

FINAL REPORT FOR:

VERMONT YANKEE SITE RESTORATION AND REDEVELOPMENT PLANNING

SEPTEMBER 7, 2021

PREPARED FOR:

VERNON PLANNING & ECONOMIC DEVELOPMENT COMMISSION

SUBMITTED BY:



STEVENS & ASSOCIATES, P.C.

95 MAIN STREET, PO BOX 1586
BRATTLEBORO, VT 05302



TABLE OF CONTENTS

Project Summary	1
Project Background.....	3
Site Visit.....	5
Site Understanding	6
Site Reuse Potential	8
Early Concepts	9
Public Meeting	10
Sketch Plan.....	12
Preferred Plan.....	14
Next Steps.....	16

Appendices:

Appendix A: Base Maps

Appendix B: ANR Mapping

Appendix C: Early Concepts

Appendix D: Concept Options

Appendix E: Draft Final Plans

Appendix F: Final Plans

PROJECT SUMMARY

The decommissioning of the Vermont Yankee Nuclear Power Plant along with the almost complete removal of buildings and other built elements on the site presents a unique opportunity for the Town of Vernon, Vermont, and the entire region.

The size, location and physical features of the site suggest the potential for a wide range of uses. These include:

- 125-acre site,
- Mostly flat, well drained land,
- along the banks of the Connecticut River,
- along an active rail line,
- directly connected to the New England power grid,
- minutes from Interstate 91 and
- the site is directly adjacent to Massachusetts and New Hampshire.

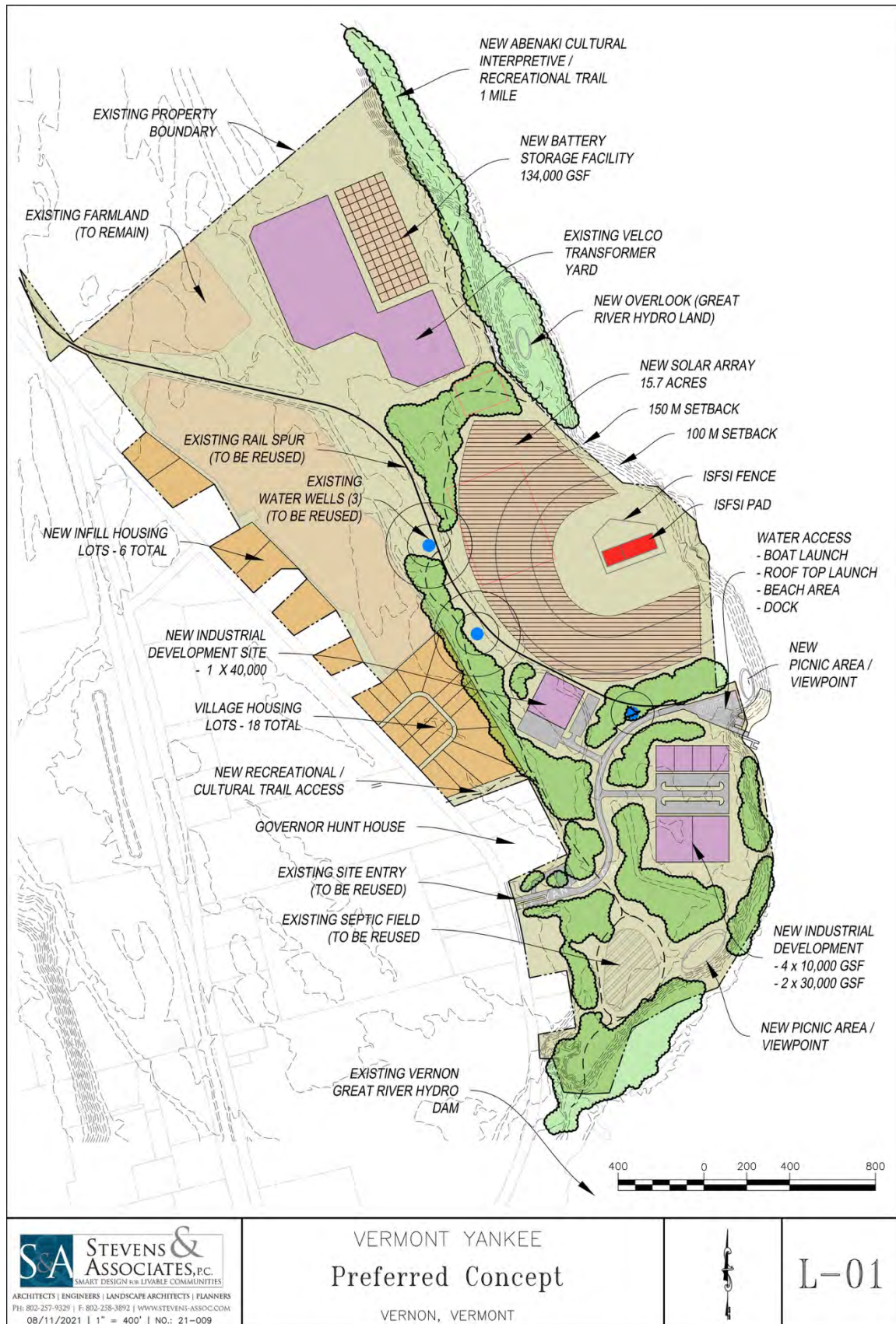
The site's natural beauty, historic and cultural importance, high quality agricultural soils, and access to recreational resources also suggest a potential reuse that more tied to the land and its history.

This study, The Vermont Yankee Site Restoration and Redevelopment Planning Project, explored the site and a number of options for how the site could be reused or redeveloped in ways that are beneficial to the adjacent neighbors, the Town, and the Region.

Input from the community was also very important to the project. A public meeting was held in early June 2021 to discuss the overall project and to receive input on the uses that could potentially land on the site after decommissioning. Also, discussion and input on site evaluation and mapping, reuse ideas and concept sketches and the final plan was held during formal Planning Commission meetings allowing the public to participate in the overall process and provide feedback.

The result of the study is a thoughtful and feasible plan for the future of the site that addresses a wide range of community needs including: creating jobs and increased tax base, through the development of housing, industrial development, energy related infrastructure and a range of recreational opportunities.

This project was produced in part by a Municipal Planning Grant from the Agency of Commerce and Community Development.



PROJECT BACKGROUND

The Vermont Yankee Nuclear Power Plant was first conceived in the 1960's as part of a nationwide effort to produce clean and inexpensive energy for the United States. Following construction of the plant in the late 1960's and early 1970's the plant operated from 1972 through 2014.

During construction and operation, the Towns of Vernon's economy revolved around the plant, providing a wealth of construction jobs, high skilled maintenance jobs, and clerical positions as well as high paying engineering and plant operations positions. Many other jobs were generated from the influx of people including schoolteachers, construction, and service-related jobs. Vermont Yankee was the by far the largest taxpayer and supported the community in many other ways.

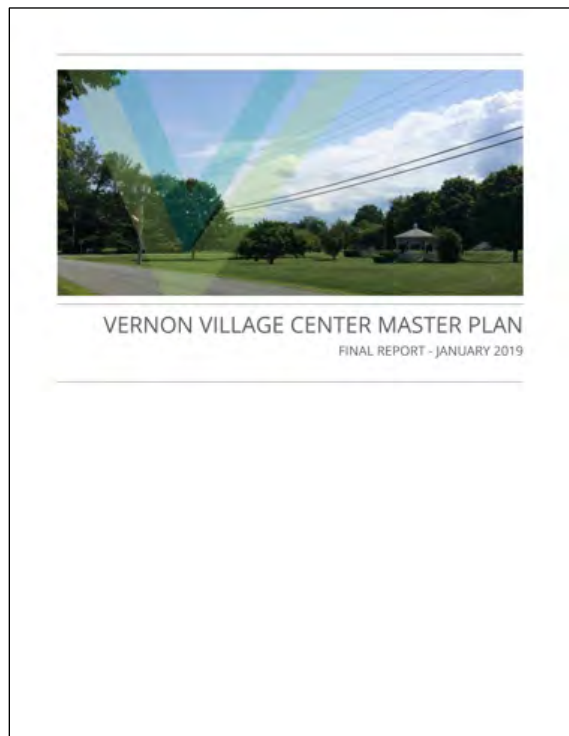
In 2018 NorthStar acquired the property as part of the decommissioning process. This process involves removal of almost all buildings and other built elements related to the construction and operations of the Vermont Yankee Nuclear Power Plant from the site. The decommissioning process is well underway at the time of this report (Summer 2021) and is expected to be completed in 2026.

One significant element that is not being removed from the site is the spent fuel that was used to power the nuclear reactor. This fuel is being placed in specially made casks and will remain on the site for the foreseeable future in an Independent Spent Fuel Storage Installation. This ISFSI facility does limit the reuse of a small portion of the site, however, most of the site will be available for reuse.

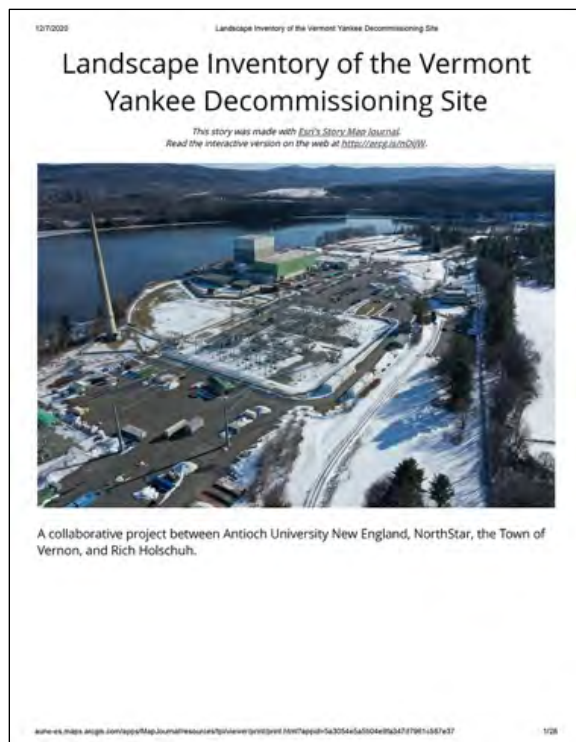
When decommissioning is complete (in or around 2026) the site will be released for other uses, with the exception of the land area related to the ISFSI. The operation of the site as a nuclear power plant was highly controlled with little contamination of the site from typical brownfields related hazardous materials (such as PCBs) and all radiologically contaminated materials will be removed from the site (with the exception of the ISFSI). Therefore, it is expected that the site will be released for unrestricted use upon completion of the decommissioning process.

Prior to this study, NorthStar partnered with Antioch University New England, the Town of Vernon, and the Elnu Abenaki Tribe to develop a landscape inventory of the property. This included developing a series of maps and text related to the history of the site, the land itself, built infrastructure and other aspects that could impact site reuse.

It should also be noted that a recent study developed information about the creation of a Village Center on lands near the Vermont Yankee and that study has played an important role in the development of options for the site.



VERNON VILLAGE CENTER MASTER PLAN REPORT - SE Group



ANTIOCH UNIVERSITY REPORT - Antioch University New England

SITE VISIT

On May 5, 2021, the project started in earnest with a site visit to the Vermont Yankee Nuclear Power Plant. Corey Daniels from NorthStar met with the Project Team and provided a wealth of information related to the site, the history of the nuclear power plant and the current state of the decommissioning effort.

The team was also allowed to walk the site and view and photograph much of the 125 acres. This was an important opportunity to understand first-hand the large scale of the site as well as the multiple sub areas which could each be reused in a variety of ways or be included in a larger overall effort.



ABOVE: SITE VISIT CONDUCTED MAY 5, 2021

SITE UNDERSTANDING

Early in the process Stevens & Associates developed a series of maps to better understand the site and context. This included a base map that depicted property boundaries and topography and included a recent high-resolution aerial photography. A second, similar map used an aerial image from the early 1960s—prior to the start of the Vermont Yankee project—to depict the site in its previous, less developed state.

A second set of maps looked at items on the site that would restrict use in some way or items that were strong assets of the site that might help direct the thinking of new ideas for the future use of the site.

In addition to these maps, mapping from the Vermont Agency of Natural Resources was downloaded to better understand any of the typical land development restrictions that are considered on these types of projects. This included mapping of wetlands, floodplains; rare, threatened, and endangered species; and other considerations that might impact development.

Future Site Use Restrictions

1. Independent Spent Fuel Storage Installation (ISFSI)
2. New VELCO Switch / Transformer
3. Rail Spur
4. Old VELCO Switch / Transformer
5. High-Capacity Power Transmission
6. Farmland in current use
7. Farmland in current use
8. Governor Hunt House
9. Septic Field
10. Adjacent land owned by Great River Hydro
11. Wells
12. Cultural Resources / Wetland areas
13. River front

Valued Items

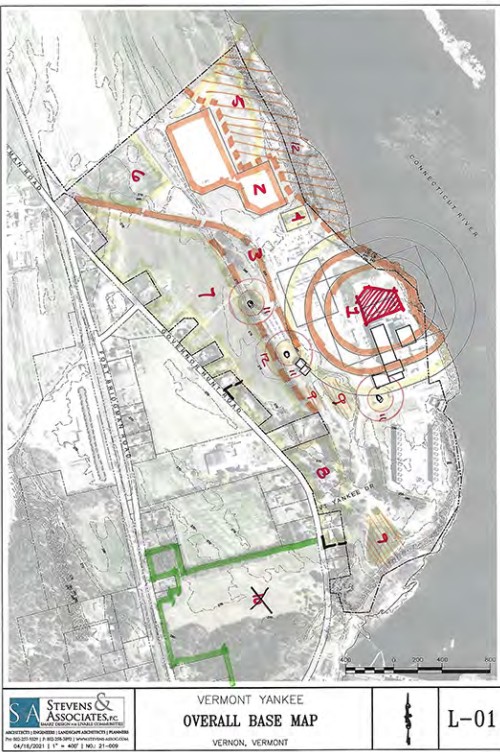
1. River Front
2. Connection to Grid
3. Wells
4. Septic Fields
5. Governor Hunt House
6. Rail freight
7. Rail Passenger
8. Farmland
9. Wetlands
10. Abenaki cultural resources
11. Views
12. Connection to Village Area



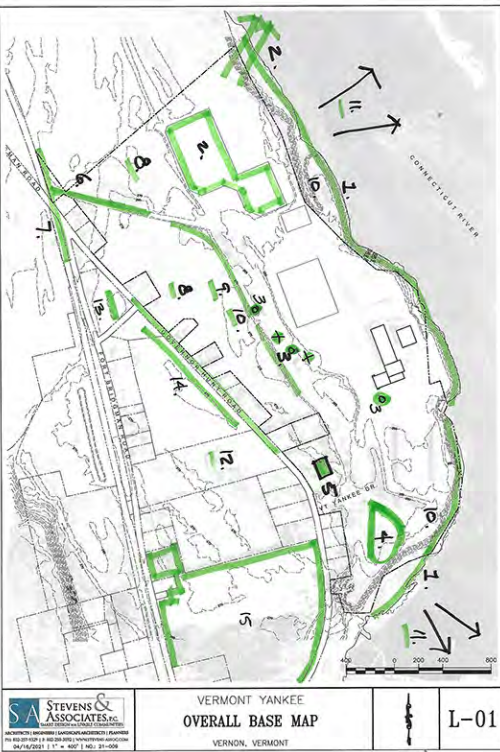
AERIAL OF EXISTING SITE: OVERALL BASE MAP



HISTORICAL AERIAL: HISTORIC BASE MAP



SITE RESTRICTIONS



VALUED ASPECTS

SITE REUSE POTENTIAL – REDEVELOPMENT, RECREATION, REGENERATE

This portion of the study looked to more deeply understand and assess the potential of the site for reuse. Primarily this included looking at the existing infrastructure on the site to understand its capacity and value. It also included investigation into former and existing permits for the site and further investigation of site constraints depicted in Vermont Agency of Natural Resources mapping.

It is important to note that the decommissioning effort includes removal of almost all the Vermont Yankee related items currently on the site. This includes all buildings, water intakes and outfalls and other visible items.

Also important to note is that the rail spur is expected to remain in place for the foreseeable future to allow for the removal of the spent fuel storage casks at some time in the future.

Beyond these, however, there are a number of wells, septic fields, storm water piping systems, including:

- Existing on-site water supply
 - 3 on-site drilled wells
 - Previously permitted for 13,826 gallons per day
- Existing on-site sewage disposal
 - Multiple small system
 - Larger system towards southern portion of site
 - Previously permitted for up to 14,341 gallons per day
- Stormwater discharge
 - 3 (or possibly 4) known locations to the Connecticut River

Other existing infrastructure resources:

- Access to power grid
- Access to fiber optic
- Potential access to water from river

EARLY CONCEPTS

A series of very early ideas were sketched and discussed. Many of these ideas revolved around the available connection to the power grid and the availability of flat land areas on the site. Other ideas included both passive and active recreation; a variety of housing configurations and options.

Ideas related to the history of the site were discussed. This included the importance of the site to the Elnu Abenaki as well as the concepts related to the connection of the site (and the adjacent area) to energy production and transmission.

These included:

1. Battery Storage Farm
2. Solar Farm
3. Energy related Interpretive Center / Museum
4. Site Regeneration
5. River Access
6. Sports Fields
7. Sculpture Garden
8. Elnu Abenaki Heritage Center
9. Gas Power Generation
10. Housing
11. Mixed-use village
12. Train Stop
13. Village
14. Corporate Headquarters
15. Industrial Heritage Park (similar to Gas Works Park)

PUBLIC MEETING

On June 2, 2021 a public meeting was held to inform the public about the project and to discuss priorities. Due to COVID 19 the meeting was held outdoors with a reasonable level of social distancing.

Base information was discussed including the mapping related to site restrictions and site assets and the finding related to the capacity of existing infrastructure on the site.

Two items that were clearly expressed as important were using the site to create good paying jobs and to increase the property tax base for the Town's grand list. There was also some discussion about the demand for housing and that the creation of a small amount of housing on the site could be beneficial to the community.

In addition, there were two boards that contained ideas for the reuse of the site – one in words and one using images to convey ideas. People had the opportunity to vote using tape dots to help express their preferences. The tally from that voting included:

Site Uses Strongly Supported

- Industrial uses (16)
- Alternative energy (14)
- Farms (14)
- River Access (12)


























Site Uses Moderately Supported


- Conservation (5)
- Recreation (3)
- Village (3)
- Abenaki Culture / Heritage (3)
- Community Space (3)
- Land Restoration (3)

Other Ideas

- Science / Research Center
- Indigenous Persons Museum
- Eco-Museum
- Power Related Museum
- Power Related Education Center

**VERMONT YANKEE:
WHAT WOULD YOU LIKE IT TO BECOME?**

 HOMES	 SOLAR	 RAIL	 JOBS	 BATTERY STORAGE
 RECREATION	 INDUSTRIAL	 HISTORY	 VILLAGE	 SCULPTURE
 SPECIALTY INDUSTRIAL	 CONSERVATION	 POWER RELATED	 CULTURAL EXPERIENCE	 LIGHT INDUSTRIAL
 COMMUNITY SPACES	 YOUR IDEA	 WIND	 LAND RESTORATION	 VIEWS
 RIVER ACCESS	 RESIDENTIAL	 FARMS	 CORPORATE HEADQUARTERS	 MIXED-USE VILLAGE

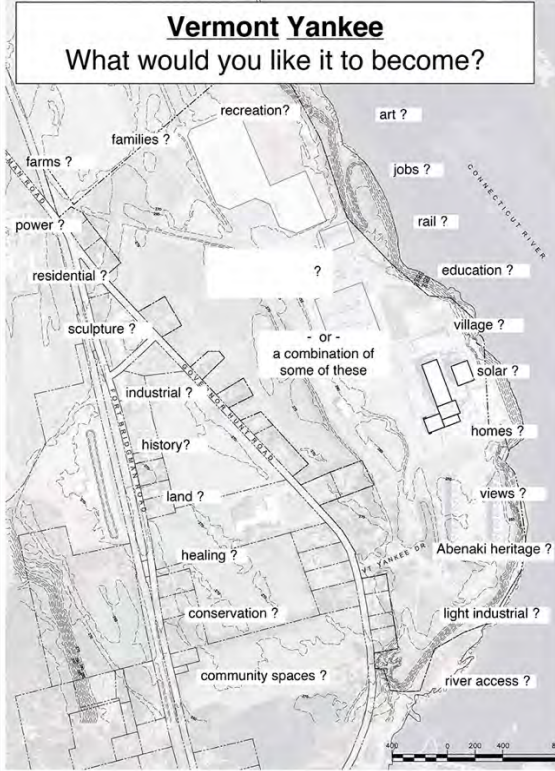



VERMONT YANKEE
CHARACTER OPTIONS
VERNON, VERMONT

APRIL 16, 2021 | NO. 21-009

CHARACTER BOARD

Vermont Yankee
What would you like it to become?





VERMONT YANKEE
SITE IDEAS
VERNON, VERMONT

APRIL 16, 2021 | NO. 21-009

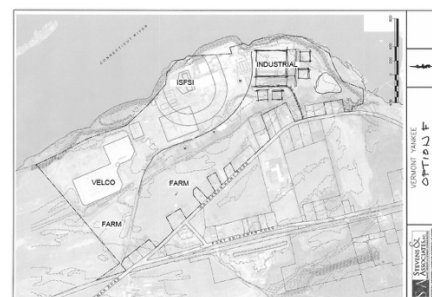
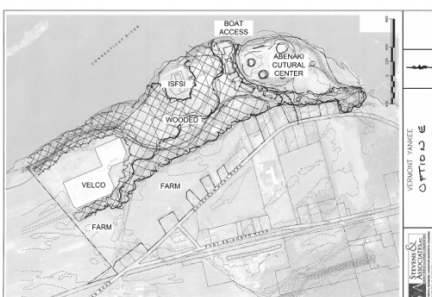
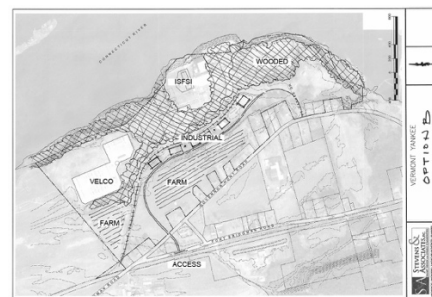
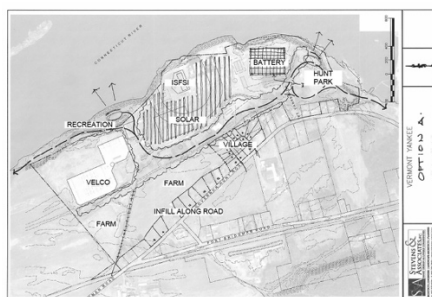
PUBLIC MEETING QUESTIONS

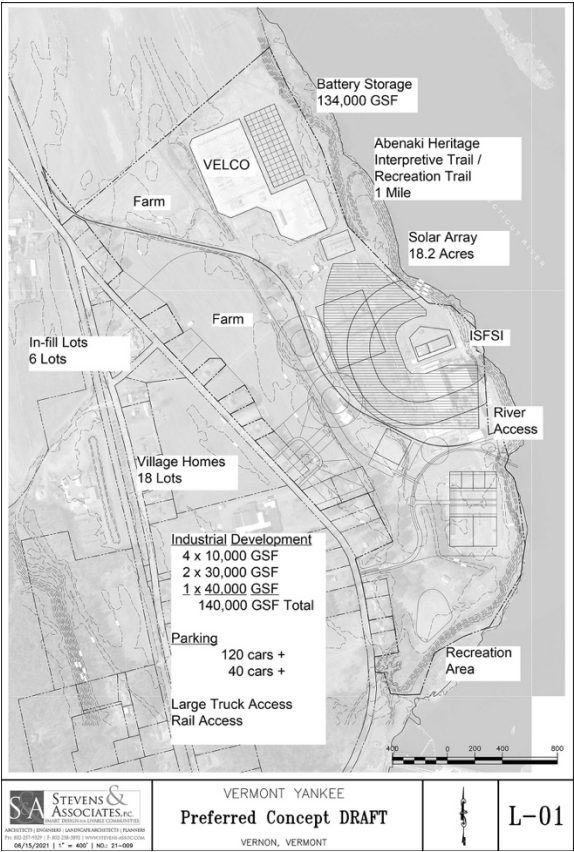
SKETCH PLAN

Subsequent to this, six ideas were moved forward for additional investigation and consideration. Each of these included a mix of uses but each also had a focus. These included:

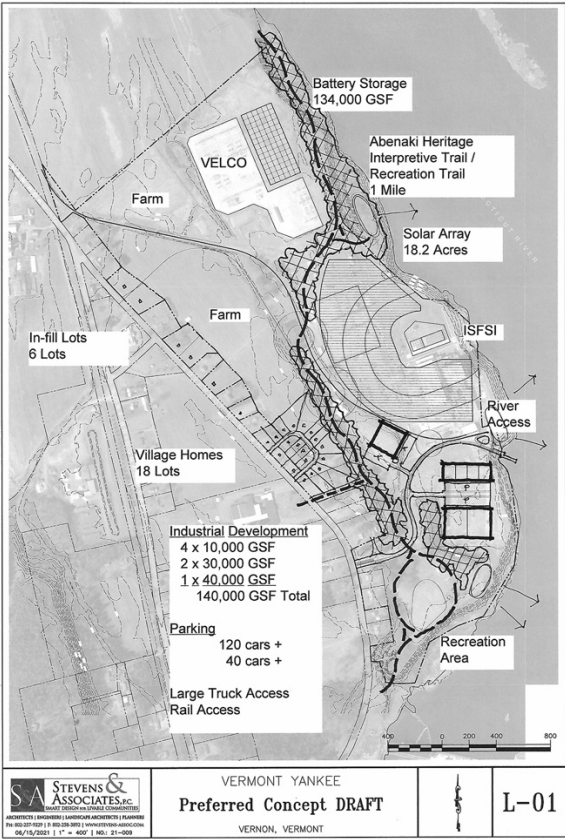
- A. Solar, Battery Farm, Residential, Recreation and Farming
- B. Industrial, Site Regeneration and Farming
- C. Industrial Development, Power Related Museum and Farming
- D. Solar Array, Battery Farm, Residential and Farming
- E. Abenaki Cultural Center and Heritage Trail, Recreation Access and Farming
- F. Industrial Development and Farming

These ideas were presented and discussed with the Planning Commission and a final draft plan was produced. This plan took many of the idea from Option A (above) but included the Battery Farm in Option D, the Abenaki Cultural Heritage Trail and the Recreational Access shown in Option E and the Industrial Development shown in Option F.





VERMONT YANKEE REUSE PREFERRED PLAN DRAFT PRINT



VERMONT YANKEE REUSE PREFERRED PLAN DRAFT SKETCH

PREFERRED PLAN

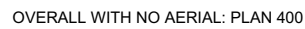
The preferred plan was accepted at a meeting of the Planning Commission held on August 11, 2021. It is a refined version of the earlier Final Draft Plan, keeping the essence of that plan while adding a bit of detail to some areas. Particularly the boat launch area.

This plan creates a strong, viable plan for the future of the site that includes a mix of uses and that take advantage of the existing infrastructure on the site. This includes:

- Continued farming on much of the land currently used for farming
- Reuse of existing on-site wells and septic fields
- Reuse of the existing rail spur
- Industrial Development (140,000 Square Feet)
- Residential Development (24 Lots)
- Solar Array (15.7 Acres)
- Battery Storage Facility (134,000 Square Feet)
- 1 mile Abenaki Cultural Interpretive / Recreational Trail
- Water Access including boat launch

The economic value of this plan has many variables, but a conservative estimate of the value would be at least \$60 million if built out including:

- Industrial - 140,000 GSF @ 300 / SF = \$42 M
- Residential - 24 homes @ \$250,000 / home = \$6 M
- Solar - 15.7 Acres @ \$0.5M / acre = \$8 M
- Battery Storage – value changing, at least = \$10 M



NEXT STEPS

This report sets the stage for a number of continuing efforts.

- Decommissioning – Continue discussions with NorthStar related to their decommissioning work. This particularly relates to the protection of wells, septic fields and storm water infrastructure that could be beneficial to the industrial or residential development depicted in the plan
- Grant opportunities – Use this plan and report as a tool when seeking additional grants or other funding that could support reuse of the site. This should include grants at the state level with the Vermont Agency of Commerce and Community Development as well as potential US Economic Development Administration grant funding opportunities.
- Consider steps the Town of Vernon could take through revisions to current town plan, committee structure, regulations, connections to region groups or other efforts that might help set the stage for reuse of the Vermont Yankee Site once decommissioning is complete.

