



Town of Mashpee

Planning Board

16 Great Neck Road North
Mashpee, MA 02649

Meeting of the Mashpee Planning Board

Wednesday, November 15, 2023; 7:00 PM

Waquoit Meeting Room, Mashpee Town Hall

16 Great Neck Road North, Mashpee, MA 02649

Broadcast Live on Local Channel 8

Streamed Live on the Town of Mashpee Website: <https://www.mashpeeema.gov/channel-8>

Call Meeting to Order

- Pledge of Allegiance

Approval of Minutes

- Review of Meeting Minutes from November 1, 2023

Public Comment

New Business

- Review updated draft implementation table of the Local Comprehensive Plan Update
- Review and approval of 2024 meeting schedule
- Review and approval of Consulting Engineer's Invoices

Old Business

Board Engineer Report

- Project Reviews and Inspections

Chairwoman's Report

- Water Quality Issues

Town Planner Report

- Harbor Management Planning Committee Update
- Housing Production Plan Update

Board Member Committee Reports

- Cape Cod Commission, Charter Review Committee, Community Preservation Committee, Design Review, Plan Review, Environmental Oversight Committee, Historic District Commission

Correspondence

- 33 Sturgis Lane MassDEP Waterways License Application No. 23-WW-PRE-0073-AAP
- Town of Barnstable
- Town of Falmouth Notices
- Town of Sandwich Notices

Additional Topics (not reasonably anticipated by Chair)

Adjournment

MASHPEE TOWN CLERK
NOV 9 '23 AM 11:39



Town of Mashpee

Planning Board

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Mashpee, Massachusetts 02649*

Mashpee Planning Board

Minutes of Meeting

**Wednesday, November 01, 2023 at 7:00PM
Mashpee Town Hall - Waquoit Meeting Room
16 Great Neck Road North
Mashpee, Ma 02649**

Broadcast Live on Local Channel 8

Call-in Conference Number: (508)-539-1400 x 8585

Streamed Live on the Town of Mashpee website

<https://www.mashpeema.gov/channel-8>

Present: Chair Karen Faulkner, Mary Waygan, Dennis Balzarini, Mike Richardson, Dale Oakley, Robert (Rob) Hansen

Also Present: Evan Lehrer – Town Planner

CALL TO ORDER

Chairwoman Faulkner called the meeting of the Planning Board to order at 7:00PM. The Pledge of Allegiance was recited.

APPROVAL OF MEETING MINUTES – October 18, 2023

There were no comments regarding the meeting minutes for October 18, 2023.

MOTION:

Mr. Richardson made a motion to accept the meeting minutes as written for October 18, 2023. Seconded by Mr. Balzarini. All in favor.

PUBLIC COMMENT

None

PUBLIC HEARING

7:10PM (Continued from 9/20/2023)

Applicant: Marcello Mallegni, Forestdale Road, LLC

Location: 532 Main Street (Map 26, Block 6)

Request: The Applicant requests consideration for approval of a 9 lot definitive subdivision plan of land consisting of approximately 18.05 acres located on Main Street (Route 130) between Nicoletta's Way and Echo Road.



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Attorney Kirrane, representative for Forestdale Road, LLC, sent correspondence dated today. He is requesting to withdraw the application without prejudice. This is due to circumstances outside of the applicants control and they are unable to meet the conditions of the Board.

MOTION:

Ms. Waygan made a motion to allow the applicant to withdraw without prejudice.

Seconded by Mr. Balzarini. All in favor.

7:20PM (Continued from 9/20/2023)

Applicant: Pleasantwood Homes, LLC

Location: 20 Tudor Terrace (Assessor's Map 29 Parcel 198)

Request: Applicant seeks approval of a special permit pursuant to divide the subject parcel comprised of approximately 6.024 acres into three building lots in cluster configuration for single family home construction while preserving 3.021 acres at protected open space.

Ms. Faulkner stated there is a letter addressed to Mr. Lehrer dated October 27, 2023 requesting to withdraw the special permit and definitive subdivision without prejudice at this time.

MOTION:

Mr. Richardson made a motion to withdraw without prejudice the special permit.

Seconded by Mr. Balzarini. All in favor.

7:25PM (Continued from 9/20/2023)

Applicant: Pleasantwood Homes, LLC

Location: 20 Tudor Terrace (Assessors Map 29 Parcel 198)

Request: Applicant is seeking approval of a Definitive Subdivision plan of land that would create three new 40,000 sq. ft. building lots by diving the 6.024 acre subject property. The remaining land area totaling approximately 3.021 acres is proposed for open space as required by Mashpee Zoning Bylaw. The Three lots proposed obtain frontage via an extension of the existing public way called Tudor Terrace.

Ms. Faulkner stated there is a letter addressed to Mr. Lehrer dated October 27, 2023 requesting to withdraw the special permit and definitive subdivision without prejudice at this time.



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MOTION:

Ms. Waygan made a motion to withdraw without prejudice the definitive subdivision. Seconded by Mr. Balzarini. All in favor.

NEW BUSINESS

Request for release of covenant dated October 31, 2007 for property addressed as 30 Evergreen Circle signed by Stephen Giatrelis and recorded in Barnstable County Registry of Deeds Book 22461 Page 293.

Ms. Faulkner commented the definitive subdivision was approved and never developed, but had a performance guarantee in 2007. The second subdivision plan was approved, and the Planning Board released covenant. They released the covenant on the original subdivision that was never executed.

Mr. Lehrer stated the original approval was on what is now Evergreen Circle, the covenant was released on the complete subdivision. The prior approval was secured by a covenant and numerous properties have been conveyed, but this one property is seeking to be conveyed. Money is being held in escrow as a result from lack of release. The legal representative of the property owner has asked to release the covenant, a general release of all lots.

MOTION:

Mr. Richardson made a motion to release any and all lots bound dated October 31, 2007 for 30 Evergreen Circle in Book 22461 Page 293. Seconded by Mr. Balzarini. All in favor.

Consideration of special permit and definitive plan modification applications submitted by Ockway Highlands, LLC to determine if the scope of the applications is de minimus in nature and can be acted upon without a public hearing and other requirements prescribed in Massachusetts General Law Chapter 40A and 41. If the Board finds that the application constitutes a modification that is not minor in nature, the Board will vote to set a public hearing date.

Ms. Waygan commented this neighborhood is so engaged and the Board should absolutely notify them. These abutters have been engaged since day one.

Ms. Faulkner inquired about this being a de minimus modification. She asked how importance would be defined.

Mr. Lehrer clarified that zoning grants discretion, but there could be potential impact to abutters. In an effort to see if it meets criteria, Ch. 174-24c9b reads that any proposed change in accommodation with previous modifications, such as increases to sq.ft. by more than 5%,



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increases land use, or special permit granting authority identifies potential impact to abutting land owners. That last stipulation rests within the discretion of the Board.

Mr. Balzarini noted there are three properties that have not been built yet. They could have been promised a sidewalk.

MOTION:

Ms. Waygan made a motion to hold a public hearing for the Ockway Highlands removal of sidewalk on the subdivision plan. Seconded by Mr. Balzarini. All in favor.

MOTION:

Ms. Waygan made a motion to set a public hearing for Wednesday, December 20, 2023 at 7:10PM. Seconded by Mr. Balzarini. All in favor.

OLD BUSINESS

N/A

CHAIRWOMANS REPORT

Ms. Faulkner stated the special election that was scheduled for November 7th has been changed to November 28th from 7AM-8PM. There are plenty of ways for people to know, signs are posted all around town and there is a robo call going out. There will also be a mailer going to the head of household. The town website has all the information. Old ballots will be discarded and a new ballot will be mailed. A 'yes' vote on Article 1 would authorize the town to borrow up to \$4.5 Million and increase tax assessments on a temporary basis until bonds are paid back, not to exceed five years, to fund the planning/designing of wastewater collection, treatment, and effluent recharge initiatives.

TOWN PLANNER REPORT

Harbor Management Planning Committee Update

No Updates

Housing Production Plan Update

The second workshop was held last week, they are working through the development of needs assessment and plans. The survey closed on October 30th with a total of 309 responses. A few more paper ones have trickled in. They will hold a meeting tomorrow with the Housing Commission for the Tribe to discuss some issues, one being local preference. This will round out the community engagement. Soon they will be ready to discuss the process for review and adoption.



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COMMITTEE REPORTS

Cape Cod Commission-

Regional Housing Strategies meeting is being rescheduled to next week.

Charter Review Committee-

Met last night, holding another meeting November 13th. They incorporated the red lined existing charter with a big chart including public comment. The matter of elected officials is a hot topic.

Community Preservation Committee-

Meeting a week from tomorrow. Applications for this funding round are due Nov. 1st. They currently have 4 applications: Natural Resources for Ashumet Pond nutrient inactivation, DPW for Heritage Park Improvement Phase 2, David Weeden on behalf of Environmental Oversight Committee for open space and rec. plan, and lastly Mashpee Planning Department for purchase of land.

Design Review-

No Meeting

Plan Review-

No Meeting

Environmental Oversight Committee-

Meeting Monday

Historic District Commission-

No Meeting

ADJOURNMENT

MOTION:

Mr. Balzarini made a motion to adjourn the meeting of the Planning Board at 7:36PM.

Seconded by Ms. Waygan. All in favor.

Respectfully Submitted,

Christine M. MacDonald
Board Secretary

LIST OF DOCUMENTS

Additional documents may be available in the Planning Department.

- September 2023 Discharge Monitoring Report for South Cape Village – N=2.9
- 32 Crescent Road Mass DEP Waterways License Application No. 23- WW01-0123-APP
- Town of Falmouth Notices
- Town of Sandwich Notices

NEW BUSINESS

11.0 IMPLEMENTATION PLAN AND ADAPTIVE MANAGEMENT

11.1 Implementation Plan

Mashpee engaged in an extensive, public process to evaluate and develop strategies for the Local Comprehensive Plan. Input from the public and stakeholders was gathered through multiple public workshops and an online survey. The implementation plan provides an overview of the process for achieving the Plan's overall vision for the future through a series of goals, policies, and actions.

11.2 Implementation Table

The implementation table below provides a roadmap of strategies geared toward achieving the Local Comprehensive Plan's vision for the future. Goals and policies support the overall vision while actions provide insight into how those goals and policies will be realized. Each action has at least one corresponding theme, a set of responsible parties that will be tasked with its successful implementation, a timeframe to provide context for when it could reasonably be implemented, and a cost range. Actions tie directly into one of 5 themes, which relate to Mashpee's most pressing concerns. Meanwhile, responsible parties may range from community members to government officials or departments. Bolded "lead" parties will oversee the project while non-bolded "support" parties are tasked with assisting in carrying out the action item. Timeframes are considered short-term (1 to 5 years), medium-term (5 to 10 years), and long-term (10 plus years). Cost estimates are based on a similar scheme consisting of \$ (\$0 – \$50,000), \$\$ (\$50,000 - \$100,000) and \$\$\$ (\$100,000+). The implementation matrix is not intended as prioritization, and short-term actions do not necessarily take priority over long-term actions. These actions are subject to amendment and will need to be reviewed and possibly revised on an annual basis to account for changes in policy or circumstances within Mashpee.



AHC	Affordable Housing Committee	HR	Human Resources
BD	Building Department	HS	Human Services
BH	Board of Health	IDC	Inclusion and Diversity Committee
BLRC	By-Law Review Committee	IT	Information Technology
BOS	Board of Selectmen	L	Library
CA	Council on Aging	MassDOT	Massachusetts Department of Transportation
CC	Cemetery Commission	MWTC	Mashpee Wampanoag Tribal Council
CCRTA	Cape Cod Regional Transit Authority	PB	Planning Board
CHC	Chamber of Commerce	PD	Planning Department
ConC	Conservation Commission	PLD	Police Department
CPC	Community Preservation Committee	RD	Recreation Department
DNR	Department of Natural Resources	SC	Sewer Commission
DPW	Department of Public Works	SD	School Department
EDIC	Economic Development and Industrial Corporation	SEC	Special Events Committee
EOC	Environmental Oversight Committee	SHC	Shellfish Committee
ER	Energy Review	TM	Town Manager
FD	Fire Department	TTC	Treasurer-Tax Collector
HA	Housing Authority	WC	Waterways Commission
HAC	Housing Assistance Corporation Cape Cod	ZB	Zoning Board of Appeals
HC	Historical Commission		
HM	Harbor Master		

Major Themes

The actions follow one or more of the following overarching themes. Each theme relates directly to chapters within the plan and assists with depicting connections between distinct actions. Some actions may only pertain to one theme while others may relate to multiple depending on the nature and specificity of the action.



Protects Mashpee's unique natural and environmental resources.



Addresses housing, land use, and historic/cultural needs of existing and future Mashpee residents.












Increases the Town's resilience and ability to respond in a constantly changing environment.























Promotes a diverse and appropriately scaled economic base to serve the needs of Mashpee residents.











Strengthens and improves upon Town services, programs, and regulatory frameworks to increase resident's connection to the community and provide streamlined service to the public.

















Housing								
Goals, Policies, & Actions								
Goals								
Goal H-1: Ensure that current and future Mashpee residents have access to safe, decent, affordable and diverse types of housing options.								
Goal H-2: Ensure that sustainable and environmentally sensitive practices are integrated into all housing development decisions to create a safer, more resilient, and healthier housing stock and populace.								
Goal H-3: Ensure fair and equal opportunity in housing.								
Goal H-4: Create affordable housing to meet the state's 10% mandate.								
Policies								
Policy H-1: Prioritize redevelopment of single-use, auto-centric commercial strip development into compact, walkable, and pedestrian-friendly mixed-use neighborhoods that provide a variety of housing types.								
Policy H-2: Maximize the Town's potential to provide Subsidized Housing Inventory (SHI) eligible deed restricted affordable units by using Town owned property.								
Policy H-3: Expand the diversity of housing types to provide all residents with appropriate shelter.								
Policy H-4: Diligently and efficiently monitor and enforce inclusionary zoning requirements and provide professional oversight for any locally run housing programs and nurture relationships with community housing partners.								
Policy H-5: Incentivize the production of Accessory Dwelling Units (ADUs).								
Policy H-6: Implement sustainable building practices for all new construction and redevelopment.								
Policy H-7: Minimize housing vulnerabilities to climate change and natural disasters.								
Policy H-8: Preserve existing year-round housing stock for year-round use.								
Policy H-9: Create workforce housing.								
Policy H-10: Prevent evictions, relocation and loss of housing with housing services.								
Policy H-11: Minimize or mitigate the impacts of seasonal housing and short-term rentals on the local housing Market.								
Policy H-12: Regularly audit Mashpee's zoning bylaw to ensure that land use regulation's aren't in conflict and/or appropriately incentivizing the patterns of development/redevelopment that is desired by the community.								
Policy H-13: Encourage joint housing efforts with the Mashpee Wampanoag Tribe so that displaced tribal citizens have the opportunity to return home to Mashpee or stay in Mashpee.								
Actions						Timeframe	Responsibility	Cost
H-1. Conduct a visual preference survey or other suitable engagement activity to determine the types and styles of housing that is supported by the community in priority redevelopment areas.						S	PD AHC PB BOS	\$
H-2. Procure a consultant to assist with community engagement and facilitation of design charrettes to support the development of a Form Based Code.						M	PD PB BOS	\$

Housing								
H-3. Explore and potentially develop, adopt, and implement a form-based code town-wide or in the form of an overlay district.						M	PD PB SB	\$
H-4. Develop and adopt an Affordable Housing Bylaw that requires a minimum contribution of SHI eligible affordable units in exchange for density bonuses.						S	PD PB AHC BOS	\$
H-5. Change zoning to allow 'missing middle' housing typologies in appropriate residential areas with the possibility of establishing a new zoning district(s) to encourage the development or redevelopment of these building types in areas where its desirable and discouraging it where its unsustainable.						M	PD PB SB	\$
H-6. Regularly fund the Affordable Housing Trust to take advantage of opportunities as they arise and that are consistent with the framework developed in the Housing Production Plan.						O	BOS AHC	\$
H-7. Update and adopt the Housing Production Plan (HPP) with a focus on developing a roadmap and implementation plan for the development of the Town's identified sites for affordable/workforce housing.						M	PD PB BOS AHC	\$\$
H-8. Implement the Housing Production Plan update.						O	AHC PD PB BOS	\$
H-9. Prioritize options for year-round rental housing.						O	PD PB BOS AHC	\$
H-10. Develop incentivizes to encourage developers to build affordable senior housing.						S	AHC CA PB BOS	\$\$\$












Housing								
H-11. Create a new position titled Affordable Housing Coordinator or Housing Planner within the Planning Department whose job description would be consistent with the objectives outlined in the Housing Production Plan.						S	TM BOS PD	\$\$
H-12. Conduct bi-annual workshops led by the Town Planner and Building Commissioner alongside community partners such as HAC to inform property owners of the permitting process for Accessory Dwelling Units.						O	PB BD HAC	\$
H-13. Assess ways for the private sector to contribute to the Town's inventory of Affordable Dwelling Units (ADUs).						O	PD PB	\$
H-14. Establish a revolving loan fund to provide small forgivable loans to property owners to construct an ADU to supplement programs offered by Housing Assistance and certain private lenders.						M	BOS TM TTC	\$
H-15. Identify suitable sites for infill development outside of flood zones.						S	PB PD EOC	\$
H-16. Determine and address the housing needs of priority demographic sectors, such as the elderly, veterans, disabled residents via a needs assessment that supplements the work of the Cape Cod Commission.						M	HA PB ZB	\$
H-17. Determine and address the housing needs of priority demographic sectors, such as the elderly, veterans, disabled residents via a needs assessment that supplements the work of the Cape Cod Commission.							HA CA HS	\$

Housing								
H-18. Coordinate with the Mashpee Wampanoag Tribe to develop a local preference policy that, with participation by the Tribal Housing Department, would require a set-aside of any affordable dwelling units created by the Town for Mashpee Wampanoag.							MWTC HA TC	\$











Economic Development								
Goals, Policies, & Actions								
Goals								
Goal ED-1: Ensure a prosperous and steadily growing local economy that supports financial independence for all residents while preserving Mashpee's environmental quality, town character, and cultural heritage.								
Goal ED-2: Bolster support for local businesses, local agriculture, and the "blue economy."								
Goal ED-3: Produce a stable and adequate local workforce with education and affordable living (affordable and attainable housing, education, health, transportation, childcare and recreation).								
Goal ED-4: Meet or exceed the best available technological resources/infrastructure to ensure Mashpee is economically competitive in the region and state.								
Policies								
Policy ED-1: Provide financial and policy-based support for local fishers and businesses.								
Policy ED-2: Minimize homelessness and the proportion of Mashpee residents living below the poverty line.								
Policy ED-3: Regularly explore grant funding opportunities for projects that support Mashpee's economic development goals whether it be related to community systems, natural systems, or built systems.								
Policy ED-4: Prioritize economic development which create jobs with a liveable wage.								
Policy ED-5: Promote joint economic development effort with the Mashpee Wampanoag Tribe.								
Policy ED-6: Develop municipal broadband service.								
Policy ED-7: Leverage the assets of the Economic Development and Industrial Corporation to better meet the needs of the local economy and to support its growth.								
Policy ED-8: Minimize or remove barriers of entry for new startups or small businesses including but not limited to streamlining the local permitting process and incentivizing certain uses by allowing them by-right as opposed to a special permit process.								
Policy ED-9: Increase access to childcare for Mashpee's workforce.								
Actions						Timeframe	Responsibility	Cost
ED-1. Incentivize locally owned, small business development and maintain its long-term growth by auditing the zoning bylaw to determine regulatory areas that discourage local business and harm its long-term sustainability. Bring forth zoning changes for Town						O	EDIC PD	\$















Economic Development								
Meeting consideration based on those audits.								
ED-2. Work with the EDIC and Mashpee Chamber of Commerce to assess areas where the Town can assist with start-up costs.						S	EDIC CHC BOS	\$
ED-3. Partner with higher education and regional institutions, including Woods Hole MBL, to enhance childcare and afterschool programs.						S	TM BOS	\$
ED-3. Consider increasing the Kids Klub Childcare program.						M	HS BOS	\$
ED-4. Evaluate use conflicts in fisheries and invest in appropriate infrastructure.						S	DNR TM BOS	\$
ED-5. Promote business which offer living wages for all Mashpee residents.						S	SB TM IDC	\$
ED-6. Ensure prime soils and shellfishing areas are preserved and set side for agriculture and aquaculture, respectively.							DNR BOS WS	\$
ED-7. Support current major local industries (such as financial services) while promoting new and emerging ones (such as eco-tourism and solar companies).							EDIC BOS CHC	\$
ED-8. Identify and remove barrier to full engagement in the local economy (such as childcare, education).							EDIC BOS CHC	\$
ED-9. Provide public incubator space for emerging businesses.							EDIC BOS CHC	\$












Sustainability
Goals, Policies, & Actions
Goals
Goal S-1: Ensure Mashpee serves as an exemplary regional leader in municipal electrification and reduces its dependency on fossil fuels for energy.
Goal S-2: Be leaders in municipal resiliency and minimize to the maximum extent possible the Town's exposure to climate related impacts such extreme storm event, drought, flooding and sea level.
Policies

Sustainability								
Policy S-1: Reduce the Town's reliance on fossil fuel for energy by investing in renewable technologies.								
Policy S-2: Maximize the opportunities and monies available to the Town following receipt of Municipal Vulnerability Preparedness Certification from the Commonwealth.								
Policy S-3: Assist with transition of gasoline-powered vehicles to electric vehicles.								
Policy S-4: Prioritize the use protection, preservation, and municipal control of open space with environmentally sensitive features such as water and wetlands increase the Town's resilience to climate change.								
Policy S-5: Promote responsible consumption and production of products.								
Policy S-6: Maintain all dams in good condition.								
Actions						Timeframe	Responsibility	Cost
S-1. Develop a pipeline of projects potentially eligible for MVP Action Grants from the Commonwealth that are consistent with the Town's climate vulnerability planning priorities.						O	BOS ConC EOC ER	\$
S-2. Convert the municipal fleet to electric vehicles and install adequate charging stations for the fleet.						M	BOS ER	\$\$\$
S-3. Identify and construct sites for public EV charging stations.						S	BOS ER PB ZB	\$\$
S-4. Develop solar canopy 'carports' in municipal parking lots and on install solar panels on any municipal structure where solar is viable and productive.						M	BOS ER PB ZB	\$\$\$
S-5. Update the Town's Evacuation Plan and Hazard Mitigation Plan.						M	BOS PD	\$
S-6. Develop and implement a Climate Resilience Plan for the Town.						M	BOS PD	\$









Natural Resources	
Goals, Policies, & Actions	
Goals	
Goal NR-1: Ensure that all residents have access to high quality drinking water, surface water bodies, estuaries, wetlands, air and land.	
Goal NR-2: Protect and improve terrestrial and aquatic habitats for long-term environmental and social benefits as well as Mashpee's woodlands, trees, and tree canopy.	
Goal NR-3: Protect the health, safety, and welfare of residents who use and enjoy Mashpee's waterways.	
Goal NR-4: Return Mashpee's water bodies to pristine condition,	
Goal NR-5: Protect the aboriginal rights of the Wampanoag Native People for fishing, hunting and gathering in	
















Natural Resources								
and on clean water and lands.								
Goal NR-6: Enhance the resiliency of low lying areas and land subject to coastal storm.								
Goal NR-7: Develop a robust Blue Economy and satisfy Eco-Tourism demand.								
Policies								
Policy NR-1: Return Mashpee's water quality to within normal parameters.								
Policy NR-2: Identify areas for coastal and habitat restoration to enhance water quality.								
Policy NR-3: Identify, preserve, and enhance ancient ways to water with a particular focus on those areas identified in the Coastal Resources Element of the 1998 Comprehensive Plan.								
Policy NR-4: Limit construction in land under ocean to maintain and restore habitat vital to our fisheries.								
Policy NR-5: Maintain and enhance cross-sector collaborations such as with educational institutions and research organizations to bolster water quality sampling programs and reporting.								
Policy NR-6: Identify the most appropriate sites to establish Aquaculture Development Zones consistent with the Department of Natural Resources Harbor Management Plan.								
Policy NR-7: Promote shell fishing and aquaculture, especially in areas with impacted water quality								
Policy NR-8: Maintain navigational channels for not only navigation but for adequate stream and tidal flow.								
Policy NR-9: Minimize and mitigate the impacts of development and climate change on all natural systems.								
Policy NR-10: Reduce pollutant and nutrient loads into Mashpee's natural systems.								
Policy NR-11: Coordinate with officials at Joint Base Cape Cod to determine strategies and funding sources to address the pollutants, such as PFAS, negatively impacting Mashpee residents quality.								
Policy NR-12: Appropriately manage stormwater as to reduce the loading of petroleum products and nutrients into Mashpee waters and sensitive natural systems.								
Policy NR-13: Strengthen and enforce laws, rules and regulations which protect natural systems.								
Actions						Timeframe	Responsibility	Cost
NR-1. Conduct a personnel needs assessment to understand gaps in consideration of current and planned water quality monitoring and testing programs.						S	DNR ConC	\$
NR-2. Establish Water Quality Task force as a subcommittee of the Environmental Oversight Committee to conduct necessary engagement and community education around recommended bylaw changes to address water quality issues: fertilizer and pesticide use, wetlands buffers, floodplain management.						S	TM BOS EOC DNR	\$
NR-3. Implement recommended stormwater improvements within the Santuit Pond Watershed as recommended by the Fuss & O'Neill MVP Action Grant.						S	DNR BOS ConC DPW EOC	\$\$






Natural Resources								
NR-4. Construct the Wastewater Treatment Facility and wastewater collection system consistent with the Watershed Nitrogen Management plan as amended from time to time.						M	SC BOS BH DPW	\$\$\$
NR-5. Continue acquisition of conservation lands with a priority in areas with high environmental sensitivity or areas adjacent to other open space, wildlife refuge, and/or conservation land in recharge areas.						S	ConC BOS PD	\$
NR-6. Implement water quality improvement measures as recommended upon completion of the Mashpee Wakeby Diagnostic Study - To be completed in 2025.						M	DNR BOS ConC TM	\$\$
NR-7. Invest in necessary equipment and facilities to test cyanobacteria in-house that would specifically identify species in real time to assist in determinations of toxicity.						S	DNR BOS ConC TM	\$
NR-8. Remedy user conflicts within waterways consistent with the DNHRMP.						S	DNR BOS WC	\$
NR-9. Continue to maintain navigational channels for not only navigation but for adequate stream and tidal flow.						O	DNR WC	\$
NR-10. Continue to investigate and inventory the legal status of all known public landings and access to coastal water and great ponds to develop an access plan.						O	DNR WC	\$
NR-11. Work to purchase parcels if feasible to enhance public access to water or create new sites for public landings.						O	BOS ConC DNR	\$\$\$
NR-12. Identify areas for coastal and habitat restoration to enhance water quality and implement restoration projects with a focus on areas within or						M	DNR BOS ConC	\$







Natural Resources								
in close proximity to wetland resource areas. Cranberry Bogs are an obvious place to start.								
NR-13. Remediate polluted ponds, rivers, lakes, bays and remove all pollution sources.							DNR ConC	\$
NR-14. Protect Mashpee from invasive species through education, regulations and enforcement.							DNR BOS ConC	\$
NR-15. Increase protective buffers to wetlands, ponds, rivers, lakes, bays and other sensitive natural systems.							DNR BOS ConC PD	\$
NR-16. Seek funding from Joint Base Cape Cod to begin addressing the PFAS contamination of John's Pond.							DNR BOS ConC	\$
NR-17. Explore the use of a District of Critical Planning Concern to temporarily curb nutrient loads while a long term solution is planned.							DNR ConC PD	\$
NR-18. Adopt fertilizer restrictions to reduce pollution loading from fertilizers.							DNR BOS ConC	\$
NR-19. Implement stormwater retrofit projects or new stormwater systems using Best Management Practices (and low impact design principles) that have been identified by the Stormwater Task Force.							DPW DNR ConC	\$

Land Use and Growth Management
Goals, Policies, & Actions
Goals
Goal LU-1: Maintain and enhance Mashpee's small-town community character, natural beauty, and cultural and historical amenities.
Goal LU-2: Ensure development is consistent with current and future growth projections and is responsive to infrastructural capacity and resource availability so that people and families are stably housed, further degradation of Mashpee's polluted waterbodies is prevented, and traffic flow and congestion are properly mitigated.
Goal LU-3: Promote mixed-use development/redevelopment to concentrate various activities in appropriate centralized locations.
Goal LU-4: Limit gentrification of historically low-income neighborhoods and culturally significant areas of the Town.
Goal LU-5: Ensure access and availability of high-quality drinking water, within the allowed nutrient loading from wastewater (such as the TDML for Nitrogen) by ushering in growth that does not degrade the Town's

Land Use and Growth Management								
capacity to deliver or the capacity of our natural systems.								
Policies								
Policy LU-1: Focus new growth in already disturbed areas of Town where adequate infrastructure is planned or in place and incentivize the protection/preservation of the remaining vacant properties where the only feasible growth does not meet the projected housing need (year-round housing).								
Policy LU-2: Ensure Town services and facilities are adequate in consideration of current shortfalls and future growth projections.								
Policy LU-3: Maintain the legitimacy and accuracy of the zoning bylaw and other local regulatory documents.								
Policy LU-4: Identify opportunities for mixed-use development in existing commercial areas as appropriate.								
Policy LU-5: Ensure that any new growth does not exceed the Town's capacity to provide high quality drinking water and/or treat wastewater.								
Policy LU-6: Improve connectivity between neighborhoods, between commercial, municipal and residential centers, and between Mashpee's unique combination of native American community, resort community, and residential/small town.								
Policy LU-7: Ensure new development provides a net tax by encouraging or requiring the use of fiscal impact analysis for certain uses or projects.								
Actions						Timeframe	Responsibility	Cost
LU-1. Re-establish an ambitious program of acquisition of undeveloped lands for open space protection, including all currently undeveloped land within the Mashpee National Wildlife Refuge and all other lands shown as being for conservation or recreation interest in the Open Space and Recreation element of this plan via the establishment of an Open Space Committee to be appointed by the Select Board.						L	BOS TM PD PB	\$\$
LU-2. Prioritize redevelopment of single-use, auto-centric commercial strip development into compact, walkable, and pedestrian-friendly mixed-use neighborhoods that provide a variety of housing types as described in the Housing element of this plan.						M	PD PB EDIC AHC	\$\$\$
LU-3. Reassess the role of Transfer of Development Rights in the Town's land use and growth management priorities and consider overhaul of the Open Space Incentive Development Zoning Bylaw (OSID).						M	PD PB BLRC	\$












Land Use and Growth Management								
LU-4. Continue buildout of Town cemetery as needed in consideration of capacity and the Cemetery Master Plan.						O	CC BOS TM	\$\$
LU-5. Construct a new Fire Department substation in North Mashpee.						M	FD BOS DPW	\$\$\$
LU-6. Construct a new Community Center that may include those recreation services and facilities identified in the Open Space and Recreation element of this plan.						L	BOS DPW RD	\$
LU-7. Consider the development of a dog/animal pound facility.						L	BOS NP	\$
LU-8. Develop a tree bylaw that would prohibit, or require permits for, clear cutting of lots as well as provide for performance standards and impact fees for the removal and replacement of certain native specimen trees.						S	ConC CPC PB PD	\$
LU-9. Overhaul the Mashpee sign code with a form-based approach.						M	PD BLRC PB	\$
LU-10. Develop a form-based code that would encourage structures that will be both aesthetically pleasing, consistent with the traditional character of the Town and be cohesive with the surrounding town-fabric by ensuring building scale and type that is consistent with the character of surrounding neighborhood.						M	PD PB CPC BLRC BOS	\$
LU-11. Reassess current parking requirements and consider how to minimize parking impacts on aesthetic quality and the environment.						M	PD PB	\$
LU-12. Re-codify and clarify the entire zoning bylaw.						M	BLRC PD PB BOS	\$
LU-13. Amend ADU bylaw to expand opportunity for property owners and affordable housing.						M	PD PB BLRC	\$









Land Use and Growth Management								
							AHC	
LU-15. Proper siting of development.						O	PB HA SBA ZB	\$
LU-16. Restrict development in flood zones by preventing the use of fill to raise a home's first floor elevation to above base flood elevation. Encourage the use of solid wall foundations with flood vents or pilings.						M	PB PD EOC BOS	\$
LU-17. Set a target population that balances the projected needs of the housing supply and the environmental carrying capacity of the Town.						L	BOS HA PD	\$











Heritage and Preservation								
Goals, Policies, & Actions								
Goals								
Goal HP-1: Ensure that unique archaeological resources are preserved and protected.								
Goal HP-2: Ensure that future development and redevelopment reflects the historic character of Mashpee and celebrates local culture.								
Goal HP-3: Ensure the Mashpee's unique history and Native American culture is preserved and accurately portrayed to residents, business owners and visitors.								
Goal HP-4: Preserve and protect Mashpee's community character and quality of life that makes Mashpee a unique and identifiable place.								
Goal HP-5: Establish and maintain a mutually beneficial intergovernmental relationship between the Town of Mashpee and the Mashpee Wampanoag Tribe.								
Goal HP-6: Support and promote museums and the performing arts focuses on Mashpee's culture and history or promotes local artists.								
Policies								
Policy HP-1: Enhance the vitality of the Mashpee Historic District located at the Traditional Village Center of Mashpee.								
Policy HP-2: Preserve and protect the Town's known archaeological and scenic resources and work to investigate and catalogue any potentially unknown archaeological resources.								
Policy HP-3: Support Mashpee's unique cultural heritage through education programs.								
Policy HP-4: Promote coordinated intergovernmental functions such as protection and improvement of natural resources, historic resources, economic development and financial prosperity, public infrastructure protection of natural systems and access to water and land for hunting, gathering, and fishing.								
Actions						Timeframe	Responsibility	Cost
HP-1. Nominate any additional structures beyond the Avant House located within the Mashpee Historic District for						S	HC CPC BOS	\$

Heritage and Preservation								
inclusion on the National Register of Historic Places.								
HP-2. Adopt a form-based code in the form of an overlay district intended to reflect traditional settlement patterns and historic main streets.						L	PB ZB	\$
HP-3. Adopt and implement financial incentives for the rehabilitation of historic structures.						M	HC EDIC BOS TM	\$
HP-4. Collaborate with the Mashpee Wampanoag Tribe on the reconstruction of the Attaquin Hotel in its location across from Lake Avenue as a workforce/attainable housing project.						L	BOS MWTC TM CPC	\$
HP-5. Determine a location for an appropriately designed “monument” of Wampanoag heritage significance.						M	MWTC BOS HC	\$
HP-6. Adopt a demolition delay bylaw*						M	BOS TM BLRC	\$
HP-7. Protect existing known burial sites and enhance with more dignified fencing and regular cleaning of grave markers						M	CC HC	\$
HP-8. Highlight tribal heritage throughout local school curriculum.						M	SC MWTC	\$
HP-9. Create wayfinding and cultural heritage program to tell the story of Mashpee through trails.						S	MWTC CPC RD	\$
HP-10. Work with the Mashpee Community Garden Advisory Committee, the Historical Commission, Historic District Commission and Mashpee Wampanoag Tribe’s to develop the Attaquin Hotel within an overall “Master Plan for the District.”						\$\$	BOS MWTC HC	\$

Open Space & Recreation
Goals, Policies, & Actions
















Goals								
Goal OS-1: Ensure that residents and visitors have access to a variety of passive and active recreation Opportunities that meet the needs and desires of the Mashpee Community.								
Goal OS-2: Preserve the quantity and quality of conservation and open space lands as a means to protect natural resources, provide a high quality of life for residents, provide access for passive recreation, ensure adequate wildlife habitat, and preserve access for hunting and fishing rights.								
Goal OS-3: Increase access to public bathrooms and drinking water stations.								
Goal OS-4: Protect open space and recreational areas from the impact of heavy summer use.								
Goal OS-5: Increase the amount of open space and recreational opportunities in Mashpee.								
Policies								
Policy OS-1: Ensure that public access to open space and water bodies is preserved where it will not adversely affect sensitive natural resources.								
Policy OS-2: Provide adequate recreational programs and facilities for existing residents and plan for additional programs and services for projected future growth and changing demographics.								
Policy OS-3: Continue to pursue opportunities to preserve sensitive areas as conservation and passive open space lands.								
Policy OS-4: Improve beach facilities and amenities including beach preservation and access, parking, shuttle system etc.								
Policy OS-5: Protect scenic and natural views of Town lands, and consider these views when siting town facilities.								
Actions						Timeframe	Responsibility	Cost
OS-1. Create and upload map of trails to the Town website/interactive Town Map.						S	PD RD	\$
OS-2. Increase signage and wayfinding for trails to promote use by residents and visitors.						M	RD PD	\$
OS-3. Consider adding facilities (i.e., bathrooms, water fountains, water etc.) to provide residents with access to passive recreation when visiting conservation lands.						L	BOS TM DPW	\$\$
OS-4. Improve the protection of the Mashpee River Corridor by acquiring the properties surrounding Trout Pond owned by Mashpee Commons with the exception of any land area necessary to complete a rotary bypass road between Route 28 and Great Neck Road S as identified in the Transportation Element of the LCP.						L	PB DNR WC	\$\$\$
OS-5. Identify and work to acquire any parcels of conservation interest that were defined as priority acquisitions in both the 1998 LCP and 2007 Open Space Plan that remain						L	ConC DNR PD PB	\$\$\$




unprotected particularly in recharge areas, identified rare species habitat (as per the August 1st, 2021, Estimated and Priority Habitat Map from MA Natural Heritage and Endangered Species Program) and/or the acquisition boundary of the Mashpee National Wildlife Refuge.								
OS-6. Identify site for construction of a new Community Center complete with public community spaces, active recreation, etc.						M	DPW CPC	\$
OS-7. Construct public bathroom facilities at beach/pond parking areas.						M	DPW RD	\$\$
OS- 8. Continue acquisition of cranberry bogs (active and/or abandoned) for wetlands restoration.						L	DNR BOS TM	\$\$
OS-9. Assess trail networks for gaps and plan to connect those areas.						L	PD RD	\$
OS-10. Plan a Town sponsored trail half marathon to bring community together and put Mashpee's open spaces on display.						M	RD BOS SEC TM	\$
OS-11. Acquisition of 423 Main St (Map 27 Parcel 43) using CPA funds or other grant sources. This undeveloped parcel directly abuts Mill Pond, the Mashpee River, and the upper portion of the Mashpee River Herring Run. Acquisition of this parcel will allow for much needed maintenance of the land immediately abutting the Mashpee River herring run and improvements for recreational access to this area to highlight the herring run on the Mill Pond side of Rte. 130. The town owns the paved pull off area that abuts Mill Pond, which is also in need of improvements, including stormwater runoff.						M	BOS PD TM	\$\$\$

















OS-12. Acquisition of parcels on Timber Landing and River roads (primarily unbuildable Sandalwood subdivision lots) to protect and enhance Mashpee River Woodlands (Map 82 Blocks 3, 13A, 13B, 94 & 95 and map 89, blocks 75 & 77. Funding through Town CPA funds or state grant funding.						M	BOS PD TM	\$\$\$
OS-13. Acquisition of 4 undeveloped parcels on Main Street: 493 (map 27/parcel 164), 495 (map 27/parcel 164), 497 (Map 27/parcel 162) and 499 (map 27/parcel 161) for open space/conservation land.						L	BOS PD TM	\$\$\$
OS-14. Annually educate Mashpee Community and guest users of Mashpee recreational facilities about harmonious use and sharing of the facilities with each other.						O	BOS PD TM	\$
OS-15. Ensure adequate staff and support of all recreational facilities.						S	BOD TM	\$\$\$
OS-16. Identify, protect and improve ancient ways and public ways to water.						M	BOS DNR PD	\$
OS-17. Restore and protect all waters for swimming, boating, shell fishing and fishing.						M	BOS DNR PD	\$\$
OS-18. Establish a Select Board policy that requires the protection of scenic and natural views when siting Town facilities.						M	BOS DNR PD	\$
OS-19. Assess feasibility for certain improvements to beach facilities and amenities including beach preservation and access, parking, shuttle system, bathrooms etc.						L	BOS PD	\$









Municipal Buildings, Facilities, and Services	
Goals, Policies, & Actions	
Goals	
Goal FS-1: Ensure all Mashpee residents have access to the highest quality of physical, mental, and emotional health care.	
Goal FS-2: Provide safe, equitable school facilities that allow all Mashpee students to receive an excellent education and achieve their full potential.	
Goal FS-3: Ensure municipal facilities are equipped with the most advanced communications technologies with	

Municipal Buildings, Facilities, and Services
particular focus to emergency service communications.
Goal FS-4: Maintain financial stability and AAA bond rating.
Goal FS-5: Ensure every Mashpee resident and taxpayer has accessibility to local government and maximized ability to participate in decision making
Goal FS-6: Ensure appropriate facilities for the number of students expected in the school system, as well as the kinds of facilities that best support and accommodate a quality educational program for the Town.
Goal FS-7: Ensure that the development and operation of school facilities and programs are coordinated to the maximum extent possible with those of other municipal agencies.
Goal FS-8: Ensure that the development of new school facilities not only assists each Mashpee child in reaching his or her full potential but also enhances life-long learning for Mashpee adults as well.
Goal FS-9: Maximize non-property tax sources of funding for school facilities and programs
Goal FS-10: Ensure that the greatest possible contributions to the town's educational program are achieved in relation to the dollars expended.
Goal FS-11: Ensure adequate municipal facilities to meet community needs.
Goal FS-12: Ensure that the location and construction of municipal buildings & facilities is consistent with Mashpee's other planning goals.
Goal FS-13: Ensure that the construction and maintenance of municipal buildings & facilities enhances community pride and the visual quality of our built environment.
Goal FS-14: Maximize non-property tax funding sources for new municipal buildings and facilities.
Goal FS-15: Ensure that new development provides or contributes a fair share of the cost of municipal infrastructure and services necessary to support it.
Goal FS-16: Ensure that new development provides or contributes a fair share of the cost of municipal infrastructure and services necessary to support it.
Goal FS-17: Ensure that Mashpee interests are fully represented in the location and development of regional facilities.
Goal FS-18: Minimize loss and suffering in our community due to fire, storms and other man-made and natural disasters.
Goal FS-19: Ensure that Mashpee residents, visitors and their property are
Goal FS-20: Ensure that the laws and regulations of the town and commonwealth are obeyed and enforced.
Goal FS-21: Minimize vehicular, boating and other accidents and injuries.
Goal FS-22: Ensure the highest quality of care and minimum response times in the event of medical and fire emergencies.
Goal FS-23: Minimize injuries and property damage caused by animals and to ensure proper treatment of domestic animals and wildlife.
Goal FS-24: Ensure that public safety services are delivered in a coordinated, cost-effective and humanitarian manner.
Goal FS-25: Protect and improve the physical, mental and emotional health of all Mashpee residents.
Goal FS-26: Access for all town residents to a full continuum of health and human services, including social and leisure services.
Goal FS-27: Collaboration and cooperation between the public, non-profit and private sectors in Mashpee to develop a common understanding of health and human service needs, priorities and appropriate resource allocation.
Policies
Policy FS-1: Encourage sustainable solid waste management practices to prevent hazardous waste from infiltrating natural areas and municipal systems.
Policy FS-2: Protect Mashpee residents, visitors, and their property from crime.
Policy FS-3: Expand role of emergency management in minimizing loss and suffering from man-made and natural disasters.
Policy FS-4: Efficiently coordinate public safety services to ensure rapid response times and high-quality care.










Municipal Buildings, Facilities, and Services								
Policy FS-5: Increase collaboration internally between Town departments and externally with Mashpee residents to limit the chance for a lack of communication or miscommunication.								
Policy FS-6: Maintain and enhance cross-sector collaborations such as with educational institutions and research organizations to bolster water quality sampling programs and reporting.								
Policy FS-7: Increase substance abuse support programs.								
Policy FS-8: Identify a site to be used for materials storage and develop the materials storage site.								
Policy FS-9: Enhance Suicide Prevention programming and educational awareness.								
Policy FS-10: Enhance collaboration and communication with Mashpee Wampanoag Tribe.								
Policy FS-11: Ensure critical facilities are located near populated centers while promoting equitable access to underserved communities.								
Policy FS-12: Increase the supply and availability of public meeting space for Town Boards and Committees, working groups, and for Mashpee-based non-profit service organizations such as Girls Scouts, Boy Scouts, etc.								
Policy FS-13: Support volunteer members of public board and committee with training, conflict resolution/mediation services, and legal support.								
Policy FS-14: Increase youth participation in local governance with integration of activities with other youth systems, such as school and youth groups.								
Actions						Timeframe	Responsibility	Cost
FS-1. Remedy user conflicts within waterways consistent with the DNHRMP.						S	DNR BOS WC	\$
FS-2. Assess Town's staff capacity.						S	TM BOS HR	\$
FS-3. Conduct parking needs assessment for Town Hall and modify parking layout as recommended.						S	PD PB	\$
FS-4. Construct a unisex locker room and shower facility for Town Employees.						M	BOS DPW TM	\$\$
FS-5. Add EV charging stations as discussed in the Transportation and Circulation Element of this plan.						O	BOS DPW EOC TM	\$\$\$
FS-6. Construct solar canopies in the parking area as discussed in the Sustainability element of this plan.						M	DPW EOC ER	\$\$\$
FS-7. Audio/Visual overhaul of Waquoit Meeting Room system with most advanced technology that will better facilitate remote and other alternate forms of participation.						S	BOS IT TM	\$









Municipal Buildings, Facilities, and Services								
FS-8. Consider a new website host platform.						S	TM BOS IT	
FS-9. Implement recommended stormwater improvements within the Santuit Pond Watershed as recommended by the Fuss & O'Neill MVP Action Grant.						S	DNR BOS ConC DPW EOC	\$\$
FS-10. Construct wastewater treatment plant and all lift stations and phases as needed in accordance with the Watershed Nitrogen management plan.						L	BOS DPW SC TM	\$\$\$
FS-11. Identify the most appropriate sites to establish Aquaculture Development Zones consistent with the Department of Natural Resources Harbor Management Plan.						S	DNR WC	\$
FS-12. Continue to investigate and inventory the legal status of all known public landings and access to coastal water and great ponds to develop an access plan.						O	DNR WC	\$
FS-13. Purchase parcels, where feasible, to enhance public access to water or create new sites for public landings.						L	BOS DNR TM	\$\$\$
FS-14. Create Town information hub (i.e., "Get to Know Mashpee"), staffed with volunteers						S	BOS TM IT	\$
FS-15. Develop emergency communication system between Town and media.						M	TM BOS IT	\$
FS-16. Update Town website and social media presence to enhance user-friendliness and communication						S	TM IT	\$
FS-17. Designated moorings for commercial entities may alleviate this issue and remove a significant barrier to entry for the burgeoning aquaculture industry especially						M	PB	\$








Municipal Buildings, Facilities, and Services								
FS-18. Increase enforcement and identify a more streamlined solution to protect diggers from speeding boats and recreational boats that stray from channels.						S	HM DNR TM	\$
FS-19. Hire a Town grant-writer.						S	TM BOS HR	\$\$
FS-20. Hire a Town communication director						M	TM BOS HR	\$\$
FS-21. Increase public participation opportunities regarding government processes						S	TM BOS	\$
FS-22. Design and build community center for educational programs, gym, pools, and senior services						L	BOS BD CA DPW RD TM	\$\$\$
FS-23. Offer additional options for internet and cell services						M	IT BOS	\$
FS-24. Inspect, maintain, and upgrade septic systems.						S	DPW	\$\$
FS-25. Consider redevelopment of DPW Building with a LEED Certified Net Zero accreditation.						L	DPW BOS ER TM	\$
FS-26. Add at least 8,000 square feet of additional garage space with at least some portion of that additional capacity heated.						L	DPW BOS BD TM	\$\$\$
FS-27. Build an additional 1,600 square foot bay into the maintenance garage.						L	DPW PB BD	\$\$\$
FS-28. Install audio/visual capabilities into the Event Room and Zoom Meeting tech in the conference room of the library.						S	BOS IT L TM	\$
FS-29. Install publicly accessible EV Charging stations in library parking lot.						M	BOS DPW L TM	\$\$

Municipal Buildings, Facilities, and Services								
FS-30. Lease or purchase electric vehicles for use by Library Staff.						M	BOS L TM	\$
FS-31. Redevelop Harbormaster Shack with a modern, climate resilient, facility.						M	BOS BD DNR TM	\$
FS-32. Identify a location for and construct the Fire Department's north station.						M	BOS BD FD TM	\$
FS-33. Consider expanding Kids Klub into a second location.						M	BOS RD TM	\$
FS-34. Explore the potential for childcare tuition assistance for Town Employees at the Kids Klub.						S	BOS RD TM	\$
FS-35. Assess the viability and feasibility of creating a Communications Manager or similar title to manage information releases from the Town on all social media platforms and Town website.								\$
FS-36. Establish a Mashpee Youth Committee with assistance from MPS.								\$
FS-38. Move recreation facility to community center.						L	RD	\$
FS-39. Open new childcare facility at 505 Main Street.						M	HS BOS CCF R	\$
FS-41. Re-establish regular in-person drop-in nights with the Substance Abuse Task Force.						S	HS PD	\$
FS-42. Offer NARCAN Training through Human Services Department.						S	HS FD PD	\$










Transportation and Circulation
Goals, Policies, & Actions
Goals
Goal TC-1: Maintain and enhance a cost-effective, efficient, safe, and accessible multi-modal transportation system that is sensitive to and respectful of the Town's small-town character.
Goal TC-2: Support efforts to enhance and increase alternative modes of transportation such as ride shares,










Transportation and Circulation								
bicycling, and public transportation with an eye towards reductions in greenhouse gasses and air pollution.								
Goal TC-3: Minimize and mitigate impacts of transportation issues such as congestion as the Town considers its growth pattern to ensure maintenance of Town's quality of life, historic and natural resources, and small Town character								
Goal TC-4: Minimize financial impacts of new road construction on the Town's budget								
Goal TC-5: Ensure Mashpee's stormwater management systems are utilizing best management practices to maximize the amount of stormwater treatment prior to recharging into groundwater.								
Goal TC-6: Minimize the impact of parking facilities on the Town's visual character.								
Policies								
Policy TC-1: Implement road design and maintenance standards and procedures that promote, protect, and encourage exiting patterns of development and neighborhood character in residential zoning districts.								
Policy TC-2: Maintain a formal program for road maintenance, new road construction, and accompanying drainage infrastructure that is economically responsible and implementable.								
Policy TC-3: Promote cooperative state/local efforts in transportation planning, ensuring that the Town's qualities are maintained throughout any transportation planning and construction projects.								
Policy TC-4: Encourage alternative modes of transportation and increase opportunities in Town for access to biking, walking, and carpooling.								
Policy TC-5: Enhance connectivity between residential neighborhoods, as well as between commercial centers, and between neighborhoods, commercial center and municipal centers.								
Actions						Timeframe	Responsibility	Cost
TC-1. Improve entrance at Deer Crossing and Route 28 by making entrance a right-turn in and right turn out only.						L	DPW PB MassDOT	\$\$
TC-2. Direct Deer Crossing Commercial traffic seeking to make left turns out to Route 28 to the traffic light at Route 28 and Shellback Way adjacent to the Ace Hardware.						L	DPW PB MassDOT	\$\$
TC-3. Consider improving access to and from Deer Crossing from Shellback Way via mitigation monies held as a requirement of any approved retail grocery DRI at 647 Falmouth Road.						M	DPW PB MassDOT	\$\$
TC-4. In addition to the proposed conversion of the Route 130 and Great Neck Road North intersection to a modern roundabout, consider alternative design options that would slow traffic, keep volume moving, but be less detrimental to pedestrian accommodations.						M	DPW PB MassDOT	\$\$\$

Transportation and Circulation								
TC-5. A connector street should be constructed between Route 28 and Great Neck Road South generally from the Mashpee Commons primary entrance from Route 28 to the Laurentide entrance on Great Neck Road South either in anticipation of additional development in this area or as a condition of such development.						L	DPW PB MassDOT	\$\$
TC-6. Develop a town-wide bicycle and pedestrian master plan that would map out potential connections in the existing network and prioritize projects for future funding.						M	DPW PB MassDOT	\$
TC-7. Develop and adopt formula that would provide the additional funding necessary to the Department of Public Works as private roads are petitioned for taking by the Town.						S	DPW BOS MassDOT	\$
TC-8. Conduct a needs assessment of DPW staff and equipment to determine adequacy of current level of service as it pertains to regular cleaning, leaf removal, snow plowing, and maintenance of bicycle facilities and sidewalks.						S	DPW MassDOT	\$
TC-9. Work with the Cape Cod Regional Transit Authority and MassDOT to identify priority sites for bus-shelters along Routes 28 and 151 to allow for more safe drop offs and pick-ups.						S	DPW PB CCRTA MassDOT	\$
TC-10. Consider establishing regional transit hub in or around Mashpee Commons.						M	PB MassDOT	\$\$
TC-11. Work with MassDOT to implement the Mashpee Rotary Retrofit and evaluate the long-term potential of transitioning existing rotary to a modern roundabout consistent with the recommendations of the Mashpee Rotary Study done by the Cape Cod Commission.						O	PB BOS MassDOT	\$\$

Transportation and Circulation								
TC-11. Consolidate and reduce the number of curb-cuts along Route 28 and 151 especially when considering redevelopment opportunities along these corridors.						O	PB	\$
TC-12. Develop bypass roads around the Mashpee Rotary to accommodate local traffic both north-south (Route 151 to Old Barnstable Road) and east-west Route 28/Great Neck Road South to Route 28 east of the rotary through (Trout Pond neighborhood).						L	PB MassDOT	\$\$
TC-13. Prioritize roadway and intersection improvements to accommodate all roadway users, not just automobiles.						O	PB	\$
TC-14. Convert remainder of Town Hall fleet to electric vehicles and install requisite charging stations to support those vehicles.						M	PB EC ER	\$\$
TC-15. Change over additional municipal gas-powered vehicles to Electric Vehicles in outside departments if suitable electric alternative is on the market: DPW Director, Police Chief, Fire Chief and Fire Inspector, Recreation vehicles.						L	DPW BOS FD PLD RD	\$\$
TC-16. Install EV charging stations for public use at Town Hall, Mashpee Community Park, Public Library, Senior Center, Mashpee Beach, Attaquin Park.						M	PB EC ER L RD	\$\$
TC-17. Create and maintain Town-wide connectivity to neighbor resources with a "Greenway Plan" which networks all open space and recreational together.						M	PD PB DPW RD	\$

Water and Coastal Resources
Goals, Policies, & Actions

Water and Coastal Resources								
Goals								
Goal WR-1: Maintain and restore the quality of Mashpee's groundwater to ensure an adequate supply of safe, high quality drinking water.								
Goal WR-2: Protect Mashpee's groundwater supply, wetlands, and surface water from contamination and restore/remediate impacted and polluted water bodies.								
Goal WR-3: Prevent harmful algal blooms in Mashpee waters to maximize recreational opportunities and preserve safe drinking water for all residents.								
Goal WR-4: Maintain and expand wastewater treatment and disposal facilities.								
Goal WR-5: Expand wastewater management from the baseline set by the state to enhanced I/A waste water treatment systems and require the removal and replacement of all outdated systems such as cesspools.								
Goal WR-6: Remove all threats from pollutants emerging from Joint Base Cape Cod into Mashpee's groundwater and open water bodies.								
Policies								
Policy WR-1: Continue to support the shellfish propagation program to enhance local fisheries, restore vital habitat, and remove excessive nitrogen in both Waquoit and Popponesset Bay.								
Policy WR-2: Protect the seashore from erosion.								
Policy WR-3: Preserve fish and hunting rights of way on shore.								
Policy WR-4: Promote shellfish seeding programs.								
Actions						Timeframe	Responsibility	Cost
WR-1. Continue to maintain navigational channels for not only navigation but for adequate stream and tidal flow.						O	DPW DNR	\$\$
WR-2. Educate residents about the Mashpee Water District and encourage that all residents connect to public drinking water.						S	DPW	\$
WR-3. Invest in necessary equipment and facilities to test cyanobacteria in-house that would specifically identify species in real time to assist in determinations of toxicity.						S	DNR	\$
WR-4. Conduct personnel needs assessment to understand gaps in consideration of current and planned water quality monitoring and testing programs.						S	DNR	\$
WR-5. Establish Water Quality Task force as subcommittee of the Environmental Oversight Committee to conduct necessary engagement and community education around recommended bylaw changes to address water						S	BOS	

Water and Coastal Resources								
quality issues: fertilizer and pesticide use, wetlands buffers, floodplain management.								
WR-6. Identify areas for coastal and habitat restoration to enhance water quality.						O	DNR	\$
WR-7. Establish at least one Aquaculture Development Zone (ADZ) in Town.						M	DNR	\$
WR-8. Provide additional public access to the ocean.						M	RD	\$
WR-9. Ban chemicals that increase nutrient load in waterways.						S	DNR BOS	\$
WR-10. Establish boat washes to prevent invasive species from spawning in waterways.						M	RD	\$



Planning Department
Mashpee Town Hall
16 Great Neck Road North
Mashpee, MA 02649

To: Evan Lehrer, Town Planner
Chairwoman Faulkner and the Honorable Members of the Planning Board
From: Karyn Leslie, Administrative Assistant
Date: November 8, 2023
Re: Planning Board Meeting Schedule for 2024

Listed below are the dates for the upcoming Planning Board meetings for 2024. I have noted the meeting dates that conflict with holidays and therefore recommend cancelling. All meetings, unless otherwise noted, will take place at the Mashpee Town Hall in the Waquoit Meeting Room at 7:00 p.m.

Wednesday, January 3, 2024
Wednesday, January 17, 2024

Wednesday, July 3, 2024 (*CANCEL*)
Wednesday, July 17, 2024

Wednesday, February 7, 2024
Wednesday, February 21, 2024

Wednesday, August 7, 2024
Wednesday, August 21, 2024

Wednesday, March 6, 2024
Wednesday, March 20, 2024

Wednesday, September 4, 2024
Wednesday, September 18, 2024

Wednesday, April 3, 2024
Wednesday, April 17, 2024

Wednesday, October 2, 2024 (*CANCEL*)
Wednesday, October 16, 2024

Wednesday, May 1, 2024
Wednesday, May 15, 2024

Wednesday, November 6, 2024
Wednesday, November 20, 2024

Wednesday, June 5, 2024
Wednesday, June 19, 2024 (*CANCEL*)

Wednesday, December 4, 2024
Wednesday, December 18, 2024

2024 Planning Board

HOLIDAYS						
January						
S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
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JEWISH HOLIDAYS						
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PB MTGS						
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TOWN MTGS						
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29	30					

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November						
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December						
S	M	T	W	T	F	S
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29	30	31				

HOLIDAYS

Jan 1	New Year's Day
Jan 15	ML King Day
Feb 19	Presidents' Day
Apr 15	Patriots' Day
May 27	Memorial Day
Jun 19	Juneteenth
Jul 4	Independence Day
Sep 2	Labor Day
Oct 14	Indigenous Peoples Day
Nov 11	Veterans Day
Nov 28-29	Thanksgiving Break
Dec 25	Christmas

JEWISH HOLIDAYS

Mar 23-24	Purim
Apr 22-30	Passover
Jun 11-13	Shavuot
Oct 2-4	Rosh Hashanah
Oct 11-12	Yom Kippur
Oct 16-18	Sukkot
Oct 23-25	Simchat Torah
Dec 25-Jan 2	Chanukah

TOWN MEETINGS

May 6
Oct 21



Pesce Engineering & Associates, Inc.

43 Porter Lane
West Dennis, MA 02670

Phone:(cell) 508-333-7630 Ed@PesceEng.com

Invoice

Invoice #: 2023-2140

Invoice Date: 11/1/2023

Due Date: 12/1/2023

Bill To:

Mashpee Planning Board
ATTN: Evan Lehrer, Town Planner
Mashpee Town Hall
16 Great Neck Road N
Mashpee, MA 02649

Project & Location:

Ockway Highlands
- Construction Inspection Svcs.

Description	Hrs./Qty.	Rate (\$)	Amount (\$)
ENGINEERING PROFESSIONAL SERVICES: 23 June - 31 October 2023			

Call with Evan Lehrer, and prep. & e-mail report with pictures on paving work performed by Lawrence Lynch Corp. (LLC) for Carriage Rd & Blue Castle Dr. - 5 July 2023	2.00	160.00	320.00
Review of e-mails regarding homeowner concerns on Blue Castle Dr., and prep. e--mail request to have site meeting with Jacques Morin & Jon Croft (LLC) - 10 July; follow-up site visit - 12 July	3.00	160.00	480.00
Review of e-mails regarding Tripartite Agreement, and Travel & Site Visit/Meeting with Jacques Morin & Jon Croft (LLC) and homeowner (John Kornack) to review existing conditions and drainage issues - 8 Aug	3.75	160.00	600.00
Meeting at Town hall with Evan Lehrer & Pl. Bd. Chair regarding status of Ockway Highlands repairs & drainage - 15 Sep; and travel & attendance at Pl. Bd. Meeting to brief Board members on the status of work at Ockway Highlands - 20 Sep	4.00	160.00	640.00
Call with Jacques Morin regarding road repairs/maintenance schedule - 27 Sep, and Travel & Site visit to review existing conditions & road repair progress - 10 , 12, 16, & 19 Oct (2.5 hrs ave. each), and review of e-mail to Jon Croft (from Jacques M.) regarding paving repairs at driveways - 18 Oct	10.75	160.00	1,720.00
REIMBURSABLES			

Mileage expense - 42 Miles Roundtrip for Site Visits/PB Meetings - 8 trips = 210 miles	336.00	0.57	191.52

Please make checks payable to "Pesce Engineering"

Thank You for Your Business!

Total \$3,951.52

Payments/Credits \$0.00

Balance Due \$3,951.52



Pesce Engineering & Associates, Inc.

43 Porter Lane
West Dennis, MA 02670

Phone:(cell) 508-333-7630 Ed@PesceEng.com

Invoice

Invoice #: 2023-2139

Invoice Date: 11/1/2023

Due Date: 12/1/2023

Bill To:

Mashpee Planning Board
ATTN: Evan Lehrer, Town Planner
Mashpee Town Hall
16 Great Neck Road N
Mashpee, MA 02649

Project & Location:

Prop. Sherwin Williams - Rt. 151.
- Engineering Peer Review and
Construction Inspection Services

Description	Hrs./Qty.	Rate (\$)	Amount (\$)
ENGINEERING PROFESSIONAL SERVICES: 21 February - 31 October 2023 -----			
Review of project notes and e-mails & photos from Chad Brubaker (15 & 21 March), and response e-mail - 24 March 2023	0.75	160.00	120.00
Review of e-mails from Chad Brubaker with photos of punch list repairs (5 April), and letter for release of funds (6 April), Travel to conduct site visit to review existing conditions & repairs of punch list items, and take photos - 11 April	2.50	160.00	400.00
Review & response to e-mails - 26 April, and travel & follow-up site inspection to check seeding in detention basin on 4 May, and follow-up e-mail - 15 May	3.00	160.00	480.00
Travel and site inspection to conduct follow-up inspection of detention basin grass repairs - 17 May	2.50	160.00	400.00
Travel and site inspection to conduct follow-up inspection of detention basin erosion conditions, and e-mail to Chad B. for recommendations of repairs - 14 August	2.66	160.00	425.60
Review of e-mails regarding detention basin repairs & responses (18 & 20 Sep), and follow-up site visit to inspect the final repairs - 21 Sep	2.50	160.00	400.00
Final site inspection to confirm seeding stabilization and detention basin repairs, and final e-mail for project closeout - 28 Oct	2.50	160.00	400.00
REIMBURSABLES -----			
Mileage expense: 44 miles roundtrip for site visit x 6 trips	264.00	0.57	150.48

Please make checks payable to "Pesce Engineering"

Thank You for Your Business!

Total \$2,776.08

Payments/Credits \$0.00

Balance Due \$2,776.08

**Pesce Engineering & Associates, Inc.**

43 Porter Lane
West Dennis, MA 02670

Phone:(cell) 508-333-7630 Ed@PesceEng.com

Invoice

Invoice #: 2023-2142

Invoice Date: 11/6/2023

Due Date: 12/6/2023

Bill To:

Mashpee Planning Board
ATTN: Evan Lehrer, Town Planner
Mashpee Town Hall
16 Great Neck Road N
Mashpee, MA 02649

Project & Location:

Tudor Terrace
- Engineering Peer Review Services

Description	Hrs./Qty.	Rate (\$)	Amount (\$)
ENGINEERING PROFESSIONAL SERVICES: 24 June 1 October 2023 -----			
Review of revised plans and drainage calculations (Dated 11 Aug 2023) and meeting with Evan Lehrer - 15 Sep 2023	4.50	160.00	720.00
Preparation of Engineering Review Report, and e-mail to Town & Applicant's engineer - 18 Sep	2.67	160.00	427.20
Preparation, Travel & Attendance Pl. Bd. Hearing - 20 Sep	1.25	160.00	200.00
REIMBURSABLES -----			
Mileage Expense (42 mi. to PB hearing)	42.00	0.57	23.94

Please make checks payable to "Pesce Engineering"

Thank You for Your Business!

Total \$1,371.14

Payments/Credits \$0.00

Balance Due \$1,371.14



Pesce Engineering & Associates, Inc.

43 Porter Lane
West Dennis, MA 02670

Phone:(cell) 508-333-7630 Ed@PesceEng.com

Invoice

Invoice #: 2023-2143

Invoice Date: 11/6/2023

Due Date: 12/6/2023

Bill To:

Mashpee Planning Board
ATTN: Evan Lehrer, Town Planner
Mashpee Town Hall
16 Great Neck Road N
Mashpee, MA 02649

Project & Location:

Willow Circle
- Engineering Peer Review
and Construction Inspection Svcs.

Description	Hrs./Qty.	Rate (\$)	Amount (\$)
ENGINEERING PROFESSIONAL SERVICES: 24 June - 1 November 2023 -----			
Review of e-mail from Scott Miller (& response), with estimated costs for the incomplete subdivision work items (for partial surety release) - 3 Oct 2023	0.33	160.00	52.80
Travel & Site visit to review construction progress & meeting with Scott & Matt - 16 Oct, and follow-up call with Evan Lehrer for surety release - 18 Oct	2.75	160.00	440.00
REIMBURSABLES -----			
Mileage expense - 44 Miles Roundtrip for Site Visit	44.00	0.57	25.08

Please make checks payable to "Pesce Engineering"

Thank You for Your Business!

Total	\$517.88
Payments/Credits	\$0.00
Balance Due	\$517.88

BOARD MEMBER COMMITTEE REPORTS



COMMUNITY PRESERVATION FUNDING APPLICATION Town of Mashpee

Submit **(12)** copies and (1) electronic copy to: scoleman@mashpeema.gov

Town of Mashpee
Community Preservation Committee
c/o Office of the Select Board & Town Manager
16 Great Neck Road North, Mashpee MA 02649
508-539-1401

For application questions, email CPC Secretary Kathleen Soares at ksoares@mashpeema.gov

Category (check all that apply)
Open Space____ Recreation__X__ Historic Preservation____ Affordable Housing____

Name of Applicant: Mashpee Department of Public Works

Contact Person: Catherine Laurent

Daytime Phone: 508-539-1420 Email: claurent@mashpeema.gov

Mailing Address: 350 Meetinghouse Road Town: Mashpee State: MA Zip Code: 02649

What is your authority to submit this application? Please document.

Department Head responsible for the Town's Buildings & Grounds

Proposal Title: Heritage Park Improvements Phase II

Project Address (or Assessor's parcel ID 520 Main Street Page 25, Parcel 27

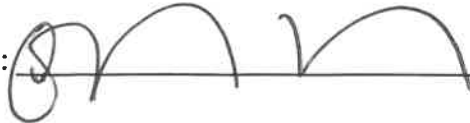
Amount of CPA Funding request: \$74,160

Total Cost of Proposed Project: \$110,710

Date: 11/1/23

A. If the proposal is being submitted by a Town Department, Committee, Board or Commission, the application requires acknowledgment of awareness of submission by the Town Manager.

Town Manager signature:



Date:

11/1/23

B. If the proposal involves town-owned land, has the Town approved the use of said Town-owned land?

Yes: ☒ Please document.

No: ☐ What are the plans to secure approval?

C. If this proposal has been permitted, reviewed or discussed at a Town Committee, Commission or Board meeting, include copies of the minutes of meeting where this proposal was discussed.

Project Description:

Answer the following questions; be brief, but complete and include any supporting materials. All questions must be answered.

1. Control of Site:

A. The property is Heritage Park, the Town's 27+ acre recreational facility owned by the Town since 1937. The property currently includes two playgrounds, a splash pad, a basketball court, four multi-purpose fields, three baseball fields, and one softball field. Offices for the Town's Recreation Department are also located on the property.

B. Not applicable.

C. No.

2. Goals:

The goal of the proposed project is to enhance the current facilities located on the property and to support the youth organizations that use the facilities.

The proposed project includes renovation of a storage unit within the existing picnic/restroom pavilion into a concession building. This existing building is central to the fields used by Mashpee Youth Soccer (MYS) and Mashpee Youth Baseball/Softball (MYBS) and is a better location for a concession. The old concession building is on Field 1, a long distance from the other fields and requires children and others to walk across a parking lot to access it. The old concession building will be demolished and the existing kitchen equipment will be reused in the new one.

The proposed project also includes provision of a new storage building on the property for use by MYS and MYBS. The storage building will also be central to the fields and will replace the storage lost to renovation and demolition.

Finally, the proposed project funds other ancillary improvements to the fields including electrical service for a new batting cage for MYBS and one set of new bleachers for Field 2.

3. Community Need:

- A. The proposed project is needed to achieve the goals noted above. Strong and enduring youth programs are important to the **vitality of the community**, similar to good schools in drawing and keeping families in Mashpee. In a survey completed as part of the upcoming update to the Town's Local Comprehensive Plan (LCP), 73.7% of respondent's stated that the Town's recreational facilities were important or very important in their decision to move to Mashpee or buy land in Mashpee.

The project will help sustain MYS and MYBS and **keep participation affordable for families**. Needed capital improvements can be completed without requiring a large financial contribution from the organizations and revenues raised by sales at the concession building will offset annual operational costs for them. The proposed project also **improves upon a property already owned by the Town** for recreational use and **maximizes use of an existing facility** whose construction was funded originally through the CPA.

- B. Between MYS and MYBS, the proposed project directly benefits hundreds of children and their families each year that participate within the two organizations. In addition, by supporting MYS and MYBS, the project will recognize the parents and Mashpee residents who volunteer their own time in support of the organizations, be it through coaching, field lining, concession sales, etc.

- C. The proposed project will meet several objectives included within the **Open Space, Recreation & Agriculture and Wetlands/Wildlife & Plan Habitat** element of the **1998 Local Comprehensive Plan** include

To ensure that new or existing public recreation areas and facilities are developed or improved to meet National Recreation and Park Association standards wherever feasible.

To supplement local tax funding of open space acquisition and recreational facilities and services with all available alternative sources of funding and revenue.

To develop new or expanded recreational programs and facilities to meet the changing needs of the Town's residents and visitors.

4. Community Support:

- A. The proposed project has the support of MYS and MYBS. See attached letters. Also in the same survey for the update to the LCP mentioned above, 65.87% of respondents stated that they strongly support or somewhat support town investments in enhancing recreation programs.
- B. Has there been any communication with project abutters? Yes: ____ No: X

5. Timeline:

- A. Implementation of the project would begin immediately upon approval and availability of funds. Renovation for the concession building would be scheduled for Summer 2024 between the end of the Spring Athletic Season and the beginning of the Fall Season. The schedule for installation of the storage building would be subject to the lead time for delivery of the pre-manufactured steel structure. Completion of the project would be expected by December 31, 2024.
- B. The renovation of the concession building and installation of the storage building will both require Building Permits. The renovation of the concession building will also require a Variance from the Board of Health from the requirement for a separate grease trap (in consultation with the Health Agent, as there is no cooking proposed nor cooking equipment provided within the building, the grease trap is not needed).

6. Community partners or sponsors:

Not applicable.

7. Success Factors:

Success will be measured by the continued participation in MYS and MYBS.

8. Experience/Credentials:

- A. The Mashpee DPW is responsible for the maintenance of all of the Town's properties, including Heritage Park. DPW has completed and/or overseen completion of multiple construction projects. The Facilities Supervisor who has his Construction Supervisor's License, will manage DPW for the renovation and coordinate utility work with the Town's contracted plumber and electrician. The storage building will be purchased in accordance with applicable procurement laws with installation coordinated by the DPW.
- B. The Mashpee DPW is the applicant.

9. Budget:

- A. **Budget:** Itemize the project budget. Expenditures and estimated costs must be clearly identified and back-up documentation provided.

Description	Estimate	CPA Funding	Other Funding
Concession Renovation			
Engineering/design	\$ 25,450.00		\$ 25,450.00
Plumbing	\$ 15,400.00	\$ 15,400.00	
Electrical	\$ 2,470.00	\$ 2,470.00	
Door	\$ 1,920.00	\$ 1,920.00	
Door Hardware	\$ 1,000.00	\$ 1,000.00	
Sales window	\$ 1,900.00	\$ 1,900.00	
Counters	\$ 600.00	\$ 600.00	
Other construction materials	\$ 1,500.00	\$ 1,500.00	
Water bottle refill station	\$ 2,500.00	\$ 2,500.00	
Appliances	By others		
Storage Building			
Slab foundation (concrete)	\$ 1,500.00	\$ 1,500.00	
Building	\$ 16,670.00	\$ 16,670.00	
Crane rental	\$ 5,000.00	\$ 5,000.00	
Electrical	\$ 1,000.00	\$ 1,000.00	
Field 2 Batting Cage			
Batting Cage	By others		
Electrical	\$ 4,140.00	\$ 4,140.00	
Bleachers	\$ 3,660.00	\$ 3,660.00	
Baseball Backstops	By others		
Demo	\$ 2,500.00	\$ 2,500.00	
Dugouts	\$ 5,000.00		\$ 5,000.00
SUBTOTAL	\$ 92,210.00	\$ 61,760.00	\$ 30,450.00
Contingency (20%)	\$ 18,500.00	\$ 12,400.00	\$ 6,100.00
TOTAL	\$ 110,710.00	\$ 74,160.00	\$ 36,550.00

- B. **Other Funding:** Engineering/design services for the concession renovation will be paid through rental fees collected from other users of Heritage Park as well as the Building & Grounds operational budget.
- C. **Applicant's Previous CPA Project Funding:** Specifically for Heritage Park, CPA funding was approved at the May 2013 Annual Town Meeting for the Heritage Park and Tiger Long Playground Improvement project. These funds were used to construct a new playground and splash pad. CPA funding was also approved at the May 2015 Annual Town Meeting for the Heritage Park Improvement project. These funds were used for the construction of the picnic/bathroom pavilion
- C. **Donations:** Labor for the renovation (except plumbing and electrical) will be completed by DPW staff as will construction of the slab foundation for the storage building, construction of dugouts, and demolition of the old concession building (estimated value of \$12,500). MYS and MYBS will be purchasing appliances for the concession building such as an air fryer, drink refrigerator, chest freezer, and microwave (estimated value of \$8,200). MYBS has purchased the batting cage itself (estimated value of \$3,000). Sponsors have offered funding for a scoreboard for Field 2 (estimated value of \$6,000).

10.Maintenance:

DPW will continue to maintain the property through its annual Building & Grounds Expense Budget.

11.Coordination with Town Departments:

Not applicable.

12.Coordination with Other Town(s):

Not applicable.

LETTERS OF SUPPORT



October 23, 2023

Greetings,

My name is Harmony Carroll and I currently serve as the Board President for Mashpee Youth Soccer. I am writing you today to share a little bit about our program, its impact on the community, as well as the relationships that we have been so honored to build with our town. It is our hope that this letter will serve as the town considers funding for upgrades and renovations to Heritage Park, which currently serves as both our practice area and home game environment.

Mashpee Youth Soccer organizes both a Fall Recreation League as well as a Fall and Spring Travel Season. Our Fall recreation program is for players in grades K-5 and runs on Saturday mornings. This program is a fun, non competitive introduction to the sport. It is a truly a program that is near and dear to us, because it is a team effort. Our Rec coaches are all high school varsity players each year. Our Mashpee High students are up at Heritage with us each Saturday at 8:30 am to instruct, play, and give back to a program that many of them received their own start in soccer in. The younger players are always in awe of their coaches, and it's wonderful to see our high school students serve as role models. In addition, we partner with many local businesses to keep our Rec program costs down for parents. As Mashpee Soccer is a non-profit organization, we are so thankful to have the support of so many individuals. Our rec supporters are able to sponsor a rec team, which allows us to help purchase team shirts, soccer supplies, as well as soccer medals and awards for end of the season celebration. In addition to our coaches and sponsors, our board members are present each week at rec. Our board is made up entirely of parent volunteers who receive no compensation for time and support, but are here for a shared reason: because we love our program, want to see it continue to grow, and want to continue to foster relationships between our organization and the town.

Our fall and spring travel program is for our players in grades 2 and up and consists of both weekly practices and weekend games either in Mashpee or various towns within our league. Our players proudly represent the town of Mashpee at their games, and again, this program allows us to foster relationships with local businesses and beyond. Our travel coaches are all parent volunteers. They complete yearly training and undergo background checks. They coach after work, before work, and on the weekends, again because they truly want to give back to this program. Many of our teams have represented Mashpee in playoff and championship play as well.

This year our fall rec program had 91 participants, which is a number we have seen grow each year as we have moved away from COVID. Our fall travel program had 108 players.

In the spring we will welcome back our high school players as well which typically increases our numbers as well. Last spring we had 150 players representing our town in Mashpee Youth Soccer. One of my greatest joys in being the board president is seeing Heritage Park filled with players, parents and spectators. Whether it is a warm sunny day, or a windy, rainy afternoon, you will see our volunteers lining the fields, coaching, and working to keep Heritage looking the way it should. I am so proud of the work that our board has done the last few years and am looking forward to the future as well.

Heritage Park is home to many programs, including ours. I am also happy to say that we have forged a wonderful relationship with the other groups using the fields, particularly baseball. Our two groups share many of the same players, sponsors and volunteers and we aim to provide a fun, safe atmosphere for everyone involved. Moving forward, MYSO plans to work closely with baseball to make sure that we continue to provide the best experience possible. We have always worked cooperatively with the Department of Public Works and will continue to do so. We love having use of the facilities at Heritage and are eager to see the changes and renovations that are hopefully coming in the future.

I would be happy to speak further about our program, its dedication to our families, as well as our desire to continue to build upon and create new relationships within the town.

Best wishes,

Harmony Carroll
MYSO President



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S T E P L

Heritage Park Improvements, Phase II



P OTOS





Storage



U L P L S



TOWN OF MASHPEE

HERITAGE PARK MASHPEE RECREATION DEPARTMENT

MAIN STREET (RTE 130)

MASHPEE, MA 02649

ARCHITECT

KEENAN + KENNY ARCHITECTS, LTD.
FALMOUTH, MASSACHUSETTS

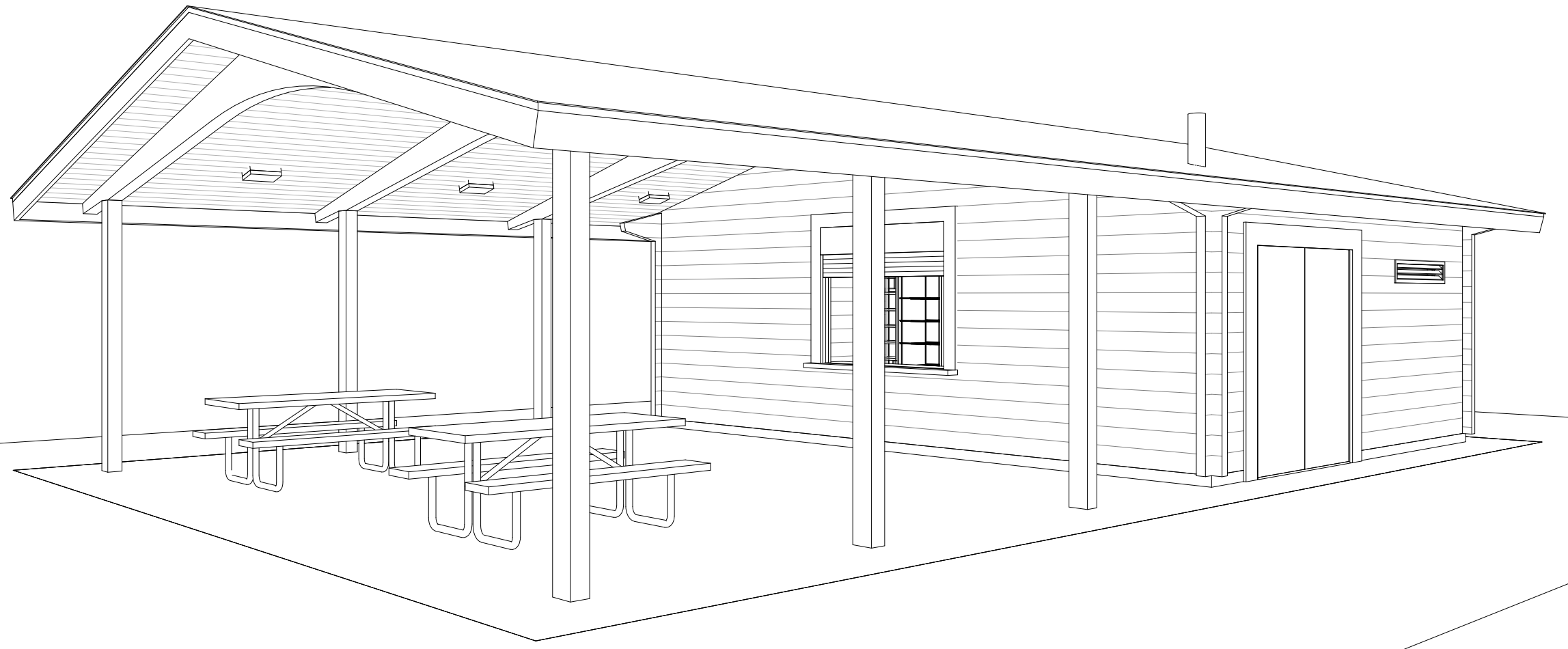
STRUCTURAL & CIVIL ENGINEERS

DWD ENGINEERING, INC.
EAST BRIDGEWATER, MASSACHUSETTS

MECHANICAL/ELECTRICAL/PLUMBING/ & FIRE PROTECTION ENGINEERS

GRIFFITH & VARY, INC.
WAREHAM, MASSACHUSETTS

PROGRESS SET 9 JUNE 2023

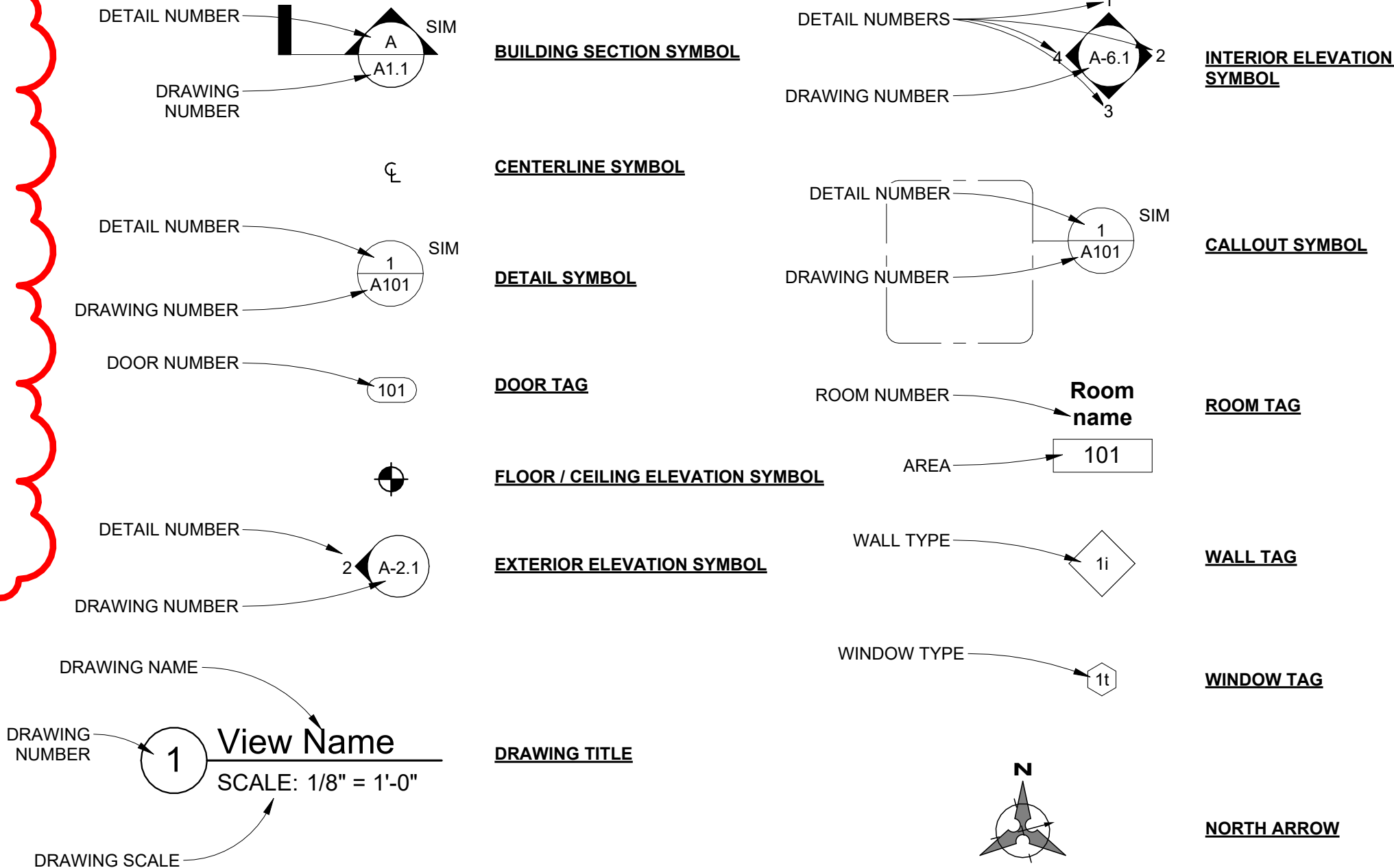


LIST OF DRAWINGS

GENERAL	
G1.0	TITLE SHEET
DEMO	
D1.1	DEMO FLOOR PLANS + EXTERIOR ELEVATIONS
ARCHITECTURE	
A1.1	PROPOSED PLANS
STRUCTURAL	
S0.1	GENERAL NOTES
S1.0	FOUNDATION PLAN
PLUMBING	
P0.1	PLUMBING LEGEND
P1.0	PLUMBING SITE PLAN
P1.1	PLUMBING UNDERGROUND PIPING PLAN
ST FLOOR WASTE & VENT	

HVAC	
M0.1	MECHANICAL LEGEND
M1.1	MECHANICAL FIRST FLOOR DUCTWORK PLAN
ELECTRICAL	
E0.1	ELECTRICAL LEGEND
ES1.1	ELECTRICAL SITE PLAN POWER
ES1.2	ELECTRICAL SITE PLAN LIGHTING

SYMBOLS KEY



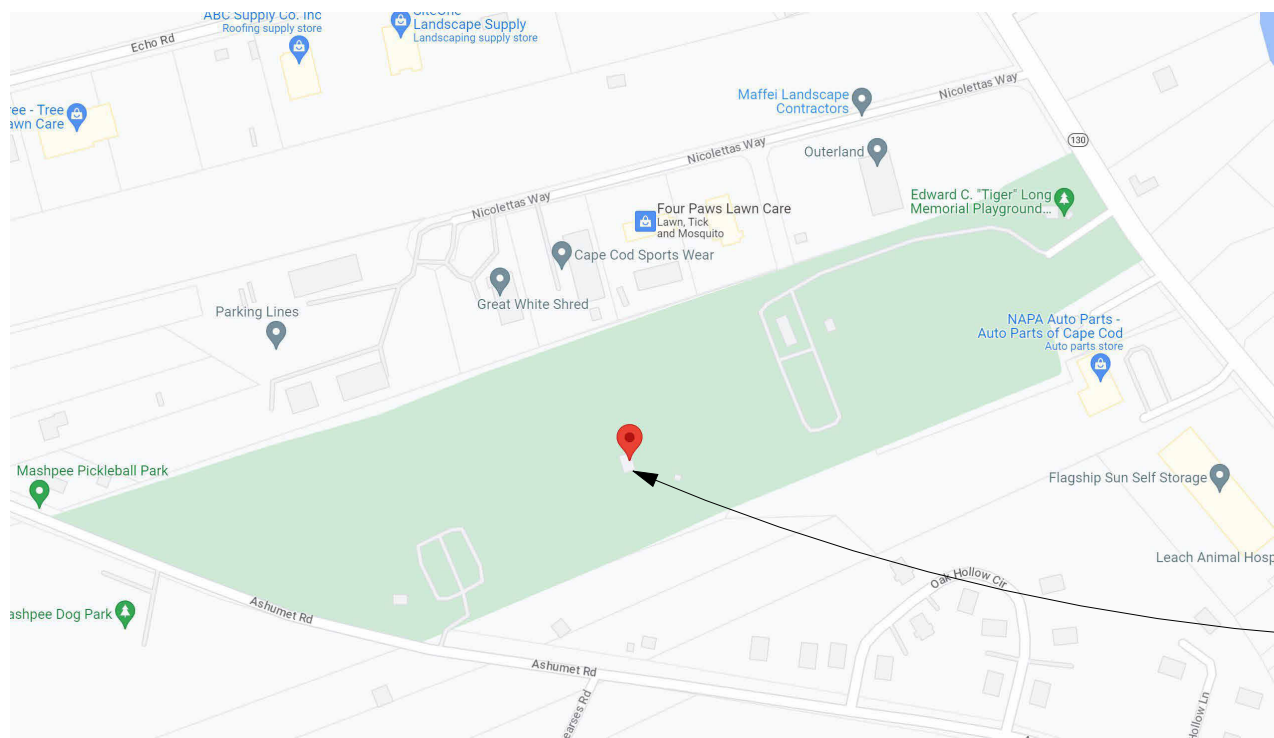
ABBREVIATIONS

#	NUMBER	GA	GAUGE	R	R-VALUE
+ / &	AND	GALV	GALVANIZED	RB	RUBBER BASE
@	GENERAL CONTRACTOR	GC	GENERAL CONTRACTOR	RD	ROOF DRAIN
ABV	ABOVE	G.H.M.	GALVANIZED HOLLOW METAL	REF	REFERENCE
ACT	ACOUSTICAL TILE	GL	GLASS	REL	RELOCATE
AFF	ABOVE FINISHED FLOOR	GRT	GRATE	REQ	REQUIRE(D)
ALT	ALTERNATE	GWB	GYP SUM WALL BOARD / SKIM COAT PLASTER	REV	REVERSE
ALUM	ALUMINUM	GYP	GYP SUM	RFG	ROOFING
APPROX	APPROXIMATE			RH	ROUND HEAD
ARCH	ARCHITECT(URAL)			RL	RAIN LEADER
AUTO	AUTOMATIC	HB	HOSE BIB	RM	ROOM
		HD	HOT DIPPED	RMV	REMOVE
BDM	WALL MOUNTED BIDIRECTIONAL AMPLIFIER MONITORING PANEL	HDWR	HARDWARE	RO	ROUGH OPENING
BS	BOTH SIDES	HGT, HT	HEIGHT	R/S	REINFORCING STEEL
BLDG	BUILDING	HM	HOLLOW METAL	RES	RESILIENT
BLK	BLOCK	HOR	HORIZONTAL	RUB	RUBBER FLOORING
BLKG	BLOCKING	HR	HAND RAIL	RVS	REVISE
BLW	BELOW	HT	HEIGHT		
BM	BEAM; BENCH MARK	HVAC	HEATING VENTILATING & AIR CONDITIONING	S	SMOKE DETECTOR
BRG	BEARING			SC	SKIM COAT
BRK	BRICK			SC	LOCAL SMOKE / CARBON DETECTOR
BSMT	BASEMENT	IJ	ISOLATION JOINT	SD	LOCAL SMOKE DETECTOR
BTM	BOTTOM	INCL	INCLUDE(S); INCLUDING	SCH	SCHEDULE
BTW	BETWEEN	INSUL	INSULATE(S); INSULATION	SCR	SCREW
BW	BOTH WAYS	INT	INTERIOR	SDG	SIDING
		JT	JOINT	SECT	SECTION
CAS	CARD ACCESS SYSTEM	KF	KRAFT FACED	SHT	SHEET
CGST	CERAMIC GLAZED STRUCTURAL TILE	KO	KNOCK OUT	SIM	SIMILAR
CH	CHANNEL			SPEC(S)	SPECIFICATION(S)
CHLKG	CAULKING	LAM	LAMINATED	SPM	SINGLE PLY MEMBRANE
CJ	CONTROL JOINT	LAV	LAVATORY		
CLG	CEILING	LFT	LIGHT FIXTURE	SS	STAINLESS STEEL
C, C	CENTER LINE	LLC	LEAD COATED COPPER	STD	STANDARD
CL, CLR	CLEAR(ANCE)	LVL	LAMINATED VENEER LUMBER	STL	STEEL
CMU	CONCRETE MASONRY UNIT(S)			STL	STRUCTURAL
COL	COLUMN	M	MOTION SENSOR	SUSP	SUSPENDED
CONC	CONCRETE	MANF	MANUFACTURER	SV	SHEET VINYL
CONT	CONTINUE; CONTINUOUS	MATCH EXG	MATCH EXG	SYM	SYMMETRY; SYMMETRICAL
CONTR	CONTRACTOR	MAT	MATERIAL		
CO	COORDINATE	MAS	MASONRY	T&G	TONGUE & GROOVE
CO2	CARBON MONOXIDE DETECTOR	MAX	MAXIMUM	TEMP	TEMPORARY
C.O.	CLEAN OUT	ME	MACHINE BOLT	TEMPD	TEMPERED
CPT	CARPET	MECH	MECHANICAL	THK	THICKNESS
CS	COUNTER SUNK	MFD	MANUFACTURED	THR	THRESHOLD
CT	CERAMIC TILE	MFR	MANUFACTURER	TOB	TOP OF BRICK
		MIN	MINIMUM	TOC	TOP OF CONCRETE
DET	DETAIL	MISC	MISCELLANEOUS	TOF	TOP OF FOUNDATION
DIA	DIAMETER	MO	MASONRY OPENING	TOP	TOP OF PARAPET
DIM	DIMENSION	MS	MACHINE SCREW	TOS	TOP OS STEEL
DN	DOWN	MTD	MOUNTED	TR	TREAD
DS	DOWNSPOUT	MTL	METAL	TS	TUBE STEEL
DTL	DETAIL			TYP	TYPICAL
DWG	DRAWING	N/A	NOT APPLICABLE	U	U-VALUE
		NIC	NOT IN CONTRACT	UL	UNDERWRITERS
EA	EACH	NO	NUMBER	LABORATORIES	
EJ	EXPANSION JOINT	NO2	NITROGEN DIOXIDE	UNF	UNFINISHED
EL	ELEVATION				
ELEV	ELEVATOR	NOM	NOMINAL	V	VENT
EMERG	EMERGENCY	NS	NEAR SIDE	VB	VINYL BASE
EQ	EQUAL	NTS	NOT TO SCALE	VCT	VINYL COMPOSITION TILE
EQP	EQUIPMENT			VERT	VERTICAL
EXG	EXISTING	OC	ON CENTER(S)	VF	VINYL FLOORING
EXP	EXPOSED	OPG	OPNG OPENING	VIF, V.I.F.	VERIFY IN FIELD
EXT	EXTERIOR	OPP	OPPOSITE	VIN	VINYL
		OS	OCCUPANCY SENSOR	VP	VENT PIPE
				VT	VINYL TILE
				VTR	VENT THROUGH ROOF
FAA	FIRE ALARM ANNUCIATOR PANEL	P	PAINT		
FC	FIRE CODE	PC	PRECAST CONCRETE	w/, W/	WITH
FD	FLOOR DRAIN	PEN	PENETRATION	W/O	WITHOUT
FDN	FOUNDATION	PL, P	PROPERTY LINE; PLATE	WB	WONDERBOARD
FE, F. E.	FIRE EXTINGUISHER	PLAM	PLASTIC LAMINATE	WC	WALL COVERING
FEC	FIRE EXTINGUISHER CABINET	PL	PLATE	WD	WOOD
FG	FIBERGLASS	PLAST	PLASTER	WF	WIDE FLANGE
FFE	FINISHED FLOOR ELEVATION	POLYPRO	POLYPROPYLENE	WH	WATER HEATER
FIN	FINISH	PR	PAIR	WP	WATERPROOF
FL	FLOOR	PREFAB	PREFABRICATED	WPC	WATERPROOF COATING
FLG	FLASHING	PTD	PAINTED	WR	WASTE RECEPTACLE
FOB	FACE OF BRICK	PT	PRESSURE TREATED	WS	WOOD SCREW
FOC	FACE OF CONCRETE	PVC	POLYVINYL CHLORIDE	WT	WEIGHT
FOF	FACE OF FINISH	PVMT	PAVEMENT	WWF	WELDED WIRE FABRIC
FOS	FACE OF STUD(S)	PLYWD	PLYWOOD		
FR	FIRE RESISTANT				
FTF	FACE TO FACE				
FTG	FOOTING				
FTY	FACTORY				
FUR	FURRING				

PROJECT DATA

- A. Summary of work: This project consists of a new first floor additions and renovations, second floor renovation and dormer extension along with walk out basement at new addition.
- Construction Type is VB (Combustible unprotected).
 - Use Group is "R" (Residential).
 - Applicable Codes:
 - IEBC 2015
 - IRC 2015
 - IECC 2018
 - Current MA Electrical Code
 - Current MA Mechanical Code
 - Current MA Plumbing Code
 - Zoning District: AGA
 - Flood Zone: N/A
 - Building Wind Exposure Category:

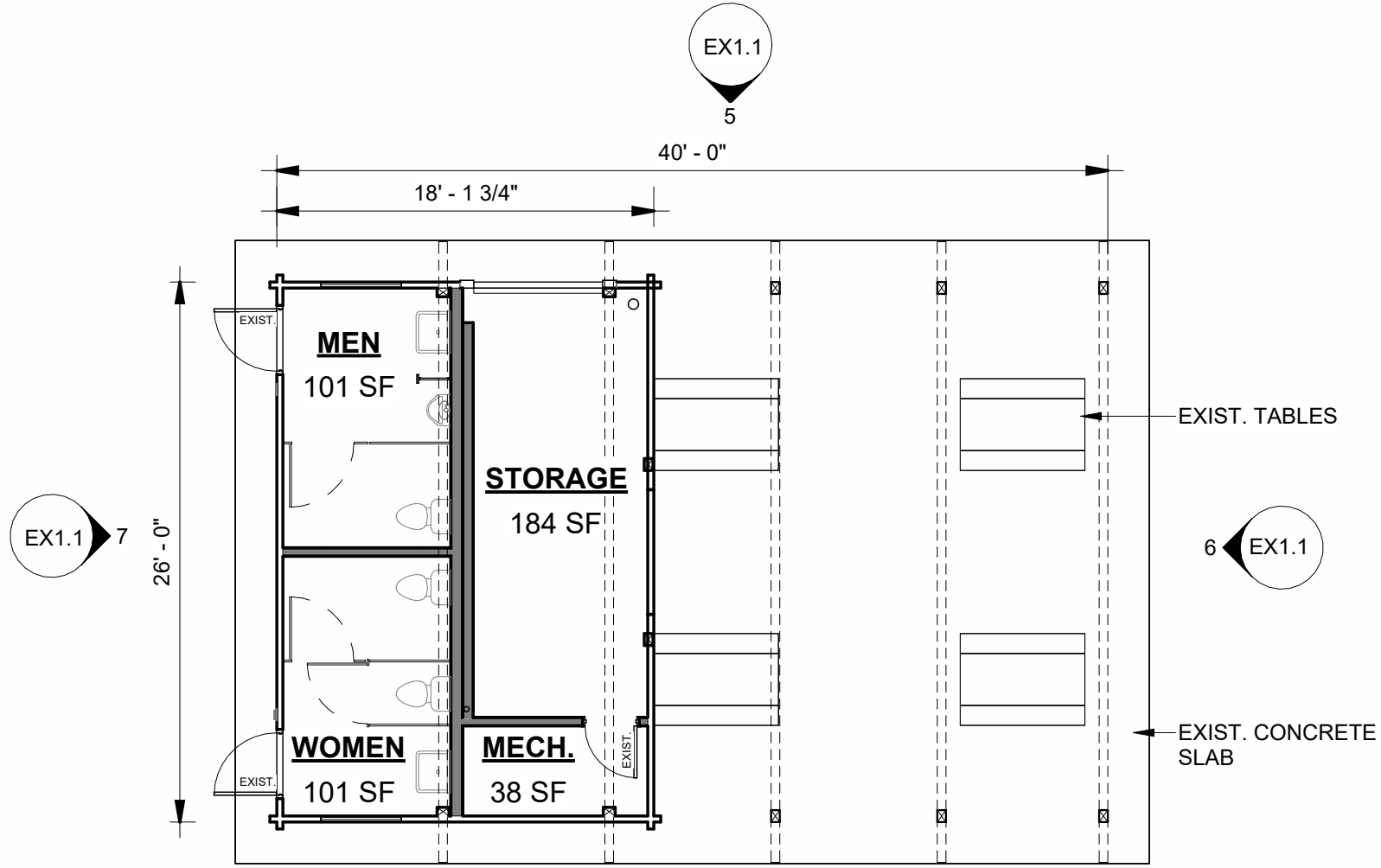
LOCUS



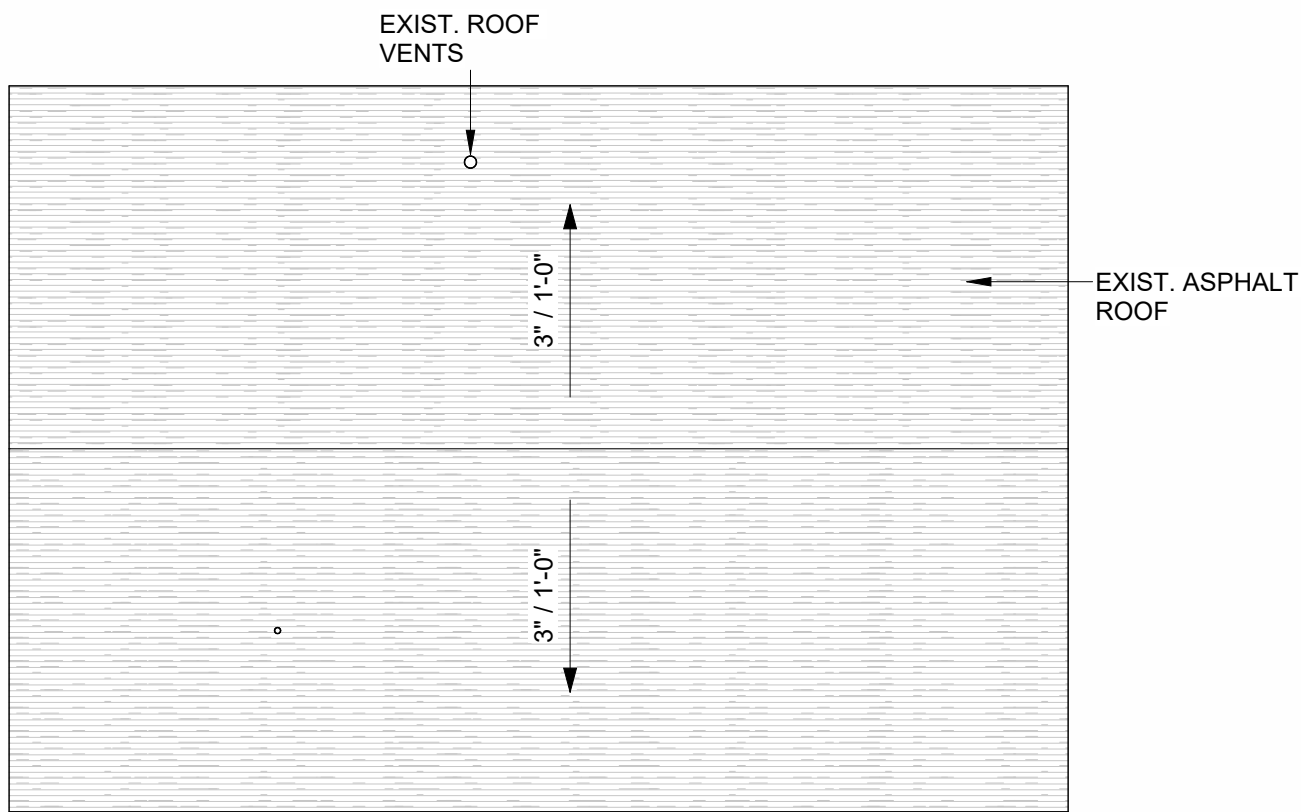
PROJECT SITE

MATERIALS KEY

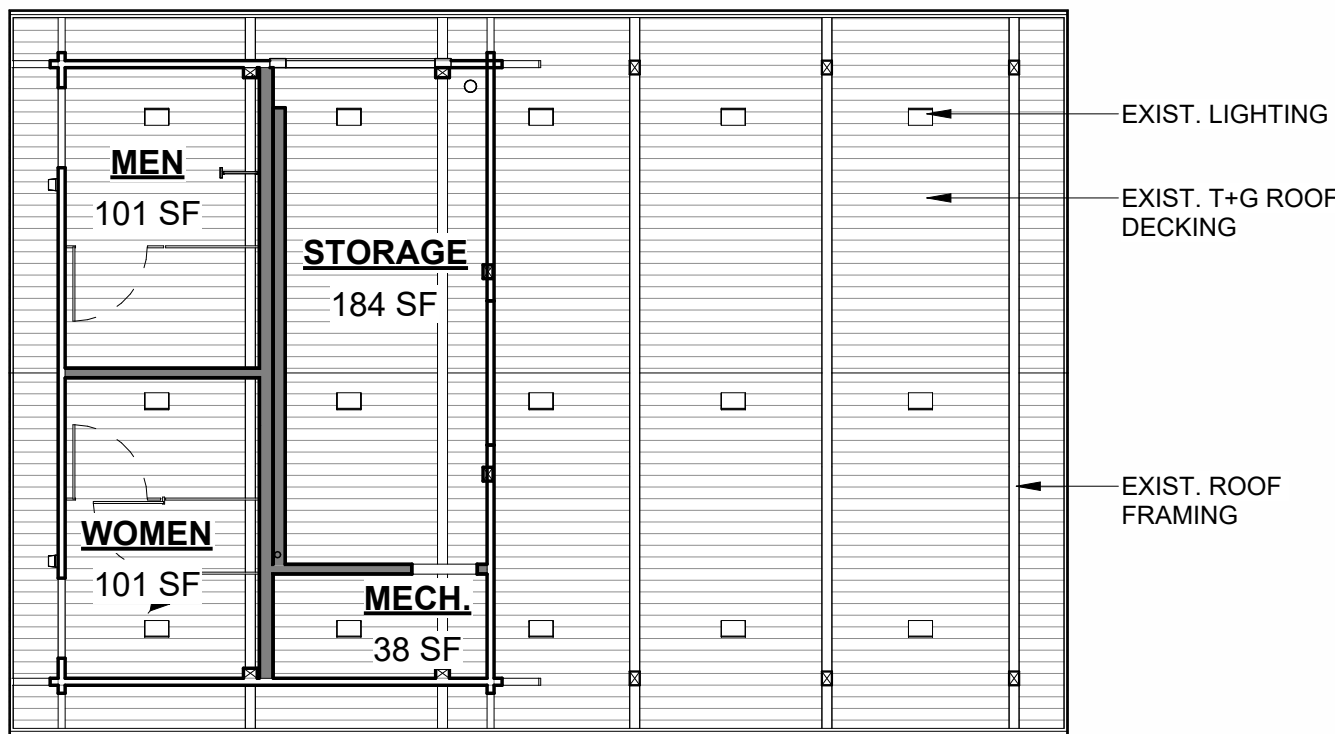
	CONCRETE		RIGID INSULATION
	CONCRETE MASONRY UNITS (CMU)		PLYWOOD
	EARTH		FINISH LUMBER
	GRAVEL		FRAMING LUMBER
	STEEL / METAL		WOOD BLOCKING
	BATT INSULATION		GWB



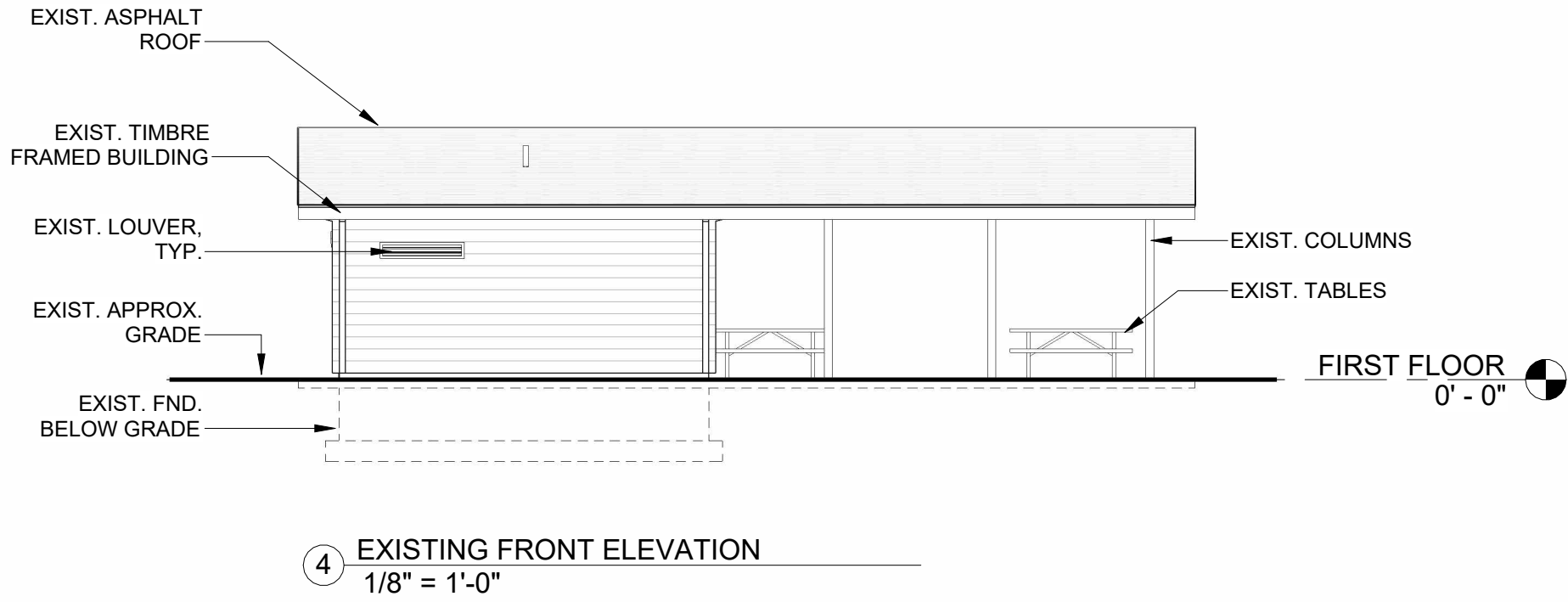
1 EXISTING FIRST FLOOR PLAN
1/8" = 1'-0"



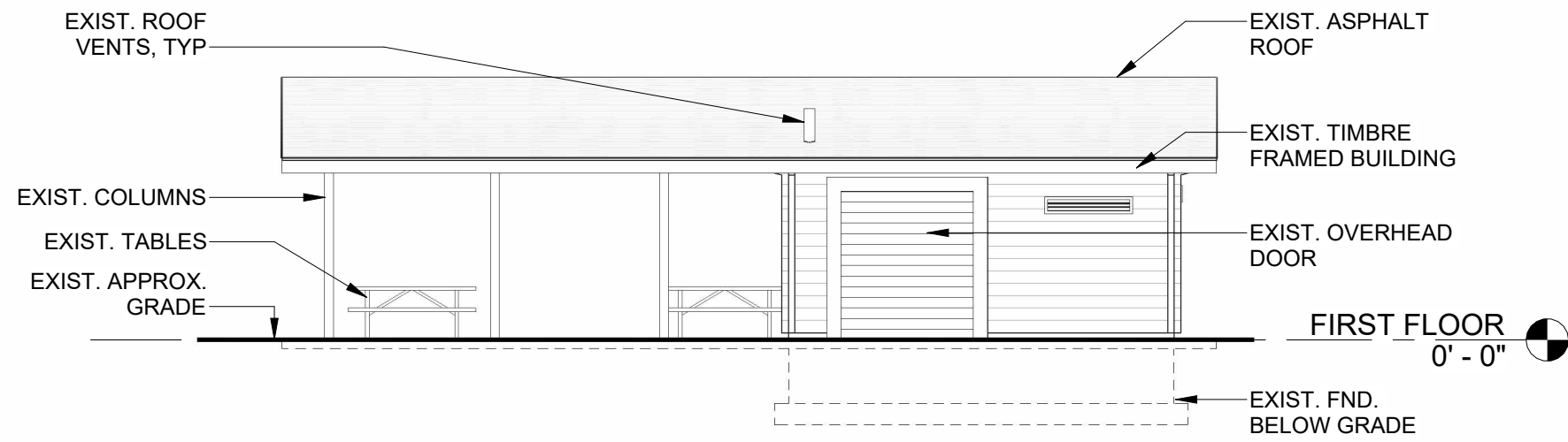
2 EXISTING ROOF PLAN
1/8" = 1'-0"



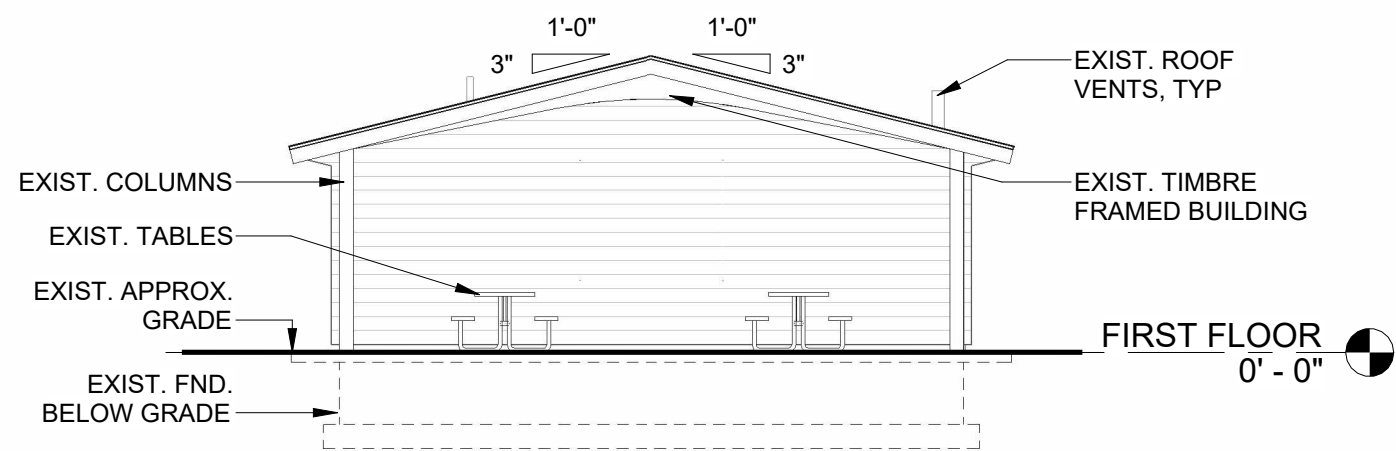
3 EXISTING FIRST FLOOR REFLECTED CEILING
1/8" = 1'-0"



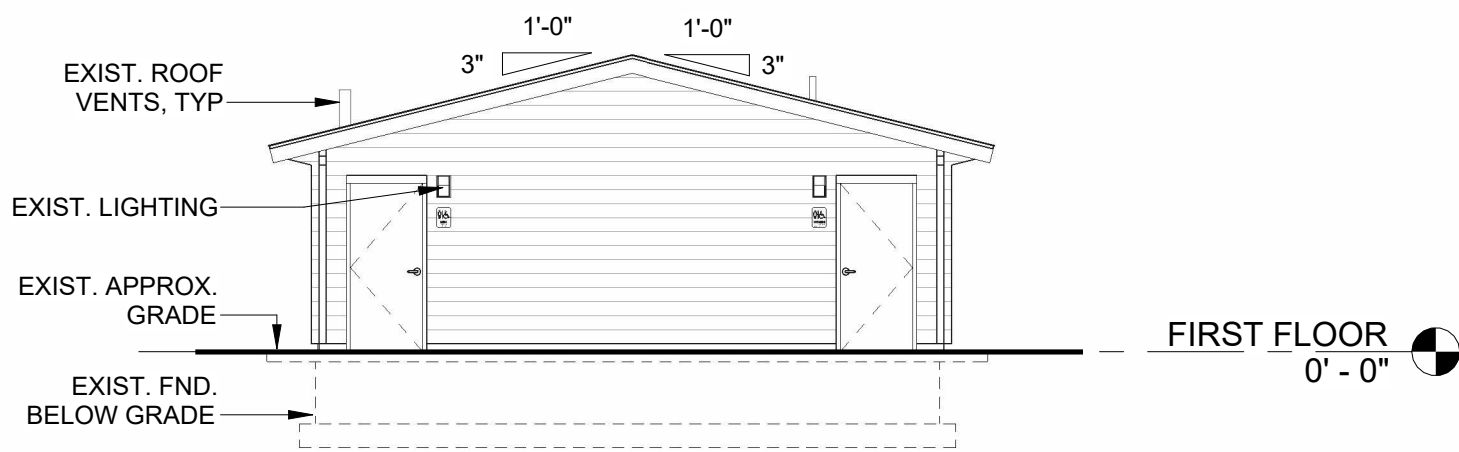
4 EXISTING FRONT ELEVATION
1/8" = 1'-0"



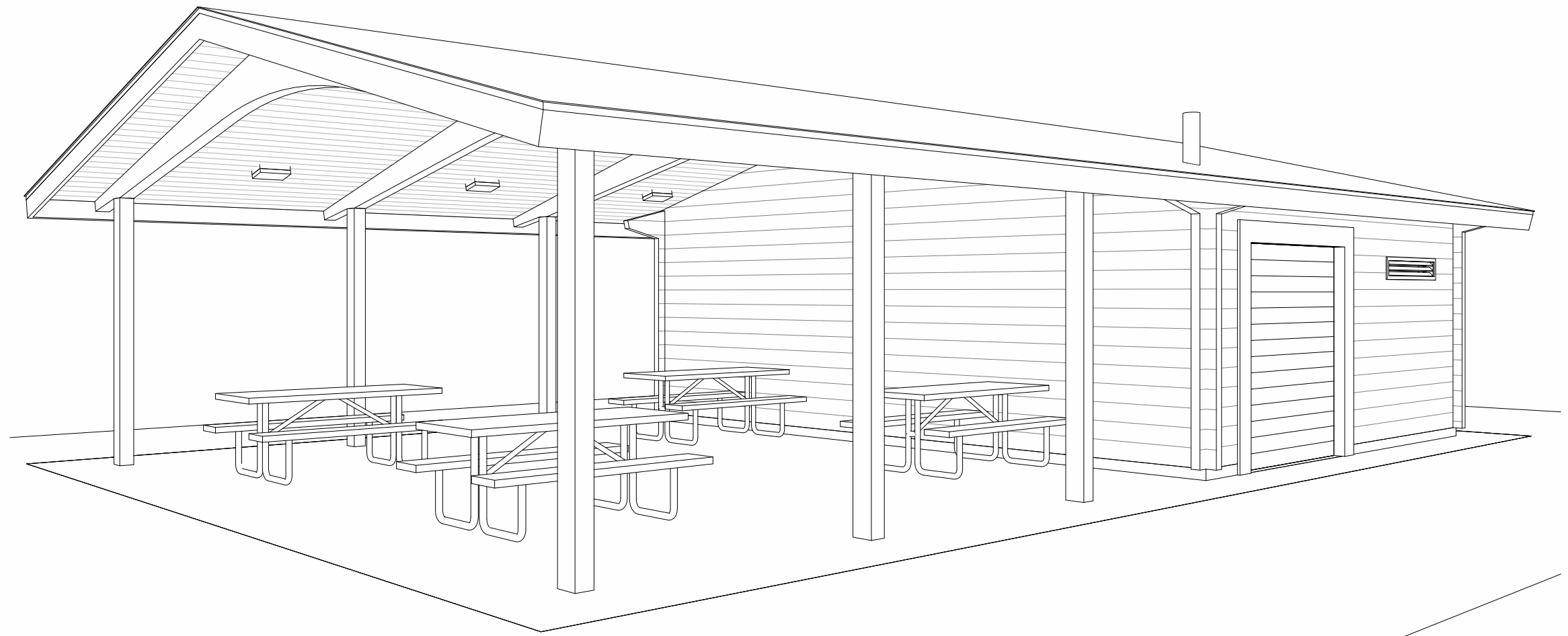
5 EXISTING REAR ELEVATION
1/8" = 1'-0"



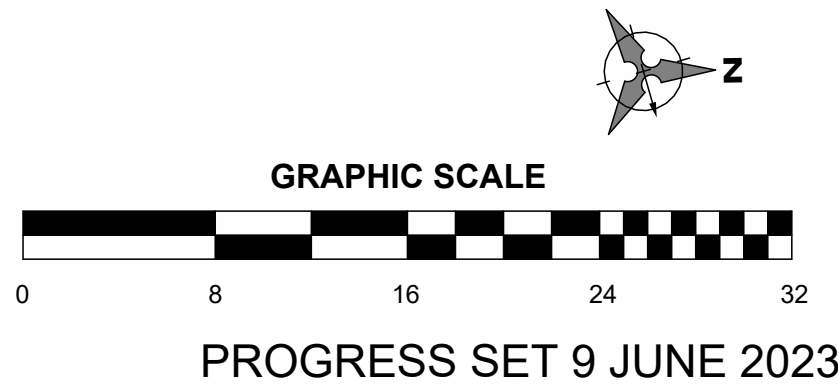
6 EXISTING RIGHT SIDE ELEVATION
1/8" = 1'-0"



7 EXISTING LEFT SIDE ELEVATION
1/8" = 1'-0"



8 EXISTING 3D View



Architect
Keenan + Kenny Architects, Ltd.
189 Main Street
Falmouth, Massachusetts 02540
Tel. 508-540-0075

Structural Engineers
DWD Engineering, Inc.
5 Michael Road
East Bridgewater,
Massachusetts 02333
Tel. 508-378-9602

**Mechanical, Electrical,
Plumbing and Fire
Protection Engineers**
Griffith & Vary, Inc.
12 Kendrick Road
Wareham, Massachusetts 02571
Tel. 508-295-0050

RENOVATIONS TO THE CONCESSION STAND AT:
**HERITAGE PARK - MASHPEE
RECREATION DEPARTMENT
MAIN STREET (RTE 130)
MASHPEE, MASSACHUSETTS**



REVISIONS		
NO.	DATE	DESCRIPTION

STAMP:

PROJECT NO.
MASHPEE

ISSUED BY:
KKA

ISSUED DATE:
9 JUNE 2023

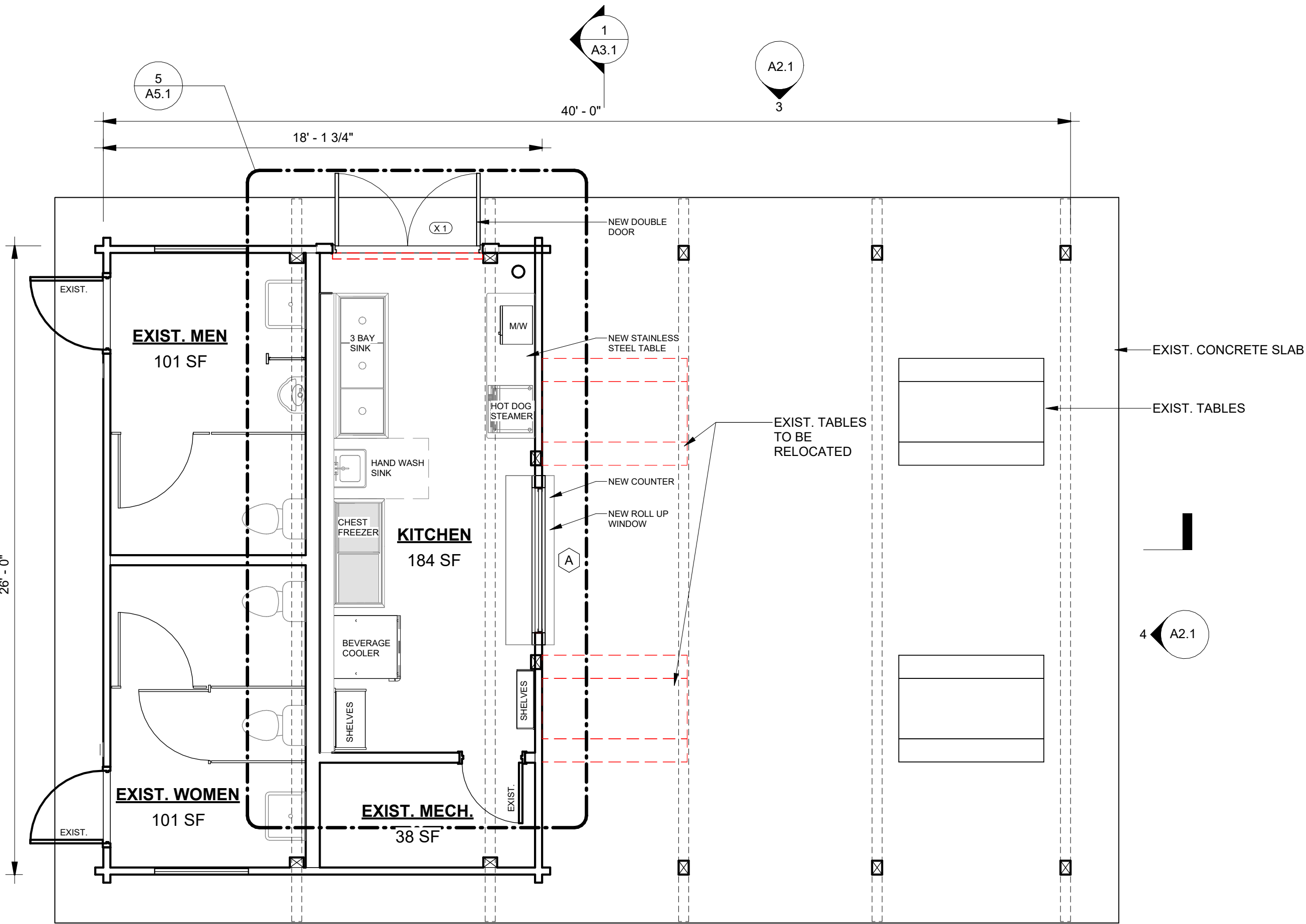
SHEET TITLE:

EXISTING PLANS AND
EXTERIOR
ELEVATIONS

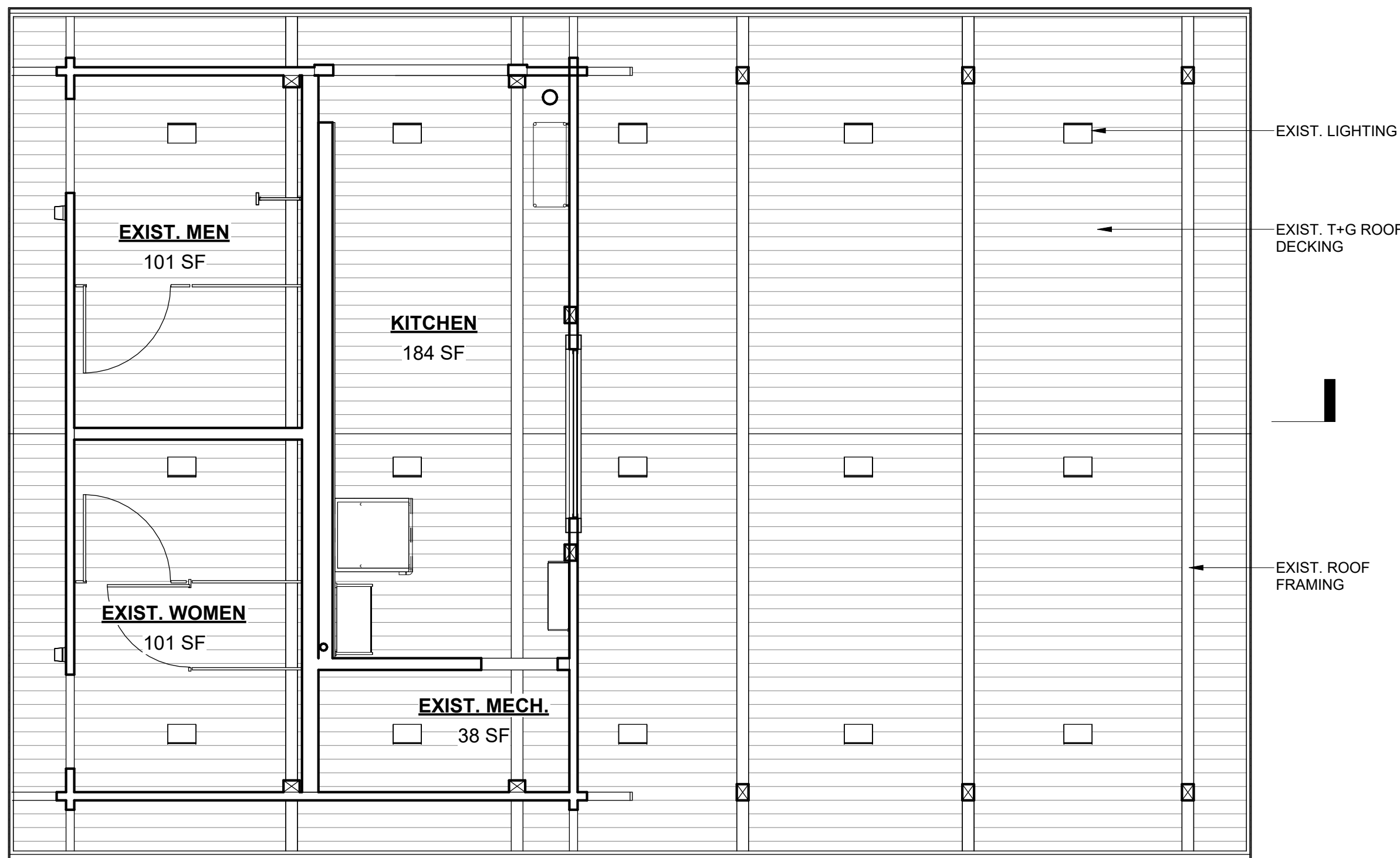
SCALE:
1/8" = 1'-0"

DISCIPLINE - CATEGORY - SUB CATEGORY - SHEET

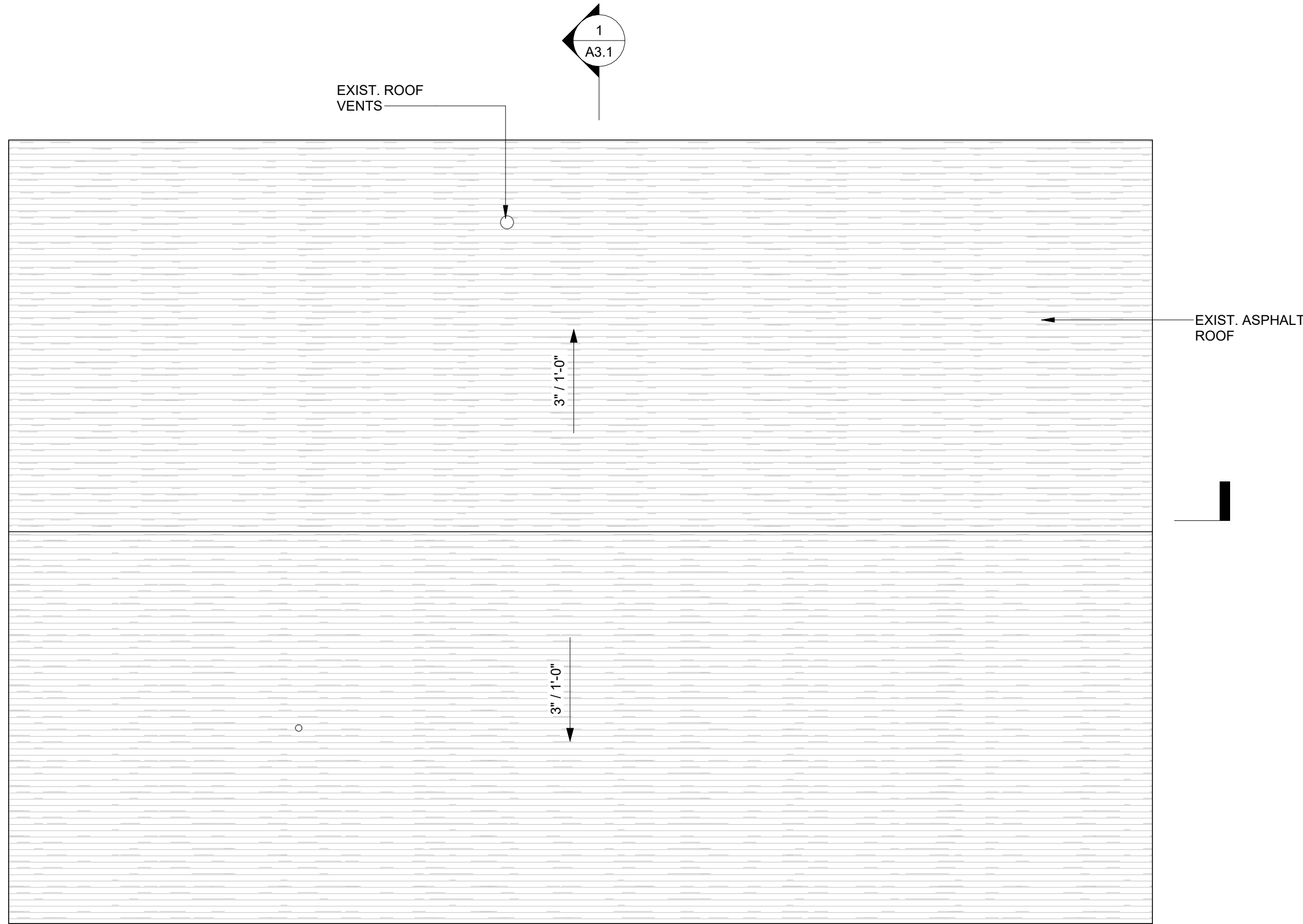
EX1.1



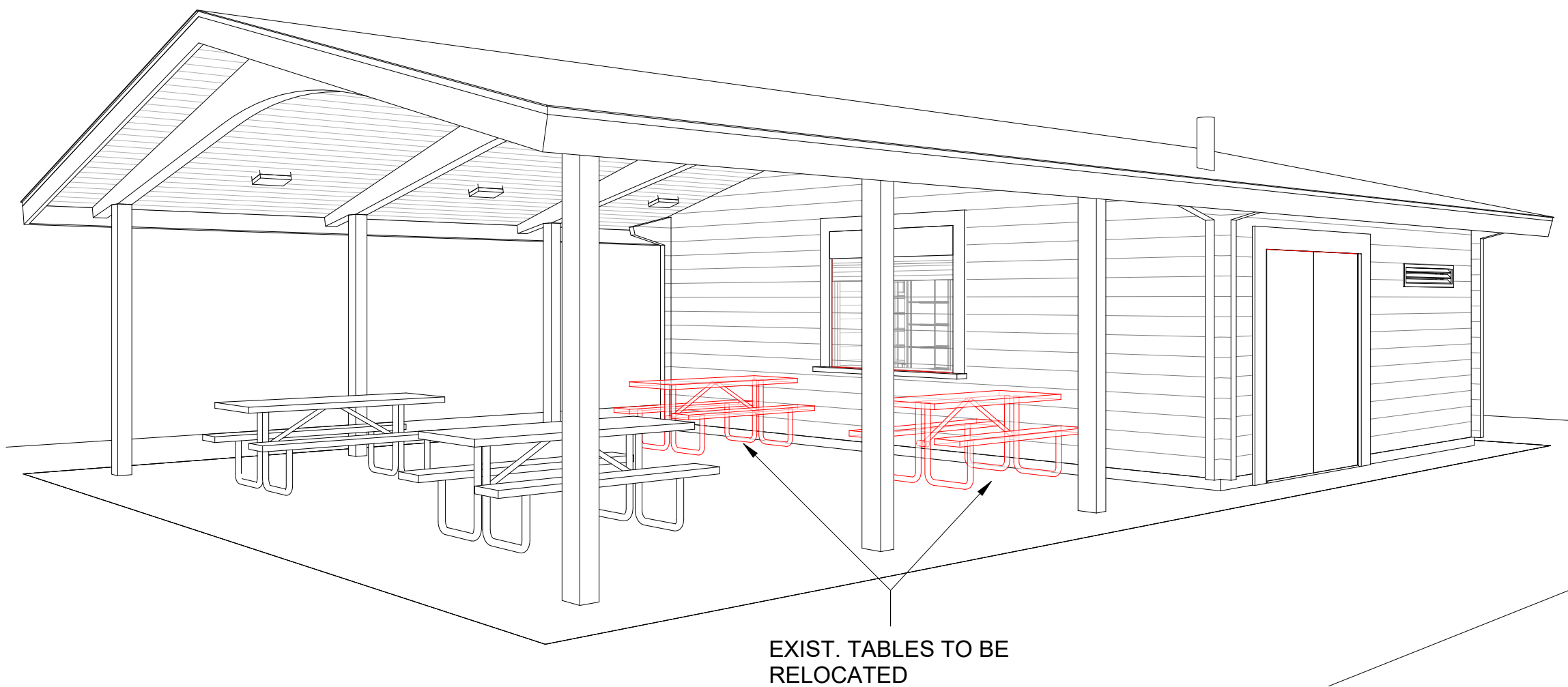
1 PROPOSED FIRST FLOOR PLAN
1/4" = 1'-0"



3 PROPOSED FIRST FLOOR REFLECTED CEILING PLAN
1/4" = 1'-0"



2 PROPOSED ROOF PLAN
1/4" = 1'-0"



4 PROPOSED 3D VIEW



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RENOVATIONS TO THE CONCESSION STAND AT:
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RECREATION DEPARTMENT
MAIN STREET (RTE 130)
MASHPEE, MASSACHUSETTS**



REVISIONS		
NO.	DATE	DESCRIPTION

STAMP:

PROJECT NO.
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ISSUED BY:
KKA

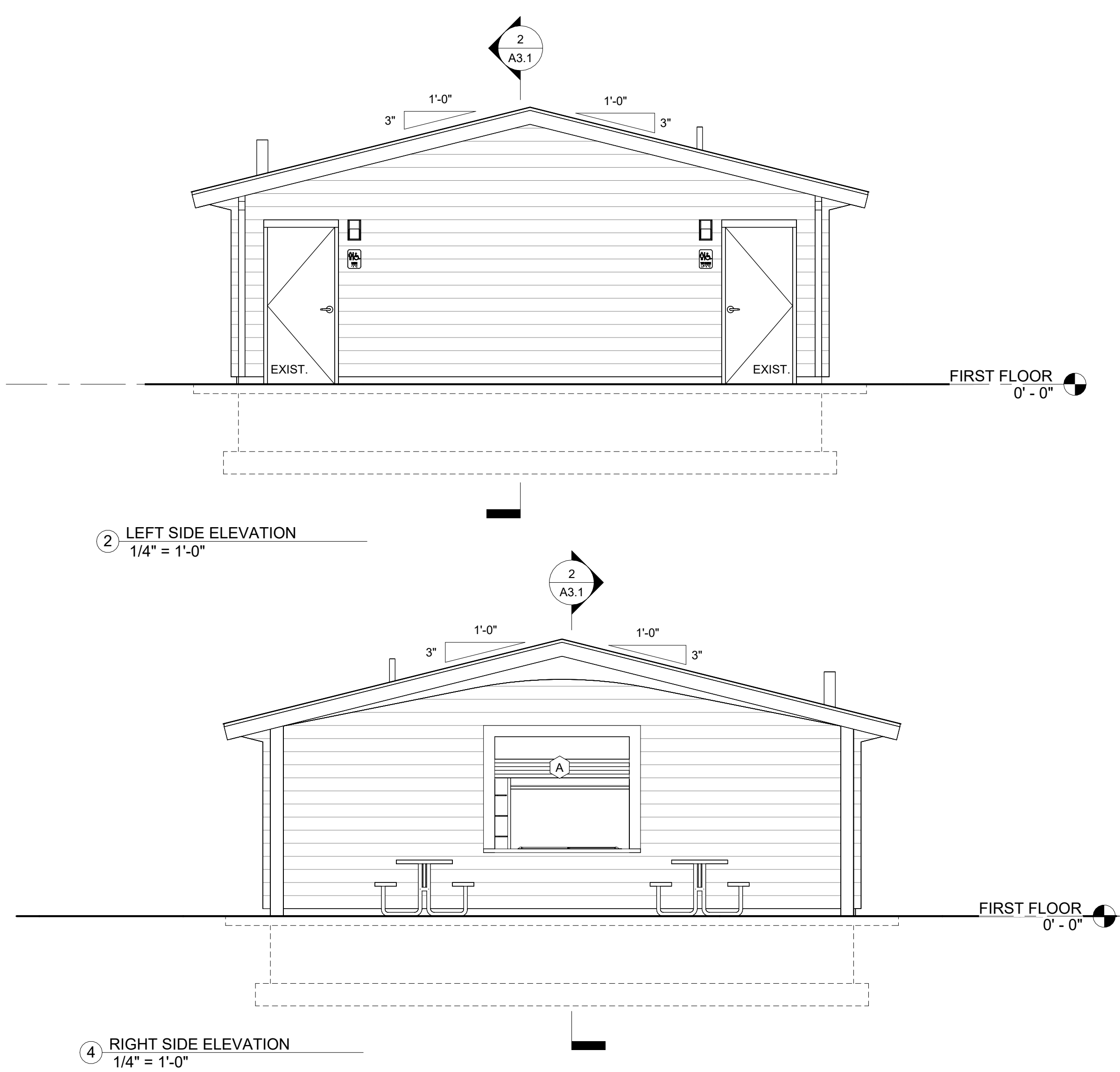
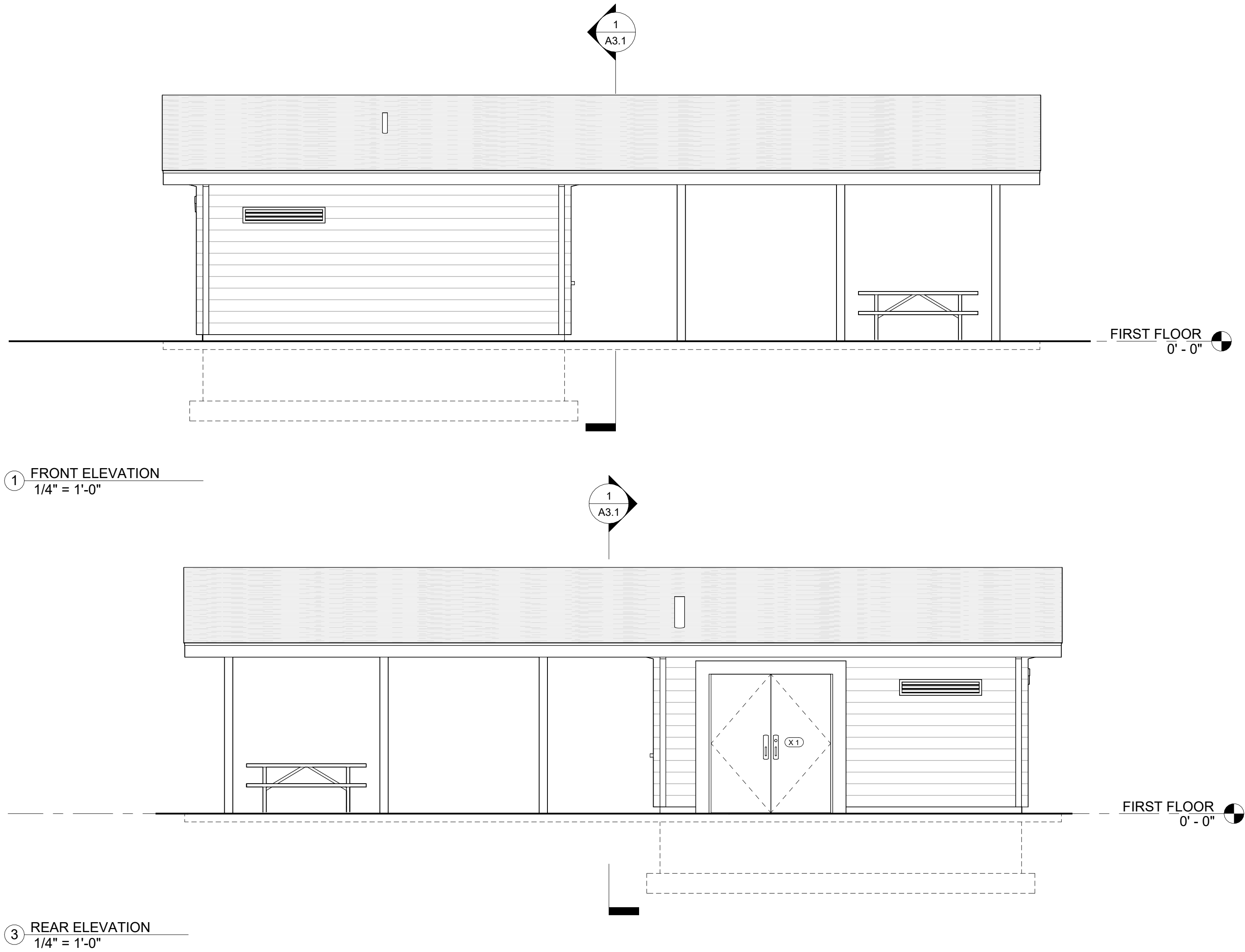
ISSUED DATE:
9 JUNE 2023

SHEET TITLE:
PROPOSED PLANS

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

DISCIPLINE - CATEGORY - SUB CATEGORY - SHEET

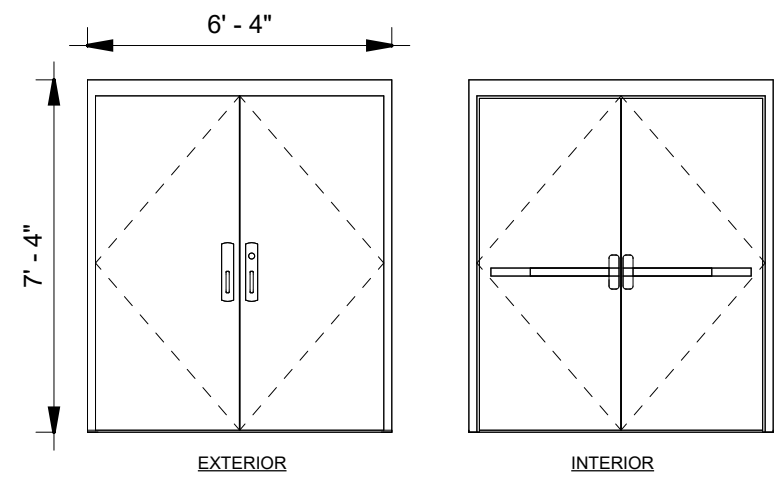
A1.1



EXTERIOR DOOR SCHEDULE										
DOOR NUMBER	LOCATION	DOOR TYPE	DOOR		SIZE		FRAME		HARDWARE	
			DOOR MATERIAL		WIDTH	HEIGHT	FRAME TYPE	FRAME MATERIAL	ACCESS TYPE	PACKAGE (SEE HARDWARE SPECIFICATIONS FOR DETAILS)
X 1	KITCHEN	A			6' - 0"	7' - 0"				

WINDOW SCHEDULE									
MARK	COUNT	MODEL	WINDOW TYPE	APPROX. UNIT SIZE	DESCRIPTION	HEAD DETAIL	JAMB DETAIL	SILL DETAIL	REMARKS
A	1		A	(H 5') X (W 6')	ROLL UP WINDOW				

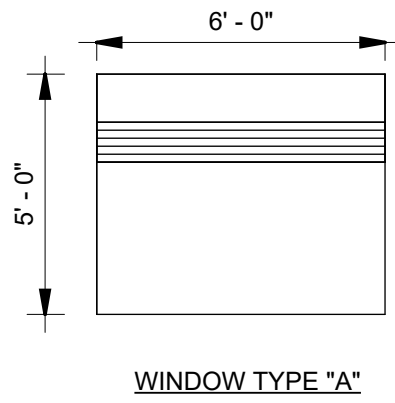
EXTERIOR DOOR ELEVATIONS



EXTERIOR INSULATED
STEEL, HINGED DOOR

DOOR TYPE "A"
R.O. = 1/2" WIDER x 1/2"
TALLER THAN DOOR +
FRAME, VERIFY w/ MANUF.

WINDOW ELEVATIONS



PROGRESS SET 9 JUNE 2023

Architect
Keenan + Kenny Architects, Ltd.
189 Main Street
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Tel. 508-540-0075

Structural Engineers
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Tel. 508-378-9602

**Mechanical, Electrical,
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RENOVATIONS TO THE CONCESSION STAND AT:
**HERITAGE PARK - MASHPEE
RECREATION DEPARTMENT**
MAIN STREET (RTE 130)
MASHPEE, MASSACHUSETTS



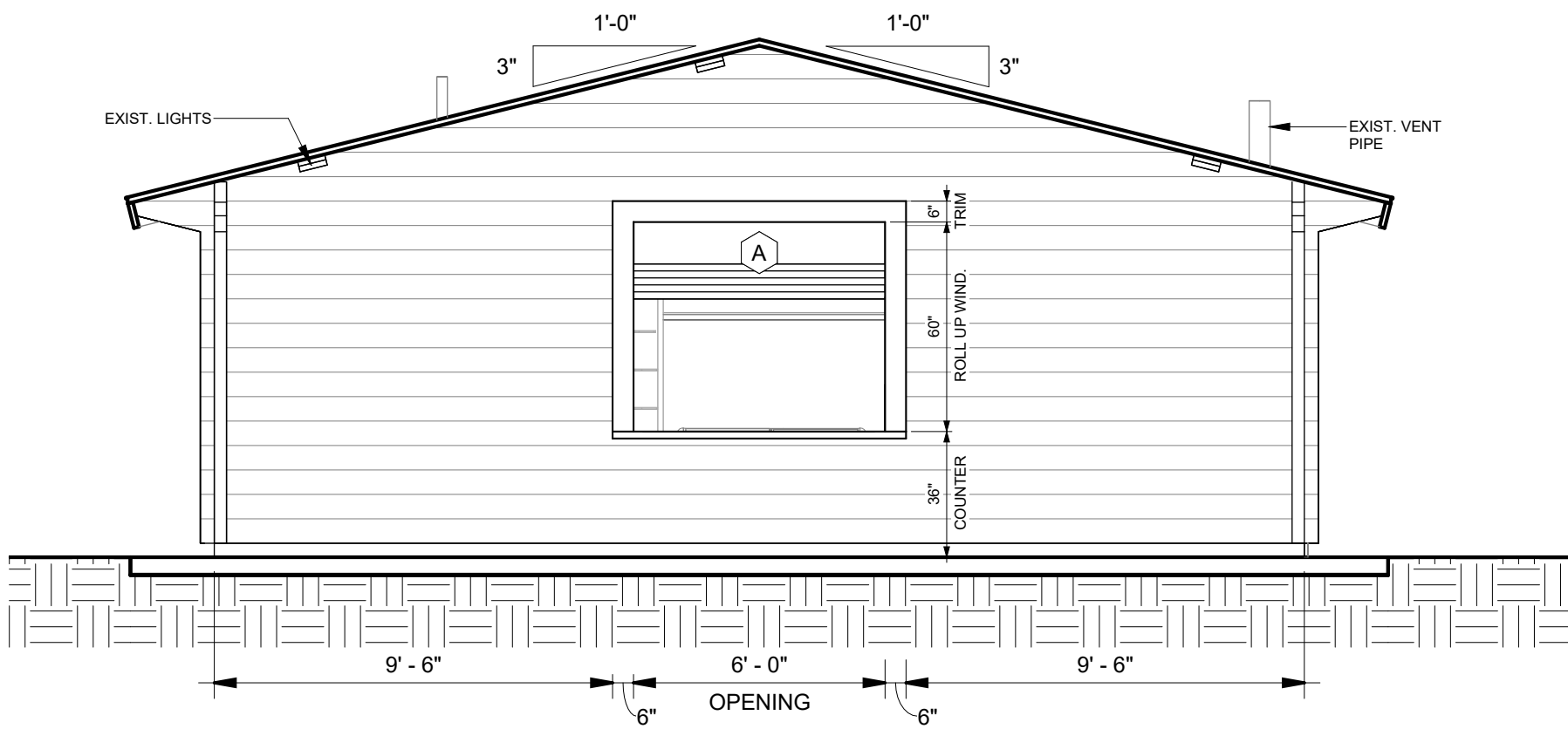
REVISIONS		
NO.	DATE	DESCRIPTION

STAMP:

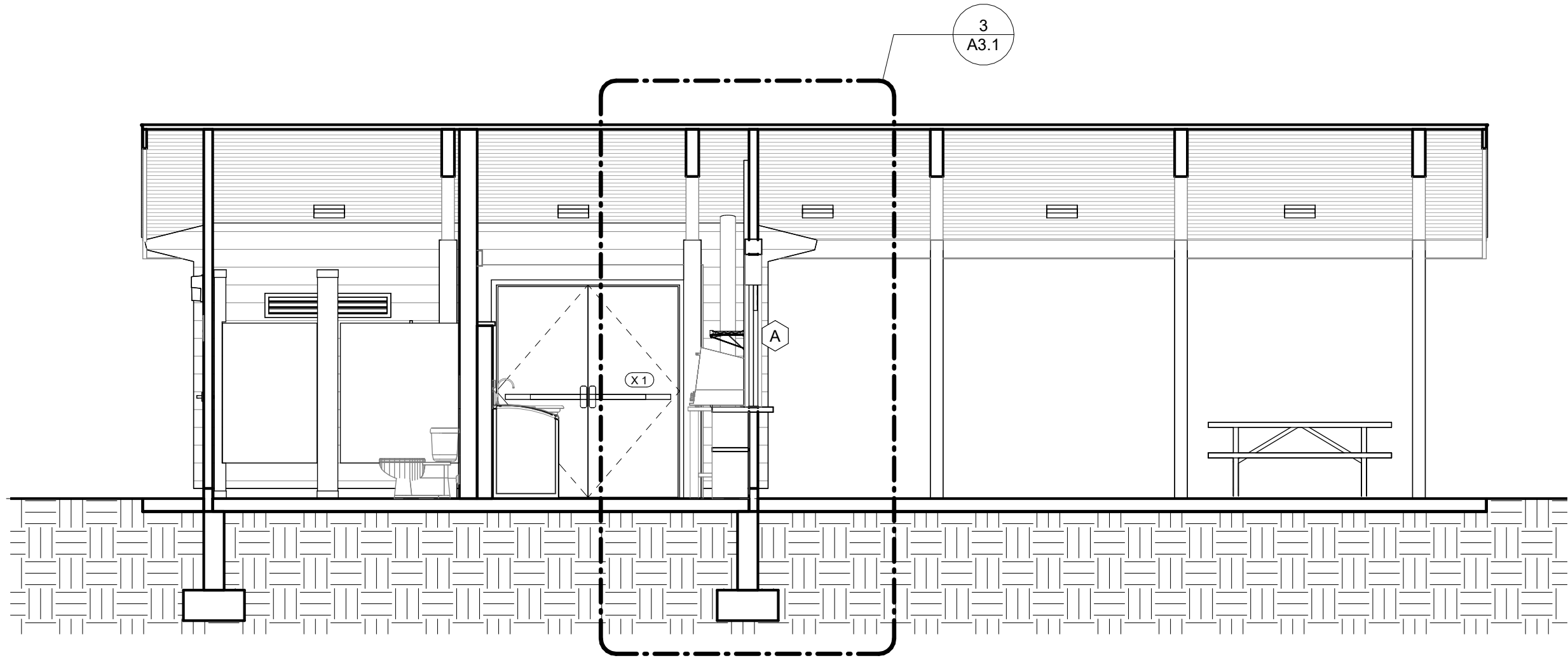
PROJECT NO. MASHPEE
ISSUED BY: KKA
ISSUED DATE: 9 JUNE 2023
SHEET TITLE: PROPOSED ELEVATIONS

SCALE: 1/4" = 1'-0"
DISCIPLINE - CATEGORY - SUB CATEGORY - SHEET

A2.1

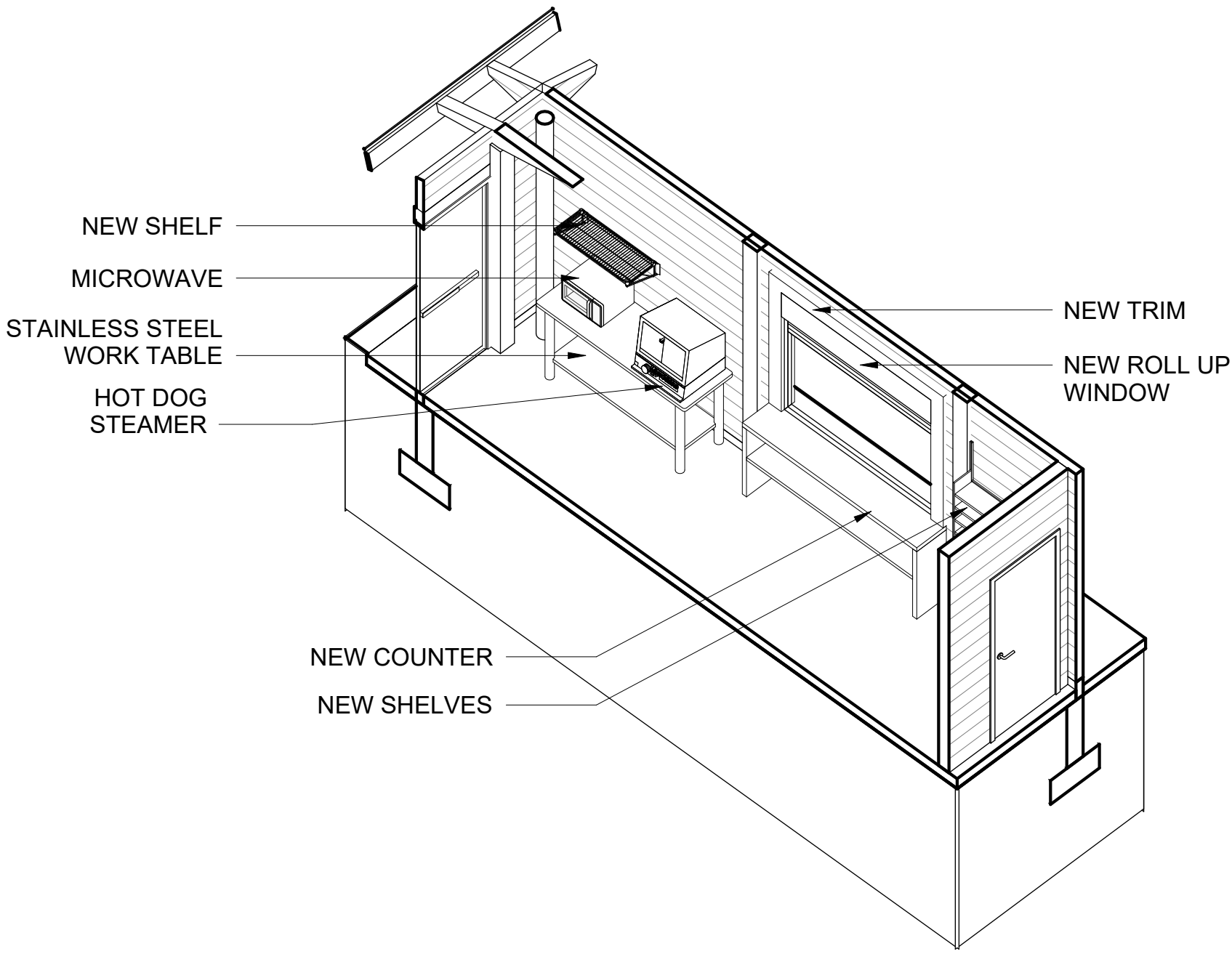


1 Section 1
1/4" = 1'-0"

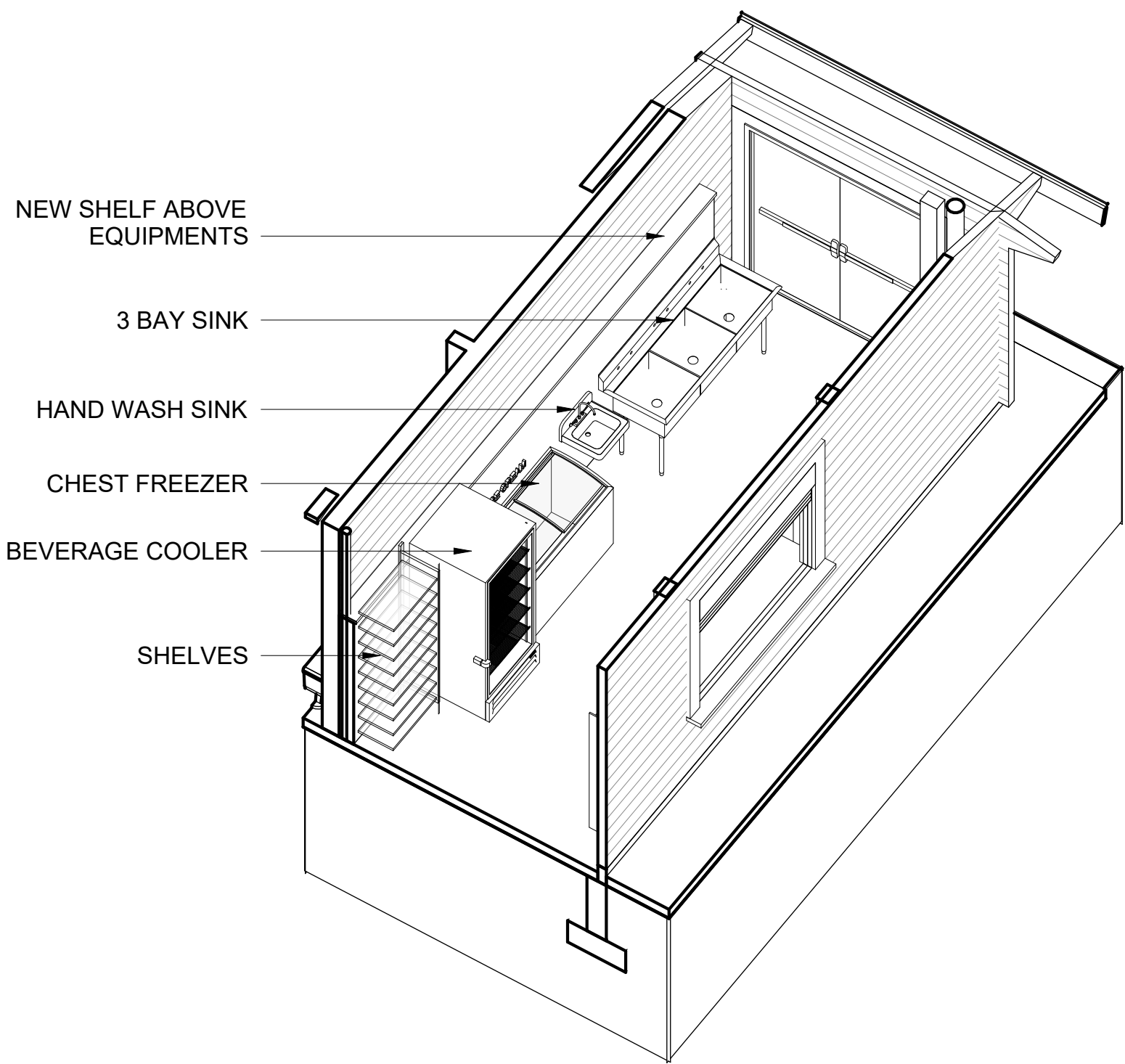


2 Section 2
1/4" = 1'-0"

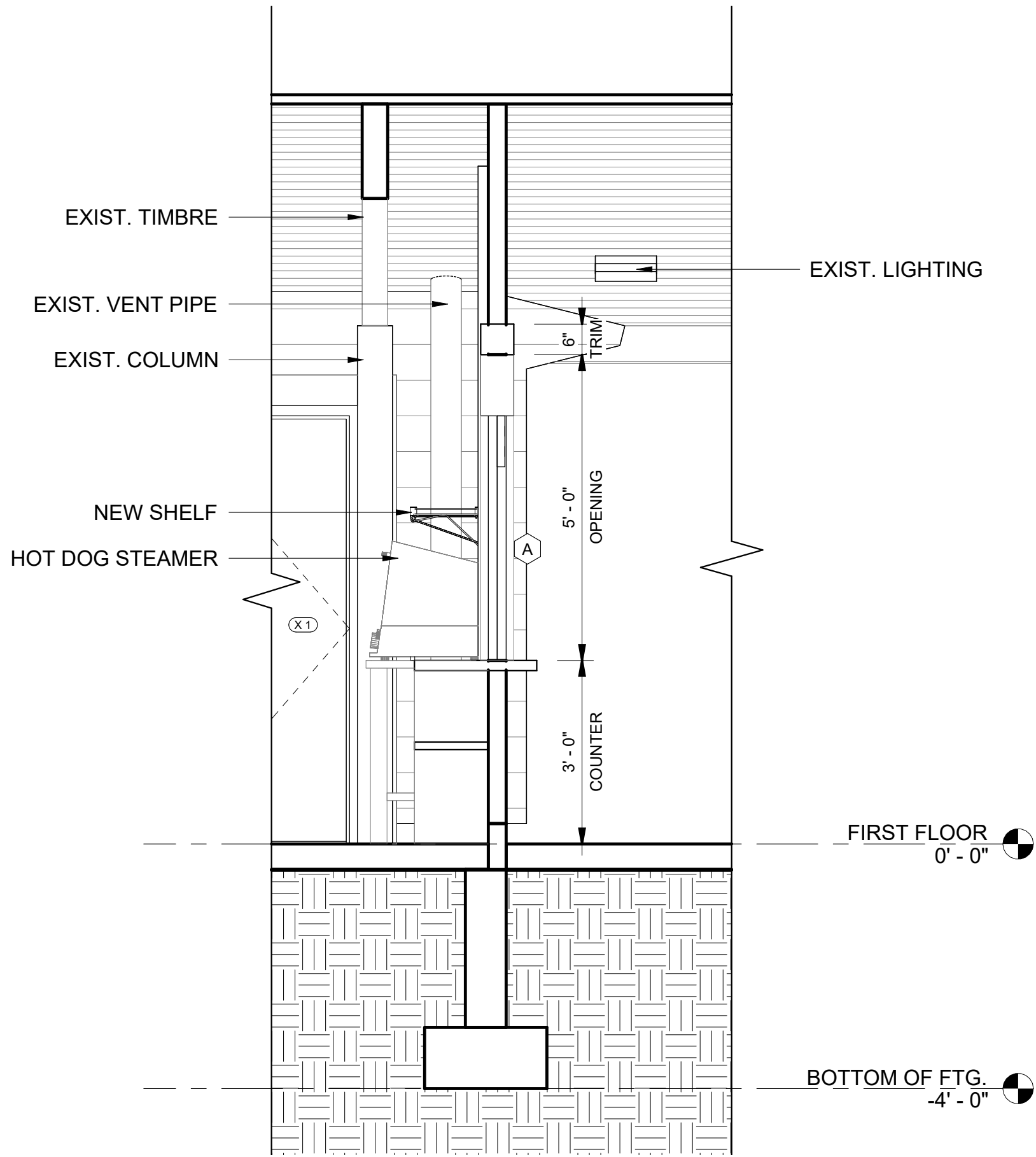
3D SECTIONS WITH EQUIPMENTS



4 KITCHEN 3D A



5 KITCHEN 3D B



3 WINDOW AND COUNTER DETAIL
1/2" = 1'-0"



PROGRESS SET 9 JUNE 2023

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RENOVATIONS TO THE CONCESSION STAND AT:
**HERITAGE PARK - MASHPEE
RECREATION DEPARTMENT
MAIN STREET (RTE 130)
MASHPEE, MASSACHUSETTS**



REVISIONS		
NO.	DATE	DESCRIPTION

STAMP:

PROJECT NO.
MASHPEE

ISSUED BY:
KKA

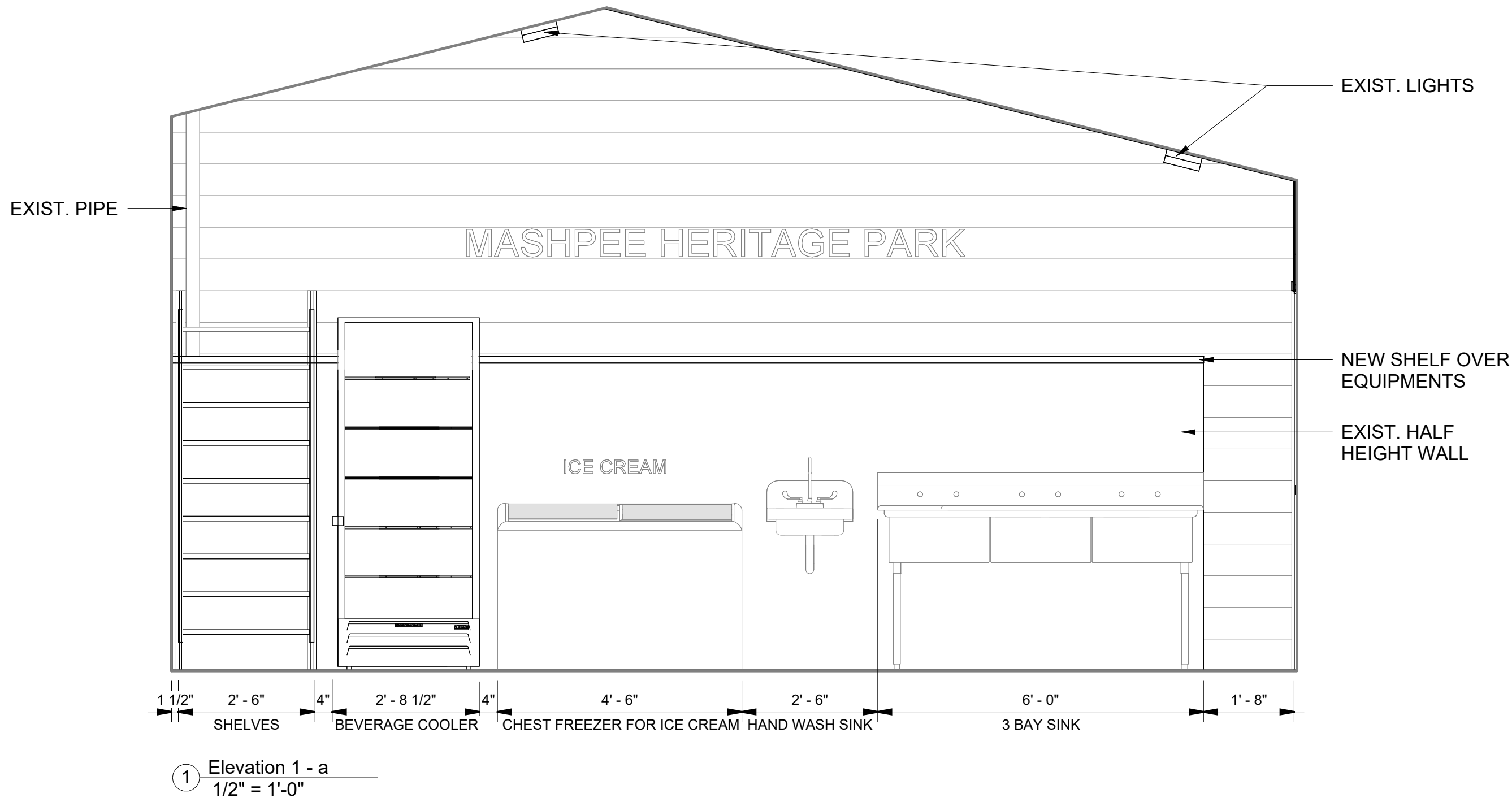
ISSUED DATE:
9 JUNE 2023

SHEET TITLE:

PROPOSED
SECTIONS

SCALE: As indicated
DISCIPLINE - CATEGORY - SUB CATEGORY - SHEET

A3.1



CHEST FREEZER SIZES

Small = 5 to 9 cubic feet (29–38" W x 32–34" H x 22–27" D)
Medium = 10 to 16 cubic feet (54–65" W x 33–36" H x 24–28" D)
Large = 17+ cubic feet (72–84" W x 31–34" H x 27–32" D)

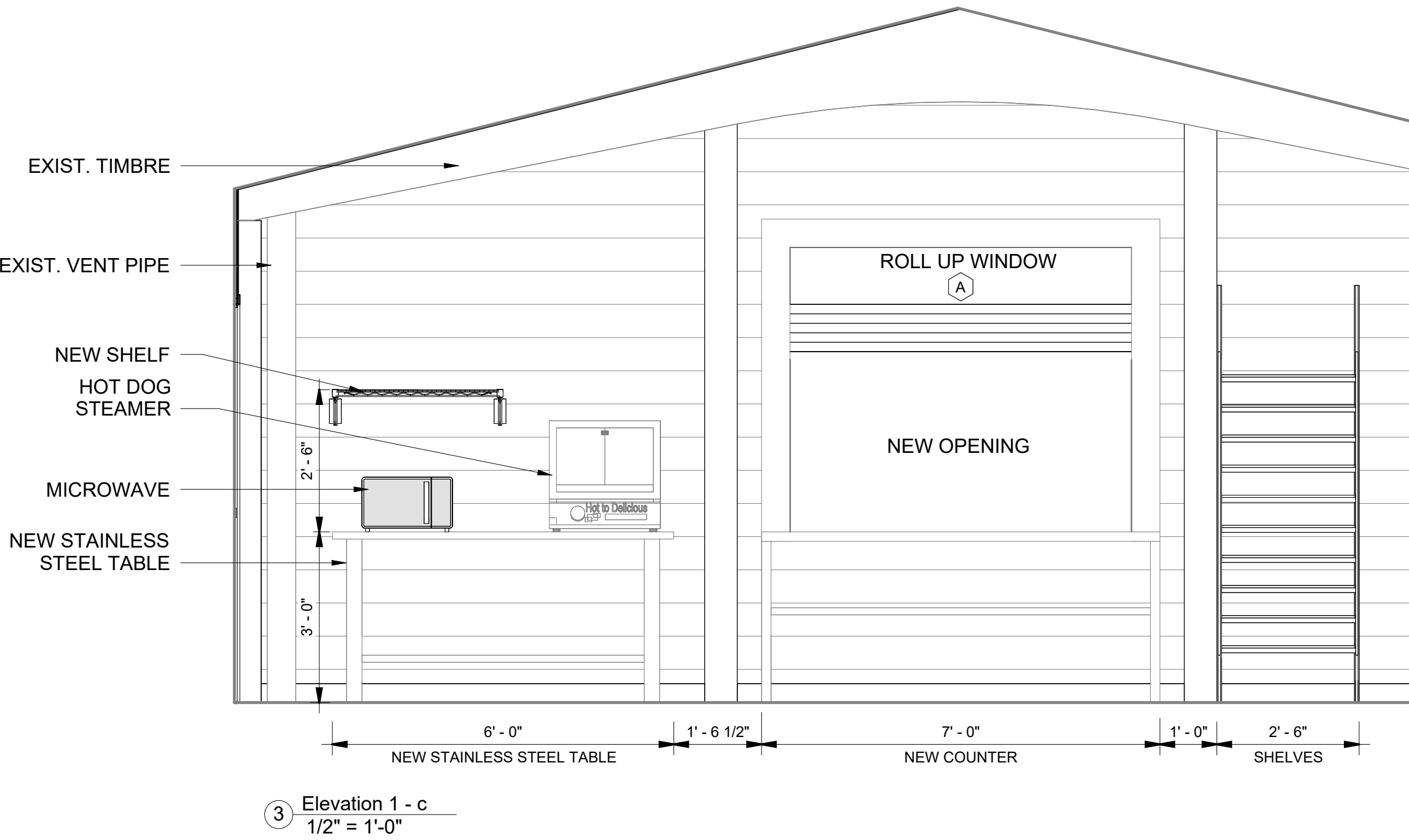
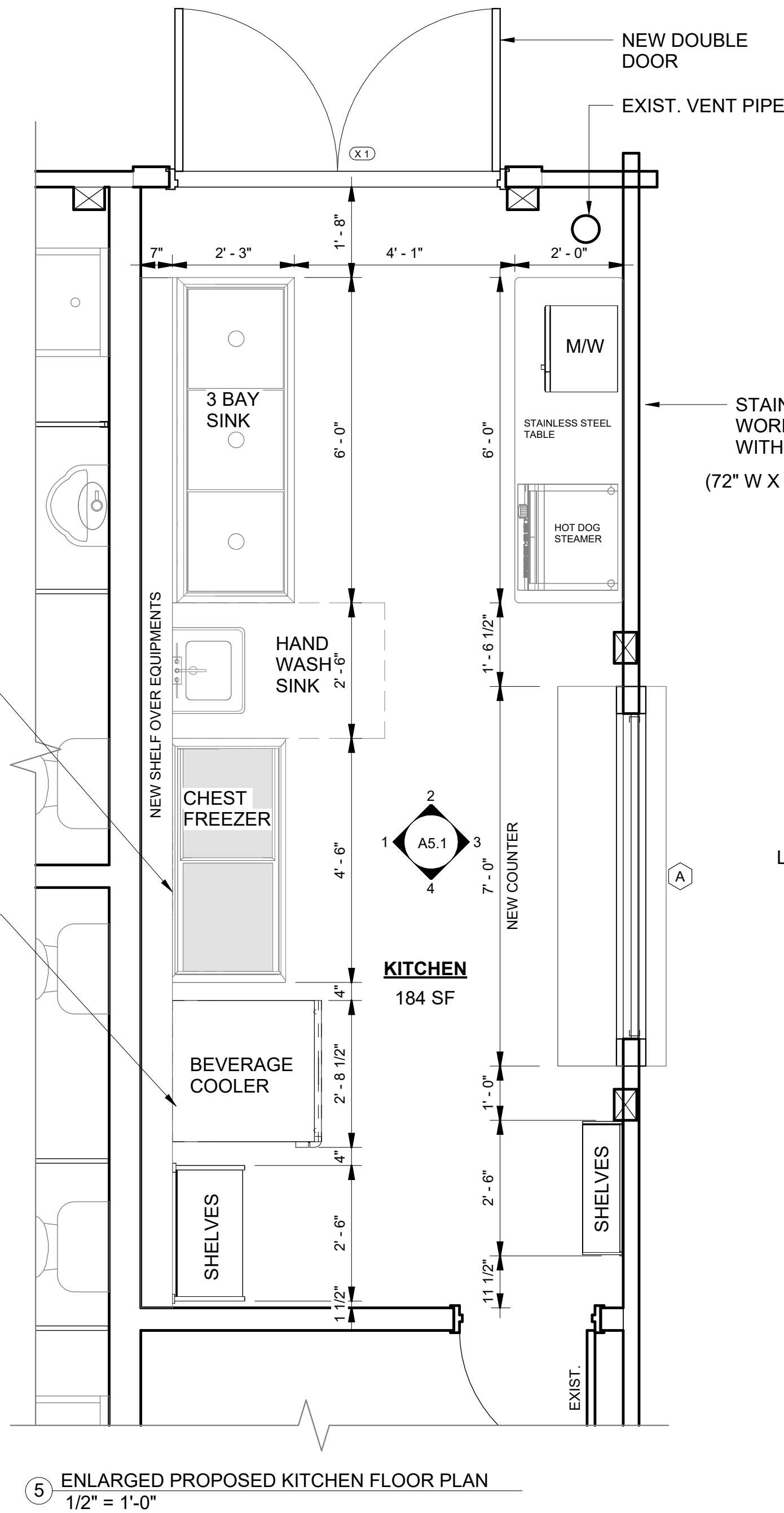


MEDIUM SIZE
IN THE PLAN
(54" W X 33" H X 24" D)

BEVERAGE COOLER



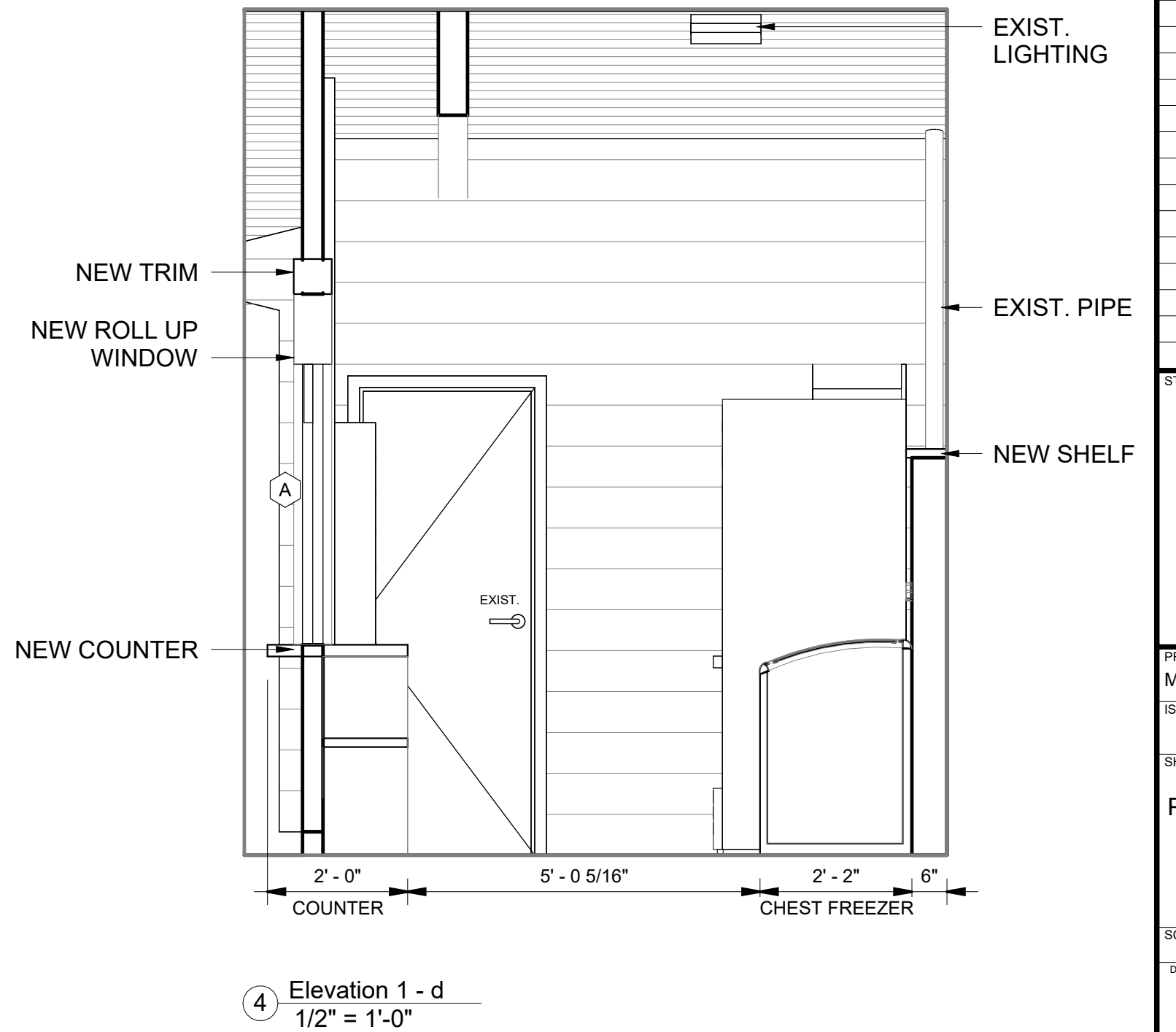
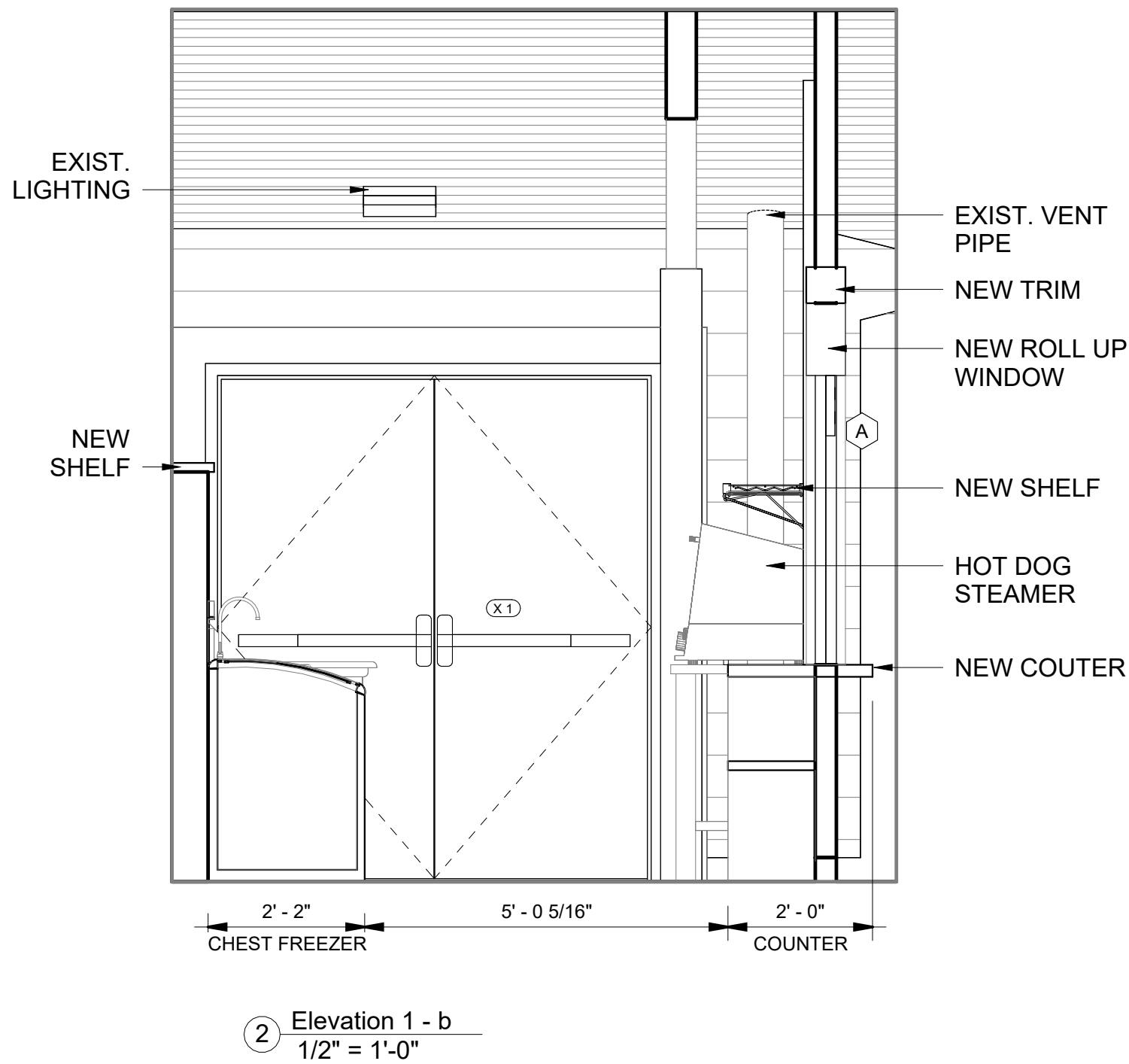
1 SINGLE GLASS DOOR
BEVERAGE COOLER
(31.25" W X 78" H X 33.63" D)



STAINLESS STEEL TABLE



STAINLESS STEEL
WORK TABLE
WITH SHELF
(72" W X 24" D X 36" H)



PROGRESS SET 9 JUNE 2023

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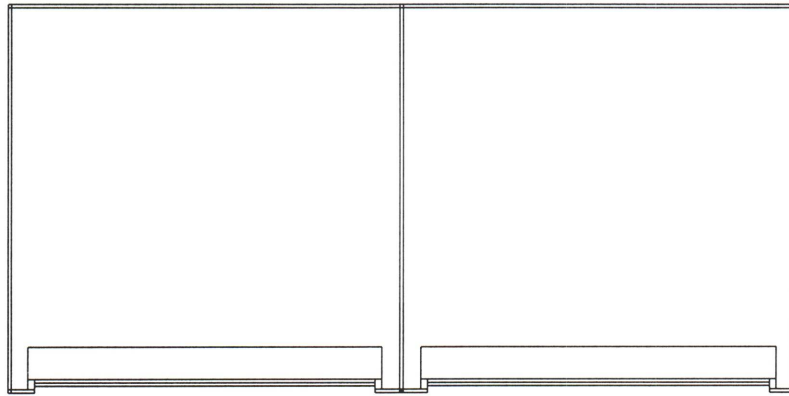
RENOVATIONS TO THE CONCESSION STAND AT:
**HERITAGE PARK - MASHPEE
RECREATION DEPARTMENT**
MAIN STREET (RTE 130)
MASHPEE, MASSACHUSETTS



REVISIONS		
NO.	DATE	DESCRIPTION
STAMP:		
PROJECT NO.	ISSUED BY:	
MASHPEE	KKA	
ISSUED DATE:	9 JUNE 2023	
SHEET TITLE:	PROPOSED KITCHEN INTERIOR ELEVATIONS	
SCALE:	1/2" = 1'-0"	
DISCIPLINE - CATEGORY - SUB CATEGORY - SHEET		

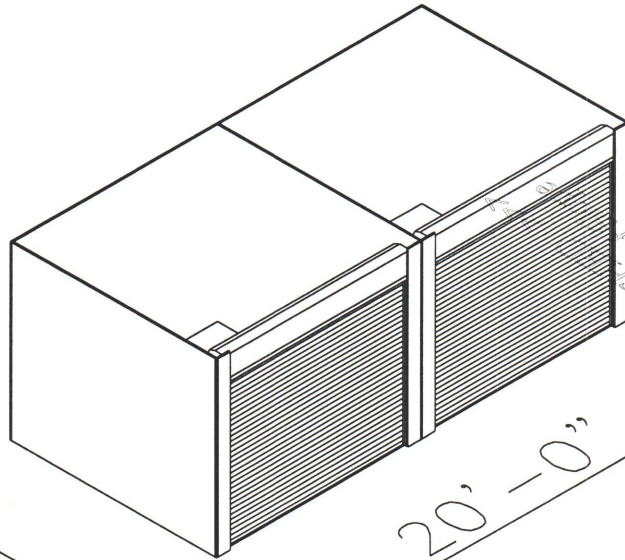
A5.1

10'-0"



SHED >>>
Roof Slope

20'-0"



10'-0" 20'-0"

Date 10-16-23	Job Description Town of Mashpee 520 Main Street Mashpee, MA 02649		MILLER BUILDING SYSTEMS These drawings have been prepared for buildings incorporating methods & materials utilized by Miller Building Inc. Any unauthorized use of this drawings in whole or in part is prohibited and this notice shall serve to hold harmless Miller Building Inc.,	<table border="1"> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> </table>																								
Drawn By psf	Sheet Title Relocatable	Date	Revision	By																								

U ET UOTES

JSP Plumbing and Heating Corp.

15 Morses Ln
Acushnet, MA 02743 US
+1 7742020867
jspplumbingandheating@gmail.com
jspplumbingandheatingma.com

JSP Plumbing & Heating

ADDRESS

Town of Mashpee DPW
350 Meetinghouse Road
Mashpee, Mass 02649

SHIP TO

Town of Mashpee DPW
350 Meetinghouse Road
Mashpee, Mass 02649

Estimate 2043

DATE 10/18/2023

ACTIVITY	QTY	RATE	AMOUNT
Services JSP Plumbing & Heating will be responsible to perform the following work: -Install all waste and vent lines needed for new 3-bay sink and hand sink. -Install all domestic hot and cold water lines to accommodate fixtures listed above. -Install customer supplied 3-bay sink and grease trap. -Install customer supplied hand sink and faucet. -Install all necessary ball valves for domestic hot and cold water. -Install all necessary mixing valves for hand sink. -Does not include any underground piping or cutting of existing concrete slab. If this work is needed it will result in an extra cost. This portion is an estimated cost on labor.	1	8,800.00	8,800.00
Material This portion is an estimated cost on material.	1	4,100.00	4,100.00
Job Location Concession Stand @ Heritage Park recreation department	1	0.00	0.00
Purchase Order Number	1	0.00	0.00
Thank you for your business!	SUBTOTAL		12,900.00
	TAX		0.00
	TOTAL		\$12,900.00

BAYSIDE ELECTRICAL CONTRACTORS. INC.

Estimate

Estimate Date : 10/19/2023

Estimate # : 26723

ESTIMATE VALID FOR 30 DAYS

SERVICE PROVIDER
Arthur P. Doherty Jr Bayside Electrical Contractors, Inc. 57 Mid Tech Drive West Yarmouth, MA 02673 Phone : (508) 771 - 7270 Fax : (508) 771 - 6617 www.BaysideElec.com

CUSTOMER
Town of Mashpee 16 Great Neck Road North Mashpee, MA 02649 Heritage Park

Proposal Description	Qty	Cost	Total
Run dedicated circuits to all new appliances in Heritage Park Pavilion			
Material:	1	766.00	766.00
80' - 1/2" EMT			
4 - 4" square deep boxes			
4 - 20 amp tamper proof GFI			
4 - GFI mulberry covers			
10 - 1/2" EMT connectors			
8 - 1/2" EMT couplings			
16 - 1/2" EMT one holes			
4 - single pole 20 amp QO breakers			
2 - 1/2" EMT LB			
1 - Coil of #12 THHN Black			
1 - Coil of #12 THHN White			
1 - Coil of #12 THHN Green			
Journeyman	8	133.00	1,064.00
Apprentice	8	80.00	640.00

Signature : _____

Sales Tax : (6.25%)

\$0.00

Total : \$2,470.00

All material is guaranteed to be specified. All work is to be completed in a professional manner according to standard practices. Any alteration from the above specs involving extra costs will be executed only upon written orders, and will become a charge order above the proposed amount. All allowance items will be invoiced separately and on a time and materials basis. All agreements contingent upon strikes, accidents or delays beyond our control. Owner to carry fire, tornado, and other necessary insurance. Our workers are fully covered by Worker's Compensation Insurance. Acceptance: The above prices, specifications and conditions are satisfactory and are hereby accepted. Please sign, date and return one executed copy of this contract along with a deposit of 30%. Payments to be made based on work complete and balance will be due upon completion. Cost of collections to include reasonable attorney fees accrued due to non payment are the responsibility of the customer.

BAYSIDE ELECTRICAL CONTRACTORS. INC.

Estimate

Estimate Date : 10/19/2023

Estimate # : 26722

ESTIMATE VALID FOR 30 DAYS

SERVICE PROVIDER
Arthur P. Doherty Jr Bayside Electrical Contractors, Inc. 57 Mid Tech Drive West Yarmouth, MA 02673 Phone : (508) 771 - 7270 Fax : (508) 771 - 6617 www.BaysideElec.com

CUSTOMER
Town of Mashpee 16 Great Neck Road North Mashpee, MA 02649 Heritage Park

Proposal Description	Qty	Cost	Total
Trench to batting cage Run 1" PVC Install WP GFI with heavy duty in use cover *Bayside Electrical not responsible for irrigation or landscape damages			
Material: 260' - 1" PVC 4 - 1" PVC couplings 1 - Quart of PVC glue 2 - 1" PVC 90 2 - 1" PVC FA 1 - 1" - 1/2" threaded reducing bushing 2 - 1/2" Straight NMLT connectors 1 - single gang bell box gray 1 - single gang heavy duty in use cover lockable 1 - WP GFI 20A 1 - single pole 20 homeline 1 - Coil of #10 THHN black 1 - Coil of #10 THHN white 1 - Coil of #10 THHN green 2 - 1" NMLT straight connectors 5' - 1" NMLT	1	1,419.00	1,419.00
Journeyman	5	133.00	665.00
Apprentice	5	80.00	400.00
260' of trenching with small kubota and machine operator	1	1,650.00	1,650.00

Signature : _____

Sales Tax : (6.25%)

\$0.00

Total : \$4,134.00

All material is guaranteed to be specified. All work is to be completed in a professional manner according to standard practices. Any alteration from the above specs involving extra costs will be executed only upon written orders, and will become a charge order above the proposed amount. All allowance items will be invoiced separately and on a time and materials basis. All agreements contingent upon strikes, accidents or delays beyond our control. Owner to carry fire, tornado, and other necessary insurance. Our workers are fully covered by Worker's Compensation Insurance. Acceptance: The above prices, specifications and conditions are satisfactory and are hereby accepted. Please sign, date and return one executed copy of this contract along with a deposit of 30%. Payments to be made based on work complete and balance will be due upon completion. Cost of collections to include reasonable attorney fees accrued due to non payment are the responsibility of the customer.

Get It Fast ^

☐ In Stores or Store Today

Hyannis & nearby stores ▾

Department ^

< Doors & Windows

< Windows

Sliding Windows

Review Rating ^



Please choose a rating

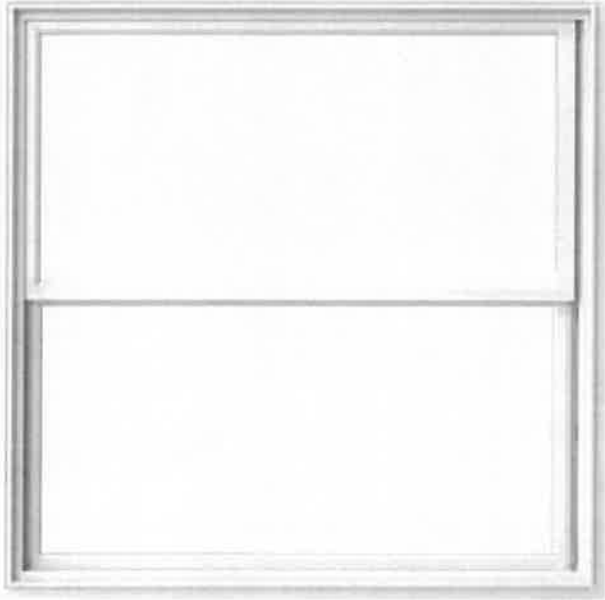
Brand ^

☐ JELD-WEN

Price ^

to

☐ \$1000 - \$2000



More Options Available

BUY \$984.34 ~~\$1158.95~~
Save \$173.71 (15%)

Limit 25 per order

Model# THDJWZ49600032

StoreSKU# 1009386309

Internet# 323011899

JELD-WEN

59.3125 in. x 59.5625 in. W-5500 Left-Hand Sliding
Wood Clad Window



Pickup

198 available for free ship to store



Delivery

198 available



Price Match Guarantee


[Home](#)
[Styles](#)
[Accessories](#)
[Brochures](#)
[Support](#)
[Get a Free Quote](#)

Questions 1-877-357-Door (3667) 1-877-357-Door (3667)

View Cart (0)

Questions? We are here to help! Chat with us or Call Today @ 1-877-357-Door (3667) Mon-Fri 9am-5pm Est



Roll Up Doors Direct - Model 650

Door Size: 6' 0" x 5' 0" (Rough Opening Size)

Sale Price: \$505.00

Configure Your Roll Up Door

Select Color: Sandstone



What material are you mounting to? Wood

☐ Steel ☒ Wood ☐ Masonry

Lock Latch Position: Bottom Latch

☒ Bottom Slide Latch ☐ Outside Door Latch ☐ Ext. Cylinder Lock

Electric Operator (Commercial Use Only): No Motor

☐ No Motor, No Chain

Insulation: No Insulation

☐ No Insulation

Header Seal: No Insulation

☐ No header seal

Side Brush Seal: 16 ft

☐ 16' (+\$128.00)

Reverse Curtain: No

☐ Select this option if the drum is to be mounted outside of the building and the door color needs to be on the same side as the drum. This option is only available with slide bolt latches on the drum side, at the bottom of the door. Reverse curtain doors cannot be insulated.

Hood: 6 FT

☐ 6 FT (+\$282)

Hood Color: Galvalume

☐ Galvalume

Your Online Order Details



Note: For illustrative purposes only. Door and color may vary slightly due to size/configuration.

Estimated Door Price*

\$ 915.00

Door Information

Model: 650	
Size: 6' 0" x 5' 0"	505.00
Color: Sandstone	0.00
Frame: Wood	0.00
Lock: Bottom Latch	0.00
Operator: No motor	0.00
Insulation: No Insulation	0.00
Header Seal: None	0.00
Side Brush Seal: 16 ft	128.00
Reverse Curtain: No	0.00
Hood: 6 FT	282.00
Hood Color: Galvalume	0.00

Subtotal: \$ 915.00

[Add to Shopping Cart](#)

[Configure new Door](#)

Sign up for Promotions

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Privacy Policy | Terms of Use



FAN CLOTH

SIDELINE STORE

Log In | Offers



View Cart \$3,099.99

1

- Apparel
- Footwear
- Team Uniforms
- Equipment
- BSN Exclusive
- Catalog Quick Order

CHECKOUT

- 1 Checkout Method edit
- 2 Billing Information edit
- 3 Shipping Information edit
- 4 Shipping Method edit
- 5 Order Review

Note: If you're not a public school and wish to pay with a purchase order, and you just registered as a new customer, please take a moment to fill out our [Online Customer Information form](#). This will help us assign your credit terms and release your order quickly.

Flyer Code: 8A

Product Name	Flyer	Price	Qty	Subtotal
<div></div> <div>3 Row 15' Standard Bleacher (seats 30) SKU: NB0315 In Stock Ships Truck</div>	8A	\$3,099.99	1	\$3,099.99

Flyer Code

APPLY

The order confirmation email will be sent to **claurent@mashpeema.gov**

You may also enter additional email addresses here to receive this confirmation

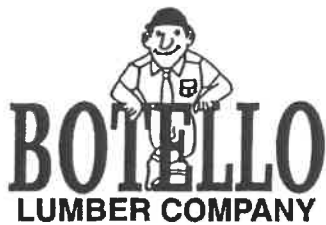
(Enter comma seperated emails)

Merchandise Total:	\$3,099.99
Freight:(detail)	\$558.00
Tax:	\$193.75
CART Total:	\$3,851.74

For your total order amount, please see your cart total to the left.

CONTINUE

6 Payment Information



Botello Lumber
26 Bowdoin Rd
Mashpee MA 02649
508-477-3132
Fax: 508-477-4279



QUOTE

2310-137710

PAGE 1 OF 1

SOLD TO
MASHPEE - D.P.W. 350 MEETINGHOUSE ROAD MASHPEE MA 02649

JOB ADDRESS
MASHPEE - D.P.W. 350 MEETINGHOUSE ROAD MASHPEE, MA 02649 508-539-1420

ACCOUNT	JOB
17478	0
CREATED ON	10/27/2023
EXPIRES ON	11/27/2023
BRANCH	1000
CUSTOMER PO#	
STATION	CS10
CASHIER	EA
SALESPERSON	
ORDER ENTRY	EA
MODIFIED BY	

Item	Description	D	Quantity	U/M	Price	Per	Amount
SOD	6/0X7/0 LHOS DBLE DOOR SP7-100 FLUSH FOORS 4-9/16" PRIMED FRAMESAVER JAMB SINGLE BORE ACTIVE DOOR NO CASING OUTSWING ALUMINUM MILL SILL WHITE ULTRA FLIP ASTRAGAL BRUSH NICKEL ATRAGAL STRIKE PLATE BRUSH NICKEL HINGES-2 NRP		1	EACH	1919.4900	EACH	1,919.49
/	SPECIAL ORDER ITEMS ARE NON-RETURNABLE. PLEASE BE SURE ALL INFORMATION IS CORRECT.		1	EA		EA	
					Subtotal	1,919.49	
			EXE 0.00% EXE: 046001213		Sales Tax	0.00	
					Total	1,919.49	

Buyer: BRAD TRIPP

Signature



1408 BETHLEHEM PIKE
FLOURTOWN, PA 19031
PHONE: 215-233-9300
FAX: 215-836-7358
WWW.MILLERBLDGS.COM

October 16, 2023

Brad Tripp
Town of Mashpee
Department of Public Works, 350 Meetinghouse Road
Mashpee, MA 02649

Town of Mashpee
520 Main Street

Dear Brad:

Thank you for requesting a quote for a Miller "Educational Facilities Storage Unit". Attached is the floor plan and the specifications.

Miller Buildings, Inc. – Quality Materials and Installations since 1976.

NOTE: Buyer is responsible for removing the "storage unit" from the trailer with a forklift or crane.

The following unit to be delivered to site in Mashpee, MA

<u>Unit Size</u>	<u>Prefabricated Unit Price</u>	<u>Freight per Load</u>	<u>TOTAL</u>
10' x 20' 2- 10' x 10'	\$12,161	\$4,500	<u>\$16,661</u>

*Two Units can fit on one load of freight.

**If architectural drawings are required, please add \$810.

***If this project is to be tax exempt, you must supply the proper documents.

It is the Buyer's responsibility to check compliance for the commercial energy and fire code requirements with local code officials. Sealed drawings will not include a ComCheck report, and it is not included in this quotation. Any additional requirements beyond the listed items will be subject to additional charges. It is also the Buyer's responsibility to check all wind and snow loads before ordering the buildings.

Delivery of material will be approximately 8-10 weeks after receipt of signed contract and deposit from Buyer. This lead time is based on our production workload schedule at the time this contract was prepared. Depending on the timing and quantity of relocatable contracts that we receive, the delivery times may increase. Prices shown above are exclusive of any permits or licenses.

Payment terms are 33% of material/freight payable upon execution of contract and the remainder of material/freight cost payable by check or bank wire upon delivery.

Prices are subject to change without written notice.

Sincerely,



Joe Garcia



ELKAY Bottle Filler: On-Wall, Non-Refrigerated, 32 in Ht, 19 1/8 in Dp, ADA Compliant

Item 33KJ66

Mfr. Model LK4405BFEVG

☐ Compare

Product Details Catalog Page N/A

Brand **ELKAY**

Mounting Location **Wall Surface Mount**

Refrigeration **Non-Refrigerated**

ADA Compliant **Yes**

Environment **Outdoor**

Dispenser Actuation **Front Push Button**

Includes Water Filter **No**

Power Source **No Electrical Required**

Overall Width **10 in**

Overall Depth **19-1/8 in**

Overall Height **32 in**

Housing Material **Stainless Steel**

Housing Color **Green**

Housing Finish **Plain**

Filter Status Indicator **No**

Manufacturer Warranty Length **1 yr**

Features

Heavy-Gauge Construction; Laminar Flow Provides Clean Fill With Minimal Splash; Stain Resistant; Tamper-Resistant Screws

Standards

ADA and ICC A117.1; Buy American Act; GreenSpec; NSF 372 (Lead Free); NSF 61

Your Price  **\$2,443.11 / each**



This item requires special shipping, additional charges may apply.

Qty

1


Add to Cart

☐ Add Extended Protection Plan for \$657.89 / each. Details

☐ Setup Auto Reorder

☒ Ship

☐ Pickup

 Ships from supplier. Expected to arrive by end of Dec, 2023.

Ship to **02649** | Change

Shipping Weight **73 lbs**

Ship Availability Terms

Add to List

Compliance & Restrictions

This product has been certified by a third party to be compliant with the "Safe Drinking Water Act" requirements for low lead in potable (human consumption - drinking and cooking) and non-potable water applications (non-human consumption).



WARNING: Cancer and Reproductive Harm - www.P65Warnings.ca.gov

Documents



Product

 Chat with an Agent

Evan Lehrer
Town Planner
(508) 539-1414
elehrer@mashpeema.gov



Planning Department
Mashpee Town Hall
16 Great Neck Road North
Mashpee, MA 02649

Project Addresses (and Parcel IDs) with associated land area

The parcels contemplated in this application are enumerated below. They are broken down into three categories that are denoted by a color to correspond with a "Sale Prioritization" Locus Map on a separate page. The lots identified in red are those lots that the property owners are highly motivated to sell. Those in orange are those where the property owners are motivated but require more information before deciding. The property shown as green, O-Rear Pickerel Cove, is not yet definitively available as only 2/3 of the ownership have been party to the discussions with the Town to date. This may become available, and as such, is being submitted for consideration by the CPC.

High Motivation to sell

9 Pickerel Cove Road, 1.84 Acres (Assessors Map 13 Parcel 53)
17 Pickerel Cove Road, 1.91 Acres (Assessor's Map 13 Parcel 54)
25 Pickerel Cove Road, 1.92 Acres (Assessor's Map 13 Parcel 55)
33 Pickerel Cove Road 1.99 Acres (Assessor's Map 13 Parcel 56)

Total Land Area for these parcels = 7.66 acres.

Motivated to sell however subject to satisfactory terms and conditions:

87 Pickerel Cove Road, 2.5 Acres (Assessor's Map 13 Parcel 1)
7 Pickerel Cove Circle, 2.03 Acres (Assessor's Map 13 Parcel 57)
21 Pickerel Cove Circle, 2.20 Acres (Assessor's Map 14 Parcel 14)
25 Pickerel Cove Circle, 2.02 Acres (Assessor's Map 14 Parcel 4)

Total Land Area for these parcels = 8.75 acres.

May become available but this currently is unknown as 1/3 ownership not yet been involved with these discussions.

O-Rear Pickerel Cove Road, 0.86 Acres (Assessor's Map 14 Parcel 3)

Total Land Area for these parcels = 0.86 acres.

Total for all 9 parcels = 17.27 acres

Evan Lehrer
Town Planner
(508) 539-1414
elehrer@mashpeema.gov



Planning Department
Mashpee Town Hall
16 Great Neck Road North
Mashpee, MA 02649

Sale Prioritization Locus:



A. If the proposal is being submitted by a Town Department, Committee, Board or Commission, the application requires acknowledgment of awareness of submission by the Town Manager.

Town Manager signature: _____

RODNEY C. COLLINS

Town Manager Approval Date: _____

10/27/23

B. If the proposal involves town-owned land, has the Town approved the use of said Town-owned land?

Yes: _____ Please document.

No: _____ What are the plans to secure approval?

Not applicable

C. If this proposal has been permitted, reviewed or discussed at a Town Committee, Commission or Board meeting, include copies of the minutes of meeting where this proposal was discussed.

Planning Board - 10/18 (draft minutes attached, approval anticipated)
Conscom - 10/19 and 11/2 (Draft 10/19 minutes included)
Project Description: 11/01/2023 subsequent to decision

Answer the following questions; be brief, but complete and include any supporting materials.

All questions must be answered.

1. Control of Site:

A. Indicate if applicant owns or has a purchase agreement for the property.

- Attach the current deed/title to the application. ✓ Deeds provided along w/ title information property owners.
- If under agreement, attach a copy of agreement. N/A
- If applicant does not own the site, what is the relationship between applicant and owner? ✓ Provided in narrative

B. If this is a land acquisition request, is the property currently listed for sale? ✓

C. Are there any Deed Restrictions/other Restrictions on the land? ✓

2. Goals: What are the goals of the proposed project? ✓

3. Community Need:

A. Why is this project needed? How does it reflect the criteria as defined by the CPC Committee? ✓
(See attached criteria) Provided in narrative

B. Describe and quantify the need: number of people who will directly benefit from the project once it is completed; and /or resources that will be protected as a result of this project. ✓

C. Is this part of an approved Town Plan, for example the Local Comprehensive Plan. ✓

4. Community Support:

A. What is the nature and level of support for this project? Please see Information Checklist re: letters of support and petitions. Letters included in Exhibit

B. Has there been any communication with project abutters? Yes: ✓ No: _____

Letter sent via US Mail to all abutters within 300' of properties on Tuesday, October 31, 2023

5. Timeline:

A. What is the proposed schedule for project implementation, including a timeline for all milestones? ✓

B. Permitting Requirements: List permits needed for completion of project and anticipated timeline, including any special permit, variance or other approval required. ✓
Addressed in narrative

If any trails contemplated, ConComm may require review and approvals

6. Community partners or sponsors:

Identify any partners or sponsors for this project. Provide letters of intent. ✓

(For example, the Town does not develop affordable housing, therefore partners are necessary to complete the project.) *Please see letters of support. These agencies could potentially hold the CR if desired*

7. **Success Factors:** How will the success of this project be measured? Be specific. ✓

8. Experience/Credentials:

A. How will the experience of the applicants(s) contribute to the success of this project?

B. Information about the applicant - for applicants other than Town Departments, attach to only one copy of application. *N/A*

1. Organizational goals and objectives of applicant.
2. Organizational history of applicant.
3. Names of members of governing board (e.g. directors or trustees)
4. Legal and tax status of applicant; IRS document identifying non-profit status
5. Letter of good standing from Town and State
6. Copy of most recent audit
7. Description of previously completed projects similar to proposed project
8. References
9. W-9

9. **Budget:** What is the total budget for the project and how will CPA funds be spent? ✓

A. **Budget:** Itemize the project budget. Expenditures and estimated costs must be clearly identified and back-up documentation provided.

Item Description	Cost Estimate	CPA Funds	Other Funds
<i>Property acquisition</i>			
Total			

B. **Other Funding:** What additional funding sources are available, committed, or under consideration for this project? Include copies of commitment letters, if available, and describe any other attempts to secure funding for this project. *None @ this time*

C. Applicant's Previous CPA Project Funding: Has a previous phase of this project, or any previous project, received CPA funding? If yes, explain. *No*

D. Please list any donated labor and/or materials and the value for each.

10. Maintenance: CPA funds may not be used for maintenance. If ongoing maintenance is required for this project, how will it be funded?

11. Coordination with Town Departments: If your project requires coordination with another Town Department or entity, complete the following:

A. Identify by name each department, committee, board, or commission that will play a role in the implementation of your project.

B. Define in detail the role to be played by each specific governmental body.

C. Obtain the signature of the director or department head of the identified department/board/committee/commission to assure acknowledgment of the details of the application and the department's role.

Department Head Signature

12. Coordination with Other Town(s): If your project requires coordination with other Town(s), please explain.

INFORMATION CHECKLIST:

The application should contain the following supplemental information in order to be reviewed:

- ☒ Site plan
- ☒ Assessor's Field Card
- ☒ Title and/or Deed to the property; Purchase and Sale; Exclusive Option Purchase
- ☒ Photographs or renderings of existing site and conditions
- ☒ ~~N/A~~ Architectural plans and specifications if applicable
- ☒ Letters of support

FOR OPEN SPACE ACQUISITIONS: Due Diligence Checklists.

- ☒ Written report from the Conservation Agent on the environmental quality of the site.
- ☒ Good Standing Statement from Town and State * Awaiting State
- ☒ Appraisal(s) on the property.
- ☒ Possible letters of support from Conservation Commission

FOR RECREATION PROJECTS:

___ letter of recommendation from the Recreation Director

FOR AFFORDABLE HOUSING PROJECTS:

___ letter of recommendation from the Affordable Housing Committee

FOR HISTORIC RESOURCES:

___ Documentation of historical significance from one or more of the following sources:

- a. the Massachusetts Historical Commission
- b. the National Register of Historic Places
- c. the Mashpee Historical Commission

___ Letter of recommendation from Mashpee Historical Commission

TOWN OF MASHPEE COMMUNITY PRESERVATION COMMITTEE

General Criteria

The Mashpee Community Preservation Committee encourages proposals that address as many of the following general criteria as possible:

- 1) Contribute to the preservation of Mashpee's unique character, boost the vitality of the community and enhance the quality of life for its residents.
- 2) Are eligible for Community Preservation Act (CPA) funding according to the requirements described in the CPA legislation; specifically,
 - a) The acquisition, creation, and preservation of open space.
 - b) The acquisition, preservation, rehabilitation, and restoration of historic resources.
 - c) The acquisition, creation, and preservation of land for recreational use.
 - d) The creation, preservation, and support of community housing.
 - e) The rehabilitation and restoration of resources that have been acquired or created using monies from the fund.
- 3) Are consistent with the current Local Comprehensive Plan (LCP) and other planning documents that have received wide scrutiny and input and have been adopted by the town;
- 4) Preserve the essential character of the town as described in the LCP;
- 5) Save resources that would otherwise be threatened and/or serve a currently underserved population;
- 6) serve more than one CPA purpose;
- 7) provide a detailed line item budget for the proposed project;
- 8) demonstrate a positive relationship of cost to benefit;
- 9) leverage additional public and/or private funds;
- 10) Preserve or utilize currently owned town assets; and
- 11) Receive endorsement by other municipal boards or departments.

Category Specific Criteria

Open Space Proposals should address as many of the following specific criteria as possible:

- 1) Permanently protect important wildlife habitat, including areas that
 - a) are of local significance for biodiversity;
 - b) Contain a variety of habitats, with a diversity of geological features and types of vegetation;
 - c) Contain a habitat type that is in danger of vanishing from Mashpee; or
 - d) Preserve habitat for threatened or endangered species of plants or animals.
- 2) Provide opportunities for passive recreation and environmental education.
- 3) Protect or enhance wildlife corridors, promote connectivity of habitat or prevent fragmentation of habitats.
- 4) Provide connections with existing trails or potential trail linkages.
- 5) Preserve scenic views.
- 6) Border a scenic road.
- 7) Protect drinking water quantity and quality.
- 8) Provide flood control/storage.
- 9) Preserve important surface water bodies, including wetlands, vernal pools or riparian zones.
- 10) Preserve a primary or secondary priority parcel in the Open Space Plan.

Historic Preservation Proposals should address as many of the following criteria as possible:

- 1) Protect, preserve, enhance, restore and/or rehabilitate historic, cultural, architectural or archaeological resources of significance, especially those that are threatened;
- 2) Protect, preserve, enhance, restore and/or rehabilitate town-owned properties, features or resources of historical significance;
- 3) Protect, preserve, enhance, restore and/or rehabilitate the historical function of a property or site;
- 4) Be within the Local Historic District, on a State or National Historic Register, or eligible for placement on such registers;
- 5) Demonstrate a public benefit; or
- 6) Demonstrate the ability to provide permanent protection for maintaining the historic resource.

Recreation Proposals should address as many of the following criteria as possible:

- 1) Support multiple active and passive recreation uses;
- 2) Serve a significant number of residents and visitors;
- 3) Expand the range of recreational opportunities available to Mashpee residents and visitors of all ages;
- 4) Maximize the utility of land already owned by Mashpee.

Affordable Housing Proposals should address as many of the following criteria as possible:

- 1) Contribute to the goal of achieving 10 percent affordable housing;
- 2) Promote a socioeconomic environment that encourages diversity;
- 3) Provide housing that is harmonious in design and scale with the surrounding community;
- 4) Ensure long-term affordability;
- 5) Promote use of existing buildings or construction on previously-developed or Town-owned sites;
- 6) Convert market rate to affordable units; or
- 7) Give priority to local residents, Town employees, and employees of local businesses to the extent allowed by law.



PICKEREL COVE OPEN SPACE ACQUISITION

Evan R. Lehrer, Community Development Director

Town of Mashpee Planning & Conservation Departments

Prepared for consideration by the Mashpee Community Preservation Committee

November 1, 2023

1. Site Control

A. Indicate if applicant owns or has a purchase agreement for the property.

The applicable deeds and plans are attached to this application as Exhibit A along with a statement from the property owners highlighting the critical title information. This is a collection of parcels shared among multiple owners who are related. The Planning Department has been in communication with the property owners for approximately 1 year relative to their desire to sell at least a portion of these 17 acres to the Town to protect as open space (See "Sale Prioritization" Locus attached to application cover sheet). Property owners have provided a letter in support of this effort which is attached to this application as Exhibit B.

B. If this is a land acquisition request, is the property currently listed for sale?

The properties have been informally on the marketplace now and then.

C. Are there any deed restrictions/other restrictions on the land?

There are not currently any restrictions on the land that would prevent conveyance to the Town for Open Space protection however the early deeds of these properties may carry some restrictions relative to construction/development.

2. Goals

The primary goal of this proposal is to have the Town acquire a collection of contiguous parcels located generally between Main Street (Route 130) and the western shore of Mashpee-Wakeby Pond along Pickerel Cove Road and Pickerel Cove Circle (See Locus and Photos in Exhibit C). The application contemplates the acquisition of approximately 17.2 Acres in total (according to Mashpee Assessor records). To be perfectly clear, the owners are highly motivated to sell for conservation purposes to the Town at least four lots totaling approximately 7.66 acres addressed as 9, 17, 25, and 33 Pickerel Cove Road (Assessor's Map 13 Block 53, 54, 55, 56 respectively). While the property owners are less motivated to sell the remaining 10 +/- acres, they are interested in the potential of selling it all if the discussion and negotiation with the Community Preservation Committee is advantageous. As such, this application requests funding to purchase all 17+ acres and seeks an appraisal on the total acreage. Thus in addition to 9, 17, 25 and 33 Pickerel Cove Road this application seeks funding to also acquire 87 Pickerel Cove Road, 7 Pickerel Cove Circle, 21 Pickerel Cove Circle, and 25 Pickerel Cove Circle. 0-



Rear Pickerel Cove Circle may also become available but this currently is unknown however in the event that it does, this application seeks funding for it.

3. Community Need

Mashpee's Long Range Plan as stated in the 1998 Local Comprehensive Plan includes a goal to "maximize publicly owned and protected lands within the Mashpee National Wildlife Refuge (MNWR)." The subject parcels are within the acquisition boundary of the MNWR and are potentially a connection to the shore of Mashpee Wakeby via land that may be sold to the Town for conservation purposes or an access easement (if granted) over 21 Pickerel Cove Circle. The property addressed as 0-Rear Pickerel Cove contains freshwater wetland that is shown on the national wetland inventory mapping which also contains portions of the land that provide rare species habitat along the pond's shoreline. Additionally, this land is not currently protected and is subject to development. The Planning Department hopes that this application could effectuate public access to the Mashpee-Wakeby waterfront which would require conveyance of some or all of the Pickerel Cove Circle Lots or an access easement at the least. Given the loss of public access to water, this provides a critical opportunity to enhance public access.

As surface and ground water qualities continue to decline, additional single family dwellings without access to sewer will install polluting septic systems that are the primary culprit in the degradation of water quality in Mashpee. Protecting these would contribute towards the protection of drinking water quantity and quality. The 2007 Open Space Plan identifies these parcels as privately held lands of conservation interest and 9, 17, 25 and 33 Pickerel Cove Road are shown as secondary priority parcels on the Open Space Incentive Plan and 0-Rear Pickerel Cove as a primary conservation parcel.

This proposal would permanently protect Wildlife Habitat on parcels subject to development that is also contiguous with protected open space. It would expand opportunities for passive recreation and public access to the water if the entire tract could be successfully negotiated and sold to the Town or an easement negotiated across 21 Pickerel Cove or if a waterfront parcel could be made available to the Town for purchase.

4. Community Support

Please see attached letters of support from the following entities shown in Exhibit D:

- Planning Board – voted October 18, 2023 (draft minutes provided in Exhibit H)
- Conservation Commission – *I have requested a letter of support from the Conservation Commission who discussed the matter on 10/19/2023. They desired more information relative to the environmental quality of the parcels before voting to offer a letter of support. I expect a letter of support to be provided by the Conservation Commission for this application subsequent to their November 2, 2023 meeting. (Minutes for 10/19 unable to be provided at this time due to staffing issues related to the Conservation Commissions recording secretary)*
- Friends of the Mashpee National Wildlife Refuge
- Save Mashpee-Wakeby Pond Alliance



- Native Land Conservancy
- Orenda Wildlife Land Trust
- Trustees for Reservations

Additionally, the Mashpee Community was asked how important increased open space preservation is to the future of the Town in the Public Opinion Survey issued in support of the update to the Local Comprehensive Plan. Nearly 80% of the 620 respondents indicated that it was either very important or somewhat important. Less than 7% of respondents felt it was somewhat or totally unimportant. Over 70% of respondents support acquisition of environmentally sensitive land as means to address the water quality challenges the Town is confronted with. With very few parcels of primary conservation interest remaining undeveloped, this proposal seems to have strong community support based on the findings of the Comprehensive Plan community engagement work.

Sixty-five property owners were notified by United States mail postmarked October 31, 2023. See Exhibit G for Certified Abutters List of all property owners within 300' of the properties who received notification and sample letter.

5. Project Timeline

The first step in this proposed acquisition would be to conduct an independent appraisal, ideally, that adheres to the "uniform appraisal standards for federal land acquisitions" or "yellow book." The property owners request an appraisal not only of 9, 17, 25, and 33 Pickerel Cove Road, but also of the remaining parcels within the approximately 17 acre property since as this process unfolds there may be interest on the part of the property owners to sell more than the 8 acres they are highly motivated to sell at this time. With acquisition price and agreements in place, Town Meeting would be asked to appropriate funds for the acquisition at the Spring 2024 Town Meeting. If funding is approved at Town Meeting then the conveyances would take place shortly thereafter with assistance from Town Counsel.

There are no permitting requirements impacting the timeline for this project as this is not a development proposal, however the Conservation Commission would likely require review and approval of any trail system at the subject properties subsequent to the conveyances taking place.

6. Success Factor

Success of this project is contingent on costs and capacity building with partners. If a reasonable acquisition price can be agreed upon then the parcel can be added to the existing Mashpee Wildlife Refuge system. The property lies within the acquisition boundary of the Refuge, thus successful acquisition of this parcel will further the goals of the Mashpee National Wildlife Refuge partnership. Success will be measured by management and maintenance of this parcel as deeded conservation land.

Evan Lehrer
Town Planner
(508) 539-1414
elehrer@mashpeema.gov



Planning Department
Mashpee Town Hall
16 Great Neck Road North
Mashpee, MA 02649

7. Experience/Credentials

The Mashpee Conservation Department, Conservation Commission, Town Planner and the Mashpee National Wildlife Refuge Partnership work in conjunction to acquire lands for open space protection. Combined experiences amongst these entities include facilitation of land acquisition for open space, forestry management, wildlife habitat preservation and enhancement, wildfire risk assessment and abatement and natural resource management. Indeed, the experience and credentials of the petitioners of this funding application is substantial.

8. Budget

This application requests a budget allocation of [REDACTED] based off of an appraisal (Exhibit E) provided to the Planning Department by one of the property owners. This would solely go towards the acquisition of these properties for open space protection. It is understood that this figure may change pending the results of an independent appraisal conducted by the Community Preservation Committee. Additionally, if property owners decide that it is not in their best interest at this time to sell anything beyond the 8 acres they are currently highly motivated to sell, the budget requirements for this project may be reduced.

9. Community Partners

This application may benefit from partnerships with a nonprofit land conservation organization such as the Trustees for Reservations, Orenda Wildlife Land Trust, or Native Land Conservancy to hold any conservation restriction recorded against these parcels. The owners have talked and decided it is premature to decide on who manages the property and monitors it for compliance with any conservation restriction at this time. For now it is assumed that, if the properties are acquired by the Town, they will be managed by the Conservation Agent(s) under the care and control of the Conservation Commission however if there is, in the opinion of the property owners, a price basis for moving forward, they would be better equipped to respond to the question relative to who holds the conservation restriction.

10. Other Funding

Town staff are currently evaluating potential partners to supplement the acquisition costs of these important parcels for conservation.

Evan Lehrer
Town Planner
(508) 539-1414
elehrer@mashpeema.gov



Planning Department
Mashpee Town Hall
16 Great Neck Road North
Mashpee, MA 02649

Exhibits:

- A.) Deeds and Associated Plans
- B.) Letter from Property Owners
- C.) Locus Map and Photos of Subject Site
- D.) Letters of Support
- E.) Shuman Appraisal Report
- F.) Environmental Quality Report from Conservation Agent
- G.) Letter mailed certified to abutting property owners.
- H.) Conservation Commission and Planning Board Minutes *(These are submitted in draft form as neither entity meets prior to the deadline to approve their last set of minutes)*
- I.) Email from Treasurer/Collector Craig Mayen relative to the properties' taxes and Certificate of Good Standing from the Secretary of State

Exhibit A

- Property owner statement relative to title history
- Deeds
- Associated Plans

To: Evan Lehrer, Town Planner

Dated: October 27, 2023

From Owners

Re: Title Information - Land on Pickerel Cove Road and Pickerel Cove Circle

An ANR plan of land can be found at the Barnstable County Registry of Deeds in Plan Book 577, Page 29. This plan describes only a part of the total plot of land that comprises the approximately 17-Acre parcel. For the full complement of land, you need to go to the deed from Dorothy Kagan to Old Seabury Realty LLC found at the Barnstable County Registry of Deeds in Book 17851 Page 164. On page 167 of that document, there is a paragraph that lists lots 1-6 on the ANR plan; and also a 2.5 Acre lot that is shown on a plan recorded in Plan Book 127 Page 101; and also lots 17A and 18A on a plan recorded at Plan Book 186 Page 139. These nine lots referenced on these three plans taken together describe the full complement of land that we often call "the 17 Acres."

Dorothy G. Kagan, of 1443 Beacon Street, Apartment 710, Brookline, Massachusetts,

for consideration of Less than One Hundred and no/100 (\$100.00) Dollars

Grants to Old Seabury Realty, LLC, a Massachusetts Limited Liability Company, my ^{*}1/2 interest (as Tenant in Common with Anthony J. Shuman) in the land located in Mashpee, County of Barnstable, Massachusetts,

*24 Cornell Road Wellesley, MA 02482

With Quitclaim Covenants

bounded or otherwise described as follows:

Parcel I

A certain parcel of land situated in Mashpee, Barnstable County, Commonwealth of Massachusetts, which is described in a deed from Harold H. Slate and Herbert Flashman to Waverly Investment dated November 26, 1948 and recorded in the Registry of Deeds of Barnstable County, Book 708, Page 450, being a portion of the land on an amended plan attached to another deed from Harold H. Slate and Herbert Flashman to Waverly Investment Company and recorded in Book 708, Page 448, in the Registry of Deeds of Barnstable County and designated as a "Plot of Land in Mashpee purchased by J.E.E. Rothery, surveyed by E. C. Bourne, May 1914" which is bounded and described as follows:

Beginning at a point on Mashpee Lake designated by a stone and arrow; thence northwesterly and southerly along a curved line as shown on said plan to a stone; thence along a line marked S. 79° W. 680 feet to a stone; thence along a line marked N. 4° 30' W. 297 feet to a stone; thence along a line marked S. 76° W. to a stake on the easterly side of Forestdale Road; thence northwesterly along the easterly side of said road to a stake and line marked N. 32° E.; thence from said stake along said line marked N. 32° E. to a stone marked "A"; thence in a straight line to a point and stone marked "B"; thence along a line marked N. 48° 45' W. 1,254 feet to a stone; thence along a line marked S. 83 1/2° W. 204.7 feet to a stone on the shore of Mashpee Lake; thence southerly along shore of said Mashpee Lake about 900 feet to the point of beginning.

PARCEL II

A certain parcel of land situated in Mashpee, Barnstable County, Commonwealth of Massachusetts, bounded and described as follows:

Beginning at Mashpee Pond at the northeast corner of land now or formerly of E. Hicks; thence on the line of said land South 79° West twelve rods and ten links to a stake; thence North 51-1/4° West Sixty-one rods to a stake and to land formerly belonging to Thomas C. Adams and James M. Chadwick; thence North 38° East about sixty-five rods to Pickerel Cove, so-called, at the Pond; thence by the Pond easterly and southerly to the first bound or point of beginning.

Property Address: 55 Pickerel Cove Road
126 Pickerel Cove Circle
87 Pickerel Cove Road
25 Pickerel Cove Circle
29 Pickerel Cove Circle
Mashpee, MA

Being the same premises described in a deed from Russell S. Codman, Jr. to the Waverly Investment Company dated June 20, 1950 and recorded in the Registry of Deeds of Barnstable County, Book 754, Page 393. For further reference see deed from Russell S. Codman the elder to Russell S. Codman, the younger of that name, dated December 23, 1935 and recorded in Barnstable County Registry of Deeds Book 516, Page 509.

Excepted from the above described premises is the following described parcel retained by Waverly Investment Company:

Beginning at the aforementioned stake and land now or formerly belonging to Thomas C. Adams and James M. Chadwick; thence S. 58° 57' E. 330 feet, more or less, to a concrete bound; thence N. 38° E. 1,246 feet, more or less, to a concrete bound at Pickerel Cove, so-called, at the Pond; thence by the Pond westerly about 400 feet to a point at land of Henry F. Gibbs et ux; thence South 38° W. 1070 feet, more or less, to point of beginning. Containing 8-1/2 acres, more or less.

PARCEL III

Any interest of the undersigned Grantor which may remain in the land in Mashpee, Barnstable County, Massachusetts bounded and described in deed dated July 21, 1964 recorded at Barnstable County Registry of Deeds at Book 1264, Page 530 as follows:

WESTERLY	by	a road as shown on a plan hereinafter mentioned, ninety-one (91) feet;
NORTHERLY	by	LOT 14 on said plan, three hundred ten (310) feet, more or less;
EASTERLY	by	Mashpee Pond or Mashpee Lake, one hundred twenty-five (125) feet, more or less; and
SOUTHERLY	by	LOT 16 on said plan three hundred ten (310) feet, more or less.

Said Parcel III being shown at LOT NUMBER 15 on a plan entitled, "Subdivision Plan of Land in Central Mashpee, Mass., for Wakeby Shores Realty Trust, March 1956, Revised April 17, 1956", recorded with Barnstable Deeds, Plan Book 127, Page 101.

Together with rights of way over said Pickerel Cove Road and all ways shown on said plan.

Subject to restrictions and encumbrances of record.

PARCEL IV

Any interest of the undersigned Grantor which may remain in land in Mashpee, Barnstable County, Massachusetts, bounded and described by deed dated July 27, 1964 as follows:

WESTERLY	by	a road as shown on a plan hereinafter mentioned, one hundred twenty-four (124) feet;
NORTHERLY	by	LOT 15 on said plan, three hundred ten (310) feet, more or less;
EASTERLY	by	Mashpee Pond or Mashpee Lake, one hundred twenty-five (125) feet, more or less; and
SOUTHERLY	by	LOT 17 on said plan three hundred ten (310) feet, more or less.

Said Parcel IV being shown at LOT #16 on plan entitled, "Subdivision Plan of Land in Central Mashpee, Mass., for Wakeby Shores Realty Trust, March 1956, Revised April 17, 1956", recorded with Barnstable Deeds, Plan Book 127, Page 101.

Together with rights of way over said Pickerel Cove Road and all ways shown on said plan.

Subject to restrictions and encumbrances of record.

For title reference, see Deed from The Waverley Investment Company to Jacob Kagan and Harry Shuman, Trustees of the Wakeby Shores Realty Trust udt dated July 6, 1955 recorded with Barnstable Registry of Deeds at Book 913, Page 109; which Deed is dated June 16, 1955 and recorded with said Registry at Book 913, Page 112.

Excepted from all the above parcels are following the premises previously deeded, all transfers being recorded at the Barnstable Registry of Deed as follows:

Deed to Mary Blessoff recorded at Book 946, Page 277.
 Deed to Lillian Gordon recorded at Book 946, Page 280.
 Deed to Benjamin Brecher and Harriet Brecher recorded at Book 946, Page 285.
 Deed to Wallace F. Jones and Ruth M. Jones recorded at Book 1010, Page 511.
 Deed to Gerrit Van Gemert and Josephine I. Van Gemert recorded at Book 1030, Page 183.
 Deed to Walter E. Zacharchuk recorded at Book 1041, Page 526.
 Deed to Leonard S. Gottlieb and Dorothy A. Gottlieb recorded at Book 1129, Page 435.
 Deed to Stanley N. Gershoff recorded at Book 1133, Page 492.
 Deed to Peter A. Kamuda and Doris M. Kamuda recorded at Book 1213, Page 304.
 Deed to Ethel K. Stoltz recorded at Book 1133, Page 492.
 Deed to Ethel K. Stoltz recorded at Book 1219, Page 510.
 Deed to Erich Rosengarten and Malvine Rosengarten recorded at Book 1249, Page 64.
 Deed to Erich Rosengarten and Malvine Rosengarten recorded at Book 1264, Page 532.
 Deed to Ethel K. Stoltz recorded at Book 1264, Page 533.
 Deed to Raymond E. Lague and Viola I. Lague recorded at Book 1317, Page 77.
 Deed to Sidney Kibrick and Anne K. Kibrick recorded at Book 1416, Page 124.

Deed to Jacob Kagen recorded at Book 1755, Page 215.

Deed to Harry Shuman recorded at Book 1755, Page 217.

Deed to Leonard Gottlieb and Dorothy Gottlieb recorded at Book 1999, Page 293.

Deed to Stuart A. Bornstein, Trustee of Gladstone Realty Trust (udt dated December 10, 1981, recorded with Barnstable Registry of Deeds at Book 3408, Page 25, as amended), which deed is recorded at Book 4770, Page 053.

The premises herein conveyed may also be variously described as:

Land at 126 Pickerel Cove Circle, being Map 10, Parcel 1 on the Assessors' Maps for the Town of Mashpee, Massachusetts;

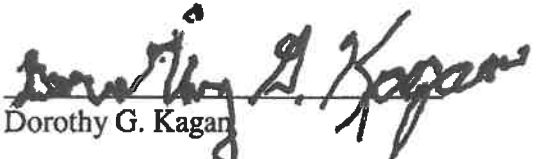
Parcel of land shown as "Area = $2.5 \pm A.$ " on "Subdivision Plan of Land in Central Mashpee, Mass. For Wakeby Shores Realty Trust", Scale 1 in. = 100 ft., dated March 1956, Revised April 17, 1956, prepared by Charles N. Savery Co., Engineers & Surveyors, recorded with Barnstable Registry of Deeds at Plan Book 127, Page 101;

Lots 17A and 18A on "Resubdivision Plan of Land in Central Mashpee, Mass. For Wakeby Shores Realty Trust" Scale 1 in. = 40 ft., dated June 22, 1964, prepared by Charles N. Savery, Inc., Registered Engineers and Surveyors, recorded with Barnstable Registry of Deeds at Plan Book 186, Page 139; and

Lots 1 through 6, inclusive, on "Plan of Land Located In Mashpee, Mass. Prepared for Anthony Shuman and Dorothy Kagan" dated Oct. 3, 2002, Scale 1' = 60', prepared by Cape & Islands Engineering, recorded with Barnstable Registry of Deeds at Book 577, Page 29;

Or however otherwise said land may be described, together with and subject to all easements, covenants, agreements, and restrictions of record insofar as the same may be in force and applicable.

Witness my hand and seal this 27th day of October, 2003.


Dorothy G. Kagan

COMMONWEALTH OF MASSACHUSETTS

Norfolk, ss

October 27, 2003

Then personally appeared the above named Dorothy G. Kagan and acknowledged the foregoing instrument to be her free act and deed, before me,


NOTARY PUBLIC
My commission expires: 5/14/2010



797085.1

BARNSTABLE REGISTRY OF DEEDS

QUITCLAIM DEED (INDIVIDUAL)

1264

530

We, ERICH ROSENGARTEN and MALVINE ROSENGARTEN, husband and wife,
as tenants by the entirety, both of 95 Undine Road, Brighton,
~~of~~ Suffolk County, Massachusetts,

being ~~unmarried~~, for consideration paid, grant to

JACOB KAGAN of Brighton, Suffolk County, Massachusetts, and HARRY SHUMAN
of Brookline, Norfolk County, Massachusetts, Trustees of Wakeby Shores
Realty Trust, under a Declaration of Trust dated July 6, 1955 and recorded
with ~~of~~ Barnstable Registry of Deeds Book 913, Page 109 with quitclaim covenants

the land in Mashpee, Barnstable County, Massachusetts, bounded:

[Description and encumbrances, if any]

Westerly by a road as shown on a plan hereinafter mentioned, ninety-one
(91) feet;
Northerly by Lot 14 on said plan, three hundred ten (310) feet; more or
less;
Easterly by Mashpee Pond or Mashpee Lake, one hundred twenty-five (125)
feet, more or less; and
Southerly by Lot 16 on said plan, three hundred ten (310) feet, more or
less.

Said premises are shown as LOT NUMBER 15 on a plan entitled,
"Subdivision Plan of Land in Central Mashpee, Mass., for Wakeby Shores
Realty Trust, March 1956, Revised April 17, 1956" and recorded with
Barnstable Deeds, Plan Book 127, Page 101.

Together with rights of way over said Pickerel Cove Road
and all ways shown on said plan.

Subject to restrictions and encumbrances of record.

For title see deed of the said Grantees to the said Grantors
dated April 23, 1964, recorded in Barnstable County Registry of Deeds
in Book 1249, Page 64.

Neither revenue nor excise stamps are hereby affixed as
none are required by law.

husband ~~of said grantor~~
wife ~~of said grantor~~

~~release of said grantor all rights of~~ ~~tenancy by the entirety~~ ~~and other interests therein~~
~~down and heretofore~~

Witness our hands and seals this 21st day of July 1964

Erich Rosengarten
Malvine Rosengarten

The Commonwealth of Massachusetts

Suffolk ss.

July 21 1964

Then personally appeared the above named
and acknowledged the foregoing instrument to be

Erich Rosengarten and Malvine
Rosengarten
their free act and deed, before me

Edward H. Resnick
Notary Public - Justice of the Peace

My commission expires June 6 1970

Barnstable, ss., Received August 6, 1964, and is recorded.

(1) The Trustees shall have full power to hold, manage and improve all real estate and personal property at any time subject to this trust and shall have full power to lease the same and any part thereof, for a term of years, and to sell or convey the whole or any part thereof, by public auction, or by private sale, for cash or credit and on such terms or conditions as they see fit; to mortgage the whole or any part thereof, with or without power of sale, and upon such terms and conditions as they see fit; to let, exchange or make partition of the whole or any portion thereof; to locate, lay out, grade and grant or dedicate any part thereof for roads, streets and squares or open places, to provide drains, sewers or other conveniences; to grant and acquire easements in, under or over the soil for such purposes as to them may seem proper; to erect buildings thereon; to straighten lines; to acquire other lands by lease or purchase and otherwise to improve and develop the trust property; to subject the same or any portion thereof to easements, reservations, restrictions or conditions; to borrow money for general improvements, or for use by or for the benefit of the trust; to assign, discharge or foreclose any mortgage held hereunder, or to give a partial release or releases therefrom; to represent the beneficiaries in any or all suits or legal proceedings in any Court of Law or equity, or before other bodies or tribunals; to employ counsel and commence suits or proceedings at law or in equity, to compromise or to submit to arbitration all matters of dispute to which the trust or the Trustees may be a party, when, in their judgment, the

same may be necessary or proper; to invest any money they have on hand temporarily in bonds or real estate mortgages, or to lend the same on reasonable security as they may see fit; to make loans of funds of the trust with or without security as they may see fit; to determine whether any money or things shall, for the purposes of these presents, be considered as capital or income, and also to determine what constitutes the income and net income of any year or half year; to determine whether any expense or outgo shall be borne by capital or by income; and in addition to the powers set forth, the Trustees shall have, except as herein restricted, every other power and right of dealing with the trust estate which individuals can have over their own property, as fully and completely as if said additional powers were herein fully set forth.

(2) Every deed or other instrument of conveyance executed by the Trustees hereunder, unless it is therein otherwise expressed, shall pass to the grantee an estate in fee simple discharged of all trusts, and shall be valid both in law and equity. No person or corporation taking any interest in said property under any deed or other instrument of conveyance except as aforesaid, shall in any possible event be bound to inquire into the validity, regularity or propriety of the same or the existence of any circumstances affecting the validity, regularity or propriety thereof, or to see to the application of the purchase money or money lent.

(3) The Cestuis Qui Trustent and their beneficial interests are as follows: - Dorothy G. Kagan, one half ($\frac{1}{2}$) and Marion Shuman, one half ($\frac{1}{2}$).

(4) The death of a beneficiary shall not terminate this Trust. The income or principal of the Trust property, or of any share thereof, held in Trust hereunder shall not be assignable and cannot be anticipated or alienated in any manner by the beneficiaries, or their appointees or their issue, present or future, or any of them, nor shall any income or principal of the Trust property be subject to be taken upon execution, or be subject to any process, legal or equitable; nor be affected by bankruptcy proceedings or insolvency; nor shall they be subject to the control or claims of creditors, or of the husband of any beneficiary.

(5) The Trustees shall be answerable only for their own wilful breach of trust and not for mistakes in judgement, and not for loss in investments made in good faith even though they be such investments as Trustees do not commonly make. No Trustee shall be required to give a bond.

(6) Any statement of fact recited in instruments of conveyance or in any certificate made, signed and acknowledged by the Trustees hereunder, shall be conclusive evidence of the facts so stated so far as the rights and liabilities of any purchaser or third persons are concerned.

(7) The Trustees may pay to the beneficiaries any income or profits or make distribution among the beneficiaries of any uninvested principal at any time as said Trustees may decide in their judgement.

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(8) The Trustees may charge and be entitled to receive reasonable compensation for their services.

(9) The Trustees or either of them under this Declaration of Trust may resign his or their Trust by a written instrument signed by them, or either of them and acknowledged in the manner prescribed for the acknowledgement of deeds and such instrument shall be recorded in the Registry of Deeds for the County of Barnstable. In the event of death, resignation, inability or incapacity of either or both of the said Trustees to act as Trustees hereunder and in the absence of either or both from the Commonwealth for a period of 120 (one hundred twenty) days, the vacancy or vacancies shall be filled by the respective spouses of the Trustees, namely Dorothy G. Kagan shall fill the vacancy caused by the death, resignation, inability, incapacity or absence from the Commonwealth of Jacob Kagan and Marion Shuman shall fill the vacancy caused by the death, resignation, inability, incapacity or absence from the Commonwealth of Harry Shuman. The filling of a vacancy or vacancies shall be evidenced by a written instrument certifying the facts upon which the appointment of a new Trustee depends, signed and acknowledged by the person or persons filling the vacancy or vacancies and recorded in the Registry of Deeds for Barnstable County. Such new Trustee or Trustees shall have the same power and estate as if originally named herein. Should a vacancy in the office of Trustee or vacancies in the offices of the Trustees occur after the death of either, or both, Dorothy G. Kagan and/or Marion Shuman but before final distribution of the Trust Estate, the executor or executors, administrator or administrators, as the case may be of the Estate of Dorothy G. Kagan and/or the Estate of Marion Shuman shall appoint a new Trustee or Trustees to fill the vacancy or vacancies caused by the respective spouses of the respective deceased beneficiaries by a written instrument, acknowledged and recorded as aforesaid, and such new Trustee or Trustees shall have the same power and estate as if originally named herein. A certificate by the said Dorothy G. Kagan, and/or the said Marion Shuman, and/or by the said executor or executors or administrator or administrators as the case may be of the Estate of the said Dorothy G. Kagan, and/or the said Marion Shuman, acknowledged in the manner prescribed for the acknowledgment of deeds and duly recorded in the Registry of Deeds for the County of Barnstable, setting forth any fact upon which the appointment of a new Trustee depends shall be conclusive evidence of any such fact.

(10) The Trustees may, with the assent in writing of the beneficiaries aggregating one hundred percent (100%) in interest in the Trust, alter or add to this Declaration or terminate this Trust and if it seems judicious so to do, they may with like consent, convey the Trust fund to new or other Trustees or to a corporation, being first duly indemnified for any outstanding obligation or liability. The instrument setting forth such alteration, addition, termination or conveyance, shall be in writing and signed, sealed and acknowledged by the Trustees in the manner prescribed for the acknowledgment of deeds and recorded in the Registry of Deeds for the County of Barnstable. Such instrument or instruments shall be conclusive evidence of the existence of all facts and of compliance with all prerequisites necessary to the validity of such alteration, addition,

termination or conveyance, whether stated in such instrument or not, upon all questions as to title or affecting rights of third parties. Unless earlier terminated, this Trust shall expire at the end of twenty (20) years from the date of this Declaration of Trust.

The powers of the trustees set forth in this Declaration of trust shall be exercised jointly by the trustees named herein. Should there be a vacancy in the office of trustee or vacancies in the offices of trustees because of death, resignation, inability, incapacity or absence from the Commonwealth as set forth above of the said Jacob Kagan and/or the said Harry Shuman, the surviving trustee or trustee in the Commonwealth shall not exercise the powers set forth in this instrument until a new trustee is appointed and qualified to take the place of the trustee causing the vacancy; then the two trustees shall exercise the powers of the trustees jointly.

IN WITNESS WHEREOF, we, the said Jacob Kagan and the said Harry Shuman do hereunto set our hands and seals this 6th day of July, 1955.

Jacob Kagan
Jacob Kagan

Harry Shuman
Harry Shuman

COMMONWEALTH OF MASSACHUSETTS

Barnstable, ss:

July 6, 1955

Then personally appeared the said Jacob Kagan and the said Harry Shuman and they acknowledged the foregoing instrument to be their free act and deed, before me,

Carl A. Blesofsky
Carl A. Blesofsky, Notary Public

My Commission expires January 21, 1961

Barnstable, ss., Received July 6, 1955, and is recorded.

The Waverley Investment Company, a Delaware corporation organized under the laws of the State of Delaware, and having a usual place of business in Washington D. C.

for consideration paid, grants to Jacob Kagan of Brighton, Suffolk County and Harry Shuman of Brookline, Norfolk County, Massachusetts as Trustees of the Wakeby Shores Realty Trust under declaration of trust dated _____ and to be recorded with the Barnstable County Registry of Deeds herewith, with Quitclaim Covenants, the two parcels of land together with the buildings thereon, described as follows:



United States revenue stamps
in the amount of \$19.80 were
affixed to this instrument and
were cancelled.

BOOK 375 PAGE 98

Parcel 1

A certain parcel of land situated in Mashpee, Barnstable County, Commonwealth of Massachusetts, which is bounded and described as follows:

Being Parcel 1 described in a deed from Harold H. Slate and Herbert Flashman to Waverley Investment Company dated November 26, 1948 and recorded in the Registry of Deeds of Barnstable County, Book 708, Page 450, being a portion of the land on an amended plan attached to another deed from Harold H. Slate and Herbert Flashman to Waverley Investment Company and recorded in Book 708, Page 448, in the Registry of Deeds of Barnstable County and designated as a "Flat of Land in Mashpee purchased by J. E. E. Rothery, surveyed by E. C. Bourne, May 1914" which is bounded and described as follows:

Beginning at a point on Mashpee Lake designated by a stone and arrow; thence northwesterly and southerly along a curved line as shown on said plan to a stone; thence along a line marked S.79°W. 680 feet to a stone; thence along a line marked N.40°30'W. 297 feet to a stone; thence along a line marked S.76°W. to a stake on the easterly side of Forestdale Road; thence northwesterly along the easterly side of said road to a stake and line marked N.32°E.; thence from said stake along said line marked N.32°E. to a stone marked "A"; thence in a straight line to a point and stone marked "B"; thence along a line marked N.48°45'W. 1,254 feet to a stone; thence along a line marked S.83½°W. 204.7 feet to a stone on the shore of Mashpee Lake; thence southerly along shore of said Mashpee Lake about 900 feet to the point of beginning.

Parcel 2.

A certain parcel of land situated in Mashpee, Barnstable County, Commonwealth of Massachusetts, which is bounded and described as follows:

Beginning at Mashpee Pond at the northeast corner of land now or formerly of E. Hicks; thence on the line of said land South 79°West twelve rods and ten links to a stake; thence North 51½°West sixty-one rods to a stake and to land formerly belonging to Thomas C. Adams and James M. Chadwick; thence North 38°East about sixty-five rods to Pickerel Cove, so-called, at the Pond; thence by the Pond easterly and southerly to the first bound or point of beginning.

Being the same premises described in a deed from Russell S. Codman, Jr. to the Waverley Investment Company dated June 20, 1950 and recorded in the Registry of Deeds of Barnstable County, Book 754, Page 393. For further reference see deed from Russell S. Codman the elder to Russell S. Codman, the younger of that name,

dated December 23, 1935 and recorded in Barnstable County Registry of Deeds, Book 516, Page 509.

Containing thirty acres, more or less, or however otherwise the said premises are bounded and described.

Subject to such rights of way or other easements, if any, as may exist over the premises and with the benefit of any rights of way which may exist.

EXCEPTED from the above described premises is the following described parcel to be retained by the Grantor:

Beginning at the aforementioned stake and land now or formerly belonging to Thomas C. Adams and James M. Chadwick; thence S.58°57'E. 330 feet, more or less, to a concrete bound; thence N.38°E. 1,246 feet, more or less, to a concrete bound at Pickerel Cove, so-called, at the Pond; thence by the Pond westerly about 400 feet to a point at land of Henry F. Gibbs et ux; thence South 38°W. 1,070 feet, more or less, to point of beginning. Containing 8½ acres, more or less.

IN WITNESS WHEREOF, the corporation has caused this deed to be signed by John R. Neale, its President, and by William S. French, Jr., its Secretary and its

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corporate seal to be affixed thereto, this sixteenth day of June, 1955.



WAVERLEY INVESTMENT COMPANY, (INCORPORATED)

By John R. Neale President

By William S. French, Jr. Secretary

Witness Henry F. Kimball

June 16, 1955

John R. Neale and

Then appeared before me William S. French, Jr.,

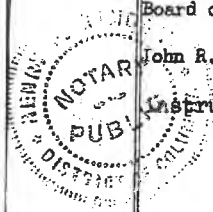
to me personally known, who being by me duly sworn, did say that they are President and Secretary respectively of Waverley Investment Company and that the seal affixed to said instrument is the corporate seal of said corporation, and that said instrument was signed and sealed in behalf of said corporation by authority of its Board of Directors

and said

John R. Neale and William S. French, Jr.

acknowledged said

instrument to be the free act and deed of said corporation.



Henry F. Kimball
Notary Public

My commission expires 12, 19

My Commission Expires Feb. 14 1959

Serial **A 44022**

DISTRICT OF COLUMBIA

To ALL WHOM THESE PRESENTS SHALL COME, GREETING:

HENRY F. KIMBALL

I CERTIFY THAT Henry F. Kimball whose name is subscribed to the accompanying instrument, was at the time of signing the same a Notary Public in and for the District of Columbia, and duly commissioned and authorized by the laws of said District of Columbia to take the acknowledgment and proof of deeds or conveyance of lands, tenements, or hereditaments, and other instruments in writing to be recorded in said District, and to administer oaths; and that I am well acquainted with the handwriting of said Notary Public and believe that the signature and impression of seal thereon are genuine, after comparison with signature and impression of seal on file in this office.

IN WITNESS WHEREOF, the Secretary of the Board of Commissioners of the District of Columbia, has hereunto caused the Seal of the District of Columbia to be affixed at the City of Washington, D. C., this

day of June, 1955

(D. C. SEAL)

Mildred T. Neale
Secretary, Board of Commissioners

CHIEF, NOTARY PUBLIC SECTION



WAVERLEY INVESTMENT COMPANY

After discussion, and upon Motion duly made, seconded and carried, the following Resolution was unanimously passed:

RESOLVED: That the President and Secretary are authorized and empowered for, in the name of, and on behalf of Waverley Investment Company, to accept offers to purchase, and to enter into, execute and deliver, contracts of sale, at such prices, in such form, upon such terms, subject to such conditions, and containing such provisions otherwise, as in the absolute discretion of the President and Secretary may be necessary or desirable at any time, and from time to time to the consummation of the sale of, any land owned by Waverley Investment Company situated in Pima County, Arizona, the District of Columbia, or the State of Massachusetts, which, in their absolute discretion, may appear to be for the best interest or advantage of this Company.

And it was:

FURTHER RESOLVED: That Waverley Investment Company convey, by deed or deeds in usual form, to the purchaser, or purchasers, any and all of said land now owned by it; and the President and Secretary are authorized and empowered for, in the name, in behalf of Waverley Investment Company to execute and deliver deed or deeds in consummation of any such sale or sales, and to do all such other acts and things as may be necessary or desirable which, in the absolute discretion of the President and Secretary may appear to be for the best interest or advantage of the Company.

I, the undersigned, William S. French, Jr., Secretary of Waverley Investment Company, hereby certify that the foregoing is a true copy of Resolutions passed at a regularly called meeting of the Board of Directors of Waverley Investment Company, a Delaware Corporation, held on the 11th day of January, 1955, at which all of the Directors of said Company were present and voting, both of which remain unrevoked and in full force and effect.

I further certify that the following are the Officers of said Corporation duly elected at said meeting, all of whom still fill their respective offices:

Parcel 2 - A certain parcel of land situated in said Mashpee, and bounded and described as follows:

See Partial Release in Book 946, Page 276.
 " " " " 946, " 283

SEE DISCHARGE BOOK-1011 PAGE-58.

CAPE COD CO-OPERATIVE BANK

YARMOUTH PORT, MASSACHUSETTS

June 16, 1955

913

109

On a motion duly made and seconded it was voted to grant a partial release to Robert J. Crowell and Geraldine R. Crowell of real estate pledged under their mortgage loan dated March 18, 1953 and recorded at the Barnstable Registry of Deeds Book 837, page 200 and that the Treasurer be authorized to sign, seal, execute, acknowledge and deliver in the name and behalf of the Cape Cod Co-operative Bank this partial release, said release to cover a certain parcel of land in South Brewster bounded as follows:

Beginning at the Northwesterly corner thereof at a point on the Southerly side of the County Road, called Tubman Road, and at land now or formerly of Francis H. Perry;

thence running Easterly by the Southerly side of Tubman Road one hundred (100) feet to an iron stake at other land of Robert J. Crowell et ux;

thence running Southerly by said other land of Crowell to an iron stake at land now or formerly of the heirs of Nathan Small;

thence running Westerly by said Small land one hundred (100) feet to a corner at land of said Francis H. Perry;

thence running Northerly by said Perry land to said point of beginning.

A true copy, attest

Clerk of the Board of Directors

Barnstable, ss., Received July 6, 1955, and is recorded.

DECLARATION OF TRUST

HEREAS, there has been conveyed to Jacob Kagan, of Brighton, Suffolk County, Massachusetts and Harry Shuman, of Brookline, Norfolk County, Massachusetts as they are Trustees of the WAKEBY SHORE REALTY TRUST by a deed to be recorded herewith, certain real estate situated in Mashpee, in the County of Barnstable;

Now, Therefore, We, the said Jacob Kagan and the said, Harry Shuman hereinafter called the Trustees do declare that we hold the said real estate and that we will hold any and all other real estate and personal property that may at any time hereafter conveyed, given, assigned or transferred to us as Trustees of the said WAKEBY SHORE REALTY TRUST upon the following trusts and with the following powers; it is expressly declared that a Trust and not a Partnership is hereby created; that neither the Trustees nor the Cestuis Qui Trustent shall be personally liable hereunder as partners or otherwise but that for all debts of or concerning this Trust the Trustees shall be liable as such to the extent of the trust property only and in all contracts or instruments creating liability to this Declaration of Trust, that the party contracting with the Trustees shall look only to the funds and property constituting the trust estate for the satisfaction of any liability or obligation thereunder, and that neither the Trustees nor the Cestuis Qui Trustent shall be personally liable therefor;

BOOK 4770 PAGE 49

That on said June 11, 1907, neither ~~my~~ said sister nor myself were married.

Josiah C. Nye

Commonwealth of Massachusetts

Plymouth, ss

Brockton, June 14, 1950

Subscribed and sworn to; before me

Ellen Margarette Sperry
Justice of the Peace
My commission expires 9-19-52

Barnstable, ss., Received June 20, 1950, and is recorded.

I, Russell S. Codman, Jr.,
of Boston Suffolk County, Massachusetts,
~~being~~ for consideration paid, grant to Waverley Investment Company, a Delaware
Corporation
of with quitclaim covenants

~~the land in~~ a certain lot or parcel of land, with the buildings thereon, in
the Northerly part of the Town of Mashpee in the County of Barnstable
and Commonwealth of Massachusetts, being the Easterly half of the lot
formerly belonging to Ophelia Caesar and bounded and described as follows:

Beginning at Mashpee Pond at the Northeast corner of land now or
formerly of E. Hicks, thence on the line of said land South 79°
West Twelve rods and Ten links to a stake; thence North 51½° West
Sixty-one rods to a stake and to land formerly belonging to Thomas
C. Adams and James M. Chadwick; thence North 38° East about
Sixty-five rods to Pickerel Cove, so called, at the Pond; thence
by the Pond Easterly and Southerly to the first bound or point of
beginning.

Being thirty acres more or less; or however otherwise bounded and
described.

Being the same premises to me conveyed by Russell S. Codman, Sr. by his
deed dated December 23, 1935 and recorded with Barnstable County Deeds,
Book 516, Page 509.

Said premises are hereby conveyed subject to such rights of way or other
easements, if any, as may exist over the premises and with the benefit
of any rights of way which may exist, and subject to real estate taxes
assessed for the year 1950, which the grantee assumes and agrees to pay



I, Jane D. F. Codman,

Russell S. Codman, Jr.,

~~husband~~ of said grantor,
wife

release to said grantee all rights of ~~property by the parties~~ and other interests therein.
dower and homestead

754
393

United States revenue stamps in the amount of \$11.00
were affixed to this instrument and were cancelled

754

394



Witness our hands and seals this twentieth day of June, 1950.

Russell S. Codman Jr.
Jane D. F. Codman

The Commonwealth of Massachusetts

Suffolk,

ss.

June 20, 1950.

Then personally appeared the above-named Russell S. Codman, Jr.

and acknowledged the foregoing instrument to be his free act and deed, before me

Mildred W. Rogers
 Notary Public - Suffolk County

My commission expires *Feb. 7* 1952.

Barnstable, ss., Received June 20, 1950, and is recorded.

United States revenue stamps in the amount of \$6.60 were affixed to this instrument and were cancelled.

I, LOUIS A. BYRNE of Dennis (Dennisport), Barnstable County, Massachusetts, being married, for consideration paid, grants to CHARLES J. BUCKLEY and ELIZABETH BUCKLEY, husband and wife as tenants by the entirety, both of Dennis (Dennisport), Barnstable County, Massachusetts, with QUITCLAIM COVENANTS, the land together with the buildings thereon, situated in Dennis (Dennisport), Barnstable County, Massachusetts, bounded and described as follows:

Northerly by Indian Trail as shown on a plan hereinafter referred to, by two courses, Thirty Three and 71/100 (33.71) feet and Eighty One and 37/100 (81.37) feet respectively;
 Easterly by Lot 82 on said plan, Ninety Two and 47/100 (92.47) feet;
 Southerly by Lot 78 on said plan, One Hundred (100) feet; and
 Westerly by Lot 84 on said plan, One Hundred Three and 15/100 (103.15) feet.

The above described premises are shown as LOT 83 on the plan entitled, "Treasure Bay Dennisport, Mass. May 8, 1946 B. P. Chase & Associates Engineers & Surveyors Dennisport, Mass.", which said plan is duly recorded in the Barnstable County Registry of Deeds in Plan Book 74 Page 69.

There is granted as appurtenant to the above described lot a right of way over the streets and ways as shown on said plan in common with the Grantor and all others now or hereafter lawfully entitled thereto; together with a right of way over Lot 29 on said plan for access to Swan Pond for boating and bathing in common with the Grantor and all others now or hereafter lawfully entitled thereto.

The Grantor reserves a right of way over so much of Lot 83 as lies within the limits of Indian Trail; the Grantor also reserves the right to maintain all public utilities in, over and upon the streets and ways as shown on said plan,

The above described premises are conveyed subject to all restrictions of record and the following restrictions which are imposed for the benefit of the remaining land of the grantor and all other lot owners in Treasure Bay, to which the grantees, their heirs and assigns covenant and agree to conform:

1. No dwelling house erected, placed or maintained on the granted premises shall be designed or adapted for use by more than one family and not more than one dwelling house shall be erected, placed or maintained on the lot above described.
2. The dwelling house at any time situated on said lot shall, whenever occupied, be supplied with running water and with a water closet connected with a cesspool, sewer or septic tank, and no other kind of privy shall be connected or used on said premises.

Barnstable, ss., Received December 1, 1948, and is recorded.

We, Harold H. Slate of Quincy, Norfolk County, Massachusetts, and Herbert Flashman of Brookline, Norfolk County, Massachusetts, ~~County Massachusetts~~

~~being previously~~ for consideration paid, grant to Waverley Investment Company, a Delaware corporation

ofx

with quitclaim covenants

~~herein~~ the following two parcels of land together with the buildings thereon:

Parcel 1

A certain parcel of land situated in Mashpee, Barnstable County, Commonwealth of Massachusetts, being that portion of the land on an amended plan attached to another deed from Harold H. Slate and Herbert Flashman to Waverley Investment Company to be recorded herewith and designated as a "Plat of Land in Mashpee purchased by J. E. E. Rothery, surveyed by E. C. Bourne, May 1914" which is bounded and described as follows:

Beginning at a point on Mashpee Lake designated by a stone and arrow; thence northwesterly and southerly along a curved line as shown on said plan to a stone; thence along a line marked S.79°W. 680 feet to a stone; thence along a line marked N.4° 30' W. 297 feet to a stone; thence along a line marked S.76°W. to a stake on the easterly side of Forestdale Road; thence northwesterly along the easterly side of said road to a stake and line marked N.32°E.; thence from said stake along said line marked N.32°E. to a stone marked "A"; thence in a straight line to a point and stone marked "B"; thence along a line marked N.48°45' W. 1254 feet to a stone; thence along a line marked S.83½° W. 204.7 feet to a stone on the shore of Mashpee Lake; thence southerly along shore of said Mashpee Lake about 900 feet to the point of beginning.

Parcel 2 together with the buildings thereon

The land/in the Town of Sandwich, Barnstable County, Commonwealth of Massachusetts, bounded and described as follows:

Beginning at a stake and stones at Pickerel Cove by land formerly belonging to Elihue Fish; thence northwesterly by said Elihue's land, fence and marked trees to Pickerel Cove Road; thence in a northerly direction along said Pickerel Cove Road to a point on said Pickerel Cove Road intersected by a line running from Pickerel Cove Road to Wakeby Pond parallel to the north side of the so-called "O'Brien House" now on said premises, said line being six hundred (600) feet north of said "O'Brien House"; thence from said point on Pickerel Cove Road along said line to Wakeby Pond; thence southerly along the shore of Wakeby Pond to the point of beginning.

For our title see deed from Rothery et al to Herbert Flashman et al recorded April 28, 1948 and deed from Otis to Herbert Flashman et al recorded May 14, 1948.

See corporate vote attached to mortgage to be recorded herewith from Waverley Investment Company to Hyannis Trust Company.

I, Ruth R. Flashman, wife of grantor Herbert

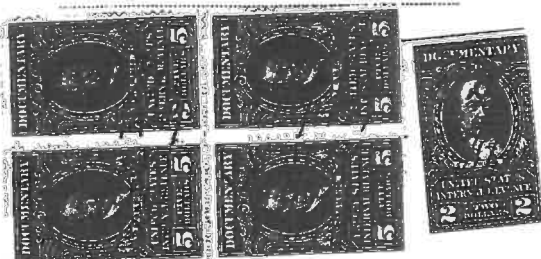
~~Flashman~~ ~~wife~~ ~~of said grantor~~

Flashman, and I, Ruth Slate, wife of grantor Harold H. Slate

451

Herbert Flashman
Rita P. Flashman

Harold H. Slate
Ruth Slate



Norfolk SS

November 26 1948

Then personally appeared the above named Harold H. Slate and Herbert Flashman

and acknowledged the foregoing instrument to be their free act and deed, before me

Notary Public—Justice of the Peace.

My commission expires _____

Barnstable, ss., Received December 1, 1948, and is recorded.

Waverley Investment Company, a Delaware corporation,

~~being~~ ~~now~~, for consideration paid, grantS to HYANNIS TRUST COMPANY, a banking corporation duly established under the laws of the Commonwealth of Massachusetts, having its principal place of business in that part of the Town of Barnstable known as Hyannis, Barnstable County, Massachusetts.

with MORTGAGE COVENANTS, to secure the payment of Six Thousand (\$6,000.00)

- Dollars

in five (5) years with five and one-half per centum interest.

	Cancelled	
4-18-95.00 Revenue Stamp	4/13	12/1/49
1-18-95.00 " " " "	" " " "	" " " "

The total balance is \$200.00
 = \$200.00
 Page 569
 = 200

Göteborgs Maximalisering

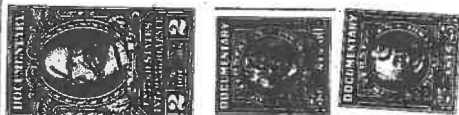
cd

with gutterlain components

[Description and encumbrances, if any]

Beginning at a stake marked "S" on said plat on the easterly side of Forestdale Road (Route 130), thence N 32°-E to a locust stake; thence N 40°-30'E, 1216.8 feet to a stone; thence S 49°-30'E, 1504.3 feet to a stone; thence S 40°-30'W, 466 feet more or less to a stone; thence in a straight line continuing southwesterly to a stone at point marked "A" on said plat; thence N 87°-W to a stake on said Forestdale Road; thence in a northerly direction along said Forestdale Road to the point of beginning.

See corporate vote attached to mortgage to be recorded herewith from Waverley Investment Company to Hyannis Trust Company.



husband of said grantor
wife

release to said grantee all rights of ~~tenancy by the entirety~~
dower and homestead and other interests therein.

Witness our hands and seals this

day of November 1948

Herbert Flashman

David H. Harte

Russ T. Florkman

Ruth Slater

The Commonwealth of Massachusetts


Norfolk ss.


November 26, 1948

Then personally appeared the above named Harold H. Slate and Herbert Flashman

and acknowledged the foregoing instrument to be their free act and deed, before me

I free act and deed, before me



Notary Public — 

My commission expires Feb. 25 1955



Barnstable, ss., Received December 1, 1948, and is recorded.

We, Harold H. Slate of Quincy, Norfolk County, Massachusetts, and
Herbert Flashman of Brookline, Norfolk County, Massachusetts,
~~of~~ ~~County Massachusetts~~

~~being authorized~~ for consideration paid, grant to Waverley Investment Company, a
Delaware corporation

of

with quitclaim covenants

~~we hereby~~ the following two parcels of land together with the buildings
thereon:

Parcel 1

A certain parcel of land situated in Mashpee, Barnstable County,
Commonwealth of Massachusetts, being that portion of the land on an
amended plan attached to another deed from Harold H. Slate and Herbert
Flashman to Waverley Investment Company to be recorded herewith and
designated as a "Plat of Land in Mashpee purchased by J. E. E. Rothery,
surveyed by E. C. Bourne, May 1914" which is bounded and described as
follows:

Beginning at a point on Mashpee Lake designated by a stone and
arrow; thence northwesterly and southerly along a curved line as shown
on said plan to a stone; thence along a line marked S.79°W. 680 feet
to a stone; thence along a line marked N.40°30' W. 297 feet to a
stone; thence along a line marked S.76°W. to a stake on the easterly
side of Forestdale Road; thence northwesterly along the easterly side
of said road to a stake and line marked N.32°E.; thence from said stake
along said line marked N.32°E. to a stone marked "A"; thence in a
straight line to a point and stone marked "B"; thence along a line
marked N.48°45' W. 1254 feet to a stone; thence along a line marked
S.83½° W. 204.7 feet to a stone on the shore of Mashpee Lake; thence
southerly along shore of said Mashpee Lake about 900 feet to the point
of beginning.

Parcel 2 together with the buildings thereon

The land/in the Town of Sandwich, Barnstable County, Commonwealth of
Massachusetts, bounded and described as follows:

Beginning at a stake and stones at Pickerel Cove by land formerly
belonging to Elihue Fish; thence northwesterly by said Elihue's land,
fence and marked trees to Pickerel Cove Road; thence in a northerly
direction along said Pickerel Cove Road to a point on said Pickerel
Cove Road intersected by a line running from Pickerel Cove Road to
Wakeby Pond parallel to the north side of the so-called "O'Brien House"
now on said premises, said line being six hundred (600) feet north of
said "O'Brien House"; thence from said point on Pickerel Cove Road along
said line to Wakeby Pond; thence southerly along the shore of Wakeby
Pond to the point of beginning.

For our title see deed from Rothery et al to Herbert Flashman et al
recorded April 28, 1948 and deed from Otis to Herbert Flashman et al
recorded May 14, 1948.

See corporate vote attached to mortgage to be recorded herewith from
Waverley Investment Company to Hyannis Trust Company.

I, Ruth R. Flashman, wife of grantor Herbert

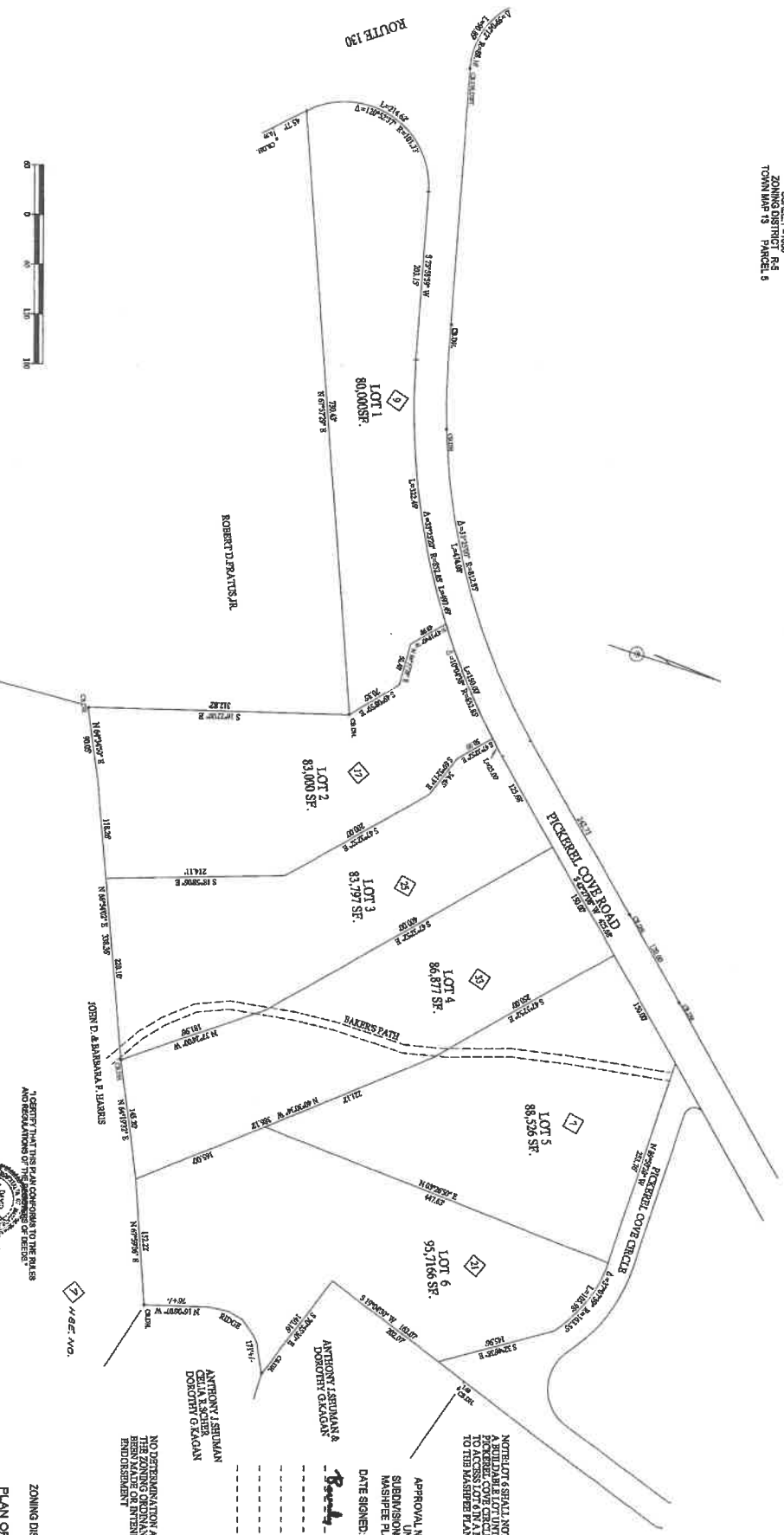
Flashman, and I, Ruth Slate, wife of grantor Harold H. Slate

~~heretofore~~
wife of said grantor



FOR REPRODUCTION ONLY
LOCATION MAP
SCALE: 1"=100'
ZONING DISTRICT R-3
TOWN MAP 13 PARCEL 5

RE OCT 23 P 2 25
1 1/2" = 100'



1. CERTIFY THAT THIS PLAN CONFORMS TO THE RULES AND REGULATIONS OF THE BOARD OF REVISION.
DATE OCT 12 2002
[Signature]



1. CERTIFY THAT THIS PLAN CONFORMS TO THE RULES AND REGULATIONS OF THE BOARD OF REVISION.
DATE OCT 12 2002
[Signature]

PLAN OF LAND
LOCATED IN
MASHPEE, MASS.
PREPARED FOR
ANTHONY SHULMAN & DOROTHY KAGAN
DATE: OCT 3, 2002
FILE: 198MA
SCALE: 1"=60'
pickrel covr
800 FALMOUTH ST
MASHPEE, MASS 02549 (508) 477-7722

NOTES: LOT 6 SHALL NOT BE CONSIDERED A BUILDABLE LOT UNTIL SUCH TIME THAT PICKEREL COVER CIRCLE IS COMPLETED TO THE MASHPEE PLANNING BOARD.

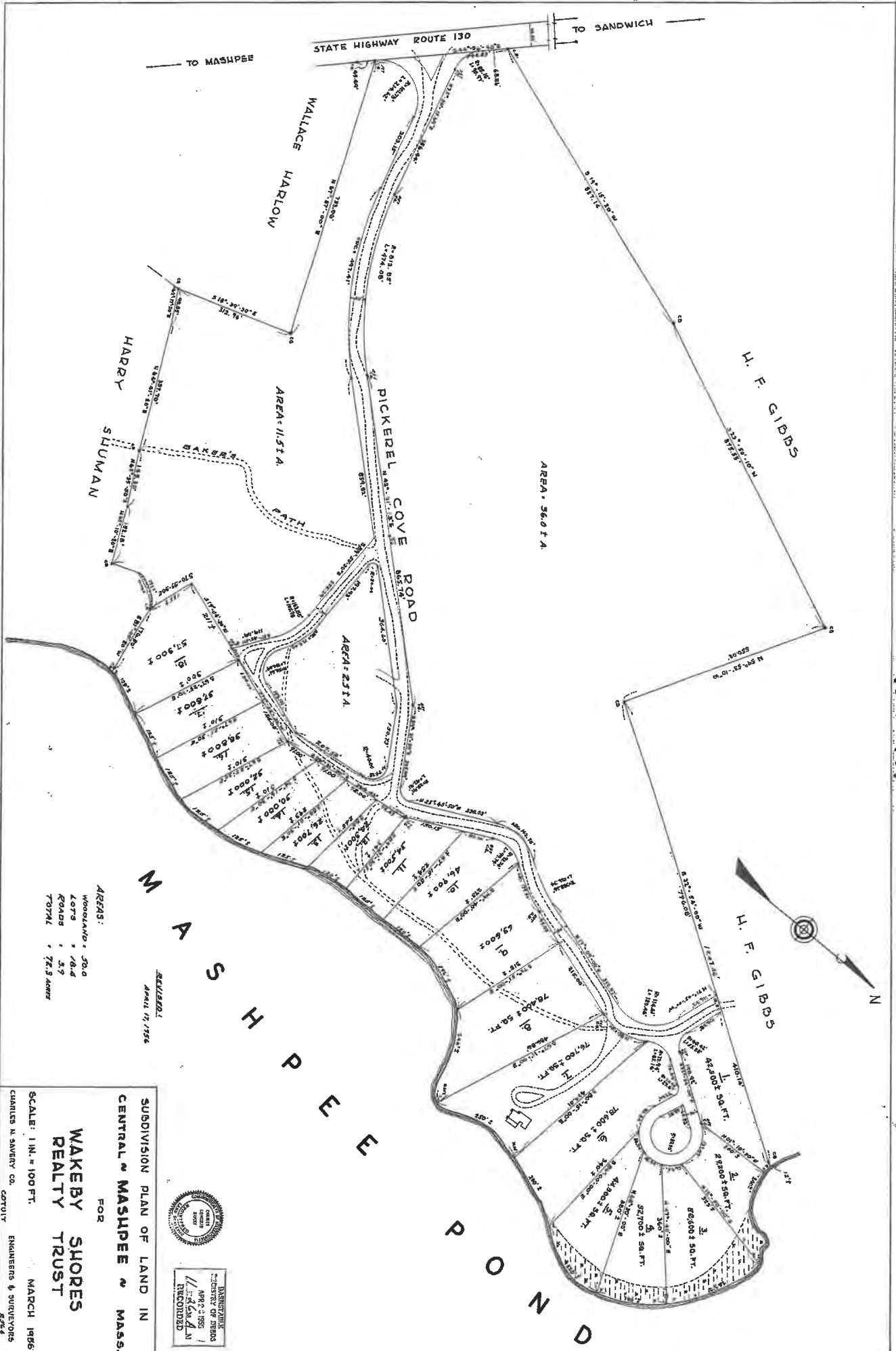
APPROVAL NOT REQUIRED
SUBDIVISION CONTROL LAW
MASHPEE PLANNING BOARD
DATE SIGNED: 10-16-02
[Signature]

ANTHONY L. SHULMAN &
DOROTHY G. KAGAN
ANTHONY L. SHULMAN
CELIA R. SCHEER
DOROTHY G. KAGAN

NO REPRESENTATION AS TO COMPLIANCE WITH THE MASSACHUSETTS SUBDIVISION CONTROL LAW HAS BEEN MADE OR INTENDED BY THE ABOVE ENDORSEMENT

ZONING DISTRICT R-3

127-101



AREAS:
 Woodland: 50.0
 Lots: 16.4
 Roads: 3.9
 TOTAL: 70.3 Acres

RECORDED:
 APRIL 17, 1986

SUBDIVISION PLAN OF LAND IN
 CENTRAL MASHPEE, MASS.

FOR
**WAKEBY SHORES
 REALTY TRUST**

SCALE: 1 IN. = 100 FT.
 MARCH 1986
 CHARLES N. SAVERY CO. SURVEYORS
 ENGINEERS & SURVEYORS
 P.E.C.



RECORDED
 APR 2 1986
 11:46 AM

127-101

Know all men by these presents that I Winifred M Hicks of Dennis in the County of Barnstable and State of Massachusetts in consideration of One dollar and other considerations paid by Mary L. Chase, of Dennis in the County of Barnstable, and State of Massachusetts the receipt whereof is hereby acknowledged, do hereby remise, release and forever quitclaim unto the said Mary L. Chase, and her heirs and assigns forever a certain piece of land and the buildings thereon, situated in Dennisport (so called) in said Dennis and bounded as follows, to wit: Beginning at the South West corner of the premises at a stake by land of the late Joseph Piper and a town road, thence Northerly by said road to land of Jennie B. Howes thence Easterly by land of said Jennie B. Howes to land of the late Augustus Francis, thence Southerly by land of said Francis to land of the late Joseph Piper, thence Westerly by land of the Joseph Piper land to the first mentioned bound, containing one acre be the same more or less. To have and to hold the granted premises, with all the privileges and appurtenances thereto belonging, to the said Mary L. Chase and her heirs and assigns, to their own use and behoof forever. And I do hereby, for myself and my heirs, executors and administrators, covenant with the said grantee and her heirs and assigns that the granted premises are free from all incumbrances made or suffered by me and that I will and my heirs, executors, and administrators shall warrant and defend the same to the said grantee and her heirs and assigns forever against the lawful claims and demands of all persons claiming by, through, or under me but against none other. And for the consideration aforesaid G. Truman Hicks Husband of said Winifred M Hicks do hereby release unto the said grantee and her heirs and assigns all right of or to both dower and homestead in the granted premises, and all rights by statutes and all other rights therein. In witness whereof we the said Winifred M Hicks and G. Truman Hicks hereunto set our hands and seals this Twelfth day of March in the year one thousand nine hundred and nine

Signed, sealed and delivered
in presence of
E B Joy
Mary O. Joy

Winifred M. Hicks (LS)
George T. Hicks (LS)

Commonwealth of Massachusetts

Barnstable, ss. Dennisport March 12, 1909 Then personally appeared the above named Winifred M. Hicks and G. Truman Hicks and acknowledged the foregoing instrument to be their free act and deed, before me-

Ebenezer B. Joy Justice of the Peace

Barnstable, ss., Received December 27, 1925, and is recorded.

I, Russell S. Codman, the elder of that name, of Manchester, Essex County, Massachusetts, for consideration paid, grant to Russell S. Codman, the younger of that name, with quitclaim covenants a certain lot or parcel of land in the Northerly part of the Town of Mashpee in the County of Barnstable and Commonwealth aforesaid, being the Easterly half of the lot formerly belonging to Ophelia Caesar and bounded and described as follows: Beginning at Mashpee Pond at the Northeast corner of land now or formerly of E. Hicks, thence on the line of said land South 79° West Twelve rods and Ten links to a stake; thence North 51-1/4° West Sixty-one

Exhibit B

- Property owner letter of support and wishes for the properties

To: Evan Lehrer, Town Planner
Dated: October 27, 2023
From: Owners
Re: Land on Pickerel Cove Road

In 1955, when Mashpee/Wakeby Lake was substantially undeveloped, land became available on what was to become Pickerel Cove Road and Pickerel Cove Circle. Our parents purchased this land for the sole purpose of avoiding the construction of massive developments which would harm the environment and especially Mashpee/Wakeby Lake.

Over the years, our parents divided the waterfront into small lots with restrictions for building that would preserve the character of the Lake. Today those lots are inhabited by families whose quiet enjoyment of the Lake reflects our parents' ideals and thus protects the environment. While all of the residents care deeply about the Lake and act on that concern privately, some of those residents have taken a public leadership role in organizations in Mashpee and Cape Cod that exist for the very purpose of protecting the environment.

We have been in discussions with you relative to a potential sale to the Town of Mashpee of approximately 8 acres of this land on Pickerel Cove Road for conservation purposes, subject to successful negotiations relative to price and terms. There is a possibility that we will make another approximately 10 acres available for sale to the Town, depending on a variety of factors, and again subject to successful negotiations relative to price and terms.

Among other requirements, we require that this land be left undeveloped, fallow and completely in its natural state so as to maximize benefits to the environment and especially the Lake, as we have done over these many years. We also require that the land be held by the Town as conservation land for the benefit of all residents of Mashpee.

We look forward to working with you and the Town to make this vision a reality.

Exhibit C

- Locus Map
- Photos



Exhibit D

- Planning Board Letter of Support
- Native Land Conservancy Letter of Support
- Save Mashpee-Wakeby Pond Alliance Letter of Support
- Friends of the Mashpee National Wildlife Refuge Letter of Support
- Orenda Wildlife Land Trust
- Trustees for Reservations

Note: Application does not include a letter of support from the Conservation Commission. It is hoped and expected they will submit a letter subsequent to their discussion on the matter expected during its 11/2/2023 regular meeting.



Town of Mashpee

Planning Board

16 Great Neck Road North
Mashpee, MA 02649

October 20, 2023

Ms. Arden Cadrin, Chair
Community Preservation Committee
16 Great Neck Road North
Mashpee, MA 02649

RE: Letter in Support of Planning and Conservation Department's Application for Funding

Dear Ms. Cadrin:

I am writing to express on behalf of the Mashpee Planning Board, who voted on October 18, 2023 to submit this letter, its support of the joint application made by the Planning Department and Conservation Department to acquire the properties for protected open space addressed as 9, 17, 25, 33 and 87 Pickerel Cove Road as well as those addressed as 7, 21, and 25 Pickerel Cove Circle and lastly 0-Rear Pickerel Cove Road. These parcels collectively total more than 17 acres.

As stated in the application, this funding request meets the requirements of the Community Preservation Act (CPC) and is consistent with community needs. The property in question, if acquired, would maximize publicly owned and protected lands within the Mashpee National Wildlife Refuge. This proposal would permanently protect wildlife habitat on parcels subject to development and the associated impacts of that development. It would expand opportunities for passive recreation with potential public access to scenic waterfront vistas.

The Mashpee Planning Board supports this effort and asks for the CPC's support by first authorizing a third-party appraisal to begin negotiations, and, if a price can be agreed upon, to submit an article for Town Meeting consideration to acquire the parcels. The Planning Board understands that the property owners are extremely motivated to sell 8 of the 17 acres and that the remaining acreage will be subject to further negotiation.

Sincerely,

A handwritten signature in blue ink that reads "Karen D. Faulkner".

Karen D. Faulkner, Chair
Planning Board



NATIVE LAND CONSERVANCY

P.O. Box 974

Mashpee, MA 02649

LAND RESCUE AND PRESERVATION

October 30, 2023

Arden Russell, Chair

Community Preservation Committee

16 Great Neck Road N

Mashpee, MA 02649

Re: Letter in Support of the Planning Department's application for funding

Dear Arden Russell,

On behalf of the Native Land Conservancy, Inc. (NLC), I am writing to share its resounding support of the collaborative application by the Planning Department and Conservation Department to acquire a collection of 17 acres parcels generally between Main Street (Route 130) and the western shore of Mashpee-Wakeby Pond.

If successful, this acquisition would be an excellent model of the Community Preservation Act-funded projects. This project would benefit the public and wildlife by increasing protected lands within the Mashpee National Wildlife Refuge and providing rare species habitat. These parcels are currently at risk of development the potential to sustain approximately eight single family building lots under current zoning. Beyond the borders of this property, its protection will benefit the broader community by contributing to healthy landscapes through carbon sequestration, water filtration, and thermal regulation.

Being the first Indigenous-led conservation group east of the Mississippi, we approach evaluation of conversation projects with consideration for the next seven generations of people, plants, and animals. We understand that the benefit of open space is immeasurable.

The NLC requests that the Community Preservation Committee supports this important project.

Sincerely,

Diana Ruiz, Ph.D.
Executive Director



Susan Dangel, President
Save Mashpee Wakeby Pond Alliance
P.O. Box 374
Forestdale, MA 02644

October 27, 2023

Arden Russell, Chair
Community Preservation Committee
16 Great Neck Road N
Mashpee, MA 02649

Dear Ms. Russell,

I am writing to you today on behalf of the Board of Directors of the Save Mashpee Wakeby Pond Alliance to offer our unanimous support for the acquisition of 17 acres to protect as open space adjacent to Mashpee-Wakeby Pond along Pickerel Cove Road and Pickerel Cove Circle.

In response to the continued degradation of Mashpee Wakeby Pond, due to the influx of nutrients to the pond from septic systems and stormwater runoff, we developed an urgent action plan to help ensure the pond's preservation.

One of the unique features of the Pond is the significant amount of undeveloped land on its shores. Our charter actually includes an action item to protect large parcels of undeveloped land and states that - "We must keep a watchful eye on the ownership of these properties and align with other like-minded groups to ensure that they remain undeveloped."

Preserving this land will not only maintain a natural habitat and allow for additional recreational paths of the abutting conservation land, but will also prevent up to 17 homes from adding to the nutrient imbalance we are facing today.

We hope that the Community Preservation Committee will approve this purchase plan and take the necessary steps to include a funding article on the upcoming Town Meeting warrant.

Sincerely,

Susan Dangel

Susan Dangel, President -Save Mashpee Wakeby Pond Alliance
Marc Blesoff, Merope Dayos, Meredith Harris, Carla Mullen, Jonathan Small, Linda Smith, Mike Trudeau & Paul Valentine, Directors



Friends of Mashpee National Wildlife Refuge

To: Chairperson of the Mashpee Community Preservation Act Committee

Date: May 25, 2023

RE: Acquisition of parcels near Pickerel Cove Road and Pickerel Cove Circle

To Whom It May Concern:

Please accept this letter of support on behalf of the Board of Directors of the Friends of Mashpee National Wildlife Refuge (FMNWR) which has voted to support the acquisition and negotiated easements of contiguous parcels located generally between Main Street (Route 130) and the western shore of Mashpee-Wakeby Pond along Pickerel Cove Road and Pickerel Cove Circle. These parcels are all within the mapped boundary of the Mashpee National Wildlife. FMNWR joins other agencies and organizations to protect this land for conservation.

This proposal would permanently protect Wildlife Habitat on a parcel subject to development that is also contiguous with protected open space. It would expand opportunities for passive recreation and public access to Mashpee Pond

We thank you for your time and consideration of this CPA funding request.

Sincerely,

Glenn Davis, President
Friends of Mashpee National Wildlife Refuge

FMNWR Board of Directors:

Glenn Davis, President

MaryKay Fox, Treasurer

Lucinda Keith, Secretary

Joan Barkin, Director

Neil Barkin, Director

Katelyn Cadoret, Director

Nancy Church, Director

Tom Fudala, Director

Arden Russell, Chair
Community Preservation Committee
Town of Mashpee
16 Great Neck Road North
Mashpee, MA 02649

May 31st, 2023

Dear Ms. Russell,

Orenda Wildlife Land Trust, Inc. (Orenda) owns 208 acres of land in the Town of Mashpee. As a not-for-profit organization dedicated to the protection of open space for wildlife habitat, fresh air, and clean water, Orenda strongly supports the Town of Mashpee's proposal to acquire four properties (17, 25, & 33 Pickerel Cove Road and 0 Rear Pickerel Cove Road) between Pickerel Cove Road and Mashpee Pond for conservation purposes. In addition, we support the establishment of an easement at 21 Pickerel Cove Road which would allow for public access to Mashpee & Wakeby Ponds.

If permanently protected, these parcels would add to a network of conserved land nearby. This includes land owned by the Town and the Massachusetts Department of Fish & Game and a conservation restriction held by Orenda on a pondfront parcel.

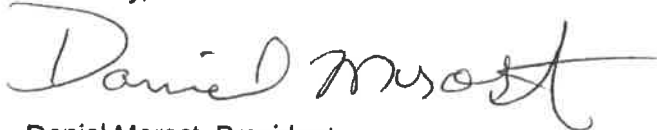
Recent reports from the Association to Preserve Cape Cod address the urgent need to protect the Cape's water quality from further degradation (see: capecodwaters.org). This conservation project will prevent several new septic systems from being installed in the future. This will reduce nitrogen discharge which would negatively impact the water quality of Mashpee Pond and nearby watersheds. The project would additionally protect a wetland and rare species along the pondshore, maintaining important habitat.

According to a recent public opinion survey conducted in conjunction with the Town's updated local comprehensive plan, Mashpee residents overwhelmingly support open space protection. The public would directly benefit from access to passive recreation on these properties.

Along with other organizations and local, state, and federal government agencies, Orenda is a proud member of and landholder within the Mashpee National Wildlife Refuge partnership. The parcels along and nearby Pickerel Cove Road are within the NWR acquisition boundaries, and would further expand the conservation land within the refuge system.

Therefore, we ask that the Town appropriate funding for this project at the 2024 Spring Town Meeting.

Sincerely,

A handwritten signature in dark ink, appearing to read "Daniel Morast", with a stylized, flowing script.

Daniel Morast, President
Orenda Wildlife Land Trust, Inc.



June 5, 2023

Mashpee Community Preservation Committee
16 Great Neck Road N.
Mashpee, MA 02649

Dear Chair of the Community Preservation Act Committee,

The Trustees of Reservations ("The Trustees") is writing in strong support of the acquisition of legal interests in the five parcels of land off Pickerel Cove Circle. This project, located on the western shores of Mashpee-Wakeby Pond, encompasses 10.91 acres and would provide additional access to the Pond for the public. It is within the acquisition boundary for the Mashpee National Wildlife Refuge and Mashpee's Long Range Plan includes a goal to maximize publicly owned and protected lands within the Refuge.

The Trustees is the country's oldest non-profit land trust and was founded by Charles Eliot in 1891. Our mission is to conserve and steward Massachusetts lands that contain historic, cultural, and environmental values for future generations to enjoy. We are pleased that this project will provide further protection of the shoreline of Mashpee-Wakeby Pond and potential public access to the Pond, as well as complement existing protected lands including our Lowell Holly Reservation and the Town of Sandwich's Ryder Conservation Area on the eastern side of the Pond.

Successful completion of this project will

- Protect over ten acres of BioMap Critical Natural Landscape and important wildlife habitat.
- Protect about one acre of BioMap Core Habitat
- Protect the shoreline of Mashpee-Wakeby Pond, which has been classified as NHESP Priority Habitat for Rare Species
- Protect lands that support safe drinking water

The Trustees is most pleased to have the opportunity to express its support for the Mashpee-Wakeby Pond project, which will serve both important resource protection goals and opportunities for public access.

Thank you for your consideration of this important conservation project.

Sincerely,

A handwritten signature in black ink, appearing to read "Jennifer Dubois".

Jennifer Dubois
Interim Managing Director of Conservation

RECEIPT OF APPLICATION
(For Applicant's Records)

COMMUNITY PRESERVATION COMMITTEE
Town of Mashpee

Received from David Weeden, an application entitled
Open Space + Recreation Plan on the 1st day of November, 2023.
Creation

Received by Theresa Ince
(signature)

TOWN MANAGERS OFFICE
NOV 1 '23 PM3:05



COMMUNITY PRESERVATION FUNDING APPLICATION
Town of Mashpee

Submit **(12)** copies And,
And (1) electronic copy to: scoleman@mashpeema.gov

Town of Mashpee
Community Preservation Committee
c/o Office of the Select Board & Town Manager
16 Great Neck Road North, Mashpee MA 02649
508-539-1401

For application questions, email CPC Secretary Kathleen Soares at ksoares@mashpeema.gov

Category (check all that apply)
Open Space <input checked="" type="checkbox"/> Recreation <input checked="" type="checkbox"/> Historic Preservation _____ Affordable Housing _____

Name of Applicant: David Weeden, on behalf of the Environmental Oversight Committee

Co-Applicant; if applicable: _____

Contact Person: David Weeden

Daytime Phone: (401) 782-7848 Email: DWeeden@mashpeema.gov

Mailing Address: 16 Great Neck Rd. North

Town: Mashpee State: MA Zip Code: 02649

What is your authority to submit this application? Please document.

Chairman of the Environmental Oversight Committee

Proposal Title: Open Space and Recreation Plan Creation

Project Address (or Assessor's parcel ID) Town-wide

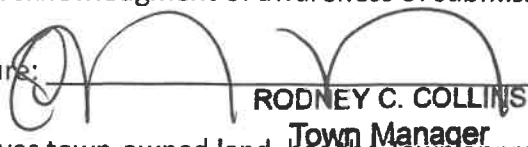
Amount of CPA Funding request: \$. 100,000

Total Cost of Proposed Project: \$ 100,000

Date: November 1, 2023

A. If the proposal is being submitted by a Town Department, Committee, Board or Commission, the application requires acknowledgment of awareness of submission by the Town Manager.

Town Manager signature:


RODNEY C. COLLINS
Town Manager

Town Manager Approval Date:

11/1/23

B. If the proposal involves town-owned land, has the town approved the use of said Town-owned land?

Yes: _____ Please document.

No: _____ What are the plans to secure approval?

C. If this proposal has been permitted, reviewed or discussed at a Town Committee, Commission or Board meeting, include copies of the minutes of meeting where this proposal was discussed.

This was discussed at the 10/30/2023 meeting of the Environmental Oversight Committee and is scheduled for the 11/16/2023 meeting of the Conservation Commission. Minutes will be submitted as they become available.

Project Description:

Answer the following questions; be brief, but complete and include any supporting materials.
All questions must be answered.

1. Control of Site:

A. Indicate if applicant owns or has a purchase agreement for the property.

- Attach the current deed/title to the application.
- If under agreement, attach a copy of agreement.
- If applicant does not own the site, what is the relationship between applicant and owner?

B. If this is a land acquisition request, is the property currently listed for sale?

C. Are there any Deed Restrictions/other Restrictions on the land?

2. Goals: What are the goals of the proposed project?

This project aims to provide the Town of Mashpee with an up-to-date Open Space and Recreation Plan.

3. Community Need:

A. Why is this project needed? How does it reflect the criteria as defined by the CPC Committee?
(See attached criteria)

Open Space and Recreation Plans are a tool through which a community plans for the future of its conservation and recreation resources. OSRPs are informed by a thorough public participation process and reflect the needs of its community members. The Commonwealth reviews and approves the plans to ensure they conform to the OSRP requirements. When a community has an approved OSRP, it becomes eligible for DCS grant programs for up to seven years. The town's last Open Space and Recreation plan was approved in 2009.

- B. Describe and quantify the need: number of people who will directly benefit from the project once it is completed; and /or resources that will be protected as a result of this project.

This project will benefit every member of the Mashpee Community. Not only will the community members be included in the plan creation process, but the town will become eligible for funding from state sources that have not been previously available. This will help move forward the recreational and conservation initiatives of the town while helping to alleviate a portion of the financial burden.

- C. Is this part of an approved Town Plan, for example the Local Comprehensive Plan.

This plan will support and continue the efforts of the planning department and all applicable approved town plans.

4. Community Support:

- A. What is the nature and level of support for this project? Please see Information Checklist re: letters of support and petitions.

This project will support all of the conservation efforts and groups operating within Mashpee, including the Friends of Mashpee National Wildlife Refuge and its partners. Letters of Support will be included as they become available.

- B. Has there been any communication with project abutters? Yes: _____ No: _____ N/A

5. Timeline

- A. What is the proposed schedule for project implementation, including a timeline for all milestones?

The process is anticipated to take a year once a consultant is contracted. The Environmental Oversight Committee will be the supporting committee for the creation of this plan and envisions the creation of an Open Space Sub Committee to include more voices in the creation of this plan. To ensure that this plan has broad-based support, the goal is to involve as many citizens and board representatives in this process as possible.

- B. Permitting Requirements: List permits needed for completion of project and anticipated timeline, including any special permit, variance or other approval required.

6. Community partners or sponsors:

Identify any partners or sponsors for this project. Provide letters of intent.

(For example, the Town does not develop affordable housing; therefore, partners are necessary to complete the project.)

- 7. Success Factors:** How will the success of this project be measured? Be specific.

This project will be successful when the town has a robust State-approved plan that reflects the needs and goals of this community as related to Open Space and Recreation. Success will be realized when state funding is leveraged to support land acquisition projects, and conserve strategic properties identified through this planning process. This plan is essential for the success of conservation and recreation efforts.

8. Experience/Credentials: Please see the attached Documents.

A. How will the experience of the applicants(s) contribute to the success of this project?

B. Information about the applicant - for applicants other than Town Departments, attach to only one copy of application.

1. Organizational goals and objectives of applicant.
2. Organizational history of applicant.
3. Names of members of governing board (e.g. directors or trustees)
4. Legal and tax status of applicant; IRS document identifying non-profit status
5. Letter of good standing from Town and State
6. Copy of most recent audit
7. Description of previously completed projects similar to proposed project
8. References
9. W-9

9. **Budget:** What is the total budget for the project and how will CPA funds be spent?

The total Budget is \$100,000

A. **Budget:** Itemize the project budget. Expenditures and estimated costs must be clearly identified and back-up documentation provided.

Follow-up documentation to support this cost will be provided as available.

Item Description	Cost Estimate	CPA Funds	Other Funds
Consultant for Creation of OSRP	100,000	100,000	0

Total 100,000

B. **Other Funding:** What additional funding sources are available, committed, or under consideration for this project? Include copies of commitment letters, if available, and describe any other attempts to secure funding for this project.

C. **Applicant's Previous CPA Project Funding:** Has a previous phase of this project, or any previous project, received CPA funding? If yes, explain.

D. Please list any donated labor and/or materials and the value for each.

10. Maintenance: CPA funds may not be used for maintenance. If ongoing maintenance is required for this project, how will it be funded?

11.Coordination with Town Departments: If your project requires coordination with another Town Department or entity, complete the following:

A. Identify by name each department, committee, board, or commission that will play a role in the implementation of your project.

B. Define in detail the role to be played by each specific governmental body.

The roles of each committee, board, and department involved will be defined at the onset of this project.

12.Coordination with Other Town(s): If your project requires coordination with other Town(s), please explain.

INFORMATION CHECKLIST:

The application should contain the following supplemental information in order to be reviewed:

- ☐ Site plan
- ☐ Assessor's Field Card
- ☐ Title and/or Deed to the property; Purchase and Sale; Exclusive Option Purchase
- ☐ Photographs or renderings of existing site and conditions
- ☐ Architectural plans and specifications if applicable
- ☐ Letters of support

FOR OPEN SPACE ACQUISITIONS: Due Diligence Checklists.

- ☐ Written report from the Conservation Agent on the environmental quality of the site.
- ☐ Good Standing Statement from Town and State
- ☐ Appraisal(s) on the property.
- ☒ Possible letters of support from Conservation Commission

*FOR PURPOSES OF
CONSULTANT.*

FOR RECREATION PROJECTS:

- ☐ letter of recommendation from the Recreation Director

FOR AFFORDABLE HOUSING PROJECTS:

- ☐ letter of recommendation from the Affordable Housing Committee

FOR HISTORIC RESOURCES:

- ☐ Documentation of historical significance from one or more of the following sources:
 - a. the Massachusetts Historical Commission
 - b. the National Register of Historic Places
 - c. the Mashpee Historical Commission
- ☐ Letter of recommendation from Mashpee Historical Commission

A. If the proposal is being submitted by a Town Department, Committee, Board or Commission, the application requires acknowledgment of awareness of submission by the Town Manager.

Town Manager signature: 

RODNEY C. COLLINS

Town Manager

Town Manager Approval Date: 10/27/23

B. If the proposal involves town-owned land, has the Town approved the use of said Town-owned land?

Yes: ☒

Please document.

No: ☒

What are the plans to secure approval?

Falmouth Town Landing - Shared waterway

C. If this proposal has been permitted, reviewed or discussed at a Town Committee, Commission or Board meeting, include copies of the minutes of meeting where this proposal was discussed.

Project Description:

See Attached.

Answer the following questions; be brief, but complete and include any supporting materials.
All questions must be answered.

1. Control of Site:

A. Indicate if applicant owns or has a purchase agreement for the property.

- Attach the current deed/title to the application.
- If under agreement, attach a copy of agreement.
- If applicant does not own the site, what is the relationship between applicant and owner?

B. If this is a land acquisition request, is the property currently listed for sale?

C. Are there any Deed Restrictions/other Restrictions on the land?

2. **Goals:** What are the goals of the proposed project?

3. Community Need:

A. Why is this project needed? How does it reflect the criteria as defined by the CPC Committee?
(See attached criteria)

B. Describe and quantify the need: number of people who will directly benefit from the project once it is completed; and /or resources that will be protected as a result of this project.

C. Is this part of an approved Town Plan, for example the Local Comprehensive Plan.

4. Community Support:

A. What is the nature and level of support for this project? Please see Information Checklist re: letters of support and petitions.

B. Has there been any communication with project abutters? Yes: ☒ No: ☐



TOWN OF MASHPEE
DEPARTMENT OF NATURAL RESOURCES
31 Mercantile Way Unit 6/7
Mashpee, Massachusetts 02649
Telephone – (508) 539-1410



November 1st 2023

Community Preservation Committee

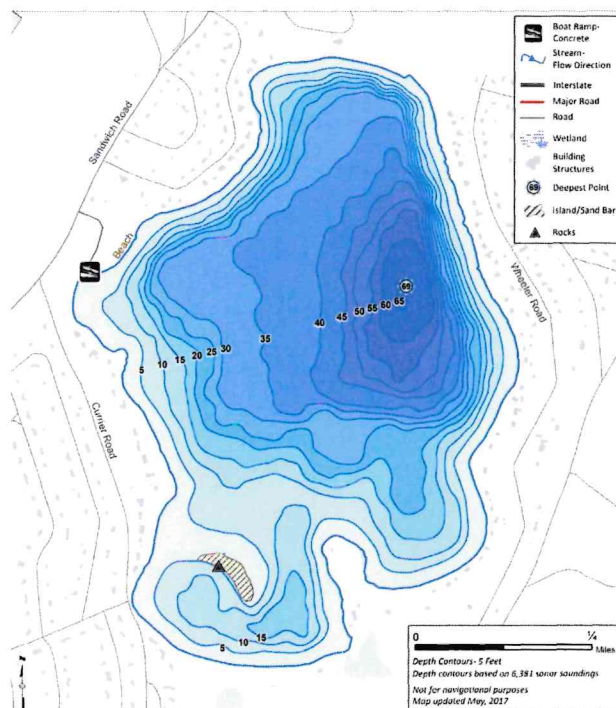
Re: Community Preservation Funding Application: Ashumet Pond Nutrient Inactivation

To whom it may concern,

The Mashpee Department of Natural Resources formally requests that the Community Preservation Committee recommend funding for a Nutrient Inactivation Treatment on Ashumet Pond.

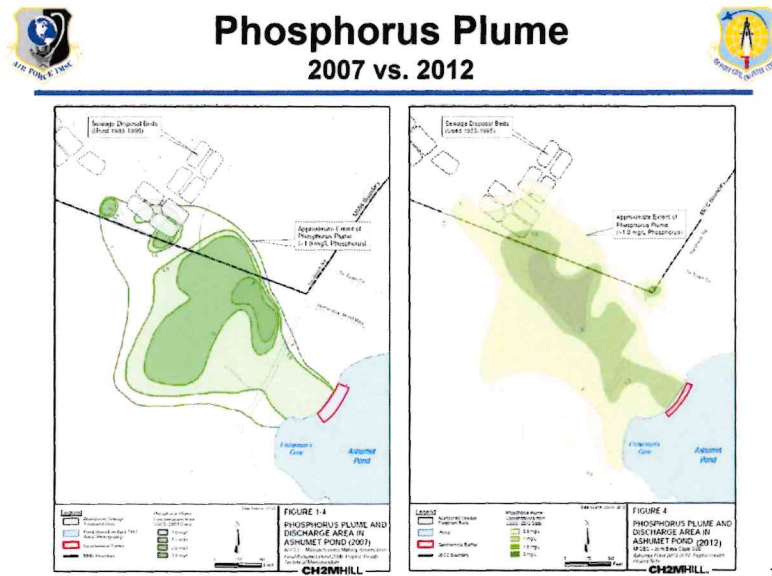
Background of Ashumet Pond:

Ashumet Pond is a true glacial “flow through” kettle hole pond, with a total surface area of roughly 220 acres with an average depth of 20 feet and a maximum depth of 69 feet. Its total groundwater flux rate is between 454,000 and 474,000 cubic feet per day. The pond has a small inlet on its North West shore near an series of abandoned cranberry bogs and the Orenda Linda Bound Sanctuary. The pond has produced Brook Trout, Rainbow Trout, Tiger Trout, Brown Bullhead, Chain Pickerel, Yellow Perch, White Perch, and Sunfish and is regularly stocked with Rainbow Trout and Brook Trout and sometimes Tiger Trout.



Ashumet Pond Topography: Mass. Division of Fisheries and Wildlife.

Ashumet Pond has a long history of nutrient impairment stemming from a phosphorus enriched groundwater plume. This plume was detected by Mass. Military Reservation in the early 1990s when it was discovered that the rapid infiltration beds, located approximately 2,000 ft northwest of the pond, of their wastewater treatment facility were discharging phosphorous (P) rich water into the ground. The plume, as a result has affected water quality of Ashumet Pond by increasing the amount of available phosphorous needed to support algal growth. See figure of plume below:



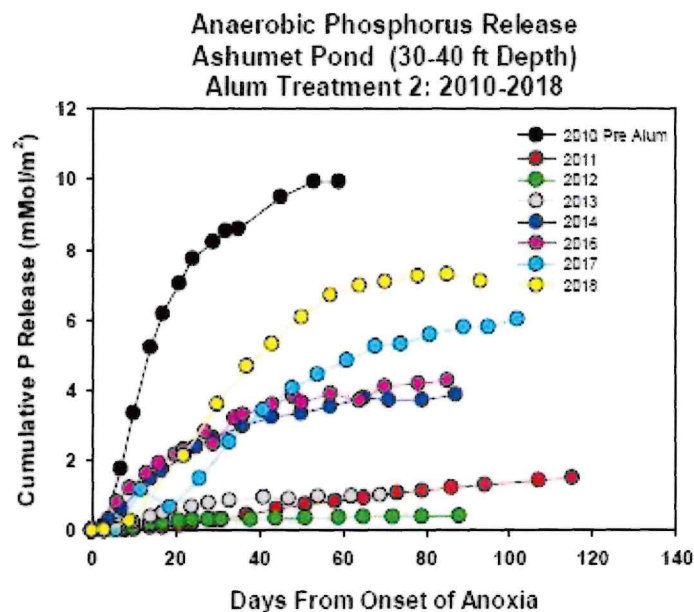
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In 1995 the Air Force's Civil Engineer Center led a cleanup team to treat the adjacent groundwater and accumulated nutrients within Ashumet Pond. A new wastewater treatment facility was built with a new discharge pipeline directed away from Ashumet and to the Cape Cod Canal, a permeable reactive barrier (geochemical barrier) was installed at the groundwater interface abutting Ashumet Pond in 2004, and two nutrient inactivation treatments were completed in 2001 and 2010.

For years, a plume of phosphorus from the old wastewater treatment plant on the base discharged to Ashumet Pond in Falmouth/Mashpee, elevating phosphorus levels. Too much phosphorus can negatively overload the pond's ecosystem. Phosphorus is a nutrient for plants, including algae, which deplete the water of oxygen. The Air Force performed two aluminum-based chemical treatments which immobilized much of the available phosphorus. A permeable reactive barrier consisting of iron filings mixed with native sand in the area of upwelling phosphorus was installed. It significantly reduces the amount of phosphorus entering the pond thus improving pond water quality and clarity. Photo depicts aluminum-based chemical treatment application.



From SMAST analysis and data review, pre-alum levels of P release are returning, primarily due to onsite residential septic system influences on groundwater, fertilizer, and stormwater runoff. JBCC takes some responsibility for legacy phosphorous still entering Ashumet Pond, which is why they are willing to contribute 50% of the cost to treat, permit the treatment, and monitor post-treatment. See below P release data from 2010-2018. Levels from 2018 show an increasing trend to near pre-treatment levels. Further testing of nutrient P release will be conducted in 2024 (sediment nitrate and soluble reactive phosphorus (SRP) flux rates).



In 2022, Mashpee DNR conducted increased sampling on Ashumet Pond. In 2022, data trends showed an increase in P concentrations within the water column, therefore a more aggressive monitoring program was formed. In 2023, Mashpee DNR budgeted for monthly nutrient analysis from April to October. In September 2023 cyanobacteria cell counts exceeded 250,000 cells/ml, nearly quadruple the state's recommended advisory threshold of 70,000 cells/ml. In October of 2023, discussions with SMAST, JBCC, and the Town of Falmouth began to plan for a future nutrient inactivation treatment.

What is Aluminum Sulfate?

Aluminum sulfate is a salt with the formula $Al_2(SO_4)_3$. It is soluble in water and is mainly used as a coagulating agent in the purification of drinking water and wastewater treatment facilities. Due to the chemical makeup of alum, it binds with a wide range of particles from clay and sand sediment to nutrients such as nitrogen and phosphorus. When the alum binds with these nutrients, it renders them useless, and if done correctly can prevent plant growth before it happens. Fortunately, this chemical property solves two of the biggest problems; eutrophication and clarity issues. The solid precipitate forms a flocculent material, referred to as a floc, which has a high capacity to adsorb phosphates. The aluminum hydroxide blanket, when applied appropriately, separates the sediment from the water column, which reduces internally supplied phosphorus. Alum has been used in several Cape Cod ponds, including Ashumet Pond, Mystic Lake, Hamblin Pond, Lovell's Pond, Long Pond, Cliff Pond, Lovers Lake, Stillwater Pond,

Herring Pond and Great Pond. (See Wagner et.al. 2017). Comparison of pre-treatment and post-treatment summer Phosphorous concentrations between surface or bottom sampling locations indicate a decrease in all cases.

Goals:

Complete a third nutrient inactivation treatment on Ashumet Pond to further reduce P release from bottom sediments and thus reduce public health risks associated with dense cyanobacteria blooms. The DNR will work with federal, state, and local partners to continue to monitor P release from groundwater sources such as legacy P from JBCC, onsite septic loading, fertilizer use, and stormwater runoff.

Community Need:

This project is needed to help protect Ashumet pond abutters and visitors from the potential health risks associated with cyanobacteria blooms. These algal blooms also directly impact the overall health of the pond by creating anoxic (no oxygen) conditions and or fish kills. When treated, available phosphorus declines which reduces the likelihood of high concentration algal blooms and low dissolved oxygen events.

There are currently 94 homeowners that are within the 300 feet of Ashumet Pond that would directly benefit from this treatment. Homeowners have expressed initial support for an additional treatment during public informational sessions focused around Ashumet Pond's overall health.

The Mashpee community continues to support clean water initiatives within all planning efforts, including the recent completion of the Town's Local Comprehensive Plan.

Community Support:

Ashumet area residents support this pursuit of an additional aluminum sulfate (nutrient inactivation) treatment. The Friends of Ashumet Pond have requested an additional treatment since 2020. Please see attached letter of support from the Friends of Ashumet Pond.

JBCC – U.S. Air Force also agrees with the need of an additional treatment – Environmental Services Agreement to follow.

Timeline:

Year 1: Preparations:

- 1.) Legal Review: U.S. Airforce Environmental Services Agreement.
- 2.) Dosing: Hire consultants to conduct an aluminum sulfate dosing assessment.
- 3.) Permitting: Conservation Commission sign off for a Department of Environmental Protection permit with National Heritage approval. Permit review under the Wetland Protection Act (Chapter 130, §40) and regulations (310 CMR 10.00) and Town of Mashpee Wetlands Bylaw (Chapter 172). Previous 2010 DEP # issued: File #043-2617; recorded at the Barnstable County Registry of Deeds on August 13, 2010. Office of Fishing and Boating Access – Ramp use permit. Permitting will most likely be streamlined due to past completed treatments within the pond.
- 4.) Review with JBCC for cost sharing.

Year 2: Treatment:

- 1.) Hire a contractor to apply a treatment with buffer solution. A structured work plan will be required.
- 2.) Coordinate with Town of Falmouth and The Office of Fishing and Boating Access.
- 3.) Coordinate with JBCC for cost sharing.

Year 3: Monitoring:

- 1.) Work with consultants to create an expanded monitoring program to track improvements post-alum treatment.
- 2.) Review with JBCC for cost sharing.
- 3.) Receive Conservation Commission Certificate of Compliance.

Community Partners:

United States Air Force – Civil Engineer Center

Friends of Ashumet Pond

Town of Falmouth: Board of Health and Conservation Commission

Town of Mashpee: Board of Health and Conservation Commission

Success:

The success of the treatment will be measured by future P release and treatment longevity. In the absence of watershed wide sewerage, improved homeowner land use practices (fertilizer and LID practices), and stormwater improvements the treatment should last for approximately 10 -15 years.

Budget:

Year 1:

Item Description:	Cost Estimate:	CPA Funds:	Other Funds:
Permitting and Engineering	\$50, 000	\$50,000	JBCC to contribute

Year 2:

Item Description:	Cost Estimate:	CPA Funds:	Other Funds:
Contracting – Alum Treatment	\$500,000	\$500, 000	JBCC to contribute

Year 3:

Item Description:	Cost Estimate:	CPA Funds:	Other Funds:
Monitoring Program (3 yrs+)	\$60, 000	\$60, 000	JBCC to contribute and Mashpee DNR Operating Budget

Budget will need to add a 10 % contingency based on the price costs estimated for actual purchase of the solution.

Town of Falmouth: Falmouth is willing to participate and fund portions of the project. Coordination with the Town's Health Agent and Conservation Agent is ongoing.

Total Requested: \$675,000

Cost of the project may fluctuate based on the cost of the solution. However, costs will not exceed 1,000,000, therefore town reimbursement of funds expended will be determined for each phase of the project.

Maintenance:

No maintenance is required, however water quality monitoring will be ongoing post treatment. These funds will be allocated within the DNR's operating budget.

Coordination with Town Departments:

There will be considerable coordination with the Conservation Commission, Conservation Agent, The Department of Public Works, Board of Health, and the Health Agent for the completion of this project.

The Conservation Agent will help in the permitting aspect of the project.

The Conservation Commission will directly be involved with the hearing of the Notice of Intent filing to Mass. Department of Environmental Protection under jurisdiction of the Wetland Protection Act.

The Board of Health and Health Agent, and The Department of Public Works will assist in review of the project and work plan.

Coordination with Other Towns:

The Town of Mashpee will be coordinating with the Town of Falmouth throughout the entirety of this project. The Falmouth Conservation Agent and Health Agent have been contacted directly and commend Mashpee for taking the lead on this project. Letters of support to follow (Falmouth Board of Health and Conservation Commission unable to meet and approve prior to deadline).

The State Office of Fishing and Boating Access will also be involved in onsite approval of equipment stationing at the Falmouth State Ashumet Boat Launch located at 589 Currier Road. This location was previously used in stationing during the past two treatments in 2001 and 2010.


Attached Documents:

- 1.) Air Force Civil Engineer Center: Ashumet Pond Background and Status
- 2.) Ashumet Pond Abutter List
- 3.) Cape Cod Commission – Mashpee Ponds Profile
- 4.) Kenneth J. Wagner, Dominic Meringolo, David F. Mitchell, Elizabeth Moran & Spence Smith (2017) Aluminum treatments to control internal phosphorus loading in lakes on Cape Cod, Massachusetts, Lake and Reservoir Management, 33:2, 171-186, DOI: 10.1080/10402381.2017.1308449
- 5.) Letter of Endorsement : Friends of Ashumet Pond
- 6.) Letter of Endorsement : Mashpee Ponds Coalition
- 7.) Letter of Support : Mashpee Conservation Agent, Andrew McManus
- 8.) Letter of Support: Mashpee Health Agent, Zackary Seabury
- 9.) Office of Fishing and Boating Access – General Permit

Supporting Links:

- 1.) Ashumet Pond Nutrient Inactivation Report – 2010 CH2MHILL:
https://www.mashpeeema.gov/sites/g/files/vyhlf3426/f/pages/ashumet_pond_nutrient_inactivation_treatment_2010_report_0.pdf

Air Force Civil Engineer Center



Ashumet Pond Background and Status

Jon Davis, P.E.
SOL Solutions
AFCEC/CZO

Battle Ready...Built Right!

1


Ashumet Pond Overview

- History
- Remedial Actions
 - Alum Treatment #1
 - Permeable Barrier
 - Alum Treatment #2
- Results
 - Sediment P Release
 - Barrier Monitoring
 - Pond Trophic Health Monitoring

2

Ashumet Pond History

- Decreased water quality noted as early as 1969
- First assessment by AF published in 1988
 - Data indicated pond was trending toward eutrophic
 - Alternatives for nutrient loading reductions needed to be assessed





Ashumet Pond

3

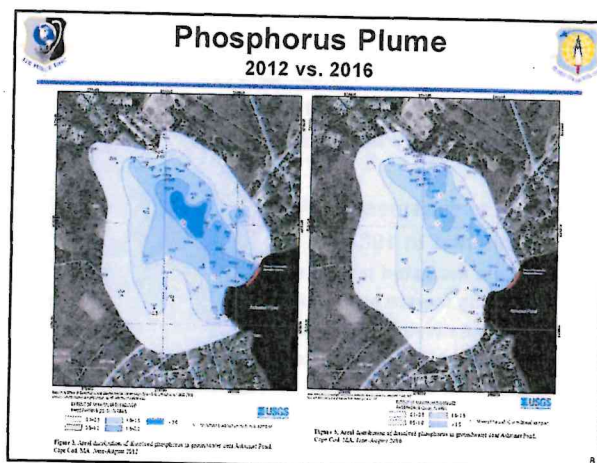
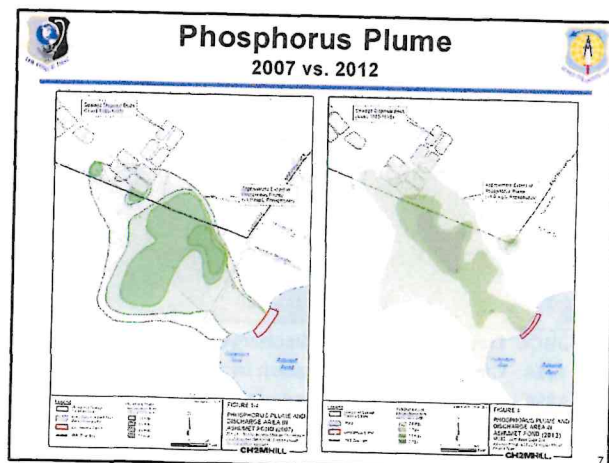
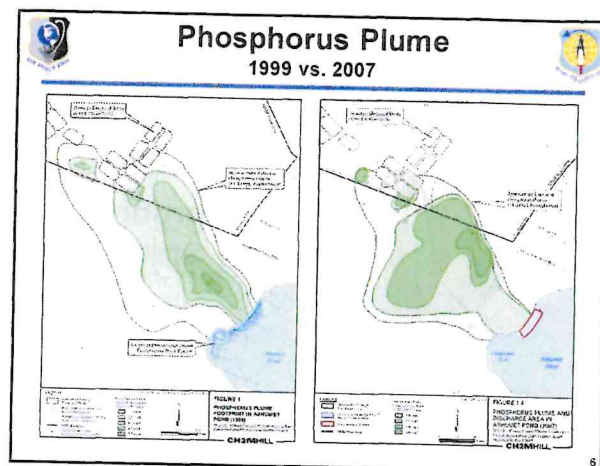
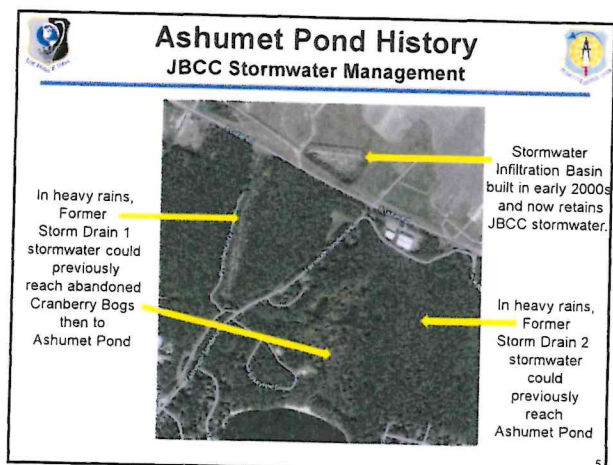
Ashumet Pond History

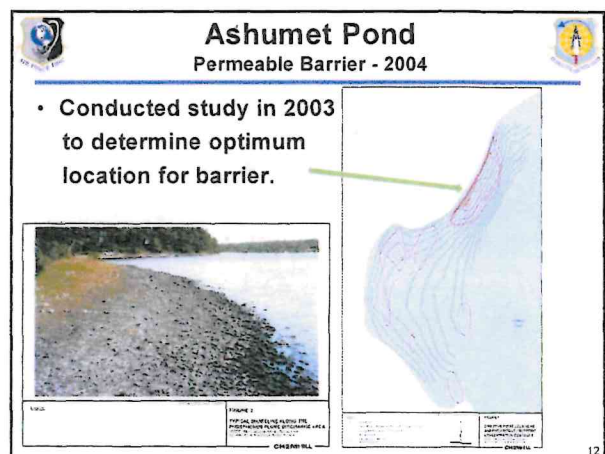
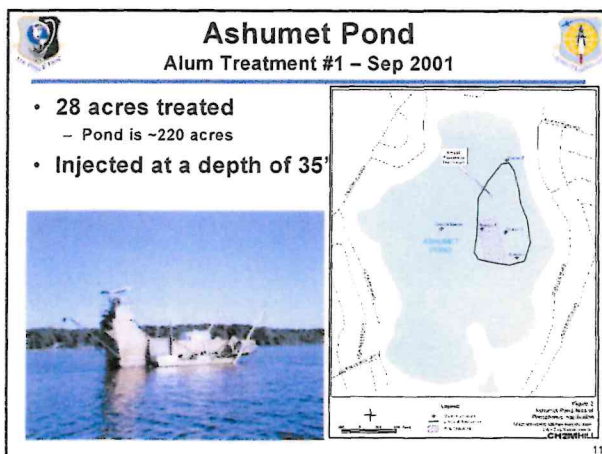
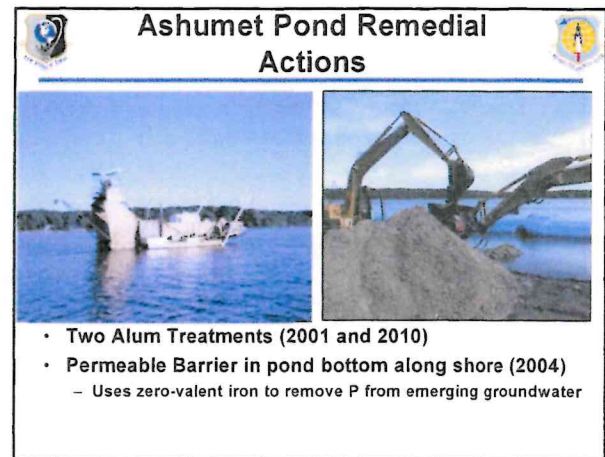
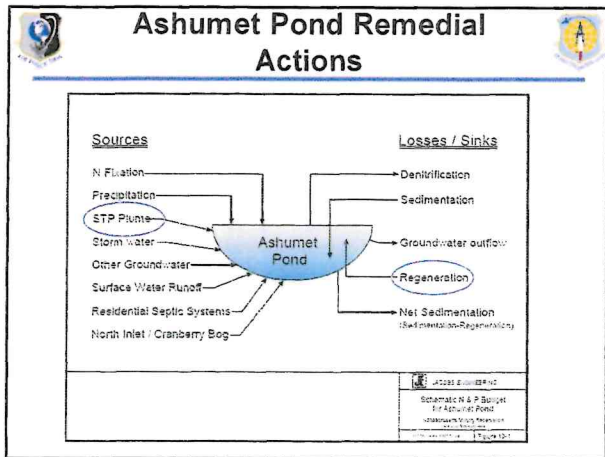
JBCC Wastewater Treatment Plant

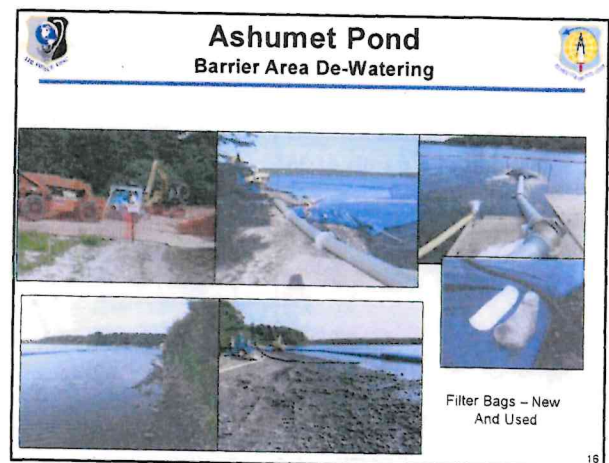
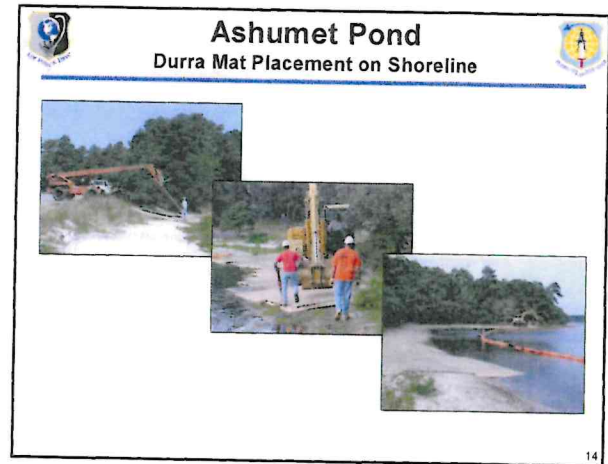
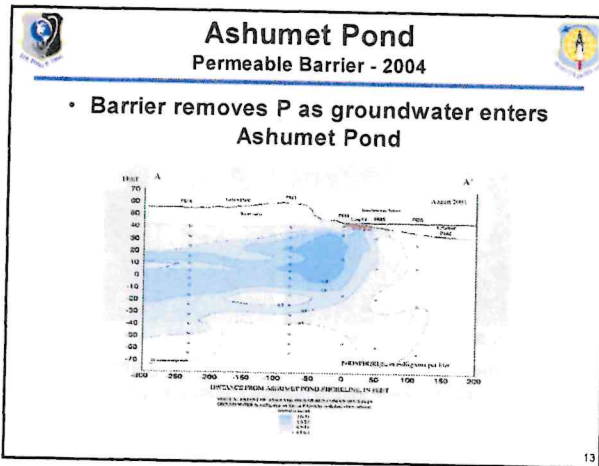



- JBCC Treated Wastewater discharge on base (1936-1995)
- 1984 - Closed eastern infiltration beds
- 1995 - Closed wastewater treatment plant
 - New treatment plant discharges near Cape Cod Canal

4









Ashumet Pond Zero-Valent Iron and Sediment Mixing

37 Tons of Iron



17


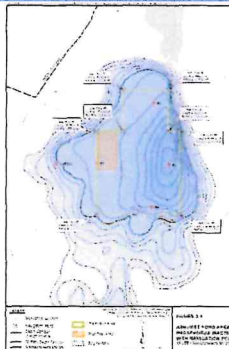
Ashumet Pond Demobilization



18

Alum Treatment #2 – Sep 2010

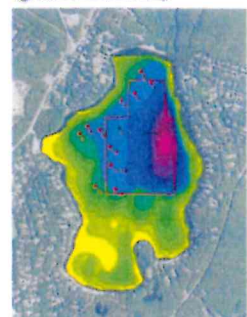
- 56.5 acres
- Injected at a depth of 10'
 - Included mussel monitoring

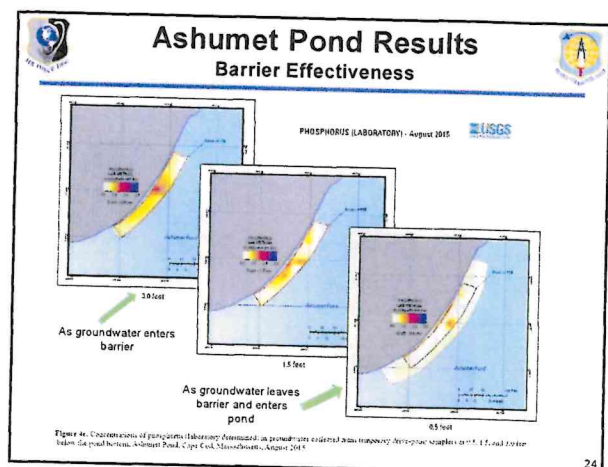
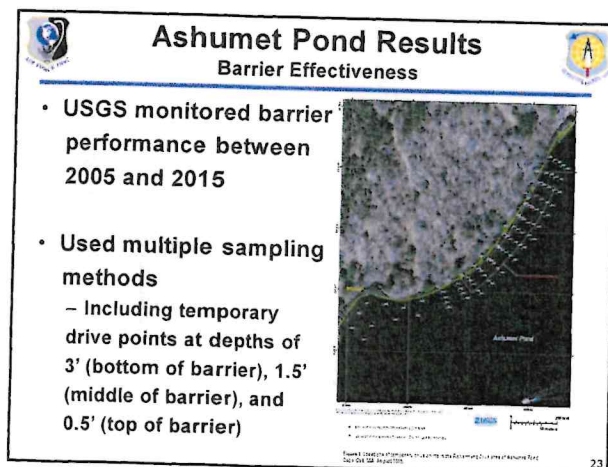
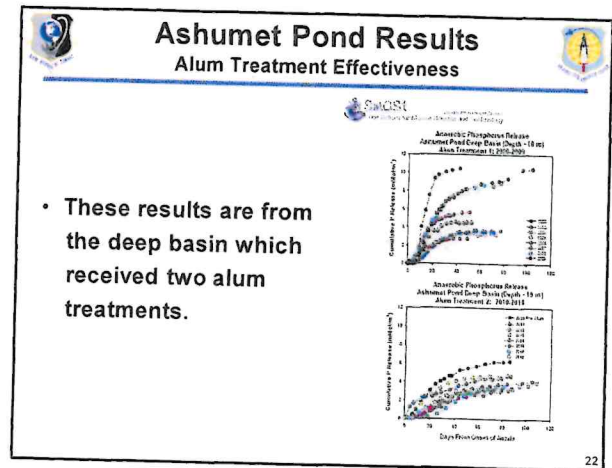
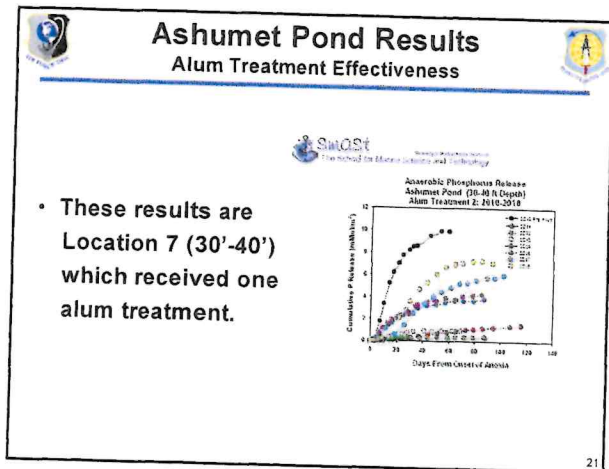
19

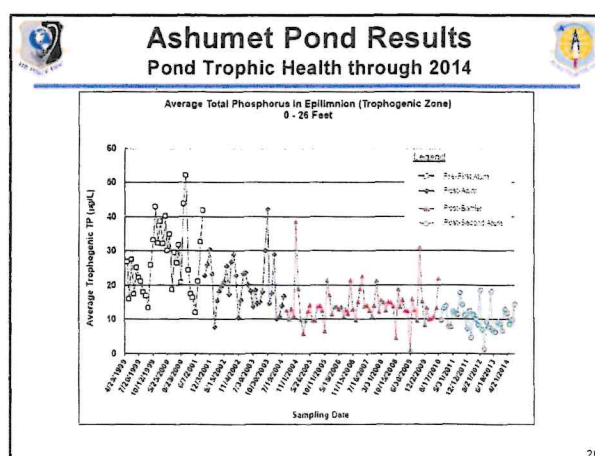
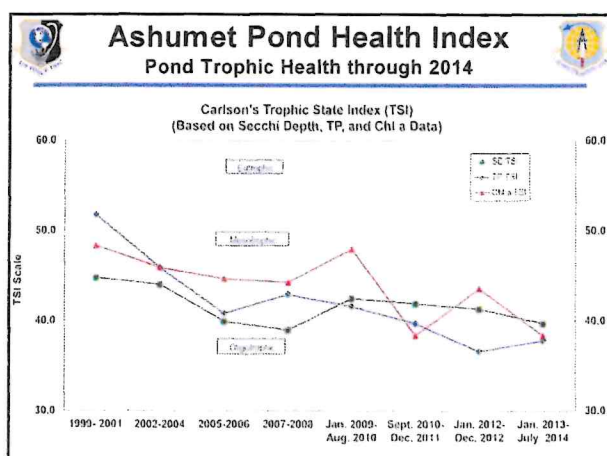
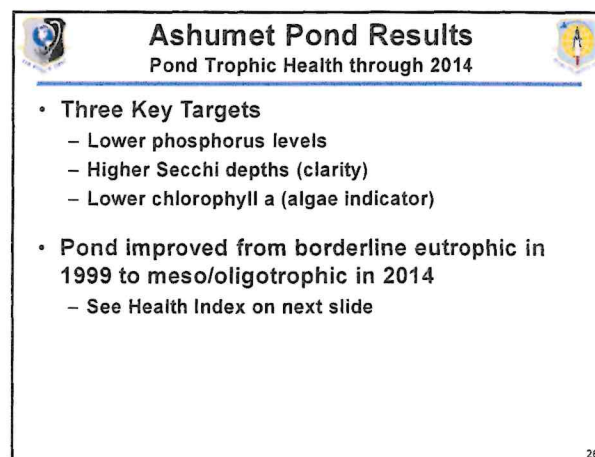
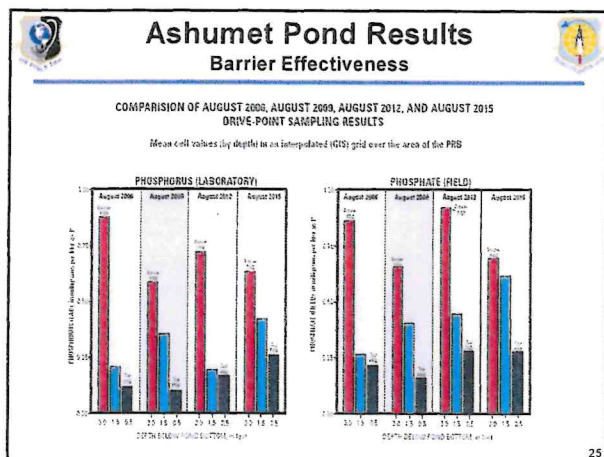
Ashumet Pond Results Alum Treatment Effectiveness

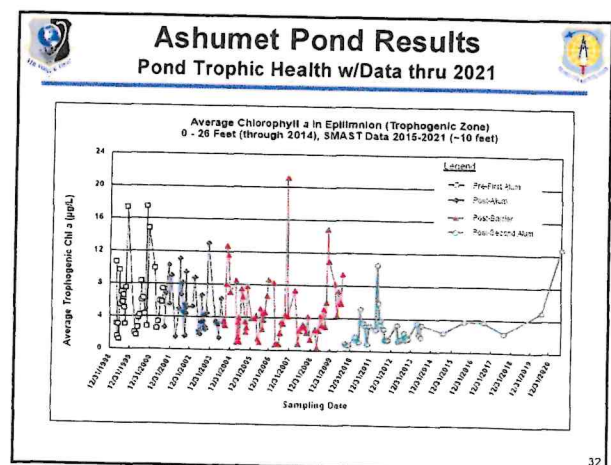
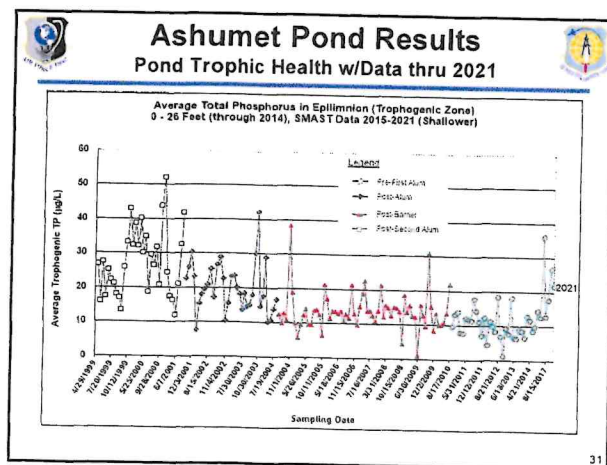
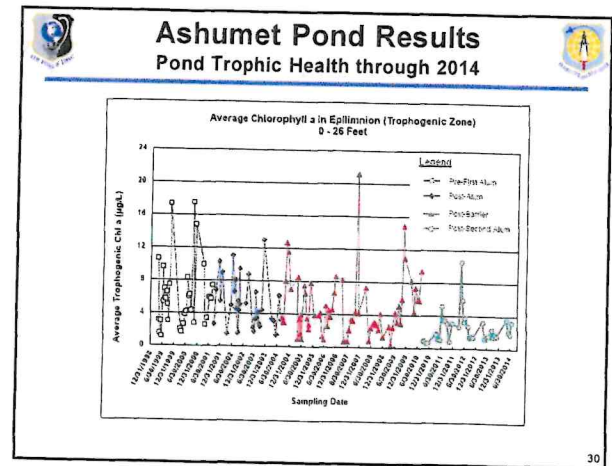
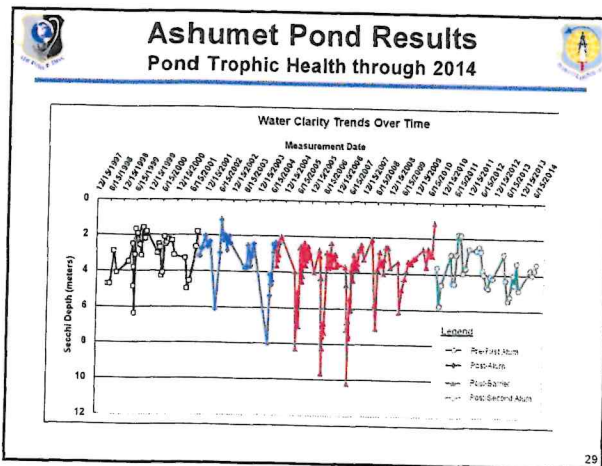
- SCAST evaluates sediment cores
- Collected each winter (2000 – 2018)
- Measure P release after anoxia
 - Simulates sediment P regeneration in pond





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Ashumet Pond Summary

- Phosphorus load from JBCC significantly reduced
 - Continually declining
- Other loads: septic, fertilizers, stormwater
- Climate change has a negative impact
- Algae blooms in Cape Cod ponds increasing
 - Wakeby, Santuit (Mashpee); Fresh, Mares (Falmouth)
- AFCEC developing an Ashumet Pond Summary Report
 - Planned completion Jan 2023

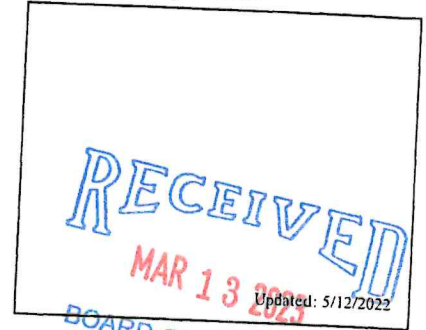
33



**TOWN OF MASHPEE BOARD
OF ASSESSORS**

16 Great Neck Rd North, Mashpee, MA 02649
Phone # (508) 539-1404
Fax # (508) 539-1142
e-mail: assessing@mashpeema.gov

Received by BOA:



REQUEST FOR ABUTTERS LIST

Please note that the Assessing Dept. will respond to this request within ten (10) business days.

ABUTTERS TO: MAP _____ PARCEL _____ EXT _____ Ashumet Pond
ADDRESS OF SUBJECT PARCEL: Ashumet Pond

⇒ Check box if abutters list is for the Cape Cod Commission: ☐

⇒ Check box if abutters list is for a Liquor License: ☐ Business Name: _____

★ PLEASE CHECK THE TYPE OF ABUTTERS LIST THAT YOU ARE REQUESTING:

(Refer to requirements of the regulating authority requiring abutters list.)

- ☐ DIRECT ABUTTERS – Directly adjacent to subject parcel and visible from across the street
- ☒ PARCELS WITHIN A: ☐ 100 FOOT // ☒ 300 FOOT // ☐ _____ (OTHER) RADIUS OF SUBJECT
- ☐ OTHER TYPE (SPECIFY) Mashpee Residents within 300ft
of Ashumet Pond

◀ ALL ABUTTERS LISTS ARE PRINTED WITH A MAP ON 8 ½ x 11 PAPER ▶

- Standard mailing labels of abutters are available for a charge of \$1.00 per a full or partial page.

LABELS No (YES or NO)
LIST ONLY

NUMBER OF SETS OF LABELS _____

REQUESTED BY:
(PLEASE PRINT)

NAME: Ashley Fisher DNR Director

ADDRESS: 31 Mercantile Way Unit 6

PHONE: (508) 365-2831

DATE: 03/13/23

SIGNATURE: Ashley John

FEES: BASIC ABUTTERS LIST (one subject parcel)

QUANTITY

_____ \$5.00

MAILING LABELS

_____ \$1.00 PER PAGE

COMPLEX ABUTTERS LIST (multiple subject parcels)

_____ \$10.00 – \$50.00 (varies by processing time)

– FOR OFFICE USE ONLY –

TOTAL AMOUNT DUE: \$ 10.00

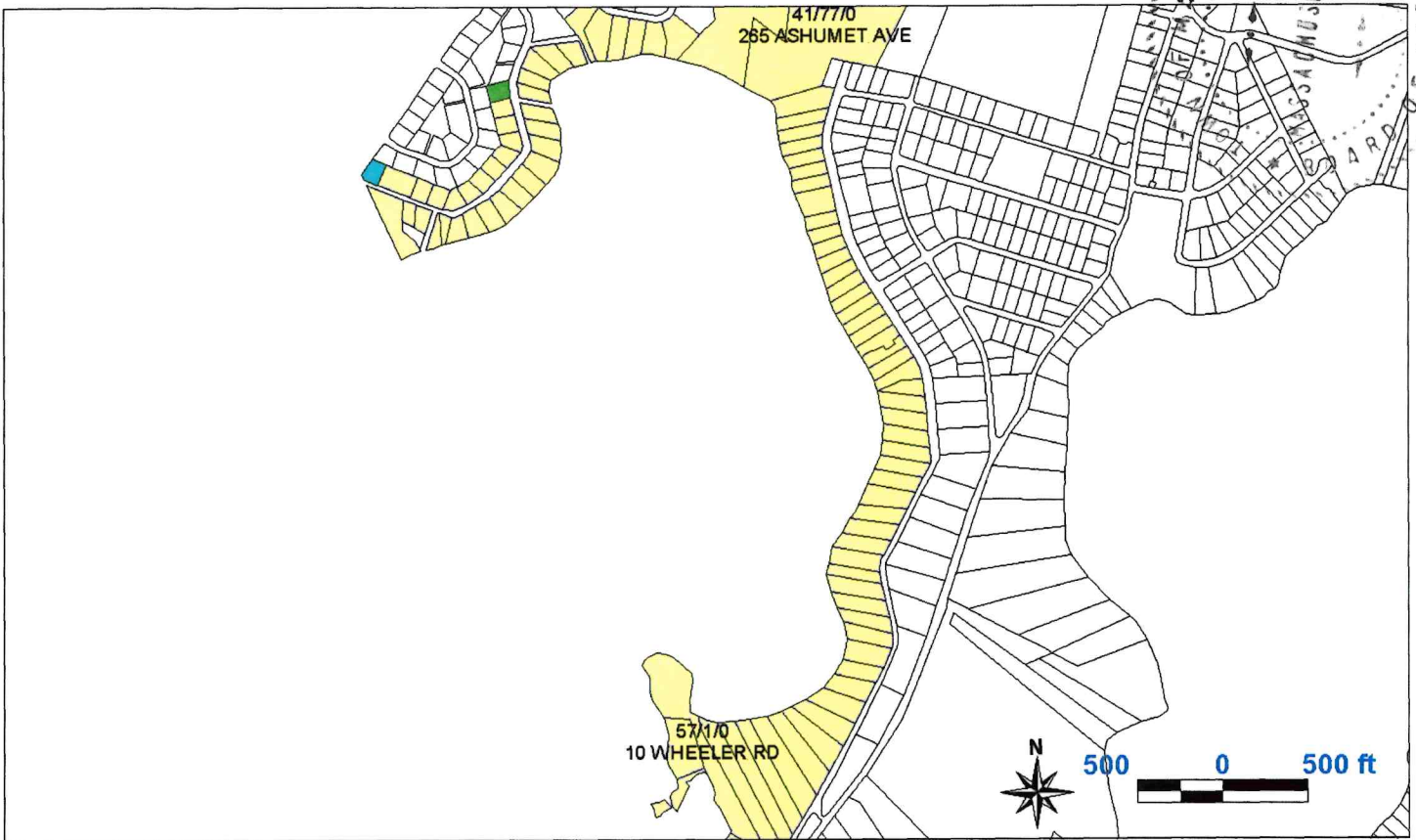
Fee structure based on state guidelines for record production and copy costs.

Abutters to: Ashumet Pond
 Certified by: [Signature]
 Date: 3/14/2023

TOWN OF MASHPEE, MA
 BOARD OF ASSESSORS
 16 Great Neck Rd., North, Mashpee, MA 02649

Number of Abutters: 94

Custom Abutters List



Key	Parcel ID	Owner	Location	Mailing Street	Mailing City	ST	ZipCd/Country
2109	40-4-0-R	CONRAD, GORDON A TRUSTEE GORDON A CONRAD FAMILY TRUST	95 HORSESHOE BEND WAY	42 MELODY LANE	WALTHAM	MA	02451
2110	40-5-0-R	FOUNTAIN, IRMA TR DELMONACO FAMILY TRUST	89 HORSESHOE BEND WAY	405 LYNN FELS PARKWAY	SAUGUS	MA	02155
2111	40-6-0-R	HARIDAT, DHANESSAR & HARIDAT LAKRANIE	87 HORSESHOE BEND WAY	103 VAN COURTLANDT AVE W	W BRONX	NY	10463
2112	40-7-0-R	RIHA, MICHAEL J	81 HORSESHOE BEND WAY	41 HIGHLAND STREET	SOUTH EASTON	MA	02375
2113	40-8-0-R	CHILINGERIAN, JON A & DIANE	77 HORSESHOE BEND WAY	89 MONTROSE STREET	NEWTON	MA	02458
2114	40-9-0-R	ANGIERI, MICHAEL J & SUSAN L	69 HORSESHOE BEND WAY	250 CENTRAL AVE	NEEDHAM	MA	02494-2436
2115	40-10-0-R	CHRISTMAN JR, JOSEPH	65 HORSESHOE BEND WAY	65 HORSESHOE BEND WAY	MASHPEE	MA	02649
2120	40-15-0-R	CLAY, TIMOTHY R & THACKSTON, TAYLOR	78 HORSESHOE BEND WAY	78 HORSESHOE BEND WAY	MASHPEE	MA	02649
2121	40-16-0-R	SOWA, CHRISTINE M TR SOWA REALTY TRUST	72 HORSESHOE BEND WAY	72 HORSESHOE BEND WAY	MASHPEE	MA	02649
2122	40-17-0-R	DUTSON, CLAIRE A	68 HORSESHOE BEND WAY	68 HORSESHOE BEND WAY	MASHPEE	MA	02649
2123	40-18-0-R	HADLEY, ROBERT A & ROBIN	60 HORSESHOE BEND WAY	60 HORSESHOE BEND WAY	MASHPEE	MA	02649
2151	40-47-0-R	PRIME PROPERTIES LTD PTNSHP	29 LAKEVIEW DR	PO BOX 1	MASHPEE	MA	02649
2152	40-48-0-R	PRIME PROPERTIES LTD PTNSHP	31 LAKEVIEW DR	PO BOX 1	MASHPEE	MA	02649
2153	40-49-0-R	PRIME PROPERTIES LTD PTNSHP	33 LAKEVIEW DR	PO BOX 1	MASHPEE	MA	02649
2154	40-50-0-R	PRIME PROPERTIES LTD PTNSHP	37 LAKEVIEW DR	PO BOX 1	MASHPEE	MA	02649

Key	Parcel ID	Owner	Location	Mailing Street	Mailing City	ST	ZipCd/Country
2155	40-51-0-R	NAIR, MOHAN KRISHNAKUMAR & NAIR, PARVATHY KRISHNAN	41 LAKEVIEW DR	41 LAKEVIEW DR	MASHPEE	MA	02649
2177	41-13-0-R	CLARK, LEE S & JACQUELINE R TR ASHUMET POND TRUST	248 WHEELER RD	248 WHEELER RD	MASHPEE	MA	02649
2178	41-14-0-R	GRIENER, JOHN L & EILEEN K	252 WHEELER RD	252 WHEELER RD	MASHPEE	MA	02649
2179	41-15-0-R	BRIARWOOD-MASHPEE ASSOC INC	256 WHEELER RD	PO BOX 138	MASHPEE	MA	02649
2229	41-77-0-E	ORENDA WILDLIFE LAND TRUST INC	265 ASHUMET AVE	PO BOX 669	WEST BARNSTABLE	MA	02668
2231	41-79-0-R	PRIME PROPERTIES LTD PTNSHP	0 FALMOUTH-SANDWICH RD	PO BOX 1	MASHPEE	MA	02649
2234	41-82-0-R	PRIME PROPERTIES LTD PTNSHP	45 LAKEVIEW DR	PO BOX 1	MASHPEE	MA	02649
2695	48-1-0-R	WATERMAN, ROBERT & DEBRA TRS WATERMAN FAMILY REALTY TRUST	59 HORSESHOE BEND WAY	362 FOREST STREET	RAYNHAM	MA	02767
2696	48-2-0-R	LAWRY, J THOMAS & LOUISE L	55 HORSESHOE BEND WAY	PMB 384, PO BOX 1989	BEAR LAKE	CA	92315
2697	48-3-0-R	SULLIVAN, JOHN L	51 HORSESHOE BEND WAY	PO BOX 2042	MASHPEE	MA	02649
2698	48-4-0-R	LAWRENCE, KENNETH D & DOREEN G	45 HORSESHOE BEND WAY	45 HORSESHOE BEND WAY	MASHPEE	MA	02649
2699	48-5-0-R	DURANT, ROBERT S & MARY P TRS ROBERT & MARY DURANT FM TRUST	43 HORSESHOE BEND WAY	26 DEER RUN RD	NORTH HAMPTON	MA	03862
2700	48-6-0-R	DURANT, ROBERT S & MARY P TRS ROBERT & MARY FAM TRUST	37 HORSESHOE BEND WAY	26 DEER RUN RD	NORTH HAMPTON	MA	03862
2701	48-7-0-R	DURANT, ROBERT S & MARY P TRS ROBERT & MARY DURANT FM TRUST	33 HORSESHOE BEND WAY	26 DEER RUN RD	NORTH HAMPTON	NH	03862
2702	48-8-0-R	CRISAFULLI, ANTHONY J & ANDREA E	29 HORSESHOE BEND WAY	P O BOX 982	MASHPEE	MA	02649
2703	48-9-0-R	THIBODEAU, MARY JEAN	27 HORSESHOE BEND WAY	37 GOVERNOR WENWORTH RD	AMHERST	NH	03031
2704	48-10-0-R	ROBBINS, RICHARD B & REGINA M LIFE ESTATE	23 HORSESHOE BEND WAY	90 PRATT PLACE	HANSON	MA	02341
2706	48-12-0-R	ROBBINS, RICHARD B & REGINA M LIFE ESTATE	21 HORSESHOE BEND WAY	90 PRATT PLACE	HANSON	MA	02341
2707	48-13-0-R	GILMORE, ELIZABETH S	15 HORSESHOE BEND WAY	PO BOX 54	NO FALMOUTH	MA	02556
2708	48-14-0-R	FISK, TIMOTHY B & CHRISTINE H	9 HORSESHOE BEND WAY	9 HORSESHOE BEND WAY	MASHPEE	MA	02649
2709	48-15-0-R	MCCARTHEY, KAREN & GALLAGHER, CAROLYN & KURKER, &	2 HORSESHOE BEND WAY	KURKER, LYNN 4 TALBOT DR	NORTON	MA	02766
2710	48-16-0-R	PULSONE, ANTONIO & MARIE TRSTE PULSONE REALTY TRUST	14 HORSESHOE BEND WAY	24 HOBBS BROOK RD	WESTON	MA	02493
2711	48-18-0-R	BILL, SITTA CHADDOCK	18 HORSESHOE BEND WAY	18 HORSESHOE BEND WY	MASHPEE	MA	02649
2712	48-19-0-R	BAIRD, JESSIE C	24 HORSESHOE BEND WAY	24 HORSESHOE BEND WAY	MASHPEE	MA	02649
2713	48-20-0-R	MCDONALD, DEBORAH A	30 HORSESHOE BEND WAY	55 MANSE HILL RD	SOMERS	CT	06071
2714	48-21-0-R	BONNETT, MICHAEL L & PLUMMER, CATHERINE H	38 HORSESHOE BEND WAY	38 HORSESHOE BEND RD	MASHPEE	MA	02649
2715	48-22-0-R	HANSCOM, HOPE P	44 HORSESHOE BEND WAY	44 HORSESHOE BEND WAY	MASHPEE	MA	02649
2716	48-23-0-R	TAGTMEYER, ERICH M	50 HORSESHOE BEND WAY	50 HORSESHOE BEND WAY	MASHPEE	MA	02649
2717	48-24-0-R	KOLKA, KATHRYN A	54 HORSESHOE BEND WAY	54 HORSESHOE BEND WAY	MASHPEE	MA	02649
2727	49-1-0-R	THE 124 WHEELER ROAD LLC	124 WHEELER RD	45 COLUMBINE ROAD	NEWTON	MA	02459
2728	49-2-0-R	HORSMAN, RICHARD J TR RICHARD JOSEPH HORSMAN TRUST	130 WHEELER RD	SANDRA THOMAS HORSMAN TRUST 130 WHEELER RD	MASHPEE	MA	02649
2729	49-3-0-R	C/O EGGLESTON, SUZANNE P TR LENTELL FAMILY IRREVOC TRUST	134 WHEELER RD	134 WHEELER RD	MASHPEE	MA	02649
2730	49-4-0-R	THE MARY F TANNER FAMILY TRUST	140 WHEELER RD	98.5 MAIN ST - UNIT G	ANDOVER	MA	01810
2731	49-5-0-R	FARRICY, FRANCIS & LINDA TRS FARRICY FAMILY 2013 TRUST	144 WHEELER RD	144 WHEELER RD	MASHPEE	MA	02649
2732	49-6-0-R	FERREIRA, CHRISTINE A & FERREIRA, WERBER G	150 WHEELER RD	150 WHEELER RD	MASHPEE	MA	02649
2733	49-7-0-R	DORADO, DENISE A & ZACHARY L TR ZACJACMAT 2012 REALTY TRUST	154 WHEELER RD	154 WHEELER RD	MASHPEE	MA	02649
2734	49-8-0-R	GOUTHAM, CHANAKYA S & ANU	160 WHEELER RD	29 PINWOOD RD	WELLESLEY	MA	02482
2735	49-9-0-R	BARBER, STEPHEN D & DONNA	166 WHEELER RD	166 WHEELER RD	MASHPEE	MA	02649
2736	49-10-0-R	MGRDICHIAN, MICHAEL & LORIANN	172 WHEELER RD	51 SQUIRE ROAD	WINDSOR	CT	24659
2737	49-11-0-R	FISCHER, DAVID & DEBORAH L	178 WHEELER RD	178 WHEELER RD	MASHPEE	MA	02649
2738	49-12-0-R	MCCLUSKEY, KENNETH & SUZANNE	182 WHEELER RD	182 WHEELER RD	MASHPEE	MA	02649

Key	Parcel ID	Owner	Location	Mailing Street	Mailing City	ST	ZipCd/Country
2739	49-13-0-R	PULSONE, ANTONIO ETAL TRUSTEES PULSONE REALTY TRUST	184 WHEELER RD	24 HOBBS BROOK RD	WESTON	MA	02193
2740	49-14-0-R	KILIULIS, CESLOVAS c/o TOMAS KILIULIS (POA)	188 WHEELER RD	55 WOODLAND RD	ASHLAND	MA	01721
2741	49-15-0-R	KILIULIS, CESLOVAS % TOMAS KILIULIS, PoA	192 WHEELER RD	55 WOODLAND RD	ASHLAND	MA	01721
2742	49-16-0-R	WRESINSKI, R MICHAEL ET AL TRS WRESINSKI FAMILY TRUST	196 WHEELER RD	196 WHEELER RD	MASHPEE	MA	02649
2743	49-17-0-R	LANGLEY, INGEBORG LIFE ESTATE	200 WHEELER RD	% JUDITH TAVARES 27 CHILMARK DRIVE	EAST FALMOUTH	MA	02536
2744	49-18-0-R	WENG REAL ESTATE LLC	204 WHEELER RD	21 SUNNYSIDE AVE	WELLESLEY	MA	02482
2745	49-19-0-R	AGUIAR, JARED R	208 WHEELER RD	208 WHEELER RD	MASHPEE	MA	02649
2746	49-20-0-R	FAGAN, DOUGLAS A CAROL A LIFE ESTATES	212 WHEELER RD	212 WHEELER RD	MASHPEE	MA	02649
2747	49-21-0-R	PANDOLFINO, PETER & LORRAINE T PJP THE REALTY TRUST	214 WHEELER RD	132 E MAIN ST - APT 206	HOPKINTON	MA	01748-1315
2748	49-22-0-R	ABBOTT, ROSEMARY	218 WHEELER RD	13 HIGHLAND ROAD	WESTPORT	CT	06880
2749	49-23-0-R	ECKER, JOSHUA T C SR & RACHEL A	222 WHEELER RD	227 WHEELER RD	MASHPEE	MA	02649
2750	49-24-0-R	OBRINSKY, ALLEN & KRISTEN W TR OBRINSKY FAMILY TRUST	226 WHEELER RD	1205 TULANE DRIVE	WALNUT CREEK	CA	94596
2751	49-26-0-R	DUFFY, JOSEPH & BARBARA ANN TR JW & BA DUFFY FAMILY TRUST	234 WHEELER RD	19 TRUNNEL LANE	NORWELL	MA	02061
2752	49-27-0-R	DEGON, MARY & THOMAS DUPREE TR GLENSPRIDE IRREVOC TRUST	236 WHEELER RD	20 GENTRY FARM DR	COVENTRY	RI	02816
2753	49-28-0-R	MARK, HARVEY	240 WHEELER RD	240 WHEELER RD	MASHPEE	MA	02649
2754	49-29-0-R	GOGAN, ROBIN F & DENISE M TRS GOGAN LIVING TRUST	244 WHEELER RD	244 WHEELER RD	MASHPEE	MA	02649
3381	57-1-0-R	ASHUMET POINT LLC	10 WHEELER RD	75 WASHINGTON STREET	NATICK	MA	01760
3382	57-2-0-R	NAHIGIAN, KAREN A & ROBERT O	12 WHEELER RD	PO BOX 1055	N FALMOUTH	MA	02556
3383	57-3-0-R	CRYAN, BARTHOLOMEW & HELENA TR B & H NOMINEE TRUST	14 WHEELER RD	34 OAK CREST DRIVE	NORTH ATTLEBORO	MA	01938
3384	57-4-0-R	GANGEMI, RONALD P	20 WHEELER RD	PO BOX 1167	MASHPEE	MA	02649
3385	57-5-0-R	26 WHEELER ROAD LLC	26 WHEELER RD	20 WHEELER RD	MASHPEE	MA	02649
3386	57-6-0-R	STURTEVANT, JOHN G & TRUXEL GEORGE & TRUXEL MARTHA	32 WHEELER RD	175 WALLENS HILL RD	WINSTED	CT	06098
3387	57-7-0-R	DEJESUS, MARCIO	42 WHEELER RD	14 RANDELL RD	SAUGUS	MA	01906
3388	57-8-0-R	PHILLIPS, DIANE C	50 WHEELER RD	PO BOX 2520	MASHPEE	MA	02649
3389	57-9-0-R	OSBORNE, DAVID F & SHIRLEY M T OSBORNE FAMILY REV TRUSTS	56 WHEELER RD	33 JOSEPH WAY	READING	MA	01867
3390	57-10-0-R	LARKIN, EDWARD C & PAULA B TR EDWARD C LARKIN TRUST	64 WHEELER RD	59 OLD FIELD ROAD	SANDWICH	MA	02563
3392	57-12-0-R	LOUNSBURY, RONALD W	72 WHEELER RD	16 DRUMLIN RD	WEST SIMSBURY	CT	06092
3393	57-13-0-R	IRWIN, KATHLEEN & BRACCO, MARK A	76 WHEELER RD	PO BOX 104	MASHPEE	MA	02649
3394	57-14-0-R	HERBST, RALPH TRUSTEE HERBST REAL ESTATE TRUST	82 WHEELER RD	121 REGIS ROAD	EAST FALMOUTH	MA	02536
3395	57-15-0-R	NORTON, JAMES JR & GREGORY J T NORTON IRREVOCABLE CAPE TRUST	86 WHEELER RD	200 REVERE ST., #312	CANTON	MA	02021
3396	57-16-0-R	CARR, JUDITH S TR CARR FAMILY REVOCABLE TRUST	90 WHEELER RD	2 OLD SUDBURY RD	WAYLAND	MA	01778
3397	57-17-0-R	BAKER, JOHN R	96 WHEELER RD	20 LISK HILL RD	GLADSTONE	NJ	07934-2011
3398	57-18-0-R	BAKER, WILLIAM E	100 WHEELER RD	532 DAISY ST	GREENWOOD	AR	72936
3399	57-19-0-R	BCS PROPERTIES LLC	106 WHEELER RD	264 SALEM ST	MEDFORD	MA	02155
3400	57-20-0-R	LOWE, RUSSELL W & OROURKE, KAREN A	110 WHEELER RD	110 WHEELER RD	MASHPEE	MA	02649
3401	57-21-0-R	URSAKI, KENNETH D & LINNE W	114 WHEELER RD	2 MERRITT WOODS	BURLINGTON	CT	06013
3402	57-22-0-R	FORD, JOHN W & MARY ELLEN TRS FORD WHEELER REALTY TRUST	120 WHEELER RD	120 WHEELER RD	MASHPEE	MA	02649
3411	57-42-0-R	NAHIGIAN, ROBERT O & KAREN A TR KARON REALTY TRUST	4 WHEELER RD	PO BOX 1055	NORTH FALMOUTH	MA	02556

Mashpee Ponds Profile

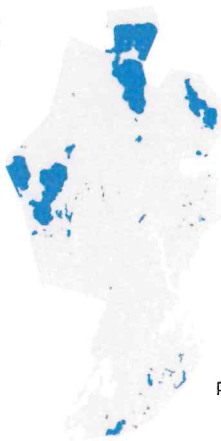
A RESOURCE OF THE CAPE COD FRESHWATER INITIATIVE



Water quality is critical to the vitality of the region's pond ecosystems and coastal embayments. Yet pollutants found in stormwater runoff, and in groundwater by which ponds are recharged, threaten the region's freshwater quality. Understanding the broad issues that impact Cape Cod's freshwater ponds, characteristics of the region's ponds, and actions at the local level all help set a baseline for understanding and action.

Mashpee

TOWN AREA
16,584 acres



POND AREA
1,566 acres

9% of total town area is comprised of freshwater ponds and lakes

69
PONDS

12
10+ Acre
Ponds

21
Named
Ponds

25 ACRES
Average
Pond Size

35 FEET
Average
Pond Depth

5 Fish Stocked
Ponds

10 Ponds Adjacent to
Cranberry Bogs

7 Ponds that Cross
Town Boundaries

4 Ponds with
Public Access

6 State Listed
Great Ponds

14% Impervious Surfaces
in Pond 300ft Buffer

0 Ponds with Coastal
Plain Pondshores

23 Ponds with Rare
Species Habitat

Top 5 Largest Ponds

POND	AREA
1. Mashpee-Wakeby Pond	735.9 acres
2. Johns Pond	336.7 acres
3. Ashumet Pond	220.2 acres
4. Santuit Pond	175.4 acres
5. Peters Pond	135.0 acres

Top 5 Deepest Ponds

POND	DEPTH
1. Ashumet Pond	84 ft.
2. Jim Pond	65 ft.
3. Witch Pond	65 ft.
4. Peters Pond	57 ft.
5. Pimlico Pond	25 ft.

Pond Monitoring

Of the town's 69 ponds, 4 have three consecutive years of recent monitoring data and only 22% of all the ponds have available monitoring data. The data record for this monitoring spans 19 years with an average of 0.4 sampling event at each monitored pond per year.

15 Ponds Monitored

4 Ponds with 3 Consecutive
Years of Recent Data
(2016-2021)

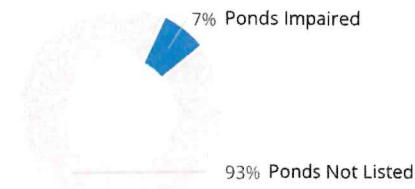
Water Quality Impairments

A lack of consistent and available monitoring data for all ponds means that we may be underestimating threats to waterbody health.

23 Harmful Algal Bloom
Advisories Issued by
EPA Since 2017

5 Ponds listed on MassDEP's Draft
2022 Integrated List of Waters

3 Freshwater Bathing
Beaches with Sampling
Failures for Fecal Coliform
in 2022

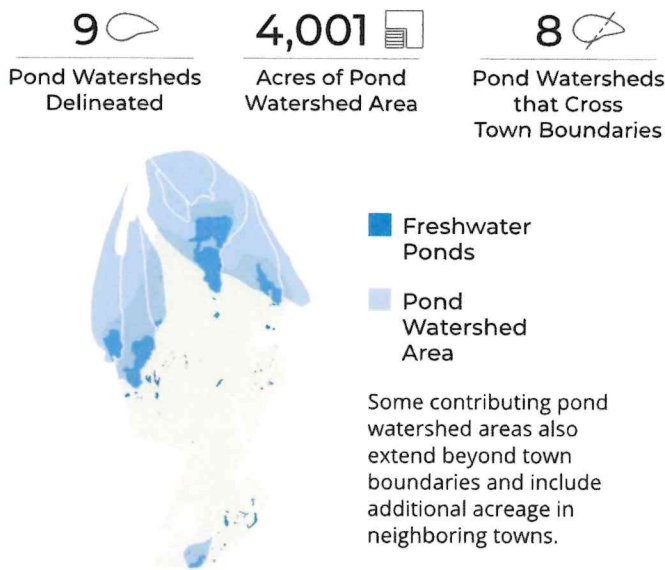


Mashpee Ponds Profile

A RESOURCE OF THE CAPE COD FRESHWATER INITIATIVE

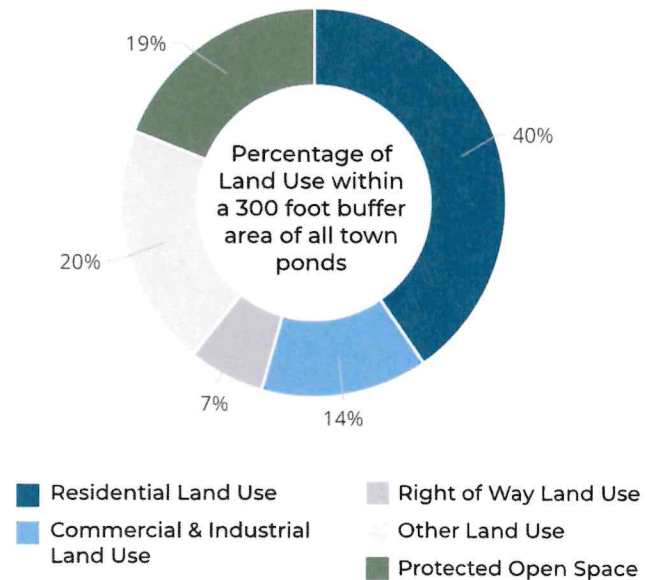
Pond Watersheds

The land area that contributes to freshwater ponds and lakes is referred to as a pond watershed. Relatively few pond watersheds have been delineated across the Cape. Land area within pond watersheds is much larger than the water bodies themselves. In Mashpee, 24% of the town's total land area is within a delineated pond watershed.



Land Use in Pond Buffer Area

Understanding the way that land is used around our freshwater ponds contributes to a better understanding of potential pond impacts, stressors, and viable strategies to protect or restore pond health. 1,441 acres (or 9%) of the town's total land area is within 300 feet of a freshwater pond.



Documented Town Reports and Actions



Local Pond Organizations

Independent groups, organizing around a single or multiple ponds, voluntarily conduct educational and advocacy efforts and collect water quality monitoring data, which is not always available or sufficient for regional analysis.

Save Mashpee Wakeby Pond Alliance
Friends of Santuit Pond
Friends of Santuit Pond and Santuit Pond Estates Association
Friends of Ashumet Pond

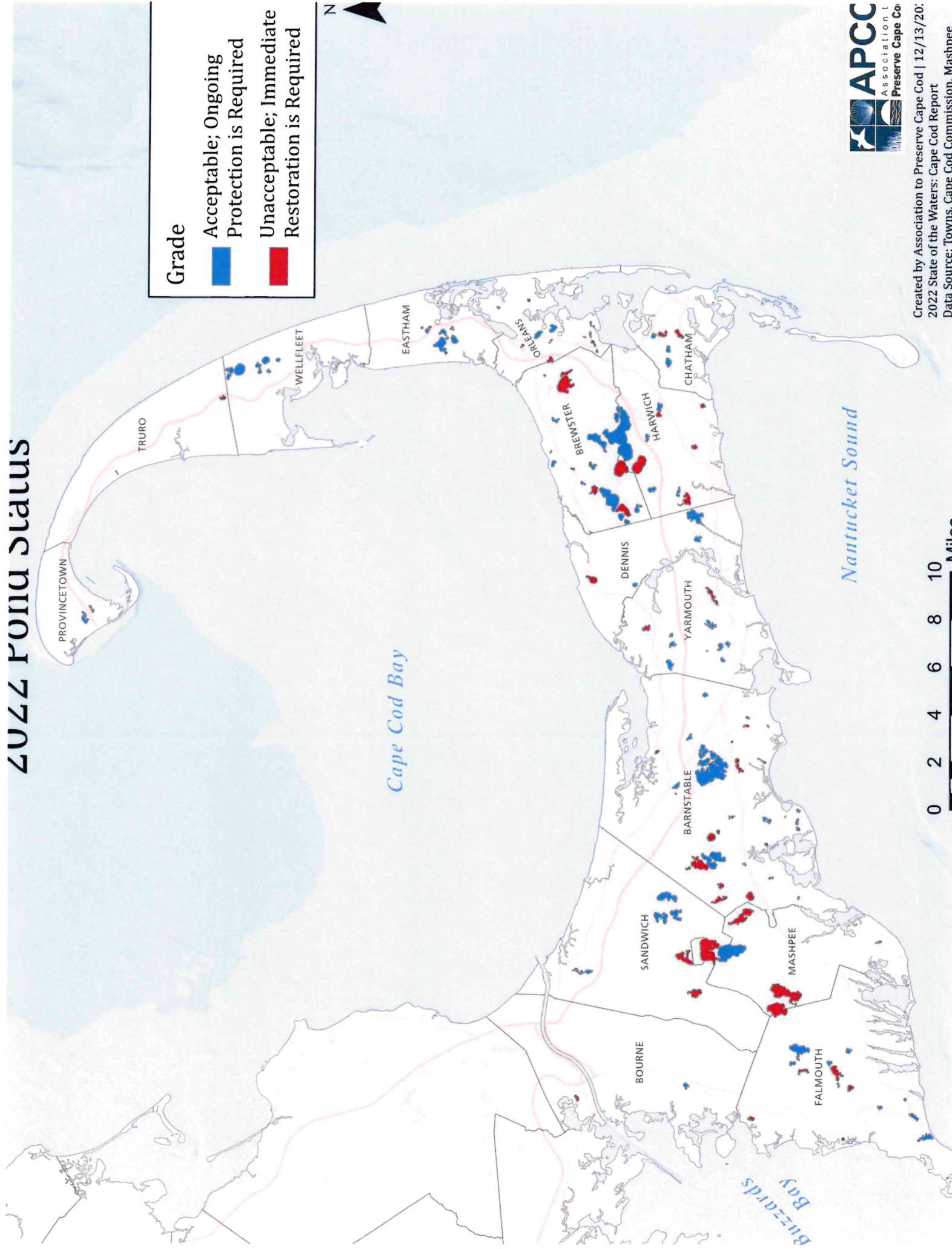


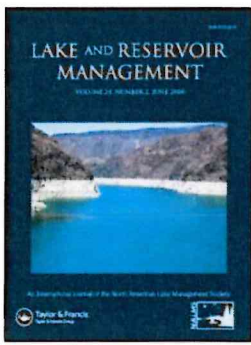
Pond Strategies Implemented

Updates and additional projects will be added as information becomes available. Review project details at: cccom.link/pond-restoration-projects

- 📍 Ashumet Pond, Alum Treatment
- 📍 Ashumet Pond, PRB
- 📍 Santuit Pond, Circulators (Solarbee)

2022 Pond Status





Aluminum treatments to control internal phosphorus loading in lakes on Cape Cod, Massachusetts

Kenneth J. Wagner, Dominic Meringolo, David F. Mitchell, Elizabeth Moran & Spence Smith

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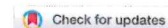
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Aluminum treatments to control internal phosphorus loading in lakes on Cape Cod, Massachusetts

Kenneth J. Wagner^a, Dominic Meringolo^b, David F. Mitchell^c, Elizabeth Moran^d, and Spence Smith^e

^aWater Resource Services, Inc. 144 Crane Hill Road, Wilbraham, MA; ^bSOLitude Lake Management, 590 Lake Street, Shrewsbury, MA; ^cAbt Associates (retired), 27 Woodside Circle, Sturbridge, MA; ^dEcoLogic LLC, 9 Albany Street, Suite 3J, Cazenovia, NY; ^eCH2M, 18 Tremont Street, Suite 700, Boston, MA

ABSTRACT

Wagner KJ, Meringolo D, Mitchell DF, Moran E, Smith S. 2017. Aluminum treatments to control internal phosphorus loading in lakes on Cape Cod, Massachusetts. *Lake Reserv Manage.* 33:171–186.

Ten lakes on Cape Cod, Massachusetts have been treated with aluminum since 1995, with 2 of those lakes receiving a second treatment. Elimination of cyanobacterial blooms was the goal in each case. Cape Cod lakes are mostly kettleholes with long detention times. Precipitation and groundwater dominated hydrologic inputs, but internal load contributed a major portion of the total phosphorus (TP) load to treated lakes. Aluminum sulfate and sodium aluminate were used in treatments with the intent to maintain a near-neutral pH in low alkalinity waters. Aluminum doses ranged from 10 to 100 g/m², depending on mobile P concentrations in the upper 10 cm of sediment. Results varied, although all treatments lowered TP, provided relief from blooms, increased water clarity, and reduced oxygen demand for multiple years. Important lessons learned over 2 decades include how to apply aluminum to prevent fish mortality, options for dose calculation, and expectations for duration of benefits. To control internal loading and minimize cyanobacterial blooms at the lowest cost, treatment of Cape Cod lakes should apply aluminum at a concentration at least 10 times the mobile P concentration in the upper 10 cm of sediment exposed to anoxia and at concentrations that leave no more than 100 mg/kg of iron-bound P in laboratory inactivation assays. Cost of treatment in 2016 dollars averaged \$150/g/m² of applied aluminum per ha treated. Aluminum treatment has been demonstrated as a valued lake management tool to improve water quality and reduce nuisance algal blooms in Cape Cod lakes.

KEYWORDS


Algae management;
aluminum; P inactivation;
water clarity

Aluminum (Al) has been used in water treatment as a coagulant for more than 200 years but has been used to inactivate phosphorus (P) in lakes for only about the last 45 years (Cooke et al. 2005). It has become more common as a means to reverse eutrophication in recent years but has been subject to technical constraints relating to dose determination, management challenges in external load control, and regulatory limitations related to potential Al toxicity. Many advances that maximize performance have been made in the last few decades (e.g., Welch and Cooke 1999, Huser 2012, James and Bischoff 2015, Huser et al. 2016b). Yet concern has lingered about conducting successful treatments with minimal negative effects on fish and invertebrates in low alkalinity lakes, where applied Al compounds can cause pH shifts that create toxic conditions.

Beginning in the 1990s, evaluation of kettlehole lakes on Cape Cod in Massachusetts revealed high internal loading as the dominant P source supporting cyanobacterial blooms (e.g., BEC 1993, ENSR 2001, 2008). Watershed management alone could not rehabilitate these lakes, and in-lake management options were sought. Treatment with Al was perceived as having high potential, but potential toxicity in lakes with alkalinity typically <10 mg/L as calcium carbonate (CaCO₃) equivalents and pH normally <6.5 standard units in the absence of blooms necessitated caution in applications. The experience with Al treatments in Cape Cod lakes over the last 20 years is reported here. We summarize physical features, hydrology, and P loading to targeted lakes, dose determination for Al treatment, both positive and negative treatment effects, duration of benefits, and costs.

CONTACT Kenneth J. Wagner  kjwagner@charter.net

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 Supplemental data for this article can be accessed on the publisher's website.

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Figure 1. Locations of treatment lakes on Cape Cod, MA. Base map from Acme Mapper 2.1.

Material and methods

Treatment lakes

The 10 kettlehole lakes treated through 2016 (Fig. 1) ranged in size from 7.5 to 296 ha with maximum depths ranging from 10 to 26.7 m (Table 1). Each lake is deep enough to stratify in summer and all have alkalinity <10 mg/L as CaCO_3 equivalents. All but 2 are called ponds as part of their names, and although there is no universally accepted threshold for separating ponds and lakes, most lake managers would consider these waterbodies to be lakes.

Each lake was studied prior to treatment under programs sponsored by various organizations, including

the Commonwealth of Massachusetts, the Cape Cod Commission, the School for Marine Science and Technology at University of Massachusetts-Dartmouth, the Air Force Civil Engineer Center, and the towns in which the lakes lie. These diverse studies (BEC 1987, 1991, 1993, AFCEE 2001, 2015, ENSR 2001, 2008, Loon Environmental 2012, Moran 2014a, 2014b, WRS 2011, 2014a, 2014b) led to a common recommendation for P inactivation to reduce internal loading, with iron-bound P (Fe-P) as the dominant form of P released from sediment under anoxia. Few of the lakes have any surface tributaries, and direct precipitation and groundwater comprise at least 94% of hydrologic inputs for all but Stillwater Pond in Chatham, which gets

Table 1. Features of lakes treated with aluminum between 1995 and 2015.

Lake	Area ha	Depth		Detention yr	Tributaries	Hydrologic load		Phosphorus load		
		Mean m	Maximum m			Precipitation %	Groundwater %	Internal %	Surface Flow %	Groundwater %
Hamblin	46.0	8.3	18.8	1.0	No	11	87	67	9	11
Ashumet	82.0	7.0	20.0	1.9	No	17	72	47	4	45
Long	296.0	8.8	21.2	3.5	No	51	44	64	17	9
Mystic	59.0	4.6	14.3	1.0	No	18	80	46	15	21
Lovers	15.0	4.6	10.0	1.2	No	39	55	43	27	12
Stillwater	7.5	6.8	13.9	1.2	From Lovers	13	25	55	32	5
Herring	17.7	6.2	10.9	2.8	No	42	55	40	1	46
Great	44.7	3.6	11.0	0.4	2 small ones	14	83	26	8	45
Lovell's	22.0	5.7	11.4	2.1	1 diverted	43	53	62	4	16
Cliff	83.0	8.6	26.7	5.3	No	71	23	67	5	6

most of its water from upstream Lovers Lake, another treatment lake. Detention time for all but Great Pond in Eastham is >1 year. Internal load of P was estimated at 40–67% of the total load, except for Great Pond estimated at 26%. Most of the lakes were impacted by some watershed activity in the past that contributed to the accumulation of P in the sediments, but influences other than residential development were largely absent by the time of treatment. The environmental setting for each lake (see the online supplemental materials) illustrates the commonalities and idiosyncrasies of these cases.

Dose determination

Chemical doses for nutrient inactivation were calculated using various methods over the years, initially based on the amount of P accumulated in the hypolimnion that required inactivation and later by both direct testing of Fe-P in surficial sediment and lab assays with sediment and Al (BEC 1993, WRS 2014b). The fractionation method of Psenner et al. (1988) allowed assessment of key P fractions for dose planning, but later work (Rydin and Welch 1999, Rydin et al. 2000, Reitzel et al. 2005, James and Bischoff 2015) helped advance dose determination.

The process used for lake treatments on Cape Cod after 2001 involved initial testing for total P (TP), loosely sorbed P, and Fe-P in the upper 10 cm of sediment exposed to anoxia. Loosely sorbed P was low and nearly always below the detectable threshold; Fe-P is the dominant form of mobile P in these waterbodies. Based on percent solids and sediment gravity, P was calculated as grams per square meter in the top 10 cm, and the Al dose was set at a minimum of 10 times Fe-P concentration. The active zone of interaction is possibly >10 cm, but 10 cm has been a traditionally applied threshold for Al-P formation (Welch et al. 2017). Where there is considerable spatial variation of sediment P concentrations, area-specific doses have been established for treatment zones.

An alternative approach applied to some of the lakes was based on modification of the method of Rydin and Welch (1999), following the general approach of Pilgrim et al. (2007). Al as aluminum sulfate and sodium aluminate at a 2:1 volumetric ratio was added to 5 g of sediment suspended in 50 mL of distilled water at amounts corresponding to treatment in grams per square meter and allowed to interact under agitation for at least 12 hours. A sediment pellet was

reconstituted by centrifugation and subjected to extraction of Fe-P, which likely includes porewater and loosely sorbed P. By repeating this process with different Al concentrations, a dose response curve (Fig. 2) can be generated, and the tradeoff among dose, degree of P inactivation, and cost can be considered. The range of total doses for Cape Cod lakes has been 10 to 100 g/m² (Table 2), although application on any day was limited to 25 g/m² to minimize potential Al toxicity.

Aluminum application

All but the original Hamblin Pond treatment (conducted by Sweetwater Technology from Minnesota) were performed by Aquatic Control Technology (now part of SOLitude Lake Management) of Massachusetts. Treated areas typically included the sediment area exposed to anoxia, although reduction in treated area occurred if sediment testing revealed low Fe-P concentrations or low organic sediment content. The treatment footprint most often reflected the area overlain by soft organic sediment; where organic substrate dominates, oxygen depletion often occurs, whereas Fe-P and oxygen demand tend to be low in sandy areas. The first Ashumet Pond treatment was an exception; a smaller area was treated to temporarily improve conditions while the geochemical barrier was installed, and the second treatment in 2010 covered twice as much area at a similar dose.

Al compounds were added from a self-propelled barge with 2 tanks, 1 for aluminum sulfate and 1 for sodium aluminate. Each Al compound was injected separately by metered pumping through ports on a manifold lowered to a depth of about 2.5 m below the lake surface. A deeper (10 m) depth of injection, involving a specialized boom, was mandated by permit in the first Ashumet treatment in 2001 to minimize possible impacts to biota in the epilimnion. Although this slowed treatment, added cost, and limited the opportunity to strip P from the entire water column, it was necessary to ensure permit approvals after the Hamblin Pond treatment in 1995 caused fish mortality. The second treatment in 2010 was approved for injection in the epilimnion at a depth of 3 m. GPS guidance was used on the treatment barge to ensure an accurate and even application.

The default ratio for chemical addition was 2 parts aluminum sulfate to 1 part sodium aluminate by volume, although this ratio can be altered to maintain the targeted pH range of 6.0 to 8.0 standard units. Based

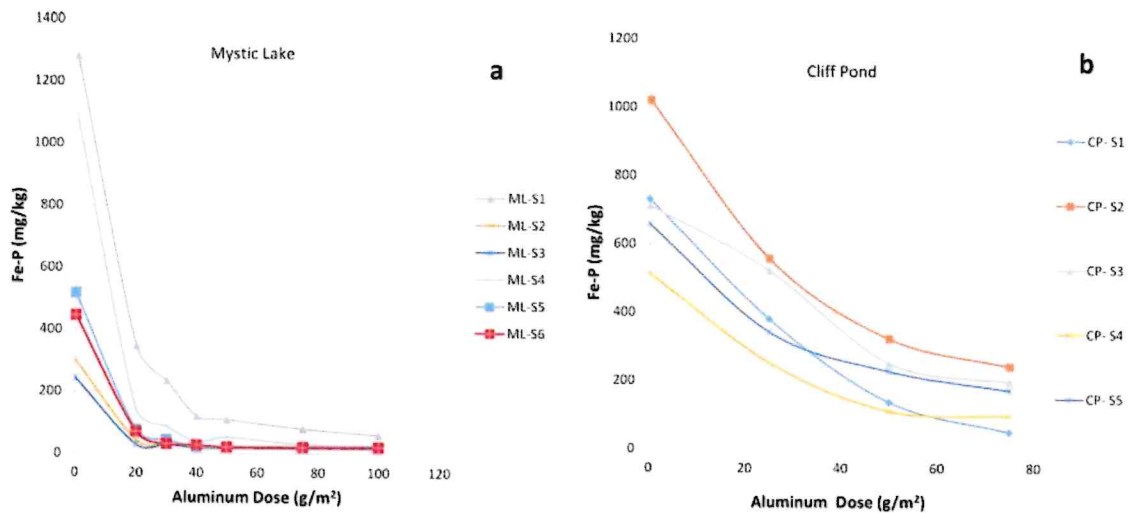


Figure 2. Dose response curve for Fe-P in (a) 6 sediment samples from Mystic Lake and (b) 5 sediment samples from Cliff Pond treated with aluminum in the laboratory.

on experience gained in Cape Cod lakes and elsewhere in New England, but particularly applicable to low alkalinity lakes, Al was applied at rates that resulted in no more than 5 mg/L in the mixed zone behind the barge, which was typically 5 m deep. This Al concentration has been found to minimize toxicity to fish and invertebrates, even if the pH exceeds the target range (unpublished lab assay data); therefore, any dose >25 g/m² was applied in at least 2 periods separated by at least 1 day. Additionally, the target treatment area was broken into zones (Fig. 3), and contiguous zones were not treated consecutively if possible. This 3-level protection system (pH control, dose control, treatment area control) has prevented significant fish mortality in all treatments after 2000 in New England, defined as no more than 50 dead fish observed per day during the treatment period in permit documents. Impacts to fish eggs or fry are possible but were not observed.

Treatment in spring was preferred because algae concentrations were lower (limited interference with Al reactions), little P had yet been released from targeted sediment (improved treatment efficiency), and thermal gradients were minimal (allowed a larger vertical mixing zone and limited toxicity). Yet the timing of treatment was subject to regulation by permit, with concern expressed by state agencies over treatment in lakes with herring runs during April into June. Treatments of lakes with herring runs were therefore performed in September and early October while the lakes were still stratified and P and algal concentrations were elevated.

Monitoring program and analytical methods

Al treatments had no standard monitoring protocol, and measured water quality features and frequency of sampling varied based on permit conditions

Table 2. Information for 12 treatments of 10 lakes on Cape Cod.

Lake	Year Treated	Season Treated	Aluminum application			
			Treatment area		Treatment dose	
			ha	% of lake	g/m ²	max. mg/L
Hamblin	1995	Spring	32.3	69.6	45	9.0
Hamblin	2015	Spring	27.0	58.7	45–71	4.5
Ashumet	2001	Summer	11.3	13.8	43	4.3
Ashumet	2010	Fall	22.8	27.8	40	4.0
Long	2007	Fall	148.0	50.0	10–30	3.0
Mystic	2010	Fall	23.2	39.3	30–50	3.3
Lovers	2010	Fall	10.0	66.7	100	5.0
Stillwater	2010	Fall	5.0	66.7	100	5.0
Herring	2012	Fall	8.0	45.2	75	5.0
Great	2013	Fall	11.2	25.1	25	5.0
Lovell's	2014	Spring	14.0	63.6	50	2.5
Cliff	2016	Spring	31.0	37.3	75	3.8



Figure 3. Treatment zones and dates of treatment (month/day in 2007) for Long Pond.

and funding. All the treatment lakes were studied in advance of the treatment (supplemental material), so pre-treatment conditions were generally well known. For this analysis, we used data from up to 3 years prior to treatment to establish pre-treatment water quality. Monitoring during treatment was focused on maintaining pH within the acceptable range, conducting treatment during favorable weather conditions (i.e., avoiding high wind and waves), and visual surveys for any fish and mussel mortality or behavioral anomalies.

For most lakes, post-treatment monthly data from May through September were collected for at least 2 years. For some lakes data were available for the April through October period, and in some cases monitoring has continued in all years since treatment. In a few cases, only a single assessment was made in late summer each year as part of the Pond and Lake Steward (PALS) program for Cape Cod, administered by the School for Marine Science and Technology at the University of Massachusetts, Dartmouth. Up to 3 years of data were used to establish post-treatment conditions for comparison to pre-treatment water quality. Where a longer (>3 years) record was available, long-term trends after treatment were examined to assess longevity of benefits, but additional data were not factored into the basic pre- and post-treatment

comparisons. The extent of available data is addressed in the supplemental material.

Monitoring included surface (upper 1 m) and bottom (lower 1 m) TP, summer Secchi disk transparency, summer chlorophyll *a* (Chl-*a*) and temperature-dissolved oxygen profiles for all lakes. TP was assessed by multiple analytical laboratories, usually by Standard Method SM 4500 PE (APHA 2005). Secchi transparency was measured using a view tube in almost all monitoring events. Chl-*a* was assessed by Standard Method 10200 H for discrete samples but was sometimes supplemented with field fluorescence measurements using probes from Turner Designs. Temperature and dissolved oxygen were assessed with calibrated field probes on YSI or Hach multi-probe instruments.

Additional monitoring conducted for some lakes included phytoplankton and zooplankton identification and enumeration by Standard Methods 10200 F and G, respectively, dissolved and/or total Al by Standard Method 3500-Al B, and forms of nitrogen (N; nitrate, ammonium, total Kjeldahl N, and total N), also by standard methods. Conductivity, turbidity, and pH were usually assessed with calibrated field probes on YSI or Hach instruments. Alkalinity was measured by titration in the field or laboratory (SM 2320 B).

Table 3. Summary of pre- and post-treatment monitoring results for treated Cape Cod lakes.

Lake	Surface total P		Bottom total P		Summer Secchi depth		Summer Chl- <i>a</i>		Oxygen demand	
	Pre-trtmt μg/L	Post-trtmt μg/L	Pre-trtmt μg/L	Post-trtmt μg/L	Pre-trtmt m	Post-trtmt m	Pre-trtmt μg/L	Post-trtmt μg/L	Pre-trtmt mg/m ² /d	Post-trtmt mg/m ² /d
Hamblin 1995	42	10	454	46	1.8	5.6	21.3	2.0	1720	219
Hamblin 2015	20	7	310	13	1.9	7.8	37.9	1.2	980	515
Ashumet 2001	26	17	290	100	2.8	3.5	6.4	4.1	1034	No data
Ashumet 2010	16	10	300	60	2.9	3.8	5.7	3.2	No data	No data
Long	30	16	163	62	2.8	5.4	12.6	5.5	1823	935
Mystic	35	15	555	65	1.2	3.9	19.7	3.5	780	213
Lovers	32	12	116	24	1.0	3.0	32.2	2.4	1500	555
Stillwater	28	11	290	38	1.3	3.3	21.6	1.8	1500	311
Herring	21	11	357	21	0.5	4.4	19.0	2.9	866	334
Great	22	14	57	32	2.3	2.5	8.4	6.5	1625	300
Lovell's	61	12	167	35	2.0	4.2	14.3	2.3	1310	530
Cliff	23	5	87	12	2.0	5.7	12.6	1.8	2465	1680

Oxygen demand was calculated as the mass difference over time in oxygen in the water column below the depth at which the thermocline normally forms (in mg/m²/d). Changes in uptake kinetics dictate that oxygen demand is not fully expressed when values decline to <2 mg/L, so only profiles with values >2 mg/L at all assessed depths were used; these occurred mainly in spring. As the water warmed over this period and held less oxygen, demand was adjusted for losses due to temperature change.

Comparisons among lakes were mainly graphical, and changes were apparent without need for statistical analysis. However, the relationships among water clarity, Chl-*a*, and P were explored with least squares linear regression in Microsoft Excel, as were relationships between Al dose versus P concentration and oxygen consumption versus temperature.

Results

Phosphorus

Comparison of pre-treatment and post-treatment summer P concentrations between surface or bottom sampling locations indicate a decrease in all cases (Table 3). P near the bottom during stratification was elevated prior to treatment and much lower after treatment, consistent with Al binding of surficial sediment P and decreased release from that sediment. All post-treatment average P concentrations for bottom samples were <100 μg/L, with 8 of 12 averages <46 μg/L. The difference between pre- and post-treatment bottom P was smallest for Great Pond, which was treated preemptively rather than to remediate existing algal blooms. Pre-treatment summer P concentrations in surface waters were not as high as near the bottom, so

differences between pre- and post-treatment surface P were not as striking. Yet the decrease was substantial in terms of nutrient supplies for algal blooms, with the surface P concentration declining to <17 μg/L in all cases and <12 μg/L in 8 of 12 treatments (Table 3).

There was no strong relationship between surface and bottom P concentration before treatment or the decrease in bottom or surface P concentration with Al dose (all R^2 values <0.01), but there was a relationship between surface and bottom P concentrations after treatment ($R^2 = 0.57$). The mechanisms by which P released from sediments accumulates in the hypolimnion or reaches the photic zone are more complicated than can be explained by such simple comparisons, but reducing hypolimnetic P does limit how much P can be transported into the epilimnion. The 4 spring treatments yielded surface P reductions that ranged from 65% to 80% compared to 35% to 63% for the 8 summer or fall treatments, suggesting that spring treatments may be more effective in suppressing P recycling.

Water clarity

Post-treatment Secchi transparency values increased from pre-treatment values (Table 3) in all cases, but the relative changes were highly variable. Pre-treatment Secchi transparency during summer ranged from 0.5 to 2.9 m with an average of 1.9 m, whereas post-treatment summer values ranged from 2.5 to 7.8 m with an average of 4.4 m. Great Pond experienced only a 0.2 m increase in Secchi transparency, whereas transparency increased in nearby Herring Pond by almost 4 m and in Hamblin Pond by 5.9 m through 2 years after the second (2015) treatment.

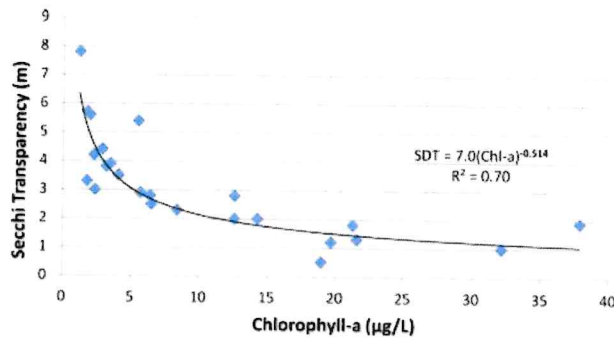


Figure 4. Average summer chlorophyll *a* vs. Secchi transparency for study lakes.

Water clarity in all treated lakes is mainly a function of algal abundance (Fig. 4); inflows are low even during storms, and wind-induced turbulence rarely extends to depths where soft sediments are abundant, limiting other sources of turbidity. Algal abundance is clearly linked to surface P (Fig. 5), but the relationship is not as strong as for Chl-*a* and transparency, so additional factors beyond P concentration are important to algae abundance.

Algae

The quantity of algae in each lake after treatment was reduced, based on the change in Chl-*a* concentration (Table 3). Equally important was meeting the important restoration objective to decrease dominance of the phytoplankton community by cyanobacteria. This algal reduction was not evident from Chl-*a* values but has been reported from all treated lakes in which cyanobacterial blooms significantly impaired lake uses. Long Pond provides the best algae record and experienced a major decline (from 69% pre-treatment to 9% post-treatment on average) in the portion of algal biomass represented by cyanobacteria for April to October samples since treatment (Fig. 6). Hamblin Pond was

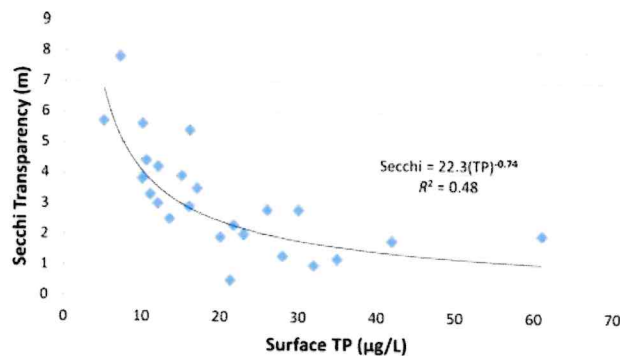


Figure 5. Average surface total phosphorus (TP) vs. Secchi transparency for study lakes. SDT = Secchi disk transparency.

free of cyanobacterial blooms for almost 19 years after its first treatment, and after a 1-year period of resumed blooms by the same genus of cyanobacterium (*Dolichospermum*), the second treatment again eliminated blooms. However, although algal biomass was reduced in Lovell's Pond and cyanobacteria were limited for most of 2 summers, cyanobacteria resurged in late 2015 (Fig. 7) and continued to increase in 2016 with a concurrent decrease in clarity.

Oxygen demand

Reduction of algal biomass that eventually sinks and decays is expected to cause a decrease in oxygen demand in response to Al treatment. Decreased oxygen demand (Table 3) was observed in all treated lakes except for Ashumet, where the monitoring program did not include spring sampling and precluded assessment of oxygen demand as calculated here. The range of estimated pre-treatment hypolimnetic oxygen demand (HOD) ranged from 866 to 2465 mg/m²/d with an average of 1418 mg/m²/d, whereas post-treatment HOD has ranged from 213 to 1680 mg/m²/d with an average of 559 mg/m²/d. Individual lake HOD decreases ranged from 32% to 87% with an average decline of 63%. The highest values for both pre- and post-treatment HOD of 2465 and 1680 mg/m²/d, respectively, occurred in Cliff Pond, treated in 2016. Only one value was available for each period from Cliff Pond, and the post-treatment value represents a period when algae settled from the water column by treatment would be decaying. The next highest HOD values for the dataset were 1823 mg/m²/d (pre-treatment) and 935 mg/m²/d (post-treatment) from Long Pond, where more data were available.

Despite reduced oxygen demand, treated lakes still experienced anoxia in deep water, but complete hypolimnetic anoxia was shifted to later in summer and did not always occur after treatment. Monitoring at Long Pond provided HOD assessments over multiple years (Fig. 8), indicating the variability in HOD among post-treatment years and among the 2 basins of the lake, both treated, but at different doses (30 g/m² east, 15 g/m² west). There was no clear trend over time, although HOD has declined in recent years. Weather seemed to play a major role in development of anoxia, and there was a positive linear correlation between hypolimnetic temperature and oxygen demand in Long Pond ($R^2 = 0.62$ and 0.70 , respectively).

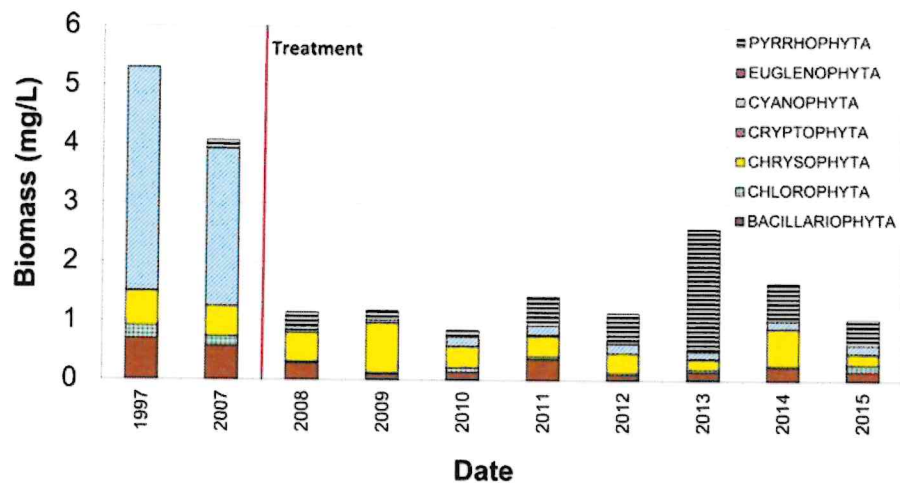


Figure 6. Average Jun–Sep biomass of major algal divisions in Long Pond before and after treatment with aluminum.

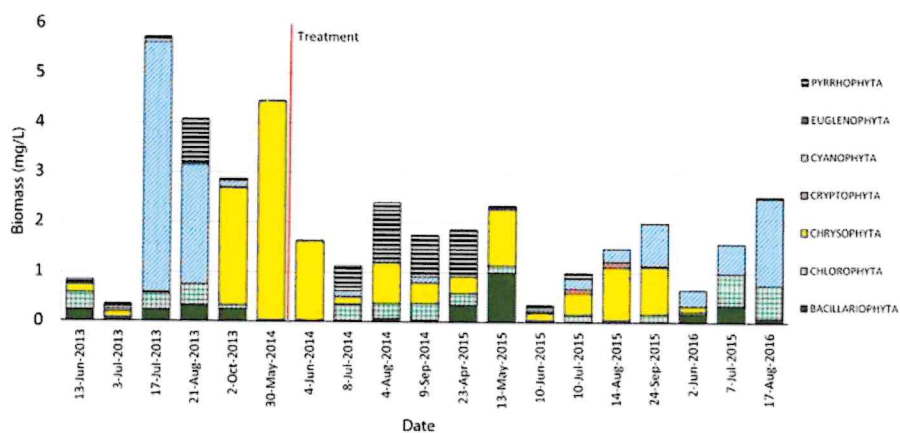


Figure 7. Biomass of major algal divisions in samples from Lovell's Pond.

The reduction in HOD translated into greater volumes of “trout water,” the water layer defined by an upper boundary where the temperature exceeds 21 C and a lower boundary where oxygen is <5 mg/L during stratification. Many Cape Cod lakes are stocked with trout, but survival over summer is limited where there is no suitable habitat. Hamblin and Cliff Ponds have long been considered premier trout fishing lakes on

Cape Cod and are stocked every year, but neither had any trout water for multiple summers prior to Al treatment. Cliff Pond was treated in 2016 and the record was too limited to draw any conclusion. The depth of water available to trout in Hamblin Pond increased by about 5 m after the first treatment (Fig. 9a), and most of that benefit lasted until the second treatment. The second treatment increased trout water by 2 m (Fig. 9b), returning the volume of water available to trout to that available shortly after the first treatment.

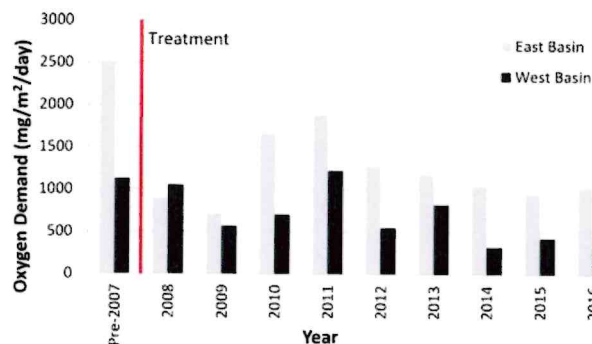


Figure 8. Hypolimnetic oxygen demand in 2 basins of Long Pond over time.

Nontarget impacts

Fish mortality beyond that allowed by permit for treatments of Cape Cod lakes occurred only during the first Hamblin Pond treatment, where a low ratio of aluminum sulfate to sodium aluminate (1.66:1) caused the pH to rise to >9 standard units from about 6.3 standard units over the 2 days of treatment covering ~70% of the lake. Average Al concentration was estimated at 9 mg/L. Assays and jar tests conducted prior

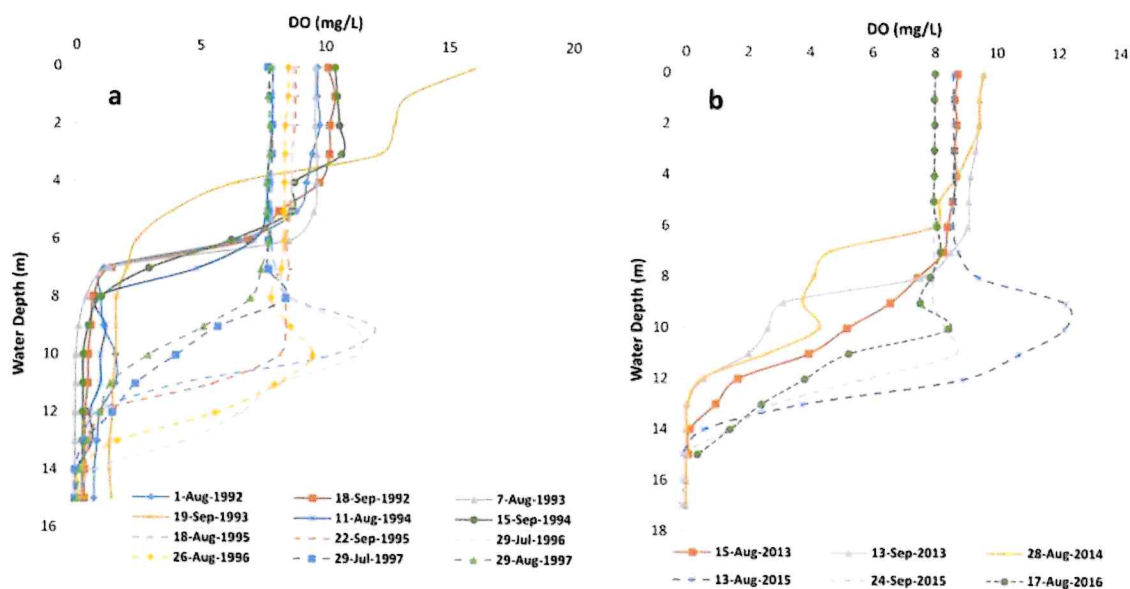


Figure 9. Dissolved oxygen (DO) profiles for Hamblin Pond before (solid lines) and after (dashed lines) (a) 1995 and (b) 2015 aluminum treatments.

to treatment did not properly guide treatment, and the Massachusetts Department of Environmental Protection estimated that ~16,000 fish (perch, bass, and trout) were killed (unpublished data). This and a similar incident in Connecticut in 2000 resulted in more detailed but unpublished laboratory work that shaped the treatment limits and procedures after 2000. By maintaining the pH between 6 and 8 standard units and Al concentrations <5 mg/L, along with treating non-contiguous zones in successive treatments, observable fish mortality has been avoided in all other treatments on Cape Cod.

Permits issued to date for lakes that support herring runs have required timing of treatment to avoid the spawning period in late April to early June; instead, such lakes were treated in September and October. Although treatments are generally applied in water deeper than that used by fish for spawning, slight drift of floc into shallower water is common during treatment if there is any wind. There is no evidence of egg or fry mortality from Al toxicity, however, and monitoring during late summer treatments has detected many young-of-the-year herring swimming in the Al floc with no evident mortality.

Impacts to invertebrates have been poorly documented, but concern over potential damage to endangered mussel populations has influenced some treatments. A permit for treatment of Mystic Lake was initially denied due to concerns over possible Al toxicity to mussels, but after massive mussel mortality occurred following a cyanobacterial bloom, control

of cyanobacteria was viewed more favorably and treatment was approved. The dose was limited to ≤ 50 g/m², and a pilot test in an area with surviving mussels was required to study direct impacts. No mortality or behavioral impairment for mussels in a zone treated at 50 g/m² was found (Nedea 2011). No mussel mortality has been observed via visual surveys associated with treatments of Long, Lovell's, or Cliff ponds. Hamblin Pond contained no mussels at the time of the first treatment in 1995; physical habitat is quite suitable and nearby lakes have many mussels, so they may have been eliminated by algal blooms or other pre-treatment conditions. The invasive Asian clam (*Corbicula fluminea*) has been detected in the town swimming area of Hamblin Pond as of 2015, but no other mussels have been found.

The response of soft-bodied benthic invertebrates has not been quantitatively assessed in any of the treated Cape Cod lakes. Fishermen reported reduced insect hatches from Hamblin Pond following the 2015 treatment, suggesting a potential impact for at least 2 summers. Because all treated sediment of Cape Cod lakes experience anoxia, however, losses are likely limited to chironomids and other invertebrates tolerant of extremely low oxygen.

Zooplankton were monitored in some of the treated Cape Cod lakes and included a suite of cladocerans, copepods, and rotifers at highly variable abundance. Some of the treated lakes support herring runs but others do not. Where herring fry grow through the summer, zooplankton biomass peaked in winter and was

minimal in summer. Winter zooplankton biomass in Mystic Lake, which has a herring run, was between 50 and 100 $\mu\text{g/L}$, whereas summer biomass was $<20 \mu\text{g/L}$ (WRS 2011). Long Pond, which also has a herring run, had summer zooplankton biomass $<10 \mu\text{g/L}$ (AECOM 2009). Lakes without herring runs exhibited variability of zooplankton biomass in relation to fish community structure and water quality, but data were insufficient to adequately examine and explain the variability.

Based on zooplankton samples from treated Cape Cod lakes (not all data are shown), the Al treatment initially depressed zooplankton abundance; the coagulation process may remove zooplankton as well as algae and other particulates. The second treatment of Hamblin Pond in 2015 severely depressed zooplankton biomass immediately following treatment, but biomass recovered substantially by June 2016 (Fig. 10). Biomass was also depressed following treatment of Lovell's Pond in 2014 (Fig. 11), but in 2015 and 2016 biomass recovered to concentrations higher than average for the 2013 pre-treatment study period.

Plants have generally been unaffected by Al treatment in Cape Cod lakes, based on our observations. Treatments target areas deeper than plants grow in these lakes, and many of the lakes have limited plant communities because of light limitation by algal blooms and coarse sandy sediment in the littoral zone. Few studies have been conducted, but quantification of the plant community in Long Pond before and after treatment revealed no appreciable change (AECOM 2009). Some colonization by macrophytes of shallow areas in Lovers Lake has been reported by residents, but quantitative data are lacking. The improved clarity in most lakes after treatment has not resulted in substantial expansion of plant growth. This lack of growth was most evident in Hamblin Pond, which was clear for more than 18 years after the first treatment and has a limited plant community.

Duration of treatment benefits

Only 2 of 10 treated lakes have been retreated: Hamblin after 20 years and Ashumet after 9 years. Hamblin Pond provides the longest and most complete record for Al treatment on Cape Cod. The first treatment was conducted in May 1995 over 70% of the lake area at a dose of 45 g/m^2 and provided rapid and lasting improvement in water clarity (Fig. 12) with elimination of cyanobacterial blooms. A slight decline in

clarity may be perceived over 18 years following the first treatment, but clarity decreased abruptly in late August 2013 with a cyanobacterial bloom and remained low throughout the 2014 summer season. A second treatment was planned with an advanced approach that included extensive sediment testing to accurately identify areas in need of treatment and to set appropriate doses. Relative to the first treatment, a smaller portion (59%) of the lake was treated the second time, in mid-June 2015, with the target area divided into 3 zones receiving differential doses of 45, 58, and 71 g/m^2 , which eliminated algal blooms and restored high water clarity. Watershed land use has changed little since the 1995 treatment.

The first Ashumet Pond treatment was limited in scope and area and was only part of the overall P control project. Only the deepest area was treated, with an expectation of improved conditions for up to 5 years, enough time to implement other P controls, especially an Fe-based geochemical barrier for inactivation of high P in a groundwater plume (AFCEC 2015). Monitoring into 2008 indicated increasing P concentration in deep water and high Chl-*a* in surface water, and a second treatment over twice the original area at a similar dose was applied in 2010. That second treatment has provided satisfactory results for about 6 years to date.

The next oldest treatment was at Long Pond in 2007, now 9 years old. The average monthly Secchi transparency depths for June through September were 60% to 100% greater than pre-treatment depths (Fig. 13). There was variation among months, but summer averages did not decline through 2015, 8 years post-treatment. Watershed land use has changed little since the 2007 treatment.

All other treatments are no older than 7 years (Table 2). Mystic Lake experienced increased clarity more gradually than the other treated lakes, likely related to slow flushing and the processing of a large organic P load from dead mussels prior to treatment that was not efficiently stripped from the water column during treatment (WRS 2011); summer P concentrations continued to decline for several years after treatment. Great Pond has shown little improvement, but the internal P load represented the smallest fraction of the TP load for all treated lakes (Table 1). Lovell's Pond has experienced declining clarity since the year after treatment for unknown reasons; Secchi transparencies were much higher than before treatment but were not

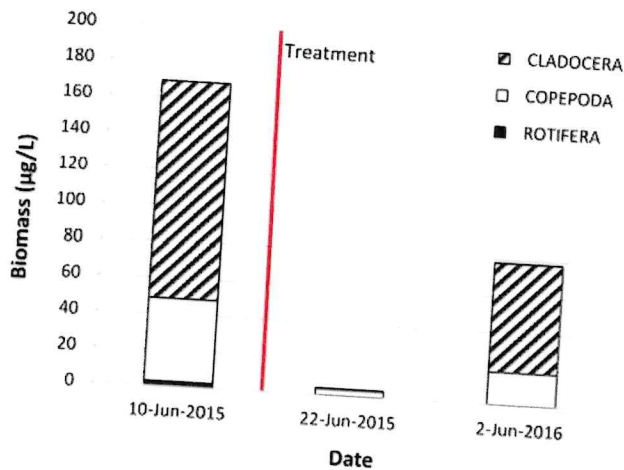


Figure 10. Zooplankton biomass in Hamblin Pond from June samples before and after treatment.

as stable as for other treated lakes. External inputs do not seem to have increased, so the dose may have been low or more area may have required treatment for sustained results. Biogenic P sources were possibly more important in Lovell's Pond than previously determined, and increased oxygen in deeper water after treatment may have promoted the release of organically bound P. The other 5 treated lakes experienced rapid and sustained clarity since treatment.

Costs

The cost of treatments varied mostly by area treated and dose but was also influenced by inflation, market swings, and changes in technology. The cost of Al chemicals was only moderately stable and represented about half the cost of most treatments. On a unit cost basis, considering the cost per gram of Al applied to a square meter of lake area and the total area of application, average cost for the chemicals and labor to conduct a treatment was about \$150/g/m² per ha in 2016 dollars. For example, treatment of 25 ha at a dose of 50

g/m² would cost about \$187,500. The cost of permitting and pre- and post-treatment studies was additional and has varied substantially but was much lower than the application cost.

Discussion

Projects on Cape Cod have furthered our knowledge of dosing to inactivate P in surficial sediment in stratified waterbodies with low alkalinity. As glacially created kettlehole lakes, the treated Cape Cod lakes have much in common, notably relatively long detention time, an infertile sandy bottom overlain in deeper water by organic material that can cause oxygen depletion, and high Fe concentrations that bind P under oxic conditions but release it under anoxia. These characteristics makes them ideal candidates for Al treatment, but concern over low alkalinity and the potential for Al toxicity if the pH moves outside the range of 6 to 8 standard units produced a cautious regulatory stance to this technique. Documentation of minimal or temporary adverse impacts to biota since 2001 has facilitated and expedited permitting by regulatory agencies.

An additional concern has been the addition of sulfur with aluminum sulfate because sulfur tends to bind with Fe and make it unavailable as a P binder, thus reducing the natural capacity to inactivate P in lakes. Although sulfur is added in these treatments, there is little indication it will lead to severe Fe shortages. Her-ring Pond does have some saltwater influence (average conductivity of 625 µS) and may well have an Fe shortage as a result of sulfur influx with seawater, but the amount of sulfur added through treatment would be minor in comparison. The other ponds are not influenced by saltwater (average conductivity <150 µS) and are continually supplied with considerable Fe through

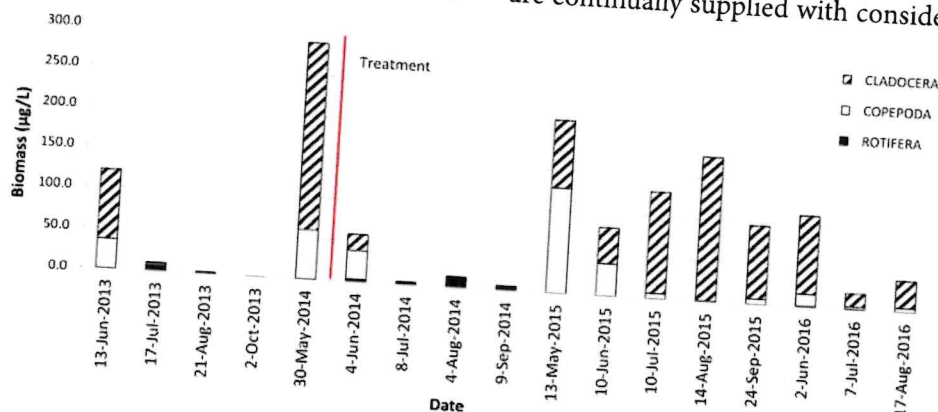


Figure 11. Zooplankton biomass in Lovell's Pond before and after treatment.

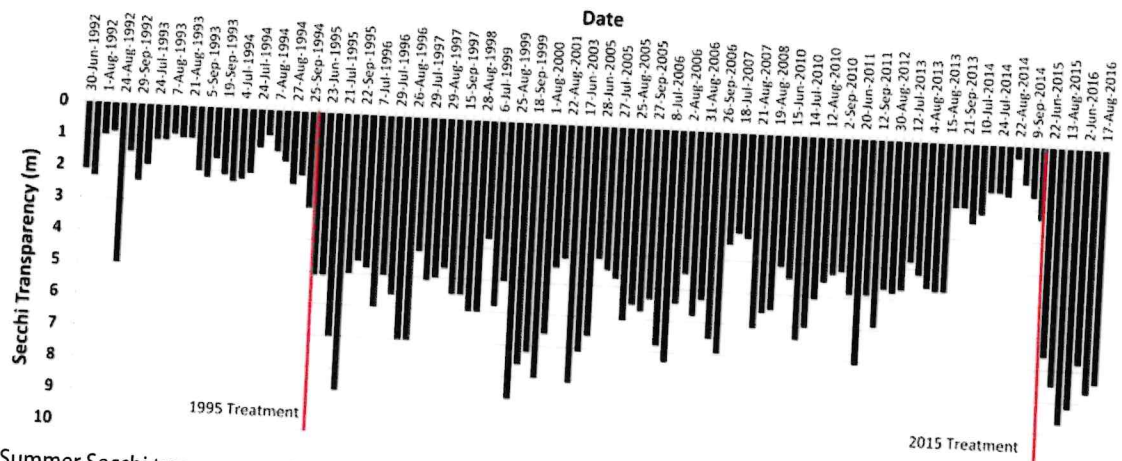


Figure 12. Summer Secchi transparency depths from Hamblin Pond between 1992 and 2016 through 2 aluminum treatments.

groundwater inflow, as evidenced from sampling in many of the same studies that established P loads and the importance of internal loading (e.g., BEC 1993, ENSR 2001, WRS 2014b). Hypolimnetic dissolved Fe levels frequently exceed 1 mg/L during late summer. Additionally, with the use of sodium aluminate to balance the pH from aluminum sulfate additions, about 54% less sulfur is added than if only aluminum sulfate was applied.

Consideration of the serious habitat and use impairment occurring in the absence of lake management has also convinced many towns and agencies on and off Cape Cod to consider Al treatment when internal recycling is scientifically established as a major P source. For example, Mattson (2015) reported a successful Al treatment to follow up cranberry bog management to achieve water quality standards in a lake

between Boston and Cape Cod that was sponsored by the Massachusetts Department of Environmental Protection with Section 319 funds, a first for that agency. Both watershed and in-lake management were necessary to meet water quality goals, and work on Cape Cod helped shape that treatment. Certainly ecological risks are associated with Al treatment, but the potential benefits are substantial. This treatment is not a substitute for watershed management but a complement to it, much as bailing water out of a boat complements patching a leak; in many cases both may be necessary to achieve the desired result.

One major benefit of Al treatment is the differential reduction in available P versus N. Al treatment reduces the internal load of P but seems to have little effect on N concentrations in Cape Cod lakes (data not shown). Although reduction of both P and N may seem desirable, especially in a coastal environment like Cape Cod, greater reduction of P in a lake will result in higher N:P ratios and favor algae other than cyanobacteria (Smith 1983, Harris et al. 2014). Except for Great Pond, all the treated lakes experienced severe cyanobacterial blooms prior to treatment, and all showed not just a reduction in overall algal biomass but also in the portion of the community represented by cyanobacteria.

P concentrations were reduced by Al treatment to $<17 \mu\text{g/L}$ but rarely $<8 \mu\text{g/L}$, the ecoregion threshold for preventing algal blooms in this area (USEPA 2014). The shift in nutrient ratios seems to favor a different algal community, one that is more easily assimilated into the pelagic food web and results in a lower standing crop of algae. A thorough investigation of complete food web effects is lacking, but any decrease in actual algal productivity may be countered by an increase in edible and nutritious algae rapidly assimilated into

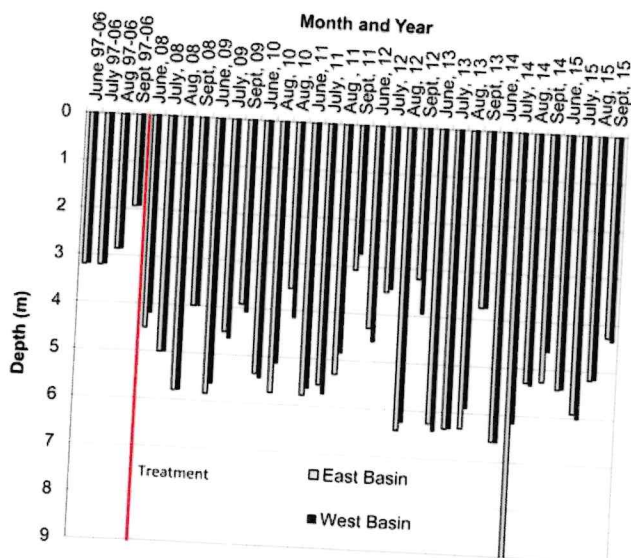


Figure 13. Summer Secchi transparency in 2 treated basins of Long Pond between 1997 and 2015.

the food web and thus not measured as algal biomass. Low zooplankton biomass beyond initial reductions during treatment may be related to food limitation or predation. Budget cuts have minimized valuable fish surveys by the Division of Fisheries and Wildlife in Massachusetts since the 1980s, leaving most fishery effects to speculation.

An indirect benefit of Al treatment is reduced oxygen demand. Reduced algal biomass translates into less organic matter decomposing in the water column or on the bottom, and HOD has been substantially lowered by Cape Cod treatments. Prior to treatment, most of these lakes had no oxygen below the thermocline by sometime in July. Where the decrease in HOD is large enough and the depth is great enough, a zone just below the thermocline can remain oxygenated through the summer and support trout, which are stocked annually in many of these lakes. The ability to maintain holdover fish increases size and angling enjoyment.

The oxic zone below the thermocline may also be important to minimizing algal blooms by creating a zone in which P released from anoxic sediment recombines with Fe to precipitate and settle before it reaches the photic zone to fuel algal growth. Several of the treated lakes were known to have intense metalimnetic cyanobacterial blooms (especially *Planktothrix* in Mystic and Cliff) that mixed into upper waters during windy periods and were associated with toxic events. Others have experienced synchronous rises of cyanobacteria (*Dolichospermum lemmermannii* in Hamblin and *Microcystis aeruginosa* in Lovell's) from sediment in shallower portions of the hypolimnion exposed to anoxia. Lowering the anoxic interface within the hypolimnion seems to minimize development of such blooms.

Although lower oxygen demand is a benefit experienced by all treated lakes on Cape Cod, 4 of the treated lakes would still be classified as eutrophic based on Hutchinson's (1957) threshold of 550 mg/m²/d for HOD, and the others would be considered mesotrophic. Oxygen demand is still sufficient to cause some anoxia after treatment, so the overall metabolism of treated lakes was not changed nearly as much as increases in water clarity might suggest. Al treatments address the serious issue of excessive algal biomass and cyanobacterial blooms but are not completely restorative in terms of other eutrophication issues.

Al treatment addresses internal loading to reduce P availability and shift nutrient ratios to favor more

desirable algae and improve food web function. Benefits may be compromised if external loading remains elevated (Brattebo et al. 2017), but where the internal load is the dominant P source and external loads are minimized, many years of improved water quality can be expected. Where internal load is the dominant P source, Welch and Cook (1999) suggested a reasonable expectation of 15 years of improvement for treated stratified lakes, and Huser et al. (2016b) documented an average duration of benefits of 15 years for all lakes and 21 years for stratified lakes. While all but 2 Cape Cod treatments occurred <10 years ago, and the first Ashumet treatment was not intended to provide long-term improvement by itself, results for Hamblin Pond are consistent with those estimates.

The reasons for eventual diminution of treatment benefits include ongoing P loading from the watershed, release of P through organic decay, bioturbation of treated sediment, and upward movement of Fe-P from beneath the inactivated zone (Huser et al. 2016b). In stratified lakes with small watersheds, no significant point sources, and anoxic hypolimnia, the upward movement of P through the inactivated zone is likely the primary cause of a return to significant internal P flux from the sediments. The progression at Hamblin Pond seems to exemplify this mechanism, although increased Fe-P possibly represents an accumulation from organic decay followed by precipitation with Fe. Only a gradual decline in water clarity was observed over almost 19 years (Fig. 12), after which conditions deteriorated quickly. Both watershed inputs and organic decomposition would not be expected to cause such rapid deterioration, and there are no carp or major populations of deep water invertebrates to cause bioturbation. Sediment assessment revealed elevated Fe-P concentrations in the upper 10 cm in the treatment zone 19 years after treatment. An assumed effective inactivation in the upper 10 cm suggests an upward movement of mobile P at an average rate of just >0.5 cm/yr.

Welch et al. (2017) report on inactivation of sediment P in Green Lake (Washington) to a depth well beyond 10 cm, but their comparison with other studies suggests 10 cm as the typical depth of inactivation in the absence of extreme bioturbation or wind driven resuspension. Neither of these mechanisms seems to be a major force in the treated portions of the Cape Cod lakes, where anoxia limits bioturbation and strong stratification resists mixing. Huser et al. (2016a) found

that common carp greatly increased the depth of mixing and potential sediment P release in shallow lakes, but Bajer and Sorensen (2015) found no significant impact in a stratified lake. Doses for Cape Cod lakes were based on a target sediment depth of 10 cm.

The ratio of Al added to Al-P formed (by weight) varies inversely with P concentration (Huser and Pilgrim 2014, James and Bischoff 2015) and may be higher (less efficient) at high doses and where bottom slope is high (Huser 2012) but seems to average <20:1 in sediments over time (Rydin et al. 2000, Welch et al. 2017). Achieving a ratio of at least 10:1 for added Al to targeted P is a suggested threshold for extended treatment benefits (Jensen et al. 2015, Huser et al. 2016b). Most Cape Cod lakes have been treated at Al doses between 10 and 20 times the Fe-P in the upper 10 cm of sediment. Predicted Al:P binding ratios based on Huser's (2012) equation range from 6.7 to 32.8 for treated Cape Cod lakes, with an average of 16.1. One of the challenges in many treated lakes is steep bottom slope in some areas of application, focusing Al in deeper water sediments. Schütz et al. (2017) demonstrated the use of an injection system to apply Al to sediments, which might prove useful on slopes steep enough to cause focusing.

More research is needed to advance our capability to predict the duration of benefits from Al treatment, but one useful diagnostic approach is to examine slices of core samples over depths of up to 0.5 m to assess the vertical distribution of forms of P and to repeat this process over time following a treatment to evaluate redistribution and especially upward mobility of Fe-P. A chemical gradient is created by treatment, and anoxia within the sediment would be expected to allow dissociated Fe-P to move upward into the zone of lower Fe-P. This monitoring approach has been initiated on multiple Cape Cod lakes in the last few years.

Treatment timing may warrant further investigation. Spring treatments of Cape Cod lakes provided a greater reduction in TP versus pre-treatment values than fall treatments. Although reduced algae and increased clarity were observed the following summer, fall treatments exhibited TP reductions mostly below the threshold of ~60% reduction suggested by Huser et al. (2016b) as indicative of maximum longevity of benefits. All spring treatments exhibited TP reductions in excess of 60%. Inefficient stripping of the water column by fall treatment after a summer of P release from sediment may leave more P for future recycling.

However, Mystic Lake was treated in the fall and showed continued improvement in clarity over several years as "leftover" P from a major mussel kill moved through the system. Also, by contrast, Lovell's Pond has experienced lower clarity and mild cyanobacterial blooms 2 and 3 years after a spring treatment. These examples indicate multiple factors are involved, and we have more to learn about the magnitude and timing of treatment before maximum performance can be achieved with Al treatments.

The interface between science (dose) and economics (cost) is an important consideration in most treatments. High doses inactivate more sediment P, but the binding efficiency is lower and the cost per unit of P inactivated will be higher. Certainly the work of Huser (2012) and Welch et al. (2017) and laboratory assays conducted for some of the Cape Cod treatments suggest that lower doses inactivate more P per unit of Al applied, but Jensen et al. (2015) caution against adding less Al than 10 times the amount of mobile P. Because upward migration of P through the inactivated zone may be an important mechanism for diminution of treatment benefits for Cape Cod lakes, the initial benefit from all treatments of adequate dose to inactivate the upper few cm of sediment should be the same, with higher dose treatments providing those benefits for a longer time period than lower doses. Beyond some site-specific minimum required dose that determines attainment of benefits, any additional Al would be expected to determine the duration of benefits, and the shape of the dose-response curve becomes important.

In some cases (e.g., Mystic Lake) the fraction of Fe-P inactivated in laboratory assays is highest at low doses then declines sharply at higher doses (Fig. 2a), asymptotically approaching the Fe-P detection limit. In other cases (e.g., Cliff Pond), the relationship is more linear (Fig. 2b), with only a slight increase in the amount of Al needed for each successive increment of Fe-P inactivation. Where laboratory assays have been used to aid dose determination, a target of between 50 and 100 mg/kg of Fe-P remaining after Al dosing is considered to signal satisfactory inactivation. Calculation of possible P release has indicated acceptable loading at <100 mg/kg by methods put forth by Pilgrim et al. (2007), and the asymptotic approach to the detection limit from values <100 mg/kg suggests that much higher Al doses will be necessary to reduce Fe-P further. Economics have sometimes dictated a slightly higher Fe-P

target where the slope of the inactivation curve from laboratory assays declines sharply.

At the empirically derived cost of \$150/g/m² per ha treated, costs rise proportionally to dose, but there may be an economy of scale based on treated area that is not obtainable in relatively small Cape Cod lakes. Conversion of unpublished data from other treatments (e.g., Grand Lake St. Mary's in Ohio) suggest that for treatments of large areas that yield favorable economies of scale, cost per unit area declines but will be no less than \$100/g/m² per ha treated.

Treatment planning attempts to balance the minimum necessary reduction in internal loading with cost. Empirical models (e.g., Kirchner and Dillon 1975, Jones and Bachmann 1976, Larsen and Mercier 1976) are used to predict lake TP response to loading changes and translate these into expected Chl-*a*, Secchi transparency, and bloom probability (Oglesby and Schaffner 1978, Vollenweider 1982, Walker 1984). Possible target conditions (e.g., P concentration <20 µg/L, water clarity >3 m, probability of Chl-*a* >10 µg/L at <5%) must be evaluated in light of the potential to reach them with internal load reductions and the associated cost. For the Cape Cod lakes, we suggest doses based on a ratio of Al added to target P (by weight) >10:1, assay results with remaining Fe-P <100 mg/kg, and an internal load reduction of >75%.

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References

- AECOM. 2009. Treatment summary for phosphorus inactivation in Long Pond, Brewster and Harwich, Massachusetts. Willington (CT): AECOM.
- [AFCEE] Air Force Center for Environment Excellence. 2001. Final Ashumet Pond phosphorus management plan. Prepared by Jacobs Engineering Group Inc. for AFCEE/MMR Installation Restoration Program, Otis Air National Guard Base. Mashpee (MA). AFC-J23-35S18402-M17-0011.
- [AFCEE] Air Force Center for Environmental Excellence. 2002. Final Ashumet Pond trophic health technical memorandum. Prepared by Jacobs Engineering Group, Inc. for AFCEE/MMR, Installation Restoration Program, Otis Air National Guard Base. Mashpee (MA). July, AFCJ23-35S18402-M17-0012.
- [AFCEC] Air Force Civil Engineer Center. 2015. Ashumet Pond 2013–2014 Trophic health project note. Prepared by CH2M for AFCEC/JBCC, Otis Air National Guard Base. Mashpee (MA). April 30. Document Control Number: 473147-SPEIM-ASHPO-PRJNOT-001 CDRL A001k.
- [APHA] American Public Health Association, American Water Works Association, and Water Environment Federation. 2005. Standard methods for the examination of water and wastewater, 21st ed. Washington (DC).
- Bajer PG, Sorensen PW. 2015. Effects of common carp on phosphorus concentrations, water clarity, and vegetation density: a whole system experiment in a thermally stratified lake. *Hydrobiologia*. 746:303–311.
- [BEC] Baystate Environmental Consultants. 1987. Diagnostic/feasibility study of Great Pond, Eastham, Massachusetts. East Longmeadow (MA): BEC.
- [BEC] Baystate Environmental Consultants. 1991. Diagnostic/feasibility study of Herring Pond, Eastham, Massachusetts. East Longmeadow (MA): BEC.
- [BEC] Baystate Environmental Consultants. 1993. Diagnostic/feasibility study of Hamblin Pond, Barnstable, Massachusetts. East Longmeadow (MA): BEC.
- Brattebo SK, Welch EB, Gibbons HL, Burghdoff MK, Williams GN, Oden JL. 2017. Effectiveness of alum in a hypereutrophic lake with substantial external loading. *Lake Reserv Manage*. 33:108–118.
- Cooke GD, Welch EB, Peterson SA, Nichols SA. 2005. Restoration and management of lakes and reservoirs. 3rd ed. Boca Raton (FL): Taylor & Francis.
- ENSR. 2001. Management study of Long Pond, Brewster and Harwich, Massachusetts. Willington (CT): ENSR.
- ENSR. 2008. Lovers Lake and Stillwater Pond eutrophication mitigation plan report - final report. Westford (MA): ENSR.
- Harris TD, Wilhelm FM, Graham JL, Loftin KA. 2014. Experimental manipulation of TN:TP ratios suppress cyanobacterial biovolume and microcystin concentration in large scale in situ mesocosms. *Lake Reserv Manage*. 30:72–83.
- Huser BJ. 2012. Variability in phosphorus binding by aluminum in alum treated lakes explained by lake morphology and aluminum dose. *Water Res*. 46:4697–4704.
- Huser BJ, Bajer PG, Chizinski CJ, Sorensen PW. 2016a. Effects of common carp (*Cyprinus carpio*) on sediment mixing depth and mobile phosphorus mass in the active sediment layer of a shallow lake. *Hydrobiologia*. 763:23–33.
- Huser BJ, Egemose S, Harper H, Hupfer M, Jensen H, Pilgrim KM, Reitzel K, Rydin E, Futter M. 2016b. Longevity

- and effectiveness of aluminum addition to reduce sediment phosphorus release and restore lake water quality. *Water Res.* 97:122–132.
- Huser BJ, Pilgrim KM. 2014. A simple model for predicting aluminum bound phosphorus formation and internal loading reduction in lakes after aluminum addition to lake sediment. *Water Res.* 53:378–385.
- Hutchinson GE. 1957. A treatise on limnology. Vol. I, Part 2 – Chemistry of lakes. New York: John Wiley & Sons.
- James W, Bischoff J. 2015. Relationships between redox-sensitive phosphorus concentrations in sediment and the aluminum:phosphorus binding ratio. *Lake Reserv Manage.* 31:339–346.
- Jensen H, Reitzel K, Egemose S. 2015. Evaluation of aluminum treatment efficiency on water quality and internal phosphorus cycling in six Danish lakes. *Hydrobiologia.* 751:189–199.
- Jones J, Bachmann R. 1976. Prediction of phosphorus and chlorophyll levels in lakes. *J Water Pollut Control Fed.* 48:2176–2184.
- Kirchner W, Dillon P. 1975. An empirical method of estimating the retention of phosphorus in lakes. *Water Resour Bull.* 11:182–183.
- Larsen D, Mercier H. 1976. Phosphorus retention capacity of lakes. *J Fish Res Board Can.* 33:1742–1750.
- Loon Environmental. 2012. Lovers Lake and Stillwater Pond nutrient inactivation treatment – final report. Riverside (RI): Loon Environmental.
- Mattson M. 2015. Managing phosphorus loads from agricultural cranberry bogs to restore White Island Pond. *Lake Reserv Manage.* 31:281–291.
- Moran E. 2014a. Herring Pond alum treatment program, project completion report. Cazenovia (NY): EcoLogic LLC.
- Moran E. 2014b. Great Pond alum treatment final report. Cazenovia (NY): EcoLogic LLC.
- Neddeau E. 2011. Freshwater mussel monitoring during and after the treatment of Mystic Lake (Barnstable, Massachusetts) with alum. Amherst (MA): Biodrawiversity.
- Oglesby RT, Schaffner RW. 1978. Phosphorus loadings to lakes and some of their responses. Part 2. Regression models of summer phytoplankton standing crops, winter total P, and transparency of New York lakes with phosphorus loadings. *Limnol Oceanogr.* 23:135–145.
- Pilgrim KM, Huser BJ, Brezonik PL. 2007. A method for comparative evaluation of whole-lake and inflow alum treatment. *Water Res.* 41:1215–1224.
- Psenner R, Dinka M, Pettersson K, Pucsko R, Sager M. 1988. Fractionation of phosphorus in suspended matter and sediment. *Arch Hydrobiol Suppl.* 30:98–103.
- Reitzel K, Hansen J, Andersen FO, Hansen K, Jensen JS. 2005. Lake restoration by dosing aluminum relative to mobile phosphorus in the sediment. *Environ Sci Technol.* 39:4134–4140.
- Rydin E, Huser B, Welch EB. 2000. Amount of phosphorus inactivated by alum treatments in Washington lakes. *Limnol Oceanogr.* 45:226–230.
- Rydin E, Welch EB. 1999. Dosing alum to Wisconsin Lake sediments based on in vitro formation of aluminum bound phosphate. *Lake Reserv Manage.* 15:324–331.
- Schütz, J, Rydin E, Huser BJ. 2017. A newly developed injection method for aluminum treatment in eutrophic lakes: Effects on water quality and phosphorus binding efficiency. *Lake Reserv Manage.* 33:152–162.
- Smith VH. 1983. Low nitrogen to phosphorus ratios favor dominance by blue-green algae in lake phytoplankton. *Science.* 221:669–671.
- [USEPA] US Environmental Protection Agency. 2014. Summary table for the nutrient criteria documents; [cited 23 Aug 2016]. Available from <https://www.epa.gov/sites/production/files/2014-08/documents/criteria-nutrient-ecoregions-sumtable.pdf>
- Vollenweider R. 1982. Eutrophication of waters: monitoring, assessment and control. Paris: Organisation of Economic Co-operation and Development.
- Walker WW. 1984. Statistical bases for mean chlorophyll-a criteria. In: Lake and Reservoir Management – Practical Applications. Proceedings of the 4th annual NALMS symposium. Washington (DC): US Environmental Protection Agency. p. 57–62.
- [WRS] Water Resource Services. 2011. Internal phosphorus load inactivation in Mystic Lake, Barnstable, Massachusetts. Wilbraham (MA): WRS.
- [WRS] Water Resource Services. 2014a. Investigation of algal blooms and possible controls for Lovell's Pond, Barnstable, Massachusetts. Wilbraham (MA): WRS.
- [WRS] Water Resource Services. 2014b. Investigation of algal blooms and possible controls for Cliff Pond, Nickerson State Park, Brewster, Massachusetts. Wilbraham (MA): WRS.
- Welch EB, Cooke GD. 1999. Effectiveness and longevity of phosphorus inactivation with alum. *Lake Reserv Manage.* 15:5–27.
- Welch EB, Gibbons HL, Brattebo SK, Corson-Rikert HA. 2017. Progressive conversion of sediment mobile phosphorus to aluminum phosphorus. *Lake Reserv Manage.* 33:205–210.

LETTER OF ENDORSEMENT

October 25, 2023

To: Mashpee Community Preservation Committee (CPC)

From: Friends of Ashumet Pond (FOAP)

Dear CPC Leaders,

As you are aware, Ashumet Pond in Mashpee and Falmouth is in terrible condition. The pond has had a toxic algae bloom since September 7th with no sign of stopping! This is quite alarming as the climate is much cooler than the mid-summer months and the duration is so long.

Ashumet Pond is a natural kettlehole pond which has been polluted by Joint Base Cape Cod with both sewerage, PFAS and other contaminants. In the past, JBCC has provided Alum Treatments to address the contamination, but those treatments are obviously at the end of their life.

The Friends of Ashumet Pond (FOAP) organization is a volunteer group to advocate in the best interest of the pond and the surrounding community. The pond is populated fairly sparsely with about 100 homes, many of which are seasonal, and has association beach front access for Ashumet Valley and Briarwood Associations, representing over 300 additional residents of Mashpee and Falmouth with deep interest in pond health.

FOAP has been actively engaging with the Town of Mashpee and JBCC to come up with the best approach to treat the pond as swiftly as possible, cost effectively, and in environmental favor. The community has had years of enjoyment on the pond, appreciation of the Massachusetts boat ramp, associated fishing community and two bird sanctuaries that abut the pond.

Of course, we all want what is best for the environment, but certainly community lives are at a significant disadvantage with the toxic levels in the pond. Therefore, FOAP highly recommends CPC engagement and funding for any assistance you can provide to the efforts of the Town of Mashpee in their cleanup efforts.

Upon unanimous support from the FOAP membership.

Sincerely, FOAP leadership,



Ken Ursaki
President, FOAP
114 Wheeler Rd.
Mashpee



Mohan Nair
Vice President, FOAP
41 Lakeview Dr.
Mashpee



Diane Phillips
Administration, FOAP
50 Wheeler Rd.
Mashpee

Mashpee Ponds Coalition
Ashumet Pond, Johns Pond, Mashpee-Wakeby Pond, Martha Pond, Santuit Pond
The Mashpee Ponds Coalition is a group of concerned residents dedicated to improving the health of Mashpee's Ponds

October 30, 2023

To: Arden Russell, Chair
Mashpee Community Preservation Committee

From: The Mashpee Ponds Coalition

The Mashpee Ponds Coalition is a group consisting of representatives of local pond advocacy groups from Ashumet Pond, Johns Pond, Mashpee-Wakeby Pond, Santuit Pond, and Martha Pond, as well as the Wampanoag Tribe and the Mashpee Environmental Coalition and Envision Mashpee. This group is collaborating to share knowledge and remediation experience relating to freshwater ponds in Mashpee, to advocate to the Town for specific actions, and to assist the Mashpee Department of Natural Resources in achieving its goals to remediate and protect Mashpee's freshwater ponds as well as educating the public to support these goals.

It is in this context that we express strong support for the funding application brought to the Community Preservation Committee by Mashpee's Department of Natural Resources requesting funding for an alum treatment on Ashumet Pond.

Ashumet Pond has been under a cyanobacteria advisory for nearly 2 months and, it's clear that the alum treatment of 2010 is no longer working to help reduce these harmful algal blooms. Ashumet has historically benefited from alum treatments. It sits below Joint Base Cape Cod and has been impacted by a groundwater contamination from a defunct wastewater treatment plant, among other issues.

It is our understanding that Joint Base Cape Cod and the Town of Falmouth will contribute to the cost of this treatment. We urge the committee to approve the funding request to allow Ashumet Pond to gain another 10-15 years of protection as the Town works to offer a more permanent solution to phosphorus and nitrogen reduction, and clean water.

Sincerely,

The following members of the Mashpee Ponds Coalition endorse this proposal:

Diane Phillips & Mohan Nair, Ashumet Pond
Pat Riley & George Reichenbacher John's Pond
George Schmidt, Santuit Pond
Richard Weiner, Martha Pond
Susan Dangel & Jonathan Small, Mashpee-Wakeby Pond
Dale Oakley, Director of Department of Natural Resources – Mashpee Wampanoag Tribe



Town of Mashpee

16 Great Neck Rd North
Mashpee, MA 02649

Conservation Department

10-26-23

TO: Chairperson & Members of the Mashpee Community Preservation Act Committee

FROM: Drew McManus
Conservation Agent
Town of Mashpee

RE: CPA Funding request for Ashumet Pond Alum Treatment

Dear Chairperson & Members of the Mashpee Community Preservation Act,

I am writing this letter to endorse the CPA application requesting funding for the alum treatment on Ashumet Pond. Ashumet Pond is a true kettle pond that was formed from glacial deposits. The pond has no outlet associated with it (no river or stream) and is thus limited in its ability to flush out nutrients. Like many other ponds on Cape Cod, Ashumet Pond is impacted from development within its contributing watershed, particularly from phosphorous and nitrogen loading from surrounding onsite septic systems, fertilizer usage and untreated stormwater runoff. Ashumet Pond has a history of repeated algal blooms that have often resulted in the proliferation of toxic cyanobacteria blooms, thus resulting on public health advisories. This typically coincides with the warmer months of the year. Additionally, Ashumet Pond has been impacted by a groundwater contamination plume that emanated from a now defunct wastewater treatment plant at the nearby Mass Military Base at Otis. As a result of this contamination plume, Ashumet Pond underwent two previous treatments of alum to control the phosphorous in the pond (this was done by the Air Force Civil Engineer Center). There was also a bio-reactive barrier (made up of iron filings) installed underground in the area of the groundwater plume before it entered the pond. This bio-reactive barrier helped to intercept incoming phosphorous by having it bind to the iron filings prior to entering the pond. The combination of a bio-reactive barrier and alum treatments helped to keep Ashumet Pond relatively free of algal blooms for many years. The last alum treatment was in 2010. Since that time, the groundwater contamination plume had dissipated to the point where there was no longer any effluent coming from the defunct wastewater treatment plant and thus, the Air Force Civil Engineer Center considered the plume to be effectively cleaned up and no longer was involved in remediating this situation. Fast forward to 2022-2023 and the Ashumet Pond is once again experiencing nutrient overload, only this time from the surrounding development. Alum has been proven to be an effective solution and control for preventing harmful algal blooms and treatments tend to last anywhere from 10 – 15 years before additional treatments may be necessary.

The Mashpee Conservation Department endorses the use of alum for the treatment of Ashumet Pond to reduce the frequency of harmful algal blooms. Such blooms not only impact the pond recreationally, but can also impact the pond's aquatic life by reducing the dissolved oxygen content of the pond, potentially resulting in fish kills.

Sincerely,

-Drew McManus
Mashpee Conservation Agent



Town of Mashpee
BOARD OF HEALTH
16 GREAT NECK ROAD NORTH
MASHPEE, MASSACHUSETTS 02649
(508) 539-1426 * Fax (508) 477-0496



Public Health
Prevent. Promote. Protect.

10-26-23

TO: Chairperson & Members of the Mashpee Community Preservation Act Committee

FROM: Zackary Seabury R.S.
Health Agent
Town of Mashpee

RE: CPA Funding request for Ashumet Pond Alum Treatment

Dear Chairperson & Members of the Mashpee Community Preservation Act,

I am writing this letter to endorse the Department of Natural Resources' CPA application requesting funding for an alum treatment on Ashumet Pond. Like many other ponds on Cape Cod, Ashumet Pond is impacted from development within its contributing watershed, particularly from phosphorous loading from surrounding onsite septic systems, fertilizer usage and untreated stormwater runoff. Ashumet Pond has a history of repeated algal blooms that have often resulted in the proliferation of toxic cyanobacteria blooms, thus resulting on public health advisories. Additionally, Ashumet Pond has been impacted by a groundwater contamination plume that emanated from a now defunct wastewater treatment plant at the nearby Mass Military Base at Otis.

As a result of this contamination plume, Ashumet Pond underwent two previous treatments of alum to control the phosphorous in the pond. There was also a bio-reactive barrier (made up of iron filings) installed underground in the area of the groundwater plume before it entered the pond. This bio-reactive barrier helped to intercept incoming phosphorous by having it bind to the iron filings prior to entering the pond. The combination of a bio-reactive barrier and alum treatments helped to keep Ashumet Pond relatively free of algal blooms for many years. The last alum treatment was in 2010. Fast forward to 2022-2023 and the Ashumet Pond is once again experiencing nutrient overload from legacy phosphorus still entering the pond. Alum has been proven to be an effective solution and control for preventing harmful algal blooms and treatments tend to last anywhere from 10-15 years before additional treatments may be necessary. This period of alum effectiveness is dependent on the specific pond being treated and the amount of ongoing phosphorus loading.

The Mashpee Health Department endorses the use of alum for the treatment of Ashumet Pond to reduce the frequency of harmful algal blooms. Such blooms not only impact the pond recreationally, but can also impact the pond's aquatic life by reducing the dissolved oxygen content of the pond, potentially resulting in fish kills.

Sincerely,

Zackary Seabury R.S.
Town Of Mashpee Health Agent

320 CMR DEPARTMENT OF FISH AND GAME

320 CMR 2.00: PUBLIC ACCESS FACILITIES

Section

- 2.01: Definitions
- 2.02: Management Measures
- 2.03: Special and General Permits
- 2.04: Prohibitions
- 2.05: Penalties

2.01: Definitions

Unless the context otherwise requires, the following words shall have the following meanings and the following rules of construction shall apply:

Amphibious Vehicle means any motored vehicle that is designed to operate both on land and in the water including but not limited to those vehicles commonly referred to as DUKWs, LARCs, Stalwarts, hybrids and United States Coast Guard Certified Amphibians.

Director of Fishing and Boating Access means the person appointed by the Commissioner of the Department of Fish and Game to act as the administrative head of the Department of Fish and Game's public access program, also known as the Office of Fishing and Boating Access.

Intended Use of a Public Boating Access Facility means the launching and retrieval of any trailered or cartop watercraft and parking of the vehicle used to launch and retrieve watercraft in a properly marked parking area.

Intended Use of a Shorefishing Area means recreational fishing.

Intended Use of a Sportfishing Pier means recreational fishing.

Public Access Facility means any public facility that is posted by signage of the Director, or the Director's designee, to provide access by the public to a land and/or water resource within Massachusetts that is subject to the authority of M.G.L. c. 21A, § 11B and 320 CMR 2.00, including, but not limited to, boat launching ramps, car-top boat access areas, parking areas, sportfishing piers and shorefishing areas, on locations designated by the Public Access Board, or public access facilities that are located on public lands with the consent of the Department of Fish and Game, or by agreement with other public agencies in charge thereof of such public lands as authorized by M.G.L. c. 21A § 11B.

Watercraft means a vessel of any kind, except seaplanes and amphibious vehicles, which is used or capable of being used as a means of transportation on water.

2.02: Management Measures

- (1) It is unlawful to operate any amphibious vehicle, airplane or seaplane in or on a public access facility.
- (2) Notwithstanding any provision of 320 CMR 2.00, the Director may establish:
 - (a) management measures governing the use of a public access facility including, but not

2.02: continued

(3) Prior to the establishment of any management measure, except those established pursuant to 320 CMR 2.02(4) or (5), the Director shall provide the following notice and afford interested persons an opportunity to comment as follows:

- (a) publish notice of the management measures in a newspaper of general circulation within the jurisdiction of the public access facility;
- (b) mail a copy of the management measure to those associations, organizations or persons most affected by the measures, or who have requested to be notified of such measures;
- (c) file a copy of the notice with the State Secretary; and
- (d) prominently post the management measures at the entrance to the public access facility and at such other conspicuous locations within the facility as the Director deems necessary and appropriate.

(4) If the Director finds that the immediate establishment of management measures is necessary for the public health, safety or general welfare, and that observance of the procedures for notice and comment provided in 320 CMR 2.02(3) would be contrary to the public interest, the Director may dispense with such procedures and establish the management measures on an emergency basis. The Director's finding and a brief statement of the reasons for his finding shall be incorporated in the emergency management measures and filed with the Secretary of the Commonwealth. The Director shall comply with the procedures for notice and comment provided in 320 CMR 2.02(3) if the management measures are to be effective for a period longer than 90 days.

(5) Notwithstanding the requirements of 320 CMR 2.02(2) and (3), where the Director determines that a public access facility shall be temporarily closed or its use by the public temporarily limited for the purpose of necessary construction, maintenance or repair, the notice requirements of 320 CMR 2.02(3) or (4) shall not be applicable. Within 24 hours of making such a determination, the Director shall place signage at the applicable public access facility and post information on the Office of Fishing and Boating Access website that informs the public of such temporary closure or limits on the use of the facility.

2.03: Special and General Permits

(1) The Director may issue special permits authorizing special activities, events, fishing derbies or contests or other public gatherings at public access facilities for no more than seven consecutive days.

(2) The Director may issue general permits for time periods that extend beyond seven consecutive days to federal, state or local authorities for uses that facilitate a public purpose provided that the Director determines such uses do not significantly interfere with the public uses of such facility.

(3) Applications for a special permit or general permit may be made to the Director.

(4) The Director may establish conditions and restrictions to the special or general permit that, in his opinion, are necessary and appropriate for the public health, welfare and safety, or are required by the type of public access facility sought to be used.

2.04: Prohibitions

320 CMR DEPARTMENT OF FISH AND GAME

2.04: continued

- (4) use a public access facility for any purpose other than its intended use;
- (5) use any parking area for a purpose other than the parking of vehicles used to launch and retrieve watercraft, or in conjunction with the intended use of the public access facility;
- (6) park a motor vehicle and/or trailer in a manner inconsistent with the striping pattern, signage or other means used to delineate the proper places to park;
- (7) exceed any posted speed limit, or violate any traffic pattern or traffic control measure;
- (8) conduct any business, commercial or trade activity that is inconsistent with the intended use of the facility;
- (9) sell or otherwise deal in wares of any sort or advertise any business, commercial activity or trade;
- (10) conduct any rental transactions, including rental of canoes, kayaks or other watercraft;
- (11) hold any public or private meeting, or conduct or participate in any tournament, contest or organized sporting, fishing or boating event;
- (12) wash motor vehicles, boats or any other personal property or equipment, or flush motors or other equipment;
- (13) fish within a 50 foot radius of any boat launching ramp or associated pier or float system, unless as otherwise authorized by the Director by signage posted at the facility;
- (14) leave any motor vehicle or boat trailer within a public access facility for more than 18 hours;
- (15) store any watercraft, trailers, equipment or other personal items, beach, dock or tie up any watercraft for more than 30 minutes, or use docks, piers or floats by watercraft not launching or retrieving;
- (16) operate watercraft at other than headway speed or waterski within 300 feet of any public access facility;
- (17) operate personal watercraft from any public access facility except for the initial launch and retrieval;
- (18) close, gate or obstruct the entrance to any public access facility or take any action or conduct any activity that prevents or impedes access to, or the intended use of a public access facility;
- (19) load or unload powered watercraft onto or off of boat trailers by means of propulsion systems in violation of signage posted at the facility by the Director that prohibit such activities at specified public access facilities; or

320 CMR DEPARTMENT OF FISH AND GAME

2.05: continued

- (3) a prohibition on the future application for or issuance of a special or general permit; and
- (4) the towing or removal at the owner's cost of any motor vehicle, trailer, watercraft or other article of personal property abandoned or left for more than 18 hours at a public access facility, or parked in a manner in violation of 320 CMR 2.00 and applicable management measures.

REGULATORY AUTHORITY

320 CMR 2.00: M.G.L. c. 21A, §§ 2(8), 2(28), 8 and 11B.

CORRESPONDENCE

PUBLIC NOTICE

**DEPARTMENT OF ENVIRONMENTAL PROTECTION
WATERWAYS REGULATION PROGRAM**

**Notice of Simplified License Application pursuant to M.G.L. Chapter 91
23-WW-PRE-0073-APP**

NOTIFICATION DATE: 10/27/2023

PERMITTEE: Linda Smith and John Weigel

PROJECT SITE ADDRESS: 33 Sturgis Lane, Mashpee

Public notice is hereby given of the application for a Chapter 91 Simplified License by **Linda Smith and John Weigel** to construct/maintain an existing seasonal float system in the waters of Mashpee Pond at **33 Sturgis Lane, Mashpee**.

The Department will consider all written comments on this Waterways application received by within 30 days of the "Notification Date". Failure of any aggrieved person or group of ten citizens or more to submit written comments to the Waterways Regulation Program will result in the waiver of any right to an adjudicatory hearing in accordance with 310 CMR 9.13(4)(c). The group of citizens must include at least five citizens who are residents of the municipality in which the proposed project is located.

Project plans for this Waterways application are on file for public viewing electronically, by request to dep.waterways@mass.gov. If you do not have access to email, please leave a voicemail at (617) 292-5929 and you will be contacted with information on alternative options.

It is recommended that public comments be filed electronically with dep.waterways@mass.gov when possible. Alternatively, comments may be mailed to the Waterways Regulation Program at: 1 Winter Street, 5th Floor, Boston, MA 02108.

I CERTIFY THAT THIS PLAN CONFORMS TO THE RULES AND REGULATIONS OF THE REGISTERS OF DEEDS OF THE COMMONWEALTH OF MASSACHUSETTS.



[Signature]
PLS _____ DATE _____

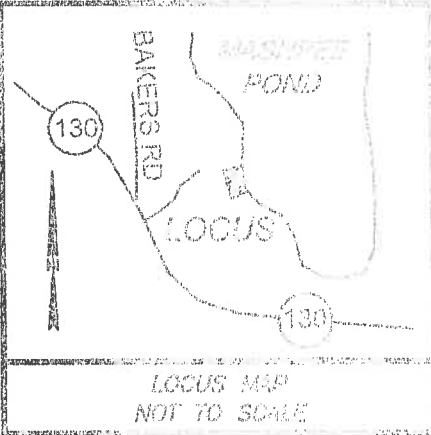
FOR REGISTRY USE ONLY

DRAWING INDEX

SHEET	TITLE
1	COVER SHEET
2	EXISTING CONDITIONS
3	PROPOSED CONDITIONS
4	PROFILE

PLAN LEGEND

— — — —	HISTORIC HIGH WATER
— — — —	ORDINARY HIGH WATER OHW (EL.= 30.4 NAVD 88)
— — — —	EXISTING CONTOURS
— — — —	FEMA FLOOD ZONE AE BOUNDARY



PRIOR CHAPTER 91 AUTHORIZATIONS

AUTHORIZATION	ISSUING AGENCY	DATE
LIC. 12406	DEP	5/8/2009

NOTES:

- EXISTING CONDITIONS SHOWN ARE PROVIDED FROM AN ON THE GROUND SURVEY BY THE BSC GROUP ON 11/23/22.
- ELEVATIONS DEPICTED ON THIS PLAN REFER TO NAVD 88 DATUM.
- FEMA PANEL #25001C0536H, ZONE "X & X OTHER", DATED 7/16/14
- SOURCE OF:
OHW – OBSERVED ON 11/23/22
HLW – NO DATA AVAILABLE
- THIS SET OF PLANS IS FOR PERMITTING ONLY AND NOT FOR CONSTRUCTION.
(THE CONTRACTOR IS RESPONSIBLE FOR ALL CONSTRUCTION SPECIFICATIONS)



[Signature]
10/26/23
COVER SHEET
SHEET 1 OF 4
DATE OCTOBER 26, 2023

Prepared by:
THE BSC GROUP, INC.
349 ROUTE 28, UNIT D
WEST YARMOUTH, MA 02673

JOB NO. 4-9845.02 DRAWING 4984501-CH-91.DWG

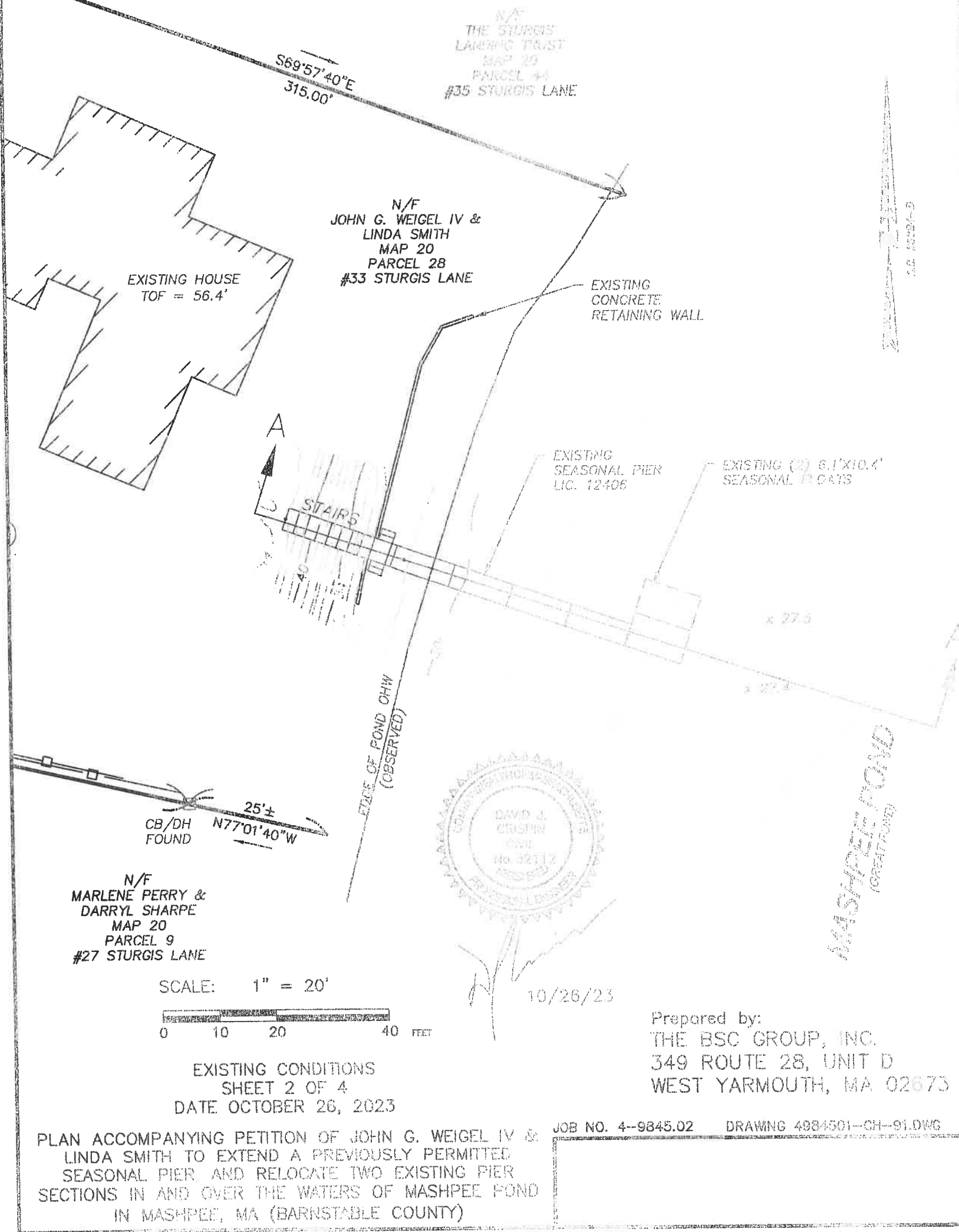
PLAN ACCOMPANYING PETITION OF JOHN G. WEIGEL IV & LINDA SMITH TO EXTEND A PREVIOUSLY PERMITTED SEASONAL PIER, AND RELOCATE TWO EXISTING PIER SECTIONS IN AND OVER THE WATERS OF MASHPEE POND IN MASHPEE, MA (BARNSTABLE COUNTY)

I CERTIFY THAT THIS PLAN CONFORMS TO THE
RULES AND REGULATIONS OF THE REGISTERS OF
DEEDS OF THE COMMONWEALTH OF
MASSACHUSETTS.



[Signature]
PLS _____ DATE _____

FOR REGISTRY USE ONLY



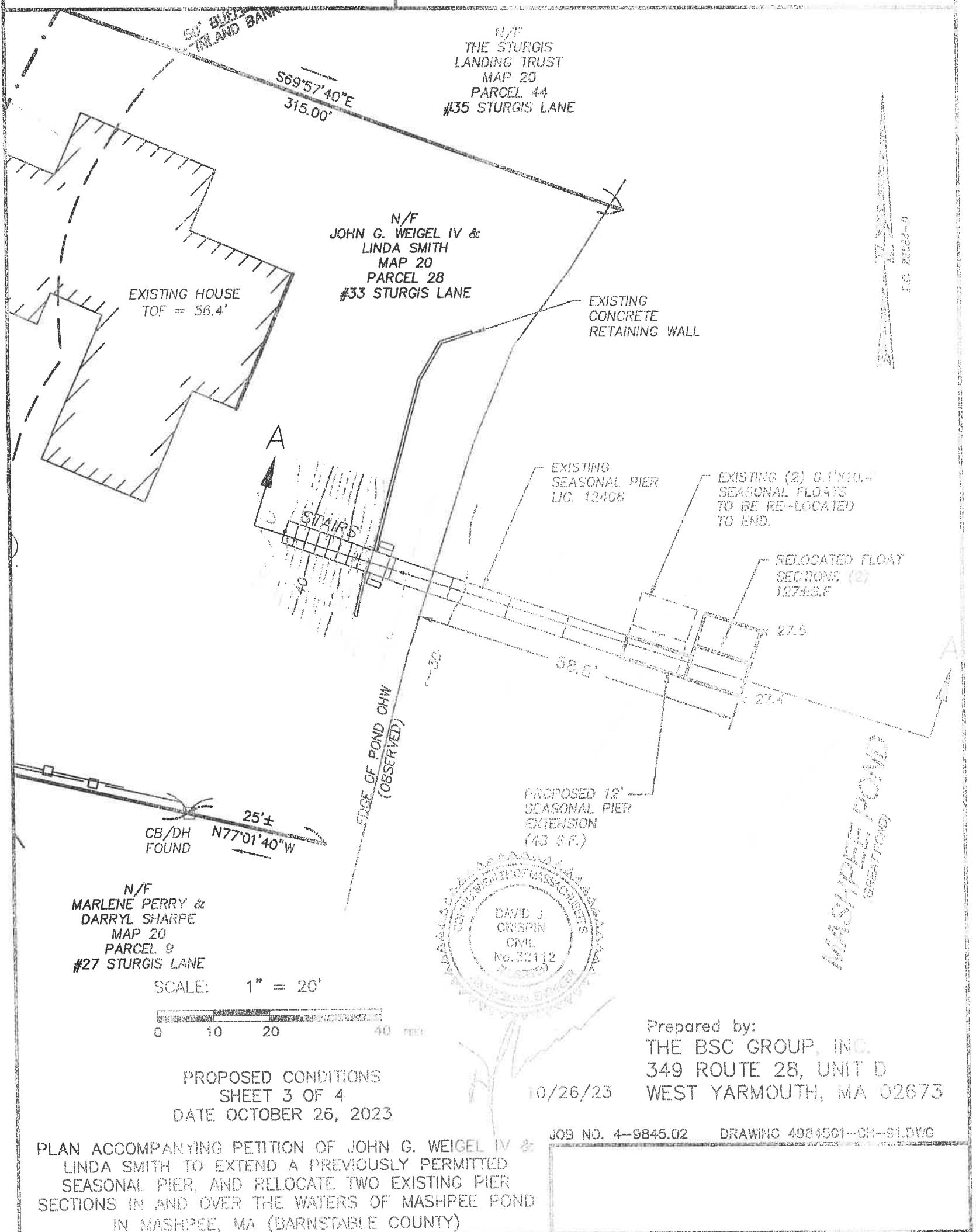
I CERTIFY THAT THIS PLAN CONFORMS TO THE
RULES AND REGULATIONS OF THE REGISTERS OF
DEEDS OF THE COMMONWEALTH OF
MASSACHUSETTS.



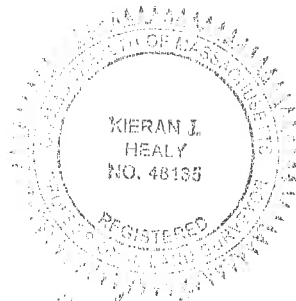
FOR REGISTRY USE ONLY

PLS

DATE

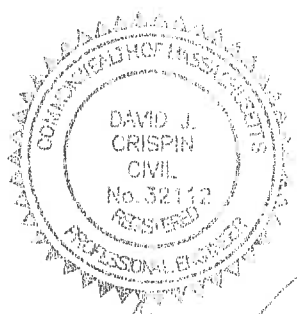
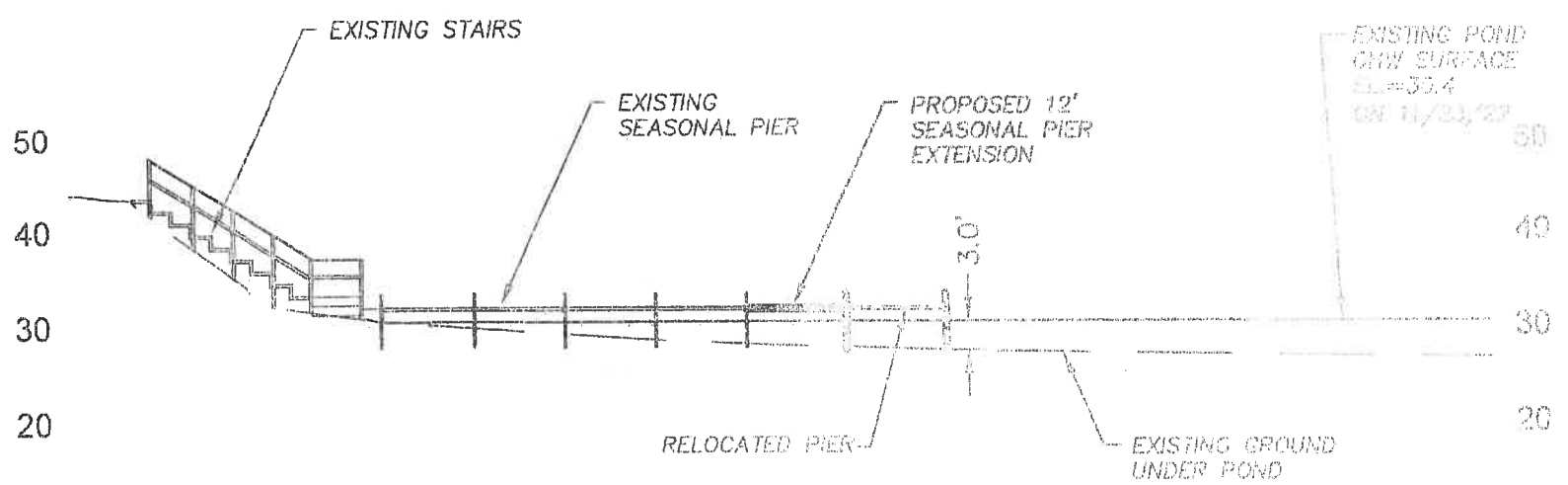


I CERTIFY THAT THIS PLAN CONFORMS TO THE
RULES AND REGULATIONS OF THE REGISTERS OF
DEEDS OF THE COMMONWEALTH OF
MASSACHUSETTS.



[Signature]
PLS *[Signature]* DATE *[Signature]*

FOR REGISTRY USE ONLY



[Signature]
10/26/23

SCALE: 1" = 20'
0 10 20 40 FEET

PROFILE A-A
SHEET 4 OF 4
DATE OCTOBER 26, 2023

Prepared by:
THE BSC GROUP, INC.
349 ROUTE 28, UNIT D
WEST YARMOUTH, MA 02673

PLAN ACCOMPANYING PETITION OF JOHN G. WEIGEL &
LINDA SMITH TO EXTEND A PREVIOUSLY PERMITTED
SEASONAL PIER, AND RELOCATE TWO EXISTING PIER
SECTIONS IN AND OVER THE WATERS OF MASHPEE POND
IN MASHPEE, MA (BARNSTABLE COUNTY)

JOB NO. 3-0045.02 DRAWING 4004001-CH-01.0WS



Town of Barnstable

Town of Barnstable
Planning Board
367 Main Street
Hyannis, MA 02601

You are hereby notified that the Planning Board has filed its Decision and Notice with the Town Clerk at the Town Hall located at 367 Main Street, Hyannis, MA for notification of:

Date:
10/31/2023
Any appeal to
this decision
must be made
pursuant to
MGL, Chapter
40A, Section 17
and filed with-
in 20 days
from the date
hereon with
the municipal
clerk.

Nile Morin, has been granted a Decision and Notice of Approval for a Special Permit for 50 Main Street, Hyannis, MA Map/Parcel ---342/026. Relief from Façade Buildout.

Public files are available for viewing by contacting Karen.pina@town.barnstable.ma.us or calling 508-862-4064

www.town.barnstable.ma.us



**TOWN OF FALMOUTH
MASSACHUSETTS**

BOARD OF APPEALS

Notice of Decision

Notice is hereby given that the Board of Appeals of the Town of Falmouth has made a decision on a petition by John H. Munson and Erin Staine – Pyne, 88 Jewelers Avenue, Falmouth, MA. (Map 40A Lot 005) under 240-10.2A and 240-11.3A(4) of the Zoning By-Law, as amended to **grant** the special permit to remove the existing garage and shed, and to raze and rebuild the existing, non-conforming, single-family dwelling.

Appeals, if any, shall be made pursuant to the Massachusetts General Laws, Chapter 40A, Section 17, and shall be filed within twenty (20) days after **October 25, 2023** which is the date the Decision was filed in the office of the Town Clerk.

Please contact Noreen Stockman at 508-495-7460
or Noreen.stockman@falmouthma.gov if you have any questions or comments
full text of decision available at <http://www.falmouthmass.us>



**TOWN OF FALMOUTH
MASSACHUSETTS**

BOARD OF APPEALS

Notice of Decision

Notice is hereby given that the Board of Appeals of the Town of Falmouth has made a decision on a petition by Patricia K. Rocha and James H. Lerner, Trustees, 55 Bywater Court, Falmouth, Ma.

(Map 47 Lot 009) under 240-10.2A & 240-11.3A(4) of the Zoning By-Law, as amended to **grant** the special permit to construct a half-story addition, increasing lot coverage by structures.

Appeals, if any, shall be made pursuant to the Massachusetts General Laws, Chapter 40A, Section 17, and shall be filed within twenty (20) days after **October 25, 2023** which is the date the Decision was filed in the office of the Town Clerk.

Please contact Noreen Stockman at 508-495-7460
or Noreen.stockman@falmouthma.gov if you have any questions or comments
full text of decision available at <http://www.falmouthmass.us>



**TOWN OF FALMOUTH
MASSACHUSETTS**

BOARD OF APPEALS

Notice of Decision

Notice is hereby given that the Board of Appeals of the Town of Falmouth has made a decision on a petition by Patricia K. Rocha and James H. Lerner, Trustees, 55 Bywater Court, Falmouth, Ma.

(Map 47 Lot 009) under 240-10.2A & 240-11.3A(4) of the Zoning By-Law, as amended to **grant** the special permit to construct a half-story addition, increasing lot coverage by structures.

Appeals, if any, shall be made pursuant to the Massachusetts General Laws, Chapter 40A, Section 17, and shall be filed within twenty (20) days after **October 25, 2023** which is the date the Decision was filed in the office of the Town Clerk.

Please contact Noreen Stockman at 508-495-7460
or Noreen.stockman@falmouthma.gov if you have any questions or comments
full text of decision available at <http://www.falmouthmass.us>



**TOWN OF FALMOUTH
MASSACHUSETTS**

BOARD OF APPEALS

Notice of Decision

Notice is hereby given that the Board of Appeals of the Town of Falmouth has made a decision on a petition by Stephen McCormick and Mary Colleen McCormick, 43 Salt Pond Road, Falmouth, Ma.

(Map 47 Lot 022B) under 240-10.1C(3) of the Zoning By-Law, as amended to **grant** the special permit to remove a portion of the existing deck, and construct a second floor addition over a portion of the existing dwelling.

Appeals, if any, shall be made pursuant to the Massachusetts General Laws, Chapter 40A, Section 17, and shall be filed within twenty (20) days after **October 25, 2023** which is the date the Decision was filed in the office of the Town Clerk.

Please contact Noreen Stockman at 508-495-7460
or Noreen.stockman@falmouthma.gov if you have any questions or comments
full text of decision available at <http://www.falmouthmass.us>



**TOWN OF FALMOUTH
MASSACHUSETTS**

BOARD OF APPEALS

Notice of Decision

Notice is hereby given that the Board of Appeals of the Town of Falmouth has made a decision on a petition by ECO Land Development LLC, 0 Percival Road (lot 4), Teaticket, Ma.

(Map 34 Lot 004) under Chapter 40B, as amended to **grant** the comprehensive permit for twelve (12) single-family dwellings, with three (3) affordable in perpetuity.

Appeals, if any, shall be made pursuant to the Massachusetts General Laws, Chapter 40A, Section 17, and shall be filed within twenty (20) days after **October 30, 2023** which is the date the Decision was filed in the office of the Town Clerk.

Please contact Noreen Stockman at 508-495-7460
or Noreen.stockman@falmouthma.gov if you have any questions or comments
full text of decision available at <http://www.falmouthmass.us>



**TOWN OF SANDWICH
PUBLIC HEARING NOTICE
BOARD OF APPEALS**

The Sandwich Board of Appeals will hold a Public Hearing on the application of Diane C. Madden Trust, Parke Madden, Trustee, Property Owner, for a Special Permit under Sections 2450 and 2600 of the Sandwich Protective Zoning By-Law for property located at 111 Main Street, Sandwich, MA, Assessor's Map #81 Parcel #129 for the purpose of creating a second primary dwelling. The Public Hearing will be held on November 14, 2023 at the Sand Hill School Community Center, 16 Dewey Ave, Sandwich, MA at 6:00 p.m. The public record information can be viewed at the Planning & Development office.

James Killion, Chair
Sandwich Board of Appeals
Publication: Sandwich Enterprise
Publication Dates: October 27 and November 3, 2023



**TOWN OF SANDWICH
PUBLIC HEARING NOTICE
BOARD OF APPEALS**

The Sandwich Board of Appeals will hold a Public Hearing on the application of Tsakalos Realty Trust, Property Owner, for a Special Permit Amendment under Sections 1330 and 4500 of the Sandwich Protective Zoning By-Law for property located at 290 Route 130, Sandwich, MA, Assessor's Map #22, Parcel #191 for the purpose of converting office space into apartments. The Public Hearing will be held on November 14, 2023 at the Sand Hill School Community Center, 16 Dewey Ave, Sandwich, MA at 6:00 p.m. The public record information can be viewed at the Planning & Development office.

James Killion, Chair
Sandwich Board of Appeals
Publication: Sandwich Enterprise
Publication Dates: October 27 and November 3, 2023



**TOWN OF FALMOUTH
MASSACHUSETTS**

BOARD OF APPEALS

Notice of Decision

Notice is hereby given that the Board of Appeals of the Town of Falmouth has made a decision on a petition by Kevin A. and Cathleen A. Hanwell, 15 Grove Street, North Falmouth, MA.

(Map 04A Lot 409) under 240-10.2A and 240-11.3A(4) of the Zoning By-Law, as amended to **grant** the special permit to construct an addition and attached garage with habitable space above; exceeding 20% lot coverage by structures.

Appeals, if any, shall be made pursuant to the Massachusetts General Laws, Chapter 40A, Section 17, and shall be filed within twenty (20) days after **November 1, 2023** which is the date the Decision was filed in the office of the Town Clerk.

Please contact Noreen Stockman at 508-495-7460
or Noreen.stockman@falmouthma.gov if you have any questions or comments
full text of decision available at <http://www.falmouthmass.us>



**TOWN OF SANDWICH
PUBLIC HEARING NOTICE
BOARD OF APPEALS**

The Sandwich Board of Appeals will hold a Public Hearing on the application of JL Real Estate Group LLC, Property Owner, for a Special Permit under Section 2200 of the Sandwich Protective Zoning By-Law for property located at 15 Jan Sebastian Drive Unit 2C, Sandwich, MA, Assessor's Map #27 Parcel #033-02C for the purpose of used car sales accessory to motor vehicle sales, wholesale. The Public Hearing will be held on November 14, 2023 at the Sand Hill School Community Center, 16 Dewey Ave, Sandwich, MA at 6:00 p.m. The public record information can be viewed at the Planning & Development office.

James Killion, Chair
Sandwich Board of Appeals
Publication: Sandwich Enterprise
Publication Dates: October 27 and November 3, 2023