2.3.2 Access to the Site

The project site fronts on NYS Route 94. Access to the project site is from NYS Route 94. No other road access is currently available to the property. NYS Route 94 provides the primary means of access to the site from major transportation corridors. US Route 6/NYS Route 17 passes some 12 miles to the north, connecting to Interstate Route 87 and NYS Route 94 to the east and west, respectively.

Access into and out of the site will be from a proposed marginal access road. The proposed project could interconnection to adjoining parcels related to the creation of a marginal access road serving the subject site and adjoining properties pursuant to New York State Town Law §200 (Figure 2-4). This Figure also shows a temporary site access from NYS Route 94. This temporary site access will be utilized in the event that construction of the marginal access road off site is not complete at the time of constructing the commercial building. Should the marginal access road be unable to be completed off site, the temporary access road will become permanent. A NYS Department of Transportation permit would be required for both temporary and/or permanent access off NYS Route 94.

2.3.3 Site and Area Characteristics

The project site has historically been used for agricultural purposes, with the northern portion mostly wooded. Existing land uses in the area surrounding the site generally include a mix of commercial uses, agricultural uses and nurseries, vacant wooded and cleared land, and single-family homes. Figure 2-5 shows existing land use. The site falls within one zoning district, CB (Community Business). Refer to Figure 2-6, illustrating zoning.

Topography on the site is gently sloping reflecting the surrounding topography. The high point of the site is on the southwest corner of the site at elevation 584 feet. From this point elevations drop very gradually towards the wetland areas in the northeast. Elevations of 566 are found on the northern border of the parcel. Therefore, topography varies approximately 18 feet across the site. Approximately 90 percent of the site has slopes less than 10 percent.

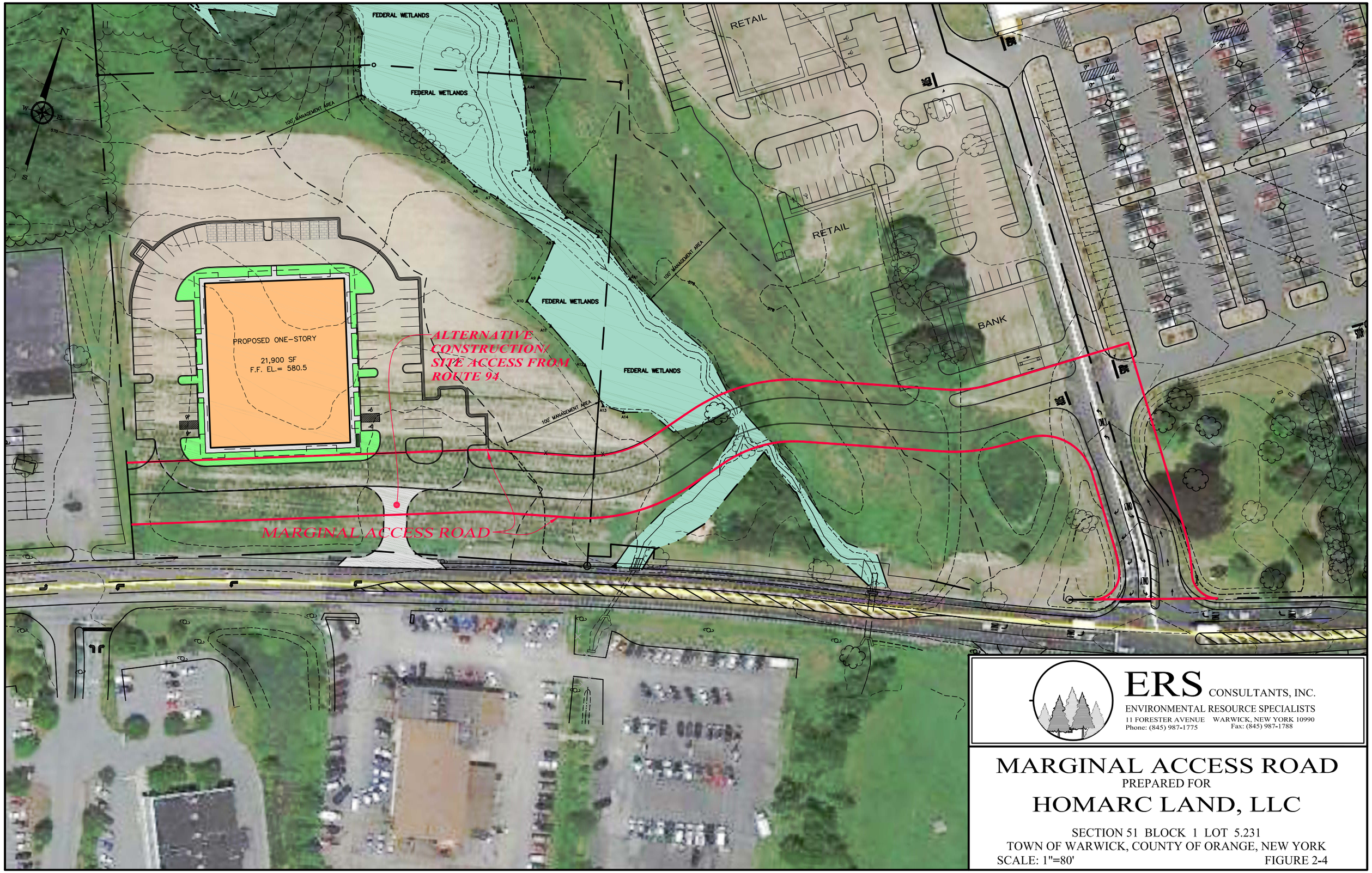
Soils which comprise the majority of the site are well drained and consist of Hoosic gravelly sandy loam. The project site contains areas of wetlands totaling 0.5 acres. All of the onsite wetlands are regulated under Federal law (under US Army Corps of Engineers jurisdiction). Wetlands on the northern side of the property include a perennial stream flowing through the site in a northerly direction from two culverts under NYS Route 94.

2.4 Project Description and Layout

2.4.1 Overview

The project owner and applicant is Homarc Land, LLC, of Warwick, New York. The project applicant proposes development of this property for professional office and retail use. Municipal water supply and wastewater treatment system for the project should be available at the time of construction.

A summary of the changes in surface cover that would result from the development of this project is provided in Table 2-1 below.



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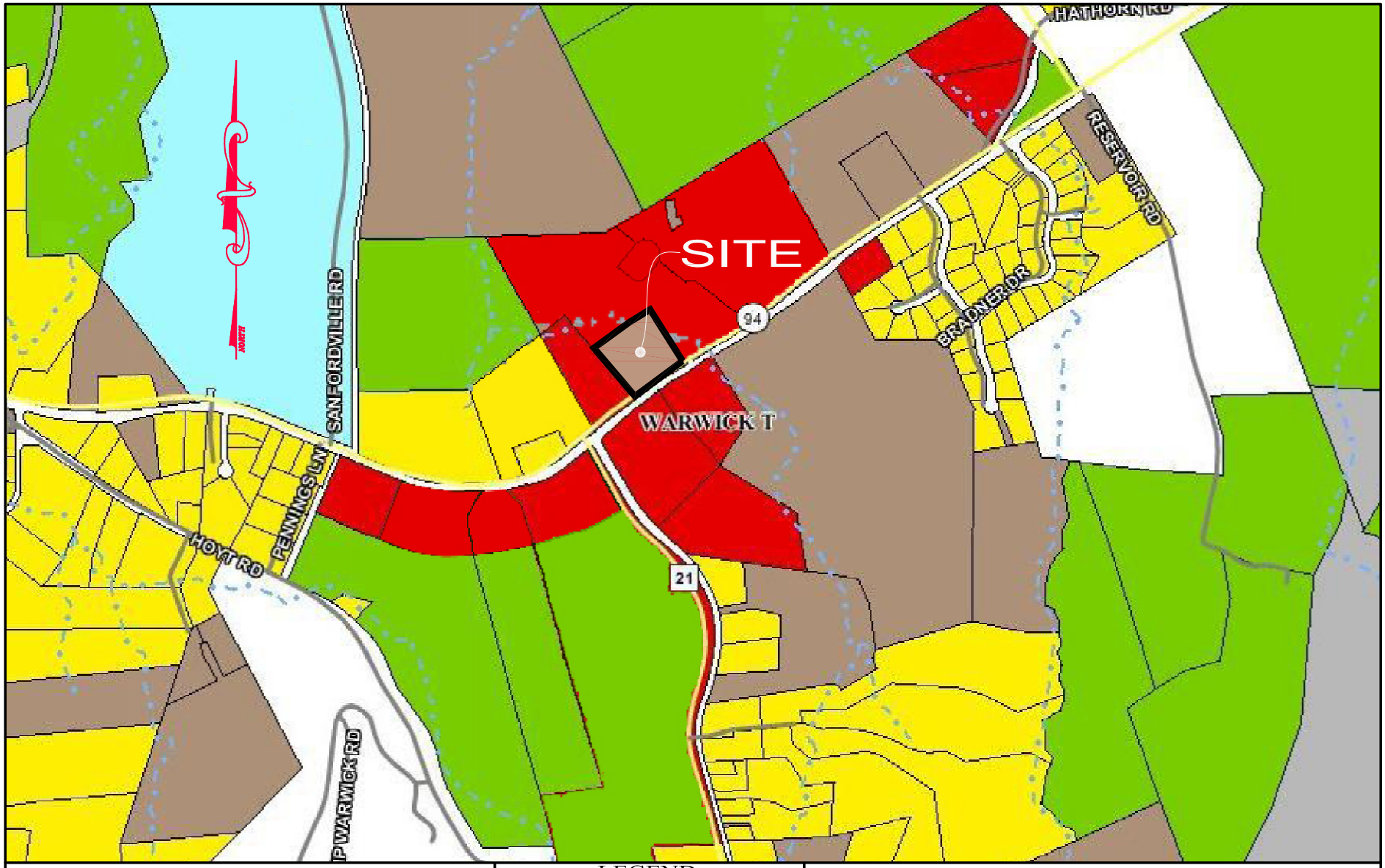
MARGINAL ACCESS ROAD

PREPARED FOR

HOMARC LAND, LLC

SECTION 51 BLOCK 1 LOT 5.231
TOWN OF WARWICK, COUNTY OF ORANGE, NEW YORK
SCALE: 1"=80' FIGURE 2-4



SOURCE: ORANGE COUNTY GIS
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LEGEND

- AGRICULTURAL
- COMMERCIAL
- COMMUNITY SERVICE
- INDUSTRIAL
- OFFICE
- PARKS
- PUBLIC SERVICE
- RESIDENTIAL
- VACANT
- ROADS

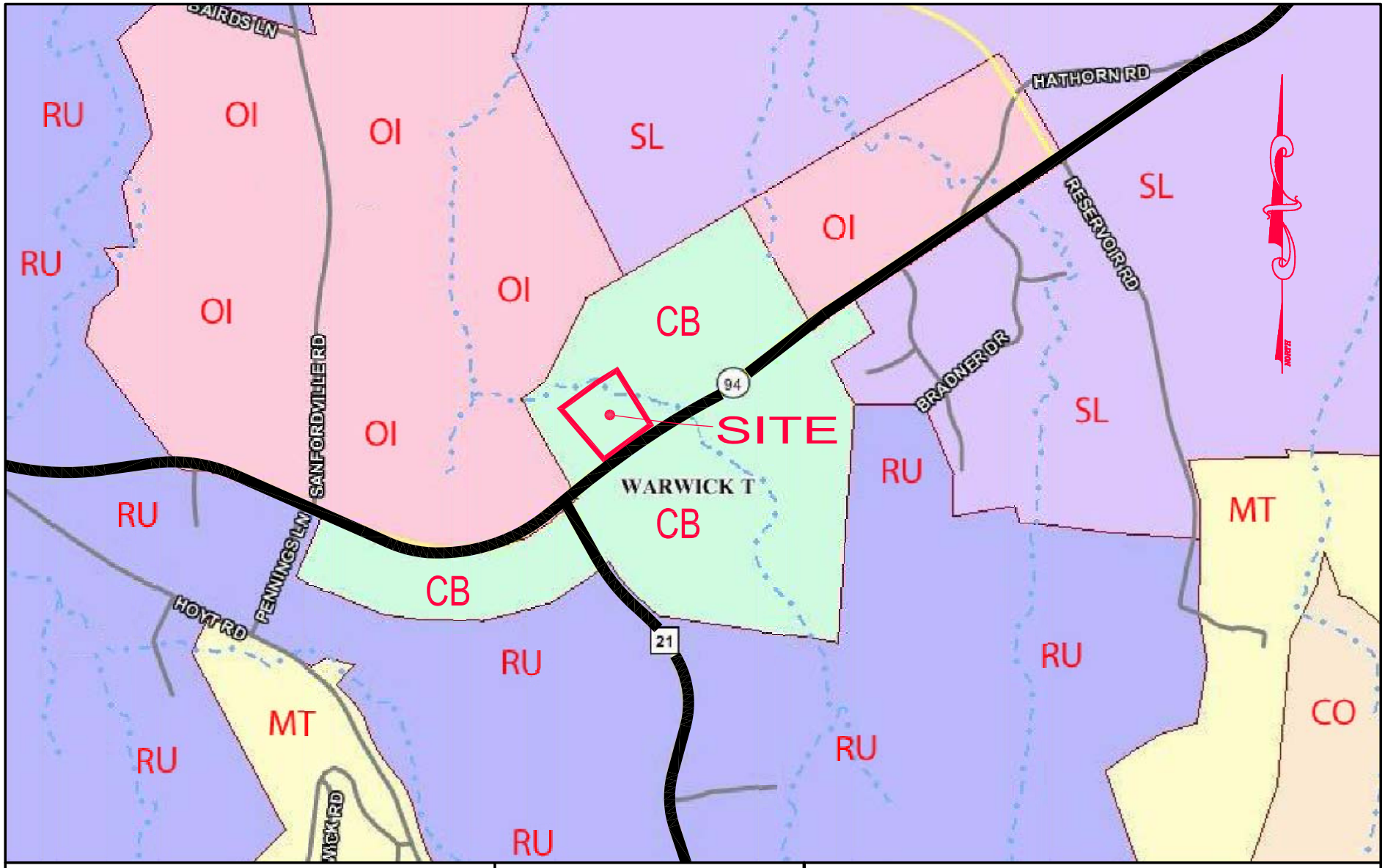
LAND USE

PREPARED FOR

HOMARC LAND, LLC

SECTION 51 BLOCK 1 LOT 5.231
TOWN OF WARWICK, COUNTY OF ORANGE, NEW YORK
SCALE: 1"=1000'

FIGURE 2-5



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LEGEND

- CO CONSERVATION
- CB COMMUNITY BUSINESS
- MT MOUNTAIN
- OI OFFICE AND INDUSTRIAL PARK
- RU RURAL
- SL SUBURBAN RESIDENTIAL LOW DENSITY

ZONING MAP

PREPARED FOR

HOMARC LAND, LLC

SECTION 51 BLOCK 1 LOT 5.231
TOWN OF WARWICK, COUNTY OF ORANGE, NEW YORK
SCALE: 1"=1000'

FIGURE 2-6

Table 2-1 Changes in Surface Cover (Acres)			
	Existing	Disturbance	Post-Development
Meadow	0.85	0.12	2.10**
Woods (upland)	0.13	0.00	0.13
Agriculture	3.60	2.37	0.00**
Wetlands	0.50	0.00	0.50
Water	0.02	0.00	0.02
Impervious/parking	0.00	0.68*	0.68
Impervious/marginal road	0.00	0.27*	0.27
Impervious/sidewalks	0.00	0.07*	0.07
Impervious/building	0.00	0.50*	0.50
Lawn/landscaping	0.00	0.83*	0.83
TOTAL	5.10	2.49	5.10

* These surface cover areas are already included in the vegetative cover disturbances. Therefore, they do not contribute to the total.
** The remaining agricultural cover will be left fallow, converting to meadow.
Source: ERS Engineering Consultants, P.C.

2.4.2 Structures and Site Development

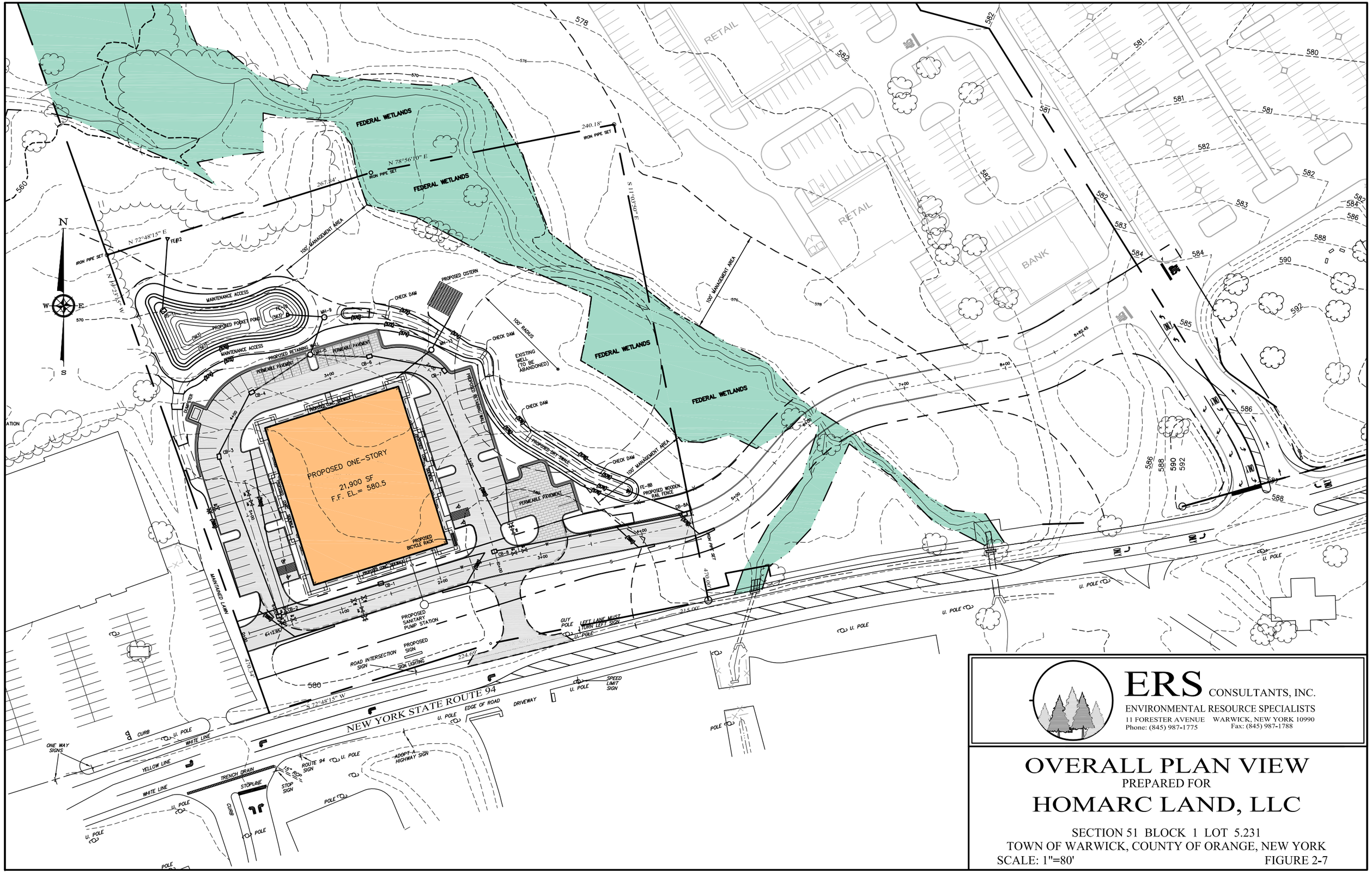
Access

Site access is proposed from a marginal access road. The Town of Warwick zoning regulations include provisions requiring consideration of a marginal access road into the site plan design of nonresidential uses in the CB (Community Business) district along NYS Route 94 in which the project is located. The creation of a marginal access road would serve the subject site and the Price Chopper Plaza pursuant to New York State Town Law § 200, should such a marginal access road be deemed by property owners or the Town to be desirable in the future.

The site plan is designed to comply with the bulk requirements of the Town for development in the CB zone in which it is located. Figure 2-7 depicts an overall plan view of the proposed site development and Figure 2-8 illustrates an aerial view of the project proposal. These Figures also show a temporary site access from NYS Route 94. This temporary site access will be utilized in the event that construction of the marginal access road off site is not complete at the time of constructing the commercial building. Should the marginal access road be unable to be completed off site, the temporary access road will become permanent. A NYS Department of Transportation permit would be required for both temporary and/or permanent access off NYS Route 94.

Building Layout, Use & Architecture

The project proposal includes a single one-story commercial building to face NYS Route 94, set back from the road some 105 feet. Employee and customer parking areas are proposed to be located on three sides (back and both sides) of the building. The site plan provides areas for landscaping around the perimeter of all of the public parking areas. No designated loading area is necessary for the building. Access to all sides of the building would be available for



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OVERALL PLAN VIEW

PREPARED FOR

HOMARC LAND, LLC

SECTION 51 BLOCK 1 LOT 5.231
TOWN OF WARWICK, COUNTY OF ORANGE, NEW YORK
SCALE: 1"=80' FIGURE 2-7

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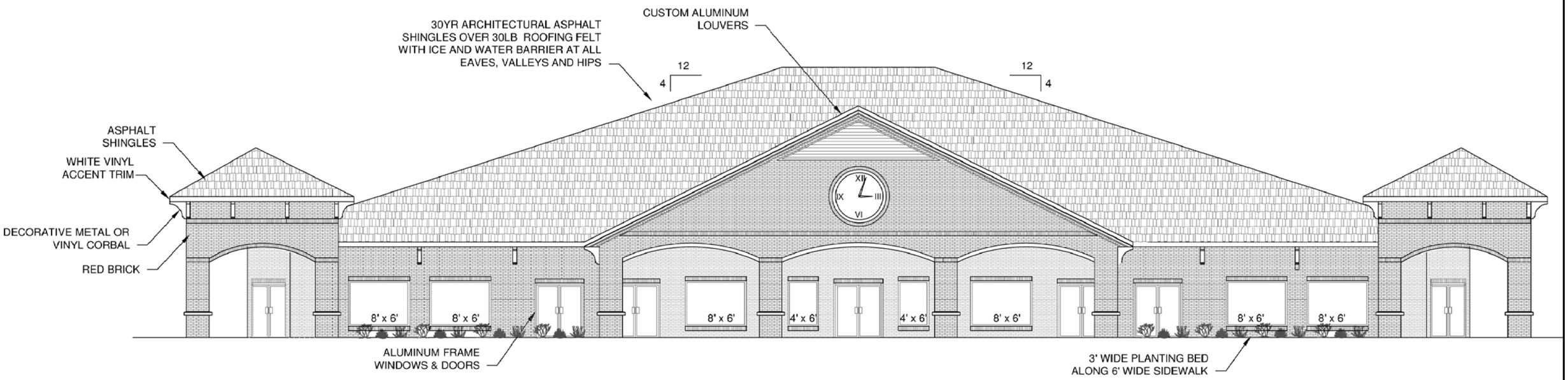
AERIAL VIEW - PROPOSED PROJECT

PREPARED FOR

HOMARC LAND, LLC

SECTION 51 BLOCK 1 LOT 5.231
TOWN OF WARWICK, COUNTY OF ORANGE, NEW YORK
SCALE: 1"=50' FIGURE 2-8



SOURCE: JOHN FULLER, N.Y.S.P.E.

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ARCHITECTURAL VIEW

PREPARED FOR

HOMARC LAND, LLC

SECTION 51 BLOCK 1 LOT 5.231

TOWN OF WARWICK, COUNTY OF ORANGE, NEW YORK

SCALE: NONE

FIGURE 2-9

emergency purposes. Architecture for the proposed building was designed to be compatible with the overall historic character of the Village and Town of Warwick. As part of the approval process, the Town of Warwick Architectural Review Board will review the proposed architectural design. Figure 2-9 is the architectural view of the proposed building.

Floor Area

Total floor area of the building is proposed to be 21,900 square feet. It is anticipated that this space will be divided into 12 to 14 office and/or retail spaces.

Grading and Drainage Plans

The project proposal includes a grading and drainage plan that will provide for a building pad, paved circulation and parking areas, and graded transition areas to meet existing grades at the perimeter of the proposed development. The project plans call for stormwater runoff from all new pavement surfaces and building roof to be collected in surface drainage systems that will include a detention basin, cistern and dry swale for water quality and quantity control prior to discharge.

Given the existing topography of the property, grading will be necessary to establish the subgrades for this development. The various areas of disturbance are presented for the site in Table 2-1 above. For the entire site, about 2.49 acres of total on-site land area to be cleared for construction of building, landscaping, utility, stormwater and parking development. Approximately 0.83 acres of that total will be re-vegetated with landscaping (meadow, lawn and landscaped areas). Approximately 2.75 acres, or 54 percent of the property, will not be physically altered and will remain in its present vegetated condition (meadow, woods, and wetland).

Parking Layout

A total of 84 off-street parking spaces (for employees and customers) are proposed for the development. This number includes four handicapped parking spaces located close to the building entrance. The spaces will be located surrounding the proposed building. The seven parking space lot adjacent to the marginal access road will be constructed later as demand dictates the need. This parking lot will also be constructed using block pavers.

The Applicant considers the proposed amount of customer and employee parking to be sufficient and appropriate for professional office and general retail space. The quantity of parking proposed meets that required by the Town of Warwick Zoning Law. That law requires 3.6 spaces per 1,000 square feet for professional office space, plus 3.3 spaces per 1,000 square feet for general retail space or 84 spaces if the building was divided evenly between office and retail use. Published standards of the Urban Land Institute (ULI) for parking requirements confirm that the level of parking proposed will accommodate the parking needs of customers and employees. The ULI uses a standard of 4.0-4.5 spaces per 1,000 square feet of retail and up to 3.0 spaces per 1,000 square feet for office space or 84 parking spaces if the building was divided evenly between office and retail. The adjacent land owner (bowling alley) was approached about shared parking, however, they were not interested in either sharing parking or the marginal access road.

Landscape

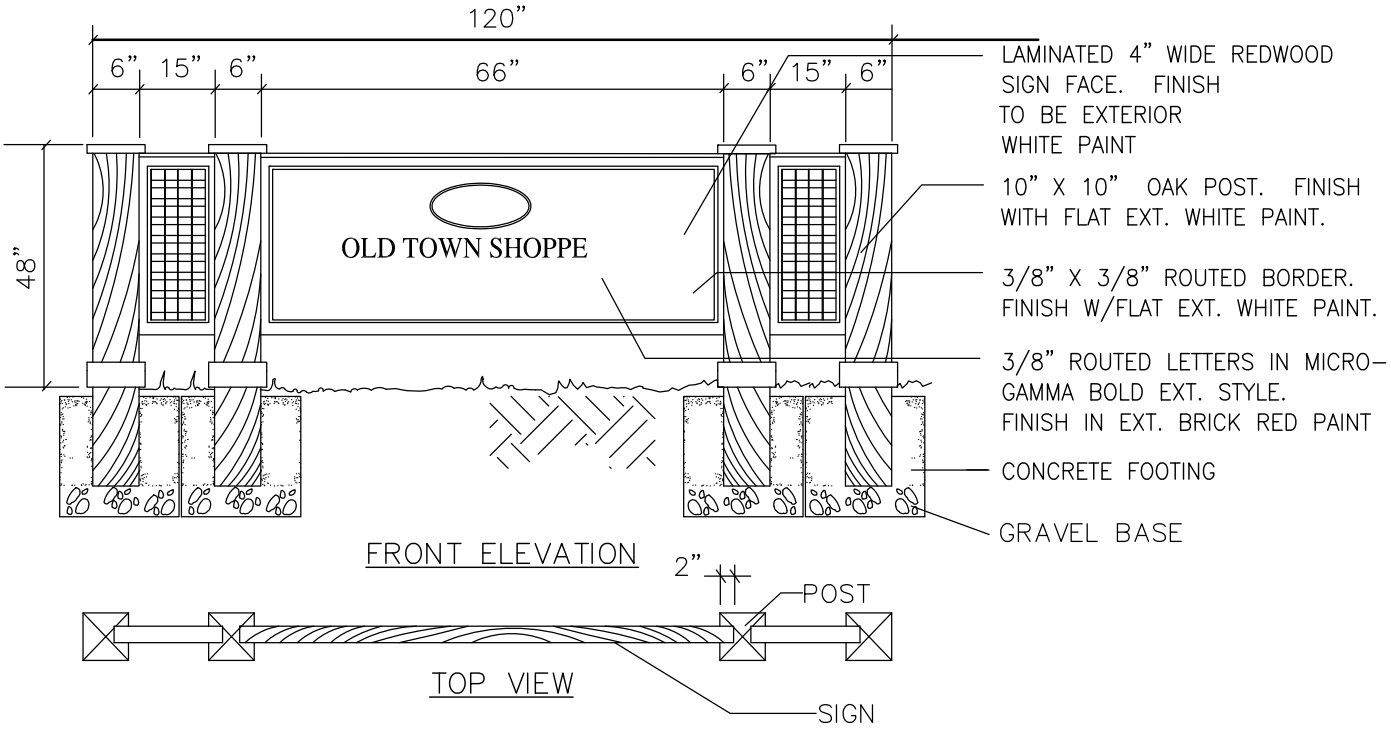
A site landscaping plan has been designed that includes tree and shrub plantings throughout the developed areas of the site that will be visible to the public. A tree and shrub planting plan is provided along the perimeter of parking lot. The preliminary Landscaping Plan accompanies this document. Preliminary plant lists are provided in Table 2-2. Where eight or more spaces are proposed, the Code requires one canopy tree of 3" caliper for every eight spaces and ten shrubs, thus requiring 11 trees and 110 shrubs for this development. The site plan shows 35 canopy trees and 110 shrubs, meeting the Town requirements.

The site frontage between NYS Route 94 itself and the new pavement areas within the project is proposed to be maintained as lawn with trees. Other perimeter areas disturbed by grading will be re-vegetated following construction with lawn grass, meadow grass, or a specialized plant mix for erosion control or wet conditions of the stormwater basin. In addition, existing landscape vegetation outside of the disturbed area will be preserved in the proposed landscape plan.

Site landscaping is designed to comply with the Town's regulations and Design Standards with regard to landscaping and buffering of development from NYS Route 94. Landscaping and open space are intended to dominate the site and enhance the overall site design as recommended in the Town Comprehensive Plan.

Table 2-2
Landscape Plants

SCIENTIFIC NAME	COMMON NAME
TREES	
Acer saccharum	Sugar Maple
Acer rubrum October Glory	October Glory Red Maple
Betula nigra Heritage	Heritage River Birch
Cornus florida	Flowering Dogwood
Pinus strobus	White Pine
Pyrus calleryana Chanticleer or Cleveland S.	Chanticleer or Cleveland S. Pear
Quercus palustris	Pin Oak
SHRUBS	
Clethra alnifolia	Sweet Pepper Bush
Cornus sericea	Redtwig Dogwood
Cornus sericea Silver & Gold	S. & Gold Yellowtwig Dogwood
Ilex meservaeae Blue Princess	Blue Princess Holly
Ilex meservaeae Blue Prince	Blue Prince Holly
Rhododendron hybrids azalea	Evergreen Azalea
Rhododendron hybrids PJM	Rhododendron PJM
PERENNIALS	
Hemmerocallis Stella d'Oro	Stella d'Oro Daylily
Pennisetum alopecuroides Hameln	Hameln Fountain Grass
Rudbeckia fulgida Goldsturm	Black-Eyed Susan
Source: ERS Consultants, Inc.	



SOURCE: ERS CONSULTANTS, INC.

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TYPICAL SIGN ILLUSTRATION

PREPARED FOR

HOMARC LAND, LLC

SECTION 51 BLOCK 1 LOT 5.231
TOWN OF WARWICK, COUNTY OF ORANGE, NEW YORK

SCALE: NONE FIGURE 2-10

Lighting and Signage

The project site is proposed to be illuminated at night to provide pedestrian and vehicle safety throughout the developed portion of the project site. The preliminary Lighting Plan (Sheet # 4 of 6) accompanies this document and can be found at the end of the DEIS. The manufacturer's data sheet for lighting fixtures can be found in Appendix H. The proposed site lighting plan will consist of pole-mounted fixtures as well as building-mounted fixtures, all with fully shielded light sources. Parking area lighting at the site is proposed to be mounted on poles 14 feet in height with spacing ranging from approximately 50 to 100 feet. A preliminary lighting plan has been designed to generally provide average illumination of 4.0 to 5.5 footcandles on pavement surfaces for the parking areas and 9.9 footcandles on the entrance driveway. The parking areas will be illuminated to provide light levels sufficient for pedestrian safety, parked car security, and clarity of vehicular circulation, while meeting local code requirements. Lights will be oriented so that off site light spillage will be minimized. No lighting sources are proposed which would be visible from any residential property nearby. No light trespass from the project will exceed 0.01 footcandles at the property line, except at the site access. It is anticipated that a minimum level of all-night illumination will be maintained at the building for safety and security after operating hours.

Signage for the project is proposed along the front of the property and at the entrance of the Price Chopper Plaza where the marginal access road would begin. Figure 2-10 illustrates the size and type of sign envisioned at the site. The sign will be presented to the Planning Board in more detail as the design is developed.

Erosion and Sedimentation Control

A soil erosion and sediment control plan is provided in the set of site plans included with this document. The erosion control plan is part of the stormwater management plan prepared for the overall project. The primary purpose of the plan is to identify appropriate soil erosion and sediment control measures to be implemented during and after construction of the project to reduce soil erosion from areas exposed during construction and to prevent waterborne sediment from reaching the on-site wetlands and downstream surface waters. All soil erosion and sedimentation control practices will be installed and maintained in accordance with the New York Guidelines for Urban Erosion and Sediment Control, August 2005 and the Warwick Town Code § 164-47.10, Stormwater Management Regulation.

Setbacks and Buffer Treatments

The proposed development plan has been designed to be compatible with the surrounding pattern of development and land use. The setback distance between NYS Route 94 and the proposed building would serve to limit the visual effects of the project. New landscaping at the front and sides of the project site would serve to visually buffer the new development from NYS Route 94 and the adjacent uses. The proposed project has been designed to meet the requirements of the Town zoning code with regard to uses, bulk and parking requirements, building setbacks from property lines, landscape requirements, and the applicable design guidelines of the Town.

Pedestrian Safety

Parking facilities for this project have been designed to accommodate safe pedestrian circulation from parking space to building. Parking is provided in close proximity to the building

on three sides. Handicap parking is also provided adjacent to the building. A sidewalk will be provided along all four sides of the building. The site plan is designed so that transit bus circulation is feasible on the site. No pedestrian or bicycle traffic has been observed along NYS Route 94 and this road has not been signed for bicycle use. No pedestrian or bicycle path are provided on the site plan.

Impervious Surfaces

Proposed pavement surfaces will cover approximately 1.08 acres of the site. The proposed building will cover approximately 0.5 acres. In total, coverage of all proposed impervious surfaces will involve approximately 31 percent of the site.

Offsite Construction

Off-site underground utility construction such as water supply and sewerage will be required to accommodate this project. These underground utilities would extend off-site along the proposed marginal access road.

2.5 Construction and Operation

2.5.1 Construction

The project plans have been developed for the building and pavement areas in accordance with current engineering standards for construction materials and methods, and suited to the specific development capabilities of the project site. Plans for grading and drainage, soil erosion and sediment control, utilities, and landscaping for the site development have been prepared and accompany this DEIS document.

Construction Sequence and Schedule

A construction sequence and schedule has been developed as part of the overall erosion and sediment control plan for the project. Adherence to the construction sequence will minimize the area of soil exposed to erosion at any one time during construction and thus minimize effects to surface water quality when the potential is the highest.

A summary of the proposed site construction sequence is as follows:

1) Erect protective fencing around trees and other features to be preserved.

2) Install stabilized construction entrance and temporary perimeter silt fencing around the construction area.

3) Construct the permanent water quality and detention basin and cistern as shown on the erosion control plan, and install temporary swales and berms as needed to direct runoff to the basins. The basin will be utilized as temporary sediment traps during construction.

4) Clear and grub vegetation, remove existing structural debris. Strip and stockpile topsoil as indicated on the erosion control plan.

5) Perform grading, excavation and construction of pavement areas, building pad, and utilities. Provide temporary sediment protection at all stormwater inlets.

6) Maintain silt fence barriers, sediment traps, and other erosion control measures in working order throughout the construction period.

7) Plant, seed or pave all disturbed areas in a timely manner to prevent or minimize erosion. Remove temporary erosion control measures after upgradient disturbed areas have been stabilized. Remove excess sediment from all detention basins used as temporary sediment traps and catch basins after upgradient disturbed areas have been stabilized.

8) Monitoring: Commence site inspection and maintenance program to ensure establishment of all landscape plantings and other permanent erosion control measures at the site. Promptly stabilize and restore damage to plantings and seeded areas.

It is anticipated that site work will begin in Spring 2015 and will be completed and occupied by Winter 2016. Project build year for the purpose of the DEIS is 2015. Construction activities at the site will be limited to the daytime hours, 7:00 am to 7:00 p.m., Monday through Saturday, and excluding Sundays and legal holidays. Upon completion of the shell of the structure, work hours may be extended to complete interior construction only. The applicant will be responsible for monitoring construction progress and contractor adherence to the approved plans and specification and any conditions of approval specified by an approving agency.

A conceptual chart of the anticipated construction sequence, showing the start and completion of key tasks, is depicted in the table below.

Table 2-3
Construction Sequence

1 Month	3 Months	6 Months	9 Months	18 Months
Clearing Stripping Topsoil				
	Excavation Grading			
		Foundation		
			Constructing Shell/Initial Paving	
				Building, Site Work, Paving, Landscaping

Source: Homarc Land, LLC

The project access will be established early in the construction period so that construction equipment and trucks will have safe access onto and off of the construction site. It is anticipated that project access will be from the marginal access road to be constructed on the

adjacent property. Should the marginal access road not be available at the time of construction project access will be from NYS Route 94. Traffic control at the construction entrance will meet the requirements of New York State Department of Transportation (NYSDOT) so that truck traffic generated during construction will not adversely affect NYS Route 94. Stabilization of the site will include ongoing dust suppression efforts to minimize airborne particulates from leaving the site.

Site construction activities will comply with Town ordinances with regard to construction restrictions. Construction-generated dust will be controlled by the following procedures: i) minimizing the extent of soil that is left unvegetated at any one time; ii) the use of fast-germinating seed or other temporary cover on exposed soil areas; iii) spraying water on exposed areas used for construction traffic when needed; and, iv) covering construction vehicles used to transport soil or demolition debris.

The applicant will be responsible for monitoring construction progress and contractor adherence to the approved plans and specifications. During the entire construction period, the contractor's project manager will be required to maintain weekly progress reports at the site that describe erosion control and stormwater management items of concern and measures taken to minimize erosion and sedimentation.

The applicant will be responsible for the maintenance and operation of all stormwater management facilities such as catch basins, surface basin and swale, and subsurface system during and following construction.

The applicant will also be responsible for the maintenance of all landscape plantings and other permanent erosion control measures installed at the site. Damage to plantings and seeded areas from storm events will be promptly stabilized and restored.

2.5.2 Operation

Hours of operation for general retail will be seven days per week; generally 8:00 a.m. to 9:00 p.m. Delivery truck traffic to the site will vary from week to week depending upon the season and the variation in demand that occurs at the building. Other incidental truck visits include solid waste pickups twice per week.

The owner will be responsible for periodic maintenance of stormwater facilities at the site to conform with Clean Water regulations. Site management would include weekly policing of the parking areas for litter and debris removal. Once per month inspections of stormwater inlets and basin would be conducted by the owner to identify sediment accumulation or other obstruction of drainage performance. Cleaning of drainage structures would be contracted by the owner on an as-needed basis. Site specific maintenance requirements will be specified on the site plan. A written record of inspections and maintenance will be kept at the site.

The site development will include lighting and security systems. Site lighting planned for this facility will include single headed pole lamps mounted at 14 foot height. Additional lighting is proposed as building mounted fixtures, mounted at 15 foot height. These fixtures will provide adequate illumination for safety and security. To minimize light spillage off the site, light fixtures that are proposed near the perimeter of the project will include lighting shields if needed to achieve negligible light levels at the property line. For security, the building will be illuminated at a minimum level throughout the night.

2.6 Approvals and Involved Agencies

Approvals required for this project and agencies having approval and permitting authority for the proposed action ("Involved Agencies") are listed below:

Site Plan Approval, Special Use Permit(s)
Town of Warwick Planning Board, Town Hall, 132 Kings Highway, Warwick, NY 10990

Orange County Department of Health, 124 Main Street, Goshen, NY 10924

Approval of Wastewater Treatment Facilities
New York State Department of Environmental Conservation, Region 3, 21 South Putt Corners Road, New Paltz, NY 12561-1696

Stormwater Pollution Prevention Plan
New York State Department of Environmental Conservation, Region 3, 21 South Putt Corners Road, New Paltz, NY 12561-1696

Work Permit for Activities in the State Right of Way
New York State Department of Transportation, Region 8, 4 Burnett Boulevard, Poughkeepsie, NY 12603

Referral of Site Plan per General Municipal Law §239-m
Orange County Department of Planning, Attn: David Church, AICP, 124 Main Street, Goshen, NY 10924

2.7 Interested Parties

The following parties are identified in the DEIS Scope as "Interested Parties" in this SEQR review.

Town of Warwick Architectural Review Board

Town of Warwick Conservation Board

Orange County Department of Planning

New York State Department of Environmental Conservation

New York State Office of Parks, Recreation and Historic Preservation

United States Army Corps of Engineers

United States Fish and Wildlife Service

3.0 EXISTING CONDITIONS, POTENTIAL IMPACTS AND MITIGATION

3.1 Soils and Topography

3.1.1 Existing Conditions

Geology

The project site is located in the southern portion of Orange County within the lower Hudson Valley region of New York State. This region lies within the Valley and Ridge physiographic province which is mostly underlain by marine shales and siltstones, with minor carbonates and metamorphic rocks. The project area is underlain by upper Cambrian to Ordovician age rocks of the Wappinger Group, including dolostones and shales. Local and regional geology has been mapped by the State of New York in the Surficial Geologic Map of New York Lower Hudson Sheet (reprinted 1995).

To the north of the site, younger Ordovician age shales, greywackes and sandstones underlie the broad low land of the Wallkill River valley. This valley reflects glaciation and later stream deposition by the Wallkill River, as well as other rivers and streams. To the south of the site lies the Ramapo Mountain range which is part of the Hudson Highlands physiographic province. The Hudson Highlands is composed of complexly folded and faulted Precambrian age metamorphic and igneous rocks.

According to the Surficial Geologic Map of New York, Lower Hudson Sheet, 1989, the surficial deposits in the area of the site consist of outwash sand and gravel and kame deposits. Outwash sand and gravel is described as well rounded, course to fine gravel with sand. Such deposits are often sources of groundwater, as described in the hydrogeology section below. Kame deposits are described as course to fine gravel and/or sand that was deposited adjacent to melting glaciers. These deposits often appear as low rounded hills in areas of level topography.

Soils

On-site soils have been described by the United States Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS). The soil mapping units found on the site using the soil classifications of the USDA Soil Conservation Service are summarized below:

- Castile gravelly silt loam (CgA) This is a deep, moderately well drained nearly level soil formed in glacial outwash that has a high gravel content. This soil is found in the central portion of the site.

- Chenango gravelly silt loam (CnB) This unit consists of deep, well drained to somewhat excessively drained, gently sloping soil formed in glacial outwash deposits with a high gravel content. This soil is found in the western portion of the site.

- Hoosic gravelly sandy loam (HoB) This is a deep, somewhat excessively drained gently sloping soil formed in glacial outwash that has a high sand and gravel content. This soil is located in the eastern portion of the site.

- Wayland silt loam (Wd) This is a deep, poorly drained and very poorly drained, nearly level soil formed in silty alluvial deposits. A small area (0.6 acres) of this soil type occurs within the wetland area in the northwest portion of the property. This soil unit is considered to be a hydric soil.

The soils on this site are common in this area of Orange County. As described above, on-site soils were formed from glacial till and glacial lake deposits. Soils which comprise the majority of the site are well drained and consist of Hoosic gravelly sandy loam. Soils on the western portion of the site where the development is proposed consists of Castile and Chenango which are moderately to well drained. On-site soils are shown in Figure 3-1, Existing Soils Map. Table 3-1 summarizes soil characteristics and limitations on the project site. It is further noted that soil limitations may require special planning considerations for a development project. These factors, described as limitations in soil surveys published by the Natural Resource Conservation Service, formerly Soil Conservation Service, reflect the difficulty and relative costs of the corrective measures that may be necessary (i.e. erosion control, footing drains or other drainage improvements) rather than construction potential. The limiting characteristics of these soils can be overcome by careful project planning, design and management.

Table 3-1
Soil Characteristics and Limitations

Map Unit	Small Commercial Buildings	Local Roads and Streets	Lawns and Landscaping	Drainage Class	Area (acres & % of site)
Castile (CgA)	Severe: frost action	Severe: frost action	Moderate: small stones	Moderately Well Drained	1.2 Acres 23%
Chenango (CnB)	Moderate: slope,frost	Moderate: frost action	Moderate: small stones	Well Drained	1.3 Acres 25%
Hoosic (HoB)	Moderate: slope	Slight	Severe: small stones	Moderately Well Drained	2.1 Acres 41%
Wayland (Wd)	Severe: floods, wetness, frost	Severe: floods, wetness frost	Severe: wetness, floods	Poorly Drained	0.6 Acres 11%

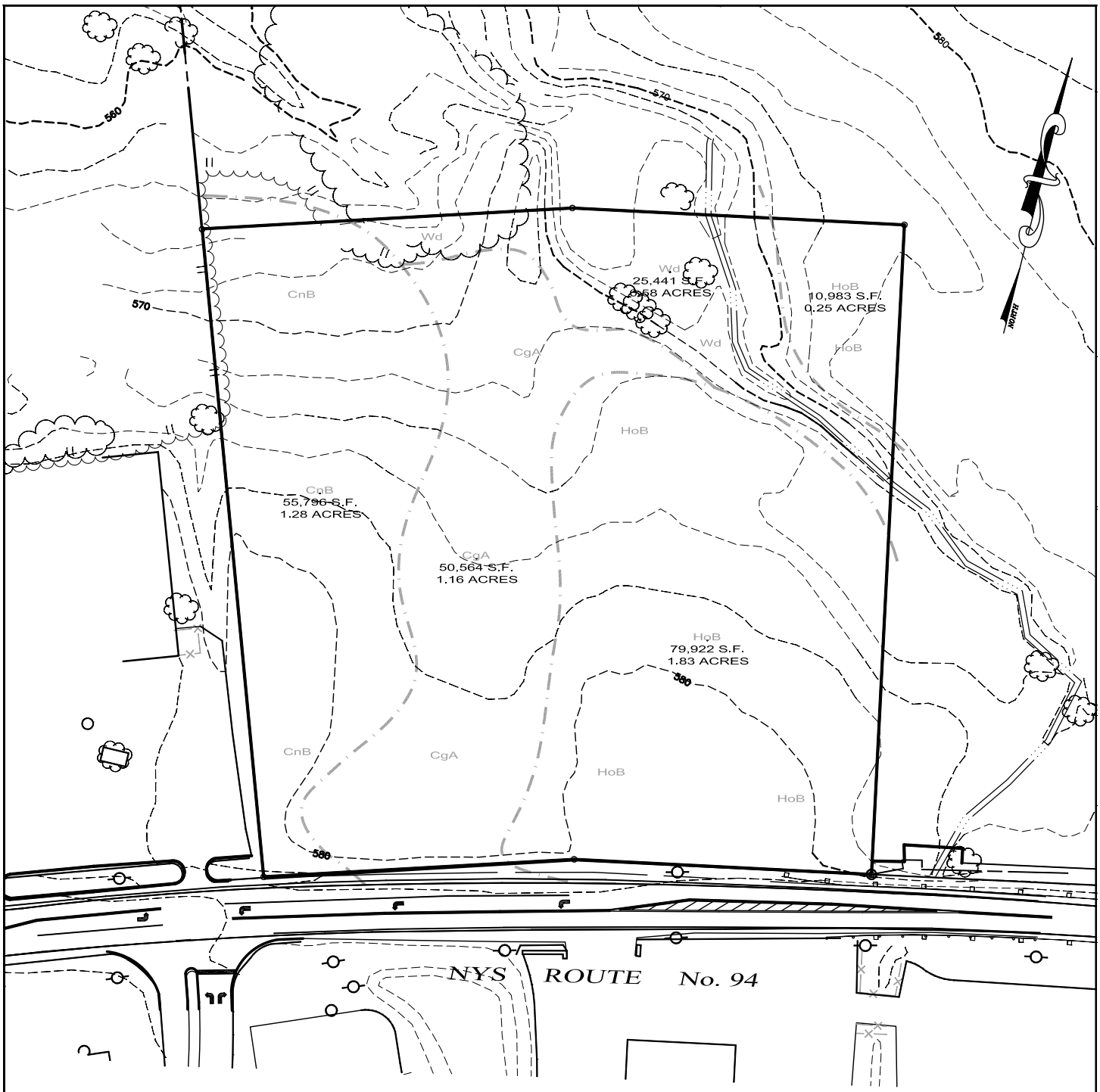
Source: Soil Survey of Orange County, USDA NRCS

Soil Tests

Lehman & Getz Consulting Engineers conducted soil testing at various locations on the site in October 2007. The test pit record shows that most of the soils on site have topsoil from the surface down to 14 inches in depth. The subsoils are light brown sand and silt loam with gravel and mottling starting at 26 to 36 inches. Ground water seepage occurred at 60 to 66 inches. No bedrock was encountered at the soil test locations. The test pit logs are provided in DEIS Appendix D.

Agricultural Soils

Agricultural soils may be categorized as “prime farmland” or “farmland of statewide importance”. The Middletown (Orange County, NY) office of the USDA NRCS maintains a list of prime farmland soils and statewide important soils for Orange County. This list was compared with the soils found on the project site. Hoosic (HoB) soils found on the site are designated as farmland of statewide importance. These represent approximately 2.1 acres, or 41 percent, of the project site. Muckland soils associated with the “black dirt” region of Orange



SOURCE: NRCS

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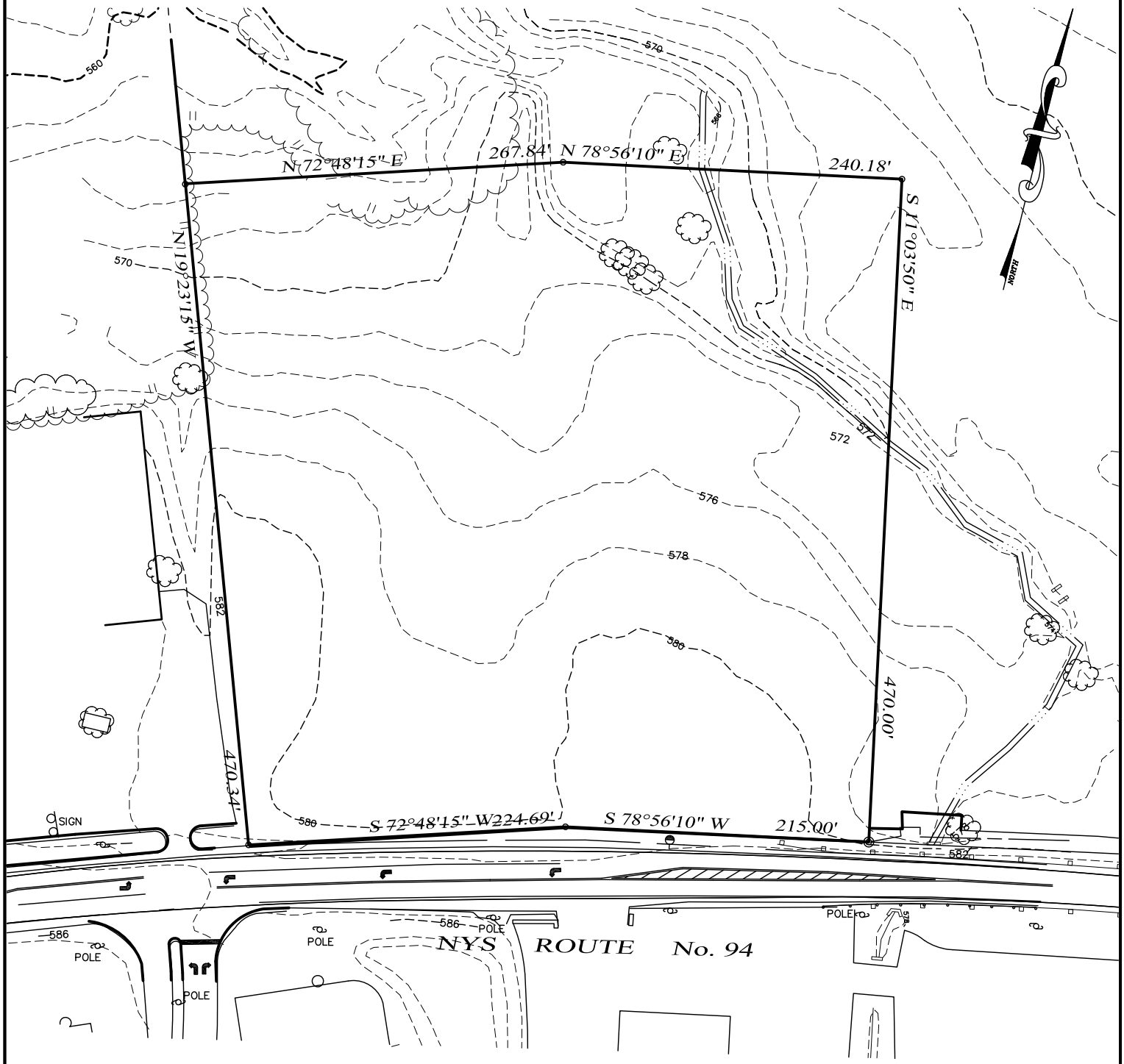
EXISTING SOILS MAP

PREPARED FOR

HOMARC LAND, LLC

SECTION 51 BLOCK 1 LOT 5.231
TOWN OF WARWICK, COUNTY OF ORANGE, NEW YORK
SCALE: 1"=100' FIGURE 3-1



SOURCE: JOHN McGLOIN, PLS

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EXISTING TOPOGRAPHY MAP

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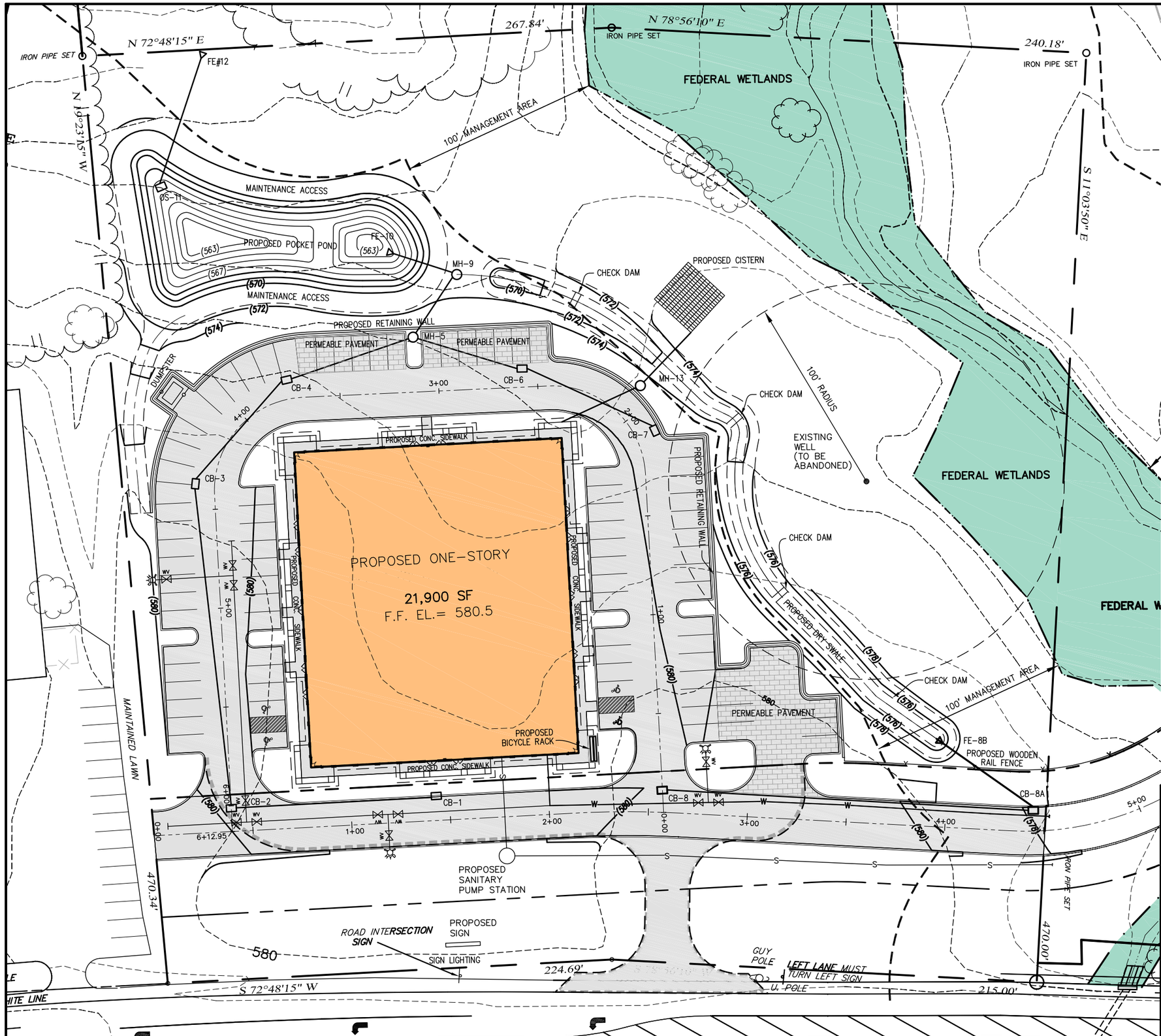
TOWN OF WARWICK, COUNTY OF ORANGE, NEW YORK

SCALE: 1"=100'

FIGURE 3-2



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PROPOSED GRADING PLAN

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SECTION 51 BLOCK 1 LOT 5.231
TOWN OF WARWICK, COUNTY OF ORANGE, NEW YORK
SCALE: 1"=50' FIGURE 3-3

County, the most productive soils found in the Town of Warwick, are not found on the project site.

Topography

As shown on Figure 3-2 Existing Topography Map, topography on the site is gently sloping, reflecting the surrounding topography and the region's origins as a glacial outwash plain. Topography in the vicinity of the site is gently sloping to flat. Local topography reflects the underlying marine shales and sandstones. Glacial outwash deposits and later stream deposits from Wawayanda Creek and Wallkill River produced the broad lowland of the Wawayanda Creek valley. Directly to the south of the project area, the topography rises steeply to the Ramapo Mountain range, which trends southwest to northeast.

The high point of the site is on the southwest corner of the site at elevation 584 feet. From this point elevations drop very gradually towards the wetland areas in the northeast. Elevations of 566 are found on the northern border of the parcel. Therefore, topography varies approximately 18 feet across the site.

3.1.2 Potential Impacts

As shown on Figure 3-3, Proposed Grading Plan, site development and grading will occur in upland areas located mainly in the western portion of the site. Approximately 2.4 acres or 47 percent of the site must be graded to accommodate the proposed development. As shown on the site plan, the project has been designed to avoid areas of wetlands and steep slopes. Grading activities will occur in areas of Chenango, Castile and Hoosic gravelly loam, areas with moderate limitations. The limitations identified by NRCS in Castile soils are primarily related to frost action affecting building and road construction. Erosion potential for all the soil are considered slight. NRCS uses an Erosion Factor K to predict the annual rate of soil loss by sheet and rill erosion (shallow waterways on exposed slopes). The soils within the development area have a low K value. Slope is minimal within the development area.

In general, grading will occur in the development area to create a level area for the building and parking areas. The first floor elevation of the building will be set at 580.5 feet, necessitating earth cuts of about 3.5 feet and fills of up to 1 foot. The parking lot on the west side of the building will be graded about 3.5 feet above existing grade towards the back and 0.7 feet below existing grade toward the front. The parking lot on the east side of the building will be graded approximately 7.2 feet above existing grade toward the back and 1.1 feet below existing grade in the front. The proposed marginal access road will cut across the front of the site, parallel to NYS Route 94. Earth cut to achieve the proper road way gradients will be approximately 0.5 feet below existing grade.

Additional site grading is necessitated by the stormwater management facilities including a basin that is proposed at one location at the perimeter of the development area in the rear or northwest portion of the site, and a cistern in the approximate center of the property.

Total earth movement to develop the proposed project will entail approximately 2,968 cubic yards (cy) of material to be excavated and relocated to other areas on the project site. In addition, approximately 3,108 cubic yards (cy) of fill will be required to create a level area for the building and parking. The bulk of the earth cuts will be for the stormwater basin, cistern, and dry swale. Based upon the proposed engineering design, no earth cut will need to be exported from the site. No blasting is anticipated on this site.

The proposed project will disturb approximately 1.83 acres of statewide important agricultural soils by converting them to other uses as part of the proposed impervious surfaces, landscaped and lawn areas, and stormwater management facilities. Surrounding land uses have changed due to development pressure in the NYS Route 94 corridor and given the environmental constraints on site including wetlands, agricultural use on the project site is not sustainable.

3.1.3 Mitigation Measures

The greatest potential impact associated with this project relative to soils disturbance would be from erosion and sedimentation during construction. A Sediment and Erosion Control Plan is provided in the set of site plans accompanying this document. The primary aim of this plan is to minimize the potential for soil erosion from areas exposed during construction and prevent sediment from reaching the down-gradient wetlands and watercourse. All soil erosion and sedimentation control practices will be installed in accordance with the New York Guidelines for Urban Erosion and Sediment Control, best management practices of Orange County Soil Conservation Service, and the Town of Warwick municipal code. Prior to the commencement of any phase of this project that will result in the disturbance of soils, erosion and sediment control measures will be placed in accordance with the specifications on the construction drawings. These measures will be maintained in good condition and left in place until permanent vegetative cover is established. The construction contractor will be responsible for installing all sediment and erosion control measures and maintaining them throughout the entire construction process. These measures will be monitored during construction by the project engineer and representatives of the Town.

The proposed plan minimizes the area of soil exposure to the greatest extent practicable in accordance with the conditions of the New York State Department of Environmental Conservation (NYSDEC) State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activities. Erosion and sedimentation measures specified on the Erosion Control Plan are developed specifically for this project to provide both temporary controls during the construction period and permanent controls to be in place and functioning at the completion of construction.

Following construction, erosion will be averted by the established vegetation and by the stormwater management devices shown on the plans. Construction of the permanent stormwater management systems will commence as part of the earthwork for the building so that these systems are functional as early as possible in the construction period.

The objectives of the Erosion Control Plan are the following:

- Control erosion at its source with temporary control structures.
- Minimize the amount of sediment-laden runoff from areas of disturbance, and control the runoff prior to discharge to off-site areas.
- Deconcentrate and distribute stormwater runoff through natural vegetation or structural means before discharge to streams or wetlands.

In addition to these measures, the seven space parking lot will be constructed with block pavers as an alternative to impervious pavement. This will help reduce stormwater runoff.

3.2 Wetlands

3.2.1 Existing Conditions

A detailed wetland delineation was conducted on the project site in accordance with both the U.S. Army Corps of Engineers (ACOE) as well as the New York State Department of Environmental Conservation (NYSDEC).

Background data on the site were obtained and analyzed, as recommended in the state and federal guidelines, as identified below. Background data included US Geological Survey quadrangle maps, US Fish and Wildlife Service (USF&WS) National Wetlands Inventory Maps, NYSDEC Freshwater Wetland Maps, US Department of Agriculture Soil Survey maps and other pertinent information.

The National Wetland Inventory (NWI) maps show the general configuration, location and type of wetlands found within a given area of coverage. The NWI wetland maps for Wawayanda, New York (using the 7.5 minute USGS topographic base) covers the project site (see Figure 3-4).

Because the NWI maps are limited in precision by their scale (1:24,000) and by the identification method used, the boundaries of wetlands shown on the NWI maps need to be more precisely determined in the field. Commonly, small wetland areas, and, less frequently, large wetland areas are not shown on NWI maps. The NWI maps for the site show no wetland systems within the project site.

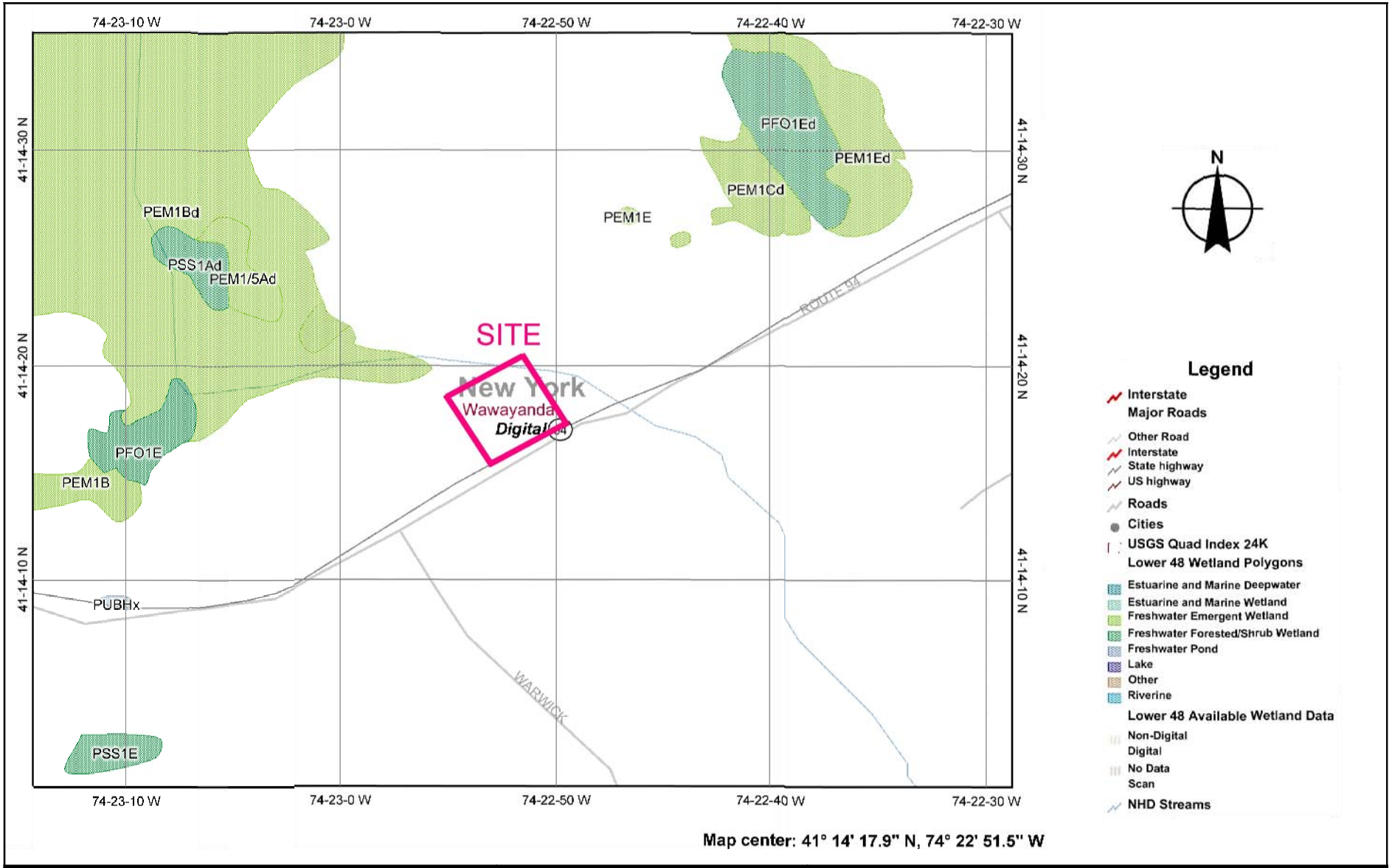
The NYSDEC is responsible for mapping freshwater wetlands that are 12.4 acres in size or larger, or those smaller wetlands that are of unusual local importance (Environmental Conservation Law, Article 24). The NYSDEC Freshwater Wetlands Map #23 for Orange County covers the site area (see Figure 3-5). The NYSDEC Freshwater Wetlands Map show no wetlands on the project site.

Detailed field investigations were conducted in August 2007 within the project site. The Corps of Engineers Wetland Delineation (Environmental Laboratory, 1987) was used to delineate federal wetlands pursuant to the ACOE. The NYSDEC Freshwater Wetland Delineation Manual (1995) was used to delineate state wetlands.

These studies provided data regarding a determination of the extent of regulatory jurisdiction of freshwater wetlands on the project site. The manuals used present technical guidelines to identify wetlands as well as determine the location of the upper limits of a wetland boundary.

Field investigations included characterizing soils found on site. A hydric soil is defined as a soil that is saturated, flooded, or ponds long enough during the growing season to develop anaerobic conditions in the upper part. Such soils usually support hydrophytic plants. Indicators of hydric soils can be placed into two categories: 1) soil series and phases on the national and state hydric soils lists; and 2) field indicators of hydric soils.

Hyrophytic vegetation is defined as macrophytic plant life that grows in water, soil or on a substrate that is at least periodically deficient in oxygen as a result of excessive water content. An area has hydrophytic vegetation when, under normal circumstances, more than 50 percent of the dominant species of a vegetation unit represent species that are typically encountered



SOURCE: U.S. FISH AND WILDLIFE SERVICE
NATIONAL WETLANDS INVENTORY

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N.W.I. WETLANDS MAP

PREPARED FOR

HOMARC LAND, LLC

SECTION 51 BLOCK 1 LOT 5.231
TOWN OF WARWICK, COUNTY OF ORANGE, NEW YORK
SCALE: 1"=800'

FIGURE 3-4