January 19, 2016

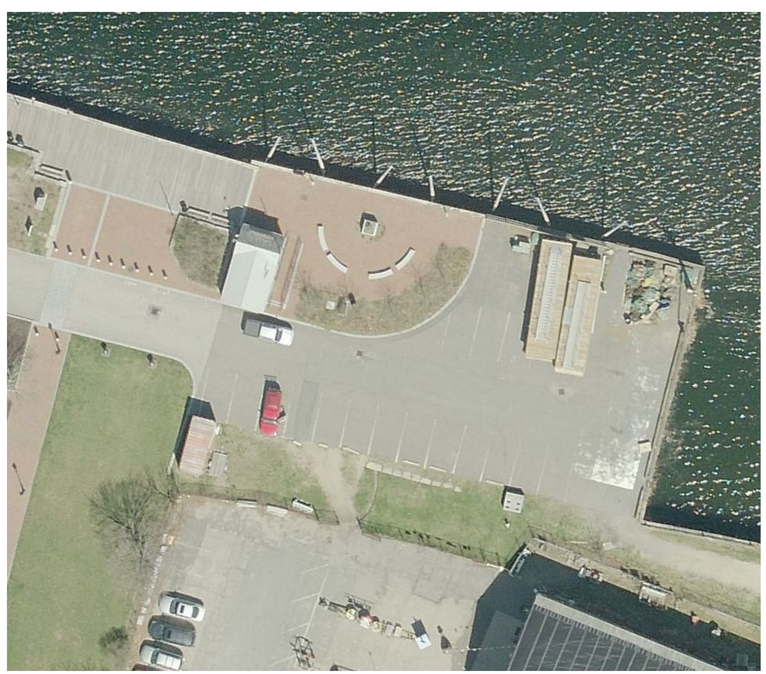
A New Facility for:

The Newburyport Harbormaster

Newburyport, MA 01950

OLSON LEWIS + ARCHITECTS
17 Elm Street
Manchester, MA 01944
978 526 4386
olsonlewis.com

Perspective View From River



Aerial View - Locus

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C2 Site / Utilities Plan
C3 Enlarged Site Layout Plan
C4 Construction Details

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L2.0 Planting Plan
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L3.2 Landscape Details
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Security:

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SEC.1 First Floor Security
SEC.2 Second Floor Security

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437 Merrimac Street
Newburyport, Massachusetts 01950
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Newbury, MA 01951
(978) 462-4331

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120 Middlesex Avenue
Somerville, MA 02145
(617) 776-3350

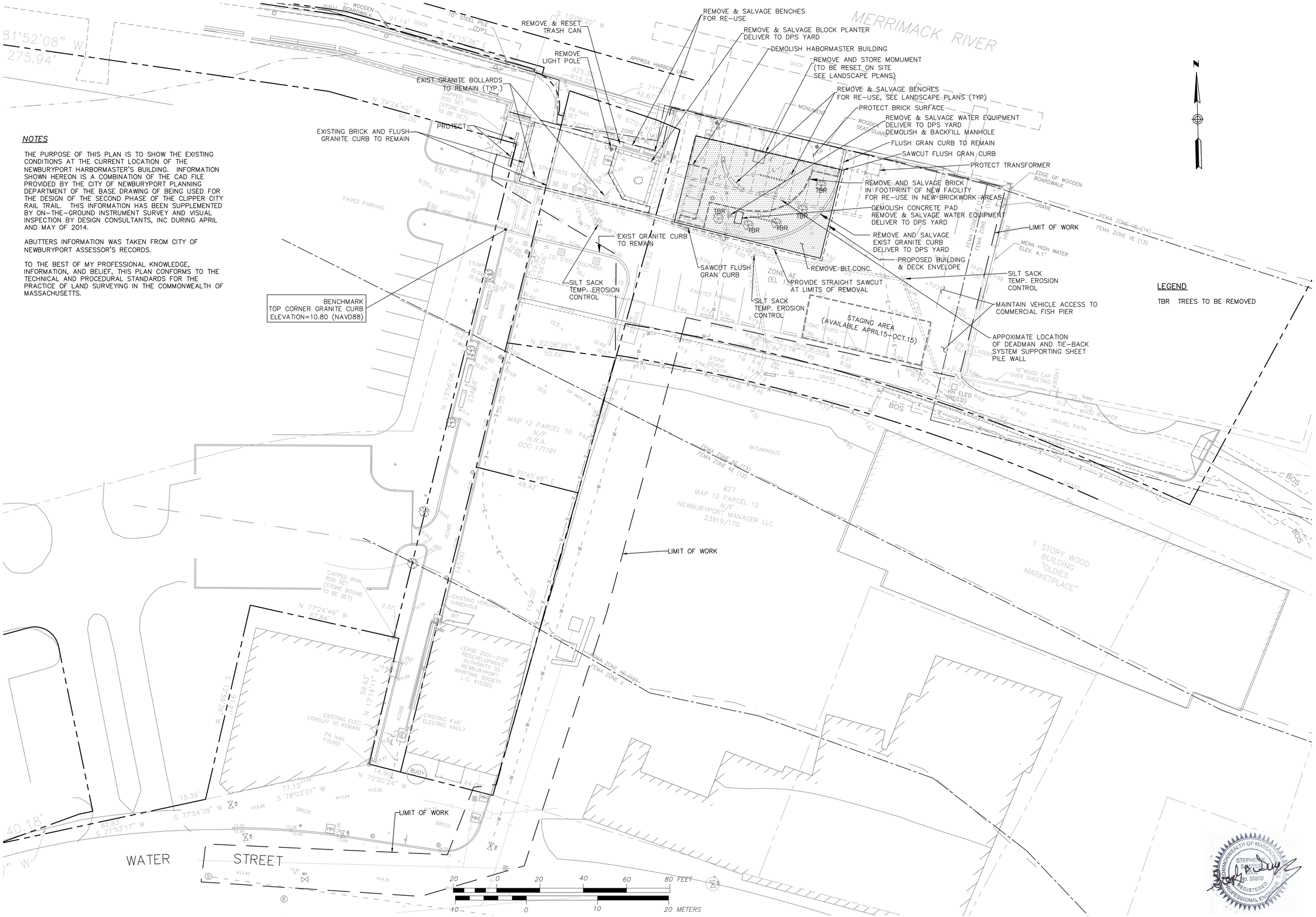
Halvorson Design Partnership
Landscape Architect
25 Kingston Street
Boston, MA 02111-2200
(617) 536-0626

NOTES

THE PURPOSE OF THIS PLAN IS TO SHOW THE EXISTING CONDITIONS AT THE CURRENT LOCATION OF THE NEWBURYPORT HARBORMASTER'S BUILDING. INFORMATION SHOWN HEREON IS A COMBINATION OF THE CAD FILE PROVIDED BY THE CITY OF NEWBURYPORT PLANNING DEPARTMENT OF THE BASE DRAWING OF BEING USED FOR THE DESIGN OF THE SECOND PHASE OF THE CLIPPER CITY RAIL TRAIL. THIS INFORMATION HAS BEEN SUPPLEMENTED BY ON-THE-GROUND INSTRUMENT SURVEY AND VISUAL INSPECTION BY DESIGN CONSULTANTS, INC DURING APRIL AND MAY OF 2014.

ABUTTERS INFORMATION WAS TAKEN FROM CITY OF NEWBURYPORT ASSESSOR'S RECORDS.

TO THE BEST OF MY PROFESSIONAL KNOWLEDGE, INFORMATION, AND BELIEF, THIS PLAN CONFORMS TO THE TECHNICAL AND PROCEDURAL STANDARDS FOR THE PRACTICE OF LAND SURVEYING IN THE COMMONWEALTH OF MASSACHUSETTS.



A New Transient Boaters Facility for :

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CONSTRUCTION DOCUMENTS

EXISTING CONDITIONS AND DEMOLITION PLAN

Project No. 14001 | Scale: 1" = 20' | JAN. 19, 2016

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C1

GENERAL NOTES

1. ALL WORK PERFORMED AS PART OF THIS PROJECT SHALL CONFORM TO THE CITY OF NEWBURYPORT, DEPT. OF PUBLIC WORKS AND ANY OTHER AGENCY WITH AUTHORITY IN THIS AREA. DPS SHALL BE NOTIFIED AT LEAST 72 HOURS IN ADVANCE OF EXCAVATION AND TESTING OF SEWER AND WATER.
2. CONTRACTOR TO MAINTAIN WORK AREA IN A CLEAN CONDITION. NO CONSTRUCTION DEBRIS SHALL BE ALLOWED TO ACCUMULATE WITHIN THE WORK SITE AND NO DIRT, GRAVEL, ETC. SHALL BE ALLOWED TO ACCUMULATE ON THE PUBLIC RIGHT-OF-WAY.
3. AREAS OUTSIDE THE LIMITS OF PROPOSED WORK DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE.
4. A TYPICAL 6" CURB REVEAL SHALL BE MAINTAINED WHERE POSSIBLE. THE CONTRACTOR SHALL IDENTIFY AREAS WHICH CANNOT MAINTAIN 6" OF REVEAL DUE TO EXISTING GRADES ON THE BACK OF THE SIDEWALK. THE CONTRACTOR WILL REVIEW THESE AREAS WITH THE ENGINEER PRIOR TO PLACEMENT OF CURB.
5. A 1.5% CROSS SLOPE SHALL BE MAINTAINED ON ALL PROPOSED SIDEWALKS. TRANSITION AREAS MAY BE NECESSARY TO MEET EXISTING GRADES.

UTILITY & DRAINAGE NOTES

1. THIS PLAN DOES NOT NECESSARILY DEPICT THE EXACT LOCATION AND SIZE OF ALL UTILITIES WHICH MAY EXIST AT THIS TIME INSIDE OR OUTSIDE OF EXISTING OR PROPOSED BUILDINGS, ON THE SUBJECT PROPERTY, WITHIN THE STREET ROW, OR ON ABUTTING LOTS.
2. CITY OF NEWBURYPORT MUNICIPAL UTILITIES (WATER, SEWER & DRAIN) ARE NOT PART OF DIG-SAFE. REQUEST FOR MARKINGS CAN BE MADE BY CALLING DIG-SAFE AT 1-888-344-7233 AT LEAST 72 HOURS PRIOR TO EXCAVATION. STREET OPENING PERMITS SHOULD ALSO BE FILED AT THAT TIME.
3. ALL UTILITIES SHOWN ON THIS SITE ARE TO THE EXTERIOR OF THE BUILDING FOUNDATION ONLY. UTILITIES THROUGH THE FOUNDATION AND INSIDE THE BUILDING ARE THE RESPONSIBILITY OF THE MECHANICAL ENGINEER. SEE MECHANICAL ENGINEERING PLANS.
4. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING AND RECORDING THE EXACT LOCATION OF ALL PROPOSED UTILITY CONNECTIONS. THE PROPOSED GAS, ELECTRIC AND/OR CATV INSTALLATION SHALL BE COORDINATED BY THE CONTRACTOR WITH THE RESPECTIVE COMPANY. CONTRACTOR SHALL PROVIDE THE ENGINEER AN "AS-BUILT' PLAN FOR ALL UTILITIES SHOWN BY FILED MEASUREMENTS.
5. FINAL DEMARCATION POINTS FOR GAS, ELECTRIC, TELEPHONE, AND COMMUNICATION SERVICE ENTRANCES ARE SUBJECT TO APPROVALS OF EACH PROVIDER.
6. A DYE TEST SHALL BE PERFORMED PRIOR TO THE ISSUANCE OF AN OCCUPANCY PERMIT.
7. THE CONTRACTOR SHALL SUPPLY ALL PIPING FOR THE UTILITY SERVICES AND SHALL SUPPLY ALL ASSOCIATED APPURTENANCES, FITTING AND VALVES UNLESS NOTED OTHERWISE. THE CONTRACTOR SHALL PERFORM ALL WET AND DRY TAPS AS PART OF HIS/HER CONTRACT.
8. CITY OF NEWBURYPORT RESERVES THE RIGHT TO INSPECT ALL FACILITIES DISCHARGING TO THE CITY DRAIN AND/OR SEWER SYSTEMS.
9. WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, THE LOCATION, ELEVATION AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR, AND THE INFORMATION SHALL FURNISH TO THE ENGINEER FOR RESOLUTION OF THE CONFLICT.
10. TRENCH AREAS FOR THE CONSTRUCTION OF THE UNDERGROUND UTILITIES ARE TO BE REPATCHED WITH SAME MATERIAL AT THE SAME DEPTH AS THE EXISTING MATERIAL. THE AREAS OF TRENCHING SHALL BE NEATLY SAW-CUT AND THE NEW REPATCHING MATERIAL SHALL BE PROPERLY SEALED IN ACCORDANCE WITH CITY OF NEWBURYPORT MUNICIPAL STANDARDS.
11. DURING EXCAVATION AND CONSTRUCTION OF PIPES AND STRUCTURES, TRENCHES MUST BE ADEQUATELY BRACED AND PROTECTED AGAINST CAVE-IN.
12. NO TRENCHES WILL BE ALLOWED TO REMAIN OPEN OVERNIGHT. ALL TRENCHES SHALL BE BACKFILLED AT THE END OF THE WORK DAY OR COVERED WITH STEEL PLATES PER 520 CMR 14.00 EXCAVATION AND TRENCH SAFETY. IF STEEL PLATES ARE USED, THE TOTAL LENGTH OF PLATES IN THE TRAVELED WAY SHALL LIMITED TO 50'
13. THE CONTRACTOR IS ADVISED THAT STRUCTURES ARE LOCATED CLOSE TO SOME OF THE PROPOSED WORK AND THAT CONSTRUCTION ACTIVITIES SHALL BE CONDUCTED SO AS TO PRECLUDE DAMAGE TO THESE STRUCTURES AND UNDUE ANNOYANCE TO OCCUPANTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGE CAUSED BY HIS ACTIVITIES.
14. NO TRENCHING WITHIN 10 FEET OF CUSTOM HOUSE BUILDING.
15. INSTALL WALL MOUNTED VIBRATION MONITORS AT GRADE. LIMIT PEAK PARTICLE VELOCITY (PPV) TO 0.1 INCHES PER SECOND AS MEASURED AT CUSTOM HOUSE WALL MOUNTED MONITORS

PIPE MATERIALS:

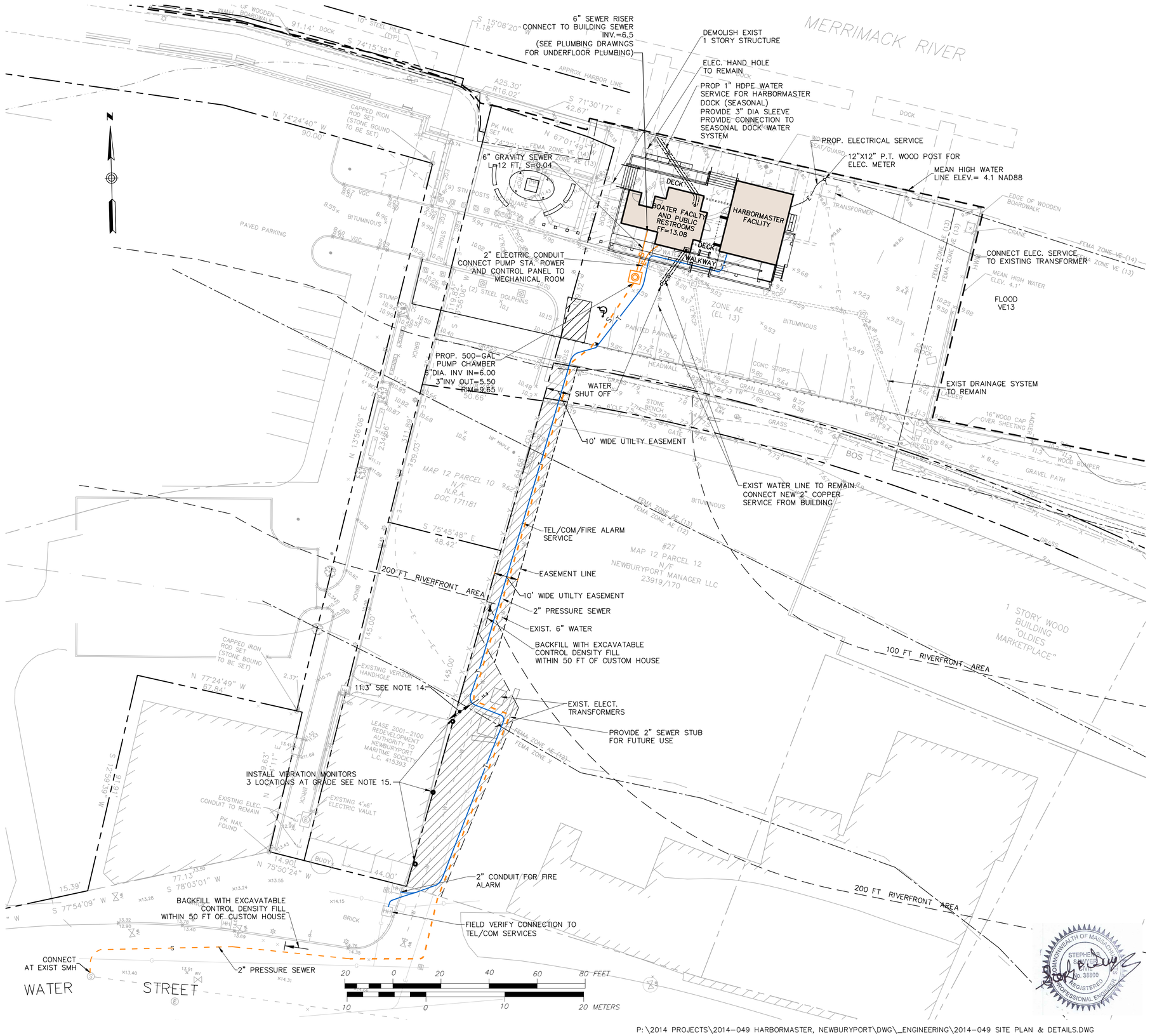
DOMESTIC WATER SERVICE: 2 INCH COPPER TUBING TYPE K

SEASONAL WATER SERVICE: 1 INCH COPPER TYPE K

ALL WATER LINES SHALL HAVE A MINIMUM OF FIVE (5) FEET OF COVER

SEWER: 2 INCH POLYETHYLENE PRESSURE SERVICE
6 INCH PVC GRAVITY SERVICE
ASTM D3034-SDR 35

ROOF DRAIN: 6 INCH PVC ASTM D3034-SDR 35
(UNLESS OTHERWISE NOTED)
MINIMUM SLOPE= 0.005
MINIMUM COVER= 2'



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SITE / UTILITIES PLAN

Project No. 14001 | Scale: 1" = 20' | JAN. 19, 2016

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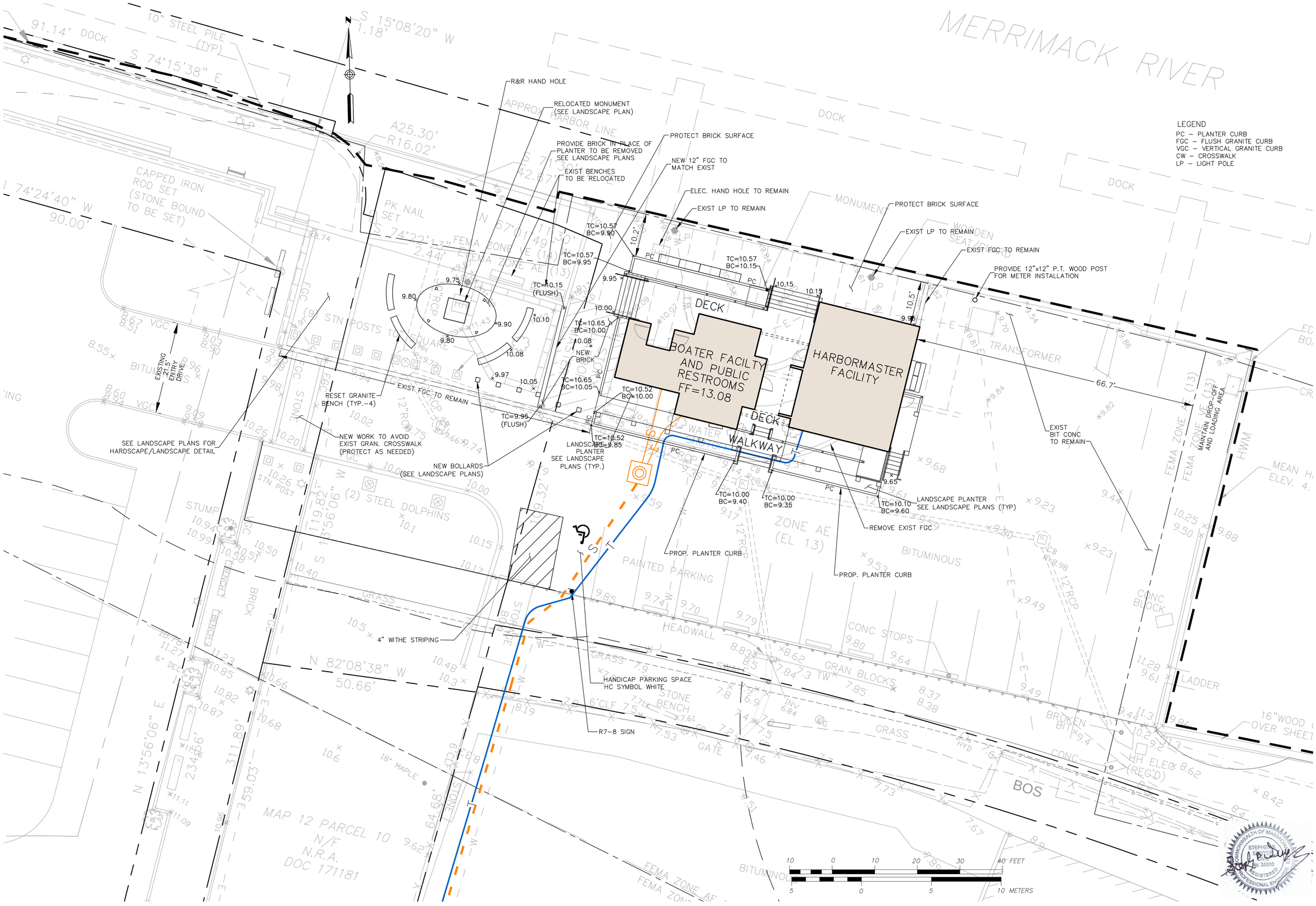
COMMONWEALTH OF MASSACHUSETTS
STEPHEN R. SMITH
No. 38800
REGISTERED PROFESSIONAL ENGINEER

C2



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CONSTRUCTION DOCUMENTS

ENLARGED SITE LAYOUT PLAN

Project No. 14001 | Scale: 1" = 10' | JAN. 19, 2016

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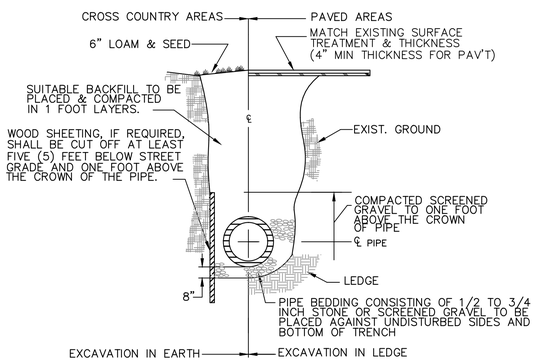
C3



TRENCH EXCAVATION

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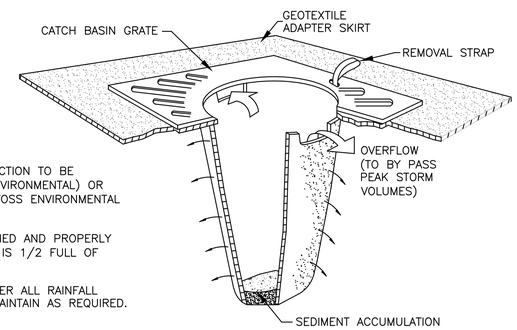


NOTES

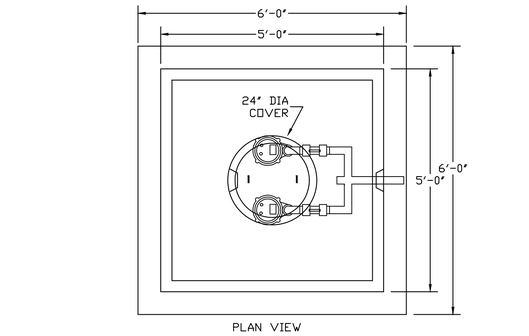
1. CATCH BASIN PROTECTION TO BE "SILTSACK" (BY ACF ENVIRONMENTAL) OR "STREAM GUARD" (BY FOSS ENVIRONMENTAL SERVICES) OR EQUAL.

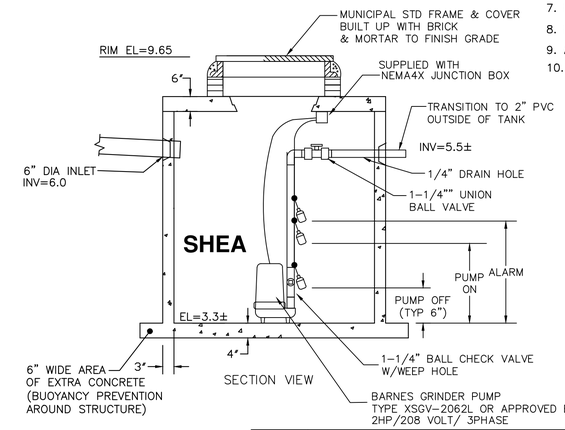
2. INSERT TO BE EMPTIED AND PROPERLY DISPOSED OF WHEN IT IS 1/2 FULL OF SEDIMENT.

3. INSPECT INSERT AFTER ALL RAINFALL EVENTS, REPAIR AND MAINTAIN AS REQUIRED.

SILT SACK @ CATCH BASIN

NOT TO SCALE





NOTES:

1. CONCRETE: 4,000 PSI MINIMUM AFTER 28 DAYS.
2. DESIGN CONFORMS WITH 310 CMR 15.000, DEP TITLE 5 REGS, FOR PUMP CHAMBERS.
3. ALL REINFORCEMENT PER ASTM C1227.
4. H-20 LOADING REQUIRED.
5. JOINT SEALED WITH BUTYL RESIN.
6. PUMPS, FLOATS AND PIPE INSTALLED IN CHAMBER. FLOAT ELEVATIONS SET UPON REQUEST.
7. PROVIDE NEMA1 PUMP CONTROL PANEL W/ALARM.
8. PACKAGED SYSTEM PROVIDED BY SHEA CONCRETE, INC.
9. ALARM TO BE LOCATED ON EXTERIOR OF BUILDING
10. CONTROL PANEL TO BE LOCATED IN MECHANICAL ROOM

PUMP CHAMBER BUOYANCY CALCULATION

BOTTOM OF TANK EL.=2.94±
E.S.H.G.W.=8.6± (TOP OF TANK)

UPLIFT FORCE:
5.66'(5'x5') x 62.4 LB/CF= 8,844 LB

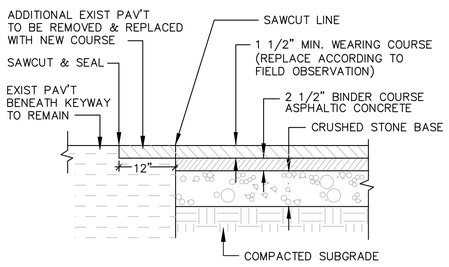
DOWNWARD FORCE:
WEIGHT OF TANK= 6,700 LB
WEIGHT OF SOIL (TOP)
= 1.0'(6'x6') x 100 LB/CF= 3,600 LB
WEIGHT OF SOIL (SIDES)
= 11 SF(TOTAL) x 5.33 FT x 100 LB/CF= 5,863 LB

TOTAL= 16,163 LB

SAFETY FACTOR:
16,163 LB/8,844 LB= 1.8

500-GALLON DUPLEX PUMP CHAMBER PACKAGE

NOT TO SCALE



PAVEMENT DETAIL

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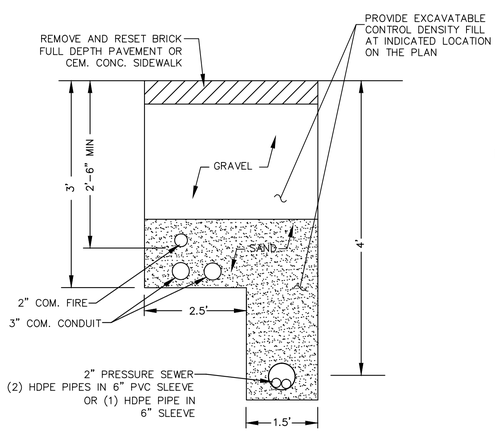
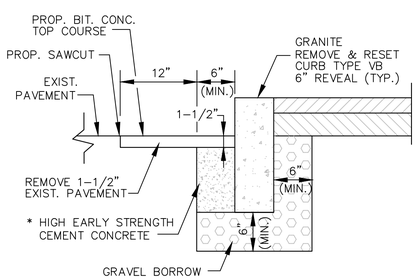


SEWER/CONDUIT TRENCH

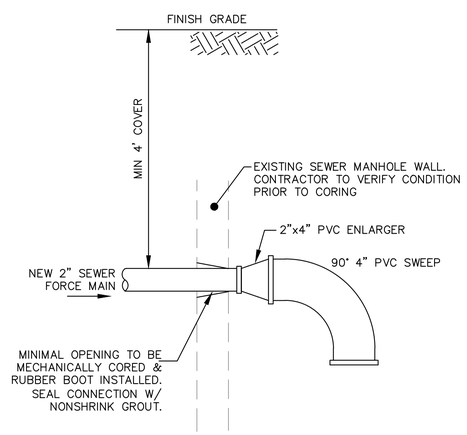
NOT TO SCALE



* HIGH EARLY STRENGTH CONCRETE BASE COURSE SHALL BE INCLUDED IN THE LINEAR FOOT PRICE OF GRANITE CURB.

GRANITE CURB IN EXISTING PAVEMENT

NOT TO SCALE



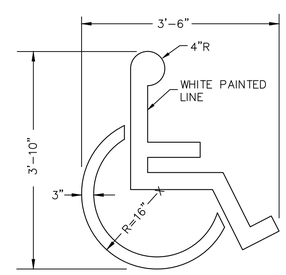
NEW SEWER CONNECTION TO EXISTING MANHOLE

NOT TO SCALE

12"WIDTH x 18"HIGHT

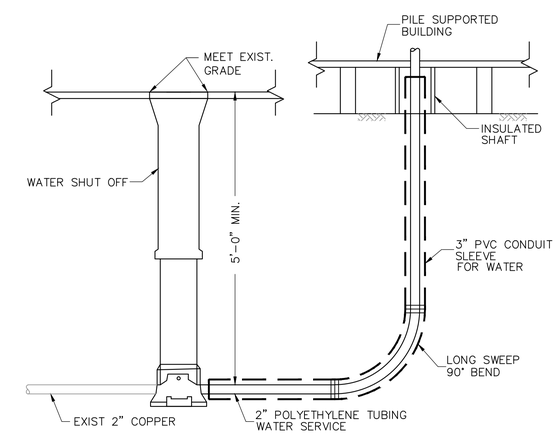
HANDICAP SIGN (R7-8)

NOT TO SCALE



PAINTED HANDICAP SYMBOL

NOT TO SCALE



WATER CONNECTION FOR 2" SERVICE PIPE

NOT TO SCALE

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JAN. 19, 2016

Scale: As Noted

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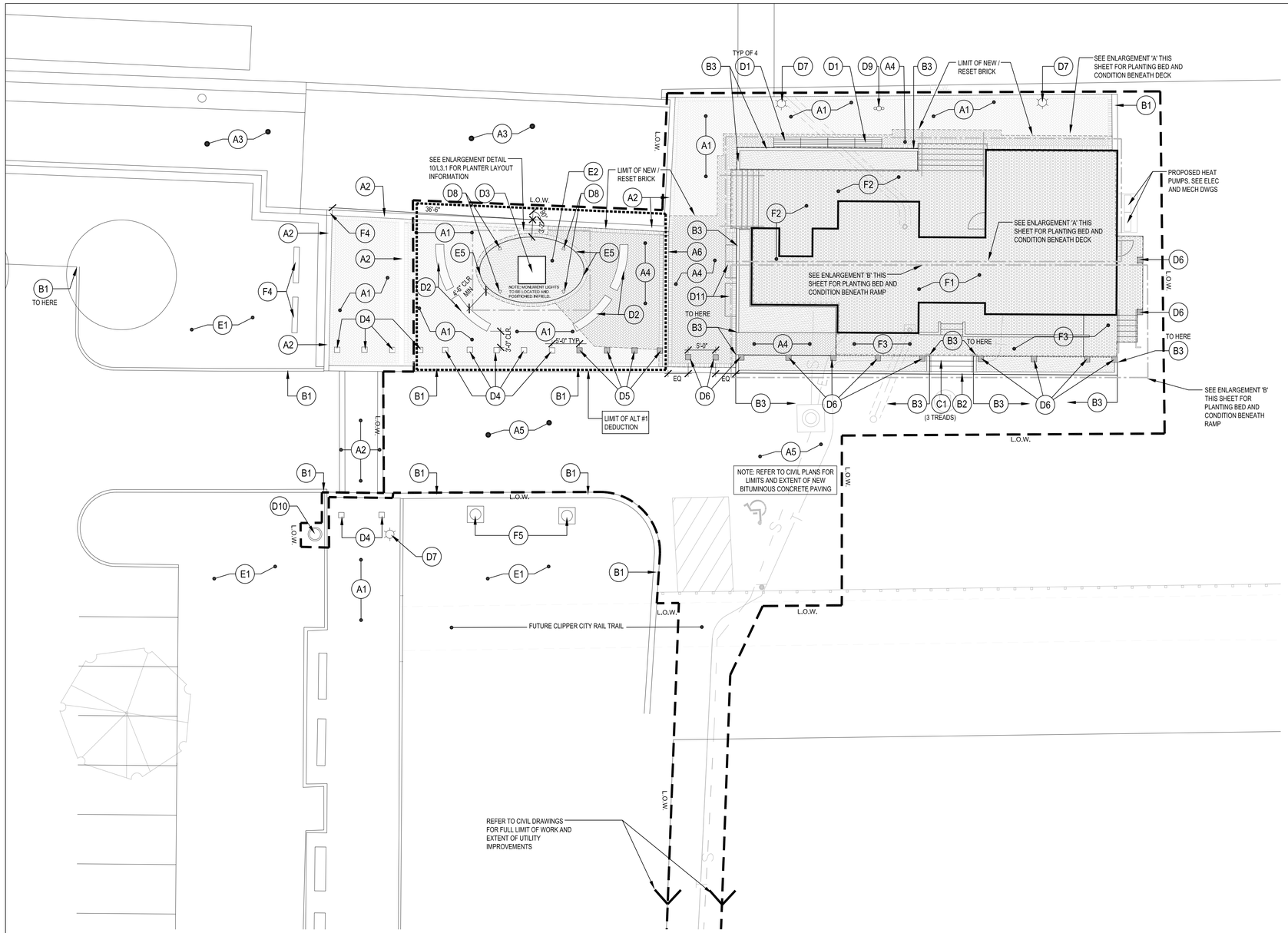
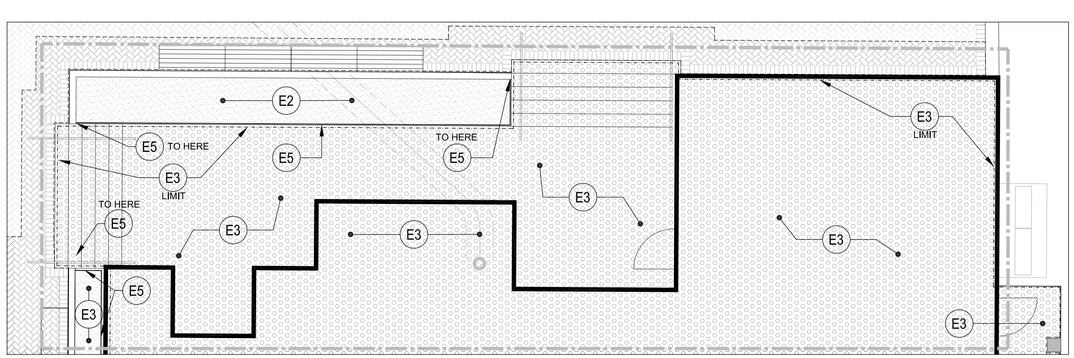


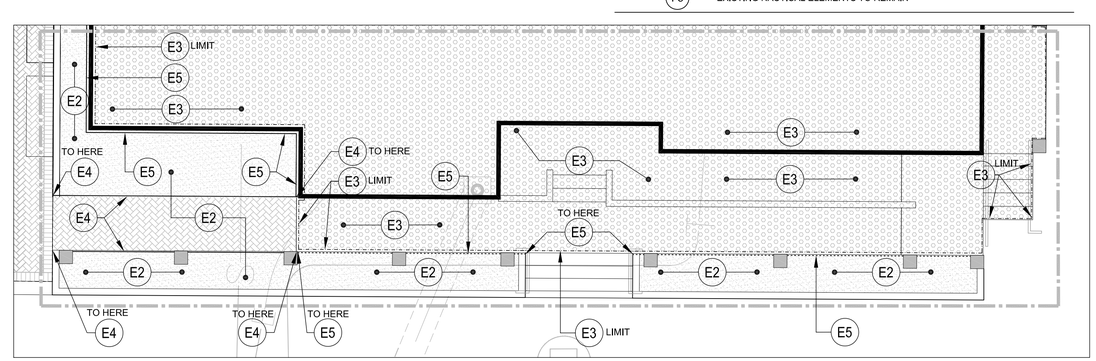
MATERIALS LEGEND

SYMBOL	TAG	DESCRIPTION	DETAIL
PAVING			
	A1	EXISTING BRICK PAVERS IN PEDESTRIAN CONDITION TO REMAIN	
	A2	EXISTING GRANITE PAVING TO REMAIN	
	A3	EXISTING BOARDWALK TO REMAIN	
	A4	REINSTALL EXISTING STOCKPILED OR NEW BRICK PAVERS - PEDESTRIAN CONDITION	1 L3.1, 2 L3.1
	A5	BITUMINOUS CONCRETE PAVING - VEHICULAR CONDITION - SEE CIVIL DWGS	
	A6	REINSTALL EXISTING STOCKPILED OR NEW 12" FLUSH GRANITE EDGE - PEDESTRIAN CONDITION	3 L3.1
CURBS			
	B1	EXISTING GRANITE CURB TO REMAIN (REVEAL VARIES)	
	B2	GRANITE ROADWAY CURB - 6" WIDTH - FLUSH CONDITION	6 L3.1
	B3	GRANITE PLANTER CURB	5 L3.1
STAIRS			
	C1	GRANITE ENTRY STAIR	8 L3.1
FURNISHINGS			
	D1	FREESTANDING BENCH	1 L3.2
	D2	RELOCATED AND RESET EXISTING GRANITE BENCHES	2 L3.2
	D3	RELOCATED AND RESET FISHERMAN'S MEMORIAL	9 L3.1, 10 L3.1
	D4	EXISTING GRANITE BOLLARDS TO REMAIN	
	D5	NEW GRANITE BOLLARDS - TYPE 1	3 L3.2
	D6	NEW GRANITE BOLLARDS - TYPE 2	3 L3.2 SIM
	D7	EXISTING POLE MOUNTED LIGHT TO REMAIN	
	D8	GROUND MOUNTED MONUMENT SPOT LIGHT - SEE ELEC DWGS	
	D9	NAUTICAL FLAGPOLE WITH FLAGPOLE TUNNEL LIGHTS	4 L3.2
	D10	RELOCATED AND RESET EXISTING TRASH RECEPTACLE	
	D11	RELOCATED AND RESET EXISTING WOOD BENCHES	1 L3.2 SIM
SOILS & PLANTING			
	E1	EXISTING PLANTING BED / LAWN AREA TO REMAIN	
	E2	PLANTING BED WITH PLANTING MEDIUM	5 L3.2
	E3	CRUSHED STONE SURFACE BENEATH DECK, WOOD WALKWAY & BLDG	4 L3.1
	E4	CORTEN STEEL EDGE AT PLANTING / BRICK WALKWAY INTERFACE	1 L3.3
	E5	METAL EDGE AT PLANT BED INTERFACE	4 L3.1, 1 L3.3
ARCHITECTURE / MONUMENTS			
	F1	PROPOSED HARBORMASTER FACILITY - SEE ARCH DWGS	
	F2	FRONT PORCH AT HARBORMASTER FACILITY - SEE ARCH DWGS	
	F3	REAR PORCH AND ACCESSIBLE WALKWAY AT HARBORMASTER FACILITY - SEE ARCH DWGS	
	F4	EXISTING MONUMENTS TO REMAIN	
	F5	EXISTING NAUTICAL ELEMENTS TO REMAIN	



PLANTING BED & BELOW DECK CONDITION - ENLARGEMENT A

SCALE: 3/16" = 1'-0"



PLANTING BED & BELOW RAMP/DECK CONDITION - ENLARGEMENT B

SCALE: 3/16" = 1'-0"

0' 5' 10' 20' 40'

HALVORSON DESIGN PARTNERSHIP
LANDSCAPE ARCHITECTURE
35 KINGSTON ST. BOSTON MA 02111-1220
TEL 617.350.5911 FAX 617.350.0635
WWW.HALVORSONDESIGN.COM

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REVISIONS

MASSACHUSETTS ROBERT R. UNDE No. 661 REGISTERED LANDSCAPE ARCHITECT

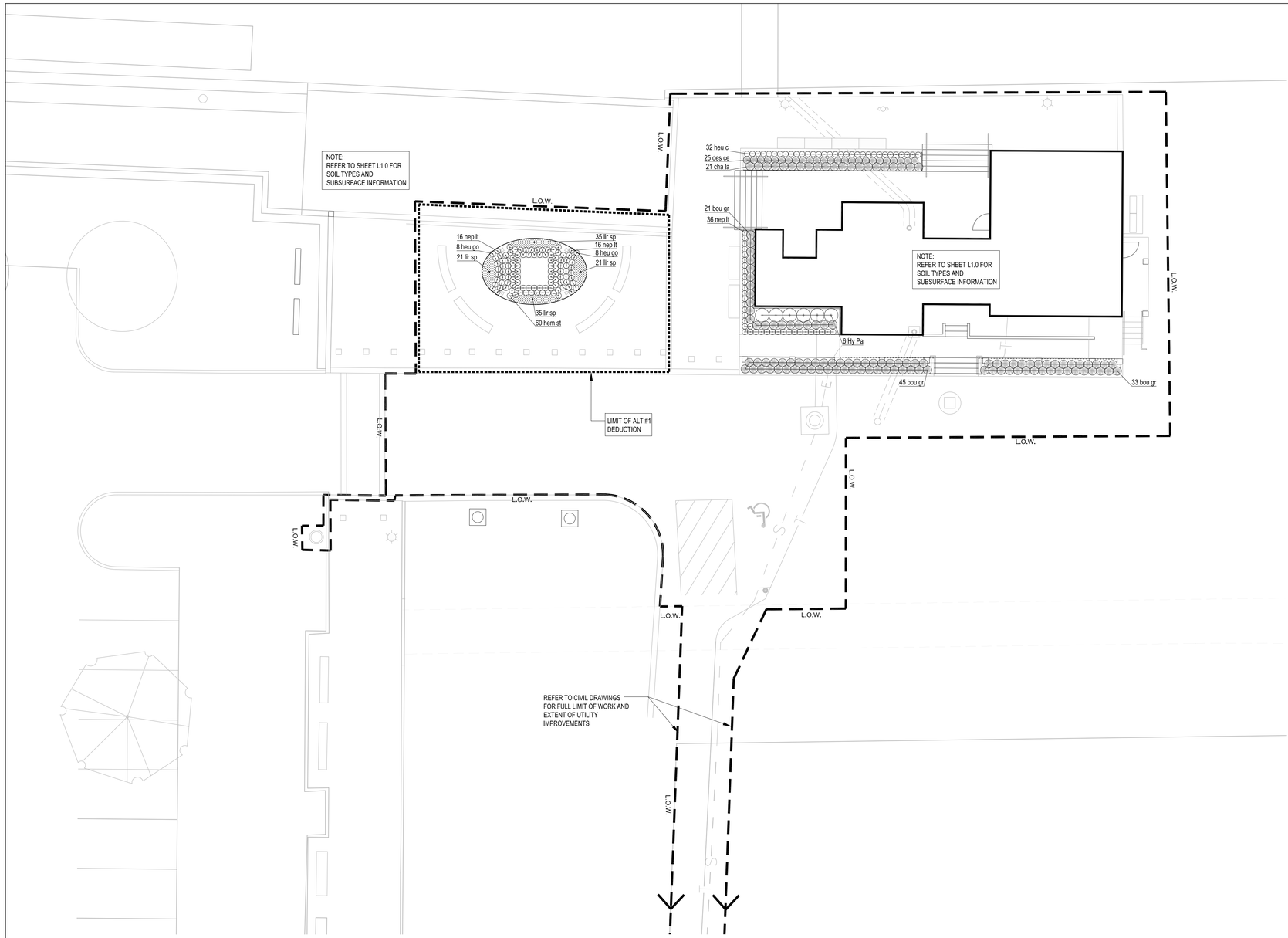
PROJECT NO:	13025
DRAWN BY:	SL
CHECKED BY:	BU
SCALE:	1"=10'-0"

100% CONSTRUCTION DOCUMENTS

JANUARY 19, 2016

MATERIALS & LAYOUT PLAN

L1.0



PLANTING NOTES

1. LANDSCAPE ARCHITECT TO APPROVE PLANT MATERIAL AT NURSERY SOURCE PRIOR TO DELIVERY TO SITE.
2. PLANT MATERIAL SHALL CONFORM TO "THE AMERICAN STANDARD FOR NURSERY STOCK", PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN, INC.
3. NO SUBSTITUTIONS OF PLANT SPECIES WITHOUT LANDSCAPE ARCHITECT'S WRITTEN APPROVAL.
4. SUBSTITUTIONS OF PLANT SPECIES SHALL BE A PLANT OF EQUIVALENT OVERALL FORM, HEIGHT AND BRANCHING HABIT, FLOWER, LEAF AND FRUIT, COLOR AND TIME OF BLOOM, AS APPROVED OF BY LANDSCAPE ARCHITECT.
5. LOCATE AND VERIFY UTILITY LINE LOCATIONS PRIOR TO STAKING AND REPORT CONFLICT TO LANDSCAPE ARCHITECT.
6. NO PLANTING TO BE INSTALLED BEFORE ACCEPTANCE OF ROUGH GRADING.
7. INSTALL PLANTS WITH ROOT FLARES FLUSH WITH FINISHED GRADE. IMMEDIATELY REPLANT PLANTS THAT SETTLE OUT OF PLUMB OR BELOW FINISHED GRADE.
8. WATER PLANTS THOROUGHLY AFTER INSTALLATION, A MINIMUM OF TWICE WITHIN THE FIRST 24 HOURS.
9. REPAIR DAMAGE DUE TO OPERATIONS INSIDE AND OUTSIDE OF LIMIT OF WORK

PLANTING SCHEDULE

Symbol	Quantity	Botanical Name	Common Name	Size	Spacing	Notes
SHRUBS						
Hy Pa	6	*Hydrangea paniculata 'Jane'*	Little Lime Hydrangea	24"-30"	30" O.C.	
PERENNIALS, GRASSES & GROUNDCOVERS						
bou gr	99	*Bouteloua gracilis 'Blond Ambition'*	Blond Mosquito Grass	2 GAL	18" O.C.	
cha la	21	*Chasmanthium latifolium 'River Mist'*	Variegated Northern Sea Oat Grass	2 GAL	18" O.C.	
des ce	25	*Deschampsia cespitosa 'Pixie Fountain'*	Dwarf Tufted Hair Grass	2 GAL	15" O.C.	
hem st	60	*Hemerocallis 'Stella de Oro'*	Stella de Oro Daylily	1 GAL	12" O.C.	
heu go	16	*Heuchera 'Gotham'*	Coral Bells	1 GAL	12" O.C.	
heu ci	32	*Heucherella 'Cracked Ice'*	Foamy Bells	1 GAL	12" O.C.	
lir sp	112	*Liriope spicata*	Lilyturf	4 INCH	8" O.C.	
nep lt	68	*Nepeta 'Little Trudy'*	Little Trudy Catmint	1 GAL	12" O.C.	

0' 5' 10' 20' 40'

HALVORSON DESIGN
PARTNERSHIP
LANDSCAPE ARCHITECTURE

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A New Transient Boaters Facility for :

The Newburyport Harbormaster

Newburyport, MA 01950

REVISIONS

MASSACHUSETTS ROBERT R. UNDE No. 661 REGISTERED LANDSCAPE ARCHITECT

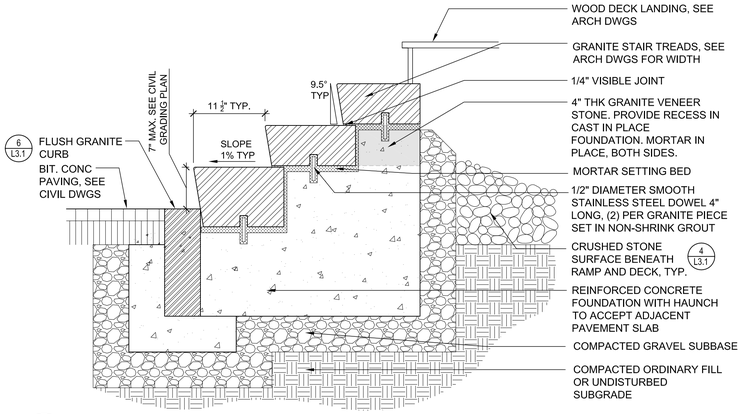
PROJECT NO:	13025
DRAWN BY:	SL
CHECKED BY:	BU
SCALE:	1" = 10'-0"

100% CONSTRUCTION DOCUMENTS

JANUARY 19, 2016

PLANTING PLAN

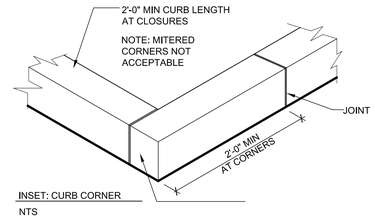
L2.0

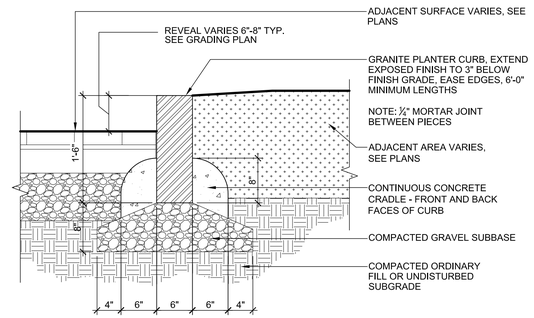


8 GRANITE ENTRY STAIR

SCALE: 1" = 1'-0"

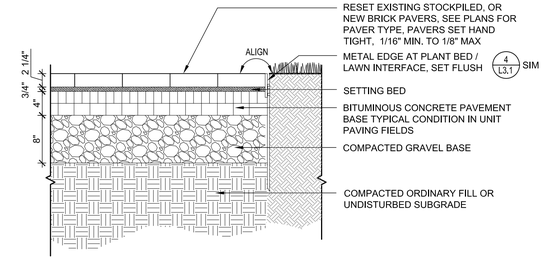
NOTES:
1. PROVIDE STRAIGHT AND CURVED/RADIAL CURB LENGTHS AND CURB CORNERS AS INDICATED AND SHOWN ON PLANS. PROVIDING STRAIGHT SEGMENTS IN LIEU OF CURVED/RADIAL FOR CURVES UNDER 200' RADIUS IS NOT ACCEPTABLE.
2. 1/4" MORTAR JOINT BETWEEN ADJACENT PIECES, RAKED SMOOTH





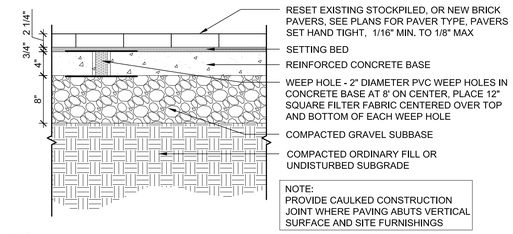
5 GRANITE PLANTER CURB

SCALE: 1" = 1'-0"



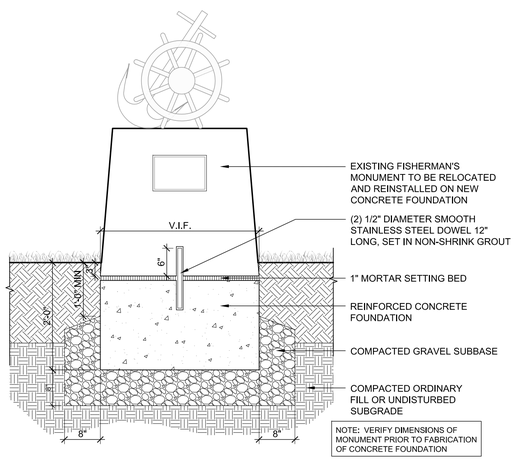
1 BRICK PAVERS ON BITUMINOUS BASE - PEDESTRIAN

Scale: 1"=1'-0"



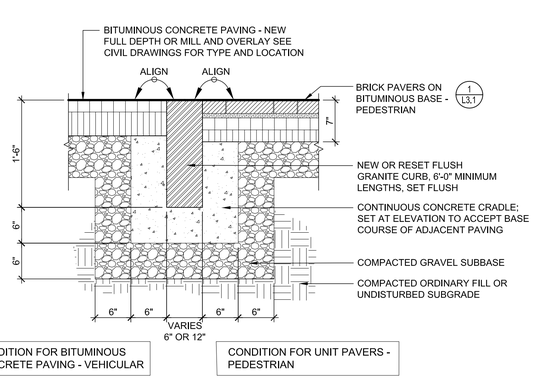
2 BRICK PAVERS ON CONCRETE BASE - PEDESTRIAN

Scale: 1"=1'-0"



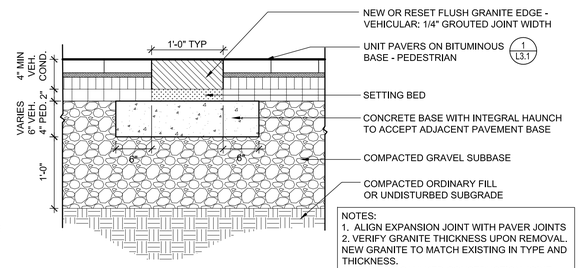
9 RELOCATED MONUMENT ON NEW CONCRETE FOUNDATION

Scale: 3/4" = 1'-0"



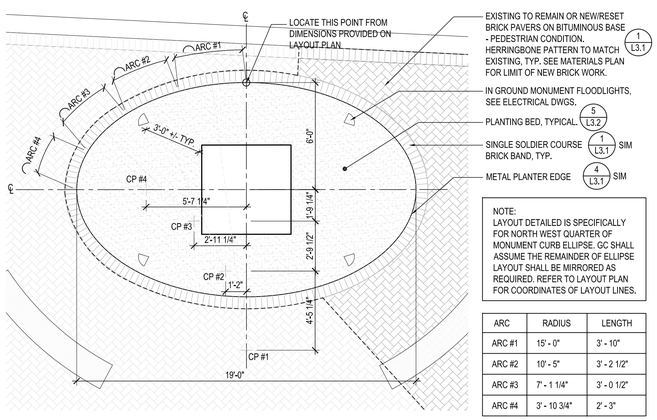
6 FLUSH GRANITE CURB - 6" OR 12" WIDTH

SCALE: 1" = 1'-0"



3 NEW OR RESET FLUSH GRANITE EDGE

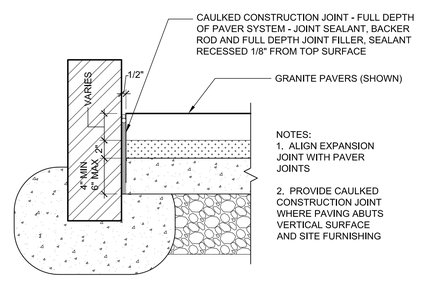
SCALE: 1" = 1'-0"



ARC	RADIUS	LENGTH
ARC #1	15' - 0"	3' - 10"
ARC #2	10' - 5"	3' - 2 1/2"
ARC #3	7' - 1 1/4"	3' - 0 1/2"
ARC #4	3' - 10 3/4"	2' - 3"

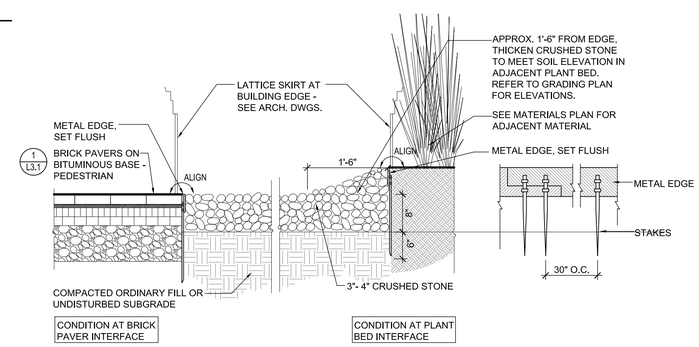
10 ENLARGEMENT - ELLIPSE LAYOUT AT MONUMENT

Scale: 1/4"=1'-0"



7 CAULKED CONSTRUCTION JOINT AT VERTICAL SURFACES

SCALE: 1 1/2"=1'-0"



4 CRUSHED STONE SURFACE WITH METAL EDGE

Scale: 3/4" = 1'-0"

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A New Transient Boaters Facility for :

The Newburyport Harbormaster

Newburyport, MA 01950

REVISIONS

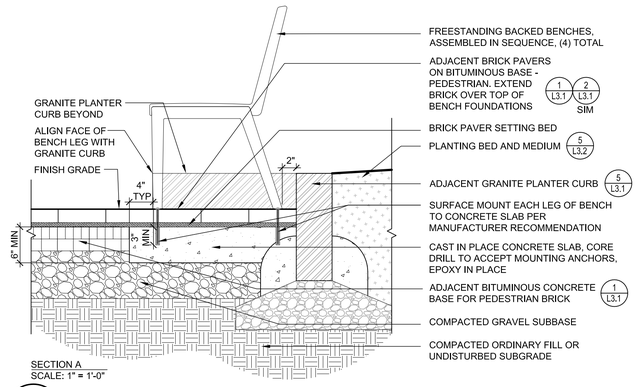
PROJECT NO:	13025
DRAWN BY:	SL
CHECKED BY:	BU
SCALE:	AS NOTED

100% CONSTRUCTION DOCUMENTS

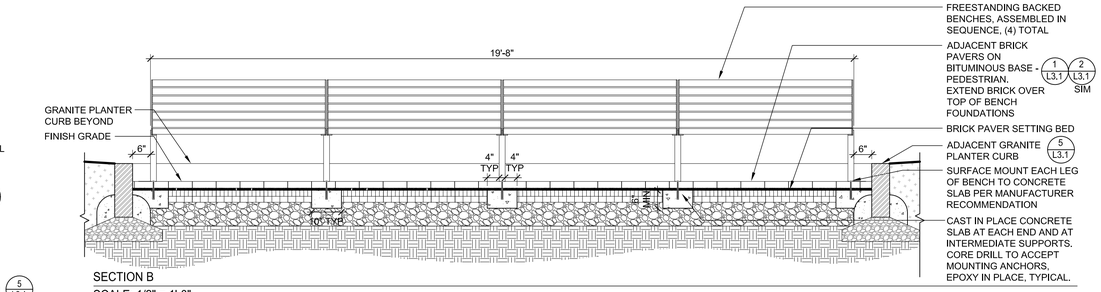
JANUARY 19, 2016

LANDSCAPE DETAILS

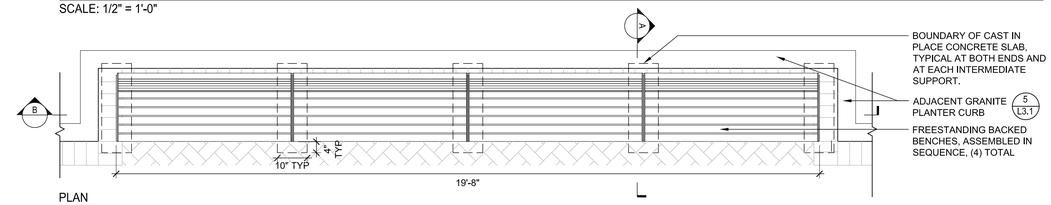
L3.1



SECTION A
SCALE: 1" = 1'-0"



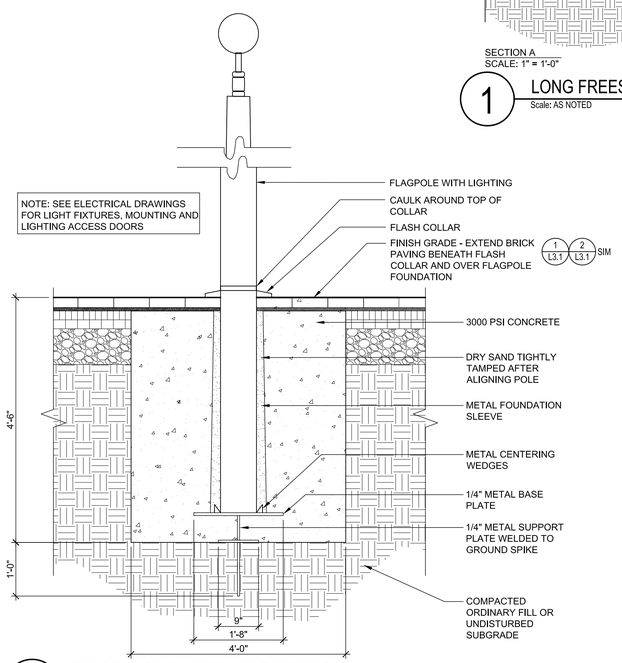
SECTION B
SCALE: 1/2" = 1'-0"



PLAN
SCALE: 1/2" = 1'-0"

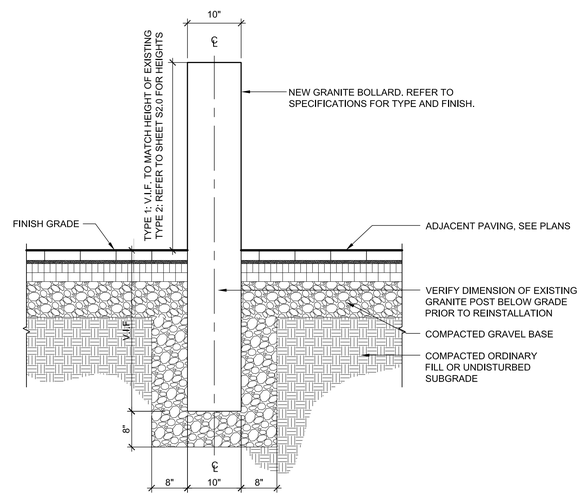
1 LONG FREESTANDING BENCH - SURFACE MOUNT CONDITION

Scale: AS NOTED



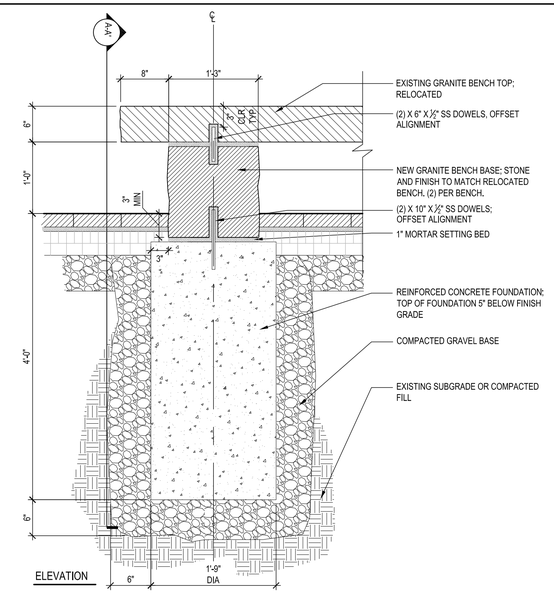
4 FLAGPOLE WITH LIGHTING

Scale: 3/4"=1'-0"

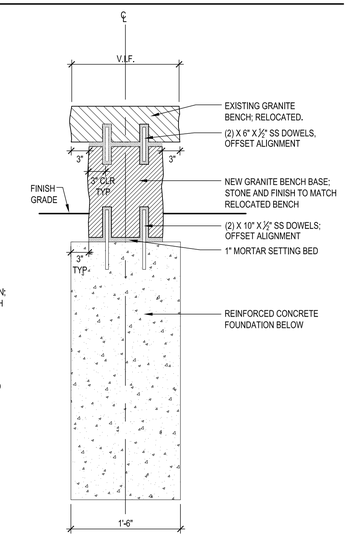


3 NEW GRANITE BOLLARD - TYPE 1 & 2

Scale: 3/4"=1'-0"



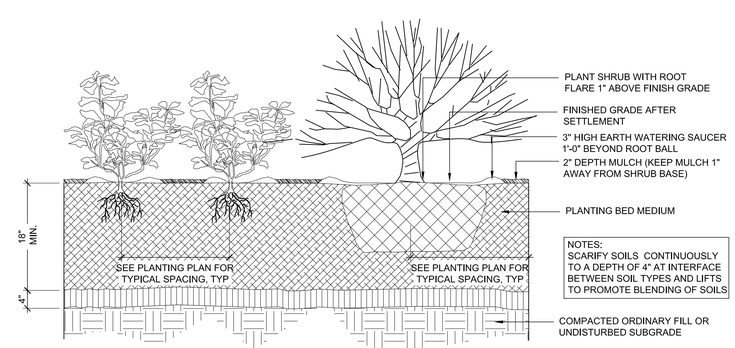
ELEVATION



SECTION A-A' AT BENCH BASE

2 EXISTING GRANITE BENCH, RELOCATED WITH NEW GRANITE BASES

Scale: 1"=1'-0"



5 SHRUB AND PERENNIAL PLANTING

SCALE: 3/4" = 1'-0"

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REVISIONS

PROJECT NO:	13025
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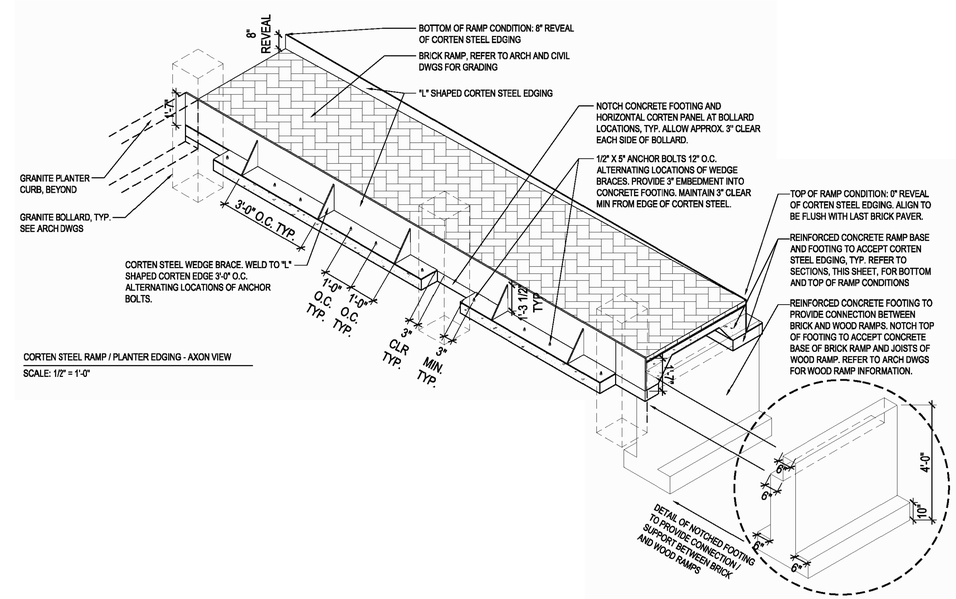
CHECKED BY:	BU
SCALE:	AS NOTED

100% CONSTRUCTION DOCUMENTS

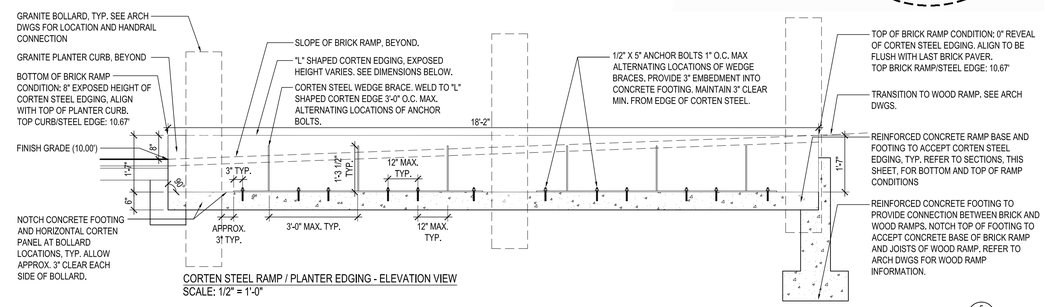
JANUARY 19, 2016

LANDSCAPE DETAILS

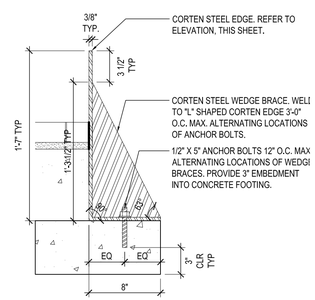
L3.2



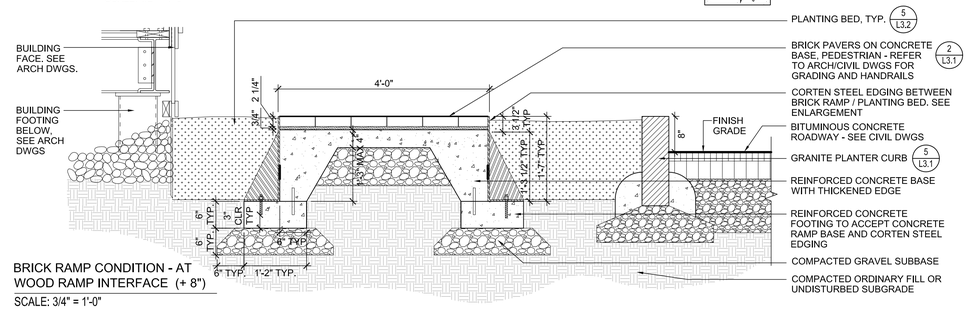
CORTEN STEEL RAMP / PLANTER EDGING - AXON VIEW
SCALE: 1/2" = 1'-0"



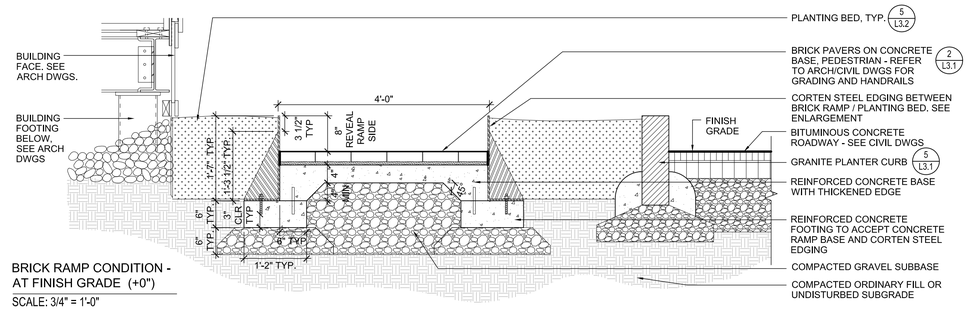
CORTEN STEEL RAMP / PLANTER EDGING - ELEVATION VIEW
SCALE: 1/2" = 1'-0"



CORTEN STEEL EDGE / ANCHORS
SCALE: 1 1/2" = 1'-0"



BRICK RAMP CONDITION - AT WOOD RAMP INTERFACE (+ 8")
SCALE: 3/4" = 1'-0"



BRICK RAMP CONDITION - AT FINISH GRADE (+0")
SCALE: 3/4" = 1'-0"

1 SECTION AT BRICK RAMP AND CORTEN STEEL PLANTER EDGE

SCALE: AS NOTED

HALVORSON DESIGN PARTNERSHIP
LANDSCAPE ARCHITECTURE

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A New Transient Boaters Facility for :

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REVISIONS

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100% CONSTRUCTION DOCUMENTS

JANUARY 19, 2016

LANDSCAPE DETAILS

L3.3

Summary of Requirements
Massachusetts State Building Code

Newburyport Harbormaster's
Harbormaster and Visiting Boater Facility

This Code Summary is based upon the Eighth Edition of the Massachusetts State Building Code (MSBC8) and the following physical and occupancy characteristics of the proposed Harbormaster and Visiting Boater Facility to be operated by the Newburyport, MA, Harbormaster.

Physical Characteristics

The proposed project involves construction of a two-story building with separate wings connected by a deck and covered breezeway. The entire superstructure will be supported on steel piles driven down approximately 25 feet to bedrock. The East Wing of the facility will be two stories in height and will house the office of the Newburyport Harbormaster on the second floor with a public Reception Area and Administrative and Staff Areas on the first floor. The West Wing will house shower and toilet facilities for transient boaters along with rest room facilities for the general public.

The conceptual physical arrangement of the building may be described as follows.

- The building will have two stories above grade.
- The height to the mid-point of the highest roof of the building will be approximately 26'-4" above average grade surrounding the building.
- The horizontally projected area of the building to the inside of the exterior walls will be approximately 1,416 sf.
- The aggregate area of the two above grade levels of the building will be approximately 1,736 sf.

Occupancy Characteristics

The First Floor of the East Wing will be occupied by a public reception area and administrative staff areas. The Second Floor of the East Wing above that reception area will house the Harbormaster's private office. Those portions of both levels are classified in Use Group B, Business. A staff work area and storage area on the First Floor is considered an accessory occupancy of the building in compliance with MSBC8 Section 508.2. That area will be used for winter storage of the Harbormaster's all terrain vehicle (ATV) with its fuel tank empty.

The West Wing will be occupied by public toilet and shower facilities that could be classified as Use Group A-3 (recreation) occupancy. However, in accordance with MSBC8 Section 303, Exception 1, those facilities are also classified in Use Group B because their occupant loads will be less than 50 persons.

Basic requirements of the MSBC under these circumstances are identified below. Code section references are provided for individual building features or characteristics. The details of the requirements affecting specific building features shall be determined from the Code as required.

Construction Type

(1) Utilize MSBC8 Type VB (unprotected, wood framed) construction. (T-503)

Calculations of the allowable height and area for the Harbormaster and Visiting Boater Facility building are documented in Table No. 1 based on its Use Group B occupancy and the use of Type VB construction. As the building will be unsprinklered, no credit is included in the height and area calculations for sprinkler protection. Also, no credit is taken for perimeter access for firefighting operations.

The allowable height and area calculations of Table No. 1 confirm Type VB construction is acceptable for this small, two-story building.

(2) Utilize combustible materials of construction without restriction. (603.1)

Building Separation

(3) None required.

Occupancy Separations

(4) None required.

Primary Structural Elements

(5) Provide an unrated structural frame (columns, beams and girders) and bearing walls.

As the means of egress stair in the two story portion of the building will be unenclosed and, therefore, unrated and as there will be no fire rated mechanical shafts in the building, there will be no requirements for rating of the construction supporting those building features. (T-601)

Roof Assembly

(6) Provide an unrated roof assembly. (T-601)

Floor Systems

(7) Provide unrated floor assemblies. (T-601)

See the discussion under Item 5 above.

Interior Walls and Partitions

(8) Provide annular space protection in accordance with Section 716.6.3 around ducts that penetrate one unrated floor assembly at the plane of the floor assembly penetrated. (708.2, Exception 4, 716.6.1, Exception 2)

Treatment of duct penetrations in accordance with Item 8 is desirable to avoid the requirement for fire rated shafts, for fire and smoke dampers at locations where ducts penetrate those rated shaft enclosure walls and for fire rating of the structural elements and floor assembly that support the rated shafts.

Exterior Walls

(9) Provide unrated bearing exterior walls and perimeter columns and beams of non-combustible construction except for those portions of the walls supporting rated construction such as fire barrier enclosures of exits and shafts. (T-601)

(10) Provide unrated non-bearing exterior wall components for all exterior walls. (T-602)

The fire separation distances for all exterior walls of the building measured to the centerlines of the adjacent public streets and to adjacent interior lot lines will exceed 30 feet. For fire separation distances of equal to or more than 30 feet, MSBC8 Table 602 allows bearing and nonbearing walls of buildings of Type VB construction to be unrated.

(11) Provide unlimited, unprotected exterior wall openings for all exterior walls facing public streets and interior lot lines. (705.8.1, T-705.8)

The fire separation distances for all exterior walls of the building measured to the centerlines of the adjacent public streets and to adjacent interior lot lines will all exceed 30 feet. For fire separation distances of more than 30 feet, MSBC8 Table 705.8 allows unlimited, unprotected openings in unsprinklered buildings.

Fire Alarm System

(12) Do not provide a manual or automatic fire detection and alarm system. (907.2.2)

The building's small physical size and small occupant load do not exceed the thresholds of MSBC8 Section 907.2.2 for the requirement for a fire alarm system in a building of Use Group B occupancy. Although not required, the building will be provided with a fire alarm system including the capability for transmission of alarms off-site to the Newburyport Fire Department.

Means of Egress

(13) Provide a single exit from each story of the building. (1021.2, T-1021.2)

MSBC8 Table 1021.2 permits first stories of buildings of Use Group B occupancy to have a single exit when the occupant load is less than 50 persons and the internal travel distance is less than 75 feet. That table permits a second floor of a business building to have a single exit when the occupant load is less than 30 persons and the internal travel distance is less than 75 feet.

(14) Provide an unrated enclosure for the exit stair serving the Second Floor. (1022.1)

An unenclosed stair is permitted to be the only means of egress (exit access) when conditions satisfy the requirements for Table 1021.2 concerning the story, occupancy, number of occupants and exit access travel distance limitations. The applicable limitations are the following:

- Occupancy Classification: Use Group B
- Maximum number of stories: 2
- Maximum occupant load: not more than 29 occupants and
- Maximum exit access travel distance: not more than 75 feet

The characteristics of the Transient Boating Facility do satisfy these limitations. Therefore, the stair may be unenclosed and doors may be omitted except as required by security considerations.

(15) Provide sufficient egress capacities for the calculated occupant loads of each floor. (1005.1)

Occupant load and egress capacity calculations are not provided in this Code Summary. The small occupant load and the relatively large egress capacity of minimum width doors, stairs and passageways insure there is sufficient egress capacity for the small occupant loads of the individual stories of the building and for the building as a whole.

(16) Locate exits as required to limit travel distances to less than 75 ft. (1016.1, T-1016.1, T1021.2)

(17) Provide exit discharge using doors directly to the exterior. (1027.1)

(18) Do not provide exit signs. (1011.1, Exception 1)

Exit signs are required in all rooms that require two or more exits or exit access paths and in the common exit paths of the building serving those rooms. None of the spaces of the facility require second exits and, therefore, do not require exit signs.

(19) Provide means of egress lighting in all portions of means of egress in accordance with Section 1006. (1006)

Sprinkler Systems

(20) Do not provide a complete automatic suppression system in the building. (T-903.2)

The building does not exceed the area and occupant load thresholds of MSBC8 Table 903.2 for sprinkler requirements in a building of Use Group B occupancy. Also, the building does not exceed the 7,500 sf aggregate area threshold of Massachusetts General Laws, Chapter 148, Section 26G, requirements for sprinklers.

Fire Extinguishers

(21) Provide fire extinguishers for general protection of the common areas on the First and Second Floors in accordance with Section 906.1. (906.1)

(22) Provide fire extinguishers with other ratings and classifications as required for special hazards in the building such as flammable liquids and kitchen cooking equipment in accordance with Items 2 through 6 of Section 906.1. (906.1, NFPA 10)

Standpipe

(23) Do not provide a fire standpipe system in the building. (905.3.1, 905.3.9)

Fire standpipes are not required in the building because the Second Floor assembly is not more than 30 feet above the lowest level of fire department vehicle access and no point in the building is more than 400 feet from the nearest point of fire department vehicle access.

Emergency Power

(24) Do not provide emergency power for means of egress illumination. (1011.5.3, 1006.3)

The building is required to have minimum means of egress lighting powered from the building's utility power supply. In accordance with MSBC8 Section 1006.3, Exception 1, that lighting system is not required to include emergency power because none of the rooms or spaces is required to have two or more means of egress. However, some emergency lighting will be installed in selected areas.

Interior Finish

(25) Utilize interior finish for walls and ceilings as follows:

Corridors: Class B
Rooms or enclosed spaces: Class C

(803.9, T-803.9)

(26) Utilize traditional floor coverings such as wood, vinyl, linoleum, terrazzo or other resilient floor finish materials or Class II carpeting in all spaces including exits and exit access corridors. (804.4.1)

TABLE NO. 1	
ALLOWABLE HEIGHT AND AREA CALCULATIONS	
NEWBURYPORT HARBORMASTER'S TRANSIENT BOATERS FACILITY	
BASIC BUILDING AND SITE CHARACTERISTICS	
OCCUPANCY	B
CONSTRUCTION TYPE	VB
HEIGHT (FT.)	26'-4"
HEIGHT (ST.)	2
LARGEST SINGLE FLOOR AREA (SF.)	1,300
TOTAL BUILDING AREA (SF.)	1,620
SPRINKLERS (Y OR N)	N
% FRONTAGE	25
WIDTH OF PUBLIC WAY OR OPEN SPACE (FT.)	20
(SEE RESTRICTIONS IN SECTION 506.2.1)	
(20 =< W <= 30)	
ALLOWABLE HEIGHT DETERMINATION	
TABLE 503 LIMITATION (FT./ST.)	40/2
INCREASE FOR SPRINKLERS (504.2)	20/1
ALLOWABLE HEIGHT (FT./ST.)	60/3
ALLOWABLE SINGLE FLOOR AREA DETERMINATION	
TABLE 503 LIMITATION (SF.)	9,000
BASIC ALLOWANCE FACTOR (506.1)	1
INCREASE FOR FRONTAGE (506.2)	0.00
"=(% FRONTAGE - 25%)*(WIDTH/30)"	
INCREASE FOR SPRINKLERS (506.3)	0
"= 2.00 FOR MULTISTORY BUILDINGS"	
"= 3.00 FOR SINGLE STORY BUILDINGS"	
TOTAL ALLOWABLE AREA MULTIPLIER	1.00
TOTAL ALLOWABLE SINGLE FLOOR AREA (SF.)	9,000
NOT SHOWN: AGGREGATE BUILDING AREA CALCULATION APPLICABLE TO >3 STORY BUILDINGS.	

A New Transient Boaters Facility for :
The Newburyport Harbormaster
Newburyport, MA 01950

CONSTRUCTION DOCUMENTS

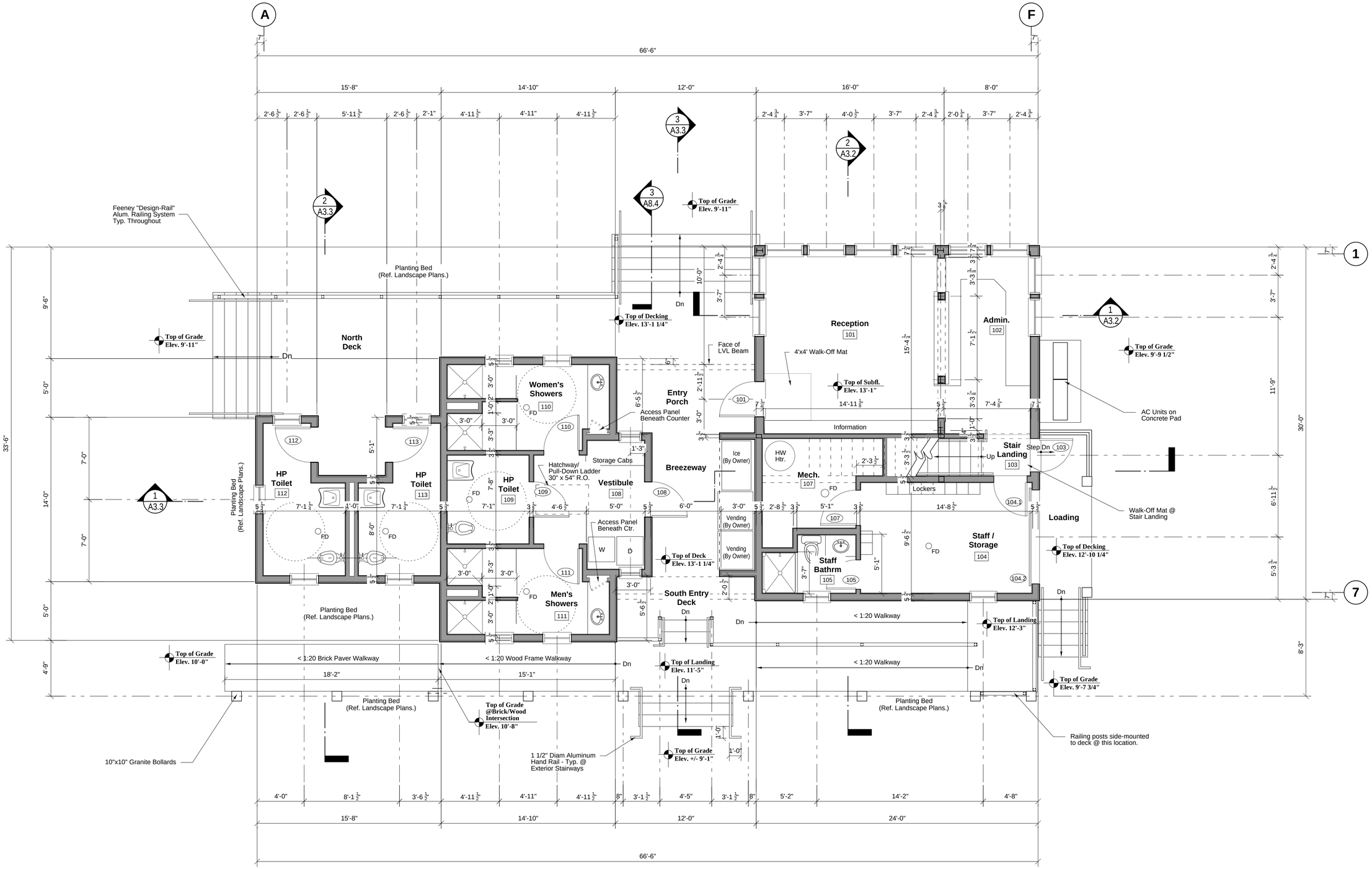
Building Code Review

Project No. 14001 | Scale: N/A | Jan. 19, 2016

OLSON LEWIS + ARCHITECTS
17 Elm Street
Manchester, MA 01944
978 526 4386
olsonlewis.com

KEERY design | LLC
437 Merrimac Street
Newburyport, Massachusetts 01950
978/499.8545 F| 978-499-4442

A0.1



First Floor Plan

Scale: 1/4" = 1'-0"

580 and 720 Sq. Ft. Heated Space

A New Transient Boaters Facility for :

The Newburyport Harbormaster

Newburyport, MA 01950

CONSTRUCTION DOCUMENTS

First Floor Plan

Jan. 19, 2016

Scale: 1/4" = 1'-0"

Project No. 14001

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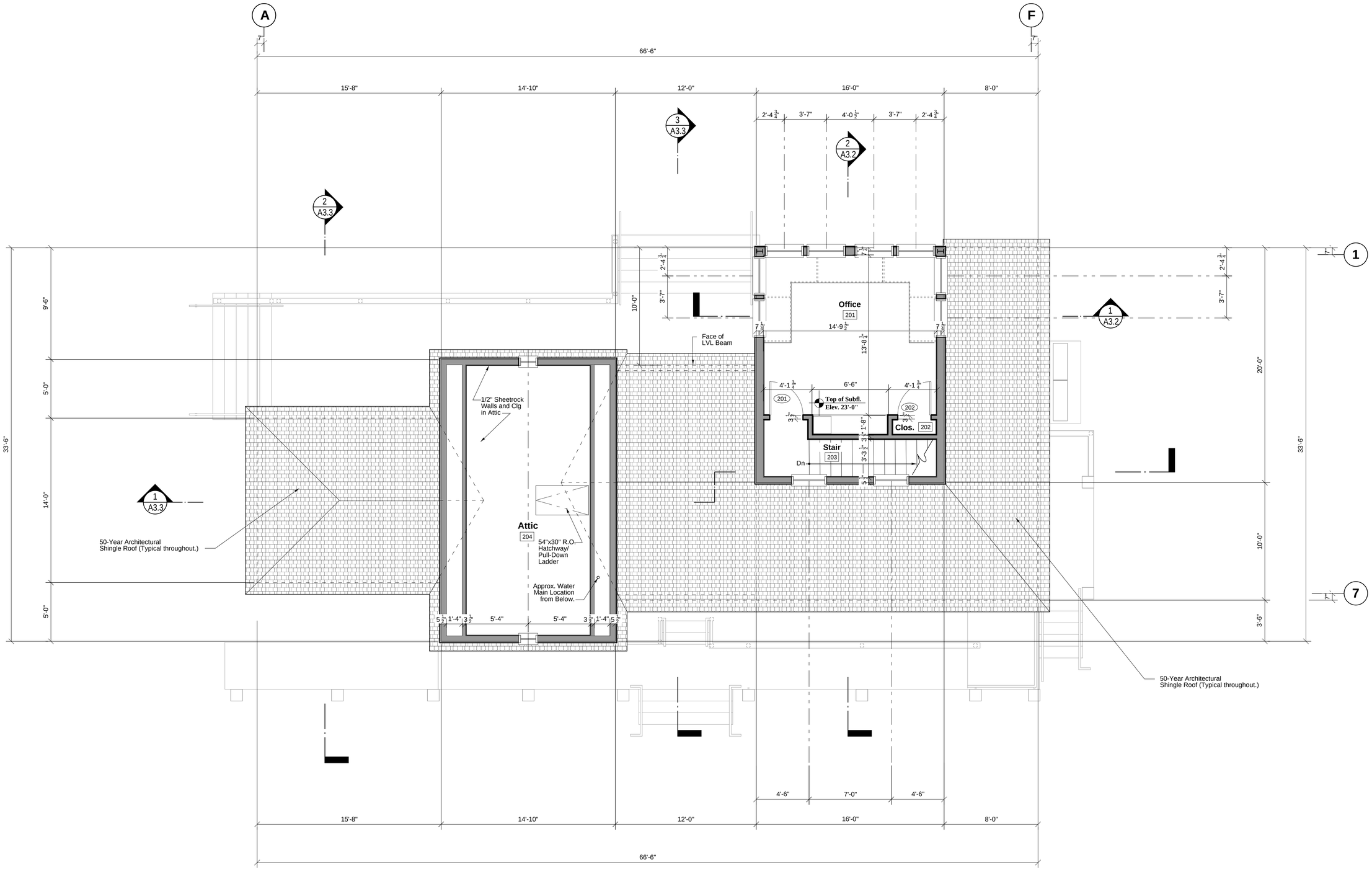

Second Floor and Attic Plan

Scale: 1/4" = 1'-0"

320 Sq. Ft. Heated Space

N

A New Transient Boaters Facility for :

The Newburyport Harbormaster

Newburyport, MA 01950

CONSTRUCTION DOCUMENTS

Second Floor Plan

Project No. 14001 | Scale: 1/4" = 1'-0" | Jan. 19, 2016

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17 Elm Street
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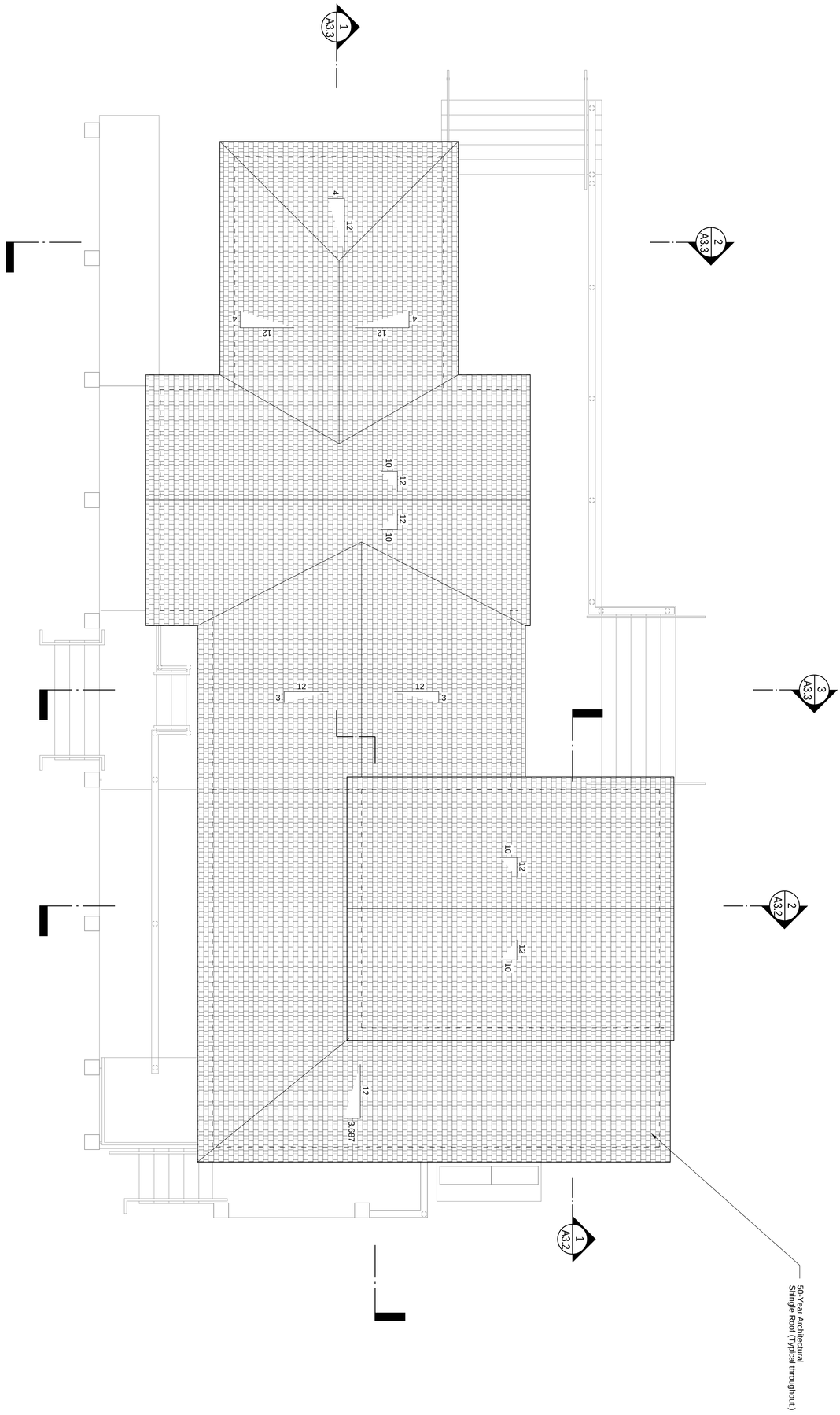


N

A1.3

KEERY
design | LLC
437 Merrimac Street
Newburyport, Massachusetts 01950
978/499-8545 F) 978-499-4442

OLSON LEWIS + ARCHITECTS
17 Elm Street
Manchester, MA 01944
978 526 4386
olsonlewis.com

Roof Plan

Project No. 14001	Scale: 1/4" = 1'-0"	Jan. 19, 2016

CONSTRUCTION DOCUMENTS

A New Transient Boaters Facility for :

The Newburyport Harbormaster

Newburyport, MA 01950

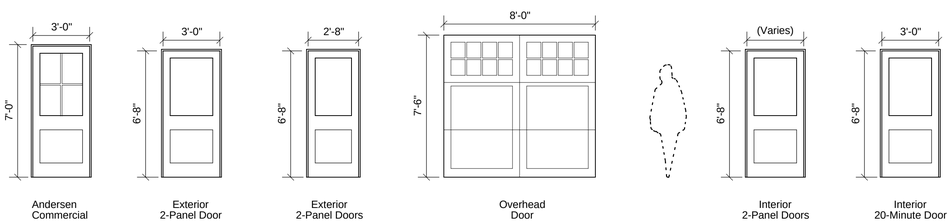
DOOR SCHEDULE

LOCATION	NUMBER	DOOR					FRAME		MANUFACTURER/ MODEL NO.	HARDWARE	COMMENTS
		HANDING	DOOR SIZE w x h x d	STYLE	EXTERIOR FINISH	INTERIOR FINISH	STYLE	FINISH			
FIRST FLOOR											
Reception	101	LH	3'-0" x 7'-0" x 1 3/4"	Glass / Panel	alum. painted	painted	wood	painted	Andersen Commercial Door		See Elevation for Door R.O Size
Stair Landing	103	LH	2'-10" x 6'-8" x 1 3/4"	2 Panel	painted	painted	wood	painted	Therma-Tru Classic Craft Canvas CCV220		See Elevation for Door R.O Size
Staff/Storage	104.1	LH	2'-10" x 6'-8" x 1 3/4"	2 Panel	painted	painted	wood	painted	Masonite Mohawk 20-Minute Door		
Staff/Storage	104.2	Overhead	8'-0" x 7'-6" x 1 3/4"	Glass / Panel	painted	painted	N/A	N/A			
Staff Bathroom	105	LH	2'-6" x 6'-8" x 1 3/8"	2 Panel	painted	painted	wood	painted	Masonite Stile & Rail Interior Doors		Shaker Sticking
Shower	106	RH	2'-6" x 6'-8" x 1 3/8"	2 Panel	painted	painted	wood	painted	Masonite Stile & Rail Interior Doors		Shaker Sticking
Mech.	107	LH	3'-04" x 6'-8" x 1 3/4"	Flush	painted	painted	wood	painted	Masonite Mohawk 20-Minute Door		
Vestibule	108	RH	3'-0" x 7'-0" x 1 3/4"	Glass / Panel	alum. painted	painted	wood	painted	Andersen Commercial Door		See Elevation for Door R.O Size
HP Toilet	109	RH	3'-0" x 6'-8" x 1 3/8"	2 Panel	painted	painted	wood	painted	Masonite Stile & Rail Interior Doors		Shaker Sticking
Women's Showers	110	RH	3'-0" x 6'-8" x 1 3/8"	2 Panel	painted	painted	wood	painted	Masonite Stile & Rail Interior Doors		Shaker Sticking
Men's Showers	111	LH	3'-0" x 6'-8" x 1 3/8"	2 Panel	painted	painted	wood	painted	Masonite Stile & Rail Interior Doors		Shaker Sticking
HP Toilet	112	RH	3'-0" x 7'-0" x 1 3/4"	2 Panel	painted	painted	wood	painted	Therma-Tru Classic Craft Canvas CCV220		
HP Toilet	113	LH	3'-0" x 7'-0" x 1 3/4"	2 Panel	painted	painted	wood	painted	Therma-Tru Classic Craft Canvas CCV220		
SECOND FLOOR											
Office	201	LH	2'-10" x 6'-8" x 1 3/4"	2 Panel	painted	painted	wood	painted	Masonite Stile & Rail Interior Doors		Shaker Sticking
Clos.	202	RH	2'-10" x 6'-8" x 1 3/8"	2 Panel	painted	painted	wood	painted	Masonite Stile & Rail Interior Doors		Shaker Sticking

DOOR TYPES

All Dimensions shown reflect slab sizes unless noted otherwise.

EXTERIOR



INTERIOR

ROOM FINISH SCHEDULE

LOCATION	RM. #	FLOOR	WALLS	CEILING	CASING	STOOL/APRON By "WINDSOR ONE" or Equal	BASE	CROWN/FRIEZE	OTHER NOTES
FIRST FLOOR									
Reception	101	Porcelain Tile PT-3	GWB	GWB	1x4 & 1x__(Ref. Interior Elevs)	1x - PP1276BN1 or Sim. Stool Cap w/1x3 Apron	1x5	(Ref. Interior Elevs)	
Admin.	102	Porcelain Tile PT-3	GWB	GWB	1x4 & 1x__(Ref. Interior Elevs)	1x - PP1276BN1 or Sim. Stool Cap / No Apron	1x5	(Ref. Interior Elevs)	
Stair Landing	103	Walk-Off Mat WOM-1	GWB	GWB	1x4	N/A	1x5		
Staff/Storage	104	Sheet Marmoleum SM-1	GWB	GWB	1x4	1x - PP1276BN1 or Sim. Stool Cap w/1x3 Apron	VSB-2		
Staff Bathroom	105	Sheet Marmoleum SM-1	GWB	GWB	1x4	1x - PP1276BN1 or Sim. Stool Cap w/1x3 Apron	VSB-2		
Mech.	107	Sheet Marmoleum SM-1	GWB	GWB	1x4	N/A	VSB-2		
Vestibule	108	Sheet Marmoleum SM-1	GWB	GWB	1x4	1x - PP1276BN1 or Sim. Stool Cap w/1x3 Apron	VSB-2		
HP Toilet	109	Porcelain Tile PT-2	GWB	GWB	1x4	N/A	PT-1		
Women's Showers	110	Sheet Marmoleum SM-1	GWB	GWB	1x4	1x - PP1276BN1 or Sim. Stool Cap w/1x3 Apron	VSB-2		
Men's Showers	111	Sheet Marmoleum SM-1	GWB	GWB	1x4	1x - PP1276BN1 or Sim. Stool Cap w/1x3 Apron	VSB-2		
HP Toilet	112	Porcelain Tile PT-2	Ceramic Tile / GWB	GWB	1x4	1x - PP1276BN1 or Sim. Stool Cap w/1x3 Apron	PT-1		
HP Toilet	113	Porcelain Tile PT-2	Ceramic Tile / GWB	GWB	1x4	1x - PP1276BN1 or Sim. Stool Cap w/1x3 Apron	PT-1		
SECOND FLOOR									
Office	201	Carpet	GWB	GWB	1x4 & 1x__(Ref. Interior Elevs)	1x - PP1276BN1 or Sim. Stool Cap w/1x3 Apron	VSB-1		
Clos.	202	Carpet	GWB	GWB	1x4	N/A	VSB-1		
Stair	203	Carpet	GWB	GWB	1x4	1x - PP1276BN1 or Sim. Stool Cap w/1x3 Apron	1x12		

Note on First Floor Finishes: Use Underlayment with thickness as required to bring top of Finish Floor Surfaces 3/4" above Top of Subfloor.

EXTERIOR WINDOW SCHEDULE (Use Andersen A Series or Approved Equal)

TYPE	R.O. DIMENSION		HEAD R.O. ABOVE SUBFLOOR	WALL THICKNESS	ANDERSEN MODEL NO.	GLAZING	LITES	QTY	COMMENTS
	WIDTH	HEIGHT							
A	3'-4"	5'-4"	Reference CD's	6 5/8"	ADH3454	SDL	2 over 2	18	5 Tempered Units in Reception 101
B	2'-4"	3'-8"	Reference CD's	6 5/8"	APW2438	SDL	4	2	
C	2'-0"	2'-0"	Reference CD's	6 5/8"	AAN2020	SDL	2	2	
D	2'-6"	2'-0"	Reference CD's	6 5/8"	AAN2620	SDL	2	9	
E	2'-0"	3'-0"	Reference CD's	6 5/8"	APW2030	SDL	4	2	2 Tempered Units
F	2'-10"	5'-4"	Reference CD's	6 5/8"	ADH21054	SDL	2 over 2	2	1 Tempered Unit @ Stair 203
G	2'-6"	4'-8"	Reference CD's	6 5/8"	ADH2648	SDL	2 over 2	2	1 Tempered Unit @ Staff Bathroom 105

WINDOW NOTES:

1. Andersen Units to be A Series Low-E4 Glass w/Argon.
2. Exterior Color of All Units to be White.
3. SDL's w/Spacer Bars - 3/4" (typ.) unless noted otherwise.
4. See elevations for mullion layout and mulled unit layout.
5. All Hardware types and colors to be white.
6. Provide tempered glass as required by code.
7. Interior of units to be pre-finished white.
8. Full Screens - color to be white. Use Tru-Scene @ all (20) A Units.

WALL TREATMENTS

P-1 Paint
Benjamin Moore Ecospec WB Eggshell
Color: OC-51 Intense White
(Base Wall & Soffit Color Unless Otherwise Noted)

P-2 Paint
Benjamin Moore Ecospec WB SemiGloss
Color: OC-17 White Dove
(Door trim color)

P-3 Paint
Benjamin Moore Ecospec WB Eggshell
Color: 2138-60 Gray Cashmere
(Accent Wall Color)

P-4 Paint
Benjamin Moore Bonding Primer Insl-X, Stix SXA-110
Top Coat: Advanced Semi-Gloss 793
Color: OC-17 White Dove
(Wood Millwork)

P-5 Paint
Benjamin Moore Aura Bath & Spa Waterborne Interior
Color: OC-51 Intense White
(Bathroom and Shower Rooms)

CT-1 Ceramic Wall Tile
Manufacturer: Daltile
Style: Elevare-Glazed Ceramic
Size: 4"x16"
Color: Lunar El (47-Matte)

GT-1 Grout
Manufacturer: Laticrete
Style: Spectra Lock Pro Grout
Color: 18 Sauterne
(Use with PT-1)

FLOOR FINISHES

CPT-1 Carpet
Manufacturer: Tandus
Style: Equilibrium 30400
Broadloom with Lifelong Backing
Color: Grey Pearl 01312
(Office and Stair)

SM-1 Sheet Marmoleum
Manufacturer: Forbo
Style: Striato
Color: 3573 Trace of Nature
(Staff/Stoage, Mech, Vestibule, Staff Bathroom, Mens and Womens Showers)

PT-2 Porcelain Tile
Manufacturer: American Olean
Style: Unglazed ColorBody Porcelain
Color: Light Smoke Speckled
Size: 2 x 2
(HP Toilet Rooms)

PT-3 Porcelain Tile
Manufacturer: Daltile
Style: Season Wood
Color: SW03 Autumn Wood
Sizes: 6 x 48, 8 x 48, 12 x 48
Pattern: Random
(Reception, Administration)

GT-2 Grout
Manufacturer: Laticrete
Style: Spectra Lock Pro Grout
Color: 89 Smoke Grey
(Use with PT-2)

GT-2 Grout
Manufacturer: Laticrete
Style: Spectra Lock Pro Grout
Color: 35 Mocha
(Use with PT-3)

WOM-1 Walk-off Mat
Manufacturer: Shaw
Style: All Access, Portal Tile
Color: 34557 Sterling
(Reception and Stair Landing.
See plans for locations.)

BASE FINISHES

VSB-1 Vinyl Straight Base (Use with CPT-1)
Manufacturer: Forbo
Color: C-66

VSB-2 Vinyl Straight Base (Use with SM-1)
Manufacturer: Forbo
Color: C-04

MILLWORK FINISHES

WD-1 Wood
Type: Poplar
Finish: Stain to be Coordinated
& Approved by Architect
(Reception/Lobby Millwork)

PL-1 Plastic Laminate
Manufacturer: Wilsonart
Color: 4878038 Pewter Mesh
3/4" WD-1 Wood Edge
(Counters)

SPS-1 Solid Plastic Surface
Manufacturer: Formica Classics
Color: Luna Concrete 781
(Mens & WomensShowers)

Pulls Cabinet Hardware
Doug Mocket Curved Bar Pulls
Color: Matte Chrome
Size:
Horizontal Locations- DP78B 3 7/32"
Vertical Locations- DP78D 5 7/8"

A New Transient Boaters Facility for :
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Newburyport, MA 01950

CONSTRUCTION DOCUMENTS

Schedules and Finishes

Project No. 14001 | Scale: 1/4" = 1'-0" | Jan. 19, 2016

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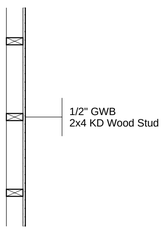
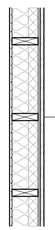


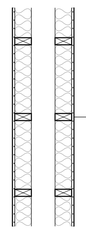
1/2" GWB
2x4 KD Wood Stud

11 Interior Wall



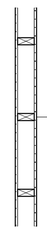
1/2" GWB
2x6 KD Wood Stud
2" Spray Foam Insul./
R-13 Fiberglass Insul.
1/2" "Zip System" Sheathing
Home Slicker plus Typar
3/8" PVC or HardyPanel

10 Exterior Wall



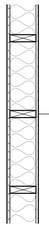
1/2" GWB
2x4 KD Wood Stud
3 1/2" Sound Attenuation
Fiberglass Insulation
Airspace - See Plans for Dim's
2x4 KD Wood Stud
3 1/2" Sound Attenuation
1/2" GWB

9 Interior Wall



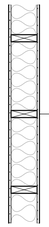
1/2" GWB
2x6 or 2x4 KD Wood Stud
(see plan dimensions)
1/2" GWB

8 Interior Wall



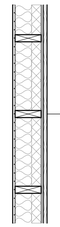
5/8" Type X GWB
2x6 or 2x4 KD Wood Stud
(see plan dimensions)
Sound Attenuation
Fiberglass Insulation
1/2" GWB

7 Interior Wall



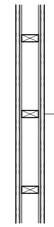
1/2" GWB
2x6 or 2x4 KD Wood Stud
(see plan dimensions)
Sound Attenuation
Fiberglass Insulation
1/2" GWB

6 Interior Wall



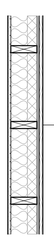
1/2" GWB
2x6 KD Wood Stud
2" Spray Foam Insul./
R-13 Fiberglass Insul.
1/2" "Zip System" Sheathing
Home Slicker plus Typar
White Cedar Shingles R&R

5 Exterior Wall



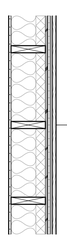
White Cedar Shingles R&R
Home Slicker plus Typar
1/2" "Zip System" Sheathing
2x4 KD Wood Stud
1/2" "Zip System" Sheathing
Home Slicker plus Typar
White Cedar Shingles R&R

4 Exterior Wall



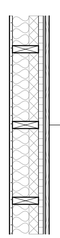
5/8" Type X GWB
2x6 KD Wood Stud
2" Spray Foam Insul./
R-13 Fiberglass Insul.
1/2" "Zip System" Sheathing
Home Slicker plus Typar
White Cedar Shingles R&R

3 Exterior Wall



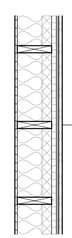
1/2" GWB
2x8 KD Wood Stud
2" Spray Foam Insul./
R-19 Fiberglass Insul.
1/2" CDX Plywood Sheathing
1" Insulated "Zip System"
Home Slicker plus Typar
White Cedar Shingles R&R

2 Exterior Wall



5/8" Type X GWB
2x6 KD Wood Stud
2" Spray Foam Insul./
R-13 Fiberglass Insul.
1 1/2" Insulated
"Zip System" Sheathing
Home Slicker plus Typar
White Cedar Shingles R&R

1A Exterior Wall



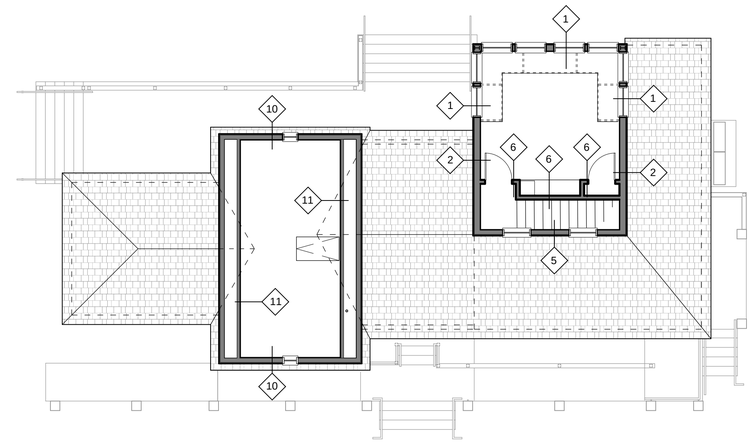
1/2" GWB
2x8 KD Wood Stud
2" Spray Foam Insul./
R-19 Fiberglass Insul.
1 1/2" Insulated
"Zip System" Sheathing
Home Slicker plus Typar
White Cedar Shingles R&R

1 Exterior Wall

Wall Types

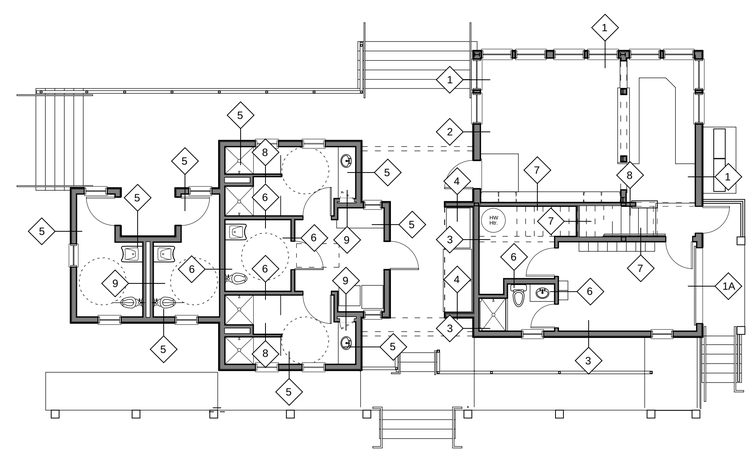
Scale: 3/4" = 1'-0"

(NOTE: Additional Finishes such as Tile and Wood Paneling Not Included in Wall Types. Reference Finish Schedule for further information.)



Wall Types Plan - Second Floor

Scale: 1/8" = 1'-0"



Wall Types Plan - First Floor

Scale: 1/8" = 1'-0"

A New Transient Boaters Facility for :

The Newburyport Harbormaster

Newburyport, MA 01950

CONSTRUCTION DOCUMENTS

Wall Types

Jan. 19, 2016

Scale: AS NOTED

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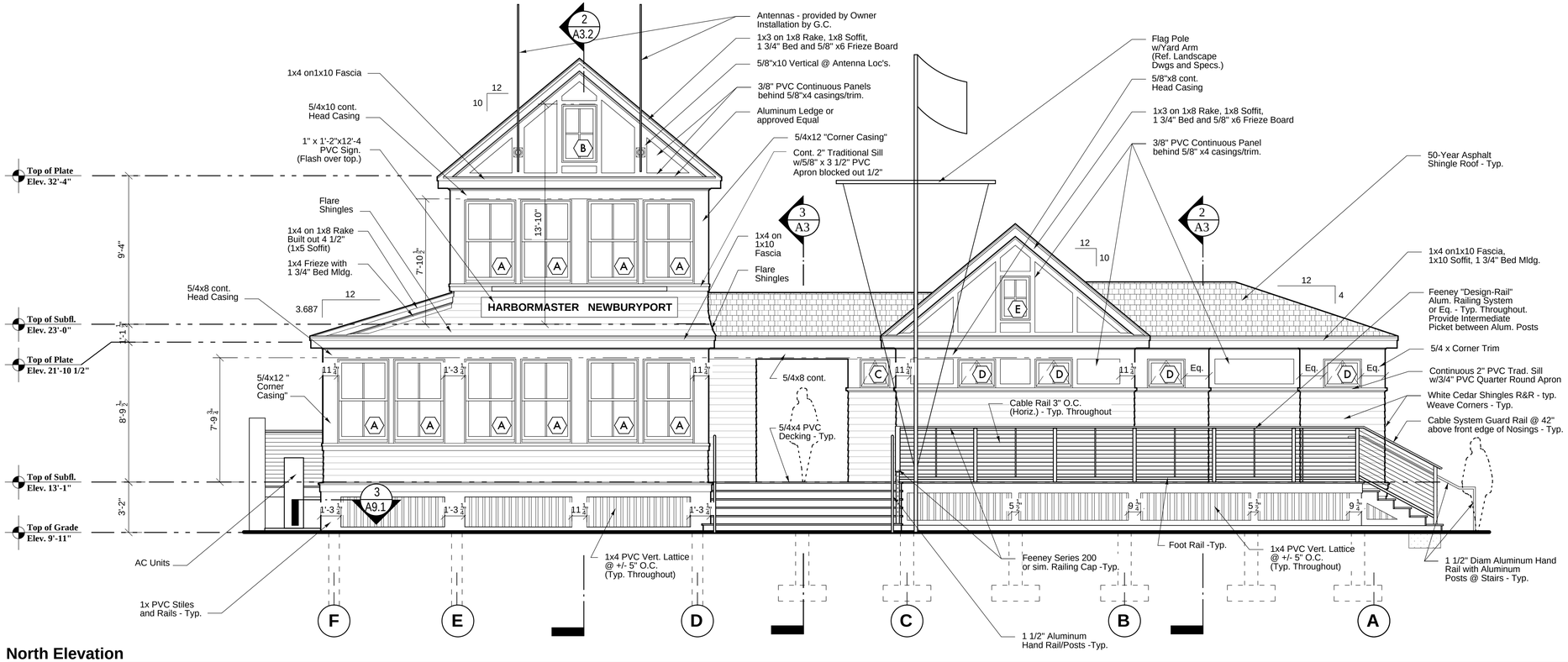
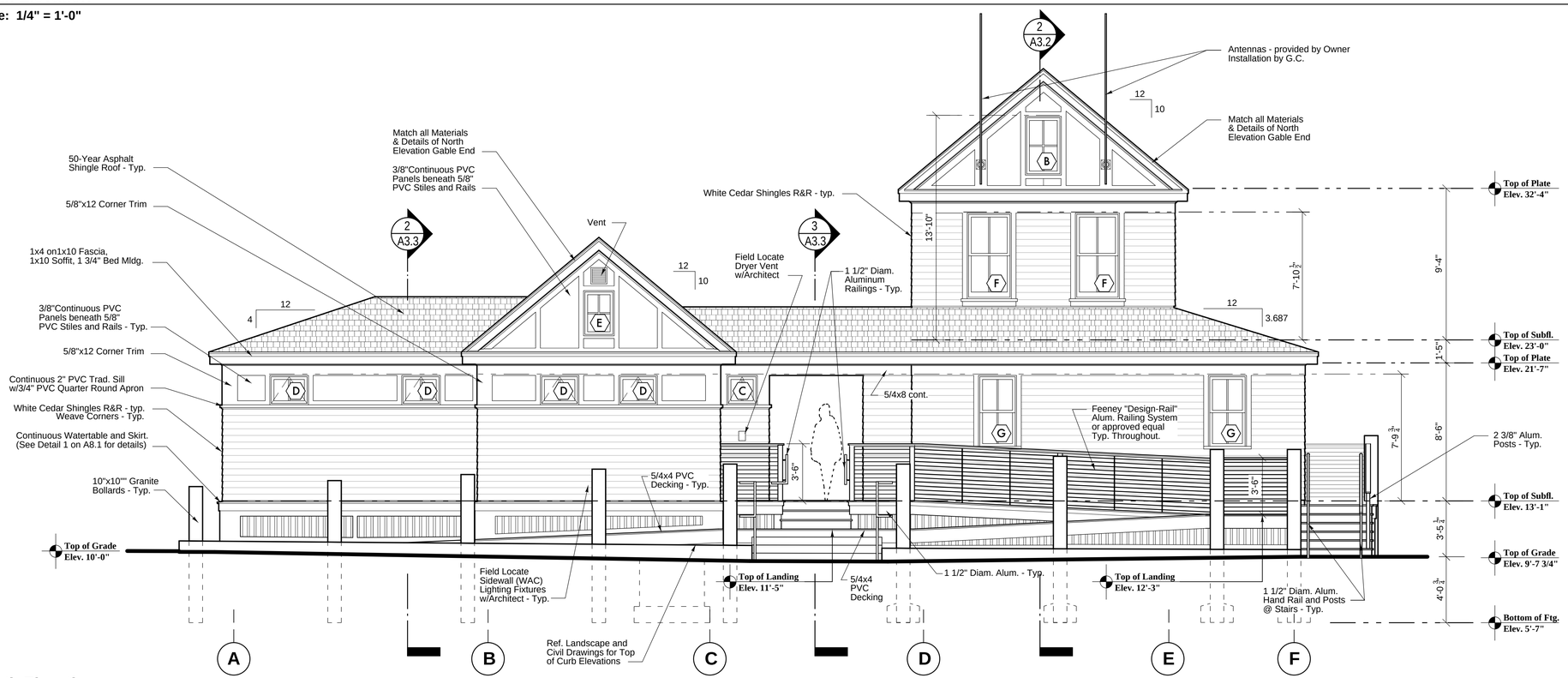
A1.5



North Elevation

Scale: 1/4" = 1'-0"



South Elevation

Scale: 1/4" = 1'-0"

A New Transient Boaters Facility for :

The Newburyport Harbormaster

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CONSTRUCTION DOCUMENTS

Exterior Elevations

Jan. 19, 2016

Scale: 1/4" = 1'-0"

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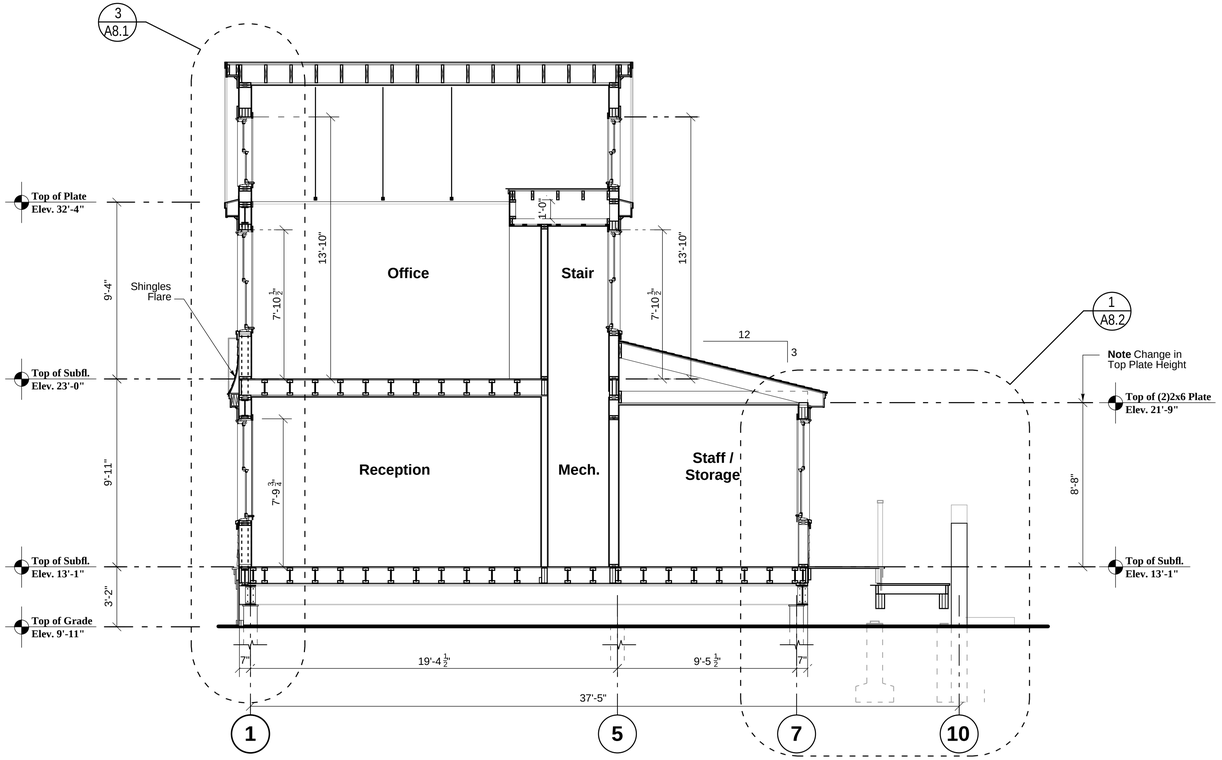
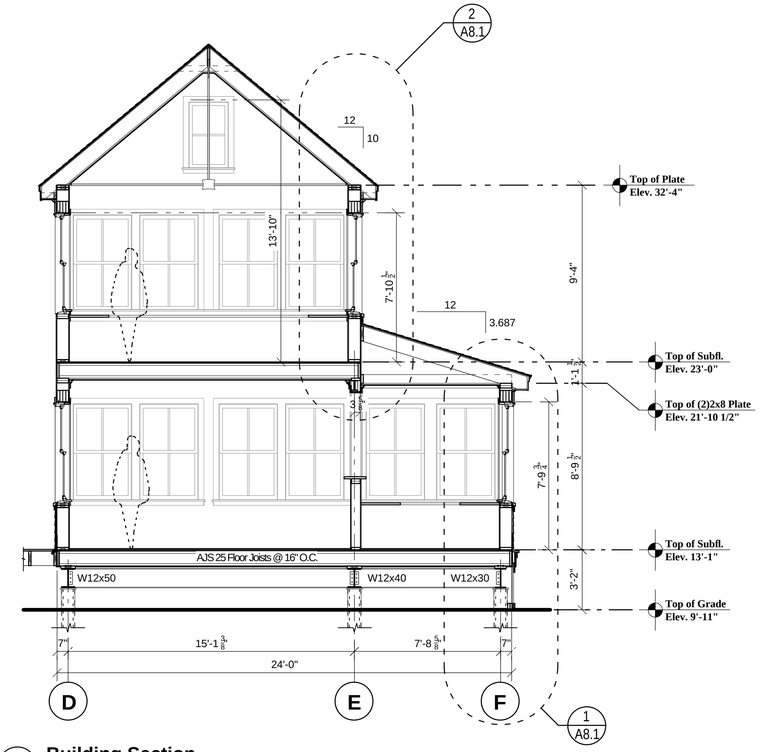
A3.1



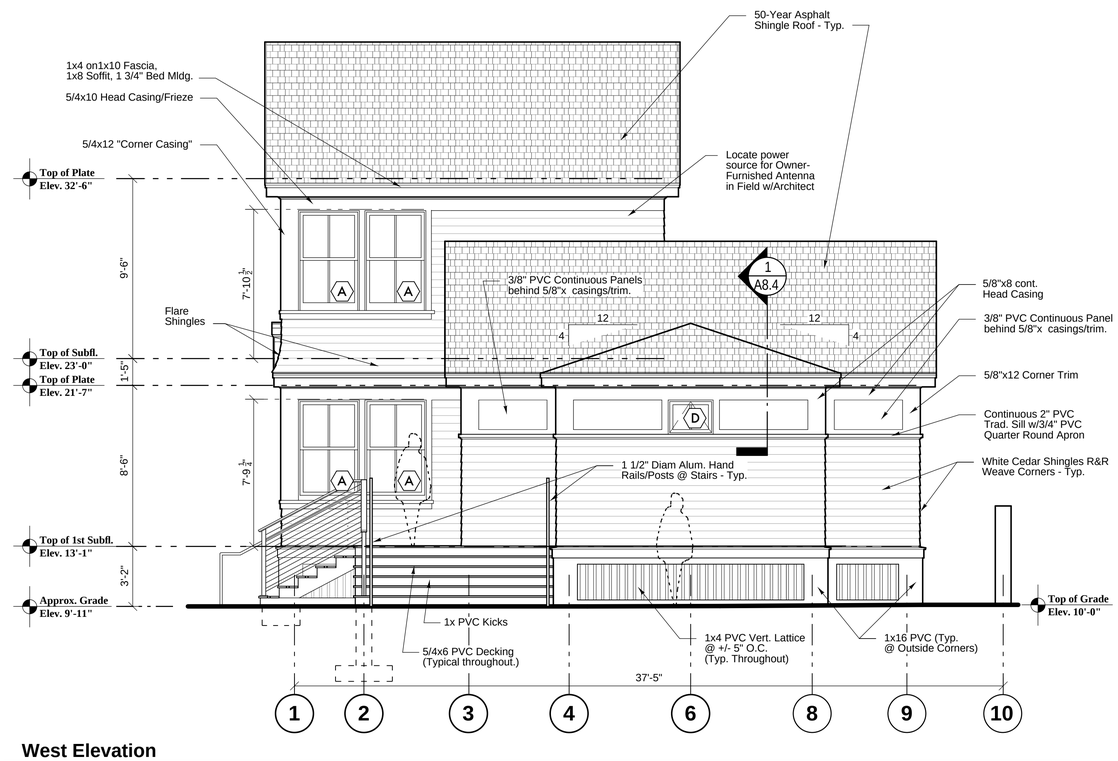
2 Building Section

Scale: 1/4" = 1'-0"



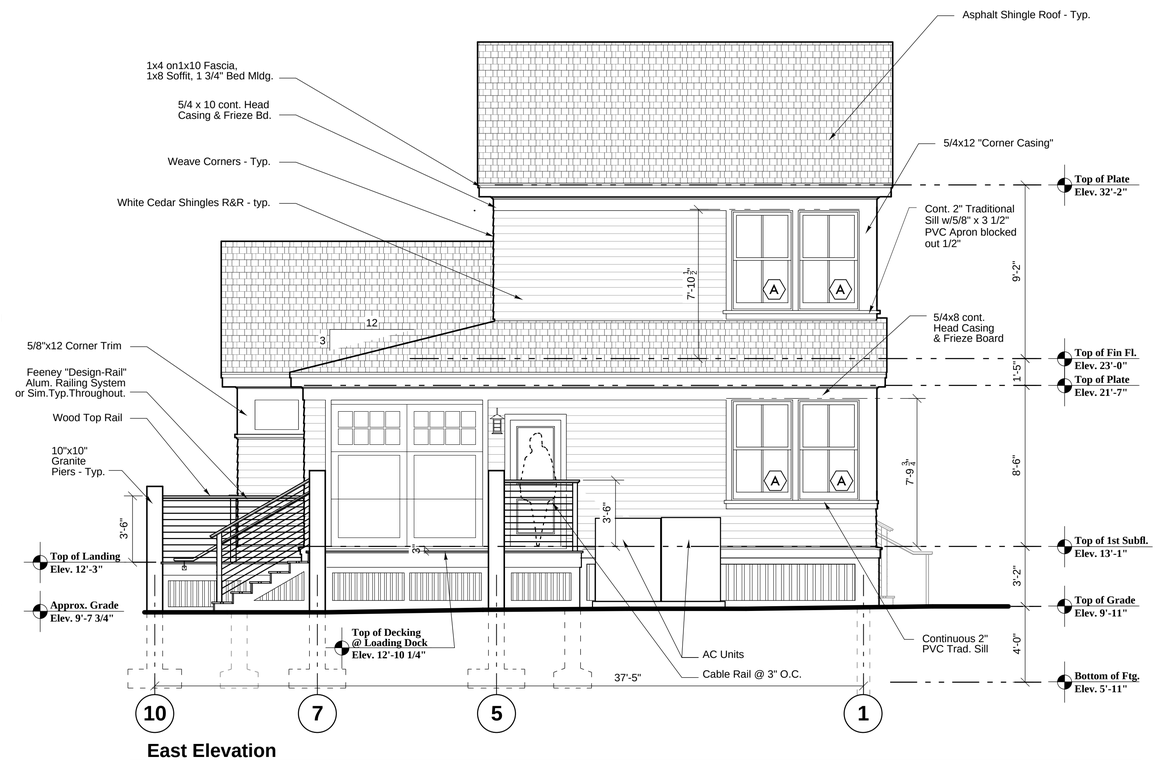
1 Building Section

Scale: 1/4" = 1'-0"



West Elevation

Scale: 1/4" = 1'-0"



East Elevation

Scale: 1/4" = 1'-0"

A New Transient Boaters Facility for :

The Newburyport Harbormaster

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Exterior Elevations & Building Sections

Project No. 14001 | Scale: 1/4" = 1'-0" | Jan. 19, 2016

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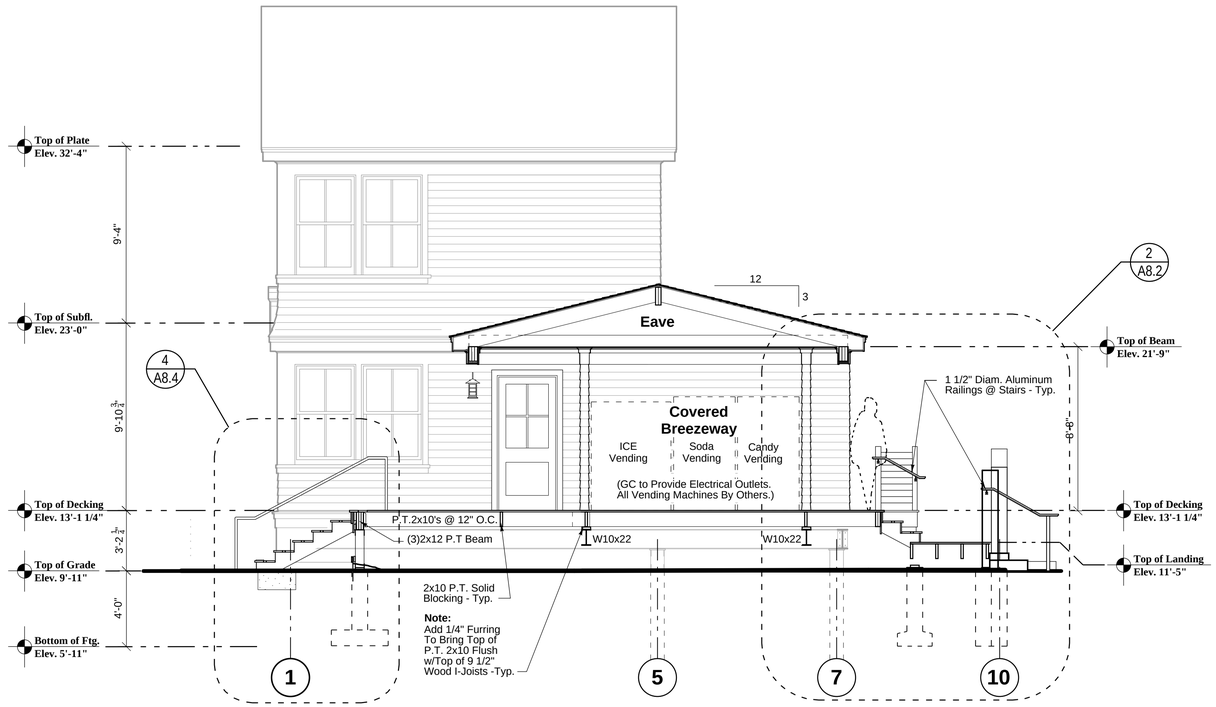
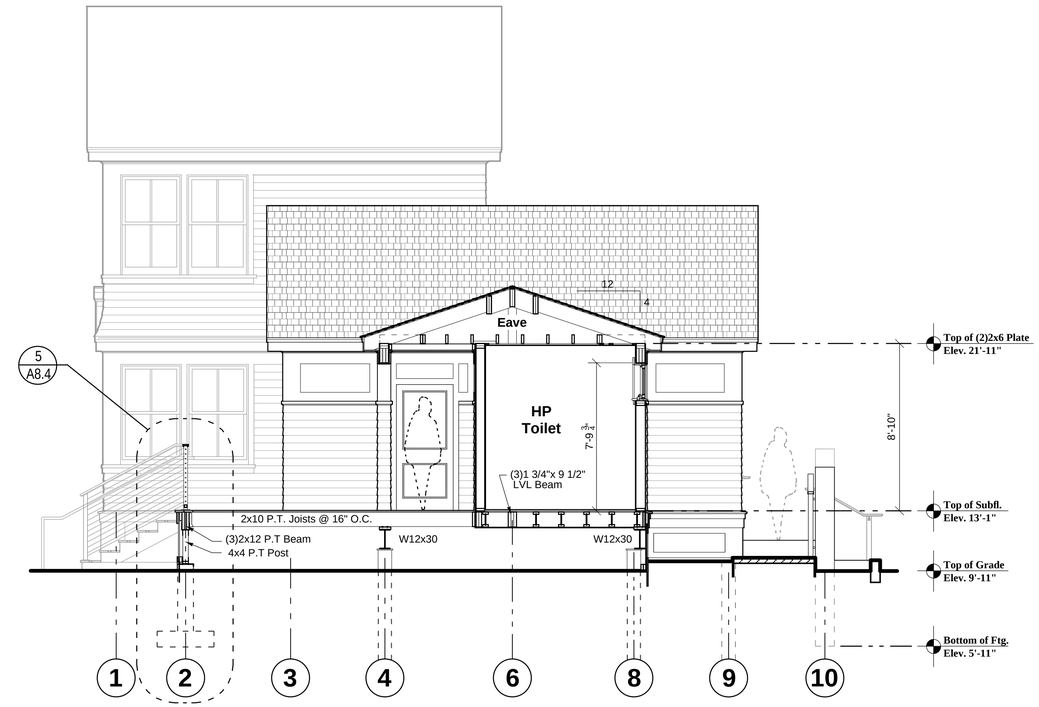
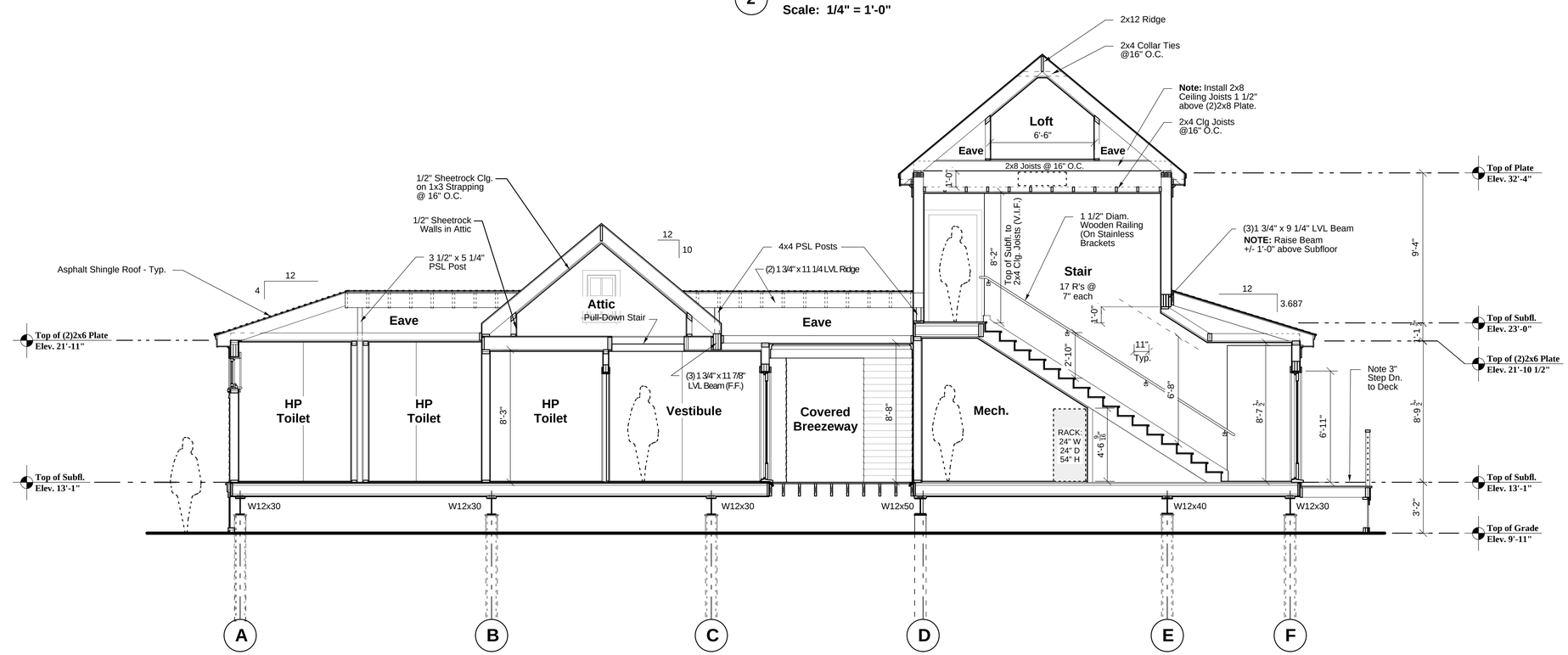
A3.2



3 **Building Section**
Scale: 1/4" = 1'-0"



2 **Building Section**
Scale: 1/4" = 1'-0"



1 **Building Section**
Scale: 1/4" = 1'-0"

A New Transient Boaters Facility for :
The Newburyport Harbormaster
Newburyport, MA 01950

CONSTRUCTION DOCUMENTS

Building Sections

Jan. 19, 2015
Scale: 1/4" = 1'-0"
Project No. 14001

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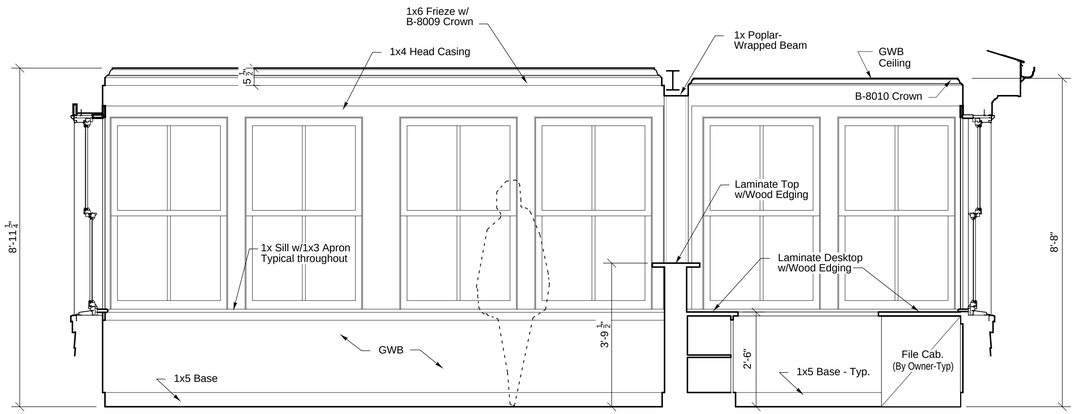
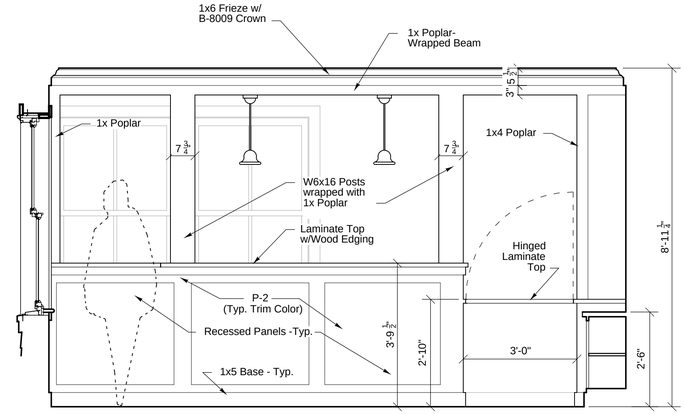
A3.3



1 Interior Elevation - Reception/Administration Area
Scale: 1/2" = 1'-0"



2 Interior Elevation - Reception Area
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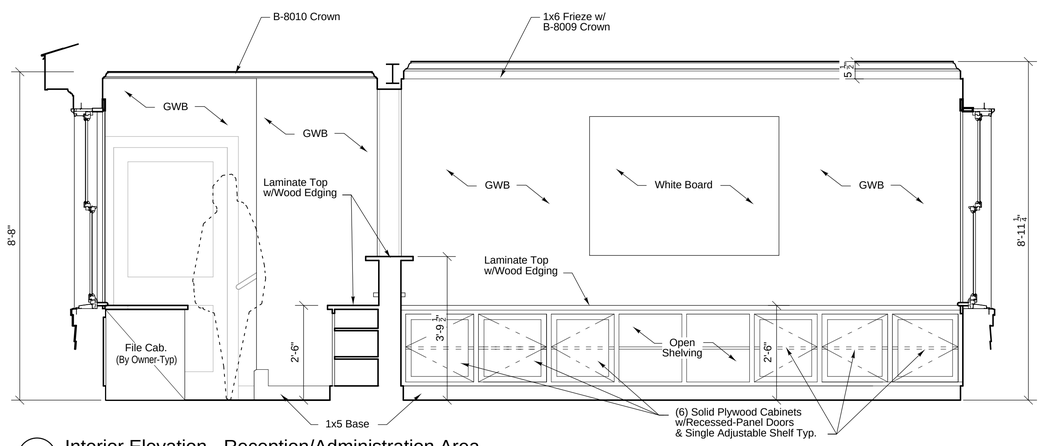
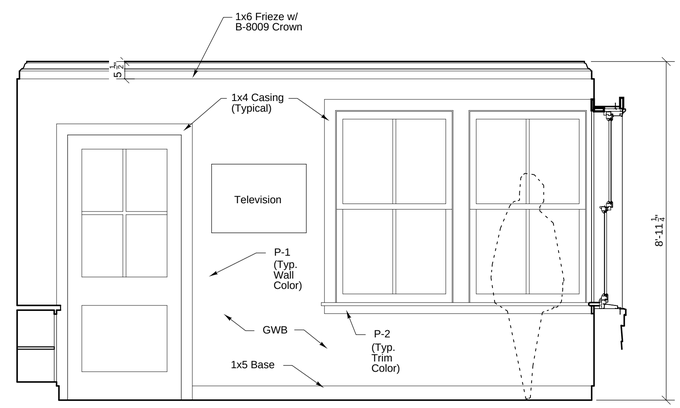


3 Interior Elevation - Reception/Administration Area
Scale: 1/2" = 1'-0"



4 Interior Elevation - Reception Area
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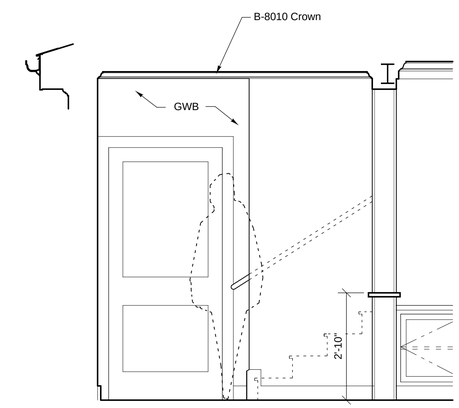
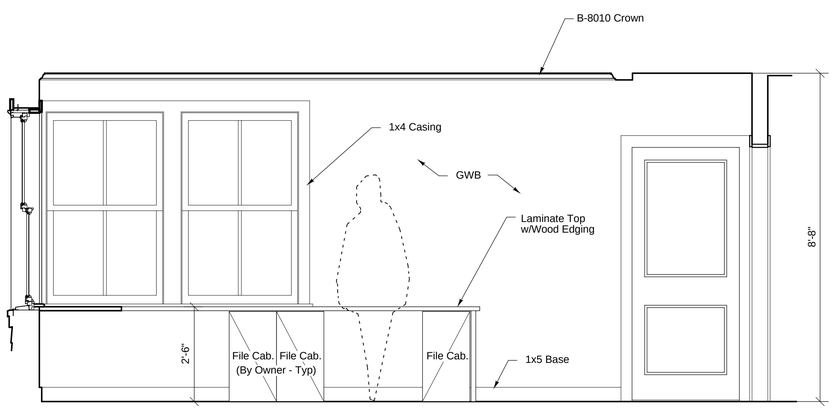
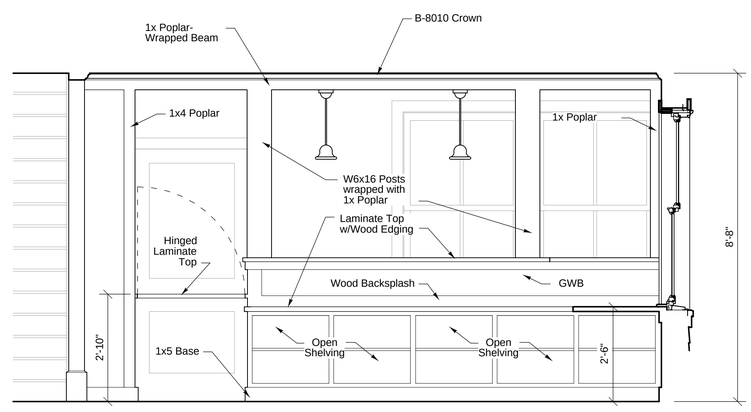


5 Interior Elevation - Reception Area
Scale: 1/2" = 1'-0"

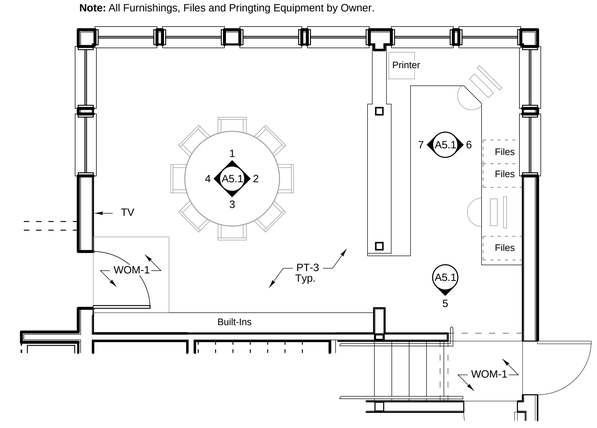


6 Interior Elevation - Administration Area
Scale: 1/2" = 1'-0"



7 Interior Elevation - Administration Area
Scale: 1/2" = 1'-0"

Note: All Furnishings, Files and Pringting Equipment by Owner.



Plan - Reception/Administration Area
Scale: 1/4" = 1'-0"

A New Transient Boaters Facility for :

The Newburyport Harbormaster

Newburyport, MA 01950

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Interior Elevations

Jan. 19, 2016

Scale: AS NOTED

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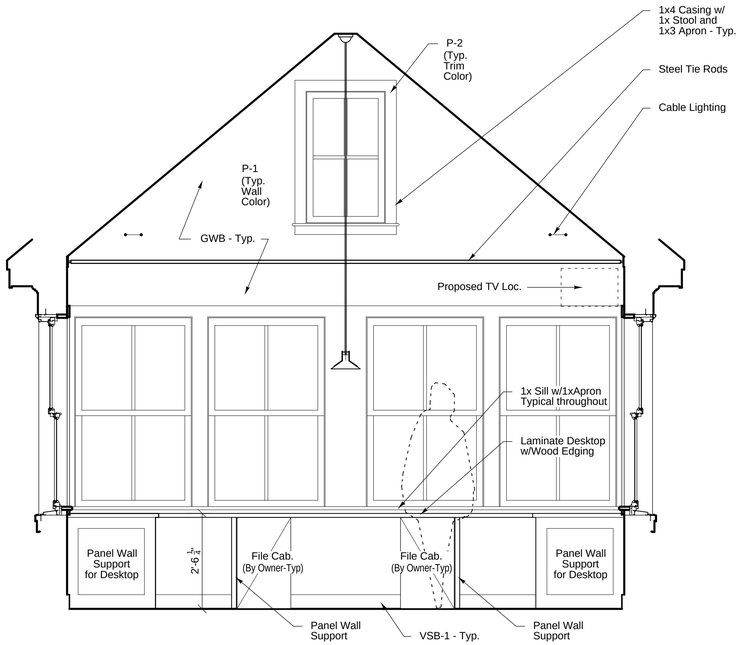
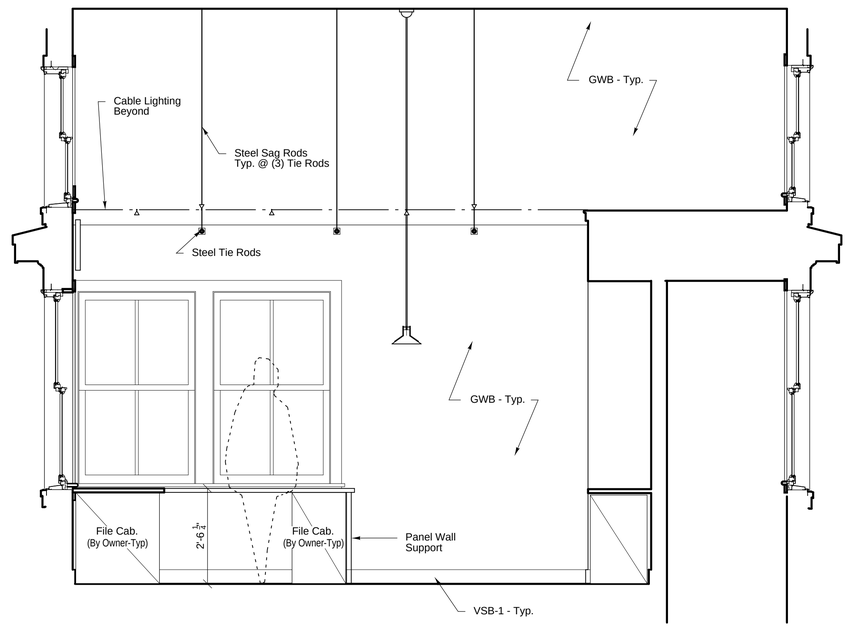
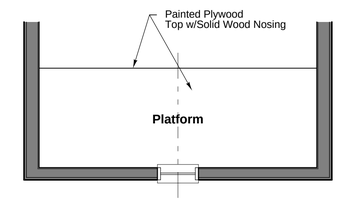
A5.1



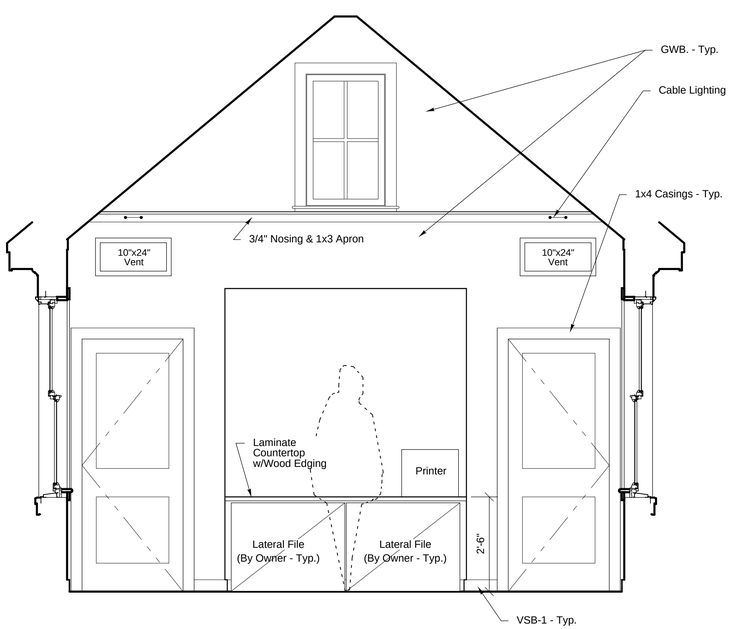
1 Interior Elevation - Harbormaster Office
Scale: 1/2" = 1'-0"



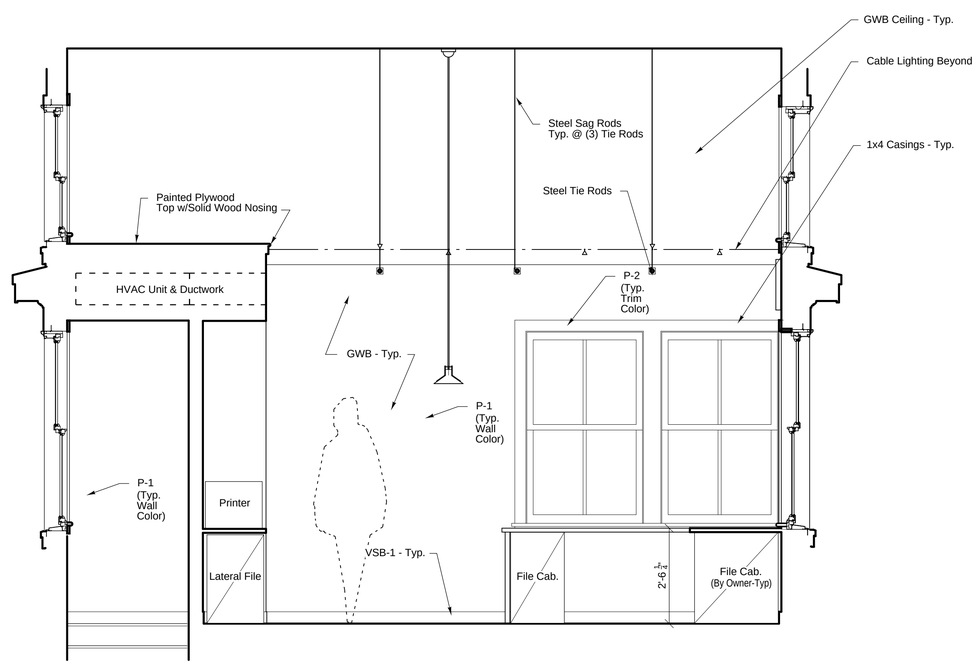
2 Interior Elevation - Harbormaster Office
Scale: 1/2" = 1'-0"



Upper Level Plan - Harbormaster Office
Scale: 1/4" = 1'-0"



3 Interior Elevation - Harbormaster Office
Scale: 1/2" = 1'-0"



4 Interior Elevation - Harbormaster Office
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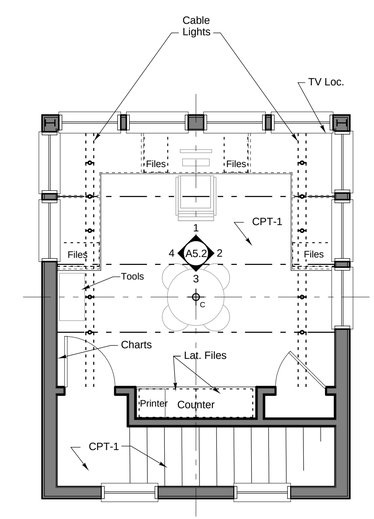

Note: All Furnishings, Files and Pringting Equipment by Owner.

Lighting/Furniture Plan - Harbormaster Office
Scale: 1/4" = 1'-0"

A New Transient Boaters Facility for :
The Newburyport Harbormaster
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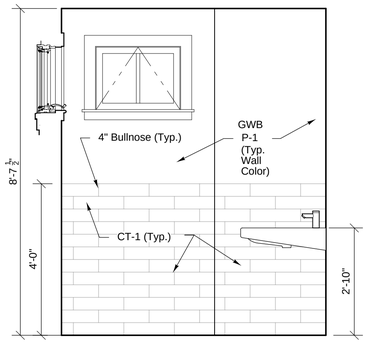
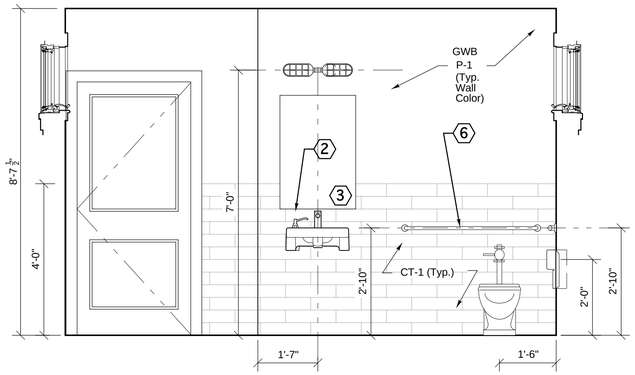
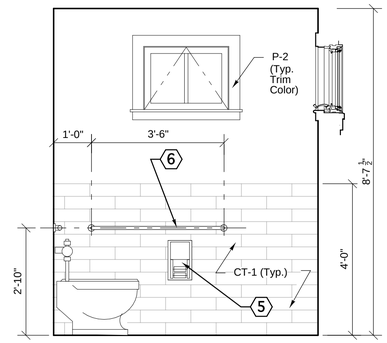
A5.2



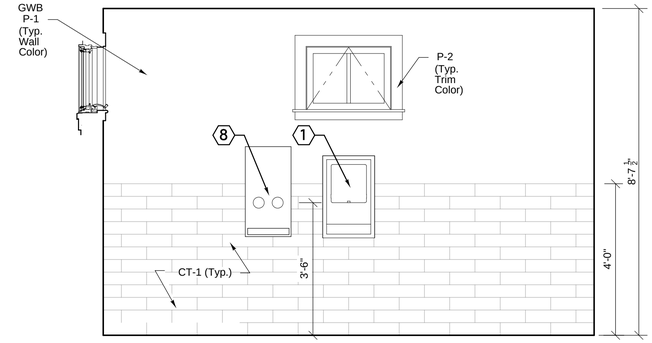
1 HP Toilet 112
Scale: 1/2" = 1'-0"



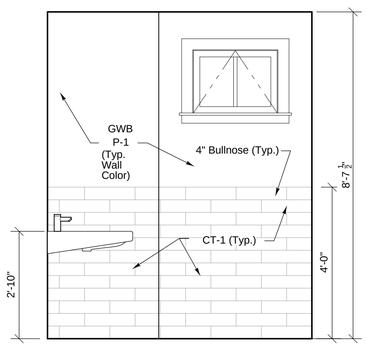
2 HP Toilet 112
Scale: 1/2" = 1'-0"



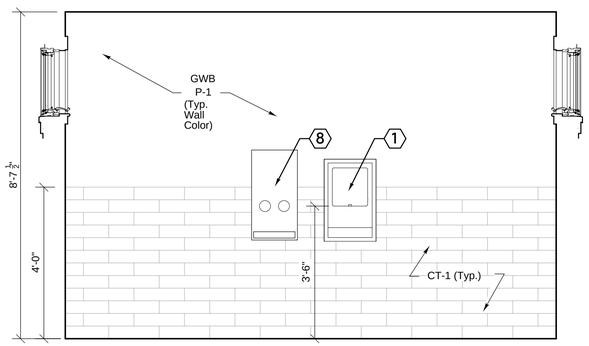
3 HP Toilet 112
Scale: 1/2" = 1'-0"



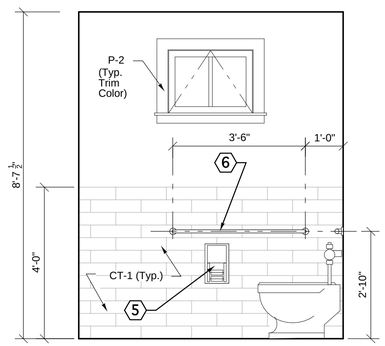
4 HP Toilet 112
Scale: 1/2" = 1'-0"



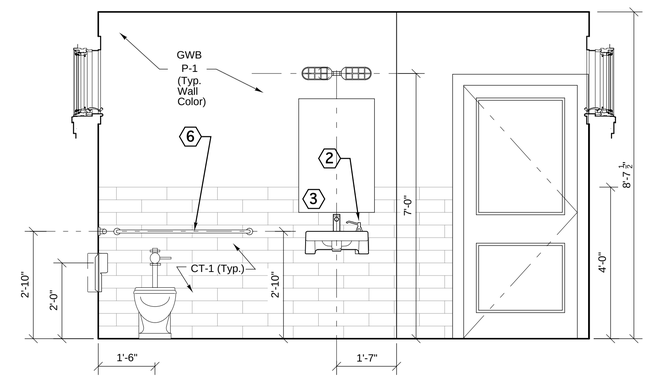
5 HP Toilet 113
Scale: 1/2" = 1'-0"



6 HP Toilet 113
Scale: 1/2" = 1'-0"



7 HP Toilet 113
Scale: 1/2" = 1'-0"

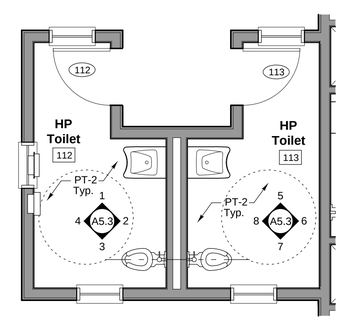


8 HP Toilet 113
Scale: 1/2" = 1'-0"

BATHROOM SPECIALTIES/ACCESSORIES SCHEDULE

LOCATION	SYMBOL	FIXTURE	DESCRIPTION	NOTES / COMMENTS
Bathrooms	1	Hand Dryer	XLerator Hand Dryer XL-BW w/ADA Compliant Recess Kit 4052	
Bathrooms	2	Soap Dispenser	Bobrick #B-826.18, Soap Dispenser.	
Bathrooms	3	Mirror	Bobrick #B-293 2436 fixed-position tilt mirror.	
Boater's Showers	4	Mirror	Plate Glass Mirror Provided by Glass and Glazing Subcontractor	
Bathrooms	5	Toilet Paper Dispenser	Bobrick #B-4388, 'ConturaSeries', double roll Toilet Paper Dispenser.	
Bathrooms	6	Grab Bar	Bobrick #B-6806x42.99 grab bar.	
Bathrooms	7	Sanitary Napkin Dispenser	Bobrick 'ConturaSeries' #B-4353 sanitary napkin disposal.	
Bathrooms	8	Sanitary Napkin Dispenser	Bobrick 'ConturaSeries' #B-47064 25 napkin/tampon vendor.	
Bathrooms/Showers	9	Clothing Hook	Bobrick 'Surface-Mounted Robe Hook' #B-76717 surface-mounted robe hook.	
Boater's Showers	11	Curtain Rod	Bobrick 'Heavy Duty Shower Curtain Rod' #B-207 straight curtain rod.	
Boater's Showers	11	Shower Curtain Hooks	Bobrick 'Shower Curtain Hook' #204-1 Curtain Hook.	
Boater's Showers	11	Shower Curtain	Bobrick 'Shower Curtains' #204-2.	

NOTE ON FINISHES: **See Finish Schedule on Sheet A1.4 for Wall and Floor Finishes**



Public Bathrooms Plan
Scale: 1/4" = 1'-0"

A New Transient Boaters Facility for :
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CONSTRUCTION DOCUMENTS

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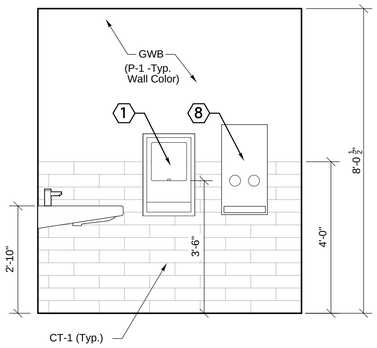
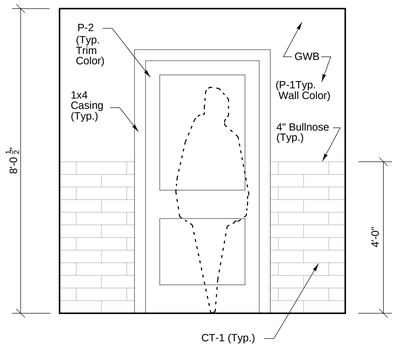
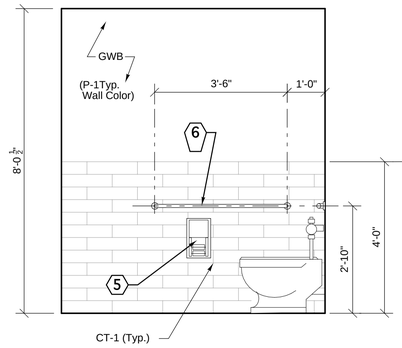
A5.3



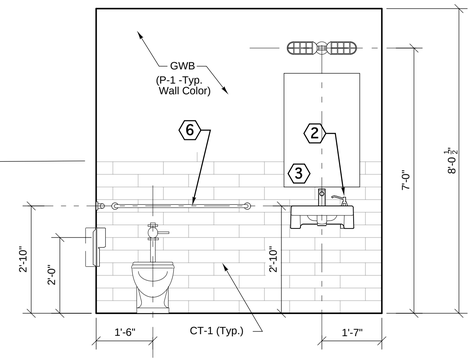
1 HP Toilet Room 109
Scale: 1/2" = 1'-0"



2 HP Toilet Room 109
Scale: 1/2" = 1'-0"



3 HP Toilet Room 109
Scale: 1/2" = 1'-0"



4 HP Toilet Room 109
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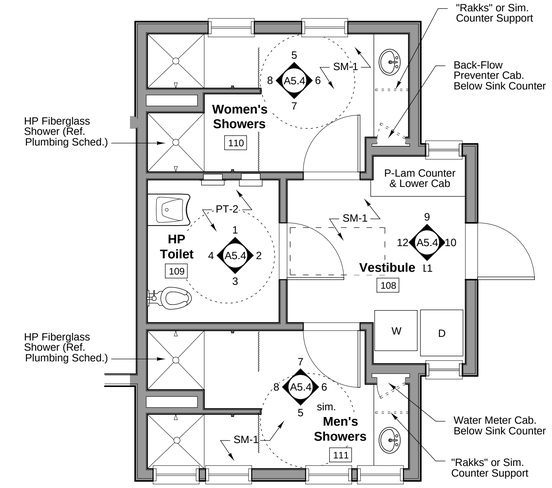
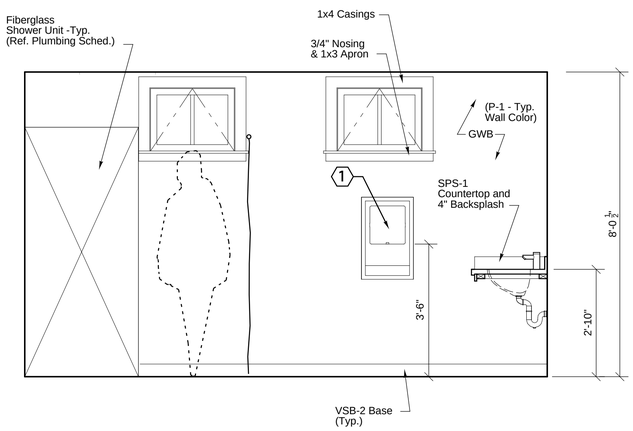
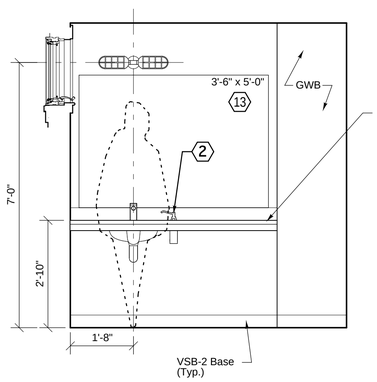


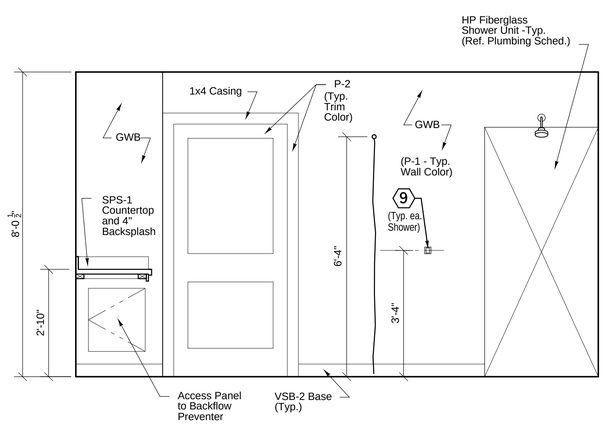
Transient Boaters' Facility - Plan
Scale: 1/2" = 1'-0"



5 Women's Showers 110
Scale: 1/2" = 1'-0"



6 Women's Showers 110
Scale: 1/2" = 1'-0"



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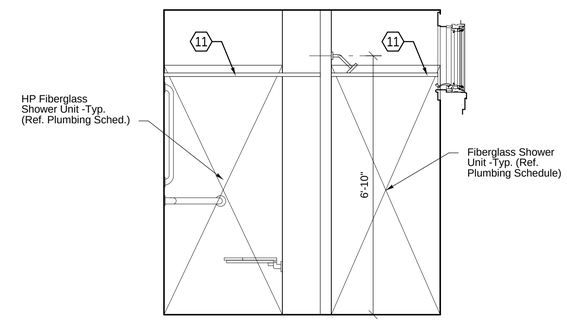

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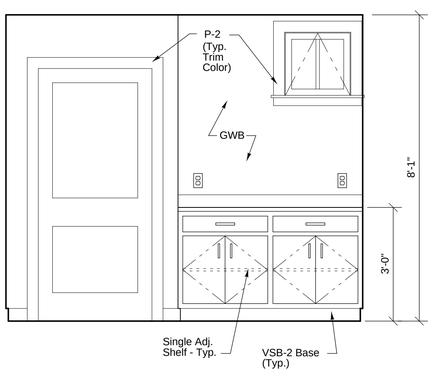
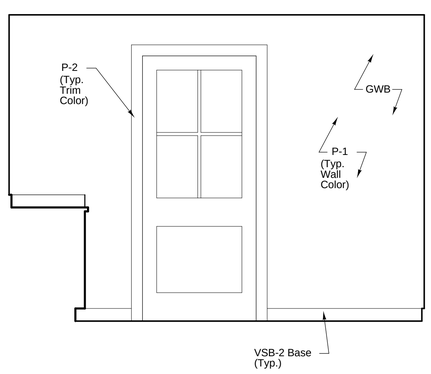


9 Vestibule 108
Scale: 1/2" = 1'-0"



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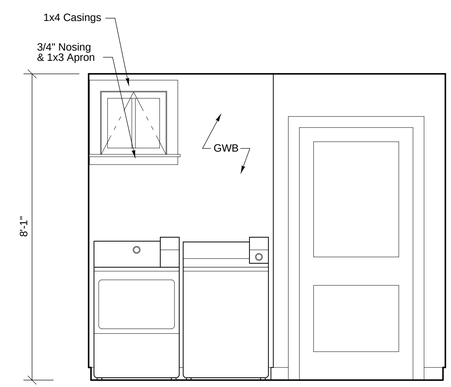
Scale: 1/2" = 1'-0"



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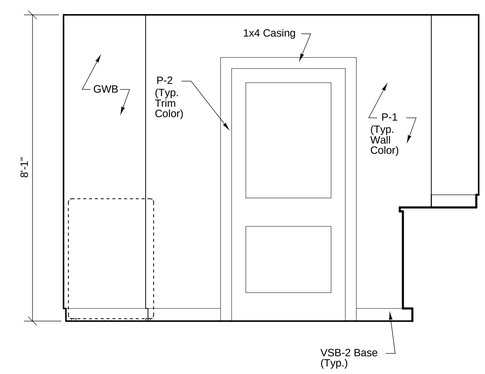

12 Vestibule 108
Scale: 1/2" = 1'-0"

A New Transient Boaters Facility for :
The Newburyport Harbormaster
Newburyport, MA 01950

CONSTRUCTION DOCUMENTS

Interior Elevations

Jan. 19, 2016
Scale: AS NOTED
Project No. 14001

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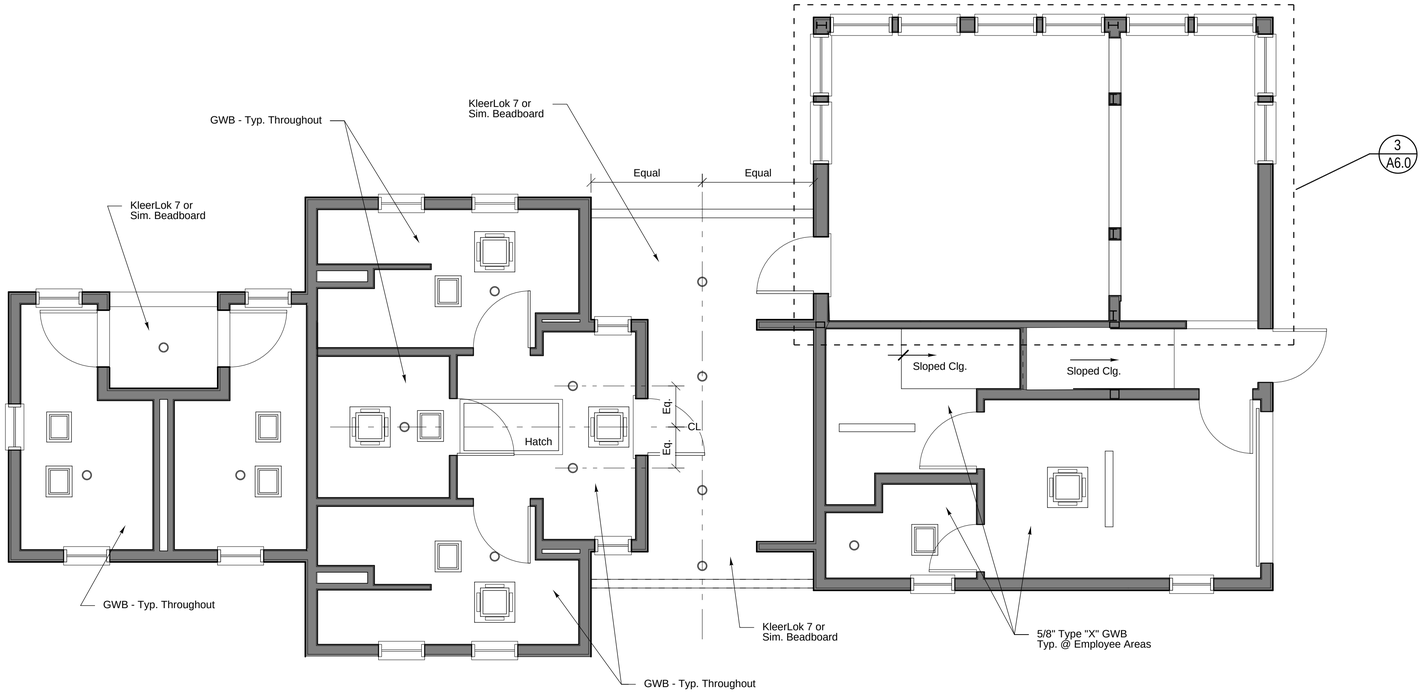
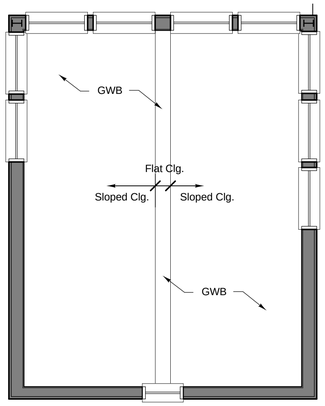
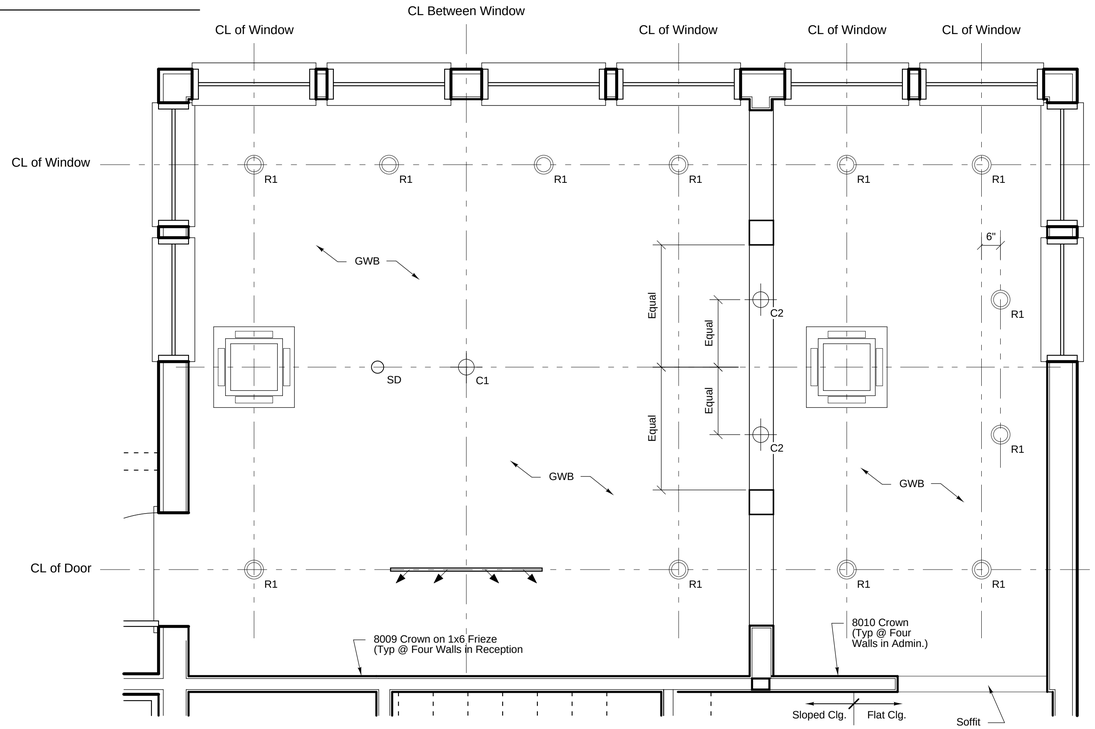
A5.4



1 Reflected Ceiling Plan/Wall Types Diagram - FIRST FLOOR
Scale: 1/4" = 1'-0"



2 Reflected Ceiling Plan/Wall Types Diagram - SECOND FLOOR
Scale: 1/4" = 1'-0"



3 Reflected Ceiling Plan - Reception/Administration Area
Scale: 1/2" = 1'-0"

A New Transient Boaters Facility for :
The Newburyport Harbormaster
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CONSTRUCTION DOCUMENTS

Reflected Ceiling Plans

Project No. 14001 | Scale: 1/2" = 1'-0" | Jan. 19, 2016

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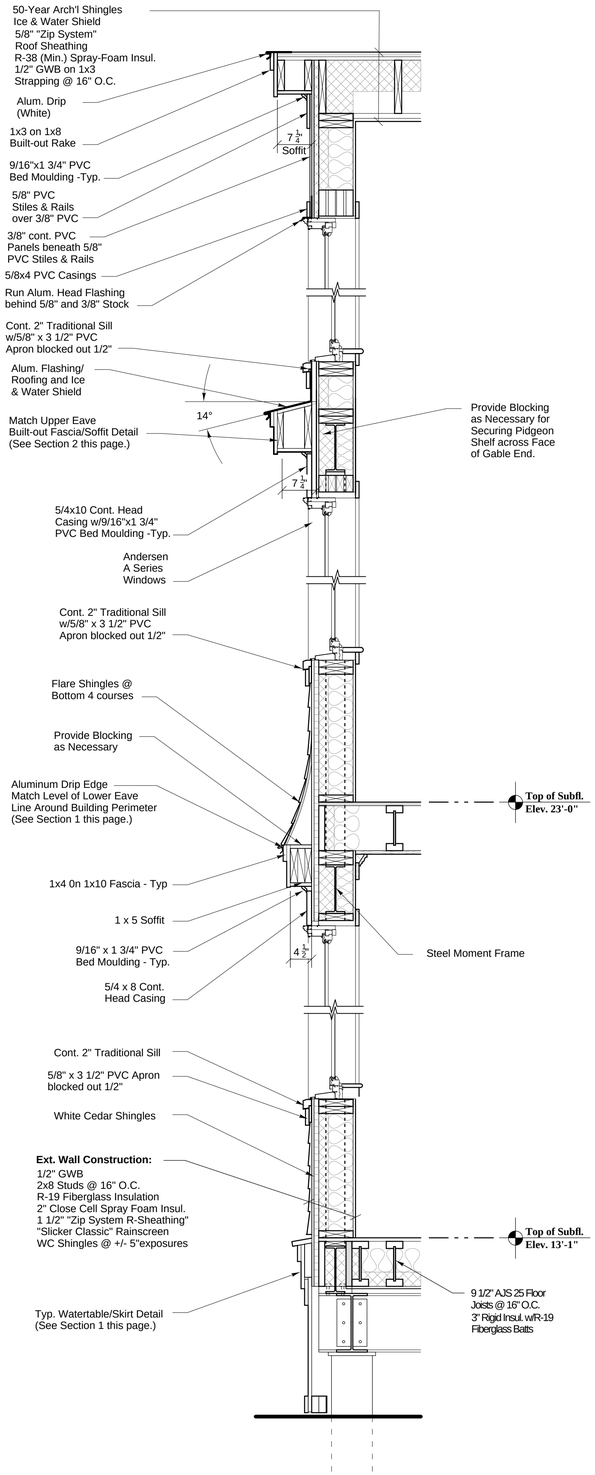
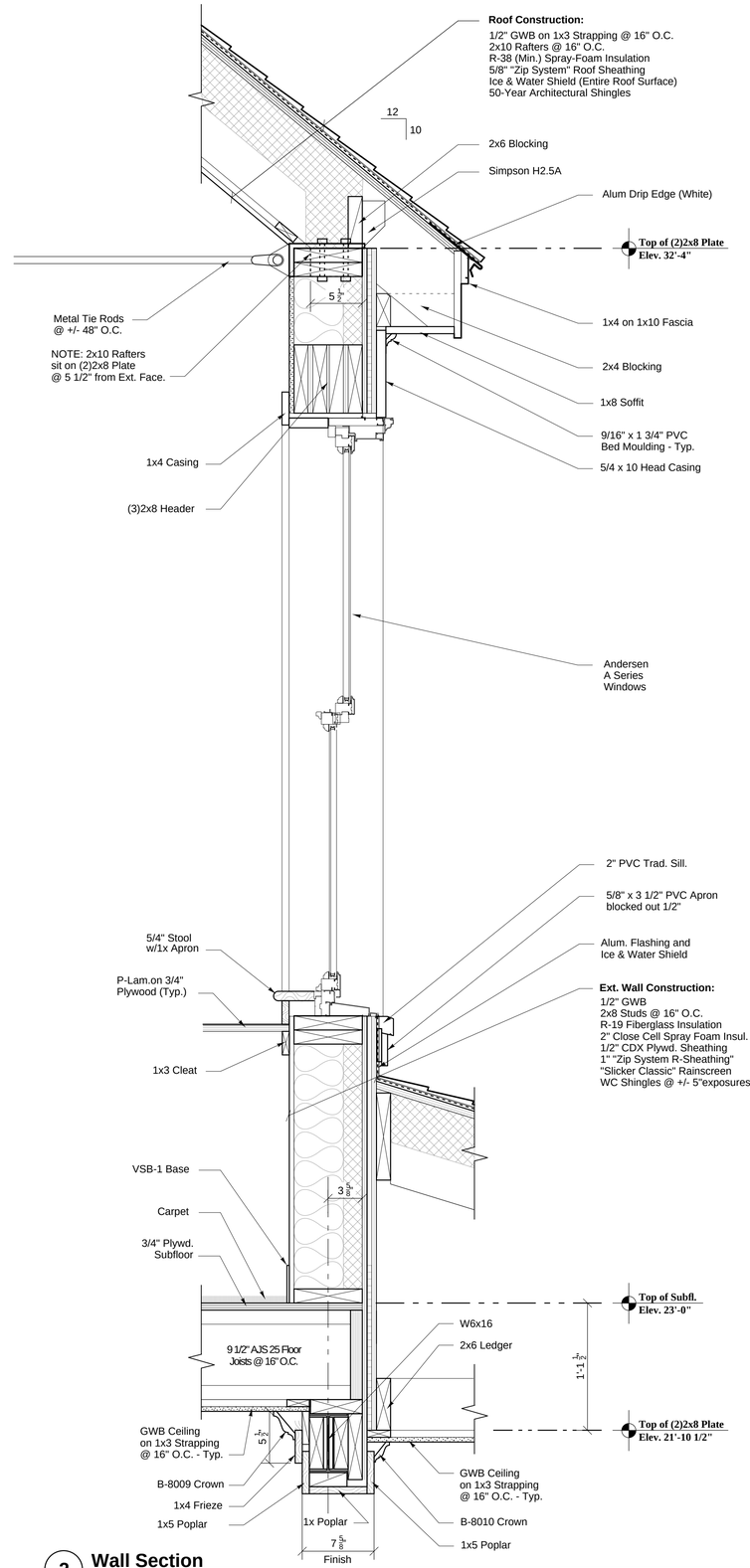
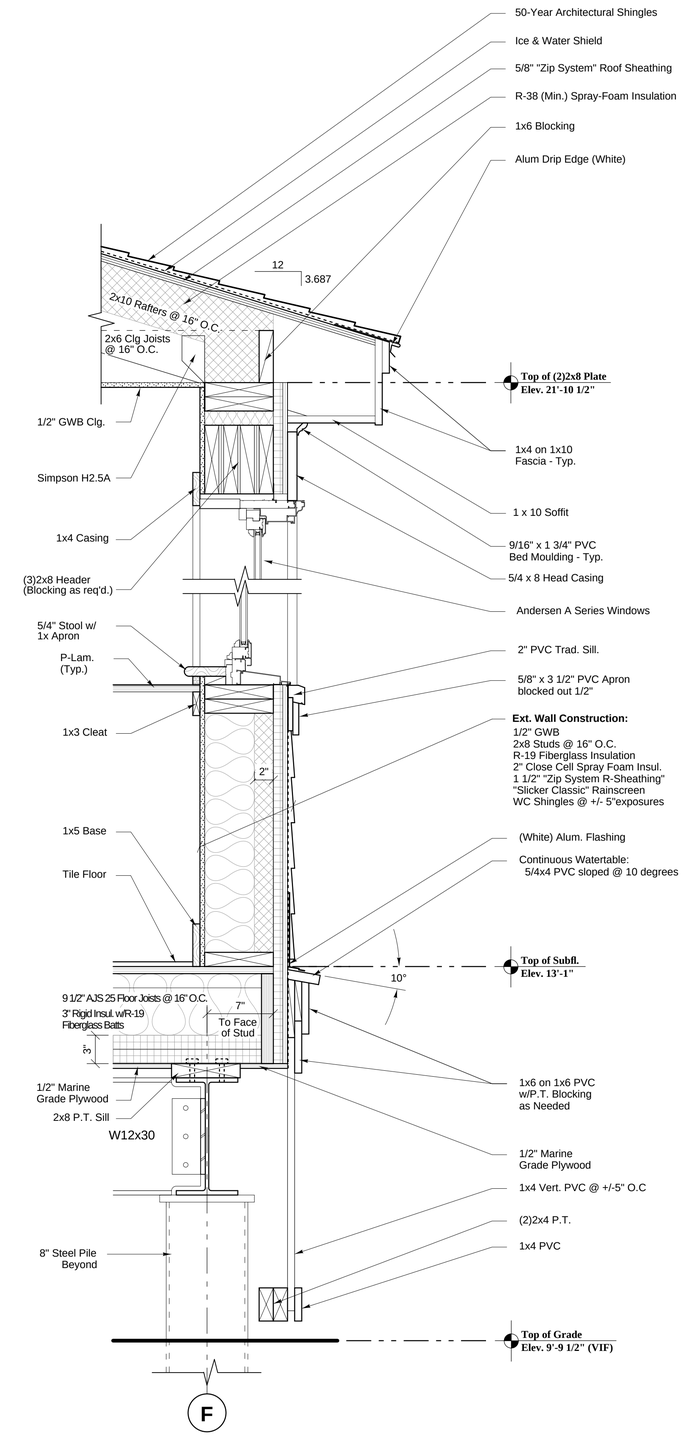


3 Wall Section
Scale: 3/4" = 1'-0"



2 Wall Section
Scale: 1 1/2" = 1'-0"



1 Wall Section
Scale: 1 1/2" = 1'-0"

A New Transient Boaters Facility for :
The Newburyport Harbormaster
Newburyport, MA 01950

CONSTRUCTION DOCUMENTS

Wall Sections

Project No. 14001 | Scale: As Noted | Jan. 19, 2016

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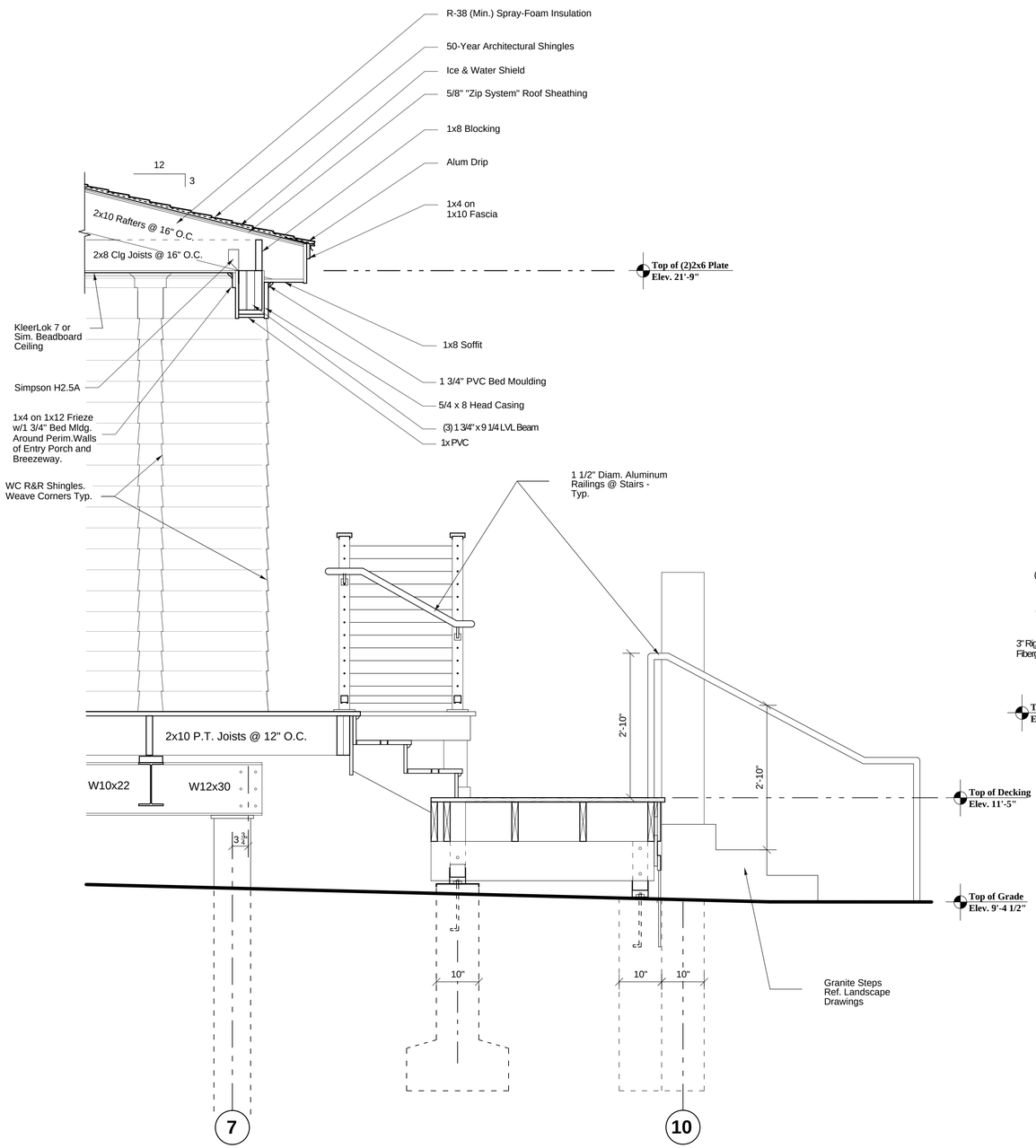
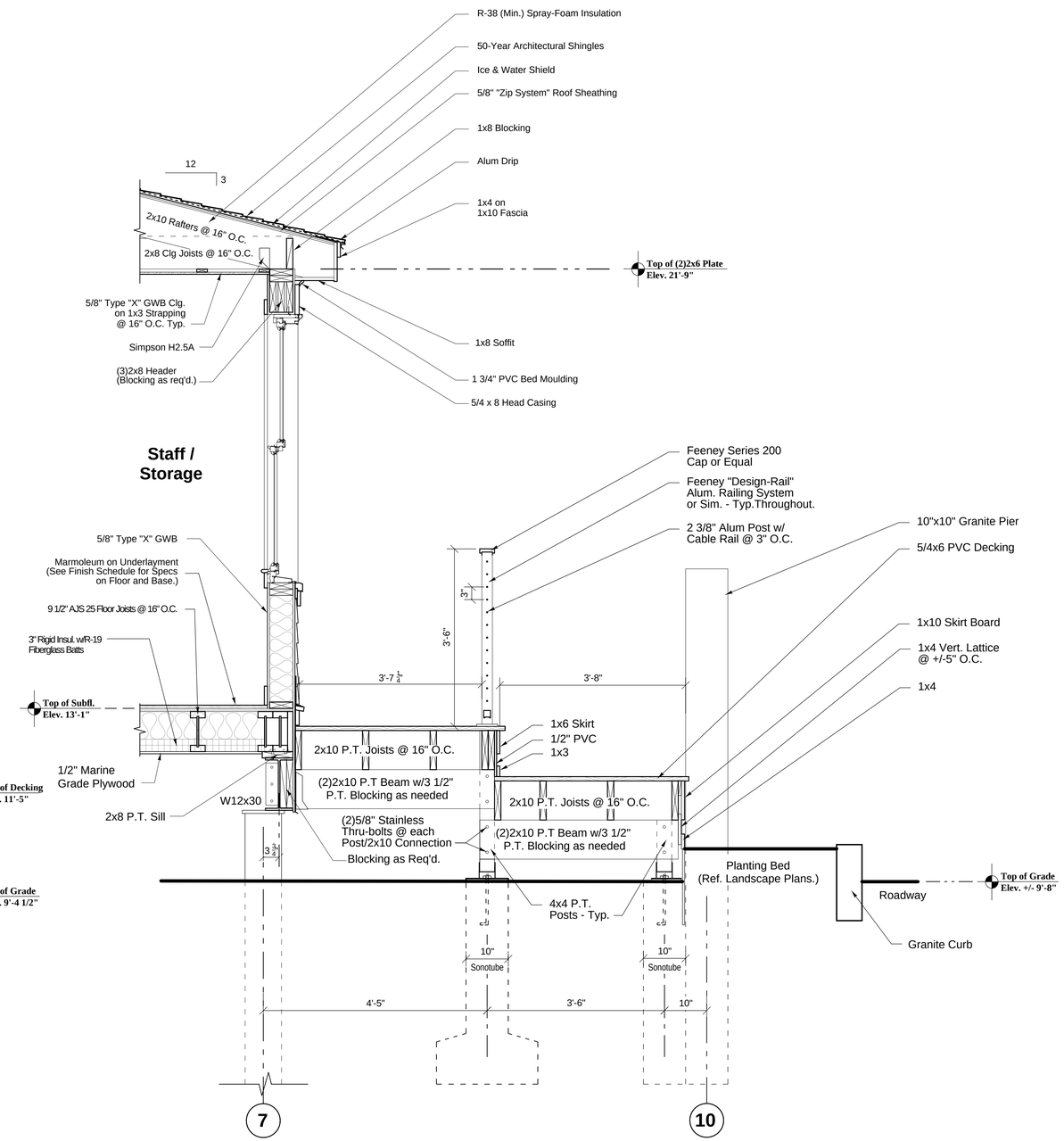


2 Detail Section @ South Wall and Walkway

Scale: 3/4" = 1'-0"



1 Detail Section @ South Wall and Walkway

Scale: 3/4" = 1'-0"

A New Transient Boaters Facility for :

The Newburyport Harbormaster

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CONSTRUCTION DOCUMENTS

Wall Sections

Project No. 14001 | Scale: As Noted | Sept. 4, 2015

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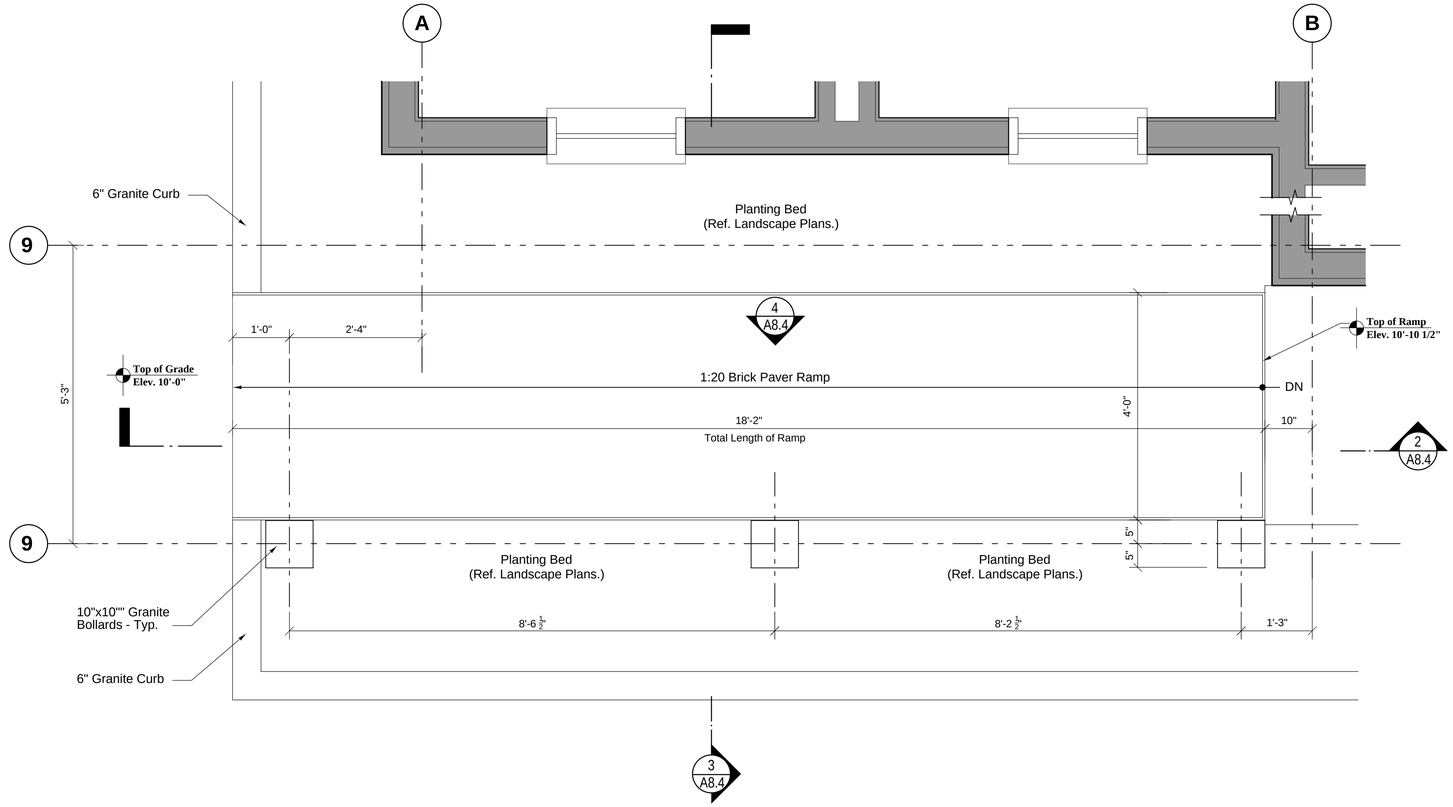
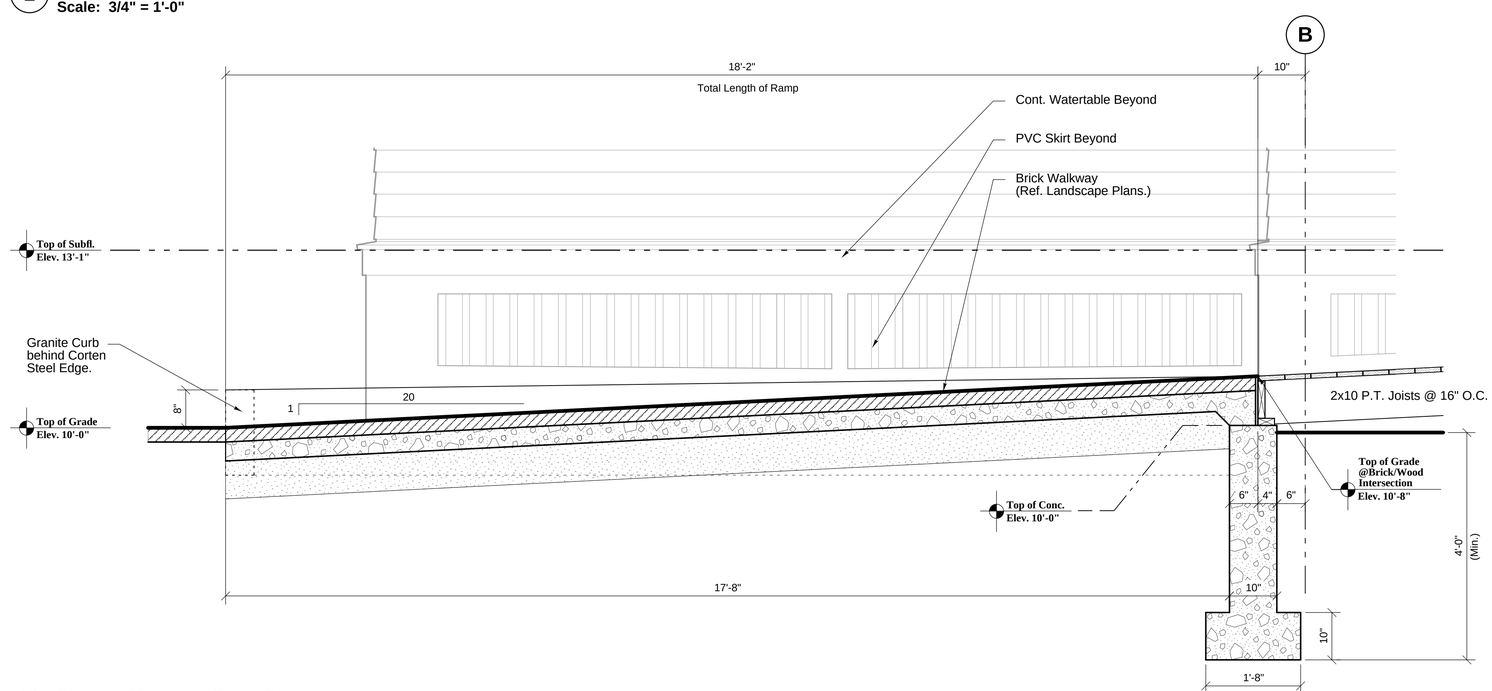


1 Detail Ramp Plan

Scale: 3/4" = 1'-0"



2 Section Through Brick Ramp

Scale: 3/4" = 1'-0"

A New Transient Boaters Facility for :

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Newburyport, MA 01950

CONSTRUCTION DOCUMENTS

Walkway Details

Jan. 19, 2016

Scale: As Noted

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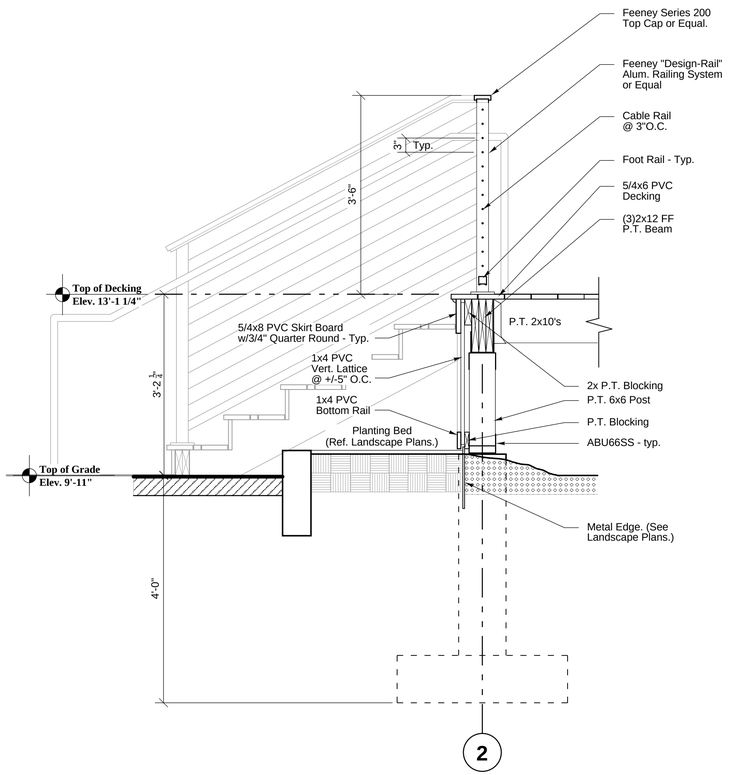
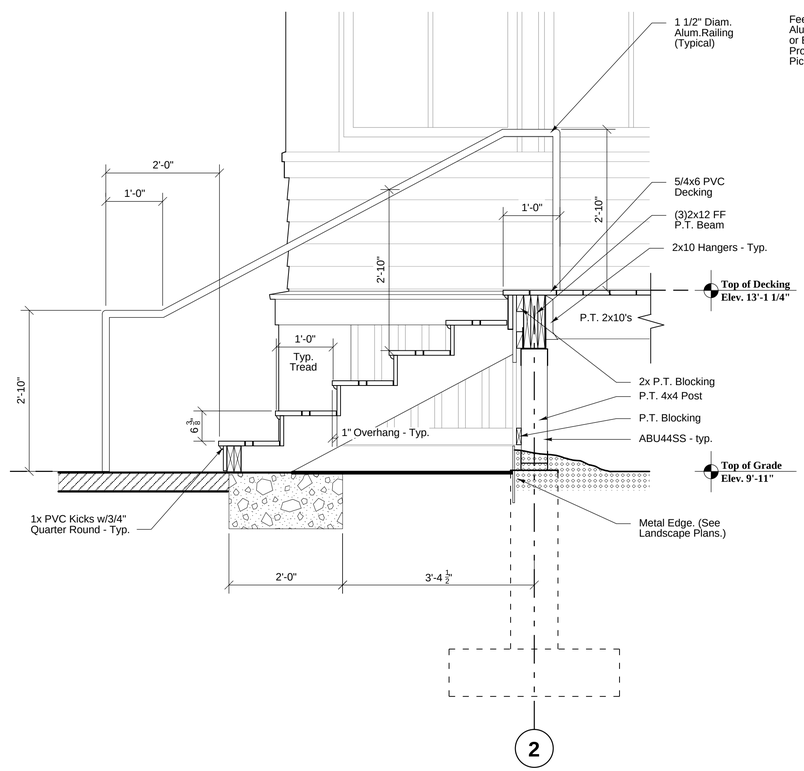
A8.3



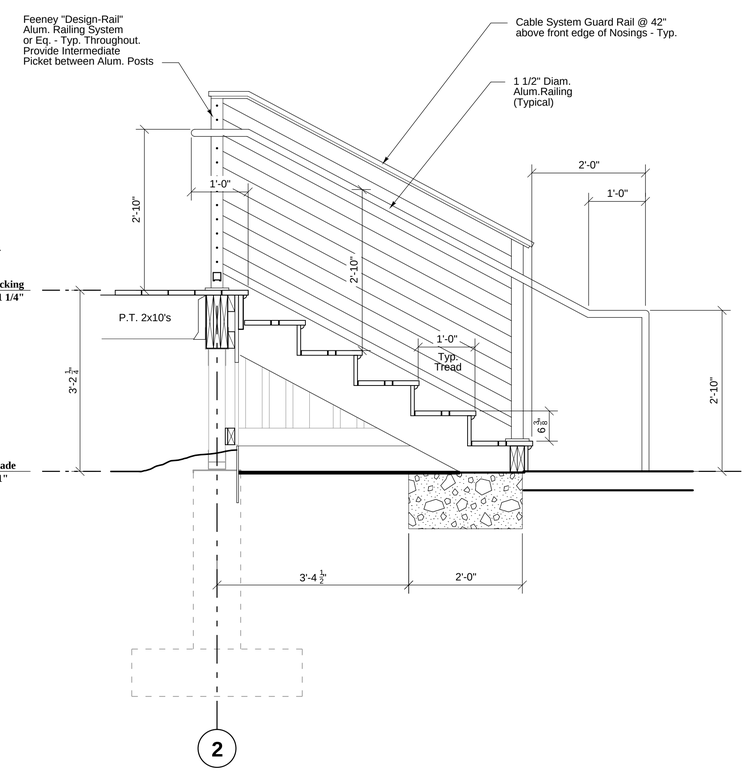
5 **Section Through Skirt and Railing @ North Deck**

Scale: 3/4" = 1'-0"



4 **Section Through Stairway @ North Deck**

Scale: 3/4" = 1'-0"



3 **Section Through Stairway @ North Deck**

Scale: 3/4" = 1'-0"

A New Transient Boaters Facility for :

The Newburyport Harbormaster

Newburyport, MA 01950

CONSTRUCTION DOCUMENTS

Deck and Ramp Details

Project No. 14001 | Scale: 3/4" = 1'-0" | Jan. 19, 2016

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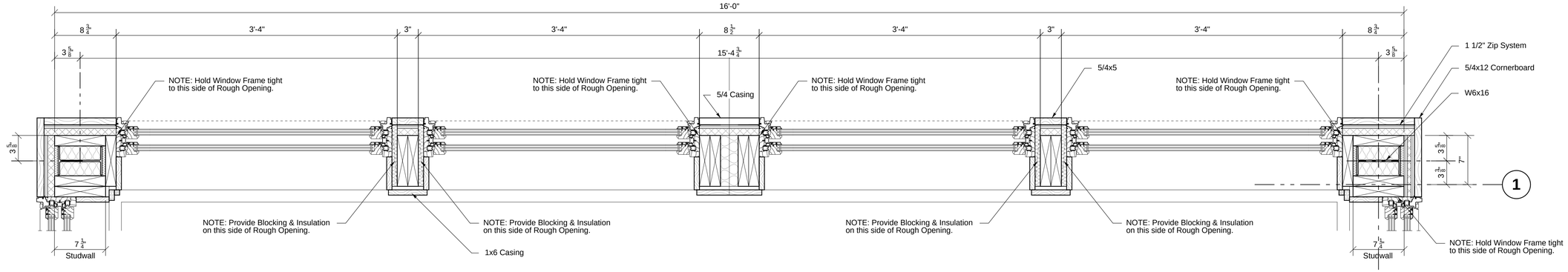
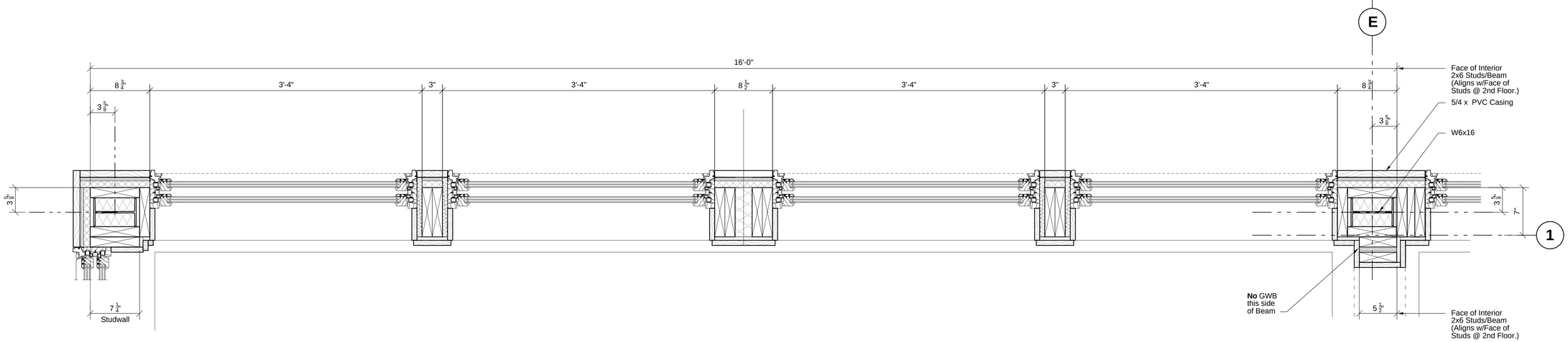


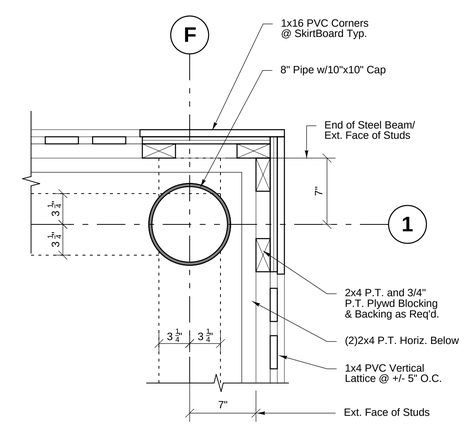
1 Plan Detail @ Second Floor Office

Scale: 1 1/2" = 1'-0"



2 Plan Detail @ First Floor Reception/Administration Area

Scale: 1 1/2" = 1'-0"



3 Plan Detail @ Foundation/Skirt

Scale: 1 1/2" = 1'-0"

A New Transient Boaters Facility for :

The Newburyport Harbormaster

Newburyport, MA 01950

CONSTRUCTION DOCUMENTS

Plan Details

Project No. 14001 | Scale: As Noted | Jan. 19, 2016

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A9.1

STRUCTURAL NOTES

GENERAL

1. CONSTRUCTION IS TO BE IN ACCORDANCE WITH THE MASSACHUSETTS STATE BUILDING CODE, EIGHTH EDITION (MSBC) AND AS APPLICABLE THE *WOOD FRAME CONSTRUCTION MANUAL* (WFCM) INCLUDING THE MASSACHUSETTS CHECKLIST FOR COMPLIANCE. (THE WFCM IS PUBLISHED BY THE AMERICAN FOREST AND PAPER ASSOCIATION.)

2. THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE CONTRACT DRAWINGS. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT BEFORE PROCEEDING WITH THE AFFECTED WORK. ANY VARIATIONS OR SUBSTITUTIONS OF MATERIALS OR DETAILS FROM THOSE INDICATED ON THE DRAWINGS MAY BE MADE ONLY WITH THE PRIOR APPROVAL OF THE ARCHITECT.

3. SHOP DRAWINGS FOR REINFORCING STEEL (INCLUDING ALL ACCESSORIES), STRUCTURAL STEEL, AND WOOD FRAMING SHALL BE SUBMITTED TO THE ARCHITECT AND APPROVED BEFORE FABRICATION CAN PROCEED.

4. STRUCTURAL DRAWINGS ARE TO BE USED IN CONJUNCTION WITH THE ARCHITECTURAL, SITE, MECHANICAL, ELECTRICAL, PLUMBING, AND FIRE PROTECTION DRAWINGS; AND APPROVED SHOP DRAWINGS, AND SPECIFICATIONS.

5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR JOB SAFETY DURING CONSTRUCTION, INCLUDING BUT NOT LIMITED TO SHORING AND GUYING STRUCTURES, BARRIERS AND SIGNAGE.

6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, AND COORDINATION OF TRADES.

7. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING EXISTING CONDITIONS. EXISTING INFORMATION SHOWN ON DRAWINGS IS FOR GRAPHICAL PURPOSES AND SHALL BE VERIFIED IN THE FIELD.

8. THE CONTRACTOR SHALL REFER TO THE *GEOTECHNICAL ENGINEERING REVIEW,* DATED AUGUST 14, 2014, PREPARED BY GEOTECHNICAL PARTNESHIP, INC. FOR SUBSURFACE CONDITIONS AT THE SITE.

9. BUILDING DESIGN IS BASED ON THE FOLLOWING LOADS:

- o SNOW LOAD - 55 PSF GROUND SNOW LOAD PLUS ALLOWANCE FOR DRIFTING
- o FLOOR LIVE LOAD - 50 PSF
- o WIND LOAD - 110 MPH, EXPOSURE C

STEEL PILES

1. THE STEEL PILES SHALL BE 8-INCH NOMINAL DIAMETER STEEL PIPE PILES WITH A WALL THICKNESS OF 0.322 INCH (SCHEDULE 40). STEEL SHALL CONFORM TO ASTM A252 GRADE 3.

2. ENDS OF PILES SHALL BE CLOSED WITH A FORGED OR CAST CONICAL POINT.

3. STEEL PILES SHALL BE DRIVEN TO REFUSAL AND TO A CAPACITY OF 30 TONS.

4. PILES SHALL BE LOCATED WITHIN A 2-INCH LATERAL TOLERANCE OF THE SPECIFIED LOCATION.

5. THE CONTRACTOR SHALL REFER TO THE *GEOTECHNICAL ENGINEERING REVIEW,* DATED AUGUST 14, 2014, PREPARED BY GEOTECHNICAL PARTNESHIP, INC. FOR SUBSURFACE CONDITIONS AT THE SITE.

SPREAD FOOTING FOUNDATIONS

1. BOTTOM OF FOOTING ELEVATIONS SHOWN ON DRAWINGS REPRESENT MINIMUM DEPTH OF FOOTING. CONTRACTOR SHALL CONFIRM THAT FOOTINGS ARE PLACED ON UNDISTURBED MATERIAL WITH A MINIMUM ALLOWABLE BEARING CAPACITY OF 2000 POUNDS PER SQUARE FOOT.

2. NOTIFY THE ENGINEER IF UNSUITABLE OR QUESTIONABLE SOIL CONDITIONS ARE ENCOUNTERED.

3. BOTTOM OF FOOTING ELEVATIONS SHALL BE SET AT LEAST 4 FEET BELOW FINAL GRADE.

4. IF STRUCTURAL FILL IS NEEDED, PLACE STRUCTURAL FILL IN 8-INCH LIFTS AND COMPACT TO 95% DENSITY AS DETERMINED BY MODIFIED PROCTOR TEST - ASTM D1557.

CONCRETE AND REINFORCING STEEL

1. CONCRETE FOR FOOTINGS, PIERS AND WALLS SHALL HAVE A COMPRESSIVE STRENGTH OF AT LEAST 3000 PSI AT 28 DAYS. CONCRETE FOR SLABS SHALL HAVE A COMPRESSIVE STRENGTH OF AT LEAST 3000 PSI AT 28 DAYS.

2. CONCRETE SHALL BE 4% TO 6% AIR ENTRAINED AND CONFORM TO ASTM C-94. SLUMP SHALL BE 5 INCHES.

3. REINFORCING BARS SHALL CONFORM TO ASTM A615 - GRADE 60.

4. ELECTRICAL GROUNDING SHALL BE PER CODE.

5. ALL CONCRETE SLABS ON GRADE SHALL BE REINFORCED WITH 6X6 W2.9X W2.9 WELDED WIRE FABRIC. WELDED WIRE FABRIC SHALLCONFORM TO ASTM A185 AND SHALL LAP 6 INCHES AND SHALL BE WIRED TOGETHER.

6. CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE AMERICAN CONCRETE INSTITUTE'S (ACI) "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" (ACI 318), "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS" (ACI 301), "RECOMMENDED PRACTICE FOR COLD WEATHER CONCRETING" (ACI 306), AND THE ACI DETAILING MANUAL 315.

7. CONTINUOUS REINFORCING BARS SHALL LAP A MINIMUM OF 40 BAR DIAMETERS UNLESS NOTED. REINFORCING SHALL BE CONTINUOUS AROUND CORNERS.

8. THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR REVIEW AND APPROVAL SHOP DRAWINGS FOR REINFORCING STEEL. FABRICATION AND PLACEMENT OF REINFORCING SHALL NOT PROCEED UNTIL SHOP DRAWINGS ARE APPROVED BY THE ENGINEER.

9. PROTECTIVE COVER FOR REINFORCEMENT:
- o CONCRETE PLACED AGAINST EARTH - 3 INCHES
- o FORMED CONCRETE - 2 INCHES
- o SLABS ON GRADE - 1 INCH FROM TOP

10. PRIOR TO CONCRETE PLACEMENT THE CONTRACTOR SHALL COORDINATE THE PLACEMENT OF SLEEVES AND INSERTS REQUIRED BY THE VARIOUS TRADES.

11. ANCHOR RODS SHALL CONFORM TO ASTM F1554 - GRADE 36 OR ASTM A36. ANCHOR RODS SHALL BE EMBEDDED AT LEAST 12 INCHES.

12. NO CONCRETE SHALL BE PLACED IN WATER, ON DISTURBED SOIL, OR ON FROZEN SUBGRADE.

STRUCTURAL STEEL

1. STRUCTURAL STEEL WORK SHALL CONFORM TO "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS" (AISC 1989), "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES" (AISC), AND "STRUCTURAL WELDING CODE" (AWS D1.1)

2. STRUCTURAL STEEL SHALL BE DETAILED IN ACCORDANCE WITH "DETAILING FOR STEEL CONSTRUCTION" (AISC).

3. WIDE FLANGE STEEL BEAMS SHALL CONFORM TO ASTM A572 (Fy = 50 KSI).

4. HOLLOW STRUCTURAL SECTIONS (HSS) SHALL CONFORM TO ASTM A500 GRADE B (Fy = 46 KSI).

5. PLATES AND ANGLES SHALL CONFORM TO ASTM A36.

6. HIGH STRENGTH BOLTS SHALL CONFORM TO ASTM A325. MINIMUM DIAMETER SHALL BE 3/4 INCH.

7. THE TOP FLANGE OF ALL STEEL BEAMS SHALL BE FURNISHED WITH HOLES FOR 5/8-INCH DIAMETER BOLTS IN ORDER TO ANCHOR THE SILLS TO THE STEEL BEAM. HOLES SHALL BE SPACED AT 24 INCHES - STAGGERED. HOLES IN TOP FLANGE OF BEAMS SHALL ALSO BE PROVIDED FOR HOLD-DOWN HARDWARE.WELDS SHALL FULLY DEVELOP THE STRENGTH OF THE MATERIALS BEING WELDED. FILLET WELDS SHALL BE 3/16 INCH MINIMUM.

8. PROVIDE TEMPORARY ERECTION BRACING AS REQUIRED DURING STEEL ERECTION. FRAMING SHALL BE TRUE AND PLUMB BEFORE CONNECTIONS ARE FINALLY BOLTED OR WELDED

9. ALL DIMENSIONS SHALL BE VERIFIED IN THE FIELD PRIOR TO STEEL FABRICATION.

10. STRUCTURAL STEEL SHALL BE PAINTED IN THE SHOP WITH ONE COAT OF PRIMER. AFTER PILE AND STEEL INSTALLATION, ALL EXPOSED STEEL SHALL BE COATED WITH AN ASPHALT-BASED SEALER OR OTHER SUITABLE CORROSION PROTECTION.

11. PRIOR TO FABRICATION THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ALL STRUCTURAL STEEL MEMBERS AND CONNECTIONS, INCLUDING CUSTOM CONNECTIONS FOR WOOD MEMBERS.

WOOD

1. WOOD CONSTRUCTION SHALL BE IN ACCORDANCE WITH CHAPTER 23 OF THE 2009 INTERNATIONAL BUILDING CODE AND, AS APPLICABLE, THE *WOOD FRAME CONSTRUCTION MANUAL* (WFCM) INCLUDING THE MASSACHUSETTS CHECKLIST FOR COMPLIANCE

2. FRAMING LUMBER SHALL BE SPRUCE-PINE-FIR #2 OR BETTER.

3. EXTERIOR FRAMING LUMBER FOR SUPPORT OF DECKS SHALL BE PRESSURE-TREATED SOUTHERN YELLOW PINE #2 OR BETTER.

4. ALL POSTS SHALL BE FULLY BLOCKED BETWEEN FLOORS WITH THE GRAIN OF BLOCKING IN A VERTICAL ORIENTATION.

5 PROVIDE BLOCKING BETWEEN JOISTS WHERE JOISTS RUN OVER SUPPORTING BEAMS.

6 PROVIDE AN ADDITIONAL JOIST UNDER ALL INTERIOR WALLS RUNNING PARALLEL TO FLOOR JOISTS. PROVIDE BLOCKING BETWEEN FLOOR JOISTS FOR ALL INTERIOR WALLS RUNNING PERPENDICULAR TO FLOOR JOISTS.

7. PROVIDE BRIDGING AT MID-SPAN OF ALL JOISTS WITHOUT CEILING BELOW.

8. LAMINATED VENEER LUMBER BEAMS (LVL) SHALL HAVE A MODULUS OF ELASTICITY (E) OF 2,000,000 PSI AND AN ALLOWABLE BENDING STRESS (Fb) OF 3000 PSI. LVL'S SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

9. LVL BEAMS SHALL BE FASTENED TOGETHER AS FOLLOWS:

a. TWO-PLY BEAMS LESS THAN 14 INCHES DEEP SHALL BE NAILED TOGETHER WITH THREE ROWS OF 10d NAILS AT 12-INCH SPACING (OR TWO ROWS OF 16d NAILS AT 12-INCH SPACING).
b. TWO-PLY BEAMS 14 INCHES OR DEEPER (BUT LESS THAT 24 INCHES DEEP) SHALL BE NAILED TOGETHER WITH FOUR ROWS OF 10d NAILS AT 12-INCH SPACING (OR THREE ROWS OF 16d NAILS AT 12-INCH SPACING).
c. TWO-PLY BEAMS 24 INCHES DEEP SHALL BE NAILED TOGETHER WITH FOUR ROWS OF 10d OR 16d NAILS AT 12-INCH SPACING.
d. THREE AND FOUR PLY BEAMS SHALL BE FASTENED TOGETHER WITH TWO ROWS OF HALF-INCH THROUGH BOLTS SPACED AT 16 INCHES.

10. WHERE LVL BEAMS ARE FLUSH-FRAMED TO LVL BEAMS USE SIMPSON HGUS TYPE BEAM HANGERS.

11. WHERE PSL COLUMNS ARE SPECIFIED USE PARALLAM PSL COLUMNS OR VERSA-LAM LVL COLUMNS (OR EQUIVALENT).

12. CONFORM TO MANUFACTURER'S RECOMMENDATIONS WITH RESPECT TO INSTALLATION, CUTTING, NOTCHING, AND FASTENING OF ALL ENGINEERED LUMBER.

13. PROVIDE SIMPSON H2.5A HURRICANE TIES AT EVERY RAFTER/ TOP PLATE CONNECTION.

14. CONNECT OPPOSING RAFTERS TOGETHER WITH COLLAR TIES OR WITH STEEL STRAP TIES OVER THE RIDGE (SIMPSON LSTA24).

15. ALL OF THE EXTERIOR WALLS ARE CONSIDERED TO BE BRACED WALLS CONSTRUCTED OF CONTINUOUSLY SHEATHED WOOD STRUCTURAL PANELS WITH PANEL EDGES NAILED AT 4 INCHES ON CENTER. HORIZONTAL JOINTS IN THE BRACED WALL PANELS ARE REQUIRED TO BE BLOCKED.

16. THE DECK LEDGER CONNECTIONS SHALL BE IN ACCORDANCE WITH SECTION R502.2.2, INCLUDING TABLE R502.2.2.1 OF THE 2009 INTERNATIONAL RESIDENTIAL CODE.

17. EACH DECK IS TO BE LATERALLY TIED TO THE MAIN STRUCTURE IN ACCORDANCE WITH SECTIONS R502.2.2 AND R502.2.2.3 OF THE 2009 INTERNATIONAL RESIDENTIAL CODE.

18. ALL HANGERS AND OTHER HARDWARE FOR THE DECKS SHALL BE STAINLESS STEEL.

A New Transient Boaters Facility for :
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CONSTRUCTION DOCUMENTS

Structural Notes

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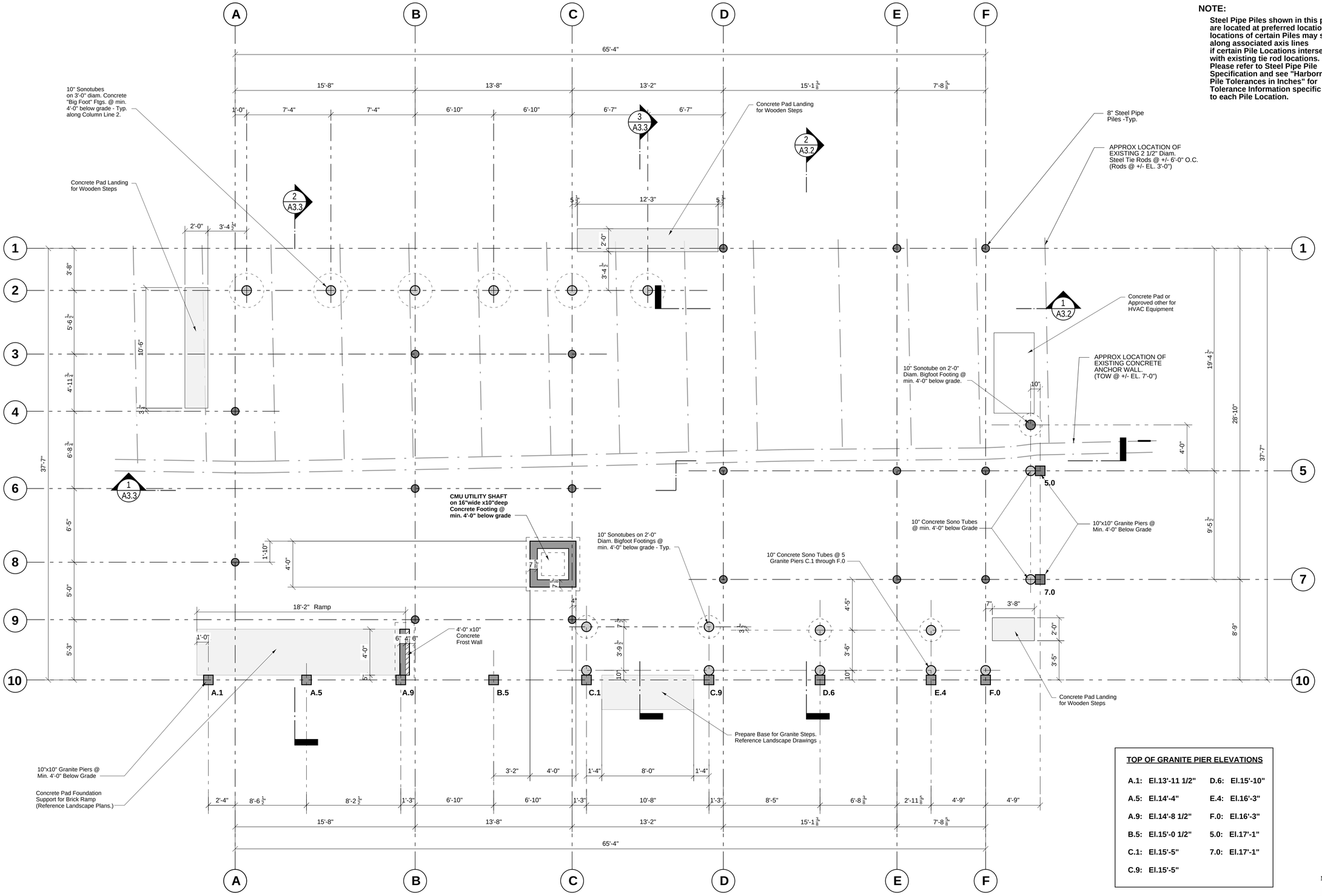
S1.1

NOTE:

Steel Pipe Piles shown in this plan are located at preferred locations, but locations of certain Piles may shift along associated axis lines if certain Pile Locations intersect with existing tie rod locations. Please refer to Steel Pipe Pile Specification and see "Harbormaster Pile Tolerances in Inches" for Tolerance Information specific to each Pile Location.



TOP OF GRANITE PIER ELEVATIONS

A.1:	El.13'-11 1/2"	D.6:	El.15'-10"
A.5:	El.14'-4"	E.4:	El.16'-3"
A.9:	El.14'-8 1/2"	F.0:	El.16'-3"
B.5:	El.15'-0 1/2"	5.0:	El.17'-1"
C.1:	El.15'-5"	7.0:	El.17'-1"
C.9:	El.15'-5"		

Foundation Plan

Scale: 1/4" = 1'-0"

A New Transient Boaters Facility for :

The Newburyport Harbormaster

Newburyport, MA 01950

CONSTRUCTION DOCUMENTS

Foundation Plan

Project No. 14001 | Scale: 1/4" = 1'-0" | Jan. 19, 2016

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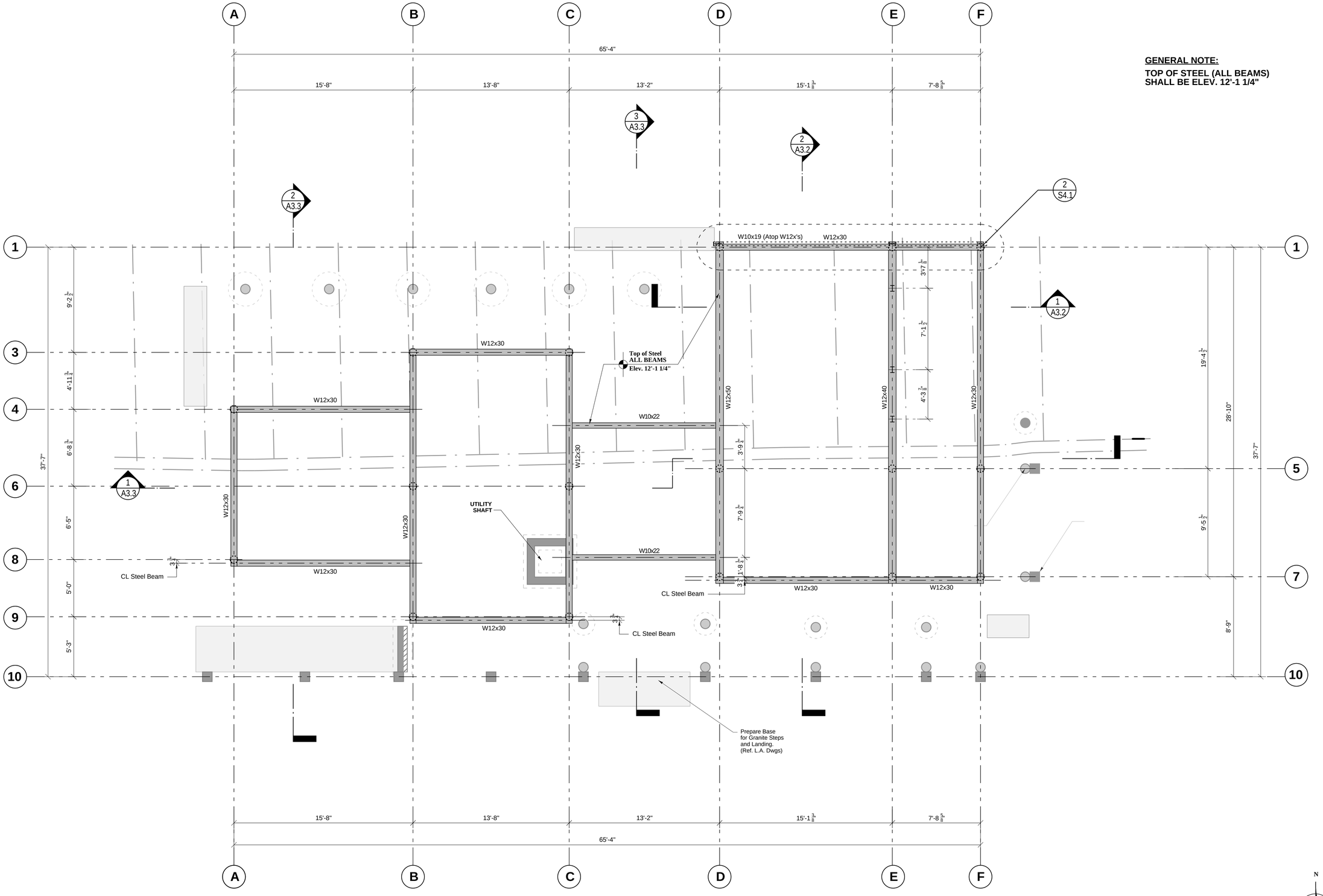
S2.0

GENERAL NOTE:

TOP OF STEEL (ALL BEAMS) SHALL BE ELEV. 12'-1 1/4"



Steel Beam Plan

Scale: 1/4" = 1'-0"

A New Transient Boaters Facility for :

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CONSTRUCTION DOCUMENTS

Steel Beam Plan

Project No. 14001 | Scale: 1/4" = 1'-0" | Jan. 19, 2016

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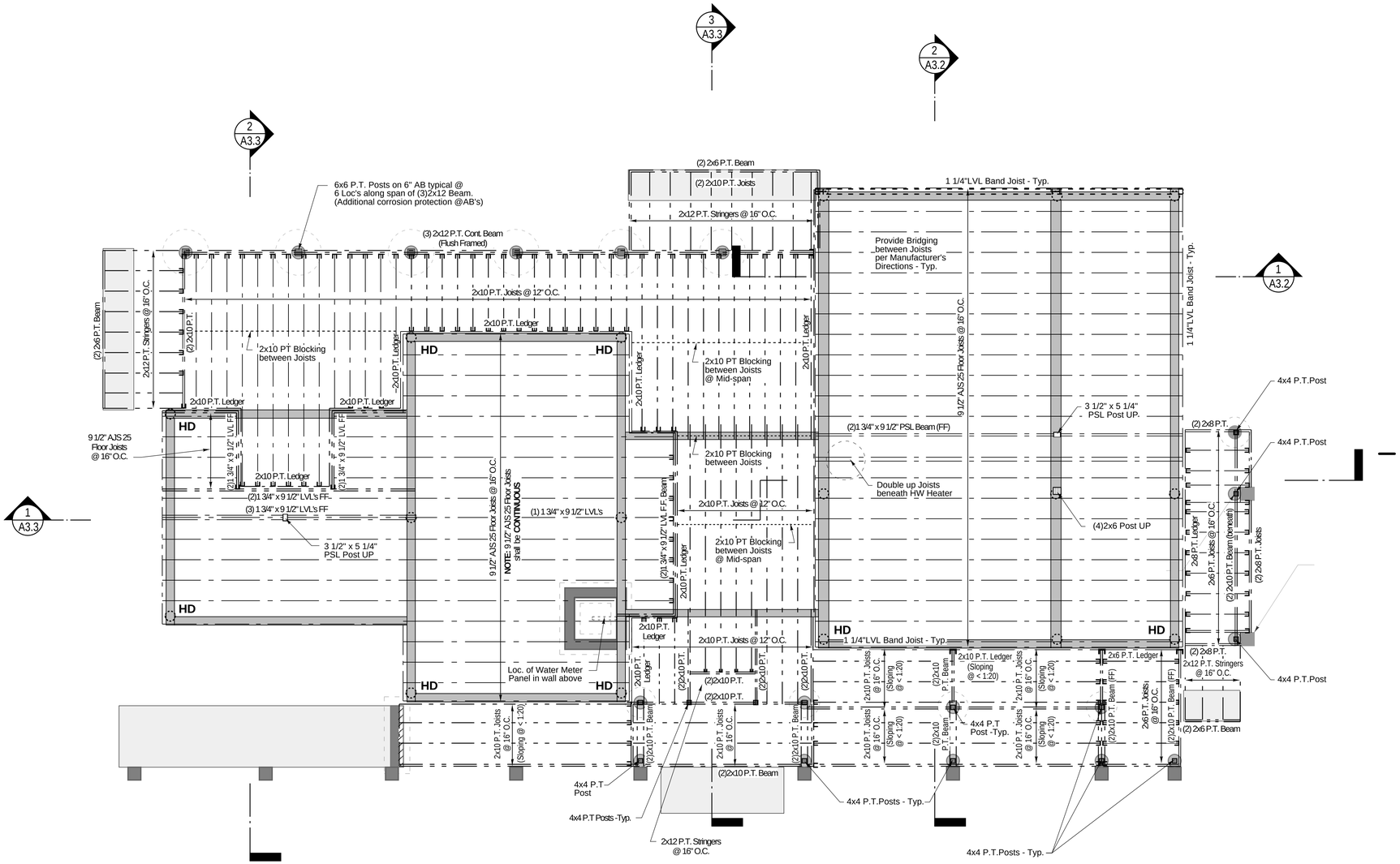

HD - Holddown with 4360 lb. capacity.
(Simpson HDU8-SDS2.5 or equivalent.)
Fasten to Corner Post with threaded rod
bolted to top flange of steel beam.

First Floor Framing Plan

Scale: 1/4" = 1'-0"

A New Transient Boaters Facility for :

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CONSTRUCTION DOCUMENTS

First Floor Framing Plan

Project No. 14001 | Scale: 1/4" = 1'-0" | Jan. 19, 2016

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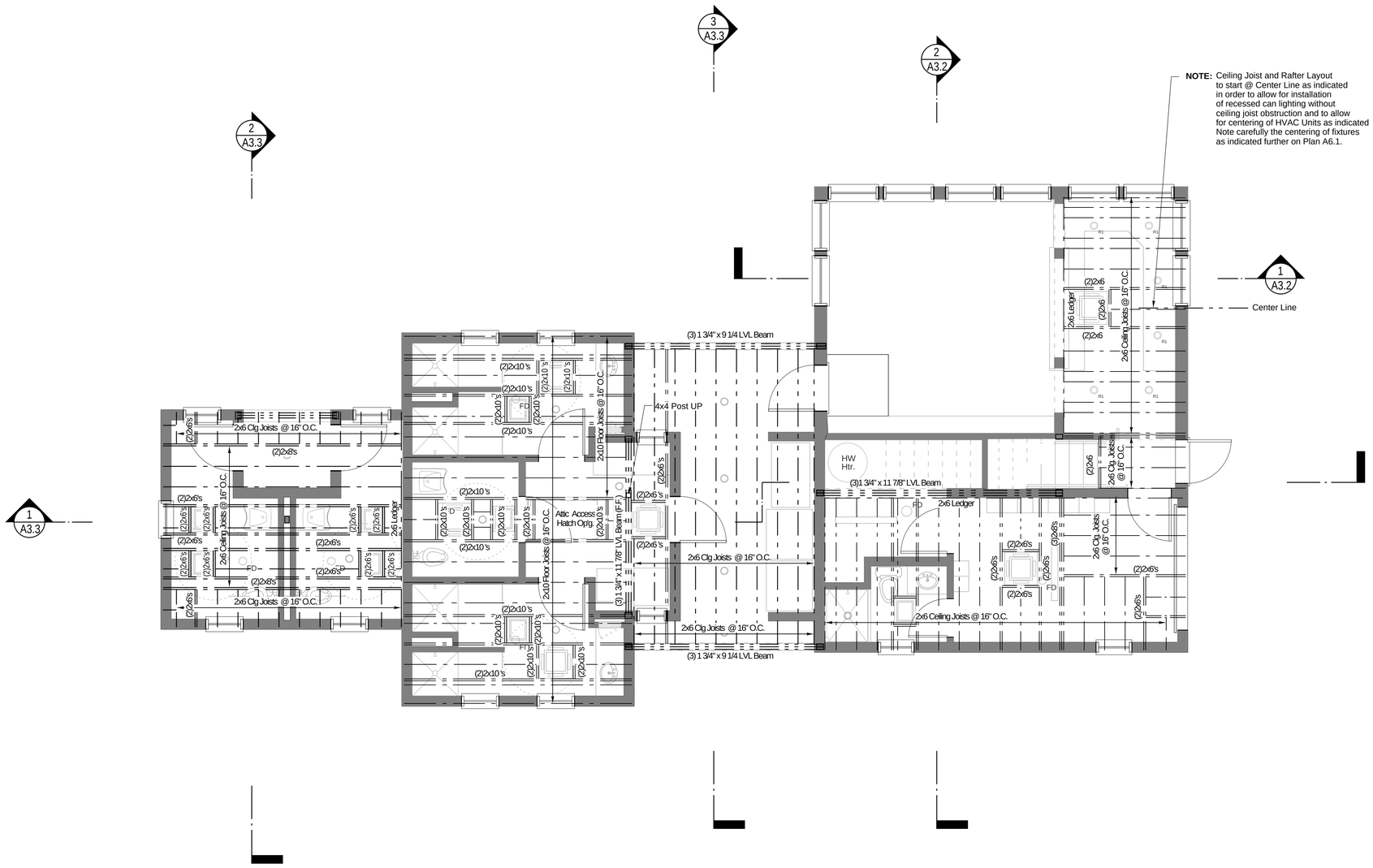

First Floor Ceiling Framing Plan

Scale: 1/4" = 1'-0"

N

A New Transient Boaters Facility for :

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CONSTRUCTION DOCUMENTS

First Floor Ceiling Framing Plan

Project No. 14001 | Scale: 1/4" = 1'-0" | Jan. 19, 2016

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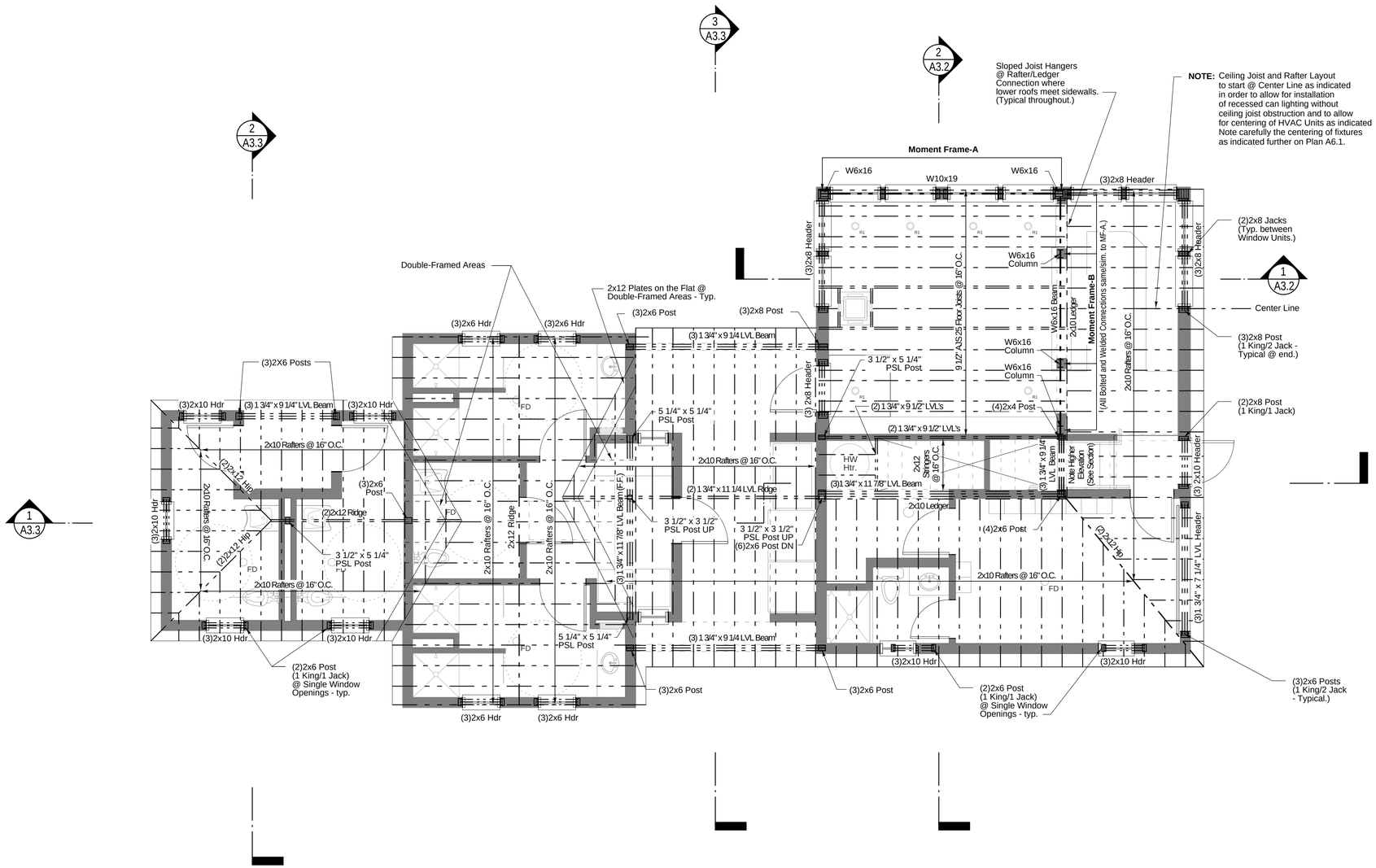
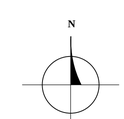
S2.3



Second Floor/Low Roof Framing Plan

Scale: 1/4" = 1'-0"



A New Transient Boaters Facility for :

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CONSTRUCTION DOCUMENTS

Second Floor and Low Roof Framing Plans

Project No. 14001 | Scale: 1/4" = 1'-0" | Jan. 19, 2016

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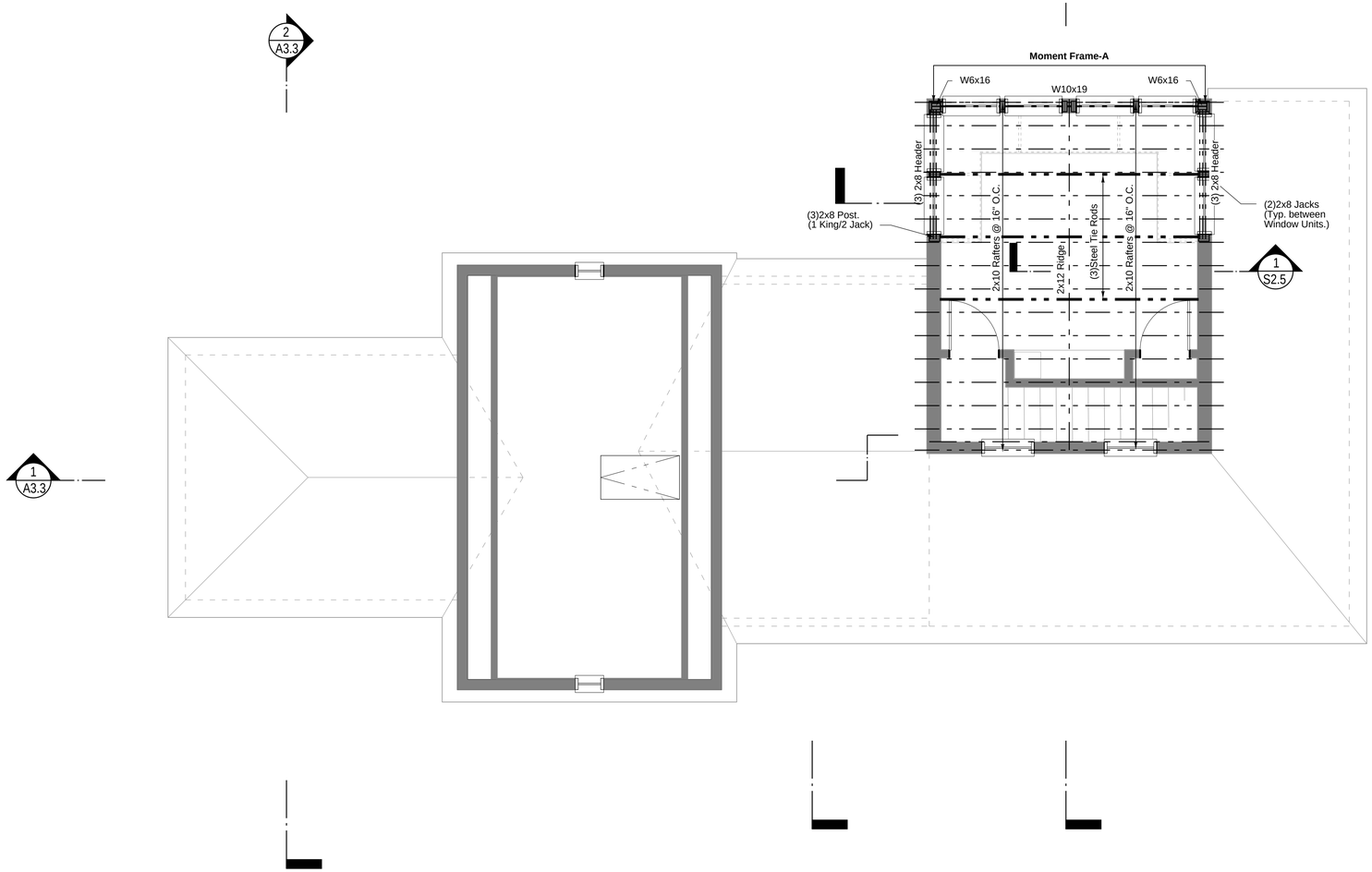
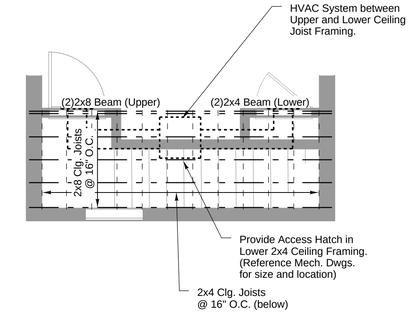


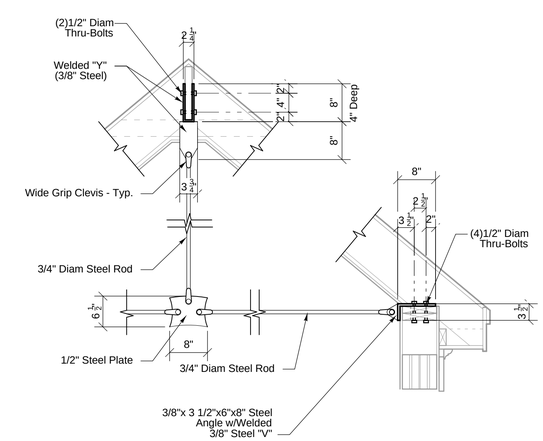
Roof Framing Plan

Scale: 1/4" = 1'-0"



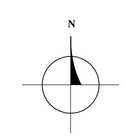
Ceiling Framing Plan

Scale: 1/4" = 1'-0"



1 Detail Section @ Tie Rod (3 Total Rod Loc's)

Scale: 3/4" = 1'-0"



Roof Framing Plan

Scale: 1/4" = 1'-0"

A New Transient Boaters Facility for :

The Newburyport Harbormaster

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CONSTRUCTION DOCUMENTS

Roof Framing Plan

Project No. 14001 | Scale: 1/4" = 1'-0" | Jan. 19, 2016

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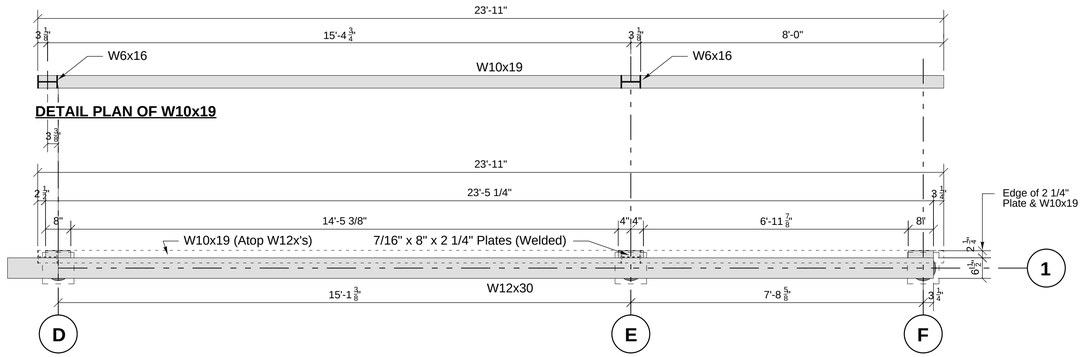
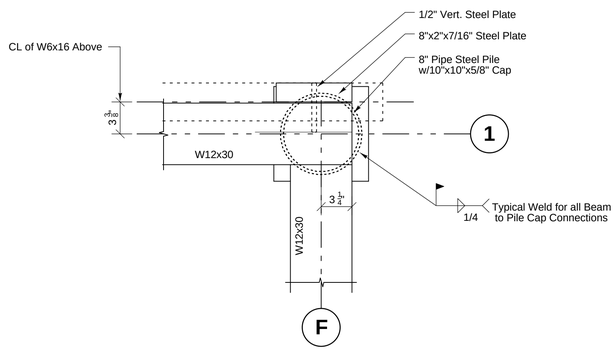


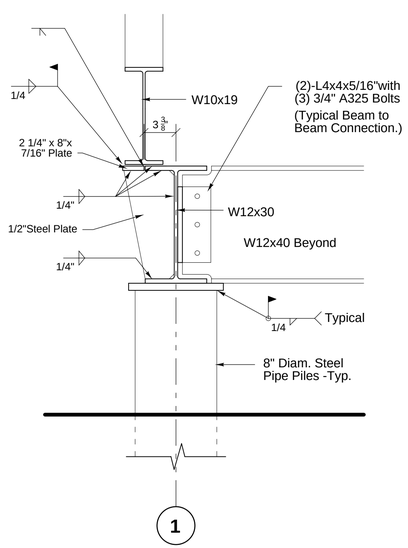
2 Moment Frame - Enlarged Plans of W12x30 and W10x19

Scale: 1/2" = 1'-0"



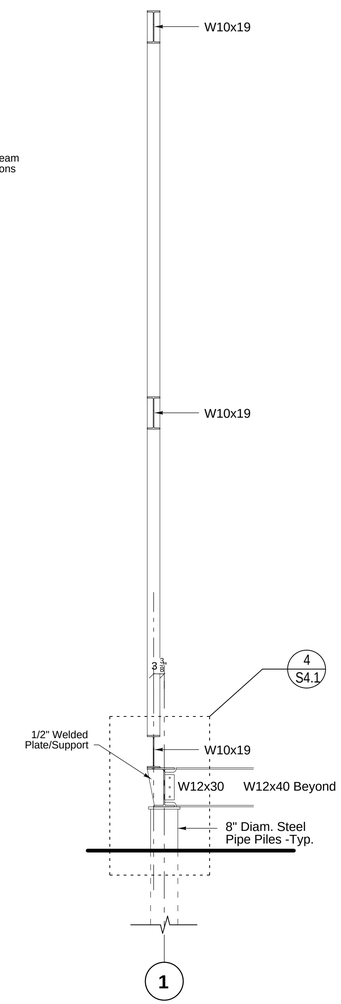
5 Plan Detail @ Corner Pile

Scale: 3/4" = 1'-0"



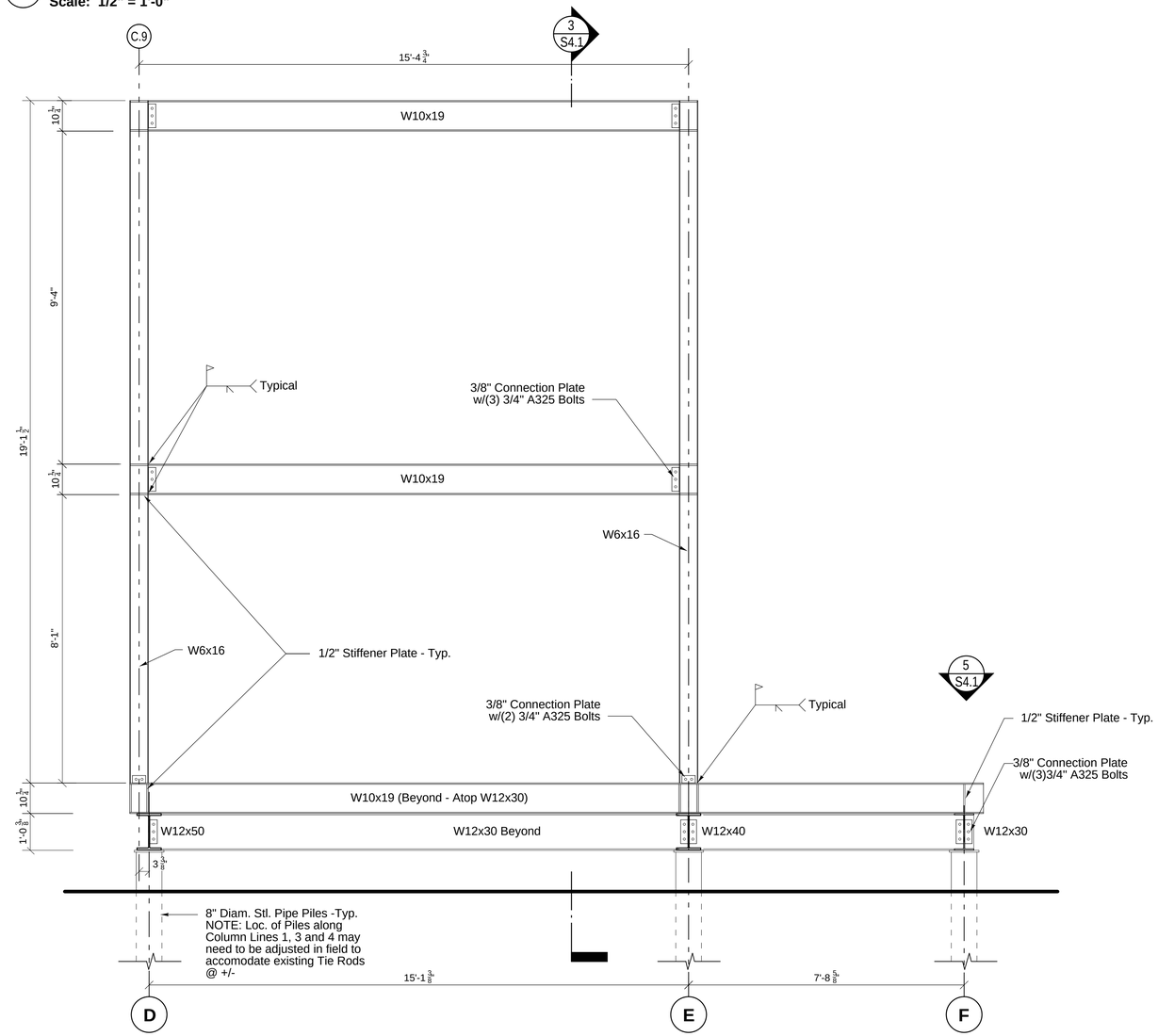
4 Detail @ Beam Connection

Scale: 1 1/2" = 1'-0"



3 Moment Frame A Section

Scale: 1/2" = 1'-0"



1 Moment Frame A Elevation (Note: Welded and Bolted Connections @ Moment Frame B shall be the same/sim. to that as at Moment Frame A.)

Scale: 1/2" = 1'-0"

A New Transient Boaters Facility for :

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CONSTRUCTION DOCUMENTS

Structural Steel Details

Project No. 14001 | Scale: As Noted | Jan. 19, 2016

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ABBREVIATIONS

AAV	AUTOMATIC AIR VENT
ACC	AIR COOLED CONDENSER
AD	ACCESS DOOR
AFF	ABOVE FINISHED FLOOR
AP	ACCESS PANEL
ARCH.	ARCHITECT
ATC	AUTOMATIC TEMPERATURE CONTROL
BOD	BOTTOM OF DUCT
BTU	BRITISH THERMAL UNIT
BTUH	BRITISH THERMAL UNIT PER HOUR
C	CLOSED
CAP	CAPACITY
CC	COOLING COIL
CFM	CUBIC FEET PER MINUTE
CO	CLEAN OUT
CONN.	CONNECT
CONTR	CONTRACTOR
CP	CONTROL PANEL
CT	CURRENT TRANSFORMER
CV	CONTROL VALVE
DB	DRY BULB TEMPERATURE (°F)
DDC	DIRECT DIGITAL CONTROL
DIA.	DIAMETER
DN	DOWN
DO	DIGITAL OUTPUT
DR	DRAIN
DWG	DRAWING
EA.	EACH
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EC	ELECTRICAL CONTRACTOR
EF	EXHAUST FAN
EL	EXPANSION LOOP
EMS	ENERGY MANAGEMENT SYSTEM
ER	EXHAUST AIR REGISTER
ESP	EXTERNAL STATIC PRESSURE
ETBR	EXISTING TO BE REMOVED
ETR	EXISTING TO REMAIN
EWT	ENTERING WATER TEMPERATURE
EX.	EXISTING
EXH	EXHAUST
FA	FREE AREA
FC	FAN COIL UNIT
FLA	FULL LOAD AMPS
FPI	FINS PER INCH
FPM	FEET PER MINUTE
FSD	COMBINATION FIRE AND SMOKE DAMPER
FT	FEET
F&T	FLOAT & THERMOSTATIC
GAL	GALLONS
GC	GENERAL CONTRACTOR
GE	GENERAL EXHAUST
GPM	GALLONS PER MINUTE
HC	HEATING COIL
HP	HORSE POWER
HVAC	HEATING, VENTILATION AND AIR CONDITIONING
IN	INCHES
ID	INSIDE DIAMETER
KW	KILOWATTS
LAT	LEAVING AIR TEMPERATURE
LD	LOUVERED DOOR
LWT	LEAVING WATER TEMPERATURE
MBH	THOUSAND BRITISH THERMAL UNITS PER HOUR
MECH	MECHANICAL
NC	NORMALLY CLOSED
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NTS	NOT TO SCALE
OA	OUTSIDE AIR
OAI	OUTSIDE AIR INTAKE
OAT	OUTSIDE AIR TEMPERATURE
OBD	OPPOSED BLADE DAMPER
OED	OPEN END DUCT
OD	OUTSIDE DIAMETER
PC	PLUMBING CONTRACTOR
PD	PRESSURE DROP
PSI	POUNDS PER SQUARE INCH
RA	RETURN AIR
RM	ROOM
RR	RETURN AIR REGISTER
SA	SUPPLY AIR

ABBREVIATIONS

SAT	SUPPLY AIR TEMPERATURE
SDC	STAND ALONE DIGITAL CONTROLLER
SF	SQUARE FEET
SP	STATIC PRESSURE
SPD	SPEED
SR	SUPPLY AIR REGISTER
SS	STAINLESS STEEL
SST	SATURATED SUCTION TEMPERATURE
TA	TRANSFER AIR
TD	TRANSFER AIR DUCT
TR	TRANSFER AIR REGISTER
TSTAT	THERMOSTAT
TYP	TYPICAL
UC	UNDERCUT DOOR
VB	VACUUM BREAKER
VFD	VARIABLE FREQUENCY DRIVE
W/	WITH
WB	WET BULB TEMPERATURE (°F)
WM	WIRE MESH SCREEN

EQUIPMENT TAGS

CP	CONDENSATE PUMP
EBB	ELECTRIC BASEBOARD
EH	ELECTRIC HEATER
ER	EXHAUST REGISTER
EUH	ELECTRIC UNIT HEATER
F	FAN (GENERIC)
FCU	FAN COIL UNIT
HP	HEAT PUMP
HX	HEAT EXCHANGER
LD	LINEAR DIFFUSER
LU	LOUVER
RR	RETURN REGISTER
SA	SOUND ATTENUATOR
SD	SUPPLY DIFFUSER
SR	SUPPLY REGISTER
UH	UNIT HEATER
VI	VIBRATION ISOLATION

DAMPERS

ACD	MOTORIZED OR AUTOMATIC CONTROL DAMPER
SD	SMOKE DAMPER
BD	BACK DRAFT DAMPER
FD	FIRE DAMPER
FS	FIRE & SMOKE DAMPER
RD	RADIATION DAMPER
VD	VOLUME DAMPER

CONTROL SCHEMATIC LEGEND

CO	CO SENSOR
CO2	CO2 SENSOR
HS	HUMIDITY SENSOR
TS	TEMPERATURE SENSOR
SP	STATIC PRESSURE SENSOR
DPS	DIFFERENTIAL PRESSURE SENSOR
T	HEAT/COOL THERMOSTAT
T R	REVERSE ACTING THERMOSTAT
$	SWITCH CONTROLLER
C	TIME CLOCK CONTROLLER
H	HUMIDITY SENSOR
TS	TEMPERATURE SENSOR
VFD	VARIABLE FREQUENCY DRIVE
DSD	DUCT SMOKE DETECTOR
F	FREEZE STAT
	CONTROL LINE

PIPING LEGEND

RGL	REFRIGERANT SUCTION
RLL	REFRIGERANT LIQUID
RHG	REFRIGERANT HOT GAS
CD	A.C. CONDENSATE DRAIN
PC	PUMPED CONDENSATE
V	VENT
	PIPING TO BE REMOVED
	EXISTING PIPING TO REMAIN
	PIPE OFF BOTTOM
	PIPE OFF TOP
	RUN-OUT OFF TOP
	RUN-OUT OFF BOTTOM
	BRANCH CONNECTION (DIRECTION TO BE FIELD DETERMINED)
	PIPE UP
	PIPE DOWN
	STUB UP TO TERMINAL
	DIRECTION OF FLOW
	PIPE BREAK
	DRAIN PIPE PITCH AND FLOW

AIR DEVICE LEGEND

SG	SIDEWALL SUPPLY REGISTER
SD	SUPPLY DIFFUSER
RR	RETURN GRILLE
ER	EXHAUST REGISTER OR GRILLE
EG/RG	SIDEWALL EXHAUST/RETURN REGISTER
SD/R	SUPPLY DIFFUSER OR REGISTER BELOW DUCT
RR	RETURN REGISTER OR GRILLE BELOW DUCT
R	EXHAUST REGISTER OR GRILLE BELOW DUCT
	SUPPLY AIR
	RETURN OR EXHAUST AIR
U	UNDERCUT DOORWAY (BY G.C.)

DRAWING NOTES

10"ø, 12"x12" SG-A, RG-A or EG-A
200 CFM
(TYP. OF 3)

- NECK SIZE OR LENGTH IF LINEAR DIFFUSER
- SUPPLY/RETURN/EXHAUST REGISTER OR GRILLE
- AIR VOLUME (CFM)
- QUANTITY

12"x12", SD
200 CFM
(TYP. OF 3)

- NECK SIZE OR LENGTH IF LINEAR DIFFUSER
- SUPPLY DIFFUSER DESIGNATION
- AIR VOLUME (CFM)
- QUANTITY

ACCU-1 — EQUIPMENT DESIGNATION

1	DRAWING REVISION NOTE
1	DRAWING WORK NOTE
1	DRAWING WORK NOTE
1	DRAWING WORK NOTE
	CONNECT TO EXISTING
	CAP EXISTING
	LIMIT OF DEMOLITION
	REVISION CLOUD

DUCTWORK LEGEND

12"x8"	RECTANGULAR DUCTWORK – FIRST DIMENSION IS SIDE SHOWN (IN.)
12"ø	ROUND DUCTWORK – DIMENSION IS DUCT DIAMETER (IN.)
	RECTANGULAR SUPPLY DUCTWORK UP
	RECTANGULAR SUPPLY/EXHAUST DUCTWORK DOWN
	RECTANGULAR RETURN/EXHAUST DUCTWORK UP
	RECTANGULAR RETURN/EXHAUST DUCTWORK DOWN
	ROUND DUCTWORK UP
	ROUND DUCTWORK DOWN
	BEAM PENETRATION BY DUCTWORK
	CAPPED DUCTWORK
	ACOUSTICALLY LINED DUCTWORK
	FLEXIBLE CONNECTION
	RECTANGULAR TRANSITION
	RECTANGULAR TO ROUND DUCTWORK TRANSITION
	MITERED ELBOW WITH TURNING VANES
UP	CHANGE OF ELEVATION UP IN DIRECTION OF AIRFLOW
DN	CHANGE OF ELEVATION DOWN IN DIRECTION OF AIRFLOW

GENERAL NOTES

1. MECHANICAL WORK INDICATED IS DIAGRAMMATIC. EXACT LOCATIONS OF ALL COMPONENTS ARE TO BE DETERMINED IN THE FIELD (SPACING SUBJECT TO ARCHITECT'S REVIEW AND APPROVAL) TO AVOID CONFLICT WITH OTHER TRADES AND EXISTING SITE CONDITIONS.
2. THE CONTRACTOR SHALL VISIT AND CAREFULLY EXAMINE THE SITE TO IDENTIFY EXISTING CONDITIONS AND DIFFICULTIES THAT WILL AFFECT THE WORK OF THIS SECTION. REPORT IN WRITING TO THE ARCHITECT CONDITIONS WHICH MIGHT ADVERSELY AFFECT WORK. NO EXTRA PAYMENT WILL BE PROVIDED FOR ADDITIONAL WORK CAUSED BY UNFAMILIARITY WITH SITE CONDITIONS THAT ARE VISIBLE OR READILY CONSTRUED BY AN EXPERIENCED OBSERVER.
3. REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATION OF CEILING GRID, DIFFUSERS, AND GRILLES.
4. ALL INSTALLATIONS SHALL PERMIT AND PROVIDE ACCESSIBILITY FOR SERVICE AND REPLACEMENT OF ALL NEW EQUIPMENT AND EXISTING EQUIPMENT IMPACTED BY THIS WORK.
5. COORDINATE ALL OPENINGS IN FLOORS WITH STRUCTURAL DRAWINGS AND GENERAL CONTRACTOR.
6. COORDINATE ALL ROOF OPENINGS WITH ARCHITECT AND STRUCTURAL ENGINEER.
7. REFER TO STRUCTURAL FRAMING PLANS FOR EXACT LOCATION OF ALL ROOF MOUNTED EQUIPMENT.
8. ALL MECHANICAL EQUIPMENT, PIPING, AND DUCTWORK SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF GOVERNING LOCAL, STATE, AND FEDERAL SEISMIC CODES. PARTICULAR ATTENTION SHALL BE MADE TO VIBRATION ISOLATION, ANCHORING, AND BALANCING REQUIREMENTS.
9. ALL DUCTWORK SHALL BE INSTALLED IN ACCORDANCE WITH CODES AND STANDARDS SET FORTH IN NFPA, SMACNA, AND ASHRAE FOR MEDIUM AND LOW PRESSURE DUCTWORK SYSTEMS.
10. ALL EXPOSED DUCTWORK SHALL BE PAINTED TO MATCH CEILING. REFER TO ARCHITECTURAL DRAWINGS.
11. PROVIDE MANUAL VOLUME DAMPERS AT ALL BRANCH DUCTS FOR AIR BALANCING.
12. ALL SHEET METAL PLENUMS AT OUTSIDE AIR LOUVERS SHALL BE INSULATED WITH RIGID INSULATION, AS PER SPECIFICATION.
13. RUN-OUTS TO RETURN AND EXHAUST REGISTERS, OR GRILLES ABOVE GYP BOARD CEILINGS, SHALL BE RIGID DUCTED. NO FLEXIBLE DUCT WORK SHALL BE ALLOWED ON RETURN OR EXHAUST REGISTERS.
14. ALL DUCTS, PIPES, AND EQUIPMENT SHALL BE INDEPENDENTLY SUPPORTED FROM THE BUILDING STRUCTURE WITH PROPER ALLOWANCES FOR CONTRACTION, EXPANSION, AND VIBRATION ELIMINATION.
15. ROOM THERMOSTATS SHALL BE MOUNTED 4'-0" ABOVE FINISHED FLOOR UNLESS OTHERWISE SHOWN OR DIRECTED.
16. ALL DUCT DIMENSIONS SHOWN ARE INSIDE CLEAR FREE AREA REQUIRED.
17. ALL DIFFUSER, REGISTER, AND GRILLE SIZES INDICATED ON FLOOR PLANS ARE NECK SIZE REQUIRED.
18. ALL PIPING IS TO BE SLOPED A MINIMUM OF 1/4" PER HUNDRED FEET IN DIRECTION OF DRAINAGE.
19. NOT ALL SYMBOLS OR ABBREVIATIONS ARE USED ON THIS PROJECT.
20. COORDINATE ENTIRE INSTALLATION WITH THE WORK OF ALL OTHER TRADES PRIOR TO ANY FABRICATION OR INSTALLATIONS.
21. OBTAIN ALL REQUIRED PERMITS AND PAY ALL FEES RELATED TO SAME.
22. ALL PIPING AND DUCTWORK SHOWN IS DIAGRAMMATIC ONLY. DETERMINE EXACT LOCATIONS IN FIELD.
23. REVIEW ALL ARCHITECTURAL, STRUCTURAL, PLUMBING, ELECTRICAL, FIRE PROTECTION AND SITE DRAWINGS BEFORE STARTING ANY WORK TO BECOME FAMILIAR WITH THE DETAILS OF CONSTRUCTION, AND COORDINATE WITH OTHER TRADES.
24. PROVIDE ALL NECESSARY PIPING, EQUIPMENT AND SUPPORTS AS WELL AS ANY ADDITIONAL EQUIPMENT, ETC. NOT SHOWN ON THE DRAWINGS OR CALLED FOR IN THE SPECIFICATIONS BUT NECESSARY TO PROVIDE COMPLETE AND WORKABLE SYSTEMS.
25. PROVIDE ACCESS TO ALL EQUIPMENT REQUIRING PERIODIC SERVICE AND MAINTENANCE.
26. DO NOT SCALE THESE DRAWINGS. TAKE ALL MEASUREMENTS IN THE FIELD IN COORDINATION WITH ALL EQUIPMENT AS APPROVED AND WITH ALL OTHER TRADES.
27. FOR EQUIPMENT SCHEDULES AND SEQUENCES OF OPERATION, SEE DRAWING H0.2.
28. DETAILS SHOWN ON SHEETS H0.3 ARE APPLICABLE TO ALL EQUIPMENT, EXCEPT WHERE INDICATED.
29. ALL REFRIGERANT PIPING SHALL BE INSULATED IN ACCORDANCE WITH APPLICABLE CODES.
30. ALL ROTATING EQUIPMENT SHALL HAVE FLEXIBLE PIPE/DUCT CONNECTIONS & APPROVED VIBRATION ISOLATORS.
31. ALL DUCTWORK A MINIMUM OF 10 FT FROM SUPPLY, RETURN, AND EXHAUST CONNECTIONS TO ALL AIR HANDLING UNITS TO BE INSTALLED WITH ACOUSTICAL LINING.
32. PROVIDE AIRTIGHT ACCESS DOOR FOR INSPECTION OF FIRE DAMPERS, FILTERS, AND COILS.
33. CONTRACTOR SHALL VERIFY DUCT, PIPING & EQUIPMENT LOCATIONS FOR INTERFERENCES BEFORE INSTALLATION.
34. PROVIDE VERTICAL SUPPORTS FOR PIPING AT THE FOLLOWING MAXIMUM INTERVALS; 15' FOR 6"& 5" DIAMETER PIPE; 12' FOR 4" DIAMETER PIPE; 10' FOR 3" & 2-1/2" DIAMETER PIPE; 8' FOR 2" DIAMETER PIPE; 7' FOR 1-1/2 & 1-1/4" DIAMETER PIPE; 5' FOR 1" & 3/4" DIAMETER PIPE.
35. ALL EQUIPMENT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS.

A New Transient Boaters Facility for :
The Newburyport Harbormaster
Newburyport, MA 01950

CONSTRUCTION DOCUMENTS

HVAC LEGENDS, ABBREVIATIONS & NOTES

Project No. 14259 | Scale: 1/4" = 1'-0" | Jan. 19, 2016

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H0.1

HVAC SCHEDULES

DX FAN COIL UNIT SCHEDULE

TAG No.	MANUFACTURER (AS STANDARD)	MODEL No. (AS STANDARD)	TYPE	COOLING MBH	HEATING MBH	FAN DATA								ELECTRICAL DATA									REMARKS
						OA (CFM)	MIN (CFM)	MAX (CFM)	ESP (IN WG)	NO. FANS	MOTOR (W)	EER	AUX. HT (KW)	COOL (W)	COOL (A)	HEAT (W)	HEAT (A)	VOLT	PH	HZ	MCA	MOCP	
FCU-1	MITSUBISHI	PLFY-P15-NCMU-ER4	CEILING RECESSED	15.0	17.0	–	424	565	0.0	1	50	--	--	40	0.29	30	0.22	208	1	60	0.36	15	PROVIDE WITH DISCONNECT SWITCH, VIBRATION ISOLATION, THERMOSTAT, CONDENSATE PUMP
FCU-2	MITSUBISHI	PLFY-P12-NCMU-ER4	CEILING RECESSED	12.0	13.5	–	320	390	0.0	1	–	--	--	60	0.28	60	0.28	208	1	60	0.35	15	PROVIDE WITH DISCONNECT SWITCH, VIBRATION ISOLATION, THERMOSTAT, CONDENSATE PUMP
FCU-3	MITSUBISHI	PLFY-P08-NCMU-ER4	CEILING RECESSED	8.0	9.0	–	280	350	0.0	1	15	--	--	50	0.23	50	0.23	208	1	60	0.29	15	PROVIDE WITH DISCONNECT SWITCH, VIBRATION ISOLATION, THERMOSTAT, CONDENSATE PUMP
FCU-4	MITSUBISHI	PEFY-P18-NMSU-E2	CEILING CONCEALED	18.0	20.0	–	353	529	0.03	1	–	--	--	90	0.74	70	0.64	208	1	60	1.20	15	PROVIDE WITH DISCONNECT SWITCH, FILTER BOX WITH 1" MERV8 FILTER, VIBRATION ISOLATION, THERMOSTAT, CONDENSATE PUMP.
FCU-5	MITSUBISHI	PLFY-P08-NCMU-ER4	CEILING RECESSED	8.0	9.0	–	280	350	0.0	1	15	--	--	50	0.23	50	0.23	208	1	60	0.29	15	PROVIDE WITH DISCONNECT SWITCH, VIBRATION ISOLATION, THERMOSTAT, CONDENSATE PUMP
FCU-6	MITSUBISHI	PLFY-P08-NCMU-ER4	CEILING RECESSED	8.0	9.0	–	280	350	0.0	1	15	--	--	50	0.23	50	0.23	208	1	60	0.29	15	PROVIDE WITH DISCONNECT SWITCH, VIBRATION ISOLATION, THERMOSTAT, CONDENSATE PUMP
FCU-7	MITSUBISHI	PLFY-P08-NCMU-ER4	CEILING RECESSED	8.0	9.0	–	280	350	0.0	1	15	--	--	50	0.23	50	0.23	208	1	60	0.29	15	PROVIDE WITH DISCONNECT SWITCH, VIBRATION ISOLATION, THERMOSTAT, CONDENSATE PUMP
FCU-8	MITSUBISHI	PLFY-P08-NCMU-ER4	CEILING RECESSED	8.0	9.0	–	280	350	0.0	1	15	--	--	50	0.23	50	0.23	208	1	60	0.29	15	PROVIDE WITH DISCONNECT SWITCH, VIBRATION ISOLATION, THERMOSTAT, CONDENSATE PUMP

ELECTRIC BASEBOARD HEATER SCHEDULE

TAG No.	MANUFACTURER (AS STANDARD)	MODEL No. (AS STANDARD)	LENGTH	ELECTRIC CAPACITY		ELECTRICAL DATA		REMARKS
				MBH	KW	VOLTS	PHASE	
EBB-A	BERKO	OBD508	2'-4"	–	0.5	208	1	PROVIDE INTEGRAL THERMOSTAT, BAKED ENAMEL FINISH
EBB-B	BERKO	OBD1008	3'-10"	–	1.0	208	1	PROVIDE INTEGRAL THERMOSTAT, BAKED ENAMEL FINISH
EBB-C	BERKO	OBD1508	5'-10"	–	1.5	208	1	PROVIDE INTEGRAL THERMOSTAT, BAKED ENAMEL FINISH

ELECTRIC HEATER SCHEDULE

TAG No.	LOCATION(S) SERVES	MANUFACTURER	MODEL No.	TYPE	AIR DATA			ELECTRIC CAPACITY		ELECTRICAL DATA			REMARKS
					CFM	EAT(°F)	LAT(°F)	MBH	KW	VOLTS	PHASE	HZ	
EH-A	REFER TO DRAWINGS	QMARK	EFF4804	CEILING MOUNTED	150	55	90	12.3	3.6	208	1	60	PROVIDE SURFACE MOUNTING FRAME, INTEGRAL T'STAT, DISCONNECT SWITCH

HEAT PUMP SCHEDULE

TAG No.	MANUFACTURER	MODEL No.	TYPE	REFRIG.	MBH		MODULE	MODEL No.	ELECTRICAL DATA				OPERATING WEIGHT	REMARKS
					COOL	HEAT			VOLTS	PHASE	MCA	MOCP		
HP-1	MITSUBISHI	PUMY-P60NKMU-BS	AIR COOLED	R-410A	60	66	–	–	208	1	35	42	313	PROVIDE DISCONNECTS, EQUIPMENT PAD, AIR GUIDES, WIND BAFFLE, DRAIN SOCKET, AND BRANCH PIPE
HP-2	MITSUBISHI	PUMY-P36NHMUR4-BS	AIR COOLED	R-410A	36	40	–	–	208	1	26	40	287	PROVIDE DISCONNECTS, EQUIPMENT PAD, AIR GUIDES, WIND BAFFLE, DRAIN SOCKET, AND BRANCH PIPE

NOTES:
1. UNIT TO BE LOCATED 12" OFF GRADE.

FAN SCHEDULE

TAG No.	LOCATION(S) SERVED	MANUFACTURER (AS STANDARD)	MODEL No. (AS STANDARD)	TYPE	FAN DATA			ELECTRICAL DATA			REMARKS
					CFM	RPM	TSP(IN)	VOLTS	PHASE	W	
F-1	BATHROOM	GREENHECK	SP-A510-VG	CEILING	100	584	0.15	120	1	240	PROVIDE WITH DISCONNECT AND MOTION SENSOR
F-2	BATHROOM	GREENHECK	SP-A510-VG	CEILING	100	584	0.15	120	1	240	PROVIDE WITH DISCONNECT AND MOTION SENSOR
F-3	BATHROOM	GREENHECK	SP-A510-VG	CEILING	100	584	0.15	120	1	240	PROVIDE WITH DISCONNECT AND MOTION SENSOR
F-4	SHOWER	GREENHECK	SP-A510-VG	CEILING	100	584	0.15	120	1	240	PROVIDE WITH DISCONNECT AND MOTION SENSOR
F-5	SHOWER	GREENHECK	SP-A510-VG	CEILING	100	584	0.15	120	1	240	PROVIDE WITH DISCONNECT AND MOTION SENSOR
F-6	BATHROOM	GREENHECK	SP-A510-VG	CEILING	100	584	0.15	120	1	240	PROVIDE WITH DISCONNECT AND MOTION SENSOR
F-7	ATTIC	GREENHECK	SP-A250	CEILING	225	1000	0.15	120	1	83	PROVIDE WITH DISCONNECT

NOTES:
1. COORDINATE MOUNTING REQUIREMENTS, FINISH & COLOR WITH ARCHITECTURAL REFLECTED CEILING PLANS.
2. FANS TO BE CONTROLLED BY WALL MOUNTED SWITCH.
3. BATHROOM AND SHOWER FANS TO BE TWO SPEED. FANS TO OPERATE CONTINUOUSLY AT LOW SPEED; ON SIGNAL FROM MOTION DETECTOR, FANS TO RUN AT HIGH SPEED FOR TEN MINUTES THEN RUN AT LOW SPEED.

REGISTER, GRILLE & DIFFUSER SCHEDULE

TAG	TYPE	CFM	NECK SIZE	FRAME TYPE	MOUNTING	DAMPER	MATERIAL	FINISH	MANUFACTURER & MODEL No.
SR-A	OFFICE	–	–	PICTURE	SIDEWALL	YES	ST	WHITE	TITUS/300RL
RG-1	OFFICE	–	–	PICTURE	SIDEWALL	NO	ST	WHITE	TITUS/350RL

NOTES:
1. COORDINATE MOUNTING REQUIREMENTS, FINISH & COLOR WITH ARCHITECTURAL REFLECTED CEILING PLANS.
2. PROVIDE FRAME SUITABLE FOR SURFACE MOUNTING, CEILING OR SIDEWALL AND PROVIDE SQUARE TO ROUND TRANSITIONS WHERE NEEDED.
3. REFER TO DRAWINGS FOR NECK SIZES AND CFM UNLESS NOTED ABOVE.
4. RG-1 TO BE MOUNTED LOW ON WALL AND TO ALLOW FOR ACCESS TO FCU-4.
5. SR-A TO BE MOUNTED HIGH ON WALL.

INSULATION TYPE SCHEDULE

LOCATION	INSULATION TYPE	FITTING INSULATION TYPE	FOR PIPE DIA. (INCHES)			
			RUNOUTS	MAINS ≤ 1"	1 1/4"–1 1/2"	2"–6"
			INSULATION WALL THICKNESS (INCHES)			
REFRIGERANT	ELASTOMERIC	ELASTOMERIC	1-1/2"	1-1/2"	1-1/2"	1-1/2"
CONDENSATE	ELASTOMERIC	ELASTOMERIC	1/2"	1/2"	1/2"	1/2"
SUPPLY, RETURN & OUTSIDE AIR DUCT INSULATION	2" FIBERGLASS DUCT WRAP WITH FSK FACING	→				
EXHAUST DUCT INSULATION	2" FIBERGLASS DUCT WRAP WITH FSK FACING	→				

PIPE MATERIAL TABLE

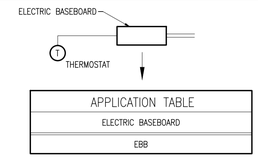
SERVICE	LOCATION	PIPING	FITTINGS	JOINTS
REFRIGERANT PIPING	ABOVE GROUND	COPPER – ARC	COPPER, NO LEAD	BRAZED
DRAINS		TYPE 'L' COPPER	WROT COPPER, NO LEAD	95/5 NO-LEAD SOLDER

REFRIGERANT PIPE SIZE TABLE

FROM UNIT(S)	TO UNIT(S)	REF LIQUID PIPE SIZE	REF SUCTION PIPE SIZE	CONDENSATE DRAIN PIPE SIZE
HP-1	FIRST CONNECTION	3/8"	3/4"	1-1/4"
HP-2	FIRST CONNECTION	3/8"	5/8"	1-1/4"
REFRIG. MAINS	FCU-1	1/4"	1/2"	1-1/4"
REFRIG. MAINS	FCU-2	1/4"	1/2"	1-1/4"
REFRIG. MAINS	FCU-3	1/4"	1/2"	1-1/4"
REFRIG. MAINS	FCU-4	1/4"	1/2"	1-1/4"
REFRIG. MAINS	FCU-5	1/4"	1/2"	1-1/4"
REFRIG. MAINS	FCU-6	1/4"	1/2"	1-1/4"
REFRIG. MAINS	FCU-7	1/4"	1/2"	1-1/4"
REFRIG. MAINS	FCU-8	1/4"	1/2"	1-1/4"

1) CONTRACTOR SHALL PROVIDE REFRIGERANT PIPE FROM HEAT PUMP UNITS TO FAN COIL UNITS
2) CONTRACTOR SHALL PROVIDE CONDENSATE DRAIN PIPE FROM FAN COIL UNITS TO DRAIN(S) SHOWN
3) CONTRACTOR SHALL VERIFY REFRIGERANT PIPE SIZE WITH MANUFACTURER PRIOR TO INSTALLATION

HVAC SEQUENCES OF OPERATION



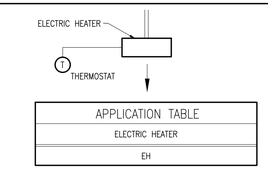
ELECTRIC BASEBOARD SEQUENCE OF OPERATION

THE ELECTRIC BASEBOARD SHALL BE CONTROLLED THROUGH THE THERMOSTAT. THE SEQUENCE OF OPERATION LISTED BELOW IS REVERSIBLE UNLESS NOTED OTHERWISE.

HEATING MODE:

THE UNIT SHALL OPERATE TO MAINTAIN THE SPACE AIR TEMPERATURE SET POINT (ADJ.)

UPON A CALL FOR HEATING FROM THE THERMOSTAT THE UNIT FAN SHALL ENERGIZE, AFTER A SHORT DELAY THE ELECTRIC HEATING ELEMENT SHALL ENERGIZE AND OPERATE TO MAINTAIN THE SPACE TEMPERATURE SET POINT (ADJ.).



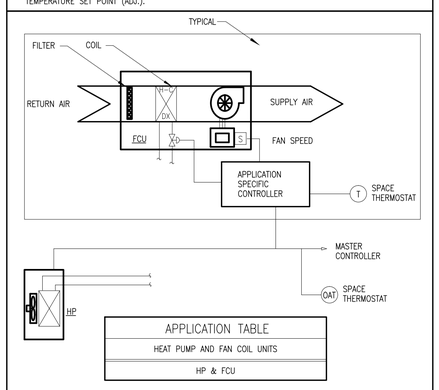
ELECTRIC HEATER SEQUENCE OF OPERATION

THE ELECTRIC HEATER SHALL BE CONTROLLED THROUGH THE THERMOSTAT. THE SEQUENCE OF OPERATION LISTED BELOW IS REVERSIBLE UNLESS NOTED OTHERWISE.

HEATING MODE:

THE UNIT SHALL OPERATE TO MAINTAIN THE SPACE AIR TEMPERATURE SET POINT (ADJ.)

UPON A CALL FOR HEATING FROM THE THERMOSTAT THE UNIT FAN SHALL ENERGIZE, AFTER A SHORT DELAY THE ELECTRIC HEATING ELEMENT SHALL ENERGIZE AND OPERATE TO MAINTAIN THE SPACE TEMPERATURE SET POINT (ADJ.).



HEAT PUMP & FAN COIL UNITS SEQUENCE OF OPERATION

THE FAN COIL UNITS SHALL BE CONTROLLED THROUGH A CORRESPONDING SPACE THERMOSTAT AND THE MASTER CONTROL UNIT. THE HEAT PUMP UNIT SHALL BE CONTROLLED THROUGH THE MASTER CONTROL UNIT. THE SEQUENCE LISTED BELOW IS REVERSIBLE UNLESS NOTED OTHERWISE.

THE HEAT PUMP UNIT SHALL ENERGIZE AND OPPERATE PER THE MANUFACTURE'S SEQUENCES. THE FAN COIL UNITS' SUPPLY FANS SHALL BE ENERGIZED AND OPERATE CONTINUOUSLY AT LOW SPEED.

HEATING MODE:
THE SYSTEM SHALL BE IN HEATING MODE WHEN THE OUTDOOR AIR TEMPERATURE IS BELOW 60°F (ADJ.).

UPON A CALL FOR HEATING FROM THE SPACE THERMOSTAT THE FAN COIL SHALL OPERATE PER THE MANUFACTURER'S SEQUENCES TO MAINTAIN THE SPACE TEMPERATURE SETPOINT (ADJ.). UPON FURTHUR CALL FOR HEAT, THE UNITS FAN SPEED SHALL BE INCREASED FROM LOW TO MEDIUM AND MEDIUM TO HIGH, AS REQUIRED TO MAINTAIN THE SPACE TEMPERATURE SETPOINT.

COOLING MODE:
THE SYSTEM SHALL BE IN COOLING MODE WHEN THE OUTDOOR AIR TEMPERATURE IS ABOVE 70°F (ADJ.).

UPON A CALL FOR COOLING FROM THE SPACE THERMOSTAT THE FAN COIL UNIT SHALL OPERATE PER THE MANUFACTURER'S SEQUENCES TO MAINTAIN SPACE TEMPERATURE SETPOINT (ADJ.). UPON A FURTHER CALL FOR COOLING THE UNIT SUPPLY FAN SPEED SHALL BE INCREASED FROM LOW TO MEDIUM AND MEDIUM TO HIGH, AS REQUIRED TO MAINTAIN THE SPACE TEMPERATURE SETPOINT.

A New Transient Boaters Facility for :
The Newburyport Harbormaster
Newburyport, MA 01950

CONSTRUCTION DOCUMENTS

HVAC SCHEDULES AND SEQUENCES

Project No. 14259 | Scale: 1/4" = 1'-0" | Jan. 19, 2016

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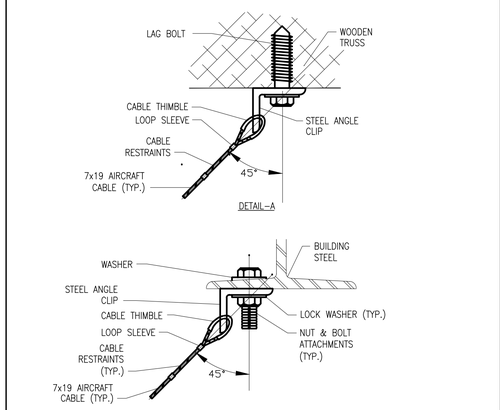
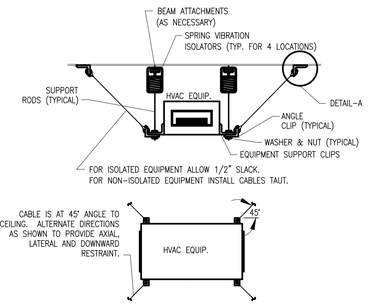


SEISMIC

(DETAIL "A") RESTRAINTS

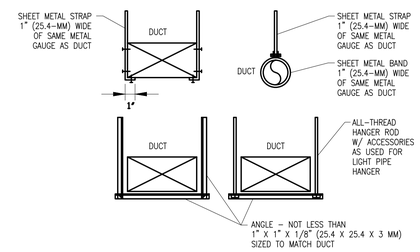
NO SCALE

15607-04S



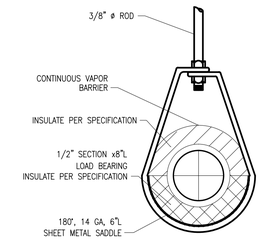
TYPICAL LOUVER PLENUM CONNECTION DETAIL

NO SCALE



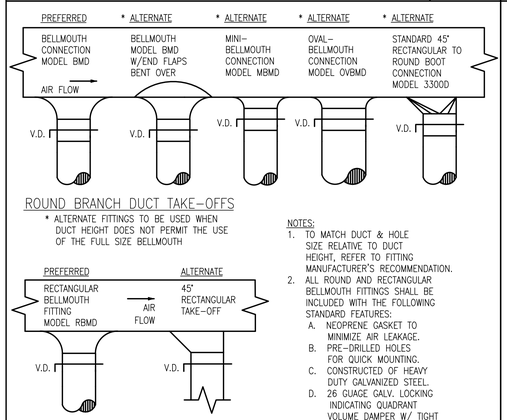
TYPICAL SHEET METAL DUCT HANGERS

NO SCALE



TYPICAL HANGER FOR PIPING 2" & SMALLER

NO SCALE



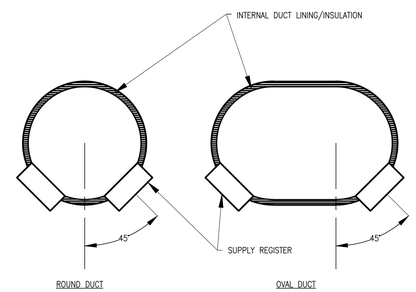
* ALTERNATE FITTINGS TO BE USED WHEN DUCT HEIGHT DOES NOT PERMIT THE USE OF THE FULL SIZE BELLMOUTH

NOTES:
1. TO MATCH DUCT & HOLE SIZE RELATIVE TO DUCT HEIGHT, REFER TO FITTING MANUFACTURER'S RECOMMENDATION.
2. ALL ROUND AND RECTANGULAR BELLMOUTH FITTINGS SHALL BE INCLUDED WITH THE FOLLOWING STANDARD FEATURES:
   A. NEOPRENE GASKET TO MINIMIZE AIR LEAKAGE.
   B. PRE-DRILLED HOLES FOR QUICK MOUNTING.
   C. CONSTRUCTED OF HEAVY DUTY GALVANIZED STEEL.
   D. 26 GUAGE GALV. LOCKING INDICATING QUADRANT VOLUME DAMPER W/ TIGHT FITTING GASKETING TO MINIMIZE LEAKAGE AT DAMPER PIVOT POINTS.

BRANCH TAKE–OFFS

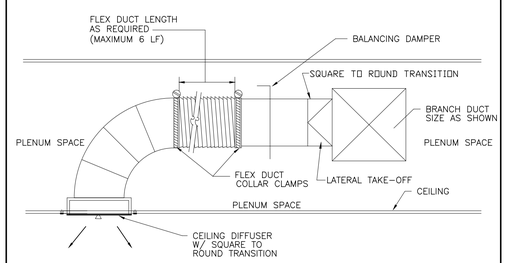
NO SCALE

15613-14



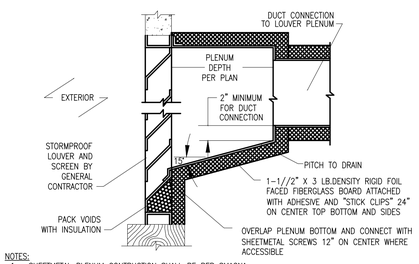
SPIRAL DUCT SUPPLY REGISTER CONNECTION DETAIL

NO SCALE



CEILING DIFFUSER CONNECTION DETAIL

NO SCALE

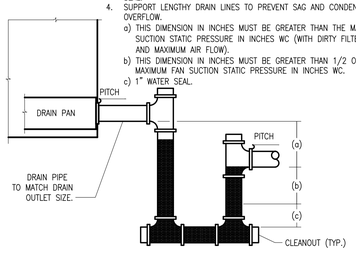


NOTES:
1. SHEETMETAL PLENUM CONTRUCTION SHALL BE PER SMACNA.
2. SUPPORT PLENUM FROM FLOOR OR STRUCTURE ABOVE WITH GALVANIZED STEEL ANGLES AND CHANNELS, CROSS BREAK ALL PANELS FOR RIGIDITY.
3. LOUVER SHALL BE INSTALLED MIN. OF 3 FT ABOVE SNOW ACCUMULATING SURFACE (ROOF, WALKWAY, ETC.)
4. BARE SHEETMETAL PAINTED BY HVAC SUBCONTRACTOR (BLACK OR AS DIRECTED BY ARCHITECT).

TYPICAL LOUVER PLENUM CONNECTION DETAIL

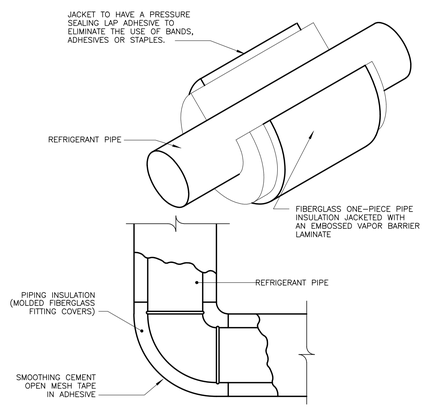
NO SCALE

NOTES:
1. ALLOW SUFFICIENT SPACE BELOW DRAIN PAN FOR TRAP.
2. PITCH DRAIN FOR PROPER RUNOFF.
3. MANUALLY PRIME FILL TRAP BEFORE START–UP TO FORM INITIAL DRAIN SEAL.
4. SUPPORT LENGTHY DRAIN LINES TO PREVENT SAG AND CONDENSATE OVERFLOW.
   a) THIS DIMENSION IN INCHES MUST BE GREATER THAN THE MAXIMUM FAN SUCTION STATIC PRESSURE IN INCHES WC (WITH DIRTY FILTERS, COILS, AND MAXIMUM AIR FLOW).
   b) THIS DIMENSION IN INCHES MUST BE GREATER THAN 1/2 OF THE SAME MAXIMUM FAN SUCTION STATIC PRESSURE IN INCHES WC.
   c) 1" WATER SEAL.



DRAW THRU CONDENSATE TRAP

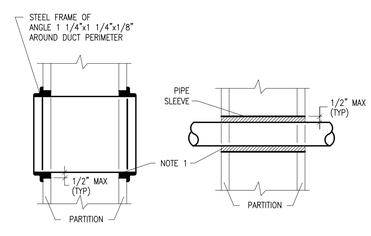
NO SCALE



TYPICAL REFRIGERANT PIPING INSULATION DETAIL

NO SCALE

NOTES:
1. AT FIRE RATED PARTITIONS, ADD ADDITIONAL LAYER OF FIRE SAFING INSULATION AROUND PENETRATION SO AS TO FILL CAVITY.
2. DUCT AND PIPE PENETRATIONS THRU CORRIDOR WALLS ABOVE THE CEILING ARE TO BE FIRE STOPPED AROUND THE PENETRATION.
3. DUCT PENETRATION SHOWN IS WHERE FIRE DAMPER IS NOT REQUIRED BY CODE.



DUCT AND PIPE PENETRATION DETAIL

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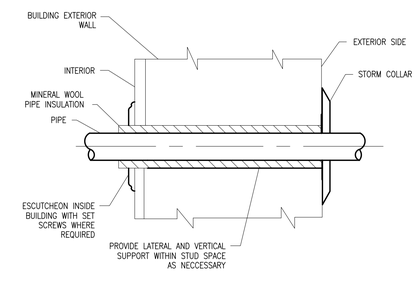

EXTERIOR WALL SLEEVE (ABOVE GRADE)

NO SCALE

A New Transient Boaters Facility for :
The Newburyport Harbormaster
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CONSTRUCTION DOCUMENTS

HVAC DETAILS

Project No. 14259 | Scale: 1/4" = 1'-0" | Jan. 19, 2016

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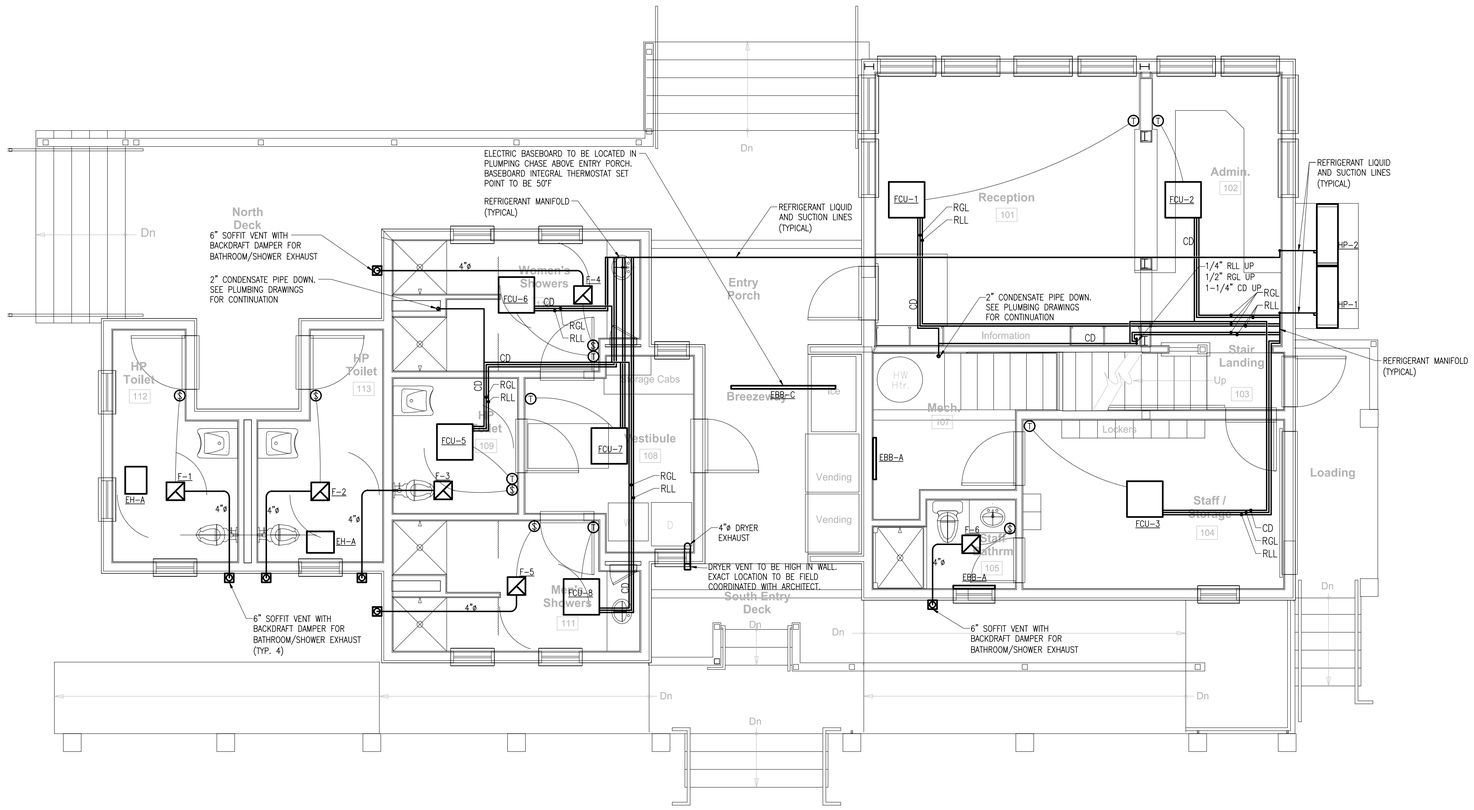

HVAC - First Floor Plan

Scale: 1/4" = 1'-0"

A New Transient Boaters Facility for :

The Newburyport Harbormaster

Newburyport, MA 01950

CONSTRUCTION DOCUMENTS

HVAC FIRST FLOOR PLAN

Project No. 14259 | Scale: 1/4" = 1'-0" | Jan. 19, 2016

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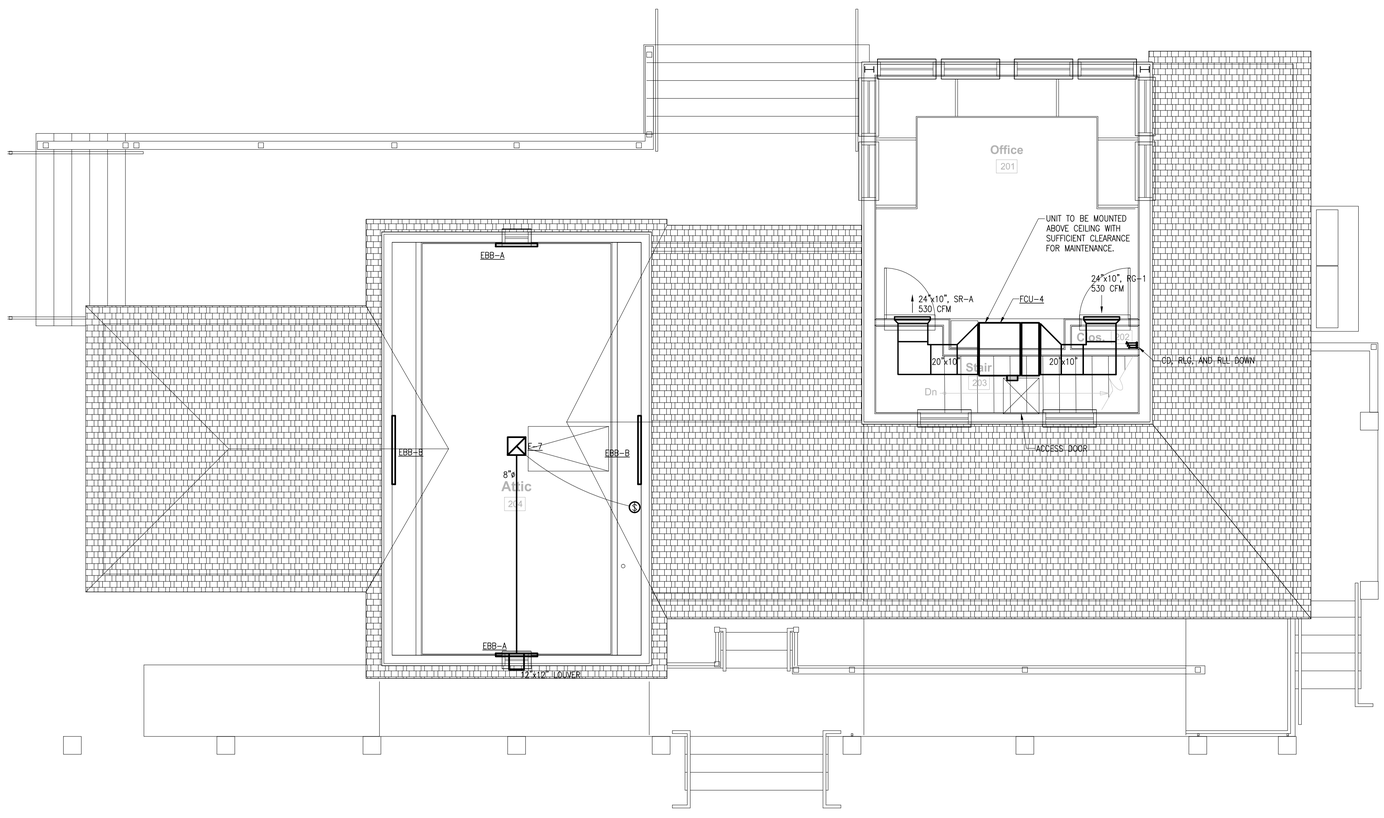

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HVAC - Second Floor Plan

Scale: 1/4" = 1'-0"

A New Transient Boaters Facility for :

The Newburyport Harbormaster

Newburyport, MA 01950

CONSTRUCTION DOCUMENTS

HVAC
Second Floor Plan

Project No. 14259 | Scale: 1/4" = 1'-0" | Jan. 19, 2016

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H2.0

GENERAL SPECIFICATIONS

1. CONDITIONS OF THE CONTRACT AND DIVISION 1, GENERAL REQUIREMENTS APPLY TO WORK SHOWN ON THESE DRAWINGS. EXAMINE DRAWINGS AND OTHER SPECIFICATIONS FOR REQUIREMENTS THAT AFFECT WORK SHOWN ON THESE DRAWINGS.
2. PROVIDE ITEMS REFERRED TO IN SINGULAR NUMBER IN CONTRACT DOCUMENTS IN QUANTITIES NECESSARY TO COMPLETE WORK.
3. VISIT SITE AND EXAMINE CONDITIONS UNDER WHICH WORK MUST BE PERFORMED. REPORT ADVERSE CONDITIONS IN WRITING TO ARCHITECT. COMMENCEMENT OF WORK SHALL BE CONSTRUED AS COMPLETE ACCEPTANCE OF EXISTING CONDITIONS INCLUDING PREPARATORY WORK DONE BY OTHERS.
4. PERFORM WORK AND PROVIDE MATERIALS AND EQUIPMENT AS SHOWN ON DRAWINGS. COORDINATE ELECTRICAL WORK WITH WORK SHOWN ON THESE DRAWINGS.
5. GIVE NOTICES, FILE PLANS, OBTAIN PERMITS AND LICENSES, PAY FEES AND BACK CHARGES, AND OBTAIN NECESSARY APPROVALS FROM AUTHORITIES THAT HAVE JURISDICTION.
6. PERFORM WORK AS REQUIRED BY CODES, REGULATIONS AND LAWS OF LOCAL, STATE AND FEDERAL GOVERNMENTS AND OTHER AUTHORITIES WITH LAWFUL JURISDICTION.
7. MATERIAL AND EQUIPMENT SHALL BE UL, NEMA, ANSI, IEEE, ADA & CBM APPROVED FOR INTENDED SERVICE. MATERIAL AND INSTALLATION SHALL MEET REQUIREMENTS OF NATIONAL AND STATE ELECTRICAL CODE.
8. MAINTAIN RECORD DRAWINGS ON SITE. RECORD SET MUST BE COMPLETE, CURRENT AND AVAILABLE FOR INSPECTION WHEN REQUISITIONS FOR PAYMENT ARE SUBMITTED.
9. GUARANTEE WORK IN WRITING FOR ONE (1) YEAR FROM DATE OF FINAL ACCEPTANCE. REPAIR OR REPLACE DEFECTIVE MATERIALS OR INSTALLATION AT NO COST TO OWNER. CORRECT DAMAGE CAUSED IN MAKING NECESSARY REPAIRS AND REPLACEMENTS UNDER GUARANTEE AT NO COST TO OWNER.
10. SUBMIT GUARANTEE TO ARCHITECT BEFORE FINAL PAYMENT. STATEMENT OF GUARANTEE REQUIREMENTS SHALL NOT BE INTERPRETED TO LIMIT OWNER'S RIGHTS UNDER LAW AND THIS CONTRACT.
11. DRAWINGS ARE DIAGRAMMATIC AND INDICATE GENERAL ARRANGEMENT OF SYSTEMS. PROVIDE INFORMATION AND COMPONENTS SHOWN ON RISER DIAGRAMS BUT NOT SHOWN ON PLANS, AND VICE VERSA, AS IF EXPRESSLY REQUIRED ON BOTH.
12. UTILIZE MOLDED CASE CIRCUIT BREAKERS. MINIMUM INTERRUPTING CAPACITY SHALL BE 10,000 AMPS SYMMETRICAL AT 240 VOLTS.
13. TEMPORARY LIGHT AND POWER SHALL BE PROVIDED ON SITE BY THE ELECTRICAL CONTRACTOR. COST OF ELECTRICITY SHALL BE THE RESPONSIBILITY OF THE OWNER.
14. SUBMIT SHOP DRAWINGS AND PRODUCT DATA WITHIN THIRTY (30) DAYS AFTER AWARD OF CONTRACT. CHECK, STAMP AND MARK WITH PROJECT NAMES SUBMITTALS BEFORE TRANSMITTING TO ARCHITECT. INDICATE DEVIATIONS FROM CONTRACT DOCUMENTS. SHOP DRAWINGS SHALL BE PROVIDED FOR ALL EQUIPMENT SHOWN ON THE DRAWINGS. PROVIDE SHOP DRAWINGS ON LIGHTING, PANELBOARDS, CIRCUIT BREAKERS, CONDUIT, WIRING DEVICES, LIGHTING CONTROL DEVICES, CABLE AND CONDUCTORS, FIRE ALARM INCLUDING BATTERY CALCULATIONS, RISER DIAGRAM, EQUIPMENT CUTS AND DISCONNECTS.
15. DEVIATION FROM CONTRACT DOCUMENTS, OR PROPOSED SUBSTITUTION OF MATERIALS OR EQUIPMENT FOR THOSE SPECIFIED, SHALL BE REQUESTED IN SEPARATE LETTER, WHETHER DEVIATIONS ARE DUE TO FIELD CONDITIONS, STANDARD SHOP PRACTICE, OR OTHER CAUSE.
16. SCHEDULE AT LEAST FIVE (5) WORKING DAYS, EXCLUSIVE ON TRANSMITTAL TIME FOR SUBMITTAL REVIEW.
17. ALL WIRING SHALL BE RUN CONCEALED UNLESS SPECIFIED OTHERWISE.
18. ALL EQUIPMENT SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER, RECTILINEAR TO BUILDING STRUCTURE.
19. LOCATION OF MECHANICAL EQUIPMENT THAT REQUIRE ELECTRICAL CONNECTIONS ARE SHOWN ON THE MECHANICAL DRAWINGS.
20. ALL RACEWAY RUNNING THROUGH BUILDING EXPANSION JOINTS SHALL BE EQUIPPED WITH EXPANSION FITTINGS.
21. THE ELECTRICAL CONTRACTOR SHALL CONSULT AND COOPERATE WITH CONTRACTORS OF OTHER TRADES TO AVOID ANY INTERFERENCE IN THE INSTALLATION OF THEIR RESPECTIVE EQUIPMENT. CONTRACTOR SHALL REVIEW ALL TRADES' CONTRACT DOCUMENTS TO DETERMINE SPECIFIC MOUNTING LOCATIONS FOR ELECTRICAL EQUIPMENT. COORDINATE EXACT MOUNTING LOCATIONS WITH THE ARCHITECT
22. BRANCH CIRCUIT WIRING MAY NOT BE SHOWN GRAPHICALLY ON DRAWINGS AND MAY BE INDICATED BY CIRCUIT NUMBERS BESIDE FIXTURES, DEVICES AND EQUIPMENT. PROVIDE COMPLETE WIRING SYSTEM WHETHER OR NOT INDICATED GRAPHICALLY. PHASE BALANCE ALL PANELBOARDS IN FIELD. CIRCUIT NUMBERS ARE DIAGRAMMATIC, UTILIZE AVAILABLE SPACE OR PROVIDE ADDITIONAL BREAKERS AND PANELBOARDS AS NECESSARY.
23. ALL NEW WIRING SHALL BE TYPE THHN/THWN RATED 75–90°C, 600V. WET–DRY LOCATIONS. MINIMUM BRANCH CIRCUIT WIRING SHALL BE NO. 12 AWG SOLID COPPER.
24. ALL NEW EXPOSED INTERIOR WIRING ABOVE 8'–0" NOT EXPOSED TO DAMAGE SHALL BE INSTALLED IN ELECTRIC METALLIC TUBING. ALL WIRING IN CONCRETE SLABS OR EXPOSED IN ROOM BELOW 8'–0" OR EXPOSED TO DAMAGE SHALL BE INSTALLED IN RIGID STEEL CONDUIT. EXTERIOR WIRING SHALL BE IN GALVANIZED RIGID METALLIC CONDUIT.
25. ALL GROUNDING SHALL BE PERFORMED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AS AMENDED BY THE STATE OF MASSACHUSETTS.
26. ALL FIREPROOFING FOR ELECTRICAL PENETRATIONS SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR.
27. PROVIDE NEW TYPED IDENTIFICATION DIRECTORY IN PANELBOARDS INDICATING CIRCUIT FUNCTION OR EQUIPMENT SERVED. LABEL ALL ELECTRICAL PANELS, DISCONNECT SWITCHES AND OTHER EQUIPMENT WITH ENGRAVED VINYL PLATES. NAMEPLATE LETTERING SHALL BE 1/4" MINIMUM.
28. PANELBOARDS SHALL BE DOOR–IN–DOOR CONSTRUCTION WITH COPPER BUS. CIRCUIT BREAKERS SHALL BE THERMAL–MAGNETIC, BOLT–ON. PANELBOARDS AND BREAKERS SHALL BE CUTLER HAMMER, SQUARE 'D', G.E. OR SIEMENS. PROVIDE TYPE IDENTIFICATION DIRECTORY CARDS IN PANELBOARD INDICATING CIRCUIT FUNCTION OR EQUIPMENT SERVED.
29. DISCONNECT SWITCHES SHALL BE HEAVY DUTY (HD). SIDE OPERATED WITH INTERLOCKING COVER, G.E., SQUARE 'D', CUTLER HAMMER OR SIEMENS OR EQUAL.

POWER NOTES

1. ALL CONDUIT, WIRING AND ELECTRICAL EQUIPMENT SHALL BE INSTALLED AND GROUNDED IN ACCORDANCE WITH THE LATEST STANDARDS OF THE NATIONAL & STATE ELECTRICAL CODES AND ANY APPLICABLE LOCAL REGULATIONS.
2. ALL CONDUITS ARE SHOWN DIAGRAMMATICALLY. EXACT LOCATION AND METHOD OF SUPPORT SHALL BE DETERMINED IN THE FIELD, EXCEPT WHERE SPECIFIC DIMENSIONS AND DETAILS ARE SHOWN. ALL CONDUIT RUNS SHALL BE RIGIDLY SUPPORTED.
3. NO CONDUIT SMALLER THAN 3/4 INCH ELECTRICAL TRADE SIZE SHALL BE USED, UNLESS SPECIFICALLY CALLED FOR ON THE DRAWINGS.
4. PERFORM WORK AND PROVIDE MATERIALS AND EQUIPMENT TO MAKE INSTALLATION COMPLETE IN EVERY DETAIL UNDER THIS CONTRACT WHETHER OR NOT SPECIFICALLY SHOWN ON DRAWINGS.
5. WIRING DEVICES SHALL BE SPECIFICATION GRADE, 20 AMP, NYLON DEVICE PLATES AS MANUFACTURED BY HUBBELL, OR EQUAL.
6. CONDUCTORS AND CABLE SHALL BE MINIMUM #12 AWG, 600 VOLT, COPPER WITH TYPE THHN/THWN INSULATION. PROVIDE SEPARATE GREEN GROUND IN ALL FEEDERS. WIRE SIZE #8 AWG AND LARGER SHALL BE STRANDED, #10 AWG AND SMALLER SHALL BE SOLID. COLOR CODE CONDUCTORS BLACK, RED, BLUE, WITH WHITE NEUTRAL AND GREEN GROUND EXCEPT AS NOTED FOR 120 VOLT
7. MOUNTING HEIGHTS OF ELECTRICAL EQUIPMENT SHALL BE AS FOLLOWS UNLESS OTHERWISE NOTED:
   a.) CONVENIENCE RECEPTACLE (GENERAL), 1'–6" FROM FLOOR TO CENTERLINE.
   b.) CONVENIENCE RECEPTACLE (OFFICE), 1'–6" FROM FLOOR TO CENTERLINE.
   c.) TELEPHONE OUTLETS, 1'–6" FROM FLOOR TO CENTERLINE.
   d.) DATA OUTLETS, 1'–6" FROM FLOOR TO CENTERLINE.

SECURITY SYSTEM NOTES

1. EC SHALL PROVIDE A COMPLETE WORKING & TESTED SECURITY SYSTEM UNDER THIS DIVISION 26000 WORK. REFER TO SECURITY SYSTEM DRAWINGS SEC0, SEC1, SEC2 AND DIV. 280000 SPECIFICATIONS SECTION, FOR FURTHER INFORMATION.

GENERAL NOTES

1. ALL FLOOR, MASONRY WALLS AND STRUCTURAL CEILING PENETRATIONS SHALL BE SLEEVED.
2. PROVIDE FIRE/MOISTURE SEAL FOR WALL, FLOOR OR CEILING PENETRATIONS.
3. DO NOT LAY CABLES OR RACEWAY ON, OR SUPPORT FROM SUSPENDED CEILING OR PIPING AND DUCTWORK.
4. OUTLET BOXES SHALL BE MOUNTED FLUSH. CONDUIT SHALL BE RUN CONCEALED. WHERE WALLS ARE BLOCK, DEVICES AND WIRING SHALL BE SURFACE MOUNTED. PROVIDE WIREMOLD OR EQUAL TO SURFACE MOUNTED RACEWAY WITH FINISHED BOXES.
5. ALL WIRING WITHIN UTILITY CLOSETS MAY BE IN SURFACE MOUNTED CONDUIT. EMT MAY BE UTILIZED.
6. FLEXIBLE CONDUIT CONNECTIONS SHALL BE A MAXIMUM OF 6'–0".
7. MC TYPE CONDUCTOR WITH INTEGRAL GROUND WIRE MAY BE UTILIZED FOR POWER AND LIGHTING CIRCUITS. MC CABLE SHALL BE UTILIZED ONLY WHERE COMPLETELY CONCEALED.

LIGHTING NOTES

1. ALL CONDUIT, FIXTURES AND OUTLETS ARE SHOWN DIAGRAMMATICALLY. EXACT LOCATION AND METHOD OF SUPPORT SHALL BE DETERMINED IN THE FIELD, EXCEPT WHERE SPECIFIC DIMENSIONS AND DETAILS ARE SHOWN.
2. ALL LIGHTING FIXTURE SPACING DIMENSIONS AND MOUNTING HEIGHTS ARE RECOMMENDED LOCATIONS. SLIGHT VARIATIONS WHERE NECESSARY TO AVOID INTERFERENCE SHALL BE DETERMINED IN THE FIELD.
3. MOUNTING HEIGHTS OF ELECTRICAL EQUIPMENT SHALL BE AS FOLLOWS, UNLESS OTHERWISE NOTED:
   a.) LIGHT SWITCHES, 4'–0" FROM FLOOR TO CENTERLINE.
   b.) LIGHTING PANELBOARDS, 6'–6" FROM FLOOR TO TOP.
   c.) LIGHT FIXTURES – SEE LIGHTING FIXTURE SCHEDULE, MOUNTING HEIGHT OF FIXTURE IS MEASURED TO BOTTOM OF REFLECTOR.

   IF CONFLICTS OCCUR ON ARCHITECTURAL PLANS, THE DIMENSIONS ON THE ARCHITECTURAL PLAN SHALL TAKE PRECEDENCE.
4. WHERE REQUIRED, ADDITIONAL SUPPORT STEEL FOR THE LIGHTING INSTALLATION SHALL BE FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR. SEISMIC RESTRAINTS SHALL BE INCLUDED AS PER STATE BUILDING CODE.
5. PROVIDE SEPARATE UN–SWITCHED NEUTRAL TO ALL EMERGENCY LIGHT FIXTURES CONTAINING EMERGENCY BALLASTS OR DRIVERS.

FIRE ALARM NOTES

1. THE ELECTRICAL CONTRACTOR SHALL COMPLETE A CERTIFICATE CERTIFYING THAT THE SYSTEM HAS BEEN 100 PERCENT TESTED AND FUNCTIONS IN COMPLETE COMPLIANCE WITH THE SYSTEM SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS. THE CERTIFICATE SHALL BE SIGNED BY THE INSTALLER, ELECTRICAL CONTRACTOR AND THE OWNER. AFTER RECEIPT OF THE CERTIFICATION, THE FIRE PREVENTION OFFICER AND/OR THE FIRE ALARM SUPERVISOR WILL CONDUCT AN INSPECTION IN THE COMPANY OF THE INSTALLER AND A REPRESENTATIVE OF THE OWNER WITHIN SCOPE OF WORK.
2. ALL PULL STATIONS MUST BE OF THE DOUBLE ACTION TYPE. BREAKGLASS RODS WILL NOT BE PERMITTED.
3. ALL FIRE ALARM VISUAL DEVICES SHALL BE SYNCHRONIZED.
4. ALL WIRING METHODS SHALL BE AS APPROVED BY THE WIRING INSPECTOR AND THE FIRE DEPARTMENT.
5. ALL SYSTEM COMPONENTS SHALL BE UL LISTED.
6. ALL WIRING SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE, NFPA 72 SERIES PAMPHLETS, AND ALL STATE AND LOCAL CODES.
7. THE ELECTRICAL CONTRACTOR MUST OBTAIN AN ELECTRICAL PERMIT FROM THE CITY BUILDING DEPARTMENT AND A PERMIT FROM THE FIRE DEPARTMENT PRIOR TO COMMENCEMENT OF EQUIPMENT INSTALLATION. A FLOOR PLAN SHOWING ALL ALARM DEVICES, PANELS, ANNUNCIATORS, A ONE–LINE WIRING DIAGRAM AND AN ANNUNCIATOR DETAIL SHOWING ZONE LABELING WILL BE REQUIRED TO BE SUBMITTED BEFORE THE FIRE DEPARTMENT ISSUES A PERMIT.
8. INSTALLATION OF EQUIPMENT SHALL BE IN ACCORDANCE WITH CURRENT STANDARDS AND SPECIFICATIONS APPROVED BY THE AUTHORITY HAVING JURISDICTION.
9. ALL FIRE ALARM EQUIPMENT, INSTALLATION AND OPERATION SHALL BE IN CONFORMANCE WITH THE LOCAL FIRE DEPARTMENT INSTALLATION REQUIREMENTS AND SYSTEM INSTALLATION GUIDELINES.
10. ALL EQUIPMENT SHOWN ON DRAWINGS IS DIAGRAMMATIC.
11. THE FIRE ALARM SYSTEM SHOP DRAWINGS SHALL BE REVIEWED AND APPROVED BY BOTH THE ENGINEER AND THE LOCAL FIRE DEPARTMENT. THE SHOP DRAWINGS MUST BE SIGNED OFF BY THE FIRE DEPARTMENT AND ENGINEER PRIOR TO ORDERING AND INSTALLATION OF EQUIPMENT.
12. ABSOLUTELY NO CONNECTIONS WILL BE MADE TO THE MUNICIPAL FIRE ALARM CIRCUITS, EXCEPT BY LOCAL FIRE DEPARTMENT PERSONNEL.
13. ALL WORK INSIDE OF THE BUILDING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
14. ALL JOINTS AND CONNECTIONS SHALL BE IN JUNCTION BOXES. ALL CONNECTIONS NOT ON APPROVED TERMINAL STRIPS SHALL BE SOLDERED AND TAPED. ALL JUNCTION BOXES SHALL BE PAINTED RED.
15. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR THAT ALL CONNECTING WIRING MAINTAIN ELECTRICAL INTEGRITY, WITH NO OPEN CIRCUITS, GROUNDS, LEAKAGE OR OTHER FAULTS. CONNECTION TO THE MUNICIPAL SYSTEM WILL NOT BE PERMITTED IF ANY FAULTS EXIST, AND THE CONTRACTOR HAS THE RESPONSIBILITY FOR THE MAINTENANCE OF ALL SUCH WIRING FOR A ONE–YEAR PERIOD. IF FAULTS DEVELOP AFTER INSTALLATION, CORRECTION MUST BE MADE BY THE CONTRACTOR FOR A PERIOD OF ONE YEAR AFTER THE DATE OF FINAL COMPLETION.
16. ALL EQUIPMENT SHALL BE MADE AVAILABLE FOR TEST AND INSPECTION WHEN REQUIRED BY THE FIRE DEPARTMENT.
17. ALL EQUIPMENT USED SHALL BE OF A TYPE APPROVED BY THE FIRE CHIEF THROUGH THE ALARM SUPERINTENDENT AND THE FIRE PREVENTION OFFICER.
18. A SEPARATE AC CIRCUIT MUST BE PROVIDED FOR THE FIRE ALARM SYSTEM. STANDBY BATTERIES AND THE CHARGING SYSTEM SHALL BE SUPERVISED.
19. THE BATTERIES USED WITH THE FIRE ALARM CONTROL PANEL SHALL BE CAPABLE OF OPERATING THE PANEL FOR TWENTY–FOUR (24) HOURS WITH A FIVE (5) MINUTE RING–DOWN AT THE END OF THE TWENTY–FOUR (24) HOUR PERIOD. THE CALCULATION USED TO DETERMINE BATTERY CAPACITY SHALL BE PRESENTED TO THE FIRE DEPARTMENT AT THE TIME OF INSPECTION. PROVIDE BATTERY CALCULATIONS WITH SHOP DRAWINGS.
20. ALL FIRE ALARM CONTROL PANELS SHALL HAVE A SIGN, RED IN COLOR, WITH THE WORDS "FIRE ALARM CONTROL" ENGRAVED ON IT. THE SIGN SHALL BE ON THE FRONT OF THE PANEL WITH MINIMUM ONE (1) INCH LETTERS.
21. UPON ACTIVATION OF ANY FIRE ALARM DEVICE, THE CONTROL PANEL SHALL SOUND THE EVACUATION SIGNALS, FLASH THE EVACUATION LIGHTS, INDICATE THE ADDRESS OF ACTIVATION AT THE PANEL AND CONTACT THE NEWBURYPORT FIRE DEPARTMENT.
22. THE VISUAL INDICATORS OF THE EVACUATION SIGNALS MUST STAY ILLUMINATED UNTIL THE SYSTEM IS RESET.

ABBREVIATIONS

A/AMP	AMPERE	JB	JUNCTION BOX
AC	ALTERNATING CURRENT	KVA	KILOVOLT–AMPERE
AF	AMPERE FRAME	KW	KILOWATT
AFF	ABOVE FINISHED FLOOR	LTG	LIGHTING
AFG	ABOVE FINISHED GRADE	MCB	MAIN CIRCUIT BREAKER
AIC	APRERE INTERRUPTING CAPACITY	MEC	MASSACHUSETTS ELECTRICAL CODE
AL	ALUMINUM	MLO	MAIN LUGS ONLY
AT	AMPERE TRIP	MTG	MOUNTING
ATS	AUTOMATIC TRANSFER SWITCH	MTD	MOUNTED
AWG	AMERICAN WIRE GAUGE	NEC	NATIONAL ELECTRICAL CODE
C	CONDUIT	NS	NON–SYSTEM
CKT	CIRCUIT	NTS	NOT TO SCALE
CB	CIRCUIT BREAKER	No., #	NUMBER
CU	COPPER	PC	PLUMBING CONTRACTOR
CL	CENTERLINE	RGS	RIGID STEEL CONDUIT
DWG	DRAWING	TYP	TYPICAL
EC	ELECTRICAL CONTRACTOR	V	VOLTS
EWC	ELECTRIC WATER COOLER	VA	VOLT–AMPERE
EMT	ELECTRIC METALLIC CONDUIT	VFD	VARIABLE FREQUENCY DRIVE
FLMT	FLEXIBLE LIQUID TIGHT METALLIC TUBING	WP	WEATHERPROOF
GC	GENERAL CONTRACTOR		
GND	GROUND		
GFI	GROUND FAULT INTERRUPTING		
HVAC	HEATING, VENTILATION AND AIR CONDITIONING		
HP	HORSEPOWER		

BRANCH CIRCUIT AND FEEDER SYMBOLS

- BRANCH CIRCUIT OR FEEDER CONCEALED UNLESS OTHERWISE NOTED. BRANCH CIRCUIT DIAGONAL LINES INDICATE NUMBER OR CONDUCTORS, NO DIAGONAL LINES INDICATES TWO (2) CONDUCTORS (1 PHASE AND 1 NEUTRAL). GROUND WIRE(S) NOT INDICATED. MINIMUM SIZE CONDUCTOR #12 AWG AND 3/4" CONDUIT, UNLESS OTHERWISE NOTED
- 4#1,1#6G–1½"C — INDICATES (3) #1 AWG(PHASE), (1)#1 AWG(NEUTRAL), (1) #6 GROUND IN A 1–1/2" CONDUIT
- FLEXIBLE CONNECTION TO MOTOR OR EQUIPMENT
- PP1–1 20A/1P — HOMERUN TO PANELBOARD 'P1' CIRCUIT NUMBER 1. DIAGONAL LINES INDICATE (1) PHASE AND (1) NEUTRAL CONDUCTOR. (1) GROUNDING CONDUCTOR UNDERSTOOD.
- PP1–1,3 (2)20A/1P — HOMERUN TO PANELBOARD 'P1' CIRCUIT NUMBER 1 & 3. DIAGONAL LINES INDICATE (2) PHASE AND (2) NEUTRAL CONDUCTOR. (2) GROUNDING CONDUCTOR UNDERSTOOD.
- PP1–1,3,5 (3)20A/1P — HOMERUN TO PANELBOARD 'P1' CIRCUIT NUMBER 1, 3 & 5. DIAGONAL LINES INDICATE (3) PHASE AND (3) NEUTRAL CONDUCTOR. (3) GROUNDING CONDUCTOR UNDERSTOOD.
- PP1–1,3,5 20A/3P — HOMERUN TO PANELBOARD 'P1' CIRCUIT NUMBER 1, 3 & 5. DIAGONAL LINES INDICATE (3) PHASE AND (1) NEUTRAL CONDUCTOR. (1) GROUNDING CONDUCTOR UNDERSTOOD.
- PP1–1,3,5 20A/3P — HOMERUN TO PANELBOARD 'P1' CIRCUIT NUMBER 1, 3 & 5. DIAGONAL LINES INDICATE (3) PHASE CONDUCTORS. NEUTRAL CONDUCTOR NOT REQUIRED. (1) GROUNDING CONDUCTOR UNDERSTOOD.

SWITCHING SYMBOLS

- S_a — SINGLE POLE SWITCH, RATED 20A, 120/277V, MOUNTING HEIGHT 48" TO CENTERLINE OF TOGGLE SWITCH IN "ON" POSITION, "a" DENOTES FIXTURE SWITCH CONTROL
- S_3 — THREE WAY SWITCH, RATED 20A, 120/277V, MOUNTING HEIGHT 48" TO CENTERLINE OF TOGGLE SWITCH IN "ON" POSITION, "a" DENOTES FIXTURE SWITCH CONTROL
- S_M — MANUAL MOTOR STARTER, RATED 20A, 250V, COORDINATE MOUNTING HEIGHT IN FIELD, MOUNTING HEIGHT SHALL NOT EXCEED 6'–7" AFF

LIGHTING FIXTURE SYMBOLS

- A 6 / 2 — LED OR FLUORESCENT LIGHTING FIXTURE, CEILING/SURFACE/RECESSED/PENDANT OR WALL MOUNTED. "A" DENOTES LIGHTING FIXTURE TYPE (SEE FIXTURE SCHEDULE), "2" DENOTES CIRCUIT NUMBER, "a" DENOTES SWITCH CONTROL
- A 6 / 2 — LED LIGHT FIXTURE, CEILING/SURFACE/RECESSED OR PENDANT MOUNTED. "B" DENOTES LIGHTING FIXTURE TYPE, "4" DENOTES CIRCUIT NUMBER, "b" DENOTES SWITCH CONTROL
- LIGHTING FIXTURE CONTAINS AN EMERGENCY LED DRIVER. SEE LIGHTING NOTE 5.
- EB EB — EMERGENCY BATTERY UNIT WITH TWO (2) HEADS

OCCUPANCY SENSORS

- * — WALL MOUNTED OCCUPANCY SENSOR, 180', 300SF COVERAGE (20'W x 25'L), PHILIPS LIGHTING CONTROLS No. ITS2U–COLOR OR EQUAL
- * 3 — THREE WAY WALL MOUNTED REMOTE SWITCH, 180', 300SF COVERAGE (20'W x 25'L), PHILIPS LIGHTING CONTROLS No. ITSRB–COLOR OR EQUAL
- * — WALL MOUNTED DUAL CIRCUIT RELAY OCCUPANCY SENSOR, 180', 300SF COVERAGE (20'W x 25'L), PHILIPS LIGHTING CONTROLS No. ITSABU–COLOR OR EQUAL
- * — CEILING MOUNTED OCCUPANCY SENSOR, 360' TWO–SIDED, 1950SF COVERAGE (50' DIAMETER), PHILIPS LIGHTING CONTROLS No. ITSCS (FOR PARTIAL COVERAGE APPLICATIONS, A PROVIDED MASK CAN BE TRIMMED TO ADJUST COVERAGE) OR EQUAL
- D — CEILING MOUNTED DAYLIGHT SENSOR, PHILIPS LIGHTING CONTROLS NO. ITSPCS OR EQUAL
- * COVERAGE DIMENSIONS APPLY TO DEVICE BEING CENTERED. ACTUAL COVERAGE'S CAN VARY ON THE SHAPE AND USE OF APPLICABLE SPACE. COVERAGE MAY BE REDUCED IF DEVICE IS MOUNTED GREATER THAN 12 FEET HIGH. SENSORS REQUIRE RELAY PACKS, PHILIPS LIGHTING CONTROLS No. ITSRP1U (SINGLE CIRCUIT), ITSRP2 (TWO CIRCUIT) OR ITSRP4 (FOUR CIRCUIT).

FIRE ALARM SYSTEM

- F 15 — AUDIBLE/VISUAL DEVICE, TOP OF DEVICE MOUNTED NOT LESS THAN 90" AFF AND NOT LESS THAN 6" BELOW FINISHED CEILING
- L 15 — VISUAL DEVICE, ENTIRE LENS MOUNTED NOT LESS THAN 80" AFF AND NOT MORE THAN 96" AFF
- F — MANUAL PULL STATION, MOUNTING HEIGHT 48" TO CENTERLINE AFF
- S — SMOKE DETECTOR
- F — RED INDICATING BEACON, EXTERIOR MOUNTED, WEATHERPROOF
- R — REMOTE LED INDICATOR
- KB — FIRE DEPARTMENT KEY BOX
- FACP — FIRE ALARM CONTROL PANEL
- H — HEAT DETECTORS, "F" INDICATES 190° FIXED TEMPERATURE
- M — FIRE ALARM MASTER BOX
- CM — FIRE ALARM CONTROL MODULE

SECURITY SYSTEM (SEE DWGS SEC0, SEC1, SEC2 FOR SECURITY SYSTEM SYMBOLS)

RECEPTACLES AND OUTLETS

- 5 — DUPLEX CONVENIENCE RECEPTACLE OUTLET, GROUNDING TYPE, RATED 20A, 125V TYPE. "5" DENOTES CIRCUIT NUMBER, MOUNTING HEIGHT 18" TO CENTERLINE AFF
- GROUND FAULT INTERRUPTING OUTLET, RATED 20A, 125V RECEPTACLE, MOUNTING HEIGHT 18" TO CENTERLINE AFF
- DUPLEX CONVENIENCE OUTLET, MOUNTING HEIGHT 42" TO CENTERLINE AFF OR 6" ABOVE COUNTER TOP
- GROUND FAULT DUPLEX RECEPTACLE, MOUNTING HEIGHT 42" TO CENTERLINE AFF OR MOUNTED 6" ABOVE COUNTER TOP
- DOUBLE DUPLEX GROUND FAULT OUTLET, MOUNTING HEIGHT 42" TO CENTERLINE AFF OR 6" ABOVE COUNTER TOP
- DUPLEX CONVENIENCE RECEPTACLE OUTLET FOR MICROWAVE, TV, ETC., COORDINATE MOUNTING HEIGHT WITH ARCHITECT
- DOUBLE DUPLEX CONVENIENCE OUTLET, MOUNTING HEIGHT 18" TO CENTERLINE AFF
- J F — JUNCTION BOX, COORDINATE MOUNTING HEIGHT WITH ARCHITECT, 'F' INDICATES FAN RATED JUNCTION BOX
- FLOOR MOUNTED DUPLEX RECEPTACLE, UTILIZE BRASS COVERPLATE
- FLOOR MOUNTED DOUBLE DUPLEX RECEPTACLE, UTILIZE BRASS COVERPLATE
- CEILING MOUNTED DUPLEX CONVENIENCE RECEPTACLE OUTLET
- TV — CABLE TELEVISION OUTLET, FLUSH MOUNTING 18" TO CENTERLINE AFF WITH 1 GANG BACK BOX WITH PULLSTRINGS WITH 'F'–CONNECTOR
- W — TELEPHONE OUTLET, FLUSH MOUNTING HEIGHT 18" TO CENTERLINE AFF WITH SINGLE GANG BACK BOX, (2) CATEGORY 6 CABLES AND COVER PLATE, AT EACH OUTLET. "W" DENOTES WALL PHONE, MOUNTING HEIGHT 5'–0".
- TELEPHONE/COMPUTER OR DATA OUTLET, FLUSH MOUNTING 18" TO CENTERLINE AFF WITH SINGLE GANG BACK BOX, (2) CATEGORY 6 CABLES AND COVERPLATE, MOUNTING HEIGHT 18" AFF.
- FLOOR MOUNTED COMMUNICATIONS OUTLET (RJ45), UTILIZE BRASS COVERPLATE, (2) CATEGORY 6 CABLES AT EACH FLOOR BOX.

MOTOR AND CONTROLS

- 1.5 — MOTOR, NUMERAL INDICATES HORSEPOWER
- 3R — DISCONNECT SWITCH, NON–FUSIBLE TYPE, RATED 30A/3P, IN NEMA TYPE "1" ENCLOSURE, UNLESS OTHERWISE NOTED. "3R" DENOTES NEMA TYPE ENCLOSURE
- 30AF 30AT 20A1 — DISCONNECT SWITCH, FUSED TYPE, RATED 30A, 20A FUSE, 3 POLE IN NEMA TYPE "1" ENCLOSURE, UNLESS OTHERWISE NOTED
- CP — EQUIPMENT CONTROL PANEL
- VFD — VARIABLE FREQUENCY DRIVE, FURNISHED BY THE MECHANICAL CONTRACTOR, INSTALLED AND WIRED BY THE ELECTRICAL CONTRACTOR.

PANELBOARD AND TERMINAL CABINET

- LIGHTING OR POWER PANEL, SURFACE
- TELEPHONE TERMINAL 4'x8' 3/4" PLYWOOD BACKBOARD, PAINTED BLACK

SITE SYMBOLS

- UNDERGROUND CONDUIT OR DUCTBANK, REFER TO DRAWING E0.2.
- A A — SECTION "A–A"

MISCELLANEOUS

- ECH 1 — MECHANICAL EQUIPMENT TAG, REFER TO MECHANICAL SCHEDULE
- M — UTILITY METER (NGRID)
- PV — CUSTOMER–OWNED, REVENUE–GRADE, PV PRODUCTION METER

A New Transient Boaters Facility for :
The Newburyport Harbormaster
Newburyport, MA 01950

CONSTRUCTION DOCUMENTS

Electrical Legend, Symbols & General Notes

Project No. 14259 | Scale: 1/4" = 1'-0" | Jan. 19, 2016

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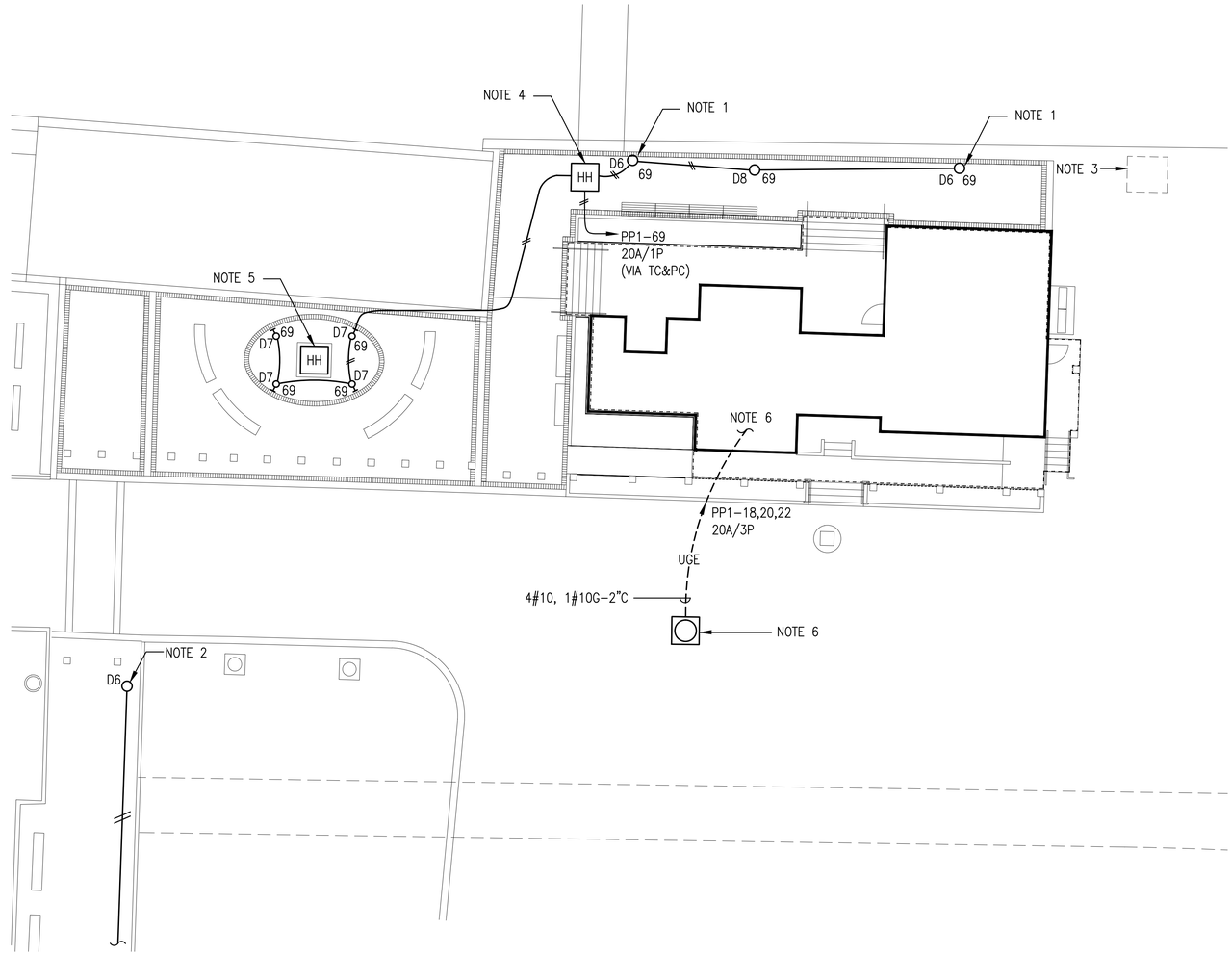
E0.1

LIGHTING FIXTURE SCHEDULE

FIXTURE TYPE	DESCRIPTION	MANUFACTURER – CATALOG NUMBER, (ACCEPTABLE MANUFACTURERS)	LAMPS			VOLTAGE
			No.	WATTAGE	TYPE	
A	VANITY–WALL MTD –	HILITE # H–CGU–W2B–96–RIB 2–32/CFL –	2	32	CFL	120
C	6" APERATURE LED SHOWER LIGHT –	H.E. WILLIAMS – LED PDR502800 30K CS MWT 120 EM (LITHONIA, LIGHTOLIER)	–	28	LED	120
C1	CEILING FIXTURE (RECEPTION) –	HUBBARDTON FORGE # EXOS SQUARE LARGE 126513	4	100	A19	120
C2	PENDANT LIGHT (OVER COUNTER) –	HUBBARDTON FORGE # ERLENMEYER 18715 –	1	60	G9	120
C3	PENDANT LIGHT (OFFICE) –	HUBBARDTON FORGE # HENRY 18425 –	1	100	A19	120
CE	6" APERATURE LED SHOWER LIGHT WITH EMERGENCY DRIVER –	H.E. WILLIAMS – LED PDR502800 30K CS MWT 120 EM (LITHONIA, LIGHTOLIER)	–	28	LED	120
D6	EXISTING NEWBURYPORT POLE LIGHT –	– –	–	–	–	–
D7	GROUND MOUNTED MONUMENT SPOT LIGHT	B–K LIGHTING # DE LED X34 FL BZW–12–11–45 HP–2D29INC–MT–GM–R	1	29	LED	120
D8	NEW FLAGPOLE TUNNEL LIGHTS –	ELDER FLAG # 3801112/380113/380114/380115	2	19	19 PAR38/F25	120
F	4' FLUORESCENT STRIP –	LIGHTOLIER – SV4S128 (LITHONIA)	1	55	T5	120
FE	4' FLUORESCENT STRIP WITH EMERGENCY BALLAST –	LIGHTOLIER – SV4S128EM (LITHONIA)	1	55	T5	120
G/G1	CABLE LIGHTS, 2–RUNS OF 14' EACH, 2–150W TRANSFORMERS, BARE CABLE, TURNBUCKLES, (2) POWER FEED CANOPIES, (10) G1 PIVOT HEADS	TECH LIGHTING – 700OKLABAREC, 700AT150T, 700PRTT1S, 700KP4C24S, 700KPIVS	1	20	LED	120
HE	2' FLUORESCENT STRIP WITH EMERGENCY BALLAST –	LITHONIA # S117MV EL –	1	17	T8	120
R	5" LED DOWNLIGHT –	JUNO – TC922LEDG3 3K–U–HB–1 LEDOPTICG3–M (LITHONIA, LIGHTOLIER)	–	17.9	LED	120
RE	5" LED DOWNLIGHT WITH EMERGENCY DRIVER –	JUNO – TC922LEDG3 3K–U–HB–1–BR LEDOPTICG3–M (LITHONIA, LIGHTOLIER)	–	17.9	LED	120
T	2–CIRCUIT TRACK	WAC LIGHTING # LHT –	–	–	–	–
T1	TRACK HEAD	WAC LIGHTING # 809BK –	6	1	LED	120
X1	SIGN LIGHT	VISA LIGHTING # ADVANTUS OUTDOOR OV1110–60–1FS80–SWF	1	35	T5	120
X2	EXTERIOR RECESSED VANDAL–PROOF STEPLIGHTS	WAC LIGHTING # WL–LED100CSS –	1	3.9	LED	120
W	WALL MOUNTED W/SHADE –	ARROYO CRAFTSMAN # N5–9L–BZ–WO –	1	100	A19	120
EB	EXTERIOR EMERGENCY FIXTURE –	PHILIPS GARDCO – 121–EP24 35LA–2 3235 WW 120 BRP PCB (LITHONIA, LIGHTOLIER)	–	35	LED	120



ELECTRICAL - Site Plan

Scale: 1" = 10'-0"

LIGHTING FIXTURE NOTES:

1. EC SHALL VERIFY RUN LENGTHS AND MOUNTING DETAILS OF ALL FIXTURES WITH ARCHITECTURAL DRAWINGS.
2. EC SHALL VERIFY AND COORDINATE FIXTURE MOUNTING WITH ARCHITECTURAL DETAILS, HOUSING TYPE AND FIELD CONDITIONS.
3. FOR LED, TRACK AND REMOTE TRANSFORMER FIXTURES, PROVIDE ALL FIXTURES WITH NECESSARY POWER SUPPLIES, DRIVERS AND POWER FEEDS FOR A COMPLETE SYSTEM.

SITE PLAN NOTES:

1. EXISTING POLE LIGHT, TO REMAIN; RE–CIRCUIT AS SHOWN. REFER TO DRAWING L1.0 AND L3.3 FOR FURTHER INFORMATION.
2. D6 FIXTURE TO BE RE–WIRED TO EXISTING CIRCUIT.
3. EC TO REFER TO DRAWING E2.0 FOR DUCTBANK DETAIL AND LOCATION OF PEDESTAL MOUNTED METER. EC TO COORDINATE WITH CIVIL CONTRACTOR FOR ADDITIONAL INFORMATION.
4. EC SHALL COORDINATE EXACT LOCATION OF HANDHOLE WITH GC, ARCHITECT, LANDSCAPE ARCHITECT, SITE CONTRACTOR, TO AVOID IMPEDING NEW BENCH INSTALLATION.
5. EC SHALL RELOCATE EXISTING HANDHOLE, TO ALLOW FOR INSTALLATION OF NEW MONUMENT. EC SHALL EXTEND CONDUIT AND WIRE AS NECESSARY.
6. PUMP CHAMBER WITH GRINDER PUMP (PROVIDED BY OTHERS) EC SHALL PROVIDE BRANCH CIRCUITRY, AS SHOWN, FROM GRINDER PUMP CONTROL PANEL (BY OTHERS) IN MECHANICAL ROOM, TO NEMA 4X JUNCTION BOX IN THE CHAMBER. FINAL CONNECTION AT JUNCTION BOX, BY CHAMBER CONTRACTOR. REFER TO DRAWINGS C3 FOR CHAMBER EXACT LOCATION AND C4 FOR JUNCTION BOX LOCATION. SEE DRAWING E2.0 FOR GRINDER PUMP CONTROL PANEL LOCATION.

A New Transient Boaters Facility for :
The Newburyport Harbormaster
Newburyport, MA 01950

CONSTRUCTION DOCUMENTS

Electrical Site Plan

Project No. 14259 | Scale: 1/4" = 1'-0" | Jan. 19, 2016

OLSON LEWIS + ARCHITECTS
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Manchester, MA 01944
978 526 4386
olsonlewis.com

KEERY design | LLC
437 Merrimac Street
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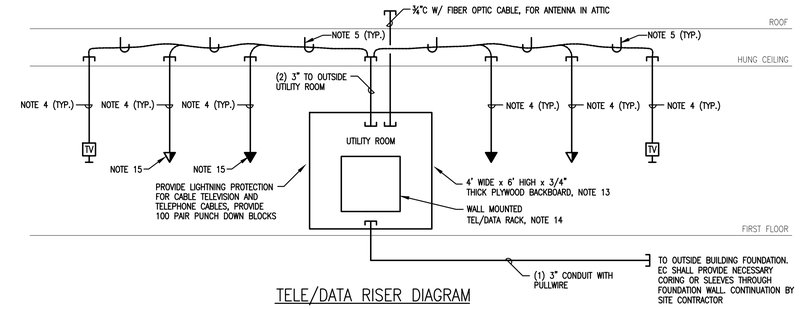
E0.2

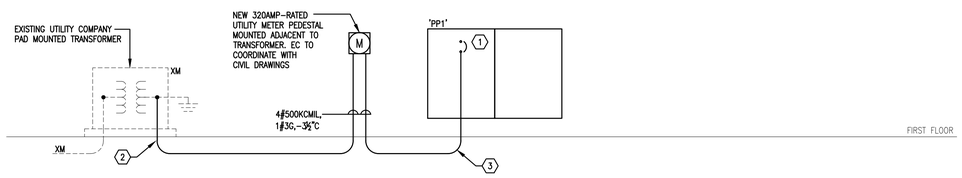
TEL/DATA RISER NOTES:

1. TEST ALL CABLES IN ACCORDANCE WITH EIA AND TIA STANDARDS. PROVIDE REPORT.
2. PROVIDE CAT.6 CABLE AT EACH TELE/DATA, DATA OR TELEPHONE LOCATION. CABLE SHALL BE MANUFACTURED BY ADC. CAT-6, 24 AWG, 4-PAIR UTP.
3. PROVIDE "J-HOOKS" ABOVE CEILING FOR CABLE MANAGEMENT, BY ERICOCADDY "CABLECATCLIPS".
4. FOR ALL OUTLETS, PROVIDE A 4" SQUARE METAL BOX, FLUSH IN THE WALL WHERE POSSIBLE, WITH AN ADAPTER FOR A SINGLE GANG COVER PLATE. PROVIDE A 1"EMT CONDUIT TO ABOVE NEAREST ACCESSIBLE CEILING. PROVIDE BUSHINGS AT CONDUIT ENDS.
5. ALL LOCATIONS SHOWN ON PLANS AS REQUIRING A TELECOMMUNICATIONS OUTLET SHALL BE PROVIDED WITH THE APPROPRIATE CABLING AS INDICATED.
6. WORKSTATION CABLING SHALL BE RUN FROM OUTLETS IN 1" EMT (MIN) CONDUITS TO ACCESSIBLE CEILING SPACE. DO NOT EXCEED 40% FILL FACTOR. EACH CONDUIT SHALL BE FITTED WITH A PLASTIC BUSHING AT THE OPEN END.
7. FLOOR BOX CONDUITS USED TO FEED TELECOM WORKSTATIONS SHALL BE EXTENDED TO THE ACCESSIBLE CEILING SPACE ON THE SAME FLOOR.
8. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATION AND MOUNTING HEIGHTS OF ALL DEVICES.
9. ALL CONDUITS, SLEEVES, BACKBOXES, J-HOOKS, ETC. FOR THE TEL/DATA WORK SHALL BE PROVIDED BY AND COORDINATED WITH THE ELECTRICAL CONTRACTOR.
10. IT IS THE INTENT OF THE DRAWINGS AND THE SPECIFICATIONS TO PROVIDE A COMPLETE PRE-WIRED COMMUNICATIONS SYSTEM, FROM OUTLET TO PATCH PANELS IN RACK. ALL DRAWINGS ARE CONSIDERED DIAGRAMMATIC AND THE EC IS RESPONSIBLE FOR ALL QUANTITIES. ALL WORK NECESSARY TO PROVIDE SUCH A SYSTEM SHALL BE PERFORMED. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION.
11. TEL/DATA CABLING SHALL BE CAT-6. IN ANY PLENUM SPACES, USE PLENUM RATED CABLE.
12. WITH THE SOLE EXCEPTION OF THE CABLES IN WIRING CLOSETS, NO TEL/DATA CABLES SHALL RUN EXPOSED. ABOVE DROP CEILINGS, THEY SHALL SECURED ON CAT-6 COMPATIBLE J-HOOKS. IN EXPOSED LOCATIONS, SOME SUITABLE SURFACE RACEWAY SYSTEM SHALL BE REQUIRED.
13. PROVIDE WITH (2) COATS OF FIRE RETARDANT PAINT.
14. RACK SHALL BE EQUAL TO STARTECH RK1219WALM 23.6"W X 21.7"D X 38"H, PROVIDE (3) 48-PORT PATCH PANELS.
15. DATA INSERTS SHALL BE RJ45, 8 POSITION, 8 CONDUCTOR, T568B, CAT-6 ADC P/N KM8 OR EQUAL. FACE PLATES SHALL BE 4-PORT IVORY COLOR BY ADC P/N 66441154-02, OR EQUAL.
16. EC SHALL PROVIDE TERMINATION OF CABLES AT BOTH THE OUTLET AND AT THE PATCH PANELS.



TELE/DATA RISER DIAGRAM

N.T.S.

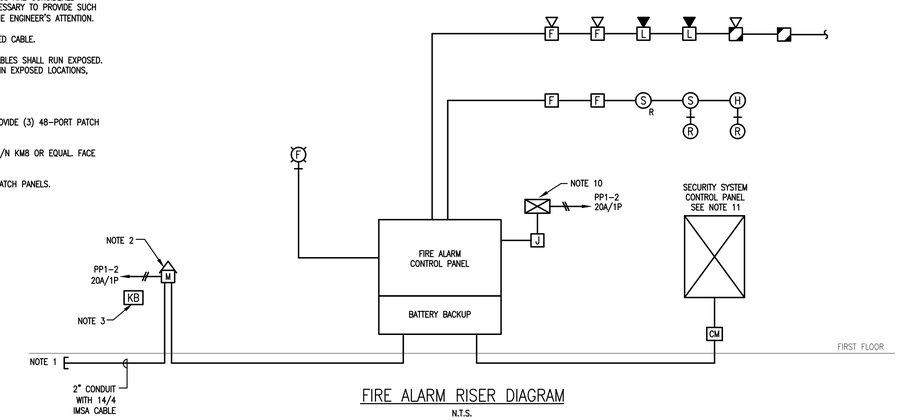


PARTIAL ELECTRICAL ONE-LINE DIAGRAM

N.T.S.

NOTES:

1. PROVIDE NEW 400 AMP, MCB, 120/208V 3-PHASE, 4-WIRE, 84 CIRCUIT PANELBOARD. SEE SCHEDULE THIS DRAWING FOR FURTHER DETAILS.
2. EC SHALL PROVIDE NECESSARY EXCAVATION UNDER EXISTING TRANSFORMER PAD, TO ALLOW NEW CONDUIT INSTALLATION. EC SHALL COORDINATE WITH NGRID FOR TERMINATIONS OF SECONDARY CONDUCTORS AND POWER SHUTDOWN.
3. SECONDARIES SHALL BE INSTALLED BELOW GRADE, PRIOR TO BEING STUBBED UP IN THE MAIN ELECTRICAL ROOM.



FIRE ALARM RISER DIAGRAM

N.T.S.

NOTES:

1. TO MANHOLE. REFER TO SITE PLAN C2 FOR EXACT LOCATION OF MANHOLE. COORDINATE WITH LOCAL FIRE DEPARTMENT.
2. PROVIDE RECESSED MASTER BOX. MASTER BOX SHALL MEET THE REQUIREMENTS OF NEWBURYPORT FIRE DEPARTMENT. REFER TO FLOOR PLAN AND/OR SITE PLAN FOR LOCATION. SEE MASTER BOX GROUNDING DETAIL 16 ON DRAWING E0.5.
3. PROVIDE RECESSED KEY BOX. ELECTRICAL CONTRACTOR SHALL PURCHASE THROUGH LOCAL FIRE DEPARTMENT.
4. ELECTRICAL CONTRACTOR SHALL PROVIDE CIRCUIT BREAKER HANDLE-LOCK ON POWER CIRCUITS. HANDLE LOCK SHALL ALLOW THE CIRCUIT BREAKER TO TRIP, BUT PREVENT SWITCHING OF THE CIRCUIT BREAKER TO THE "OFF" POSITION.
5. PROVIDE SMOKE DETECTOR IN VICINITY OF FIRE ALARM CONTROL PANEL, AND ALL FIRE ALARM TERMINAL BOXES.
6. MINIMUM SIZE CONDUIT SHALL BE 3/4" UNLESS OTHERWISE NOTED.
7. ALL SYSTEM WIRING SHALL BE INSTALLED IN CONDUIT AND IN ACCORDANCE WITH EQUIPMENT SUPPLIER'S APPROVED SHOP DRAWINGS AND WIRING DIAGRAMS.
8. RISER DIAGRAM DOES NOT SHOW ENTIRE SYSTEM. REFER TO FLOOR PLANS FOR EXACT QUANTITIES AND LOCATIONS OF ALL SYSTEM DEVICES.
9. PROVIDE REMOTE ALARM INDICATOR OVER DOOR OF EACH LOCKED ROOM THAT CONTAINS A SMOKE OR HEAT DETECTOR WHETHER OR NOT SHOWN ON THE FLOOR PLANS: SUCH AS, ELEVATOR MACHINE ROOMS, ELECTRIC ROOMS, MECHANICAL ROOMS, IT ROOMS, ETC.
10. PROVIDE A 20 AMP, 120 VOLT, 1 PHASE SURGE PROTECTOR EQUAL TO MCG SURGE PROTECTION MODEL NO. 415. SURGE PROTECTOR SHALL BE INSTALLED BETWEEN THE CIRCUIT BREAKER IN THE PANEL AND THE FIRE ALARM PANEL, AND IN ACCORDANCE WITH MANUFACTURER'S WIRING RECOMMENDATIONS.
11. SERCURITY/DOOR ENTRY SYSTEM SHALL BE CONNECTED TO FIRE ALARM SYSTEM VIA A CONTROL MODULE/RELAY. ELECTRIC DOOR STRIKE SHALL UNLOCK/RELEASE UPON ACTIVATION OF FIRE ALARM SYSTEM ALARM.

PANEL 'PP1', 400 AMP, 120/208 VOLT, 3 PHASE, 4 WIRE AND GROUND

INTERUPTING CAPACITY: 30,000 AMPS RMS SYM — MAIN: 400A M.C.B. — MOUNTING: SURFACE

LOAD DESCRIPTION	KVA LOAD A	KVA LOAD B	KVA LOAD C	CB/ PHASE	CIRC NO.	PH	CIRC NO.	CB/ PHASE	KVA LOAD A	KVA LOAD B	KVA LOAD C	LOAD DESCRIPTION
ICE MACHINE	1.50			20	1	A	2	20	0.75			FIRE ALARM CONTROL PANEL *
VENDING		1.20		20	3	B	4	20		0.72		RECEPTACLES
VENDING			1.20	20	5	C	6	20			0.18	RECEPTACLES
STAFF LOUNGE RECEPTACLES	0.54			20	7	A	8	20	0.54			RECEPTACLES
GFI BATHROOM RECEPTACLES		0.36		20	9	B	10	20		1.32		RECEPTACLES
DRYER			2.50	30	11	C	12	20			0.54	RECEPTACLES
	2.50				13	A	14	20	0.54			RECEPTACLES
WASHER		1.20		20	15	B	16	20		1.32		RECP & CRAWL SPACE LTNG
RECEPTACLES			0.54	20	17	C	18	20			1.32	PUMP CHAMBER CONTROL PANEL
RECEPTACLES	0.54			20	19	A	20		1.32			
TEL/DATA RACK RECEPTACLE		1.20		20	21	B	22			1.32		
TEL/DATA RACK RECEPTACLE			1.00	20	23	C	24	15				SPARE
	1.00				25	A	26					
WATER HEATER		8.00		90	27	B	28					
			8.00		29	C	30	20			0.54	2ND FLOOR RECEPTACLE
	8.00				31	A	32	20	0.54			2ND FLOOR RECEPTACLE
SPARE		0.00		20	33	B	34	20		1.25		BASEBOARD HEATER
SPARE			0.00	20	35	C	36				1.25	
SPARE	0.00			20	37	A	38	25	1.80			ELECTRIC HEATER
RP-1 1/2HP		1.18		20	39	B	40			1.80		
EXHAUST FANS			1.20	20	41	C	42	20			0.70	EXHAUST FANS
	14.08	13.14	14.44		SUBTOTALS				5.49	7.73	4.53	

PHASE A 19.57 KVA
PHASE B 20.87 KVA
PHASE C 18.97 KVA

TOTAL LOAD 59.41 KVA

SECTION 1

OPTIONS:
PANEL SHALL BE SERVICE ENTRANCE RATED

* PROVIDE CIRCUIT BREAKER HANDLE LOCK FOR FACP

PANEL 'PP1', 400 AMP, 120/208 VOLT, 3 PHASE, 4 WIRE AND GROUND

INTERUPTING CAPACITY: 30,000 AMPS RMS SYM — MAIN: 400A M.L.O. — MOUNTING: SURFACE

LOAD DESCRIPTION	KVA LOAD A	KVA LOAD B	KVA LOAD C	CB/ PHASE	CIRC NO.	PH	CIRC NO.	CB/ PHASE	KVA LOAD A	KVA LOAD B	KVA LOAD C	LOAD DESCRIPTION
HP-1	2.91			45	43	A	44	25	1.80			ELECTRIC HEATER
		2.91			45	B	46			1.80		
SPARE				20	47	C	48					
SPACE				20	49	A	50	30				SPARE
SPACE				20	51	B	52					
BASEBOARD HEATERS			1.50	20	53	C	54	20			1.18	EXHAUST FANS
	1.50				55	A	56	15	0.13			AC UNITS
AC UNITS		0.13		15	57	B	58			0.13		
			0.13		59	C	60	20			0.00	SPARE
SPARE	0.00			20	61	A	62	20	0.45			OFFICE LIGHTING
SPARE		0.00		20	63	B	64	20		0.55		PORCH/DECK LIGHTING
SECURITY SYSTEM (IACP & IAPS)			1.20	20	65	C	66	20			0.95	LIGHTING
SPARE	0.00			20	67	A	68	20	1.05			LIGHTING
SITE LIGHTING		0.63		20	69	B	70	20		0.23		LIGHTING
SPARE			0.00	20	71	C	72	20			0.00	SPARE
HP-2	2.16			40	73	A	74	20	0.00			SPARE
		2.16			75	B	76	20		0.00		SPARE
SPACE					77	C	78	20				SPARE
SPACE					79	A	80					SPACE
SPACE					81	B	82					SPACE
SPACE					83	C	84					SPACE
	6.57	5.83	2.83		SUBTOTALS				3.43	2.71	2.13	

PHASE A 10.00 KVA
PHASE B 8.54 KVA
PHASE C 4.96 KVA

TOTAL LOAD 23.50 KVA

SECTION 2

OPTIONS:

FIRE ALARM SYSTEM OPERATION SCHEDULE

DEVICE TYPE	TRANSMIT ALARM TO FIRE DEPARTMENT	INITIATE AUTO ZONE VERIFICATION SEQUENCE	SOUND TONE THROUGH AUDIBLE DEVICE	FLASH VISUAL FIRE WARNING SIGNALS	SHUTDOWN RESPECTIVE MECHANICAL UNIT	INITIATE REMOTE INDICATOR	INITIATE HOOD ANSUL SYSTEM	SHUTDOWN VENTILATION SYSTEM	INDICATE ACTIVATION AT CONTROL PANEL	SOUND ALARM AT CONTROL PANEL	INDICATE ACTIVATION AT ANNUNCIATOR	SOUND LOCAL ALARM AT DEVICE	SOUND TEMP. 4 TYPE ALARM
MANUAL PULL STATION	•		•	•				•	•	•	•		
SMOKE DETECTORS		•						•	•	•	•		
SYSTEM CARBON MONOXIDE DETECTORS	•	•							•	•	•		•
DUCT TYPE SMOKE DETECTORS	•		•	•	•	•		•	•	•	•		
HEAT DETECTORS	•		•	•				•	•	•	•		
SUPERVISORY CIRCUIT									•	•	•		
TROUBLE CIRCUIT									•	•	•		

NOTES:

ALL EVENTS SHALL BE RECORDED AT THE FIRE ALARM CONTROL PANEL AND SHALL INDICATE TIME AND DATE OF OCCURRENCE AND LIST DEVICE INITIATED.

A New Transient Boaters Facility for :
The Newburyport Harbormaster
Newburyport, MA 01950

CONSTRUCTION DOCUMENTS

Electrical One Line Diagram & Schedules

Project No. 14259 | Scale: 1/4" = 1'-0" | Jan. 19, 2016

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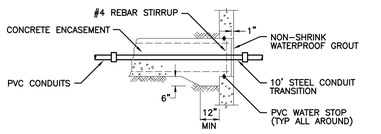
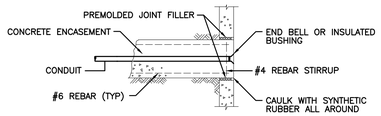
E0.3

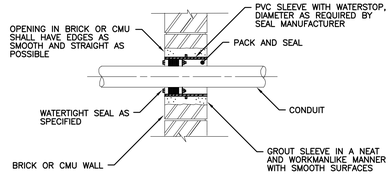


STRUCTURE PENETRATION



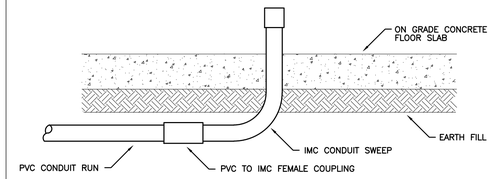
MANHOLE PENETRATION

1 CONCRETE ENCASED CONDUIT PENETRATION N.T.S.

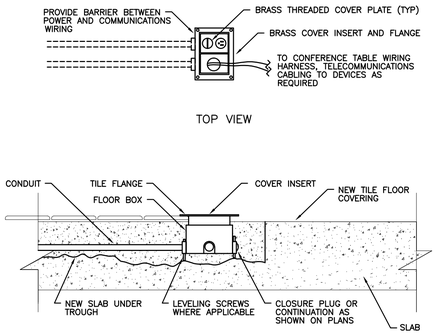


TO BE COORDINATED WITH EXTERIOR WALL SYSTEM

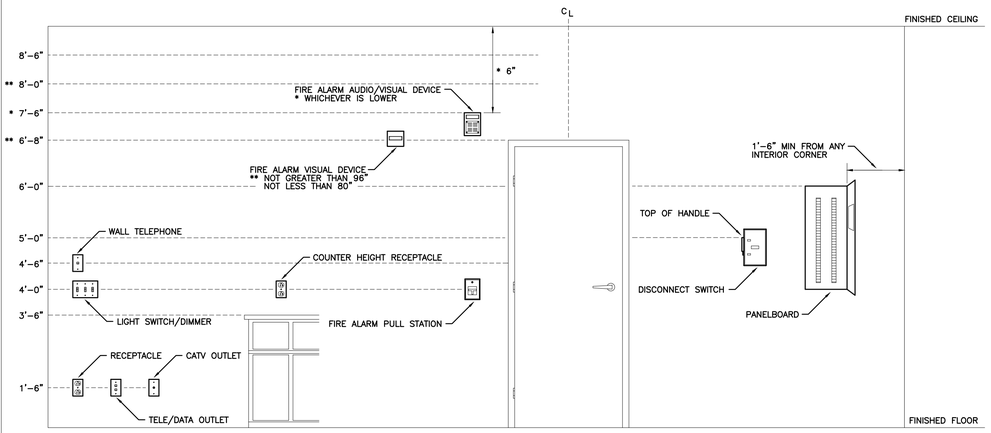
2 WATERTIGHT CONDUIT PENETRATION DETAIL N.T.S.



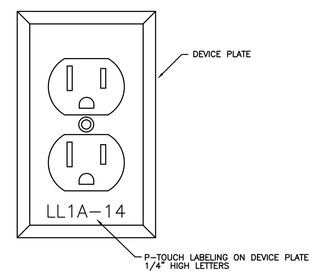
3 CONDUIT SWEEP, BELOW FLOOR SLAB DETAIL N.T.S.



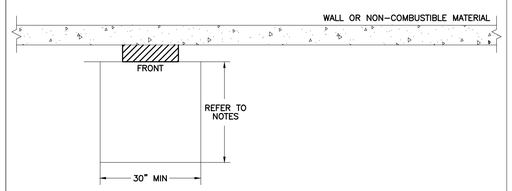
4 RECESSED FLOOR BOX DETAIL N.T.S.



5 DEVICE MOUNTING HEIGHT DETAIL N.T.S.



6 DEVICE PLATE ENGRAVED NAMEPLATE DETAIL N.T.S.



WALL MOUNTED PANELS

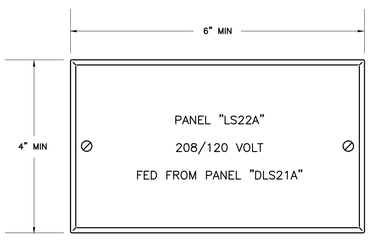
* MINIMUM WORKING CLEARANCE (IN THE DIRECTION OF ACCESS TO LIVE PARTS) AS REQUIRED BY NEC 110-16(a), CONDITION 2 :

- 3' FOR 0-150 VOLT TO GROUND ELECTRIC EQUIPMENT
- 3-1/2' FOR 150-600 VOLT TO GROUND ELECTRIC EQUIPMENT

THE MINIMUM HEADROOM OF WORKING SPACE SHALL BE 6-1/2'

PANELS INCLUDE: POWER PANELS, CONTACTORS, CONTROL CABINETS, DISCONNECT SWITCHES, CONTROL CABINETS, DISCONNECT SWITCHES, MOTOR STARTERS, TIME CLOCK AND SIMILAR ELECTRIC EQUIPMENT.

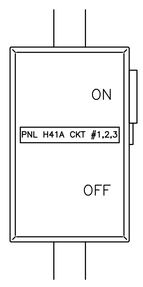
7 CLEARANCES FOR ELECTRIC EQUIPMENT DETAIL N.T.S.



NOTES:

1. NAMEPLATES SHALL HAVE WHITE LETTERS ON BLACK BACKGROUND.
2. NAMEPLATES SHALL BE FASTENED BY MACHINE SCREWS. ADHESIVES WILL NOT BE ALLOWED.
3. NAMEPLATES SHALL BE PROVIDED FOR ALL ELECTRICAL EQUIPMENT INCLUDING, BUT NOT LIMITED TO, PANELBOARDS, SWITCHBOARDS, MOTOR CONTROL CENTERS, STARTERS, JUNCTION BOXES, PULL BOXES, DISCONNECT SWITCHES, TRANSFORMERS, CABINETS, ETC.

8 TYPICAL NAMEPLATE DETAIL N.T.S.



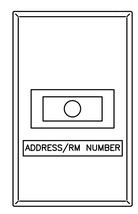
FUSED DISCONNECT SWITCH

NON-FUSED DISCONNECT SWITCH

NOTES:

1. AT A MINIMUM, ELECTRICAL CONTRACTOR SHALL PROVIDE TYPED LABELS WITH PTOUCH MACHINE TO INDICATE PANEL NAME AND CIRCUIT NUMBER. PROVIDE 'EMERGENCY' TYPED LABEL FOR CIRCUITS CONNECTED TO EMERGENCY PANELS. COORDINATE EXACT NAMING WITH PERSONNEL. IF FACILITY STANDARD IS ENGRAVED COVERPLATES, THE ELECTRICAL CONTRACTOR SHALL PROVIDE ENGRAVED COVERPLATES TO MATCH FACILITY REQUIREMENTS.

9 FUSED DISCONNECT LABELING DETAIL N.T.S.



NOTES:

1. AT A MINIMUM, ELECTRICAL CONTRACTOR SHALL PROVIDE TYPED LABELS WITH PTOUCH MACHINE TO INDICATE ADDRESS OF FIRE ALARM DEVICE WITHIN ENCLOSED ROOM OR ROOM NUMBER IF SYSTEMS IS ZONED. LABELING SYSTEM SHALL BE APPLIED BUT NOT LIMITED TO THE FOLLOWING DEVICES: AUDIBLE/VISUAL DEVICE, VISUAL DEVICE, SMOKE DETECTOR, REMOTE TEST STATION, REMOTE ALARM INDICATOR, FLOW SWITCH, TAMPER SWITCH, ETC.

10 TYPICAL FIRE ALARM DEVICE LABELING DETAIL N.T.S.

A New Transient Boaters Facility for :
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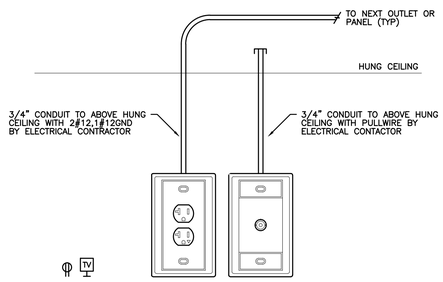
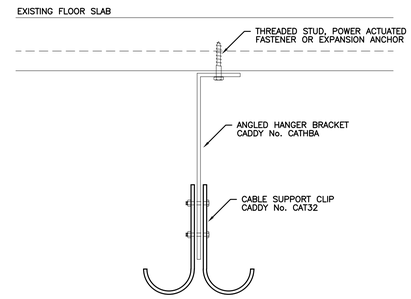


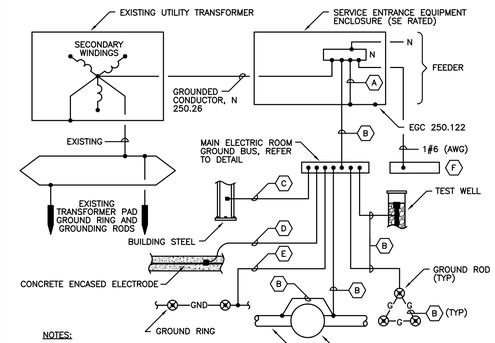
11 TYPICAL VIDEO STATION DETAIL N.T.S.



NOTES:

1. CABLE SUPPORT BRACKETS SHALL BE SPACED AT A MAXIMUM OF 4'-0" ON CENTER. PROVIDE BRACKETS WITH RETAINER CABLE TIES, ALL TIES SHALL BE U.L. LISTED FOR USE IN PLENUM CEILING.
2. CABLE SUPPORTS SHALL NOT BE ATTACHED TO BEAMS. BRACKETS SHALL NOT BE SUPPORTED FROM THE CEILING GRID OR THE GRID SUPPORT WIRES.
3. WHERE THE CABLES CAN BE SUPPORTED IN A SINGLE SUPPORT BRACKET, USE CADDY No. CAT21AB OR No. CAT32AB.

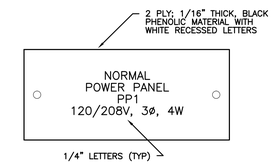
12 CABLE SUPPORT BRACKET DETAIL N.T.S.



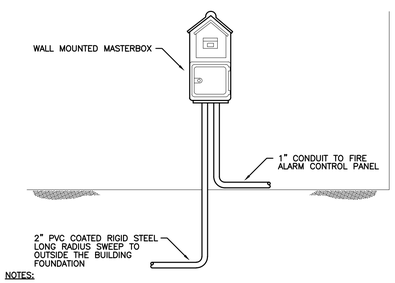
NOTES:

- (A) SIZE BONDING JUMPER PER NEC 250.28, 250.66
- (B) SIZE PER NEC 250.66
- (C) NEC 250.52 (A)(2) METAL FRAME OF BUILDING
- (D) NEC 250.52 (A)(3) CONCRETE ENCASED ELECTRODE
- (E) NEC 250.52 (A)(4) GROUND RING
- (F) 1/4"x4"x12" FLAT COPPER BAR AT ADMINISTRATION

13 UTILITY SERVICE ENTRANCE GROUNDING DETAIL N.T.S.



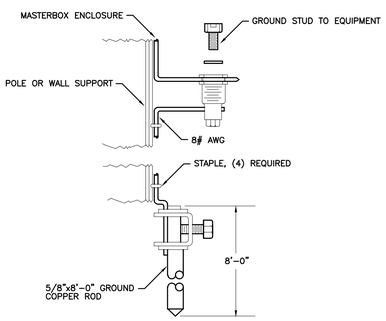
14 PANELBOARD ENGRAVED NAMEPLATE DETAIL N.T.S.



NOTES:

1. SEE NEWBURYPORT FIRE DEPARTMENT REQUIREMENTS.
2. MASTERBOX TO BE PROVIDED BY THE ELECTRICAL CONTRACTOR. E.C. SHALL COORDINATE WITH THE NEWBURYPORT FIRE DEPARTMENT FOR INSTALLATION AND SERVICE CONNECTIONS OF MASTERBOX.
3. EXACT LOCATION OF MASTERBOX SHALL BE DETERMINED BY THE NEWBURYPORT SUPERINTENDENT OF FIRE ALARMS.
4. ALARM TERMINAL BLOCK WITH LIGHTING ARRESTOR TO BE SUPPLIED BY THIS CONTRACTOR AND INSTALLED BY THE TOWN OF NEWBURYPORT FIRE ALARM DIVISION.
5. ALARM TERMINAL BLOCK AND MASTERBOX SHALL BE GROUNDED PER REQUIREMENTS OF THE TOWN OF NEWBURYPORT FIRE ALARM DIVISION, REFER TO GROUNDING DETAIL THIS DRAWING.
6. CIVIL/SITE CONTRACTOR TO EXTEND 2" PVC CONDUIT

15 FIRE ALARM MASTERBOX DETAIL N.T.S.



16 FIRE ALARM MASTERBOX GROUNDING DETAIL N.T.S.

AS SHOWN ON DRAWING C2

A New Transient Boaters Facility for :
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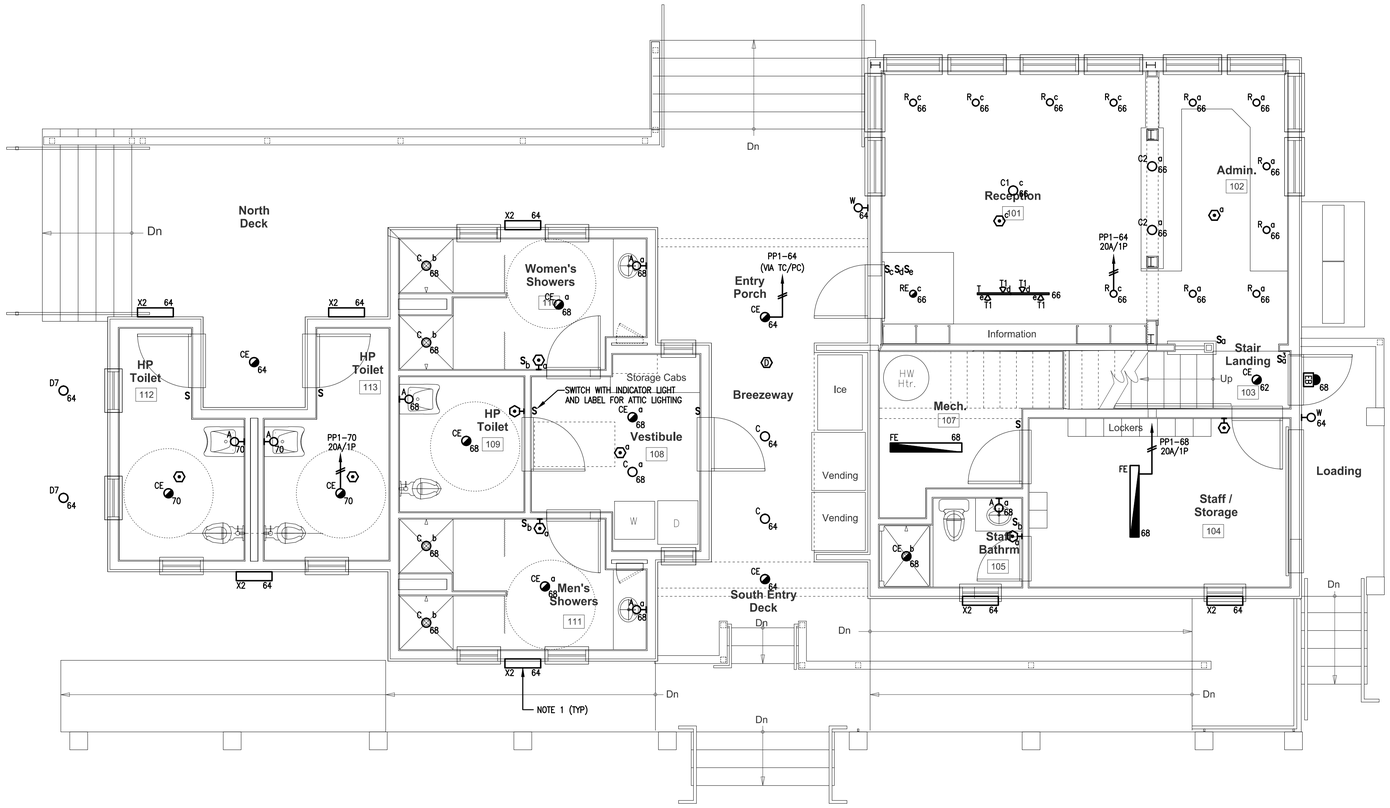
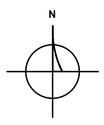


NOTES

1. EC SHALL COORDINATE EXACT MOUNTING LOCATION AND HEIGHT WITH ARCHITECT PRIOR TO ROUGH-IN.



ELECTRICAL - First Floor Lighting Plan

Scale: 1/4" = 1'-0"

A New Transient Boaters Facility for :

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CONSTRUCTION DOCUMENTS

Electrical First Floor Lighting Plan

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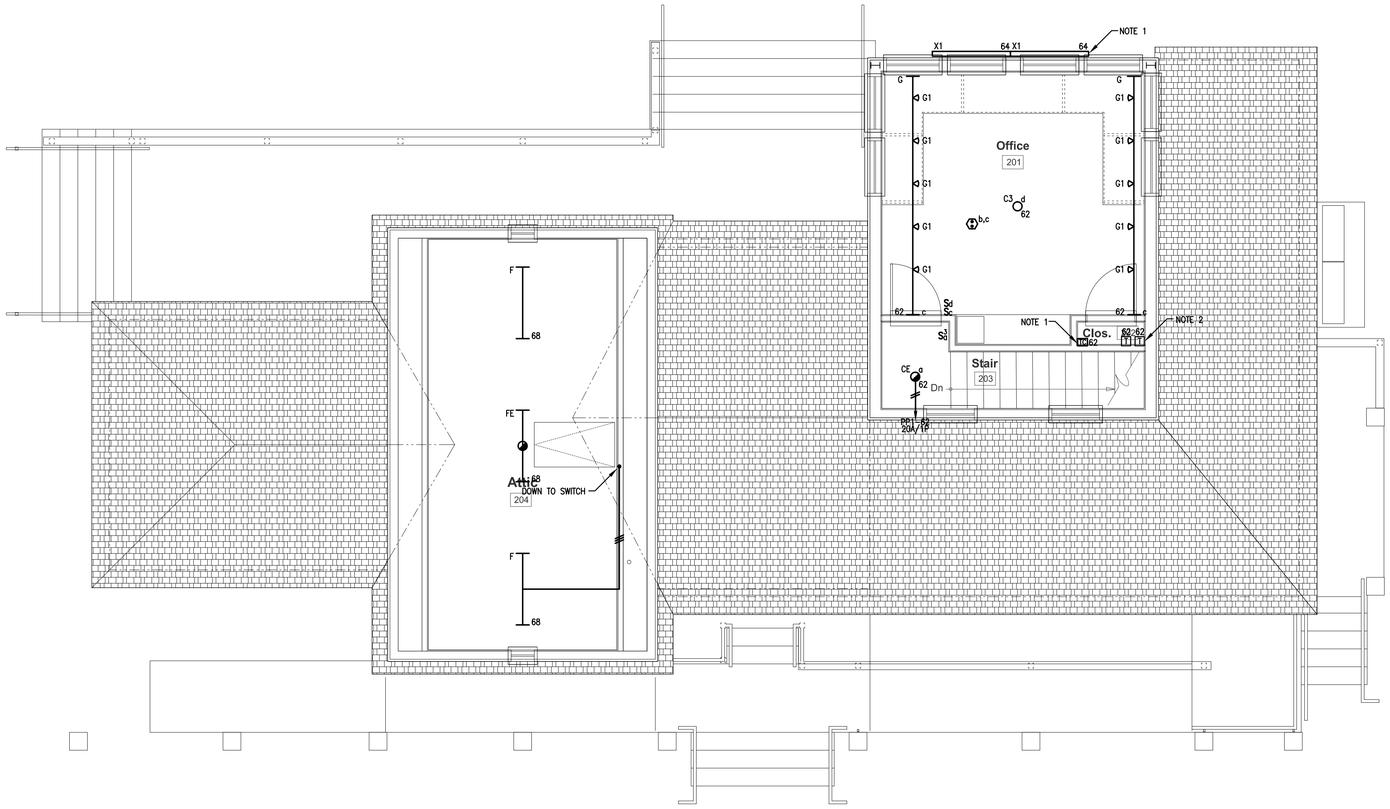
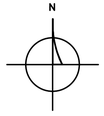


NOTES:

1. EC SHALL CONNECT X1 FIXTURE TO TIME CLOCK, FOR LIGHTING CONTROL.
2. 150VA TRANSFORMER FOR TYPE G TRACK; TYPICAL FOR 2, TO BE LOCATED IN CLOSET.



ELECTRICAL - Second Floor Lighting Plan

Scale: 1/4" = 1'-0"

A New Transient Boaters Facility for :

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CONSTRUCTION DOCUMENTS

Electrical Second Floor Lighting Plan

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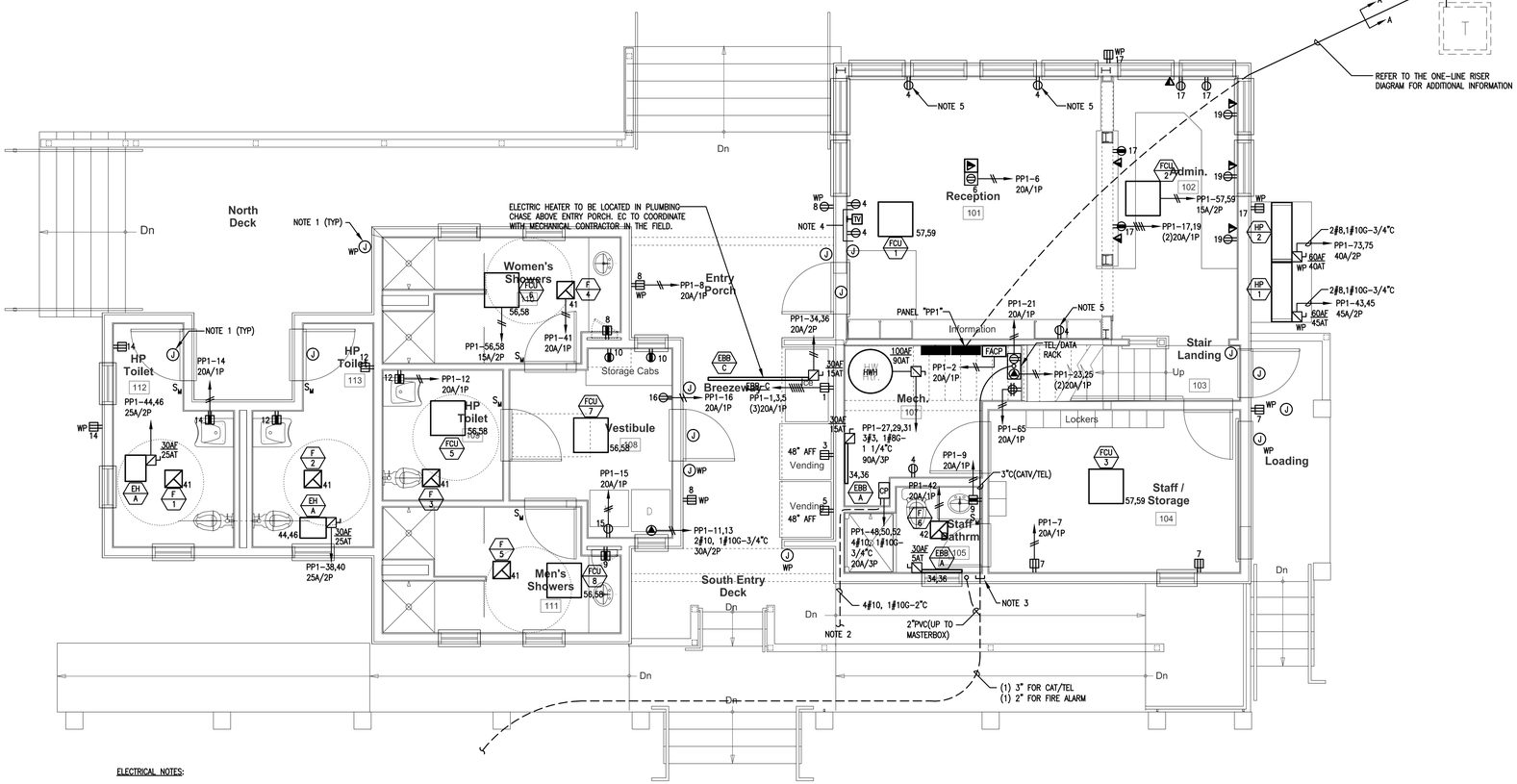
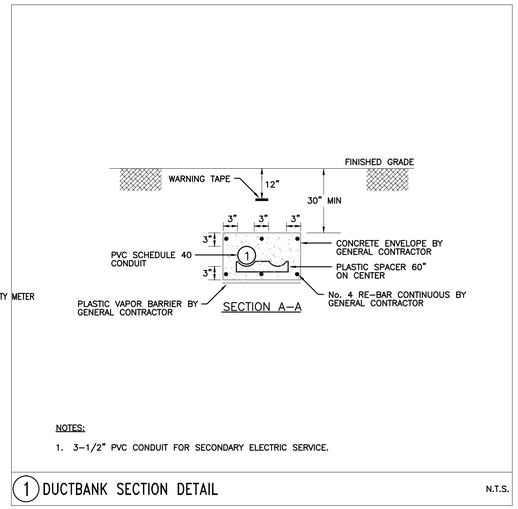
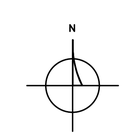




ELECTRICAL NOTES:

1. EC SHALL REFER TO DWGS. SEC0, SEC1, AND SEC2 FOR WORK ASSOCIATED WITH THE SECURITY SYSTEM.
2. TO PUMP CHAMBER; FURNISHED AND INSTALLED BY OTHERS, WIRED BY EC. REFER TO DWG C3 FOR EXACT LOCATION. EC SHALL PROVIDE WIRING TO SIDE OF CHAMBER, FOR CONNECTION TO 4 CONDUCTOR TYPE SOOW CABLE (BY OTHERS). WIRING AT PUMP SHALL BE CLASS I, DIVISION I, GROUP D TYPE WIRING. SEE DETAIL OF PUMP ON DWG. C4. CONTROL PANEL PROVIDED BY OTHERS.
3. SEE DWG C2 FOR CONTINUATION. SITE CONTRACTOR SHALL PROVIDE TEL/DATA/FA CONDUITS TO THE BUILDING FOUNDATION. EC SHALL PROVIDE SLEEVES THROUGH FOUNDATIONS, AND PROVIDE CONDUITS TO MECHANICAL/ELECTRICAL ROOM.
4. MOUNT TV AND RECEPTACLE ON WALL AT APPROXIMATELY 8'-0" A.F.F.; COORDINATE EXACT LOCATION AND HEIGHT WITH ARCHITECT AND OWNER. CAT 6 SHIELDED FROM TV TO TELE/DATA CLOSET WITH RJ45 TERMINATIONS. CATV RG6 FROM TELE/DATA CLOSET.
5. REFER TO ARCHITECTURAL PLANS FOR MOUNTING AND FINAL LOCATION.



ELECTRICAL - First Floor Power Plan

Scale: 1/4" = 1'-0"

A New Transient Boaters Facility for :

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Newburyport, MA 01950

CONSTRUCTION DOCUMENTS

Electrical First Floor Power Plan

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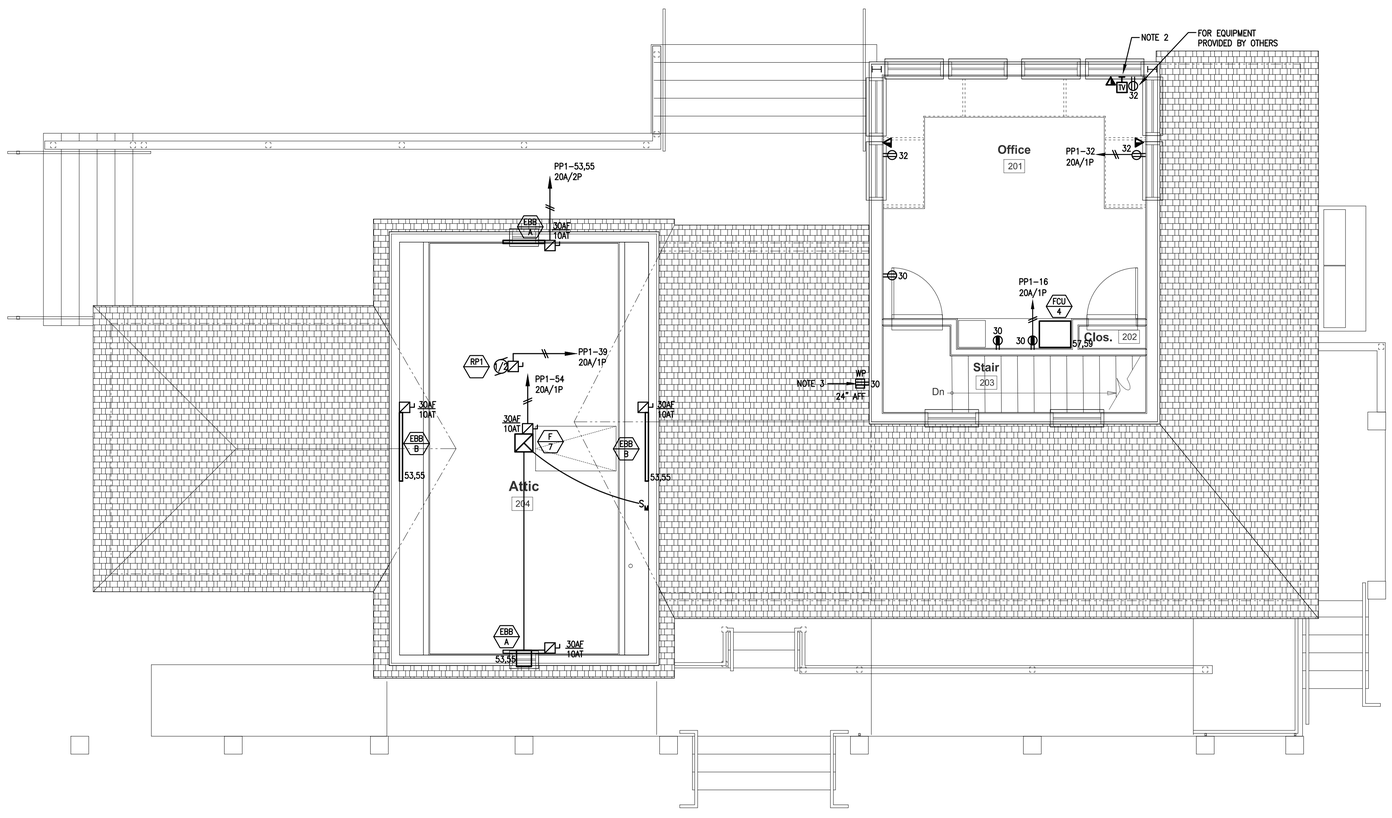

NOTES:

1. EC SHALL REFER TO DWGS. SEC0, SEC1, AND SEC2 FOR WORK ASSOCIATED WITH THE SECURITY SYSTEM.
2. EC TO WALL MOUNT DEVICES BETWEEN THE WINDOW HEADER AND CEILING. REFER TO ARCHITECTURAL PLANS FOR MOUNTING HEIGHT A FINAL LOCATION.
3. FOR OWNER FURNISHED ANTENNA SYSTEM.

N

ELECTRICAL - Second Floor Power Plan

Scale: 1/4" = 1'-0"

A New Transient Boaters Facility for :

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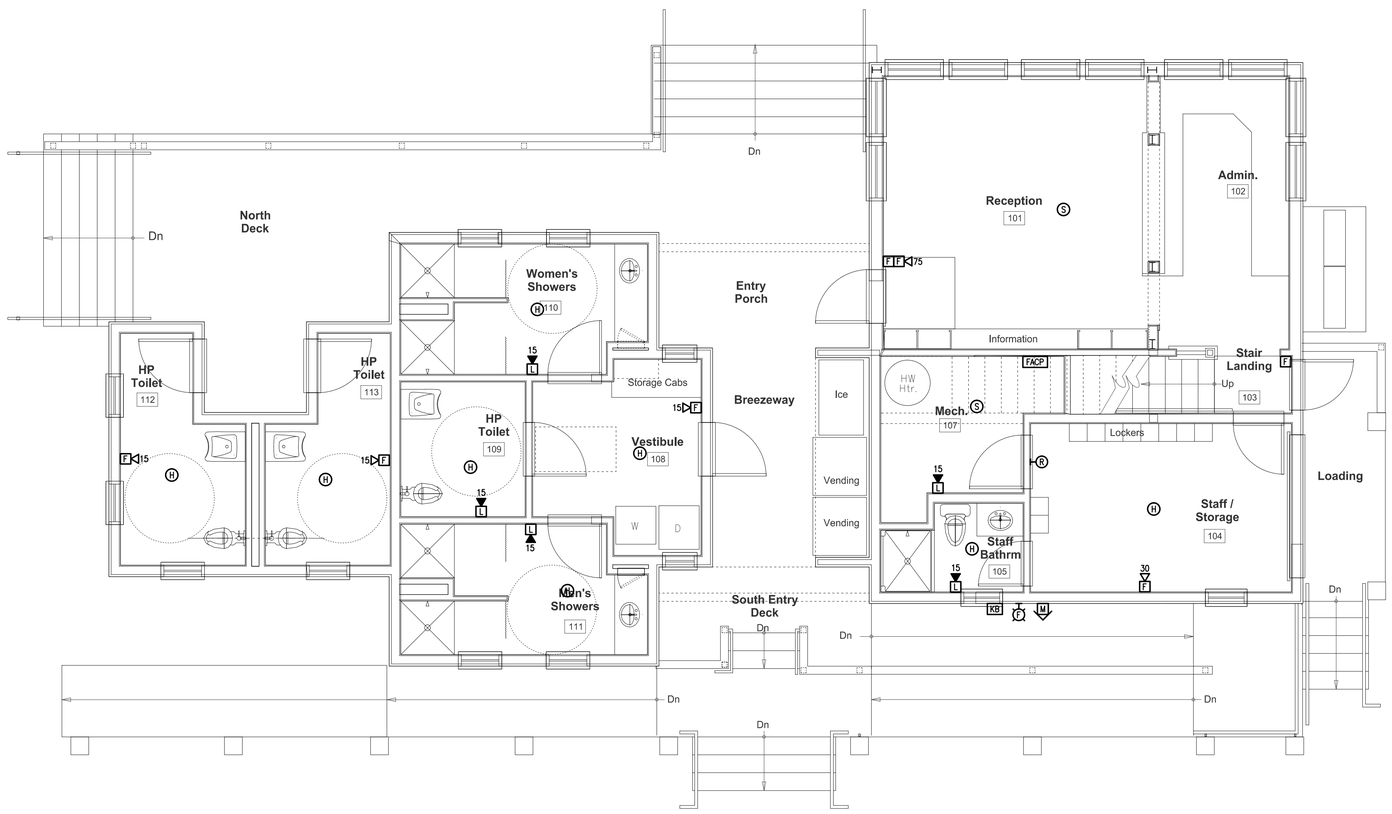

N

ELECTRICAL - First Floor Fire Alarm Plan

Scale: 1/4" = 1'-0"

A New Transient Boaters Facility for :

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Electrical First Floor Fire Alarm Plan

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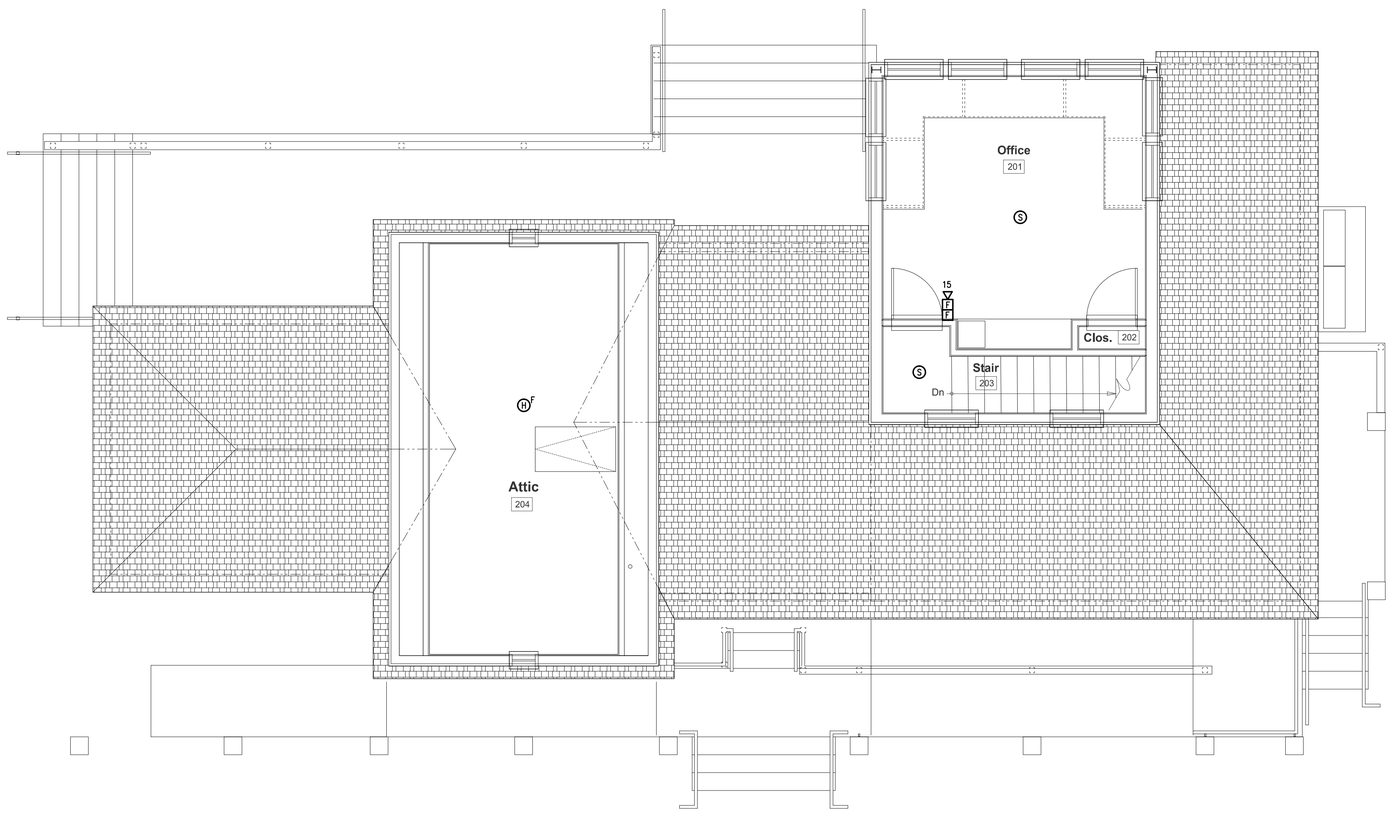
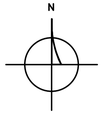
E3.0





Electrical - Second Floor Fire Alarm Plan

Scale: 1/4" = 1'-0"

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E3.1

ABBREVIATION

AFF	ABOVE FINISH FLOOR	TYP	TYPICAL
BLDG	BUILDING	VTR	VENT THRU ROOF
CW	COLD WATER	W/	WITH
DN	DOWN	WH	NON-FREEZE WALL HYDRANT
DWG	DRAWING	DCO	DANDY (RISER) CLEANOUT
ECO	END CLEANOUT	HW	HOT WATER
P-#	FIXTURE NUMBER	V	VENT
P.C.	PLUMBING CONTRACTOR	SAN	SANITARY
FCO	FLOOR CLEANOUT	SD	STORM DRAIN
G	NATURAL GAS	IW	INDIRECT WASTE
GC	GENERAL CONTRACTOR	YH	OUTSIDE NON-FREEZE YARD HYDRANT
		NTS	NOT TO SCALE

PLUMBING LEGEND

	HW	NEW HOT WATER ABOVE FLOOR
	HW	EXISTING HOT WATER ABOVE FLOOR
	HW	NEW HOT WATER BELOW FLOOR
	HW	EXISTING HOT WATER BELOW FLOOR
	CW	NEW COLD WATER ABOVE FLOOR
	CW	EXISTING COLD WATER ABOVE FLOOR
	CW	NEW COLD WATER BELOW FLOOR
	CW	EXISTING COLD WATER BELOW FLOOR
	WCO	WALL CLEANOUT – PROVIDE ACCESS PANEL
FD1	FD1	NEW FLOOR DRAIN
	EXS	EXISTING SANITARY BELOW FLOOR
	SAN	NEW SANITARY BELOW FLOOR
	SAN	NEW SANITARY ABOVE FLOOR
		AREA OF DEMOLITION

	V	NEW VENT ABOVE FLOOR
	EXV	EXISTING VENT ABOVE FLOOR
	V	NEW VENT BELOW FLOOR
	EXV	EXISTING VENT BELOW FLOOR
		WATER SERVICE BALL VALVE
		ELBOW UP OR RISE
		ELBOW DOWN OR DROP
HB	HB	HOSE BIBB
		POINT OF NEW CONNECTION TO EXISTING PIPING
		UNION
		BALANCING AND CHECK VALVES
	TDIF	TO BE DETERMINED IN FIELD

TAILPIECE AND P-TRAP. FAUCET SHALL BE ELECTRONIC TYPE BY SLOAN SOLIS # EAF-275

PLUMBING FIXTURE SCHEDULE

TAG No.	FIXTURE	COLD WATER(in)	HOT WATER(in)	SAN (in.)	VENT (in.)	REMARKS
P-1	WATER CLOSET HANDICAP ACCESSIBLE	1"	–	4"	2"	FLOOR MOUNTED, ELONGATED RIM, 1.28 GPF, FLUSH VALVE. MATCHING SOLID PLASTIC, OPEN FRONT SEAT. TOILET SHALL BE KOHLER # K-4406 WITH ELECTRONIC DUAL TYPE FLUSH VALVE BY SLOAN # ECOS 8111 1.6/1.1 SEE NOTE 7 THIS SCHEDULE
P-1A	WATER CLOSET HANDICAP ACCESSIBLE	1"	–	4"	2"	WALL MOUNTED, ELONGATED RIM, 1.28 GPF, FLUSH VALVE. MATCHING SOLID PLASTIC, OPEN FRONT SEAT. TOILET SHALL BE KOHLER # K-4325 WITH ELECTRONIC DUAL TYPE FLUSH VALVE BY SLOAN # ECOS 8111 1.6/1.1 SEE NOTE 7 THIS SCHEDULE
P-2	LAVATORY HANDICAP ACCESSIBLE	1/2"	1/2"	2"	2"	UNDERMOUNT LAVATORY SHALL BE KOHLER K-2211. FAUCET SHALL BE SLOAN SOLIS #EAF-275. PROVIDE STAINLESS STEEL GRID STRAINER, TAILPIECE AND P-TRAP. INSULATE EXPOSED WASTE AND SUPPLIES W/ ADA APPROVED PRE-MOLDED CELL VINYL. SEE NOTE 7 THIS SCHEDULE
P-2A	LAVATORY HANDICAP ACCESSIBLE	1/2"	1/2"	2"	2"	WALL MOUNTED LAVATORY SHALL BE KOHLER K-12638-R. FAUCET SHALL BE SLOAN SOLIS #EAF-275. PROVIDE STAINLESS STEEL GRID STRAINER, TAILPIECE AND P-TRAP. INSULATE EXPOSED WASTE AND SUPPLIES W/ ADA APPROVED PRE-MOLDED CELL VINYL. SEE NOTE 7 THIS SCHEDULE
P-3	SHOWER	1/2"	1/2"	2"	2"	SHOWER SHALL BE AQUARIOUS MODEL G3679SH. CONTRACTOR TO PROVIDE GRID STRAINER, DRAIN AND TAIL PIECE. SHOWER VALVE SHALL BE SYMMONS: 3501-CYL-8, 2.0 GPM CONTRACTOR TO CLOSELY COORDINATE WITH ARCH ALL ASPECTS OF SHOWER. CONTRACTOR SHALL PROVIDE ALL PIPING AND MATERIALS NEEDED FOR INSTALLATION
P-3A	SHOWER HANDICAPPED ACCESSIBLE	1/2"	1/2"	2"	2"	SHOWER SHALL BE AQUARIUS MODEL G3698BF.50, DIMENSIONS AS NOTED ON FLOOR PLAN PROVIDE ADJUSTABLE SHOWER DRAIN. SHOWER VALVE SHALL BE SYMMONS: BP-56-500-B30-L-V 2.5 GPM ON 30" ADJUSTABLE SLIDE BAR. CONTRACTOR TO CLOSELY COORDINATE WITH ARCH ALL ASPECTS OF SHOWER. CONTRACTOR SHALL PROVIDE ALL PIPING AND MATERIALS NEEDED FOR INSTALLATION
P-3B	SHOWER	1/2"	1/2"	2"	2"	SHOWER SHALL BE AQUARIOUS MODEL G4236SH. CONTRACTOR TO PROVIDE GRID STRAINER, DRAIN AND TAIL PIECE. SHOWER VALVE SHALL BE SYMMONS: 3501-CYL-8, 2.0 GPM CONTRACTOR TO CLOSELY COORDINATE WITH ARCH ALL ASPECTS OF SHOWER. CONTRACTOR SHALL PROVIDE ALL PIPING AND MATERIALS NEEDED FOR INSTALLATION
P-4	LAUNDRY BOX	1/2"	1/2"	2"	2"	WALL MOUNTED WITH SINGLE LEVER, SYMMONS MODEL 602

1. ALL HANDICAP ACCESSIBLE FIXTURES SHALL BE MASSACHUSETTS ADA AND AAB COMPLIANT
2. THE PLUMBING CONTRACTOR SHALL COORDINATE ALL FIXTURE INSTALLATION DIMENSIONS WITH THE ARCHITECTURAL DETAILS ON THE ARCHITECTURAL DRAWINGS
3. ALL PLUMBING FIXTURES, FAUCETS, AND FLUSH VALVES SHALL BE FIELD ADJUSTED TO INSURE PROPER AND CODE COMPLIANT OPERATION FOR TEMPERATURE AND FLOW.
4. ALL P-2 FAUCETS SHALL BE FIELD ADJUSTED TO LIMIT THE HOT WATER TEMPERATURE FROM THE FAUCET TO A MAXIMUM OF 110°F.
5. PROVIDE SERVICE STOPS FOR ALL FIXTURES. ALL EXPOSED WATER AND WASTE PIPING ASSOCIATED WITH FIXTURES SHALL BE CHROME FINISH. PROVIDE ALL SUPPLIES, SERVICE STOPS, TAILPIECES AND TRAPS FOR FIXTURES AS REQUIRED. PROVIDE ALL FINAL CONNECTIONS.
6. PROVIDE CONCEALED WALL CARRIERS FOR ALL WALL MOUNTED FIXTURES. CARRIERS SHALL BE BY WADE

   ELECTRONIC FAUCETS AND FLUSH VALVES SHALL BE BATTERY OPERATED TYPE AND SHALL NOT BE HARD WIRED TYPE

GENERAL NOTES

1. ALL PLUMBING WORK SHALL BE DONE IN ACCORDANCE WITH THE MASSACHUSETTS STATE PLUMBING AND FUEL GAS CODE.
2. CAREFULLY COORDINATE LOCATION OF PIPING WITH ALL OTHER TRADES.
3. ALL PIPING SHOWN DIAGRAMMATICALLY AND EXACT LOCATION SHALL BE DETERMINED IN THE FIELD.
4. ALL PIPING SHALL BE RUN CONCEALED ABOVE CEILINGS, IN WALLS AND IN CHASES, UNLESS OTHERWISE NOTED.
5. NO STRUCTURAL MEMBERS SHALL BE CUT WITHOUT THE APPROVAL OF THE ENGINEER.
6. ALL PIPING SHALL BE SUPPORTED FROM BUILDING STRUCTURE.
7. RUN WATER PIPE ON THE WARM SIDE OF BUILDING INSULATION. NO WATER PIPING SHALL BE RUN IN EXTERIOR WALLS UNLESS INSULATED.
8. PROVIDE DRAWOFFS WITH BALL VALVE, HOSE END VACUUM BREAKER, CAP & CHAIN AT ALL DOMESTIC WATER LOW POINTS AND PITCH PIPING TO DRAIN.
9. ALL SANITARY WASTE PIPING SHALL BE PITCHED TO A MIN. OF 1/8" PER FT. FOR PIPING 4" & LARGER, 1/4" FOR PIPING UP TO 3".
10. PROVIDE ACCESSIBLE CLEANOUTS AT THE BASE OF ALL STACKS, AS SHOWN, AND AS REQUIRED.
11. ALL PIPING SHALL BE NEW, INSTALLED PARALLEL TO BUILDING LINES, AND PITCHED TO LOW POINTS.
12. PLUMBING CONTRACTOR SHALL PROVIDE FIRESTOPPING FOR ALL PENETRATIONS THRU ALL FLOORS, FIRE WALLS, AND FIRE RATED SEPARATIONS. COORDINATE WITH ARCHITECTURAL DRAWINGS FOR THESE AREAS AND PROVIDE LINK SEAL FIRESTOPPING KITS.
13. PLUMBING CONTRACTOR SHALL FURNISH, INSTALL, AND MAINTAIN ALL SCAFFOLDING, HOISTING EQUIPMENT, DERRICKS, ETC., NECESSARY FOR INSTALLATION OF WORK.
14. ALL PLUMBING PIPING AND DRAINS SHALL BE KEPT CLEAR OF BLOCKAGE WHILE CONSTRUCTION IS UNDERWAY. ALL PLUMBING PIPING SHALL BE DEBURRED BEFORE JOINTS ARE MADE.
15. ALL CONDITIONS SHOWN ARE APPROXIMATE ONLY. ALL CONDITIONS SHALL BE VERIFIED IN THE FIELD. ALL NEW SYSTEMS SHALL BE COORDINATED WITH ALL CONDITIONS AND TRADES. EXACT LOCATIONS OF ALL CONNECTIONS TO SYSTEMS AND EQUIPMENT SHALL BE DETERMINED IN FIELD.
16. PRIOR TO BID, THE CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZE HIMSELF WITH ALL ASPECTS OF THE WORK AND ALL CONDITIONS TO WHICH THE WORK WILL BE INSTALLED. ANY DISCREPANCIES BETWEEN THE WORK SHOWN ON THE DRAWINGS AND ANY CONDITIONS SHALL BE SUBMITTED TO THE ARCHITECT IN WRITING.
17. THE PLUMBING CONTRACTOR SHALL FURNISH AND INSTALL ALL SAFE WASTE PANS FOR ALL THE DOMESTIC WATER HEATERS INSTALLED ON ALL FLOORS. THE DRIP PANS SHALL BE GALVANIZED METAL IN ACCORDANCE WITH THE MASSACHUSETTS STATE PLUMBING CODE, OR PREFABRICATED PLASTIC. CLEARANCES BETWEEN THE SAFE WASTE PANS AND THE DRIP PANS SHALL BE IN ACCORDANCE WITH THE MASSACHUSETTS STATE PLUMBING CODE. ALL SAFE WASTE PANS AND DRIP PANS SHALL BE PROVIDED WITH 1" DRAIN OUTLETS AND PIPING.
18. CAREFULLY COORDINATE LOCATION OF PIPING WITH ALL OTHER TRADES AND ALL CONDITIONS AT THE SITE.
19. DIELECTRIC INSULATING FITTINGS SHALL BE USED WHERE PIPES OF DISSIMILAR METALS ARE CONNECTED, AND AT THE WATER HEATER.
20. CONTRACTOR SHALL VISIT THE SITE AND VERIFY ALL CONDITIONS AND COORDINATE BEST ROUTE OF NEW PIPING AND LOCATIONS OF NEW EQUIPMENT IN COORDINATION WITH THE WORK OF ALL OTHER TRADES AND ALL CONDITIONS TO INSURE THAT ALL WORK WILL FIT IN THE SPACE WITH NO INTERFERENCE'S
21. ALL NEW SYSTEMS SHALL BE TESTED, BALANCED, AND ADJUSTED TO INSURE PROPER OPERATION AND CODE COMPLIANT INSTALLATION. PIPING AND EQUIPMENT SHALL BE TESTED IN ACCORDANCE WITH THE STATE PLUMBING CODE
22. THE CONTRACTOR SHALL BE CAREFUL TO INSURE THAT NO CROSS CONNECTIONS ARE MADE BETWEEN THE POTABLE WATER SUPPLY AND ALL SOURCES OF CONTAMINATION OR CROSS CONNECTION.
23. ALL PIPING MATERIALS, FITTINGS, VALVES, UNIONS, HANGERS, EQUIPMENT, INSTALLATION, AND ALL ASPECTS OF THE PLUMBING WORK SHALL BE AS APPROVED BY THE MASSACHUSETTS PLUMBING AND FUEL GAS CODES
24. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING AND PATCHING OF WALLS AND FLOORS TO ACCOMMODATE INSTALLATION OF NEW PIPING AND EQUIPMENT. CONTRACTOR SHALL PATCH ALL SURFACES TO MATCH THE EXISTING CONDITIONS AND TO THE SATISFACTION OF THE ARCHITECT.
25. PROVIDE SERVICE STOPS FOR ALL FIXTURES
26. ALL FINAL CONNECTIONS TO GAS EQUIPMENT SHALL BE MADE WITH A SHUT OFF VALVE, A UNION, AND A DIRT LEG. DIRT LEGS SHALL BE PROVIDED AT THE BASE OF ALL VERTICAL GAS PIPING.
27. SEE PLUMBING FIXTURE SCHEDULES AND DETAILS FOR ALL PIPE SIZES NOT SHOWN ON PLANS, AND FOR ALL PLUMBING CONNECTIONS TO FIXTURES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FINAL CONNECTIONS TO ALL EQUIPMENT REQUIRING PLUMBING.
28. THE TERM "CONTRACTOR" SHALL MEAN PLUMBING CONTRACTOR
29. THE CONTRACTOR SHALL CAREFULLY COORDINATE ALL UNDERGROUND PIPING WITH THE FIRE PROTECTION CONTRACTOR TO DETERMINE THE BEST ROUTE FOR ALL UNDERGROUND PIPING
30. PLUMBER SHALL FURNISH AND INSTALL ALL TRAPS, ANGLE STOPS, WASTE ARMS, STRAINERS, TAILPIECES, FIXTURE SUPPLIES, AND ALL PLUMBING CONNECTIONS TO ALL PLUMBING FIXTURES REQUIRING PLUMBING AND AS REQUIRED FOR A COMPLETE PLUMBING SYSTEM.
31. THE PLUMBER SHALL COORDINATE WITH THE ARCHITECT FOR ALL LOCATIONS OF THE HANDICAP ACCESSIBLE UNITS AND FOR ALL LOCATIONS OF THE HANDICAP ACCESSIBLE PLUMBING FIXTURES
32. ALL PLUMBING FIXTURE TYPES AND LOCATIONS ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL HAVE THE APPROVAL OF THE ARCHITECT FOR ALL PLUMBING FIXTURE TYPES, QUANTITIES AND LOCATIONS PRIOR TO PURCHASE
33. PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR CLEARING ANY AND ALL DRAIN, VENT OR WATER PIPE CLEAR OF DEBRIS. PLUMBING CONTRACTOR MAY USE WATER JET TO CLEAR SANITARY PIPING OF OBSTRUCTIONS, AND COMPRESSED AIR FOR ALL OTHER PIPE. CONTRACTOR MAY USE ALTERNATE METHODS IF APPROVED BY ENGINEER.

DOMESTIC HOT WATER HEATER SCHEDULE

TAG No.	MANUFACTURER	TYPE	TANK STORAGE (gal.)	ELECT. INPUT (volts)	POWER (kW)(AMP)	PERFORMANCE	REMARKS
HWH-1	AO SMITH	ELECTRIC	119	208V 3PH	24KW 66.9AMP	109 GPH RECOVERY @ 90°F RISE	MODEL DRE-120-24 PROVIDE VACUUM RELIEF, EXPANSION TANK PRESSURE AND TEMPERATURE RELIEF VALVE ASME RATED, PROVIDE DRIP PAN

CIRCULATION PUMP SCHEDULE

TAG No.	TYPE	CAPACITY	VOLTS	HP	RPM	MANUFACTURER	REMARKS
RP-1	BRONZE HOT WATER RECIRCULATING	10 GPM @ 30 FEET OF HEAD	120	1/2	3250	TACO 008-IFS	DOMESTIC WATER RECIRCULATING PUMP WITH IMMERSION AQUASTAT STAINLESS STEEL

1. ALL ITEMS SHALL BE LEAD FREE OR EQUIVALENT THEREOF; ALL COMPONENTS SHALL COMPLY TO THE NATIONAL SAFE WATER DRINKING ACT
2. ALL ITEMS SHALL MA PLUMING BOARD APPROVED; CONTRACTOR SHALL PROVIDE MA APPROVAL CODES FOR ALL ITEMS IN THE SUBMITTAL PROCESS

FLOOR DRAIN SCHEDULE

TAG No.	TYPE	STYLE	OUTLET	STRAINER TOP	REMARKS	MANUFACTURER
FD1	LIGHT DUTY FLOOR DRAIN	CAULK OUTLET	2"	6" SQUARE	CAST IRON BODY WITH FLASHING COLLAR, ADJUSTABLE STRAINER,	FLOOR DRAIN SHALL BE J.R. SMITH # 2005 OR EQUAL WITH TRAP PRIMER INLET. PROVIDE TRAP PRIMER SYSTEM FOR EACH FD1 FLOOR DRAIN
FD2	MEDIUM DUTY FLOOR DRAIN	CAULK OUTLET	3"	8" DIAMETER	CAST IRON BODY WITH FLASHING COLLAR, DUCTILE IRON LOOSE SET	FLOOR DRAIN SHALL BE J.R. SMITH # 2110 OR EQUAL WITH MEDIUM SUMP PROVIDE DEEP SEAL TRAP 1/2" TRAP PRIMER CONNECTION

A New Transient Boaters Facility for:
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Newburyport, MA 01950

CONSTRUCTION DOCUMENTS

PLUMBING LEGENDS, ABBREVIATIONS & NOTES

Project No. 14259 | Scale: 1/4" = 1'-0" | Jan. 19, 2016

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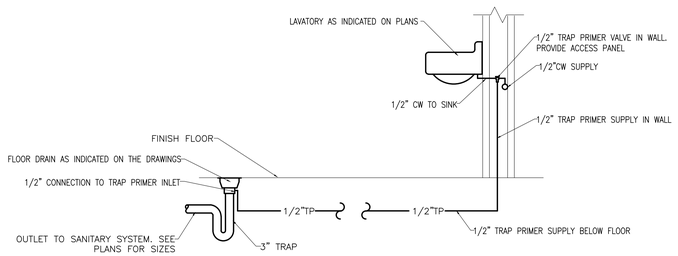
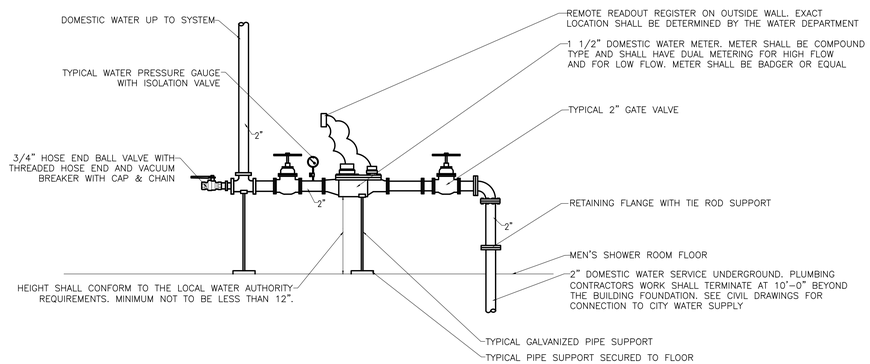


NOTE:
TRAP PRIMER SHALL BE BY WADE, SMITH, OR ZURN

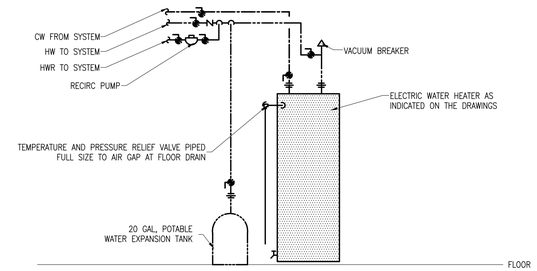
1 TYPICAL TRAP PRIMER DETAIL
NOT TO SCALE



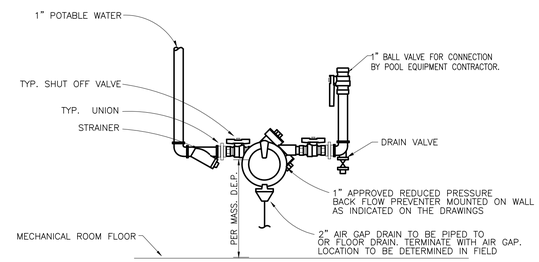
NOTE

1. WATER METER SHALL BE FURNISHED AND INSTALLED BY THE PLUMBING CONTRACTOR AND SHALL BE APPROVED BY THE WATER DEPARTMENT PRIOR TO PURCHASE AND INSTALLATION. THE PLUMBING CONTRACTOR SHALL SUBMIT WATER METER MANUFACTURERS CUT SHEETS TO THE WATER DEPARTMENT FOR APPROVAL PRIOR TO PURCHASE.
2. THE REMOTE READOUT TRANSMITTER SHALL BE FURNISHED AND INSTALLED BY THE PLUMBING CONTRACTOR AND SHALL BE APPROVED BY THE WATER DEPARTMENT PRIOR TO PURCHASE AND INSTALLATION. THE PLUMBING CONTRACTOR SHALL SUBMIT TRANSMITTER MANUFACTURERS CUT SHEETS TO THE WATER DEPARTMENT FOR APPROVAL PRIOR TO PURCHASE.
3. PRIOR TO THE COMMENCEMENT OF ANY PLUMBING WORK AT THE SITE, THE CONTRACTOR SHALL CAREFULLY COORDINATE WITH ALL PARTIES THE LAYOUT ALL OF THE PLUMBING PIPING, VALVES, FITTINGS, EQUIPMENT AND SERVICE ENTRANCES IN ORDER TO AVOID CONFLICTS AND TO INSURE THAT ALL PIPING, VALVES, FITTINGS, EQUIPMENT AND SERVICES SHALL FIT INTO THE SPACE PROVIDED.
4. REFERENCE DRAWINGS A1.1 AND A5.4 FOR LOCATION AND SIZE INFORMATION REGARDING ACCESS PANELS TO WATER METER ASSEMBLY AND TO BACKFLOW PREVENTER ASSEMBLY, AND LAYOUT PIPING, VALVES, FITTINGS AND EQUIPMENT ACCORDINGLY.

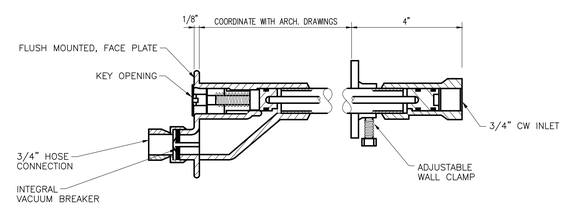
2 TYPICAL WATER METER DETAIL
NOT TO SCALE



3 ELECTRIC WATER HEATER DETAIL
NOT TO SCALE



4 TYPICAL REDUCED PRESSURE BACK FLOW PREVENTER
NOT TO SCALE



NOTE:

PROVIDE SUPPLY THRU OUTSIDE WALL AND SEAL WALL PENETRATION WATER TIGHT

5 TYPICAL NON-FREEZE WALL HYDRANT
NOT TO SCALE

A New Transient Boaters Facility for :
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CONSTRUCTION DOCUMENTS

PLUMBING DETAILS

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A New Transient Boaters Facility for :

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CONSTRUCTION DOCUMENTS

PLUMBING UNDER-FLOOR PLAN

Project No. 14259 | Scale: 1/4" = 1'-0" | Jan. 19, 2016

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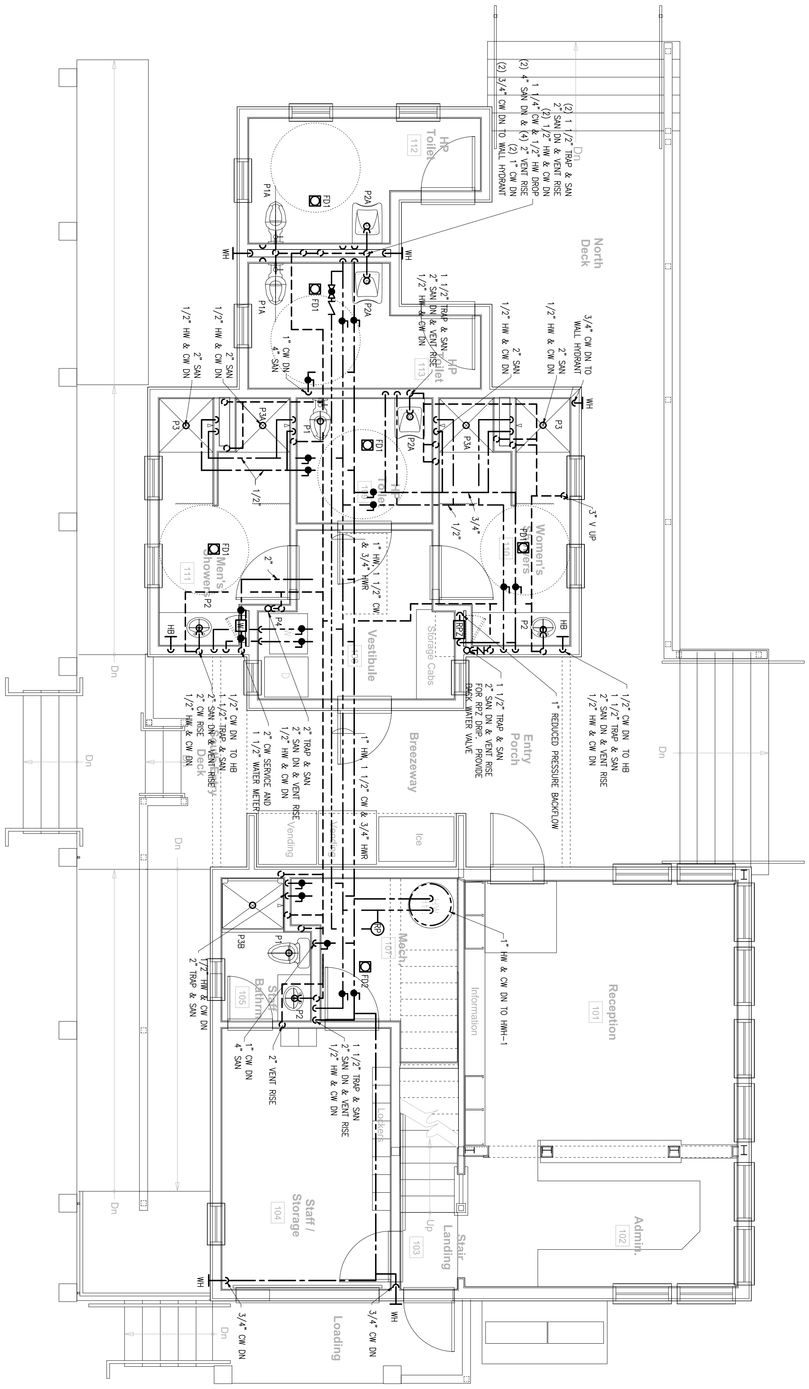

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PLUMBING
FIRST FLOOR PLAN

Project No. 14259	Scale: 1/4" = 1'-0"	Jan. 19, 2016

CONSTRUCTION DOCUMENTS

A New Transient Boaters Facility for :
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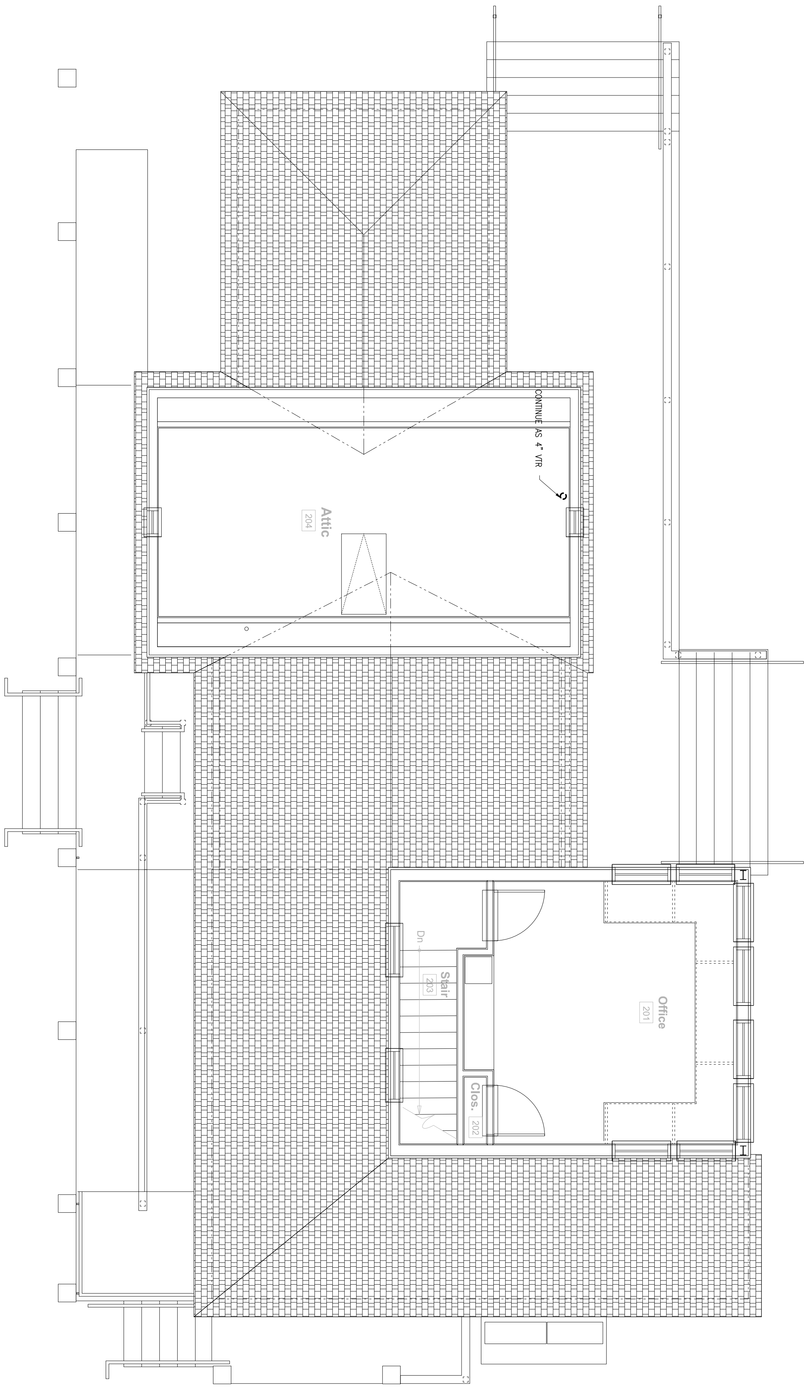

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PLUMBING SECOND FLOOR PLAN

Project No. 14259	Scale: 1/4" = 1'-0"	Jan. 19, 2016

CONSTRUCTION DOCUMENTS

A New Transient Boaters Facility for :

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SYMBOL LIST

LEGEND NOTES:

A. THIS SHEET IS A GENERAL LIST OF SYMBOLS AND ABBREVIATIONS AND SHALL BE USED AS A DICTIONARY TO DEFINE ITEMS INDICATED ON DRAWINGS. NOT ALL SYMBOLS OR ABBREVIATIONS ARE NECESSARILY USED ON THIS PROJECT. ALL EQUIPMENT IS TO BE PROVIDED UNDER THIS SECTION UNLESS SPECIFICALLY INDICATED OTHERWISE.

SECURITY SYSTEM

DOME IP CAMERA. E.C. TO PROVIDE SINGLE GANG OPENING AND 4"SQ.X2 1/2"DP. J.B. & 3/4" CONDUIT WITH PULL STRING TO ACCESSIBLE ABOVE CEILING SPACE AT EACH LOCATION.
WP=WEATHERPROOF
PTZ= PAN/TILT/ZOOM
180° = 180 DEGREE CAMERA. SEE SPECS.

K — INTRUSION ALARM LCD KEYPAD AT 48"A.F.F. SINGLE GANG BOX, 3/4" CONDUIT W/ PULL STRING TO NEAREST ACCESSIBLE CEILING SPACE BY E.C.

PT — POWER SUPPLY FOR ELECTRIFIED HARDWARE FURNISHED BY DOOR HARDWARE CONTRACTOR. INSTALLED & WIRED BY E.C. 120VAC EMERGENCY BY E.C. INTERFACE WIRING BY E.C.

DC — DOOR POSITION SWITCH - GE/SENTROL 1076DB DOUBLE POLE DEVICE ONE POLE TO ACESS CONTROL, SECOND POLE TO INTRUSION, COORDINATE HOLE WITH DOOR HARDWARE. PROVIDE 3/4" CONDUIT w/ PULL STRING TO NEAREST ACCESSIBLE CEILING SPACE BY E.C.

CR — HID iCLASS RP40 ICLASS READER AT 48"A.F.F. SINGLE GANG BACK BOX FURNISHED AND INSTALL BY E.C. 3/4" CONDUIT W/PULL STRING TO NEAREST ACCESSIBLE CEILING SPACE BY E.C..

IACP — INTRUSION ALARM CONTROL PANEL BY SECURITY CONTRACTOR WITH BUILT IN DIGITAL COMMUNICATOR DMP XR500-L-G, REQUIRES 120VAC BY E.C., INTERFACE TO ACCESS CONTROL AND TELEPHONE CONNECTION TO POD WITH BATTERIES BY SECURITY VENDOR.

IAPS — INTRUSION ALARM POWER SUPPLY - ONE LOCATED AT EACH IDF DESIGNATED - SUPPORT MOTION DETECTOR DC VOLTAGE - REQUIRES 120VAC BY E.C., MODEL SONITROL W/ BATTERIES BY SECURITY VENDOR.

IESS — INTEGRATED ELECTRONIC SAFETY & SECURITY SYSTEM HEADEND

ACP — WALL MOUNTED ACCESS CONTROLLER. E.C. SHALL PROVIDE 20A EMERGENCY CIRCUIT AND DOUBLE DUPLEX RECEPTACLE. (SEE SPECS)

KVM — RACK MOUNTED MONITOR AND KVM SWITCH

ACS — ACCESS CONTROL SYSTEM SERVER RACK MOUNT. E.C. SHALL PROVIDE 20A CIRCUIT AND DOUBLE DUPLEX RECEPTACLE. (SEE SPECIFICATIONS)

SW — POE NETWORK SWITCH WITH FIBER MODULES PROVIDE PORTS AS REQUIRED (SEE SPECS)

SWC — POE NETWORK CORE SWITCH WITH FIBER MODULES PROVIDE PORTS AS REQUIRED (SEE SPECS)

SVR — SERVER FOR VIDEO STORAGE PROVIDE 1 PER 25 CAMERS (SEE SPECIFICATIONS)

TVM — 42" LCD CCTV COLOR MONITOR W/ WALL/CEILING MOUNT BRACKET BYSECURITY VENDOR. E.C. TO PROVIDE 120 VAC EMERGENCY POWER RECEPTACLE, & 3/4" CONDUIT IN SINGLE GANG BOX W/ PULL STRING. MOUNT OUTLET AND BOX AT 96" A.F.F. U.N.O.

EH — ELECTRIC HINGE OR ELECTRONIC POWER TRANSFER BETWEEN DOOR AND FRAME. FURNISHED AND INSTALLED BY DOOR HARDWARE CONTRACTOR (SEE DOOR HARDWARE SECTIONS FOR DETAILS), WIRED BY E.C. 4"SQ.X2 1/2"DP. J.B. WITH 3/4" CONDUIT W/ PULL STRING TO NEAREST ACCESSIBLE CEILING SPACE BY E.C.

EL — ELECTRIC LOCK FURNISHED AND INSTALLED BY HARDWARE CONTRACTOR, WIRED BY E.C. 4"SQ.X2 1/2"DP. J.B. WITH 3/4" CONDUIT W/ PULL STRING TO NEAREST ACCESSIBLE CEILING SPACE BY E.C.

DJ — 4" SQ. DOOR JUNCTION BOX BY EC.

SC — SECURITY MONITOR MODULE

UPS — RACK MOUNTED UNINTERRUPTIBLE POWER SUPPLY

TS — HORSEPOWER RATED THERMAL SWITCH WITH PILOT LIGHT BY E.C.

SECURITY SYSTEM NOTES

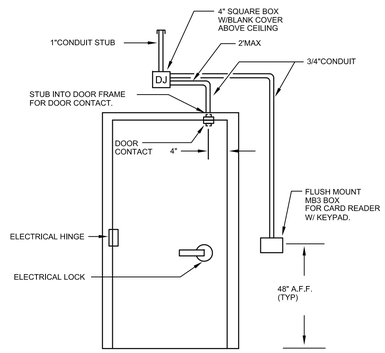
1. ALL DOOR CONTACTS SHALL BE INDIVIDUALLY ADDRESSED AND ANNUNCIATED ON CONTROL PANEL.
2. TYPICALLY EXTERIOR CAMERA LOCATIONS FURNISH AND INSTALL DAY/NIGHT DOME CAMERAS WITH HEATER BLOWERS AT THESE LOCATIONS. SEE SPECIFICATIONS FOR ADDITIONAL DETAILS.
3. PROVIDE DIGITAL COMMUNICATOR CONNECTION TO UL CENTRAL STATION. PROVIDE CONTACT ID FOR ALL POINTS TO MONITORING STATION. PROVIDE 4 YEARS MONITORING WITH CONTRACT.
4. PROVIDE FIRE ALARM INTERFACE. PROVIDE FIRE ALARM OVERRIDE AS REQUIRED, (2#18GAUGE WIRES BY E.C.)
5. PROVIDE INTEGRATED ELECTRONIC SECURITY SERVER COMPLETE WITH 4 HOUR UPS BACK-UP.
6. PROVIDE (3) KEYFOBS/PROX CARDS IN ADDITION TO THE AMOUNT SPECIFIED IN EACH KNOX BOX FOR FIRE DEPT. USE. FOBS/CARDS SHALL BE PROGRAMMED FOR FULL ACCESS TO THE BUILDING.
7. INTEGRATE THE INTRUSION SYSTEM WITH THE ACCESS CONTROL SYSTEM SO THAT THE KEY FOB PRESENTED AT THE EXTERIOR CARD READER CAN DISARM THE COMMON ZONE, AND INTERIOR CARD READERS WILL DISARM THE ZONE THAT ARE ASSOCIATED WITH THEIR LOCATION. THE SYSTEM SHALL BE CAPABLE OF EIGHT (8) PARTITIONS.

WIRING LEGEND

1. INPUT - CABLE REQUIREMENTS 18AWG FOUR CONDUCTOR STRANDED NON-SHIELDED FOR DPS ONE PAIR PER POLE, FOR REX ONE PAIR SPARE
2. OUTPUT - CABLE REQUIREMENTS 18AWG TWO CONDUCTOR STRANDED, NON-SHIELDED
3. MOTION DETECTOR - CABLE REQUIREMENTS 18AWG TWO CONDUCTOR STRANDED NON SHIELDED (THIS IS FOR DC POWER ONLY IN DESIGN)
4. READER - CABLE REQUIREMENTS 20AWG THREE PAIR SHIELDED REFERENCE MODEL BELDEN 82777 FOR PLENUM RATED APPLICATIONS
5. KEYPAD - CABLE REQUIREMENTS 18AWG FOUR CONDUCTOR STRANDED NON SHIELDED
6. INTRUSION ALARM BUS - CABLE REQUIREMENT 18AWG FOUR CONDUCTOR STRANDED NON SHIELDED
7. CAT 6 PLENUM RATED UTP CABLE TO SECURITY PATCH PANEL
8. POWER SUPPLY CABLE AND CONTROL FOR EXTERIOR PTZ CAMERA. 2#18&2#18TSP.
9. INPUT - CABLE REQUIREMENTS 18AWG TWO CONDUCTOR STRANDED NON-SHIELDED
10. (2)CAT 6 PLENUM RATED UTP CABLE TO SECURITY PATCH PANEL
11. OUTPUT - CABLE REQUIREMENTS 14AWG TWO CONDUCTOR STRANDED, NON-SHIELDED

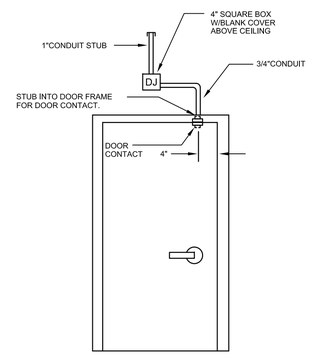
GENERAL NOTES

1. ALL HARDWARE SETS SHALL CONTAIN INTEGRAL REQUEST TO EXIT DEVICE. E.C. SHALL TIE INTO THESE DEVICES AND INSURE PROPER OPERATION.



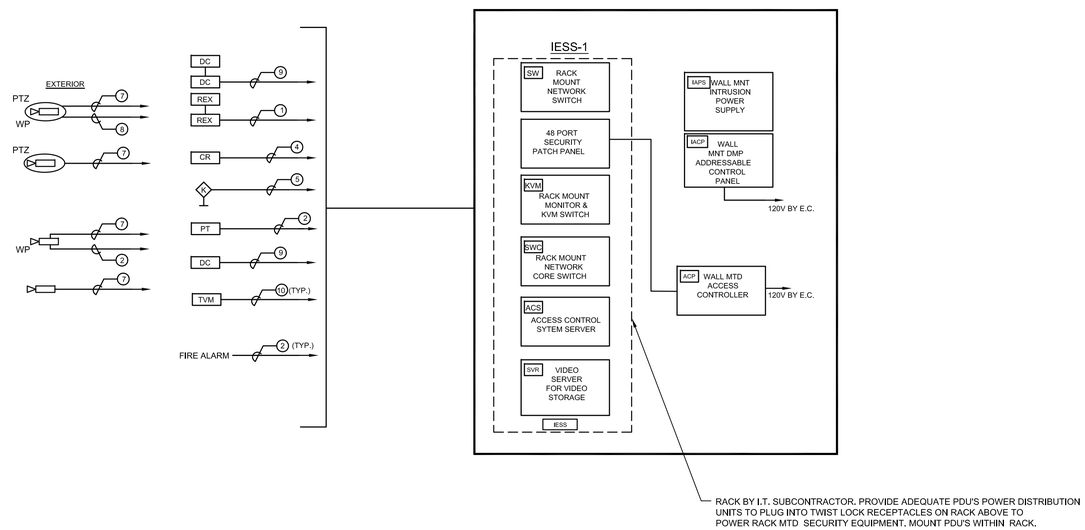
1 / SEC0 TYPICAL DOOR W/ ACCESS CONTROL

SCALE: N.T.S.



2 / SEC0 TYPICAL DOOR WITHOUT ACCESS CONTROL

SCALE: N.T.S.



3 / SEC0 INTEGRATED ELECTRONIC SECURITY SYSTEM PARTIAL RISER DIAGRAM

SCALE: N.T.S.

A New Transient Boaters Facility for :
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CONSTRUCTION DOCUMENTS

Security Symbol List

Jan. 19, 2016

Scale: N.T.S.

Project No. 14001

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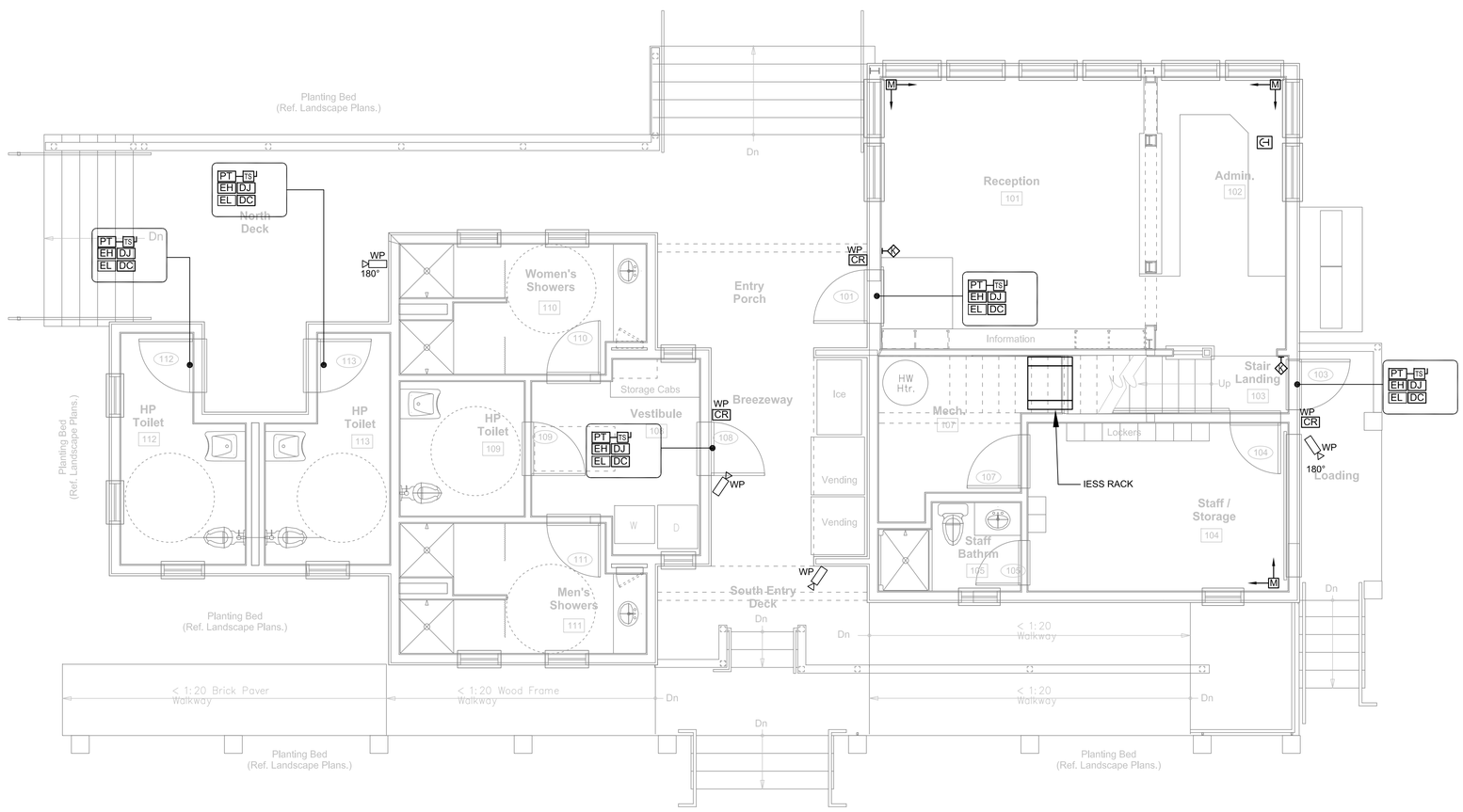
SEC0

SECURITY NOTES

1. IESS TO COORDINATE FINAL SECURITY ZONES WITH OWNER. PROGRAM PER OWNER'S DIRECTIONS.



1 SEC1 FIRST FLOOR PLAN - SECURITY

SCALE: 1/4" = 1'-0"

A New Transient Boaters Facility for :

The Newburyport Harbormaster

Newburyport, MA 01950

CONSTRUCTION DOCUMENTS

First Floor - Security

Jan. 19, 2016

Scale: 1/4" = 1'-0"

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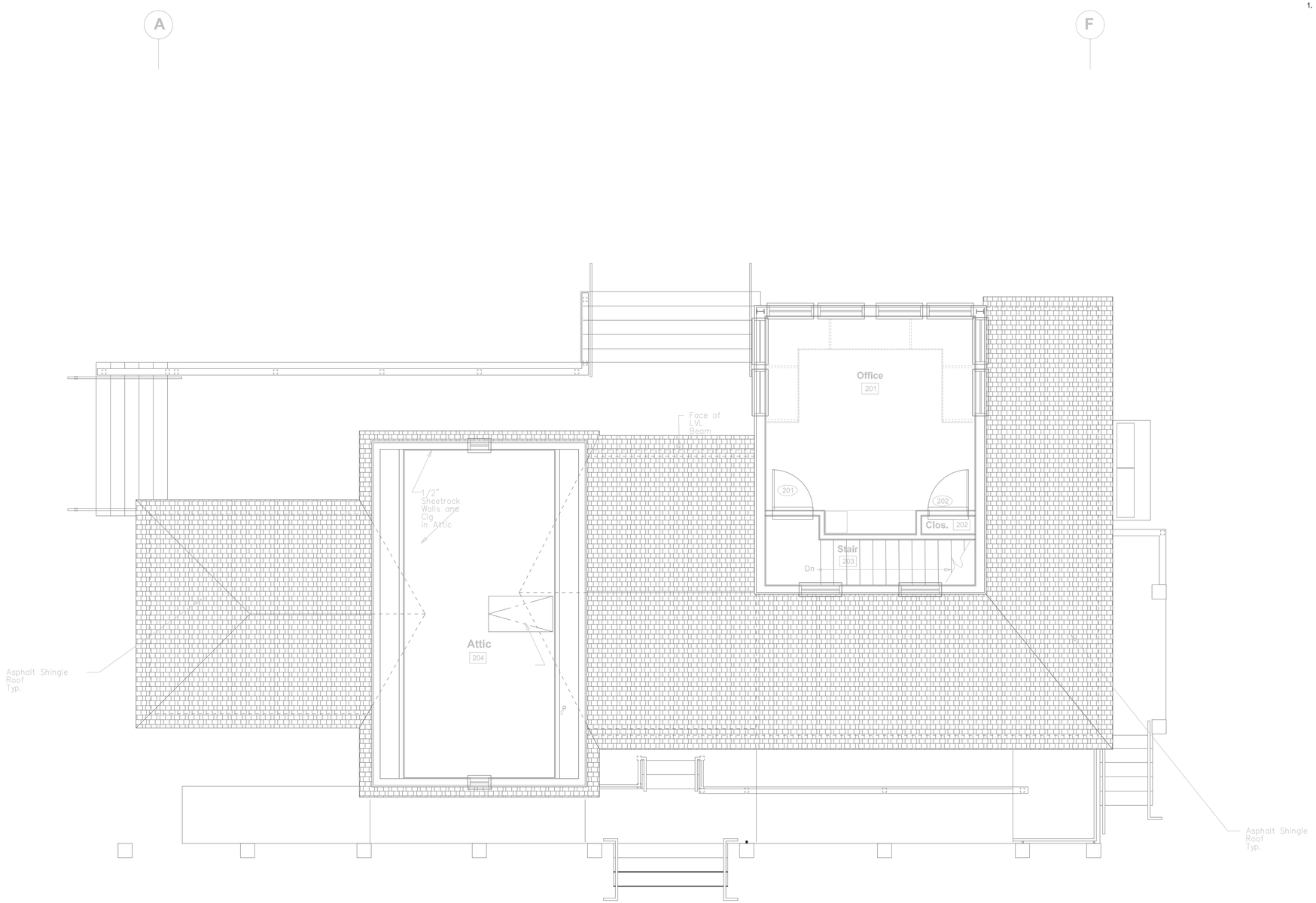
SEC1

SECURITY NOTES

1. IESS TO COORDINATE FINAL SECURITY ZONES WITH OWNER. PROGRAM PER OWNER'S DIRECTIONS.



1 / SEC2 SECOND FLOOR AND ATTIC PLAN - SECURITY

SCALE: 1/4" = 1'-0"

A New Transient Boaters Facility for :

The Newburyport Harbormaster

Newburyport, MA 01950

CONSTRUCTION DOCUMENTS

Second Floor and Attic - Security

Project No. 14001 | Scale: 1/4" = 1'-0" | Jan. 19, 2016

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SEC2