COUNCIL MEETING MINUTES – February 1, 2016

The meeting of the Township Council of the Township of Lower, County of Cape May, State of New Jersey was held on February 1, 2016 at 7:00 p.m. in the meeting room of the Township Hall, 2600 Bayshore Road, Villas, New Jersey.

The Clerk announced that the meeting was being held in compliance with the Open Public Meetings Act and that adequate notice of the meeting had been provided according to law.

The following members of Council were present for roll call taken by the Clerk:

Councilmember Thomas Conrad
Councilmember David Perry
Councilmember Erik Simonsen
Deputy Mayor Clark
Mayor Michael Beck

Also present: James Ridgway, Township Manager, David Stefankiewicz, Township Solicitor and Karen Fournier, Deputy Township Clerk

Work Session

Budget Message/Introduction:

Jim Ridgway, Manager, delivered the proposed 2016 operating budget with a zero percent tax increase, compliant with all NJ State Spending and Tax Levy Cap Laws. The $20,524,138.92 levy is $437,240.00 below the cap. The 2015 surplus was $5,248,975. The 2015 tax collection rate was 98.56 percent, which added over $1.3 million to the surplus. Liability insurance was lowered by $47,000. A combination of shared services and attrition contributed to the proposed budget, with no reduction in services or harm to the Township's future financial stability. Increased services are planned for the Offices of Emergency Management, BOCA, and Tax Assessment. The total assessed value of real property in the township is $3,614,987,478, an increase of $9,587,857 from last year. Every $361,498 to be raised by taxation for the 2016 budget equals 1 cent on the tax rate. This proposed budget fully funds the 2016 Independence Day Celebration and shared Concert Series with the DRBA. With the assistance of CFO Lauren Read, each Council member received a copy of the 2016 budget notebook including individual department requests for other expenses and capital, salaries and wages, and revenue reports. The public hearing is scheduled for March 7, 2016 at 7:00 p.m. A budget summary will be published in the Cape May Star and Wave and copies of the budget will be available on the Township website and in the clerk's office at Township Hall.

Leon Costello, Auditor, recapped the budget process - this being the introduction - and confirmed the date of the public hearing for March 7, 2016. He acknowledged this as a true zero-increase budget with a well-planned capital program for funding future projects. He stated that the 2015 bond sale was incorporated into this budget at a very good rating.

Mayor Beck thanked Manager Ridgway and CFO Read.

Councilman Conrad voiced favor with the zero increase budget.

Councilman Perry thanked CFO Read and Manager Ridgway for their hard work keeping the tax rate at zero.

Councilman Simonsen commended everyone who worked on the budget and gave kudos to Sue Jackson, Tax Collector, and the tax department for an outstanding collection rate.

Deputy Mayor Clark thanked CFO Read and Manager Ridgway.

Mayor Beck voiced appreciation for the work that went into the budget and thanked Sue Jackson for the collection rate.

Resolution # 2016-60 – Budget Introduction

	MOTION	SECOND	AYE	NAY	ABSTAIN	ABSENT
CONRAD	X		X			
PERRY		X	X			
SIMONSEN			X			
CLARK			X			
BECK			X			

Beach Access Presentation:
Bill Galestok, Director of Planning, gave a general recap of the projects currently taking place within the Township. Of these projects: the Department of Interior Resiliency Grant includes planning and design projects from the Cape May Canal to the Fishing Creek Watershed. The Army Corp of Engineers Herford Inlet Project is a berm and dune building project. He stressed the importance of the New Jersey Public Trust Doctrine that guarantees public access to tidally flowed waters for the general public, the handicap and emergency response. He also reminded that the goals of the Municipal Public Access Plan are to enhance public access to tidal waters in a comprehensive fashion. Mayor Beck asked what happened to the Municipal Public Access Plan of 2012. Mr. Galestok informed of the discrepancies with NJDEP changes and that the Township did not agree with them.

Mitch Plenn, Superintendent of Parks and Recreation, read aloud a prepared statement regarding the beach access improvement project. He spoke of the challenges involved with implementation and preservation of public access points and the importance of creating a uniform and viable beach access plan. He agrees that the proposed concept would create better public access and address public safety concerns.

Steve Morey, Hatch Mott MacDonald, gave a power point presentation that covered an historical overview, findings of problems with the existing beach access points, the basis for design considerations, the actual design, and what they hope to achieve with the design. Presentation slides are attached. Mr. Morey informed of the application requirements, including public notice and public comment prior to submitting for the DEP permit, and the process that will follow. He then fielded questions from Council and the public with regard to the beach path improvements.

Mayor Beck asked Mr. Morey for reassurance that these improvements will not negatively impact the dunes. Mr. Morey reassured of no negative impact to the dunes.

Councilman Conrad asked for a cost estimate. Mr. Morey provided the cost estimate as included in the presentation.

Councilman Perry asked how many existing access paths will be closed. Mr. Morey reminded that all seven access paths will be closed that are located mid-block. Councilman Perry asked what the average path width will be with improvements. Mr. Morey explained that some of the existing beach paths will be lessened in width but most will be 4, 5 or 6 feet wide. Councilman Perry asked what will be put at the end of the doglegs. Mr. Morey explained that each path may require a different approach.

Bill Greenfield, Villas, inquired about access areas near the Fishing Club. Mr. Morey informed that these areas are not proposed to be improved. Mr. Greenfield asked if the beach maps will be updated on the website. Mr. Morey affirmed.

John Skowronski, Villas, inquired about the width of the path and the dune on Franklin Avenue. Mr. Morey assured that the average width will be used and vegetation will be transplanted.

Sue Jacobs, Beach Drive, voiced concern about the measurements used for the pathways and ongoing maintenance costs. She also asked how unauthorized vehicles will be kept off the dunes. Mr. Morey responded.

Denise Jones, Villas, asked what the I-5 aggregate feels like under foot. Mr. Morey likened it to sand.

Ann Marie Wax, Cape May, asked about the cost for labor. Mr. Morey informed that labor will be done in-house. Manager Ridgway attempted to explain without having an exact cost estimate, and stated that he anticipated a much higher price for the project.

Nancy Marple, Townbank, expressed concern about the width of the pathways and the use of sand fencing. She also voiced concern about vehicles driving onto the beach and the impact that these improvements will have on the Township's insurance. Manager Ridgway revealed expenditures exceeding $100,000 in defense of a lawsuit and another lawsuit pending. He stated that safety is a monumental concern to him. A brief exchange followed about the requirements of beach access.

Jessica DeVivo, Lower Township resident and member of Lower Township Environmental Commission, asked questions about the datum dates on the plans. Mark Shray, Hatch Mott MacDonald, explained.
Ms. DeVivo questioned Mr. Morey regarding repairs to Rosehill and Whittier Avenues. She proceeded with a number of questions about permits and surveys, preventing wind tunneling and scouring, sand erosion, and excavating of the dunes. She also questioned compliance with the Township code and FEMA.

Frank Sarraco, expressed concern about the bulkheads and suggested using switchbacks. He also voiced concern about the drop-off at Village Drive and questioned the access paths at Broadway and Hollywood Avenues.

Ed Butler, Villas, questioned whether the CAFRA permits have been received and referenced the legislative bill that gives DEP authority to regulate beach access. A brief exchange ensued with Mr. Morey regarding excavating the dunes. Mr. Butler voiced concern about liability.

Mayor Beck asked the public by a show of hands who is in favor of the project and who is opposed to the project.

John Skowronski, declared his opposition to the project as he is of the opinion that it will require more maintenance, disrupt the dunes, cost more money, and require lifeguards. He suggested instead posting signs cautioning dangerous beaches.

Deb Johns, Woodland Ave., spoke in favor of the project. She pointed out that beach access already exists and the intent of the project is to make it safer.

Lou McGonigle, Fire Chief at Townbank Volunteer Fire Company, voiced favor with the project for emergency safety reasons.

Jessica DeVivo, pointed out requirements on the expired beach maintenance permit. She denied liability to the Township without the proposed improvements. She also pointed out that the Township ordinance prohibits manmade alterations to the V and VE zones. Mr. Morey challenged Ms. DeVivo's statement about changing the flood hazard areas. He assured that it will be addressed in the permit application.
Mr. Morey stressed the urgency in moving forward due to needing a beach maintenance permit.

Mayor Beck thanked Hatch Mott MacDonald for their presentation and everyone who came out to speak on the subject.

Consent Agenda

Approval of Minutes	January 20, 2016
Res. #2016-52	Payment of Vouchers $ 726,294.54
Res. #2016-53	Appointment to the Historic Preservation Commission (moving B.Tell from an alternate to a regular)
Res. #2016-54	Appointment to the Historic Preservation Commission (moving K.Hayes from an alternate to a regular)
Res. #2016-55	Resolution Authorizing the Application to USDA Housing Rehabilitation Grant Program (Water Line Connection Program)
Res. #2016-56	Approval of Contribution to the Coast Guard Community Festival ($1,000)
Res. #2016-57	Resolution Awarding A Professional Service Contract to Hatch Mott MacDonald for Tennis/Basketball Court Renovations at Freeman Douglass Jr. Memorial Park ($45,395)

Deputy Mayor Clark moved Resolution #2016-57 to the Regular Agenda.

On the Consent Agenda:

	MOTION	SECOND	AYE	NAY	ABSTAIN	ABSENT
CONRAD	X		X			
PERRY			X			
SIMONSEN		X	X			
CLARK			X			
BECK			X			

Regular Agenda

Res. #2016-57 Resolution Awarding A Professional Service Contract to Hatch Mott MacDonald for Tennis/Basketball Court Renovations at Freeman Douglass Jr. Memorial Park ($45,395)

Deputy Mayor Clark explained why he moved this resolution off the consent agenda, as he believes it warrants a discussion about putting projects out to bid. Mayor Beck agreed. Council discussed the pros and cons. Disagreements ensued. Councilman Conrad suggested a future work session to discuss the criteria for bidding out special projects. Manager Ridgway referenced the timing of the project and pointed out that it was in last year's capital budget. He also reminded that the renovations will be put out to bid. Councilman Simonsen requested a list from Clerk Picard of all professional service contracts awarded within the past eight years that were not put out to bid.

Ed Butler, Villas, addressed Manager Ridgway about the condition of the tennis courts. Manager Ridgway communicated his findings about the liability of the tennis courts.

Bill Greenfield suggested that parents of the high school students help pay for the project. Councilman Perry disagreed and talked about the Township's relationship with the school and shared use of facilities. Councilman Conrad agreed with Councilman Perry. Manager Ridgway reiterated the shared situation with the school. Mr. Greenfield questioned a conflict with Councilman Simonsen. Councilman Simonsen denied any conflict and pointed out the benefits that the Township will reap from the passage of the school bond. Manager Ridgway also revealed that the excavation work will be done in-house by the Public Works Department.

Tom Frisoli, Villas, commented in support of getting rid of the old tennis courts.

Bob Hartman, Cold Spring, voiced discontent about going over budget on the original work at Freeman Douglass Park. Mayor Beck agreed and added comments about the condition of the fields. Mr. Hartman asked additional questions about the tennis courts and the budget. Manager Ridgway reminded that the project was in the budget last year. Mr. Hartman suggested getting a warranty for any additional work to be done at Freeman Douglass Park.

John Skowronski said he would like to see future projects put out to bid. Deputy Mayor Clark agreed and talked about the advantages of competition.

Debbie Johns, Villas, asked for clarification about the duties of the Township Engineer. Mayor Beck explained and offered reasons for bidding out special projects. Councilman Simonsen pointed out the importance of having a reputable in-house engineer.

	MOTION	SECOND	AYE	NAY	ABSTAIN	ABSENT
CONRAD	X		X			
PERRY		X	X			
SIMONSEN			X			
CLARK			X			
BECK				X		

Res. #2016-58 Appointment to the Historic Preservation Commission (Alternate member)

Councilman Conrad made a motion to appoint Michael Rosenberg as alternate member to the HPC.

	MOTION	SECOND	AYE	NAY	ABSTAIN	ABSENT
CONRAD	X		X			
PERRY			X			
SIMONSEN			X			
CLARK		X	X			
BECK			X			

Res. #2016-59 Appointment to the Historic Preservation Commission (Alternate member)
Mayor Beck made a motion to appoint Judy Gillis as alternate member to the HPC.

	MOTION	SECOND	AYE	NAY	ABSTAIN	ABSENT
CONRAD			X			
PERRY			X			
SIMONSEN		X	X			
CLARK			X			
BECK	X		X			

Administrative Reports
Monthly Report – Police

Council Comments
Councilman Conrad thanked Public Works, Police, Fire, EMS and Emergency Management for their services during the storm.

Councilman Perry thanked everyone for their attendance and reminded that the Township's intentions are to enhance the safety of beach access and reduce liability.

Councilman Simonsen expressed gratitude to Public Works and all first responders during the last storm. He thanked Mitch Plenn, Bill Galestok and Steve Morey for their information and presentation on beach access.

Deputy Mayor Clark referred to the Township's $27 million budget, thanked the taxpayers, and vowed to spend their money wisely.

Mayor Beck gave kudos to all workers who helped out during the storm. He reminded of the Healthy Youth Coalition meeting on February 3rd at 7:00 p.m. and announced registration sign-ups for youth Lacrosse and Spring soccer.

Call to Public

Adjournment
There being no further business to address, motion to adjourn moved by Councilman Simonsen, seconded by Councilman Conrad. Motion to adjourn unanimous. Meeting adjourned at 9:44 p.m.

Michael E. Beck
Mayor

Township Clerk

Approved:

Hatch Mott MacDonald

Beach Path Improvements →

Beach Path Improvements
with
Associated Beach & Dune Maintenance

February 1, 2016

Historical Overview

- Initial site meeting with Lower Township Recreation Department & Public Works to view beach issues. (2009)
- Lower Township requests preliminary design and cost for elevated timber dune cross-overs at two locations. (2010)
- Lower Township requests permission from NJDEP; and repairs beach paths at Rose Hill Parkway & Whittier Avenue. (May 2015)
- Lower Township requests HMM to design beach path improvements at Township owned beaches. (Dec. 2015)

Hatch Mott MacDonald

Beach Path Improvements →

Street Side Obstacles

Timber Wall at Atlantic Avenue

Timber Wall, Signage, Vegetation at Bay Avenue

Hatch Mott MacDonald

Beach Path Improvements →

Steep Slopes and Soft Sand

Rose Hill Parkway 1:1 Slope

Franklin Avenue 1:5 Slope

Hatch Mott MacDonald

Beach Path Improvements →

Issues With Roll-outs

Slippery when sand covered & become unstable at the ends

Hatch Mott MacDonald

Beach Path improvements →

Lack of Fence to Demarcate Open & Closed Beach Paths

Whittier Avenue before repairs

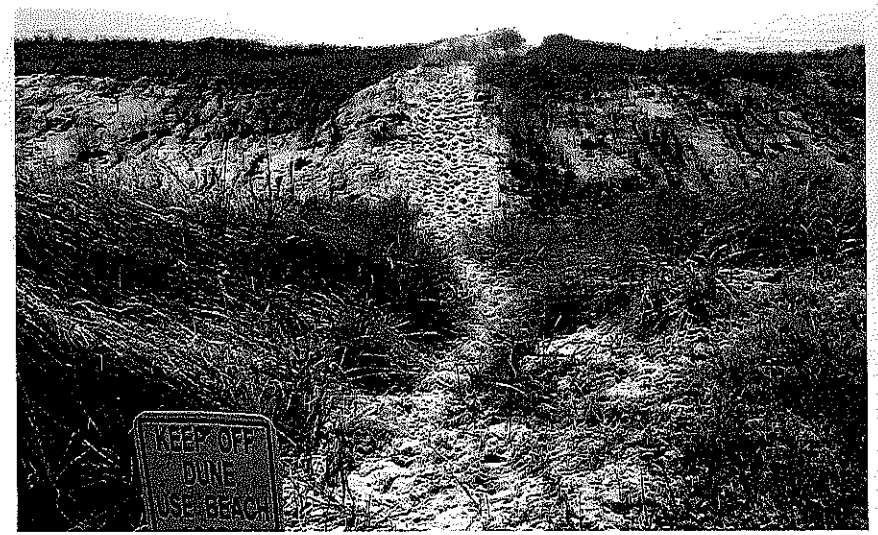
Whittier Avenue after repairs

Hatch Mott MacDonald

Beach Path Improvements →

Damage from Continued Use of Closed Beach Paths

Path between Franklin Avenue and Rose Hill Parkway



Use of closed path causing damage to frontal dune

Hatch Mott MacDonald

Beach Path Improvements →

Wind Tunneling and Scour at Beach Paths

Northwest orientation of Rose Hill Parkway beach path

Aeolian transported sand settled on Beach Avenue

Hatch Mott MacDonald

Beach Path Improvements →

Issues With Aeolian Transport of Sand Off The Beach

Covers roadways, driveways and sidewalks obstructing use

Covers storm inlets causing on-going maintenance issues

Hatch Mott MacDonald

Beach Path Improvements →

Examples of Why Snow Fence is Ineffective as a Barrier

Greenland Avenue beach path

Woodland Avenue beach path

Hatch Mott MacDonald

Beach Path Improvements →

Unauthorized Cutting of Dune Vegetation

Cutting of vines and shrub vegetation on Beach Ave dune

Plastic bag with debris dumped on the dune

Hatch Mott MacDonald

Beach Path Improvements →

Design, Construction and Maintenance Considerations

A. NJDEP Guidance and Coastal Zone Management Rule Compliance

B. U.S. Department of the Army Corps of Engineers Design Standards & Neighboring Communities Beach Path Maintenance / Conditions

C. Reference to "Architectural Barriers Act (ABA) Accessibility Guidelines; Outdoor Developed Areas" and "Americans with Disabilities Act" (ADA) Accessibility Guidelines

D. Adaptive Management Approach to Design, Construction and Maintenance of Beach Paths, Beach and Dunes

A. NJDEP Guidance and Coastal Zone Management Rule Compliance

N.J.A.C. 7:7-10.4 Standards applicable to dune creation and maintenance

(a) Dune creation and maintenance includes the placement and/or repair of sand fencing (including wooden support posts), the planting and fertilization of appropriate dune vegetation, **the maintenance and clearing of beach access pathways less than eight feet in width, and the construction or repair of approved dune walkover structures**. Bulldozing, excavation, grading, vegetation removal or clearing, and relocation of existing dunes are not authorized pursuant to this section.

(b) All dune creation and maintenance activities should be conducted in accordance with the specifications found in Guidelines and Recommendations for Coastal Dune Restoration and Creation Projects (DEP, 1985), and/or **Restoration of Sand Dunes Along the Mid-Atlantic Coast (Soil Conservation Service, 1992)**. The Department will provide site specific technical assistance for dune creation and maintenance projects, upon request.

(c) **All proposed dune vegetation shall be native to New Jersey** and should be limited to the following coastal species, to the maximum extent practicable: American Beachgrass (*Ammophila breviligulata*), Coastal Panicgrass (*Panicum amarulum*), Bayberry (*Myrica pensylvanica*), Beach Plum (*Prunus maritima*), Seaside Goldenrod (*Solidago sempervirens*), Beach Pea (*Lathyrus japonicus*), Bitter Panicgrass (*Panicum amarum*), Switchgrass (*Panicum virgatum*), Partridge Pea (*Chamaecrista fasiculata*), Eastern red cedar (*Juniperus virginiana*), Groundsel tree (*Baccharis halimifolia*), and Saltmeadow cordgrass (*Spartina patens*).

Hatch Mott MacDonald

Beach Path Improvements →

The What and Why of Dunes:

- Sand dunes are the first line of defense against coastal storms.
- They act as flexible barriers to high tides and wave action.
- When dunes give way to storm winds and waves, the shifting sand mounds soon reappear.
- The dunes are reservoirs of sand that keep the shore intact.
- Vegetated dunes provide a unique natural barrier, (i.e. wildlife & aesthetic value).

Even the best vegetated dune will not remain that way unless a reasonable maintenance program is followed.

- ✓ Primary dune vegetation cannot tolerate trampling.
- ✓ Foot & Vehicle traffic must be prohibited or controlled.
- ✓ Dunes must be crossed to reach the beach.
- ✓ Mechanical dune cross-overs must be installed.
- ✓ Elevated walks, paved paths and sandy surfaces are satisfactory.
- ✓ Walkways, except elevated ones, should be curved to reduce wind erosion.
- ✓ All walkways should be fenced to channel the traffic across the dune.

Source: Restoration of Sand Dunes Along the Mid-Atlantic Coast (Soil Conservation Service, 1992)

Why Use I-5 Soil Aggregate for Beach Path Improvements

1. The primary principle of selecting good footing is to choose materials that maintain stability.
2. Beach sand is comprised of rounded particles, or grains; the wear of water action has removed most angular corners.
3. Round particles create more voids and resist compaction. Because they are round they have poor stability causing the sand to roll and shift under foot.
4. The well sorted sand grains comprising beach sand are more prone to the erosive forces from wind and water.
5. The major component of firm and stable path footing is a mixture of angular shaped sand, silt, and clay particles, (e.g. mined I-5 soil aggregate).
6. The range of these particle sizes is a key component of creating a firm and stable path.
7. Materials with particles that are all the same size cannot compact, while materials consisting of different particle sizes causes the smallest particles to fill the gaps and promotes compaction resulting in a firm base.
8. Particles need some angularity to offer resistance to movement. Angular grain materials will be relatively more stable because they can nest together without rolling.

Hatch Mott MacDonald

Beach Path Improvements →

B. U.S. Army Corps of Engineers Design Standards and Neighboring Communities Beach Path Maintenance & Conditions

Borough of Avalon I-5 beach path with split rail fence

North Wildwood I-5 soil aggregate base vehicle access

C. Reference to ABA and ADA Accessibility Guidelines

The following is the latest and best information available on ADA accessibility for beach access on the Municipal level:

- Enforceable 2013 ABA Guidelines and Standards are in place for use by Federal agencies and on Federal lands only.
- The U.S. Access Board has not prepared rules under ADA for beach accessible routes.
- ADA guidelines are a work in progress.
- In the meantime the Federal Guidelines may be used as "best practices" on the municipal level.

Source: **Janet Zeller**, National Accessibility Program Manager, U.S. Forest Service, with input by **Nathan Caldwell**, US Fish and Wildlife Service Transit and Trails Coordinator, http://www.americantrails.org/resources/accessible/webinar-janet-zeller-accessible-trails.html

Hatch Mott MacDonald

Beach Path Improvements →

- ✓ By applying ABA "best practice" design concepts, the beach paths will be made more accessible by using a firm and stable I-5 soil base, and reducing pathway steep slopes as practicable.

Accessibility is important…"When you make an area ADA-compliant, it's a benefit to people who are handicapped. But it's also a huge benefit to older folks and younger families with strollers," North Wildwood Mayor Patrick Rosenello said. "It helps improve access for a huge swath of our visitors and residents."

Source: A.C. Press 2014 *MMiller@pressofac.com*

D. Adaptive Management Approach to Design, Construction and Maintenance of Beach Paths, Beach and Dunes

"Adaptive management [is a decision process that] promotes flexible decision making that can be adjusted in the face of uncertainties as outcomes from management actions and other events become better understood."
Source: DOI Adaptive Management Technical Manual

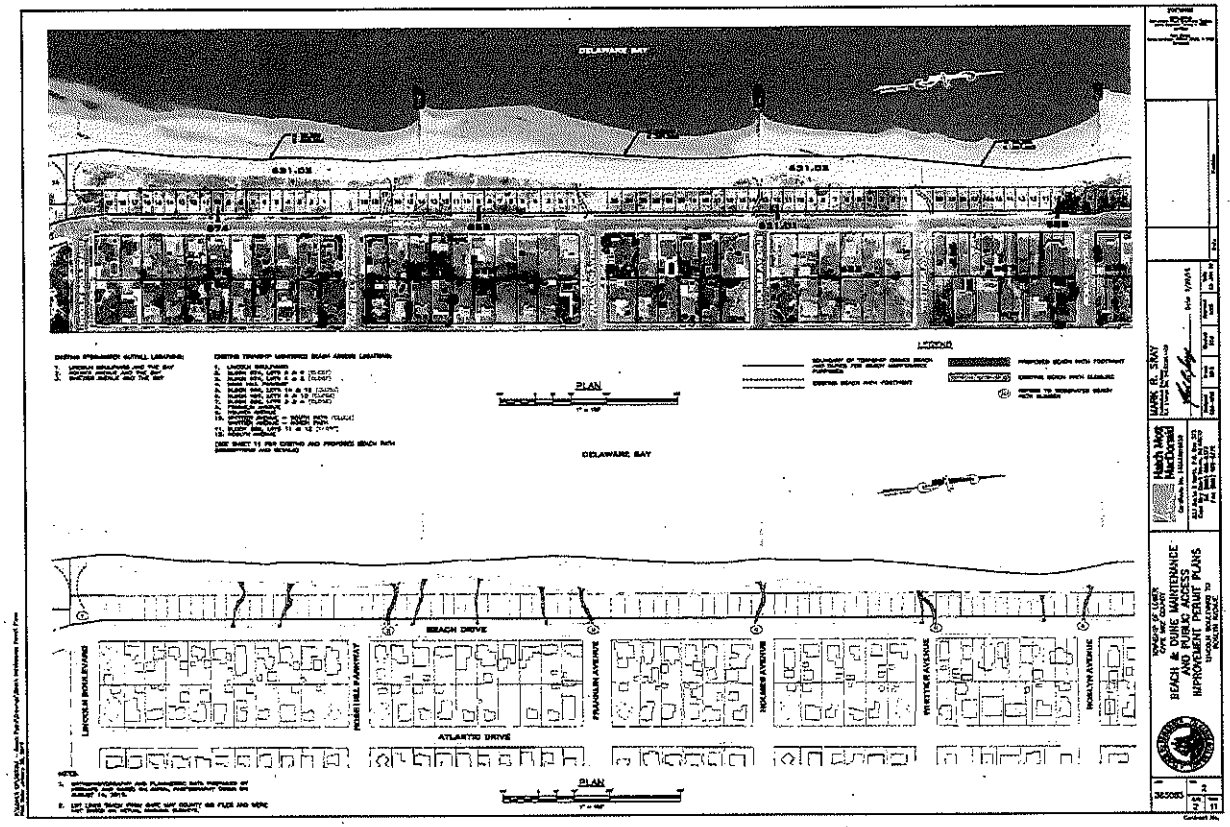
How Does Adaptive Management (AM) Apply:

- ✓ Periodic storm events and human activity continually alter dune development. AM allows for effective resource planning and implementation of effective path design and beach & dune maintenance activities.
- ✓ AM provides a powerful tool to prevent significant project and/or use impacts in a dynamic beach and dune environment.
- ✓ AM helps ensure that proposed improvements and maintenance activities are effectively planned and implemented such that actual impacts are avoided and/or minimized.

Hatch Mott MacDonald

Beach Path Improvements →

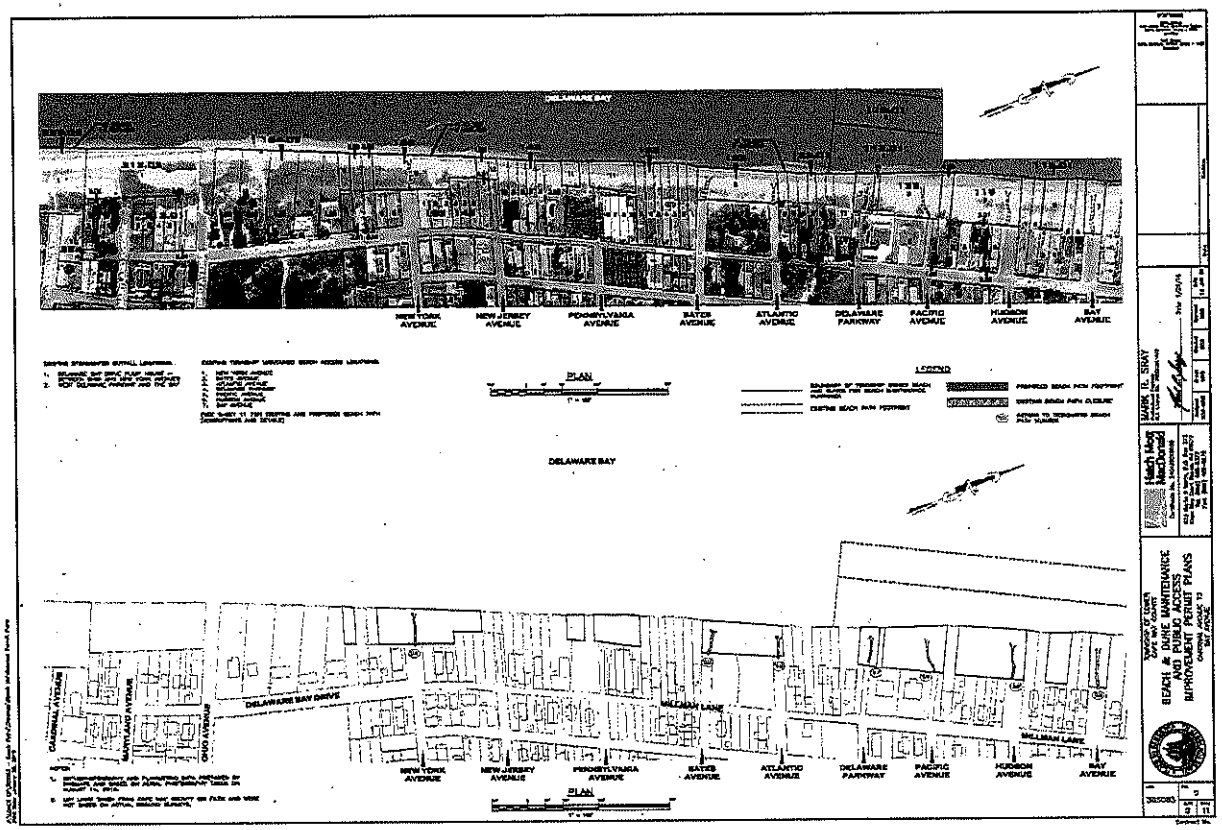
Lincoln Boulevard to Roslyn Avenue, Sheet 2



Hatch Mott MacDonald

Beach Path Improvements →

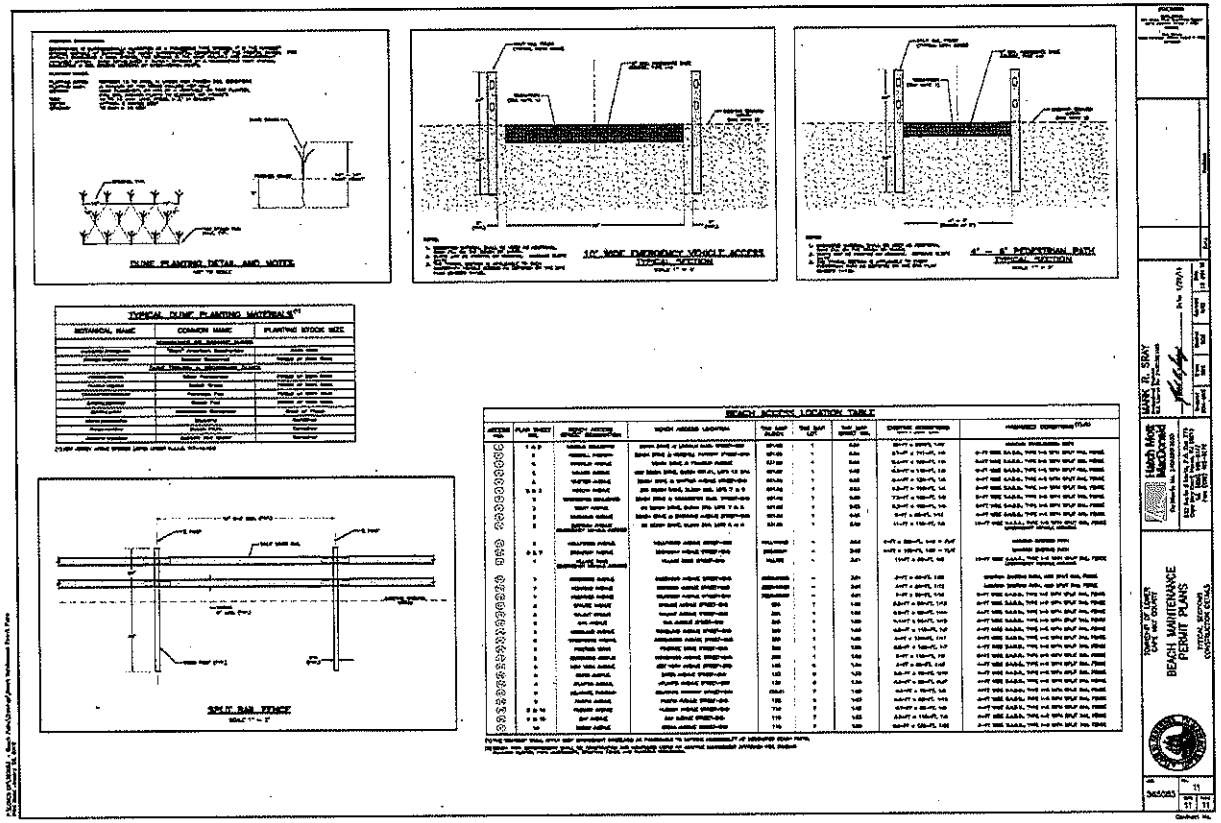
Cardinal Avenue to Bay Avenue, Sheet 9



Hatch Mott MacDonald

Beach Path Improvements →

Typical Sections & Construction Details, Sheet 11



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Beach Path Improvements →

Provide Beach Accessibility for More User Groups

Hatch Mott MacDonald

Beach Path Improvements →

Improve Emergency Access

Emerson Avenue

Village Road

Hatch Mott MacDonald

Beach Path Improvements →

Path Closures Will Eliminate Mid-block Beach Access Points

Hatch Mott MacDonald

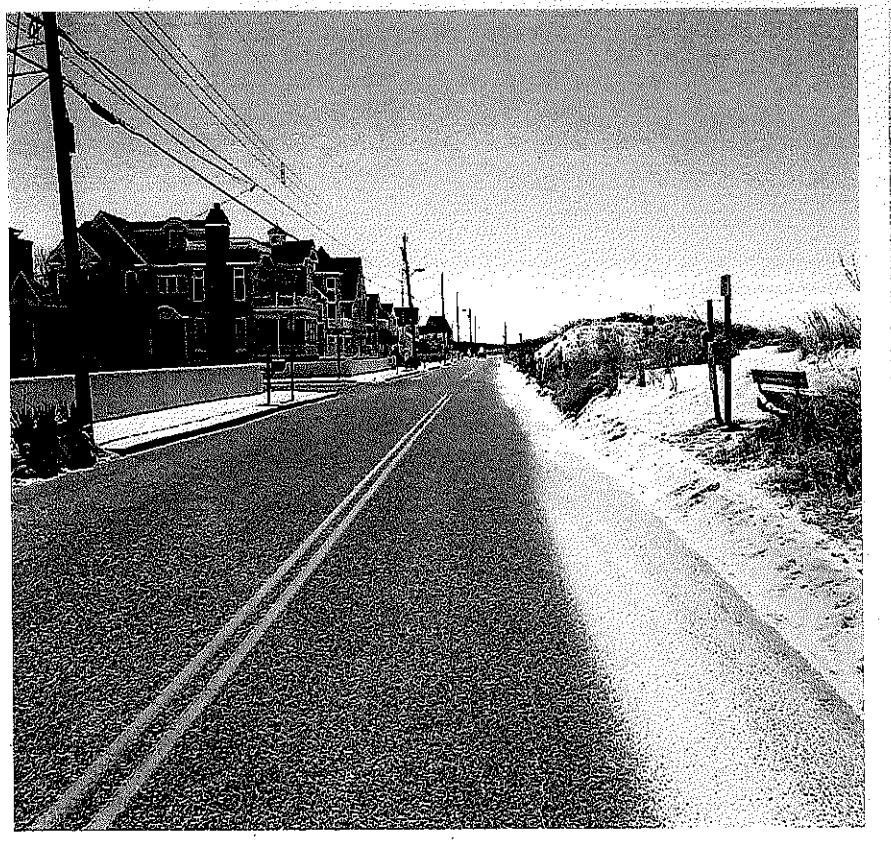
Beach Path Improvements →

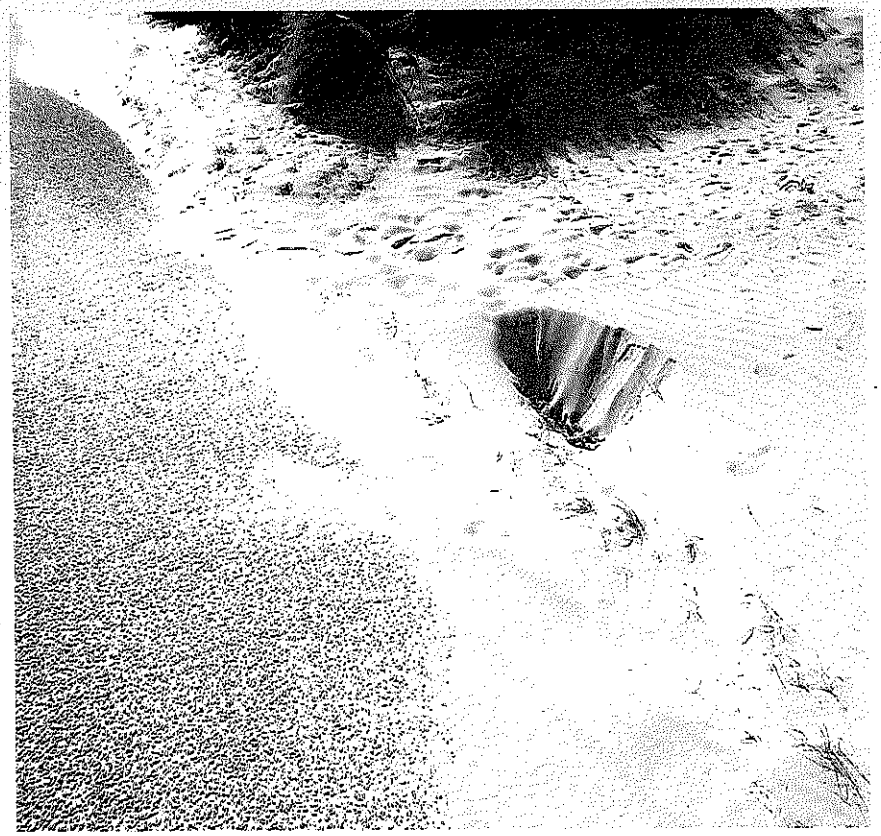
Path Closures Will Reduce Destruction of the Frontal Dune and Trampling of Dune Vegetation

Hatch Mott MacDonald

Beach Path Improvements →

Improved Beach Paths Will Reduce Maintenance Costs

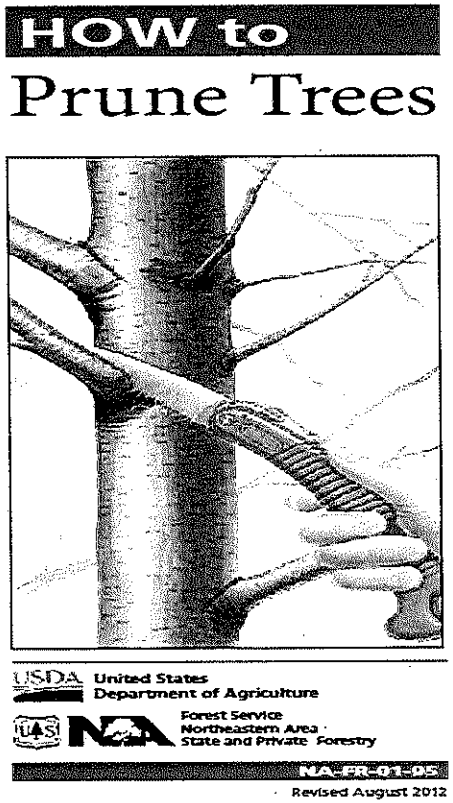




Hatch Mott MacDonald

Beach Path Improvements →

Proper Planting and Maintenance of Dune Vegetation



Hatch Mott MacDonald

Beach Path Improvements →

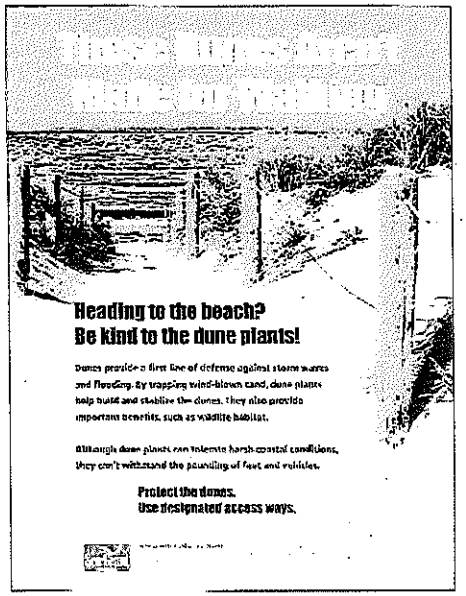
Properly Maintain Wildlife Habitat

Hatch Mott MacDonald

Beach Path Improvements →

Management of Pedestrian Traffic in Heavy Use Areas

All-weather outdoor signs help educate and orient pedestrian traffic out of dune areas and are available free of charge from Woods Hole Sea Grant and Cape Cod Cooperative Extension.



Hatch Mott MacDonald

Beach Path Improvements →

Public Notice

- Public access and beach path improvements are discussed at 10/15/15 RAB meeting with public attending. Meeting Minutes on LT website.
- HMM is authorized to proceed on beach maintenance & path upgrades at 12/7/2015 Council meeting.
- HMM updates Council at 12/21/2015 meeting and commits to present plans to public at 2/1/16 Council meeting.
- Public notice required for NJDEP application submittal includes; Newspaper, County Planning, Twp. Clerk, Planning Board, Environmental Commission and Construction Official.
- NJDEP application 30-day Public Comment Period Notice includes; 200' radius property owners, County & Local Officials.

Hatch Mott MacDonald

Beach Path Improvements →

A Place to Remember...

Hatch Mott MacDonald

Beach Path Improvements →

Existing Coarse Aggregate Soils on Dunes and Beach

Hatch Mott MacDonald

Beach Path Improvements →

Existing Use of Split Rail Fence

Wildwood Avenue

Roslyn Avenue

Hatch Mott MacDonald

Beach Path Improvements →

Failed Use of Snow Fence on Newly Planted Dune

Whittier Avenue, 5/20/15

Whittier Avenue, 12/16/15

Hatch Mott MacDonald

Beach Path Improvements →

Jonas Storm Data – Cape May Station

Day	Date	Time	Highest Tide (NAVD88)	Departure	Wind Speed, Direction & Gusts		
Saturday	1/23/16	8:30 am	5.96' *	3.47'	26 mph	ENE	57 mph
Saturday	1/23/16	8:42 pm	4.57'	3.03'	18 mph	NNE	37 mph
Sunday	1/24/16	8:54 am	4.78'	2.21'	17 mph	NNW	29 mph

*The highest observed water level ever recorded at the Ferry Terminal's NOAA Tide station

Hurricane Sandy

Wednesday	10/29/12	9:00 pm	5.75'	3.13'	50 mph	W	63 mph

Mean High Water = 1.99' NAVD

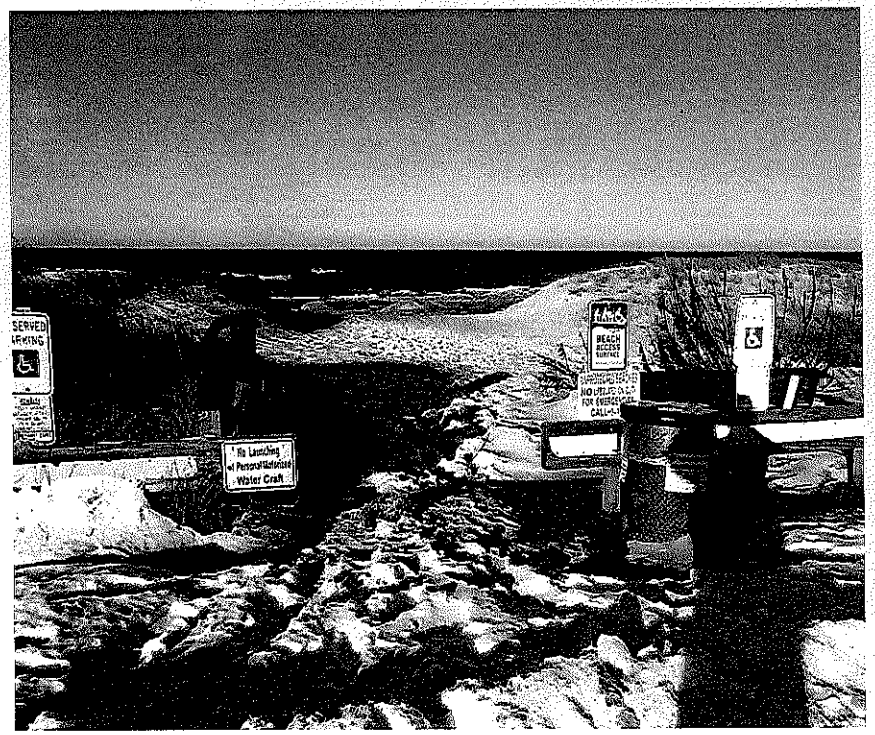
Source: NOAA Station: 8536110 Cape May, NJ (Ferry Terminal)

Hatch Mott MacDonald

Beach Path Improvements →

Jonas Post-storm Beach Conditions

Lincoln Boulevard



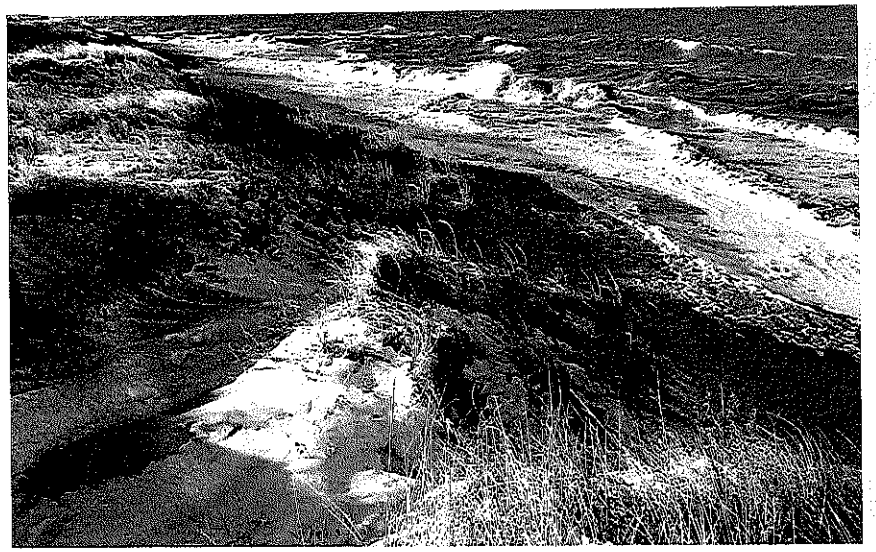
Franklin Avenue

Hatch Mott MacDonald

Beach Path Improvements →

Jonas Post-storm Beach Conditions

Whittier Avenue



Emerson Avenue

Hatch Mott MacDonald

Jonas Post-storm Beach Conditions

Wildwood Avenue

Bay Avenue

Hatch Mott MacDonald

Beach Path Improvements →

Sandy Post-storm Beach Conditions

Holmes Avenue 10/30/12

Holmes Avenue 12/16/15

Hatch Mott MacDonald

Beach Path Improvements →

Opinion of Probable Cost for Beach Path Improvements:

I-5 soil aggregate @ $10.50 ton x 647 tons = $6,793.00
Split rail fence @ $2.79 LF. x 5,504 LF = $15,368.00
Total = $22,161.00

Labor to be performed in-house by Department of Parks & Recreation and Department of Public Works.

Steven C. Morey, CEP

Registrations

Certified Environmental Professional – Environmental Planning #09050439

Education

Graduate Certificate, Coastal Studies, Nova Southeastern University, 2014

BA, Geography, Glassboro State College, 1990

AAS, Civil Engineering Technology, Gloucester County Community College, 1987

Skills & Experience

Mr. Morey has extensive site planning and environmental consulting experience, on both public and private sector projects with particular proficiency in coastal zone management. His experience includes the preparation of NJ CZM Environmental Impact Statements (EIS) and technical reports, including a city-wide storm flooding engineering study, beach carrying capacity study, ESA Section 7 Formal Consultation Biological Assessment, and wetlands mitigation plans and other work products in support of permit application submissions to the US Army Corps of Engineers, US Fish and Wildlife Service, New Jersey Department of Environmental Protection (NJDEP), New Jersey Pinelands Commission, and the Pennsylvania Department of Environmental Resources.

Field investigation experience includes wetlands delineations in New Jersey, Pennsylvania, New York, West Virginia, and Delaware, wetlands mitigation site analyses, beach and dune delineations, site evaluations of soils and hydrologic conditions, biotic community inventories, wildlife habitat assessments, endangered/threatened species surveys, and photographic documentation and interpretation of site/project features and conditions.

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Stormwater Outfall Extensions, Lower Township, NJ
Prepared EIS and threatened and endangered wildlife or plant species habitat impact assessments and applications for NJDEP Waterfront Development/CAFRA Individual Permits, NJDEP Tidelands Licenses, and US Army Corps of Engineers (USACE) approvals for reconstruction of 21 outfalls along the Delaware Bay.

Cox Hall Creek Basin Wetlands Restoration, Lower Township, NJ
Worked with the Cape May County Planning Department and U.S. Fish and Wildlife Service to coordinate a NJDEP Freshwater Wetlands permit and prepare a USACE Nationwide Permit for an outfall pipe/water control structure through the dunes to the Delaware Bay to allow controlled tidal ingress and freshwater egress to create a sustainable brackish marsh system in the 87-acre Cox Hall Creek lower wetlands basin.

Diamond Beach, Seapointe Village Resort, Lower Township, NJ
Prepared a NJDEP CAFRA permit application for a private beach resort for NJDEP approval for beach fee calculations, placement of seasonal tourism structures, and beach and dune maintenance activities. Tasks included performing dune delineations and a beach carrying capacity study.

Multiple Beach Renourishment Projects, Avalon Borough, Cape May County, NJ
Prepared an EIS, threatened and endangered wildlife or plant species habitat impact assessments, and applications to NJDEP and USACE for approvals for multiple beach renourishment projects. Performed site investigations for regulated wetlands. Prepared a Biological Assessment for the impacts of beach scraping on piping plover and seabeach amaranth habitat in support of a USFWS Section 7 Endangered Species Act Tier 2 Formal Consultation.