
M-1	870	4	90	3480	3390	0.08	M-1	3390	0.08
M-2			2644	23553	20909	0.48	M-2	20909	0.48
Net Impervious							Net Disturbance		
Shoulder/Lane Widening							Shoulder/Lane Widening		
EB 610					4150	0.10	EB 610	4150	0.10
WB 610					2250	0.05	WB 610	2250	0.05
Net Impervious					6400	0.15	Net Impervious	6400	0.15
Corner Modifications							Corner Modifications		
610 / Main St Intersection					-1169	-0.03	610 / Main St Intersection	1169	0.03
610 / Hall Ave Intersection					-310	-0.01	610 / Hall Ave Intersection	310	0.01
Net Impervious					-1479	-0.03	Net Disturbance	1479	0.03
Drainage							Drainage		
Pipe	700	2			0	0.00	Pipe	1400	0.03
Basin					0	0.00	Basin	28000	0.64
Net Impervious					0	0.00	Net Impervious	1400	0.03
Total					25830	0.59	Total	30188	1.34

Concept #3

*Summary of Potential Impacts
Dennisville, Cape May County, New Jersey*

Impacts	Unit	DP-1	DP-2	DP-3	DP-4	DP-5	DP-6	DP-7	DP-8	M-1	M-2	Project Totals
Sidewalk Quantities												
New Sidewalk (3.5' width)	LF	620	0	0	0	650	330	875	790	0	0	3,265
New Sidewalk (4' width)	LF	0	0	0	0	0	0	0	0	870	420	1,290
New Sidewalk (Total)	LF	620	0	0	0	650	330	875	790	870	420	4,555
Impacts												
Utility Poles	#	0	0	0	0	1	1	0	0	1	0	3
Tree Relocation	#	0	0	0	0	0	0	0	9	0	0	9
Fence/Hedge Relocation	LF	0	0	0	0	130	150	30	120	0	0	430
Inlet Relocation	#	0	0	0	0	0	0	1	2	0	0	3

Concept #3

Summary of Impervious & Disturbance Areas
Dennisville, Cape May County, New Jersey

Impervious Area							Disturbance Area			
Description	Length (LF)	Width (feet)	Existing (SF)	Added (SF)	Net (SF)	Quantity (Acres)	Description	Quantity (SF)	Quantity (Acres)	
Sidewalks			492	2170	1678	0.04	Sidewalks	1678	0.04	
DP-1	620	3.5	0	0	0	0.00	DP-1	0	0.00	
DP-2	0	3.5	0	0	0	0.00	DP-2	0	0.00	
DP-3	0	3.5	0	0	0	0.00	DP-3	0	0.00	
DP-4	0	3.5	0	0	0	0.00	DP-4	0	0.00	
DP-5	650	3.5	351	2275	1924	0.04	DP-5	1924	0.04	
DP-6	330	3.5	165	1155	990	0.02	DP-6	990	0.02	
DP-7	875	3.5	466	3063	2597	0.06	DP-7	2597	0.06	
DP-8	790	3.5	322	2765	2443	0.06	DP-8	2443	0.06	
M-1	420	4	0	1680	1680	0.04	M-1	1680	0.04	
M-2	870	4	0	3480	3480	0.08	M-2	3480	0.08	
Net Impervious			1796	16588	14792	0.34	Net Disturbance	14792	0.34	
Shoulder/Lane Widening							Shoulder/Lane Widening			
EB 610					4150	0.10	EB 610	4150	0.10	
WB 610					2250	0.05	WB 610	2250	0.05	
Net Impervious					6400	0.15	Net Impervious	6400	0.15	
Corner Modifications							Corner Modifications			
610 / Main St Intersection					-1169	-0.03	610 / Main St Intersection	1169	0.03	
610 / Hall Ave Intersection					-310	-0.01	610 / Hall Ave Intersection	310	0.01	
Net Impervious					-1479	-0.03	Net Disturbance	1479	0.03	
Drainage							Drainage			
Pipe	700	2			0	0.00	Pipe	1400	0.03	
Basin					0	0.00	Basin	28000	0.64	
Net Impervious					0	0.00	Net Impervious	1400	0.03	
Total					19713	0.45	Total	22671	1.20	

Concept #4
Summary of Potential Impacts
Dennisville, Cape May County, New Jersey

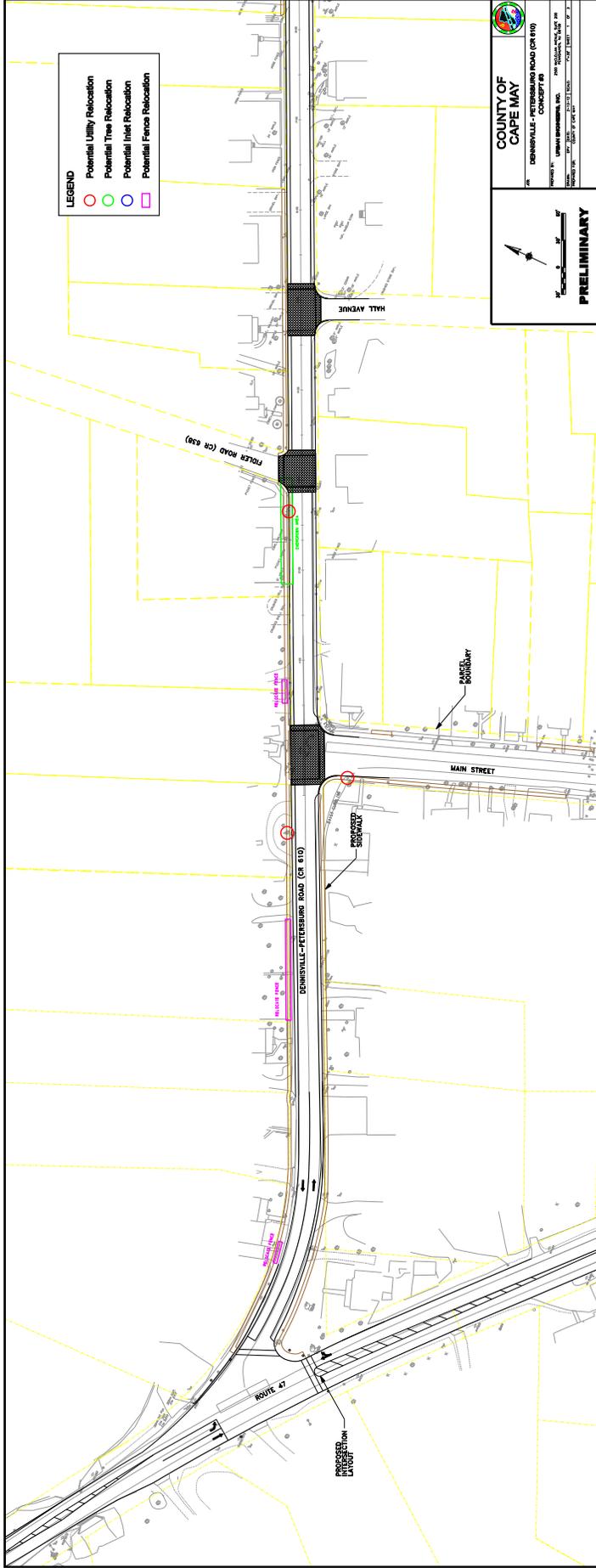
Impacts	Unit	DP-1	DP-2	DP-3	DP-4	DP-5	DP-6	DP-7	DP-8	M-1	M-2	Project Totals
Sidewalk Quantities												
New Sidewalk (3.5' width)	LF	0	0	0	0	650	330	875	0	0	0	1,855
New Sidewalk (4' width)	LF	0	0	0	0	0	0	0	0	0	0	0
New Sidewalk (Total)	LF	0	0	0	0	650	330	875	0	0	0	1,855
Impacts												
Utility Poles	#	0	0	0	0	1	1	0	0	0	0	2
Tree Relocation	#	0	0	0	0	0	0	0	0	0	0	0
Fence/Hedge Relocation	LF	0	0	0	0	130	150	30	0	0	0	310
Inlet Relocation	#	0	0	0	0	0	0	1	0	0	0	1

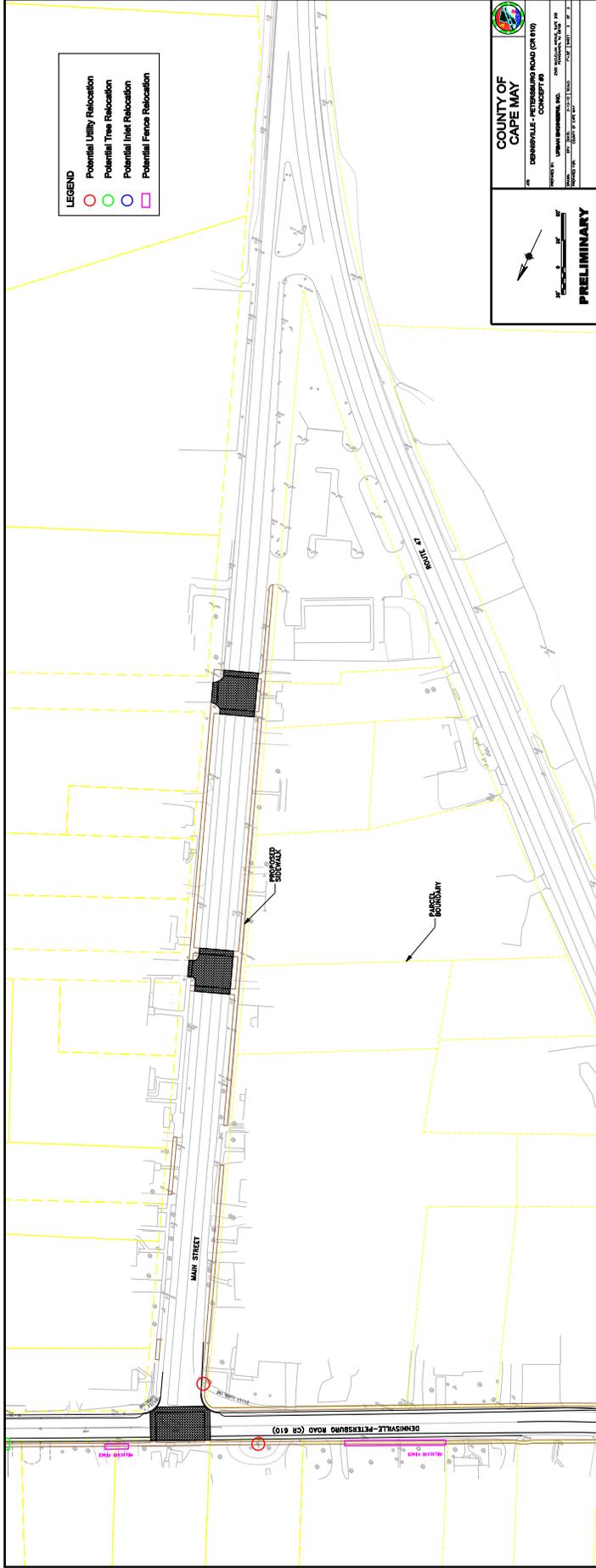
Concept #4

Summary of Impervious & Disturbance Areas
Dennisville, Cape May County, New Jersey

Impervious Area					Disturbance Area				
Description	Length (LF)	Width (feet)	Existing (SF)	Added (SF)	Net (SF)	Quantity (Acres)	Description	Quantity (SF)	Quantity (Acres)
Sidewalks							Sidewalks		
DP-1	0	3.5	492	0	0	0.00	DP-1	0	0.00
DP-2	0	3.5	0	0	0	0.00	DP-2	0	0.00
DP-3	0	3.5	0	0	0	0.00	DP-3	0	0.00
DP-4	0	3.5	0	0	0	0.00	DP-4	0	0.00
DP-5	650	3.5	351	2275	1924	0.04	DP-5	1924	0.04
DP-6	330	3.5	165	1155	990	0.02	DP-6	990	0.02
DP-7	875	3.5	466	3063	2597	0.06	DP-7	2597	0.06
DP-8	0	3.5	322	0	0	0.00	DP-8	0	0.00
M-1	0	4	0	0	0	0.00	M-1	0	0.00
M-2	0	4	0	0	0	0.00	M-2	0	0.00
Net Impervious			1796	6493	5511	0.13	Net Disturbance	5511	0.13
Shoulder/Lane Widening							Shoulder/Lane Widening		
EB 610					4150	0.10	EB 610	4150	0.10
WB 610					2250	0.05	WB 610	2250	0.05
Net Impervious					6400	0.15	Net Impervious	6400	0.15
Corner Modifications							Corner Modifications		
610 / Main St Intersection					-1169	-0.03	610 / Main St Intersection	1169	0.03
610 / Hall Ave Intersection					-310	-0.01	610 / Hall Ave Intersection	310	0.01
Net Impervious					-1479	-0.03	Net Disturbance	1479	0.03
Drainage							Drainage		
Pipe	700	2			0	0.00	Pipe	1400	0.03
Spreader - Grading	125	12			0	0.00	Grading	1500	0.03
Net Impervious					0	0.00	Net Impervious	2900	0.07
Total					10432	0.24	Total	16290	0.37

Appendix F





Appendix G

Urban Engineers, Inc.



Kevon Office Center
2500 McClellan Avenue, Suite 200
Pennsauken, NJ 08109-4698
Telephone: (856) 663-5550
Facsimile: (856) 663-4836

**Dennisville-Petersburg Road
(County Route 610)
Dennis Township, Cape May County**

MINUTES OF MEETING

Subject: Local Presentation/meeting; Dennisville Historic Homeowners Association (DHHA)
Dennisville-Petersburg Road (CR 610), Dennis Township, Cape May County

Meeting Date: 10/7/02

Location: Senior Center, Dennisville

Presenters: Dale Foster, Cape May County Engineer
Brad Tombs, Urban Engineers, Inc.

Cape May County Engineer Dale Foster provided the DHHA an overview of the preliminary engineering scoping services for the project. The purpose of the preliminary engineering scoping is to assemble base mapping and traffic data, ascertain local concerns, assess regulatory issues, formulate design objectives and prepare alternative roadway/infrastructure improvement concepts. Mr. Foster indicated that a subsequent public coordination meeting will be held to present alternative concepts for additional public input.

Presentation Boards illustrating the project limits, aerial photograph of the project area, tax map parcels, roadway right of way limits, and property owners were displayed. A survey questionnaire was provided as a handout to the approximate 30 residents in attendance. Residents were encouraged to complete the survey and comment on existing problems and preferred project elements to enhance the community. The 33 foot Petersburg Road right of way was identified as a problem and residents shared their concerns about roadway widening that could result in pavement to close to the residential structures. The 65-foot existing Main Street roadway right of way was noted as adequate to accommodate travel lanes, shoulders/parking and sidewalks. The following comments were noted.

One resident commented on designating Petersburg Road a one-way road in the southern direction, if possible.

The northwest corner property on Main Street and Petersburg Road noted the high truck traffic, noise problems, and difficult right turn movements from Main Street that encroach beyond the paved roadway. The property owner commented on the elimination of truck traffic, if possible. County roads were noted to be available for truck vehicles. Protection of large trees were noted as a concern as well.

Curbing was discussed whereby the County typically provides curbing near intersections and crosswalks, but express an open mind about additional curbing should the residents indicate a need. There was not an apparent strong indication for additional curbing beyond intersections.

Minutes of Meeting
10/7/02

There was considerable debate among residents concerning the need or preference of sidewalks including sidewalk location, material types, conflict with large trees. One resident commented on the liability of having sidewalks. The County will have their legal counsel provide a response to the DHHA concerning this matter. The DHHA noted at least four major events (e.g. walking tour) that generate increased pedestrian volume. The option of 5-foot sidewalks adjacent to the edge of pavement/curb (as applicable) was noted as an option to minimize property encroachments compared with the customary grass buffer and 4-foot sidewalk.

The State application to change the Roadway passing-zone designation to a no passing-zone was discussed and noted as a lengthy State review process. Future updates to be provided. Repainting roadway lane lines was also noted, which the County does each year.

A resident noted that the "reflectors" on Block 67 Lot 41 were to be removed after the Rt 47 intersection control signal was completed. The County was asked to review this matter and see if the reflectors could be removed.

Guide rails at select locations along Petersburg Road were questioned regarding need and appearance. The County indicated that optional guide rail types are available and could be considered.

The option of having a "Speed Light" situated north of the railroad tracks was requested by residents due to persistent speeding. It was also noted that there is no local police limiting the ability to control speeding.

Street Lighting was raised by residents. The County indicated that lighting is provided near intersections with other County and State roads. However, local municipalities are responsible for lighting otherwise.

The Rt 47/CR 610 intersection geometry was noted to be a problem, and that if corrected could reduce truck traffic on Main Street.

Residents noted that a local effort to secure a Grant for Railroad station development/improvement was apparently in the works and requested the County to be aware of prospective plans in this regard for coordination purposes.

Completed survey questionnaires were received by the close of the meeting which are summarized on the attachment.

Respectfully Submitted,
URBAN ENGINEERS, INC.

Brad Tombs
Urban Engineers, Inc.

County News Notes

Woman, dog killed in mobile home fire

RIO GRANDE — A resident of the Grande Woods Mobile Home Park on Route 9 was killed along with her dog, and two Rio Grande firefighters were injured in a late-night fire Friday, March 7.

Barbara Bulakowski, 61, and her dog, Lucky, died in the fire that was deemed accidental by the Cape May County Fire Marshall's Office.

About 11:15 p.m. Friday, firefighters from Rio Grande and Green Creek, Rio Grande Rescue and Middle Township Police responded to a call of a fire at 13 Priest Boulevard in the Rio Grande section of Middle Township and found the unit fully engulfed in flames. Police say neighbors tried to put the fire out with garden hoses and reported a female may have been trapped inside.

The two firefighters from the Rio Grande Fire Department were taken to Cape Regional Medical Center. One fireman received a facial burn, while the other member was treated for smoke inhalation. Both were treated and released.

The cause of the fire has not yet been determined. The origin of the fire appeared to be concentrated in the living room area of the mobile home.

Proceeds to benefit Glassford Memorial Scholarship

DENNIS TOWNSHIP — A benefit for the John Glassford Memorial Scholarship Fund is scheduled for 6-10 p.m. Saturday, March 15, at the Crooked Horn Gunning Club in Belleplain.

Door prizes and an auction of items including Phillies and Atlantic City Surf baseball tickets and restaurant gift certificates are planned. A DJ will entertain and billiard games can be played on the club's pool table. Tickets are \$20.

All proceeds will go to the "John Glassford Memorial Scholarship Fund."

Glassford, one of four brothers in a family known for its involvement in community activi-

registration 4-9 p.m. on Thursday, March 13 at the Goshen Sports Complex and Martin Luther King Center.

Boys and girls ages 5 to 14 years of age, kindergarten to eighth-grade are welcome. The special registration fee will be \$25 per child.

The regular registration will run from 10 a.m. to 9 p.m. Monday to Friday, March 14-21. The normal cost is \$30 for the first child, \$28 for the second and \$25 for the third. There are no late sign-ups and no registrations are taken on weekends.

Practices will be held at the Memorial Field in Cape May Court House. Meets are held on weekends. Times and days of practice will be announced at a later date.

Call 465-8743 or 465-8747 for more information.

Public information meeting set on Dennis road project

DENNIS TOWNSHIP — A public information meeting is scheduled for 6-8 p.m. Thursday, March 13 at the Dennis Township Administrative Offices to outline the Dennisville-Petersburg Road project. A presentation on the project is scheduled to be followed by opportunities for questions, comments and input.

The county is currently conducting a study focusing on the road from Rt. 47 east to the railroad tracks and includes portions of Main Street. The purpose of the study is to identify operational and safety problems, drainage problems, pedestrian deficiencies and other needs and develop recommendations.

All are welcome to attend and participate. Call the County Engineer's Office at 465-1035 for more information.

Police seize drugs in arrest of three

WIT DWYGDON — Three people were ar-

Tentative proposal to open Beesley's Point Bridge

By **JOHN SAMSON**
Staff Writer

UPPER TOWNSHIP - Cape May County and state officials announced a tentative agreement to reopen the Beesley's Point Bridge during Tuesday's Transportation Infrastructure Conference.

The privately owned bridge linking Beesley's Point in Upper Township to Somers Point has been closed to traffic since June of 2004 due to structural problems.

"The last couple of years, there have been efforts from both the state Legislature and the county fireholders to get the bridge reopened," said Stephen O'Connor, the county administrator. "About 1.7 million vehicles use it, and it is an important evacuation route."

Last year, the Freeholder Board filed a lawsuit against the Department of Transportation to force it to open the bridge. They have been negotiating since then, O'Connor said.

The county's position, O'Connor said, is that the state should be responsible for opening it, because Route 9 is a state highway. He said the DOT, meanwhile, claims it is not in the business of bailing out private owners, and takes the position that the county should take over ownership of the bridge.

The owners of the bridge received a grant of almost \$1 million to keep it open for 20 years, but O'Connor said that was not enough money to fulfill the commitment of fixing and reopening the bridge.

Under the latest proposal, the state Attorney General's Office and the state DOT are in negotiations with the owner to get the grant money back and take over control of the bridge. Under the latest proposal, the County Bridge Commission would then take over the operation of the bridge, with the future revenue from tolls to be divided between debt service and maintenance costs.

The debt service on the bridge is about \$1.3 million per year. Under the proposed deal, the \$860,000 in revenue the bridge generates per year would be divided, with 60 percent going to the expected \$20 million cost to rehabilitate the bridge. The other 40 percent would go to maintain the bridge. Officials described it as a tentative agreement.

The current proposal would mean the bridge could again be open to traffic in two or three years, according to officials.

John Samson can be e-mailed at samson@catamaranmedia.com or you can comment on this story by calling 624-8900, ext. 250.

at shorenewstoday.com for more information.

Sonic booms into Rio Grande Middle Township police blotter

CAPE MAY COURT HOUSE - During



Dennisville Historic Home Owners Association

PO Box 311 Dennisville, NJ 08214-0311

The County of Cape May and their consultant are developing a program to address operational, safety, drainage, road surface conditions, pedestrians and other improvements in Dennisville. The County is looking for a consensus of the Dennisville residents concerning an improvement program to Petersburg Road and Main Street. The addition of sidewalks is not only an amenity but almost a safety necessity. Many of us who try to navigate our way through the village on foot presently are not doing so safely. Sidewalks should increase the value of our homes. Sidewalk construction costs would be part of the road project. The space available probably would permit sidewalks on both sides of Main Street; however there is insufficient room to place the sidewalks within the County road right-of-way for Petersburg Road, therefore there maybe some encroachment of sidewalks on private property. According to the County Engineer the most logical location for a sidewalk on Petersburg Road would be on the north side—school side.

Providing Improvements

Making operational, safety and drainage improvements to the roadway also provides the opportunity to identify and provide safe access improvements for non-automobile modes of travel such as walking and bicycling. There are a number of benefits to accommodating these modes:

- They promote healthy lifestyles.
- They create more livable communities.
- They provide safe connections to bicycling and walking destinations, such as work, schools, recreation facilities and shopping.
- They help children, older citizens, non-drivers and the mobility challenged, and those that cannot afford a car
- They reduce traffic congestion and reliance on carbon fuels thereby reducing greenhouse gas emissions.

Because of the numerous individual and community benefits that walking and bicycling provide — including health, safety, environmental, transportation, and quality of life — transportation agencies are encouraged to go beyond minimum standards to provide safe and convenient facilities for these modes. Cape May County works with the local communities to incorporate safe and convenient walking and bicycling facilities into transportation projects.

Please read and complete this brief survey to assist the County in obtaining a consensus on sidewalk issue. Please circle your responses where indicated and provide written responses where appropriate. The DHHOA is looking for 1 response per member in good standing (2011 paid member—2 members in household= 2 responses. Please see 2 name lines at end of survey). Feel free to copy questionnaire if in household answers differ between members. No multiple questionnaire completions please!

- | | | |
|--|-----|----|
| 1. Are sidewalks a plus in Dennisville? | Yes | No |
| 2. Should sidewalks be on both sides of road? | Yes | No |
| 3. Should sidewalks be on one side of road? | Yes | No |
| 4. Are you willing to have a sidewalk in front of your house? | Yes | No |
| 5. Most existing fences are within the front yard setback but if your existing front yard fence requires relocation to accommodate sidewalks (costs to be covered by the road project) do you have any concerns? Please comment below. | Yes | No |
| 6. Should sidewalks be on the North side—the school side-- of Petersburg Road (where some existing sidewalks remain)? | Yes | No |
| 7. Should crosswalks be installed at Petersburg Road intersections of Academy Road, Fidler Road, Main Street and Rt. 47? | Yes | No |
| 8. If crosswalks are installed, should in-street "STOP FOR PEDESTRIAN" signs also be installed at crosswalks like in Cape May Court House? | Yes | No |
| 9. Are there locations where safety or operational improvements are needed? If so, where: | | |

10. Are there locations where drainage is a problem? If so where:

11. Are there any other travel concerns in the study area that you would like for us to know about?

(over)

Other Comments:

Name _____

Name _____ Address _____
(optional but **preferred**) (optional but **preferred**)

If you prefer not to provide your name and address please check one of the following boxes to indicate where you live:

- Main Street – West side (Wawa side)
- Main Street – East side (Church side)
- Petersburg Road – North side (School side)
- Petersburg Road – South side (museum side)
- Route 47
- Academy Road
- Fidler Road
- Other _____

Survey date – March 3, 2011

3/3/11 Survey
**Results of Survey of Concerned Residents,
Dennisville Historic Homeowners Association Meeting
Dennisville - Petersburg Road (CR 610), Dennis Township, Cape May County**

	In project area		Outside project area		No signature but identified location		Totals	
	Yes	No	Yes	No	Yes	No	Yes	No
Question #1	36	5	15	0	0	1	51	6
Question #2	21	20	4	9	0	1	25	30
Question #3	23	14	12	2	0	1	35	17
Question #4	33	7	6	1	0	1	39	9
Question #5	6	30	0	8	1	0	7	38
Question #6	36	4	15	0	0	1	51	5
Question #7	34	4	15	0	0	1	49	5
Question #8	25	13	15	0	0	1	40	14