

SALEM WHARF PROJECT SALEM, MA

PRELIMINARY DESIGN

Project Owner:

CITY OF SALEM
CITY HALL ANNEX
120 WASHINGTON STREET
SALEM, MA 01970

November 2008

LIST OF DRAWINGS:

- 1 Existing Condition Plan
- 2 Proposed Site Plan
- 3 Landscape Architect Plan
- 4 Site Utility Plan
- 5 Site Drainage Plan
- 6 Pier Plan
- 7 Pier Sections
- 8 Pile/ Pile Cap Plan
- 9 Dredge Plan
- 10 Electrical Power Plan
- 11 Electrical Lighting Plan
- 12 Electrical Details
- 13 Terminal Building - Elevations
- 14 Terminal Building - Plans

Design Team:

Bourne Consulting Engineering - Waterfront Engineers
Franklin, Ma

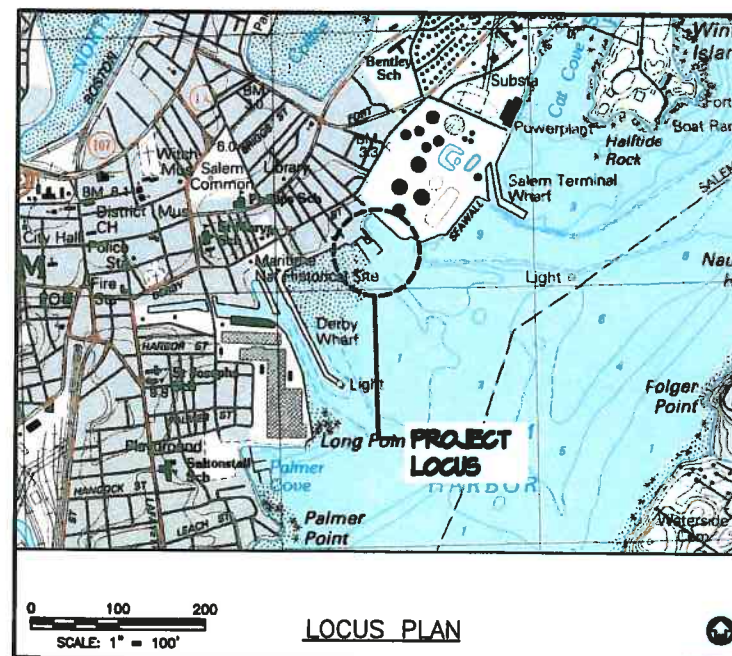
Norris & Norris Assoc.- Architecture
Cambridge, MA

Cambridge Seven Assoc., Inc. - Architecture
Cambridge, MA

Shadley Assoc. - Landscape Architecture
Lexington, MA

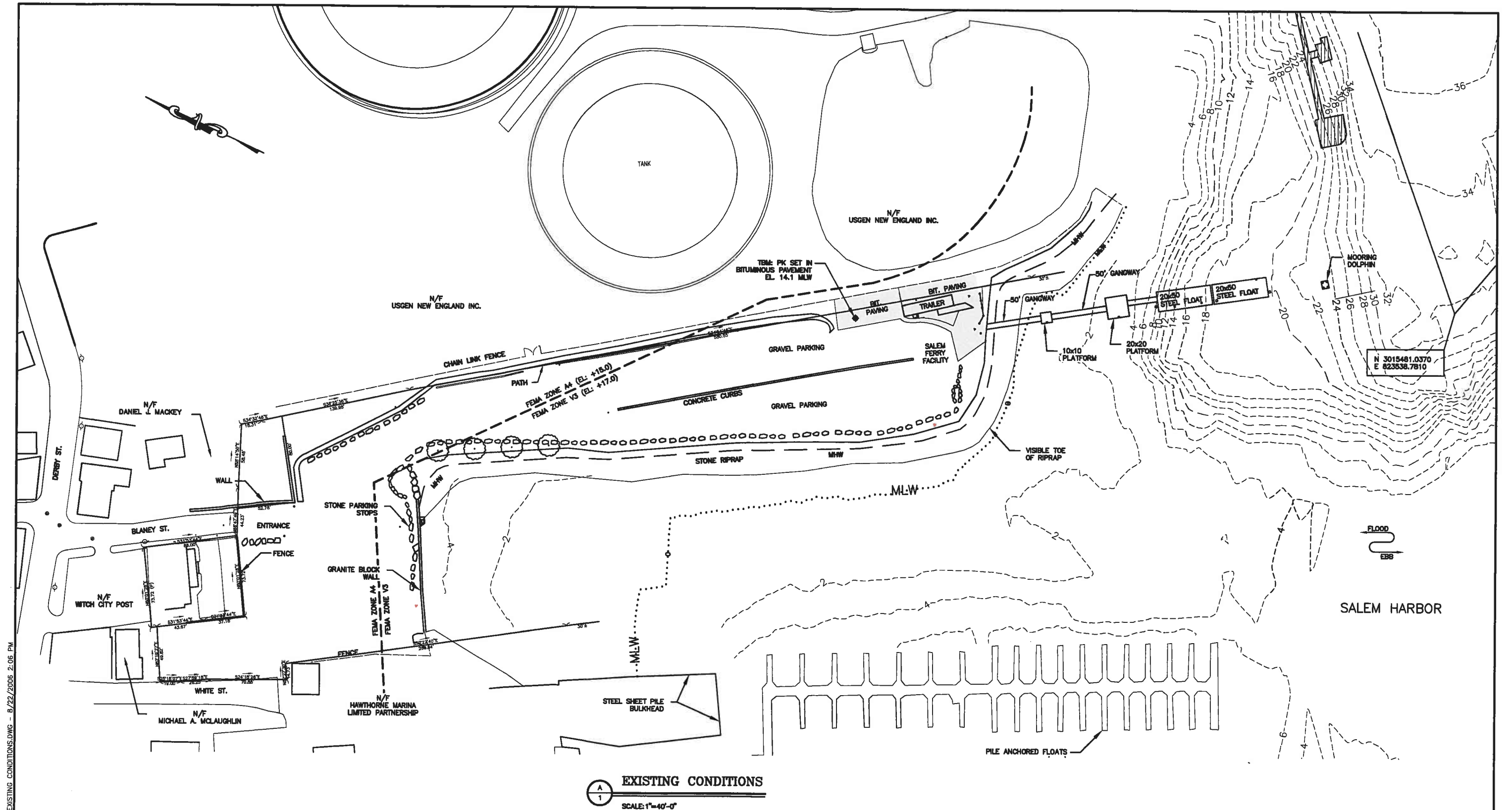
Richard E. Kimball Co., Inc. - Electrical Engineering
Andover, Ma

Nitsch Engineering - Survey
Boston, Ma



12/16/08

File: X:\27652\27677\PRELIM DESIGN\SH-01 EXISTING CONDITIONS.DWG - 8/22/2006 2:05 PM



EXISTING CONDITIONS

SCALE: 1"=40'-0"

NOTES:

- DATUM: MLW = 0.0, MHW = +8.9, HTL = +12.2
- THIS PLAN HAS BEEN COMPILED FROM VARIOUS PLANS INCLUDING:
 - TOPOGRAPHIC SURVEY DATA TAKEN FROM PLAN ENTITLED "EXISTING SITE PLAN, SALEM FERRY TERMINAL CITY OF SALEM" PREPARED BY VINE ASSOC. DATED AUGUST 2007.
 - PROPERTY BOUNDARY DATA TAKEN FROM PLAN ENTITLED "ALTA/ACSM LAND TITLE SURVEY, PREPARED FOR FIRST MASS LAND COMPANY LLC." BY CULLINAN ENGINEERING CO. INC. DATED JANUARY 4, 2001 AND HAVE NOT BEEN VERIFIED AS PART OF THIS PROJECT.
- COORDINATES ARE BASED ON MASSACHUSETTS (MAINLAND) STATE PLANE COORDINATE SYSTEM (NAD83).

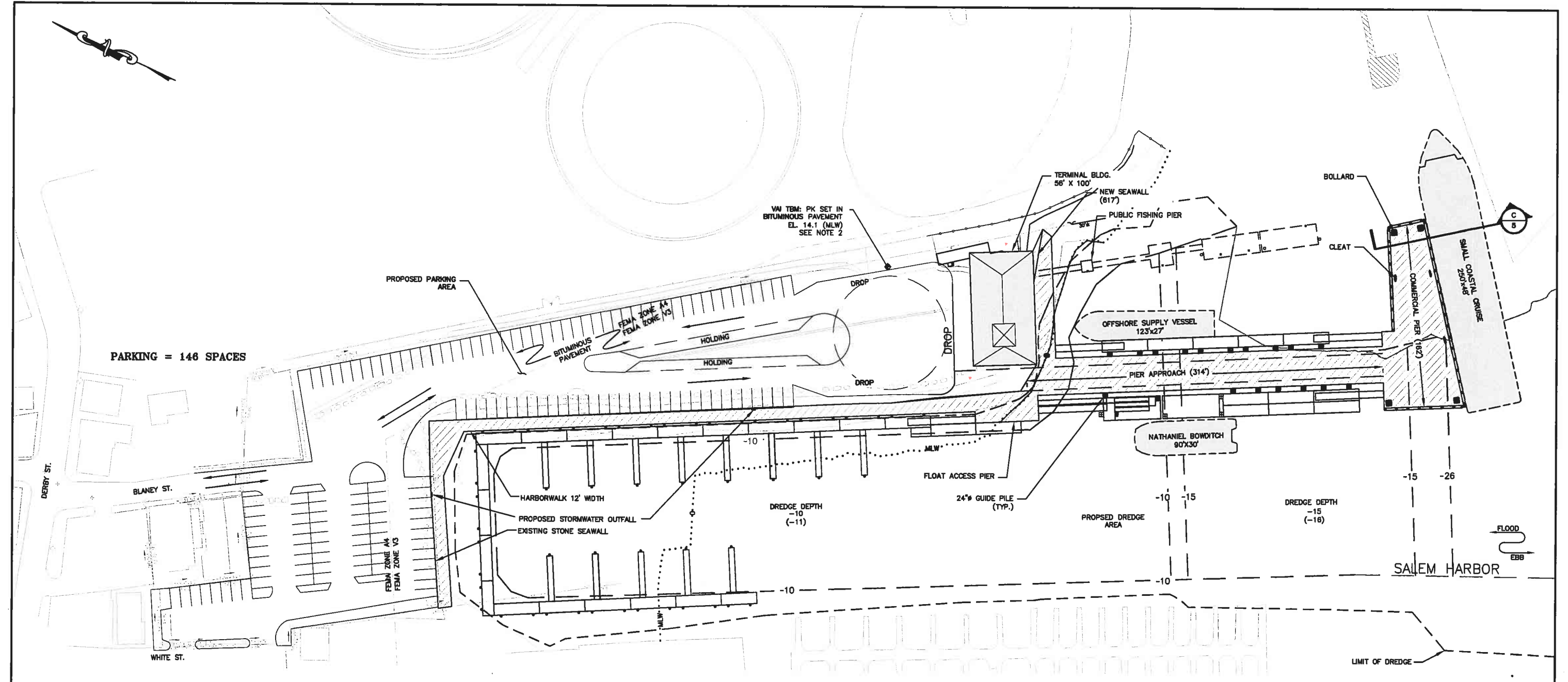
**PRELIMINARY DESIGN
NOT FOR CONSTRUCTION**

DATUM: Mean Low Water MLW
100 YR FLOOD +17.0
HTL +11.0
MHW +9.4
MHW +8.9
NGVD +4.2
MLW 0.0
MLW -0.3

EXISTING CONDITIONS

**SALEM PORT EXPANSION
CITY OF SALEM
SALEM, MA
AUGUST 2008**

REVISIONS	BCE	Bourne Consulting Engineering
	DRAWN: JC/ISE	
	CHECKED: ADP	
	APPROVED:	
	DATE: 08/18/08	
	DRAWING NO. 27877-01-01	
	SHEET 1 OF 14	



NOTES:

- DATUM: MLW = 0.0, MHW = +8.9, HTL = +11.0
- TOPOGRAPHIC SURVEY DATA TAKEN FROM PLAN ENTITLED "EXISTING SITE PLAN, SALEM FERRY TERMINAL CITY OF SALEM" PREPARED BY VINE ASSOC. (VAI) DATED AUGUST 2007.
- PROPERTY BOUNDARY DATA TAKEN FROM PLAN ENTITLED "ALTA/ACSM LAND TITLE SURVEY, PREPARED FOR FIRST MASS LAND COMPANY LLC" BY CULLINAN ENGINEERING CO. INC. DATED JANUARY 4, 2001 AND HAVE NOT BEEN VERIFIED AS PART OF THIS PROJECT.
- COORDINATES ARE BASED ON MASSACHUSETTS (MAINLAND) STATE PLANE COORDINATE SYSTEM (NAD83).

PROPOSED CONDITIONS SCALE: 1"=40'

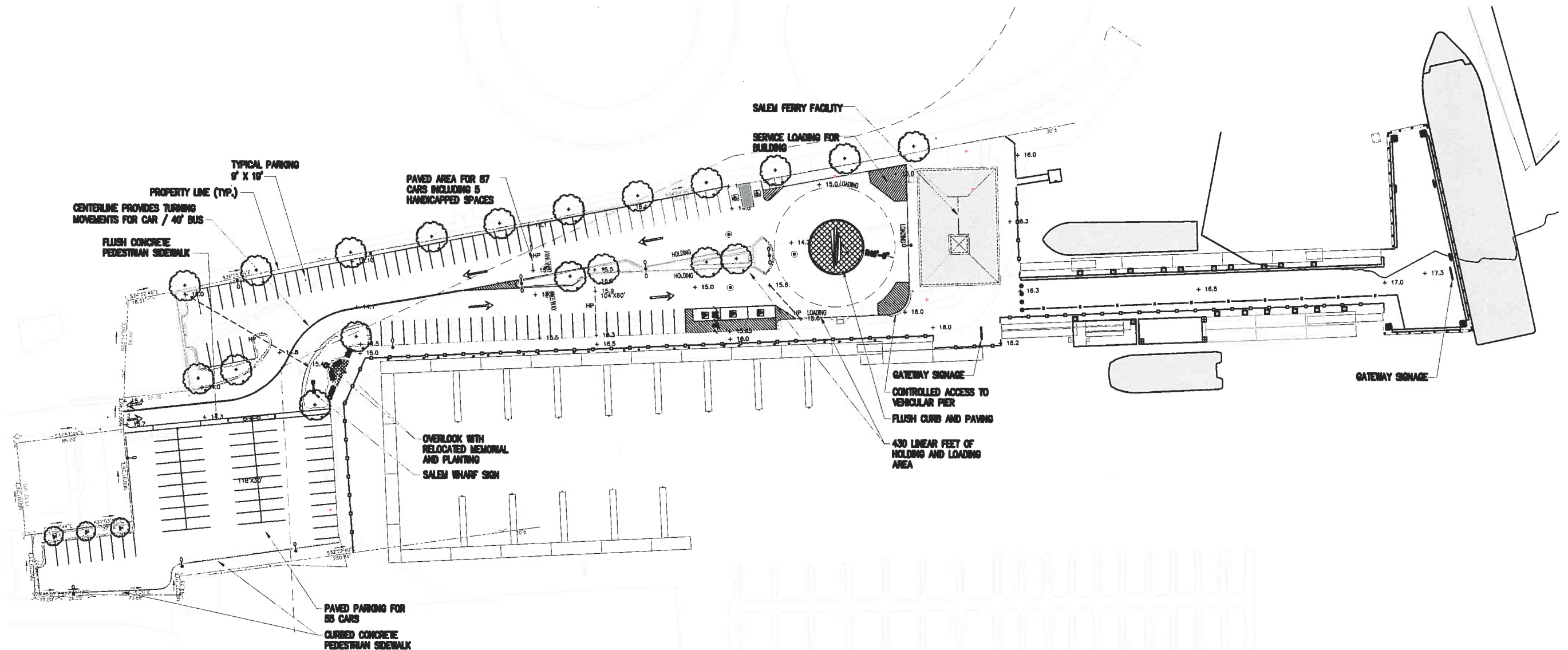
PRELIMINARY DESIGN
NOT FOR CONSTRUCTION

SITE PLAN SALEM PORT EXPANSION CITY OF SALEM SALEM, MA AUGUST 2008

DATUM: Mean Low Water MLW
100 YR FLOOD +17.0
HTL +11.0
MHHW +9.4
MHW +8.9
NGVD +4.2
MLW 0.0
MLLW -0.3

BCE Bourne Consulting Engineering 100 West Street, Suite 200, Salem, MA 01970 TEL: (978) 453-0000 FAX: (978) 453-0000	
DRAWN: JC CHECKED: ADP APPROVED: _____ DATE: 08/18/08	DRAWING NO. 27677-01-02 SHEET 2 OF 14
REVISIONS 3/14/08 FINGER FLOATS	

File: W:\01652_N27677\PRELIM DESIGN\01-03 LANDSCAPE ARCHITECT PLANNING - 8/22/2006 2:08

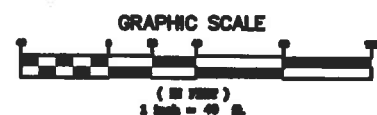


VEHICULAR CAPACITY

	SITE PLAN
TOTAL PARKING SPACES INCLUDING HC:	142
MAIN PARKING INCLUDING HC:	87
INSHORE AREA PARKING:	55
NUMBER OF HC SPACES:	5
LOADING LINEAR FEET INCL. DELIVERY AND PIER ACCESS:	210
HOLDING LINEAR FEET:	220

NOTES:

1. PARKING SPACES ARE 9' X 18' TYPICAL
2. ACCESS AISLES VARY BETWEEN 20' (NORTHWEST CORNER OF GRAVEL) TO 24' (TWO-WAY TRAFFIC)
3. 40' BUS OUTSIDE TURNING RADIUS IS 45.5'
38' PUMPER FIRE TRUCK OUTSIDE TURNING RADIUS IS 41'
4. PER AAB, PARKING AREAS WITH 101-150 SPACES REQUIRE A MINIMUM OF 5 ACCESSIBLE SPACES



LEGEND

- CURB RAMP
- SINGLE AND DOUBLE HEADED LIGHT
- EDGE RAILING, MAX. 4" OPENINGS
- PEDESTRIAN RAILING
- VERTICAL CURB
- BENCH AND TRASH RECEPTACLE
- PROPOSED FLOWERING TREE
- PROPOSED SHADE TREE
- PROPOSED SHRUB/ PERENNIAL PLANTING

PRELIMINARY DESIGN
NOT FOR CONSTRUCTION

LANDSCAPE PLAN

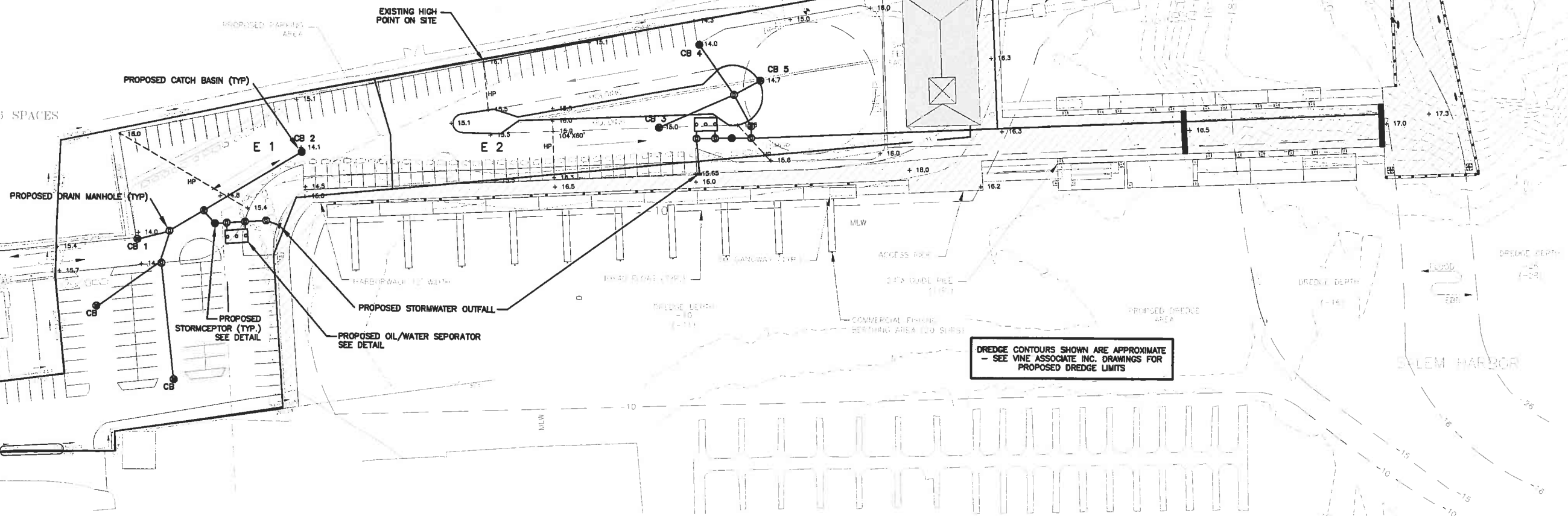
SALEM WHARF PROJECT
CITY OF SALEM
SALEM, MA
AUGUST 2008

Shadley Associates, P.C.
Landscape Architects / Site Planning Consultants
1730 Massachusetts Ave. • P 781.852.8800
Lexington, MA 02420-5301 • F 781.852.2887
www.shadleyassociates.com

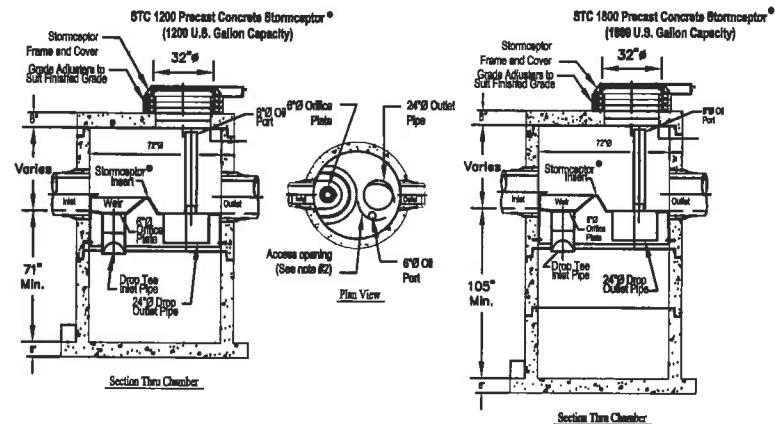
REVISIONS	 Bourne Consulting Engineering	
	3 West Street Framingham, MA 01834 TEL (508) 882-0000 FAX (508) 882-0000	
	DRAWN: JRB	DATE: 11/11/08
	CHECKED: RRB	
APPROVED: RRB		
DRAWING NO. 27677-01-04		
SHEET 3 OF 14		

File: X:\27650-1\27677-1\PRELIM DESIGN\SHIT-05 SITE DRAINAGE PLANDWG

PARKING = 146 SPACES



DREDGE CONTOURS SHOWN ARE APPROXIMATE
- SEE VINE ASSOCIATE INC. DRAWINGS FOR
PROPOSED DREDGE LIMITS



- Notes:
1. The Use Of Flexible Connections Is Recommended At The Inlet and Outlet Where Applicable.
 2. The Cover Should Be Positioned Over The Outlet Drop Pipe and The Oil Port.
 3. The Stormceptor System is protected by one or more of the following U.S. Patents: #4985148, #5498531, #5725760, #5753115, #5949181, #6068765, #5371690.
 4. Contact a Concrete Pipe Division representative for further details not listed on this drawing.

WATER QUALITY INFILTRATION GALLEY

SCALE: N.T.S.

**PRELIMINARY DESIGN
NOT FOR CONSTRUCTION**

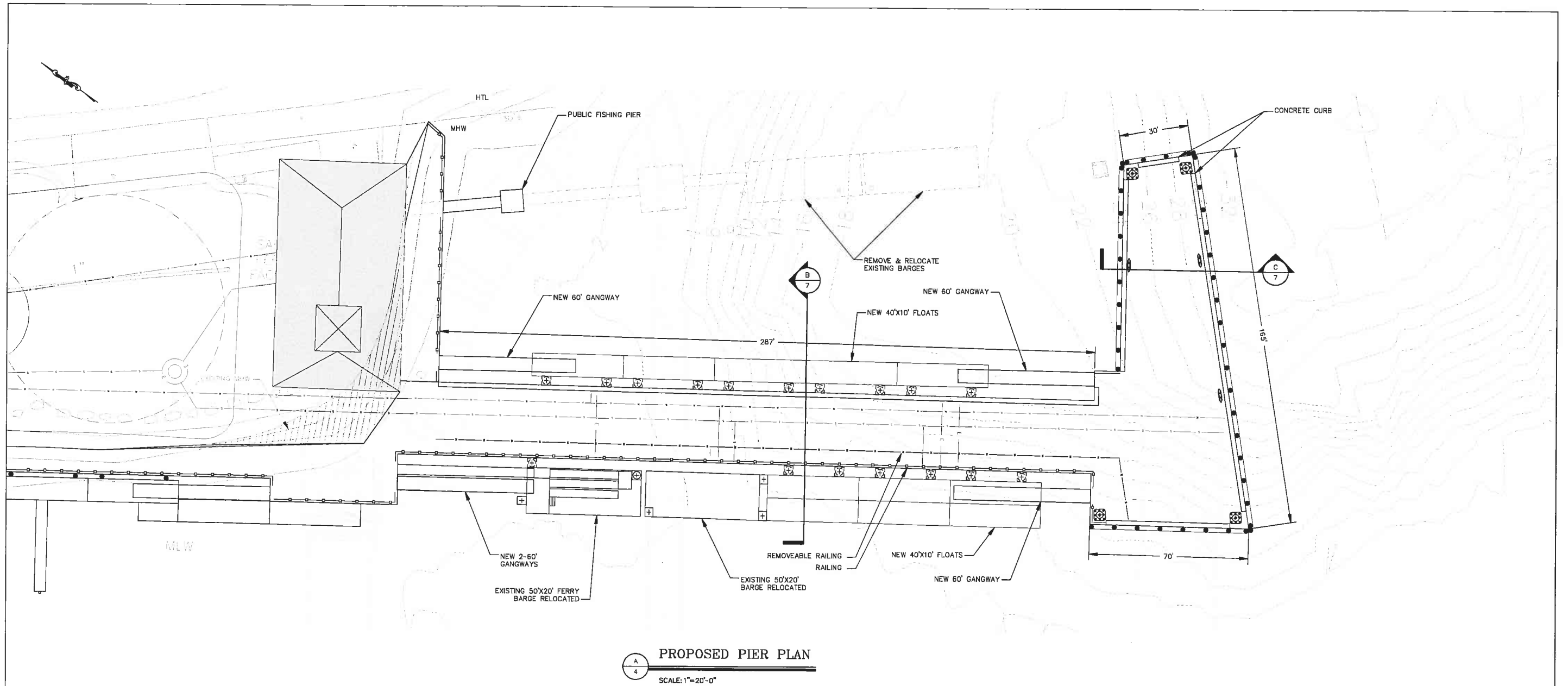
0 40' 80'
SCALE: 1" = 40'

DATUM: Mean Low Water MLW
100 YR FLOOD +17.0
HTL +11.0
MHHW +9.4
MHW +8.9
NGVD +4.2
MLW 0.0
MLLW -0.3

SITE DRAINAGE PLAN

SALEM PORT EXPANSION
CITY OF SALEM
SALEM, MA
AUGUST 2008

REVISIONS	BCE Bourne Consulting Engineering	
	2 West Street Provincetown, MA 01905 TEL: (508) 859-0000 FAX: (508) 859-0000	
	DRAWN: JIC	CHECKED: ADP
	APPROVED: DATE: 08/19/08	DRAWING NO. 27677-01-06
3/4" FINGER FLOATS		SHEET 5 OF 14

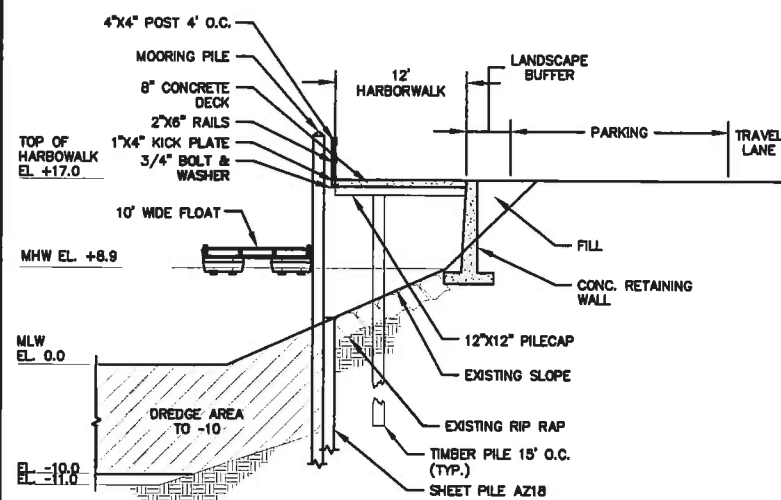


PRELIMINARY DESIGN
NOT FOR CONSTRUCTION

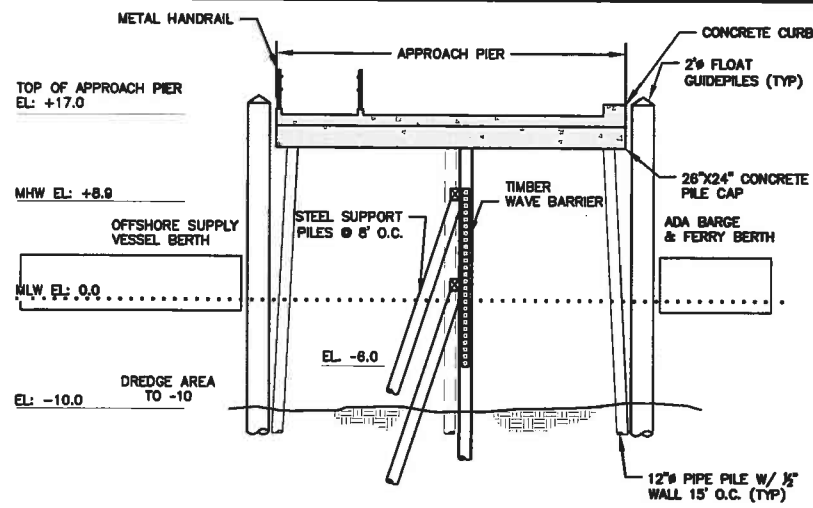
PIER PLAN

SALEM WHARF PROJECT
CITY OF SALEM
SALEM, MA
AUGUST 2008

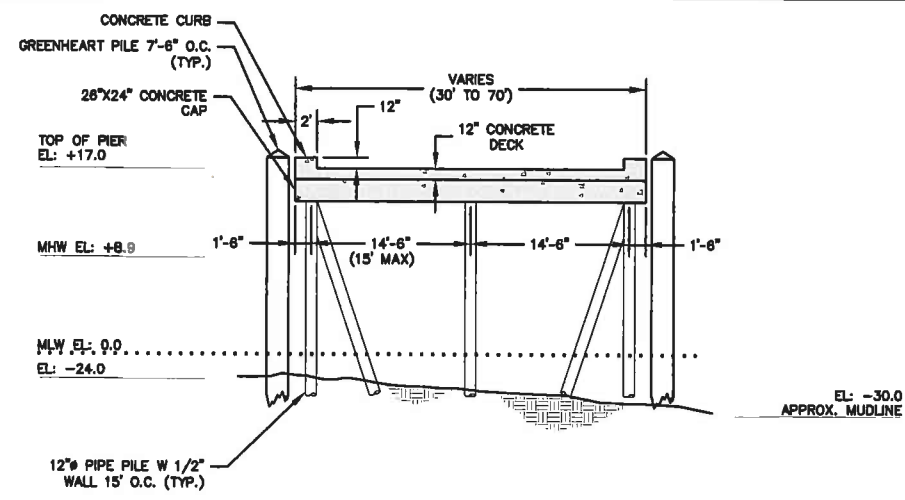
REVISIONS	 Bourne Consulting Engineering 9 Best Street Franklin, MA 02038 TEL: (508) 533-8888 FAX: (508) 533-0800	
	DRAWN: JSF	
	CHECKED: _____	
	APPROVED: _____	
	DATE: 08/27/08	
	DRAWING NO. 27677-01-06	
	SHEET 6 OF 14	



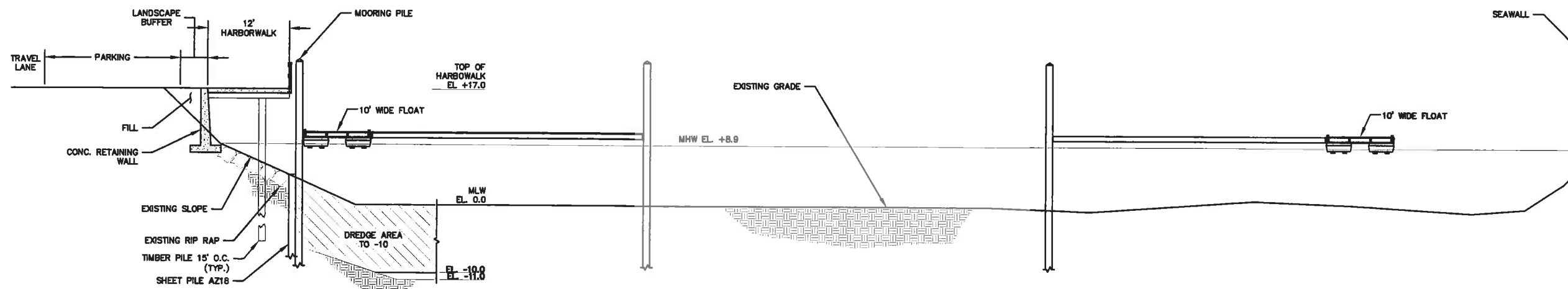
HARBORWALK CROSS SECTION
SCALE: 1/8"=1'-0"



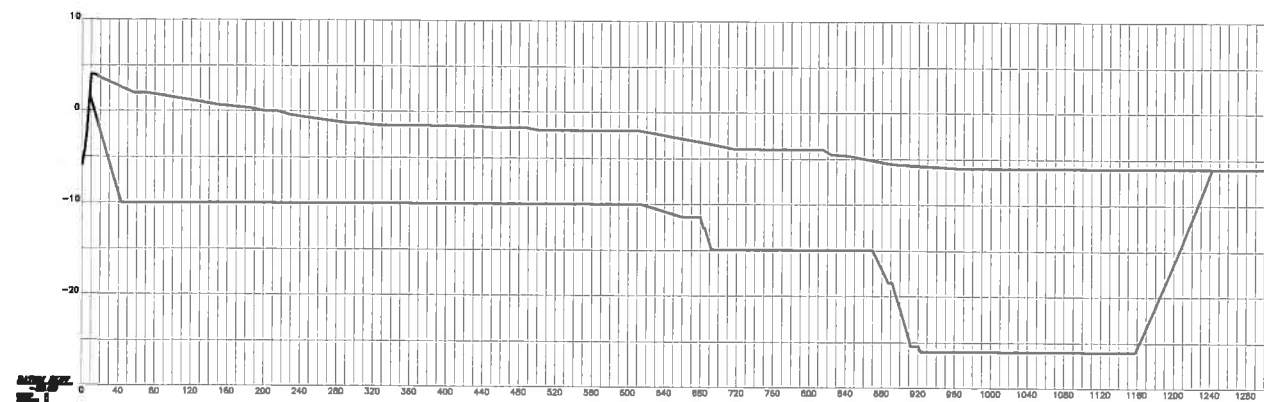
PIER APPROACH-SECTION
SCALE: 1/8"=1'-0"



COMMERCIAL PIER-SECTION
SCALE: 1/8"=1'-0"



HARBOR CROSS SECTION
SCALE: 1/8"=1'-0"



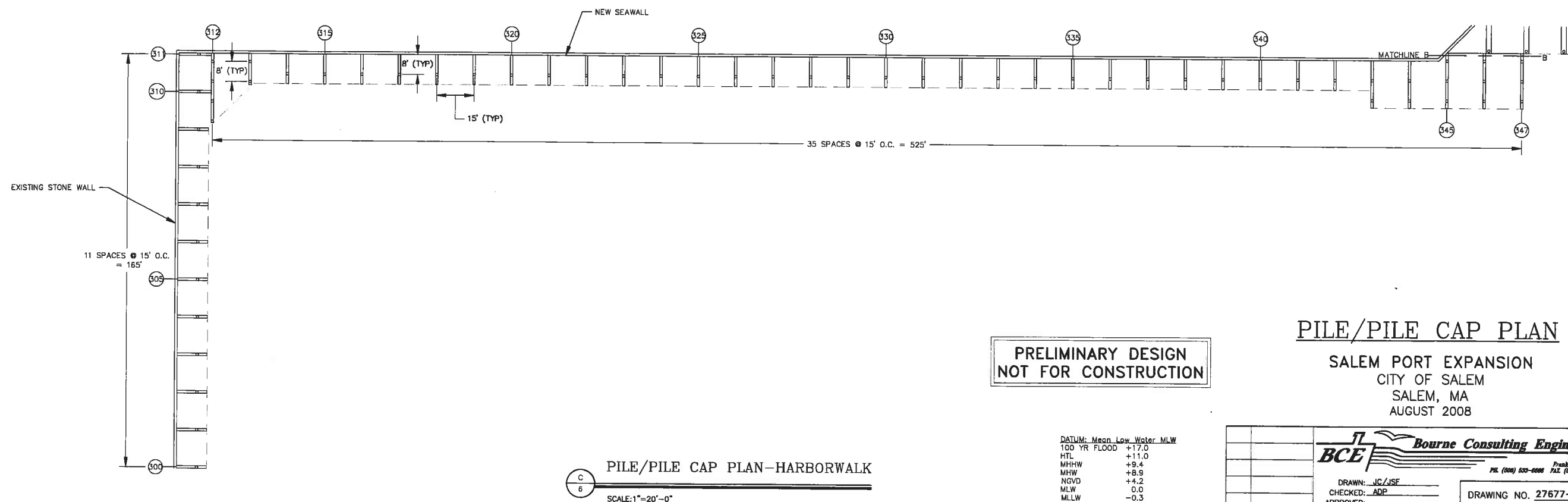
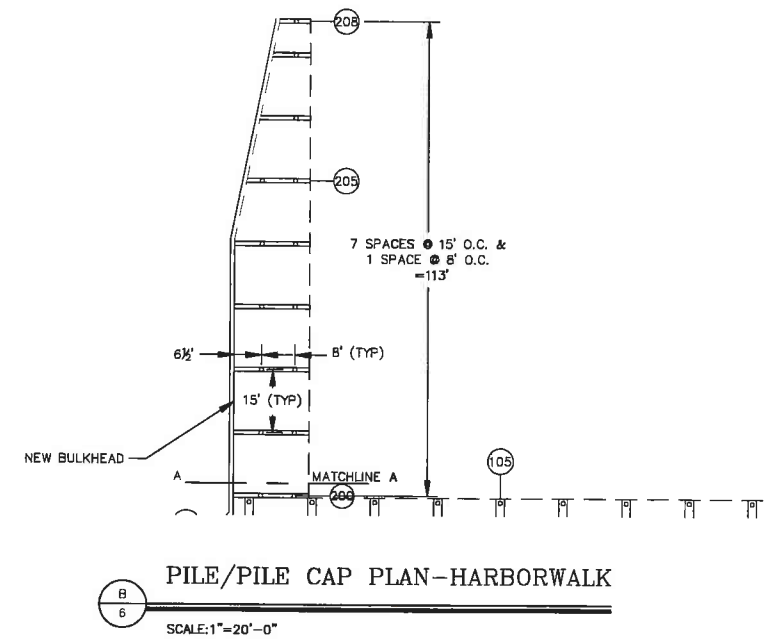
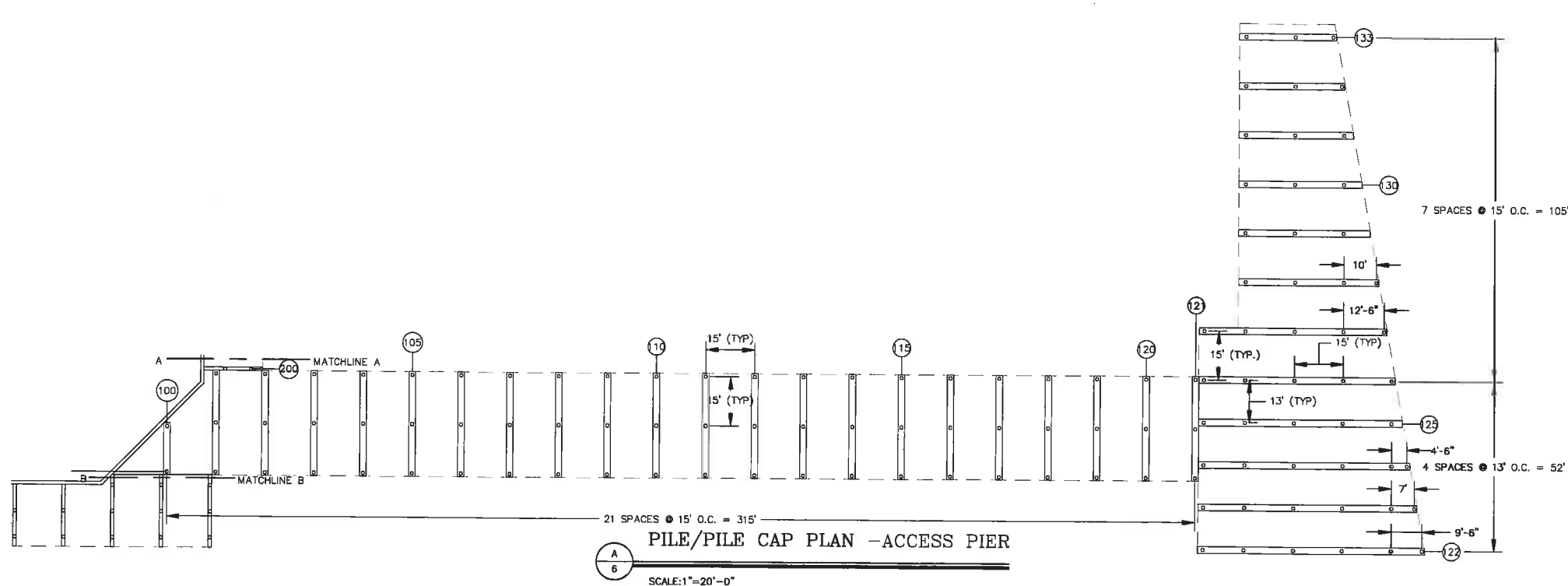
PROPOSED DREDGE PROFILE
SCALE: 1/8"=1'-0"

**PRELIMINARY DESIGN
NOT FOR CONSTRUCTION**

PIER SECTIONS
SALEM PORT EXPANSION
CITY OF SALEM
SALEM, MA
AUGUST 2008

DATUM: Mean Low Water MLW	
100 YR FLOOD	+17.0
HTL	+11.0
MHHW	+8.4
MHW	+8.9
NGVD	+4.2
MLW	0.0
MLLW	-0.3

REVISIONS	 Bourne Consulting Engineering 3 West Street Framingham, MA 01901 TEL: (508) 889-0000 FAX: (508) 889-0001	
	DRAWN: JG CHECKED: ADP APPROVED: _____ DATE: 08/19/08	
	DRAWING NO. 27677-01-07	
	SHEET 7 OF 14	



PRELIMINARY DESIGN
NOT FOR CONSTRUCTION

PILE/PILE CAP PLAN

SALEM PORT EXPANSION
CITY OF SALEM
SALEM, MA
AUGUST 2008

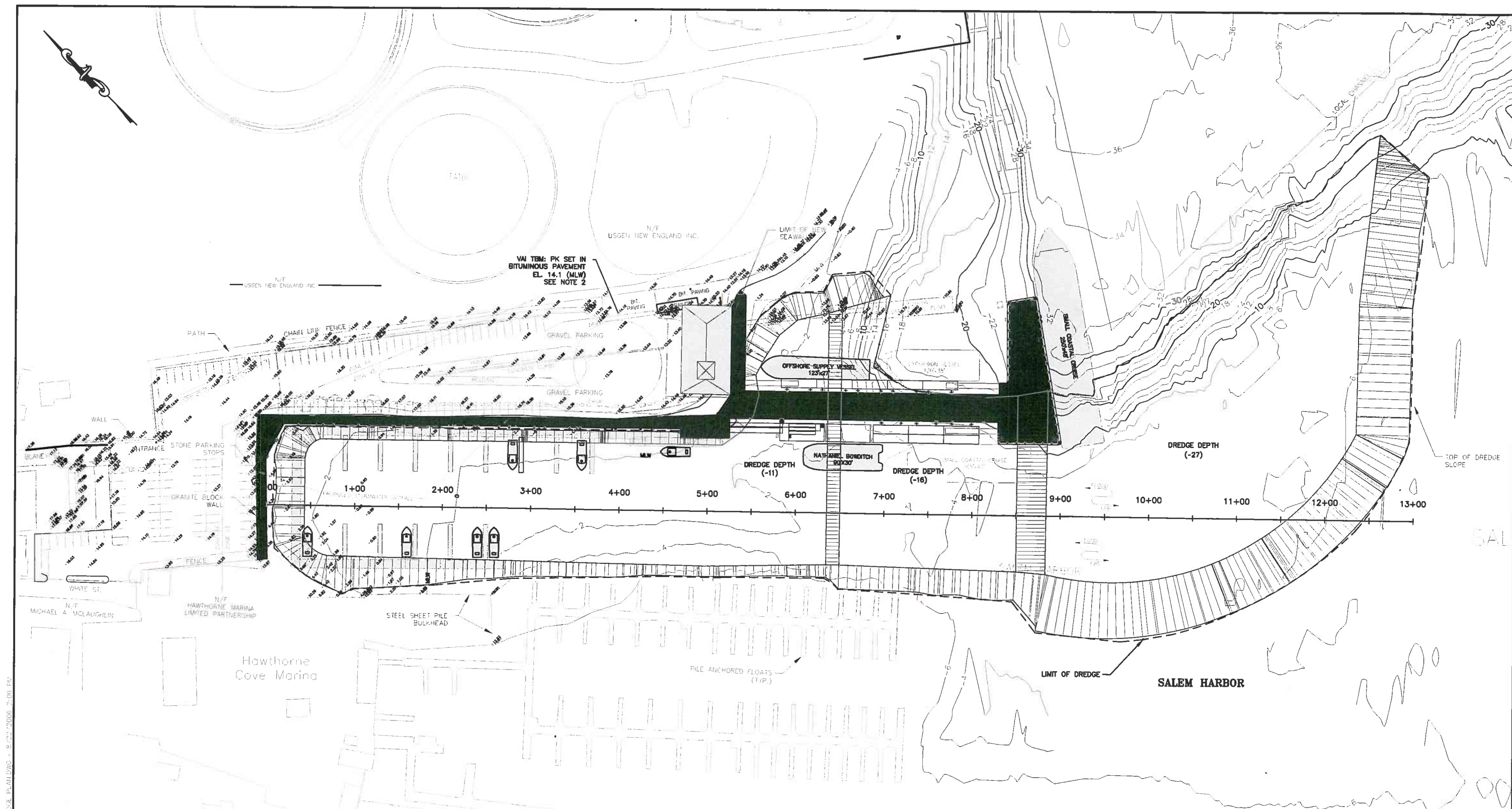
DATUM: Mean Low Water MLLW
100 YR FLOOD +17.0
HTL +11.0
MHHW +9.4
MHW +8.9
NGVD +4.2
MLW 0.0
MLLW -0.3

BCE Bourne Consulting Engineering
3 Best Street
Franklin, MA 01903
PH (508) 533-9000 FAX (508) 533-9000

DRAWN: JC/JSE
CHECKED: ADP
APPROVED: [Signature]
DATE: 08/19/08

DRAWING NO. 27677-01-08

SHEET 8 OF 14



- NOTES:
1. DATUM: MLLW = 0.0, MHW = +2.9, HTL = +11.0
 2. TOPOGRAPHIC SURVEY DATA TAKEN FROM PLAN ENTITLED "EXISTING SITE PLAN, SALEM FERRY TERMINAL CITY OF SALEM" PREPARED BY VINE ASSOC. (VAI) DATED AUGUST 2007.
 3. PROPERTY BOUNDARY DATA TAKEN FROM PLAN ENTITLED "ALTA/ACSM LAND TITLE SURVEY, PREPARED FOR FIRST MASS LAND COMPANY, LLC" BY CULLINAN ENGINEERING CO. INC. DATED JANUARY 4, 2001 AND HAVE NOT BEEN VERIFIED AS PART OF THIS PROJECT.
 4. COORDINATES ARE BASED ON MASSACHUSETTS (MAINLAND) STATE PLANE COORDINATE SYSTEM (NAD83).

SITE PLAN
SCALE: 1"=50'

**PRELIMINARY DESIGN
NOT FOR CONSTRUCTION**

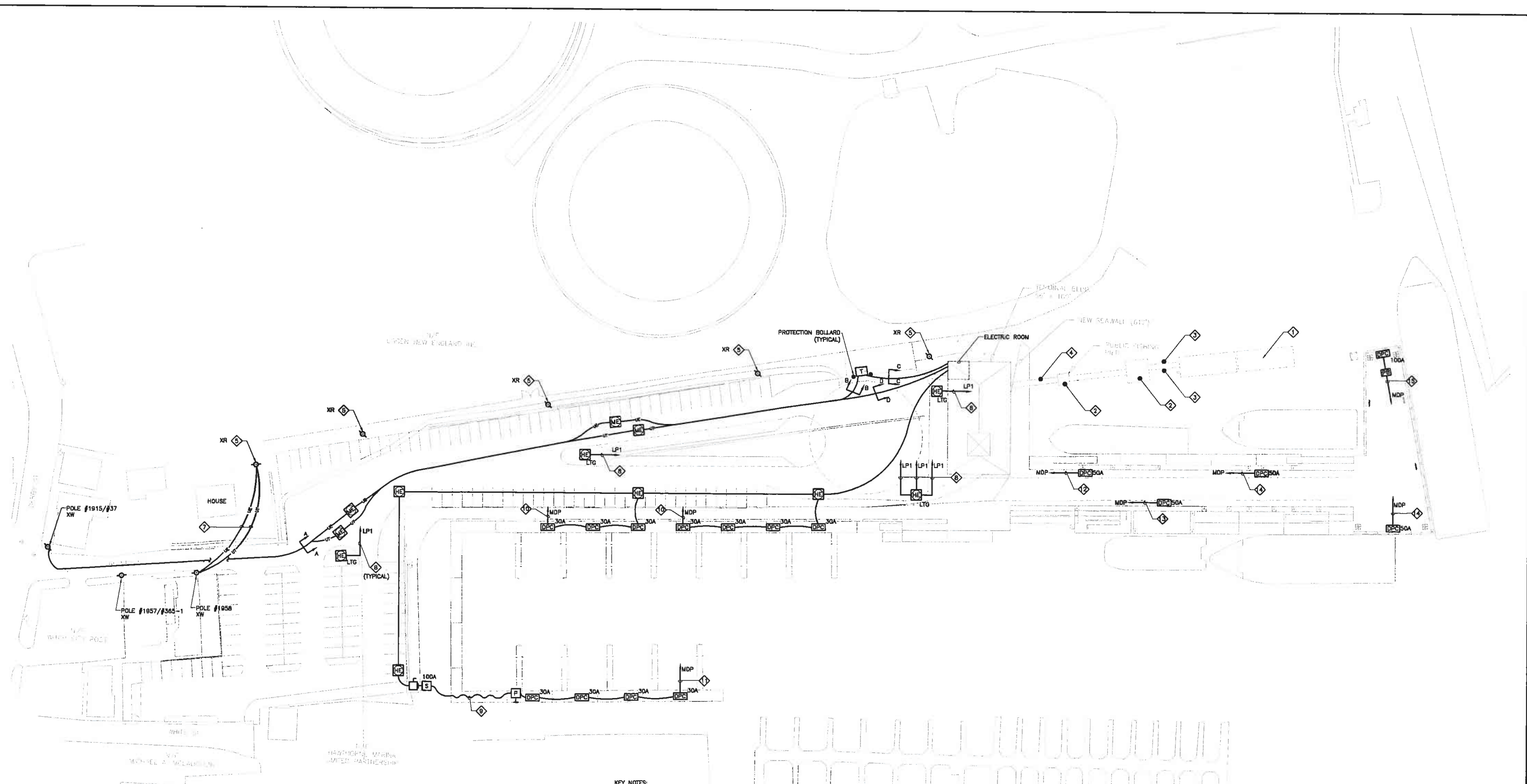
AREA ABOVE MLLW	43285 SQ FT
AREA BELOW MLLW	298570 SQ FT
DREDGE VOLUME	139804 CY
OVERDREDGE VOLUME	15313 CY
TOTAL DREDGE VOLUME	155117 CY

DREDGE PLAN

**SALEM PORT EXPANSION
CITY OF SALEM
SALEM, MA
AUGUST 2008**

Bourne Consulting Engineering 3 Reed Street Portland, ME 04106 TEL (207) 882-4000 FAX (207) 882-4000	
DRAWN: JJC CHECKED: ADP APPROVED: _____ DATE: 08/18/08	DRAWING NO. 27677-01-09 SHEET 9 OF 14

File: N:\27653\27677\PRELIM DESIGN\911-09 DREDGE PLAN.DWG - 8/27/2008 2:08 PM



POWER NOTES:

1. REFER TO DRAWING E0.00 FOR LEGEND, SYMBOLS AND GENERAL NOTES.
2. REFER TO SITE/CIVIL DRAWINGS FOR ASSOCIATED NOTES, MOUNTING DETAILS, HEIGHTS AND EXACT LOCATIONS OF ALL DEVICES.
3. CIRCUIT NUMBERS ARE DIAGRAMMATIC. EXACT NUMBERS SHALL BE DETERMINED IN THE FIELD AND REFLECTED ON AS-BUILT DOCUMENTATION BY THE ELECTRICAL CONTRACTOR. THE ASSOCIATED CIRCUIT NUMBERS THAT ARE APPLIED TO EACH DEVICE AND PIECE OF EQUIPMENT INFERS INTERCONNECTING BRANCH CIRCUITRY. INTERCONNECTING BRANCH WIRING SHALL BE SIZED EQUAL TO THE HOMERUN UNLESS NOTED OTHERWISE.
4. VOLTAGE DROP HAS BEEN CONSIDERED IN THE DESIGN OF ALL BRANCH CIRCUITRY AND FEEDER SIZES BASED UPON THE ILLUSTRATED EQUIPMENT LAYOUTS AND SHORTEST CONDUCTOR/RACEWAY ROUTING. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR DEVIATIONS TAKEN THAT WILL INCREASE CONDUCTOR/RACEWAY ROUTING LENGTHS. BRANCH CIRCUITS LONGER THAN 75' FOR 120V FROM PANEL TO LAST OUTLET SHALL BE INCREASED A MINIMUM OF ONE SIZE ABOVE THAT SPECIFIED TO LIMIT VOLTAGE DROP TO LESS THAN 3%. FEEDERS SHALL FOLLOW SIMILAR GUIDELINES AND BE LIMITED TO 2% DROP.

KEY NOTES:

1. ELECTRICAL CONTRACTOR SHALL REFEED FOUR EXISTING POLE MOUNTED LUMINAIRES.
2. ELECTRICAL CONTRACTOR SHALL REFEED ONE EXISTING POLE MOUNTED LUMINAIRES.
3. ELECTRICAL CONTRACTOR SHALL REFEED THREE EXISTING GANGWAY MOUNTED LIGHT FIXTURES.
4. ELECTRICAL CONTRACTOR SHALL REFEED FOUR EXISTING GANGWAY MOUNTED LIGHT FIXTURES.
5. ELECTRICAL CONTRACTOR SHALL DEMOLISH EXISTING WOOD POLES EACH WITH TWO (2) HID FLOOD LIGHTS.
6. EXISTING POLE TO REMAIN, APPEARS TO SERVE HOUSE, MUST BE VERIFIED BY NSTAR.
7. ELECTRICAL CONTRACTOR SHALL TO REMOVE UNDERGROUND CABLING, CAP AND ABANDON UNDERGROUND CONDUITS.
8. ELECTRICAL CONTRACTOR SHALL PROVIDE 2#8 & 1#8 GND IN 2" CONDUIT.
9. 100A 34Y 120/208 VOLT 5 WIRE SHIP-TO-SHORE CABLE SET, MANUFACTURED BY HUBBELL MARINE (STOW CABLE, COLOR YELLOW) WITH PIN AND SLEEVE DEVICES. LENGTH AS REQUIRED. CORDS ARE AVAILABLE IN 75', 100' AND 125' LENGTHS. 50' EXTENSION CORDS ARE ALSO AVAILABLE.
10. 4#1 & 1#8G. IN 2" C. THROUGHOUT ENTIRE CIRCUIT.
11. 4#350kcmil & 1#40. IN 3" C. THROUGHOUT ENTIRE CIRCUIT.
12. 3#2 & 1#8G. IN 2" C. THROUGHOUT ENTIRE CIRCUIT.
13. 3#1/0 & 1#8G. IN 2" C. THROUGHOUT ENTIRE CIRCUIT.
14. 3#3/0 & 1#8G. IN 2" C. THROUGHOUT ENTIRE CIRCUIT.
15. 3#600kcmil & 1#1/0G. IN 4" C. THROUGHOUT ENTIRE CIRCUIT.

SCHEMATIC DESIGN
NOT FOR CONTRSTRUCTION

ELECTRICAL POWER PLAN
SALEM PORT EXPANSION
CITY OF SALEM
SALEM, MA
JUNE 2008

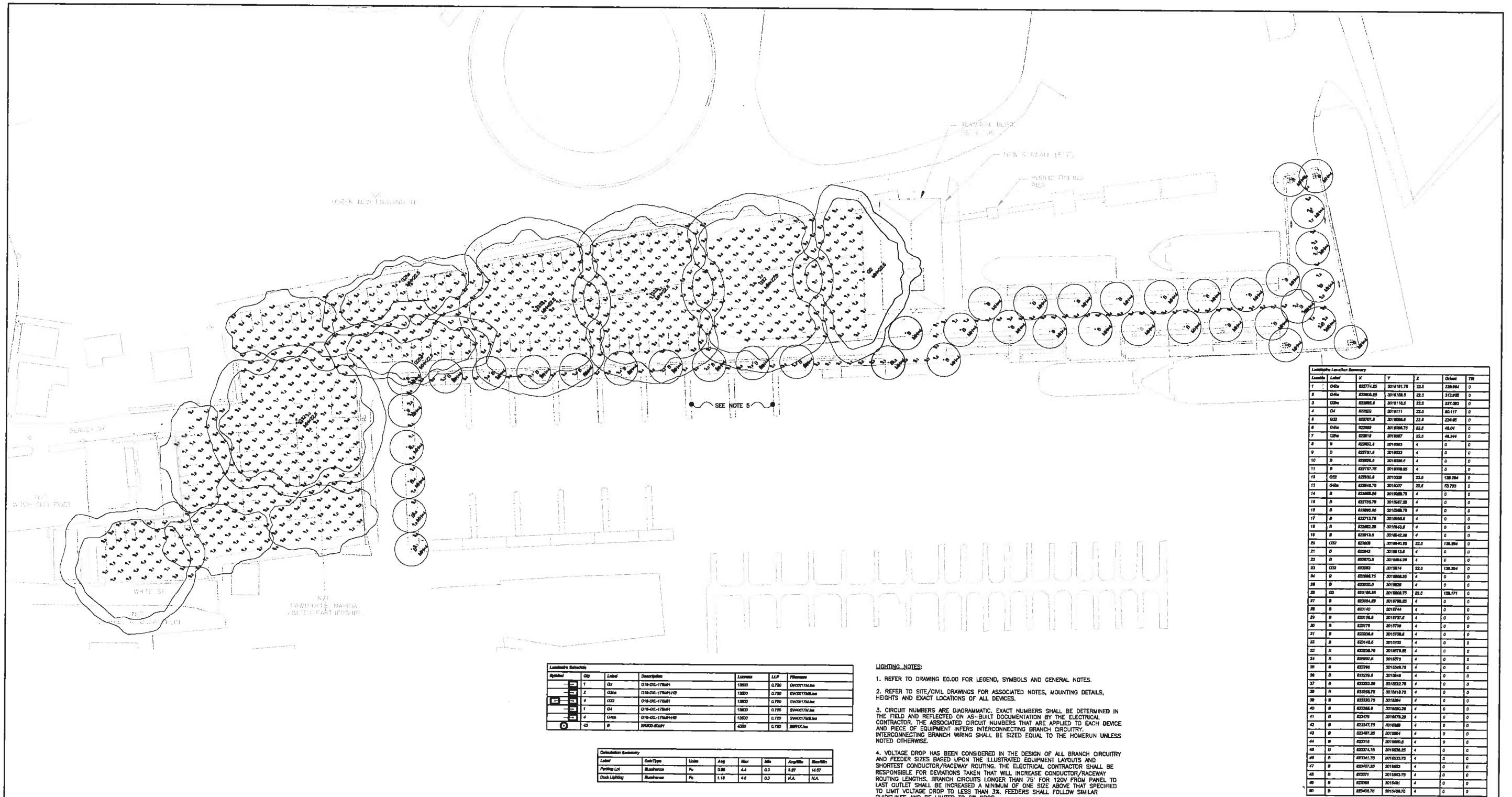
0 40 80
SCALE: 1" = 40'

RDK
ENGINEERS
30th Engineers
Support Center
252 Apple Street, Suite 200
Salem, MA 01970-1864
T: 978.345.8800
F: 978.345.4208
W: www.rdk-engineers.com

BCE **Bourne Consulting Engineering**
3 Bent Street
Franklin, MA 01832
TEL (508) 633-8888 FAX (508) 633-8800

DRAWN: AM
CHECKED: SC
APPROVED: SJ
DATE: 08/08/08

DRAWING NO. 20070498-E3.00
SHEET 10 OF 14



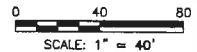
Luminaire Schedule					
Symbol	Qty	Label	Description	Lumens	ALP
1	1	Q1	G18-25-178M-H	1200	0.720
2	2	Q2a	G18-25-178M-H	1200	0.720
3	4	Q3	G18-25-178M-H	1200	0.720
4	1	Q4	G18-25-178M-H	1200	0.720
5	4	Q4a	G18-25-178M-H	1200	0.720
6	43	B	3000-2000	4000	0.720

Calculation Summary						
Label	Calc Type	Units	Avg	Min	Max	Result
Parking Lot	Standard	FC	0.98	4.4	0.3	14.87
Deck Lighting	Standard	FC	1.18	4.6	0.0	N.A.

- LIGHTING NOTES:**
- REFER TO DRAWING E0.00 FOR LEGEND, SYMBOLS AND GENERAL NOTES.
 - REFER TO SITE/CIVIL DRAWINGS FOR ASSOCIATED NOTES, MOUNTING DETAILS, HEIGHTS AND EXACT LOCATIONS OF ALL DEVICES.
 - CIRCUIT NUMBERS ARE DIAGRAMMATIC. EXACT NUMBERS SHALL BE DETERMINED IN THE FIELD AND REFLECTED ON AS-BUILT DOCUMENTATION BY THE ELECTRICAL CONTRACTOR. THE ASSOCIATED CIRCUIT NUMBERS THAT ARE APPLIED TO EACH DEVICE AND PIECE OF EQUIPMENT INTERFERES INTERCONNECTING BRANCH CIRCUITRY. INTERCONNECTING BRANCH WIRING SHALL BE SIZED EQUAL TO THE POWER RUN UNLESS NOTED OTHERWISE.
 - VOLTAGE DROP HAS BEEN CONSIDERED IN THE DESIGN OF ALL BRANCH CIRCUITRY AND FEEDER SIZES BASED UPON THE ILLUSTRATED EQUIPMENT LAYOUTS AND SHORTEST CONDUCTOR/RACEWAY ROUTING. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR DEVIATIONS TAKEN THAT WILL INCREASE CONDUCTOR/RACEWAY ROUTING LENGTHS. BRANCH CIRCUITS LONGER THAN 75' FOR 120V FROM PANEL TO LAST OUTLET SHALL BE INCREASED A MINIMUM OF ONE SIZE ABOVE THAT SPECIFIED TO LIMIT VOLTAGE DROP TO LESS THAN 3%. FEEDERS SHALL FOLLOW SIMILAR GUIDELINES AND BE LIMITED TO 2% DROP.
 - ELECTRICAL CONTRACTOR SHALL WIRE ALL LIGHTING FIXTURES WITH 2#8, 1#66, 1-1/4" C. TO THE NEAREST LIGHTING HANDHOLE, INDICATED ON DRAWING E3.00

Luminaire Location Summary					
Location	Label	X	Y	Z	Notes
1	Q1	301814.75	301814.75	22.5	228.994
2	Q2a	301814.75	301814.75	22.5	228.994
3	Q3	301814.75	301814.75	22.5	228.994
4	Q4	301814.75	301814.75	22.5	228.994
5	Q4a	301814.75	301814.75	22.5	228.994
6	Q4a	301814.75	301814.75	22.5	228.994
7	Q4a	301814.75	301814.75	22.5	228.994
8	Q4a	301814.75	301814.75	22.5	228.994
9	Q4a	301814.75	301814.75	22.5	228.994
10	Q4a	301814.75	301814.75	22.5	228.994
11	Q4a	301814.75	301814.75	22.5	228.994
12	Q4a	301814.75	301814.75	22.5	228.994
13	Q4a	301814.75	301814.75	22.5	228.994
14	Q4a	301814.75	301814.75	22.5	228.994
15	Q4a	301814.75	301814.75	22.5	228.994
16	Q4a	301814.75	301814.75	22.5	228.994
17	Q4a	301814.75	301814.75	22.5	228.994
18	Q4a	301814.75	301814.75	22.5	228.994
19	Q4a	301814.75	301814.75	22.5	228.994
20	Q4a	301814.75	301814.75	22.5	228.994
21	Q4a	301814.75	301814.75	22.5	228.994
22	Q4a	301814.75	301814.75	22.5	228.994
23	Q4a	301814.75	301814.75	22.5	228.994
24	Q4a	301814.75	301814.75	22.5	228.994
25	Q4a	301814.75	301814.75	22.5	228.994
26	Q4a	301814.75	301814.75	22.5	228.994
27	Q4a	301814.75	301814.75	22.5	228.994
28	Q4a	301814.75	301814.75	22.5	228.994
29	Q4a	301814.75	301814.75	22.5	228.994
30	Q4a	301814.75	301814.75	22.5	228.994
31	Q4a	301814.75	301814.75	22.5	228.994
32	Q4a	301814.75	301814.75	22.5	228.994
33	Q4a	301814.75	301814.75	22.5	228.994
34	Q4a	301814.75	301814.75	22.5	228.994
35	Q4a	301814.75	301814.75	22.5	228.994
36	Q4a	301814.75	301814.75	22.5	228.994
37	Q4a	301814.75	301814.75	22.5	228.994
38	Q4a	301814.75	301814.75	22.5	228.994
39	Q4a	301814.75	301814.75	22.5	228.994
40	Q4a	301814.75	301814.75	22.5	228.994
41	Q4a	301814.75	301814.75	22.5	228.994
42	Q4a	301814.75	301814.75	22.5	228.994
43	Q4a	301814.75	301814.75	22.5	228.994
44	Q4a	301814.75	301814.75	22.5	228.994
45	Q4a	301814.75	301814.75	22.5	228.994
46	Q4a	301814.75	301814.75	22.5	228.994
47	Q4a	301814.75	301814.75	22.5	228.994
48	Q4a	301814.75	301814.75	22.5	228.994
49	Q4a	301814.75	301814.75	22.5	228.994
50	Q4a	301814.75	301814.75	22.5	228.994
51	Q4a	301814.75	301814.75	22.5	228.994
52	Q4a	301814.75	301814.75	22.5	228.994
53	Q4a	301814.75	301814.75	22.5	228.994
54	Q4a	301814.75	301814.75	22.5	228.994
55	Q4a	301814.75	301814.75	22.5	228.994
56	Q4a	301814.75	301814.75	22.5	228.994
57	Q4a	301814.75	301814.75	22.5	228.994
58	Q4a	301814.75	301814.75	22.5	228.994
59	Q4a	301814.75	301814.75	22.5	228.994
60	Q4a	301814.75	301814.75	22.5	228.994
61	Q4a	301814.75	301814.75	22.5	228.994
62	Q4a	301814.75	301814.75	22.5	228.994
63	Q4a	301814.75	301814.75	22.5	228.994
64	Q4a	301814.75	301814.75	22.5	228.994
65	Q4a	301814.75	301814.75	22.5	228.994
66	Q4a	301814.75	301814.75	22.5	228.994
67	Q4a	301814.75	301814.75	22.5	228.994
68	Q4a	301814.75	301814.75	22.5	228.994
69	Q4a	301814.75	301814.75	22.5	228.994
70	Q4a	301814.75	301814.75	22.5	228.994
71	Q4a	301814.75	301814.75	22.5	228.994
72	Q4a	301814.75	301814.75	22.5	228.994
73	Q4a	301814.75	301814.75	22.5	228.994
74	Q4a	301814.75	301814.75	22.5	228.994
75	Q4a	301814.75	301814.75	22.5	228.994
76	Q4a	301814.75	301814.75	22.5	228.994
77	Q4a	301814.75	301814.75	22.5	228.994
78	Q4a	301814.75	301814.75	22.5	228.994
79	Q4a	301814.75	301814.75	22.5	228.994
80	Q4a	301814.75	301814.75	22.5	228.994
81	Q4a	301814.75	301814.75	22.5	228.994
82	Q4a	301814.75	301814.75	22.5	228.994
83	Q4a	301814.75	301814.75	22.5	228.994
84	Q4a	301814.75	301814.75	22.5	228.994
85	Q4a	301814.75	301814.75	22.5	228.994
86	Q4a	301814.75	301814.75	22.5	228.994
87	Q4a	301814.75	301814.75	22.5	228.994
88	Q4a	301814.75	301814.75	22.5	228.994
89	Q4a	301814.75	301814.75	22.5	228.994
90	Q4a	301814.75	301814.75	22.5	228.994
91	Q4a	301814.75	301814.75	22.5	228.994
92	Q4a	301814.75	301814.75	22.5	228.994
93	Q4a	301814.75	301814.75	22.5	228.994
94	Q4a	301814.75	301814.75	22.5	228.994
95	Q4a	301814.75	301814.75	22.5	228.994
96	Q4a	301814.75	301814.75	22.5	228.994
97	Q4a	301814.75	301814.75	22.5	228.994
98	Q4a	301814.75	301814.75	22.5	228.994
99	Q4a	301814.75	301814.75	22.5	228.994
100	Q4a	301814.75	301814.75	22.5	228.994

ELECTRICAL LIGHTING PLAN
SALEM PORT EXPANSION
CITY OF SALEM
SALEM, MA
JUNE 2008



SCHEMATIC DESIGN
NOT FOR CONTRSTUCTION



3/14/08

FINGER FLOATS

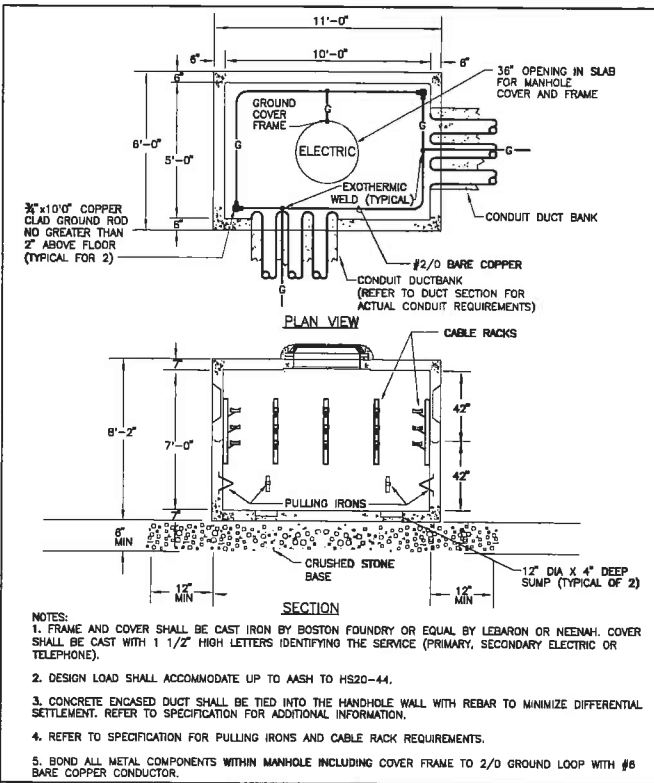
REVISIONS

Bourne Consulting Engineering

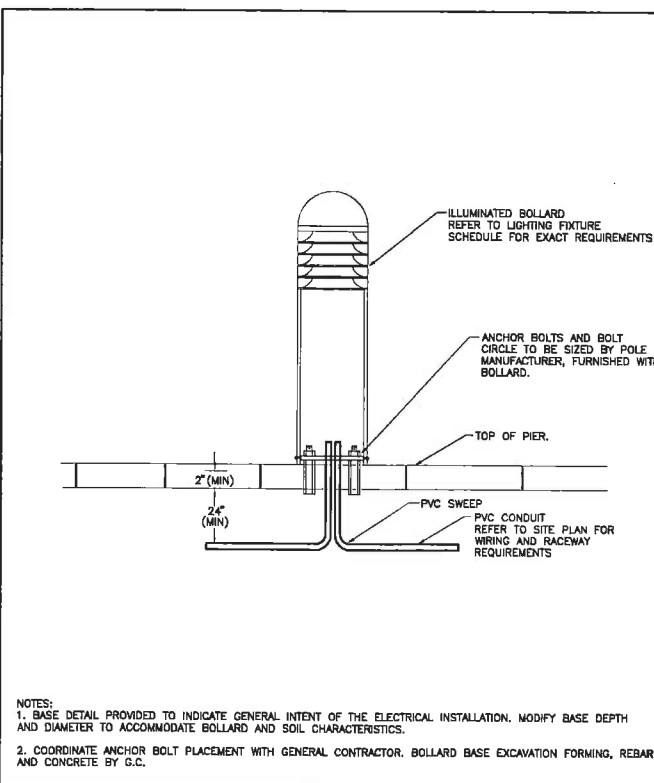
3 West Street
Franklin, MA 01830
TEL (508) 652-0000 FAX (508) 652-0001

DRAWN: AIM
CHECKED: SC
APPROVED: SJ
DATE: 08/08/08

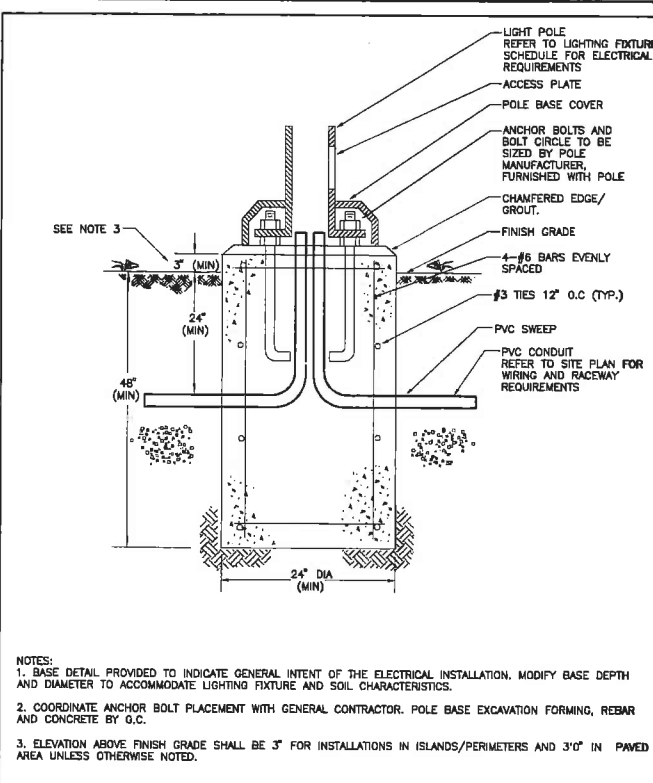
DRAWING NO. 20070498_E2.00
SHEET 11 OF 14



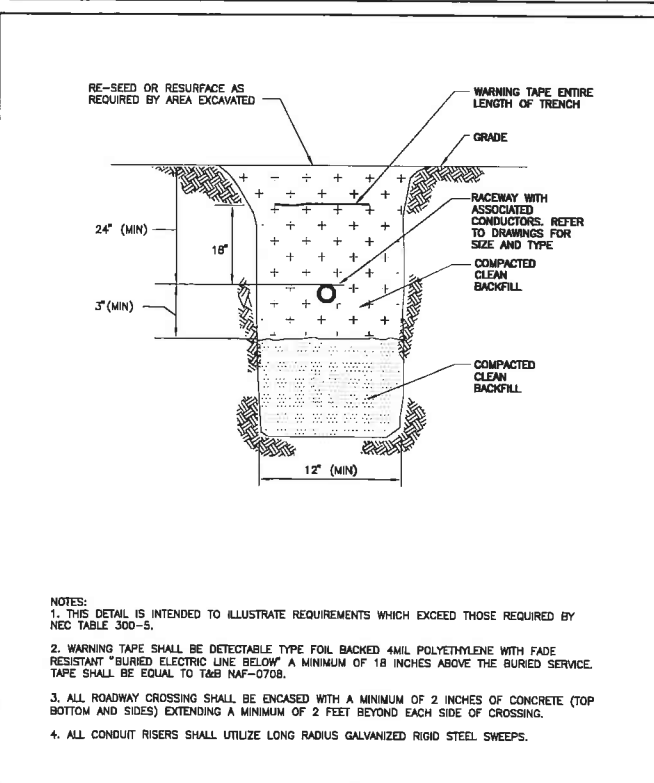
TYPICAL PRECAST ELECTRIC MANHOLE DETAIL ES007



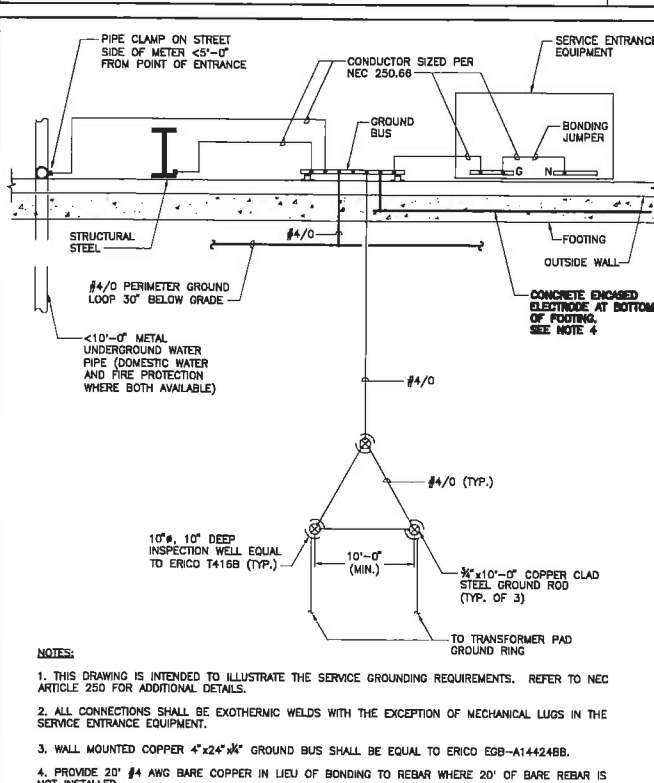
BOLLARD POLE BASE DETAIL ES015



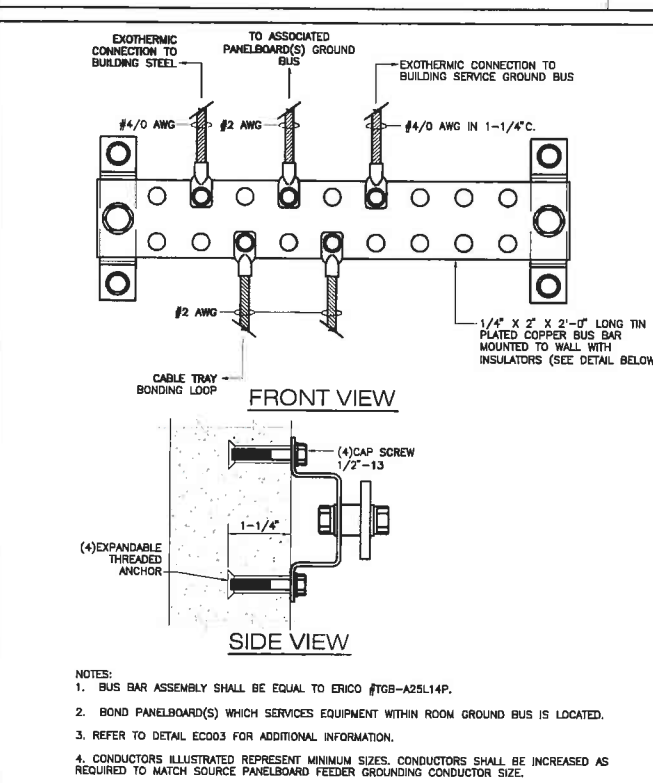
SITE LIGHTING POLE BASE DETAIL ES014



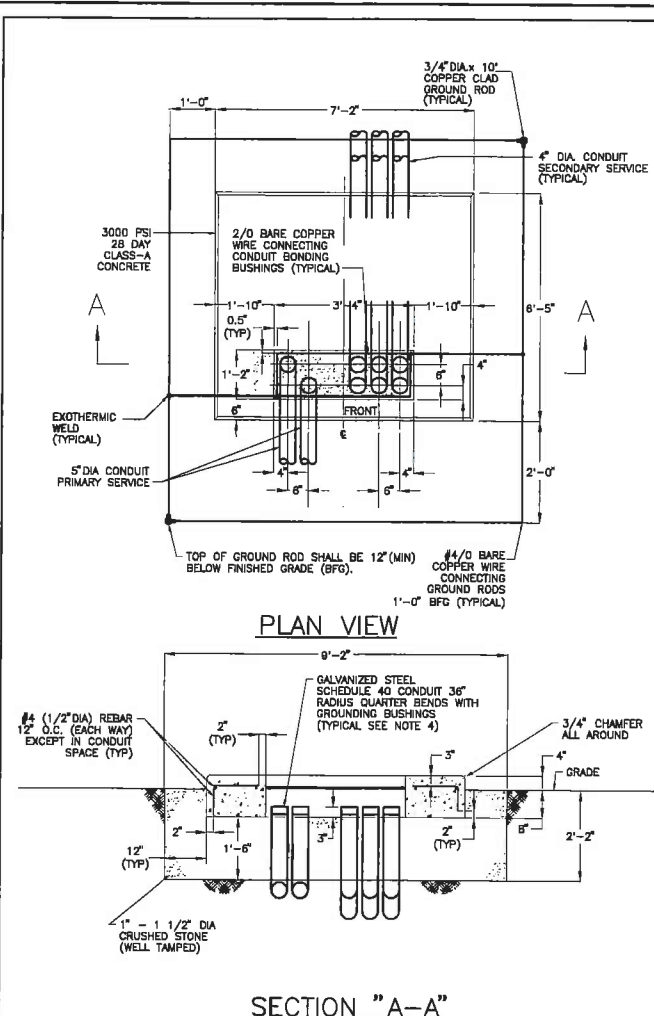
BURIED CONDUIT DETAIL ES013



ELECTRIC SERVICE GROUNDING ELECTRODE DETAIL EG001



EQUIPMENT ROOM GROUND BUS BAR INSTALLATION DETAIL EG005



TRANSFORMER PAD DETAIL
THREE PHASE 112.5 THRU 750 KVA ES008

ELECTRICAL DETAILS
SALEM PORT EXPANSION
CITY OF SALEM
SALEM, MA
JUNE 2008

0 40 80
SCALE: 1" = 40'

SCHEMATIC DESIGN
NOT FOR CONTRSTRUCTION

RDK ENGINEERS
RDK Engineers
Project Detail
70 Fawcett Street, Suite 201
Boston, MA 02110-1584
T: 617-245-0822
F: 617-245-4222
W: www.rdkengineers.com

BCE Bourne Consulting Engineering
3 Best Street
Framingham, MA 01833
TEL (508) 533-0800 FAX (508) 533-0800

DRAWN: AIM
CHECKED: SC
APPROVED: SJ
DATE: 08/08/08

DRAWING NO. 20070498_EB.01
SHEET 12 OF 14



BUILDING ELEVATIONS

SALEM PORT EXPANSION
CITY OF SALEM
SALEM, MA
AUGUST 2008

PRELIMINARY DESIGN
NOT FOR CONSTRUCTION

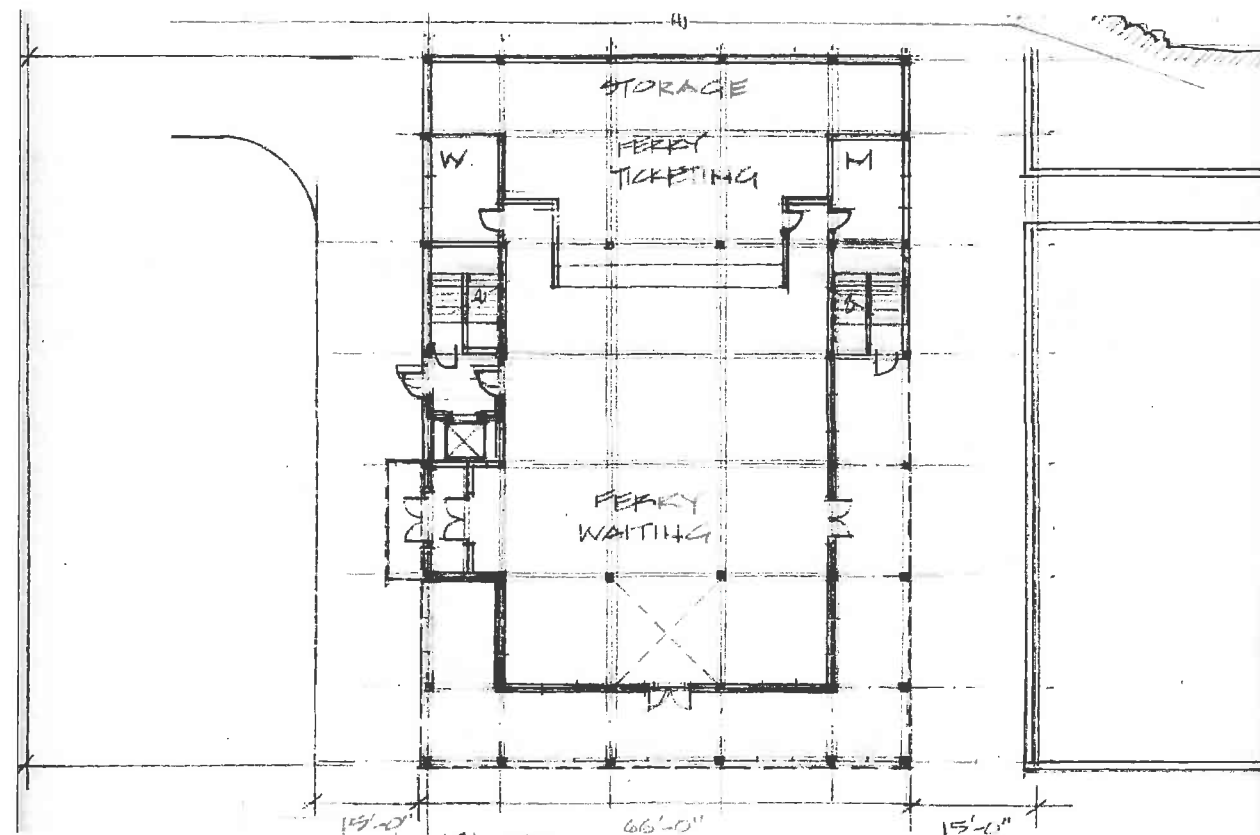
BCE Bourne Consulting Engineering
3 West Street
Franklin, MA 01903
TEL (508) 555-0000 FAX (508) 555-0000

DRAWN: JSE
CHECKED: _____
APPROVED: _____
DATE: 08/27/08

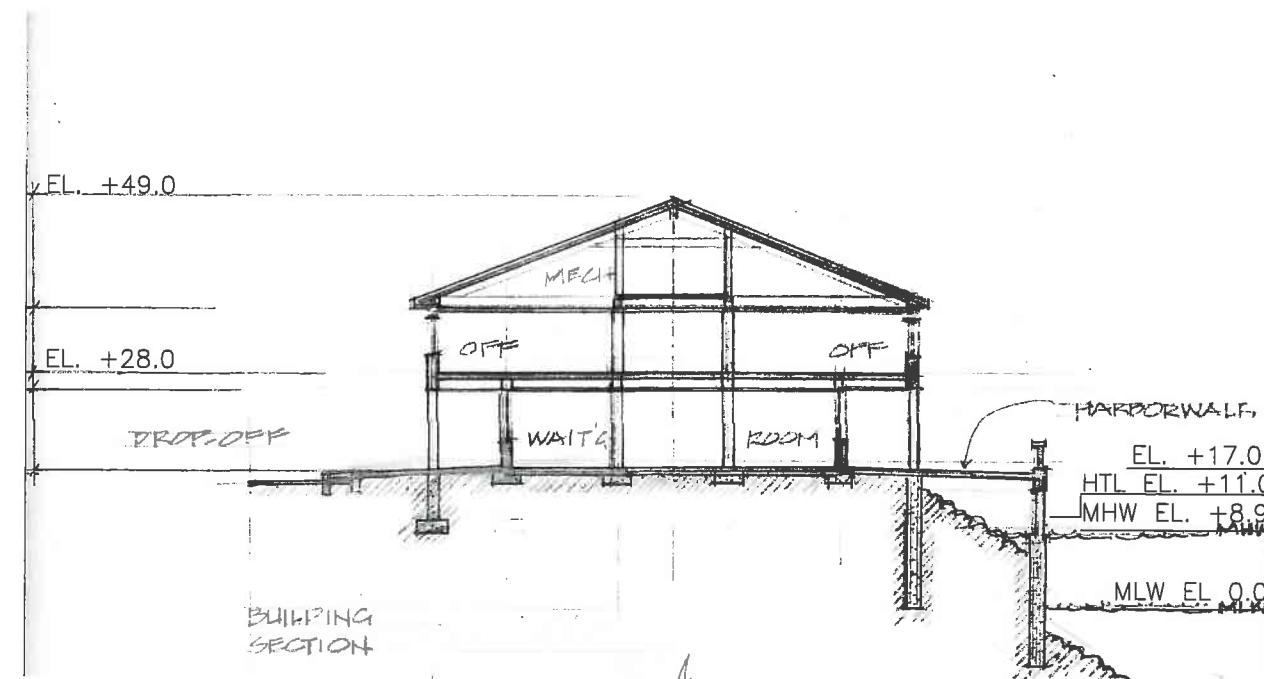
DRAWING NO. 27677-01-03

SHEET 13 OF 14

REVISIONS



PROPOSED TERMINAL SECTION
SCALE: 1"=10'-0"



PROPOSED TERMINAL SECTION
SCALE: 1"=10'-0"

**PRELIMINARY DESIGN
NOT FOR CONSTRUCTION**

TERMINAL BUILDING PLANS

SALEM PORT EXPANSION
CITY OF SALEM
SALEM, MA
AUGUST 2008

REVISIONS	 Bourne Consulting Engineering 3 Main Street Franklin, MA 01902 TEL: (508) 633-0000 FAX: (508) 633-0000	
	DRAWN: JSF	
	CHECKED:	
	APPROVED:	
	DATE: 08/27/08	
	DRAWING NO. 27677-01-03	
	SHEET 14 OF 14	