

III. EXISTING CONDITIONS, IMPACTS AND MITIGATION

H. Utilities

H. Utilities

1. Water Supply

a. Existing Conditions

The Project site is located within the Yorktown Consolidated Water District (District). The District has been in existence since 1970 and it serves the Town of Yorktown, which includes approximately 10,000 accounts. The Town of Yorktown is part of the Northern Westchester Joint Water Works (NWJWW), which provides water to the District. The NWJWW is collaboration between the Towns of Yorktown, Somers & Cortlandt, along with the Montrose Improvement District.

Water is mainly provided to the District from two New York City water supply sources: the Amawalk Reservoir located east of Town and the Catskill Aqueduct located west of Town. Water is drawn from each source and treated at water treatment plants at each location prior to distribution to the District. A 24-inch transmission line, generally aligned along Route 202/35, extends between the two plants from Amawalk to Cortlandt Manor. From the transmission line, several connections to storage tanks and local distribution mains provide water service to the District community.

Representatives of the District indicated that the Amawalk Water Treatment Plant (WTP) is the main source of the Town's water supply to the District. The WTP has a treatment capacity of 7.5 million gallons per day (MGD) and provides an average daily flow of approximately 2.4 MGD to Yorktown. The NWJWW Water Treatment Plant in Cortlandt provides a backup water supply in the event that the Amawalk WTP would be unable to meet the Town's water demand. (Pertinent correspondence with the District is included in Appendix VII.L.)

The District reports that it maintains approximately 170 miles of water main, 1631 hydrants, and six active storage tanks having a total capacity of about eight million gallons. Within the existing Project Site, there are five water users, four of which are District customers. The fifth water user's source is by private well. Water use records were provided by the District. During the period for which water use records were provided, the motel site functioned as a motel and a homeless shelter. No water use was recorded at the motel site after its apparent abandonment around January 2006. However, for the purpose of the analysis of the "existing" condition, the motel site is assumed to be active. The King Gates site was used as King Gates and various other commercial uses during the period for which water usage records were obtained. The residential use was consistent throughout the period for which records were obtained. The

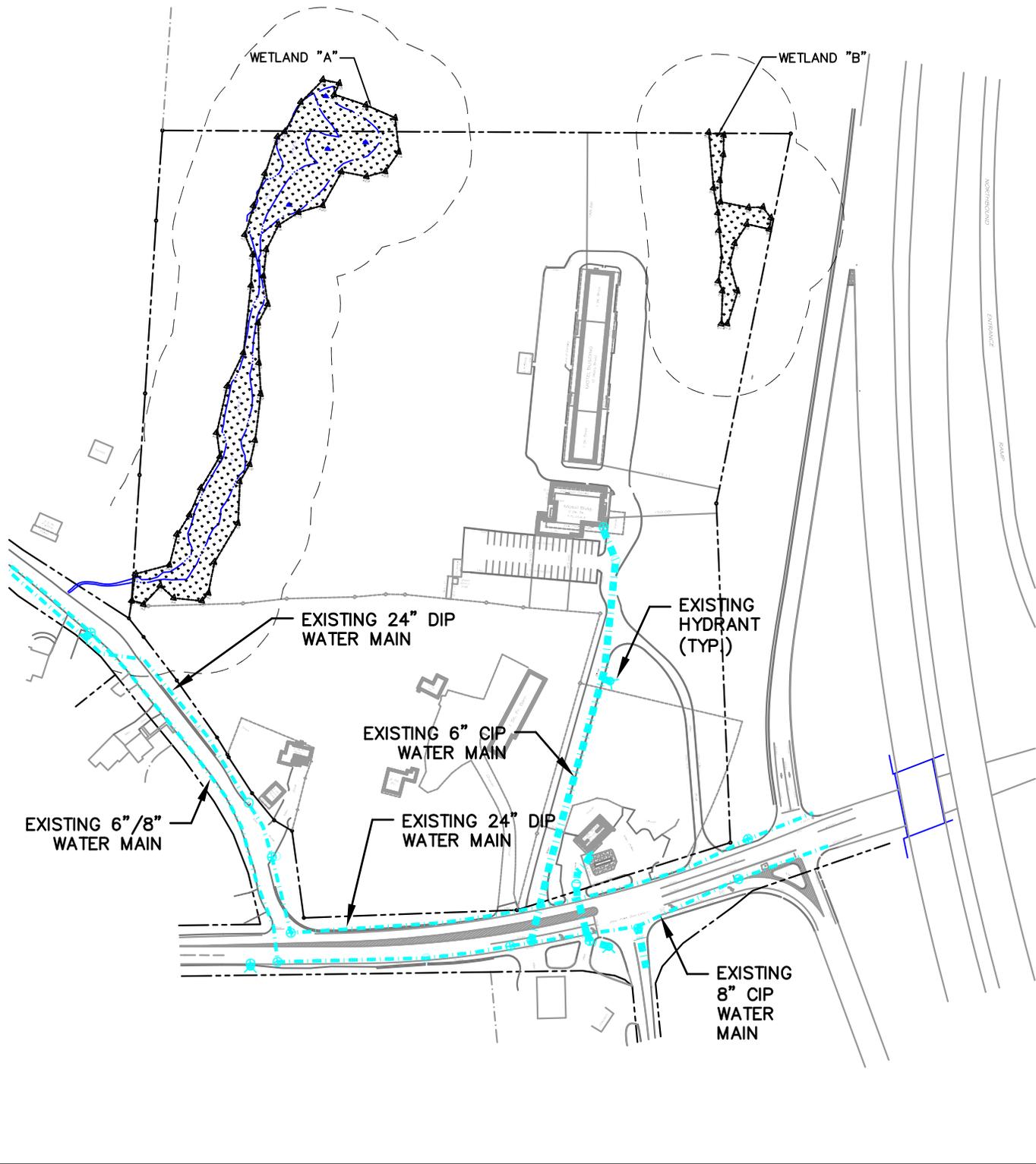
average daily water use for each existing parcel is summarized in Table III.H.1. (See Appendix VII.N of this DEIS for water records.)

Table III.H.1 Existing Water Usage ⁽¹⁾			
Lot	Current Use	Period of Record	Average Daily Flow Rate (gal/day)
26.18-1- 17	Residence #1 ⁽²⁾	April 2003 to November 2010	217
26.18-1- 17	Residence #2 ⁽²⁾	April 2003 to November 2010	98
26.18-1-18	Nursery ⁽³⁾	-	Unknown
26.18-1-19	Motel ⁽²⁾	August 2001 to January 2006	8,471
26.19-1-1	King Gates ⁽²⁾	August 2002 to November 2010	436
Total	-	-	9,222
Notes: (1) Represents water use when active. (2) Water use provided by YCWD. (3) Site served by private well. Water use unknown.			

Water mains in the vicinity of the site are situated within the rights-of-way of Route 202/35 (Crompond Road) and Old Crompond Road. The 24-inch transmission main is located in Route 202/35 along the site frontage and within Old Crompond Road west of the site. An 8-inch distribution main, from which connections to each of the existing site users is made, is also located in Route 202/35 and Old Crompond Road (refer to Exhibit III.H-1). There is some inconsistency between various record sources that indicate the distribution main in Old Crompond Road to be either 6-inch or 8-inch in diameter. In order to be conservative, it was assumed that the size of the Old Crompond Road water main is 6-inches in size.

Existing water system flow and pressure in the vicinity of the site is known at a hydrant located on the south side of Route 202/35 some 900± feet west of the site. The District records indicate the hydrant to be at Elevation 346 having a static pressure of 164 psi, residual pressure of 128 psi and a flow of 2,954 gpm. No data was available for other hydrants located nearer to the site.

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Exhibit III.H-1 Existing Water Distribution Plan



COSTCO WHOLESALE
Town of Yorktown, New York

The Applicant’s engineer performed a coordinated flow test with District personnel on hydrants in the immediate vicinity of the Project Site in September 2011. The test hydrant used to measure static and residual pressures was an existing hydrant located on the south side of Route 202/35 at the corner of Mohansic Avenue. The hydrant used for flow measurement was located on the motel property at the north end of the exit driveway. The static pressure measured at the test hydrant was 128 psi. A test flow of 1,300+ gpm measured at the motel property hydrant resulted in a residual pressure of 120 psi at the test hydrant. Using the flow and pressure results from the test, the computed available flow at 20-psi residual pressure based on AWWA Standard M17 is 5,300 gpm.

b. Potential Impacts

The Proposed Action will require water for domestic use and fire protection. Water demand for a retail use is typically expected to be approximately 10 percent more than the sewage flow when calculated based on the New York State Department of Environmental Conservation (DEC) guidance as described in Section III.H.2b of this DEIS. The additional 10 percent is to account for water use such as irrigation that does not reach the sewage collection system. (Linsley and Franzini, Water Resources-Engineering, 3rd edition, indicate sewage flow could be as low as 60 to 75% of the domestic water supply. Therefore using 10% is conservative.)

Based on DEC methodology, the water demand for typical retail use of similar size would be expected to be approximately 16,620 gallons per day (refer to Table III.H.2).

Table III.H.2 Estimated Water Demand (Per DEC Standards)				
Parameter	Unit	Flow Per Unit (gallons)⁽¹⁾	Sewage Flow (gpd)	Water Demand (gpd)
Building Area (s.f.)	151,092	0.1	15,109	16,620
Notes: (1) Table 3 of DEC Design Standards for Wastewater Treatment Works for retail use. (2) Anticipated water demand = sewage flow + 10%.				

However, since Costco functions as a retail/warehouse, the anticipated water use is significantly less than what would be expected for a typical retail store. Costco reports that their typical anticipated water use for this size store to be approximately 5,500 gallons/day. Assuming a 10.5 hour

period of operation (10 a.m. to 8:30 p.m.) and a peaking factor of 4, a peak hourly rate of 2,095 gallons per hour could be expected over a short duration.

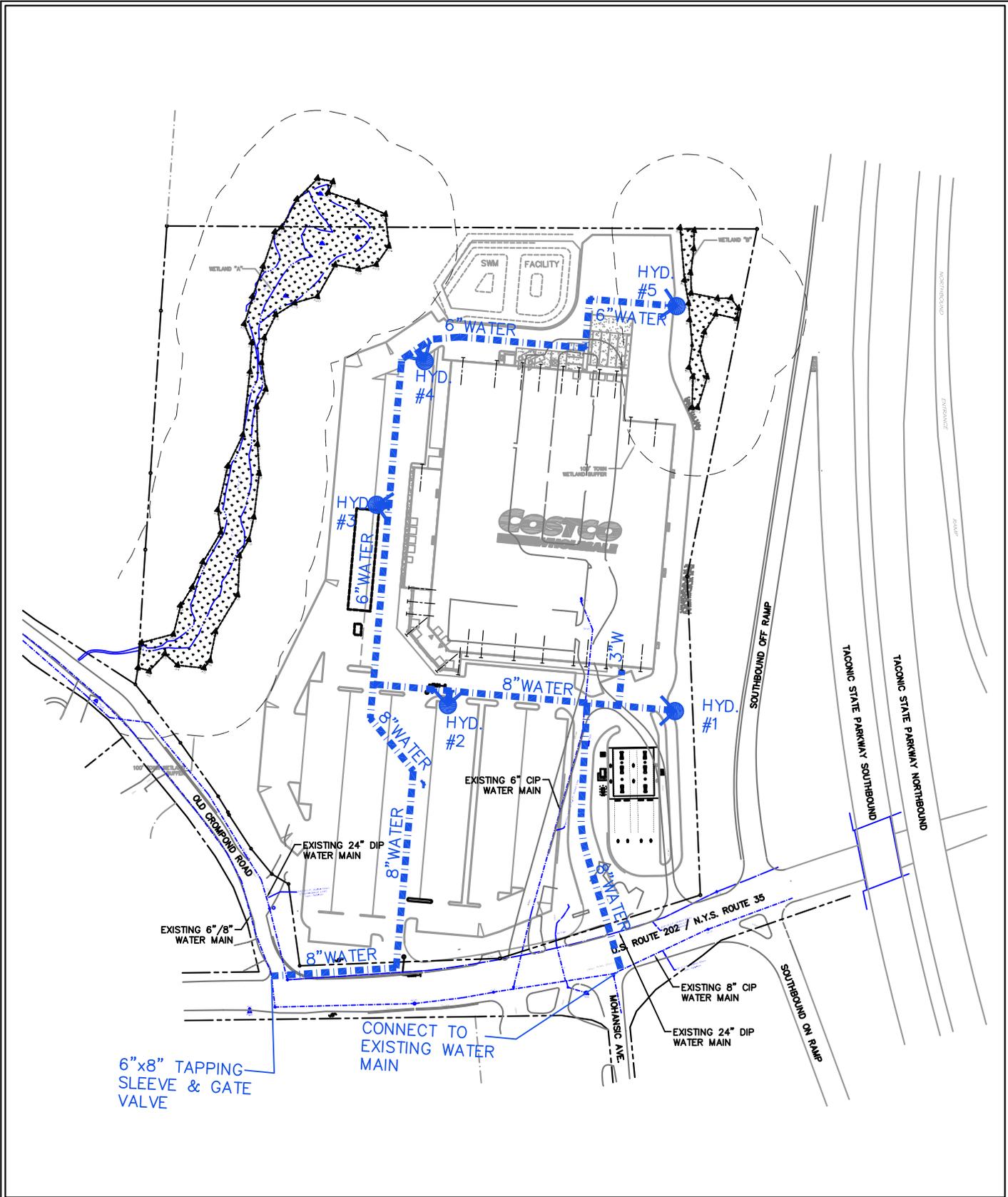
Table III.H.3 summarizes the comparison of average daily water use under existing and proposed conditions. As summarized, the Proposed Action proposes a reduction in water demand.

Table III.H.3 Comparison of Average Daily Water Demand	
Existing Condition (gallons/day)	Proposed Condition (gallons/day)
9,222 ⁽¹⁾	5,500 ⁽²⁾
Note: (1) Additional Nursery water use from private well not included. (2) Water usage reported by Costco.	

The Yorktown Consolidated Water District (District) will supply water to the project. Two connections to the District’s distribution system are proposed. One connection will be to the existing 6-inch water main located in Old Crompond Road at its intersection with Route 202/35; and the second connection will be to the existing 8-inch main located in Crompond Road. All work associated with the connection must be performed in accordance with District requirements.

The proposed onsite water distribution system consists of an 8-inch water main having two points of connection to the existing offsite distribution system. The proposed system will be looped except for spurs serving some of the exterior hydrants. The looped section will serve building sprinklers, two hydrants and domestic needs. Service connections will be separated at the building to provide separate domestic and fire sprinkler services. A backflow prevention valve will be installed in the building in accordance with the Westchester County Department of Health requirements. Five fire hydrants will be installed throughout the site to provide adequate fire protection coverage. Placement of all fire hydrants and fire supply connections to the building will be performed in accordance with the NYS Fire Code and local fire district requirements.

Exhibit III.H-2 illustrates the proposed onsite water distribution system.



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 7 Skyline Drive
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Exhibit III.H-2
Proposed Water Distribution Plan



COSTCO WHOLESALE
 Town of Yorktown, New York

c. Proposed Mitigation

Section 15-0314 of the New York State Environmental Conservation Law mandates the use of water saving plumbing facilities in all new buildings. Costco employs high efficiency restroom fixtures, including faucets, urinals and toilets that they claim may save as much as 40 percent more water than required by industry building standards. Costco does not typically have a nursery section for which watering of the nursery stock would be required. However, they do carry small scale seasonal houseplants for which watering would be provided. Use of native plant species adapted to local rainfall amounts, in the landscape design reduces the need for site irrigation, thereby realizing a further reduction in water demand. For other “green technology” implemented by Costco, refer to Section III.I of this DEIS.

Part 5 of the New York State Sanitary Code requires customers to protect the water distribution system from potential cross connection by installing a backflow prevention device. The appropriate device will be installed in accordance with District and Westchester County Department of Health requirements.

Data from the water district and the results of the September 2011 hydrant flow test performed by the Applicant’s engineer indicate that the existing public water supply system in the vicinity of the project (see Section III.H.1.a.) has more than adequate flow and pressure to meet the domestic and fire protection demands of the Proposed Action. System improvements will not be necessary to meet the project’s water supply demands. The Proposed Action will have less water demand (5,500 gpd) than the existing uses (9,222 gpd).

2. Sanitary Sewage

a. Existing Conditions

The Project Site is comprised of four separate tax lots. Of the four onsite properties, the former motel site, Lot 26.18-1-19, and the King Gates site, Lot 26.19-1-1 are included in the Town of Yorktown’s local Hunter Brook Sewer District (HBSD No. 17). None of the site properties, however, are included within the nearby Westchester County Peekskill Sewer District. None of the properties, therefore, are currently served by public sewers.

The analysis of the “existing” condition assumes that all prior uses are active. The four site properties generate sewage flow, which is treated by onsite subsurface disposal systems (SSDS). Existing sewage flow data was not available; however, estimated daily flow rates were generated

based on water usage as summarized in Table III.H.1. Based on standard engineering practices, sewage flows were conservatively assumed to be ninety percent of the water use accounting for ten percent loss (i.e. due to irrigation). (Linsley and Franzini, Water Resources-Engineering, 3rd edition, indicate sewage flow could be as low as 60 to 75% of the domestic water supply. Therefore using 10% is conservative.) Where water use records were not available (nursery), the hydraulic loading rate from Table 3 of the New York State Department of Environmental Conservation (NYSDEC) publication “Design Standards for Wastewater Treatment Works” dated 1988 was applied to estimate flow. The estimated sewage flows are summarized in the following table.

Table III.H.-4 Estimated Existing Sewage Flow Onsite Properties					
Lot	Use	Quantity	Unit	Flow Rate Per Unit (gal/day)	Estimated Average Daily Flow Rate (gal/day)
26.18-1- 17	Residence #1	-	-	-	195 (3)
26.18-1- 17	Residence #2	-	-	-	88 (3)
26.18-1-18	Zino’s Nursery	1,128 (1)	Square Feet	0.1 (2)	113
26.18-1-19	Former Motel	-	-	-	7,624 (3)
26.19-1-1	King Gates	-	-	-	392 (3)
Total	-	-	-	-	8,412 (3)
(1) Building area measured from topographic survey. (2) Sewage flows are based on Table 3 of the NYS DEC Design Standards for Wastewater Treatment Works (3) Flow based on 90% of water use from Table III.H.1.					

The nearest public sewer with potential to serve the Project Site is an 8-inch diameter pipe located approximately 2,000 feet west of the site at the intersection of Stony Street and Old Crompond Road. There is an existing sanitary manhole located within the Stony Street right-of-way, which is suitable for connection to the public sewer main.

The Town of Yorktown reports that the conveyance system includes an 8-inch main routed westerly along Route 202, Old Crompond Road and Mill Pond Road to an existing pumping station located on Town property at the

end of Mill Pond Road. The pumping station then conveys sewage flow via a 6-inch force main generally north along the Bear Mountain Extension and Taconic Parkway to Aurora Court where it discharges to a gravity manhole at Stony Street. The gravity system continues north along Stony Street, where it connects to the county trunk line at Route 6 and Strawberry Road.. From there the trunk line conveys sewage west along Strawberry Road and Lockwood Road to the Peekskill Wastewater Treatment Plant.

The referenced pumping station is equipped with four pumps, having a capacity of 600 gpm while pumping sewage against a total head of 121.5 feet. Town of Yorktown DPW staff advised that there are no known system capacity issues. The referenced sewage infrastructure that is located within the Town of Yorktown is also within the local HBSD and is maintained by the Town.

The pump station is designed with several safety features intended to minimize the potential of accidental overflow resulting in discharge of raw sewage to the environment. First, the pump station is equipped with four pumps that are configured in two pairs operating in series (back-to-back) on alternating cycles (i.e., Pumps 1 and 1A run as primary pair with Pumps 2 and 2A as secondary/backup; then Pumps 2 and 2A run as primary, etc.). Alternating pump cycles are intended to prolong the pump life and reduce the potential occurrence of pump breakdowns. All four pumps operate simultaneously when needed to handle peak flows, which occur during wet weather periods.

Secondly, in the event of a power outage, a diesel-powered emergency generator is stored onsite and 1,500 gallons of fuel are stored in above ground storage tanks. This provides backup power to the station for a period of 72 hours prior to refueling. Thirdly, the station's control systems incorporate alarms that provide 24-hour notification of system malfunctions or outages to operating personnel both at the station and remotely to the Assistant WWTP Supervisor.

Lastly, although not likely to occur, but in the event of a total system failure (e.g., all pumps fail, emergency generator failure), the 40 foot deep wet well has the capacity to store sewage up to 12 hours before overflow would occur. If such an emergency were to occur, the Town would work with the Westchester County Department of Health to promptly bring in an appropriate number of septic tank trucks to pump the raw sewage out of the wet well so that positive wet well storage can be maintained. The tank trucks would transport the sewage to the nearest County/DEC approved receiving facility. It is noted that the Assistant WWTP Supervisor has reported that there has never been an incident of station failure that

resulted in accidental discharge or overflow of raw sewage. (See memorandum included in Appendix VII.L of this DEIS.)

Sewage flow from the area is treated at the County-owned and maintained Peekskill Wastewater Treatment Plant. The facility was initially constructed in the 1970's and was the last of the County's wastewater treatment plants to be built. All flows from the Peekskill Wastewater Treatment Plant discharge into Annsville Creek, which is tributary to the Hudson River.

The plant has received several upgrades since its initial construction. In 2010, the Westchester County government announced that approximately \$7.35 Million in bond funding would be appropriated towards two additional upgrade programs. Under the first program, \$5.75 Million would be bonded and spent on the plant to transition from the present use of chlorine as a disinfectant and move to an ultraviolet disinfection technology. This advancement will improve the effluent that discharges to the Hudson River, and reduce use and cost of chemical treatment. This initial improvement is presently under construction.

A second initiative, costing \$1.6 Million, is currently in the design phase and is intended to upgrade the plant's operational systems, including the roofing of the digester, which at age thirty-five has reached the end of its useful life. The bond funding will allow the replacement and upgrading of systems and process components associated with aeration, digester, and heating gas at the plant. Also to be installed are three new boilers and associated valves, piping and controls. The boiler upgrades will help reduce odors and provide for safe transmission of digester gas to be used onsite as fuel in plant boilers, again reducing energy costs at the facility.

According to Westchester County (Appendix VII.L of this DEIS), the Peekskill plant has a permitted monthly average daily flow of 10 million gallons per day (MGD) and a maximum hydraulic flow capacity of 25 MGD. The plant is currently operating below its permitted capacity, treating an annual monthly average daily flow of 6.6 MGD as measured and averaged over the 12-month period between July 2011 and June 2012. Over the same 12 months, the highest monthly average daily flow was 8.1 MGD and the highest average daily flow was 23.1 MGD. The Town of Yorktown Engineering Department has advised that neither the DEC nor the Westchester County Department of Environmental Facilities (WCDEF) have placed any moratoriums against new sewer main extensions and/or net increases in sewage flows to the sewer district.

b. Potential Impacts

Costco indicates their typical average daily water demand for similar projects is 5,500 gallons per day. Assuming a ten percent water loss due to such uses as irrigation and consumption, the Applicant anticipates the average daily sewage flow to be approximately 5,000 gallons per day or 0.005 million gallons per day (MGD).

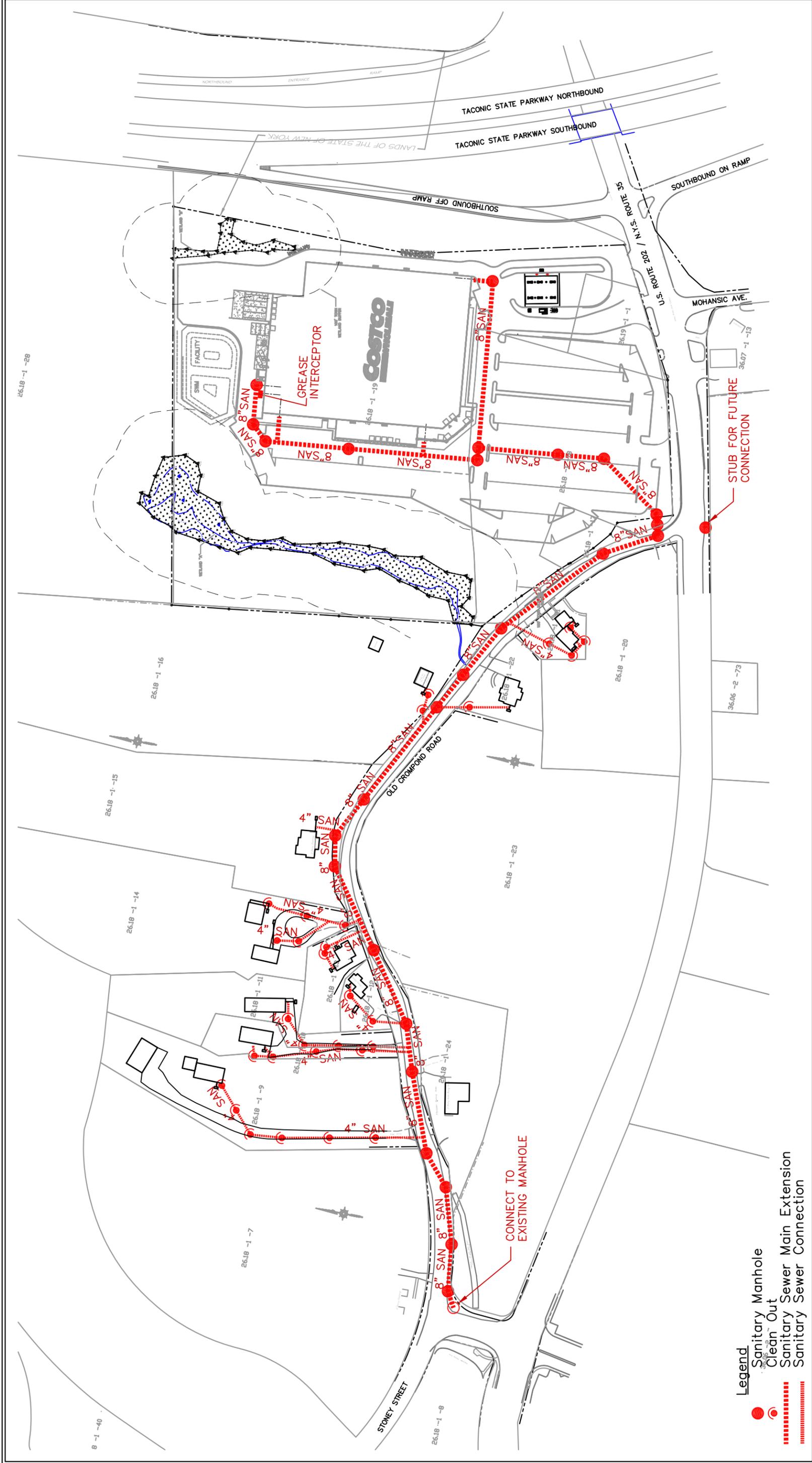
Based on discussions with Town officials and consistent with previous applications for development of this property, the project site and properties along Old Crompond Road would be best served by extending the sanitary sewer service to the project site. Therefore, the sanitary sewer extension to convey sewage to the Peekskill Wastewater Treatment Plant is proposed. Connection to the existing sanitary sewer system will be made at the existing manhole located at the intersection of Old Crompond Road and Stony Street.

Extension of the sewer will entail the installation of some 2100± linear feet of 8-inch PVC sewer pipe and around twenty manholes. The alignment will extend along Old Crompond Road within the existing Town right-of-way and then enter the site. (see Exhibit H-3). Work within the NYSDOT right-of-way will include extending an 8-inch PVC sewer across Crompond Road to provide service to Lot 36.06-2-72 (referenced as the Temple Israel Site, Table III.H.4 and Exhibit III.H-4).

The proposed sewer extension will pass 12 (offsite) properties fronting on Old Crompond Road and/or Crompond Road that are presently outside the County Sewer District. The Applicant proposes to provide sewer connections to 11 properties that have expressed interest in connecting to the proposed sewer extension. Service connections will be extended to each of the 11 properties, which include 10 residential properties along Old Crompond Road and one commercial property, referenced as the Temple Israel Project, which is located on the south side of Route 202/35. Prior to connection, the existing subsurface disposal systems, currently serving these residential properties, will be abandoned in accordance with all appropriate regulations. Table III.H.5 lists the referenced properties to which sewer service will be provided.

It is noted that the Applicant's attorney coordinated the invitations to each property owner along the route of the proposed sewer extension. The property owners listed in Table III.H.5 responded with interest and if approval is granted sanitary sewer service connections will be provided to the properties. Property owner of lot 26.18-1-20 did not respond to the repeated invitations. Copies of those letters, issued by Attorney Capellini, are included in Appendix VII.L of this DEIS.

Table III.H.5 Offsite Properties To be Served by the Proposed Sewer Extension		
Adjacent Properties (Tax Map Designation)⁽¹⁾⁽²⁾	Use	Existing Sewage Disposal
26.18-1- 9	Residential	SSDS
26.18-1-10	Residential	SSDS
26.18-1-11	Residential	SSDS
26.18-1-12	Residential	SSDS
26.18-1-13	Residential	SSDS
26.18-1-14	Residential	SSDS
26.18-1-15	Residential	SSDS
26.18-1-16	Residential	SSDS
26.18-1-21	Residential	SSDS
26.18-1-22	Residential	SSDS
36.06-2-72 ⁽³⁾	Proposed Temple	-
Notes: (1) Section-Block-Lot (2) Property owner of lot 26.18-1-20 has expressed no interest in connecting to the proposed sewer extension. (3) Property is presently vacant. A temple is proposed for this site. Property is included in Hunter Brook Sewer District Extension #17.		



- Legend**
- Sanitary Manhole
 - Clean Out
 - Sanitary Sewer Main Extension
 - Sanitary Sewer Connection

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Exhibit III.H-3
**Proposed Onsite Sanitary Sewer
 and Extension Plan**

COSTCO WHOLESALE
 Town of Yorktown, New York

Yorktown Hunter Brook Sewer District (HBSD)

Neither the onsite properties of the Project Site (Table III.H.4) nor the offsite properties adjacent to the proposed sewer extension (Table III.H.5) are served by public sewers. The former motel, King Gates and the proposed temple sites, however, are located within the Town's Hunter Brook Sewer District Extension #17. The remaining referenced onsite and offsite properties are situated outside the local HBSD (see Exhibit III.H-4). The proposal includes annexation of the two onsite lots (residence and nursery) and the first 10 residential properties listed in Table III.H.5 into the Town's Hunter Brook Sewer District Extension #20.

Approval of the sanitary sewer extension will first require formation of the local HBSD #20 by the Town Board. The referenced onsite and offsite property owners have joined together to make application to annex their properties into the HBSD #20.

Westchester County Peekskill Sewer District

The HBSD is tributary to the Westchester County Peekskill Sewer District (WCPSD). The sewer district is served by the Peekskill Wastewater Treatment Plant, which is owned and operated by the Westchester County Department of Environmental Facilities (DEF). The treatment plant has a permitted monthly average daily flow of 10 million gallons per day (MGD) and a maximum hydraulic capacity of 25 MGD. The plant is currently operating below its permitted capacity, treating an annual monthly average daily flow of 6.6 MGD as measured and averaged over the 12-month period between July 2011 and June 2012. The plant is also operating under the design hydraulic capacity.

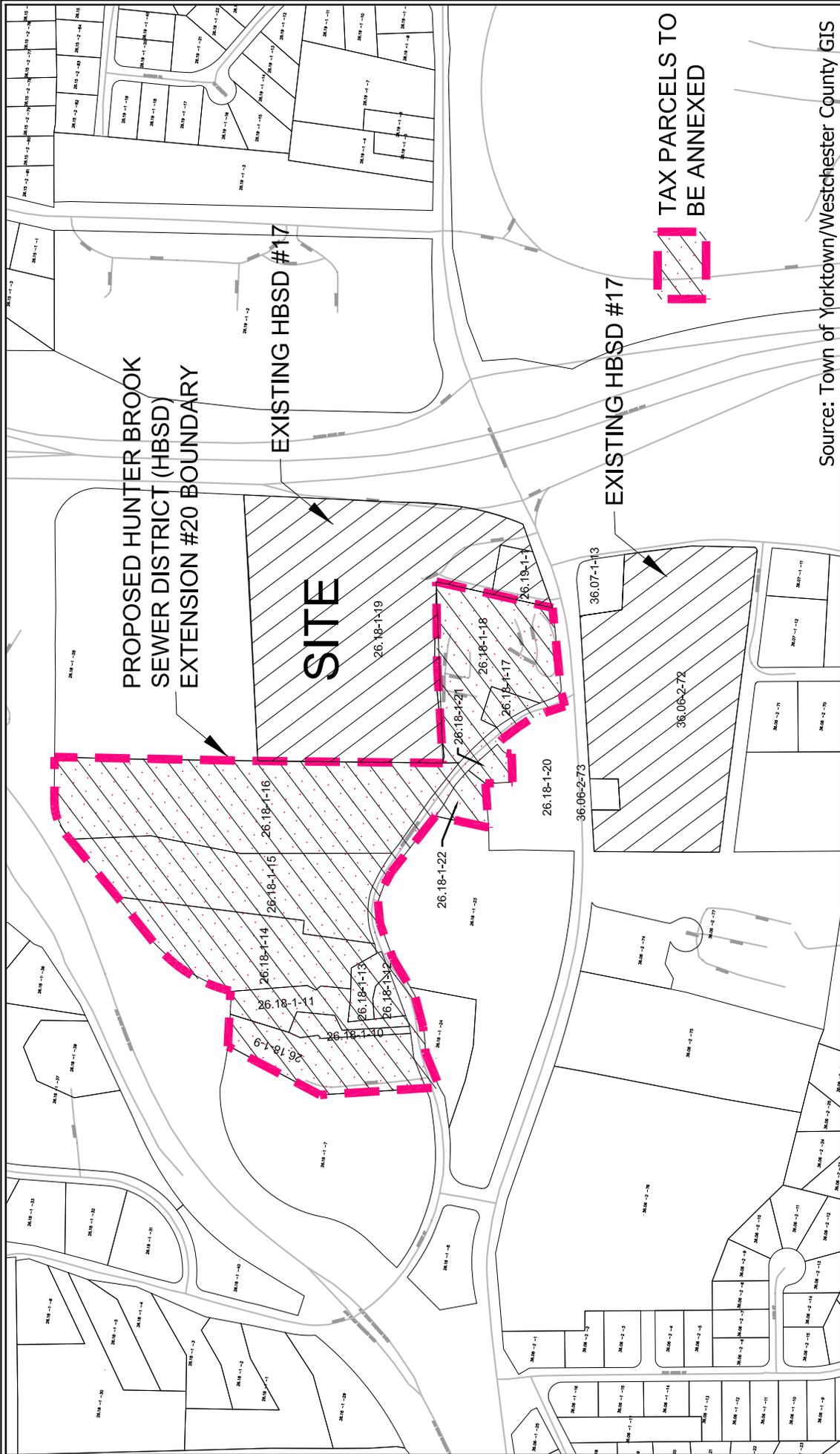
The Project Site (properties listed in Table III.H.4) and all the offsite properties listed in Table III.H.5 are located outside the Westchester County Peekskill Sewer District. After the Town Board adopts a resolution to extend the local Hunter Brook Sewer District Extension #20, the Town must file a petition with the Westchester County Board of Legislators requesting the expansion/extension of the Peekskill Sanitary Sewer District to include the above referenced onsite and offsite properties as also shown on Exhibits III.H-5 & 6). The request for expansion of the Peekskill Sewer District will be to include the properties within HBSD #20 and the properties noted above as part of the HBSD #17. Review and approval of the proposed District expansion will be required by the Board of Legislators and the County DEF.

After expansion of the WCPSD has been granted, the proposed sewer extension must be approved by the Westchester County Department of Health (DOH) and the New York City Department of Environmental

Protection (NYCDEP). These DOH and NYCDEP approvals cannot be provided until after the Site Plan Approval and SEQR processes for the Proposed Action have been completed. Construction of the sewer extension will be performed in accordance with the approving agency regulations.

With respect to capacity of the conveyance system, the Town of Yorktown reports that their conveyance and pumping systems are adequate to serve the increase in sewage flow. (See memorandum included in Appendix VII.L of this DEIS.)

Relative to the Peekskill WWTP, it has an excess capacity of 3.4 million gallons per day whereas the extra sewage flow to be conveyed as a result of the project is less than 0.012 million gallons (11,515 gallons per day as summarized in Table III.H.6). Thus, there is ample excess capacity to handle the sewage flow from the project and connecting properties that will be part of HBSD #17 and #20.



Source: Town of Yorktown/Westchester County GIS

TAX PARCELS TO BE ANNEXED

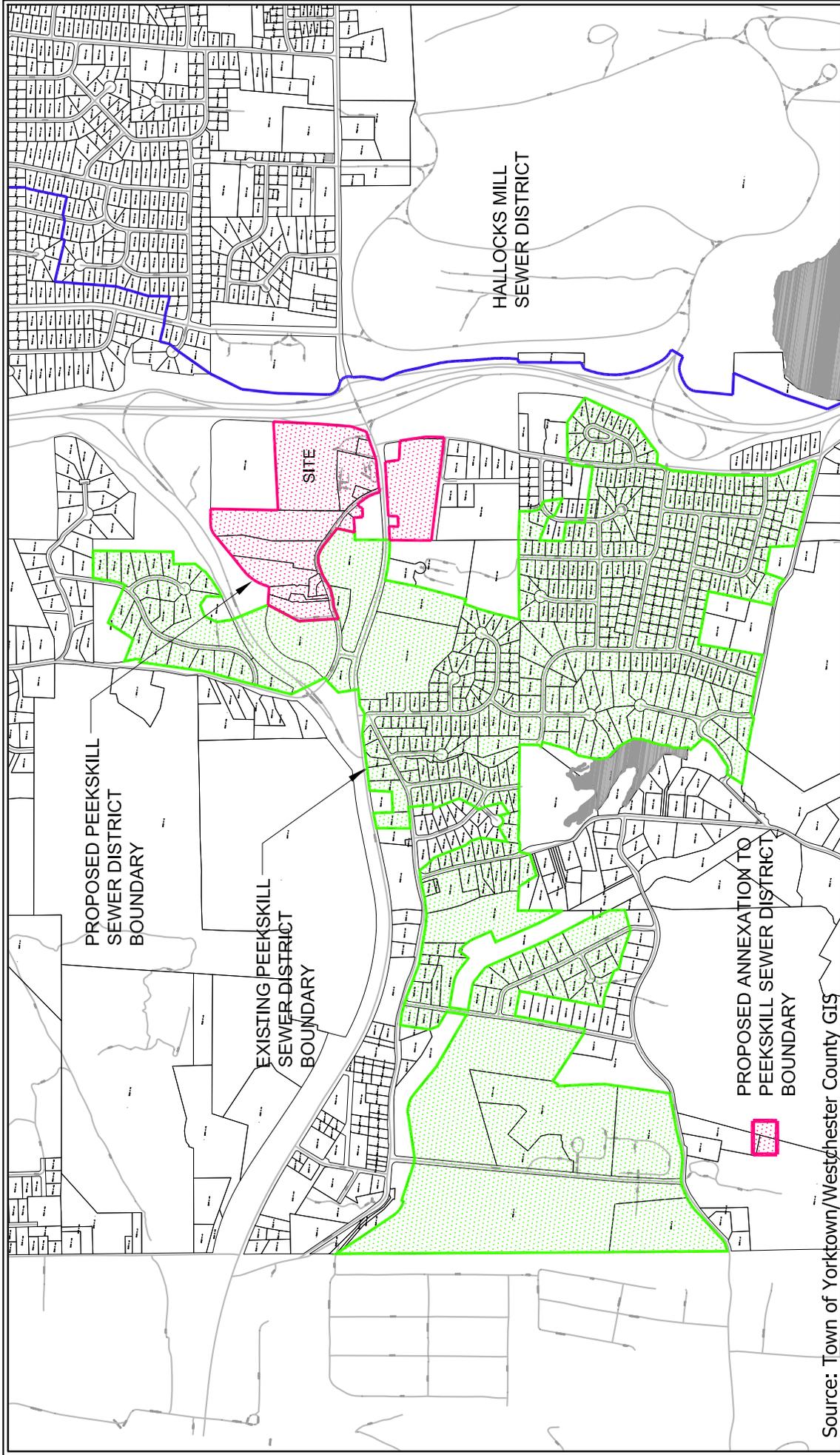
Exhibit III.H-4
 Tax Parcels to be Annexed to Hunter
 Brook Sewer District

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 Town of Yorktown, New York



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 7 Skyline Drive
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Source: Town of Yorktown/Westchester County GIS



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Exhibit III.H-5
Proposed Expansion to
Peekskill Sanitary Sewer District

COSTCO WHOLESALE
Town of Yorktown, New York

Table III.H.6 Proposed Peekskill Sewer District Expansion Calculated Sanitary Sewage Flow		
Lot #	Use	Average Daily Flow Rate (4) (gpd)
Lot 26.18-1-9	3-bedroom Residential	400
Lot 26.18-1-10	3-bedroom Residential	400
Lot 26.18-1-11	2-bedroom Residential	300
Lot 26.18-1-12	2-bedroom Residential	300
Lot 26.18-1-13	3-bedroom Residential	400
Lot 26.18-1-14 (Dwelling 1)	4-bedroom Residential	475
Lot 26.18-1-14 (Dwelling 2)	2-bedroom Residential	300
Lot 26.18-1-15 (Note 1)	12-bedroom Residential	1,400
Lot 26.18-1-16	4-bedroom Residential	475
Lot 26.18-1-21 (Dwelling 1)	2-bedroom Residential	300
Lot 26.18-1-21 (Dwelling 2)	2-bedroom Residential	300
Lot 26.18-1-22	4-bedroom Residential	475
Project Site (Note 2)	Costco	5,000
Temple (Note 3)	Temple	990
Design Average Flow Total		11,515
Peaking Factor		4.0
Peak Hourly Flow (Design average flow x Peaking Factor)		46,060
<p><u>Notes:</u></p> <p>(1) Assumes two 5-bedroom units plus one 2-bedroom unit (550+550+300)</p> <p>(2) Project sewage flow provided by Costco based on historic flow data.</p> <p>(3) Proposed Temple sewage flow provided by Cronin Engineering. (330 seats x 3 gpd/seat = 990 gpd)</p> <p>(4) Sewage flows calculated based on Table 3 of the NYS DEC Design Standards for Wastewater Treatment Works, except for Costco.</p>		

Potential Growth Within HBSD #17 & 20

It is possible that expansion of the local (HBSD) and County (WCPSD) sewer districts would induce further growth within the lands newly annexed into these Districts. In order to consider the growth inducement aspects of the sewer extension, and based on discussions with Town Staff, the residential area (25 acres) located north of Old Crompond Road, currently zoned R-1-20 (single family residential) was assumed to be rezoned to the R-3, Multifamily Residential District, which permits 8-10 units per acre. (See Exhibit III.H-7.)

Accounting for existing wetlands and wetland buffers, as mapped by the Town of Yorktown Freshwater Wetlands, Chapter 178, Regulated Area (wetland inventory map), developable land was calculated to be 16 acres (see Exhibit VI.A-2). Assuming ten 2-bedroom units per acre, there would be a total unit count of 160, which would generate an average daily sewage flow of 48,000 gpd.⁽¹⁾ When added to the project flow of 5,000 gpd and the proposed temple site of 990 gpd the combined uses would yield a total average daily follow of around 54,000 gpd or 0.054 mgd (see Table III.H.7 for sewage flows). (Further potential growth induced by other project-related improvements (i.e. highway/traffic improvements) are discussed in Section VI.A of this DEIS.)

It is noted, however, that the Town Board would have to approve the assumed zoning change and that approval would have to carry with it a review of the downstream infrastructure capability to handle the increase in sewage flow. Said review is beyond the scope of this DEIS. However, it is noted that the design of the proposed gravity sewer extension is such that it is adequate in size to accommodate the referenced potential increase in sewage flow.

Notes:

⁽¹⁾ 16 acres x 10 units/acre x 300 gpd/unit = 48,000 gpd.
(Sewage generation rates taken from Table 3 of DEC Design Standards for Wastewater Treatment Works)

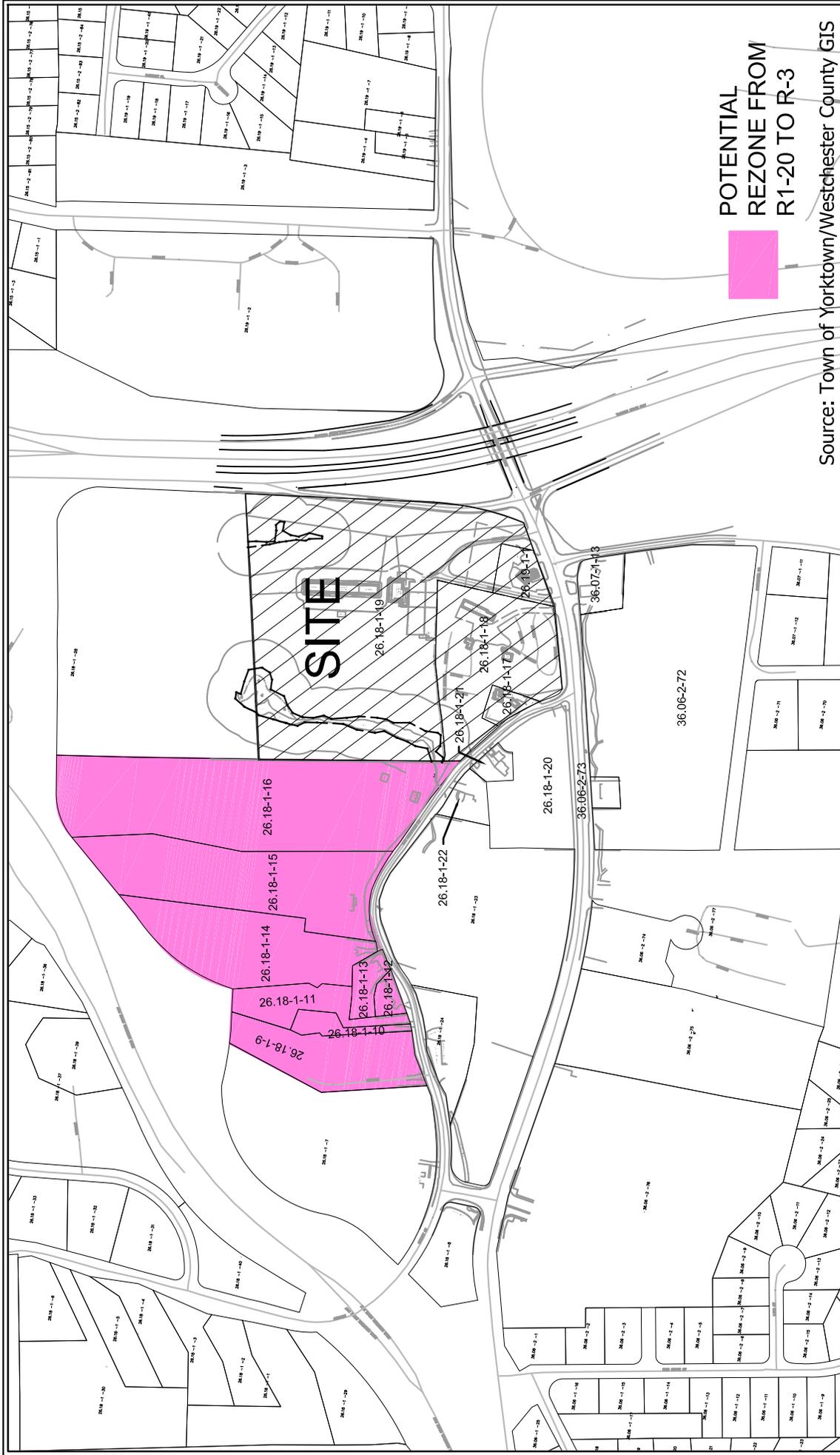


Exhibit III.H-7
Tax Parcels for Potential Rezoning

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Town of Yorktown, New York



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7 Skyline Drive
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Table III.H.7 Calculated Sanitary Sewage Flow (Based on Potential Growth Within HBSD #s 17 &20)		
Lot #	Use	Average Daily Flow Rate (4) (gpd)
Lot 26.18-1-9 to 16 Lot 26.18-1-21 to 22 (1)	2-bedroom Multi-Residential (Zone R-3)	48,000
Lot 36.06-2-72 (2)	Temple	990
Project Site (3)	Costco	5,000
Total		53,990
Design Average Flow Total		53,990
Peaking Factor		4.0
Peak Hourly Flow (Design average flow x Peaking Factor)		215,960
Notes:		
(1) Rezoned from R1-20 to R-3. Assumes 160 units (average 2-bedroom with 300 gpd per unit) (160 x 300 = 48,000 gpd) (2) Proposed Temple sewage flow provided by Cronin Engineering. (330 seats x 3 gpd/seat = 990 gpd) (3) Project sewage flow provided by Costco based on historic flow data.		

Sewer Design

The required sewer main pipe is designed to meet the projected peak hourly flow of 0.046 MGD (Table III.H.6). Based upon a proposed 8-inch PVC pipe at a minimum one-half (0.5) percent slope, the design capacity of the pipe will be 1.0 cfs (0.65MGD) with a velocity of 3.2 feet per second, which exceeds the project peak demand and the minimum velocity requirements. The proposed sewer pipe has significantly more capacity than is required for the Project and will therefore provide additional capacity for additional users, including those outlined in Table III.H.7 (0.216 MGD).

Onsite sanitary sewer service will be provided from the proposed 8-inch sewer extension. Connection will be made to the sewer in Crompond Road (Rte 202/35). An 8-inch sewer will extend into the site and building service connections will be provided along the north, west and south sides of the building to receive domestic sewage. A grease interceptor is situated outside the northwest quadrant of the proposed building. All work associated with the proposed sanitary sewer must be performed in accordance with Town, County, NYCDEP and NYSDEC regulations.

Alternate Private Sanitary Sewage Disposal Option

The applicant proposes to extend Westchester County's Peekskill Sanitary Sewer District to serve the Property and adjacent properties. In the event that the proposal to extend the District is not approved, an alternate wastewater treatment option would be necessary.

The Project site is situated within the New York City (NYC) watershed that is located east of the Hudson River and the NYC Department of Environmental Protection (DEP) would regulate wastewater discharge. Design, approval and construction of any wastewater treatment facility must be in accordance with the "Rules and Regulations for the Protection from Contamination, Degradation and Pollution of the New York City Water Supply and its Sources" (Rules).

Preliminary discussions with the DEP reveal that an acceptable approach for the alternate, if required, would be to include as part of the project infrastructure a wastewater treatment plant (WWTP) with subsurface discharge of treated effluent. The WWTP and the absorption system would be designed in accordance with all agency requirements.

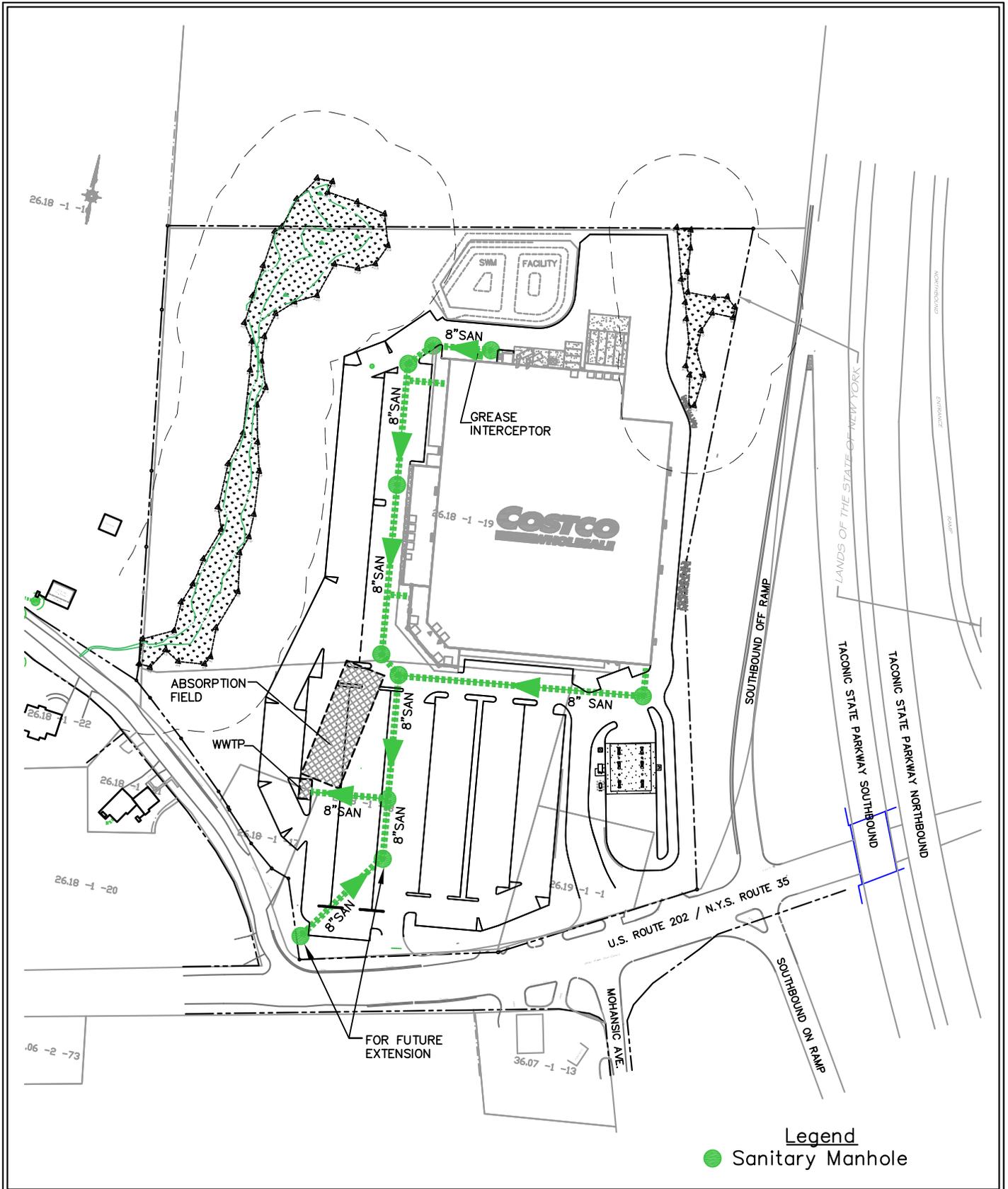
Based upon geotechnical information and percolation testing conducted at the Site, there are several areas onsite where soils are suitable for use to install subsurface absorption systems. Based on the testing, percolation rates are expected to be in the 2-inch per hour range. See Section III.C.2 for further information on the suitability of the onsite soils for use to accommodate subsurface discharge of treated effluent.

The Applicant's engineer's experience has been that the NYS Department of Health has accepted the use of galley systems for use under pavement as subsurface absorption systems. Based upon preliminary information, the location and extent of the onsite wastewater treatment system is illustrated in Exhibit III.H-8.

The Exhibit designates an area in the front parking lot for the WWTP which would be housed in an underground vault. A standby diesel generator would be part of the system to assure operation in the event of a

power failure. An overflow tank would be provided to contain one day's worth of treated effluent to allow time to have temporary pumping and hauling in place in the event of emergencies where there may be a need to contain and dispose of treated effluent while the particular emergency is dealt with.

Specific design of the absorption system is subject to further testing and vetting with review agencies. However, based upon the preliminary information available, the Applicant has defined the area of the absorption system shown in Exhibit III.H-8. If, as a result of soil testing, the percolation rate that can be utilized was to be reduced, the Applicant has the option to either incorporate a grey water system in the Costco interior plumbing to reduce the design flow from 5,000 to 2,000 gpd or increase the area allocated for the absorption system. Based on the information available, it is believed that the Alternate Sewage Disposal Method if required, as discussed herein, would be a feasible alternate if municipal services are not made available to serve the Project.



Legend
 ● Sanitary Manhole



TRC Engineers, Inc.
 7 Skyline Drive
 Hawthorne, New York 10532

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Exhibit III.H-8
 Alternate Onsite Wastewater Treatment

COSTCO WHOLESALE
 Town of Yorktown, New York



c. Proposed Mitigation

Proposed mitigation includes reducing water use and therefore sewage flow through the implementation of water saving technology. Due to operational practices, the nature of its use and inclusion of water saving technology, Costco's anticipated sewage flow (5,000 gpd) is quite low for the size of the building. By way of comparison, the Applicant notes that Costco's sewage rate would be less than a comparable size retail building based on DEC's expected hydraulic loading rates (Table 3 of DEC Design Standards for Wastewater Treatment Works). A comparable size retail use would generate sewage at a rate of 0.1 gpd per square foot of building (151,092 square feet) yielding a flow of 15,109 gpd.

Additional mitigation measures include expansion of the local and county sewer districts and extension of the public sewer some 2300± feet from Stony Street to the project site. Extension of the public sewer will include providing service connections to ten offsite residential properties as well as providing a service stub to the proposed temple site. In conjunction with providing these service connections, each existing residential sanitary subsurface disposal system (SSDS) will be abandoned in accordance with County Health Department standards.

Mitigation for construction of the sewer extension will be provided in terms of construction management and maintenance of protection of traffic. Installation of the sewer will be performed in a manner that will minimize the time that excavated trenches will remain open. Excavated trenches will be closed by the end of each workday. Traffic will be maintained to ensure public safety and minimize disruption of traffic and access to private driveways. Work within the rights-of-way will be performed in accordance with the standards and requirements of the Town of Yorktown and NYSDOT.

In addition to the mitigation measures described above, the Project will contribute to the Town and County tax base. Specifically, the Project will contribute \$47,813 annually to the Town Hunter Brook Sewer District. Contribution to the County Sewer District for the first 10 years will be \$22,140, which includes a "buy in" cost of \$98,900 amortized over the first 10 years (\$9,890 per year for the first 10 years) as well as annual tax of \$12,250.

3. Gas, Electrical, Cable & Telecommunications

a. Existing Conditions

Gas - Consolidated Edison Company of New York (Con Edison) currently provides natural gas in the vicinity of the Project Site. An existing 8-inch high-pressure gas line extends eastward along Route 202/35 terminating approximately 250 feet east of BJ's and approximately 750 feet west of the Project Site. There is also a 6-inch high-pressure gas line located in Stony Street at its intersection with Old Crompond Road, which is approximately 2100 feet from the southwest corner of the Project Site. No service is presently provided to the existing site properties. The service provider has indicated to the Applicant's engineer, however, that sufficient service, capable of meeting the project demand, can be made available.

Electric - Con Edison provides electrical service to the area in the vicinity of the Project Site consisting of overhead low tension transmission lines within the rights-of-way of Route 202/35 and Old Crompond Road. Electric service is presently provided to the existing users on the Project Site. Based on typical energy demand assumed for the existing onsite uses, the existing annual electric use is estimated to be 0.5 million kWh.

Table III.H.8
Estimated Electric Use for Existing Onsite Uses

Lot #	Use	Unit	Amount	Annual Electric Use per unit (kWh)	Total Annual Electric Use (kWh)
Section 26.18, Block1, Lot 17	Residential	each	1	6,972	6,972
Section 26.18, Block1, Lot 17	Residential	each	1	6,972	6,972
Section 26.18, Block1, Lot 19	Motel	SF	31,600	12	379,200
Section 26.19, Block1, Lot 1	King Gate & Fence	SF	1,320	29	38,280
Section 26.18, Block1, Lot 18	Zino's Wholesale Nursery	SF	3,050	29	88,450
Total					519,874
Notes:					
1) Residential use: http://www.eia.gov/tools/faqs/faq.cfm?id=97&t=3					
2) Motel use: http://www.mge.com/business/saving/BEA/escrc_0013000000DP22YAAT-2_BE1_CEA_CEA-02.html					
3) Commercial use: http://www.eia.gov/energyexplained/index.cfm?page=us_energy_commercial#					

Cable – Cablevision and Verizon are able to provide television service to the Project Site. Verizon presently provides FIOS (fiber optics) television service to the Project Site.

Telecommunications – AT&T, Verizon and Cablevision provide telephone service to the project area. Verizon and Cablevision presently provide internet service to the project site.

b. Potential Impacts

Gas - The Applicant has corresponded with representatives of Con Edison regarding the need for service to the Proposed Action. Based on natural gas usage from information provided by Costco, the Applicant anticipates required annual loads by the Project to be approximately and 54,700 Therms. (See Table III.I.2 for anticipated natural gas use.) Con Edison has indicated that the required service needs can be provided.

Extension of the existing gas main to the Project Site could be continued from its present point of termination in Route 202/35 or from the service main within Stony Street. Although the extension route along Route 202/35 would be shorter, the Applicant has decided to provide the

extension from Stony Street along Old Crompond Road. This alignment was selected for two reasons. First, based on discussions between the Applicant and the NYSDOT, construction along Route 202/35 was discouraged, and secondly, the alignment along Old Crompond Road would have less impact on traffic and would benefit the community. Extension of the existing gas line from Stony Street is therefore proposed.

A new gas line will be extended some 2,300 feet along Old Crompond Road to the Project Site. The extended gas main will generally follow the alignment of the new sanitary sewer (Section III.H.2.b) thereby simplifying simultaneous construction and minimizing disruption to traffic and local residents. Installation will be performed in a manner, which will minimize the time that excavated trenches will remain open. Excavated trenches will be closed by the end of each workday. Traffic will be maintained to ensure public safety and minimize disruption of traffic and access to private driveways.

The alignment will extend some 2100± feet along Old Crompond Road within the existing Town right-of-way and then along Crompond Road (Route 202/35) for approximately 200± feet within the NYS DOT right-of-way (see Exhibit III.H-9).

Installation of the gas main along Old Crompond Road will facilitate service to the properties fronting Old Crompond Road and Crompond Road as well as to the proposed Project. This is a significant benefit to the residents, as they now would be provided gas service. The Applicant has discussed the gas line extension with Con Edison and several of the residents of Old Crompond Road. It is understood that each resident is required to submit separate Applications to Con Edison in order to receive service.

Electric - The Applicant has corresponded with representatives of Con Edison regarding the need for electric service to the Project Site. Based on electric usage from other Costco facilities, the Applicant anticipates annual electric usage by the Project to be approximately 1.032 million kWh million kWh, which is an increase of approximately 0.5 million kWh over present service. (Also, see Section III.I, Use and Conservation of Energy and Table III.I.2 of this DEIS for anticipated electric use.) The service provider has indicated to the Applicant's engineer that sufficient service, capable of meeting the project demand, is available. Existing service is currently available along the site frontage. The service will be extended underground to the proposed Costco building. (See Exhibit III.H-9).

Cable and Telecommunications - Verizon and AT&T have indicated to the Applicant that the required service for telephone, TV and internet service

needs can be provided. Existing services are currently available along the site frontage. The services will be extended underground to the proposed Costco building. (See Exhibit III.H-9).

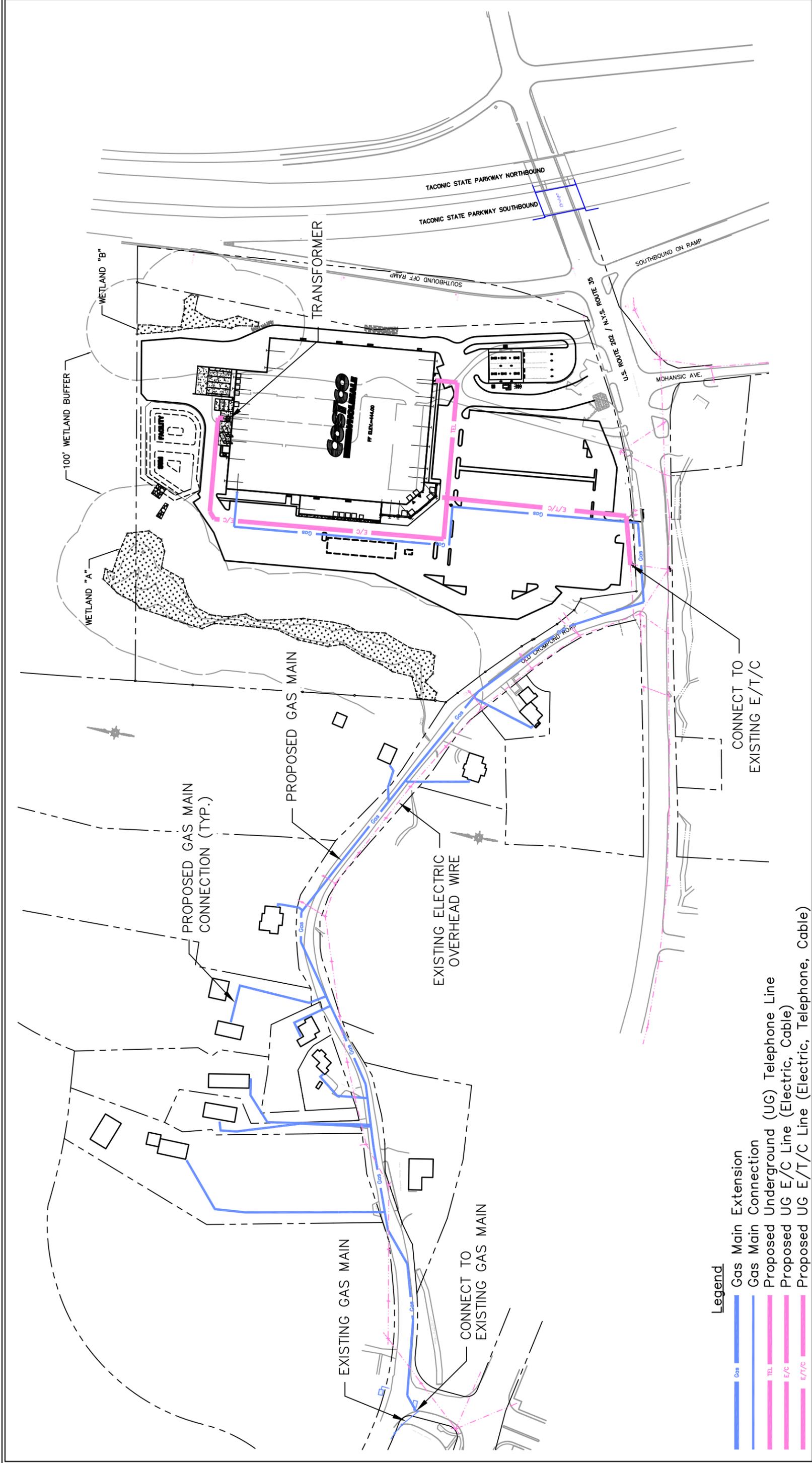


Exhibit III.H-9
**Proposed Onsite Gas/E/T/C and
 Offsite Gas Main Extension Plan**

c. Proposed Mitigation

Gas - No significant impacts to the gas supply are anticipated as a result of the Proposed Action; therefore, no mitigation to supply is necessary. In order to provide service to the Project, a new gas line will be constructed from the existing line at the intersection of Stony Street and Old Crompond Road. This gas line would then extend along Old Crompond Road and provide service to the existing residences along Old Crompond Road as well as the Proposed Action. This would benefit the residents.

Mitigation for construction of the gas extension will be provided in terms of construction management and maintenance of protection of traffic. Installation of the gas main will be performed in a manner that will minimize the time that excavated trenches will remain open. Excavated trenches will be closed by the end of each workday. Traffic will be maintained to ensure public safety and minimize disruption of traffic and access to private driveways. Work within the rights-of-way will be performed in accordance with the standards and requirements of the Town of Yorktown and NYSDOT.

Selection of the gas extension, mainly within Old Crompond Road rather than Route 202/35, will result in significantly less impact to local traffic as well as benefitting the property owners fronting Old Crompond Road.

Electric - No significant impacts to the electric distribution system are anticipated as a result of the Proposed Action; therefore, no mitigation is necessary.

Cable and Telecommunications - No significant impacts to the distribution system are anticipated as a result of the Proposed Action; therefore, no mitigation is necessary.