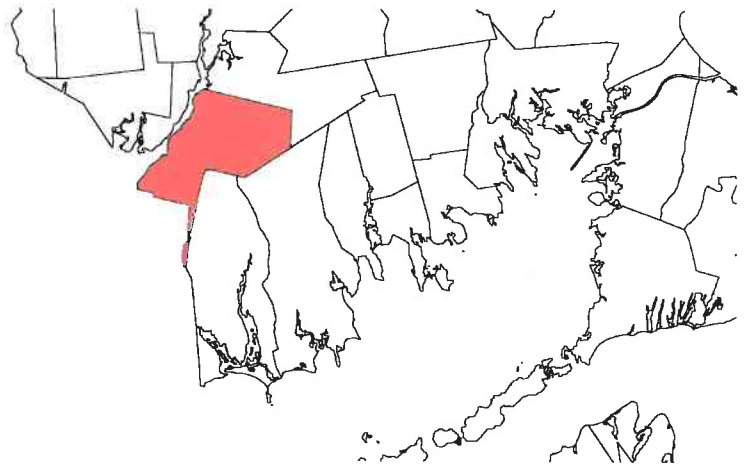


*Massachusetts Coastal Infrastructure
Inventory and Assessment Project
Coastal Hazards Commission*

South Coastal



Fall River



July 6, 2009

Prepared for:

**Massachusetts Department of
Conservation and Recreation
Hingham, Massachusetts**

Presented by:

**Bourne Consulting Engineering
Franklin, Massachusetts**

South Coastal

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Section I

Coastal Hazards Infrastructure and Assessment Program

INTRODUCTION

PURPOSE

DEVELOPMENT OF MassGIS DATABASE ATTRIBUTES

DEVELOPMENT OF REPAIR / RECONSTRUCTION COSTS

***Massachusetts Coastal Infrastructure
Inventory and Assessment 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 Massachusetts coastline has been broken up into 4 major regions consisting of the North Shore, Boston, South Coast, and the Cape and Islands. The South Shore (the Towns of Hull, Cohasset, Seekonk, Hingham, Plymouth, Kingston, Scituate and Duxbury) was previously evaluated by Bourne Consulting Engineering as a demonstration project in 2006.

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, specified areas of field assessments, and research. Assisting **BCE** was Applied Coastal Research and Engineering Inc. of Mashpee, MA, Childs Engineering Corporation, of Medfield, MA., and Waterfront Engineer LLC of Stratham, NH.

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 was the performance of a demonstration project for coastal structures located on the South Shore. The demonstration project identified existing structures, their general conditions, ability to provide coastal protection and the probable cost for repairs. The information collected and developed has been incorporated into the MassGIS system to allow use for developing a 20 Year Coastal Infrastructure Plan.

The demonstration project served as a basis for the current statewide inventory assessment of all Commonwealth coastal structures and the needs for their maintenance and/or repair.

Goals of Study

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

- To identify all the coastal structures the state either owns or has responsibility to maintain for the 4 regions 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.
 - Structures that were determined to be private were not included.
 - 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:
 - No consideration on utility impacts – water, electrical, sewer, gas
 - No consideration of roadway and bridge protection
 - Evacuation routes were not considered within the investigation
 - 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, and MA-DCR Division of Urban Parks and Recreation in

Boston, MA. No investigation of state archives was performed. Research at MA DEP Chapter 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-BBB-PPP-SSS

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

Property Ownership: 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 federal.

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 where 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

Basis of Ownership: 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

Structure Owner's Name: 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.

Primary Structure / Secondary Structure: 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.

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

Structure Material: 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.

Structure Height: 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.

Priority Rating: 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.

Structure Length: 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.

FEMA Zone and Elevation: 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.

Structure Comments: 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.

Pictures: At the time of the field assessments, digital photographs were taken to provide a general overview of the structure. The number of pictures was 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.

USACE Permits: 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:

Structure Condition Ratings – 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 are 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.

Height of Structure – Height of a structure is a major factor in the structure cost and therefore was identified as a significant factor in 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

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

Bulkhead / Seawall Structures – 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.

***SOUTH SHORE COASTAL INFRASTRUCTURE
INVENTORY AND ASSESSMENT DEMONSTRATION PROJECT***

Groins and Jetties – 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.

Coastal Beaches – 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.

Coastal Dunes – 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.

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

Engineering and Regulatory Approvals – 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

Preliminary Condition Assessment		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
B	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 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	Moderate
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. 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.	Major
F	Critical	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 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. 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.	Immediate

EXHIBIT B

Priority Rating System - 5 Level Rating System

Preliminary Priority Level Assessment		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
II	Low Priority	Inshore Structures Present with Limited potential for Significant Infrastructure Damage	Future Project Consideration
III	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

***SOUTH SHORE COASTAL INFRASTRUCTURE
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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	STRUCTURE CONDITION RATING				
			A	B	C	D	F
BULKHEAD/ SEAWALL	CONCRETE	Under 5 Feet	\$0	\$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
		5 To 10 Feet	\$0	\$165	\$825	\$1,650	\$1,848
		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 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
	WOOD	Under 5 Feet	\$0	\$86	\$431	\$862	\$994
		5 To 10 Feet	\$0	\$127	\$632	\$1,265	\$1,463
		10 To 15 Feet	\$0	\$161	\$804	\$1,608	\$1,872
		Over 15 Feet	\$0	\$202	\$1,008	\$2,017	\$2,380
COASTAL BEACH	SAND	Under 5 Feet	\$0	\$26	\$132	\$264	\$264
		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 Feet	\$0	\$396	\$1,980	\$3,960	\$3,960
COASTAL DUNE	SAND	Under 5 Feet	\$0	\$18	\$93	\$186	\$186
		5 To 10 Feet	\$0	\$48	\$238	\$476	\$476
		10 To 15 Feet	\$0	\$79	\$395	\$790	\$790
		Over 15 Feet	\$0	\$132	\$660	\$1,320	\$1,320
REVTMENT	STONE	Under 5 Feet	\$0	\$66	\$333	\$664	\$730
		5 To 10 Feet	\$0	\$120	\$601	\$1,201	\$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	\$132	\$664	\$1,328	\$1,480
		5 To 10 Feet	\$0	\$240	\$1,201	\$2,402	\$2,600
		10 To 15 Feet	\$0	\$314	\$1,564	\$3,128	\$3,392
		Over 15 Feet	\$0	\$494	\$2,468	\$4,937	\$5,333

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

Section II

Fall River

Section II – Community Findings – City of Fall River

COMMUNITY DESCRIPTION

The City of Fall River consists of a land area of 8.11 square miles out of a total area of 11.98 square miles and had a population of 18,234 in the 2000 census. The City is located on the south coast of Massachusetts and its location can be seen on this report's cover. The estimated length of shoreline is 5.0 miles that are directly exposed to open ocean with the remaining shoreline forming a semi-protected bay with the neighboring Town of Somerset. The City 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 City 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 City of Fall River, there were 17 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 II-B 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:

STRUCTURE TYPE AND QUANTITY - Town of Fall River

Primary Structure (1)	Total Structures	Structure Condition Rating					Total Length
		A	B	C	D	F	
Bulkhead / Seawall	11	1	4	5	1		5455
Revetment	6			6			4920
Breakwater							
Groin / Jetty							
Coastal Dune							
Coastal Beach							
	17	1	4	11	1		10375

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 City of Fall River's case there are a total of 16 structures which would require approximately \$5.1 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 \$ 301,000 would be required to upgrade the City's coastal protection.

STRUCTURE REPAIR / RECONSTRUCTION COST - Town of Fall River

Primary Structure (1)	Total Structures	Structure Condition Rating					Total Cost
		A	B	C	D	F	
Bulkhead / Seawall	11	\$-	\$ 377,982	\$ 1,463,616	\$ 300,960		\$ 2,142,558
Revetment	6			\$ 2,954,952			\$ 2,954,952
Breakwater							\$ -
Groin / Jetty							\$ -
Coastal Dune							\$ -
Coastal Beach							\$ -
	17	\$-	\$ 377,982	\$ 4,418,568	\$ 300,960	\$ -	\$ 5,097,510

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 City of Fall River, the breakdown of structures by assumed ownership is as follows:

STRUCTURE OWNERSHIP / REPAIR COST - Town of Fall River

Primary Structure (1)	Total Structures	Structure Condition Rating					Total Cost
		A	B	C	D	F	
Town Owned	8		\$ 126,753	\$ 2,707,452	\$ 300,960		\$ 3,135,165
Commonwealth of Massachusetts	9	\$-	\$ 251,229	\$ 1,711,116			\$ 1,962,345
Federal Government Owned							\$ -
Unknown Ownership							\$ -
	17	\$-	\$ 377,982	\$ 4,418,568	\$ 300,960	\$ -	\$ 5,097,510

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 II-B which contains Structure Assessment Reports for each individual structure found.

SUMMARY

The enclosed reports and associated documents reflects the City of Fall River'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.

Section II - Fall River

Part B

Structure Assessment Reports



COASTAL STRUCTURE LOCATION PLAN

CITY OF FALL RIVER
COASTAL INFRASTRUCTURE INVENTORY
AND ASSESSMENT PROJECT

JULY 2007

0 150



SCALE: 1" = 150'-0"



COASTAL STRUCTURE LOCATION PLAN

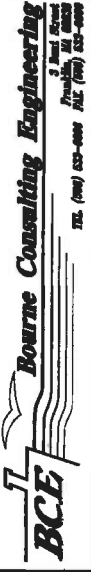
CITY OF FALL RIVER
COASTAL INFRASTRUCTURE INVENTORY
AND ASSESSMENT PROJECT

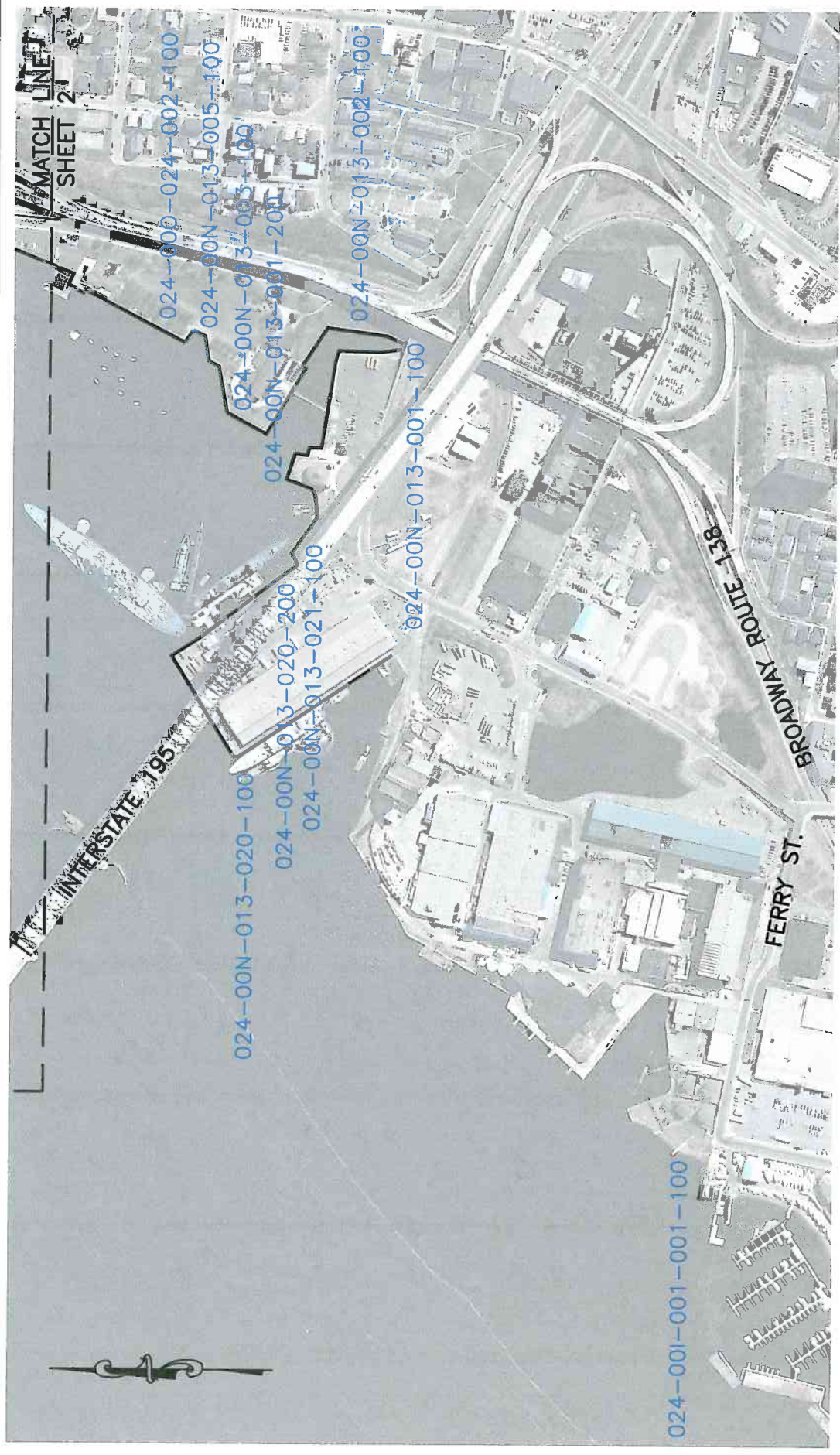
JULY 2007

0 150



SCALE: 1" = 150'-0"





COASTAL STRUCTURE LOCATION PLAN

CITY OF FALL RIVER
COASTAL INFRASTRUCTURE INVENTORY
AND ASSESSMENT PROJECT
JULY 2007



**BCE**

Bourne Consulting Engineering
3 Paul Dr.
Fall River, MA 02740
TEL (508) 652-0000 FAX (508) 652-0000

Structure Assessment Form

Town: **Fall River**Structure ID: **024-00C-014-002-100**

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Bicentennial Park

Date:

7/5/2007

Presumed Structure Owner:

Local

Based On Comment:

Owner Name:

Fall River

Earliest Structure Record:

1977

Estimated Reconstruction/Repair Cost:

\$270,270.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
450		V17	21
Feet	Feet NAVD 88		Feet NGVD

Primary Type:

Revetment

Primary Material:

Stone

Primary Height:

5 to 10 Feet

Secondary Type:

Secondary Material:

Secondary Height:



Structure Summary :

Placed riprap at a 1 on 1 slope. The stones are approximately 4 feet by 2 feet by 2 feet. There is moderate erosion at the top. Some areas have been mortarted with concrete. A boat ramp is in the middle of the structure. There is some section loss in areas.

Condition

C

Rating

Fair

Level of Action

Moderate

Description

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 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 addition material for full protection and extended life.

Priority

II

Rating

Low Priority

Action

Future Project Consideration

Description

Inshore Structures Present with Limited potential for Significant Infrastructure Damage

Structure Images:

024-00C-014-002-100-PHO1A.JPG

Structure Documents:

USACE

August 18, 1

Proposed Public Boat

024-00C-014-002-100-COE1A

DEP

November 6,

Plan Accompanying

024-00C-014-002-100-LIC1A

Structure Assessment FormStructure ID: **024-00C-014-002-200**

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Bicentennial Park

Date:

7/5/2007

Presumed Structure Owner:

Local

Based On Comment:

Owner Name:

Fall River

Earliest Structure Record:

Unknown

Estimated Reconstruction/Repair Cost:

\$97,152.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
640		V17	21
Feet	Feet NAVD 88		Feet NGVD

Primary Type:

Bulkhead/ Seawall

Primary Material:

Stone

Primary Height:

5 to 10 Feet

Secondary Type:

Secondary Material:

Secondary Height:



Structure Summary :

The stone block bulkhead has a concrete walkway across the top of it and a park behind it. The stones are approximately 3 feet by 2 feet by 1.5 feet. There is some sign of stone rotation and movement.

*Condition***B***Rating***Good***Level of Action***Minor***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.

*Priority***II***Rating***Low Priority***Action***Future Project Consideration***Description*

Inshore Structures Present with Limited potential for Significant Infrastructure Damage

Structure Images:

024-00C-014-002-200-PHO2A.JPG

Structure Documents:

Structure Assessment Form

Town: **Fall River**Structure ID: **024-00C-022-013-100**

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Route 79/Taunton River

Date:

7/5/2007

Presumed Structure Owner:

Local

Based On Comment:

Owner Name:

Fall River

Earliest Structure Record:

2002

Estimated Reconstruction/Repair Cost:

\$600,600.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
1000		V17	21
Feet	Feet NAVD 88		Feet NGVD

Primary Type:

Revetment

Primary Material:

Stone

Primary Height:

5 to 10 Feet

Secondary Type:

Secondary Material:

Secondary Height:



Structure Summary :

The dumped riprap stones vary in size but most are 200 to 300 pounds. The stones line the edge of a small plot of land.

Condition

C

Rating

Fair

Level of Action

Moderate

Description

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 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 addition material for full protection and extended life.

Priority

III

Rating

Moderate Priority

Action

Consider for Active Project Improvement Listing

Description

Inshore Structures with potential for Infrastructure Damage and/or Limited Residential Dwellings (<1 dwelling impacted / 100 feet of shoreline)

Structure Images:

024-00C-022-013-100-PHO1A.JPG

024-00C-022-013-100-PHO1B.JPG

Structure Documents:

MA-DCR

August 2002

Proposed River

024-00C-022-013-100-DCR1A

DEP

November 0

Plan Accompanying

024-00C-022-013-100-LIC1A

Structure Assessment Form

Town: **Fall River**

Structure ID: 024-00C-022-013-200

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Route 79/Taunton River

Date:

7/5/2007

Presumed Structure Owner:

Local

Based On Comment:

Owner Name:

Fall River

Earliest Structure Record:

2002

Estimated Reconstruction/Repair Cost:

\$29,601.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
195		V17	21
Feet	Feet NAVD 88		Feet NGVD

Primary Type:

Bulkhead/ Seawall

Primary Material:

Stone

Primary Height:

5 to 10 Feet

Secondary Type:

Secondary Material:

Secondary Height:



Structure Summary :

The stone block seawall has a cast in place top and path behind it. The stones are approximately 3 feet by 2 feet in size. There is minor stone rotation and settling. The toe is not visible to determine scour problems.

Condition

B

Rating

Good

Level of Action

Minor

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.

Priority

I

Rating

None

Action

Long Term Planning Considerations

Description

No Inshore Structures or Residential Dwelling Units Present

Structure Images:

024-00C-022-013-200-PHO2A.JPG

Structure Documents:

MA-DCR

August 2002

Proposed River

024-00C-022-013-200-DCR2A

DEP

November 6

Plan Accompanying

024-00C-022-013-200-LIC2A

Structure Assessment FormStructure ID: **024-001-001-001-100**

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Ferry Street

Date:

7/5/2007

Presumed Structure Owner:

Local

Based On Comment:

Owner Name:

Fall River

Earliest Structure Record:

Unknown

Estimated Reconstruction/Repair Cost:

\$300,960.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
120		V17	21
Feet	Feet NAVD 88		Feet NGVD

Primary Type:

Bulkhead/ Seawall

Primary Material:

Stone

Primary Height:

10 to 15 Feet

Secondary Type:

Secondary Material:

Secondary Height:

**Structure Summary :**

The stone bulkhead has stones that are approximately 5 feet by 4 feet by 2 feet in size. There is erosion at the top. The bulkhead is covered in crushed stones. The corners are beginning to unravel. The stones are shifting and are heaving outwards. There are some stones that are missing. The bulkhead is adjacent to the private marina.

Condition

D

Rating

Poor

Level of Action

Major

Description

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. 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.

Priority

I

Rating

None

Action

Long Term Planning Considerations

Description

No Inshore Structures or Residential Dwelling Units Present

Structure Images:

024-001-001-001-100-PHO1A.JPG

024-001-001-001-100-PHO1B.JPG

024-001-001-001-100-PHO1C.JPG

Structure Documents:

Structure Assessment Form

Town: **Fall River**Structure ID: **024-00N-013-001-100**

Key: community-map-block-parcel-structure

Property Owner:

State

Location:

Heritage State Park

Date:

7/5/2007

Presumed Structure Owner:

State

Based On Comment:

Owner Name:

MA-DCR

Earliest Structure Record:

1981

Estimated Reconstruction/Repair Cost:

\$485,760.00

Length: 640 Top Elevation: FIRM Map Zone: V17 FIRM Map Elevation: 21
 Feet Feet NAVD 88 Feet NGVD

Primary Type:

Bulkhead/ Seawall

Primary Material:

Stone

Primary Height:

5 to 10 Feet

Secondary Type:

Secondary Material:

Secondary Height:



Structure Summary :

The stone wall is made up of 6 feet by 1 foot by 2 feet stones. There are areas of settling, shifting and rotation throughout. There are many areas of missing stones. Crushed stone erosion repair was noted throughout. A parking lot is behind the structure and a boat ramp at the end of it.

Condition

C

Rating

Fair

Level of Action

Moderate

Description

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 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 addition material for full protection and extended life.

Priority

II

Rating

Low Priority

Action

Future Project Consideration

Description

Inshore Structures Present with Limited potential for Significant Infrastructure Damage

Structure Images:

024-00N-013-001-100-PHO1A.JPG

024-00N-013-001-100-PHO1B.JPG

Structure Documents:

MA-DCR June 1981 Fall River Heritage 024-00N-013-001-100-DCR1A

MA-DCR July 27, 198 Fall River Heritage 024-00N-013-001-100-DCR1B

MA-DCR June 15, 198 Fall River Heritage 024-00N-013-001-100-DCR1C

MA-DCR April 02 198 Fall River Heritage 024-00N-013-001-100-DCR1D

MA-DCR June 17 198 Plan Accompanying 024-00N-013-001-100-DCR1E

MA-DCR January 30, Fall River Heritage 024-00N-013-001-100-DCR1F

MA-DCR February 4, Steamship Cove - 024-00N-013-001-100-DCR1G

MA-DCR July 1988 Fall River Heritage 024-00N-013-001-100-DCR1H

MA-DCR August 25, 1 Fall River Heritage 024-00N-013-001-100-DCR1I

MA-DCR March 8, 200 Pedestrian Bridge 024-00N-013-001-100-DCR1J

Structure Assessment Form

Town: Fall River

Structure ID: 024-00N-013-001-100

Key: community-map-block-parcel-structure

DEP	April 16, 199	Fall River Carousel	024-00N-013-001-100-LIC1A
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Structure Assessment Form

Town: **Fall River**Structure ID: **024-00N-013-001-200**

Key: community-map-block-parcel-structure

Property Owner:

State

Location:

Heritage State Park

Date:

7/5/2007

Presumed Structure Owner:

State

Based On Comment:

Owner Name:

MA-DCR

Earliest Structure Record:

1981

Estimated Reconstruction/Repair Cost:

\$168,168.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
280		V17	21
Feet	Feet NAVD 88		Feet NGVD

Primary Type:	Primary Material:	Primary Height:
Revetment	Stone	5 to 10 Feet
Secondary Type:	Secondary Material:	Secondary Height:



Structure Summary :

The dumped riprap consists of stones that average 2 feet by 2 feet by 2 feet in size. The slope is approximately 1 on 2. There is minor stone settling throughout. At one point the stones are supported by a failing timber crib system. Behind the structure is the carousel building.

Condition

C

Rating

Fair

Level of Action

Moderate

Description

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 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 addition material for full protection and extended life.

Priority

II

Rating

Low Priority

Action

Future Project Consideration

Description

Inshore Structures Present with Limited potential for Significant Infrastructure Damage

Structure Images:

024-00N-013-001-200-PHO1A.JPG

Structure Documents:

MA-DCR	June 1981	Fall River Heritage	024-00N-013-001-200-DCR2A
MA-DCR	July 27, 198	Fall River Heritage	024-00N-013-001-200-DCR2B
MA-DCR	June 15, 198	Fall River Heritage	024-00N-013-001-200-DCR2C
MA-DCR	April 2, 1986	Fall River Heritage	024-00N-013-001-200-DCR2D
MA-DCR	June 17, 198	Plan Accompanying	024-00N-013-001-200-DCR2E
MA-DCR	January 30,	Fall River Heritage	024-00N-013-001-200-DCR2F
MA-DCR	February 4,	Steamship Cove -	024-00N-013-001-200-DCR2G
MA-DCR	July 1988	Fall River Heritage	024-00N-013-001-200-DCR2H
MA-DCR	August 25, 1	Fall River Heritage	024-00N-013-001-200-DCR2I
MA-DCR	March 8, 200	Pedestrian Bridge	024-00N-013-001-200-DCR2J

Town: **Fall River**

Structure ID: 024-00N-013-001-200

Key: community-map-block-parcel-structure

DEP

April 16, 199

Fall River Carousel

024-00N-013-001-200-LIC2A

Structure Assessment FormStructure ID: **024-00N-013-002-100**

Key: community-map-block-parcel-structure

Property Owner:

State

Location:

Heritage State Park

Date:

7/5/2007

Presumed Structure Owner:

State

Based On Comment:

Owner Name:

MA-DCR

Earliest Structure Record:

1981

Estimated Reconstruction/Repair Cost:

\$303,600.00

Length: Top Elevation: FIRM Map Zone: FIRM Map Elevation:

400

V17

21

Feet

Feet NAVD 88

Feet NGVD

Primary Type:

Bulkhead/ Seawall

Primary Material:

Stone

Primary Height:

5 to 10 Feet

Secondary Type:

Secondary Material:

Secondary Height:



Structure Summary :

The stone seawall structure appears to have been constructed as a seawall but has failed and rebuilt as a revetment. The stones are approximately 200 to 300 pounds in size.

Condition

C

Rating

Fair

Level of Action

Moderate

Description

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 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 addition material for full protection and extended life.

Priority

II

Rating

Low Priority

Action

Future Project Consideration

Description

Inshore Structures Present with Limited potential for Significant Infrastructure Damage

Structure Images:

024-00N-013-002-100-PHO1A.JPG

Structure Documents:

MA-DCR	June 1981	Fall River Heritage	024-00N-013-002-100-DCR1A
MA-DCR	July 27 1981	Fall River Heritage	024-00N-013-002-100-DCR1B
MA-DCR	June 15, 198	Fall River Heritage	024-00N-013-002-100-DCR1C
MA-DCR	April 2, 1986	Fall River Heritage	024-00N-013-002-100-DCR1D
MA-DCR	June 17, 198	Plan Accompanying	024-00N-013-002-100-DCR1E
MA-DCR	January 30 1	Fall River Heritage	024-00N-013-002-100-DCR1F
MA-DCR	February 4,	Steampship Cove -	024-00N-013-002-100-DCR1G
MA-DCR	July 1988	Fall River Heritage	024-00N-013-002-100-DCR1H
MA-DCR	August 25, 1	Fall River Heritage	024-00N-013-002-100-DCR1I
MA-DCR	March 8, 200	Pedestrian Bridge	024-00N-013-002-100-DCR1J

DEP	April 16, 199	Fall River Carousel	024-00N-013-002-100-LIC1A
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Structure Assessment Form

Town: **Fall River**Structure ID: **024-00N-013-003-100**

Key: community-map-block-parcel-structure

Property Owner:

State

Location:

Heritage State Park

Date:

7/5/2007

Presumed Structure Owner:

State

Based On Comment:

Owner Name:

MA-DCR

Earliest Structure Record:

1981

Estimated Reconstruction/Repair Cost:

\$62,997.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
415		V17	21
Feet	Feet NAVD 88		Feet NGVD

Primary Type:

Bulkhead/ Seawall

Primary Material:

Stone

Primary Height:

5 to 10 Feet

Secondary Type:

Secondary Material:

Secondary Height:



Structure Summary :

The stone block seawall has stones that average 3 feet by 2 feet in size. There is minor stone settling and bowing out. Above the wall is a boardwalk, park and a building.

Condition

B

Rating

Good

Level of Action

Minor

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.

Priority

II

Rating

Low Priority

Action

Future Project Consideration

Description

Inshore Structures Present with Limited potential for Significant Infrastructure Damage

Structure Images:

024-00N-013-003-100-PHO1A.JPG

Structure Documents:

MA-DCR	June 1981	Fall River Heritage	024-00N-013-003-100-DCR1A
MA-DCR	July 27, 198	Fall River Heritage	024-00N-013-003-100-DCR1B
MA-DCR	June 15, 198	Fall River Heritage	024-00N-013-003-100-DCR1C
MA-DCR	April 2, 1986	Fall River Heritage	024-00N-013-003-100-DCR1D
MA-DCR	June 17, 198	Plan Accompanying	024-00N-013-003-100-DCR1E
MA-DCR	January 30,	Fall River Heritage	024-00N-013-003-100-DCR1F
MA-DCR	February 4,	Steamship Cove -	024-00N-013-003-100-DCR1G
MA-DCR	July 1988	Fall River Heritage	024-00N-013-003-100-DCR1H
MA-DCR	August 25, 1	Fall River Heritage	024-00N-013-003-100-DCR1I
MA-DCR	March 8, 200	Pedestrian Bridge	024-00N-013-003-100-DCR1J

Structure Assessment FormTown: **Fall River**Structure ID: **024-00N-013-003-100**

Key: community-map-block-parcel-structure

DEP	April 30, 198	Plan Accompanying	024-00N-013-003-100-LIC1A
DEP	June 17, 198	Plan Accompanying	024-00N-013-003-100-LIC1B
DEP	April 16, 199	Fall River Carousel	024-00N-013-003-100-LIC1C

Structure Assessment Form

Town: **Fall River**Structure ID: **024-00N-013-005-100**

Key: community-map-block-parcel-structure

Property Owner:

State

Location:

Heritage State Park

Date:

7/5/2007

Presumed Structure Owner:

State

Based On Comment:

Owner Name:

MA-DCR

Earliest Structure Record:

1981

Estimated Reconstruction/Repair Cost:

\$192,192.00

Length:

320

Top Elevation:

Feet Feet NAVD 88

FIRM Map Zone:

V17

FIRM Map Elevation:

19

Feet NGVD

Primary Type:

Revetment

Primary Material:

Stone

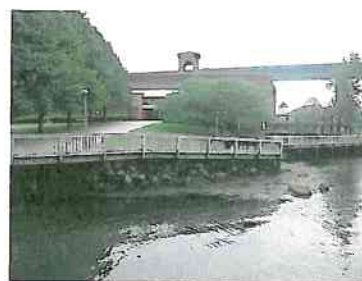
Primary Height:

5 to 10 Feet

Secondary Type:

Secondary Material:

Secondary Height:



Structure Summary :

The dumped riprap has stones that vary in size, but on average are 100 to 200 pounds. There are many areas of localized section loss and stone movement. Above the revetment is a walkway and park.

Condition

C

Rating

Fair

Level of Action

Moderate

Description

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 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 addition material for full protection and extended life.

Priority

III

Rating

Moderate Priority

Action

Consider for Active Project Improvement Listing

Description

Inshore Structures with potential for Infrastructure Damage and/or Limited Residential Dwellings (<1 dwelling impacted / 100 feet of shoreline)

Structure Images:

024-00N-013-005-100-PHO1A.JPG

Structure Documents:

MA-DCR	June 1981	Fall River Heritage	024-00N-013-005-100-DCR1A
MA-DCR	July 27, 198	Fall River Heritage	024-00N-013-005-100-DCR1B
MA-DCR	June 15, 198	Fall River Heritage	024-00N-013-005-100-DCR1C
MA-DCR	April 2, 1986	Fall River Heritage	024-00N-013-005-100-DCR1D
MA-DCR	June 17, 198	Plan Accompanying	024-00N-013-005-100-DCR1E
MA-DCR	January 30,	Fall River Heritage	024-00N-013-005-100-DCR1F
MA-DCR	February 4,	Steamship Cove -	024-00N-013-005-100-DCR1G
MA-DCR	July 1988	Fall River Heritage	024-00N-013-005-100-DCR1H
MA-DCR	August 25, 1	Fall River Heritage	024-00N-013-005-100-DCR1I
MA-DCR	March 8, 200	Pedestrian Bridge	024-00N-013-005-100-DCR1J

Structure Assessment FormTown: **Fall River**

Structure ID: 024-00N-013-005-100

Key: community-map-block-parcel-structure

MA-DCR	July 2000	Walkway	024-00N-013-005-100-DCR1K
MA-DCR	August 2002	Proposed River	024-00N-013-005-100-DCR1L
DEP	April 30, 198	Plan Accompanying	024-00N-013-005-100-LIC1A
DEP	June 17, 198	Plan Accompanying	024-00N-013-005-100-LIC1B
DEP	April 16, 199	Fall River Carousel	024-00N-013-005-100-LIC1C

Structure Assessment Form

Town: **Fall River**Structure ID: **024-00N-013-020-100**

Key: community-map-block-parcel-structure

Property Owner:

State

Location:

State Pier

Date:

7/5/2007

Presumed Structure Owner:

State

Based On Comment:

Owner Name:

MA-DCR

Earliest Structure Record:

1949

Estimated Reconstruction/Repair Cost:

\$0.00

Length: Top Elevation: FIRM Map Zone: FIRM Map Elevation:

1125

V17

19

Feet

Feet NAVD 88

Feet NGVD

Primary Type:

Bulkhead/ Seawall

Primary Material:

Concrete

Primary Height:

Over 15 Feet

Secondary Type:

Secondary Material:

Secondary Height:



Structure Summary :

The cast in place bulkhead that appears to be new construction makes up the state fish pier. There are timber fender piles in front and storage and parking behind.

Condition

A

Rating

Excellent

Level of Action

None

Description

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.

Priority

II

Rating

Low Priority

Action

Future Project Consideration

Description

Inshore Structures Present with Limited potential for Significant Infrastructure Damage

Structure Images:

024-00N-013-020-100-PHO1A.JPG

024-00N-013-020-100-PHO1B.JPG

024-00N-013-020-100-PHO1C.JPG

Structure Documents:

MA-DCR April 1949 State Pier Fall river - 024-00N-013-020-100-DCR1A

MA-DCR September 1 State Pier Fall River - 024-00N-013-020-100-DCR1B

MA-DCR June 1955 Hurricane Repair 024-00N-013-020-100-DCR1C

MA-DCR October 196 Proposed Harbor 024-00N-013-020-100-DCR1D

MA-DCR May 1976 Proposed Pier 024-00N-013-020-100-DCR1E

MA-DCR June 17, 198 Plan Accompanying 024-00N-013-020-100-DCR1F

MA-DCR February 4, Steamship Cove - 024-00N-013-020-100-DCR1G

MA-DCR September 2 Northwest Berth 024-00N-013-020-100-DCR1H

MA-DCR July 2005 Fall River State Pier 024-00N-013-020-100-DCR1I

Structure Assessment Form

Town: **Fall River**

Structure ID: 024-00N-013-020-100

Key: community-map-block-parcel-structure

Structure Assessment Form

Town: **Fall River**Structure ID: **024-00N-013-020-200**

Key: community-map-block-parcel-structure

Property Owner:

State

Location:

Battleship Cove

Date:

7/5/2007

Presumed Structure Owner:

State

Based On Comment:

Owner Name:

MA-DCR

Earliest Structure Record:

1981

Estimated Reconstruction/Repair Cost:

\$303,072.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
400		V17	19
Feet	Feet NAVD 88		Feet NGVD

Primary Type:

Bulkhead/ Seawall

Primary Material:

Stone

Primary Height:

Under 5 Feet

Secondary Type:

Revetment

Secondary Material:

Stone

Secondary Height:

Under 5 Feet



Structure Summary :

The stone block seawall has riprap placed along it at a slope. The wall stones are approximately 8 feet by 2 feet by 2 feet in size. There are signs of shifting and settling throughout. Areas of the wall are overhanging. There is moderate erosion behind the wall. The riprap is not below mean low water.

Condition

C

Rating

Fair

Level of Action

Moderate

Description

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 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 addition material for full protection and extended life.

Priority

III

Rating

Moderate Priority

Action

Consider for Active Project Improvement Listing

Description

Inshore Structures with potential for Infrastructure Damage and/or Limited Residential Dwellings (<1 dwelling impacted / 100 feet of shoreline)

Structure Images:

024-00N-013-020-200-PHO2A.JPG

Structure Documents:

MA-DCR	June 1981	Fall River Heritage	024-00N-013-020-200-DCR2A
MA-DCR	July 27, 198	Fall River Heritage	024-00N-013-020-200-DCR2B
MA-DCR	June 15, 198	Fall River Heritage	024-00N-013-020-200-DCR2C
MA-DCR	April 2, 1986	Fall River Heritage	024-00N-013-020-200-DCR2D
MA-DCR	June 17, 198	Plan Accompanying	024-00N-013-020-200-DCR2E
MA-DCR	January 30,	Fall River Heritage	024-00N-013-020-200-DCR2F
MA-DCR	February 4,	Steamship Cove -	024-00N-013-020-200-DCR2G
MA-DCR	July 1988	Fall River Heritage	024-00N-013-020-200-DCR2H
MA-DCR	August 25, 1	Fall River Heritage	024-00N-013-020-200-DCR2I
MA-DCR	March 8, 200	Pedestrian Bridge	024-00N-013-020-200-DCR2J

Structure Assessment Form

Town: **Fall River**

Structure ID: 024-00N-013-020-200

Key: community-map-block-parcel-structure

MA-DCR

September 2

Northwest Berth

024-00N-013-020-200-DCR2K

Structure Assessment Form

Town: **Fall River**Structure ID: **024-00N-013-021-100**

Key: community-map-block-parcel-structure

Property Owner:

State

Location:

Battleship Cove

Date:

7/5/2007

Presumed Structure Owner:

State

Based On Comment:

Owner Name:

MA-DCR

Earliest Structure Record:

1981

Estimated Reconstruction/Repair Cost:

\$258,324.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
190		V17	19
Feet	Feet NAVD 88		Feet NGVD

Primary Type:

Bulkhead/ Seawall

Primary Material:

Concrete

Primary Height:

5 to 10 Feet

Secondary Type:

Revetment

Secondary Material:

Stone

Secondary Height:

5 to 10 Feet



Structure Summary :

The 5 feet high concrete retaining wall has dumped riprap in front of it. The stones are approximately 2 feet by 2 feet by 4 feet in size. There is moderate undermining of the seawall from 6 inches to 12 inches. There is no visible cracks or spalling on the wall.

Condition

C

Rating

Fair

Level of Action

Moderate

Description

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 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 addition material for full protection and extended life.

Priority

III

Rating

Moderate Priority

Action

Consider for Active Project Improvement Listing

Description

Inshore Structures with potential for Infrastructure Damage and/or Limited Residential Dwellings (<1 dwelling impacted / 100 feet of shoreline)

Structure Images:

024-00N-013-021-100-PHO1A.JPG

024-00N-013-021-100-PHO1B.JPG

Structure Documents:

MA-DCR	June 1981	Fall River Heritage	024-00N-013-021-100-DCR1A
MA-DCR	July 27, 198	Fall River Heritage	024-00N-013-021-100-DCR1B
MA-DCR	June 15, 198	Fall River Heritage	024-00N-013-021-100-DCR1C
MA-DCR	April 2, 1986	Fall River Heritage	024-00N-013-021-100-DCR1D
MA-DCR	June 17, 198	Plan Accompanying	024-00N-013-021-100-DCR1E
MA-DCR	January 30,	Fall River Heritage	024-00N-013-021-100-DCR1F
MA-DCR	February 4,	Steamship Cove -	024-00N-013-021-100-DCR1G
MA-DCR	July 1988	Fall River Heritage	024-00N-013-021-100-DCR1H
MA-DCR	August 25, 1	Fall River Heritage	024-00N-013-021-100-DCR1I
MA-DCR	March 8, 200	Pedestrian Bridge	024-00N-013-021-100-DCR1J

Structure Assessment Form

Town: **Fall River**

Structure ID: 024-00N-013-021-100

Key: community-map-block-parcel-structure

Structure Assessment Form

Town: **Fall River**Structure ID: **024-000-023-001-100**

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Route 79

Date:

7/5/2007

Presumed Structure Owner:

Local

Based On Comment:

Owner Name:

Fall River

Earliest Structure Record:

2000

Estimated Reconstruction/Repair Cost:

\$462,462.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
770		V17	19
Feet	Feet NAVD 88		Feet NGVD

Primary Type:

Revetment

Primary Material:

Stone

Primary Height:

5 to 10 Feet

Secondary Type:

Secondary Material:

Secondary Height:



Structure Summary :

Placed stone riprap. Stones are 2 feet by 2 feet on average on a 1 on 2 slope. Moderate stone rotation and shifting at toe. Minor erosion behind wall. Route 79 behind wall and boardwalk and pier above.

*Condition***C***Rating***Fair***Level of Action***Moderate***Description*

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 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 addition material for full protection and extended life.

*Priority***IV***Rating***High Priority***Action***Consider for Next Project Construction Listing***Description*

High Value Inshore Structures with Potential for Infrastructure Damage and/or Moderate Density Residential Dwellings (1-10 dwellings impacted / 100 feet of shoreline)

Structure Images:

024-000-023-001-100-PHO1A.JPG

Structure Documents:

MA-DCR**July 2000****Walkway****024-000-023-001-100-DCR1A****MA-DCR****August 2002****Proposed River****024-000-023-001-100-DCR1B****DEP****November 2****Plan Accompanying****024-000-023-001-100-LIC1A**

Structure Assessment Form

Town: **Fall River**Structure ID: **024-000-024-002-100**

Key: community-map-block-parcel-structure

Property Owner:

State

Location:

Heritage State Park

Date:

7/5/2007

Presumed Structure Owner:

State

Based On Comment:

Owner Name:

MA-DCR

Earliest Structure Record:

1981

Estimated Reconstruction/Repair Cost:

\$188,232.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
1240		V17	19
Feet	Feet NAVD 88		Feet NGVD

Primary Type:	Primary Material:	Primary Height:
Bulkhead/ Seawall	Stone	5 to 10 Feet
Secondary Type:	Secondary Material:	Secondary Height:



Structure Summary :

The stone block seawall has stones that average 3 feet by 2 feet in size. There is a walkway above the wall and a small park and road behind it. There is minor stone settlement and rotation. The toe is not visible to determine if scour is present.

Condition
Rating
Level of Action
Description

B
Good
Minor
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.

Priority
Rating
Action
Description

III
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 Images:

024-000-024-002-100-PHO1A.JPG

024-000-024-002-100-PHO1B.JPG

Structure Documents:

MA-DCR	June 1981	Fall River Heritage	024-000-024-002-100-DCR1A
MA-DCR	July 27, 198	Fall River Heritage	024-000-024-002-100-DCR1B
MA-DCR	June 15, 198	Fall River Heritage	024-000-024-002-100-DCR1C
MA-DCR	April 2, 1986	Fall River Heritage	024-000-024-002-100-DCR1D
MA-DCR	June 17, 198	Plan Accompanying	024-000-024-002-100-DCR1E
MA-DCR	January 30,	Fall River Heritage	024-000-024-002-100-DCR1F
MA-DCR	February 4,	Steamship Cove -	024-000-024-002-100-DCR1G
MA-DCR	July 1988	Fall River Heritage	024-000-024-002-100-DCR1H
MA-DCR	August 25, 1	Fall River Heritage	024-000-024-002-100-DCR1I
MA-DCR	March 8, 200	Pedestrian Bridge	024-000-024-002-100-DCR1J

Structure Assessment Form

MA-DCR	July 2000	Walkway	024-000-024-002-100-DCR1K
MA-DCR	August 2002	Proposed River	024-000-024-002-100-DCR1L
DEP	April 30, 198	Plan Accompanying	024-000-024-002-100-LIC1A
DEP	April 16, 199	Fall River Carousel	024-000-024-002-100-LIC1B

Structure Assessment Form

Town: **Fall River**Structure ID: **024-00S-022-011-100**

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Remington Avenue

Date:

7/5/2007

Presumed Structure Owner:

Local

Based On Comment:

Owner Name:

Fall River

Earliest Structure Record:

Unknown

Estimated Reconstruction/Repair Cost:

\$112,860.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
90		V17	21
Feet	Feet NAVD 88		Feet NGVD

Primary Type:

Bulkhead/ Seawall

Primary Material:

Stone

Primary Height:

10 to 15 Feet

Secondary Type:

Secondary Material:

Secondary Height:



Structure Summary :

Stone block seawall with stones that are approximately 4 feet by 2 feet by 2 feet in size. The ends of the wall have come unraveled. There is a roadway located behind the wall.

*Condition***C***Rating***Fair***Level of Action***Moderate***Description*

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 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 addition material for full protection and extended life.

*Priority***I***Rating***None***Action***Long Term Planning Considerations***Description***No Inshore Structures or Residential Dwelling Units Present**

Structure Images:

024-00S-022-011-100-PHO1A.JPG

Structure Documents:

Section II - Fall River

Part C

Structure Photographs

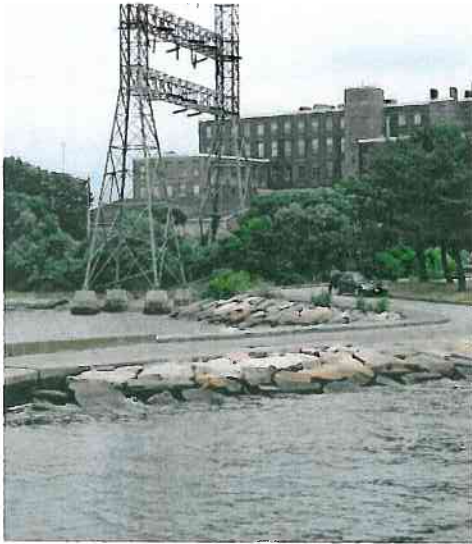
TOWN: FALL RIVER
 SOURCE: BCE - FIELD PHOTOGRAPHS
 LOCATION: Bourne Consulting Engineering
 DATE OF RESEARCH: JULY 2007

BCE Structure No	Document No	Contract/ Drawing Number	Entity	Municipality	Date	Title	Sheets	Location	Description
024-00C-014-002-100	024-00C-014-002-100-PHO1A.jpg		Bourne Consulting Engineering	Fall River	August 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
024-00C-014-002-200	024-00C-014-002-200-PHO2B.jpg		Bourne Consulting Engineering	Fall River	August 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
024-00C-022-013-100	024-00C-022-013-100-PHO1A.jpg		Bourne Consulting Engineering	Fall River	August 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
024-00C-022-013-100	024-00C-022-013-100-PHO1B.jpg		Bourne Consulting Engineering	Fall River	August 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
024-00C-022-013-200	024-00C-022-013-200-PHO2A.jpg		Bourne Consulting Engineering	Fall River	August 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
024-00C-022-013-300	024-00C-022-013-300-PHO3A.jpg		Bourne Consulting Engineering	Fall River	August 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
024-001-001-001-100	024-001-001-001-100-PHO1A.jpg		Bourne Consulting Engineering	Fall River	August 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
024-001-001-001-100	024-001-001-001-100-PHO1B.jpg		Bourne Consulting Engineering	Fall River	August 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
024-001-001-001-100	024-001-001-001-100-PHO1C.jpg		Bourne Consulting Engineering	Fall River	August 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
024-00N-013-001-100	024-00N-013-001-100-PHO1A.jpg		Bourne Consulting Engineering	Fall River	August 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
024-00N-013-001-100	024-00N-013-001-100-PHO1B.jpg		Bourne Consulting Engineering	Fall River	August 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
024-00N-013-001-200	024-00N-013-001-200-PHO1A.jpg		Bourne Consulting Engineering	Fall River	August 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
024-00N-013-002-100	024-00N-013-002-100-PHO1A.jpg		Bourne Consulting Engineering	Fall River	August 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
024-00N-013-003-100	024-00N-013-003-100-PHO1A.jpg		Bourne Consulting Engineering	Fall River	August 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
024-00N-013-005-100	024-00N-013-005-100-PHO1A.jpg		Bourne Consulting Engineering	Fall River	August 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
024-00N-013-020-100	024-00N-013-020-100-PHO1A.jpg		Bourne Consulting Engineering	Fall River	August 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
024-00N-013-020-100	024-00N-013-020-100-PHO1B.jpg		Bourne Consulting Engineering	Fall River	August 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
024-00N-013-020-100	024-00N-013-020-100-PHO1C.jpg		Bourne Consulting Engineering	Fall River	August 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
024-00N-013-020-200	024-00N-013-020-200-PHO2A.jpg		Bourne Consulting Engineering	Fall River	August 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
024-00N-013-021-100	024-00N-013-021-100-PHO1A.jpg		Bourne Consulting Engineering	Fall River	August 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
024-00N-013-021-100	024-00N-013-021-100-PHO1B.jpg		Bourne Consulting Engineering	Fall River	August 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
024-00O-023-001-100	024-00O-023-001-100-PHO1A.jpg		Bourne Consulting Engineering	Fall River	August 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
024-00O-024-002-100	024-00O-024-002-100-PHO1A.jpg		Bourne Consulting Engineering	Fall River	August 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey

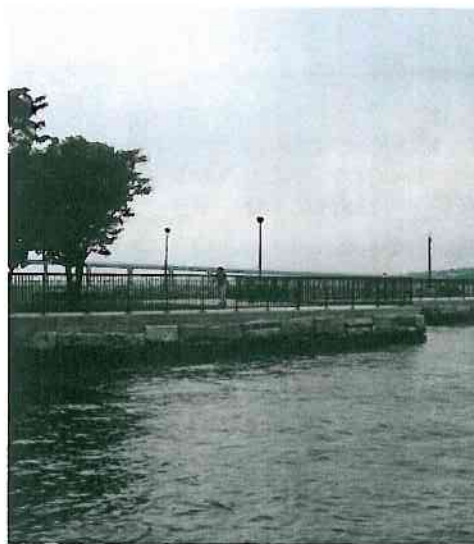
TOWN: FALL RIVER
 SOURCE: BCE - FIELD PHOTOGRAPHS
 LOCATION: Bourne Consulting Engineering
 DATE OF RESEARCH: JULY 2007

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024-00S-024-011-100	024-00S-024-011-100-PHO1A.jpg	Bourne Consulting Engineering	Fall River	August 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey

Massachusetts Coastal Infrastructure and Assessment



024-00C-014-002-100-PHO1A



024-00C-014-002-200-PHO2A



024-00C-022-013-100-PHO1A



024-00C-022-013-100-PHO1B



024-00C-022-013-200-PHO2A



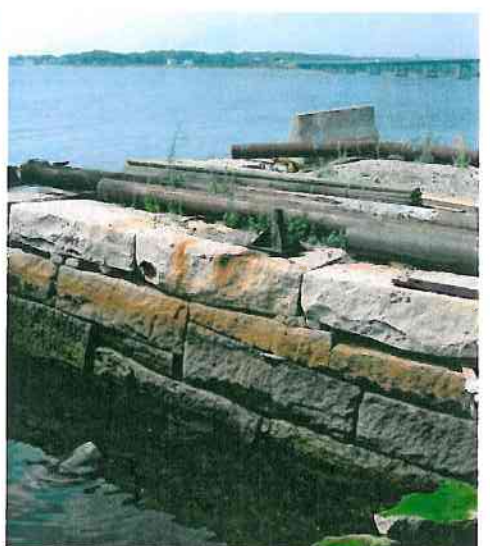
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024-00I-001-001-100-PHO1A



024-00I-001-001-100-PHO1B



024-00I-001-001-100-PHO1C

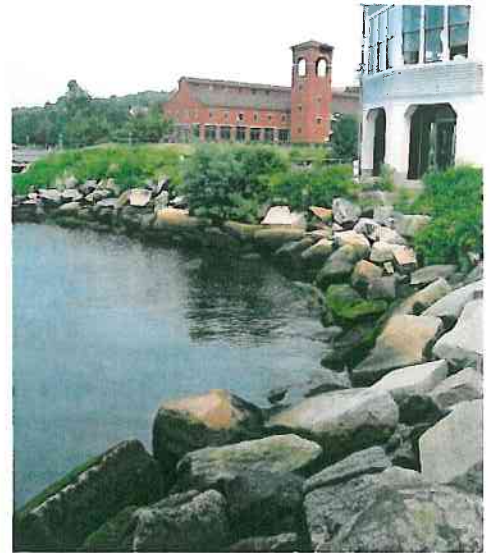
Massachusetts Coastal Infrastructure and Assessment



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024-00N-013-001-100-PHO1B



024-00N-013-001-200-PHO2A



024-00N-013-002-100-PHO1A



024-00N-013-003-100-PHO1A



024-00N-013-005-100-PHO1A



024-00N-013-020-100-PHO1A



024-00N-013-020-100-PHO1B



024-00N-013-020-100-PHO1C

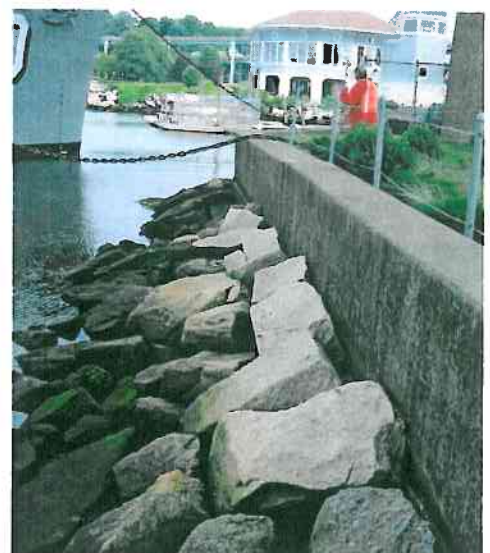
Massachusetts Coastal Infrastructure and Assessment



024-00N-013-020-200-PHO2A



024-00N-013-021-100-PHO1A



024-00N-013-021-100-PHO1B



024-00O-023-001-100-PHO1A



024-00O-024-002-100-PHO1A



024-00O-024-002-100-PHO1B



024-00S-022-011-100-PHO1A

Section II - Fall River

Part D

Structure Documents

TOWN DOCUMENT LIST

MA DCR - DOCUMENT LIST

MA DEP – Ch 91 DOCUMENT LIST

- Copies of License Documents

USACE – PERMIT DOCUMENT LIST

- Copies of Permit Documents

CITY: FALL RIVER
SOURCE: City of Fall River
LOCATION: CITY
DATE OF RESEARCH: JUNE 2007

No City Documents for the City of Fall River

BCE Structure No	Document No	Contract/ Drawing Number	Entity	Municipality	Date	Title	Sheets	Location	Description
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TOWN: FALL RIVER
SOURCE: MA-DCR
LOCATION: MA-DCR BOSTON AND HINGHAM, MA
DATE OF RESEARCH: JULY 2007

BCE Structure No	Document No	Contract/ Drawing Number	Entity	Municipality	Date	Title	Sheets	Location	Description
024-00C-022-013-100	024-00C-022-013-100-DCR1A	3481	MA-DCR	Fall River	August 2002	Proposed River Access Walkway - Fall River, MA - Prepared for DPW of MA - Division of Waterways	14	Heritage State Park to Bicentennial Park	Structure Condition Photo at Time of Survey
024-00C-022-013-200	024-00C-022-013-200-DCR2A	3481	MA-DCR	Fall River	August 2002	Proposed River Access Walkway - Fall River, MA - Prepared for DPW of MA - Division of Waterways	14	Heritage State Park to Bicentennial Park	Structure Condition Photo at Time of Survey
024-00C-022-013-300	024-00C-022-013-300-DCR3A	3481	MA-DCR	Fall River	August 2002	Proposed River Access Walkway - Fall River, MA - Prepared for DPW of MA - Division of Waterways	14	Heritage State Park to Bicentennial Park	Structure Condition Photo at Time of Survey
024-00N-013-001-100	024-00N-013-001-100-DCR1A	40-81	MA-DCR	Fall River	June 1981	Fall River Heritage State Park - Fall River	4		Structure Condition Photo at Time of Survey
024-00N-013-001-200	024-00N-013-001-200-DCR2B	891-80	MA-DCR	Fall River	July 27, 1981	Fall River Heritage State Park - Fall River	14		Structure Condition Photo at Time of Survey
024-00N-013-001-100	024-00N-013-001-100-DCR1C	48-81A	MA-DCR	Fall River	June 15, 1982	Fall River Heritage State Park - Fall River	41		Structure Condition Photo at Time of Survey
024-00N-013-001-100	024-00N-013-001-100-DCR1D	157-84	MA-DCR	Fall River	April 02, 1986	Fall River Heritage State Park - Phase I Plan Accompanying Petition of the Massachusetts Department of Environmental Management - To Construct and Maintain Waterfront Improvements Along the Taunton River	48		Structure Condition Photo at Time of Survey
024-00N-013-001-100	024-00N-013-001-100-DCR1E	03-1601	MA-DCR	Fall River	June 17, 1986	Massachusetts Department of Environmental Management - To Construct and Maintain Waterfront Improvements Along the Taunton River	5	Around 165 Bridge - Battleship Cove	Structure Condition Photo at Time of Survey
024-00N-013-001-100	024-00N-013-001-100-DCR1F	333-87	MA-DCR	Fall River	January 30, 1987	Fall River Heritage State Park - Phase 2A			Structure Condition Photo at Time of Survey
024-00N-013-001-100	024-00N-013-001-100-DCR1G	8019	MA-DCR	Fall River	February 4, 1987	Steamship Cove - Fall River, MA	2		Structure Condition Photo at Time of Survey
024-00N-013-001-100	024-00N-013-001-100-DCR1H	322-87	MA-DCR	Fall River	July 1988	Fall River Heritage State Park Phase II - Fall River, MA	2		Structure Condition Photo at Time of Survey
024-00N-013-001-100	024-00N-013-001-100-DCR1I	442-88	MA-DCR	Fall River	August 25, 1989	Fall River Heritage State Park Phase II - Fall River, MA	56		Structure Condition Photo at Time of Survey
024-00N-013-001-100	024-00N-013-001-100-DCR1J	074-00	MA-DCR	Fall River	March 8, 2000	Pedestrian Bridge and Seawall Repairs - Heritage State Park	5		Structure Condition Photo at Time of Survey
024-00N-013-001-200	024-00N-013-001-200-DCR2A	40-81	MA-DCR	Fall River	June 1981	Fall River Heritage State Park - Fall River, MA	4		Structure Condition Photo at Time of Survey
024-00N-013-001-200	024-00N-013-001-200-DCR2B	891-80	MA-DCR	Fall River	July 27, 1981	Fall River Heritage State Park - Fall River, MA	14		Structure Condition Photo at Time of Survey
024-00N-013-001-200	024-00N-013-001-200-DCR2C	48-81A	MA-DCR	Fall River	June 15, 1982	Fall River Heritage State Park - Fall River, MA	41		Structure Condition Photo at Time of Survey
024-00N-013-001-200	024-00N-013-001-200-DCR2D	157-84	MA-DCR	Fall River	April 2, 1986	Fall River Heritage State Park - Phase I Plan Accompanying Petition of the Massachusetts Department of Environmental Management - To Construct and Maintain Waterfront Improvements Along the Taunton River	48		Structure Condition Photo at Time of Survey
024-00N-013-001-200	024-00N-013-001-200-DCR2E	03-1601	MA-DCR	Fall River	June 17, 1986	Massachusetts Department of Environmental Management - To Construct and Maintain Waterfront Improvements Along the Taunton River	5	Around 165 Bridge - Battleship Cove	Structure Condition Photo at Time of Survey
024-00N-013-001-200	024-00N-013-001-200-DCR2F	333-87	MA-DCR	Fall River	January 30, 1987	Fall River Heritage State Park - Phase 2A			Structure Condition Photo at Time of Survey
024-00N-013-001-200	024-00N-013-001-200-DCR2G	8019	MA-DCR	Fall River	February 4, 1987	Steamship Cove - Fall River, MA	2		Structure Condition Photo at Time of Survey
024-00N-013-001-200	024-00N-013-001-200-DCR2H	322-87	MA-DCR	Fall River	July 1988	Fall River Heritage State Park Phase II - Fall River, MA	2		Structure Condition Photo at Time of Survey
024-00N-013-001-200	024-00N-013-001-200-DCR2I	442-88	MA-DCR	Fall River	August 25, 1989	Fall River Heritage State Park Phase II - Fall River, MA	56		Structure Condition Photo at Time of Survey
024-00N-013-001-200	024-00N-013-001-200-DCR2J	074-00	MA-DCR	Fall River	March 8, 2000	Pedestrian Bridge and Seawall Repairs - Heritage State Park	5		Structure Condition Photo at Time of Survey
024-00N-013-002-100	024-00N-013-002-100-DCR1A	40-81	MA-DCR	Fall River	June 1981	Fall River Heritage State Park - Fall River	4		Structure Condition Photo at Time of Survey
024-00N-013-002-100	024-00N-013-002-100-DCR1B	891-80	MA-DCR	Fall River	July 27, 1981	Fall River Heritage State Park - Fall River, MA	14		Structure Condition Photo at Time of Survey
024-00N-013-002-100	024-00N-013-002-100-DCR1C	48-81A	MA-DCR	Fall River	June 15, 1982	Fall River Heritage State Park - Fall River	41		Structure Condition Photo at Time of Survey
024-00N-013-002-100	024-00N-013-002-100-DCR1D	157-84	MA-DCR	Fall River	April 2, 1986	Fall River Heritage State Park - Phase I Plan Accompanying Petition of the Massachusetts Department of Environmental Management - To Construct and Maintain Waterfront Improvements Along the Taunton River	48		Structure Condition Photo at Time of Survey
024-00N-013-002-100	024-00N-013-002-100-DCR1E	03-1601	MA-DCR	Fall River	June 17, 1986	Massachusetts Department of Environmental Management - To Construct and Maintain Waterfront Improvements Along the Taunton River	5	Around 165 Bridge - Battleship Cove	Structure Condition Photo at Time of Survey
024-00N-013-002-100	024-00N-013-002-100-DCR1F	333-87	MA-DCR	Fall River	January 30, 1987	Fall River Heritage State Park - Phase 2A			Structure Condition Photo at Time of Survey
024-00N-013-002-100	024-00N-013-002-100-DCR1G	8019	MA-DCR	Fall River	February 4, 1987	Steamship Cove - Fall River, MA	2		Structure Condition Photo at Time of Survey
024-00N-013-002-100	024-00N-013-002-100-DCR1H	322-87	MA-DCR	Fall River	July 1988	Fall River Heritage State Park - Phase II - Fall River, MA	2		Structure Condition Photo at Time of Survey
024-00N-013-002-100	024-00N-013-002-100-DCR1I	442-88	MA-DCR	Fall River	August 25, 1989	Fall River Heritage State Park Phase II - Fall River, MA	56		Structure Condition Photo at Time of Survey
024-00N-013-002-100	024-00N-013-002-100-DCR1J	074-00	MA-DCR	Fall River	March 8, 2000	Pedestrian Bridge and Seawall Repairs - Heritage State Park	5		Structure Condition Photo at Time of Survey
024-00N-013-003-100	024-00N-013-003-100-DCR1A	40-81	MA-DCR	Fall River	June 1981	Fall River Heritage State Park - Fall River, MA	4		Structure Condition Photo at Time of Survey
024-00N-013-003-100	024-00N-013-003-100-DCR1B	891-80	MA-DCR	Fall River	July 27, 1981	Fall River Heritage State Park - Fall River, MA	14		Structure Condition Photo at Time of Survey
024-00N-013-003-100	024-00N-013-003-100-DCR1C	48-81A	MA-DCR	Fall River	June 15, 1982	Fall River Heritage State Park - Fall River	41		Structure Condition Photo at Time of Survey
024-00N-013-003-100	024-00N-013-003-100-DCR1D	157-84	MA-DCR	Fall River	April 2, 1986	Fall River Heritage State Park - Phase I Plan Accompanying Petition of the Massachusetts Department of Environmental Management - To Construct and Maintain Waterfront Improvements Along the Taunton River	48		Structure Condition Photo at Time of Survey
024-00N-013-003-100	024-00N-013-003-100-DCR1E	03-1601	MA-DCR	Fall River	June 17, 1986	Massachusetts Department of Environmental Management - To Construct and Maintain Waterfront Improvements Along the Taunton River	5	Around 165 Bridge - Battleship Cove	Structure Condition Photo at Time of Survey
024-00N-013-003-100	024-00N-013-003-100-DCR1F	333-87	MA-DCR	Fall River	January 30, 1987	Fall River Heritage State Park - Phase 2A			Structure Condition Photo at Time of Survey
024-00N-013-003-100	024-00N-013-003-100-DCR1G	8019	MA-DCR	Fall River	February 4, 1987	Steamship Cove - Fall River, MA	2		Structure Condition Photo at Time of Survey

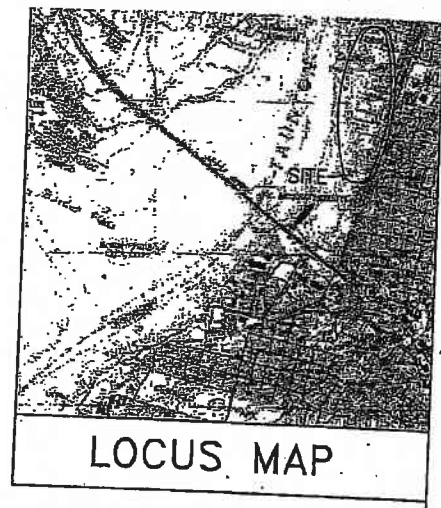
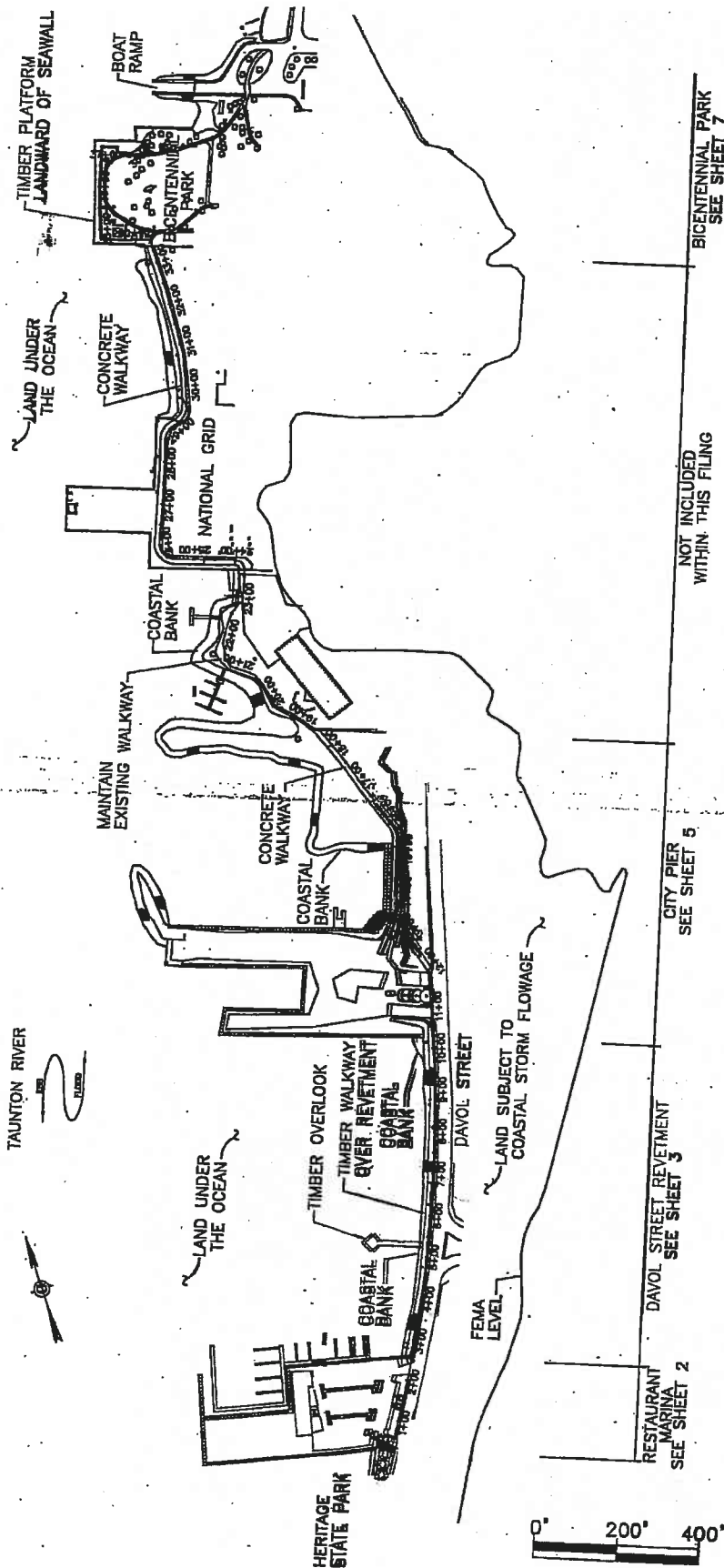
TOWN: FALL RIVER
 SOURCE: MA-DCR
 LOCATION: MA-DCR BOSTON AND HINGHAM, MA
 DATE OF RESEARCH: JULY 2007

024-00N-013-003-100	024-00N-013-003-100-DCR1H	322-87	MA-DCR	Fall River	July 1988	Fall River Heritage State Park Phase II - Fall River, MA	2		
024-00N-013-003-100	024-00N-013-003-100-DCR1I	442-88	MA-DCR	Fall River	August 25, 1988	Fall River Heritage State Park Phase II - Fall River	58		
024-00N-013-003-100	024-00N-013-003-100-DCR1J	074-00	MA-DCR	Fall River	March 8, 2000	Pedestrian Bridge and Seawall Repairs - Heritage State Park	5		
024-00N-013-005-100	024-00N-013-005-100-DCR1A	40-81	MA-DCR	Fall River	June 1981	Fall River Heritage State Park - Fall River, MA	4		
024-00N-013-005-100	024-00N-013-005-100-DCR1B	981-80	MA-DCR	Fall River	July 27, 1981	Fall River Heritage State Park - Fall River, MA	14		
024-00N-013-005-100	024-00N-013-005-100-DCR1C	48-81A	MA-DCR	Fall River	June 15, 1982	Fall River Heritage State Park - Fall River, MA	41		
024-00N-013-005-100	024-00N-013-005-100-DCR1D	157-84	MA-DCR	Fall River	April 2, 1986	Fall River Heritage State Park - Phase I	48		
024-00N-013-005-100	024-00N-013-005-100-DCR1E	03-1601	MA-DCR	Fall River	June 17, 1986	Plan Accompanying Petition of the Massachusetts Department of Environmental Management - To Construct and Maintain Waterfront Improvements Along the Taunton River	5	Around 185 Bridge - Battleship Cove	
024-00N-013-005-100	024-00N-013-005-100-DCR1F	333-87	MA-DCR	Fall River	January 30, 1987	Fall River Heritage Park - Phase 2A			
024-00N-013-005-100	024-00N-013-005-100-DCR1G	8019	MA-DCR	Fall River	February 4, 1987	Steamship Cove - Fall River, MA	2		
024-00N-013-005-100	024-00N-013-005-100-DCR1H	322-87	MA-DCR	Fall River	July 1988	Fall River Heritage State Park Phase II - Fall River, MA	2		
024-00N-013-005-100	024-00N-013-005-100-DCR1I	442-88	MA-DCR	Fall River	August 25, 1988	Fall River Heritage State Park Phase II - Fall River	58		
024-00N-013-005-100	024-00N-013-005-100-DCR1J	074-00	MA-DCR	Fall River	March 8, 2000	Pedestrian Bridge and Seawall Repairs Heritage State Park	5		
024-00N-013-005-100	024-00N-013-005-100-DCR1K	3416	MA-DCR	Fall River	July 2000	Walkway Improvements - Davol Street - Taunton River	10	Davol Street	Revetment
024-00N-013-005-100	024-00N-013-005-100-DCR1L	3481	MA-DCR	Fall River	August 2002	Proposed River Access Walkway, Fall River, MA - Prepared for DPW of MA - Division of Waterways	14	Heritage State Park to Bicentennial Park	Revetment
024-00N-013-020-100	024-00N-013-020-100-DCR1A	1083	MA-DCR	Fall River	April 1949	State Pier Fall River - Chapter 665 Acts of 1945, Chapter 309 Acts of 1947 - Wharf and Footings	9	State Pier	Riprap
024-00N-013-020-100	024-00N-013-020-100-DCR1B	1114	MA-DCR	Fall River	September 1952	State Pier Fall River - Chapter 665 Acts of 1945, Chapter 208 Acts of 1947, Chapter 758 Acts of 1951 - Building Approaches/Utilities	23	Mill Street and Water Street	Retaining Walls
024-00N-013-020-100	024-00N-013-020-100-DCR1C	1526	MA-DCR	Fall River	June 1955	Hurricane Repair, Proposed Riprap Shore Protection - State Pier - Fall River - Prepared for DPW of MA - Division of Waterways	1	State Pier	Riprap
024-00N-013-020-100	024-00N-013-020-100-DCR1D	2645	MA-DCR	Fall River	October 1988	Proposed Harbor Improvements, Berthing Area and Mooring Facilities City Pier - Taunton River	1	Davol Street	Stone Walls and Riprap
024-00N-013-020-100	024-00N-013-020-100-DCR1E	2654	MA-DCR	Fall River	May 1976	Proposed Pier Improvements - Miscellaneous Repairs - State Pier - Fall River	1	State pier	Concrete Retaining Wall
024-00N-013-020-100	024-00N-013-020-100-DCR1F	03-1601	MA-DCR	Fall River	June 17, 1986	Plan Accompanying Petition of the Massachusetts Department of Environmental Management - To Construct and Maintain Waterfront Improvements Along the Taunton River	5	Around 185 Bridge - Battleship Cove	
024-00N-013-020-100	024-00N-013-020-100-DCR1G	8019	MA-DCR	Fall River	February 4, 1987	Steamship Cove - Fall River, MA	2		
024-00N-013-020-100	024-00N-013-020-100-DCR1H	3518	MA-DCR	Fall River	September 2005	Northwest Berth Expansion Fall River State Pier - Prepared for DPW of MA - Division of Waterways	10	Battleship Cove	Steel Sheet Bulkhead
024-00N-013-020-100	024-00N-013-020-100-DCR1I	3536	MA-DCR	Fall River	July 2005	Fall River State Pier Survey	7	Water Street	Existing Conditions
024-00N-013-020-200	024-00N-013-020-200-DCR2A	40-81	MA-DCR	Fall River	June 1981	Fall River Heritage State Park - Fall River	4		
024-00N-013-020-200	024-00N-013-020-200-DCR2B	981-80	MA-DCR	Fall River	July 27, 1981	Fall River Heritage State Park - Fall River	14		
024-00N-013-020-200	024-00N-013-020-200-DCR2C	48-81A	MA-DCR	Fall River	June 15, 1982	Fall River Heritage State Park - Fall River, MA	41		
024-00N-013-020-200	024-00N-013-020-200-DCR2D	157-84	MA-DCR	Fall River	April 2, 1986	Fall River Heritage State Park - Phase I	48		
024-00N-013-020-200	024-00N-013-020-200-DCR2E	03-1601	MA-DCR	Fall River	June 17, 1986	Plan Accompanying Petition of the Massachusetts Department of Environmental Management - To Construct and Maintain Waterfront Improvements Along the Taunton River	5	Around 185 Bridge - Battleship Cove	
024-00N-013-020-200	024-00N-013-020-200-DCR2F	333-87	MA-DCR	Fall River	January 30, 1987	Fall River Heritage State Park - Phase 2A			
024-00N-013-020-200	024-00N-013-020-200-DCR2G	8019	MA-DCR	Fall River	February 4, 1987	Steamship Cove - Fall River, MA	2		
024-00N-013-020-200	024-00N-013-020-200-DCR2H	322-87	MA-DCR	Fall River	July 1988	Fall River Heritage State Park Phase II - Fall River	2		
024-00N-013-020-200	024-00N-013-020-200-DCR2I	442-88	MA-DCR	Fall River	August 25, 1988	Fall River Heritage State Park Phase II - Fall River, MA	56		
024-00N-013-020-200	024-00N-013-020-200-DCR2J	074-00	MA-DCR	Fall River	March 8, 2000	Pedestrian Bridge and Seawall Repairs - Heritage State Park	5		
024-00N-013-020-200	024-00N-013-020-200-DCR2K	3518	MA-DCR	Fall River	September 2004	Northwest Berth Expansion Fall River State Pier - Prepared for DPW of MA - Division of Waterways	10	Battleship Cove	Bulkhead
024-00N-013-021-100	024-00N-013-021-100-DCR1A	40-81	MA-DCR	Fall River	June 1981	Fall River Heritage State Park - Fall River, MA	4		
024-00N-013-021-100	024-00N-013-021-100-DCR1B	981-80	MA-DCR	Fall River	July 27, 1981	Fall River Heritage State Park - Fall River, MA	14		
024-00N-013-021-100	024-00N-013-021-100-DCR1C	48-81A	MA-DCR	Fall River	June 15, 1982	Fall River Heritage State Park - Fall River, MA	41		

TOWN: FALL RIVER
 SOURCE: MA-DCR
 LOCATION: MA-DCR BOSTON and HINGHAM, MA
 DATE OF RESEARCH: JULY 2007

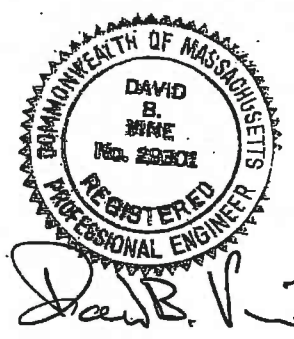
024-00N-013-021-100	024-00N-013-021-100-DCR1D	157-84	MA-DCR	Fall River	April 2, 1988	Fall River Heritage State Park - Fall River, MA Plan Accompanying Petition of the Massachusetts Department of Environmental Management - To Construct and Maintain Waterfront Improvements Along the Taunton River	48		
024-00N-013-021-100	024-00N-013-021-100-DCR1E	03-1601	MA-DCR	Fall River	June 17, 1986		5	Around 195 Bridge - Battleship Cove	
024-00N-013-021-100	024-00N-013-021-100-DCR1F	333-87	MA-DCR	Fall River	January 30, 1987	Fall River Heritage State Park - Phase 2A	2		
024-00N-013-021-100	024-00N-013-021-100-DCR1G	8019	MA-DCR	Fall River	February 4, 1987	Steamship Cove - Fall River, MA	2		
024-00N-013-021-100	024-00N-013-021-100-DCR1H	322-87	MA-DCR	Fall River	July 1988	Fall River Heritage State Park Phase II - Fall River	56		
024-00N-013-021-100	024-00N-013-021-100-DCR1I	442-88	MA-DCR	Fall River	August 25, 1989	Fall River Heritage State Park Phase II - Fall River	5		
024-00N-013-021-100	024-00N-013-021-100-DCR1J	074-00	MA-DCR	Fall River	March 8, 2000	Pedestrian Bridge and Seawall Repairs Heritage State Park			
024-00O-023-001-100	024-00O-023-001-100-DCR1A	3416	MA-DCR	Fall River	July 2000	Walkway Improvements - Devil Street, Taunton River	10	Devil Street	Revelment
024-00O-023-001-100	024-00O-023-001-100-DCR1B	3481	MA-DCR	Fall River	August 2002	Proposed River Access Walkway - Fall River, MA - Prepared for DPW of MA - Division of Waterways	14	Heritage State Park to Bicentennial Park	Revelment
024-00O-024-002-100	024-00O-024-002-100-DCR1A	40-81	MA-DCR	Fall River	June 1981	Fall River Heritage State Park - Fall River, MA	4		
024-00O-024-002-100	024-00O-024-002-100-DCR1B	991-80	MA-DCR	Fall River	July 27, 1981	Fall River Heritage State Park - Fall River, MA	14		
024-00O-024-002-100	024-00O-024-002-100-DCR1C	48-81A	MA-DCR	Fall River	June 15, 1982	Fall River Heritage State Park - Fall River, MA	41		
024-00O-024-002-100	024-00O-024-002-100-DCR1D	157-84	MA-DCR	Fall River	April 2, 1986	Fall River Heritage State Park - Phase I Plan Accompanying Petition of Massachusetts Department of Environmental Management - To Construct and Maintain Waterway Improvements Along the Taunton River	48		
024-00O-024-002-100	024-00O-024-002-100-DCR1E	03-1601	MA-DCR	Fall River	June 17, 1986	Department of Environmental Management - To Construct and Maintain Waterway Improvements Along the Taunton River	5	Around 195 Bridge - Battleship Cove	
024-00O-024-002-100	024-00O-024-002-100-DCR1F	333-87	MA-DCR	Fall River	January 30, 1987	Fall River Heritage State Park - Phase 2A			
024-00O-024-002-100	024-00O-024-002-100-DCR1G	8019	MA-DCR	Fall River	February 4, 1987	Steamship Cove - Fall River, MA	2		
024-00O-024-002-100	024-00O-024-002-100-DCR1H	322-87	MA-DCR	Fall River	July 1988	Fall River Heritage State Park Phase II - Fall River	2		
024-00O-024-002-100	024-00O-024-002-100-DCR1I	442-88	MA-DCR	Fall River	August 25, 1989	Fall River Heritage State Park Phase II - Fall River	56		
024-00O-024-002-100	024-00O-024-002-100-DCR1J	074-00	MA-DCR	Fall River	March 8, 2000	Pedestrian Bridge and Seawall Repairs - Heritage State Park	5		
024-00O-024-002-100	024-00O-024-002-100-DCR1K	3416	MA-DCR	Fall River	July 2000	Walkway Improvements - Devil Street - Taunton River	10	Devil Street	Revelment
024-00O-024-002-100	024-00O-024-002-100-DCR1L	3481	MA-DCR	Fall River	August 2002	Proposed River Access Walkway, Fall River, MA - Prepared for DPW of MA - Division of Waterways	14	Heritage State Park to Bicentennial Park	Revelment

BCE Structure No	Document No	Contract/ Drawing Number	Entity	Municipality	Date	Title	Sheets	Location	Description
024-00C-014-002-100	024-00C-014-002-100-LIC1A	9411	DEP	Fall River	November 6, 2002	Plan Accompanying Petition of City of Fall River to Construct Timber Walkway, Pier, and Concrete Walkway, Pier, and Concrete Walkway, Bulkhead and Revetment Repairs	7	Taunton River	Bulkhead and Revetment
024-00C-022-013-100	024-00C-022-013-100-LIC1A	9411	DEP	Fall River	November 6, 2002	Plan Accompanying Petition of City of Fall River to Construct Timber Walkway, Pier, and Concrete Walkway	7	Taunton River	Bulkhead and Revetment
024-00C-022-013-200	024-00C-022-013-200-LIC2A	9411	DEP	Fall River	November 6, 2002	Plan Accompanying Petition of City of Fall River to Construct Timber Walkway Pier and Concrete Walkway, Bulkhead, Revetment Repairs	7	Taunton River	Bulkhead and Revetment
024-00C-022-013-300	024-00C-022-013-300-LIC3A	9411	DEP	Fall River	November 6, 2002	Plan Accompanying Petition of City of Fall River to Construct Timber Walkway Pier and Concrete Walkway, Bulkhead, Revetment Repairs	7	Taunton River	Bulkhead and Revetment
024-00N-013-001-100	024-00N-013-001-100-LIC1A	2641	DEP	Fall River	April 16, 1991	Fall River Carousel and Heritage Park Existing Conditions and Existing Waterways Licenses, City of Fall River (Bristol County), Massachusetts	12	Davol Street and Central Street	Extension of Existing Boardwalk and Dock Facilities - Repair and Reconstruction of Existing Seawall and Riprap
024-00N-013-001-200	024-00N-013-001-200-LIC2A	2641	DEP	Fall River	April 16, 1991	Fall River Carousel and Heritage Park Existing Conditions and Existing Waterways Licenses, City of Fall River (Bristol County), Massachusetts	12	Davol Street and Central Street	Extension of Existing Boardwalk and Dock Facilities; Repair and Reconstruction of Existing Seawall and Riprap
024-00N-013-002-100	024-00N-013-002-100-LIC1A	2641	DEP	Fall River	April 16, 1991	Fall River Carousel and Heritage Park Existing Conditions and Existing Waterways Licenses, City of Fall River (Bristol County), Massachusetts	12	Davol Street and Central Street	Extension of Existing Boardwalk and Dock Facilities; Repair and Reconstruction of Existing Seawall and Riprap
024-00N-013-003-100	024-00N-013-003-100-LIC1A	845	DEP	Fall River	April 30, 1982	Plan Accompanying Petition of Massachusetts Department of Environmental Management to Construct and Maintain Waterfront Improvements at Fall River Heritage State Park in the Taunton River, City of Fall River, Massachusetts	10	Frontage Road	Maintain Existing Seawall and Boardwalk
024-00N-013-003-100	024-00N-013-003-100-LIC1B	1831	DEP	Fall River	June 17, 1986	Plan Accompanying Petition of the Massachusetts DEM to Construct and Maintain Waterfront Improvements Along the Taunton River, Fall River, County of Bristol, MA	5	Davol Street	Maintain Existing Seawall and Boardwalk
024-00N-013-003-100	024-00N-013-003-100-LIC1C	2641	DEP	Fall River	April 16, 1991	Fall River Carousel and Heritage Park - Existing Conditions and Existing Waterways Licenses, City of Fall River (Bristol County), Massachusetts	12	Davol Street and Central Street	Extension of Existing Boardwalk and Dock Facilities; Repair and Reconstruction of Existing Seawall and Riprap
024-00N-013-005-100	024-00N-013-005-100-LIC1A	845	DEP	Fall River	April 30, 1982	Plan Accompanying Petition of Massachusetts DEM to Construct and Maintain Waterfront Improvements at Fall River Heritage State Park in the Taunton River, City of Fall River, County of Bristol, Massachusetts	10	Frontage Road	Maintain Existing Seawall and Boardwalk
024-00N-013-005-100	024-00N-013-005-100-LIC1B	1831	DEP	Fall River	June 17, 1986	Plan Accompanying Petition of the Massachusetts DEM to Construct and Maintain Waterfront Improvements Along the Taunton River, Fall River, County of Bristol, Massachusetts	5	Davol Street	Maintain Existing Seawall and Boardwalk
024-00N-013-005-100	024-00N-013-005-100-LIC1C	2641	DEP	Fall River	April 16, 1991	Fall River Carousel and Heritage Park Existing Conditions and Existing Waterways Licenses, City of Fall River (Bristol County), Massachusetts	12	Davol Street and Central Street	Extension of Existing Boardwalk and Dock Facilities; Repair and Reconstruction of Existing Seawall and Riprap
024-00O-023-001-100	024-00O-023-001-100-LIC1A	9411	DEP	Fall River	November 6, 2002	Plan Accompanying Petition of City of Fall River to Construct Timber Walkway, Pier, and Concrete Walkway, Bulkhead and Revetment Repairs, Balling, Walkway Lighting and Fencing - Taunton River, Fall River, Massachusetts	7	Taunton River	Bulkhead and Revetment
024-00O-024-002-100	024-00O-024-002-100-LIC1A	845	DEP	Fall River	April 30, 1982	Plan Accompanying Petition of Massachusetts DEM to Construct and Maintain Waterfront Improvements at Fall River Heritage State Park in the Taunton River, City of Fall River, County of Bristol, Massachusetts	10	Frontage Road	Maintain Existing Seawall and Boardwalk
024-00O-024-002-100	024-00O-024-002-100-LIC1B	2641	DEP	Fall River	April 16, 1991	Fall River Carousel and Heritage Park Existing Conditions and Existing Waterways Licenses, City of Fall River (Bristol County), Massachusetts	12	Davol Street and Central Street	Extension of Existing Boardwalk and Dock Facilities; Repair and Reconstruction of Existing Seawall and Riprap



LOCATION PLAN

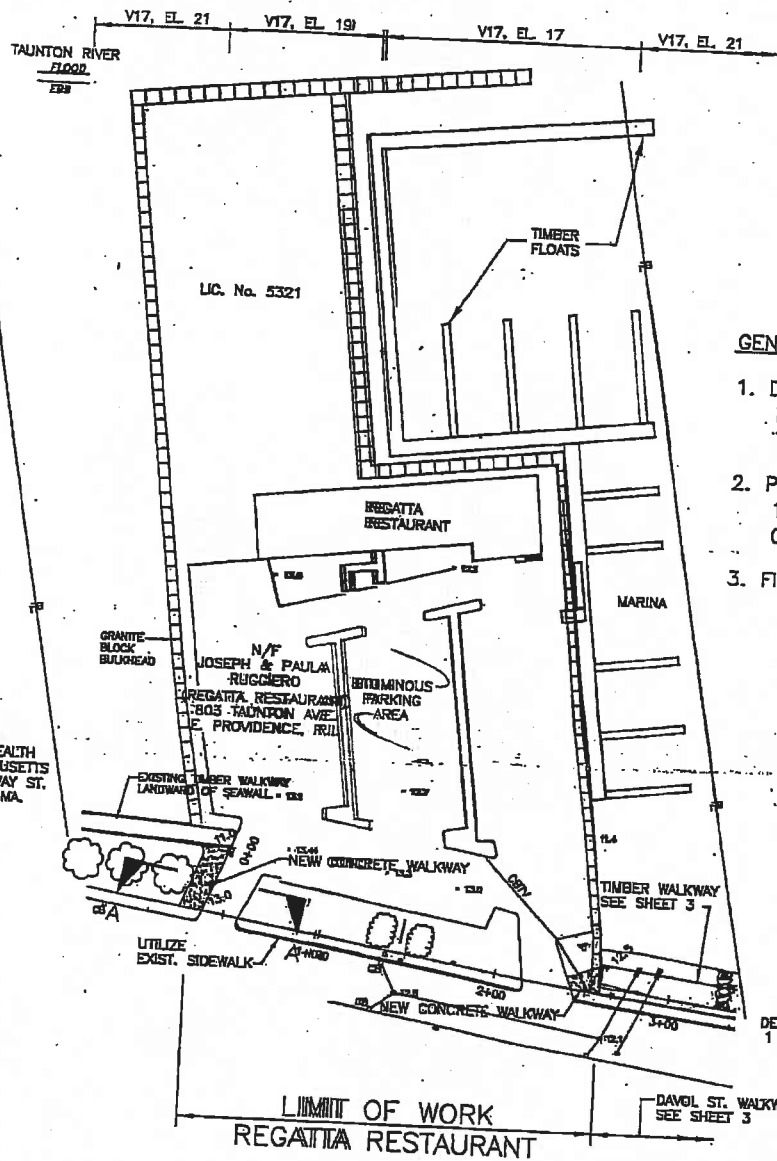
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 024-00C-022-013-200
 024-00C-022-013-300
 024-000-023-001-100



SHEET 1 OF 7

PLAN ACCOMPANYING PETITION OF:
 CITY OF FALL RIVER TO CONSTRUCT
 TIMBER WALKWAY, PIER, AND
 CONCRETE WALKWAY, BULKHEAD AND
 REVETMENT REPAIRS, RAILING,
 WALKWAY LIGHTING, AND FENCING
 TAUNTON RIVER
 FALL RIVER, MASSACHUSETTS

LICENSE PLAN NO. 9411
 Approved by Department of Environmental Protection
 of Massachusetts
Mitch Zienewicz
James E. Smith NOV 06 2002

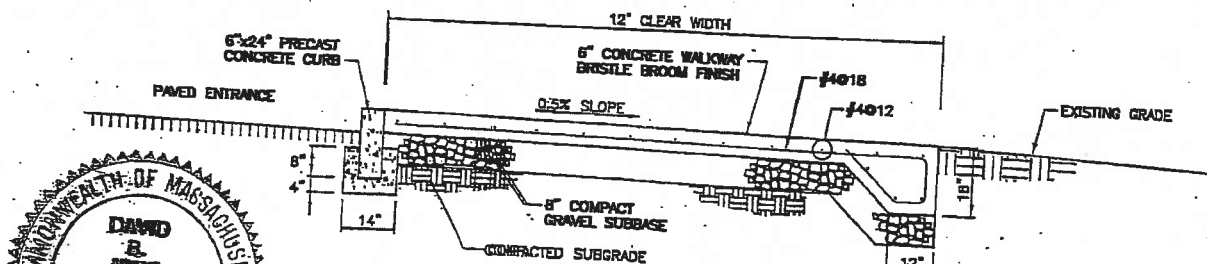
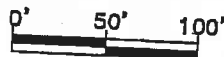


GENERAL NOTES:

1. DATUM: MLW=0.0; MHW=4.4; HTL=5.6; FEMA 100 YR. FLOOD EL. VARIES 17.0 TO 21.0.
2. PROPOSED WORK INCLUDES 40 LF OF 12' WIDE CONCRETE WALKWAY AND CONCRETE TRANSITION WALKWAY.
3. FILLED PIER LIC. No. 5321.

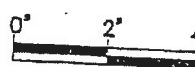
SITE PLAN

SCALE: 1"=100'



SECTION A

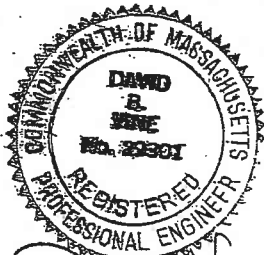
SCALE: 1"=4'



LICENSE PLAN NO. 9411

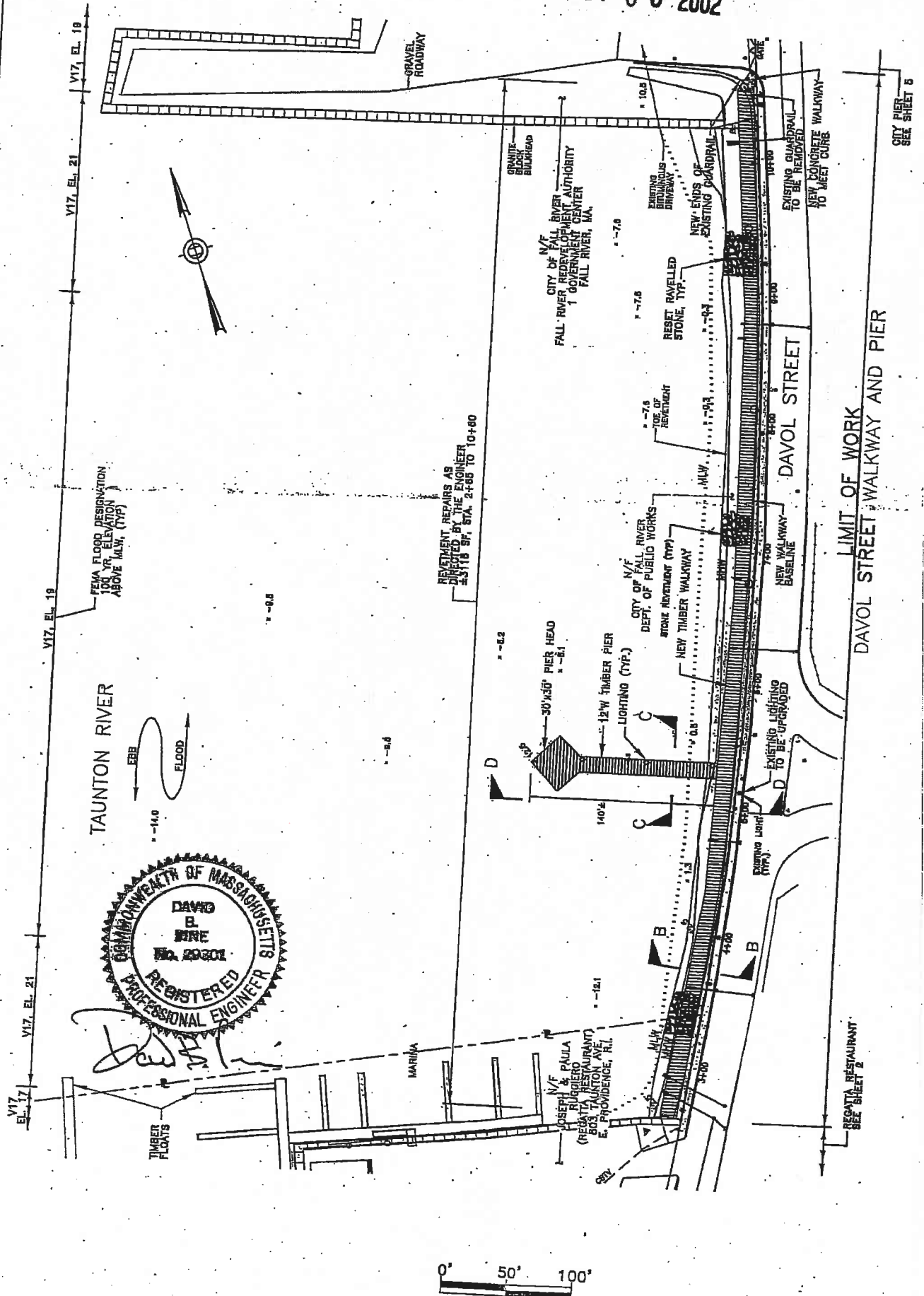
Approved by Department of Environmental Protection

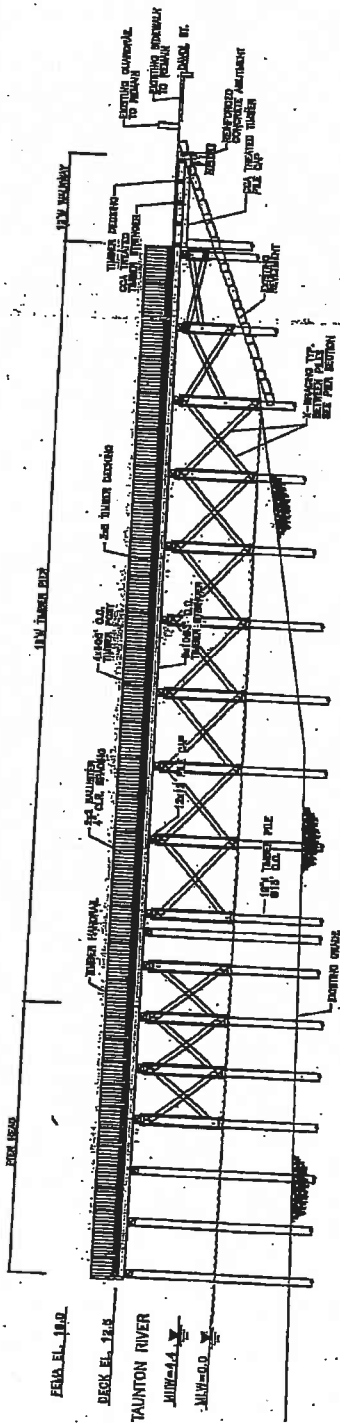
Date: NOV 06 2002



David B. Jene

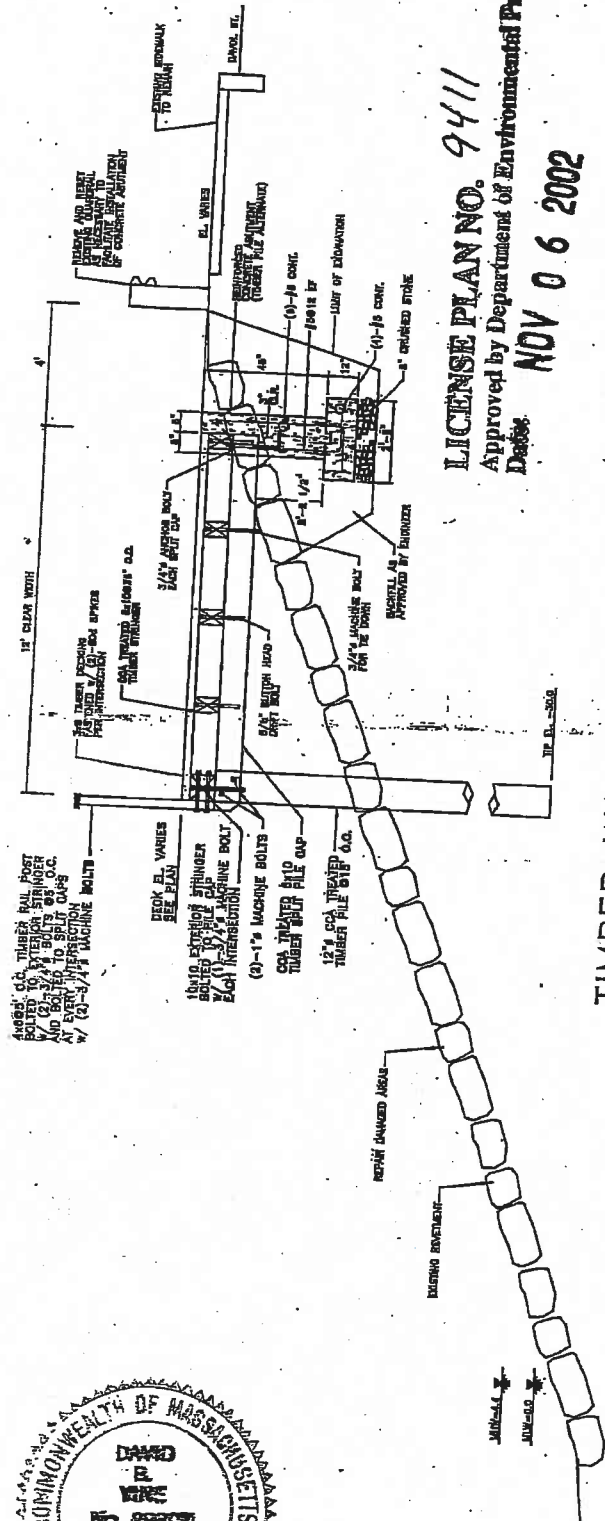
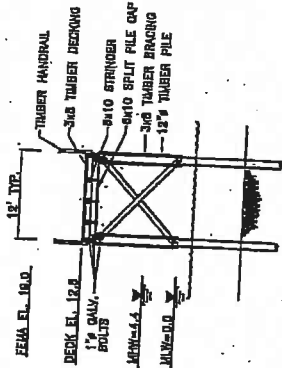
LICENSE PLAN NO. 9411
Approved by Department of Environmental Protection
Date: NOV 06 2002





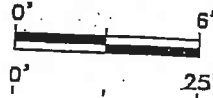
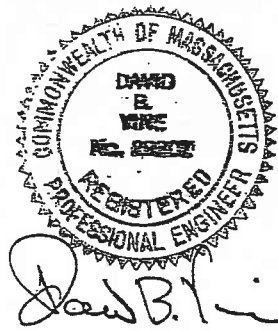
TIMBER PIER ELEVATION D-D
SCALE: 1"=25'

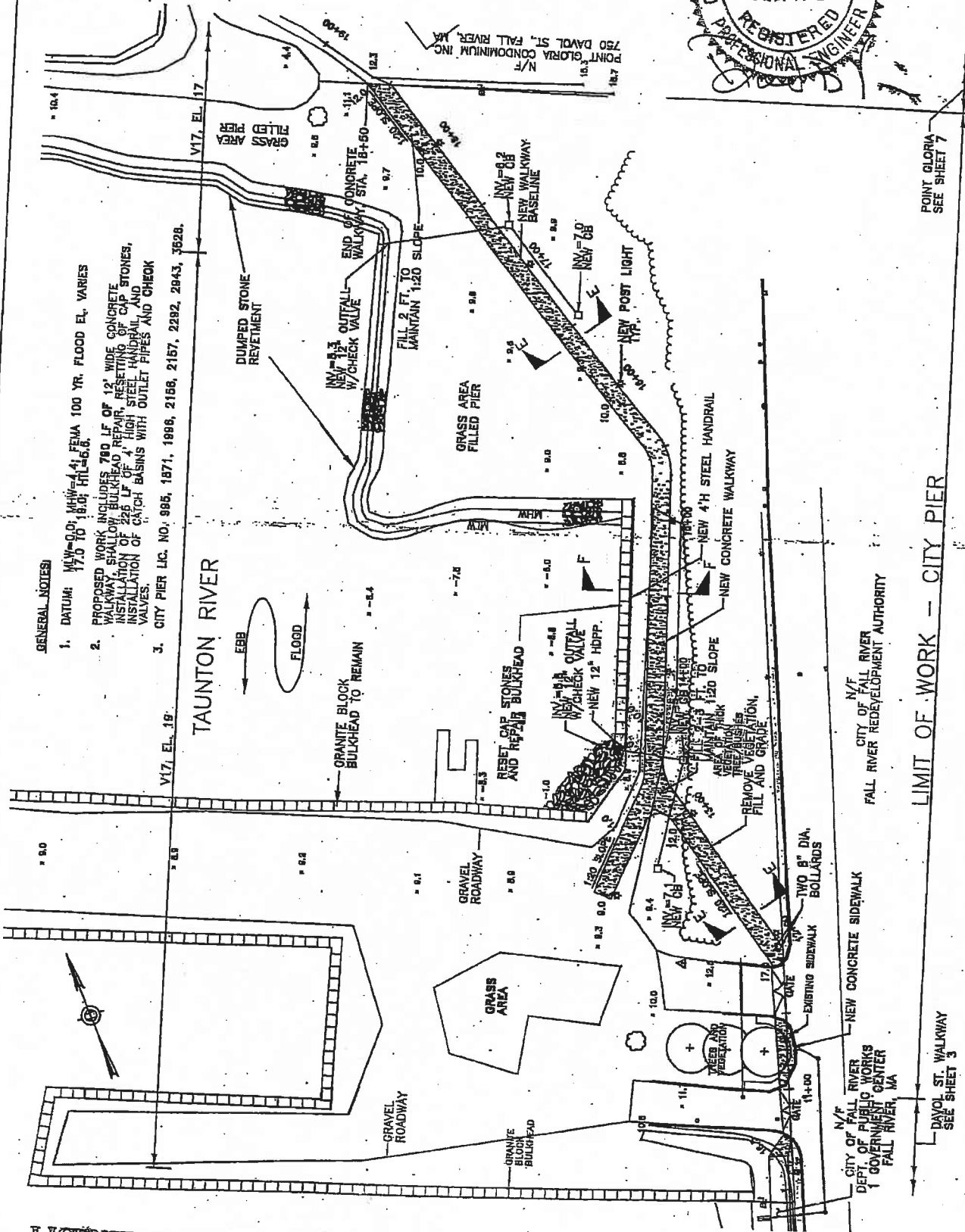
TIMBER PIER SECTION C-C
SCALE: 1"=25'



TIMBER WALKWAY SECTION B-B
SCALE: 1"=6'

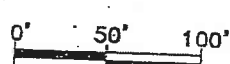
LICENSE PLANNO. 9411
Approved by Department of Environmental Protection
Date: **NOV 06 2002**



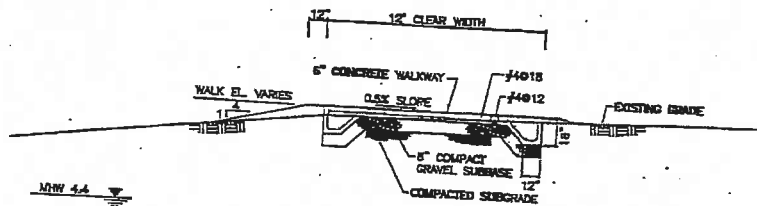


- GENERAL NOTES**
1. DATUM: MHHW=41; FEMA 100 YR. FLOOD EL. VARIES 17.0 TO 18.0; HIL=6.8.
 2. PROPOSED WORK INCLUDES 780 LF OF 12' WIDE CONCRETE WALKWAY, SHALLOW BULKHEAD REPAIR, RESETTING OF CAP STONES, INSTALLATION OF 226 LF OF 4" HIGH STEEL HANDRAIL, AND VALVES.
 3. CITY PIER LIC. NO. 995, 1871, 1996, 2158, 2157, 2282, 2943, 3528.

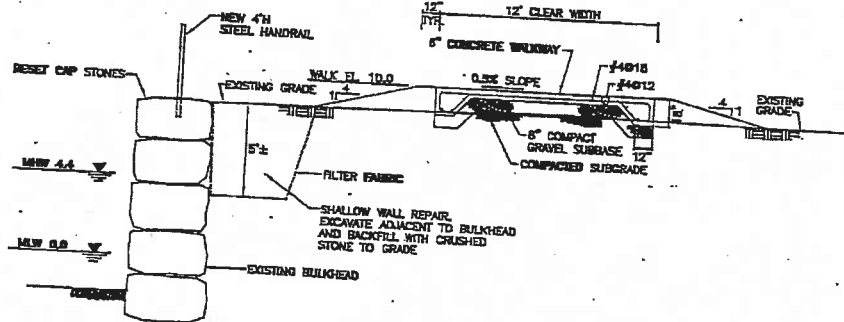
LICENSE PLAN NO. 9411
 Approved by Department of Environmental Protection
 Date **NOV 06 2002**



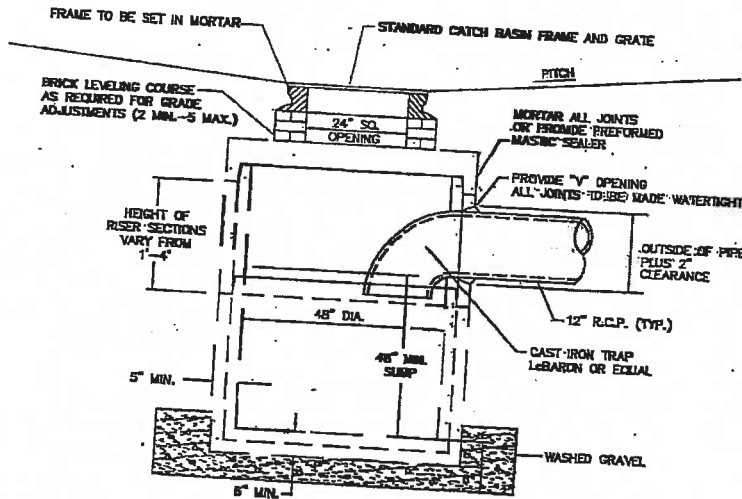
FEMA VARIES
EL. 17.0 TO 18.0



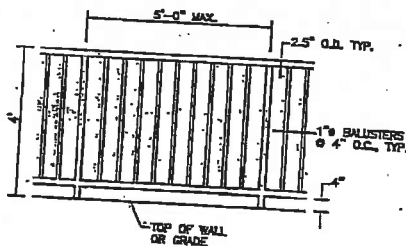
CONCRETE WALKWAY SECTION E-E
SCALE: 1"=10'



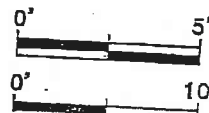
CONCRETE WALKWAY SECTION F-F
SCALE: 1"=10'



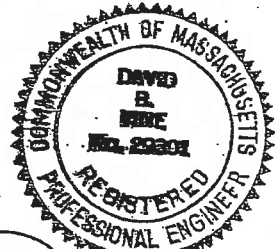
PRECAST CONCRETE CATCH BASIN
NOT TO SCALE



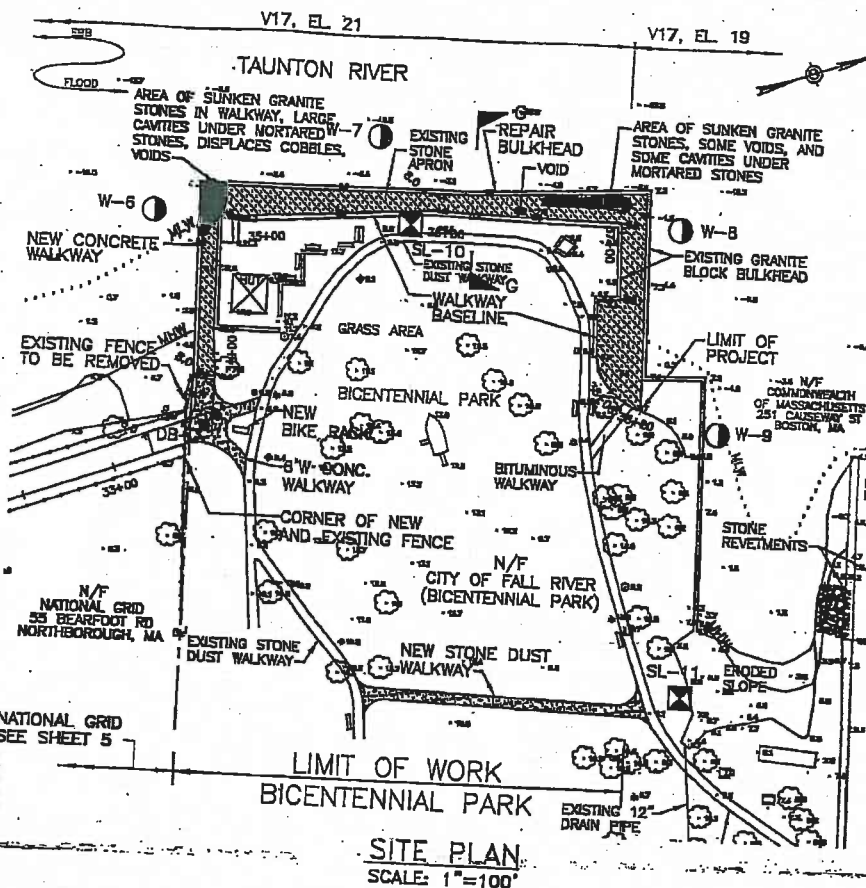
TYPICAL STEEL HANDRAIL DETAIL
SCALE: 1"=5'



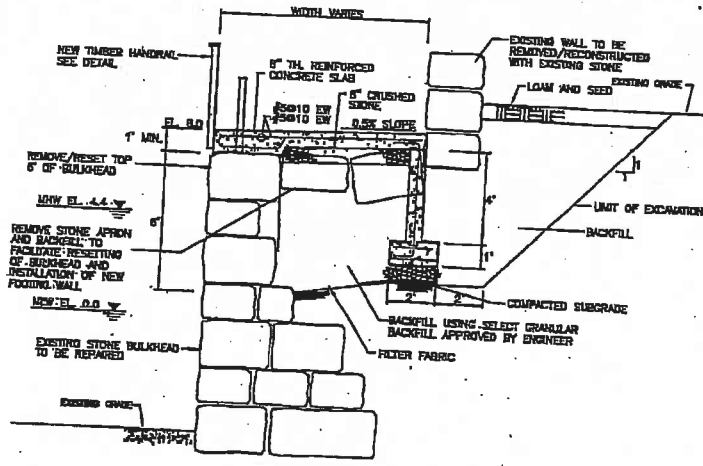
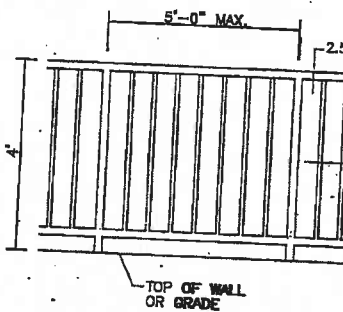
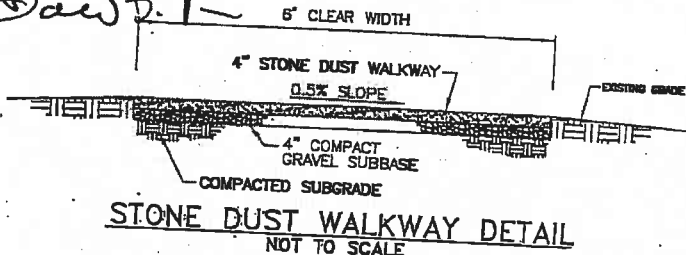
LICENSE PLAN NO. 9411
 Approved by Department of Environmental Protection
 Date: NOV 06 2002



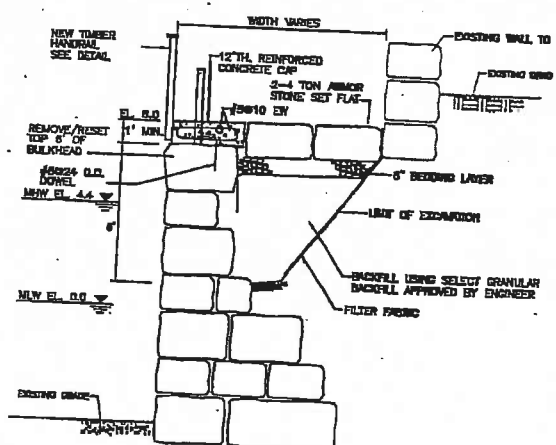
David B. Bire



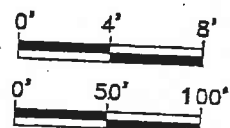
David B. Kane



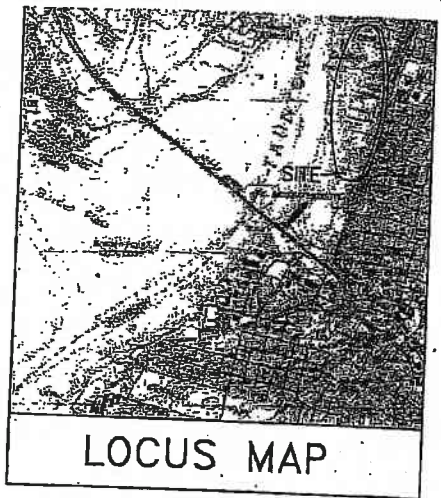
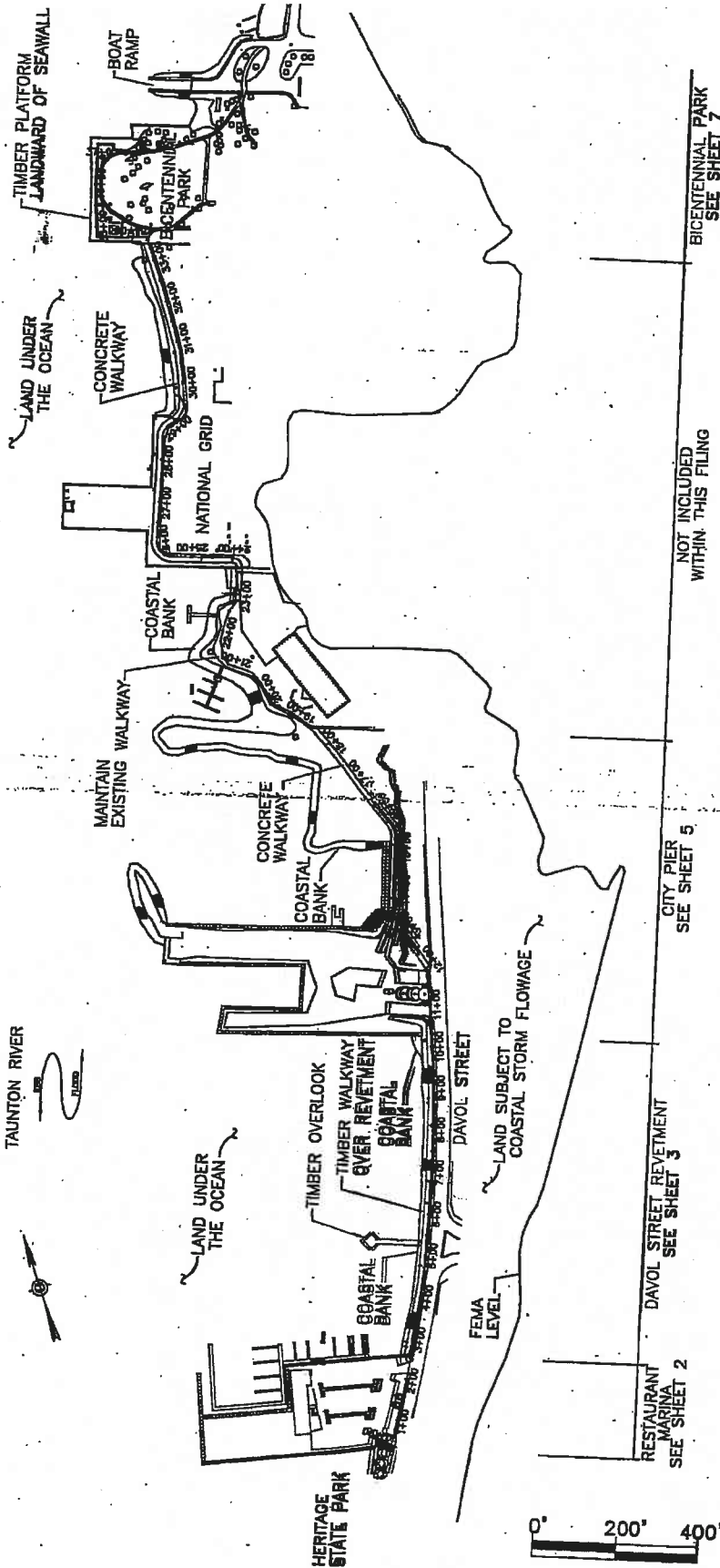
ALTERNATE 1
CONCRETE WALKWAY SECTION G-G
SCALE: 1"=8'



ALTERNATE 2
BULKHEAD REPAIR
SCALE: 1"=8'

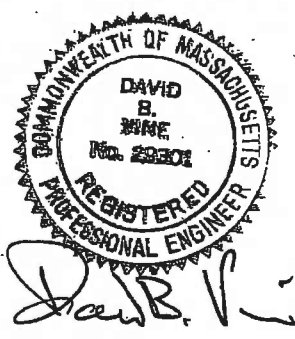


LICENSE PLAN NO. 9411
Approved by Department of Environmental Protection
DATE NOV 06 2002

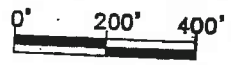


LOCATION PLAN

- 024-000-014-002-100
- 024-000-022-013-100
- 024-000-022-013-200
- 024-000-022-013-300
- 024-000-023-001-100



PLAN ACCOMPANYING PETITION OF:
CITY OF FALL RIVER TO CONSTRUCT
TIMBER WALKWAY, PIER, AND
CONCRETE WALKWAY, BULKHEAD AND
RETEMENT REPAIRS, RAILING,
WALKWAY LIGHTING, AND FENCING
TAUNTON RIVER
FALL RIVER, MASSACHUSETTS

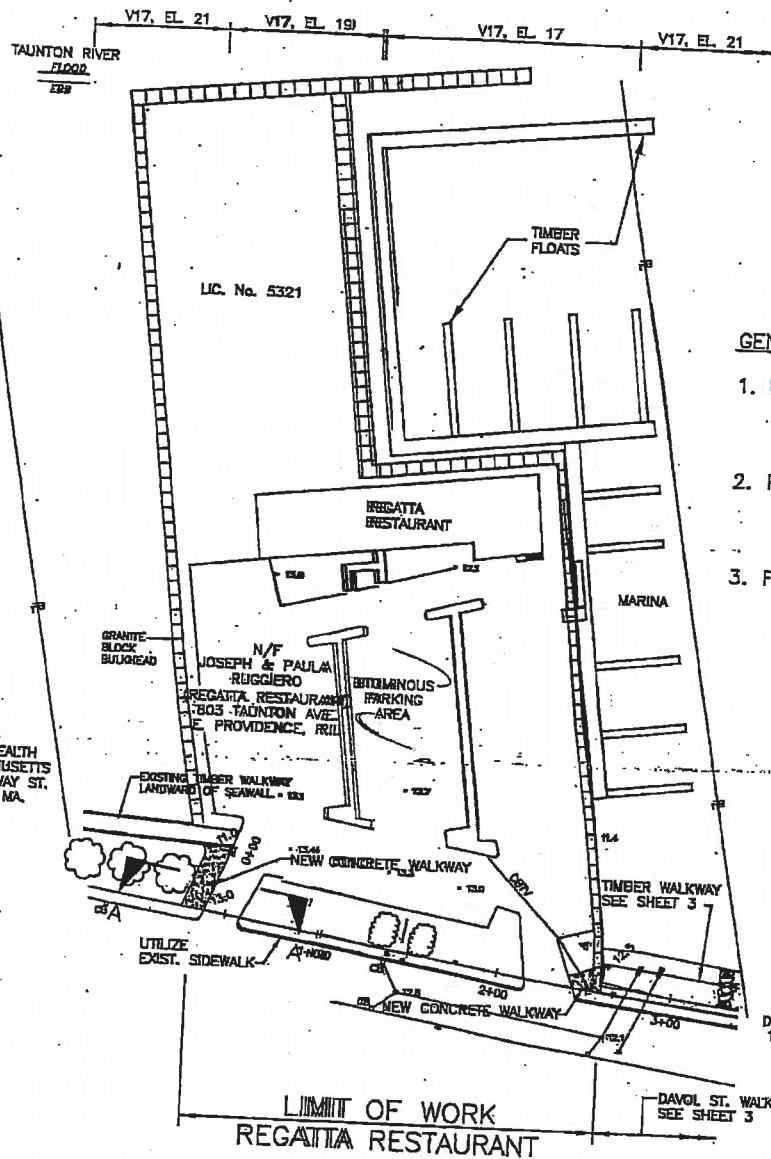


SHEET 1 OF 7

LICENSE PLAN NO. 9411

Approved by Department of Environmental Protection
of Massachusetts

Michael Zencina
James E. Lee NOV 06 2002

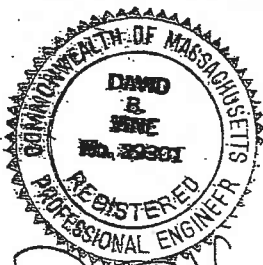
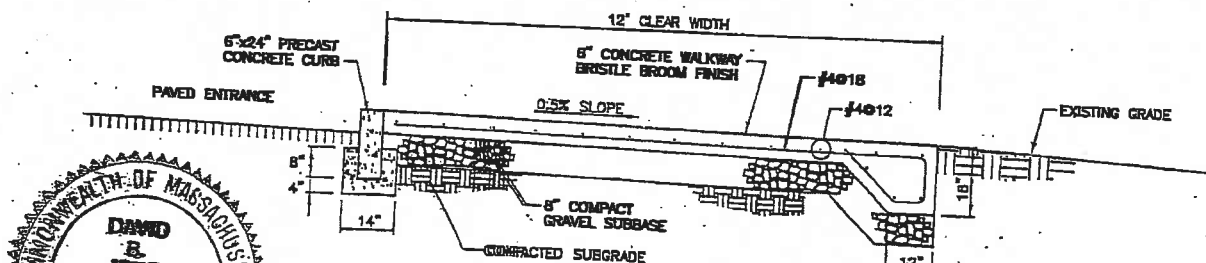


GENERAL NOTES:

1. DATUM: MLW=0.0; MHW=4.4; HTL=5.6; FEMA 100 YR. FLOOD EL. VARIES 17.0 TO 21.0.
2. PROPOSED WORK INCLUDES 40 LF OF 12' WIDE CONCRETE WALKWAY AND CONCRETE TRANSITION WALKWAY.
3. FILLED PIER LIC. No. 5321.

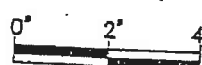
SITE PLAN

SCALE: 1"=100'



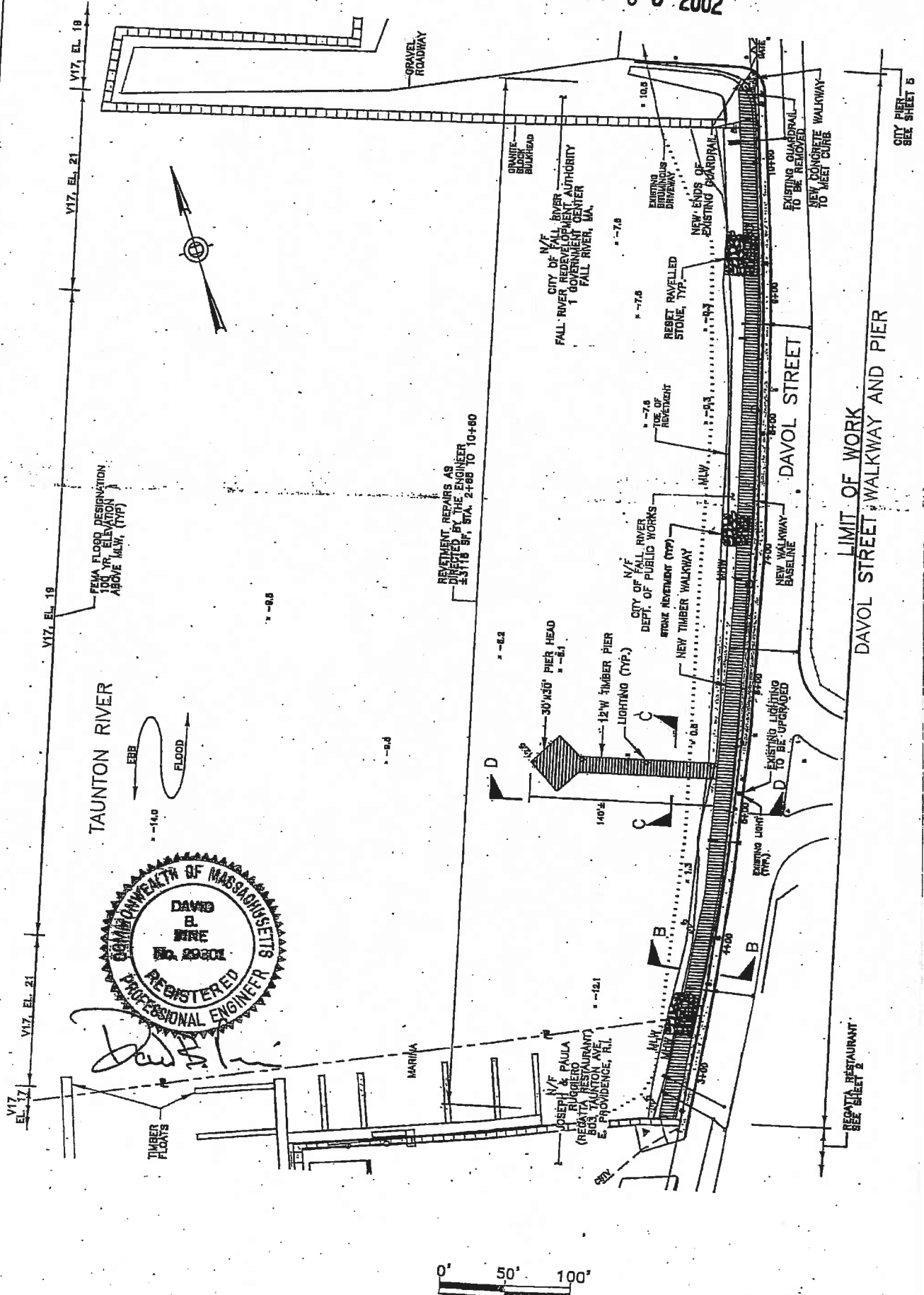
SECTION A

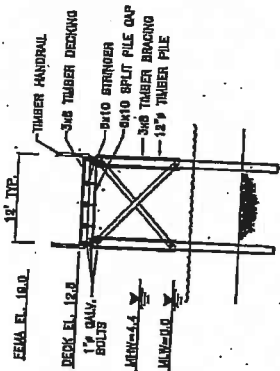
SCALE: 1"=4'



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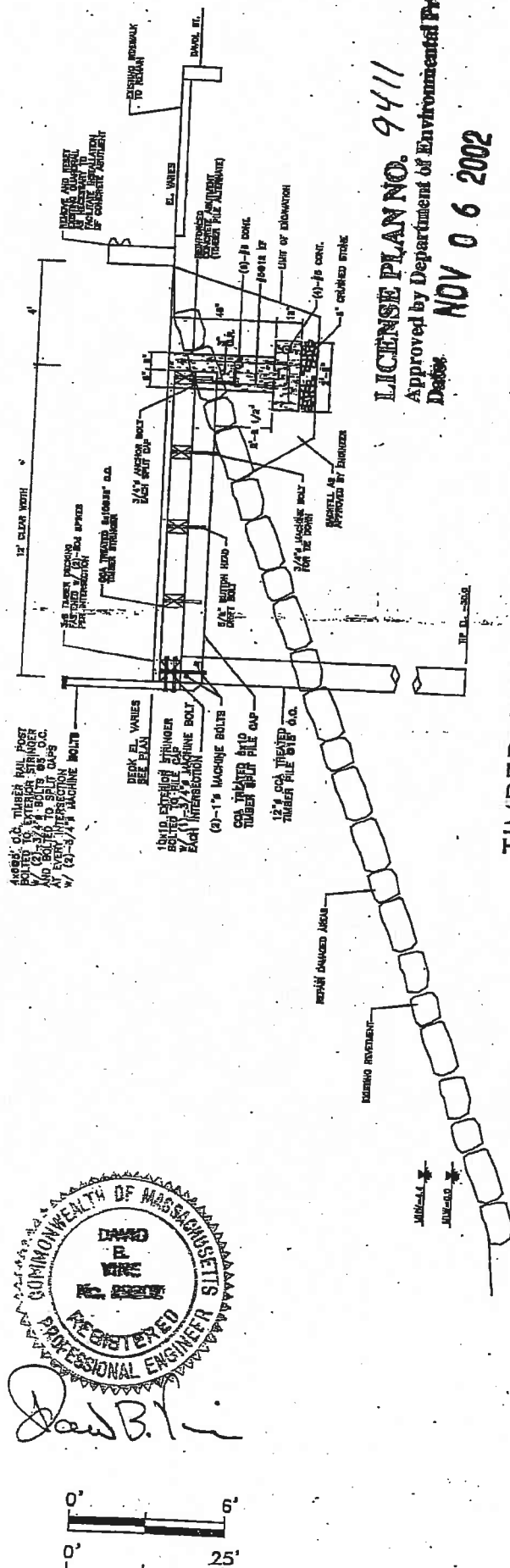
LICENSE PLAN NO. 9411
Approved by Department of Environmental Protection
Date: NOV 06 2002





TIMBER PIER ELEVATION D-D

TIMBER PIER SECTION C-C



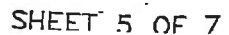
TIMBER WALKWAY SECTION B-B
SCALE: 1"=6'

LICENSE PLAN NO. 9411
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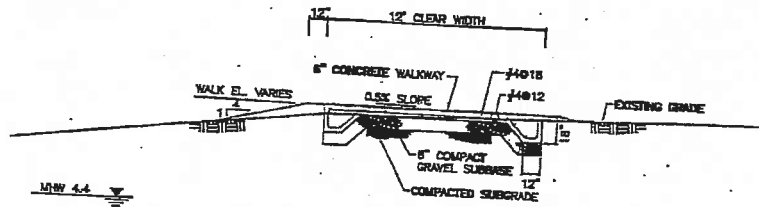
NOV 06 2002

COMMONWEALTH OF MASSACHUSETTS
DAVID E. WARE
REGISTERED PROFESSIONAL ENGINEER

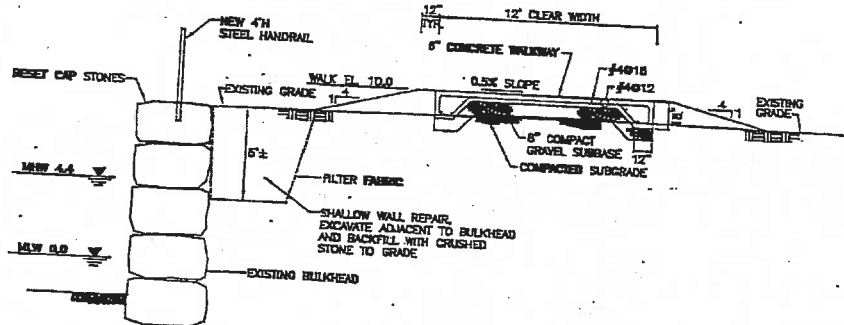
David B. Linn



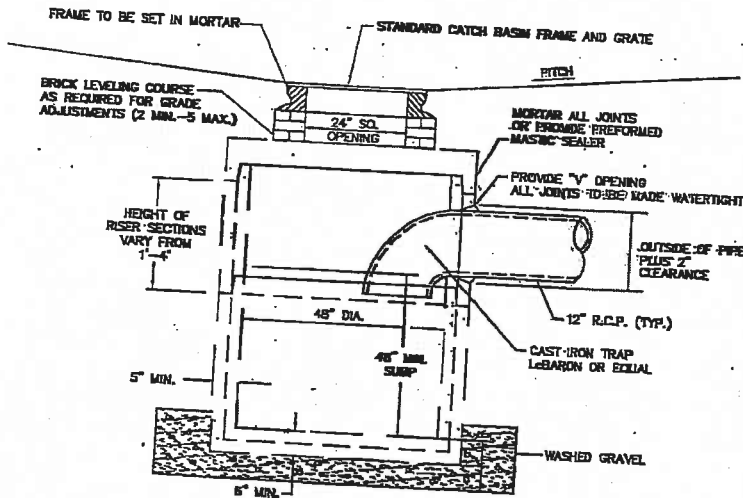
FEMA VARIES
EL. 17.0 TO 18.0



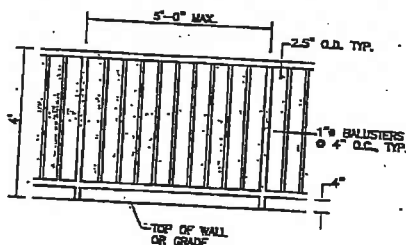
CONCRETE WALKWAY SECTION E-E
SCALE: 1"=10'



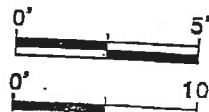
CONCRETE WALKWAY SECTION F-F
SCALE: 1"=10'



PRECAST CONCRETE CATCH BASIN
NOT TO SCALE



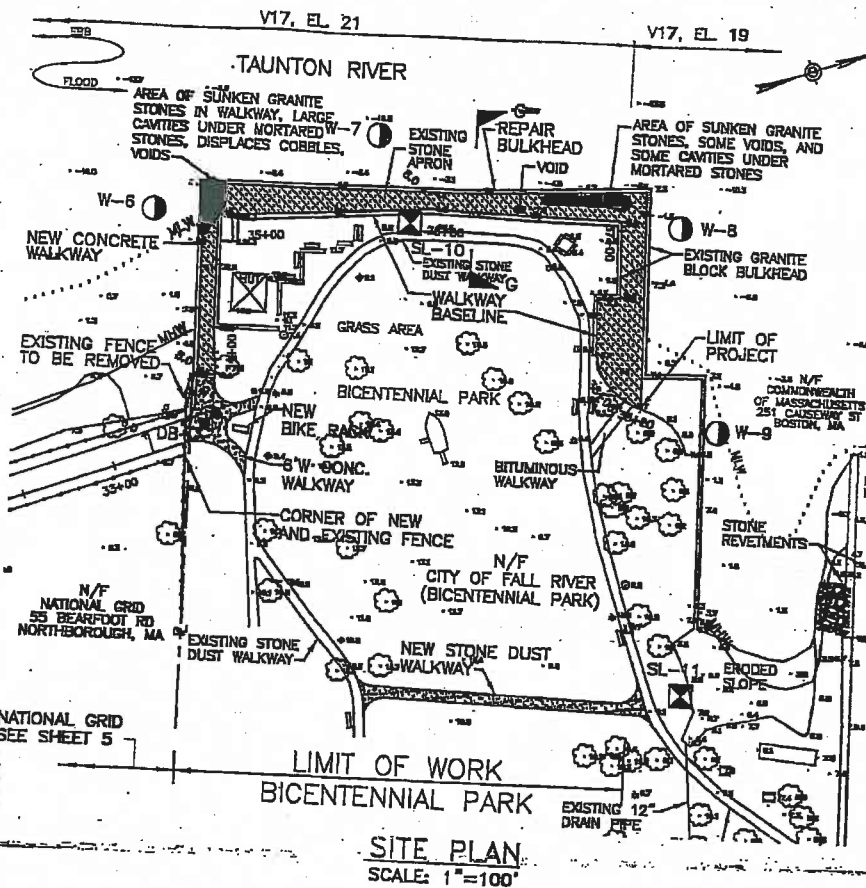
TYPICAL STEEL HANDRAIL DETAIL
SCALE: 1"=5'



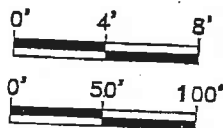
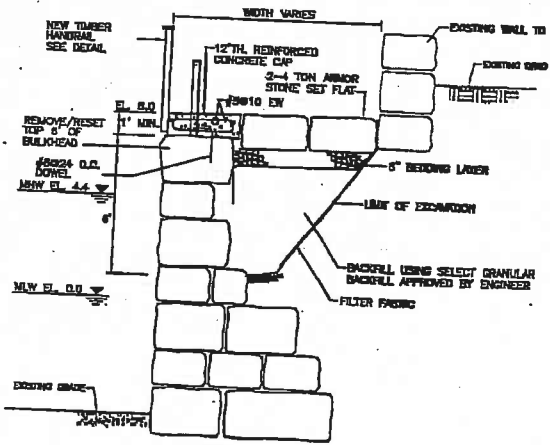
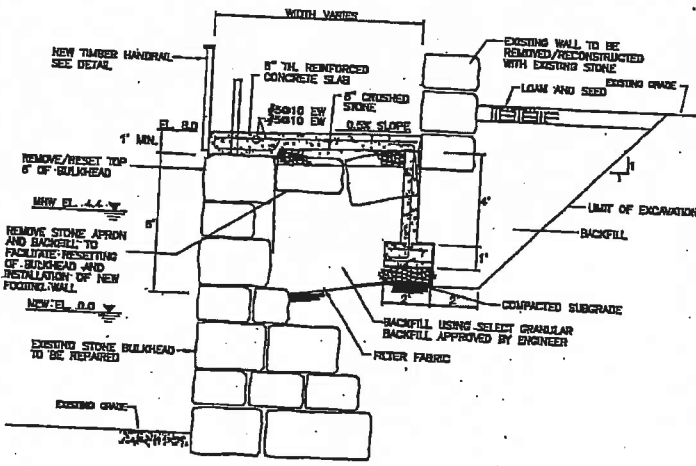
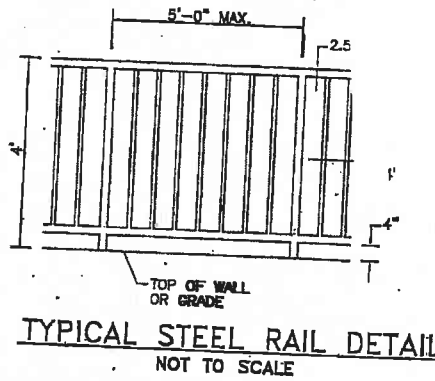
LICENSE PLAN NO. 9411
Approved by Department of Environmental Protection
Date NOV 06 2002



David B. V.



David B. R.

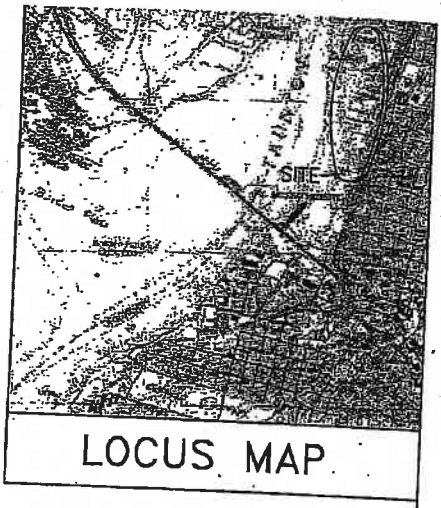
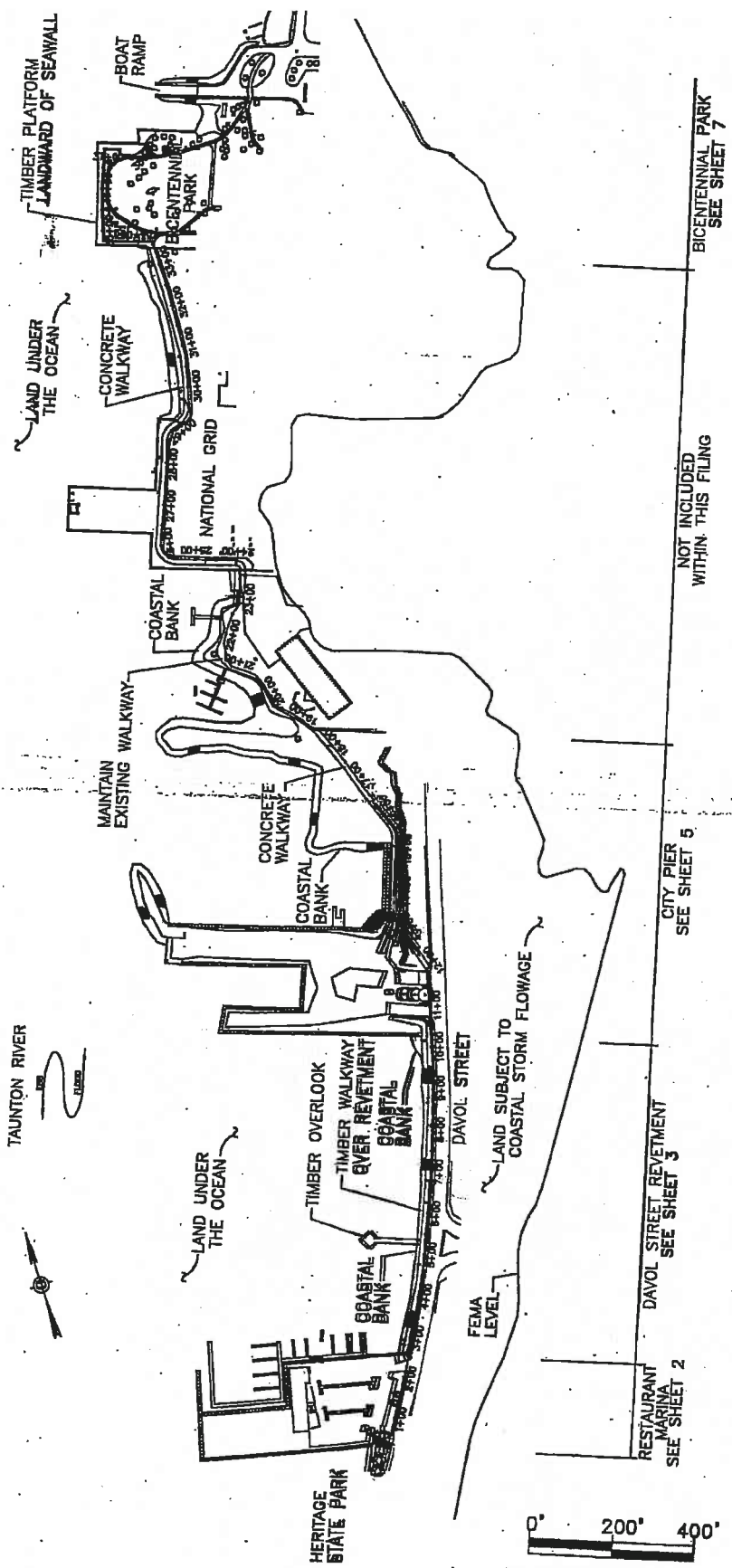


LICENSE PLAN NO. 9411

Approved by Department of Environmental Protection

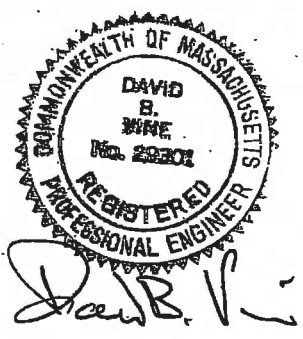
ates

NOV 06 2002



LOCATION PLAN

- 024-000-014-002-100
- 024-000-022-013-100
- 024-000-022-013-200
- 024-000-022-013-300
- 024-000-023-001-100



PLAN ACCOMPANYING PETITION OF:
CITY OF FALL RIVER TO CONSTRUCT
TIMBER WALKWAY, PIER, AND
CONCRETE WALKWAY, BULKHEAD AND
RETEMENT REPAIRS, RAILING,
WALKWAY LIGHTING, AND FENCING
TAUNTON RIVER
FALL RIVER, MASSACHUSETTS

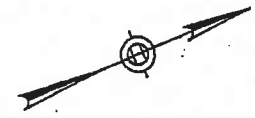
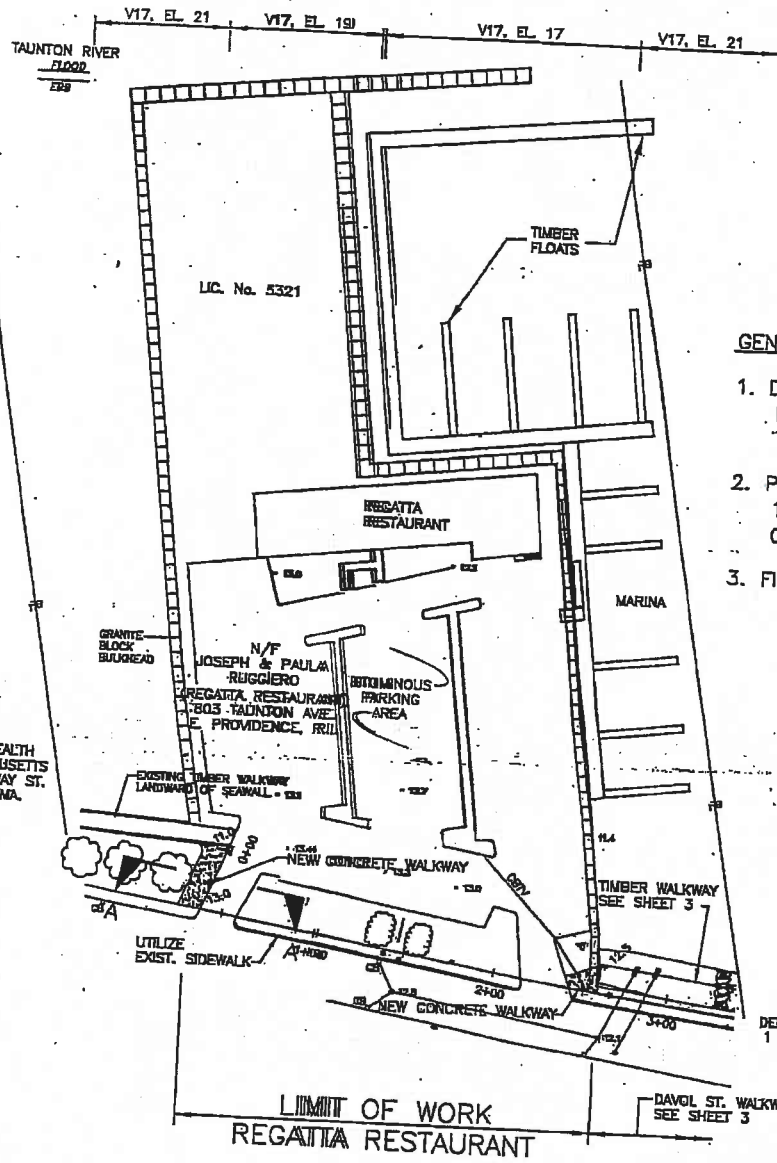


SHEET 1 OF 7

LICENSE PLAN NO. 9411

Approved by Department of Environmental Protection
of Massachusetts

M. J. Fiorenza
James E. Lin NOV 06 2002

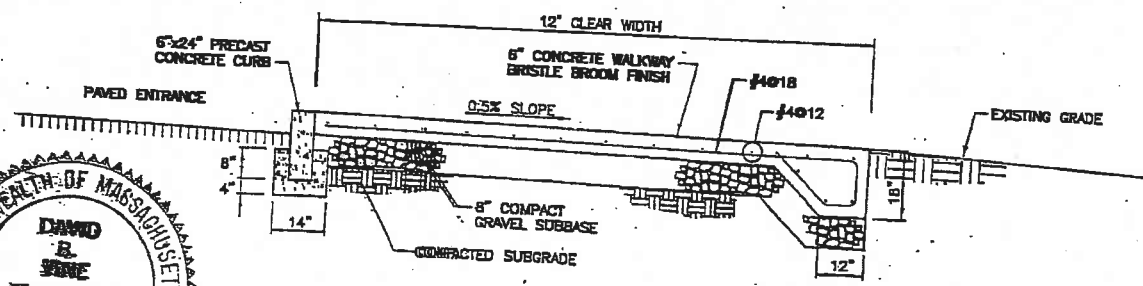


GENERAL NOTES:

1. DATUM: MLW=0.0; MHW=4.4; HTL=5.6; FEMA 100 YR. FLOOD EL. VARIES 17.0 TO 21.0.
2. PROPOSED WORK INCLUDES 40 LF OF 12" WIDE CONCRETE WALKWAY AND CONCRETE TRANSITION WALKWAY.
3. FILLED PIER LIC. No. 5321.

SITE PLAN

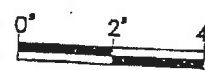
SCALE: 1"=100'



David B. Fine

SECTION A

SCALE: 1"=4'

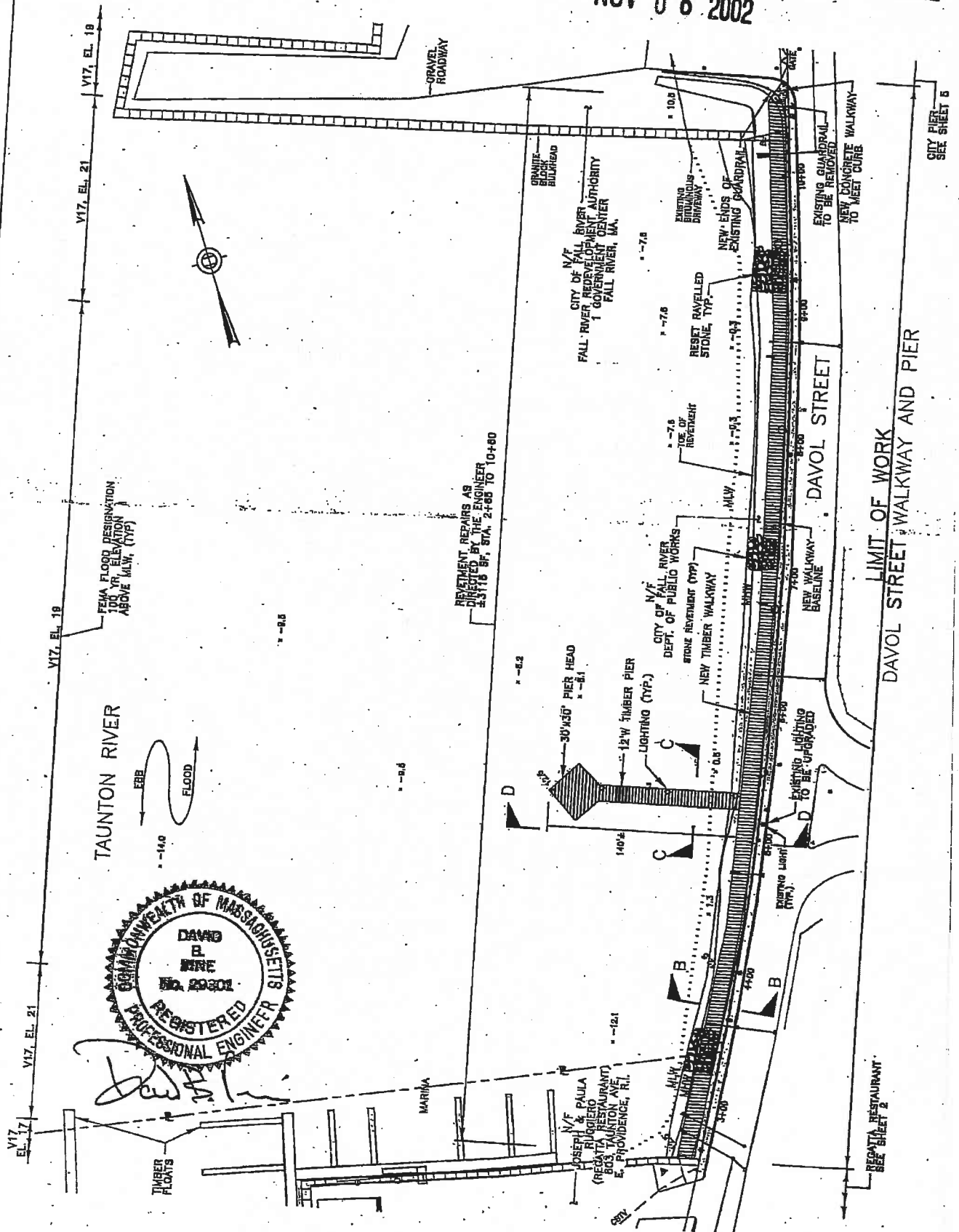


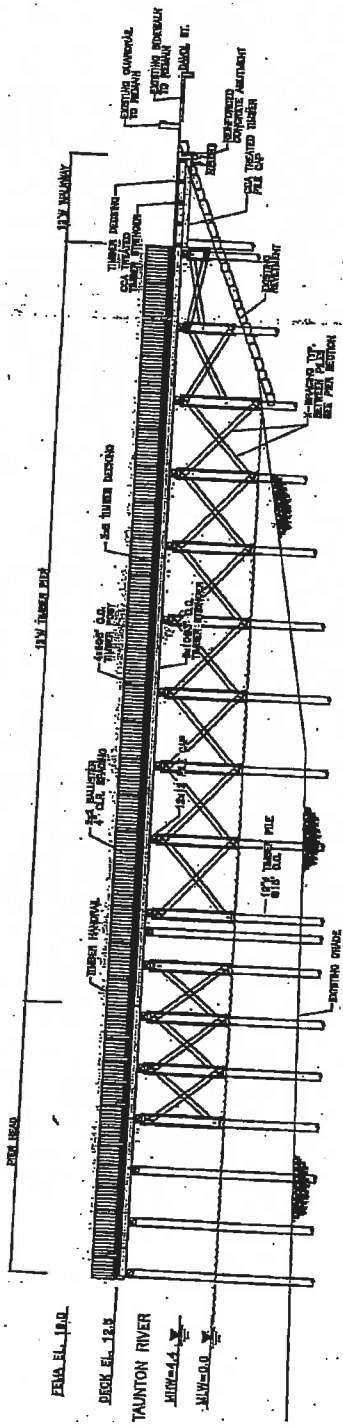
LICENSE PLAN NO. 9411

Approved by Department of Environmental Protection

Date: **NOV 06 2002**

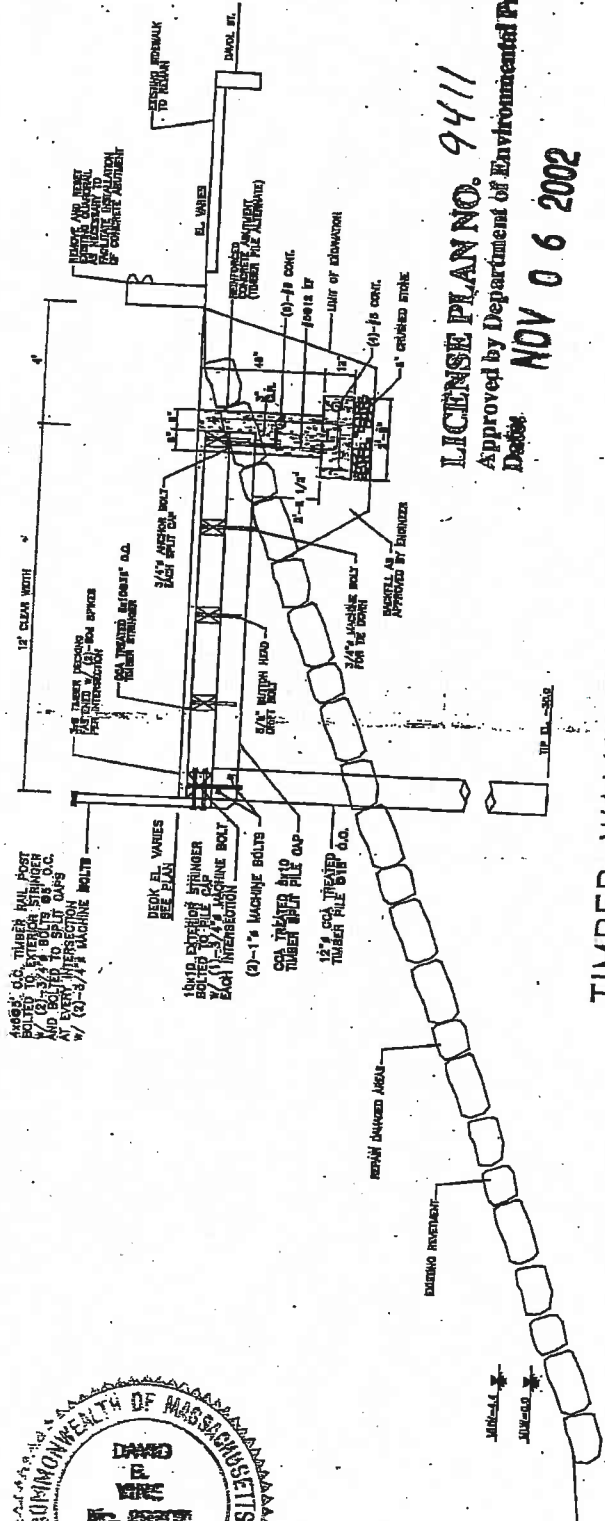
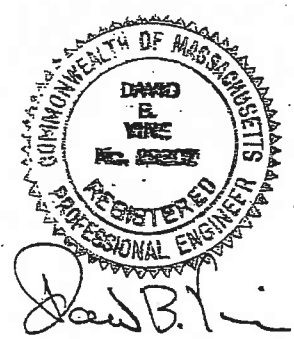
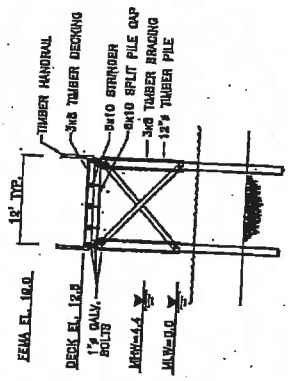
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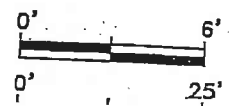
TIMBER PIER ELEVATION D-D
SCALE: 1"=25'

TIMBER PIER SECTION C-C
SCALE: 1"=25'

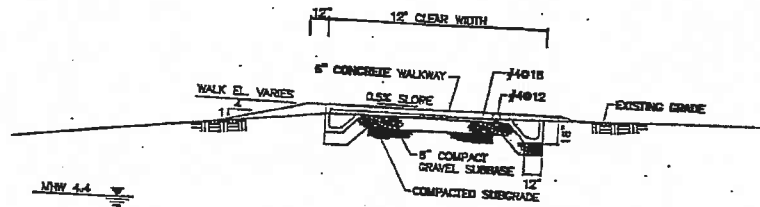


TIMBER WALKWAY SECTION B-B
SCALE: 1"=6'

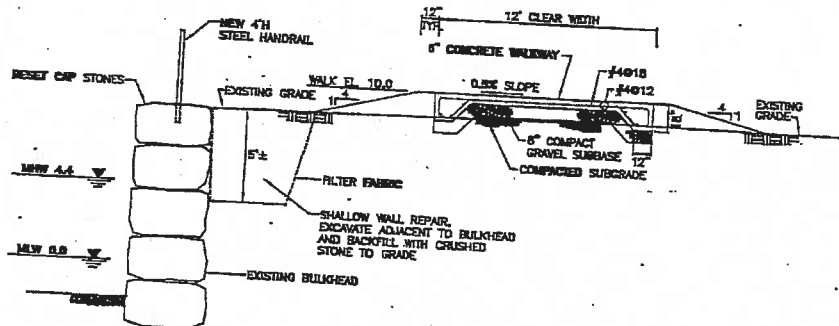
LICENSE PLAN NO. 9411
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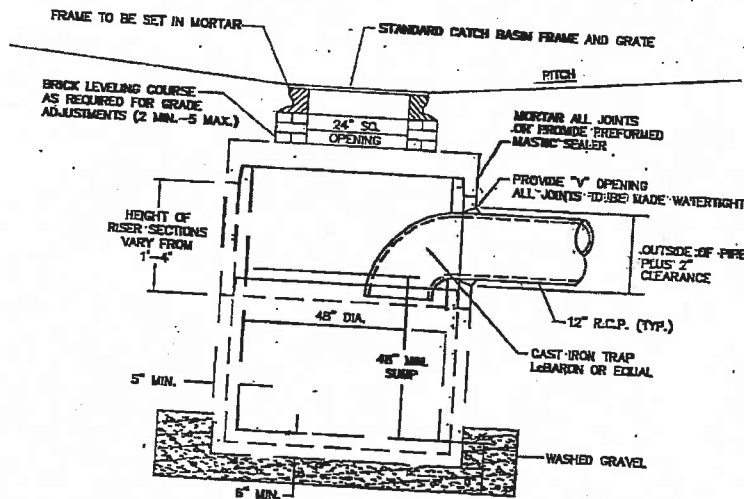
FEMA VARIES
EL. 17.9 TO 18.0



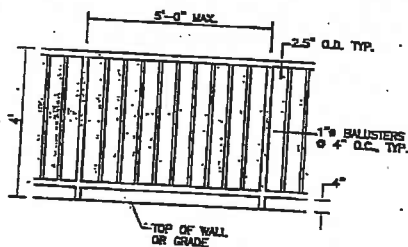
CONCRETE WALKWAY SECTION E-E
SCALE: 1"=10'



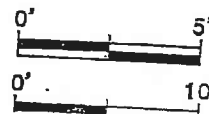
CONCRETE WALKWAY SECTION F-F
SCALE: 1"=10'



PRECAST CONCRETE CATCH BASIN
NOT TO SCALE



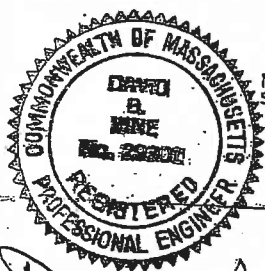
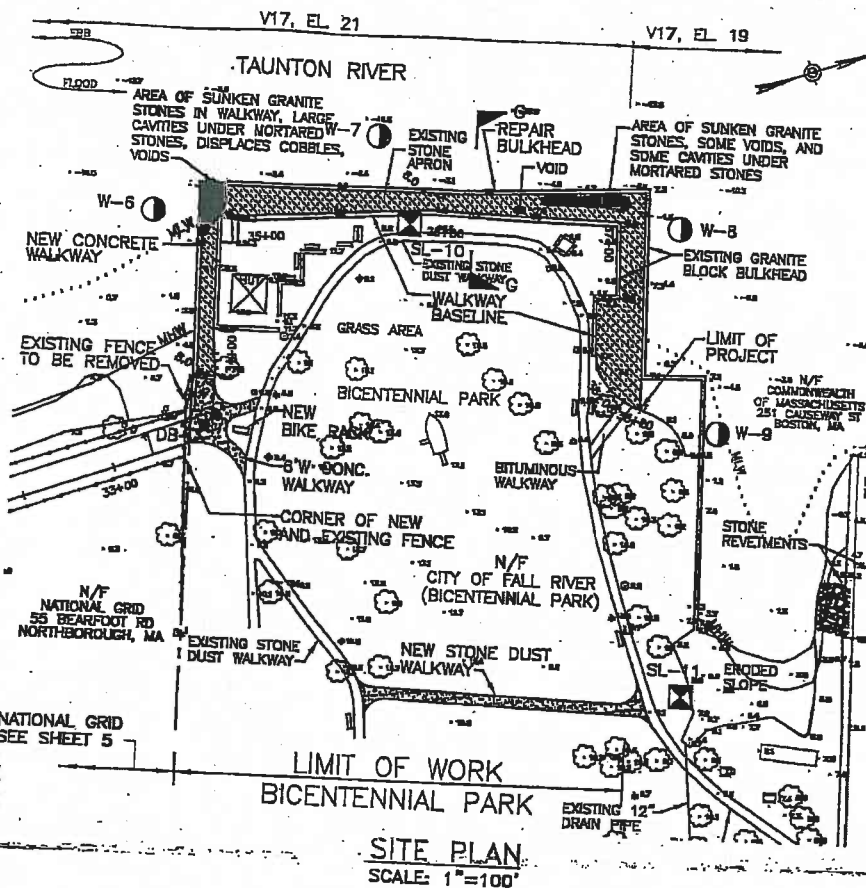
TYPICAL STEEL HANDRAIL DETAIL
SCALE: 1"=5'



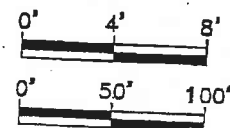
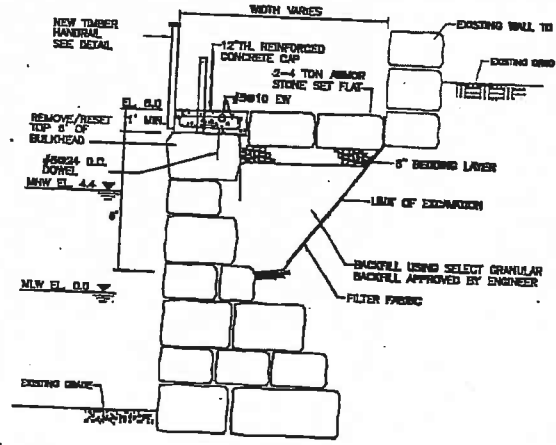
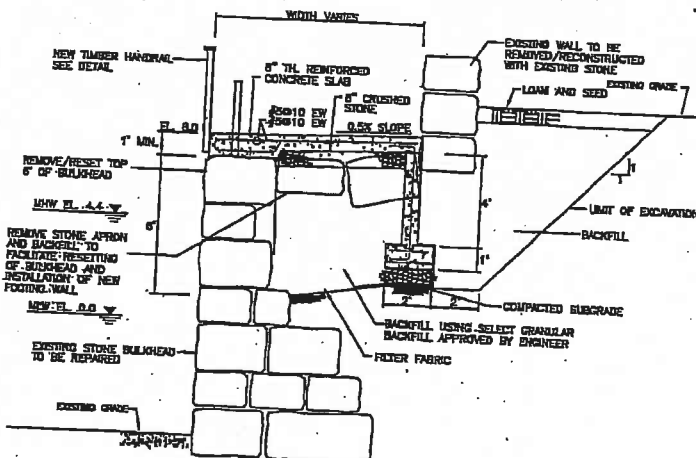
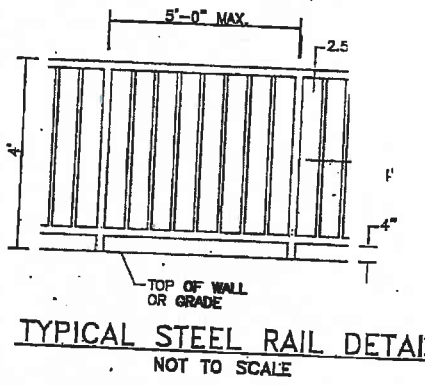
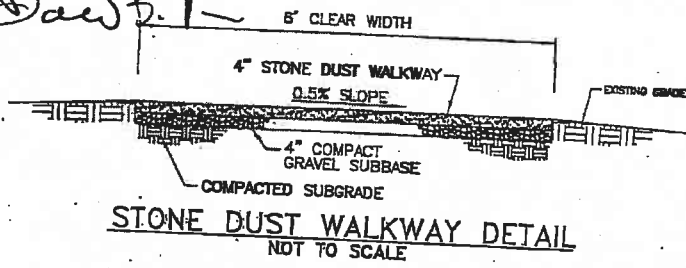
LICENSE PLAN NO. 9411
 Approved by Department of Environmental Protection
 Date NOV 06 2002



David B. Bore



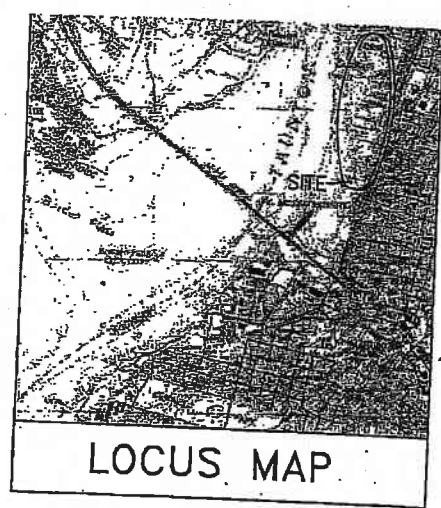
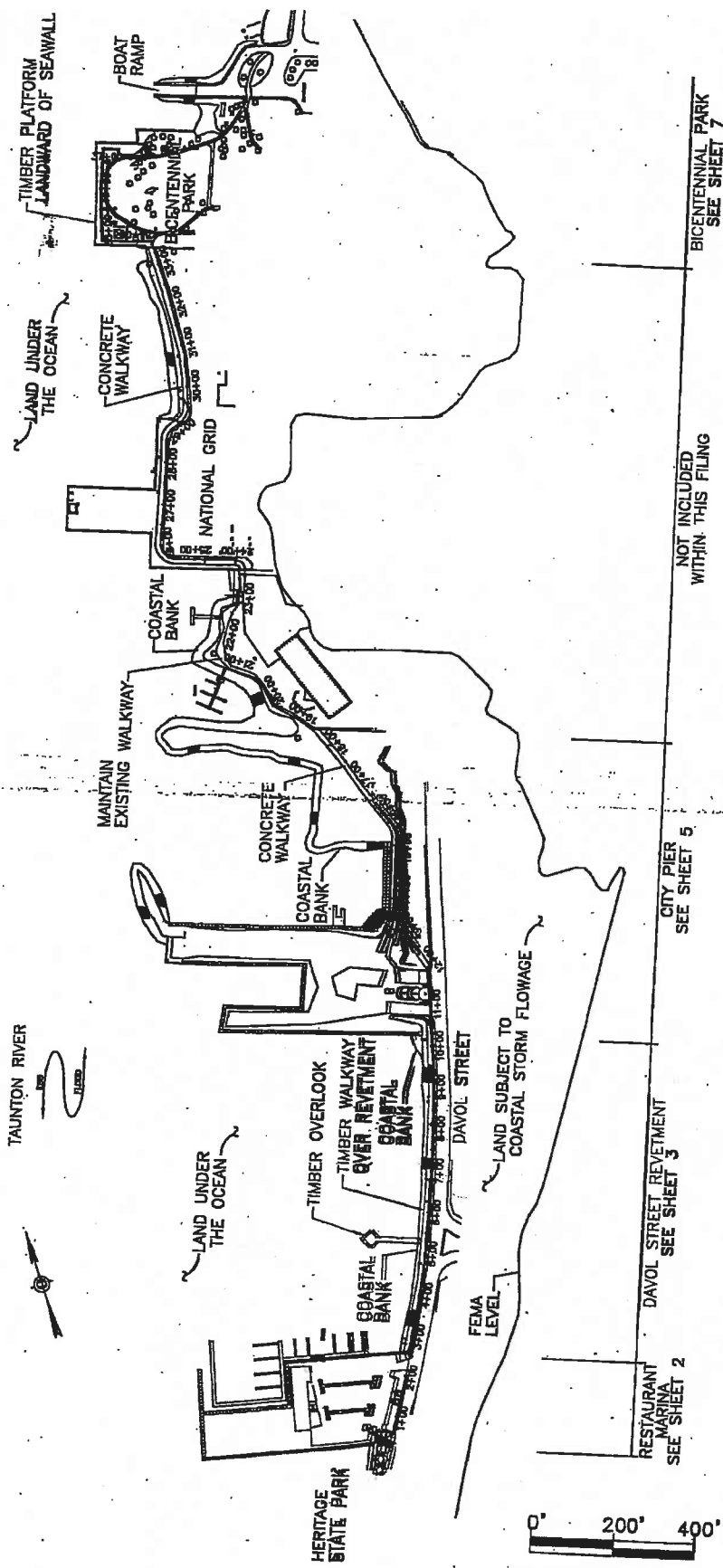
David B. Rine



LICENSE PLAN NO. 9411

Approved by Department of Environmental Protection

DATE NOV 06 2002

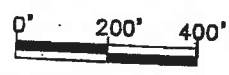


LOCATION PLAN

- 024-000-014-002-100
- 024-000-022-013-100
- 024-000-022-013-200
- 024-000-022-013-300
- 024-000-023-001-100



David B. Mine



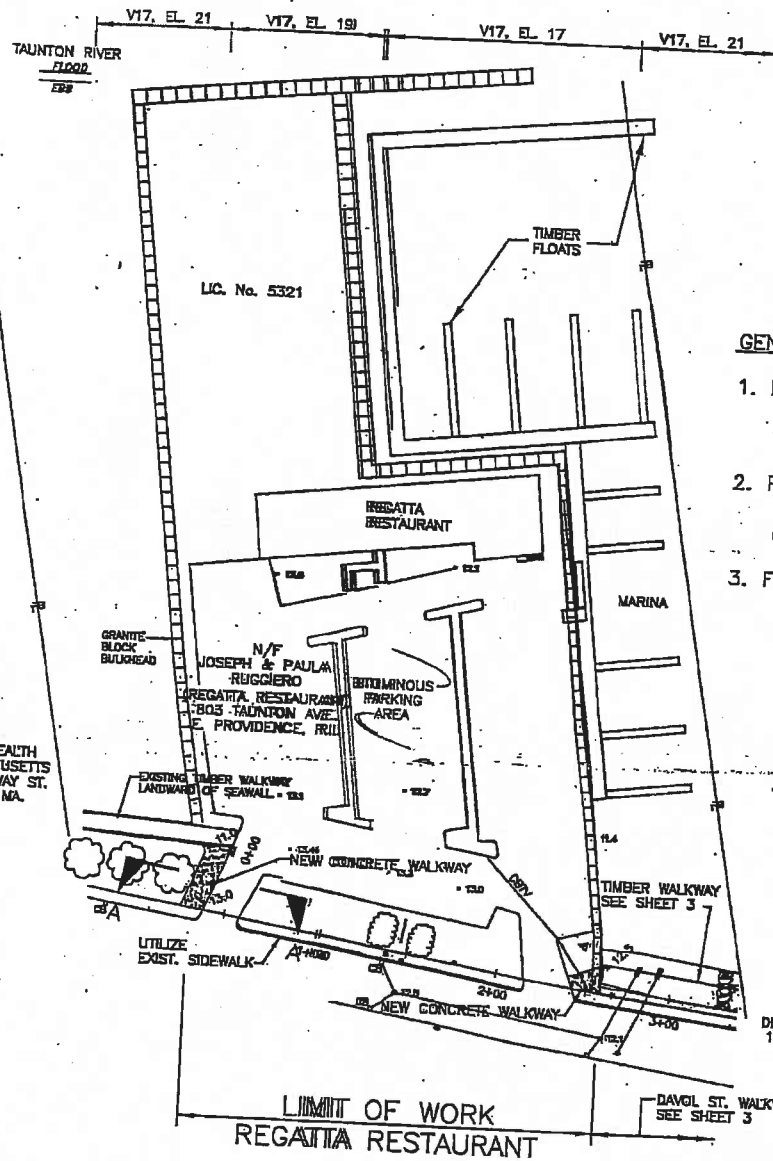
SHEET 1 OF 7

LICENSE PLAN NO. 9411

Approved by Department of Environmental Protection
of Massachusetts

M. J. Zienicka
James E. Lin NOV 06 2002

PLAN ACCOMPANYING PETITION OF:
CITY OF FALL RIVER TO CONSTRUCT
TIMBER WALKWAY, PIER, AND
CONCRETE WALKWAY, BULKHEAD AND
REVETMENT REPAIRS, RAILING,
WALKWAY LIGHTING, AND FENCING
TAUNTON RIVER
FALL RIVER, MASSACHUSETTS

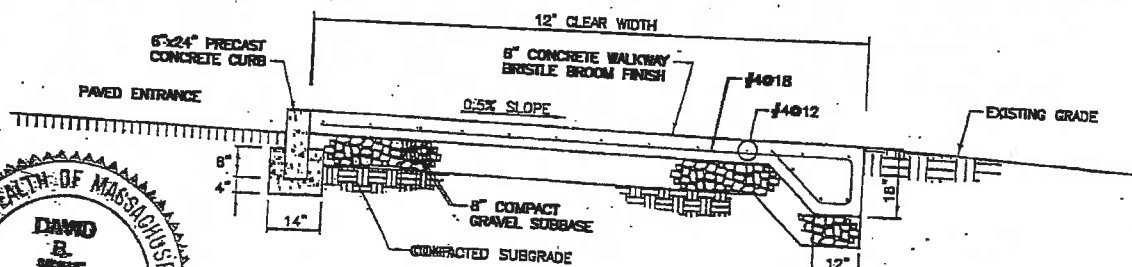


GENERAL NOTES:

1. DATUM: MLW=0.0; MHW=4.4; HTL=5.6; FEMA 100 YR. FLOOD EL. VARIES 17.0 TO 21.0.
2. PROPOSED WORK INCLUDES 40 LF OF 12' WIDE CONCRETE WALKWAY AND CONCRETE TRANSITION WALKWAY.
3. FILLED PIER LIC. No. 5321.

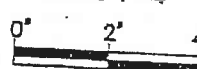
SITE PLAN

SCALE: 1"=100'



SECTION A

SCALE: 1"=4'

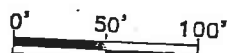
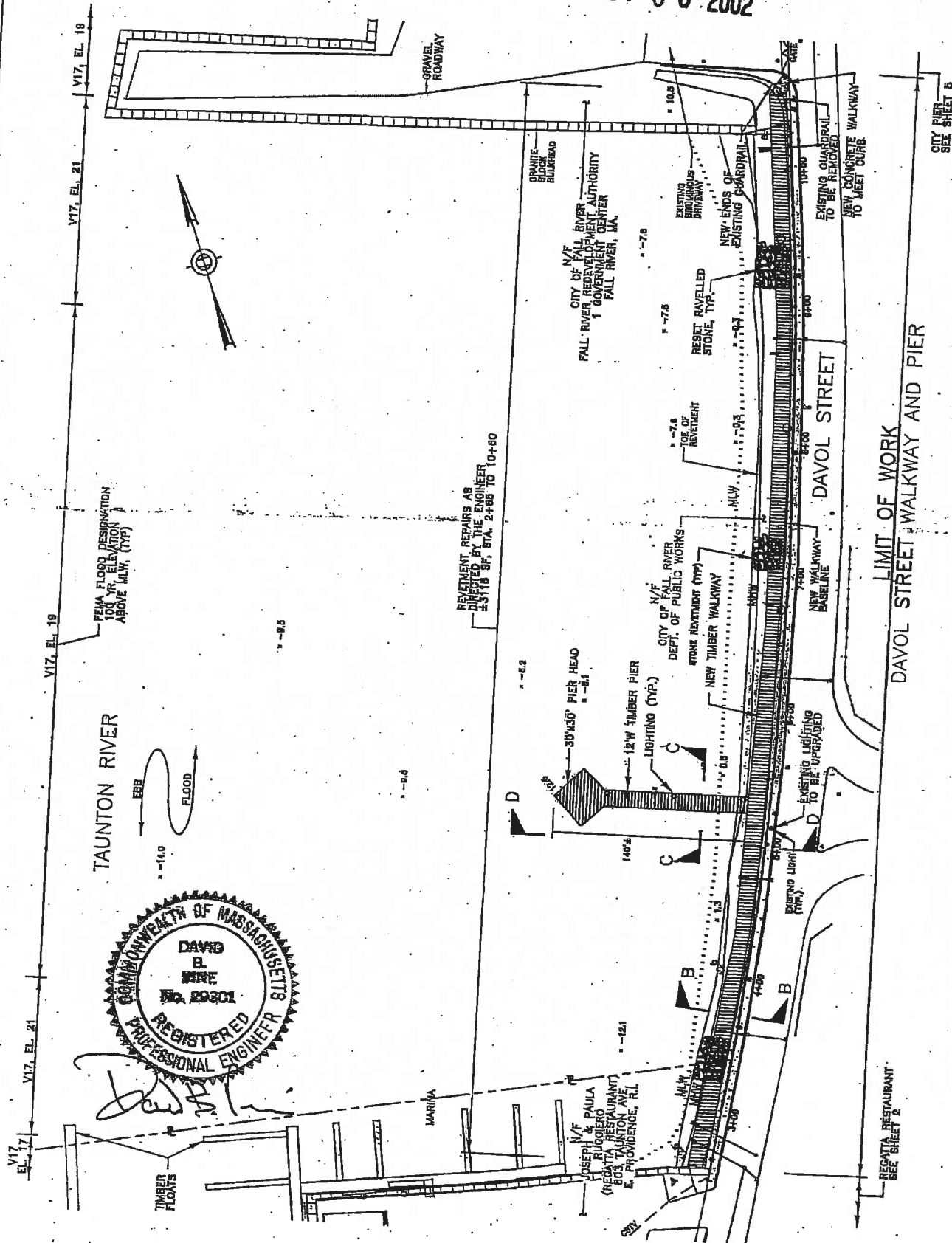


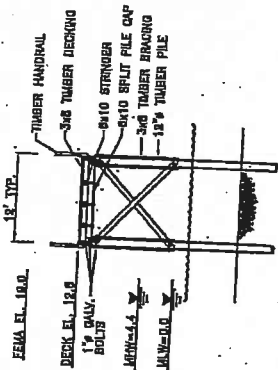
LICENSE PLAN NO. 9411

Approved by Department of Environmental Protection

Date: **NOV 06 2002**

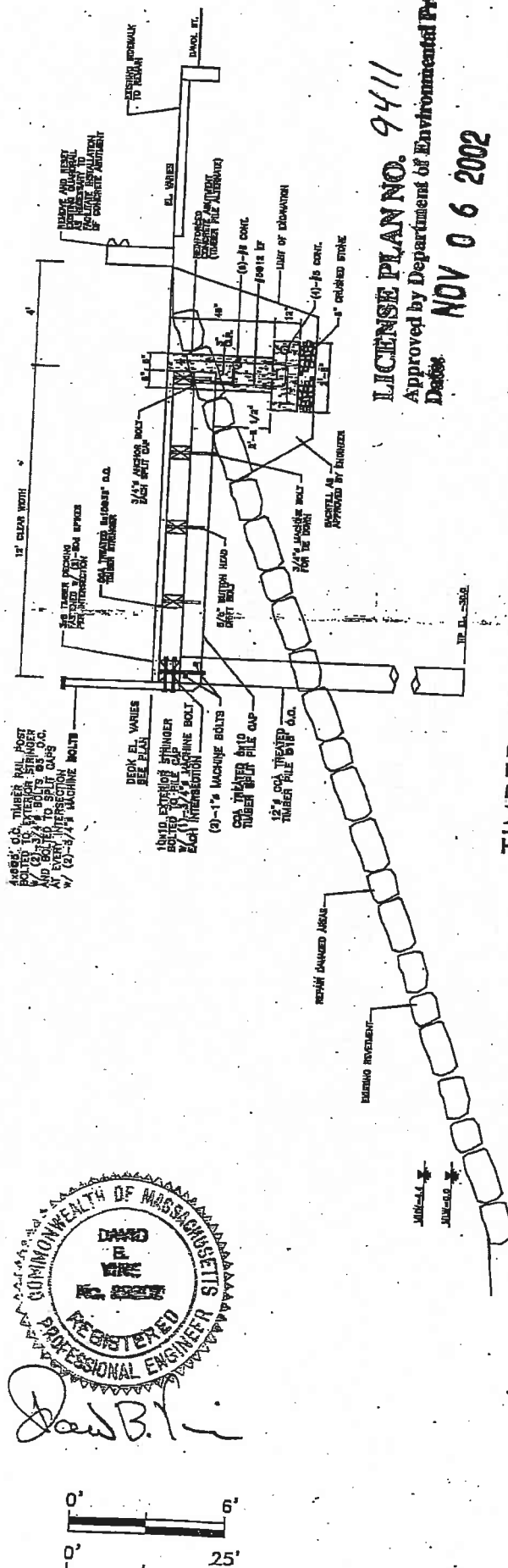
LICENSE PLAN NO. 9411
 Approved by Department of Environmental Protection
 Date: NOV 06 2002





TIMBER PIER ELEVATION D-D
SCALE: 1"=25'

TIMBER PIER SECTION C-C



LICENSE PLANO. 9411

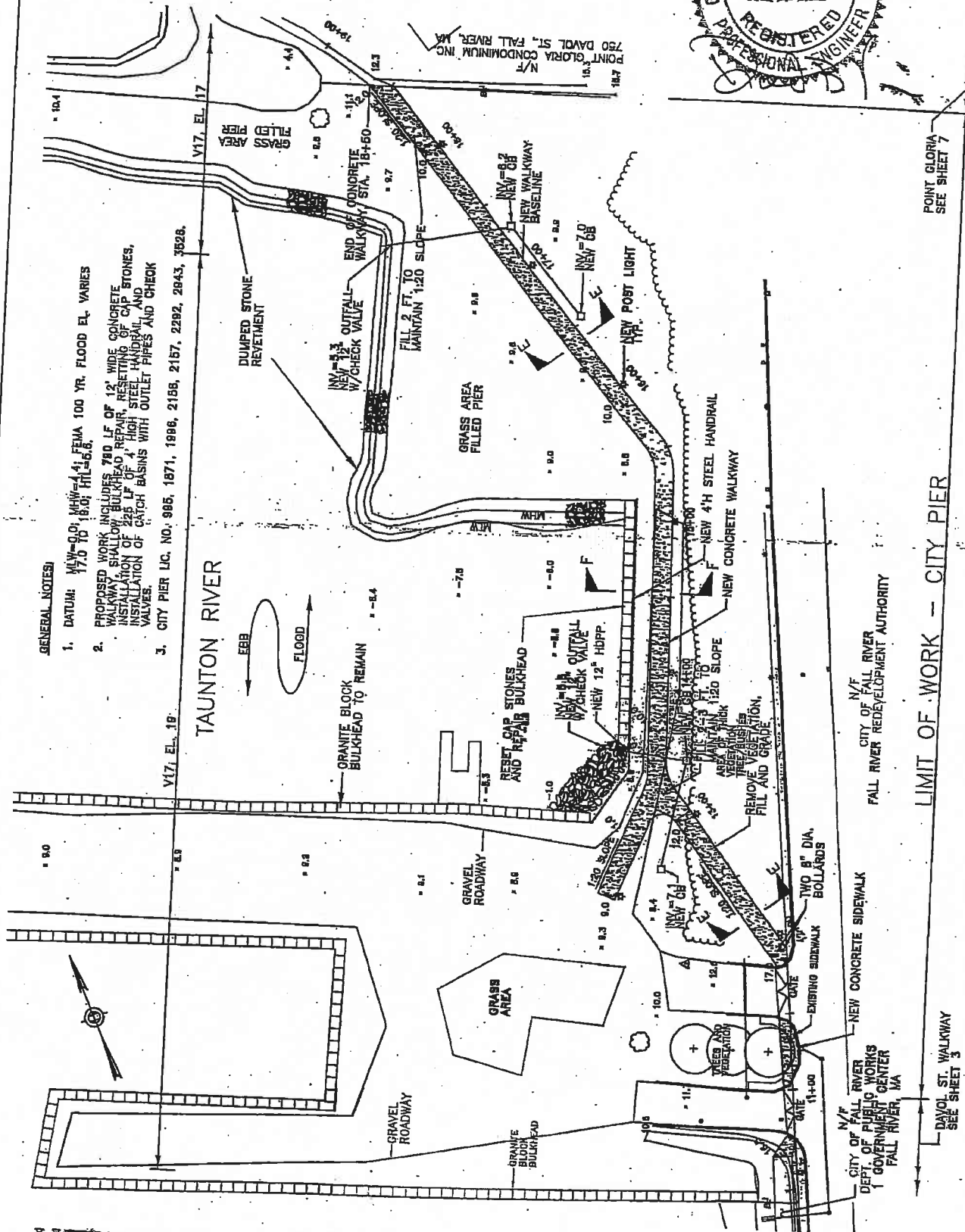
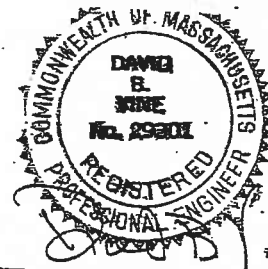
Approved by Department of Environmental Protection
Date: 11/17

NOV 06 2002

TIMBER WALKWAY SECTION B-B
SCALE: 1"=6'



David B. Yi



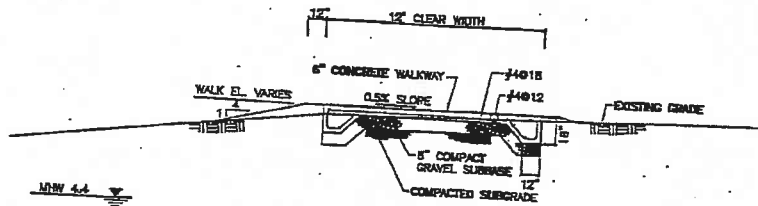
GENERAL NOTES

1. DATUM: MHW=0.0, MHH=-1.4, FEMA 100 YR. FLOOD EL. VARIES 17.0 TO 18.0, HIL=-6.6.
2. PROPOSED WORK INCLUDES 700 LF OF 12" WIDE CONCRETE WALKWAY, SHALLOW BULKHEAD REPAIR, RESETTING OF CAP STONES, INSTALLATION OF 225 LF OF 4" HIGH STEEL HANDRAIL, AND INSTALLATION OF CATCH BASINS WITH OUTLET PIPES AND CHECK VALVES.
3. CITY PIER LOC. NO. 905, 1871, 1896, 2155, 2167, 2292, 2843, 3528.

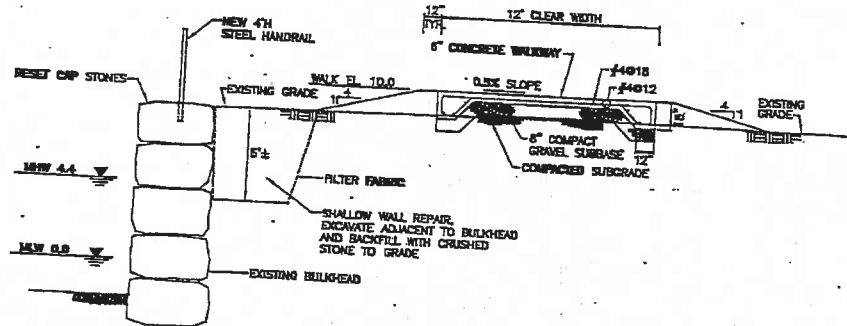
LICENSE PLAN NO. 9411
 Approved by Department of Environmental Protection
 Date **NOV 06 2002**



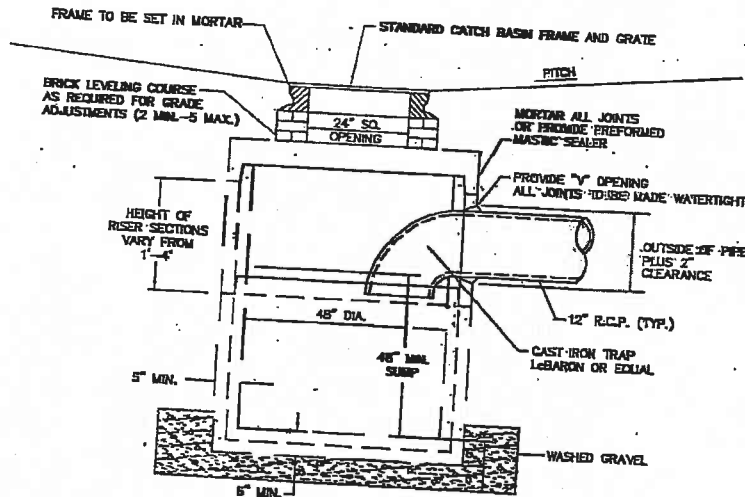
FEMA VARIES
EL. 17.0 TO 19.0



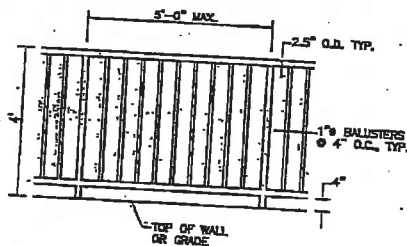
CONCRETE WALKWAY SECTION E-E
SCALE: 1"=10'



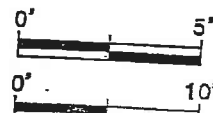
CONCRETE WALKWAY SECTION F-F
SCALE: 1"=10'



PRECAST CONCRETE CATCH BASIN
NOT TO SCALE



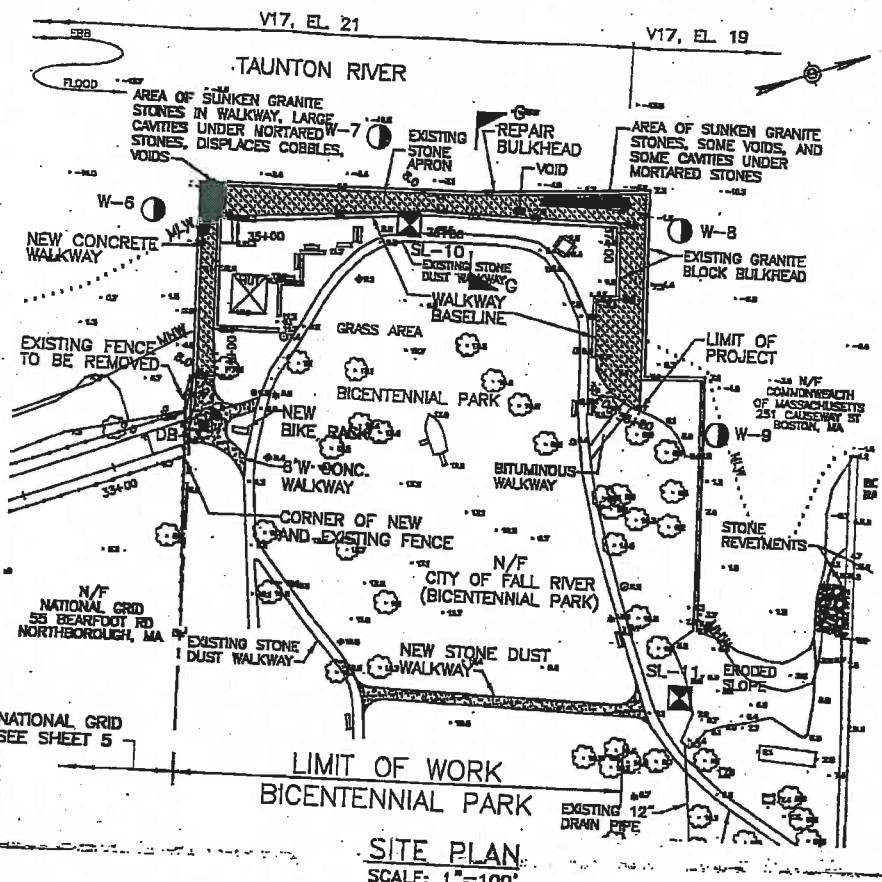
TYPICAL STEEL HANDRAIL DETAIL
SCALE: 1"=5'



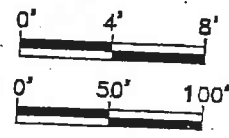
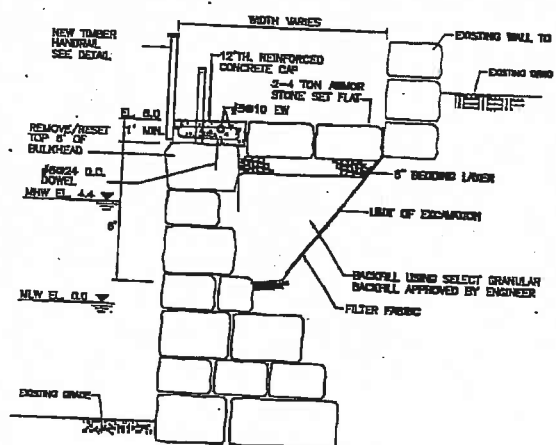
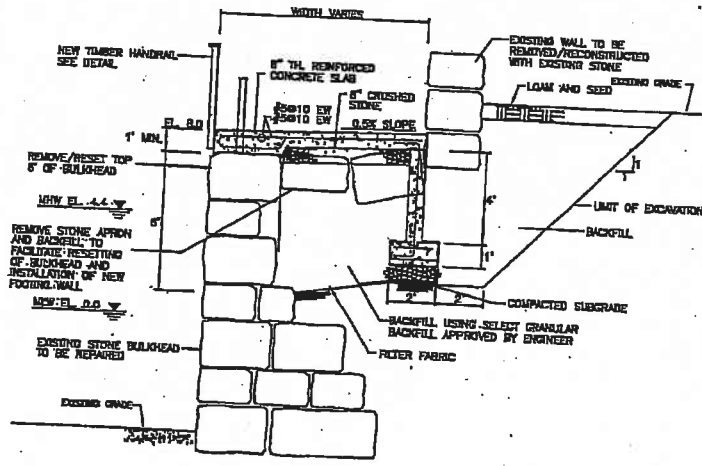
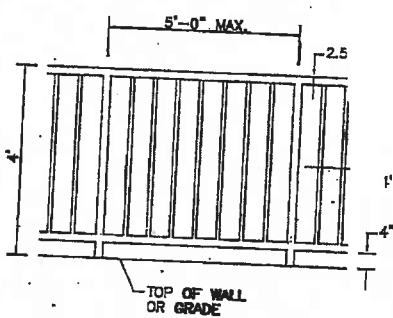
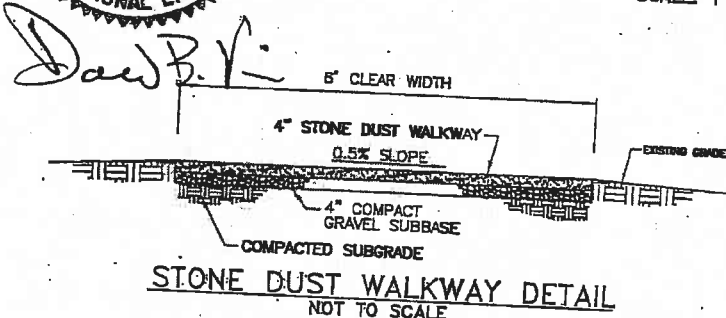
LICENSE PLAN NO. 9411
 Approved by Department of Environmental Protection
 Date NOV 06 2002

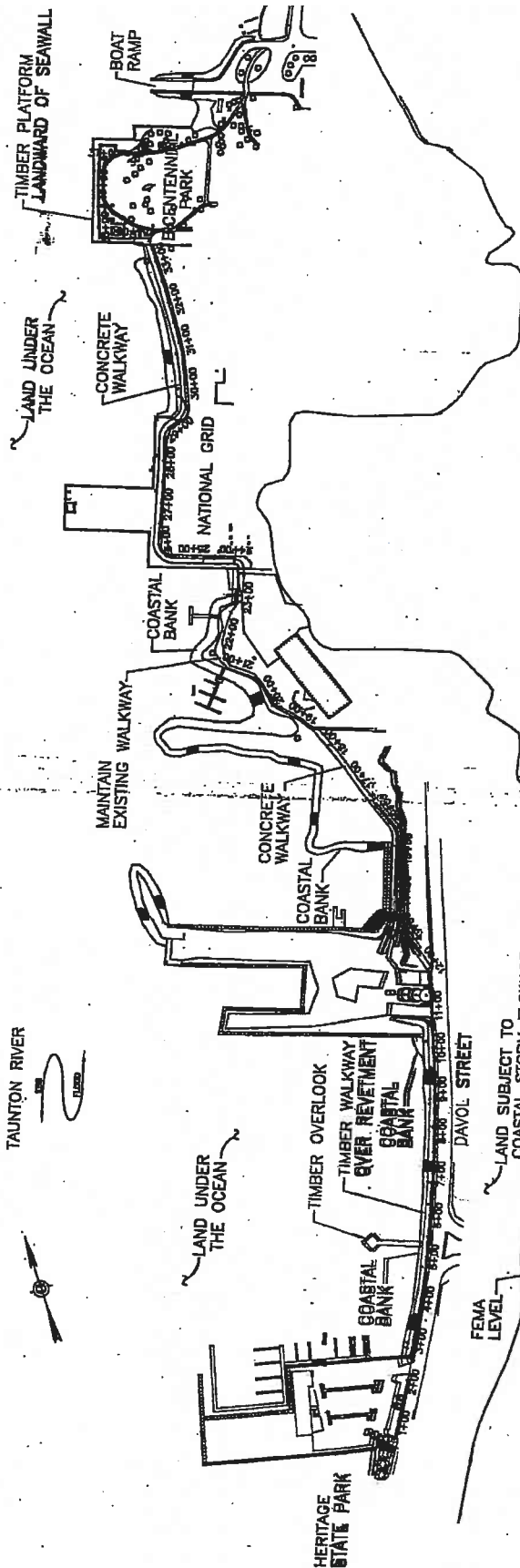


David B. Bore



LICENSE PLAN NO. 9411
 Approved by Department of Environmental Protection
 dated NOV 06 2002





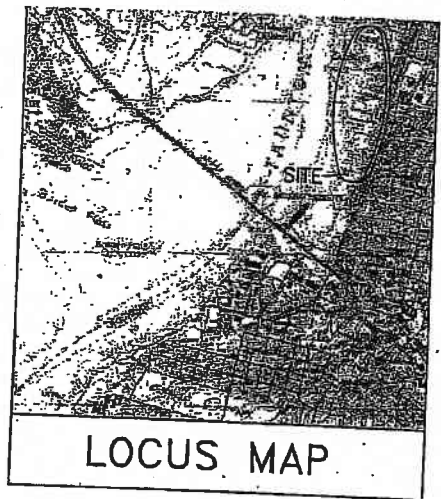
BICENTENNIAL PARK
SEE SHEET 7

NOT INCLUDED
WITHIN THIS FILING

CITY PIER
SEE SHEET 5

DAVOL STREET RETEMENT
SEE SHEET 3

RESTAURANT
MARINA
SEE SHEET 2



LOCATION PLAN

024-000-014-002-100
024-000-022-013-100
024-000-022-013-200
024-000-022-013-300
024-000-023-001-100

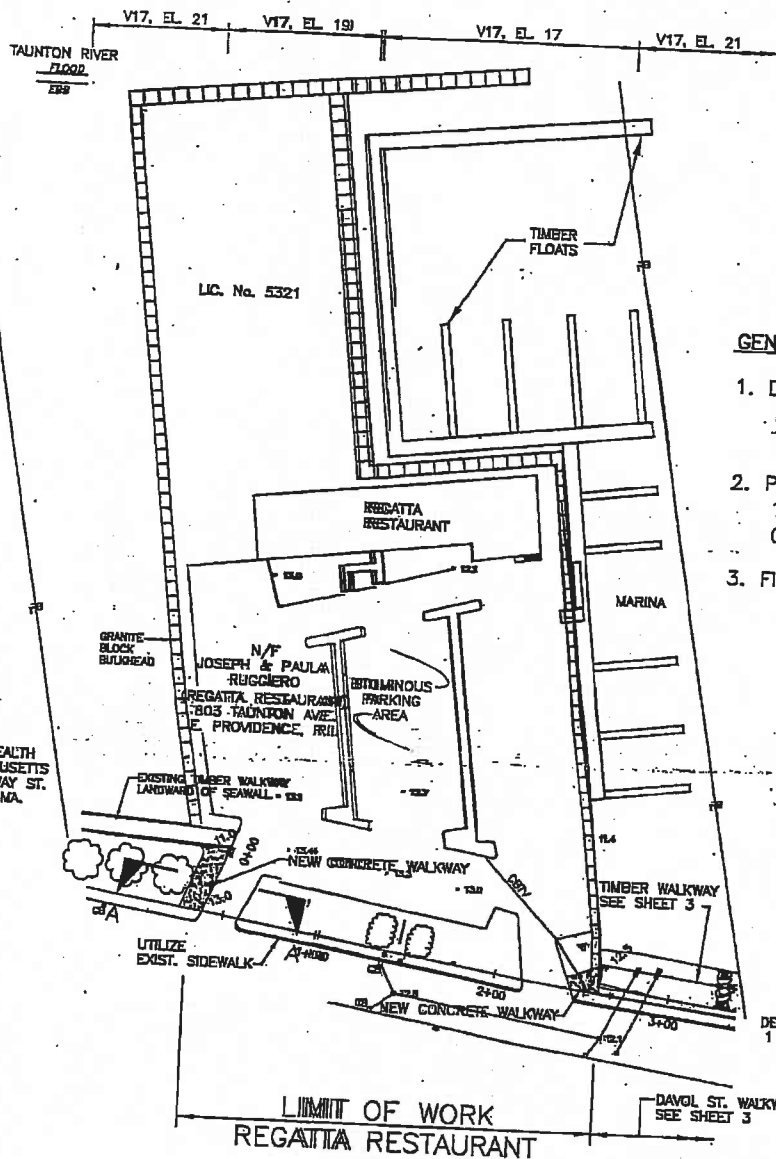


David B. Nix

PLAN ACCOMPANYING PETITION OF:
CITY OF FALL RIVER TO CONSTRUCT
TIMBER WALKWAY, PIER, AND
CONCRETE WALKWAY, BULKHEAD AND
RETEMENT REPAIRS, RAILING,
WALKWAY LIGHTING, AND FENCING
TAUNTON RIVER
FALL RIVER, MASSACHUSETTS

SHEET 1 OF 7

LICENSE PLAN NO. 9411
Approved by Department of Environmental Protection
of Massachusetts
M. J. Fiencina
James E. Lee NOV 06 2002

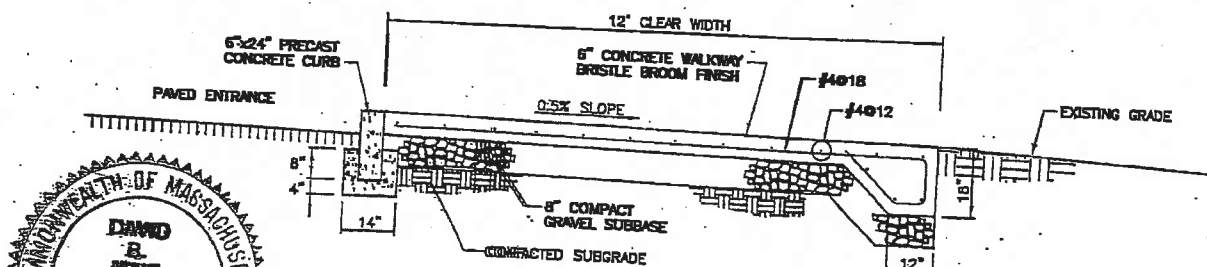


GENERAL NOTES:

1. DATUM: MLW=0.0; MHW=4.4; HTL=5.6; FEMA 100 YR. FLOOD EL. VARIES 17.0 TO 21.0.
2. PROPOSED WORK INCLUDES 40 LF OF 12' WIDE CONCRETE WALKWAY AND CONCRETE TRANSITION WALKWAY.
3. FILLED PIER LIC. No. 5321.

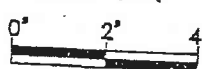
SITE PLAN

SCALE: 1"=100'



SECTION A

SCALE: 1"=4'

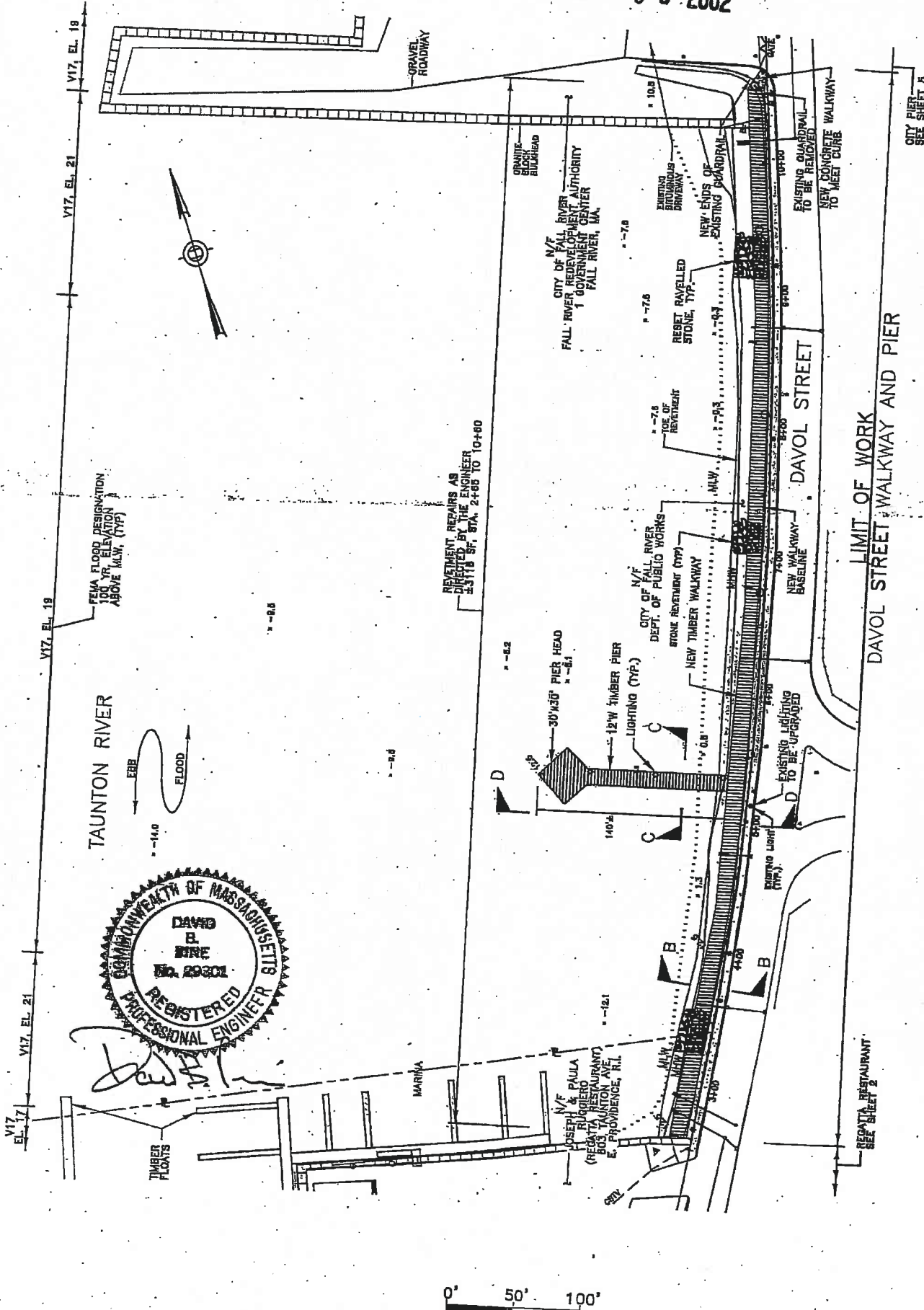


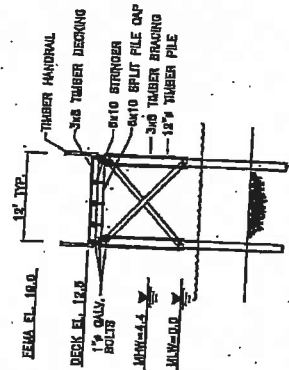
LICENSE PLAN NO. 9411

Approved by Department of Environmental Protection

Date: NOV 06 2002

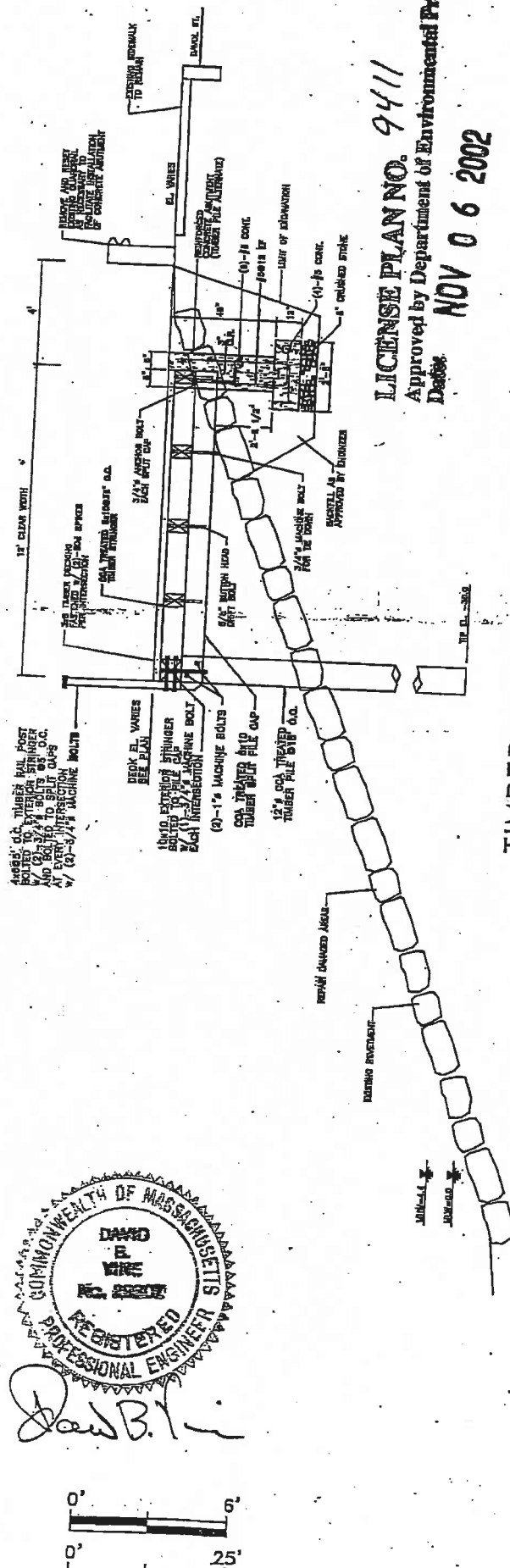
LICENSE PLAN NO. 9411
Approved by Department of Environmental Protection
Date: NOV 06 2002





TIMBER PIER ELEVATION D-D

TIMBER PIER SECTION C-C

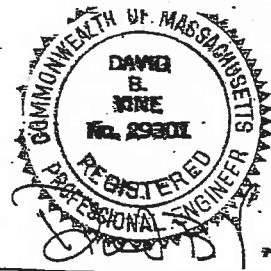


TIMBER WALKWAY SECTION B-B
SCALE: 1"=8'

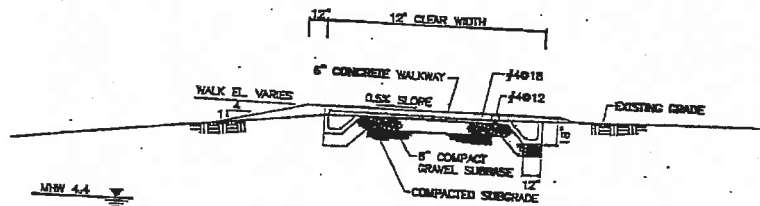
LICENSE PLANO. 9411

Approved by Department of Environmental Protection
Date: 10/11

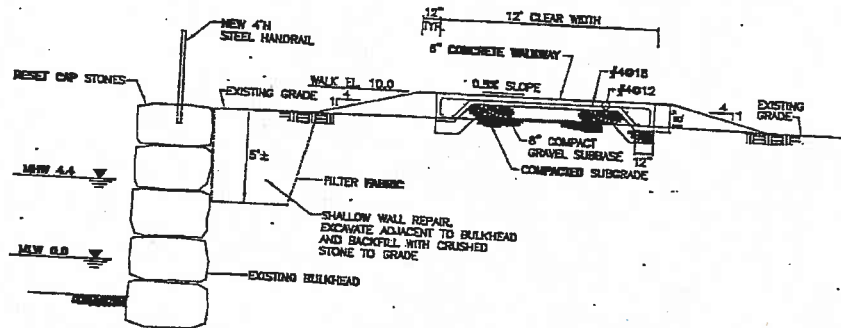
2007 9 0 AM



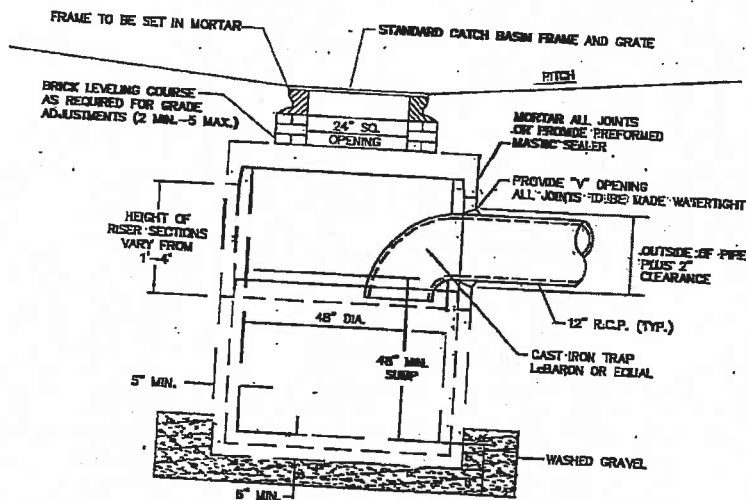
FEMA VARIES
EL. 17.0 TO 18.0



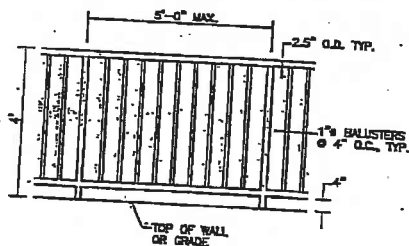
CONCRETE WALKWAY SECTION E-E
SCALE: 1"=10'



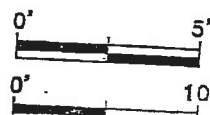
CONCRETE WALKWAY SECTION F-F
SCALE: 1"=10'



PRECAST CONCRETE CATCH BASIN
NOT TO SCALE



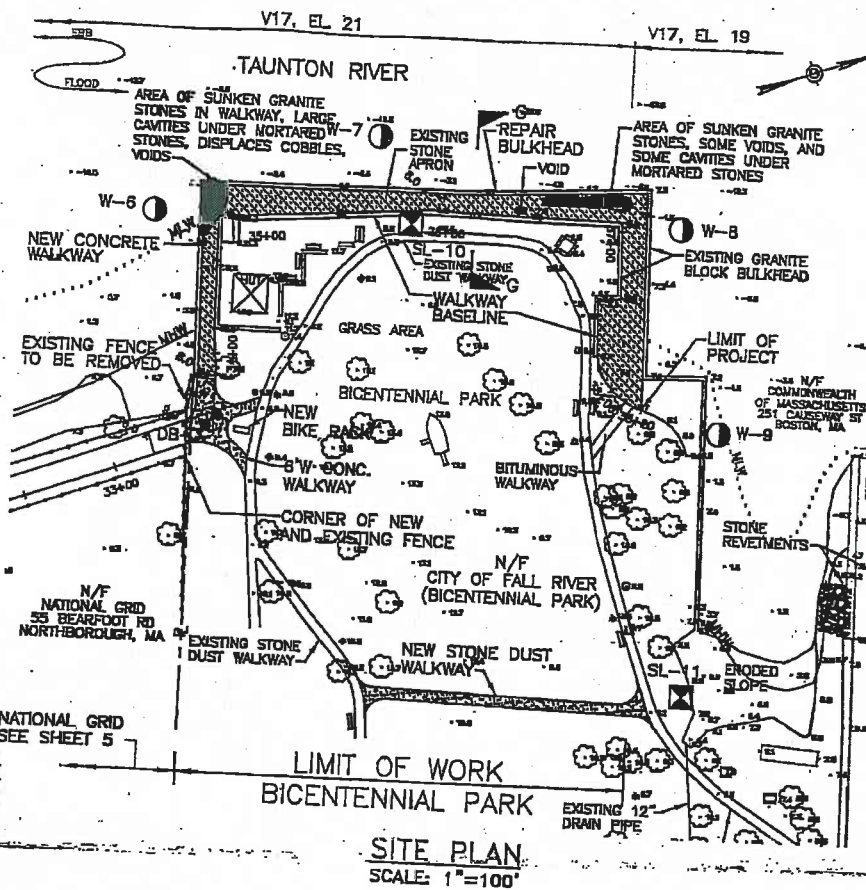
TYPICAL STEEL HANDRAIL DETAIL
SCALE: 1"=5'



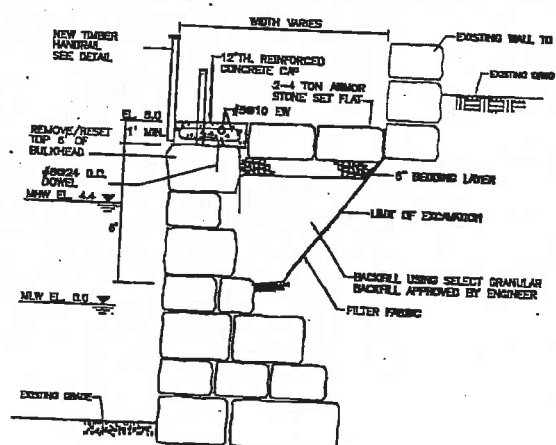
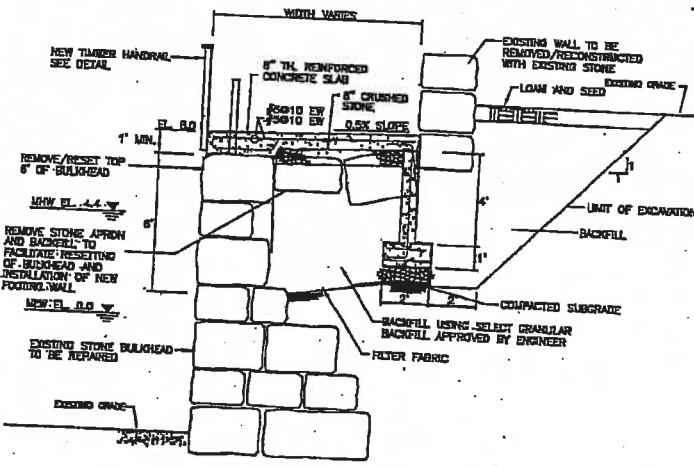
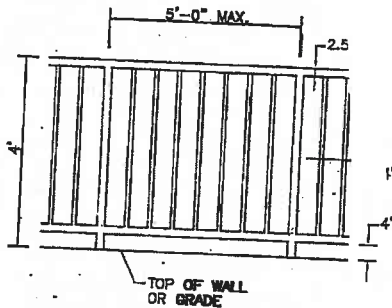
LICENSE PLAN NO. 9411
 Approved by Department of Environmental Protection
 Date: NOV 06 2002



David B. Vire

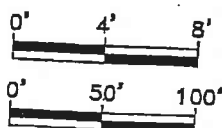


David B. Rine



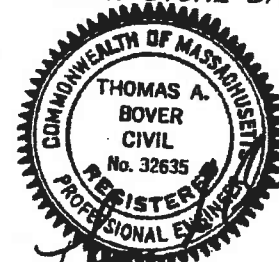
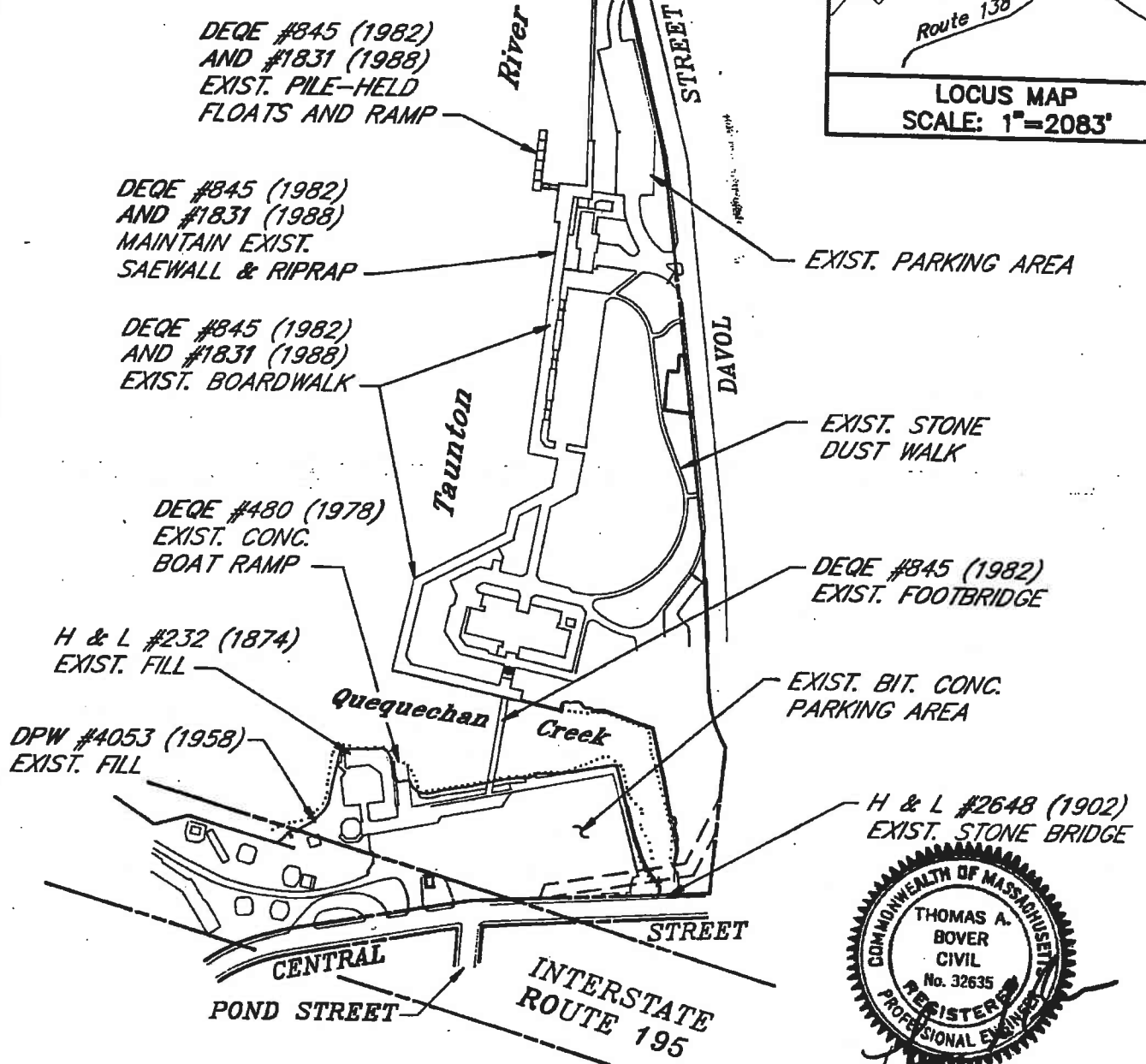
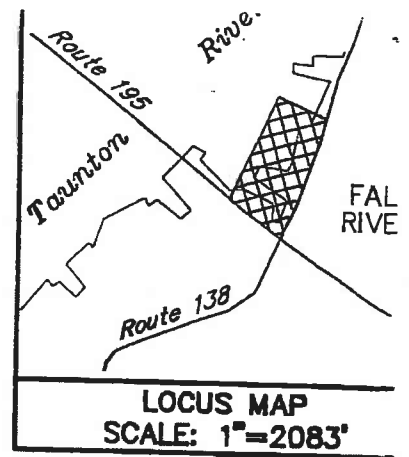
ALTERNATE 1
CONCRETE WALKWAY SECTION G-G
SCALE: 1"=8'

ALTERNATE 2
BULKHEAD REPAIR
SCALE: 1"=8'



LICENSE PLAN NO. 9411
 Approved by Department of Environmental Protection
 dated NOV 06 2002

024-00N-013-001-100
 024-00N-013-001-200
 024000-024-002-100
 024-00N-013-002-100
 024-00N-013-003-100
 024-00N-013-005-100



1"=250'
 0 125 250 500
 SCALE IN FEET

**FALL RIVER CAROUSEL
 AND HERITAGE PARK
 EXISTING CONDITIONS AND
 EXISTING WATERWAYS LICENSES**
 CITY OF FALL RIVER (BRISTOL COUNTY), MA.
 PLANS ACCOMPANYING PETITION OF THE
 COMMONWEALTH OF MASSACHUSETTS DEPT.
 OF ENVIRONMENTAL MANAGEMENT (DEM) AND
 FALL RIVER OFFICE OF ECONOMIC DEVELOPMENT
 PURPOSE IS TO REVITALIZE FALL RIVER HERITAGE PARK BY
 EXTENDING THE EXIST. BOARDWALK AND DOCK FACILITIES,
 INSTALL A JIB-CRANE, REPAIR & RECONSTRUCT PORTIONS
 OF EXIST. SEAWALL AND RIPRAP, IMPROVE PARKING LOT
 FACILITIES & CONSTRUCT A BUILDING FOR THE CAROUSEL
 Prepared By: HMM Associates, Inc. Concord, MA

LICENSE PLAN NO. 2641
 Approved by Department of Environmental Protection
 of Massachusetts
 Commissioner
 Director
 SECTION CHIEF
 APR 16 1991

FOCUS PLAN A
(WORK AREA 1 SHT. 3)

024-00N-013-001-100
024-00N-013-001-200
024-000-024-002-100
024-00N-013-002-100
024-00N-013-003-100
024-00N-013-005-100

"APPROXIMATE LOCATION OF
THE HISTORIC HIGH WATER
MARK FROM THE COOK-
BORDEN PLAN OF 1812."

FOCUS PLAN C
(WORK AREA 3 SHT. 6)

FOCUS PLAN B
(WORK AREA 2 SHTS. 4 & 5)

INTERSTATE
RT. 195

Quequechan
Creek

STREET

CENTRAL

POND STREET

1"=250'

0 125 250 500

SCALE IN FEET



FALL RIVER CAROUSEL
AND HERITAGE PARK
PROPOSED CONDITIONS

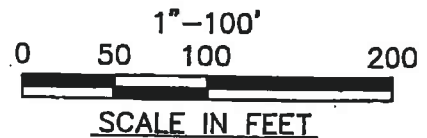
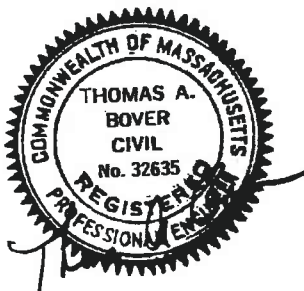
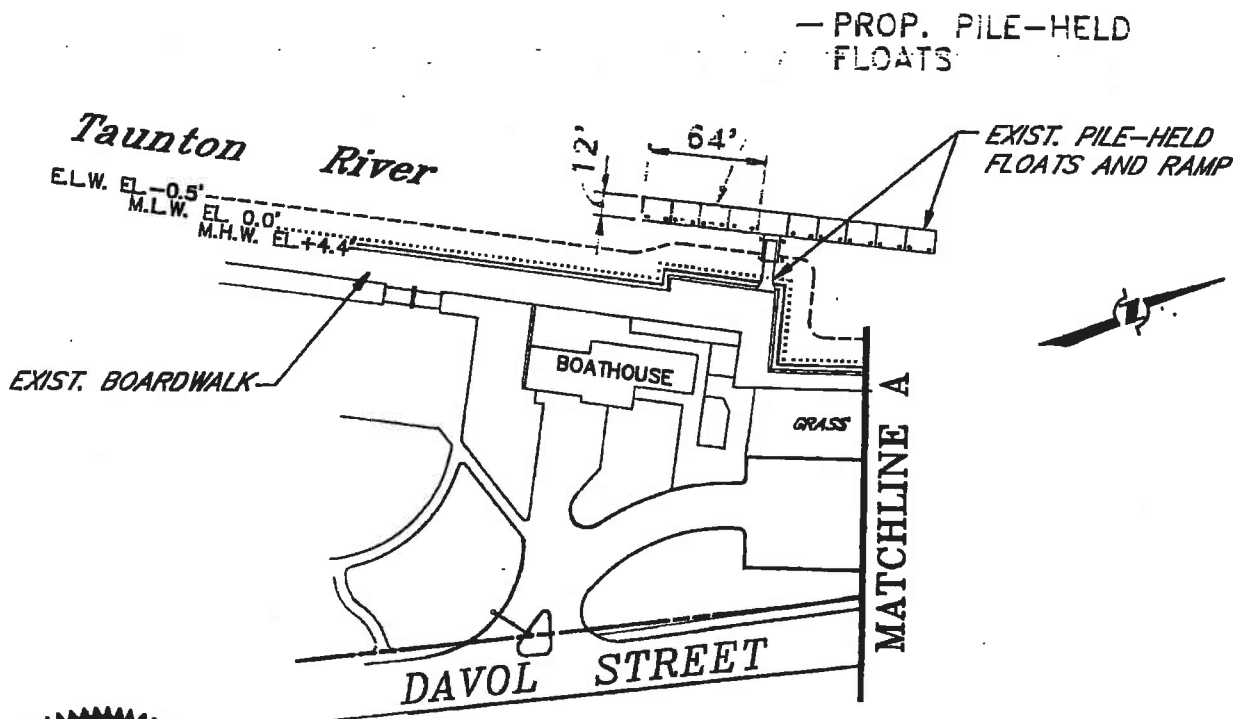
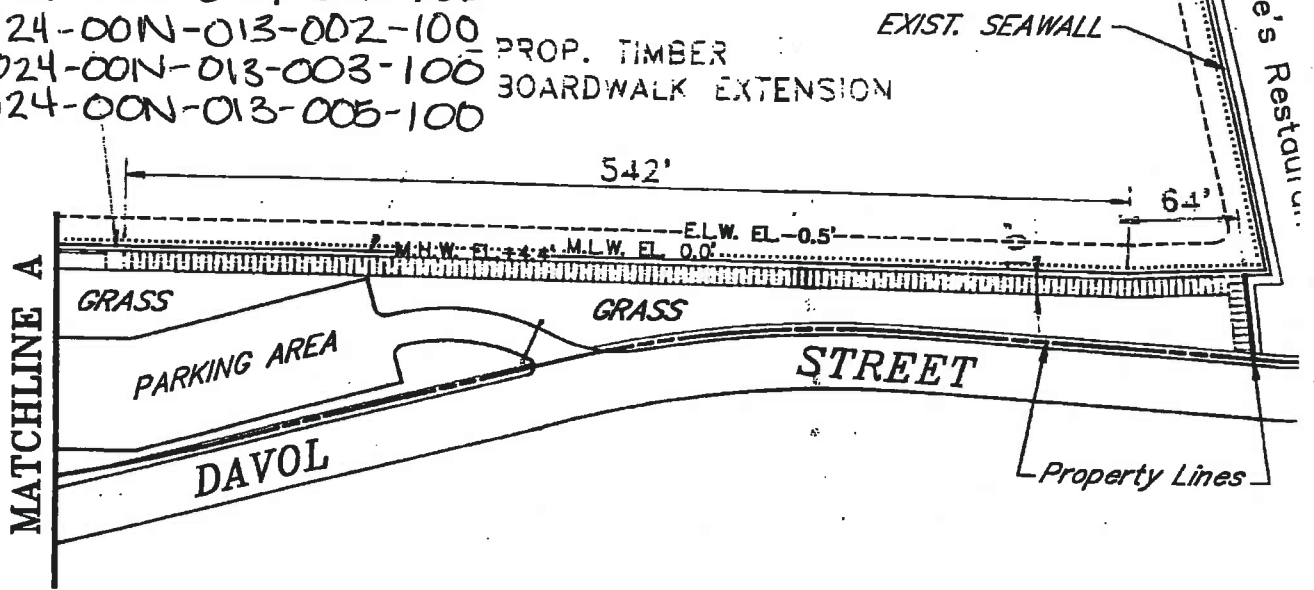
Prepared By: HMM Associates, Inc. Concord, MA

LICENSE PLAN NO. 2641

Approved by Department of Environmental Protection

Date: AUG 16 1991

024-00N-013-001-100 Taunton River
 024-00N-013-001-200
 024-000-024-002-100
 024-00N-013-002-100
 024-00N-013-003-100 PROP. TIMBER
 024-00N-013-005-100 BOARDWALK EXTENSION



FALL RIVER CAROUSEL
 AND HERITAGE PARK
 FOCUS PLAN A

Prepared By: HMM Associates, Inc. Concord, MA

LICENSE PLAN NO. 2641

Approved by Department of Environmental Protection

Date: APR 16 1991

WALKWAY (TYP.) -

024-00N-013-005-100
024-00N-013-003-100
024-00N-013-001-100
024-00N-013-001-200
024-000-024-002-100
024-00N-013-002-100

Quequechan Creek

EXIST. 25' ROADWAY

STREET

CENTRAL

POND STREET

PROP. FOUNTAIN

PROP. BUS DROP-OFF

EXIST. CONC. RETAINING WALL

PROP. CAROUSEL BLDG. SEE FOCUS PLAN C SHT. 6

EL.W. EL.-0.5' --
M.L.W. EL. 0.0' ...
M.H.W. EL.+4.4'

EXIST. CONC. BOAT RAMP

PROP. LIMITS OF EXIST. SEAWALL REPAIR

MATCHLINE B (Sht. 5)

1"=50'

0 25 50 100

SCALE IN FEET



FALL RIVER CAROUSEL AND HERITAGE PARK
FOCUS PLAN B

Prepared By: HMM Associates, Inc. Concord, MA

LICENSE PLAN NO. 2641

Approved by Department of Environmental Protection

APR 16 1991



MATCHLINE B (Sht. 4)

POND STREET

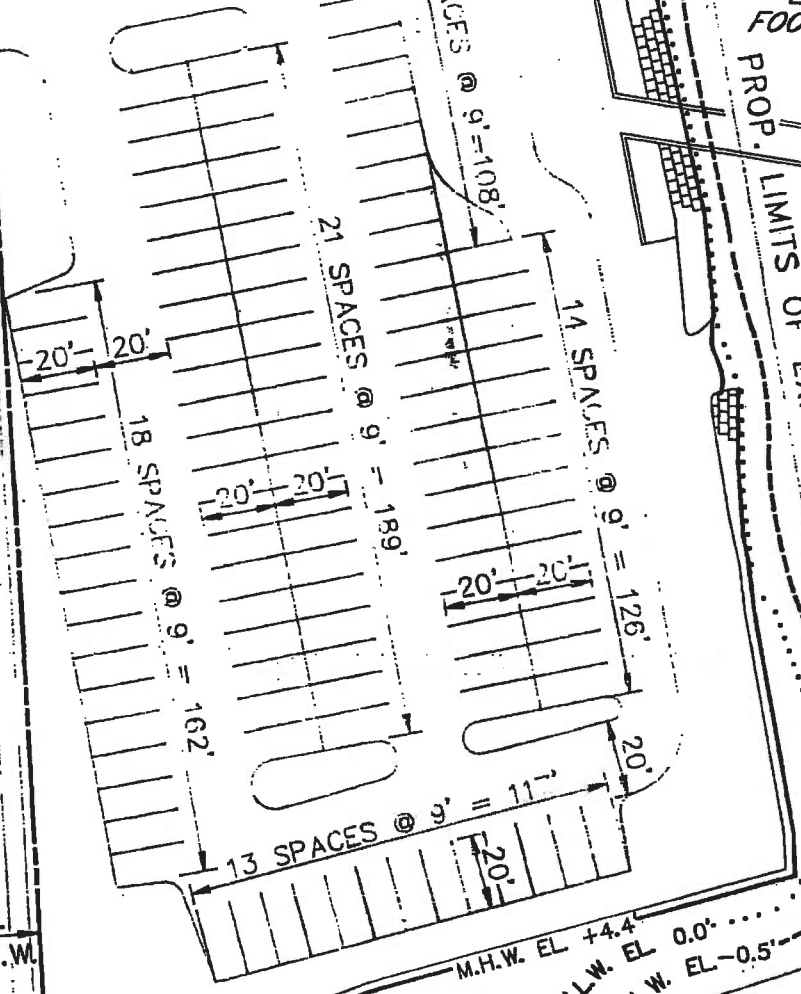
EXIST. 25' ROADWAY

024-00N-013-00-100
024-00N-013-00-200
024-00N-013-00-400
024-00N-013-00-600
024-00N-013-00-800
024-00N-013-00-1000
024-00N-013-00-1200
024-00N-013-00-1400
024-00N-013-00-1600
024-00N-013-00-1800
024-00N-013-00-2000

STREET

CENTRAL

EXIST. 40' R.O.W.



EXIST. FOOTBRIDGE

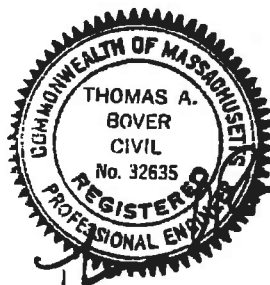
PROP. LIMITS OF EXIST. SEAWALL REPAIR

Quequechan Creek

M.H.W. EL +4.4'
M.L.W. EL 0.0'
E.L.W. EL -0.5'

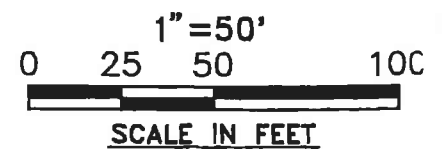
E.L.W.
M.L.W.
M.H.W.

EXIST. STONE BRIDGE



FALL RIVER CAROUSEL
AND HERITAGE PARK
FOCUS PLAN B (CONT.)

Prepared By HMM Associates, Inc. Concord, MA



LICENSE PLAN NO. 2641

Approved by Department of Environmental Protection

Date: APR 16 1991



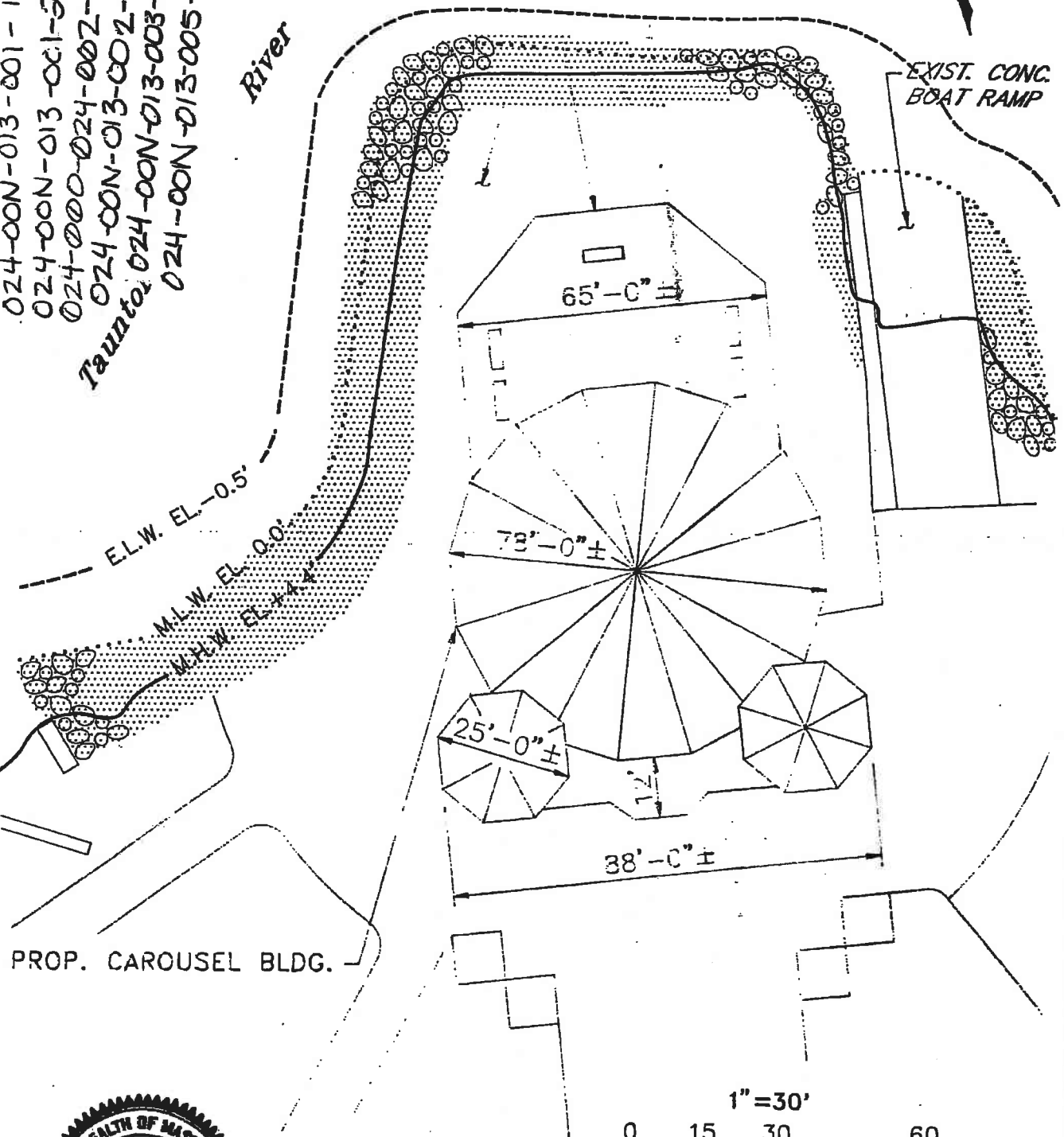
PROP. AREA OF EXISTING
STONE RIPRAP TO BE
RECONSTRUCTED

024-00N-013-001-100
024-00N-013-001-300
024-000-024-002-100
024-00N-013-002-100
024-00N-013-003-100
024-00N-013-005-100
Taunton

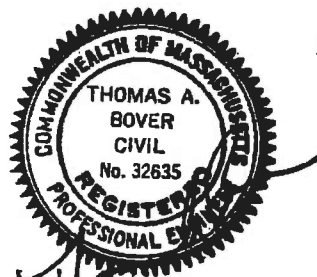
River

PRCP. OUTDOOR PLAZA
& LANDSCAPED AREA

EXIST. CONC.
BOAT RAMP



PROP. CAROUSEL BLDG.



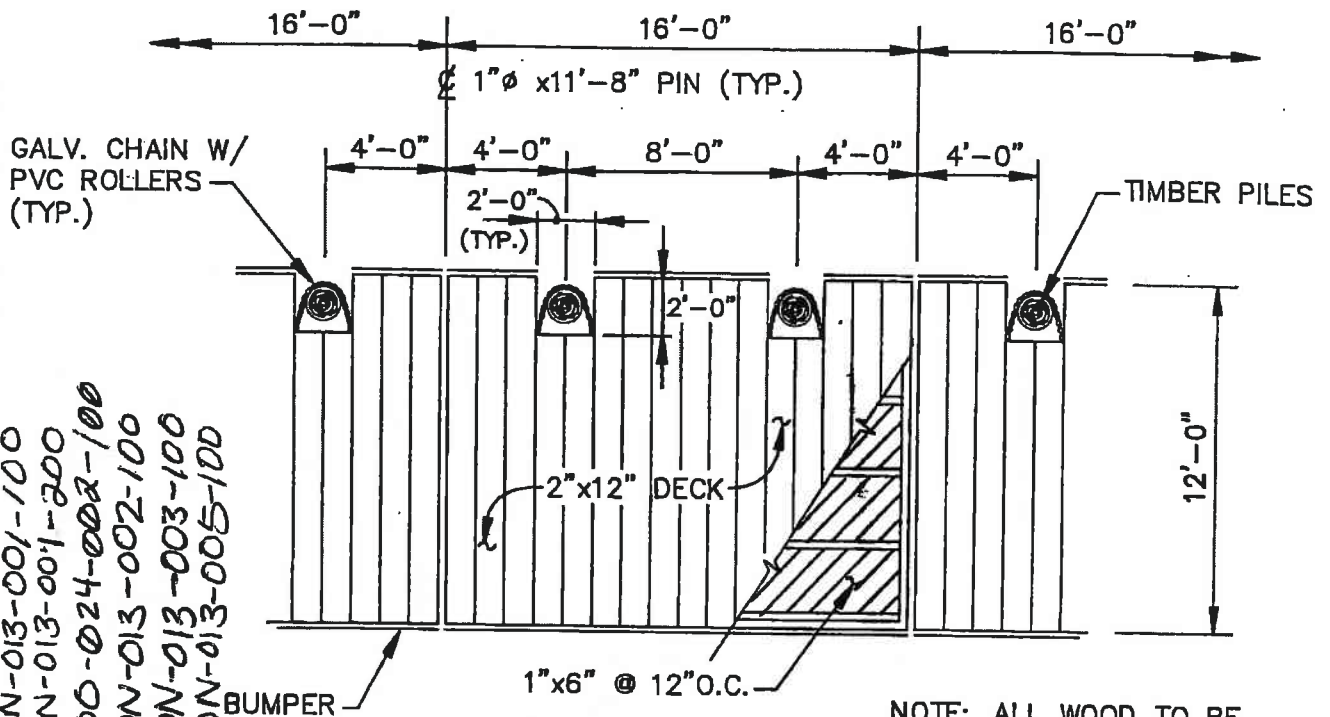
FALL RIVER CAROUSEL
AND HERITAGE PARK
FOCUS PLAN C

Prepared By HMM Associates, Inc. Concord, MA

LICENSE PLAN NO. 2641

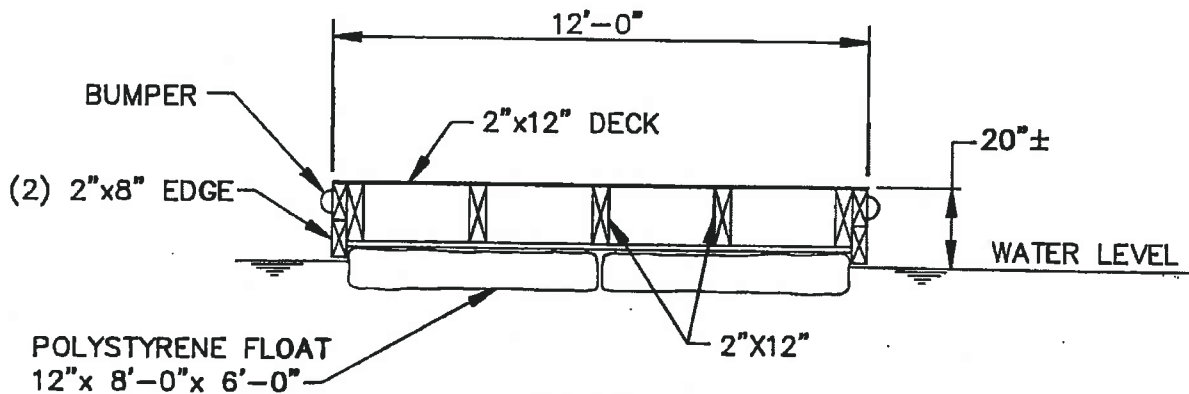
Approved by Department of Environmental Protection

Date: APR 16 1991



NOTE: ALL WOOD TO BE PRESSURE TREATED WITH NON-LEACHING PRESERVATIVE.

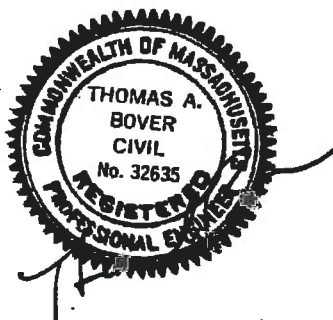
PLAN



SECTION

PLAN AND SECTION OF FLOAT EXTENSION

NOT TO SCALE



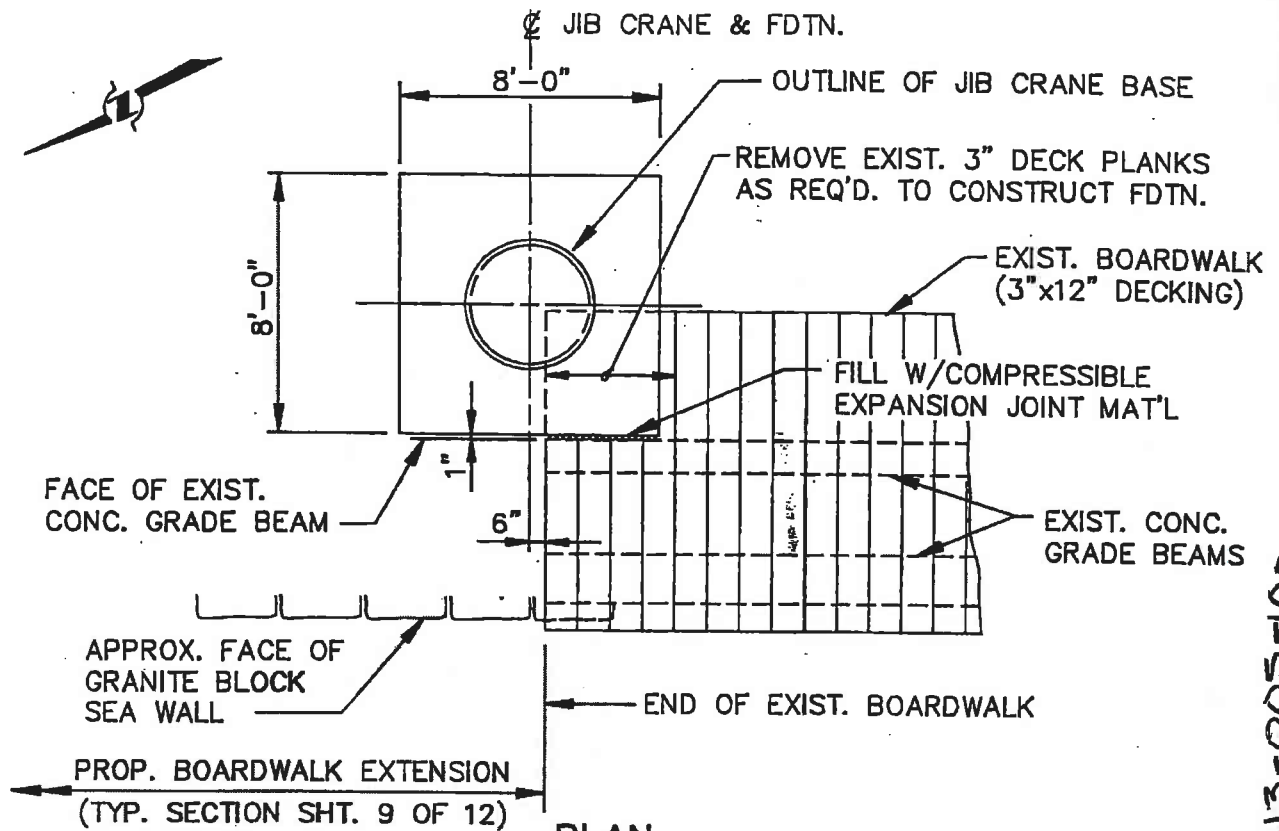
FALL RIVER CAROUSEL
AND HERITAGE PARK
TYPICAL FLOAT SECTION

Prepared By: HMM Associates, Inc. Concord, MA

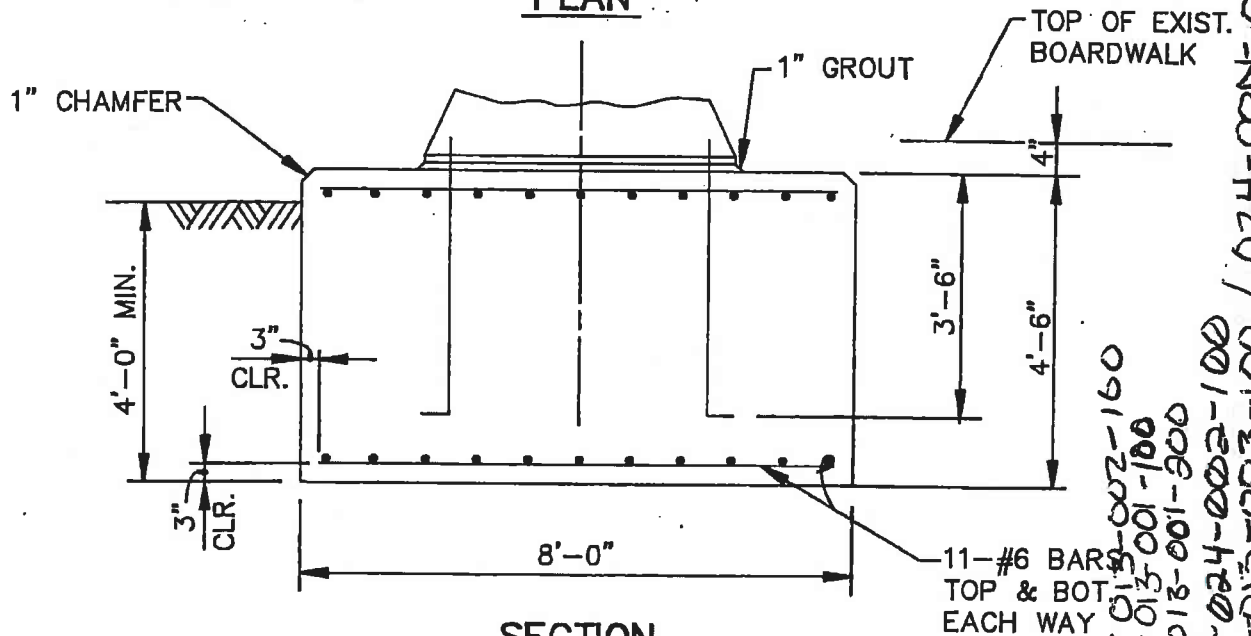
LICENSE PLAN NO. 2641

Approved by Department of Environmental Protection

Date: APR 16 1991



PLAN



SECTION

JIB CRANE FOUNDATION



FALL RIVER CAROUSEL
AND HERITAGE PARK
JIB CRANE FOUNDATION DETAIL

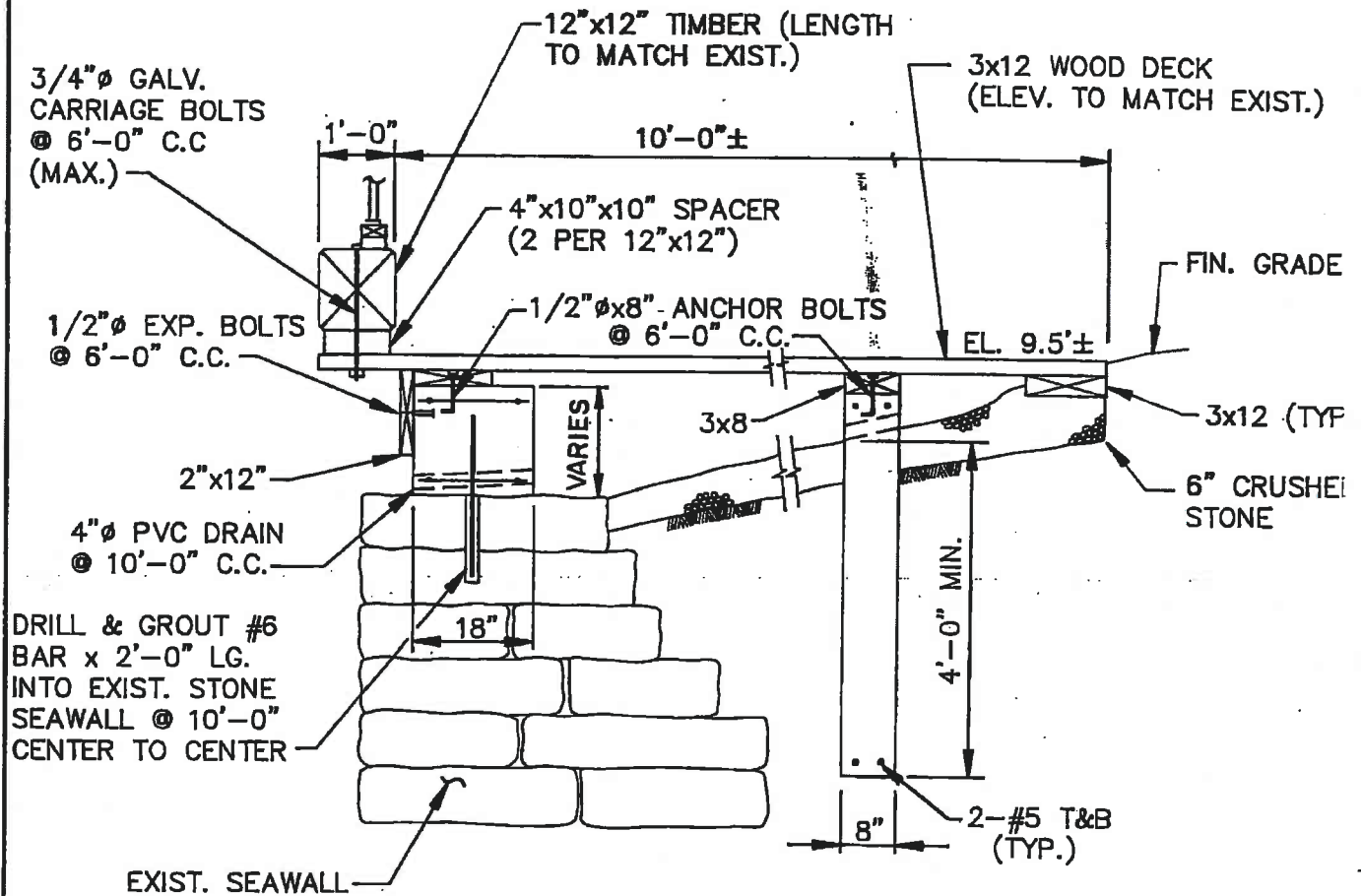
LICENSE PLAN NO. 2641

Approved by Department of Environmental Protection

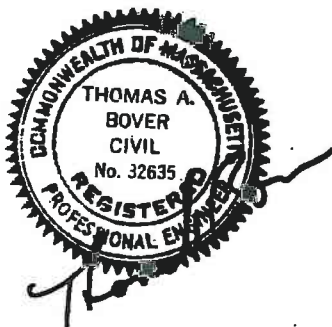
Date: ADD 1 6 1991

024-00N-013-002-160
024-00N-013-001-100
024-00N-013-001-300
024-000-024-002-100
024-00N-013-003-100 / 024-00N-013-005-100

024-00N-013-002-100
 024-00N-013-003-100
 024-00N-013-001-100
 024-00N-013-001-200
 024-000-024-002-100
 024-00N-013-005-100



**TYPICAL SECTION
 AT BOARDWALK EXTENSION**
 NOT TO SCALE



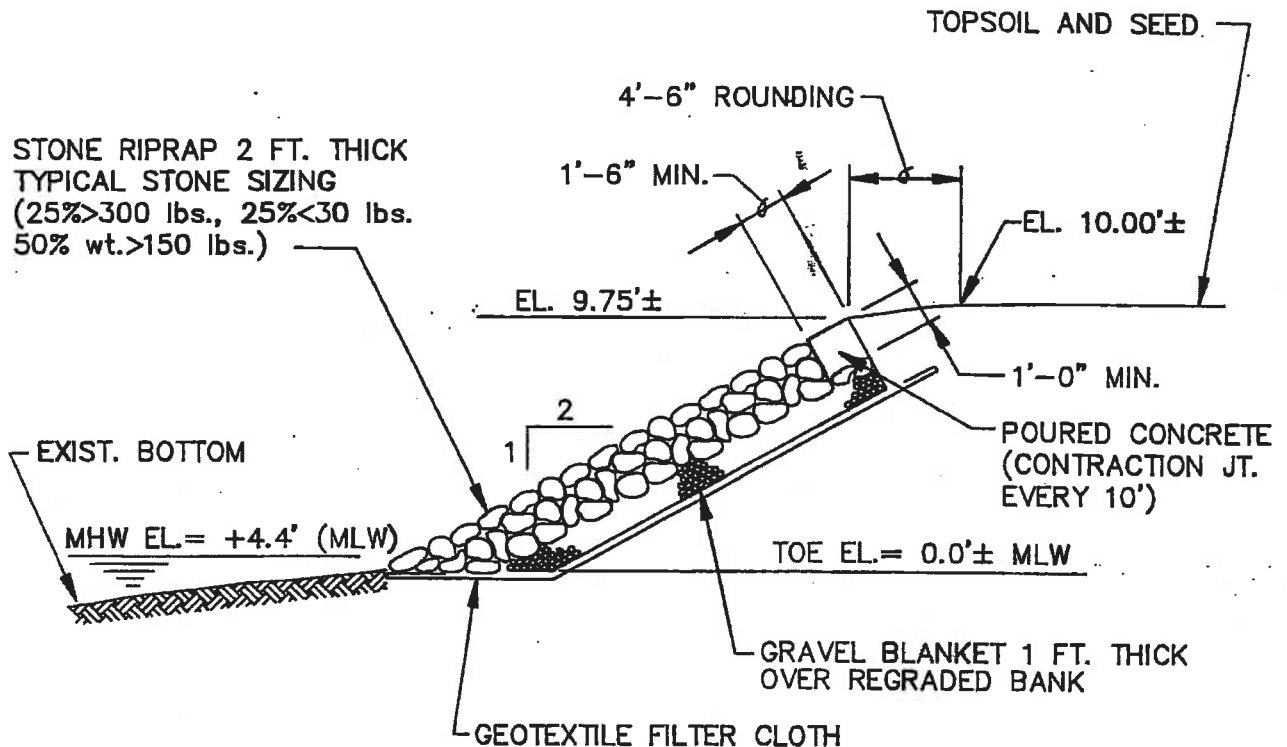
**FALL RIVER CAROUSEL
 AND HERITAGE PARK
 TYPICAL BOARDWALK SECTION**

LICENSE PLAN NO. 26411

Approved by Department of Environmental Protection

Date: ADD 1 6 1001

024-00N-013-002-100
 024-00N-013-003-100
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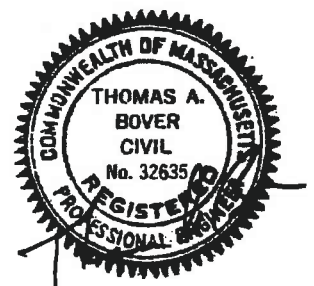


TYPICAL RIPRAP REVETMENT RECONSTRUCTION

NOT TO SCALE

NOTES:

1. TYPICAL STONE SIZING MAY VARY ACCORDING TO CONTRACTOR'S SPECIFICATIONS.
2. EXISTING DUMPED STONE RIPRAP MATERIAL WILL BE RE-USED TO GREATEST EXTENT PRACTICAL.
3. PLAN IS FOR PERMITTING PURPOSES ONLY.

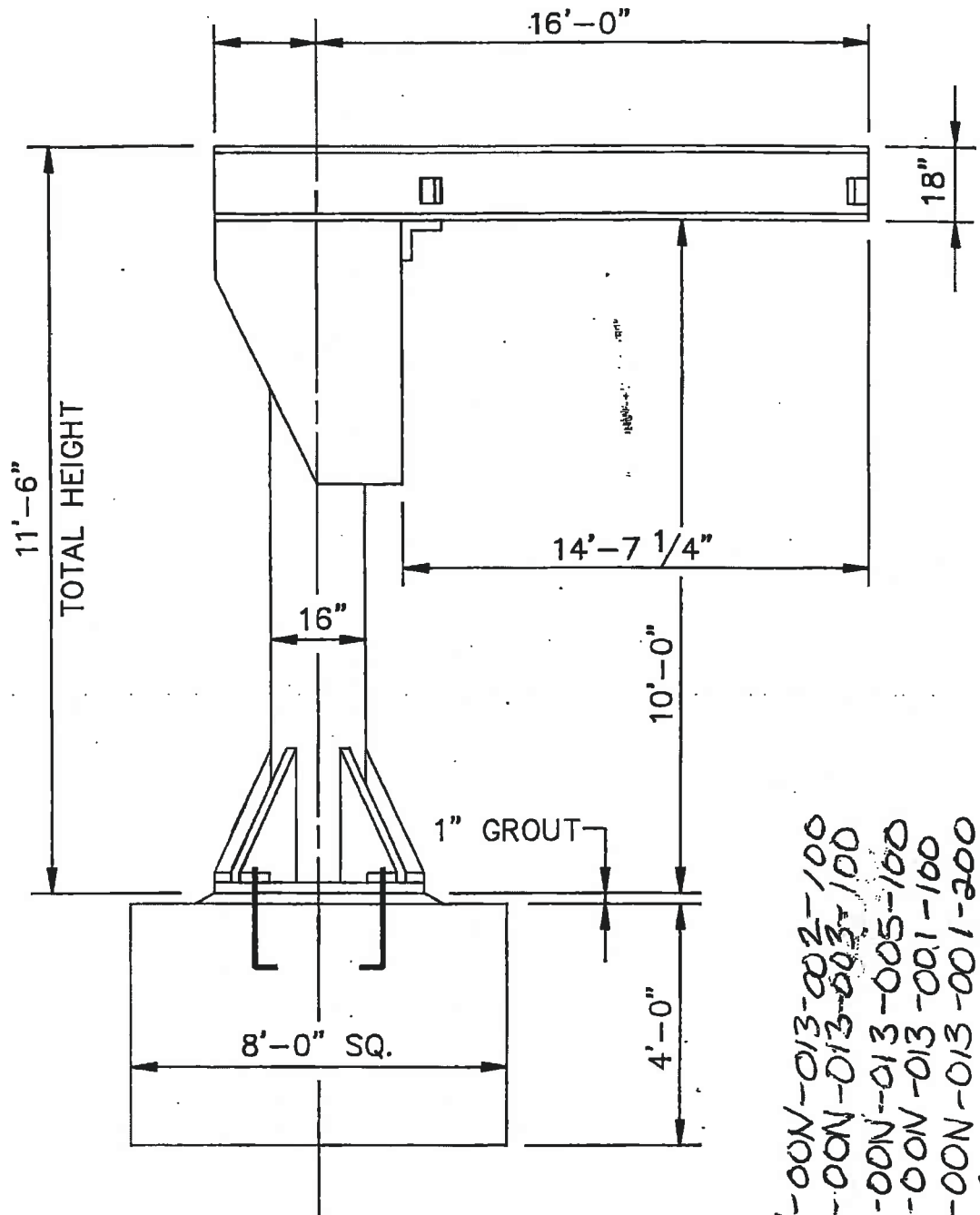


FALL RIVER CAROUSEL
 AND HERITAGE PARK
 TYPICAL RIPRAP REVETMENT

LICENSE PLAN NO. 2641

Approved by Department of Environmental Protection

Date: APR 16 1991



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 024-00N-013-003-100
 024-00N-013-005-100
 024-00N-013-001-100
 024-00N-013-001-200
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JIB CRANE DETAIL

NOT TO SCALE



FALL RIVER CAROUSEL
 AND HERITAGE PARK
 JIB CRANE DETAIL

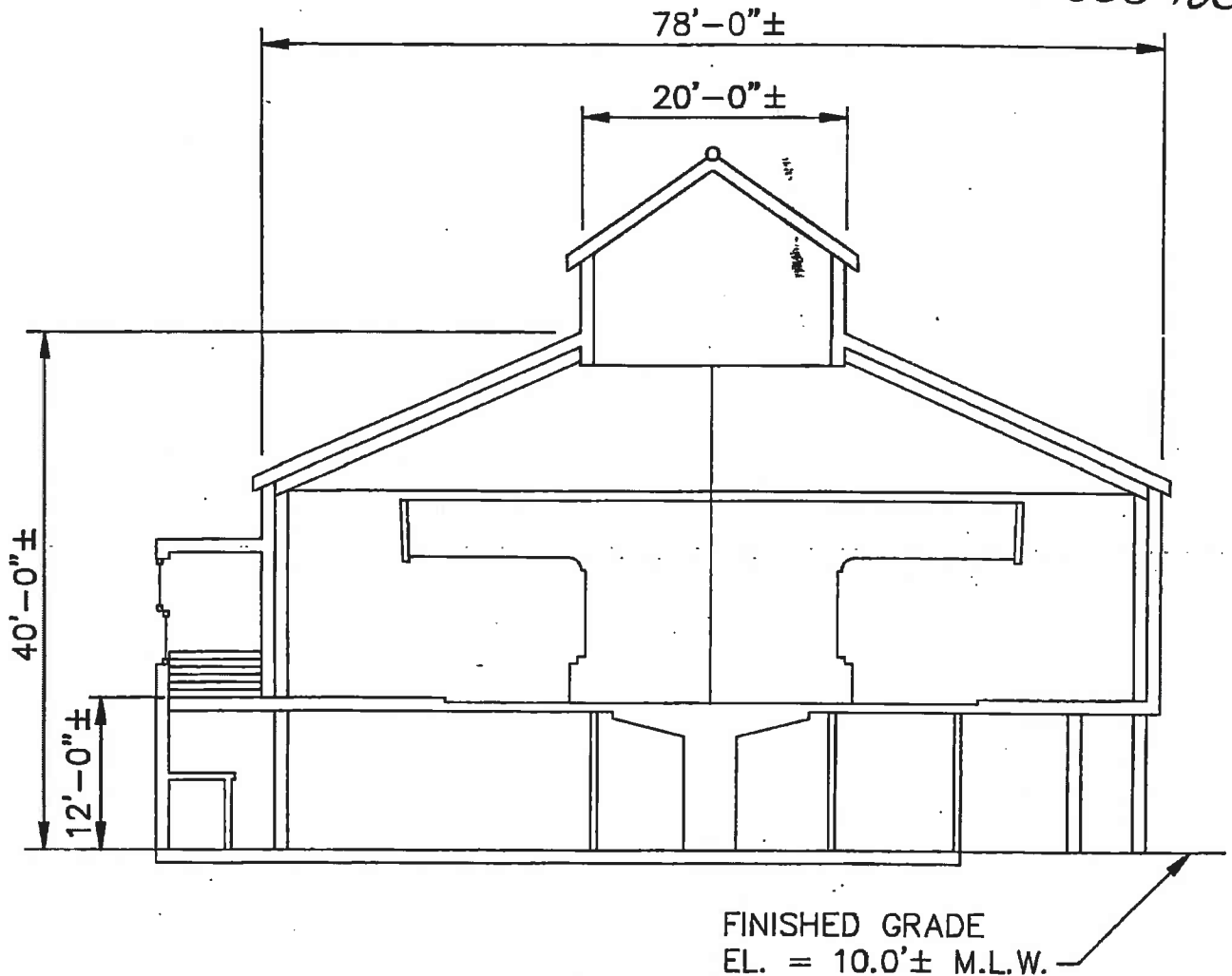
Prepared By HMM Associates, Inc. Concord, MA

LICENSE PLAN NO. 2641

Approved by Department of Environmental Protection

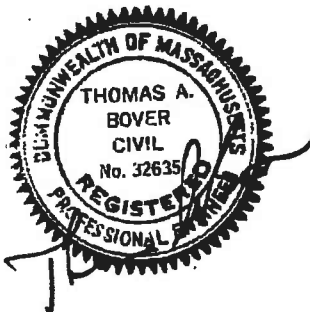
Date: APR 16 1991

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024-00N-013-003-100
024-00N-013-001-100
024-00N-013-001-200
024-000-024-002-100
024-00N-013-005-100



CAROUSEL BUILDING
CROSS SECTION

NOT TO SCALE



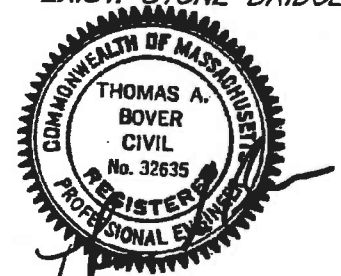
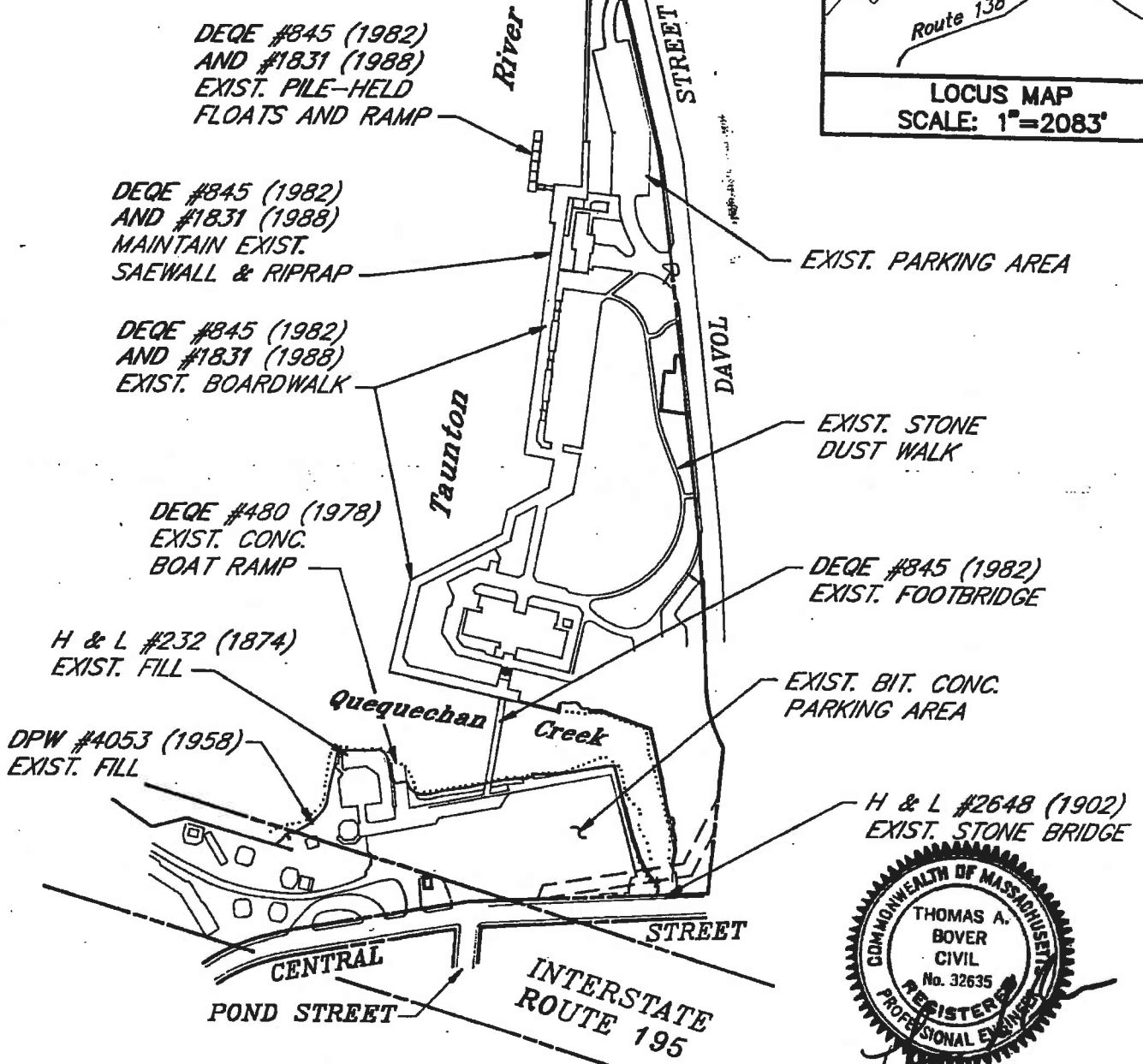
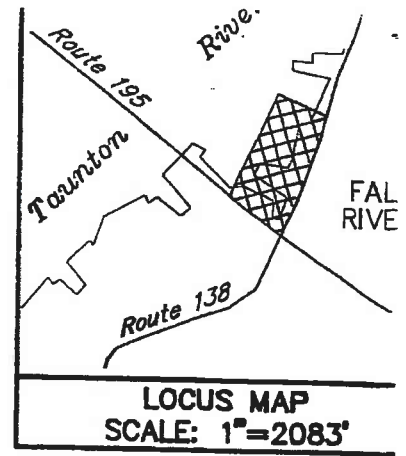
FALL RIVER CAROUSEL
AND HERITAGE PARK
TYP. CAROUSEL BLDG. CROSS SECTION
Designed By HMM Associates, Inc. Concord, MA

LICENSE PLAN NO. 2641

Approved by Department of Environmental Protection

Date: APR 16 1991

024-00N-013-001-100
 024-00N-013-001-200
 024000-024-002-100
 024-00N-013-002-100
 024-00N-013-003-100
 024-00N-013-005-100



1"=250'
 0 125 250 500
 SCALE IN FEET

FALL RIVER CAROUSEL AND HERITAGE PARK EXISTING CONDITIONS AND EXISTING WATERWAYS LICENSES

CITY OF FALL RIVER (BRISTOL COUNTY), MA.
 PLANS ACCOMPANYING PETITION OF THE
 COMMONWEALTH OF MASSACHUSETTS DEPT.
 OF ENVIRONMENTAL MANAGEMENT (DEM) AND
 FALL RIVER OFFICE OF ECONOMIC DEVELOPMENT
 PURPOSE IS TO REVITALIZE FALL RIVER HERITAGE PARK BY
 EXTENDING THE EXIST. BOARDWALK AND DOCK FACILITIES,
 INSTALL A JIB-CRANE, REPAIR & RECONSTRUCT PORTIONS
 OF EXIST. SEAWALL AND RIPRAP, IMPROVE PARKING LOT
 FACILITIES & CONSTRUCT A BUILDING FOR THE CAROUSEL
 Prepared By: HMM Associates, Inc. Concord, MA

LICENSE PLAN NO. 2641

Approved by Department of Environmental Protection
 of Massachusetts

COMMISSIONER
 DIRECTOR
 SECTION CHIEF

APR 16 1991

FOCUS PLAN A
(WORK AREA 1 SHT. 3)

024-00N-013-001-100
024-00N-013-001-200
024-000-024-002-100
024-00N-013-002-100
024-00N-013-003-100
024-00N-013-005-100

"APPROXIMATE LOCATION OF
THE HISTORIC HIGH WATER
MARK FROM THE COOK-
BORDEN PLAN OF 1812."

FOCUS PLAN C
(WORK AREA 3 SHT. 6)

FOCUS PLAN B
(WORK AREA 2 SHTS. 4 & 5)

INTERSTATE
RT. 195

Quequechan
Creek

CENTRAL

POND STREET

STREET



1"=250'
0 125 250 50
SCALE IN FEET

**FALL RIVER CAROUSEL
AND HERITAGE PARK
PROPOSED CONDITIONS**

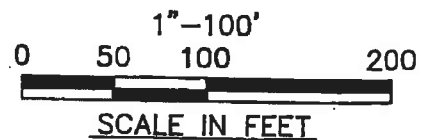
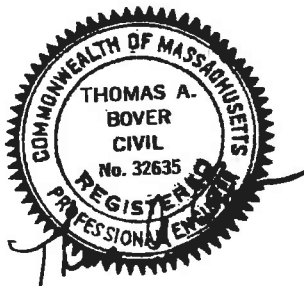
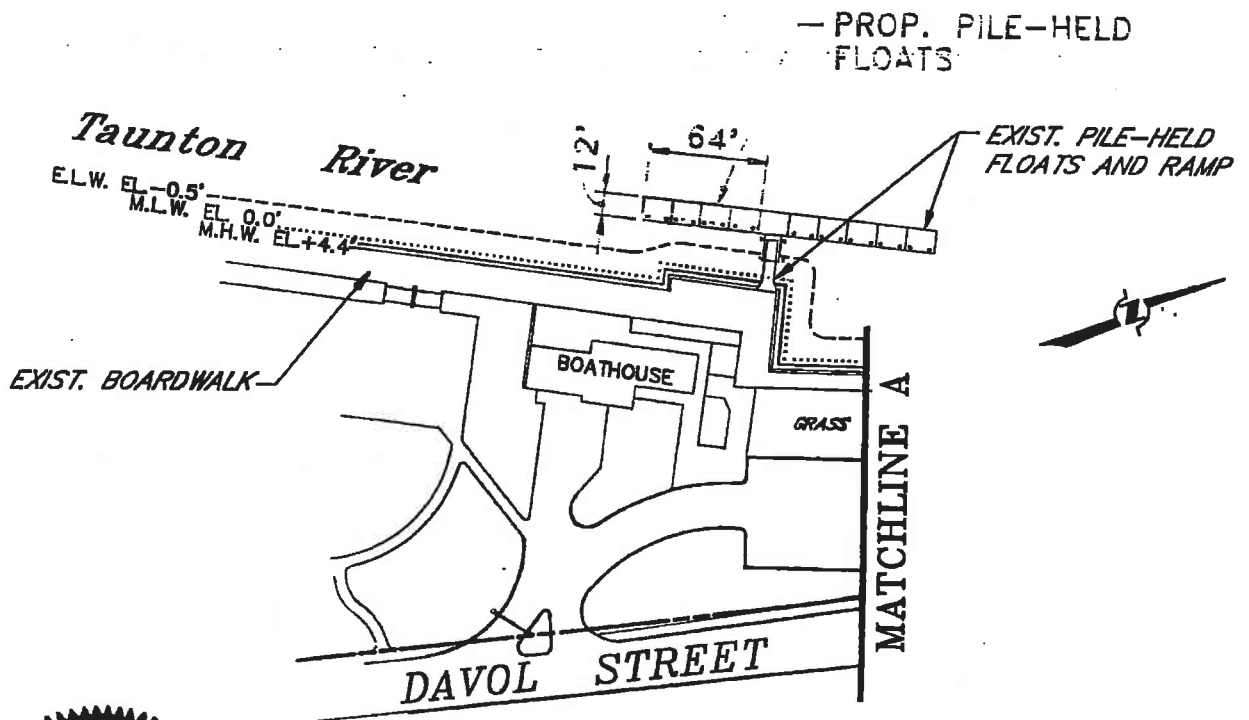
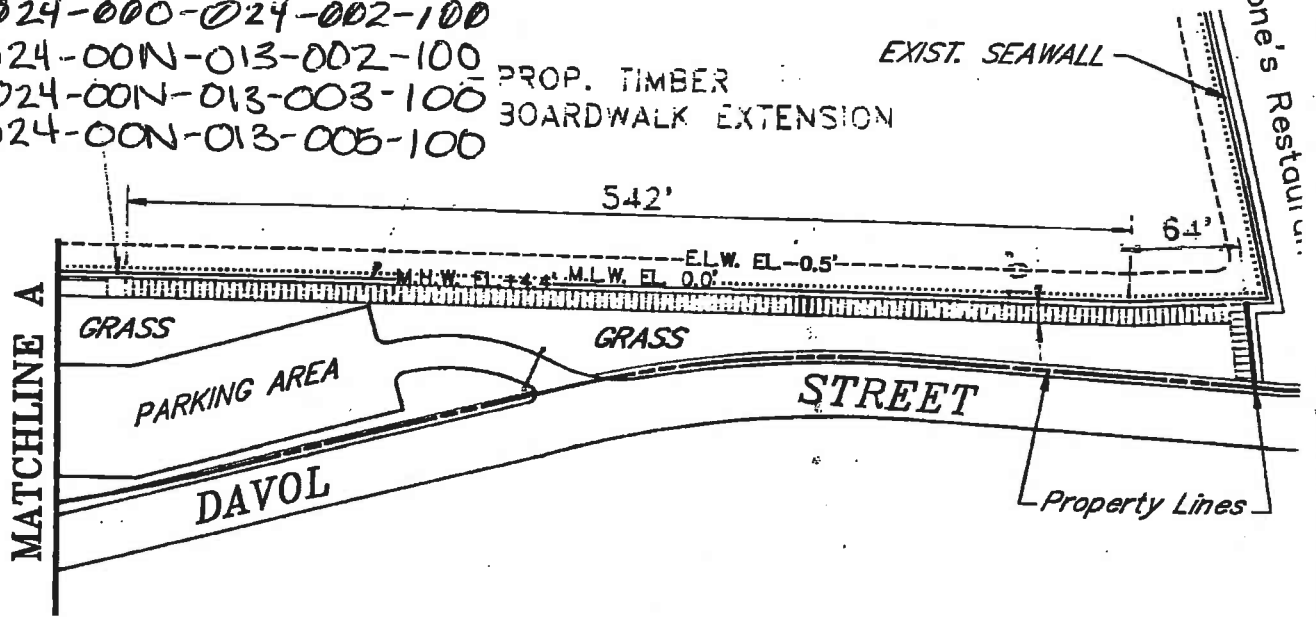
Prepared By: HMM Associates, Inc. Concord, MA

LICENSE PLAN NO. 2641

Approved by Department of Environmental Protection

Date: **ADD 4 8 1991**

024-00N-013-001-100 Taunton River
 024-00N-013-001-200
 024-000-024-002-100
 024-00N-013-002-100
 024-00N-013-003-100 PROP. TIMBER
 024-00N-013-005-100 BOARDWALK EXTENSION



FALL RIVER CAROUSEL
 AND HERITAGE PARK
 FOCUS PLAN A

Prepared By: HMM Associates, Inc. Concord, MA

LICENSE PLAN NO. 2641

Approved by Department of Environmental Protection

Date: APR 16 1991

WALKWAY (TYP.) -

074-00N-013-005-100
024-00N-013-003-100
024-00N-013-001-100
024-00N-013-001-200
024-000-024-002-100
024-00N-013-002-100

Quequechan Creek

EXIST. 25'
ROADWAY

STREET

CENTRAL

EXIST.
40' R.O.W.

PROP.
FOUNTAIN

EXIST. CONC.
RETAINING WALL

PROP. CAROUSEL
BLDG. SEE FOCUS
PLAN C SHT. 6

ELW. EL. -0.5' --
M.L.W. EL. 0.0' ...
M.H.W. EL. +4.4'

EXIST. CONC.
BOAT RAMP

PROP. BUS
DROP-OFF

POND STREET

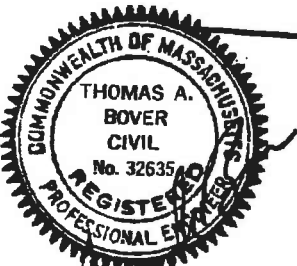
MATCHLINE B (Sht. 5)

PROP. LIMITS OF
EXIST. SEAWALL REPAIR

1"=50'

0 25 50 100

SCALE IN FEET



FALL RIVER CAROUSEL
AND HERITAGE PARK
FOCUS PLAN B

Prepared By: HMM Associates, Inc. Concord, MA

LICENSE PLAN NO. 2641

Approved by Department of Environmental Protection

Date: APR 16 1991

MATCHLINE B (Sht. 4)

POND STREET

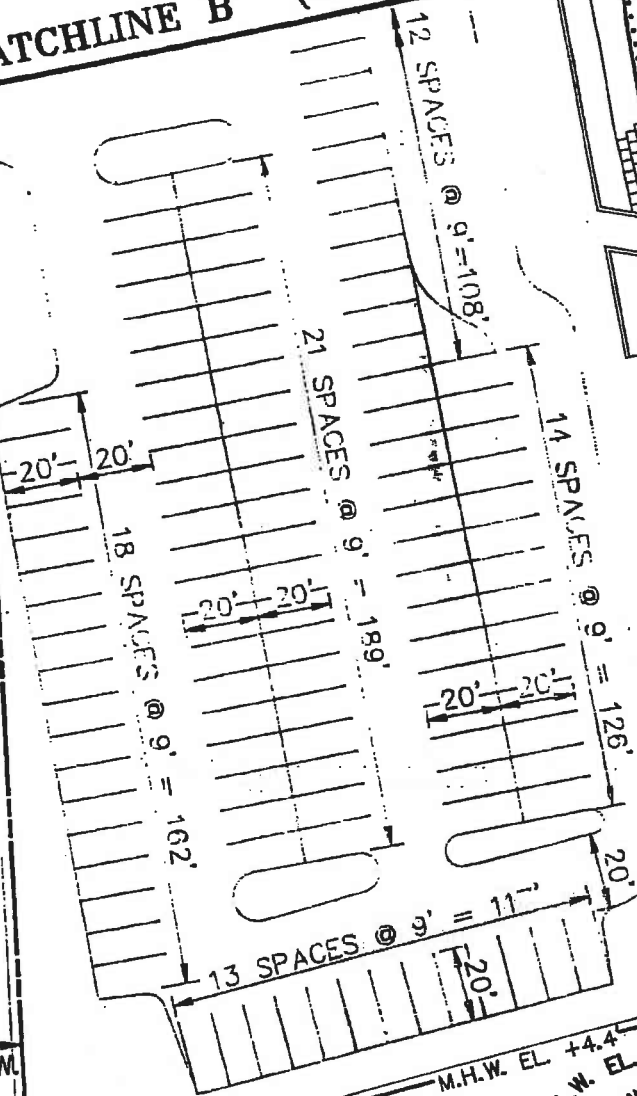
EXIST. 25' ROADWAY

STREET

024-00N-013-001-100
024-00N-013-001-200
024-000-024-002-100
024-00N-013-002-100
024-00N-013-003-100
024-00N-013-005-100

CENTRAL

EXIST. 40' R.O.W.



EXIST. FOOTBRIDGE

PROP. LIMITS OF EXIST. SEAWALL REPAIR

Quequechan

Creek

M.H.W. EL. +4.4'

M.L.W. EL. 0.0'

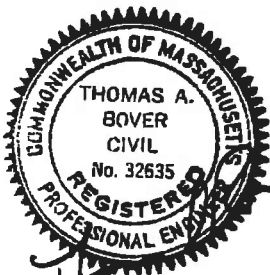
E.L.W. EL. -0.5'

E.L.W.

M.L.W.

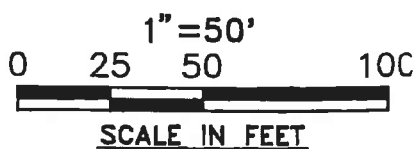
M.H.W.

EXIST. STONE BRIDGE



FALL RIVER CAROUSEL
AND HERITAGE PARK
FOCUS PLAN B (CONT.)

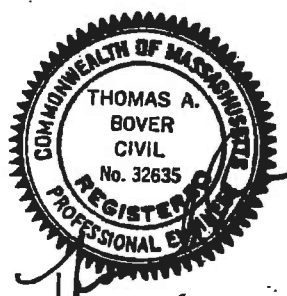
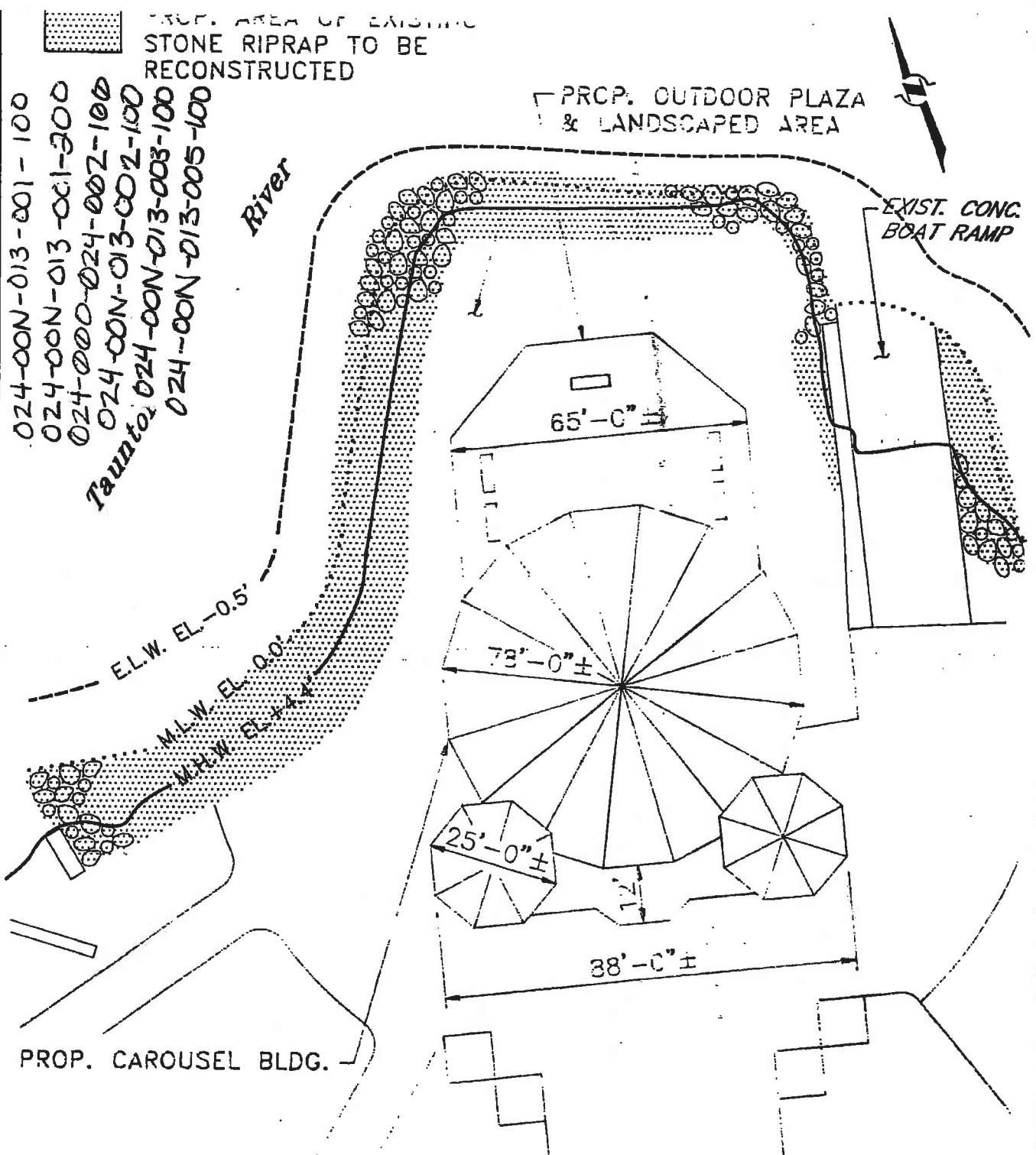
Prepared By HMM Associates, Inc. Concord, MA



LICENSE PLAN NO. 2641

Approved by Department of Environmental Protection

Date: APR 16 1991



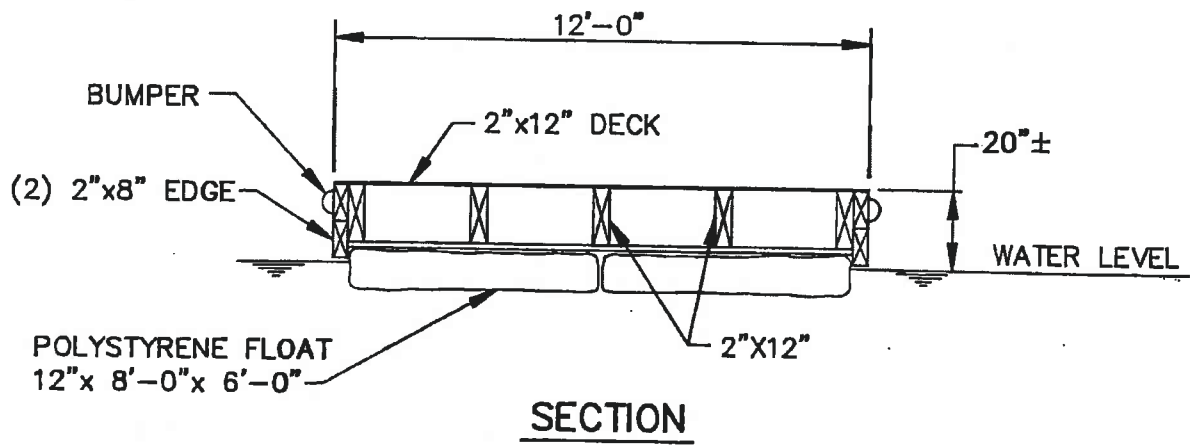
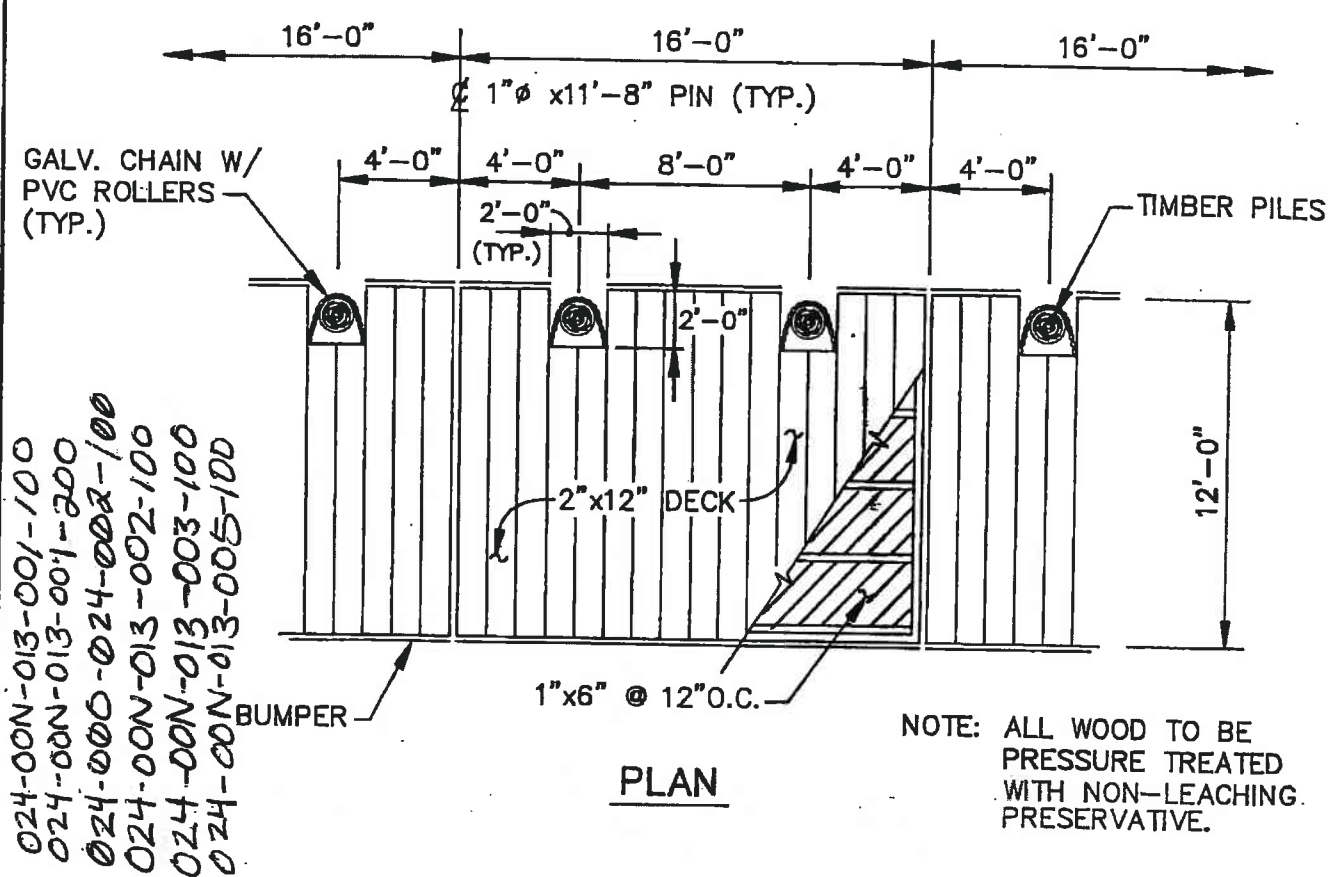
FALL RIVER CAROUSEL
 AND HERITAGE PARK
 FOCUS PLAN C

Prepared By: HMM Associates, Inc. Concord, MA

LICENSE PLAN NO. 2641

Approved by Department of Environmental Protection

Date: APR 16 1991

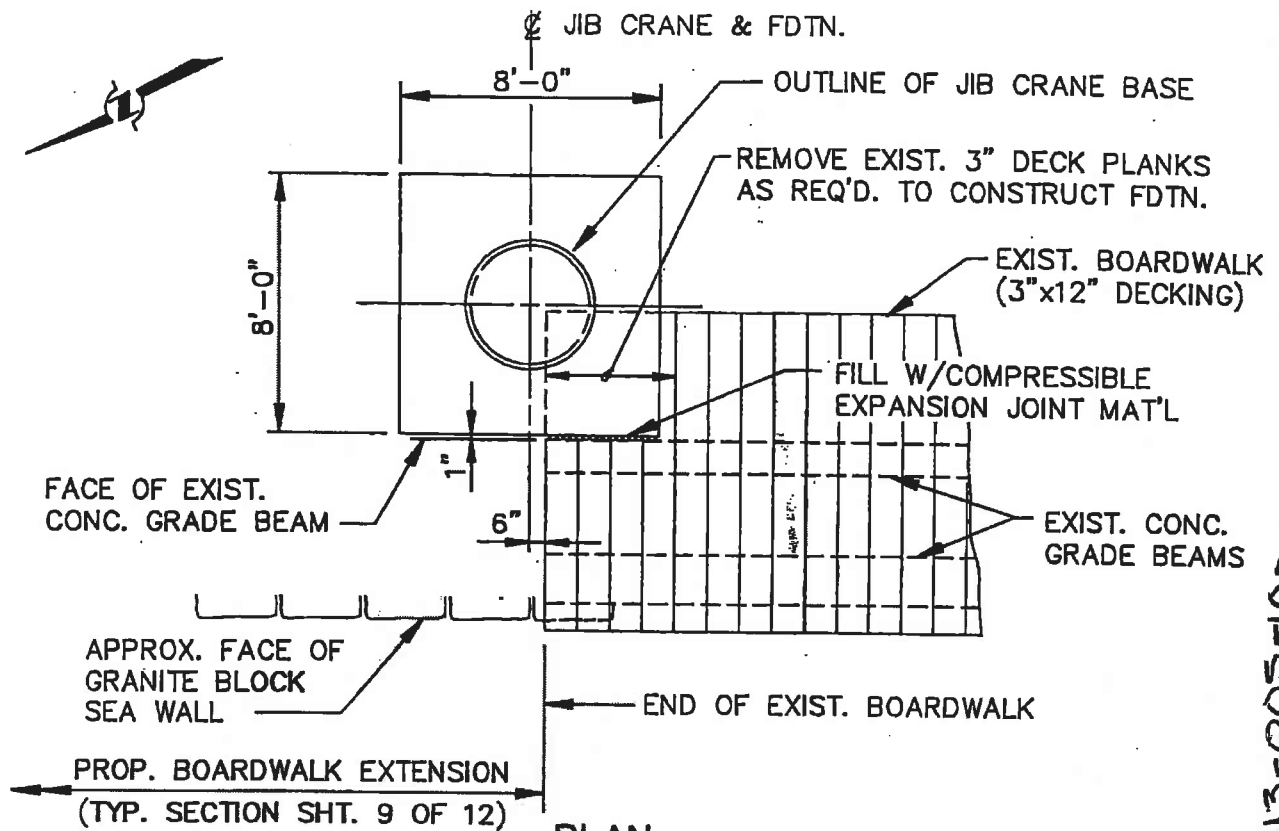


PLAN AND SECTION OF FLOAT EXTENSION
NOT TO SCALE

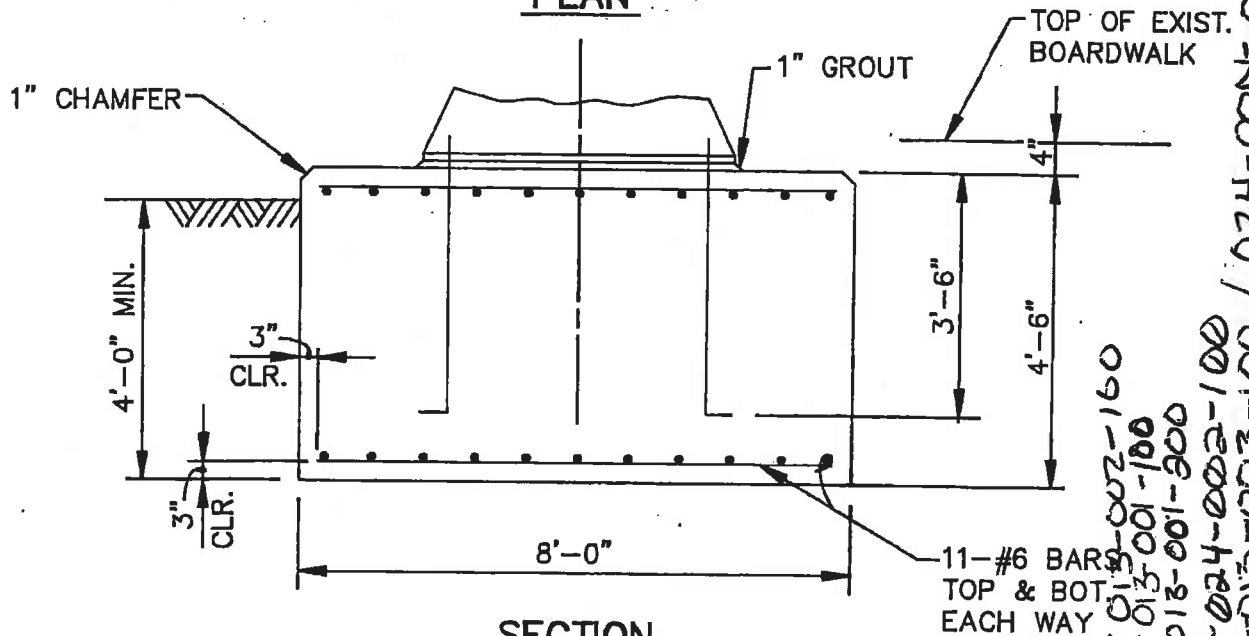


FALL RIVER CAROUSEL
AND HERITAGE PARK
TYPICAL FLOAT SECTION
Prepared By: HMM Associates, Inc. Concord, MA

LICENSE PLAN NO. 2641
Approved by Department of Environmental Protection
Date: APR 16 1991

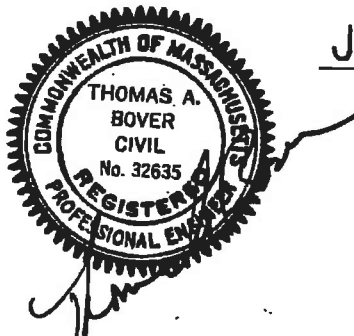


PLAN



SECTION

JIB CRANE FOUNDATION



FALL RIVER CAROUSEL
AND HERITAGE PARK
JIB CRANE FOUNDATION DETAIL

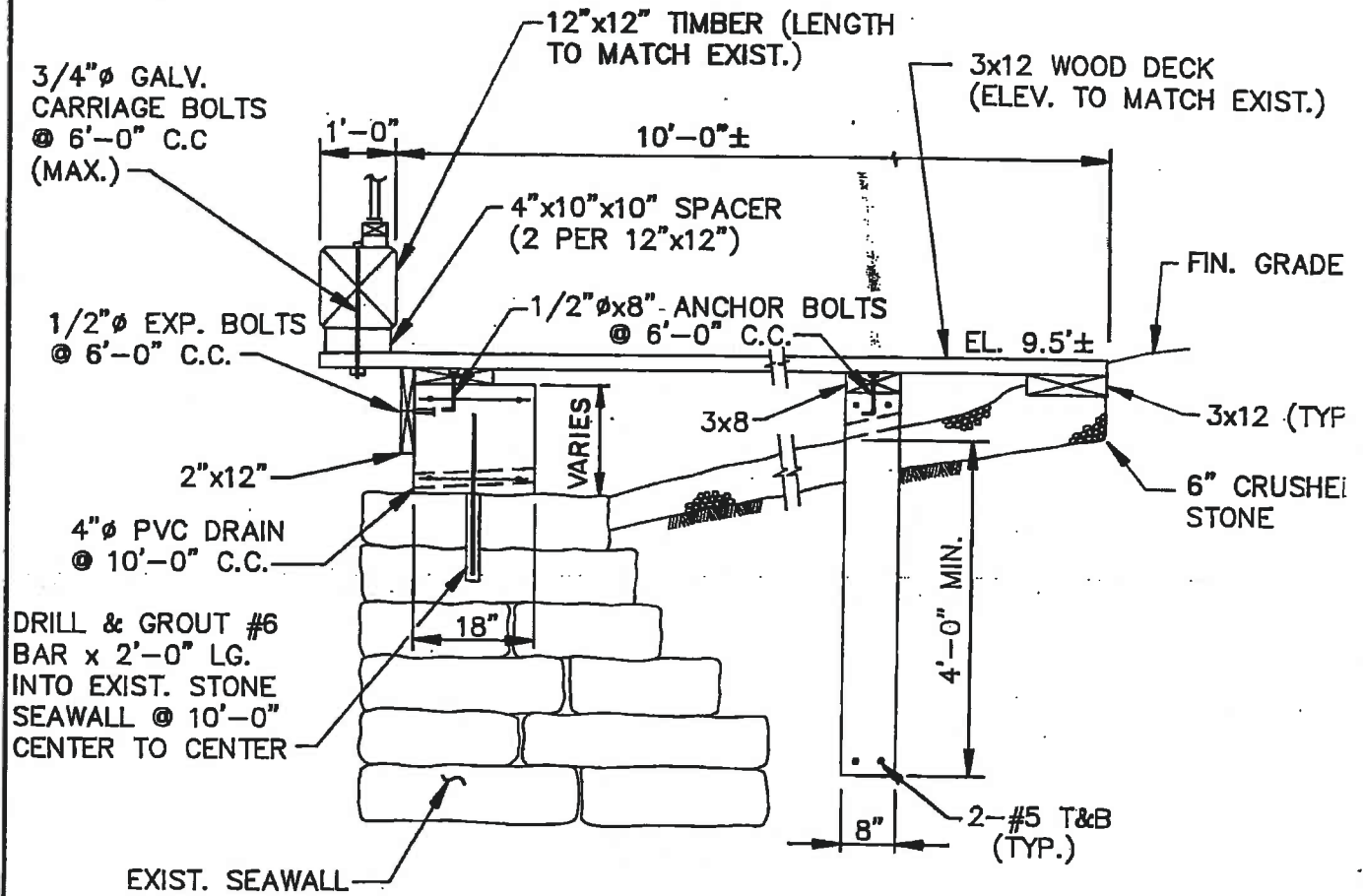
LICENSE PLAN NO. 2641

Approved by Department of Environmental Protection

Date: ADD 16 1991

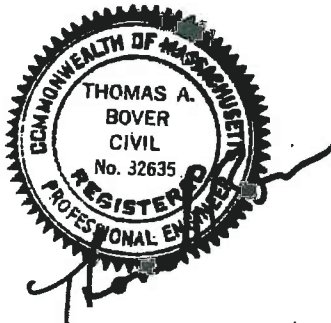
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024-00N-013-001-100
024-00N-013-001-300
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024-00N-013-003-100 / 024-00N-013-005-100

024-00N-013-002-100
 024-00N-013-003-100
 024-00N-013-001-100
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 024-00N-013-005-100



TYPICAL SECTION AT BOARDWALK EXTENSION

NOT TO SCALE



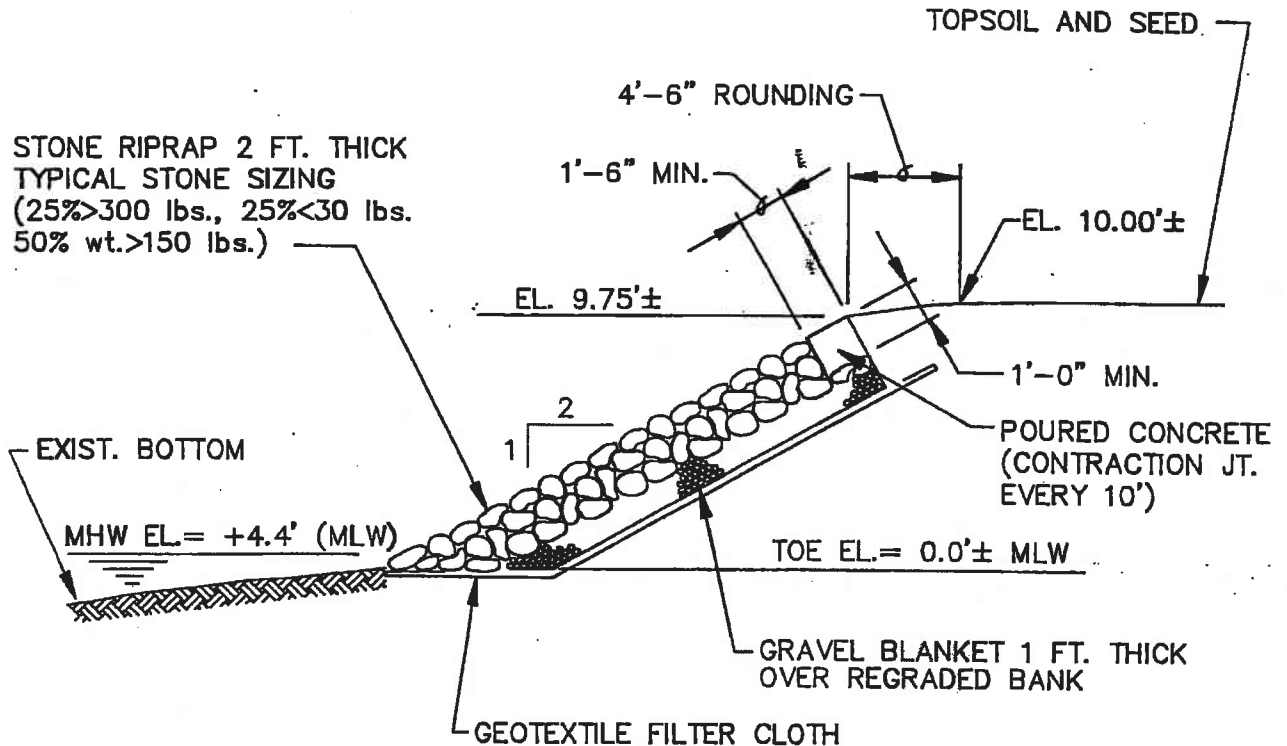
FALL RIVER CAROUSEL
 AND HERITAGE PARK
 TYPICAL BOARDWALK SECTION

LICENSE PLAN NO. 26411

Approved by Department of Environmental Protection

Date: ADD 1 6 1001

024-00N-013-002-100
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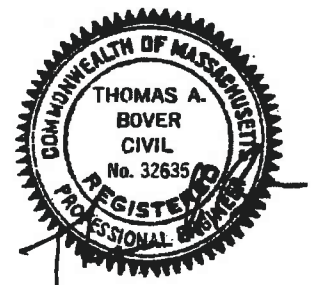


TYPICAL RIPRAP REVETMENT RECONSTRUCTION

NOT TO SCALE

NOTES:

1. TYPICAL STONE SIZING MAY VARY ACCORDING TO CONTRACTOR'S SPECIFICATIONS.
2. EXISTING DUMPED STONE RIPRAP MATERIAL WILL BE RE-USED TO GREATEST EXTENT PRACTICAL.
3. PLAN IS FOR PERMITTING PURPOSES ONLY.

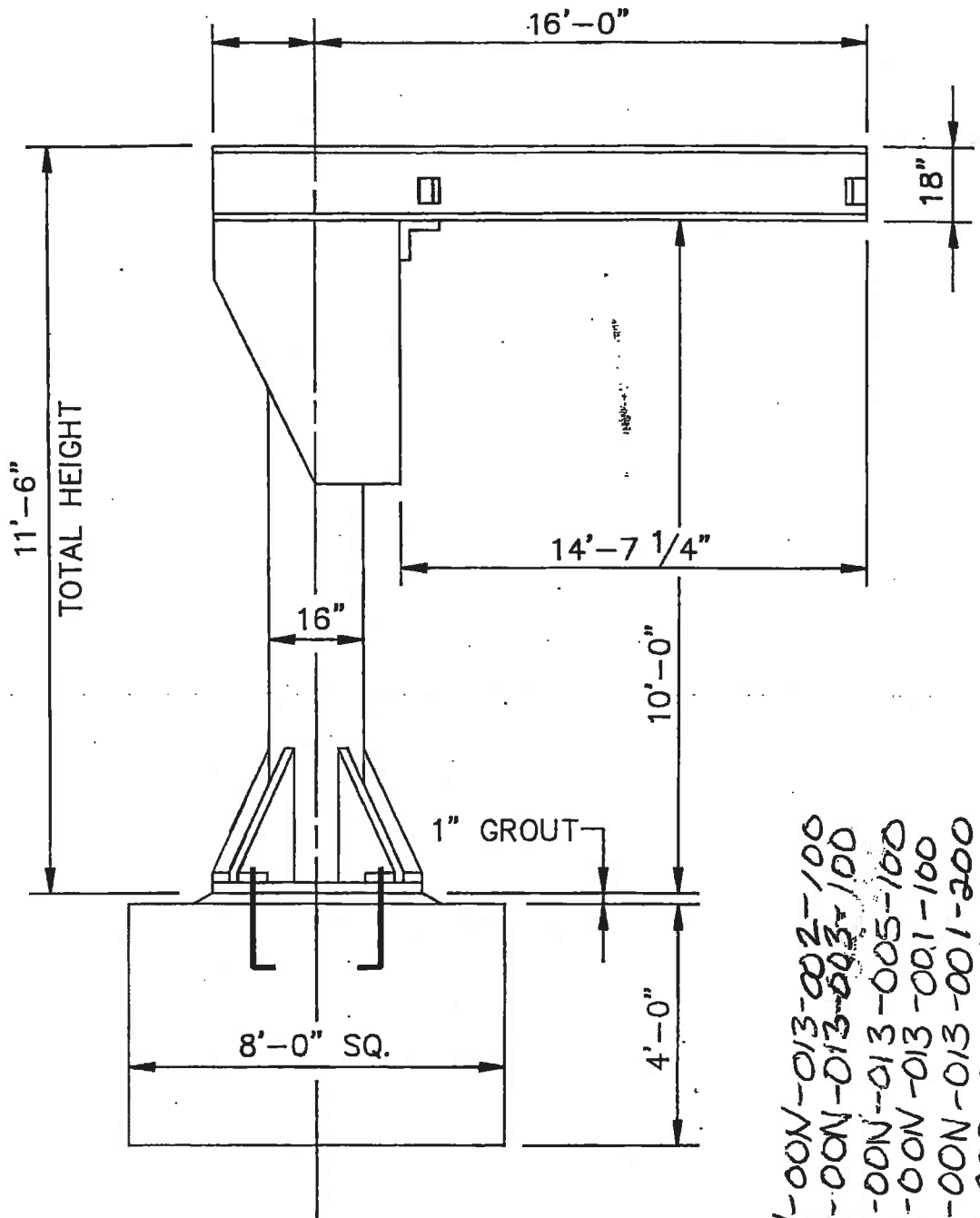


FALL RIVER CAROUSEL
 AND HERITAGE PARK
 TYPICAL RIPRAP REVETMENT

LICENSE PLAN NO. 2641

Approved by Department of Environmental Protection

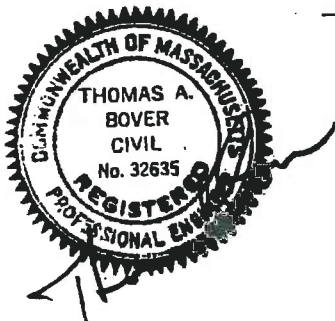
Date: APR 16 1991



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 024-00N-013-005-100
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 024-00N-013-001-200
 024-000-024-002-100

JIB CRANE DETAIL

NOT TO SCALE



FALL RIVER CAROUSEL
 AND HERITAGE PARK
 JIB CRANE DETAIL

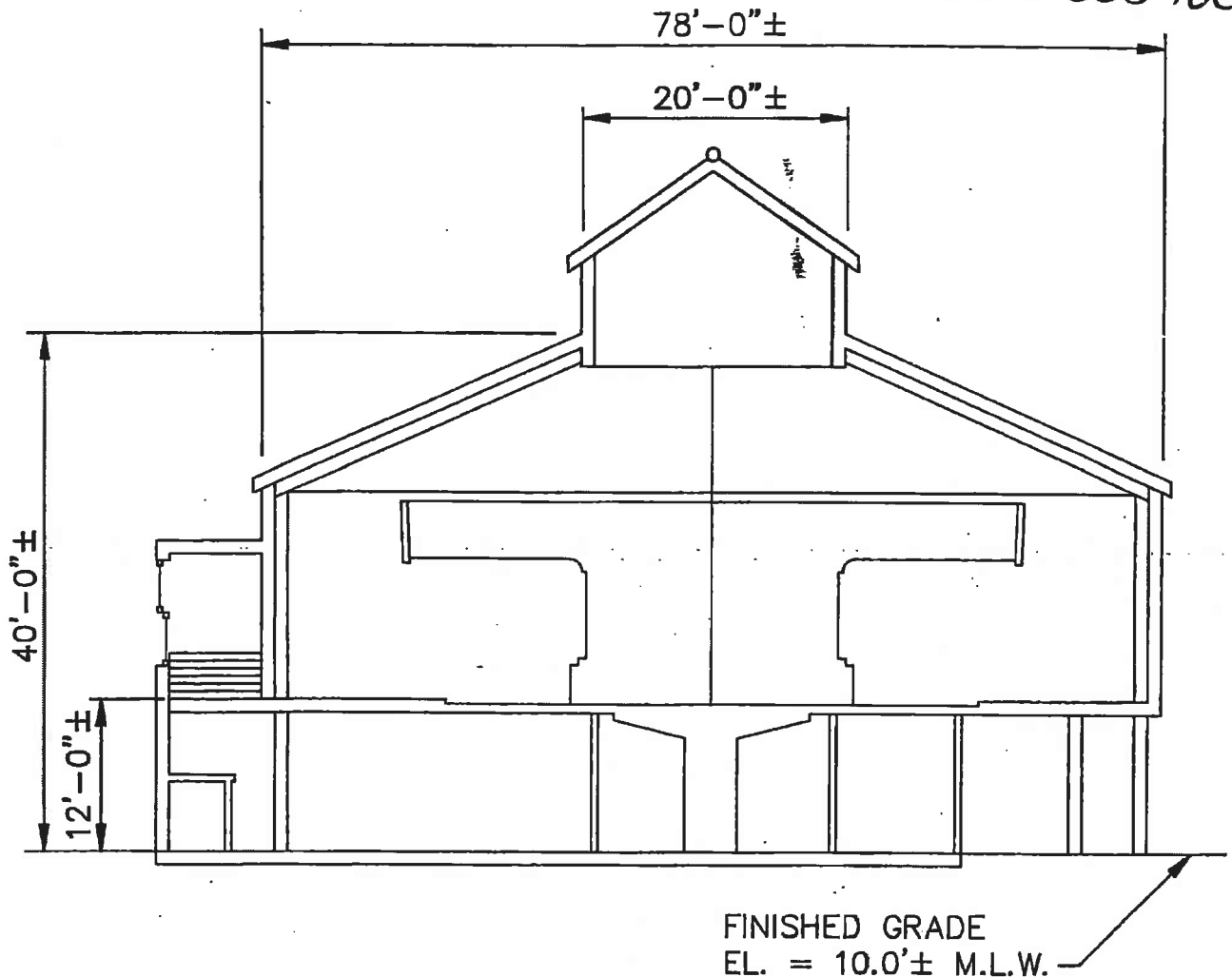
Prepared By: HMM Associates, Inc. Concord, MA

LICENSE PLAN NO. 2641

Approved by: Department of Environmental Protection

Date: ADD 1 6 1001

024-00N-013-002-100
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 024-00N-013-001-100
 024-00N-013-001-200
 024-000-024-002-100
 024-00N-013-005-100



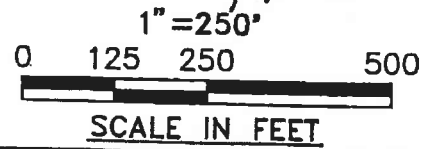
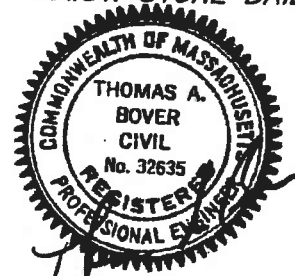
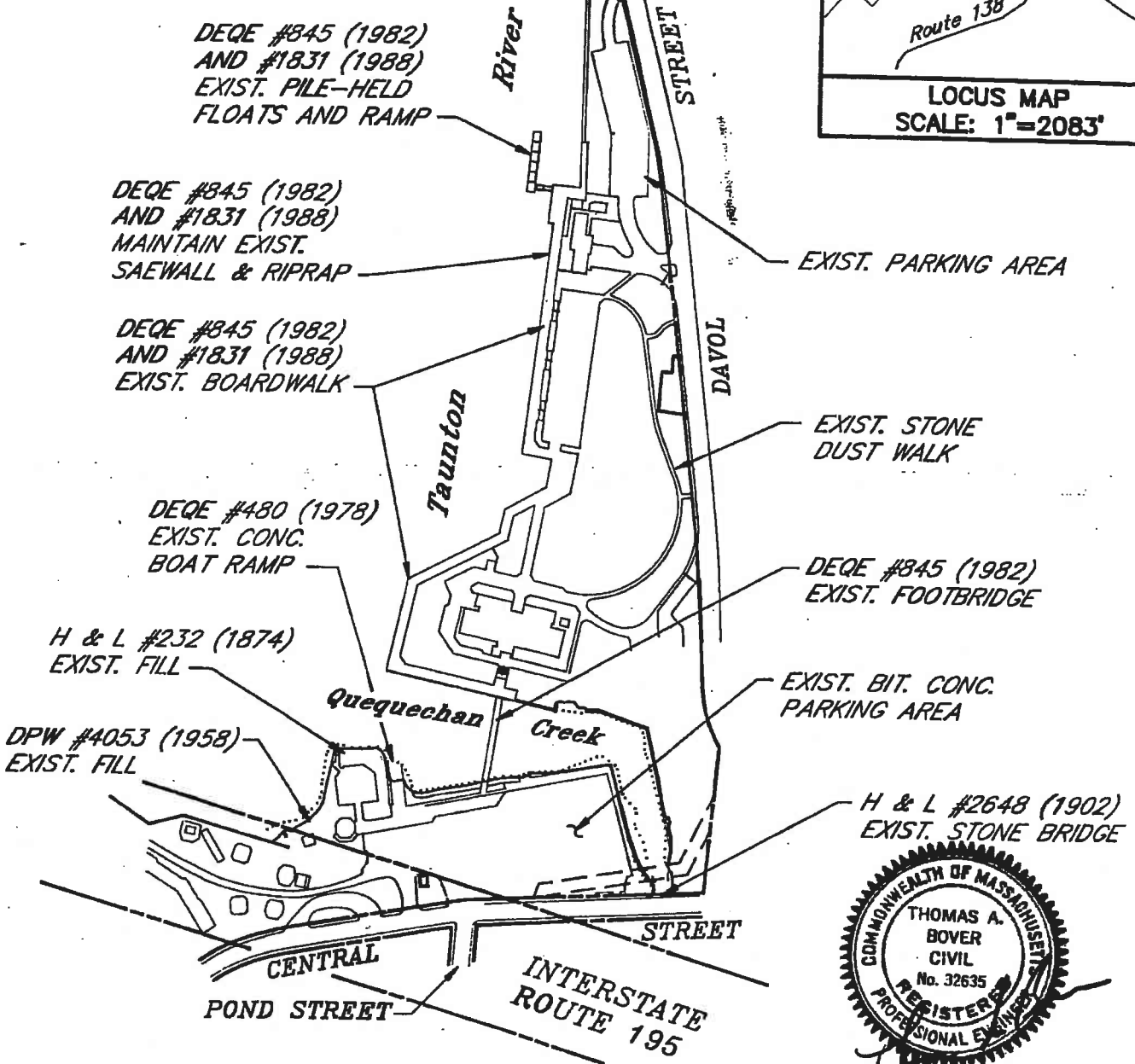
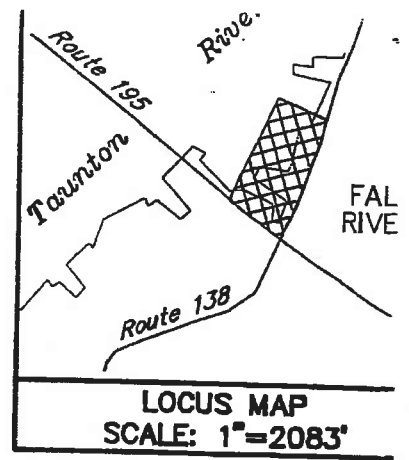
CAROUSEL BUILDING
CROSS SECTION
 NOT TO SCALE



**FALL RIVER CAROUSEL
 AND HERITAGE PARK**
TYP. CAROUSEL BLDG. CROSS SECTION
 Prepared By: HMM Associates, Inc. Concord, MA

LICENSE PLAN NO. 2641
 Approved by Department of Environmental Protection
 Date: APR 26 1991

024-00N-013-001-100
 024-00N-013-001-200
 024000-024-002-100
 024-00N-013-002-100
 024-00N-013-003-100
 024-00N-013-005-100



**FALL RIVER CAROUSEL
AND HERITAGE PARK
EXISTING CONDITIONS AND
EXISTING WATERWAYS LICENSES**

CITY OF FALL RIVER (BRISTOL COUNTY), MA.
 PLANS ACCOMPANYING PETITION OF THE
 COMMONWEALTH OF MASSACHUSETTS DEPT.
 OF ENVIRONMENTAL MANAGEMENT (DEM) AND
 FALL RIVER OFFICE OF ECONOMIC DEVELOPMENT
 PURPOSE IS TO REVITALIZE FALL RIVER HERITAGE PARK BY
 EXTENDING THE EXIST. BOARDWALK AND DOCK FACILITIES,
 INSTALL A JIB-CRANE, REPAIR & RECONSTRUCT PORTIONS
 OF EXIST. SEAWALL AND RIPRAP, IMPROVE PARKING LOT
 FACILITIES & CONSTRUCT A BUILDING FOR THE CAROUSEL

Prepared By: HMM Associates, Inc. Concord, MA

LICENSE PLAN NO. 2641

Approved by Department of Environmental Protection
of Massachusetts

[Signature] COMMISSIONER

[Signature] ASST. DIRECTOR

[Signature] SECTION CHIEF

APR 16 1991

FOCUS PLAN A
(WORK AREA 1 SHT. 3)

024-00N-013-001-100
024-00N-013-001-200
024-000-024-002-100
024-00N-013-002-100
024-00N-013-003-100
024-00N-013-005-100

"APPROXIMATE LOCATION OF
THE HISTORIC HIGH WATER
MARK FROM THE COOK-
BORDEN PLAN OF 1812."

FOCUS PLAN C
(WORK AREA 3 SHT. 6)

FOCUS PLAN B
(WORK AREA 2 SHTS. 4 & 5)

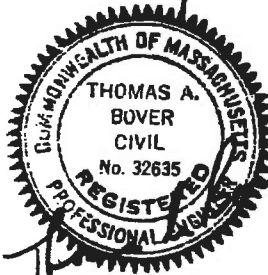
INTERSTATE
RT. 195

CENTRAL

POND STREET

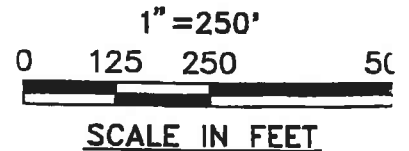
Quequechan
Creek

STREET



FALL RIVER CAROUSEL
AND HERITAGE PARK
PROPOSED CONDITIONS

Prepared By: HMM Associates, Inc. Concord, MA

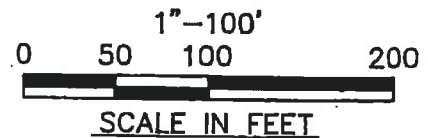
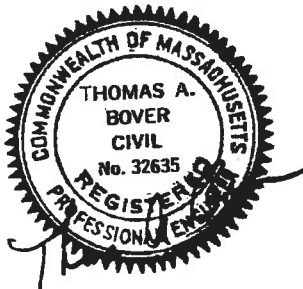
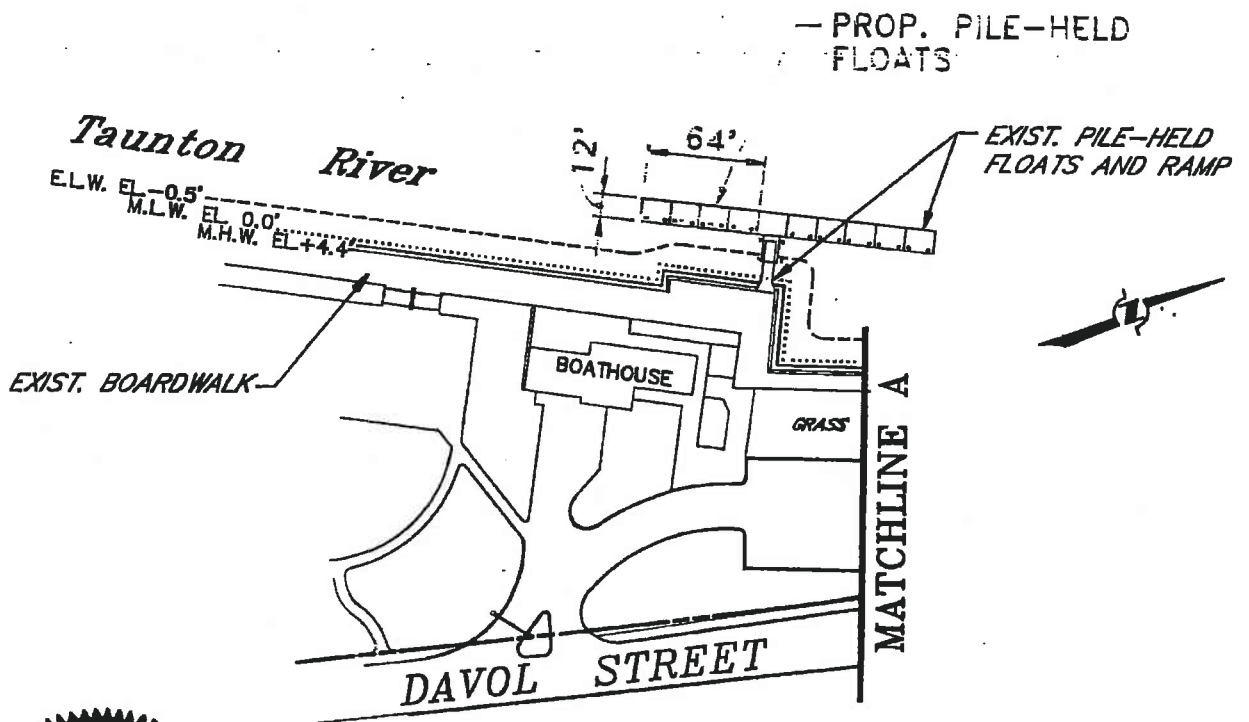
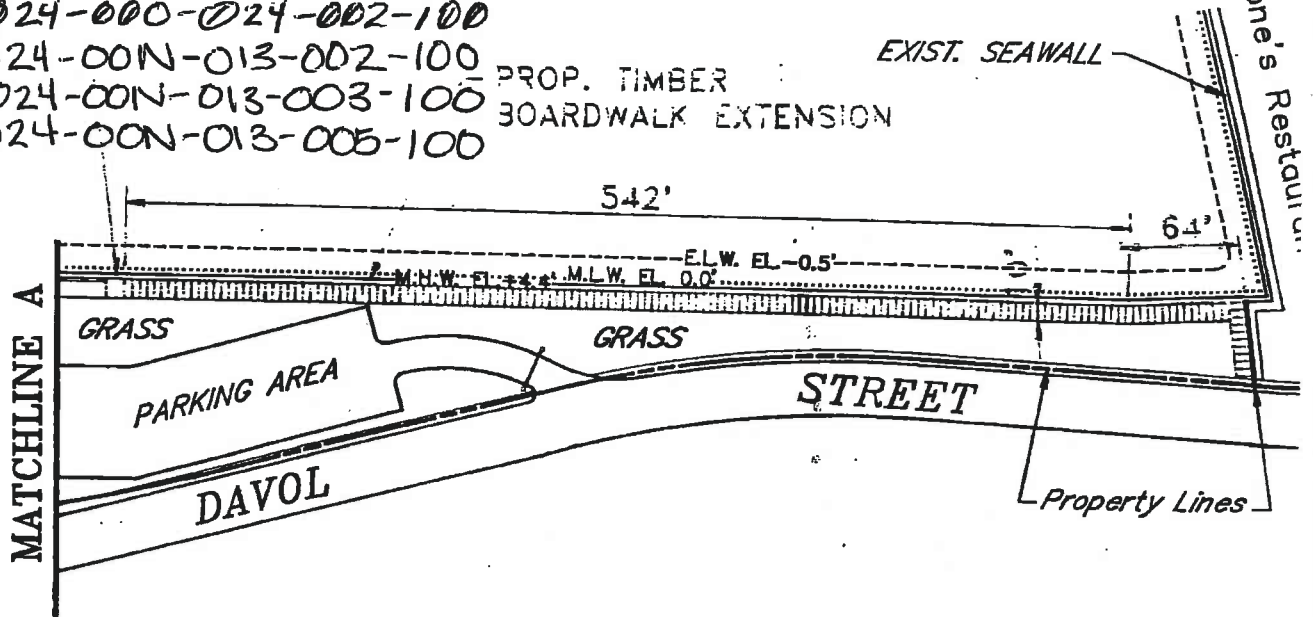


LICENSE PLAN NO. 2641

Approved by Department of Environmental Protection

Date: APR 18 1991

024-00N-013-001-100 Taunton River
 024-00N-013-001-200
 024-000-024-002-100
 024-00N-013-002-100
 024-00N-013-003-100 PROP. TIMBER
 024-00N-013-005-100 BOARDWALK EXTENSION



FALL RIVER CAROUSEL
 AND HERITAGE PARK
 FOCUS PLAN A

Prepared By: HMM Associates, Inc. Concord, MA

LICENSE PLAN NO. 2641

Approved by Department of Environmental Protection

Date: APR 16 1991

WALKWAY (TYP.) -

024-00N-013-005-100
024-00N-013-003-100
024-00N-013-001-100
024-00N-013-004-200
024-000-024-002-100
024-00N-013-002-100

Queechean Creek

EXIST. 25' ROADWAY

STREET

CENTRAL

POND STREET

EXIST. 40' R.O.W.

PROP. FOUNTAIN

PROP. BUS DROP-OFF

EXIST. CONC. RETAINING WALL

PROP. CAROUSEL BLDG. SEE FOCUS PLAN C SHT. 6

EL.W. EL.-0.5' ---
M.L.W. EL. 0.0' ...
M.H.W. EL.+4.4'

EXIST. CONC. BOAT RAMP

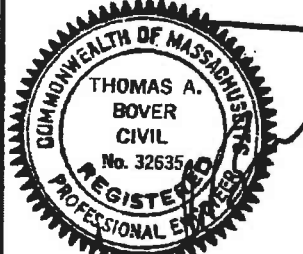
PROP. LIMITS OF EXIST. SEAWALL REPAIR

MATCHLINE B (Sht. 5)

1"=50'

0 25 50 100

SCALE IN FEET



FALL RIVER CAROUSEL AND HERITAGE PARK
FOCUS PLAN B

Prepared By: HMM Associates, Inc. Concord, MA

LICENSE PLAN NO. 2641

Approved by Department of Environmental Protection

Date: APR 16 1991



MATCHLINE B (Sht. 4)

POND STREET

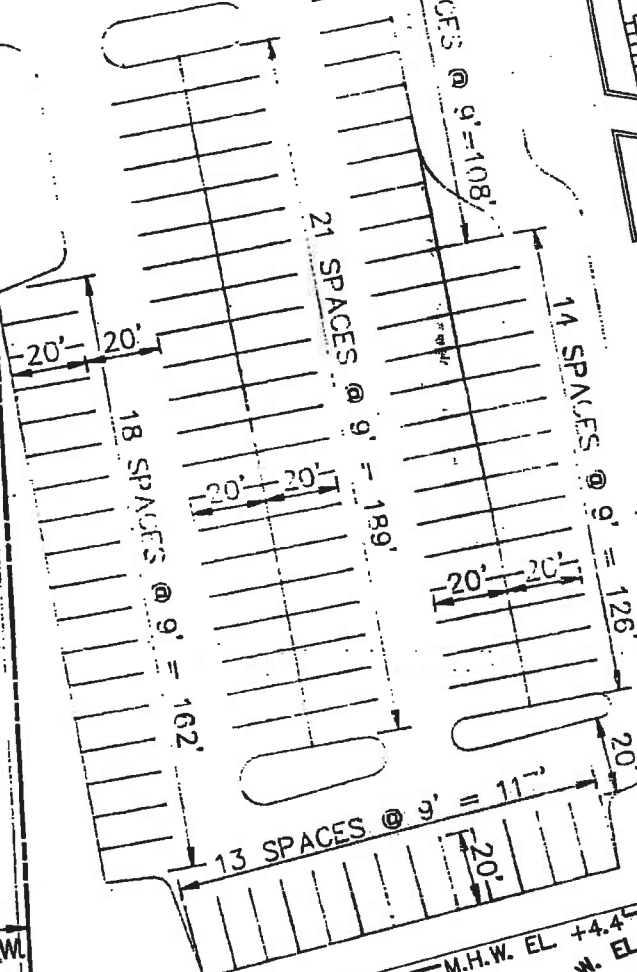
EXIST. 25' ROADWAY

STREET

024-00N-013-001-100
024-00N-013-001-200
024-000-024-002-100
024-00N-013-002-100
024-00N-013-003-100
024-00N-013-005-100

CENTRAL

EXIST. 40' R.O.W.



13 SPACES @ 9' = 117'

M.H.W. EL. +4.4'
M.L.W. EL. 0.0'
E.L.W. EL. -0.5'

E.L.W.
M.L.W.
M.H.W.

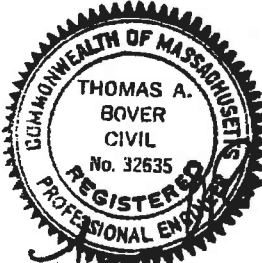
EXIST. STONE BRIDGE

EXIST. FOOTBRIDGE

PROP. LIMITS OF EXIST. SEAWALL REPAIR

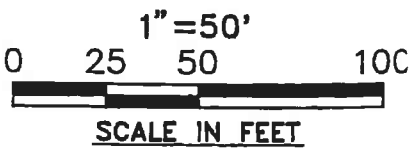
Quequechan

Creek



FALL RIVER CAROUSEL
AND HERITAGE PARK
FOCUS PLAN B (CONT.)

Prepared By: HMM Associates, Inc. Concord, MA



LICENSE PLAN NO. 2641

Approved by Department of Environmental Protection

Date: APR 16 1991



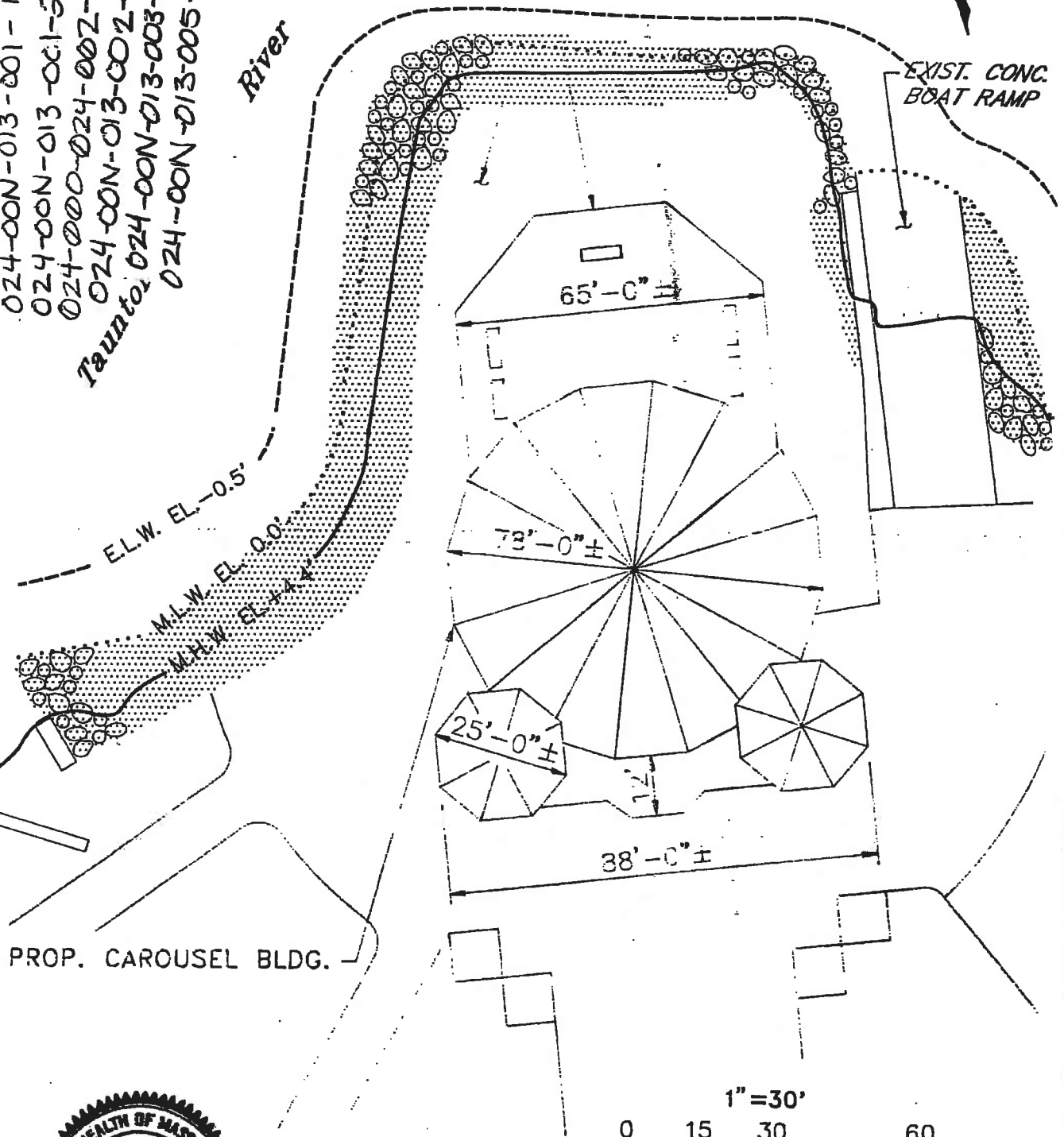
PROP. AREA OF EXISTING
STONE RIPRAP TO BE
RECONSTRUCTED

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024-00N-013-001-300
024-000-024-002-100
024-00N-013-002-100
024-00N-013-003-100
024-00N-013-005-100
Taunton

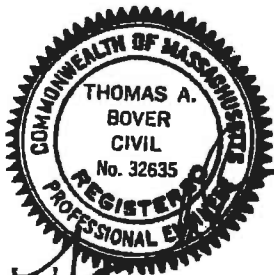
River

PROP. OUTDOOR PLAZA
& LANDSCAPED AREA

EXIST. CONC.
BOAT RAMP

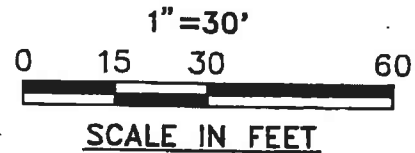


PROP. CAROUSEL BLDG.



FALL RIVER CAROUSEL
AND HERITAGE PARK
FOCUS PLAN C

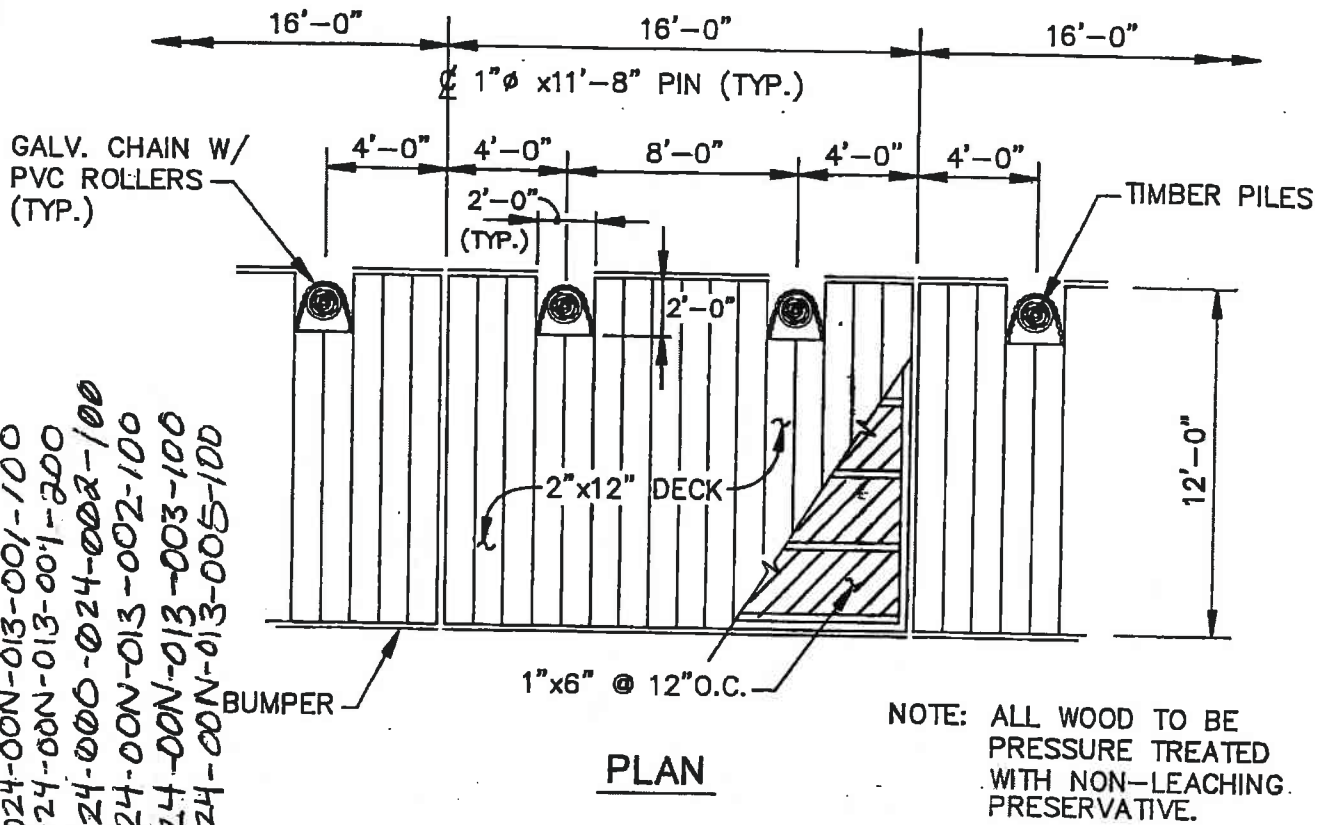
Prepared By: HMM Associates, Inc. Concord, MA



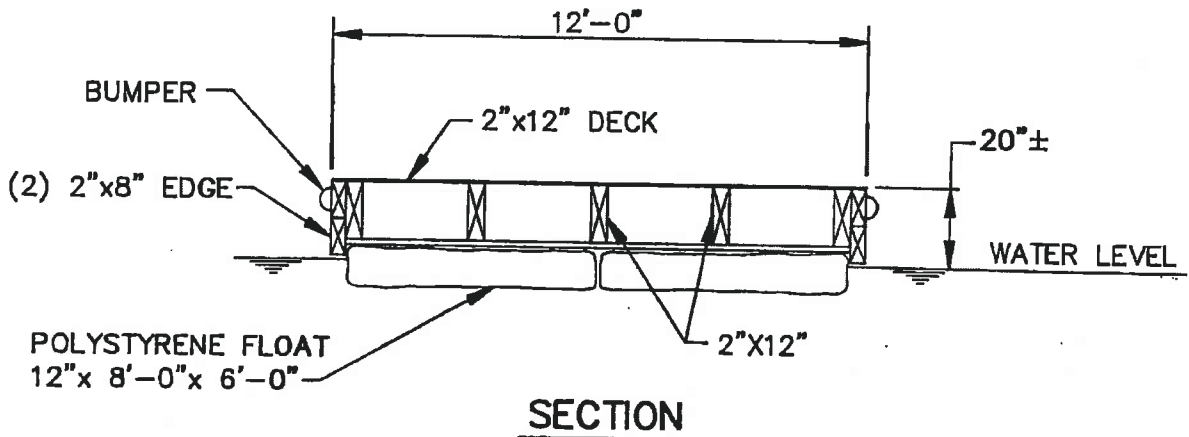
LICENSE PLAN NO. 2641

Approved by Department of Environmental Protection

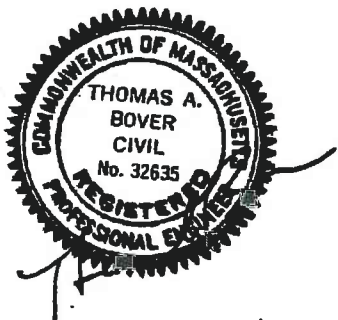
Date: APR 16 1991



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 024-00N-013-005-100



PLAN AND SECTION OF FLOAT EXTENSION
 NOT TO SCALE



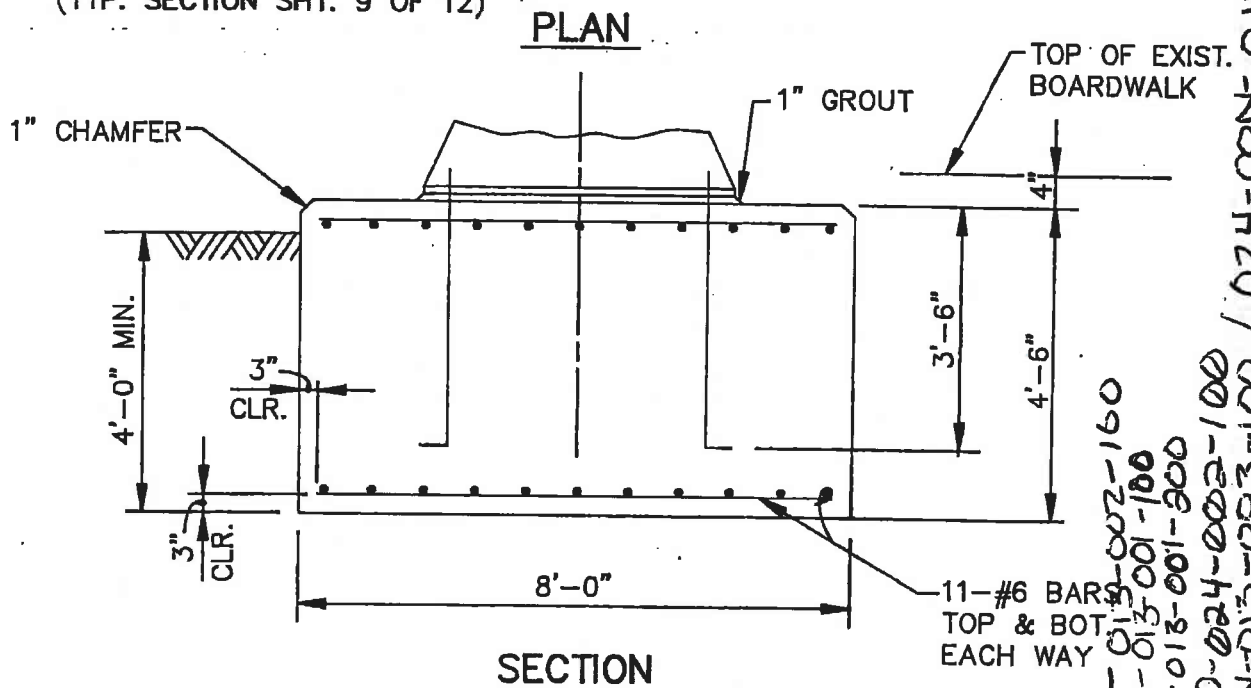
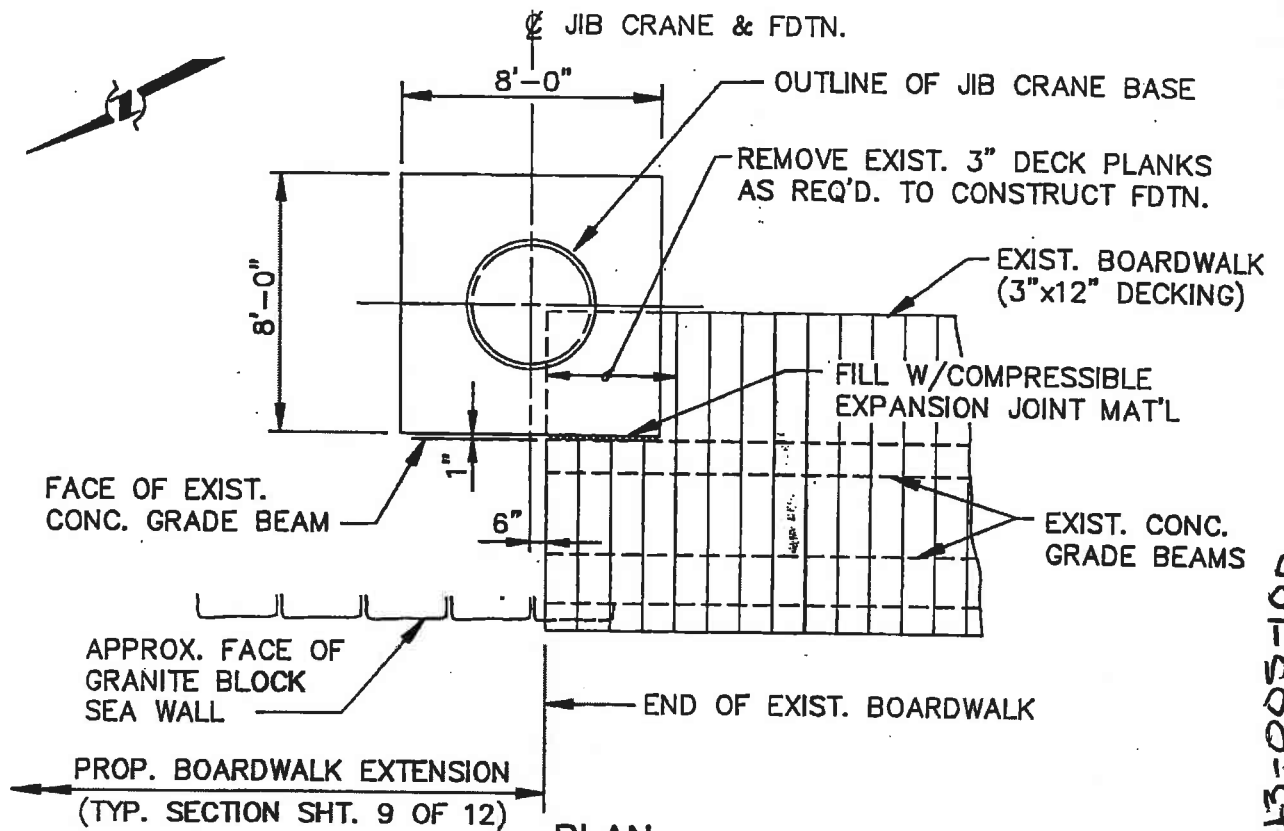
FALL RIVER CAROUSEL
 AND HERITAGE PARK
 TYPICAL FLOAT SECTION

Prepared By: HMM Associates, Inc. Concord, MA

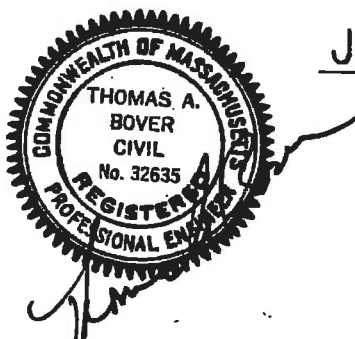
LICENSE PLAN NO. 2641

Approved by Department of Environmental Protection

Date: APR 16 1991



JIB CRANE FOUNDATION



FALL RIVER CAROUSEL
AND HERITAGE PARK
JIB CRANE FOUNDATION DETAIL

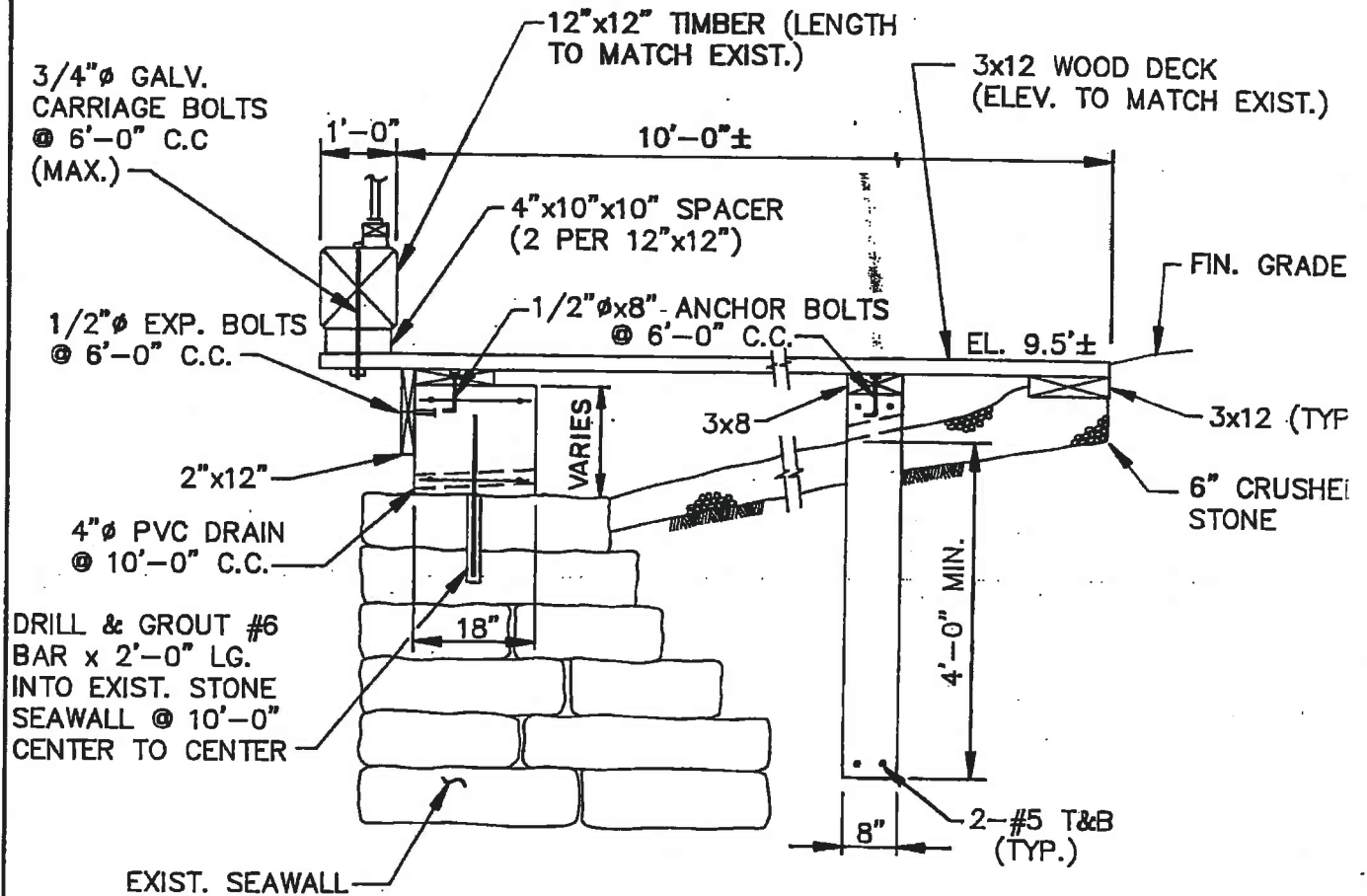
LICENSE PLAN NO. 2641

Approved by Department of Environmental Protection

Date: ADD 4 6 1991

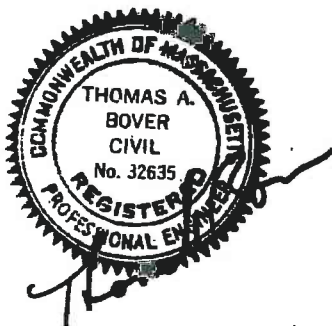
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024-00N-013-002-100
 024-00N-013-003-100
 024-00N-013-001-100
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 024-000-024-002-100
 024-00N-013-005-100



TYPICAL SECTION AT BOARDWALK EXTENSION

NOT TO SCALE



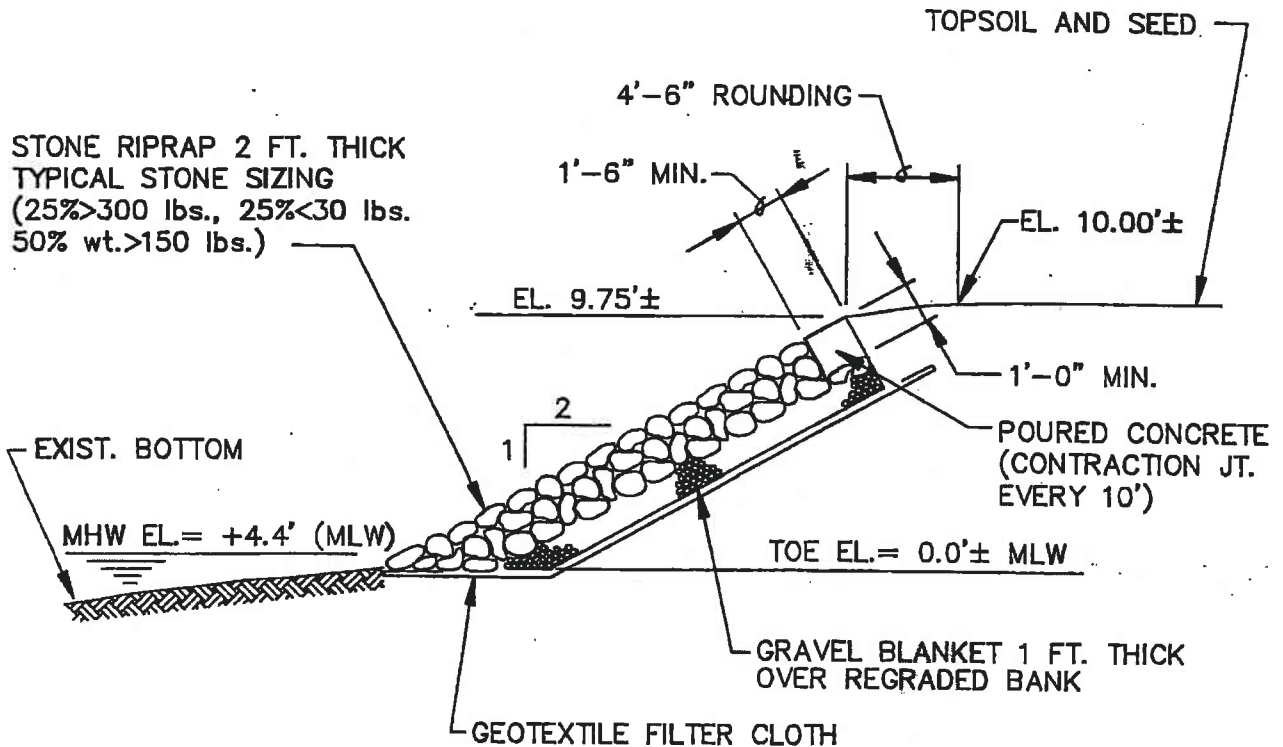
FALL RIVER CAROUSEL
 AND HERITAGE PARK
 TYPICAL BOARDWALK SECTION

LICENSE PLAN NO. 26411

Approved by Department of Environmental Protection

Date: ADD 4 6 1001

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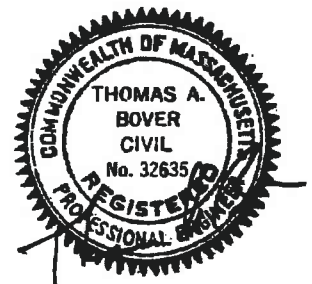


TYPICAL RIPRAP REVETMENT RECONSTRUCTION

NOT TO SCALE

NOTES:

1. TYPICAL STONE SIZING MAY VARY ACCORDING TO CONTRACTOR'S SPECIFICATIONS.
2. EXISTING DUMPED STONE RIPRAP MATERIAL WILL BE RE-USED TO GREATEST EXTENT PRACTICAL.
3. PLAN IS FOR PERMITTING PURPOSES ONLY.

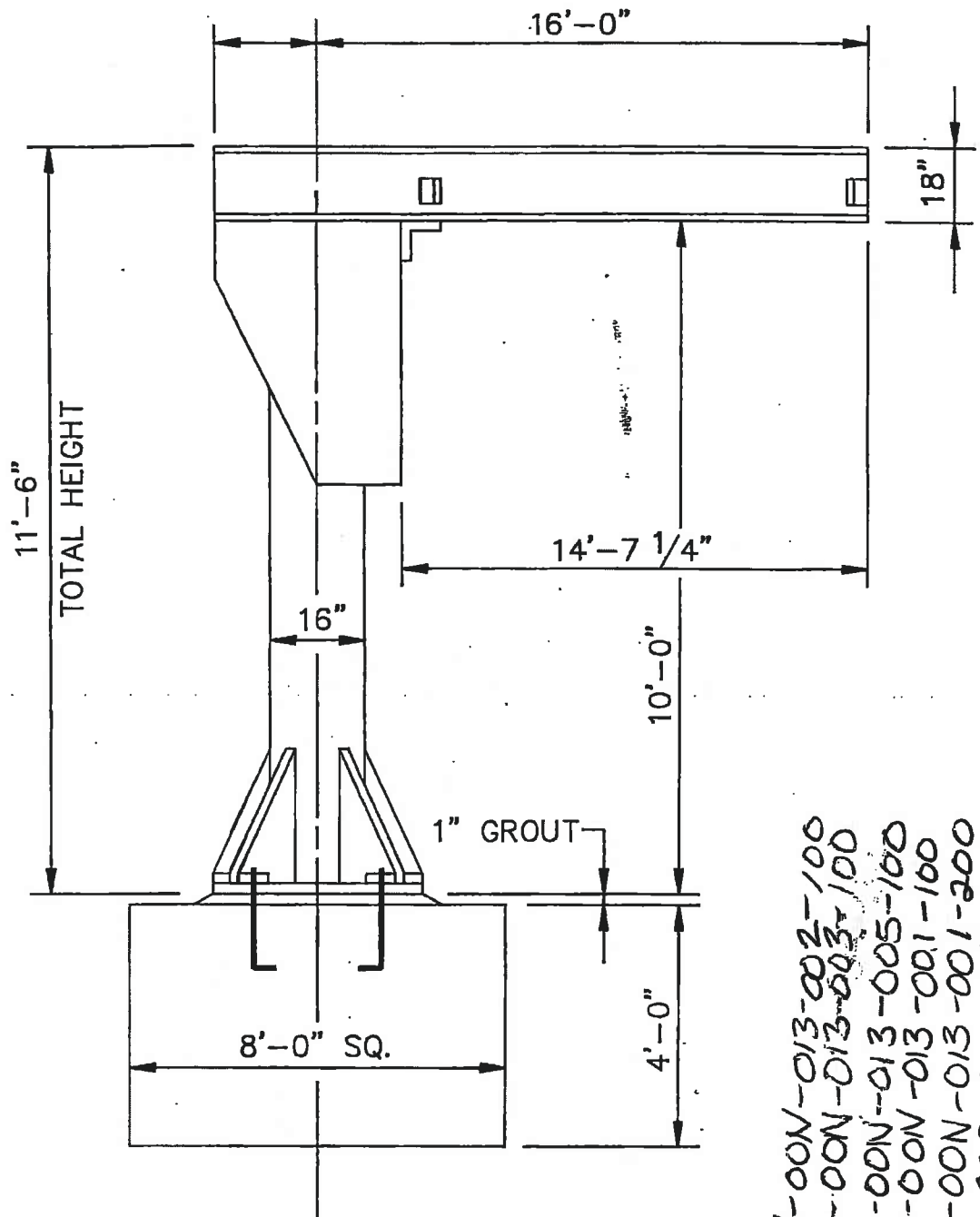


FALL RIVER CAROUSEL
 AND HERITAGE PARK
 TYPICAL RIPRAP REVETMENT

LICENSE PLAN NO. 2641

Approved by Department of Environmental Protection

Date: APR 16 1991



JIB CRANE DETAIL

NOT TO SCALE



FALL RIVER CAROUSEL
AND HERITAGE PARK
JIB CRANE DETAIL

Prepared By: HMM Associates, Inc. Concord, MA

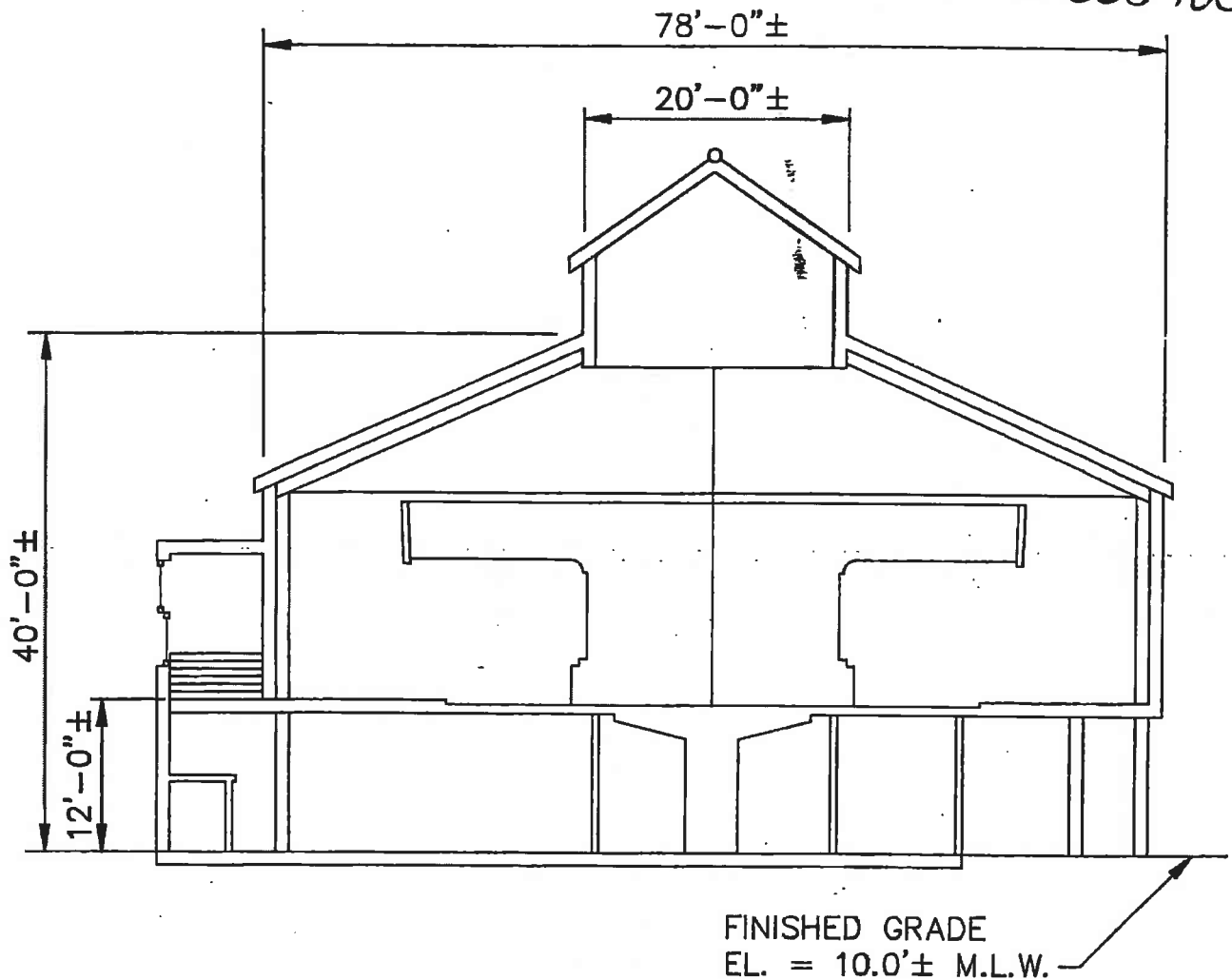
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024-00N-013-001-200
024-000-024-002-100

LICENSE PLAN NO. 2641

Approved by Department of Environmental Protection

Date: APR 16 1991

024-00N-013-002-100
024-00N-013-003-100
024-00N-013-001-100
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024-000-024-002-100
024-00N-013-005-100



CAROUSEL BUILDING
CROSS SECTION

NOT TO SCALE



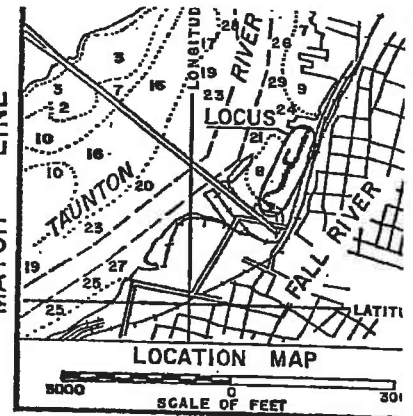
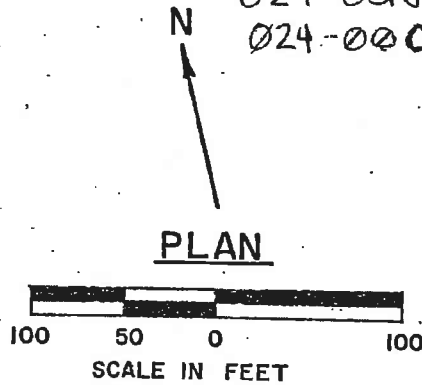
FALL RIVER CAROUSEL
AND HERITAGE PARK
TYP. CAROUSEL BLDG. CROSS SECTION
Prepared By: HMM Associates, Inc. Concord, MA

LICENSE PLAN NO. 2641

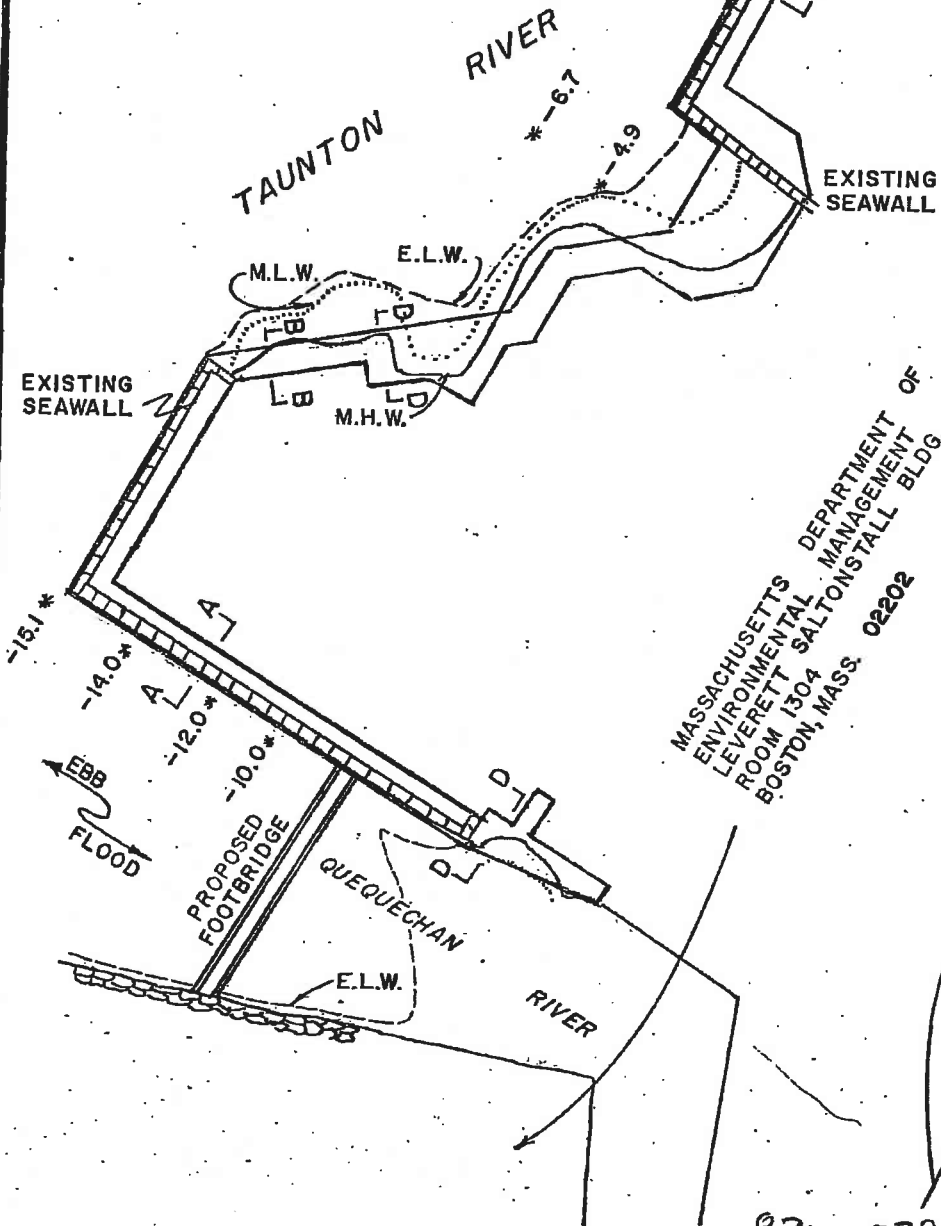
Approved by: Department of Environmental Protection

Date: APR 16 1991

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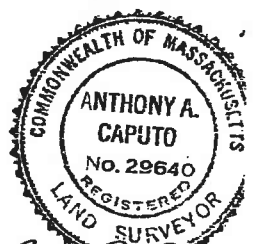


SOUNDINGS AND ELEVATIONS
 ARE IN FEET AND REFER TO
 MEAN LOW WATER.



MASSACHUSETTS DEPARTMENT OF
 ENVIRONMENTAL MANAGEMENT
 ROOM 1304 SALTONSTALL BLDG.
 BOSTON, MASS. 02202

FRONTAGE ROAD
 WESTERN EXPRESSWAY
 DAVOL STREET NORTH



Anthony A. Caputo

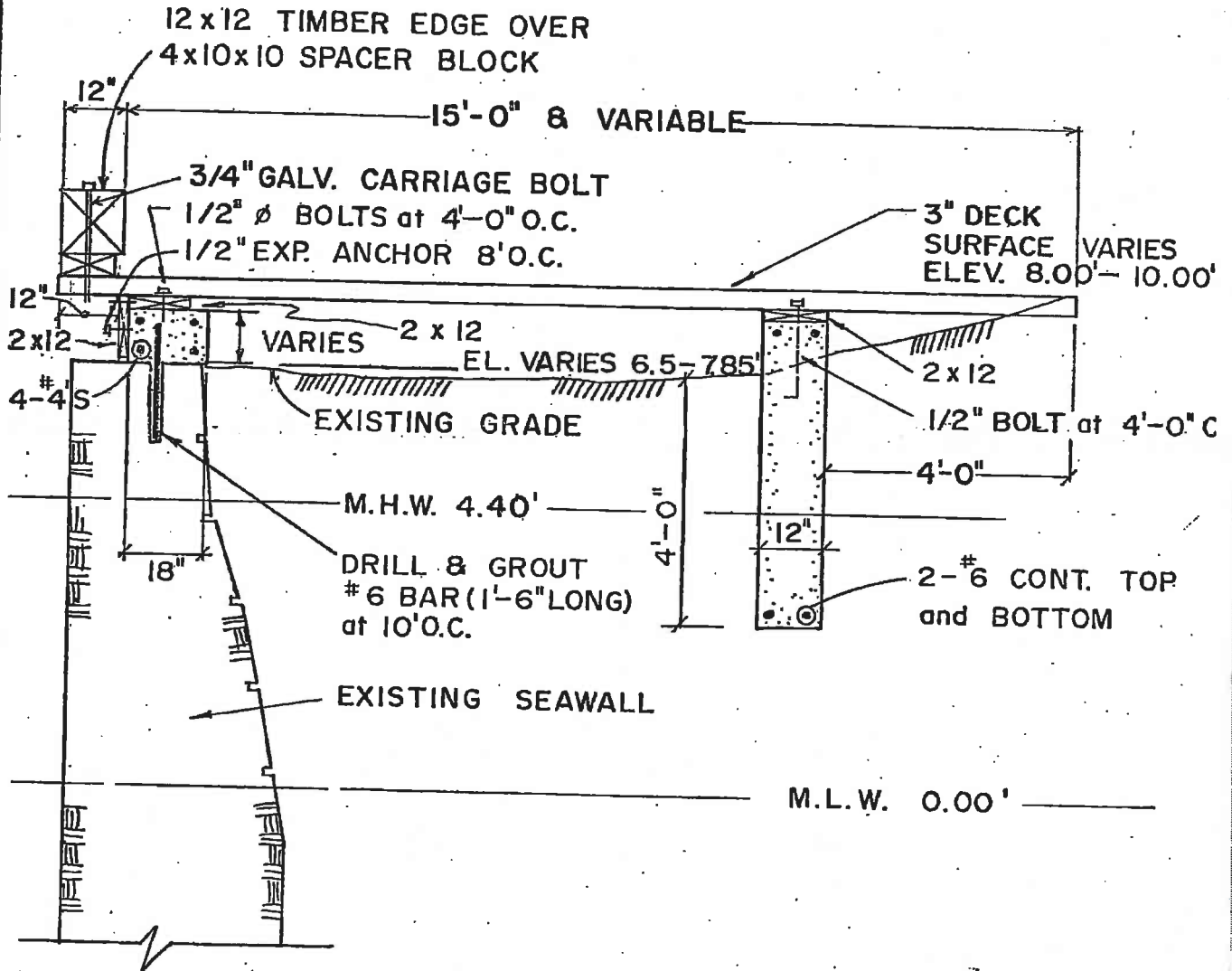
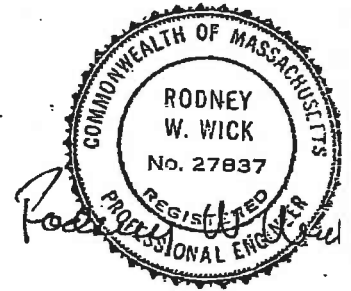
82W-029 SHEET 1 OF 10

PLAN ACCOMPANYING PETITION OF
 MASSACHUSETTS DEPARTMENT OF
 ENVIRONMENTAL MANAGEMENT
 TO CONSTRUCT AND MAINTAIN WATERFRONT
 IMPROVEMENTS AT FALL RIVER HERITAGE STATE PARK
 IN THE TAUNTON RIVER, CITY OF FALL RIVER,
 COUNTY OF BRISTOL, MASS.

LICENSE PLAN NO. 845
 Approved by Department of Environmental Quality Engineer
 of Massachusetts APRIL 30, 1982
 COMMISSIONER
 CHIEF ENGINEER

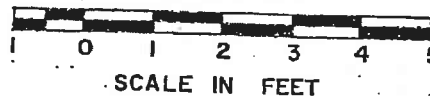
Approved by Department of Environmental Quality Engineers
APRIL 30, 1982

024-000-024 - 002-100
 024-00N-013-003-100
 024-00N-013-005-100



SECTION A-A

SCALE 3/8" = 1'-0"



ALL WOOD TO BE
 PRESSURE TREATED
 WITH PRESERVATIVE.

PLAN ACCOMPANYING PETITION OF
 MASSACHUSETTS DEPARTMENT OF
 ENVIRONMENTAL MANAGEMENT

TO CONSTRUCT AND MAINTAIN WATERFRONT
 IMPROVEMENTS AT FALL RIVER HERITAGE STATE PARK
 IN THE TAUNTON RIVER, CITY OF FALL RIVER,
 COUNTY OF BRISTOL, MASS.

82w-029

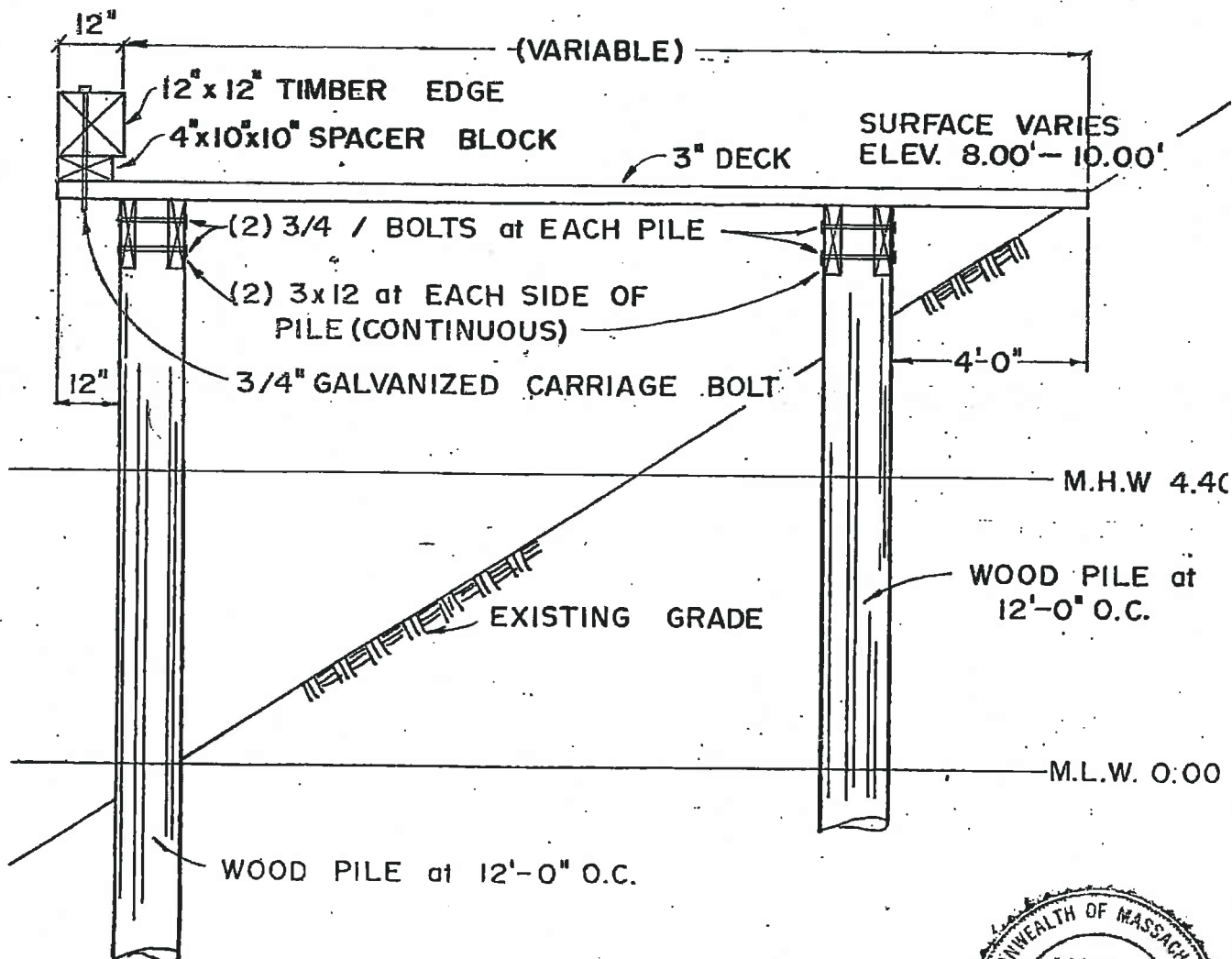
SHEET 3 OF 10

LICENSE PLAN NO. 845

Approved by Department of Environmental Quality Engineer
 APRIL 30, 1982

024-000-024-002-100
 024-00N-013-003-100
 024-00N-013-003-100

ALL WOOD TO BE
 PRESSURE TREATED
 WITH PRESERVATIVE

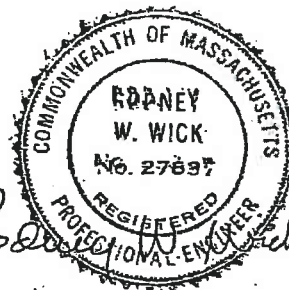


SECTION B-B

SCALE 3/8" = 1'-0"



SCALE IN FEET



82W-029

SHEET 4 OF 10

PLAN ACCOMPANYING PETITION OF
 MASSACHUSETTS DEPARTMENT OF
 ENVIRONMENTAL MANAGEMENT

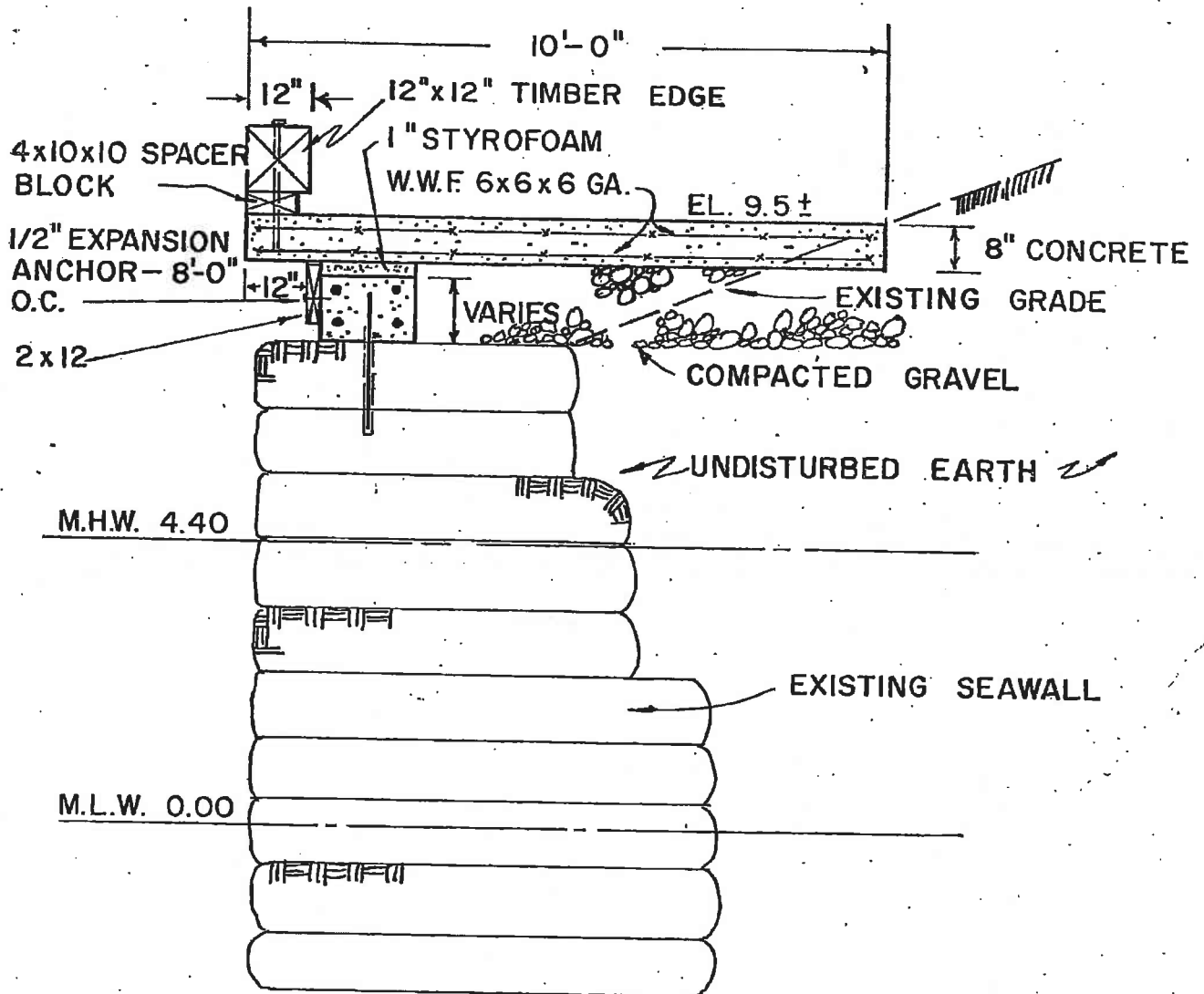
TO CONSTRUCT AND MAINTAIN WATERFRONT
 IMPROVEMENTS AT FALL RIVER HERITAGE STATE PARK
 IN THE TAUNTON RIVER, CITY OF FALL RIVER,
 COUNTY OF BRISTOL, MASS.

LICENSE PLAN NO. 845

Approved by Department of Environmental Quality Engineer

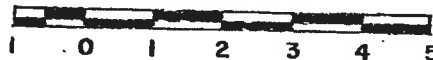
APRIL 30, 1982

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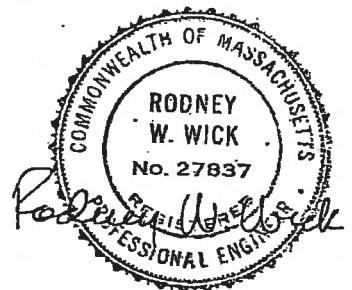


SECTION C-C

SCALE 3/8" = 1'-0"



SCALE IN FEET



82w-029 SHEET 5 OF 10

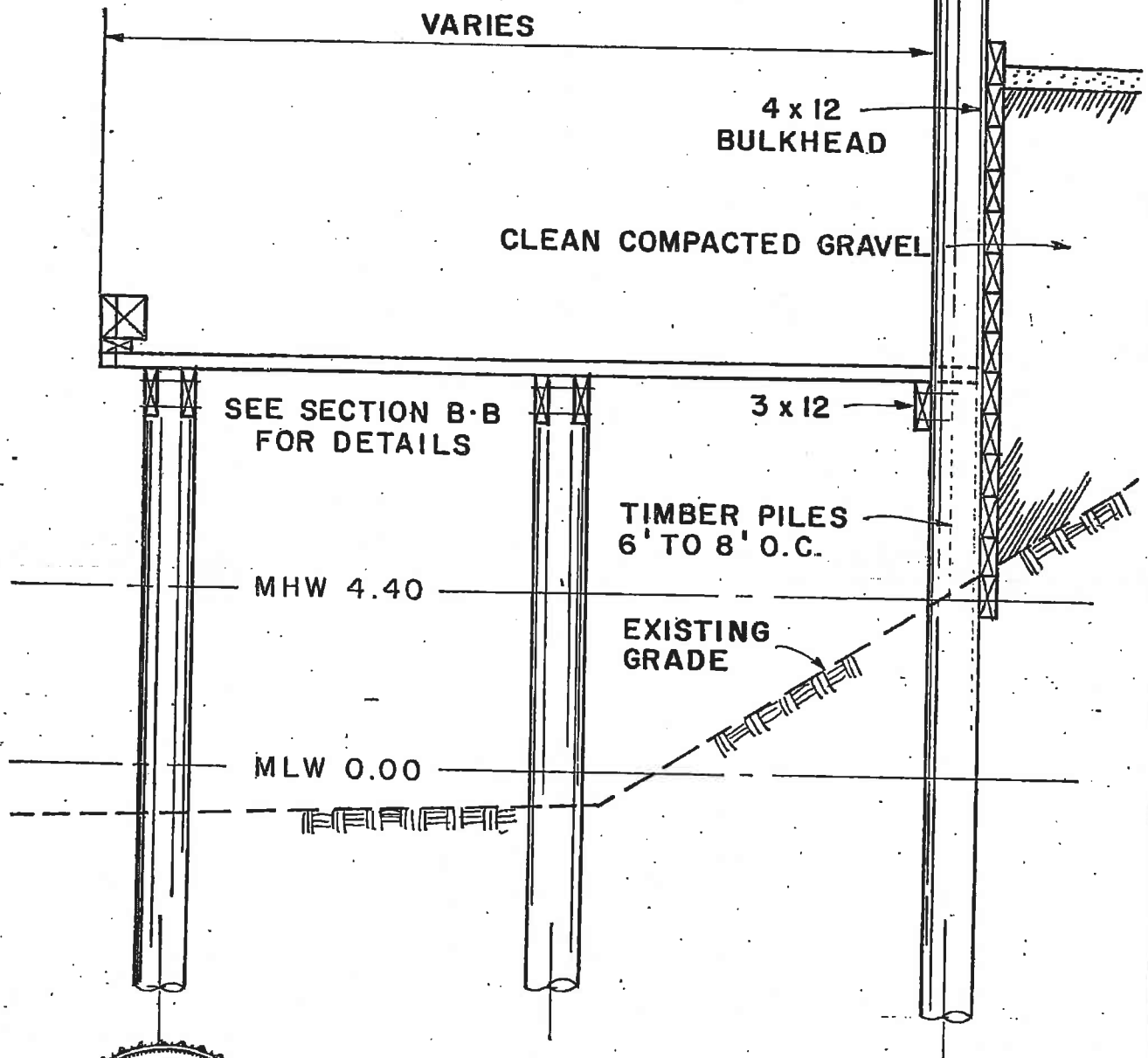
PLAN ACCOMPANYING PETITION OF
 MASSACHUSETTS DEPARTMENT OF
 ENVIRONMENTAL MANAGEMENT
 TO CONSTRUCT AND MAINTAIN WATERFRONT
 IMPROVEMENTS AT FALL RIVER HERITAGE STATE PARK
 IN THE TAUNTON RIVER, CITY OF FALL RIVER,
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LICENSE PLAN NO. 845

Approved by Department of Environmental Quality Engineer

APRIL 30, 1982

024-000-024-002-100 HANDRAIL
 024-00N-013-003-100
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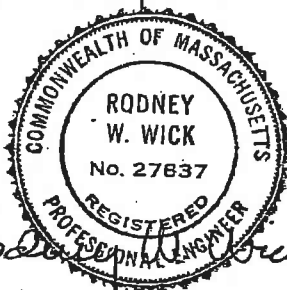
SECTION D-D

SCALE 1/4" = 1'-0"



SCALE IN FEET

ALL WOOD TO BE
 PRESSURE TREATED
 WITH PRESERVATIVE



PLAN ACCOMPANYING PETITION OF
 MASSACHUSETTS DEPARTMENT OF
 ENVIRONMENTAL MANAGEMENT
 TO CONSTRUCT AND MAINTAIN WATERFRONT
 IMPROVEMENTS AT FALL RIVER HERITAGE STATE PARK
 IN THE TAUNTON RIVER, CITY OF FALL RIVER,
 COUNTY OF BRISTOL, MASS.

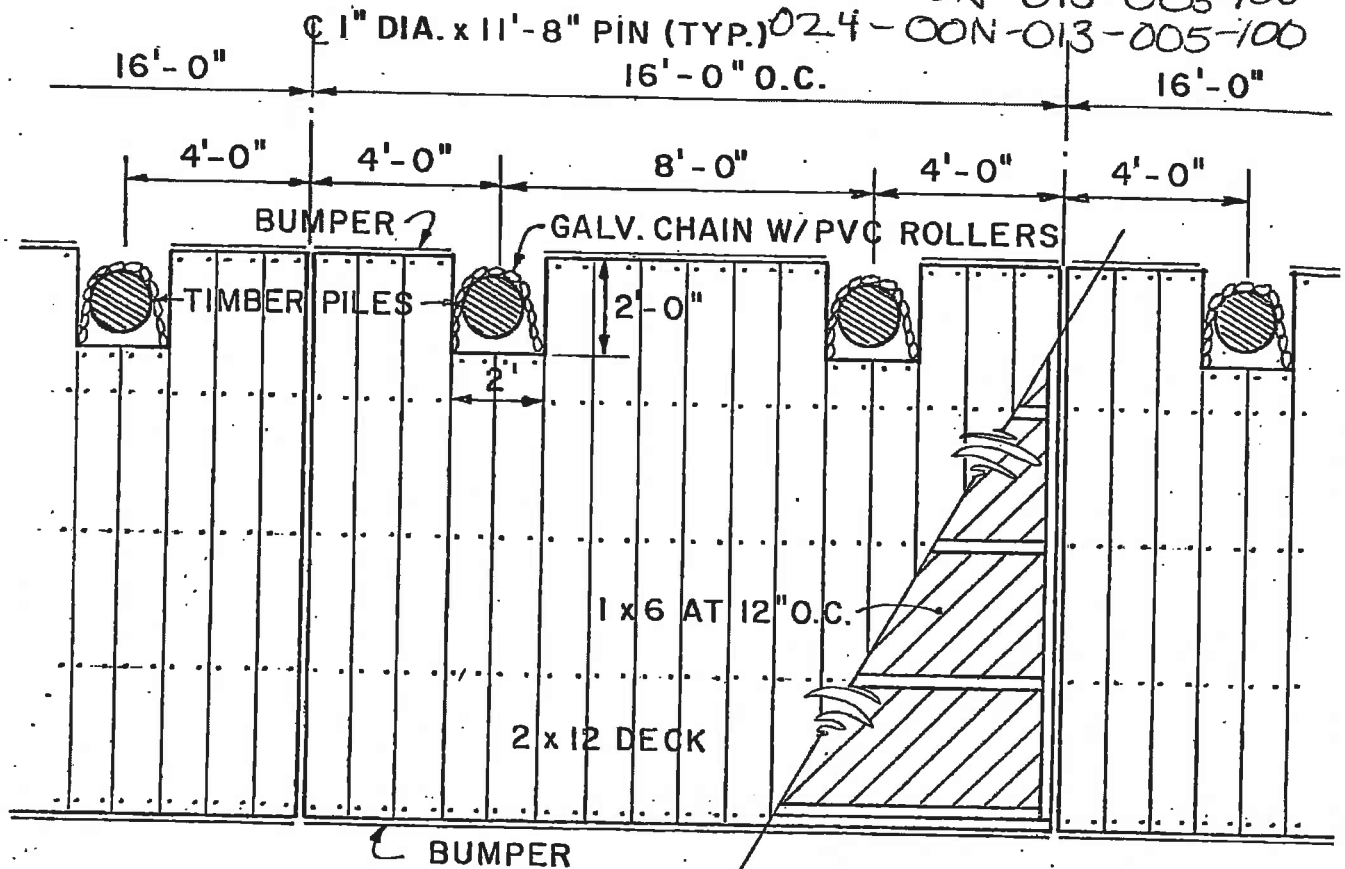
82w-029 SHEET 6 OF 10

UCENSE PLAN NO. 845

Approved by Department of Environmental Quality Engineer

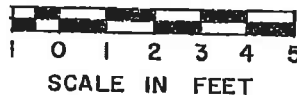
APRIL 30, 1982

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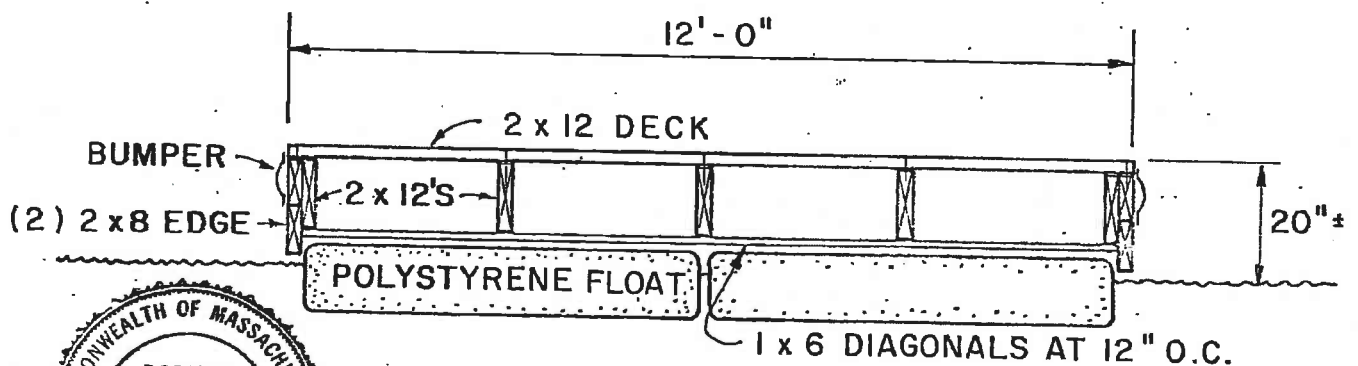


FLOAT PLAN

SCALE 1/4"=1'-0"

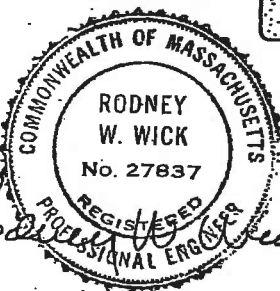
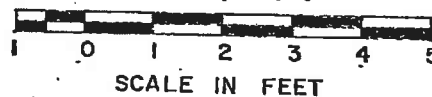


ALL WOOD TO BE
 PRESSURE TREATED
 WITH PRESERVATIVE



TYPICAL SECTION

SCALE 3/8"=1'-0"



PLAN ACCOMPANYING PETITION OF
 MASSACHUSETTS DEPARTMENT OF
 ENVIRONMENTAL MANAGEMENT
 TO CONSTRUCT AND MAINTAIN WATERFRONT
 IMPROVEMENTS AT FALL RIVER HERITAGE STATE PARK
 IN THE TAUNTON RIVER, CITY OF FALL RIVER,
 COUNTY OF BRISTOL, MASS.

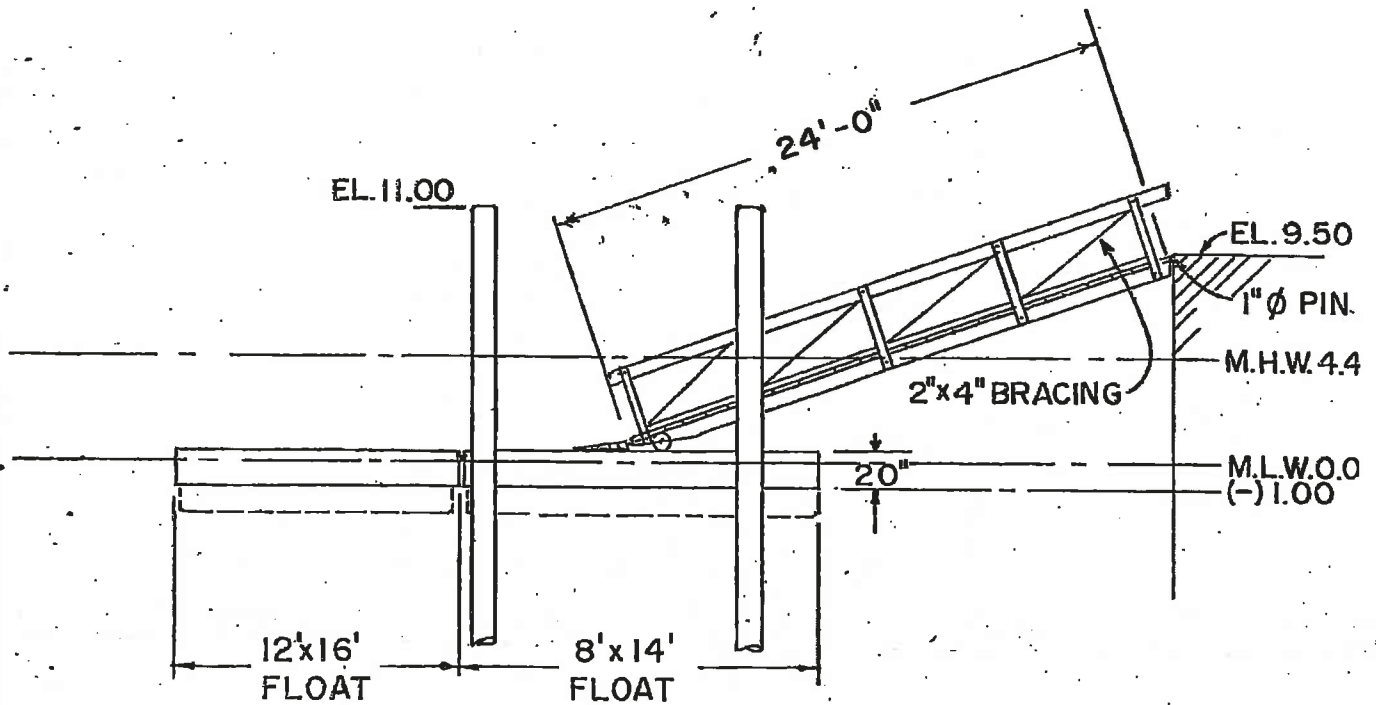
82w-029 SHEET 7 OF 10

LICENSE PLAN NO. 845

Approved by Department of Environmental Quality, England

APRIL 30 1987

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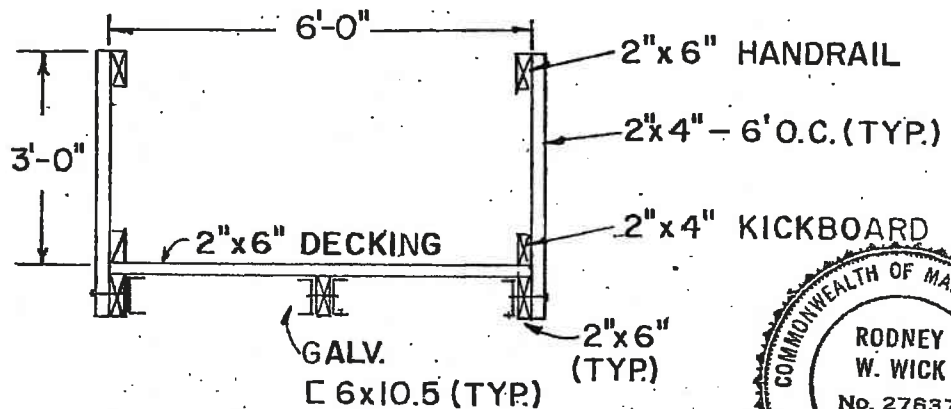


ELEVATION OF FLOAT & RAMP

- 12" BELOW M.L.W.

SCALE 1/8" = 1'-0"

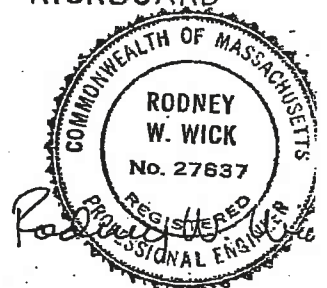
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 SCALE IN FEET



TYPICAL RAMP SECTION

SCALE 3/8" = 1'-0"

1 0 1 2 3 4 5
 SCALE IN FEET



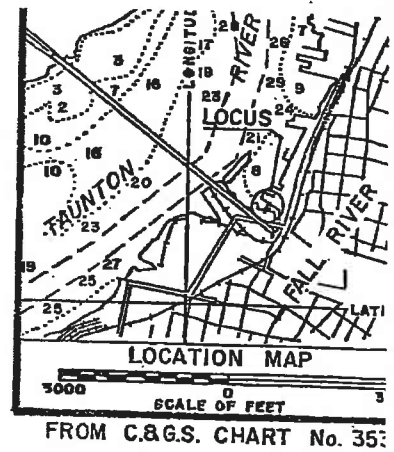
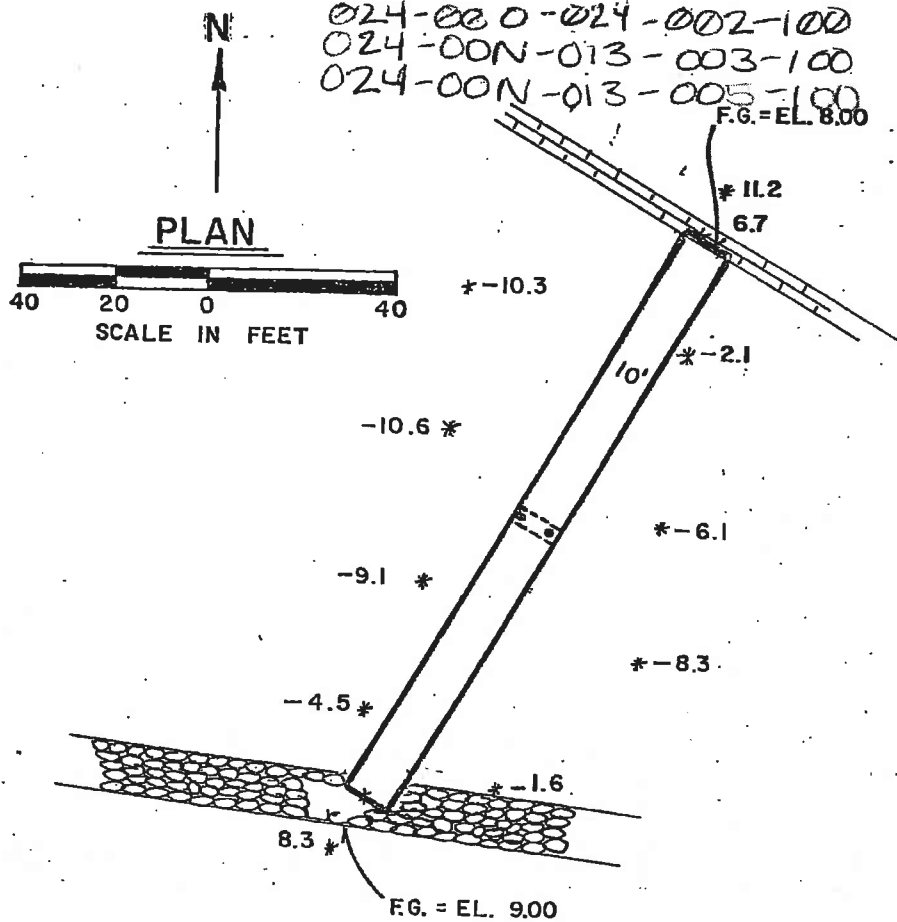
SHEET 8 OF 10

PLAN ACCOMPANYING PETITION OF
 MASSACHUSETTS DEPARTMENT OF
 ENVIRONMENTAL MANAGEMENT
 TO CONSTRUCT AND MAINTAIN WATERFRONT
 IMPROVEMENTS AT FALL RIVER HERITAGE STATE PARK
 IN THE TAUNTON RIVER, CITY OF FALL RIVER,
 COUNTY OF BRISTOL, MASS.

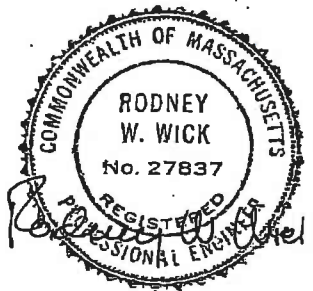
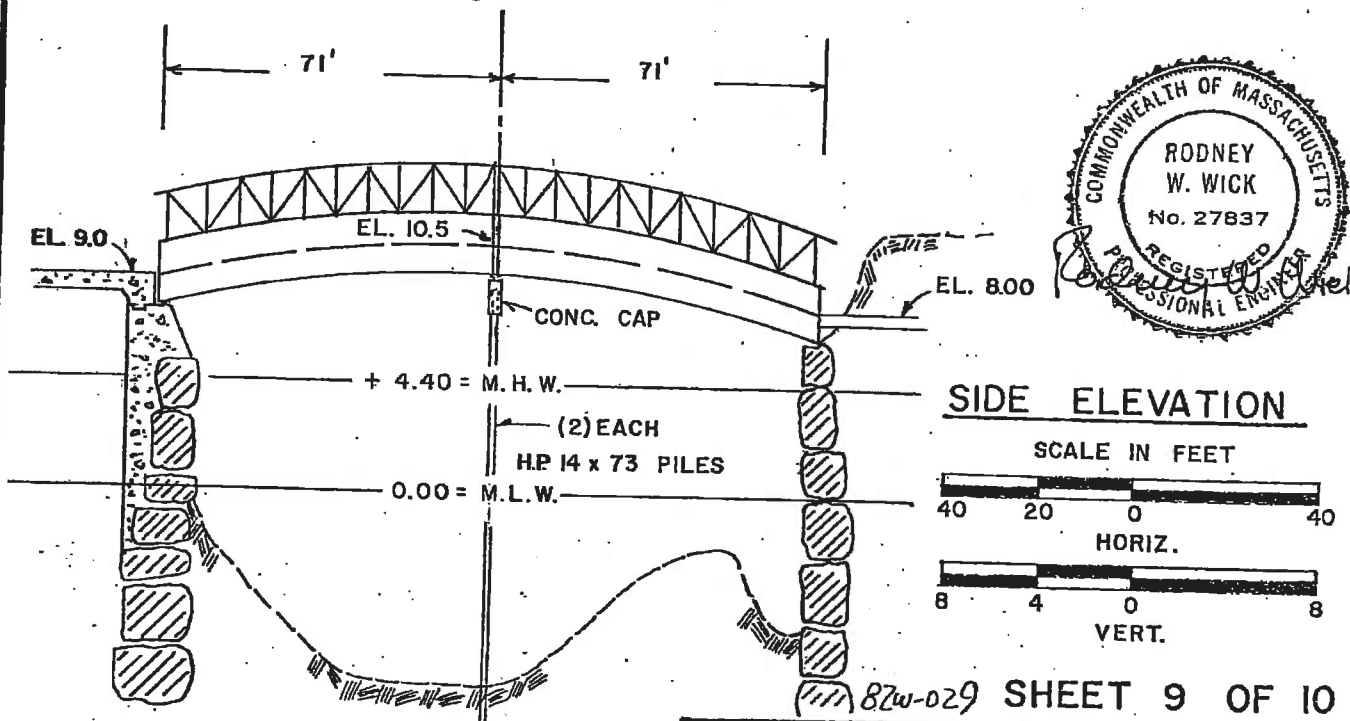
LICENSE PLAN NO. 845

Approved by Department of Environmental Quality Engineering

APRIL 30, 1982



SOUNDINGS AND ELEVATIONS
ARE IN FEET AND REFER TO
MEAN LOW WATER.



PLAN ACCOMPANYING PETITION OF
MASSACHUSETTS DEPARTMENT OF
ENVIRONMENTAL MANAGEMENT

TO CONSTRUCT AND MAINTAIN WATERFRONT
IMPROVEMENTS AT FALL RIVER HERITAGE STATE PARK
IN THE TAUNTON RIVER, CITY OF FALL RIVER,
COUNTY OF BRISTOL, MASS.

LICENSE PLAN NO. 845

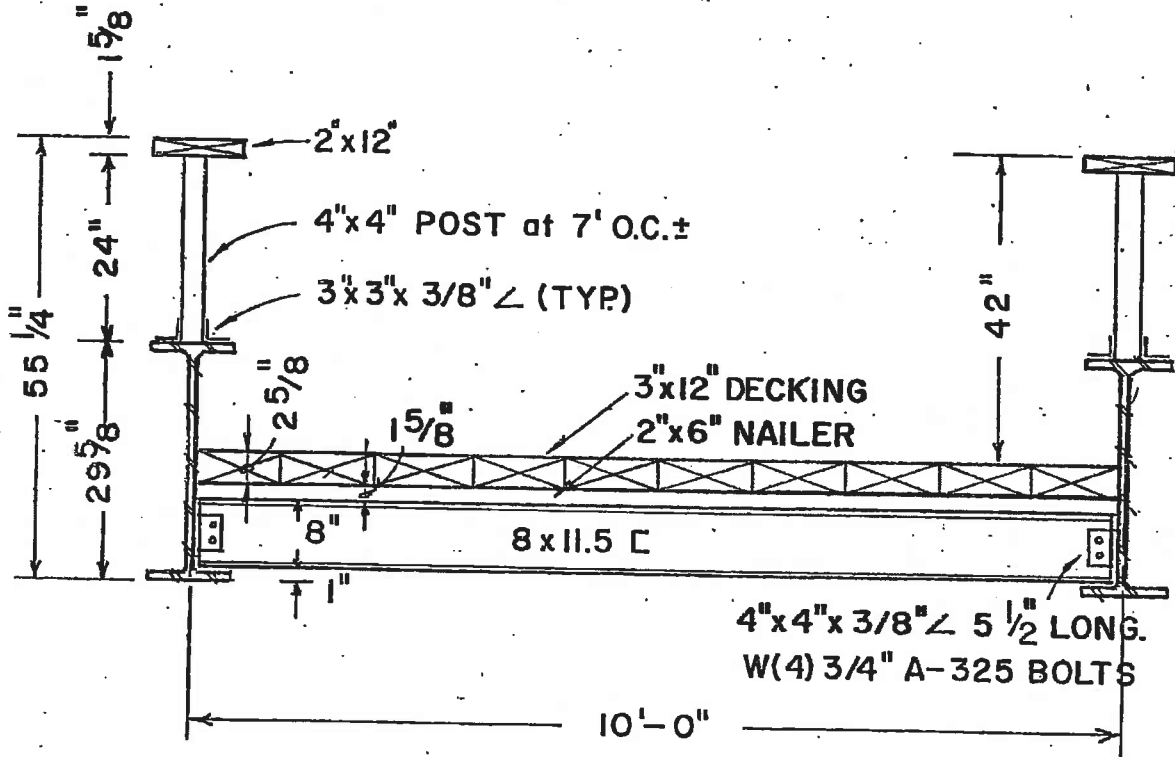
Approved by Department of Environmental Quality Engineer

APRIL 30, 1982

82w-029 SHEET 9 OF 10

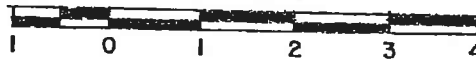
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ALL WOOD TO BE
 PRESSURE TREATED
 WITH PRESERVATIVE

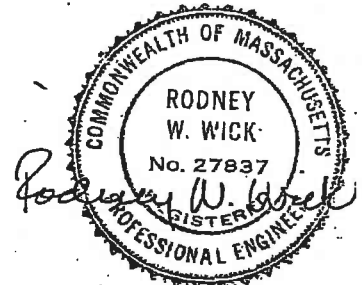


TYPICAL BRIDGE SECTION

SCALE 1/2"=1'-0"



SCALE IN FEET



82w-029

SHEET 10 OF 10

PLAN ACCOMPANYING PETITION OF
 MASSACHUSETTS DEPARTMENT OF
 ENVIRONMENTAL MANAGEMENT
 TO CONSTRUCT AND MAINTAIN WATERFRONT
 IMPROVEMENTS AT FALL RIVER HERITAGE STATE PARK
 IN THE TAUNTON RIVER, CITY OF FALL RIVER,
 COUNTY OF BRISTOL, MASS.

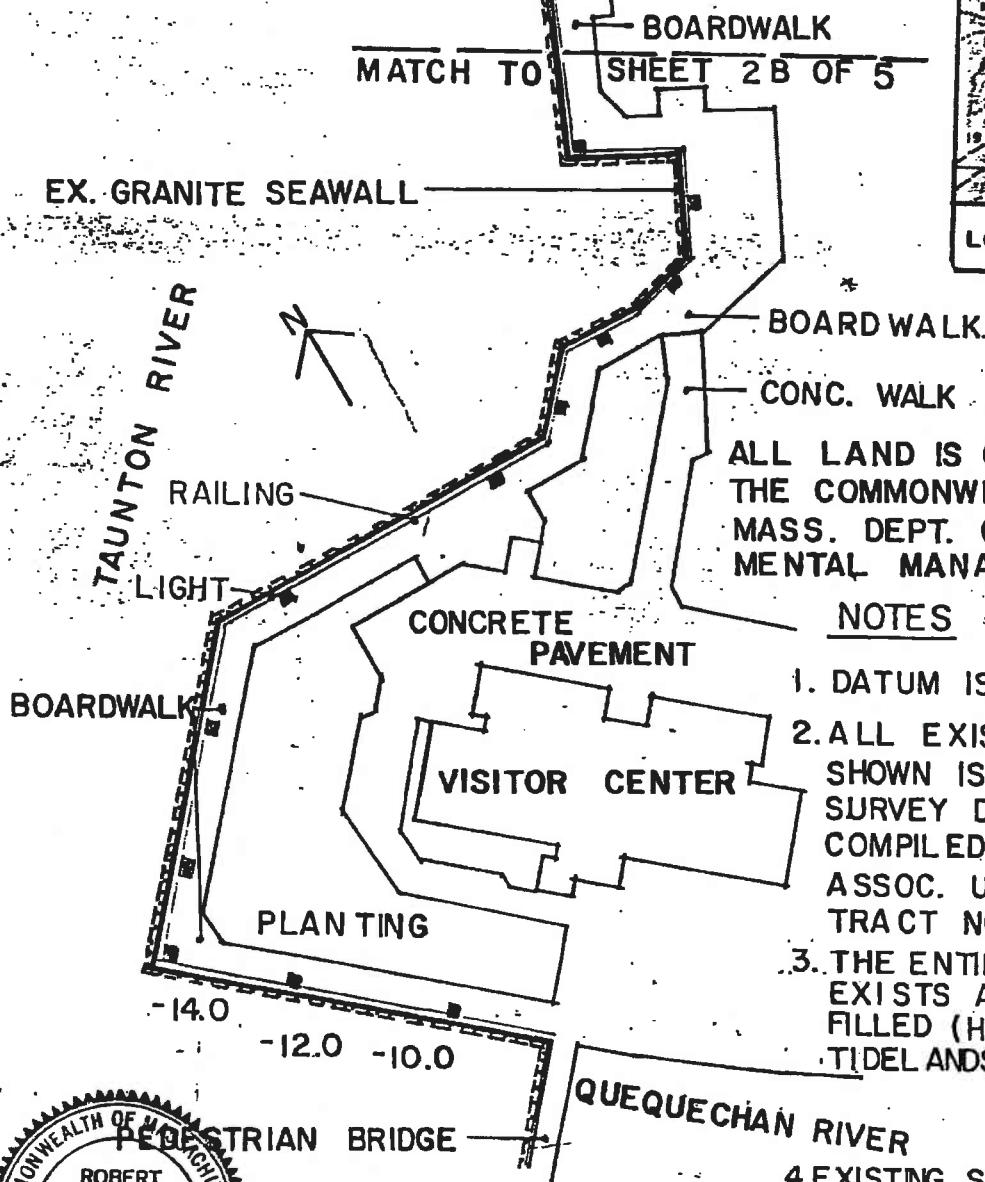
LICENSE PLAN NO. 845

Approved by Department of Environmental Quality Engineering

APRIL 30, 1982

024-00N-013-003-100

024-00N-013-005-100

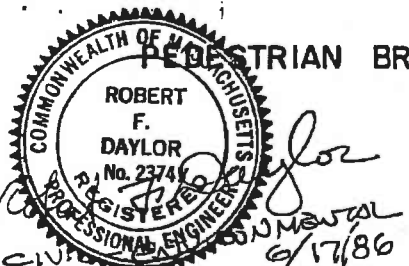


ALL LAND IS OWNED BY
THE COMMONWEALTH OF
MASS. DEPT. OF ENVIRON-
MENTAL MANAGEMENT

NOTES

1. DATUM IS MEAN LOW WATER
2. ALL EXISTING CONDITIONS SHOWN IS PROVIDED FROM SURVEY DATA AND SOUNDINGS COMPILED BY A. L. ALMY AND ASSOC. UNDER D.E.M. CONTRACT NO. 48-81A
3. THE ENTIRE PROJECT AREA EXISTS AS HISTORICALLY FILLED (H.M.H.W. \pm 5.0' M.L.W.) TIDELANDS

4. EXISTING STRUCTURES LICENSE UNDER DEQE # 82 - 8 45



SITE LOCATION PLAN



PLAN ACCOMPANYING PETITION OF
THE MASS. DEPT. OF
ENVIRONMENTAL MANAGEMENT
TO CONSTRUCT AND MAINTAIN
WATERFRONT IMPROVEMENTS
ALONG THE TAUNTON RIVER.

86W-117

SHEET 1A OF 5

LICENSE PLAN NO. 1831
Approved by Department of Environmental Quality Engineer
of Massachusetts
Christy Folsom Smith COMMISSIONER
DIVISION DIRECTOR

024-00N-013-003-100

024-00N-013-005-100

MATCH TO

SHEET 3 C OF 5

NEW BOARDWALK

EXISTING PARKING LOT

EX. GRANITE SEAWALL

-5.9

JIB CRANE

NEW FLOAT

FLOAT

12'

95'

-9.7

-7.8

BOATHOUSE

-2.0

-9.8

TAUNTON RIVER



NAUTICAL FLAGPOLE

EXISTING STAIRS

RAILING

BOARDWALK

LIGHT

-4.8

ALL LAND IS OWNED BY
THE COMMONWEALTH OF MASS.
DEPT. OF ENVIRONMENTAL
MANAGEMENT

1. DATUM IS MEAN LOW WATER

2. ALL EXISTING CONDITIONS
SHOWN IS PROVIDED FROM
SURVEY DATA COMPILED BY
A.L. ALMY AND ASSOC. UNDER

DE.M. CONTRACT NO. 48-81A

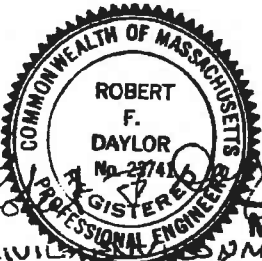
3. THE ENTIRE PROJECT AREA
EXISTS AS HISTORICALLY FILLED
(H.M.H.W. \pm 5.0' M.L.W.) TIDELAND

4. EX. STRUCTURES LICENSED
UNDER D.E.Q.E. WATERWAY
82-845

MEAN HIGH WATER

MEAN LOW WATER

EXTREME LOW WATER
(-0.5 M.L.W.)



MATCH TO

SHEET 1 A OF 5

SITE LOCATION PLAN

SCALE IN FEET



PLAN ACCOMPANYING PETITION OF
THE MASS. DEPT. OF
ENVIRONMENTAL MANAGEMENT
TO CONSTRUCT AND MAINTAIN
WATERFRONT IMPROVEMENTS
ALONG THE TAUNTON RIVER,

86W-117

SHEET 2B OF 5

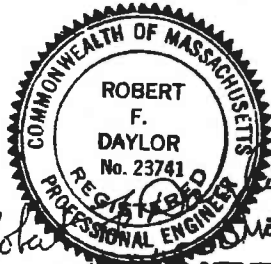
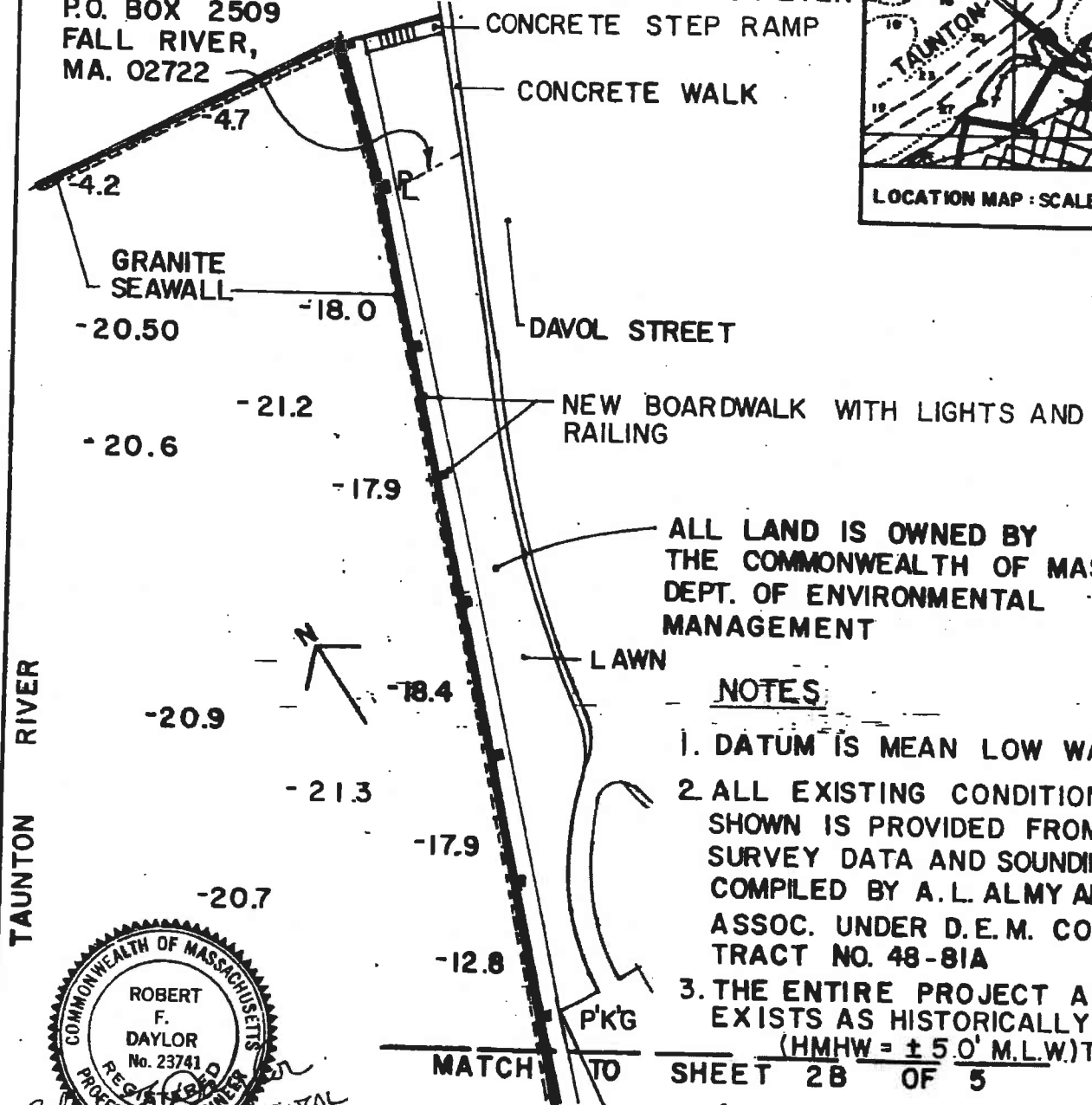
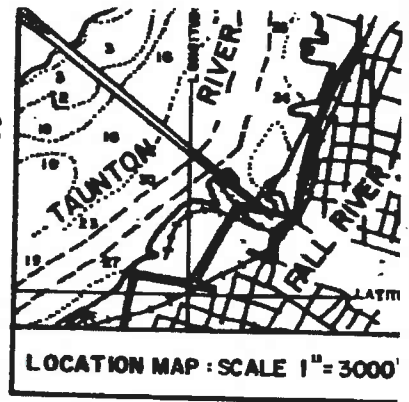
LICENSE PLAN NO. 1831

Approved by Department of Environmental Quality Engineering

024-00N-013-003-100

024-00N-013-005-100

N/F CHARLOTTE LITCHMAN & WILLIAM R. MEYER
P.O. BOX 2509
FALL RIVER,
MA. 02722



Robert F. Daylor
6/17/86

SITE LOCATION PLAN



NOTES

1. DATUM IS MEAN LOW WATER
2. ALL EXISTING CONDITIONS SHOWN IS PROVIDED FROM SURVEY DATA AND SOUNDINGS COMPILED BY A.L. ALMY AND ASSOC. UNDER D.E.M. CONTRACT NO. 48-81A
3. THE ENTIRE PROJECT AREA EXISTS AS HISTORICALLY FILLED (HMHW = $\pm 5.0'$ M.L.W.) TIDELAND
4. EX. STRUCTURES LICENSED UNDER D.E.Q.E. WATERWAY #82-845

——— MEAN HIGH WATER
..... MEAN LOW WATER
----- EXTREME LOW WATER (-0.5 M.L.W.)

86W-117

SHEET 3C OF 5

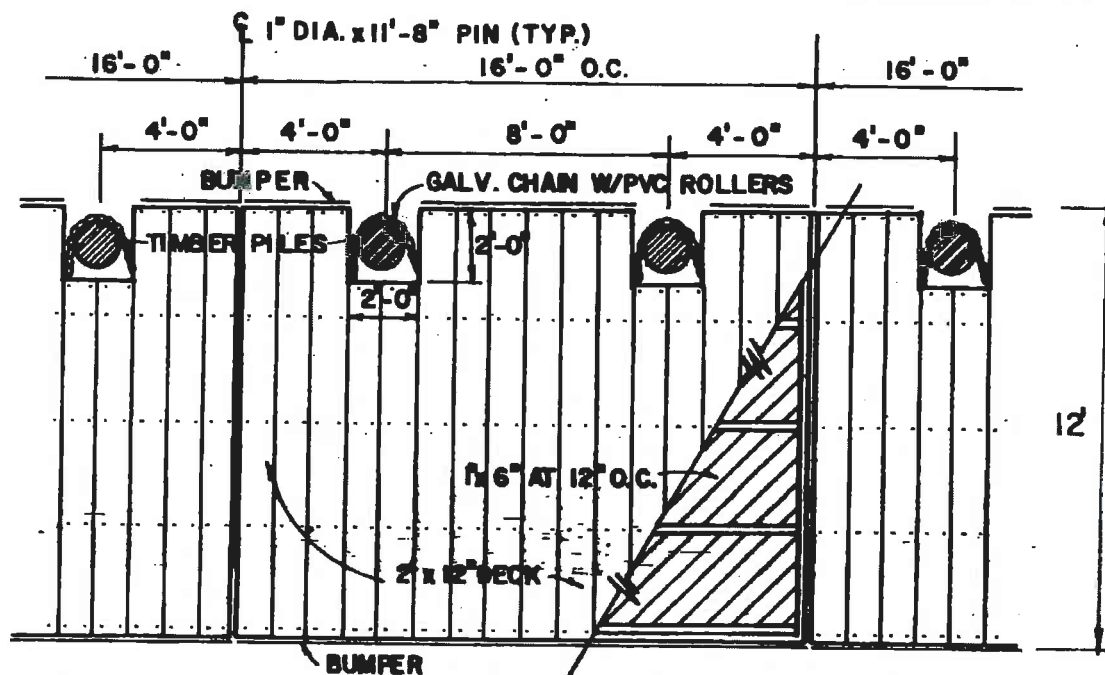
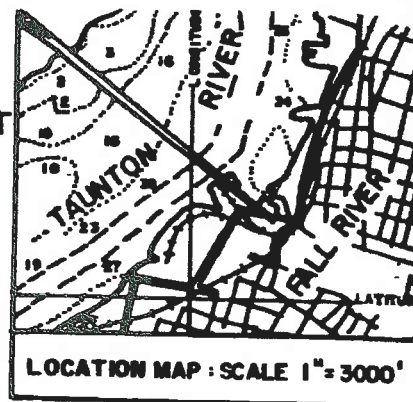
PLAN ACCOMPANYING PETITION OF THE MASS. DEPT. OF ENVIRONMENTAL MANAGEMENT TO CONSTRUCT AND MAINTAIN WATERFRONT IMPROVEMENTS ALONG THE TAUNTON RIVER,

LICENSE PLAN NO. 1831

Approved by Department of Environmental Quality Engineering

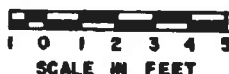
1. ALL EXISTING CONDITIONS SHOWN IS PROVIDED FROM SURVEY DATA AND SOUNDINGS COMPILED BY A.L. ALMY AND ASSOC. UNDER D.E.-M. CONTRACT NO. 48-81A

2. EXISTING STRUCTURES LICENSED UNDER D.E.Q.E. WATERWAY # 82-845

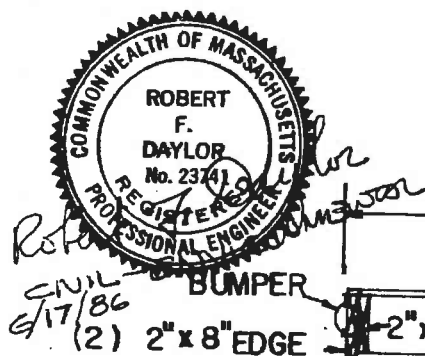


FLOAT PLAN

ALL WOOD TO BE PRESSURE TREATED WITH PRESERVATIVE



12'-0"



CIVIL
6/17/86
(2) 2" x 8" EDGE

12" x 8'-0" x 6'-0"

TYPICAL SECTION



86W-117

SHEET 4 OF 5

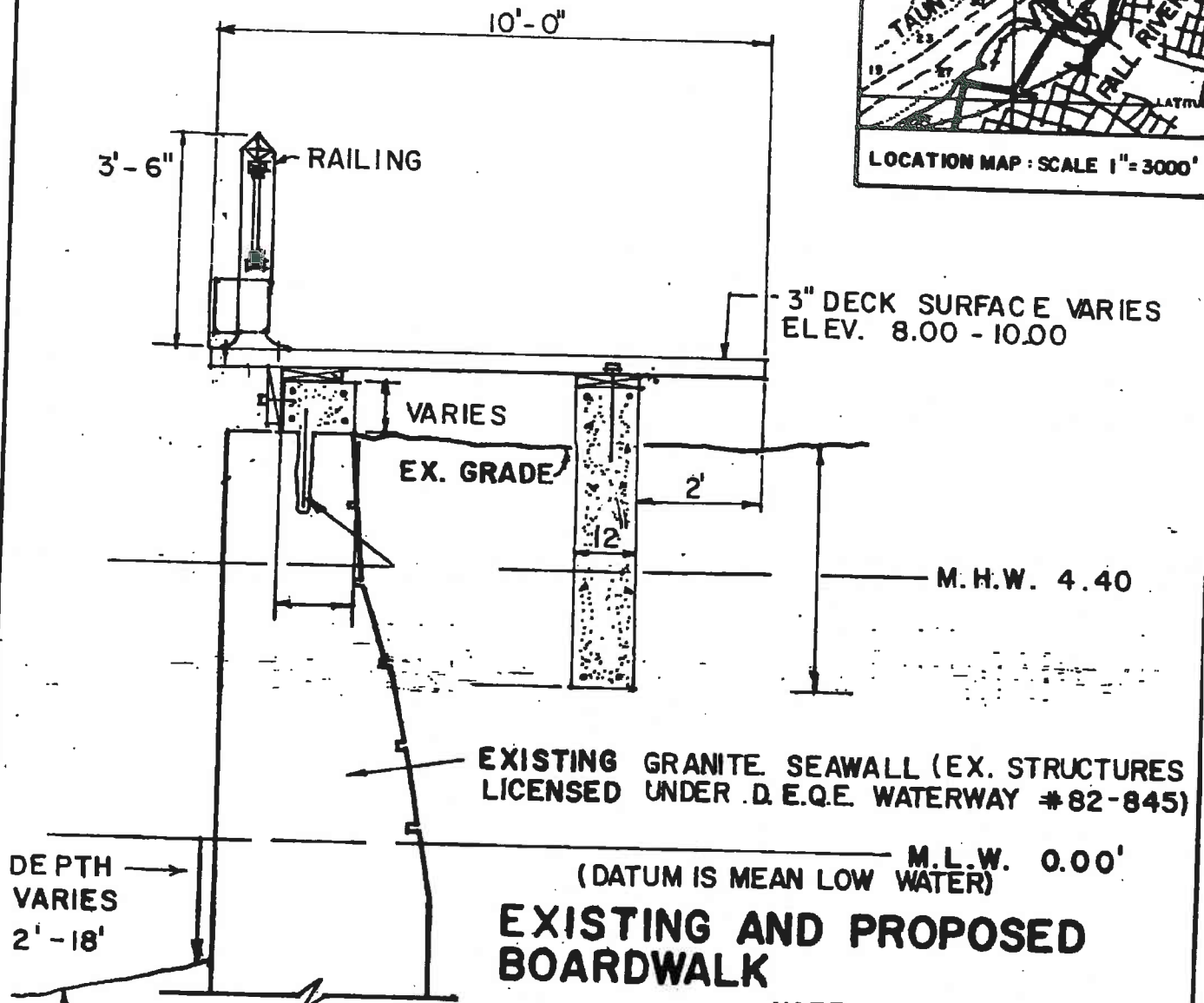
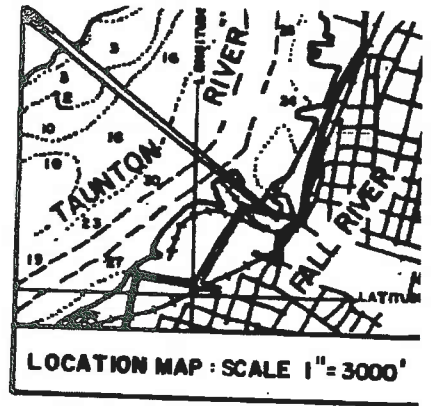
PLAN ACCOMPANYING PETITION OF THE MASS. DEPT. OF ENVIRONMENTAL MANAGEMENT TO CONSTRUCT AND MAINTAIN WATERFRONT IMPROVEMENTS ALONG THE TAUNTON RIVER.

LICENSE PLAN NO. 1831

Approved by Department of Environmental Quality Engineering

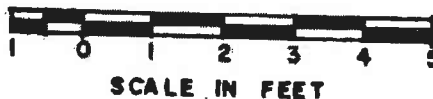
024-00N-013-003-100
024-00N-013-005-100

024-00N-013-003-100
 024-00N-013-005-100
 ALL WOOD TO BE PRESSURE-TREATED
 WITH PRESERVATIVE

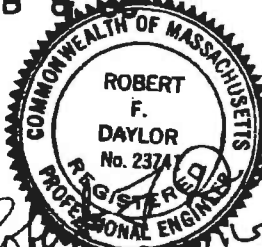


NATURAL BOTTOM
 SEE SHEETS
 2B 8

SECTION A-A



NOTE:
 ALL EXISTING CONDITIONS
 SHOWN IS PROVIDED FROM
 SURVEY DATA AND SOUNDINGS
 COMPILED BY A.L. ALMY AND
 ASSOC. UNDER D.E.M. CON-
 TRACT NO. 84-81A



PLAN ACCOMPANYING PETITION OF
 THE MASS. DEPT. OF
 ENVIRONMENTAL MANAGEMENT
 TO CONSTRUCT AND MAINTAIN
 WATERFRONT IMPROVEMENTS
 ALONG THE TAUNTON RIVER,

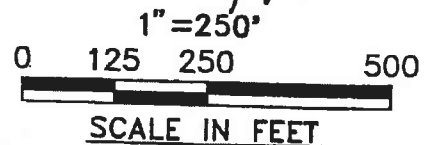
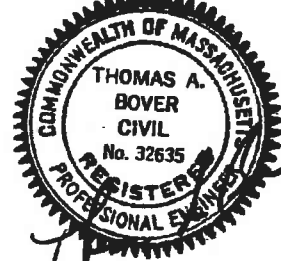
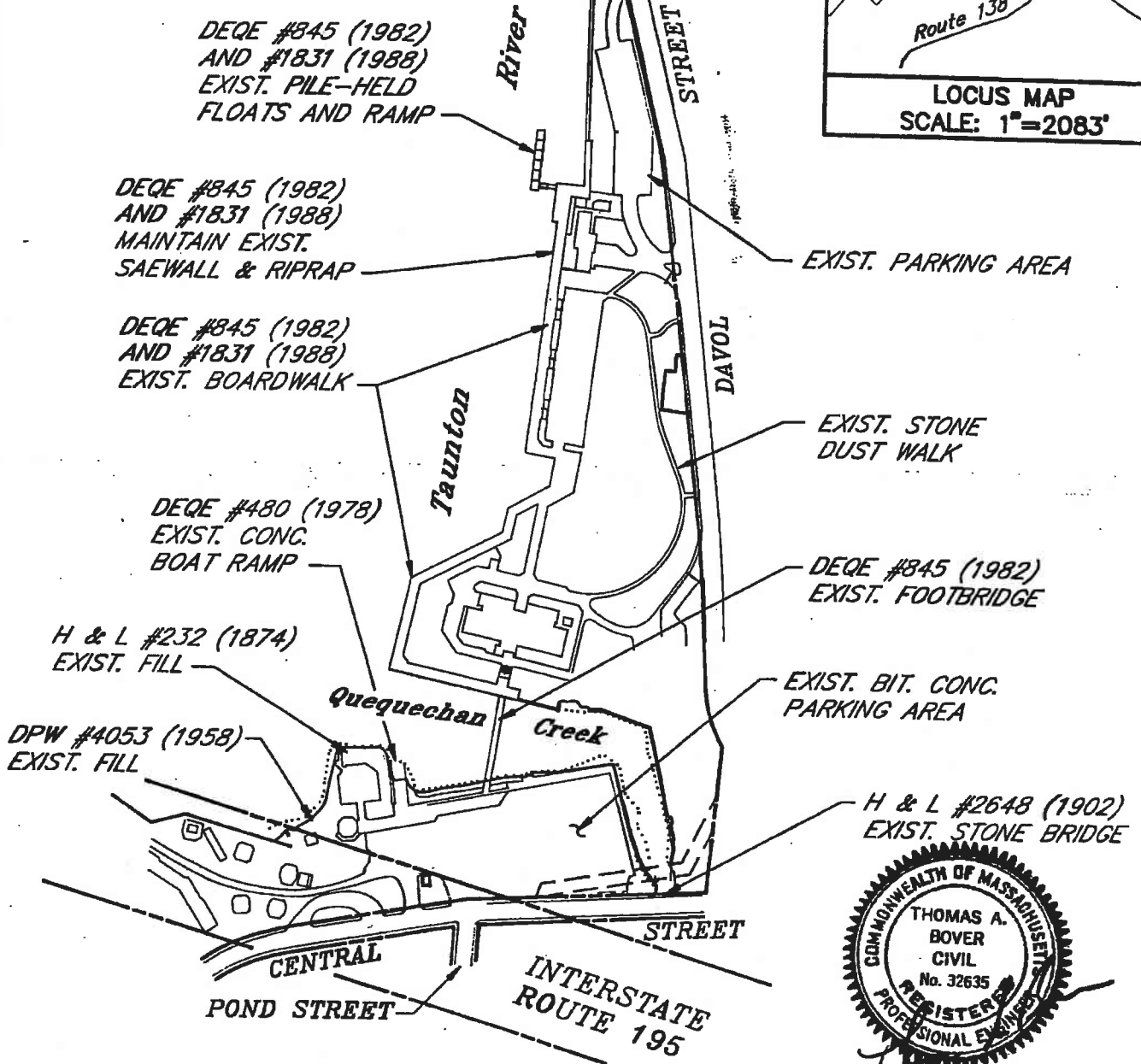
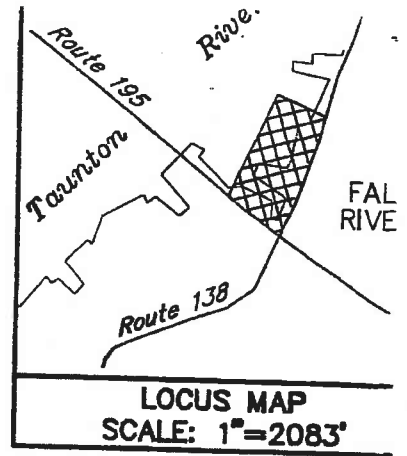
86W-117

SHEET 5 OF 5

LICENSE PLAN NO. 1831

Approved by Department of Environmental Quality Engineering

024-00N-013-001-100
 024-00N-013-001-200
 024000-024-002-100
 024-00N-013-002-100
 024-00N-013-003-100
 024-00N-013-005-100



**FALL RIVER CAROUSEL
 AND HERITAGE PARK
 EXISTING CONDITIONS AND
 EXISTING WATERWAYS LICENSES**
 CITY OF FALL RIVER (BRISTOL COUNTY), MA.
 PLANS ACCOMPANYING PETITION OF THE
 COMMONWEALTH OF MASSACHUSETTS DEPT.
 OF ENVIRONMENTAL MANAGEMENT (DEM) AND
 FALL RIVER OFFICE OF ECONOMIC DEVELOPMENT
 PURPOSE IS TO REVITALIZE FALL RIVER HERITAGE PARK BY
 EXTENDING THE EXIST. BOARDWALK AND DOCK FACILITIES,
 INSTALL A JIB-CRANE, REPAIR & RECONSTRUCT PORTIONS
 OF EXIST. SEAWALL AND RIPRAP, IMPROVE PARKING LOT
 FACILITIES & CONSTRUCT A BUILDING FOR THE CAROUSEL.
 Prepared By: HMM Associates, Inc. Concord, MA

LICENSE PLAN NO. 2641
 Approved by Department of Environmental Protection
 of Massachusetts
 Commissioner
 Director
 Section Chief
 APR 16 1991

FOCUS PLAN A
(WORK AREA 1 SHT. 3)

024-00N-013-001-100
024-00N-013-001-200
024-000-024-002-100
024-00N-013-002-100
024-00N-013-003-100
024-00N-013-005-100

"APPROXIMATE LOCATION OF
THE HISTORIC HIGH WATER
MARK FROM THE COOK-
BORDEN PLAN OF 1812."

FOCUS PLAN C
(WORK AREA 3 SHT. 6)

FOCUS PLAN B
(WORK AREA 2 SHTS. 4 & 5)

INTERSTATE
RT. 195

CENTRAL

POND STREET

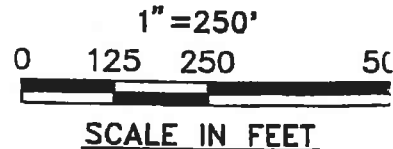
Quequechan
Creek

STREET



FALL RIVER CAROUSEL
AND HERITAGE PARK
PROPOSED CONDITIONS

Prepared By: HMM Associates, Inc. Concord, MA

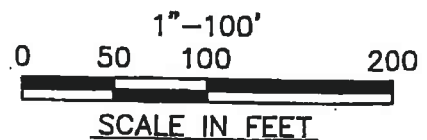
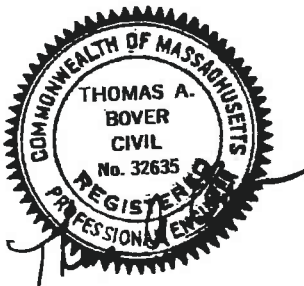
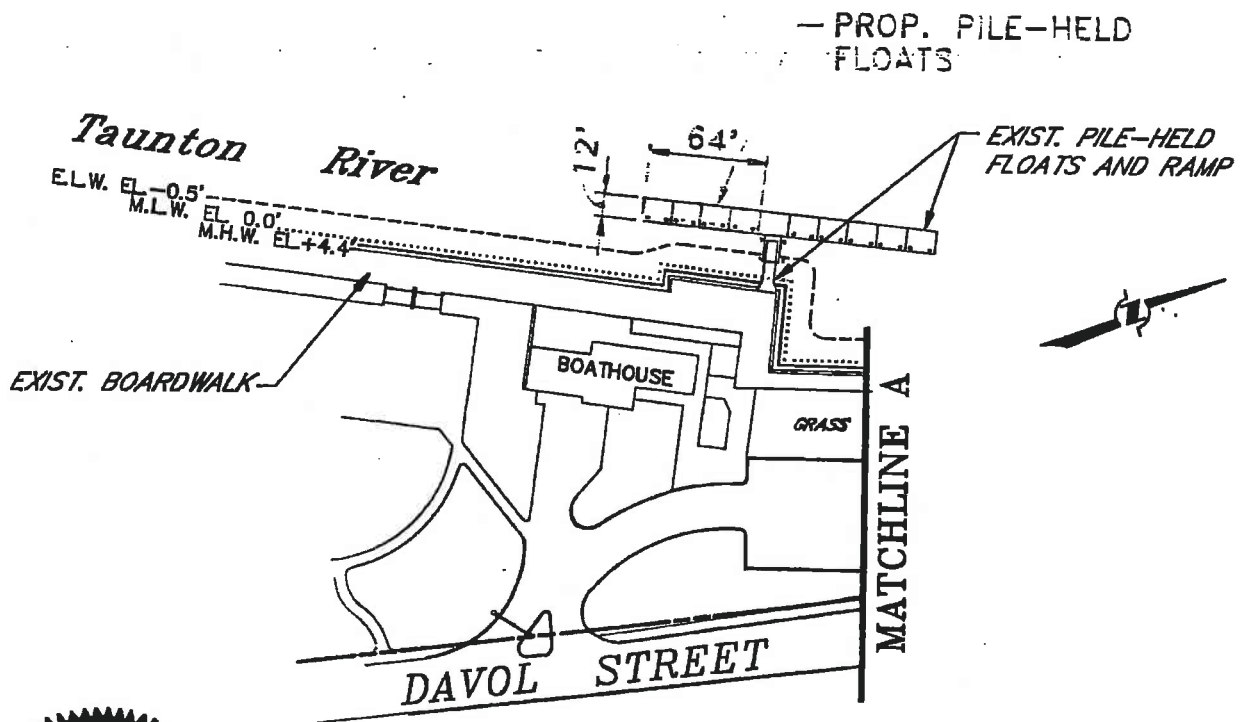
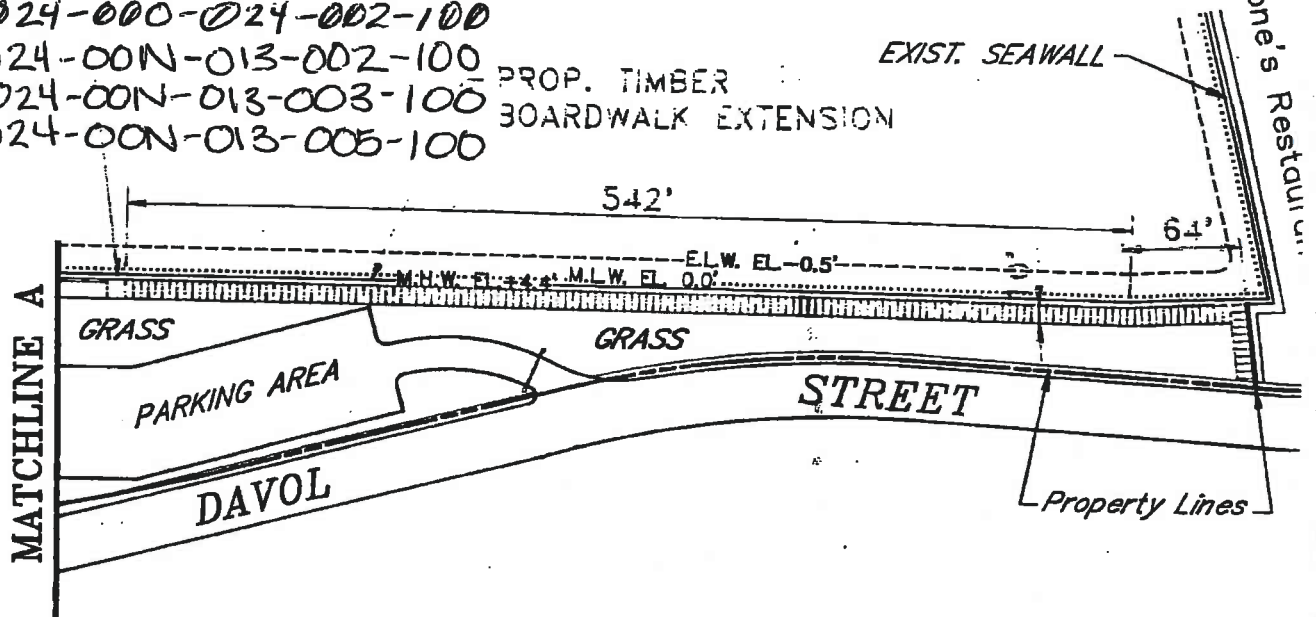


LICENSE PLAN NO. 2641

Approved by Department of Environmental Protection

Date: AUG 18 1991

024-00N-013-001-100 Taunton River
 024-00N-013-001-200
 024-000-024-002-100
 024-00N-013-002-100
 024-00N-013-003-100 PROP. TIMBER
 024-00N-013-005-100 BOARDWALK EXTENSION



FALL RIVER CAROUSEL
 AND HERITAGE PARK
 FOCUS PLAN A

Prepared By: HMM Associates, Inc. Concord, MA

LICENSE PLAN NO. 2641

Approved by: Dept. of Environmental Protection

Date: APR 16 1991

WALKWAY (TYP.) -

024-00N-013-005-100
024-00N-013-003-100
024-00N-013-001-100
024-00N-013-004-200
024-000-024-002-100
024-00N-013-002-100

Queechean Creek

EXIST. 25' ROADWAY

STREET

CENTRAL

POND STREET

EXIST. 40' R.O.W.

PROP. FOUNTAIN

PROP. BUS DROP-OFF

EXIST. CONC. RETAINING WALL

PROP. CAROUSEL BLDG. SEE FOCUS PLAN C SHT. 6

EL.W. EL.-0.5' ---
M.L.W. EL. 0.0' ...
M.H.W. EL.+4.4'

EXIST. CONC. BOAT RAMP

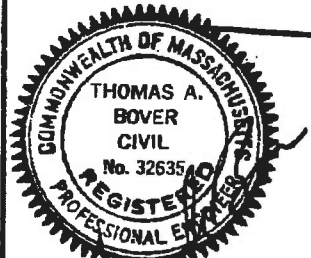
PROP. LIMITS OF EXIST. SEAWALL REPAIR

MATCHLINE B (Sht. 5)

1"=50'

0 25 50 100

SCALE IN FEET



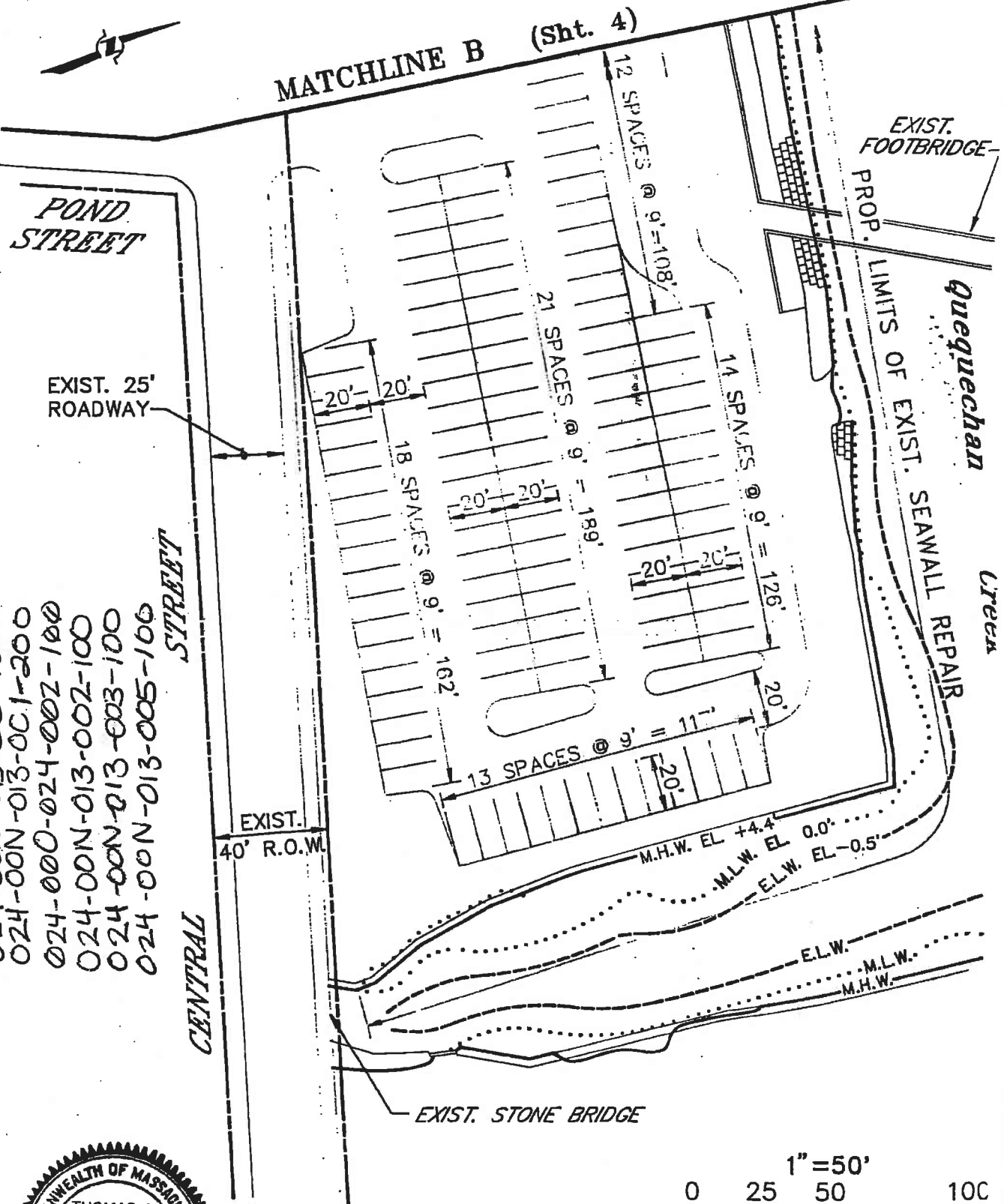
FALL RIVER CAROUSEL AND HERITAGE PARK
FOCUS PLAN B

Prepared By: HMM Associates, Inc. Concord, MA

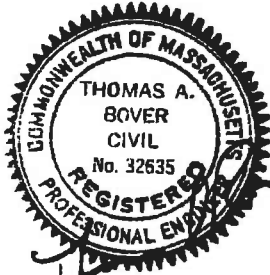
LICENSE PLAN NO. 2641

Approved by Department of Environmental Protection

Date: APR 16 1991

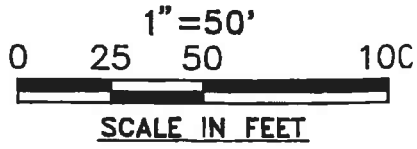


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 024-00N-013-002-100
 024-00N-013-003-100
 024-00N-013-005-100



**FALL RIVER CAROUSEL
 AND HERITAGE PARK
 FOCUS PLAN B (CONT.)**

Prepared By: HMM Associates, Inc. Concord, MA



LICENSE PLAN NO. 2641

Approved by Department of Environmental Protection

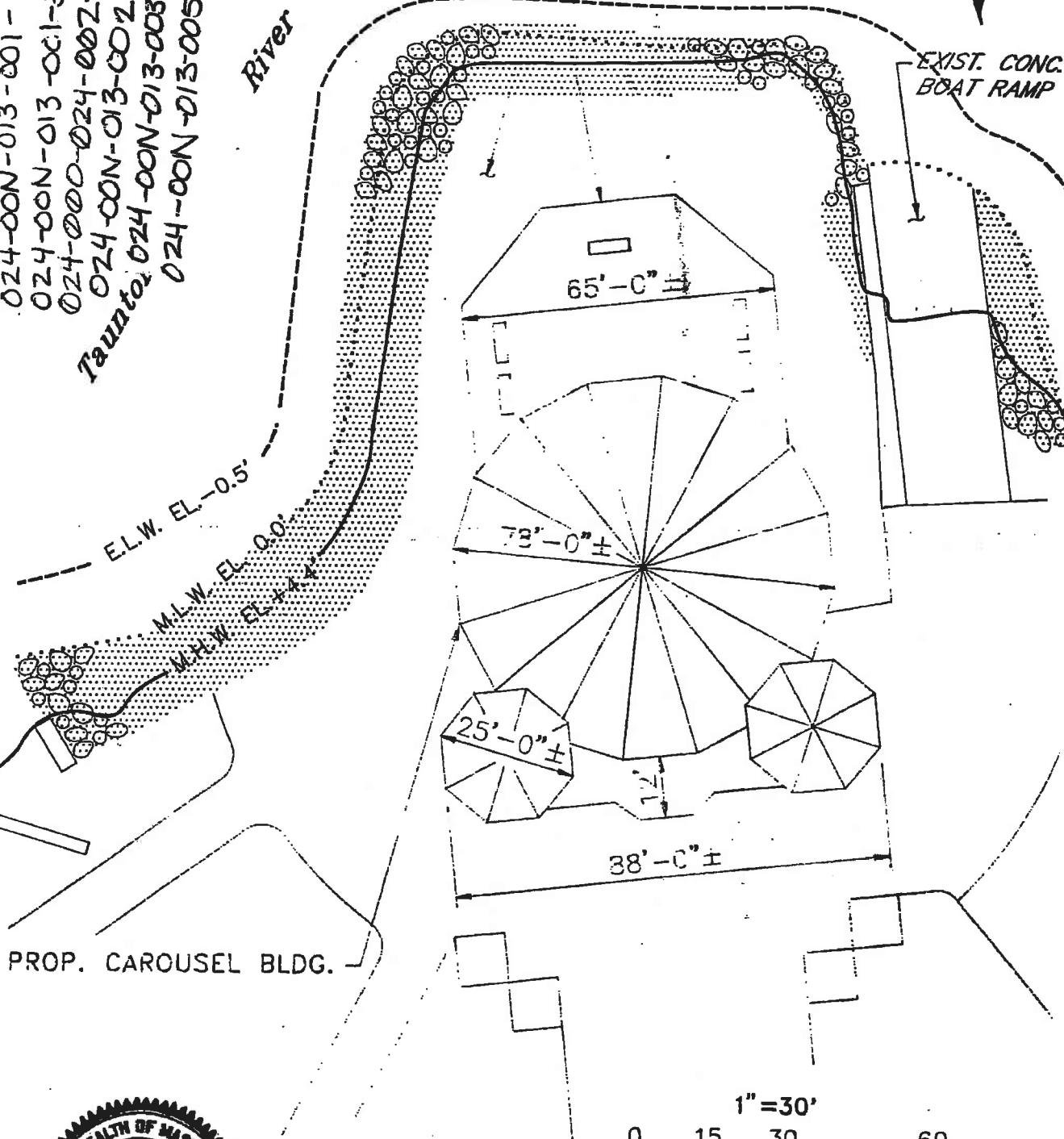
Date: APR 16 1991

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 024-00N-013-002-100
 Taunton 024-00N-013-003-100
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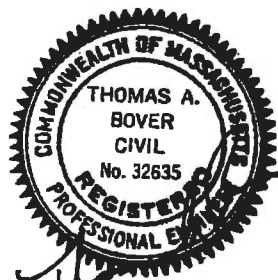
PROP. AREA OF EXISTING
 STONE RIPRAP TO BE
 RECONSTRUCTED

PRCP. OUTDOOR PLAZA
 & LANDSCAPED AREA

EXIST. CONC.
 BOAT RAMP



PROP. CAROUSEL BLDG.



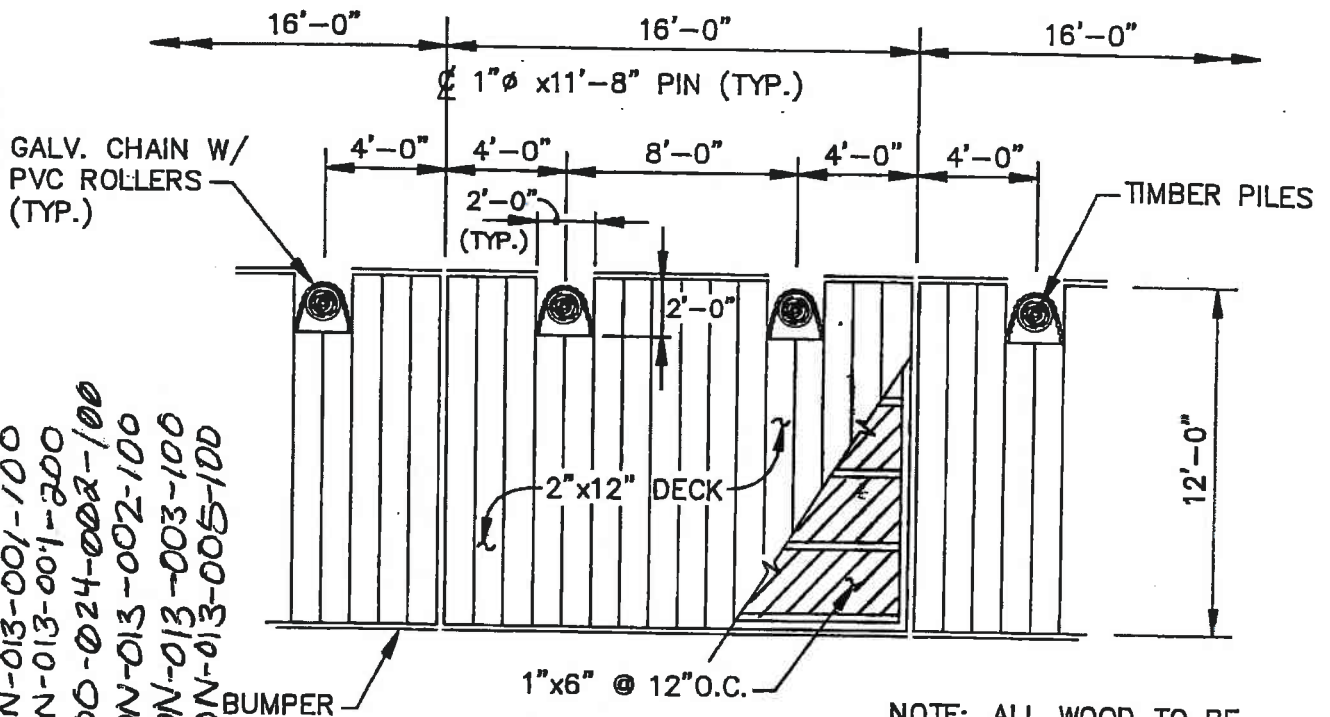
FALL RIVER CAROUSEL
 AND HERITAGE PARK
 FOCUS PLAN C

Prepared By: HMM Associates, Inc. Concord, MA

LICENSE PLAN NO. 2,641

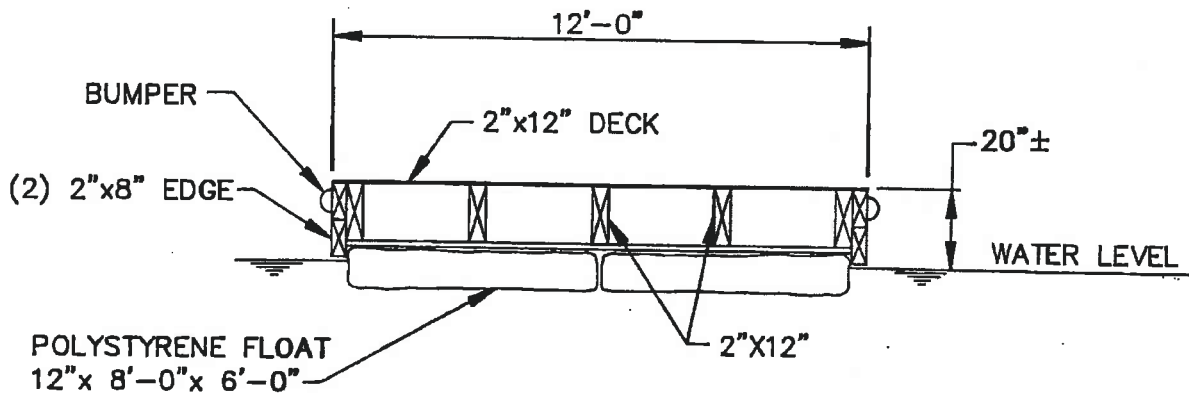
Approved by Department of Environmental Protection

Date: APR 16 1991



NOTE: ALL WOOD TO BE PRESSURE TREATED WITH NON-LEACHING PRESERVATIVE.

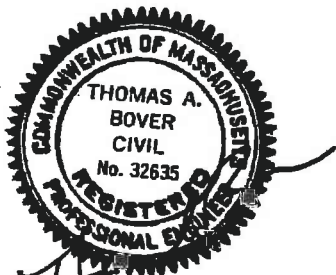
PLAN



SECTION

PLAN AND SECTION OF FLOAT EXTENSION

NOT TO SCALE



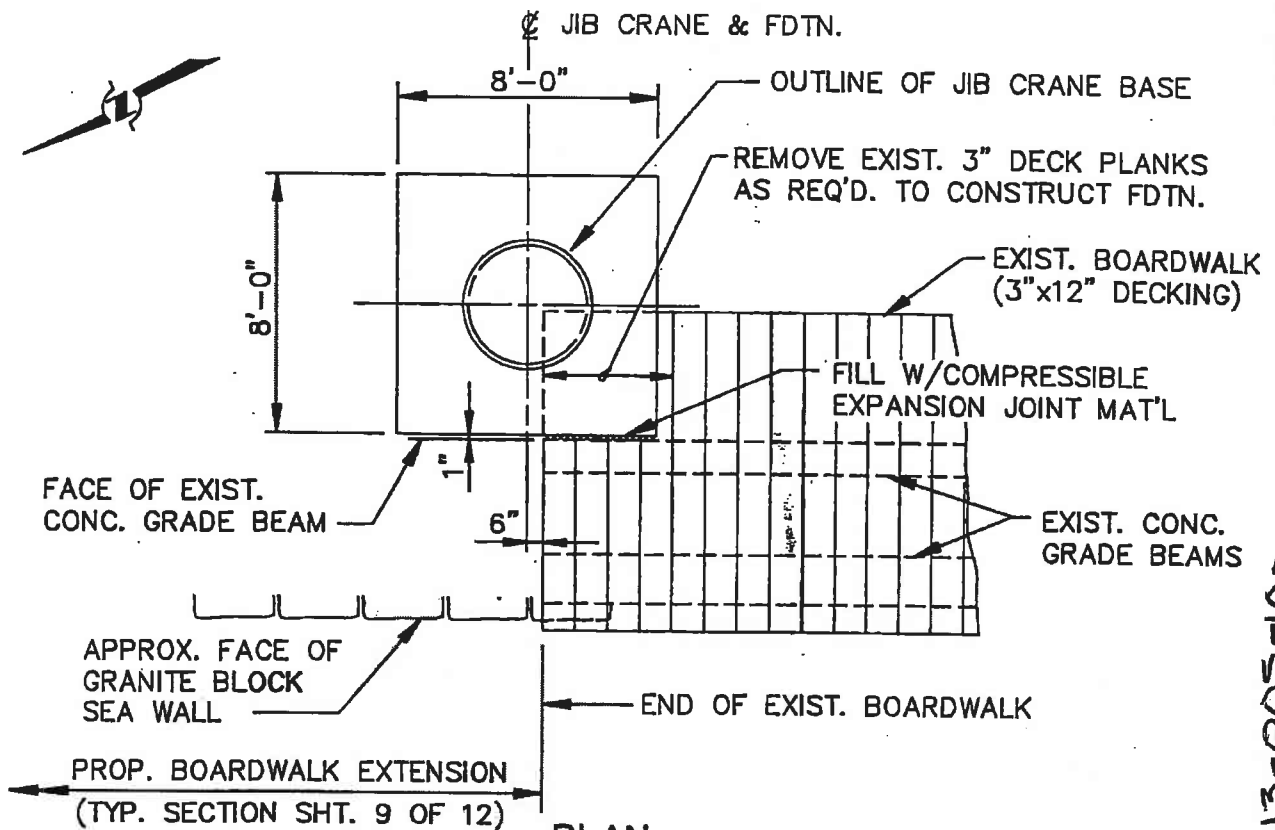
FALL RIVER CAROUSEL
AND HERITAGE PARK
TYPICAL FLOAT SECTION

Prepared By: HMM Associates, Inc. Concord, MA

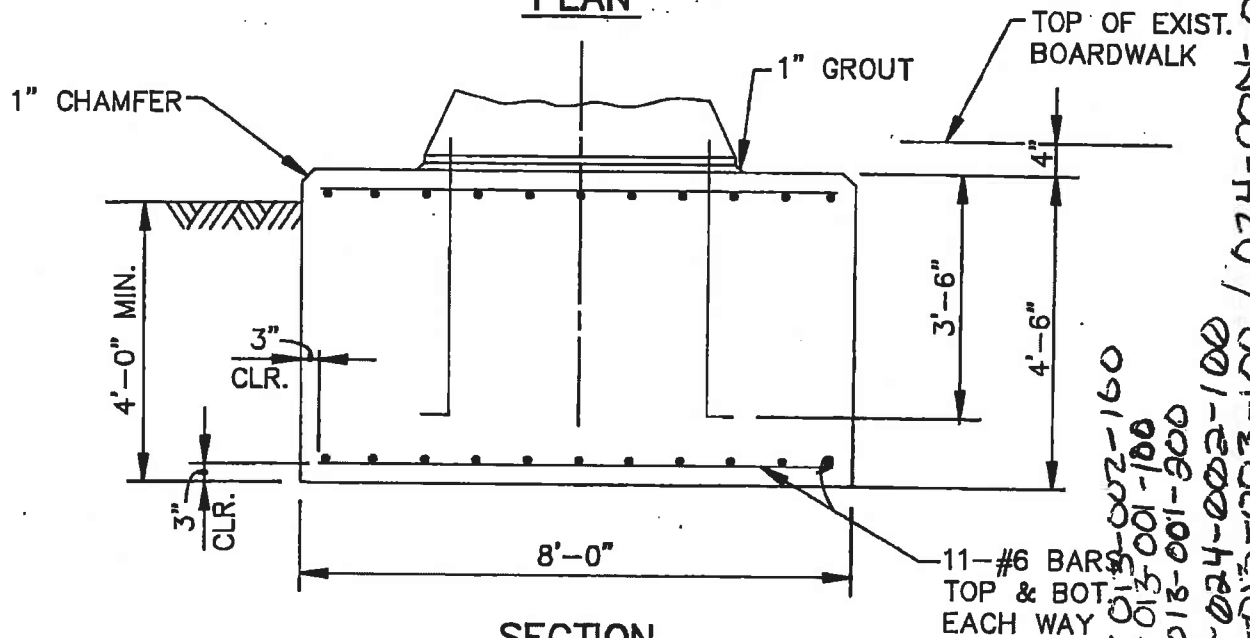
LICENSE PLAN NO. 2641

Approved by Department of Environmental Protection

Date: APR 16 1991

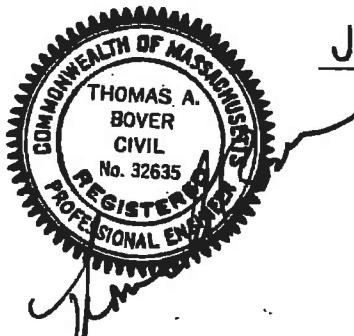


PLAN



SECTION

JIB CRANE FOUNDATION



FALL RIVER CAROUSEL
AND HERITAGE PARK
JIB CRANE FOUNDATION DETAIL

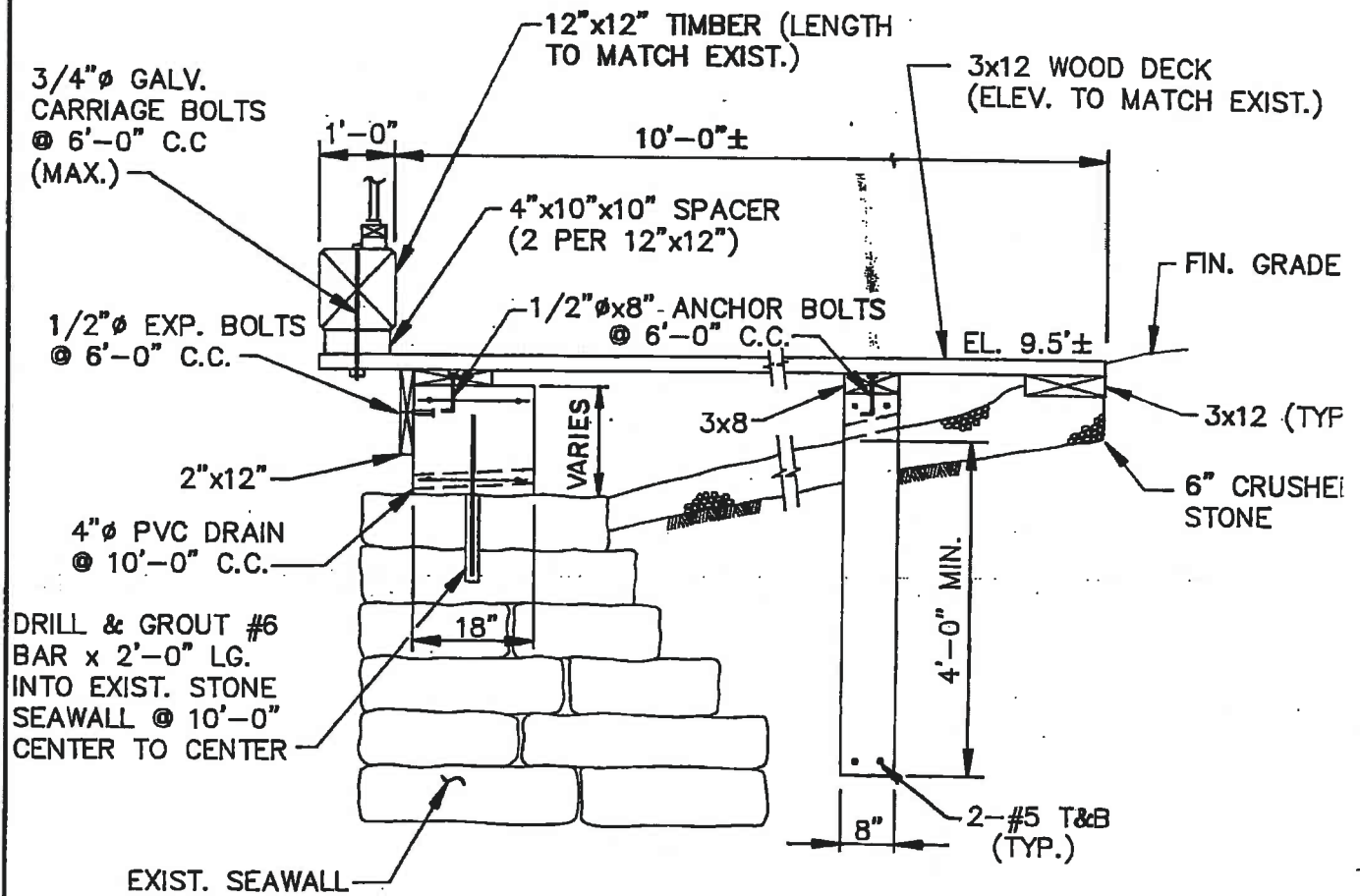
LICENSE PLAN NO. 2641

Approved by Department of Environmental Protection

Date: ADD 16 1991

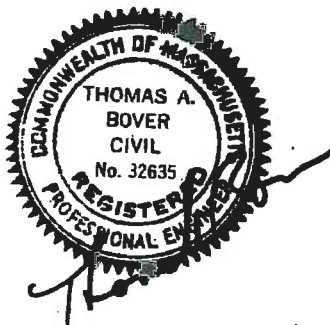
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024-00N-013-003-100

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 024-00N-013-003-100
 024-00N-013-001-100
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 024-00N-013-005-100



TYPICAL SECTION AT BOARDWALK EXTENSION

NOT TO SCALE



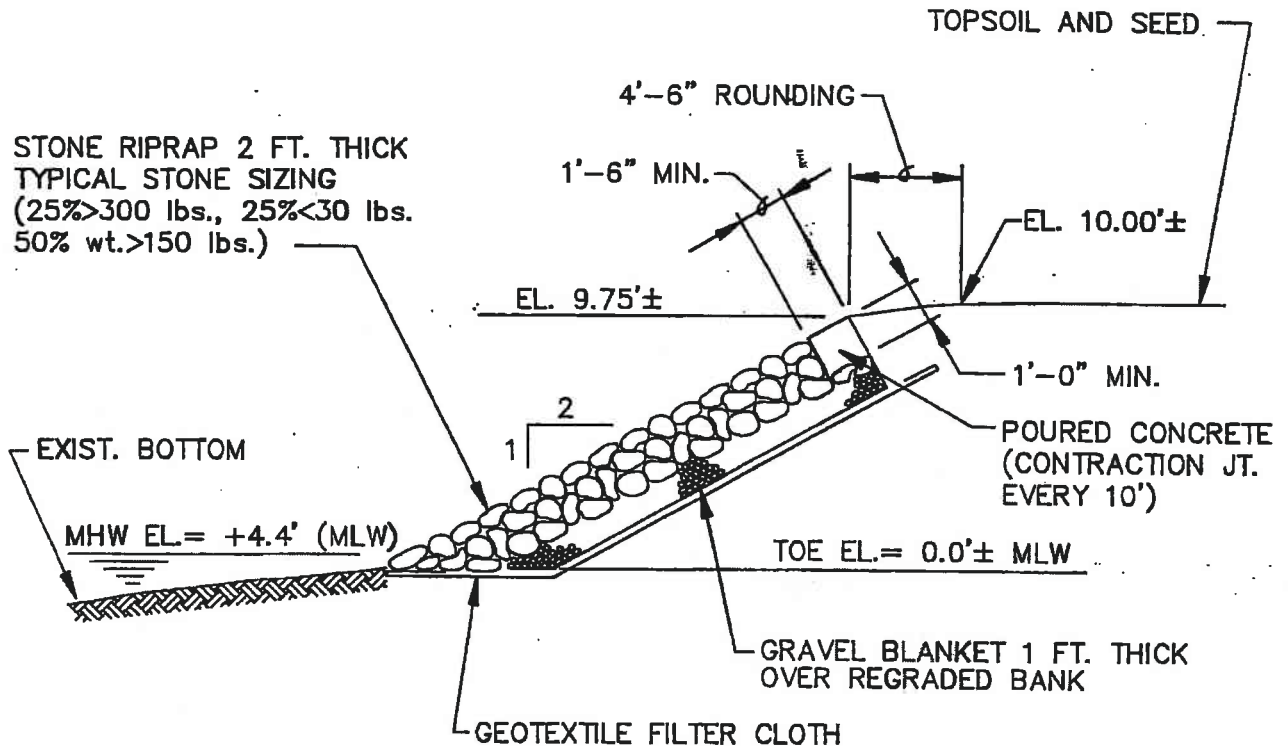
FALL RIVER CAROUSEL
 AND HERITAGE PARK
 TYPICAL BOARDWALK SECTION

LICENSE PLAN NO. 26411

Approved by Department of Environmental Protection

Date: ADD 16 1001

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 024-00N-013-003-100
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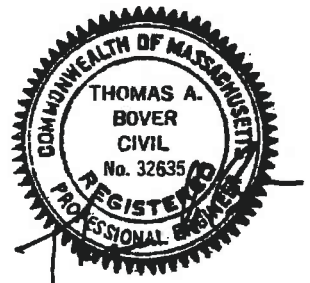


TYPICAL RIPRAP REVETMENT RECONSTRUCTION

NOT TO SCALE

NOTES:

1. TYPICAL STONE SIZING MAY VARY ACCORDING TO CONTRACTOR'S SPECIFICATIONS.
2. EXISTING DUMPED STONE RIPRAP MATERIAL WILL BE RE-USED TO GREATEST EXTENT PRACTICAL.
3. PLAN IS FOR PERMITTING PURPOSES ONLY.

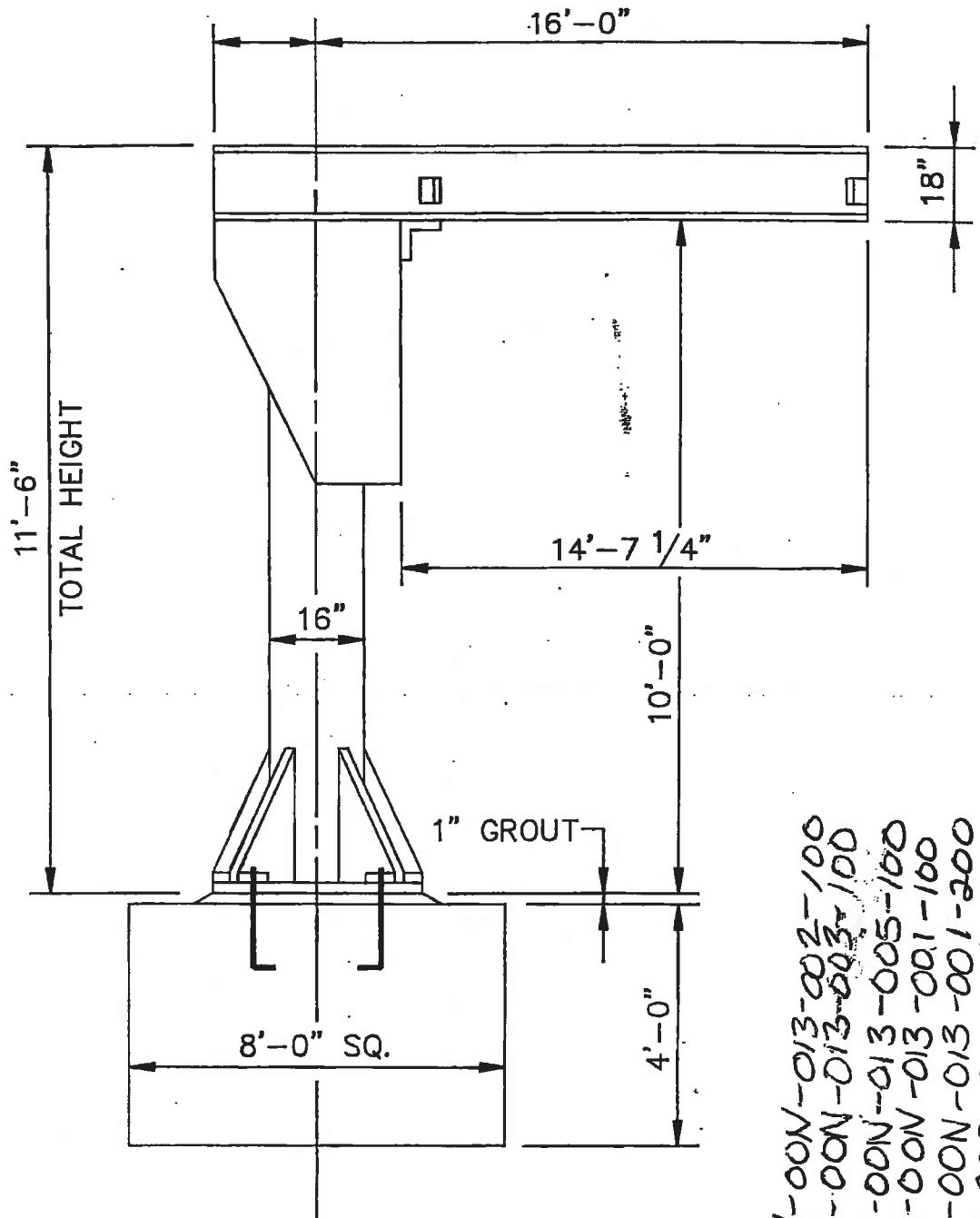


FALL RIVER CAROUSEL
 AND HERITAGE PARK
 TYPICAL RIPRAP REVETMENT

LICENSE PLAN NO. 2641

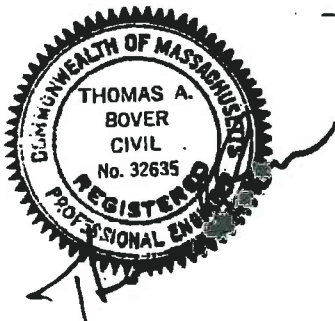
Approved by Department of Environmental Protection

Date: APR 16 1991



JIB CRANE DETAIL

NOT TO SCALE



FALL RIVER CAROUSEL
AND HERITAGE PARK
JIB CRANE DETAIL

Prepared By: HMM Associates, Inc. Concord, MA

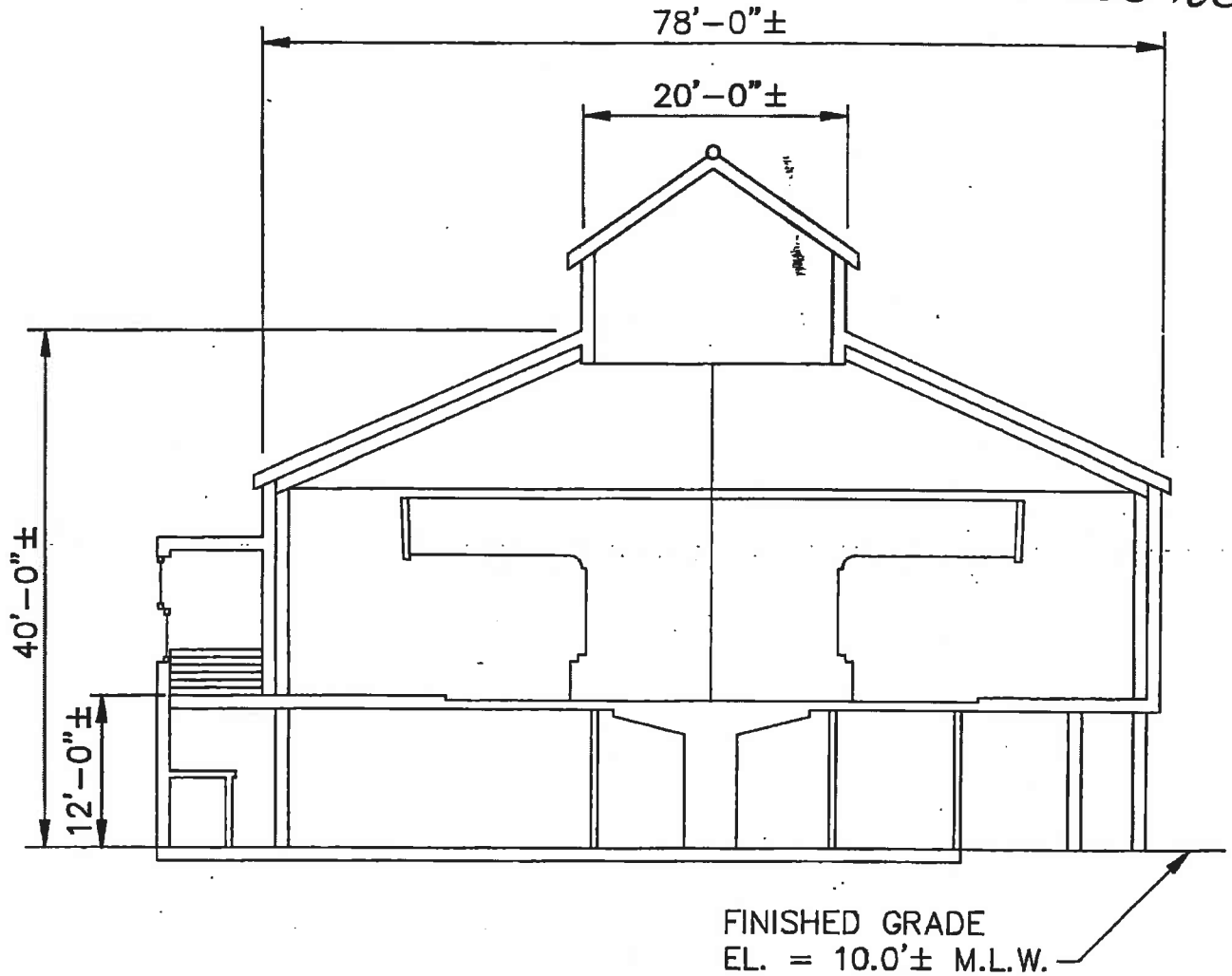
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024-00N-013-005-100
024-00N-013-001-100
024-00N-013-001-200
024-000-024-002-100

LICENSE PLAN NO. 2641

Approved by: Department of Environmental Protection

Date: 1001-1-1001

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024-00N-013-003-100
024-00N-013-001-100
024-00N-013-001-200
024-000-024-002-100
024-00N-013-005-100



CAROUSEL BUILDING
CROSS SECTION

NOT TO SCALE



FALL RIVER CAROUSEL
AND HERITAGE PARK
TYP. CAROUSEL BLDG. CROSS SECTION
Prepared By: HMM Associates, Inc. Concord, MA

LICENSE PLAN NO. 2641

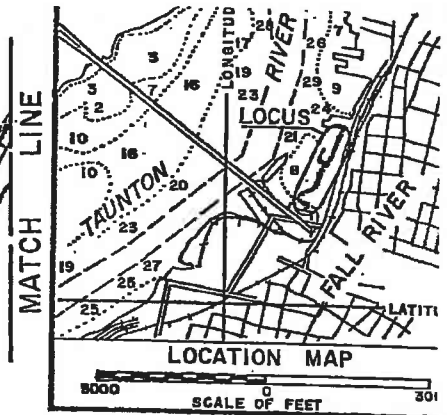
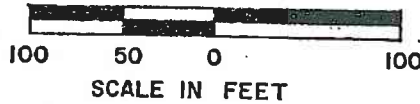
Approved by: Department of Environmental Protection

Date: APR 22 1991

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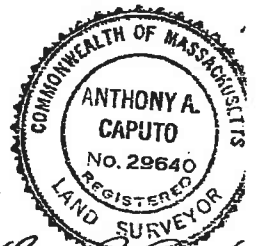
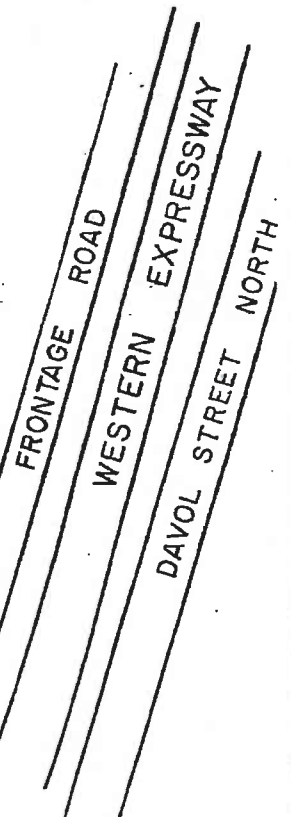
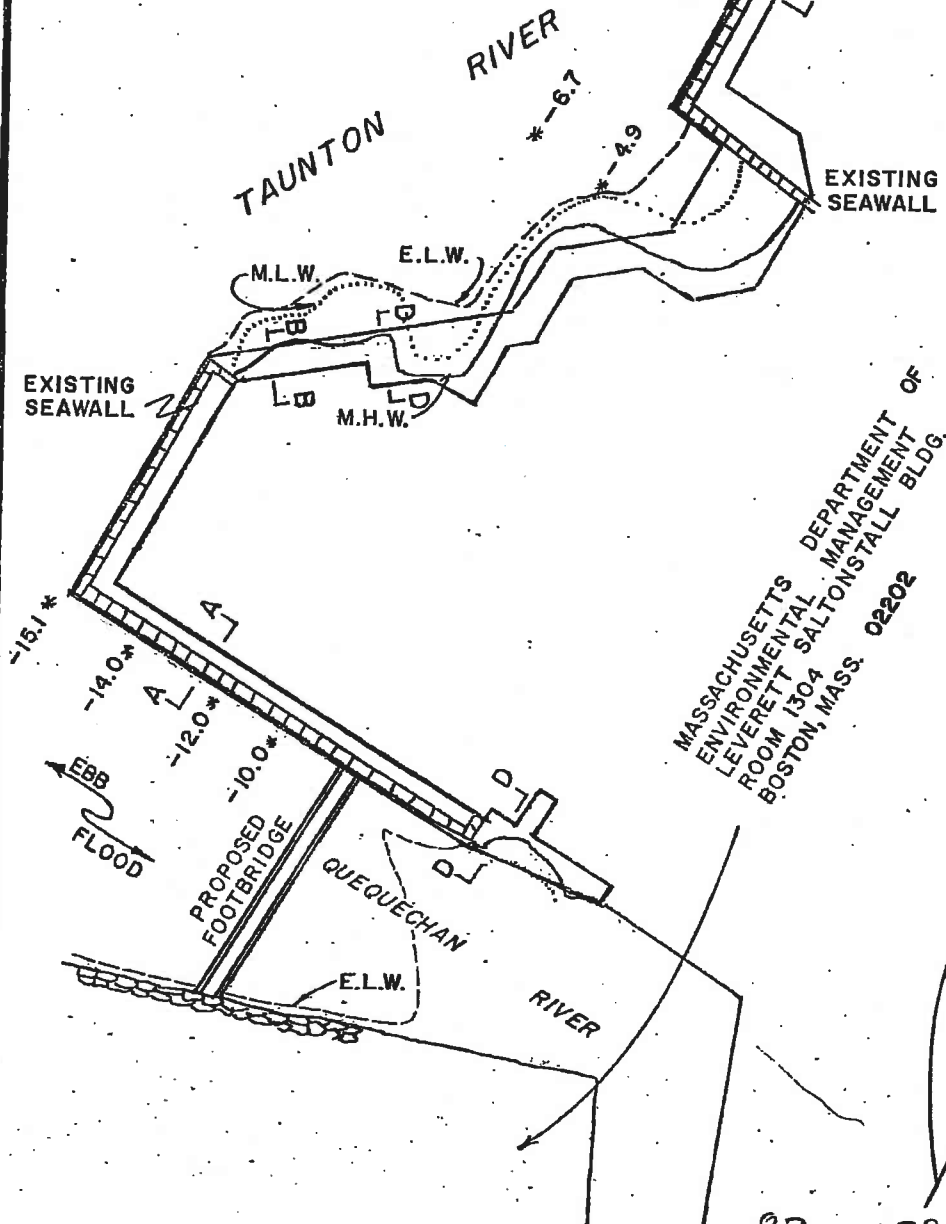


PLAN



FROM C.G.S. CHART No. 353

SOUNDINGS AND ELEVATIONS
 ARE IN FEET AND REFER TO
 MEAN LOW WATER.

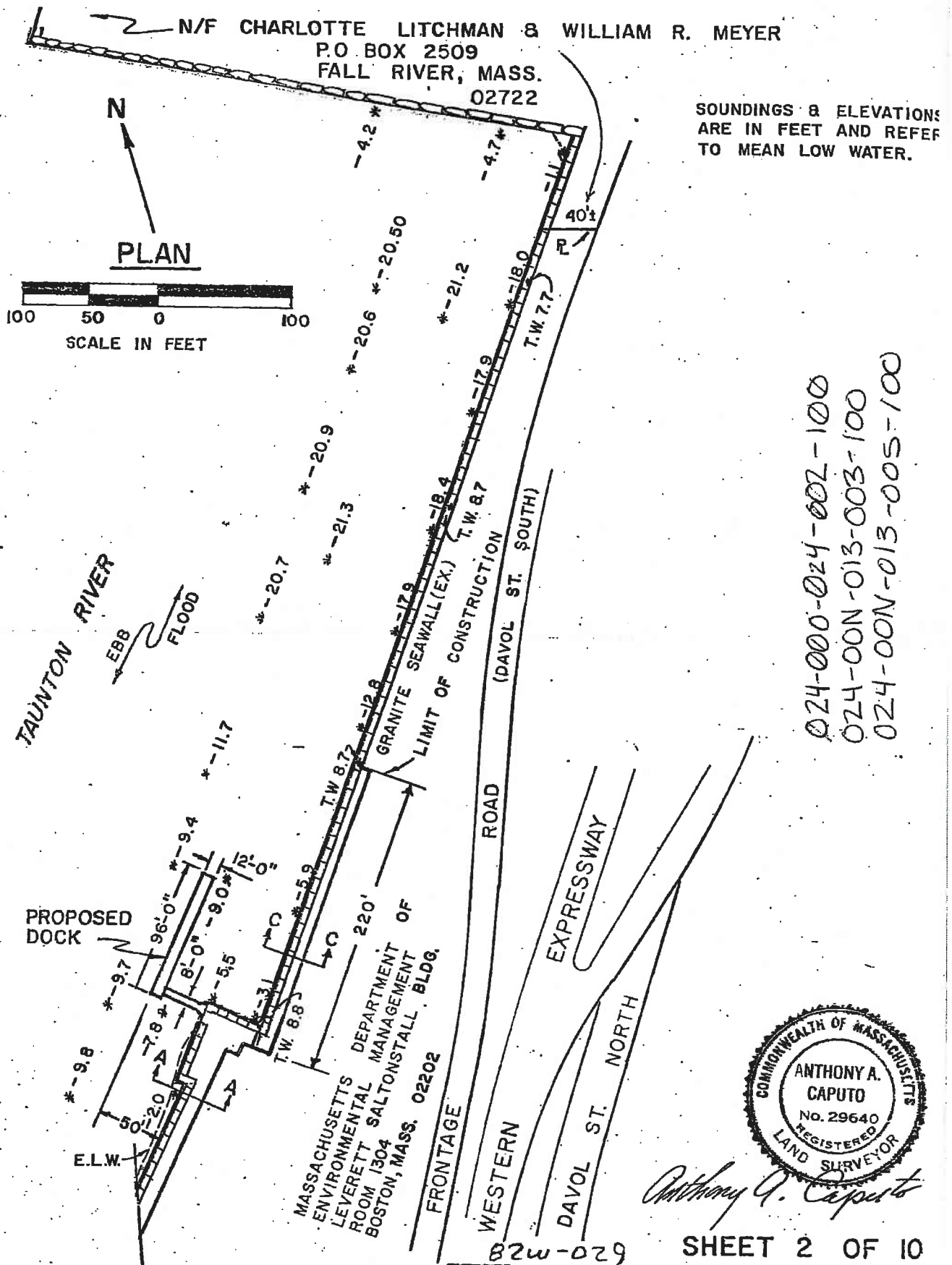


Anthony A. Caputo

82W-029 SHEET 1 OF 10

PLAN ACCOMPANYING PETITION OF
 MASSACHUSETTS DEPARTMENT OF
 ENVIRONMENTAL MANAGEMENT
 TO CONSTRUCT AND MAINTAIN WATERFRONT
 IMPROVEMENTS AT FALL RIVER HERITAGE STATE PARK
 IN THE TAUNTON RIVER, CITY OF FALL RIVER,
 COUNTY OF BRISTOL, MASS.

LICENSE PLAN NO. 845
 Approved by Department of Environmental Quality Engineer
 of Massachusetts **APRIL 30, 1982**
COMMISSIONER
CHIEF ENGINEER



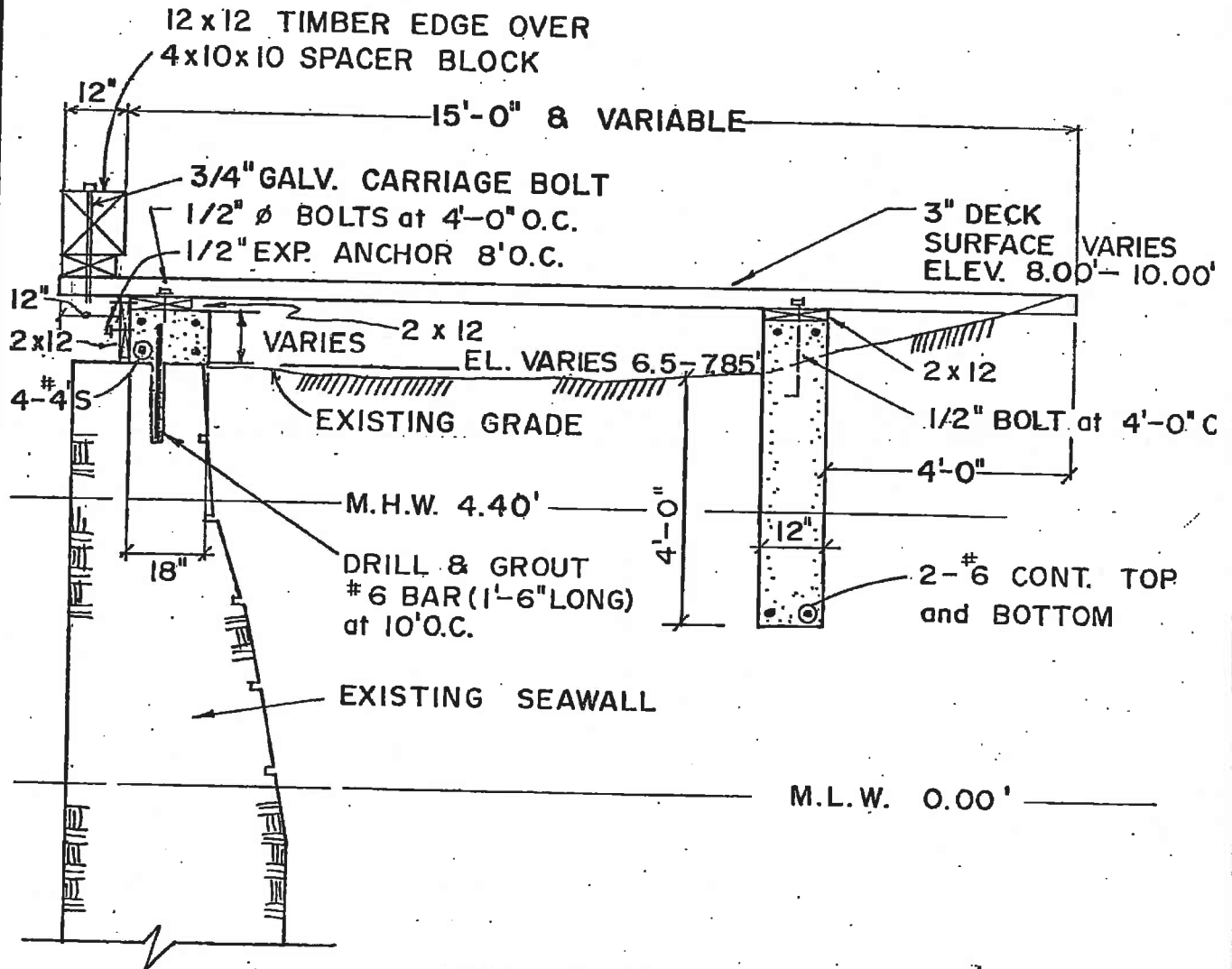
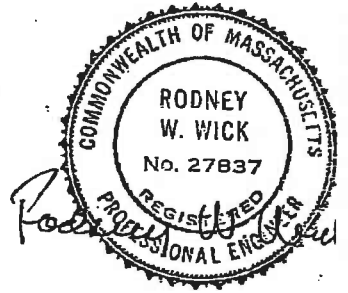
PLAN ACCOMPANYING PETITION OF
MASSACHUSETTS DEPARTMENT OF
ENVIRONMENTAL MANAGEMENT
TO CONSTRUCT AND MAINTAIN WATERFRONT
IMPROVEMENTS AT FALL RIVER HERITAGE STATE PARK
IN THE TAUNTON RIVER, CITY OF FALL RIVER,
COUNTY OF BRISTOL, MASS.

LICENSE PLAN NO. 845

Approved by Department of Environmental Quality Engineer

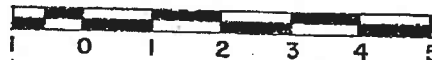
APRIL 30, 1982

024-000-024 - 002-100
 024-00N-013-003-100
 024-00N-013-005-100



SECTION A-A

SCALE 3/8" = 1'-0"



SCALE IN FEET

ALL WOOD TO BE
 PRESSURE TREATED
 WITH PRESERVATIVE.

PLAN ACCOMPANYING PETITION OF
 MASSACHUSETTS DEPARTMENT OF
 ENVIRONMENTAL MANAGEMENT

TO CONSTRUCT AND MAINTAIN WATERFRONT
 IMPROVEMENTS AT FALL RIVER HERITAGE STATE PARK
 IN THE TAUNTON RIVER, CITY OF FALL RIVER,
 COUNTY OF BRISTOL, MASS.

B2w-029

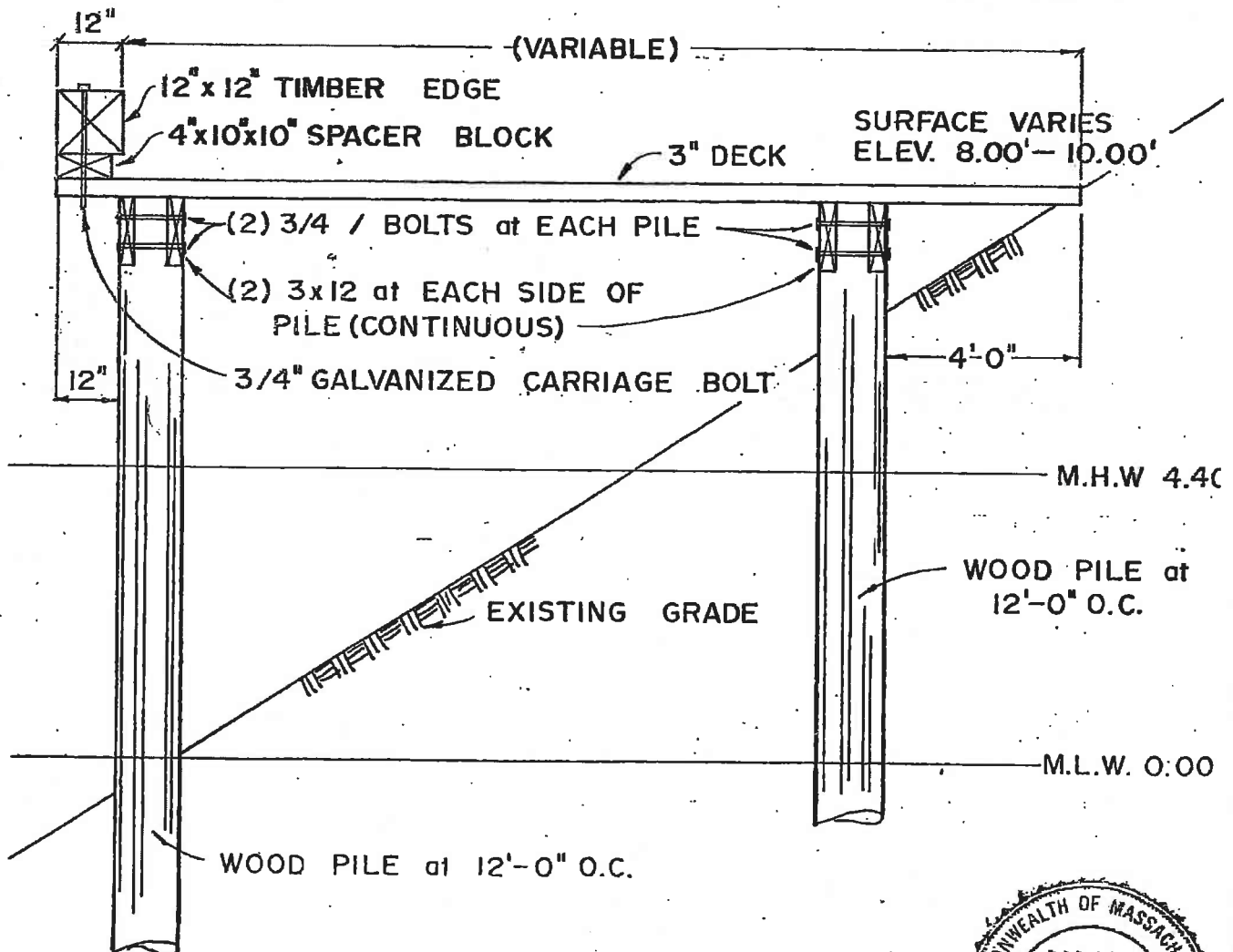
SHEET 3 OF 10

LICENSE PLAN NO. 845

Approved by Department of Environmental Quality Engineer
 APRIL 30, 1982

024-000-024-002-100
 024-00N-013-003-100
 024-00N-013-003-100

ALL WOOD TO BE
 PRESSURE TREATED
 WITH PRESERVATIVE

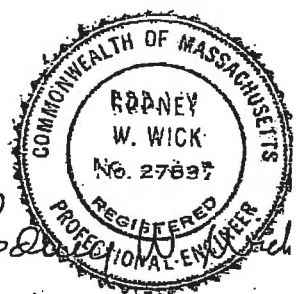


SECTION B-B

SCALE 3/8" = 1'-0"



SCALE IN FEET



82w-029

SHEET 4 OF 10

PLAN ACCOMPANYING PETITION OF
 MASSACHUSETTS DEPARTMENT OF
 ENVIRONMENTAL MANAGEMENT

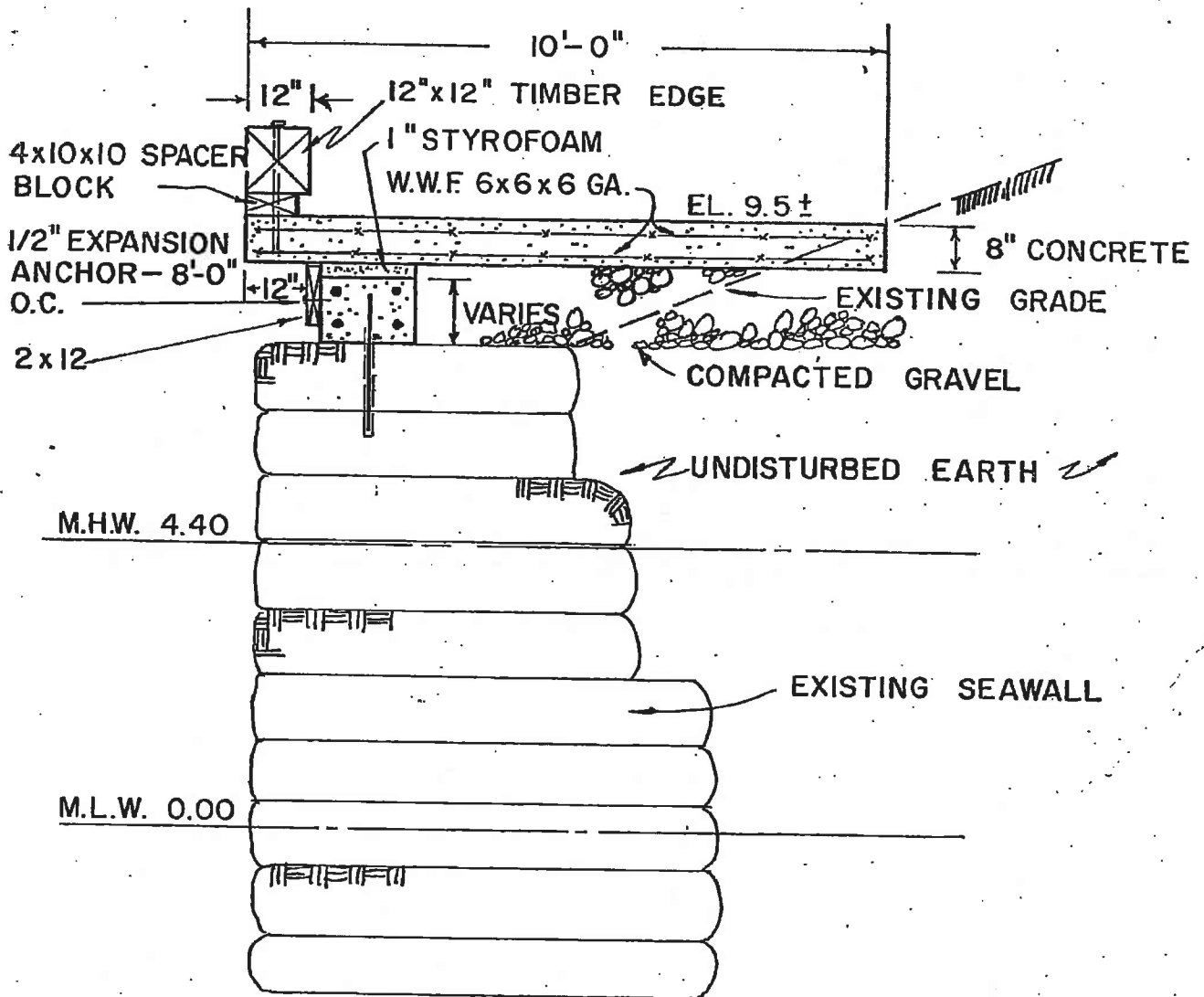
TO CONSTRUCT AND MAINTAIN WATERFRONT
 IMPROVEMENTS AT FALL RIVER HERITAGE STATE PARK
 IN THE TAUNTON RIVER, CITY OF FALL RIVER,
 COUNTY OF BRISTOL, MASS.

LICENSE PLAN NO. 845

Approved by Department of Environmental Quality Engineer

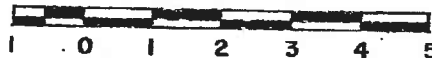
APRIL 30, 1982

024-000-024-002-100
 024-00N-013-003-100
 024-00N-013-005-100

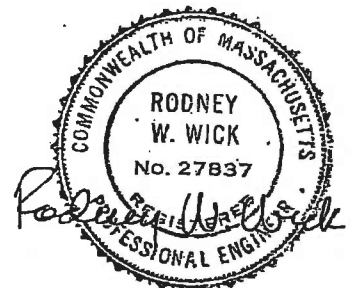


SECTION C-C

SCALE 3/8" = 1'-0"



SCALE IN FEET



B2W-029 SHEET 5 OF 10

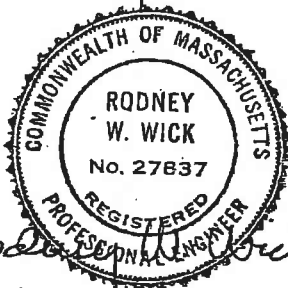
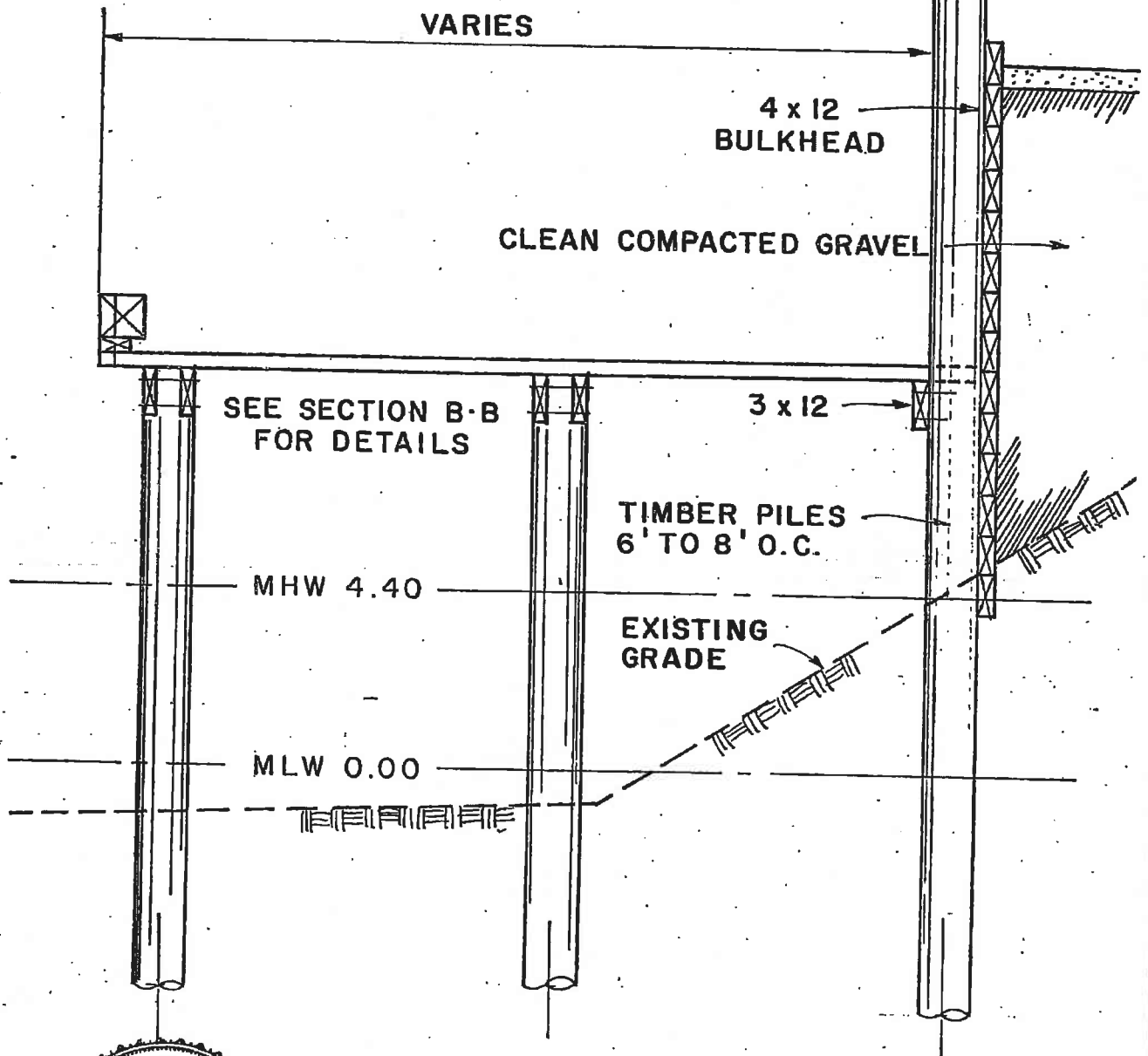
PLAN ACCOMPANYING PETITION OF
 MASSACHUSETTS DEPARTMENT OF
 ENVIRONMENTAL MANAGEMENT
 TO CONSTRUCT AND MAINTAIN WATERFRONT
 IMPROVEMENTS AT FALL RIVER HERITAGE STATE PARK
 IN THE TAUNTON RIVER, CITY OF FALL RIVER,
 COUNTY OF BRISTOL, MASS.

LICENSE PLAN NO. 845

Approved by Department of Environmental Quality Engineer

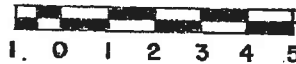
APRIL 30, 1982

024-000-024-002-100 HANDRAIL
 024-00N-013-003-100
 024-00N-013-005-100



SECTION D-D

SCALE 1/4"=1'-0"



SCALE IN FEET

ALL WOOD TO BE
 PRESSURE TREATED
 WITH PRESERVATIVE

82w-029 SHEET 6 OF 10

PLAN ACCOMPANYING PETITION OF
 MASSACHUSETTS DEPARTMENT OF
 ENVIRONMENTAL MANAGEMENT
 TO CONSTRUCT AND MAINTAIN WATERFRONT
 IMPROVEMENTS AT FALL RIVER HERITAGE STATE PARK
 IN THE TAUNTON RIVER, CITY OF FALL RIVER,
 COUNTY OF BRISTOL, MASS.

LICENSE PLAN NO. 845


Approved by Department of Environmental Quality Engineer

APRIL 30, 1982

1" DIA. x 11'-8" PIN (TYP.)⁰²
16'-0" O.C.

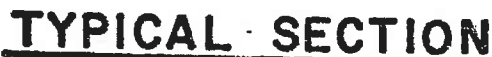


SCALE 1/4" = 1'-0"



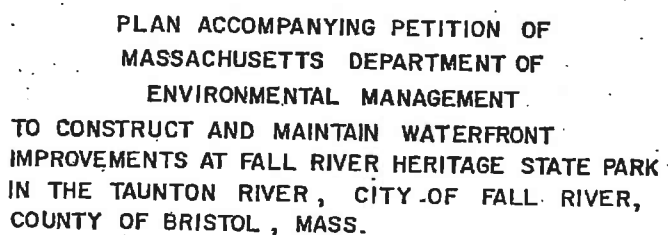
0 1 2 3 4 5

SCALE IN FEET



0 1 2 3 4 5
SCALE IN FEET

82w-029 SHEET 7 OF 10

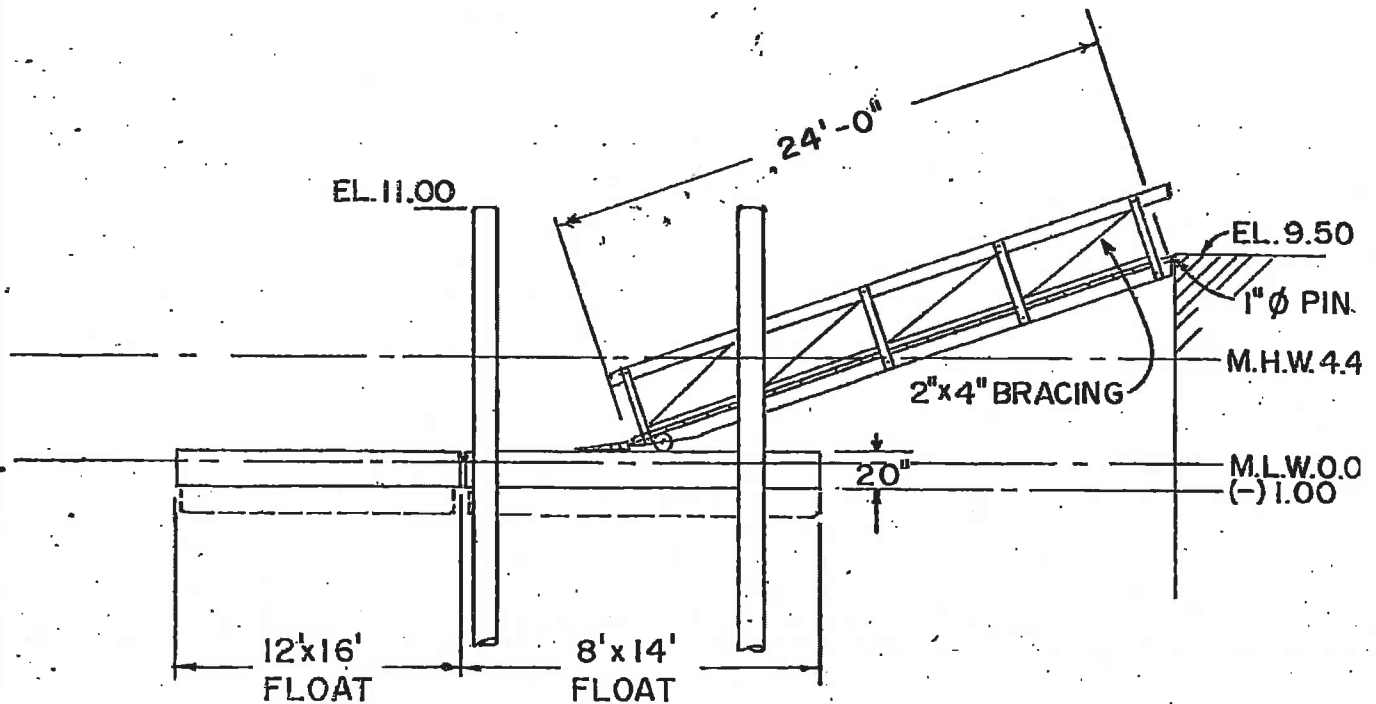


LICENSE PLAN NO. 84-5

Approved by _____

APRIL 30 1982

024-000-024-002-100
 024-00N-013-003-100
 024-00N-013-005-100

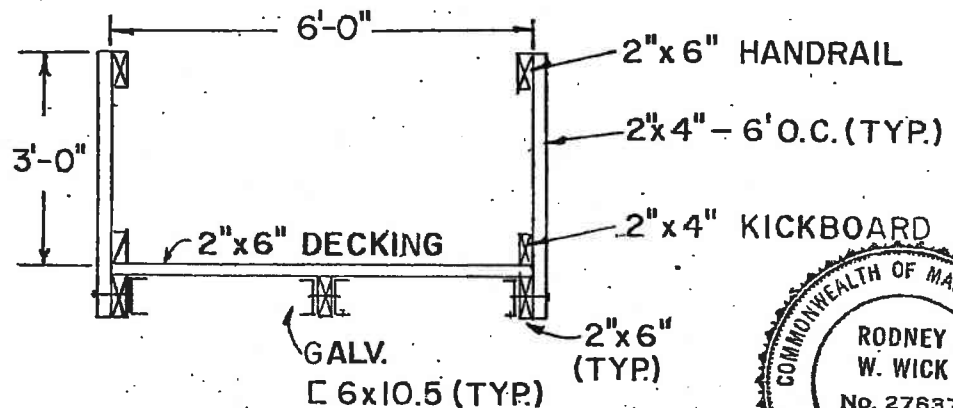


ELEVATION OF FLOAT & RAMP

- 12" BELOW M.L.W.

SCALE 1/8" = 1'-0"

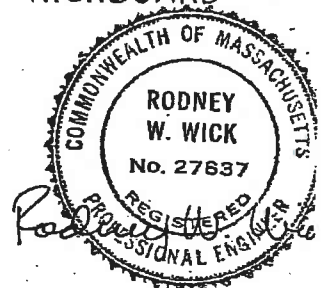
1 0 1 2 3 4 5 6 7 8
 SCALE IN FEET



TYPICAL RAMP SECTION

SCALE 3/8" = 1'-0"

1 0 1 2 3 4 5
 SCALE IN FEET



SHEET 8 OF 10

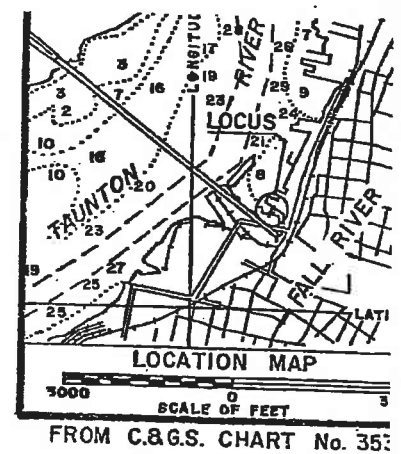
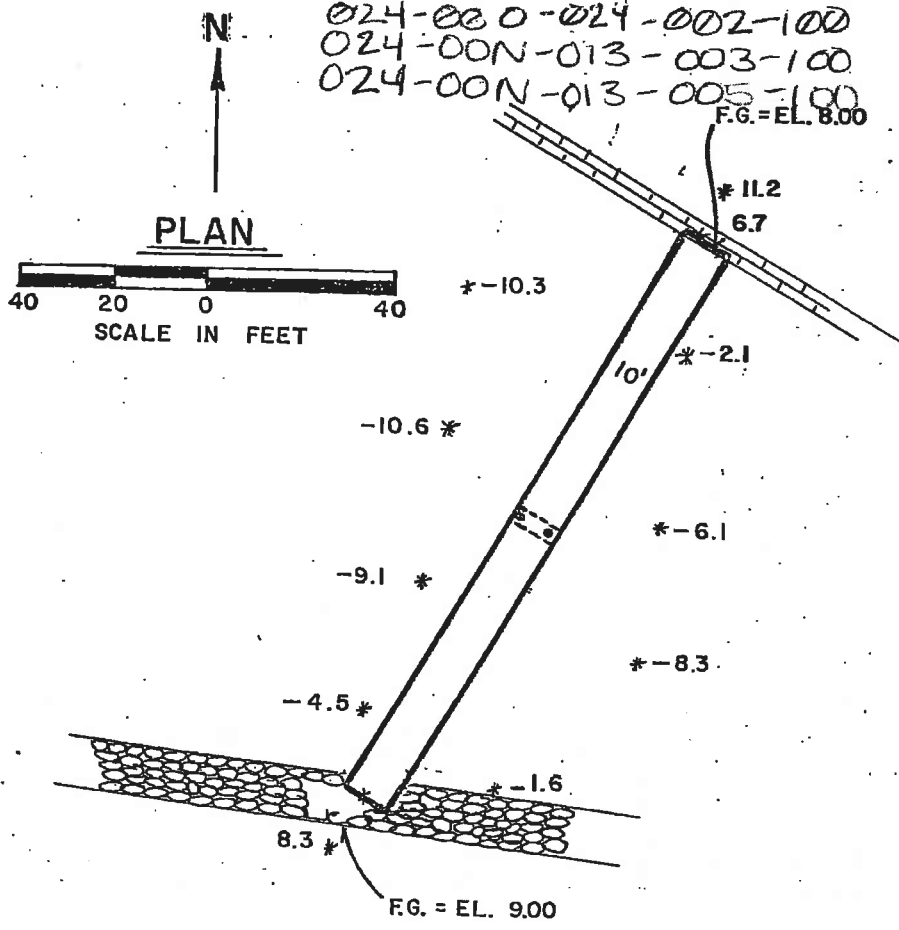
PLAN ACCOMPANYING PETITION OF
 MASSACHUSETTS DEPARTMENT OF
 ENVIRONMENTAL MANAGEMENT

TO CONSTRUCT AND MAINTAIN WATERFRONT
 IMPROVEMENTS AT FALL RIVER HERITAGE STATE PARK
 IN THE TAUNTON RIVER, CITY OF FALL RIVER,
 COUNTY OF BRISTOL, MASS.

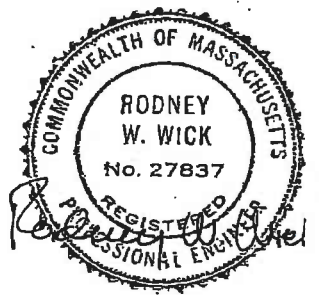
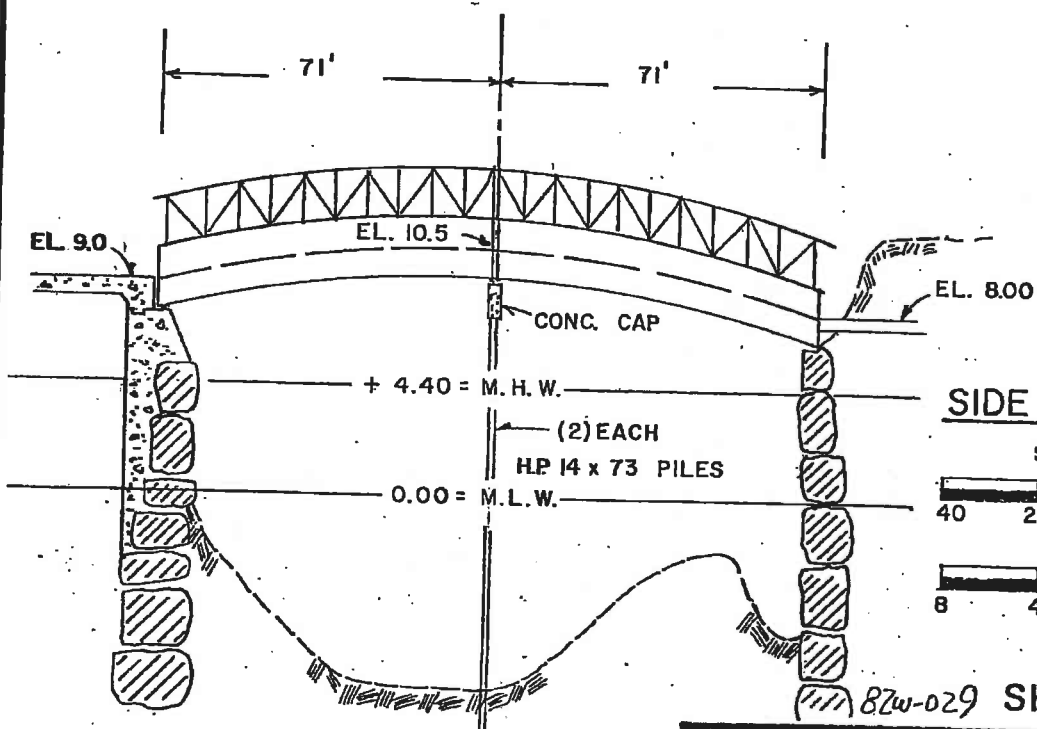
LICENSE PLAN NO. 845

Approved by Department of Environmental Quality Review

APRIL 30, 1982



SOUNDINGS AND ELEVATIONS ARE IN FEET AND REFER TO MEAN LOW WATER.



PLAN ACCOMPANYING PETITION OF MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL MANAGEMENT TO CONSTRUCT AND MAINTAIN WATERFRONT IMPROVEMENTS AT FALL RIVER HERITAGE STATE PARK IN THE TAUNTON RIVER, CITY OF FALL RIVER, COUNTY OF BRISTOL, MASS.

82w-029 SHEET 9 OF 10

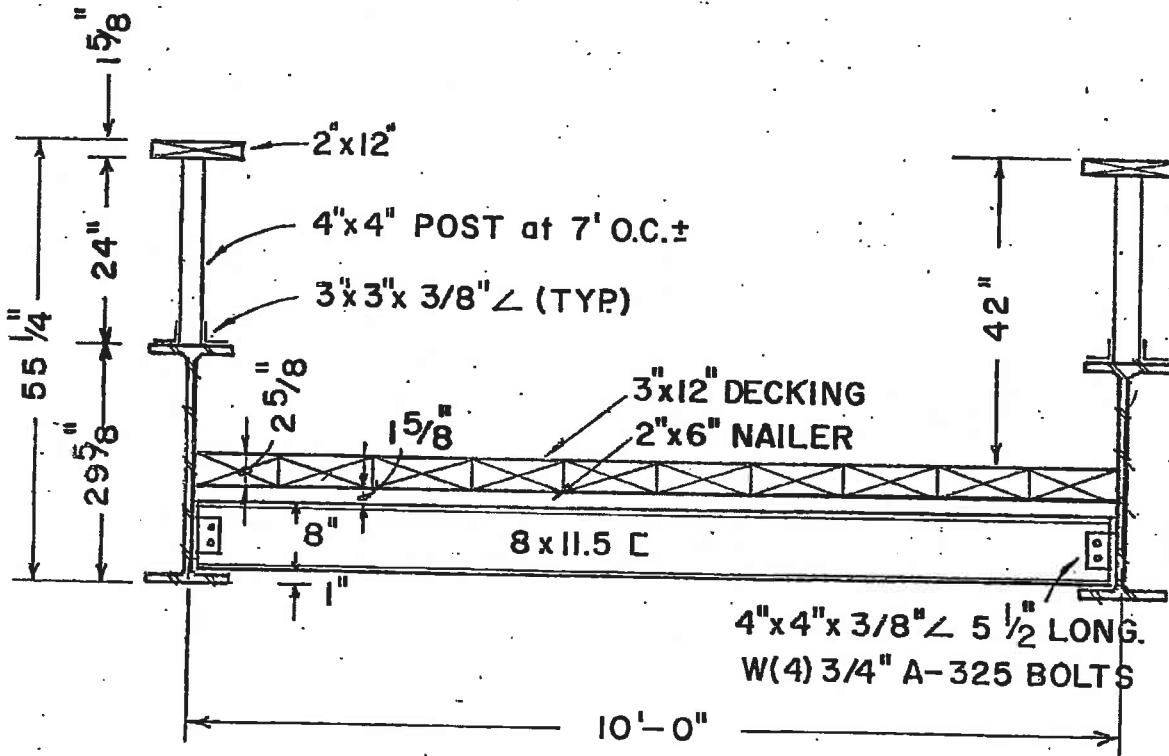
LICENSE PLAN NO. 845

Approved by Department of Environmental Quality Engineer

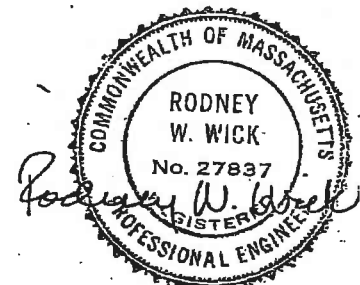
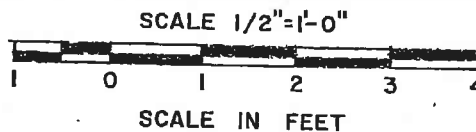
APRIL 30, 1982

024-000-024-002-100
 024-00N-013-003-100
 024-00N-013-005-100

ALL WOOD TO BE
 PRESSURE TREATED
 WITH PRESERVATIVE



TYPICAL BRIDGE SECTION



82w-029

SHEET 10 OF 10

PLAN ACCOMPANYING PETITION OF
 MASSACHUSETTS DEPARTMENT OF
 ENVIRONMENTAL MANAGEMENT
 TO CONSTRUCT AND MAINTAIN WATERFRONT
 IMPROVEMENTS AT FALL RIVER HERITAGE STATE PARK
 IN THE TAUNTON RIVER, CITY OF FALL RIVER,
 COUNTY OF BRISTOL, MASS.

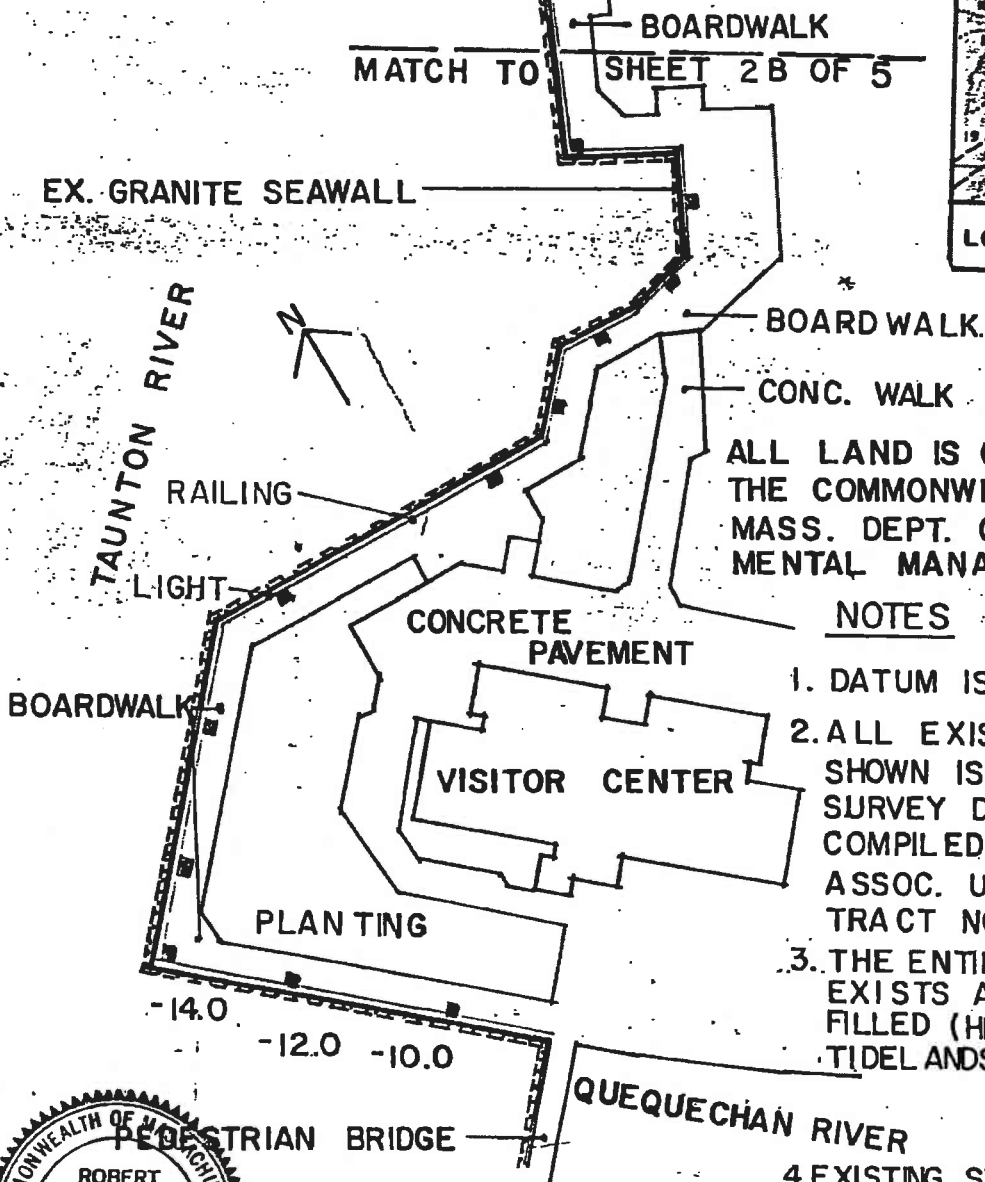
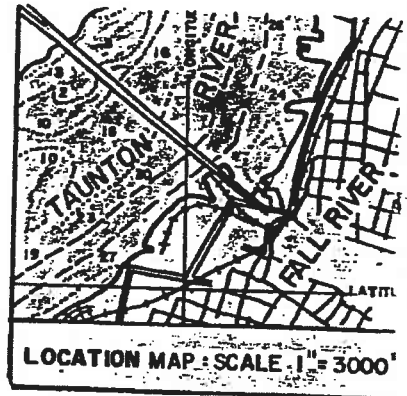
LICENSE PLAN NO. 845

Approved by Department of Environmental Quality Engineering

APRIL 30, 1982

024-00N-013-003-100

024-00N-013-005-100



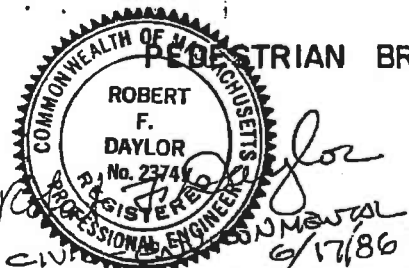
ALL LAND IS OWNED BY
THE COMMONWEALTH OF
MASS. DEPT. OF ENVIRON-
MENTAL MANAGEMENT

NOTES

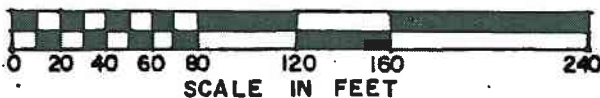
1. DATUM IS MEAN LOW WATER
2. ALL EXISTING CONDITIONS SHOWN IS PROVIDED FROM SURVEY DATA AND SOUNDINGS COMPILED BY A. L. ALMY AND ASSOC. UNDER D.E.M. CONTRACT NO. 48-81A
3. THE ENTIRE PROJECT AREA EXISTS AS HISTORICALLY FILLED (HMLW \pm 5.0' M.L.W.) TIDELANDS

4. EXISTING STRUCTURES LICENSE UNDER DE QE # 82 - 8 45

— MEAN HIGH WATER
..... MEAN LOW WATER
- - - - - EXTREME LOW WATER



SITE LOCATION PLAN



PLAN ACCOMPANYING PETITION OF
THE MASS. DEPT. OF
ENVIRONMENTAL MANAGEMENT
TO CONSTRUCT AND MAINTAIN
WATERFRONT IMPROVEMENTS
ALONG THE TAUNTON RIVER.

SHEET 1A OF 5

LICENSE PLAN NO. 1831

Approved by Department of Environmental Quality Engineer
of Massachusetts

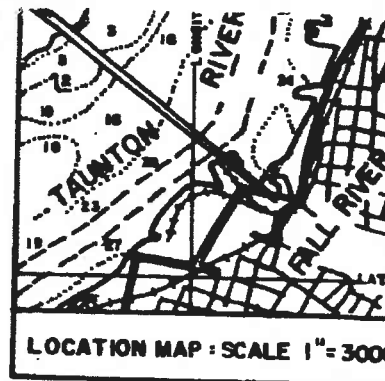
Christy F. Smith COMMISSIONER
DIVISION DIRECTOR

024-00N-013-003-100

024-00N-013-005-100

MATCH TO

SHEET 3 C OF 5

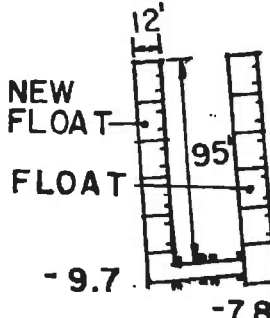


NEW BOARDWALK

EXISTING PARKING LOT

EX. GRANITE SEAWALL -5.9'

JIB CRANE



BOATHOUSE

-2.0

-9.8

TAUNTON RIVER



NAUTICAL FLAGPOLE

EXISTING STAIRS

RAILING

BOARDWALK

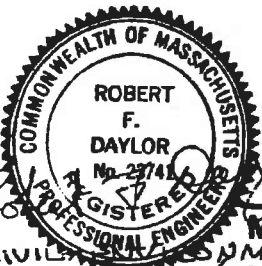
LIGHT

-4.8

ALL LAND IS OWNED BY THE COMMONWEALTH OF MASS. DEPT. OF ENVIRONMENTAL MANAGEMENT

1. DATUM IS MEAN LOW WATER
2. ALL EXISTING CONDITIONS SHOWN IS PROVIDED FROM SURVEY DATA COMPILED BY A.L. ALMY AND ASSOC. UNDER D.E.M. CONTRACT NO. 48-81A
3. THE ENTIRE PROJECT AREA EXISTS AS HISTORICALLY FILLED (H.M.H.W. \pm 5.0' M.L.W.) TIDELAND
4. EX. STRUCTURES LICENSED UNDER D.E.Q.E. WATERWAY # 82-845

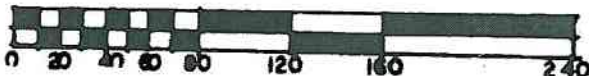
— MEAN HIGH WATER
 MEAN LOW WATER
 - - - - - EXTREME LOW WATER (-0.5 M.L.W.)



MATCH TO SHEET 1 A OF 5

SITE LOCATION PLAN

SCALE IN FEET



PLAN ACCOMPANYING PETITION OF THE MASS. DEPT. OF ENVIRONMENTAL MANAGEMENT TO CONSTRUCT AND MAINTAIN WATERFRONT IMPROVEMENTS ALONG THE TAUNTON RIVER,

86W-117

SHEET 2B OF 3

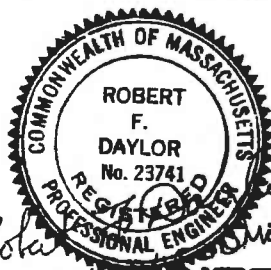
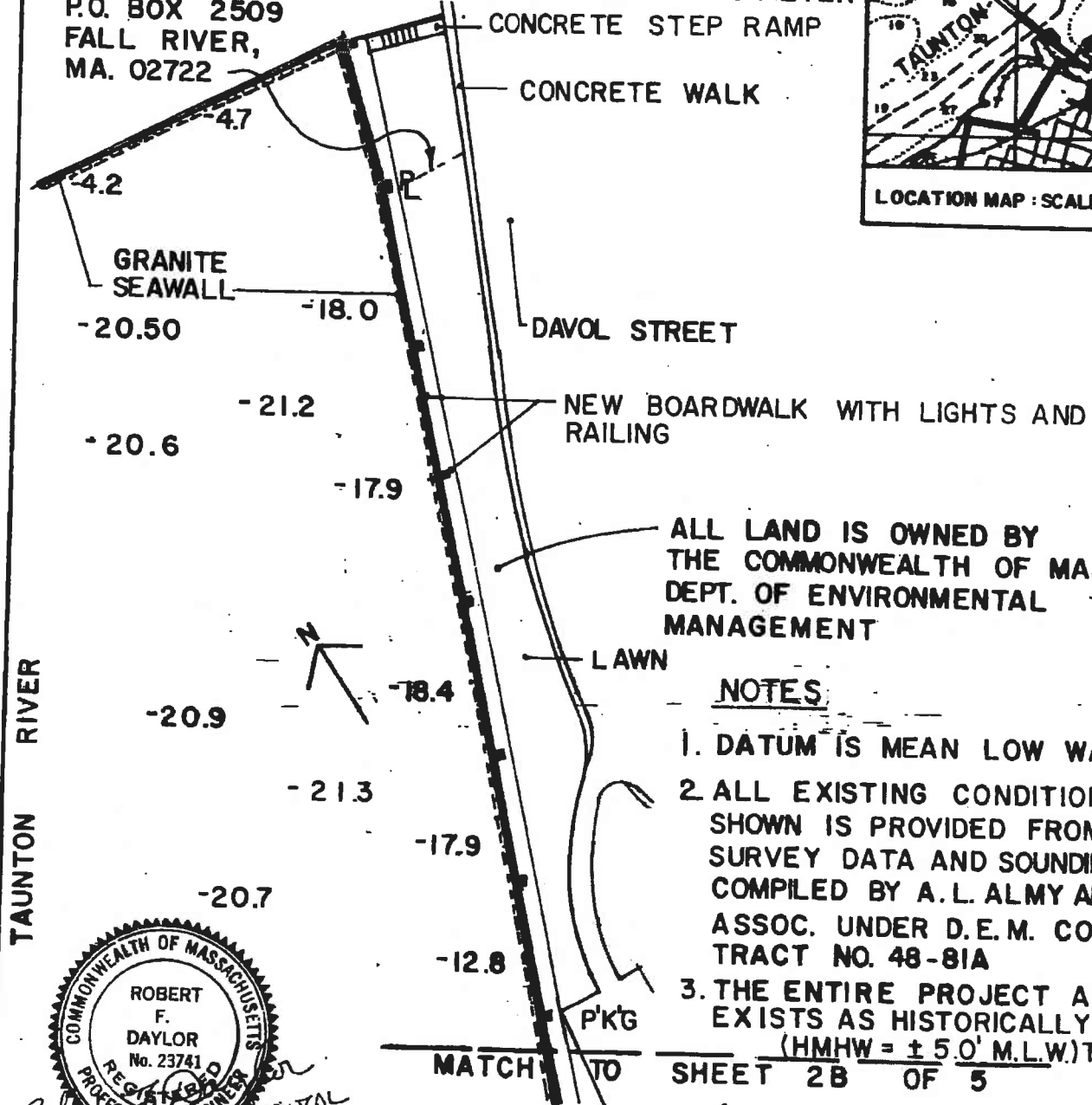
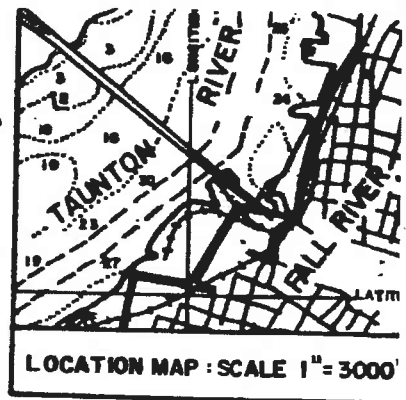
LICENSE PLAN NO. 1831

Approved by Department of Environmental Quality Engineering

024-00N-013-003-100

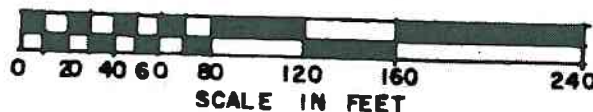
024-00N-013-005-100

N/F CHARLOTTE LITCHMAN & WILLIAM R. MEYER
P.O. BOX 2509
FALL RIVER,
MA. 02722



Robert F. Daylor
6/17/86

SITE LOCATION PLAN



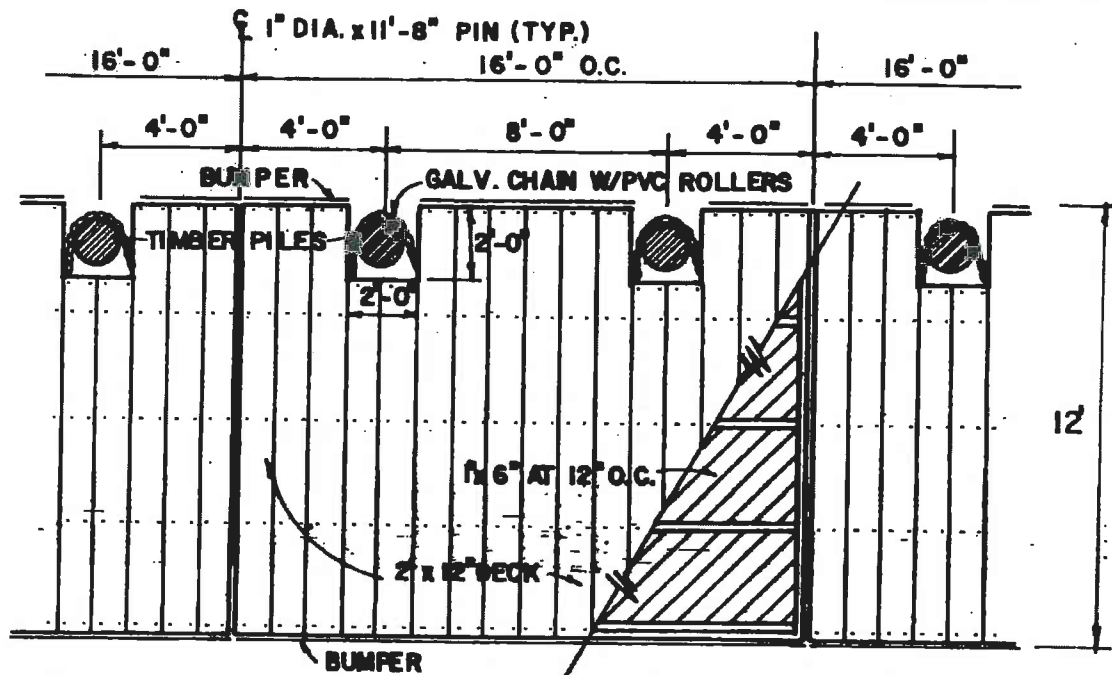
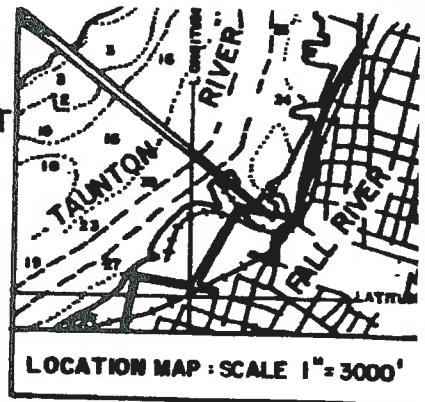
PLAN ACCOMPANYING PETITION OF
THE MASS. DEPT. OF
ENVIRONMENTAL MANAGEMENT
TO CONSTRUCT AND MAINTAIN
WATERFRONT IMPROVEMENTS
ALONG THE TAUNTON RIVER,

LICENSE PLAN NO. 1831

Approved by Department of Environmental Quality Engineerin

1. ALL EXISTING CONDITIONS SHOWN IS PROVIDED FROM SURVEY DATA AND SOUNDINGS COMPILED BY A.L. ALMY AND ASSOC. UNDER D.E.-M. CONTRACT NO. 48-81A

2. EXISTING STRUCTURES LICENSED UNDER D.E.Q.E. WATERWAY # 82-845

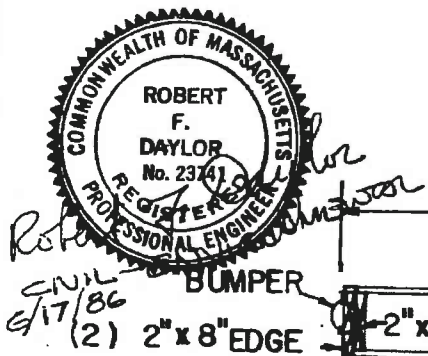


FLOAT PLAN

ALL WOOD TO BE PRESSURE TREATED WITH PRESERVATIVE



12'-0"



CIVIL
6/17/86
(2) 2"x8" EDGE

12" x 8'-0" x 6'-0"

TYPICAL SECTION



86W-117

SHEET 4 OF 5

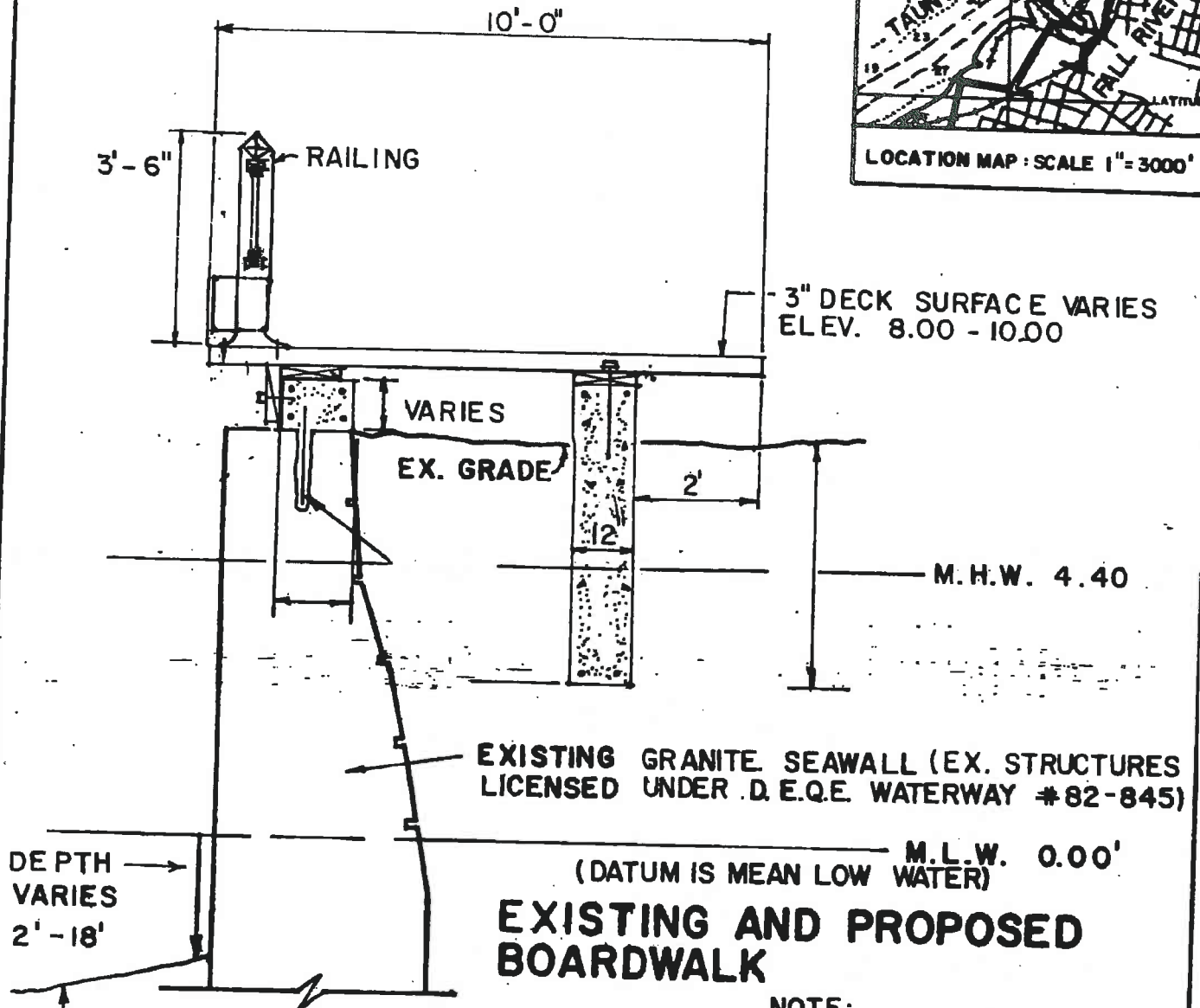
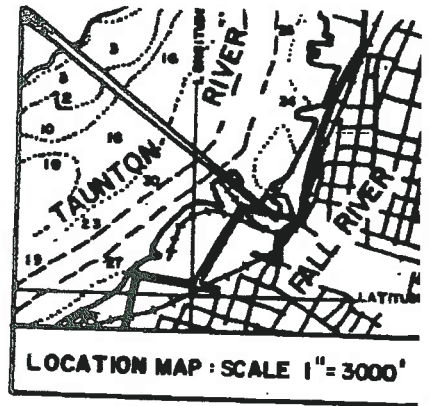
PLAN ACCOMPANYING PETITION OF THE MASS. DEPT. OF ENVIRONMENTAL MANAGEMENT TO CONSTRUCT AND MAINTAIN WATERFRONT IMPROVEMENTS ALONG THE TAUNTON RIVER,

LICENSE PLAN NO. 1831

Approved by Department of Environmental Quality Engineering

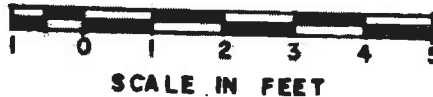
024-00N-013-003-100
024-00N-013-005-100

024-00N-013-003-100
 024-00N-013-005-100
 ALL WOOD TO BE PRESSURE-TREATED
 WITH PRESERVATIVE

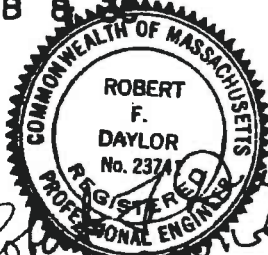


NATURAL BOTTOM
 SEE SHEETS
 2B 8

SECTION A-A



NOTE:
 ALL EXISTING CONDITIONS
 SHOWN IS PROVIDED FROM
 SURVEY DATA AND SOUNDINGS
 COMPILED BY A.L. ALMY AND
 ASSOC. UNDER D.E.M. CON-
 TRACT NO 84-81A



PLAN ACCOMPANYING PETITION OF
 THE MASS. DEPT. OF
 ENVIRONMENTAL MANAGEMENT
 TO CONSTRUCT AND MAINTAIN
 WATERFRONT IMPROVEMENTS
 ALONG THE TAUNTON RIVER,

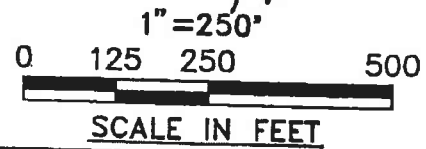
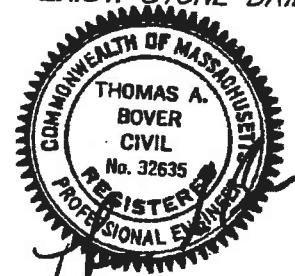
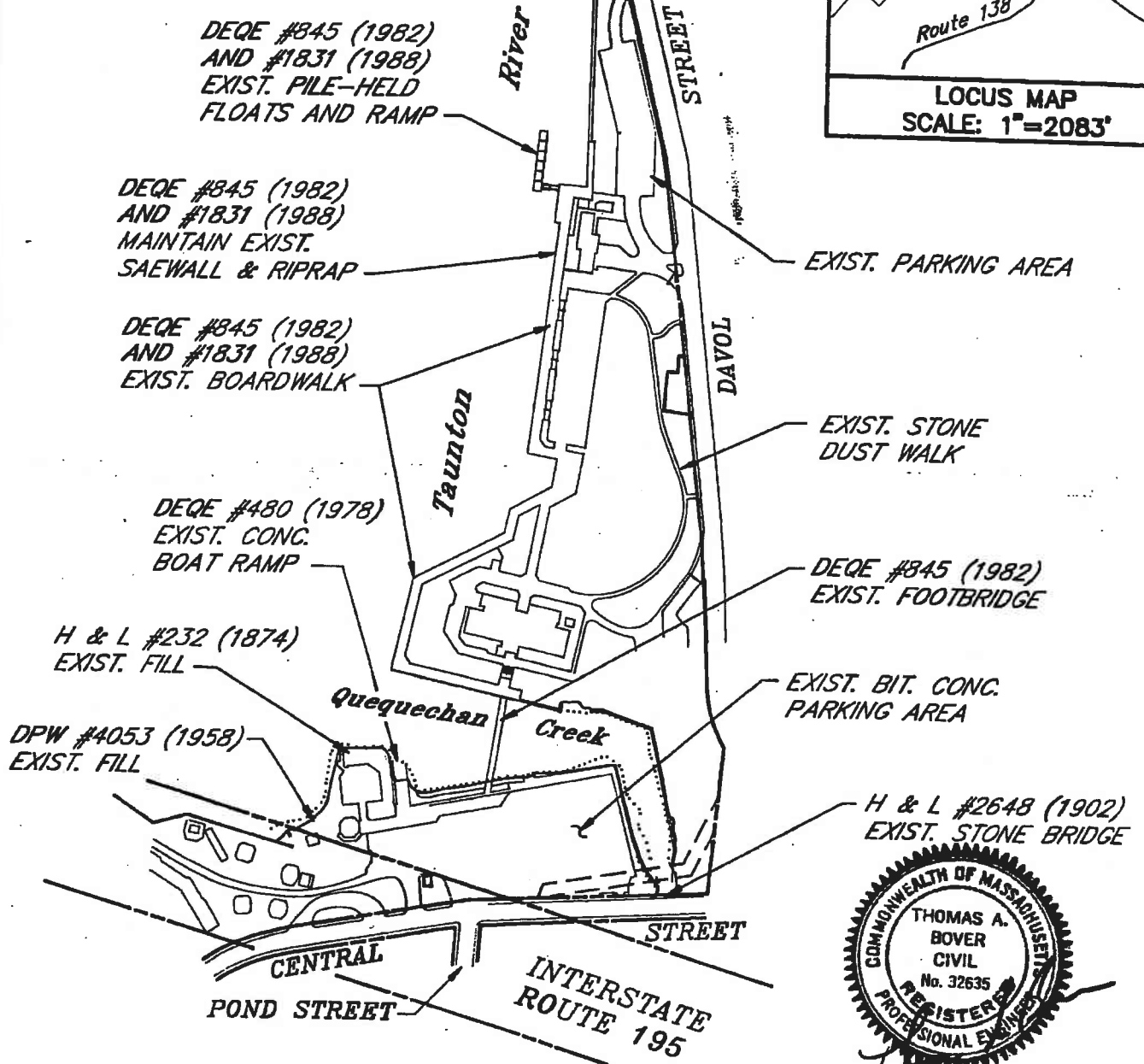
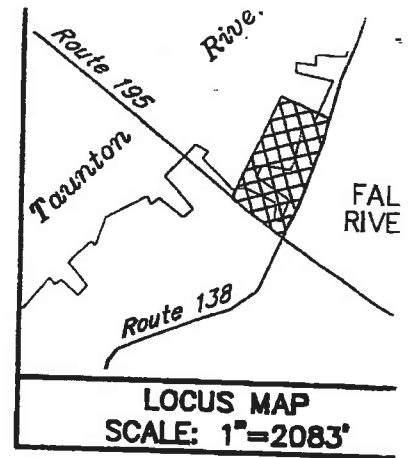
86W-117

SHEET 5 OF 5

LICENSE PLAN NO. 1831

Approved by Department of Environmental Quality Engineering

024-00N-013-001-100
 024-00N-013-001-200
 024000-024-002-100
 024-00N-013-002-100
 024-00N-013-003-100
 024-00N-013-005-100



FALL RIVER CAROUSEL AND HERITAGE PARK EXISTING CONDITIONS AND EXISTING WATERWAYS LICENSES
 CITY OF FALL RIVER (BRISTOL COUNTY), MA.
 PLANS ACCOMPANYING PETITION OF THE
 COMMONWEALTH OF MASSACHUSETTS DEPT.
 OF ENVIRONMENTAL MANAGEMENT (DEM) AND
 FALL RIVER OFFICE OF ECONOMIC DEVELOPMENT
 PURPOSE IS TO REVITALIZE FALL RIVER HERITAGE PARK BY
 EXTENDING THE EXIST. BOARDWALK AND DOCK FACILITIES,
 INSTALL A JIB-CRANE, REPAIR & RECONSTRUCT PORTIONS
 OF EXIST. SEAWALL AND RIPRAP, IMPROVE PARKING LOT
 FACILITIES & CONSTRUCT A BUILDING FOR THE CAROUSEL.
 Prepared By: HMM Associates, Inc. Concord, MA

LICENSE PLAN NO. 2641
 Approved by Department of Environmental Protection
 of Massachusetts
 Commissioner
 Director
 Section Chief
 APR 16 1991

FOCUS PLAN A
(WORK AREA 1 SHT. 3)

024-00N-013-001-100
024-00N-013-001-200
024-000-024-002-100
024-00N-013-002-100
024-00N-013-003-100
024-00N-013-005-100

"APPROXIMATE LOCATION OF THE HISTORIC HIGH WATER MARK FROM THE COOK-BORDEN PLAN OF 1812."

FOCUS PLAN C
(WORK AREA 3 SHT. 6)

FOCUS PLAN B
(WORK AREA 2 SHTS. 4 & 5)

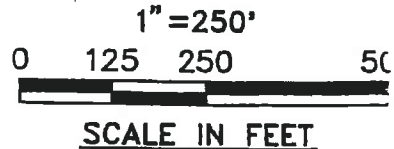
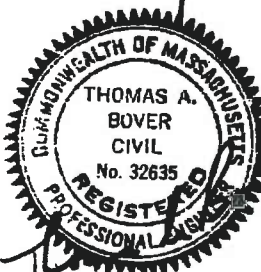
INTERSTATE
RT. 195

Quequechan
Creek

CENTRAL

POND STREET

STREET



FALL RIVER CAROUSEL
AND HERITAGE PARK
PROPOSED CONDITIONS

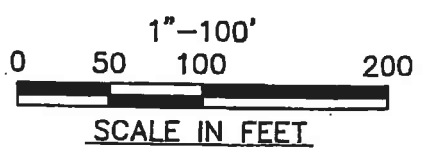
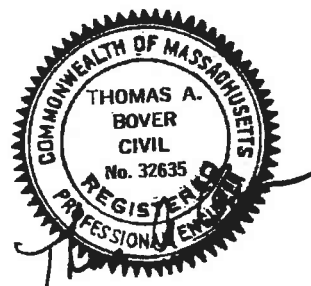
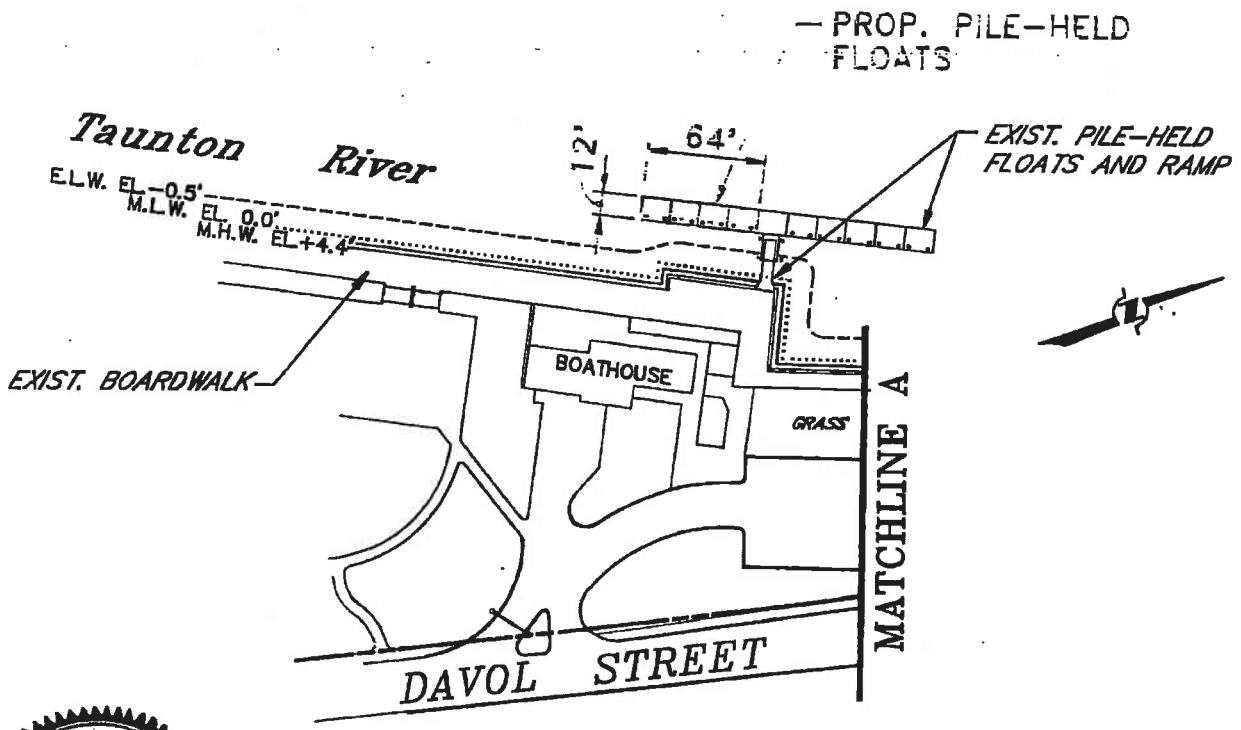
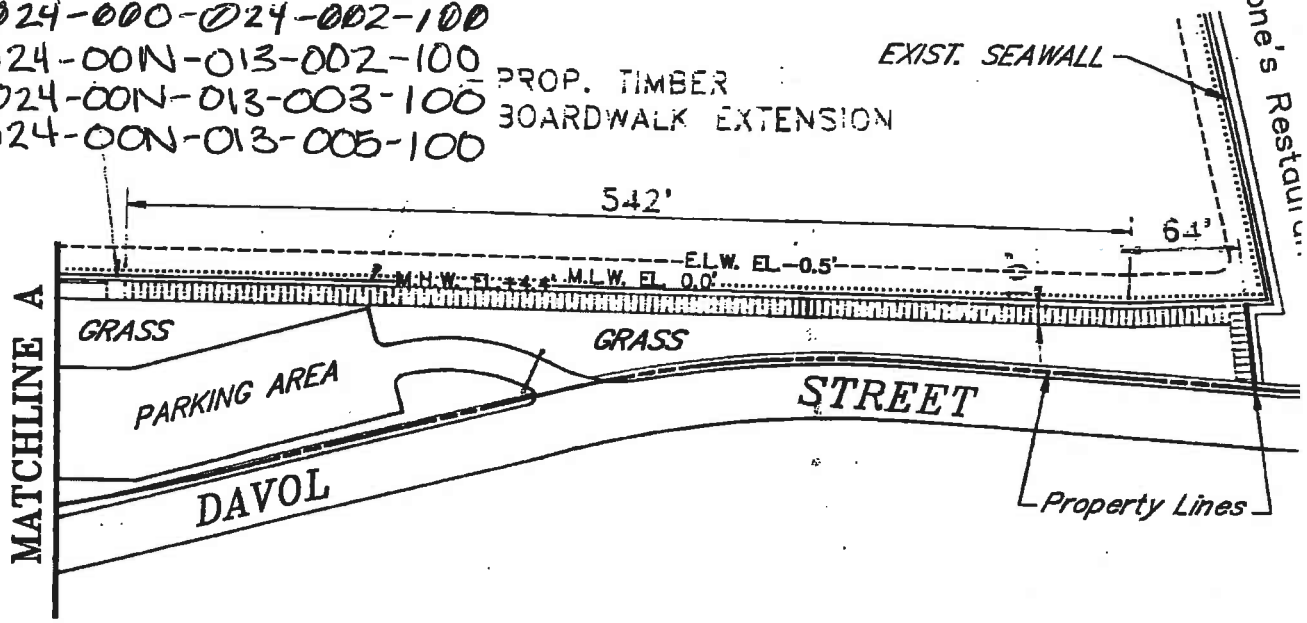
LICENSE PLAN NO. 2641

Approved by Department of Environmental Protection

Date: AUG 18 1991

Prepared By: HMM Associates, Inc., Concord, MA

024-00N-013-001-100 Taunton River
 024-00N-013-001-200
 024-000-024-002-100
 024-00N-013-002-100
 024-00N-013-003-100 PROP. TIMBER
 024-00N-013-005-100 BOARDWALK EXTENSION



FALL RIVER CAROUSEL
 AND HERITAGE PARK
 FOCUS PLAN A

Prepared By: HMM Associates, Inc. Concord, MA

LICENSE PLAN NO. 2641
 Approved by Department of Environmental Protection
 Date: APR 16 1991

WALKWAY (TYP.) -

024-00N-013-005-100

024-00N-013-003-100

024-00N-013-001-100

024-00N-013-001-200

024-000-024-002-100

024-00N-013-002-100

Quequechan Creek

EXIST. 25' ROADWAY

EXIST. CONC. RETAINING WALL

PROP. CAROUSEL BLDG. SEE FOCUS PLAN C SHT. 6

EL.W. EL.-0.5'

M.L.W. EL. 0.0'

M.H.W. EL. +4.4'

PROP. FOUNTAIN

EXIST. 40' R.O.W.

EXIST. CONC. BOAT RAMP

PROP. BUS DROP-OFF

POND STREET

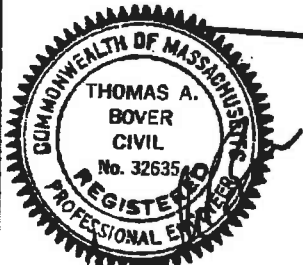
PROP. LIMITS OF EXIST. SEAWALL REPAIR

MATCHLINE B (Sht. 5)

1"=50'

0 25 50 100

SCALE IN FEET



FALL RIVER CAROUSEL AND HERITAGE PARK
FOCUS PLAN B

Prepared By: HMM Associates, Inc. Concord, MA

LICENSE PLAN NO. 2641

Approved by Department of Environmental Protection

Date APR 16 1991

POND STREET

EXIST. 25' ROADWAY

024-00N-013-00-100
 024-00N-013-00-200
 024-00N-013-00-300
 024-00N-013-00-400
 024-00N-013-00-500
 024-00N-013-00-600

CENTRAL STREET

CENTRAL STREET

MATCHLINE B (Sht. 4)

EXIST. 40' R.O.W.

20' 20'

18 SPACES @ 9' = 162'

21 SPACES @ 9' = 189'

12 SPACES @ 9' = 108'

14 SPACES @ 9' = 126'

13 SPACES @ 9' = 117'

M.H.W. EL. +4.4'
 M.L.W. EL. 0.0'
 E.L.W. EL. -0.5'

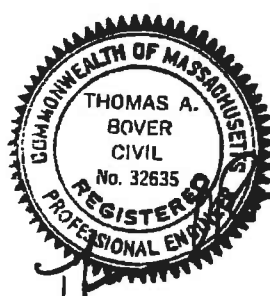
E.L.W. M.L.W. M.H.W.

EXIST. STONE BRIDGE

EXIST. FOOTBRIDGE

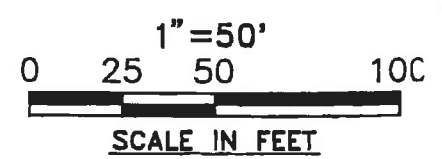
PROP. LIMITS OF EXIST. SEAWALL REPAIR

Quequechan Creek



FALL RIVER CAROUSEL
 AND HERITAGE PARK
 FOCUS PLAN B (CONT.)

Prepared By HMM Associates, Inc. Concord, MA



LICENSE PLAN NO. 2641

Approved by Department of Environmental Protection

Date: APR 16 1991



PROP. AREA OF EXISTING
STONE RIPRAP TO BE
RECONSTRUCTED

024-00N-013-001-100
024-00N-013-001-300
024-000-024-002-100
024-00N-013-002-100
Taunton, 024-00N-013-003-100
024-00N-013-005-100

River

PROP. OUTDOOR PLAZA
& LANDSCAPED AREA

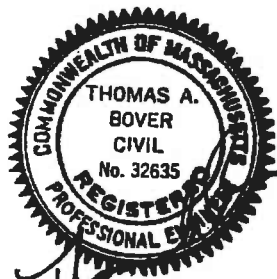
EXIST. CONC.
BOAT RAMP

E.L.W. EL. -0.5'

M.L.W. EL. 0.0'

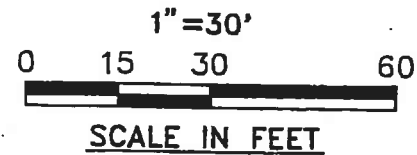
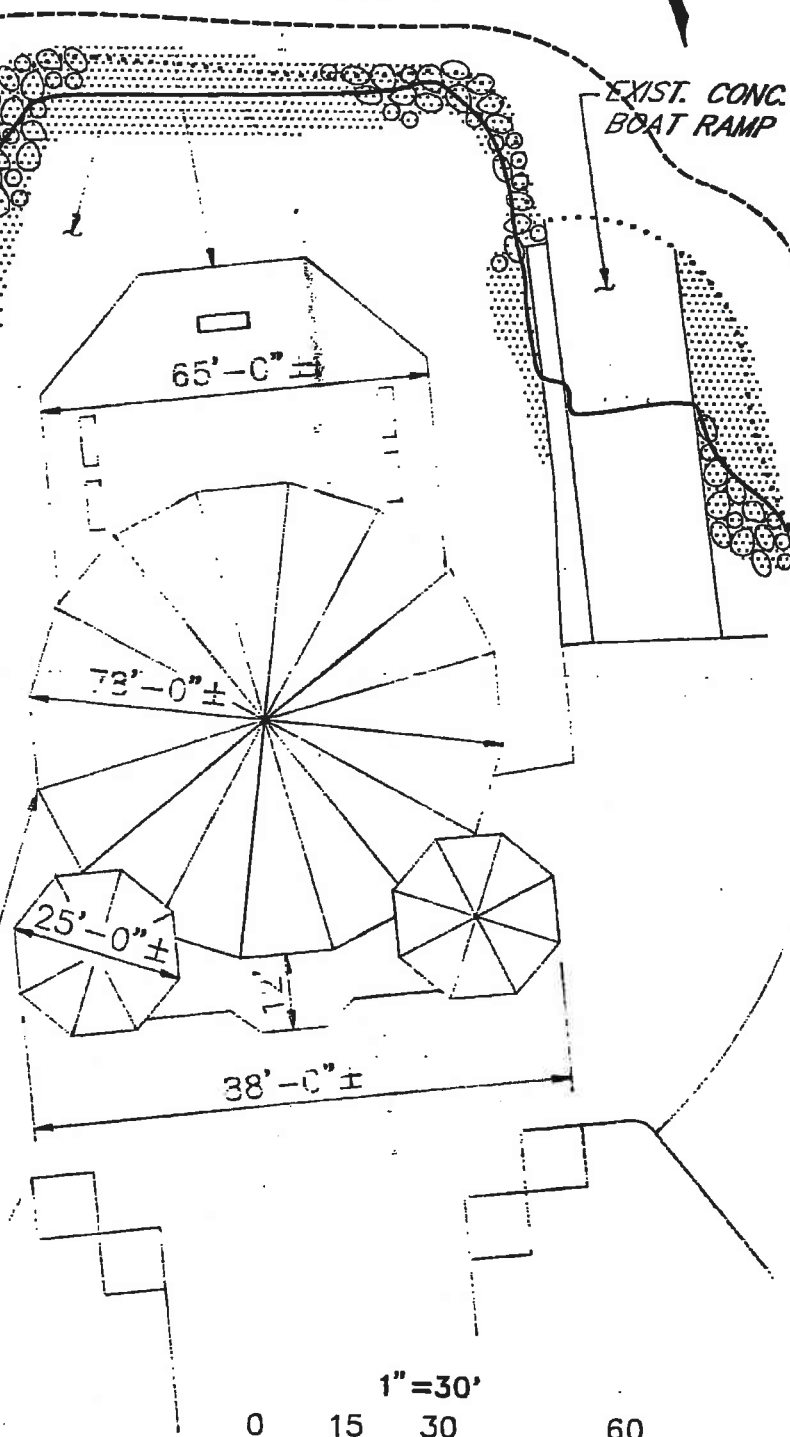
M.H.W. EL. +1.4'

PROP. CAROUSEL BLDG.



FALL RIVER CAROUSEL
AND HERITAGE PARK
FOCUS PLAN C

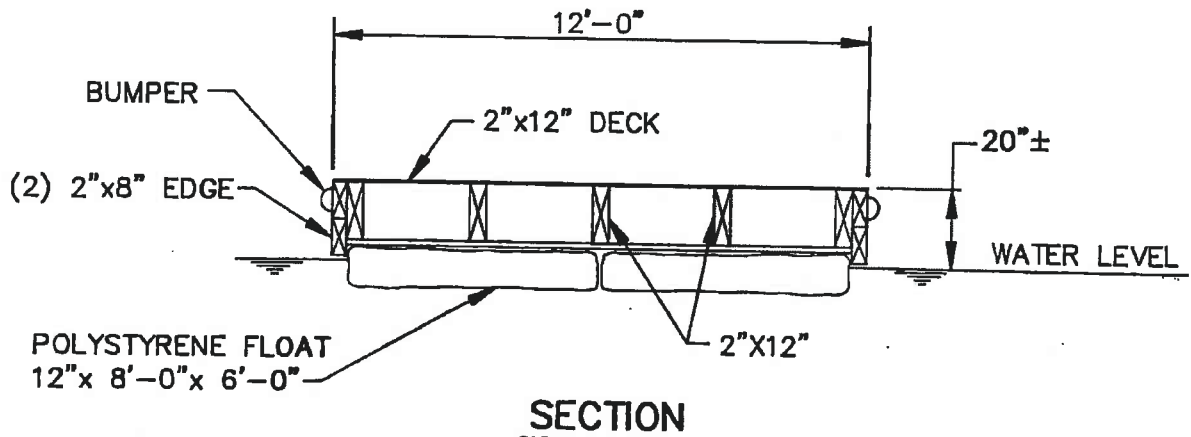
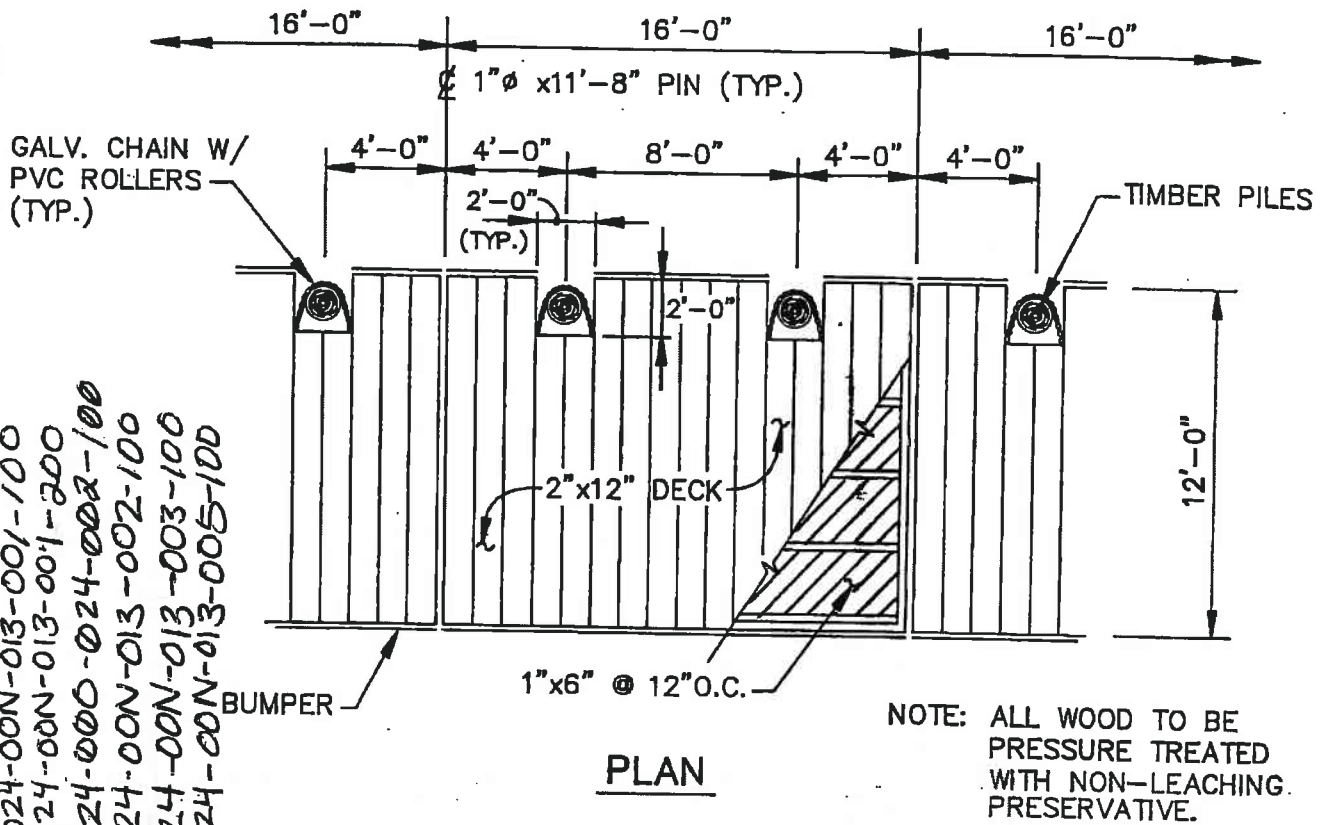
Prepared By HMM Associates, Inc. Concord, MA



LICENSE PLAN NO. 2641

Approved by Department of Environmental Protection

Date: APR 16 1991



PLAN AND SECTION OF FLOAT EXTENSION

NOT TO SCALE



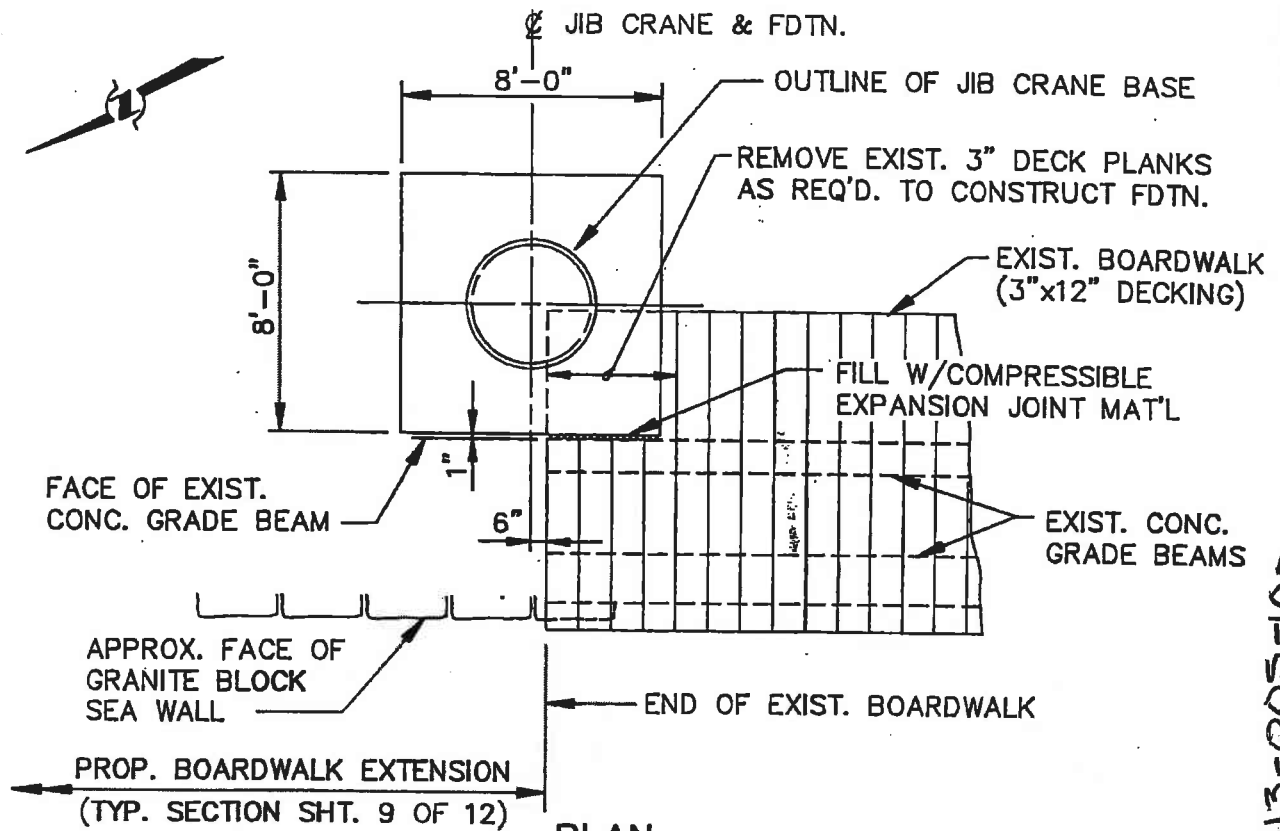
FALL RIVER CAROUSEL
AND HERITAGE PARK
TYPICAL FLOAT SECTION

Prepared By: HMM Associates, Inc. Concord, MA

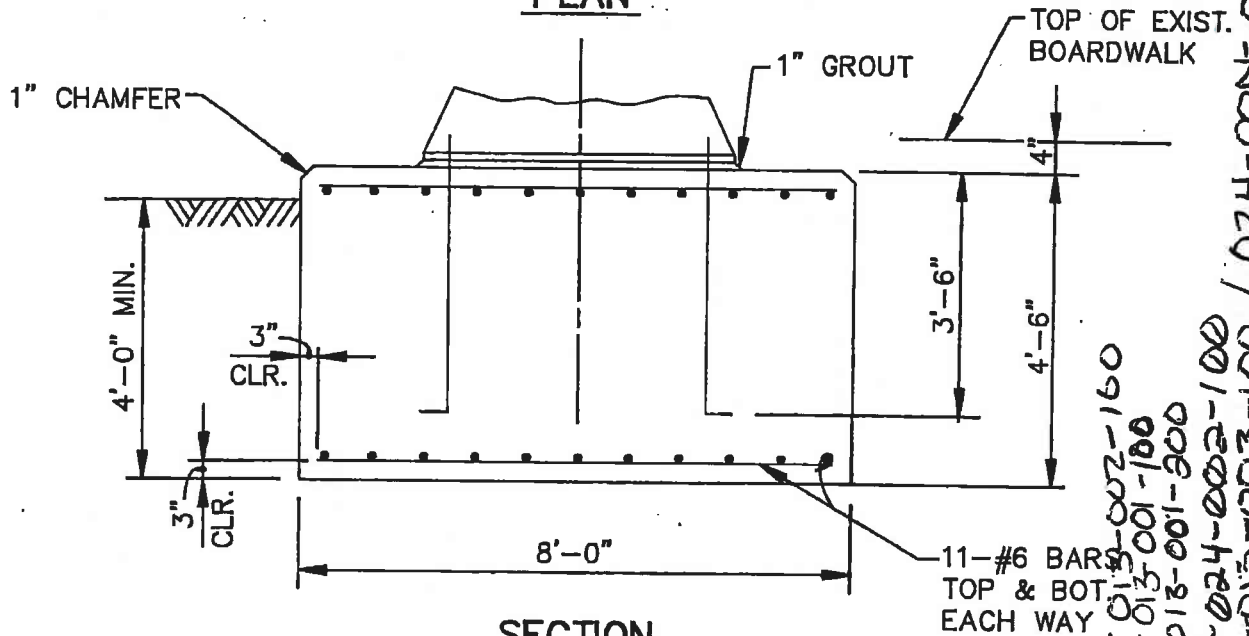
LICENSE PLAN NO. 2641

Approved by Department of Environmental Protection

Date: APR 16 1991

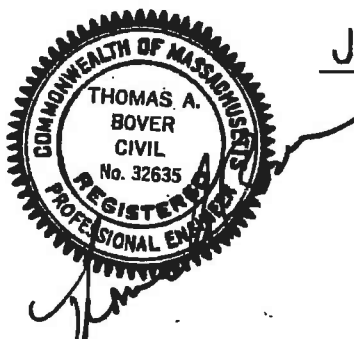


PLAN



SECTION

JIB CRANE FOUNDATION



FALL RIVER CAROUSEL
AND HERITAGE PARK
JIB CRANE FOUNDATION DETAIL

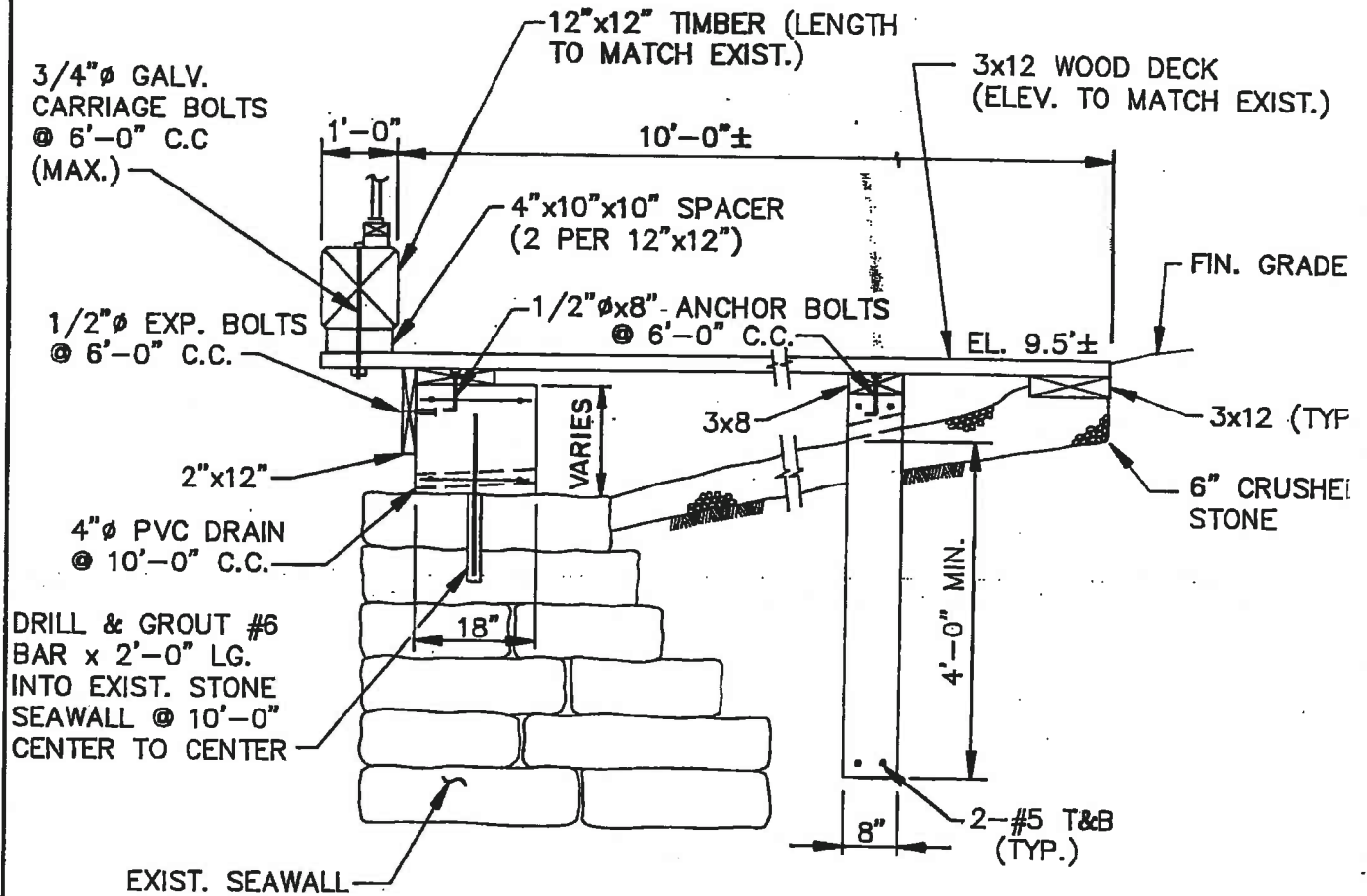
LICENSE PLAN NO. 2641

Approved by Department of Environmental Protection

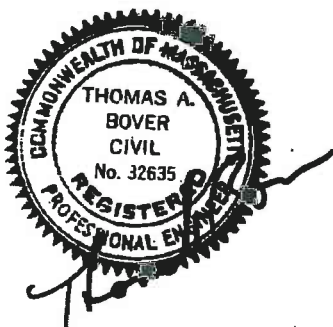
Date: ADD 4 6 1991

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024-00N-013-001-100
024-00N-013-001-900
024-000-024-002-100
024-00N-013-003-100 / 024-00N-013-005-100

024-00N-013-002-100
 024-00N-013-003-100
 024-00N-013-001-100
 024-00N-013-001-200
 024-000-024-002-100
 024-00N-013-005-100



**TYPICAL SECTION
 AT BOARDWALK EXTENSION**
 NOT TO SCALE



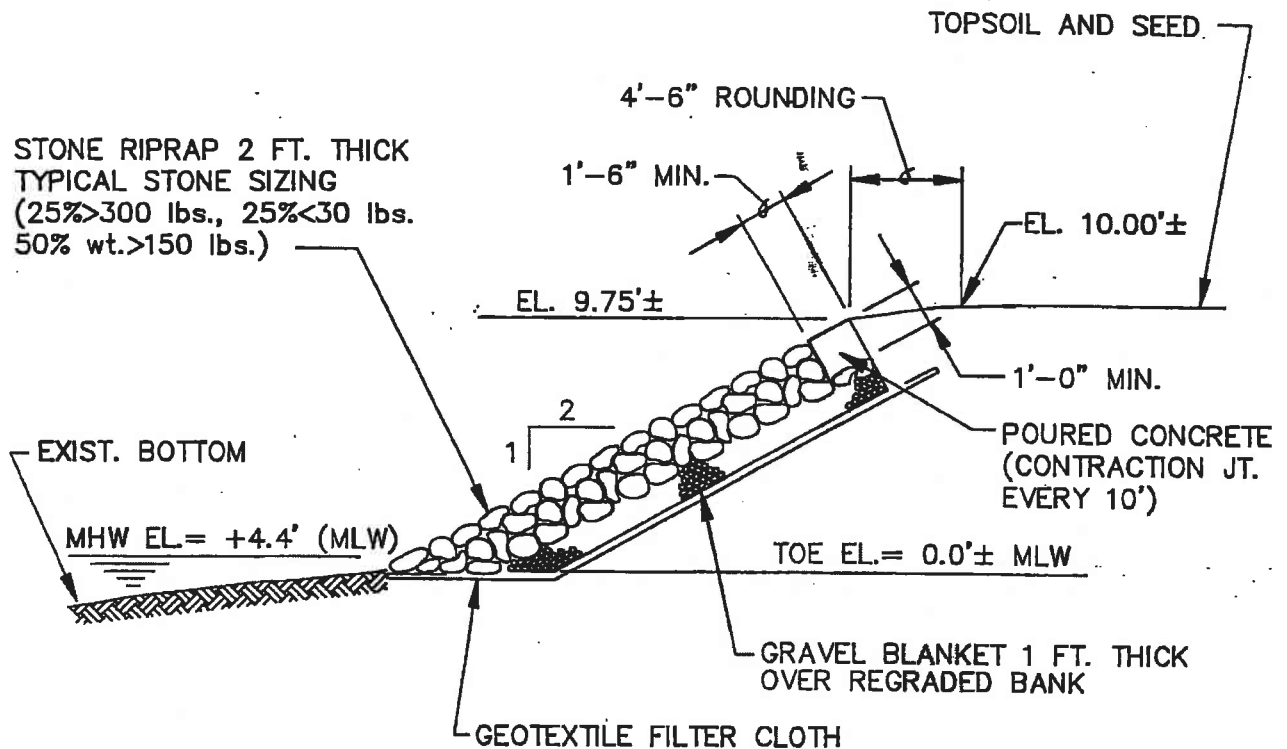
**FALL RIVER CAROUSEL
 AND HERITAGE PARK
 TYPICAL BOARDWALK SECTION**

LICENSE PLAN NO. 26411

Approved by Department of Environmental Protection

Date: ADD 4 6 1001

024-00N-013-002-100
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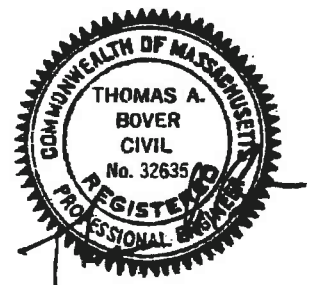


TYPICAL RIPRAP REVETMENT RECONSTRUCTION

NOT TO SCALE

NOTES:

1. TYPICAL STONE SIZING MAY VARY ACCORDING TO CONTRACTOR'S SPECIFICATIONS.
2. EXISTING DUMPED STONE RIPRAP MATERIAL WILL BE RE-USED TO GREATEST EXTENT PRACTICAL.
3. PLAN IS FOR PERMITTING PURPOSES ONLY.

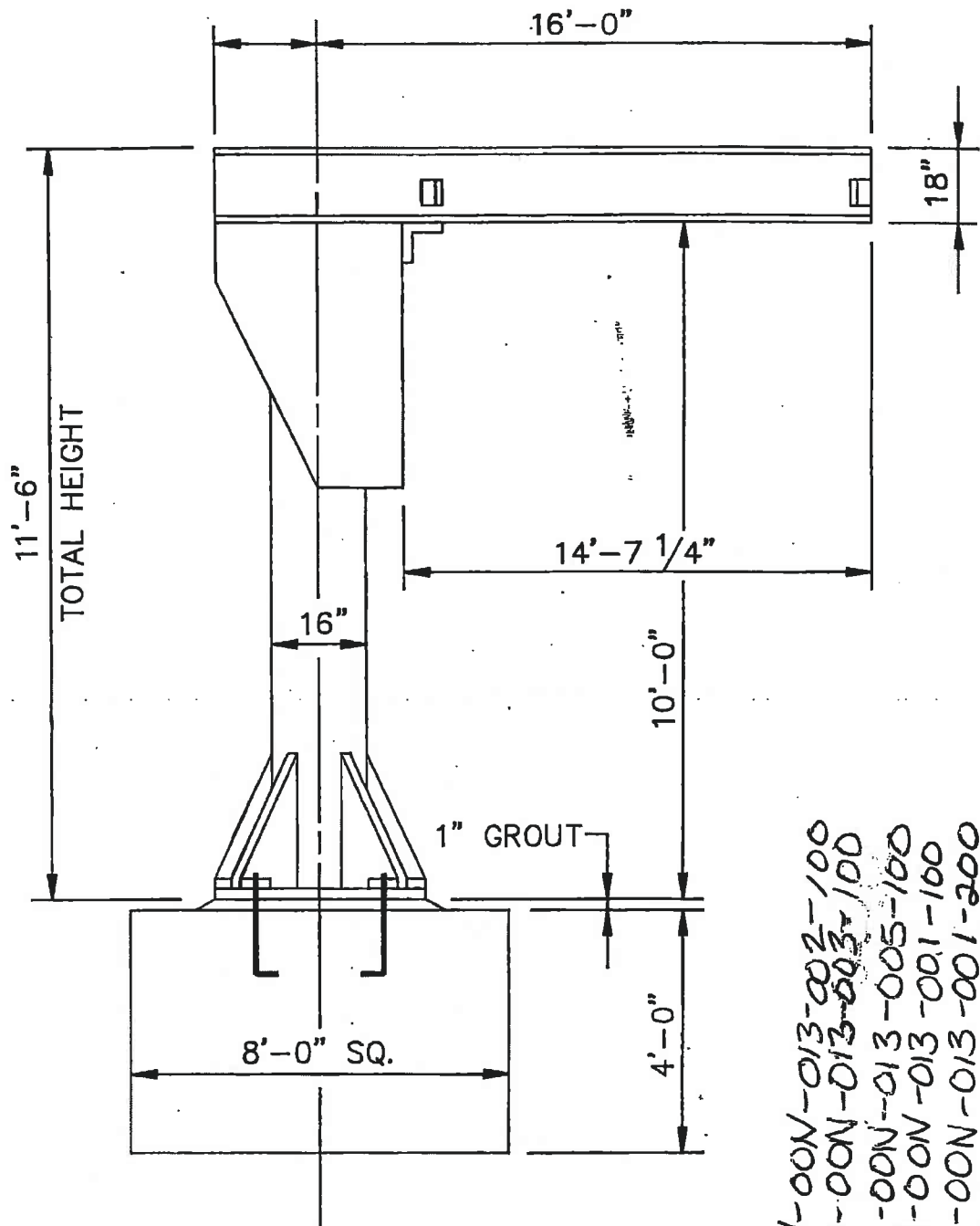


FALL RIVER CAROUSEL
 AND HERITAGE PARK
 TYPICAL RIPRAP REVETMENT

LICENSE PLAN NO. 2641

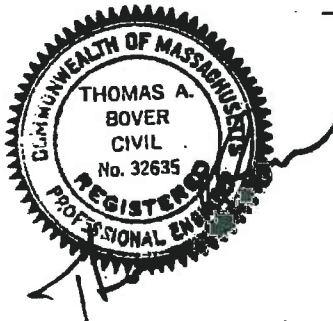
Approved by Department of Environmental Protection

Date: APR 16 1991



JIB CRANE DETAIL

NOT TO SCALE



FALL RIVER CAROUSEL
AND HERITAGE PARK
JIB CRANE DETAIL

Prepared By: HMM Associates, Inc. Concord, MA

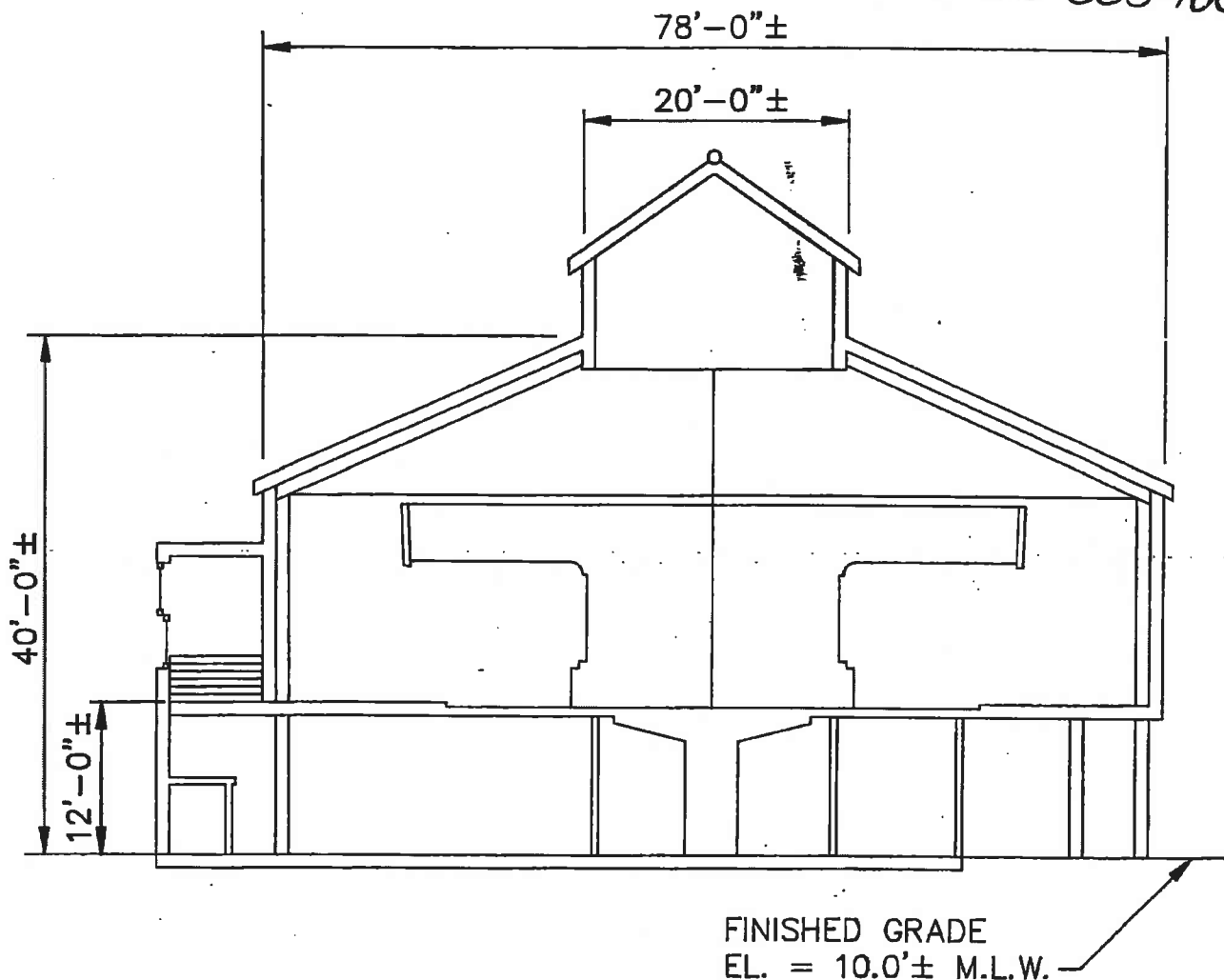
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024-000-024-002-100

LICENSE PLAN NO. 2641

Approved by Department of Environmental Protection

Date: JAN 4 2 1991

024-00N-013-002-100
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 024-00N-013-005-100



CAROUSEL BUILDING CROSS SECTION

NOT TO SCALE

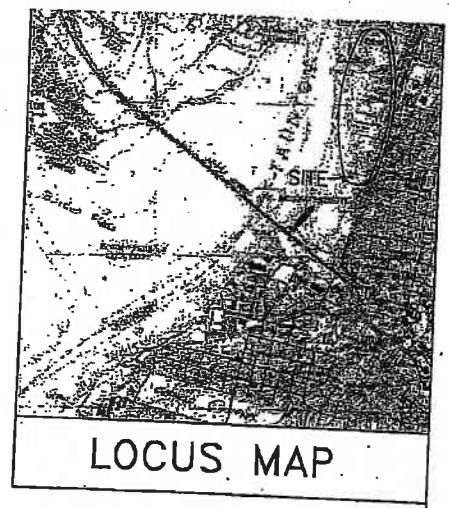
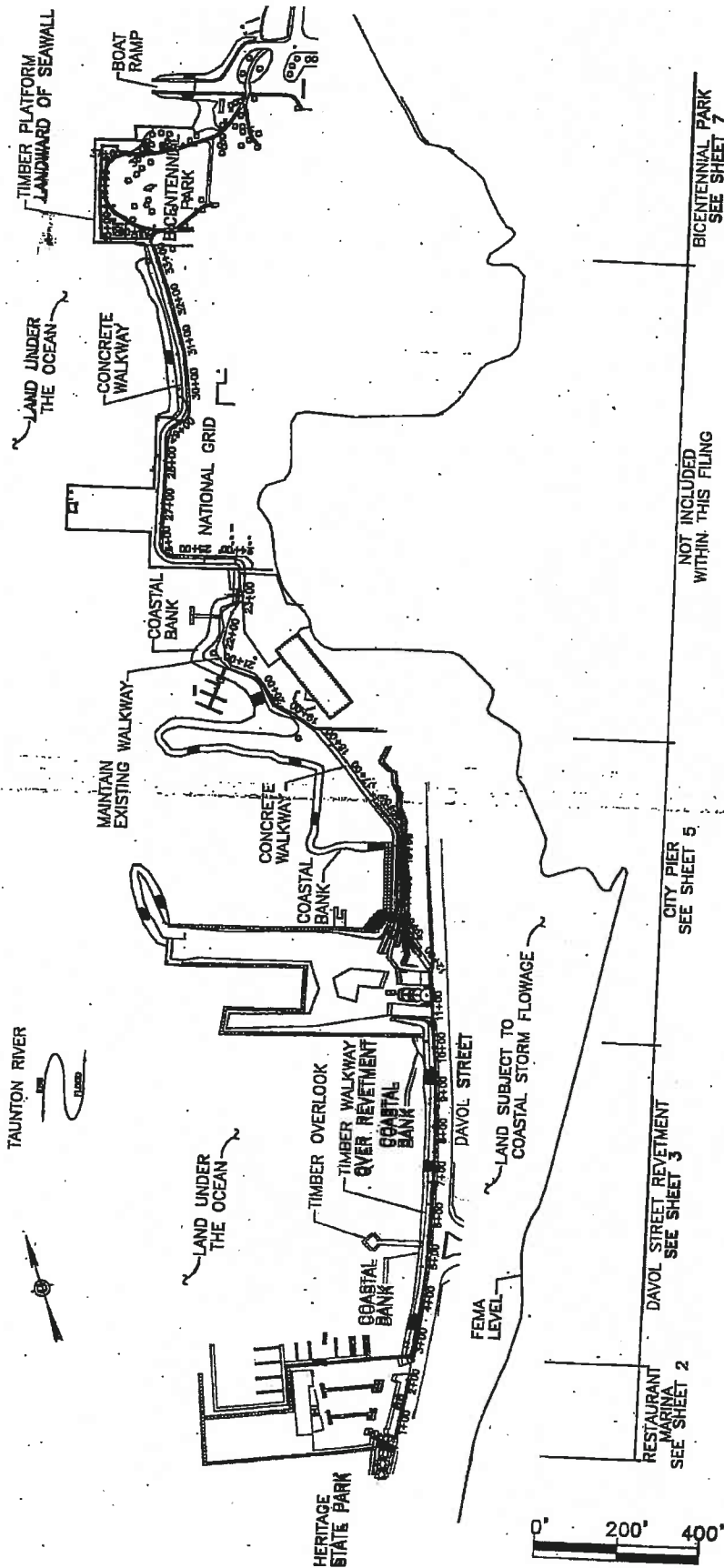


FALL RIVER CAROUSEL
 AND HERITAGE PARK
 TYP. CAROUSEL BLDG. CROSS SECTION
 Prepared By: HMM Associates, Inc. Concord, MA

LICENSE PLAN NO. 2641

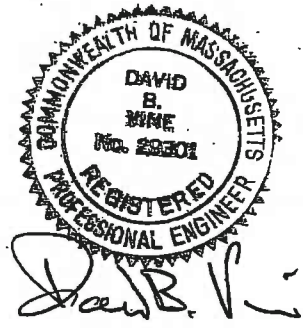
Approved by: Department of Environmental Protection

Date: APR 16 1991



LOCATION PLAN

024-00C-014-002-100
 024-00C-022-013-100
 024-00C-022-013-200
 024-00C-022-013-300
 024-000-023-001-100



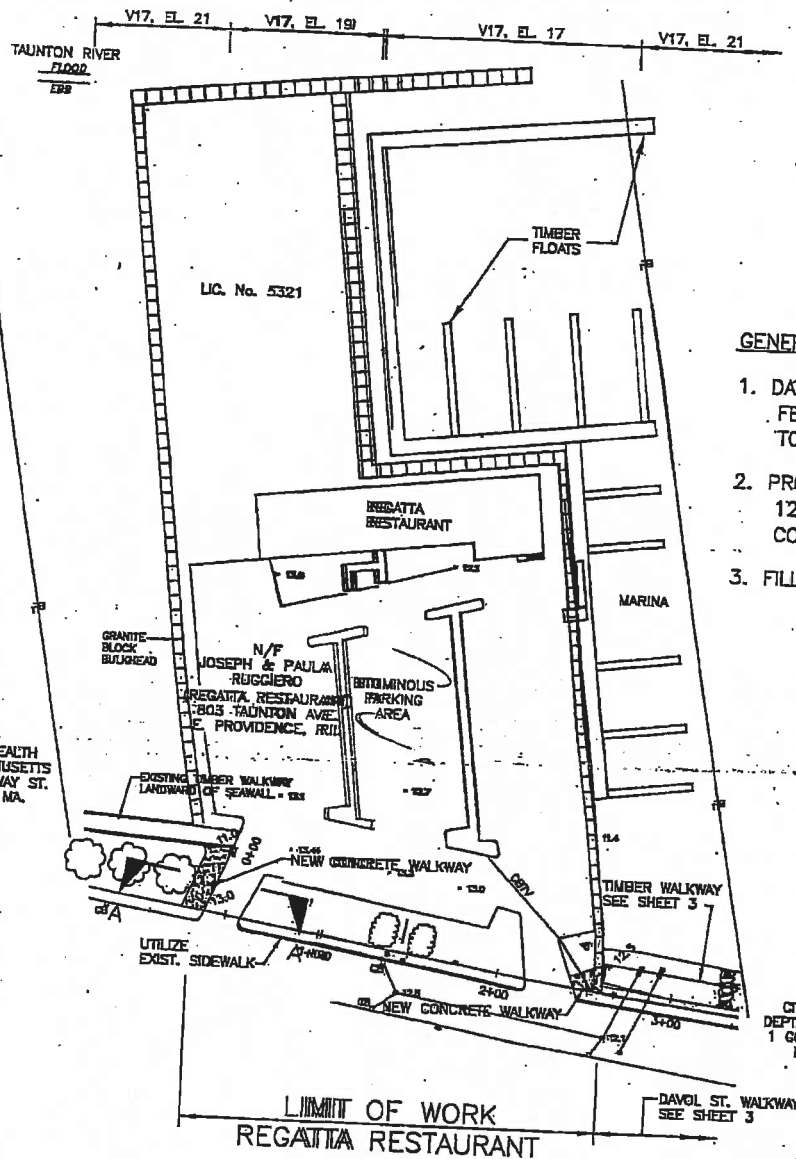
PLAN ACCOMPANYING PETITION OF:
 CITY OF FALL RIVER TO CONSTRUCT
 TIMBER WALKWAY, PIER, AND
 CONCRETE WALKWAY, BULKHEAD AND
 REVETMENT REPAIRS, RAILING,
 WALKWAY LIGHTING, AND FENCING
 TAUNTON RIVER
 FALL RIVER, MASSACHUSETTS

SHEET 1 OF 7

LICENSE PLAN NO. 9411

Approved by Department of Environmental Protection
 of Massachusetts

Mitch Zencovic
James E. Lee NOV 06 2002

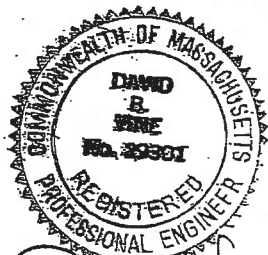


GENERAL NOTES:

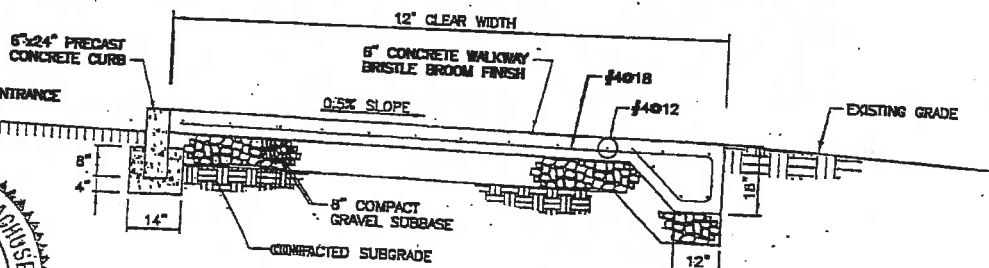
1. DATUM: MLW=0.0; MHW=4.4; HTL=5.6; FEMA 100 YR. FLOOD EL. VARIES 17.0 TO 21.0.
2. PROPOSED WORK INCLUDES 40 LF OF 12' WIDE CONCRETE WALKWAY AND CONCRETE TRANSITION WALKWAY.
3. FILLED PIER LIC. No. 5321.

SITE PLAN

SCALE: 1"=100'

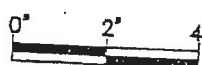


David B. Fine



SECTION A

SCALE: 1"=4'

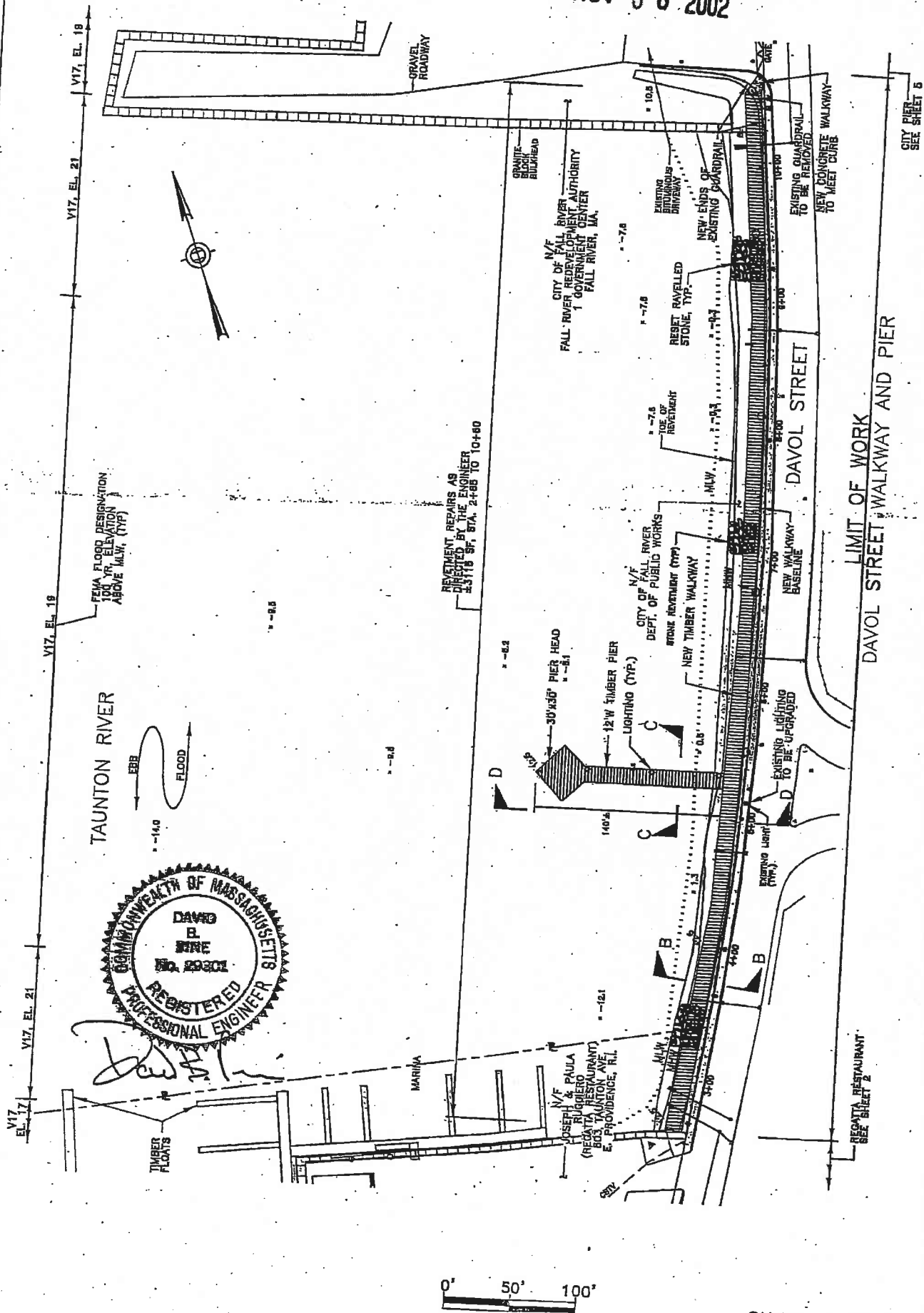


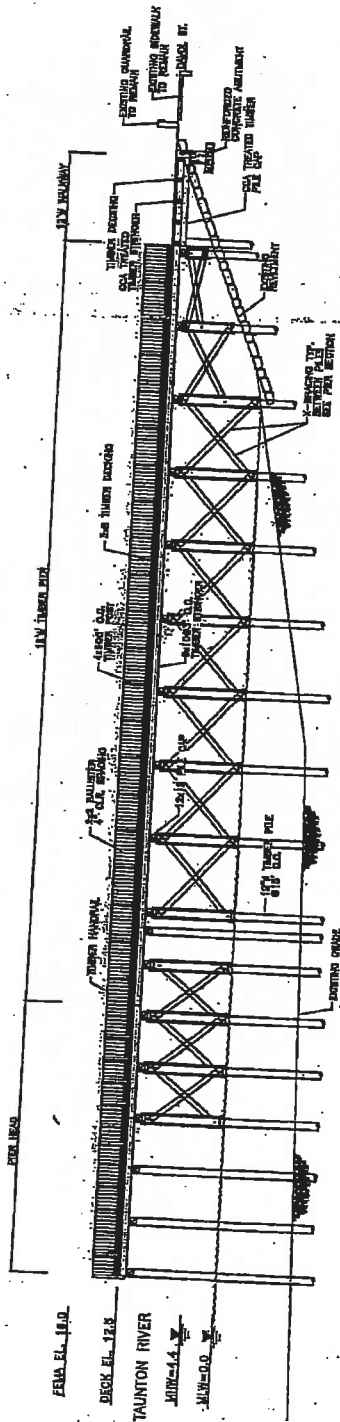
LICENSE PLAN NO. 9411

Approved by Department of Environmental Protection

Date: **NOV 06 2002**

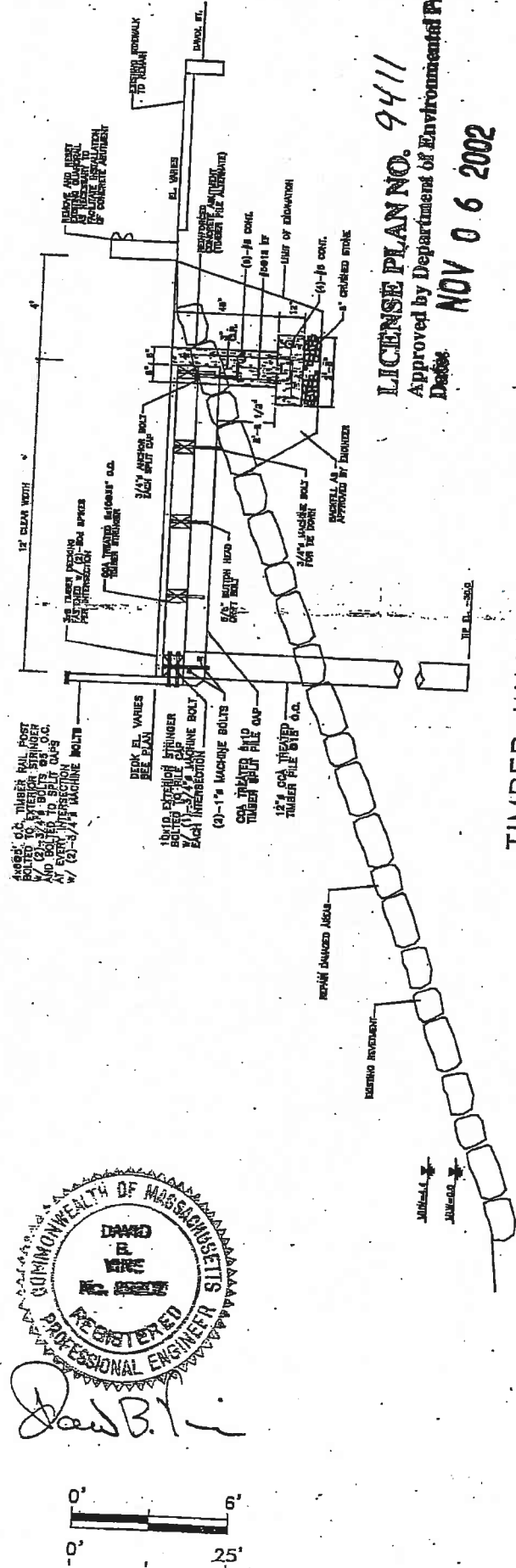
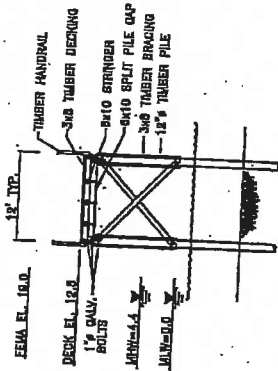
LICENSE PLAN NO. 9411
Approved by Department of Environmental Protection
Date: NOV 06 2002





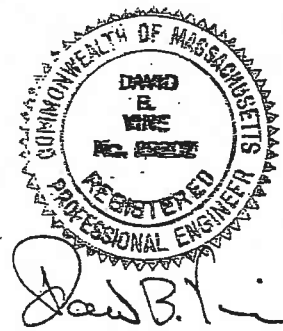
TIMBER PIER ELEVATION D-D
SCALE: 1"=25'

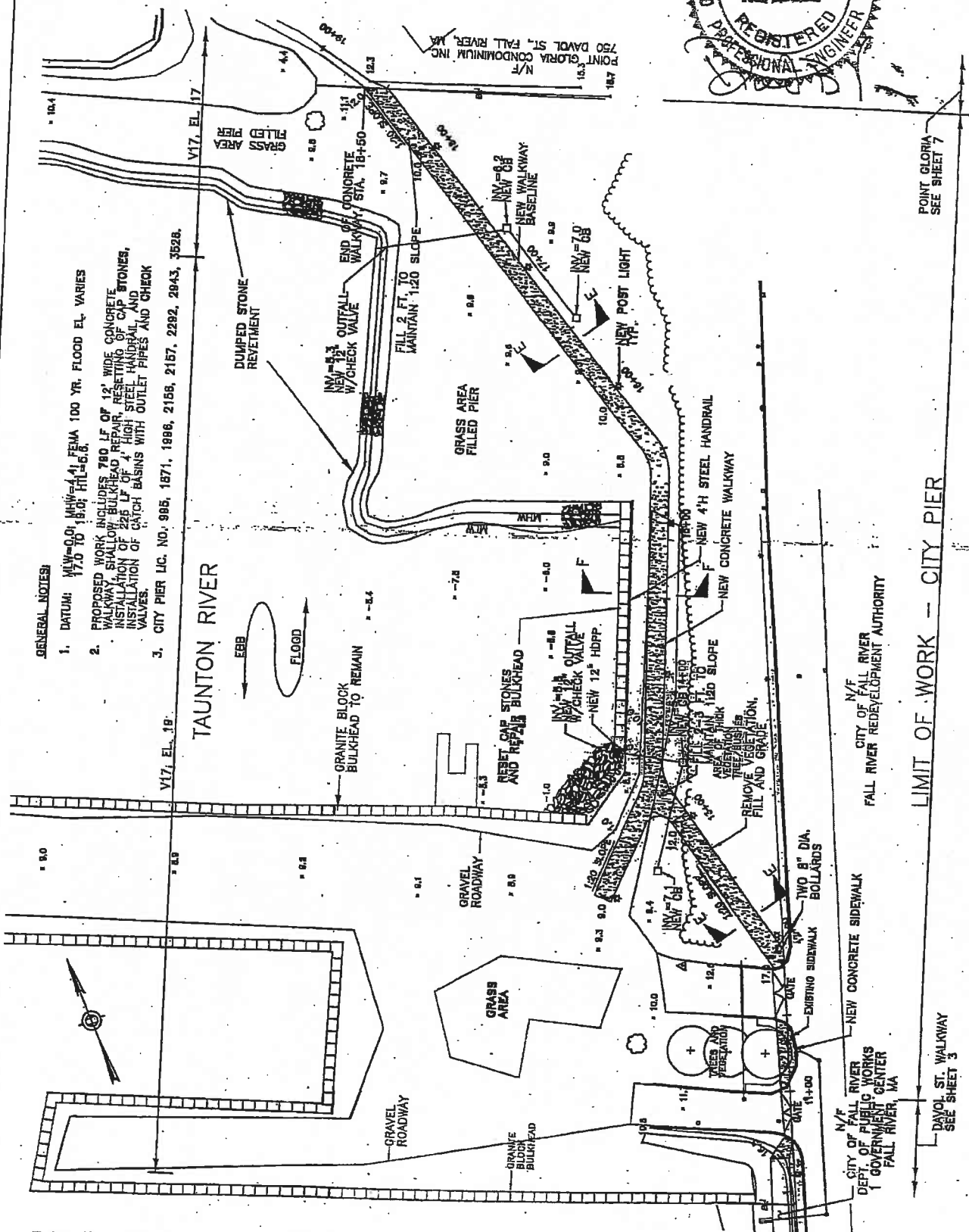
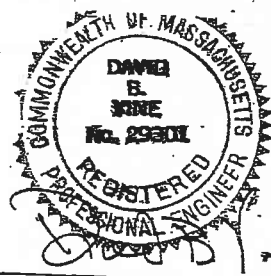
TIMBER PIER SECTION C-C
SCALE: 1"=25'



TIMBER WALKWAY SECTION B-B
SCALE: 1"=6'

LICENSE PLAN NO. 9411
Approved by Department of Environmental Protection
Date: **NOV 06 2002**

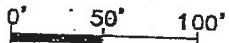


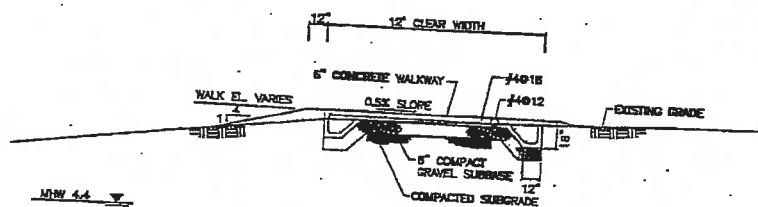


GENERAL NOTES:

1. DATUM: MHW=0.0; MHH=+1.1; FEMA 100 YR. FLOOD EL. VARIES 17.0 TO 18.0; TID=6.6.
2. PROPOSED WORK INCLUDES 780 LF OF 12\"/>

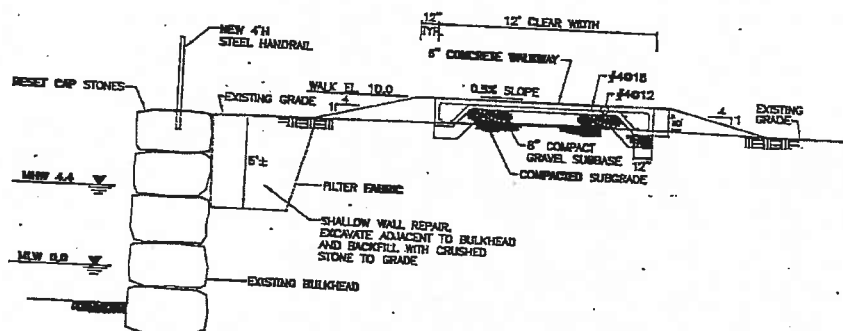
LICENSE PLAN NO. 9411
 Approved by Department of Environmental Protection
 Date **NOV 06 2002**





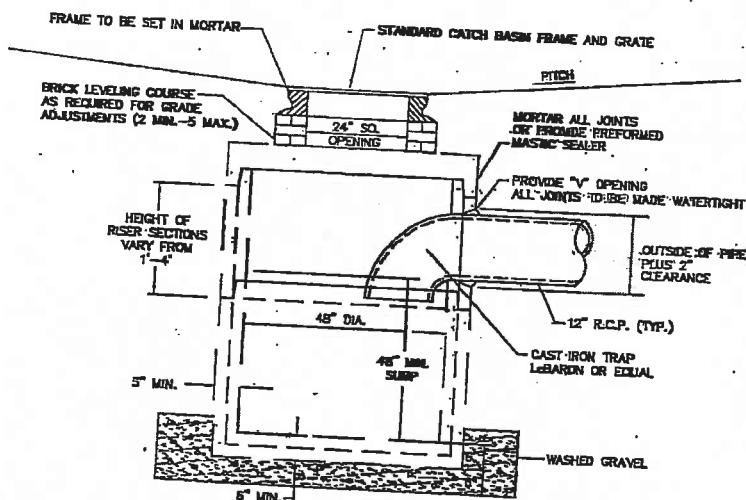
CONCRETE WALKWAY SECTION E-E
SCALE: 1"=10'

SCALE: 1"=10'



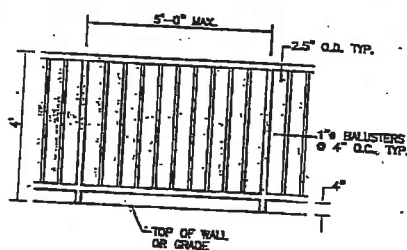
CONCRETE WALKWAY SECTION F-F

SCALE: 1"=10'



PRECAST CONCRETE CATCH BASIN
NOT TO SCALE

NOT TO SCALE



TYPICAL STEEL HANDRAIL DETAIL

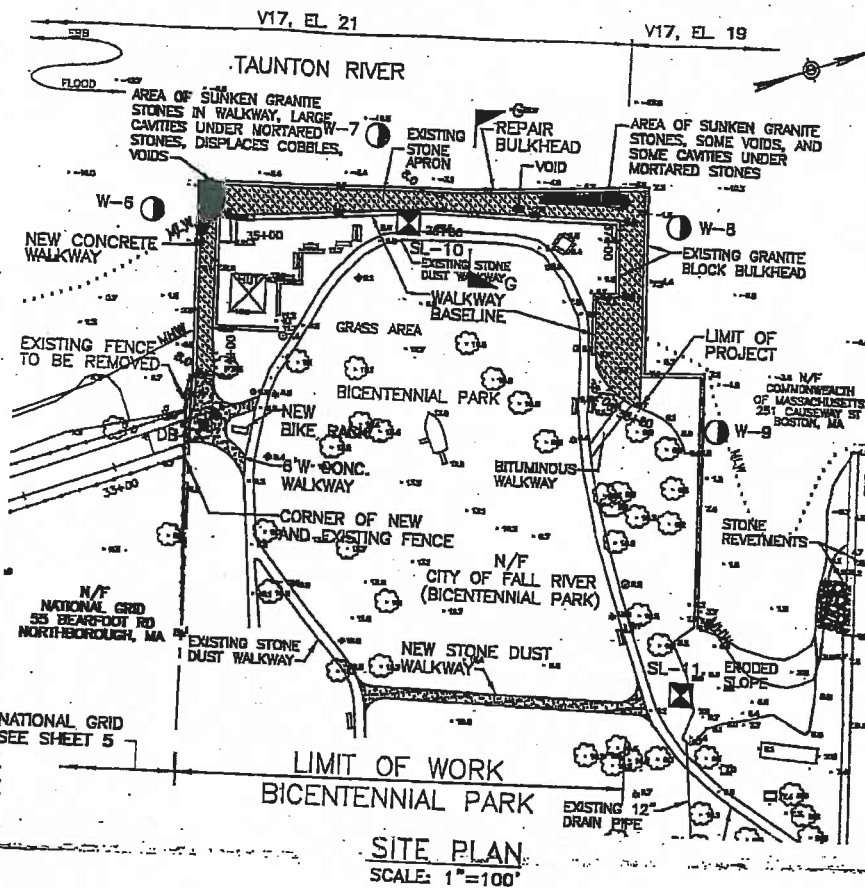
SCALE: 1"=3'



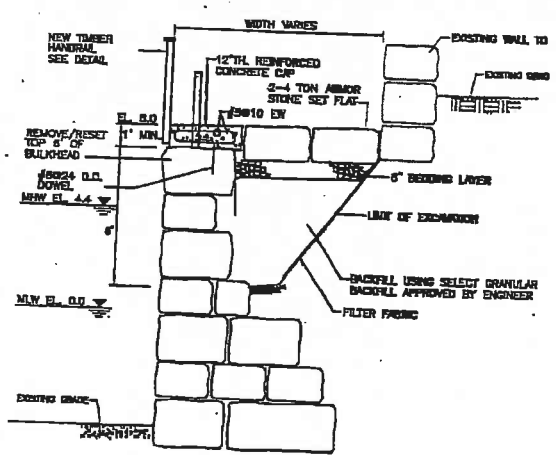
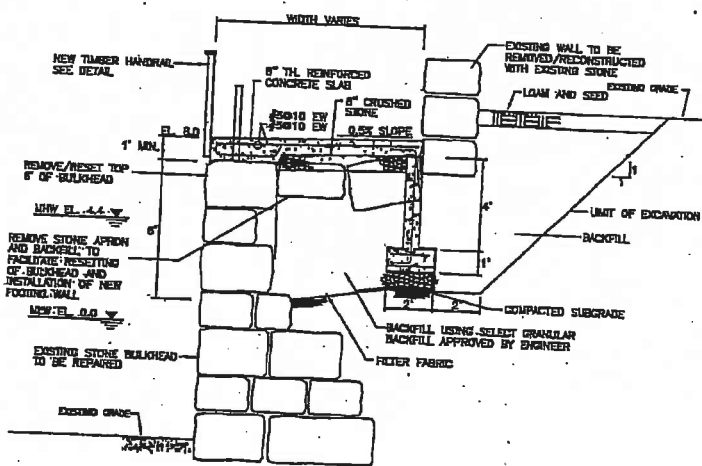
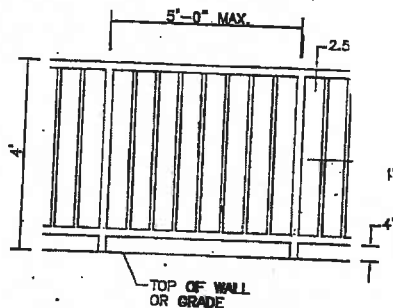
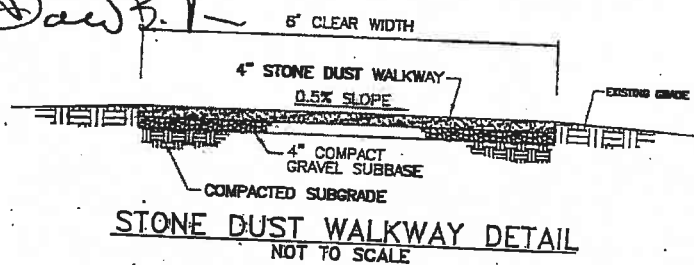
LICENSE PLAN NO. 9411
Approved by Department of Environmental Protection
Docket NOV 06 2002



Dr. B.V.

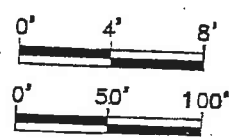


David B. Rine



ALTERNATE 1
CONCRETE WALKWAY SECTION G-G
SCALE: 1"=8'

ALTERNATE 2
BULKHEAD REPAIR
SCALE: 1"=8'

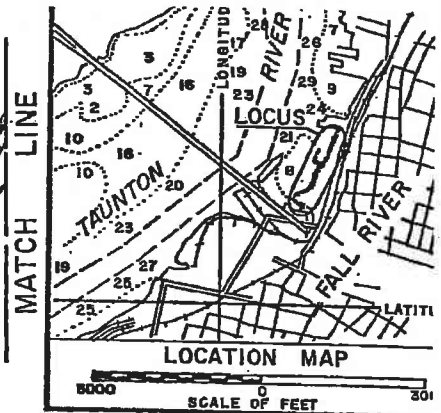
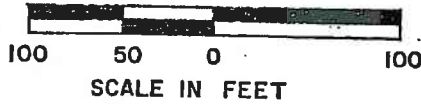


LICENSE PLAN NO. 9411
 Approved by Department of Environmental Protection
 dated NOV 06 2002

024-00N-013-003-100
 024-00N-013-005-100
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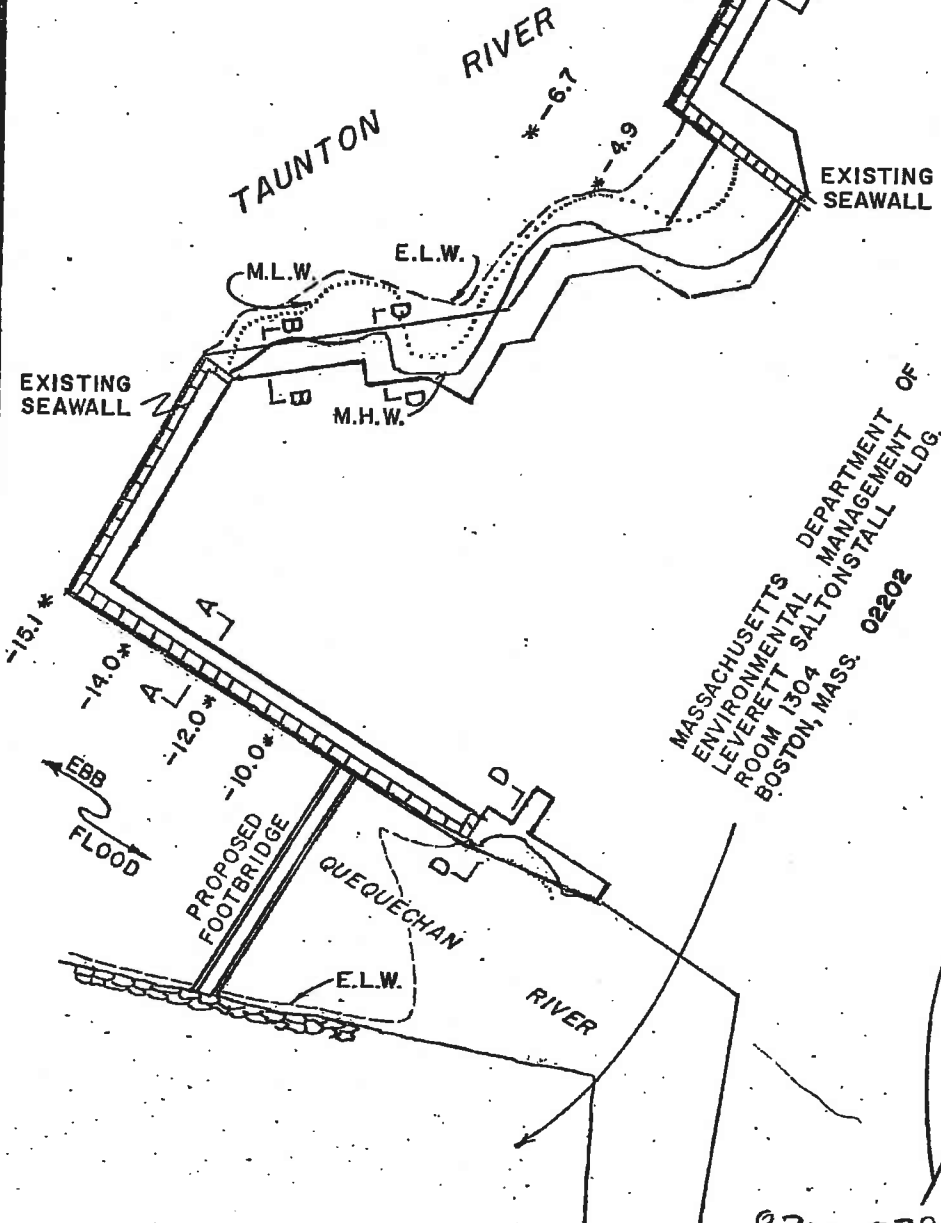


PLAN



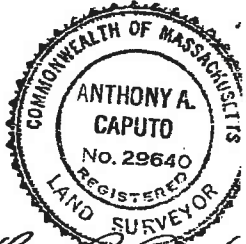
FROM C.G.S. CHART No. 353

SOUNDINGS AND ELEVATIONS
 ARE IN FEET AND REFER TO
 MEAN LOW WATER.



MASSACHUSETTS DEPARTMENT OF
 ENVIRONMENTAL MANAGEMENT
 ROOM 1304 SALTONSTALL BLDG.
 BOSTON, MASS. 02202

FRONTAGE ROAD
 WESTERN EXPRESSWAY
 DAVOL STREET NORTH

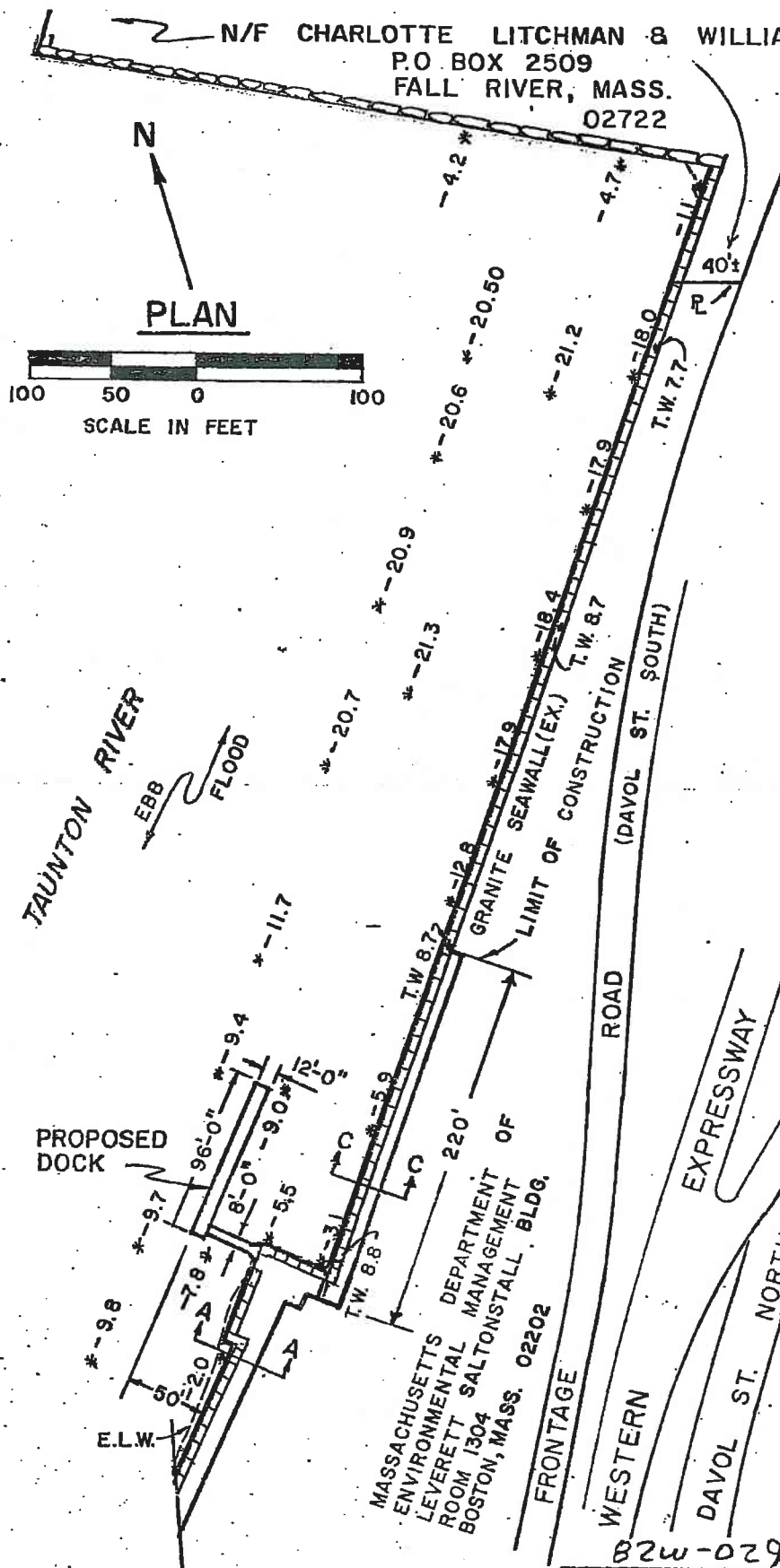


Anthony A. Caputo

82W-029 SHEET 1 OF 10

PLAN ACCOMPANYING PETITION OF
 MASSACHUSETTS DEPARTMENT OF
 ENVIRONMENTAL MANAGEMENT
 TO CONSTRUCT AND MAINTAIN WATERFRONT
 IMPROVEMENTS AT FALL RIVER HERITAGE STATE PARK
 IN THE TAUNTON RIVER, CITY OF FALL RIVER,
 COUNTY OF BRISTOL, MASS.

LICENSE PLAN NO. 845
 Approved by Department of Environmental Quality Engineer
 of Massachusetts
 APRIL 30, 1982
 COMMISSIONER
 CHIEF ENGINEER



PLAN ACCOMPANYING PETITION OF
MASSACHUSETTS DEPARTMENT OF
ENVIRONMENTAL MANAGEMENT
TO CONSTRUCT AND MAINTAIN WATERFRONT
IMPROVEMENTS AT FALL RIVER HERITAGE STATE PARK
IN THE TAUNTON RIVER, CITY OF FALL RIVER,
COUNTY OF BRISTOL, MASS.

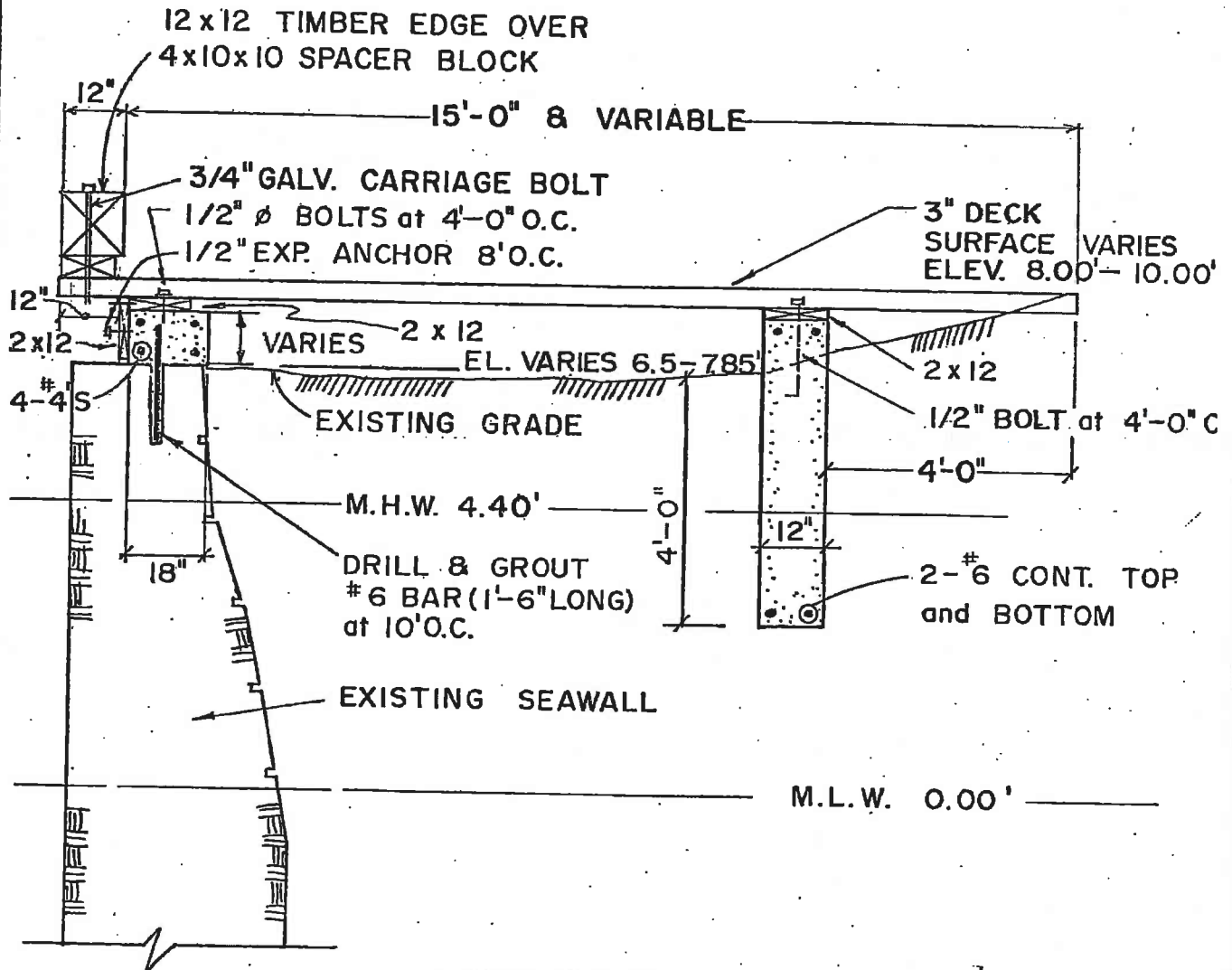
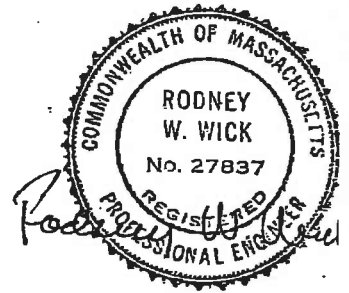
LICENSE PLAN NO. 845

Approved by Department of Environmental Quality Engineer

APRIL 30, 1982

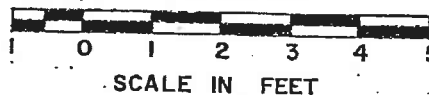
SHEET 2 OF 10

024-000-024-002-100
 024-00N-013-003-100
 024-00N-013-005-100



SECTION A-A

SCALE 3/8" = 1'-0"



ALL WOOD TO BE
 PRESSURE TREATED
 WITH PRESERVATIVE.

PLAN ACCOMPANYING PETITION OF
 MASSACHUSETTS DEPARTMENT OF
 ENVIRONMENTAL MANAGEMENT

TO CONSTRUCT AND MAINTAIN WATERFRONT
 IMPROVEMENTS AT FALL RIVER HERITAGE STATE PARK
 IN THE TAUNTON RIVER, CITY OF FALL RIVER,
 COUNTY OF BRISTOL, MASS.

82w-029

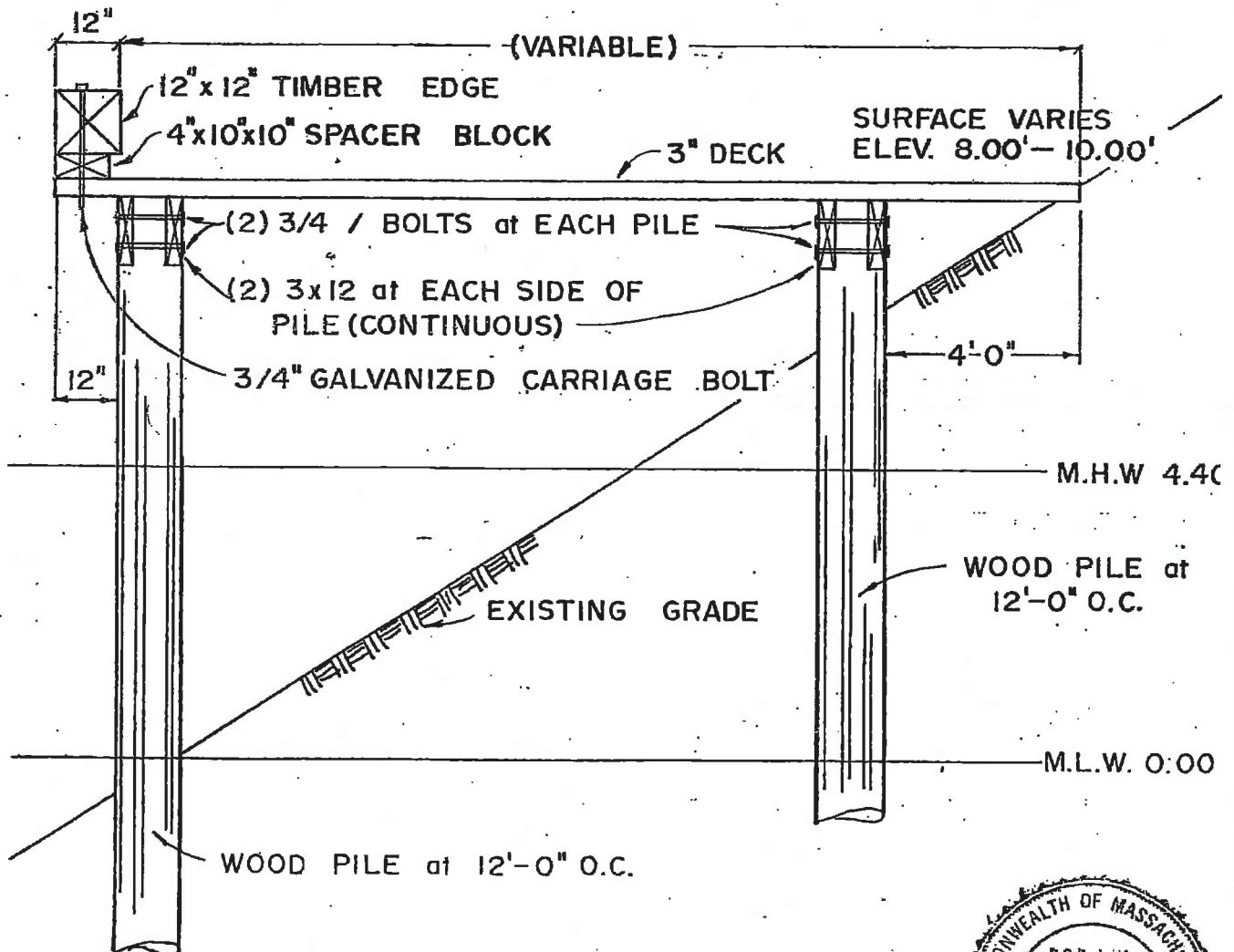
SHEET 3 OF 10

LICENSE PLAN NO. 845

Approved by Department of Environmental Quality Engineers
 APRIL 30, 1982

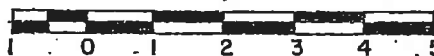
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ALL WOOD TO BE
 PRESSURE TREATED
 WITH PRESERVATIVE

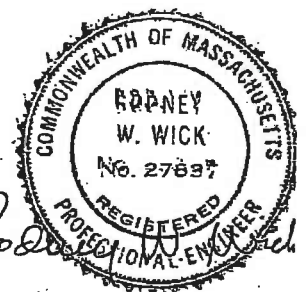


SECTION B-B

SCALE 3/8" = 1'-0"



SCALE IN FEET



82W-029

SHEET 4 OF 10

PLAN ACCOMPANYING PETITION OF
 MASSACHUSETTS DEPARTMENT OF
 ENVIRONMENTAL MANAGEMENT

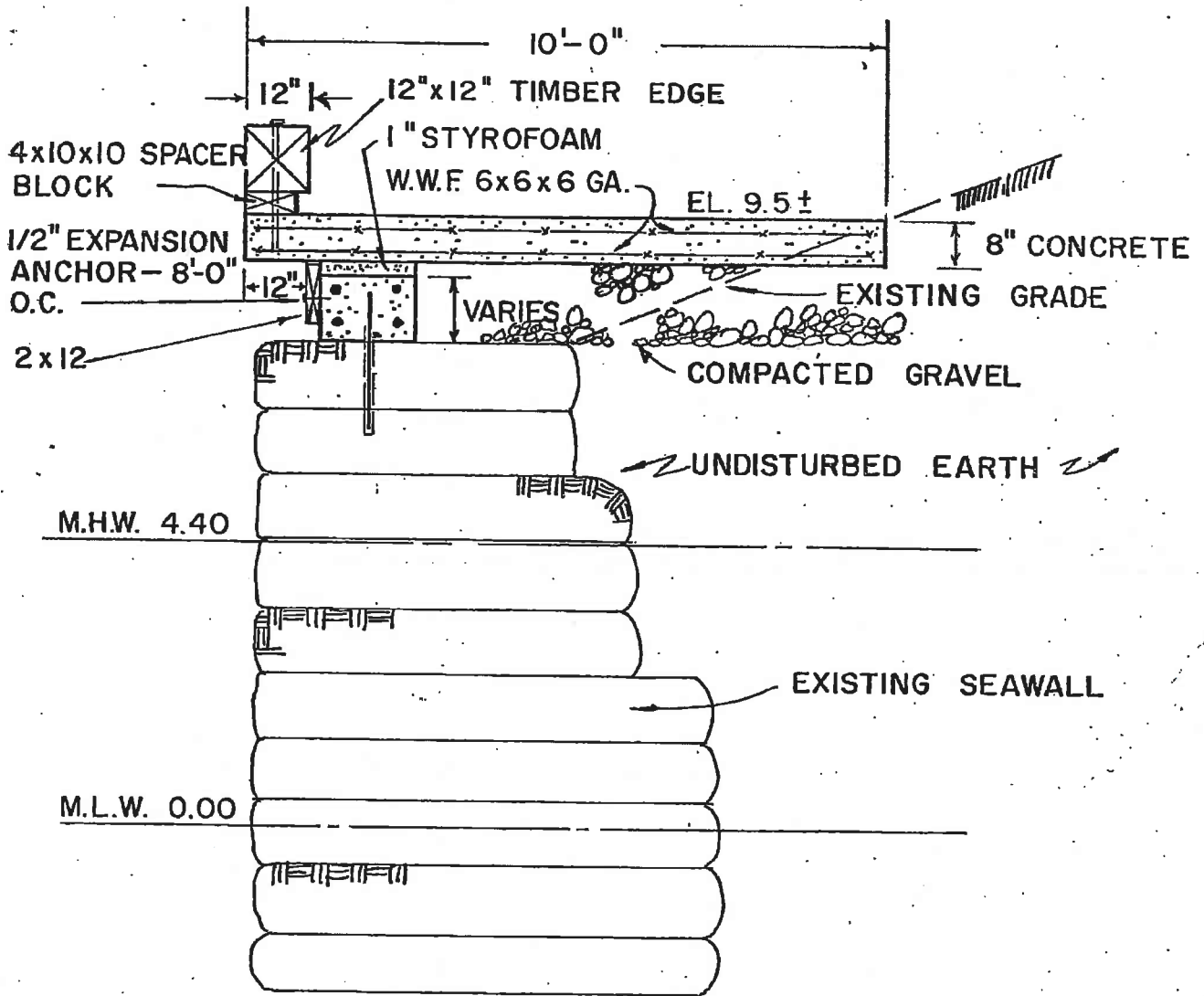
TO CONSTRUCT AND MAINTAIN WATERFRONT
 IMPROVEMENTS AT FALL RIVER HERITAGE STATE PARK
 IN THE TAUNTON RIVER, CITY OF FALL RIVER,
 COUNTY OF BRISTOL, MASS.

LICENSE PLAN NO. 845

Approved by Department of Environmental Quality

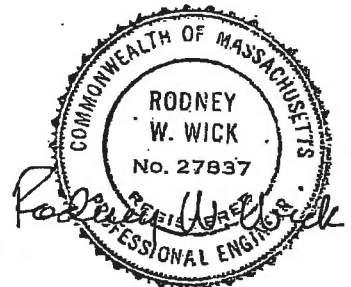
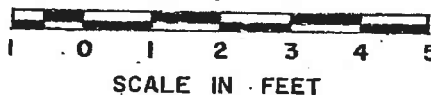
APRIL 30, 1982

024-000-024-002-100
 024-00N-013-003-100
 024-00N-013-005-100



SECTION C-C

SCALE 3/8"=1'-0"



82w-029 SHEET 5 OF 10

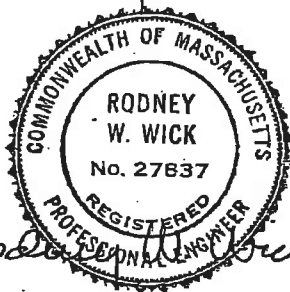
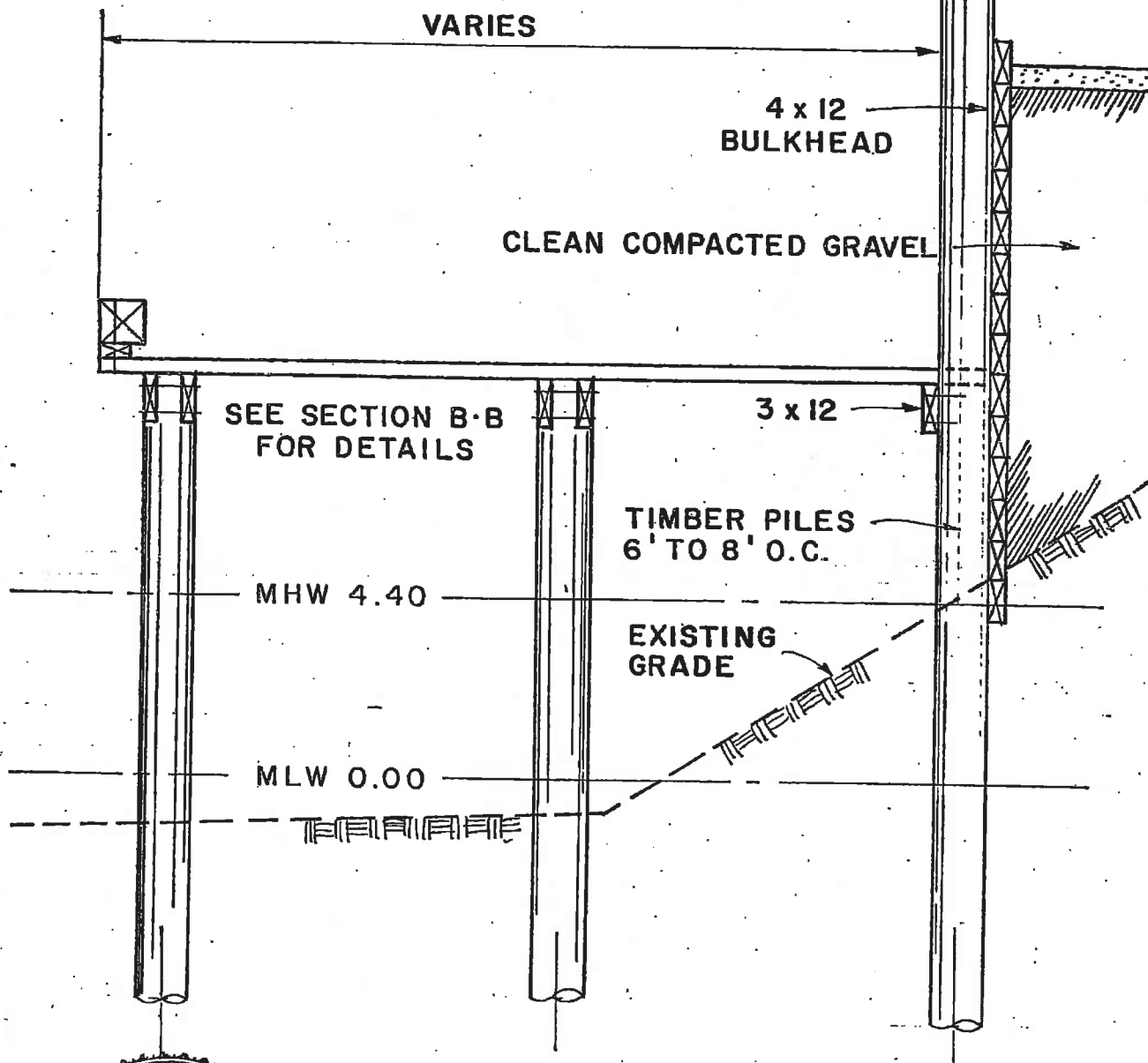
PLAN ACCOMPANYING PETITION OF
 MASSACHUSETTS DEPARTMENT OF
 ENVIRONMENTAL MANAGEMENT
 TO CONSTRUCT AND MAINTAIN WATERFRONT
 IMPROVEMENTS AT FALL RIVER HERITAGE STATE PARK
 IN THE TAUNTON RIVER, CITY OF FALL RIVER,
 COUNTY OF BRISTOL, MASS.

LICENSE PLAN NO. 845

Approved by Department of Environmental Quality Engineering

APRIL 30, 1982

024-000-024-002-100 HANDRAIL
 024-00N-013-003-100
 024-00N-013-005-100



SECTION D-D

SCALE 1/4" = 1'-0"



SCALE IN FEET

ALL WOOD TO BE
 PRESSURE TREATED
 WITH PRESERVATIVE

82w-029 SHEET 6 OF 10

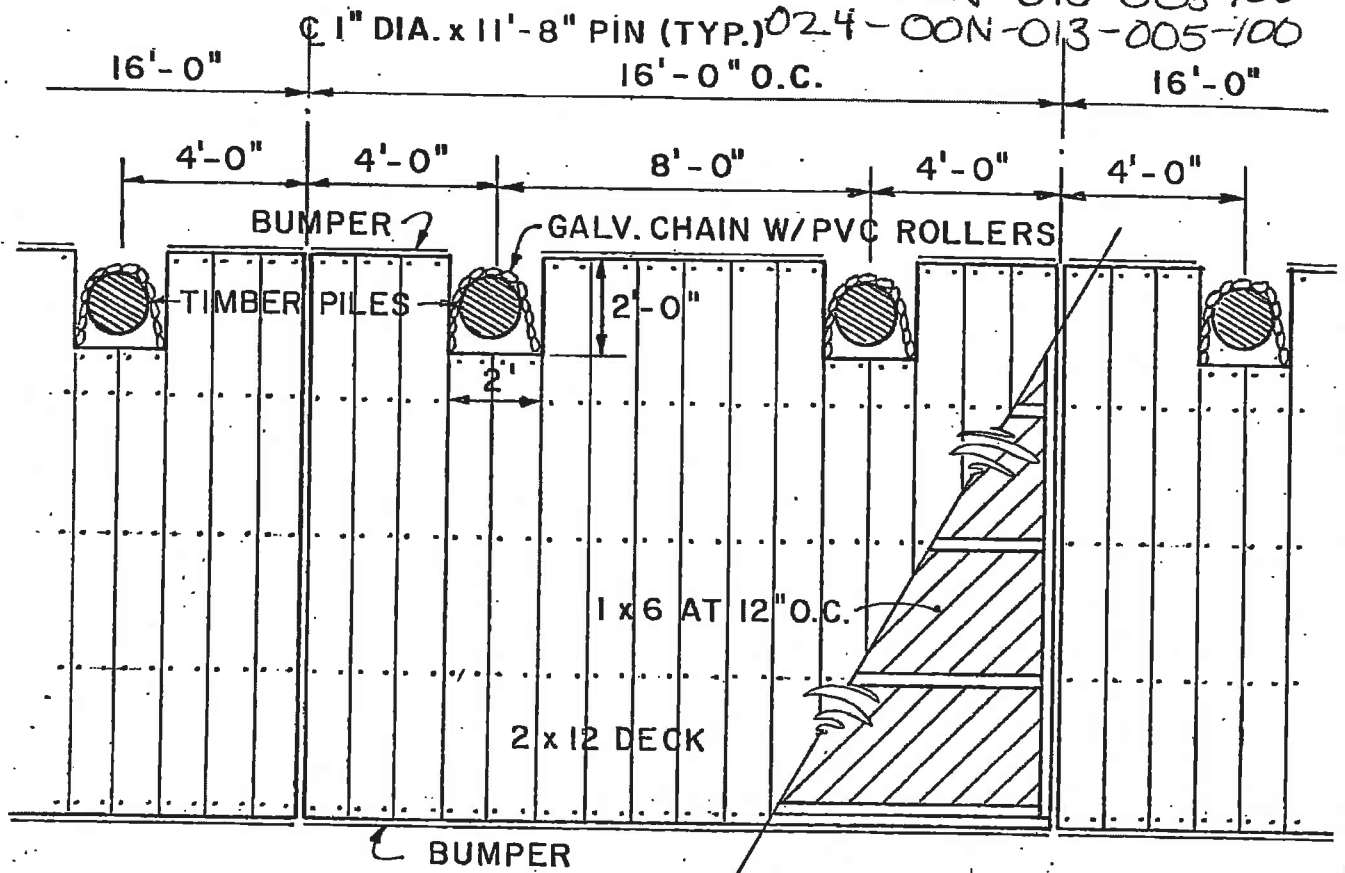
PLAN ACCOMPANYING PETITION OF
 MASSACHUSETTS DEPARTMENT OF
 ENVIRONMENTAL MANAGEMENT
 TO CONSTRUCT AND MAINTAIN WATERFRONT
 IMPROVEMENTS AT FALL RIVER HERITAGE STATE PARK
 IN THE TAUNTON RIVER, CITY OF FALL RIVER,
 COUNTY OF BRISTOL, MASS.

LICENSE PLAN NO. 845

Approved by Department of Environmental Quality Engineer

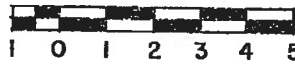
APRIL 30, 1982

024-000-024-002-100
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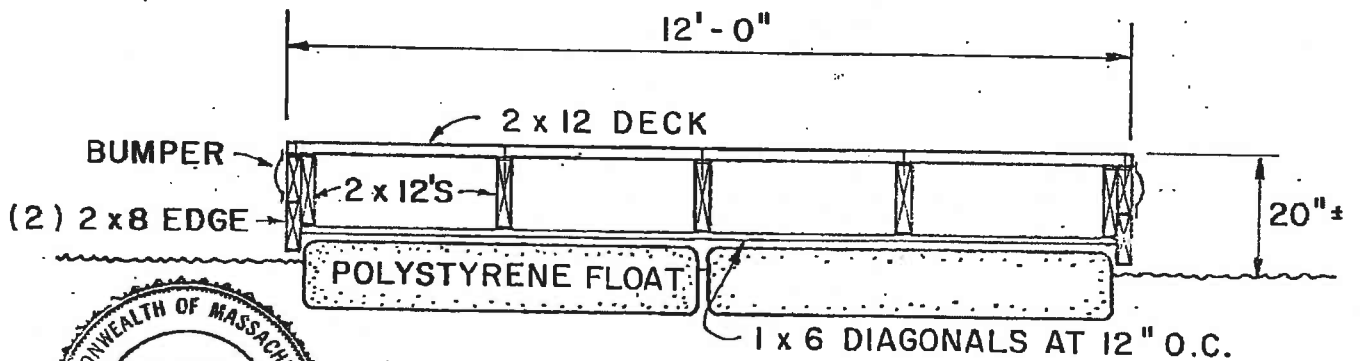
FLOAT PLAN

SCALE 1/4" = 1'-0"



SCALE IN FEET

ALL WOOD TO BE
 PRESSURE TREATED
 WITH PRESERVATIVE

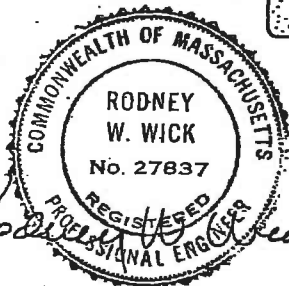


TYPICAL SECTION

SCALE 3/8" = 1'-0"



SCALE IN FEET



PLAN ACCOMPANYING PETITION OF
 MASSACHUSETTS DEPARTMENT OF
 ENVIRONMENTAL MANAGEMENT
 TO CONSTRUCT AND MAINTAIN WATERFRONT
 IMPROVEMENTS AT FALL RIVER HERITAGE STATE PARK
 IN THE TAUNTON RIVER, CITY OF FALL RIVER,
 COUNTY OF BRISTOL, MASS.

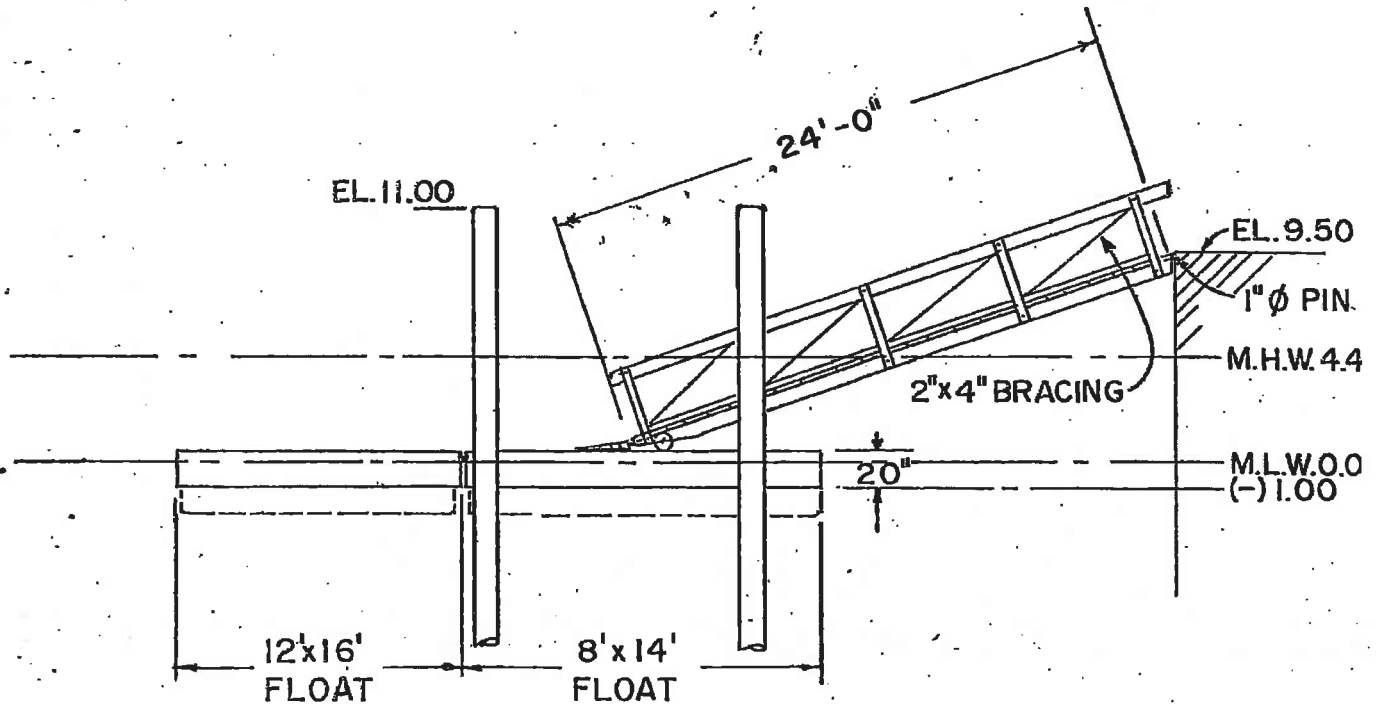
82W-029 SHEET 7 OF 10

LICENSE PLAN NO. 845

Approved by Department of Environmental Quality

APRIL 30 1982

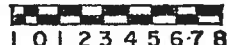
024-000-024-002-100
 024-00N-013-003-100
 024-00N-013-005-100



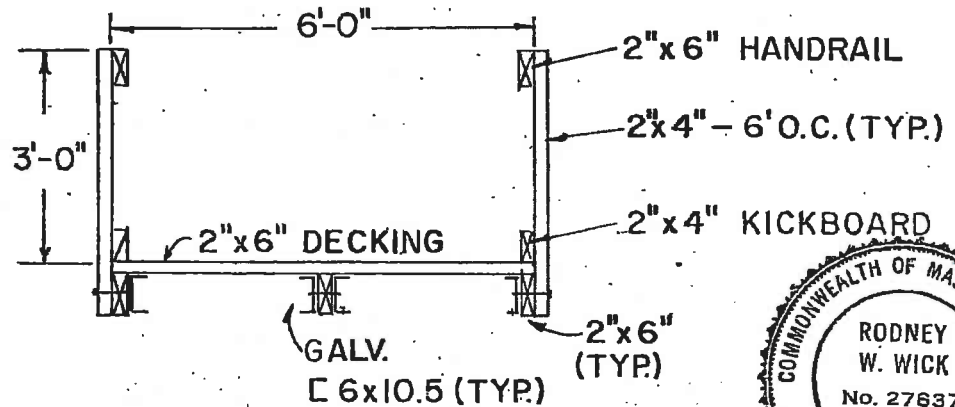
ELEVATION OF FLOAT & RAMP

- 12" BELOW M.L.W.

SCALE 1/8" = 1'-0"

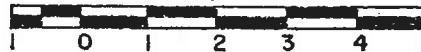


SCALE IN FEET

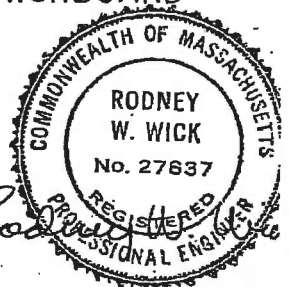


TYPICAL RAMP SECTION

SCALE 3/8" = 1'-0"



SCALE IN FEET



SHEET 8 OF 10

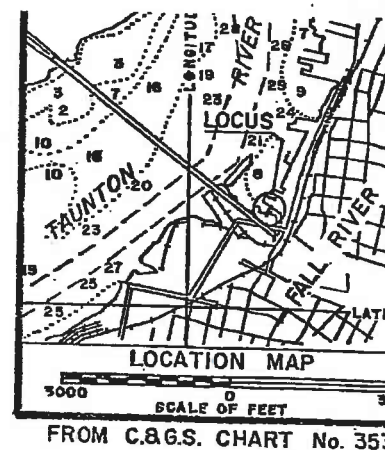
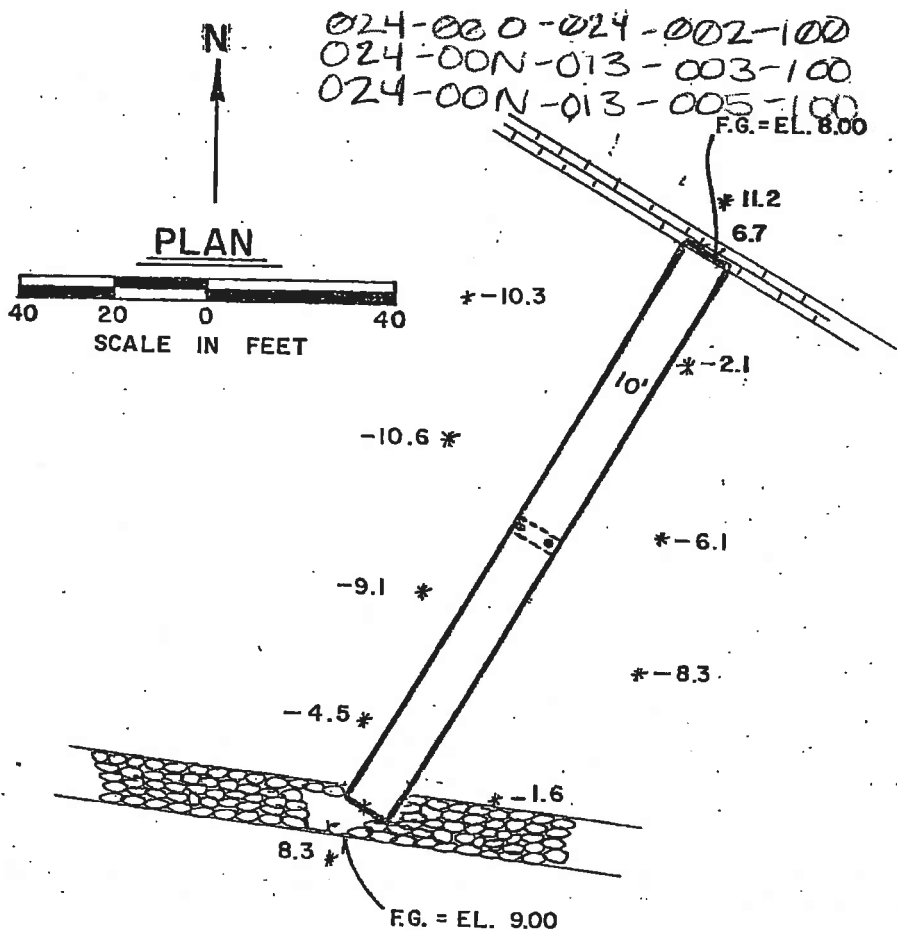
PLAN ACCOMPANYING PETITION OF
 MASSACHUSETTS DEPARTMENT OF
 ENVIRONMENTAL MANAGEMENT

TO CONSTRUCT AND MAINTAIN WATERFRONT
 IMPROVEMENTS AT FALL RIVER HERITAGE STATE PARK
 IN THE TAUNTON RIVER, CITY OF FALL RIVER,
 COUNTY OF BRISTOL, MASS.

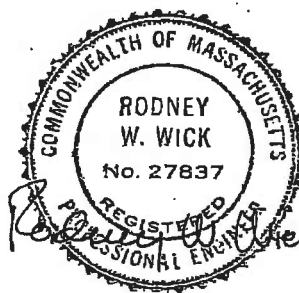
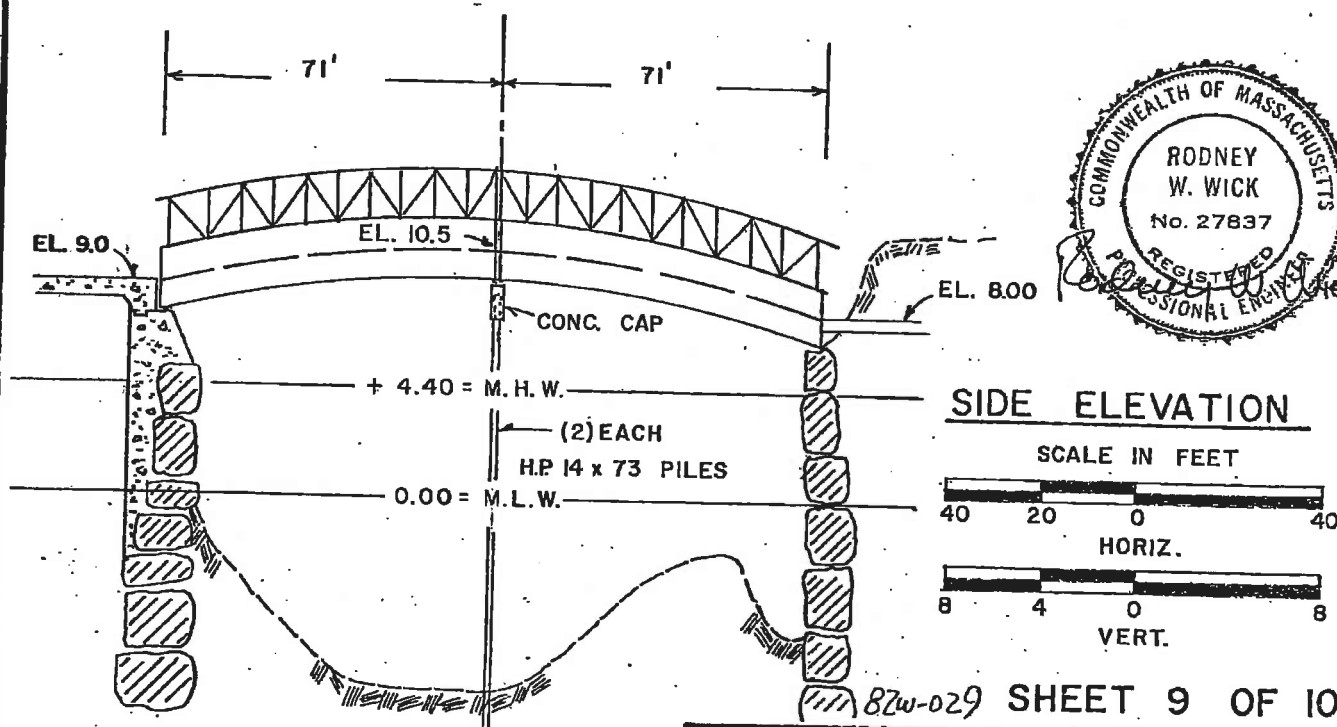
LICENSE PLAN NO. 845

Approved by Department of Environmental Quality Engineering

APRIL 30, 1982



SOUNDINGS AND ELEVATIONS
ARE IN FEET AND REFER TO
MEAN LOW WATER.



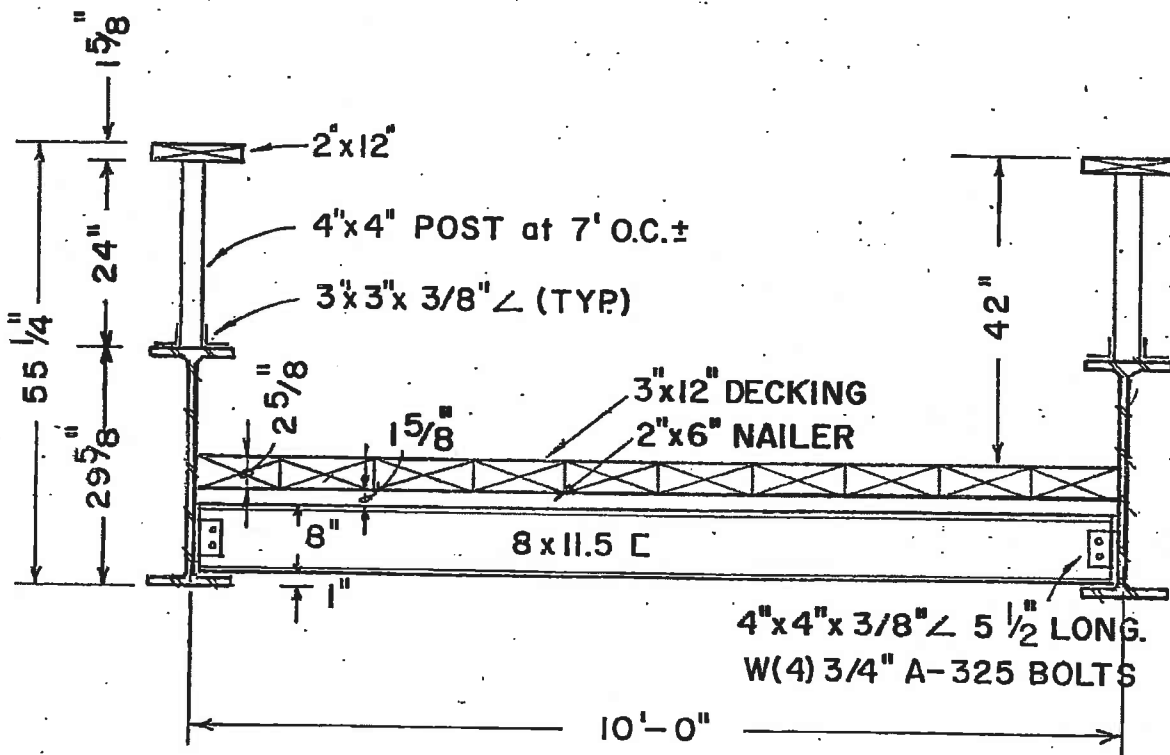
PLAN ACCOMPANYING PETITION OF
MASSACHUSETTS DEPARTMENT OF
ENVIRONMENTAL MANAGEMENT
TO CONSTRUCT AND MAINTAIN WATERFRONT
IMPROVEMENTS AT FALL RIVER HERITAGE STATE PARK
IN THE TAUNTON RIVER, CITY OF FALL RIVER,
COUNTY OF BRISTOL, MASS.

LICENSE PLAN NO. 845

Approved by Department of Environmental Quality Engineer
APRIL 30, 1982

024-000-024-002-100
 024-00N-013-003-100
 024-00N-013-005-100

ALL WOOD TO BE
 PRESSURE TREATED
 WITH PRESERVATIVE

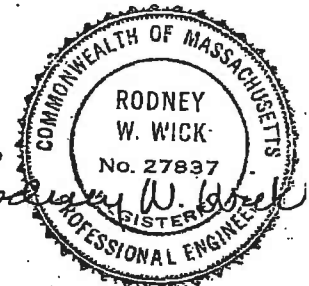


TYPICAL BRIDGE SECTION

SCALE 1/2"=1'-0"



SCALE IN FEET



82w-029

SHEET 10 OF 10

PLAN ACCOMPANYING PETITION OF
 MASSACHUSETTS DEPARTMENT OF
 ENVIRONMENTAL MANAGEMENT

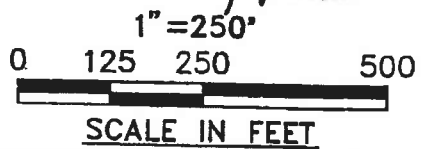
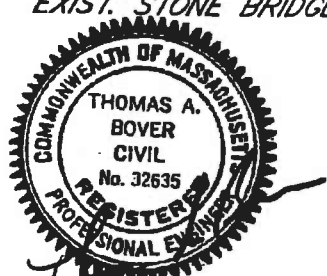
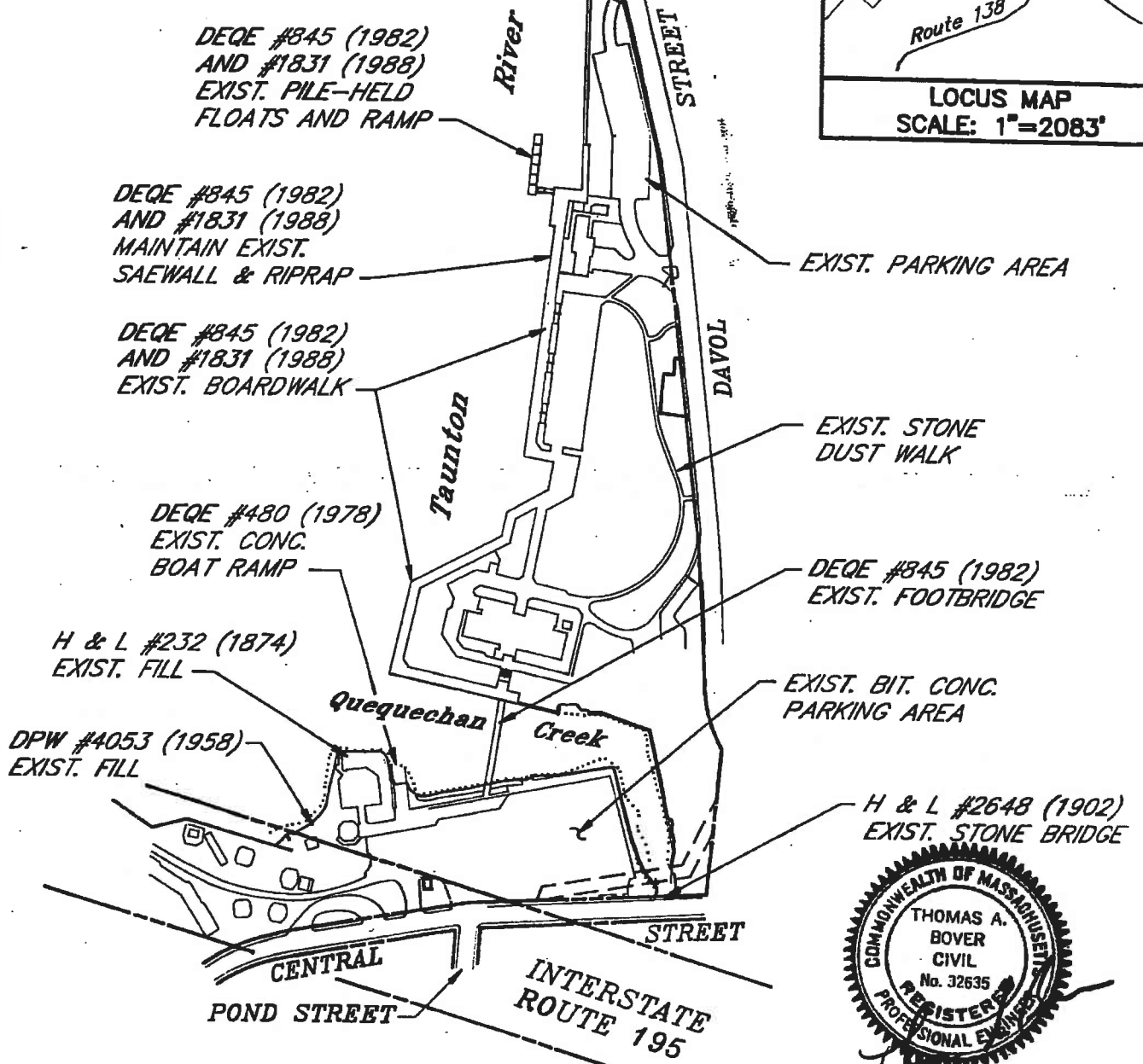
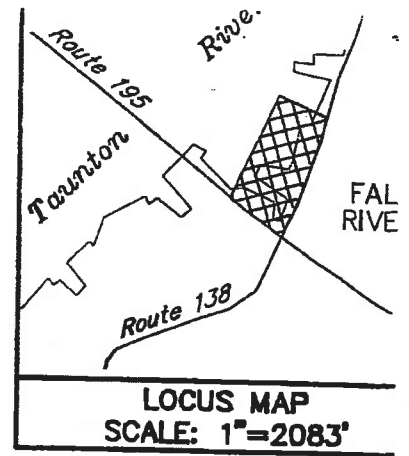
TO CONSTRUCT AND MAINTAIN WATERFRONT
 IMPROVEMENTS AT FALL RIVER HERITAGE STATE PARK
 IN THE TAUNTON RIVER, CITY OF FALL RIVER,
 COUNTY OF BRISTOL, MASS.

LICENSE PLAN NO. 845

Approved by Department of Environmental Quality Engineering

APRIL 30, 1982

024-00N-013-001-100
 024-00N-013-001-200
 024000-024-002-100
 024-00N-013-002-100
 024-00N-013-003-100
 024-00N-013-005-100



**FALL RIVER CAROUSEL
 AND HERITAGE PARK
 EXISTING CONDITIONS AND
 EXISTING WATERWAYS LICENSES**

CITY OF FALL RIVER (BRISTOL COUNTY), MA.
 PLANS ACCOMPANYING PETITION OF THE
 COMMONWEALTH OF MASSACHUSETTS DEPT.
 OF ENVIRONMENTAL MANAGEMENT (DEM) AND
 FALL RIVER OFFICE OF ECONOMIC DEVELOPMENT
 PURPOSE IS TO REVITALIZE FALL RIVER HERITAGE PARK BY
 EXTENDING THE EXIST. BOARDWALK AND DOCK FACILITIES,
 INSTALL A JIB-CRANE, REPAIR & RECONSTRUCT PORTIONS
 OF EXIST. SEAWALL AND RIPRAP, IMPROVE PARKING LOT
 FACILITIES & CONSTRUCT A BUILDING FOR THE CAROUSEL.

Prepared By: HMM Associates, Inc. Concord, MA

LICENSE PLAN NO. 2641

Approved by Department of Environmental Protection
 of Massachusetts

COMMISSIONER
 DIRECTOR
 SECTION CHIEF

APR 16 1991

FOCUS PLAN A
(WORK AREA 1 SHT. 3)

024-00N-013-001-100
024-00N-013-001-200
024-000-024-002-100
024-00N-013-002-100
024-00N-013-003-100
024-00N-013-005-100

"APPROXIMATE LOCATION OF
THE HISTORIC HIGH WATER
MARK FROM THE COOK-
BORDEN PLAN OF 1812."

FOCUS PLAN C
(WORK AREA 3 SHT. 6)

FOCUS PLAN B
(WORK AREA 2 SHTS. 4 & 5)

INTERSTATE
RT. 195

Quequechan
Creek

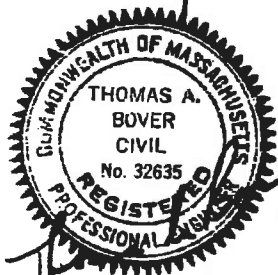
STREET

CENTRAL

POND STREET

1"=250'
0 125 250 500

SCALE IN FEET



FALL RIVER CAROUSEL
AND HERITAGE PARK
PROPOSED CONDITIONS

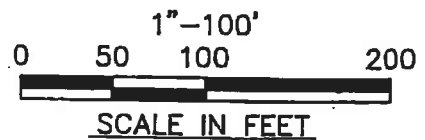
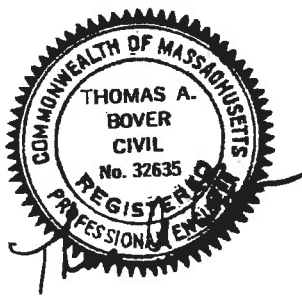
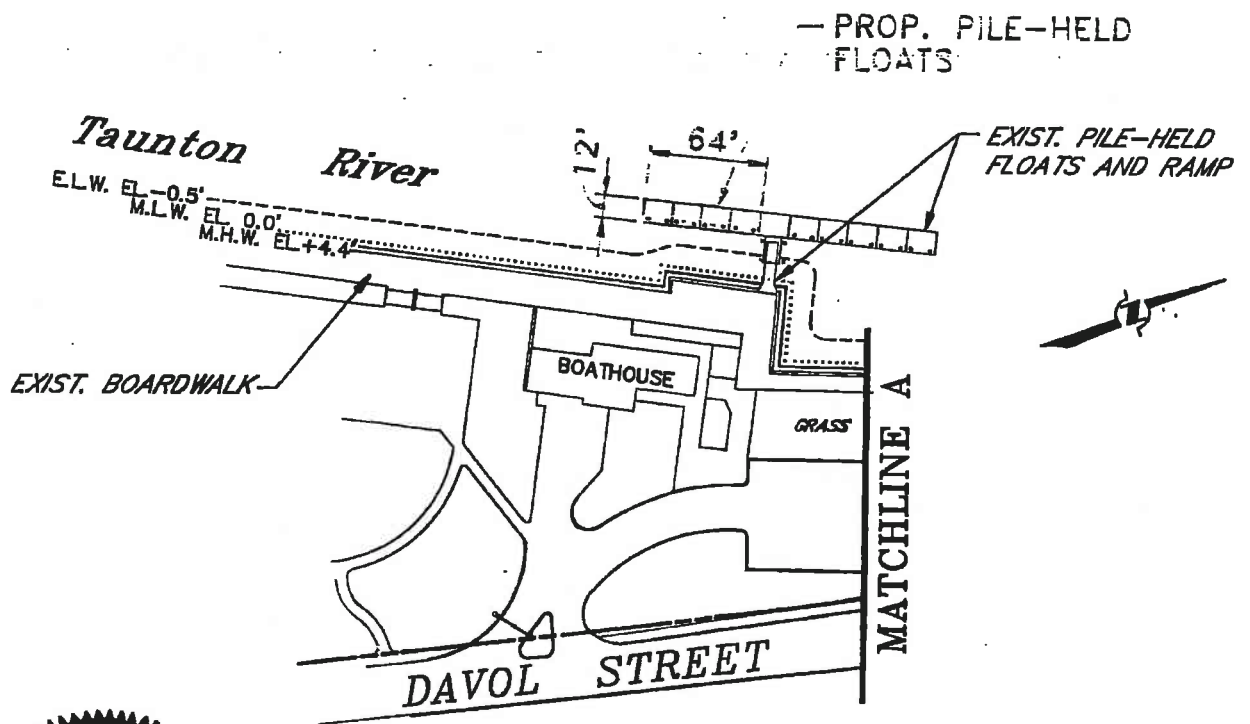
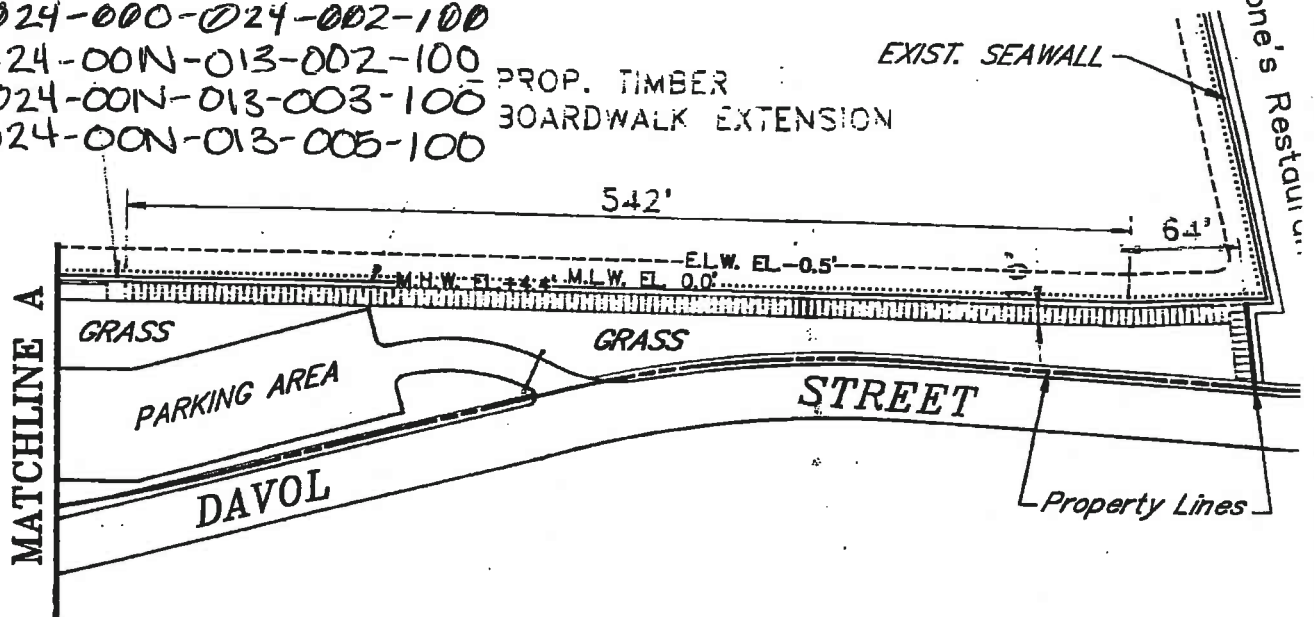
Prepared By: HMM Associates, Inc. Concord, MA

LICENSE PLAN NO. 2641

Approved by Department of Environmental Protection

Date: AUG 18 1991

024-00N-013-001-100 Taunton River
 024-00N-013-001-200
 024-000-024-002-100
 024-00N-013-002-100
 024-00N-013-003-100 PROP. TIMBER
 024-00N-013-005-100 BOARDWALK EXTENSION



FALL RIVER CAROUSEL
 AND HERITAGE PARK
 FOCUS PLAN A

Prepared By: HMM Associates, Inc. Concord, MA

LICENSE PLAN NO. 2641

Approved by Department of Environmental Protection

Date: APR 16 1991

WALKWAY (TYP.) -

024-00N-013-005-100

024-00N-013-003-100

024-00N-013-001-100

024-00N-013-001-200

024-000-024-002-100

024-00N-013-002-100

Queechewan Creek

EXIST. 25' ROADWAY

STREET

CENTRAL

POND STREET

EXIST. 40' R.O.W.

PROP. FOUNTAIN

PROP. BUS DROP-OFF

EXIST. CONC. RETAINING WALL

PROP. CAROUSEL BLDG. SEE FOCUS PLAN C SHT. 6

ELW. EL. -0.5'

M.L.W. EL. 0.0'

M.H.W. EL. +4.4'

EXIST. CONC. BOAT RAMP

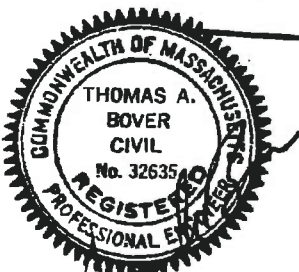
PROP. LIMITS OF EXIST. SEAWALL REPAIR

MATCHLINE B (Sht. 5)

1"=50'

0 25 50 100

SCALE IN FEET



FALL RIVER CAROUSEL AND HERITAGE PARK
FOCUS PLAN B

Prepared By: HMM Associates, Inc. Concord, MA

LICENSE PLAN NO. 2641

Approved by Department of Environmental Protection

APR 16 1991

POND STREET

EXIST. 25' ROADWAY

024-00N-013-001-100
024-00N-013-001-200
024-000-024-002-100
024-00N-013-002-100
024-00N-013-003-100
024-00N-013-005-100

STREET

CENTRAL

MATCHLINE B (Sht. 4)

EXIST. 40' R.O.W.

20'-20'

18 SPACES @ 9' = 162'

21 SPACES @ 9' = 189'

12 SPACES @ 9' = 108'

14 SPACES @ 9' = 126'

13 SPACES @ 9' = 117'

M.H.W. EL +4.4'
M.L.W. EL 0.0'
E.L.W. EL -0.5'

E.L.W.
M.L.W.
M.H.W.

EXIST. FOOTBRIDGE

PROP. LIMITS OF EXIST. SEAWALL REPAIR

Quequechan Creek

EXIST. STONE BRIDGE



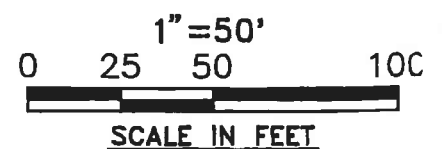
FALL RIVER CAROUSEL
AND HERITAGE PARK
FOCUS PLAN B (CONT.)

Prepared By HMM Associates, Inc. Concord, MA

LICENSE PLAN NO. 2641

Approved by Department of Environmental Protection

Date APR 16 1991





PROP. AREA OF EXISTING
STONE RIPRAP TO BE
RECONSTRUCTED

024-00N-013-001-100
024-00N-013-001-300
024-000-024-002-100
024-00N-013-002-100
024-00N-013-003-100
024-00N-013-005-100

Taunton

River

PRCP. OUTDOOR PLAZA
& LANDSCAPED AREA

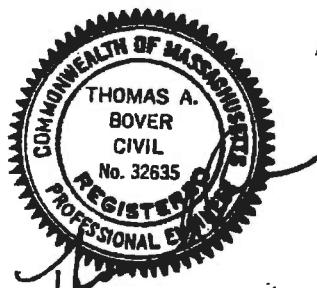
EXIST. CONC.
BOAT RAMP

E.L.W. EL. -0.5'

M.L.W. EL. 0.0'

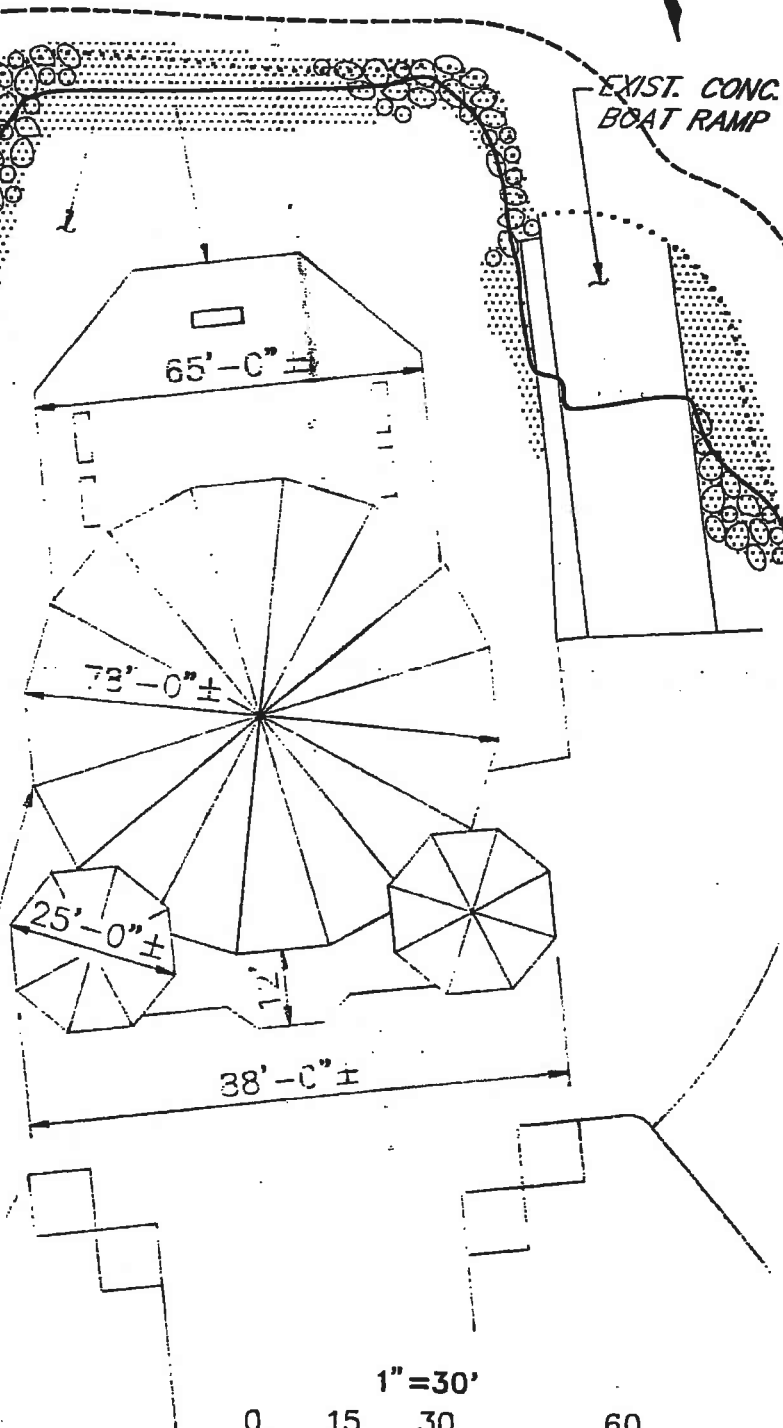
M.H.W. EL. +4.4'

PROP. CAROUSEL BLDG.



FALL RIVER CAROUSEL
AND HERITAGE PARK
FOCUS PLAN C

Prepared By: HMM Associates, Inc., Concord, MA

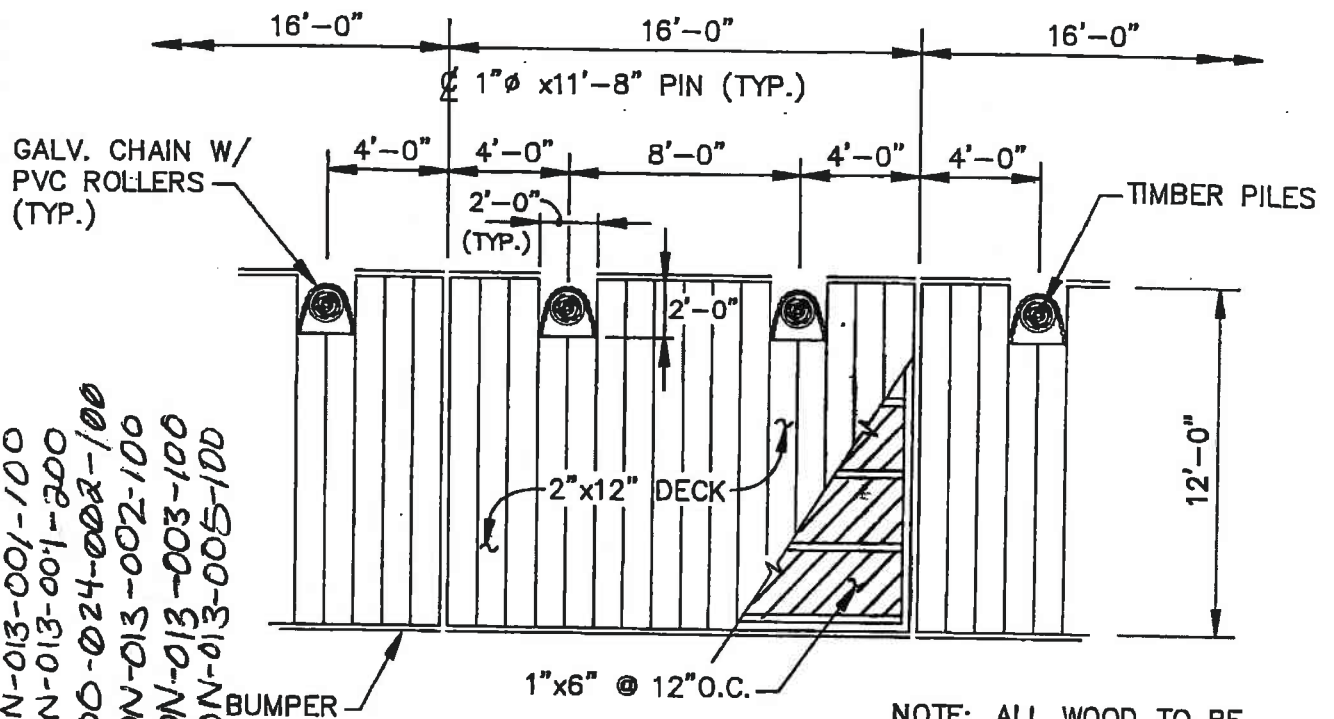


1"=30'
0 15 30 60
SCALE IN FEET

LICENSE PLAN NO. 2641

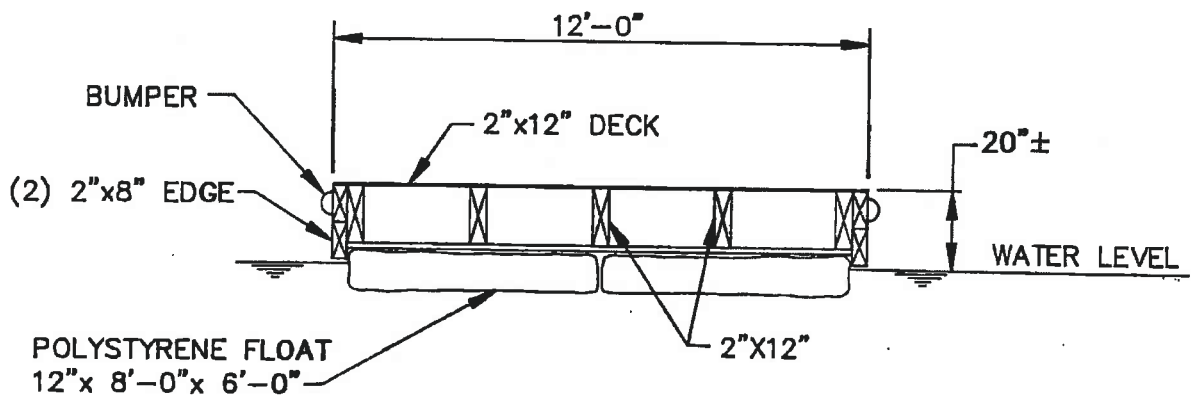
Approved by Department of Environmental Protection

Date: APR 16 1991



NOTE: ALL WOOD TO BE PRESSURE TREATED WITH NON-LEACHING PRESERVATIVE.

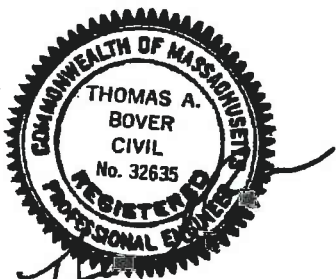
PLAN



SECTION

PLAN AND SECTION OF FLOAT EXTENSION

NOT TO SCALE



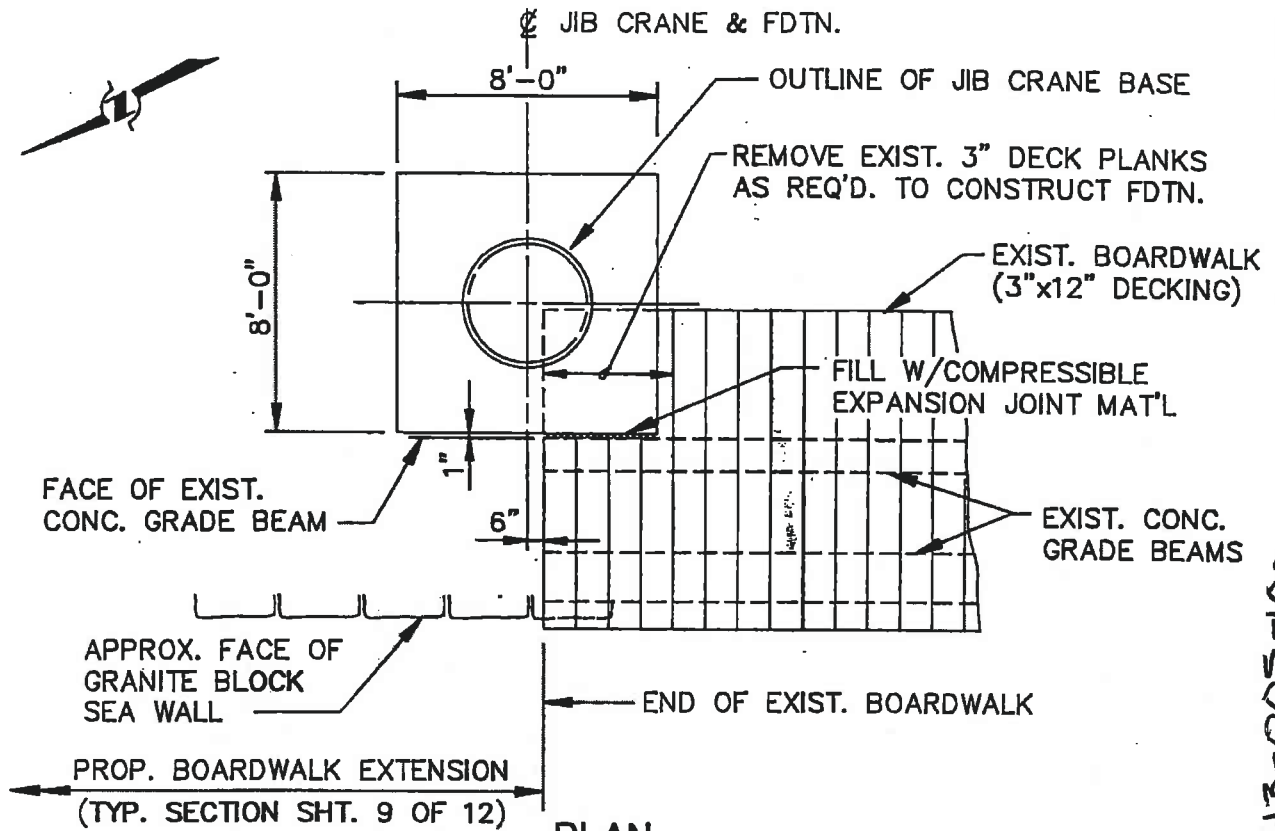
FALL RIVER CAROUSEL
AND HERITAGE PARK
TYPICAL FLOAT SECTION

Prepared By: HMM Associates, Inc. Concord, MA

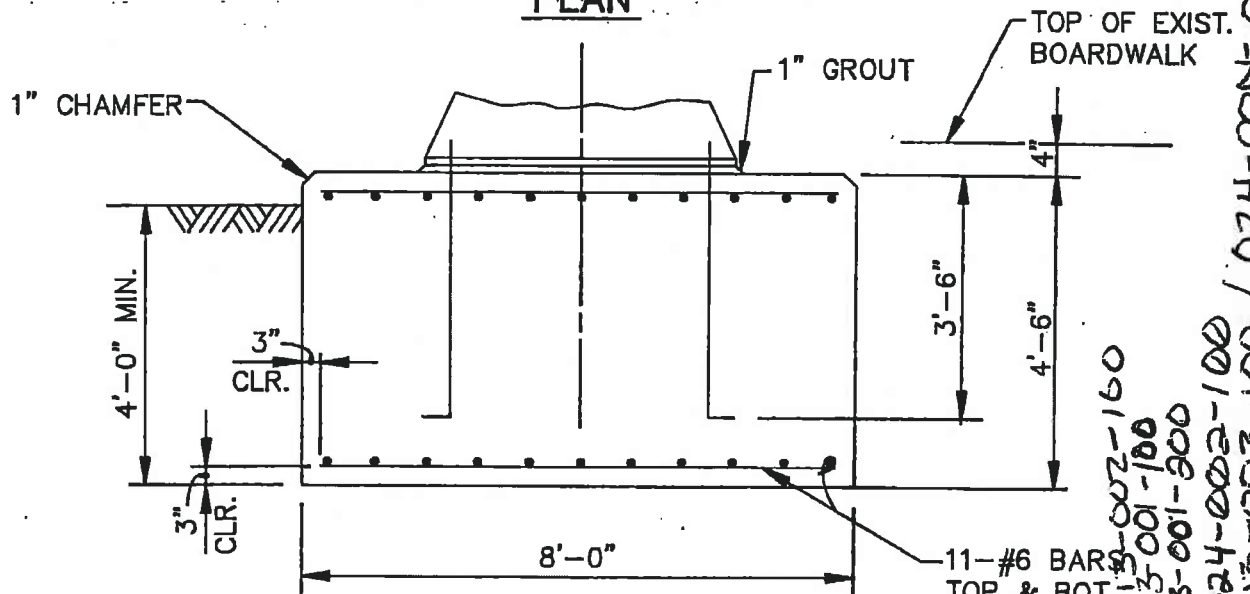
LICENSE PLAN NO. 2641

Approved by Department of Environmental Protection

Date: APR 16 1991



PLAN



SECTION

JIB CRANE FOUNDATION



FALL RIVER CAROUSEL
AND HERITAGE PARK
JIB CRANE FOUNDATION DETAIL

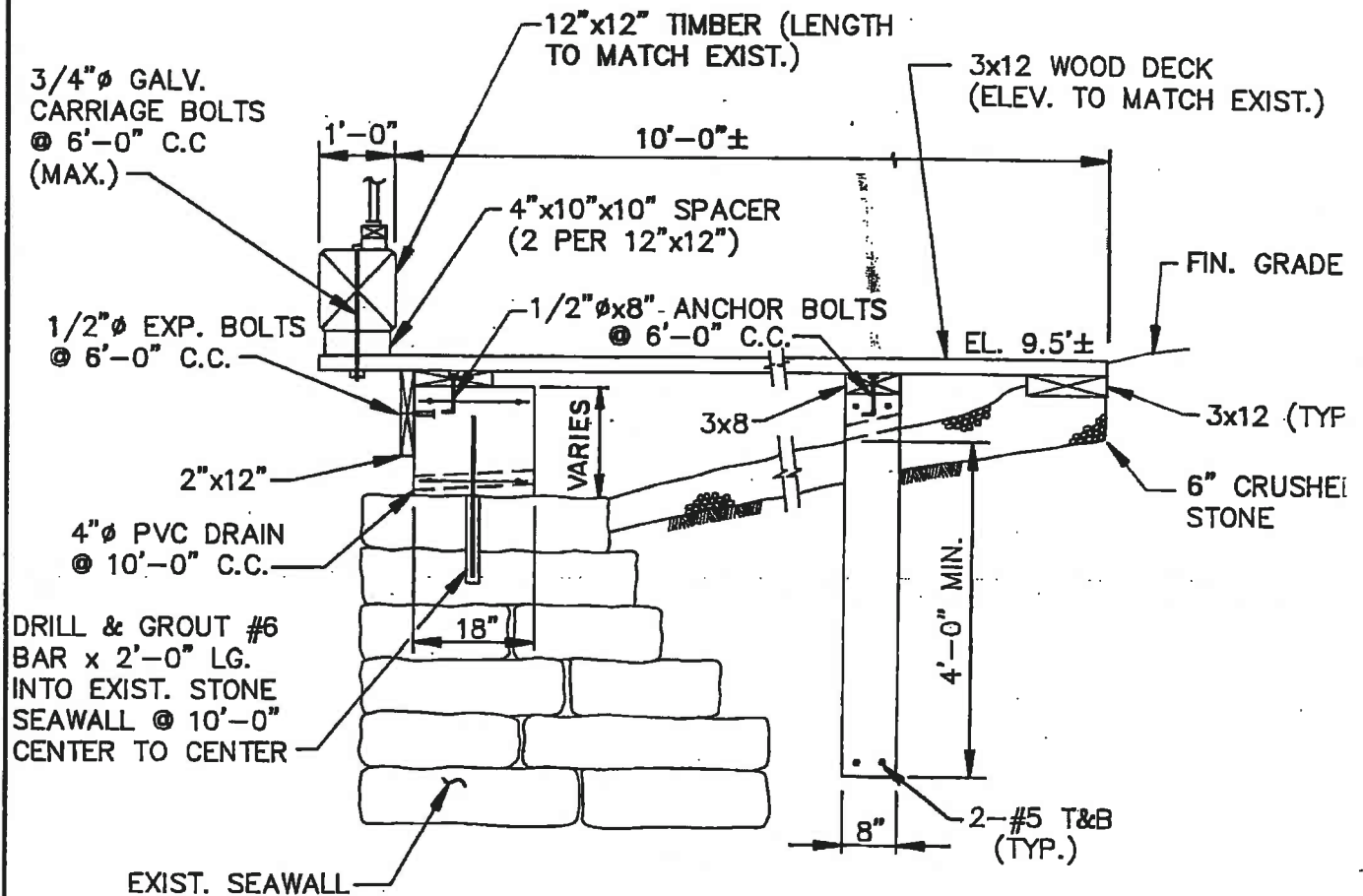
LICENSE PLAN NO. 2641

Approved by Department of Environmental Protection

Date: ADD 16 1991

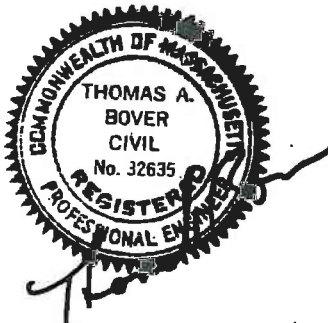
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024-00N-013-001-300
024-00N-013-002-100
024-00N-013-003-100

024-00N-013-002-100
 024-00N-013-003-100
 024-00N-013-001-100
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 024-000-024-002-100
 024-00N-013-005-100



TYPICAL SECTION AT BOARDWALK EXTENSION

NOT TO SCALE



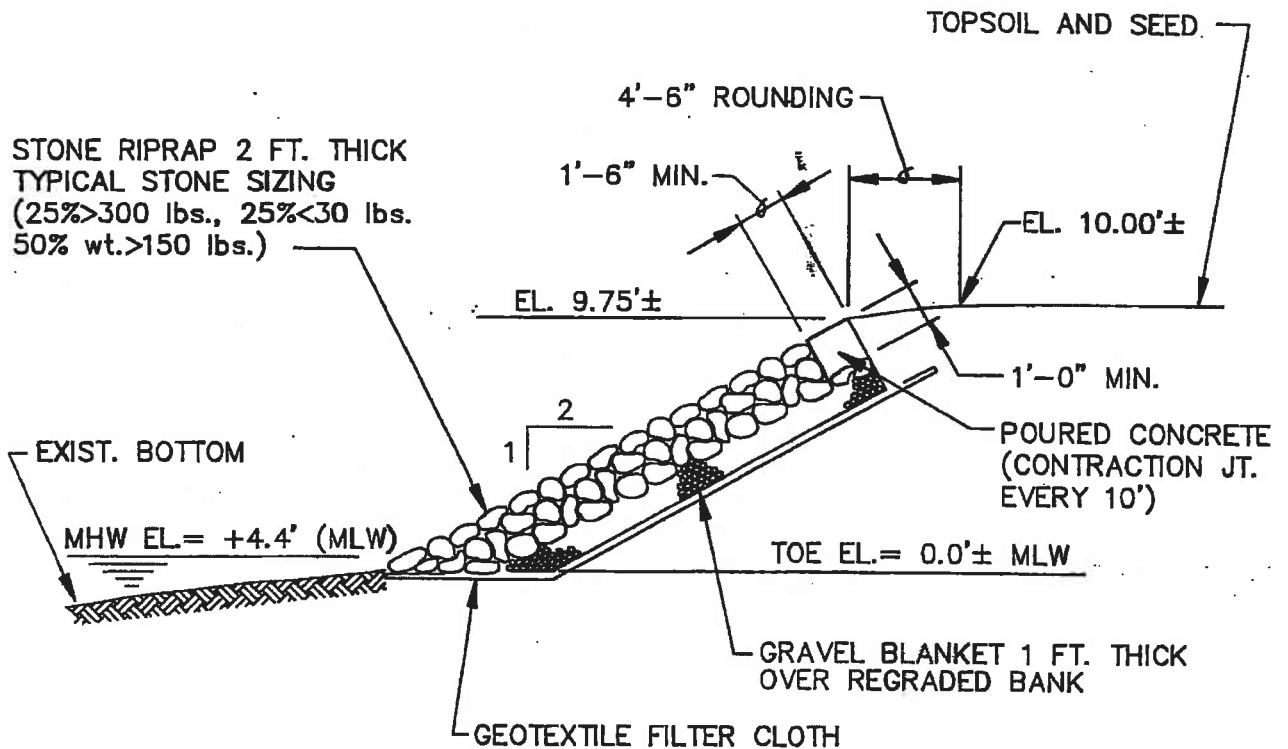
FALL RIVER CAROUSEL
AND HERITAGE PARK
TYPICAL BOARDWALK SECTION

LICENSE PLAN NO. 26411

Approved by Department of Environmental Protection

Date: ADD 16 1001

024-00N-013-002-100
 024-00N-013-003-100
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 024-00N-013-001-200
 024-000-024-002-100
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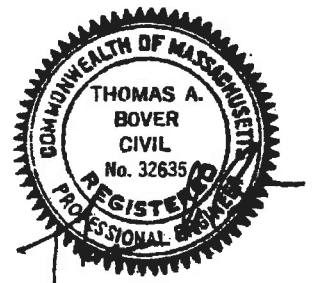


TYPICAL RIPRAP REVETMENT RECONSTRUCTION

NOT TO SCALE

NOTES:

1. TYPICAL STONE SIZING MAY VARY ACCORDING TO CONTRACTOR'S SPECIFICATIONS.
2. EXISTING DUMPED STONE RIPRAP MATERIAL WILL BE RE-USED TO GREATEST EXTENT PRACTICAL.
3. PLAN IS FOR PERMITTING PURPOSES ONLY.

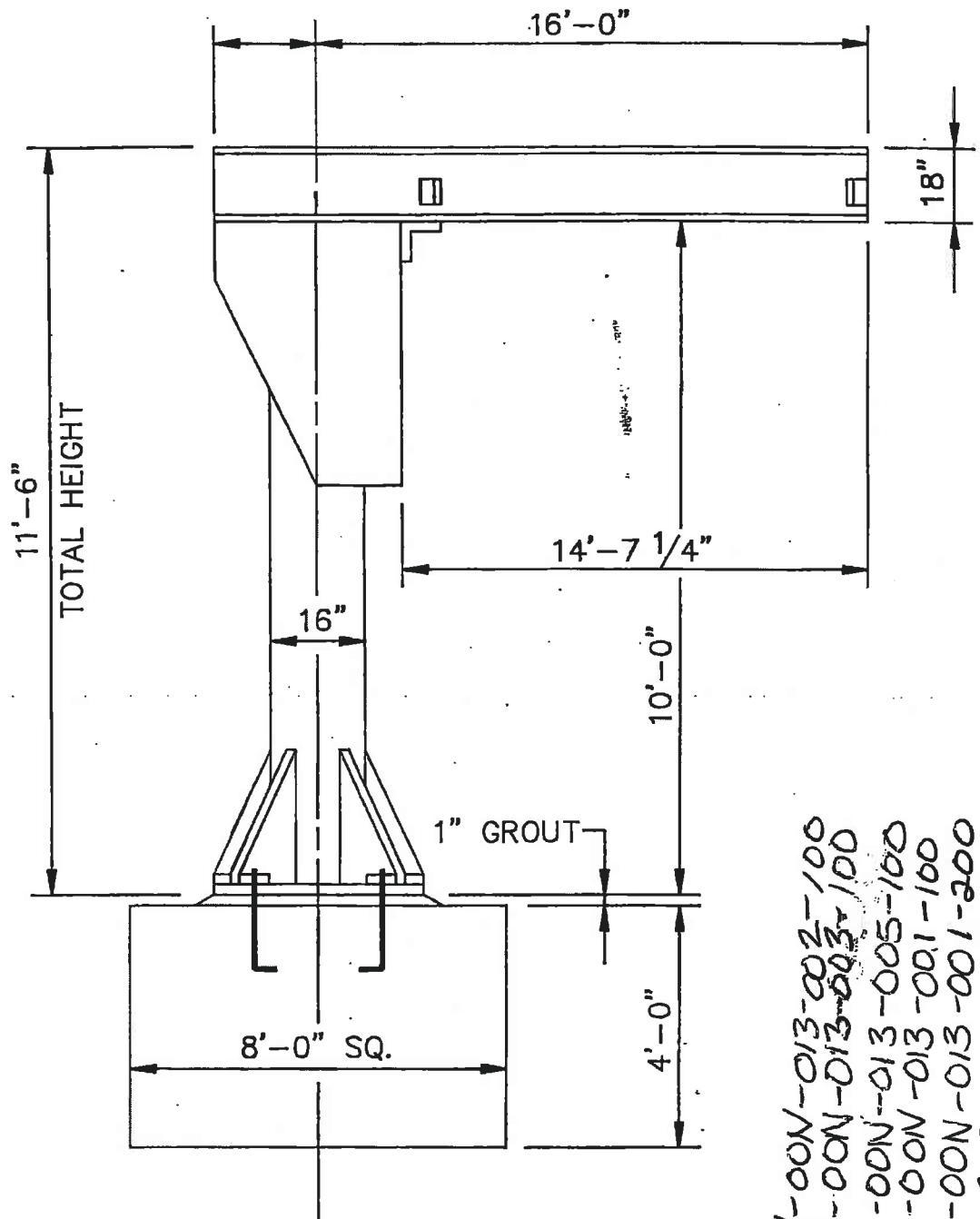


FALL RIVER CAROUSEL
 AND HERITAGE PARK
 TYPICAL RIPRAP REVETMENT

LICENSE PLAN NO. 2641

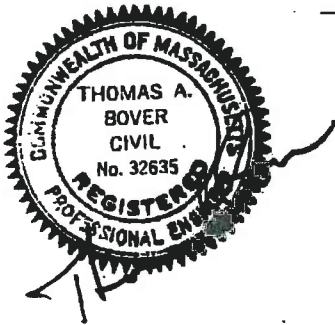
Approved by Department of Environmental Protection

Date: APR 16 1991



024-00N-013-002-100
 024-00N-013-003-100
 024-00N-013-005-100
 024-00N-013-001-100
 024-00N-013-001-200
 024-000-024-002-100

JIB CRANE DETAIL
 NOT TO SCALE



**FALL RIVER CAROUSEL
 AND HERITAGE PARK
 JIB CRANE DETAIL**

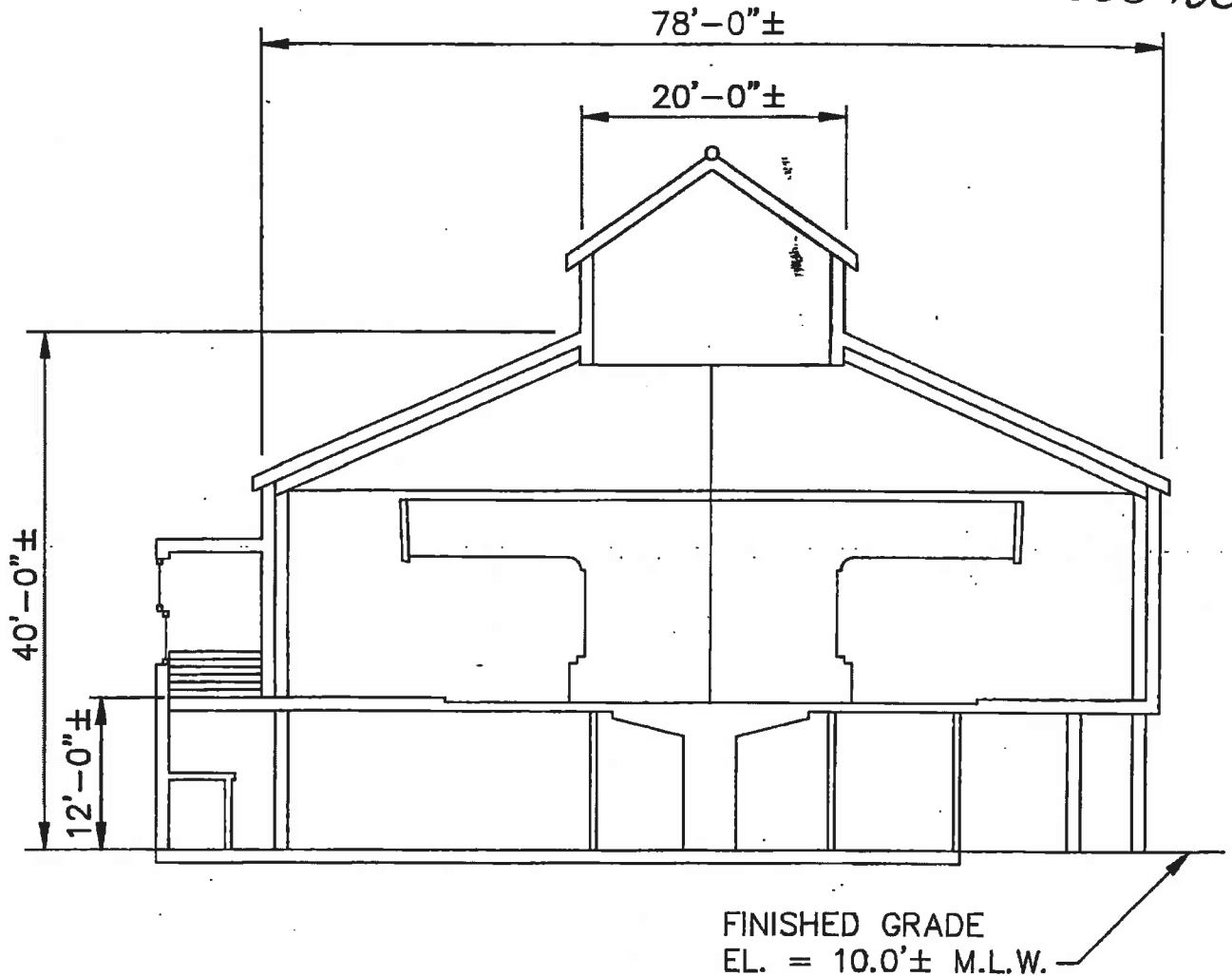
Prepared By: HMM Associates, Inc. Concord, MA

LICENSE PLAN NO. 2641

Approved by: Department of Environmental Protection

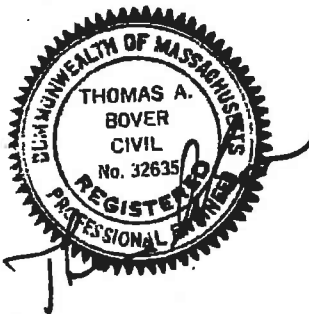
Date: APR 16 1991

024-00N-013-002-100
024-00N-013-003-100
024-00N-013-001-100
024-00N-013-001-200
024-000-024-002-100
024-00N-013-005-100



CAROUSEL BUILDING
CROSS SECTION

NOT TO SCALE



FALL RIVER CAROUSEL
AND HERITAGE PARK
TYP. CAROUSEL BLDG. CROSS SECTION
Prepared By: HMM Associates, Inc. Concord, MA

LICENSE PLAN NO. 2641

Approved by Department of Environmental Protection

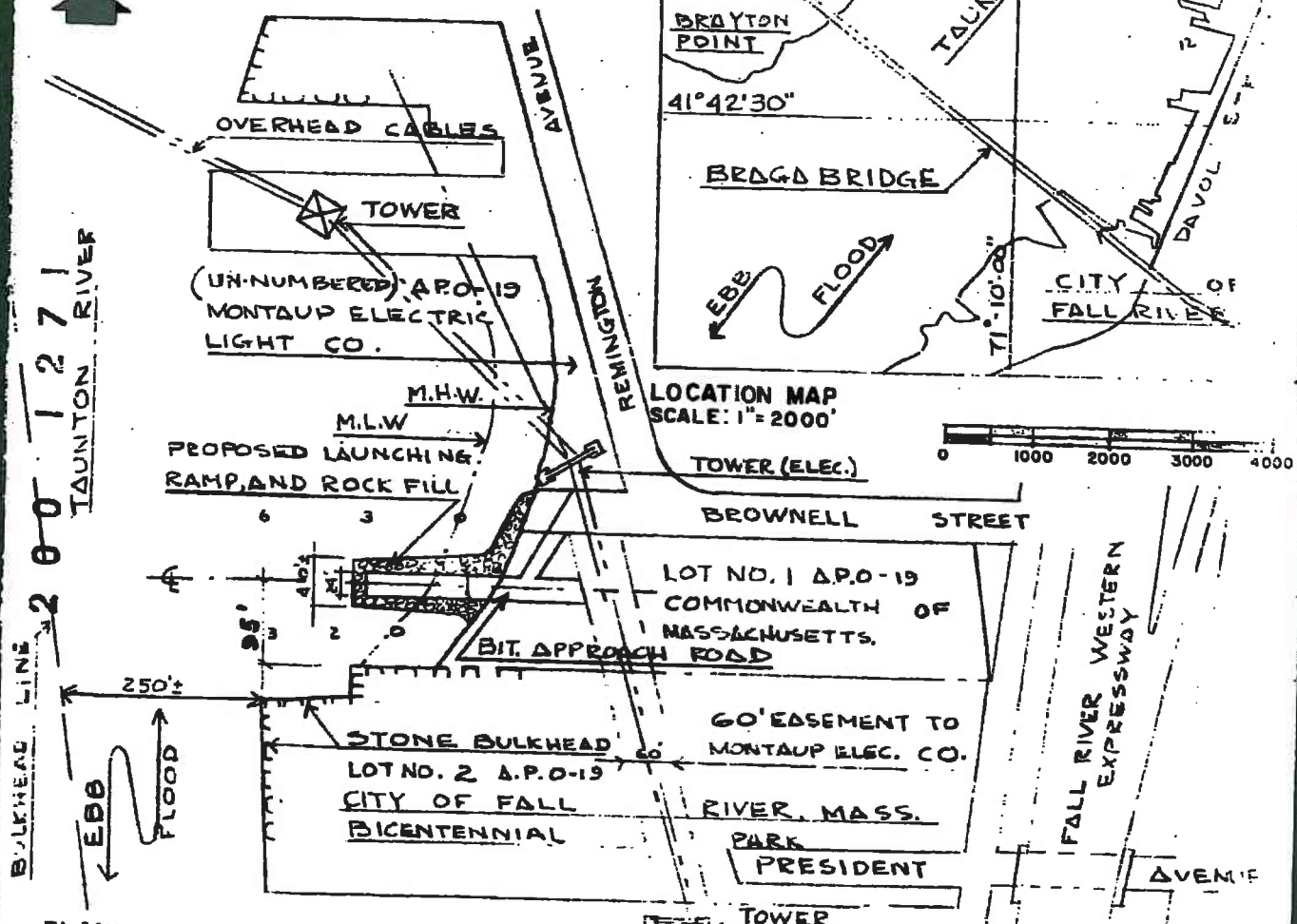
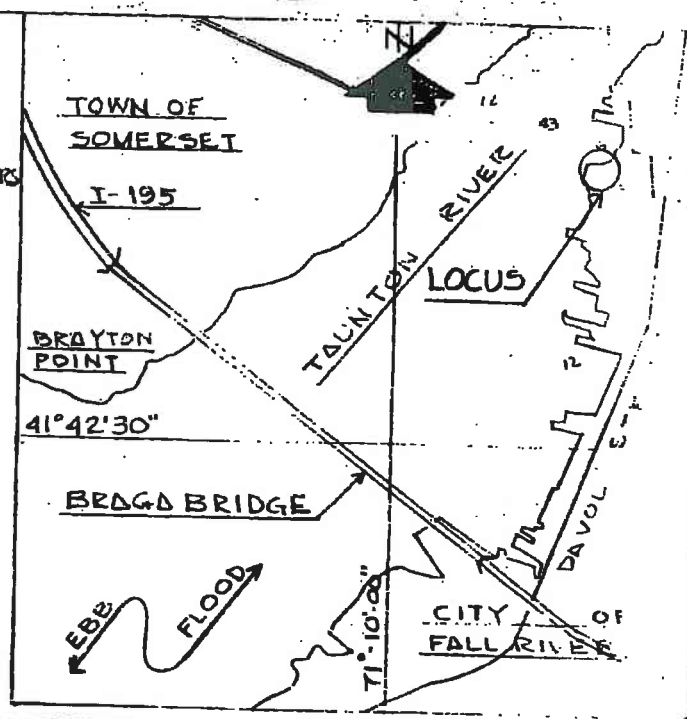
Date: APR 26 2001

BCE Structure No	Document No	Contract/ Drawing Number	Entity	Municipality	Date	Title	Sheets	Location	Description
024-00C-014-002-100	024-00C-014-002-100-COE1A	77-634	USACE	Fall River	August 18, 1977	Proposed Public Boat Launching Ramp in the Taunton River at the City of Fall River - Bristol County, MA	1	Remington Avenue and Brownell Street	Boat Ramp

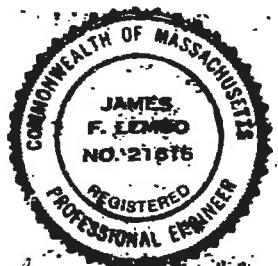
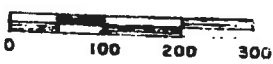
024-00C-014-002-100

NOTES:

1. REFERENCE MAP: U.S.G.S. FALL RIVER, MASS, R.I. QUADRANGLE, 1967.
2. DATUM: MEAN LOW WATER = 0.00
3. SOUNDINGS IN FEET AT M.L.W.
4. ASSESSOR PLAT O-19 ABUTTING OWNERS
LOT NO 2: CITY OF FALL RIVER, MASS.
UNNUMBERED LOT: MONTAUP ELEC. CO.



PLAN
SCALE: 1" = 200'-0"



James F. Lembo

PROPOSED PUBLIC BOAT LAUNCHING RAMP
IN THE TAUNTON RIVER
AT: THE CITY OF FALL RIVER
BRISTOL COUNTY, MASSACHUSETTS

APPLICATION BY:
COMMONWEALTH OF MASSACHUSETTS
DEPT. OF ENVIRONMENTAL QUALITY ENGINEERING
DIVISION OF WATERWAYS

James F. Lembo

ACC. NO. 05089-A