

shall provide for access to the facility at reasonable times for periodic inspection by the Village of Mamaroneck to ensure that the facility is maintained in proper working condition to meet design standards and any other provisions established by this chapter."

#### **b) SWPPP Sections V and VI. Required and Additional Sediment and Erosion Control**

The purpose of a Sediment and Erosion (S&E) Control program is to minimize temporary impacts to downgradient wetlands during construction of the proposed project by retaining sediment on-site to the maximum extent practicable (see Section V of Appendix ~~E~~H). The S&E Control Plan will include descriptive specifications concerning land grading, topsoiling, temporary vegetative cover, permanent vegetative cover, vegetative cover selection and mulching, and erosion checks. All of the sediment and erosion controls will be designed in accordance with the New York Standards and Specifications for Erosion and Sediment Control, dated ~~August 2005~~November 2016. The program will incorporate BMPs from the SMDM and complies with the requirements of the SPDES General Permit for Storm Water Discharges from Construction Activities.

Stabilization practices to be used on the Project Site include straw mulching and temporary seeding. Stabilization practices will be initiated as soon as practicable in portions of the Project Site where construction activities have temporarily or permanently ceased. The project has been designed to preserve existing vegetation where possible.

Upon completion of final grading, any areas not covered by pavement, landscaping, or other forms of stabilization and which are on slopes of 2:1 or greater will be protected with erosion control slope blankets and seeded with an erosion control seed mix.

A temporary vegetative cover will be established on areas of exposed soils (including stockpiles) that remain inactive and unstabilized for a period of more than 14 days. The seeded surfaces will be covered with a layer of straw mulch or hydro mulch.

Structural erosion and sediment controls to be used on the Project Site include the following: a barrier of staked hay bales and a silt fence will be installed at the downgradient limit of work; the inlets of the proposed catch basins will be protected from sediment inflow; stone anti-tracking pads will be installed at each access point to the work area; and diversions will be used to collect runoff from construction areas and convey it to a temporary sediment basin or trap. If necessary, additional controls may be implemented at the Project Site, including interior site erosions controls and water spraying to prevent dust on windy days.

No further mitigation measures are proposed for sediment and erosion control on the Project Site.

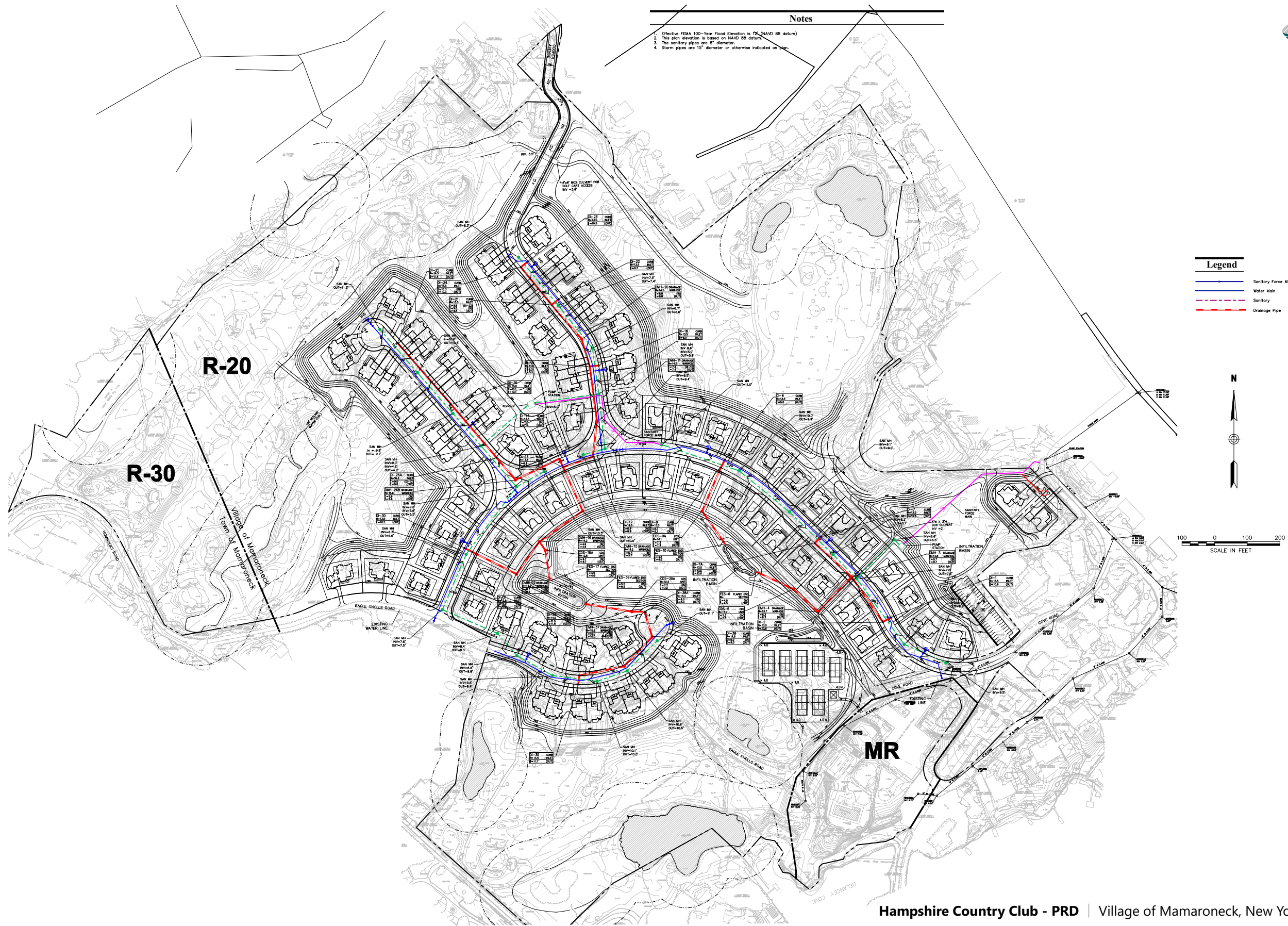
### c) SWPPP Section VII. Water Quality Controls

Section VII presents the controls that will be implemented to minimize impact to receiving waterbodies from stormwater pollution. As stormwater runoff travels across impervious surfaces, it collects pollutants such as sediments, oil, and trash and carries them to a receiving waterbody. Properly installed and maintained stormwater BMPs will capture these pollutants and reduce the impact that the proposed development has on the environment. The BMPs selected for this project were designed based on guidelines developed in the New York State SMDM.

Non-structural practices include pavement sweeping and catch basin cleaning while the structural practices will include ~~a water quality pond. Additionally, an a bioretention infiltration basin and dry-wells that~~ will capture and temporarily store the WQv and ~~infiltrate pass it through a filter bed of sand, organic matter or soil. Underdrain pipe is proposed at the bottom of the bioretention basins to collect the WQv runoff and discharge downstream. Larger flow will be diverted without filter through the filter bed.~~

The proposed water quality controls are expected to improve water quality conditions from existing conditions. No further water quality controls are proposed.



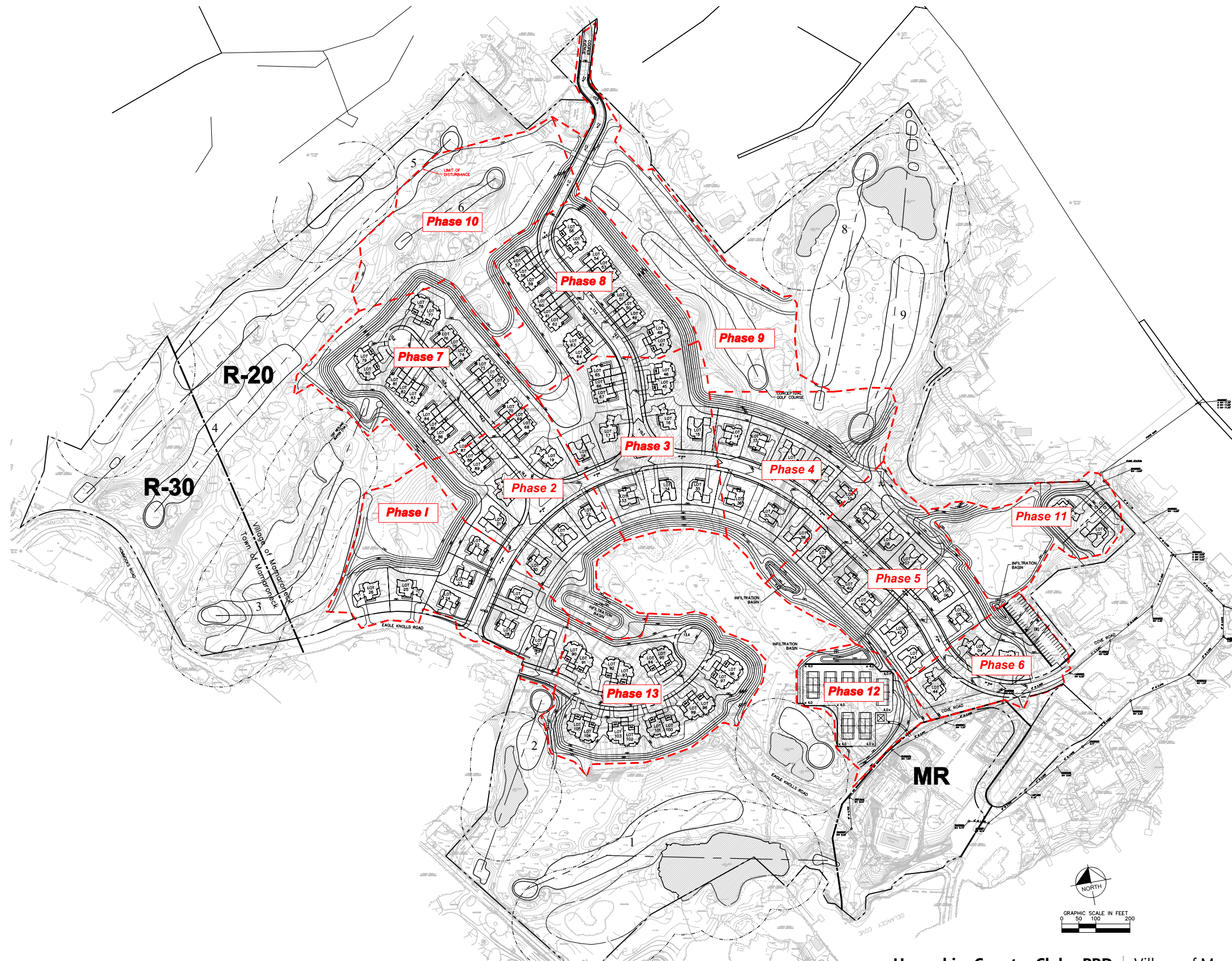


Hampshire Country Club - PRD | Village of Mamaroneck, New York

Grading and Utility Plan

Source: Kimley-Horn





Hampshire Country Club - PRD | Village of Mamaroneck, New York

Phasing Plan

Source: Kimley-Horn



## G. FLOODPLAINS

### 1. Existing Conditions

#### a) Project Site Flood Conditions

A Coastal Flooding Hydraulic Analysis was completed by VHB in April 2016, in part to assess existing floodplain conditions on the Project Site. For the purposes of this analysis, the Federal Emergency Management Agency (FEMA) Effective Flood Insurance Study (FIS) and Flood Insurance Rate Maps (FIRMs) from 2007 were evaluated as the existing condition on the Project Site. The FIS for Westchester County was developed as part of the National Flood Insurance Program.

According to these data sources, two types of flood hazard zones are found within the Project Site, including AE Zones, with a base flood elevation (BFE) of 12 feet NAVD 88, and X Zones. The AE Zone designation indicates that the area has been studied in detail and is an area subject to inundation by the 1% Annual Exceedance Probability (AEP), or 100-year flood, where wave heights are estimated to be less than 3 feet. The X Zone designation indicates areas subject to inundation by the 0.2% AEP, or 500-year flood, areas of 1% AEP flood with average depth less than one foot, or areas with drainage areas less than 1 square mile.

Exhibit 3G-1 shows the special flood hazard areas (SFHA) in the vicinity of the Project Site as mapped on the Effective FIRM (Panel 36119C0361F). There are no regulatory floodways on the Project Site (e.g., flooding occurring adjacent to a channel of a river or other watercourse). Both of these flood zone designations are a result of tidal basin flooding fed from the Long Island Sound, rather than rivers and streams. Tidal flooding is typically associated with a storm surge, which takes place when severe weather events combined with high tides or high astronomical tides create conditions that increase water level. In addition, strong winds and large waves can also contribute to the overall tidal flooding conditions.

The floodplain elevations on the Project Site are dictated by a base flood elevation (BFE) of 12 feet NAVD 88 the 100-year storm event stillwater elevations from the Long Island Sound. ~~The definition of stillwater elevation (SWEL) is the surface of water resulting from astronomical tides, storm surge, and freshwater inputs, but excluding wave setup contribution or the effects of waves.~~ The Project Site has a history of tidal flood events and these events are directly associated with storm surge, not freshwater input. According to the 2015 Westchester County Hazard Mitigation Plan Update, the March 13, 2010 Nor'easter brought flooding of coastal waters to the Orienta and Harbor Heights section of the Village. On August 26, 2011, Hurricane Irene, and on October 29, 2012, Hurricane Sandy, flooded these sections of the Village as well. The homes surrounding the Project Site are located within areas with BFEs of between 12 and 15 feet.





## b) Village Regulations

Chapter 186 of the Village of Mamaroneck Code outlines the Village's Flood Damage Prevention regulations. The following is a summary of the regulations that will apply to the Proposed Action:

- §186-4. Administration: The full set of administrative regulations governing floodplains would apply to the Proposed Action. This section states that a floodplain development permit is required for all construction and other development to be undertaken in areas of special flood hazard (§186-4(B)(1)). A determination must be made whether a proposed development would result in physical damage to any other property (§186-4(D)(1)(c)).
- §186-5(A)(2). Subdivision Proposals: Subdivision proposals shall be consistent with the need to minimize flood damage; public utilities and facilities such as sewer, gas, electrical and water systems shall be located and constructed so as to minimize flood damage; and adequate drainage shall be provided to reduce exposure to flood damage.
- §186-5(B). Standards for all structures: New structures in areas of special flood hazard shall follow all relevant regulations governing anchoring, construction materials and methods, and utilities.
- §186-5(C)(1). Elevation of residential structures within zone AE: New construction and substantial improvements shall have the lowest floor elevated to or above two feet above the base flood level. Other zone regulations are not applicable for the Project Site.

The following is a summary of the regulations that will not apply to the Proposed Action due to the fact that the flooding which takes place on the Project Site is tidal and not a result of river or stream flooding, or the regulations are for flood zones that are not located on the Project Site:

- §186-5(A)(1), Coastal high hazard areas: This section only applies to Zones V1-V30, VE, and V which are not located on the Project Site.
- §186-5(A)(3), Encroachments: Sections 186-5(A)(3)(a) and (b) are only applicable to flood zones located in a regulatory floodway which does not apply to this Project Site.
- Section 186-5(A)(3)(c) requires the volume of space occupied by the authorized fill or structure below the base flood elevation shall be compensated for and balanced by a hydraulically equivalent volume of excavated material taken from below the base flood elevation at or adjacent to the development site. Since the flood elevation for the site is controlled by tidal elevations from the Long Island Sound, placement of fill does not impact the base flood elevation as it would in a river basin. The impact of the fill on tidal flood elevation is limited to the interaction of water movement into and out the site and wave

action with the placed fill. As demonstrated in the flood modeling performed by VHB for the Project Site, attached in Appendix 1G, the Proposed Action does not increase overall flood elevations. There will be no change in the flood elevations to the neighboring properties as a result of the Proposed Action (See Section 3 of this Chapter). Therefore, hydraulic equivalency is achieved because there will be no impact on the flood elevation at the neighboring properties.

- §186-5(D). Residential Structures (coastal high hazard areas): This section only applies to coastal high hazard areas.
- §186-5(E). Nonresidential structures: This section applies to nonresidential structures, which will not be constructed under the Proposed Action.

## 2. Future without the Proposed Project

FEMA issued a Preliminary FIS and Preliminary FIRMs for Westchester County, NY in December 2014. ~~Though the preliminary editions have not yet been adopted for regulatory purposes, FEMA has indicated that the Preliminary FIS is expected to become effective in December 2016. FEMA does not have a projected date for when the preliminary editions will become effective, however, as of August 2017, the preliminary editions have not yet been adopted for regulatory purposes.~~ ~~Therefore,~~ this document considers the Preliminary FIS and FIRMs to be the future FEMA condition without the proposed project. Exhibit 3G-2 shows the special flood hazard areas in the vicinity of the Project Site as mapped on the Preliminary FIRM. As shown, the two zones, AE and X, remain on the Project Site but their configuration has adjusted slightly compared to the Effective FIRM based on a revised coastal analysis and higher resolution topographic mapping. The Preliminary FIS and FIRM (Exhibit 3G-2) indicate that the Subject Property is partially located in two flood hazard zones including AE Zones with BFEs of 12 to 14 feet NAVD 88 and X Zones.

Without the Proposed Action, the current on-site roadways will continue to flood and there will be no emergency access from the Project Site in the case of a flood event. The Proposed Action will realign Cove Road at a mean 14.5-foot elevation, which is higher ~~or at than~~ the preliminary 100-year and 500-year flood elevations. The realigned Eagle Knolls Road will have mean 14.5-foot elevation. Furthermore, Cooper Avenue will be extended to provide emergency access and the entire length of Cooper Avenue will be higher than the preliminary 100-year ~~and 500-year~~ flood elevations.



### 3. Potential Impacts

#### a) Coastal Flooding Hydraulic Analysis

The Coastal Flooding Hydraulic Analysis was completed primarily to assess potential changes in existing floodplain patterns and flows due to the Proposed Action. Impacts to the 100-year and 500-year floodplains were evaluated using model parameters based on the Effective (2007) and Preliminary (2014) Flood Insurance Studies for Westchester County. The findings and outcomes of the analysis are summarized in this section. The full analysis, including data and methodology, is provided in Appendix [JG](#). All data collection and modeling was completed in coordination with FEMA.

VHB used the Coastal Hazards Analysis Modeling Program (CHAMP) v. 2.0, including the Wave Height Analysis for Flood Insurance Studies (WHAFIS) model data to estimate the magnitude of locally-generated, wind-driven waves and their potential impact on the Project Site and surrounding properties. VHB also used FEMA's Technical Advisory Committee for Water Retaining Structures (TAW) Wave Runup Methodology to evaluate estimated runup at breaking wave locations on the Project Site. The CHAMP program with WHAFIS module and the TAW Wave Runup Methodology are approved for use by FEMA for the purpose of performing coastal Flood Insurance Studies.

VHB evaluated potential coastal flood hazard impacts at the Project Site for four scenarios for both the 100-year and 500-year coastal storm events, taking into consideration the existing and proposed topography:

- Scenario 1: The Effective FIS inputs analyzed over the existing conditions topography,
- Scenario 2: The Effective FIS inputs analyzed over the proposed conditions topography,
- Scenario 3: The Preliminary FIS inputs analyzed over the existing conditions topography, and
- Scenario 4: The Preliminary FIS inputs analyzed over the proposed conditions topography.

For each of the four scenarios, a transect analysis was performed at four transect locations (Transects A-D), including two locations of FEMA defined transects within the Preliminary FIS and two VHB-generated transects, to evaluate effects of proposed changes across the Project Site. The four transects, depicted in Exhibit 3G-3, are focused over areas with proposed grading changes, where flooding could be altered.

#### Results

The Wave Height Analysis model results indicate that the proposed site development will result in both decreases and increases in wave heights within the Project Site. Specifically, the project is expected to result in the following impacts to wave heights along the four transects:

- Transect "A": Increases in wave heights of 0.5 feet and 0.6 feet within the property boundary during the 100-year and 500-year flood events, respectively, and decreases in wave heights of up to 0.3 feet outside the landward property boundary during the 100-year and 500-year flood events;
- Transect "B": Decreases in wave heights outside the property boundary of 0.3 feet and 0.8 feet during the 100-year and 500-year flood events, respectively. The proposed grading results in no increase to predicted wave heights within or outside the property;
- Transect "C": Decreases in wave heights within the property boundary during the 100-year and 500-year flood events. The proposed grading results in no change in wave height at the landward property boundary during the 100-year flood event and decreases in wave height by 0.3 feet within landward property boundary during 500-year flood events;
- Transect "D": Increases in wave heights of up to 0.1 feet within the landward property boundary during the 100-year and 500-year flood events. The proposed grading results in no change in wave heights at the landward property boundary during the 100-year flood event and increases of up to 0.2 feet at the property boundary during the 500-year flood event.

All wave height increases are within the Project Site limits and the model predicts no wave height increase outside of the property during the regulatory flood event. Results for Transect D predict a 0.2-foot increase during a 500-year flood event at the property boundary in localized areas, immediately south of the Fairway Lane dead end. However, the home at this property boundary is elevated above the calculated wave height and therefore would be unaffected by the predicted increase.

The TAW Method results indicate that the Proposed Action will result in an increase of the 2% runup heights of 0.2 feet during the 100-year flood event within the Project Site. The analysis also indicates that the proposed grading decreases the estimated 2% runup heights at the seaward face of the Project Site. Under the Preliminary FIS inputs, the increases in 2% wave runup occur only within the Project Site boundaries and are not predicted to propagate onto adjacent properties. Under the Effective FIS inputs, the model predicts a potential increase of up to 0.1 feet at the property boundary during the 100-year flood event. An increase of 0.1 feet would not increase the base flood elevation at that location. [See figures included as part of Appendix J -for an analysis of flood elevations within and outside the Project Site for each transect.](#)

In summary, the flood analysis demonstrates that the addition of 105 new residential structures and associated grading at the Project Site will not redirect flood flows to new off-site locations or otherwise increase existing flood flows occurring on adjacent properties. By the time floodwater reaches the property boundaries they will return to the base flood elevations as exist today. The analysis also indicates that, with the grading changes, all proposed buildings will be located outside the 100-year and

500-year floodplains. The site development proposes that all new buildings and roadways be built with a minimum finished first floor elevation of 15-16 feet which is higher than the preliminary 500-year annual exceedance probability ~~stillwater~~ elevation of 14.1 feet. The Proposed Action will realign Cove Road at a mean 14.5-foot elevation, which is higher ~~than the or at the~~ preliminary 100-year and 500-year flood elevations, respectively. The realigned Eagle Knolls Road will have mean 14.5-foot elevation. Furthermore, Cooper Avenue will be extended to provide ~~emergency two-way~~ access to the Project Site and the entire length of Cooper Avenue will be higher than the preliminary 100-year ~~and 500-year~~ flood elevations. The improvements to the roadways will help area residents in a flood emergency. The clubhouse is outside of the current and preliminary floodplains and there are no proposed changes to the club in the Proposed Action.

## **b) Compliance with Village Regulations**

All grading and development as proposed by the Applicant will be executed in accordance with a floodplain development permit, as required by §186-4-~~A.2(A)(2)~~ of the Village of Mamaroneck Code. In addition, the project has been designed to minimize flood damage on the Project Site. As demonstrated by the Coastal Flooding Hydraulic Analysis, the Proposed Action and grading changes in several cases actually decreases wave heights for the properties immediately adjacent to the northern property line. As stated above, in compliance with §186-4(D)(1)(c), the flood analysis demonstrates that the proposed development at the Project Site will not redirect flood flows to new off-site locations or otherwise increase existing flood flows occurring on adjacent properties, and therefore would not result in physical damage to any other property.

Additionally, the project has been designed so that the lowest floor of the proposed homes and all electrical, HVAC, plumbing and other service equipment will be elevated to a minimum of 15-16 feet, ~~two-three~~ and a half feet above the preliminary 100-year ~~stillwater~~ elevations, in accordance with §186-5(B)(3) and §186-5-~~(C)-(1)~~ of the Village Code. Proposed public facilities are elevated as well to minimize flood damage, and the stormwater system is designed to provide adequate drainage, and erosion and sediment control. See Chapter 3F, Stormwater, and Chapter 3I, Sanitary Sewage, for a more detailed description of the project's stormwater control measurements and public utility infrastructure. Section 186-5(A)(3)(c) requires compensatory storage for any fill placed within a floodplain is directed at encroachments on a regulatory floodway to prevent an overall increase in flood elevation. The result is that any new construction needs to be hydraulically balanced to the existing conditions and as a result there would be no increase in the flood elevations due to the construction. The Proposed Action would not increase overall flood elevations. There will be no change in the flood elevations to the neighboring properties as a result of the Proposed Action (See Section 3 of this Chapter). Therefore, hydraulic equivalency is achieved and there will be no impact on the neighboring properties. Therefore, even though Section 186-5(A)(3)(c) related to Regulatory Floodways does not apply to the Project Site, the spirit and intent of this regulation is achieved by the Proposed Action.





### c) Proposed Map Changes

~~The Coastal Flooding Hydraulic Analysis predicts both increases of up to 0.5 feet and decreases in wave heights and flood elevations within the property limit, which will require revision to the NFIP flood maps. The Proposed Action will not affect the hydrologic or hydraulic conditions of the tidal flooding. A Conditional Letter of Map Revision Based on Fill (CLOMR-F) will be completed and submitted to FEMA for review based on the final site grading for the project. This letter is required for any revision to the NFIP flood maps. Upon FEMA approval of the CLOMR-F, the Applicant will submit an as-built of the project with a Letter of Map Revision Based on Fill (LOMR-F) to change the NFIP flood maps to accurately reflect proposed conditions at the Project Site remove the proposed buildings from the effective floodplain.~~

### d) Sea Level Rise Projections

~~The Applicant reviewed the report "Sea Level Rise and Flooding" prepared by the Village of Mamaroneck Planning Department ("Sea Rise Report"), which provided an estimation of future sea level rise expected to impact coastal properties. It is the opinion of the Applicant that the report provides a worst-case estimation of potential sea rise and how it will impact the proposed development.~~

~~Technical Report No 11-18 published by New York Research and Development Authority (NYSERDA) provides two sea rise scenarios: the Global Climate Model (GCM); and the Rapid Ice-Melt. According to NYSERDA, the sea level rise in year 2080 at the Village of Mamaroneck (Region 5), under the GCM model is approximately 18 inches (1.5 feet). Under the Rapid Ice Melt scenario, the sea level rise in year 2080 is approximately 4 feet. The Rapid Ice Melt scenario (considered the worst case) was used by the Village of Mamaroneck to predict expected sea level rise.~~

~~The current effective FEMA floodplain map dated 9/28/07 indicates the tidal flood elevation on the Project Site is at an elevation of 12 feet. The tidal flood elevation will be at approximately 13.5 feet and 16 feet under GCM and Rapid Ice Melt scenario, respectively. The proposed building elevations for Hampshire Country Club will be at minimum elevation of 16 feet and the proposed minimum road elevation of will be at a minimum elevation of 13.5 feet. Under the GCM scenario, the proposed buildings and roads will not be inundated by tidal flood. Under the Rapid Ice Melt scenario, the proposed buildings will not be inundated by tidal flood.~~

~~Both sea level rise scenarios are projected over 60 years into the future with large uncertainties. The report disclaimer also acknowledge that the report is not intended for, nor suitable for, navigation or site-specific analysis for permitting or other legal purposes. It is the Applicant's belief that the proposed development is reasonably designed to accommodate the future sea level rise. See also Alternative G, Rezoning for Condominium and Golf Course, for a project alternative that concentrates development in~~



portions of the Project Site predominantly outside of the 100-year floodplain and less susceptible to sea level rise.

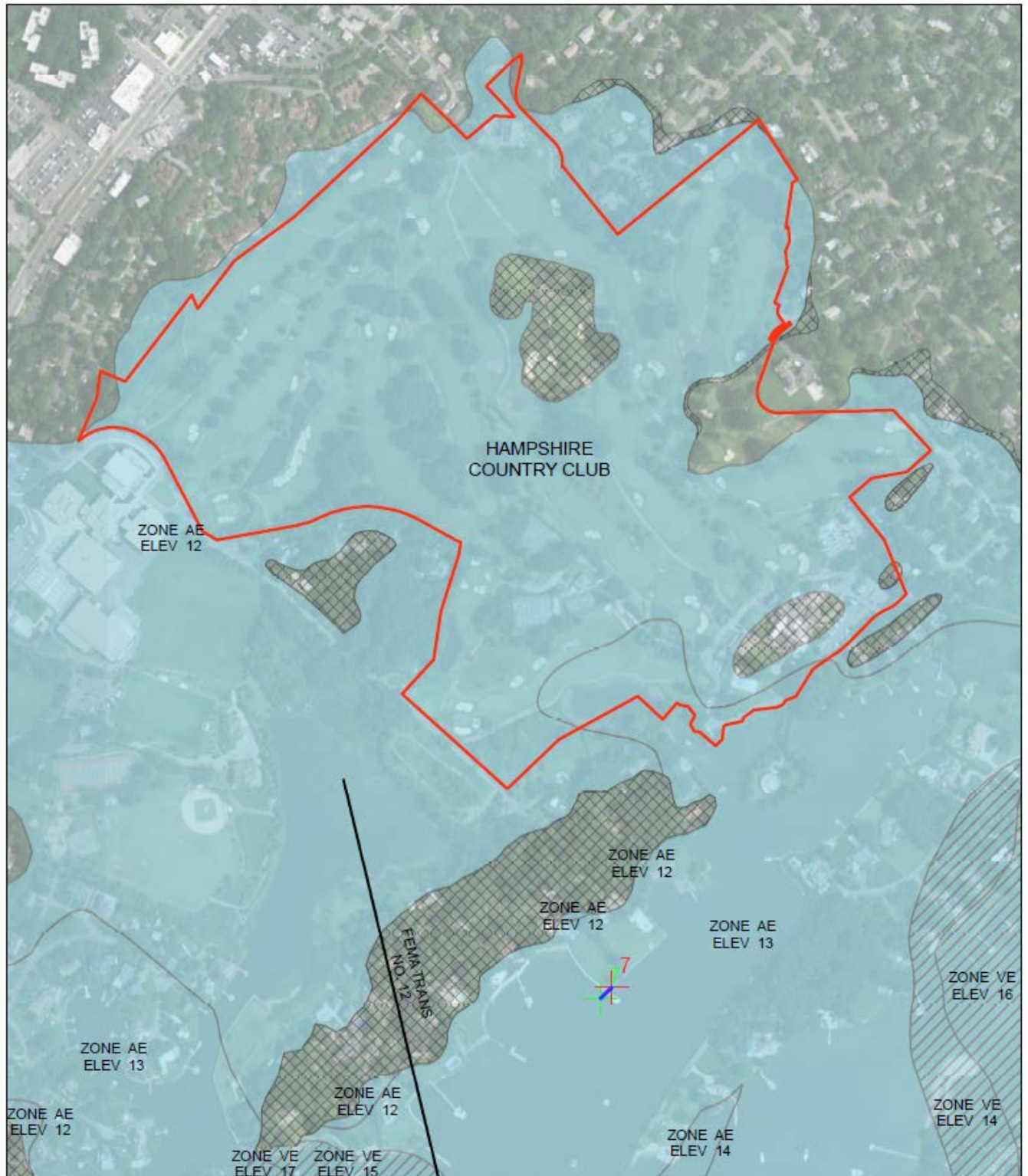
#### 4. Mitigation

The Coastal Flooding Hydraulic Analysis indicates that all wave height increases that may occur as a result of the Proposed Action during the regulatory flood event would be contained within the limits of the Project Site where no residential structures would be located, and that no wave height increases will negatively impact surrounding properties nor will the wave increases negatively affect the Proposed Action. Therefore, the Proposed Action will not result in an elevated risk of flood damage to any residential, recreational or commercial structure in the Village. The site development proposes that all new buildings be built with a minimum finished first floor elevation of ~~15-16~~ feet which is higher than the preliminary 500-year annual exceedance probability ~~stillwater~~ elevation of 14.1 feet. In addition, in several locations, the Proposed Action would result in a decrease in wave heights at the landward property boundary, actually improving conditions.

With the proposed grading changes, all proposed buildings on the Project Site will be located outside the 100-year and 500-year floodplains. The flood analysis demonstrates that there will be no impacts to the neighboring properties since all of the wave runups or surface water fluctuations will have dissipated by the time they reach the property boundaries and return to the base flood elevations as exists today. Risk of property damage and/or physical harm caused by flooding on local roadways will be decreased as a result of the Proposed Action. The Proposed Action will realign Cove Road at a mean 145-foot elevation, which is higher or at -than the preliminary 100-year and 500-year flood elevations. The realigned Eagle Knolls Road will have mean 14.5-foot elevation. Furthermore, Cooper Avenue will be extended to provide ~~emergency two-way~~ access to the Project Site and the entire length of Cooper Avenue will be higher than the preliminary 100-year ~~and 500-year~~ flood elevations. This will improve safety conditions in the neighborhood during severe storms and flooding events, as safe egress out of the area would be preserved. The improvements to the roadways will help area residents in a flood emergency. The clubhouse is outside of the current and preliminary floodplains and there are no proposed changes to the club in the Proposed Action.

The project will be constructed in accordance with all Village regulations and requirements. ~~As noted above, the Coastal Flooding Hydraulic Analysis predicts a slight increase in wave heights and flood elevations of up to 0.5 feet within the property limit which will require revision to the NFIP flood maps.~~ A Conditional Letter of Map Revision Based on Fill (CLOMR-~~F~~) will be completed and submitted to FEMA for review based on the final site grading for the project. Upon FEMA approval of the CLOMR-~~F~~, the Applicant will submit an as-built of the project with a Letter of Map Revision Based on Fill (LOMR-~~F~~) to ~~change the NFIP flood maps to accurately reflect proposed conditions at the Project Site.~~

No further mitigation measures are proposed.



**Legend**

- Property Line
- SFHAAE
- SFHA VE
- SFHA X

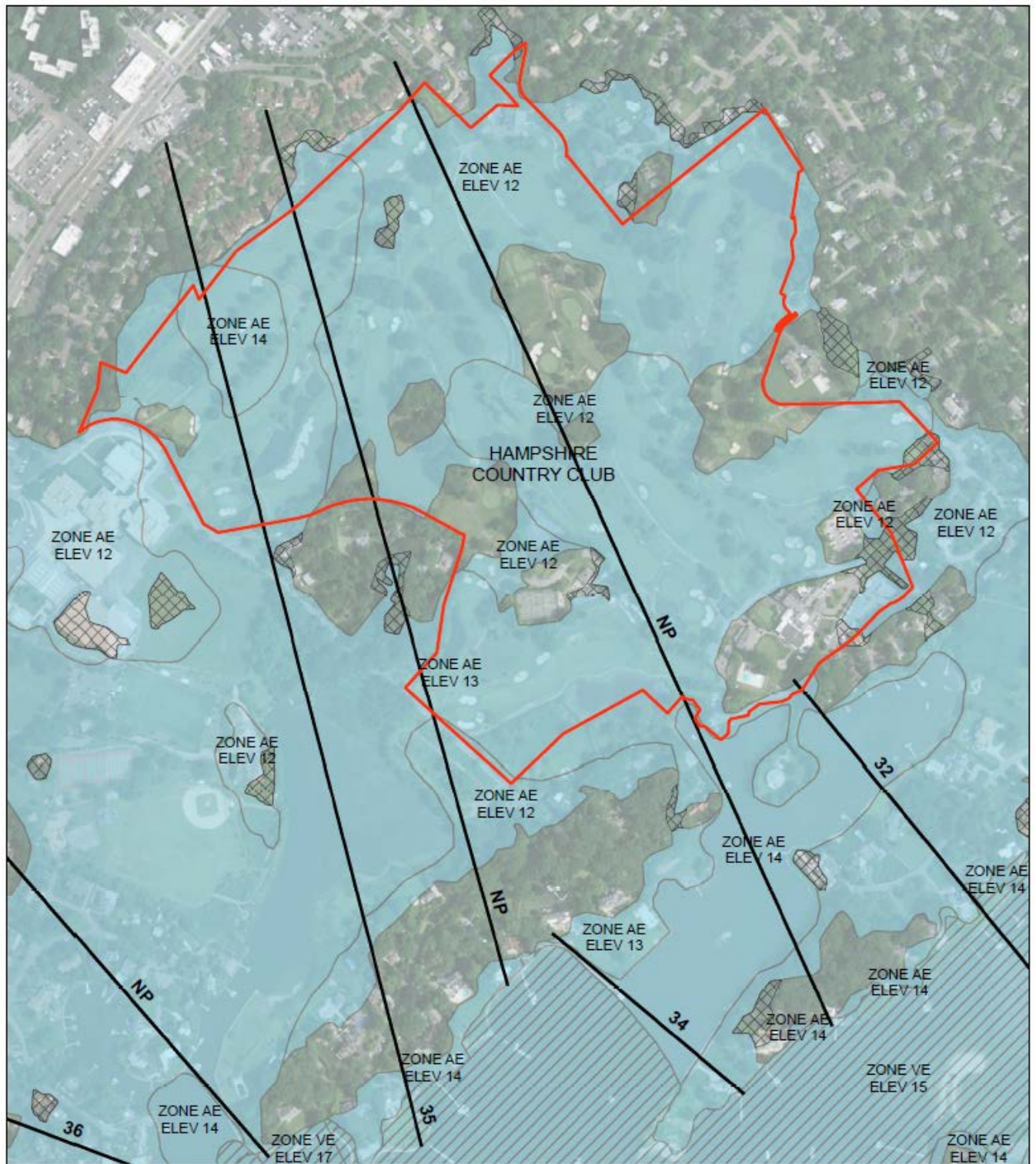
**Hampshire Country Club - PRD**

Village of Mamaroneck, NY

**Effective FIRM – Special Flood Hazard Areas**

Source: FEMA





**Legend**

- Property Line
- FEMA Preliminary Transects
- SHFA AE
- SFHA VE
- SFHA X

**Hampshire Country Club - PRD**

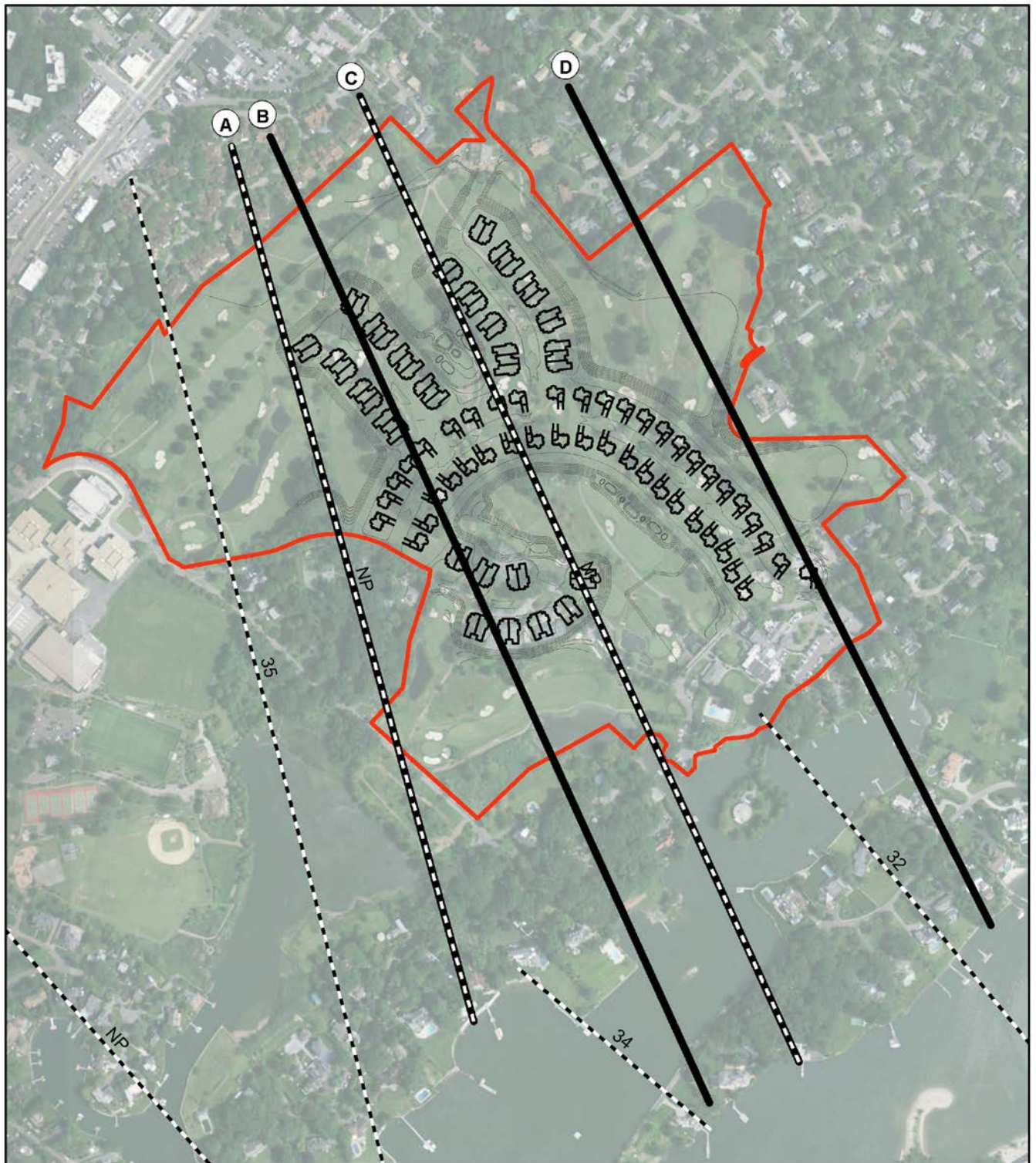
Village of Mamaroneck, NY

**Preliminary FIRM – Special Flood Hazard Areas**

Source: FEMA







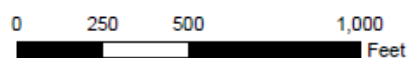
**Legend**

- VHB-TRANSECTS
- FEMA Preliminary Transects
- Proposed Grading
- Proposed Buildings
- Property Boundary

**Hampshire Country Club - PRD**

Village of Mamaroneck, NY

**Transect Locations**





## H. WATER SUPPLY

### 1. Existing Conditions

The Project Site and existing clubhouse facilities are serviced by the Westchester Joint Water Works (WJWW), which serves the Village of Mamaroneck and the Towns of Mamaroneck and Harrison. The water source is Kensico Reservoir, which is part of the New York City water system (the WJWW purchases the water from the New York City system).

The existing area is currently serviced by a number of water mains operated by WJWW, including a 12" main in Orienta Avenue and Cove Road and a 10" line extending down Hommocks Road to its intersection with Eagle Knolls Road. Service lines extend down each adjacent street to all surrounding properties. An existing 6" water line along Eagle Knolls Road and another along Cove Road service the existing clubhouse and accessory buildings.

In addition to the existing municipal water supply, the Project Site currently has two groundwater wells that in addition to the Project Site pond system, provide irrigation water for the existing golf course. The well water is not utilized for any domestic supply. The wells are located on the north end of the Project Site near the end of Sylvan Lane.

### 2. Future without the Proposed Project

Without the proposed project, water supply and infrastructure conditions on the Project Site would remain as described above.

### 3. Potential Impacts

The Proposed Action includes the construction of 105 residential units, including 44 single-family homes and 61 semi-detached carriage homes.

The estimated domestic average daily demand from the project would be 39,490 gallons of potable water per day (gpd) utilizing Westchester County Department of Health (WCDOH) multipliers of 110 gallons per day per bedroom. Under the proposed development, the existing wells and Project Site ponds will remain and continue to be used for irrigation of the 9-hole golf course, which is approximately half the size of the existing course, and potentially for irrigation in of the 36 acres of common areas. Therefore, water demand associated with irrigation for the Proposed Action is anticipated to remain the same as the current demand. If the wells are not used, the Applicant could explore connection to the WJWW to meet irrigation needs.



The proposed project will provide a new 8" water main system connecting the existing Cove Road 12" line to the existing 10" line at Hommocks Road, creating a main redundancy feed from the east and west. The new water main will provide a series of hydrants at locations approved by the Fire Official. Domestic connections will also be serviced by the 10" main. See Exhibit 3H-1, Grading and Utility Plan.

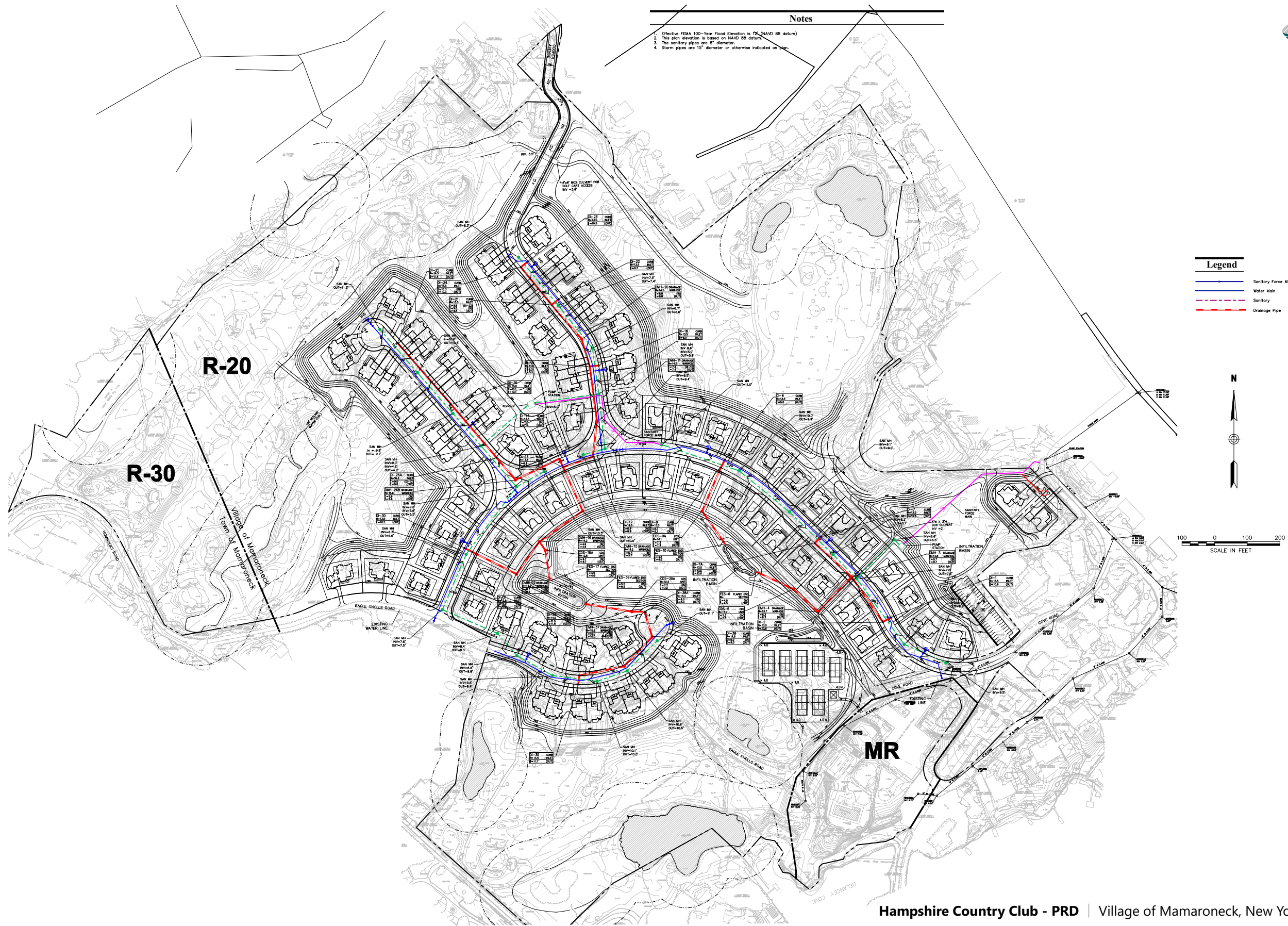
VHB has held preliminary meetings with WJWW to explore connection of the proposed project to the existing system and submit the estimated project need and water configuration. WJWW did acknowledge access to water main and indicated that system wide water capacity was available. To determine the system requirements to service the proposed project, system wide modeling will be required and developed under coordination with the WJWW. Hydrant flow tests measuring flow and pressure drop will be required at each adjacent water main to establish baseline conditions. Collected data will be used to model the proposed development under anticipated domestic and fire demand. Results will determine which modifications, if any, are required to service the proposed development.

It is anticipated that the water lines will be owned and maintained by WJWW. The design and construction of the water main improvements will be in accordance with WJWW requirements. The final limits of the Town and private system will be determined during the final site plan approval process. ~~All construction would be in accordance with Village standards.~~ Hydrants will be adequately spaced throughout the Project Site; spacing will be finalized in consultation with the Fire Department.

#### 4. Mitigation

Since the water supply is currently available and sufficient capacity exists to service the Proposed Action, no mitigation measures are proposed for water supply.









## **I. SANITARY SEWAGE**

### **1. Existing Conditions**

The Project Site and existing clubhouse facilities are located within the 30-square-mile Mamaroneck Sewer District, which includes the Village of Mamaroneck, parts of the Towns of Harrison and Mamaroneck, and the Cities of New Rochelle, Rye, and White Plains.

The Mamaroneck Wastewater Treatment Plant, located approximately 1.3 miles north of the existing clubhouse, was constructed in the 1930's. According to the 2012 Village Comprehensive Plan, the plant has been substantially upgraded four times since its original construction.

The existing area in the vicinity of the Project Site is serviced by a number of sanitary collection lines managed and maintained by the Village of Mamaroneck Department of Public Works (DPW). The current club use has several existing service connections. Within Cove Road, an existing 8" gravity main services connections to the clubhouse, pool area bathrooms and food counter, and the tennis facility on Eagle Knolls Road. An additional service connection exists at Cooper Avenue for the existing maintenance facility.

Sanitary flow from Cove Road is conveyed through an 8" gravity line that collects discharge from the above-mentioned Project Site facilities and the existing residences on Cove Road and South Cove Road. Collected flow is discharged to a pump station on Cove Road west of its intersection with Orienta Avenue. The pump station operates via a 6" force main to a 10" sanitary gravity main in Orienta Avenue at the intersection of Cove Road.

VHB met with the Town Engineer for the Village of Mamaroneck, Hernane De Almeida, to review the existing sanitary collection network, identify potential connection points and system issues in the vicinity of the Project Site. Mr. De Almeida stated that the current system within Cove Road, where the club currently discharges, requires frequent maintenance due to the shallow slope of the existing conveyance lines and therefore would not be the best connection point for the proposed development. Instead, connection to the 10" line within Orienta Avenue at the Cove Road intersection was suggested as a better alternative.

### **2. Future without the Proposed Project**

Without the Proposed Project, conditions on the Project Site would remain as described above.



### 3. Potential Impacts

The estimated sewage generation for the proposed development is 39,490 gallons per day, with an estimated peak rate of 110 gpm utilizing the industry standard values for wastewater. The anticipated sewage generation calculations are illustrated below.

**Table 3I-1 Anticipated Wastewater Generation**

Unit Type	Number of Units	Bedrooms/ Unit	Hydraulic Load (gpd /single bedroom)	Design Flow Rate (gpd)
Carriage Home	61	3	110	20,130
Single-Family Home	44	4	110	19,360
	<b>105</b>			<b>39,490</b>

As noted above, the Village Engineer, Mr. De Almeida, recommended connection for the proposed development be directly to the existing 10" gravity main in Orienta Avenue at the intersection of Cove Road. To reach the Orienta Avenue line, a pump station is proposed within the development to convey Project Site sanitary discharge via force main down Cove Road to the Orienta Avenue 10" gravity main.

The proposed homes will be connected to a combined gravity and force main sewer system, as described and depicted in Exhibit 3I-1, Grading and Utility Plan. Sanitary waste will flow from the homes along the extended Eagle Knolls Road, the extended Cooper Avenue, the new cul-de-sac road and the homes along the western portion of Cove Road to the proposed pump station to be located just north of proposed Lots 17 and 18. The system will continue via force main to a proposed sanitary manhole along the re-routed Cove Road and will continue gravitationally along Cove Road to another proposed pump station between proposed Lots 2 and 3. Finally, sanitary waste will flow through a force main to connect to the existing 10" gravity main along Orienta Avenue. The project does not propose to utilize the existing County sewer pump station located on Cove Road.

All proposed sewer improvements will be designed and constructed in accordance with the Ten State Standards for Wastewater Facilities as required by Westchester County Department of Health. The Ten State Standards dictate standards for pump stations, force mains and gravity collection systems including peak discharge factors based on system volume to ensure sufficient sewer capacity. The proposed development is not proposing to connect to the existing Cove Road pump station. A letter has been sent to the Village Engineer to verify capacity.



The sanitary infrastructure will be under the ownership and maintenance of the Home Owners Association. The Westchester County Department of Health may require the pump stations to be owned and operated by the Village.

Mr. De Almeida noted that investigation of the receiving sewer line and downstream segments in the vicinity of the Project Site would be required to ensure that the receiving pipe is in good condition and adequate to receive the proposed additional flow from the proposed project. This work will be undertaken during the site plan and building permit process and will be coordinated with Mr. De Almeida. Any noted deficiencies could be included in the required Inflow and Infiltration reduction requirements noted below.

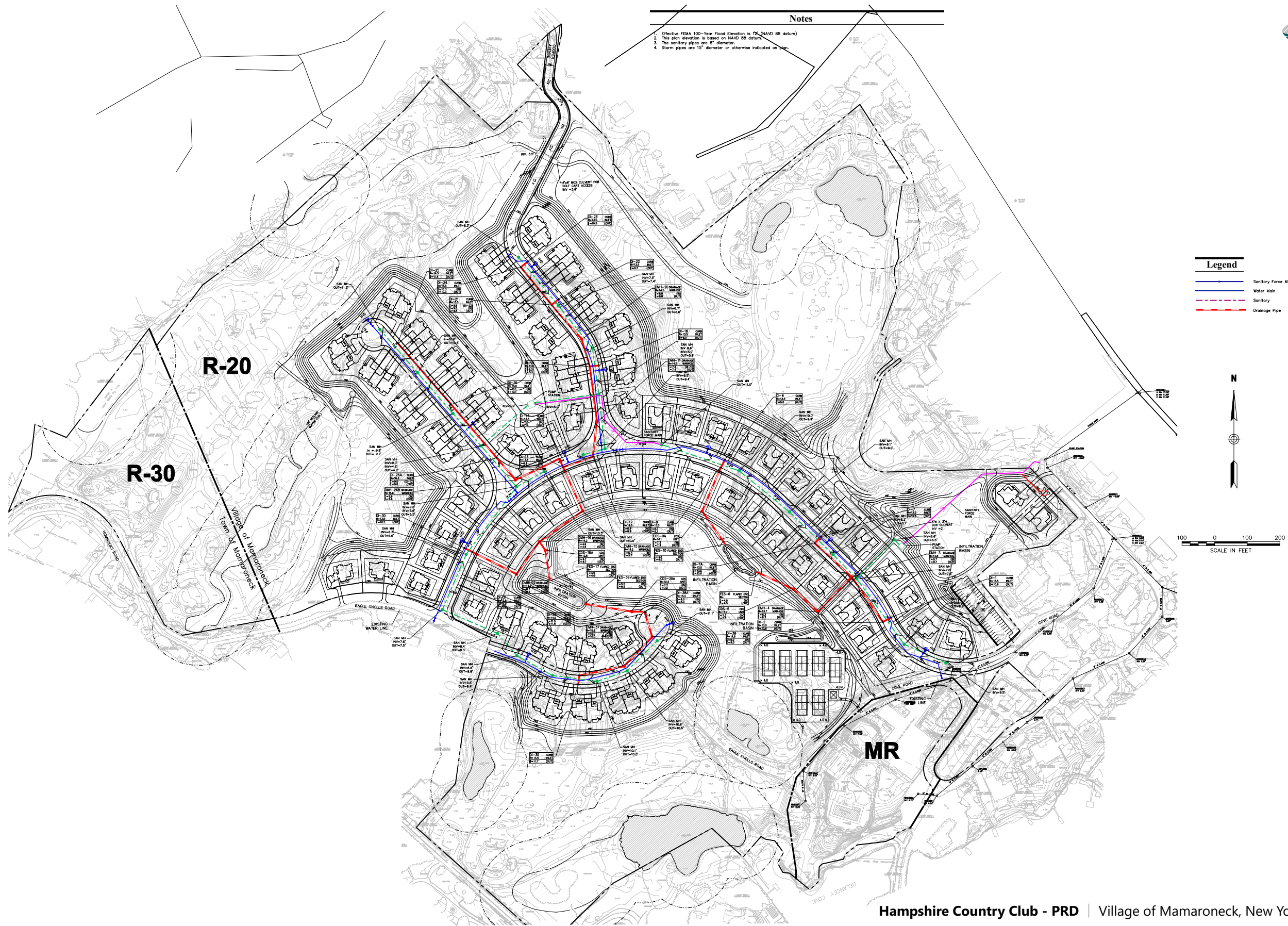
#### 4. Mitigation

Since the sanitary service is currently available and sufficient capacity appears to exist, based on discussions with the Village Engineer, to service the project, no site-specific mitigation measures are proposed for sanitary service. However, as typically recommended by Westchester County, sanitary discharge from the Project Site will need to be mitigated at a ratio of 3:1 by providing system flow reductions for Inflow and Infiltration (I&I). The Applicant and project engineer will meet with the Village Engineer and Department of Public Works to identify sanitary system segments in the Village of Mamaroneck that require rehabilitation either through reconstruction, lining and assess the reductions possible for each project. The Applicant will work with the Village Engineer and DPW to further investigate each project area and perform an assessment of reduction potential. Projects will be ranked and selected jointly by the Applicant, Town Engineer and DPW representatives. A plan will be finalized with the Village Engineer and DPW prior to site plan approval. The Applicant will either provide engineering and construction services to perform the selected sanitary upgrades or provide reimbursement to the Village of Mamaroneck to self-perform the proposed upgrades.

The placement of the two pump stations has been selected in remote but accessible locations away from proposed residences to mitigate potential noise and odors from pump station operation. Each pump station will have a backup generator and automatic transfer switch to ensure uninterrupted service with status monitoring provided by mobile link to maintenance personnel for failure notification and operational and maintenance cycles.

The proposed sewer components will be designed and placed to mitigate potential impacts from flood events. Components at risk include the pump station, pump station controls and emergency generator. All pump station chamber covers will be set above the flood plain at an elevation of 16 feet to prevent the possibility of inundation by flood waters. The pump station controls and emergency generator will be mounted at an elevation of 16 feet or higher to prevent flood water contact. Power provided to the pump station will be underground via sealed conduits extended above ground to a minimum elevation of 16 feet to prevent floodwater impact.





Hampshire Country Club - PRD | Village of Mamaroneck, New York

Grading and Utility Plan

Source: Kimley-Horn



## J. SOLID WASTE

### 1. Existing Conditions

Solid waste at the Project Site is currently collected and stored in a compactor located in the loading dock area just outside the basement level of the existing clubhouse. The compactor services the clubhouse, pool, snack bar, and tennis facilities. Additionally, there are two yard garbage containers used by the golf course grounds department. Waste collected in these containers consists mainly of yard waste and discarded equipment parts.

Solid waste removal and recycling services are provided by Suburban Carting Company, a private company. The pickup schedule is by call in request and varies based on the season. In general, solid waste removal from the two yard containers and the compactor occurs two times per month.

Solid waste generation amounts to approximately 40 tons per year, or roughly 0.11 tons per day.

### 2. Future without the Proposed Project

In a future without the proposed project, solid waste generation and management would remain as previously described for as long as the club use remains at the Project Site. Due to current economic pressures on private golf courses in the area, and the Hampshire Country Club's recent financial performance, it is likely that the existing membership club use would be discontinued in the in the long run if the Proposed Action is not pursued, and solid waste generation and management would cease. See the No Action Alternative described in Chapter 4 for more detailed information.

### 3. Potential Impacts

#### a) Solid Waste Generation

The addition of 105 new residential units and approximately 335 residents to the Project Site is expected to generate approximately 0.73<sup>1</sup> tons of additional solid waste per day, as demonstrated in Table 3J-1 below. The club facilities will continue to operate as a social, tennis, and swimming club under the Proposed Action; membership and frequency of events, both member and non-member, are expected to remain at the current level. No demolition activity is anticipated in association with the Proposed Action except for the current tennis courts. All construction debris would be disposed of in accordance with applicable regulations and procedures.

<sup>1</sup> Based on a municipal solid waste generation rate of .0022 tons per person per day; estimate from US EPA data – Generation, Materials Recovery, Composting, Combustion, and Discards of Municipal Solid Waste, 1960 to 2013





**Table 3J-1 Existing and Proposed Solid Waste Generation**

Project Use	Existing	Proposed	Increment
Residential	0	.73 tons/day	+ 0.73 ton/day
Recreational Club	.11 tons/day	.11 tons/day	0 tons/day
<b>TOTAL</b>	<b>.11 tons/day</b>	<b>.84 tons/day</b>	<b>+ 0.73 tons/day</b>

#### **b) Solid Waste Management**

The new houses of the proposed development will require public solid waste removal and public recycling services, with residential pick-up from individual disposal and recycling receptacles, in accordance with Village of Mamaroneck placement and enclosure regulations for Garbage, Rubbish and Refuse. Solid waste management, including collection and disposal, will remain as previously described for the existing club facilities.

The Village of Mamaroneck Department of Public Works (DPW) is responsible for garbage, recycling, bulk waste, and yard waste collections in the Village. Solid waste from residents of the Village of Mamaroneck is delivered to the South Columbus Avenue Transfer Station located in Mount Vernon; from there materials are delivered to the Charles Point Resource Recovery Facility in Peekskill, NY. According to the Westchester County Department of Environmental Facilities, the Charles Point Resource Recovery Facility processes up to 2,250 tons per day of municipal solid waste and has a permitted capacity of 710,000 tons per year. In 2014, the facility processed 684, 929 tons of solid waste.

The Daniel P. Thomas Material Recovery Facility serves Westchester County's recycling efforts, including processing recycling materials from the Village of Mamaroneck. The facility processed 73,013 tons of recyclables in 2014.

As mentioned, the projected increase in solid waste generation at full build-out of the Proposed Action is 0.73 tons per day for a total of 266 tons per year, significantly less than 1% of the Resource Recovery Facility's yearly processing capacity. It is the Applicant's belief that project-generated solid waste would not have a significant impact on the processing capacity at this resource recovery location.

All waste storage, removal, and disposal associated with the Proposed Action will be conducted in accordance with applicable county and local regulations.

#### **4. Mitigation**

As detailed above, the increase in solid waste generation as a result of the Proposed Action is small in comparison to the capacity of the local transfer station and resource recovery facility. The new residential units in the proposed development would require public solid waste removal and public recycling services, with residential pick-up from individual disposal and recycling receptacles, in accordance with



Village of Mamaroneck placement and enclosure regulations for Garbage, Rubbish and Refuse. In addition, the proposed project would result in a net positive impact for the taxing districts, including the Village of Mamaroneck and Westchester County. The development is anticipated to generate a combined total of \$5,215,568 in annual property taxes, of which approximately 25% would go to the Village. This represents an increase of approximately \$4,870,033 over the current taxes generated at the Project Site. This significant increase would off-set any increased costs to the Village DPW associated with solid waste generation from the proposed residential development. Solid waste management, including collection and disposal, would remain as previously described for the existing club facilities.

Therefore, no significant adverse impacts from solid waste generation at the Project Site are anticipated to result from implementation of the Proposed Action. No further mitigation measures are proposed.

DRAFT

## K. VEGETATION AND WILDLIFE

Existing ecological conditions at the Project Site were assessed through a review of United States Fish and Wildlife Service (USFWS), the New York Natural Heritage Program (NYNHP), and New York State Department of Environmental Conservation (NYSDEC) maps and records.

### 1. Existing Conditions

#### a) ~~Habitats and~~ Vegetation

The Project Site has been in continual use as a golf course since it was constructed in the late 1920's. As a consequence, the most prominent vegetative cover types are the landscaped fairways, practice greens, roughs, and trees associated with this use, accounting for 81.6% of the Project Site. In addition, approximately 8.3% of the Project Site contains tall grass and brush, particularly along the perimeter of the golf course and surrounding the pond and inlet to the west of the clubhouse. Impervious surfaces, which make up 5.6% of the Project Site, include the clubhouse and accessory recreational buildings, paved pathways which run through the existing golf course, and tennis courts to the south of Eagle Knolls Road. ~~Together, these cover types provide suitable habitat for common wildlife species adapted to predominantly developed/disturbed conditions and close human presence. The overall quality of the habitat on the Project Site is low due to the longstanding and ongoing maintenance of the golf course. The dominant vegetative species at the Project Site include common turf grasses and other landscaping, as well as common native and non-native trees. Currently, this area provides minimal habitat value to grazers, such as Canada geese and white-tailed deer, and aerial foragers.~~

Ponds and wetlands, located across the existing golf course, make up the final 4.4% of the Project Site. Based on the wetland functional assessment completed (described in detail in Chapter 3E, Surface Water Courses and Wetlands), the wetlands at the Project Site are primarily anthropogenic features that were created or altered to provide drainage and irrigation for the golf course, and to serve as water hazards. Due to their disturbed condition, impaired water quality and siltation impacts, overall functionality for diversity of wetland vegetation and contribution to habitat for wetland fauna is low.

The Project Site's area of disturbance would impact approximately 432 trees that are 8" or higher in diameter measured at three feet above the base trunk elevation (see Exhibit 3K-1, Tree Removal Plan).

The existing Project Site conditions are provided in Table 3K-1 below. See Exhibit 3K-2, Existing Cover Types, for a map of cover type locations within the Project Site.



**Table 3K-1 Existing Cover Types**

<b>Cover Type (ECNYS Ecological Communities)</b>	<b>Site Coverage (acres)</b>	<b>Site Coverage (percent)</b>
Landscaping	86.7	81.6%
Meadows, Grasslands, or Brushlands	8.8	8.3%
Impervious Surfaces	6	5.6%
Surface Water Features and Wetlands	4.7	4.4%

As detailed in Chapter 3L, Critical Environmental Areas, the Project Site was recommended for designation as a Critical Environmental Area in the Village of Mamaroneck Local Waterfront Revitalization Plan (LWRP), adopted in November 1984, because "The Hampshire Country Club golf course is a highly sensitive drainage area with the potential for impacting the Hommocks Marsh and coastal waters. The Hommocks Conservation Area is a significant habitat."

The 2016 draft update of the LWRP also cites the Project Site's various ponds and wetland areas, as well as its proximity to the Long Island Sound, as factors supporting the CEA designation. The Project Site is also located adjacent to The Hommocks Salt Marsh Complex Critical Environmental Area (CEA), designated by the Town of Mamaroneck in 1989 (see Exhibit 3K-3, The Hommocks Salt Marsh Complex CEA), is located within the Hommocks Conservation Area. According to the Town of Mamaroneck Local Waterfront Revitalization Plan; LWRP, adopted in 1986, the Conservation Area encompasses tidal wetlands, the outfalls of East Creek and Gut Creek, five acres of sheltered waters off the southwest end of the Hommocks peninsula, and a strip of partly wooded ground skirting the south end of Flint Park. Together these off-site components support a habitat complex that is rich in wildlife. The sheltered waters provide an important feeding area for migrating waterfowl and the other components provide an upland bird nesting area.

The drainage system on the ~~northeast-northwest~~ portion of the Project Site, Drainage System 1 (see Exhibit 3E-1 in Chapter 3E, Surface Water Courses and Wetlands), is directly connected to the tidal wetlands located within the Hommocks Conservation Area. This connection is provided via underground piping feeding from the long surface pond within the Town of Mamaroneck portion of the Project Site, under Hommocks Road, ultimately discharging into the tidal wetlands. The proposed development would be sensitive to its potential impacts on the Hommocks Conservation Area and CEA through the use of a carefully designed stormwater retention system. Details are provided in section 3d below.

Correspondence was submitted to the New York Natural Heritage Program (NYNHP) on February 25, 2016 to determine whether records exist for known occurrences of rare or New York State-listed animals, plants, or significant natural communities on or in the immediate vicinity of the Project Site. In correspondence dated March 23, 2016, the NYNHP indicated that no State-listed animals, plants or

significant natural communities have been recorded at the Project Site (copies of the NYNHP request and response letters are included in Appendix [KH](#)).

## b) Rare Protected Species and Communities

A map generated by the Environmental Resource Mapper for the NYSDEC did not identify any significant natural communities at or near the Project Site. According to the USFWS, there are no critical habitats located on site. There are also no rare or endangered plant or animal species known to inhabit the site. Data was obtained from Federal and New York State records, detailed below.

### New York State Records

Correspondence was submitted to NYNHP on February 25, 2016 to determine whether records exist for known occurrences of rare or New York State-listed animals, plants, or significant natural communities on the Project Site. The NYNHP indicated that no occurrences of rare or New York State-listed animals, plants or significant natural communities have been recorded at the Project Site (see Appendix [HK](#)).

Additionally, data and maps provided by the NYSDEC show no rare animals or significant natural communities found on the Project Site.

### Federal Records

The USFWS Trust Resources Report for the Project Site (see Appendix [L](#)) indicates that there are no endangered species or critical habitats found on-site. The Trust Resources Report for the Project Site did identify a list of migratory species that could potentially be affected by activities on the Project Site, provided below.

American Oystercatcher	<i>Haematopus palliatus</i>	Least Tern	<i>Sterna antillarum</i>
American Bittern	<i>Botaurus lentiginosus</i>	Peregrine Falcon	<i>Falco peregrinus</i>
Bald Eagle	<i>Haliaeetus leucocephalus</i>	Pied-billed Grebe	<i>Podilymbus podiceps</i>
Black Skimmer	<i>Rynchops niger</i>	Prairie Warbler	<i>Dendroica discolor</i>
Black-billed Cuckoo	<i>Coccyzus erythrophthalmus</i>	Purple Sandpiper	<i>Calidris maritima</i>
Blue-winged Warbler	<i>Vermivora pinus</i>	Rusty Blackbird	<i>Euphagus carolinus</i>
Canada Warbler	<i>Wilsonia Canadensis</i>	Saltmarsh Sparrow	<i>Ammodramus caudatus</i>
Cerulean Warbler	<i>Dendroica cerulean</i>	Seaside Sparrow	<i>Ammodramus maritimus</i>
Fox Sparrow	<i>Passerella iliaca</i>	Short-eared Owl	<i>Asio flammeus</i>
Golden-winged Warbler	<i>Vermivora chrysoptera</i>	Snowy Egret	<i>Egretta thula</i>
Gull-billed Tern	<i>Gelochelidon nilotica</i>	Upland Sandpiper	<i>Bartramia longicauda</i>
Hudsonian Godwit	<i>Limosa haemastica</i>	Willow Flycatcher	<i>Empidonax traillii</i>
Kentucky Warbler	<i>Oporornis formosus</i>	Wood Thrush	<i>Hylocichla mustelina</i>
Least Bittern	<i>Lobrychus exilis</i>	Worm Eating Warbler	<i>Helmitheros vermivorum</i>

### **c) Wildlife Habitat**

The cover types described in section 1a above provide suitable habitat for common wildlife species adapted to predominantly developed/disturbed conditions and close human presence. The overall quality of the habitat on the Project Site is low due to the longstanding and ongoing maintenance of the golf course. The dominant vegetative species at the Project Site include common turf grasses and other landscaping, as well as common native and non-native trees. Currently, this area provides minimal habitat value to grazers, such as Canada geese and white-tailed deer, and aerial foragers.

## **2. Future without the Proposed Project**

In a future without the project, the existing conditions of the Project Site would remain as previously described in the short term. In the long term, given current economic and financial factors including a downward trend in golfing over the past decade and Hampshire Country Club's recent financial performance, it is anticipated that the golf course and membership club would not be a sustainable business. Operations of the club, and the continual maintenance of the open and recreational space as well as the ponds on the Project Site, would cease. The use of fertilizer, pesticides and herbicides, would also stop, improving conditions on the entire Project Site. However, Without a custodian to manage these features of the Project Site, the existing habitat would become overgrown, and invasive species would be permitted to dominate the landscape, leading to an overall decrease in the quality of habitat, and the quality would diminish.

## **3. Potential Impacts**

### **a) Trees**

As a result of the Proposed Action, approximately 432 trees with a diameter of 8" or greater would be removed, as identified in Exhibit 3K-1, Tree Removal Plan. Tree removal would be limited to the 55.6-acre area of disturbance, and would not include trees immediately surrounding ponds or wetlands on the Project Site. The proposed Landscaping Plan, prepared in accordance with the *Coastal Planting Guide for the Village of Mamaroneck* in order to maximize benefits for local habitat, proposes to plant 432 trees, a mixture of evergreen and shade tree varieties, resulting in a 1:1 mitigation ratio. Exhibit 3K-4 a and b includes the proposed Landscaping Plan with the locations of all plantings and a list of tree and plant species proposed for the development. As depicted, the trees would be located along the perimeter of the proposed buildings, providing significant screening from the surrounding neighborhood.

### **b) Habitats and Vegetation**

As detailed in existing conditions, the majority of the Project Site consists of well maintained, highly manicured vegetative cover types, including mowed lawn, roughs, and greens associated with the

existing golf course. The dominant vegetative species in this area includes common turf grasses and other landscaping, as well as common native and non-native trees. ~~Currently, this area provides minimal habitat value to grazers, such as Canada geese and white-tailed deer, and aerial foragers.~~ Overall habitat value of the Project Site is low due to the longstanding and ongoing maintenance of the golf course. Naturally-vegetated habitats are restricted primarily to certain perimeters of the Project Site, where some lightly-wooded brush and grasslands occur.

The Proposed Action would replace a portions of the golf course with approximately 29 acres of residential development and 36 acres of shared open space. The shared open space would be improved according to the proposed Landscaping Plan. In addition, nine holes of the golf course would be maintained, therefore maintaining portions of the existing habitat and minimizing the short-term disturbance associated with the construction of the proposed development. As golf course management practices would be limited to the perimeter of the Project Site, an overall reduction in fertilizer, pesticide, and herbicide applications would occur. No applications of these materials are currently proposed or anticipated within the 36 acres of open space. Therefore, an overall improvement in habitat quality is expected.

Existing and proposed cover types are provided in Table 3K-2 below.

**Table 3K-2 Existing and Proposed Cover Types**

Cover Type (ECNYS Ecological Communities)	Existing Site Coverage (acres)	Existing Site Coverage (percent)	Proposed Site Coverage (acres)	Proposed Site Coverage (percent)
Landscaping	86.7	81.6%	42.4	39.9%
Meadows, Grasslands, or Brushlands	8.8	8.3%	44.8	42.2%
Impervious Surfaces	6	5.6%	14.3	13.5%
Surface Water Features and Wetlands	4.7	4.4%	4.7	4.4%

As detailed in Table 3K-2, the primary impacts of the Proposed Action would be a 14.3-acre increase in impervious surfaces associated with the residential development and newly created roadways, a decrease of 44.3 acres in landscaped cover types at the Project Site, and a 36-acre increase in grasslands and brushlands associated with the preserved shared open space, which would grow significantly as the maintenance of portions of the golf course would cease. There would be no change in surface water features and wetlands as a result of the Proposed Action. All existing ecological communities would continue to exist on-site.

Following implementation of the project, the Project Site would continue to function ecologically as a location of primarily developed and landscaped habitats, however, the areas of naturally vegetated habitats, to be located in the shared open spaces, would grow significantly. All existing ecological

communities would continue to exist on-site. Wildlife species adapted to developed conditions and close human presence would likely be able to adjust to the conversion of portions of the landscaped cover type to a residential development.

No ponds or wetlands would be directly disturbed under the Proposed Action. The proposed landscaping plans include a 20-foot wetland edge of plantings for the ponds and bioretention areas. Given that currently, all of the pond areas are mowed and do not contain thriving wetland vegetation, the existing wetland habitat conditions will improve as a result of the Proposed Action.

Additionally, no New York State or federally-listed endangered, threatened or special concern plants or wildlife, or significant natural communities have been found on the Project Site. With respect to New York State rare/protected species or significant natural community records, the NYS DEC and NYNHP indicate that no such records currently exist for the Project Site and immediate vicinity.

~~Although there is potential for migratory bird species to be affected by the Proposed Action, 432 trees with a diameter of 8" or greater would be removed, and the 432 replacement trees to be planted will take time to grow to this size. However, the proposed development would not result in the taking of those migratory bird species given that the Project Site does not provide critical habitat. In addition, trees to be removed under the Proposed Action would be replaced according to the proposed Landscaping Plan, the newly-planted trees as part of the Proposed Landscaping Plan will begin to restore thereby restoring any habitat that may be disturbed in the short term and will fully restore this habitat as they mature in the long term.~~

In summary, the existing ecological communities at the Project Site provide suitable habitat for common wildlife species adapted to predominantly developed/disturbed conditions and close human presence. Therefore, the conversion of portions of the landscaped cover type to a developed residential use is not anticipated to result in significant adverse impacts to existing habitat. No significant adverse impacts to these communities are anticipated as a result of the Proposed Action, and in fact, in some cases, conditions would be improved, particularly within the 36 acres of shared open space associated with the PRD development.

c) Hampshire Country Club and Hommocks Salt Marsh CEAs

The project as designed would avoid negative impacts on the Hommocks Salt Marsh CEA and the features of the Project Site that contribute to its own CEA designation. The proposed stormwater maintenance system for the Project Site would improve water quality control through the construction of drainage pipes, bioretention-infiltration basins, continuous deflective system (CDS) units and dry wells and stormwater ponds. These mechanisms would treat water runoff, ultimately improving the water quality on the Project Site, including any stormwater being discharged into the Hommocks Salt Marsh CEA.

In addition, no development is proposed within a 100-foot adjacent area of any existing pond or wetland ~~on the Project Site, some of the key environmental features on the Project Site,~~ which may discharge into the Hommocks Salt Marsh. This buffer would provide a non-structural stormwater infiltration zone, encouraging infiltration into the soil as opposed to the wetland. Finally, the maintenance of nine holes of the golf course, particularly along the perimeter of the Project Site, would maintain current conditions in those areas and limit developmental impacts on the sensitive habitat provided by the Hommocks Conservation Area.

#### d) Landscape Maintenance Plan / Use of Fertilizers

Golf courses ~~utilize-use~~ fertilizers, pesticides, and herbicides as a means to maintain the course. The Proposed Action ~~would-is anticipated to~~ reduce the use of these materials due to the change in use of a portion of the ~~site-Project Site~~ from a golf course to residential housing with shared open spaces. ~~These shared open spaces would be maintained by the proposed Homeowners Association (HOA), which would regulate the use of fertilizers, pesticides and herbicides.~~ No pesticides, herbicides, or fertilizers are anticipated to be applied to the 36 acres of shared open space. ~~These shared open spaces would be maintained by the proposed Homeowners Association (HOA). Though not guaranteed, were future homeowners to use these materials on private residential property, the quantity would likely be less than is currently used for golf course maintenance. Overall, the use of fertilizers, pesticides and herbicides is anticipated to decrease on the Project Site.~~ The preserved holes of the golf course would continue to be maintained by the Applicant.

### 4. Mitigation

As detailed above, no significant adverse impacts to ecological resources on or adjacent to the Project Site are anticipated to result from implementation of the Proposed Action. The Project Site would continue to function ecologically as a location dominated by landscaped habitats, grasslands, and ponds or wetlands. Nevertheless, the following measures are proposed to enhance ecological resources.

The primary wildlife mitigation for the Proposed Action is the clustering of the residential development. By clustering the development, potential impacts are reduced and 36 acres of natural vegetation on the Project Site can be preserved.

Existing maintained lawn area will be reduced and replaced with native low maintenance plant species based on the recommendation of the *Coastal Planting Guide for the Village of Mamaroneck* (Exhibit 3K-4a and b, Landscaping Plan). Over time, it is anticipated that these vegetated habitats would attract a more robust wildlife species assemblage, resulting in an overall increase in wildlife species diversity at the Project Site, as compared to existing conditions. In order to avoid/minimize any potential adverse impacts to wetlands, a 100-foot adjacent area would be maintained throughout the duration of work and following implementation. In addition, as detailed in the Landscaping Plan, 432 trees would be

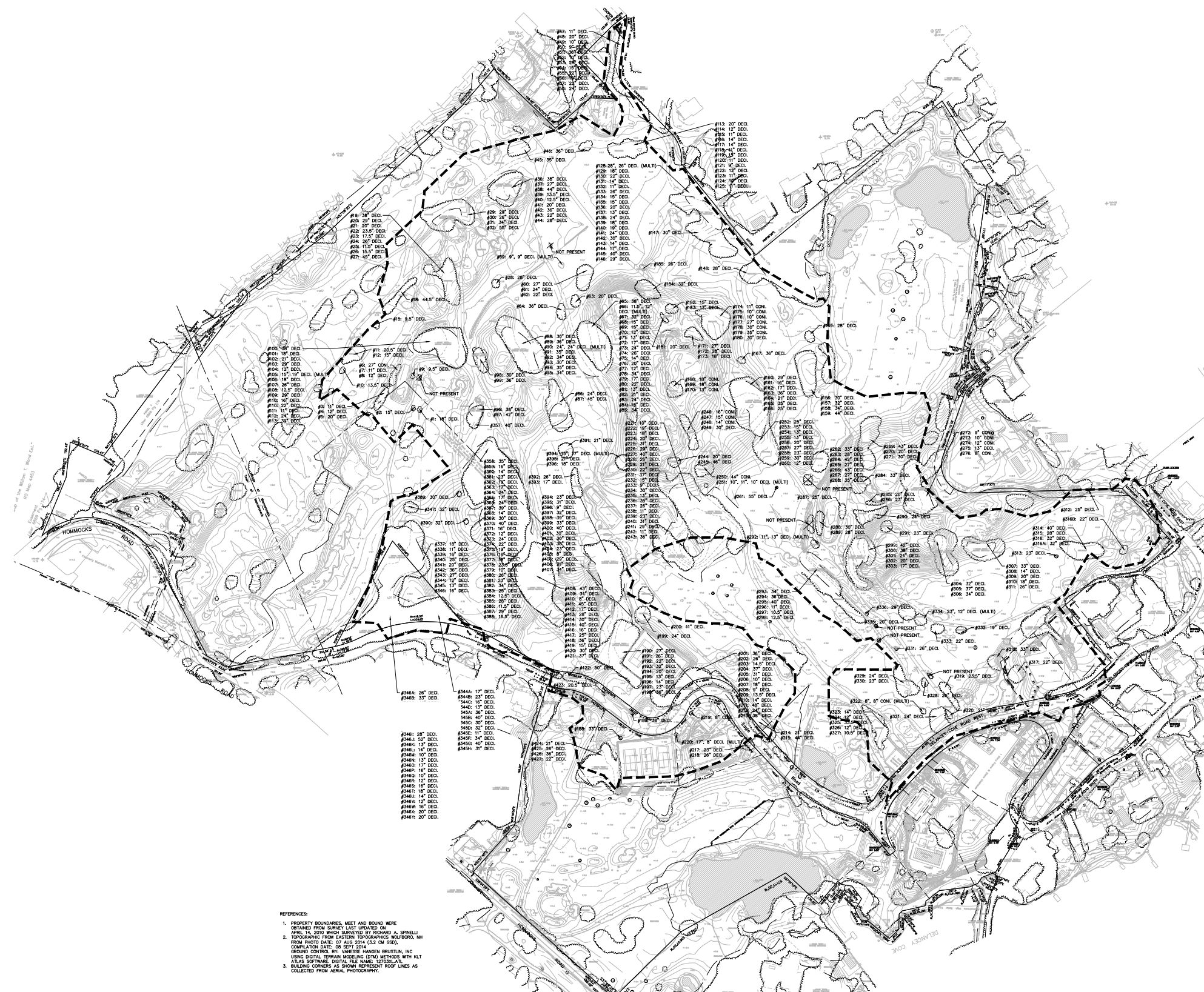


planted to replace any trees to be removed during construction and native plantings would be provided along the perimeter areas of on-site wetlands, improving overall plant and wildlife species diversity.

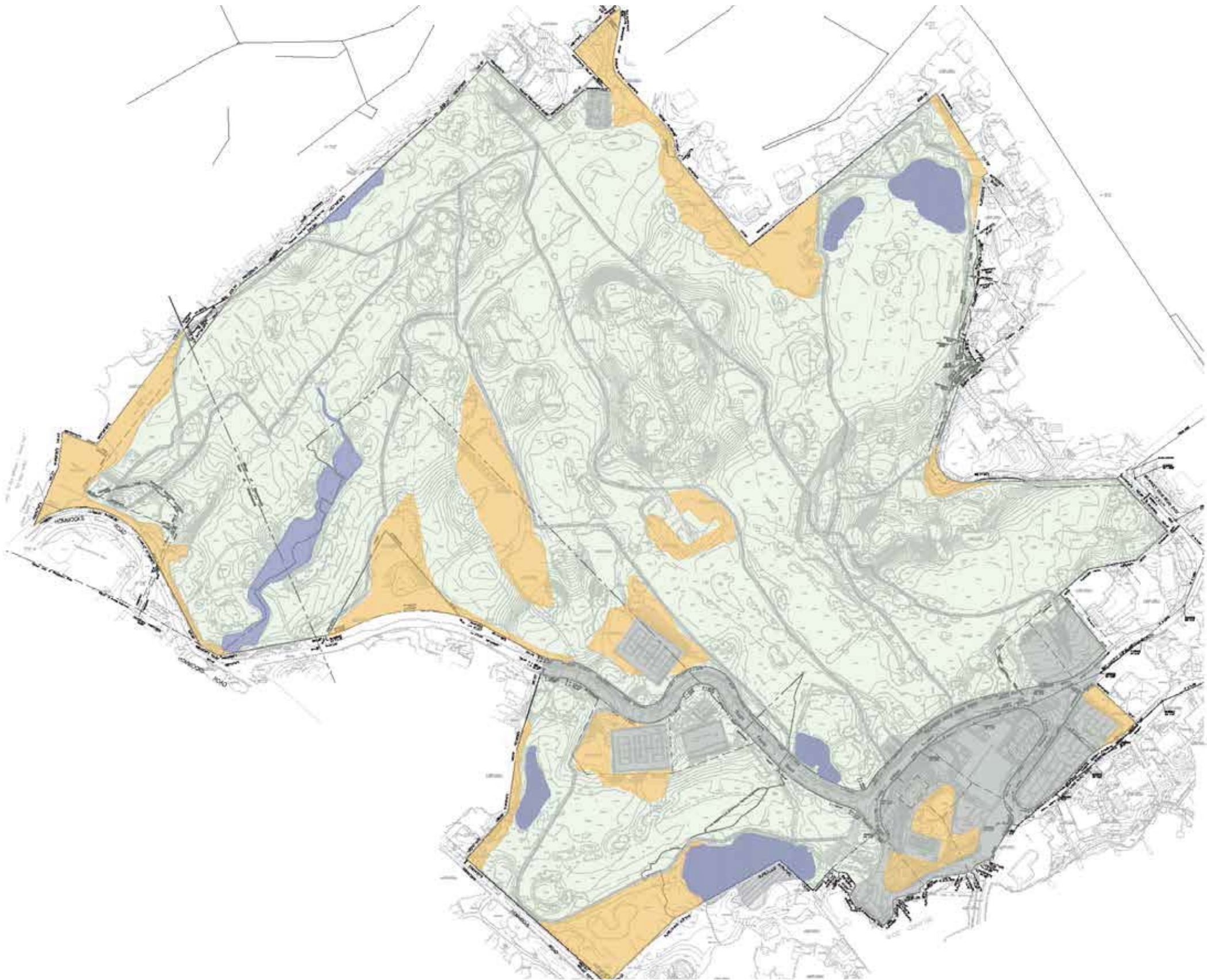
Water quality treatment controls through ~~stormwater ponds~~drywells and ~~retention~~infiltration basins will be installed to collect stormwater runoff that currently discharges into the Hommocks Conservation Area. These controls will improve the water quality of the runoff.

DRAFT









Existing  
Cover Types

-  Surface Water  
Features and  
Wetlands
-  Meadows,  
Grasslands, or  
Brushlands
-  Impervious  
Surfaces
-  Landscaping

Hampshire Country Club - PRD | Village of Mamaroneck, New York

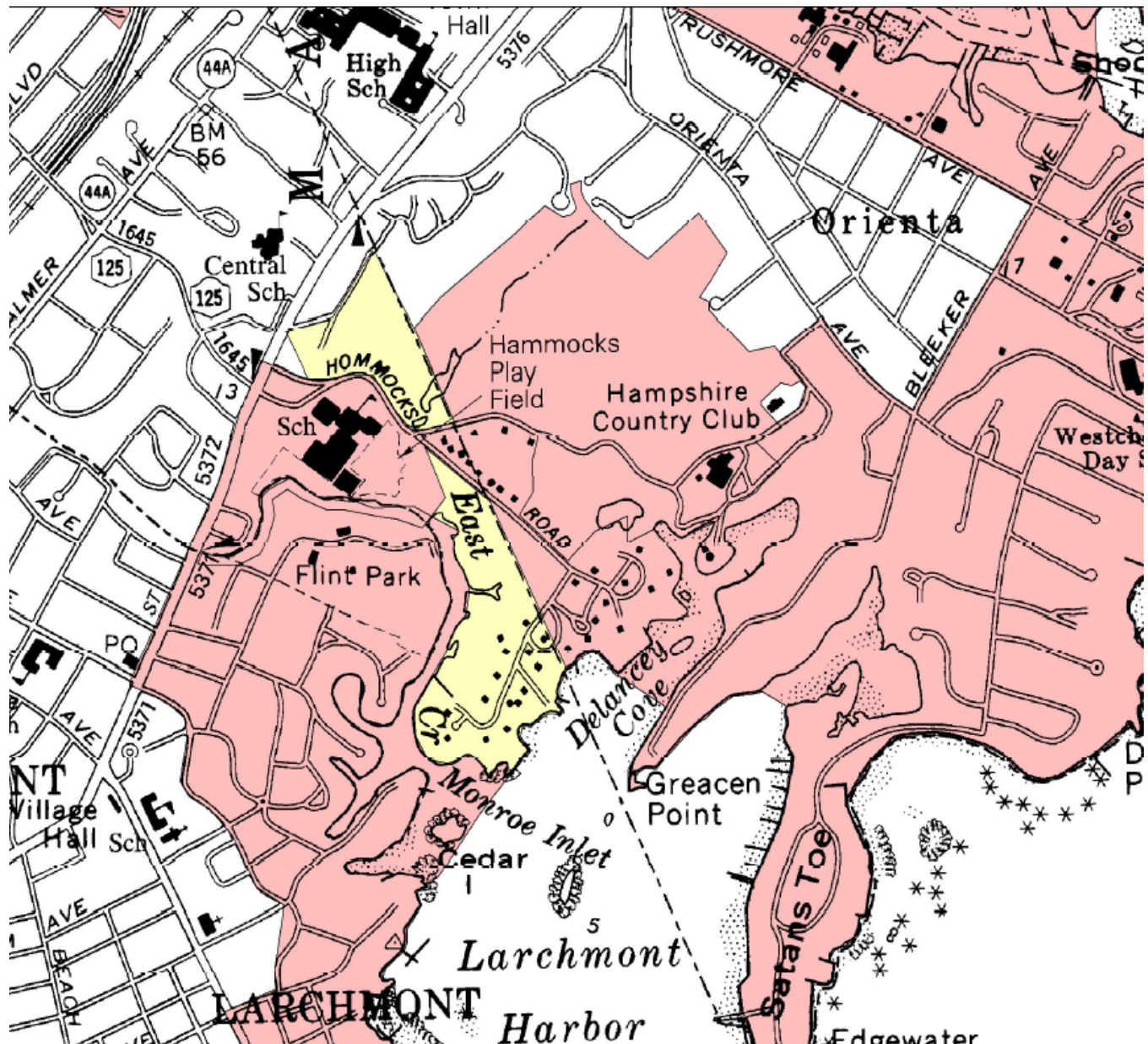
Existing Cover Types

Source: VHB



Effective Date of Designation: 9-16-1989

Designating Agency: Town of Mamaroneck



**Legend**

- The Hommocks Salt Marsh Complex CEA
- Adjacent CEA

Base Map: DOT 1:24,000 Planimetric Images

Disclaimer: This map was prepared by the New York State Department of Environmental Conservation using the most current data available. It is deemed accurate but is not guaranteed. NYS DEC is not responsible for any inaccuracies in the data. Please contact the designating authority for additional information regarding legal boundary descriptions.

0 0.125 0.25 0.5 Miles

1 inch equals 0.2 miles

For Adjacent CEAs see map:  
 Hommocks' Conservation Area CEA  
 Long Island Sound CEA  
 Hampshire Country Club CEA

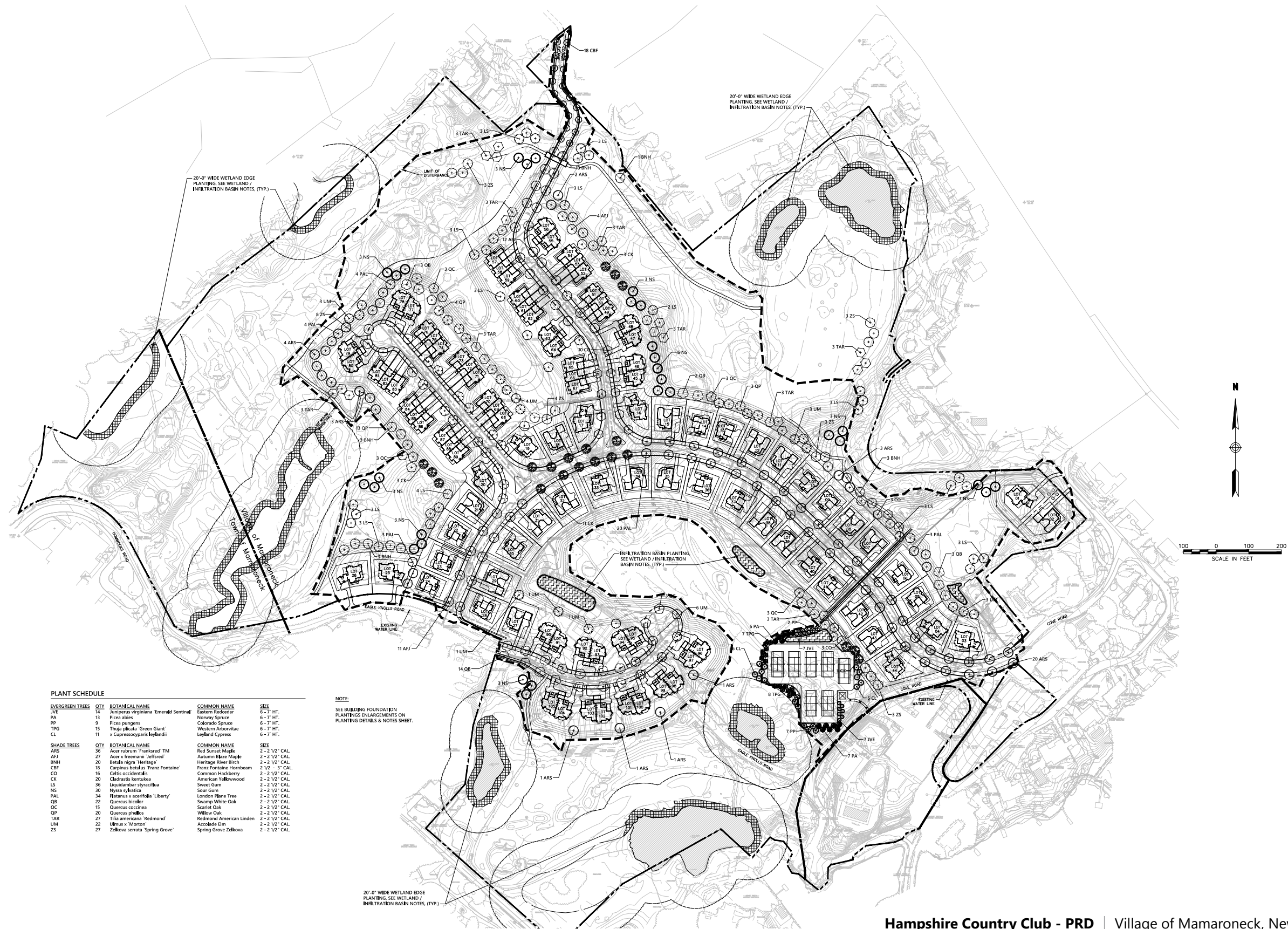
**Hampshire Country Club - PRD**

Village of Mamaroneck, NY

**The Hommocks Salt Marsh Complex CEA**

Source: Town of Mamaroneck





PLANT SCHEDULE

EVERGREEN TREES			
QTY	BOTANICAL NAME	COMMON NAME	SIZE
14	<i>Juniperus virginiana</i> 'Emerald Sentinel'	Eastern Redcedar	6 - 7' HT.
13	<i>Picea abies</i>	Norway Spruce	6 - 7' HT.
9	<i>Picea pungens</i>	Colorado Spruce	6 - 7' HT.
15	<i>Thuja plicata</i> 'Green Giant'	Western Arborvitae	6 - 7' HT.
11	<i>x Cupressocyparis leylandii</i>	Leyland Cypress	6 - 7' HT.
SHADE TREES			
QTY	BOTANICAL NAME	COMMON NAME	SIZE
36	<i>Acer rubrum</i> 'Frankford' TM	Red Sunset Maple	2 - 2 1/2' CAL
27	<i>Acer x freemanii</i> 'Jefferson'	Autumn Blaze Maple	2 - 2 1/2' CAL
20	<i>Betula nigra</i> 'Heritage'	Heritage River Birch	2 - 2 1/2' CAL
18	<i>Carpinus betulus</i> 'Franz Fontaine'	Franz Fontaine Hornbeam	2 1/2 - 3' CAL
16	<i>Celtis occidentalis</i>	Common Hackberry	2 - 2 1/2' CAL
20	<i>Cladrasia kentukea</i>	American Yellowwood	2 - 2 1/2' CAL
36	<i>Liquidambar styraciflua</i>	Sweet Gum	2 - 2 1/2' CAL
30	<i>Nyssa sylvatica</i>	Sour Gum	2 - 2 1/2' CAL
34	<i>Platanus x acerifolia</i> 'Liberty'	London Plane Tree	2 - 2 1/2' CAL
22	<i>Quercus bicolor</i>	Swamp White Oak	2 - 2 1/2' CAL
15	<i>Quercus coccinea</i>	Scarlet Oak	2 - 2 1/2' CAL
20	<i>Quercus phellos</i>	Willow Oak	2 - 2 1/2' CAL
27	<i>Tilia americana</i> 'Redmond'	Redmond American Linden	2 - 2 1/2' CAL
22	<i>Ulmus x 'Morton'</i>	Accolade Elm	2 - 2 1/2' CAL
27	<i>Zelkova serata</i> 'Spring Grove'	Spring Grove Zelkova	2 - 2 1/2' CAL

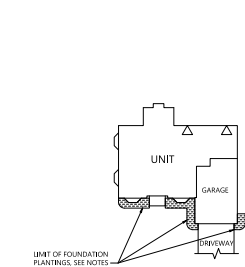
NOTE:  
SEE BUILDING FOUNDATION  
PLANTINGS ENLARGEMENTS ON  
PLANTING DETAILS & NOTES SHEET.

Hampshire Country Club - PRD | Village of Mamaroneck, New York

Landscaping Plan

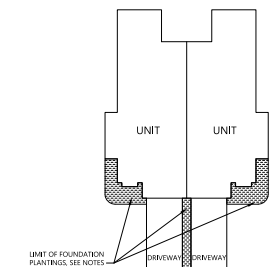
Source: Kimley-Horn





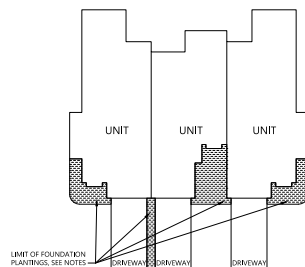
- NOTES**
1. FRONT WALK LOCATION TO BE DETERMINED AND COORDINATED WITH FOUNDATION PLANTINGS.
  2. FOUNDATION PLANTINGS SHALL BE A COMBINATION OF THE FOLLOWING SPECIES:
    - Flowering Dogwood
    - Semi-dwarf
    - Japanese Holly
    - Japanese Plums
    - Odo Japanese Cherry Laurel
    - Uniquely muscled "Big Blue"
    - Semi-dwarf Dogwood
    - Japanese Holly
    - Japanese Plums

**Foundation Planting - Single Family Home** 06/16  
N.T.S. Source: VHB



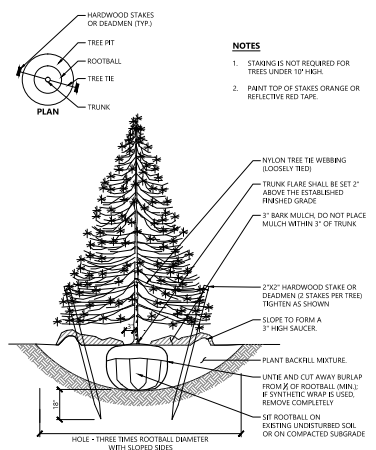
- NOTES**
1. FRONT WALK LOCATION TO BE DETERMINED AND COORDINATED WITH FOUNDATION PLANTINGS.
  2. FOUNDATION PLANTINGS SHALL BE A COMBINATION OF THE FOLLOWING SPECIES:
    - Flowering Dogwood
    - Semi-dwarf
    - Japanese Holly
    - Japanese Plums
    - Odo Japanese Cherry Laurel
    - Uniquely muscled "Big Blue"
    - Semi-dwarf Dogwood
    - Japanese Holly
    - Japanese Plums

**Foundation Planting - Two Unit Configuration** 06/16  
N.T.S. Source: VHB

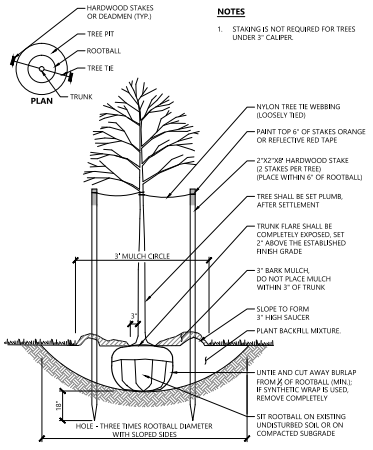


- NOTES**
1. FRONT WALK LOCATION TO BE DETERMINED AND COORDINATED WITH FOUNDATION PLANTINGS.
  2. FOUNDATION PLANTINGS SHALL BE A COMBINATION OF THE FOLLOWING SPECIES:
    - Flowering Dogwood
    - Semi-dwarf
    - Japanese Holly
    - Japanese Plums
    - Odo Japanese Cherry Laurel
    - Uniquely muscled "Big Blue"
    - Semi-dwarf Dogwood
    - Japanese Holly
    - Japanese Plums

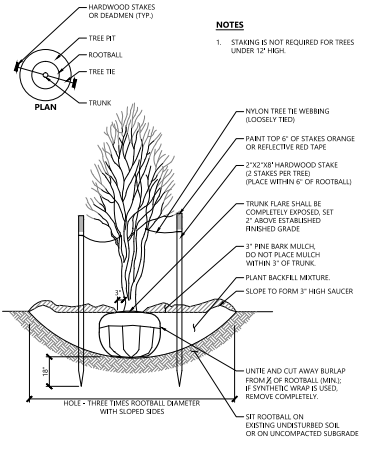
**Foundation Planting - Three Unit Configuration** 06/16  
N.T.S. Source: VHB



**Evergreen Tree Planting** 1/16  
N.T.S. Source: VHB



**Tree Planting (For Trees Under 4" Caliper)** 1/16  
N.T.S. Source: VHB



**Multistem Tree Planting** 1/16  
N.T.S. Source: VHB

**Tree Protection**

1. EXISTING TREES TO REMAIN SHALL BE PROTECTED WITH TEMPORARY CONSTRUCTION FENCE. ERECT FENCE AT EDGE OF THE TREE DRIPLINE PRIOR TO START OF CONSTRUCTION.
2. CONTRACTOR SHALL NOT OPERATE VEHICLES WITHIN THE TREE PROTECTION AREA. CONTRACTOR SHALL NOT STORE VEHICLES OR MATERIALS, OR DISPOSE OF ANY WASTE MATERIALS, WITHIN THE TREE PROTECTION AREA.
3. DAMAGE TO EXISTING TREES CAUSED BY THE CONTRACTOR SHALL BE REPAIRED BY A CERTIFIED ARBORIST AT THE CONTRACTOR'S EXPENSE.

**Edge of Woods Clearing**

1. EXISTING TREES TO REMAIN SHALL BE PROTECTED WITH TEMPORARY EROSION CONTROL FENCE AND HAY BALE BARRIER. ERECT BARRIER AT EDGE OF THE EARTHWORK CUT LINE PRIOR TO TREE CLEARING. LAY OUT THIS LINE BY FIELD SURVEY.

**Plant Maintenance Notes**

1. CONTRACTOR SHALL PROVIDE COMPLETE MAINTENANCE OF THE LAWN AND PLANTINGS. NO IRRIGATION IS PROPOSED FOR THIS SITE. THE CONTRACTOR SHALL SUPPLY SUPPLEMENTAL WATERING FOR NEW LAWNS AND PLANTINGS DURING THE ONE YEAR PLANT GUARANTEE PERIOD.
2. CONTRACTOR SHALL PROVIDE ALL MATERIALS, LABOR, AND EQUIPMENT FOR THE COMPLETE LANDSCAPE MAINTENANCE WORK. WATER SHALL BE PROVIDED BY THE CONTRACTOR.
3. WATERING SHALL BE REQUIRED DURING THE GROWING SEASON, WHEN NATURAL RAINFALL IS BELOW ONE INCH PER WEEK.
4. WATER SHALL BE APPLIED IN SUFFICIENT QUANTITY TO THOROUGHLY SATURATE THE SOIL IN THE ROOT ZONE OF EACH PLANT.
5. CONTRACTOR SHALL REPLACE DEAD OR DYING PLANTS AT THE END OF THE ONE YEAR GUARANTEE PERIOD. CONTRACTOR SHALL TURN OVER MAINTENANCE TO THE FACILITY MAINTENANCE STAFF AT THAT TIME.

**Planting Notes**

1. ALL PROPOSED PLANTING LOCATIONS SHALL BE STAKED AS SHOWN ON THE PLANS FOR FIELD REVIEW AND APPROVAL BY THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
2. CONTRACTOR SHALL VERIFY LOCATIONS OF ALL BELOW GRADE AND ABOVE GROUND UTILITIES AND NOTIFY OWNERS REPRESENTATIVE OF CONFLICTS.
3. NO PLANT MATERIALS SHALL BE INSTALLED UNTIL ALL GRADING AND CONSTRUCTION HAS BEEN COMPLETED IN THE IMMEDIATE AREA. CONTRACTOR SHALL NOTIFY OWNERS REPRESENTATIVE OF ANY CONFLICT.
4. A 3-INCH DEEP MULCH PER SPECIFICATION SHALL BE INSTALLED UNDER ALL TREES AND SHRUBS, AND IN ALL PLANTING BEDS, UNLESS OTHERWISE INDICATED ON THE PLANS, OR AS DIRECTED BY OWNERS REPRESENTATIVE.
5. ALL TREES SHALL BE BALLED AND BURLAPPED, UNLESS OTHERWISE NOTED IN THE DRAWINGS OR SPECIFICATION, OR APPROVED BY THE OWNERS REPRESENTATIVE.
6. FINAL QUANTITY FOR EACH PLANT TYPE SHALL BE AS GRAPHICALLY SHOWN ON THE PLAN. THIS NUMBER SHALL TAKE PRECEDENCE IN CASE OF ANY DISCREPANCY BETWEEN QUANTITIES SHOWN ON THE PLANT LIST AND ON THE PLAN. THE CONTRACTOR SHALL REPORT ANY DISCREPANCIES BETWEEN THE NUMBER OF PLANTS SHOWN ON THE PLANT LIST AND PLANT LABELS PRIOR TO BIDDING.
7. ANY PROPOSED PLANT SUBSTITUTIONS MUST BE REVIEWED BY LANDSCAPE ARCHITECT AND APPROVED IN WRITING BY THE OWNERS REPRESENTATIVE.
8. ALL PLANT MATERIALS INSTALLED SHALL MEET THE SPECIFICATIONS OF THE "AMERICAN STANDARDS FOR NURSERY STOCK" BY THE AMERICAN ASSOCIATION OF NURSERYMEN AND CONTRACT DOCUMENTS.
9. ALL PLANT MATERIALS SHALL BE GUARANTEED FOR ONE YEAR FOLLOWING DATE OF FINAL ACCEPTANCE.
10. AREAS DESIGNATED "LOAM & SEED" SHALL RECEIVE MINIMUM 6" OF LOAM AND SPECIFIED SEED MIX. LAWNS OVER 2:1 SLOPE SHALL BE PROTECTED WITH EROSION CONTROL FABRIC.
11. ALL DISTURBED AREAS NOT OTHERWISE NOTED ON CONTRACT DOCUMENTS SHALL BE LOAM AND SEED OR MULCHED AS DIRECTED BY OWNERS REPRESENTATIVE.
12. THIS PLAN IS INTENDED FOR PLANTING PURPOSES. REFER TO SITE / CIVIL DRAWINGS FOR ALL OTHER SITE CONSTRUCTION INFORMATION.

**WETLAND / INFILTRATION BASIN NOTES:**

1. WETLAND EDGE PLANTINGS & INFILTRATION BASINS SHALL CONSIST OF A COMBINATION OF THE FOLLOWING SPECIES:

**TREES:**

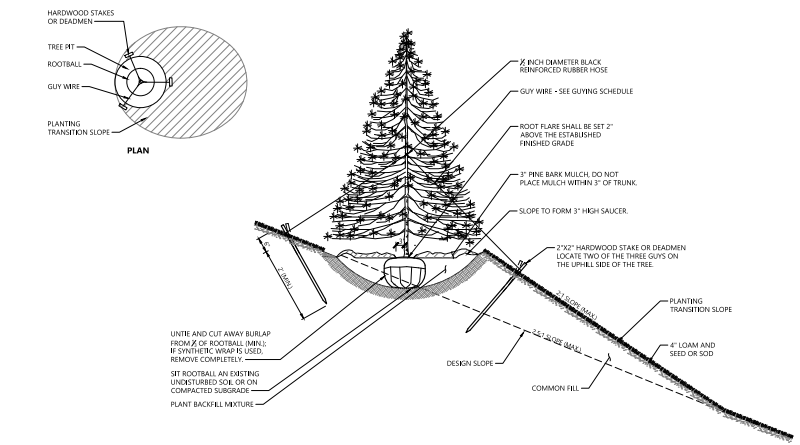
  - Acer rubrum - Red Maple
  - Betula nigra - River Birch
  - Liquidambar styraciflua - Sweetgum
  - Nyssa sylvatica - Tupelo

**SHRUBS:**

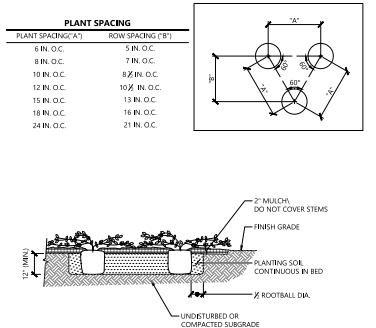
  - Baccharis halimifolia - Grounded Bush
  - Clethra alnifolia - Summersweet
  - Cornus racemosa - Gray Dogwood
  - Ilex glabra - Highberry Holly
  - Ilex verticillata - Winterberry
  - Jun. procumbens - Marsh Elder
  - Sambucus canadensis - Elderberry

**PERENNIALS / ORNAMENTAL GRASSES:**

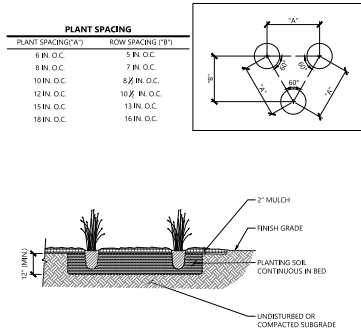
  - Asclepias incarnata - Swamp Milkweed
  - Carex stricta - Tussock Sedge
  - Chelone lyonii "Hot Lips" - Pink Turtlehead
  - Deschampsia cespitosa - Tufted Hairgrass
  - Dielsodia spicata - Spike Grass
  - Eriophorum albidum - Blunt Spikemoss
  - Eupatorium purpureum - Joe Pye Weed
  - Hibiscus moscheutos var. palustris - Marsh Mallow
  - Iris versicolor - Blue Flag Iris
  - Juncus effusus - Common Rush
  - Juncus gerardi - Black Grass
  - Panicum virgatum - Switchgrass
  - Solidago sempervirens - Seaside Goldenrod
  - Spartina patens - Salt Meadow Cordgrass



**Tree Planting on Slope** 1/16  
N.T.S. Source: VHB



**Ground Cover Planting** 1/16  
N.T.S. Source: VHB



**Perennial and Ornamental Grass Planting** 1/16  
N.T.S. Source: VHB





## L. CRITICAL ENVIRONMENTAL AREA

The Project Site is one of seven CEAs that have been designated in the Village of Mamaroneck, including the Hommocks Conservation Area (Village of Mamaroneck portion), designated the same day as the Hampshire Country Club.

A Critical Environmental Area (CEA) is a State- or locally-designated site recognized for its exceptional or unique environmental characteristics. Specifically, a CEA's characteristics must be unique with respect to one or more of the following: a benefit or threat to human health; a natural setting, e.g. open space or area of important scenic quality; agricultural, social, cultural, archaeological, recreational, or education values; or an inherent ecological, geological, or hydrological sensitivity to change. Development in a CEA is subject to more rigorous review by local agencies, which has prompted the inclusion of this chapter in the Environmental Impact Statement.

In January 1981, the Village of Mamaroneck Coastal Zone Management Committee published its Coastal Zone Management Program Phase One report to provide an inventory of coastal conditions in the Village. As discussed below, the Phase One report recommended that the Hampshire Country Club be designated as a CEA for its sensitive drainage characteristics. Three years later, the Village of Mamaroneck Local Waterfront Revitalization Program (LWRP) recommended an amendment to its Local Law 15-1980 to designate the Hampshire Country Club CEA. The Hampshire Country Club CEA was officially designated by Local Law No. 34-1984, effective on February 2, 1985.

### 1. Existing Conditions

As mentioned, the Hampshire Country Club was recommended for designation as a Critical Environmental Area in the Village of Mamaroneck LWRP, adopted in November 1984. According to the LWRP:

*The Hampshire Country Club golf course is a highly sensitive drainage area with the potential for impacting the Hommocks Marsh and coastal waters. The Hommocks Conservation Area is a significant habitat. CEA designation would encourage more careful review of proposed actions in or contiguous to these two areas.*

The Hommocks Conservation Area, which includes the Hommocks Salt Marsh, and the Hampshire Country Club were designated as CEAs simultaneously by the Village of Mamaroneck. The marsh is considered a highly sensitive coastal area, encompassing tidal wetlands, the outfalls of two nearby creeks, and sheltered waters. Together these features provide optimal feeding and nesting areas for migrating birds. A map of the Hommocks Conservation Area is provided in Exhibit 3L-1. Unlike the Hommocks Salt Marsh, the Hampshire Country Club CEA was not noted for its significant habitat.

The existing golf course has three separate drainage systems that interconnect the streams and ponds on the Project Site, either through surface connections or via subsurface pipe conveyances. The drainage system located on the ~~northeast northwest~~ portion of the Project Site, Drainage System 1, is directly connected to the tidal wetlands located within the Hommocks Conservation Area (see Exhibit 3L-21, Drainage Systems and Wetlands). This connection is provided via underground piping feeding from the long surface pond within the Town of Mamaroneck portion of the Project Site, under Hommocks Road, ultimately discharging into the tidal wetlands. This drainage system collects from both the golf course and the adjacent multi-family development, the Fairway Green Townhouses. This sensitive connection, as stated in the LWRP, is one of the primary characteristics on which the CEA designation is based.

The 2016<sup>64</sup> draft LWRP highlights other unique environmental conditions of the Project Site, citing specific physical features ~~which qualify it as a CEA under NYSDEC regulations~~, including its ponds and wetland areas and its proximity to the Long Island Sound. The document also considers the 2012 Comprehensive Plan proposal to preserve the property to better reflect the use of open space to be consistent with the goals and objectives of the LWRP, labels the Hampshire Country Club a "Conservation or Open Space Area" for its discharge into adjacent tidal wetlands, open space and recreation, and location within a 100-year floodplain. There are no tidal wetlands on the Project Site.

There are seven ponds, most of them man-made and three associated man-made stream systems located on the Project Site which function simultaneously as part of the drainage system and as water hazards for the golf course. These water features play an important role in the existing ecosystem of the Project Site and its surroundings, with direct connections to the tidal wetlands associated with Delancey Cove. Chapter 3E, "Surface Water Courses and Wetlands," provides a more detailed description of this this connectivity and how the Proposed Action would maintain their existing condition. In summary, as a result of the proposed stormwater management system, onsite stormwater discharges to the ponds and stream systems would decrease, with a corresponding reduction in discharges of pollutants, organic material and mineral sediments. Based on the foregoing, an overall improvement in water quality is expected for the wetlands at the Project Site.

The Project Site's proximity to the Long Island Sound is an important and unique characteristic. The proximity allows for a coveted waterfront view, adding to the scenic quality of the Project Site. The ~~2014 draft~~ LWRP highlights the aesthetic value the Village places on its waterfront with its policy to "Enhance visual quality and protect scenic resources throughout the Long Island Sound Prevent impairment of scenic resources of statewide or local significance."<sup>1</sup> The location within the 100-year floodplain is also a contributing factor. Any development on the Project Site must avoid increasing the affects or risks for flooding.

<sup>1</sup> Village of Mamaroneck Local Waterfront Revitalization Program, Draft Update 2016. Page 68-2014 Draft Local Waterfront Revitalization Program, Village of Mamaroneck, Page III-3.

Finally, the Village reiterated in its Comprehensive Plan that Project Site was designated as a CEA due to its location in the floodplain and proximity to the Long Island Sound, as well as the ponds and wetland systems on the Project Site. The Comprehensive Plan suggests the Village should consider utilizing “more sensitive zoning techniques” at the Project Site to protect these features. This includes an open space or cluster development would allow the development to preserve between 33% and 50% of the property as open space.<sup>2</sup> With the 9-hole golf course and remaining open space, the proposed action preserves 68% of the Project Site.

In summary, the unique environmental characteristics that qualify the Project Site for CEA designation, according to the predominant planning documents set forth by the Village of Mamaroneck, include the following:

- Drainage patterns into the Hommocks Marsh
- Presence of various surface water features and tidal and freshwater wetlands
- Proximity to the Long Island Sound
- Location within the 100-year floodplain
- Open Space and Recreation

## 2. Future without the Proposed Project

In a future without the proposed project, the environmental characteristics and unique features of the Project Site would remain as previously described. See the No Action Alternative described in Chapter 4 for more detailed information.

The Applicant does not anticipate any land use changes at the Project Site in the event that the Proposed Action is not pursued. As discussed in Chapter 3A, current economic and financial factors at the Project Site driving the need for the proposed development will continue. These factors include a downward trend in golfing over the past decade consistent with regional and national trends on both public and private courses as well as Hampshire Country Club’s recent financial performance. The Club has reported annual operating losses since the current owners purchased the Club in 2010. This data establishes that it would be difficult for the membership club at Hampshire Country Club to remain viable without the introduction of other revenue sources. The Applicant has determined that downsizing the golfing recreational use and improving the rest of the Project Site with a residential development is the best permissible option under existing zoning to counteract these economic trends.

The future of the Project Site without the Proposed Action will result in the golf course and membership club not being a sustainable business in the long run. –Operations of the club, and the continual maintenance of the open and recreational space at the Project Site, will cease. In addition, maintenance of the ponds and other stormwater management features on the Project Site would cease. Without a

<sup>2</sup> Comprehensive Plan, Village of Mamaroneck. February 2012. Page 63-64.





custodian to manage these features of the Project Site, the quality of the critical environmental area would diminish significantly.

### 3. Potential Impacts

The Proposed Action would not impair any of the features associated with the Project Site's designation as a CEA. The project was designed to preserve the characteristics and values that contribute to the Hampshire Country Club and Hommocks Conservation Area's designation as a Critical Environmental Area. It would ensure that a custodian remains at the Project Site to ensure that these features are protected and maintained. The following is an assessment of each of the characteristics listed above and the potential impacts the Proposed Action would have.

#### Drainage Patterns into the Hommocks Marsh and Delancey Cove

The Stormwater management plan for the Proposed Action will meet all New York State stormwater management requirements to ensure proper drainage is maintained, and that the adjacent sensitive environmental areas are protected. The proposed drainage system for the Project Site consists of drainage pipes, ~~bioretention-infiltration~~ basins, ~~continuous deflective system (CDS) units and dry wells and stormwater ponds~~. The addition of ~~bioretention-infiltration~~ basins and ~~stormwater ponds~~ ~~CDS units~~ will treat water runoff to provide water quality control, which will improve the water quality of the stormwater being discharged into the Hommocks Marsh. Runoff from the Project Site will be collected via the proposed drainage system along the proposed roads. This runoff will then be discharged to the proposed ~~bioretention-infiltration~~ basins ~~and water quality ponds~~ for water quality treatment. In addition, the project is designed to avoid the existing sensitive surface water features that are critical to the drainage systems on the Project Site. No development is proposed within a 100-foot buffer from any pond or wetland to avoid negative impacts to adjacent properties, including the Hommocks Marsh and tidal wetlands along the edge of Delancey Cove. The Homeowners Association (HOA) of the proposed development will be responsible for the maintenance of the ~~bioretention-infiltration~~ basins ~~and stormwater ponds~~. For more detail on the proposed Stormwater Management System, see Chapter 3F, Stormwater Management.

#### Location within the 100-year floodplain

The density of the Proposed Action limits development disturbance to areas that could be elevated above the floodplain, allowing the natural topography to act as a barrier to flooding on the Project Site. The flood analysis, as detailed in Chapter 3G, demonstrates that there would be no impacts to the neighboring properties and the base flood elevations would remain as they exist today for those properties. In addition, all new building structures will meet the New York State Building Code for minimum height above the base flood elevation and ensure proper design for the location. For more detail, see Chapter 3G, Floodplains.

#### Presence of surface water features and tidal and freshwater wetlands

The Project Site's combined 72.8 acres of ~~shared~~ open space (i.e., the 36 acres of shared open space and 36.8 acres of golf/recreational space within the Village of Mamaroneck) is positioned to provide a significant buffer to the existing ponds and wetlands on-site, ensuring that the residential development has no negative impact on these sensitive environmental features. These deliberate open space buffers also function to protect the environmental conditions for any species on the Project Site (Chapter 3K, Vegetation and Wildlife).

#### Proximity to the Long Island Sound

The Project Site's proximity to the Long Island Sound elevates the aesthetic quality of the Hampshire Country Club, adding to its unique physical character. However, given the layout and topography of the Project Site, the most significant views can be accessed from the MR zoning district, particularly from the clubhouse, patio, and pool area, where no changes of use are proposed. For a more detailed discussion of the visual impacts of the Proposed Action, see Chapter 3B, Community Impacts and Visual Character.

#### Open Space and Recreation

As mentioned above, both the Village of Mamaroneck Comprehensive Plan and the ~~2014 Draft~~ LWRP (existing and updated) ~~name-cite~~ the Hampshire Country Club's 101.8 acres of recreational (i.e., golf) open space as one of its values, as a "Conservation and Open Space Area." The Proposed Action would result in an adverse impact to this private recreational open space B ~~y reducing the golf course to 9-holes, the project would result in the reduction of some private recreational use on-site which is,~~ However, the recreational open space that would be replaced is currently open to Hampshire Country Club members only. In place of certain portions of the private recreational use, the Proposed Action would include 36 acres of shared open space to serve ~~current neighbors and f~~ future residents of the Planned Residential Development. These open spaces would provide passive recreational opportunities in addition to vegetative buffers separating the proposed development from the existing surrounding neighborhoods.

In addition to the unique characteristics listed above, the Project Site's CEA designation increases the importance of the Proposed Action's consistency with the Village's LWRP policies, particularly those involving fish and wildlife, wetlands, and flood protection. It is the Applicant's belief that the Proposed Action is consistent with these policies. Please see Appendix ~~EC~~, which includes a listing of all policies in the 1985 LWRD and 20164 LWRP update and an explanation of how the Proposed Action is consistent

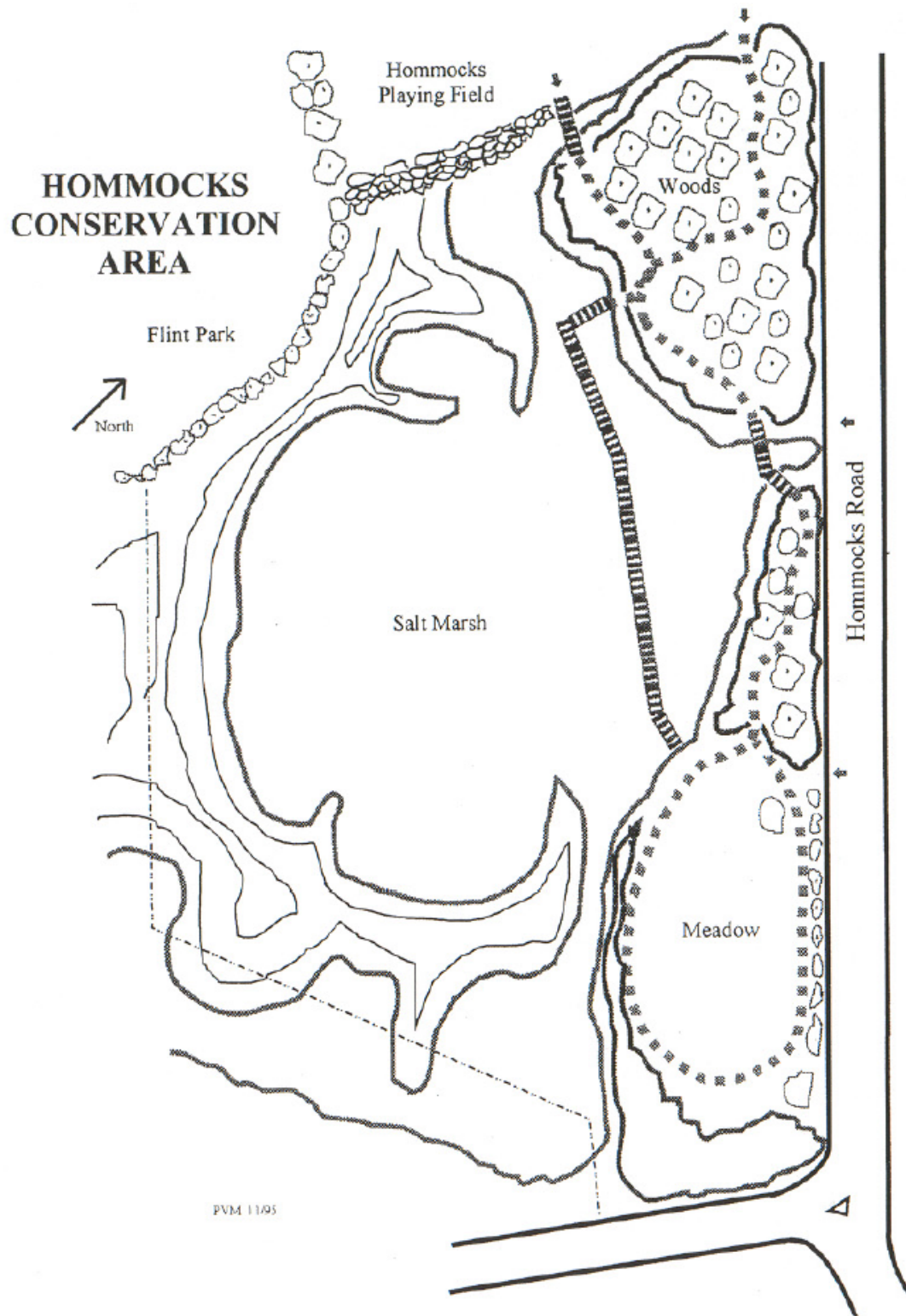
## 4. Mitigation

The project has been carefully designed to respect and protect the environmental features that make it unique and which contribute to its CEA designation. On-site ponds and wetlands, which function both as an important flood mitigation device and contribute to the Project Site's drainage system, are well protected under the Proposed Action. The proposed drainage system for the Project Site will include

~~bioretention infiltration~~ basins, continuous deflective system (CDS) units and dry wells ~~and stormwater ponds~~. The ~~bioretention infiltration~~ basins ~~and stormwater ponds~~ will treat water runoff to provide water quality control, which will improve the water quality of the stormwater being discharged into the Hommocks Marsh. In addition, runoff from the Project Site will be collected via the proposed drainage system along the proposed roads. This runoff will then be discharged to the proposed ~~bioretention infiltration~~ basins ~~and water quality ponds~~ for water quality treatment. The roof runoff will be drained to proposed dry wells for water quality treatment.

The 36 acres of protected open space in addition to the 36.8 acres of the golf course to be maintained along the perimeter of the Project Site are positioned to act as a barrier to these sensitive features and isolate the disturbance from the proposed development. In addition, the protected acreage will help maintain the open space character that currently defines the property and is so valued in the neighborhood. The Applicant believes that the downsized golf course supplemented by the private golf club alternatives in adjacent municipalities will accommodate any resident that may be adversely affected by the loss of some of the private recreational use of the Project Site. Given the careful design of the project, no further mitigation measures are required.





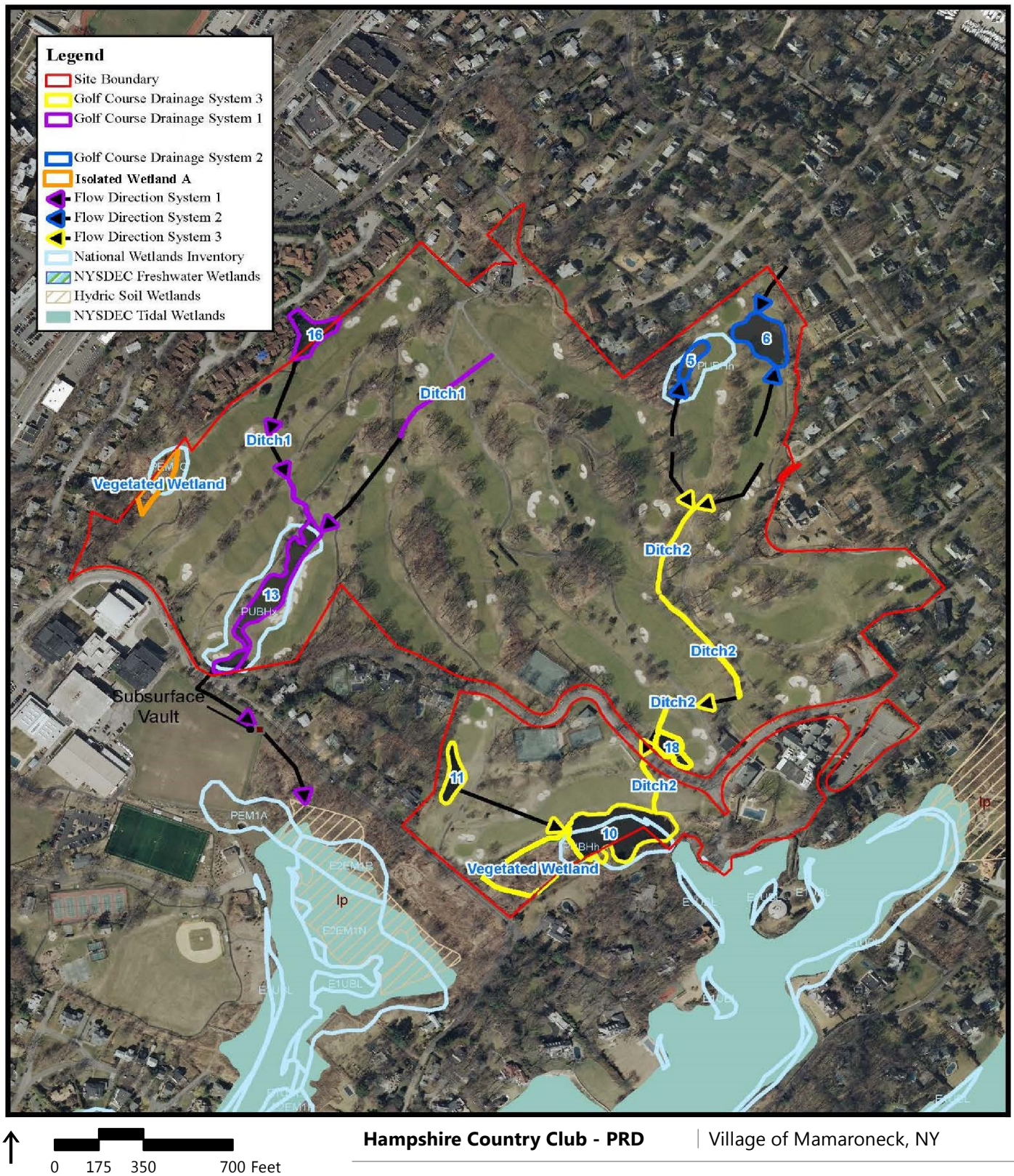
Hampshire Country Club - PRD

Village of Mamaroneck, NY

### Hommocks Conservation Area

Source: Town of Mamaroneck





Source: Wetland Characterization Assessment - Figure 5, prepared by Nelson, Pope and Voorhis, LLC (September 17, 2012), as revised by VHB based on current conditions as observed on May 17-18, 2016





## M. TRAFFIC, TRANSIT, AND PEDESTRIANS

### 1. Existing Conditions

#### a) Inventory of Existing Road Conditions

Evaluation of the traffic impacts associated with the Proposed Action requires a thorough understanding of the existing roadway system in the vicinity of the Project Site. The existing conditions observed in the study area include an inventory of roadway, sidewalk and intersection geometry, traffic control devices, and traffic signal timings. This information is provided below.

##### **Roadways**

###### Boston Post Road (US Route 1)

Boston Post Road, designated as US Route 1, is a north-south urban principal arterial under the jurisdiction of the New York State Department of Transportation (NYSDOT). It runs west of the Project Site and provides two travel lanes in each direction with additional turn lanes at key intersections. The roadway is relatively straight and level with horizontal radii of generally 1,100 feet or greater and vertical grades of two percent or less.

Within the study area, travel lanes measure 10 to 11 feet wide and concrete curbs and sidewalks are provided along each side of the roadway. The sidewalk varies in width from 5 feet to 15 feet. The pavement is in generally fair to good condition with some surface distress. Parking is permitted, with some restrictions, along the east (northbound) side of Boston Post Road from a point just north of the intersection with Old Boston Post Road/Richbell Road to Rockland Avenue. Along the southbound side of the road, parking is permitted between Orienta Avenue and the northern driveway to Mamaroneck High School.

A 2016 Automatic Traffic Recorder (ATR) count on Boston Post Road near Mamaroneck High School indicates a daily traffic volume of 19,320 on weekdays and 18,549 on Saturdays. The posted speed limit on this section of roadway is 30 miles per hour (mph).

###### Hommocks Road

Hommocks Road is a local road which runs east from Boston Post Road and serves the Hommocks Middle School and the residences further to the east. The western portion of the road is in the Town of Mamaroneck and is posted with the 30 mph Town speed limit. The eastern portion of the road is in the Village of Mamaroneck. Hommocks Road provides one travel lane measuring 11 to 12 feet wide in each direction. The roadway is generally level with grades of one percent or less.





Hommocks Road has an "S" curve near the Middle School; otherwise, the roadway is generally straight within the study area.

A sidewalk is provided along the south side of the road from Boston Post Road to and extending along the frontage of the Middle School with sidewalk widths ranging from 5 feet to 10 feet. On the north side of the roadway, a sidewalk is provided between Boston Post Road and the Middle School main driveway with widths varying from 5 feet near the Middle School to 20 feet adjacent to Walgreens. Except for an area along the south side of the road in front of the Middle School, which permits one-hour parking on weekdays, there is no on-street parking. The roadway's asphalt pavement is in fair condition.

An Automatic Traffic Recorder count indicated that the average weekday traffic volume on Hommocks Road, just north of Eagle Knolls Road, is 708 vehicles.

#### Weaver Street (NYS Route 125)

Weaver Street, designated as NYS Route 125, is a State principal arterial roadway that connects White Plains in the north to Boston Post Road in Mamaroneck to the south. Within the study area, Weaver Street provides two 12-foot travel lanes and has a posted speed limit of 30 mph. There are areas of the roadway with horizontal curves, with the sharpest curve in the study area located near Howell Avenue and having a radius of 425 feet. As it approaches Boston Post Road, Weaver Street has a two percent downhill grade.

Sidewalks ranging in width from 4 feet to 8 feet are provided on both sides of the road in the vicinity of its intersection with Boston Post Road. Parking is prohibited on both sides of the roadway and the pavement is in generally good condition.

The NYSDOT count on Weaver Street shows a 2015 AADT estimate of 8,755 vehicles.

#### Eagle Knolls Road

Eagle Knolls Road is a local roadway between its terminus at Hommocks Road and extending to the east to the Proposed Action's property line. Within the Project Site, Eagle Knolls Road is a private roadway. The western portion of the roadway is in the Town of Mamaroneck and the eastern portion is in the Village of Mamaroneck. Eagle Knolls Road provides one 10 to 11-foot travel lane in each direction. The pavement in the public portion of the roadway is in fair condition; while the pavement within the private section is in poor condition.

Sidewalks are not provided along Eagle Knolls Road and public parking is not permitted as "No Parking" signs are posted on the private portion of the road.



### East Cove Road

East Cove Road is designated as a private road and connects Orienta Avenue to private residences and the Hampshire Country Club. It provides one 10-foot travel lane per direction with varying pavement conditions. Between its intersection with Orienta Avenue and the entrance to the Hampshire Country Club property, the pavement is in generally fair to good condition. Within the Country Club property, the pavement is in fair to poor condition. Sidewalks are not provided and parking is not permitted on the portion of the roadway within the Hampshire Country Club property.

The roadway has generally level terrain with grades of two percent or less. The horizontal curvature of East Cove Road is generally straight with some curves; the sharpest curve is located approximately 300 feet to the west of Orienta Avenue and has a radius of 75 feet.

### Orienta Avenue

Orienta Avenue is a collector roadway that extends from Boston Post Road to Flagler Drive and is under the jurisdiction of the Village of Mamaroneck. A 15-foot wide service road is provided to the east of Orienta Avenue, in the area between Bleeker Avenue and Protano Lane. The service road is also designated as a bike path for use by pedestrians and bicyclists. Orienta Avenue provides two 10-foot travel lanes in each direction and has a posted speed limit of 25 mph. Sidewalks are provided in the section between Boston Post Road and Rushmore Avenue, between Old Boston Post Road and the service road and between the service road and Bleeker Avenue. Parking is prohibited on both sides of the roadway and the pavement is in generally fair to good condition.

A 2016 Automatic Traffic Recorder (ATR) count on Orienta Avenue to the north of Rushmore Avenue indicates a daily traffic volume of 6,818 on weekdays and 5,682 on Saturdays. Further to the east of this location, a NYSDOT ATR count on Orienta Avenue near Fairway Lane estimates an average daily traffic volume of 3,052 vehicles.

### Delancey Avenue

Delancey Avenue is a two-lane, 30-foot wide local roadway extending from Boston Post Road through a residential area to its terminus near the Metro-North Railroad tracks. The pavement is generally in good condition. Within the study area, parking is permitted along the north side of Delancey Avenue. Sidewalks, measuring 4 feet wide, are provided on both sides of the road between Boston Post Road and Palmer Avenue; sidewalks are not provided to the west of Palmer Avenue. Truck traffic is not permitted along Delancey Avenue.

Delancey Avenue has a 7 percent decrease in elevation traveling from Munro Avenue to Boston Post Road. Elsewhere the roadway is fairly level. The horizontal alignment of the roadway is relatively straight.

### Cooper Avenue

Cooper Avenue is a two-lane local road extending a short distance through a residential area from Old Boston Post Road to its terminus at the driveway to the Hampshire Country Club's maintenance facility. The roadway width varies from 16 feet to 18 feet and parking is permitted on the east side of the road. The pavement is in poor condition with obvious signs of surface distress. Traveling from Old Boston Post Road, the elevation decreases approximately 5 percent. The horizontal roadway alignment is generally straight. Although there is no posted speed limit, the Village speed limit of 30 mph would be in effect.

### Fairway Lane

Fairway Lane is a two-lane local road extending from Orienta Avenue through a small residential area to its terminus in a cul-de-sac. The roadway width varies from 15 feet to 18 feet and parking is permitted on both sides of the road. The pavement is in fair condition with some signs of surface distress. Traveling from Orienta Avenue to the cul-de-sac, the vertical elevation decreases approximately 3 percent. The roadway has a straight horizontal alignment. There are no sidewalks along Fairway Lane. Although there is no posted speed limit, the Village speed limit of 30 mph would be in effect.

### Old Boston Post Road

Old Boston Post Road is a one-lane, local road that provides one-way travel in the southbound direction from Orienta Avenue in the north to its terminus at Boston Post Road (US Route 1), opposite Richbell Road to the south. The roadway width varies from 20 feet to 33 feet and parking is permitted on the west side of the road in some areas. Old Boston Post Road has a posted speed limit of 25 mph and the pavement is in generally good condition. A sidewalk is provided on the west side of the road across the frontage of the Orienta Gardens apartment complex. A 6-foot striped pedestrian walkway is provided on the eastern edge of the road starting at the Old Boston Post Road Cut-off near Orienta Avenue and continuing to the McDonald's exit driveway, near Boston Post Road.

Old Boston Post Road has a 2.6 percent increase in elevation traveling from Orienta Avenue to Old Post Lane. Between Old Post Lane and Boston Post Road, the elevation decreases by 1.5 percent. The horizontal curvature of Old Boston Post Road is generally straight with some curves; the sharpest curves are located near Fairway Green and near the roadway terminus at Boston Post Road.

### **Study Intersections**

Seven study intersections were identified in the adopted Scope as requiring detailed analysis and are shown on Exhibit 3M-1. A brief description of each intersection is provided below.

1) Boston Post Road (US Route 1) and Hommocks Road/Weaver Street

Boston Post Road provides two through lanes and an exclusive left turn lane in each direction at this signalized, four-way intersection. The eastbound Weaver Street and westbound Hommocks Road approaches each provide an exclusive left turn lane, a shared through/right turn lane and one receiving lane. Crosswalks and pedestrian displays are provided on each leg and the intersection is controlled by a multi-phase traffic signal, which includes a protected phase for the left turn movements on Boston Post Road and a separate, actuated pedestrian-only phase.

2) Hommocks Road and Eagle Knolls Road

The unsignalized intersection of Hommocks Road and Eagle Knolls Road is a three-legged T-intersection. One lane per direction is provided on each roadway. The intersection is controlled by stop signs on each approach.

3) Orienta Avenue and East Cove Road

The unsignalized intersection of Orienta Avenue with East Cove Road is a three-legged T-intersection. Each roadway provides one approach lane and one receiving lane. Stop signs are provided on each approach to control traffic.

4) Boston Post Road (US Route 1) and Orienta Avenue/Delancey Avenue

Boston Post Road provides two through lanes in each direction at this signalized, four-way intersection. Delancey Avenue and Orienta Avenue are offset from each other by 130 feet. Delancey Avenue forms the eastbound approach and provides a left turn lane and a right turn lane and one receiving lane. At Delancey Avenue, pedestrian crosswalks are provided on the north and west legs of the intersection. The westbound Orienta Avenue approach consists of exclusive left turn and right turn lanes and one receiving lane. At Orienta Avenue, pedestrian crosswalks are provided on the south and east legs of the intersection. The intersection is controlled by a four-phase traffic signal.

5) Old Boston Post Road and Cooper Avenue

The unsignalized intersection of Old Boston Post Road and Cooper Avenue is a three-legged T-intersection. Old Boston Post Road is a one-way roadway in the southbound direction with one travel lane. Cooper Avenue provides one left-turn lane. The intersection is controlled by a stop sign on the Cooper Avenue approach. A sidewalk is provided on the west side of Old Boston Post Road along the frontage of the Orienta Gardens apartment complex. Along the east side of the Old Boston Post Road, there is a striped pedestrian lane. Crosswalks are not provided at this intersection.



6) Boston Post Road (US Route 1) and Old Boston Post Road/Richbell Road

Boston Post Road provides two through lanes in each direction and an exclusive left turn lane in the northbound direction at this signalized, four-way intersection. Old Boston Post Road is a one-way westbound roadway with an exclusive left-turn lane and a shared through/right-turn lane. The eastbound Richbell Road approach has one left-turn lane and one right-turn lane. Pedestrian displays and crosswalks are provided on each leg. The intersection is controlled by a multi-phase traffic signal, which includes a protected phase for the northbound left turn movement on Boston Post Road and a separate, actuated pedestrian-only phase.

7) Fairway Lane and Orienta Avenue

The unsignalized intersection of Orienta Avenue with Fairway Lane is a three-legged T-intersection. Each roadway provides one approach lane and one receiving lane. A Stop sign is provided on the Fairway Lane approach. There are no sidewalks or pedestrian crosswalks at this intersection.

## b) Existing Traffic Volumes

### Vehicular Traffic Volumes

To assess existing traffic conditions in the vicinity of the Proposed Action, peak period manual turning movement traffic volume counts were recorded at the seven study intersections in March 2016. The intersection counts included tallies of automobiles, trucks, buses, pedestrians and bicyclists. Automatic Traffic Recorder (ATR) 24-hour counts were also conducted for a one-week period in March 2016 on Boston Post Road, Hommocks Road and Orienta Avenue. The ATR counts collected traffic volumes and vehicle classifications (automobiles, trucks and buses). The manual and ATR count locations are shown on Exhibit 3M-2.

In consultation with Village planning staff, the manual counts were recorded during a typical weekday AM peak period (7:00 to 9:15 AM) and a typical weekday PM peak period (2:00 to 6:15 PM) which encompassed the peak arrival and departure periods at the Hommocks Middle School. Manual counts were also conducted in March 2016 during a typical Saturday midday peak period (11:00 AM to 1:00 PM). All counts were conducted during periods with scheduled activities at the Hommocks Park Ice Rink (house league hockey games, group skating lessons or public skating sessions) and Hommocks Pool (early morning swim, open swim, swim lessons or lifeguarding). The count sheets are appended to the Traffic Impact Study in Appendix M.

The traffic counts were tabulated and peak hour factors (PHF) were calculated and then applied to the volumes to identify the hour within the weekday and Saturday count periods which had the



greatest peak-hour-factored volumes. The hour with the highest factored volumes was chosen for analysis. The peak hours are identified as 7:30 to 8:30 AM, 3:45 to 4:45 PM and 11:45 AM to 12:45 PM for the weekday AM, PM and Saturday midday periods, respectively. The existing peak hour volumes were compared to the ATR counts to verify their validity and were balanced and increased as needed to provide a conservative approach. The Existing peak hour traffic volumes are shown on Exhibits 3M-3 and 3M-4.

A review of the exhibits indicates that overall, the AM, PM and Saturday peak hour volumes are similar. The Saturday peak hour volumes are slightly higher (from 0.4 to 0.9 percent higher) than the AM and PM peak hour volumes.

#### Pedestrian and Bicyclist Activity

The intersection counts included tallies of pedestrians and bicyclists, which are summarized in Table 3M-1, below.

**Table 3M-1 Summary of Pedestrian and Bicyclist Peak Hour Counts**

Intersection	AM Peds/Bikes	PM Peds/Bikes	Sat Peds/Bikes
Boston Post Road (US Route 1) and Hommocks Road/Weaver Street	245/6	64/4	74/9
Hommocks Road and Eagle Knolls Road	11/10	4/6	16/0
Orienta Avenue and East Cove Road	2/4	1/6	13/1
Boston Post Road (US Route 1) and Orienta Avenue/Delancey Avenue	24/6	31/0	43/11
Old Boston Post Road and Cooper Avenue	16/0	5/0	19/0
Boston Post Road (US Route 1) and Old Boston Post Road/Richbell Road	106/5	80/0	51/12
Fairway Lane and Orienta Avenue	2/6	2/2	2/2

As indicated in the table, pedestrian activity was at its greatest during the AM peak hour, with the highest concentration of pedestrians at the intersection of Boston Post Road and Hommocks Road/Weaver Street. At this intersection, a total of 245 pedestrians were counted during the AM peak hour, the majority of which were students walking to Hommocks Middle School. A total of 64 pedestrians were counted at this intersection during the PM peak hour and 74 pedestrians were observed during the Saturday peak hour. At the Boston Post Road intersection with Old Boston Post Road and Richbell Road, a total of 106 pedestrians were counted during the AM peak hour, 80 during the PM peak hour and 51 during the Saturday peak hour. All other study intersections had fewer pedestrians with the least amount observed at the Orienta Avenue intersections with East Cove Road and Fairway Lane. Only a handful of bicyclists (12 or fewer) were observed at any study location, with the highest number (11 and 12) occurring during the Saturday peak hour at the



intersections of Boston Post Road with Old Boston Post Road/Richbell Road and Orienta Avenue/Delancey Avenue.

#### Existing Pedestrian Crossings

Sidewalks are provided connecting all of the businesses on Boston Post Road between Hommocks Road/Weaver Street and Orienta Avenue/Delancey Avenue. Signalized crossings of Boston Post Road are provided at Hommocks Road/Weaver Street, Richbell Road/Old Boston Post Road, the High School driveway and Orienta Avenue/Delancey Avenue. All of the intersections were observed to be properly marked to accommodate pedestrians and appeared to be functioning safely. Crossing guards were provided at the intersections of Boston Post Road with Hommocks Road/Weaver Street and with Richbell Road/Old Boston Post Road.

Sidewalks are provided on both sides of Hommocks Road from Boston Post Road to the driveway to the school's main parking lot where there are unsignalized crosswalks. These crosswalks are staffed by a crossing guard during morning and afternoon school dismissal periods. East of the parking lot driveway, a sidewalk continues on the school side of Hommocks Road all the way to the school's rear driveway, allowing students complete access to the campus from Boston Post Road without having to walk in the street.

#### Traffic Circulation Patterns on and Surrounding the Project Site

Primary access to the Project Site is currently provided from Eagle Knolls Road and East Cove Road; access to the golf course maintenance area is provided through Cooper Avenue. Vehicles from the south generally approach the Project Site via Hommocks Road and Eagle Knolls Road. Vehicles from the north generally approach the Project Site via Orienta Avenue and East Cove Road. Hommocks Road provides access to the Hommocks School and the residences on Eagle Knolls Road, Hommocks Road and Oak Lane. Orienta Avenue provides access to the residences and businesses to the north of the Project Site. Old Boston Post Road provides access to the residences to the west of the Project Site.

Within the Hampshire Country Club's property, Eagle Knolls Road and East Cove Road are private roads. A review of the existing traffic volumes shown on Exhibits 3M-3 and 3M-4 indicates that these roadways are used as a short cut by traffic between Orienta Avenue and Hommocks Road, most notably on weekday mornings when some residents to the east of the Project Site travel back and forth to the school.

### **c) Existing Traffic Conditions**

To assess the quality of traffic flow in the study area during the peak hours, intersection capacity analyses were conducted for the existing traffic volume conditions. The intersection capacity analyses were conducted based on the evaluation criteria contained in the 2010 Highway Capacity Manual (HCM). As documented in the HCM, intersection performance is influenced by a number

of factors, including: traffic demand; lane configurations; lane widths; turning restrictions; roadway grades; speeds; and signal phasing and timing settings for signalized intersections. The existing physical roadway characteristics and signal phasing and timing settings at the signalized study intersections were determined by collecting field measurements.

Synchro 9 software was used to model the study intersections based on the parameters mentioned above. Synchro 9 software is widely used by traffic engineering professionals, is approved for use by the NYSDOT, and is consistent with the procedures in the HCM.

Capacity analyses results are reported using a variety of performance measures, including "Level of Service" (LOS). The level of service designation is an index based on the average control delay experienced by a vehicle traveling through the intersection. Similar to a report card, LOS designations are letter-based, ranging from A to F, with LOS A representing the best operating condition (lowest vehicle delays) and LOS F representing the worst operating condition (highest vehicle delays).

LOS is reported differently for signalized and unsignalized intersections. For signalized intersections, the analysis considers the operation of all traffic entering the intersection, and the LOS can be reported for individual turning movements, approaches, or for the intersection as a whole. For unsignalized intersections, the most critical lane group delay on each approach is typically reported and the overall intersection LOS is not calculated. Thus the LOS designation is for the critical movement exiting the side street, which is generally the left turn out of the side street or side driveway. As such, LOS is reported only for left-turns from the main street and for all movements from the side street.

The results of the capacity analyses for the AM, PM and Saturday peak hours for the Existing traffic conditions are summarized in Table 3M-2. The detailed Synchro capacity analysis worksheets are contained in the Traffic Impact Study in Appendix [JM](#).





Table 3M-2 Existing Levels of Service

Intersection	Approach	Lane Group	AM Peak Hour		PM Peak Hour		Sat Peak Hour	
			LOS	Delay	LOS	Delay	LOS	Delay
Boston Post Rd (US Route 1) & Hommocks Rd/Weaver St	EB	L	E	58.0	D	48.4	D	45.4
		TR	D	51.6	D	47.1	D	43.8
	WB	L	D	54.1	D	46.9	D	43.0
		TR	D	50.6	D	44.4	D	41.1
	NB	L	D	39.7	D	53.1	D	47.5
		TR	E	68.7	C	30.7	C	32.8
	SB	L	E	75.5	C	25.8	C	27.1
		TR	D	37.4	D	40.2	D	41.4
	Intersection		E	55.4	D	38.8	D	38.9
Hommocks Rd & Eagle Knolls Rd (unsignalized)	WB	LR	A	7.6	A	6.5	A	6.6
	NB	TR	A	7.6	A	7.0	A	7.1
	SB	LT	A	8.3	A	7.3	A	7.5
Orienta Ave & East Cove Rd (unsignalized)	EB	LR	A	8.2	A	7.6	A	7.4
	NB	LT	A	8.9	A	7.7	A	7.5
	SB	TR	A	9.8	A	8.1	A	7.5
Boston Post Rd (US Route 1) & Orienta Ave/Delancey Ave	EB	L	D	43.9	D	43.8	D	45.4
		R	B	10.5	B	13.0	B	13.1
	WB	L	D	44.5	D	42.1	D	40.1
		R	A	9.0	A	8.6	A	8.5
	NB	TR	D	41.6	D	36.6	D	40.0
	SB	TR	C	22.8	C	23.0	C	20.9
	Intersection		C	25.7	C	21.0	C	24.1
Old Boston Post Rd & Cooper Ave (unsignalized)	WB	L	A	9.6	A	9.3	A	9.3
	SB	LT	A	0.0	A	0.1	A	0.1
Boston Post Rd (US Route 1) & Old Boston Post Rd/Richbell Rd	EB	L	D	48.1	D	43.9	D	40.8
		R	D	41.0	D	39.8	A	9.6
	WB	L	D	39.7	D	39.8	D	35.7
		TR	D	42.7	D	39.3	C	26.2
	NB	L	B	18.8	B	13.8	B	14.6
		T	B	18.8	B	13.2	B	14.8
	SB	TR	C	28.6	C	24.0	C	24.7
	Intersection		C	27.1	C	22.7	C	21.2
Orienta Ave & Fairway Ln (unsignalized)	EB	LR	B	10.9	A	9.0	A	9.3
	NB	LT	A	0.1	A	0.0	A	0.0
	SB	TR	A	0.0	A	0.0	A	0.0

As indicated in Table 3M-2, under existing conditions, the signalized intersection of Boston Post Road and Hommocks Road/Weaver Street currently operates at an overall level of service (LOS) "E" during the AM peak hour. LOS "E" is also experienced on individual movements (eastbound and southbound left turn movements and northbound through movement) during the AM peak hour. The intersection operates at acceptable LOS "D" during the PM and Saturday hours, with all individual movements operating at LOS "D" or better. The two other signalized study intersections operate at an overall LOS "C" during the peak hours.

At the unsignalized intersections, the minor street turning movements operate at LOS "B" or better during each peak hour.

The Synchro analyses also provide a calculation of the average (50<sup>th</sup> percentile) and maximum (95<sup>th</sup> percentile) queues expected on individual lane groups. The queues for the existing traffic conditions are summarized in Table 3M-3.

DRAFT



Table 3M-3 Summary of Existing Queues

Intersection	Approach	Lane Group	Available Storage Length	Existing					
				AM Peak Hour		PM Peak Hour		Sat Peak Hour	
				50th	95th	50th	95th	50th	95th
Boston Post Rd (US Route 1) & Hommocks Rd/Weaver St	EB	L	145'	73'	112'	103'	178'	118'	198'
		TR	-						
	WB	L	150'	54'	87'	45'	93'	30'	66'
		TR	-						
	NB	L	180'	49'	69'	75'	115'	70'	111'
		TR	-						
	SB	L	140'	135'	176'	30'	54'	21'	42'
		TR	-						
Hommocks Rd & Eagle Knolls Rd (unsignalized) <sup>(1)</sup>	WB	LR							
	NB	TR							
	SB	LT							
Orienta Ave & East Cove Rd (unsignalized) <sup>(1)</sup>	EB	LR							
	NB	LT							
	SB	TR							
Boston Post Rd (US Route 1) & Orienta Ave/Delancey Ave	EB	L	-						
		R	70'	0'	61'	0'	37'	0'	40'
	WB	L	450'	58'	110'	49'	99'	33'	74'
		R	450'	0'	70'	0'	74'	0'	59'
	NB	TR	-						
	SB	TR	-						
Old Boston Post Rd & Cooper Ave (unsignalized)	WB	L	200'+	0'	1'	0'	0'	0'	1'
	SB	LT	-						
Boston Post Rd (US Route 1) & Old Boston Post Rd/Richbell Rd	EB	L	-	67'	132'	36'	135'	38'	148'
		R	140'	62'	121'	33'	122'	0'	51'
	WB	L	100'	57'	113'	39'	139'	34'	131'
		TR	-						
	NB	L	175'	40'	78'	10'	61'	11'	68'
		T	-						
	SB	TR	-						
Orienta Ave & Fairway Ln (unsignalized)	EB	LR	450'+	0'	1'	0'	0'	0'	1'
	NB	LT	-						
	SB	TR	-						

Note: (1) Synchro does not provide queue length calculations for movements at all-way stop intersections. However, the low volume of traffic and Level-of-Service "A" conditions suggest average queues of 25 feet or less and 95th percentile queues of 50 feet or less.

The queues provided in Table 3M-3 were compared to the available storage lengths which indicated that the maximum (95<sup>th</sup> percentile) queue exceeded the provided storage at two intersections. During the AM peak hour at the Boston Post Road intersection with Hommocks Road and Weaver

Street, the southbound left turn queue is 176 feet where the available storage is 140 feet. The eastbound left-turn from Weaver Street exceeds the 145-foot available storage during the PM (178 feet) and Saturday (198 feet) peak hours. At the Boston Post Rd and Old Boston Post Road/Richbell Road intersection, the calculated maximum queue for the westbound left turn from Old Boston Post Road exceeds the available 100-foot left-turn storage during the AM (113'), PM (139') and Saturday (131') peak hours. The average (50<sup>th</sup> percentile) queues at all locations are less than the available storage. At the unsignalized intersections, the queue lengths measure less than the provided storage.

#### d) Accident Analysis

Historical accident data for the study intersections were obtained from the NYSDOT for the latest available three-year period from January 1, 2013 to December 31, 2015. The data was reviewed and tabulated according to location, crash severity (fatalities or injuries), crash type (rear-end, right-angle, etc.) and contributing factors. The accident data are summarized by roadway corridor and by study location/intersection in Tables 3M-4 and 3M-5, respectively. A detailed breakdown, including collision diagrams, is appended to provided in the Traffic Impact Study in Appendix JM.

**Table 3M-4 Accident Summary by Corridor**

Corridor	2013	2014	2015	Total 2013 to 2015
Boston Post Road (US Route 1)	<del>3634</del>	<del>4635</del>	<del>4632</del>	<del>128101</del>
Orienta Avenue	<del>40</del>	1	<del>31</del>	<del>82</del>
Hommocks Road/Weaver St (NY Route 125)	<del>01</del>	1	<del>12</del>	<del>24</del>
Old Boston Post Road	1	0	<del>20</del>	<del>31</del>
Eagle Knolls Road	0	0	0	<b>0</b>
East Cove Road	0	0	0	<b>0</b>
Fairway Lane	0	0	0	<b>0</b>
Cooper Avenue	0	0	0	<b>0</b>
<u>Richbell Road</u>	<u>0</u>	<u>1</u>	<u>3</u>	<u>4</u>
<b>Total</b>	<b><u>4136</u></b>	<b><u>4838</u></b>	<b><u>3852</u></b>	<b><u>14112</u></b>



Table 3M-5 Accident Summary by Study Location

<u>Study Location</u> <u>Intersection</u>	Total No. of Accidents	Accident Severity		No. of Accidents involving	
		Fatalities	Injuries	Pedestrians	Bicyclists
Boston Post Road (US Route 1) and Hommocks Road/Weaver Street*	<del>12</del> 7	0	<del>10</del> 5	<del>0</del> 1	<del>2</del> 1
Hommocks Road and Eagle Knolls Road*	<del>4</del> 0	0	<del>4</del> 0	0	0
Orienta Avenue and East Cove Road*	<del>0</del> 3	<del>0</del> 0	<del>0</del> 1	<del>0</del> 0	<del>0</del> 0
Boston Post Road (US Route 1) and Orienta Avenue/Delancey Avenue*	<del>35</del> 19	0	15	12	04
Old Boston Post Road and Cooper Avenue*	0	0	0	0	0
Boston Post Road (US Route 1) and Old Boston Post Road/Richbell Road*	<del>40</del> 43	0	<del>21</del> 17	<del>6</del> 6	<del>2</del> 2
Fairway Lane and Orienta Avenue*	<del>0</del> 1	0	0	0	0
<u>Boston Post Road (US Route 1) and Rockland Avenue</u>	<u>14</u>	<u>0</u>	<u>6</u>	<u>0</u>	<u>0</u>
<u>Boston Post Road (US Route 1) and Rockridge Road</u>	<u>14</u>	<u>0</u>	<u>6</u>	<u>0</u>	<u>1</u>
<b>Total</b>	<b>107</b>	<b>0</b>	<b>48</b> 39	<b>8</b>	<b>54</b>

Note: \* Study location.

As indicated in Table 3M-4, during the three-year period there was a total of ~~141~~112 crashes with ~~128~~101 crashes (901 percent) reported on Boston Post Road, ~~28~~ crashes on Orienta Avenue, ~~42~~ on Hommocks Road/Weaver Street, ~~and 13~~ on Old Boston Post Road and 4 on Richbell Road. No accidents were reported on Eagle Knolls Road, East Cove Road, Fairway Lane or Cooper Avenue. It is noted that there was one (1) accident reported in the Hampshire Country Club parking lot, where one vehicle backed into another and there was no injury.

Of the ~~141~~112 crashes within the study area, ~~107~~79 occurred at the study intersections, with the remaining ~~34~~33 crashes occurring at other locations along the roadway corridors. As shown in Table 3M-5, the highest number of crashes in the 3-year period occurred at the Boston Post Road (US Route 1) and Old Boston Post Road/Richbell Road intersection with a total of ~~40~~43 crashes. That intersection also had the most accidents involving pedestrians (6) and cyclists (2). A further tabulation of the accidents was conducted to show the manner of collision, as summarized in Table 3M-6.

Table 3M-6 Accident Summary – Manner of Collision

Study Location/Intersection	Total No. of Accidents	Manner of Collision								
		Rear End	Right Angle	Left turn	Right Turn	Over- taking	Head -on	Ped	Bike	Other
Boston Post Road (US Route 1) and Hommocks Road/Weaver Street*	2717	68	15	23	1	4	1-	1-	12	04
Hommocks Road and Eagle Knolls Road*	40	-	-	-	-	-	-	-	-	1-
Orienta Avenue and East Cove Road*	30	-4	-4	-	-	-	4-	-	-	-
Boston Post Road (US Route 1) and Orienta Ave/Delancey Ave.*	3519	815	16	44	-0	49	-	12	1	-4
Old Boston Post Road and Cooper Avenue*	0	-	-	-	-	-	-	-	-	-
Boston Post Road (US Route 1) and Old Boston Post Road/ Richbell Road*	430	34	910	86	34	6	-	6	2	74
Fairway Lane and Orienta Avenue*	40	-	-4	-	-	-	-	-	-	-
Boston Post Road (US Route 1) and Rockland Ave	14	5	2	=	=	5	=	=	=	2
Boston Post Road (US Route 1) and Rockridge Rd	14	5	2	3	=	2	=	=	=	2
<b>Total</b>	<b>107</b>	<b>287</b>	<b>1622</b>	<b>170</b>	<b>42</b>	<b>2119</b>	<b>1</b>	<b>8</b>	<b>45</b>	<b>813</b>

Note: \* Study location.

As shown in Table 3M-6, of the 107 crashes at intersections, the most predominant types were rear-end collisions with a total of 287 crashes (265 percent), followed by right-angle overtaking (212 crashes/201 percent) and overtaking-left-turn (179 crashes/168 percent). Collision diagrams for each intersection are appended with the Traffic Impact Study in Appendix M.

#### e) Public Transit

The Project Site is afforded convenient access to public transit, including rail and bus service. The MTA's Metro-North Railroad's New Haven line runs parallel with Boston Post Road and has two stations in proximity to the Project Site, the Mamaroneck and Larchmont rail stations. The New Haven line provides service between Grand Central Terminal in New York City and New Haven, CT. Connections to Amtrak service are also available along the New Haven line at the New Rochelle and

Stamford, CT stations. There are 91 Metro North trains each weekday on the New Haven line between New York City and the Mamaroneck and Larchmont stations (46 southbound trains, 45 northbound trains). On weekends, there are 75 trains on Saturdays (37 southbound; 38 northbound) and 63 trains on Sundays (31 southbound; 32 northbound).

Westchester County runs the Bee-Line Bus Service within the study area. Bus route #70, also known as the Bonnie Briar Commuter, is the only route that operates in the vicinity of the Proposed Action. Route #70 provides weekday service that operates in a loop with the starting and ending points at the Larchmont train station. Route #70 travels along Boston Post Road between Weaver Street and Richbell Road and operates 4 buses during the morning peak commuter period and 7 buses during the PM peak period. At the Larchmont station, connections can be made to other Bee-Line buses (#61, #66, and #71).



Map indicating Bee-Line Bus routes within the study area

#### f) Village of Mamaroneck Comprehensive Plan

VHB reviewed the Village's 2012 Comprehensive Plan and the goals listed for pedestrian, bicycle and transportation-related improvements that are relevant to the study area for the Proposed Action. The Traffic and Transportation chapter of the Comprehensive Plan generally focuses on the area near the Mamaroneck train station and commercial corridors such as Boston Post Road and



Mamaroneck Avenue. The Plan does not include any specific transportation or parking goals for the Project site. The Comprehensive Plan recommends the creation of a Transportation and Pedestrian Improvement Plan that will address a number of issues including the connectivity of sidewalks within a half-mile radius of schools and the train station, the viability of adding designated bike lanes and/or shared bike/vehicle lanes along Village roadways, especially arterial roads that provide access to the train station. The Plan recommends that the Village work with the State and County to improve Boston Post Road to accommodate bicycle and pedestrian traffic. The Comprehensive Plan includes general recommendations to consider traffic calming measures such as speed humps or neck downs; however, no specific recommendations are proposed within the study area for the Proposed Action.

#### **g) Hommocks Middle School**

The Hommocks Middle School campus also includes the Hommocks Park Ice Rink and Hommocks Pool. VHB observed vehicular, pedestrian and bicyclist circulation during the peak morning arrival period and during the peak afternoon dismissal period at the Hommocks Middle School. As school bus transportation is provided only for students who live more than 2 miles from the school, the majority of students walk, bike or are driven to school by a parent/guardian. The circulation paths during the peak morning period for walkers, bicyclists, vehicle and bus drop-offs are described below and shown on Exhibit 3M-5.

The first bell is at 8:00 AM with most students arriving between 7:30 and 7:55 AM. In the afternoon, dismissal is at 2:57 with most students departing between 3:00 and 3:20 PM. In the morning and afternoon, crossing guards are assigned to the Boston Post Road and Hommocks Road/Weaver Street intersection and at the Boston Post Road and Richbell Road/Old Boston Post Road intersection. At these two signalized intersections, crosswalks are provided on each approach leg and the traffic signals have an exclusive pedestrian phase during which all vehicular traffic is stopped. A crossing guard is also assigned on Hommocks Road in front of the School. Crosswalks are provided on the main school driveway and on Hommocks Road to the east of the school driveway. The majority of students walking or biking to/from the school from Boston Post Road use the sidewalk adjacent to Walgreen's and then cross Hommocks Road when directed by the crossing guard.

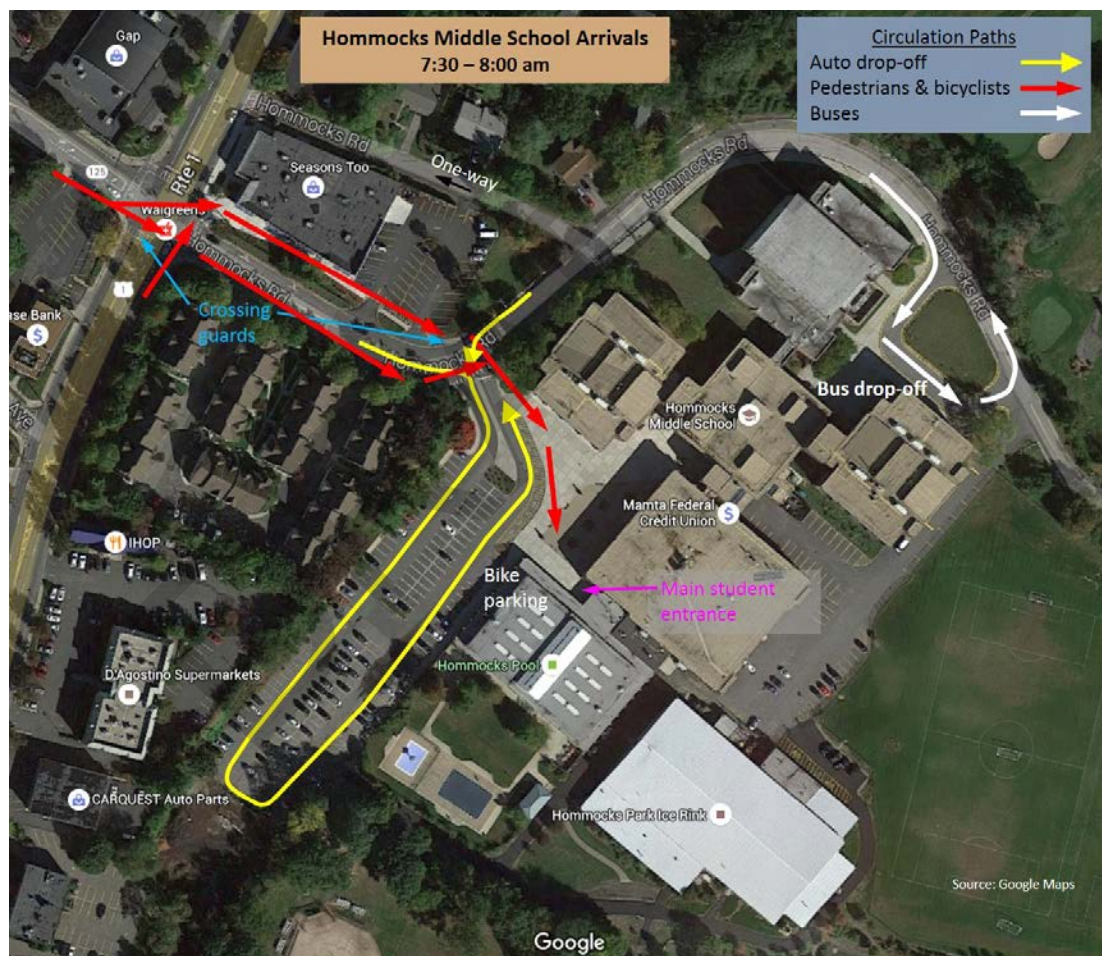
Motorists dropping off or picking up students enter the main school driveway and circulate around to the drop-off/pick-up area in front of the school entrance. Drivers then exit the driveway onto Hommocks Road when directed to by the crossing guard. School buses travel along Hommocks Road to the bus drop-off/pick-up area located on the northern part of the campus.

The Larchmont/Mamaroneck Safe Routes to School Committee (L/M SRTS) was established in 2008 to promote the health and fitness among students by providing safe walking and bicycling routes to area schools. Walking and biking to school is encouraged at all Mamaroneck schools and



students and parents are provided tips on biking and pedestrian safety to increase awareness among drivers and pedestrians. At the Hommocks Middle School, per the L/M SRTS, it is quite busy during the arrival and dismissal periods with pedestrians, cyclists, buses and cars. Prior to the beginning of the school year in 2015, the School (with help from law enforcement) established a drop off lane and a "through" lane in the front parking lot to increase efficiency and improve safety. More information on the Safe Routes to School initiatives is provided in the Traffic Impact Study in Appendix [JM](#).

### Exhibit 3M-5 Hommocks Middle School Circulation Patterns



#### h) Emergency Vehicle Access

Primary access for emergency responders to the Hampshire Country Club site is provided from the south via Eagle Knolls Road and from the north via East Cove Road. Access to the property can also be provided from the west through Cooper Avenue, if needed.

## i) Parking Facilities

The existing parking at the Hampshire Country Club is located, primarily, in parking lots adjacent to the clubhouse. A total of 207 permanent (lined) parking spaces are provided. The parking provided for the membership club meets the zoning requirements for the MR district. Although public parking on the private roads within the property is prohibited by the Country Club, dDuring larger events at the clubhouse, when valet parking is provided, if needed, parking for an additional 50 vehicles can be accommodated is available along these se roadways within the property as a contingency measure to ensure that cars are never parked along the portion of the roads shared by adjacent neighbors. Valet Parking on property would occur on a very limited basis, generally once or twice a year, such as at the member's annual Memorial Day barbecue.

The club has an active social calendar with over 160 events scheduled annually (predominantly for member events but occasionally for outside/community groups). While there is a large variety in the club's social events, parking surveys were conducted on the property for two events which were deemed representative of both regular and larger events. The which is more than adequate to meet the typical event parking demand. parking surveys were conducted on Thursday August 17, 2017 during a weekday non-member event (50-person golf outing) and on Saturday evening August 19, 2017 during a large member event (200-person wedding). During the weekday event, parked vehicles from members participating in Club activities (tennis, swimming pool, etc.) were also counted in the parking surveys. Member activity at the Club during the Saturday evening event (i.e., members using the club facilities that were not attending the wedding) was minimal. The number of parked vehicles counted. Valet parking is used during larger events. The existing parking supply and is typical use of the parking areas is summarized provided in Table 3M-7. The parking data is provided in Appendix M.

The parking provided for the membership club meets the zoning requirements for the MR district

**Table 3M-7 Existing Parking ~~Supply and Use~~ Demand**

	<u>Non-Member Event Parking Demand <sup>(1)</sup></u>	<u>Member Event Parking Demand <sup>(2)</sup></u>
<u>Total Parking Demand</u>	<u>95</u>	<u>120</u>

Notes: (1) Thursday August 17, 2017 parking surveys for a weekday Golf outing with 50 participants (includes parked vehicles from members participating in other Club activities such as tennis, swimming pool, etc).

(2) Expected large member event parking demand is 120 vehicles, but the 200-attendee wedding surveyed on Saturday August 19, 2017 had a demand of only 90 vehicles.

As indicated in Table 3M-7, a total of 95 vehicles were parked during the weekday event and 90 vehicles were parked during the Saturday event. Although 90 vehicles were parked at the Saturday member event, the expected parking demand for a large member event is 120 vehicles.

Number of Spaces Provided	Typical Non-Event Parking Demand	Typical Event Parking Demand	
207 permanent 50 roadway	80	120	

## 2. Future without the Proposed Project

### a) No-Build Conditions

The No-Build condition represents the future traffic conditions that can be expected to occur, if the Proposed Action does not materialize. Traffic growth is typically a function of the expected land development, economic activity and changes in demographics in the region. To estimate the rate at which traffic can be expected to grow during the study period, both historical growth and planned area developments were reviewed and considered, as described below.

#### Background Traffic Growth

A review of historical data provided by NYSDOT indicates that traffic has decreased by approximately 0.4% per year between 1996 and 2014, with more recent data (2011 to 2014) indicating a 0.8% per year decline. In consultation with the Village of Mamaroneck Planner, it has been determined that an increase of 0.25% per year would be appropriate and would provide for a conservative analysis. The existing traffic volumes for all three peak hours were increased by a total of 1.3 percent to represent the grown volumes. The Weekday and Saturday peak hour volumes are shown on Exhibits 3M-6 and 3M-7.

#### Planned Vicinity Developments

The Planning Boards of the Village and Town of Mamaroneck provided information on proposed vicinity developments in the area. A total of 7 residential developments were identified; 6 in the Village of Mamaroneck and 1 project in the Town of Mamaroneck, as noted in Table 3M-8.

**Table 3M-8 Vicinity Developments**

Development	Size
690 Mamaroneck Avenue	21 units
270 Waverly Avenue	96 units
620 W. Boston Post Road	6 units
422 E. Boston Post Road	13 units
151 Mamaroneck Avenue <sup>(1)</sup>	10 units
532 W. Boston Post Road	7 units
The Cambium (Town)	149 units

*Note: (1) Subsequent to preparing the traffic analyses in this study, VHB was advised that this project is no longer going forward; however, the volumes are included in the analyses.*

The traffic volumes associated with the above developments were obtained from traffic studies, if available, or were estimated by VHB using standard trip generation methodology. Altogether, the 7 developments are projected to increase traffic in the study area by a further 0.7 percent. The vicinity development trips added to the study area intersections are indicated on Exhibits 3M-8 and 3M-9.

The vicinity development volumes were added to the grown volumes resulting in the future No-Build peak hour traffic volumes shown on Exhibits 3M-10 and 3M-11.

To assess the quality of traffic flow in the study area during the peak hours, intersection capacity analyses were conducted for the No-Build traffic volume conditions. The intersection capacity analyses were conducted using Synchro 9 software to model the study intersections and based on the existing physical roadway characteristics and signal phasing and timing settings. The results of the capacity analyses for the AM, PM and Saturday peak hours for the No-Build traffic conditions are summarized in Table 3M-9. The detailed Synchro capacity analysis worksheets are contained in the Traffic Impact Study in Appendix [M](#).





Table 3M-9 No-Build Levels of Service

Intersection	Approach	Lane Group	AM Peak Hour		PM Peak Hour		Sat Peak Hour	
			LOS	Delay	LOS	Delay	LOS	Delay
Boston Post Rd (US Route 1) & Hommocks Rd/Weaver St	EB	L	E	59.1	D	48.7	D	45.7
		TR	D	52.1	D	47.3	D	43.9
	WB	L	E	55.3	D	47.1	D	43.1
		TR	D	50.9	D	44.6	D	41.1
	NB	L	D	41.7	E	56.2	D	49.8
		TR	E	72.9	C	30.9	C	33.1
	SB	L	E	76.2	C	26.4	C	28.2
		TR	D	38.0	D	40.9	D	42.1
	Intersection		E	57.3	D	39.4	D	39.4
Hommocks Rd & Eagle Knolls Rd (unsignalized)	WB	LR	A	7.6	A	6.5	A	6.6
	NB	TR	A	7.6	A	7.0	A	7.1
	SB	LT	A	8.4	A	7.3	A	7.5
Orienta Ave & East Cove Rd (unsignalized)	EB	LR	A	8.2	A	7.6	A	7.4
	NB	LT	A	8.9	A	7.7	A	7.5
	SB	TR	A	9.9	A	8.1	A	7.5
Boston Post Rd (US Route 1) & Orienta Ave/Delancey Ave	EB	L	D	43.6	D	43.6	D	45.2
		R	B	10.4	B	12.8	B	13.0
	WB	L	D	44.8	D	42.2	D	40.3
		R	A	9.0	A	8.6	A	8.5
	NB	TR	D	42.1	D	37.0	D	40.8
	SB	TR	C	23.3	C	23.4	C	21.2
	Intersection		C	27.8	C	21.5	C	24.7
	Old Boston Post Rd & Cooper Ave (unsignalized)	WB	L	A	9.6	A	9.3	A
SB		LT	A	0.0	A	0.1	A	0.1
Boston Post Rd (US Route 1) & Old Boston Post Rd/Richbell Rd	EB	L	D	49.3	D	44.2	D	41.6
		R	D	41.5	D	40.1	A	9.6
	WB	L	D	40.2	D	40.1	D	36.2
		TR	D	43.3	D	39.7	C	26.7
	NB	L	B	18.9	B	14.0	B	14.6
		T	B	18.8	B	13.3	B	14.8
	SB	TR	C	28.6	C	24.3	C	24.7
	Intersection		C	27.3	C	23.0	C	21.3
Orienta Ave & Fairway Ln (unsignalized)	EB	LR	B	10.9	A	9.0	A	9.3
	NB	LT	A	0.1	A	0.0	A	0.0
	SB	TR	A	0.0	A	0.0	A	0.0

As indicated in Table 3M-9, under future No-Build conditions, with the forecast increases in traffic volumes, there will be a slight increase in overall delays at the three signalized intersections along



Boston Post Road, generally on the order of 2 seconds or less. The levels of service will remain unchanged from those experienced under existing conditions.

At the unsignalized intersections, the minor street turning movements will continue to operate at LOS "B" or better during each peak hour with imperceptible increases in delay of up to 0.1 seconds.

The intersections of Eagle Knolls Road with Hommocks Road and East Cove Road with Orienta Avenue are projected to experience Level of Service "A" conditions which, as stated by the Highway Capacity Manual (2000), is indicative of "little or no delay". Since traffic volumes on Eagle Knolls Road and East Cove Road between Hommocks Road and Orienta Avenue are even lower than those at the intersections of Eagle Knolls Road with Hommocks Road and East Cove Road with Orienta Avenue, it is reasonable to conclude that any intersections along these roads will also experience "little or no delay" in the No-Build condition.

The Synchro analyses also provide a calculation of the average (50<sup>th</sup> percentile) and maximum (95<sup>th</sup> percentile) queues expected on individual lane groups. The queues for the No-Build traffic conditions are summarized in Table 3M-10.

DRAFT



Table 3M-10 Summary of No-Build Queues

Intersection	Approach	Lane Group	Available Storage Length	No-Build					
				AM Peak Hour		PM Peak Hour		Sat Peak Hour	
				50th	95th	50th	95th	50th	95th
Boston Post Rd (US Route 1) & Hommocks Rd/Weaver St	EB	L	145'	74'	115'	104'	179'	120'	201'
		TR	-						
	WB	L	150'	56'	90'	46'	94'	30'	68'
		TR	-						
	NB	L	180'	49'	70'	76'	118'	71'	113'
		TR	-						
	SB	L	140'	138'	179'	30'	55'	21'	43'
		TR	-						
Hommocks Rd & Eagle Knolls Rd (unsignalized)	WB	LR	N/A - All-Way stop intersection - queue not calculated						
	NB	TR							
	SB	LT							
Orienta Ave & East Cove Rd (unsignalized)	EB	LR	N/A - All-Way stop intersection - queue not calculated						
	NB	LT							
	SB	TR							
Boston Post Rd (US Route 1) & Orienta Ave/Delancey Ave	EB	L	-						
		R	70'	0'	62'	0'	38'	0'	40'
	WB	L	450'	60'	111'	50'	100'	33'	74'
		R	450'	0'	70'	0'	75'	0'	60'
	NB	TR	-						
	SB	TR	-						
Old Boston Post Rd & Cooper Ave (unsignalized)	WB	L	200'+	0'	1'	0'	0'	0'	1'
	SB	LT	-						
Boston Post Rd (US Route 1) & Old Boston Post Rd/Richbell Rd	EB	L	-	68'	135'	37'	136'	39'	151'
		R	140'	64'	124'	34'	123'	0'	52'
	WB	L	100'	58'	115'	40'	141'	35'	133'
		TR	-						
	NB	L	175'	40'	78'	10'	63'	12'	69'
		T	-						
	SB	TR	-						
Orienta Ave & Fairway Ln (unsignalized)	EB	LR	450'+	0'	1'	0'	0'	0'	1'
	NB	LT	-						
	SB	TR	-						

Note: (1) Synchro does not provide queue length calculations for movements at all-way stop intersections. However, the low volume of traffic and Level-of-Service "A" conditions suggest average queues of 25 feet or less and 95th percentile queues of 50 feet or less.

As indicated in Table 3M-10, under future No-Build conditions, with the forecast increases in traffic volumes, there will be a slight increase in the length of the queues at the three signalized intersections along Boston Post Road, generally on the order of 3 feet or less. The average (50<sup>th</sup>



percentile) queues at all locations will remain at acceptable lengths. At the unsignalized intersections, the 50<sup>th</sup> and 95<sup>th</sup> percentile queue lengths will continue to be acceptable.

### 3. Potential Impacts as a Result of the Proposed Project

#### a) Trip Generations

The Proposed Action is to consist of 105 residential units, comprised of 44 single-family detached homes and 61 townhouses. The existing 18-hole golf course will be reduced to a 9-hole course to facilitate the development of the project. The existing membership club facilities (including a clubhouse, pool and parking areas) will remain.

As the clubhouse is currently in operation, the existing number of jobs that are held at the clubhouse are 15 during off-season and 75 during on-season. At full build-out of the Project, it is anticipated that the number of jobs associated with the clubhouse may increase by one to 16 during off-season and by as many as 5 to 80 during on-season.

To evaluate the traffic impact of the Proposed Action, it is necessary to determine the traffic volumes expected to be generated by the 105-unit residential development and how much traffic activity at the existing country club will be reduced by the elimination of 9 holes of the golf course. A review was undertaken of the available trip generation data sources, including the reference published by the Institute of Transportation Engineers ("ITE"), *Trip Generation Manual*, Ninth Edition. This widely utilized reference source contains trip generation rates for related uses, "Single-Family Detached Housing" (Land Use Code 210) and "Residential Condominium/Townhouse" (Land Use Code 230).

The existing road network through the Project Site connects the Hommocks Road School with the residential neighborhood to the north of the Project Site and approximately 23 homes are accessed off of either Eagle Knolls Road or East Cove Road. Current levels of traffic activity at the existing Hampshire Country Club were identified based on a review of the existing traffic volumes which indicated that that the facility currently generates 33 trips during the weekday AM peak hour (19 in and 14 out), 50 trips during the weekday PM peak hour (21 in and 29 out) and 69 trips during the Saturday peak hour (47 in and 22 out). These values compare reasonably well with ITE values for an 18-hole golf course (37, 53 and 83 in the AM, PM and Saturday peak hours, respectively).

Of the above trips currently generated by the Hampshire Country Club, it was assumed that two trips in each of the peak hours are staff arriving at or departing the facility and that there will be no change in this number as a result of the elimination of nine holes of golf. It was further assumed that none (0) of the weekday AM peak-hour trips, 10 of the weekday PM peak-hour trips and 14 of the Saturday midday peak hour trips (0% of the Country Club's AM trips and 20% of the Country Clubs PM and Saturday trips) are non-golf-related member trips and that there will be no change in this number as a result of the elimination of nine holes of golf. Subtracting these trips



from the 33 AM, 50 PM and 69 Saturday peak-hour Country Club trips leaves 31 trips currently associated with the 18-hole course in the AM peak hour, 38 trips associated with the course in the PM peak hour and 53 trips associated with the course in the Saturday peak hour.

6% of country club traffic activity in the morning peak hour (2 trips) were staff arriving at the facility and that 23% of activity in the afternoon and Saturday peak hours (12 and 16 trips, respectively) were staff and members arriving or leaving the clubhouse. Subtracting these trips from the 33, 50 and 69 peak-hour trips yielded 31, 38 and 53 AM, PM and Saturday peak-hour trips, respectively, associated with the golf course component of the facility. It was conservatively assumed that the elimination of 9 holes of the golf course would reduce this golf-course traffic generation by 37% or 11 trips in the AM peak Hour, 134 trips in the PM peak hour and 20 trips in the Saturday peak hour.

In addition, to account for expected pedestrian trips, including internal trips between the single-family homes, town homes and the clubhouse/golf course, a five percent credit was applied to the residential trips (a 4-trip reduction in each of the peak hours). The resulting new trips from the Project on the local roadways are summarized in Table 3M-11.

**Table 3M-11 Project Trip Generations**

Land Use	No. of Units	AM Peak Hour Total (in/out)	PM Peak Hour Total (in/out)	Saturday Peak Hour Total (in/out)
Single-Family Home	44	41 (11/30)	50 (33/17)	48 (26/22)
Townhouse	61	35 (10/25)	40 (27/13)	37 (20/17)
<i>Total Residential Trips</i>	105	76 (21/55)	90 (60/30)	85 (46/39)
- Internal Credit (5%)	-	-4 (-2/-2)	-4 (-2/-2)	-4 (-2/-2)
- Golf Course Trip Credit <sup>(1)</sup>	-	-11 (-8/-3)	-13 (-9/-4)	-20 (-11/-9)
<b>Total New Trips</b>		<b>61 (11/50)</b>	<b>73 (49/24)</b>	<b>61 (33/28)</b>

Source: ITE Trip Generation, 9th Edition

Note: (1) Assumed 3750% of the existing golf course trips would be eliminated.

As shown in Table 3M-11, the Proposed Action is expected to generate a total of 61 new trips during the AM peak hour, 73 new trips during the PM peak hour and 61 new trips during the Saturday peak hour.

Table 3M-12 below compares the trip generations for the existing Hampshire Country Club to the trip generations for the proposed Project.

**Table 3M-12 Trip Generation Comparison**

<u>Development</u>	<u>AM Peak Hour</u>			<u>PM Peak Hour</u>			<u>SAT Peak Hour</u>		
	<u>in</u>	<u>out</u>	<u>total</u>	<u>in</u>	<u>out</u>	<u>total</u>	<u>in</u>	<u>out</u>	<u>total</u>
<u>Existing Hampshire Country Club</u>	<u>19</u>	<u>14</u>	<u>33</u>	<u>21</u>	<u>29</u>	<u>50</u>	<u>47</u>	<u>22</u>	<u>69</u>
<u>Proposed Development*</u>	<u>30</u>	<u>64</u>	<u>94</u>	<u>70</u>	<u>53</u>	<u>123</u>	<u>80</u>	<u>50</u>	<u>130</u>
<u>Net Change (Proposed - Existing)</u>	<u>11</u>	<u>50</u>	<u>61</u>	<u>49</u>	<u>24</u>	<u>73</u>	<u>33</u>	<u>28</u>	<u>61</u>

\*Including 9-hole golf course and clubhouse and 5% internal capture credit.

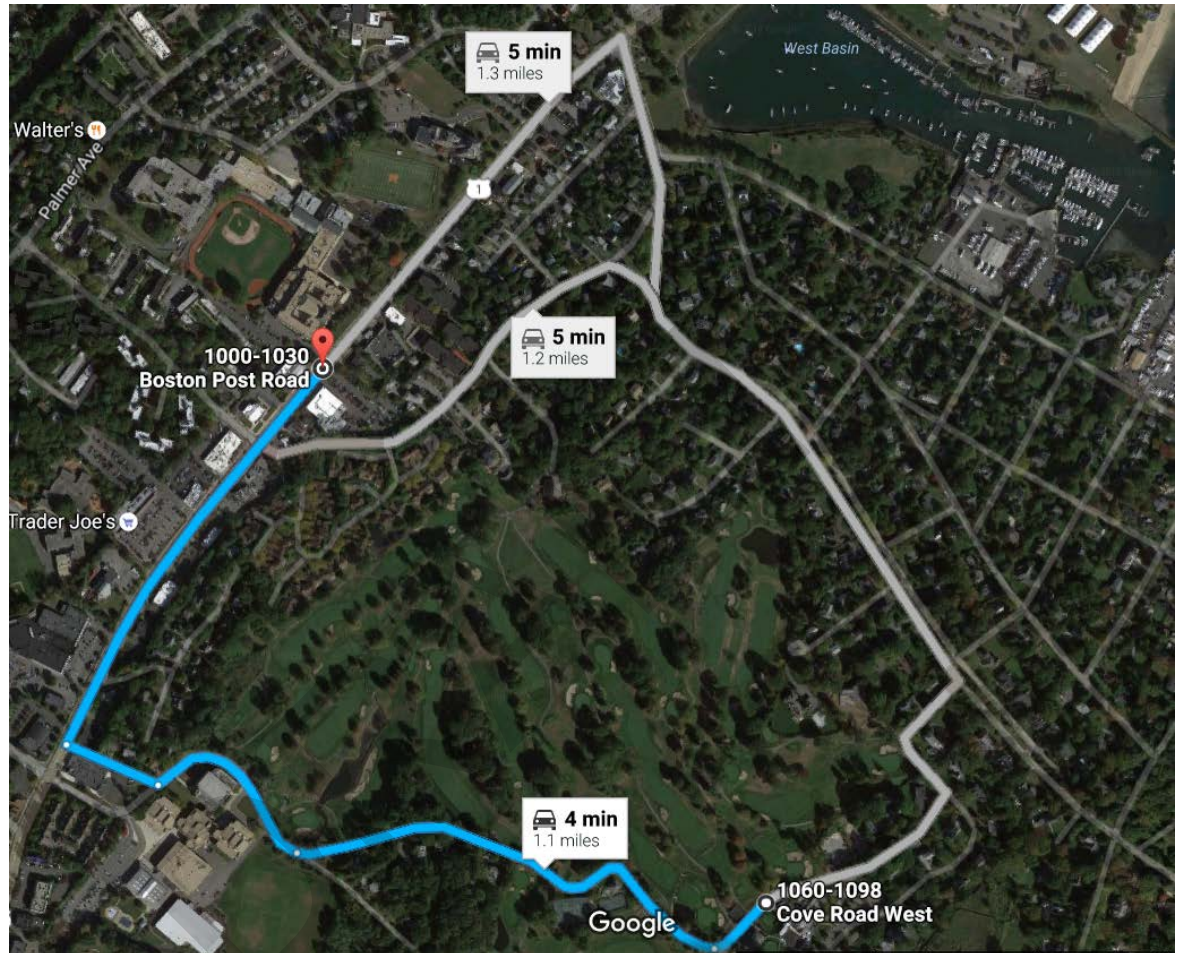
## b) Trip Distributions

The three existing access points to the Project Site (Cove Road, Eagle Knolls Road and Cooper Avenue) will be modified as part of the Proposed Action. The privately-owned portion of Cove Road within the Project site will be relocated, and this road will form the central corridor for the project which will connect with Eagles Knolls Road. Portions of Eagle Knolls Road will also be relocated from its existing location, and will terminate in a cul-de-sac. Cooper Avenue, which currently extends from Old Boston Post Road to its terminus at the driveway to the golf course maintenance facility will be extended into the Project Site and will intersect with Cove Road.

As part of the development of the site plan, consideration was given to what configuration access to Cooper Avenue should take. This evaluation determined that allowing project traffic to exit via Cooper Avenue would have the greatest overall benefit, as it would encourage motorists travelling from the Project Site to Richbell Road or any destination on Boston Post Road between Hommocks Road and the Mamaroneck High School to do so without passing through the busiest intersection in the study area (Boston Post Road with Hommocks Road/Weaver Street) or by the Hommocks Road School. Because of the one-way orientation of Old Boston Post Road, allowing project traffic to enter via Cooper Avenue would not achieve the same outcome. If Cooper Avenue provides two-way access, the same benefits to the intersection of Hommocks Rd with Boston Post Road would accrue as in the one-way exit configuration, while if emergency access only were provided at Cooper Avenue, potential impacts to the intersection of Richbell Road and Boston Post Road would be less than the other access options. As a result of this evaluation, the extension of Cooper Avenue is currently envisioned to be a one-way, exit only road for development residents to provide access to Boston Post Road (US Route 1) via Old Boston Post Road.

To provide a conservative analysis, for each of the study area intersections (except for the intersections of Old Boston Post Road with Cooper Avenue and Richbell Road/Boston Post Road) it was assumed that all project traffic would enter and exit via Hommocks Road or Orienta Avenue. For the intersections of Old Boston Post Road with Cooper Avenue and Richbell Road/Boston Post

Road, it was assumed that there would be two-way access provided to the Project Site via Cooper Avenue, (which would result in the greatest project impact at these intersections).



Trip arrival and departure patterns, which show how the newly-generated trips will travel to and from the Project Site, were determined based on a review of the existing roadway network, existing traffic patterns and proposed access to the project. The trip origin and destination percentages for the project-generated trips are shown in Table 3M-1~~32~~.

**Table 3M-132 Trip Origins and Destinations**

Trip Origin/Destination	Percent of Site Traffic
Boston Post Road (US Route 1) from/to the north	30
Boston Post Road (US Route 1) from/to the south	40
Weaver Street (NYS Route 125) from/to the west	10
Delancey Avenue from/to the west	10
Richbell Road from/to the west	5
From/to Local streets	5

The distribution percentages at each study location are shown on Exhibit 3M-12. ~~In the event that access to the Project Site not be provided via Cooper Avenue, this study conservatively assumed that all project traffic would enter and exit via Hommocks Road or Orienta Avenue. Similarly, were two-way access to be provided to the Project Site via Cooper Avenue, the study also evaluated the impacts of this condition on the intersections of Old Boston Post Road with Cooper Avenue and Richbell Road/Boston Post Road.~~

The trip distributions shown on Exhibit 3M-12 were then applied to the project trips shown in Table 3M-11 and the resulting volumes were assigned to the local roadway network. These project-generated volumes are shown on Exhibits 3M-13 and 3M-14.

The project-generated volumes were added to the No-Build traffic volumes shown on Exhibits 3M-10 and 3M-11 resulting in the Build traffic volumes for the AM, PM and Saturday peak hours shown on Exhibits 3M-15 and 3M-16.

### c) Build Conditions

To assess the quality of traffic flow in the study area during the peak hours, intersection capacity analyses were conducted for the Build traffic volume conditions. The intersection capacity analyses were conducted using Synchro 9 software to model the study intersections and based on the existing physical roadway characteristics and signal phasing and timing settings. The results of the capacity analyses for the AM, PM and Saturday peak hours for the Build traffic conditions are summarized in Table 3M-143. The detailed Synchro capacity analysis worksheets are contained in the Traffic Impact Study in Appendix JM.



Table 3M-143 Build Levels of Service

Intersection	Approach	Lane Group	AM Peak Hour		PM Peak Hour		Sat Peak Hour	
			LOS	Delay	LOS	Delay	LOS	Delay
Boston Post Rd (US Route 1) & Hommocks Rd/Weaver St	EB	L	E	60.3	D	48.8	D	45.8
		TR	D	52.2	D	47.6	D	44.0
	WB	L	E	64.1	D	47.9	D	43.5
		TR	D	51.6	D	44.7	D	41.2
	NB	L	D	41.7	E	56.2	D	49.8
		TR	E	74.5	C	31.4	C	33.4
	SB	L	E	76.2	C	27.4	C	29.2
		TR	D	38.0	D	40.9	D	42.1
	Intersection		E	58.3	D	39.6	D	39.6
Hommocks Rd & Eagle Knolls Rd (unsignalized)	WB	LR	A	8.1	A	6.6	A	6.7
	NB	TR	A	7.8	A	7.1	A	7.2
	SB	LT	A	8.7	A	7.6	A	7.7
Orienta Ave & East Cove Rd (unsignalized)	EB	LR	A	8.7	A	7.8	A	7.6
	NB	LT	A	9.1	A	7.8	A	7.6
	SB	TR	B	10.2	A	8.2	A	7.5
Boston Post Rd (US Route 1) & Orienta Ave/Delancey Ave	EB	L	D	43.6	D	43.4	D	45.1
		R	B	10.4	B	12.5	B	12.8
	WB	L	D	44.8	D	42.5	D	40.5
		R	A	9.0	A	8.7	A	8.4
	NB	TR	D	42.2	D	37.2	D	41.0
	SB	TR	C	23.4	C	23.7	C	21.4
	Intersection		C	28.0	C	21.6	C	24.7
Old Boston Post Rd & Cooper Ave (unsignalized)	WB	L	A	9.9	A	9.6	A	9.6
	SB	LT	A	0.3	A	1.2	A	1.0
Boston Post Rd (US Route 1) & Old Boston Post Rd/Richbell Rd	EB	L	D	51.1	D	44.1	D	42.2
		R	D	41.1	D	39.8	A	9.6
	WB	L	D	40.2	D	39.9	D	36.2
		TR	D	44.0	D	39.9	C	26.5
	NB	L	B	19.3	B	14.3	B	14.8
		T	B	19.3	B	13.6	B	15.0
	SB	TR	C	29.1	C	24.6	C	24.9
Intersection		C	28.0	C	23.3	C	21.5	
Orienta Ave & Fairway Ln (unsignalized)	EB	LR	B	11.2	A	9.2	A	9.5
	NB	LT	A	0.1	A	0.0	A	0.0
	SB	TR	A	0.0	A	0.0	A	0.0

As indicated in Table 3M-1~~43~~, under future Build conditions, with the added traffic from the Proposed Action, there will be a slight increase in overall delays at the three signalized intersections along Boston Post Road, generally on the order of 1 second or less. The levels of service will remain unchanged from those experienced under No-Build conditions.

At the unsignalized intersections, the minor street turning movements will continue to operate at LOS "B" or better during each peak hour with only minor increases in delay of 1.1 seconds or less.

The Synchro analyses also provide a calculation of the average (50<sup>th</sup> percentile) and maximum (95<sup>th</sup> percentile) queues expected on individual lane groups. The queues for the Build traffic conditions are summarized in Table 3M-1~~54~~.

DRAFT

Table 3M-154 Summary of Build Queues

Intersection	Approach	Lane Group	Available Storage Length	Build					
				AM Peak Hour		PM Peak Hour		Sat Peak Hour	
				50th	95th	50th	95th	50th	95th
Boston Post Rd (US Route 1) & Hommocks Rd/Weaver St	EB	L	145'	74'	121'	104'	180'	120'	202'
		TR	-						
	WB	L	150'	78'	134'	54'	108'	39'	81'
		TR	-						
	NB	L	180'	49'	70'	76'	118'	71'	113'
		TR	-						
	SB	L	140'	138'	179'	31'	55'	22'	44'
		TR	-						
Hommocks Rd & Eagle Knolls Rd (unsignalized)	WB	LR	N/A - All-Way stop intersection - queue not calculated						
	NB	TR							
	SB	LT							
Orienta Ave & East Cove Rd (unsignalized)	EB	LR	N/A - All-Way stop intersection - queue not calculated						
	NB	LT							
	SB	TR							
Boston Post Rd (US Route 1) & Orienta Ave/Delancey Ave	EB	L	-						
		R	70'	0'	61'	0'	40'	0'	41'
	WB	L	450'	60'	111'	50'	100'	33'	75'
		R	450'	0'	73'	0'	76'	0'	62'
	NB	TR	-						
	SB	TR	-						
Old Boston Post Rd & Cooper Ave (unsignalized)	WB	L	200'+	0'	5'	0'	2'	0'	2'
	SB	LT	-						
Boston Post Rd (US Route 1) & Old Boston Post Rd/Richbell Rd	EB	L	-	70'	138'	38'	138'	40'	155'
		R	140'	64'	124'	34'	124'	0'	52'
	WB	L	100'	64'	123'	41'	144'	36'	137'
		TR	-						
	NB	L	175'	42'	78'	11'	63'	12'	69'
		T	-						
	SB	TR	-						
Orienta Ave & Fairway Ln (unsignalized)	EB	LR	450'+	0'	1'	0'	0'	0'	1'
	NB	LT	-						
	SB	TR	-						

As indicated in Table 3M-154, under future Build conditions, with the added traffic from the Proposed Action, at the three signalized study locations there will be a slight increase in the length of the maximum (95<sup>th</sup> percentile) queues on the turning lane movements that exceeded the available storage under No-Build conditions, generally on the order of 8 feet or less. The average

(50<sup>th</sup> percentile) queues at all locations will remain at acceptable lengths. At the unsignalized intersections, the 50<sup>th</sup> and 95<sup>th</sup> percentile queue lengths will continue to be acceptable.

#### d) Sight Distance Analysis

Sight distance analyses were conducted at the four unsignalized study intersections to determine if sufficient sight lines are provided. The sight distances at each location were measured and compared to the requirements provided in the American Association of State Highway and Transportation Officials' (AASHTO) publication, *A Policy on Geometric Design of Highways and Streets (2011)*. Two of the intersections are controlled by Stop signs on all approaches (Orienta Avenue and East Cove Road; Hommocks Road and Eagle Knolls Road). Per AASHTO, at these two all-way stop intersections, the first stopped vehicle on one approach should be visible to the drivers of the first stopped vehicles on the other approaches. At the two other unsignalized intersections (Orienta Avenue and Fairway Lane; Old Boston Post Road and Cooper Avenue), Stop signs are provided on the minor street approaches (Fairway Lane and Cooper Avenue). AASHTO sight distance requirements at these locations are generally based on travel speeds, grades, number of lanes to cross and type of traffic control. The sight distance analysis is summarized in Table 3M-165.

**Table 3M-165 Sight Distance Analysis**

Intersection	Control	Approach/ Movement	Sight Distance	
			Required	Available
Orienta Avenue & East Cove Road	All-way Stop	All approaches	First stopped vehicle visible	Yes
Hommocks Road & Eagle Knolls Road	All-way Stop	All approaches	First stopped vehicle visible	SB – Yes NB & WB – No <sup>(1)</sup>
Orienta Avenue & Fairway Lane	Stop (Fairway Ln)	EB LR	280' looking left 280' looking right	410' left 512' right
Old Boston Post Rd & Cooper Avenue	Stop (Cooper Ave)	NB L	280' to the right	120' right <sup>(1)</sup>

*Note: Required sight distances based on AASHTO publication, A Policy on Geometric Design of Highways and Streets (2011).*

*(1) – Sight distance can be increased to the required level by the removal of foliage.*

As shown in Table 3M-165, acceptable sight distances are provided at the Orienta Avenue and East Cove Road all-way stop intersection. At the Hommocks Road and Eagle Knolls Road all-way stop intersection, the drivers on the Eagle Knolls Road approach and the northbound Hommocks Road approach have somewhat limited visibility due to foliage on the southeast corner of the intersection which partially obstructs the view (see photograph below). If a small bush at the corner of the intersection were removed and the tree next to it pruned so the branches do not hang down within 4 feet of the ground, adequate sight distance would be provided.





At the intersection of Orienta Avenue with Fairway Lane, acceptable sight distance is provided for vehicles exiting from Fairway Lane.

At the intersection of Cooper Avenue with Old Boston Post Road, a lot of vegetation has grown since the August 2013 photograph below was taken. This new vegetation has significantly reduced sightlines and should be removed to restore the required 280 feet of sight distance.





For the on-site intersections, a review of the site plan indicates that a minimum of 200 feet can be provided from all intersections which will be sufficient to accommodate vehicles traveling at the posted Village-wide speed limit of 30 mph.

#### e) Proposed Parking

In the future, with the Proposed Action, a total of 163 parking spaces would be provided at the clubhouse and parking for an additional 16 vehicles will be available during large club events, for a total of 179 spaces. Parking regulations, per Village Code §342-56(A), require 2 spaces for each 3 individual, family or other type of memberships. The club had 264 memberships as of 2017 which require 176 parking spaces per the Village code. With the downsizing of the golf course offset by the potential new memberships generated by the planned residential development, it is anticipated that the membership total will remain at its current level in the future with the Proposed Action. Therefore, the 179 parking spaces to be provided will be in compliance with Village parking requirements (i.e., 2 spaces per every 3 memberships, or 176 required spaces based on the estimated 264 memberships under the Proposed Action). The clubhouse's banquet hall can accommodate up to 250 guests for weddings or other events. The 179 parking spaces will also be able to accommodate the parking for events.

For the PRD, four spaces will be provided for each residential unit, including two in the driveway and two in the garage, yielding 210 enclosed spaces and 210 driveway apron spaces for a total of 420 private residential parking spaces. In addition, on-street parking within the PRD development will be permitted on one side of all streets (2x10 foot travel ways and 8 feet for parking). It is calculated that parking for approximately 125 vehicles will be able to be accommodated on street.

Village Code §342-52(l) states that "Off-street parking shall be provided within each planned residential development at the rate of not less than two spaces for each one-family detached dwelling, and one space per dwelling unit, plus one-half (1/2) space per bedroom for each dwelling unit in an attached or semi-detached dwelling. No less than one-third (1/3) nor more than two-thirds (2/3) of the minimum required off-street parking spaces shall be enclosed. Of the unenclosed spaces, an amount equal to at least one-third (1/3) of the total number of required spaces shall not be reserved for the use of specific dwelling units and shall, at all times, remain open and available for the use of visitors and guests, as well as other residents."

Applying the Code mandates that a minimum of 241 parking spaces be provided, 88 for the single family homes and 153 for the semi/attached carriage houses, each of which has 3 bedrooms. Between 80 and 160 of the required parking spaces must be enclosed and at least 80 of the unenclosed parking spaces must be available for use by anyone.



A total of 545 parking spaces (420 private + 125 on-street) are proposed for the PRD, which is significantly more than the 241 required. The 125 vehicles which will be able to be accommodated on street will be more than 80 required for use by any one at any time.

#### **f) Pedestrian and Bicycle Circulation**

Pedestrian and bicycle circulation would be facilitated on the Project Site through the redeveloped and improved road and sidewalk network. The Proposed Action would include sidewalks on the north side of the extended and rerouted Cove Road, which would provide a path for residents and children biking or walking through the proposed development to access community facilities nearby, including Hommocks Middle School, Hommocks Ice Rink and Hommocks Pool, and the commercial corridor along Boston Post Road/U.S. Route 1. The other proposed roadways, which will be very low volume roadways (less than 1 vehicle every 2 minutes during the busiest hour) would not include sidewalks or bicycle pathways. This is in keeping with much of the road network immediately surrounding the Project Site, primarily the portions of Hommocks Road, Cove Road, Cooper Avenue, and Fairway Lane immediately adjacent to the Project Site, which do not contain designated bicycle pathways or sidewalks. The existing and proposed roadway network would also be wide enough to accommodate on-road cycling, as discussed in subsection i.

#### **g) Potential Impacts to Hommocks Middle School, Hommocks Pool and Ice Rink**

The Proposed Action will add only a few trips to Hommocks Road during the peak hours (31 AM trips, 38 PM trips and 31 Saturday trips), or approximately 1 additional vehicle every 2 minutes in the worst case conditions. The backups on Hommocks Road westbound will increase slightly compared to No-Build conditions and the maximum queues will be within the provided storage area and will not impact the Hommocks Middle School main driveway. Under the proposed action, with Cooper Avenue providing an exit to Boston Post Road via Old Boston Post Road, the projected minimal increases in delays and queuing near the school will be reduced as the number of vehicles passing through the intersection is projected to be reduced to 10 in the AM peak hour, 28 in the PM peak hour and 20 during the Saturday peak hour.

On Boston Post Road, the maximum queue on the southbound left turn into Hommocks Road currently exceeds the available storage area during the AM peak hour and will continue to do so in the future without the project. The Proposed Action will not add any traffic to this movement during the AM peak hour; therefore, the backups will not increase from future No-Build conditions. The Proposed Action will not have any impacts on this movement during the PM and Saturday peak hours as only 1 vehicle will be added during each peak hour.

The peak activity periods for Hommocks Pool and Ice Rink do not typically coincide with the roadway weekday AM and PM peak hours or the Saturday peak hour. It is anticipated that some of



the residents of the proposed development will walk or bike to the Hommocks Pool and Ice Rink facilities.

## **h) Construction Traffic Impacts**

Construction activity for the proposed development will primarily be divided into three stages, grading, structures and finishing. Once construction of the proposed development commences, it is estimated that there will be approximately 24 trucks per day (on a five-day per week schedule) for the first 9 months of construction. After that, the number of trucks will begin to diminish to 3 or 4 trucks per day as the 105 units are built-out. The exact construction schedule is contingent on the build out rate of the homes; therefore, the duration of the construction period and the final build-out date are unknown at this time. Employee construction traffic activity is expected to be similar to the project traffic levels listed in Table 3M-11, above.

All construction trucks accessing the Project Site will be required to use I-95, exiting at either Exit 17 (to and from the south) or Exit 19 (to or from the north) to use Boston Post Road (US Route 1) to get to and from Hommocks Road and Eagle Knolls Road. There will be no truck access allowed via Orienta Avenue or East Cove Road. When school is in session, truck access to the Project Site will only be permitted between 8:15 am and 2:30 pm, as well as between 4:00 pm and 7:00 pm.

To evaluate existing pavement conditions, an inspection of the roadway surface was conducted on Hommocks Road and the west end of Eagle Knolls Road. In addition to conducting a visual inspection of the pavement, six (6) core samples were taken on Hommocks Road for scientific evaluation while four (4) core samples were taken on Eagle Knolls Road. The results of these evaluations were as follows:

- Hommocks Road – Other than for a 300-foot section by the entrance to the front parking lot serving the school, the road surface displayed significant distress levels but the pavement structure from two inches below the surface down is structurally sound. The Road Manager Pavement Condition Index (PCI) is 35 on a scale of 0 (virtually impassable) to 100 (brand new and perfectly constructed).
- Eagle Knolls Road – The road surface displayed moderate distress levels and is considerably better condition than Hommocks Road. The pavement structure from two inches below the surface down is structurally sound. The Road Manager Pavement Condition Index (PCI) is 65.

For the duration of construction, it is proposed to mill and pave Hommocks Road to improve its PCI score. At the completion of construction, the roadways will be reexamined and repaired as needed to leave them with a PCI score of 66 or better.



PCI Decision Matrix				
TIME OF IMPROVEMENT	FREEWAY	ARTERIAL	COLLECTOR	LOCAL
Adequate	>85	>85	>80	>80
6 to 10 years	76 to 85	76 to 85	71 to 80	66 to 80
1 to 5 years	66 to 75	56 to 75	51 to 70	46 to 65
NOW Rehabilitate	60 to 65	50 to 55	45 to 50	40 to 45
NOW Reconstruct	<60	<50	<45	<40

OGRA'S MILESTONES • V9 #4 • DECEMBER 2009

## i) Site Roadways and Intersections

### Site Roadways

As noted previously, the three existing access points to the Project Site (Cove Road, Eagle Knolls Road and Cooper Avenue) will be modified as part of the Proposed Action. The privately-owned portion of Cove Road within the Project site will be relocated and will form the central corridor for the project. Eagle Knolls Road will be relocated from its existing location and will intersect with the relocated Cove Road prior to terminating in a cul-de-sac. Cooper Avenue, which currently extends from Old Boston Post Road to its terminus at the driveway to the golf course maintenance facility, will be extended into the Project Site and will intersect with Cove Road. This roadway extension is currently envisioned to be a one-way, exit only road for development residents to provide access to Boston Post Road (US Route 1) via Old Boston Post Road. A new internal roadway, "Road A", will intersect with Cove Road and terminate in a cul-de-sac.

Each Roadway will be 28 feet wide, and, cumulatively, the roadways in the development will be able to accommodate 125 parked vehicles. From a practical perspective, as occurs in many similar developments, on-street parking will, in most circumstances, be limited to the occasional vehicle scattered around the development (a total of 241 parking spaces are required by the Code - 2.3 per unit - while each unit will have 4 parking spaces – for a total of 420). Thus, the 28-foot wide roadways will be wide enough sufficient to provide one 10-foot wide lane for travel in either direction while along with allowing 8 feet on one side of the road or the other to be used for on-street parking for a car to be parked. Cyclists, for the most part, will travel in the outside 5 feet of each lane (leaving adequate width to accommodate two-way traffic), negotiating the occasional parked vehicle. Share the road signage could be added if the volume of cycling activity justifies it. Cyclists may also choose to cycle on the development's sidewalks, as permitted under Village and NY State law, provided that the bicycles are not operated "in a manner that is unsafe for pedestrians" (Village of Mamaroneck Code Section 112-2 B.)

[operate the bicycles ib](#)

—At its west end, Cove Road will narrow down as it leaves the property to match the existing section width. The relocated Cove Road will have a sidewalk run along its entire length. Each internal intersection will be designed to provide sufficient sight distance for vehicles traveling within the Project Site.

At the present time, the portions of Eagle Knolls Road, Cove Road and Cooper Avenue within the Project Site are private roads. In the future, with the proposed Project and planned modifications to these roadways, those portions of the road within the Project Site will remain as private roads. The proposed homeowners' association will be responsible for maintenance of all roadways within the Project Site.

With respect to rights of access over those portions of Eagle Knolls Road and Cove Road under private ownership, the proposed project will not prohibit the area residents who currently use the private roads to access Hommocks Road from Eagle Knolls Road or the public portions of Cove Road beyond the Project Site.

There are currently three (3) private homes on Eagle Knolls Road, two of which will be to the west of the intersection of realigned Cove Road with Eagle Knolls Road and one of which will be on the cul-de-sac section of Eagle Knolls Road. The proposed termination of Eagle Knolls Road will require residents of and visitors to the one private home on Eagle Knolls Road which lies to the east of the intersection of realigned Cove Road with Eagle Knolls Road to travel approximately 100 feet to the west on the Eagle Knolls Road cul-de-sac to connect to the external roadway network. This is expected to have almost no impact on the residents of this home. The only impact of the termination of Eagle Knolls Road in a cul-de-sac for the residents of the two private homes to the west of the intersection of realigned Cove Road is that they will have to turn left onto realigned Cove Road when they are headed to the Orienta Avenue neighborhood of the Village or to the clubhouse, instead of proceeding straight.

The improved Cove Road, including the proposed sidewalk, will greatly enhance east-west access for both motorists and pedestrians who live on either side of Hampshire Country Club. In addition, the Proposed Action will significantly improve the safety of Eagle Knolls and Cove Road by elevating low-lying portions of these roads above the floodplain. The road pavement conditions will be upgraded from their present condition.

Emergency access and evacuation will be provided via the three access routes to the Project Site. These roadways will be designed so that fire trucks and other emergency vehicles will be able to easily access and circulate within the Project Site. Elevating Cove Road will also improve emergency evacuation for the entire neighborhood.

### Internal Intersections

A qualitative analysis was conducted at the three newly created "T" intersections with Cove Road (Cooper Avenue Extension, Road "A" and Eagle Knolls Road) to identify future traffic operating conditions. Each approach at the three intersections will have one lane with Stop signs controlling the minor leg approaches (Cooper Avenue Extension, Road "A" and Cove Road at its intersection with Eagle Knolls Road). The project-generated traffic volumes were assigned to the internal intersections based on the distributions identified on Table 3M-1<sup>32</sup> and the location of the residential units along the internal roadways. The project trips were then added to the No-Build volumes to develop the Build volumes on the internal roads. A review of the Build volumes along the relocated Cove Road indicates that the AM peak hour volumes are 72 percent higher than the PM peak hour volumes and 52 percent higher than the Saturday peak hour volumes (primarily as a result of traffic to and from the Hommocks Middle School.

A Synchro analysis was conducted with the higher AM peak hour volumes which indicate that the minor street approaches at all three internal intersections will operate at level of service A. Level of service "A" generally means that queuing on a minor street approach is rare and that there are little or no delays. A further analysis was conducted in which the AM peak hour volumes were increased by a magnitude of five. This sensitivity analysis indicated that, even with the substantial increase in traffic volumes, the minor street approaches at each intersection would operate at acceptable LOS B. During the PM and Saturday peak hours, it can be concluded that traffic operating conditions will be better than the AM peak hour conditions as the PM and Saturday volumes are much lower than the AM volumes.

#### **j) Public Transit Availability**

The Proposed Action is afforded relatively convenient access to public transit, including rail and bus service. The Metro-North Railroad's Mamaroneck and Larchmont stations are each approximately 1.5 miles from the Project Site. At the Larchmont station, connections can be made to other Bee-Line buses (#61, #66, and #71). Westchester County's Bee-Line Bus route #70 travels along Boston Post Road between Weaver Street and Richbell Road and operates in a loop with the starting and ending points at the Larchmont train station. The nearest bus stop to the Project Site is approximately 0.55 miles away on Richbell Road at its intersection with Boston Post Road, meaning that the train is just a 10 minute walk and a 5 to 10 minute bus ride from the Project Site.

## **4. Mitigation**

### **a) Recommended Mitigation**

As indicated by the analysis described herein, the proposed development will not have a significant adverse impact on area traffic operating conditions. Nonetheless, good engineering practice and



site design will lead to a number of improvements to operating conditions, the most notable of which are:

- Improved road surface, profile and alignment of Cove Road across the Project Site for residents on either side of the property, including those who travel back and forth to Hommocks Middle School;
- Improved pedestrian environment with the completion of a sidewalk across the property;
- Improved emergency evacuation routes with the raising of Cove Road above the flood elevation.

It is also noted that providing an egress from the Project Site will reduce project traffic past the Hommocks Middle School and through the busy intersection of Boston Post Road with Hommocks Road/Weaver Street.

DRAFT





**Hampshire Country Club - PRD**

Village of Mamaroneck, NY

**1** Study Locations

**Study Locations**

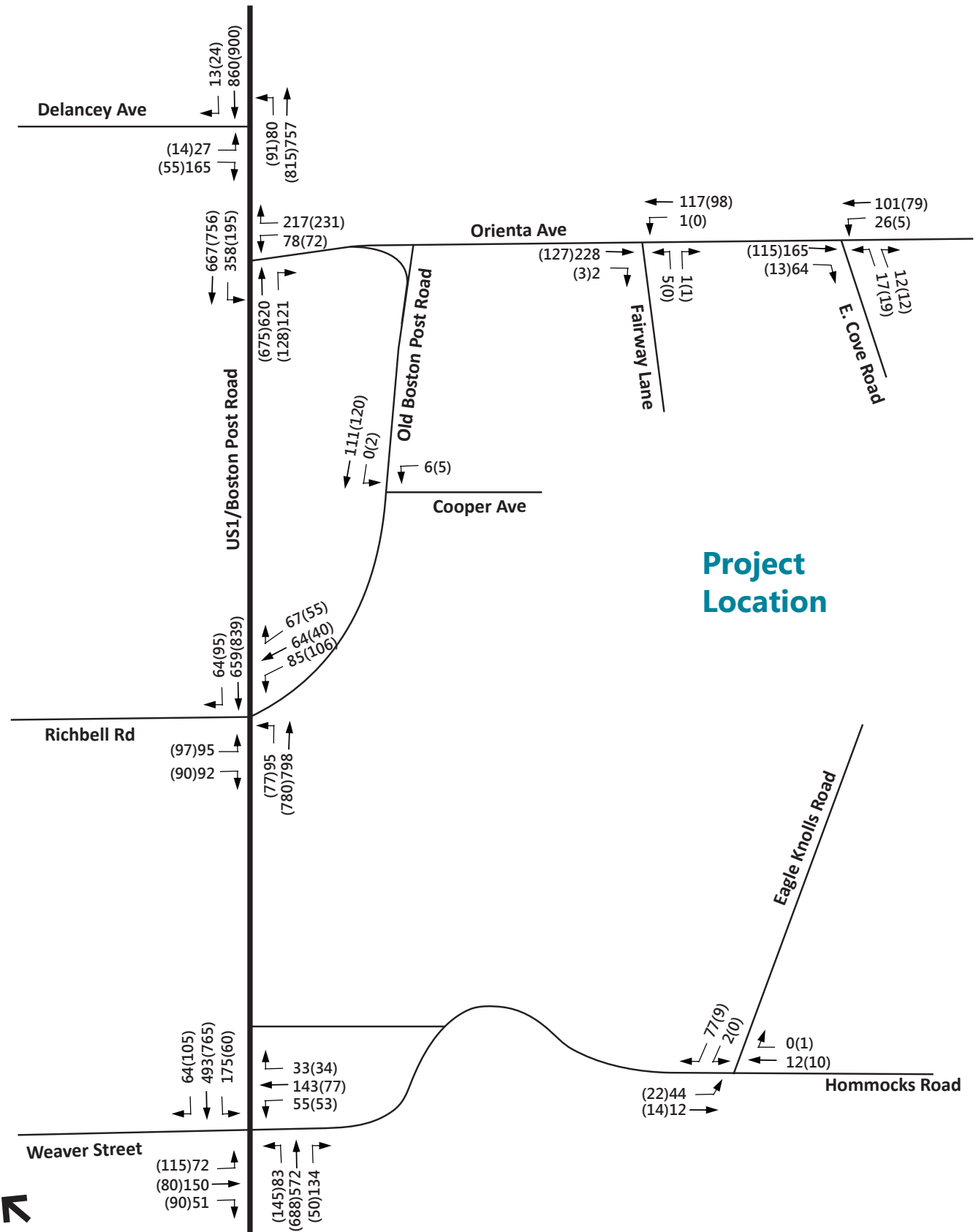




Hampshire Country Club - PRD

Village of Mamaroneck, NY

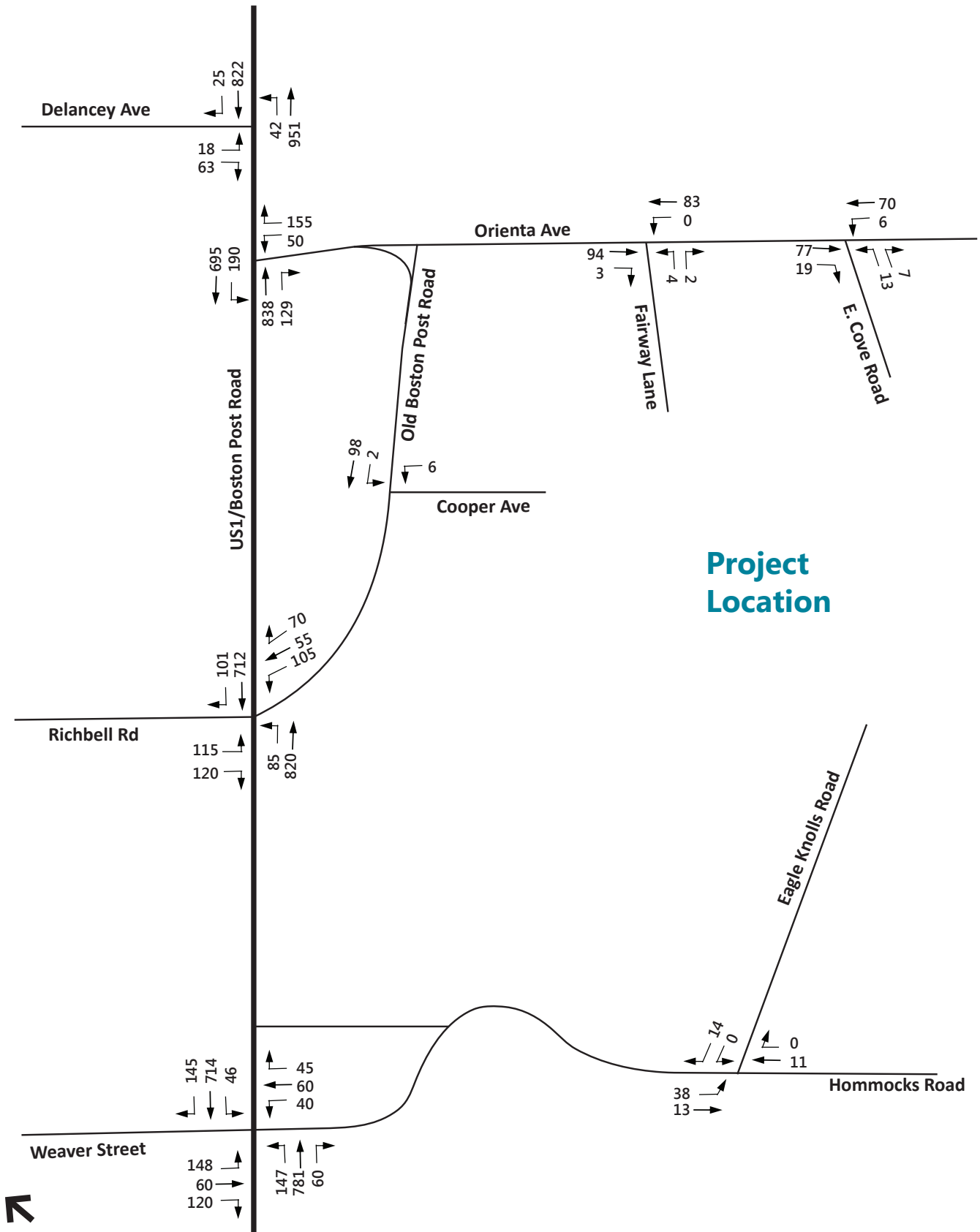
**Count Locations**



Hampshire Country Club - PRD | Village of Mamaroneck, NY

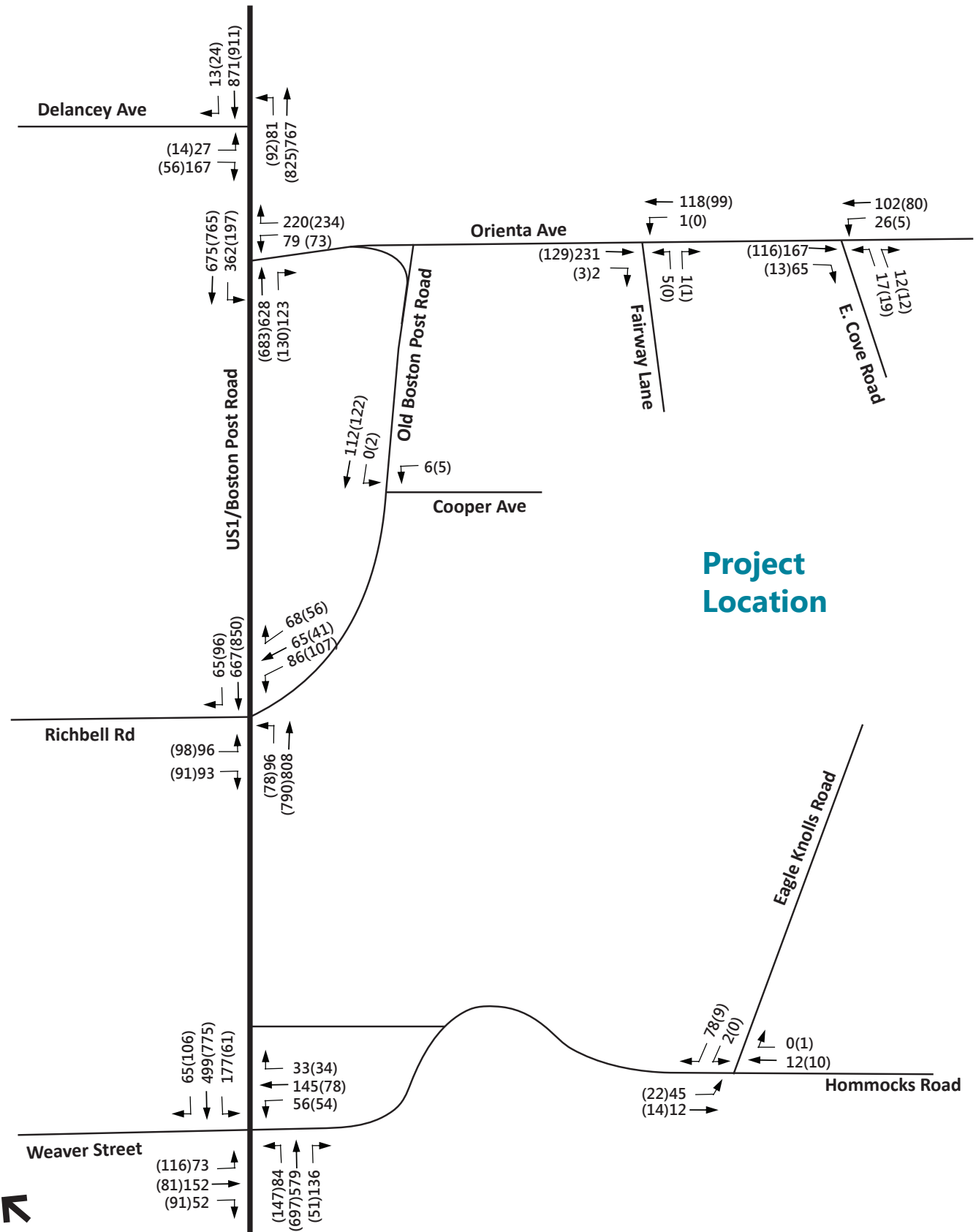
**Existing Weekday Peak Hour  
Traffic Volumes**





\\vhb\proj\WhitePlains\28677.02HampshireSubdivision\graphics\FIGURES\TrafficMaps\3MTrafficFigures\_12\_16\_16.indd





NOT TO SCALE

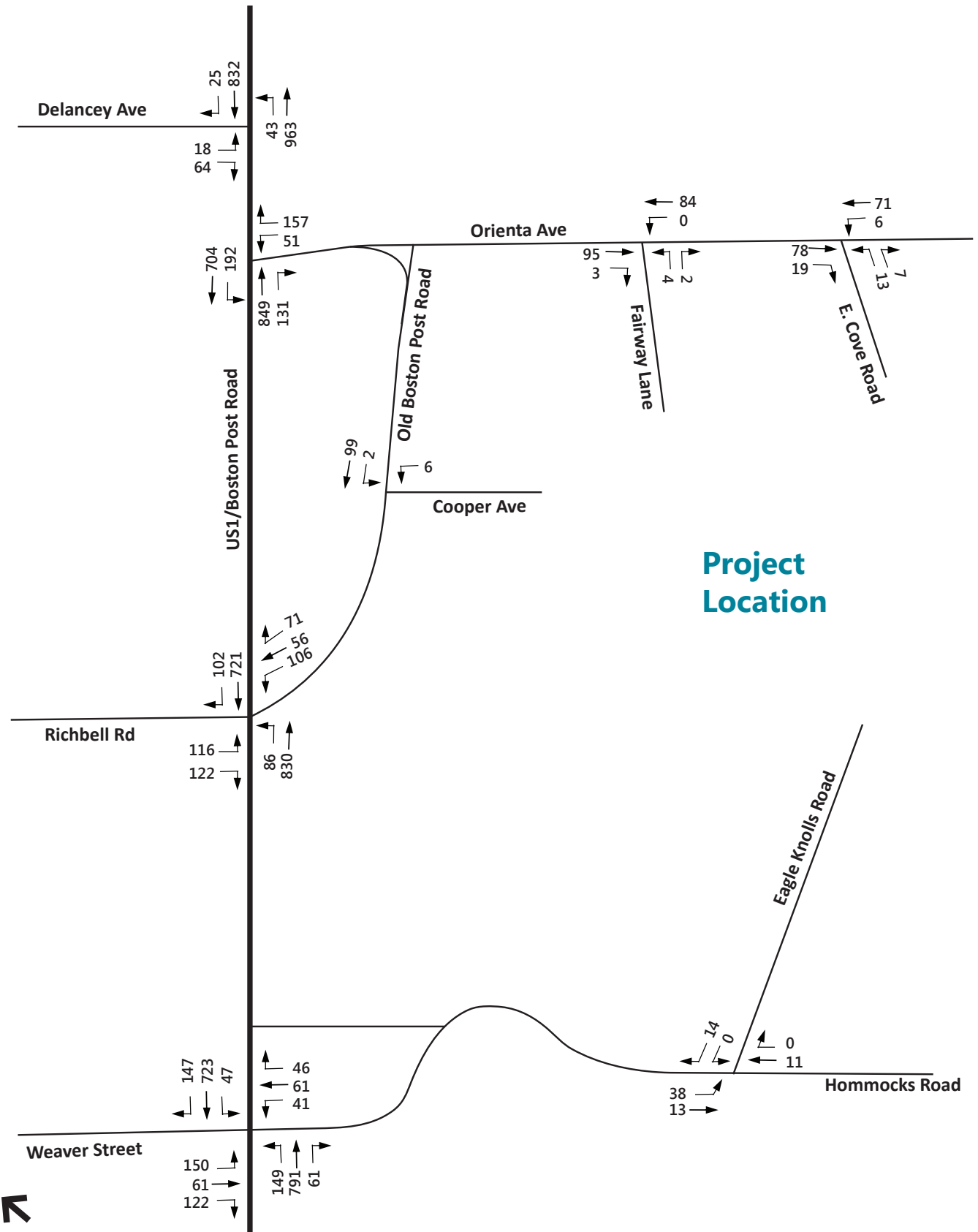
### Hampshire Country Club - PRD | Village of Mamaroneck, NY

00= AM Peak Hour

(00)=PM Peak Hour

**Grown Weekday Peak Hour  
Volumes**

\\vhb\proj\WhitePlains\28677.02HampshireSubdivision\graphics\FIGURES\TrafficMaps\3MTrafficFigures\_12\_16\_16.indd



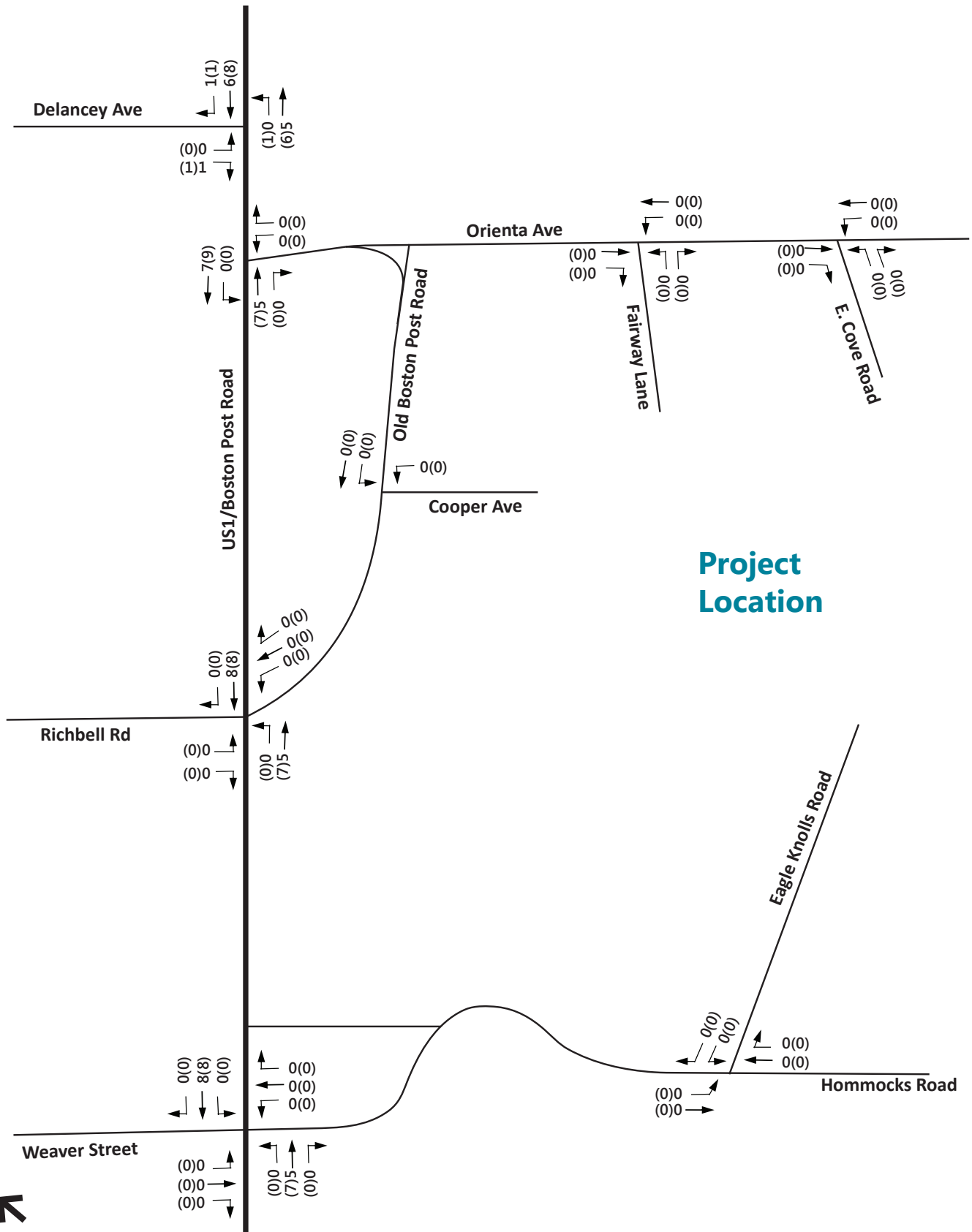
\\vhb\proj\WhitePlains\28677.02HampshireSubdivision\graphics\FIGURES\TrafficMaps\3MTrafficFigures\_12\_16\_16.indd



NOT TO SCALE

Hampshire Country Club - PRD | Village of Mamaroneck, NY

Grown Saturday Peak Hour  
Volumes



NOT TO SCALE

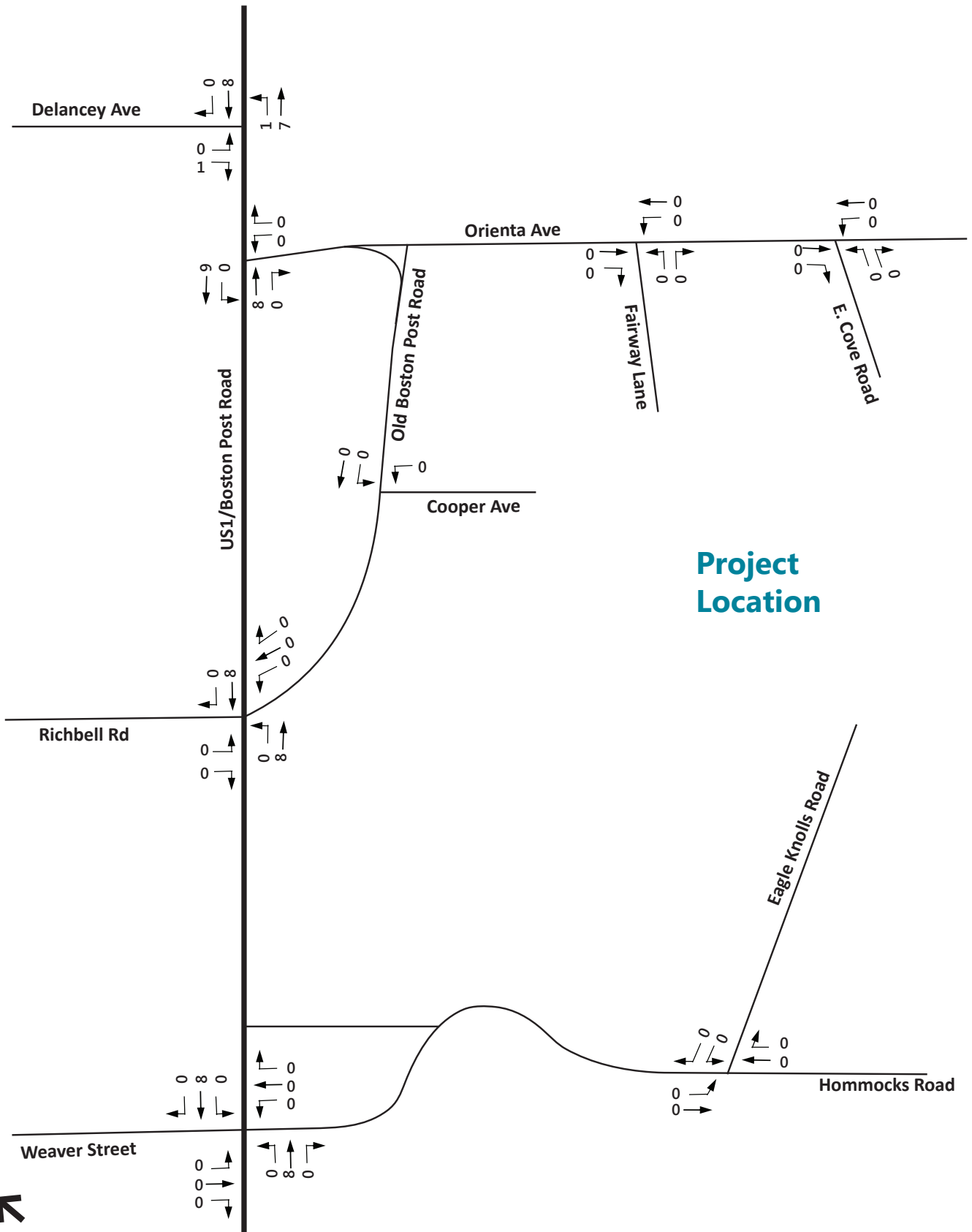
Hampshire Country Club - PRD | Village of Mamaroneck, NY

00= AM Peak Hour

(00)=PM Peak Hour

**Vicinity Development  
Weekday Hour Volumes**

\\vhb\proj\WhitePlains\28677.02HampshireSubdivision\graphics\FIGURES\TrafficMaps\3MTrafficFigures\_12\_16\_16.indd



**Project  
Location**

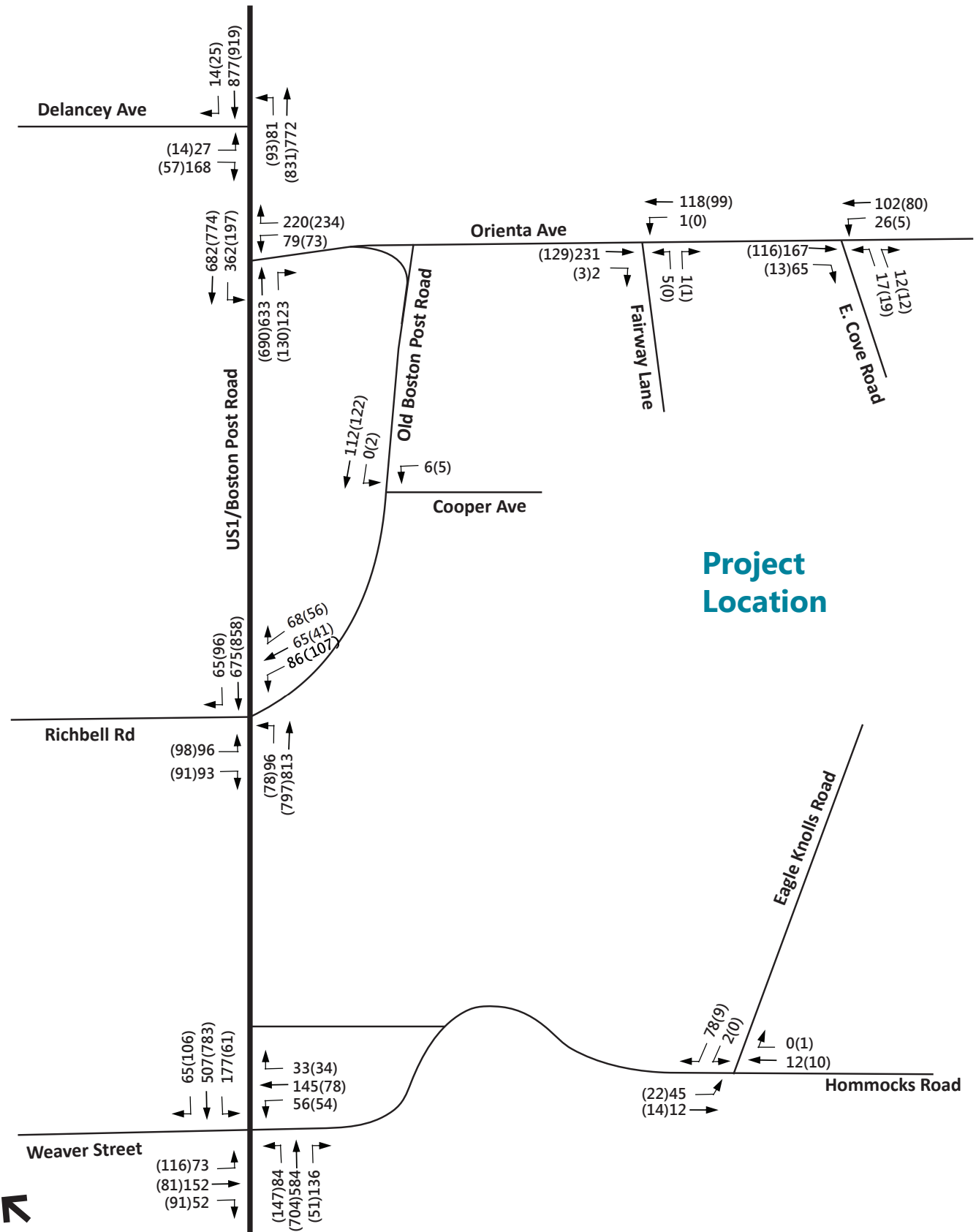


NOT TO SCALE

Hampshire Country Club - PRD | Village of Mamaroneck, NY

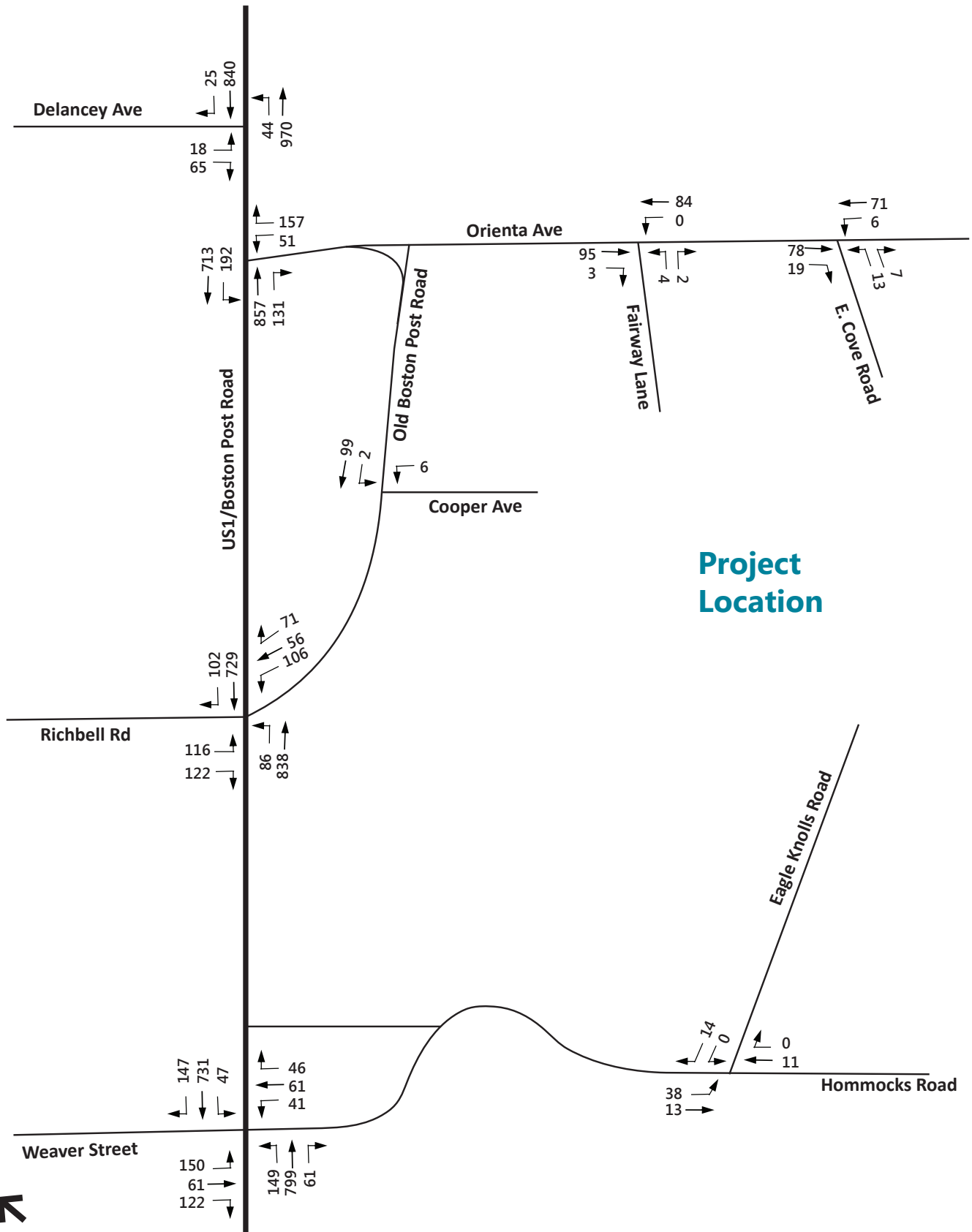
**Vicinity Development Saturday  
Peak Hour Volumes**



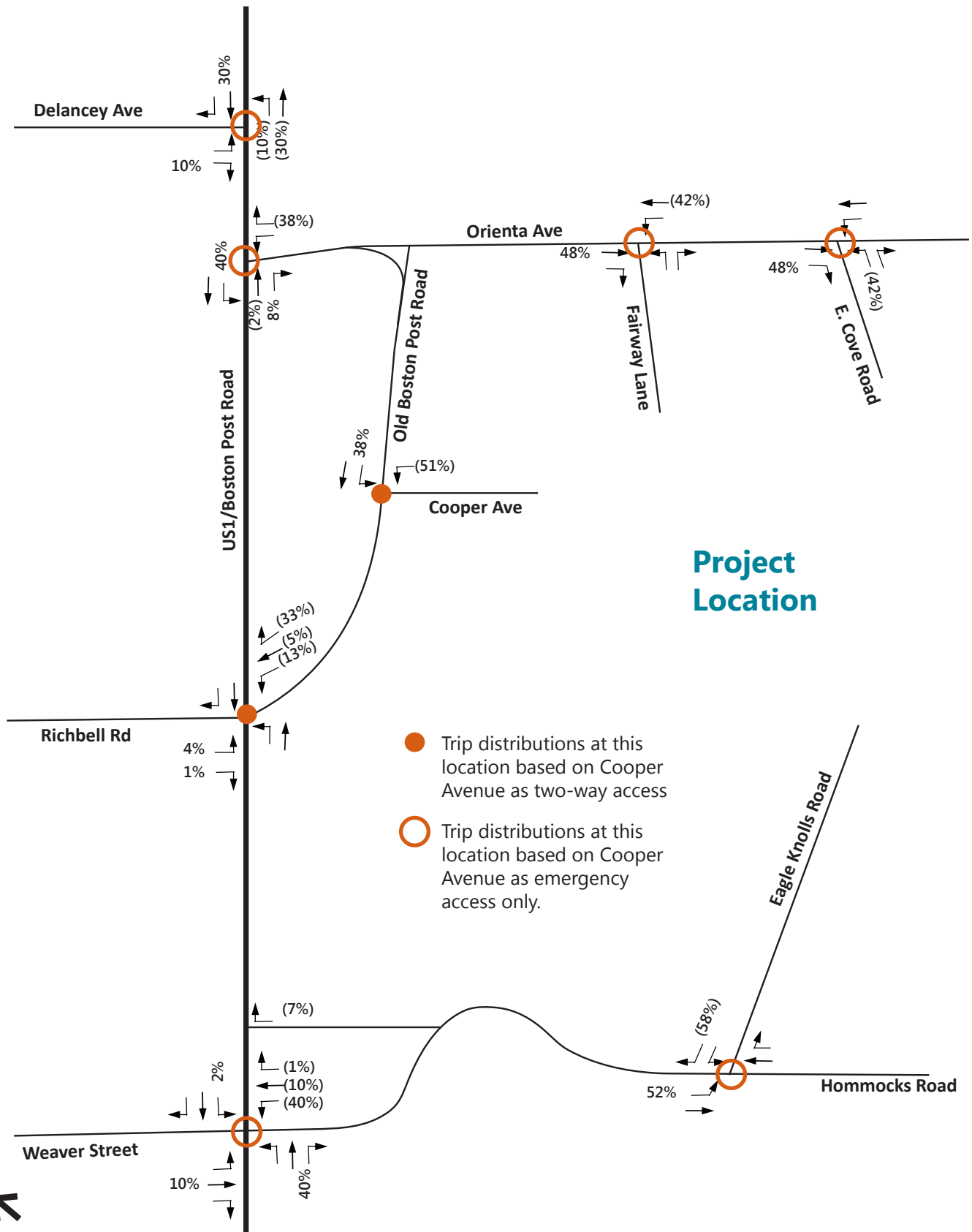


Hampshire Country Club - PRD | Village of Mamaroneck, NY

**No-Build Weekday Peak Hour  
Traffic Volumes**



\\vhb\proj\WhitePlains\28677.02HampshireSubdivision\graphics\FIGURES\TrafficMaps\3MTrafficFigures\_12\_16\_16.indd



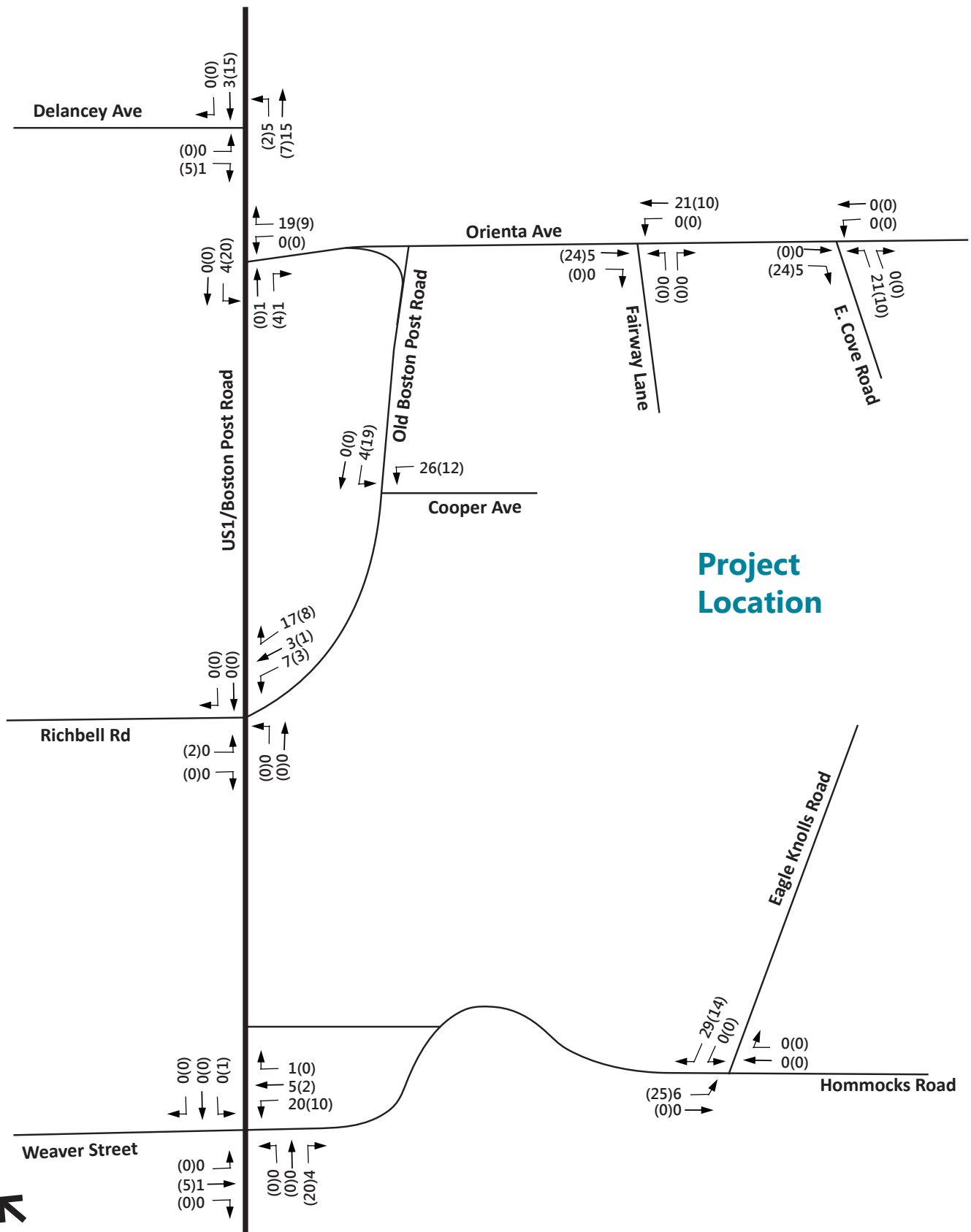
## Project Location

Hampshire Country Club - PRD | Village of Mamaroneck, NY

00= Arrival

(00)=Departure

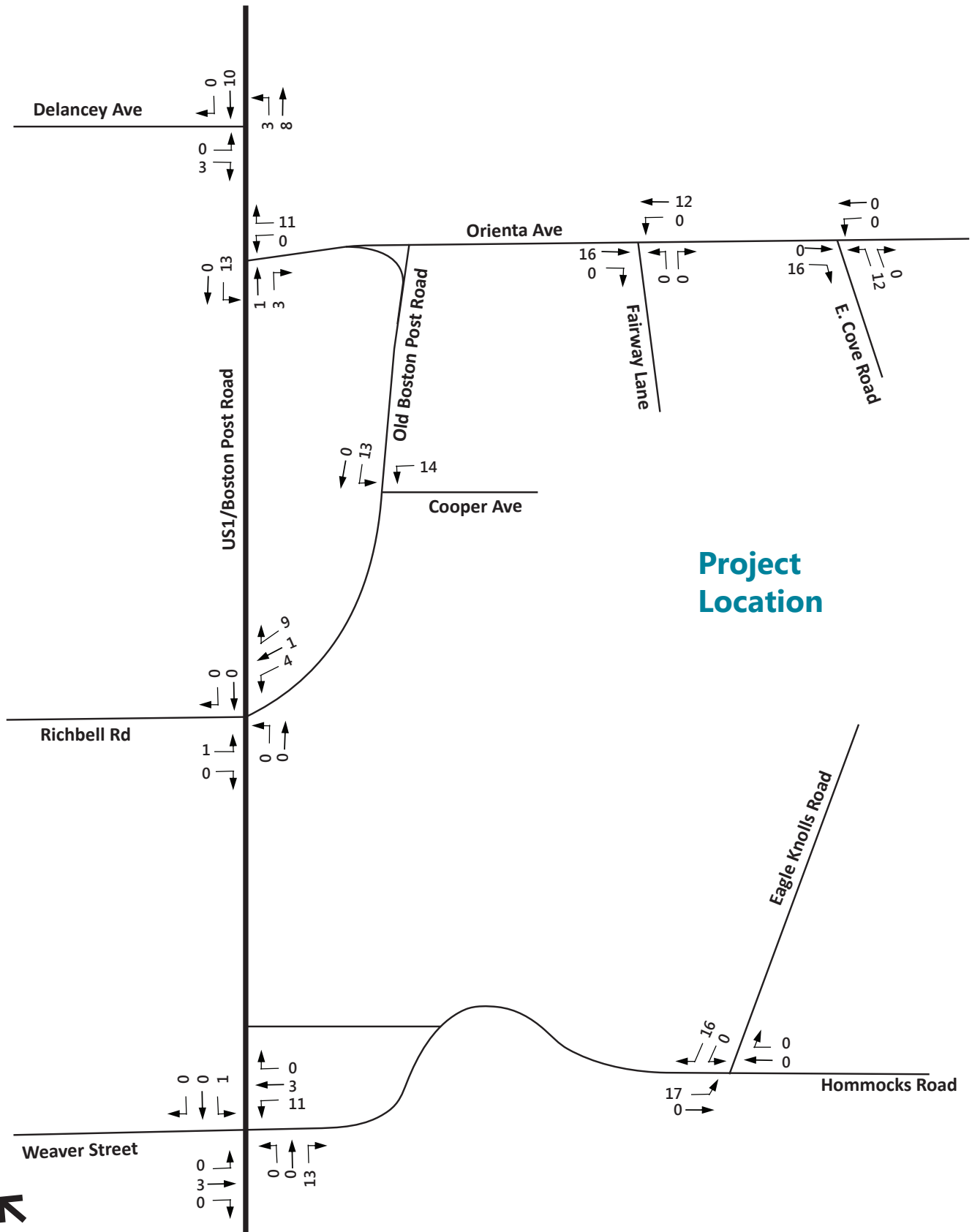
**Trip Distributions**



Hampshire Country Club - PRD | Village of Mamaroneck, NY

**Project Generated Weekday  
Peak Hour Volumes**





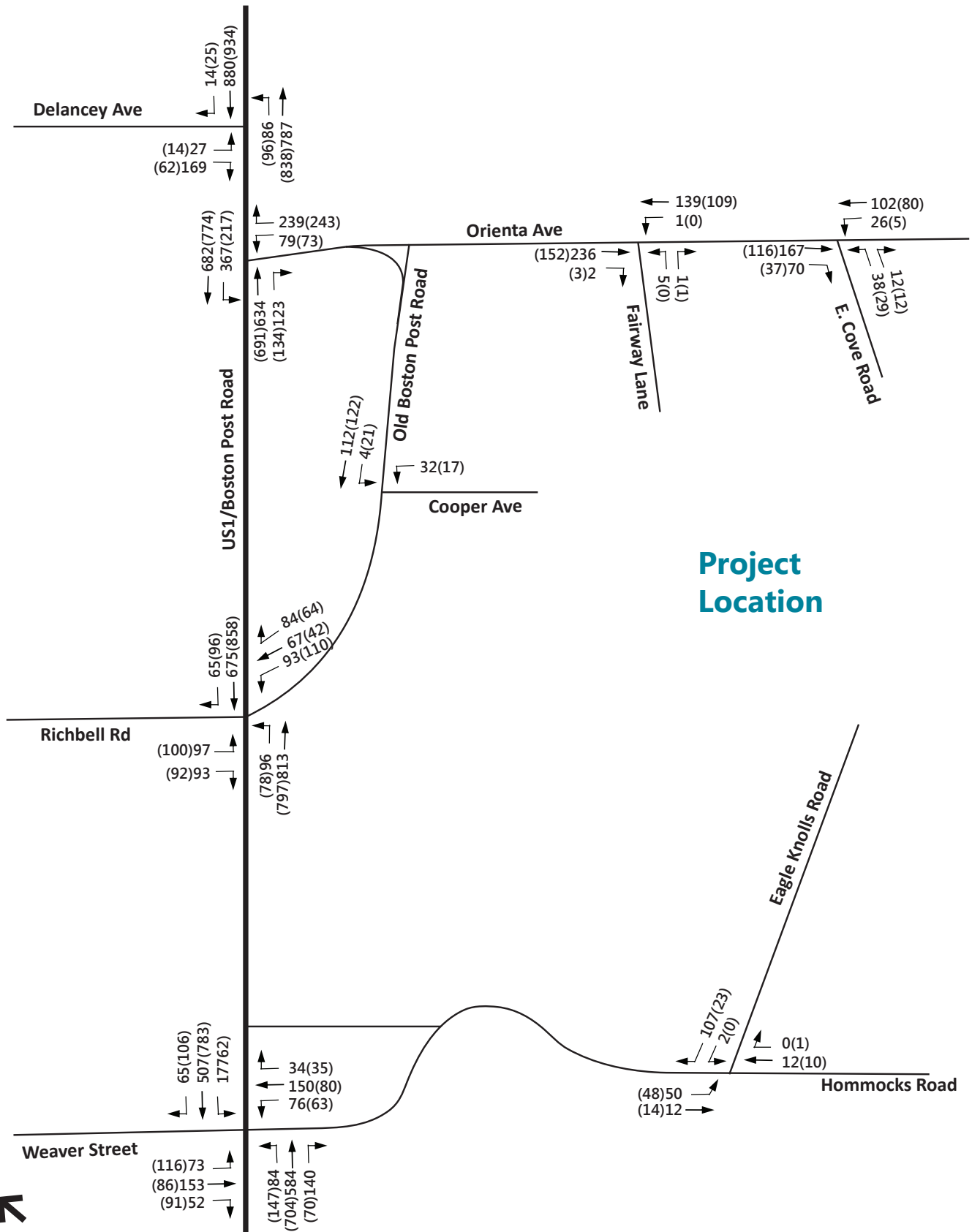
\\vhb\proj\WhitePlains\28677.02HampshireSubdivision\graphics\FIGURES\TrafficMaps\3MTrafficFigures\_12\_16\_16.indd

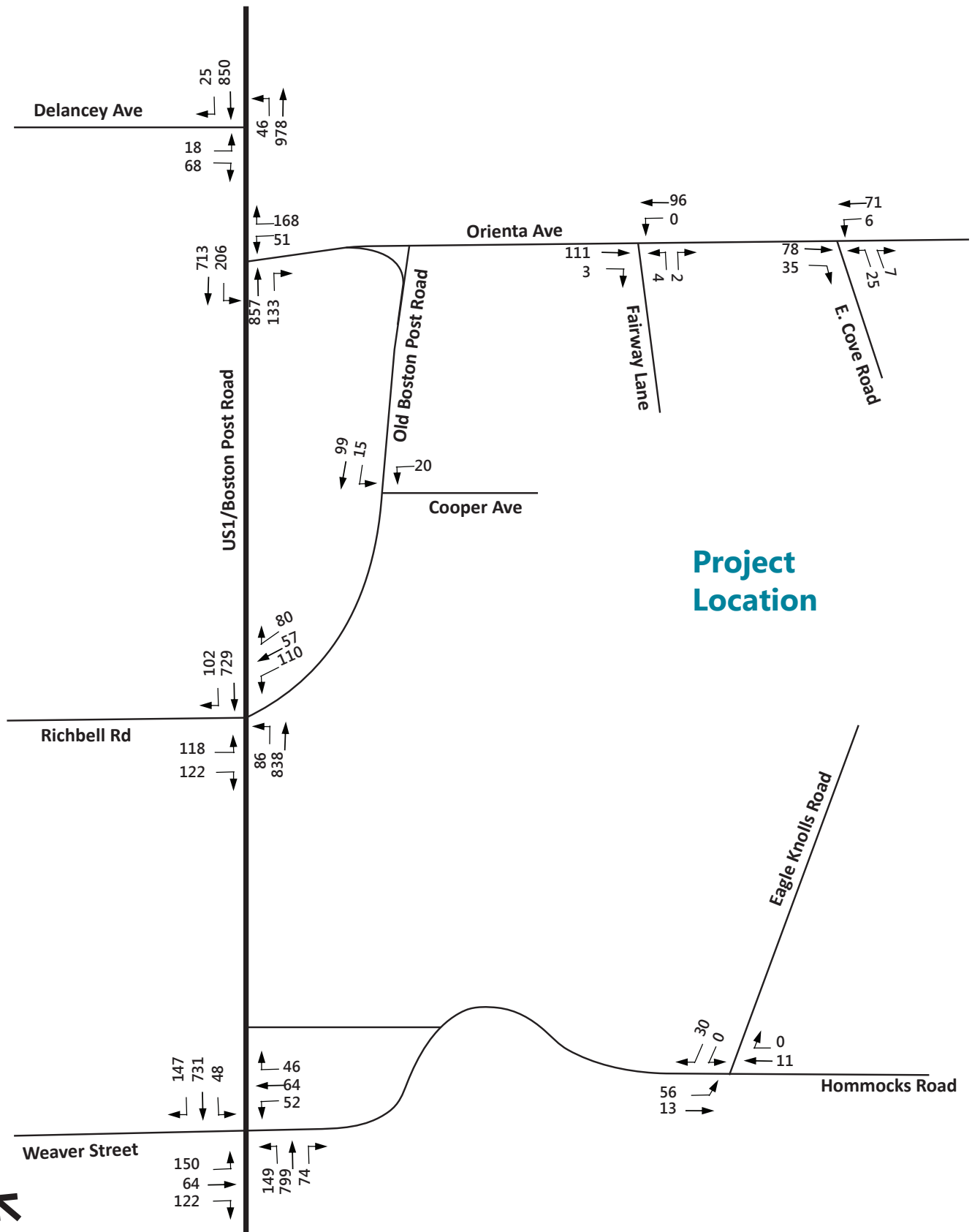


NOT TO SCALE

Hampshire Country Club - PRD | Village of Mamaroneck, NY

Project Generated Saturday  
Peak Hour Volumes





\\vhb\proj\WhitePlains\28677.02HampshireSubdivision\graphics\FIGURES\TrafficMaps\3MTrafficFigures\_12\_16\_16.indd



## N. COMMUNITY DEMOGRAPHICS, FACILITIES, AND SERVICES

Letters were sent to community service providers (schools, police, fire, and EMS) to inquire as to current facilities and services and as to potential issues or impacts of the Proposed Action. These letters and the responses received are included in Appendix [NK](#). Local youth leagues were also contacted, though no responses were received. [Despite follow up, no response was received from the Mamaroneck Union Free School District.](#)

### 1. Existing Conditions

#### a) Demographics

The following information was gathered from the United States Census and the 2014 American Community Survey 5-Year Estimates.

The population of the Village of Mamaroneck was 19,133 in 2014. This is an increase of 1% over the 2010 population of 18,929. In fact, the Village has seen a subtle but steady increase in population over the last two decades, as demonstrated in Table 3N-1 below.

**Table 3N-1 Village of Mamaroneck Population**

1990	2000	2010	2014
17,325	18,752	18,929	19,133

*Source: 1990, 2000, 2010 U.S. Census; 2010-2014 American Community Survey 5-Year Estimates*

Of the total population, 10,112 residents are female and 9,021 are male. 31% of the population falls within the age brackets of 35 to 44 years old (2,735 residents) and 45 to 54 years old (3,132 residents); the median age is 42.3 years old.

The racial and ethnic breakdown of the Village is as follows: 78.5% of the population is White; 5.9% is Black; 5.6% is Asian; 9.8% is some other race; and 18.2% of the population is Hispanic or Latino (of any race).

There are 7,988 housing units in the Village. The homeowner vacancy rate is 2.8% and the rental vacancy rate is 3.0%. For comparison, the Westchester County homeowner vacancy rate is 1.8% and the rental vacancy rate is 6.0%. Of the total housing units, 43% are single-family detached homes, 17.6% are two-family, and another 17.6% are found within large multi-family developments of 20 or more units. The Village contains an old housing stock; 80% of housing units are within structures built in 1939 or earlier. The median value of an owner-occupied unit in the Village is \$578,900, slightly higher than the \$509,200 median value in Westchester County.





89.1% of the Village population attained a high school degree or higher. The median household income is \$85,865, comparable but slightly higher than the county median income of \$83,422. Roughly 68.4% of the population 16 years and over is in the labor force; of those residents in the labor force, 92% are employed. 31.6% of the population 16 years and over are currently out of the labor force.

## **b) Open Space and Recreation**

The Project Site currently contains a private open space and recreation use, the Hampshire Country Club golf course, and has been in continual operation as a golf course since it opened in the late 1920's. Hampshire Country Club is the Village's only golf course, although there are several other golf clubs in neighboring municipalities, including Bonnie Briar Country Club, Winged Foot Golf Club, Quaker Ridge Golf Club, and Rye Golf Club. Hampshire Country Club is a private club with no public access; other private clubs in the Village include the Orienta Beach Club, Beach Point Club, and Mamaroneck Beach and Yacht Club. Hampshire Country Club also includes an outdoor pool and tennis courts. No public trails are located on the Project Site.

The Village of Mamaroneck requires new residential developments to reserve adequate park and recreational facilities to meet any identified increased need for recreational resources associated with the addition of 105 residential units to the Orienta neighborhood. In the event there is an identified increase in the demand for recreational resources as a result of a development, the development may pay a fee to the Village in lieu of providing on-site recreational space.

Specifically, Section A348-13 of the Village Code authorizes the Planning Board to reserve land in a subdivision for park, playground or other recreational purposes, or to impose a fee in lieu of land, where it is shown there is no suitable land within the subdivision for recreational space. (Village Code §§ A348-13(B)(3).

The Village of Mamaroneck has several parks and recreational facilities available to the public. Exhibit 3N-1, Open Space, contains a map of nearby open space resources, both public and private. Harbor Island Park, the Village's largest park at 44 acres, is located within a quarter-mile of the Project Site and contains a playground apparatus, beach, pavilion, boat launch, tennis club, and sports fields. Other public open spaces within the Village include: Columbus Park, containing a playground and basketball courts (1.25 miles from the Project Site); Florence Park, containing sports facilities and a jogging/walking path around the perimeter (1.6 miles from the Project Site); Warren Avenue Park, containing a playground, trails, and sports facilities (2.2 miles from the Project Site); and playground apparatus at Jefferson Avenue Park, Stanley Avenue Park, and Ward Avenue Park.

The Town of Mamaroneck also contains various open space resources within a quarter-mile of the Project Site, including Flint Park, which holds several sports facilities, and the Hommocks Conservation Area, a 7.6-acre preserved area with woodland paths, meadows, and a salt marsh. The Hommocks Middle School also contains some outdoor recreational facilities.



Nearby trails and bike paths include the Guion Creek Nature Trail along Shore Acres Drive, a small walking path along the stream at Ward Avenue Park, and a forested trail three-quarters of a mile in length located in the 35-acre Otter Creek Preserve, adjacent to Van Amringe Millpond. As mentioned, there are also walking paths in the Hommocks Conservation Area.

Commercial recreational venues near the Project Site are generally located along Boston Post Road and include several Pilates and Yoga studios, the Equinox gym located just north of the Hampshire golf course, and personal training facilities. Several other venues are located along Mamaroneck Avenue, including a martial arts studio and several training or gym facilities, such as New York Sports Club and NY Strong. All facilities are easily accessible from the Project Site.

Hommocks Park Ice Rink and Hommocks Pool are located immediately adjacent to Hommocks Middle School, to the northwest of the Project Site in the Town of Mamaroneck. The two facilities are managed by the Town of Mamaroneck Department of Recreation. Hommocks Pool receives approximately 11,000 patrons per month, while the ice rink receives approximately 9,000 patrons per month.<sup>1</sup> The ice rink offers lessons, youth leagues, and hockey leagues for all ages, in addition to public skating time and equipment rentals. The pool hosts various swimming and aqua fitness lessons in addition to open pool time for the public. According to the Recreation Department, Hommocks Pool's outdoor training pool often reaches its capacity of 100 people during the summer months; summertime weekdays are busy in general given the variety of programming listed above. The rink faces capacity issues during High School playoff games, which fall at the end of March. Approximately 140 students participate in the ice rink's Youth Hockey League.

With respect to sports league enrollment, letters were sent to the local youth sports leagues in Mamaroneck. However, no response was received.

### c) Police

Police protection and services are currently provided to the Project Site by the Village of Mamaroneck Police Department, headquartered at 169 Mount Pleasant Avenue, approximately 1.5 miles north of the existing clubhouse. The location of the Police headquarters is indicated on Exhibit 3N-2, Community Facilities.

According to the 2015-2016 Village of Mamaroneck Adopted Budget, the Police Department is organized into a number of units, including patrol, investigations, support, bicycle, traffic, youth bureau, marine, domestic violence, parking enforcement, and watch persons. The Department had a total 2015 budget of \$7,540,226. The bulk of the expenditures, \$6,854,628 or approximately 91%, are for personal personnel services (i.e. staff pay). According to the document, the Police Department has 53 positions

<sup>1</sup> Letter Response from the Town of Mamaroneck Recreation Department, dated: February 25, 2016 (see Appendix NK)



within the department. For security reasons, the department was unable to confirm or provide details on staff size, organization, equipment, station locations, and average response time to the Project Site.<sup>2</sup>

#### **d) Fire and EMS**

For fire services, the Project Site is in a developed portion of the Village and includes existing buildings that are protected by the Village of Mamaroneck Fire Department. According to the 2015-2016 Adopted Budget, the Fire Department consists of five companies that operate out of four fire stations. The department is a volunteer force staffed with over 200 volunteers. Department equipment includes five Engines, two Aerial Trucks, two Utility Trucks, three Chief's Vehicles, and one Fire Boat. The department responds to approximately 800 fire emergencies per year. The closest fire station is at the intersection of Mamaroneck Avenue and Palmer Avenue, approximately one mile to the north (See Exhibit 3N-2 Community Facilities).

The Fire Department had a total budget of \$652,850 in 2015. The bulk of its expenses are for equipment and contractual expenses (e.g., auto repairs, fuel, utilities).

The Project Site is also served by the Volunteer Mamaroneck Emergency Medical Service (MEMS). MEMS, with a membership of 65 volunteers, operates one Advanced Life Support ambulance 24 hours a day, 365 days per year, and one Basic Life Support unit available for standbys and emergency conditions. The MEMS headquarters is located at 220 North Barry Avenue Extension, just off of Mamaroneck Avenue and approximately 2.5 miles north of the Project Site. The Town of Mamaroneck Ambulance District provides one paid professional paramedic for the MEMS first due unit. MEMS is dispatched through the Westchester County Department of Emergency Services.<sup>3</sup>

The Village budgeted \$78,001 for Ambulance Services in 2015, including building improvement and contract services. In that year alone, MEMS responded to over 1,600 calls for service including emergencies and event standbys. Call volume has consistently increased year over year. The average response time for calls for service within the Village of Mamaroneck is between three and eight minutes.

Emergency vehicles have existing access to the Project Site from the southwest via Eagle Knolls Road and from the southeast via Cove Road.

#### **e) Schools**

The Project Site is located within the Mamaroneck Union Free School District (MUFSD), which administers six schools: four neighborhood elementary schools (Central School, Chatsworth Avenue

---

<sup>2</sup> Email Response from the Village of Mamaroneck Police Department, dated: February 10, 2016 (see Appendix

~~(N/A)~~

<sup>3</sup> Email Response from the Mamaroneck Village Emergency Medical Service: March 30, 2016 (see Appendix

~~(N/A)~~

School, Mamaroneck Avenue School, and Murray Avenue School), Hommocks Middle School, and Mamaroneck High School. The elementary schools serve students in pre-kindergarten through grade five, the Middle School serves grades six through eight, and the High School serves grades nine through twelve. The District includes residents of the Village of Larchmont, the Village of Mamaroneck, and the Town of Mamaroneck. There are ~~two~~three private schools located in the Village of Mamaroneck, Westchester Day School, the French-American School of New York and Westchester Hebrew High School (See Exhibit 3N-2, Community Facilities). Students generated by the Proposed Action attending public school would attend Central School, Hommocks Middle School, and Mamaroneck High School.

The Westchester Putnam School Board Association reports a district-wide enrollment of 5,274 pupils for the 2015-2016 school year - an increase from the 5,205 pupils reported for 2014-2015 school year in MUFSD. Historically, the school district has seen measured enrollment increases, with the student population growing from 4,818 students in 2002-2003 to 5,166 in 2011-2012 (an increase of 348 students, or 7%, over 9 years.)

**Table 3N-2 Enrollment by School, Mamaroneck Union Free School District**

School Name	Grade Levels	2015-2016 Enrollment
Central School	K-5	487
Chatsworth Avenue School	K-5	644
Mamaroneck Avenue School	K-5	723
Murray Avenue School	K-5	681
Hommocks Middle School	6-8	1,206
Mamaroneck High School	9-12	1,533
TOTAL		5,274

Source: Proposed Budget of the Board of Education, Mamaroneck Public Schools, 2015-2016 School Year

According to a 2013 report by Hudson Valley Pattern for Progress titled "The Empty Classroom Syndrome," only 18 of 42 districts in Westchester are projected to exhibit growth between 2010 and 2020. Mamaroneck is one of those districts, projected to increase by 4% in that time period.<sup>4</sup>

Historic enrollment data was obtained from NYSED Student Information Repository System (SIRS) dating back to 2010-2011, exhibited in Table 3N-3 below. As indicated, enrollment numbers dropped in Central School and Mamaroneck High School after the 2010-2011 school year, and only this year have they surpassed the enrollment from five years ago. Overall, enrollment has not increased dramatically for any of the schools in the table below in the past five year. Additionally, though not shown below, enrollment in the Central School actually peaked in the 1998-1999 school year at 537 students.

<sup>4</sup> The Empty Classroom Syndrome, Hudson Valley Pattern for Progress (May 2013).





**Table 3N-3 Mamaroneck Schools Enrollment History**

School Name	Grade Levels	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016
Central School	K-5	485	473	459	457	474	487
Hommocks Middle School	6-8	1,111	1,129	1,139	1,166	1,203	1,206
Mamaroneck High School	9-12	1,501	1,460	1,475	1,468	1,482	1,533

Source: NYSED Student Information Repository System (SIRS)

The 2015-2016 budget for the Mamaroneck Union Free School District is \$133,898,902, of which \$117,043,027 (or approximately 87%) comes from the local property tax levy. With a current enrollment of 5,274 students, total budgeted expenditures per pupil is approximately \$25,389. The total budgeted cost per student funded by the local property tax levy is \$22,192.

**Table 3N-4 Cost Per Pupil (2015-2016)**

A 2015-2016 Budget	B District Enrollment	C Cost Per Pupil (A÷B)
\$133,898,902	5,274	\$25,389

**Table 3N-5 Tax Levy Per Pupil (2015-2016)**

A Local Tax Levy Funds	B District Enrollment	C Tax Levy Per Pupil (A÷B)
\$117,043,027	5,274	\$22,192

While the average total per-pupil costs are useful metrics for certain tasks, such as overall district budgeting, it is not appropriate for evaluating the marginal cost of educating a new student in situations where no new facility construction is required. This is because the average cost includes fixed administrative and capital expenditures that are not affected by the introduction of new students (e.g., superintendent salary, building maintenance and service costs, debt service, etc.) Program costs provide a more accurate assessment of the incremental cost of educating additional students generated by new residences, although it is still conservative as costs do not increase in a direct ratio.

The program component includes instructional-related activities such as the regular education and special education programs, guidance, extracurricular activities, and transportation services, among others. As identified in the district budget, program costs account for approximately \$96,350,408, or 72% of the total budget and a cost per pupil of approximately \$18,268.



As demonstrated below, only a portion of this cost is currently paid for from the local property tax levy. The portion of the program costs paid by the local real estate property tax is approximately \$15,893 per pupil. Non-property tax revenue sources, such as State Aid, make up approximately 13% of the school district's revenue.

**Table 3N-6 Program Costs and Tax Levy Per Pupil (2015-2016)**

<b>A</b> <b>Program</b> <b>Costs (72% of</b> <b>total budget)</b>	<b>B</b> <b>District</b> <b>Enrollment</b>	<b>C</b> <b>Program Cost</b> <b>Per Pupil</b> <b>(A ÷ B)</b>	<b>D</b> <b>% Paid by</b> <b>Local Tax</b> <b>Levy</b>	<b>E</b> <b>Per Pupil</b> <b>Program Costs</b> <b>Paid by Local Tax</b> <b>Levy (C x D)</b>
\$96,350,408	5,274	\$18,268	87%	\$15,893

**f) Other Community Services**

Other community services surrounding the Project Site include libraries, day care centers, and medical facilities. The Mamaroneck Public Library is located at the corner of Prospect Avenue and Library Lane, about one mile north of the Project Site. Table 3N-7 below shows the name and location of local day care centers serving the Village of Mamaroneck.

**Table 3N-7 Mamaroneck Day Care/After-School Centers**

<b>Facility</b>	<b>Address</b>
Children's Corner Before- and After-school Program	130 Hommocks Road
Kathy's Kids Day Care, Inc.	1215 Henry Avenue
Keeps Inc. After School Child Care	168 West Boston Post Road
Kidz Korner of Mamaroneck, Inc.	705 North Barry Street
Liberty Montessori School	631 West Boston Post Road
Little Feet First Day Care	814 Hall Street
Little Flower Nursery School	110 Spruce Street
Little Sweethearts Day Care	929 Lester Avenue
Mamaroneck Child Development Center	134 Center Avenue
Mamaroneck Community Nursery School Toddler Center	122 Fenimore Road
My Gym Larchmont Child Care	1030 West Boston Post Road
Nana's Kids Child Care	615 Mamaroneck Avenue
Sakura Gakuen Day Care	16 Halstead Avenue
Westchester Jewish Center Nursery School	175 Rockland Avenue



The closest hospital to the Project Site is the Montefiore New Rochelle Hospital, located at 50 Guion Place, New Rochelle, a little over four miles away. The table below provides a list of other medical facilities and resources nearby.

**Table 3N-8 Medical Facilities**

Facility	Facility Type	Address
Larchmont Women's Center	Women's health clinic	2345 Boston Post Road, Larchmont
PM Pediatrics Westchester	Specialized urgent care	620 East Boston Post Road, Mamaroneck
The Sarah Neuman Center	Rehab and long-term nursing home care	845 Palmer Avenue, Mamaroneck
MDXpress	Urgent care facility	1030 West Boston Post Road, Mamaroneck
St. Vincent's Hospital Westchester	Mental healthcare facility	275 North Street, Harrison
Burke Rehabilitation and Outpatient Clinic	Physical therapy clinic	703 West Boston Post Road, Mamaroneck

## 2. Future without the Proposed Project

In a future without the proposed project, the previously described demographics and Village services would represent the baseline condition in the Village of Mamaroneck in the short term. As discussed in Section Chapter 3A, current economic and financial factors at the Project Site driving the need for the proposed development would continue in the future. These factors include a downward trend in golfing over the past decade consistent with regional and national trends on both public and private courses as well as Hampshire Country Club's recent financial performance. The club reported annual operating losses since the current owners purchased the Club in 2010. This data establishes that it would be difficult for the membership club at Hampshire Country Club to remain viable without the introduction of other revenue sources. The Applicant has determined that downsizing the golfing recreational use and improving the rest of the Project Site with a residential development is the best permissible option under existing zoning to counteract these economic trends.

In the long term, without the Proposed Action, the golf course and membership club would not be a sustainable business. Operations of the club, and the continual provision of recreational space at the Project Site, would cease, eliminating a valued recreational facility within the community.

### 3. Potential Impacts

#### a) Demographics

The addition of 105 new residential units is projected to bring approximately 335 residents to the Project Site, as demonstrated in Table 3N-9. If all of these residents were new to the Village of Mamaroneck, the population of the Village would increase approximately 1.8% based on the Village's 2014 population of 19,133. The number of housing units in the Village would increase approximately 1.3% based on the 2014 American Community Survey estimates. The development would also contribute to an updated housing stock. It is anticipated that the proposed residential units, both single-family homes and townhomes, would attract young families to the Village. The Applicant does not anticipate significant impacts to any other demographic metrics discussed in this chapter.

**Table 3N-9 Proposed Action Resident Population Projections**

Unit Type	Number of Units	Multiplier	Total Projected Persons
4-bedroom Single-Family Home	44	3.67	162
3-bedroom Carriage Home	61	2.83	173
<b>TOTAL</b>	<b>105</b>		<b>335</b>

Source: Rutgers University, Center for Urban Policy Research: Residential Demographic Multipliers - Estimates of the Occupants of New Housing, June 2006 (New York, Total Persons in Units, Single-Family Detached, 4 BR, More than \$329,500 and Single-Family Attached, 3 BR, More than \$269,500)

#### b) Open Space and Recreation

The Proposed Action would result in the loss of a portion of the private recreational use on-site, the golf course, which is currently open to Hampshire Country Club members only. The Applicant believes, however, that the proposed nine-hole golf course to be maintained on the Project Site, supplemented by the concentration of private golf club alternatives in adjacent municipalities, would accommodate any resident looking to participate in golf as a recreation activity. The swimming pool and tennis courts would remain in use to serve current and future country club members.

In place of a portion of the private recreational use, the proposed project would include 36 acres of shared open space to serve the future residents of the Planned Residential Development. These open spaces would provide passive recreational opportunities in addition to vegetative buffers separating the proposed development from the existing surrounding neighborhoods, as depicted in the proposed Landscaping Plan (see Exhibit 3N-3a and b).





In addition, the Project Site is well-served by surrounding public open space resources, offering opportunities for both active and passive uses. The Proposed Action is not expected to significantly impact existing public spaces and recreational facilities, including Hommocks Pool and Hommocks Park Ice Rink, since new residents at the development would comprise less than 2% of the Village's current population, and less than 1% of the combined Village and Town of Mamaroneck population, the total population served by the pool and ice rink. Based on this percentage, it is anticipated Hommocks Pool and Hommocks Park Ice Rink could see the number of monthly patrons increase by approximately 1% as a result of the Proposed Action, or 110 monthly patrons and 90 monthly patrons respectively.

Moreover, the proposed project's 36 acres of shared open space providing for passive recreational opportunities is also expected to meet any incremental increase in demand for recreational areas created by the residential development. In addition, it is anticipated that with reduced membership rates offered to residents, many will enroll as members in the club and be able to utilize the 9-hole golf course, seven tennis courts, pools and other club facilities, further reducing the demand on municipal recreational areas.

The Recreation Department expressed concerns regarding parking capacity at the pool and ice rink<sup>5</sup>. However, given the Project Site's proximity to these facilities and easy access via Hommocks and Eagle Knolls Roads, it is not anticipated to generate a significant parking need. In addition, the Recreation Department expressed concern regarding capacity at the pool and ice rink during their peak seasons, as well as concerns regarding traffic on Hommocks Road. As detailed in Chapter 3M, the Proposed Action will only add a few trips to Hommocks Road during the peak hours, or approximately 1 additional vehicle every two minutes in the worst-case conditions. However, the peak activity periods for Hommocks Pool and Ice Rink do not typically coincide with the roadway weekday AM and PM peak hours or the Saturday peak hour. As mentioned, it is also anticipated that some of the residents of the proposed development will walk or bike to the Hommocks Pool and Ice Rink facilities. In addition, some it is anticipated that many of the future new residents may use the existing pool and tennis courts at the Hampshire Country Club, which would remain in use and open to existing and future club members and would lessen the burden on these facilities.

Using current enrollment of 140 students in the Youth Hockey League as a comparison, and considering that, as mentioned, new residents at the development would comprise less than 2% of the Village population, it is anticipated that enrollment in each of the youth sports leagues that serve the Village could increase by approximately two to three students.

<sup>5</sup> Letter Response from the Town of Mamaroneck Recreation Department, dated: February 25, 2016 (see Appendix ~~NK~~)

### c) Police

The addition of 105 new residential units would generate approximately 335 residents at the Project Site, according to Table 3N-9 above. The 1.8% increase over the 2014 population likely would result in a proportionate increase in demand for police services, which includes an increase of 0.67 police personnel, 67 square feet of facility space, and 0.07 vehicles, according to the planning standards published in the Urban Land Institute's Development Assessment Handbook<sup>6</sup>. As the quantified impacts are marginal, these projected increases are not considered significant. Additional taxes generated from the Proposed Action are anticipated to cover the cost of these additional police services. The projected Village taxes are \$1,304,928 annually, as detailed in Chapter 30, Fiscal and Economic Conditions.

Access to the Project Site would be provided at three locations: Eagle Knolls Road would provide access to the southern cluster of carriage homes; the extended Cove Road from the southwest would provide access to the single-family homes, the northwest cluster of carriage homes, and the existing country clubhouse and pool facility; and Cooper Avenue from the north would provide exit-only access from the final cluster of carriage homes, in addition to the single-family homes along Cove Road. The Police Department indicated that the proposed site access would be adequate for the new development.<sup>7</sup>

### d) Fire and EMS

This population increase of 335 new residents would also likely result in a proportionate increase in demand for fire and emergency medical services. The fire service increases include an increase of 0.6 fire personnel, 83.8 square feet of facility space, and 0.07 additional vehicles. The emergency medical services (EMS) may include an additional 12.2 EMS calls per year, 0.05 EMS full-time personnel, and 0.01 EMS vehicles.<sup>8</sup> As these quantified impacts for both of these services appear to be marginal, these impacts are not considered significant. Additional taxes generated from the absorption of the project are anticipated to cover the cost of additional fire and EMS services. The projected Village taxes are \$1,304,928 annually.

In an email response from March 30, 2016, MEMS provided an alternative projection for increased demand for emergency services from the Proposed Action. The MEMS calculation generated an estimate of 27 additional calls for service annually, more than the 12.2 calls estimated above. However, the email states in part, "MEMS believes that the additional calls for service as a result of the increase in

<sup>6</sup> Model Factors for Social Impact Analysis (Police), Development Impact Assessment Handbook. Urban Land Institute, 1994.

<sup>7</sup> Email Response from the Village of Mamaroneck Police Department, dated: February 10, 2016 (see Appendix ~~NA~~)

<sup>8</sup> Model Factors for Social Impact Analysis (Fire and Emergency Medical Services), Development Impact Assessment Handbook. Urban Land Institute, 1994.



residential population and other human activity are within the response capabilities of the organization.”<sup>9</sup>

The Fire Department and EMS would have three access points to the Project Site. See section 3C above for further detail. In its email response, MEMS indicated that the proposed site access and vehicle turnaround areas are adequate.

#### e) Schools

Utilizing the Residential Demographic Multipliers by Rutgers University Center for Urban Policy Research (June 2006), the Proposed Action is projected to generate approximately 57 public-school children. These 57 public school children would be spread throughout the 13 grades (K-12).

**Table 3N-10 Projected Public School-Children Generated**

Unit Type	Number of Units	Student Multiplier	Public School Students
4-bedroom Single-Family Home	44	.87	39
3-bedroom Carriage Home	61	.28	18
<b>TOTAL</b>	<b>105</b>		<b>57</b>

Source: Rutgers University, Center for Urban Policy Research: Residential Demographic Multipliers - Estimates of the Occupants of New Housing, June 2006 (New York, All Public School Children, Single-Family Detached, 4 BR, More than \$329,500 and Single-Family Attached, 3 BR, More than \$269,500)

The School District has an enrollment of 5,274 students (2015-2016), therefore, the additional 57 students would increase total enrollment by 1.1%, to 5,331 students.

For comparison purposes, a multiplier was also applied to determine the total number of school-aged children generated (public and private school). As indicated in the table below, it is projected that 71 total school-age children would be generated from the Proposed Action.

<sup>9</sup> Email Response from the Mamaroneck Village Emergency Medical Service: March 30, 2016 (see Appendix ~~NK~~)

**Table 3N-11 Total Projected School-Children Generated**

Unit Type	Number of Units	Student Multiplier	Total School-Age Children
4-bedroom Single-Family Home	44	1.05	47
3-bedroom Carriage Home	61	.39	24
<b>TOTAL</b>	<b>105</b>		<b>71</b>

Source: Rutgers University, Center for Urban Policy Research: Residential Demographic Multipliers - Estimates of the Occupants of New Housing, June 2006 (New York, All School Children, Single-Family Detached, 4 BR, More than \$329,500 and Single-Family Attached, 3 BR, More than \$269,500)

The table below shows the breakdown of potential new students generated by the Proposed Action using the standard Rutgers multiplier for each school, assuming even distribution across each grade. This equates to approximately four to five additional students for each grade. As discussed above, Central School Elementary School has the capacity for at least 50 additional students, based on its peak enrollment of 537 students during the 1998-1999 school year. Therefore, it is anticipated that Central School has the capacity to accommodate the 26 additional students generated from the Proposed Action.

**Table 3N-12 New Public School-Children Generated, by School**

School Name	Grade Levels	New Students
Central School	K-5	26
Hommocks Middle School	6-8	13
Mamaroneck High School	9-12	18
<b>TOTAL</b>		<b>57</b>

Source: Rutgers University, Center for Urban Policy Research: Residential Demographic Multipliers - Estimates of the Occupants of New Housing, June 2006 (New York, All Public School Children, Single-Family Detached, 4 BR, More than \$329,500 and Single-Family Attached, 3 BR, More than \$269,500)

Applying the per student programmatic cost from Table 3N-6 of \$15,893 paid by local property taxes to the estimated 57 new public school students indicates that the proposed project could result in an additional cost of \$905,901 to the Mamaroneck Union Free School District. These figures can be compared with the estimated property tax revenues to the school district from the project. As demonstrated in Chapter 3O, Fiscal and Economic Conditions, the estimated property tax revenues to the school district is \$2,604,098. Using these figures, the Mamaroneck Union Free School District would receive an annual surplus of tax revenue of \$1,698,197.



#### **f) Cumulative Impacts**

As mentioned, there are currently five other proposed or approved developments in the Village of Mamaroneck, according to the Village Planning Department. These include 690 Mamaroneck Avenue (21 units), 422 East Boston Post Road (13 units), 270 Waverly Avenue (96 units), 532 West Boston Post Road (7 units), and 620 West Boston Post Road (6 units). Combined, these five developments would add approximately 143 units of housing to the Village. If completed, the majority of the new units would be concentrated in a new development at 270 Waverly Avenue, containing 64 one-bedroom units and 32 two-bedroom units. According to a new study from the Village of Mamaroneck Planning Department, together these developments would generate a combined 19 school age children, including 10 generated from 270 Waverly. (Elementary aged school children from this development would attend Mamaroneck Elementary School, not Central School. The DEIS for 270 Waverly concludes that impacts to community facilities and services would be negligible. The other four proposed or approved developments, if completed, are relatively small and would not contribute significantly to any cumulative demand for community services. Cumulative impacts relating to off-site development in the Village are not anticipated.

#### **4. Mitigation**

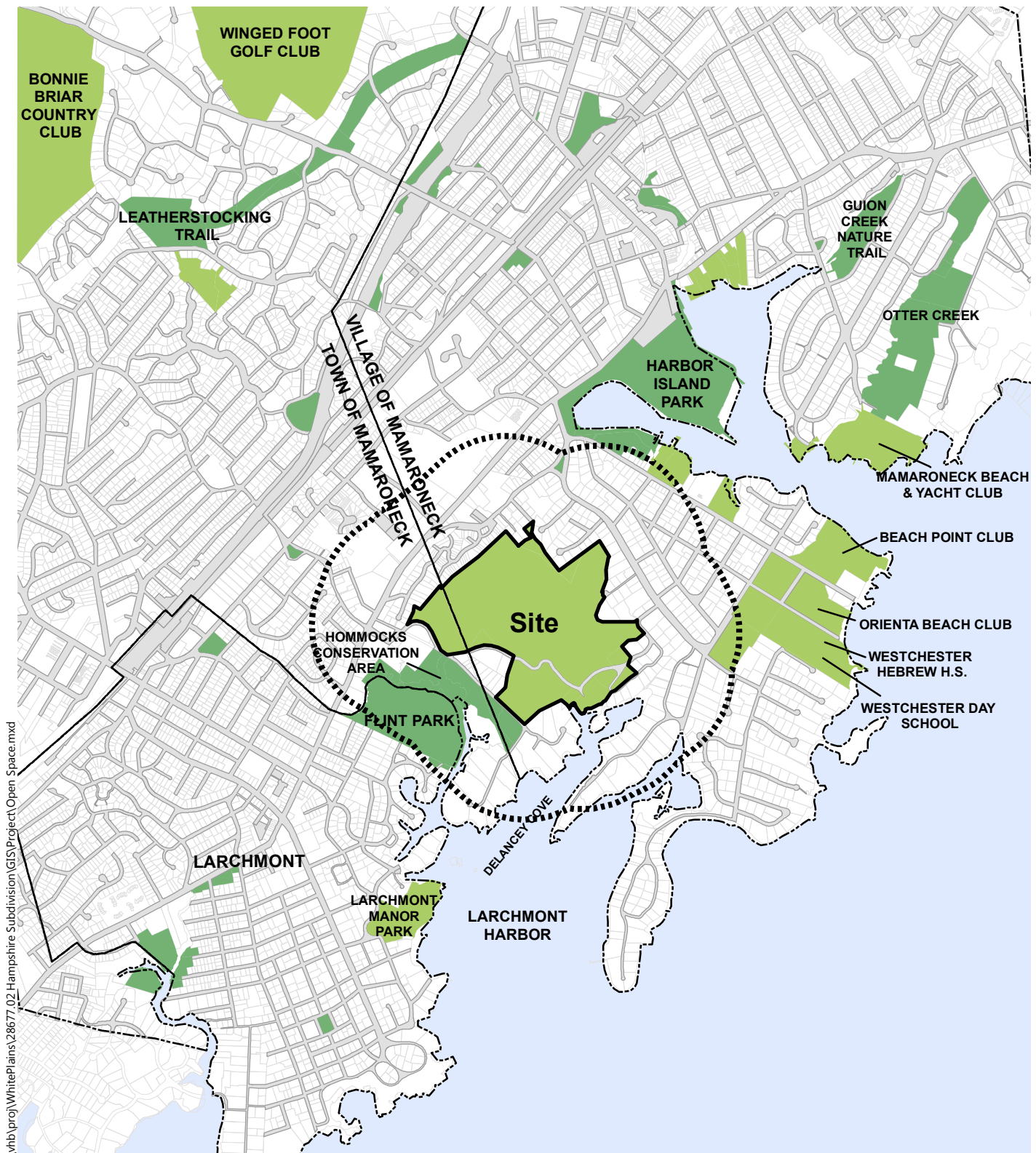
The additional population projected from the new residences is not anticipated to create a significant adverse impact to the Village of Mamaroneck's provision of community services, including its Police Department, Recreation and Parks Department, Fire Department, and Emergency Medical Services.

Annual property taxes generated from the Project would exceed current taxes (See Chapter 30, Fiscal and Economic Conditions) and it is anticipated that the additional tax revenue would cover any incremental costs to the Police Department, Fire Department, Recreation and Parks Department, and Emergency Medical Services, to service the project. The projected Village taxes are \$1,304,928.

Though a significant recreational resource, the existing golf course, would be downsized under the Proposed Action, the Applicant is confident that the nine-hole golf course to be maintained, in addition to the local supply of golfing opportunities, would be able to accommodate this loss. In exchange, the Proposed Action will protect 36 acres of shared open space for the community.

The potential impact of 57 new public school children in the school district is not considered significant given the sizable annual surplus of tax revenue anticipated.

No other mitigation measures are proposed.

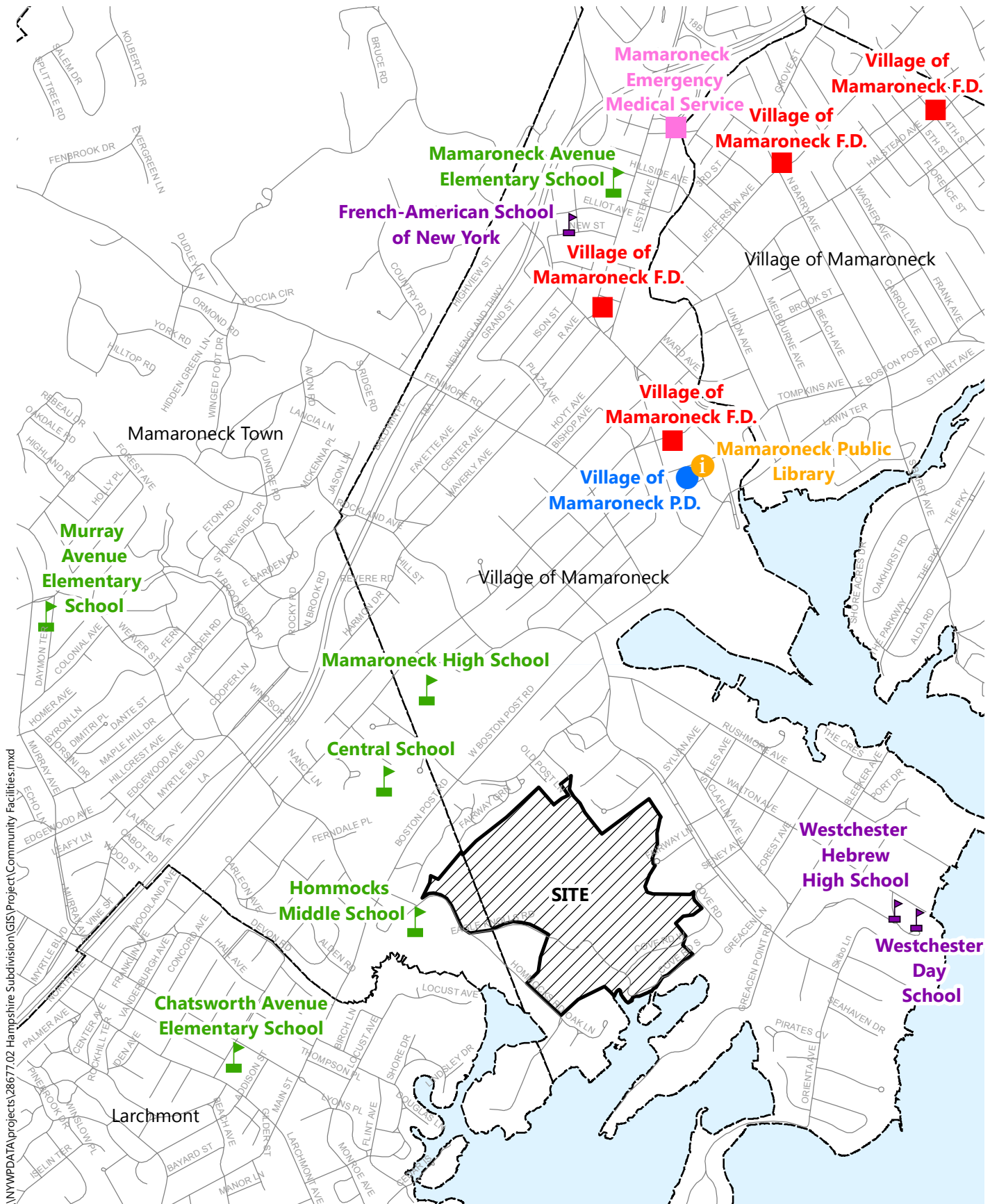


## Legend

- 1/4-mile Radius from Site
- Nature Preserves; Public Parks, Parkway Lands
- Private Recreation
- Roadway

## Open Space

Source: Westchester County GIS, 2009



\\NYWPDATA\projects\28677.02 Hampshire Subdivision\GIS\Project\Community Facilities.mxd

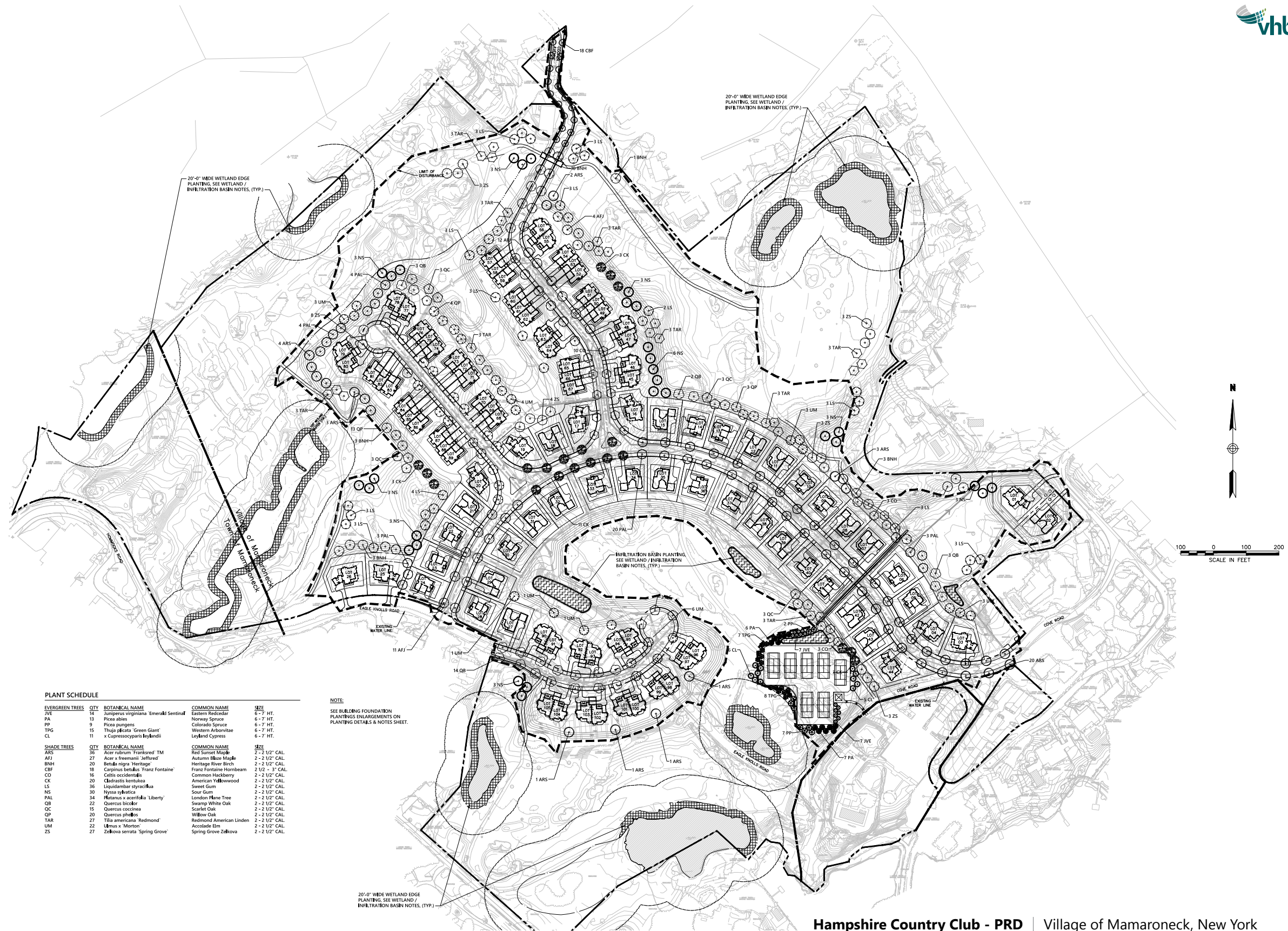
Hampshire Country Club - PRD

Village of Mamaroneck, NY

### Community Facilities

Source: Westchester County GIS, 2009





Hampshire Country Club - PRD | Village of Mamaroneck, New York

Landscaping Plan

Source: Kimley-Horn









## **O. FISCAL AND ECONOMIC CONDITIONS**

### **1. Existing Conditions**

#### **a) Current Taxes**

The Proposed Action consists of two tax parcels, 4-14-20 in the Town of Mamaroneck and 9-42-568 in the Village of Mamaroneck. The Village/Town of Mamaroneck municipal boundary line passes through the Project Site, creating a 98.9-acre portion in the Village of Mamaroneck and a smaller 7.3-acre portion within Town of Mamaroneck. Both the Village of Mamaroneck and the Town of Mamaroneck pay taxes to the Town of Mamaroneck Assessor's Office. Existing taxes paid on both parcels are listed in Table 3O-1 on the following page.

According to 2016 Town of Mamaroneck Tax Rolls, approximately \$22,839 taxes were paid by tax parcel 4-14-20 and \$322,441.27 for tax parcel 9-442-568. Of the existing total taxes generated from the Project Site, approximately 50% of the taxes generated from the Project Site are taxes paid towards the Mamaroneck Union Free School District.



**Table 30-1 Existing Taxes**

<b>Tax Parcel 4-14-20 (Town of Mamaroneck)</b>	<b>Assessed Value</b>	<b>Tax Rate (per \$1,000)</b>	<b>Taxes Paid</b>
Westchester County	1,000,000	3.37323	\$3,373.23
General Town	1,000,000	0.419668	\$419.67
Outside Villages	1,000,000	2.241576	\$2,241.58
Highways	1,000,000	1.125794	\$1,125.79
Mamaroneck Sewer, Town	1,000,000	0.550651	\$550.65
Fire District, Town	1,000,000	0.782919	\$782.92
County Refuse, Town	1,000,000	0.307353	\$307.35
Light District, Town	1,000,000	0.061837	\$61.84
Garbage District, Town	1,000,000	0.508254	\$508.25
Ambulance, Town	1,000,000	0.058761	\$58.76
Mamaroneck United Free School District	1,000,000	13.40936	\$13,409.36
<b>TOTAL</b>			<b>\$22,839.40</b>
<b>Tax Parcel 9-42-568 (Village of Mamaroneck)</b>	<b>Assessed Value</b>	<b>Tax Rate (per \$1,000)</b>	<b>Tax Projection</b>
Village Tax	12,000,000	6.73685	\$80,842.20
Westchester County	12,000,000	4.709663	\$56,515.96
General Town	12,000,000	0.419668	\$5,036.02
Mamaroneck Sewer, Town	12,000,000	0.550651	\$6,607.81
County Refuse, Town	12,000,000	0.307353	\$3,688.24
Ambulance, Town	12,000,000	0.058761	\$705.13
Library District	12,000,000	0.6778	\$8,133.60
Mamaroneck United Free School District	12,000,000	13.40936	\$160,912.32
<b>TOTAL</b>			<b>\$322,441.27</b>
<b>TOTAL FOR BOTH PARCELS</b>			<b>\$345,280.68<sup>1</sup></b>

Source: Town of Mamaroneck Tax Assessor, 2016; School District rate is for 2016-2017 Academic Year

<sup>1</sup> Hampshire Recreation recently prevailed in a Tax Certiorari proceeding, resulting in a reduced assessment for the Project Site. The Tax Assessment for the years 2010, 2011, and 2012 in the Village of Mamaroneck has been reduced to 5.3 million in 2010 and 5.2 million in years 2011 and 2012. It is anticipated that the current assessed value of the Project Site will also be reduced in the near future.



## **b) Current Municipal Operating Budgets**

### **Police, Fire, and EMS**

The Police Department is organized into a number of units, including patrol, investigations, support, bicycle, traffic, youth bureau, marine, domestic violence, parking enforcement, and watch persons. The Department had a total 2015 budget of \$7,540,226. The bulk of the expenditures, \$6,854,628 or approximately 91%, are for personnel services (i.e. staff pay).

The Fire Department consists of five companies that operate out of four fire stations. In 2015 it had a total budget of \$652,850. The bulk of its expenses were for equipment and contractual expenses (e.g., auto repairs, fuel, utilities).

The Village budgeted \$78,001 for Ambulance Services in 2015, including building improvement and contract services.

### **Schools**

The Project Site is located within the Mamaroneck Union Free School District (MUFSD), which administers six schools: four neighborhood elementary schools (Central School, Chatsworth Avenue School, Mamaroneck Avenue School, Murray Avenue School), Hommocks Middle School, and Mamaroneck High School.

The Westchester Putnam School Board Association reports a district-wide enrollment of 5,275 pupils for the 2015-2016 school year - an increase from the 5,205 pupils reported for 2014-2015 school year. Historically, the MUFSD has seen measured enrollment increases, with the student population growing from 4,818 students in 2002-2003 to 5,166 in 2011-2012 (an increase of 348 students, or 7%, over 9 years).



**Table 3O-2 Enrollment by School, Mamaroneck Union Free School District**

School Name	Grade Levels	2015-2016 Enrollment
Central School	K-5	487
Chatsworth Avenue School	K-5	644
Mamaroneck Avenue School	K-5	723
Murray Avenue School	K-5	681
Hommocks Middle School	6-8	1,206
Mamaroneck High School	9-12	1,533
TOTAL		5,274

Source: Proposed Budget of the Board of Education, Mamaroneck Public Schools, 2015-2016 School Year

The 2015-2016 budget for the Mamaroneck Union Free School District is \$133,898,902, of which \$117,043,027 (or approximately 87%) comes from the local property tax levy. With a current enrollment of 5,274<sup>45</sup> students, total budgeted expenditures per pupil are therefore approximately \$25,384. The total budgeted cost per student funded by the local property tax levy is \$22,188.

**Table 3O-3 Cost Per Pupil (2015-2016)**

A	B	C
2015-2016 Budget	District Enrollment	Cost Per Pupil (A÷B)
\$133,898,902	5,274	\$25,389

**Table 3O-4 Tax Levy Per Pupil (2015-2016)**

A	B	C
Local Tax Levy Funds	District Enrollment	Tax Levy Per Pupil (A÷B)
\$117,043,027	5,274	\$22,192

While the average total per-pupil costs are useful metrics for certain tasks, such as overall district budgeting, it is not appropriate for evaluating the marginal cost of educating a new student in situations where no new facility construction is required. This is because the average cost includes fixed administrative and capital expenditures that are not affected by the introduction of new students (e.g., superintendent salary, building maintenance and service costs, debt service, etc.). Program costs provide a more accurate assessment of the incremental cost of educating additional students generated by new residences, although it is still conservative as costs do not increase in a direct ratio.

The program component includes instructional-related activities such as the regular education and special education programs, guidance, extracurricular activities, and transportation services, among



others. As identified in the district budget, program costs account for approximately \$96,350,408, or 72% of the total budget and a cost per pupil of approximately \$18,265.

**Table 3O-5 Program Costs and Tax Levy Per Pupil (2015-2016)**

<b>A</b> <b>Program</b> <b>Costs (72% of</b> <b>total budget)</b>	<b>B</b> <b>District</b> <b>Enrollment</b>	<b>C</b> <b>Program Cost</b> <b>Per Pupil</b> <b>(A ÷ B)</b>	<b>D</b> <b>% Paid by</b> <b>Local Tax</b> <b>Levy</b>	<b>E</b> <b>Per Pupil</b> <b>Program Costs</b> <b>Paid by Local Tax</b> <b>Levy (C x D)</b>
\$96,350,408	5,274	\$18,268	87%	\$15,893

As noted above, only a portion of this cost is currently paid for from the local property tax levy. The portion of the program costs paid by the local real estate property tax is approximately \$15,891 per pupil. Non-property tax revenue sources, such as State Aid, make up approximately 13% of the school district's revenue.

## **2. Future without the Proposed Project**

In a future without the Proposed Project, the previously described tax generation, demographics and Village services would represent the baseline condition in the Village of Mamaroneck. It is assumed that tax generation would remain stable when the club is operable but would be reduced even further if the club use were to cease as a result of current economic pressures on private golf courses in the area, as illustrated by the fact that Hampshire Country Club has reported annual operating losses since the current owners purchased the Club in 2010. As described in ~~Chapter 3A~~ See Chapter 4, in the No Action Alternative, should this economic trend continue, it is likely that the Club use would cease, thereby negatively impacting the assessed value of the Project Site. For more detailed information on the future without the Proposed Project, please see Chapter 4.

## **3. Potential Impacts**

### **a) Community Facilities and Services**

The addition of 105 new residential units is projected to bring approximately 335 residents to the Project Site, as demonstrated in Table 3O-6. If all of these residents were new to the Village of Mamaroneck, the population of the Village would increase approximately 1.8% based on the Village's 2014 population of 19,133. The number of housing units in the Village would increase approximately 1.3% based on the 2014 American Community Survey estimates. The development would also contribute to an updated housing stock.





**Table 30-6 Proposed Action Resident Population Projections**

Unit Type	Number of Units	Multiplier	Total Projected Persons
4-bedroom Single-Family Home	44	3.67	162
3-bedroom Carriage Home	61	2.83	173
<b>TOTAL</b>	<b>105</b>		<b>335</b>

Source: Rutgers University, Center for Urban Policy Research: Residential Demographic Multipliers - Estimates of the Occupants of New Housing, June 2006 (New York, Total Persons in Units, Single-Family Detached, 4 BR, More than \$329,500 and Single-Family Attached, 3 BR, More than \$269,500)

Utilizing the Residential Demographic Multipliers by Rutgers University Center for Urban Policy Research (June 2006), the Proposed Action is projected to generate approximately 57 public-school children. These 57 public school children would be spread throughout the 13 grades (K-12).

**Table 30-7 Projected Public School-Children Generated**

Unit Type	Number of Units	Student Multiplier	Public School Students
4-bedroom Single-Family Home	44	.87	39
3-bedroom Carriage Home	61	.28	18
<b>TOTAL</b>	<b>105</b>		<b>57</b>

Source: Rutgers University, Center for Urban Policy Research: Residential Demographic Multipliers - Estimates of the Occupants of New Housing, June 2006 (New York, All Public School Children, Single-Family Detached, 4 BR, More than \$329,500 and Single-Family Attached, 3 BR, More than \$269,500)

The School District has an enrollment of 5,274 students (2015-2016), therefore, the additional 57 students would increase total enrollment by 1.1%, to 5,331 students. With a per pupil cost of \$15,893, the addition of 57 new students to the School District would result in \$905,901 of additional program costs.

**Table 3O-8 Estimated Tax Projections**

<b>Tax Parcel 4-14-20 (Town of Mamaroneck)</b>	<b>Assessed Value*</b>	<b>Tax Rate (per \$1,000)</b>	<b>Tax Projection</b>
Westchester County	500,000	3.37323	\$1,687
General Town	500,000	0.419668	\$210
Outside Villages	500,000	2.241576	\$1,121
Highways	500,000	1.125794	\$563
Mamaroneck Sewer, Town	500,000	0.550651	\$275
Fire District, Town	500,000	0.782919	\$391
County Refuse, Town	500,000	0.307353	\$154
Light District, Town	500,000	0.061837	\$31
Garbage District, Town	500,000	0.508254	\$254
Ambulance, Town	500,000	0.0508254	\$25
Mamaroneck Union Free School District	500,000	13.40936	\$6,705
<b>Total</b>			<b>\$11,416</b>
<b>Tax Parcel 9-42-568 (Village of Mamaroneck)</b>	<b>Assessed Value</b>	<b>Tax Rate (per \$1,000)</b>	<b>Tax Projection</b>
Village Tax	193,700,000	6.73685	\$1,304,928
Westchester County	193,700,000	4.70663	\$911,674
General Town	193,700,000	0.419668	\$81,290
Mamaroneck Sewer, Town	193,700,000	0.550651	\$106,661
County Refuse, Town	193,700,000	0.307353	\$59,534
Ambulance, Town	193,700,000	0.058761	\$11,382
Library District	193,700,000	0.6778	\$131,290
Mamaroneck United Free School District	193,700,000	13.40936	\$2,597,393
<b>Total</b>			<b>\$5,204,152</b>
<b>Total for both parcels</b>			<b>\$5,215,568</b>

Source: Town of Mamaroneck Tax Assessor, 2016; School District rate is for 2016-2017 Academic Year

\*Assessed Value for the Tax Parcel located in the Town of Mamaroneck (4-14-20) is assumed to be 50% less than the parcel's existing assessed value. The existing 18-hole golf course is planned to be converted into a 9-hole golf course, thus reducing the value of the value of the parcel. None of the proposed residential units will be constructed on this parcel of the Project Site.

All of the 105 proposed residential units will be constructed on the Village of Mamaroneck parcel (9-42-568) of the Project Site. The total assessed value of all of the proposed units is \$193,700,000. Each of



the 44 single-family homes are assessed at \$2,600,000 and each of the 61 carriage, or townhouses, are assessed at \$1,300,000. While the projected revenue generated from the Town of Mamaroneck parcel (4-14-20) is half of the existing tax revenue at \$11,162 due to the reduction of the 18-hole golf course to a 9-hole course, the projected revenue from the Village of Mamaroneck parcel (9-42-568) is \$5,204,152. In total, the net increase in the amount of tax revenue generated from the Proposed Action is approximately \$4,870,287, greater than the existing tax revenue generated from the Project Site.

## **b) Employment Generation**

### **Construction jobs**

It is anticipated that approximately 285 construction jobs will be generated from constructing the 105 residential units over the course of a phased construction period that is assumed to be approximately of 5.3 years in length.<sup>2</sup>

The total estimated cost of construction for the Project is approximately \$123,000,000. It is estimated that 40% (or \$49,200,000) of these costs will account for labor costs. The following steps were used to determine the number of construction workers needed annually to build the Project:

#### Step 1: Number of construction hours needed to build the project

The average hourly compensation per construction worker (including wages, fringes, profit and overhead) is estimated to be \$85. By dividing the estimated labor costs total (\$49,200,000) by \$85, it is estimated that it will take 578,824 construction hours to build the entire Project.

#### Step 2: Number of construction worker hours per year

By dividing the total construction hours (578,824) by the total number of years of the construction period will take place (5.3), it is estimated that 109,212 construction hours will be worked each year.

#### Step 3: Number of construction workers needed per year

According to the U.S. Bureau of Labor Statistics, the average number of hours worked by a construction worker weekly is 39.1<sup>3</sup> or 2,034 hours annually. By dividing the number of construction hours required per year (109,212) by the average number of hours a construction workers worked per year (2,034), it is estimated that 54 construction workers would be needed to build the project each year.

<sup>2</sup> The exact construction schedule is contingent on the build out rate of the homes, and therefore, the Applicant cannot identify the exact duration of the construction period and the final build-out date at this juncture. However, for the purposes of analysis, 5.3 years is assumed to be the approximate construction period, because this represents a reasonable full build-out assumption based upon experience with projects of similar size.

<sup>3</sup> <http://www.bls.gov/iag/tgs/iag23.htm>



### Operation and maintenance jobs

As the clubhouse is currently in operation, the existing number of jobs that are held at the clubhouse are 15 during off-season and 75 during on-season. At full build-out of the Project, it is anticipated that the number of jobs associated with the clubhouse would increase to 16 during off-season and 80 during on-season, an increase of 6.4%. This is due to the fact that it is anticipated that many of the new residents of the Project will join the Club as social members to utilize the tennis, swimming and clubhouse facilities. The increase in membership is anticipated to outperform the decrease in golf memberships at full build-out. The 9-hole course will still be attractive to a not insignificant percentage of golfers generally and the other amenities are anticipated to be attractive to the future residents of the Project.

### c) Resident Expenditures

Consumers who currently live within a one-mile radius of the Proposed Action spend approximately 15.9 percent of their after tax available income on retail purchases such as apparel, services, entertainment, recreation, personal care products, and furniture. The households in the 105 new units can be expected to have similar disposal income available to be spent on these categories identified in Table 30-9 below.

**Table 30-9 Average Household Budget Expenditures**  
**Select Project Product Groups - 2015**

Product Group	Per Household*	Per 105 Households
Food Away from Home	\$7,627	\$800,835
Appliances and Services	\$5,402	\$567,210
Entertainment and Recreation	\$7,772	\$816,060
Household Furnishings and Equipment	\$4,150	\$435,750
Personal Care Products and Services	\$1,817	\$190,785
<b>Total</b>	<b>\$26,768</b>	<b>\$2,810,640</b>

Source: Esri Household Budget Expenditures forecasts for 2015 and 2020, consumer spending data are derived from the 2011 and 2012 Consumer Expenditures, Bureau of Labor Statistics.

\*Study Area include households within a mile radius of the Project Site.

The Proposed Action will result in greater economic activity in the Town and Village of Mamaroneck. The proposed 105 multi-family housing residential units would provide an increase of new residents with disposable incomes. Some of this income can be captured in the Town and Village and will support existing businesses within the Town and Village. Based on the current spending patterns of residents within one mile of the Project Site, the new residents are anticipated to spend a total of \$2,810,640 on





common disposable income expenditures, including apparel, entertainment, restaurants, recreation, personal care and household items. Thus, the Proposed Action would be economically beneficial for the business community of the Town and Village of Mamaroneck.

#### **d) Direct and Indirect Economic Impacts**

Data from the Regional Input-Output Modeling System (RIMS II) is utilized to calculate the direct and indirect economic impacts from the construction of the Proposed Action. This model measures secondary indirect regional impacts that can be attributed to the construction and operation of the proposed project. Individuals, including laborers and contractors constructing the development will spend their income within the region. The regional area applied to the multipliers analysis for the Project is Westchester County. Construction impacts are a one-time activity but household spending during the operational phase continues to accrue annually.

The RIMS II model incorporates two types of multipliers, final demand multipliers and direct effect multipliers. Final demand multipliers are used to estimate how the project will impact output, earnings, and employment and they assist in quantifying the number of secondary indirect impacts jobs that are created in the particular region for every million dollars spent on the project.

Direct effect multipliers are used to estimate the economic impact of new earnings and employment associated with a project. Direct effect multipliers can dictate initial changes in employment by industry, demonstrating how many secondary indirect jobs can be supported by a certain number of newly created jobs at a particular location. Initial changes in earnings are available by industry to show the amount secondary indirect payrolls that can be supported by known payroll spending in a particular project.

#### **RIMS II Multipliers**

##### Construction Phase

The final demand multipliers indicate that each dollar spent on construction increases the total output of the Westchester County regional economy by \$1.5022. For each dollar spent on construction, an additional \$0.8328 value is added to the output of all industries in the region. Earning multipliers indicate that for each dollar spent on construction, the total earnings in the region increase by \$0.2992. As previously calculated above, construction employment is projected to hold 285 jobs over the course of the construction period.

While utilizing the total estimated construction costs of \$123,000,000 and the multipliers discussed above, the regional output goods and services generated from the construction of the project would be approximately \$184,770,600, an increase of \$61,770,600 from the initial cost of construction. Additionally, earnings are estimated to be \$36,801,600 generated into the regional economy. The added value of output towards the regional economy would be an increase of \$102,434,400.

For indirect final demand impacts, multipliers for utilities were considered since the implementation of utilities have a secondary indirect impact towards the overall construction of the Project. Indirect-Using a multiplier of \$1.2879 for each dollar spent on construction, indirect output of goods and services is expected to be approximately \$158,411,700 from the implementation of utilities to serve the Project. Earnings are expected to increase \$13,320,900 indirectly while implementing a multiplier of \$0.1083 for each dollar spent on construction. The project employment to be created indirectly from the Project's utilities is approximately 204 jobs added to the regional workforce. The added value of secondary indirect— output towards the regional economy would be an increase of \$180,199,110 \$6,604,300 utilizing a multiplier of \$0.7041 for each dollar spent on construction.

#### Operations Phase

RIMS II final demand multipliers were also applied to quantify the impacts on the occupied households that will be created at the completion of the Project. Utilizing the approximate assessed value of the Project (\$193,700,000), it is anticipated that the approximate total output of goods and services would increase by \$180,199,110 for the regional economy from the new households. This is projected from using a multiplier of \$0.9303 for each dollar to be spent during the Project's operations phase. Estimated earnings would result in approximately \$33,064,590 within the regional economy while implementing a multiplier of \$0.1707 for each dollar to be spent during operation. The added value of output towards the Westchester County regional economy would be an increase of \$180,199,110 \$108,665,700 as calculated from using a multiplier of \$0.561 for each dollar spent during operation.

Final demand multipliers were used to determine the indirect impacts the project would have towards the real estate industry as all of the units will be ownership and not rental. The indirect output generated from the full buildout of the Project would result in \$285,998,050 towards the Westchester County's regional economy indirectly utilizing a multiplier of \$1.4765 for each dollar spent during operation. Earnings would indirectly contribute approximately \$34,672,300 into the regional economy while using a multiplier of \$0.179 for each dollar spent during operation. Implementing a multiplier of \$0.9904 for each dollar spent during operation, the total value of output generated from the Project indirectly at buildout would be an increase of \$191,840,480 from the real estate industry.

Table 3O-10 below summarizes the final demand direct and indirect economic impacts anticipated from the Project while it is being developed and when the proposed dwelling units are occupied.



Table 3O-10 Summary of Direct and Indirect Economic Impacts

Construction Phase		
	Direct	Indirect
Output	\$184,770,600	\$158,411,700
Earnings	\$36,801,600	\$13,320,900
Employment	285*	204
Added Value	\$102,434,400	\$86,604,300
Operations Phase		
	Direct	Indirect
Output	\$180,199,110	\$285,998,050
Earnings	\$33,064,590	\$34,672,300
Employment	545	1,121
Added Value	\$108,665,700	\$191,840,480

Source: 2007/2013 RIMS II multipliers, Bureau of Economic Analysis.

Multipliers are based on 2007 Benchmark Input-Output Region: Westchester County, Type II; \*Construction employment was calculated using data from U.S. Bureau of Labor Statistics, 2016 and the applicant.

#### 4. Mitigation

The proposed project would result in a net positive impact for the taxing districts, including the Mamaroneck Union Free School District, the Town/Village and Westchester County. The development is anticipated to generate a combined total of \$5,215,568 in annual property taxes, which is \$4,870,287 greater than the taxes generated at the Project Site currently. There is no anticipated reduction in taxes to the Town of Mamaroneck as a result of the Proposed Action.

The estimated annual tax surplus from the Project for the School District is approximately \$1,698,197 per year using estimates of 57 public students to be generated at the time of Project completion. The final amount will depend on the actual number of school children residing in the development. The economic benefits to the Town would include tax revenues and other positive impacts to the local economy including employment during construction, and secondary indirect economic impacts from the residents who will occupy the 105 dwelling units of the Project. It is not anticipated that the Proposed Action would result in any significant adverse impacts to the taxing districts. It is estimated that the overall result of the proposed development will be a net positive fiscal benefit to the Town, Village, County, other taxing districts and the school district.



## **P. HISTORIC AND CULTURAL RESOURCES**

A site file and literature review was conducted utilizing the on-line map catalogue from the University of New Hampshire, Diamond Library and the Westchester County Archives and site files from the New York Office of Parks, Recreation, and Historic Preservation (NY SHPO).

The Project Site falls within an archaeologically sensitive area (ASA) as defined by NY SHPO based on the presence of previously reported archeological sites within at least 1/2-mile of the Project Site. In November 2015, VHB, on behalf of the Applicant, submitted a Notice of Project (NOP) to NY SHPO. NY SHPO assigned the project number 15PR06513, and on November 10, 2015, provided a comment letter which stated in part "Based upon this review, the New York SHPO has determined that no historic properties will be affected by this undertaking" (the "No Effects Letter"). A Phase 1A Cultural Resource Report is not necessary. A copy of the letter can be found in Appendix [OL](#).

### **1. Existing Conditions**

#### **a) Background and Literature Review**

Initial Project Site file research was conducted online on November 5, 2013 using the NY SHPO Cultural Resources Information System (CRIS) and the on-line map catalogues of the Westchester County Archives and the University of New Hampshire, Diamond Library.

This research uncovered no known archeological sites or recorded historic buildings/structures within the Project Site. However, there are three previously reported New York State Museum (NYSM) archaeological sites within a 1/2-mile of the Project Site. These sites, documented in the 1920s and 1930s, hold the following NYSM site numbers: 5213; 5224; and 5478. The Project Site falls within ASAs as defined by NY SHPO.

NYSM #5213 is the closest of the three sites which, as currently mapped, encompasses the Greacen Point and Satan's Toe peninsulas and the area between Delancey and Orienta points, Bleeker Avenue, and the Long Island Sound. The NY SHPO files contain no information about the site characteristics, but most NYSM sites that have been identified in near-shore settings were classified as Native American villages and campsites. Three NY SHPO archaeological sites (sites 11907.000004, 11949.000044, 11949.000064) have been defined in recent years within one mile of the Proposed Action, all of which are Native American archaeological sites dating to the pre-EuroAmerican era.

Three historic maps provide information on the Project Site prior to its current development: the 1900 Oyster Bay USGS 15-minute quadrangle; the Bromley & Bromley 1901 Westchester County Atlas; and



the 1929-1931 Hopkins Westchester County Atlas. According to the 1900 Oyster Bay USGS map<sup>1</sup>, prior to development as a golf course, the Project Site was a marsh with hummocks, with a floodplain less than 20 feet in elevation. At that time, two prominent feeder streams drained south and southeast into Larchmont Harbor and Delancey Cove. The 1901 Westchester County Atlas<sup>2</sup> illustrates the majority of the landholding as belonging to Thomas L. Rushmore and the eastern edge as belonging to the Estate of C. A. Howell. No buildings are shown on either property though smaller parcels with buildings are mapped on the south side of Union Avenue and along Back Street-Old Post Road. The stream that drained southeast into Delancey Cove is better defined with two secondary drainages feeding the main stem. The 1929-1931 Hopkins Westchester County Atlas<sup>3</sup> shows that by the late 1920s, the entire Estate of C.A. Howell parcel, less the sliver on the Project Site, had been subdivided into house lots. On this map, the Project Site is subdivided in its southeast quadrant by Eagle Knolls Road, which appears to service a small cluster of house lots called "Eagle Hommocks." However, none of the lots have buildings.

As previously mentioned, the 1900 Oyster Bay USGS map shows the Project Site as a marsh with several outcroppings of ledge rock and feeder streams. At the time of the golf course's original development in the late 1920's, tidal gates were positioned to control tidal actions and to allow for the creation of additional usable land on the Project Site. The golf course was developed on the upland and filled tidal wetland.

## **b) Built Resources**

A walkover of the Project Site was conducted on August 4, 2015 to survey existing built resources on the property. Presently, there are seven buildings and eight structures within the golf course area of the Project Site, as shown in Exhibit 3P-1, Existing Conditions Plan Golf Course Buildings and Structures. Table 3P-1 below outlines the character of each of these built resources. All of these buildings and structures were constructed as accessories to the recreational uses on the Project Site. NY SHPO evaluated photographs and descriptions of them and none were determined to be historically significant.

<sup>1</sup> USGS. 1900. Oyster Bay 15-minute quadrangle. University of New Hampshire Library, Diamond Map Collection.

<sup>2</sup> Bromley and Bromley. 1901. Atlas of Westchester County. Plate 18, pg. 18. Westchester County Archives (<http://archives.westchestergov.com>), digital collection: Historic Maps, 2012-07, A-0081(1)S(AA10).

<sup>3</sup> G. M. Hopkins Co. 1929-1931. Atlas of Westchester County. Volume 1, pgs. 21-23. Westchester County Archives (<http://archives.westchestergov.com>), digital collection: Historic Maps, 2011-02, A-0100(1)S(AA1).

**Table 3P-1 Built Resources**

<b>Built Resource</b>	<b>Character</b>
Building A	Concrete block utility foundation
Building B	Wood frame shed
Building C	Wood and concrete block garage
Building D	Wood frame tennis facility
Building E	Concrete block maintenance building
Building F	Wood frame garage
Building G	Stucco over wood bathroom
Structure 1	Drainage channel, two ponds, tidal gates
Structures 2, 3, & 4	Tennis courts
Structure 5	Drainage channel
Structure 6	Tee retaining wall
Structure 7	Tee retaining wall
Structure 8	Metal foot bridge

## 2. Future without the Proposed Project

Without the proposed project, conditions on the Project Site would remain as previously described in this chapter. The No Effects Letter issued by NY SHPO on November 10, 2015 remains applicable in a future without the proposed project.

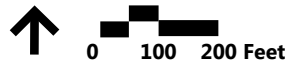
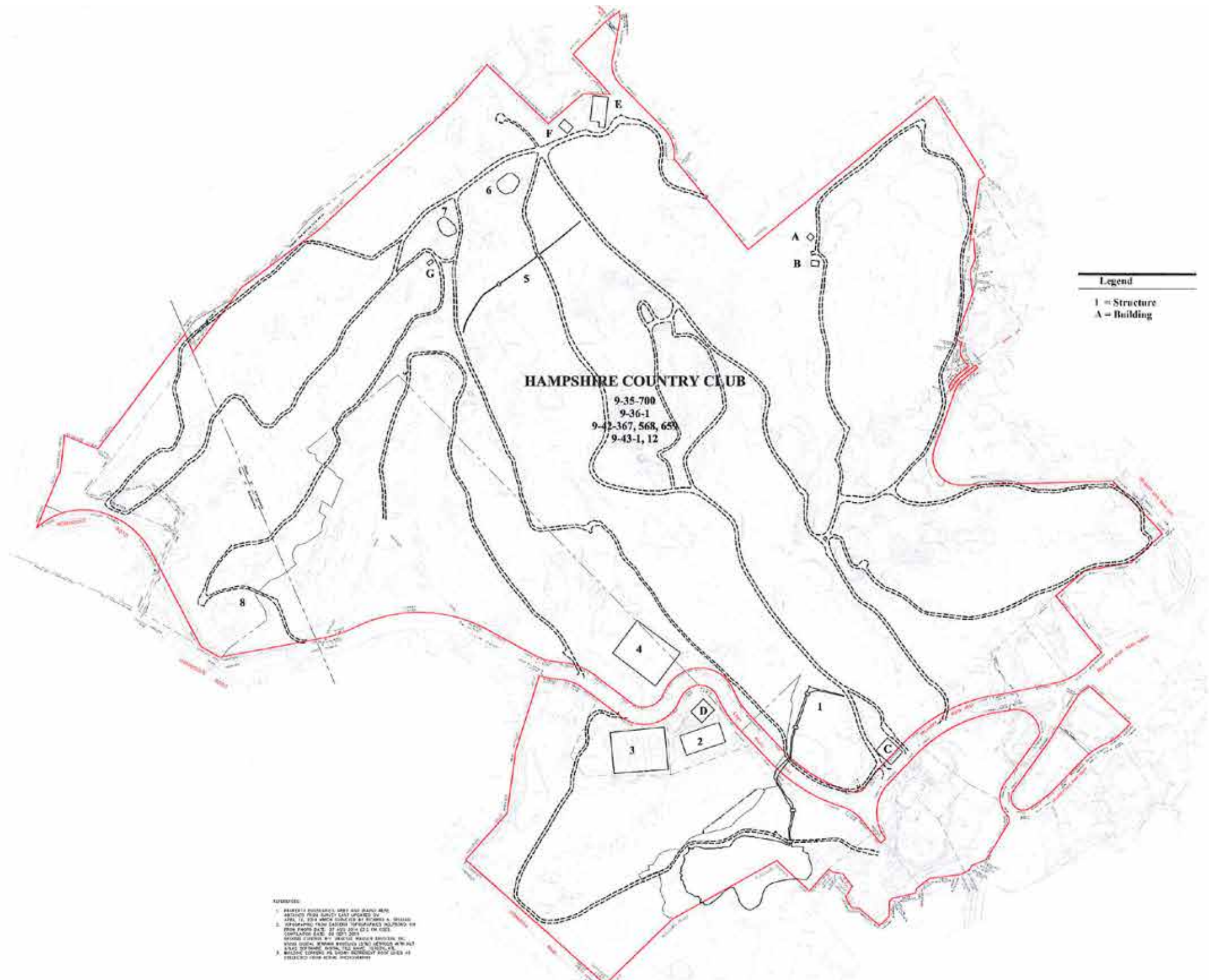
## 3. Potential Impacts

Of the structures and buildings currently on the Project Site, only structures and buildings that were constructed as accessories to the recreational uses on the Project Site would be removed and are not historically significant. Specifically, Buildings C, D and G, and Structures 1 – 7 would be removed.

According to NY SHPO's No Effects Letter, based on the background and literature review conducted, "the New York SHPO has determined that no historic properties will be affected..." In addition, no previously identified archaeological sites would be affected by the Proposed Action.

## 4. Mitigation

No significant cultural resource sites, buildings, structures, or objects were identified within the Project Area. No further cultural resources investigations were recommended in the November 2015 submission to NY SHPO and NY SHPO accepted that recommendation on November 10, 2015. Therefore, no mitigation measures are required.



Hampshire Country Club - PRD | Village of Mamaroneck, New York

Existing Conditions Plan  
Golf Course Buildings and Structures

Source: VHB



## Q. ENVIRONMENTAL CONTAMINATION

### 1. Existing Conditions

#### a) Phase I Environmental Site Assessment

A Phase I Environmental Site Assessment (ESA) of the Project Site was prepared by GZA GeoEnvironmental of New York in April 2016 in general accordance with ASTM International's Standard Practice for Environmental Site Assessment: Phase I Environmental Site Assessment Process (ASTM E1527-13). The Phase I ESA renders an opinion as to whether surficial or historical evidence indicates the presence of recognized environmental conditions (RECs), controlled recognized environmental conditions (CRECs), and/or historical recognized environmental conditions (HRECs), which could result in the presence of hazardous materials in the environment. The assessment included Project Site reconnaissance, review of the Project Site history, review of selected local, state, and federal regulatory records, and interviews with persons and agencies familiar with the Project Site. The findings and outcomes of the Phase I ESA are summarized in this section. The full report including methodology, regulatory review, site photographs, and mapping is provided in Appendix [PM](#).

Historically, the Project Site has been a country club and golf course since at least 1934. A review of the historical Sanborn maps indicates that prior to 1934, the Project Site and the general vicinity consisted of vacant land utilized for agricultural purposes. A review of the historical topographic maps indicates that during the development of the country club, coastal marshland and waterways that were present on the Project Site were backfilled. The source of the fill material is unknown.

The Phase I ESA notes that one septic tank on the Project Site is connected to the maintenance and workshop building in the northeastern maintenance area and concludes that the history of equipment maintenance under this condition is considered a REC. In addition, the Project Site is identified in the NY LTANKS database; the listing is identified as a "tank failure" reported on June 11, 1999. NYSDEC Spill Case No. 9902831 was subsequently assigned. The spill was closed on August 2, 1999 with no further action recommended. The Project Site is also identified in the NY SPILLS database. Spill Case No. 9902193 is associated with a tank failure, reported on May 26, 1999 for an unknown quantity of gasoline. The spill was also closed on August 2, 1999 with no further action recommended. Both closed spill cases are considered to be HRECs.

The Phase I ESA did not reveal any upgradient off-site environmental concerns, which are anticipated to affect the subsurface conditions at the Project Site.

The Phase I ESA also identified the following conditions:



Storage Tanks. There are currently three above-ground storage tanks located in the maintenance and workshop building area to the northeast of the Project Site: Tank 1 is an in-service 1,000-gallon gasoline; Tank 2 is an in-service 500-gallon diesel tank; and Tank 3 is an in-service 275-gallon No. 2 fuel oil tank. No visual evidence of release was associated with these three tanks.

Septic Systems. There was evidence of three septic systems at the Project Site. The northern-most septic tank is located near the maintenance area of the Project Site and is utilized for the maintenance and workshop buildings. A second septic system is located to the south and west of the maintenance area, and is associated with a comfort station/restroom located on the golf course. The third septic tank is located on the south side of the Site, and is associated with the tennis court pavilion.

Chemical Storage. Pool chemicals are stored in a dedicated building adjacent to the pool and consist of muriatic acid and calcium chloride flakes. Laundry-related detergents and household cleaning chemicals are stored in the primary clubhouse area. Additionally, there is one chemical storage shed containing various herbicides, pesticides, and fungicides in the northern maintenance area of the Project Site. No visual evidence of release was observed from the current chemical storage shed. As part of routine maintenance of the golf course, the use of herbicides and pesticides at the Project Site is anticipated for at least the past 40 years.

Transformers. There are two pad-mounted transformers on the Project Site. The transformers are located near the southern and northern sides of the golf course. No surficial staining was observed at either transformer location.

## **b) Phase II Environmental Site Assessment**

A Limited Phase II ESA of the Project Site was prepared by GZA GeoEnvironmental of New York in April 2016, with the primary objective to collect and analyze shallow soil and sediment samples in order to assess the impacts of pesticide and herbicide usage at the Project Site. Pesticides and herbicides are commonly used on golf courses and other recreational areas to maintain the health and appearance of the turf. The Project Site has been a golf course with maintained turf since the 1930s. Standard practice for this industry would include the direct, surface application of pesticides and herbicides and other potential turf maintenance chemicals. These materials typically preferentially adsorb to the soil. In its current use as a golf course, these kinds of activities are to be expected and do not constitute a condition of significant regulatory concern. Pesticide and herbicide usage was a potential environmental concern identified at the start of the due diligence environmental assessments, and evaluated in the Limited Phase II.

Twenty-one soil samples were collected at the surface (a depth of 0-6 inches) and at subsurface (a depth of 18-24 inches) in each location to access the presence of these chemicals. Sample locations include a representative distribution across the existing golf course, including tee-boxes and greens. In addition, six sediment samples were collected from the edges of the Project Site ponds and near visible discharge



pipes within the ponds. See Figure 2 in Appendix [AQ](#) for a map of soil and sediment sample locations. The soil sample analytical results were compared to the New York State Department of Environmental Conservation Part 375 "Unrestricted Use" Soil Cleanup Objectives (SCOs) and the "Restricted Use" Residential SCO. The findings and outcomes of the Phase II ESA are summarized below. The full report is provided in Appendix [AQ](#).

Findings from the Phase II ESA include the following:

Surface Soil Samples. Arsenic was identified in eight of the 21 surface soil samples at concentrations that exceeded the Unrestricted Use SCO. The arsenic concentrations in six of these samples also exceeded the Residential Use SCO. Lead was identified in seven of the 21 surface soil samples at concentrations that exceeded its respective Unrestricted Use SCO. None of the lead concentrations in the surface soil samples exceeded the Residential Use SCO. Six pesticides were detected in the surface soil samples (4,4'-DDD, 4,4'-DDE, 4,4-DDT, Aldrin, alpha-Chlordane, and Dieldrin) at concentrations that exceeded the Unrestricted Use SCO. Pesticides concentrations exceeding the Unrestricted Use SCO were identified in 20 of the 21 surface soil samples. The pesticides 4,4'-DDE, 4,4'-DDT and Dieldrin were identified in three of these locations at concentrations that also exceeded the Residential Use SCO. No herbicides were detected in any of the surface soil samples.

Subsurface Soil Samples. Arsenic was identified in four of the 21 subsurface soil samples at concentrations that exceeded its respective Unrestricted Use SCO. The arsenic concentrations in two of these samples also exceeded the Residential Use SCO. Lead was identified in three of the subsurface soil samples at concentrations that exceeded its respective Unrestricted Use SCO. None of the lead concentrations in the subsurface soil samples exceeded the Residential Use SCO. Eight pesticides were identified in the 21 subsurface soil samples (4,4'-DDD, 4,4'-DDE, 4,4-DDT, Aldrin, alpha-Chlordane, delta-BHC, Dieldrin, and Endrin) at concentrations that exceeded the Unrestricted Use SCO. Pesticides concentrations exceeding the Unrestricted Use SCO were identified in 15 of the 21 subsurface soil samples. The pesticide Dieldrin was identified in one of these locations at a concentration that also exceeded the Residential Use SCO. No herbicides were detected in any of the subsurface soil samples.

Sediment Samples. Arsenic was not detected in any of the sediment samples at concentrations that exceeded its respective SCO. Lead was identified in one sediment sample in the pond at the western portion of the Project Site at a concentration that exceeded its respective Unrestricted Use SCO. Six pesticides were identified in the sediment samples (4,4'-DDD, 4,4'-DDE, 4,4-DDT, Aldrin, alpha-Chlordane, and Dieldrin) at concentrations which exceeded the Unrestricted Use SCO. The exceedances were identified in five of the six sediment samples. None of the pesticide compounds exceeded their Residential Use SCO in any of the samples analyzed. Herbicide concentrations were detected in one of the sediment samples. However, there are no NYSDEC SCOs for the two herbicide compounds detected (i.e., Dicamba and Dichlorprop).



## 2. Future without the Proposed Project

In a future without the proposed project, environmental contamination conditions would remain as described above. See the No Action Alternative described in Chapter 4 for more detailed information.

## 3. Potential Impacts

The project is proposed to contain residential, open space and recreational (golf course) uses. The open space and golf course uses require soil contamination to be at or below Commercial Soil Cleanup Objectives (SCOs). The residential use requires and soil contamination to be at or below Residential SCOs. The Residential SCOs are more stringent than the Commercial SCOs.

As noted above, six surface soil samples exceeded Residential SCOs for arsenic and one was identified to exceed Residential SCOs for pesticides.

The proposed development plan will require regrading of onsite soils and the import of clean offsite soil to create the platform for the proposed housing and roadways. The identified contamination, above Residential SCOs, arsenic and pesticides, are inhalation and ingestion hazards. Typically environmental controls for these contaminants is to cover with a minimum of 2 feet of clean soil to prevent contact. These contaminants tend to stay bound to the soil matrix and will not migrate to surrounding soils, therefore soil cover is an effective mitigation.

## 4. Mitigation Measures

All identified soil samples exceeding Residential SCOs, except two locations, are within the area to be filled to create the soil platform. The filling will bury the contaminated soil below the development platform. The two outlying sample locations are SS-19 and SS-6. SS-19 is adjacent to the maintenance shed located at the end of Copper Avenue and SS-6 is located adjacent to the parking area of the existing clubhouse.

Soil contamination identified at location SS-19 and SS-6 will be delineated by evaluating soil samples taken at the identified elevation at increasing distance from SS-19 and SS-6 until samples indicate clean soil for the target contaminant. It is anticipated the total soil to be relocated will be between 50 and 100 cubic yards. The delineated contaminated soil will be excavated and relocated under the core of the soil platform to ensure isolation from the proposed development with a minimum of 2 feet of clean soil cover. Contaminated soil will be placed at the base of the platform to make sure the soil is not encountered during installation or maintenance of site underground utilities.

All soil imported to the site will be from confirmed clean sources that will be used to construct the development platform. All imported soil will be in compliance with Residential SCOs. This soil will be used for the upper layers of the proposed platform to ensure isolation of identified contaminated soil.



The result will be a safe placement of the identified contaminated soil exceeding Residential SCOs covered with clean soil to ensure no potential for contact for the proposed use.

All pesticide and herbicide treatments for the 9-hole golf course will be in accordance to industry standards and only include the application of treatments that are permitted by State and Federal regulations.

DRAFT



## R. NOISE

### 1. Existing Conditions

This section presents an overview of the existing noise environment at the 106.2-acre Hampshire Country Club Project Site.

The existing noise environment conditions at the Project Site reflect surrounding land uses. As described in Chapter 3A, Land Use, Zoning and Public Policy, predominant land uses surrounding the Project Site include residential and park uses; these low-intensity uses do not typically generate high levels of ambient noise. Given the low-intensity uses surrounding the Project Site, ambient noise at the Project Site comes primarily from the activities on-site. The Project Site currently contains an 18-hole golf course, a clubhouse, swimming pool, eight Har-Tru tennis courts, and off-street parking. The club's sources of noise are mainly traffic, events, and mechanical equipment such as air conditioners. Noise related to the golf course is the result of golfers, golf carts, and maintenance of the course.

Although the study area for this analysis encompasses the entire Project Site, the new residential buildings/residential units to be constructed in connection with the Proposed Action would occur on a portion of the Project Site that is located over 500 feet from Route 1 and over 2,500 feet from I-95, and thus does not experience ambient noise resulting from high levels of automobile traffic.

Sensitive noise receptors are facilities and uses that are dependent upon a state of serenity and quiet, or are uses that are particularly sensitive to noise levels. Land uses that are typically considered to be sensitive noise receptors would include: residences, schools, hospitals, churches, libraries and certain types of outdoor recreation areas such as nature preserves. The sensitive receptors within 500 feet of the Project Site include:

- Residences north of the site along Rockridge Road, Fairway Green, Old Post Lane, Copper Avenue, Protano Lane, and Sylvan Lane;
- Residences east of the site along Oriental Avenue, Fairway Lane, and Cove Road East;
- Residences south of the site along Cove Road;
- Residences west of the site along Eagle Knolls Road and Hommocks Road; and
- Hommocks Middle School to the west of the Project Site.



## 2. Future without the Proposed Project

Without the Proposed Project, noise conditions on the Project Site would remain as previously described in this chapter. See the No Action Alternative described in Chapter 4 for more detailed information.

## 3. Potential Impacts

Two types of noise sources were measured to assess the potential impacts of noise generated from the Proposed Project: mobile and stationary. Mobile noise is associated with sources that are not permanent to the Project Site. Traffic is an example of a mobile source of noise. Stationary sources of noise are sources that are permanently part of the Project Site. Examples of stationary sources are mechanical equipment and loading activities. The mobile and stationary noise sources associated with the Proposed Action are not expected to result in adverse noise impacts at the nearby sensitive receptors.

### a) Mobile Source

Noise associated with highway or roadway sources (vehicular traffic) are generally attributed to volume, heavy vehicle fraction, and travel speeds. The transportation analysis (as outlined in Chapter 3M) demonstrates that the project-related vehicle generation is expected to be low, with between 61 and 73 new trips occurring during the morning, evening, and Saturday peak hours. The Proposed Action consists of residential uses and maintenance of the existing recreational use, and as such, will not introduce heavy vehicles along the roadways. In addition, as school bus transportation is provided only for students who live more than two miles from the school, most students walk, bike or are driven to school by a parent/guardian. Therefore, noise impacts due to school busses are anticipated to be minimal. Due to the low volumes and no truck traffic associated with the proposed residential use, the Proposed Action is expected to have negligible noise impacts on the surrounding sensitive receptors. The club is to remain in operation and the noise generated from the club and golf course will not increase in noise levels or frequency from current conditions, including no additional truck deliveries.

### b) Stationary Source (Mechanical Equipment)

As for the potential stationary sources associated with the Proposed Action, the site layout will be designed such that the mechanical equipment will not be located near residential areas adjacent to the Project Site. The anticipated mechanical equipment associated with the project would include air conditioning units in the proposed single-family homes. With the proposed residential units located towards the center of the Project Site, sound level from the potential stationary sources equipment are expected to be minimal as sound waves dissipate over distance. If feasible during the design process, the equipment would be strategically located, such that the proposed buildings will serve as barriers to minimize the noise levels perceptible from off-site sensitive noise receptors. Therefore, the Proposed Action is not expected to result in adverse noise impacts and thus complies with the Village of Mamaroneck Noise Ordinance.



### c) Service and Loading Activities

Loading activities associated with the proposed residential development are expected to consist of deliveries via small single unit vehicles (i.e., FedEx, UPS). As such, loading docks are not being proposed as part of the project. Since deliveries will be performed by vehicles that are currently on the roadway system in the vicinity of the Project Site, potential noise impacts associated with deliveries are expected to be negligible. The club and portions of the golf course are to remain in operation of and the special permit for non-member events will be renewed, dictating that the number events that are permitted at the clubhouse will remain constant. Therefore, noise generated from service and loading activities for club events will not increase in noise levels or frequency from current conditions.

### d) Construction Noise Impacts

Construction activities associated with the Proposed Action could result in a temporary increase in noise impacts. There is the potential for noise and vibration during construction activities, however, the extent of the construction may be short-term. Noise and vibration impact from construction can vary greatly depending on the types of equipment used and the complexity of the project.

The Village of Mamaroneck has no sound level criteria for limiting noise during construction. All construction activities would comply with the Village of Mamaroneck's Noise Code (Chapter 254). This Code limits construction activities between the hours of 8:00 a.m. and 6:00 p.m., Monday through Saturday. Only in the case of an urgent necessity in the interest of public health and safety would construction occur outside of these hours, and then only with a permit from the Building Inspector.

The Proposed Action will be constructed in one phase, with construction of roads and related improvements anticipated to last between 18 and 24 months and residential construction anticipated to last between 24 and 36 months. A total of 55.6 acres of disturbance are associated with construction.

Housing would be constructed when there is a buyer and it is anticipated that about 20 units would be constructed annually. It is estimated that the initial construction period would be approximately 9 months with an estimated 16-yard truck visits per day (or 24 per day on a 5-day week schedule). After that, truck activity is expected to diminish to approximately 3-4 per day as the 105 units are built out. All construction would occur within the hours permitted by the Village of Mamaroneck Code. Proposed truck routes are depicted in Exhibit 2-19 in Chapter 2, Description of the Proposed Project. –All construction trucks accessing the Project Site will be required to use I-95, exiting at either Exit 17 (to and from the south) or Exit 19 (to or from the north) to use Boston Post Road (US Route 1) to get to and from Hommocks Road and Eagle Knolls Road. There will be no truck access allowed via Orienta Avenue or East Cove Road. When school is in session, truck access to the Project Site will only be permitted between 8:15 am and 2:30 pm, as well as between 4:00 pm and 7:00 pm.

As discussed, the preliminary geotechnical engineering report indicated that bedrock was encountered at depths ranging from 3 to 17.5 feet below existing ground surface on the Project Site. In addition, there are several prominent outcroppings of rock across the Project Site. The proposed project has been designed to avoid the rocky area, and therefore it is not anticipated that rock removal would be required to achieve the proposed development approach.

Overall, the noise impacts in the project area would not be expected to be substantially affected by the construction of the proposed project because of the temporary nature of construction activities. The operations of construction machinery are short-term and not generally considered substantial. With the implementation of the various mitigation measures to minimize construction-related noise impacts, no significant adverse impacts are expected.

~~In efforts to minimize potential noise impacts during construction, noise reduction measures would include the following:~~

- ~~• Construction activities will be limited to daytime and week day hours.~~
- ~~• The contractor shall prepare a noise control plan to identify the potential for impact according to the specific construction equipment and usage that is expected. The noise control plan will quantify the potential for impact and indicate what type of noise mitigation measures are required.~~
- ~~• Stationary construction equipment will be located as far as possible from noise sensitive sites.~~
- ~~• Of the various types of construction equipment, diesel engines can be the most significant noise source. Mitigation for diesel engine noise may include use of shields, shrouds or intake and exhaust mufflers.~~
- ~~• Most wheeled and tracked construction equipment is required to have back up alarms for safety purposes. Due to their tonal character, these alarms are often a significant noise concern. Special back up alarms may be implemented including ambient adjusted alarms which only sound five decibels higher than ambient conditions or "quackers" which have a less tonal character. Flagging may also be used to eliminate the need for back up alarms.~~
- ~~• Mitigation may include re-routing truck routes and minimizing idling times.~~
- ~~• Acoustic enclosures may be needed to reduce emissions from small construction equipment, such as generators.~~

- ~~• Temporary noise barriers or noise blankets can be installed between construction equipment and sensitive receptors to provide significant noise reduction (typically five to 15 decibels).~~

#### 4. Mitigation

The noise evaluation demonstrated that the Proposed Action would not result in adverse noise impacts. The qualitative assessment demonstrates that the Proposed Action would be designed to incorporate the necessary noise reduction measures to minimize noise associated with the potential mechanical equipment and service activities.

In efforts to minimize potential noise impacts during construction, noise reduction measures would include the following:

- Construction activities will be limited to the hours permitted by the Village of Mamaroneck Code daytime and week day hours.
- The contractor shall prepare a noise control plan to identify the potential for impact according to the specific construction equipment and usage that is expected. The noise control plan will quantify the potential for impact and indicate what type of noise mitigation measures are required.
- Stationary construction equipment will be located as far as possible from noise-sensitive sites.
- Of the various types of construction equipment, diesel engines can be the most significant noise source. Mitigation for diesel engine noise may include use of shields, shrouds or intake and exhaust mufflers.
- Most wheeled and tracked construction equipment is required to have back-up alarms for safety purposes. Due to their tonal character, these alarms are often a significant noise concern. Special back-up alarms may be implemented including ambient-adjusted alarms which only sound five decibels higher than ambient conditions or "quackers" which have a less tonal character. Flagging may also be used to eliminate the need for back-up alarms.
- Mitigation may include re-routing truck routes and adhering to the regulations outlined in the Village Code on idling times minimizing idling times.
- Acoustic enclosures may be needed to reduce emissions from small construction equipment, such as generators.

- Temporary noise barriers or noise blankets can be installed between construction equipment and sensitive receptors to provide significant noise reduction (typically five to 15 decibels).

The Proposed Action will adhere to the regulations outlined in the Village's Noise Ordinance. ~~Noise mitigation measures would be implemented to minimize noise impacts during construction.~~ Noise generated during the construction phase of the proposed project will be temporary and eliminated when construction is complete. During the construction phases of development, to minimize or eliminate adverse impacts due to equipment noise, all construction equipment used on site will be inspected periodically to ensure that properly functioning muffler systems are used on all equipment in accordance with the NYSDEC Best Management Practice (BMP) for reducing noise. While on the site, equipment should not idle ~~unnecessarily~~ except as outlined in the Village Code, and construction activities should be limited to hours described in the Village Code. Based on these measures, the temporary increases in noise levels due to construction equipment usage and construction traffic will be minimized.

DRAFT



## S. AIR QUALITY

This section presents an overview and results of the air quality assessment for the proposed 105-unit Planned Residential Development at the Project Site. The purpose of the air quality assessment is to demonstrate that the project satisfies applicable regulatory requirements and assesses whether it complies with the 1990 Clean Air Act Amendments (CAAA) and the U.S. Environmental Protection Agency (USEPA) policies and procedures.

The air quality assessment conducted for this project includes a qualitative analysis of criteria pollutants and a consideration of mobile (traffic) and stationary (HVAC) emission sources.

### 1. Existing Conditions

#### a) Background

As a result of the CAAA of 1990 legislation, regions are classified based on the severity of their air quality problems. Depending upon air quality data and ambient concentrations of pollutants, air quality control regions can be classified as one of three categories: attainment, non-attainment, or maintenance areas. Geographic areas that do not meet one or more of the federal air quality standards, known as National Ambient Air Quality Standards, or NAAQS, are considered "non-attainment" areas. "Attainment" areas meet all federal air quality standards. A "maintenance area" is an area that used to be non-attainment, but has demonstrated that the air quality has improved to attainment level. After 20 years of clean air quality, maintenance areas can be re-designated to attainment. Projects located in maintenance areas are required to evaluate their pollutant concentrations according to the NAAQS.

The proposed project is located in Westchester County, New York, which is an attainment area for Particulate Matter, Sulfur dioxide, Lead, and Nitrogen Dioxide, a maintenance area for carbon monoxide, and a nonattainment area for ozone.

#### b) Air Quality Standards

The USEPA has established the NAAQS to protect the public health. Table 3S-1 presents the NAAQS for carbon monoxide (CO), particulate matter (PM) and ozone (volatile organic compounds (VOC) and oxides of nitrogen (NOx)~~VOC and NOx~~) for the study area.



**Table 3S-1 National Ambient Air Quality Standards**

Pollutant	Primary Standards		Secondary Standards	
	Level	Averaging Time	Level	Averaging Time
Carbon Monoxide	9 ppm (10 mg/m <sup>3</sup> )	8-hour	None	None
	35 ppm (40 mg/m <sup>3</sup> )	1-hour	None	None
Particulate Matter 2.5	12.0 µg/m <sup>3</sup>	Annual	15.0 µg/m <sup>3</sup>	Annual
	35.0 µg/m <sup>3</sup>	24-hour	35.0 µg/m <sup>3</sup>	24-hour
Particulate Matter 10	150.0 µg/m <sup>3</sup>	24-hour	150.0 µg/m <sup>3</sup>	24-hour
Ozone	0.075 ppm (147 µg/m <sup>3</sup> )	8-hour	0.075 ppm (147 µg/m <sup>3</sup> )	8-hour

The New York State Department of Environmental Conservation (NYSDEC) maintains an air quality monitoring system that collects concentrations of various pollutants within the State. This monitoring data was used to define the existing air quality levels, or background concentrations, within the Project Site and the surrounding area. Background concentrations are ambient pollution levels from other stationary, mobile, and area sources.

A review of the NYSDEC monitoring data indicates that the closest monitoring site to the Project Site that monitors CO is Queens College [in Flushing, Queens](#). The latest monitoring data that has been validated is for the year 2015. The 2015 maximum one-hour and eight-hour average CO concentrations at the Queens College monitoring site are 1.9 and 1.4 parts per million (ppm), respectively. These values are consistent with the study area's CO maintenance area status.

For PM<sub>2.5</sub>, the closest monitoring site to the subject property that monitors PM<sub>2.5</sub> is White Plains. The 24-hour PM<sub>2.5</sub> NAAQS is based upon the average of the 98<sup>th</sup> percentile over the most recent three years. The 24-hour PM<sub>2.5</sub> background value (the 98<sup>th</sup> percentile) over the most recent three years of data (2013-2015) was 18.36 micrograms per cubic meter (µg/m<sup>3</sup>). The annual PM<sub>2.5</sub> background value was 7.6 µg/m<sup>3</sup>. Similarly, the 24-hour PM<sub>10</sub> background value, which is based on the Queen's College monitoring data, was 40 µg/m<sup>3</sup>. These values are significantly less than the 1-hour and 8-hour NAAQS. The background values are presented in Table 3S-2.

The closest monitoring area for PM<sub>10</sub> also located at Queens College. The latest monitoring data indicates that 24-hour average concentration is 40 µg/m<sup>3</sup> which is significantly less than the 24-hour NAAQS.

**Table 3S-2 Air Quality Monitoring Concentrations\***

Pollutant	Monitoring Location	Background Concentrations		NAAQS	
		Level	Averaging Time	Level	Averaging Time
Carbon Monoxide	Queens College (Region 2)	1.4 ppm	8-hour	9 ppm	8-hour
		1.9 ppm	1-hour	35 ppm	1-hour
Particulate Matter 2.5	White Plains (Region 3)	7.6 µg/m <sup>3</sup>	Annual	12.0 µg/m <sup>3</sup>	Annual
		18.3 µg/m <sup>3</sup>	24-hour	35.0 µg/m <sup>3</sup>	24-hour
Particulate Matter 10	Queens College (Region 2)	40 µg/m <sup>3</sup>	24-hour	150.0 µg/m <sup>3</sup>	24-hour

\* Represents 2015 NYSDEC Monitoring Data

On June 15, 2005, the USEPA revoked the one-hour ozone standard for most areas in the country. This action means that the one-hour ozone non-attainment area, classified as "Serious," is no longer applicable for Westchester County in the State of New York. Only the eight-hour ozone NAAQS applies. Westchester County is designated as eight-hour ozone nonattainment area, which has been classified as "Moderate."

The NYSDEC and the USEPA have established guidance that defines the air quality modeling and review criteria for analyses prepared pursuant to the CAAA. The CAAA requires that a development not:

- Cause any new violation of the NAAQS;
- Increase the frequency or severity of any existing violations; or
- Delay attainment of any NAAQS

## 2. Future without the Proposed Project

In a future without the proposed project, the air quality conditions in the region of the Project Site would remain as previously described. See the No Action Alternative described in Chapter 4 for more detailed information.

## 3. Potential Impacts

The following outlines the projected air quality conditions resulting from the Proposed Action.



### a) Traffic Data

The transportation analysis completed as part of this environmental impact study predicted anticipated trip generation that would result from the Proposed Action. As outlined in Chapter 3M, Traffic, Transit, and Pedestrians, project-related vehicle generation is expected to be low, with between 61 and 73 new trips occurring during the morning, evening, and Saturday peak hours.

### b) Air Quality Assessment (CO, VOC and NOx)

The proposed development is located in Westchester County, which has been classified as a maintenance area for CO.

Violation of the CO standard set by the NAAQS has become increasingly infrequent, due to a number of factors. Primarily, the vehicular emission rates of CO have decreased and will continue to decrease with newer, more controlled vehicles ~~entering the fleet~~.<sup>1</sup> Additionally, the CO background concentration in Westchester County area has decreased with time.<sup>2</sup>

Considering these controlling factors (projected trip generation rates, background concentration, and vehicular emission rates), it is unlikely that the Proposed Action will impact levels of CO in the region. The project will generate little vehicular activity in the surrounding network. The CO emission rates ~~of the fleet~~ will decrease over time, and the background CO concentration is relatively small, less than 1% and 15% of the respective 1-hour and 8-hour NAAQS.

A review of the proposed project's traffic volumes also indicates that there will be no substantial change in the ozone precursors of volatile organic compounds (VOCs) and oxides of nitrogen (NOx). Therefore, it is not expected that there will be any adverse impacts to the regional ozone levels.

### c) Stationary Sources

The project may require emergency generators, boilers, or other fuel burning sources for some of the proposed buildings. The determination of specific equipment parameters, such as the number of units, size, and location would be made during the building design. The project would apply for the appropriate NYSDEC air permits under the Division of Air Resources (DAR), which include additional air and noise requirements described in NYSDEC regulations under New York Codes, Rules and Regulation (6 NYCRR Part 201). When the details of the fuel-burning stationary source equipment (such as emergency generators) are developed, the proponent will submit the appropriate permit application to

<sup>1</sup> "Transportation Air Quality Facts and Figures" *Vehicle Emissions*, Federal Highway Administration. January 2006. <[https://www.fhwa.dot.gov/environment/air\\_quality/publications/fact\\_book/page15.cfm](https://www.fhwa.dot.gov/environment/air_quality/publications/fact_book/page15.cfm).>

<sup>2</sup> New York Department of Environmental Conservation, *New York State Ambient Air Quality Reports*, Multiple Years.



DEC including the noise and air quality mitigation measures (such as acoustic enclosures and exhaust silencers) necessary to meet the NYSDEC's criteria.

Given these regulatory requirements, and the green technology measures included in the proposed project, described in detail in Chapter 2, "Description of Proposed Project," no significant air quality impacts are anticipated as a result of the Proposed Action.

#### **d) Construction Air Quality Impacts**

Construction activities associated with the Project could result in a temporary increase in air quality impacts. The primary source of potential emissions is from fugitive dust resulting from construction operations (e.g., clearing, grading). Fugitive dust consists of soil particles that become airborne when disturbed by heavy equipment operation or through wind erosion of exposed soil after groundcover (e.g., lawn, pavement) is removed.

It is estimated that the initial construction period would be approximately 9 months with an estimated 4,300 16-yard truck visits (or 24 truck visits per day on a 5-day week schedule). After that, truck activity is expected to diminish to approximately 3-4 per day as the 105 units are built out. Therefore, it is expected that these construction-related air quality impacts (i.e. fugitive dust) would be of relatively short duration.

Overall, air quality in the proposed development area is not expected to be substantially affected by the construction of the project because of emission control procedures (described below) and the temporary nature of construction activities. Emissions from the operation of construction machinery (CO, NO<sub>x</sub>, PM, VOCs, and GHGs (greenhouses gasses)) are short-term and not generally considered substantial. With the implementation of the various mitigation measures to minimize construction-related air quality impacts, no significant adverse impacts would be expected.

#### **e) Blasting Impacts**

~~The preliminary geotechnical engineering report (see Appendix F) indicated that bedrock was encountered at depths ranging from 3 to 17.5 feet below existing ground surface on the Project Site. It is not anticipated that rock removal would be required to achieve the proposed development approach. No significant areas of rock removal were identified in a cut area; therefore, no impacts from blasting are anticipated. Based on the Preliminary Geotechnical report prepared by GZA Geoenvironmental (Appendix G), shallow bedrock is expected to be encountered by the project in the vicinity of boring GZ-2 (4 feet below existing ground surface) and GZ-6 (3 feet below existing ground surface). Boring GZ-2 is located near the intersection of relocated Eagle Knolls Road and existing Hommocks Road. The existing grade will be cut approximately 2 feet leaving 2 feet to the bedrock. Minor bedrock removal may be required for installation of utilities and foundations. Boring GZ-6 is located in the vicinity of Lot 9. The grade in this area is proposed to be lowered on average of 5 to 6 feet requiring 7 to 8 feet of~~

rock removal. Potential blasting is only anticipated in the area around Boring GZ-6. Based on the GZA Report rock removal will be performed by either mechanical chipping using a hydraulic ram hoe or by blasting performed in accordance with New York State Department of Transportation Geotechnical Engineering Manual #22 "Procedures for Blasting" latest edition.

#### 4. Mitigation

Long term impacts to air quality due to the Proposed Action are not anticipated, therefore, no long term mitigation measures are required. Vehicle trip generation resulting from the project is expected to be low, thereby lessening the potential for air quality impacts due to mobile sources. Any stationary sources associated with the project would comply with appropriate state and local regulations and obtain New York State air permits, if necessary, when the exact equipment is finalized.

Short term impacts to air quality due to construction are expected but will be temporary and will cease upon project completion. Construction activities are to be performed in accordance with the State of New York's current construction specifications and regulations and include requiring heavy-duty vehicles be equipped with pollution control devices, adherence to the State's anti-idling law and use of ultra-low sulfur diesel fuel (ULSD). The construction mitigation will be in compliance with all applicable local, state, and federal regulations. It is anticipated that nearby properties will experience temporary fugitive dust and an elevation in vehicle emissions from construction vehicles throughout occasional periods during construction of the proposed project. This is a temporary, construction-related, unavoidable impact. Any blasting would be performed in accordance with New York State Department of Transportation Geotechnical Engineering Manual #22 "Procedures for Blasting" latest edition.

Specific mitigation measures for short term impacts during construction are as follows:

- Emission controls for construction vehicles will include, as appropriate, proper maintenance of all motor vehicles, machinery, and equipment associated with construction activities, such as the maintenance of manufacturer's muffler equipment or other regulatory-required emissions control devices
- Appropriate methods of dust control would be determined by the surfaces affected (i.e. roadways or disturbed areas) and would include, as necessary, the application of water, the use of stone in construction roads, and vegetative cover

The qualitative assessment demonstrates that all existing and future carbon monoxide concentrations are expected to be below the NAAQS. The air quality study demonstrates that the project conforms to the CAAA because:

- No violation of the NAAQS are expected to be created.





- No increase in the frequency or severity of any existing violations (none of which are related to this development) would be anticipated to occur.
- No delay in attainment of any NAAQS would be expected to result due to the implementation of the Proposed Action.

DRAFT

## 4. Alternatives

The Scoping Document requires the evaluation of a range of alternatives to the Proposed Action, including the “No Action Alternative”. Table 4-1, Comparison of Project Alternatives, provided at the end of this chapter, presents in matrix form a comparison of the potential impacts of the Alternatives A through G, as follows:

Alternative A: No Action

Alternative B: Conventional Subdivision under R-20 Zoning

Alternative C: Cluster Subdivision under R-20 Zoning

Alternative D: Conventional Subdivision under R-30 Zoning

Alternative E: Cluster Subdivision under R-30 Zoning

Alternative F: “No Fill” under R-20 Zoning

Alternative G: Rezoning for Condominium and Golf Course

### A. NO ACTION

The “No Action” Alternative, which assumes no new development, is required by the SEQRA regulations to be described in an EIS. For SEQRA purposes, this No Action Alternative assumes that the Project Site would remain in its current condition.

With this alternative, there would be no physical changes to the Project Site: no grading or alteration of topography; no loss of existing vegetation; and no construction activities. The Project Site would generate no additional traffic or additional population. There would be no visual impact, and there would be no effect on community services. There would be no need for additional water supply and no impact to drainage or adjoining and downstream properties.

However, the No Action Alternative does not address the needs, goals, and objectives of the Applicant, and is therefore not a feasible alternative. Given the current seasonal nature of the Hampshire Country Club and the downward trends in the golfing market exhibited over the past decade, the Club in its current condition does not generate sufficient revenue to maintain operation in the long term. The Club has reported annual operating losses since the current owners purchased the Club in 2010. It is assumed that under the No Action Alternative, in the long term, the Hampshire Country Club would be forced to close. As a result, the Village would lose the longtime custodian of the open space and other sensitive features on the Project Site identified as significant in the Village of Mamaroneck Comprehensive Plan.

Nor would the Village receive the economic benefit in terms of increased Village and School District taxes or the addition of a more modernized housing options. Table 4-1 provides a comparison of specific characteristics and potential impacts as compared to the Proposed Action and the other alternatives.

While this alternative would result in less short-term potential impacts than the Proposed Action, it would result in several long-term impacts, including not providing the ability to maintain the private recreation use of the Project Site and its open space, or the additional tax revenue the proposed redevelopment would generate. The Project Site wetlands would remain at low functionality for wetland vegetation and diversity without the installation of native plantings along the perimeters of the ponds and proposed stormwater management basins. In addition, existing roadway conditions and flood risks would continue at the Project Site.

## **B. CONVENTIONAL SUBDIVISION UNDER R-20 ZONING**

The majority of the Project Site falls within the R-20 zoning district in the Village of Mamaroneck. A principal permitted use of the R-20 district is single-family homes with a minimum lot size of 20,000 square feet. Under Alternative B, the R-20 district would be conventionally subdivided into 106 conforming single-family home lots, as shown in Exhibit 4-2.

Under the R-20, the maximum permitted number of residential dwellings on a site shall be determined by dividing the gross area of the subject parcel by the minimum lot size requirements of the underlying zoning district. Following this calculation, the 94.5-acre R-20 portion of the Project Site in the Village of Mamaroneck would permit a maximum of 205 single-family lots. Factoring in reasonable and safe access, stormwater management and the portions of the Project Site that contain environmentally sensitive wetlands, 106 single-family lots are proposed in this alternative.

Access to the subdivision would be provided through Eagle Knolls Road, Cove Road, and Cooper Avenue. A newly constructed interior roadway system would connect the three access roads to the 106 private driveways.



With this as-of-right alternative, the Village of Mamaroneck would lose a good portion of the open space/recreation that is currently on the R-20 portion of the Project Site. The 7.3 acres that fall within the Town of Mamaroneck would remain undisturbed. In addition, the clubhouse and other recreational building structures and resources would remain in use in the MR district.

In total, this as-of-right alternative would result in 37 acres of preserved open space and 68.2 acres of disturbance.

Impacts by major category are summarized below:

### 1. Land Use and Zoning

The 106 single-family homes would be compatible with the surrounding residential neighborhoods. Compared to the Proposed Action and other alternatives, this as-of-right alternative would result in a relatively small open space area, and the golf course private recreation use would be ~~completely~~ eliminated. This alternative fully complies with existing zoning on the Project Site.

### 2. Visual and Community Character

The conventional subdivision under R-20 zoning would change the character of the Project Site with the addition of the residential homes and elimination of the golf course. The Proposed Action includes a shared open space landscaping program which would not be realized with the conventional subdivision alternative. In addition, without the maintenance of the nine-hole golf course (as is the case under the Proposed Action), there would be little open space buffer between the constructed single-family homes and the neighboring properties, heightening the visual impact of the development.

### 3. Natural Features and Open Space

The conventional subdivision under R-20 would utilize a majority of the Project Site for development, with 37 acres of preserved open space and 68.2 acres of disturbance. Given the increased area of disturbance, it is likely some rock removal would be required. Total fill would amount to approximately 350,000 cubic yards, significantly more than the Proposed Action.

### 4. Stormwater and Drainage

A Stormwater Pollution Prevention Plan (SWPPP) would be prepared for Alternative B to ensure that the quality of stormwater runoff after development would not be substantially altered from existing conditions, in compliance with Village of Mamaroneck Code §294-4(A)(1). In addition, a drainage system would be designed to treat water runoff and provide water quality control. As a result of its implementation, it is expected that there would be no significant water quality impacts on receiving wetlands or downstream discharge points or properties.



Per Chapter 4 of the New York State Stormwater Management Design Manual (SMDM), given that the Project Site is located within the Long Island Sound tidal area and onsite runoff is discharging into the tidal water, water quantity control, such as channel protection volume, overbank flood control, and extreme flood control, is not required.

All proposed grading and development would be executed in accordance with a floodplain development permit, as required by §186-4-A.2 of the Village of Mamaroneck Code. Additionally, this alternative has been designed so that the lowest floor of the proposed homes would be elevated to a minimum of 15 feet, two and a half feet above the preliminary 100-year stillwater elevations, in accordance with §186-5-C.1 of the Village Code. Proposed public facilities would be elevated as well to minimize flood damage.

## 5. Traffic

Traffic generation from the 106 single-family homes would be slightly higher than the traffic generated from the 105-unit Proposed Action, and would include 62 AM peak hour trips, 85 PM peak hour trips, and 63 Saturday trips.

## 6. Utilities

The estimated sewage generation for Alternative B is 46,640 gallons per day, with an estimated peak rate of 110 gpm utilizing the industry standard values for wastewater. The estimated water demands would be 46,640 gpd. The water and sewer requirements are greater for this alternative compared to the Proposed Action due to the increase in four-bedroom residences.

## 7. Socio-economic Factors

Project Site population with this alternative, based on 106 4-bedroom homes, would be approximately 389 persons ( $3.67 \times 106$ ), of which 93 would be school age children ( $0.87 \times 106$ ).<sup>1</sup> Assuming a market value of \$2.6 million per a four-bedroom single-family home, in total, the Project Site would generate \$7,428,241 in tax revenue annually, following the tax rates provided in Chapter 30, Fiscal and Economic Conditions. Of this total, approximately 50 percent (\$3,709,029) would go to the Mamaroneck Union Free School District; approximately 25 percent would go to the Village of Mamaroneck; and the remainder would go to the Town, County, and other taxing districts. Applying the per student programmatic cost of \$15,893 paid by local property taxes to the estimated 93 new public school students indicates that the Alternative B development could result in an additional cost of \$1,478,049 to

---

<sup>1</sup> Rutgers University, Center for Urban Policy Research: Residential Demographic Multipliers - Estimates of the Occupants of New Housing, June 2006 (New York, Total Persons in Units, Single-Family Detached, 4 BR, More than \$329,500



the Mamaroneck Union Free School District. Using these figures, it is estimated that the overall result of the Alternative B development would be a net fiscal benefit of \$5,950,192 (\$7,428,241-\$1,478,049).

It is the Applicant's opinion that the benefits of Alternative B do not outweigh its potential impacts in comparison with the Proposed Action which is to maintain as much open space and maintain the private recreation for the Project Site. The golf course would be eliminated in Alternative B and the amount of open space would be significantly less than the Proposed Action. In addition, Alternative B requires a significant amount of additional fill, 350,000 cubic yards, considerably larger than the Proposed Action, which only requires 84,104 cubic yards of fill. Alternative B is also projected to produce more school children and more water requirements than the Proposed Action.

## C. CLUSTER SUBDIVISION UNDER R-20 ZONING

As noted above, the Project Site is in the R-20 district. Planned Residential Developments, a clustered design of dwelling units, are permitted in R-20 districts as a means to preserve open space and protect environmental values. In Alternative C, the 106 single-family lots proposed under a conventional subdivision in the R-20 district, as demonstrated by Alternative B, would be developed according to a clustered design, as shown in Exhibit 4-3.

The roadway system in Alternative C is similar to the roadway system in the Proposed Action, where access to the Project Site is provided from Eagle Knolls Road, Cove Road, and exit only on Cooper Avenue, with single-family homes lining a rerouted Cove Road and three surrounding clusters of single-family homes located along an extended Cooper Avenue, an extended Eagle Knolls Road, and a newly created road in the northwest section of the Project Site.

This alternative would result in 62 acres preserved as open space and 52 acres of disturbance. As with Alternative B, the 7.3 acres that fall within the Town of Mamaroneck would remain undisturbed, and the clubhouse would remain in use in the MR district.

Impacts by major category are summarized below.

### 1. Land Use and Zoning

Similar to Alternative B, the 106 single-family homes would be compatible with the surrounding residential neighborhoods. Unlike the conventional subdivision plan in Alternative B, this alternative would allow for the preservation of approximately 62 acres of retained open space. The private recreation use would be completely eliminated due to space occupied by the single family lots. Unlike the Proposed Action, this alternative does not include semi-detached housing options.



## **2. Visual and Community Character**

The cluster subdivision under R-20 zoning would change the character of the Project Site with the addition of the residential homes and elimination of the golf course. Compared to the Proposed Action, Alternative C would have a similar impact on visual and community character. The development of single-family homes would be in keeping with the character of the existing residential neighborhood, and the maintained open spaces would provide a buffer from adjacent streets and existing homes that surround the Project Site.

## **3. Natural Features and Open Space**

The cluster subdivision under R-20 would require 52 acres of disturbance, marginally less than the Proposed Action. Sixty-two acres of shared open space would be maintained under Alternative C. The 100-foot adjacent areas to the wetlands on the Project Site would be preserved. Total fill would amount to approximately 95,000 cubic yards, which is more than the Proposed Action.

## **4. Stormwater and Drainage**

A Stormwater Pollution Prevention Plan (SWPPP) would be prepared for Alternative C to ensure that the quality of stormwater runoff after development would not be substantially altered from existing conditions, in compliance with Village of Mamaroneck Code §294-4(A)(1). In addition, a drainage system would be designed to treat water runoff and provide water quality control. As a result of its implementation, it is expected that there would be no significant water quality impacts on receiving wetlands or downstream discharge points or properties.

Per Chapter 4 of the SMDM, given that the Project Site is located within the Long Island Sound tidal area and onsite runoff is discharging into the tidal water, water quantity control, such as channel protection volume, overbank flood control, and extreme flood control, is not required.

All proposed grading and development would be executed in accordance with a floodplain development permit, as required by §186-4-A.2 of the Village of Mamaroneck Code. Additionally, this alternative has been designed so that the lowest floor of the proposed homes would be elevated to a minimum of 15 feet, two and a half feet above the preliminary 100-year stillwater elevations, in accordance with §186-5-C.1 of the Village Code. Proposed public facilities would be elevated as well to minimize flood damage.

## **5. Traffic**

As with Alternative B, traffic generation from the 106 single-family homes would be slightly higher than the traffic generated from the 105-unit Proposed Action, and would include 62 AM peak hour trips, 85 PM peak hour trips, and 63 Saturday trips.



## 6. Utilities

The estimated sewage generation for Alternative C is 46,640 gallons per day, with an estimated peak rate of 110 gpm utilizing the industry standard values for wastewater. The estimated water demands would be 46,640 gpd. The water and sewer requirements are greater for this alternative compared to the Proposed Action due to the increase in four-bedroom residences.

## 7. Socio-economic Factors

The estimated population would be 389 persons, 93 of which would be school age children. Assuming a market value of \$2.6 million per a four-bedroom single-family home, in total, the Project Site would generate \$7,428,241 in tax revenue annually, following the tax rates provided in Chapter 30, Fiscal and Economic Conditions. Of this total, approximately 50 percent (\$3,709,029) would go to the Mamaroneck Union Free School District; approximately 25 percent would go to the Village of Mamaroneck; and the remainder would go to the Town, County, and other taxing districts. Applying the per student programmatic cost of \$15,893 paid by local property taxes to the estimated 93 new public school students indicates that the Alternative C development could result in an additional cost of \$1,478,049 to the Mamaroneck Union Free School District. Using these figures, it is estimated that the overall result of the Alternative C development would be a net fiscal benefit of \$5,950,192 (\$7,428,241-\$1,478,049).

It is the Applicant's opinion that the benefits of Alternative C do not outweigh its potential impacts in comparison with the Proposed Action. The Village of Mamaroneck's stated goals for the Project Site include potentially including a residential use while maintaining as much open space as possible and maintaining the private recreation. Alternative C would eliminate the private golf course and preserve less open space than the Proposed Action. In addition, Alternative C requires more fill, 95,000 cubic yards worth, which is larger than the Proposed Action requirement of 84,104 cubic yards of fill. Alternative C is also projected to produce more school children than the Proposed Action, and result in higher traffic during the AM peak, PM peak, and Saturday periods.

## D. CONVENTIONAL SUBDIVISION UNDER R-30 ZONING

The Village of Mamaroneck Comprehensive Plan includes the proposal to consider rezoning the Project Site to an R-30 district, as was done by the Town of Mamaroneck on the adjacent portion of the property. An R-30 zoning district allows for single-family homes with a minimum lot size of 30,000 square feet.

Under this alternative, the Project Site would be redeveloped under an R-30 zoning, allowing for a conventional subdivision into 85 conforming single-family home lots, as shown in Exhibit 4-4. An R-30 district would require 30,000 square foot lots resulting in a total of 85 single-family lots permitted on the Project Site. This density would avoid the environmentally sensitive features on Project Site. The

design would accommodate all required stormwater management measures and new roadways necessary to serve residential development.

Access to the subdivision would be the same as described under Alternative B, with three access roads and a newly developed interior road network. Similarly, the Village of Mamaroneck would lose a large portion of the 94.5 acres of open space/recreation that currently is provided on the R-20 portion of the Project Site. The 7.3 acres that fall within the Town of Mamaroneck would remain undisturbed. The clubhouse and other recreational building structures and resources would remain in use in the MR district but the golf course use ~~private recreation~~ would cease to exist.

In total, this alternative would result in 25 acres of preserved open space and 78 acres of disturbance.

Impacts by major category are summarized below.

### 1. Land Use and Zoning

Unlike the Proposed Action and the alternatives discussed above, this alternative would require a rezoning from R-20 to R-30. However, given the land uses of the surrounding neighborhood and the fact that R-20 and R-30 zoning districts allow for the same permitted uses, the 85 single-family homes would be compatible with the surrounding residential neighborhood. In addition, the zoning on the portion of the Project Site within the Village of Mamaroneck would now match the zoning on the Town of Mamaroneck portion of the Project Site.

Compared to the cluster alternatives, this alternative would result in fewer acres of preserved open space (approximately 25 acres). The private recreation use would be completely eliminated. Similar to the Proposed Action, however, this alternative would preserve all wetlands and ponds on the Project Site.

### 2. Visual and Community Character

The impacts of this alternative to visual and community character are similar to Alternative B. The character of the Project Site would change significantly with the addition of the residential homes and elimination of the golf course. While the development of 85 single-family homes would be in keeping with the character of the surrounding residential neighborhood, the Proposed Action includes a shared open space landscaping program which would not be realized with the R-30 conventional subdivision alternative. The fewer acres of shared open space would be less effective in providing an open space buffer between the constructed single-family homes and the neighboring properties.

### 3. Natural Features and Open Space

As mentioned, Alternative D would result in approximately 25 acres of open space. As with Alternative B, the conventional subdivision under R-30 would utilize a majority of the Project Site for development, with ~~66.7~~78 acres of disturbance. Given the increased area of disturbance, it is likely some rock removal



would be required. Total fill would amount to approximately 380,000 cubic yards, significantly more than the Proposed Action and slightly more than Alternative B given the large lot sizes.

#### **4. Stormwater and Drainage**

A Stormwater Pollution Prevention Plan (SWPPP) would be prepared for Alternative D to ensure that the quality of stormwater runoff after development would not be substantially altered from existing conditions, in compliance with Village of Mamaroneck Code §294-4(A)(1). In addition, a drainage system would be designed to treat water runoff and provide water quality control. As a result of its implementation, it is expected that there would be no significant water quality impacts on receiving wetlands or downstream discharge points or properties.

Per Chapter 4 of the SMDM, given that the Project Site is located within the Long Island Sound tidal area and onsite runoff is discharging into the tidal water, water quantity control, such as channel protection volume, overbank flood control, and extreme flood control, is not required.

All proposed grading and development would be executed in accordance with a floodplain development permit, as required by §186-4-A.2 of the Village of Mamaroneck Code. Additionally, this alternative has been designed so that the lowest floor of the proposed homes would be elevated to a minimum of 15 feet, two and a half feet above the preliminary 100-year stillwater elevations, in accordance with §186-5-C.1 of the Village Code. Proposed public facilities would be elevated as well to minimize flood damage.

#### **5. Traffic**

The 85 single-family homes proposed under Alternative D would generate approximately 47 AM peak hour trips, 65 PM peak hour trips, and 44 Saturday trips, fewer compared to the Proposed Action and the alternatives discussed above.

#### **6. Utilities**

The estimated sewage generation for the proposed development is 37,400 gallons per day, with an estimated peak rate of 110 gpm utilizing the industry standard values for wastewater. The associated estimated water generation is 37,400 gallons per day. Compared to the other alternatives discussed above and the Proposed Action, the water and sewer requirements for this alternative are less.



## 7. Socio-economic Factors

Project Site population with this alternative, based on 85 4-bedroom homes, would be approximately 312 persons ( $3.67 \times 85$ ), of which 74 would be school aged children ( $0.87 \times 84$ ).<sup>2</sup> Assuming a market value of \$2.6 million per a four-bedroom single-family home, in total, the Project Site would generate \$5,961,133 in tax revenue annually, following the tax rates provided in Chapter 30, Fiscal and Economic Conditions. Of this total, approximately 50 percent (\$2,976,877) would go to the Mamaroneck Union Free School District; approximately 25 percent would go to the Village of Mamaroneck; and the remainder would go to the Town, County, and other taxing districts. Applying the per student programmatic cost of \$15,893 paid by local property taxes to the estimated 74 new public school students indicates that the Alternative D development could result in an additional cost of \$1,176,082 to the Mamaroneck Union Free School District. Using these figures, it is estimated that the overall result of the Alternative D development would be a net fiscal benefit of \$4,785,051 (\$5,961,133-\$1,176,082).

It is the Applicant's opinion that the benefits of Alternative D do not outweigh its potential impacts in comparison with the Proposed Action. Alternative D would eliminate the private golf course. In addition, Alternative D requires significantly more fill, 380,000 cubic yards worth, which is larger than the Proposed Action's requirement of 84,104 cubic yards of fill. Financial benefits to the Village of Mamaroneck would be less with Alternative D compared to the Proposed Action.

## E. CLUSTER SUBDIVISION UNDER R-30 ZONING

In Alternative E, the 85 single-family lots permitted under a conventional subdivision in an R-30 district (see Alternative D) would be developed according to a clustered design, as shown in Exhibit 4-5.

The roadway system under this alternative is similar to both Alternative C and the Proposed Action. Single-family homes would line a rerouted Cove Road and extended Cooper Avenue, as well as the extended Eagle Knolls Road and new roadway ending in a cul-de-sac.

This alternative would result in 51 acres of preserved open space and 50 acres of disturbance. The 7.3 acres that fall within the Town of Mamaroneck would remain undisturbed, and the clubhouse would remain in use in the MR district.

### 1. Land Use and Zoning

Similar to Alternative D, this alternative would require a rezoning from R-20 to R-30. The 85 single-family homes would be compatible with the surrounding residential neighborhood. In addition, the zoning on the portion of the Project Site within the Village of Mamaroneck would match the zoning on the Town

---

<sup>2</sup> Rutgers University, Center for Urban Policy Research: Residential Demographic Multipliers - Estimates of the Occupants of New Housing, June 2006 (New York, Total Persons in Units, Single-Family Detached, 4 BR, More than \$329,500)



of Mamaroneck portion of the Project Site. Unlike the conventional subdivision plan under R-30 zoning in Alternative D, this alternative would allow for the preservation of significantly more open space, approximately 51 acres. However, the private recreation use would still be completely eliminated from the Project Site.

## **2. Visual and Community Character**

The cluster subdivision under R-30 zoning would change the character of the Project Site with the addition of the residential homes and elimination of the golf course. However, the maintenance of approximately 51 acres of open space would temper that impact by providing buffers from adjacent streets and existing homes that surround the Project Site. In addition, as with the Proposed Action, the development of single-family homes would be in keeping with the character of the existing residential neighborhood.

## **3. Natural Features and Open Space**

The cluster subdivision under R-30 would require 50 acres of disturbance and would maintain approximately 51 acres of shared open space. The 100-foot adjacent areas to the wetlands on the Project Site would be preserved. Total fill would amount to approximately 105,000 cubic yards, slightly more than is required for the Proposed Action.

## **4. Stormwater and Drainage**

A Stormwater Pollution Prevention Plan (SWPPP) would be prepared for Alternative E to ensure that the quality of stormwater runoff after development would not be substantially altered from existing conditions, in compliance with Village of Mamaroneck Code §294-4(A)(1). In addition, a drainage system would be designed to treat water runoff and provide water quality control. As a result of its implementation, it is expected that there would be no significant water quality impacts on receiving wetlands or downstream discharge points or properties.

Per Chapter 4 of the SMDM, given that the Project Site is located within the Long Island Sound tidal area and onsite runoff is discharging into the tidal water, water quantity control, such as channel protection volume, overbank flood control, and extreme flood control, is not required.

All proposed grading and development would be executed in accordance with a floodplain development permit, as required by §186-4-A.2 of the Village of Mamaroneck Code. Additionally, this alternative has been designed so that the lowest floor of the proposed homes would be elevated to a minimum of 15 feet, two and a half feet above the preliminary 100-year stillwater elevations, in accordance with §186-5-C.1 of the Village Code. Proposed public facilities would be elevated as well to minimize flood damage.

## 5. Traffic

As with Alternative D, traffic generation from the 85 single-family homes would be 47 AM peak hour trips, 65 PM peak hour trips, and 44 Saturday trips, fewer compared to the Proposed Action and the alternatives discussed above.

## 6. Utilities

The estimated sewage generation for Alternative E is 37,400 gallons per day, with an estimated peak rate of 110 gpm utilizing the industry standard values for wastewater. The estimated water demands would be 37,400 gpd. The water and sewer requirements are greater for this alternative compared to the Proposed Action due to the increase in four-bedroom residences.

## 7. Socio-economic Factors

Project Site population with this alternative would be 312 persons, 74 of which would be school age children. Assuming a market value of \$2.6 million per a four-bedroom single-family home, in total, the Project Site would generate \$5,961,133 in tax revenue annually, following the tax rates provided in Chapter 30, Fiscal and Economic Conditions. Of this total, approximately 50 percent (\$2,976,877) would go to the Mamaroneck Union Free School District; approximately 25 percent would go to the Village of Mamaroneck; and the remainder would go to the Town, County, and other taxing districts. Applying the per student programmatic cost of \$15,893 paid by local property taxes to the estimated 74 new public school students indicates that the Alternative E development could result in an additional cost of \$1,176,082 to the Mamaroneck Union Free School District. Using these figures, it is estimated that the overall result of the Alternative E development would be a net fiscal benefit of \$4,785,051 (\$5,961,133-\$1,176,082).

It is the Applicant's opinion that the benefits of Alternative E do not outweigh its potential impacts in comparison with the Proposed Action. Alternative E would eliminate the private golf course and would result in less overall open space. In addition, Alternative E requires more fill than the Proposed Action. Alternative E would result in more school age children and water requirements than the Proposed Action, with less of a net fiscal benefit.

## F. "NO FILL" UNDER R-20 ZONING

Under Alternative F, the existing R-20 zoning would remain applicable and the Planned Residential Development regulations would be applied without bringing any new fill to the Project Site (though excavated material may be moved around within the boundaries of the Project Site for grading purposes). Given the fill limitations, 106 two- and three-unit semi-detached carriage homes would be developed primarily along a rerouted Cove Road extending through the center of the Project Site. One



additional cluster would be developed along an extended Eagle Knolls Road. Access to the development would be provided via Eagle Knolls Road and Cove Road; unlike the Proposed Action and the alternatives discussed above, Alternative F would not include a third access point at Cooper Avenue. See Exhibit 4-6.

This alternative would result in 73 acres of preserved open space and 36 acres of disturbance. The 7.3 acres that fall within the Town of Mamaroneck would remain undisturbed, and the clubhouse would remain in use in the MR district.

Impacts by major category are summarized below.

## 1. Land Use and Zoning

The 106 two- and three-unit carriage homes provided under Alternative F would be compatible with the surrounding residential neighborhood, particularly the Fairway Green Townhouse Development to the northeast of the Project Site. In addition, the PRD regulations allow for the preservation of approximately 73 acres of shared open space which buffer the development from the existing neighbors and adjacent streets. The applicant is not proposing to keep the private recreation in this Alternative. In order to meet a zero net fill, a majority of the site would need to be regraded including the areas of the existing golf course, making it difficult and cost-prohibitive to preserve the golf course. This alternative fully complies with existing zoning on the Project Site. Unlike the Proposed Action, this alternative does not include a mix of single-family and semi-detached housing options.

## 2. Visual and Community Character

This cluster subdivision alternative, as with the other alternatives discussed above, would change the character of the Project Site with the addition of the residential homes and elimination of the golf course. However, the maintained open spaces would help alleviate that impact and provide continuity from the existing character of open space provided by the golf course. In addition, as with the Proposed Action, the development of carriage homes would be in keeping with the character of the existing residential neighborhood.

## 3. Natural Features and Open Space

The maintenance of 73 acres of shared open space under Alternative F limits the area of disturbance to approximately 36 acres, preserving significant natural features on the Project Site including the 100-foot adjacent areas to the wetlands. Different from Proposed Action and the other alternatives discussed, no net fill would be required under this alternative.

#### 4. Stormwater and Drainage

A Stormwater Pollution Prevention Plan (SWPPP) would be prepared for Alternative F to ensure that the quality of stormwater runoff after development would not be substantially altered from existing conditions, in compliance with Village of Mamaroneck Code §294-4(A)(1). In addition, a drainage system would be designed to treat water runoff and provide water quality control. As a result of its implementation, it is expected that there would be no significant water quality impacts on receiving wetlands or downstream discharge points or properties. Proposed residential buildings would be elevated out of the floodplain with excavated material moved from other portions of the Project Site for grading purposes.

Per Chapter 4 of the SMDM, given that the Project Site is located within the Long Island Sound tidal area and onsite runoff is discharging into the tidal water, water quantity control, such as channel protection volume, overbank flood control, and extreme flood control, is not required.

#### 5. Traffic

The 106 carriage homes proposed under Alternative F would generate approximately 32 AM peak hour trips, 37 PM peak hour trips, and 17 Saturday trips, fewer than the Proposed Action and other alternatives.

#### 6. Utilities

The estimated sewage generation for Alternative F is 34,980 gallons per day, with an estimated peak rate of 110 gpm utilizing the industry standard values for wastewater. The estimated water demands would be 34,980. The water and sewer requirements are slightly less for this alternative compared to the Proposed Action.

#### 7. Socio-economic Factors

The estimated population would be 300 persons (106 x 2.83), of which 30 would be school age children (300 x .28).<sup>3</sup> Assuming a market value of \$1.3 million per a three-bedroom carriage home, in total, the Project Site would generate \$3,725,540 in tax revenue annually, following the tax rates provided in Chapter 30, Fiscal and Economic Conditions. Of this total, approximately 50 percent (\$1,861,219) would go to the Mamaroneck Union Free School District; approximately 25 percent would go to the Village of Mamaroneck; and the remainder would go to the Town, County, and other taxing districts. Applying the per student programmatic cost of \$15,893 paid by local property taxes to the estimated 30 new public school students indicates that the Alternative F development could result in an additional cost of

<sup>3</sup> Rutgers University, Center for Urban Policy Research: Residential Demographic Multipliers - Estimates of the Occupants of New Housing, June 2006 (New York, Total Persons in Units, Single-Family Attached, 3 BR, More than \$269,500



\$476,790 to the Mamaroneck Union Free School District. Using these figures, it is estimated that the overall result of the Alternative F development would be a net fiscal benefit of \$3,248,750 (~~\$3,725,540-\$476,790~~).

While Alternative F does provide for less impacts regarding area of disturbance, traffic, utility use, and population the existing topography would be greatly disturbed by the regrading of the site in order to achieve a zero net fill for the 106 carriage homes.

## G. REZONING FOR CONDOMINIUM AND GOLF COURSE

Alternative G represents an alternative previously proposed by the Applicant to the Village Board for a limited condominium development to be developed immediately adjacent to the existing clubhouse, as shown in Exhibits 4-7 and 4-8. The condominium would include one five-story structure containing 121 units of multifamily housing with a total of 239 bedrooms. The existing 18-hole golf course and country club would remain in use under this alternative.

To facilitate the condominium development, the entire portion of the Project Site located within the Village of Mamaroneck would be rezoned to a newly created Open Space/Residential Community District. This district would permit multifamily housing as part of a Planned Golf Course Community, provided that a minimum of 75 percent of the total site area remains limited to recreational and open space uses. However, the condominium development would actually result in the maintenance of over 100 acres, or close to 96% of the Project Site, as open space and recreational use.

Overall, approximately 11 acres of land area on the Project Site would be disturbed in order to construct the residential development and related site improvements. This disturbance would be limited to the area immediately adjacent to the existing clubhouse, as depicted in Exhibit 4-9. This is an area that is already substantially disturbed. Cove Road would be relocated further north to accommodate the proposed expansion. The existing clubhouse is approximately 35,000 square feet in area. The condominium alternative would include an expansion of the clubhouse, incorporating another 67,000 square feet of building footprint to the 15,000 square feet of existing clubhouse area to remain, for a combined total of 82,000 square feet of building footprint.

Details on the proposed units in the residential building and unit counts are summarized below:

**Table 4-2 Condominium Alternative Proposed Residential Units**

Unit Type	Average Square Feet	Number of Units
1BR	1,000	31
2BR	1,400	62
3BR	1,800	28
<b>Total</b>		<b>121</b>
Guest Suites		4

In addition, approximately 246 parking spaces would be provided in a below-grade parking garage.

## 1. Land Use and Zoning

As mentioned, the condominium alternative would require a Village Zoning Code text amendment to create an Open Space/Residential Community District, which would permit multifamily housing as part of a Planned Golf Course Community. Under this alternative, the Village of Mamaroneck portion of the Project Site would be rezoned to this new zoning district.

It is the opinion of the Applicant that this rezoning would be in accordance with the 2012 Comprehensive Plan Update for the Village of Mamaroneck, which singles out the Hampshire Country Club site for rezoning in order to preserve its existing open and recreational space.

As discussed in Chapter 2, "Description of Proposed Project," industry trends indicate that private golf courses are struggling economically. Similar to the Proposed Action, the condominium alternative would allow the Hampshire Country Club to remain as a viable custodian of the Project Site so that the environmental and aesthetic benefits the site provides may be maintained at a high quality in the future. Including a discrete residential component at the Project Site would address an identified need for a year-round use to keep the club viable economically.

One of the policies adopted by the Village in the Comprehensive Plan was the acknowledgement that "it would be appropriate to consider" rezoning options for the Project Site.<sup>4</sup> The Village sought to evaluate utilizing "more sensitive zoning techniques" to protect the "environmentally significant" areas of the Property.<sup>5</sup> This included measures to protect the floodplain, as well as the "ponds . . . wetland systems and the club's proximity to Long Island Sound."<sup>6</sup> The Village recognized that the purpose of implementing any new zoning for the Project Site would be to "better preserve the Hampshire Country Club in the future."<sup>7</sup>

<sup>4</sup> Village of Mamaroneck Comprehensive Plan Update (2012); Page 63

<sup>5</sup> Id.

<sup>6</sup> Id.

<sup>7</sup> Id. at 63-64.



One of the “more sensitive zoning techniques” identified in the Comprehensive Plan was permitting limited development at the Project Site by reducing the residential density from R-20 to R-30.<sup>8</sup> The Village recognized that the R-30 zoning option “would work better [than the existing R-20 zoning] in terms of a conservation or open space development at the [Project Site].”<sup>9</sup>

Another technique included in the Comprehensive Plan was permitting a cluster development on the Project Site. This option would “allow the development to preserve a significant amount of the property as open space” by grouping residential units on a limited portion of the Project Site.<sup>10</sup> The identified benefit of the cluster approach would be that it would preserve 33 to 50% of the Project Site as open space.

The Comprehensive Plan also proposed evaluating a recreational/open space zoning district for the Project Site. The goal of this conservation zoning option would be to preserve the existing recreational and open space use of the golf course.

Alternative G would not only accomplish the Village’s planning goal to preserve the Hampshire County Club in the future, but would go beyond the development controls envisioned in the Comprehensive Plan. The maximum amount of residential development permitted in the Planned Golf Course Community would be limited to the maximum floor area and the maximum number of bedrooms that would otherwise be permitted in a conventional R-30 subdivision scenario. The rezoning would also require that a minimum of 75% of the Project Site be maintained as passive recreational and/or open space in perpetuity. Other permitted uses in the proposed zoning district would be annual membership clubs, conventional residential developments within 30,000 square foot lots and conservation or cluster developments. Alternative G would protect over 90% of the project Site as recreational/open space. This would include all of the areas deemed environmentally significant in the Comprehensive Plan. The Applicant’s proposal, in fact, would double the amount of preserved open space under an R-30 cluster plan, as identified in the Comprehensive Plan, and almost triple the amount preserved under the existing R-20 zoning.

Moreover, introducing a limited residential use would provide the Hampshire Country Club with a critical revenue stream at a time when clubs in Westchester County and across the country are feeling the financial pressures inherent in operating a private country club. This additional revenue would ensure that the Hampshire Country Club could remain as a viable custodian to maintain the entire Project Site, including its open space and other features of environmental significance identified by the Village in the Comprehensive Plan.

---

<sup>8</sup> Id. at 64.

<sup>9</sup> Id.

<sup>10</sup> Id.



Alternative G, therefore, would be consistent with the policy in the Village's Comprehensive Plan to preserve Hampshire Country Club in the future. Accordingly, no significant land use or zoning impacts are anticipated.

## 2. Visual and Community Character

Alternative G would modify and add to the existing clubhouse, but would not materially modify the proposed height from the height of the existing building. The building addition, to be attached to the north face of the clubhouse, would include two wings and a subsurface parking garage (a total of five stories as viewed from the north side). Views of the proposed residential building from the surrounding area, provided in Exhibits 4-10a through 4-10e, show the proposed character of the development under Alternative G. Exhibit 4-11 provides site sections. As depicted, the proposed building is visually appealing and would be well-integrated with the existing clubhouse and enhanced by proposed landscaping. Exhibit 4-11 provides cross section views from some of the closest residences off-site to the clubhouse and proposed residential building. site sections. The site sections show that existing views to the Project Site would not be materially modified by the development under this alternative. As mentioned, the proposed residential building would not materially modify the height from the height of the existing clubhouse, and therefore, the area of the surrounding neighborhood from which the Project Site is visible would not increase significantly. In addition, as shown in Exhibit 4-11, direct views to the proposed development would be impeded by existing development and tree cover surrounding the Project Site. Based on the renderings and site sections, Therefore, visual impacts from Alternative G are not anticipated to be significant.

In addition, as depicted in Exhibit 4-7, a multifamily development visually incorporated into the existing clubhouse, as proposed, would leave the entire golf course intact, preserving 101.8 acres of recreation open space in perpetuity and maintaining it as an existing element of the Orienta community's character. Finally, a proposed multi-family development would not be out of character with existing development in the Orienta neighborhood. The height of the proposed development would be in keeping with existing high density developments, including the four-story Orienta Gardens along Old Boston Post Road.

Given that existing views to the project site would not be materially modified by the proposed development and that 101.8 acres of the existing recreation open space would be preserved, visual impacts and impacts to community character are not anticipated under this alternative.

## 3. Natural Features and Open Space

Overall, approximately 11 acres of land area on the Project Site would be disturbed to construct the condominium alternative. A portion of the 11 acres (including three acres that are currently developed) would involve some minor modifications to portions of the golf course (on holes 1, 9 and 18) and road improvements adjacent to the multifamily development. The 18-hole golf course, and all of its

environmentally sensitive features would be preserved on the remaining portion of the Project Site, to be protected in perpetuity from future development through a conservation easement, or other legally binding mechanism.

Compared with the Proposed Action and the other alternatives analyzed above, the condominium alternative would require far less disturbance. Since the multi-family development would be incorporated into the existing clubhouse, preserving the remainder of the Project Site, the Alternative G site plan does not directly affect any of the important natural features on the Project Site. The only exception is approximately 0.5 acres of local wetland buffer disturbance anticipated for the realignment of the roadway, which would be revegetated to mitigate impacts.

Project Site topography suggests that bedrock is anticipated at the tie in point between the existing clubhouse and the residential building proposed under this alternative. In addition, it is anticipated that some rock removal would be required to accommodate construction of the subsurface parking garage under the residential building.

#### **4. Stormwater and Drainage**

Portions of the 11 acres of disturbance under Alternative G are within the 100-year floodplain. However, the majority of the floodplain coverage is over the existing golf course, not the clubhouse, pool and associated buildings.

To mitigate potential flooding on the Project Site under Alternative G, a combination of low barrier walls and grade adjustments would be utilized at two spots on the western side of the Project Site, as depicted in Exhibit 4-12. This would allow inflow of flood water from the Sound. The first would be installed just west of the residential development at Eagle Knolls Road and the second would be installed at the northwestern corner of the Project Site at Hommocks Road. The low barrier wall at each of these locations would be constructed using either a slurry wall or sealed steel sheet piling. At the surface, the cut off wall would be faced with a fieldstone to match the character of the existing walls present on the Project Site. The presence of these walls would prevent tidal flood water from entering the Project Site. The proposed flood wall would not adversely impact flooding conditions on adjacent properties. At each of the low spots in the road, there are existing drainage culverts that will be fitted with back flow prevention devices to continue to allow unobstructed flow during regular storm events, but these measures will prevent inflow of tidal floodwater from Long Island Sound during tidal flood events. This engineering solution would also provide protection to upstream neighbors that are currently affected by surface water that flows through the Site during some storm events.

To ensure protection of the proposed residential use, the relocated Cove Road would be elevated adjacent to the building, providing depression north of the building to accumulate potential water.



The final stormwater management system would require the addition of stormwater treatment from paved areas prior to discharge. The most appropriate storm water treatment for this alternative would be the addition of bio-retention swales adjacent to the relocated Cove Road and parking area. The development under this alternative would maintain stormwater quality by placing the majority of the new parking below grade, thereby reducing the parking area exposed to the storm water runoff. The parking garage is set at approximately 12 feet below the grade of West Cove Road. Based on the groundwater levels encountered during the geotechnical investigation, it is anticipated that the proposed parking garage would require an exterior perimeter foundation drain system. The below grade parking garage would be constructed utilizing floodproof materials such that the water would not inundate the parking area.

## 5. Traffic

The existing circular drive at the clubhouse entrance would remain in use for the clubhouse. The proposed residential units would have a new circular drive at the north side of the new building between the two wings with access to the first floor. Access to the below grade parking garage would be provided by a ramp under the west wing of the building. The parking garage would be completely below grade and would extend under both residential wings and under the lawn between the wings (see Exhibit 4-13, Alternative G Lower Level Floor Plan). Alternative G would generate approximately 60 AM peak hour vehicle trips, 70 PM peak hour trips, and 64 Saturday trips, comparable to the trips generated by the Proposed Action. In addition, based on the traffic impact study conducted for Alternative G in 2014, no changes in levels of service are anticipated as a result of the Alternative G development, and therefore no traffic mitigation measures would be proposed.

## 6. Utilities

The estimated sewage generation for the proposed development is 26,290 gallons per day, with an estimated peak rate of 110 gpm utilizing the industry standard values for waste water. The anticipated sewage generation calculations are illustrated below.

**Table 4-3 Anticipated Wastewater Generation**

Unit Type	Number of Units	Bedrooms/ Unit	Hydraulic Load (gpd/ single bedroom)	Design Flow Rate (gpd)
One Bedroom	31	1	110	3,410
Two Bedroom	62	2	110	13,640
Three Bedroom	28	3	110	9,240
	<b>121</b>			<b>26,290</b>



In addition, water requirements for the proposed development would be 26,290 gallons per day. Compared to the Proposed Action and the other alternatives discussed above, Alternative G has the lowest water and sewer requirements.

## 7. Socio-economic Factors

The condominium alternative, as mentioned, includes 121 residential units and a total of 239 bedrooms (31 one-bedroom units, 50 two-bedroom units, and 34 three-bedroom units), likely to attract “empty nesters” looking to downsize. This would result in a Project Site population of 259, and though not anticipated, these units could potentially house school-aged children. Using multipliers provided by Rutgers University Center for Urban Policy Research, it is estimated that the condominium development could generate approximately 20 school age children, as depicted in the table below. (The four guest suites would be for visitors and therefore would not have potential for generating new students.)

**Table 4-4 Projected Public School Children Generation**

Unit Type	Number of Units	Multiplier <sup>1</sup>	Estimate Public School Children
One Bedroom	31	0.1	3
Two Bedroom	62	0.05	3
Three Bedroom	28	0.49	14
	121		20

<sup>1</sup> Rutgers University, Center for Urban Policy Research, *Residential Demographic Multipliers, June 2006 for 5+ unit multifamily structure, ownership units*

This minor increase would not be expected to significantly strain the district’s capital facilities and would be expected to be accommodated by normal district operations. It is noted that the units proposed under Alternative G would include luxury amenities, and would be accompanied by a requirement of club membership. Therefore, they are very unlikely to generate the number of school children estimated with a more traditional condominium unit.

Assuming a market value of \$1.5 million per a three-bedroom condominium unit, in total, based on 60 percent of market value, the Project Site would generate \$2,948,994 in tax revenue annually, following the tax rates provided in Chapter 30, Fiscal and Economic Conditions. Of this total, approximately 50 percent (\$1,473,689) would go to the Mamaroneck Union Free School District; approximately 25 percent would go to the Village of Mamaroneck; and the remainder would go to the Town, County, and other taxing districts. Applying the per student programmatic cost of \$15,893 paid by local property taxes to the estimated 20 new public school students indicates that the Alternative G development could result in an additional cost of \$317,860 to the Mamaroneck Union Free School District. Using these figures, it is estimated that the overall result of the Alternative G development would be a net fiscal benefit of \$2,631,134. (\$2,948,994- \$317,860).

Overall, Alternative G would have the least impact compared to all of the other Alternatives.

DRAFT

**Table 4-2 Comparison of Project Alternatives**

	<b>Proposed Action</b>  <b>Exhibit 4-1</b>	<b>Alternative A: No Action (Existing Conditions)</b>	<b>Alternative B: Conventional Subdivision Under R-20 Zoning</b>  <b>Exhibit 4-2</b>	<b>Alternative C: Cluster Subdivision Under R-20 Zoning</b>  <b>Exhibit 4-3</b>	<b>Alternative D: Conventional Subdivision Under R-30 Zoning</b>  <b>Exhibit 4-4</b>	<b>Alternative E: Cluster Subdivision Under R-30 Zoning</b>  <b>Exhibit 4-5</b>	<b>Alternative F: "No Fill" Under R- 20 Zoning</b>  <b>Exhibit 4-6</b>	<b>Alternative G: Rezoning for Condominium and Golf Course</b>  <b>Exhibit 4-7</b>
<b># Residential Units</b>	105 (44 single family homes; 61 carriage homes)	0	106 single family homes	106 single family homes	85 single family homes	85 single family homes	106 carriage homes	121 condos (31 one-bedroom, 62 two-bedroom, and 28 three-bedroom units)
<b>Areas of Disturbance</b>	55.6 acres	0	68.2 acres	52 acres	78 acres	50 acres	36 acres	11 acres
<b>Open Space</b>	36 acres of preserved golf course; 36.5 acres of shared open space	101.8 acres of preserved golf course	37 acres of shared open space	62 acres of shared open space	25 acres of shared open space	51 acres of shared open space	73 acres of shared open space	101.8 acres of preserved golf course
<b>Fill</b>	84,104 cubic yards	0	350,000 cubic yards	95,000 cubic yards	380,000 cubic yards	105,000 cubic yards	0	0
<b>New Trip Generation (Peak Hour)</b>	AM Peak Hour: 61 PM Peak Hour: 73 Saturday: 61	AM Peak Hour: 37 PM Peak Hour: 53 Saturday: 83	AM Peak Hour: 62 PM Peak Hour: 85 Saturday: 63	AM Peak Hour: 62 PM Peak Hour: 85 Saturday: 63	AM Peak Hour: 47 PM Peak Hour: 65 Saturday: 44	AM Peak Hour: 47 PM Peak Hour: 65 Saturday: 44	AM Peak Hour: 32 PM Peak Hour: 37 Saturday: 17	AM Peak Hour: 60 PM Peak Hour: 70 Saturday: 64
<b>Incremental Water and Sewer Usage</b>	Water: 39,490 gpd Wastewater: 39,490 gpd	Water: 0 gpd Wastewater: 0 gpd	Water: 46,640 gpd Wastewater: 46,640 gpd	Water: 46,640 gpd Wastewater: 46,640 gpd	Water: 37,400 gpd Wastewater: 37,400 gpd	Water: 37,400 gpd Wastewater: 37,400 gpd	Water: 34,980 gpd Wastewater: 34,980 gpd	Water: 26,290 gpd Wastewater: 26,290 gpd
<b>Residential Population<sup>1</sup></b>	335	0	389	389	312	312	300	259
<b>School-age Children<sup>2</sup></b>	57	0	93	93	74	74	30	20
<b>Tax Generations</b>	\$5,215,568	\$345,281 <sup>3</sup>	\$7,428,241	\$7,428,241	\$5,961,133	\$5,961,133	\$3,725,540	\$2,948,994 <sup>4</sup>
<b>Net Tax Increase from the Existing Conditions</b>	\$4,870,287	\$0	\$7,082,960	\$7,082,960	\$5,615,852	\$5,615,852	\$3,380,259	\$2,603,713
<b>Net Fiscal Benefit (Net of costs to School District)</b>	\$4,309,667	\$345,281	\$5,950,192	\$5,950,192	\$4,785,051	\$4,785,051	\$3,248,750	\$2,631,134

<sup>1</sup> Rutgers University, Center for Urban Policy Research: Residential Demographic Multipliers - Estimates of the Occupants of New Housing, June 2006 (New York, Total Persons in Units, Single-Family Detached, 4 BR, More than \$329,500; Single-Family Attached, 3 BR, More than \$269,500; 5+ Units Own, 1BR, 2BR, 3BR)

<sup>2</sup> Rutgers University, Center for Urban Policy Research: Residential Demographic Multipliers - Estimates of the Occupants of New Housing, June 2006 (New York, All Public School Children, Single-Family Detached, 4 BR, More than \$329,500 and Single-Family Attached, 3 BR, More than \$269,500)

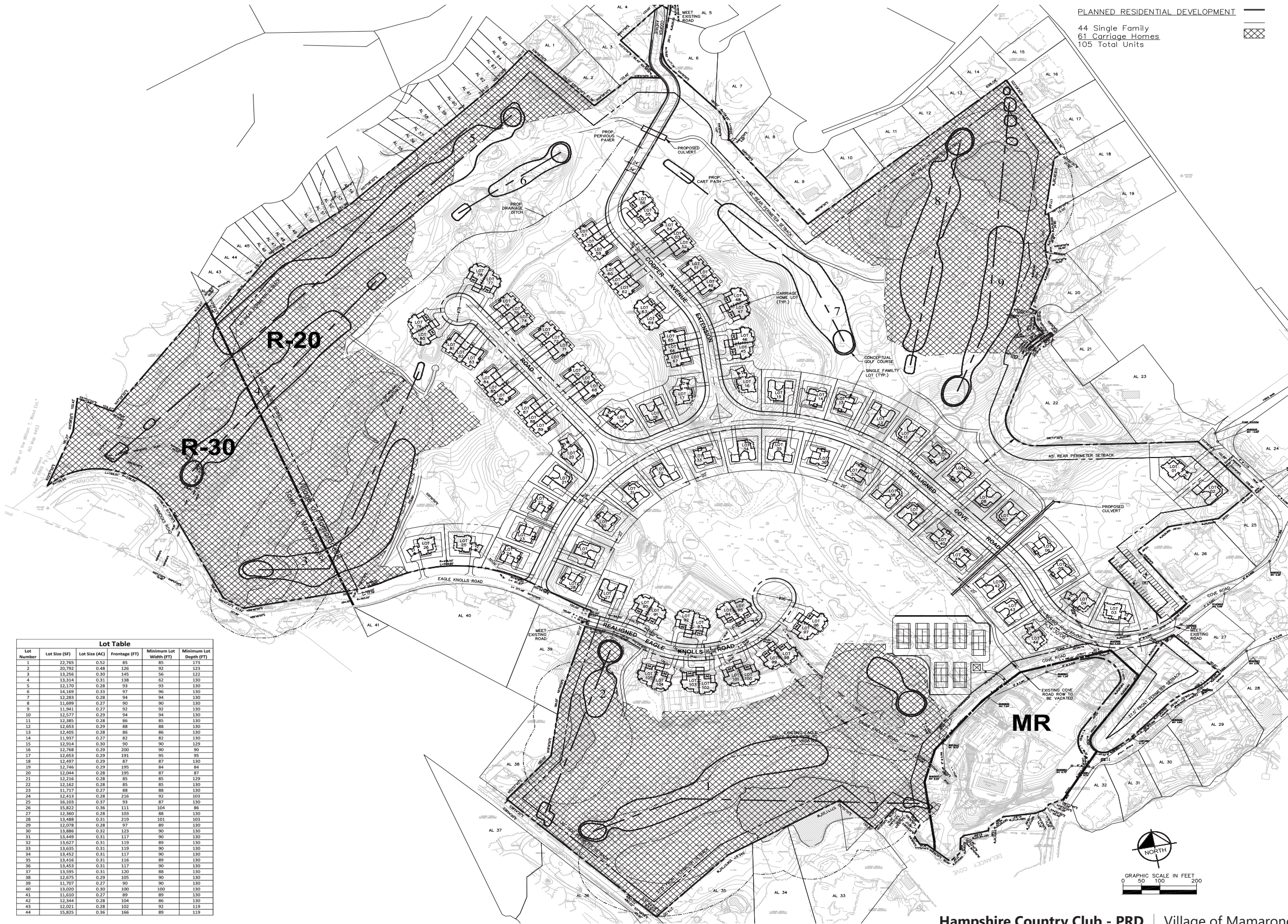
<sup>3</sup> Hampshire Recreation recently prevailed in a Tax Certiorari proceeding, resulting in a reduced assessment for the Project Site. The Tax Assessment for the years 2010, 2011, and 2012 in the Village of Mamaroneck has been reduced to 5.3 million in 2010 and 5.2 million in years 2011 and 2012. It is anticipated that the current assessed value of the Site will also be reduced in the near future.

<sup>4</sup> Based on 60% of Market Value (\$1.5 million) for condominium units



PLANNED RESIDENTIAL DEVELOPMENT

44 Single Family  
61 Carriage Homes  
105 Total Units



Lot Table					
Lot Number	Lot Size (MF)	Lot Size (AC)	Frontage (FT)	Minimum Lot Width (FT)	Minimum Lot Depth (FT)
1	22.785	0.52	85	85	173
2	20.792	0.48	126	92	123
3	13.256	0.30	145	56	122
4	13.314	0.31	138	62	130
5	12.170	0.28	93	93	130
6	14.169	0.33	97	96	130
7	12.283	0.28	94	94	130
8	11.699	0.27	90	90	130
9	11.941	0.27	92	92	130
10	12.577	0.29	94	94	130
11	12.388	0.28	86	86	130
12	12.653	0.29	88	88	130
13	12.405	0.28	86	86	130
14	11.997	0.27	82	82	130
15	12.914	0.30	90	90	129
16	12.768	0.29	200	90	90
17	12.653	0.29	195	90	90
18	12.497	0.29	87	87	130
19	12.746	0.29	195	84	84
20	12.044	0.28	195	87	87
21	12.216	0.28	85	85	129
22	12.162	0.28	85	85	130
23	11.717	0.27	88	88	130
24	12.413	0.28	216	92	103
25	16.103	0.37	93	87	130
26	15.822	0.36	111	104	86
27	12.360	0.28	103	88	130
28	13.488	0.31	219	103	103
29	12.078	0.28	97	89	130
30	13.886	0.32	123	90	130
31	13.449	0.31	117	90	130
32	13.627	0.31	119	89	130
33	13.635	0.31	119	90	130
34	13.452	0.31	117	90	130
35	13.416	0.31	116	89	130
36	13.453	0.31	117	90	130
37	13.595	0.31	120	88	130
38	12.675	0.29	105	90	130
39	11.707	0.27	90	90	130
40	13.020	0.30	100	100	130
41	11.610	0.27	89	89	130
42	12.344	0.28	104	86	130
43	12.021	0.28	102	92	119
44	15.825	0.36	166	89	119

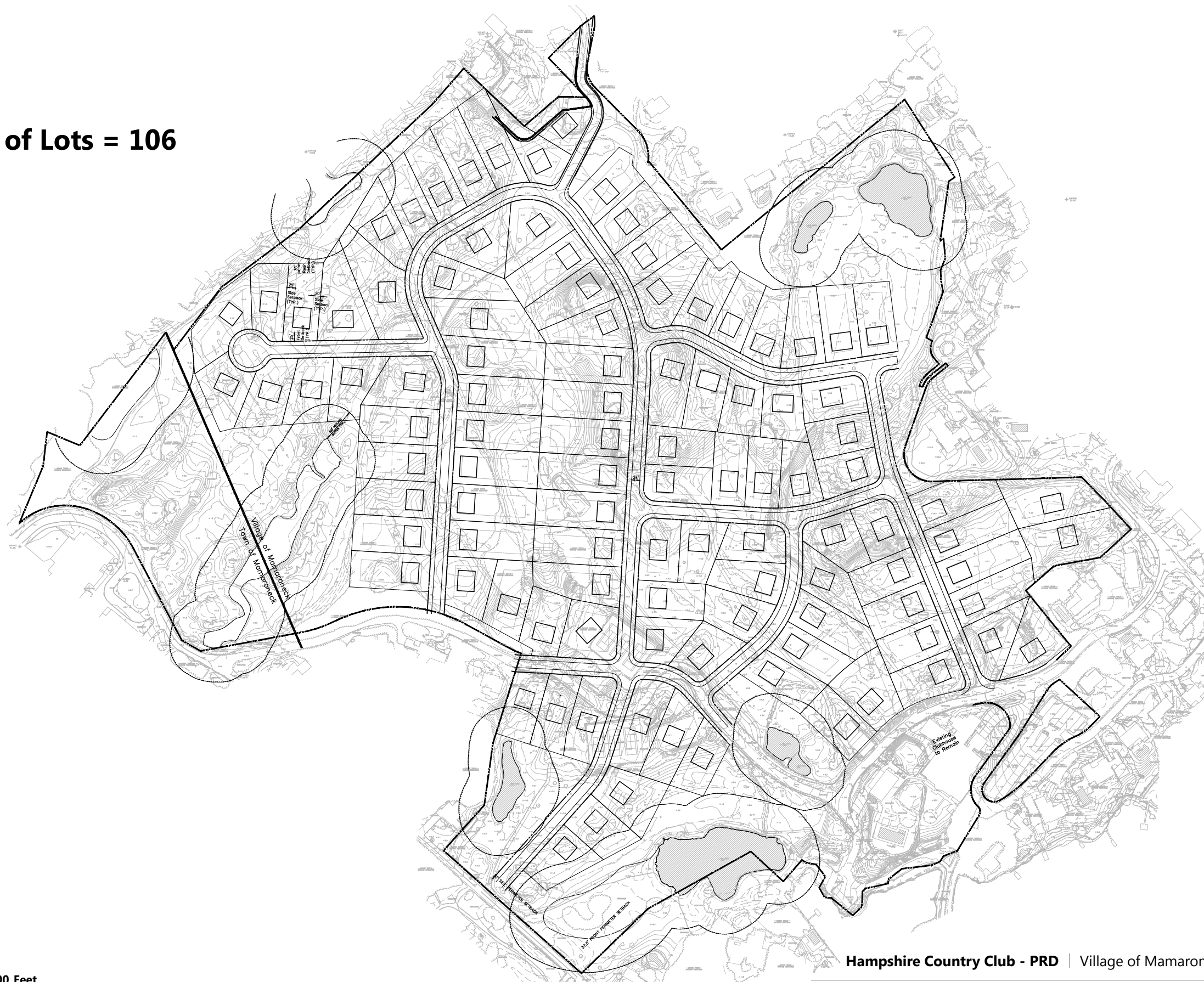
Hampshire Country Club - PRD | Village of Mamaroneck, New York

Layout Plan

Source: Kimley-Horn



Number of Lots = 106



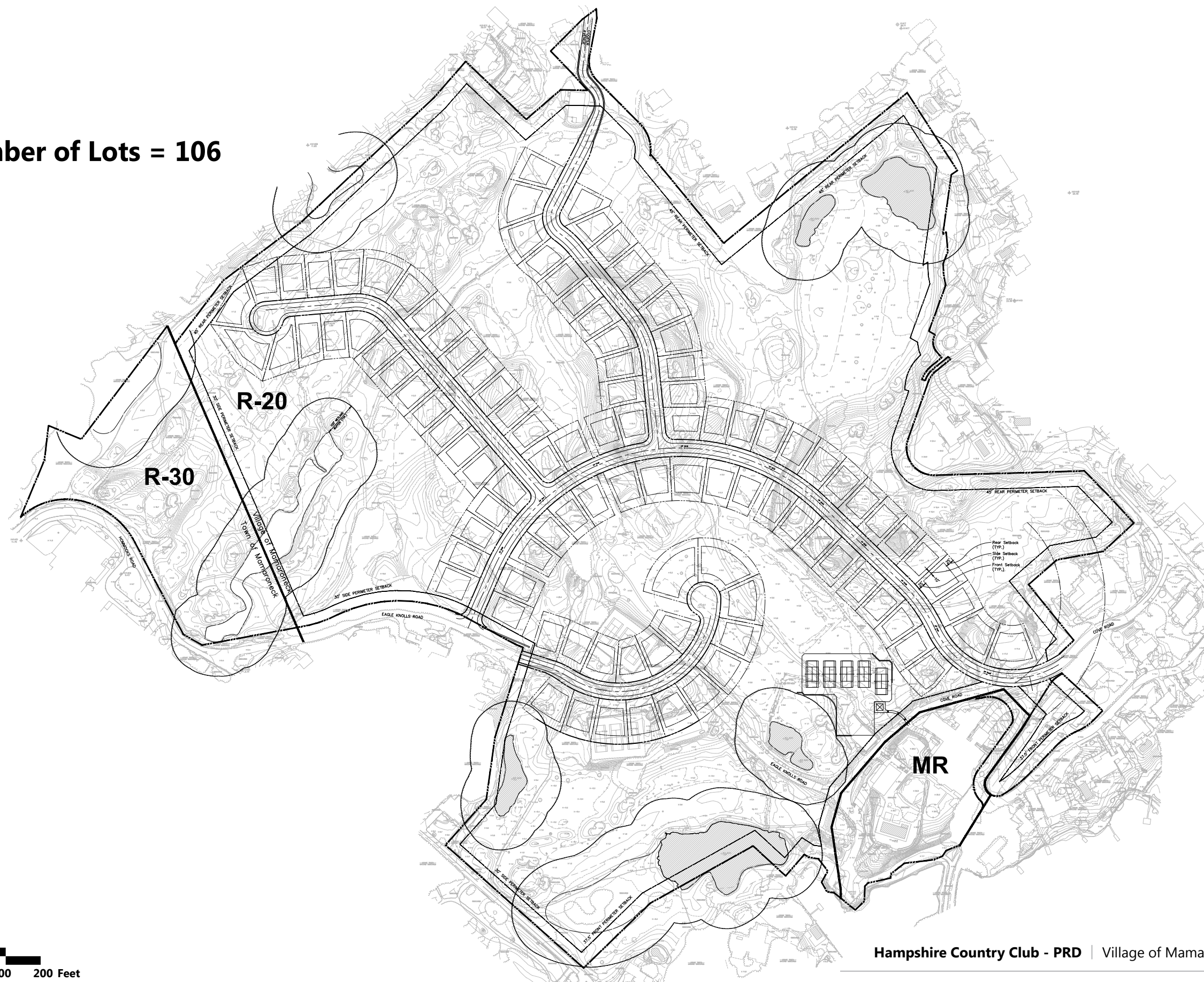
Hampshire Country Club - PRD | Village of Mamaroneck, New York

Alternative B Layout Plan  
Conventional Subdivision under R-20 Zoning

Source: VHB



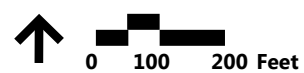
**Number of Lots = 106**



Hampshire Country Club - PRD | Village of Mamaroneck, New York

### Alternative C Layout Plan Cluster Subdivision under R-20 Zoning

Source: VHB





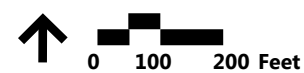
Number of Lots = 85



Hampshire Country Club - PRD | Village of Mamaroneck, New York

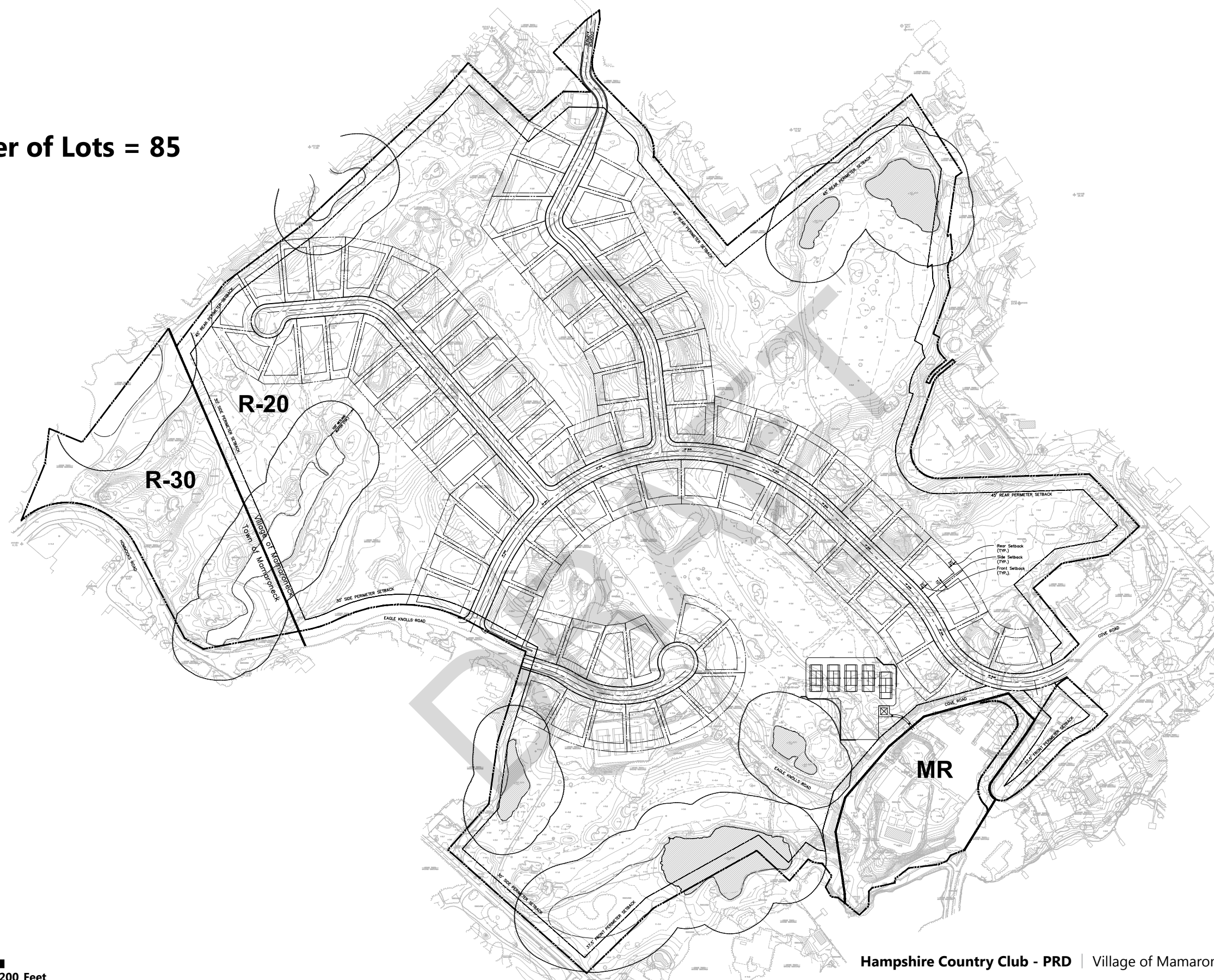
Alternative D Layout Plan  
Conventional Subdivision under R-30 Zoning

Source: VHB





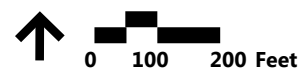
Number of Lots = 85



Hampshire Country Club - PRD | Village of Mamaroneck, New York

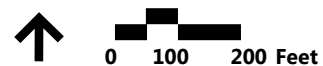
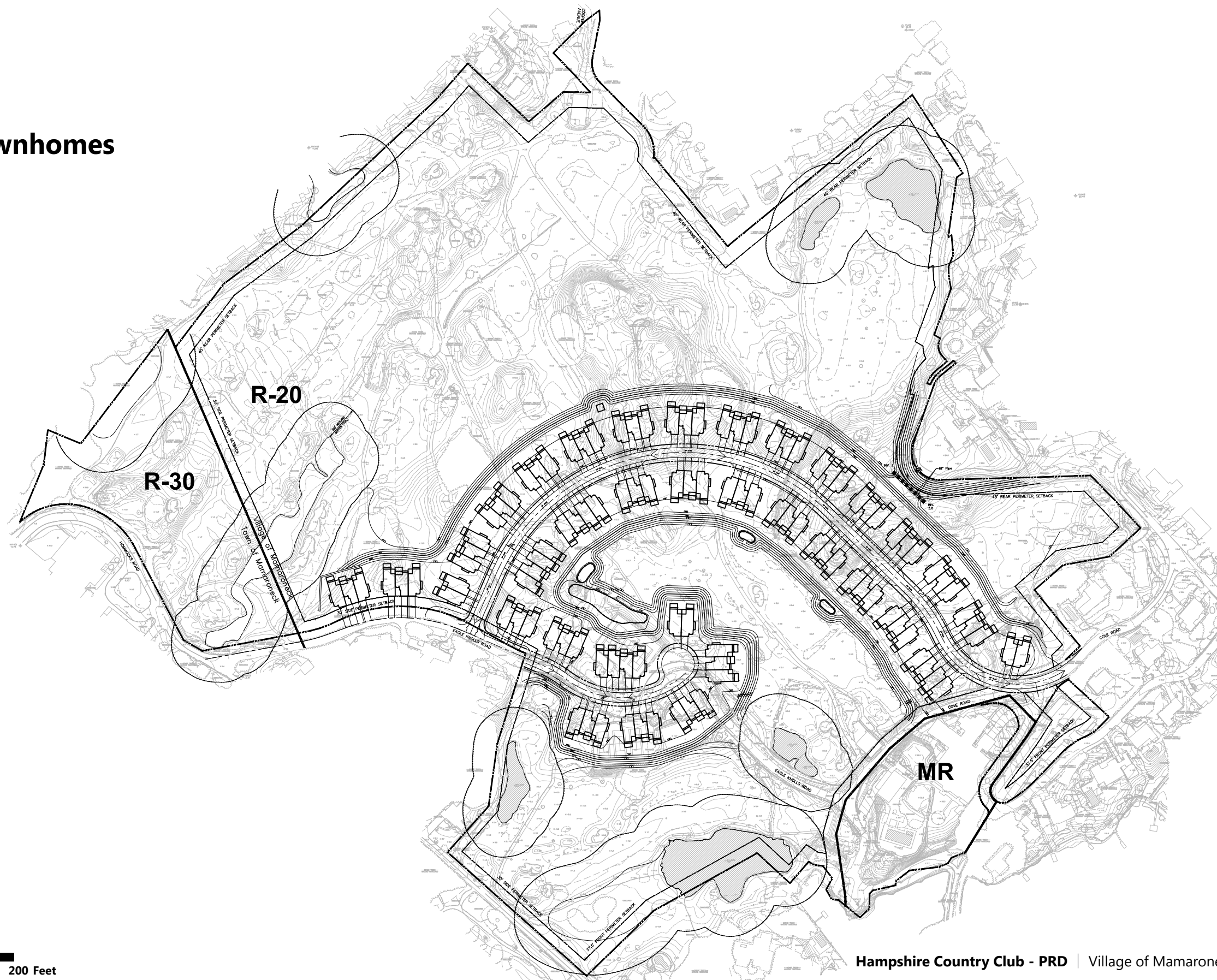
Alternative E Layout Plan  
Cluster Subdivision under R-30 Zoning

Source: VHB





# 106 Townhomes



Hampshire Country Club - PRD | Village of Mamaroneck, New York

Alternative F Layout Plan  
"No Fill" under R-20 Zoning

Source: VHB

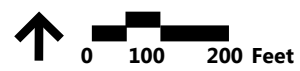




Hampshire Country Club - PRD | Village of Mamaroneck, New York

**Alternative G Layout Plan**  
**Rezoning for Condominium and Golf Course**

Source: VHB



Hampshire Country Club - PRD | Village of Mamaroneck, New York

**Alternative G Building Plan**  
**Rezoning for Condominium and Golf Course**

Source: VHB

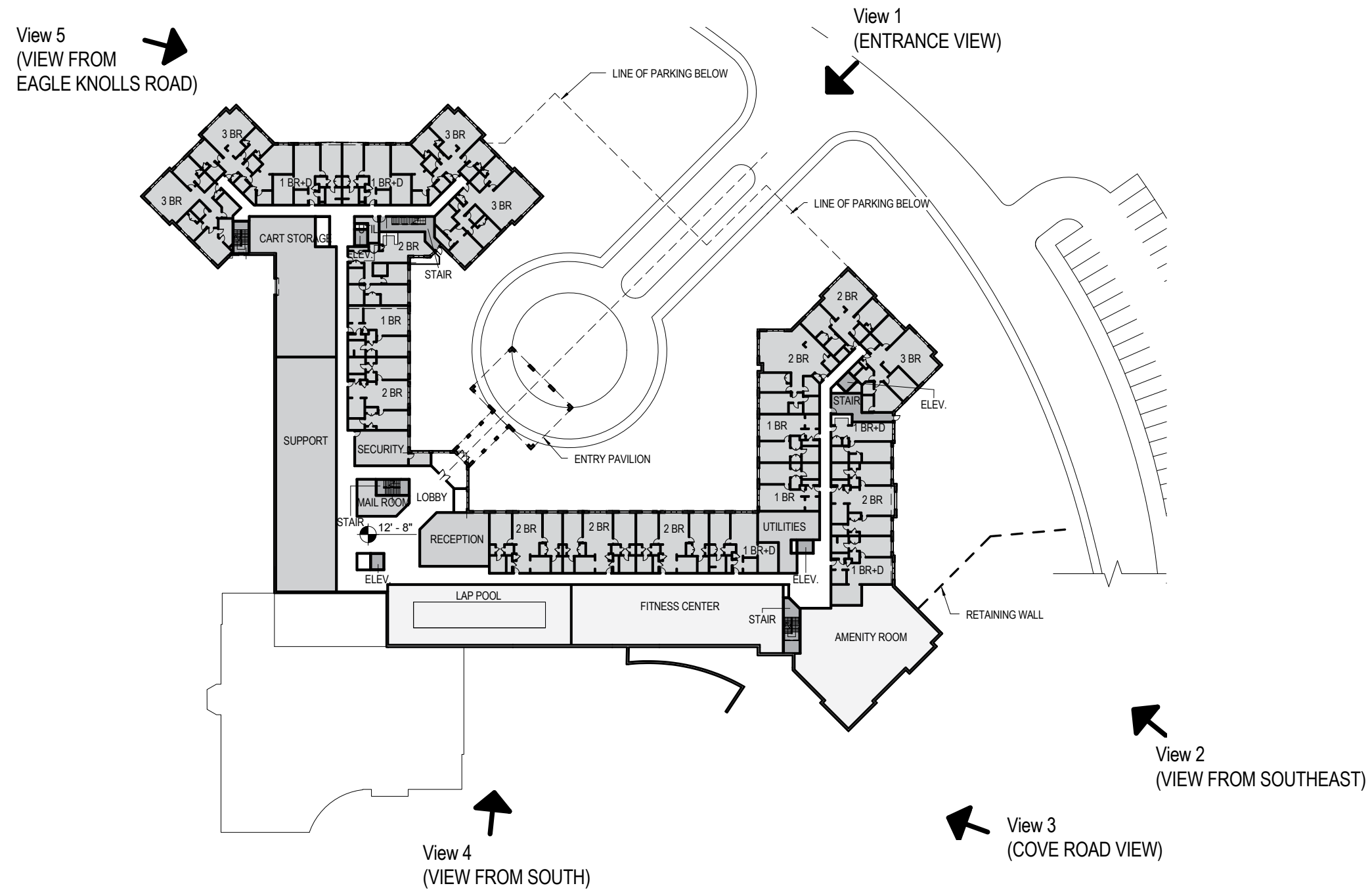




**Hampshire Country Club - PRD** | Village of Mamaroneck, New York

**Alternative G Area of Disturbance  
Rezoning for Condominium and Golf Course**

Source: VHB



Hampshire Country Club - PRD | Village of Mamaroneck, New York

**Alternative G Proposed Views Key**  
**Rezoning for Condominium and Golf Course**

Source: Perkins Eastman Architects





Hampshire Country Club - PRD | Village of Mamaroneck, New York

**Alternative G View 1 - Entrance  
Rezoning for Condominium and Golf Course**

Source: Perkins Eastman Architects





Hampshire Country Club - PRD | Village of Mamaroneck, New York

**Alternative G View 2 - From the Southeast  
Rezoning for Condominium and Golf Course**

Source: Perkins Eastman Architects





**Hampshire Country Club - PRD** | Village of Mamaroneck, New York

**Alternative G View 3 - From Cove Road  
Rezoning for Condominium and Golf Course**

Source: Perkins Eastman Architects





**Hampshire Country Club - PRD** | Village of Mamaroneck, New York

**Alternative G View 4 - From the South  
Rezoning for Condominium and Golf Course**

Source: Perkins Eastman Architects





**Hampshire Country Club - PRD** | Village of Mamaroneck, New York

**Alternative G View 5 - From Eagle Knolls Road  
Rezoning for Condominium and Golf Course**

Source: Perkins Eastman Architects





SECTION A



SECTION B



SECTION C



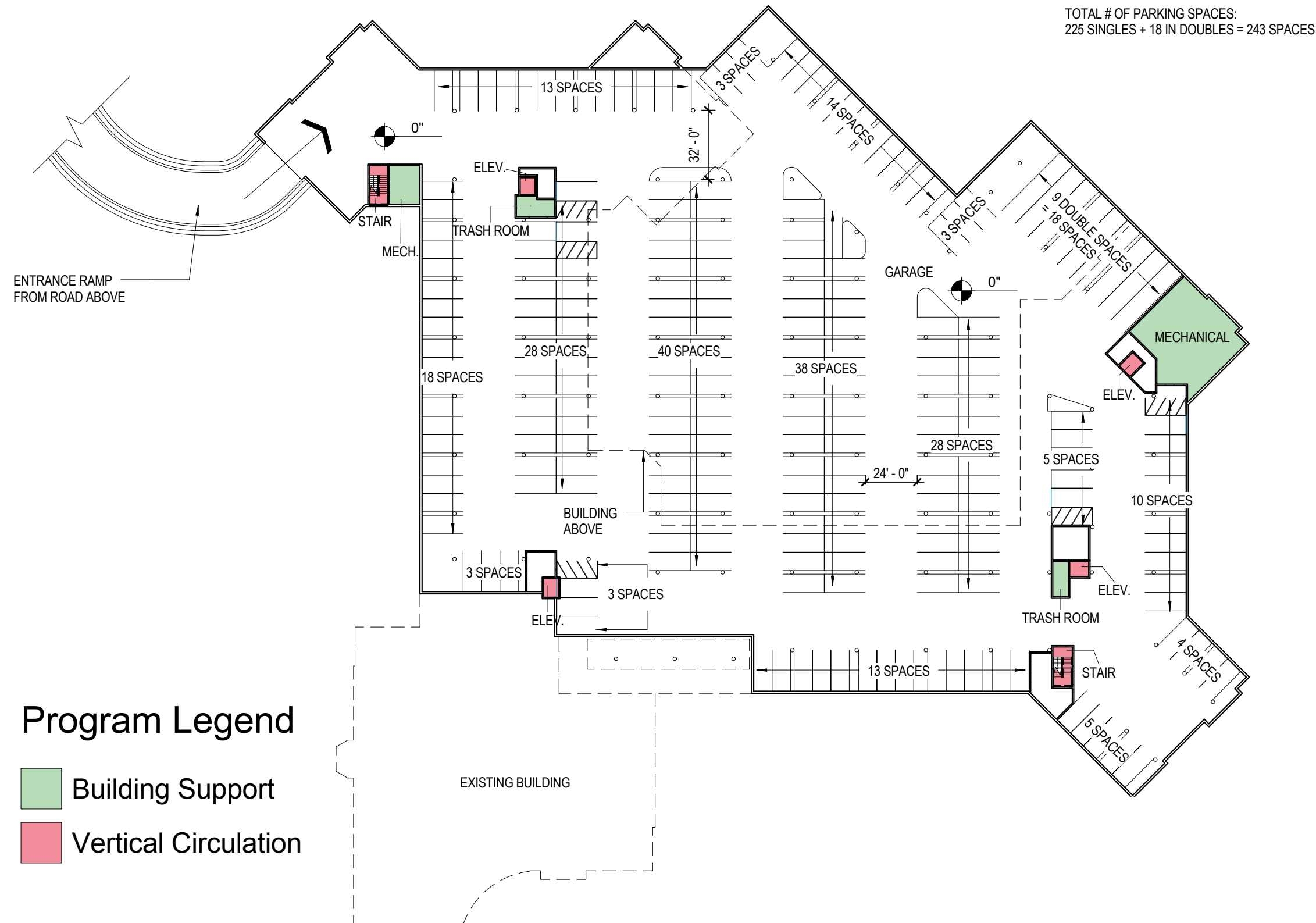




Hampshire Country Club - PRD | Village of Mamaroneck, New York

**Alternative G Proposed Floodplains  
Rezoning for Condominium and Golf Course**

Source: VHB



Hampshire Country Club - PRD | Village of Mamaroneck, New York

Alternative G Lower Level Floor Plan  
Rezoning for Condominium and Golf Course

Source: Perkins Eastman Architects

## 5. Other Required Analyses

### A. SIGNIFICANT IMPACTS THAT CANNOT BE AVOIDED

The construction and operation of the proposed development would result in certain unavoidable short term and long term adverse environmental impacts. The anticipated impacts have been identified and discussed in the previous subject chapters and summarized below. All significant adverse impacts related to the proposed development would be mitigated to the maximum extent practicable.

Adverse impacts that cannot be avoided by the proposed development are as follows:

#### Short Term Impacts

Short term impacts related to the proposed development would generally be related to construction activities. Unavoidable adverse impacts occurring in the short term include: traffic generation from construction workers and deliveries, noise, and air quality impacts from construction activities and traffic.

Construction activities on the Project Site would occur only during daylight hours. Traffic volumes on local roadways would increase as a result of material deliveries and the commuting of construction workers. However, construction workers generally arrive and depart before the weekday peak hours. Air quality would be impacted by exhaust and emissions from construction equipment and fugitive dust. A Sediment and Erosion Control Plan would be employed to mitigate potential impacts from erosion as a result of construction activities.

Construction activity for the Proposed Action will primarily be divided into three stages, grading, structures and finishing. Once construction of the proposed development commences, it is estimated that there will be approximately 24 trucks per day (on a five-day per week schedule) for the first 9 months of construction. After that, the number of trucks will begin to diminish to 3 or 4 trucks per day as the 105 units are built-out. Housing would be constructed when there is a buyer and it is anticipated that about 20 units would be constructed yearly. However, the exact construction schedule is contingent on the build out rate of the homes; therefore, the duration of the construction period and the final build-out date are unknown at this time. will be constructed in one phase, with construction of roads and related improvements anticipated to last between 18

~~and 24 months and residential construction anticipated to last between 24 and 36 months.~~ A total of 55.6 acres of disturbance are associated with construction.

Short term impacts related to construction of the Proposed Action would be comparable to the project alternatives discussed in detail in Chapter 4, Alternatives, with the exceptions of Alternatives F and G, which would likely have more minimal impacts due to less regrading and smaller areas of disturbance.

~~Housing would be constructed when there is a buyer and it is anticipated that about 20 units would be constructed annually. It is estimated that the initial construction period would be approximately 9 months with an estimated 16 yard truck visits per day (or 24 per day on a 5-day week schedule). After that, truck activity is expected to diminish to approximately 3-4 per day as the 105 units are built out.~~

#### Long Term Impacts

Potential long term adverse impacts would result from the operation of the proposed development. Impacts would be mitigated to the maximum extent practicable. While the impacts listed below are unavoidable, they are not necessarily significant. Potential long term impacts include:

##### *Visual*

The visual character of the proposed development would be different from the existing conditions. The proposed development would introduce greater floor area, height and impervious surface area. Overall, the character would change from private recreation to a mix of private recreation and residential.

The proposed development would be visible only from those locations that are immediately adjacent to the Project Site. Specifically, the proposed development would be visible from portions of Hommocks Road, Eagle Knolls Road, Cove Road, and Fairway Green, the dead ends of Protano Lane, Sylvan Lane, and Fairway Lane. However, trees, elevation changes, and varying distances provide varying degrees of buffer in each of these locations, minimizing the visual impacts of the Proposed Action. In addition, 36 acres of open space would be maintained on the Project Site, as would nine holes of the existing golf course, further minimizing any impacts on the character of the neighborhood. Finally, the Proposed Action would include the planting of approximately 432 trees located along the perimeter of the proposed buildings, providing significant screening from the surrounding homes.

Visual impacts associated with the Proposed Action would be similar in nature to the project alternatives detailed in Chapter 4, Alternatives, with the exception of Alternative G. Alternative G would concentrate the units as a condominium development that would be visually incorporated into the existing clubhouse. The height of the proposed residential building would not be materially different from the existing condition, and through the concentration of the units near the existing



development on the Project Site, Alternative G would leave the entire golf course intact, preserving 101.8 acres of recreational open space in perpetuity and maintaining the existing character of the Project Site. As described in Chapter 4, given that the proposed height is not materially different from the existing clubhouse, the area of the surrounding neighborhood from which the Project Site is visible would not increase significantly. Therefore, visual impacts would be minimized.

#### *Natural Resources*

The proposed development would require clearing of vegetation, largely consisting of maintained lawns and landscaping. Approximately 432 trees that are 8-inch DBH trees or larger would be cleared.

Development on the Project Site would be limited primarily to areas previously disturbed during the construction of the golf course. The proposed development would include the planting of trees and other vegetation on the disturbed portion of the site.

#### *Community Services*

Based on data gathered from several of the Applicant's existing apartment communities and the Rutgers University Residential Demographic Multipliers, the project could generate approximately 335 residents and 39-57 public school-age children. The increase in population would increase the demand for services and facilities incrementally. It is anticipated that the property taxes generated by the proposed development would serve to mitigate any adverse impacts.

#### *Traffic and Transportation*

The proposed development would result in the generation of approximately 61 Weekday AM Peak Hour trips and 73 Weekday PM Peak Hour trips. The levels of service would not be severely impacted at area intersections.

Proposed mitigation includes improved road surface, profile and alignment of Cove Road across the Project Site for residents on either side of the property, including those who travel back and forth to Hommocks Middle School, improved pedestrian environment with the completion of a sidewalk across the property, and improved emergency evacuation routes with the raising of Cove Road above the flood elevation. These mitigation measures could also apply to the project alternatives explored in detail in Chapter 4, Alternatives.

It is also noted that providing an egress from the Project Site will reduce project traffic past the Hommocks Middle School and through the busy intersection of Boston Post Road with Hommocks Road/Weaver Street.

#### *Stormwater Management*

The project would result in increased impervious surfaces on-site in comparison with the existing conditions. A Stormwater Pollution Prevention Plan (SWPPP), provided in Appendix HE, has been prepared to ensure that the quality of stormwater runoff after development will not be substantially



altered from the existing conditions. The proposed stormwater management system and grading of the site is not anticipated to result in significant impacts.

#### *Utilities*

The proposed development would result in increased demand for water and sanitary sewer. The Village Engineer and the Westchester Joint Water Works have indicated that sufficient capacity exists to service the proposed development.

#### *Soils and Topography*

The project has been designed to balance cut and fill on the Project Site to the greatest extent practicable and to provide structural fill where necessary. Erosion and sediment controls would be used to protect the soils during construction as described in the Stormwater Pollution Prevention Plan.

#### *Floodplains*

The project will require fill and development within the floodplain. With the proposed grading changes, all proposed buildings on the Project Site would be located outside the 100-year and 500-year floodplains. The project will be constructed in accordance with all Village regulations and requirements.

## **B. GROWTH INDUCING ASPECTS**

Chapter 3 of the DEIS describes potential impacts that could result from the Proposed Action. This section describes the potential for the proposed development to generate secondary and/or indirect impacts in the Village of Mamaroneck.

Growth inducement is based on a number of factors, including the size of the proposed development and the type of uses included.

The proposed development could replace some of the employees currently working at the Hampshire Country Club. However, as discussed in Chapter 3O, Fiscal and Economic Conditions, the proposed development is expected to result in the generation of approximately 335 residents and as well as jobs for the management, maintenance and security of the residences. An increase of 335 residents would result in an approximately 1.8 percent increase in the Town's overall population (based on the Village's 2014 population of 19,133) if all of these residents were new to the Village.

According to the fiscal analysis, the project residents would have the potential to inject an additional \$2,810,640 million in discretionary consumer spending into the economy. This spending potential would provide an additional source of support for local retailers and restaurants and would help strengthen the Village's economic vitality. Both the construction spending and the household spending recirculates through the local economy creating additional secondary impacts. At full operation, this household spending would generate approximately \$191,840,480 million in additional economic output.



While this project would be helpful for local businesses, the volume of new economic activity generated is not likely to create a demand for new commercial construction to service the increased population. Perhaps more significantly, the proposed development would support the Village's overall development objectives as presented in the Comprehensive Plan, thereby contributing to a more sustainable, multi-use community.

## **C. EFFECTS ON THE USE AND CONSERVATION OF ENERGY RESOURCES**

The proposed project will use energy resources including electricity and fossil fuels. Anticipated levels of consumption, as well as some strategies to reduce energy consumption are summarized below.

The Project will meet the basic requirements and comply with the New York State Energy Construction Code and standards. The project will incorporate efficient mechanical equipment, insulated roofs, insulated exterior wall, insulated foundations, and windows that are insulated and have a low emissivity coating.

When carefully selected and implemented, even modest design measures can result in significant conservation of natural resources. The site will include the following features:

- Land planning and design techniques that preserve the natural environmental and minimize disturbance of the land utilizing a compact development footprint
- Reduction of soil erosion and runoff through implementation of best storm water management practices
- Water conservation indoors and outdoors
- Selection of Energy Star products and materials based on reuse, durability and the amount of energy used to create the material
- Access and preservation of Open Space
- Landscape design to utilize native plants, prohibit invasives and provide shade

## **D. IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES**

The proposed development would require the commitment and consumption of a variety of resources that would be made unavailable for future use. Construction materials such as concrete, timber, steel, brick, wood, paint and topsoil would be consumed. The operation of construction equipment would also involve the consumption of fossil fuels. The components of the completed project would require the usage of electricity and fossil fuels for lighting, heating and cooking, and water for landscaping and domestic use. The construction period would also require a temporary commitment of workers. Upon



project completion, a commitment of labor would be required for the residential development to manage and maintain the property. However, the short term and long term commitment of labor should be viewed as a beneficial impact to the community and economy.

DRAFT