Natural Resource Services, Inc.

Submerged Aquatic Vegetation Survey
1 Lafayette Avenue
A.P. 43-4, Lot 6
South Kingstown, Rhode Island

Prepared for:
Ted Monahan
175 Robinson Street
Wakefield, RI   02879

Report Prepared by:

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Principal

July 20, 2023

Introduction

Natural Resource Services, Inc. (NRS) has completed a Submerged Aquatic Vegetation (SAV) Survey in the waters adjacent to the subject property at 1 Lafayette Avenue (A.P. 43-4, Lot 6), in South Kingstown, Rhode Island. This study was performed in accordance with the standards established within Section 1.3.1(R)(4) (a-e) of the RI Coastal Resources Management Program (CRMP). This report and the enclosed graphic and data table can be used for any submission to the Coastal Resources Management Council (CRMC) requiring proof of an SAV study. An SAV study is valid for up to three (3) years pursuant to Section 1.3.1(R)(4)(c).

The primary purpose of this SAV study is to identify and map existing eelgrass (*Zostera marina*) and/or widgeon grass (*Ruppia maritima*) beds, substrate within the study area, mean height of eelgrass or widgeon grass shoots, and depth of water (at time of sampling) at each quadrat location. Eelgrass and widgeon grass are perennial, rooted, submerged, aquatic plants that occupies shallow, estuarine waters in sheltered bays and coves. The following illustration depicts eelgrass and widgeon grass.

Eel Grass (*Zostera marina*)	Widgeon Grass (*Ruppia maritima*)
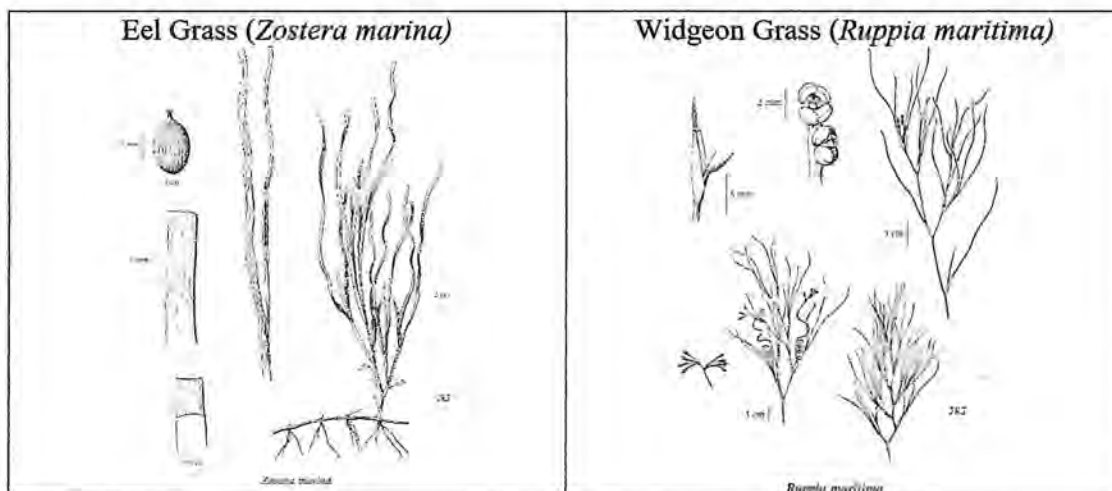
SAV beds provide habitat and cover for various shellfish and fin fish species, while subsequently providing food for waterfowl species. Eelgrass and widgeon grass also play an important role in protecting the shorelines from sedimentation and erosion by stabilizing bottom sediments. It is for these functions and values that the CRMC requires a study of SAV habitats.

Methodology

The SAV Study was performed on July 13th, 2023, by NRS biologist Hannah Chace and Kayleigh Actis, with all work occurring between 12:00 – 1:30 p.m. in a portion of the Pettaquamscutt River (*Waterbody ID: RI0010044E-01A*) classified as Type 2 Waters. Type 2 Waters are defined as low intensity use waters; docks are permittable in these waters.

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NRS has established six (6) transects (A – F) to encompass the area along the shoreline associated with the subject property. The first transect, transect A, was established towards the northern property line. Transects B-F are placed at approximate ten-foot (10') intervals along the shoreline toward the southern property line. The transect start points are identified by blue ribbons tied to either 3-foot grade stakes or the vegetation along the shoreline. The established transects extend east into the river perpendicular to the shoreline. Each transect is 80 feet in length.

Along each transect, one-meter square sampling stations (quadrats) were established every 10 feet. Substrate characteristics, percent cover of *Zostera marina* or *Ruppia maritima*, and mean shoot height were recorded at each quadrat location.

The locations of the transect start points and other benchmarks were GPS located in the field using a handheld Trimble GeoXH unit. While this GPS data should not be considered a survey plan, it can be helpful for preliminary planning purposes.

<u>Findings and Conclusion</u>

Upon completion of the NRS site investigation, it was determined that no submerged aquatic vegetation (SAV) is present in the surveyed area.

Low tide was recorded to be at 10:34 AM on July 13th 2023 (Tidal Data Source: Narragansett Pier, RI (#8454658)). At the time of the survey, the water depth in the study area extended to approximately 3 feet. The substrate consists generally of mucky sand and muck.

The data collected by NRS is available electronically and can be forwarded to Dowdell Engineering for use in preparing a plan. The transect locations along the shoreline and reference points within the property were located using a handheld GPS unit (Trimble GeoXH). While this data is not survey grade, the information shall assist your design professional in preparing the plan.

Please do not hesitate to contact our office should you have any questions or require additional information.

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Appendix
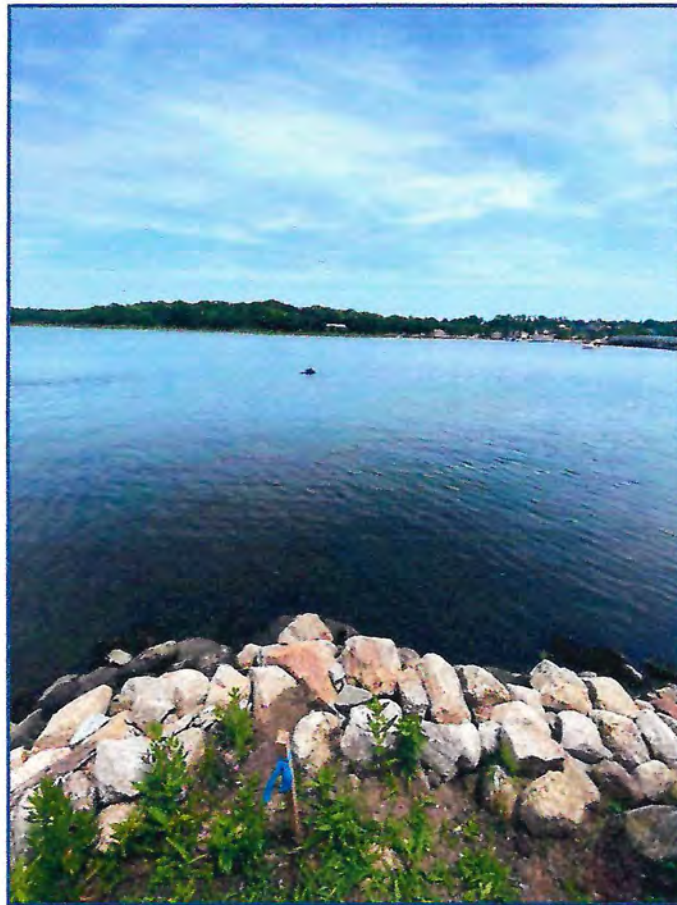
View into water from transect A

View along shoreline of property
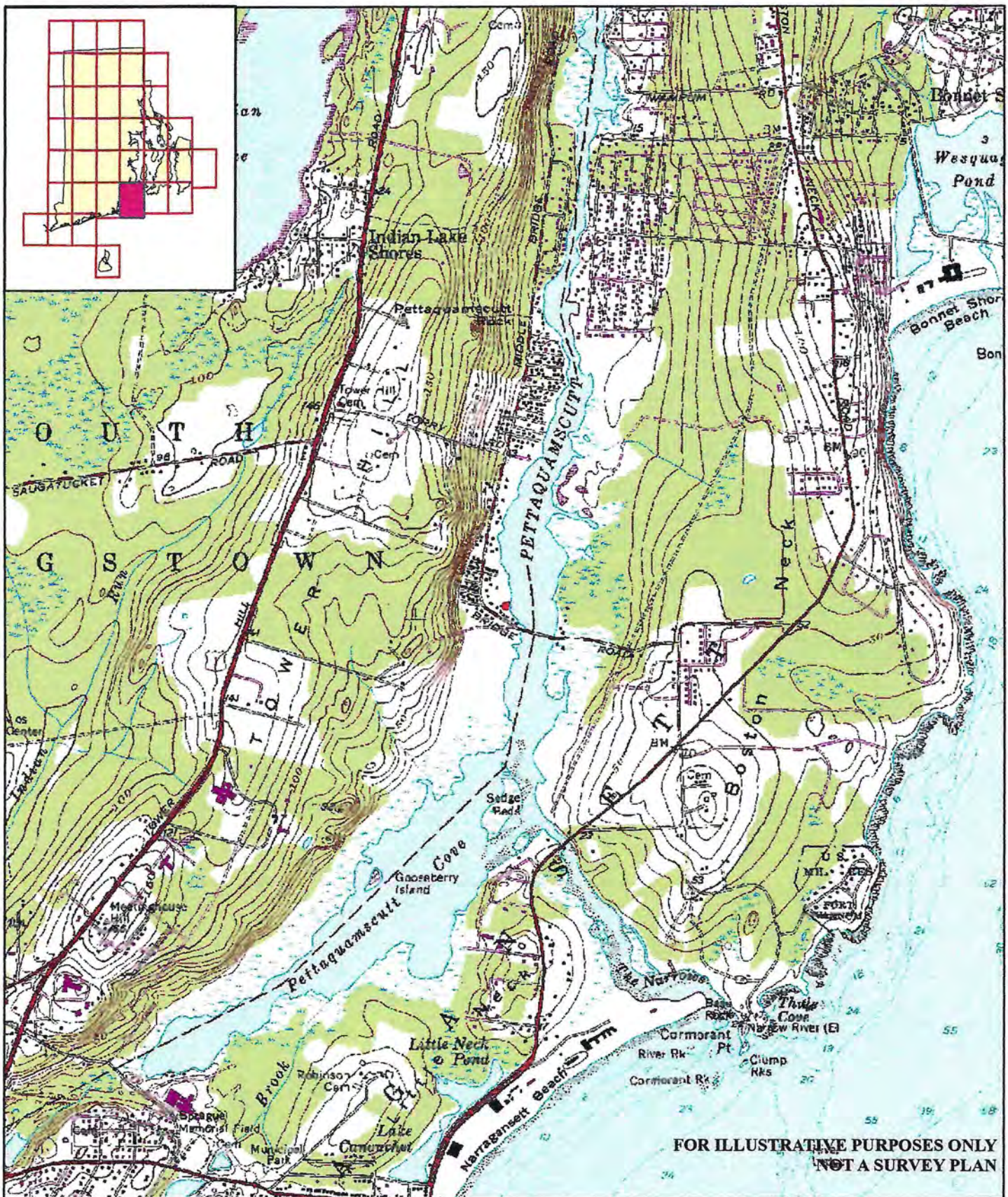
**USGS Topographic Map
1 Lafayette Ave
A.P. 43-4, Lot 6**

South Kingstown, RI
Narragansett Pier Quad Map

—— Approximate Site Location
USGS Topographic Series
Contour Interval 10 Feet
National Geodetic Vertical Datum of 1929

Feet
0   1,000   2,000   4,000

FOR ILLUSTRATIVE PURPOSES ONLY
NOT A SURVEY PLAN

RIGIS
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180 Tinkham Lane
Harrisville, RI 02830
p: (401) 568-7300
(c) RIGIS

LOCUS

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Narragansett

SITE

Legend

- Approximate Site Location
- Transect Location
- ⊙ Square Meter Quadrat
  No SAV Observed*

*SAV = Submerged Aquatic Vegetation
*See attached datasheets for complete information

Feet
0   15   30   60

FOR ILLUSTRATIVE PURPOSES ONLY
NOT A SURVEY PLAN

Submerged Aquatic Vegetation Survey Sketch
1 Lafayette Avenue
A.P. 43-4, Lot 6
South Kingstown, RI

Performed by Hannah Chace &
Kayleigh Actis - July 13, 2023
Located using handheld Trimble GeoXH

RIGIS

Natural Resource Services, Inc.

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180 Tockham Lane
Harrisville, RI 02830
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Spring 2023 aerial
RI DEM Mapping
(c) RIGIS

N W E S

Pettaquamscutt River
Type 2

A
B
C
D
E
F

granite bound

sewer

up1

Lafayette Ave

Submerged Aquatic Vegetation Survey Data

1 Lafayette Ave - South Kingstown
Performed by: Hannah Chace & Kayleigh Actis
12:00pm-1:30pm - 7/12/2023

A

Sample ID	Distance from transect (ft)	Depth (ft)	Bottom substrate	% Cover of SAV	Mean Shoot Height (ft)
A1	10	1.75	Mucky Sand	0	-
A2	20	2	Mucky Sand	0	-
A3	30	2.25	Mucky Sand	0	-
A4	40	2.5	Mucky Sand	0	-
A5	50	2.75	Mucky Sand	0	-
A6	60	2.75	Mucky Sand	0	-
A7	70	2.75	Mucky Sand	0	-
A8	80	2.75	Muck	0	-

B

Sample ID	Distance from transect (ft)	Depth (ft)	Bottom substrate	% Cover of SAV	Mean Shoot Height (ft)
B1	10	1.75	Mucky Sand	0	-
B2	20	2	Mucky Sand	0	-
B3	30	2	Mucky Sand	0	-
B4	40	2.5	Mucky Sand	0	-
B5	50	2.75	Mucky Sand	0	-
B6	60	2.75	Mucky Sand	0	-
B7	70	2.75	Muck	0	-
B8	80	2.75	Muck	0	-

C

Sample ID	Distance from transect (ft)	Depth (ft)	Bottom substrate	% Cover of SAV	Mean Shoot Height (ft)
C1	10	1.25	Mucky Sand	0	-
C2	20	2	Mucky Sand	0	-
C3	30	2	Mucky Sand	0	-
C4	40	2	Mucky Sand	0	-
C5	50	2.25	Mucky Sand	0	-
C6	60	2.5	Muck	0	-
C7	70	2.5	Muck	0	-
C8	80	2.75	Muck	0	-

D

Sample ID	Distance from transect (ft)	Depth (ft)	Bottom substrate	% Cover of SAV	Mean Shoot Height (ft)
D1	10	1.5	Mucky Sand	0	-
D2	20	1.75	Mucky Sand	0	-
D3	30	2	Mucky Sand	0	-
D4	40	2	Mucky Sand	0	-
D5	50	2.25	Mucky Sand	0	-
D6	60	2.25	Mucky Sand	0	-
D7	70	2.5	Mucky Sand	0	-
D8	80	2.5	Muck	0	-

E

Sample ID	Distance from transect (ft)	Depth (ft)	Bottom substrate	% Cover of SAV	Mean Shoot Height (ft)
E1	10	1.5	Mucky Sand	0	-
E2	20	1.75	Mucky Sand	0	-
E3	30	2	Mucky Sand	0	-
E4	40	2	Muck	0	-
E5	50	2	Muck	0	-
E6	60	2.25	Muck	0	-
E7	70	2.5	Muck	0	-
E8	80	2.5	Muck	0	-

F

Sample ID	Distance from transect (ft)	Depth (ft)	Bottom substrate	% Cover of SAV	Mean Shoot Height (ft)
F1	10	1.5	Mucky Sand	0	-
F2	20	1.75	Mucky Sand	0	-
F3	30	1.75	Mucky Sand	0	-
F4	40	2	Mucky Sand	0	-
F5	50	2	Mucky Sand	0	-
F6	60	2	Mucky Sand	0	-
F7	70	2.5	Muck	0	-
F8	80	2.5	Muck	0	-