



**The Cannery Lot
Improvements Master Plan**
September 21, 2025

The Cannery Lot Master Plan

Prepared for the Town of Freedom, Maine

Page | 1

Contents:	
Acknowledgements	2
Project Summary	3
Master Planning Process	4
History of the Cannery Lot	5
Existing Conditions	8
Synergies	11
Town Vision, What Could Be	13
The Master Plan, Proposed Elements	13
Improvements Phasing	20
Appendix	21

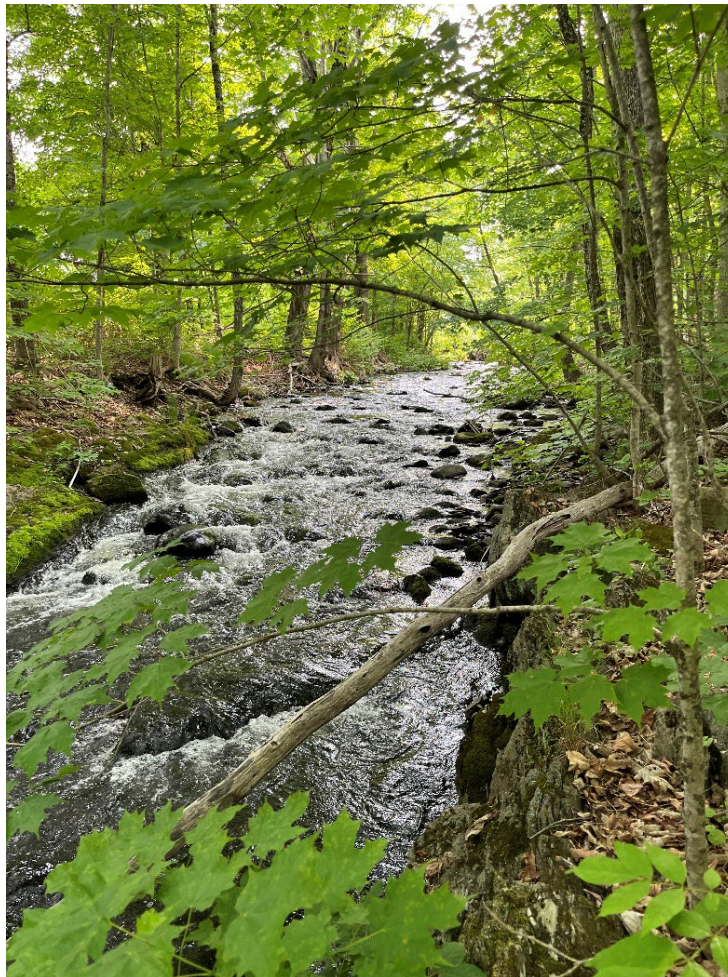


Photo: Lissa Widoff



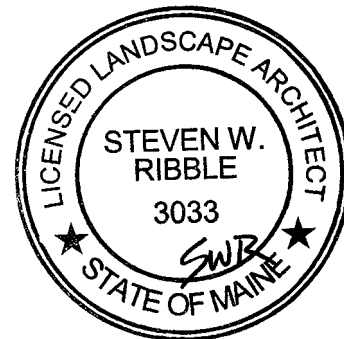
Acknowledgements

This Master Plan was created with the help of many people from several organizations. The Freedom Community Development Action Committee and Context By Design appreciates their willingness to share their time and valuable insights throughout this process so that the Master Plan reflects the community's vision long into the future. While the following list are of easily identified resources, we also appreciate those of the community who have responded to the CDAC Community survey and others who have shared their views and insights throughout this process.

- Town of Freedom Selectboard
- Freedom Community Development Advisory Committee
- Town of Freedom Public Works
- Haley Ward, Inc.
- Kennebeck Valley Council of Governments
- Maine Department of Transportation
- Hills To Sea Trail Coalition
- Sebasticook Regional Land Trust
- Freedom Community Historic Preservation Commission
- Maine Department of Agriculture, Conservation and Forestry
/ National Flood Insurance Program
- North Star Snowmobile Riders
- Freedom General Store

This project was funded by a Community Action Grant through Maine's Community Resilience Partnership program.

Steven W. Ribble, Maine Licensed Landscape Architect
Context By Design Landscape Architecture/Planning



Project Summary

The Cannery Lot Master Plan is the final step of an environmental and potential use assessment initiated by the Town of Freedom for a 15+/- acre former industrial parcel (Lot) now owned by the Town. Previous “steps” included hazardous conditions assessments, building debris removal, and environmental assessments and delineations. The purpose of this portion of the Town’s overall effort is to generate a Master Plan that accommodates both public use and Public Works use on the property. The master plan project is largely based on community survey responses and the 2024 environmental assessment, but also considers historic uses of and future intentions for the site.

Page | 3

The Freedom Community Development Advisory Committee (CDAC) conducted a community survey to understand the community’s vision for the future of the Cannery Lot. The survey results demonstrated a strong consensus that the lot be used for a combination of public use and public works use with an overarching focus of environmental stewardship in public use areas. It should be noted that while some community wants and needs were identified and supported, there may be others which arise as the parcel elements are developed. As such, the master plan is a guide rather than a set improvements plan.

The Cannery Lot Master Plan provides for separation of public use and Public Works uses. The main public use features include: parking, gathering/pavilion space, multipurpose trails, historic and environmental interpretation, and opportunities for streamside picnicking. As the planning process evolved so too did the realization of the need for safe pedestrian access between Freedom’s village area and the Cannery Lot. As such, discussions with Maine Department of Transportation provided guidance regarding safety measures for crossing State Route 137, also known as Belfast Road.

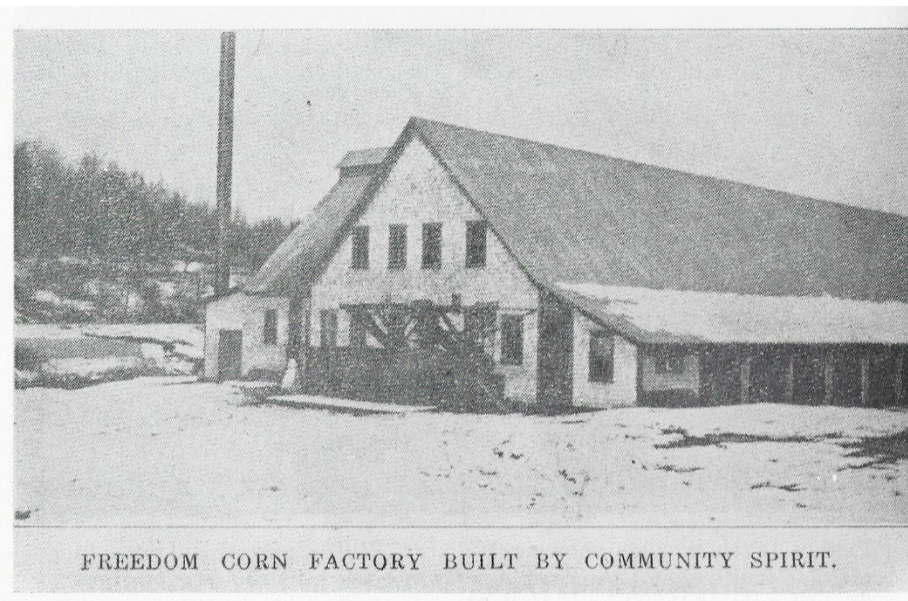


Exhibit 1. Freedom Corn Factory, a.k.a. The Cannery (Photo: Historical Scrapbook, Freedom Maine)

Master Planning Process

The Freedom Community Development Advisory Committee was initially formed to oversee cleanup and to support town planning for re-use of the Lot. Upon completion of that task the mission of the CDAC was revised to develop the [then known as] “Skidgel Lot” for the economic, social, and environmental betterment of the Town of Freedom.

Page | 4

Following the initial brownfields assessment, debris cleanup, and environmental assessment the CDAC sought a professional landscape design organization through a public bid process to assist them in generating a master plan for the property. The landscape architecture and planning firm Context By Design was selected for the project.

Project followed an iterative process involving:

- Independent on-site review and analysis by CBD
- Review of Town supplied relevant information
 - Historical aspects of the Lot
 - Previous assessment study
 - Community survey results
 - Discussions with those having local knowledge
- Interviews with CDAC & Public Works regarding needs and visions
- Generation of an initial plan concept
- On-site review with CDAC
- Refine conceptual plan per comments received
- Engage KVCOG to generate contextual mapping to identify synergies
- Discussion of pedestrian access options with MDOT
- Ongoing review with CDAC to refine and finalize the proposed master plan



History of the Cannery Lot

The Cannery Lot is situated along the Sandy Stream, the stream being the discharge flow from the lower of two dams supporting the Sandy Pond. The Stream was the historic economic engine of the Town and is the reason it was established. The upstream dam(s) regulate flow and in large part protect the area against flooding.

Page | 5

Due to its proximity along the Sandy Stream the Lot's early historical uses included several mills, businesses, and a tannery with the most significant development being the Freedom Corn Cannery and subsequently the Monmouth Canning Company (1900+/- to 1960's). The cannery changed hands through the years and eventually became the first Marden's warehouse. Shortly thereafter Marden sold a portion of land to Town of Freedom for the Town Garage (known today as the Public Works department). The Cannery and lands were acquired by Skidgel's family in 1988 and they began operating Skidgel's Warehouse, a discount store. In 2008 at the request of the Town following cessation of Skidgel's operations, the EPA evaluated Skidgel property for brownfields and determined there were none. Mildred Skidgel sold 10.8 acers of the property adjacent to the town Public Works department to the Town in 2018. With funding by a Community Development Block Grant, the Town removed the dilapidated building structure and associated remnant materials, except for concrete slabs and foundations in 2020. A total of 1710 tons of non-hazardous materials were removed.



Exhibit 2. The Cannery Lot, March 2025.

Aside from the Town's Public Works use, the Lot has most recently been used by the local snowmobile club as a Sandy Stream crossing point. Adjacent to the Lot a small portion of the Freedom General store property has been used for an information kiosk and parking area for the Hills to Sea Trail. The connection between the parking and kiosk area and the main trail is by way of a quarter mile spur trail.



Exhibit 3. [Dodge] Tannery photo: (Photo: Historical Scrapbook, Freedom Maine)



Exhibit 4. Banton Bros. (Photo: Historical Scrapbook, Freedom Maine)

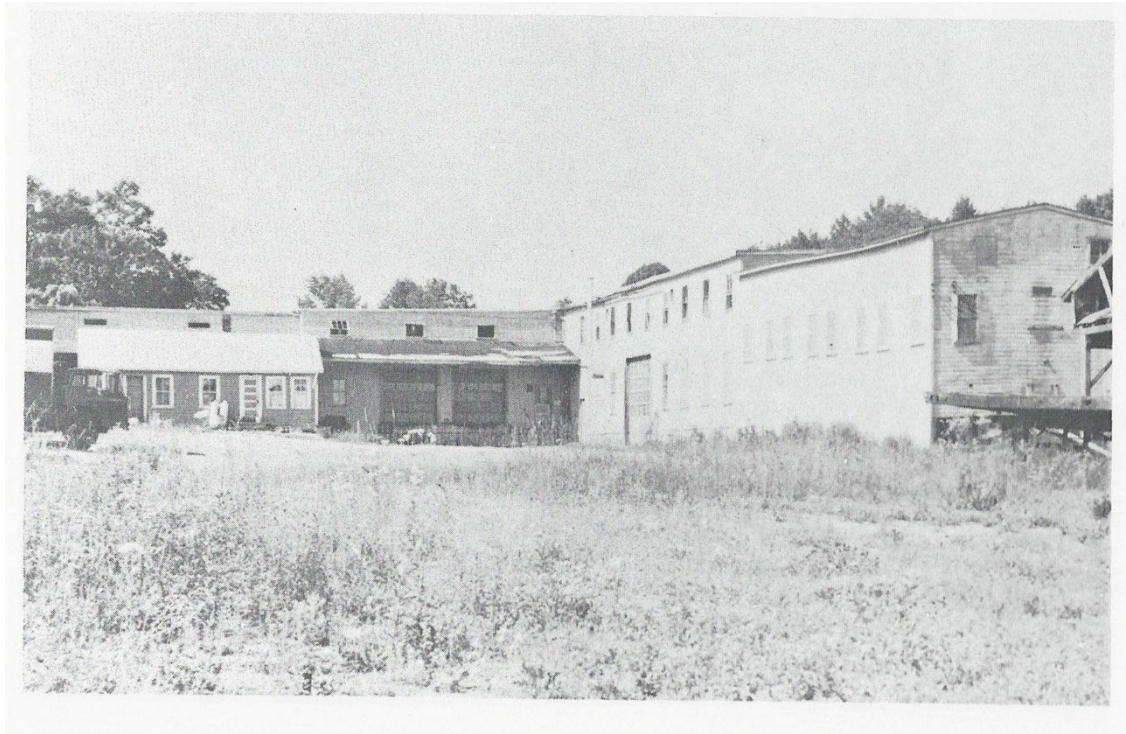


Exhibit 5. Skidgel's Discount Store (Photo: Historical Scrapbook, Freedom Maine)



Exhibit 6. Freedom Public Works facility

Existing Conditions

The Cannery Lot property consists of four parcels comprising 15.1 acres within the towns of Freedom, Knox and Unity. Approximately 12.9 acres of the area is within the Freedom town limits. The property is situated in a geologic river/stream basin and floodplain that flanks the Sandy Stream. Flow of the Sandy Stream is from the northwest to southeast. The western portion of the Lot is low lying and flanked by higher elevations while the eastern area widens into a typical floodplain configuration.

Page | 8

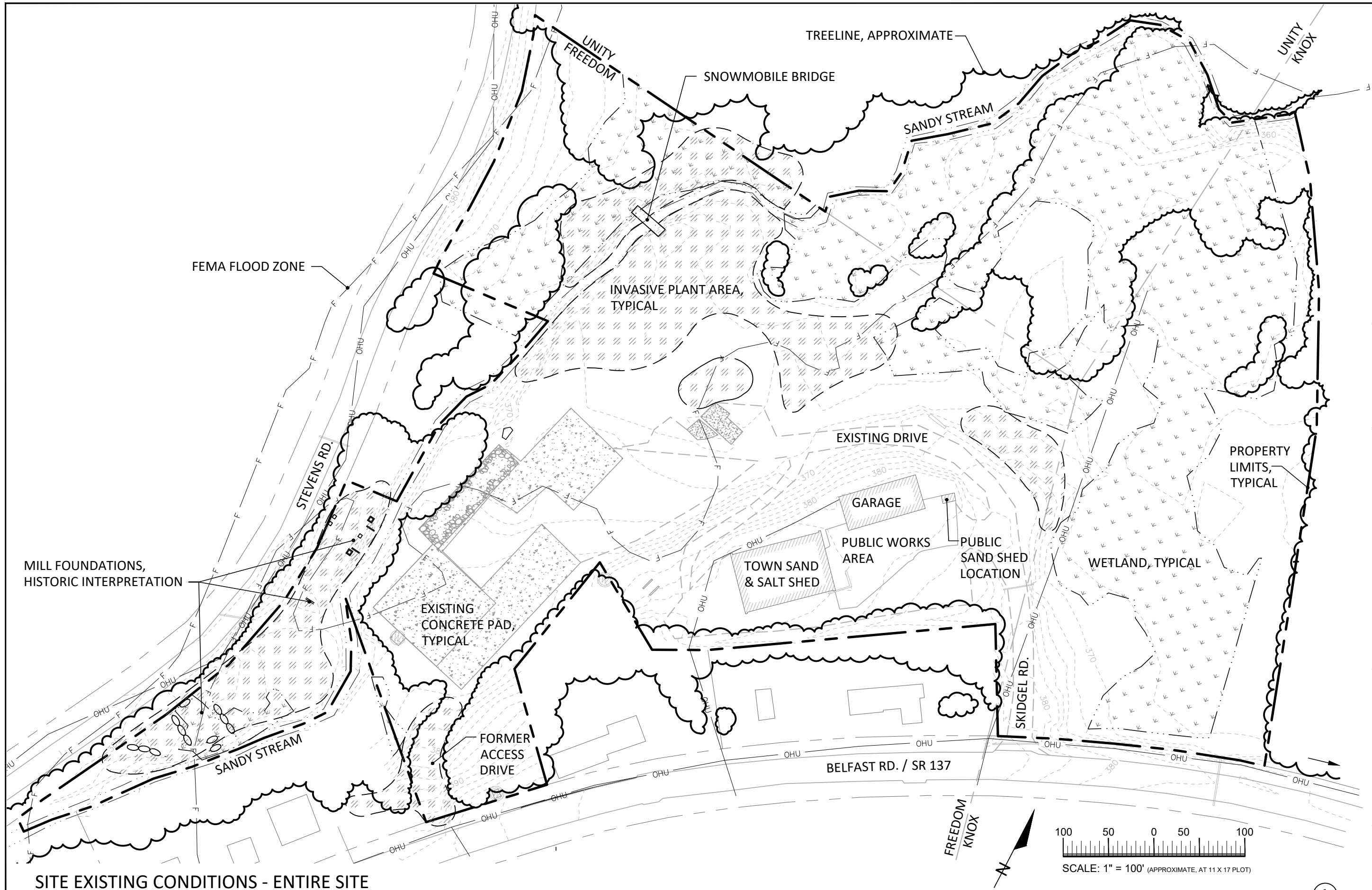
The Town commissioned Haley Ward, Inc. to conduct an in-depth environmental assessment of the property in 2024. Their assessment of the then existing conditions included a detailed topographic and feature survey, investigation of the water table, soil and slab stability, location of utilities, existing vegetation, and a detailed assessment of wetlands. Their investigation found five wetland areas within the Lot limits. The portions of these wetlands within 25' of the Sandy Stream and/or within the flood zone are considered Wetlands of Special Significance by the Maine Department of Environmental Protection. No significant vernal pools in State databases on the Lot or adjacent properties were found.

Much of the Lot, upland and wetland, is covered by woody shrub and perennial vegetation with some areas of upland being forested/wooded. Dominant species on the property's forested uplands include red oak, white pine, sugar maple, green and white ash, balsam fir and red maple. Other upland areas of the property contain staghorn sumac, Japanese knotweed, Canada goldenrod, and black locust. A significant portion of the open area is dominated by the invasive species (Japanese Knotweed (*Polygonum cuspidatum*)).

There are several historic features on the Cannery Lot property. The largest and most obvious feature is the remaining foundation and concrete floor slab of the cannery/warehouse building. Across the Sandy Stream from the concrete foundation and extending upstream of it are remnants of a mill, a tannery, stacked stones of yet another building, and multiple masonry (field stone, split stone and concrete) solutions for channelizing the stream and controlling erosion. Downstream at the property limit are bridge abutments of a former roadway. North-northeast of the public works area are two granite pylons with embedded United States Geologic Survey medallions indicating the point where the towns of Freedom, Knox and Unity meet.

The Town's Public Works department is the current primary land use on the Lot. There is a snowmobile trail across the Lot which includes a bridge over the Sandy Stream.





SITE EXISTING CONDITIONS - ENTIRE SITE

SCALE: 1"=100'±

TOWN OF FREEDOM CANNERY LOT MASTER PLAN	PLANNING SKETCH, NOT FOR CONSTRUCTION	EXISTING CONDITIONS	 LANDSCAPE ARCHITECTURE/PLANNING PO Box 255 / WINTER HARBOR, ME 04693 207.963.9171 / contextbydesign.com	DRAWING: EC-1 SEPTEMBER 21, 2025
FREEDOM, MAINE BELFAST ROAD				

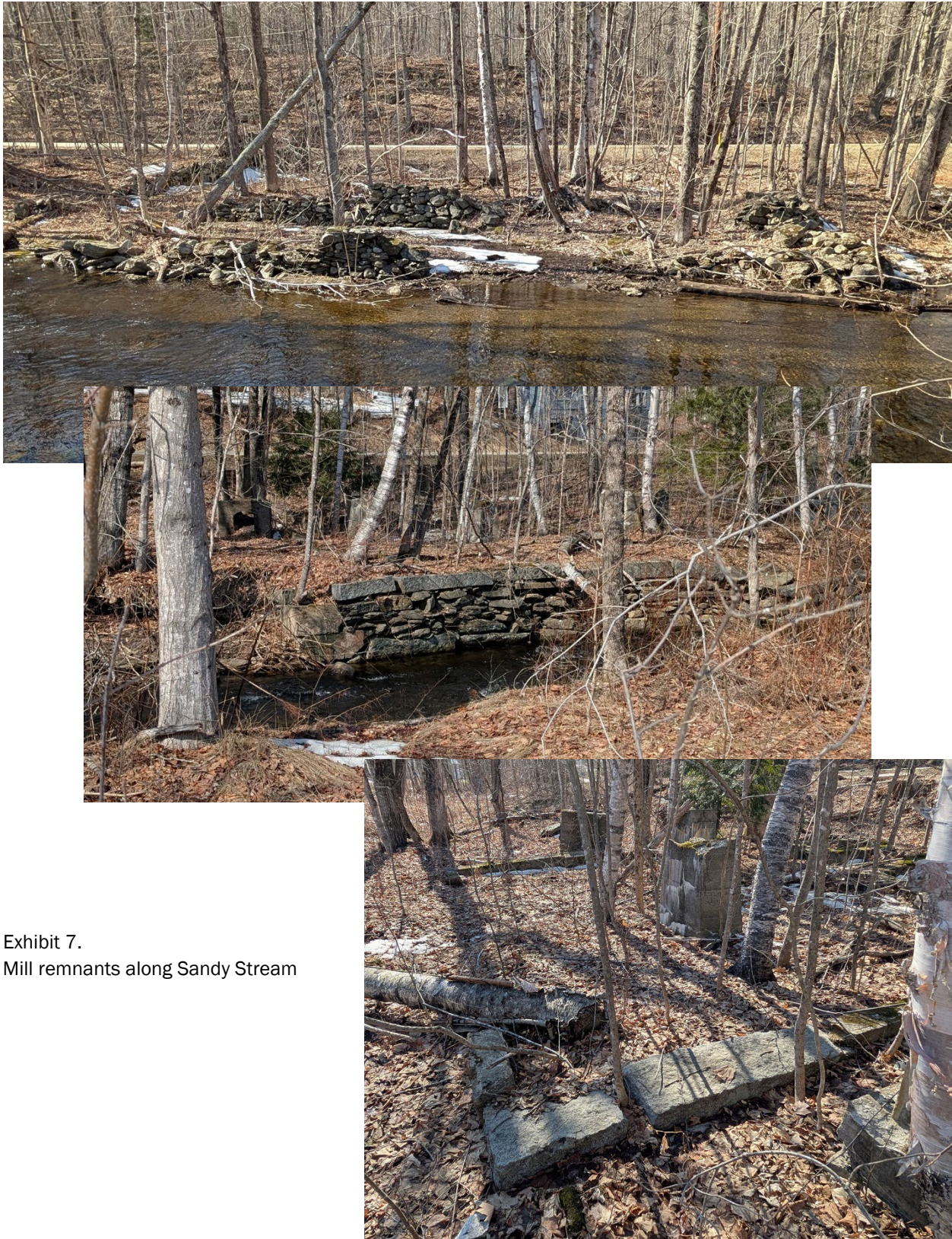


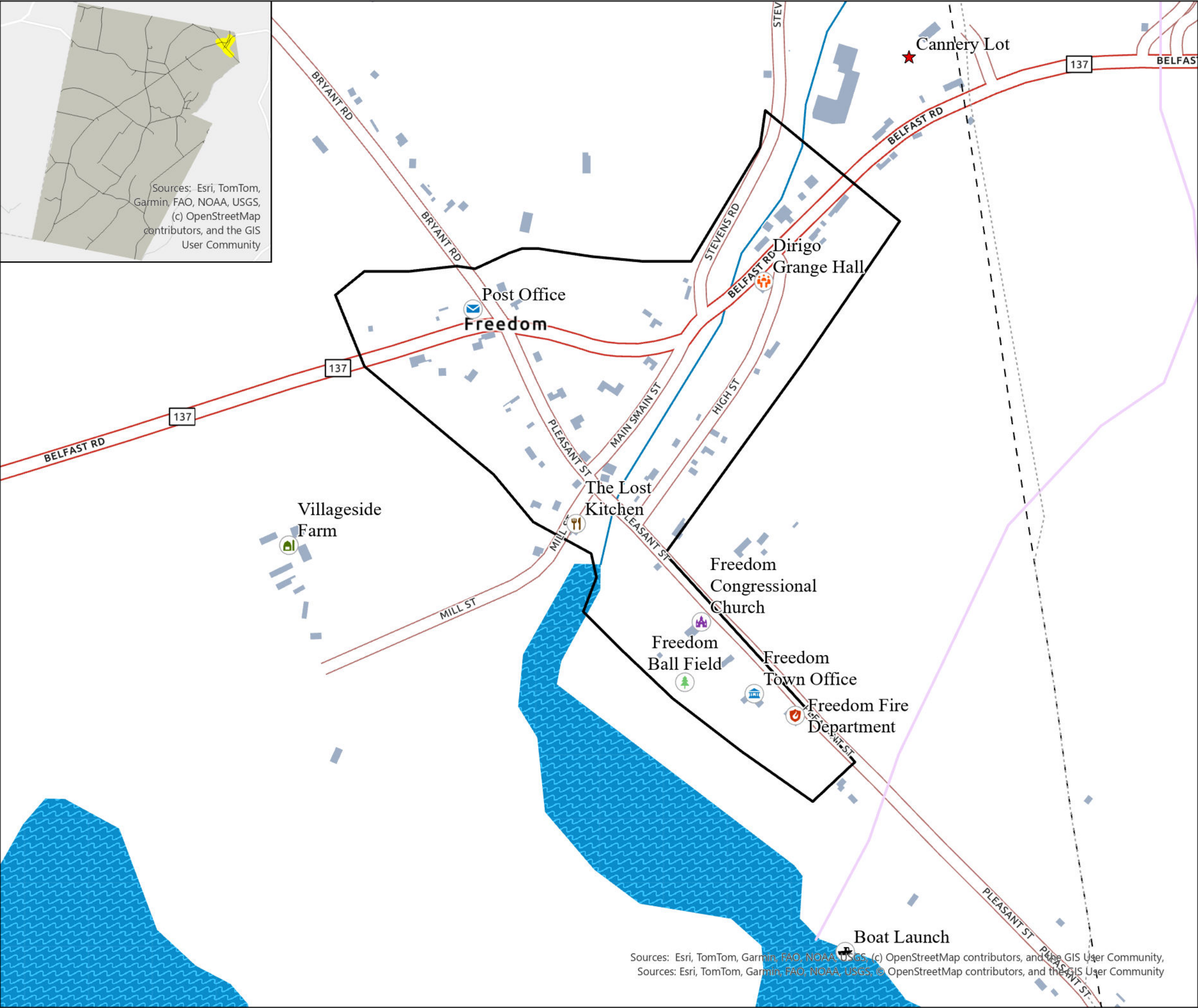
Exhibit 7.
Mill remnants along Sandy Stream



Exhibit 8. Existing snowmobile bridge and USGS Boundary marker



Exhibit 9. Remnant bridge abutment, northeast corner of property. (Photo: Haley Ward, Inc.)



Town of Freedom, Waldo County, Maine

Village District

Map Legend

- Freedom
- Snowmobile Trails
- Village District
- Freedom
- Town Boundary



Neither KVCOG nor the Town of Freedom assume any liability for the data delineated herein. All information depicted on this map is for planning purposes only and non-regulatory. Boundary data is based on digital sources and may differ from ground-based observations.
Data sources: Maine Office of GIS, Maine DOT, USGS, Open Street Map
Created: 07-2025 by TA

Synergies

The Cannery Lot is near the “village” area of Freedom. This area is what remains of the historic center of business, educational, and social activity in Freedom. Several historic buildings remain in the village with the Freedom Mill, a stone mill and dam, having been restored for adaptive reuse as the Lost Kitchen restaurant. This business holds a weekly farmers market in appropriate seasons. The Freedom Community Historical Society is leading another adaptive reuse project in the village with a vision of restoring Keen Hall for use as a library and community center. The initiative received a Congressionally Designated Spending authorization for renovation of the building and property which is expected to be completed in 2026-2027. Keen Hall is located along the most accessible route between the Cannery Lot and Freedom village.

Page | 13

Adjacent to the Cannery Lot, and between it and the village, is the Freedom General Store. While the General Store has recently changed hands and is awaiting reopening, it has traditionally provided groceries, carry out food, essential dry goods, and fuel for vehicles.

Diagonally across from the Freedom General Store is Dirigo Grange #98, also known as the Freedom Grange Hall. The Hall remains in use for events however, the second floor is not universally accessible and the site has very limited parking.

Regarding parking, there are no designated parking spaces or areas in or around the village other than a small parking lot developed band for The Lost Kitchen. Parking occurs along the village roads, which can make passage difficult for through vehicles and challenging for pedestrians on busy days. The community is rural with relatively few opportunities for employment. As such many residents travel to larger communities such as Augusta and Belfast for employment. As there are no current locations for day-long ride sharing parking the Cannery Lot could serve that need.

Just east of the village center is Mitchell Field. Mitchell Field is the town recreation area and includes a baseball diamond, basketball court, small playground, and picnic area. Along with its intended sporting use Mitchell Field hosts outdoor community events. The community events are somewhat incompatible uses for the uncovered lawn and gravel areas of the Field that could be better suited to a paved area with cover from adverse weather.

Also east of the village is the Sandy Pond Town Landing. The public access site is well used and includes some parking for vehicles with trailers and a walking trail.

In early 2025 the Maine Department of Transportation (MDOT) released its three-year improvements plan which included replacement of the SR 137 bridge across Sandy Stream. The Town and MDOT agreed to include a pedestrian sidewalk on the upstream side (village side) of the bridge and indicated that construction would take place in summer 2026. The replacement of the bridge with the addition of the sidewalk will create safe pedestrian access across the bridge along this busy highway. With the bridge sidewalk being on the



opposite side of the highway from the Cannery Lot, a crosswalk will be needed to provide safe pedestrian access between the Cannery Lot and the village area.

Beyond connections to the village, the Cannery Lot is situated within a large “bend” in the Hills to Sea Trail. The Hills to Sea Trail is a 47-mile footpath between Unity Village and Belfast. The trail intersects other trails creating an 85-mile network of trails. It is the third longest footpath network in Maine after the Appalachian Trail and the International Appalachian Trail. Providing a pedestrian bridge across the Sandy Stream would allow users to access the Trail at three points, each within a half mile of the Lot.

Page | 14

The conservation of Cannery Lot areas adds to the protected lands of the region which includes the Great Moose Wetland and Richardson Memorial Preserve (Sebasticook Regional Land Trust), and the Lt. Clair Hall Thurston, Jr. Memorial Forest (New England Forestry Foundation, Inc.).

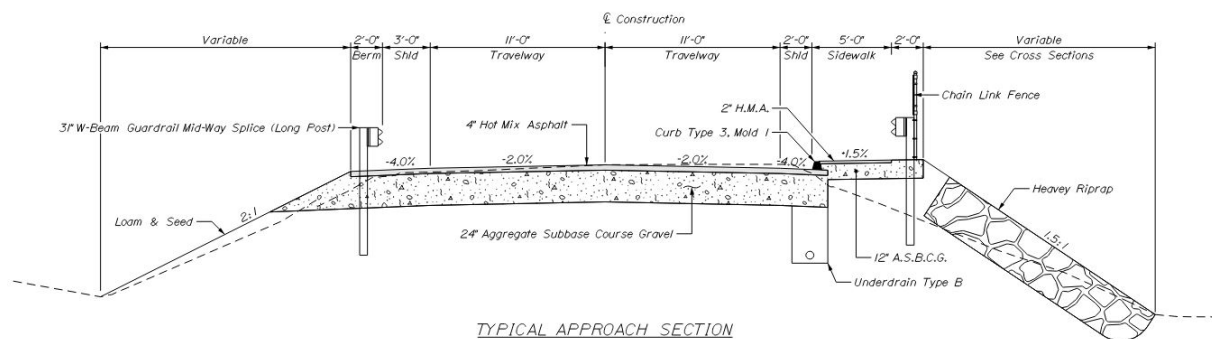


Exhibit 10. Proposed MDOT Bridge over Sandy Stream (Image: MDOT)

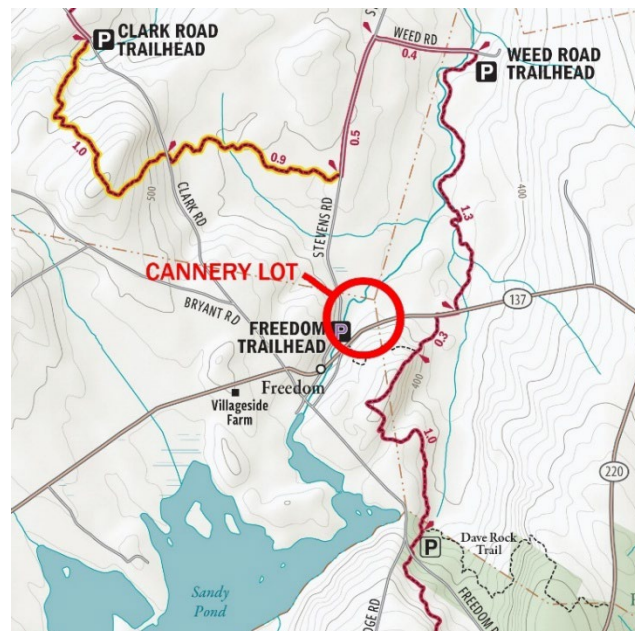


Exhibit 11. Hills to Sea Trail relative to Cannery Lot (Image: Hills to Sea Trail)



Town Vision, What Could Be

The CDAC conducted a survey of residents in 2022 to understand the community's preferences for the property. The results of the survey showed that the 60.3% of respondents thought that it was important or very important focus on and enhance the environmental benefits of the site. This attitude was reinforced at a community meeting in November 2024 that presented the findings of the existing conditions site assessment by Haley Ward, Inc.

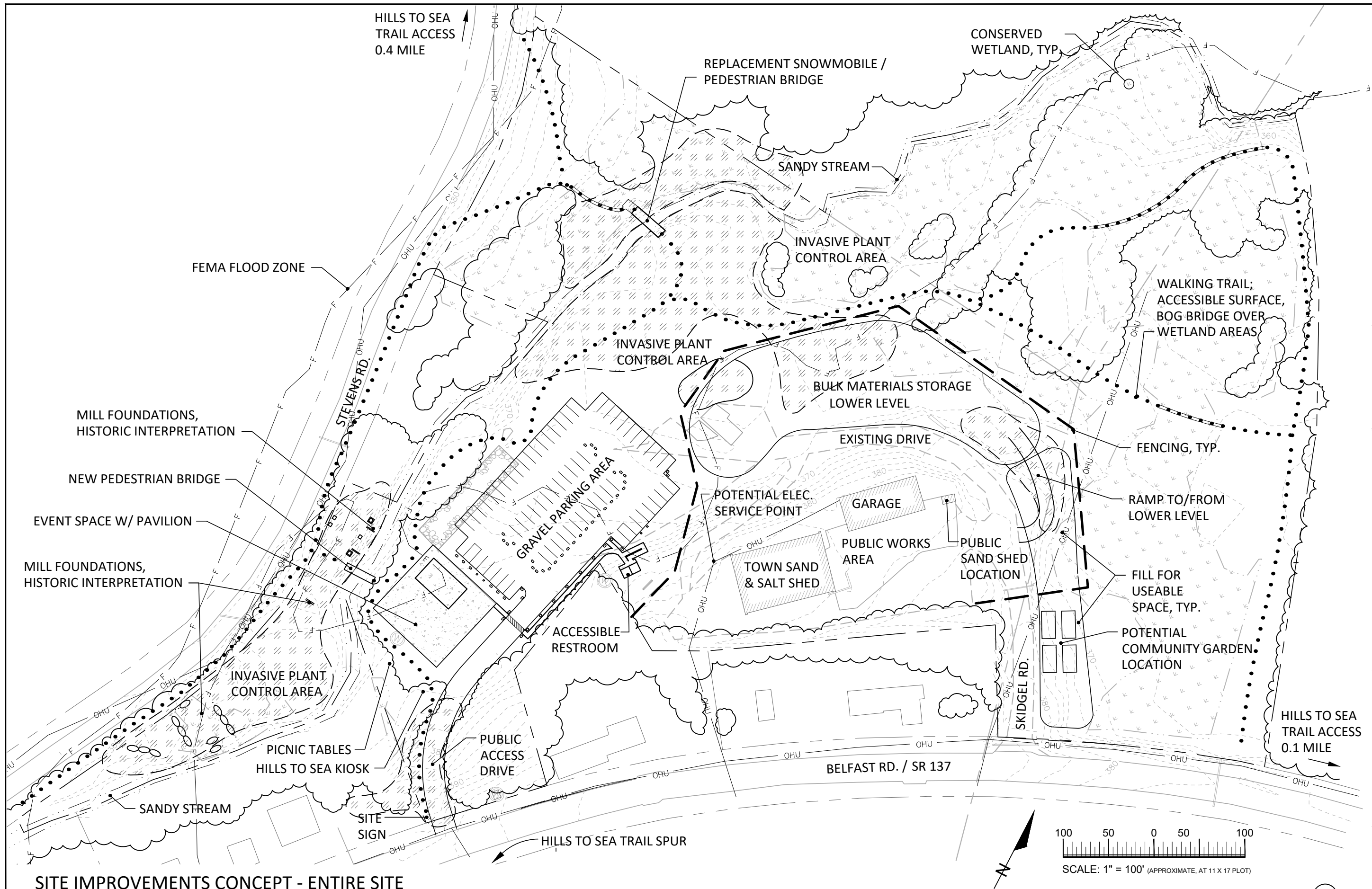
Key points from the survey and the meeting may be summarized as:

- Avoid duplication of public uses presently at Freedom Field, identify and develop the unique values of this site.
- Provide pedestrian one or more trails, allow for dog walking, and maintain use of the existing snowmobile trail.
- Restore native vegetation as best possible, remove or mitigate invasive species (Japanese Knotweed).
- Maintain the Lot's functional ability to mitigate flood water storage and flow.
- Be mindful of stewardship and maintenance costs of the open space and associated use improvements.
- Consider how the site can provide a location for ride sharing and mitigate parking needs for the town.
- Utilize existing features to recognize and interpret town history and the evolution of the village identity.
- Maintain the Public Works department need for materials and equipment storage.
- The focus of the Lot should primarily be to serve Town residents' needs and uses.
- Improve the visibility of and access to the site.
- The Lot should be a source of environmental education by the public and schools.
- Additional identified uses include picnicking, community and/or social events and gathering, public restrooms, electric vehicle charging.

The Master Plan, Proposed Elements

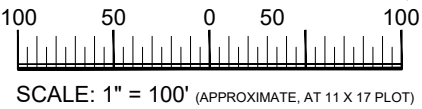
The intent of the Cannery Lot is to enhance, not duplicate or replace, the Town's public space offerings. As such, the proposed plan focuses on passive recreation, environmental education, historic interpretation, and event uses. Arguably, event use could be considered redundant with Freedom Field, but with the event space being a paved pad with a pavilion it is expected that the two Town properties will hold different types of events.

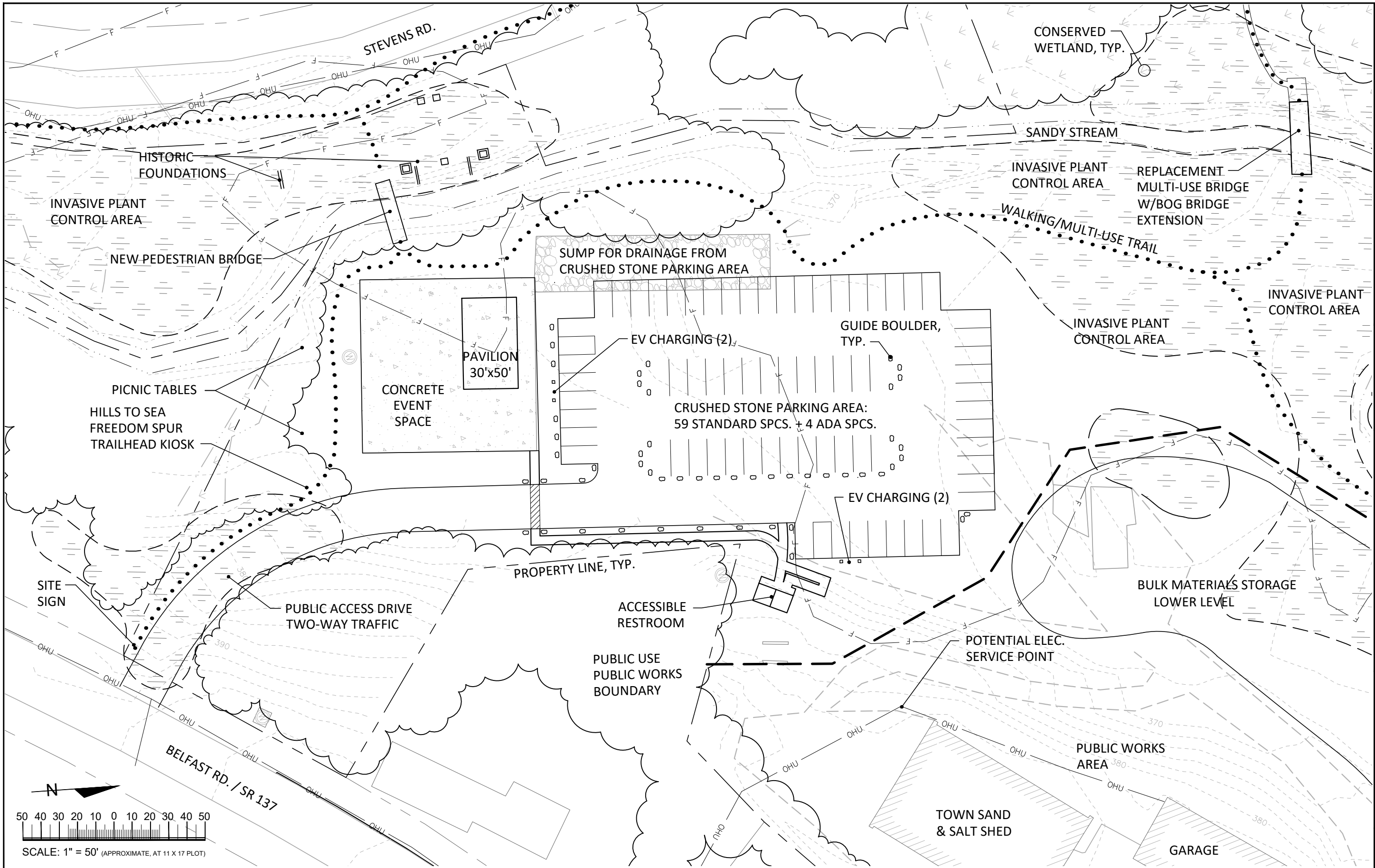




SITE IMPROVEMENTS CONCEPT - ENTIRE SITE

SCALE: 1"=100'±





SITE IMPROVEMENTS CONCEPT - PUBLIC USE AREA ENLARGEMENT

SCALE: 1"=50'

TOWN OF FREEDOM CANNERY LOT MASTER PLAN		FREEDOM, MAINE	
CONCEPT SKETCH, NOT FOR CONSTRUCTION		BELFAST ROAD	
IMPROVEMENTS CONCEPT PUBLIC USE AREA ENLARGEMENT			
context by design LANDSCAPE ARCHITECTURE/PLANNING		PO Box 255 / WINTER HARBOR, ME 04693 207.963.9171 / contextbydesign.com	
DRAWING: MP-2		SEPTEMBER 21, 2025	

Pedestrian access

MDOT's SR 137 bridge replacement with a sidewalk is an essential step in realizing the Cannery Lot's benefits to the village area. This arrangement will allow pedestrians to safely navigate the road that is mostly used by cars and trucks traveling through the area and are likely to travel at higher speeds than local traffic which would be slowing and turning. Being on opposite sides of the road, a crosswalk will be required to safely convey people from the Lot to the bridge's sidewalk.

Page | 18

Since this portion of SR 137 is a relatively short segment in the midst of a sparsely developed rural area where drivers are not watching for pedestrians, it is recommended that a crosswalk include what MDOT refers to as a Rectangular Rapid Flashing Beacon (RRFB). RRFBs are a pedestrian crossing sign combined with an intensely flashing beacon that is only activated when a pedestrian is present. The proposal is to locate the crosswalk at the High Street intersection.



Exhibit 12. Rectangular Rapid Flashing Beacon

Associated traffic calming actions to be pursued are "Village Ahead" signs for eastbound and westbound traffic and an additional crosswalk. When eastbound drivers are entering the Village area there is a somewhat blind intersection at Pleasant Street, which is also across from the Post Office. Given the frequency of local people, pedestrian and vehicular, using the Post Office it is further recommended another RRFB crosswalk is installed in this location. A secondary benefit of this crosswalk is to slow drivers as they enter a segment of

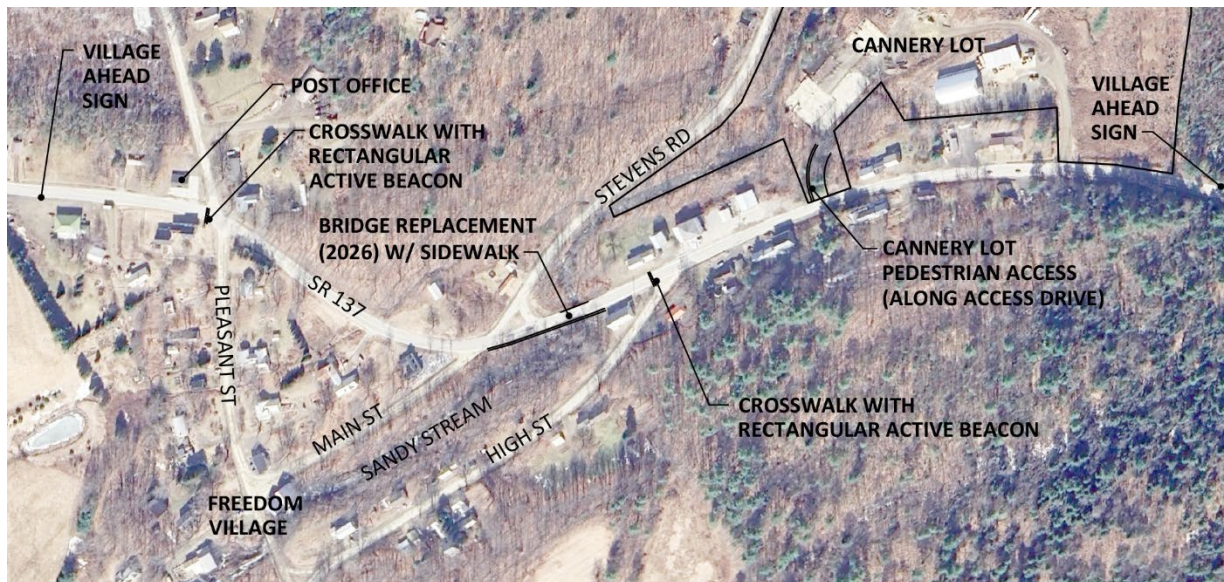


Exhibit 13. Proposed Traffic Calming scenario

the road that changes elevation through a reversing curve which 1) has a blind intersection (Stevens Rd.) at the bottom of the slope and 2) is in close proximity to the bridge (narrower than roadway due to guardrails and sidewalk), sidewalk, and afore mentioned crosswalk.

Trails

Trails, including bog bridges, shall serve pedestrians and should be built to be accessible to pedestrians with mobility impairments. Where appropriate trails shall serve both pedestrians and snowmobiles. Pedestrian trails shall be a minimum of 3' wide with an ideal width of 5'. The surface of all trails will vary based upon the conditions of their specific location. Due to both the floodplain environment potentially causing seasonal heaving and the aggressiveness of adjacent invasive species trails will require routine maintenance.

Page | 19

Bog bridges or boardwalks will be constructed where trails cross wetland areas. The existing snowmobile bridge shall be replaced with a structure suitable for snowmobiles and pedestrians and a new pedestrian bridge should be installed near the proposed pavilion site to provide both ready access to the historic mill foundation remnants and allow for trail users to have a loop experience.



Exhibit 14. Bog Bridge examples

The existing Hills To Sea Trail trailhead will be moved onto the Lot from its roadside location on the General Store property to provide a user experience that more closely aligns with that of the trail itself.

Environmental Interpretation

There are a variety of environmental interpretation opportunities on the property. Stream ecology and the interdependence of the stream and adjacent wetlands will explain flow and floodplain relationships and a discussion of the dam-controlled flow can demonstrate how humans influence the natural conditions. Other wetland functions such as storage, groundwater recharge, characteristic plants, and wildlife habitat would also be presented.

In similar manner upland area topics such as successional growth, native species, and invasive species will be discussed. Invasives control will be a topic due to the profound

invasive colony of Japanese Knotweed (*Polygonum cuspidatum*). Knotweed is highly aggressive and difficult to remove since a small fragment of the plant (root, stem or leaf) can regenerate into and colony. A detailed mitigation discussion is included in the Appendix.

Historic interpretation

There are several opportunities for historic interpretation on the site. The most obvious are the remains of the Cannery Building. Less obvious but equally as important are the remnant foundations of mills and the tannery along Stevens Rd. and the granite pylons with USGS survey markers indicating the point where Freedom, Knox and Unity meet. In addition to those examples, the Public Works garage has significance as it was once part of the Cannery Mill. Each of these examples has a story to tell and each are part of what has evolved into the Town of Freedom as it is known today.

Page | 20

Parking Area

As indicated in the community survey and public meeting, parking for Lot users, Village congestion and ride sharing is a project requirement. In response to that, the master plan provides for 64 standard parking spaces and 4 accessible spaces. All spaces, including the accessible access aisle, are designed to be 10' wide and 20' long with 24' wide drive aisles. This arrangement provides sufficient circulation space for larger vehicles typically found in rural settings. The plan also calls for a minimum of four EV charging stations.

The current intention is that parking would utilize a Green Infrastructure technique of placing a thick layer of crushed stone over native soils that would direct stormwater runoff to a sump comprised of the repurposed basement foundation. Other circulation ways will be compacted gravel, except for the sloped accessway between the road and the parking area to mitigate erosion and future repair issues.

Boulders or bollards should be used as wayfinding features for drivers given the inability to mark routes and spaces on the crushed stone or gravel surface. Snow plowing the parking area will need to be careful and deliberate to avoid displacing the stone.



Exhibit 15. Boulder parking definition

Separation of Public & Public Works uses

User safety is a priority of the master plan. This is most evident in the separation of public use from the site's use by the Freedom Public Works department. The public will access the property by way of a new two-way drive built on a previously used access route for the site. Public Works will continue to utilize the Skidgel Road access. The Public Works area will be separated from the public use area by a fence that will likely be a 6' high (minimum) chain link style.

The Public Works use area will be improved to allow better utilization between the upper and lower elevations through the installation of a new access drive between the upper and lower areas creating a loop drive and reducing the area that would be needed for a large vehicle to turn around and exit through one drive.

Restroom Structure

Some form of restroom facility will be provided to support public use of the property. The primary considerations in selecting such a facility include a self-contained holding tank, operable without a water source and being located above the floodplain. The master plan shows a footprint for a two-unit composting toilet. Having a restroom facility will require the Town's commitment to maintenance. An alternative scenario would be to utilize a purchased or leased Port-o-let which may be freestanding or housed within a shed-like structure.

Page | 21



Exhibit 16. Port-O-Let examples



Exhibit 17. Composting Vault examples

Pet Waste Station

To supplement the community's desire to provide a location for dog walking the master plan includes two pet waste stations (pole mounted sign and bag dispenser along with a waste receptacle) on the site in yet-to-be-determined locations and provide a source of seasonal water.

Page | 22

Pavillion

The event space would be located on a retained section of the existing concrete slab measuring 95' by 95'. Within this space would be a 30'x50' timber frame style pavilion. The design of the pavilion is yet to be determined but it is agreed that it would primarily be open walled except for a storage space to house frequently use items such as tables and chairs.

Signage, Lighting & Site Furnishings

A "site sign" will be erected at the public access driveway and road intersection. The style of the sign will have a traditional/historical aesthetic, which will be carried throughout the site. Located near the Hills to Sea Trailhead Kiosk will be a Site kiosk with a property map and rules for using the property.

The environmental and historical interpretive signage will identify the object or topic of discussion and include a brief paragraph regarding same. Included on the sign will be a QR code to link the user to a more detailed online description of the subject matter.



Site furnishings (benches, picnic tables, grills, recycling receptacles, trash receptacles, etc.) will be located at key points along trails, in the designated picnic area, and in proximity to the historic mill remnants.

The extent of site lighting remains under discussion. It is envisioned that electricity will be provided to the pavilion and the restroom structure and that the pavilion would be lighted.



Exhibit 18. Picnic Table and Grill examples

Maintenance

With an understanding that the Town of Freedom is a small community with modest available funds care has been taken to approach the parcel's improvements Master Plan with a "suitable, not extravagant" approach. A gravel parking area with boulder edges, pathways in upland areas wherever possible, utilizing the former concrete pad for the gathering area, etc. reduce the need for continual maintenance to a schedule that could be considered as "occasional."



Improvements Phasing

It should be noted that the proposed improvements have been identified in generic terms to allow the Town to decide the actual item they wish to have at the time of implementing a phase of the plan rather than dictating that now.

Page | 24

An Improvements Phasing Scenario

The master plan presents possibilities for the town to consider rather than a mandate. While there is consensus on plan elements, the CDAC acknowledges that future unanticipated opportunities or needs may arise that would modify or change the current plan. The following is a simplified phasing scenario, note that each phase could be broken into sub-phases to reflect available funding or personnel/equipment. Also note that invasive plant control should begin as soon as possible and will run concurrent to all phases.

Phase 1: Access

While access to the site and parking will be required to use the site, in the interest of the public's safety the first step should be the removal of concrete pad areas not intended for future use and the placement of the gravel parking area. This effort would be accessed from the public works area to minimize hazards associated with curious non-authorized visitors. Concurrent to or closely following that task is establishing the limits and new circulation pattern of the lower Public Works area. Once the raking area is substantially complete for use the main site access drive would be installed.

Phase 2: Trails and Separation

With the access drive and parking area in place the work focus could move establishing portions of (or all of) the trail network. Prior to encouraging public use of the site, the Public/Public Works fencing should be installed as well as the roadside site identification sign and rules kiosk should be installed. In conjunction with installing the site rules kiosk the Hills to Sea kiosk could be relocated. Also included in this phase would be replacement of the existing snowmobile bridge and if possible, installation of the new pedestrian bridge.

Phase 3: Amenities and Site Furnishings

This phase includes interpretive signage, picnic tables, grills, lighting (if any) and the restroom offering. Language for interpretive signage will require forethought and lead time for production. There may also be lead time considerations for the restroom facility depending upon which type is selected. This phase may be iterative beginning with some signage and leased port-o-lets while incrementally moving to the point of being fully signed and installing a composting vault restroom structure, for example.

Phase “?”: The Pavilion

The pavilion could be constructed at several points through the development process. Logical points include as/after the parking area is developed, following the trail installation or as a standalone final capstone project after the other items are being used and appreciated. This, as with all the improvements, will be based upon funding availability and town support.



Appendix



How to Get Rid of Japanese Knotweed

By David Beaulieu. Updated on 07/23/24. Reviewed by Barbara Gillette

Japanese knotweed (*Polygonum cuspidatum*)—sometimes known as Japanese bamboo or more ruefully Godzilla weed—is one of the world's most invasive plants. Japanese knotweed removal is challenging because of its tenacious nature. This shrublike, semi-woody perennial has bamboo-like stems that reach up to 10 feet in height. It grows through solid masonry foundations and its roots penetrate up to 6 feet deep and spread as much as 65 feet.

There are several approaches to treating Japanese knotweed. While you can try natural methods such as smothering, cutting, and digging of smaller and younger plants, you will likely need an herbicide for Japanese knotweed, especially if the plant has become established. Plus, it often requires multiple rounds of treatments to kill Japanese knotweed permanently.

Here is how to get rid of Japanese knotweed from your garden.

Identifying Japanese Knotweed

Japanese knotweed is a member of the buckwheat family. It prefers sunny, moist areas, and grows in a wide range of habitats, including riverbanks, roadsides, ditches, lawns, gardens, and wastelands.

These traits will help you identify Japanese knotweed:

- **Growth habit and size.** The plant is a herbaceous perennial with a bushy growth habit that forms dense thickets. It grows 3 to 10 feet tall. The plant dies back to the ground in the winter.
- **Stems.** In the spring, purplish and green young stems regrow from its base. The mature stems are green and hollow, resembling bamboo. The surface of the stems is smooth but the joints where the leaves are attached to the stem are swollen.
- **Leaves.** The leaves are a medium green color, oval, and pointed at the tip. They are about 4 to 6 inches long and 3 to 4 inches wide. The leaf arrangement on the stems is alternate.
- **Flowers.** In late summer, white-green flowers grow in clusters near the end of the stems.

Japanese Knotweed Invasiveness

The plant was introduced from East Asia to North America in the late 1800s as a landscaping ornamental. It soon escaped cultivation and today has a wide geographical distribution in more than 42 U.S. states where it has the status of an invasive species.

The ecological impact of Japanese knotweed is severe everywhere. It has no natural pests or predators that keep it in check. It chokes out native vegetation and reduces biodiversity, altering natural ecosystems and negatively impacting wildlife habitats.

While it is not mandatory to report Japanese knotweed that is growing on your property, homeowners are encouraged to do their best to control its spread.

When to Remove Japanese Knotweed

The proper timing for removing Japanese knotweed depends on which strategy you employ. Severe infestations will require repeated attacks throughout the year.

- **Smothering:** Spring
- **Cutting:** Throughout the summer
- **Digging:** Anytime, especially just before using the smothering technique
- **Herbicide:** Summer or early fall

Before Getting Started

Using multiple eradication methods right from the start will increase your chances of successfully removing Japanese knotweed from your yard. For instance, you might keep a tarp over the bulk of the problem area during the warm months while cutting or using herbicide along the perimeter as necessary. Then, in late autumn and/or early spring, dig up as many of the rhizomes as you can. Place the tarps back on for winter, so they are already set for the next growing season.

Killing Japanese knotweed permanently might require several seasons. The key is to stick with your project. This weed can be completely eradicated with a dedicated effort on your part.

What You'll Need

Equipment / Tools: Pruners, Rake, shovel, Tarps or black sheet plastic, Rocks or other weights, Garden sprayer, Rubber gloves and protective clothing

Materials: Wood chips or mulch, Plastic garbage bags, Herbicide

Instructions

How to Smother Japanese Knotweed With Tarps

Covering Japanese knotweed with tarps suppresses the plant's growth and ultimately kills it. This method is best to do in the spring to catch the plant at the start of its growing season. Be aware that while this gets rid of Japanese knotweed naturally and with relatively low effort, it may take several years.

1. Prepare the Area

Prepare the area by using pruners to cut the tall stems down to the ground and removing any debris. Bag all the debris to prevent it from taking root.

Then, cover the entire area with a thick layer of cushiony material, such as mulch, leaves, or grass clippings. The stems have sharp edges that easily puncture plastic sheeting or tarps.

2. Cover the Area

Cover the plant area completely with thick-grade black sheet plastic or heavy non-canvas tarps. If you must overlap pieces, make sure to overlap them by at least 2 feet. The plastic should extend 5 to 10 feet outside the boundary area of the knotweed growth.

Use rocks or other heavy materials to weigh down the tarps, so they don't move or blow away. As this covering will need to remain in place for a long time, disguise it with wood chips or mulch.

3. Trample Any New Shoots

As new shoots emerge over time, they might push up the tarps. To crush them, trample over them walking over the tarps. What growth does occur under the tarps will not amount to much because it lacks sunlight.

4. Remove the Covering and Replant

After roughly five years, the smothered knotweed and roots should be completely dead. That's when you can safely remove the covering and replant the area with a groundcover, shrubs, or other plants.

How to Remove Japanese Knotweed by Cutting

Cutting back Japanese knotweed suppresses it though usually it does not fully eradicate it. Therefore this method must be used in conjunction with other methods to get rid of Japanese knotweed completely.

1. Cut the Plant Down

Use pruners to cut the plant down to the ground throughout the growing season, so it's not able to photosynthesize efficiently. Because the cuttings quickly sprout new roots and take hold in the soil, make sure you gather them all up and bag them for disposal.

2. Monitor and Repeat

Inspect the area weekly, and clip off any new shoots that appear. This is an essential step, as cutting tends to stimulate Japanese knotweed into new growth. So, you should not cut Japanese knotweed unless you stay on top of the new shoots, or you might end up with a more serious infestation than you started with.

After initially cutting the stems, use a lawnmower set at a low height to trim off new growth as it appears. It will likely require weekly cutting over many months to completely eradicate Japanese knotweed.

How to Remove Japanese Knotweed by Digging Up the Roots

Another way to get rid of Japanese knotweed naturally is to dig up the ground where the weed shoots come up most vigorously. This is typically used concurrently with other methods.

1. Find the Rhizome Clumps

Locate and dig up the plant's rhizome clumps (underground stems that send up shoots). In mature plants, these rhizome clumps are often very woody and easily reach widths of a foot or more.

2. Bag Rhizomes for Disposal

Try to get as much of the rhizomes as possible, and bag them for disposal. Even the tiniest piece left behind is likely to sprout a new plant.

How to Remove Japanese Knotweed Using Herbicide

Some gardeners resort to applying weed killer to kill Japanese knotweed permanently. The best herbicide for Japanese knotweed is one that contains glyphosate. Follow label instructions carefully, including all safety warnings. Late summer is the best time for using a herbicide on Japanese knotweed.

1. Select a Weed Killer

Select a weed killer appropriate for Japanese knotweed, and read its label instructions and warnings. You will likely want to wear rubber gloves and protective clothing when using the herbicide to avoid skin contact.

2. Prune the Knotweed

Cut the Japanese knotweed to roughly 3 to 4 inches above the ground. This will stimulate tender new growth that will readily absorb the herbicide.

3. Apply the Weed Killer

Once new growth has sprouted from the cut stems (within one to two weeks), carefully saturate the growth with herbicide. Glyphosate works when it is absorbed by foliage to inhibit plant enzymes necessary for growth. Foliage that turns yellow and dies indicates that the plant is dying—roots and all.

4. Repeat as Needed

Watch the area carefully over the next few months, and apply additional weed killer to any new growth that appears. This herbicide method generally will kill Japanese knotweed permanently over time.

Other Methods of Japanese Knotweed Removal

Some people have tried killing Japanese knotweed with other methods, including diesel, bleach, lime, and salt. However, these methods are not effective. Diesel only damages the foliage⁵ but the plant will regrow just as healthy as ever, and you will have polluted your yard in the process.

You will have the same issue when attempting to kill Japanese knotweed with bleach or lime. Moreover, Japanese knotweed has a high tolerance for salt, so that won't be able to get rid of it either.

When to Call a Professional

If your attempts to get rid of Japanese knotweed have been unsuccessful, it is likely time to call in a professional. They often have more substantial tools and products that get the job done. Japanese knotweed removal costs vary widely, depending on how widespread and stubborn your plants are. A lawn service should be able to give you a quote for your specific area. The good news is reputable lawn services often have a money-back guarantee that they can resolve the problem.

Frequently Asked Questions

- **What is the most budget-friendly way to remove Japanese knotweed?**

Glyphosate is recommended as the herbicide of choice for controlling Japanese knotweed. When assessing its cost, keep in mind that more budget-friendly alternatives are not as effective and likely to require repeated treatments, which will end up costing just as much as glyphosate.

- **How effective is digging up Japanese knotweed compared to other methods?**

Digging up the root is only effective if the plants are very small and you can remove every bit of it. otherwise, it will regrow. For large plants with an extensive root system, digging up the roots alone is not an effective removal method.

- **What is the best natural remedy for Japanese knotweed?**

There is no good natural remedy for Japanese knotweed. Spraying herbicidal vinegar (a stronger form of household vinegar) on the leaves does not kill the plant, which is likely to recover.