

SITE PLAN APPROVAL APPLICATION

**TOWN OF MARBLEHEAD TRANSFER STATION
5 WOODFIN TERRACE
MARBLEHEAD, MA 01945**

Prepared For:

**TOWN OF MARBLEHEAD
HEALTH DEPARTMENT
7 WIDGER ROAD
MARBLEHEAD, MASSACHUSETTS 01945**

Prepared By

**SITEC Environmental, Inc.
769 Plain Street
Marshfield, Massachusetts 02050**



July 13, 2023

SITE PLAN APPROVAL APPLICATION

**TOWN OF MARBLEHEAD TRANSFER STATION
5 WOODFIN TERRACE
MARBLEHEAD, MA 01945**

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**TOWN OF MARBLEHEAD
SITE PLAN APPROVAL APPLICATION
PLANNING BOARD**

1. Property Address: 5 Woodfin Terrace
2. Assessor Map 160 Lot 10 3. Zoning District Unrestricted
4. Applicant: Marblehead Board of Health
5. Applicant's Address 7 Widger Road, Marblehead, MA 01945
6. Telephone Number: 781-631-0212 (Daytime) _____ (Evening)
7. Email address: pettya@marblehead.org
7. Applicant's Representative _____
8. List other permits required and status (e.g. Old & Historic Districts, Conservation, Board of Appeals, etc., obtained, scheduled, etc.) _____
MassDEP Permit Modification, Submission Pending


(Signature of Owner)

7/7/23
(Date)

9. Name and mailing address and phone number that the legal advertisement should be billed to
Name Marblehead Board of Health
Address 7 Widger Road
Marblehead, MA 01945
Phone: 781-631-0212

FOR TOWN USE ONLY

Application Received _____ Submittal Deemed Complete _____
Waivers _____
Scheduled Hearing Date _____ File Number _____

**SITE PLAN APPROVAL CHECK LIST
PLANNING BOARD**

Each Site Plan Approval Special Permit shall be accompanied by the following information:

- (1) x Five (5) copies of a Site Plan which shall be a certified plot plan at a minimum scale of 1"=40' and a maximum scale of 1"=20'. The Site Plan shall contain:
 - (a) x Date of Plan with all revisions noted and dated
 - (b) x Title of Development/Project
 - (c) x North Arrow
 - (d) x Scale of Plan
 - (e) x Name and Address of record Owner
 - (f) x Name and Address of person preparing the Site Plan
 - (g) x The names of all owners of record of adjacent properties and the map and lot number of the properties and all buildings
 - (h) x Zoning District Boundaries and Flood Zone Boundaries
 - (i) x Boundaries of the property and lines of existing streets, lots, easements and right of ways
 - (j) x A locus map
 - (k) x A table indicating all calculations necessary to determine conformance to Bylaw regulations including current required and proposed regulations
 - (l) x Square footage of property
 - (m) x Location of existing and proposed buildings, walls, fences, culverts, parking areas, loading areas, walkways and driveways
 - (n) x Location and dimensions of all utilities
 - (o) x Location, type and dimensions of landscaping and screening
 - (p) x Location of significant site features
 - (q) x Contours
- (2) x Five (5) copies of dimensioned schematic drawings of all proposed buildings. Scale not to exceed 1/4"=1' nor less than 1/8"=1'.
- (3) x A narrative describing the proposal

The narrative must address the following: The extent to which:

- (a) The architectural and design features are in harmony with the prevailing character and scale of buildings in the neighborhood and Town (such as but not limited to: building materials, screening, breaks in roof and wall lines, adequate light, air, circulation and separation between buildings).
- (b) The character of the site is preserved (such as but not limited to: protection of historical and natural resources and existing terrain, minimization of grade changes, tree and soil removal).

- (c) Vehicular and pedestrian movement within the site are convenient and safe (such as but not limited to: traffic patterns, circulation, location of driveway openings, parking, loading, access by emergency vehicles, and visibility of and identity of street address numbers).
- (d) External emissions from the site are minimized or eliminated (such as but not limited to: erosion, surface water runoff, pollution, sewage, disposal of refuse, odors, noise, glare, light and any other environmental impacts).
- (e) The adverse effects on abutting lots, the immediate neighborhood and the Town of Marblehead are minimized including (such as but not limited to: conflicts between residential, commercial and industrial uses, obstructions of views, increases in use of Town services and impact on Town infrastructure).

(4) x A completed application form

(5) NA An application fee (the fee is calculated by taking the construction cost and multiplying by .001. *Example 350,000 construction cost x .001 = \$350 FEE*
The minimum fee is \$200 and the maximum fee is \$1000)

Applicants should refer to the Marblehead Zoning Bylaw 200-37 – Special Permit for Site Plan Approval for more detailed information on Site Plan Approval.

**SITE PLAN APPROVAL APPLICATION
TOWN OF MARBLEHEAD TRANSFER STATION**

1.0 INTRODUCTION

The Marblehead Health Department (the Department), with offices at 7 Widger Road, Marblehead, MA 01945, is a department of the Town of Marblehead (the Town). The Department is proposing to construct minor modifications and upgrades to the Town's existing solid waste transfer station, which is located at the site of the closed Marblehead Landfill, located on Woodfin Terrace, in Marblehead, Massachusetts. See *Figure 1 - Locus Map in Appendix A - Figures*. This Application for a Modification of the existing Transfer Station is being filed in accordance with the local zoning bylaws, which require that a Special Permit for Site Plan Approval be submitted to the Marblehead Planning Board (the Board). This Application has been prepared in accordance with the requirements of the Marblehead Zoning Bylaws. The Site Plans were prepared by SITEC Environmental, Inc., whose offices are located at 769 Plain Street, Unit A, Marshfield, MA 02050.

The proposed modifications will be to upgrade the existing Transfer Station facade, replace its compactor, improve site grading, relocate the existing scale, replace the scale house with a new structure, replace the existing swap shop and add a new personnel shelter. The swap shop and personnel shelter are within the area of the existing landfill cap. The other facilities are outside of the limit of the cap.

There are no proposed changes to the Facility's operations or permitted capacity. The Facility is permitted for a maximum of 15,000 tons per year, but does not typically reach that volume, with last year's volume being 12,500 tons. The daily permitted capacity is 50 tons per day. The facility's source of incoming waste is from its curbside collection program and residential stickers. Besides household waste, construction and demolition (C&D) is brought to the site, along with recyclables, such as textiles and mattresses. The Town plans to have scheduled days when the Transfer Station's operation will be dedicated to the collection of C&D materials, which will be sent to a recycler.

2.0 EXISTING CONDITIONS

The Transfer Station is located on Lot 160-10, a 15.14 acre parcel, as shown on the Marblehead Assessor's Plans. This lot includes the existing Transfer Station along with most of the closed landfill property, with the remaining landfill area being on abutting Town of Marblehead parcels. The site also abuts residential and commercial properties, as well as wetlands. See *Figure 2 - Lot Area for Transfer Station Modifications in Appendix A - Figures*. Also see *Appendix B - Abutters List* for a sketch indicating properties that are within 100 feet of the Transfer Station parcel and a list of those abutters, which was provided by the Town's Assessors Department web-page.

The Town began a closure program for the open, uncapped facility in the early 2000s. A Site Plan Approval Permit Application for the original Landfill Closure and Transfer Station plans was submitted to the Planning Board by Kleinfelder in January 2012 and was subsequently approved by

the Board. The original closure plan included wetlands and environmental remediation that consisted of removing waste intrusion in sensitive areas, regrading the landfill using the relocated waste and bringing in suitable soil materials and then installing a final cap system that included an impervious geomembrane cap, drainage and vegetation supporting layers. The closure design included an extensive drainage design, subdrainage, access road, utilities and gas ventilation components, within the cap area and in its perimeter areas. The cap was constructed in 2015 and is about 14.0-acres in size. The proposed site conditions that were included in the approved 2012 Site Plan Approval Permit Application represent the existing conditions. Consequently, there will be no further evaluation of those impacts that are represented by existing conditions, including but not limited to drainage, traffic and wetlands. See *Figure 3 - Existing Conditions Plan* in *Appendix A - Figures*.

The closure plan originally included demolition of the original incinerator building, which includes the current and future Transfer Station facility, with the construction of a new transfer station, within the then limits of the landfill, which required relocation of additional waste material. When bids were received on the proposed project in 2013, it was determined that the Town could not afford the full project. The landfill closure and capping project proceeded, while the transfer station, as designed was removed from the project and options were reevaluated. A portion of the incinerator was demolished, leaving the ash disposal portion of the building to function as the Town's Transfer Station and to make improvements to the facility, as proposed in this Application.

3.0 SITE HISTORY

The Marblehead Landfill was established as a private dump in the 1930's. The exact date dumping commenced is unknown. The Landfill was acquired by the Town in the 1950's and continued in operation as a municipal dump. In 1957 an incinerator for the combustion of residential and commercial waste was constructed on the site, and the Landfill continued in operation for disposal of ash and other wastes that were not suitable for combustion in the incinerator. The landfill and incinerator operated until 1975, at which time the incinerator was converted to a transfer station and the landfill ceased operation.

On September 20, 2004, MassDEP and the Town executed an Administrative Consent Order, File No. AC0-04-4002, (the "2004 ACO") for the closure of the landfill. Pursuant to the 2004 ACO, the Town developed plans to cap the landfill and construct a new Transfer Station and recycling facility at the site.

An Environmental Notification Form (ENF) was filed with the MEPA unit of the Executive Office of Energy and Environmental Affairs (MEPA) in August 2012. Pursuant to the ENF, the Secretary of Energy and Environmental Affairs (Secretary EEA) determined an Environmental Impact Report (EIR) was not required.

The Town submitted a Notice of Project Change (NPC) to MEPA in September 2013 regarding the remediation of 151 Green Street, including an area of approximately 1.3 acres of wetlands. Pursuant to the NPC, the Secretary of EEA determined that an EIR was required due to the wetland impacts of the remedial actions at 151 Green Street.

As defined in the NPC, the project consisted of two Phases: Phase 1, the landfill closure and transfer station construction; Phase 2 the remediation of 151 Green Street. Phase 1 did not substantially change between the ENF and the NPC. Phase 2 resulted in a substantial increase in the wetland impacts to be incurred as compared to the impacts described in the original ENF. The Secretary of the Executive Office of Energy and Environmental Affairs (EOEEA) granted a waiver pursuant to MEPA to allow Phase 1 to proceed prior to submission of the EIR (Final Record of Decision dated November 8, 2013). The facility modifications included in this application are generally included within the scope of Phase 1, which was exempt from further MEPA review, and was not relative to Phase 2, which did require further MEPA review.

As identified by others, the landfill occupies all or parts of seventeen (17) parcels. For the purpose of closure of the landfill and other necessary site remediation work, the site was divided into three (3) sectors: (1) the Stony Brook Road development, (2) 151 Green Street, and (3) the Municipal Landfill.

- The Stony Brook Road development⁹ sector comprises all or parts of five (5) parcels (includes a portion of the right-of-way of Stony Brook Road). The sector was remediated pursuant to M.G.L. Chapter 21E (RTN 3-8709), and is not included in this application. Information provided in the plans for this area is provided solely for informational purposes and does not describe actions to be taken as part of this application.
- 151 Green Street sector comprises a single parcel off Green Street which was the subject of environmental assessment. Waste had been identified to extend beyond the defined limits of the Municipal Landfill, into an area of wetland on the property. Remediation of the wetland (NPC Phase 2) was the subject of a Notice of Intent application
- The Municipal Landfill sector (Phase 1) was comprised of nine (9) parcels owned by the Town encompassing approximately 24.6 acres, a small portion of 151 Green Street (approximately 0.6 acres), plus small portions of two (2) additional abutting parcels (less than 0.1 acre total). The original footprint of waste in the Marblehead Landfill covered an area of approximately 17.1 acres. See *Figure 2 - Lot Area for Transfer Station Modifications in Appendix A - Figures*.

The site includes an area of wetland northeast of the landfill that has been impacted by contaminants (leachate) from the waste. While the soils within the wetland have been demonstrated to contain concentrations of contaminants elevated above natural background concentrations, no solid waste was observed within the wetland. No actions were taken within that wetland. The wetland will be monitored for continuing impact by the landfill.

4.0 PROJECT DESCRIPTION

The Town is proposing to construct minor modifications and upgrades to its existing solid waste

Transfer Station, which is located at the site of the closed Marblehead Landfill, located at 5 Woodfin Terrace, in Marblehead, Massachusetts. This Application for a Modification of the existing Transfer Station is being filed in accordance with the local zoning bylaws, which require that a Special Permit for Site Plan Approval be submitted to the Board. This Application has been prepared in accordance with the requirements of the Marblehead Zoning Bylaws. In addition, the Department is preparing a Permit Modification Application to MassDEP, for its approval to conduct the proposed work.

Specifically, the proposed modifications will be to demolish the existing Scale House and replace it with a new Scale House and a staff area that will include lockers, bathrooms, kitchenette, and a personnel break area. See *Figure 3 - Existing Conditions Plan* and *Figure 4 - Proposed Site Conditions Plan* in *Appendix A - Figures*. The existing Transfer Station structure, which includes a compactor for loading transfer trailers, will be upgraded but not substantially altered. The structure's facade and its compactor will be replaced, with some minor concrete demolition of remnant features being done and adding a small personnel shelter for the pit operators. The existing pavement in the Scale House and the upper and lower Transfer Station areas will be removed and replaced, with grading being done to improve surface water drainage in the areas. The existing Scale will be relocated to the approach the Transfer Station. The Scale will be installed slightly above the grade of the surrounding pavement and will be located in a poured in-place concrete pit. Concrete and steel pads will be added for a roll-off container near the relocated scale and for the transfer trailer wheels and landing gear. In addition, the existing Swap Shop will be replaced with a new structure and a new personnel Transaction Shed will be added at the residential drop off area. The Swap Shop and the Transaction Shed are within the area of the existing landfill cap. There will be no increase in impervious area and no change to the existing drainage system, which was extensively evaluated in Kleinfelder's January 2012 Site Plan Approval Permit Application.

5.0 FACILITY DESIGN

The proposed facility modifications are included on *Figure 4 - Proposed Site Conditions Plan* in *Appendix A - Figures* of this Application. The site plan provides adequate detail for the Marblehead Planning Board to issue an approval of this application for the proposed facility modifications.

The proposed modifications to the Transfer Station and Scale House will improve access and traffic flow from the current operations. The Transfer Station is designed to maintain the capacity of the current facility (maximum of 50 tons per day). The Town intends to operate the Transfer Station such that Construction and Demolition (C&D) materials will only be accepted on certain days so that mixing of C&D and Municipal Solid Waste (MSW) is minimized.

Residents with loads exceeding five bags or barrels, residents with C&D waste, and commercial haulers, after communicating with the Scale House personnel through the intercom, will be directed to back onto the Scale. After being weighed they will be directed to back up to dump their waste which will be observed by personnel in the Pit Control Area Shelter. See *Figure 5 - Packer Truck Turning Plan* and *Figure 6 - Truck and Trailer Turning Plan* in *Appendix A - Figures* for the traffic turning movements for a packer truck and a pickup truck towing a trailer at the Transfer Station.

Banned or inappropriate waste material will be removed and segregated, where safety allows. The remaining solid waste will then be transferred into the feed of the compactor where its pushed and compacted into a transfer trailer for transport to an offsite disposal or recycling facility. After discharging its delivered waste the vehicles will be directed to again cross the scale to be re-weighed and then to complete the fee transaction at the Scale House window. Parking will be provided at the lower Transfer Station area for storage of two transfer trailers in addition to the trailer that is in active use at the compactor.

In addition to the Transfer Station building, the facility also includes:

- a recycling drop-off area,
- a Swap Shop,
- a leaf & yard waste drop-off area,
- a miscellaneous materials drop-off area, and
- a snow management area.

The recycling area provides a roll-off containers for scrap metal, closed-top container for co-mingled glass, metal and plastic, and compactors with containers for cardboard and newspapers/magazines. Space is provided for two additional containers, if needed, or storage of full containers.

The Swap Shop provides a location for residents to drop-off re-usable items such as toys, furniture and books.

Leaves, grass, brush and logs, and woodchips are accepted at the leaf & yard waste drop-off area. Leaves, grass, brush and logs are accepted from residents and local landscapers. Woodchips are accepted only from the Town of Marblehead Tree Department. The leaves and grass are composted on site. Twice annually a contractor brings a chipper to the site and the brush and logs are chipped. Tree Department woodchips are mixed with the chips produced from the brush and logs. The chips are used for production of power, etc., at facilities such as the Pinetree Power Plant in Fitchburg, Massachusetts.

The miscellaneous materials drop-off area provides disposal and/or recycling for various banned waste and universal wastes including: fluorescent light bulbs, lead-acid batteries, waste oil, used clothing, tires, propane tanks, refrigerators, air conditioners, and electronic components.

5.1 Solid Waste Transfer Station Facility

The proposed modifications are included on *Figure 4 - Proposed Site Conditions Plan* in *Appendix A - Figures* of this Application. This site plan provides adequate detail for the Board to issue an approval of this application for the proposed facility modifications.

The proposed modifications to the Transfer Station and Scale House will improve access and traffic flow from the current operations. The Transfer Station is designed to maintain the capacity of the

current facility (maximum of 50 tons per day). The Town intends to operate the Transfer Station such that C&D materials will only be accepted on certain days so that mixing of C&D and Municipal Solid Waste (MSW) is minimized.

Residents with loads exceeding five bags or barrels, residents with C&D waste, and commercial haulers, after communicating with the Scale House personnel through the intercom, will be directed to back onto the Scale. After being weighed they will be directed to back up to the Transfer Station to dump their waste. The waste will be observed on the tipping floor area by personnel in the Pit Control Area Shelter. Banned or inappropriate waste material will be removed and segregated, where safety allows. The remaining solid waste will then be compacted into a transfer trailer for transport to an offsite disposal or recycling facility. After discharging its waste the vehicles will be directed to re-cross the scale to be re-weighed and then to complete the fee transaction at the Scale House window.

Parking will be provided at the lower Transfer Station area for storage of two transfer trailers in addition to the active use trailer at the compactor. Employee and resident parking is available in the recycling drop off-areas and swap shop areas and will not be changed from the current conditions.

5.2 Residential Drop Off Area

The Residential Drop Off Area consists of paved surfaces that are utilized for the handling of solid waste that is delivered to the site, primarily by residents of Marblehead. Public access is limited to the portion of the site where they can dispose solid waste and recyclables into designated material handling containers. The public will not have access to areas where roll-off containers are moved and managed and generally where heavy equipment may be operating.

All traffic enters the site by either Green Street, to the south, or Woodfin Terrace, at the northwest corner of the property. Each of these access points are gated to restrict access when the facility is not open.

5.3 Roadway Improvements

The site's existing pavement area will not be increased as part of the proposed modifications. The pavement in the Scale House and the Transfer Station, as well as the compactor trailer load out area at the lower side of the Transfer Station will be removed, the areas will be regraded and the pavement will be replaced. There will be no significant increase in impervious area from existing conditions and the drainage evaluations conducted in the January 2012 Site Plan Approval Permit Application. These areas will be graded to drain away from the Transfer Station and Scale House areas, as well as the trailer loading area and to the existing site drainage facilities. Refer to the drawings in *Appendix A - Figures* of this Application for the proposed pavement replacement areas of the site.

5.4 Storm Water Management

The site has been designed so that all stormwater runoff collected on impervious surfaces (roofs and paving) is directed to the existing drainage collection system. The storm water management system for the site was designed and constructed as part of the landfill closure project. The existing drainage system was previously presented and approved in the January 2012 Site Plan Approval Permit Application. Runoff is directed away from the site's buildings to a series of catch basins. The collected runoff then is conveyed through a system of drainage pipes for treatment in a sedimentation chamber, from where the treated stormwater discharges to the adjacent wetland's surface waters. The drainage system has been designed to contain the 25 year, 24 hour (5.6 inch) storm event.

5.5 Utilities

The electric power system has been extended to accommodate the requirements of the utilized site. High intensity lighting has been provided for the Transfer Station operation and for the Residential Drop off Area for security and operational purposes.

Water for domestic uses and fire suppression is provided to the facility by the municipal water distribution system. Water line extensions have been made onto the parcel as part of the closure construction project.

Restrooms will be provided within the proposed Scale House/Staff Area building for employee use. Sanitary wastewater from these facilities will discharge to the existing public sewer system.

The only utility modifications will be to extend electrical, sewer and water supply service connection to the proposed facilities from existing mains.

5.6 Facility Construction Plan

During the construction of the modifications to the facility, certain measures will be taken to prevent adverse effects on the surrounding areas. The measures to be taken are as follows:

Sediment Control - Sediment created by construction activities will be controlled by the use of control devices, such as haybales silt socks and catch basin filters. These will be installed to mitigate any erosion from the site and intercept the sediments before they enter the existing site drainage system and discharge to surface waters. Accumulated sediments will be removed and handled as catchbasin cleaning debris, by the Town.

Dust Control - Dust will be controlled by such methods as street sweeping, the periodic sprinkling of water until the surface becomes wet and the application of calcium chloride by a mechanical spreader, as loose dry granules or flakes at a rate that keeps the surface moist but not so high as to cause water pollution

or plant damage. In the areas of heavy traffic, such as construction roads, stone may be applied.

Noise Control - All equipment used will be kept in good working order. Construction will be performed during normal working hours.

Security - A gate will be maintained at the entrance of the site and will be locked during non-construction hours.

6.0 CONFORMANCE WITH ZONING BYLAW REQUIREMENTS

The proposed facility modifications are shown on *Figure 4 - Proposed Site Conditions Plan* in *Appendix A - Figures* of this Application. These modifications and their compliance to the lot dimensional requirements of the Marblehead Zoning Bylaws are addressed on *Figure 2 - Lot Area for Transfer Station Modifications*. As shown on *Figure 2*, parcel 160-10 is located in Zoning District U - Unrestricted, which has a permitted use of “non-residential”. *Figure 2* also presents a tabulation of lot criteria, the required dimensions given in the bylaw and the site specific dimensions that have been provided. As can be noted, all of the dimensional requirements are met, some by orders of magnitude, which reflects the relatively small component sizes of the proposed modifications, when compared to the large lot size.

7.0 CHECK LIST NARRATIVE

The Site Plan Approval Checklist, included at the beginning of this Application, requires that the narrative description address five criteria. The criteria and the Board’s responses are as follows.

- (a) **The architectural and design features are in harmony with the prevailing character and scale of buildings in the neighborhood and Town (such as but not limited to: building materials, screening, breaks in roof and wall lines, adequate light, air, circulation and separation between buildings).**

The architectural and design features of the MTS structures attempt to create harmony with each other through materiality and scale. All structures are similar in scale and clad in white corrugated fiberglass siding. The existing high bay Pit Structure has a similar footprint but is somewhat taller. All structures have similar low sloped roofs with TPO membranes used at conditioned spaces while ‘clear translucent’ fiberglass panels used at unconditioned spaces. Given the industrial nature of the site, landscaping will be used sparingly and mostly surrounding the new Scale House.

- (b) **The character of the site is preserved (such as but not limited to: protection of historical and natural resources and existing terrain, minimization of grade changes, tree and soil removal).**

The character of the site will be preserved, and site features will remain largely untouched. There will be minimal grading work at the Pit Structure / Scale House area will replace an existing trailer. The Swap Shed will replace the existing containers currently used and the new Transaction Hut is located at the recycling area.

- (c) **Vehicular and pedestrian movement within the site are convenient and safe (such as but not limited to: traffic patterns, circulation, location of driveway openings, parking, loading, access by emergency vehicles, and visibility of and identity of street address numbers).**

Vehicular and pedestrian movement has been improved by separating commercial and residential vehicles – please see description in Section 5.0.

- (d) **External emissions from the site are minimized or eliminated (such as but not limited to: erosion, surface water runoff, pollution, sewage, disposal of refuse, odors, noise, glare, light and any other environmental impacts).**

There will be no anticipated change in external emissions from the site as there will be no substantial impact to the site. There will possibly be lower exhaust emissions given there will be less queuing required.

- (e) **The adverse effects on abutting lots, the immediate neighborhood and the Town of Marblehead are minimized including (such as but not limited to: conflicts between residential, commercial and industrial uses, obstructions of views, increases in use of Town services and impact on Town infrastructure).**


There will be increased traffic at the Green Street entrance as this entrance will now be utilized for residential ingress (egress will remain via Woodfin Terrace). The Town will provide on-site queuing to minimize any queuing at Green Street and require engines be turned off while in queue.

APPENDIX A

FIGURES

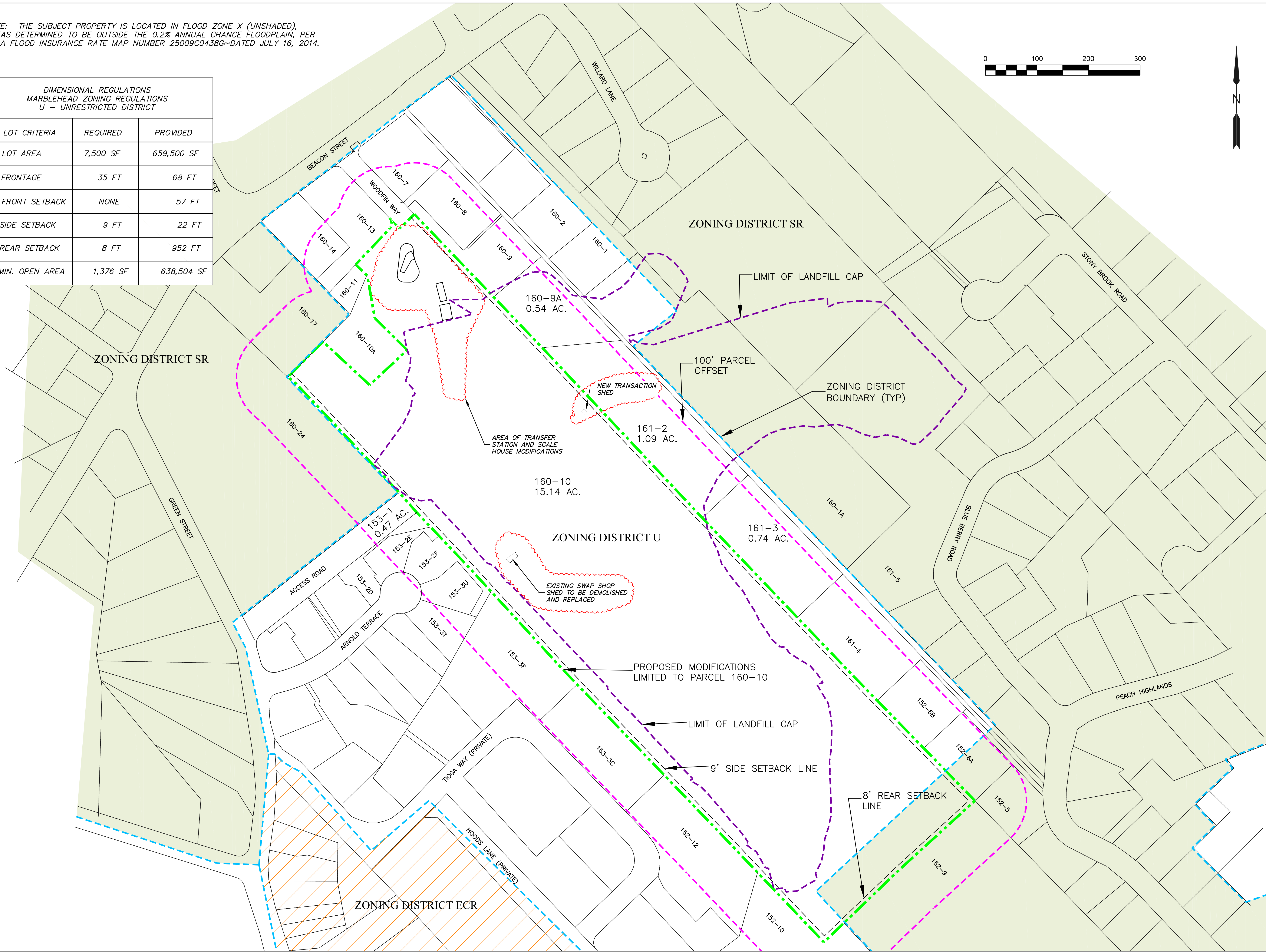
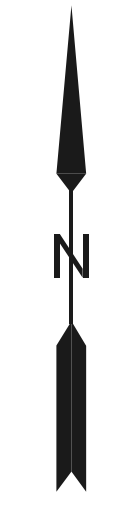


BASE IMAGE: USGS TOPOGRAPHIC MAP – MARBLEHEAD NORTH, MA 2021

<p>FIGURE 1</p>	<p>LOCUS MAP</p>	
<p><i>appx. scale:</i> NO SCALE</p>	<p>MARBLEHEAD LANDFILL/TRANSFER STATION MARBLEHEAD, MASSACHUSETTS</p>	

NOTE: THE SUBJECT PROPERTY IS LOCATED IN FLOOD ZONE X (UNSHADED), AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN, PER FEMA FLOOD INSURANCE RATE MAP NUMBER 25009C0438G~DATED JULY 16, 2014.

DIMENSIONAL REGULATIONS MARBLEHEAD ZONING REGULATIONS U - UNRESTRICTED DISTRICT		
LOT CRITERIA	REQUIRED	PROVIDED
LOT AREA	7,500 SF	659,500 SF
FRONTAGE	35 FT	68 FT
FRONT SETBACK	NONE	57 FT
SIDE SETBACK	9 FT	22 FT
REAR SETBACK	8 FT	952 FT
MIN. OPEN AREA	1,376 SF	638,504 SF



Architects
 209 Essex Street
 Suite 300
 Salem, MA 01970
 978.744.7379
 WSArchitects.com

Winter Street

SITEC
 ENVIRONMENTAL
 Civil and Environmental Engineering
 Land Use Planning and Surveying
 Hazardous and Solid Waste Consultants

**MARBLEHEAD
 TRANSFER
 STATION**

5 Woodfin Terrace
 Marblehead MA 01945
 Project Number: 4090.000

**SITE PLAN
 APPROVAL**

Date Issued:
 JULY 7 2023

NO.	DESCRIPTION	DATE

**LOT AREA FOR
 TRANSFER
 STATION
 MODIFICATIONS**

FIGURE 2

NOTES:

1. THE TOPOGRAPHY, SITE DETAIL & SURFACE IMPROVEMENTS DEPICTED HEREON WERE OBTAINED FROM AN INSTRUMENT SURVEY CONDUCTED ON THE GROUND BY MERIDIAN ASSOCIATES, INC. BETWEEN OCTOBER 2014 AND JULY 2017.
2. THE SUBJECT PROPERTIES ARE DEPICTED AS LOTS 1A, 9A, 10, 10A & 11 ON THE TOWN OF MARBLEHEAD ASSESSOR'S MAP 160; LOTS 1, 2 & 3 ON THE TOWN OF MARBLEHEAD ASSESSOR'S MAP 161; LOT 7 ON THE TOWN OF MARBLEHEAD ASSESSOR'S MAP 152; LOT 1 ON THE TOWN OF MARBLEHEAD ASSESSOR'S MAP 153; AND LOT 5 ON THE TOWN OF MARBLEHEAD ASSESSOR'S MAP 173.
3. THE LOCATION OF ALL UNDERGROUND UTILITIES SHOWN ARE BASED UPON A PARTIAL FIELD SURVEY. MERIDIAN ASSOCIATES, INC. DOES NOT WARRANT NOR GUARANTEE THE LOCATION OF ALL UTILITIES DEPICTED OR NOT DEPICTED. THE CONTRACTOR, PRIOR TO COMMENCEMENT OF CONSTRUCTION, SHALL VERIFY THE LOCATION OF ALL UTILITIES AND CONTACT DIG SAFE AT 1-888-344-7233.
4. ELEVATIONS DEPICTED HEREON ARE ON THE PROJECT DATUM, REPORTED AS THE NATIONAL VERTICAL GEODETIC DATUM OF 1929 (NVD29).
5. THE SUBJECT PROPERTIES ARE LOCATED IN FLOOD ZONE X (UNSHADED), AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN, PER FEMA FLOOD INSURANCE RATE MAP NUMBER 25009C0438G DATED JULY 16, 2014.

ALL UNDERGROUND UTILITY DATA REPRESENTS RECORD INFORMATION RECOVERED THROUGH RESEARCH WITHOUT SURFACE DEMARCATION NOR SUBSURFACE VERIFICATION.

TEMPORARY BENCHMARK CHART:

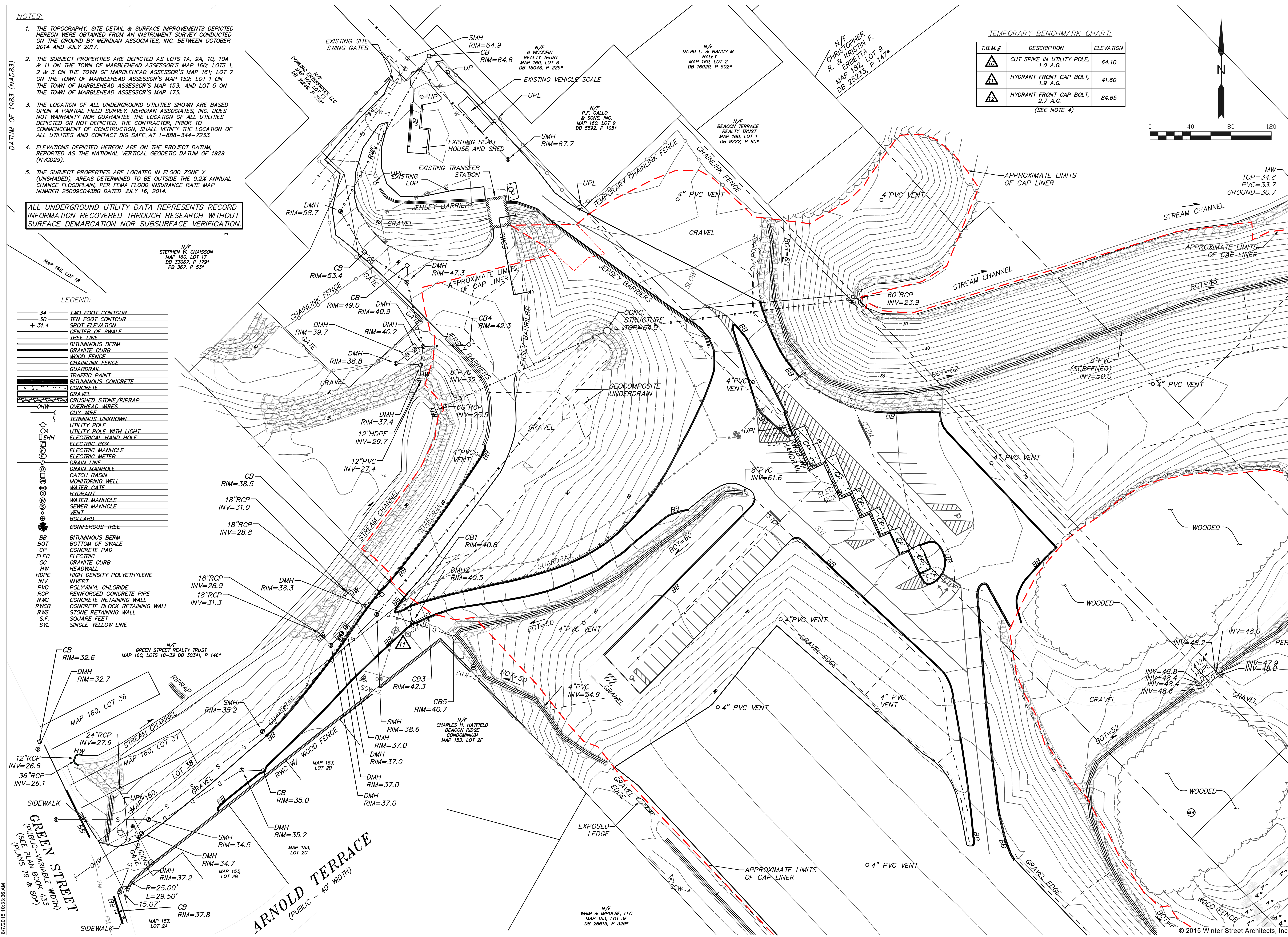
T.B.M.#	DESCRIPTION	ELEVATION
10	CUT SPIKE IN UTILITY POLE, 1.0 A.G.	64.10
11	HYDRANT FRONT CAP BOLT, 1.9 A.G.	41.60
12	HYDRANT FRONT CAP BOLT, 2.7 A.G.	84.65

(SEE NOTE 4)



LEGEND:

34	TWO FOOT CONTOUR
30	TEN FOOT CONTOUR
+ 31.4	SPOT ELEVATION
—	CENTER OF SWALE
—	TREE LINE
—	BITUMINOUS BERM
—	GRANITE CURB
—	WOOD FENCE
—	CHAINLINK FENCE
—	GUARDRAIL
—	TRAFFIC PAINT
—	BITUMINOUS CONCRETE
—	CONCRETE
—	GRAVEL
—	CRUSHED STONE/RIPRAP
—	OVERHEAD WIRES
—	GLY WIRE
—	TERMINUS UNKNOWN
—	UTILITY POLE
—	UTILITY POLE WITH LIGHT
—	ELECTRICAL HAND HOLE
—	ELECTRIC BOX
—	ELECTRIC MANHOLE
—	ELECTRIC METER
—	DRAIN LINE
—	DRAIN MANHOLE
—	CATCH BASIN
—	MONITORING WELL
—	WATER GATE
—	HYDRANT
—	WATER MANHOLE
—	SEWER MANHOLE
—	VENT
—	BOLLARD
—	OGNIFEROUS TREE
BB	BITUMINOUS BERM
BOT	BOTTOM OF SWALE
CP	CONCRETE PAD
ELEC	ELECTRIC
CC	GRANITE CURB
HW	HEADWALL
HDPE	HIGH DENSITY POLYETHYLENE
INV	INVERT
PVC	POLYVINYL CHLORIDE
RCP	REINFORCED CONCRETE PIPE
RWC	CONCRETE RETAINING WALL
RWCW	CONCRETE BLOCK RETAINING WALL
RWS	STONE RETAINING WALL
S.F.	SQUARE FEET
SYL	SINGLE YELLOW LINE



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 Hazardous and Solid Waste Consultants

MARBLEHEAD TRANSFER STATION

5 Woodfin Terrace
 Marblehead MA 01945

Project Number: 4090.000

SITE PLAN APPROVAL

Date Issued:

JULY 7 2023

NO.	DESCRIPTION	DATE

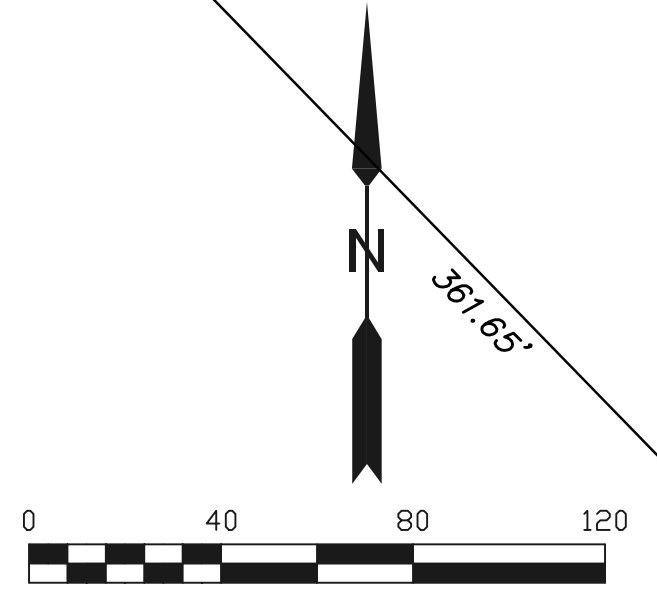
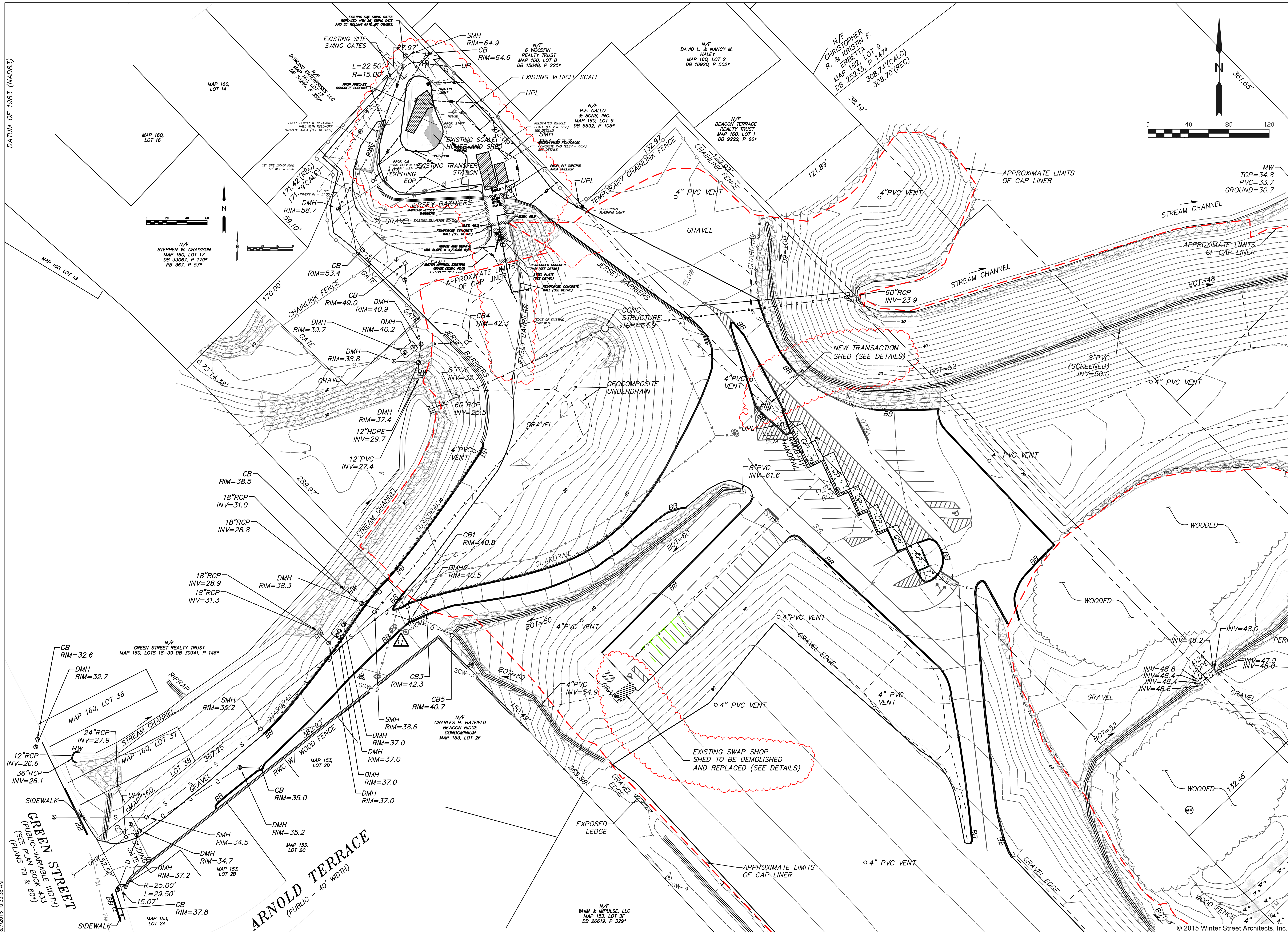
EXISTING CONDITIONS PLAN

FIGURE 3

9/7/2015 10:33:36 AM

N/F WHIM & IMPULSE LLC
 MAP 153, LOT 3F
 DB 26619, P. 329*

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**MARBLEHEAD
 TRANSFER
 STATION**

5 Woodfin Terrace
 Marblehead MA 01945

Project Number: 4090.000

**SITE PLAN
 APPROVAL**

Date Issued:
 JULY 7 2023

NO.	DESCRIPTION	DATE

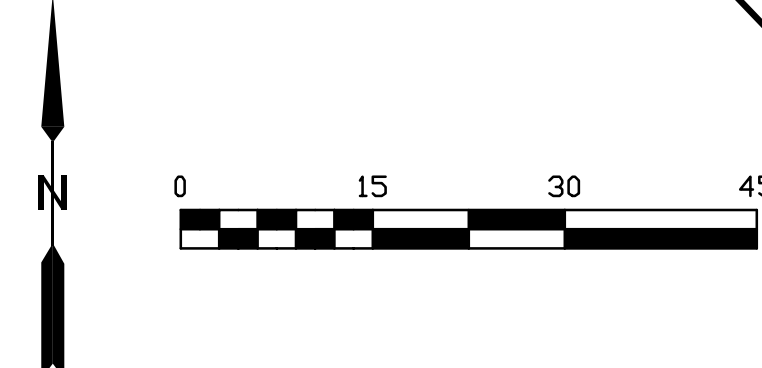
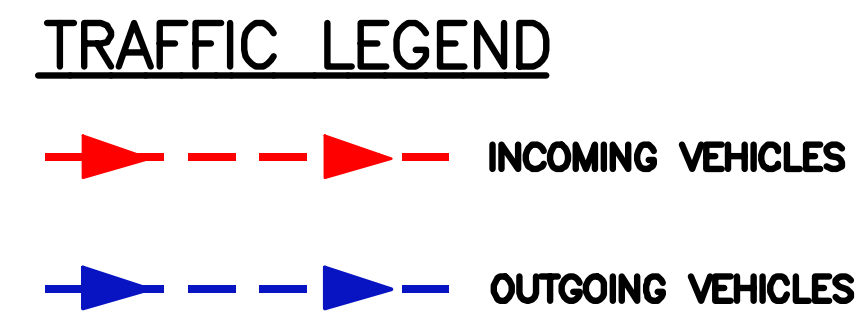
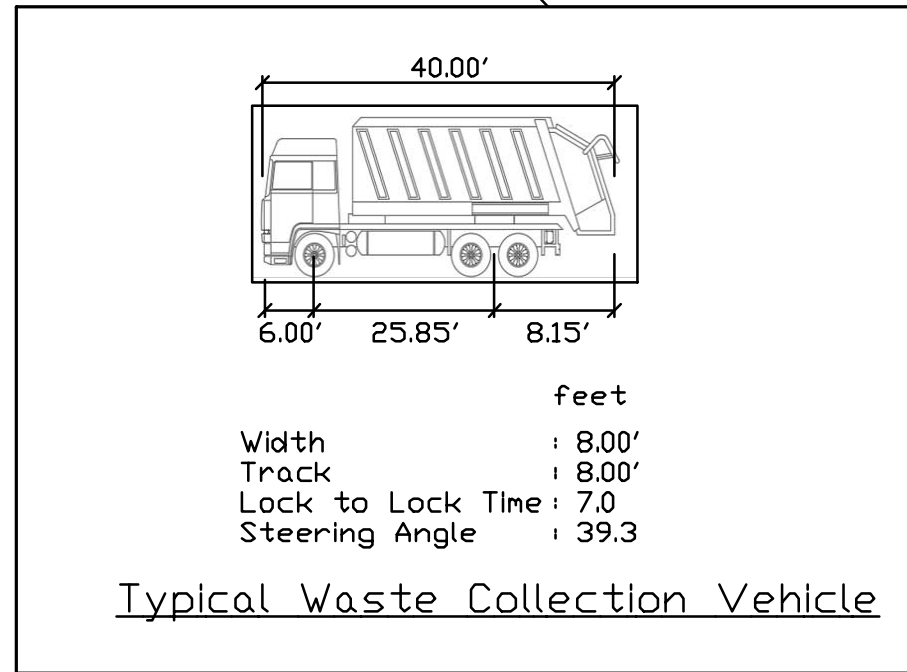
**PROPOSED
 SITE
 CONDITIONS
 PLAN**

FIGURE 4

DATUM OF 1983 (NAD83)

8/7/2015 10:33:39 AM

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PROP. LIMIT OF PAVEMENT
REMOVAL AND REPLACEMENT

PROP. CONCRETE RETAINING
WALL WITH ROLL-OFF
STORAGE AREA (SEE DETAILS)

INTERCOM

PROP. SCALE
HOUSE

TRAFFIC
LIGHT

PROP. STAFF
AREA

PROP. HANDICAP
PARKING

RELOCATED VEHICLE
SCALE (ELEV = 68.8)
SEE DETAILS

PROP. 10'x20' REINFORCED
CONCRETE PAD (ELEV = 68.6)
SEE DETAILS

PROP. PIT CONTROL
AREA SHELTER

MAINTAIN JERSEY
BARRIERS

EXISTING TRANSFER STATION

REINFORCED CONCRETE
WALL (SEE DETAIL)

PROP. LIMIT OF PAVEMENT
REMOVAL AND REPLACEMENT

PEDESTRIAN
FLASHING LIGHT

REINFORCED CONCRETE
PAD (SEE DETAIL)

STEEL PLATE
(SEE DETAIL)

REINFORCED CONCRETE
WALL (SEE DETAIL)

PROP. LIMIT OF PAVEMENT
REMOVAL AND REPLACEMENT

EDGE OF EXISTING
PAVEMENT

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**MARBLEHEAD
TRANSFER
STATION**

5 Woodfin Terrace
Marblehead MA 01945

Project Number: 4090.000

**SITE PLAN
APPROVAL**

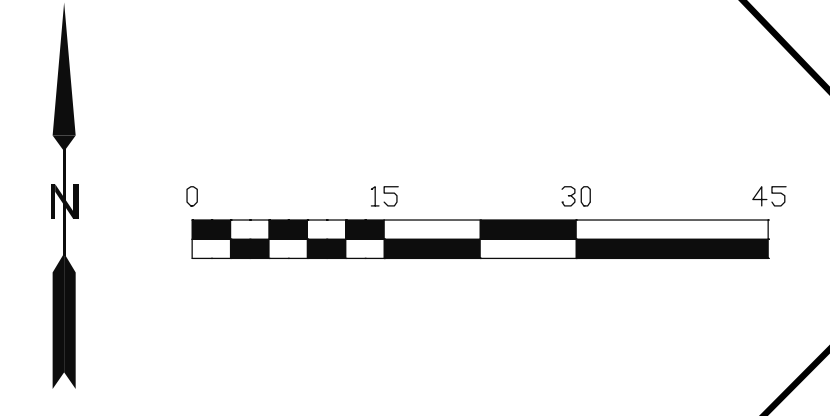
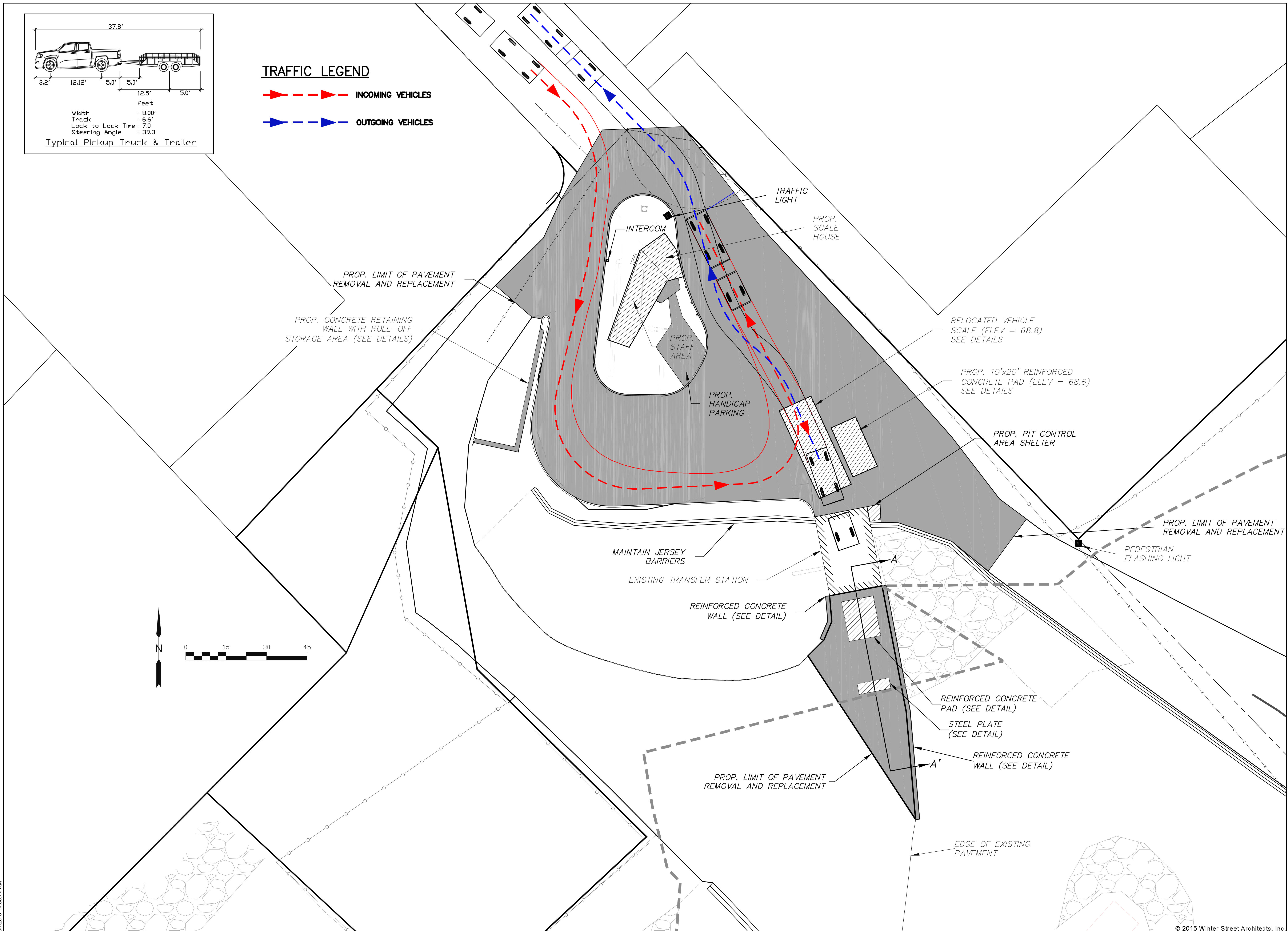
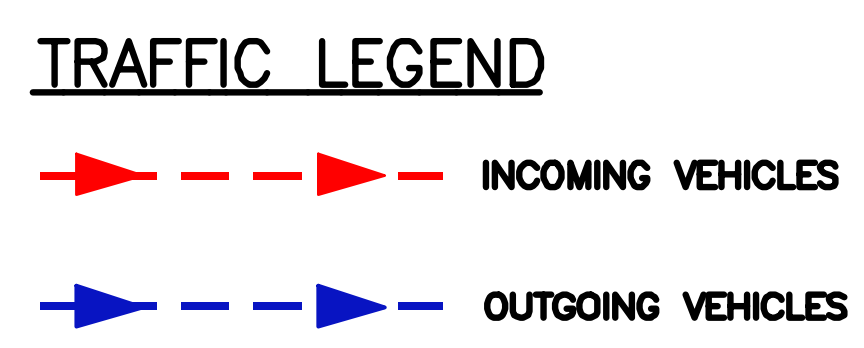
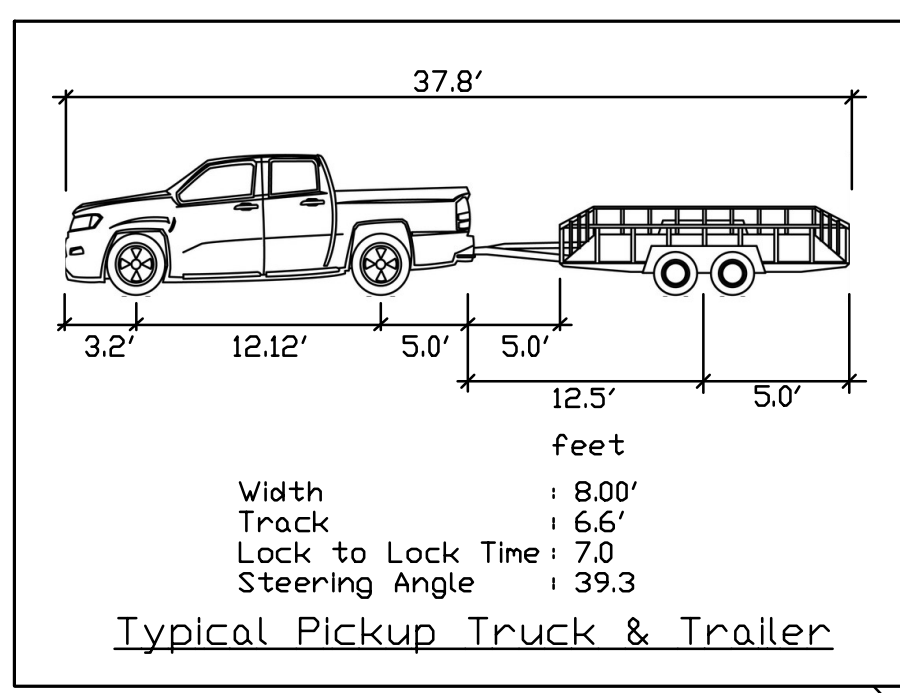
Date Issued:

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NO.	DESCRIPTION	DATE

**PACKER
TRUCK
TURNING PLAN**

FIGURE 5



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MARBLEHEAD TRANSFER STATION

5 Woodfin Terrace
Marblehead MA 01945

Project Number: 4090.000

SITE PLAN APPROVAL

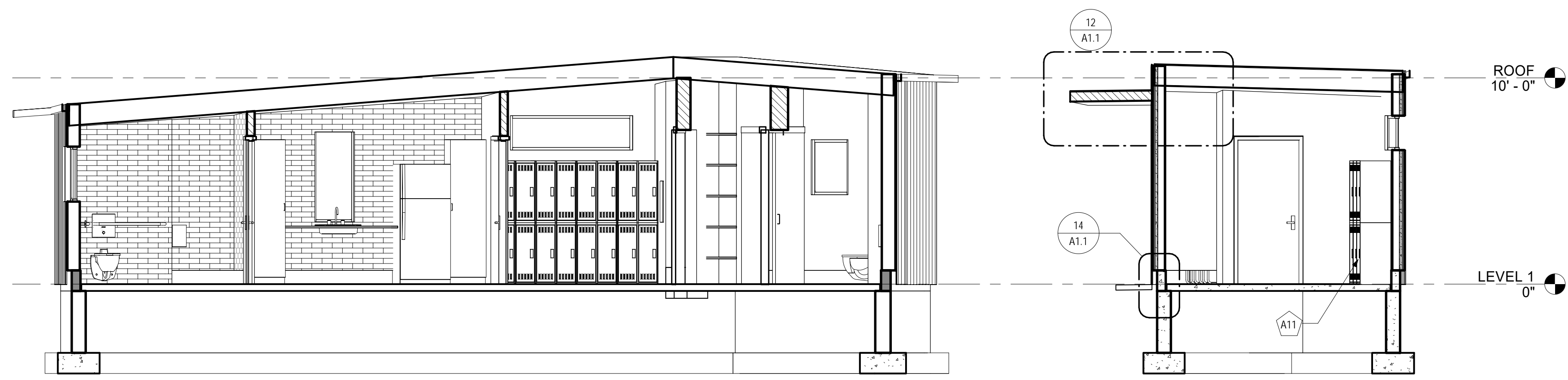
Date Issued:
JULY 7, 2023

NO.	DESCRIPTION	DATE

TRUCK AND TRAILER TURNING PLAN

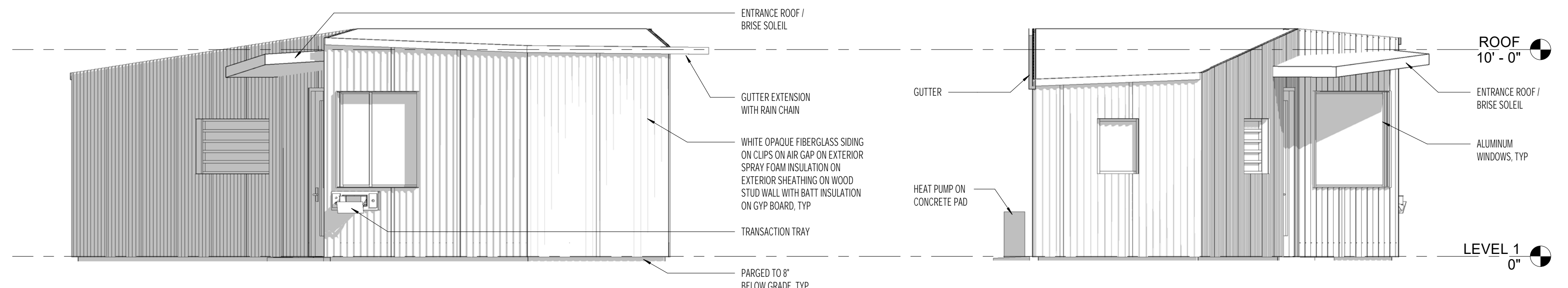
FIGURE 6

8/7/2015 10:33:36 AM



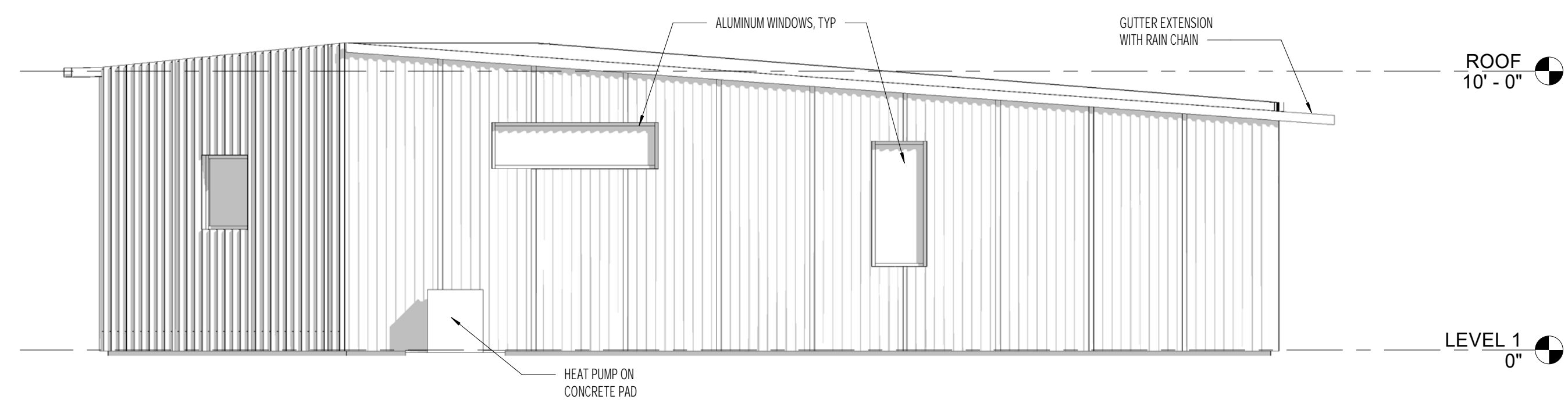
9 SECTION 2
A1.0SH / 1/4" = 1'-0"

8 SECTION 1
A1.0SH / 1/4" = 1'-0"

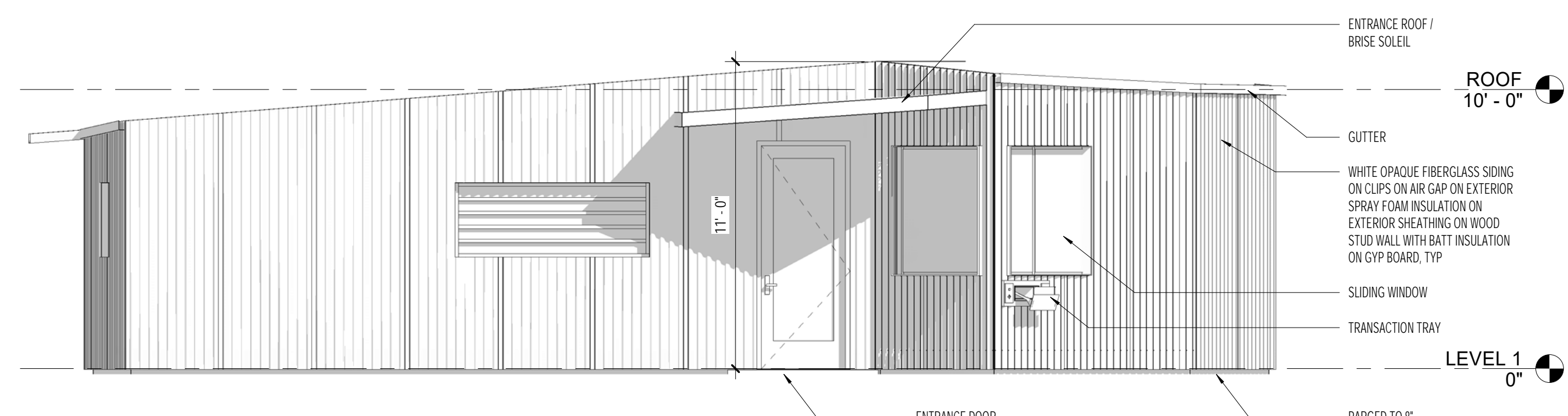


7 NORTHEAST ELEVATION
A1.0SH / 1/4" = 1'-0"

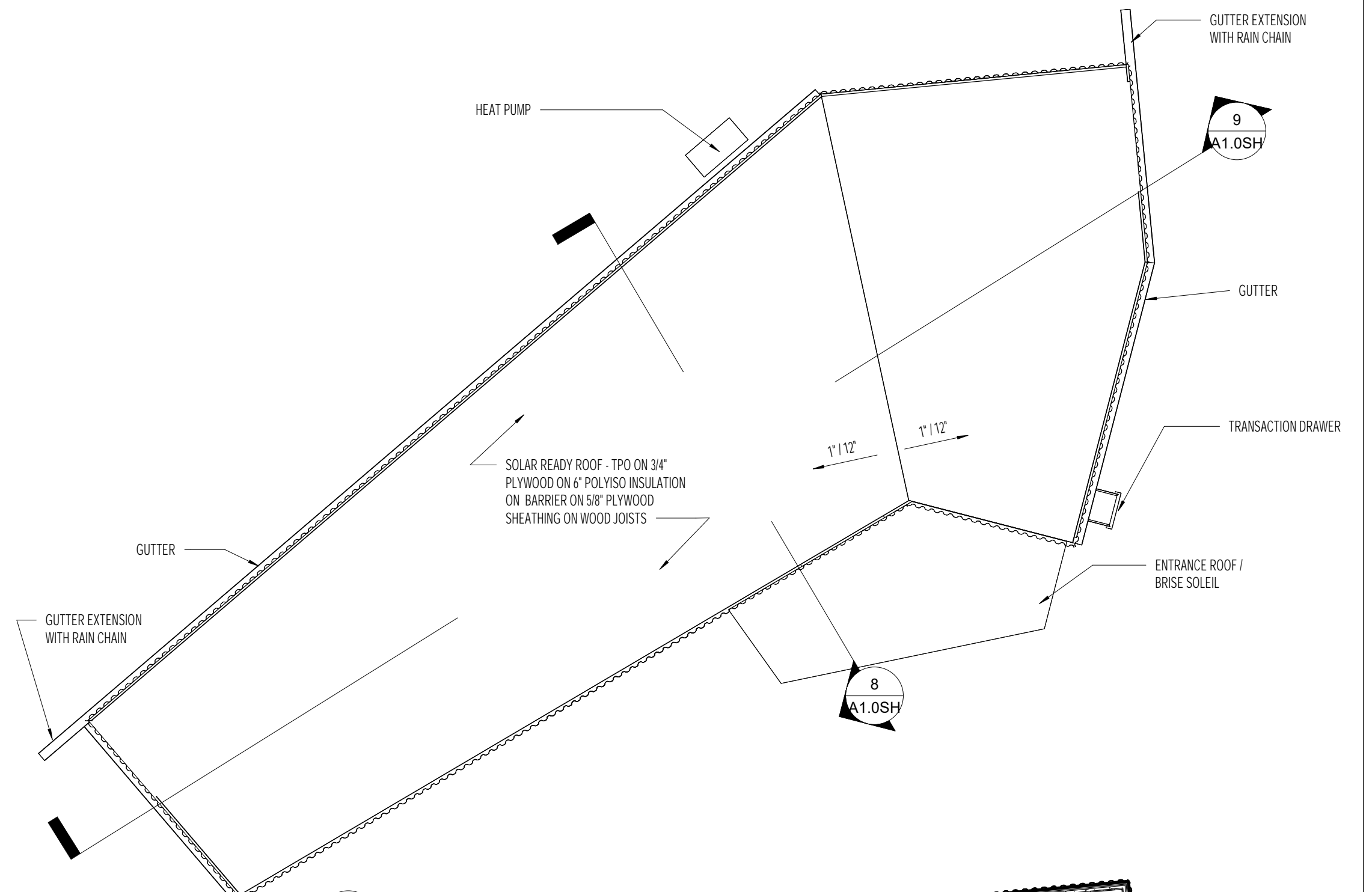
6 SOUTHWEST ELEVATION
A1.0SH / 1/4" = 1'-0"



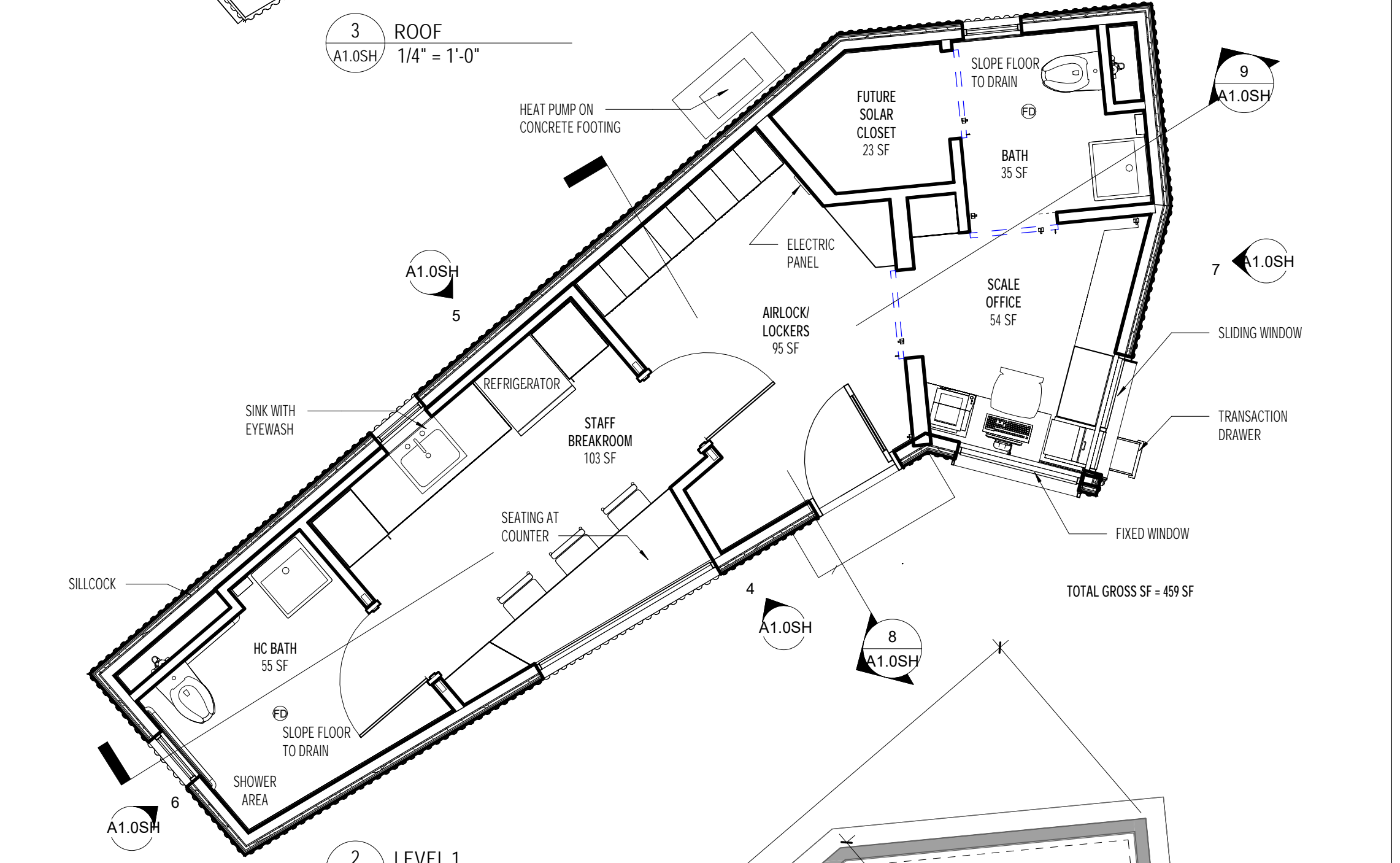
5 NORTHWEST ELEVATION
A1.0SH / 1/4" = 1'-0"



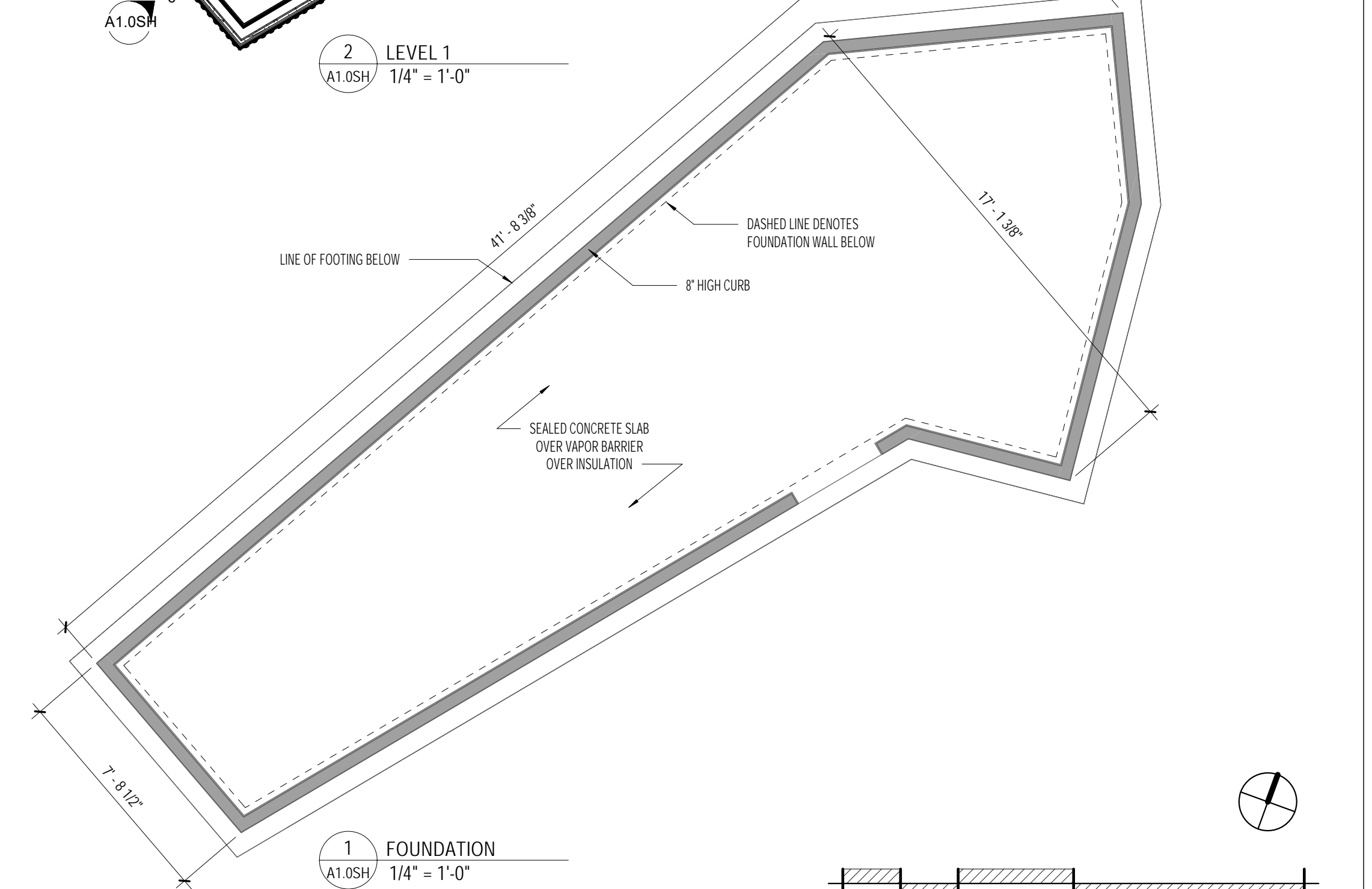
4 SOUTHEAST ELEVATION
A1.0SH / 1/4" = 1'-0"



3 ROOF
A1.0SH / 1/4" = 1'-0"



2 LEVEL 1
A1.0SH / 1/4" = 1'-0"



1 FOUNDATION
A1.0SH / 1/4" = 1'-0"

ARCHITECTS
WINTER STREET
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 WSArchitects.com

MARBLEHEAD TRANSFER STATION

Street address
 town MA 00000
 Project Number: 0000.000

SCHEMATIC DESIGN

Date Issued:
 13 JULY 2023

NO.	DESCRIPTION	DATE

SCALE HOUSE - PLANS, ELEVATIONS + SECTIONS

A1.0SH

MARBLEHEAD TRANSFER STATION

5 WOODFIN TERRACE
 MARBLEHEAD MA 01945
 Project Number: 0000.000

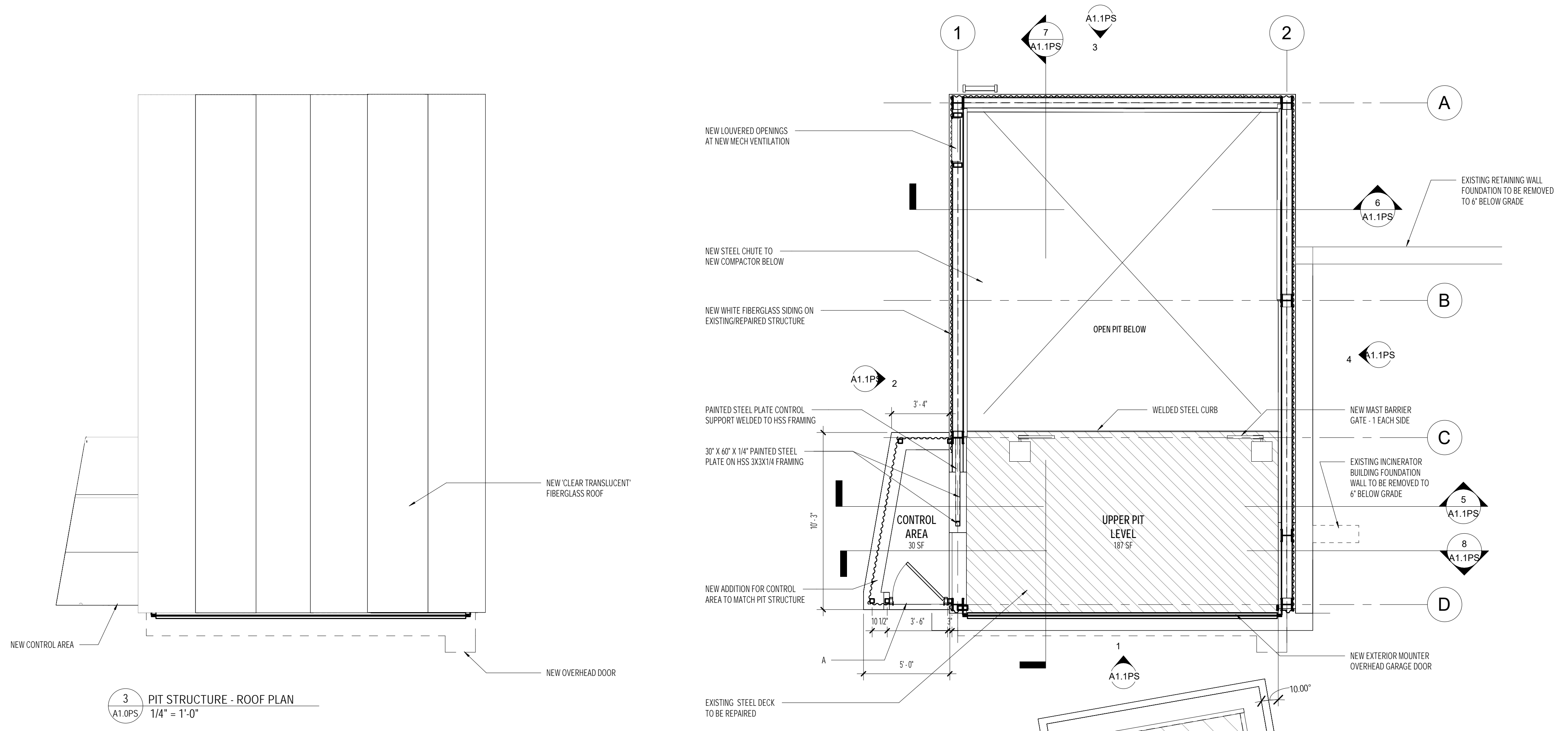
SCHEMATIC DESIGN

Date Issued:
 13 JULY 2023

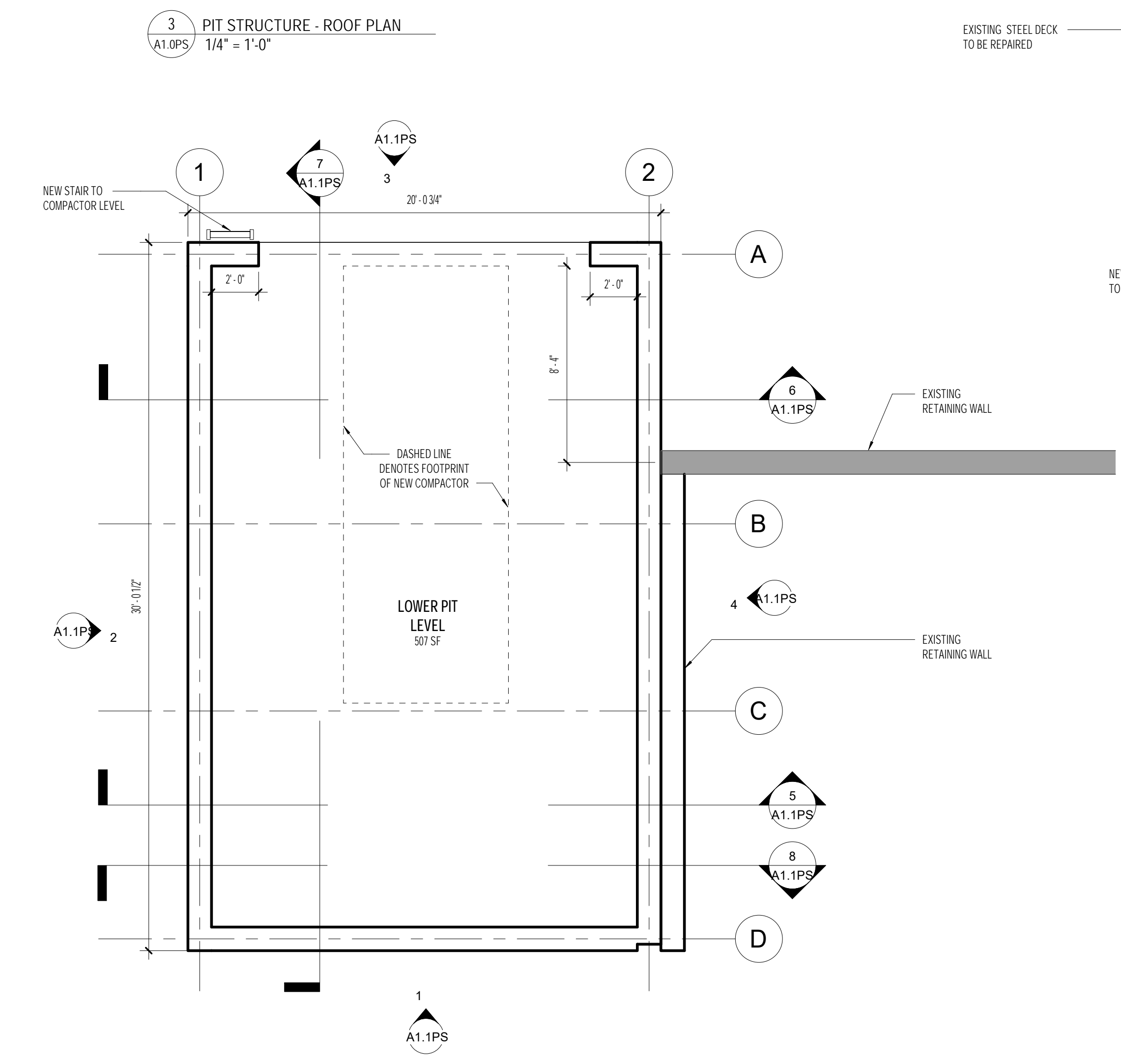
NO.	DESCRIPTION	DATE

PIT STRUCTURE - PLANS

A1.0PS

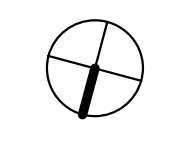
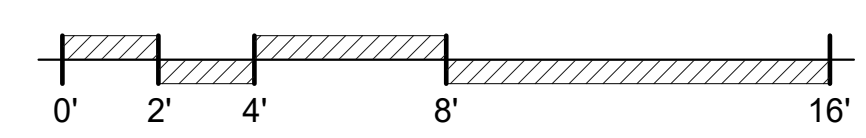


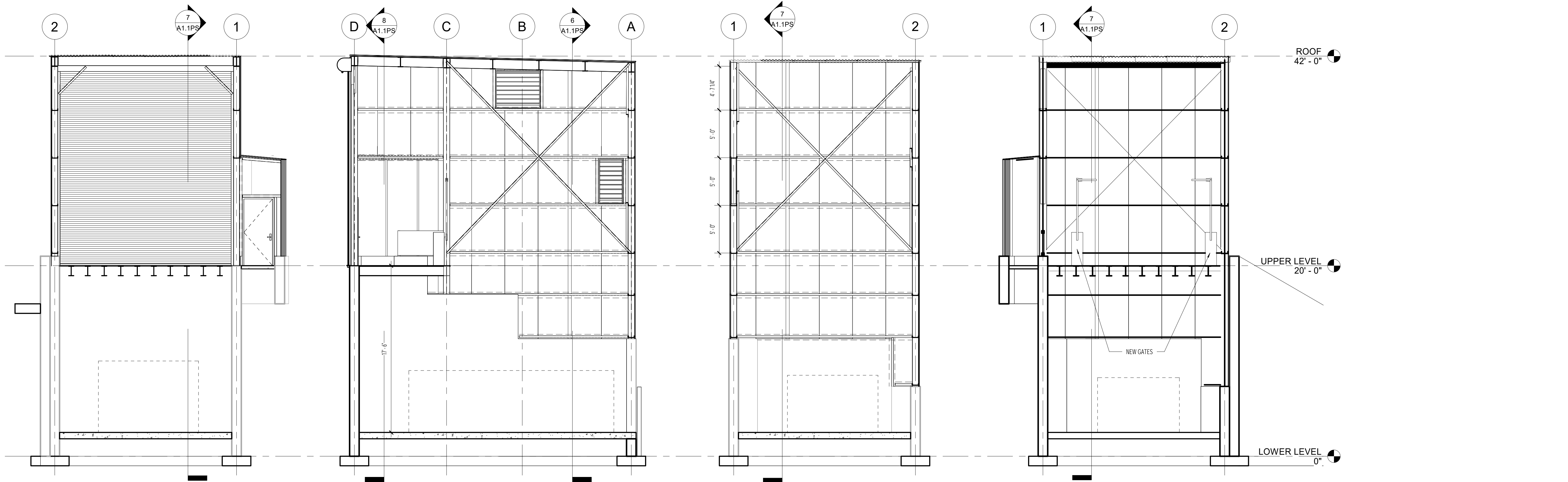
1 PIT STRUCTURE - UPPER LEVEL FLOOR PLAN
 A1.0PS / 1/4" = 1'-0"



2 LOWER LEVEL
 A1.0PS / 1/4" = 1'-0"

3 PIT STRUCTURE - ROOF PLAN
 A1.0PS / 1/4" = 1'-0"



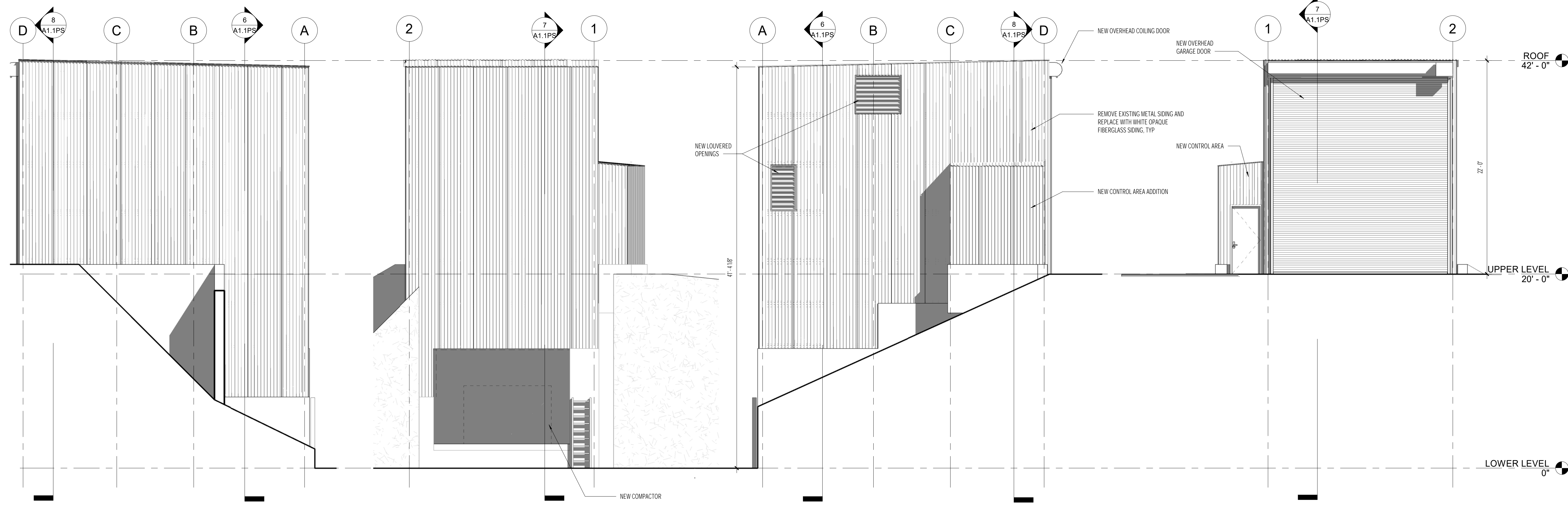


8 SECTION 4
A1.1PS / 3/16" = 1'-0"

7 SECTION 3
A1.1PS / 3/16" = 1'-0"

6 SECTION 2
A1.1PS / 3/16" = 1'-0"

5 SECTION 1
A1.1PS / 3/16" = 1'-0"

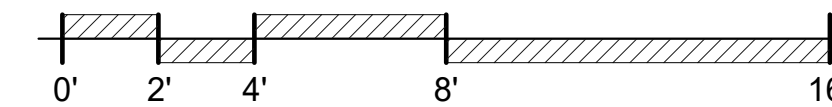


4 WEST ELEVATION
A1.1PS / 3/16" = 1'-0"

3 SOUTH ELEVATION
A1.1PS / 3/16" = 1'-0"

2 EAST ELEVATION
A1.1PS / 3/16" = 1'-0"

1 NORTH ELEVATION
A1.1PS / 3/16" = 1'-0"



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MARBLEHEAD TRANSFER STATION

5 WOODFIN TERRACE
 MARBLEHEAD MA 01945
 Project Number: 0000.000

SCHEMATIC DESIGN

Date Issued:
 13 JULY 2023

NO.	DESCRIPTION	DATE

PIT STRUCTURE - ELEVATIONS + SECTIONS

A1.1PS

MARBLEHEAD TRANSFER STATION

5 Woodfin Terrace
Marblehead MA 01945

Project Number: 4090.000

SCHEMATIC DESIGN

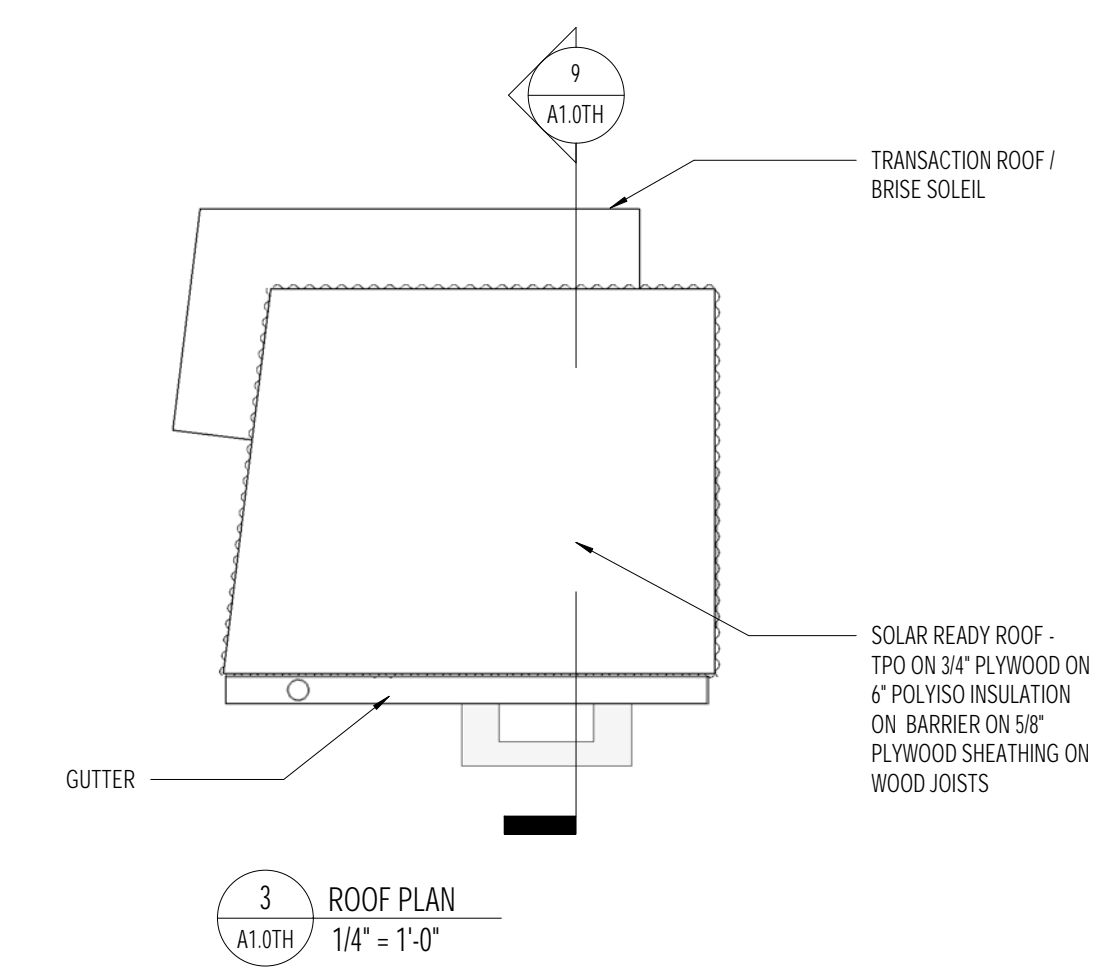
Date Issued:

13 JULY 2023

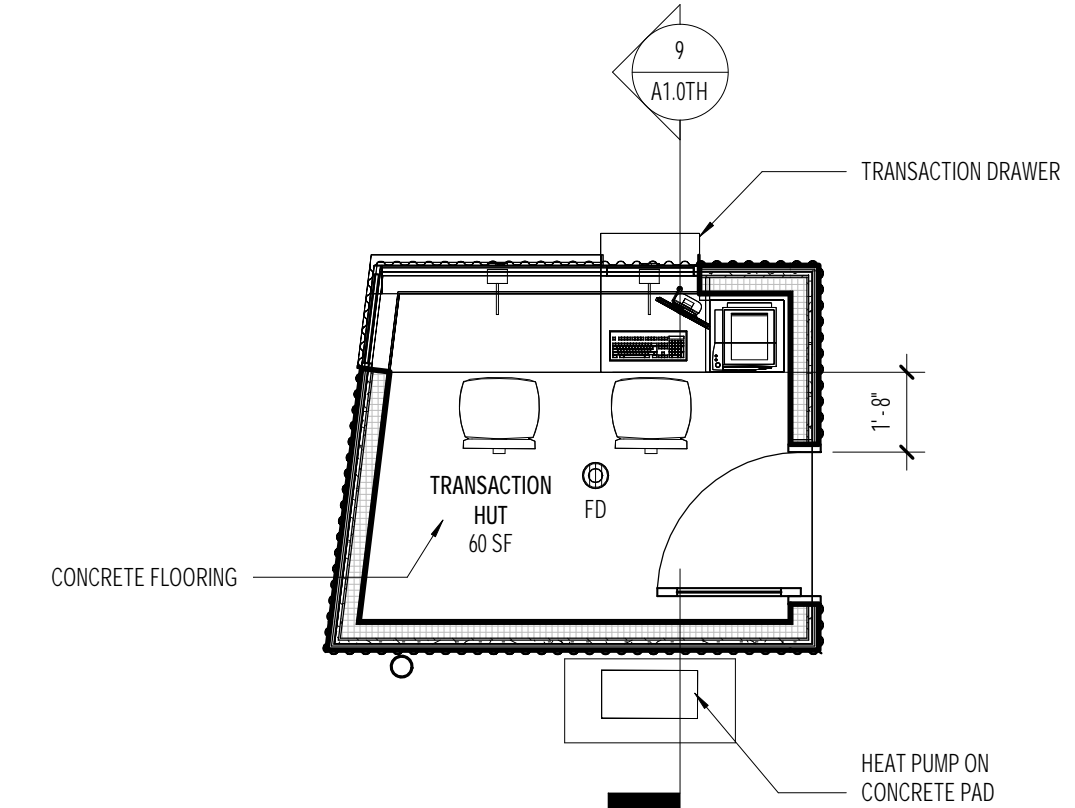
NO.	DESCRIPTION	DATE

TRANSACTION HUT -
PLANS, ELEVATIONS +
SECTIONS

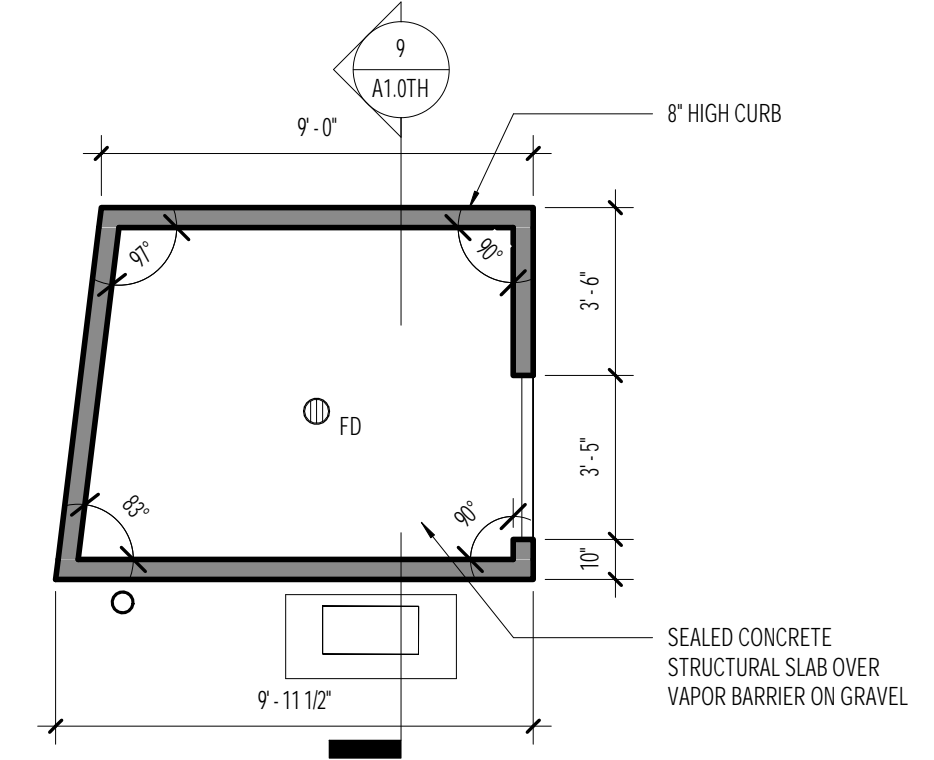
A1.0TH



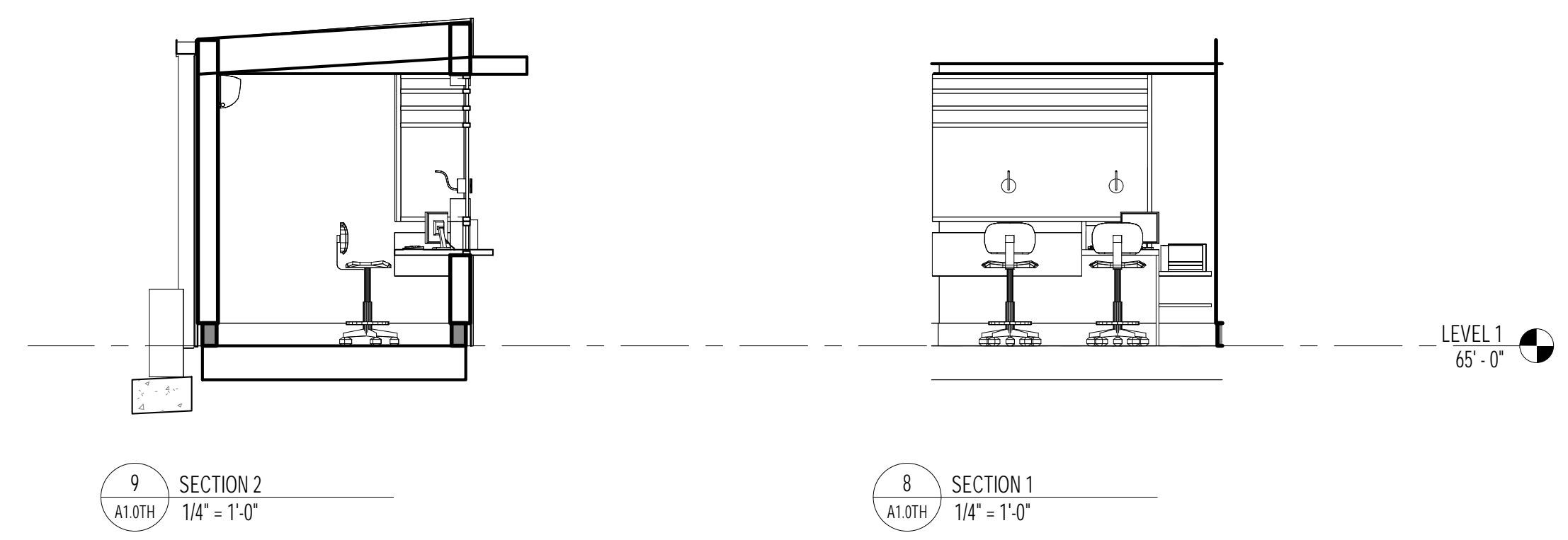
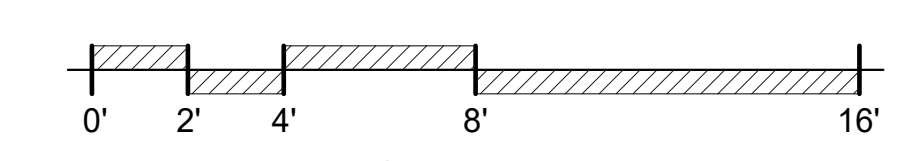
3 ROOF PLAN
A1.0TH / 1/4" = 1'-0"



2 LEVEL 1
A1.0TH / 1/4" = 1'-0"

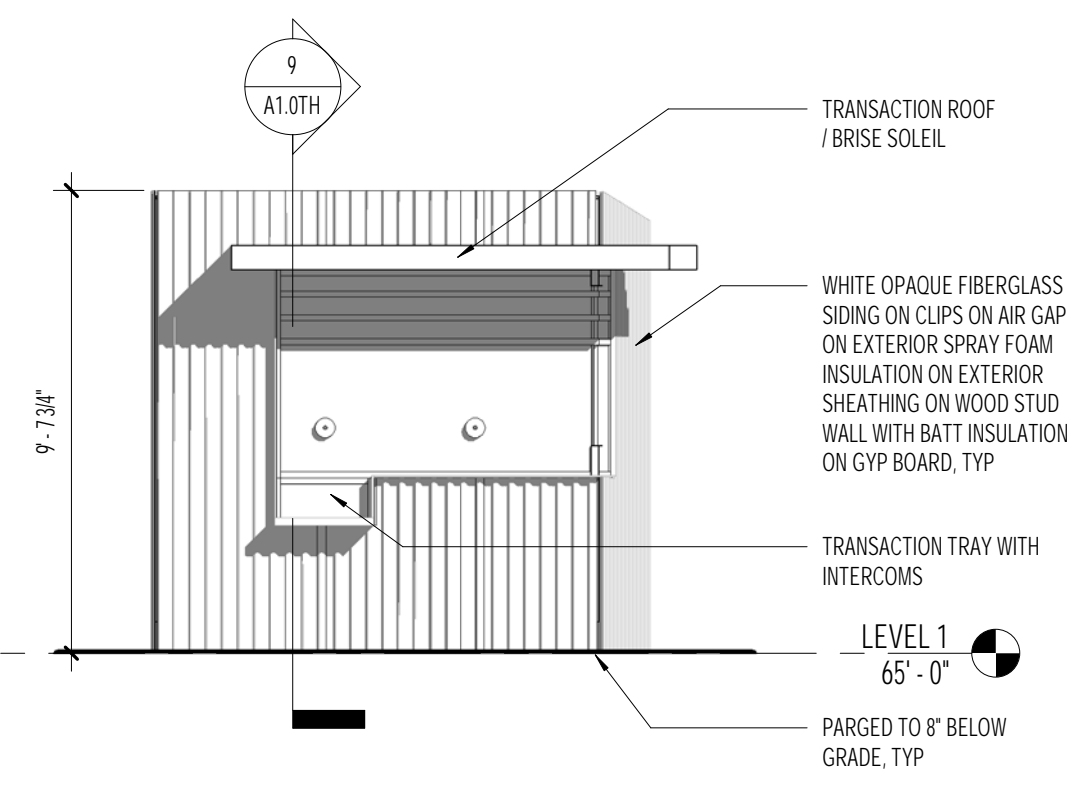


1 FOUNDATION
A1.0TH / 1/4" = 1'-0"

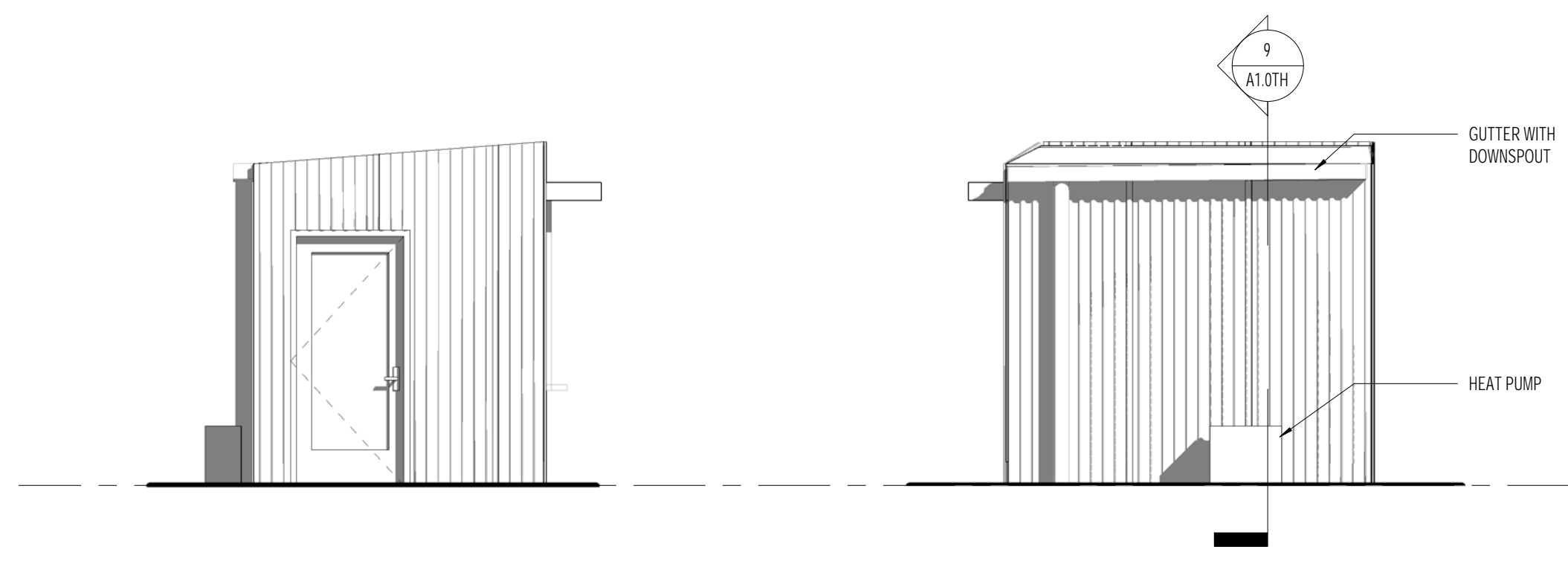


9 SECTION 2
A1.0TH / 1/4" = 1'-0"

8 SECTION 1
A1.0TH / 1/4" = 1'-0"



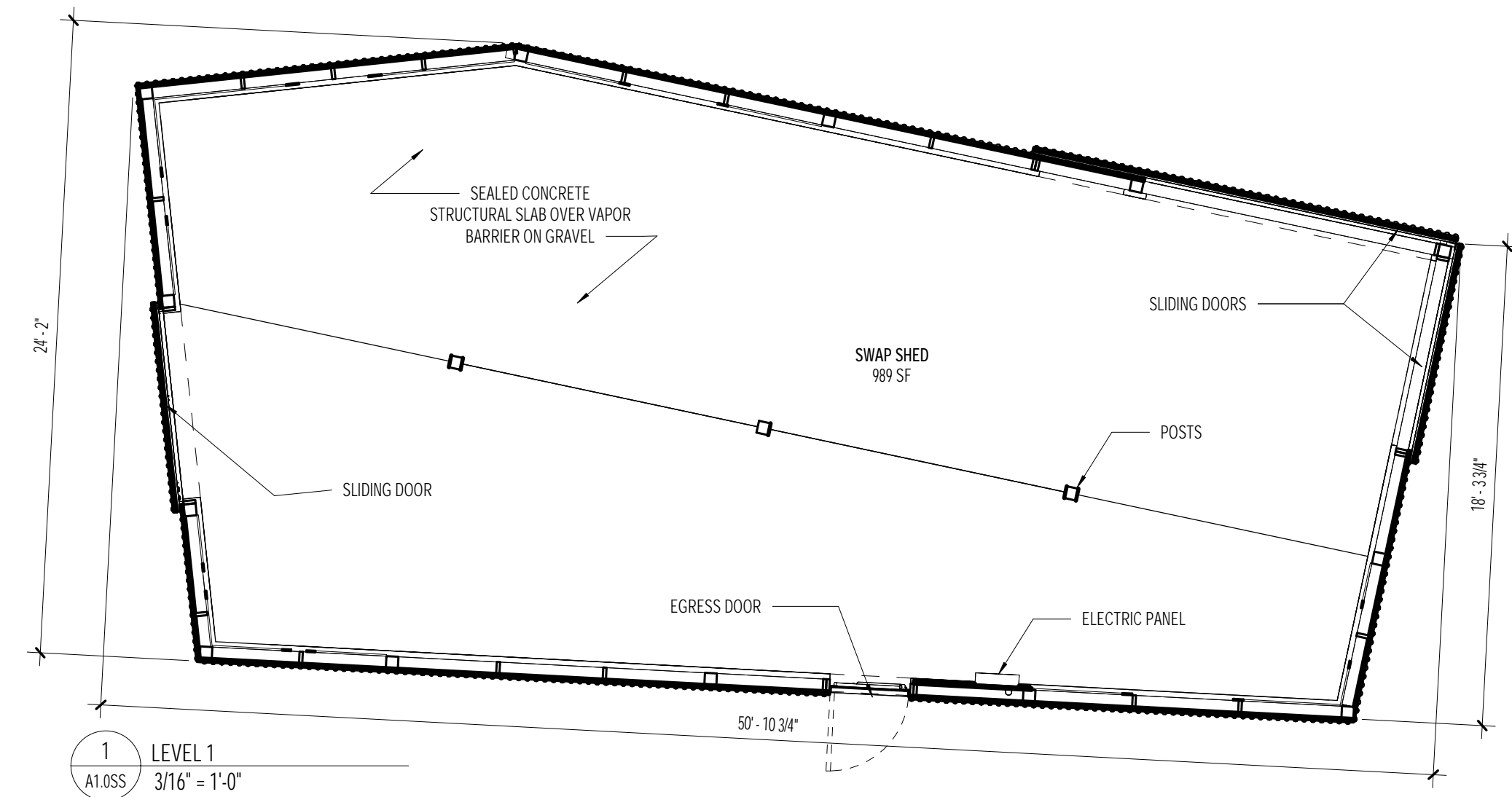
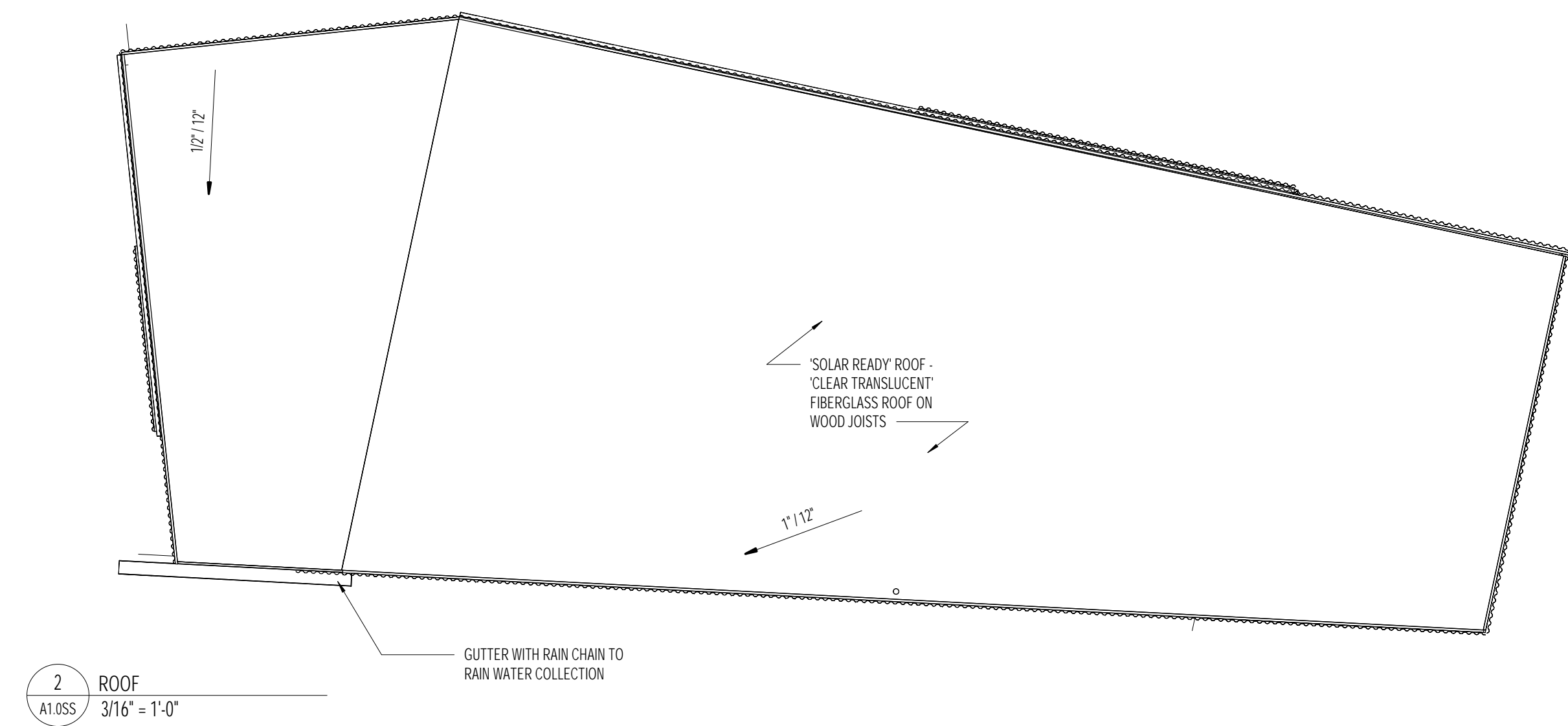
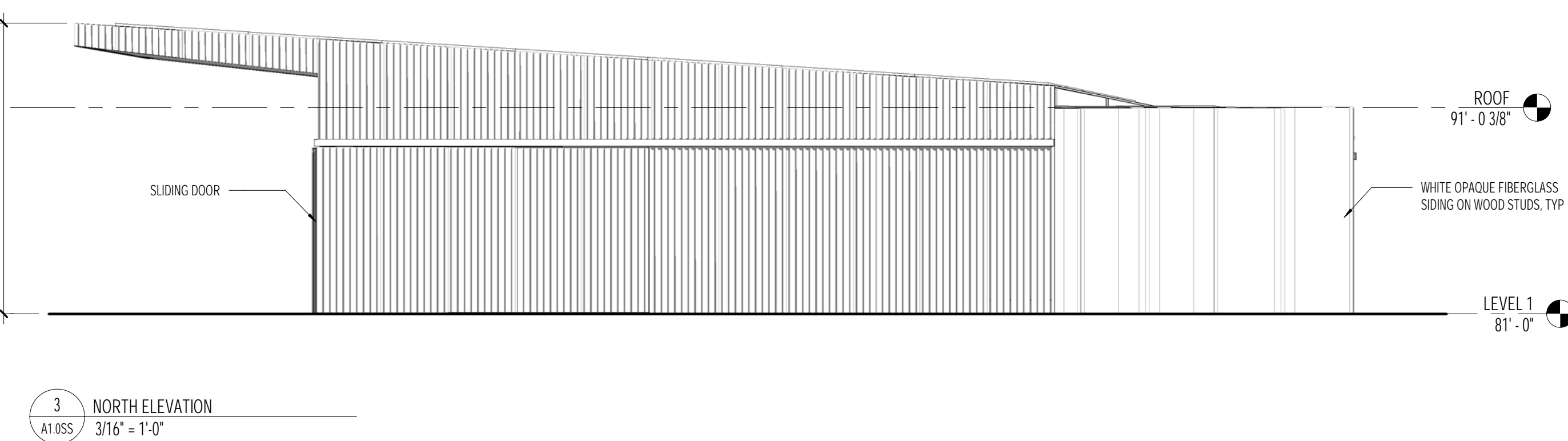
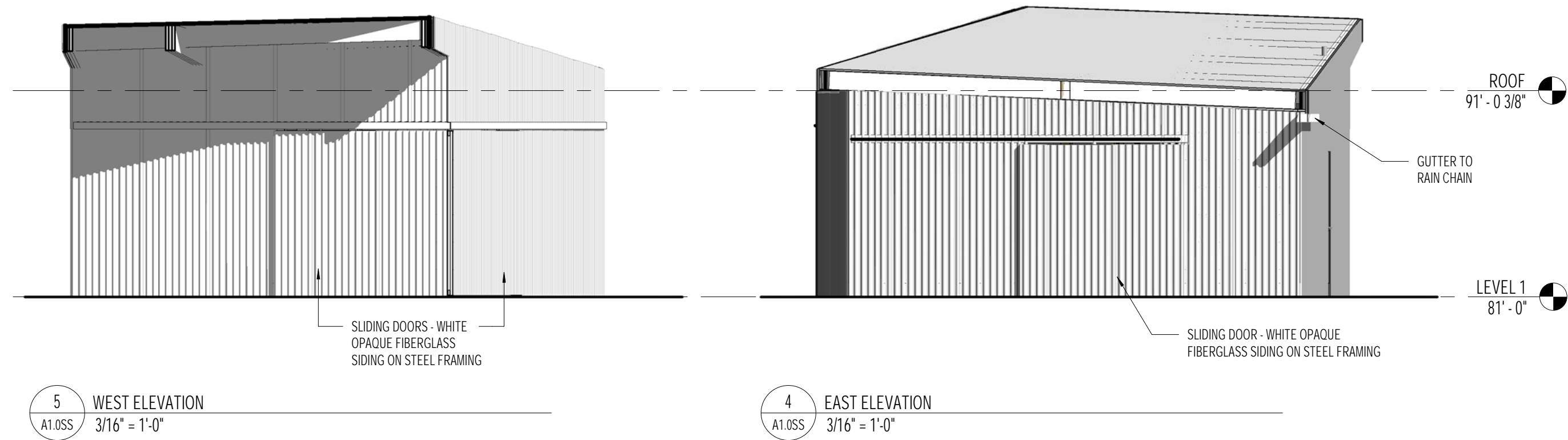
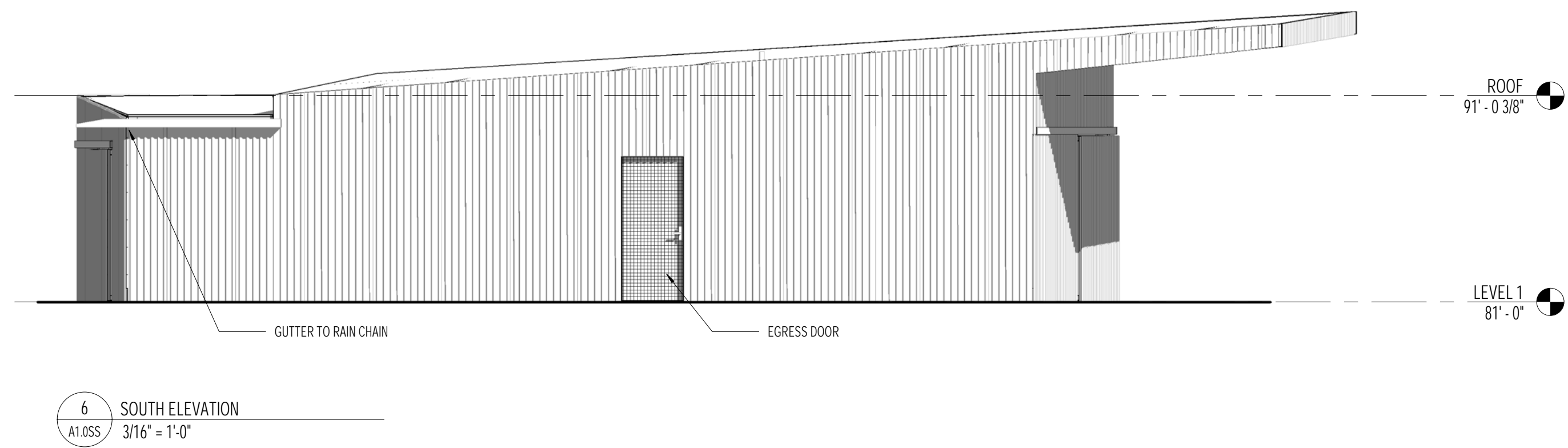
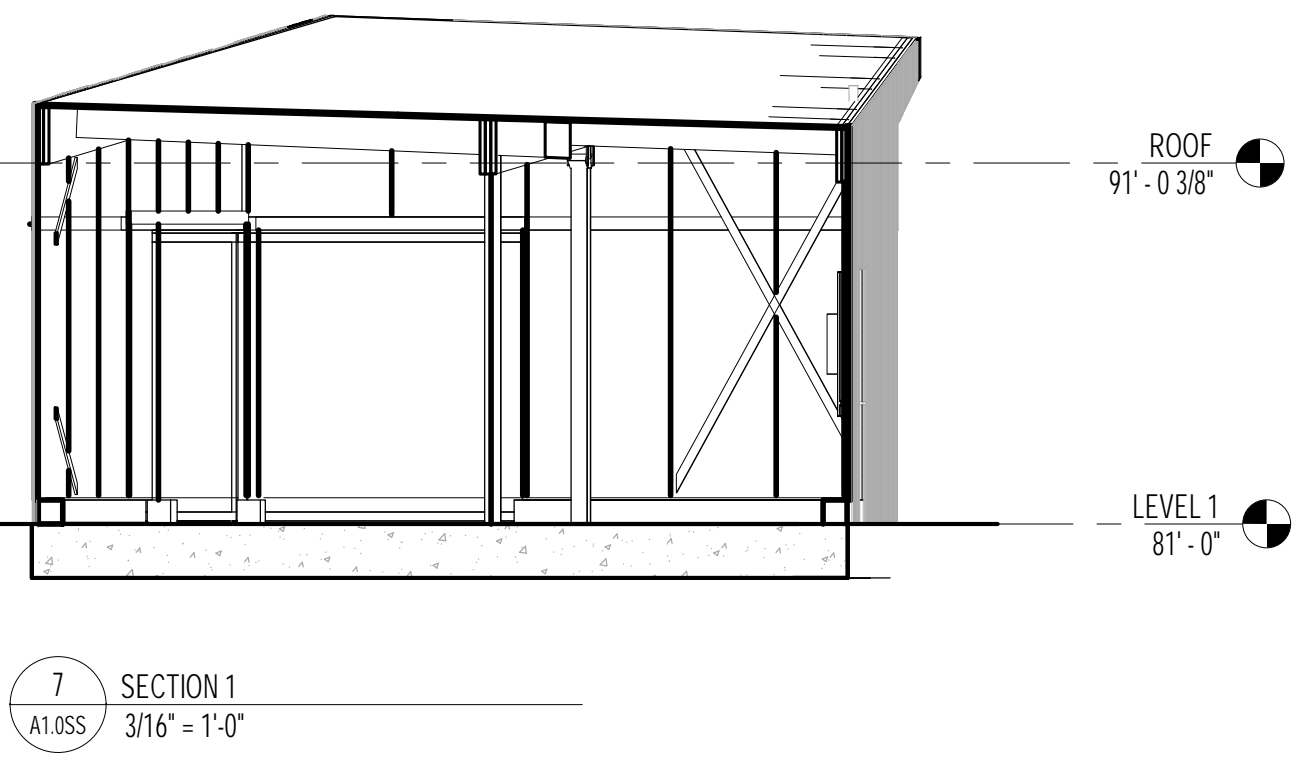
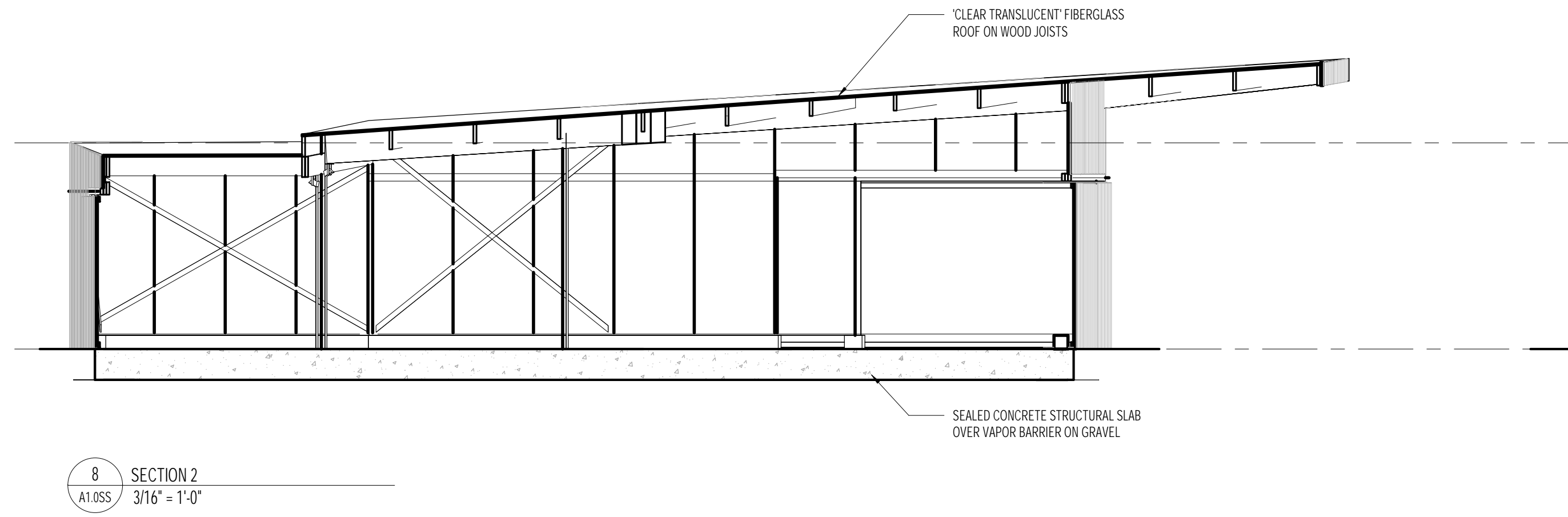
4 WEST ELEVATION
A1.0TH / 1/4" = 1'-0"



7 NORTH ELEVATION
A1.0TH / 1/4" = 1'-0"

6 EAST ELEVATION
A1.0TH / 1/4" = 1'-0"

5 SOUTH ELEVATION
A1.0TH / 1/4" = 1'-0"



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MARBLEHEAD TRANSFER STATION

5 Woodfin Terrace
Marblehead MA 01945
Project Number: 4090.0002

CONSTRUCTION SET

Date Issued:
13 JULY 2023

NO.	DESCRIPTION	DATE

SWAP SHED - PLANS, ELEVATIONS + SECTIONS

A1.0SS



PIT STRUCTURE - LOOKING SOUTHWEST



SWAP SHED - LOOKING SOUTHWEST



SCALE HOUSE - LOOKING NORTHWEST



PIT STRUCTURE - LOOKING SOUTHEAST



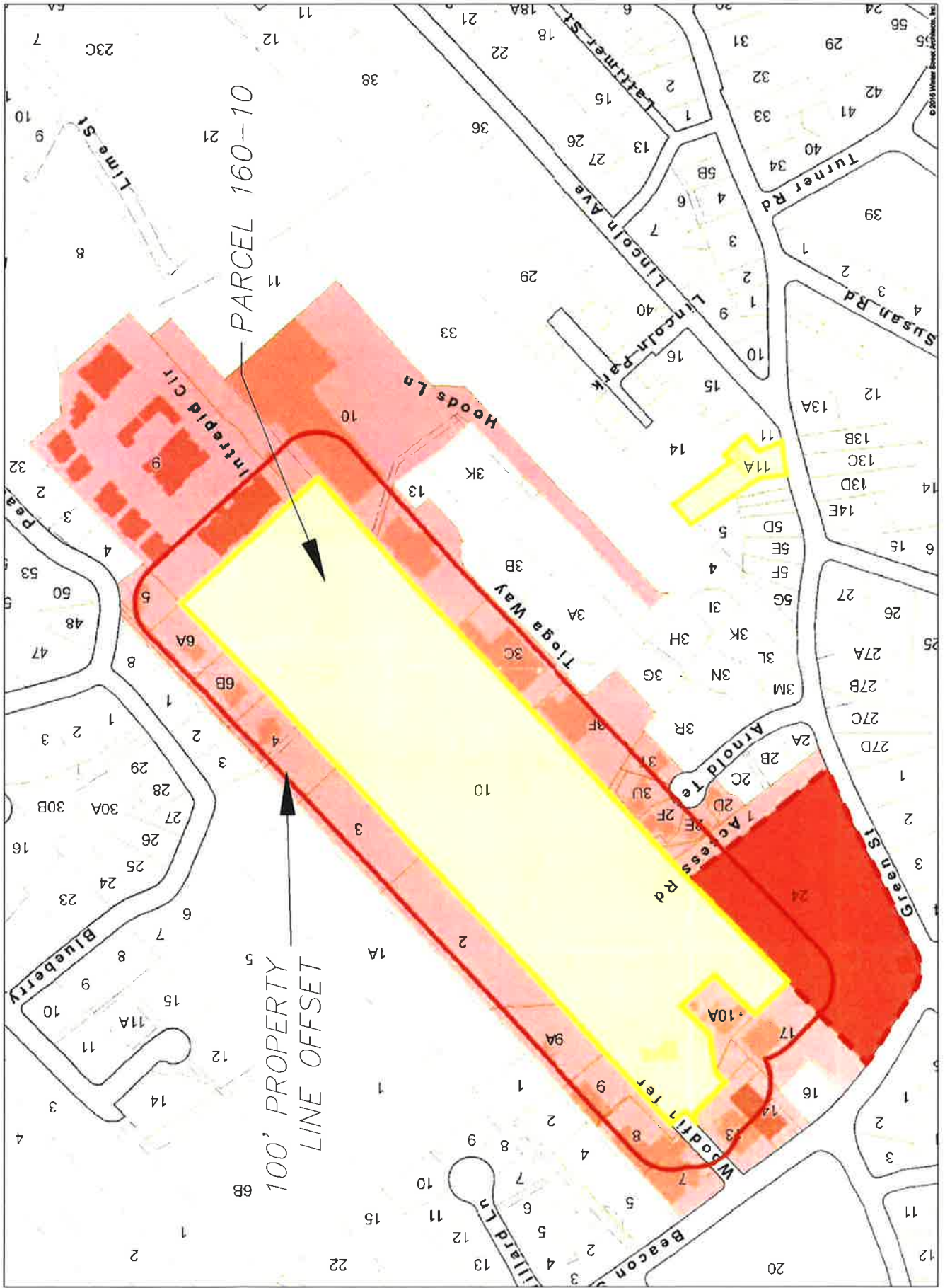
TRANSACTION HUT - LOOKING EAST



SCALE HOUSE + PIT STRUCTURE FROM ENTRANCE - LOOKING SOUTH

MTS - VARIOUS PERSPECTIVES

APPENDIX B
ABUTTER LIST



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200 Essex Street
Salem, MA 01970
870.744.7370
www.vhvac.com

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CONSULTANTS
INC.

**MARBLEHEAD
TRANSFER
STATION**

6 Woods Terrace
Marblehead MA 01946
Project Number: 4001000

**SITE PLAN
APPROVAL**

Date Issued:
JULY 7 2020
By: [Signature]

**ABUTTERS
SKETCH**



100 foot Abutters List Report

Marblehead, MA
June 29, 2023

Subject Property:

Parcel Number: 160-10-0
CAMA Number: 160-10-0
Property Address: 5 WOODFIN TR

Mailing Address: TOWN OF MARBLEHEAD
7 WIDGER ROAD
MARBLEHEAD, MA 01945

Abutters:

Parcel Number: 152-10-0
CAMA Number: 152-10-0
Property Address: 80 250 HOOD'S LN

Mailing Address: LIME STREET REALTY LIMITED
PO BOX 387 8 DOAK'S LANE
MARBLEHEAD, MA 01945

Parcel Number: 152-12-0
CAMA Number: 152-12-0
Property Address: 40 TIOGA WY

Mailing Address: MOORE EDWARD T TRUSTEE
PO BOX 387 8 DOAK'S LANE
MARBLEHEAD, MA 01945

Parcel Number: 152-5-0
CAMA Number: 152-5-0
Property Address: 44 PEACH HIGHLANDS

Mailing Address: ANSLINGER MICHAEL
44 PEACH HIGHLANDS
MARBLEHEAD, MA 01945-2516

Parcel Number: 152-6A-0
CAMA Number: 152-6A-0
Property Address: 46 A PEACH HIGHLANDS

Mailing Address: HEALY LAURENCE D
46A PEACH HIGHLANDS
MARBLEHEAD, MA 01945-2516

Parcel Number: 152-6B-0
CAMA Number: 152-6B-0
Property Address: 46 B PEACH HIGHLANDS

Mailing Address: GRABUS TAYLOR
46B PEACH HIGHLANDS
MARBLEHEAD, MA 01945-2516

Parcel Number: 152-9-0
CAMA Number: 152-9-0
Property Address: 33 INTREPID CR

Mailing Address: MOORE EDWARD T-TRUSTEE
PO BOX 387 8 DOAK'S LANE
MARBLEHEAD, MA 01945

Parcel Number: 152-9-0
CAMA Number: 152-9-1
Property Address: 39 101 INTREPID CR Unit 1

Mailing Address: ANDERSON ERIC
39 INTREPID CIRCLE UNIT 101
MARBLEHEAD, MA 01945-2587

Parcel Number: 152-9-0
CAMA Number: 152-9-10
Property Address: 39 302 INTREPID CR Unit 10

Mailing Address: COWDEN PETER W
39 INTREPID CIRCLE, UNIT 302
MARBLEHEAD, MA 01945

Parcel Number: 152-9-0
CAMA Number: 152-9-102
Property Address: 33 INTREPID CR Unit 102

Mailing Address: DESIR MICHELLE
33 INTREPID CIRCLE UT 102
MARBLEHEAD, MA 01945

Parcel Number: 152-9-0
CAMA Number: 152-9-103
Property Address: 33 INTREPID CR Unit 103

Mailing Address: DAVIS ANNE J
33 INTREPID CIRCLE UT 103
MARBLEHEAD, MA 01945



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100 foot Abutters List Report

Marblehead, MA

June 29, 2023

Parcel Number: 152-9-0 CAMA Number: 152-9-104 Property Address: 33 INTREPID CR Unit 104	Mailing Address: FOSTER ANNE C 33 INTREPID CR UNIT 104 MARBLEHEAD, MA 01945
Parcel Number: 152-9-0 CAMA Number: 152-9-105 Property Address: 33 INTREPID CR Unit 105	Mailing Address: MCCOLLUM LINDA 33 INTREPID CIR UT 105 MARBLEHEAD, MA 01945
Parcel Number: 152-9-0 CAMA Number: 152-9-106 Property Address: 33 INTREPID CR Unit 106	Mailing Address: KELLEY, FRANCIS L TRSTEE 33 INTREPID CR #106 MARBLEHEAD, MA 01945
Parcel Number: 152-9-0 CAMA Number: 152-9-108 Property Address: 33 INTREPID CR Unit 108	Mailing Address: WEED BARRY F 33 INTREPID CR UNIT 108 MARBLEHEAD, MA 01945
Parcel Number: 152-9-0 CAMA Number: 152-9-11 Property Address: 39 303 INTREPID CR Unit 11	Mailing Address: MOORE EDWARD T TRUSTEE PO BOX 387 8 DOAK'S LN MARBLEHEAD, MA 01945
Parcel Number: 152-9-0 CAMA Number: 152-9-11T Property Address: 11 INTREPID CR Unit 11T	Mailing Address: MOORE EDWARD T-TRUSTEE PO BOX 387 8 DOAK'S LANE MARBLEHEAD, MA 01945
Parcel Number: 152-9-0 CAMA Number: 152-9-12 Property Address: 39 304 INTREPID CR Unit 12	Mailing Address: MOORE EDWARD T TRUSTEE PO BOX 387 8 DOAK'S LN MARBLEHEAD, MA 01945
Parcel Number: 152-9-0 CAMA Number: 152-9-13T Property Address: 13 INTREPID CR Unit 13T	Mailing Address: MOORE EDWARD T TRSTEE 8 DOAKES LN MARBLEHEAD, MA 01945
Parcel Number: 152-9-0 CAMA Number: 152-9-15T Property Address: 15 INTREPID CR Unit 15T	Mailing Address: RIVERS AMANDA 15 INTREPID CIRCLE MARBLEHEAD, MA 01945
Parcel Number: 152-9-0 CAMA Number: 152-9-17T Property Address: 17 INTREPID CR Unit 17T	Mailing Address: MOORE EDWARD T-TRUSTEE PO BOX 387 8 DOAK'S LANE MARBLEHEAD, MA 01945
Parcel Number: 152-9-0 CAMA Number: 152-9-19 Property Address: 19 INTREPID CR Unit 19	Mailing Address: REDSTONE REALTY LLC PO BOX 387 8 DOAK'S LANE MARBLEHEAD, MA 01945
Parcel Number: 152-9-0 CAMA Number: 152-9-1T Property Address: 1 INTREPID CR Unit 1T	Mailing Address: FORCUCCI STEVEN J 1 INTREPID CIRCLE MARBLEHEAD, MA 01945



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6/29/2023

Page 2 of 11



100 foot Abutters List Report

Marblehead, MA

June 29, 2023

Parcel Number: 152-9-0
CAMA Number: 152-9-2
Property Address: 39 102 INTREPID CR Unit 2

Mailing Address: MCMANUS THOMAS P
39 INTREPID CIRCLE UNIT 102
MARBLEHEAD, MA 01945

Parcel Number: 152-9-0
CAMA Number: 152-9-202
Property Address: 33 INTREPID CR Unit 202

Mailing Address: MORELLI DAVID
33 INTREPID CIRCLE UT 202
MARBLEHEAD, MA 01945

Parcel Number: 152-9-0
CAMA Number: 152-9-204
Property Address: 33 INTREPID CR Unit 204

Mailing Address: ALMOUATASSIM MBAREK
33 INTREPID CR UNIT 204
MARBLEHEAD, MA 01945

Parcel Number: 152-9-0
CAMA Number: 152-9-205
Property Address: 33 INTREPID CR Unit 205

Mailing Address: MATTHEWS CHERYL
33 INTREPID CR UNIT 205
MARBLEHEAD, MA 01945

Parcel Number: 152-9-0
CAMA Number: 152-9-206
Property Address: 33 INTREPID CR Unit 206

Mailing Address: ERBETTA SANDRA F
33 INTREPID CR #206
MARBLEHEAD, MA 01945

Parcel Number: 152-9-0
CAMA Number: 152-9-208
Property Address: 33 INTREPID CR Unit 208

Mailing Address: LAPPIN MYRON E
33 INTREPID CR #208
MARBLEHEAD, MA 01945

Parcel Number: 152-9-0
CAMA Number: 152-9-21
Property Address: 21 INTREPID CR Unit 21

Mailing Address: MOORE EDWARD T-TRUSTEE
PO BOX 387 8 DOAK'S LANE
MARBLEHEAD, MA 01945

Parcel Number: 152-9-0
CAMA Number: 152-9-23
Property Address: 23 INTREPID CR Unit 23

Mailing Address: ROSENFELD LAWRENCE W-TRUSTEE
30 GREGORY ST
MARBLEHEAD, MA 01945

Parcel Number: 152-9-0
CAMA Number: 152-9-25
Property Address: 25 INTREPID CR Unit 25

Mailing Address: MOORE EDWARD T-TRUSTEE
PO BOX 387 8 DOAK'S LANE
MARBLEHEAD, MA 01945

Parcel Number: 152-9-0
CAMA Number: 152-9-3
Property Address: 39 INTREPID CR Unit 3

Mailing Address: MARION MARILYN CROCKETT TTEE
915 SAINT ANNES LANE
VERO BEACH, FL 32967

Parcel Number: 152-9-0
CAMA Number: 152-9-301
Property Address: 33 INTREPID CR Unit 301

Mailing Address: RICHMOND ROBERT JONATHAN TTE
33 INTREPID CR #301
MARBLEHEAD, MA 01945

Parcel Number: 152-9-0
CAMA Number: 152-9-302
Property Address: 33 INTREPID CR Unit 302

Mailing Address: DAWLEY MEGAN C
33 INTREPID CIRCLE UT 302
MARBLEHEAD, MA 01945



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100 foot Abutters List Report

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Parcel Number: 152-9-0 CAMA Number: 152-9-304 Property Address: 33 INTREPID CR Unit 304	Mailing Address: DELL'ORFANO, ALYCIA R 33 INTREPID CR UNIT 304 MARBLEHEAD, MA 01945
Parcel Number: 152-9-0 CAMA Number: 152-9-305 Property Address: 33 INTREPID CR Unit 305	Mailing Address: LAPHAM GREGORY R 33 INTREPID CR UNIT 305 MARBLEHEAD, MA 01945
Parcel Number: 152-9-0 CAMA Number: 152-9-306 Property Address: 33 INTREPID CR Unit 306	Mailing Address: KEYES CLAIRE J TTE 33 INTREPID CR #306 MARBLEHEAD, MA 01945
Parcel Number: 152-9-0 CAMA Number: 152-9-307 Property Address: 33 INTREPID CR Unit 307	Mailing Address: HORAN WALTER W 33 INTREPID CR #307 MARBLEHEAD, MA 01945
Parcel Number: 152-9-0 CAMA Number: 152-9-3T Property Address: 3 INTREPID CR Unit 3T	Mailing Address: MOORE JULIE P-TRUSTEE PO BOX 387 8 DOAK'S LANE MARBLEHEAD, MA 01945
Parcel Number: 152-9-0 CAMA Number: 152-9-4 Property Address: 39 104 INTREPID CR Unit 4	Mailing Address: GRAVES ARTHUR G 39 INTREPID CIRCLE UNIT 104 MARBLEHEAD, MA 01945
Parcel Number: 152-9-0 CAMA Number: 152-9-403 Property Address: 33 INTREPID CR Unit 403	Mailing Address: SCALISE ROBERT L 33 INTREPID CIRCLE UNIT 403 MARBLEHEAD, MA 01945
Parcel Number: 152-9-0 CAMA Number: 152-9-405 Property Address: 33 INTREPID CR Unit 405	Mailing Address: FERRAGAMO RALPH 10 SEALS DR MONROE, NY 10950
Parcel Number: 152-9-0 CAMA Number: 152-9-407 Property Address: 33 INTREPID CR Unit 407	Mailing Address: RIVERO Y HORNOS TOMAS TTE 33 INTREPID CR UNIT407 MARBLEHEAD, MA 01945
Parcel Number: 152-9-0 CAMA Number: 152-9-41 Property Address: 41 INTREPID CR Unit 41	Mailing Address: DAVIDSON WILLIAM A 41 INTREPID CIRCLE MARBLEHEAD, MA 01945
Parcel Number: 152-9-0 CAMA Number: 152-9-43 Property Address: 43 INTREPID CR Unit 43	Mailing Address: CHRISTENSEN MATTHEW G 43 INTREPID CIRCLE MARBLEHEAD, MA 01945-2581
Parcel Number: 152-9-0 CAMA Number: 152-9-45 Property Address: 45 INTREPID CR Unit 45	Mailing Address: CHAN WILLIAM W LIM 45 INTREPID CIRCLE MARBLEHEAD, MA 01945-2581



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Parcel Number: 152-9-0 CAMA Number: 152-9-47 Property Address: 47 INTREPID CR Unit 47	Mailing Address: MOORE EDWARD T PO BOX 387 8 DOAK'S LANE MARBLEHEAD, MA 01945
Parcel Number: 152-9-0 CAMA Number: 152-9-49 Property Address: 49 INTREPID CR Unit 49	Mailing Address: ZONNENBERG PATRICIA K TTE 49 INTREPID CIRCLE MARBLEHEAD, MA 01945-2581
Parcel Number: 152-9-0 CAMA Number: 152-9-5 Property Address: 39 201 INTREPID CR Unit 5	Mailing Address: DANSHYN ANDRIY 39 INTREPID CIR UT 201 MARBLEHEAD, MA 01945-2587
Parcel Number: 152-9-0 CAMA Number: 152-9-51 Property Address: 51 INTREPID CR Unit 51	Mailing Address: SILVERMAN MICHAEL H 51 INTREPID CIRCLE MARBLEHEAD, MA 01945-2581
Parcel Number: 152-9-0 CAMA Number: 152-9-53 Property Address: 53 INTREPID CR Unit 53	Mailing Address: CASHMAN JANE TOWEY TTE 53 INTREPID CIRCLE MARBLEHEAD, MA 01945-2581
Parcel Number: 152-9-0 CAMA Number: 152-9-55 Property Address: 55 INTREPID CR Unit 55	Mailing Address: REDSTONE REALTY, LLC PO BOX 387 8 DOAK'S LANE MARBLEHEAD, MA 01945
Parcel Number: 152-9-0 CAMA Number: 152-9-5T Property Address: 5 INTREPID CR Unit 5T	Mailing Address: LURIE STEPHANIE OWENS 379 N FULLERTON AVE MONTCLAIR, NY 07043
Parcel Number: 152-9-0 CAMA Number: 152-9-6 Property Address: 39 202 INTREPID CR Unit 6	Mailing Address: GENIS KARIN L 39 INTREPID CIRCLE UT 202 MARBLEHEAD, MA 01945
Parcel Number: 152-9-0 CAMA Number: 152-9-7 Property Address: 39 203 INTREPID CR Unit 7	Mailing Address: CANNIFFE JOHN 38 DARBY COURT NEW PROVIDENCE, NJ 07974
Parcel Number: 152-9-0 CAMA Number: 152-9-7T Property Address: 7 INTREPID CR Unit 7T	Mailing Address: REDSTONE REALTY LLC PO BOX 387 8 DOAK'S LANE MARBLEHEAD, MA 01945
Parcel Number: 152-9-0 CAMA Number: 152-9-8 Property Address: 39 204 INTREPID CR Unit 8	Mailing Address: DRECTOR CAREN B 39 INTREPID CIRCLE-UNIT 204 MARBLEHEAD, MA 01945
Parcel Number: 152-9-0 CAMA Number: 152-9-9 Property Address: 39 301 INTREPID CR Unit 9	Mailing Address: REDSTONE REALTY LLC PO BOX 387 8 DOAK'S LN MARBLEHEAD, MA 01945



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100 foot Abutters List Report

Marblehead, MA

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Parcel Number: 152-9-0 CAMA Number: 152-9-9T Property Address: 9 INTREPID CR Unit 9T	Mailing Address: BRUCE MICHAEL E 9 INTREPID CIRCLE MARBLEHEAD, MA 01945-2581
Parcel Number: 152-9-0 CAMA Number: 152-9-A Property Address: 36 101 INTREPID CR Unit A	Mailing Address: GLUSKIN LEONID 36 INTREPID CIRCLE UNIT 101 MARBLEHEAD, MA 01945
Parcel Number: 152-9-0 CAMA Number: 152-9-B Property Address: 36 102 INTREPID CR Unit B	Mailing Address: MARRS RICHARD P 36 INTREPID CIRCLE UNIT 102 MARBLEHEAD, MA 01945-2590
Parcel Number: 152-9-0 CAMA Number: 152-9-C Property Address: 36 103 INTREPID CR Unit C	Mailing Address: DOHERTY MARY KATHERINE 36 INTREPID CR UNIT 103 MARBLEHEAD, MA 01945-3017
Parcel Number: 152-9-0 CAMA Number: 152-9-D Property Address: 36 104 INTREPID CR Unit D	Mailing Address: BOWEN JILL M TRUSTEE 36 INTREPID CIRCLE UNIT 104 MARBLEHEAD, MA 01945-2590
Parcel Number: 152-9-0 CAMA Number: 152-9-E Property Address: 36 105 INTREPID CR Unit E	Mailing Address: ZISSULIS JUDITH A 36 INTREPID CIRCLE UNIT 105 MARBLEHEAD, MA 01945
Parcel Number: 152-9-0 CAMA Number: 152-9-F Property Address: 36 106 INTREPID CR Unit F	Mailing Address: WARAB AMIROUCHE 36 INTREPID CIRCLE UNIT 106 MARBLEHEAD, MA 01945
Parcel Number: 152-9-0 CAMA Number: 152-9-G Property Address: 36 201 INTREPID CR Unit G	Mailing Address: ROTMAN SANDRA 36 INTREPID CIRCLE UNIT 201 MARBLEHEAD, MA 01945-2590
Parcel Number: 152-9-0 CAMA Number: 152-9-G1 Property Address: 40 G1 INTREPID CR Unit G1	Mailing Address: REDSTONE REALTY, LLC P O BOX 387 8 DOAK'S LANE MARBLEHEAD, MA 01945
Parcel Number: 152-9-0 CAMA Number: 152-9-G10 Property Address: 38 G10 INTREPID CR Unit G10	Mailing Address: MOORE JULIE P-TRUSTEE PO BOX 387 - 8 DOAKS LANE MARBLEHEAD, MA 01945
Parcel Number: 152-9-0 CAMA Number: 152-9-G11 Property Address: 38 G11 INTREPID CR Unit G11	Mailing Address: GENIS KARIN L 39 INTREPID CIRCLE UNIT 202 MARBLEHEAD, MA 01945
Parcel Number: 152-9-0 CAMA Number: 152-9-G12 Property Address: 38 G12 INTREPID CR Unit G12	Mailing Address: CANNIFFE JOHN 38 DARBY COURT NEW PROVIDENCE, NJ 07974



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Parcel Number: 152-9-0
CAMA Number: 152-9-G13
Property Address: 38 G13 INTREPID CR Unit G13

Mailing Address: MOORE EDWARD T TRUSTEE
P O BOX 387 8 DOAK'S LANE
MARBLEHEAD, MA 01945

Parcel Number: 152-9-0
CAMA Number: 152-9-G14
Property Address: 38 G14 INTREPID CR Unit G14

Mailing Address: MASCIARELLA RAYMOND M II
211 MARLBOROUGH RD
WEST PALM BEACH, FL 33405

Parcel Number: 152-9-0
CAMA Number: 152-9-G15
Property Address: 38 G15 INTREPID CR Unit G15

Mailing Address: MCEACHERN SHAWN-TRUSTEE
P O BOX 387 - 8 DOAKS LANE
MARBLEHEAD, MA 01945

Parcel Number: 152-9-0
CAMA Number: 152-9-G16
Property Address: 38 G16 INTREPID CR Unit G16

Mailing Address: MAGOON BARBARA G
36 INTREPID CIRCLE-UNIT 302
MARBLEHEAD, MA 01945

Parcel Number: 152-9-0
CAMA Number: 152-9-G17
Property Address: 38 G17 INTREPID CR Unit G17

Mailing Address: LAPPIN MYRON TRUSTEE
33 INTREPID CIRCLE, UNIT 208
MARBLEHEAD, MA 01945

Parcel Number: 152-9-0
CAMA Number: 152-9-G2
Property Address: 40 G2 INTREPID CR Unit G2

Mailing Address: MOORE JULIE P-TRUSTEE
8 DOAKS LANE
MARBLEHEAD, MA 01945

Parcel Number: 152-9-0
CAMA Number: 152-9-G3
Property Address: 40 G3 INTREPID CR Unit G3

Mailing Address: CASHMAN JANE TOWEY TTE
53 INTREPID CIRCLE
MARBLEHEAD, MA 01945

Parcel Number: 152-9-0
CAMA Number: 152-9-G4
Property Address: 40 G4 INTREPID CR Unit G4

Mailing Address: SILVERMAN MICHAEL H
51 INTREPID CIRCLE
MARBLEHEAD, MA 01945

Parcel Number: 152-9-0
CAMA Number: 152-9-G5
Property Address: 40 G5 INTREPID CR Unit G5

Mailing Address: COWDEN PETER W
39 INTREPID CIRCLE UNIT 302
MARBLEHEAD, MA 01945

Parcel Number: 152-9-0
CAMA Number: 152-9-G6
Property Address: 40 G6 INTREPID CR Unit G6

Mailing Address: ZONNENBERG, PATRICIA K
49 INTREPID CIRCLE
MARBLEHEAD, MA 01945-2581

Parcel Number: 152-9-0
CAMA Number: 152-9-G7
Property Address: 38 G7 INTREPID CR Unit G7

Mailing Address: MARRS RICHARD P
36 INTREPID CIRCLE UNIT 102
MARBLEHEAD, MA 01945

Parcel Number: 152-9-0
CAMA Number: 152-9-G8
Property Address: 38 G8 INTREPID CR Unit G8

Mailing Address: REDSTONE REALTY, LLC
PO BOX 387 8 DOAK'S LN
MARBLEHEAD, MA 01945



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Marblehead, MA

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Parcel Number: 152-9-0
CAMA Number: 152-9-G9
Property Address: 38 G9 INTREPID CR Unit G9

Mailing Address: MOORE EDWARD T-TRUSTEE
PO BOX 387 - 8 DOAK'S LN
MARBLEHEAD, MA 01945

Parcel Number: 152-9-0
CAMA Number: 152-9-H
Property Address: 36 202 INTREPID CR Unit H

Mailing Address: AVEDIKIAN SUZANNE M
36 INTREPID CIRCLE UNIT 202
MARBLEHEAD, MA 01945

Parcel Number: 152-9-0
CAMA Number: 152-9-I
Property Address: 36 203 INTREPID CR Unit I

Mailing Address: MASCIARELLA RAYMOND M II P.A.
211 MARLBOROUGH RD
WEST PALM BEACH, FL 33405

Parcel Number: 152-9-0
CAMA Number: 152-9-J
Property Address: 36 204 INTREPID CR Unit J

Mailing Address: COTE ARTHUR J
36 INTREPID CIRCLE UT 204
MARBLEHEAD, MA 01945

Parcel Number: 152-9-0
CAMA Number: 152-9-K
Property Address: 36 205 INTREPID CR Unit K

Mailing Address: CHRISTIE MICHAEL S
36 INTREPID CIRCLE UNIT 205
MARBLEHEAD, MA 01945

Parcel Number: 152-9-0
CAMA Number: 152-9-L
Property Address: 36 206 INTREPID CR Unit L

Mailing Address: RAKHUNOV TANYA
36 INTREPID CIRCLE UNIT 206
MARBLEHEAD, MA 01945

Parcel Number: 152-9-0
CAMA Number: 152-9-M
Property Address: 36 301 INTREPID CR Unit M

Mailing Address: ZWINK GAIL
36 INTREPID CIRCLE UNIT 301
MARBLEHEAD, MA 01945

Parcel Number: 152-9-0
CAMA Number: 152-9-N
Property Address: 36 302 INTREPID CR Unit N

Mailing Address: MAGOON BARBARA G TRSTE
36 INTREPID CIRCLE-UNIT 302
MARBLEHEAD, MA 01945

Parcel Number: 152-9-0
CAMA Number: 152-9-O
Property Address: 36 303 INTREPID CR Unit O

Mailing Address: AVEDIKIAN DORIS
36 INTREPID CIRCLE UNIT 303
MARBLEHEAD, MA 01945

Parcel Number: 152-9-0
CAMA Number: 152-9-P
Property Address: 36 304 INTREPID CR Unit P

Mailing Address: CIAMPA DAVID J
36 INTREPID CIR UT 304
MARBLEHEAD, MA 01945

Parcel Number: 152-9-0
CAMA Number: 152-9-Q
Property Address: 36 305 INTREPID CR Unit Q

Mailing Address: PROMISEL ROBERT S
10 MEADOWLARK RD
RYE BROOK, NY 10573

Parcel Number: 152-9-0
CAMA Number: 152-9-R
Property Address: 36 306 INTREPID CR Unit R

Mailing Address: VOLOSHANSKY VOLODYMYR
36 INTREPID CIRCLE UNIT 306
MARBLEHEAD, MA 01945



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100 foot Abutters List Report

Marblehead, MA
June 29, 2023

Parcel Number: 152-9-0 CAMA Number: 152-9-S Property Address: 36 401 INTREPID CR Unit S	Mailing Address: REDSTONE REALTY LLC PO BOX 387 8 DOAK'S LANE MARBLEHEAD, MA 01945
Parcel Number: 152-9-0 CAMA Number: 152-9-T Property Address: 36 402 INTREPID CR Unit T	Mailing Address: REDSTONE REALTY LLC PO BOX 387 8 DOAK'S LN MARBLEHEAD, MA 01945
Parcel Number: 152-9-0 CAMA Number: 152-9-U Property Address: 36 403 INTREPID CR Unit U	Mailing Address: PICKERING GEORGE W 36 INTREPID CIRCLE UNIT 403 MARBLEHEAD, MA 01945-2590
Parcel Number: 152-9-0 CAMA Number: 152-9-V Property Address: 36 404 INTREPID CR Unit V	Mailing Address: MESHULAM ANDREW 36 INTREPID CIR UNIT 404 MARBLEHEAD, MA 01945
Parcel Number: 153-1-0 CAMA Number: 153-1-0 Property Address: 0 GREEN ST	Mailing Address: TOWN OF MARBLEHEAD 7 WIDGER ROAD MARBLEHEAD, MA 01945
Parcel Number: 153-2D-0 CAMA Number: 153-2D-A Property Address: 16 ARNOLD TR Unit A	Mailing Address: BROTHER MARTIN 16 ARNOLD TERRACE MARBLEHEAD,, MA 01945-1589
Parcel Number: 153-2D-0 CAMA Number: 153-2D-B Property Address: 14 ARNOLD TR Unit B	Mailing Address: MANLEY JOSEPH P III 14 ARNOLD TER UT 12B MARBLEHEAD, MA 01945-1589
Parcel Number: 153-2E-0 CAMA Number: 153-2E-A Property Address: 20 ARNOLD TR Unit A	Mailing Address: PAYSON DEBORAH P 20 ARNOLD TERRACE-UNIT 11 MARBLEHEAD, MA 01945-1588
Parcel Number: 153-2E-0 CAMA Number: 153-2E-B Property Address: 18 ARNOLD TR Unit B	Mailing Address: MOORE EDWARD T TRSTEE PO BOX 387 8 DOAK'S LANE MARBLEHEAD, MA 01945
Parcel Number: 153-2F-0 CAMA Number: 153-2F-A Property Address: 24 ARNOLD TR Unit A	Mailing Address: DELGADO JEANNA R 24 ARNOLD TR MARBLEHEAD, MA 01945
Parcel Number: 153-2F-0 CAMA Number: 153-2F-B Property Address: 22 ARNOLD TR Unit B	Mailing Address: FOWLER MARK S 22 ARNOLD TERRACE MARBLEHEAD, MA 01945-1588
Parcel Number: 153-3C-0 CAMA Number: 153-3C-1 Property Address: 32 TIOGA WY Unit 1	Mailing Address: HANSEN ROBERT E PO BOX 1106 MARBLEHEAD, MA 01945



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100 foot Abutters List Report

Marblehead, MA
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Parcel Number: 153-3C-0 CAMA Number: 153-3C-2 Property Address: 32 TIOGA WY Unit 2	Mailing Address: MUSSO ANTONIO TRUSTEE 64 BEACH ST MARBLEHEAD, MA 01945
Parcel Number: 153-3F-0 CAMA Number: 153-3F-0 Property Address: 24 TIOGA WY	Mailing Address: WHIM & IMPULSE, LLC 24 TIOGA WAY MARBLEHEAD, MA 01945
Parcel Number: 153-3T-0 CAMA Number: 153-3T-A Property Address: 31 ARNOLD TR Unit A	Mailing Address: GUTIN BORIS 31 ARNOLD TERRACE MARBLEHEAD, MA 01945-1588
Parcel Number: 153-3T-0 CAMA Number: 153-3T-B Property Address: 33 ARNOLD TR Unit B	Mailing Address: QUINLEY SUSAN O 33 ARNOLD TERRACE MARBLEHEAD, MA 01945-1588
Parcel Number: 153-3U-0 CAMA Number: 153-3U-A Property Address: 35 ARNOLD TR Unit A	Mailing Address: WHITNEY LAUREL A 35 ARNOLD TERRACE MARBLEHEAD, MA 01945-1588
Parcel Number: 153-3U-0 CAMA Number: 153-3U-B Property Address: 37 ARNOLD TR Unit B	Mailing Address: GUINSBURG MARIA 37 ARNOLD TERRACE, UNIT 9B MARBLEHEAD, MA 01945
Parcel Number: 160-10A-0 CAMA Number: 160-10A-0 Property Address: 5 R WOODFIN TR	Mailing Address: TOWN OF MARBLEHEAD 80 COMMERCIAL STREET MARBLEHEAD, MA 01945
Parcel Number: 160-11-0 CAMA Number: 160-11-0 Property Address: 0 WOODFIN TR	Mailing Address: TOWN OF MARBLEHEAD 80 COMMERCIAL STREET MARBLEHEAD, MA 01945
Parcel Number: 160-13-0 CAMA Number: 160-13-0 Property Address: 218 BEACON ST	Mailing Address: DOWLING ENTERPRISES LLC 218 BEACON ST MARBLEHEAD, MA 01945
Parcel Number: 160-14-1 CAMA Number: 160-14-1 Property Address: 222 BEACON ST Unit 1	Mailing Address: GRADER DWIGHT J 59 NAUGUS AVE MARBLEHEAD, MA 01945
Parcel Number: 160-14-1 CAMA Number: 160-14-2 Property Address: 222 BEACON ST Unit 2	Mailing Address: WHEELER BETH A 32 CLOUTMANS LANE MARBLEHEAD, MA 01945
Parcel Number: 160-14-1 CAMA Number: 160-14-3 Property Address: 222 BEACON ST Unit 3	Mailing Address: GRADER DWIGHT J PO BOX 947 MARBLEHEAD, MA 01945



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Marblehead, MA

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Parcel Number: 160-14-1
CAMA Number: 160-14-4
Property Address: 222 BEACON ST Unit 4

Mailing Address: RINGO STUDIO LLC
222 BEACON ST, UNIT 4
MARBLEHEAD, MA 01945

Parcel Number: 160-17-0
CAMA Number: 160-17-0
Property Address: 165 GREEN ST

Mailing Address: CHAISSON STEPHEN W
165 GREEN ST
MARBLEHEAD, MA 01945-1532

Parcel Number: 160-7-0
CAMA Number: 160-7-0
Property Address: 214 BEACON ST

Mailing Address: BROWN PETER C, TR
35 GREGORY ST
MARBLEHEAD, MA 01945

Parcel Number: 160-8-0
CAMA Number: 160-8-0
Property Address: 6 WOODFIN TR

Mailing Address: WHITMORE JEFFREY B
6 WOODFIN TERRACE
MARBLEHEAD, MA 01945-1560

Parcel Number: 160-8A-0
CAMA Number: 160-8A-0
Property Address: 0 WOODFIN TR

Mailing Address: GALLO P F AND SONS, INC
51 SHELTON ROAD
SWAMPSCOTT, MA 01907

Parcel Number: 160-9-0
CAMA Number: 160-9-0
Property Address: 8 WOODFIN TR

Mailing Address: GALLO P F AND SONS, INC
51 SHELTON ROAD
SWAMPSCOTT, MA 01907

Parcel Number: 160-9A-0
CAMA Number: 160-9A-0
Property Address: 0 BEACON ST

Mailing Address: TOWN OF MARBLEHEAD
7 WIDGER ROAD
MARBLEHEAD, MA 01945

Parcel Number: 161-2-0
CAMA Number: 161-2-0
Property Address: 0 BEACON ST

Mailing Address: TOWN OF MARBLEHEAD
7 WIDGER ROAD
MARBLEHEAD, MA 01945

Parcel Number: 161-3-0
CAMA Number: 161-3-0
Property Address: 0 PEACH HIGHLANDS

Mailing Address: TOWN OF MARBLEHEAD
ABBOT HALL
MARBLEHEAD, MA 01945

Parcel Number: 161-4-0
CAMA Number: 161-4-0
Property Address: 46 C PEACH HIGHLANDS

Mailing Address: HAMILL RICHARD M
46C PEACH HIGHLANDS
MARBLEHEAD, MA 01945-2516



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APPENDIX C
ZONING BOARD OF APPEALS APPLICATION



TOWN SEAL
tel: 781-631-1529

fax: 781-631-2617
Revision Date: 12-02-20

Town of Marblehead
ZONING BOARD OF APPEALS

Mary A. Alley Municipal Building
7 Widger Road, Marblehead, MA 01945

ZBA APPLICATION

PAGE 1 of 3

Town Clerk

Project Address 5 Woodfin Terrace, Marblehead, MA 01945

Assessor Map(s) 160 Parcel Number(s) 10

OWNER INFORMATION

Signature _____ date 7/13/2023

Name (printed) Andrew Petty

Address Mary Alley Municipal Building, 7 Widger Road, Marblehead MA, 01945

Phone Numbers: home _____ work 781.631.0212

E-mail PettyA@Marblehead.org fax _____

APPLICANT or REPRESENTATIVE INFORMATION (if different from owner)

Signature _____ date _____

Name (printed) _____

Address _____

Phone Numbers: home _____ work _____

E-mail _____ fax _____

PROJECT DESCRIPTION & RELIEF REQUESTED (attach additional page if necessary)

Please see attached - "Supplemental to ZBA Application"

- Please schedule a Zoning / Application review with the Building Department by calling 781-631-2220.
- Obtain the Town Clerk's stamp and submit 12 copies of each of the following to the Town Engineer's Office:
 - the signed and stamped application (3 pages);
 - current survey plan (not older than 90 days) as prepared by a Registered Professional Land Surveyor;
 - the project design plans as required;
 - check for the applicable fee payable to the Town of Marblehead.
- Any relevant permit(s) that were previously issued must be available for review by the Board of Appeals at the scheduled hearing. (Section 3(D), Board of Zoning Appeals Rules & Regulations).

REQUIRED SIGNATURES

1. Building Commissioner (pages 1, 2 and 3) _____

2. Town Clerk's stamp (upper right corner)

View Bylaws - (Chapter 200, Zoning) - online at: www.marblehead.org/

Town of Marblehead
ZBA-APPLICATION
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Revision Date: 12-02-2020

Project Address 5 Woodfin Terrace **Map(s) / Parcel(s)** 160 / 10

ZONING DISTRICT (circle all that apply)

B B1 BR CR SCR ECR GR SGR SR SSR ESR SESR HBR U SU

CURRENT USE (explain) Solid waste handling facility (transfer station)

CURRENT USE CONFORMS TO ZONING (Article IV, Table 1)

Yes X **No** _____ (explain) _____

PROPOSED CHANGE OF USE

No X **Yes** _____ (explain) _____

PROPOSED CONSTRUCTION QUALIFIES AS "Building New" (§200-7) **Yes** X **No** _____

EXISTING DIMENSIONAL NON-CONFORMITIES (check all that apply)

- _____ **Lot Area** - Less than required (§200-7 and Table 2)
- _____ **Lot Width** - Less than required (§200-7)
- _____ **Frontage** - Less than required (§200-7 and Table 2)
- _____ **Front Yard Setback** - Less than required (Table 2)
- _____ **Rear Yard Setback** - Less than required (Table 2)
- _____ **Side Yard Setback** - Less than required (Table 2)
- _____ **Height** - Exceeds maximum allowed (§200-7 and Table 2)
- _____ **Open Area** - Less than required (§200-7, §200-15.B(2) and Table 2)
- _____ **Parking** - Less than required; undersized; tandem (§200-17 to §200-21) (circle all that apply)
- _____ **Other Non-conformities** (explain) _____
- _____ **No Existing Dimensional Non-conformities**

NEW DIMENSIONAL NON-CONFORMITIES (check all that apply)

- _____ **Lot Area** - Less than required (§200-7 and Table 2)
- _____ **Lot Width** - Less than required (§200-7)
- _____ **Frontage** - Less than required (§200-7 and Table 2)
- _____ **Front Yard Setback** - Less than required (Table 2)
- _____ **Rear Yard Setback** - Less than required (Table 2)
- _____ **Side Yard Setback** - Less than required (Table 2)
- _____ **Height** - Exceeds maximum allowed (§200-7 and Table 2)
- _____ **Open Area** - Less than required (§200-7, §200-15.B(2) and Table 2)
- _____ **Parking** - Less than required; undersized; tandem (§200-17 to §200-21) (circle all that apply)
- _____ **Exceeds 10% Expansion Limits for Non-conforming Building** (§200-30.D)
- _____ **Other Non-conformities** (explain) _____
- _____ **No New Dimensional Non-conformities**

ADDITIONAL HEARINGS REQUIRED

Conservation Commission	Yes _____	No <u>X</u> _____
Historic District Commission	Yes _____	No <u>X</u> _____
Planning Board	Yes _____	No _____

DESIGN & SURVEY PLANS MEET -ZBA- RULES & REGULATIONS (Sections 3(A) and 3(C))

Yes X **No** _____ (explain) _____

Building Official _____ **Date** _____

Town of Marblehead
ZBA-APPLICATION
 Page 3 of 3

Revision Date: 12-02-2020

Project Address 5 Woodfin Terrace **Map(s) / Parcel(s)** 160 / 10

<u>NET OPEN AREA (NOA)</u>	<u>EXISTING</u>	<u>PROPOSED</u>
Lot area = A	<u>659,500 SF</u>	<u>659,500 SF</u>
Area of features		
footprint of accessory building(s)	<u>0 SF</u>	<u>1,444 SF</u>
footprint of building	<u>694 SF</u>	<u>694 SF SF</u>
footprint of deck(s), porch(es), step(s), bulkhead(s)	<u>0 SF</u>	<u>0 SF</u>
number of required parking spaces _____ x (9'x 18' per space)	<u>38 SPACES</u>	<u>38 SPACES</u>
area of pond(s), or tidal area(s) below MHW	<u>0 SF</u>	<u>0 SF</u>
other areas (explain) _____	<u>N/A</u>	<u>N/A</u>
Sum of features = B	<u>694 SF</u>	<u>2,138 SF</u>
Net Open Area (NOA) = (A - B)	<u>658,806 SF</u>	<u>657,362 SF</u>

<u>GROSS FLOOR AREA (GFA)</u>	<u>EXISTING</u>	<u>PROPOSED</u>
accessory structure(s)	<u>0 SF</u>	<u>1,414 SF</u>
basement or cellar (area >5' in height)	<u>N/A</u>	<u>N/A</u>
1st floor (12' or less in height) NOTE: [for heights exceeding	<u>507 SF</u>	<u>507 SF</u>
2nd floor (12' or less in height) 12' see definition	<u>187 SF</u>	<u>217 SF</u>
3rd floor (12' or less in height) of STORY §200-7]	<u>N/A</u>	<u>N/A</u>
4th floor (12' or less in height)	<u>N/A</u>	<u>N/A</u>
attic (area >5' in height)	<u>N/A</u>	<u>N/A</u>
area under deck (if >5' in height)	<u>N/A</u>	<u>N/A</u>
roofed porch(es)	<u>N/A</u>	<u>N/A</u>
Gross Floor Area (GFA) = sum of the above areas	<u>694 SF</u>	<u>2,138 SF</u>

<u>Proposed total change in GFA</u> = (proposed GFA - existing GFA)	= <u>1,444 SF</u>
<u>Percent change in GFA</u> = (proposed total change in GFA ÷ existing GFA) x 100	= <u>208</u> %
<u>Existing Open Area Ratio</u> = (existing NOA ÷ existing GFA)	= <u>1:949</u>
<u>Proposed Open Area Ratio</u> = (proposed NOA ÷ proposed GFA)	= <u>1:307</u>

This worksheet applies 1. plan by/dated Figure 2 SITEC/July 7 2023
to the following plan(s): 2. plan by/dated A1.0SH WSA/7.13.23, A1.0PS WSA/7.13.23
3. plan by/dated A1.0TH WSA/7.13.23, A1.0SS WSA/7.13.23

Building Official _____ **Date** _____

Supplemental to ZBA Application Marblehead Transfer Station

7/13/2023

Project Description & Relief Requested

The Town is proposing to construct minor modifications and upgrades to its existing solid waste Transfer Station, which is located at the site of the closed Marblehead Landfill, located at 5 Woodfin Terrace, in Marblehead, Massachusetts. This Application for a Modification of the existing Transfer Station is being filed in accordance with the local zoning bylaws, which require that a Special Permit for Site Plan Approval be submitted to the Board. This Application has been prepared in accordance with the requirements of the Marblehead Zoning Bylaws. In addition, the Department is preparing a Permit Modification Application to MassDEP, for its approval to conduct the proposed work. Specifically, the proposed modifications will be to demolish the existing Scale House and replace it with a new Scale House and a staff area that will include lockers, bathrooms, kitchenette, and a personnel break area. See *Figure 3 -Existing Conditions Plan* and *Figure 4 -Proposed Site Conditions Plan* in *Appendix A - Figures*. The existing Transfer Station structure, which includes a compactor for loading transfer trailers, will be upgraded but not substantially altered. The structure's facade and its compactor will be replaced, with some minor concrete demolition of remnant features being done and adding a small personnel shelter for the pit operators. The existing pavement in the Scale House and the upper and lower Transfer Station areas will be removed and replaced, with grading being done to improve surface water drainage in the areas. The existing Scale will be relocated to the approach the Transfer Station. The Scale will be installed slightly above the grade of the surrounding pavement and will be located in a poured in-place concrete pit. Concrete and steel pads will be added for a roll-off container near the relocated scale and for the transfer trailer wheels and landing gear. In addition, the existing Swap Shop will be replaced with a new structure and a new personnel Transaction Shed will be added at the residential drop off area. The Swap Shop and the Transaction Shed are within the area of the existing landfill cap. There will be no increase in impervious area and no change to the existing drainage system, which was extensively evaluated in Kleinfelder's January 2012 Site Plan Approval Permit Application.

APPENDIX D

**TRANSPORTATION EVALUATION & SUPPLEMENTAL TRANSPORTATION
EVALUATION**



To: Mr. Andrew Petty
Director of Public Health
Health Department
Mary Alley Municipal Building
7 Widger Road
Marblehead, MA 01945

Date: August 15, 2022

Memorandum

Project #: 15699.00

From: Vinod Kalikiri, PE, PTOE
Michael A. Santos, PE, PTOE

Re: Transportation Evaluation
Marblehead Transfer Station
Marblehead, Massachusetts

On behalf of Town of Marblehead Board of Health (the Client), VHB conducted an evaluation of the proposed reconfiguration and operations of the Marblehead Transfer Station (the "Project") located off Woodfin Terrace (via Beacon Street) and Green Street in Marblehead, Massachusetts. The Project seeks to construct a new scale house with a new weigh scale, reconfigure vehicular access to and circulation through the Site, and upgrade the employee parking area at the Marblehead Transfer Station along with other enhancements to operations on the Site.

Based on information provided by the Client, there are primarily three types of users of the facility: residential users that access the rear portion of the site for recycling, compost, hazardous materials drop-off, and donations; commercial users that are required to use a commercial weigh scale for heavier vehicular loads; and container/trailer trucks that transport material from the commercial drop-off pit from the Site. Both the commercial and residential users of the Site currently use Woodfin Terrace via Beacon Street as the primary point of access and egress. The container trucks use a gated access point on Green Street.

The proposed circulation plan calls for the Green Street driveway to be open to entering residential and commercial users and maintain the existing container truck access and egress. Under the new plan, the Woodfin Terrace driveway will be used by exiting residential and commercial users. No vehicles will enter the Site from the Woodfin Terrace driveway.

This memorandum is intended to provide the Client with an assessment of and recommendations related to the transportation impacts of the proposed vehicular circulation changes for the Site.

Specifically, the evaluation summarized in this memorandum includes the following:

- › An existing conditions assessment including new traffic counts, a review of existing commercial weight scale activity, and a safety evaluation
- › An evaluation of the future transportation conditions with the Project
- › A summary of the changes to the Project Site
- › Conclusions and potential recommendations that could further refine and finetune future vehicle operations at the Transfer Station

The following conclusions and recommendations are provided based on the evaluation presented in this memorandum:

- › The Project will improve vehicular safety and eliminate queue spillbacks onto Beacon Street by moving the entrance away from Woodfin Terrace to Green Street.
- › The Project will have relatively minimal impacts to the operations at the intersection of Green Street at West Shore Drive and Pitman Road, as well as Green Street in general.
- › The Site will provide storage for up to 25 - 30 vehicles of on-site queuing for the time periods when vehicles must wait for the gates to open (e.g. in the morning and during the lunch break when the facility is closed from 12:00 – 1:00 PM). The queue storage that will be available will minimize the potential for long queues to spill back on to Green Street.
- › Commercial weigh scale activity represents around 5 to 6 percent of the total activity and will be accommodated entirely on the Site as a result of the proposed circulation changes.
- › A gate internal to the Site is recommended to allow residential vehicles and vehicles using the commercial weigh scale to queue during the time periods prior to opening and during the lunch break. The approximate location of the proposed gate is shown on the enclosed site plan.
- › The existing gate at the end of the Green Street should remain in place and be opened 15 – 20 minutes prior to the opening of the Transfer Station to further minimize queuing on Green Street.
- › Traffic operations on and surrounding the Site should be monitored after the Project is complete to determine if any additional refinements to Site operations are needed.

Overall, the analysis presented in this memorandum indicate that the Project can be constructed with minimal impact to the surrounding transportation infrastructure. The Project will improve safety along Beacon Street and will provide sufficient on-Site storage for vehicles that need to queue during periods when the Transfer Station is closed to customers.

Existing Conditions

An assessment of existing conditions was conducted to understand the transportation characteristics in the vicinity of the Transfer Station including roadway geometry, traffic controls, daily and peak hour traffic flow, and traffic safety data. Each of these elements is described in detail below.

Site Operations

The Marblehead Transfer Station currently operates from Monday through Saturday between the hours of 7:30 AM and 3:25 PM and is closed for lunch between 12:00 – 1:00 PM. Based on conversations with the Transfer Station staff, peak season for the Transfer Station generally occurs between late spring and early autumn, with the highest amount of activity occurring during the autumn, coinciding with residents' yard waste cleanup activity. The primary activities on the Site include general residential uses such as recycling, compost, hazardous materials drop-off, and donations and heavy-duty uses that require commercial scale access for heavier loads. Both residential and commercial access and egress for the Site is provided at the end of Woodfin Terrace, which intersects the south side of Beacon Street. A gated access is also provided along Green Street, which is used sparingly for container trucks that transport the waste from vehicles that use the commercial weigh scale. A diagram of the existing Site operations is shown on Figure 1.

Roadway and Intersection Characteristics

Green Street

Green Street is a collector roadway that provides north-south access within the Town of Marblehead and serves as one of the current primary routes to and from the Transfer Station. Green Street consists of two travel lanes separated by a double-yellow centerline. Sidewalks are provided along both sides of Green Street near the Site. Land uses along Green Street include residential properties and the Transfer Station.

Beacon Street

Beacon Street is a collector roadway that provides local access throughout the northern portion of Marblehead, serving primarily residential properties. Beacon Street consists of two travel lanes separated by a double-yellow centerline. Sidewalks are provided along both sides of Beacon Street at and west of Woodfin Terrace. The sidewalks end approximately 275 east of Woodfin Terrace (at Schooner Ridge). A marked crosswalk is provided across Beacon Street, approximately 75 feet east of Woodfin Terrace.

Green Street at West Shore Drive and Pitman Road

West Shore Drive intersects Green Street from the south and Pitman Road intersects Green Street from the west to form this four-legged, offset, unsignalized intersection. The West Shore Drive northbound and Green Street southbound approaches consist of a single lane and operate under free traffic control. The Pitman Road eastbound approach consists of a single travel lane under stop-sign control and the Green Street westbound approach consists of a single lane under yield-sign control. The Green Street westbound approach is skewed at approximately 60 degrees from the intersection and is offset to the south from the Pitman Road eastbound approach. Sidewalks are provided on both sides of all legs of the intersection with the exception of the east side of Pitman Road. A marked crosswalk is provided across the Green Street east leg of the intersection. Land uses at the intersection consist of residential properties. This intersection currently serves a majority of the vehicular traffic associated with the Transfer Station. A review of the available data indicates that under current conditions, approximately 30 percent of the Site traffic travels along Green Street and 60 percent uses West Shore Drive. An operations analysis of the intersection is provided later in this study.

Traffic Volumes

Based on an understanding of the area roadway network and the expected transportation characteristics of the Project, the following traffic count data was collected:

- › 72-hour automatic traffic recorder (ATR) counts collected vehicular volumes and classification on Beacon Street east of Green Street and Green Street south of West Shore Drive. The counts were conducted from Thursday May 19 to Saturday May 21, 2022.
- › ATR counts collected vehicular volumes and classification at the Transfer Station access point on Beacon Street from Thursday May 19 to Wednesday May 25, 2022.
- › Turning movement counts (TMCs) were conducted at the intersection of Green Street at West Shore Drive and Pitman Road on Thursday May 19 between 7:00 – 9:00 AM and 2:00 – 4:00 PM and on Saturday May 21, 2022 between 10:00 AM and 2:00 PM.

The daily and peak hour traffic volumes are presented on Figures 2 and 3, respectively. The detailed traffic data sheets are provided in the Appendix.

Transfer Station Commercial Activity

VHB obtained records of commercial scale activity and pit usage at the Transfer Station for the period of Monday May 3 through Saturday May 15, 2021 to determine the amount of heavy duty commercial activity that occurs on the Site. The commercial scale operates daily from 7:30 AM to 3:25 PM, with the exception of Sunday when the Transfer Station is closed. The Transfer Station also closes between 12:00 – 1:00 PM each day for a scheduled lunch break. The analysis time period for the review of the commercial scale activity from 2021 was selected to be consistent with the traffic counts that were conducted in May 2022, since the scale activity from 2022 was not available at the time of this study. Both the number of transactions and the vehicle weights were recorded and documented. Table 1 shows the amount of daily commercial scale activity. The detailed commercial scale activity is provided in the Appendix.

Table 1 Transfer Station Commercial Activity

	Number of Transactions ¹	Class 1 vehicles ²	Class 2 vehicles ³	Other ⁴
Monday May 3, 2021	69	30	36	3
Tuesday May 4, 2021	34	9	25	0
Wednesday May 5, 2021	67	18	46	3
Thursday May 6, 2021	53	15	33	5
Friday May 7, 2021	77	30	45	2
Saturday May 8, 2021	51	14	30	7
Monday May 10, 2021	53	23	27	3
Tuesday May 11, 2021	46	18	25	3
Wednesday May 12, 2021	77	15	54	8
Thursday May 13, 2021	77	20	54	3
Friday May 14, 2021	66	29	35	2
Saturday May 15, 2021	92	42	46	4
Total Activity	762	263	456	43
Average Daily Activity	64	22	38	4

1 Based on transfer station slips

2 Vehicles 6,000 pounds or less (passenger vehicles, pick-up trucks, and small vans)

3 Vehicles between 6,000 and 10,000 pounds (larger pick-up trucks, vans, and small delivery vehicles)

4 Vehicles over 10,000 pounds (heavy duty commercial vehicles)

As shown in Table 1, there were a total of 762 vehicles that accessed the commercial scales for pit usage during the two-week period in May 2021, with an average of 64 vehicles per day. The majority of vehicles using the commercial drop-off area were Class 1 or Class 2 vehicles, which consist of single-unit trucks, vans, pick-up trucks, and passenger vehicles.

The transfer scale usage was also documented by time of day to determine the peak usage of the commercial activity on the Site. Table 2 shows the average commercial drop-off activity by time of day.

Table 2 indicates that the commercial weigh scale activity is evenly spread out throughout the course of the day, with peak activity ranging from 8 to 11 vehicles over the course of one hour. This results in one vehicle accessing the scales every 5 to 8 minutes over the course of one hour.

Table 2 Transfer Station Commercial Activity

Time Period	Number of Transactions ¹
7:00 – 8:00 AM	4
8:00 – 9:00 AM	9
9:00 – 10:00 AM	9
10:00 – 11:00 AM	11
11:00 AM – 12:00 PM	9
12:00 – 1:00 PM (closed)	0
1:00 – 2:00 PM	10
2:00 – 3:00 PM	8
3:00 – 4:00 PM	2

¹ Average number of transactions per day for specified time period for all days evaluated

The data for the commercial weigh scale activity was compared to the traffic counts at the Site driveway. Table 3 presents the overall activity on the Site including both residential and commercial scale usage.

Table 3 Existing Transfer Station Traffic Volumes

Time Period	Total Site Traffic Volumes ¹	Commercial Scale Usage Traffic Volumes ²	Percent Commercial Scale Volumes ³
Weekday Daily⁴			
Enter	1,100	62	6%
Exit	1,100	62	6%
Weekday AM Peak (10:45 – 11:45 AM)			
Enter	180	11	6%
Exit	170	11	6%
Weekday PM Peak (1:15 – 2:15 PM)			
Enter	175	9	5%
Exit	185	9	5%
Saturday Daily⁵			
Enter	1,400	72	5%
Exit	1,400	72	5%
Saturday Peak (10:00 – 11:00 AM)			
Enter	280	13	5%
Exit	275	13	5%

¹ Volumes rounded to the nearest 5 vehicles.
² Scale usage activity from May 3 – 15, 2021.
³ Percentage is based on commercial scale activity from May 2021 and traffic counts conducted on driveway in May 2022. It was assumed that activity in May 2021 and May 2022 are similar.
⁴ Total traffic volumes from Monday May 23, 2022, which was the weekday that experienced the most activity on the Site.
⁵ Total traffic volumes from Saturday May 21, 2022.

Table 3 shows the total traffic volumes entering the Site and the total commercial scale-use traffic volumes for the daily and peak hours. Based on the comparison of the commercial weigh scale usage and the traffic counts, most activity on the Site is related to residential uses (vehicles that do not require the weight scale). The commercial weigh scale activity represents 5 to 6 percent of all activity on the Site.

As shown in Table 3, A total of 1,100 vehicles accessed the Transfer Station on the busiest weekday of the count period in 2022 and an average of 62 vehicles access the commercial scale on a weekday. The weekday morning peak hour of activity occurs between 10:45 – 11:45 AM, with a total of 180 entering vehicles and 170 exiting vehicles. The weekday evening peak hour of activity occurs between 1:15 – 2:15 PM, with a total of 175 entering vehicles and 185 exiting vehicles. A total of 1,400 vehicles accessed the Transfer Station on the Saturday during the May 2022 count period and an average of 72 vehicles access the commercial scale on a Saturday. The Saturday peak hour of activity occurs between 10:00 – 11:00 AM.

Motor Vehicle Crash History

Reported motor vehicle crash data for the nearby intersections of Beacon Street at Woodfin Terrace, Green Street at Beacon Street, and Green Street at West Shore Drive and Pitman Road was obtained from MassDOT and the Town of Marblehead Police Department for the time period of January 2017 through May 2022. The summary of the crash data at the intersection is presented in Table 4. The detailed crash data is provided in the Appendix.

Table 4 shows that a total of 14 crashes were reported at the intersections adjacent to the Transfer Station since 2017. The intersection of Beacon Street at Woodfin Terrace experienced the most crashes, with 8 total crashes over the review period, with most of the crashes classified as a sideswipe. These collisions could be a result of conflicts between on-street parking that occurs along the north side of Beacon Street and activity along Woodfin Terrace.

Table 4 Vehicular Crash Summary (2017 – May 2022)

	Beacon Street at Woodfin Terrace	Green Street at Beacon Street	Green Street at West Shore Drive and Pitman Road
Year			
2017	2	1	1
2018	1	0	0
2019	1	0	1
2020	2	0	2
2021	2	0	0
<u>2022 (partial)</u>	<u>0</u>	<u>1</u>	<u>0</u>
Total	8	2	4
Collision Type			
Rear-End	0	1	2
Single Vehicle Crash	1	1	2
Sideswipe	6	0	0
Not Reported/Unknown	1	0	0
Severity			
Fatal Injury	0	0	0
Non-Fatal Injury	1	1	0
Property Damage Only	7	1	4
Time of day			
Weekday, 7:00 AM - 9:00 AM	0	0	0
Weekday, 4:00 – 6:00 PM	0	0	0
Saturday, 11:00 AM – 2:00 PM	1	0	0
Weekday, other time	7	1	3
Weekend, other time	0	1	1
Pavement Conditions			
Dry	7	0	4
Wet	1	1	0
Ice/Snow	0	1	0
Non-Motorist (Bike, Pedestrian)	0	1	0

¹ Crash rate calculated for 2017 – 2019 only. MassDOT data after 2019 may be incomplete.
 Source: MassDOT IMPACT Portal and Marblehead Police Department crash reports

Site Access Plan

The Project will consist of a reconfiguration of the Transfer Station including the construction of a new scale house and a relocated commercial weigh scale, a new parking area for staff, and modifications to that will open the Green Street driveway as an entrance-only access point for residential and commercial scale uses. Container trucks will

continue to use Green Street for access and egress. Residential and commercial scale users will continue to exit the Site onto Woodfin Terrace and Beacon Street. The proposed Site plan is shown in Figure 4 and the changes to vehicular circulation are summarized below:

- › The Green Street driveway will be used as the entrance for residential and commercial scale users and will continue to serve access and egress for container trucks.
- › The Woodfin Terrace/Beacon Street driveway will be used as an egress point for residential and commercial scale users.
- › Vehicular safety will be enhanced along Beacon Street by the removal of the entering traffic along Woodfin Terrace. Queuing onto the public roadways that occurs when the Transfer Station is closed for lunch and during the morning prior to opening will also be eliminated.
- › Gates will be placed internal to the Site to allow vehicles to queue within the Transfer Station property in the morning and during the scheduled lunch break between 12:00 – 1:00 PM. There will be up to 750 feet of queue storage on the Site, which is the equivalent of approximately 25 to 30 vehicles. The queue storage will not be needed during hours of operation since the gates will be open.
- › The existing gate along Green Street will be retained and will be operated remotely to allow vehicles early access into the Site to prevent queuing on Green Street.
- › The Green Street driveway is approximately 20-foot wide at its narrowest point, which will allow for occasional two-way traffic. Exiting vehicles will be limited to container trucks, which should be scheduled to minimize conflicts with entering vehicles.

Proposed Circulation Patterns

The Project will change the traffic patterns along Beacon Street and Green Street due to the changes in operations at the Site driveways. To estimate the changes in traffic volumes along Beacon Street and Green Street, a trip distribution pattern for vehicles entering and exiting the Site was developed based on existing traffic volumes along both roadways and at the intersection of Green Street at West Shore Drive and Pitman Road. The trip distribution patterns for trips related to the Transfer Station is shown in Figure 5. As shown, approximately 60 percent of the Site related traffic uses West Shore Drive, 30 percent uses Green Street, with the remaining 10 percent oriented to the neighborhoods to the north and east. Figure 6 shows the total number of daily trips related to the Transfer Station on the adjacent roadways for a weekday and Saturday.

The Project will redistribute the entering Site-related trips from Beacon Street to Green Street. The redistribution of entering traffic volumes will result in a decrease in traffic along Beacon Street and an increase in traffic along Green Street between the Site driveway and West Shore Drive. The Project will not have any impact on traffic volumes along West Shore Drive west of Green Street or on Green Street south of the Site driveway. The change in traffic volumes resulting from the redistribution of entering traffic is shown on Figures 7 and 8 for the daily and peak hour time periods and shown in Table 4. As shown in Figures 7 and 8 and Table 4, the segment of Beacon Street east of Green Street will experience reductions of 880 vehicles on a weekday, 1,120 vehicles on a Saturday, 140 vehicles during the weekday peak hour of the Site, and 225 vehicles during the Saturday peak hour of the Site. The segment of Green Street between West Shore Drive and the site driveway will experience increases of 440 vehicles on a weekday, 560 vehicles on a Saturday, 70 vehicles during the weekday peak hour of the Site, and 115 vehicles during the Saturday peak hour of the Site.

Table 4 Traffic Volume Changes

Roadway Segment	Existing Traffic Volumes ¹	Change ²	Future Traffic Volumes
Green Street north of Site Driveway			
Weekday Daily	3,540	+440	3,980
Weekday Peak Hour	275	+70	345
Saturday Daily	2,970	+560	3,530
Saturday Peak Hour	300	+115	415
Beacon Street east of Green Street			
Weekday Daily	7,300	-880	6,420
Weekday Peak Hour	510	-140	370
Saturday Daily	5,450	-1,120	4,330
Saturday Peak Hour	775	-225	550

¹ Based on ATR counts conducted in May 2022.

² Change in traffic volumes due to proposed Site access modifications

Sight Distance Measurements

Sight distance measurements were performed at the intersection of Green Street at the Site driveway in conformance with guidelines of the American Association of State Highway and Transportation Officials (AASHTO)¹.

Sight distance considerations are generally divided into two categories: Stopping Sight Distance (SSD) and Intersection Sight Distance (ISD). Stopping Sight Distance (SSD) is the distance required for a vehicle approaching an intersection from either direction to perceive, react and come to a complete stop before colliding with an object in the road, in this case the exiting vehicle from a driveway. In this respect, SSD can be considered as the minimum visibility criterion for the safe operation of an unsignalized intersection. SSD is affected by vehicle speeds, the grade of the roadway, perception-reaction time of the driver, and the vehicle's deceleration rate.

Intersection Sight Distance (ISD) is based on the time required for perception, reaction, and completion of the desired critical exiting maneuver once the driver on a minor street or driveway approach decided to execute the maneuver. Calculation for the critical ISD includes the time to (1) turn left, and to clear the half of the intersection without conflicting with the vehicles approaching from the left; and (2) accelerate to the operating speed of the roadway without causing approaching vehicles to unduly reduce their speed. In this context, ISD can be considered as a desirable visibility criterion for the safe operation of an unsignalized intersection. Essentially, while SSD is the minimum distance needed to avoid collisions, ISD is the minimum distance needed so that mainline motorists will not have to substantially reduce their speed due to turning vehicles. To maintain the safe operation of an unsignalized intersection, ISD only needs to be equal to the stopping sight distance, though it is desirable to meet ISD requirements by themselves. The Green Street driveway will primarily be used for entering traffic only and ISD will not be applicable for most activity that occurs at the intersection.

¹ A Policy on the Geometric Design of Highways and Streets, American Association of State Highway and Transportation Officials (AASHTO), 2013.

An operating speed of 35 miles per hour (mph) along Green Street was used to conduct the sight distance evaluation. Table 5 summarizes the sight distance analyses based on field measurements. The sight distance worksheets are included in the Appendix to this document.

Table 5 Sight Distance Summary

Location	Stopping Sight Distance (feet)			Intersection Sight Distance (feet)		
	Traveling	Required ^a	Measured ^b	Turning	Desirable ^a	Measured ^b
Green Street at	NB ^c	250	450	Left	390	450
Site Driveway	SB ^d	250	500	Right	335	450

- a Based on standards established in [A Policy on the Geometric Design of Highways and Streets](#), American Association of State Highway and Transportation Officials, 2013. Based on an operating speed of 35 mph at the Site driveway.
- b Based on field measurements taken by VHB in May 2022. Measured ISD for left turns is the minimum of available sight distance for both directions. Measured ISD for right-turns is the available sight distance while looking left from the intersection location.
- c Sight distance is limited by the vertical curvature of the roadway.
- d Sight distance extends to West Shore Drive.

As shown in Table 5, sight lines extend 450 feet south of the Site driveway and 500 feet north of the Site driveway. Adequate SSD and ISD are currently provided at the Site driveway intersection with Green Street. This driveway will primarily be used for entering vehicles only, except for the limited number of container trucks that will exit onto Green Street.

Traffic Operations Analysis

A traffic operations analysis was conducted for the intersection of Green Street at West Shore Drive and Pitman Road and the intersection of Green Street at the Site driveway (for the future conditions only) for the weekday morning, afternoon, and Saturday midday peak hours of the intersections. The operations analysis was conducted for the Existing conditions and for the Build conditions, which incorporates the expected redistribution of traffic volumes resulting from the Project. The operations analysis represents a slightly conservative projection for future conditions by combining the peak hour of the intersection operations and the peak hour of the redistributed Site traffic (i.e. the TMCs were conducted between 7:00 – 9:00 AM and 2:00 – 4:00 PM on the weekday but peak operations of the Site occur between 10:45 – 11:45 AM and 1:15 – 2:15 PM). The operations analysis was conducted using the Synchro software and is presented in Table 6.

As shown in Table 6, movements at the intersection of Green Street at West Shore Drive and Pitman Road operate at LOS C or better during the three analysis periods and will continue to operate at these levels with the implementation of the Transfer Station upgrades. Operations are expected to improve with the Project due to fewer vehicles that must travel through the intersection from the south along Green Street. The maximum queues at the intersection are approximately 50 feet, which represents two vehicles.

The intersection of Green Street at the Site driveway will operate at LOS A for all movements with the implementation of the Project. The intersection primarily serves entering vehicles, with only scheduled container trucks exiting the driveway.

Based on the operations analysis, the Project will have minimal impacts to operations of the surrounding transportation network and no additional off-site improvements are necessary to accommodate the Project.

Table 6 Intersection Capacity Analysis

	Existing Conditions				Build Conditions			
	v/c ^a	Del ^b	LOS ^c	95Q ^d	v/c	Del	LOS	95Q
Green Street at West Shore Drive and Pitman Road								
<i>Weekday Morning Peak Hour</i>								
Pitman Road EB L/T/R	0.07	11.4	B	<1	0.07	11.1	B	<1
Green Street WB L/T/R	0.43	19.0	C	2	0.35	17.4	C	2
West Shore Drive NB L/T/R	0.01	7.6	A	0	0.01	7.6	A	0
Green Street SB L/T/R	0.09	8.0	A	<1	0.09	7.8	A	<1
<i>Weekday Afternoon Peak Hour</i>								
Pitman Road EB L/T/R	0.06	14.6	B	<1	0.06	13.8	B	<1
Green Street WB L/T/R	0.37	16.7	C	2	0.31	15.8	C	2
West Shore Drive NB L/T/R	0.02	7.8	A	<1	0.02	7.8	A	<1
Green Street SB L/T/R	0.08	7.9	A	<1	0.08	7.7	A	<1
<i>Saturday Peak Hour</i>								
Pitman Road EB L/T/R	0.11	18.5	C	<1	0.09	15.6	C	<1
Green Street WB L/T/R	0.41	18.2	C	2	0.23	16.7	C	1
West Shore Drive NB L/T/R	0.01	7.9	A	0	0.01	7.9	A	0
Green Street SB L/T/R	0.10	8.2	A	<1	0.11	7.7	A	<1
Green Street at Site Driveway								
<i>Weekday Morning Peak Hour</i>								
Driveway WB L/R					0.00	0.0	A	0
Green Street NB T/R					0.00	0.0	A	0
Green Street SB L/T					0.05	7.7	A	<1
<i>Weekday Evening Peak Hour</i>								
Driveway WB L/R					0.00	0.0	A	0
Green Street NB T/R					0.00	0.0	A	0
Green Street SB L/T					0.06	7.7	A	<1
<i>Saturday Peak Hour</i>								
Driveway WB L/R					0.00	0.0	A	0
Green Street NB T/R					0.00	0.0	A	0
Green Street SB L/T					0.15	8.0	A	<1

a volume to capacity ratio
 b delay, measured in seconds
 c level of service
 d 95th percentile queue in number of vehicles

Intersection not analyzed under Existing Conditions due to minimal traffic volumes at the Site Driveway

Conclusions and Recommendations

The Project is proposing modifications and upgrades to the existing Marblehead Transfer Station. The proposed upgrades include the construction of a new scale house with a new weigh scale, a reconfiguration of vehicular access to and circulation through the Site, and a new employee parking area at the Marblehead Transfer Station along with other enhancements to operations on the Site.

The proposed circulation plan calls for the Green Street driveway to be open to entering residential and commercial users and maintain the existing container truck access and egress. Under the new plan, the Woodfin Terrace driveway will be used by exiting residential and commercial users. No vehicles will enter the Site from the Woodfin Terrace driveway.

This memorandum is intended to provide the Client with an assessment and recommendations related to the transportation impacts and the proposed vehicular circulation changes for the Site. The following conclusions and recommendations are provided based on the evaluation presented in this memorandum:

- › The Project will improve vehicular safety and eliminate queue spillbacks onto Beacon Street by moving the entrance away from Woodfin Terrace to Green Street.
- › The Project will have relatively minimal impacts to the operations at the intersection of Green Street at West Shore Drive and Pitman Road, as well as Green Street in general.
- › The Site will provide storage for up to 25 - 30 vehicles of on-site queuing for the time periods when vehicles must wait for the gates to open (e.g. in the morning and during the lunch break when the facility is closed from 12:00 – 1:00 PM). The queue storage that will be available will minimize the potential for long queues to spill back on to Green Street.
- › Commercial weigh scale activity represents around 5 to 6 percent of the total activity and will be accommodated entirely on the Site as a result of the proposed circulation changes.
- › A gate internal to the Site is recommended to allow residential vehicles and vehicles using the commercial weigh scale to queue during the time periods prior to opening and during the lunch break. The approximate location of the proposed gate is shown on the enclosed site plan.
- › The existing gate at the end of the Green Street should remain in place and be opened 15 – 20 minutes prior to the opening of the Transfer Station to further minimize queuing on Green Street.
- › Traffic operations on and surrounding the Site should be monitored after the Project is complete to determine if any additional refinements to Site operations are needed.

Overall, the analysis presented in this memorandum indicate that the Project can be constructed with minimal impact to the surrounding transportation infrastructure. The Project will improve safety along Beacon Street and will provide sufficient on-Site storage for vehicles that need to queue during periods when the Transfer Station is closed to customers.



Not to Scale



Existing Site Context

Marblehead Transfer Station
Marblehead, Massachusetts

Figure 1



Existing Daily Traffic Volumes
Marblehead Transfer Station
Marblehead, Massachusetts

Figure 2



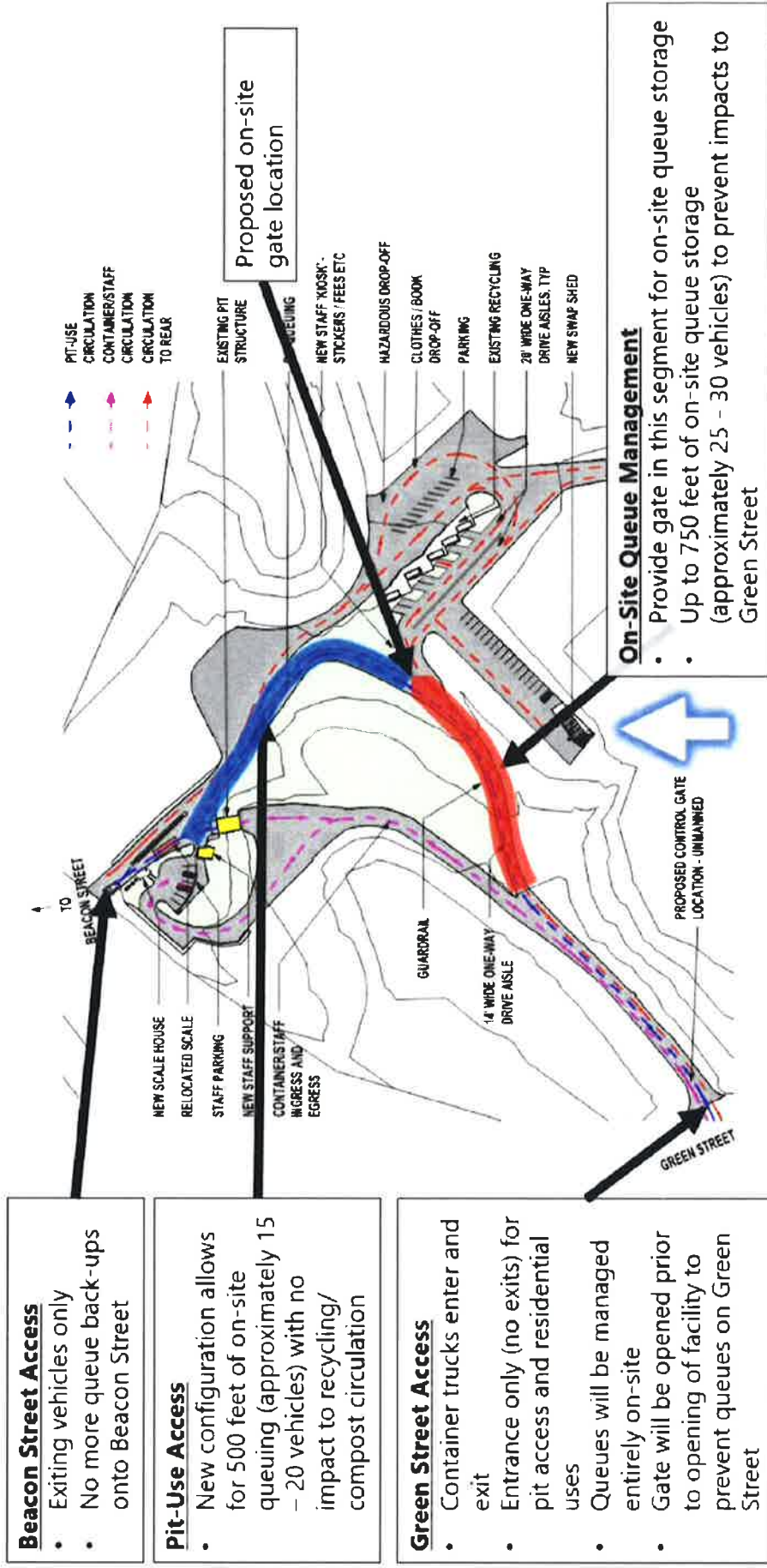


Existing Peak Hour Traffic Volumes

Figure 3

Marblehead Transfer Station
Marblehead, Massachusetts





Not to Scale



Future Site Operations

Marblehead Transfer Station
Marblehead, Massachusetts

Figure 4



Trip Distribution Patterns

Figure 5

Marblehead Transfer Station
Marblehead, Massachusetts





Transfer Station Daily Visits

Figure 6

Marblehead Transfer Station
Marblehead, Massachusetts





Daily Traffic Volume Changes

Figure 7

Marblehead Transfer Station
Marblehead, Massachusetts





Figure 8

Peak Hour Traffic Volume Changes

Marblehead Transfer Station
Marblehead, Massachusetts





To: Mr. Andrew Petty
 Director of Public Health
 Health Department
 Mary Alley Municipal Building
 7 Widger Road
 Marblehead, MA 01945

Date: August 24, 2022

Memorandum

Project #: 15699.00

From: Vinod Kalikiri, PE, PTOE
 Michael A. Santos, PE, PTOE

Re: Supplemental Transportation Evaluation
 Marblehead Transfer Station
 Alternative Reconfiguration
 Marblehead, Massachusetts

On behalf of Town of Marblehead Board of Health (the Client), VHB evaluated an alternative circulation plan for the Marblehead Transfer Station (the "Project") located off Woodfin Terrace (via Beacon Street) and Green Street in Marblehead, Massachusetts. The review of this alternative plan serves as an attachment to VHB's transportation evaluation memorandum dated August 15, 2022 that reviewed Site access, circulation, and transportation operations for a "preferred alternative" that required all residential and commercial weigh scale traffic to use the Green Street driveway.

The alternative access configuration, provided to VHB in draft form (see Figure 1), would maintain two-way access along Woodfin Terrace for commercial weigh scale traffic. This memorandum provides a qualitative comparison of the original option reviewed in the August 15, 2022 evaluation and the alternative configuration shown in Figure 1 included in this memorandum.

Specifically, the alternative reconfiguration shows a new scale house with a relocated weigh scale and reconfigured vehicle access to and circulation through the Site. The major differences between the preferred and alternative reconfigurations are related to operations of the commercial weigh scale traffic at the Woodfin Terrace driveway. Whereas the commercial weigh scale traffic enters the Site from Green Street and exits via Woodfin Terrace in the preferred reconfiguration, they will enter and exit from Woodfin Terrace in the alternative reconfiguration. Access/egress for all other vehicle types remain the same between the two alternatives.

Based on the data summarized in the August 15, 2022 evaluation, the commercial weigh scale traffic ranges between 46 and 92 vehicles per day and up to 13 vehicles per hour.

The following table presents a summary comparison of the characteristics at each driveway location of the preferred and alternative reconfigurations.

Woodfin Terrace/Beacon Street Driveway

Preferred Configuration (commercial weigh scale traffic enters from Green Street and exits via Woodfin Terrace)

Alternative Configuration (commercial weigh scale traffic enters and exits via Woodfin Terrace only)

- | | |
|--|--|
| <ul style="list-style-type: none"> › Residential vehicles exit › Commercial weigh scale vehicles exit › Entering vehicles are prohibited › Queues that currently occur on Woodfin Terrace and Beacon Street prior to opening and during the lunch hour will be eliminated › No conflicts at the Site driveway and along Woodfin | <ul style="list-style-type: none"> › Residential vehicles exit › Commercial weigh scale vehicles enter and exit › Commercial vehicles would continue to queue on Woodfin Terrace prior to opening and during the lunch hour › Allowing entering vehicles via Woodfin Terrace may also attract residential users to enter the Site via that entrance, creating additional conflicts within the Site and potential |
|--|--|

Terrace between entering and exiting vehicles	enforcement issues
› Safety conditions identified at the intersection of Beacon Street and Woodfin Terrace may potentially be improved due to no entering vehicles into the Site	› On-site storage for commercial weigh scale vehicles is approximately four vehicles which may not accommodate peak demand for the weigh scale, resulting in queues onto Woodfin Terrace

Green Street Driveway

Preferred Configuration

- › Residential and commercial weigh scale vehicles enter
- › Container trucks enter and exit
- › A two-gate system will allow residential and commercial weigh scale vehicles to queue deep into the Site prior to opening and during the lunch hour, minimizing potential for queue spillback onto Green Street
- › Queue storage will be provided on-Site for approximately 25-30 vehicles for the residential uses plus additional storage of 15-20 vehicles for commercial weigh scale uses, which is expected to exceed the peak queuing demand for both uses

Alternative Configuration

- › Residential vehicles enter
- › Container trucks enter and exit
- › A two-gate system will allow residential vehicles to queue deep into the Site prior to opening and during the lunch hour, minimizing potential for queue spillback onto Green Street
- › Queue storage will be provided on-Site for approximately 25-30 vehicles for the residential uses, which is expected to exceed the peak queuing demand for residential uses. More queue storage exists but remains untapped as commercial vehicles will be directed to the more congested Woodfin Terrace access

The following presents the conclusions of this comparison:

- › The August 15, 2022 evaluation indicated that the preferred reconfiguration has the capacity to accommodate all queueing that occurs prior to opening and during the lunch break deep into the site, eliminating impacts to Woodfin Terrace and Beacon Street. The alternative reconfiguration has the potential to continue to result in some queuing onto Woodfin Terrace during these time periods as a result of commercial weigh scale vehicles waiting for the facility to open. The alternative reconfiguration may also result in queues onto Woodfin Terrace even when the gates are open, as the commercial vehicle access will only be able to store approximately four vehicles related to the weigh scale.
- › The preferred reconfiguration will prohibit all entering vehicles from using the Woodfin Terrace access point, requiring all vehicles to travel to the Green Street driveway. The alternative reconfiguration will continue to allow vehicles using the commercial weigh scale to enter the site from Woodfin Terrace. The alternative reconfiguration will require a system of signage and enforcement to prevent residential users from entering from Woodfin Terrace. Residential users attempting to enter the Site from Woodfin Terrace has the potential for additional vehicular conflicts.
- › Based on the safety evaluation presented in the August 15, 2022 memorandum, the intersection of Beacon Street at Woodfin Terrace experienced a total of 8 crashes between 2017 - 2019, 6 of which were sideswipes. The preferred reconfiguration will eliminate queues on Woodfin Terrace and thereby reduce associated vehicular conflicts and congestion on Beacon Street, with minimal additional impact to Green Street. While, the alternative reconfiguration will reduce some of the vehicular conflicts by moving a large percentage of entering vehicles to Green Street, it will not be as beneficial as the preferred reconfiguration in reducing/eliminating conflicts.

Overall, based on the comparative review presented in this supplemental memorandum, VHB recommends that the preferred reconfiguration be considered over the alternative reconfiguration due to the relatively improved safety and operational parameters associated with the preferred reconfiguration plan.

Figure 1 Alternative Reconfiguration - Marblehead Transfer Station

