



# VERMONT THREE-ACRE PERMIT COMPLIANCE AT FOUR SITES IN SOUTH BURLINGTON

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# AGENDA

- Vermont Three-Acre Permit Overview
- City of South Burlington Stormwater Utility
- Vermont Clean Water State Revolving Loan Fund
- Project Sites





# Vermont Three-Acre Permit Overview

## VT General Permit 3-9050

- Permit for “three-acre sites”
- Three-acre site has
  - impervious surface  $\geq$  three acres
  - no previous operational stormwater permit or permitted prior to 2002

## Stormwater Program



### OPERATIONAL STORMWATER PERMIT

Treatment of Impervious Surfaces: 9050, INDS and 3-Acre Rule



### STORMWATER CONSTRUCTION PERMIT

Construction Related Earth Disturbance: 9020, INDC



### MUNICIPAL ROADS PERMIT

Municipal Road Drainage: MRGP



### MULTI-SECTOR GENERAL PERMIT

Industrial Facility Stormwater Discharge: MSGP



### MUNICIPAL SEPARATE STORM SEWER SYSTEM PERMIT

Urbanized Areas Stormwater Discharge: MS4



### TRANSPORTATION SEPARATE STORM SEWER SYSTEM PERMIT

State Roads Stormwater Discharge: TS4

<https://dec.vermont.gov/watershed/stormwater>





# Vermont Three-Acre Permit Overview

## Achieving Compliance

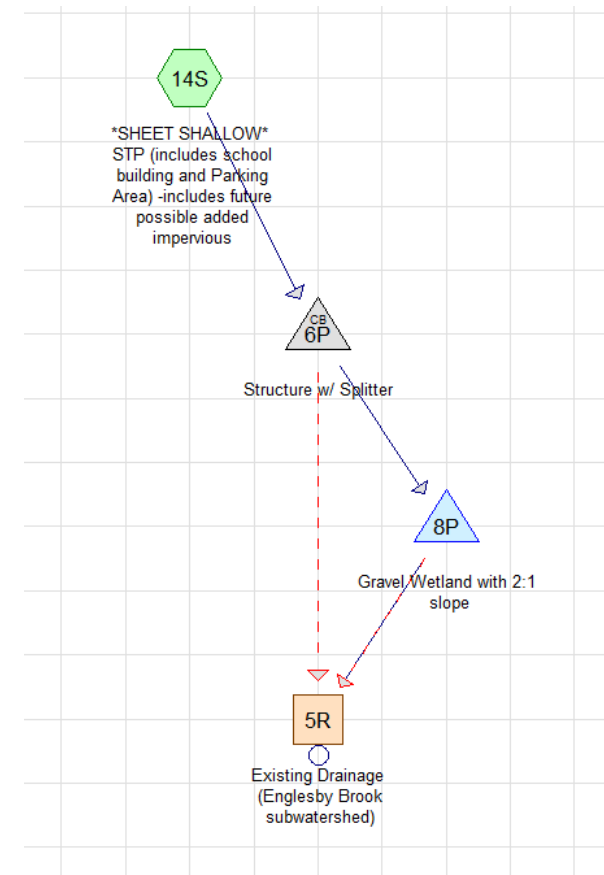
- Design and constructing new stormwater treatment practices (STPs) ,
- Upgrading existing STPs , or
- Paying Stormwater Impact Fee



# Vermont Three-Acre Permit Overview

## Permit Application Components

- Initial Notice of Intent
- Notice of Intent
  - Narrative and Maps
  - NOI form
  - Engineering Feasibility Analysis
  - Excel Workbooks
    - STP selection tool
    - Standards compliance workbook
    - STP worksheet
  - HydroCAD modeling
  - 100% Design Drawings





# City of South Burlington Stormwater Utility

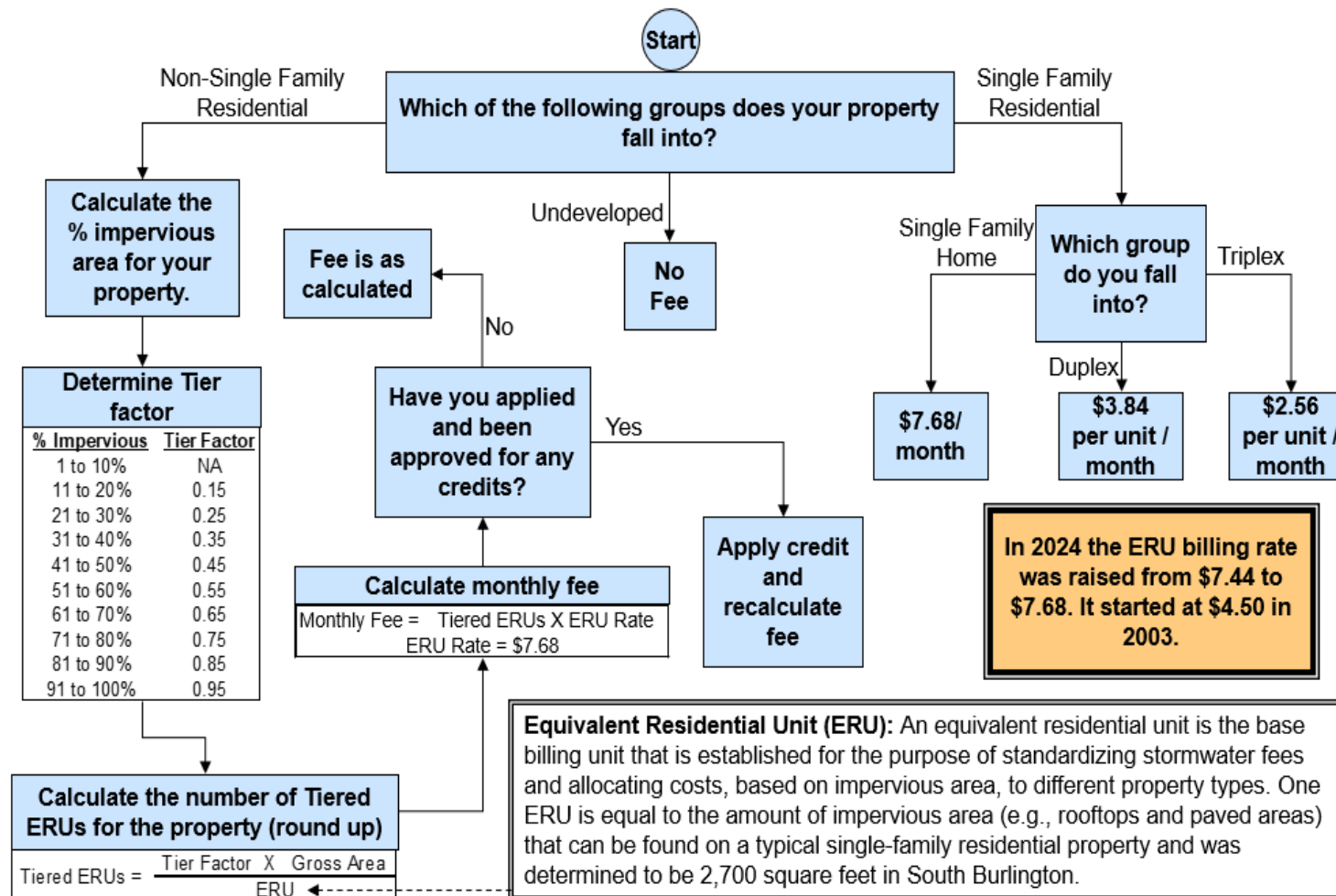
## Vermont's first Stormwater Utility

- Stormwater infrastructure operation and maintenance work
- Technical support for property owners
- Stormwater capital improvement projects



# City of South Burlington Stormwater Utility

## Process Flowchart For Calculation of Stormwater Utility Fee



# Vermont Clean Water State Revolving Loan Fund

Engineering design and permitting for 12 “three-acre sites” in South Burlington.

- Public-private partnership between the City and three-acre site owners
- Geosyntec working with South Burlington on four of these sites



CLEAN WATER STATE REVOLVING FUND (CWSRF)

## Loan Program

### ♦ Planning and Final Design Loans

#### AT-A-GLANCE

##### LOCAL APPROVAL

Required: Governing board authorization

##### TERMS AND RATES

Term: 5 to 15 years  
(depending on loan value)

Interest Rate: 0.00%

Funding Cap: None

##### REPAYMENT SCHEDULE

Planning loans are rolled into the construction loan, or begin repayment five years following completion of the relevant engineering documents or the last loan disbursement, whichever occurs first.



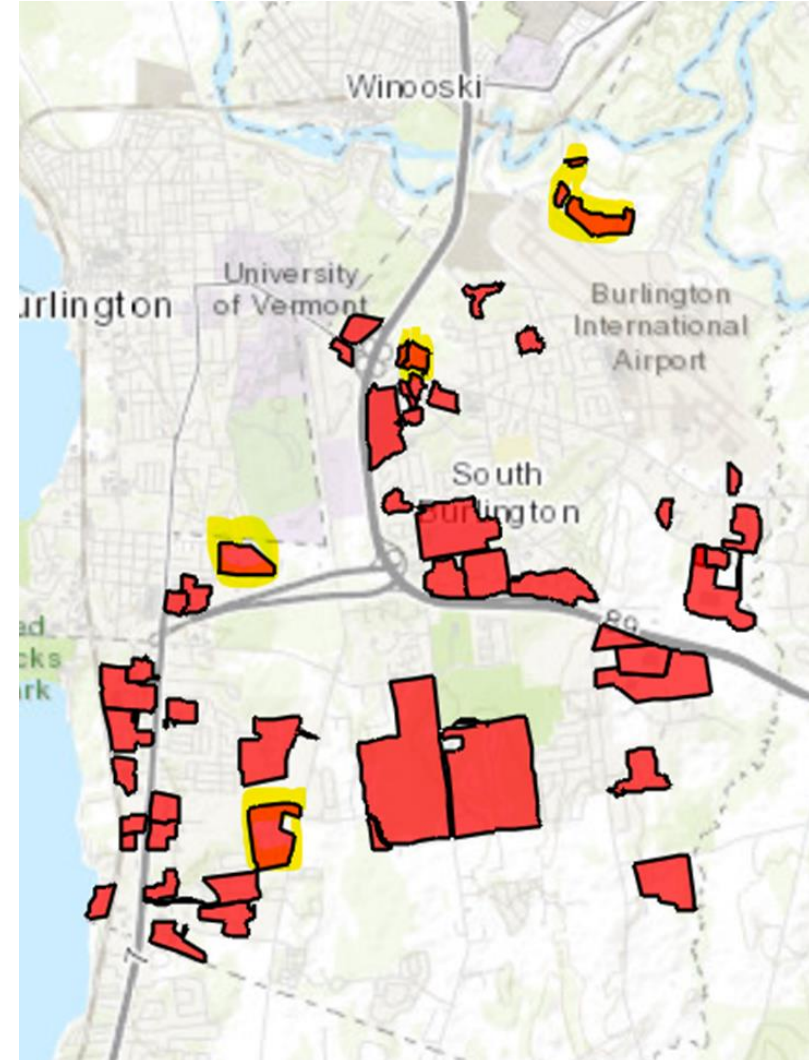


# Geosyntec Project Sites

- Rice Memorial High School<sup>1</sup>
- Ethan Allen Farm Industrial Park<sup>2</sup>
- Windjammer<sup>1</sup>
- Overlook at Spear/Summit at Spear<sup>1</sup>

Subject to (2017 Vermont Stormwater Management Manual):

1. Channel Protection and Redevelopment Standards
2. Redevelopment Standards



# Rice Memorial High School

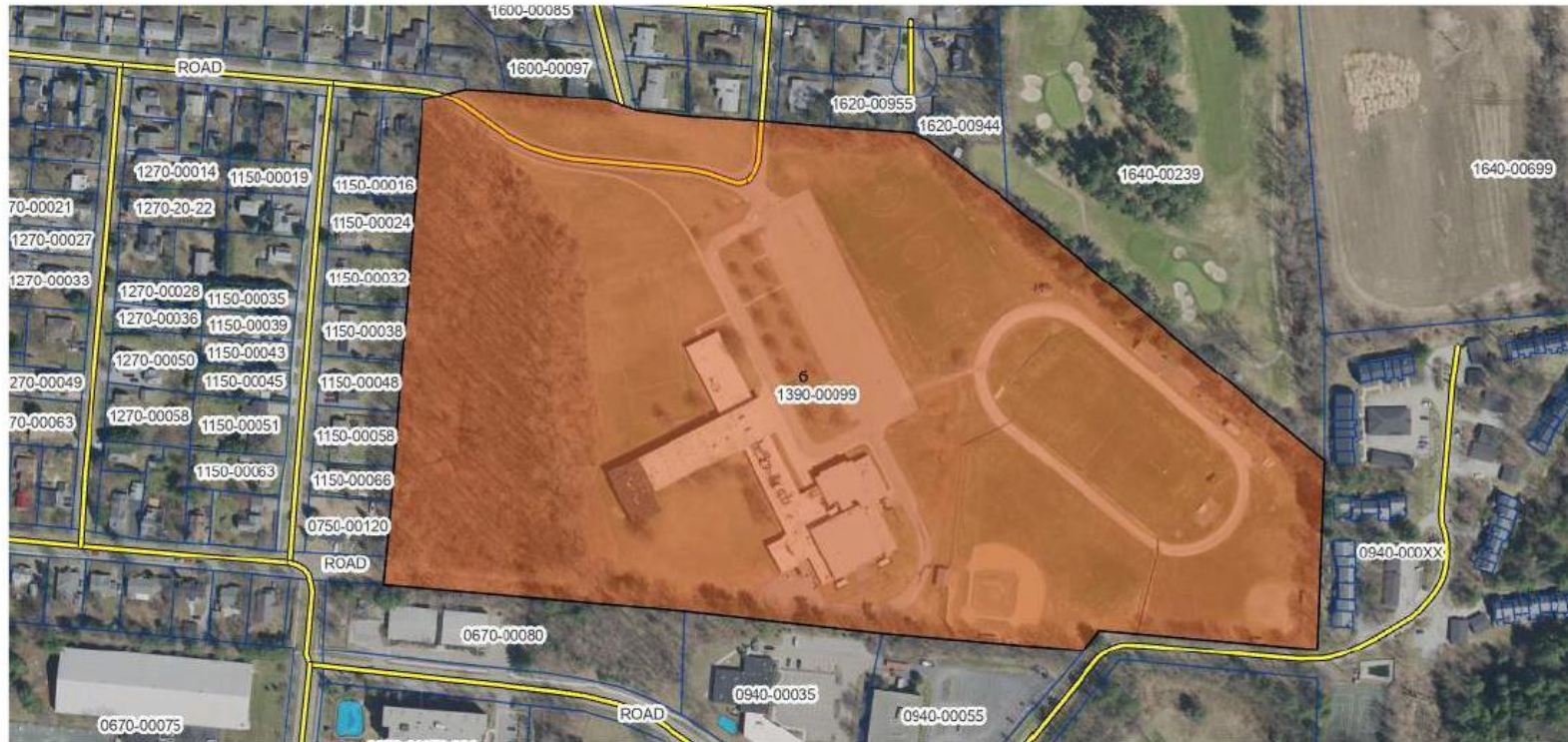
**Property Type: School**  
**Owner: Roman Catholic**  
**Diocese of Burlington**





# Rice Memorial High School

## Block 3 - Rice Memorial High School



**Project:** Rice Memorial High School

**Address:** 99 Proctor Ave

**Existing SW Permit:** None

**Impervious Area within 3-Acre Permit:** 5.75 Acres

**Existing Treatment:** None

**Initial NOI Deadline:** 1/1/2022

**NOI Deadline:** 7/1/2023

**Construction Deadline:** 7/1/2028



# Rice Memorial High School

## Challenges encountered

- High groundwater above existing pipe infrastructure
- Separate redesign of school grounds occurring at the same time as this project
- Watershed divide through the Site





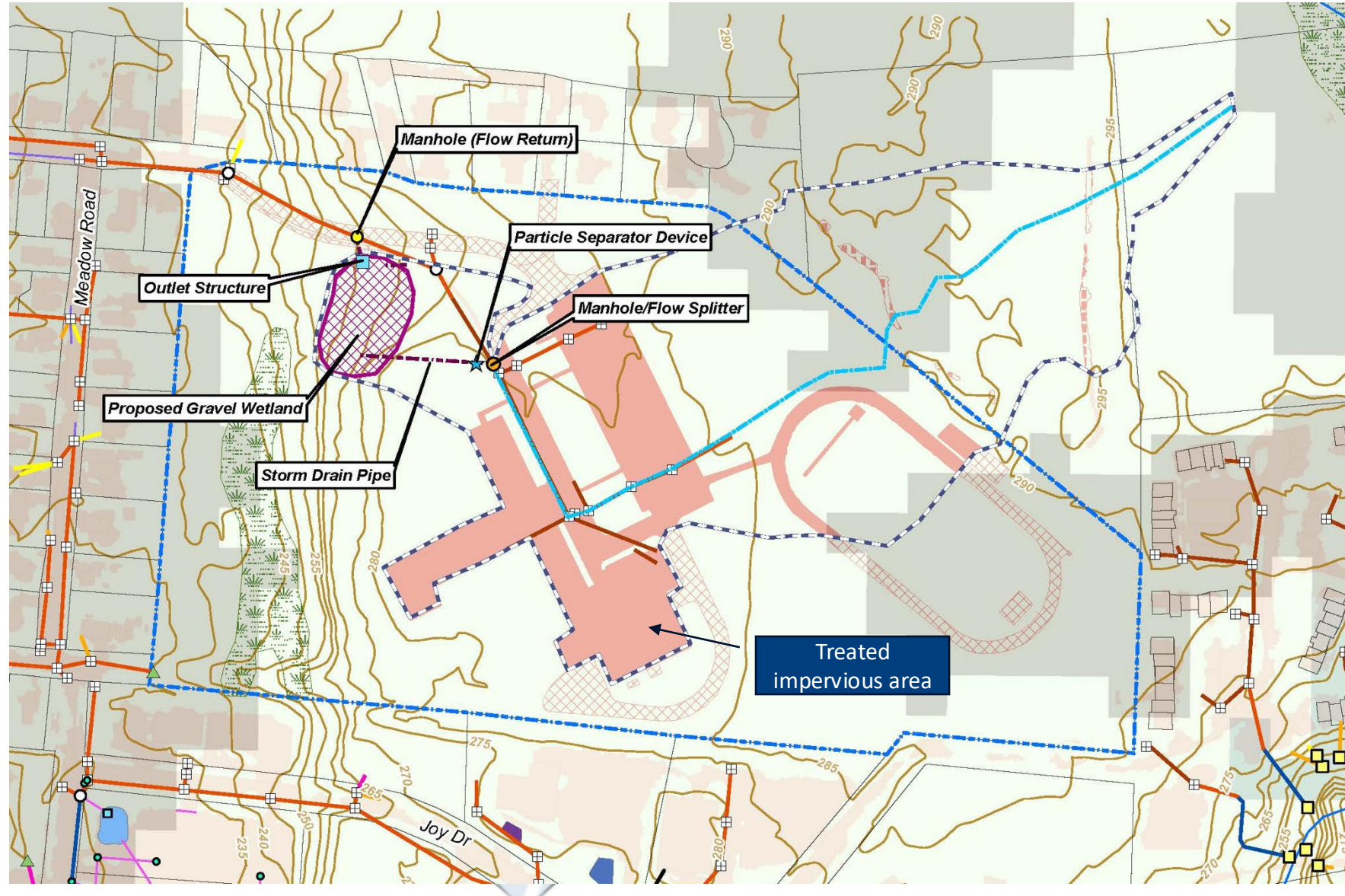
# Rice Memorial High School

## Design:

Proposed  
Gravel Wetland

## Status:

Permit Application  
submitted and  
State comments  
addressed





# Ethan Allen Farm Industrial Park

**Property Type: Industrial  
Park**

**Owner: Ethan Allen  
Industrial Park Stormwater  
Management Association,  
Inc.**





# Ethan Allen Farm Industrial Park

## Block 3 - Ethan Allen Farm Industrial Park



**Project:** Ethan Allen Farm Industrial Park  
**Address:** Ethan Allen Drive & Commerce Ave  
**Existing SW Permit:** 3870-9010.R (valid)  
**Impervious Area within 3-Acre Permit:** 16.1 Acres  
**Existing Treatment:** Stormwater Pond  
**Initial NOI Deadline:** 6/1/2023  
**NOI Deadline:** 12/1/2024  
**Construction Deadline:** 12/1/2029



# Ethan Allen Farm Industrial Park

## Challenges encountered

- Elevations/ shallow slope across the STP subcatchment
- Frequent flooding of existing drainage infrastructure
- High Groundwater
- Wetlands
- Property lines





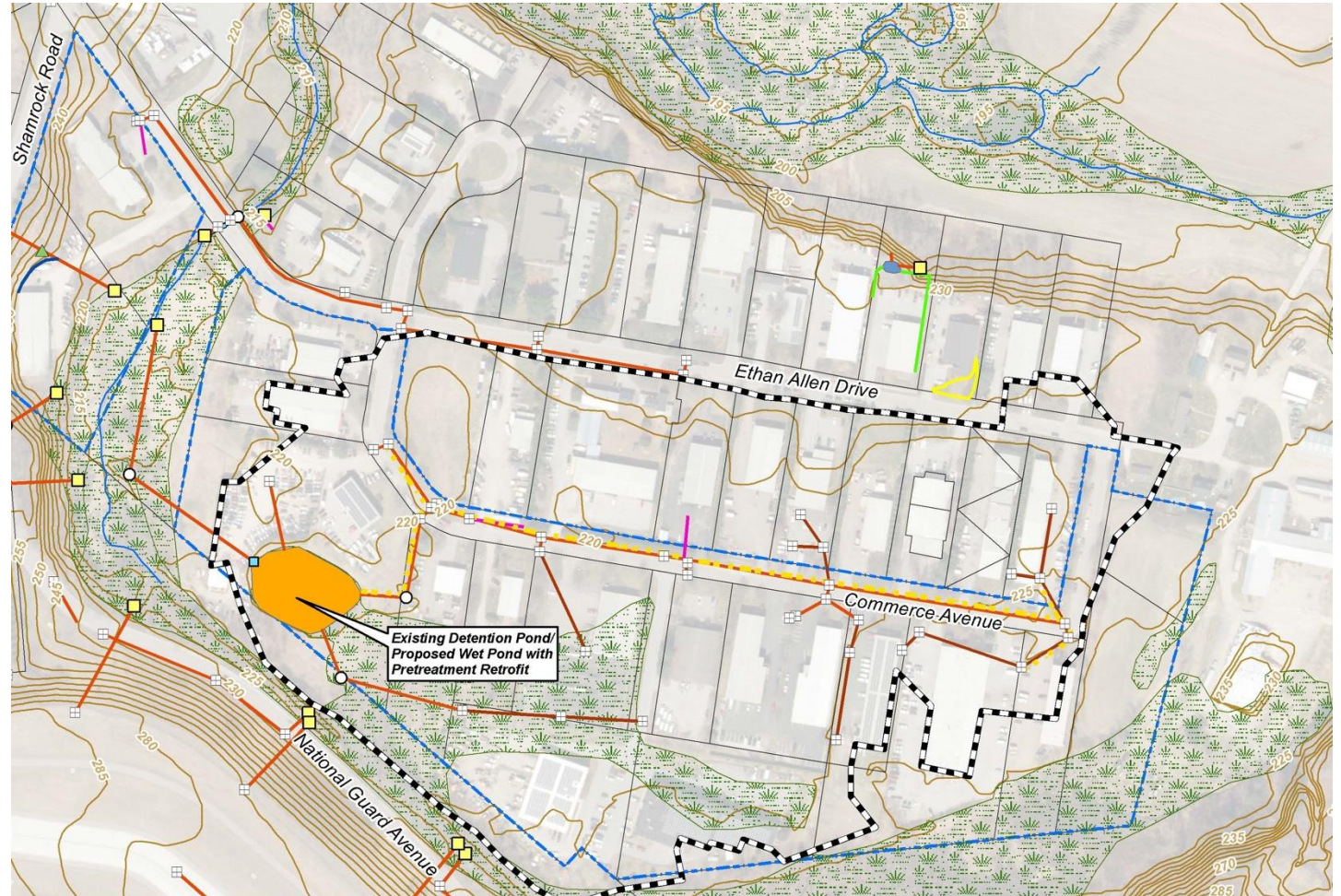
# Ethan Allen Farm Industrial Park

## Design:

Retrofit of  
Existing Detention Pond  
into Wet Pond

## Status:

Submitting Permit  
Application





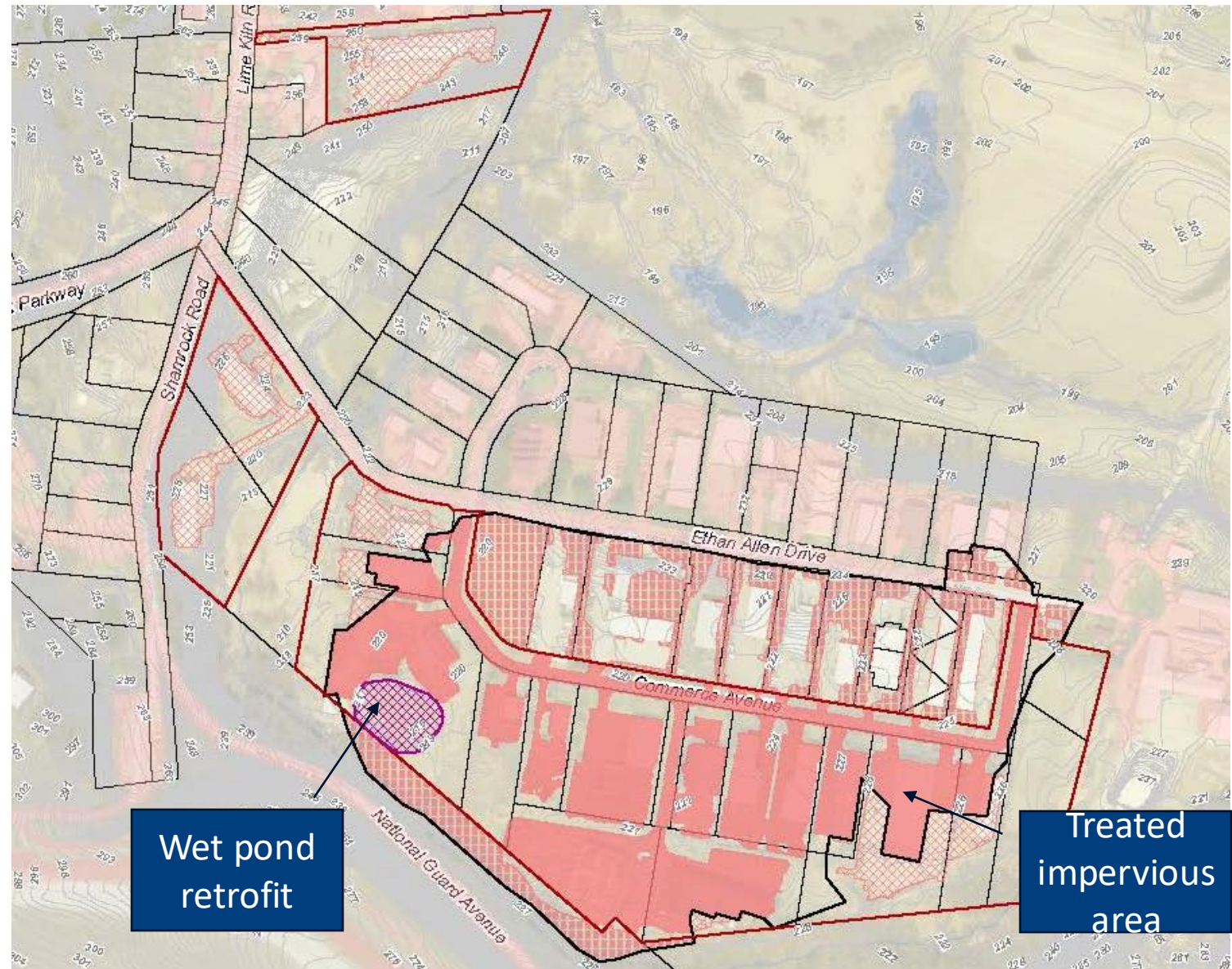
# Ethan Allen Farm Industrial Park

## Design:

Retrofit of  
Existing Detention Pond  
into Wet Pond

## Status:

Submitting Permit  
Application





# Windjammer

**Property Type: Hotel**  
**Owners: Windjammer  
Hospitality Group, LLC**





# Windjammer

## Block 3 - The Windjammer



**Project:** The Windjammer

**Address:** 1076 Williston Road

**Existing SW Permit:** 6323-9030 (expired 11/19/2014)

**Impervious Area within 3-Acre Permit:** 4.55 Acres

**Existing Treatment:** None

**Initial NOI Deadline:** 12/1/2021

**NOI Deadline:** 6/1/2023

**Construction Deadline:** 6/1/2028





## Challenges encountered

- Designing to treat off-site area (29 additional acres)
- Wetlands permitting
- Siting STP in an existing wetland ravine (high groundwater)
- Working around existing infrastructure (sanitary pump station, hotel operations)
- Coordination with property owners



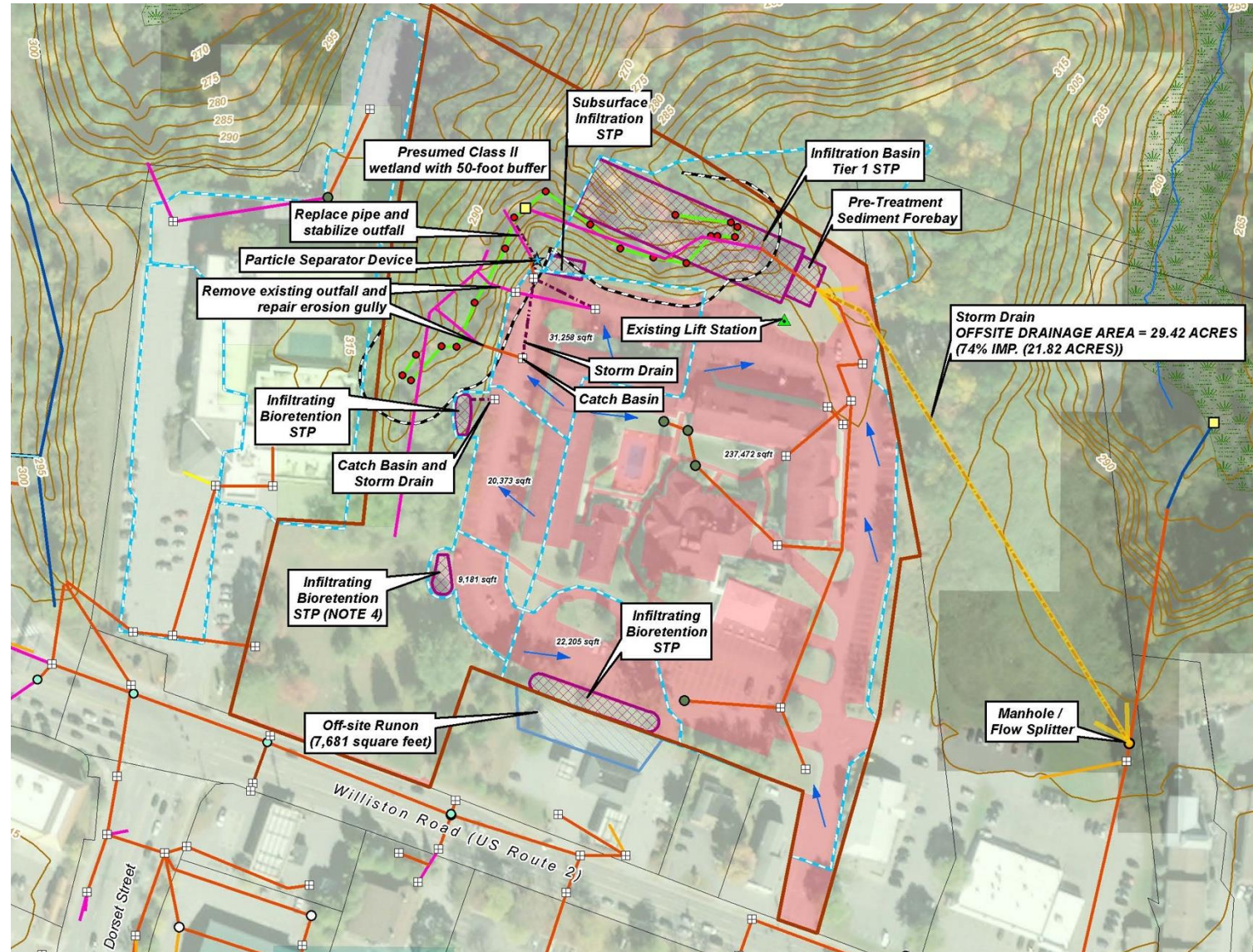
# Windjammer

Design: Gravel  
Wetland or Wet Pond  
at existing  
stormwater outlet

And distributed  
Bioretention areas

## Status:

Working through  
Design and Wetlands  
Permitting





# Overlook at Spear/Summit at Spear

**Property Type: Residential  
Neighborhood**

**Owners: 58 Residences and  
Overlook West at Spear  
(homeowners association)**



# Overlook at Spear/Summit at Spear

## Block 3 - Overlook at Spear/Summit at Spear



**Project:** Overlook at Spear/Summit at Spear

**Address:** Overlook Drive, Deerfield Road, Brownell Way, Whatley Road

**Existing SW Permit:** 2-0261 (expired)

**Impervious Area within 3-Acre Permit:** 17.5 Acres

**Existing Treatment:** Four (4) In-stream Stormwater Ponds

**Initial NOI Deadline:** 12/1/2021

**NOI Deadline:** 6/1/2023

**Construction Deadline:** 6/1/2028





# Overlook at Spear/Summit at Spear

## Challenges encountered

- Over 50 site owners
- Existing in-stream ponds/permitting
- High groundwater
- Private land/limited space for STP footprint
- Neighboring properties



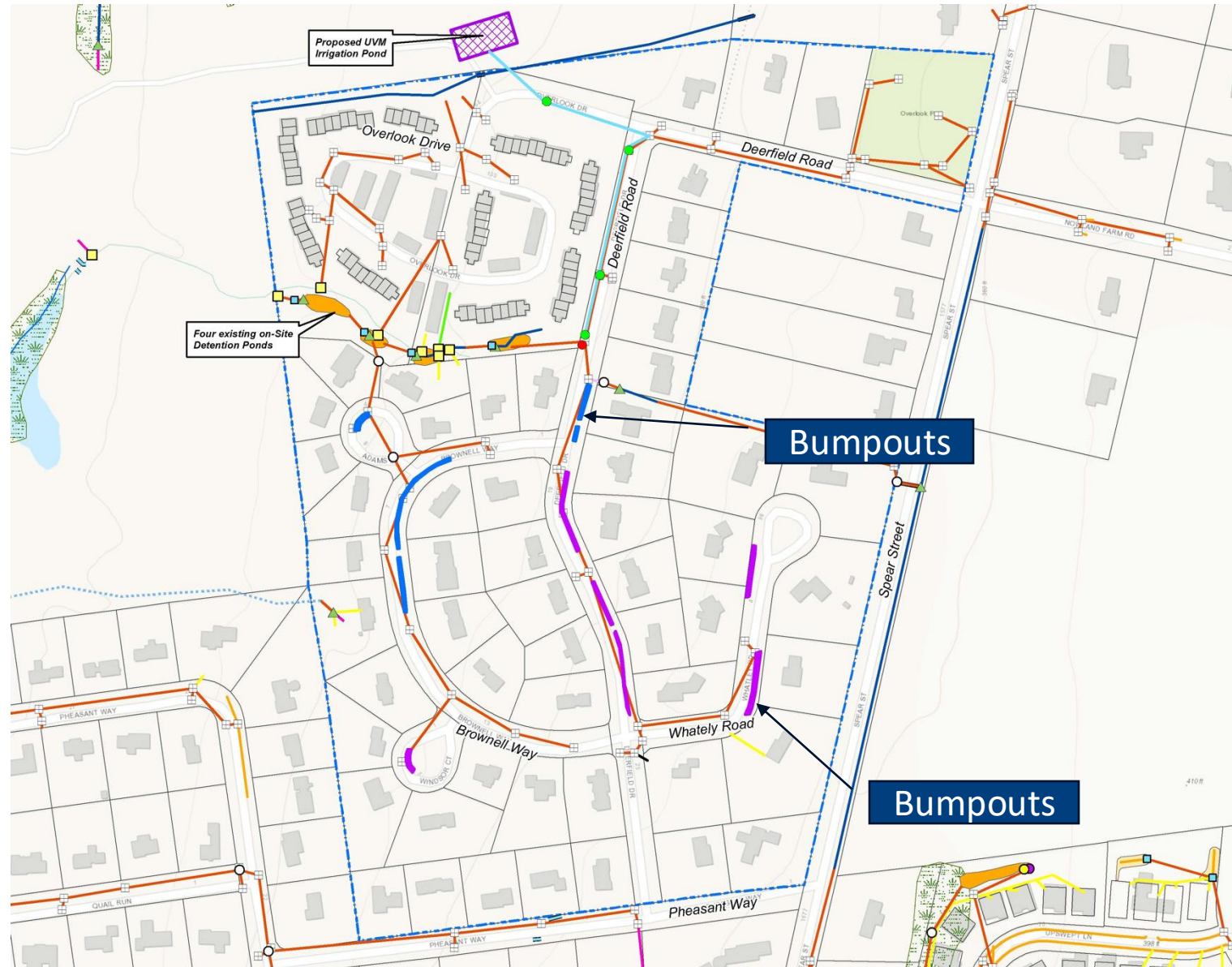
# Overlook at Spear/Summit at Spear

## Design:

Roadside underdrained  
bioretention  
bumpouts/distributed  
STPs

## Status:

Working through  
design/coordination with  
owners





# Conclusions

- Three-Acre Permit affects many diverse types of properties
- Driving designs and retrofits that have unique challenges
- Projects require extensive property owner coordination and funding
- This project highlights an effective public/private partnership





# Thank you!

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