

# Appendices

## Understanding the Parameters for Rebuilding OIH at 9 East Creek Road

Our Island Home  
9 East Creek Road  
Nantucket, MA 02554

September 9, 2019

**LWDA**  
DESIGN

Architecture  
Interior Design  
Landscape  
Planning





## Appendices

	Architectural/ Civil Outline Specification
	Structural Engineering Narrative
	MEP Engineering Narrative
	Rough Order of Magnitude Cost Estimate
	Meeting Notes, including 5/6/19 OIH Charrette
	FAQs from website
Drawings:	Existing Site Survey
C-1	Site Plan Option 1
C-2	Site Plan Option 2
D-1	Site typical details
A1	Exterior Elevations
A3	Building and Wall Section
1.1	Option 1 1 <sup>st</sup> Flr Phase 1
1.2	Option 1 2 <sup>nd</sup> Flr Phase 1
1.3	Option 1 1 <sup>st</sup> Flr Phase 2
1.4	Option 1 2 <sup>nd</sup> Flr Phase 2
2.1	Option 2 1 <sup>st</sup> Flr Phase 1
2.2	Option 2 2 <sup>nd</sup> Flr Phase 1
2.3	Option 2 1 <sup>st</sup> Flr Phase 2
2.4	Option 2 2 <sup>nd</sup> Flr Phase 2
3.1	Resident Rooms for both Options
SK-1	Mechanical Equip Attic Plan
SK-2	Mechanical Equip 1 <sup>st</sup> Floor Plan



**RE: Our Island Home Nantucket  
Replacement Facility  
Nantucket, MA**

**Job No.:** 18150

To be used for Conceptual Pricing

**TABLE OF CONTENTS**

01	General Requirements	
02	Site Construction	
03	Concrete	<i>refer to Structural Narrative</i>
04	Masonry	
05	Metals	<i>refer to Structural Narrative</i>
06	Wood, Plastics, and Composites	
07	Thermal and Moisture Protection	
08	Openings	
09	Finishes	
10	Specialties	
11	Equipment	
12	Furnishings	
14	Conveying Systems	
21	Fire Protection	<i>refer to MEP Narrative</i>
22	Plumbing	<i>refer to MEP Narrative</i>
23	HVAC	<i>refer to MEP Narrative</i>
26	Electrical	<i>refer to MEP Narrative</i>
27	Communications	
31	Earthwork	
32	Exterior Improvements	
33	Utilities	<i>refer to MEP Narrative</i>

**DIV 01 GENERAL REQUIREMENTS**

<b>DESCRIPTION</b>	<p>Phase 1 new construction of a replacement building for the OIH Nursing Home, Nantucket, MA, and demolition of the existing building.</p> <p><b>Project type</b> New 2 1/2 story building with attic for mechanical equipment</p>
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	LEED Silver Certifiable. LEED certificate not anticipated.
Deduct Alternates	<b>None</b>

**DIV 02 SITE CONSTRUCTION**

Conditions	<p>Provide temporary ramps and temporary elevator stop at grade to access elevated Phase 1 1<sup>st</sup> Floor.</p> <p>Provide minimum of 30 parking spaces for OIH and 19 parking spaces for Landmark House at all times.</p> <p>Existing OIH building and Landmark House to remain operational during Phase 1 construction. Minimize vibration, noise, dust and disruption for existing occupants.</p>
Curb details	Assume vertical granite curb typical. Mountable granite curb at fire truck emergency access only adjacent to loading dock.
Sidewalks	Concrete sidewalk around building perimeter, refer to Civil drawings.
lane	emergency access lane with geotechnical subsurface grid [Grasscrete, Grasspave or Turfstone Grid Pavers, depending on preference of Fire Chief] for H2O loading, while allowing infiltration and limiting runoff. See product cuts attached at end of this section.

**DIV 03 CONCRETE**

Precast Concrete	Parking lot wheelstops.



Site work	Concrete sidewalks as noted, pavement at loading dock. <i>Refer to Civil Drawings.</i>
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**DIV 04 MASONRY**

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**DIV 05 METALS**

Structural Steel Framing	<i>Refer to Structural Narrative</i>
Cold-Formed Metal Framing	<i>Refer to Structural Narrative</i>

**DIV 06 WOOD, PLASTICS, AND COMPOSITES**

General	Refer to exterior wall construction layering on p. <span style="background-color: yellow;">      </span> of Building Option 1 description; see also Wall Section A-3.
Wood Treatment	Fire-retardant treatment at interior wood framing/blocking. Moisture-retardant treatment of wood exposed to exterior environment.
Paneling	Wood veneer accent walls at Lobby, Dining Room, Library, Day Rooms, 2 <sup>nd</sup> Floor Commons.
Architectural Wood Casework	AWI premium grade millwork. Finishes and pulls per interior elevations and finish material legend. Flush overlay cabinets, frameless construction. All hinges to be concealed (European type) 170 degrees of opening, self-closing. Drawer slides to be full-extensions zinc plated steel with ball bearing slides.

**DIV 07 THERMAL AND MOISTURE PROTECTION**

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Thermal Insulation	<p><b>Foundation walls:</b> Extruded Polystyrene board Owens Corning Isoamular 250 or equal at and under slab R-Value to be 15 Min. Mineral fiber Roxul Cavityrock DD or equal at exterior walls R-Value to be 38 Min.</p> <p><b>Walls:</b> Hunter Panels faced with 3/4" fire retardant treated plywood.</p>
Air-Barrier	<ol style="list-style-type: none"> <li>1. Primary air barrier: Vapro Shield Wrap Shield SA (self adhered). Alternate: Henry Blueskin VP 160 applied with VP 160 primer on substrate.</li> <li>2. Secondary water-resistant barrier/ air barrier: Tremco Securock ExoAir 430 Panel System insulated sheathing or equal.</li> </ol>
Sloped Roofing	Asphalt shingles, architectural grade.
Flashing	<p>140 aluminum at all change in materials and at cap flashing.</p> <p>Membrane flashing to coordinate with air-barrier system.</p>
Entry Canopy	Phenolic panel soffit attached to steel frame. Asphalt shingle roof.
Siding	<p>Siding Smooth texture, 1" high with 6" exposure, color by architect.</p> <p><b>Shingles:</b> <a href="#">James Hardie Building Products, Inc.</a>, HardiePlank cut shingle (straight edge notched with wood grain texture), prefinished 4"x 48" panels, color by architect.</p> <p><b>Soffits:</b> <a href="#">James Hardie Building Products, Inc.</a>, HardiePanel at large scale soffits, color by architect.</p>
Exterior trim boards	AZEK PVC trim boards, column covers, corner boards, soffits, fascias, etc.



Joint Sealants	<p>includes sealing all exterior joints at doors, windows, flashing, horizontal surfaces, dissimilar materials, etc., coping, interior sanitary and control joints.</p> <p>Exterior silicone to be Dow Corning 795.</p> <p>Exterior expansion joints including wall head deflection joints to be Dow Corning 790.</p> <p>Exterior joints in horizontal concrete to be Dow Corning ND Parking Structure Sealant.</p> <p>Exterior joints at pavers to be Dow Corning 790.</p> <p>Interior perimeters of exterior openings Dow Corning 791 Silicone Waterproofing Sealant.</p> <p>Interior expansion joints Dow Corning 790.</p> <p>Interior concrete Masonry Dow Corning 795.</p> <p>Interior expansion and control joints at interior floors: Dow Corning JS parking structure sealant. At perimeters of interior frames: Dow Corning 791.</p> <p>Interior plumbing fixtures Dow Corning 786 silicone with mildewicide.</p> <p>Interior partitions non-expansion joints acrylic latex sealant. Provide acoustical sealant at acoustic walls.</p>
Joints	<p>covers at floors and walls extending along length of interface between Phases 1 and 2. Provide vapor and thermal barrier Series TVB at exterior walls and roof.</p>

**DIV 8 OPENINGS**

Hollow Metal Doors & Frames	<p>Exterior: 16 GA doors. 14 GA frames.</p> <p>All interior door frames and borrowed lites are knock-down HM 16 GA. Provide 14 GA doors at leaves wider than 42".</p>
Flush Wood Doors	<p>Attendant Room doors, Toilet Room doors, Public Toilet Rooms, Offices, Staff Rooms, Nursing Station and Work Area shall be solid core premium.</p>
Flush Wood Doors	<p>Corridor doors: 90-minute rating at rated separations between northwest wing and center block, and between southeast wing and center block with hold open mag lock and connection to Fire Alarm.</p> <p>5-minute at smoke partitions with hold open mag lock and</p>



Access Panels & Frames- if required by MEP	<p>glass Fiber Reinforced Gypsum frameless Karp FG or equal for non-fire rated ceiling openings. Karp RDWPD or equal frameless tape-in angles for un-rated GWB partitions. Karp KRP-350FR or equal frameless with tape-in flanges fire-rated steel for fire-rated partitions.</p>
Main Entrance	<p>entry Vestibule: Stanley Dura-Glide 2000 Bi-Part automatic sliding doors with break-out egress capability. Insulated exterior door, single glazed inner vestibule door.                  assume similar doors to Terrace.</p>
Windows	<p>atus Arcade fiberglass double-glazed insulated window or equal; with operable upper and lower sash. U= .25 max. Renolit Exofol FX laminate finish interior and exterior. Color by Architect.</p>
Storefront glazing	<p>FCO Xtherm Series 403X (T) for Lobby and Dining Room</p>



<p>Hardware</p>	<p>Typical Manufacturers:                  GEM MANUFACTURERS                  Butt Hinges (Stanley) Hager, McKinney                  Offset hinges all patient room doors)                  Closures (Dorma) ABH, Rixson                  Locksets/Latchsets Cylindrical ND Series                  (Schlage) Dorma, Sargent                  Exit Devices (Von Duprin) Dorma, Sargent                  Closers (Dorma) Norton, Sargent                  Track Closers (Dorma) Sargent                  Silencers (Rixson) Dorma                  Protection Plates (Rockwood) Hager, Trimco                  Floor &amp; Wall Stops (Rockwood) Hager, Trimco                  Overhead Stops &amp; Stays (Rixson) Dorma, Glynn-Johnson,                  Flush Bolts (Door Controls Intl.) Hager, Rockwood                  Thresholds/Gasketing (National Guard Products) Hager, Pemko                  Door Protection Metal kickplates, Ives                  ALL doors get lever handles equal to Athens by Schlage.                  Dorma EDS700 or equal low energy swing door operator at exit                  door(s) from North Corridor, South Corridor, Rehab Gym, Day/Dining.                  Provide hardware that interfaces with security system where                  applicable. See Electrical Narrative.</p>
	<p>Double Low E. Exterior glass below 30" to be safety glass. U-Value of                  windows to be 0.29 max                  Provide fixed polished edge safety glass mirrors above the vanities in                  all patient toilet rooms, above the lavatory in all public and staff toilets.                  Provide TGP FireLite PlusFire Glass at glazing in fire rated partitions</p>
<p>Louvers &amp; Vents</p>	<p>Construction Specialties (or equal) architectural louvers in locations                  designated by HVAC Engineer.</p>



DIV 9 FINISHES

**Typical Room Finishes**

	or	Walls	Falls	Wall Protection	Ceiling
<b>Patient Toilet Rm</b>		MRGWB ½ walls	CT on Durock ½ walls		ACT, GWB
<b>Corridor</b>	il Sheet	GWB	WC 50%	Acrovyn to 30" AFF, Acrovyn handrail 2 sides, Corner Guards	ACT, GWB
<b>Office</b>	pet	GWB			ACT
<b>Dining</b>	il Sheet	GWB	Wood pnl ccent wall	Wood wainscoting	ACT, GWB
<b>Kitchen</b>		MRGWB		Acrovyn to 30" AFF	ACT

Slab Moisture Vapor Control System	
	Type IV, mineral base with membrane-faced overlay; Form 2, water elted. Pattern: E



Flooring	Ceramic Tile in all Toilet Rooms. Assume sloped shower floor with custom linear drain.
Gypsum Board Assemblies and Non-Structural Metal Framing	<p>Typical GWB partition will be metal studs 16" OC L/360 deflection with acoustic batt insulation and one layer of 5/8" Firecode Sheetrock 3rd Brand Type X Mold Tough GWB each side from the floor slab to underside of deck above sealed for acoustics at bottom and sides and having a deflection track and sealant at the top.</p> <p>Corridor partitions will be similar to the typical with smokeproof openings.</p> <p>Non-wet walls in toilet rooms and Kitchen shall have moisture/mold resistant GWB (MR GWB).</p> <p>Shower and tiled walls shall have Durock.</p>

**DIV 10 SPECIALTIES**

Visual Display Units	Claridge markerboard: 4' high x 10' long Multi Purpose Room (2), Staff Work Room, Staff Room. Forbo Tackboards at Office Casework, typical.
Signage	Takeoff in Fusion interior signage. One room identification sign at each room. Directional signs at corridor intersections. Ethos letter and logo signs at Lobby.
Corner Guards	See Typical Room Finishes above
	<p><u>1. Patient room bathrooms:</u></p> <ul style="list-style-type: none"> <li>a. At WC - one 36" and one 42" grab bar 1.25" OD white textured finish by Anchor Architectural Products.</li> <li>b. TP holder Gatco, Latitude Series Satin Nickel, 4293B.</li> <li>c. Soap dispenser B-818615.</li> <li>d. A mirror - tempered glass (see Glass &amp; Glazing)</li> <li>e. Robe hook Gatco, Latitude Series Satin Nickel 4295.</li> </ul> <p><u>2. Common use bathrooms (visitors and staff):</u></p>



	<p>finish by Anchor Architectural Products.</p> <ul style="list-style-type: none"> <li>b. TP holder Gatco, Latitude Series Satin Nickel, 4293B.</li> <li>c. Soap dispenser B-818615.</li> <li>d. Dyson Airblade hand dryer.</li> <li>e. Sanitary Napkin Disposal (Staff Toilet)</li> <li>f. A mirror - tempered glass (see Glass &amp; Glazing)</li> <li>g. Robe hook Gatco, Latitude Series Satin Nickel 4295.</li> </ul> <p>3. <u>At EVERY sink or lavatory</u> -</p> <ul style="list-style-type: none"> <li>a. Refer to MEP Narrative</li> </ul> <p>4. <u>Janitor Closet:</u></p> <ul style="list-style-type: none"> <li>a. Mop holder &amp; utility shelf B-224x36.</li> </ul>
Fireplace	Napoleon LV50N Vector 50 Direct Vent (Propane) Gas Fireplace in Lobby, 2 <sup>nd</sup> Flr Commons, Dining, Library, (2) Day Rooms.
Fire Protection	Fire Extinguishers and cabinets Larsen's 2409-R2 Architectural Series Fully Recessed Vertical Duo Panel White Finish with MP10 fire extinguisher at drywall partitions.
Lockers	Scranton Duralife HPDE double tier lockers with 5% ADA compliant at Staff Lounge (20).

**DIV 11 EQUIPMENT**

Kitchen Equipment	Assume all stainless steel commercial grade.
Overhead Patient Lift	One at Bariatric Patient Room. Motorized Liko Ultratwin 2425 lift motor with 440 lb capacity with sling, 880 lb total capacity; Hill Rom or equal.



DIV 12 FURNISHINGS

Counters	Solid surface at Patient Bathroom Vanities, Patient Rooms, Comon Rooms. Solid surface integral bowl hand wash sinks in patient rooms. Plastic laminate countertops at all other locations
Window Treatments	Mecho Shade or Halcyon Shade manual chain driven roller with Euro Veil or equal fabric at all windows. Provide single 95% opaque solar shade fabric at resident rooms and 1 <sup>st</sup> Floor Activity Rooms, Community space and Rehab Suite.

DIV 14 CONVEYING EQUIPMENT

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DIV 21 FIRE SUPPRESSION

Water-Based Fire-Suppression Systems	<i>Refer to MEP Narrative.</i>

DIV 22 PLUMBING

General	<i>Refer to MEP Narrative.</i>
Patient Room hand wash sinks and Public Toilet Rooms	Auto sensor fixture



Patient Toilet sinks and all lavatories and sinks	Wristblade faucet
Patient Toilet water closets	Provide bed pan washer and flushometer.

DIV 23 HVAC

Building HVAC	<i>Refer to MEP Narrative.</i>
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DIV 26 ELECTRICAL

General	<i>Refer to MEP Narrative.</i>
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DIV 27 COMMUNICATIONS

General	<i>Refer to MEP Narrative.</i>
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DIV 28 ELECTRONIC SAFETY AND SECURITY

General	<i>Refer to MEP Narrative.</i>
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DIV 31 EARTHWORK

General	<i>Refer to Site Plan.</i>
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DIV 32 EXTERIOR IMPROVEMENTS

General	<i>Refer to Site Plan.</i>
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DIV 33 UTILITIES

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## **Schematic Design – Structural Narrative**

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The following is a general description of anticipated structural systems based on preliminary architectural programs and descriptions and will be used as a basis for schematic design. At the time of this narrative, design is schematic and the architectural and structural designs are subject to change. Pricing based on this document should be considered very preliminary and should carry appropriate contingencies for development of the architectural and structural design and for structural conditions and requirements not yet discovered and addressed herein.

### **GENERAL DESCRIPTION OF PROJECT**

The project consists of two phases to replace an existing single-story skilled nursing facility with an expanded two-story skilled nursing facility maintaining a 45 resident capacity. Phase 1 will consist of stand-alone two-story addition while maintaining operations of the existing building. Phase 2 will consist of demolishing the existing building and constructing the South wing and middle Connector. Phase 2 concludes with relocating temporary rooms from the North to South wing including a temporary kitchen, dining, wellness, and offices.

The new two-story skilled nursing facility is planned to utilize shallow foundations with frost walls and spread footings. The perimeter foundation will be interrupted to allow storm surge to flow beneath the elevated structure within a 4ft to 5ft crawl space, elevating the first floor framing. The ground floor framing is planned to utilize concrete slab on composite metal deck over steel beams. The second floor framing is planned to utilize concrete slab on metal deck over steel joists. A pitched roof with attic will utilize metal roof deck on steel joist with steel beams supporting mechanical equipment.

### **PRELIMINARY CHAPTER 34 EVALUATION**

An existing building evaluation and code report (i.e. chapter 34 evaluation) is not required as a result of phased construction separating the new construction from the existing building, however if a scheme is considered with phased construction demolishing, renovating, or adding to the existing building then design will be required to comply with one of the compliance methods outlined in the 2015 International Existing Building Code.

An assumed renovation and addition scheme utilizing the work area compliance method would be needed to comply with Level 2 alterations. Depending on the proposed floor plan changes, modifications to the existing roof structure to support new mechanical equipment a lateral upgrade may be found to be required. Some of the relevant provisions from the International Existing Building Code are noted below:

- Section 807.2 new structural elements are designed in accordance with 2015 International Building Code.
- Section 807.4 existing structural elements supporting any additional gravity loads as a result of the alterations shall comply with 2015 International Building Code. The existing framing at the roof may need to be strengthened for added loadings.
- Section 807.5 any existing structural element resisting lateral loads whose demand/capacity ratio increases by more than 10% shall comply with the 2015 International Building Code provisions for wind loading and with reduced seismic forces. Depending on the modifications, the existing lateral system may need to be strengthened for code compliance.

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**Schematic Design – Structural Narrative**

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**DESIGN CRITERIA**

- Building Code:
  - 2015 International Building Code (IBC) with Massachusetts Amendments (9<sup>th</sup> Ed.)
  - 2015 International Existing Building Code (IEBC) with Massachusetts Amendments (9<sup>th</sup> Ed)
  
- General Live Loads (reduced as permitted by the Building Code):

Typical Floor	100 psf
Public Stairs and Exits	100 psf
Light Storage	125 psf
Corridor, Second Floor	80 psf
Terrace	100 psf
Residential Floor	40 psf
Mechanical Room	150 psf
Roof, not supporting mechanical equipment	20 psf
  
- Basic Ground Snow Load ( $P_g$ ):

Min Flat Roof Snow Load (Per Mass Amend.)	35 psf
Snow Exposure Factor	0.9
Snow Thermal Factor	1.1
Snow Importance Factor	1.0
  
- Wind Pressure:

Basic Wind Speed (3-second gust)	140 mph
Wind Exposure Classification	D
  
- Earthquake Loads – Seismic Criteria:

Seismic Importance Factor ( $I_e$ )	1.00
Occupancy Category	II
Mapped Spectral Response Accelerations	
$S_s$	0.113
$S_1$	0.047
Site Class	D (to be verified by geotechnical consultant)
Anticipated Seismic Design Category	B
Basic Seismic Force Resisting System(s):	
Steel Construction: Steel Systems Not Specifically Detailed for Seismic Resistance, $R = 3.0$	

**STRUCTURAL TESTING AND INSPECTION**

- A qualified Structural Testing/Inspection Agency, employed by the owner, shall perform special inspections and testing in accordance with Chapter 17 of the Building Code to verify work conforms to the Construction Documents.

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**Schematic Design – Structural Narrative**

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**MATERIAL PROPERTIES**

- Reinforcement:                      Reinforcing Steel                      ASTM A615, Grade 60  
   Anchor Rods                              ASTM F1554 Grade 55  
   Welded Wire Fabric (WWF)              ASTM A185
- Normal-Weight Concrete:              Foundation elements                      4,000 psi  
   Slab-on-grade                              3,500 psi  
   Slab-on-deck                                4,000 psi  
   Frost Walls                                 4,500 psi  
   Exterior Slabs                                4,500 psi
- Structural Steel:                      Beams                                      ASTM A992, Grade 50  
   Tubes                                        ASTM A500, Grade B  
   Remainder                                 ASTM A36
- Shear Studs:                              ASTM A108, Grades C1010-1020 with minimum tensile strength of 65,000 psi

**GEOTECHNICAL REPORT AND FOUNDATIONS**

- At this stage of design, a geotechnical report is not available for the new constructions. The preliminary foundation system described in this narrative is based on geotechnical information shown on the existing structural drawings, prepared by Simpson Gumpertz & Heger dated May 21, 1979. Based on existing drawings, the foundation system of the existing building consists of shallow foundations bearing on native soil or compacted structural fill with a bearing capacity of 3,000 psf.
- For schematic design phase, we have assumed shallow foundations with a bearing pressure of 3,000 psf. These assumptions will need to be verified with a geotechnical evaluation and report.

**FOUNDATIONS AND GROUND FLOOR STRUCTURE**

- All perimeter foundation elements shall bear a minimum of 4'-0" below grade.
- Interior columns bear on concrete piers within a crawl space bearing on shallow foundation elements.
- Columns will be supported on isolated spread footings over compacted engineering fill. Anticipate approximately 0.6 cu-ft of concrete and 1.0 psf of reinforcing per square foot of each new building footprint.
- The perimeter foundation elements will consist of 16-inch wide x 48-inch tall frost walls reinforced with 6.0 lbs/ft of reinforcing. Foundation walls will be formed on both sides and will be supported on 24-inch wide x 12-inch thick continuous footings with 6.0 lbs/ft of reinforcing.
- Elevator shaft walls are supported on a 12-inch thick concrete wall and 18-inch thick mat footing with 6psf reinforcing. A sump pit measuring 2 ft x 2 ft x 2ft should be assumed in the bottom of each elevator pit.

*Date of Issue: July 9, 2019*

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## Schematic Design – Structural Narrative

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### EXPANSION JOINT

- An expansion joint is planned between Phase 1 and 2 construction. The expansion joint will extend full height of the buildings (ground level excluded).

### ELEVATOR SHAFTS

- Elevator shaft walls will consist of metal studs with HHS tube rail support.

### SUPERSTRUCTURE

#### STEEL FLOOR FRAMING

- First Floor will consist of a steel frame system utilizing 4 ½" thick normal weight concrete slab over 2" deep x 18GA composite metal deck (6 ½" overall) supported on steel beams and steel columns.
- The composite steel beams and girders utilize ¾-inch diameter x 4-inches long headed stud anchors connected to the top flanges of each steel beam. Shear studs shall be fusion welded, headed stud of high strength steel.
- Second Floor will consist of a steel frame system utilizing 2 ½" thick normal weight concrete slab over 1" deep 24GA form deck (3 ½" overall) supported on steel joists spaced not more than 3'-6" on-center supported by steel wide flange girders and HSS columns.

#### STEEL ROOF FRAMING

- Approximately 20% of the Attic will consist of mechanical equipment on a steel frame system utilizing 4" thick normal weight concrete slab over 1 ½" deep x 20GA form deck (5 ½" overall) supported on steel beams spaced not more than 7'-0" on-center supported by wide flange girders and HSS columns.
- Pitched roof will consist of 1 ½" deep x 20 GA wide rib roof deck over steel joists spaced not more than 5'-0" on-center supported by steel wide flange girders and HSS columns throughout.

#### LATERAL SYSTEM

- Braced frames comprising of square steel tubes spanning diagonally between columns and floor beams will be used to laterally brace the structure. Diagonal steel braces to be located at each end of the building and at a typical spacing of 65 ft, typical in each direction.

June 14, 2019

# Mechanical, Electrical, Plumbing and Fire Protection Systems Study and Analysis of New Expansion and Construction.

Our Island Home  
9 East Creek Road  
Nantucket, Massachusetts

## Prepared For:

LWDA Architecture, Interiors Inc.  
45 Walden Street  
Concord MA 01742

## Prepared By:

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CES #: 2019099.00

# Table of Contents

Table of Contents ..... 2

Section G – Preface ..... 3

Section 1 – Phase 1 ..... 7

Section 2 – Phase 2 ..... 16

Section 3 – Existing Photos ..... 18

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## Section G - Preface

### General

This study was prepared for LWDA Architecture, Inc. Consulting Engineering Services, LLC visited the site in April, 2019 to survey the site and document the existing conditions. The study documents the existing mechanical, electrical, plumbing, fire detection/notification, and fire sprinkler (MEP) systems of Our Island Home located on Nantucket Island to determine what systems is any could be used in the future with the new renovation and expansion of the building. It also incorporates the proposed phasing and the coordination between the existing and new construction in order to have the facility functioning continuously throughout the construction phasing.

Each of the Sections described hereafter is numbered to correspond with the following scheme:

Section 1: Phase 1 Area – discusses the new building, new services, and the required connections for future sprinkler, plumbing, and heating piping, as well as the new electrical to the new phased building structures. The intent is to have the existing building stay functioning during the construction of a new dining/kitchen/support building along the road. This new structure will house all the future MEP services required for the total 56,000 sq. ft. complex.

Section 2: Phase 2 Area - discusses the demolition of the old building, the renovations of the Phase 1 building to modify back to a building wing versus entire facility, as well as connections to Phase 1 construction at boiler room, electrical main, sprinkler, plumbing and heating piping back to the new building. This will allow the continued functioning with all support services during the full construction process.

The sections are further divided within into their respective MEP systems.

### Executive Summary

CES recommends that the existing MEP systems in the building(s) not be reused because of age and phasing of the project. The existing systems are in poor condition, have code compliance issues, and are beyond their anticipated useful life expectancy. As the existing building is demolished, all new equipment and systems will be installed in the new replacement building and when possible sized to feed the phase 2 portion of the project.

CES recommends that as the phasing proceeds, all MEP systems will be integrated temporarily and recommissioned as required.

### Summary Overview

The existing MEP systems would stay in use until demolition of the old building is complete. The MEP systems in the new Phase 1 building would be sized for the use of the entire complex after all phases are

complete.

### **Applicable Codes & Standards**

The fire protection, mechanical, plumbing, and electrical systems shall be installed in conformance with the requirements of the following codes and regulations and all applicable local authority requirements.

1. 9th Edition Massachusetts Building Code (780 CMR)
2. Massachusetts Plumbing Code – 248 CMR.
3. 2017 National Electrical Code (NEC) with Massachusetts Amendments (527 CMR)
4. 2015 International Mechanical Code (IMC) w/ local amendments
5. 2015 International Energy Conservation Code (IECC) w/ local amendments
6. 2015 International Residential Building Code (IRC) w/ local amendments
7. 527 CMR – MA Fire Prevention and Electrical Regulations
8. NFPA 13 – 2013 “Automatic Sprinkler Systems”
9. NFPA 99 – 2018 “Health Care Facilities Code”
10. Factory Mutual Research Corporation (FM)
11. Underwriters Laboratories, Inc. (UL)
12. 527 CMR – MA Fire Prevention and Electrical Regulations
13. Local Fire Department requirements

The Contractor shall guarantee all material and workmanship under the Contract for a period of (1) year from the date of final acceptance by Owner. During this guarantee period, all defects developing through faulty equipment, materials or workmanship shall be corrected or replaced immediately by this Contractor without expense to the Owner.

The contractor is to visit the site, take all required notes and provide a complete bid. The contractor will be required to work with the owner, architect and engineer to detail all of the specific requirements, once the contract is awarded. The contractor will be required to provide a full submission of shop drawings, 1/4" scaled ductwork drawings and coordination services in the field. All apparatus, appliance, material or work not shown on drawings but mentioned in the specifications, or vice versa, or any incidental accessories necessary to make the work complete and perfect in all respects and ready for operation as determined by good trade practice even if not particularly specified, shall be furnished, delivered and installed under their respective Divisions without any additional expense to the Owner.

### **Fire Protection Overview**

The main building is currently protected with a Dry Pipe Sprinkler system with piping installed in the attic space. The attic does not have sprinkler protection. The system was installed sometime around 1979. The

existing 4" dry pipe valve is located in the South wing, Boiler/Sprinkler room. The existing combined fire and domestic water service to the building is 6". The 4" Siamese Fire Dept. Connection is adjacent to the incoming fire water service. Sprinkler water flow is indicated by an exterior Alarm Bell. The domestic branches off in the boiler room to a 2" feed to the meter, valves and backflow preventers etc. This existing system will not be used to serve the new building.

### **Plumbing Overview**

The existing building is fed from a 2" domestic/fire water service and equipped with an oil fired water heater and associated storage tank with multi temperature hot water distribution piping. The hot water is sent to the terminal use points via a recirculating system. There is a waste water ejector pump in the existing south building storage room located next to the existing mechanical room. The pump discharges into a 6" sewer main which runs to a manhole in the East Creek Road.

These systems will remain in use for the existing building until completion of the demolition and will not be used to re-feed or support the new building.

### **Mechanical Overview**

The existing buildings are heated by oil fired boilers and baseboard radiation. Ventilation is provided via a dedicated outdoor air unit on the roof that is sized to dehumidify the air but not air condition the building. Local air conditioning is provided in the general employee and public areas via split system air conditioning units that were added after the original building was built. There is no air conditioning in the patient rooms.

The required phase 1 systems will be for all future mechanical heating. The ventilation, air conditioning and heating will remain in the existing wing(s) until the demolishing of the existing building.

The existing system is past its usefulness and is no longer code compliant because of ventilation requirements. There is no need to reuse the existing system. We will keep the existing areas on line until the time of demolition.

### **Electrical Overview**

The site is served by an underground electrical service from the utility company. The existing service is 800 amps, 120/208V, 3-phase, 4-wire and appears to be original to the building with minor modifications for renovations that have occurred over the years.

The building has a Kohler 45 kW diesel generator located in an equipment shed outside the building. The generator appears to be original to the building and has (2) feeds to serve (2) automatic transfer switches. The generator system serves the heating plant, a single circuit to each patient room, security, life safety, and selected systems in common areas and staff support.

The existing system is past its usefulness and is no longer code compliant. There is no need to reuse the existing system. We will keep the existing areas on line until the time of demolition.

## Fire Alarm Overview

The building currently has a Fire-Lite non-addressable fire alarm system. The attic space does not have any fire alarm devices. The system manufacturer is Fire Protection Incorporated (FCI). Protection of the spaces is provided with Smoke Detectors. Exits are provided with Manual Pull Stations. Occupant notification is provided by Horn/Flashing Lights (no devices in sleeping rooms). The building sprinkler system is interfaced to the fire alarm system. A new addressable Fire Alarm Control Panel (MS-9200UDLS; FireLite by Honeywell) has been installed recently, with a new Remote Annunciator Panel. The “land line” (DACT) has been replaced with a Fire Cellular Communicator.

The existing system is past its usefulness and is no longer code compliant because of the current device layout. There is no need to reuse the existing system. We will keep the existing areas on line until the time of demolition.

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## Section 1 – Phase 1

### General

The approach to this 2-phased construction is to provide a continuously functioning facility with all support services during the total construction process.

The phase 1 Temporary Support building will be the first new building to start the project. This will house all the MEP plants and services required for the completed new 56,000 square foot building to be completed in phases 1 and 2. This building will have a dedicated mechanical and electrical room.

The MEP/FP connections will be stubbed out of the new phase 1 building to be connected into the future connector that will carry heating, domestic water, waste, and electrical to the future phase 2 building after the existing building is demolished.

### Fire Protection

During Phase 1, the existing service to the building will remain untouched. The building will continue to be served as is. A new separate Fire Protection system (with Domestic Water on its own service) shall be brought to the new building in the Phase I construction.

Fire protection systems design shall be in accordance with NFPA 13 with supplemental NFPA 13 standards. Sprinkler system design densities shall be Light Hazard automatic wet pipe sprinkler protection shall be provided below the ceiling level. Design for a density of 0.10-gpm/sq. ft. for a maximum of four residential sprinklers hydraulically calculated. Sprinklers shall be spaced in accordance with their listing criteria. A hose allowance of 100-gpm shall be included for outside hose streams. Sprinklers below the ceiling shall be residential quick response type, concealed pendent with white cover. Sprinklers in areas without ceilings shall be residential or quick response types and brass upright. Sprinklers in mechanical spaces or areas where damage is possible shall be installed with protective cages.

We propose a new 6" service with 6" DCVA (double check valve assembly) back flow preventer at the service entrance, immediately after the fire service enters the building. A 4" Siamese Fire Dept. Connection will be provided on the exterior of the building. Location to be coordinated with the Nantucket Fire Dept. A riser for each phase of construction will be provided, with room for future risers. This will allow areas to be zoned, and will make for easier maintenance and testing of the system.

The attic while insulated, shall be protected via a dry sprinkler system as will any building overhangs. The remainder of the building shall be protected with a wet sprinkler system.

The new fire sprinkler system will be hydraulically calculated. Final equipment sizes will be pending the outcome of the calculations. We do not anticipate the need for a fire pump. A hydrant flow test will be required.

Per code, an NFPA 14 Standpipe System is not required and will not be provided.

Include the following basic materials and methods of construction:

- Sprinklers shall be concealed, fully recessed in finished areas with ceilings (offices). Upright and sidewall, exposed, sprinklers shall be installed throughout open ceiling areas (production). Quick response sprinkler heads shall be used in light hazard locations. Sprinklers, unless noted otherwise, shall have a 1/2" orifice and a 165°F temperature rating. Intermediate temperature classification sprinklers shall be installed within the mechanical room and other applicable areas.
- Piping for the sprinkler system shall be steel pipe, ASTM A 53; Schedule 40 seamless carbon steel. Schedule 10 pipe shall be allowed for pipe sizes larger than 2" diameter when roll grooved mechanical couplings are used. Sprinkler piping shall be installed above ceilings and concealed within chases where applicable.
- Fittings shall be grooved mechanical fittings: ANSI A21.10 ductile iron; ASTM A47 grade malleable iron. Couplings shall be ASTM A 536 ductile iron or malleable iron housing, EPDM gasket with nuts, bolts, locking pin, locking toggle or lugs to secure roll grooved pipe and fittings.

## Plumbing

New waste and water services will be extended down East Creek Road and then connected to the new Phase 1 building. The use of a waste water grinder pump should be anticipated at this time as the existing building required one in order to meet the existing invert.

The plumbing systems will consist of plumbing fixtures, plumbing specialties (floor drains, sump pumps, hose bibbs, etc.), sanitary piping systems, domestic water piping, and domestic water heating systems.

Domestic hot water for the facility will be provided by an indirect fired tank type water heater which is heated by the boiler plant as applicable and stored at 140°F.

Domestic hot water will be supplied to the facility at 120°F, and mixing valves, either upstream or integral to faucets and valves, will be provided at lavatories, showers, and emergency eyewash/shower fixtures. A domestic hot water recirculation system will be provided to maintain the domestic hot water piping at 120°F. There will be a separate 140°F piping and accessories distributed to the kitchen appliances.

Hot water recirculation pumps shall be installed to maintain the appropriate temperatures in the domestic hot water distribution system. The pump shall be controlled by the control system to minimize energy consumption. Hot water recirculation piping shall be brought to all lavatory locations.

Plumbing fixtures will be furnished and installed by Division 22, except that sanitary and domestic water rough-in piping and final connections only will be provided by Division 22 for plumbing fixtures furnished by either the Owner or by other Divisions.

Include the following basic materials and methods of construction:

- Plumbing fixtures will be low flow in accordance to the Plumbing Code, and will be accessible in accordance to the ADA.
- Water closets and urinals shall be wall hung, vitreous china, low consumption (0.125 gallon per

flush urinals and high efficiency 1.28 gallon per flush water closets), by American Standard or approved equal. Flush valves shall be battery operated, by Sloan or approved equal.

- Lavatories shall be wall hung, vitreous china, by American Standard or approved equal. Faucets shall be low consumption battery operated, by Symmons or approved equal.
- Showers will be built-in with ceramic tile walls and sloped floors that drains to a linear drain. Trim shall be ASME A112.18.1; concealed shower supply with pressure balanced thermostatic mixing valves, integral service stops, bent shower arm with flow control and adjustable spray ball joint shower head with maximum 2.5 GPM flow, and escutcheon and hand held shower with 60 inch metal clad hose and 24 inch slide bar, female inlet
- One Water fountain with ADA and conventional height fountain will be located on each floor, in the corridor.
- One Janitor closet with a floor sink will be located on each floor.
- Wall hangers for water closets, urinals, and lavatories shall be heavy duty adjustable height type installed within chase spaces provided behind fixtures, by J.R. Smith or approved equal.
- Mop basins shall be floor mounted, 24"x24", molded stone, with wall mounted faucet & trim, by Fiat or approved equal.
- Cast iron combination clean-outs/floor drains shall be installed at all gang toilet rooms, kitchen, and spaces. Heavy-duty cast iron floor drains & floor sinks shall be installed in the mechanical room. Floor drains shall be by J.R. Smith or approved equal. Trap primers shall be provided for floor drains.
- Hose bibbs shall be installed in all toilet rooms, by Woodford or approved equal.

## **Mechanical**

(2) Oil fired boilers will be installed in the new Temporary Support building during Phase 1. Boiler size for the final 56,000 square foot complex is estimated at approximately 2,750 MBH. The boilers will be used for heating the building and domestic hot water production. The boiler plant will be served by a redundant duplex pump set with variable frequency drives (VFD) with each pump sized for 100% if the heating load. Perimeter hot water finned-tube radiation will also be installed throughout the building with individual control valves for each room. The hot water distribution system shall include 140°F piping to serve the building with a hot water priority of 180°F. Hot water hydronic piping for both the hot water distribution and recirculation shall be type L copper with sweat or Pro-press fittings. Piping shall be insulated per Mechanical Code.

The proposed ventilation and cooling will be a water cooled variable air volume (VAV) systems with non-fan powered boxes and electric reheat coils, connected to a evaporative cooling tower on the roof. The boxes will operate at minimum position for ventilation to spaces (with electric heat during winter months to temper the air) and will operate at maximum position for cooling. For Phase 1, (4) 18-ton air handlers will be installed in the attic space and tied into a cooling tower located in a pop-up clerestory of the attic. These air handlers will serve the Phase 1 with heating and cooling.

Four 120" x 48" louvers (2 exhaust, 2 intake) will be incorporated into the pop-up clerestory of the attic (refer to architectural plan for sketch) of the Phase 1 construction to support the economizer function of the VAV units.

Two 492" x 48" louvers will be incorporated into the pop-up clerestory of the attic of the Phase 1 construction to support the air flow of the cooling tower inside the attic space.

The Phase 1 Temporary Kitchen will also have the kitchen hood and make-up air systems. The kitchen requires an 8,000 cfm roof mounted up-blast exhaust fan with a 6,500 cfm make up air unit. The make-up air unit would be a direct fired oil model which will be mounted in the pop-up clerestory with proper ducting to the louvers. The unit is approximately sized at 500 MBH.

Each bathroom/general exhaust space will be exhausted through (2) shared roof mounted fans that will operate on continuous exhaust.

Dryer Exhaust: Provide dedicated, exhaust ductwork from each dryer to the outside of the building. Where duct length exceeds manufacturer recommended length, provide dryer booster fan, Panasonic DBF-110 or similar. Exhaust ductwork shall be ducted to exterior via dedicated louvers.

Elevator Exhaust: Provide dedicated, in-line exhaust fan for the elevator shaft, similar to Panasonic FV20-NLF1. Exhaust shall be actuated via high limit temperature or detection of smoke in the hoist way.

A building automation system (BAS) with direct digital controls (DDC) will be provided to control the mechanical systems and lighting throughout the building.

Include the following basic materials and methods of construction:

- All ductwork and accessories shall meet SMACNA standards. After installation of duct is complete third party shall clean all ductwork.
- Provide all HVAC equipment with extra set of filters. All filters shall be provided with a MERV-13 rating.
- Seismic restraints shall be designed and installed as required per State Building Codes and Fire Safety Codes which requires the seal of a licensed professional engineer. Abovementioned professional engineer will be required to verify installation is correct and complete per seismic code. This includes piping, ductwork, equipment, and equipment bases.

- Provide glass fiber insulation for all hydronic piping and ductwork. Insulation shall be installed to meet the Energy Code.
- Provide firestopping around mechanical penetrations in accordance with fire stopping requirements. System shall be capable of maintaining against flame and gases. System shall be UL listed and comply with ASTM E814.
- Provide mechanical identification for mechanical systems. Identification shall comply with ANSI A13.1.
- All pipe connections shall be installed to allow for freedom of movement of the piping during expansion and contraction without springing. Swing joints, expansion loops and expansion joints with proper anchors and guides shall be provided where shown.
- Provide vibration isolation for hydronic piping, ductwork, and equipment.
- Hydronic piping 2 1/2"φ and under shall be Type L copper with either soldered or ProPress style fittings. Piping 3" and over shall be ASTM A 53; Schedule 10 black steel pipe with welded, flanged or grooved joints.
- All equipment served by hydronic piping shall have isolation valves on the supply and return lines. Isolation valves shall also be provided at branch take-offs.

## Electrical

The electrical systems will generally consist of power systems, data connections, a fire alarm system, nurse call, and lighting systems. The new systems installed during Phase 1 shall be sized for the final construction buildout, including provisions for Phase 2 work. The following subsections are intended to outline basic requirements of the respective systems.

### Electrical Power

Provide the building with a new 2,500A, 208/120V, 3-phase, 4-wire, main electrical service with integral SPD. The electrical service shall run underground from a new utility pole to a pad-mount transformer in rigid galvanized steel conduit (or as specified by the utility company). Where the conduit crosses roadways, sidewalks, etc, the conduit shall be concrete-encased.

The electrical service shall consist of main distribution switchgear, feeders, and panelboards with circuit breaker distribution. All bussing and conductors shall be copper. Electrical panels shall be provided throughout the facility to support receptacles, lighting, mechanical equipment, and other miscellaneous equipment as required.

Each panelboard shall have the following:

1. Provide GFCI and AFCI protection as required by the National Electrical Code (NEC) and local codes.
2. Provide combination AFCI circuit breakers/receptacle devices as required by code.
3. Provide GFCI circuit breakers where under cabinet receptacle strips are provided to replace individual GFCI receptacles.
4. Provide combination AFCI & GFCI circuit breakers for areas requiring both AFCI & GFCI protection.

5. Provide circuit breakers UL listed as Type HACR for air conditioning equipment branch circuits.
6. Main Circuit Breakers shall be bolt-on type breakers. Branch circuit breakers shall be bolt-in type.
7. Provide a type written panelboard directory and a directory holder on the inside of enclosure door. All panels shall be clearly labeled with panel name and where they are fed from.
8. Provide clear identification of devices or circuits. Common circuits such as receptacles, lighting, equipment shall be identified by room, floor, numbering, appliance/equipment served. We recommend the use of standard abbreviation such as "LTG" for Lighting, "FLR" for Floor and "RM" for Room. All devices and switch plates shall be clearly engraved with panel name and circuit number.

Provide receptacles throughout the building as required by code, including isolated ground provisions, and dedicated emergency outlets in each room as required.

## **Generator System**

The following section includes (2) options for the generator system. The first option includes a generator sized for 80% of the building service size and intended for essential backup of all systems. The second option includes a generator sized for life safety systems as outlined by 105 CMR 150.017(B)(16)(c) through (e) as well as an optional standby provision.

Regardless of the generator option, the generator shall be mounted outside on a concrete pad with a 72-hour belly tank, catwalk, critical exhaust silencer (height of stack per 310 CMR 7.26(42)), and accessories including but not limited to block heater, battery heater, battery charger, and rodent guards.

### Option #1

Provide a 600kW/750kVA, diesel generator, 208/120V, 3-phase, 4-wire, with weatherproof sound attenuated, hurricane-rated enclosure.

Provide a 2,000 amp automatic transfer switch. The life safety and emergency transfer switch shall be installed at the service entrance and provide power for all building essential loads.

### Option #2

Provide a 300kW/375kVA, diesel generator, 208/120V, 3-phase, 4-wire, with weatherproof sound attenuated, hurricane-rated enclosure.

Provide a 600A automatic transfer switch for life safety loads with an electrical distribution system consisting of distribution panelboards, feeders, and branch circuit panelboards to support the life safety system.

Provide a 400A automatic transfer switch for optional standby loads with an electrical distribution

system consisting of distribution panelboards, feeders, and branch circuit panelboards to support the optional life safety system.

## **Electrical Lighting**

All lighting will be based on LED fixtures. Emergency lighting (including exit signs) will utilize the emergency generator system. Provide self-contained, universal mounted, LED exit signs.

Lighting controls shall consist of occupancy and vacancy sensors as required by the IECC. For areas not required to utilize lighting controls, provide lighted, wall-mounted over-ride buttons in addition to vacancy sensors. Site lighting shall utilize a time-clock, photocell, and lighting contactor system, programmable by the owner and meeting current IECC requirements.

Lighting controls for the building shall be processed through the BMS utilizing a zoned system and local switches.

Exit signs will be self-contained, universal mounted, LED illuminated, low energy usage fixtures.

All site lighting shall be LED

All LED light fixture shall have high efficiency, low power factor drivers.

All emergency lights shall be LED with battery back-ups.

Exit signs shall be provided at all exterior doors, and on each side of corridor doors.

Accent and feature lighting shall be provided as selected by the Architect, in areas such as corridors, entrance areas, conference rooms etc.

Occupancy and vacancy sensors will be provided as required by code in all lit areas except in utility rooms and other rooms exempted by code.

Occupancy sensor switches with wall override will be provided in all small offices, single occupancy toilet rooms, storage rooms and janitors closets.

Corridor Lighting will remain on during occupied hours for security purposes.

All egress doors leading directly to the exterior of the building will have fixtures with battery back-up, mounted above.

Illuminated low level exit signs and handicap accessible exit signs will be provided where required by code.

All egress doors shall have battery powered handicapped assisted door openers such as manufactured by ADA-EZ.

## **Tel/Data Infrastructure**

Provide (2) 4" conduits from the utility company point of connection to the equipment backboard for the telephone, cable television services and network interface.

Provide all conduits, raceways and backboxes, to the outlet location. Provide (1) Cat 6 cable per outlet with jacks and finish faceplate. Terminate all Cat 6 cables at local data closet. Provide tele/data outlets at the following locations:

- a. A minimum of (2) voice/data outlets in each office.
- b. A minimum of (4) data outlets in each conference/common room.
- c. A minimum of (2) voice/data outlets in each sleeping room.
- d. Additional outlets for equipment and general use as required by owner.

### **Nurses Call System**

Provide a new nurse call system with head-end unit connected back main server room. Each nurses' station will be an addressable zone with local rooms tied back to the nearest nurse's station on the floor.

Each sleeping room shall have nurse call interfaces in the bathrooms and at each bedside.

A nurse call interface shall be provided in each common area.

### **Wanderguard System**

Provide a new Wanderguard system with head-end unit connected back main server room. Each exterior door and stair way shall be wired to the Wanderguard for programmable responses.

### **Fire Alarm**

Provide a new addressable fire alarm system. The new system will be designed per NFPA 72, 780 CMR 907.2.6.2, any applicable local requirements and those of the Insurance Underwriters.

A new Fire Alarm Control Panel (FACP) will be installed in Phase 1 of the construction. The existing recently installed FACP will be maintained to monitor the existing spaces while under construction. This panel will interface to the new FACP. This panel will be relocated to the new building and then become the Remote Annunciator Panel.

Automatic smoke detection will be provided for the building corridors. Occupant notification will be by audible alarms and will be provided per IBC 907.5 and IBC 907.5.2.1. Elevator recall will be provided. Interface to the Fire Protection systems (Tamper Switches, Flow Switches, etc.) and HVAC system (Duct Smoke detectors) will be provided.

The following new devices will be provided:

1. (1) Horn/30 candela strobe in all common areas, rooms, and offices 600 square feet and less.
2. (2) Horn/30 candela strobes in all occupied spaces that are over 600 square feet.

3. (1) Horn/30 candela strobes within the corridors, 100 feet on center.
4. (2) Telephone cables from the fire alarm panel to the telephone demarcation board.
5. Magnetic door hold-open devices at all required corridor doors, connected to the FACP.
6. Smoke detector within five feet of both sides of the corridor doors with magnetic hold-opens, where required by building fire separation.
7. Smoke detectors with low frequency sounders will be placed in the sleeping rooms and within 15 feet outside of sleeping rooms.
8. Carbon Monoxide detectors in each room and with 10' of the outside of all room doors.
9. All fire alarm system wiring shall be plenum rated fire alarm MC cable.
10. System shall have internally mounted battery backup for power outages.
11. Provide pull stations at entry ways and heat and smoke detectors in the basement mechanical room and attic.
12. Provide elevator smoke detectors with elevator recall system.

### **Materials and Methods**

Include the following basic materials and methods of construction:

Wiring shall be THHN/THWN copper, installed in EMT conduit for most circuits. MC cable is allowable in interior concealed locations.

Devices shall be specification grade, NEMA 5-20R etc.

Disconnect switches shall be fusible heavy-duty type. NEMA 1 or 3R as required for locations installed.

Circuit breakers shall be fixed element, thermal magnetic type.

All conduits, circuits and devices shall be labeled.

## Section 2 – Phase 2

### General

After the old building is demolished, the stubbed services at the Temporary Support building will be extended across or under the connector to the new building. Phase 2 construction will follow the same construction design of Phase 1, except for the items listed below.

### Fire Protection

Phase 2 will demolish the existing fire protection service room. The existing service will no longer be used and the new building will be served from the Phase 1 installed service as a separate dry zone (for the attic) and wet zone for the finished spaces.

### Plumbing

The existing domestic water and water heaters in the old building will be demolished and the new structure will be built. Domestic cold, hot, and hot water recirculation pipes will be piped from the Phase 1 construction across the connector to the new spaces.

Waste line will travel to the connection point at the Phase 1 construction.

### Mechanical

**Demo of the Old Building:** The existing boilers, piping, and equipment in the Boiler Room of the old building will be demolished. Equipment shall not be reused based on age and phasing of the project.

**New for the South Wing:** The new kitchen in the Phase 2 construction will also have the kitchen hood and make-up air systems, sized based the same criteria listed in the Phase 1 Temporary Kitchen. Hydronic piping will be extended from the Phase 1 construction through the connecting Commons to the South Wing. For the connecting Commons space, (1) 10-ton heat pump and (1) general exhaust fan will be installed.

**Demo of the North Wing:** The Temporary Kitchen exhaust fans, makeup air units, and VAV boxes serving the space will be demolished. New VAV boxes with electric reheat will be installed for the renovated spaces. The exhaust, supply, return, and chases from the second floor to the first floor shall be reused in order to reduce the effect of first floor construction on the second floor.

### Electrical

**Demo of the Old Building:** The existing electrical service and systems of the old building will be demolished. Equipment shall not be reused based on age, capacity, and phasing of the project.

**New for the South Wing:** New electrical rooms shall be built in the Phase 2 space to service power, lighting, mechanical equipment and miscellaneous loads. These rooms shall be fed from the

emergency, standby, and normal power systems from the Phase 1 main electrical room.

Low voltage systems include but limited to; tele/data, fire alarm, security, etc. shall be existing via local extender panels in the Phase 2 space. The device type, locations, and quantities shall match the requirements from the Phase 1 work.

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# Section 3 – Existing Photos

## Section 3.0 – Mechanical Photos



M1.1 – Boilers in Mechanical Room



M1.2 – Exhaust Fans in Attic



M1.3 – Ductwork in Attic



M1.4 – Ductwork in Attic (Cont.)



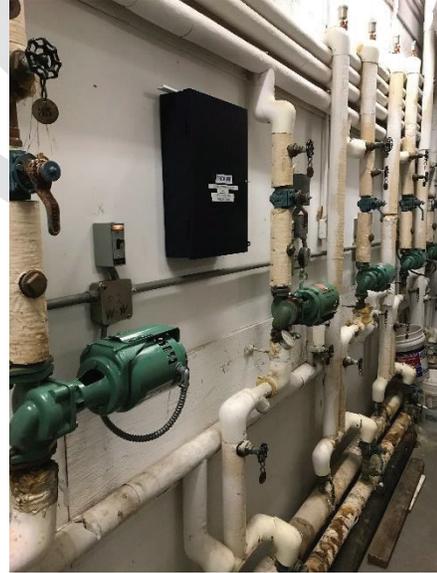
**M1.5 – Air Intake Duct For Mechanical Room**



**M1.10 – AC Unit in the Central Mech Room**



**M1.7 – Pumps 1 and 2**



**M1.8 – Central Mechanical Room Pump Wall**



**M1.9 – Central Mechanical Room Exhaust Fan**

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**Section 3.1 - Electrical Photos**



**E1.1 – Utility Transformer**



**E1.2 – Utility meter, mounted to side of transformer/CT cabinet**



**E1.3 – Main service entrance and distribution (800A, 120/208, 3-phase)**



**E1.4 – Loading on “A” phase during site visit (typical of phase “A” and “B”)**



**E1.5 – ATS for generator loads (1 of 2 in building)**



**E1.6 – ATS for generator loads (2 of 2 in building)**



E1.7 – Fire Alarm Control Panel, dialer, and head-end in main entrance



E1.8 – Fire Alarm Annunciator panel, located behind Reception



E1.9 – Generator Annunciator Panel, located behind Reception



E1.10 – 45 kW diesel generator

## Section 3.2 - Plumbing Photos



**P1.1 – Domestic Water Service**

**P1.2 – Domestic Water Piping**



**P1.3 – Water Heaters**

**P1.4 – Domestic Water Piping (cont.)**

**Section 3.3 - Fire Protection and Fire Alarm**



**FP1.1 – 6" Combination FP/D. Wat. Serv.**



**FP1.2 – Dry System Pipe in Attic**



**FP1.3 – 4" Siamese Fire Dept. Connection**



**FA1.1 – Fire Alarm Control Panel (FA)**

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CONSTRUCTION COST ENGINEERING OF BOSTON

# Cost Comparison Report

Monday, July 22, 2019

19 0500

Our Island Home, Nantucket, Option #1 Conceptual Estimate

19 0502

Our Island Home, Nantucket, Option #2 Conceptual Estimate

2019 BOSTON UNION AVERAGE

57156 SF

27,307,764

477.78 /SF

2019 BOSTON UNION AVERAGE

55238 SF

26,630,006

465.92 /SF

Difference

-677,758

-11.86 /SF

Code	Description	Option #1	Option #2	Difference
01	General Requirements	2,854,577 49.94 /SF	2,857,348 49.99 /SF	2,771 0.05 /SF
02	Existing Conditions	213,847 3.74 /SF	213,847 3.74 /SF	0 0.00 /SF
03	Concrete	1,142,607 19.99 /SF	1,093,477 19.13 /SF	-49,130 -0.86 /SF
04	Masonry	438,974 7.68 /SF	398,444 6.97 /SF	-40,530 -0.71 /SF
05	Metals	2,787,276 48.77 /SF	2,703,471 47.30 /SF	-83,805 -1.47 /SF
06	Wood, Plastics, and Composites	1,086,712 19.01 /SF	1,048,598 18.35 /SF	-38,113 -0.67 /SF
07	Thermal and Moisture Protection	1,188,741 20.80 /SF	1,131,044 19.79 /SF	-57,698 -1.01 /SF
08	Openings	895,110 15.66 /SF	895,110 15.66 /SF	0 0.00 /SF
09	Finishes	3,589,076 62.79 /SF	3,604,302 63.06 /SF	15,226 0.27 /SF
10	Specialties	22,499 0.39 /SF	22,499 0.39 /SF	0 0.00 /SF
12	Furnishings	25,468 0.45 /SF	25,468 0.45 /SF	0 0.00 /SF
13	Special Construction	527,110 9.22 /SF	510,389 8.93 /SF	-16,721 -0.29 /SF
14	Conveying Equipment	235,908 4.13 /SF	235,908 4.13 /SF	0 0.00 /SF
21	Fire Suppression	571,590 10.00 /SF	552,380 9.66 /SF	-19,210 -0.34 /SF
22	Plumbing	3,715,335 65.00 /SF	3,590,470 62.82 /SF	-124,865 -2.18 /SF
23	Heating, Ventilating, and Air Conditioning (HVAC)	4,872,039 85.24 /SF	4,708,754 82.38 /SF	-163,285 -2.86 /SF

19 0500

Our Island Home, Nantucket, Option #1 Conceptual Estimate

19 0502

Our Island Home, Nantucket, Option #2 Conceptual Estimate

26 Electrical	2,166,326	2,093,520	-72,806
	37.90 /SF	36.63 /SF	-1.27 /SF
31 Earthwork	322,650	319,509	-3,141
	5.65 /SF	5.59 /SF	-0.05 /SF
32 Exterior Improvements	513,786	487,334	-26,452
	8.99 /SF	8.53 /SF	-0.46 /SF
33 Utilities	138,134	138,134	0
	2.42 /SF	2.42 /SF	0.00 /SF

Sub Total		27,307,760	Sub Total		26,630,000
Overhead & Profit	10.00	2,730,777	Overhead & Profit	10.00	2,663,001
Bond	1.00	273,078	Bond	1.00	266,300
Island Factor	30.00	8,192,330	Island Factor	30.00	7,989,002
Design Contingency	15.00	4,096,165	Design Contingency	15.00	3,994,501
Grand Total		42,600,110	Grand Total		41,542,810
Cost/SF		745	Cost/SF		752



## Sub Division Summary

Our Island Home, Nantucket, Option #1 Conceptual Estimate		19 0500
1ST FLR 28,866 SF	6 1/2" Composite Steel Beam Frame w/3/4"x4" stud bolt	
2ND FLR 28,293 SF	3 1/2" conc on metal deck w/bar joists	
	6" Metal Studs Walls	
Total Floor area 57,156 SF	Perimeter 1,410 LF	
57156 SF	Other Health Buildings	Last Updated
Year 2019	Cost File 2019 BOSTON UNION AVERA	7/22/2019 2:08:29 PM

SubDivision	Description	Total	
<b><u>01 General Requirements</u></b>		<b><u>\$2,854,576</u></b>	
01 00 00	General Requirements	\$1,787,906	31.28 SF
01 30 00	Administrative Requirements	\$74,541	1.30 SF
01 31 00	Project Management and Coordination	\$270,000	4.72 SF
01 41 26	Permit Requirements	\$270,000	4.72 SF
01 50 00	Temporary Facilities and Controls	\$274,623	4.80 SF
01 52 13	Field Offices and Sheds	\$8,976	0.16 SF
01 60 00	Product Requirements	\$127,617	2.23 SF
01 70 00	Execution and Closeout Requirements	\$40,913	0.72 SF
<b><u>02 Existing Conditions</u></b>		<b><u>\$213,847</u></b>	
02 41 19	Selective Demolition	\$59,003	1.03 SF
02 41 19.13	Selective Building Demolition	\$154,844	2.71 SF
<b><u>03 Concrete</u></b>		<b><u>\$1,142,607</u></b>	
03 10 00	Concrete Forming and Accessories	\$2,212	0.04 SF
03 20 00	Concrete Reinforcing	\$71,355	1.25 SF
03 30 00	Cast-in-Place Concrete	\$1,069,041	18.70 SF
<b><u>04 Masonry</u></b>		<b><u>\$438,974</u></b>	
04 05 16	Masonry Grouting	\$7,279	0.13 SF

SubDivision	Description	Total	
04 05 23	<b>Masonry Accessories</b>	<b>\$25,830</b>	0.45 SF
04 22 00	<b>Concrete Unit Masonry</b>	<b>\$51,321</b>	0.90 SF
04 40 00	<b>Stone Assemblies</b>	<b>\$318,186</b>	5.57 SF
04 57 00	<b>Masonry Fireplaces</b>	<b>\$36,357</b>	0.64 SF

**05 Metals****\$2,787,276**

05 00 00	<b>Metals</b>	<b>\$20,814</b>	0.36 SF
05 10 00	<b>Structural Metal Framing</b>	<b>\$2,149,397</b>	37.61 SF
05 30 00	<b>Metal Decking</b>	<b>\$246,890</b>	4.32 SF
05 41 00	<b>Structural Metal Stud Framing</b>	<b>\$291,264</b>	5.10 SF
05 50 00	<b>Metal Fabrications</b>	<b>\$2,956</b>	0.05 SF
05 52 13	<b>Pipe and Tube Railings</b>	<b>\$4,552</b>	0.08 SF
05 55 00	<b>Metal Stair Treads and Nosings</b>	<b>\$71,402</b>	1.25 SF

**06 Wood, Plastics, and Composites****\$1,086,712**

06 10 00	<b>Rough Carpentry</b>	<b>\$353,529</b>	6.19 SF
06 11 00	<b>Wood Framing</b>	<b>\$83,752</b>	1.47 SF
06 16 43	<b>Gypsum Sheathing</b>	<b>\$102,555</b>	1.79 SF
06 20 00	<b>Finish Carpentry</b>	<b>\$238,500</b>	4.17 SF
06 40 00	<b>Architectural Woodwork</b>	<b>\$308,376</b>	5.40 SF

**07 Thermal and Moisture Protection****\$1,188,741**

07 10 00	<b>Dampproofing and Waterproofing</b>	<b>\$29,142</b>	0.51 SF
07 20 00	<b>Thermal Protection</b>	<b>\$99,191</b>	1.74 SF
07 21 16	<b>Blanket Insulation</b>	<b>\$44,911</b>	0.79 SF
07 25 00	<b>Weather Barriers</b>	<b>\$12,704</b>	0.22 SF
07 27 00	<b>Air Barriers</b>	<b>\$226,048</b>	3.95 SF
07 30 00	<b>Steep Slope Roofing</b>	<b>\$248,644</b>	4.35 SF
07 40 00	<b>Roofing and Siding Panels</b>	<b>\$298,148</b>	5.22 SF
07 50 00	<b>Membrane Roofing</b>	<b>\$1,515</b>	0.03 SF
07 60 00	<b>Flashing and Sheet Metal</b>	<b>\$110,620</b>	1.94 SF

SubDivision	Description	Total	
07 70 00	<i>Roof and Wall Specialties and Accesso</i>	<b>\$7,536</b>	0.13 SF
07 90 00	<i>Joint Protection</i>	<b>\$110,282</b>	1.93 SF

**08 Openings****\$895,110**

08 10 00	<i>Doors and Frames</i>	<b>\$31,401</b>	0.55 SF
08 11 00	<i>Metal Doors and Frames</i>	<b>\$31,747</b>	0.56 SF
08 30 00	<i>Specialty Doors and Frames</i>	<b>\$26,769</b>	0.47 SF
08 41 00	<i>Entrances and Storefronts</i>	<b>\$320,124</b>	5.60 SF
08 50 00	<i>Windows</i>	<b>\$304,726</b>	5.33 SF
08 70 00	<i>Hardware</i>	<b>\$139,587</b>	2.44 SF
08 80 00	<i>Glazing</i>	<b>\$24,607</b>	0.43 SF
08 90 00	<i>Louvers and Vents</i>	<b>\$16,150</b>	0.28 SF

**09 Finishes****\$3,589,076**

09 00 00	<i>Finishes</i>	<b>\$1,600,000</b>	27.99 SF
09 06 80	<i>Schedules for Acoustical Treatment</i>	<b>\$50,949</b>	0.89 SF
09 20 00	<i>Plaster and Gypsum Board</i>	<b>\$563,557</b>	9.86 SF
09 22 00	<i>Supports for Plaster and Gypsum Boar</i>	<b>\$57,069</b>	1.00 SF
09 30 00	<i>Tiling</i>	<b>\$264,115</b>	4.62 SF
09 30 13	<i>Ceramic Tiling</i>	<b>\$71,128</b>	1.24 SF
09 30 16	<i>Quarry Tiling</i>	<b>\$37,656</b>	0.66 SF
09 51 00	<i>Acoustical Ceilings</i>	<b>\$96,948</b>	1.70 SF
09 53 00	<i>Acoustical Ceiling Suspension Assembl</i>	<b>\$125,766</b>	2.20 SF
09 60 00	<i>Flooring</i>	<b>\$20,420</b>	0.36 SF
09 65 00	<i>Resilient Flooring</i>	<b>\$321,788</b>	5.63 SF
09 68 00	<i>Carpeting</i>	<b>\$6,739</b>	0.12 SF
09 72 00	<i>Wall Coverings</i>	<b>\$33,599</b>	0.59 SF
09 90 00	<i>Painting and Coating</i>	<b>\$339,343</b>	5.94 SF

**10 Specialties****\$22,499**

10 11 00	<i>Visual Display Units</i>	<b>\$2,242</b>	0.04 SF
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SubDivision	Description	Total	
<b>10 26 00</b>	<b>Wall and Door Protection</b>	<b>\$2,559</b>	0.04 SF
<b>10 28 00</b>	<b>Toilet, Bath, and Laundry Accessories</b>	<b>\$10,230</b>	0.18 SF
<b>10 44 00</b>	<b>Fire Protection Specialties</b>	<b>\$6,698</b>	0.12 SF
<b>10 51 00</b>	<b>Lockers</b>	<b>\$770</b>	0.01 SF
<b><u>12 Furnishings</u></b>		<b><u>\$25,468</u></b>	
<b>12 24 13</b>	<b>Roller Window Shades</b>	<b>\$17,915</b>	0.31 SF
<b>12 48 13.13</b>	<b>Entrance Floor Mats</b>	<b>\$7,552</b>	0.13 SF
<b><u>13 Special Construction</u></b>		<b><u>\$527,110</u></b>	
<b>13 00 00</b>	<b>Special Construction</b>	<b>\$527,110</b>	9.22 SF
<b><u>14 Conveying Equipment</u></b>		<b><u>\$235,908</u></b>	
<b>14 20 00</b>	<b>Elevators</b>	<b>\$211,390</b>	3.70 SF
<b>14 40 00</b>	<b>Lifts</b>	<b>\$24,518</b>	0.43 SF
<b><u>21 Fire Suppression</u></b>		<b><u>\$571,590</u></b>	
<b>21 13 13</b>	<b>Wet-Pipe Sprinkler Systems</b>	<b>\$571,590</b>	10.00 SF
<b><u>22 Plumbing</u></b>		<b><u>\$3,715,335</u></b>	
<b>22 00 00</b>	<b>Plumbing</b>	<b>\$3,715,335</b>	65.00 SF
<b><u>23 Heating, Ventilating, and Air Conditioning (HVAC)</u></b>		<b><u>\$4,872,039</u></b>	
<b>23 00 00</b>	<b>Heating, Ventilating, and Air Conditioni</b>	<b>\$4,858,515</b>	85.00 SF
<b>23 30 00</b>	<b>HVAC Air Distribution</b>	<b>\$13,524</b>	0.24 SF
<b><u>26 Electrical</u></b>		<b><u>\$2,166,326</u></b>	
<b>26 00 00</b>	<b>Electrical</b>	<b>\$2,166,326</b>	37.90 SF

SubDivision	Description	Total	
<b><u>31 Earthwork</u></b>			<b><u>\$322,650</u></b>
31 11 00	Clearing and Grubbing	\$29,681	0.52 SF
31 22 16	Fine Grading	\$66,596	1.17 SF
31 23 16	Excavation	\$226,373	3.96 SF
<b><u>32 Exterior Improvements</u></b>			<b><u>\$513,786</u></b>
32 10 00	Bases, Ballasts, and Paving	\$31,396	0.55 SF
32 12 16	Asphalt Paving	\$133,426	2.33 SF
32 13 13	Concrete Paving	\$7,060	0.12 SF
32 14 00	Unit Paving	\$113,844	1.99 SF
32 16 00	Curbs, Gutters, Sidewalks, and Drivewa	\$102,463	1.79 SF
32 17 23.13	Painted Pavement Markings	\$8,330	0.15 SF
32 30 00	Site Improvements	\$10,567	0.18 SF
32 31 13	Chain Link Fences and Gates	\$3,376	0.06 SF
32 32 00	Retaining Walls	\$43,323	0.76 SF
32 90 00	Planting	\$60,000	1.05 SF
<b><u>33 Utilities</u></b>			<b><u>\$138,134</u></b>
33 00 00	Utilities	\$22,325	0.39 SF
33 05 31.27	Polyvinyl Chloride Perforated Drainage	\$15,761	0.28 SF
33 14 13	Public Water Utility Distribution Piping	\$30,918	0.54 SF
33 31 00	Sanitary Sewerage Piping	\$26,416	0.46 SF
33 40 00	Stormwater Utilites	\$42,713	0.75 SF

<b>SubDivision</b>	<b>Description</b>	<b>Total</b>	
<b>Sub Total</b>		<b>27,307,760</b>	477.78 / SF
Overhead & Profit	10 %	2,730,776	
Bond	1 %	273,078	
Island Factor	30 %	8,192,329	
Design Contingency	15 %	4,096,165	
<b>Grand Total</b>		<b>42,600,110</b>	745.33 / SF



Our Island Home, Nantucket, Option #1 Conceptual Estimate		19 0500
1ST FLR	28,866 SF	6 1/2" Composite Steel Beam Frame w/3/4"x4" stud bolt
2ND FLR	28,293 SF	3 1/2" conc on metal deck w/bar joists
		6" Metal Studs Walls
Total Floor area	57,156 SF	Perimeter 1,410 LF
57156 SF	Other Health Buildings	Last Updated
Year 2019	Cost File 2019 BOSTON UNION AVERA	7/22/2019 2:08:29 PM

Description	Quantity	Unit	Unit Cost	Extended Cost
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**01 General Requirements**

**01 00 00 General Requirements**

Project manager 3day/week	62	WEEK	4573.87	283,580
Field office, clerk f/minutes&misc	104	WEEK	2772.04	288,293
Field engineer	12	WEEK	3940.57	47,287
Start up finance	4	WEEK	11000.00	44,000
Cutting & patching, misc.	5	JOB	872.56	4,363
Street connection, fee	2	EA	550.00	1,100
General superintendent	104	WEEK	4835.12	502,852
Main office, general clerk 1/2 time	52	WEEK	3224.11	167,654
Repair broken glass	2	JOB	851.00	1,702
Asst. superintendent	104	WEEK	4298.81	447,076

**01 00 00 General Requirements 1,787,906**

**01 30 00 Administrative Requirements**

Scheduling, progress cpm, updates	23	EA	825.00	18,975
Scheduling, progress cpm	1	EA	8250.00	8,250
Shop drawings/ product data sheets	50	SET	449.30	22,465
Survey, 3 man crew, line & grade	5	DAY	2516.98	12,585
Additional drawings	25	JOB	275.00	6,875
Drawings, as built	1	SET	5391.60	5,392

**01 30 00 Administrative Requirements 74,541**

**01 31 00 Project Management and Coordination**

Insurance, 1%	270000	JOB	1.00	270,000
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**01 31 00 Project Management and Coordination 270,000**

**01 General Requirements**

Description	Quantity	Unit	Unit Cost	Extended Cost
<b>01 41 26 Permit Requirements</b>				
Permit fee \$10/m	27000	JOB	10.00	270,000
<b>01 41 26</b>	<b>Permit Requirements</b>			<b>270,000</b>
<b>01 50 00 Temporary Facilities and Controls</b>				
Rubbish chutes	30	LF	55.00	1,650
Telephone, general clerk use	24	MONTH	385.00	9,240
Copying machine	24	MONTH	275.00	6,600
Temporary heat, 12 hrs day, per wk	571.56	CSFFLR	27.56	15,751
Temporary electric, power/lights	571.56	CSFFLR	47.76	27,300
Temporary water	24	MONTH	55.00	1,320
Rough hardware	5	JOB	385.00	1,925
Temporary doors, 5 per job	1	EA	1741.56	1,742
Project sign, 4' x 8' x 1 7/8"	1	EA	1226.45	1,226
Barrier, plywood on 2"x4"frame 8'	250	LF	43.42	10,856
Barrier, street type	24	MONTH	330.00	7,920
Protection, property	24	JOB	220.00	5,280
Temporary fire, protection	24	JOB	550.00	13,200
Rubbish removal, 40 cy capacity	52	LOAD	660.00	34,320
Construction fence	500	LF	19.80	9,900
Cleaning general, site	1040	HR	109.07	113,433
Temporary electric, power/lights	24	Mo.	440.00	10,560
Internet Service	24	Mo.	100.00	2,400
<b>01 50 00</b>	<b>Temporary Facilities and Controls</b>			<b>274,623</b>
<b>01 52 13 Field Offices and Sheds</b>				
Office trailer, furnished, 36'x8'	24	MONTH	264.00	6,336
Storage trailer, 28'x10'	24	Mo.	110.00	2,640
<b>01 52 13</b>	<b>Field Offices and Sheds</b>			<b>8,976</b>
<b>01 60 00 Product Requirements</b>				
Supers & project mgrs. vehicles	48	MO	385.00	18,480
Equipment, hoisting f/subs	4	WEEKS	14216.23	56,865
Toilet, portable chemical, rent	48	MONTH	99.00	4,752
Trucking, general site use	24	JOB	550.00	13,200
Small tools, purchase/rent	24	JOB	330.00	7,920
Equipment rentals, misc	6	JOB	4400.00	26,400

**01 General Requirements**

Description	Quantity	Unit	Unit Cost	Extended Cost
<b>01 60 00 Product Requirements</b>				<b>127,617</b>
<b>01 70 00 Execution and Closeout Requirements</b>				
Final waxing resilient flooring	20000	SF	0.48	9,646
Cleaning windows, helper	180	EA	17.59	3,166
Clean-up, final	2	WEEK	8725.61	17,451
Punchlist, survey/check	2	WEEK	5324.82	10,650
<b>01 70 00 Execution and Closeout Requirements</b>				<b>40,913</b>

**02 Existing Conditions****02 41 19 Selective Demolition**

Demo pavement, block pavers parking	335	SY	5.20	1,742
Demo sidewalk, concrete, plain	84	SY	19.33	1,624
Demo pavement, concrete 6", driveway	2014	SY	14.07	28,336
Demo pavement, concrete 6", patio	489	SY	14.07	6,880
Demo pavement, bituminous parking	866	SY	5.28	4,569
Allowance, dump permit	10000	LS	1.10	11,000
Demo, Post and rail fence	75	LF	11.11	833
Demo, Stockade fence	405	LF	4.16	1,687
Demo, Brick. Walk	560	SF	4.16	2,332
<b>02 41 19 Selective Demolition</b>				<b>59,003</b>

**02 41 19.13 Selective Building Demolition**

Demo bldg, wood frame sheds 2ea. 10' high	6200	CF	0.57	3,548
Demo bldg, wood frame gazebo 10' high	1000	CF	0.57	572
Demo bldg, wood/steel frame 20,792 sf 1 sty @ 10' high	207920	CF	0.72	150,723
<b>02 41 19.13 Selective Building Demolition</b>				<b>154,844</b>

**03 Concrete****03 10 00 Concrete Forming and Accessories**

Expansion joint, bit.fiber, 1/2"x6"	642	LF	3.44	2,212
<b>03 10 00 Concrete Forming and Accessories</b>				<b>2,212</b>

**03 Concrete**

Description	Quantity	Unit	Unit Cost	Extended Cost
<b>03 20 00 Concrete Reinforcing</b>				
Reinforcing,mat. only, spread ftg	3.75	TON	999.90	3,750
Reinforcing,mat. only, strip ftg	11.1	TON	999.90	11,099
Reinforcing,mat. only, found wall	11.5	TON	999.90	11,499
Welded wire fabric, 6x6-w1.4xw1.4	21.15	CSF	83.79	1,772
Welded wire fabric, 6x6-w2.1xw2.1	337.98	CSF	97.45	32,936
Reinforcing f/12" shear walls 10#/sf	10.3	TON	999.90	10,299

**03 20 00 Concrete Reinforcing****71,355****03 30 00 Cast-in-Place Concrete**

Finishing, broom finish side walk	5218	SF	1.73	9,035
Concrete in place, 2nd floor slab, 3 1/2" on metal deck	28263	SF	4.80	135,791
Concrete in place, 1st floor slab, 6 1/2" on metal deck	28866	SF	6.02	173,676
Concrete in place, h.c. ramp, 5'w	100	LF	458.81	45,881
Concrete in place, inter.shear wall 12"	77	CY	691.21	53,223
Conc in place,stairs/ramps	30	CY	860.69	25,821
Concrete in place, grade wall 16" x 5'-3"	367.4	CY	1041.47	382,634
Finishing floor, steel trowel	57156	SF	1.87	106,886
Conc in place,ramps,misc	14	CY	874.60	12,244
Conc, elevator pit walls & slab	20	CY	1104.52	22,090
Concrete in place, spread footing	50	CY	554.73	27,736
Concrete in place, haunch footing	23.4	CY	435.83	10,198
Concrete in place, stripfooting 2' x1'	104.4	CY	436.72	45,593
Concrete in place, Propane equipment pad	10	CY	405.11	4,051
Concrete in place,Diesel equipment pad	15	CY	405.11	6,077
Concrete in place,Generator equipment pad	20	CY	405.11	8,102

**03 30 00 Cast-in-Place Concrete****1,069,041****04 Masonry****04 05 16 Masonry Grouting**

Grouting, cmu cores, 8" thick 50%	1144	SF	6.36	7,279
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**04 05 16 Masonry Grouting****7,279**

**04 Masonry**

Description	Quantity	Unit	Unit Cost	Extended Cost
<b>04 05 23 Masonry Accessories</b>				
Staging	7928	SF	1.48	11,761
Forklift, w/ operator	10	DAY	1406.95	14,069
<b>04 05 23 Masonry Accessories</b>				<b>25,830</b>
<b>04 22 00 Concrete Unit Masonry</b>				
Cmu, partition, 8" thick elevator shafts	2288	SF	17.24	39,442
Cmu, bond beam, 8"thick 4' oc vert	572	LF	20.77	11,879
<b>04 22 00 Concrete Unit Masonry</b>				<b>51,321</b>
<b>04 40 00 Stone Assemblies</b>				
Veneer, ashlar, 4" between grade and 1st floor 4' high	5640	SF	56.42	318,186
<b>04 40 00 Stone Assemblies</b>				<b>318,186</b>
<b>04 57 00 Masonry Fireplaces</b>				
Brick, fireplace, Direct vent, gas	6	EA	6059.56	36,357
<b>04 57 00 Masonry Fireplaces</b>				<b>36,357</b>

**05 Metals**

<b>05 00 00 Metals</b>				
Welded shear connector, 3/4"x3-3/8 4.85 sf/each	5951	EA	3.50	20,814
<b>05 00 00 Metals</b>				<b>20,814</b>
<b>05 10 00 Structural Metal Framing</b>				
Struct steel, roof/attic bar joist framing 6#/sf (28,866sf)	86.6	TON	6155.20	533,041
Struct steel, 2nd flr bar joist framing 6#/sf (28,866sf)	86.6	TON	6155.20	533,041
Struct steel, 1st flr Composite Bms & Girders 10#/sf (28,866sf)	144.4	TON	6155.20	888,811
Struct steel, connections 10%	31.6	TON	6155.20	194,504
<b>05 10 00 Structural Metal Framing</b>				<b>2,149,397</b>

**05 Metals**

Description	Quantity	Unit	Unit Cost	Extended Cost
<b>05 30 00 Metal Decking</b>				
Metal deck, 18 ga galv,2" deep	28866	SF	2.30	66,454
Metal deck, 24 ga galv,1" deep	28293	SF	1.80	50,786
Metal decking, edge closureform18ga	2820	LF	5.39	15,213
Metal deck, 24 ga galv,1" deep, attic	28293	SF	1.80	50,786
Metal deck, 24 ga galv,1" deep, roof	35460	SF	1.80	63,651
<b>05 30 00 Metal Decking</b>				<b>246,890</b>
<b>05 41 00 Structural Metal Stud Framing</b>				
Metal stud, lb partition18ga. 6" 16"o.c.	36660	SF	7.95	291,264
<b>05 41 00 Structural Metal Stud Framing</b>				<b>291,264</b>
<b>05 50 00 Metal Fabrications</b>				
Ladder, steel,bolted to wall elevator	20	VLF	147.80	2,956
<b>05 50 00 Metal Fabrications</b>				<b>2,956</b>
<b>05 52 13 Pipe and Tube Railings</b>				
Railing, wall, alum.pipe	60	LF	32.52	1,951
Railing, center, alum.pipe	80	LF	32.52	2,601
<b>05 52 13 Pipe and Tube Railings</b>				<b>4,552</b>
<b>05 55 00 Metal Stair Treads and Nosings</b>				
Stair, landing, steel pan	200	SF	63.58	12,716
Stair, metal pan 5w,w/cement fill (4 flights)	92	RISER	431.51	39,699
Stair, metal pan 5w,w/cement fill (2 flights) attic	44	RISER	431.51	18,987
<b>05 55 00 Metal Stair Treads and Nosings</b>				<b>71,402</b>

**06 Wood, Plastics, and Composites**

<b>06 10 00 Rough Carpentry</b>				
Labor only, carpenter	100	DAY	1064.96	106,496
Blocking, wood 2"x6"	12	MBF	4939.52	59,274
Roof soffits 2'wide	1410	LF	14.46	20,386

**06 Wood, Plastics, and Composites**

Description	Quantity	Unit	Unit Cost	Extended Cost
Sheathing, roof, 5/8" cdx plywood	35460	SF	2.55	90,366
Sub floor, plywood cdx, 3/4", attic	28293	SF	2.72	77,007
<b>06 10 00      <i>Rough Carpentry</i></b>				<b>353,529</b>

**06 11 00      *Wood Framing***

Composite deck, trex13/16" framing	3604	SF	23.24	83,752
<b>06 11 00      <i>Wood Framing</i></b>				<b>83,752</b>

**06 16 43      *Gypsum Sheathing***

Sheathing, dens-glass, 5/8" thick, wp.	36660	SF	2.80	102,555
<b>06 16 43      <i>Gypsum Sheathing</i></b>				<b>102,555</b>

**06 20 00      *Finish Carpentry***

Columns, fiberglass, 12" dia. 10'	2	EA	555.93	1,112
Composite vanity, tops & bases	63	EA	690.52	43,503
Molding, chairrail 5-1/4" corridor	2400	LF	8.80	21,128
6" exterior trim, hardi board	1400	LF	11.94	16,717
12" exterior fascia, hardi board	1410	LF	14.14	19,939
12" exterior trim, hardi board	120	LF	14.14	1,697
8" exterior trim, rafter, hardi board	642	LF	10.84	6,960
2' soffits trim w/vent strip	1410	LF	10.84	15,286
9" vertical trim, hardi board	750	LF	10.84	8,131
5" window trim	2250	LF	7.54	16,967
12" window trim w/beveled detail	2250	LF	9.74	21,917
Molding, baseboard 5-1/4" rooms	7400	LF	8.80	65,145
<b>06 20 00      <i>Finish Carpentry</i></b>				<b>238,500</b>

**06 40 00      *Architectural Woodwork***

Casework, closet shelves	450	LF	11.00	4,950
Casework, paneling, lobby	650	SF	55.00	35,750
Front desk, lobby (3)	96	LF	974.08	93,512
Casework allowance	1	TOTAL	82500.00	82,500
Window sill, solid surface 9" wide 90 windows	630	LF	32.65	20,569
Wood wainscoting dining 3' high	243	lf	25.29	6,145
Corridor wainscoting 30" high 2400lf	6000	SF	10.82	64,949
<b>06 40 00      <i>Architectural Woodwork</i></b>				<b>308,376</b>

**07 Thermal and Moisture Protection**

Description	Quantity	Unit	Unit Cost	Extended Cost
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**07 Thermal and Moisture Protection****07 10 00 Dampproofing and Waterproofing**

Vapor barrier, polyethylene,.006"t crawl space	288.86	SQ	27.51	7,946
Building paper, asphalt, 2 ply #30	131.32	SQ	40.06	5,260
Ice & water, shield f/eaves, valley	4353	SF	0.64	2,765
Vapor barrier,.006"t vert walls	366.6	SQ	27.51	10,084
Vapor barrier,.006"t 3rd flr ceiling	112.25	SQ	27.51	3,088

<b>07 10 00 Dampproofing and Waterproofing</b>				<b>29,142</b>
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**07 20 00 Thermal Protection**

Roof deck insul, urethane, 3"t	616	SF	2.62	1,611
Insulation, rigid, polystyrene, 2"	19260	SF	1.78	34,325
Insulation, fiberglass ff 6" x 15"	36660	SF	1.15	42,318
Attic insulation, fiberglass 9"	11348	SF	1.49	16,899
Insulation, rigid, polystyrene, 2"	1848	SF	2.18	4,038

<b>07 20 00 Thermal Protection</b>				<b>99,191</b>
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**07 21 16 Blanket Insulation**

Insulation, fiberglass,uf 6" x 15	36660	SF	1.23	44,911
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<b>07 21 16 Blanket Insulation</b>				<b>44,911</b>
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**07 25 00 Weather Barriers**

Ice & water, shield	20000	SF	0.64	12,704
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<b>07 25 00 Weather Barriers</b>				<b>12,704</b>
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**07 27 00 Air Barriers**

House wrap, tyvek	36660	SF	0.41	14,988
Air barrier, peel & stick w.p. membrane	36660	SF	5.76	211,060

<b>07 27 00 Air Barriers</b>				<b>226,048</b>
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**07 30 00 Steep Slope Roofing**

Shingles, asphalt, hip	310	LF	3.08	955
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**07 Thermal and Moisture Protection**

Description	Quantity	Unit	Unit Cost	Extended Cost
Shingles, asphalt, ridge	385	LF	3.71	1,429
Shingles, asphalt, valley	122	LF	3.08	376
Shingles, asphalt arch grade, F/high winds	354.6	SQ	693.41	245,885

**07 30 00 Steep Slope Roofing****248,644****07 40 00 Roofing and Siding Panels**

Shingles, hardie board, plank walls 14" x 48"	34.96	SQ	695.26	24,306
Hunter Panel, plywood cdx, 3/4", w/4" poly iso	2000	SF	4.96	9,917
3/4" cdx plywood panels	864	SF	5.06	4,374
6" clapboards, hardie board	36660	SF	7.08	259,550

**07 40 00 Roofing and Siding Panels****298,148****07 50 00 Membrane Roofing**

Membrane, epdm, 60 mil, full adhered	616	SF	2.35	1,445
Roof pavers 5%	30	SF	2.35	70

**07 50 00 Membrane Roofing****1,515****07 60 00 Flashing and Sheet Metal**

Flashing, painted galv. 16 oz. sheets	6000	SF	13.53	81,197
Gutters, aluminum	1410	LF	10.66	15,033
Downspouts, aluminum	1466	LF	9.82	14,390

**07 60 00 Flashing and Sheet Metal****110,620****07 70 00 Roof and Wall Specialties and Accessori**

Roof smoke vents, alum. curb & cover	4	EA	1883.95	7,536
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**07 70 00 Roof and Wall Specialties and Accessories****7,536****07 90 00 Joint Protection**

Smokestop sealant	15720	LF	4.02	63,177
Caulking, backer rod polyeth. 1/2"	6000	LF	2.69	16,118
Caulking, butyl 1/2"x1/2" 77lf/gal	6000	LF	5.16	30,987

**07 90 00 Joint Protection****110,282****08 Openings**

**08 Openings**

Description	Quantity	Unit	Unit Cost	Extended Cost
<b>08 10 00 Doors and Frames</b>				
Wood door, 1 3/4" sc	56	EA	290.69	16,279
Wood door, 1 3/4" sc, bathroom	42	EA	290.69	12,209
Wood door, rated	9	EA	323.69	2,913
<b>08 10 00</b>		<b>Doors and Frames</b>		<b>31,401</b>
<b>08 11 00 Metal Doors and Frames</b>				
H.m. frame, single, welded	117	EA	222.79	26,066
H.m. door, 1-3/4" 20g,	5	EA	359.19	1,796
Alum door&frame, 3'-6"	2	EA	1942.82	3,886
<b>08 11 00</b>		<b>Metal Doors and Frames</b>		<b>31,747</b>
<b>08 30 00 Specialty Doors and Frames</b>				
Access door, f.r. metal, 18" x 18"	18	EA	338.33	6,090
Double corridor doors	7	PR	2954.08	20,679
<b>08 30 00</b>		<b>Specialty Doors and Frames</b>		<b>26,769</b>
<b>08 41 00 Entrances and Storefronts</b>				
Alum entrance, sidelights	1500	SF	44.00	66,000
Storefront, alum w/1" glass	4500	SF	50.97	229,374
Auto entrance doors, alum	5	PR	4950.00	24,750
<b>08 41 00</b>		<b>Entrances and Storefronts</b>		<b>320,124</b>
<b>08 50 00 Windows</b>				
Aluminum fixed transom	24	EA	1633.50	39,204
Windows, type 7'x6'	90	EA	2950.24	265,522
<b>08 50 00</b>		<b>Windows</b>		<b>304,726</b>
<b>08 70 00 Hardware</b>				
Door closer, spring hinges	51	EA	180.26	9,193
Doorstops, wall bumper	200	EA	48.77	9,755
Finish hardware	264	SET	345.26	91,149
Door closer	22	EA	235.26	5,176
Threshold, 4"	50	EA	79.29	3,964
Panic hardware	10	EA	825.00	8,250
Locknetics magnetic locks	22	SET	550.00	12,100

**08 Openings**

Description	Quantity	Unit	Unit Cost	Extended Cost
<b>08 70 00 Hardware</b>				<b>139,587</b>
<b>08 80 00 Glazing</b>				
Framed mirror	510	SF	16.50	8,415
Borrowed lights	368	SF	44.00	16,192
<b>08 80 00 Glazing</b>				<b>24,607</b>
<b>08 90 00 Louvers and Vents</b>				
Louvers, aluminum	200	SF	80.75	16,150
<b>08 90 00 Louvers and Vents</b>				<b>16,150</b>

**09 Finishes**

<b>09 00 00 Finishes</b>				
Tenant Fit-out allowance	8000	SF	200.00	1,600,000
<b>09 00 00 Finishes</b>				<b>1,600,000</b>
<b>09 06 80 Schedules for Acoustical Treatment</b>				
Sound attenuation, blanket 3	30000	SF	1.70	50,949
<b>09 06 80 Schedules for Acoustical Treatment</b>				<b>50,949</b>
<b>09 20 00 Plaster and Gypsum Board</b>				
Drywall,, 5/8" on ceiling	18856	SF	4.62	87,141
Part. drywall, 5/8" , regular	20880	SF	8.91	186,129
Pipe chase wall, part.	3900	SF	12.60	49,154
Drywall, fire res, 5/8" on ext. wall	30660	SF	3.20	98,157
Gwb, soffited coffered ceiling,lobby,wood	2852	SF	13.21	37,678
Shaft wall, 2hr dbl layer 5/8"	3900	SF	12.60	49,154
Drywall, moisture res, 5/8"	15400	SF	3.65	56,144
<b>09 20 00 Plaster and Gypsum Board</b>				<b>563,557</b>
<b>09 22 00 Supports for Plaster and Gypsum Board</b>				
Suspension system, f/ ceiling gwb	18856	SF	3.03	57,069
<b>09 22 00 Supports for Plaster and Gypsum Board</b>				<b>57,069</b>

**09 Finishes**

Description	Quantity	Unit	Unit Cost	Extended Cost
<b>09 30 00 Tiling</b>				
Tile, floor, 12"sq., bathrooms	3240	SF	28.70	92,973
Tile, cove base,12"sq, rooms	1461	LF	24.26	35,448
Ceramic tile, wainscott	5844	SF	15.74	91,965
Cementitious, backerboard 5/8" t.	5844	SF	7.48	43,728
<b>09 30 00 Tiling</b>				<b>264,115</b>
<b>09 30 13 Ceramic Tiling</b>				
Ceramic tile, porcelain,	4422	SF	16.08	71,128
<b>09 30 13 Ceramic Tiling</b>				<b>71,128</b>
<b>09 30 16 Quarry Tiling</b>				
Quarry tile, red floor,8"x8"x1/2",mud	2119	SF	17.77	37,656
<b>09 30 16 Quarry Tiling</b>				<b>37,656</b>
<b>09 51 00 Acoustical Ceilings</b>				
Ceiling boards, fiberglass 2x2 3/4	35448	SF	2.73	96,948
<b>09 51 00 Acoustical Ceilings</b>				<b>96,948</b>
<b>09 53 00 Acoustical Ceiling Suspension Assemblies</b>				
Ceiling boards, 3/4"t, 2'x2'	35448	SF	3.55	125,766
<b>09 53 00 Acoustical Ceiling Suspension Assemblies</b>				<b>125,766</b>
<b>09 60 00 Flooring</b>				
Stair treads, rubber 12" wide 1/4"	460	LF	17.23	7,924
Stair risers, rubber 7" high 1/8"	460	LF	7.89	3,631
Stair landings, rubber 1/8" thick	200	SF	11.13	2,226
Stair treads, rubber 12" wide 1/4" attic	220	LF	17.23	3,790
Stair risers, rubber 7" high 1/8" attic	220	LF	7.89	1,737
Stair landings, rubber 1/8" thick attic	100	SF	11.13	1,113
<b>09 60 00 Flooring</b>				<b>20,420</b>
<b>09 65 00 Resilient Flooring</b>				
vct 12"x12" 1/8"t	5503	SF	3.95	21,711
Resilient, vinylsheets .093" thick	40315	SF	6.86	276,523

**09 Finishes**

Description	Quantity	Unit	Unit Cost	Extended Cost
Floor rubber, base, 4"	5174	LF	4.55	23,554
<b>09 65 00</b>	<b>Resilient Flooring</b>			<b>321,788</b>
<b>09 68 00</b>	<b>Carpeting</b>			
Carpet, 28 oz	173	SY	38.95	6,739
<b>09 68 00</b>	<b>Carpeting</b>			<b>6,739</b>
<b>09 72 00</b>	<b>Wall Coverings</b>			
Vinyl wall covering, 24 oz.pub.area	8797	SF	3.82	33,599
<b>09 72 00</b>	<b>Wall Coverings</b>			<b>33,599</b>
<b>09 90 00</b>	<b>Painting and Coating</b>			
Paint walls	92460	SF	1.53	141,396
Labor only, painters ordinary	100	DAY	1042.01	104,201
Paint, int door/frame 2coat,w/brush	100	EA	135.29	13,529
Paint, stairways, oil, 2c w/brush	8	FLT	1057.61	8,461
Paint, ceilings, 2 coats	18856	SF	2.07	39,043
Paint walls, elev/stair	1600	SF	0.54	863
Paint, exterior trim	7960	SF	2.07	16,451
Paint,stain exterior	1	TOTAL	15400.00	15,400
<b>09 90 00</b>	<b>Painting and Coating</b>			<b>339,343</b>

**10 Specialties**

<b>10 11 00</b>	<b>Visual Display Units</b>			
Markerboards	6	EA	373.63	2,242
<b>10 11 00</b>	<b>Visual Display Units</b>			<b>2,242</b>
<b>10 26 00</b>	<b>Wall and Door Protection</b>			
Corner guard, acrovyn, 2-1/2" wide (54ea)@4' high	216	LF	11.85	2,559
<b>10 26 00</b>	<b>Wall and Door Protection</b>			<b>2,559</b>
<b>10 28 00</b>	<b>Toilet, Bath, and Laundry Accessories</b>			
Bathroom accessories, rooms	45	EA	165.00	7,425
Bathroom accessories, p.s.	3	EA	660.00	1,980

**10 Specialties**

Description	Quantity	Unit	Unit Cost	Extended Cost
Shower curtains	150	LF	5.50	825
<b>10 28 00 Toilet, Bath, and Laundry Accessories</b>				<b>10,230</b>

**10 44 00 Fire Protection Specialties**

Fire extinguisher, cabinet, alum	18	EA	287.12	5,168
Fire extinguisher, all purpose, 10#	18	EA	85.00	1,530
<b>10 44 00 Fire Protection Specialties</b>				<b>6,698</b>

**10 51 00 Lockers**

Lockers, 1tier	20	OPEN	38.50	770
<b>10 51 00 Lockers</b>				<b>770</b>

**12 Furnishings****12 24 13 Roller Window Shades**

Window Shades Mecho manual with valance	90	EA	199.06	17,915
<b>12 24 13 Roller Window Shades</b>				<b>17,915</b>

**12 48 13.13 Entrance Floor Mats**

Surface floor mats	475	SF	15.90	7,552
<b>12 48 13.13 Entrance Floor Mats</b>				<b>7,552</b>

**13 Special Construction****13 00 00 Special Construction**

Nurses Station, Large 552sf to 599sf	2	Total	66000.00	132,000
Nurses Station, Small, 101sf	8	Total	10000.00	80,000
Nurses Station, Medium 198sf to 392sf	3	Total	25000.00	75,000
ADA Ramps with Rails 101 lf x 7' wide (2)	202	LF	197.13	39,820
Porte cochere 30 x 30	900	SF	150.00	135,000
Connector to Front entry 15' x 15'	225	SF	150.00	33,750
ADA Ramps with Rails 80 lf x 7' wide (2)Temp. f/phase III	160	LF	197.13	31,540
<b>13 00 00 Special Construction</b>				<b>527,110</b>

**14 Conveying Equipment**

Description	Quantity	Unit	Unit Cost	Extended Cost
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**14 Conveying Equipment****14 20 00 Elevators**

Elevator, passenger #1	2	STOP	47493.10	94,986
Elevator, passenger #2	2	STOP	43643.10	87,286
Elevator, passenger cab allow	2	CAB	10598.62	21,197
Elevators, maint.agree 12 mo. pass	2	EA	3960.00	7,920

<b>14 20 00 Elevators</b>				<b>211,390</b>
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**14 40 00 Lifts**

Wheel Chair Lift, temp.	1	EA	24518.20	24,518
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<b>14 40 00 Lifts</b>				<b>24,518</b>
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**21 Fire Suppression****21 13 13 Wet-Pipe Sprinkler Systems**

Sprinklers	57159	SF	10.00	571,590
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<b>21 13 13 Wet-Pipe Sprinkler Systems</b>				<b>571,590</b>
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**22 Plumbing****22 00 00 Plumbing**

Plumbing	57159	SF	65.00	3,715,335
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<b>22 00 00 Plumbing</b>				<b>3,715,335</b>
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**23 Heating, Ventilating, and Air Conditioning (HVAC)****23 00 00 Heating, Ventilating, and Air Conditioning**

H.v.a.c.,	57159	SF	85.00	4,858,515
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<b>23 00 00 Heating, Ventilating, and Air Conditioning (H</b>				<b>4,858,515</b>
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**23 30 00 HVAC Air Distribution**

**23 Heating, Ventilating, and Air Conditioning (HVAC)**

Description	Quantity	Unit	Unit Cost	Extended Cost
Louvers, alum., f/mech. Ventilation 48"	600	SF	22.54	13,524

**23 30 00 HVAC Air Distribution 13,524**

**26 Electrical****26 00 00 Electrical**

Electric	57159	SF	37.90	2,166,326
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**26 00 00 Electrical 2,166,326**

**31 Earthwork****31 11 00 Clearing and Grubbing**

Clear & grade site	2.8	ACRE	8994.26	25,184
Clear & grub, site	0.5	ACRE	8994.26	4,497

**31 11 00 Clearing and Grubbing 29,681**

**31 22 16 Fine Grading**

Grading, finish by hand crawl space	28866	SF	1.29	37,315
Fill, crushed stone, 4"deep,under flr F/crawl space	28866	SF	1.01	29,281

**31 22 16 Fine Grading 66,596**

**31 23 16 Excavation**

Excavation, hyd.execav.1.5cy, bldg	4275	CY	16.59	70,905
Excavation, structural	1500	CY	22.46	33,697
Excavating, trench, f/utilities	200	CY	16.44	3,289
Site fill, spread w/dozer,	2750	CY	15.76	43,347
Backfill, compaction, vib/plate 6"	1250	CY	16.01	20,012
Hauling, w/12cy	1000	CY	7.48	7,482
Import, & backfill w/compacted fill	500	CY	49.07	24,535
Excavation, cut	500	CY	4.97	2,483
Excavation, fill	500	CY	4.97	2,483
Excavation, hyd.execav.1.5cy60cy/hr retaining wal	100	CY	6.21	621
Crushed stone 1 1/2" f/drainage @ r.wall	500	CY	35.04	17,520

**31 23 16 Excavation 226,373**

**32 Exterior Improvements**

Description	Quantity	Unit	Unit Cost	Extended Cost
<b>32 Exterior Improvements</b>				
<b>32 10 00 Bases, Ballasts, and Paving</b>				
Basecourse, bank run gravel, 6"deep sidewalk	580	SY	3.65	2,117
Basecourse, bank run gravel,9"deep roads & parking	4133	SY	6.70	27,691
Basecourse, bank run gravel,9"deep service entrance	237	SY	6.70	1,588
<b>32 10 00 Bases, Ballasts, and Paving</b>				<b>31,396</b>
<b>32 12 16 Asphalt Paving</b>				
Grading, fine, 3 passes,plus roll	4133	SY	1.98	8,164
Bitum., paving, wearing course 1.5" hd	2657	SY	11.32	30,070
Bitum., paving, binder course2- 1/2" hd	2657	SY	22.63	60,140
Bitum., paving, wearing course 1" std.	1475	SY	8.23	12,134
Bitum., paving, binder course 2" std.	1475	SY	15.54	22,919
<b>32 12 16 Asphalt Paving</b>				<b>133,426</b>
<b>32 13 13 Concrete Paving</b>				
Paving, concrete 6" thick service entrance 2,134 sf	237	SY	29.79	7,060
<b>32 13 13 Concrete Paving</b>				<b>7,060</b>
<b>32 14 00 Unit Paving</b>				
Concrete pavers, patio	1500	SF	21.70	32,550
Entry pavers, concrete	1120	SF	14.47	16,202
Basecourse, bank run gravel,9"deep	394	SY	6.70	2,640
Pavers, precast, fire lane	3546	SF	17.61	62,452
<b>32 14 00 Unit Paving</b>				<b>113,844</b>
<b>32 16 00 Curbs, Gutters, Sidewalks, and Driveway</b>				
Curbs, granite split face st.6"x18"	1044	LF	34.36	35,873
Sidewalk, concrete 4" thicik	5218	SF	7.02	36,629
Curbs, Sloped Granite	1000	LF	29.96	29,961
<b>32 16 00 Curbs, Gutters, Sidewalks, and Driveways</b>				<b>102,463</b>

**32 Exterior Improvements**

Description	Quantity	Unit	Unit Cost	Extended Cost
<b>32 17 23.13 Painted Pavement Markings</b>				
Paint, parking stall,white	83	STALL	12.17	1,010
Paint, arrows & h.c symbols(15)	300	SF	9.14	2,741
Painting, pavement lines thermo 4"w	1000	LF	1.23	1,233
Painting, pavement lines thermo 18"w	300	LF	11.15	3,346
<b>32 17 23.13 Painted Pavement Markings</b>				<b>8,330</b>
<b>32 30 00 Site Improvements</b>				
H.c. ramp sidewalk curb cuts	3	EA	2796.50	8,389
Hvac screen enclosure	66	LF	33.00	2,178
<b>32 30 00 Site Improvements</b>				<b>10,567</b>
<b>32 31 13 Chain Link Fences and Gates</b>				
Fence, chain link 6' high	100	LF	33.76	3,376
<b>32 31 13 Chain Link Fences and Gates</b>				<b>3,376</b>
<b>32 32 00 Retaining Walls</b>				
Retaining wall, concrete 6' high service entrance	98	LF	442.07	43,323
<b>32 32 00 Retaining Walls</b>				<b>43,323</b>
<b>32 90 00 Planting</b>				
Landscaping	1	allow	60000.00	60,000
<b>32 90 00 Planting</b>				<b>60,000</b>

**33 Utilities**

<b>33 00 00 Utilities</b>				
Electric conduit, conc. encasement	10	CY	559.30	5,593
Electric exterior light poles	5	EA	3346.50	16,732
<b>33 00 00 Utilities</b>				<b>22,325</b>
<b>33 05 31.27 Polyvinyl Chloride Perforated Drainage P</b>				
Drainage, pvc perforated 6"	1410	LF	11.18	15,761

**33 Utilities**

Description	Quantity	Unit	Unit Cost	Extended Cost
<b>33 05 31.27</b>	<b>Polyvinyl Chloride Perforated Drainage Pipe</b>			<b>15,761</b>
<b>33 14 13 Public Water Utility Distribution Piping</b>				
Fire hydrant, 2 way 4 1/2" valve	1	EA	2462.39	2,462
Pipe, ductile iron, 8"diam. cl250	500	LF	48.90	24,450
Drill & tap, pressurized 6" main	1	EA	694.35	694
Thrust blocks, concrete	10	EA	331.18	3,312
<b>33 14 13</b>	<b>Public Water Utility Distribution Piping</b>			<b>30,918</b>
<b>33 31 00 Sanitary Sewerage Piping</b>				
Frames & covers, heavy traffic 36"	5	EA	1037.96	5,190
Inverts, single channel, brick	5	EA	860.19	4,301
Pipe, pvc, 8"dia.,s.d.r. 35,	300	LF	13.73	4,119
Manhole, precast,4'id8'd	5	EA	2561.25	12,806
<b>33 31 00</b>	<b>Sanitary Sewerage Piping</b>			<b>26,416</b>
<b>33 40 00 Stormwater Utilities</b>				
Inverts, single channel, brick	8	EA	860.19	6,882
Pipe, rein.concrete, 12"dia.,class 3, Flared End 6'-1" long	5	EA	80.12	401
Pipe, rein.concrete, 12"dia.,class 3	500	LF	32.99	16,494
Manhole & c. basin, precast,4'id4'd	8	EA	1329.20	10,634
Frames & covers, heavy traffic 36"	8	EA	1037.96	8,304
<b>33 40 00</b>	<b>Stormwater Utilities</b>			<b>42,713</b>

<b>Sub Total</b>		<b>27,307,760</b>	477.78 / SF
Overhead & Profit	10 %	2,730,776	
Bond	1 %	273,078	
Island Factor	30 %	8,192,329	
Design Contingency	15 %	4,096,165	
<b>Grand Total</b>		<b>42,600,110</b>	745.33 / SF



Our Island Home, Nantucket, Option #1 Conceptual Estimate		19 0500
1ST FLR 28,866 SF 6 1/2" Composite Steel Beam Frame w/3/4"x4" stud bolt		
2ND FLR 28,293 SF 3 1/2" conc on metal deck w/bar joists		
6" Metal Studs Walls		
Total Floor area 57,156 SF		Perimeter 1,410 LF
57156 SF	Other Health Buildings	Last Updated
Year 2019	Cost File 2019 BOSTON UNION AVERA	7/22/2019 2:08:29 PM

### Project Summary

Division	Total		
<b>01 General Requirements</b>	<b>2,854,576</b>	\$49.94 /SF	10.5 %
<b>02 Existing Conditions</b>	<b>213,847</b>	\$3.74 /SF	0.8 %
<b>03 Concrete</b>	<b>1,142,607</b>	\$19.99 /SF	4.2 %
<b>04 Masonry</b>	<b>438,974</b>	\$7.68 /SF	1.6 %
<b>05 Metals</b>	<b>2,787,276</b>	\$48.77 /SF	10.2 %
<b>06 Wood, Plastics, and Composites</b>	<b>1,086,712</b>	\$19.01 /SF	4.0 %
<b>07 Thermal and Moisture Protection</b>	<b>1,188,741</b>	\$20.80 /SF	4.4 %
<b>08 Openings</b>	<b>895,110</b>	\$15.66 /SF	3.3 %
<b>09 Finishes</b>	<b>3,589,076</b>	\$62.79 /SF	13.1 %
<b>10 Specialties</b>	<b>22,499</b>	\$0.39 /SF	0.1 %
<b>12 Furnishings</b>	<b>25,468</b>	\$0.45 /SF	0.1 %
<b>13 Special Construction</b>	<b>527,110</b>	\$9.22 /SF	1.9 %
<b>14 Conveying Equipment</b>	<b>235,908</b>	\$4.13 /SF	0.9 %
<b>21 Fire Suppression</b>	<b>571,590</b>	\$10.00 /SF	2.1 %
<b>22 Plumbing</b>	<b>3,715,335</b>	\$65.00 /SF	13.6 %
<b>23 Heating, Ventilating, and Air Conditioning (HVA</b>	<b>4,872,039</b>	\$85.24 /SF	17.8 %
<b>26 Electrical</b>	<b>2,166,326</b>	\$37.90 /SF	7.9 %
<b>31 Earthwork</b>	<b>322,650</b>	\$5.65 /SF	1.2 %
<b>32 Exterior Improvements</b>	<b>513,786</b>	\$8.99 /SF	1.9 %
<b>33 Utilities</b>	<b>138,134</b>	\$2.42 /SF	0.5 %

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<b>Sub Total</b>		<b>27,307,760</b>	477.78 / SF
Overhead & Profit	10 %	2,730,776	
Bond	1 %	273,078	
Island Factor	30 %	8,192,329	
Design Contingency	15 %	4,096,165	
<b>Grand Total</b>		<b>42,600,110</b>	745.33 / SF



CONSTRUCTION COST ENGINEERING OF BOSTON

## Sub Division Summary

Our Island Home, Nantucket, Option #2 Conceptual Estimate		19 0502
1ST FLR 28,202 SF	6 1/2" Composite Steel Beam Frame w/3/4"x4" stud bolt	
2ND FLR 27,036 SF	3 1/2" conc on metal deck w/bar joists	
	6" Metal Studs Walls	
Total Floor area 55,238 SF	Perimeter 1,235 LF	
55238 SF	Other Health Buildings	Last Updated
Year 2019	Cost File 2019 BOSTON UNION AVERA	7/22/2019 2:13:56 PM

SubDivision	Description	Total	
<b><u>01</u></b>	<b><u>General Requirements</u></b>	<b><u>\$2,857,348</u></b>	
01 00 00	General Requirements	\$1,787,906	32.37 SF
01 30 00	Administrative Requirements	\$74,541	1.35 SF
01 31 00	Project Management and Coordination	\$266,000	4.82 SF
01 41 26	Permit Requirements	\$266,000	4.82 SF
01 50 00	Temporary Facilities and Controls	\$273,179	4.95 SF
01 52 13	Field Offices and Sheds	\$8,976	0.16 SF
01 60 00	Product Requirements	\$127,617	2.31 SF
01 70 00	Execution and Closeout Requirements	\$53,129	0.96 SF
<b><u>02</u></b>	<b><u>Existing Conditions</u></b>	<b><u>\$213,847</u></b>	
02 41 19	Selective Demolition	\$59,003	1.07 SF
02 41 19.13	Selective Building Demolition	\$154,844	2.80 SF
<b><u>03</u></b>	<b><u>Concrete</u></b>	<b><u>\$1,093,477</u></b>	
03 10 00	Concrete Forming and Accessories	\$4,254	0.08 SF
03 20 00	Concrete Reinforcing	\$86,783	1.57 SF
03 30 00	Cast-in-Place Concrete	\$1,002,439	18.15 SF
<b><u>04</u></b>	<b><u>Masonry</u></b>	<b><u>\$398,444</u></b>	
04 05 16	Masonry Grouting	\$7,279	0.13 SF

SubDivision	Description	Total	
04 05 23	<b>Masonry Accessories</b>	<b>\$24,792</b>	0.45 SF
04 22 00	<b>Concrete Unit Masonry</b>	<b>\$51,321</b>	0.93 SF
04 40 00	<b>Stone Assemblies</b>	<b>\$278,695</b>	5.05 SF
04 57 00	<b>Masonry Fireplaces</b>	<b>\$36,357</b>	0.66 SF

**05 Metals****\$2,703,471**

05 00 00	<b>Metals</b>	<b>\$20,335</b>	0.37 SF
05 10 00	<b>Structural Metal Framing</b>	<b>\$2,112,466</b>	38.24 SF
05 30 00	<b>Metal Decking</b>	<b>\$236,645</b>	4.28 SF
05 41 00	<b>Structural Metal Stud Framing</b>	<b>\$255,115</b>	4.62 SF
05 50 00	<b>Metal Fabrications</b>	<b>\$2,956</b>	0.05 SF
05 52 13	<b>Pipe and Tube Railings</b>	<b>\$4,552</b>	0.08 SF
05 55 00	<b>Metal Stair Treads and Nosings</b>	<b>\$71,402</b>	1.29 SF

**06 Wood, Plastics, and Composites****\$1,048,598**

06 10 00	<b>Rough Carpentry</b>	<b>\$343,602</b>	6.22 SF
06 11 00	<b>Wood Framing</b>	<b>\$83,752</b>	1.52 SF
06 16 43	<b>Gypsum Sheathing</b>	<b>\$89,827</b>	1.63 SF
06 20 00	<b>Finish Carpentry</b>	<b>\$238,500</b>	4.32 SF
06 40 00	<b>Architectural Woodwork</b>	<b>\$292,918</b>	5.30 SF

**07 Thermal and Moisture Protection****\$1,131,044**

07 10 00	<b>Dampproofing and Waterproofing</b>	<b>\$28,954</b>	0.52 SF
07 20 00	<b>Thermal Protection</b>	<b>\$93,939</b>	1.70 SF
07 21 16	<b>Blanket Insulation</b>	<b>\$39,337</b>	0.71 SF
07 25 00	<b>Weather Barriers</b>	<b>\$12,704</b>	0.23 SF
07 27 00	<b>Air Barriers</b>	<b>\$226,048</b>	4.09 SF
07 30 00	<b>Steep Slope Roofing</b>	<b>\$237,827</b>	4.31 SF
07 40 00	<b>Roofing and Siding Panels</b>	<b>\$265,934</b>	4.81 SF
07 50 00	<b>Membrane Roofing</b>	<b>\$1,515</b>	0.03 SF
07 60 00	<b>Flashing and Sheet Metal</b>	<b>\$106,967</b>	1.94 SF

SubDivision	Description	Total	
07 70 00	<i>Roof and Wall Specialties and Accesso</i>	<b>\$7,536</b>	0.14 SF
07 90 00	<i>Joint Protection</i>	<b>\$110,282</b>	2.00 SF

**08 Openings****\$895,110**

08 10 00	<i>Doors and Frames</i>	<b>\$31,401</b>	0.57 SF
08 11 00	<i>Metal Doors and Frames</i>	<b>\$31,747</b>	0.57 SF
08 30 00	<i>Specialty Doors and Frames</i>	<b>\$26,769</b>	0.48 SF
08 41 00	<i>Entrances and Storefronts</i>	<b>\$320,124</b>	5.80 SF
08 50 00	<i>Windows</i>	<b>\$304,726</b>	5.52 SF
08 70 00	<i>Hardware</i>	<b>\$139,587</b>	2.53 SF
08 80 00	<i>Glazing</i>	<b>\$24,607</b>	0.45 SF
08 90 00	<i>Louvers and Vents</i>	<b>\$16,150</b>	0.29 SF

**09 Finishes****\$3,604,302**

09 00 00	<i>Finishes</i>	<b>\$1,600,000</b>	28.97 SF
09 06 80	<i>Schedules for Acoustical Treatment</i>	<b>\$50,949</b>	0.92 SF
09 20 00	<i>Plaster and Gypsum Board</i>	<b>\$654,091</b>	11.84 SF
09 22 00	<i>Supports for Plaster and Gypsum Boar</i>	<b>\$57,069</b>	1.03 SF
09 30 00	<i>Tiling</i>	<b>\$229,578</b>	4.16 SF
09 30 13	<i>Ceramic Tiling</i>	<b>\$48,351</b>	0.88 SF
09 30 16	<i>Quarry Tiling</i>	<b>\$29,162</b>	0.53 SF
09 51 00	<i>Acoustical Ceilings</i>	<b>\$89,208</b>	1.61 SF
09 53 00	<i>Acoustical Ceiling Suspension Assembl</i>	<b>\$115,725</b>	2.10 SF
09 60 00	<i>Flooring</i>	<b>\$20,420</b>	0.37 SF
09 65 00	<i>Resilient Flooring</i>	<b>\$326,324</b>	5.91 SF
09 68 00	<i>Carpeting</i>	<b>\$9,466</b>	0.17 SF
09 72 00	<i>Wall Coverings</i>	<b>\$33,599</b>	0.61 SF
09 90 00	<i>Painting and Coating</i>	<b>\$340,359</b>	6.16 SF

**10 Specialties****\$22,499**

10 11 00	<i>Visual Display Units</i>	<b>\$2,242</b>	0.04 SF
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SubDivision	Description	Total	
<b>10 26 00</b>	<b>Wall and Door Protection</b>	<b>\$2,559</b>	0.05 SF
<b>10 28 00</b>	<b>Toilet, Bath, and Laundry Accessories</b>	<b>\$10,230</b>	0.19 SF
<b>10 44 00</b>	<b>Fire Protection Specialties</b>	<b>\$6,698</b>	0.12 SF
<b>10 51 00</b>	<b>Lockers</b>	<b>\$770</b>	0.01 SF
<b><u>12 Furnishings</u></b>		<b><u>\$25,468</u></b>	
<b>12 24 13</b>	<b>Roller Window Shades</b>	<b>\$17,915</b>	0.32 SF
<b>12 48 13.13</b>	<b>Entrance Floor Mats</b>	<b>\$7,552</b>	0.14 SF
<b><u>13 Special Construction</u></b>		<b><u>\$510,389</u></b>	
<b>13 00 00</b>	<b>Special Construction</b>	<b>\$510,389</b>	9.24 SF
<b><u>14 Conveying Equipment</u></b>		<b><u>\$235,908</u></b>	
<b>14 20 00</b>	<b>Elevators</b>	<b>\$211,390</b>	3.83 SF
<b>14 40 00</b>	<b>Lifts</b>	<b>\$24,518</b>	0.44 SF
<b><u>21 Fire Suppression</u></b>		<b><u>\$552,380</u></b>	
<b>21 13 13</b>	<b>Wet-Pipe Sprinkler Systems</b>	<b>\$552,380</b>	10.00 SF
<b><u>22 Plumbing</u></b>		<b><u>\$3,590,470</u></b>	
<b>22 00 00</b>	<b>Plumbing</b>	<b>\$3,590,470</b>	65.00 SF
<b><u>23 Heating, Ventilating, and Air Conditioning (HVAC)</u></b>		<b><u>\$4,708,754</u></b>	
<b>23 00 00</b>	<b>Heating, Ventilating, and Air Conditioni</b>	<b>\$4,695,230</b>	85.00 SF
<b>23 30 00</b>	<b>HVAC Air Distribution</b>	<b>\$13,524</b>	0.24 SF
<b><u>26 Electrical</u></b>		<b><u>\$2,093,520</u></b>	
<b>26 00 00</b>	<b>Electrical</b>	<b>\$2,093,520</b>	37.90 SF

SubDivision	Description	Total	
<b><u>31 Earthwork</u></b>			<b><u>\$319,509</u></b>
31 11 00	Clearing and Grubbing	\$29,681	0.54 SF
31 22 16	Fine Grading	\$65,064	1.18 SF
31 23 16	Excavation	\$224,764	4.07 SF
<b><u>32 Exterior Improvements</u></b>			<b><u>\$487,334</u></b>
32 10 00	Bases, Ballasts, and Paving	\$31,334	0.57 SF
32 12 16	Asphalt Paving	\$129,865	2.35 SF
32 13 13	Concrete Paving	\$7,060	0.13 SF
32 14 00	Unit Paving	\$132,165	2.39 SF
32 16 00	Curbs, Gutters, Sidewalks, and Drivewa	\$104,649	1.89 SF
32 17 23.13	Painted Pavement Markings	\$8,318	0.15 SF
32 30 00	Site Improvements	\$10,567	0.19 SF
32 31 13	Chain Link Fences and Gates	\$3,376	0.06 SF
32 90 00	Planting	\$60,000	1.09 SF
<b><u>33 Utilities</u></b>			<b><u>\$138,134</u></b>
33 00 00	Utilities	\$22,325	0.40 SF
33 05 31.27	Polyvinyl Chloride Perforated Drainage	\$15,761	0.29 SF
33 14 13	Public Water Utility Distribution Piping	\$30,918	0.56 SF
33 31 00	Sanitary Sewerage Piping	\$26,416	0.48 SF
33 40 00	Stormwater Utilities	\$42,713	0.77 SF

<b>SubDivision</b>	<b>Description</b>	<b>Total</b>	
<b>Sub Total</b>		<b>26,630,010</b>	482.10 / SF
Overhead & Profit	10 %	2,663,001	
Bond	1 %	266,300	
Island Factor	30 %	7,989,002	
Design Contingency	15 %	3,994,501	
<b>Grand Total</b>		<b>41,542,810</b>	752.07 / SF



Our Island Home, Nantucket, Option #2 Conceptual Estimate		19 0502
1ST FLR	28,202 SF	6 1/2" Composite Steel Beam Frame w/3/4"x4" stud bolt
2ND FLR	27,036 SF	3 1/2" conc on metal deck w/bar joists
6" Metal Studs Walls		
Total Floor area	55,238 SF	Perimeter 1,235 LF
55238 SF	Other Health Buildings	Last Updated
Year 2019	Cost File 2019 BOSTON UNION AVERA	7/22/2019 2:13:56 PM

Description	Quantity	Unit	Unit Cost	Extended Cost
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**01 General Requirements**

**01 00 00 General Requirements**

Project manager 3day/week	62	WEEK	4573.87	283,580
Field office, clerk f/minutes&misc	104	WEEK	2772.04	288,293
Field engineer	12	WEEK	3940.57	47,287
Start up finance	4	WEEK	11000.00	44,000
Cutting & patching, misc.	5	JOB	872.56	4,363
Street connection, fee	2	EA	550.00	1,100
General superintendent	104	WEEK	4835.12	502,852
Main office, general clerk 1/2 time	52	WEEK	3224.11	167,654
Repair broken glass	2	JOB	851.00	1,702
Asst. superintendent	104	WEEK	4298.81	447,076

**01 00 00 General Requirements 1,787,906**

**01 30 00 Administrative Requirements**

Scheduling, progress cpm, updates	23	EA	825.00	18,975
Scheduling, progress cpm	1	EA	8250.00	8,250
Shop drawings/ product data sheets	50	SET	449.30	22,465
Survey, 3 man crew, line & grade	5	DAY	2516.98	12,585
Additional drawings	25	JOB	275.00	6,875
Drawings, as built	1	SET	5391.60	5,392

**01 30 00 Administrative Requirements 74,541**

**01 31 00 Project Management and Coordination**

Insurance, 1%	266000	JOB	1.00	266,000
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**01 31 00 Project Management and Coordination 266,000**

**01 General Requirements**

Description	Quantity	Unit	Unit Cost	Extended Cost
<b>01 41 26 Permit Requirements</b>				
Permit fee \$10/m	26600	JOB	10.00	266,000
<b>01 41 26 Permit Requirements</b>				<b>266,000</b>
<b>01 50 00 Temporary Facilities and Controls</b>				
Rubbish chutes	30	LF	55.00	1,650
Telephone, general clerk use	24	MONTH	385.00	9,240
Copying machine	24	MONTH	275.00	6,600
Temporary heat, 12 hrs day, per wk	552.38	CSFFLR	27.56	15,223
Temporary electric, power/lights	552.38	CSFFLR	47.76	26,384
Temporary water	24	MONTH	55.00	1,320
Rough hardware	5	JOB	385.00	1,925
Temporary doors, 5 per job	1	EA	1741.56	1,742
Project sign, 4' x 8' x 1 7/8"	1	EA	1226.45	1,226
Barrier, plywood on 2"x4"frame 8'	250	LF	43.42	10,856
Barrier, street type	24	MONTH	330.00	7,920
Protection, property	24	JOB	220.00	5,280
Temporary fire, protection	24	JOB	550.00	13,200
Rubbish removal, 40 cy capacity	52	LOAD	660.00	34,320
Construction fence	500	LF	19.80	9,900
Cleaning general, site	1040	HR	109.07	113,433
Temporary electric, power/lights	24	Mo.	440.00	10,560
Internet Service	24	Mo.	100.00	2,400
<b>01 50 00 Temporary Facilities and Controls</b>				<b>273,179</b>
<b>01 52 13 Field Offices and Sheds</b>				
Office trailer, furnished, 36'x8'	24	MONTH	264.00	6,336
Storage trailer, 28'x10'	24	Mo.	110.00	2,640
<b>01 52 13 Field Offices and Sheds</b>				<b>8,976</b>
<b>01 60 00 Product Requirements</b>				
Supers & project mgrs. vehicles	48	MO	385.00	18,480
Equipment, hoisting f/subs	4	WEEKS	14216.23	56,865
Toilet, portable chemical, rent	48	MONTH	99.00	4,752
Trucking, general site use	24	JOB	550.00	13,200
Small tools, purchase/rent	24	JOB	330.00	7,920
Equipment rentals, misc	6	JOB	4400.00	26,400

**01 General Requirements**

Description	Quantity	Unit	Unit Cost	Extended Cost
<b>01 60 00 Product Requirements</b>				<b>127,617</b>
<b>01 70 00 Execution and Closeout Requirements</b>				
Final waxing resilient flooring	45329	SF	0.48	21,862
Cleaning windows, helper	180	EA	17.59	3,166
Clean-up, final	2	WEEK	8725.61	17,451
Punchlist, survey/check	2	WEEK	5324.82	10,650
<b>01 70 00 Execution and Closeout Requirements</b>				<b>53,129</b>

**02 Existing Conditions****02 41 19 Selective Demolition**

Demo pavement, block pavers parking	335	SY	5.20	1,742
Demo sidewalk, concrete, plain	84	SY	19.33	1,624
Demo pavement, concrete 6", driveway	2014	SY	14.07	28,336
Demo pavement, concrete 6", patio	489	SY	14.07	6,880
Demo pavement, bituminous parking	866	SY	5.28	4,569
Allowance, dump permit	10000	LS	1.10	11,000
Demo, Post and rail fence	75	LF	11.11	833
Demo, Stockade fence	405	LF	4.16	1,687
Demo, Brick. Walk	560	SF	4.16	2,332
<b>02 41 19 Selective Demolition</b>				<b>59,003</b>

**02 41 19.13 Selective Building Demolition**

Demo bldg, wood frame sheds 2ea. 10' high	6200	CF	0.57	3,548
Demo bldg, wood frame gazebo 10' high	1000	CF	0.57	572
Demo bldg, wood/steel frame 20,792 sf 1 sty @ 10' high	207920	CF	0.72	150,723
<b>02 41 19.13 Selective Building Demolition</b>				<b>154,844</b>

**03 Concrete****03 10 00 Concrete Forming and Accessories**

Expansion joint, bit.fiber, 1/2"x6"	1235	LF	3.44	4,254
<b>03 10 00 Concrete Forming and Accessories</b>				<b>4,254</b>

**03 Concrete**

Description	Quantity	Unit	Unit Cost	Extended Cost
<b>03 20 00 Concrete Reinforcing</b>				
Reinforcing,mat. only, spread ftg	3.75	TON	999.90	3,750
Reinforcing,mat. only, strip ftg	11.1	TON	999.90	11,099
Reinforcing,mat. only, found wall	11.5	TON	999.90	11,499
Welded wire fabric, 6x6-w1.4xw1.4	270.36	CSF	83.79	22,654
Welded wire fabric, 6x6-w2.1xw2.1	282.02	CSF	97.45	27,483
Reinforcing f/12" shear walls 10#/sf	10.3	TON	999.90	10,299

**03 20 00 Concrete Reinforcing**

**86,783**

**03 30 00 Cast-in-Place Concrete**

Finishing, broom finish side walk	5218	SF	1.73	9,035
Concrete in place, 2nd floor slab, 3 1/2" on metal deck	27036	SF	4.80	129,896
Concrete in place, 1st floor slab, 6 1/2" on metal deck	28202	SF	6.02	169,681
Concrete in place, h.c. ramp, 5'w	100	LF	458.81	45,881
Concrete in place, inter.shear wall 12"	77	CY	691.21	53,223
Conc in place,stairs/ramps	30	CY	860.69	25,821
Concrete in place, grade wall 16" x 5'-3"	321.8	CY	1041.47	335,144
Finishing floor, steel trowel	55238	SF	1.87	103,299
Conc in place,ramps,misc	14	CY	874.60	12,244
Conc, elevator pit walls & slab	20	CY	1104.52	22,090
Concrete in place, spread footing	50	CY	554.73	27,736
Concrete in place, haunch footing	23.4	CY	435.83	10,198
Concrete in place, stripfooting 2' x1'	91.5	CY	436.72	39,959
Concrete in place, Propane equipment pad	10	CY	405.11	4,051
Concrete in place,Diesel equipment pad	15	CY	405.11	6,077
Concrete in place,Generator equipment pad	20	CY	405.11	8,102

**03 30 00 Cast-in-Place Concrete**

**1,002,439**

**04 Masonry****04 05 16 Masonry Grouting**

Grouting, cmu cores, 8" thick 50%	1144	SF	6.36	7,279
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**04 05 16 Masonry Grouting**

**7,279**

**04 Masonry**

Description	Quantity	Unit	Unit Cost	Extended Cost
<b>04 05 23 Masonry Accessories</b>				
Staging	7228	SF	1.48	10,722
Forklift, w/ operator	10	DAY	1406.95	14,069
<b>04 05 23 Masonry Accessories</b>				<b>24,792</b>
<b>04 22 00 Concrete Unit Masonry</b>				
Cmu, partition, 8" thick elevator shafts	2288	SF	17.24	39,442
Cmu, bond beam, 8"thick 4' oc vert	572	LF	20.77	11,879
<b>04 22 00 Concrete Unit Masonry</b>				<b>51,321</b>
<b>04 40 00 Stone Assemblies</b>				
Veneer, ashlar, 4" between grade and 1st floor 4' high	4940	SF	56.42	278,695
<b>04 40 00 Stone Assemblies</b>				<b>278,695</b>
<b>04 57 00 Masonry Fireplaces</b>				
Brick, fireplace, Direct vent, gas	6	EA	6059.56	36,357
<b>04 57 00 Masonry Fireplaces</b>				<b>36,357</b>

**05 Metals**

<b>05 00 00 Metals</b>				
Welded shear connector, 3/4"x3-3/8 4.85 sf/each	5814	EA	3.50	20,335
<b>05 00 00 Metals</b>				<b>20,335</b>
<b>05 10 00 Structural Metal Framing</b>				
Struct steel, roof/attic bar joist framing 6#/sf (27,306sf)	85.5	TON	6155.20	526,270
Struct steel, 2nd flr bar joist framing 6#/sf (27,207sf)	85.5	TON	6155.20	526,270
Struct steel, 1st flr Composite Bms & Girders 10#/sf (28,202sf)	141	TON	6155.20	867,884
Struct steel, connections 10%	31.2	TON	6155.20	192,042
<b>05 10 00 Structural Metal Framing</b>				<b>2,112,466</b>

**05 Metals**

Description	Quantity	Unit	Unit Cost	Extended Cost
<b>05 30 00 Metal Decking</b>				
Metal deck, 18 ga galv,2" deep	28202	SF	2.30	64,925
Metal deck, 24 ga galv,1" deep	27306	SF	1.80	49,014
Metal decking, edge closureform18ga	2470	LF	5.39	13,325
Metal deck, 24 ga galv,1" deep, attic	27036	SF	1.80	48,530
Metal deck, 24 ga galv,1" deep, roof	33900	SF	1.80	60,851
<b>05 30 00 Metal Decking</b>				<b>236,645</b>
<b>05 41 00 Structural Metal Stud Framing</b>				
Metal stud, lb partition18ga. 6" 16"o.c.	32110	SF	7.95	255,115
<b>05 41 00 Structural Metal Stud Framing</b>				<b>255,115</b>
<b>05 50 00 Metal Fabrications</b>				
Ladder, steel,bolted to wall elevator	20	VLF	147.80	2,956
<b>05 50 00 Metal Fabrications</b>				<b>2,956</b>
<b>05 52 13 Pipe and Tube Railings</b>				
Railing, wall, alum.pipe	60	LF	32.52	1,951
Railing, center, alum.pipe	80	LF	32.52	2,601
<b>05 52 13 Pipe and Tube Railings</b>				<b>4,552</b>
<b>05 55 00 Metal Stair Treads and Nosings</b>				
Stair, landing, steel pan	200	SF	63.58	12,716
Stair, metal pan 5w,w/cement fill (4 flights)	92	RISER	431.51	39,699
Stair, metal pan 5w,w/cement fill (2 flights) attic	44	RISER	431.51	18,987
<b>05 55 00 Metal Stair Treads and Nosings</b>				<b>71,402</b>

**06 Wood, Plastics, and Composites**

<b>06 10 00 Rough Carpentry</b>				
Labor only, carpenter	100	DAY	1064.96	106,496
Blocking, wood 2"x6"	12	MBF	4939.52	59,274
Roof soffits 2'wide	1235	LF	14.46	17,856

**06 Wood, Plastics, and Composites**

Description	Quantity	Unit	Unit Cost	Extended Cost
Sheathing, roof, 5/8" cdx plywood	33900	SF	2.55	86,391
Sub floor, plywood cdx, 3/4", attic	27036	SF	2.72	73,585
<b>06 10 00</b>	<b>Rough Carpentry</b>			<b>343,602</b>

**06 11 00 Wood Framing**

Composite deck, trex13/16" framing	3604	SF	23.24	83,752
<b>06 11 00</b>	<b>Wood Framing</b>			<b>83,752</b>

**06 16 43 Gypsum Sheathing**

Sheathing, dens-glass, 5/8" thick, wp.	32110	SF	2.80	89,827
<b>06 16 43</b>	<b>Gypsum Sheathing</b>			<b>89,827</b>

**06 20 00 Finish Carpentry**

Columns, fiberglass, 12" dia. 10'	2	EA	555.93	1,112
Composite vanity, tops & bases	63	EA	690.52	43,503
Molding, chairrail 5-1/4" corridor	2400	LF	8.80	21,128
6" exterior trim, hardi board	1400	LF	11.94	16,717
12" exterior fascia, hardi board	1410	LF	14.14	19,939
12" exterior trim, hardi board	120	LF	14.14	1,697
8" exterior trim, rafter, hardi board	642	LF	10.84	6,960
2' soffits trim w/vent strip	1410	LF	10.84	15,286
9" vertical trim, hardi board	750	LF	10.84	8,131
5" window trim	2250	LF	7.54	16,967
12" window trim w/beveled detail	2250	LF	9.74	21,917
Molding, baseboard 5-1/4" rooms	7400	LF	8.80	65,145
<b>06 20 00</b>	<b>Finish Carpentry</b>			<b>238,500</b>

**06 40 00 Architectural Woodwork**

Casework, closet shelves	450	LF	11.00	4,950
Casework, paneling, lobby	650	SF	55.00	35,750
Front desk, lobby (3)	96	LF	974.08	93,512
Casework allowance	1	TOTAL	82500.00	82,500
Window sill, solid surface 9" wide 90 windows	630	LF	32.65	20,569
Wood wainscoting dining 3' high	243	lf	25.29	6,145
Corridor wainscoting 30" high 2400lf	4572	SF	10.82	49,491
<b>06 40 00</b>	<b>Architectural Woodwork</b>			<b>292,918</b>

**07 Thermal and Moisture Protection**

Description	Quantity	Unit	Unit Cost	Extended Cost
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**07 Thermal and Moisture Protection****07 10 00 Dampproofing and Waterproofing**

Vapor barrier, polyethylene,.006"t crawl space	282.02	SQ	27.51	7,757
Building paper, asphalt, 2 ply #30	131.32	SQ	40.06	5,260
Ice & water, shield f/eaves, valley	4353	SF	0.64	2,765
Vapor barrier,.006"t vert walls	366.6	SQ	27.51	10,084
Vapor barrier,.006"t 3rd flr ceiling	112.25	SQ	27.51	3,088

<b>07 10 00 Dampproofing and Waterproofing</b>				<b>28,954</b>
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**07 20 00 Thermal Protection**

Roof deck insul, urethane, 3"t	616	SF	2.62	1,611
Insulation, rigid, polystyrene, 2"	19260	SF	1.78	34,325
Insulation, fiberglass ff 6" x 15"	32110	SF	1.15	37,066
Attic insulation, fiberglass 9"	11348	SF	1.49	16,899
Insulation, rigid, polystyrene, 2"	1848	SF	2.18	4,038

<b>07 20 00 Thermal Protection</b>				<b>93,939</b>
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**07 21 16 Blanket Insulation**

Insulation, fiberglass,uf 6" x 15	32110	SF	1.23	39,337
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<b>07 21 16 Blanket Insulation</b>				<b>39,337</b>
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**07 25 00 Weather Barriers**

Ice & water, shield	20000	SF	0.64	12,704
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<b>07 25 00 Weather Barriers</b>				<b>12,704</b>
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**07 27 00 Air Barriers**

House wrap, tyvek	36660	SF	0.41	14,988
Air barrier, peel & stick w.p. membrane	36660	SF	5.76	211,060

<b>07 27 00 Air Barriers</b>				<b>226,048</b>
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**07 30 00 Steep Slope Roofing**

Shingles, asphalt, hip	310	LF	3.08	955
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**07 Thermal and Moisture Protection**

Description	Quantity	Unit	Unit Cost	Extended Cost
Shingles, asphalt, ridge	385	LF	3.71	1,429
Shingles, asphalt, valley	122	LF	3.08	376
Shingles, asphalt arch grade, F/high winds	339	SQ	693.41	235,067
<b>07 30 00 Steep Slope Roofing</b>				<b>237,827</b>
<b>07 40 00 Roofing and Siding Panels</b>				
Shingles, hardie board, plank walls 14" x 48"	34.96	SQ	695.26	24,306
Hunter Panel, plywood cdx, 3/4", w/4" poly iso	2000	SF	4.96	9,917
3/4" cdx plywood panels	864	SF	5.06	4,374
6" clapboards, hardie board	32110	SF	7.08	227,336
<b>07 40 00 Roofing and Siding Panels</b>				<b>265,934</b>
<b>07 50 00 Membrane Roofing</b>				
Membrane, epdm, 60 mil, full adhered	616	SF	2.35	1,445
Roof pavers 5%	30	SF	2.35	70
<b>07 50 00 Membrane Roofing</b>				<b>1,515</b>
<b>07 60 00 Flashing and Sheet Metal</b>				
Flashing, painted galv. 16 oz. sheets	6000	SF	13.53	81,197
Gutters, aluminum	1235	LF	10.66	13,167
Downspouts, aluminum	1284	LF	9.82	12,604
<b>07 60 00 Flashing and Sheet Metal</b>				<b>106,967</b>
<b>07 70 00 Roof and Wall Specialties and Accessori</b>				
Roof smoke vents, alum. curb & cover	4	EA	1883.95	7,536
<b>07 70 00 Roof and Wall Specialties and Accessories</b>				<b>7,536</b>
<b>07 90 00 Joint Protection</b>				
Smokestop sealant	15720	LF	4.02	63,177
Caulking, backer rod polyeth. 1/2"	6000	LF	2.69	16,118
Caulking, butyl 1/2"x1/2" 77lb/gal	6000	LF	5.16	30,987
<b>07 90 00 Joint Protection</b>				<b>110,282</b>

**08 Openings**

**08 Openings**

Description	Quantity	Unit	Unit Cost	Extended Cost
<b>08 10 00 Doors and Frames</b>				
Wood door, 1 3/4" sc	56	EA	290.69	16,279
Wood door, 1 3/4" sc, bathroom	42	EA	290.69	12,209
Wood door, rated	9	EA	323.69	2,913
<b>08 10 00</b>		<b>Doors and Frames</b>		<b>31,401</b>
<b>08 11 00 Metal Doors and Frames</b>				
H.m. frame, single, welded	117	EA	222.79	26,066
H.m. door, 1-3/4" 20g,	5	EA	359.19	1,796
Alum door&frame, 3'-6"	2	EA	1942.82	3,886
<b>08 11 00</b>		<b>Metal Doors and Frames</b>		<b>31,747</b>
<b>08 30 00 Specialty Doors and Frames</b>				
Access door, f.r. metal, 18" x 18"	18	EA	338.33	6,090
Double corridor doors	7	PR	2954.08	20,679
<b>08 30 00</b>		<b>Specialty Doors and Frames</b>		<b>26,769</b>
<b>08 41 00 Entrances and Storefronts</b>				
Alum entrance, sidelights	1500	SF	44.00	66,000
Storefront, alum w/1" glass	4500	SF	50.97	229,374
Auto entrance doors, alum	5	PR	4950.00	24,750
<b>08 41 00</b>		<b>Entrances and Storefronts</b>		<b>320,124</b>
<b>08 50 00 Windows</b>				
Aluminum fixed transom	24	EA	1633.50	39,204
Windows, type 7'x6'	90	EA	2950.24	265,522
<b>08 50 00</b>		<b>Windows</b>		<b>304,726</b>
<b>08 70 00 Hardware</b>				
Door closer, spring hinges	51	EA	180.26	9,193
Doorstops, wall bumper	200	EA	48.77	9,755
Finish hardware	264	SET	345.26	91,149
Door closer	22	EA	235.26	5,176
Threshold, 4"	50	EA	79.29	3,964
Panic hardware	10	EA	825.00	8,250
Locknetics magnetic locks	22	SET	550.00	12,100

**08 Openings**

Description	Quantity	Unit	Unit Cost	Extended Cost
<b>08 70 00 Hardware</b>				<b>139,587</b>
<b>08 80 00 Glazing</b>				
Framed mirror	510	SF	16.50	8,415
Borrowed lights	368	SF	44.00	16,192
<b>08 80 00 Glazing</b>				<b>24,607</b>
<b>08 90 00 Louvers and Vents</b>				
Louvers, aluminum	200	SF	80.75	16,150
<b>08 90 00 Louvers and Vents</b>				<b>16,150</b>

**09 Finishes**

<b>09 00 00 Finishes</b>				
Tenant Fit-out allowance	8000	SF	200.00	1,600,000
<b>09 00 00 Finishes</b>				<b>1,600,000</b>
<b>09 06 80 Schedules for Acoustical Treatment</b>				
Sound attenuation, blanket 3	30000	SF	1.70	50,949
<b>09 06 80 Schedules for Acoustical Treatment</b>				<b>50,949</b>
<b>09 20 00 Plaster and Gypsum Board</b>				
Drywall,, 5/8" on ceiling	19620	SF	4.62	90,672
Part. drywall, 5/8" , regular	29900	SF	8.91	266,535
Pipe chase wall, part.	3900	SF	12.60	49,154
Drywall, fire res, 5/8" on ext. wall	32110	SF	3.20	102,799
Gwb, soffited coffered ceiling,lobby,wood	3000	SF	13.21	39,634
Shaft wall, 2hr dbl layer 5/8"	3900	SF	12.60	49,154
Drywall, moisture res, 5/8"	15400	SF	3.65	56,144
<b>09 20 00 Plaster and Gypsum Board</b>				<b>654,091</b>
<b>09 22 00 Supports for Plaster and Gypsum Board</b>				
Suspension system, f/ ceiling gwb	18856	SF	3.03	57,069
<b>09 22 00 Supports for Plaster and Gypsum Board</b>				<b>57,069</b>

**09 Finishes**

Description	Quantity	Unit	Unit Cost	Extended Cost
<b>09 30 00 Tiling</b>				
Tile, floor, 12"sq., bathrooms	3075	SF	28.70	88,239
Tile, cove base,12"sq, rooms	1450	LF	24.26	35,182
Ceramic tile, wainscott	4572	SF	15.74	71,948
Cementitious, backerboard 5/8" t.	4572	SF	7.48	34,210
<b>09 30 00 Tiling</b>				<b>229,578</b>
<b>09 30 13 Ceramic Tiling</b>				
Ceramic tile, porcelain,	3006	SF	16.08	48,351
<b>09 30 13 Ceramic Tiling</b>				<b>48,351</b>
<b>09 30 16 Quarry Tiling</b>				
Quarry tile, red floor,8"x8"x1/2",mud	1641	SF	17.77	29,162
<b>09 30 16 Quarry Tiling</b>				<b>29,162</b>
<b>09 51 00 Acoustical Ceilings</b>				
Ceiling boards, fiberglass 2x2 3/4	32618	SF	2.73	89,208
<b>09 51 00 Acoustical Ceilings</b>				<b>89,208</b>
<b>09 53 00 Acoustical Ceiling Suspension Assemblies</b>				
Ceiling boards, 3/4"t, 2'x2'	32618	SF	3.55	115,725
<b>09 53 00 Acoustical Ceiling Suspension Assemblies</b>				<b>115,725</b>
<b>09 60 00 Flooring</b>				
Stair treads, rubber 12" wide 1/4"	460	LF	17.23	7,924
Stair risers, rubber 7" high 1/8"	460	LF	7.89	3,631
Stair landings, rubber 1/8" thick	200	SF	11.13	2,226
Stair treads, rubber 12" wide 1/4" attic	220	LF	17.23	3,790
Stair risers, rubber 7" high 1/8" attic	220	LF	7.89	1,737
Stair landings, rubber 1/8" thick attic	100	SF	11.13	1,113
<b>09 60 00 Flooring</b>				<b>20,420</b>
<b>09 65 00 Resilient Flooring</b>				
vct 12"x12" 1/8"t	2795	SF	3.95	11,027
Resilient, vinylsheets .093" thick	42534	SF	6.86	291,743

**09 Finishes**

Description	Quantity	Unit	Unit Cost	Extended Cost
Floor rubber, base, 4"	5174	LF	4.55	23,554
<b>09 65 00</b>	<b>Resilient Flooring</b>			<b>326,324</b>
<b>09 68 00</b>	<b>Carpeting</b>			
Carpet, 28 oz	243	SY	38.95	9,466
<b>09 68 00</b>	<b>Carpeting</b>			<b>9,466</b>
<b>09 72 00</b>	<b>Wall Coverings</b>			
Vinyl wall covering, 24 oz.pub.area	8797	SF	3.82	33,599
<b>09 72 00</b>	<b>Wall Coverings</b>			<b>33,599</b>
<b>09 90 00</b>	<b>Painting and Coating</b>			
Paint walls	92090	SF	1.53	140,830
Labor only, painters ordinary	100	DAY	1042.01	104,201
Paint, int door/frame 2coat,w/brush	100	EA	135.29	13,529
Paint, stairways, oil, 2c w/brush	8	FLT	1057.61	8,461
Paint, ceilings, 2 coats	19620	SF	2.07	40,624
Paint walls, elev/stair	1600	SF	0.54	863
Paint, exterior trim	7960	SF	2.07	16,451
Paint,stain exterior	1	TOTAL	15400.00	15,400
<b>09 90 00</b>	<b>Painting and Coating</b>			<b>340,359</b>

**10 Specialties**

<b>10 11 00</b>	<b>Visual Display Units</b>			
Markerboards	6	EA	373.63	2,242
<b>10 11 00</b>	<b>Visual Display Units</b>			<b>2,242</b>
<b>10 26 00</b>	<b>Wall and Door Protection</b>			
Corner guard, acrovyn, 2-1/2" wide (54ea)@4' high	216	LF	11.85	2,559
<b>10 26 00</b>	<b>Wall and Door Protection</b>			<b>2,559</b>
<b>10 28 00</b>	<b>Toilet, Bath, and Laundry Accessories</b>			
Bathroom accessories, rooms	45	EA	165.00	7,425
Bathroom accessories, p.s.	3	EA	660.00	1,980

**10 Specialties**

Description	Quantity	Unit	Unit Cost	Extended Cost
Shower curtains	150	LF	5.50	825
<b>10 28 00 Toilet, Bath, and Laundry Accessories</b>				<b>10,230</b>

**10 44 00 Fire Protection Specialties**

Fire extinguisher, cabinet, alum	18	EA	287.12	5,168
Fire extinguisher, all purpose, 10#	18	EA	85.00	1,530
<b>10 44 00 Fire Protection Specialties</b>				<b>6,698</b>

**10 51 00 Lockers**

Lockers, 1tier	20	OPEN	38.50	770
<b>10 51 00 Lockers</b>				<b>770</b>

**12 Furnishings****12 24 13 Roller Window Shades**

Window Shades Mecho manual with valance	90	EA	199.06	17,915
<b>12 24 13 Roller Window Shades</b>				<b>17,915</b>

**12 48 13.13 Entrance Floor Mats**

Surface floor mats	475	SF	15.90	7,552
<b>12 48 13.13 Entrance Floor Mats</b>				<b>7,552</b>

**13 Special Construction****13 00 00 Special Construction**

Nurses Station, Large 552sf to 599sf	2	Total	66000.00	132,000
Nurses Station, Small, 101sf	8	Total	10000.00	80,000
Nurses Station, Medium 198sf to 392sf	2	Total	25000.00	50,000
ADA Ramps with Rails 101 lf x 7' wide (2)	244	LF	197.13	48,099
Porte cochere 30 x 30	900	SF	150.00	135,000
Connector to Front entry 15' x 15'	225	SF	150.00	33,750
ADA Ramps with Rails 80 lf x 7' wide (2)Temp. f/phase III	160	LF	197.13	31,540
<b>13 00 00 Special Construction</b>				<b>510,389</b>

**14 Conveying Equipment**

Description	Quantity	Unit	Unit Cost	Extended Cost
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**14 Conveying Equipment****14 20 00 Elevators**

Elevator, passenger #1	2	STOP	47493.10	94,986
Elevator, passenger #2	2	STOP	43643.10	87,286
Elevator, passenger cab allow	2	CAB	10598.62	21,197
Elevators, maint.agree 12 mo. pass	2	EA	3960.00	7,920

<b>14 20 00 Elevators</b>				<b>211,390</b>
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**14 40 00 Lifts**

Wheel Chair Lift, temp.	1	EA	24518.20	24,518
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<b>14 40 00 Lifts</b>				<b>24,518</b>
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**21 Fire Suppression****21 13 13 Wet-Pipe Sprinkler Systems**

Sprinklers	55238	SF	10.00	552,380
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<b>21 13 13 Wet-Pipe Sprinkler Systems</b>				<b>552,380</b>
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**22 Plumbing****22 00 00 Plumbing**

Plumbing	55238	SF	65.00	3,590,470
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<b>22 00 00 Plumbing</b>				<b>3,590,470</b>
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**23 Heating, Ventilating, and Air Conditioning (HVAC)****23 00 00 Heating, Ventilating, and Air Conditioning**

H.v.a.c.,	55238	SF	85.00	4,695,230
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<b>23 00 00 Heating, Ventilating, and Air Conditioning (H</b>				<b>4,695,230</b>
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**23 30 00 HVAC Air Distribution**

**23 Heating, Ventilating, and Air Conditioning (HVAC)**

Description	Quantity	Unit	Unit Cost	Extended Cost
Louvers, alum., f/mech. Ventilation 48"	600	SF	22.54	13,524

**23 30 00 HVAC Air Distribution 13,524**

**26 Electrical****26 00 00 Electrical**

Electric	55238	SF	37.90	2,093,520
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**26 00 00 Electrical 2,093,520**

**31 Earthwork****31 11 00 Clearing and Grubbing**

Clear & grade site	2.8	ACRE	8994.26	25,184
Clear & grub, site	0.5	ACRE	8994.26	4,497

**31 11 00 Clearing and Grubbing 29,681**

**31 22 16 Fine Grading**

Grading, finish by hand crawl space	28202	SF	1.29	36,456
Fill, crushed stone, 4"deep,under flr F/crawl space	28202	SF	1.01	28,608

**31 22 16 Fine Grading 65,064**

**31 23 16 Excavation**

Excavation, hyd.execav.1.5cy, bldg	4178	CY	16.59	69,296
Excavation, structural	1500	CY	22.46	33,697
Excavating, trench, f/utilities	200	CY	16.44	3,289
Site fill, spread w/dozer,	2750	CY	15.76	43,347
Backfill, compaction, vib/plate 6"	1250	CY	16.01	20,012
Hauling, w/12cy	1000	CY	7.48	7,482
Import, & backfill w/compacted fill	500	CY	49.07	24,535
Excavation, cut	500	CY	4.97	2,483
Excavation, fill	500	CY	4.97	2,483
Excavation, hyd.execav.1.5cy60cy/hr retaining wal	100	CY	6.21	621
Crushed stone 1 1/2" f/drainage @ r.wall	500	CY	35.04	17,520

**31 23 16 Excavation 224,764**

**32 Exterior Improvements**

Description	Quantity	Unit	Unit Cost	Extended Cost
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**32 Exterior Improvements****32 10 00 Bases, Ballasts, and Paving**

Basecourse, bank run gravel, 6"deep sidewalk	766.7	SY	3.65	2,799
Basecourse, bank run gravel,9"deep roads & parking	4022	SY	6.70	26,947
Basecourse, bank run gravel,9"deep service entrance	237	SY	6.70	1,588

**32 10 00 Bases, Ballasts, and Paving****31,334****32 12 16 Asphalt Paving**

Grading, fine, 3 passes,plus roll	4133	SY	1.98	8,164
Bitum., paving, wearing course 1.5" hd	2564	SY	11.32	29,018
Bitum., paving, binder course2- 1/2" hd	2564	SY	22.63	58,035
Bitum., paving, wearing course 1" std.	1458	SY	8.23	11,994
Bitum., paving, binder course 2" std.	1458	SY	15.54	22,655

**32 12 16 Asphalt Paving****129,865****32 13 13 Concrete Paving**

Paving, concrete 6" thick service entrance 2,134 sf	237	SY	29.79	7,060
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**32 13 13 Concrete Paving****7,060****32 14 00 Unit Paving**

Concrete pavers, patio	1500	SF	21.70	32,550
Entry pavers, concrete	1120	SF	14.47	16,202
Basecourse, bank run gravel,9"deep	505	SY	6.70	3,384
Pavers, precast, fire lane	4544	SF	17.61	80,029

**32 14 00 Unit Paving****132,165****32 16 00 Curbs, Gutters, Sidewalks, and Driveway**

Curbs, granite split face st.6"x18"	764	LF	34.36	26,252
Sidewalk, concrete 4" thicik	6900	SF	7.02	48,436
Curbs, Sloped Granite	1000	LF	29.96	29,961

**32 16 00 Curbs, Gutters, Sidewalks, and Driveways****104,649**

**32 Exterior Improvements**

Description	Quantity	Unit	Unit Cost	Extended Cost
<b>32 17 23.13 Painted Pavement Markings</b>				
Paint, parking stall,white	82	STALL	12.17	998
Paint, arrows & h.c symbols(15)	300	SF	9.14	2,741
Painting, pavement lines thermo 4"w	1000	LF	1.23	1,233
Painting, pavement lines thermo 18"w	300	LF	11.15	3,346
<b>32 17 23.13 Painted Pavement Markings</b>				<b>8,318</b>

<b>32 30 00 Site Improvements</b>				
H.c. ramp sidewalk curb cuts	3	EA	2796.50	8,389
Hvac screen enclosure	66	LF	33.00	2,178
<b>32 30 00 Site Improvements</b>				<b>10,567</b>

<b>32 31 13 Chain Link Fences and Gates</b>				
Fence, chain link 6' high	100	LF	33.76	3,376
<b>32 31 13 Chain Link Fences and Gates</b>				<b>3,376</b>

<b>32 90 00 Planting</b>				
Landscaping	1	allow	60000.00	60,000
<b>32 90 00 Planting</b>				<b>60,000</b>

**33 Utilities**

<b>33 00 00 Utilities</b>				
Electric conduit, conc. encasement	10	CY	559.30	5,593
Electric exterior light poles	5	EA	3346.50	16,732
<b>33 00 00 Utilities</b>				<b>22,325</b>

<b>33 05 31.27 Polyvinyl Chloride Perforated Drainage P</b>				
Drainage, pvc perforated 6"	1410	LF	11.18	15,761
<b>33 05 31.27 Polyvinyl Chloride Perforated Drainage Pipe</b>				<b>15,761</b>

<b>33 14 13 Public Water Utility Distribution Piping</b>				
Fire hydrant, 2 way 4 1/2" valve	1	EA	2462.39	2,462
Pipe, ductile iron, 8"diam. cl250	500	LF	48.90	24,450

**33 Utilities**

Description	Quantity	Unit	Unit Cost	Extended Cost
Drill & tap, pressurized 6" main	1	EA	694.35	694
Thrust blocks, concrete	10	EA	331.18	3,312
<b>33 14 13 Public Water Utility Distribution Piping</b>				<b>30,918</b>

**33 31 00 Sanitary Sewerage Piping**

Frames & covers, heavy traffic 36"	5	EA	1037.96	5,190
Inverts, single channel, brick	5	EA	860.19	4,301
Pipe, pvc, 8"dia.,s.d.r. 35,	300	LF	13.73	4,119
Manhole, precast,4'id8'd	5	EA	2561.25	12,806
<b>33 31 00 Sanitary Sewerage Piping</b>				<b>26,416</b>

**33 40 00 Stormwater Utilities**

Inverts, single channel, brick	8	EA	860.19	6,882
Pipe, rein.concrete, 12"dia.,class 3, Flared End 6'-1" long	5	EA	80.12	401
Pipe, rein.concrete, 12"dia.,class 3	500	LF	32.99	16,494
Manhole & c. basin, precast,4'id4'd	8	EA	1329.20	10,634
Frames & covers, heavy traffic 36"	8	EA	1037.96	8,304
<b>33 40 00 Stormwater Utilities</b>				<b>42,713</b>

<b>Sub Total</b>			<b>26,630,010</b>	482.10 / SF
Overhead & Profit	10 %		2,663,001	
Bond	1 %		266,300	
Island Factor	30 %		7,989,002	
Design Contingency	15 %		3,994,501	
<b>Grand Total</b>			<b>41,542,810</b>	752.07 / SF



Our Island Home, Nantucket, Option #2 Conceptual Estimate		19 0502
1ST FLR 28,202 SF 6 1/2" Composite Steel Beam Frame w/3/4"x4" stud bolt		
2ND FLR 27,036 SF 3 1/2" conc on metal deck w/bar joists		
6" Metal Studs Walls		
Total Floor area 55,238 SF		Perimeter 1,235 LF
55238 SF	Other Health Buildings	Last Updated
Year 2019	Cost File 2019 BOSTON UNION AVERA	7/22/2019 2:13:56 PM

### Project Summary

Division	Total		
<b>01 General Requirements</b>	<b>2,857,348</b>	\$51.73 /SF	10.7 %
<b>02 Existing Conditions</b>	<b>213,847</b>	\$3.87 /SF	0.8 %
<b>03 Concrete</b>	<b>1,093,477</b>	\$19.80 /SF	4.1 %
<b>04 Masonry</b>	<b>398,444</b>	\$7.21 /SF	1.5 %
<b>05 Metals</b>	<b>2,703,471</b>	\$48.94 /SF	10.2 %
<b>06 Wood, Plastics, and Composites</b>	<b>1,048,598</b>	\$18.98 /SF	3.9 %
<b>07 Thermal and Moisture Protection</b>	<b>1,131,044</b>	\$20.48 /SF	4.2 %
<b>08 Openings</b>	<b>895,110</b>	\$16.20 /SF	3.4 %
<b>09 Finishes</b>	<b>3,604,302</b>	\$65.25 /SF	13.5 %
<b>10 Specialties</b>	<b>22,499</b>	\$0.41 /SF	0.1 %
<b>12 Furnishings</b>	<b>25,468</b>	\$0.46 /SF	0.1 %
<b>13 Special Construction</b>	<b>510,389</b>	\$9.24 /SF	1.9 %
<b>14 Conveying Equipment</b>	<b>235,908</b>	\$4.27 /SF	0.9 %
<b>21 Fire Suppression</b>	<b>552,380</b>	\$10.00 /SF	2.1 %
<b>22 Plumbing</b>	<b>3,590,470</b>	\$65.00 /SF	13.5 %
<b>23 Heating, Ventilating, and Air Conditioning (HVA</b>	<b>4,708,754</b>	\$85.24 /SF	17.7 %
<b>26 Electrical</b>	<b>2,093,520</b>	\$37.90 /SF	7.9 %
<b>31 Earthwork</b>	<b>319,509</b>	\$5.78 /SF	1.2 %
<b>32 Exterior Improvements</b>	<b>487,334</b>	\$8.82 /SF	1.8 %
<b>33 Utilities</b>	<b>138,134</b>	\$2.50 /SF	0.5 %

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<b>Sub Total</b>		<b>26,630,010</b>	482.10 / SF
Overhead & Profit	10 %	2,663,001	
Bond	1 %	266,300	
Island Factor	30 %	7,989,002	
Design Contingency	15 %	3,994,501	
<b>Grand Total</b>		<b>41,542,810</b>	752.07 / SF

**MEETING 1 - 3/25/19 - Notes**

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**Date** March 28, 2019

**OIH** Rachel Day, Director of Human Services, Nantucket  
Brett Lennerton, OIH Administrator  
Ella Finn, Landmark Building Director, OIH Work Group  
Dave Fredricks, OIH Work Group  
Denise Kronau, Finance Committee

**LWDA** Ruth Neeman, Jonathan Gyory, Keith Bradley

**Job #** 18150

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Kick off meeting took place on 3/25/19. Project goals, program and logistics were reviewed. The plan for the new OIH will cluster resident rooms in a residential fashion around common rooms but will operate as a larger nursing unit for the DPH licensure.

The general intent for the new OIH is a resident-centered environment in line with current and future resident expectations for purposeful life with personal choice.

#### 1. Program Requirements: Resident Units

- a. Desired bed count - 45 total beds, probably 35 singles + 5 doubles (for couples, sisters, mother/daughter). There are ongoing discussions with Clifton Larson Allen (CLA), exploring 35 SNF beds and 10 rest home beds. There is a need on the island for a level of care that is lower than SNF but higher than AL. The impact on staffing two separate nursing units (required if 2 levels of care are used) needs to be reviewed.
- b. Current census fluctuates between 35 - 45. The goal is to keep OIH fully or partially in operation and all residents on site during construction; Landmark Building not available for swing space during construction.
- c. The concept of building single occupancy rooms that can legally house 2 residents during construction not a problem, they live this way now.
- d. Previous study by SMRT working assumption was that resident census might reduce to 35 or 36 during construction.
- e. Need to maintain license for 45 beds. The new State regs for BOOS will be reviewed to avoid risking the loss of licensed beds.
- f. One of the proposed Resident mix options considered is SNF/ Level II and a lower level care such as Rest Home/ Level IV) or AL: Level II (approx. 40 beds) and Level IV/ AL (approx. 5 units). The DPH attitude towards mixing licensed beds and AL needs to be reviewed.
- g. No other option on island for Level II. Would be preferable to cluster AL residents in one wing / neighborhood; but design all units to meet 1B Construction and SNF regulations for Long Term Care to allow flexible response to care needs on the island.
- h. Currently residents with dementia are integrated within the overall OIH population. Safety and security are managed by delayed egress mechanism on all exterior doors and wearable door control system for residents that are at risk of wandering.
- i. There is a need for dementia care, hospice care, short term rehab within these numbers. Refer to Clifton Larson Allen report for resident mix; recommended 35 Level II beds + 10 beds in separate unit for other categories.

**MEETING 1 - 3/25/19 - Notes**

- j. No need for distinct specialty care unit (e.g., dementia, short stay rehab). Since the recommended new layout is based on rooms clustered around living rooms (Small Households), there will be an opportunity for living arrangements that cluster residents with similar needs. VNA provides hospice/ palliative care as overlay service, but not as dedicated unit.
- k. Small House Residential Unit concept: LWDA to explore implications of Small House approach to operations and plan.
- l. Current admissions rate: 1 - 2 residents / month is expected to continue.
- m. Mobility: approx. ½ of the current resident population are in wheelchairs, most others use walkers or canes, very few bedridden.
- n. Three-fixture bathrooms will be provided in the new OIH for each room; no shared bathrooms between two rooms, per current CMS/ Medicaid regs.
- o. One common tub (auto bather) will be provided for the building unless a waiver from DPH can be obtained.
- p. Level II support spaces as required per DPH regulations (Clean and Soiled Utility, Housekeeping, Storage, Meds, etc.)

**2. Program: Common Spaces**

- a. Main Dining: large enough to serve 2/3 census = 30 residents. Can be set out as “casual” / Café / Bistro Dining that can serve staff and visitors as well.
- b. Small House Dining: Compare “Main Dining” approach above to “Small House Dining” concept where each unit --i.e., 10 beds or 20 beds-- enjoys their own Dining Room, residential in scale and feel with choices in menus and dining times-- where residents can visit other’s units and eat there for greater variety of social settings. To be discussed in future meeting
- c. Private Dining on Unit: for residents who need extensive care/ assistance; also useful for visiting family meals, parties.
- d. Alternate food service options besides on-site Temporary Kitchen to explore during construction: how long is it realistic to maintain?
  - i. Kitchen trailer service - per Shelburne Commons
  - ii. Meals on Wheels
  - iii. Catering and Grilling
- e. Common spaces: multiple Activity Spaces. Flexible open spaces for birthday parties, receptions, lectures, etc.; typically, open to general circulation for casual social interaction but capable of being acoustically separated for special functions.
- f. Other potential Activity Spaces: to house games, exercise, greenhouse, arts and crafts, library, and quiet activities, music, etc.
- g. Multipurpose Conference Room with A/V: accommodate 30-40 set up with folding chairs, or 20 at a table for meetings, training (e.g., CPR, Narcan)
- h. Large Multi-Purpose rental space with separate entrance potentially useful for Town government as well as citizen groups, and related uses such as Med Offices or Outpatient Rehab in conjunction with Inpatient Rehab services. Town uses may be Emergency Preparedness, Polling Station, meeting space and other “in-reach” uses for community, to be explored.
- i. Emergency Power: As required by DPH regulations which cover elevators (hole-less hydraulic to avoid flooding issues). Generator could be sized to also serve Landmark House elevator. Brendan Coakley, Emergency Preparedness Director will be interested; Rachel to follow up.)

**MEETING 1 - 3/25/19 - Notes**

- j. No Adult Day Program is being considered: this is accommodated in the Saltmarsh Senior Center, which provides most community outreach programs.
- k. No Day Care Center for staff is being considered: A day care service cannot be limited to OIH staff only-- potential eligibility among different town unions could become a challenge.
- l. No Staff Housing on site is being considered: landlord issues; how to vacate when they are no longer employees.

**3. Site selection: Why stay here?**

- a. The 1<sup>st</sup> Feasibility Study by SMRT did not recommend the current site because
  - i. Alternate site was assumed to be substantially less costly: single build on a single story vs. 2 story phased construction on current site.
  - ii. Potential temporary disruption/ relocation of residents to other sites during construction.
  - iii. DPH concern with storm surge.
  - iv. The team did not gauge the level of citizenship passion for the current site.
  - v. The "Greenhouse" concept was not explained to the community with sufficient level of clarity to garner the level of support the team expected.
- b. This Feasibility Study is limited to the current site because
  - i. View (although actually not many rooms with view in current building)
  - ii. Tradition: this is where OIH has always been.
  - iii. Cost of preferred alternate site grew due to Indian artifacts and forced sewer line that couldn't be relocated.

**4. Illustrative Schemes**

Preliminary sketch concepts were reviewed and elicited the following remarks:

- a. No sentimental attachment to existing building, only if makes practical sense to keep.
- b. Small amount of demolition before Phase 1 construction acceptable; resident census may drop as low as 36 temporarily.
- c. Resiliency: Elevating 1<sup>st</sup> Flr as high as possible on site makes sense for resiliency and longevity; favors demolishing existing building. NOAA expects sea level to rise between 19" - 47" by 2100; try to raise 1<sup>st</sup> Flr from current elev. 14' +/- up to elev. 19' or 20'.
- d. All resident rooms on one floor preferred for staffing flexibility.
- e. Two-story scheme is probably more realistic with resident rooms on 2<sup>nd</sup> Flr.
- f. Landmark House residents understand current views may be modified by new building.
- g. Neighbor concerns: some abutters may be sensitive to views, noise, emergency lighting; other abutters should be supportive of project.
- h. Parking: consider shared common parking with Landmark Building, closer to the way site operates currently. Relocating some of Landmark's parking to the front for the site is a possibility.
- i. Fire truck access: The FD is interested in creating a second means of access to the site as part of his project. Exit to adjacent abutter driveway on east side or create exit path next to Landmark House that would go past (through?) resident garden.
- j. Prefab/ modular components: potentially to save time; LWDA to research before Charrette.

**MEETING 1 - 3/25/19 - Notes**

## 5. Survey

- a. Survey to include Landmark House property to allow for coordinated parking layout.
- b. Rachel to contact Steve Glowacki directly at RJ O'Connell [(781) 279-0180 x125, [steve.glowacki@rjoconnell.com](mailto:steve.glowacki@rjoconnell.com)] to commission survey ASAP (not included in LWDA proposal). If the survey work is subcontracted to a surveyor on the island, RJ O'Connell will provide the specification to the level of accuracy needed (contour lines spacing, utilities, etc.)
- c. Steve and/or surveyor to attend engineering walk-thru, tentatively scheduled for April 8 or 9.
- d. Brett is away April 9 - 12, LWDA to coordinate engineering site walk with Ed Long if Brett is away.
- e. MEP engineers - CES to review recent SMRT renovations and 2014 MEP Survey by SED.
- f. LWDA to scan existing drawings and return originals April 8 or 9.

## 6. Design Charrette May 10

For the sake of transparency and involvement of all potential stake holders, a work Charrette will take place early in the process. The Town and OIH will determine the invitee list.

- a. Invitees: Ella Finn/ Landmark, Friends of OIH (5) and Building Committee (4-7)
- b. Where: Police Station or Dreamland Theater. Rachel to arrange location and set up with Town IT Director.
- c. FAQ: to publicize design process and promote transparency, a list of FAQ questions will be posted on line for public review that will link to Town website
  - i. Rachel to send LWDA preliminary list of FAQ by April 15.
  - ii. Keith to create mock-up for one-page website for FAQ with links by April 17.
  - iii. OIH to review website mock-up by April 19 for site, to go live by April 23.
  - iv. Website will solicit public input-- more questions-- by email only.
  - v. Website will be updated before Charrette.
- d. Keith will write a draft agenda for Charrette.
- e. LWDA will arrive May 9 to set up as required.

**MEETING 2 - 4/8/19 - Notes**

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**Date** April 16, 2019

**OIH** Brett Lennerton, OIH Administrator  
Ed King, OIH Building Engineer  
Paul Santos, Nantucket Surveyors LLC  
Travis Mitchell, LA Fuess, Structural Eng  
Del Smith, CES, Mechanical Eng  
Pat Crilly, CES, Mechanical Eng

**LWDA** Jonathan Gyory

**Job #** 18150

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1. Goal: review site, structure and MEP of existing OIH Building to understand issues involved in phased demolition.
2. Site Issues
  - a. Paul will contact Don Bracken to track down CAD file of 2017 survey.
  - b. Missing subsurface utility info can happen later.
  - c. Discrepancy between GIS contours and Bracken survey due to unofficial 1934 town flood map (GIS never updated) vs. 1988 sea level standard (Bracken survey correct).
  - d. Raising new building 1<sup>st</sup> Flr above grade will require temporary ramp after Phase 1 is complete to access new 1<sup>st</sup> Flr.
3. Structural Issues (see LA Fuess notes attached)
  - a. Existing building was constructed per original drawings.
  - b. Easy to remove individual wings of building.
  - c. Most of bracing appears to be on exterior wall; will have to replace with temporary bracing to maintain overall seismic/wind resistance.
  - d. Area towards center between wings and tower is trickier, will require more study.
  - e. Center Tower should remain until last phase of demo (see below).
  - f. If new building is 5' - 5 ½' higher than existing, there will have to be a temporary lift to access from old to new; Temporary Kitchen in existing building is difficult idea.
4. Mechanical Issues
  - a. Demolition: maintain center tower until the last phase to keep central air handler in operation. Wings can be demolished in any order as needed.
  - b. New construction: central chiller (per current building) vs. distributed VRF units.
  - c. Phased construction shown on Scheme 2 will require each wing to be self-sufficient from MEP perspective; separate buildings until they're joined. Temporary MEP Rooms could be combined/relocated at end of construction, but more efficient to build permanent support with each phase.
  - d. Generator will require diesel tank, probably above grade. Existing generator had in-ground tank that had to be removed when it began to leak.
  - e. Del will have Nick review electrical system soon, couldn't be here today.
  - f. Del will try to get hold of BVH set.

**OIH 2019 CHARRETTE OUTLINE for MAY 6, 1-5 PM**

	Topic	Presenter / facilitator	Estimated Duration	Start
1	<p>Introduction</p> <ul style="list-style-type: none"> <li>Here is LWDA</li> <li>Hand out name tags</li> <li>Ground rules for today</li> </ul>	Rachel	5 min	1:00
2	<p>Around the room introduction of participants, their role and interest in the project</p> <ul style="list-style-type: none"> <li>Who you are, what is your role.</li> <li>One adjective to describe OIH for the 21<sup>st</sup> century</li> </ul>	All	10 min	1:05
3	<p>Introduction to OIH process</p>			
	<p>3.1 - History</p> <ul style="list-style-type: none"> <li>a. Previous 2015 Feasibility Study examined alternate sites under assumption that project would cost less, involve less patient disruption and relocation, single phase construction, more site area for more parking and future expansion.</li> <li>b. Strong opposition from Town meeting led OIH to circle back to rebuilding/ renovations on existing 9 East Creek Road site.</li> <li>c. Results found alternate sites were less desirable due to existing utilities, buried historic artifacts, cost of acquiring site, potential abutter resistance.</li> </ul>	Rachel	5 min	1:15
	<p>3.2 - Financial feasibility and operational and future projections - CLA progress so far</p> <ul style="list-style-type: none"> <li>a. This feasibility study is being done in conjunction with an operational feasibility study by CLA to review staffing efficiency models, long term resident population projections, levels of care, and patient reimbursement models.</li> <li>b. Preliminary review of review OIH current operations</li> <li>c. Proposed financial, operational and strategic options.</li> <li>d. Analyze changes in reimbursements in the industry overall, demographics, bed capacity, types of services offered, specific model staffing structures, DPH regulations and requirements, and changes to the Massachusetts DoN process.</li> </ul>	Rick Hamilton	10 min	1:20



	<p>3.3 - Charrette outcome goals - What we expect to achieve today: Program, Priorities, Pitfalls</p> <ul style="list-style-type: none"> <li>a. Today is a preview of our Feasibility Study</li> <li>b. Program priorities</li> <li>c. Schedule</li> <li>d. Constraints</li> </ul>	<p>LWDA</p>	<p>5 min <span style="color: red;">1:30</span></p>
<p>4</p>	<p>OIH 2019 Feasibility Study goals: to determine what is involved in renovating/ rebuilding OIH on site so Town can make an informed decision.</p> <ul style="list-style-type: none"> <li>a. Improve Resident Living and Care environment with current Best Practices.</li> <li>b. Resiliency to climate change and rising seas.</li> <li>c. How to phase construction so patients remain on site during construction (no alternate on-island site available to temporarily house patients).</li> <li>d. How to minimize disruption for patients and staff during construction.</li> <li>e. Inreach/ outreach– how to integrate OIH with Island community life.</li> </ul> <p>Project considerations and constraints</p> <ul style="list-style-type: none"> <li>a. Program priorities             <ul style="list-style-type: none"> <li>All resident rooms on one floor</li> <li>Mostly singles 35 singles + 5 doubles</li> <li>SNF/ AL mix</li> <li>Community spaces</li> <li>Future expansion</li> <li>Program wishlist - what else?</li> </ul> </li> <li>b. Budget</li> <li>c. Schedule: deadlines?</li> <li>d. Census during construction and long term</li> <li>e. Parking requirements</li> <li>f. Delivery and fire truck access</li> <li>g. Resiliency             <ul style="list-style-type: none"> <li>i. Rising seas: NOAA, says 19" to 47" by 2100</li> <li>ii. Category 4 Hurricane</li> <li>iii. FEMA</li> <li>iv. Design building to last 80 years</li> </ul> </li> <li>h. Neighbor concerns             <ul style="list-style-type: none"> <li>v. Blocked views</li> <li>vi. Building size</li> <li>vii. Regrading if required</li> <li>viii. Construction noise, vehicles, emergency lighting, outdoor grilling</li> </ul> </li> </ul>	<p>LWDA</p>	<p>20 min <span style="color: red;">1:35</span></p>



	<p>Regulatory agencies (Local State and Federal)</p> <ul style="list-style-type: none"> <li>a. Nantucket: <ul style="list-style-type: none"> <li>Planning Board: special permit for density, height, setbacks, aesthetics, parking</li> <li>Energy Coordinator: Stretch Code; LEED Silver certifiable is more than adequate, says Lauren Sinatra. OIH is high energy user [solar panels?]</li> </ul> </li> <li>b. Mass: DoN [LEED Silver certifiable required; do we want to actually certify?]; DPH, IBC 2015, MAAB</li> <li>c. Federal: FEMA, ADA, CMS, Fair Housing</li> </ul> <p>Condition of existing structure and anticipated life expectancy of systems and components</p> <ul style="list-style-type: none"> <li>a. Only 3 of 45 currently in single rooms vs. goal to provide single rooms for majority (35 of 45).</li> <li>b. Private showers now preferred for typical patient room [instead of common tubs on unit].</li> <li>c. Does not accommodate residential "Small House" model of care to deinstitutionalize environment.</li> <li>d. Not enough variety of patient activity spaces</li> <li>e. No opportunity for potential auxiliary suite for Town or rental [e.g. med offices or phys therapy]</li> <li>f. Nursing support spaces: undersized.</li> <li>g. Accessibility: toilets to not meet current code and use patterns.</li> <li>h. Mechanical: no proper AC to resident rooms; AC only to common spaces currently.</li> <li>i. Plumbing: Leaking waste and soil pipes below slab are difficult and costly to repair, require cutting into slab.</li> <li>j. Electrical</li> <li>k. Inadequate storage.</li> <li>l. No covered drop-off entrance.</li> <li>m. Approach sequence not welcoming: garage in front, entry hidden, no covered drop-off, too much pavement on site</li> </ul>		
5	Communication and energizing exercises	LWDA, All	10 min <span style="color: red;">1:55</span>
6	<p>Workplan and timeline</p> <p><u>LWDA Feasibility Study</u>                      March - August 2019</p> <ul style="list-style-type: none"> <li>a. Survey existing building.</li> <li>b. Develop program for new project.</li> <li>c. Stakeholder input (includes today's Charrette).</li> <li>d. Scenario planning for OIH Review.</li> </ul>	LWDA	15 min <span style="color: red;">2:05</span>



	<ul style="list-style-type: none"> <li>e. Cost Estimate(s) for 2 schemes.</li> <li>f. Draft report of existing conditions, stakeholder input, scenario planning for OIH review</li> <li>g. Preliminary cost estimating</li> <li>h. Town review and presentation: mid to late August</li> <li>i. Adjustments to scenarios</li> <li>j. Issue Feasibility Study</li> </ul> <p><u>Next Steps beyond Feasibility Study</u>    4 ½ yrs +/-</p> <ul style="list-style-type: none"> <li>k. OIH and Town decide to pursue project: VOTE</li> <li>l. DoN to be filed with State            3 mo</li> <li>m. DoN approval                            6 mo</li> <li>n. Fundraising                                ongoing</li> <li>o. Schematic Design                        2 mo</li> <li>p. Design Development                    3 mo</li> <li>q. DPH Part 1 review and approval 4 mo overlap w/</li> <li>r. Completion of design                    6 mo</li> <li>s. DPH Part 2 review and approval 2 mo overlap w/</li> <li>t. Bids    2 mo</li> <li>u. Construction: 3 phases                30 mo</li> </ul>		
	Break		10 min    2:20
7	Evaluation of alternative paths for new OIH: pros and cons	LWDA	30 min    2:30
	<p>7.1 - Renovation of existing building</p> <ul style="list-style-type: none"> <li>a. Disruptive for residents due to multiple phases</li> <li>b. Expensive \$/sf due to multiple phases</li> <li>c. Cramped: too small</li> <li>d. Vulnerable to sea level rise</li> <li>e. Compromised solution due to existing limitations                             <ul style="list-style-type: none"> <li>1. Aging infrastructure for any remaining parts</li> <li>2. Limited program: no new single rooms</li> <li>3. Site: no relation to Landmark House</li> <li>4. Site: doesn't take advantage of views</li> </ul> </li> </ul>		Included above
	<p>7.2 - Partial renovation and additions</p> <ul style="list-style-type: none"> <li>a. Disruptive for residents due to multiple phases</li> <li>b. Existing part will be vulnerable to sea level rise</li> <li>c. Impractical solution due to floor level change                             <ul style="list-style-type: none"> <li>1. Ramps &amp; lifts make daily living unworkable</li> </ul> </li> <li>d. Site                             <ul style="list-style-type: none"> <li>1. no relation to Landmark House</li> </ul> </li> </ul>	LWDA	Included above



	2. doesn't take advantage of views, site		
	<p>7.3 - Phased demolition of existing building to create a new OIH as part of a reconfigured campus</p> <ul style="list-style-type: none"> <li>a. Limited disruption for residents</li> <li>b. Smart \$/sf investment due to new construction</li> <li>c. Raised 1<sup>st</sup> Floor above sea level rise</li> <li>d. New building will avoid limitations                             <ul style="list-style-type: none"> <li>1. Optimize operations</li> <li>2. Program appropriate size, provide flexibility for future</li> <li>3. Cohesive aesthetics</li> <li>4. Campus approach to Site to integrate campus with Landmark House, consolidate parking, take advantage of views</li> </ul> </li> </ul>	LWDA	Included above
8	<p>Priority Matrix Criteria exercise</p> <ul style="list-style-type: none"> <li>• Functional Efficiency/ Operations                             <ul style="list-style-type: none"> <li>All residents on one floor</li> <li>Distributed staff support</li> </ul> </li> <li>• Resident Living Arrangement                             <ul style="list-style-type: none"> <li>Singles vs. doubles</li> <li>SNF vs. AL Rest Home</li> <li>Small cluster vs. centralized</li> </ul> </li> <li>• Wellness/ Quality of Life                             <ul style="list-style-type: none"> <li>Choice of activities</li> <li>Universal design</li> <li>Technology</li> <li>Accessibility</li> </ul> </li> <li>• Site and context                             <ul style="list-style-type: none"> <li>Views</li> <li>Approach</li> <li>Relationship to Landmark House</li> <li>Outdoor amenities</li> <li>Parking and truck access</li> </ul> </li> <li>• Construction and phasing                             <ul style="list-style-type: none"> <li>Patient disruption</li> <li>Minimize phasing and moves</li> </ul> </li> <li>• Resiliency                             <ul style="list-style-type: none"> <li>Raise 1<sup>st</sup> Floor up</li> <li>Utilities out of Basement</li> </ul> </li> <li>• Flexibility                             <ul style="list-style-type: none"> <li>Long term adaptable from SNF room to AL</li> <li>Long term expansion</li> </ul> </li> </ul>	LWDA, All	45 min <b>3:00</b>



	<ul style="list-style-type: none"> <li>Inreach/ Outreach: connectivity to Town</li> <li>Community services</li> <li>Rental spaces</li> </ul>		
	Break for LWDA to organize results		10 min 3:45
9	Review rank and evaluate the matrix results - change and adjust if needed.	LWDA, All	30 min 3:55
10	<p>Preliminary site scenarios</p> <p><u>PROS</u></p> <p><u>Scheme 1</u> Entry faces Landmark Great views for rooms Great views for common sp 1 story scheme is efficient</p> <p><u>Scheme 2</u> Entry faces Landmark 2 story height = Landmark Even Greater views for rooms Good views for common sp Community/ rental space 2 main cons phases</p> <p><u>Scheme 3</u> Entries face Landmark Same site plan as Scheme 2 Good views for rooms 1 story scheme is efficient Dedicated AL Entry</p>	<p><u>CONS</u></p> <p>Multiple cons phases</p> <p>Larger building will cost more</p> <p>1 story + means keeping old and new during cons phases 2<sup>nd</sup> Flr AL Suite rooms could feel disconnected: convince DPH Fewer common spaces Service has to cross main corridor to Dining</p>	LWDA 30 min 4:25
11	Summary and thank you - expected deliverable: Charrette Report	LWDA	5 min 4:55

Estimated durations assume integrated discussion and total four hours.

# Our Island Home – Feasibility Study

OIH is conducting a new architectural/engineering feasibility study to explore what steps would be required to make an informed decision on how to best proceed if OIH were to replace the current facility on its existing site and remain at 9 East Creek Road. As such, the study does not represent a commitment to fund, design and build a new facility; rather, it will explore the issues involved in undertaking such a challenge.

The study will examine what concrete steps would be required to create a flexible facility for the long term that offers improved living and care, addresses current spatial and programmatic deficiencies, explores the challenges of phased construction and demolition, considers how best to mitigate disruption to residents and staff during construction, estimates potential construction cost, and considers long term environmental concerns for storm surge and sea level rise. The architectural study is being conducted by LWDA Architects of Concord MA, together with an operational study that will review staffing efficiency, long term resident population projections and patient reimbursement models (see FAQ 4 below).

## Frequently Asked Questions

As of 05/24/2019

### 1. Wasn't a feasibility study already completed for OIH?

OIH commissioned an earlier architectural feasibility study in 2015 for OIH replacement /renovation on its current site, or relocation to one of several alternate sites in Town. Potential benefits of relocation included single phase construction, lower construction costs, more site area to accommodate best practice living environments, parking and future expansion, and less disruption for patients during construction. [More Information](#)

However, the study found specific issues associated with each alternate site that would potentially offset the assumed lower construction costs (existing utilities, buried historic artifacts, cost of acquiring site, potential abutter resistance). Presentation of the alternate sites to Town Meeting in October 2015 met with strong and impassioned community opposition. Ultimately, the decision was made in March 2016 to recommend a study for renovation or rebuilding of OIH on its current site, to maintain its traditional location and take advantage of its ocean view, assuming a strategy could be found to avoid disruption for patients. This is the study currently underway by LWDA.

### 2. Why do we need a new facility?

The existing building is approximately 39 years old. Most of the systems and infrastructure date back to the original 1980 construction. There have been system upgrades over the years to keep the facility operational; however, the building layout is outdated, inefficient and does not meet current best practices for patient care, current state Department of Public Health regulations for nursing support and mechanical systems. Some of the systems cannot be maintained without significant cost that will impact the physical space.

The care model for skilled nursing has radically changed from the institutional setting of the 1980's and earlier, to a more home-like model where residents have more choice and control over their lives in a setting that mirrors home-like features rather than a 'medical facility'. This new model is proven to provide a higher quality of life and better-quality outcomes to residents and their families.

### **3. Why can't we leave Our Island Home where it is and just repair the building as needed?**

The existing infrastructure will be very costly to repair and maintain and/or entirely replace. Systems are antiquated and require replacement. Some systems are not compliant with current energy code and do not operate in a responsibly sustainable way; other systems are not easy to replace given the facility structure (e.g., plumbing beneath the facility floor slab). Major capital expenditure on the facility's deteriorated systems will require bringing the entire facility up to Life Safety and Building codes. It is important to note that the facility is currently occupied so any repair and expansion of this magnitude will require multiple phasing over several years and will be highly disruptive to patients and their families.

### **4. Is it possible to just renovate the existing building and stay on the current site? What really will be permitted or prohibited?**

This question of what will be permitted or prohibited needs to be more specific, regulations that govern this are in the thousands of pages – see *Determination of Need Regulations 105 CMR 100.000, Mass DPH licensing and physical plant regulations, Mass Building Code 780 CMR, Local and Federal accessibility regulations, CMS Medicare / Medicaid regulations* – to name a few.

Renovation of the existing facility would cause significant disruption to the elderly population living in the building. Construction would have to be phased over many years requiring reduction in resident census to accommodate the phasing, potential reduction in staff, and increase the cost of the construction.

A feasibility study is currently underway with LWDA Design Architects (LWDA) to understand preliminary concepts on constructing a new building around the current which will involve phased-build stages and phased demolition of the current building.

In July of 2018, the Town engaged CliftonLarsonAllen (CLA) to review the current operations of Our Island Home and propose financial, operational and strategic options for a future Our Island Home. They were tasked with analyzing changes in reimbursements in the industry overall, demographics, bed capacity, types of services offered, specific model staffing structures, DPH regulations and requirements, and changes to the Massachusetts Determination of Need process into consideration.

A lot of the work done thus far with CLA has been to develop cost estimates on different scenarios of operations in keeping with similar staffing patterns that currently exist as well as bed capacity, mix of private and semi-private rooms; and, level of care. Some discussion has been held on level of care (Level II skilled nursing plus Level IV rest home). With the recent engagement of a feasibility study with LWDA, more collaboration between the two can occur and thus help determine not only cost of construction but also cost of operation and impacts of phased construction on revenue and staffing.

Senator Julian Cyr and Representative Dylan Fernandes sent the DPH a letter on December 26, 2017, on the Town's behalf, requesting guidance on next steps especially surrounding renovation-in-place or closure during a rebuild period. A response was received on February 1, 2019 from Elizabeth Chen of the Executive Office of Health and Human Services with DPH. The letter indicated that while the uniqueness of our questions and concerns is understood, under state law, plan review and approval is required before construction or renovation of a nursing home can begin and any formal answers can be provided to the Town. Continuation of operations while renovating or constructing a building around the current building is possible – with a plan for minimizing impact on residents and ensuring all necessary care and services remain in operation and at acceptable care levels.

### **5. Can demolition/construction occur proximate to current residents?**

The disruption of living in a "construction zone" to our current residents, and neighbors, is a large part of our analysis when considering options. The physical and emotional impact even minor upgrades to the facility have on residents was seen during a recent minor flooring replacement, which only lasted about one week. For example, there was sleep disturbances, odor impact, increase in agitation and confusion, relocation of activities, and even staff were challenged to concentrate on work. Impact on Residents would also be part of the approval consideration by DPH.

### **6. OIH is currently licensed for 45 Level II/III beds. Will there be a request for more beds?**

A Memorandum was issued by DPH on December 11, 2018 regarding an update on licensure statutes and further stated that the department will review the long-standing moratorium on new long-term care facility beds. Requesting an increase in licensed beds requires approval by DPH through the Determination of Need process. These regulations can be found under *105 CMR 100.000 and 153.000*.

An actual need for more beds must be documented during the application process. At this time, there is no wait list at OIH and the facility has run an average daily census of 33 residents over the last 12-month period. Simply stating that demographers note an anticipated population increase in the senior age bracket is likely not strong enough of an argument to provide for an increase in licensure if current licensed capacity of the facility is not met. Based on current census trends, there will be no request to increase our current licensed bed capacity at this time.

The design phase of the new facility will examine expansion opportunity. If there is a way to construct a new facility on the current site that also provides for area to expand if there is a demand for more beds in the future, then that should be part of the site and building plan. It should be noted that efforts, services, and reimbursement trends to support individuals staying in their own homes longer is likely to impact the demand for long-term care beds on Nantucket.

## **7. Is changing the level of care offered from Level II/Level III to some beds at Level IV Rest Home still part of the discussion and what do these levels mean?**

OIH has a history of serving those who have no viable way of living on their own, due to disability or physical condition – rather than serving only those who need skilled nursing care. It is understood that as an island we have limited resources and options to provide multiple levels of care that accept multiple payment types. Having the option to change the licensed level of care for facility beds provides for an avenue to help address this but only if it is deemed necessary (community need) and feasible economically to do so. In the past, on average, about 25% of the OIH residents would have met eligibility and had their care needs met in a lower level of care setting than a skilled nursing home.

This concept of planning the facility layout to allow for a change in licensure has still been part of the discussion with CLA and LWDA. The focus is on keeping 45 Skilled Nursing Facility/ long-term care Level II beds as we currently have. However, if there is a way to provide for changing the licensure from Level II to Level IV (Level IV nursing home are also referred to as Rest Home or even comparable to assisted living oversight) as the community need changes, then we are encouraging that be part of the planning process for consideration. Any licensure changes require application and approval from DPH.

## **8. What model is being looked at for OIH?**

There is no specific model focus for Our Island Home's future currently, except to incorporate more 'home-like' culture-change elements in the environment and aesthetics of the building. A blending of current operational model and 'Small House' model concepts is being explored as the basis for preliminary schematic layouts and financial modeling.

## **9. Will there be special provisions for residents with dementia? Memory Unit? Will there be special provisions for residents with special needs? ALS? Parkinson's?**

No special units that segregate residents by diagnosis are planned. There will not be a memory care unit – research does not support benefit in segregating elders by diagnosis and OIH is too small to support this model of division. OIH staff training will address special needs within the overall population. There are very specific regulations that cover 'Memory Units.'

## **10. Prospect of sea level rise for this site over next 50 years?**

The property has been determined to be vulnerable in response to storm surge potential and Category 4 hurricanes. With climate change and sea level rise posing major concerns, the existing site location will be subject to strict FEMA Flood Mitigation requirements, given its proximity to the wetlands and shore. This will increase the cost of developing the site.

Taking this into consideration, LWDA is looking at elevating the 1st floor of the new facility as high as possible on site to account for resiliency and longevity, with an added benefit of better views. This is also another reason why demolition of the current structure would be favored, as any combination of old and new would want to be on the same level for accessibility.

Currently, the projection year used by NOAA is 2100, at which time it is estimated that sea level will rise between 19" to 47." The existing structure is at elevation 13.5' and it is being recommended to raise this to elevation 19 or 20'.

## 11. Is there an impact on Landmark House or a strategy to build in place that would require moving Landmark forward or to another location?

The Landmark House building is owned and operated by two private non-profit entities with one 75-year land lease with the Town which was entered June 1985 as per *Article 60 ATM vote at April 1983 Town Meeting*. This parcel of land also has special zoning (see other attachment on the OIH zoning). Any adjustment or moving of this building will have impact on those who live there and will require new zoning.

It has been the directive of the Select Board during the current feasibility study to examine the option to build a facility on the current site only and not require moving or impact on Landmark. Moving or impacting Landmark would require significant upgrade to that building and a plan to house those currently living at Landmark during such move and upgrades.

OIH has asked LWDA to explore the feasibility of a combined parking lot to serve both Landmark House and OIH, as that is effectively how the site functions today.

## 12. Modular construction alternative?

Modular, at this phase in the project, has not been fully explored. However, LWDA has expressed interest in reviewing requirements to see if there are parts that could be prefabricated (such as bathrooms) to help with the phased construction accelerated time line. While nursing home construction regulations do not tend to allow for modular options due to our unique circumstances, it will be explored.

Current MA Building Code for nursing homes requires construction to be at least Type 1B fireproof construction, per Mass MGL 111 Section 71 and *105 CMR 151.110*. Type 1B is the most restrictive classification of fireproof construction, requiring non-combustible building materials and structure to confine a fire (walls, floors, structural frame work).

## 13. What Percent of the lot is buildable?

Approximately 77% of the site is buildable, based on what we have learned to date. There is a 50' setback requirement from the Coastal Bank that runs more or less along the northeast line of the property (closest to Nantucket Harbor). There is another small low-lying portion of the site along the southeast property line that is also not buildable because of a similar Coastal Bank setback. This requirement is part of Wetland Protection Regulations enforced by the Nantucket Conservation Commission.

## 14. Population Growth, Specific to Nantucket

According to projections generated by the [Donahue Institute, University of Massachusetts](#) both population and elderly percentage will increase on Nantucket. Current projections for 2035 show a 34% increase in the population of those above the age of 65.

Among the population aged 65+, [69% will develop disabilities](#), and [35% will eventually enter a nursing home](#).

Age	Census 2010	Projection 2015	Projection 2020	Projection 2025	Projection 2030	Projection 2035
65-69	369	447	505	547	558	551
70-74	323	412	493	567	611	627
75-79	218	264	331	397	455	491
80-84	155	160	187	232	279	326
85+	162	183	185	202	244	291

## 15. Connection to Bike and Walking Paths

During the 5/6/19 OIH Charrette it was suggested that the Project include connections to the growing network of bike paths and walking trails enjoyed by the community; a bike path is planned to pass close to OIH. The Nantucket Wheelers program offers bike rides to OIH residents by certified volunteers on specially outfitted bikes that need to be stored and charged. Currently, the rides are arranged in advance to schedule a van to bring residents to bike locations, but if there was a storage/ charging area on site under cover, it would be much more convenient for residents and providers, eliminating the need for the van and advance coordination.

## 16. Hays Property no longer considered for OIH relocation

The Hays Property at 174 Orange Street has been suggested as a possible alternate location for OIH to rebuild, but that option has now been removed from consideration, at the property owner's request. The Nantucket Land Bank reviewed the proposal May 9 and rejected the idea, stating, "The Commission is unanimous and steadfast in their position that this is not an available option for the construction of Our Island Home." [See attached 5/15/19 letter from Nantucket Land Bank to Nantucket Select Board.](#) The issue was reviewed and closed at the 5/22/19 Town Select Board meeting.



## Have Further Questions?

This page will be updated during the course of the study.

Enter Your Question

Your Name (optional)

Your Email Address (optional)

Do you want an email response?

**Submit**

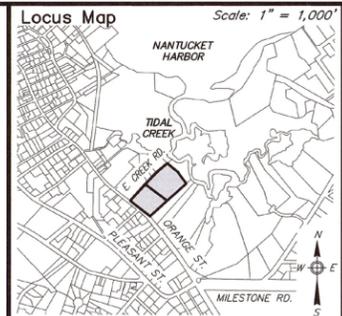
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- Notes**
- LOCUS: #9 EAST CREEK ROAD MAP 55 PARCEL 59
  - OWNER: TOWN OF NANTUCKET 16 BROAD STREET NANTUCKET, MA. 02554
  - DEED REF: Bk: 51, Pg: 266
  - PLAN REF: PLAN FILE 18-D (LOT 2) ~ and ~
  - LOCUS: 150 ORANGE STREET MAP 55 PARCEL 59.1
  - OWNER: TOWN OF NANTUCKET 16 BROAD STREET NANTUCKET, MA. 02554
  - DEED REF: Bk: 51, Pg: 279
  - PLAN REF: PLAN FILE 18-D (LOT 1)
  - LESSEES: 1. NANTUCKET COMMUNITY SERVICE, INC. BK.232 PG.95 BK.656 PG.186  
2. NANTUCKET COMMUNITY SERVICE II, INC. BK.656 PG.191
  - LOCUS DOES PARTIALLY FALL WITHIN A SPECIAL FLOOD HAZARD ZONE AE 8 (EL.8) AS SHOWN ON FEMA FLOOD INSURANCE RATE MAP No. 25019C-0089-G dated 06/09/2014.
  - LOCUS DOES NOT FALL WITHIN THE NATURAL HERITAGE AND ENDANGERED SPECIES PROGRAM (NHESP) AREAS OF ESTIMATED HABITATS OF RARE WILDLIFE and PRIORITY HABITATS OF RARE SPECIES.
  - LOCUS FALLS WITHIN ZONE "A" OF THE NANTUCKET HARBOR WATERSHED PROTECTION DISTRICT.
  - LOCUS FALLS WITHIN A ZONE II WATER PROTECTION DISTRICT.

Prepared By:  
**BRACKEN ENGINEERING, INC.**  
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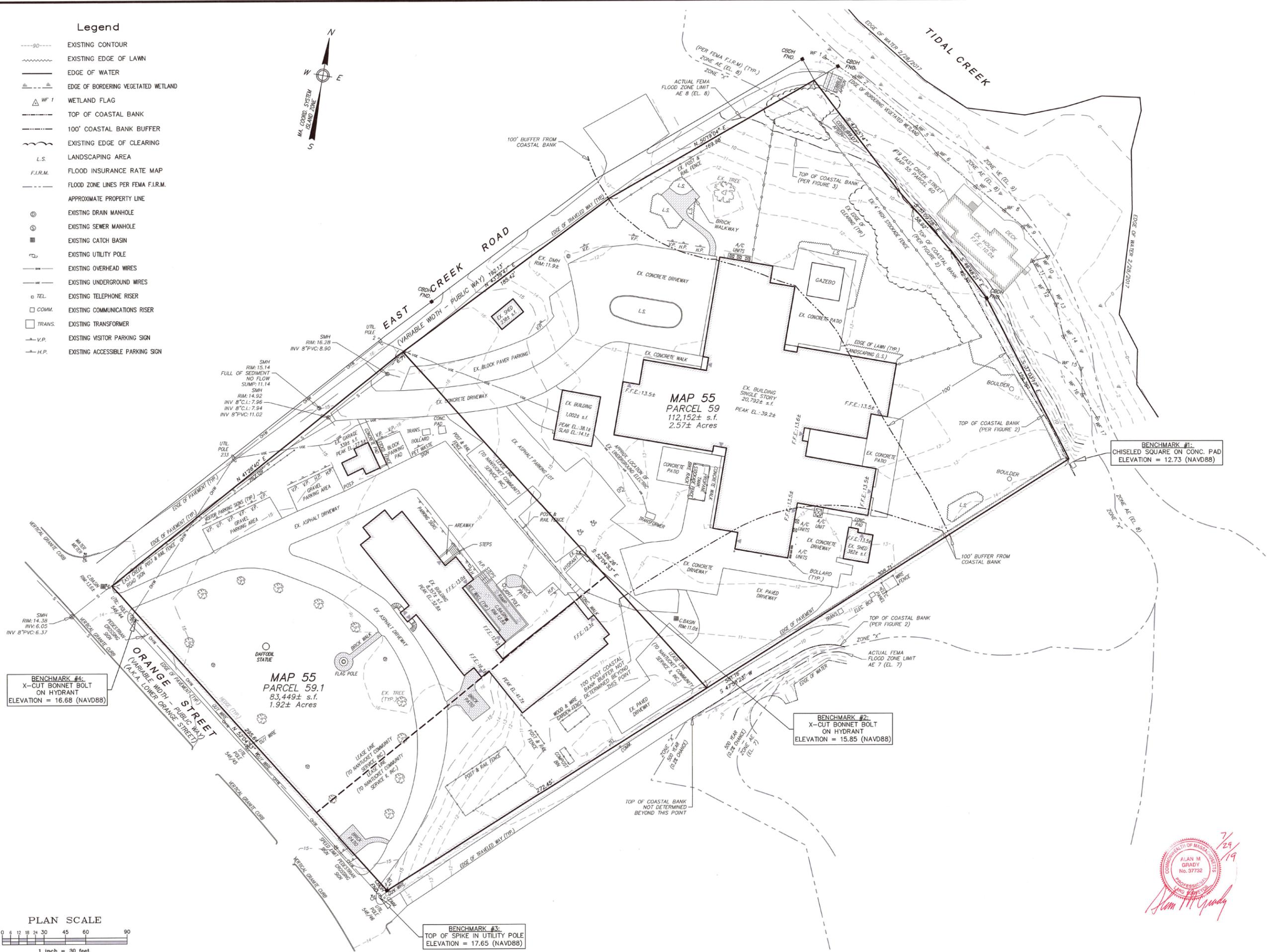
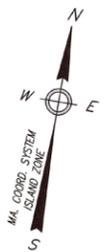
**EXISTING CONDITIONS PLAN IN NANTUCKET, MASSACHUSETTS**  
 Prepared For:  
**TOWN OF NANTUCKET**  
 #9 EAST CREEK ROAD  
 MAP 55 PARCEL 59  
 &  
 #150 ORANGE STREET  
 MAP 55 PARCEL 59.1

No.	Date	Revision Description	By
1.	7/29/19	ADD LEASE LINES AND SEWER MANHOLE INFORMATION	AMG

Date: MARCH 24, 2017 Drawn: ERC/BE Checked: Sheet: 1 of 1

**Legend**

- 90--- EXISTING CONTOUR
- ~ ~ ~ EXISTING EDGE OF LAWN
- — — EDGE OF WATER
- — — EDGE OF BORDERING VEGETATED WETLAND
- △ WF 1 WETLAND FLAG
- — — TOP OF COASTAL BANK
- — — 100' COASTAL BANK BUFFER
- — — EXISTING EDGE OF CLEARING
- L.S. LANDSCAPING AREA
- F.I.R.M. FLOOD INSURANCE RATE MAP
- — — FLOOD ZONE LINES PER FEMA F.I.R.M.
- — — APPROXIMATE PROPERTY LINE
- ⊙ EXISTING DRAIN MANHOLE
- ⊙ EXISTING SEWER MANHOLE
- EXISTING CATCH BASIN
- ⊙ EXISTING UTILITY POLE
- — — EXISTING OVERHEAD WIRES
- — — EXISTING UNDERGROUND WIRES
- ⊙ TEL. EXISTING TELEPHONE RISER
- COMM. EXISTING COMMUNICATIONS RISER
- TRANS. EXISTING TRANSFORMER
- V.P. EXISTING VISITOR PARKING SIGN
- H.P. EXISTING ACCESSIBLE PARKING SIGN



BENCHMARK #4:  
 X-CUT BONNET BOLT ON HYDRANT  
 ELEVATION = 16.68 (NAVD88)

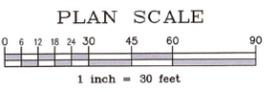
MAP 55 PARCEL 59.1  
 83,449± s.f.  
 1.92± Acres

MAP 55 PARCEL 59  
 112,152± s.f.  
 2.57± Acres

BENCHMARK #1:  
 CHISELED SQUARE ON CONC. PAD  
 ELEVATION = 12.73 (NAVD88)

BENCHMARK #2:  
 X-CUT BONNET BOLT ON HYDRANT  
 ELEVATION = 15.85 (NAVD88)

BENCHMARK #3:  
 TOP OF SPIKE IN UTILITY POLE  
 ELEVATION = 17.65 (NAVD88)











OPTION 1 SOUTHWEST ELEVATION



OPTION 2 SOUTHWEST ELEVATION 1" = 30'



OPTIONS 1&2 SECTION THRU ENTRY





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**CONSULTING ENGINEERS**

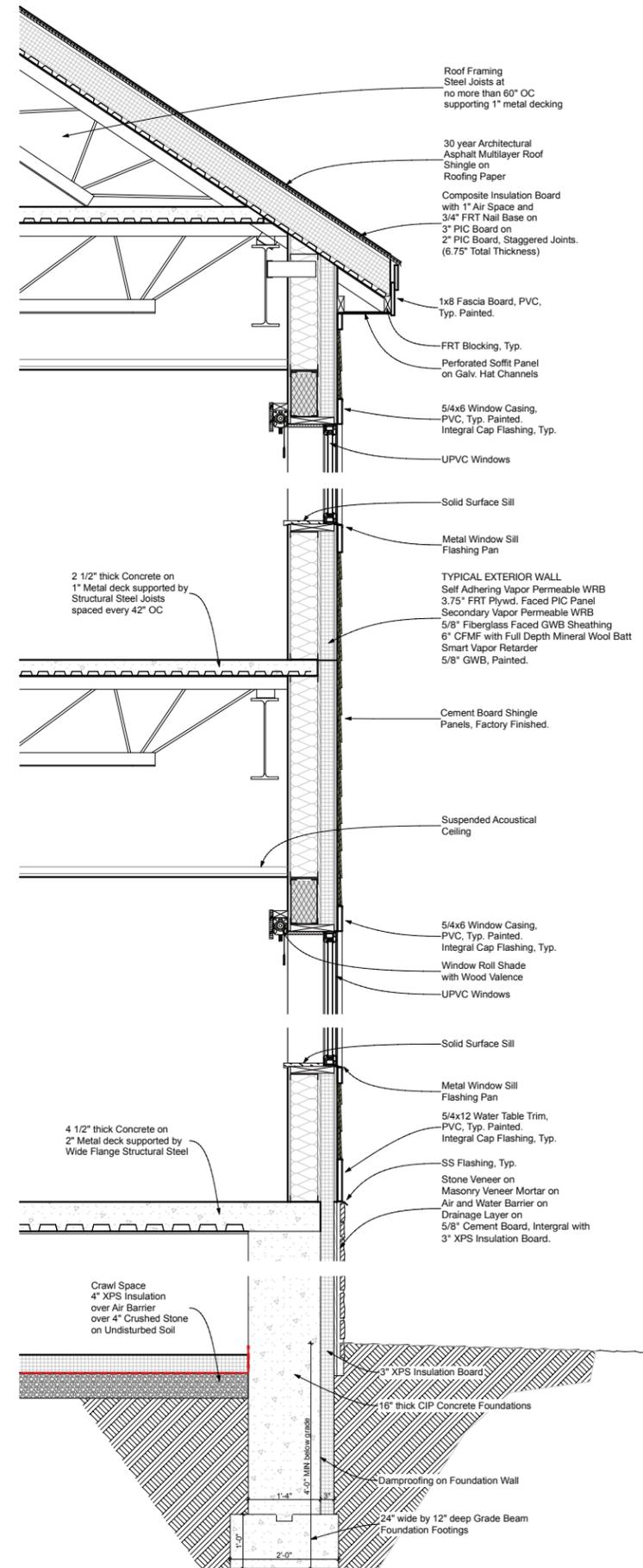
**NOT FOR CONSTRUCTION**  
Print Date: 6/28/19

Revision	Date	Description

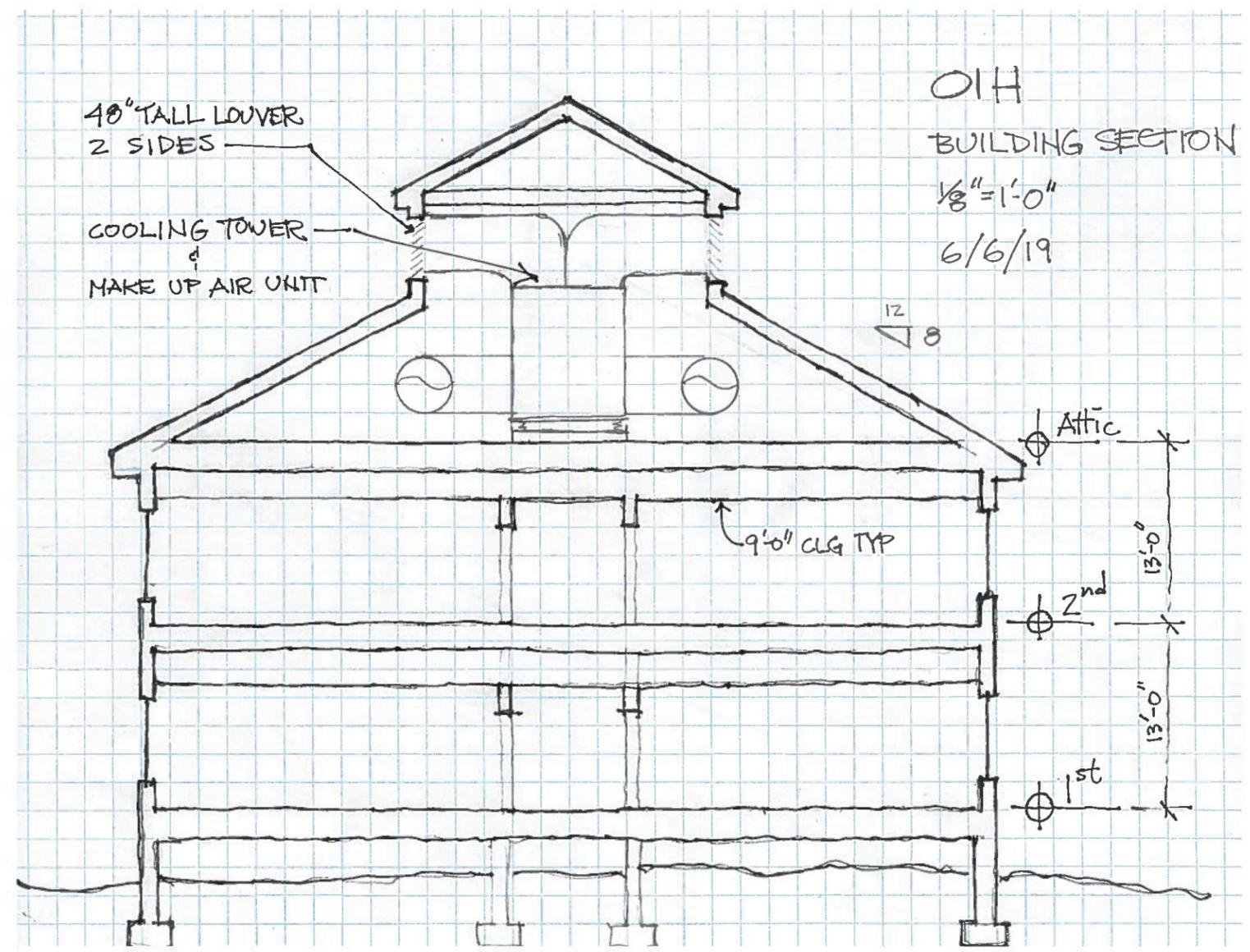
**Wall Section**

Project	18150
Issue Date	June 21, 2019
Issue	SD
Project Manager	###
Scale	As Noted

**A-3**



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



**2** OIH Building Section sketch  
NOT TO SCALE

OIH  
BUILDING SECTION  
1/8" = 1'-0"  
6/6/19



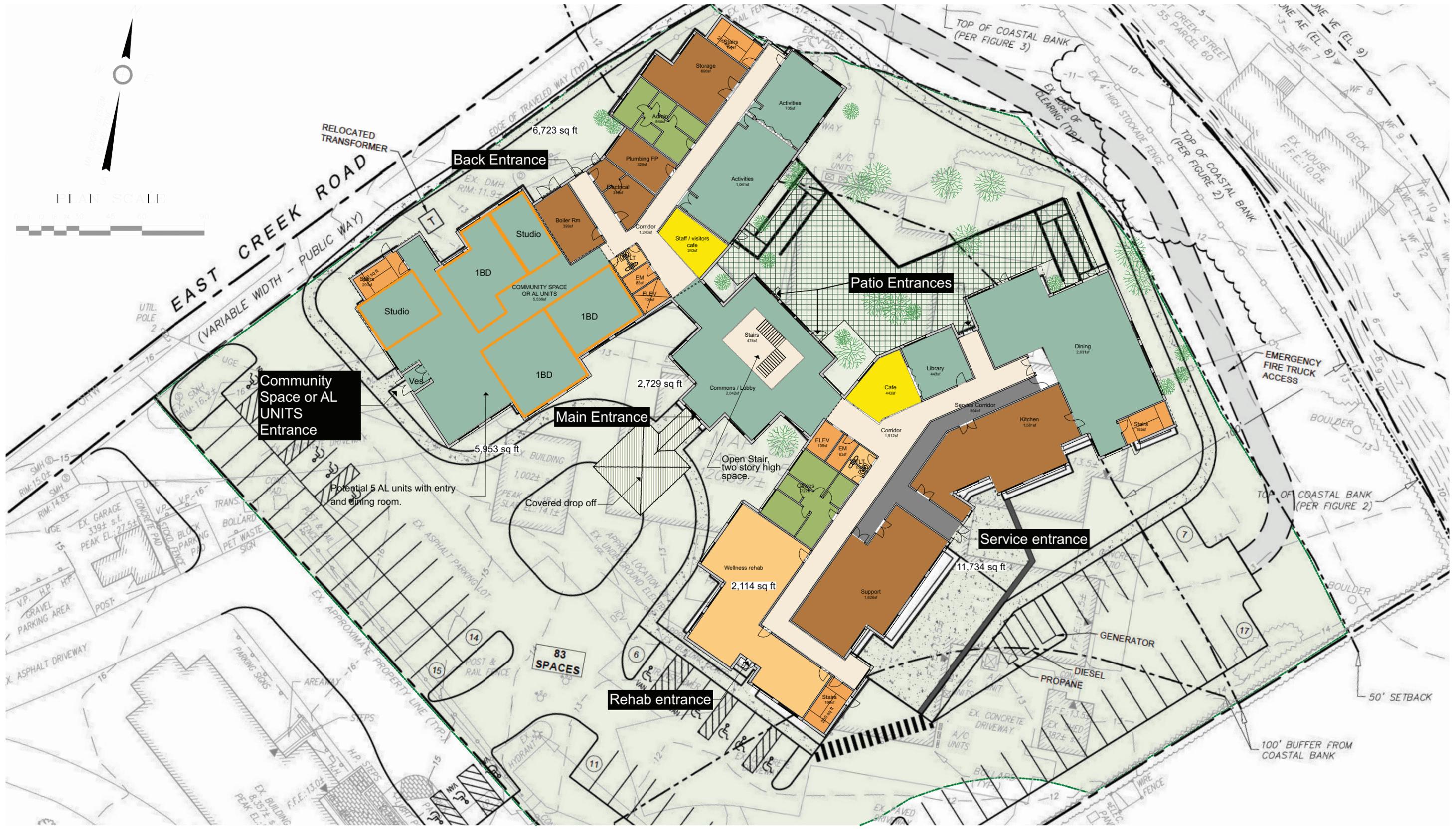
9 East Creek Road, Nantucket, MA 02554

## SITE OPTION 1 - FIRST FLOOR PHASE 1



9 East Creek Road, Nantucket, MA 02554

## SITE OPTION 1 - SECOND FLOOR PHS 1



9 East Creek Road, Nantucket, MA 02554

## SITE OPTION 1 - FIRST FLOOR PHS 2





9 East Creek Road, Nantucket, MA 02554

## SITE OPTION 2 - FIRST FLOOR PHS 1



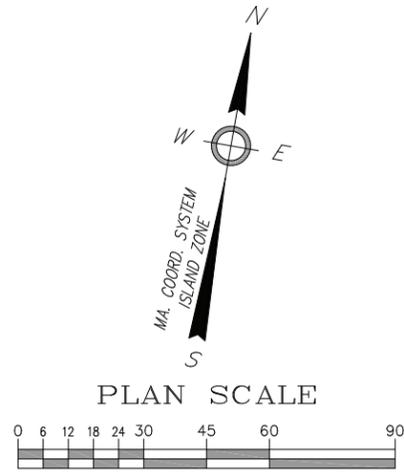
9 East Creek Road, Nantucket, MA 02554

## SITE OPTION 2 - SECOND FLOOR PHS 1



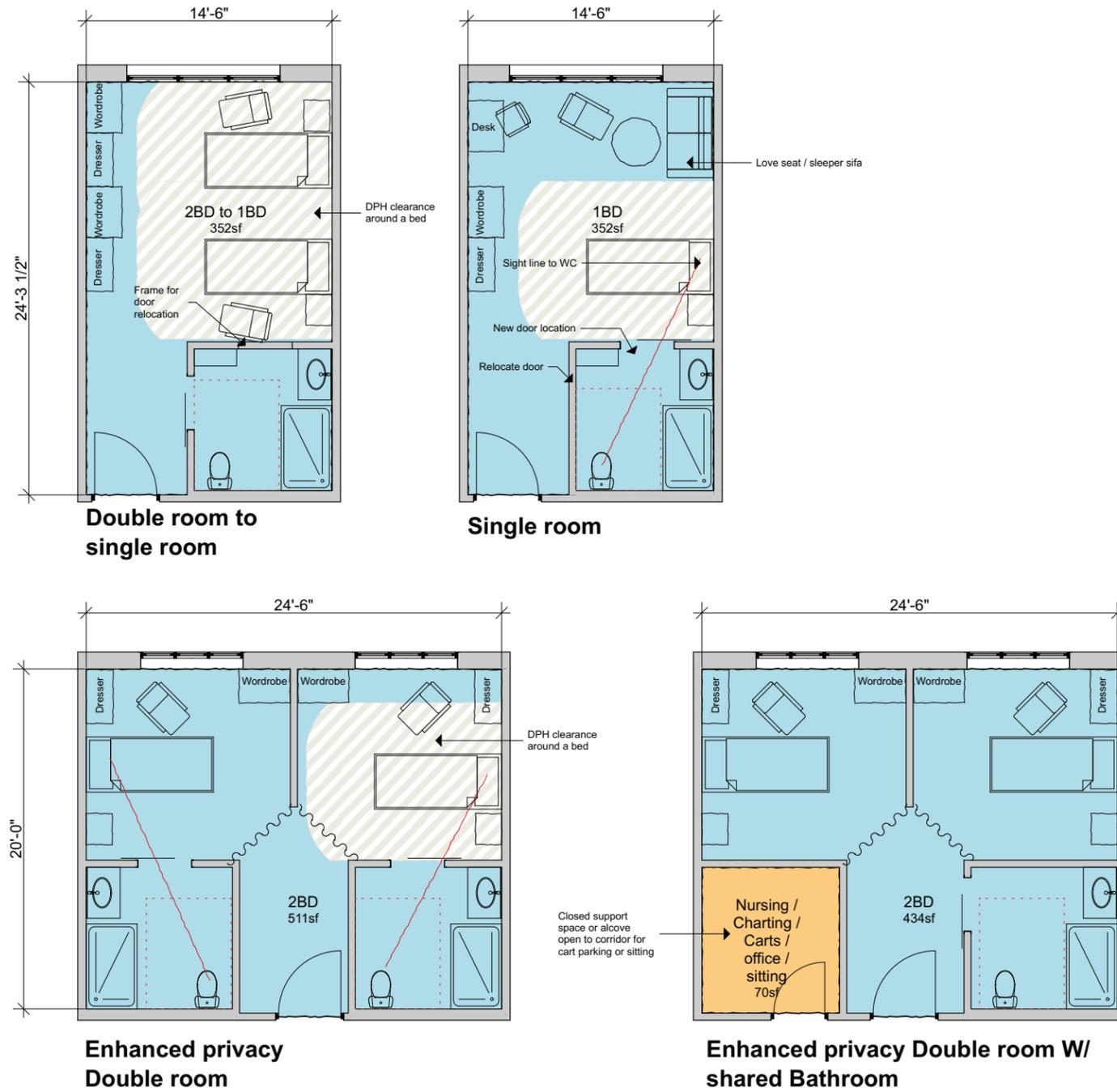
9 East Creek Road, Nantucket, MA 02554

## SITE OPTION 2 - FIRST FLOOR PHS 2



9 East Creek Road, Nantucket, MA 02554

## SITE OPTION 2 - SECOND FLOOR PHS 2



1 RESIDENT ROOMS  
3.1 Scale: 1/4" = 1'-0"

9 East Creek Road, Nantucket, MA 02554

## RESIDENT ROOMS



**CES**  
 Consulting Engineering Services, LLC  
 128 Carnegie Row  
 Suite 204  
 Norwood, MA 02062  
 Tel: (617) 261-7161  
 Fax: (660) 632-1768  
 CES Proj. #0000000.00

**LEVI & WONG  
 DESIGN ASSOCIATES**  
 45 WALDEN STREET  
 CONCORD, MA 01742

REVISIONS / ISSUED FOR		
NO.	DATE	DESCRIPTION

**OUR ISLAND HOME**  
 9 EAST CREEK ROAD  
 NANTUCKET, MA 02554

STAMP.

**FIRST FLOOR MEP  
 EQUIPMENT ROOM  
 PLAN**

DATE: 06/03/19  
 PROJECT NO: 2019099.00  
 DRAWN: PTC  
 CHECKED: NHF

SHEET NO.  
**SK-02**



**1 FIRST FLOOR MEP EQUIPMENT ROOM PLAN**  
 1/16" = 1'-0"

NOT FOR CONSTRUCTION

