South Shore Coastal Infrastructure Inventory and Assessment Demonstration Project Coastal Hazards Commission

Town of Cohasset

Prepared for: Office of Coastal Zone Management Boston, MA

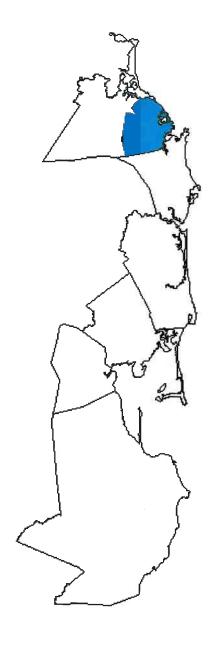
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In Association With:

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Bourne Consulting Engineering

Waterfront Engineers

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Section I

Town of Cohasset

Coastal Hazards Infrastructure and Assessment Program



South Shore Coastal Infrastructure Inventory and Assessment Demonstration Project Coastal Hazards Commission

Section I - Coastal Hazards Infrastructure and Assessment Program

INTRODUCTION

The Project and Client

The Commonwealth of Massachusetts has initiated a Coastal Hazards Commission (CHC) to identify the vulnerability of the state to coastal hazards. As one of five working groups working under the CHC, the 20-Yr Infrastructure Plan was to establish a prioritization for the repair of coastal structures. The focus areas of the Working Group include:

- Publicly owned infrastructure
- Infrastructure for which State is responsible
- Inventory of public hazards infrastructure
- Evaluation on conditions
- Development for a prioritization of work
- Estimation of capital and maintenance costs

The 20-Yr Infrastructure Working Group is led by Representative Frank Hynes with CZM as the lead State Agency overseeing the management of the project. The region included in the demonstration project was identified as the South Shore and included the eight communities of Hingham, Hull, Cohasset, Scituate, Marshfield, Duxbury, Kingston and Plymouth.

Consultant Team

The consultant team that performed the demonstration project was led by Bourne Consulting Engineering (BCE) of Franklin, MA who was responsible for overall project management, research and field assessments. Assisting BCE was Applied Coastal Research and Engineering, Inc. of Mashpee, MA who was responsible for field assessments and GIS data conversion. Alpha Land Surveying and Engineering of Middleboro, MA also supported the Team with field GPS survey.

PURPOSE

Study Purpose

CZM seeks to identify the capacity of Massachusetts coastal structures to resist major coastal storms and prevent storm damage. In working toward this goal, CZM has initiated a program to perform an assessment of Commonwealth owned and/or maintained coastal structures. The first phase of this program is the performance of a demonstration project for coastal structures located on the South Shore. The demonstration project will identify existing structures, their general conditions, ability to provide coastal protection and the probable cost for repairs. The information collected and developed will be incorporated into the MassGIS system to allow use for developing a 20 Year Coastal Infrastructure Plan.

As this is a demonstration project, it will serve as the basis for development of a statewide inventory and assessment of all Commonwealth coastal structures and the needs for their maintenance and/or repair. Incorporated into this project will be the identification of issues and limitations of the investigation and



assessment to achieve the overall goals and what should be included in future investigations/assessments of coastal structures for the other regions.

Goals of Study

The goals of the South Shore Coastal Infrastructure Inventory and Assessment Project include:

- To be used as the model to go forward for assessment of coastal structures for the remainder of the coastal regions
- To identify areas of research and/or assessment that need to be modified for future phases that were not included within the demonstration project
- Complete the study with the final report by November 15, 2006 for submission to the Coastal Hazards Commission
- To identify all the coastal structures the state either owns or has responsibility to maintain for the eight communities included within the study
- Of the structures identified, determine the structure location and characteristics, the structure condition relative to providing coastal protection and the structure importance in relation to what it is protecting.
- To the degree possible, identify the structure elevation and the FIRM mapping flood elevation and category.
- To the degree possible, identify structure owner and available documents from local, state and federal agencies.
- To establish an estimated cost to rehabilitate the coastal structures to provide the level of project established in the structure's original design.
- Provide the information in a format compatible for incorporation into the MassGIS system

Limit of Study

Due to the time constraints and the amount of effort necessary to collect, process and compile the information, the following are identified as limitations of the information presented:

- All property ownership was taken as presumed. No legal investigation of ownership was
 performed during the project. Property ownership is based on town assessor maps. Where
 structures were located outshore of assessor map defined property lines, it was assumed to be
 Town land unless other information indicated otherwise. Where structures were located outshore
 of Mean Low Water, property is assumed to be State owned.
- The structure ownership was based on assessor maps and research at the local, state and federal levels. Where there was indication of public work on a structure on Town land or on private property, the structure was presumed to be Town owned. Where the structure was on state property, the structure was presumed to be state owned. Where ownership of the structure was not clear but was located on private property, the structure ownership was defined as unknown.
- The study included town and state owned structures as it was assumed that most town owned structures received state funding at some level for construction and/or maintenance.
 - o Federal structures were identified but no assessment of conditions or priority was performed.
 - o Structures that were determined to be private were not included.
 - O Undocumented structures considered to be on private land, but having the potential to have been publicly built and/or maintained, were identified as having an "unknown ownership".



- The prioritizing of structures was based primarily on risk to general infrastructure and density of housing. Infrastructure included was buildings. The study did not consider all infrastructure issues including:
 - o No consideration on utility impacts water, electrical, sewer, gas
 - No consideration of roadway and bridge protection
 - o Evacuation routes were not considered within the investigation
 - o Location of Emergency Shelters were not included in priority assessments
- Research was performed at the local, state and federal levels. The local research was limited to
 location and documenting available coastal structure contract drawings. Research at DCR was
 restricted to available historic construction plans for coastal structures at the MA-DCR
 Waterways office in Hingham, MA. No investigation of state archives was performed. Research
 at MA DEP Chp 91 and USACE was limited to recorded permits and licenses found in their files.
 No investigation was performed at the Registry of Deeds.

DEVELOPMENT OF MassGIS DATABASE ATTRIBUTES

The specific attributes that would be incorporated into the MassGIS system were developed based on the scope of work and the goals to be achieved. The following was established to standardize the data collection and presentation and to allow total flexibility for sorting by attributes in the final GIS database. The attributes identified below were input into a MS Access database which was used to manage the data from all eight communities within a single file.

Database Attributes

Attribute Descriptions/Definitions

Structure Number: A unique structure number was given to each coastal structure. The number was based on existing numbering systems that include the State Department of Environmental Protection community number followed by the local community assessor's parcel numbering system. The last three digits of the number represent the structure within the parcel. Where structures extend over several parcels, the structure is referenced to a parcel that is approximately in the center of the structure. Where Town assessor's references include letters, those are also included within the structure number. Some communities have block numbering within their numbering system and these are included. Communities without block numbering still have the block numbering included but these are illustrated as all zeros for that specific segment.

Structures that are on Town property, which would otherwise not have a parcel number, are referenced to a parcel that is in the immediate vicinity of the coastal structure.

On this basis, the following is the general numbering convention:

CCC-MMM-PPP-BBB-SSS

I -3

Where: CCC DEP Community Number MMM Community Map Number

BBB Block Number (000 if no block numbering system)

PPP Community Parcel Number

SSS Structure Number

BCE

<u>Property Ownership</u>: All property ownership was on a "presumed" basis as no legal verification of ownership was performed. The ownership of the property was classified under four basic areas which were private ownership (Private), Town ownership (Local), Commonwealth of Massachusetts ownership (State), federal government ownership (Federal) or unknown. Property ownership was based on Town assessor's maps. Where the location was located above Mean Low Water, and not within a defined parcel, the property ownership was presumed to be the Town unless documentation was found to indicate otherwise. Where a structure was located offshore of Mean Low Water, the property ownership was presumed to be the state.

Structure Ownership: The ownership of all structures is presumed as no verification of ownership was performed. Ownership of the structure was determined by research into historic state and federal permits and the entity indicated on the permits as the applicant. Where no other information was found, the following was utilized:

- Structures located on private land but appearing to be significant structures were identified as owned by the Town or as "Unknown". Unknown was used were there was a question of local or private ownership.
- Structures on Town property were assumed to be owned by the Town
- Structures that were located off-shore were presumed to be federally owned
- Structures that were identified as being privately owned were eliminated from the database

<u>Basis of Ownership</u>: The basis of structure ownership was provided to give rationale to the structure ownership and identified the research resource that identified the ownership or the methodology otherwise used. The responses utilized were limited to the following:

- DPW DPW Employee Interview
- DCR Contract Drawings
- DEP Ch 91 License
- USACE Permits
- Property Ownership
- Offshore Structure

<u>Structure Owner's Name:</u> Ownerships names reflect the presumed owner of publicly owned structures. As this was for public structures only, the ownership was restricted to the community name, the state agency or the federal agency.

Earliest Structure Record: The year of the oldest document located for the structure. The information is determined from the document research performed on the structure from local, state and federal agencies. If no documents could be found than this entry is denoted as 'Unknown'. Where documentation of the structure could be found, the date from the oldest document was utilized.

<u>Primary Structure</u> / <u>Secondary Structure</u>: Many of the coastal structures consisted of combined structures which were rated separately. It was typically found that one structure was significantly more predominant (Ex. Bulkhead/Seawall) and was therefore identified as the Primary Structure while a smaller structure might exist in front (ex. Revetment) of it. The type, height and material of each structure are identified separately. The condition of each structure was based on the Primary Structure. Where there was no secondary structure, the fields were left blank.

<u>Structure Type:</u> The structure type was categorized into five basic coastal structure categories which were Bulkhead/Seawall, Revetment, Coastal Beach, Coastal Dune, and Jetty/Groin.



<u>Structure Material</u>: The identification of the coastal structure's material of construction was performed and represents the primary material. Stone structures consisted of both mortared and non-mortared conditions.

<u>Structure Height:</u> Each type of structure was categorized by its visible height in feet which was broken into four specific ranges which are:

< 5 feet 5 to 10 feet

10 to 15 feet >15 feet

Structure Condition: A preliminary assessment of the condition for each structure was performed by the field teams. This was by visual observation only and no detailed investigation was performed. The condition assessments were based on a predefined five level rating system that ranged from Rating A for Excellent Condition to Rating F for Critical Condition. A detailed listing of the conditions and their definitions can be seen in Exhibit A.

<u>Priority Rating:</u> In order to account for the need for protection at any one site, a five level priority rating system was established. This allowed for consideration of public infrastructure protection, density of residential housing for development of structure overall importance for coastal protection. The ratings range from Level 1 for no infrastructure or residence protection to Level 5 for critical inshore infrastructure protection and/or high density residential. The detailed listing and definitions for the priority categories can be seen in Exhibit B.

Structure Repair / Reconstruction Cost: A preliminary estimation of construction costs to maintain or repair structures was made based on the preliminary field assessment of the structures. A Repair Cost Matrix was developed based on structure type, condition, height and material and can be seen in Exhibit C. Once each structure's type, height, and material classifications were determined, the cost per foot for the structure was determine from the Repair Cost Matrix and multiplied by the length of the structure to obtain the estimated repair/restoration cost. The cost matrix repair costs include a 20 percent construction cost contingency as well as 10 percent costs for engineering and permitting.

<u>Structure Length:</u> The length of each structure is provided and utilized in the development of the repair/reconstruction costs. The lengths are given to the nearest foot and taken as the linear distance along the structure, as determined by the GPS location, which takes into account structure angles and curvature.

Structure Elevation: The elevation of structures was determined in feet from existing information where available. The datum used is NAVD 88 and elevations are to the nearest foot. From a previous study much of the south shore coastal structures had elevations defined based on LIDAR mapping data. Where available structure documentation with elevations was found, in areas with no LIDAR data, the information was included within the structure information. Where there was no LIDAR information or existing documentation, the item has been left blank.

LIDAR (Light Detection and Ranging) is technology that is currently being used for high-resolution topographic mapping by mounting a LIDAR sensor, integrated with Global Positioning System (GPS) and inertial measurement unit (IMU) technology, to the bottom of aircraft and measuring the pulse return rate to determine surface elevations.

<u>FEMA Zone and Elevation:</u> For each structure the FEMA Flood Insurance Rate Maps (FIRM) were researched for their Flood Zone designation and their Base Flood Elevation from the most recent FIRM maps for the specific Town. The elevations are provided in feet on the same datum as the FIRM maps (NGVD) with no adjustments or conversions.



<u>Structure Comments:</u> The engineering team provided a brief description and comment on the structure at the time of the field assessments which is provided in support of the condition rating that was given for the structure.

<u>Pictures:</u> At the time of the field assessments, digital photographs were taken to provide a general overview of the structure. The number of pictures were limited to a maximum of six. The first photograph for each structure is shown on the Structure Assessment Form. The list of all photographs is provided on the form.

Town Documents: Town documents represent the structure information that could be found in the Town's DPW/Engineering Department records. Where particular records could be found, a table of document information was developed and included within the database with limited descriptions.

MA - DCR Documents: MA-DCR documents represent the structure information that could be found within DCR - Waterways office in Hingham Where particular records could be found, a table of document information was developed and included within the database with limited descriptions.

MA - DEP Chp. 91 Licenses: MA-DEP Chapter 91 license documents represent the structure information that could be found within MA-DEP Chp 91 records in Boston. Where particular records could be found, they were scanned as pdf files and attached to the structure through the GIS database information. In addition, a table of license document information was developed and included within the database with limited descriptions

<u>USACE Permits:</u> USACE Permits represent the structure information that could be found within the Army Corp of Engineers regulatory office in Concord, MA. Where particular records could be found, they were scanned as pdf files and attached to the structure through the GIS database information. In addition, a table of license document information was developed and included within the database with limited descriptions.

DEVELOPMENT OF REPAIR / RECONSTRUCTION COSTS

A matrix to be used within the database has been developed to assess likely rehabilitation/repair costs to restore the coastal structures to their original design condition. No attempt was made to assess the level of exposure and associated level of protection that might be required to meet current design standards for these structures. These costs are only an estimation to bring these structures back to their original design intent based on 2006 construction costs.

The development of the cost matrix is based on the following:

<u>Structure Condition Ratings</u> – The condition of the coastal structures was determined in the field by the survey crew which was led by an engineer with waterfront structure assessment and design experience. The definitions of the rating criteria utilized for the assessments is presented elsewhere.

The cost implications for each rating condition are as follows:

- A Rating Structures not requiring any maintenance, repair or rehabilitation cost and would not be expected to experience damage if subject to a major coastal storm event
- B Rating Structures requiring limited or no repair and would be expected to experience only minor damage if subject to a major coastal storm event. The



value of these maintenance costs is assumed to be 10 percent of the construction cost.

- C Rating Structures requiring moderate to significant level of repair or reconstruction and would be expected to experience significant damage if subject to a major coastal storm event. The structure is presumed to be effective under a major storm event. The value of the repair costs is assumed to be 50 percent of the construction cost.
- D Rating 'Structures requiring significant level of rehabilitation or total reconstruction and would be expected to experience significant damage or possibly fail if subject to a major coastal storm event. The value of the repair costs is assumed to be 100 percent of the construction cost.
- F Rating Structures requiring complete reconstruction and would expect to provide little or no protection from a major coastal storm event. The value of the repair costs is assumed to be 100 percent of the construction cost plus a cost for removal/disposal of the original structure.

<u>Height of Structure</u> – Height of a structure is a major factor in the structure cost and therefore was identified as a significant factor is assessing rehabilitation/repair construction costs. The structures were broken down into four major categories which were:

< 5'	Structures that were less than five feet in height
5'-10'	Structures five to 10 feet in height
10'-15'	Structures over 10 feet to 15 feet in height
> 15'	Structures greater than 15 feet in height – assumed 20 feet typical

<u>Length of Structure</u> – Length is based on field GPS location with measurements rounded to the nearest foot.

<u>Bulkhead / Seawall Structures</u> – These structures are assumed to be constructed out of concrete, steel, stone or wood with each having its own criteria for establishing costs. For each structure type the following was assumed:

- Concrete Seawalls These walls were assumed to be gravity structures with the volume
 of concrete used based on the bottom width being one-half of the structure height. Costs
 of construction were based on a per cubic yard estimate that varied from \$350 to \$630
 per cubic yard depending on the structure height. Values for excavation and demolition
 of existing structure were also included.
- Stone Seawalls These walls were treated the same as concrete seawalls and assumed to be gravity structures with the volume of the structure based on the bottom width being one-half of the structure height. Costs of construction were based on a per cubic yard estimate that varied from \$350 to \$630 per cubic yard depending on the structure height. Values for excavation and demolition of existing structure were also included.
- Steel Bulkheads Steel bulkheads were presumed to be constructed with steel sheet piling. Tie back systems were presumed for structures 10 feet or greater in height. Shorter walls were assumed to have a cantilever design. The total depth of sheeting was presumed to be two times the exposed height. The cost for construction varied from \$40 per square foot to \$60 per square foot plus the cost of excavation and demolition.



• Timber Bulkheads – Timber bulkheads were presumed to be constructed with timber piles at eight foot on center, horizontal wales and vertical four inch sheathing. The unit costs for installed materials used were \$1,500 per pile and \$7.50 per bfm.

Revetment Structures – Revetment structures were presumed to be constructed of dry placed (no concrete) stone with a two on one slope and a horizontal toe and crown equal to the thickness layer established for each height condition. The total thickness of the revetment layers varied from six to ten feet with the cost of armor and under-layer stone assumed to be \$50 per ton and the crushed stone base to be \$15 per ton.

<u>Groins and Jetties</u> – Groins and jetties were assumed to be the same materials and construction as the revetment structures but would have two sides and therefore double the quantities.

<u>Coastal Beaches</u> – Costs for restoration of Coastal beaches presumed the placement of beach renourishment sands at a 1-on-20 slope over the existing beach conditions. The cost for deposition of sand assumed relatively close source of material and utilized \$20 per cubic yard for the material installed.

<u>Coastal Dunes</u> – Restoration of coastal dunes assumed a cross section of renourished sand with a one-on-four slope on one side of a 25 foot width at the defined dune height. The cost for deposition of sand assumed relatively close source of material and utilized \$20 per cubic yard for the material installed.

<u>Contingency</u> – A contingency of 20 percent was added to all costs to reflect the unknowns associated with this level of rehabilitation/repair estimating.

<u>Engineering and Regulatory Approvals</u> – A ten percent increase to the cost matrix prices was assessed to represent the engineering design and regulatory approval requirements for the restoration of these structures.



EXHIBIT A

Structure Condition Table – 5 Level Rating System

Co	liminary ondition sessment	Definition Based Upon Perceived Immediacy of Action and Potential to Cause Damage if Not Corrected	Level of Action Required
A	Excellent	Like new condition. Structure expected to withstand major coastal storm without damage. Stable landform (beach, dune or bank). Adequate system exists to provide protection from major coastal storm	None
В	Good	Structure observed to exhibit very minor problems, superficial in nature. Minor erosion to landform is present. Structure / landform adequate to provide protection from a major coastal storm with no damage. Actions taken to prevent / limit future deterioration and extend life of structure	Minor
C	Fair	Structure is sound but may exhibit minor deterioration, section loss, cracking, spalling, undermining, and/or scour. Structure adequate to withstand major coastal storm with little to moderate damage. Actions taken to reinforce structure to provide full protection from major coastal storm and for extending life of structure.	Moderate
		Moderate wind or wave damage to landform exists. Landform may not be sufficient to fully protect shoreline during a major coastal storm. Actions taken to provide additional material for full protection and extended life	
D	Poor	Structure exhibits advanced levels of deterioration, section loss, cracking, spalling, undermining, and/or scour. Structure has strong risk of significant damage and possible failure during a major coastal storm Structure should be monitored until repairs/reconstruction can be initiated. Actions taken to reconstruct structure to regain full capacity to resist a major coastal storm.	Major
		Landform eroded, stability threatened. Landform not adequate to provide protection during major coastal storm. Actions taken to recreate landform to adequate limits for full protection from a major coastal storm.	
		Conditions of structure/landform may warrant emergency stabilization as failure may result in potential loss of property and/or life. Landform eroded, loss of integrity	
F	Critical	Structure exhibits critical levels of deterioration, section loss, cracking, spalling, undermining, and/or scour. Structure provides little or no protection from a major coastal storm. Actions taken to totally reconstruct structure to regain full capacity.	Immediate
		Landform stability is severely compromised, rate of erosion/material loss may be increasing, and landform does not provide adequate protection from a major coastal storm. Actions taken to recreate landform to adequate limits for full protection from a major coastal storm.	



EXHIBIT B Priority Rating System - 5 Level Rating System

Pri	eliminary ority Level ssessment	Level Based Upon Perceived Immediacy of Action and Presence of Potential Risk to Inshore Structures if Not Corrected	Level of Action Required
I	None	No Inshore Structures or Residential Dwelling Units Present	Long Term Planning Considerations
п	Low Priority	Inshore Structures Present with Limited potential for Significant Infrastructure Damage	Future Project Consideration
ш	Moderate Priority	Inshore Structures with potential for Infrastructure Damage and/or Limited Residential Dwellings (<1 dwelling impacted / 100 feet of shoreline)	Consider for Active Project Improvement Listing
IV	High Priority	High Value Inshore Structures with Potential for Infrastructure Damage and/or Moderate Density Residential Dwellings (1-10 dwellings impacted / 100 feet of shoreline)	Consider for Next Project Construction Listing
V	Immediate / Highest Priority	Critical Inshore Structures Present with Potential for Infrastructure Damage and/or High Density Residential Dwellings Conditions of structure may warrant emergency stabilization as failure may result in potential loss of property and/or life. (>10 dwellings impacted / 100 feet of shoreline)	Consider For Immediate Action Due to Public Safety and Welfare Issues



CZM SOUTH SHORE COASTAL INFRASTRUCTURE INVENTORY AND ASSESMENT PROJECT

EXHIBIT C

September 14, 2006

REPAIR / REHABILITATION COSTING DATA

Cost per linear foot of structure

STRUCTURE TYPE	STRUCTURE MATERIALS	STRUCTURE HEIGHT	YILD FIRE		RUCTURE CONDITION R		
BULKHEAD/ SEAWALL	CONCRETE	Under 5 Feet	\$0	B #04	6		F
BOLINEADISEAWALL	CONCRETE			\$84	\$425	\$850	\$983
		5 To 10 Feet	\$0	\$152	\$759	\$1,518	\$1,782
		10 To 15 Feet	\$0	\$251	\$1,254	\$2,508	\$2,970
		Over 15 Feet	\$0	\$396	\$1,980	\$3,960	\$4,752
	STEEL	Under 5 Feet	\$0	\$54	\$273	\$546	\$680
1		5 To 10 Feet	\$0	\$165	\$825	\$1,650	\$1,848
=	- Eller Line	10 To 15 Feet	\$0	\$251	\$1,254	\$2,508	\$2,772
		Over 15 Feet	\$0	\$343	\$1,716	\$3,432	\$3,795
	STONE	Under 5 Feet	\$0	\$84	\$425	\$850	\$983
		5 To 10 Fest	\$0	\$152	\$759	\$1,518	\$1,782
		10 To 15 Feel	\$0	\$251	\$1,254	\$2,508	\$2,970
	<u> </u>	Over 15 Feet	\$0	\$396	\$1,980	\$3,960	\$4,752
	WOOD	Under 5 Feet	\$0	\$86	\$431	\$862	\$994
		5 To 10 Feet	\$0	\$127	\$632	\$1,265	\$1,463
	SAME TO	10 To 15 Feet	\$0	\$161	\$804	\$1,608	\$1,872
		Over 15 Feet	\$0	\$202	\$1,008	\$2,017	\$2,380
	SAND	Under 5 Feet	\$0	\$26	\$132	\$264	\$264
COASTAL BEACH		5 To 10 Feet	\$0	\$127	\$634	\$1,267	\$1,267
		10 To 15 Feet	\$0	\$224	\$1,122	\$2,244	\$2,244
		Over 15 Feel	\$0	\$396	\$1,980	\$3,960	\$3,960
	SAND	Under 5 Feet	\$0	\$18	\$93	\$186	\$186
COASTAL DUNE		5 To 10 Feet	\$0	\$48	\$238	\$476	\$476
		10 To 15 Feet	\$0	\$79	\$395	\$790	\$790
200 Z		Over 15 Feet	\$0	\$132	\$660	\$1,320	\$1,320
REVETMENT	STONE	Under 5 Feet	\$0	\$66	· \$333	\$664	\$730
		5 To 10 Feet	\$0	\$120	\$601	\$1,2 01	\$1,300
		10 To 15 Feet	\$0	\$157	\$781	\$1,564	\$1,696
		Over 15 Feet	\$0	\$247	\$1,234	\$2,468	\$2,666
GROIN	STONE	Under 5 Feet	\$0	\$157	\$664	\$1,328	\$1,460
		5 To 10 Feel	\$0	\$157	\$1,201	\$2,402	\$2,600
		10 To 15 Feet	\$0	\$157	\$1,564	\$3,128	\$3,392
		Over 15 Feet	\$0	\$157	\$2,468	\$4,937	\$5,333

NOTE: Repair / Rehabilitation Costs include 10% for engineering and regulatory approvals and 20 % construction contingency.



Section II

Town of Cohasset

Community Findings



Section II - Community Findings - Town of Cohasset

COMMUNITY DESCRIPTION

The Town of Cohasset consists of a land area of 9.9 square miles out of a total area of 31.5 square miles and had a population of 7,261 in the 2000 census. The Town is located on the South Shore of Massachusetts and its location can be seen on this report's cover. The estimated length of shoreline that is directly exposed to open ocean waves is 3.5 miles with the remaining shoreline by offshore structures or landforms. The Town is protected from major coastal storms by both natural and man-made shoreline structures that require maintenance to insure the long term protection of its coastline. The man-made and publicly owned structures that protect the Town were investigated for their ability to provide adequate protection from major coastal storms. Structures have been identified as publicly owned, including coastal dunes and beaches, based on evidence of investment of public funds made to create/enhance/maintain these structures. The assessment did not include floating or pile supported structures as they are assumed not to provide any significant coastal protection from major storm events.

STRUCTURE INVENTORY

Within the Town of Cohasset, there were 16 structures which had public or unknown ownership which provide significant coastal protection. The location of the structures can be seen in Sheets 1 through Sheet 3 in Section III of this report. The structures were categorized by their type and by their structural condition based on a preliminary field assessment. The distribution of structures by type and condition can be seen in the following table:

	Total	Str	Structure Condition Rating				
Primary Structure (1)	Structures A	B	C	D	F	Total Length (feet)	
Bulkhead / Seawall	9	5	4			2830	
Revetment	6	4		1		1545	
Groin / Jetty	1	1				120	
Coastal Dune							
Coastal Beach							
	16	10	4	1		4495	

Within the above table, the total length of each type of structure is also provided. The structures are listed by the type which is providing the primary coastal protection. Many sites have multiple structure types at the same location (i.e. revetment in front of seawall). These secondary structures, although not identified within these tables, are included in the development of repair/rehabilitation costs.

The development of repair costs has been included by structure type and by condition. In the Town of Cohasset's case there are a total of 16 structures which would require approximately \$1.6 million to bring all the coastal structures to "A" Rating. Most critical will be the structures in the "D" and "F" classifications as those are assumed to undergo some level of damage or failure during the next major coastal storm event. To reconstruct these structures, identified in the preliminary survey as being in poor condition, an estimated \$240,000 would be required to upgrade the Town's coastal protection.



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STRUCTURE REPAIR / RECONSTRUCTION COST - Town of Cohasset

	Total		Str	ucture Condition Rating					
Primary Structure (1)	Structures	A	В		С	D	F		Total Cos
Bulkhead / Seawall	9		\$465,300	\$	749,892				\$ 1,215,19
Revetment	6		\$149,134						\$ 149,13
Groin / Jetty	1		\$ 18,850			\$ 242,345			\$ 261,19
Coastal Dune									\$ -
Coastal Beach									\$ -
	16	\$-	\$633,284	\$	749,892	\$ 242,345	\$	-	\$ 1,625,52

Based on the limited research within the scope of this project research, the presumed ownership of the structures was established on an initial basis and would be subject to more intense review in future tasks. Structures identified as being owned privately were excluded from further consideration. Although ownership of the land on which the structure was located was a factor, the structure ownership was treated as a separate issue from land ownership. For the Town of Cohasset the breakdown of structures by assumed ownership is as follows:

STRUCTURE OWNERSHIP / REPAIR COST - Town of Cohasset

	Total		Structure Condition Rating					
Primary Structure (1)	Structures		B	<u>B</u> <u>C</u>		D	F	Total Cost
Town Owned	13		\$548,804	\$	622,380	\$ 242,345		\$ 1,413,529
Commonwealth of Massachusetts Federal Government Owned								\$ - \$ -
Unknown Ownership	3		\$ 84,480	\$	127,512			\$ 211,992
								\$ -
	16	\$-	\$633,284	\$	749,892	\$ 242,345 \$	-	\$ 1,625,521

The identification of presumed ownership was not based on the investigation of legal documents but relied on property ownership and from construction and regulatory documents that were found. A more detailed investigation of legal documents and agreements would be required where structure ownership is disputed. A more detailed identification of structure type, length, condition and location can be found in Section III which contains Structure Assessment Reports for each individual structure found.

SUMMARY

The enclosed reports and associated documents reflects the Town of Cohasset's coastal structure information that will eventually be input into a state-wide GIS database and will be accessible through MassGIS. This data, when compiled state-wide, will be critical in the development of both short term and long term planning for maintaining and improving Massachusetts coastal protection.

This database will also provide relatively quick access to identify available documentation for these structures as well as the ability to be updated as coastal structure improvements are made.



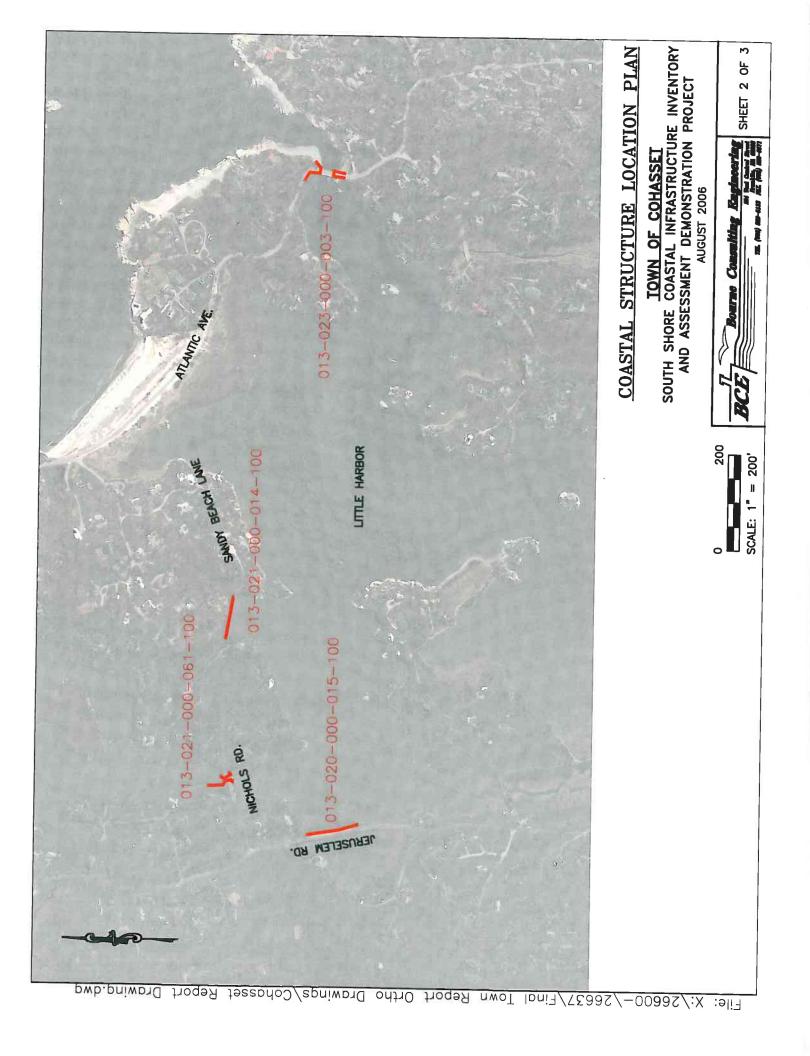
 $\Pi - 2$

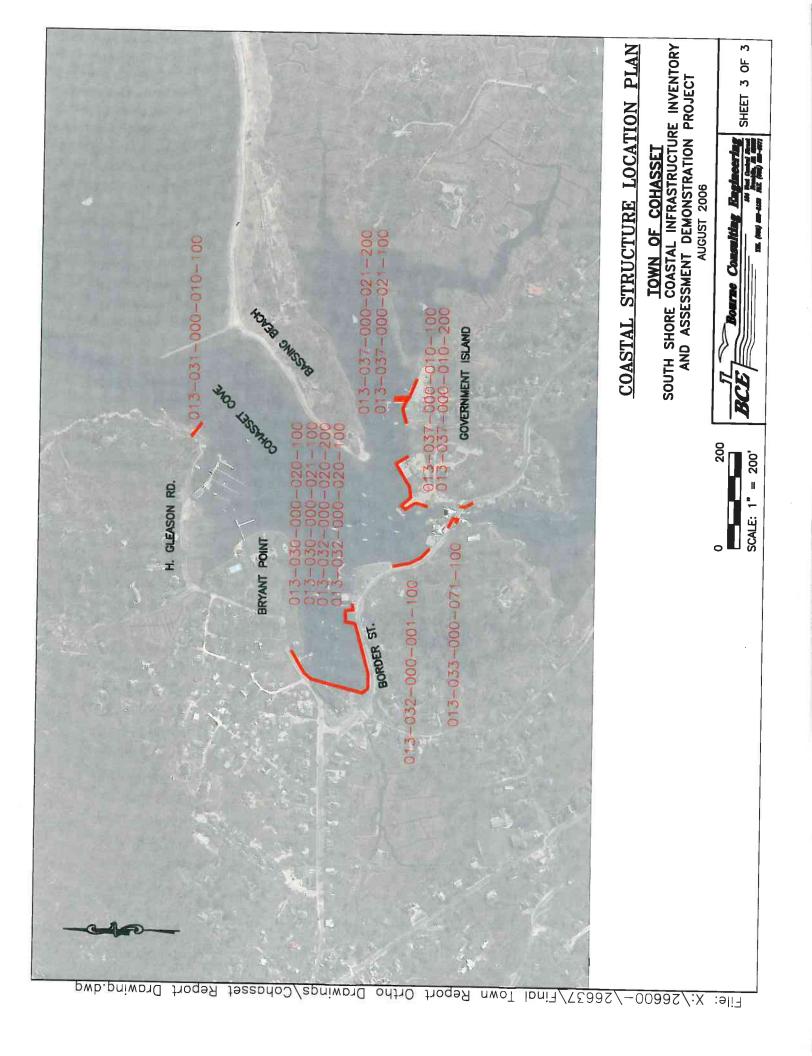
Section III

Town of Cohasset

Structure Assessment Reports







Structure Assessment Form

Town: Cohasset
Structure ID: 013-010-000-114-100

Property Owner:		Location:	hingin mengingili, dan menambangan sakrasakan taun pengulaphyaphyaphyap <u>sakrasakan pi</u>	erligens tredel dirense. North delicarle spieuge. Sombre Students and Flamblike einembilited einbezoeth deub zoneth dir field belieben.	Date:
Local	A MANAGEMENT OF THE STATE OF TH	Jerusalem Rd.			9/1/200
Presumed Structu	re Owner:	Based On Comm	ent:	-	
Local		Property Owners			
Durnos Nosses		1			
Owner Name: Cohasset		Earliest Structure	and the second	Estimated Rec	construction/Repair Cost:
	P	<u> </u>	0		\$30,030.00
ength: Top E	Elevation: FIRM Map Zone:	FIRM Map Elevation	40 - Verlah Beldink Berner in di guide - Sytte Amerika Lander-Verlah de Tulit der sterne erinerregische Sterrettung in der Verlander-Verlah der Verlander von der Verlander Verlander von der Verlander Verlander von der Verland	A Miller (1994) - well an infrided framewise indicated bit is named only of 2 MAPS (1994) - december does the (1994) of behalf represented in concerning an internal and the concerning	ne Ardul Ald et this non-deficied "dely dels rederibles come of the second come of the se
250	V2	23		- CF	
Feet Feet I	NAVD 88	Feet NGVD		The Avidance of the Avidance o	
Primary Type:	Primary Material:	Primary Height:			The same of
Revetment	Stone	5 to 10 Feet			
econdary Type:	Secondary Material:	Secondary Height:			
tructure Summan	v :			r task as well stay to	<i>(1)</i>
	be (45 degree) with 1000 to 3000 lb	,		Coodic Scacii. Rodu ui	recay manure.
Condition	В				
	Good		Priority	 	
	-	V	Rating	Moderate Priority	
	Minor		lation	Consider for Active Project	4 Ima = ==
Level of Action	Structure observed to exhibit very	Minor A	lction	Consider for Active Project Listing	et Improvement
evel of Action	Structure observed to exhibit very problems, superficial in nature. Mir	minor nor erosion	lction Description	Listing Inshore Structures with po	otential for
Rating Level of Action Description	Structure observed to exhibit very problems, superficial in nature. Min to landform is present. Structure adequate to provide protection from	minor nor erosion / landform m a major		Listing Inshore Structures with po Infrastructure Damage an	otential for d/or Limited
Level of Action	Structure observed to exhibit very problems, superficial in nature. Min to landform is present. Structure adequate to provide protection fror coastal storm with no damage. Ac	minor nor erosion / landform m a major titions taken		Listing Inshore Structures with po	otential for d/or Limited
Level of Action	Structure observed to exhibit very problems, superficial in nature. Min to landform is present. Structure adequate to provide protection from	minor nor erosion / landform m a major titions taken		Listing Inshore Structures with po Infrastructure Damage an Residential Dwellings (<1	otential for d/or Limited
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evel of Action	Structure observed to exhibit very problems, superficial in nature. Min to landform is present. Structure, adequate to provide protection fror coastal storm with no damage. Act o prevent / limit future deterioration.	minor nor erosion / landform m a major titions taken		Listing Inshore Structures with po Infrastructure Damage an Residential Dwellings (<1	otential for d/or Limited
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Structure Assessment Form

Town: Cohasset

Structure ID: 013-020-000-015-100

Key: community-map-block-parcel-structure

Property Owner:		Location:		Date:	nemidrian Antiques (1) of the control of selection of the control
Local		Jerusalem R	d.		9/1/2006
Presumed Structur	e Owner:	Based On Co	mment:	,	
Local	West, and the second	Property Ow		A MANAY MANAY (THE A MISS I AND MANAY)	
Owner Name:	· - · - · - · - · - · - · · · · · · · ·				
Cohasset		Earliest Struc	cture Record:	Estimated Reconstru	
	The second of th				\$242,345.00
The second second	levation: FIRM Map Zone:	FIRM Map Eleva	tion:	And the second s	00x0004x000x0xx00xxxxxxxxxxxxxxxxxxxxx
365	A3		11		All Control
Feet Feet N	NAVD 88	Feet NG	GVD		
Primary Type:	Primary Material:	Primary Height:		3 - Or. 2 - V	
Revetment	Stone	Under 5 Feet			The last
Secondary Type:	Secondary Material:	Secondary Heigh	nt:		
Structure Summary	ppe along edge of road. 100 to 500				DEAN!
Condition Rating Level of Action Description	Poor Major Structure exhibits advanced levels deterioration, section loss, crackin undermining, and/or scour. Struct strong risk of significant damage a failure during a major coastal storn should be monitored until repairs/reconstruction can be initia taken to reconstruct structure to re capacity to resist a major coastal standform eroded, stability threaten Landform not adequate to provide during major coastal storm. Action: recreate landform to adequate limit protection from a major coastal storm.	g, spalling, ure has ind possible n. Structure ted. Actions gain full storm. ied. protection s taken to ts for full	Priority Rating Action Description	III Moderate Priority Consider for Active Project Imp Listing Inshore Structures with potentia Infrastructure Damage and/or L Residential Dwellings (<1 dwel 100 feet of shoreline)	ıl for imited
Structure Image 013-020-000-015-10 013-020-000-015-10 013-020-000-015-10	00-PHO1A.jpg 00-PHO1B.jpg	cture Documer	nts:		

Structure Assessment Form

Town: Cohasset
Structure ID: 013-021-000-014-100

Property Owner:	ne general and the state of the	Location:	kart didaplassi A-salar ushi dalah pumma kesada dasaku di ugitar de Salar da pelangsi salah de dal	Date:
Private	7.71	Sandy Beach	Lane	9/1/20
Presumed Structu	re Owner:	Based On Co	mment:	1
Unknown			**************************************	
Owner Name:		I English Street	ture Day 1	
	/	Earliest Struc	ture Record:	Estimated Reconstruction/Repair Cost
	And the second s			\$127,512.00
Length: Top E	Elevation: FIRM Map Zone:	FIRM Map Eleva		The second secon
1 1	NAVD 88	1	11	The second second
		Feet NG	SVD .	
Primary Type: Bulkhead/ Seawal	Primary Material: Stone	Primary Height:		
•		Under 5 Feet		3
Secondary Type:	Secondary Material:	Secondary Heigh	nt:	
Standards Comment		L		
Structure Summar Stone block seawa	y: Ill (dryset) along road. Stone size 1	IOO to 300 lb Evid	once of fill less (see	
	() , symmetry occurs occurs of the	LOG TO SOO ID. EVID	ence of fill loss (par	iching, uneven surface).
Condition	C			
Rating	Fair		Priority	III
Level of Action	Moderate		Rating Action	Moderate Priority Consider for Active Project Improvement
Description	Structure is sound but may exhib	it minor	Action	Listing
Description Structure is sound but may exhibit deterioration, section loss, crackin undermining, and/or scour. Structuto withstand major coastal storm with moderate damage. Actions taken is structure to provide full protection coastal storm and for extending life structure. Moderate wind or wave landform exists. Landform may not to fully protect shoreline during a mistorm. Actions taken to provide admaterial for full protection and external control of the structure of the structure.		ture adequate with little to to reinforce from major fe of damage to ot be sufficient major coastal ddition	Description	Inshore Structures with potential for Infrastructure Damage and/or Limited Residential Dwellings (<1 dwelling impacted / 100 feet of shoreline)
Structure Image 013-021-000-014-10 013-021-000-014-10	00-PHO1A.jpg	ucture Documen	ts:	

Structure Assessment Form

Town: Cohasset
Structure ID: 013-021-000-061-100

Property Owner:	ummannen vermannen men uttat mit til spell för vid endelskilde de vir de velandelskilde til stade elle til dand Til stade en stade til stade t	Location:	if the hirst thrif delikalidaken gesingiga, john tripan-der unstrumknad tidak za hilifar esamenani		ite:
Local		Nichols Rd.			9/1/2006
Presumed Structure (Owner:	Based On Co	mment.	J	
Local	The state of the s	Property Ow			7 10 1 10 10 10 10 10 10 10 10 10 10 10 1
Owner Name:					
Cohasset		Earliest Struc	ture Record:	Estimated Recor	nstruction/Repair Cost:
	en e	etanius of a faith and this spirite of the faith and the major of the color of the		rimina aasikkisidottaka qii igaaliniikisi ishakana aasikasa aasikasi kalikasi aasika kalikasi aasika kalikasi	\$67,200.00
Length: Top Elev	vation: FIRM Map Zone:	FIRM Map Eleva	tion:	THE RESIDENCE OF THE PROPERTY	Polytechnological production of the Management of the Committee of the Com
560	A3		11		
Feet Feet NA	VD 88	Feet NG	VD		
Primary Type:	Primary Material:	Primary Height:			
Revetment	Stone	5 to 10 Feet			
Secondary Type:	Secondary Material:	Secondary Heigh	t:		
Other	Concrete				
Structure Summary:	ment for local road with wing wa	to the same of the			
Level of Action N Description S p to aa ca	Good Innor Structure observed to exhibit very roblems, superficial in nature. Moreon that is present. Structured dequate to provide protection from the control oastal storm with no damage. As prevent / limit future deterioration of structure.	inor erosion e / landform om a major octions taken	Priority Rating Action Description	III Moderate Priority Consider for Active Project Listing Inshore Structures with pote Infrastructure Damage and/ Residential Dwellings (<1 d	ential for or Limited
Structure Images: 013-021-000-061-100- 013-021-000-061-100- 013-021-000-061-100-	PHO1A.jpg PHO1B.jpg	ucture Documer	its:		

Structure Assessment Form

Town: Cohasset
Structure ID: 013-023-000-003-100

Key: community-map-block-parcel-structure

Property Owner:	orano escret ^{ura} (1899) (1898) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886	k kilan k	Location:	Tittisteleisteleistististys ydysteerittämissä ja vuon kuulusia elektristeleista saa salyst ku	-an-readur-servicus arrespondentes a-nove es canadamente que alemente tradeción con es contact. Date	handelikalari medidi dalah terdigi miran dang seripa kepada miran seripa seripa seripa seripa seripa seripa se
Local	A A A A A A A A A A A A A A A A A A A		Atlantic Ave.			9/1/2006
· Presumed Structu	re Owner:		Based On Co	mment		2, 2, 2000
Local	TO OWNER.		Property Ow	100		
Owner Name: Cohasset		man of the same	Earliest Struc		Estimated Reconst	ruction/Repair Cost:
Condition	Additional inter-2 Survivance	Andreisenhoften i Vittaddikka sala serlen asasuren i e		0		\$107,844.00
Length: Top I	Elevation: F	IRM Map Zon	e: FIRM Map Eleva	tion:	of a communication representation and incomment of the communication of	Promotes that in Audin Market Addition in the continuous and continuous and continuous account of the continuous account o
430			V4	13		4
Feet Feet	NAVD 88		Feet NG	:VD		
Primary Type:	Primary N	1aterial:	Primary Height:			
Bulkhead/ Seawal	Stone		10 to 15 Feet			
Secondary Type:	Secondary	Material:	Secondary Heigh	it:		
Revetment	Stone					
Structure Summar	y :		-			
Condition Rating Level of Action Description	problems, superfi to landform is pre adequate to provi coastal storm with	ed to exhibit very minor ficial in nature. Minor erosion esent. Structure / landform ride protection from a major th no damage. Actions taken future deterioration and extend		Priority Rating Action Description	III Moderate Priority Consider for Active Project Im Listing Inshore Structures with potenti Infrastructure Damage and/or Residential Dwellings (<1 dwe 100 feet of shoreline)	al for Limited
Structure Image 013-023-000-003-1 013-023-000-003-1 013-023-000-003-1 013-023-000-003-1	00-PHO1A.jpg 00-PHO1B.jpg 00-PHO1C.jpg 00-PHO1D.jpg		tructure Documer	nts:		

Structure Assessment Form

Town: Cohasset
Structure ID: 013-030-000-020-100

				Key: community-map-block-parcel-structure
Property Owner:	And Collection of Annual State of Collection (Annual Annual Annua	Location:	attidaksinen asinedataksi (interang mata-sinen matadaksinen oleh mengelen en interang	Date:
Private		Border St.		9/1/2006
Presumed Structu	re Owner:	Based On C	omment:	
Unknown				
Owner Name:		Earliest Stru	cture Record:	Estimated Reconstruction/Repair Cost:
			0	\$36,432.00
Feet Feet Primary Type: Bulkhead/ Seawal Secondary Type: Structure Summar	Primary Material: Stone Secondary Material:	Feet N Primary Height: 5 to 10 Feet Secondary Heig	11 GVD	t from wall. Minor undermining on portions of wall.
Rating Level of Action Description	Good Minor Structure observed to exhibit was problems, superficial in nature to landform is present. Struct adequate to provide protection coastal storm with no damage to prevent / limit future deterior life of structure.	. Minor erosion ure / landform from a major . Actions taken	Rating Action Description	Moderate Priority Consider for Active Project Improvement Listing Inshore Structures with potential for Infrastructure Damage and/or Limited Residential Dwellings (<1 dwelling impacted / 100 feet of shoreline)
Structure Image 013-030-000-020-1 013-030-000-020-1 013-030-000-020-1	00-PH01A.jpg	Structure Docume	ents:	

Structure Assessment Form

Town: Cohasset
Structure ID: 013-030-000-021-100

					Key: community-map-block-parcel-structu
Property Owne	er:	kirişkir harur dewillektirente elizaturr tekt haldtetim kenin yazı garpaylar kez doğur kuzuştı yarışı gesili	Location:	den er specifiet flammatiken fil i 1824 skille afheild hinnyr far fil it fil det transmer ken i nefe med flated	Date:
Private			Border St.		9/1/200
Presumed Stru	ucture Owner	r:	Based On Cor	nment:	,
Unknown		A STATE OF THE STA			
Owner Name:			Earliest Struct	ture Record:	Estimated Reconstruction/Repair Cost:
		/		0	\$48,048.00
ength: T	op Elevation :	: FIRM Map Zone:	FIRM Map Elevat	rodiskretelele, in rediskret ausklaanskier ververst. And it reke as det stalket die krepen as rinningskrift krijer van blis de dattie bestande austronium op frieds de as die stalket ververstamme Sion:	
400		A4		12	
Feet Fe	eet NAVD 88		Feet NG	VD	
Primary Type:		Primary Material:	Primary Height:		
Revetment		Stone	5 to 10 Feet		ALC: ALC: ALC: ALC: ALC: ALC: ALC: ALC:
Secondary Typ	oe:	Secondary Material:	Secondary Heigh	t:	
					144
Structure Sumi					A STATE OF THE STA
Placed rip rap end of structur	slope (45 de re.	egree) with precast concret	e barriers at top of s	slope. Concrete he	eadwall with tide valves on outfalls located near east
Condition	В			Priority	IV
Rating	Good			Rating	High Priority
Level of Acti				Action	Consider for Next Project Construction Listing
Description	probler to land adequa coastal to prev	ure observed to exhibit very ms, superficial in nature. M form is present. Structure ate to provide protection fro I storm with no damage. A ent / limit future deterioration structure.	linor erosion e / landform om a major actions taken	Description	High Value Inshore Structures with Potential for Infrastructure Damage and/or Moderate Density Residential Dwellings (1-10 dwellings impacted / 100 feet of s horeline)
tructure Im 13-030-000-02	21-100-PHO	1A.jpg	ucture Documen	ts:	
13-030-000-02	21-100-PHO	1B.jpg			

Structure Assessment Form

Town: Cohasset
Structure ID: 013-031-000-010-100

troise mit til stedstaadtikken en e talen en me fronklikkelinis konsklike	eldandalinotasi raad listelindinin viraladin dinakraal liddalitaangka tetri sitadalintonain lar disebutu sagad keda	nud (sup 3 t v 4 t Sid Latticia por Addictio robb bladeje po de Sid biddhi attençen disservi i hivo d'el biddhiste.	dirindi kalabababah sukakababi ingkababi ingkabi pada birakabirah ingkabirah sa bababi ingkabirah bababi ingkab	key. community-map-block-parcel-structu	
Property Owner:	and the second s	Location:		Date:	
Local		H. Gleason	Rd.	9/1/200	
Presumed Structur	re Owner:	Based On Co	Based On Comment:		
Local		DEP – Ch 91	1 License		
Owner Name:		Farliect Stru	cture Record:	Feliment I Provide III (Provide III)	
Cohasset	/	Lariest 3d d	1979	Estimated Reconstruction/Repair Cost: \$18,850.00	
	en e	мин (ж. н.) жарын жары	landin's 2.44° dilitingui kanilajin's 1840; ililintari tankir' + 3 - Sususus a pinaring ususasi Nabi Albidali kanilain kanirati dilitintahan propilitaha kanirangsi kata tasakirilain kanil Pulikirilain'ililin 100km	\$10,000.00	
Length: Top E	Elevation: FIRM Map Zo	The second secon	The second secon	The second secon	
	NAVD 00	A2	11		
	NAVD 88	Feet No	GVD		
Primary Type: Groin/ Jetty	Primary Material: Stone	Primary Height:		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
	•	5 to 10 Feet			
Secondary Type:	Secondary Material:	Secondary Heigi	ht:		
Character 5	1	1			
Structure Summan	y: / with 2000 to 3000 lb. stones.	Top of should a 4.5			
Rating Level of Action Description	Good Minor Structure observed to exhibit problems, superficial in natur to landform is present. Structure adequate to provide protection coastal storm with no damage to prevent / limit future deterior life of structure.	e. Minor erosion cture / landform on from a major e. Actions taken	Rating Action Description	None Long Term Planning Considerations No Inshore Structures or Residential Dwelling Units Present	
tructure Image 13-031-000-010-10 13-031-000-010-10	00-PHO1A.jpg	Structure Docume	nts: IOV 21 197 PLAN	013-031-000-010-100-LIC1A	
	оо-т поть.,ру				

Structure Assessment Form

Town: Cohasset
Structure ID: 013-032-000-001-100

Key: community-map-block-parcel-structure

Property Owner:		Location:		Date:
Local		Border St.	a was mark a discount	9/1/2006
Presumed Structur	e Owner:	Based On Co	omment:	,
Local	of day of the same of	Property Ow		
Owner Name:				
Cohasset		Earliest Stru	cture Record:	Estimated Reconstruction/Repair Cost:
	I specified the state of the st	Structural allocaria antico describito de del fregio anticolo de la composició de la compos	ta kanuskannaka vinuna sikhilalah kupivusata 32% uudat dati ta usumapugi vita.	\$220,110.00
	levation: FIRM M	lap Zone: FIRM Map Eleva	ation:	the officers of the state of th
290		A4	12	
Feet Feet N	NAVD 88	Feet No	GVD	
Primary Type:	Primary Materia	nl: Primary Height:		
Bulkhead/ Seawall	Stone	5 to 10 Feet		
Secondary Type:	Secondary Mate	rial: Secondary Heig	ht:	
Structure Summary				
Stone block seawa	Ill mortared with concrete tion (most likely to repair	and road located directly in:	shore. Multiple pato	ches of road and evidence of fill loss. Revetment
piaced in one local	uon (most iikely to repair	conapse).		
Condition	С		Priority	III
Rating	Fair		Rating	Moderate Priority
Level of Action	Moderate		Action	Consider for Active Project Improvement
Description	to withstand major coas moderate damage. Acti structure to provide full coastal storm and for ex structure. Moderate win	ss, cracking, spalling, bur. Structure adequate stal storm with little to ons taken to reinforce protection from major stending life of and or wave damage to rm may not be sufficient a during a major coastal provide addition	Description	Listing Inshore Structures with potential for Infrastructure Damage and/or Limited Residential Dwellings (<1 dwelling impacted / 100 feet of shoreline)
Structure Image 013-032-000-001-1 013-032-000-001-1 013-032-000-001-1	00-PHO1A.jpg 00-PHO1B.jpg	Structure Docume	nts:	

Structure Assessment Form

Town: Cohasset
Structure ID: 013-032-000-020-100

Property Owner:	w jones vizz Anna vizzanna příhodný dí Pr	Locati	on:	Date:
Local		Border	St.	9/1/2000
Presumed Structu	re Owner:	Based C	On Comment:	,
Local	70-76 A 20-4-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-	and the second second second	y Ownership	
Owner Name:				
Cohasset		Earliest	Structure Record:	Estimated Reconstruction/Repair Cost:
	g de participa de la companya de la	g and the second	debioderfaulerer Franchiscoper de La Stromoto das Sirgonian (265 volvirs de vincen das sinde	\$60,192.00
	levation: FIRM	Map Zone: FIRM Map	41 700 4 44	
240		A4	12	
Feet Feet	NAVD 88	Fe	et NGVD	Zivilla di managari di managar
Primary Type:	Primary Mater	The second secon		
Bulkhead/ Seawal	Stone	10 to 15 Fe	eet	
Secondary Type:	Secondary Mat	erial: Secondary	Height:	
Structure Summar				
	in (moreared) forming th	ica what and pablic land	ilig. Some voius at outs	shore corners, but little to no movement of stones.
Condition	В		Priority	1
Rating	Good		Rating	None
Level of Action	Minor		Action	Long Term Planning Considerations
Description	to landform is present, adequate to provide processed storm with no	n nature. Minor erosion Structure / landform	Description	No Inshore Structures or Residential Dwelling Units Present
Structure Image		Structure Docu	uments:	
)13-032-000-020-1)13-032-000-020-1				
013-032-000-020-1 013-032-000-020-1				
710 002 000-020-1	ооч потолру			

Structure Assessment Form

Town: Cohasset
Structure ID: 013-032-000-020-200

Key: community-map-block-parcel-structure

Property Owner:	energy and property of the state of the stat	Location:	mil-hillitarin uluddir (1960-rikundospi) utrilgir dir 2014 (1971) is billitarin 14		
Local	A CONTRACTOR OF THE PARTY OF TH	Border St.			9/1/2006
Presumed Structur	re Owner:	Based On Com	nment:		
Local		Property Own	ership		The state of the s
Owner Name:		Farliest Struct	ne Dana d	F. C. L. L. D.	
Cohasset	/	Earliest Struct	ure Record:	Estimated Reconstr	ruction/Repair Cost: \$341,550.00
	The first war to the contract of the contract	er er flest 2000 til stade skalle som år er	ad Hölglick einsteden de Noel I. voor en en dit vier de de de de herte kenne. Herte en her holge voor en de verkeer en de verkeer voor en de de de de herte kenne.	and this is the following and distributed an account of the contract of the co	\$371 , 330.00
	Elevation: FIRM Map Zone:	FIRM Map Elevati			
450 Foot 1	A4	1	12	T TE	
Feet Feet M	NAVD 88	Feet NGV	/D		Mark .
Primary Type:	Primary Material:	Primary Height:			i . 724
Bulkhead/ Seawall	Stone	5 to 10 Feet			
Secondary Type:	Secondary Material:	Secondary Height			
				129	
Structure Summan					
seawall. Some un	Il with multiple concrete patches. C dermining at base of wall.	Concrete poured on t	top to red uce fill lo	oss. Multiple patching of pavement	t insh ore of
Condition	С		Priority	III	
Rating	Fair		Rating	Moderate Priority	
Level of Action	Moderate	Action		Consider for Active Project Imp	provement
Description	Structure is sound but may exhibit deterioration, section loss, crackin undermining, and/or scour. Structuto withstand major coastal storm with moderate damage. Actions taken is structure to provide full protection coastal storm and for extending life structure. Moderate wind or wave landform exists. Landform may not of fully protect shoreline during a nistorm. Actions taken to provide admaterial for full protection and extending the structure of the structure of the structure.	g, spalling, ure adequate vith little to to reinforce from major e of damage to t be sufficient najor coastal dition	Description	Listing Inshore Structures with potenti. Infrastructure Damage and/or I Residential Dwellings (<1 dwe 100 feet of shoreline)	Limited
Structure Image 013-032-000-020-2 013-032-000-020-2	00-PHO2A.jpg	cture Document	TS:		

Structure Assessment Form

Town: Cohasset
Structure ID: 013-033-000-071-100

					Key: community-map-block-parcel-structure
Property Owner:	44, VAA adiriidii aaagaya (CorArdiiaassa yir Affeed is	alde Buret i 2018 billion - 14 oktober 14 billione 14 mer il - Arbidett kingt to Arbiget Billionesberg-Arbitet Lindburg	Location:	retratoritarial resolution con retratoritation data acceptant in the constitution with	Date:
Local			Border St.		9/1/2006
Presumed Structu	ure Owner:		Based On Comment:		g.
Local		The second secon	Property Own		
Owner Name:			Earliest Struct		
Cohasset		/	Lamest Struct	ure Record:	Estimated Reconstruction/Repair Cost: \$120,384.00
	The second secon	inaliferonjot of the generalise op the delaterism interest of the histories of the period histories, whe had recommended to the contract of th	ger var haf i der felste delege det rifet i der verste et missteller sommen, det et einde i er men stelle det Begresser vallen solden primer plante gelde i det belante men somme betrette betrette som de stelle for de det		#120,30T.00
Length: Top	Elevation:	FIRM Map Zone:	FIRM Map Elevati		
	NAVD 88	A4	1	12	
			Feet NG\	/D	
Primary Type: Bulkhead/ Seawa		Primary Material: Concrete	Primary Height:		
			10 to 15 Feet		
Secondary Type: Bulkhead/ Seawa	200	econdary Material: Stone	Secondary Height 10 to 15 Feet	:	
		Otone	10 to 13 reet		
Structure Summa Concrete bridge f		troot and stone black win			undercutting of south east wing wall (4 feet long by
Condition Rating	B Good	Spalling of concrete cap or	· wing walls (guard	Priority	III
Kaning Level of Action				Rating	Moderate Priority
Description	Structure	e observed to exhibit very r	minor	Action	Consider for Active Project Improvement Listing
	problems to landfo adequate coastal s	s, superficial in nature. Min rm is present. Structure / e to provide protection fron torm with no damage. Ac nt / limit future deterioration	nor erosion / landform n a major tions taken	Description	Inshore Structures with potential for Infrastructure Damage and/or Limited Residential Dwellings (<1 dwelling impacted / 100 feet of shoreline)
Structure Image 13-033-000-071-1 13-033-000-071-1 13-033-000-071-1	100-PHO1A	i.jpg i.jpg	cture Document	S:	

Structure Assessment Form

Town: Cohasset
Structure ID: 013-037-000-010-100

Property Owner: Local Government Island Presumed Structure Owner: Based On Comment: Local Property Ownership Owner Name: Earliest Structure Record: Estimated Recons	2:
Presumed Structure Owner: Based On Comment: Property Ownership Owner Name: Earliest Structure Record: Estimated Recons	
Local Property Ownership Owner Name: Earliest Structure Record: Estimated Recons	9/1/2006
Owner Name: Earliest Structure Record: Estimated Recons	
Estimated Recons	
Estimated Records	truction/Bonsin Costs
Cohasset	\$140,448.00
Length: Top Elevation: FIRM Map Zone: FIRM Map Flevation:	2006/A/A-Cystreen Balaka-while
Length: Top Elevation: FIRM Map Zone: FIRM Map Elevation: A2 11	No. 14
Feet Feet NAVD 88 Feet NGVD	
Primary Type: Primary Material: Primary Height: Bulkhead/ Seawall Stone 10 to 15 Feet	
Secondary Type: Secondary Material: Secondary Height:	
Structure Summary :	100
Stone block seawall mortared with concrete. Concrete patching along top inshore edge. Cohasset Sailing Club set back behing accounting (natching of payoment)	
loss occuring (patching of pavement).	na seawaii. Fiii
Condition B Priority II	
Rating Good Rating Low Priority	
Level of Action Minor Action Future Project Consideration	
Description Structure observed to exhibit very minor problems, superficial in nature. Minor erosion to landform is present. Structure / landform adequate to provide protection from a major coastal storm with no damage. Actions taken to prevent / limit future deterioration and extend life of structure. Description Inshore Structures Present with potential for Significant Infrast potential for Significant Infr	ith Limited tructure Damage
Structure Images: Structure Documents:	
013-037-000-010-100-PHO1B.jpg	
013-037-000-010-100-PHO1C.jpg	
013-037-000-010-100-PHO1D.jpg	

Structure Assessment Form

Town: Cohasset
Structure ID: 013-037-000-010-200

Key: community-map-block-parcel-structure

Property Owner:	ka etnin silarah rarabilah ung semindirik kahilamban har dalambilatati nasar mili naji disi Addidah malambilat Arbigatat Albigat dalam sa 1966 kan dalam sa	Location:	dhine e.t-a leanichealasgus germe rhèidealainnear na sea de chàidealair na search	Paddie undergräßenzerstennen der Meutre einnen einer zabbeitet wild alle der zie 1 kilosof der Daufenstelle der Gebenstelle de	the defendant that the second
Local		Government Island		Dute.	9/1/2006
Presumed Structur	re Owner:	Based On Co	mment:	1	
Local	A STATE OF THE PARTY OF THE PAR	Property Ownership			The standard of the standard o
Owner Name:		Earliest Struc	turo Docordi	F-tt-1B	
Cohasset	/	Larnest Struc	0	Estimated Reconstru	\$60,720.00
	ing the last of the control of the c	The content and the late of th	Philips (PAL) (IRRA) distribution and Adjoint Contraction (IRRA)		Ψου,/ 20.00
Length: Top E	Elevation: FIRM Map Zone:	FIRM Map Eleva			A except (IV)
l	NAVD 88	Feet NG	11 VD		1000
Primary Type:	Primary Material:		VD		
Bulkhead/ Seawall		Primary Height: 5 to 10 Feet			
Secondary Type:	Secondary Material:	Secondary Heigh	t -		
		Secondary Heigh	<u></u>		
Structure Summary				The Share Control of the Share	20
Stone block seawa constructed.	ll (dryset) on rock ledge. Stone size	500 to 2000 lb sto	ones are loose and	jumbled. Many voids in wall from the	he way it was
constructed.					
Condition	С		Priority	ı	
Rating	Fair		Rating	None	
Level of Action	Moderate		Action	Long Term Planning Consideration	ions
Description	Structure is sound but may exhibit deterioration, section loss, cracking undermining, and/or scour. Structut to withstand major coastal storm with moderate damage. Actions taken to structure to provide full protection for coastal storm and for extending life structure. Moderate wind or wave landform exists. Landform may not to fully protect shoreline during a mistorm. Actions taken to provide additional material for full protection and exterior structure.	g, spalling, ire adequate vith little to o reinforce from major e of damage to t be sufficient najor coastal dition	Description	No Inshore Structures or Reside Units Present	ential Dwelling
Structure Image		cture Documen	ts:		

Structure Assessment Form

Town: Cohasset

Structure ID: 013-037-000-021-100

Key: community-map-block-parcel-structure

Property Owner:		Location:			Date:	
Local		Government Island			9/1/2006	
Presumed Structur	re Owner:	Based On Com	ment:			
Local		Property Owne	ership			
Owner Name:		Earliest Structu	re Record	Estimated Ba	econstruction/Repair Cost:	
Cohasset	7		0	Listiffaced Re	\$31,416.00	
The second second	Elevation: FIRM Map Zone:	FIRM Map Elevation:		Approximation of the Community of the Co		
200	A2		1			
	NAVD 88	Feet NGVI	D		ZERAN	
Primary Type:	imary Type: Primary Material: evetment Concrete					
		10 to 15 Feet				
econdary Type: Secondary Material:		Secondary Height:				
	1	1				
Structure Summan	y : te pavement boat ramp. East edge				Market Land Control	
Acarmio do correr c	te pavement boat ramp. Last eage	or ramp is deteriorate	ed with loss of pa	vement.		
Condition	В		The state of the s			
Rating	Good		Priority Pating	l None		
Level of Action	Minor		Rating Action	Long Term Planning Considerations		
Description	Structure observed to exhibit very	minor	Description 2	No Inshore Structures of		
	problems, superficial in nature. Mi to landform is present. Structure adequate to provide protection fro coastal storm with no damage. At to prevent / limit future deterioration life of structure.	landform n a major tions taken		Units Present		
		cture Documents				
tructure Image	00-PHO1A.jpg TOV			ERTY PARK, IN 013-037	-000-021-100-COE1A	
3-037-000-021-1	00-PHO1A.jpg TOV			ERTY PARK, IN 013-037	-000-021-100-COE1A	
3-037-000-021-1	00-PHO1A.jpg TOV			ERTY PARK, IN 013-037	-000-021-100-COE1A	
3-037-000-021-1	00-PHO1A.jpg TOV			ERTY PARK, IN 013-037	-000-021-100-COE1A	
	00-PHO1A.jpg TOV			ERTY PARK, IN 013-037	-000-021-100-COE1A	
3-037-000-021-1	00-PHO1A.jpg TOV			ERTY PARK, IN 013-037	-000-021-100-COE1A	
3-037-000-021-1	00-PHO1A.jpg TOV			ERTY PARK, IN 013-037	-000-021-100-COE1A	

Structure Assessment Form

Town: Cohasset
Structure ID: 013-037-000-021-200

Key: community-map-block-parcel-structure

Local Government Island 9/ Presumed Structure Owner: Based On Comment: Local Property Ownership Owner Name: Earliest Structure Record: Estimated Reconstruction/Repair	Property Owner:	elik diselektron sahari 1966 dan kamanan merin kandan kerdang sahan gelapah dali Assad, selekti sendiselah dan m	Location:	de din Sindauer + Green haaroop dateelde de leville van wat Sinne eleville fant lêt + de een nimbaan as	endes annachtenschlichen der Liebergebergebergebergebergebergebergeber					
Presumed Structure Owner: Downer Name:	Local		The second secon	t Island	Da	9/1/2006				
Downer Name: Earliest Structure Record: Estimated Reconstruction/Repair Cohasset Downer Name: Earliest Structure Record: Say,6	Presumed Structur	re Owner:	31			9/1/2000				
Owner Name: Cohasset Earliest Structure Record: Cohasset FIRM Map Elevation: FIRM Map Elevation: FIRM Map Elevation: Freet Peet NAVD 88 Feet NGVD Frimary Type: Primary Material: Structure Summary: Flacet fip rap slope (1 vertical to 3 horizontal) with gravel parking lot inshore (houses inshore of lot). 500 to 1000 lib stone. Slope not toes into beach (slope ends about mean high water). Minor erosion along top of slope. Condition B Condition B Condition B Condition B Condition B Condition Description Structure observed to exhibit very minor problems, superficial in nature. Minor erosion to landform is present. Structure I nandform adequate to provide protection from a major coastal storm with no damage. Actions taken to prevent? I limit future deterioration and extend life of structure. Structure Images: Structure Images: Structure Documents: TOWN AUG 2001 HAGERTY PARK, IN 013-037-000-021-200-PHO2B.jpg 13-037-000-021-200-PHO2B.jpg 13-037-000-021-200-PHO2C.jpg			Maria III							
Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset Cohasset										
Length: Top Elevation: FIRM Map Zone: FIRM Map Elevation: 330	The second second second		Earliest Stru	The second second second	Estimated Recon					
Structure Summary : Primary Material: Primary Height: Stone Secondary Height: Stone Secondary Height: Structure Summary : Placed rip rap slope (1 vertical to 3 horizontal) with gravel parking lot inshore (houses inshore of lot). 500 to 1000 lb stone. Slope not toe into beach (slope ends about mean high water). Minor erosion along top of slope. Condition B Rating Good Rating Low Priority Il Rating Low Priority Rating Low Priority Il Rating Low Priority L		The second secon	iller og i hann formallikkelen ikkele å i krenn och som formallik i krennen krennen som en som formallik i kre			\$39,640.00				
Feet Feet NAVD 88 Feet NGVD Primary Type: Primary Material: Primary Height: Secondary Type: Secondary Material: Secondary Height: Placed rip rap slope (1 vertical to 3 horizontal) with gravel parking lot inshore (houses inshore of lot). 500 to 1000 lb stone. Slope not toed into beach (slope ends about mean high water). Minor erosion along top of slope. Condition Rating Good Rating Good Rating Low Priority II Revel of Action Description Structure observed to exhibit very minor problems, superficial in nature. Minor erosion to landform is present. Structure / landform adequate to provide protection from a major coastal storm with no damage. Actions taken to prevent / limit future deterioration and extend life of structure. Structure Images: 13-037-000-021-200-PHO2A.jpg 13-037-000-021-200-PHO2A.jpg 13-037-000-021-200-PHO2B.jpg 13-037-000-021-200-PHO2B.jpg 13-037-000-021-200-PHO2B.jpg 13-037-000-021-200-PHO2C.jpg		levation: FIRM Ma	p Zone: FIRM Map Eleva	ation:	remote comment various de destant de soud-begreille de 19°, cost found de mais de 200 de 19°	The factor of the Martin of the Martin Australia and Austr				
Primary Type: Primary Material: Primary Height: Stone 5 to 10 Feet Secondary Type: Secondary Material: Secondary Height: Secondary Height: Secondary Type: Secondary Material: Secondary Height: Secondary Hei	330		A2	11		2007				
Revetment Stone 5 to 10 Feet Secondary Type: Secondary Material: Secondary Height: Structure Summary: Placed rip rap slope (1 vertical to 3 horizontal) with gravel parking lot inshore (houses inshore of lot). 500 to 1000 lb stone. Slope not toer into beach (slope ends about mean high water). Minor erosion along top of slope. Condition B Priority II Rating Cood Rating Low Priority Level of Action Structure Observed to exhibit very minor problems, superficial in nature. Minor erosion to landform is present. Structure! Alandform adequate to provide protection from a major coastal storm with no damage. Actions taken to prevent / limit future deterioration and extend life of structure. Structure Images: Structure Documents: 13-037-000-021-200-PHO2A.jpg TOWN AUG 2001 HAGERTY PARK, IN 013-037-000-021-200-000-021-200-000-000-000-000	Feet Feet I	NAVD 88	Feet No	GVD		The same of the sa				
Secondary Type: Secondary Material: Secondary Height: Placed rip rap slope (1 vertical to 3 horizontal) with gravel parking lot inshore (houses inshore of lot). 500 to 1000 lb stone. Slope not toed into beach (slope ends about mean high water). Minor erosion along top of slope. Condition B Rating Good Rating Low Priority II Retire Structure Observed to exhibit very minor problems, superficial in nature. Minor erosion to landform is present. Structure / landform adequate to provide protection from a major coastal storm with no damage. Actions taken to prevent / limit future deterioration and extend life of structure. Structure Images: Structure Documents: 13-037-000-021-200-PHO2A.jpg 13-037-000-021-200-PHO2B.jpg 13-037-000-021-200-PHO2B.jpg 13-037-000-021-200-PHO2C.jpg		Primary Material:	Primary Height:			Angel T				
Structure Summary: Placed rip rap slope (1 vertical to 3 horizontal) with gravel parking lot inshore (houses inshore of lot). 500 to 1000 lb stone. Slope not toed into beach (slope ends about mean high water). Minor erosion along top of slope. Condition B Rating Good Rating Low Priority II Rating Structure Observed to exhibit very minor problems, superficial in nature. Minor erosion to landform is present. Structure / landform adequate to provide protection from a major coastal storm with no damage. Actions taken to prevent / limit future deterioration and extend life of structure. Tructure Images: Structure Documents: Structure Documents: TOWN AUG 2001 HAGERTY PARK, IN 013-037-000-021-200-COE1 13-037-000-021-200-PHO2B.jpg 13-037-000-021-200-PHO2B.jpg 13-037-000-021-200-PHO2C.jpg	Revetment	Stone	5 to 10 Feet	100						
Placed rip rap slope (1 vertical to 3 horizontal) with gravel parking lot inshore (houses inshore of lot). 500 to 1000 lb stone. Slope not toe into beach (slope ends about mean high water). Minor erosion along top of slope. Condition B Rating Good Rating Low Priority II Retire Project Consideration Description Structure observed to exhibit very minor problems, superficial in nature. Minor erosion to landform is present. Structure / landform adequate to provide protection from a major coastal storm with no damage. Actions taken to prevent / limit future deterioration and extend life of structure. Structure Images: Structure Documents: TOWN AUG 2001 HAGERTY PARK, IN 013-037-000-021-200-PHO2A.jpg 13-037-000-021-200-PHO2B.jpg 13-037-000-021-200-PHO2C.jpg	Secondary Type:	Secondary Materia	l: Secondary Heig	ht:	at EA					
Placed rip rap slope (1 vertical to 3 horizontal) with gravel parking lot inshore (houses inshore of lot). 500 to 1000 lb stone. Slope not toe into beach (slope ends about mean high water). Minor erosion along top of slope. Condition B Rating Good Rating Low Priority II Retire Project Consideration Description Structure observed to exhibit very minor problems, superficial in nature. Minor erosion to landform is present. Structure / landform adequate to provide protection from a major coastal storm with no damage. Actions taken to prevent / limit future deterioration and extend life of structure. Structure Images: Structure Documents: TOWN AUG 2001 HAGERTY PARK, IN 013-037-000-021-200-PHO2A.jpg 13-037-000-021-200-PHO2B.jpg 13-037-000-021-200-PHO2C.jpg					THE STATE OF THE S					
Condition B Priority II Rating Low Priority Level of Action Minor Action Future Project Consideration Description Structure observed to exhibit very minor problems, superficial in nature. Minor erosion to landform is present. Structure / landform adequate to provide protection from a major coastal storm with no damage. Actions taken to prevent / limit future deterioration and extend life of structure. Structure Images: Structure Documents: 13-037-000-021-200-PHO2A.jpg 13-037-000-021-200-PHO2B.jpg 13-037-000-021-200-PHO2C.jpg	Structure Summan	y:								
13-037-000-021-200-PHO2A.jpg TOWN AUG 2001 HAGERTY PARK, IN 013-037-000-021-200-COE1 13-037-000-021-200-PHO2B.jpg 13-037-000-021-200-PHO2C.jpg	Level of Action	Structure observed to ext problems, superficial in n to landform is present. S adequate to provide prote coastal storm with no dar to prevent / limit future de	ature. Minor erosion Structure / landform ection from a major nage. Actions taken	Action	Future Project Consideration Inshore Structures Present v	with Limited				
	13-037-000-021-2 13-037-000-021-2	00-PHO2A.jpg 00-PHO2B.jpg			ERTY PARK, IN 013-037-000	0-021-200-COE1A				
13-037-000-021-200-PHO2D.jpg										
	13-037-000-021-20	00-PHO2D.jpg								

Section IV

Town of Cohasset

Structure Photographs



TOWN: COHASSET SOURCE: BCE - FIELD PHOTOGRAPHS LOCATION: Bourne Consulting Engineering DATE OF RESEARCH: AUGUST 2006

BCE Structure No	Document No	Drawing Entity Number	Municipality	y Date	Title	Sheets	Location	Description
013-010-000-114-100	013-010-000-114-100-PHO1A.jpg	Boume Consulting Engineering	DG COHASSET	August 2006	DIGITAL IMAGE	-	Structure Location	Structure Condition Photo at Time of Survey
013-010-000-114-100	013-010-000-114-100-PHO1B.jpg	Boume Consulting Engineering	COHASSET	August 2006	DIGITAL IMAGE	-	Structure Location	Structure Condition Photo at Time of Survey
013-020-000-015-100	013-020-000-015-100-PHO1A.jpg	Bourne Consulling Engineering	COHASSET	August 2006	DIGITAL IMAGE	-	Structure Location	Structure Conditon Photo at Time of Survey
013-020-000-015-100	013-020-000-015-100-PHO1B.jpg	Bourne Consullling Engineering	GOHASSET	August 2006	DIGITAL IMAGE	-	Structure Location	Structure Condiion Photo at Time of Survey
013-020-000-015-100	013-020-000-015-100-PHO1C.jpg	Boume Consulling Engineering	COHASSET	August 2006	DIGITAL IMAGE	-	Structure Location	Structure Conditon Photo at Time of Survey
013-021-000-014-100	013-021-000-014-100-PHO1A.jpg	Bourne Consullting Engineering	GOHASSET	August 2006	DIGITAL IMAGE	-	Structure Location	Structure Condiion Photo at Time of Survey
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013-021-000-061-100	013-021-000-061-100-PHO1C.jpg	Bourne Consullting Engineering	g COHASSET	August 2006	DIGITAL IMAGE	4-	Structure Location	Structure Condition Photo at Time of Survey
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013-030-000-021-100	013-030-000-021-100-PHO1B.Jpg	Bourne Consulting Engineering	COHASSET	August 2006	DIGITAL IMAGE	-	Structure Location	Structure Condiion Photo at Time of Survey

TOWN: COHASSET SOURCE: BCE - FIELD PHOTOGRAPHS LOCATION: Bourne Consulting Engineering DATE OF RESEARCH: AUGUST 2006

Structure Condition Photo at Time of Survey	Structure Condtion Photo at Time of Survey	Structure Condition Photo at Time of Survey	Structure Conditon Photo at Time of Survey	Structure Condtion Photo at Time of Survey	Structure Condition Photo at Time of Survey	Structure Condition Photo at Time of Survey	Slructure Condition Photo at Time of Survey	Structure Condtion Photo at Time of Survey	Structure Condition Photo at Time of Survey	Structure Condition Photo at Time of Survey	Structure Condition Photo at Time of Survey											
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013-031-000-010-100-PHO1A.jpg	013-031-000-010-100-PHO1B.jpg	013-032-000-001-100-PHO1A.jpg	013-032-000-001-100-PHO1B.Jpg	013-032-000-001-100-PHO1C.jpg	013-032-000-020-100-PHO1A.jpg	013-032-000-020-100-PHO1B.jpg	013-032-000-020-100-PHO1C.jpg	013-032-000-020-200-PHO2A.jpg	013-032-000-020-200-PHO2B.jpg	013-033-000-071-100-PHO1A.jpg	013-033-000-071-100-PHO1B.jpg	013-033-000-071-100-PHO1C.Jpg	013-037-000-010-100-PHO1A.jpg	013-037-000-010-100-PHO1B,Jpg	013-037-000-010-100-PHO1C.jpg	013-037-000-010-100-PHO1D.Jpg	013-037-000-010-200-PHO2A.jpg	013-037-000-021-100-PHO1A.jpg	013-037-000-021-100-PHO1B.lpg	013-037-000-021-200-PHO2A.Jpg	013-037-000-021-200-PHO2B.Jpg	
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Structure Condtion Photo at Time of Survey

Structure Location

DIGITAL IMAGE Bourne COHASSET August 2006 Engineering TOWN: COHASSET SOURCE: BCE - FIELD PHOTOGRAPHS LOCATION: Bourne Consulting Engineering DATE OF RESEARCH: AUGUST 2006 013-037-000-021-200-PHO2D.Jpg 013-037-000-021-200







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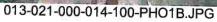


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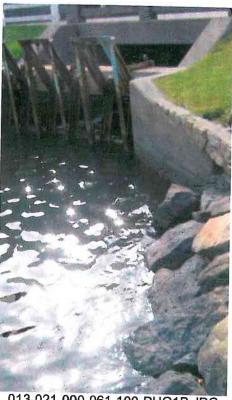
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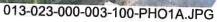


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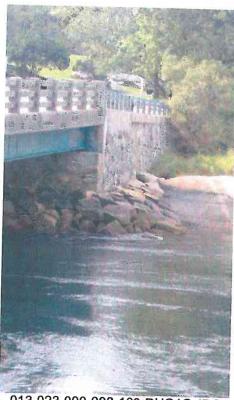
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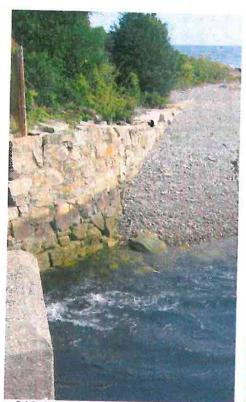




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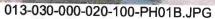


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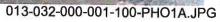


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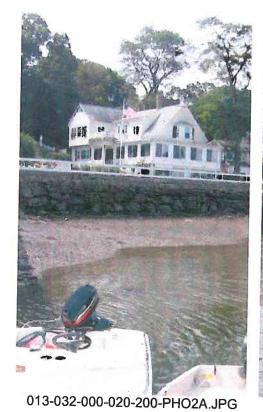
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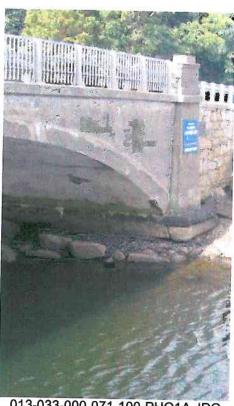
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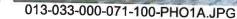


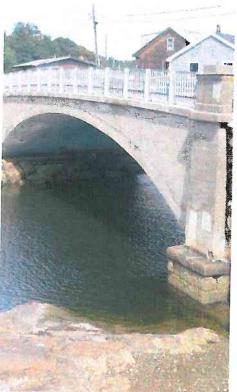
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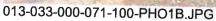












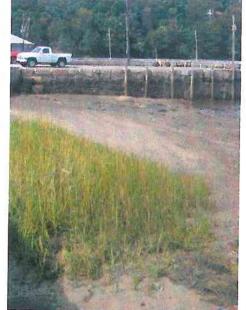


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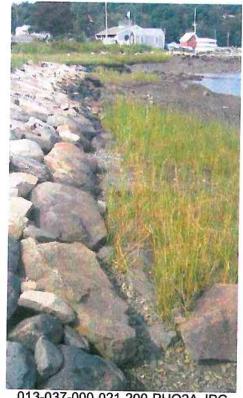
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013-037-000-021-200-PHO2B.JPG

013-037-000-021-200-PHO2C.JPG



013-037-000-021-200-PHO2D.JPG

Section V

Town of Cohasset

Structure Research

TOWN DOCUMENT LIST

MA DCR - DOCUMENT LIST

MA DEP - Chp 91 DOCUMENT LIST

• Copies of License Documents

USACE - PERMIT DOCUMENT LIST

• Copies of Permit Documents



NO DRAWINGS AVAILABLE AT THE TOWN

TOWN: COHASSET SOURCE: TOWN OF COHASSET LOCATION: COHASET MA DATE OF RESEARCH: AUGUST 2006

Location Sheets Title Date Municipality Entity Contract/ Drawing Number Document No BCE Structure No

Description

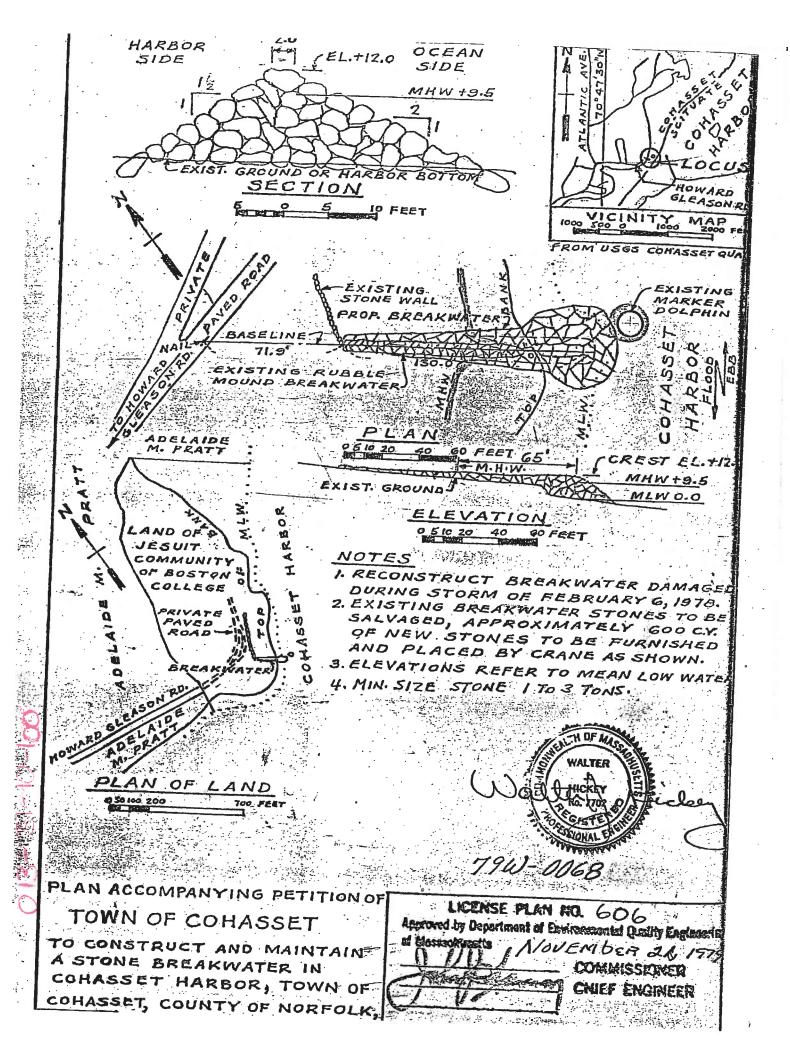
NO DRAWINGS AVAILABLE AT DCR

TOWN: COHASSET SOURCE: MA-DCR - OFFICE OF WATERWAYS LOCATION: MA-DCR - OFFICE OF WATERWAYS, HINGHAM, MA DATE OF RESEARCH: AUGUST 2006

		Description
		Location
		Sheets
	1	
	Date	
	Municipality	
	Entity	
Contract/	Drawing	Number
	Document No	
	ructure No	

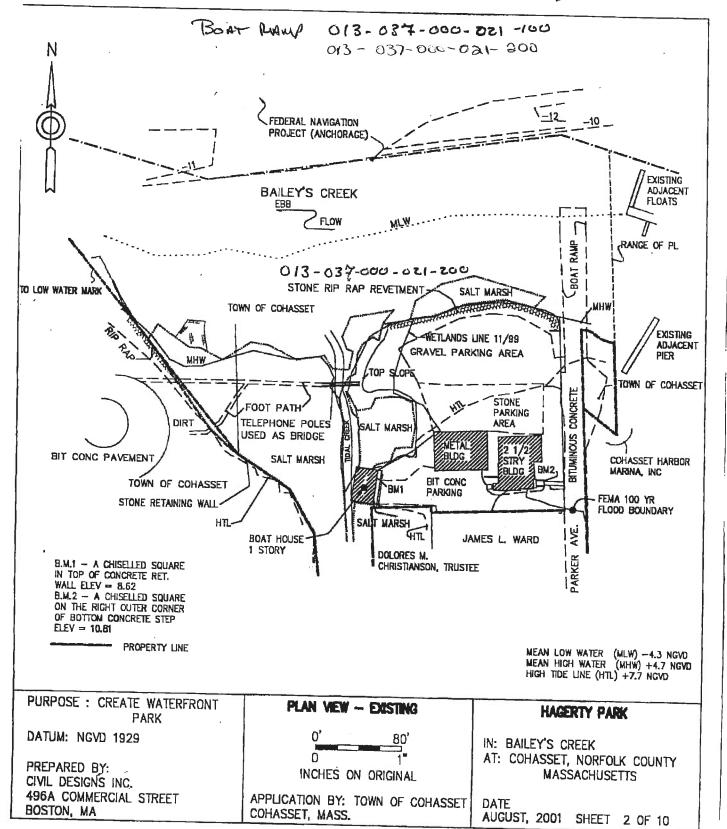
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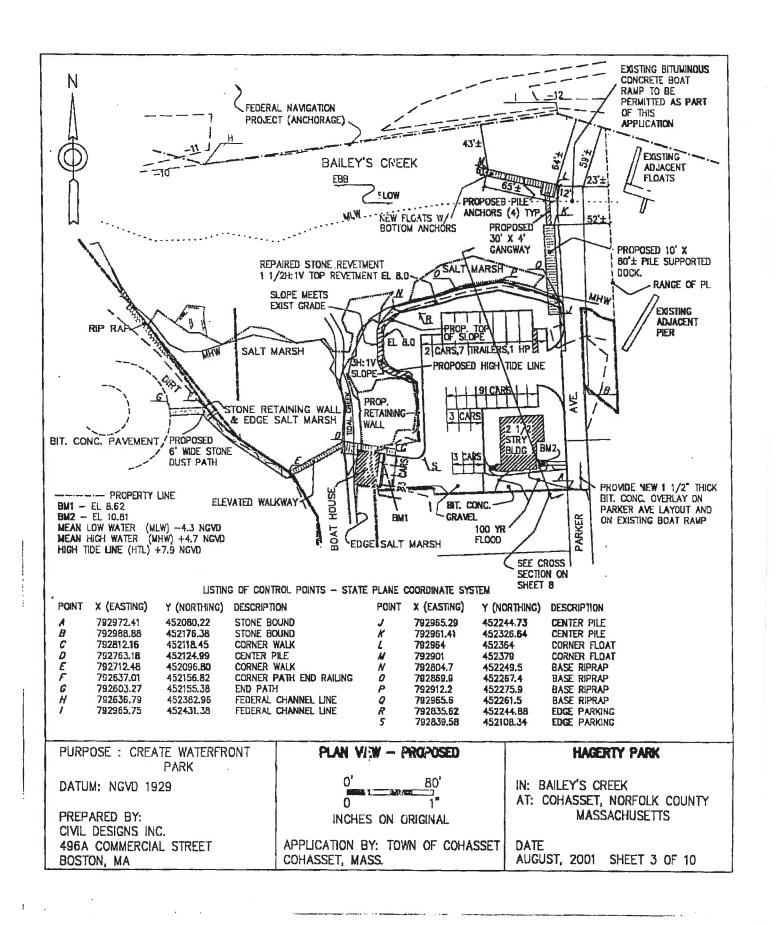
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	Sheets			•	•
	Тив		PLAN ACCOMPANYING PETITION OF TOWN OF	NOV 21 1979 COMPANYING PETITION OF TOWN OF COMPANYING PETITION OF TOWN OF CONSTRUCT AND MAINTAIN A STONE	
	Date			NOV 21 1979	
	Municipality			CORASSET	
	Entity		0000	E	
Contract/Dr	awing		ROA	3	
	Document No		013-031-000-010-100-LIC1A		
à	Structure No		013-031-000-010-100		

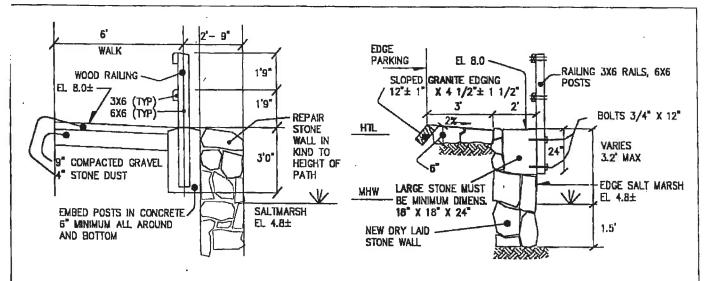


TOWN: COHASSET SOURCE: U.S. - ARMY CORPS OF ENGINEERS LOCATION: U.S.A.C.E. - NEW ENGLAND DISTRICT, CONCORD, MA DATE OF RESEARCH: AUGUST 2006

	Description	INCLUDES BOAT RAMP BUIKHEAD BEDAID AND THEADER	DOCK, DOCK AND FLOAT DRAWINGS OMITTED FROM THE	INC. LINES BOAT DAYS	DOCK, DOCK AND FLOAT DRAWINGS OMITTED FROM THE SET.
	Location	OFF PARKER AVE			OFF PARKER AVE
Shoots		G		_	
Title		HAGERTY PARK, IN BAILEY'S CREEK		HAGERTY PARK, IN BAILEY'S CREEK	
Date		AUG 2001		AUG 2001	
Municipality		COHASSET		COHASSET	
Entity	TOMA		10101	O	
Contract/ Drawing Number	199902096	- [10000000		
Document No	013-037-000-021-100 013-037-000-021-100-COE1A		013-037-000-021-200 013-037-000-021-200-COE1A		
BCE Structure No	013-037-000-021-100		013-037-000-021-200		





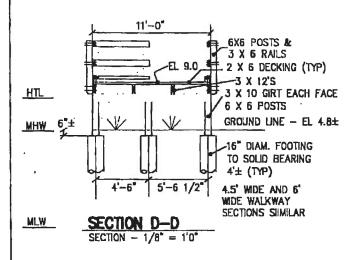


PATH & RAILING NEAR WEST STONE WALL

SECTION - 1/4" = 1'0"

EASTERN STONE WALL DETAIL

SECTION - 1/4" = 1'0"



PURPOSE: CREATE WATERFRONT PARK

DATUM: NGVD

PREPARED BY CIVIL DESIGNS INC. 496A COMMERCIAL STREET BOSTON, MA

ELEVATED WALK & MISC. SECTIONS



INCHES ON ORIGINAL

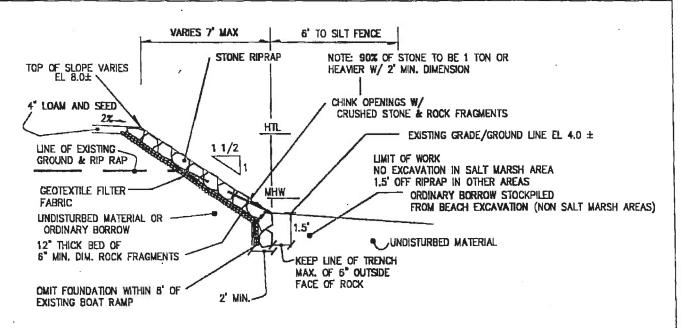
APPLICATION BY: TOWN OF COHASSET COHASSET, MA

HAGERTY PARK

IN: BAILEY'S CREEK

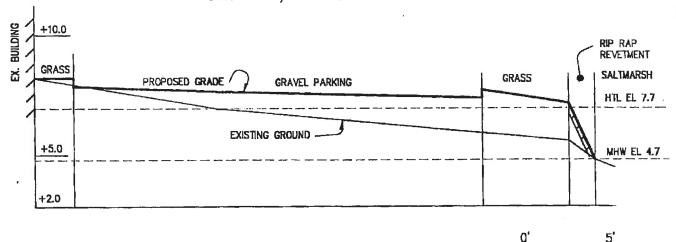
AT: COHASSET, NORFOLK COUNTY **MASSACHUSETTS**

DATE: AUGUST, 2001 SHEET 8 OF 10



DETAIL OF REPAIRED STONE RIPRAP REVETMENT

SECTION -1/4" = 1 FT



SECTION THROUGH REVETMENT AND PARKING

SECTION - 1" = 20' H: 1"=5' V



PURPOSE: CREATE WATERFRONT **PARK**

DATUM: NGVD

PREPARED BY CIVIL DESIGNS INC. 496A COMMERCIAL STREET

BOSTON, MA

PATH, WALL, REVETMENT SECTIONS



INCHES ON ORIGINAL

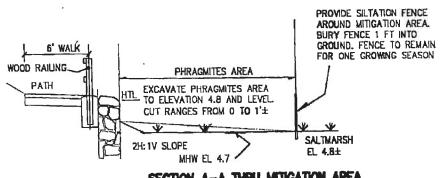
APPLICATION BY: TOWN OF COHASSET COHASSET, MA

HAGERTY PARK

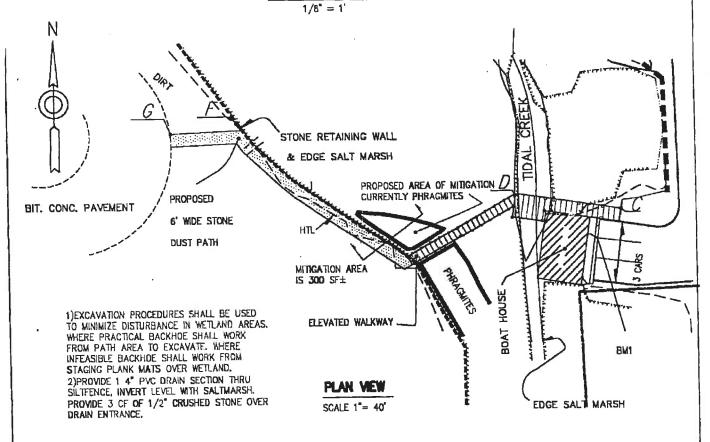
IN: BAILEY'S CREEK

AT: COHASSET, NORFOLK COUNTY MASSACHUSETTS

DATE: AUGUST, 2001 SHEET 9 OF 10



SECTION A-A THRU MITIGATION AREA



PURPOSE: CREATE WATERFRONT

PARK

DATUM: NGVD 1929

PREPARED BY: CIVIL DESIGNS INC. 496A COMMERCIAL STREET BOSTON, MA

PROPOSED MITIGATION AREA



INCHES ON ORIGINAL

APPLICATION BY: TOWN OF COHASSET COHASSET, MASS.

HAGERTY PARK

IN: BAILEY'S CREEK

AT: COHASSET, NORFOLK COUNTY

MASSACHUSETTS

DATE

AUGUST, 2001 SHEET 10 OF 10