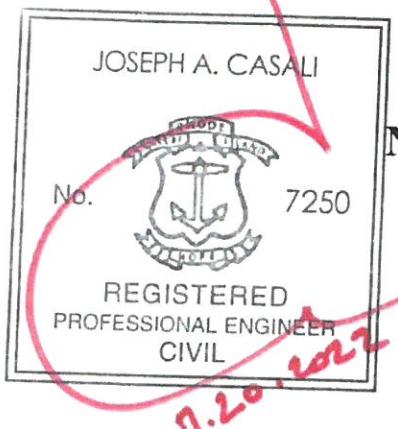


## Project Narrative & Drainage Analysis

For a Proposed

# Nissan Dealership and Reconditioning Building

Servicing the  
**Anchor Auto Dealership**



**Eddie Dowling Highway  
North Smithfield, Rhode Island  
AP 17, Lots 80, 84, 199 & 231**

**Prepared for:**  
Benoit Realty, LLC  
949 Eddie Dowling Hwy.  
North Smithfield, Rhode Island



**Submission Date:**  
July 2022

**Submitted by:**



## TABLE OF CONTENTS

<b>1</b>	<b>EXECUTIVE SUMMARY .....</b>	<b>2</b>
<b>2</b>	<b>SITE LOCATION AND PHYSICAL DESCRIPTION .....</b>	<b>3</b>
2.1	Existing Conditions.....	3
2.2	Soil Classification .....	4
2.3	Flood Zone Classification .....	5
2.4	Wetland Resources.....	5
2.5	Watershed .....	6
2.6	Recreational Resource Inventory.....	6
2.7	Zoning .....	6
2.8	Easements .....	6
2.9	Utilities.....	7
<b>3</b>	<b>PROPOSED SCOPE OF WORK.....</b>	<b>7</b>
3.1	General .....	7
3.2	Utilities.....	7
3.3	Stormwater Management.....	8
<b>4</b>	<b>PERMIT REQUIREMENTS.....</b>	<b>9</b>
4.1	North Smithfield Planning Board .....	9
4.2	RI Department of Environmental Management (RIDEIM) .....	9
<b>5</b>	<b>CONCLUSIONS .....</b>	<b>9</b>

## APPENDICES

- Appendix A: Site Inspection for Freshwater Wetlands, prepared by NRS
- Appendix B: Reduced Water Main Extension Plan
- Appendix C: 2015 Approved Proposed Watershed Map
- Appendix D: Proposed Watershed Map

## 1 EXECUTIVE SUMMARY

On behalf of our client, Benoit Realty, LLC, Joe Casali Engineering, Inc. (JCE) has prepared the following Project Narrative and Drainage Analysis to identify existing and proposed site conditions related to the construction of a new 28,570 sq. ft. Nissan Dealership and a 17,550 sq. ft. Reconditioning Building to serve the Anchor Auto Group complex. The proposed site improvements are located within the Anchor Auto Group Campus on Eddie Dowling Highway in North Smithfield, Rhode Island, specifically Tax Assessor's Plat Map 17, Lots 80 and 231. Lot 80 currently contains an existing office/reconditioning building (the former Anchor Subaru Dealership) and associated parking areas. Lot 231 currently houses inventory parking areas along with the community septic system for all Anchor Auto Group operations. The subject properties both lie within the Business Highway (BH) Zoning District.

The proposed project is in response to the need to upgrade the existing Nissan dealership to current corporate standards. In addition, the Rhode Island Department of Transportation plans to start construction on the *Route 146 Reconstruction Project* as soon as Summer 2022. The reconstruction project proposes to bridge Route 146 over Sayles Hill Road, resulting in the existing Nissan Dealership being pushed into a "bowl" below Route 146 with little to no visibility. The new Nissan Dealership is proposed to be located within the area north of the current Anchor Subaru Dealership. The existing office/reconditioning building (former Anchor Subaru Dealership) will be razed to provide room for the new dealership. Prior to construction of the new Nissan dealership, the 17,550 sq. ft. reconditioning building will need to be constructed in order to house the operations and staff displaced by the removal of the existing building.

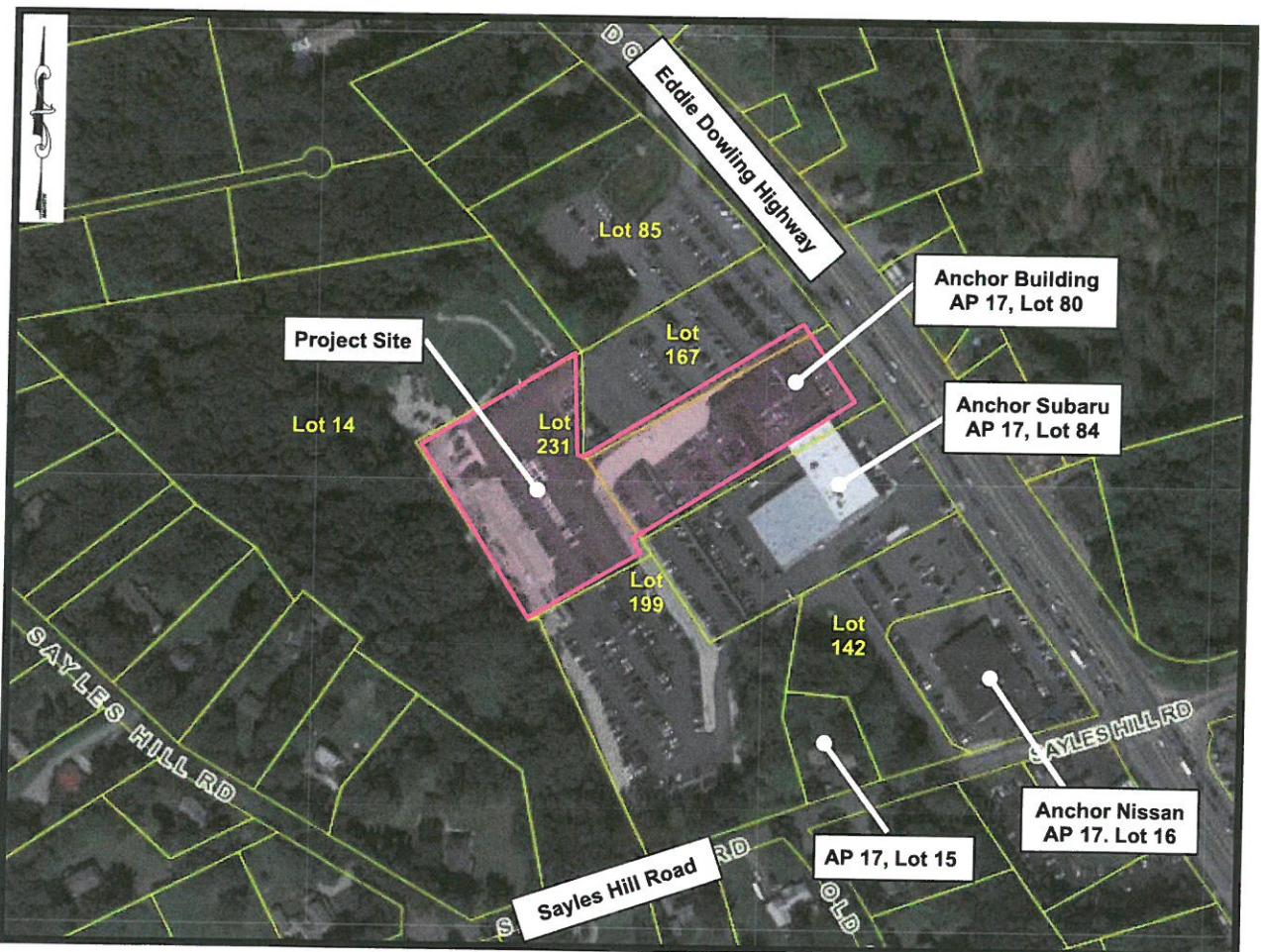
It should be noted that in conjunction with this land development project, Anchor Auto Group recently secured approval from the Lincoln Water Commission to extend a water main within Sayles Hill Road, from the Lincoln town line, across Route 146 and onto the Anchor Auto Group's Campus. This work is scheduled to be coordinated with the upcoming *Route 146 Reconstruction Project*.

All new buildings are proposed within currently existing impervious areas. There are no modifications proposed to existing watersheds or stormwater management systems. The new buildings will connect to existing onsite utilities, including water, sewer, electric and communications. As described throughout this report, there will be no detrimental effects to the surrounding community, adjacent freshwater wetlands, or on-site stormwater management systems as a result of the proposed improvements. The proposed improvements are located atop current paved areas, transitioning impervious area from parking lot pavement to rooftop, a natural improvement in water quality.

## 2 SITE LOCATION AND PHYSICAL DESCRIPTION

### 2.1 Existing Conditions

Anchor Auto Group is located at 949 and 1041 Eddie Dowling Highway and consists of multiple lots, specifically identified as Tax Assessor's Plat (AP) Map 17, Lots 14, 15, 16, 80, 84, 85, 142, 167, 199, and 231, totaling approximately 26.6 acres of land. Site improvements included with the proposed development are contained to existing Lots 80 and 231, however the overall project will also include Lots 84 and 199 as property line adjustments and parcel mergers are proposed. Based on an Administrative Subdivision Plan completed by International Mapping & Surveying and recorded in the Town of North Smithfield Land Evidence Records on December 1, 2016, the project site, consisting of AP 17, Lots 80, 84, 199 and 231 contains approximately 8.59 acres of developed land. The project area is bound to the north by AP 17, Lot 167 (Anchor lot), to the east by Eddie Dowling Highway, to the south by AP 17, Lots 15 and 142 (Anchor lots), and to the west by AP 17, Lot 14 (Anchor lot), as shown below in Figure 1 – Locus Map.



**Figure 1 - Locus Map**  
NOT TO SCALE

## 2.2 Soil Classification

According to the Web *Soil Survey* (WSS), operated by the US Department of Agriculture Natural Resource Conservation Service (NRCS), produced by the National Cooperative Soil Survey, the soils within the project area consist primarily of Udorthents-Urban land complex (UD) with a portion consisting of Woodbridge fine sandy loam, 0 to 8% slopes, very stony (WoB). Udorthents-Urban land complex soil (UD) consist of human transported material. Woodbridge (WoB) is classified as hydrologic soil group "C/D", a moderately well drained drainage class. The permeability of this soil is moderate or moderately rapid in the surface layer and subsoil and slow or very slow in the substratum. Available water capacity is moderate, and runoff is slow to medium. WoB soils consist of coarse-loamy lodgment till derived from gneiss, granite, and/or schist.



**Figure 2 - Soils Map**

NOT TO SCALE

Extensive soil evaluations and geotechnical borings were completed during the Anchor Subaru Dealership project in 2014. This data will be utilized as the project moves forward.

### 2.3 Flood Zone Classification

The site is located on the Flood Insurance Rate Map for Providence County, Map Number 44007C0178G, with an effective date of March 2, 2009, as depicted in Figure 3. The property lies within Zone X which is defined as areas determined to be outside the 0.2% annual chance floodplain.



**Figure 3 – FEMA Flood Insurance Rate Map**

NOT TO SCALE

### 2.4 Wetland Resources

Based upon a Report of Findings for Freshwater Wetland Delineations performed by Natural Resource Services in 2013, the Anchor development contains four different forested wetlands that are all isolated from each other on the northern part of the parcel. These wetlands are all less than three acres in size and do not require a 50-foot perimeter wetland. In addition, an ASSF that directs flow along the western edge of the parking lot into the A-series wetland was identified. These wetland areas are outside of the project area. A copy of wetland delineation sketch is included in Appendix A.

## 2.5 Watershed

The site is located within the Peters River-Blackstone River Watershed. According to RIDEM GIS mapping, the site is not within any State-designated Natural Heritage Sites, unfragmented forest tracts, state, regional, or community greenways and green space priorities, or 100-year floodplains as shown on federal flood protection maps. The site does not contain any land in active agricultural use.

## 2.6 Recreational Resource Inventory

There are no existing public recreational or cultural resources within the site. There are no boat launches, lake and stream access points, beaches, and water trails. There are no existing play fields or playgrounds adjacent to the site.

## 2.7 Zoning

According to the Town of Smithfield Zoning Ordinance, the subject parcels are zoned Business Highway (BH).

The following are the dimensional requirements for current zoning classifications of the BH zoning district:

Requirement	BH Zone
Minimum Distance of Structure from Residential Structure	25 ft.
Minimum Front Yard Setback	25 ft.
Minimum Side Yard Setback	15 ft.
Minimum Rear Yard Setback	30 ft.
Maximum Height (Main Structure)	35 ft.
Maximum Height (Accessory Structure)	20 ft.
Maximum Floor Area Ratio	0.25

In addition, the subject parcels are within the Water Supply Protection Overlay District, however due to the site improvements being located within existing impervious areas, all of which have received previous RIDEM Stormwater Approval, it is anticipated that further adherence of this section is not required.

## 2.8 Easements

Based on an Administrative Subdivision Plan completed by International Mapping & Surveying and recorded in the Town of North Smithfield Land Evidence Records on December 1, 2016, there are no known easements within the project area.

## 2.9 Utilities

Water: The Anchor Auto Group Campus is serviced by a public well located within adjacent Lot 14. Fire protection is provided by an underground cistern located across Sayles Hill Road near the Anchor campus entrance road.

Sewer: The Anchor Auto Group is serviced by a community septic system located on Lot 231. The system consists of a bottomless sand filter with Advantex AX 100 pre-treatment. In addition, all floor drains within the campus discharge to an evaporator system.

Electric/Communications/Gas: There are no gas services available to the site. Electric and communication services are available to the site from Eddie Dowling Highway.

## 3 PROPOSED SCOPE OF WORK

### 3.1 General

The applicant is proposing a new 28,570 sq. ft. Nissan Dealership and 17,550 sq. ft. Reconditioning Building to serve Anchor Auto Group. The new Nissan dealership is proposed to be located within the area north of the current Anchor Subaru Dealership. The existing office/reconditioning building (old Subaru Dealership) will be razed to provide room for the new dealership. Prior to construction of the new Nissan dealership, the 17,550 sq. ft. reconditioning building will need to be constructed in order to house the operations and staff displaced by the removal of the existing building. The existing parking lot around the new dealership will be reconfigured to support the new building. The existing retaining wall, located west of the existing Subaru and new Nissan dealerships, will be relocated further west to provide additional parking area at the same surface elevation of the dealerships. The proposed improvements will be confined to previously disturbed impervious areas within the Anchor Auto Group campus.

### 3.2 Utilities

Water: The new buildings will connect into the existing public well currently servicing Anchor Auto Group. It should be noted that Anchor Auto Group recently secured approval from the Lincoln Water Commission to extend an 8" water main up Sayles Hill Road, from the Lincoln town line, through Route 146 and onto the Anchor Auto Group's Campus. The 8-inch water main extension is proposed to provide domestic water services to the Anchor Campus. This work is scheduled to be coordinated with the upcoming *Route 146 Reconstruction Project* anticipated to begin in Summer 2022. Refer to Appendix B for a reduced plan depicting the water main extension. It is expected that the existing public well will continue to be used for non-potable purposes.

**Sewer:** The proposed buildings will be serviced by the existing community septic system within Lot 231. A new septic tank will be required for each building. Each tank will contain a pump to lift the effluent up to the flow equalization tanks near the existing leachfield. Wastewater associated with any floor drains will be routed to the existing evaporator system on site.

**Electric/Communications:** Electric and communication services will be connected to existing feeds within the Anchor Campus.

### **3.3 Stormwater Management**

All site improvements are located within currently existing impervious areas; as a result, there will be little to no change in the stormwater characteristics leaving the site. The previous site improvements, including the Anchor Subaru dealership and impervious parking lot areas associated with the footprints of the subject site improvements were previously approved under Wetland Application No. 15-0078 and RIPDES Program File No. 01274.

As shown within the “Proposed Watershed Map” included in Appendix D, the proposed Reconditioning Building is located within Watersheds #7 and #10, which routes stormwater runoff to a sediment forebay and sand filter basin to the north. As shown on the “Proposed Watershed Map” associated with Wetland Application No. 15-0078, included in Appendix C, Watershed #7 was originally assigned a time of concentration (Tc) of 6 minutes and a composite runoff number (CN) of 98 and Watershed #10 was assigned a Tc of 6 minutes and a CN of 97. When comparing the new watershed characteristics to the previous watershed characteristics, the Tc’s are unchanged, and there is a small, negligible increase in CN within Watershed 10 (from 97 to 98).

As shown within the “Proposed Watershed Map” included in Appendix D, the proposed Anchor Nissan Dealership building is located within Watershed #3, which routes stormwater runoff to an existing underground infiltration system located to the east of the Anchor Subaru Dealership building. As shown on the “Proposed Watershed Map” associated with Wetland Application No. 15-0078, included in Appendix C, Watershed #3 was originally assigned a time of concentration (Tc) of 6 minutes and a composite runoff number (CN) of 98. When comparing the new watershed characteristics to the previous watershed characteristics, the Tc’s and CN’s are unchanged.

As shown on the proposed site plans, stormwater runoff is proposed to be discharged to identical design points as currently existing conditions. In general, the changes to the runoff characteristics are negligible and there will be no change to peak stormwater runoff rates, total stormwater runoff volumes, groundwater recharge volumes or water quality volumes.

## 4 PERMIT REQUIREMENTS

### 4.1 North Smithfield Planning Board

The proposed project will need to be reviewed by the Town of North Smithfield Planning Board, under the Major Land Development process. The permitting schedule is as follows, and consists of abutter notification, public meetings, and Planning Board Approvals:

1. Master Plan Hearing (February 14, 2022)
2. Preliminary Plan Hearing
3. Final Plan Hearing

### 4.2 RI Department of Environmental Management (RIDEM)

The proposed project will be reviewed by RIDEM in the form of permit modification filings. Permit modification filings will be made for both the Insignificant Alteration Permit (15-0078) and RIDEM OWTS Permit (1425-1602) previously obtained on this site.

## 5 CONCLUSIONS

As presented throughout this report, the proposed Anchor Nissan Dealership building and Anchor Reconditioning Building, has been designed to have little to no impact on neighboring developments and down-gradient freshwater wetland areas. Construction of both buildings is proposed within currently existing impervious paved areas; therefore, there is a zero net increase in impervious area proposed. Stormwater runoff is proposed to discharge to identical design points as currently existing conditions and characteristics of stormwater runoff generally mimic the previously approved conditions. In actuality, current existing impervious paved areas are being “converted” to impervious rooftop areas, theoretically providing a small natural increase in water quality leaving the site. As such, the proposed site improvements will have no negative impacts to down-gradient freshwater wetland areas.

## **Appendix A**

*Report of Findings for Freshwater Wetlands, prepared by NRS*



## **Natural Resource Services, Inc.**

Report of Findings for  
Freshwater Wetland Delineations  
Anchor Subaru  
949 Eddie Dowling Highway  
A.P. 17, Lots 14-16, 40-41, 80, 84-85, 142, 167 & 231  
North Smithfield, RI



Prepared for:  
Joe Casali Engineering, Inc.  
300 Post Road  
Warwick, RI 02888

Delineation and Report Prepared by:

  
Edward J. Avizinis  
Wetland Biologist/Soil Scientist

August 23, 2013  
NRS File #13-156

## Introduction

Natural Resource Services, Inc. (NRS) staff has completed the freshwater wetland delineations within the above referenced property. This field work was done in accordance with the delineation standards outlined in Appendix 2 of the Rules and Regulations Governing the Administration and Enforcement of the Freshwater Wetlands Act (effective December, 2010). These regulations state that all delineations performed by consultants are not considered valid until the work is reviewed and approved by the RI Department of Environmental Management, Office of Water Resources (DEM, OWR).

This report will explain what resource areas have been identified on the above referenced property. Based upon these classifications, the DEM, OWR requires regulatory setbacks from the established wetland delineations. The regulatory section of this report will explain what wetland setbacks are required.

Geographic Information Systems (GIS) graphics are included in the appendix of this report. While this is not to be considered a survey, it is a reasonable approximation of the site conditions which can be used for preliminary planning purposes. Wetland Delineation data forms are not included in this report but can be provided if necessary.

This report has been prepared for you in fulfillment of your client contract entered into by you on July 31, 2013. Do not hesitate to contact NRS if you have any questions or require additional copies of this report.

## Existing Conditions

The tax assessor's map for the Town of North Smithfield depicts A.P.17, Lots 14-16, 40-41, 80, 84-85,142,167 & 231 as a combined approximately 24.5 acres along the west side of Eddie Dowling Highway including a portion south of Sayles Hill Road. This area is currently the site of Anchor Subaru and Nissan. Much of the developed areas of the lots are on the eastern side near Eddie Dowling Highway. The lots to the west are primarily undeveloped and forested. Four different wetland pockets were delineated by NRS. All of these occur within the northern portion of the combined parcel area. There is also an area subject to storm flowage that was identified within this same area. This is a ditch along the west side of the newest parking lot on the site that carries flow during rain events into one of the wetlands on the site.

In addition, it appears that the entire site is within the Crookfall Brook public drinking water supply watershed and additional regulations may apply in regards to stormwater mitigation and/or septic systems on these lots.

The Rhode Island Soil Survey shows that the majority of the lot is mapped as the Woodbridge soil series. This is a very stony, sandy loam soil generally indicative of upland areas commonly found in this part of the state. The area in the vicinity of the buildings and car lot is mapped as the Udorthents soil map unit. This is a unit used to describe areas that have been historically altered by human development. There is a

portion of Ridgebury, Whitman, and Leicester soil complex mapped in the northeast corner of the lot. This is also a very stony soil but is generally indicative of wetland areas. Although areas are mapped as upland soil, it does not preclude the fact that wetlands are present within those areas. The soil survey information should be used for general planning purposes.

#### Wetland Delineations

NRS has established four (4) wetland flag series. This field work was performed on August 22, 2013. Flagging labeled A1 – A22, B1 – B9, C1 – C23, and D1 – D10 depict the limits of four different forested wetlands that are all isolated from each other on the northern part of the parcel. These wetlands are all less than three acres in size and therefore will be defined as forested wetlands and not require setbacks. There is also an ASSF that directs flow along the western edge of the newest parking lot into the A-series wetland. This feature was not flagged as it is easily identifiable in the field. The ASSF will not require a setback but is a regulated resource area.

#### Regulatory Setbacks

The following chart lists the wetland delineation established by NRS along with the DEM classification and regulatory setback.

Flag Series	DEM Classification	Regulatory Setback
A1 – A22	Forested Wetland	None
B1 – B9	Forested Wetland	None
C1 – C23	Forested Wetland	None
D1 – D10	Forested Wetland	None
Not flagged	ASSF	None

It is my opinion that the A, B, C, and D-series wetlands depict the limits of four forested wetlands that will not require setbacks. The ASSF will also not require a setback but is also regulated wetland feature.

Any and all proposed construction within the area that may alter, directly or indirectly, the on-site wetland features, will require a permit from the DEM, OWR.

#### Summation

This report has been prepared to describe the field work performed by NRS. The forested wetlands (A, B, C, and D-series) and ASSF will not require setbacks however

permitting will be required for any work near these areas that may impact these wetland resources. It is also important to note that the entire site is within the Crookfall Brook public drinking water supply watershed and additional regulations may apply in regards to stormwater mitigation and/or septic systems on these lots. I will be available to review a site plan to ensure it is an accurate representation of our field work. NRS is also available to help you with any further work or permitting that may be required.

Appendix



FOR ILLUSTRATIVE PURPOSES ONLY  
NOT A SURVEY PLAN

**Site Sketch Depicting Approximate  
Wetland Delineation**  
**949 Eddie Dowling Hwy**  
**A.P. 17, Lots 14-16, 40-41, 80,  
84-85, 142, 167 & 231**  
North Smithfield, RI

— Approximate Site Location  
— Approximate Delineation Location  
- - - Approximate ASSF Location  
Performed by Edward Avizinis 8/22/13  
0 150 300 600 Feet

N  
W E  
S  
2011 RIDEM Multispectral  
Orthophotography of RI (c) RIGIS  
**Natural Resource Services, Inc.**  
PO Box 311  
180 Tiezam Lane  
Hamsville, RI 02830  
p: (401) 568-7390  
f: (401) 568-7490  
(c) 1990 RIGIS

### Soils Legend

ChB - Canton and Charlton very stony fine sandy loams, 3-8% slopes: non-hydric  
PD - Paxton-Urban land complex: non-hydric  
Rf - Ridgebury, Whitman, and Leicester extremely stony fine sandy loams: hydric  
UD - Udothents-Urban land complex: non-hydric  
WoB - Woodbridge very stony fine sandy loam, 0-8% slopes: non-hydric



### USDA Soil Survey Map

Anchor Suburu  
949 Eddie Dowling Hwy  
A.P. 17, Lots 14-16, 40-41, 80,  
84-85, 142, 167 & 231  
North Smithfield, RI

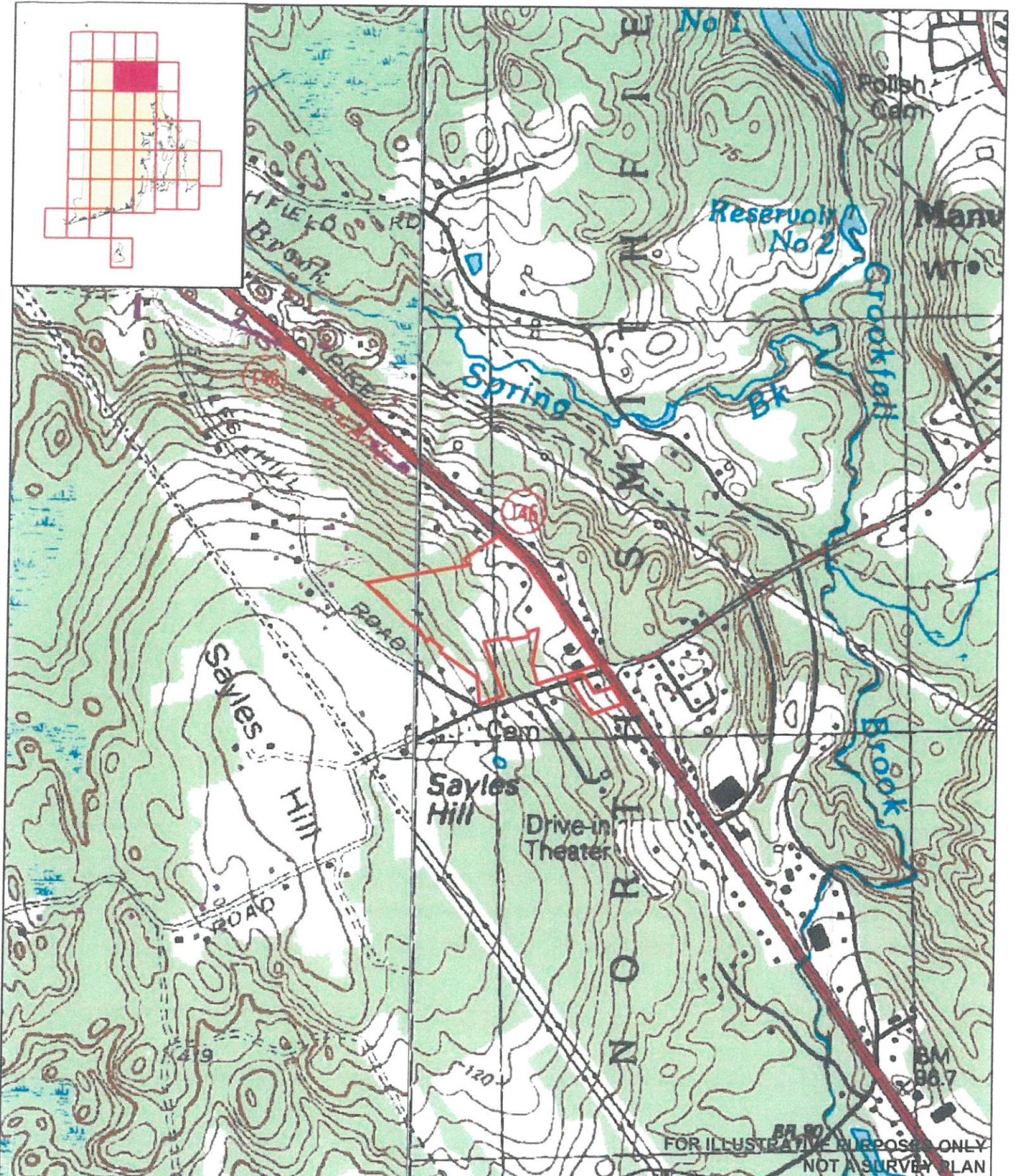
— Approximate Site Location

2011 RIDEM Multispectral  
Orthophotography of RI (c) RIGIS

0 200 400 800  
Feet



**Natural Resource Services, Inc.**  
PO Box 311  
180 Tinkham Lane  
Harrisville, RI 02830  
(c) 1990 RIGIS



**USGS Topographic Map**

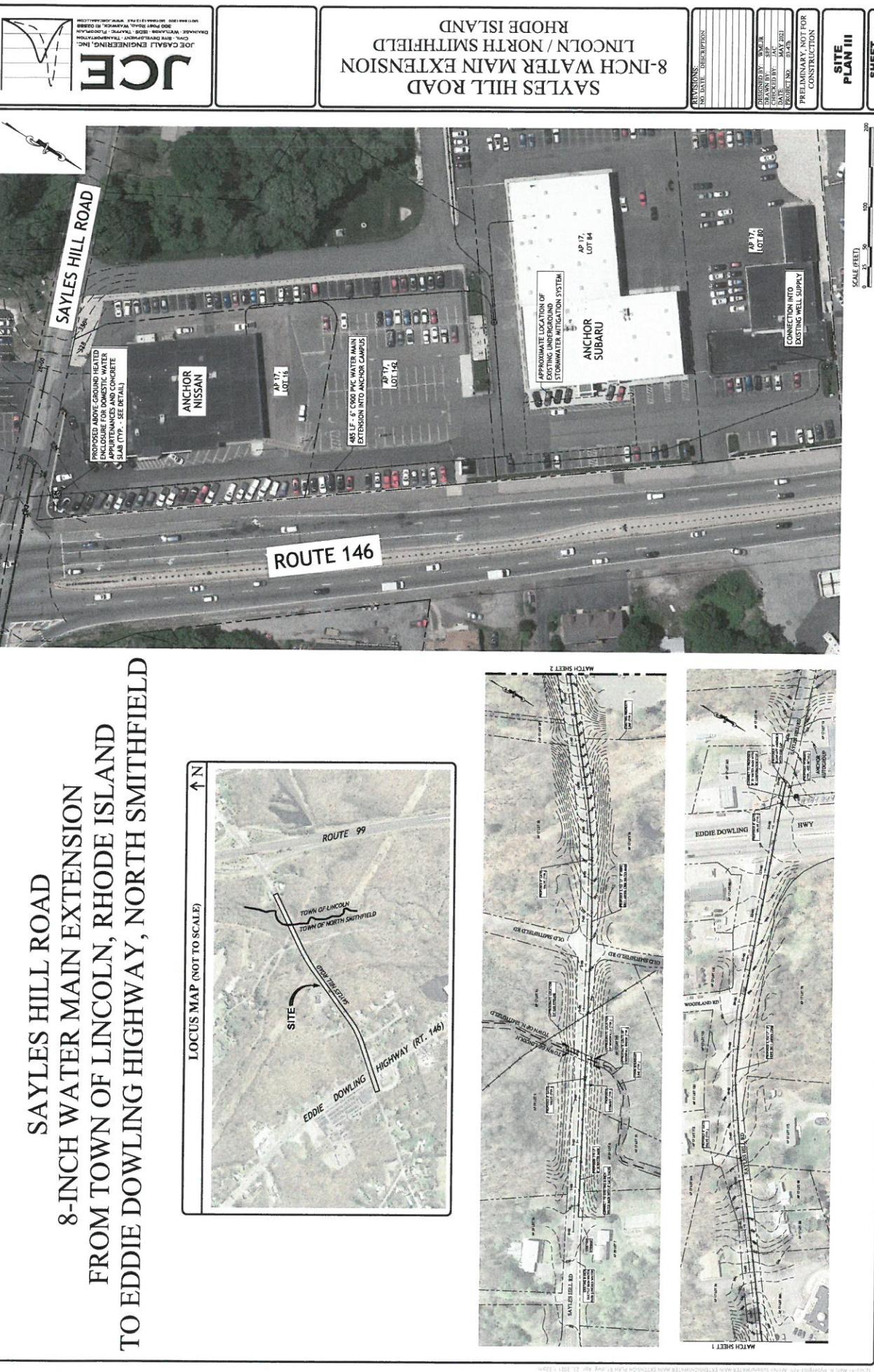
Anchor Suburu  
949 Eddie Dowling Hwy  
A.P. 17, Lots 14-16, 40-41, 80,  
84-85, 142, 167 & 231  
North Smithfield, RI

— Approximate Site Location  
USGS Topographic Series  
Contour Interval 10 Feet  
National Geodetic Vertical Datum of 1929  
0 500 1,000 2,000 Feet

Georgiaville & Pawtucket Quad Map  
**Natural Resource Services, Inc.**  
PO Box 311  
180 Tinkham Lane  
Harrville, RI 02830  
(c) 1990 RIGIS

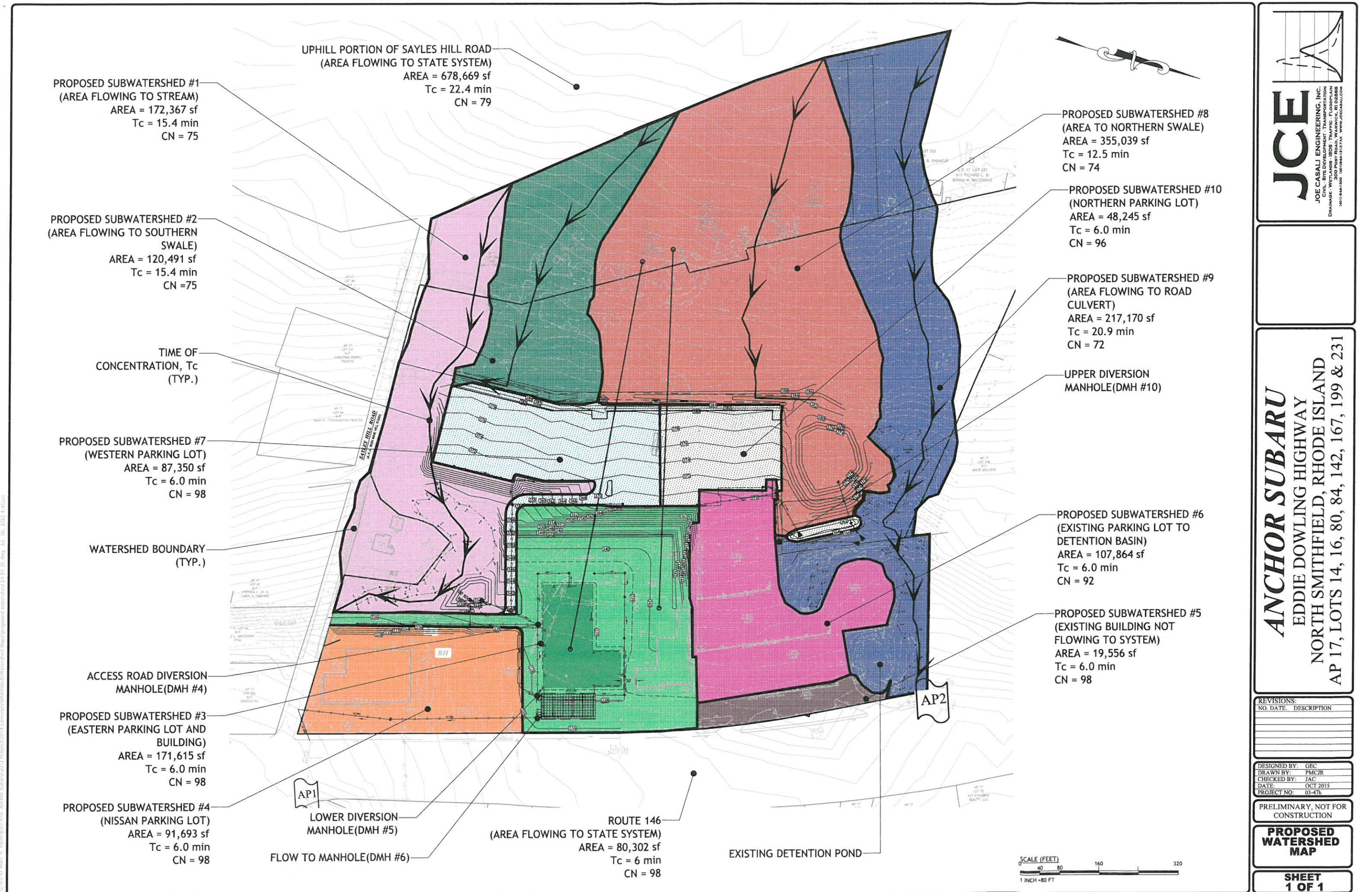
## **Appendix B**

*Reduced Water Main Extension Plan*



## **Appendix C**

*2015 Approved Proposed Watershed Map  
(Wetland Application No. 15-0078)*



## **Appendix D**

*Proposed Watershed Map*



**AVENUE AUTO GROUP**  
**NEW NISSAN BUILDING**  
**9449 & 969 EDDIE DOWLING HIGHWAY**  
**NORTH SMITHFIELD, RHODE ISLAND**  
**AP 17, LOTS 80, 84, 199 & 231**

**JCE**  
JOE CASALI ENGINEERING, INC.  
CIVIL, SITE DEVELOPMENT, TRANSPORTATION,  
STRUCTURAL, MECHANICAL, ELECTRICAL,  
PLANT DESIGN, ENVIRONMENTAL, ETC.

**JCE** JOE CASALI ENGINEERING, INC.  
CIVIL - SITE DEVELOPMENT - TRANSPORTATION  
DRAINAGE - WETLANDS - ISD'S - TRAFFIC - FLOODPLAIN  
(609) 464-3300 (609) 464-3313 FAX [WWW.JCCEBLLI.COM](http://WWW.JCCEBLLI.COM)

PRELIMINARY,  
FOR CONSTRUCTION

## PROPOSED WATERSHED MAP

SHEET  
1 OF 1