

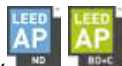
PEDESTRIAN & BICYCLE MOBILITY NEW EGYPT / SUMMARY REPORT

June 22, 2011 - Final Report



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This report has been prepared as part of the North Jersey Transportation Planning Authority's Subregional Study Program with financing by the Federal Transit Administration and the Federal Highway Administration of the U.S. Department of Transportation. This document is disseminated under the sponsorship of the U.S. Department of Transportation in the interest of information exchange. The NJTPA and Ocean County are solely responsible for its contents.

Executive Summary

This portion of the Ocean County Subregional Study involving New Egypt determines the design feasibility for the development of a multipurpose trail/bike path linking downtown New Egypt with the civic complex on Evergreen Road and ultimately linking up with the southerly segment of the Union Transportation Trail (UTT), which was completed by the Monmouth County Park System and opened to the public in 2010. A secondary purpose of the New Egypt component of the SSP was to examine the feasibility of a conceptual design for excess right-of-way in Lakeview Drive to improve the efficiency of public and private parking, while enhancing the adjacent water's edge of Oakford Lake Park, possibly to include a new boat launch.

The Township of Plumsted has been engaged for the past several years in the Plan Endorsement process with the New Jersey State Planning Commission. An Action Plan and Memorandum of Understanding (MOU) with the Township was approved by the Commission on September 16, 2009. One of the Action Items was the development and adoption of a Circulation Plan Element modeled after the Mobility and Community Form approach promoted by the NJDOT. The Township received a Smart Future Grant and used the funds to develop and adopt the Circulation Plan Element in 2010. The Circulation Plan Element includes both a Pedestrian Pathway Plan, focused on Downtown New Egypt, and a Bicycle Pathway Plan, which covers the northern half of the Township outside of the Fort Dix portion of Joint Base New Jersey (see Figure 1).

This Summary Report provides the details of both the Phase 1 and Phase 2 New Egypt Bike Path, which is a Class 1 (off road) path component of the proposed Bicycle Pathway Plan. The New Egypt

Bike Path is proposed to follow the former right-of-way of the Pemberton & Hightstown Railroad, a short line right-of-way established in 1864 to provide dairies and farms access to larger railroads at junctions in Pemberton (Burlington County) and

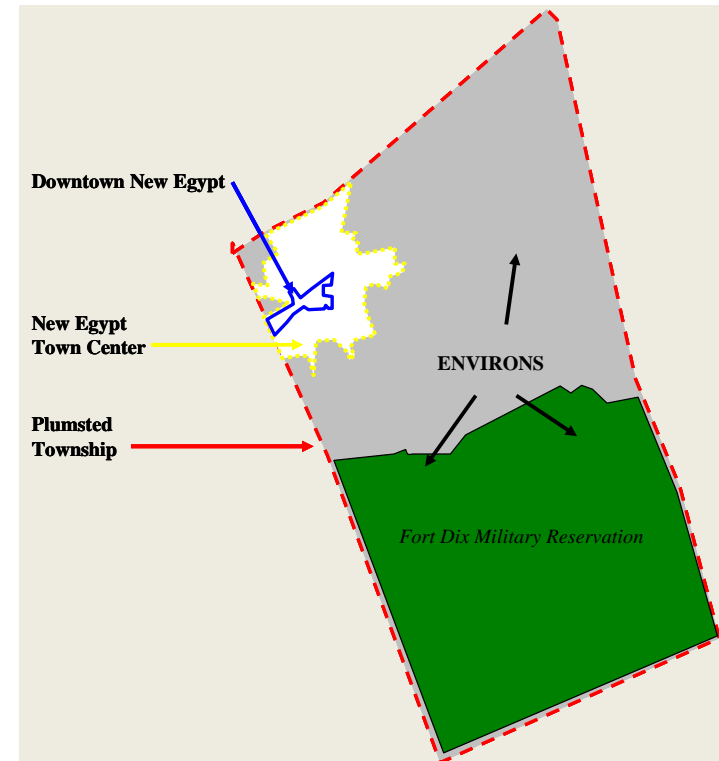


Figure 1: This graphic, taken from the 2010 Plumsted Circulation Element of the Master Plan, illustrates the geographic relationship of Downtown New Egypt with the Town Center and the half of the Township north of Fort Dix portion of Joint Base New Jersey

Hightstown (Mercer County). The railroad began operating in 1868, traveling through Hornerstown, Cream Ridge, Davis, Imlaystown and Sharon in Upper Freehold Township before crossing through Plumsted Township with a station on Evergreen Road in New Egypt and then crossing through North Hanover in Burlington County on its way to Pemberton. Passenger service ceased in 1931, but freight service continued on sections of the line until 1977. The right-of-way was acquired by Jersey Central Power & Light (JCP&L) in 1998.¹

Negotiations between the Township and JCP&L for an easement for the use of the right-of-way for a multipurpose trail are ongoing and a formal agreement was under review by the Township Committee at the time of the preparation of this Summary Report.

The portion of the former rail right-of-way that runs through Monmouth County is called the Union Transportation Trail (UTT) and the Monmouth County Parks System completed construction on the southernmost segment of approximately two miles in length in 2010 (see Figure 2).

This Summary Report recommends a preferred alternative for connecting Phase 2 of the New Egypt Bike Path to the UTT, which is to tunnel under the roadbed of County Road 537 using pre-cast concrete box culvert sections. This preferred alternative would be subject to more detailed engineering feasibility and cost estimates. The other alternatives reviewed between Ocean County's project team and the Monmouth County Park System UTT project manager were:

1. Elevate the grade on both sides of the road to enable a grade crossing of County Route 537;
2. Acquire easements through private property to connect the New Egypt Bike Path to Millstream Road for a grade crossing at CR 537.

Both of these alternatives involve grade crossings at Route 537 that are undesirable from a safety point of view because of the speeds and sightlines on CR 537.

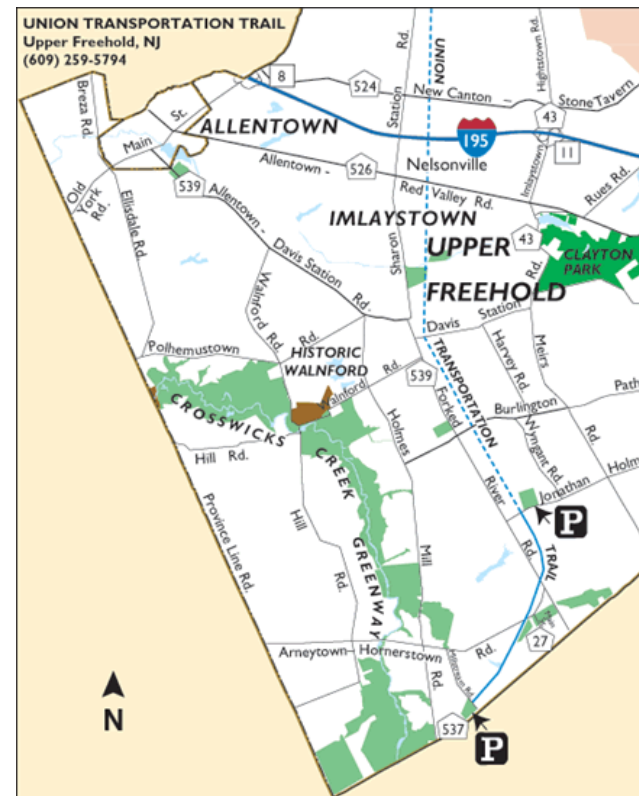


Figure 2: Map of the UTT from the Monmouth County Parks System website, showing the completed two mile segment in the solid blue line.

¹ Monmouth County Parks System website: (www.monmouthcountyparks.com)

Study Purpose

The purpose of the New Egypt component of the Ocean County Subregional Study Program with the NJTPA is to advance the development of the first multipurpose trail in the Township and the implementation of the first segment of the Township's Bicycle Pathway Plan. The Study takes the recommendations of the 2010 Circulation Element of the Plumsted Master Plan and provides a conceptual design based on field investigation and an identification of obstacles along the entire two mile length of the combined Phase 1 and Phase 2 segments of the New Egypt Bike Path.

The right-of-way of the former Pemberton-Hightstown Railroad, now owned by JCP&L and utilized as a utility corridor with the original wooden poles that once served the rail line, passes through the rear of downtown New Egypt, separating the rear of commercial properties on the north side of Main Street from several residential stub streets off of Meadowbrook Lane. It once was bridged over the Crosswicks Creek by a wood timber bridge, which no longer remains, and crossed Evergreen Road adjacent to Kovac's Corner Bar and Grill and Brite Lumber. It then passed through a residential area before crossing Bright Road and passing behind the education/civic complex to County Road 537 (see Figure 3).

The most challenging obstacle to the construction of the Phase 1 Bike Path (between Jacobstown Road and the education/civic complex) is bridging the Crosswicks Creek. The most challenging obstacle to the Phase 2 Bike Path is getting across County Road 537 to link up with the UTT.

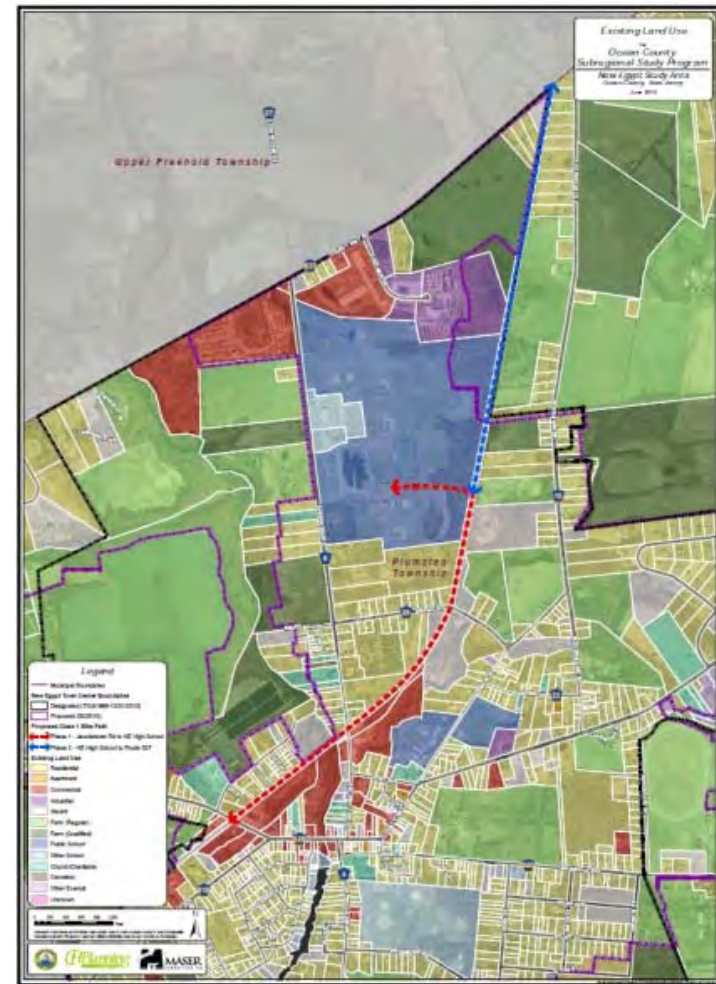


Figure 3: This Land Use Map shows the Phase 1 and Phase 2 Bike Path in dashed red and blue lines respectively, with the red shaded areas representing Downtown New Egypt and the large blue shaded area representing the educational/civic complex.

The Bicycle Pathway Plan

The 2010 Plumsted Master Plan Circulation Element places emphasis on maximizing the opportunities for alternative modes of bicycle, pedestrian and transit mobility within the Township, with emphasis on NJDOT's "Complete Streets" and "Mobility and Community Form" guidelines. This will be done with a network of pedestrian pathways connecting parking lots within the downtown, some along public right-of-ways and some through easements through private property, with wayfinding directional signage to the variety of destinations of interest. Leaving the core of the Downtown, the non-vehicular pathways would pickup with Class II bicycle lanes along existing shoulders of County roads that fan out to signed bicycle routes on County Routes 537 running east and 539 running south.

The Plumsted Bicycle Pathway Plan consists of Class III Bicycle Routes (County Roads 537 and 528 running east and west; County Road 539 running north and south); Class II Bike Lanes (Bicycle Route signage and unmarked but lined bike lanes) along secondary County Roads such as Archertown Road and West Colliers Mills Road (County Road 640), and Township roads such as Evergreen Road, Brindletown Road, Long Swamp Road and Colliers Mill Road; and a Class I (off road) bike path/multipurpose trail along the JCP&L right-of-way along a former rail line between Jacobstown Road, crossing the Crosswicks Creek and Evergreen Road, connecting to the rear of New Egypt High School. A second phase of the New Egypt Bike Path would extend to Route 537 for potential future linkage to the Monmouth County Park System's recently constructed "Union Transportation Trail" (UTT) multipurpose trail along the same right-of-way (see Figure 4).

TYPES OF BIKE PATHS:

Class I

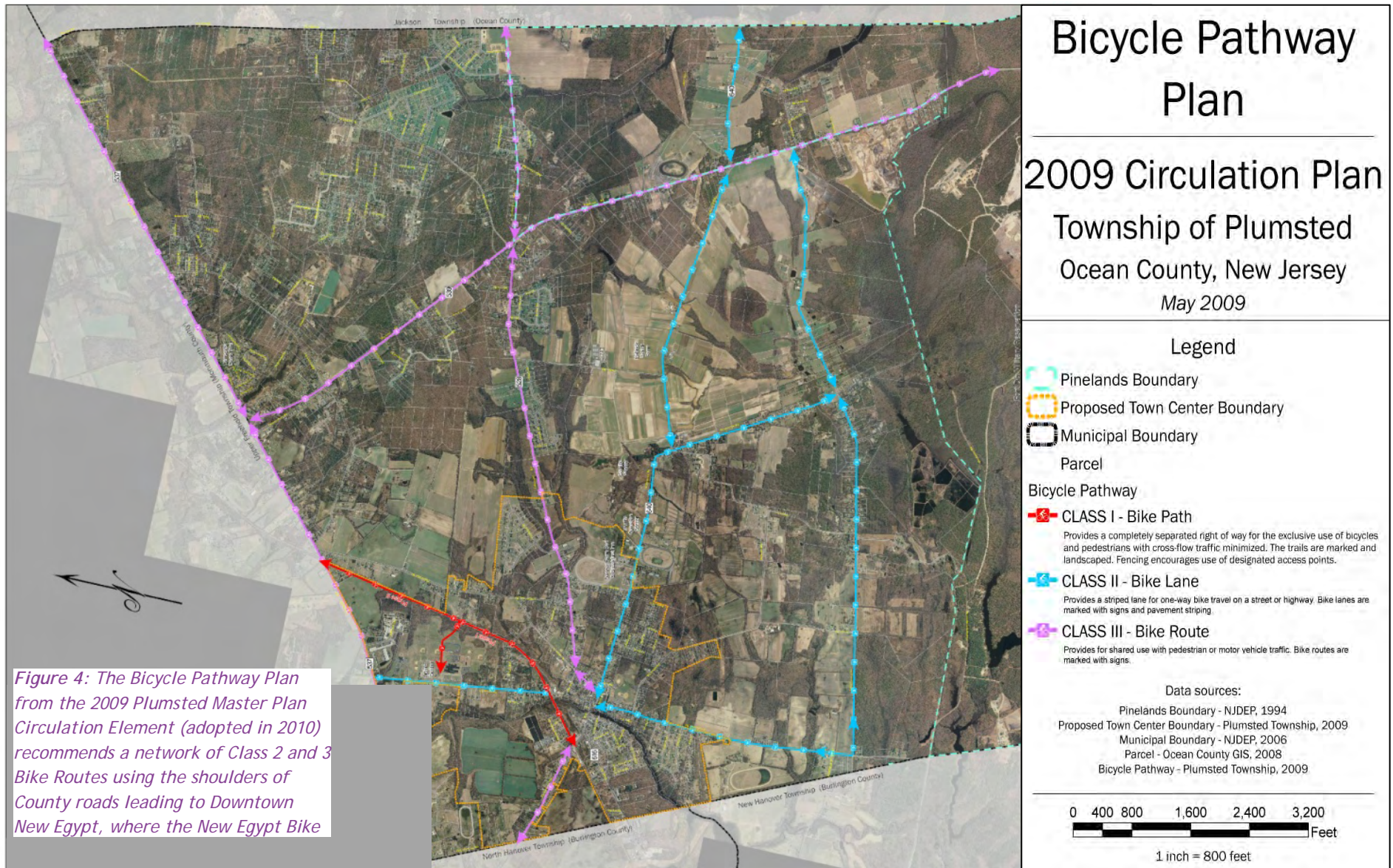
The Class I bike path provides a completely separated right of way for the exclusive use of bicycles and pedestrians with cross-flow traffic minimized. The trails are marked and landscaped. Fencing encourages use of designated access points and prominent signed crosswalks mark intersections with roadways.

Class II

Class II bike paths provide a striped lane for one-way bike travel on a street or highway. Bike lanes are marked with signs and/or pavement markings. Existing County roads with wide shoulders leading to downtown New Egypt would be likely candidates.

Class III

Class III bike routes provide for shared use with pedestrian or motor vehicle traffic, with marked with signs for identification purpose.



Study Process

The Maser study team began by reviewing previously completed studies and plans for the area and developed base maps for segments of both the Phase 1 and Phase 2 Bike Paths. The segmented base maps were then used by a field team consisting of the Maser project manager, landscape architect and environmental scientist when they visited the site on two occasions to walk the route, note surrounding land uses, views, natural features and identify obstacles and environmental constraints.

The study team then laid out a ten foot wide path in a serpentine design on a set of conceptual plans. Small seating areas were identified along the entire route and drawn on the plans, with priority give to places with existing paths on adjacent properties intersected with the proposed Bike Path.

The Maser design team then researched solutions to the obstacles identified in the site work and met with the Monmouth County Park System project manager of the UTT to identify alternative solutions for connecting the New Egypt Bike Path to the UTT.

Finally, the Maser project manager coordinated and facilitated a Public Open House meeting at the Plumsted Municipal Building on Evergreen Road. Several sets of the conceptual plans were on hand for public inspection at the Open House. The presentation given at the Open House is included in the Appendix of this Summary Report.

The Phase 1 and Phase 2 components of the Bike Path are depicted in Figure 5. Enlarged parcel map versions of each Phase are shown in Figures 6 and 7 on the following page.



Figure 5: New Egypt Bike Path - preliminary delineation of Phase 1 and Phase 2 path segments.

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Figure 6: Phase 1 Bike Path - Jacobstown Road to High School/Civic Complex



Figure 7: Phase 2 Bike Path - High School/Civic Complex to UTT

Existing Conditions, Obstacles & Design Recommendations

This section will describe the existing conditions of the various segments of the Phase 1 and Phase 2 Bike Paths and point out obstacles and proposed design solutions.

Existing Conditions & Obstacles



Phase 1, Segment A - This segment extends from the point of beginning for the Phase 1 Bike Path at Jacobstown Road to the crossing at Evergreen Road just to the north of Brite Lumber.

There are a number of existing walking paths that have been worn into the cleared portions of the right-of-way along this segment suggesting frequent use by residents along Meadowbrook Lane and its stub streets (Platt Street, 5th Street and Miron Street) to get to the CVS pharmacy on Jacobstown Road and the New Egypt Market on Main Street. However, much of the remainder of the right-of-way to the west and east of these footpaths is overgrown with thick understory vegetation.



Figure 8: Phase 1, Segment A has footpaths worn through the vegetation in some spots (top), which serve as short cuts for residents living in the Meadowbrook Lane neighborhood (bottom)

The most significant obstacle in Phase 1, Segment A is the Crosswicks Creek. The only remnants of the timber bridge that once spanned the creek are a timber abutment on the west bank of the creek and the timber posts that were sawed off at the water line (see Figure 9).



Figure 9: The Crosswicks Creek is shown here at the point where the timber rail bridge once spanned it. The pile stumps can be seen just above the water line. The required span is estimated to be 86 feet.



Phase 1, Segment B - This segment of Phase 1 Bike Path would continue from the crossing at Evergreen Road to the crossing at Bright Road. The right-of-way along this segment runs parallel to a stream corridor that meanders through a stand of native woodland. The proposed serpentine trail alignment has been shaped to follow the edge of the native woodland along this segment.



Figure 10: Phase 1, Segment B begins alongside Brite Lumber and crosses through a residential area to Bright Road. The only remnants (rail ties and a structure) of the former railroad were observed in the wooded area to the right.



Figure 11: Phase 1, Segment B is one of the easier areas of the right-of-way to traverse on foot, as the vegetation was not as thick and difficult as most other areas.



Phase 1, Segment C extends from Bright Road to the rear of the New Egypt High School property where it would connect with the Cross Country trails that lead over a ten foot wide wood plank bridge to the soccer fields behind the school (see Figure 12).

Along this stretch of the right-of-way there are areas where the center is considerably higher in elevation than the edges and in many places is overgrown with understory vegetation (see Figure 13). The most significant obstacle in this segment is what was identified as a “wash out” by a stream crossing the right-of-way

(see yellow circle in aerial key map above), causing a gap that will need to be bridged as part of the construction of the Phase 1 Bike Path (see Figure 14).



Figure 12: View of cross-country trail entrance from rear of soccer field behind New Egypt High School.



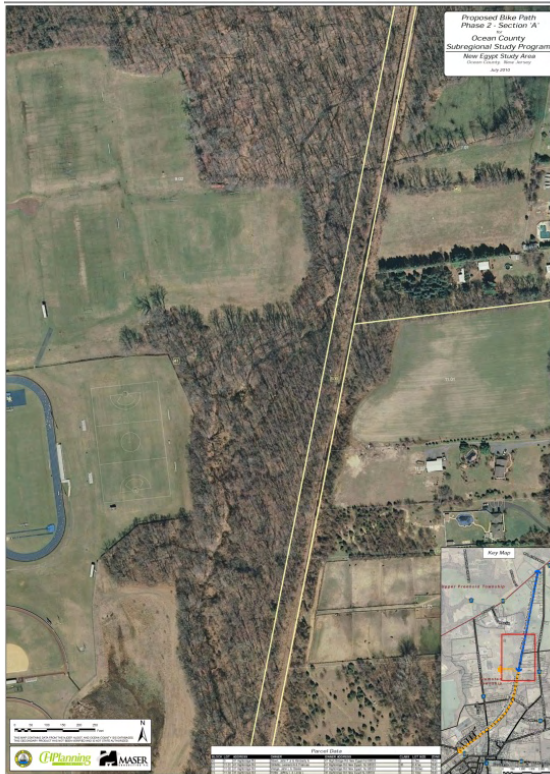
Figure 13: Phase 1, Segment C is mounded in the center of the R.O.W.



Figure 14: The stream visible in the lower left corner of this image (see yellow circle) cuts through the mounded portion of the R.O.W and will need to be bridged in order to connect with the High School's cross country trail.

In the short term, the prioritization of Segments B and C of the Phase 1 Bike Path would enable the Township to utilize the new parking area adjacent to the recently completed Volunteer Park as a trail head to access the Segment B portion of the Bike Path at Evergreen Road and bridge the overwash area to link up with the cross country path behind the education/civic complex. This portion of the Phase 1 Bike Path is still accessible from downtown

New Egypt and would not require the difficult bridging of the Crosswicks Creek.



Phase 2, Segment A Is the first portion of the Phase 2 Bike Path that would continue behind the education/civic complex on Evergreen Road to ultimately link up with the UTT in Monmouth County on the other side of County Road 537. This stretch of right-of-way runs along a wooded area behind the school recreation fields to the west and along the rear yards of small farms and farmettes that front on High Bridge Road to the east.



Figure 15: A view facing north along Segment A of the Phase 2 Bike Path showing the line of woodland along both sides.

Segment A has no obstacles of note and is one of the most passable areas of the right-of-way along the entire Phase 1 and Phase 2 Bike Path route. With the successful resolution of an agreement between the Township and JCP&L to allow public access, this Segment could easily be used for pedestrian access, equestrian use or even as an extension of the cross country trail behind the education/civic complex.



Phase 2, Segment B is the middle segment of the Phase 2 Bike Path and emerges from the wooded area directly east of the Plumsted Industrial Park with cultivated farmland on both sides. One minor obstacle is a small stream that crosses the right-of-way (see yellow circle in aerial map above) that can be overcome with a simple storm culvert.

As with Segment A, Segment B of the Phase 2 Bike Path offers views of the rural countryside typical of this part of Ocean and Monmouth Counties. While these views are offered as “glimpses”

through the wooded area in Segment A, there are more open vistas along Segment B.



Figure 16: Birds Eye view of Phase 2, Segment B showing its location relative to the Plumsted Industrial Park, facing west from High Bridge Rd.



Figure 17: Views of the rural landscape in Segment B are the best along the entire Phase 1 and Phase 2 Bike Path route. This view is from the right-of-way facing east towards High Bridge Road.

It is noteworthy that the entire length of the Phase 2 Bike Path is a straight reach without any roadway crossings until its terminus at County Road 537. Other than the minor storm culvert referenced earlier, Phase 2 would be the less expensive section to construct except for the connection to the UTT.



Phase 2, Segment C is the last of the Phase 2 Bike Path between the education/civic complex on Evergreen Road and the terminus of the New Egypt Bike Path at County Road 537 about 400 feet west of its intersection with High Bridge Road.

This last segment is also relatively easily traversed on foot and offers the potential for almost immediate public use, except that it is essentially a dead end when it reaches County Road 537.



Figure 18: The view of the terminus of the Phase 2 Bike Path right-of-way from the north side of County Road 537 (bottom) and south side (top) show the elevation obstacle that makes the raised roadway a barrier between the proposed Bike Path and the UTT.

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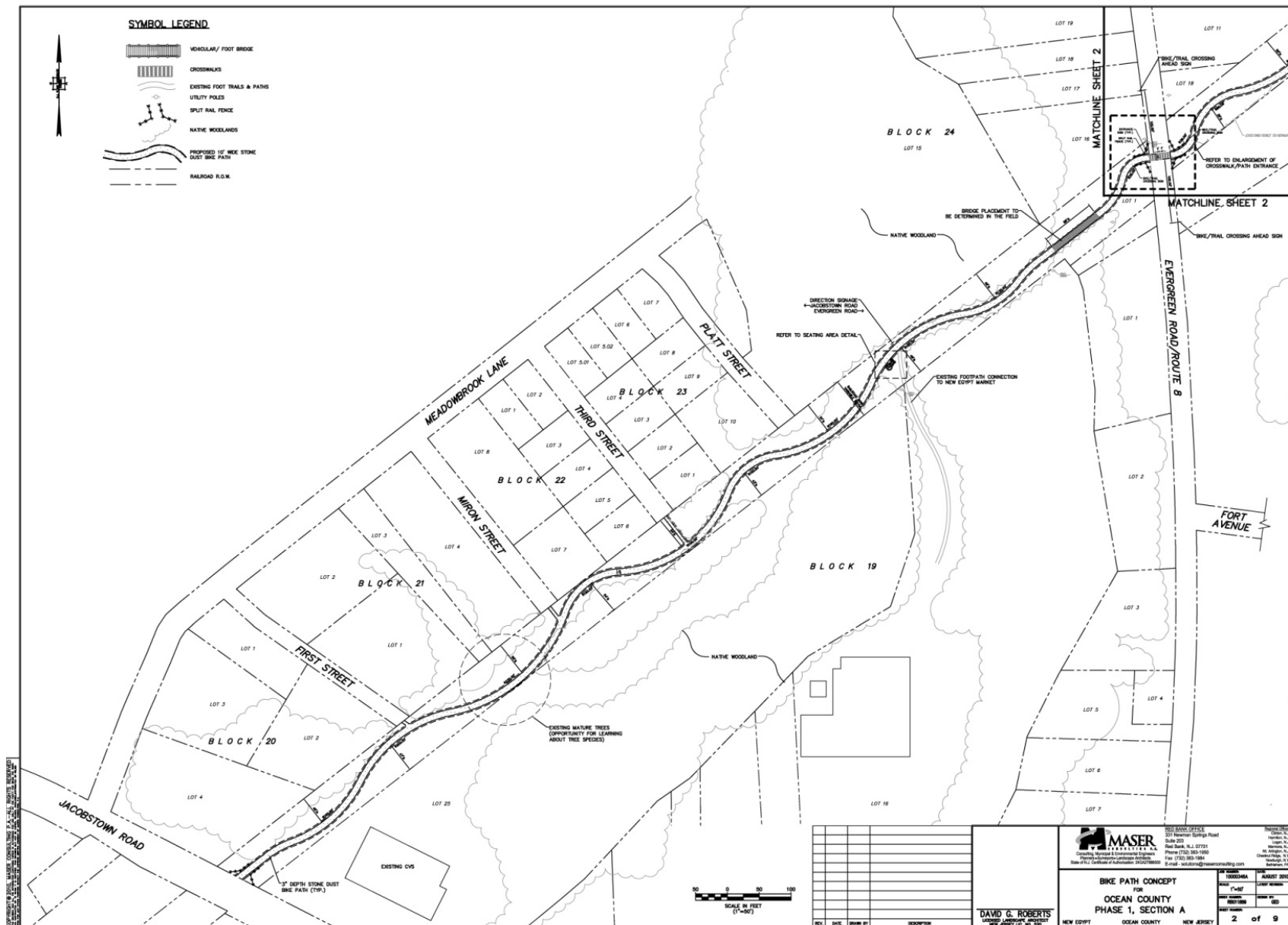
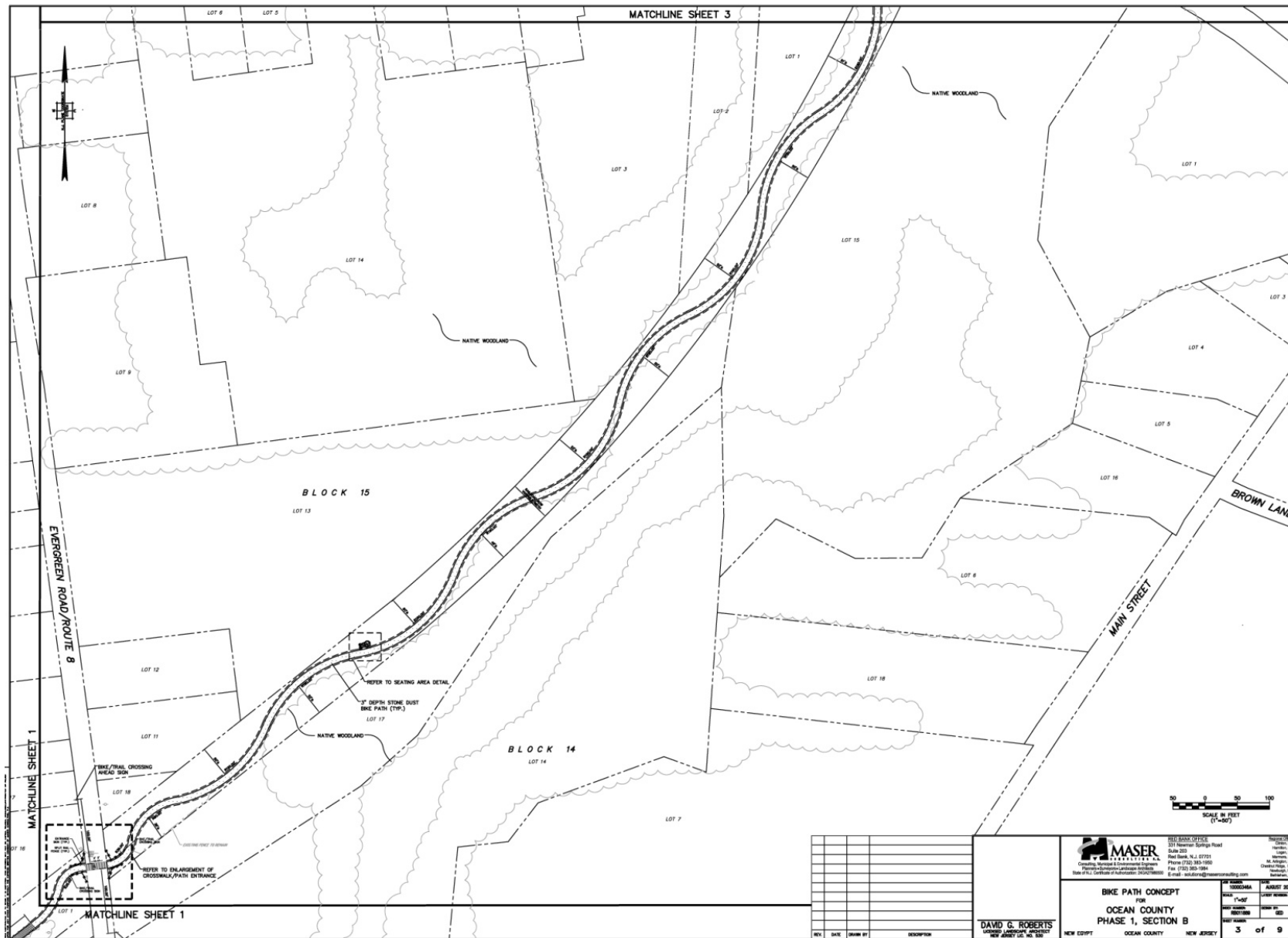


Figure 19: Phase 1,
Segment A Plan

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Figure 20: Phase 1,
Segment B Plan



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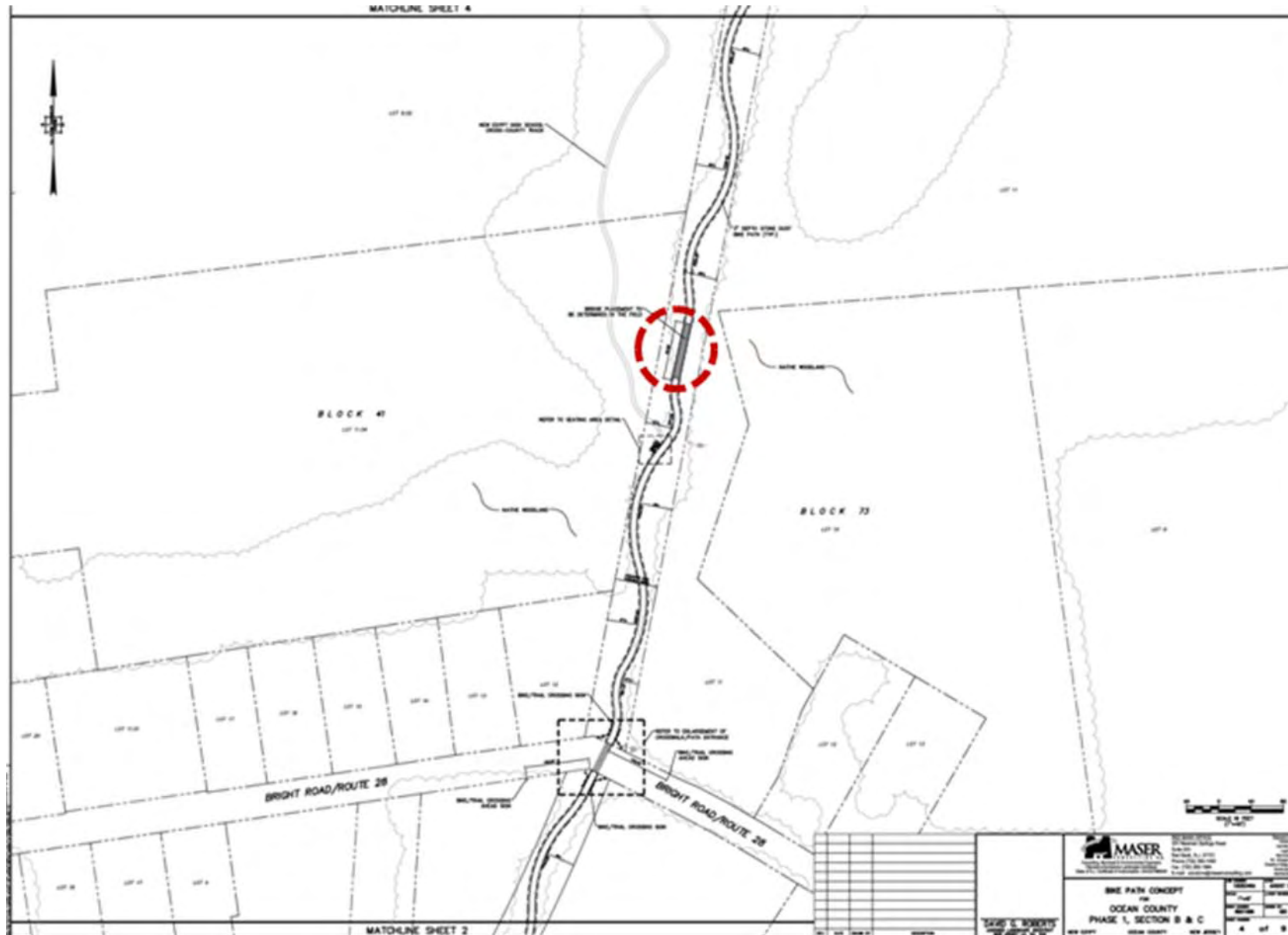
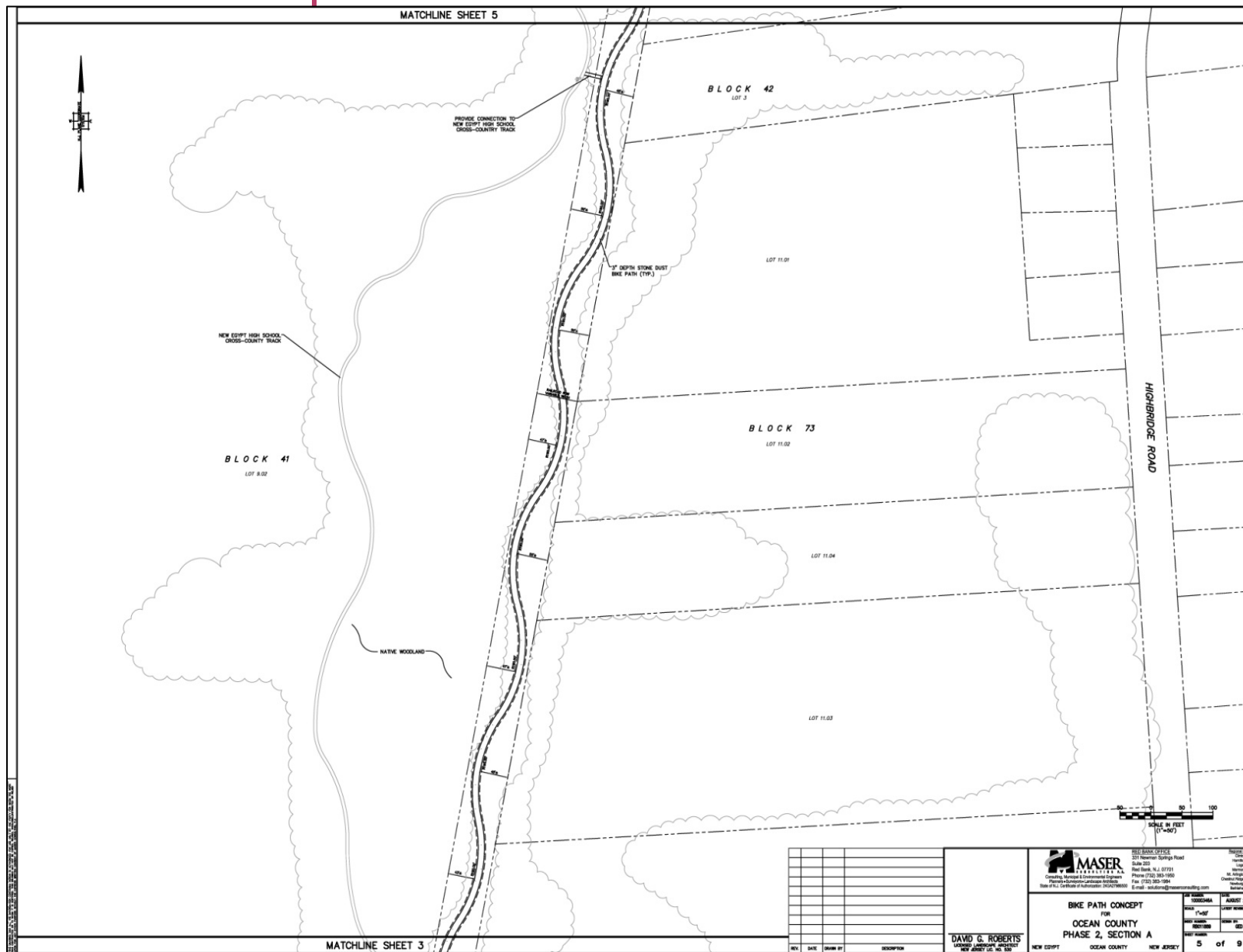


Figure 21: Phase 1, Segment C Plan

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Figure 22: Phase 2,
Segment A Plan



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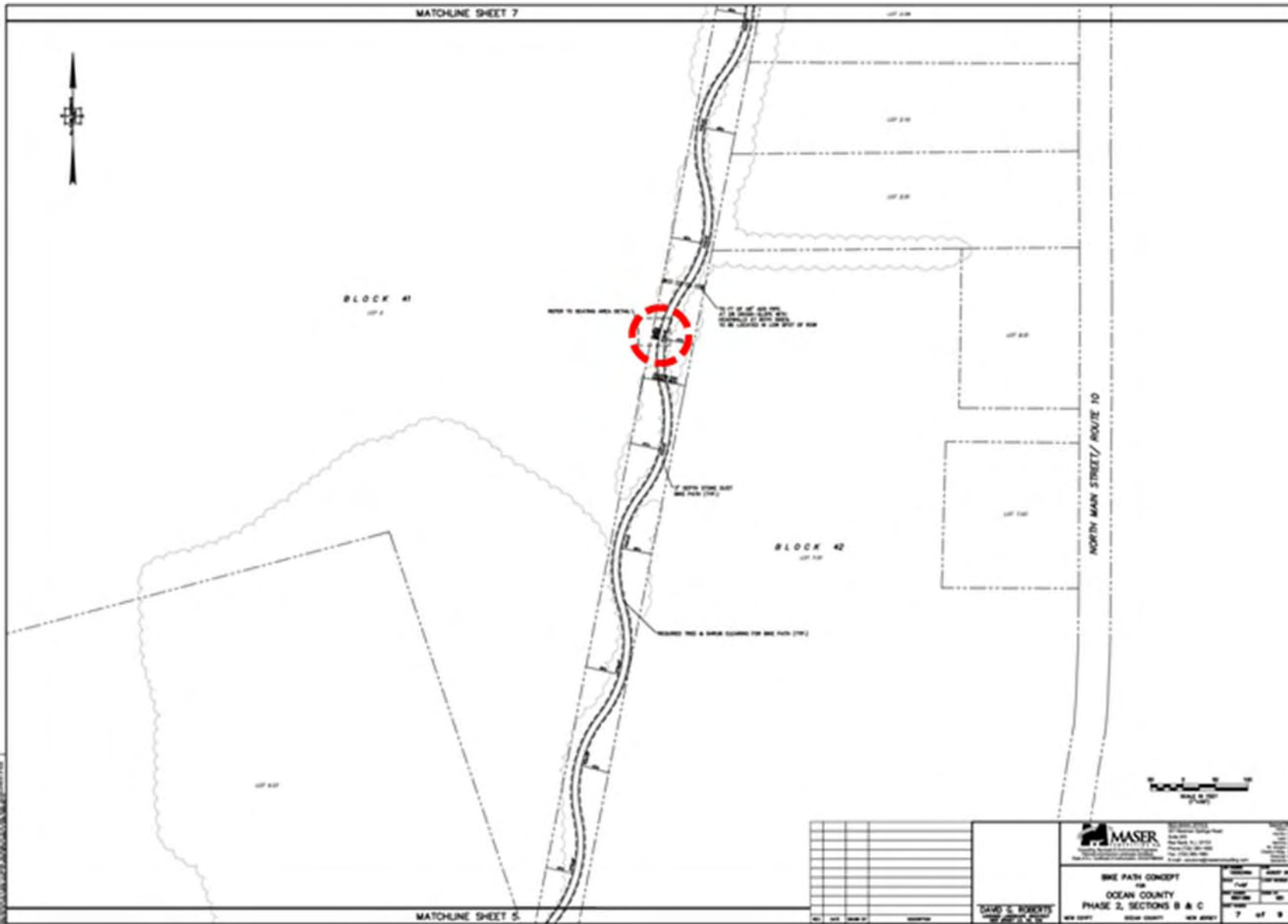


Figure 23: Phase 2, Segment B Plan

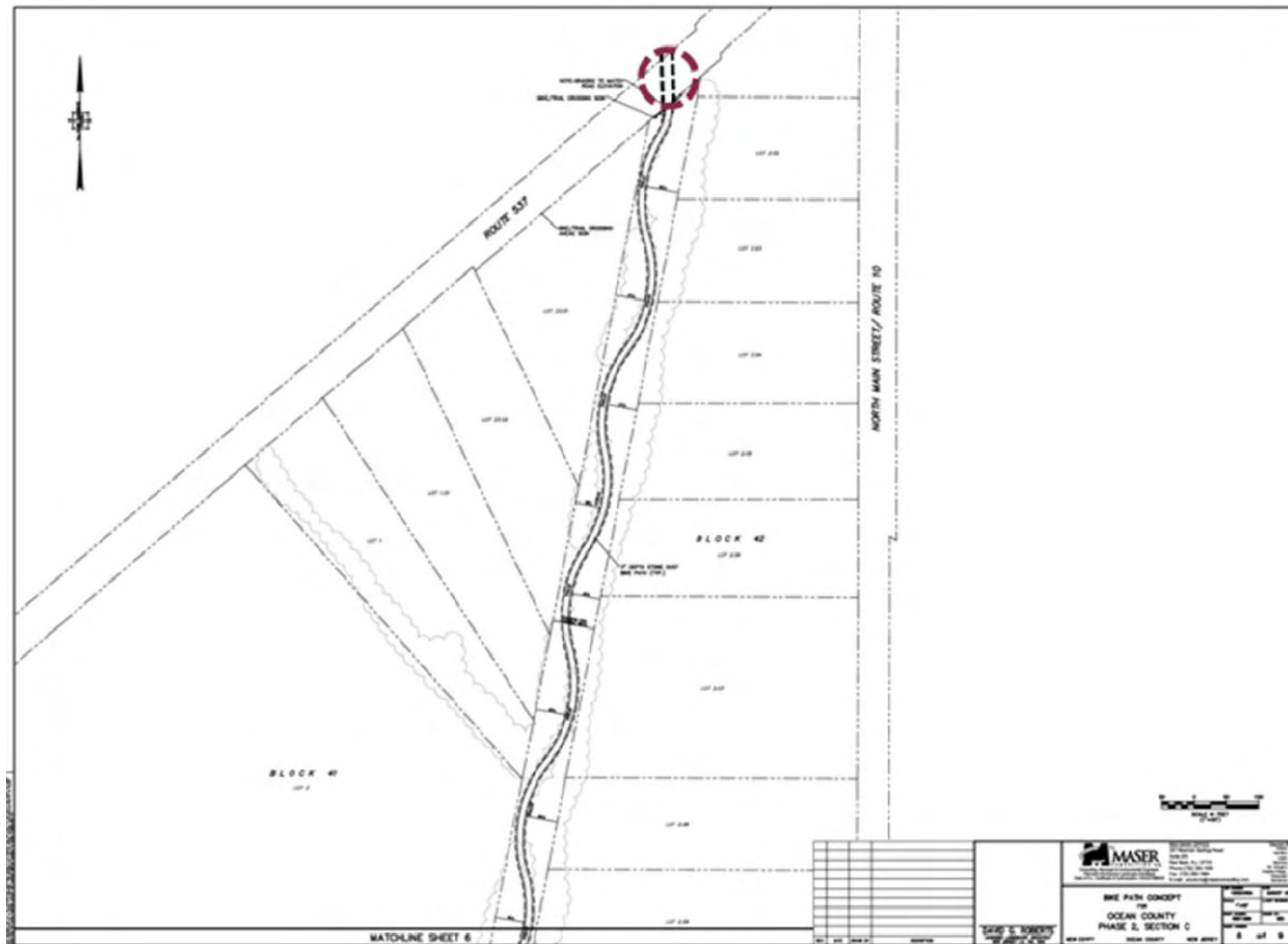
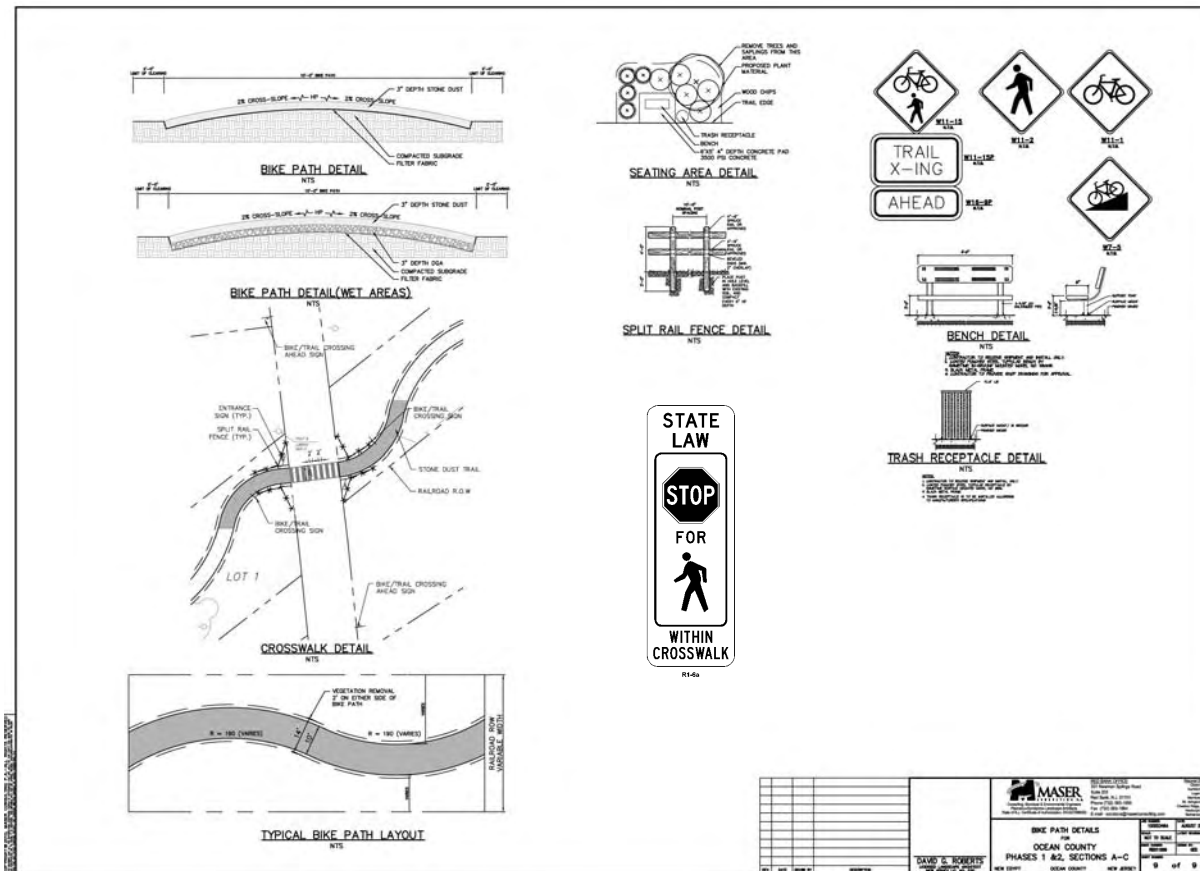


Figure 24: Phase 2,
Segment C Plan -
Connection to UTT

Bike Path Design Features

The conceptual design plans in Figures 18 through 23 above indicate several design features that are accessory to the construction of a ten foot wide multipurpose path of two miles in length. The detail sheet (Sheet 9) of the conceptual plans provides details for path construction, road crossings, seating along the trail and signage.

These details assume the same type of construction as has been used by Ocean County in the construction of their Barnegat Branch Trail, which consists of a compacted subgrade, a filter fabric and 3 inches of stone dust for dry areas, with an additional 3 inch layer of dense graded aggregate (DGA) between the filter fabric and stone dust for wet areas (see Figure 24) to provide for a permeable pavement.



Connection to the Union Transportation Trail

Beyond the design issues and obstacles evaluated in the conceptual planning for the Phase 1 and Phase 2 Bike Path, the scope of this Study includes an evaluation of alternative solutions for connecting the New Egypt Bike Path with the Union Transportation Trail. As described and illustrated in the discussion of Phase 2, Segment C, the challenges to connecting the two portions of the former Pemberton-Hightstown Railroad right-of-way is the elevation change at County Road 537. The road was once elevated further over a tunnel used by the passenger and freight trains that once used the railroad. After the railroad was abandoned and the rails removed, the tunnel was also removed and the road lowered to improve sight lines. However, the elevation of the road remains approximately ten feet above the elevation of the right-of-way on either side of it.

Figure 25: Bike Path Design Details

The Maser project team and representatives of Ocean County, Plumsted Township and the Monmouth County Parks System met to review the plans of both the New Egypt Bike Path and the UTT and determined that the three alternative solutions for linking them would be as follows:

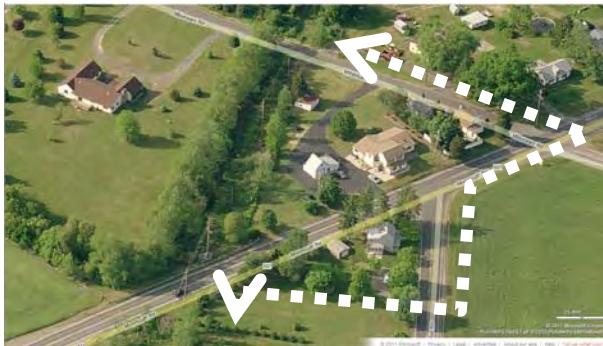
1. Elevate the grade on both sides of the road to enable a grade crossing of County Route 537;



2. Install precast concrete box culvert sections under County Route 537;



3. Acquire easements through private property to connect the New Egypt Bike Path to Millstream Road for a grade crossing at CR 537.



Preferred Alternative

Pending a final determination on relative cost feasibility of the three alternatives, the study team recommends Alternative 2 as the preferred long term solution to linking the New Egypt Bike Path and the UTT for the following reasons:

- Tunneling under the road bed would have less impact on drainage patterns and wildlife habitat than bringing in the quantities of fill that would be necessary to maintain suitable grades for trail use (Alternative 1). It is noted, however, that the County Engineer's office has prepared a cost estimate that most likely would entail complete excavation of the CR537 road bed wide enough for a substructure consisting of a reinforced concrete footing and cast-in-place piles. This method could involve comparable disturbance as Alternative 1 and, if a pre-fabricated ramp system could be substituted for earthen fill, the disturbance impacts of Alternative 1 could be reduced enough for it to become the preferred alternative;
- Tunneling under the road bed would enable the link between the two trails to be seamless and avoid the dangerous crossing locations required for Alternatives 1 and 3. Alternative 2 would clearly be the preferred alternative for purposes of safety and convenience for users of the trail system;



Figure 26: This image shows the potential benefits of tunneling under CR 537 to link the New Egypt Bike Path with the UTT

- A very preliminary construction cost estimate for tunneling under CR537 and installing precast concrete box culvert sections (see Figure 26) was calculated at \$1,400 per linear foot for a length of 75 feet, or \$105,000. However, the County Engineer's office developed a more detailed cost estimate based upon a substructure of a reinforced concrete footing supported by cast-in-place concrete piles at approximately \$1,000,000 (\$845,649). Alternative 1 would involve the purchase, delivery grading and compaction of significant fill and Alternative 3 would involve the purchase of easements through property at least to connect the trail to High Bridge Road and the construction of grade crossings at Millstream and Route 537 in order to reach the UTT.



Figure 27: The installation of precast concrete box culverts of 10 feet in height and 13 feet in width can be done under the road bed, but may require the tunnel grade to be lower than the trail grade and entail drainage design that could increase costs.

Implementation

Implementation of the New Egypt Bike Path and its connection to the UTT is expected to be done in phases. Plumsted Township has already taken the first step by engaging JCP&L in negotiating an easement agreement to enable public access on the right-of-way. Initially, it is expected that the Township will clear a continuous path, expected to be 10 feet in width, through the overgrown portions of the right-of-way to enable its use by hikers and equestrians, with possible limited use by cyclists, depending on the surface. The most likely first section would be Phase 1, Segments B and C, although the obstacle identified in Segment C would still have to be overcome in order to reach the connection with the cross country trail behind the education/civic complex.

This Segment can be served by the parking lot adjacent to Volunteer Park.

The most likely second phase of development would be to construct a permanent surface on the path created on the Phase 1, Segment B and C right-of-way to create a fully developed Bike Path connecting Evergreen Road with the cross country trails, which then also enable the use of the parking at the Township and school facilities along Evergreen Road for access to the Bike Path.

The next phase of the Bike Path to be implemented should be the entire Phase 2 stretch and the connection to the UTT. It is recommended that the County continue to engage the Monmouth County Park System to work collaboratively on solutions to connecting the New Egypt Bikepath to the UTT. The Monmouth County Park System has expressed its desire to be involved in the implementation and assist Plumsted Township and Ocean County in pursuing a direct connection between the two trails.

The last phase of the Bike Path should be Phase 1, Segment A, as the cost of construction of the bridge over the Crosswicks Creek will likely be as high or higher than the cost of installing a box culvert tunnel under County Road 537. This Segment, however, will offer the best direct connections to business in downtown New Egypt, as none of the other Segments directly abut commercial properties.

The Implementation Matrix in Figure 5 projects out the sequence described above, with some overlap shown as the projects begun in Year 1 are being completed in Year 2 and the projects beginning in Year 2 are carried over into construction in Year 3. The Matrix suggests that Year 2 would be the busiest, with either design or construction activities involving all of the Segments except the

first Segment (1A) between Jacobstown Road and the Crosswicks Creek.

NEW EGYPT BIKE PATH - IMPLEMENTATION MATRIX					
Phase	Segment	Year 1	Year 2	Year 3	Year 4
1	A				X
	B	X	X		
	C	X	X		
2	A		X	X	
	B		X	X	
	C		X	X	

Figure 28: Implementation Matrix

APPENDIX

PRESENTATION: SECOND PUBLIC OPEN HOUSE - PLUMSTED MUNICIPAL BUILDING, FEBRUARY 17, 2011



Ocean County Subregional Study

Expanding Bicycling & Pedestrian Mobility


Open House Meeting

February 17, 2011

6PM

Plumsted Township Municipal Building

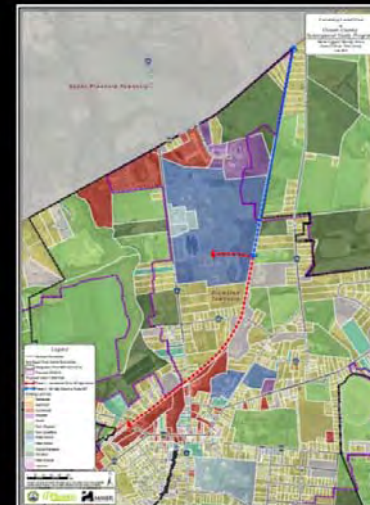
New Egypt, New Jersey

David G. Roberts, AICP/PP, LLA, RLA 
Maser Consulting, PA



Ocean County Subregional Study Program – Expanding Bicycling & Pedestrian Mobility

In March of 2009, the North Jersey Transportation Planning Authority (NJTPA) awarded Ocean County a \$120,000 grant through its Subregional Study Program. The grant will study pedestrian strategies and the possibility of expanding bicycle facilities and mobility; specifically, the creation of a bike/walking path on an existing railroad right-of-way in New Egypt and the Barnegat Branch Trail's link in downtown Toms River.



Downtown
Toms River

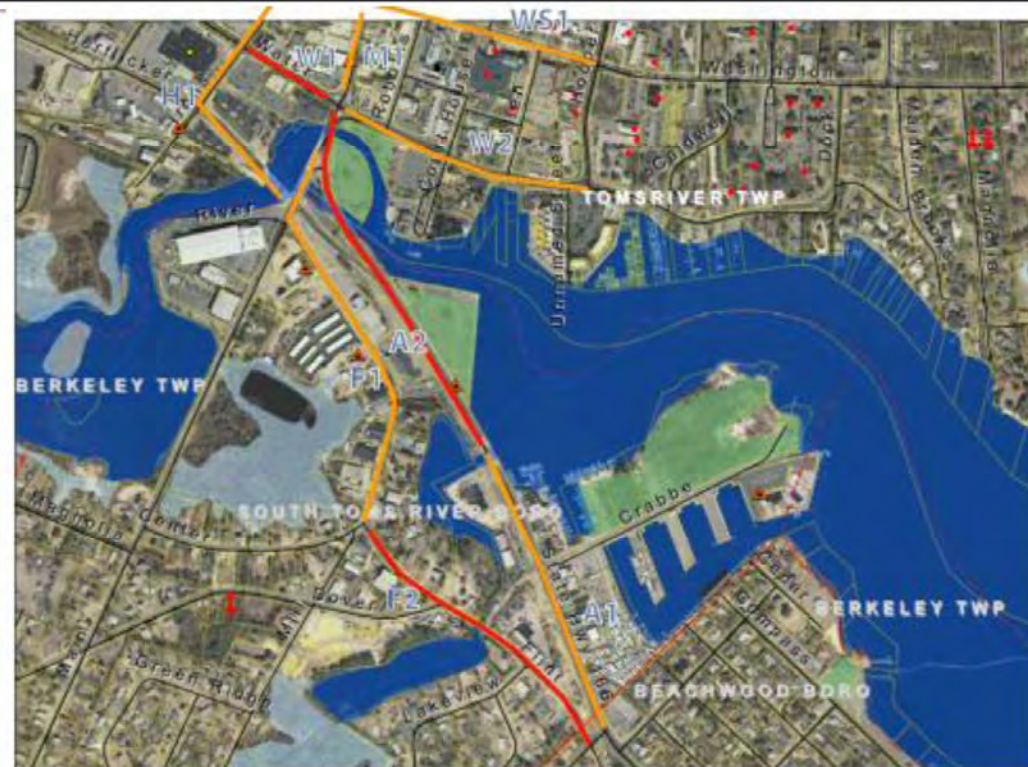
Downtown
New Egypt



CHPlanning
CONSULTING, INC.

MASER
CONSULTING, INC.

Downtown Toms River



Legend

- Potential Brownfield Site
- Places of Worship
- County Buildings
- Streets
- Property Lines
- Wetlands
- Open Space
- Municipal Boundary
- Water

Ocean County Subregional Study Toms River Study Area

0 500 1,000 Feet
Sources: Ocean County, Toms River Environmental Committee, NJDEP

Link from Admiral Boulevard to Herflicker Blvd. Bridge

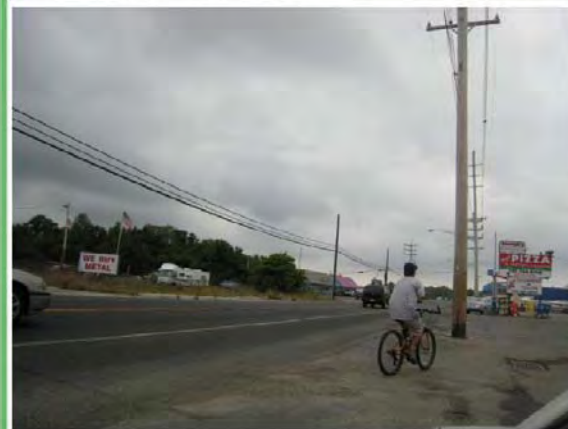
Downtown Toms River

The current end of the Barnegat Branch Trail at Admiral Boulevard at the border of South Toms River and Beachwood Boroughs presents a choice for cyclists to either ride the shoulders down Rt. 166 (Atlantic City Boulevard) to South Main Street or Flint Street to get to the Herflicker Boulevard Bridge



Route 166 from Admiral Boulevard to South Main Street

The stretch of Rt. 166 running through South Toms River between Admiral Boulevard and South Main Street has intermittent shoulders and lacks controlled driveway cuts, making it confusing to cyclists as to whether to ride along the shoulder or ride on the sidewalks (where they exist).



Downtown Toms River

Link from Admiral Boulevard to Herflicker Blvd. Bridge

Downtown Toms River

Long Term Solution:

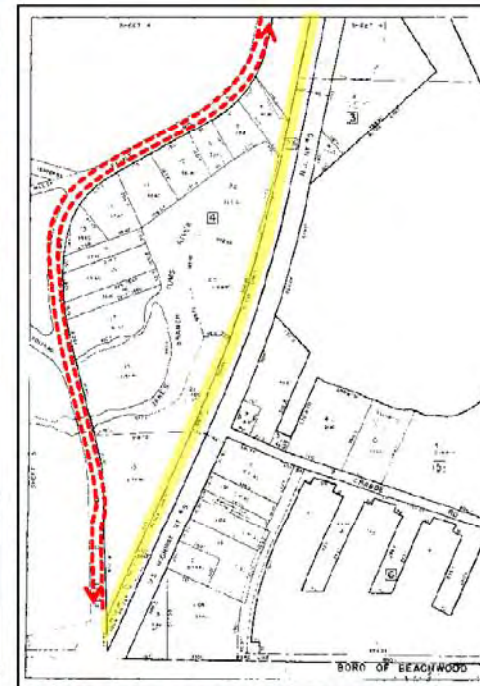
Acquire easement or title to Block 23, Lots 1 and 1.02 to extend Barnegat Branch Trail from Admiral Boulevard to Herflicker Blvd. bridge.

Short Term Solution:

Modified shoulders and bike lane signage along Flint Road between Admiral Boulevard and Herflicker Blvd. bridge.



Obstacles to multipurpose path on Block 23, Lots 1 and 1.02



Tax Map from South Toms River showing Block 23, Lots 1 and 1.02 as potential right-of-way for future multipurpose path.

Image at left shows current condition of former Barnegat Branch Trail ROW along southbound side of Atlantic City Boulevard (Rt 166).



Link from Admiral Boulevard to Herflicker Blvd. Bridge

Downtown Toms River

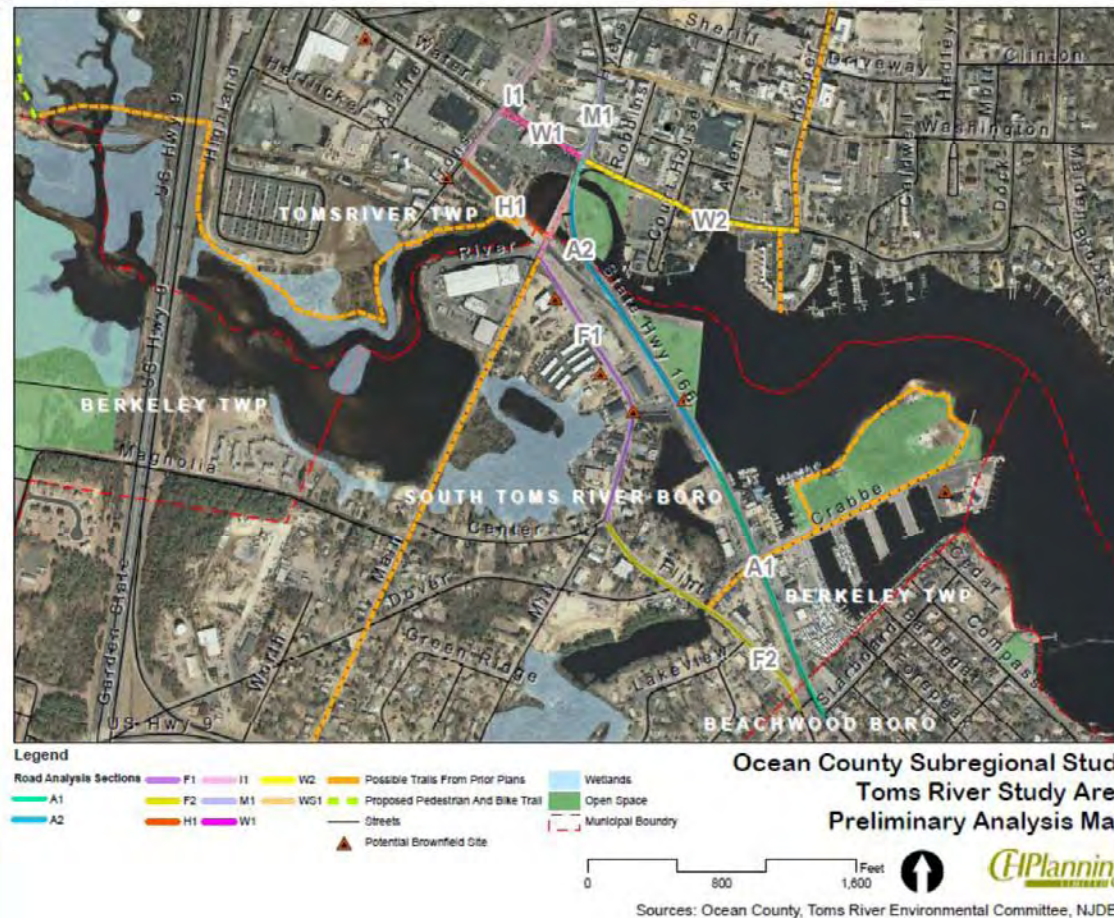
The former Barnegat Branch ROW extends all the way to Herflicker Boulevard and widens at the intersection of Flint Road and South Main Street so that the BBT could some day reach the Herflicker Boulevard Bridge and ultimately connect to the remainder of the ROW to the Bus Depot. Until then, Flint Road is the safest route for bicycle travel to the same point.



Proposed Bike & Pedestrian Paths

The potential routes for bicycle and pedestrian circulation between the BBT and Downtown Toms River, including the Toms River Bus Depot were analyzed in a SWOT (Strengths, Weaknesses, Opportunities and Threats).

Downtown Toms River



Strengths-Weaknesses- Opportunities-Threats (SWOT) Analysis

Downtown Toms River

The SWOT Analysis in the First Draft Summary Report for Toms River is shown on the next several slides. **Atlantic City Boulevard** (166) and **Flint Road** are shown in the table to the right.

Table 1: Toms River Bicycle Link SWOT Analysis

	Strengths	Weakness of Existing Conditions	Opportunities	Threat to Bike Facilities
Atlantic City Boulevard (A1)	<ul style="list-style-type: none"> • Large right of way (~60ft) could accommodate pedestrian/bike facility • Large building setbacks • Access to terminus of BBT • Wide shoulders • Underutilized lots 	<ul style="list-style-type: none"> • Unimproved strip development • High traffic volumes, major road • Unpleasant pedestrian/bicycling environment • Many turning vehicles • Site design of front parking lots with no curbs not compatible with pedestrian/bike facilities • Commercial activity creates high traffic volume 	<ul style="list-style-type: none"> • Space for large off-road bikeway or pedestrian path • Large lots and front parking could be redesigned to include designated driveways and bike lanes 	<ul style="list-style-type: none"> • Traffic Volumes from tourism and peak driving times
Atlantic City Boulevard (A2)	<ul style="list-style-type: none"> • Vacant land • Adjacent to Mathias Park • Water views • Large right of way (~60ft) could accommodate pedestrian/bike facility • Wide shoulders • Large lots allow for potentially fewer curb cuts 	<ul style="list-style-type: none"> • Industrial land use/vacant land • High/increased traffic volumes (roads merge) • Site design of front parking lots with no curbs not compatible with pedestrian/bike facilities • Shoulders disappear nearing the intersection with Main/Water 	<ul style="list-style-type: none"> • Shoulder for Path/Sidewalk • Direct connection to Mathias Plaza 	<ul style="list-style-type: none"> • Traffic Volumes from tourism and peak driving times
Flint Road (F1)	<ul style="list-style-type: none"> • Wide pavement surface • Low traffic volume • Direct connection to the BBT 	<ul style="list-style-type: none"> • No sidewalks • Industrial/light industrial land use prevalent with truck traffic • Reduced horizontal sight lines 	<ul style="list-style-type: none"> • Space for bike lanes 	<ul style="list-style-type: none"> • Shoulders too narrow and not bike-able at some points • Some truck traffic
Flint Road (F2)	<ul style="list-style-type: none"> • Low traffic volume • Wide pavement surface • Direct connection to Herflicker Bridge 	<ul style="list-style-type: none"> • Sidewalks in need of repair • Multiple land uses on road (residential/industrial) • Reduced horizontal sight lines • Bridge creates some vehicle backup 	<ul style="list-style-type: none"> • Travel lane consolidation • Multimodal transportation improvements 	<ul style="list-style-type: none"> • Some truck traffic • Narrow shoulders

Strengths-Weaknesses- Opportunities-Threats (SWOT) Analysis

Downtown Toms River

The SWOT analysis for **Water Street** and **Main Street** is shown in the table to the right.

	Strengths	Weakness of Existing Conditions	Opportunities	Threat to Bike Facilities
Water Street (W1)	<ul style="list-style-type: none"> Nearby Downtown activity Connection to redevelopment area Pedestrian facilities and crosswalks 	<ul style="list-style-type: none"> Lack of bicycle right of way High traffic volumes Minimal space for improvement without traffic reconfiguration Truck traffic to the post office Uncontrolled access to parking lots Drainage grates not bike-compatible 	<ul style="list-style-type: none"> Street tree plantings Improved Fire Company ingress and egress Increased pedestrian connections and signage to redevelopment area Gateway to residential and business areas 	<ul style="list-style-type: none"> Many turning lanes for high traffic volumes Lack of space for bike lane in existing configuration
Water Street (W2)	<ul style="list-style-type: none"> Existing pedestrian facilities Water views/access and landscaping Wide setbacks provide room for bikeway Adjacent to Huddy Park 	<ul style="list-style-type: none"> High traffic volume. Drainage grates not bike-compatible Lacks some pedestrian curb cuts Lacks room for ADA-compliant sidewalks High truck and car traffic 	<ul style="list-style-type: none"> Narrow vehicle lanes Improved Fire Company ingress and egress Street tree plantings Improved pedestrian crossings 	<ul style="list-style-type: none"> Traffic demand to downtown
Main Street (M1)	<ul style="list-style-type: none"> Pedestrian facilities Green space and bridge/water views 	<ul style="list-style-type: none"> Not frequented by pedestrians Vehicle-oriented 	<ul style="list-style-type: none"> Connecting crosswalk to Huddy Park Gateway feature Dedicated bike space 	<ul style="list-style-type: none"> Isolated from downtown activities
Main Street (M2)	<ul style="list-style-type: none"> Downtown activity Some pedestrian features 	<ul style="list-style-type: none"> Road cannot accommodate bike lanes Parking adjacent to in-road biking may lead to safety issues Some pedestrian crossing issues, such as long wait to cross 	<ul style="list-style-type: none"> Improved pedestrian crossings Sharrow or bike lanes Improved gateway features Increased crossing times 	<ul style="list-style-type: none"> Connects directly to busy intersection of Main / Water

Strengths-Weaknesses- Opportunities-Threats (SWOT) Analysis

Downtown Toms River

The SWOT analysis for **Herflicker Boulevard** and **Irons Street** is shown in the table to the right.

The entrance to Downtown Toms River via Main Street or Flint Road, whether by car, bicycle or on foot, contains spaces that are left-over from the circulation changes made to Rt 166 and are opportunities for extensions of Huddy Park as landscaped gateway treatments.

	Strengths	Weakness of Existing Conditions	Opportunities	Threat to Bike Facilities
Herflicker Blvd (H1)	<ul style="list-style-type: none"> Wide road with space for bike-specific improvements Wide bridge with side path for pedestrian or bikers Potential for future trail connection 	<ul style="list-style-type: none"> Surrounding parking lots and related traffic Isolated and unconnected pedestrian/bike facilities Traffic volumes from Main Street bypass Side path ends abruptly 	<ul style="list-style-type: none"> Lighting and aesthetic improvements Improved pedestrian crossings (at Irons and Herflicker intersection) Bike lanes Bike and pedestrian facilities with future redevelopment 	<ul style="list-style-type: none"> Crossing areas with high traffic volume
Irons Street (I1)	<ul style="list-style-type: none"> Wide roadway Few curb cuts Wide shoulders 	<ul style="list-style-type: none"> High traffic volume from Main Street bypass One-way traffic 	<ul style="list-style-type: none"> Side roadway or off-road path incorporated into sidewalk Two-way bike lanes Bike and pedestrian facilities with future redevelopment 	<ul style="list-style-type: none"> Traffic volume from bypass
Irons Street (I2)	<ul style="list-style-type: none"> Wide roadway Connection to residential areas 	<ul style="list-style-type: none"> Lack of shoulders Narrow sidewalks 	<ul style="list-style-type: none"> Bike and pedestrian facilities with future redevelopment Available ROW for bike facilities Available ROW for widened pedestrian facilities 	<ul style="list-style-type: none"> High traffic at intersection



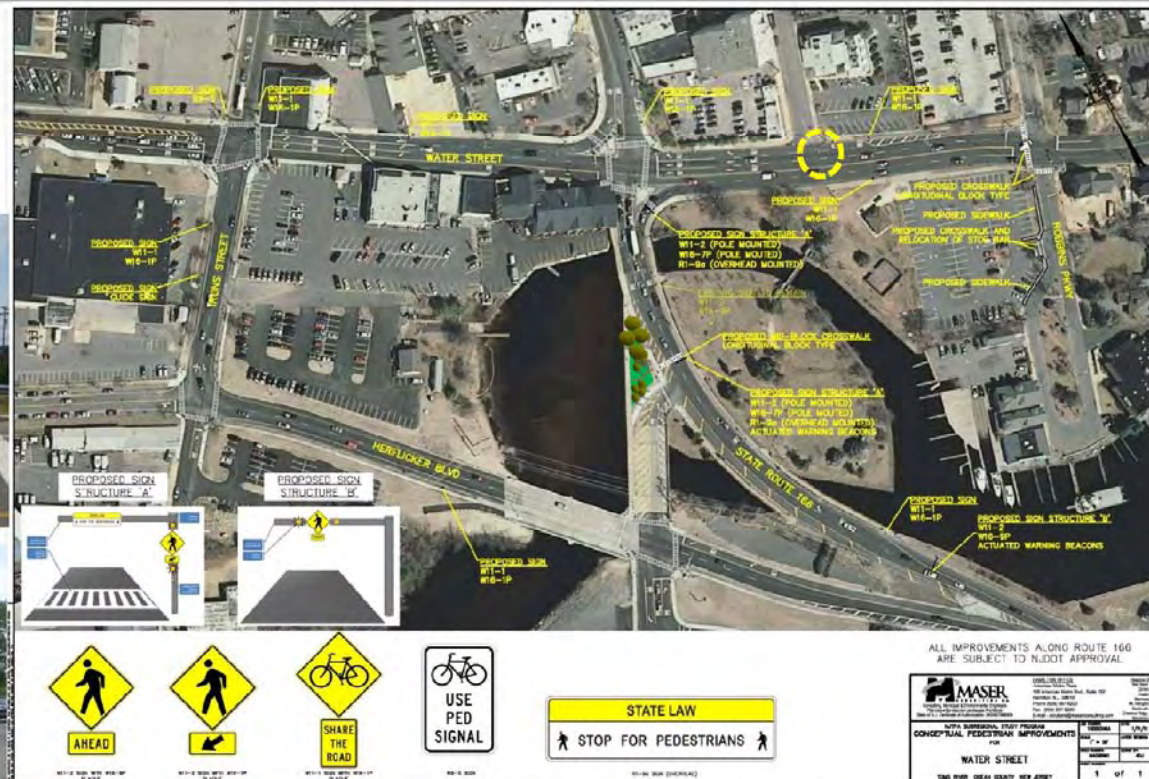
The turf area between the Main Street approach to Downtown and the edge of the bridge could be transformed into a gateway pocket park



Intersection of Water Street and Main Street

Downtown Toms River

One of the principal challenges to bicycle mobility between the end of the Barnegat Branch Trail and Downtown Toms River is the safe crossing of Water Street for both pedestrians and cyclists.



HUDDY PARK

Huddy Park's pedestrian circulation system features an existing connection to the Main Street approach to Downtown Toms River that could be expanded to accommodate cyclists and connect to the vacant turfed space on the other side via a prominent crossing.

The introduction of signalized pedestrian crossings at the South Main Street and Robbins Street in combination with pedestrian/cycle signage and a button activated "Pedestrian Phase" for the signals at Irons, Main and Herflicker all need to be synchronized and the affect on traffic circulation and congestion will be modeled once updated traffic counts are obtained from the County.



Downtown Toms River

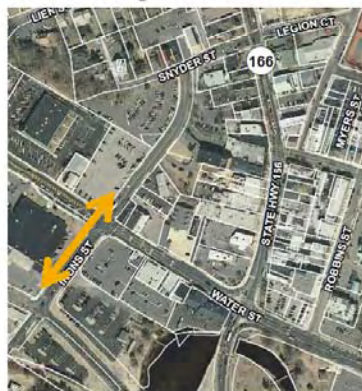


If feasible, the insertion of a prominent pedestrian/bicycle crossing such as pictured at left would provide safer pedestrian access to Huddy Park.

Intersection of Water Street and Irons Street

Downtown Toms River

If a safe and efficient link can be made between the Herflicker Boulevard Bridge and Water Street, a bike lane up Irons Street to Legion Court would enable bicycle access to South Toms River High School and the Ocean County Library without having to ride on either Hooper Avenue, Main Street or Washington Street.



Iron Street Potential Treatment

Downtown Toms River

LONG TERM SOLUTION:

While unorthodox, a two-way bikepath may be feasible along Iron Street within a reconfigured shoulder. So that cyclists are separated from the large volume of vehicles circling counterclockwise on Rt 166 as they pass through the downtown en route to South Toms River and points south and west.



Cross section at left shows two-way bike-lane at 10 ft. separated by a 9 ft. planting strip.

Bike Lane shown at left is a 10 ft wide two-way lane with pavement markings in the shoulder.

HUDDY PARK

Another challenge and opportunity for bicycle and pedestrian mobility between the end of the Barnegat Branch Trail and Downtown Toms River is Huddy Park. The Park is already used by cyclists moving between Rt 166 in South Toms River and Downtown as a means of avoiding the busy Main Street-Water Street intersection.



Downtown Toms River

The footbridge over the river connects both sides of Huddy Park and is used by cyclists as a shortcut.

The water's edge on the far side of Huddy Park provides an attractive place for cyclists to rest after traveling the BBT.



Irons Street to Legion
Court & Toms River South
HS; Hyer Street & Dayton
Ave to MonDon HS

Downtown Toms River

If a safe and efficient link can be made between the Herflicker Boulevard Bridge and Water Street, a bike lane up Irons Street to Legion Court would enable bicycle access to South Toms River High School and the Ocean County Library without having to ride on either Hooper Avenue, Main Street or Washington Street.

The yellow line on the aerial image to the right shows a bike route that connects Legion Court to Monsignor Donovan High School via Hyer Street and Dayton Avenue.



Hyer Street to Dayton Avenue

Downtown Toms River

Once a cyclist gets to Legion Court, Hyer Street provides a generous right-of-way that leads to Dayton Avenue. Dayton Avenue is the only connector between the Main Street corridor down the west side of the Downtown, and the Hooper Avenue corridor along the east side of the Downtown. Using Hyer, which runs parallel to both Main and Hooper, provides a less trafficked, lower speed limit and safer route for cyclists.



A “sharrow” (left) is a bike route on roads shared with automobile traffic marked with a painted arrow.



**Dayton Avenue to
Hooper (MonDon HS) &
Bus Depot via Highlands
Parkway**

Downtown Toms River

Dayton Avenue (below) connects the St. Joseph's Catholic Parish and Monsignor Donovan High School on Hooper Avenue to the First Baptist Church on Main Street, while Hyer Street connects Dayton to Toms River High School South and the County Library Headquarters Branch.

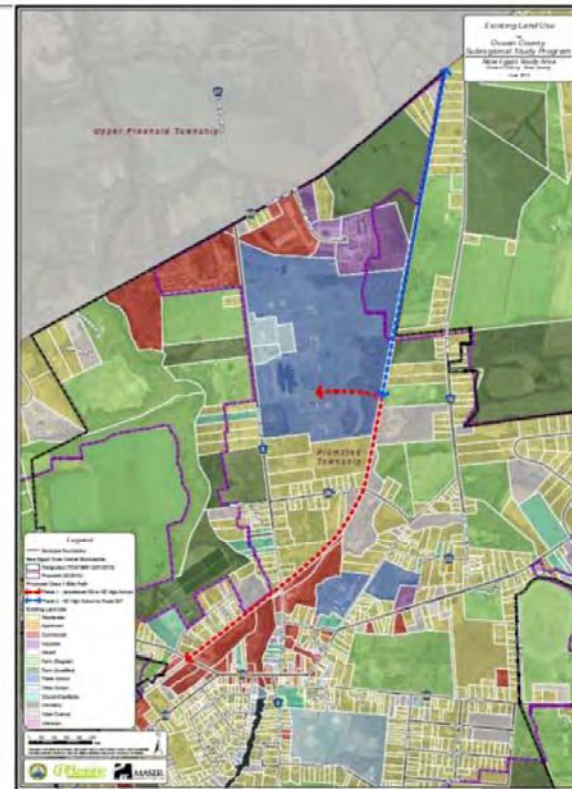
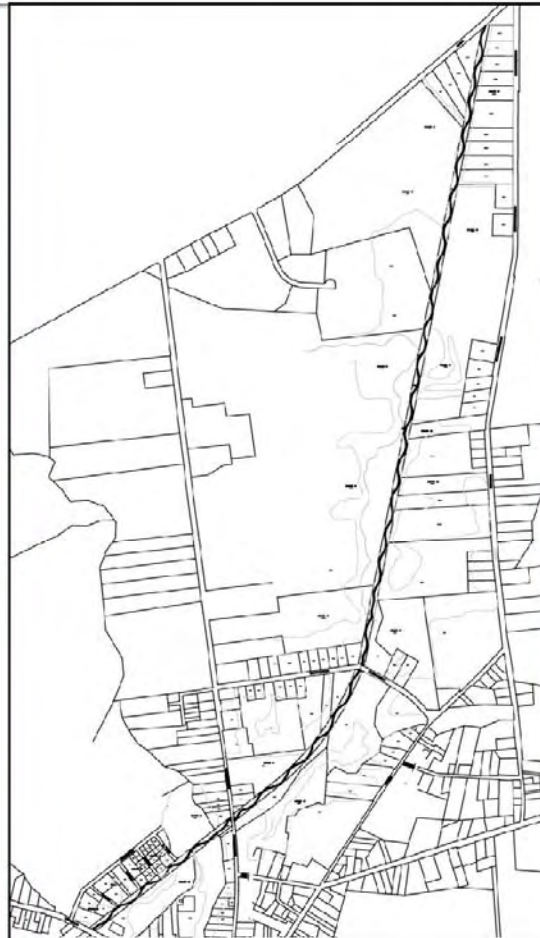


Highlands Parkway connects Main Street to the Toms River Bus Depot.



New Egypt Bikepath

The Plumsted Circulation Element identified a potential Class 1 Bikepath along the JCP&L right-of-way, which was a former rail line at the turn of the Century.



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MASER
CONSULTING

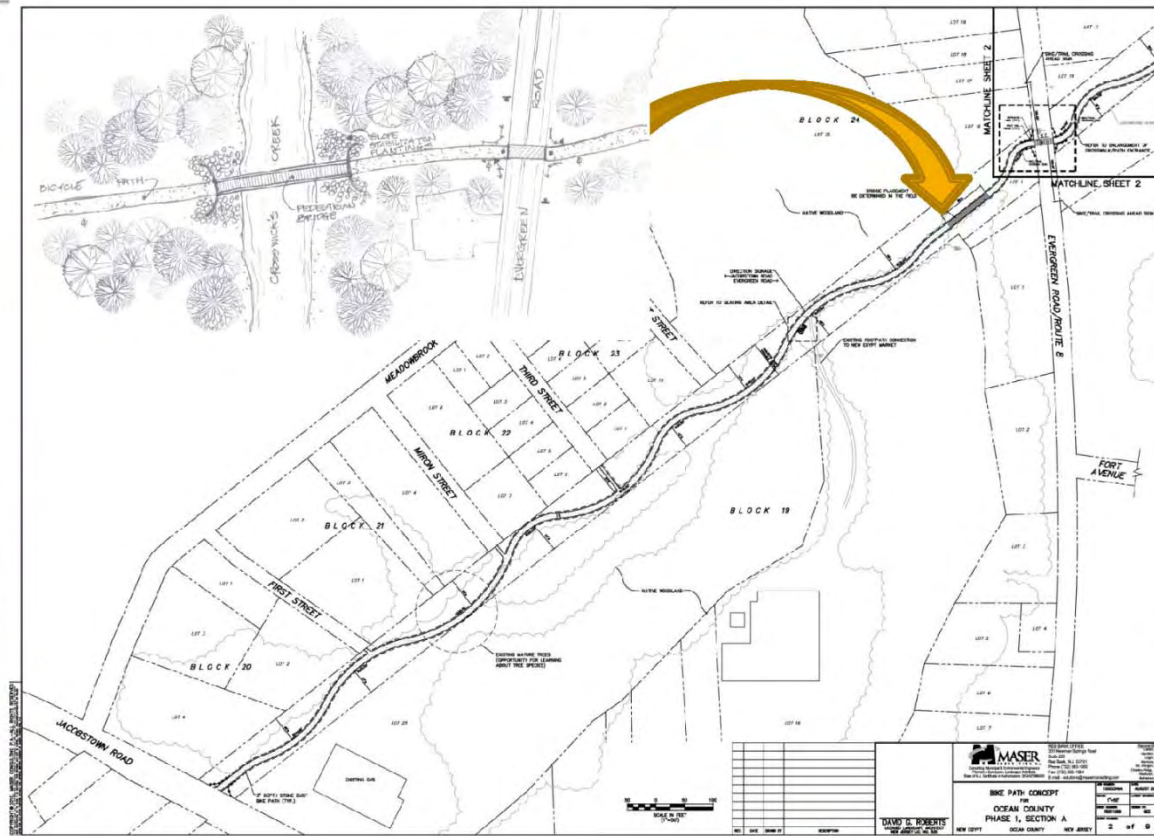
The New Egypt Rail Trail Bikepath

Existing JCP&L Right-of Way
Former Long-Branch New Egypt Railroad
(1868 to 1959)

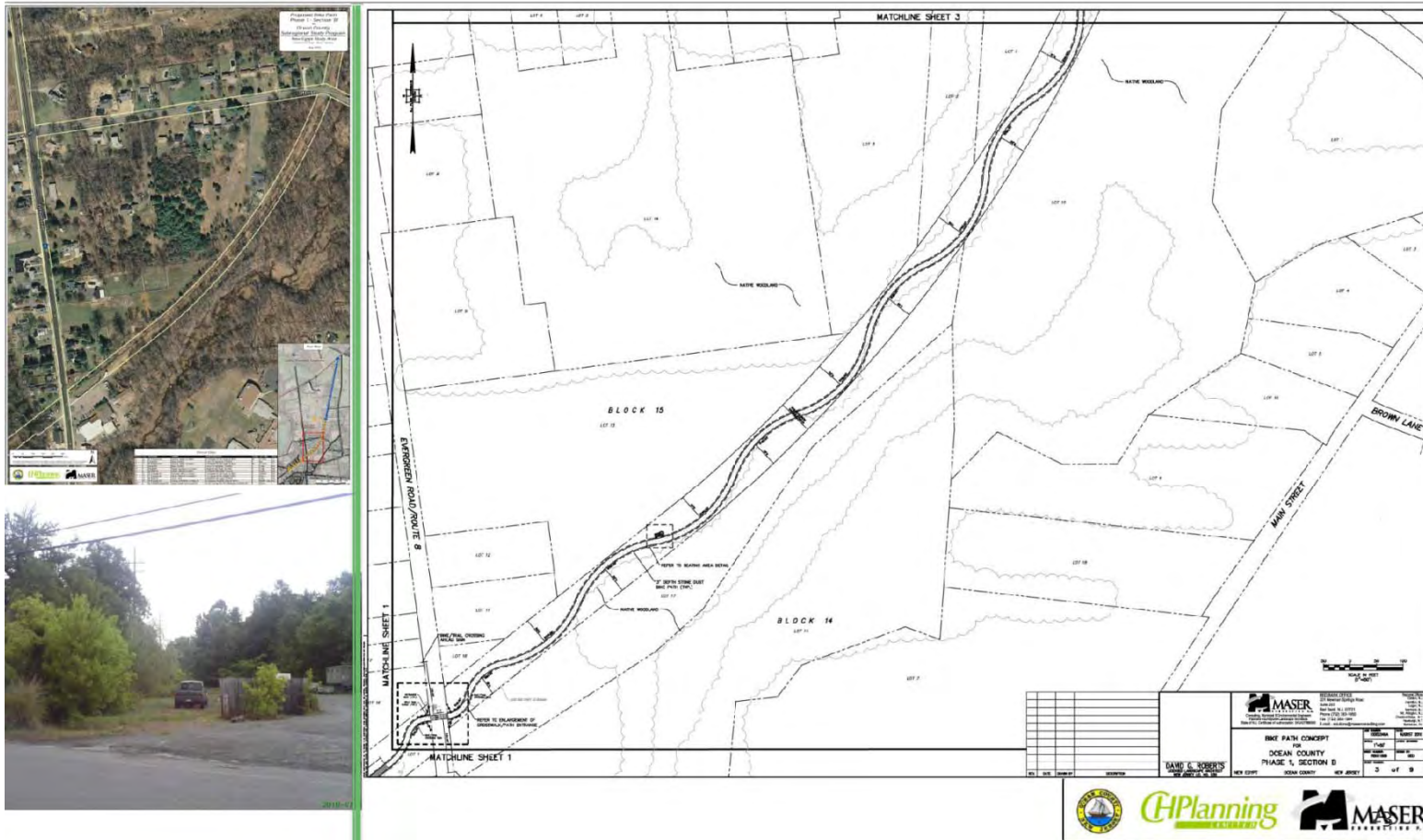
The former rail line that runs through downtown New Egypt from North Hanover in Burlington County to Upper Freehold in Monmouth County provides an opportunity to provide a off-road bikepath through the woods between Jacobstown Road in downtown New Egypt to the High School-Middle School-Library-Municipal Building campus on Evergreen Road with only two road crossings.



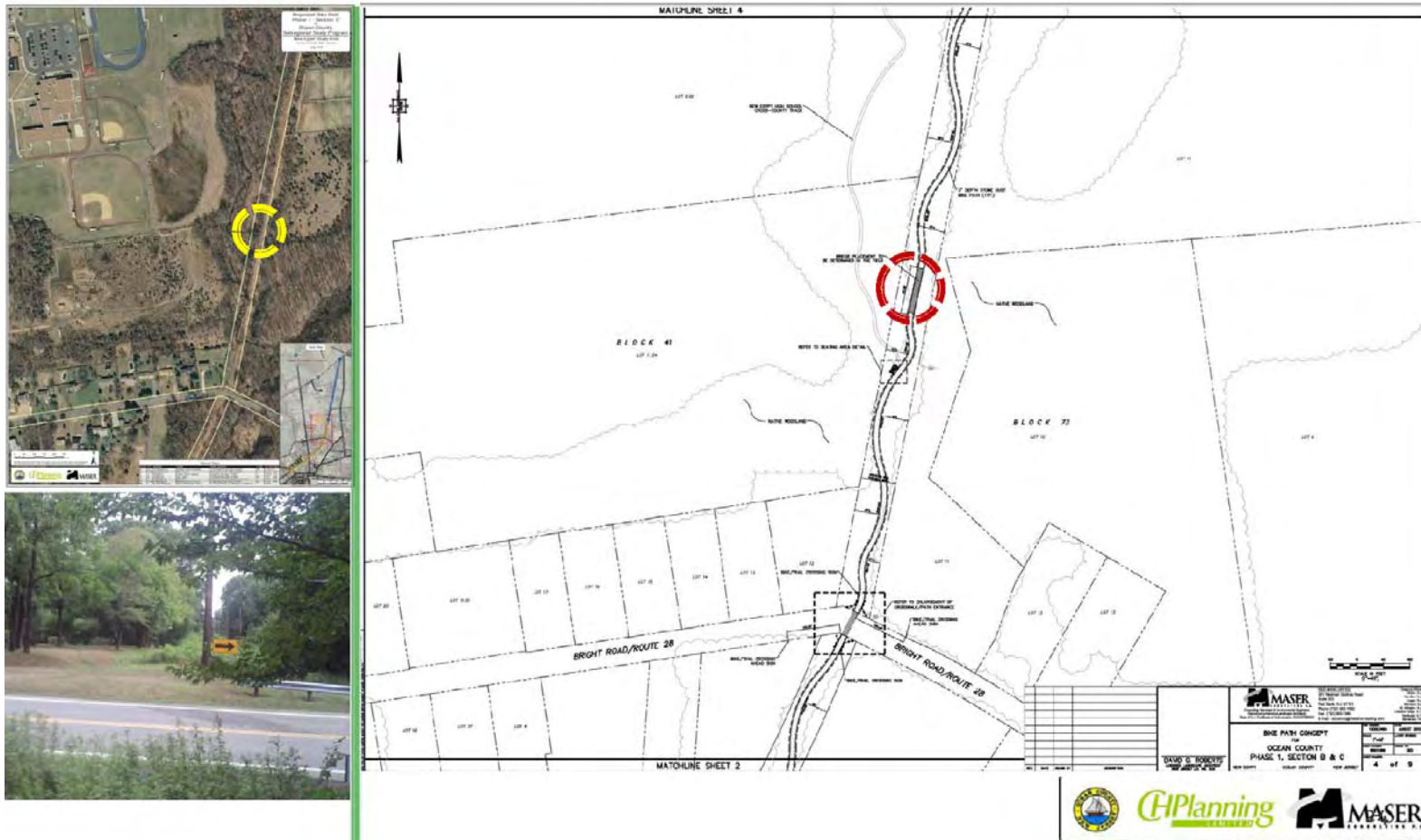
New Egypt Bikepath



New Egypt Bikepath



New Egypt Bikepath



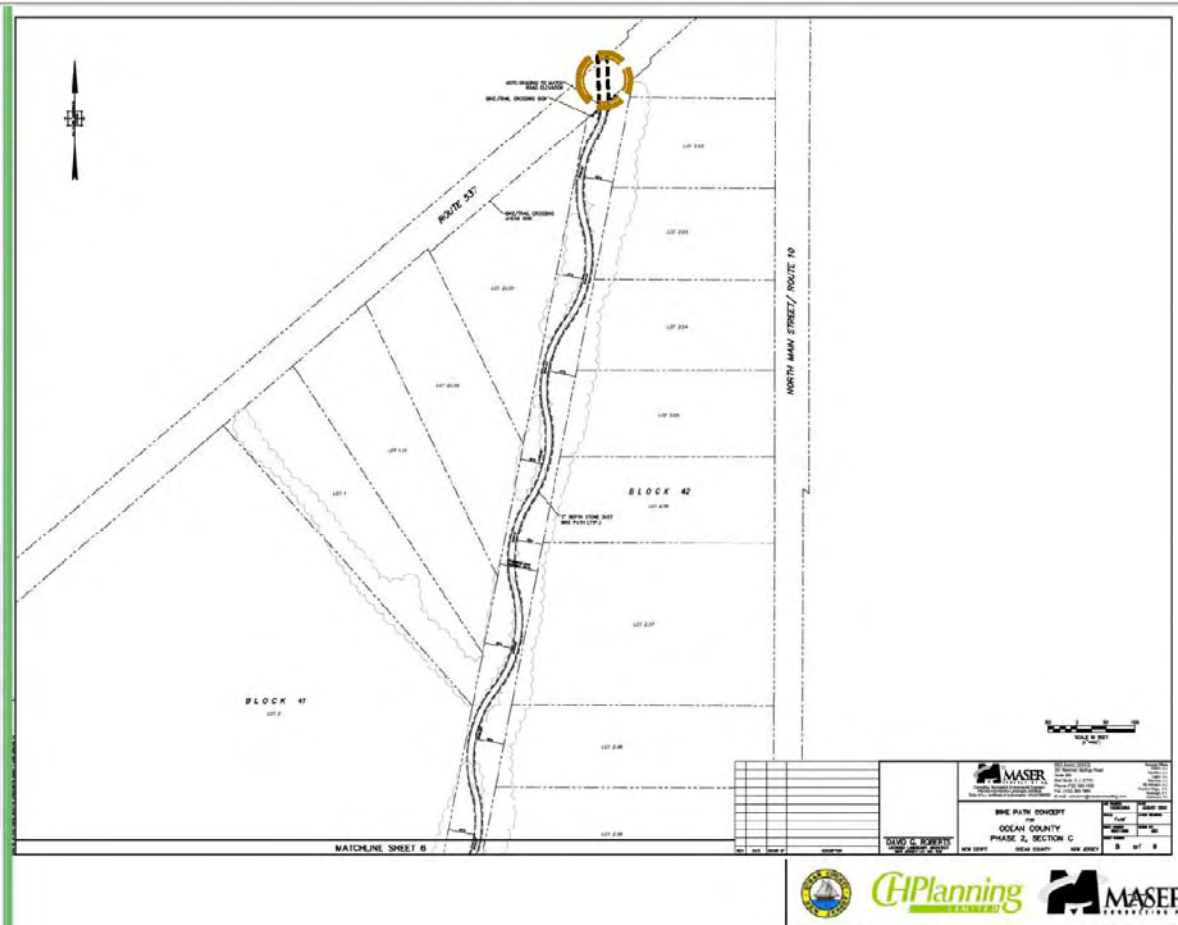
New Egypt Bikepath



New Egypt Bikepath



New Egypt Bikepath



The New Egypt Rail Trail Bikepath

The Vision

The images from the completed sections of the Barnegat Branch Trail shown in three of the four images to the right provide a glimpse of what the New Egypt Rail Trail Bikepath could be.

A crossing such as pictured at the lower right would be needed at Evergreen Avenue and Bright Avenue. A more prominent crossing would be needed to continue the path across CR537 into Monmouth County.

The existing bridge at right along the BBT at Cedar Creek is representative of the timber rail bridge that once crossed the Crosswicks Creek



The New Egypt Rail Trail Bikepath

Crossings

The full buildout of the New Egypt Rail Trail Bikepath will require one major bridge over the Crosswicks Creek that will likely closely resemble the images on the far right; a smaller bridge over a washout area to the north of Bright Road (resembling the image at lower left) and a culvert crossing in the northern most section of Phase 2 (resembling image at upper left).



The New Egypt Rail Trail Bikepath

Monmouth County opened a two mile section of the Union Transportation Trail (UTT) on September 25, 2010. This multipurpose trail follows the same JCP&L ROW through Upper Freehold Township northerly towards the Mercer County border and crosses Route 539 in Upper Freehold just north of the Plumsted border at CR 537 (image at lower right). The Trailhead to the UTT includes a gravel parking area (lower left image) and park shelter building and is on Millstone Road only a few hundred feet from the Plumsted border at CR 537 (upper left and right images).



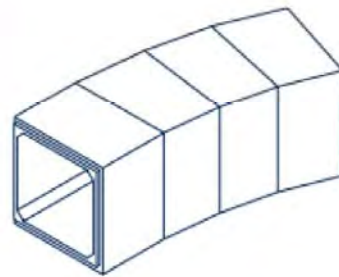
Union Transportation Trail (UTT) – Monmouth County Parks System



The New Egypt Rail Trail Bikepath

Connecting to the (UTT)

Several alternatives to connecting the New Egypt Rail Trail to the UTT have been evaluated in collaboration with the Monmouth County Park System, with the recommended solution a box culvert under CR 537 of approximately 75 feet in length, which is estimated to cost around \$101,500 (\$1,355 per foot) .



Cutoff Wall (Dowel Holes are Cast Into Floor Slab, and Reinforcing is Provided for Doweling On-Site)



Oakford Lake Park

Oakford Lake Park Boat Launch



The final charge in the SPP for New Egypt is to reconfigure the excess ROW in Lakeview Drive to improve parking and enhance the water's edge of the park at Oakford Lake. A sketch of a boat launch/dock at the Lake's Edge is shown above, which would complement the kayak/canoe launch at Vounteer Park north of the Main Street Bridge (right).



The End

Discussion

Please visit the Project Website at: <http://www.planning.co.ocean.nj.us/transp-subreg.htm>

